

General Information

Mission Information

Project name	88619333B
Processing date	2019-12-12 16:06:55
Mission date	2019-11-29 21:13:09
Mission duration	01:52:36.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N9642
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
191129_211250_INS-GPS_1.raw	POS Data

Input Files

File Name	File Type
Ephm3330.19g	GLONASS Broadcast Ephemeris
Ephm3330.19n	GPS Broadcast Ephemeris
flbr_daily3330.19o	GNSS SingleBase
flbr_daily3340.19o	GNSS SingleBase
flmc_daily3330.19o	GNSS SingleBase
flmc_daily3340.19o	GNSS SingleBase
gnvl_daily3330.19o	GNSS SingleBase
gnvl_daily3340.19o	GNSS SingleBase
kreg_daily3330.19o	GNSS SingleBase
kreg_daily3340.19o	GNSS SingleBase
lkcy_daily3330.19o	GNSS SingleBase
lkcy_daily3340.19o	GNSS SingleBase
ocla_daily3330.19o	GNSS SingleBase
ocla_daily3340.19o	GNSS SingleBase
pltk_daily3330.19o	GNSS SingleBase
pltk_daily3340.19o	GNSS SingleBase
Ephm3320.19g	GLONASS Broadcast Ephemeris
Ephm3320.19n	GPS Broadcast Ephemeris
Ephm3340.19g	GLONASS Broadcast Ephemeris
Ephm3340.19n	GPS Broadcast Ephemeris
igr20813.sp3	GPS Precise Ephemeris
igr20814.sp3	GPS Precise Ephemeris
igr20815.sp3	GPS Precise Ephemeris
igr20816.sp3	GPS Precise Ephemeris
igr20820.sp3	GPS Precise Ephemeris

Output Files

Filename	File type
sbet_88619333B.out	SBET Trajectory File

Rover Data Summary

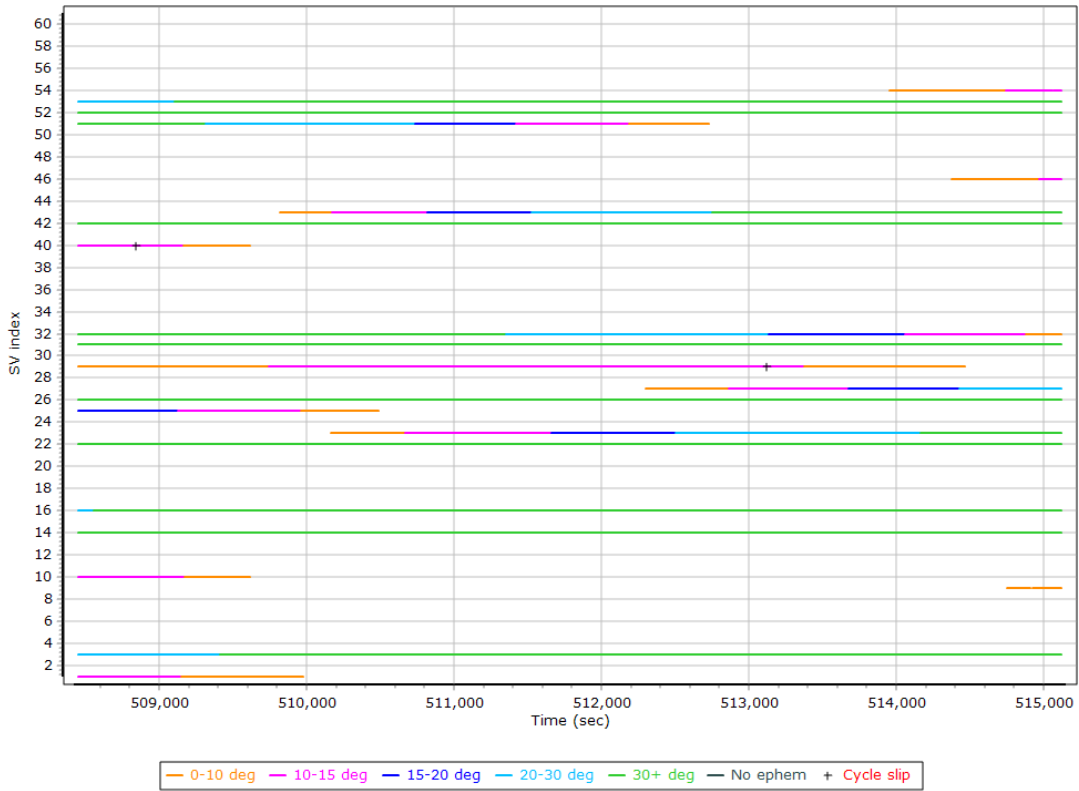
First raw data file	191129_211250_INS-GPS_1.raw		
Last raw data file	191129_211250_INS-GPS_1.raw		
Start GPS week	2081		
Start time	508370.588 (11/29/2019 9:12:50 PM)		
End time	515127.893 (11/29/2019 11:05:27 PM)		
Start of fine alignment	508390.007 (11/29/2019 9:13:10 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

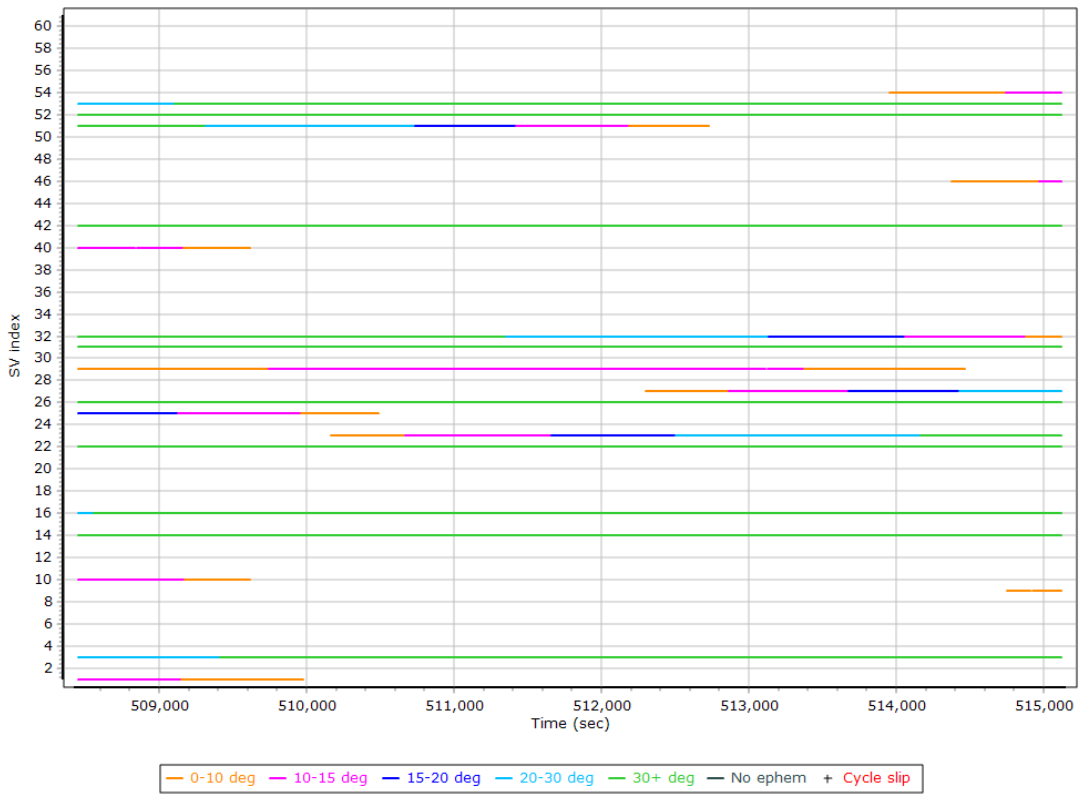
Raw IMU Import QC Summary

IMU data input file	imu_88619333B.dat
IMU data check log file	imudt_88619333B.log
IMU Records Processed	1351313
Termination Status	Normal
IMU Anomalies	0

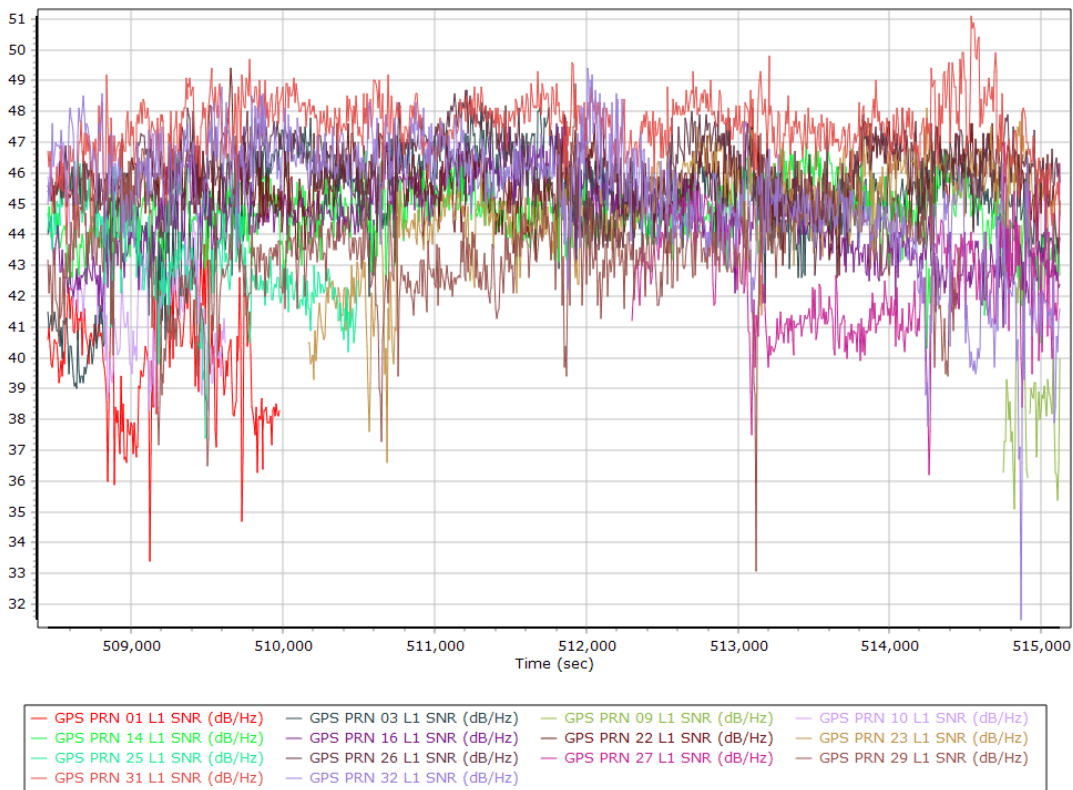
L1 Satellite Lock/Elevation



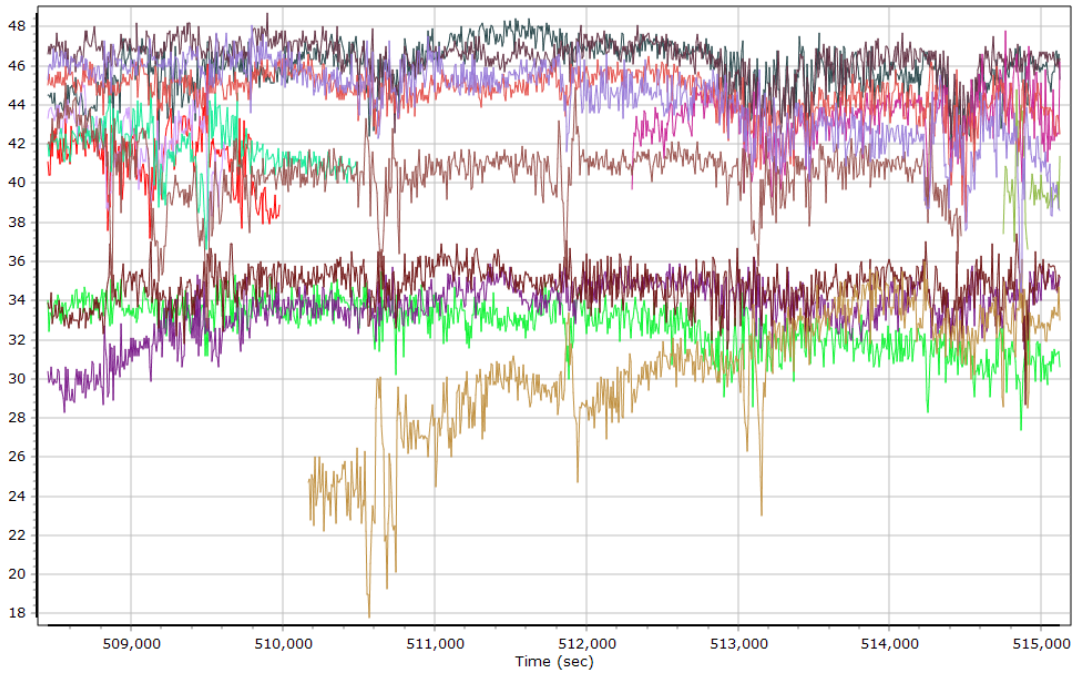
L2 Satellite Lock/Elevation



GPS L1 SNR

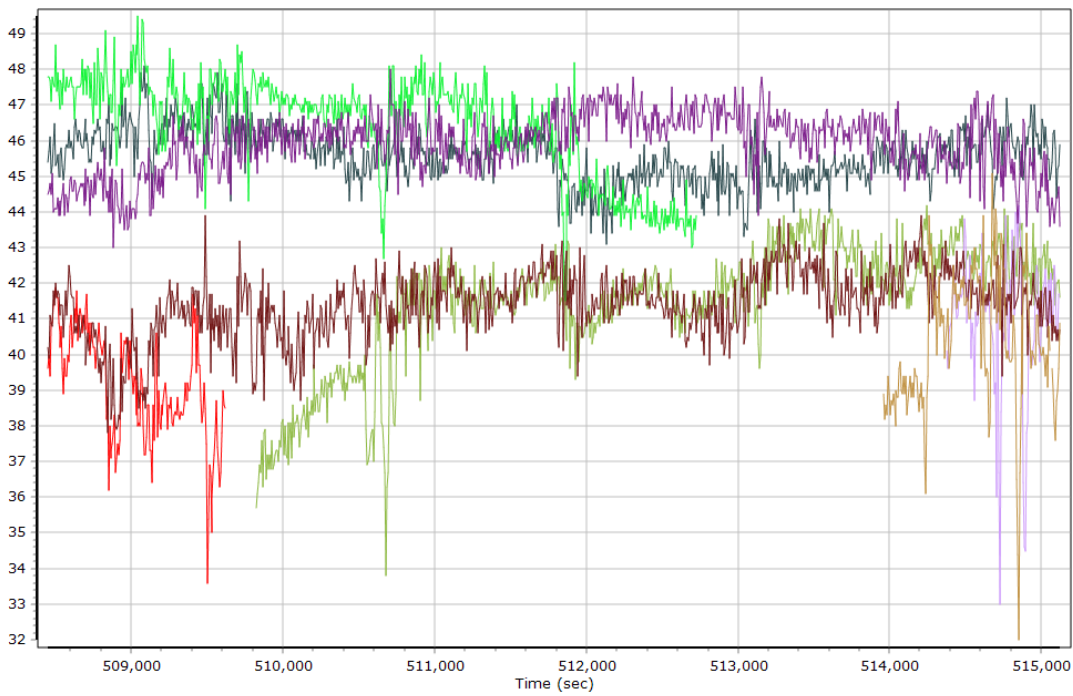


GPS L2 SNR



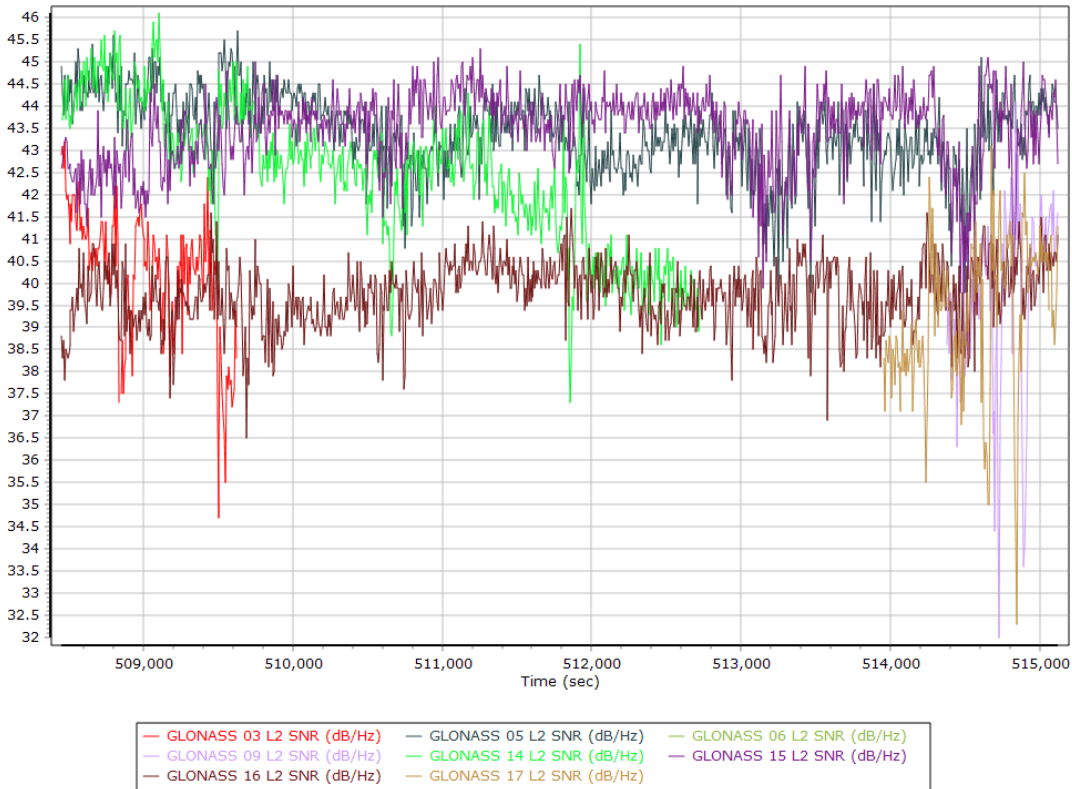
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 03 L2 SNR (dB/Hz) | GPS PRN 09 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) |
| GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 16 L2 SNR (dB/Hz) | GPS PRN 22 L2 SNR (dB/Hz) | GPS PRN 23 L2 SNR (dB/Hz) |
| GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 26 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) | GPS PRN 29 L2 SNR (dB/Hz) |
| GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) | | |

GLONASS L1 SNR

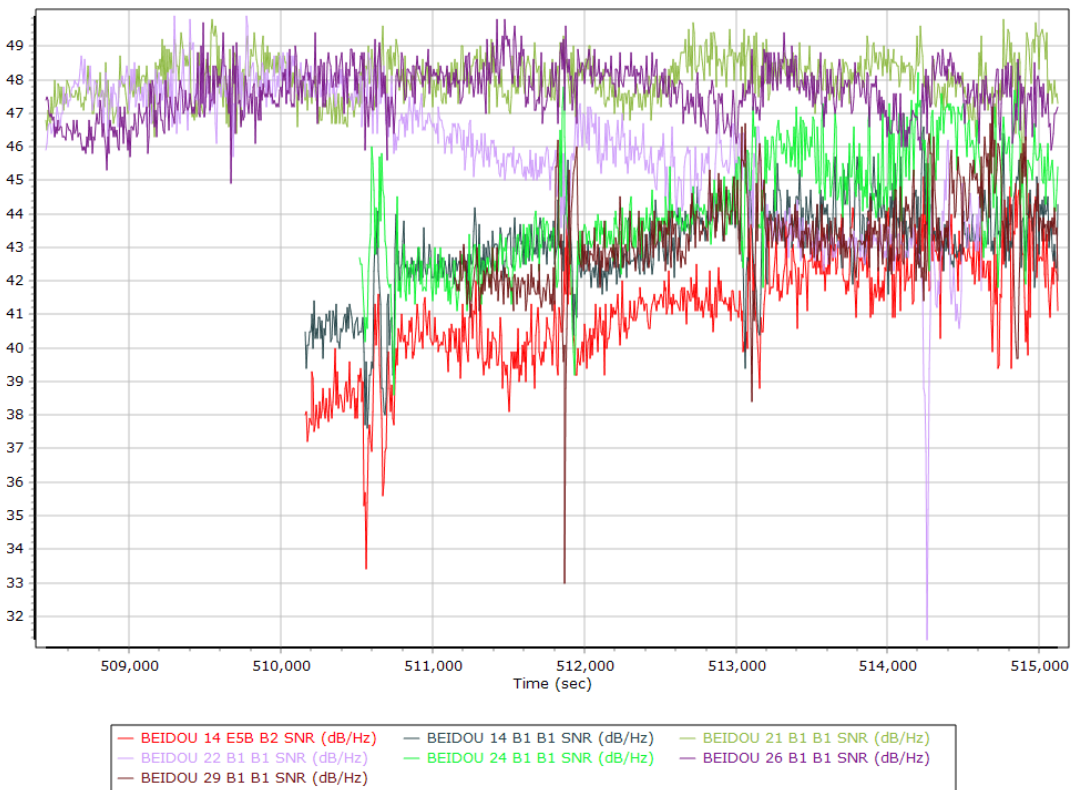


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 03 L1 SNR (dB/Hz) | GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) |
| GLONASS 09 L1 SNR (dB/Hz) | GLONASS 14 L1 SNR (dB/Hz) | GLONASS 15 L1 SNR (dB/Hz) |
| GLONASS 16 L1 SNR (dB/Hz) | GLONASS 17 L1 SNR (dB/Hz) | |

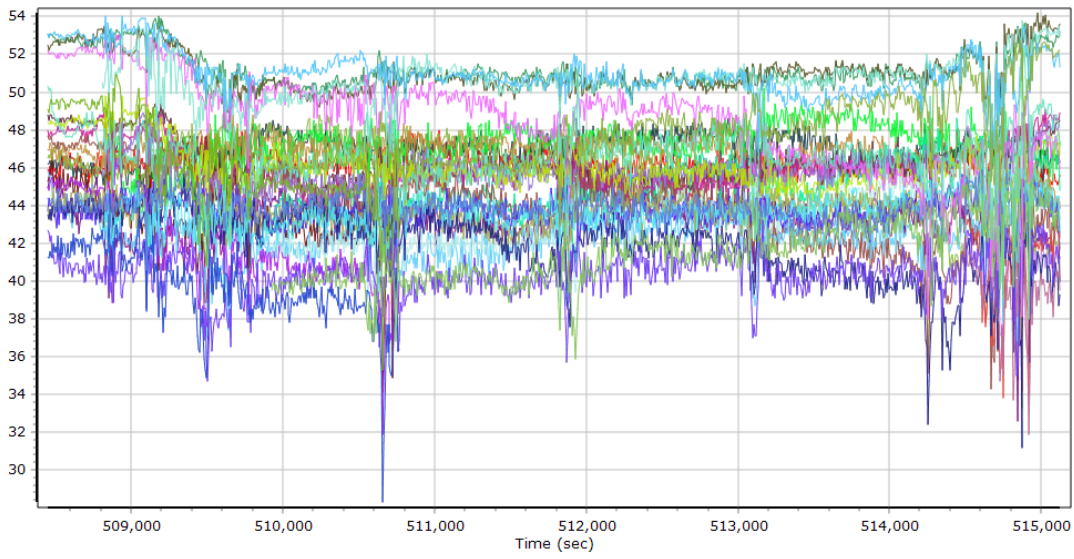
GLONASS L2 SNR



BEIDOU SNR



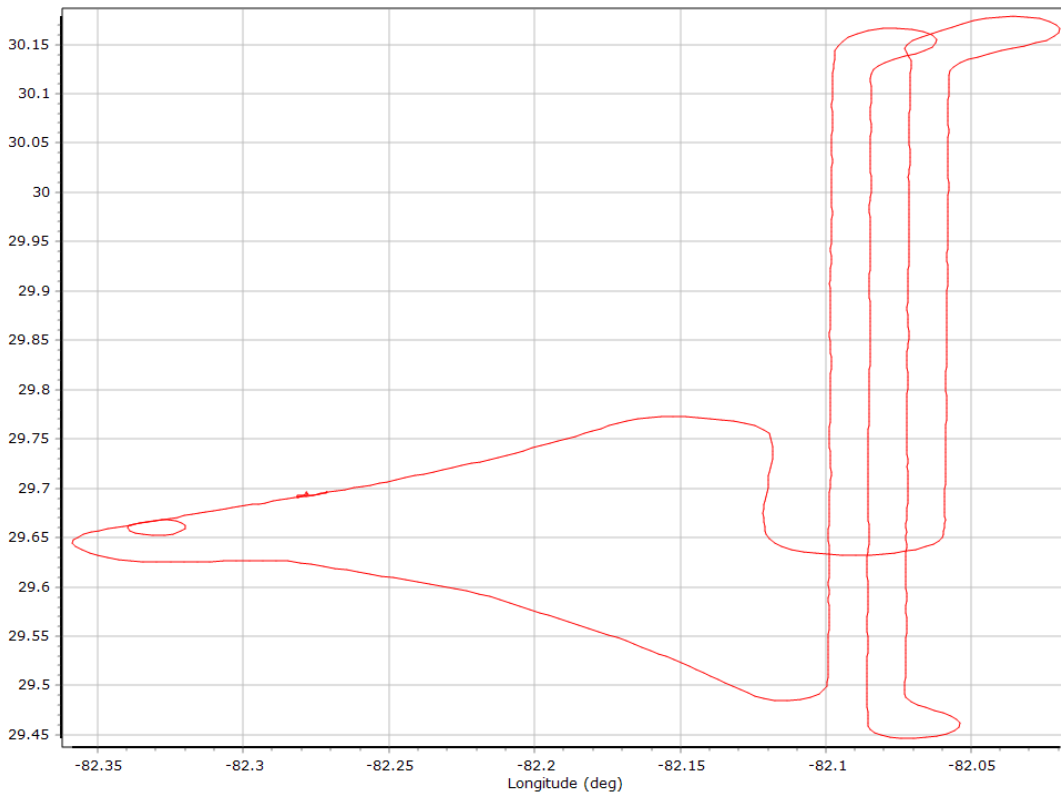
GALILEO SNR



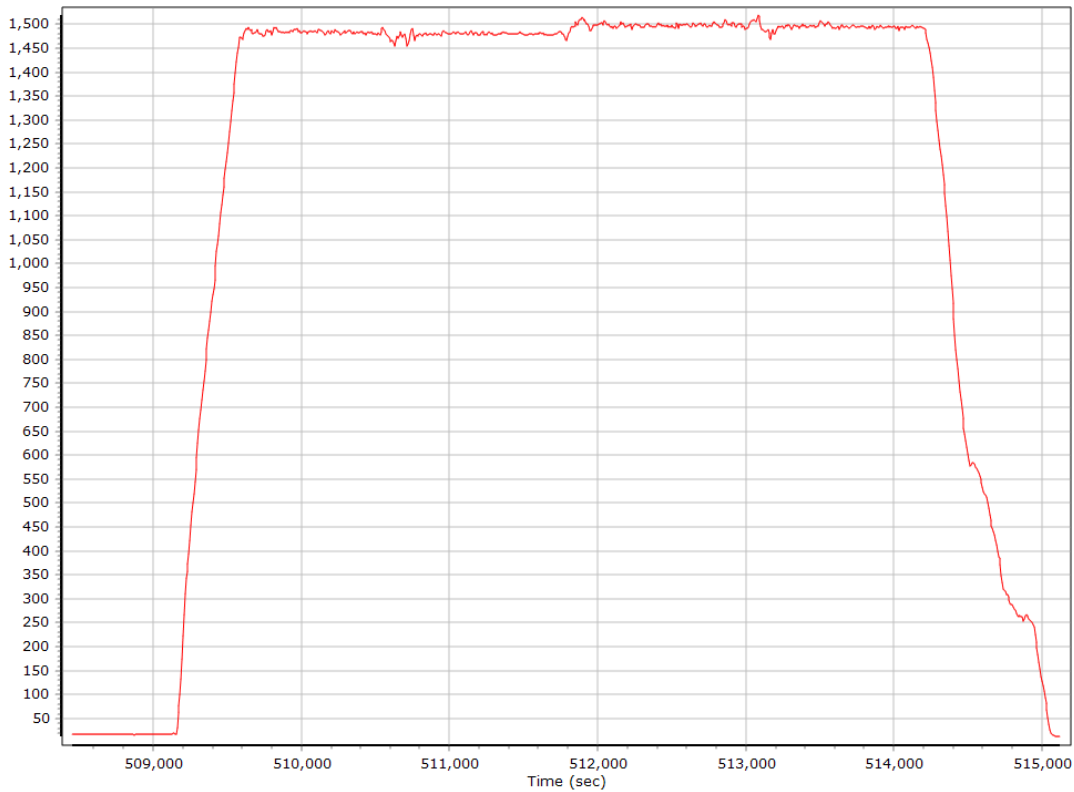
- | | |
|--|--|
| — GALILEO 02 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 18 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 30 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 02 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 03 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 05 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 07 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 08 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 18 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 24 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 25 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 30 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 02 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 03 E5B BPSK10_PD SNR (dB/Hz) |

Trajectory Information

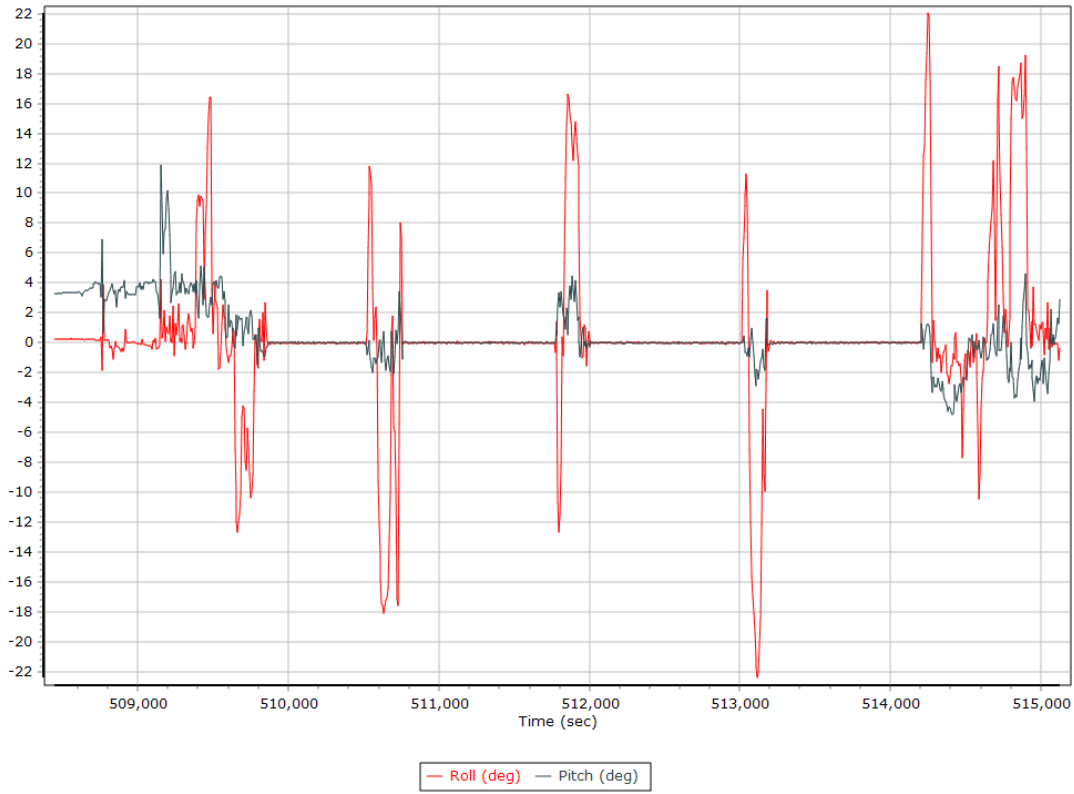
Top View



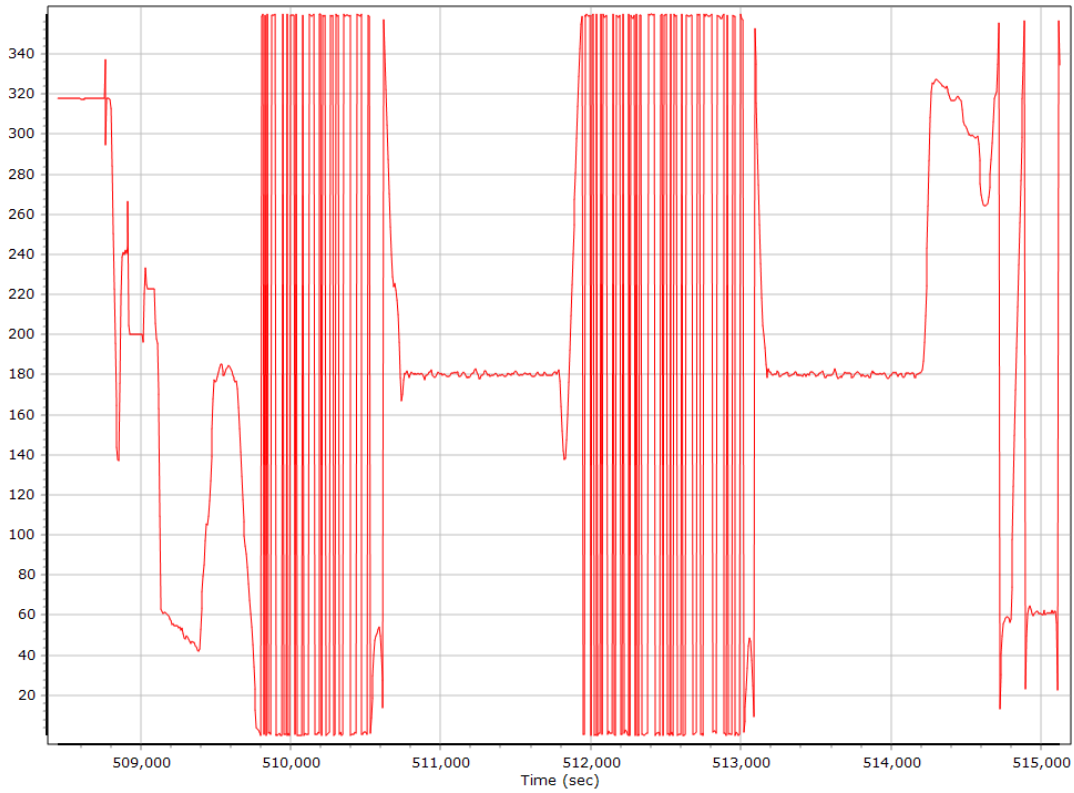
Altitude



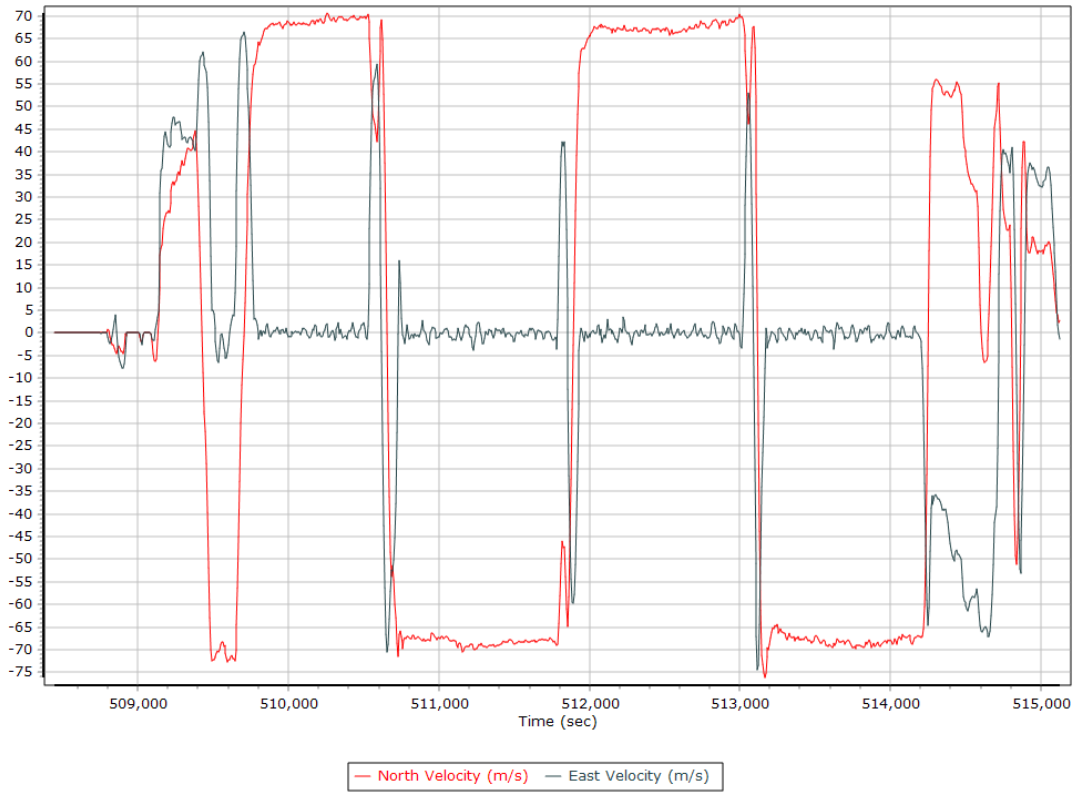
Roll/Pitch



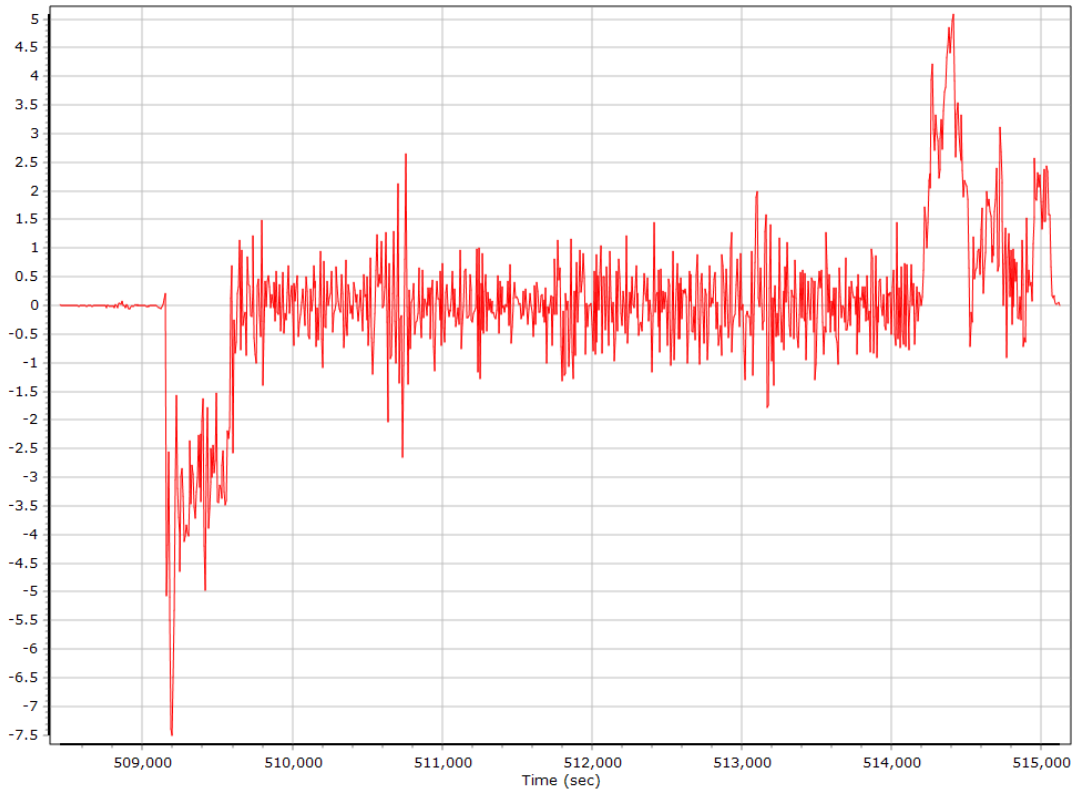
Heading



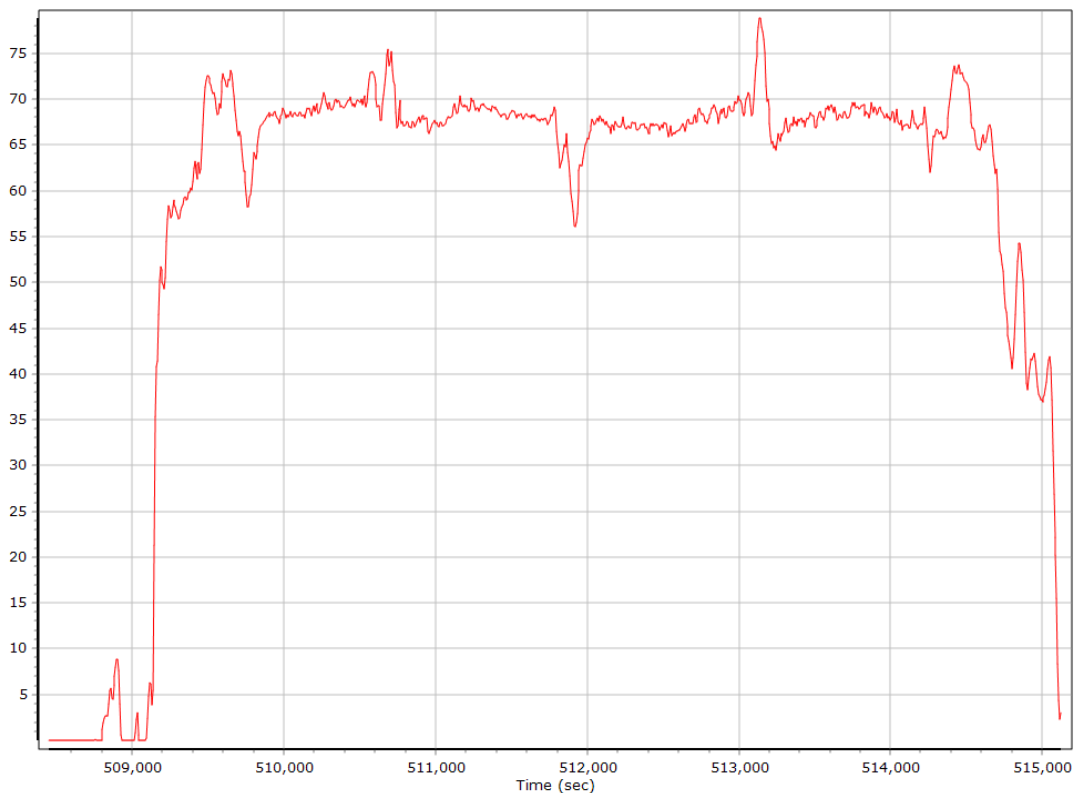
North/East Velocity



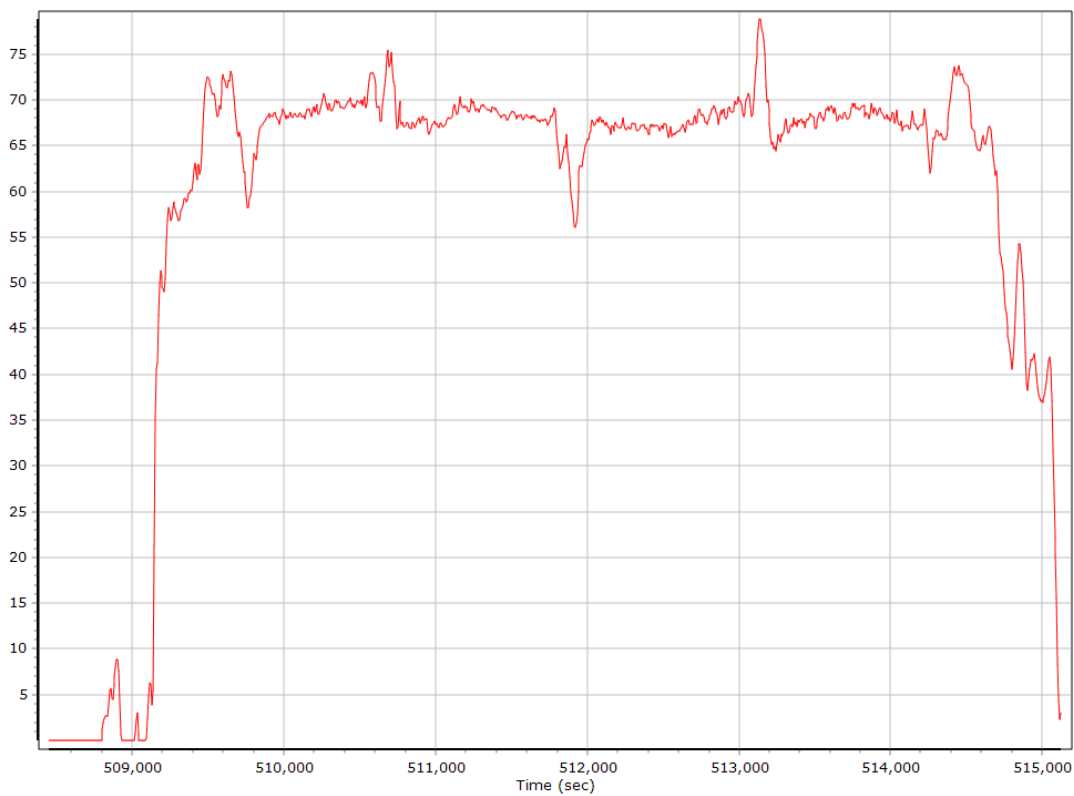
Down Velocity



Total Speed



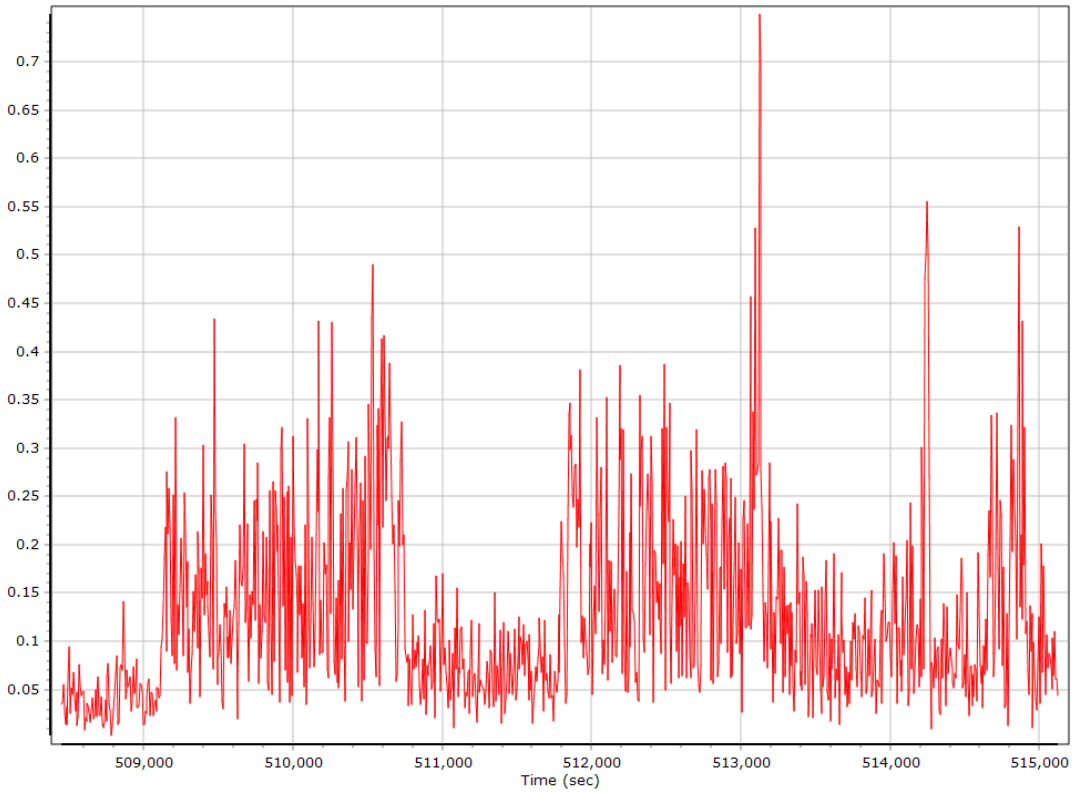
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
11/29/2019	PTLK	45.00	GNSS	1	User	None	Imported
11/29/2019	OCLA	66.33	GNSS	1	User	None	Imported
11/29/2019	LCKY	62.17	GNSS	1	User	None	Imported
11/29/2019	KREG	85.80	GNSS	1	User	None	Imported
11/29/2019	GNVL	17.34	GNSS	1	User	None	Imported
11/29/2019	FLMC	54.51	GNSS	1	User	None	Imported
11/29/2019	FLBR	62.35	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	GNVL
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	6756 s (2081 508389 - 2081 515145)
Number of reference stations	7
Primary station GPS measurement usage (%)	99.9
Primary station GLONASS measurement usage (%)	61.6
Average number of satellites per epoch	11.7
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	11671
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - PTLK

Status	OK	SBQI	0	
Duration (Hours)	37.05	Output Coordinates	Original	
Solution Epochs	8892	Mean Epoch SVs	8.1	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14827"	W81°41'15.86068"	17.960
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.003	0.014	0.015

Base Station Information

Station ID	PTLK		
Filename	pltk_daily3330.19o, pltk_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 7:59:59 PM		
Duration	1:15:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - OCLA

Status	OK	SBQI	0
Duration (Hours)	39.90	Output Coordinates	Original
Solution Epochs	9575	Mean Epoch SVs	7.9
Base Station Coordinates	Latitude	Longitude	Height (m)
Original	N29°10'54.46980"	W82°06'15.28619"	17.715
Adjusted	N29°10'54.46976"	W82°06'15.28613"	17.718
Coordinate Adjustments	Horizontal (m)	Vertical (m)	Total (m)
Adjustments	0.002	0.003	0.004

Base Station Information

Station ID	OCLA		
Filename	ocla_daily3330.19o, ocla_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 7:59:59 PM		
Duration	1:15:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LCKY

Status	OK	SBQI	0	
Duration (Hours)	39.90	Output Coordinates	Original	
Solution Epochs	9575	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°11'07.49182"	W82°34'39.14410"	35.193
Adjusted		N30°11'07.49172"	W82°34'39.14421"	35.214
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.004	0.021	0.021

Base Station Information

Station ID	LCKY		
Filename	lkcy_daily3330.19o, lkcy_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 7:59:59 PM		
Duration	1:15:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - KREG

Status	OK	SBQI	0	
Duration (Hours)	39.10	Output Coordinates	Original	
Solution Epochs	9384	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°20'09.73062"	W81°30'54.43457"	12.029
Adjusted		N30°20'09.73074"	W81°30'54.43507"	12.001
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.014	0.028	0.031

Base Station Information

Station ID	KREG		
Filename	kreg_daily3330.19o, kreg_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 7:59:59 PM		
Duration	1:15:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702048
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°20'09.73062"		
Longitude	W81°30'54.43457"		
Ellipsoidal height (m)	-12.02900		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	CONTROL	SBQI	0	
Duration (Hours)	39.90	Output Coordinates	Control	
Solution Epochs	9575	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55697"	W82°16'36.73521"	23.936
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3330.19o, gnlv_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 7:59:59 PM		
Duration	1:15:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMC

Status	OK	SBQI	0	
Duration (Hours)	39.90	Output Coordinates	Original	
Solution Epochs	9575	Mean Epoch SVs	8.1	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°16'15.87532"	W82°07'35.14360"	11.221
Adjusted		N30°16'15.87532"	W82°07'35.14396"	11.243
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.010	0.022	0.024

Base Station Information

Station ID	FLMC		
Filename	flmc_daily3330.19o, flmc_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 7:59:59 PM		
Duration	1:15:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701977
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°16'15.87532"		
Longitude	W82°07'35.14360"		
Ellipsoidal height (m)	11.22100		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLBR

Status	OK	SBQI	0	
Duration (Hours)	38.05	Output Coordinates	Original	
Solution Epochs	9133	Mean Epoch SVs	7.9	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°26'19.83659"	W82°38'43.13027"	4.337
Adjusted		N29°26'19.83623"	W82°38'43.13056"	4.323
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.013	0.014	0.019

Base Station Information

Station ID	FLBR		
Filename	flbr_daily3330.19o, flbr_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 7:59:59 PM		
Duration	1:15:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701978
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°26'19.83659"		
Longitude	W82°38'43.13027"		
Ellipsoidal height (m)	-4.33700		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	1.12	45.30	
Number of GPS SV	8	10	9
Number of GLONASS SV	0	4	2
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	8	14	11
PDOP	1.26	2.09	1.78
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	6710.00	0.00	1.00
Percentage	99.99	0.00	0.01

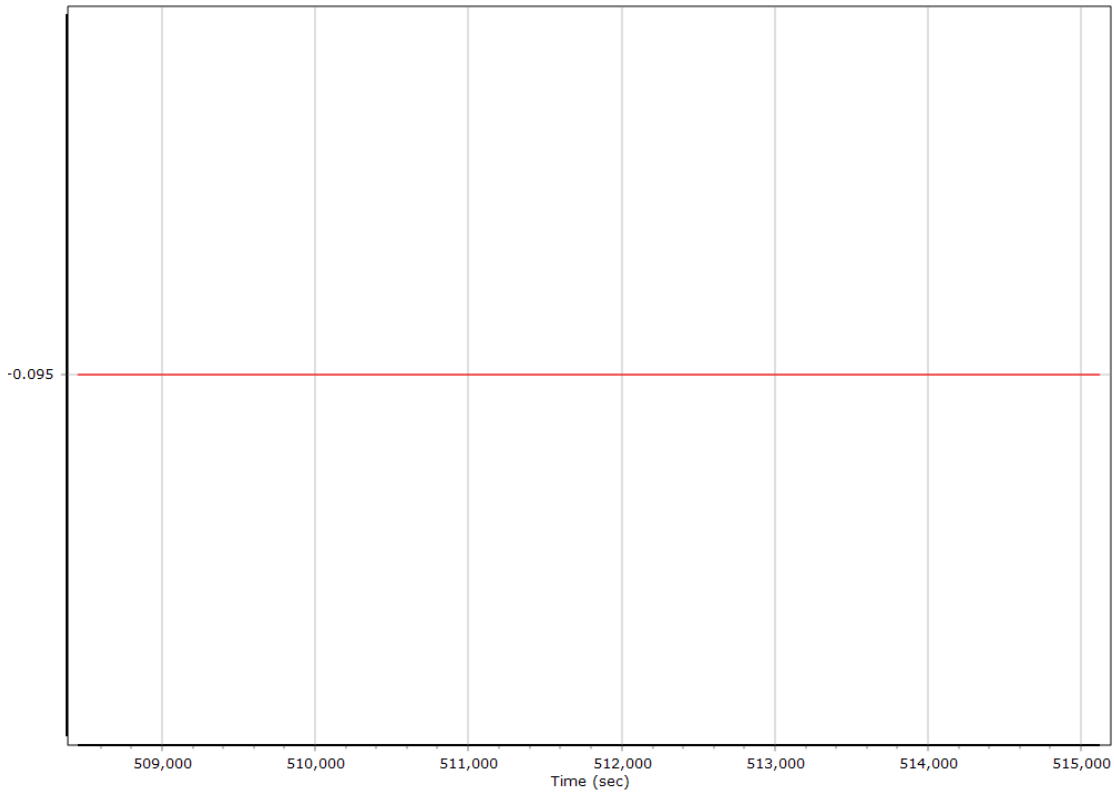
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	508371.000 (11/29/2019 9:12:51 PM)		
Processing end time	515127.000 (11/29/2019 11:05:27 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	-0.095	0.063	-1.259
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

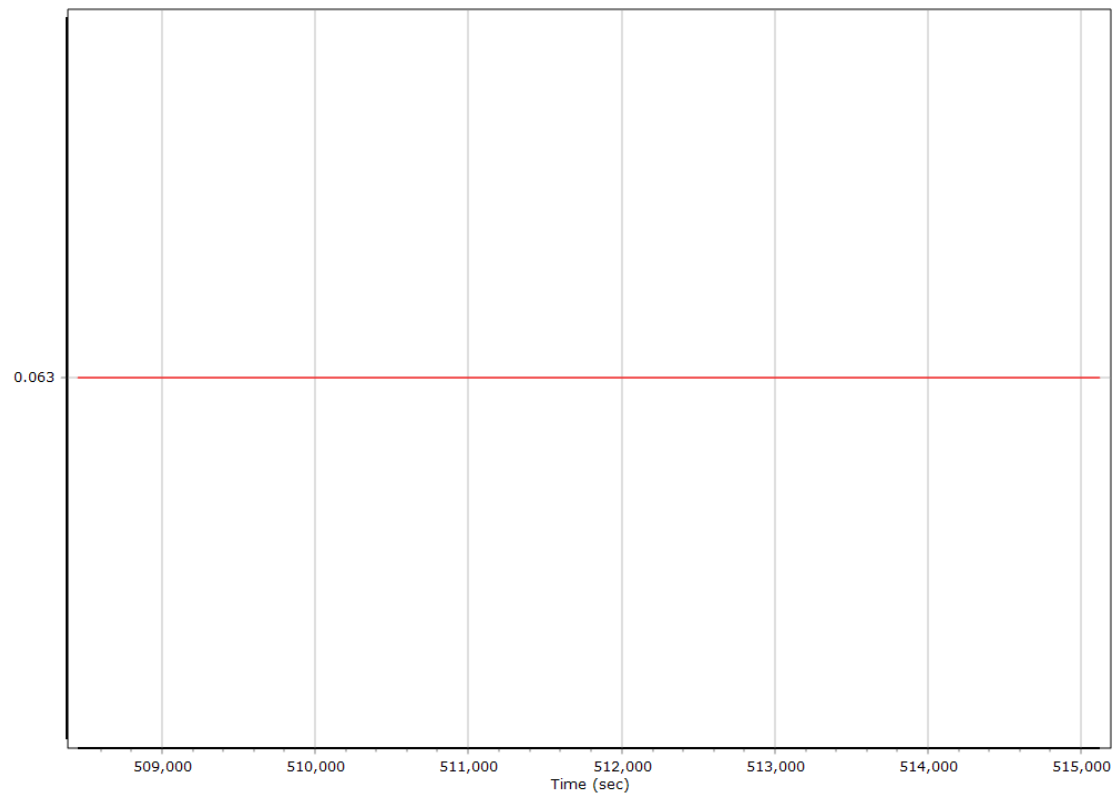
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

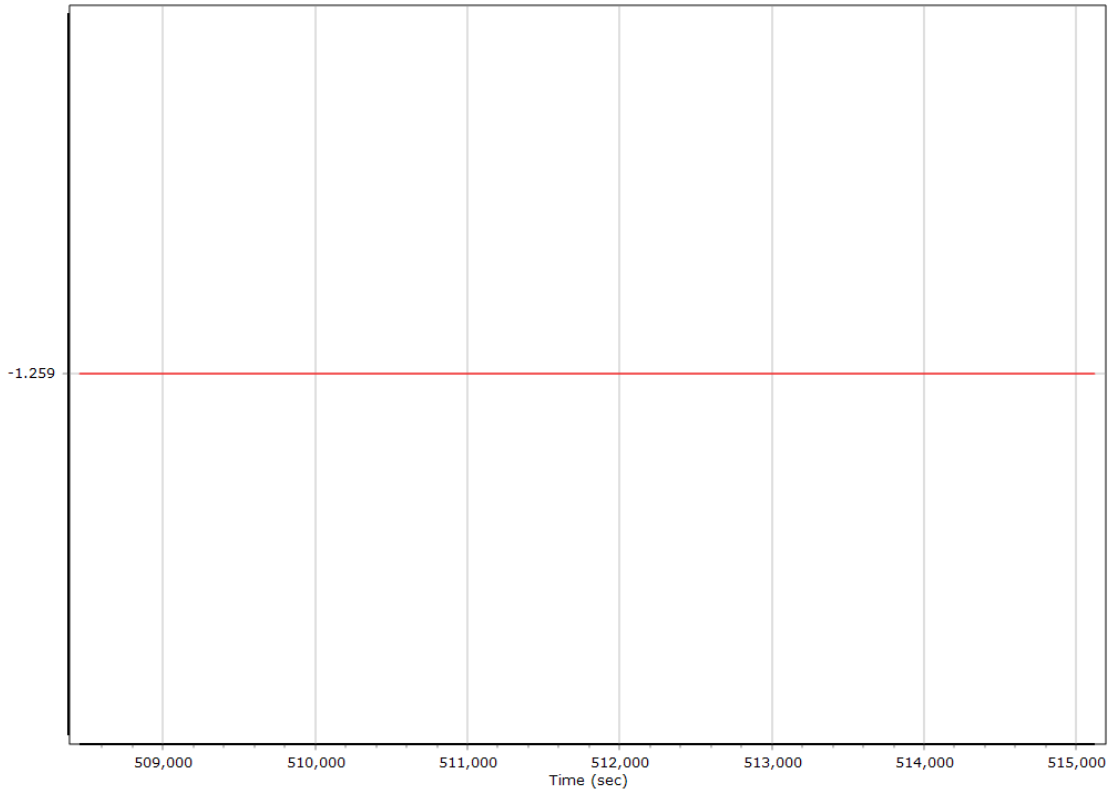
X Reference-Primary GNSS Lever Arm (m)



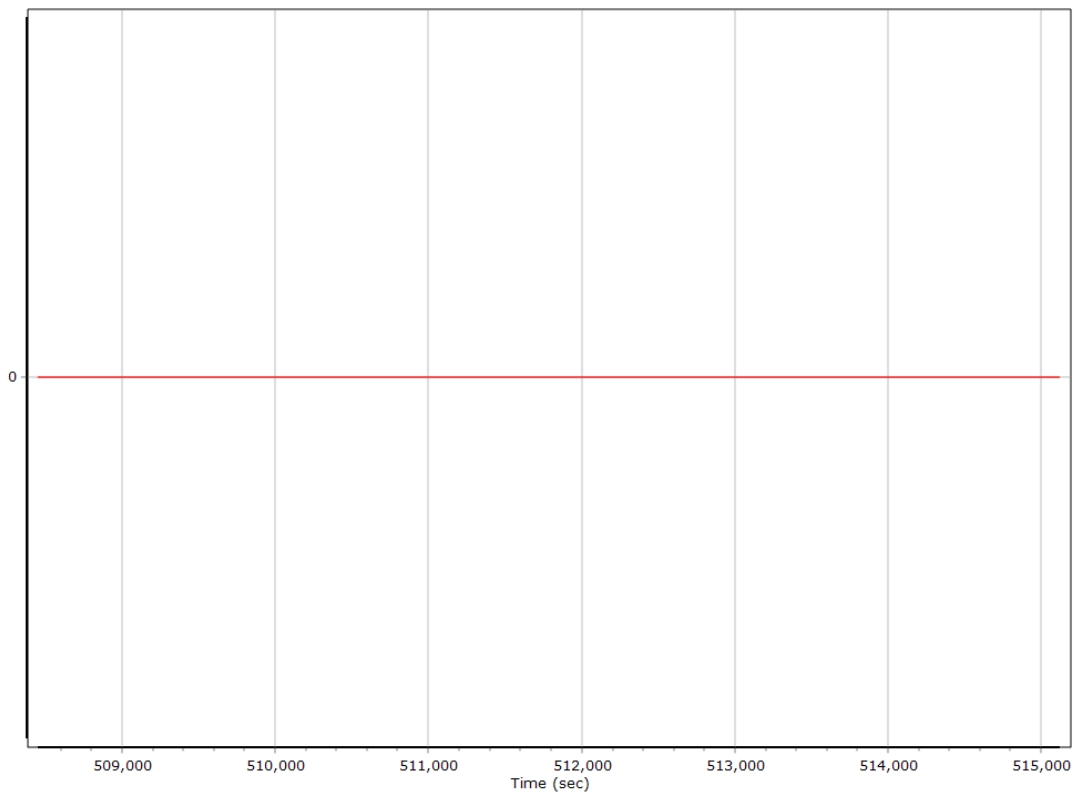
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



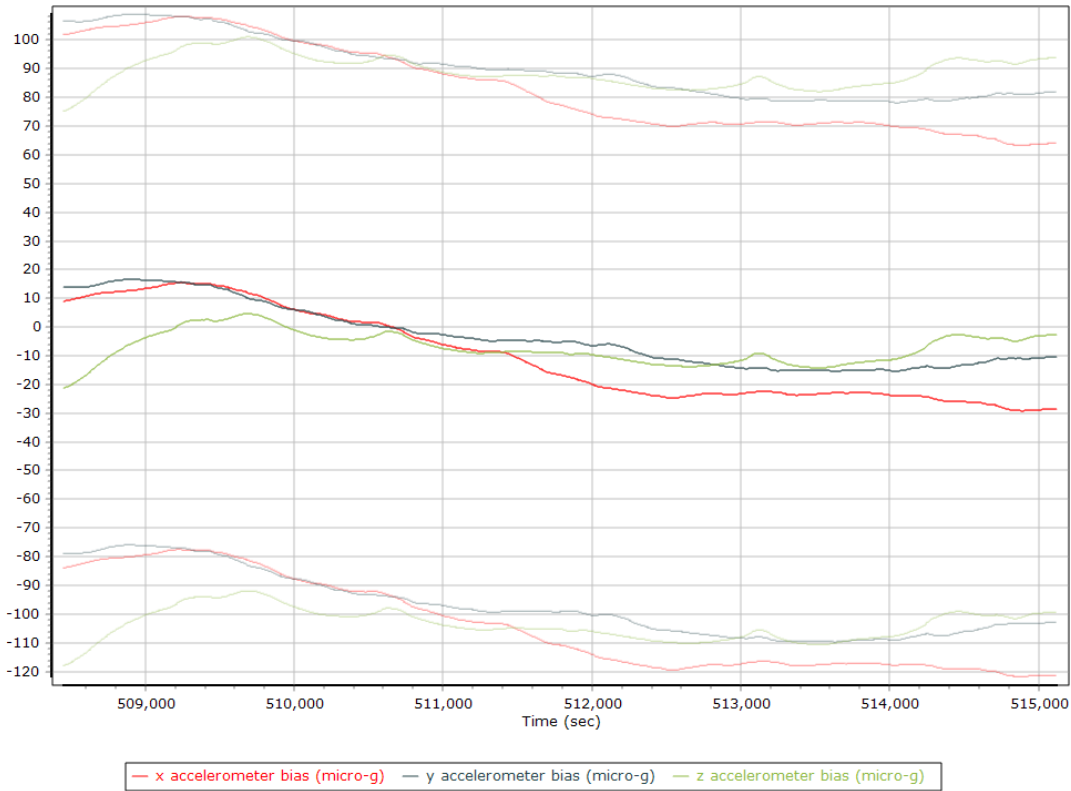
Reference-Primary GNSS Lever Arm Figure of Merit



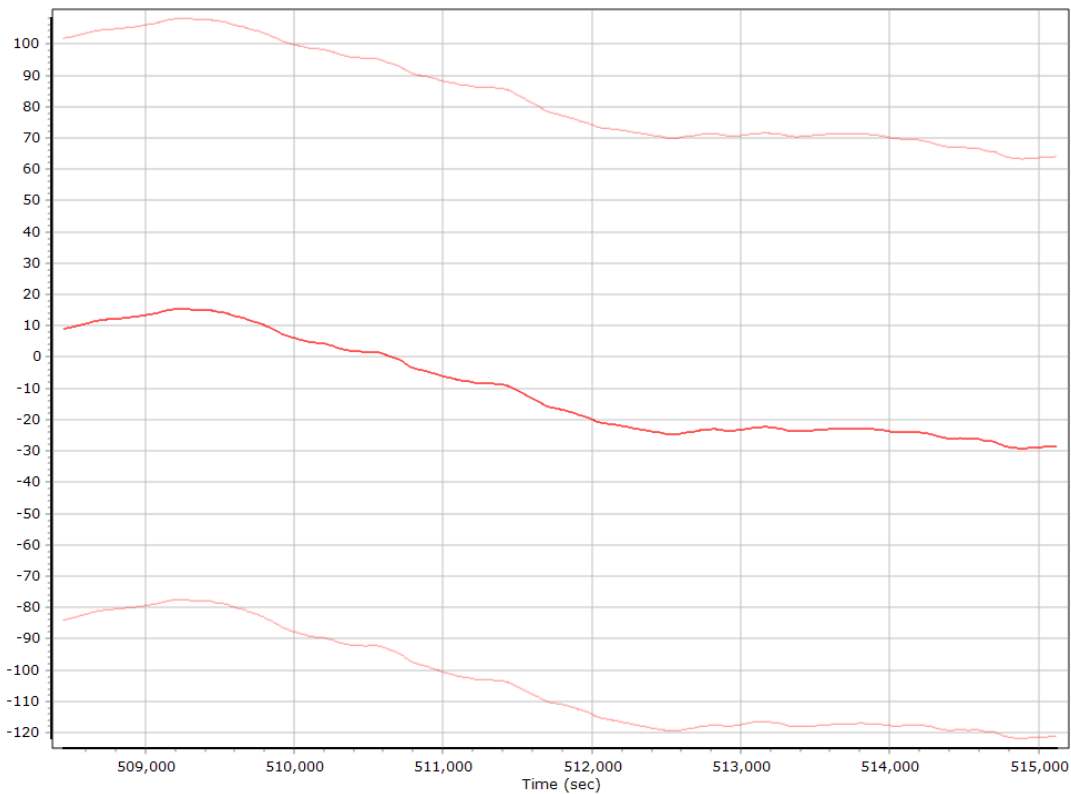
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

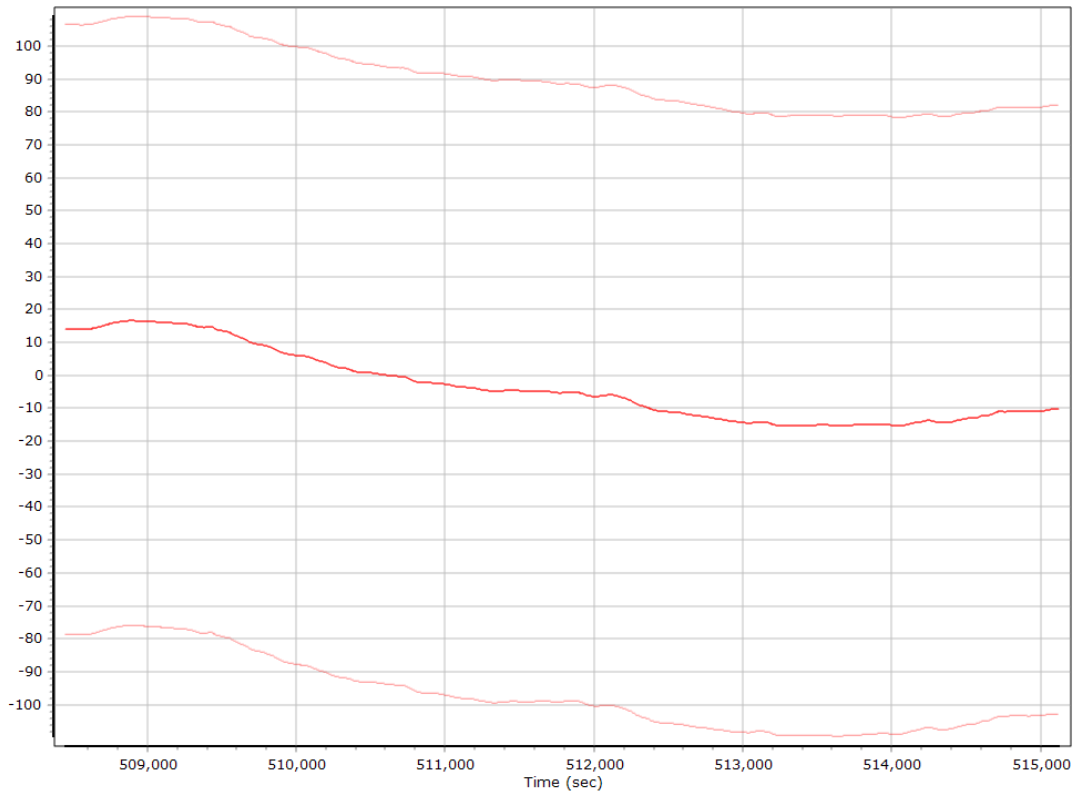
Accelerometer Bias (micro-g)



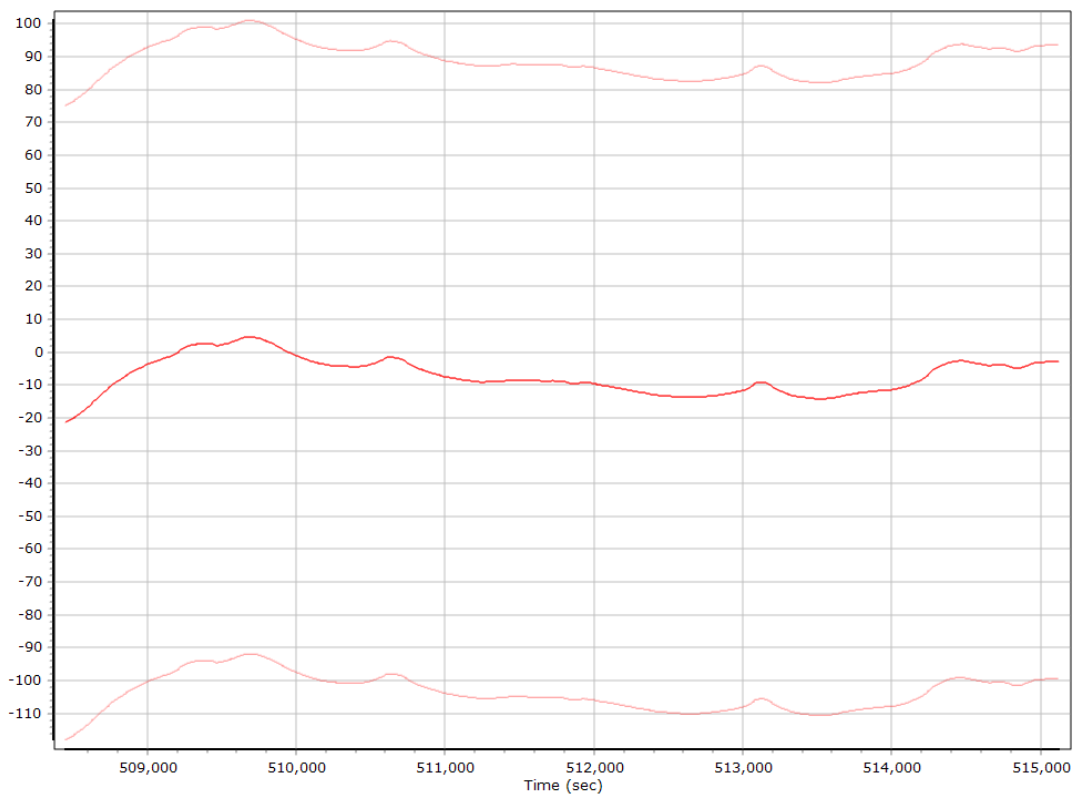
X Accelerometer Bias (micro-g)



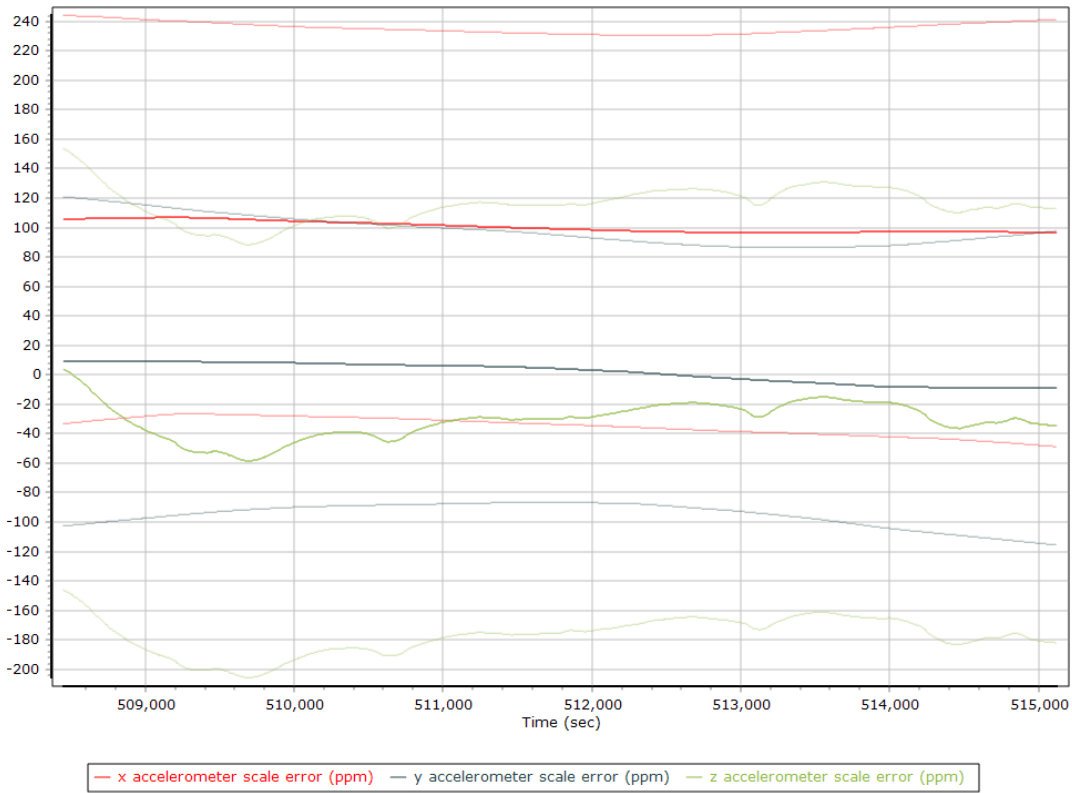
Y Accelerometer Bias (micro-g)



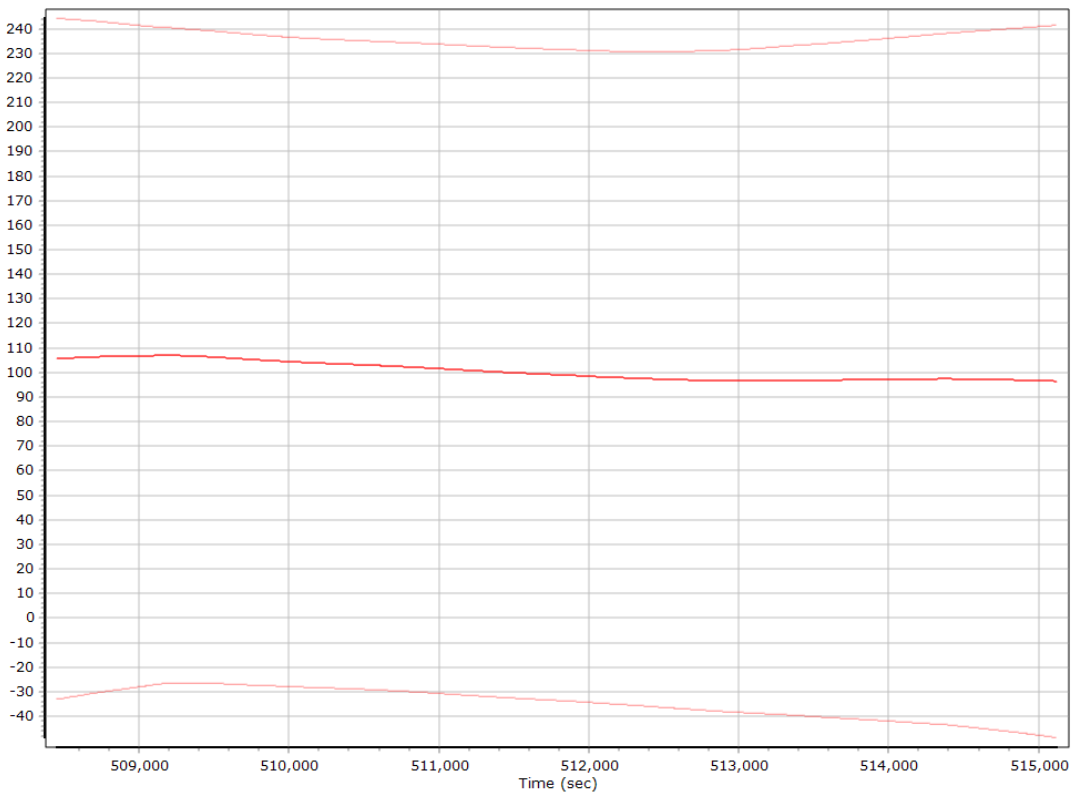
Z Accelerometer Bias (micro-g)



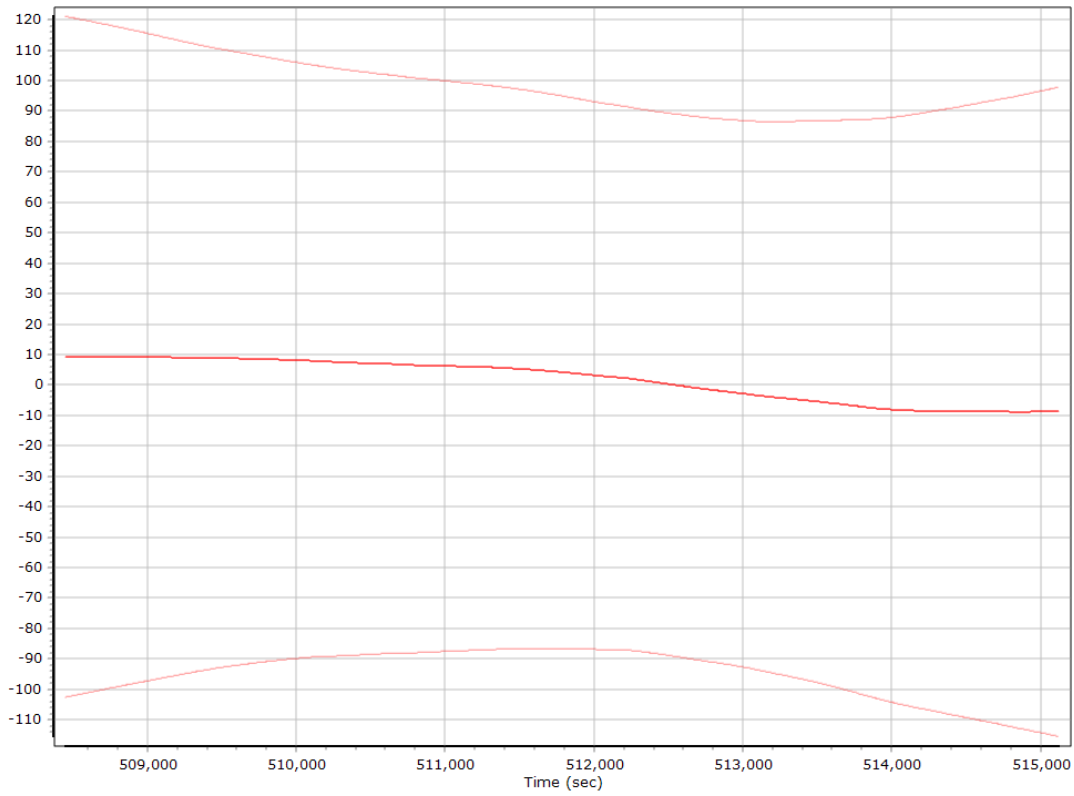
Accelerometer Scale Error (ppm)



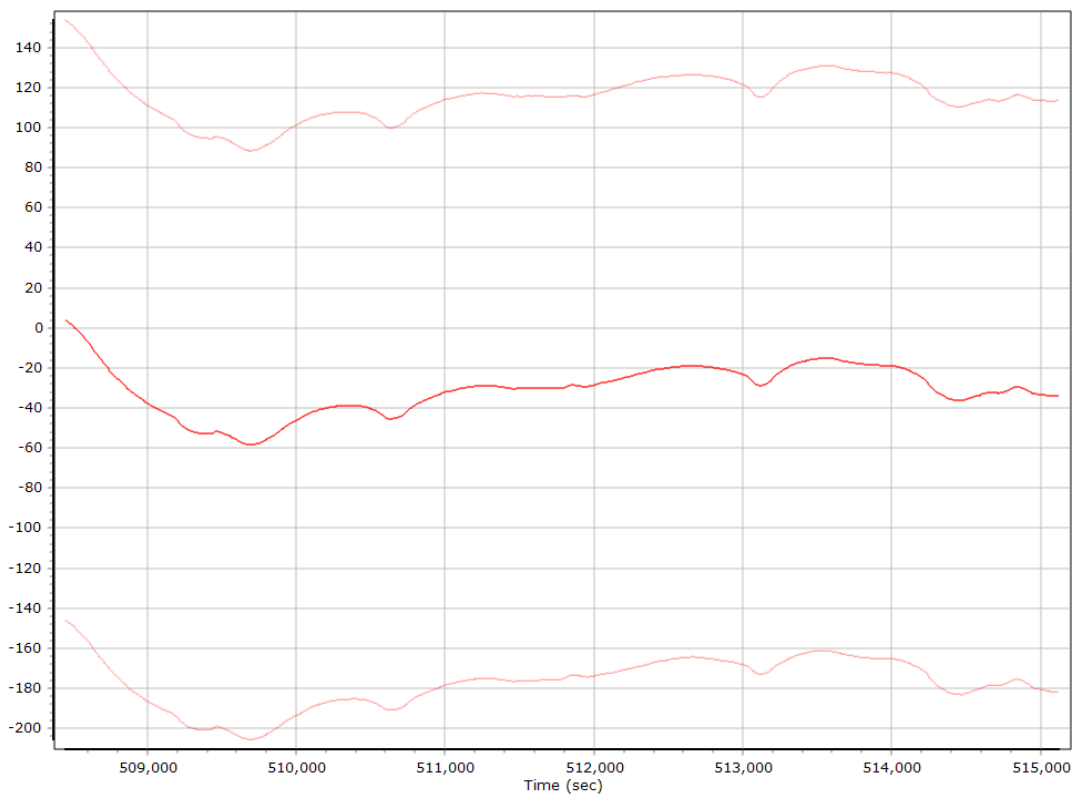
X Accelerometer Scale Error (ppm)



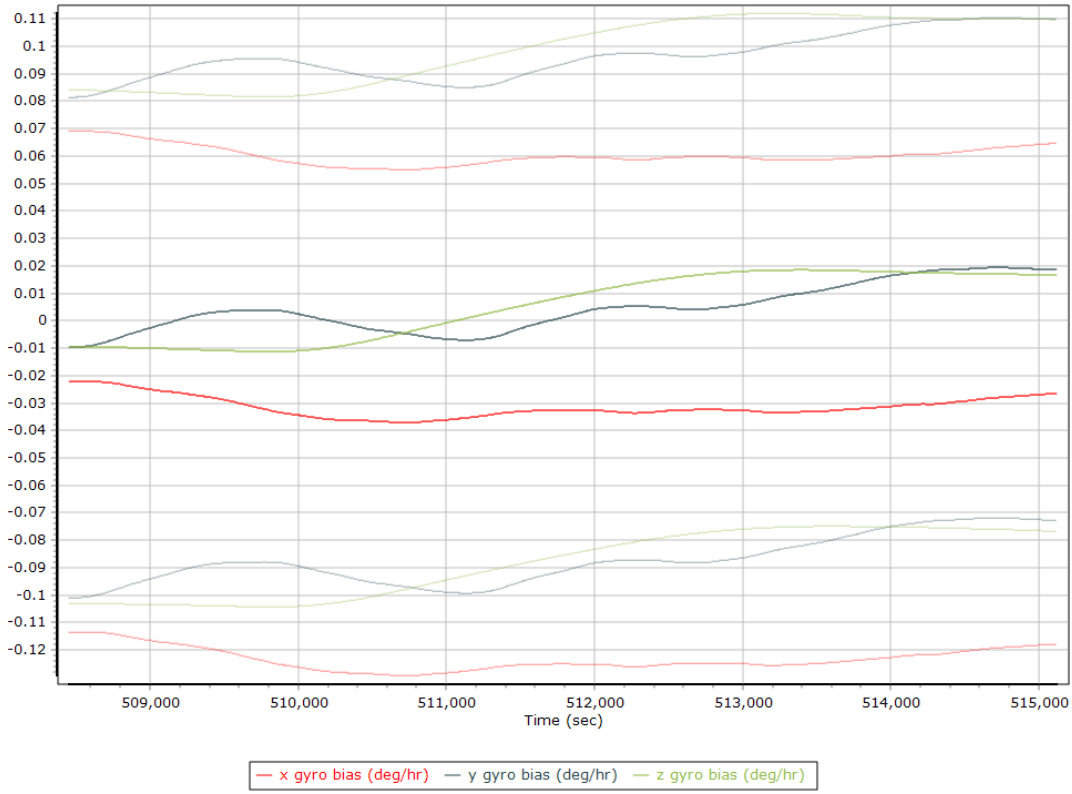
Y Accelerometer Scale Error (ppm)



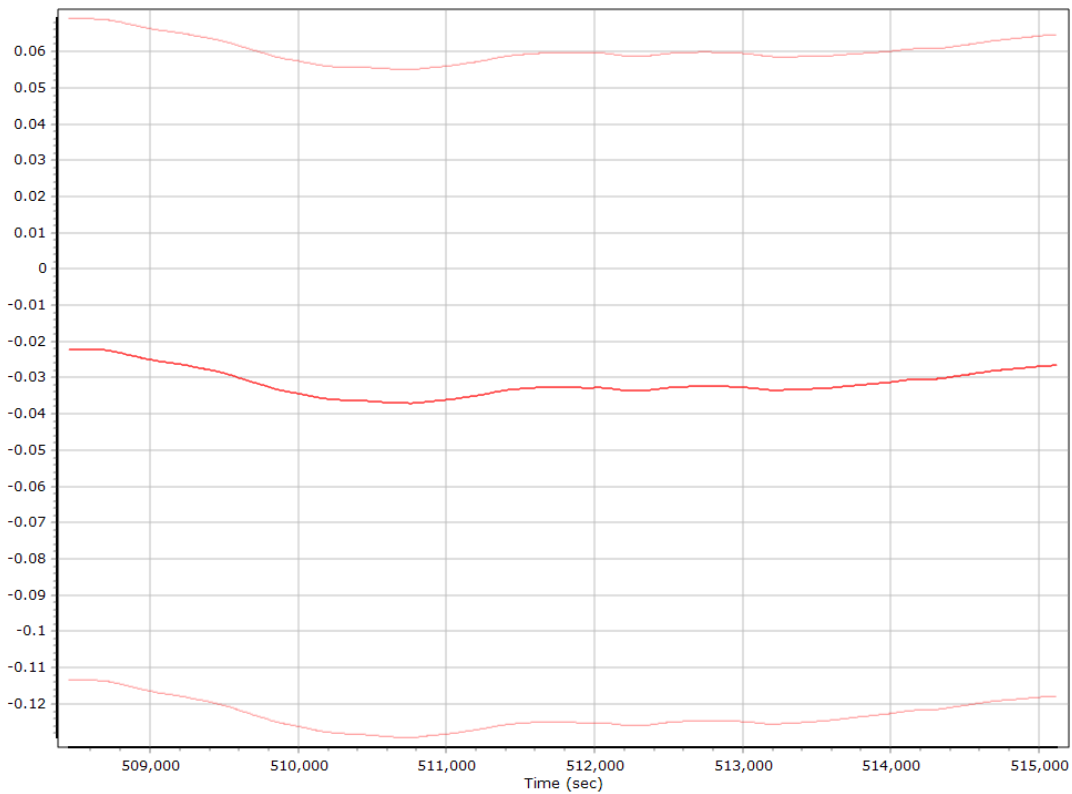
Z Accelerometer Scale Error (ppm)



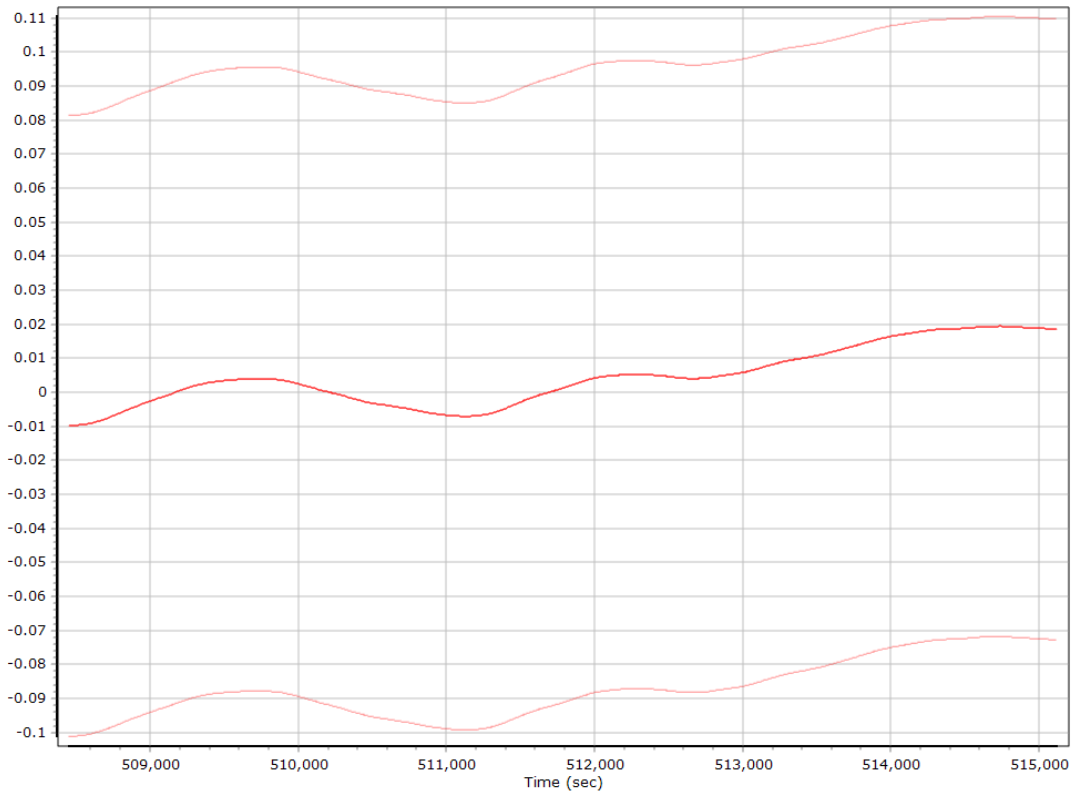
Gyro Bias (deg/h)



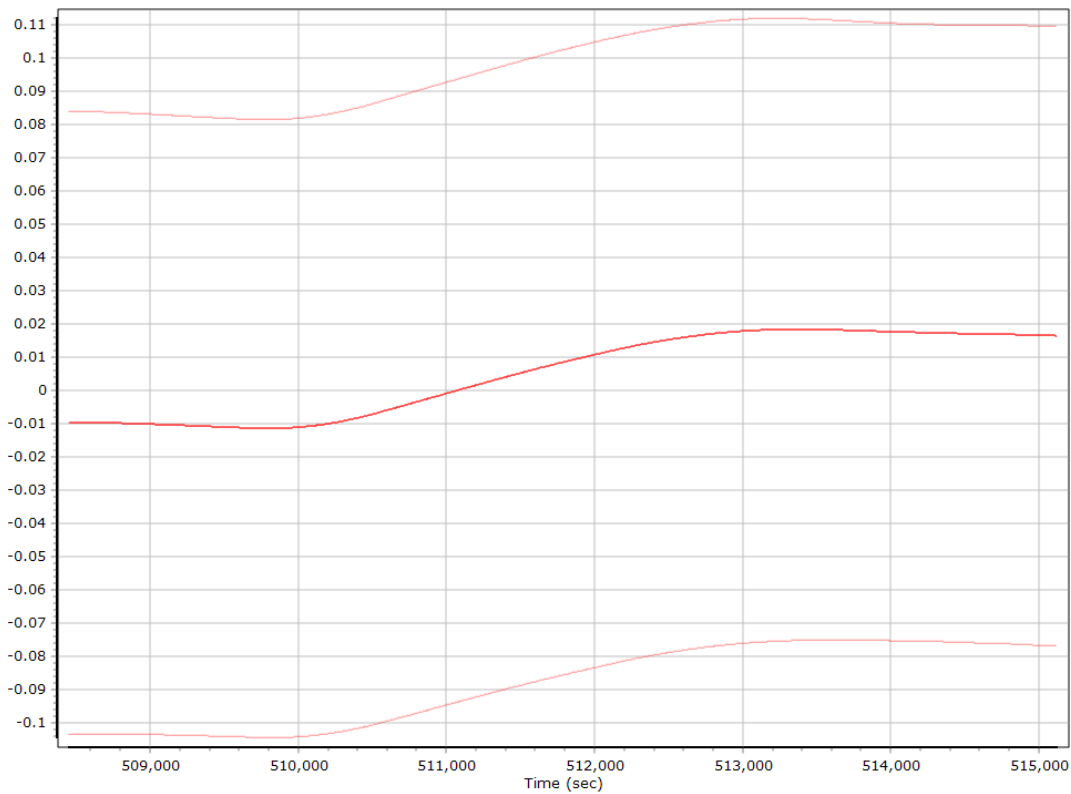
X Gyro Bias (deg/h)



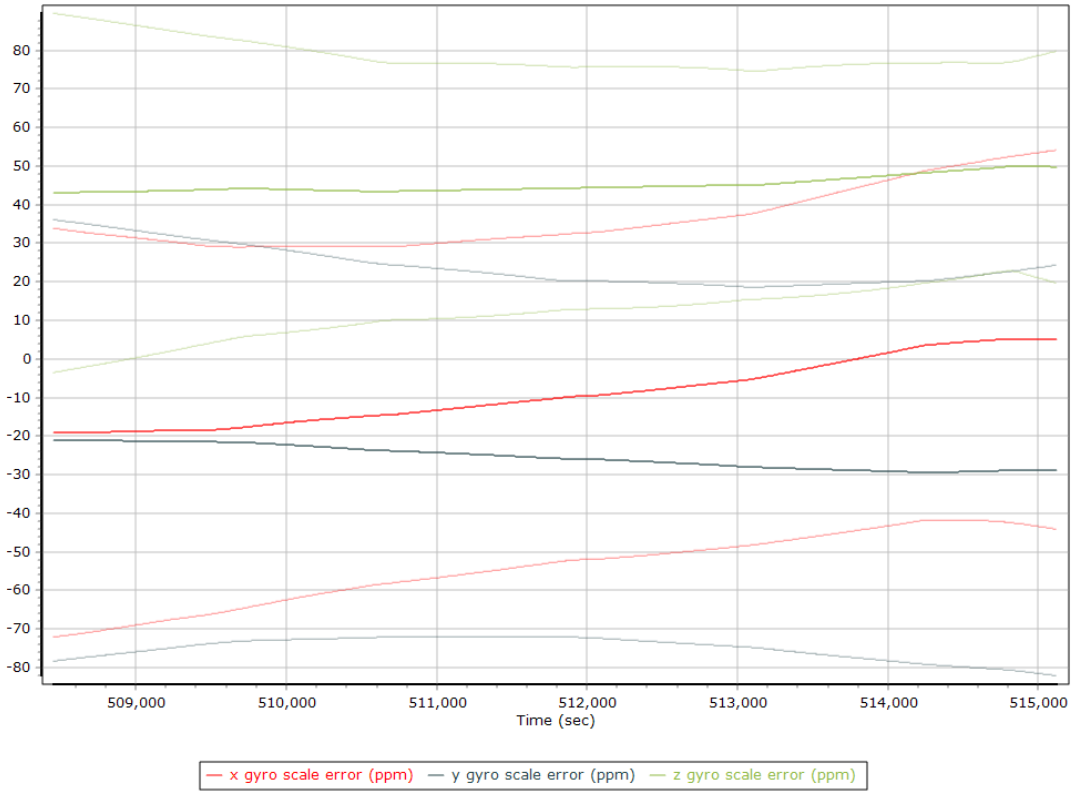
Y Gyro Bias (deg/h)



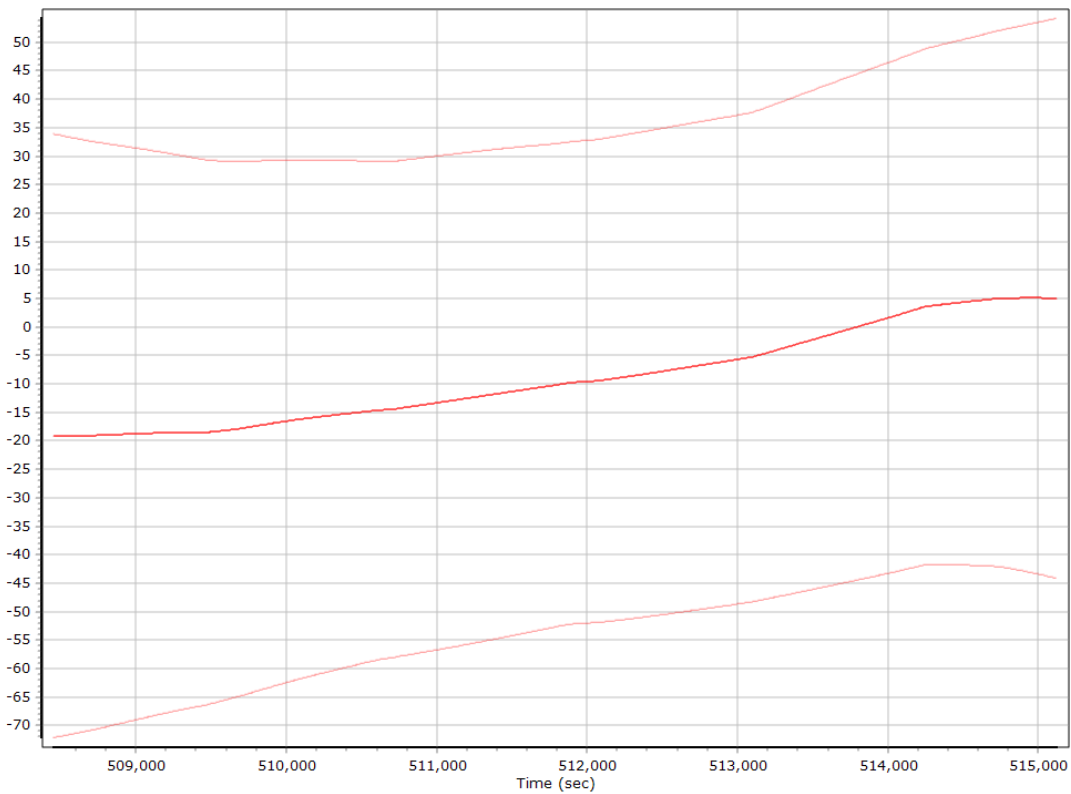
Z Gyro Bias (deg/h)



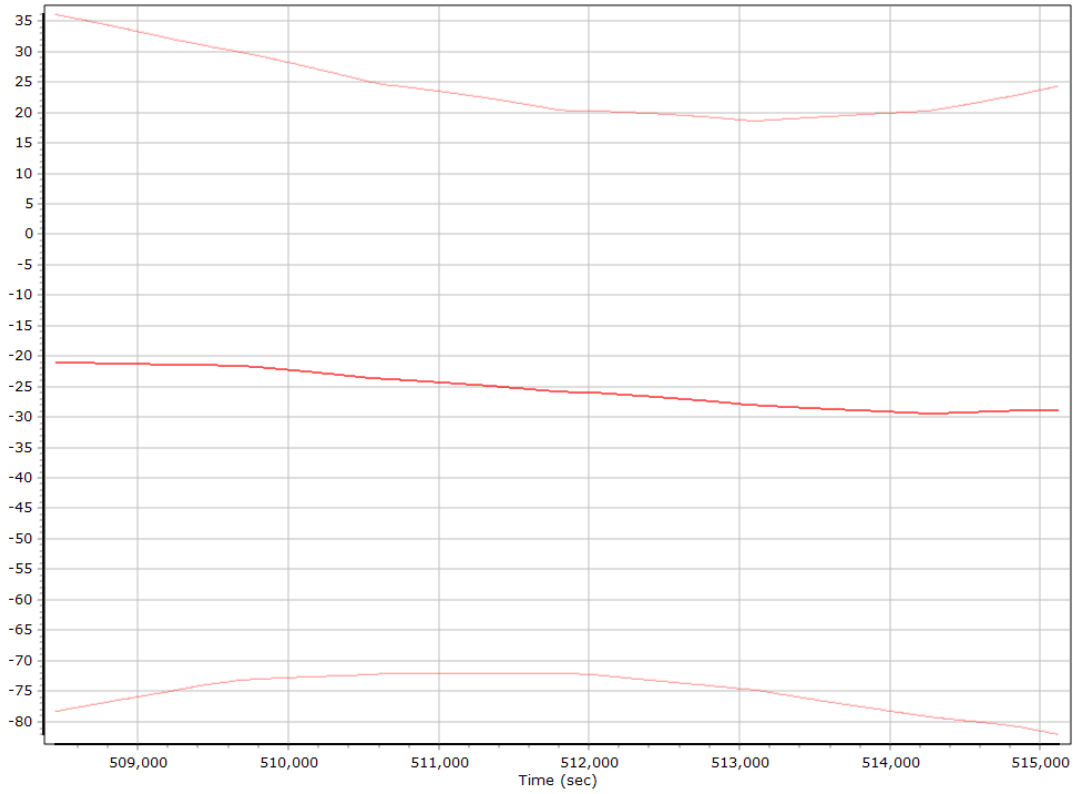
Gyro Scale Error (ppm)



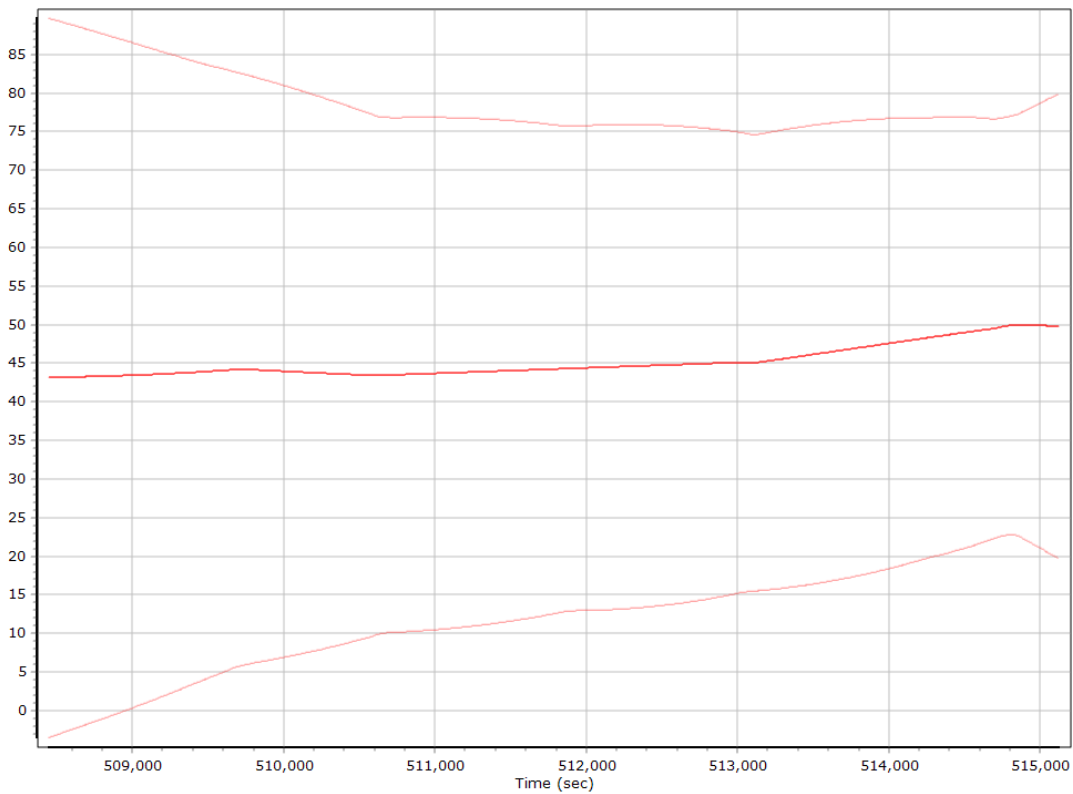
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

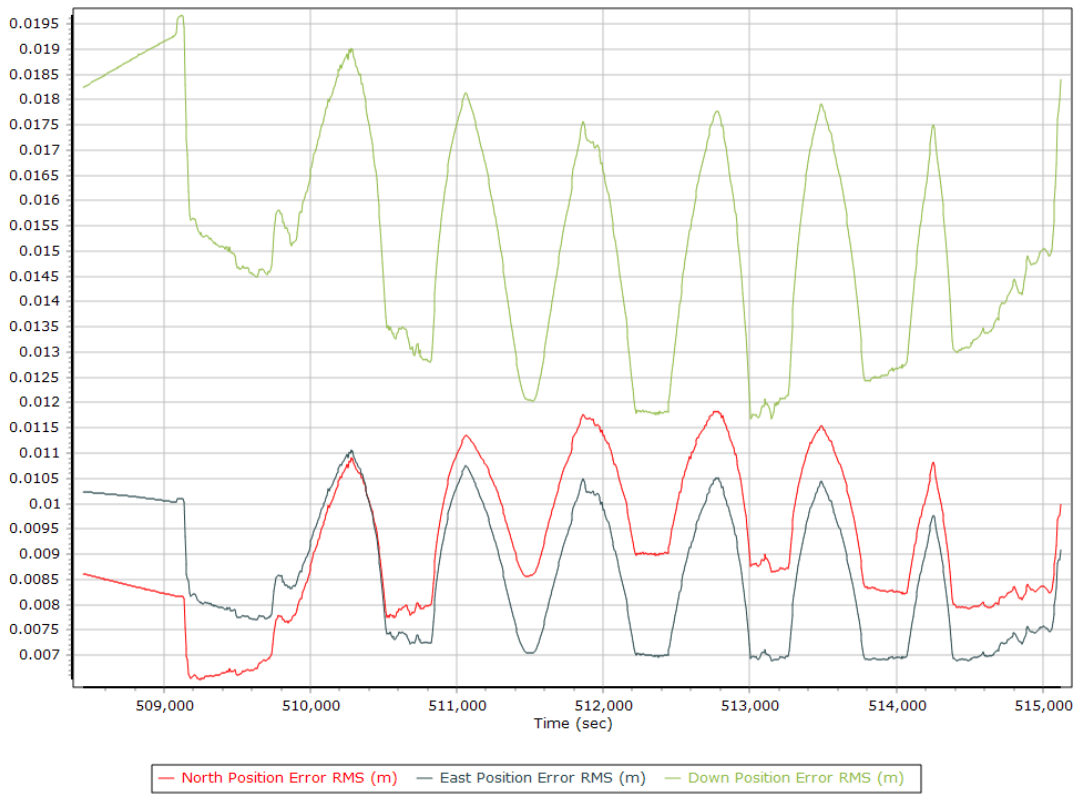


Z Gyro Scale Error (ppm)

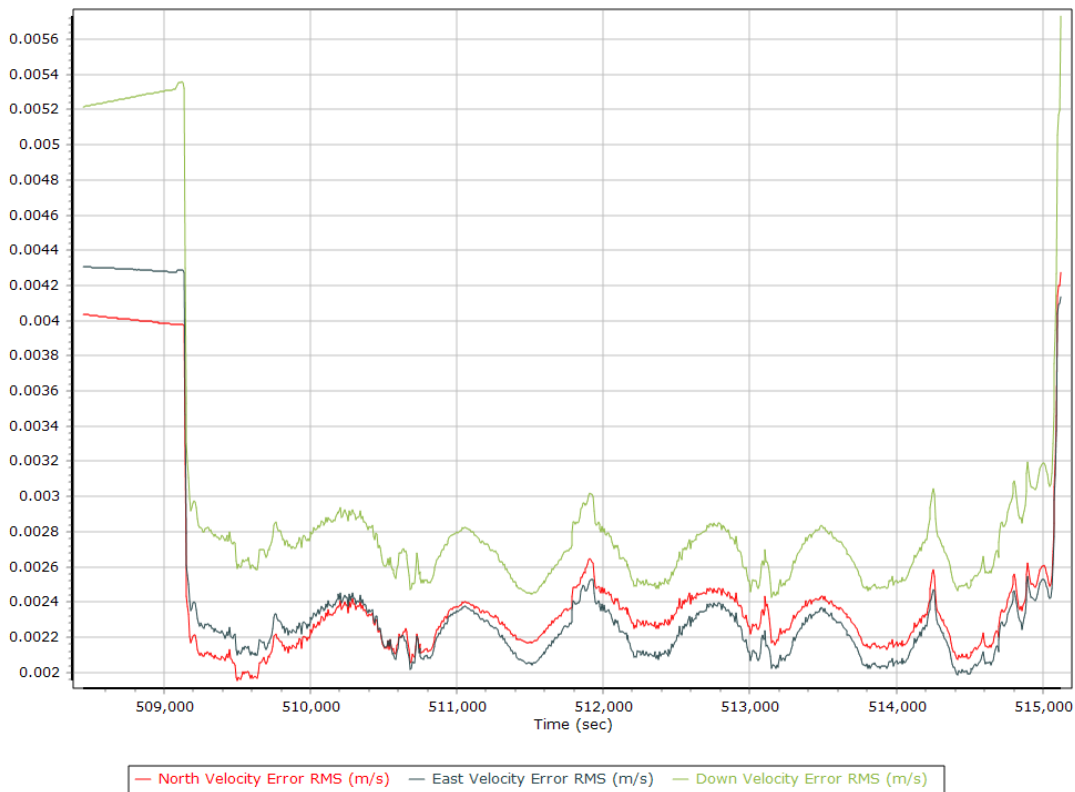


Smoothed Performance Metrics

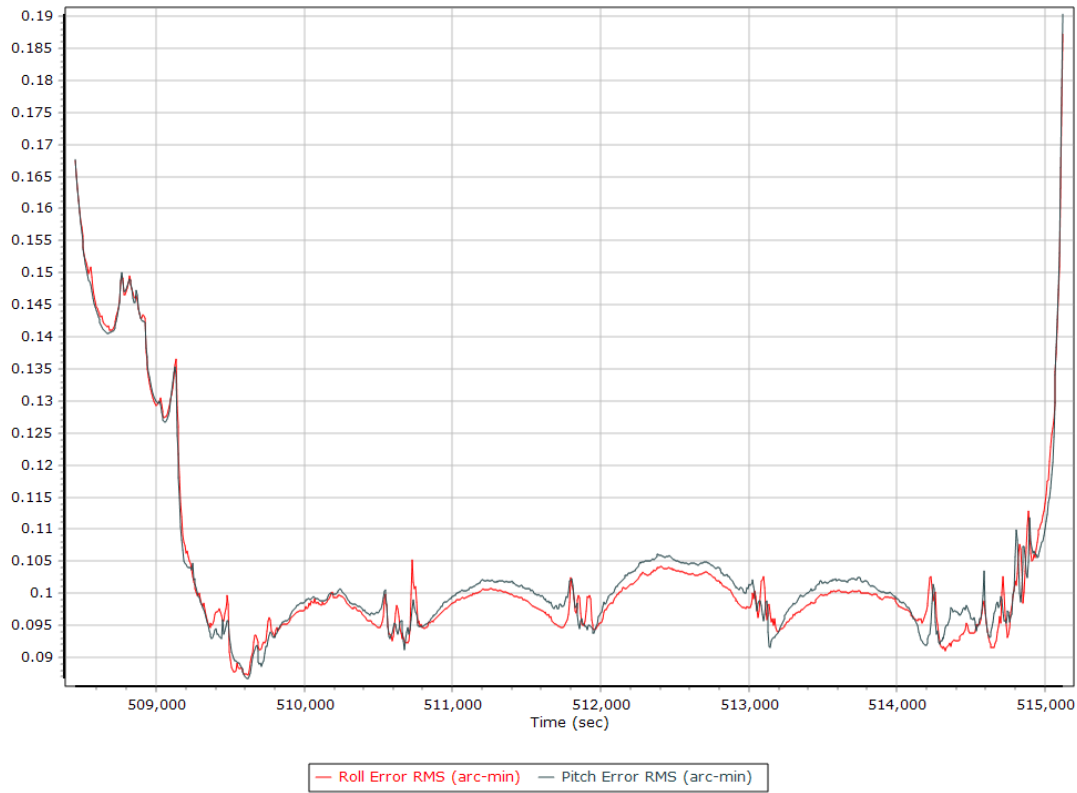
Position Error RMS (m)



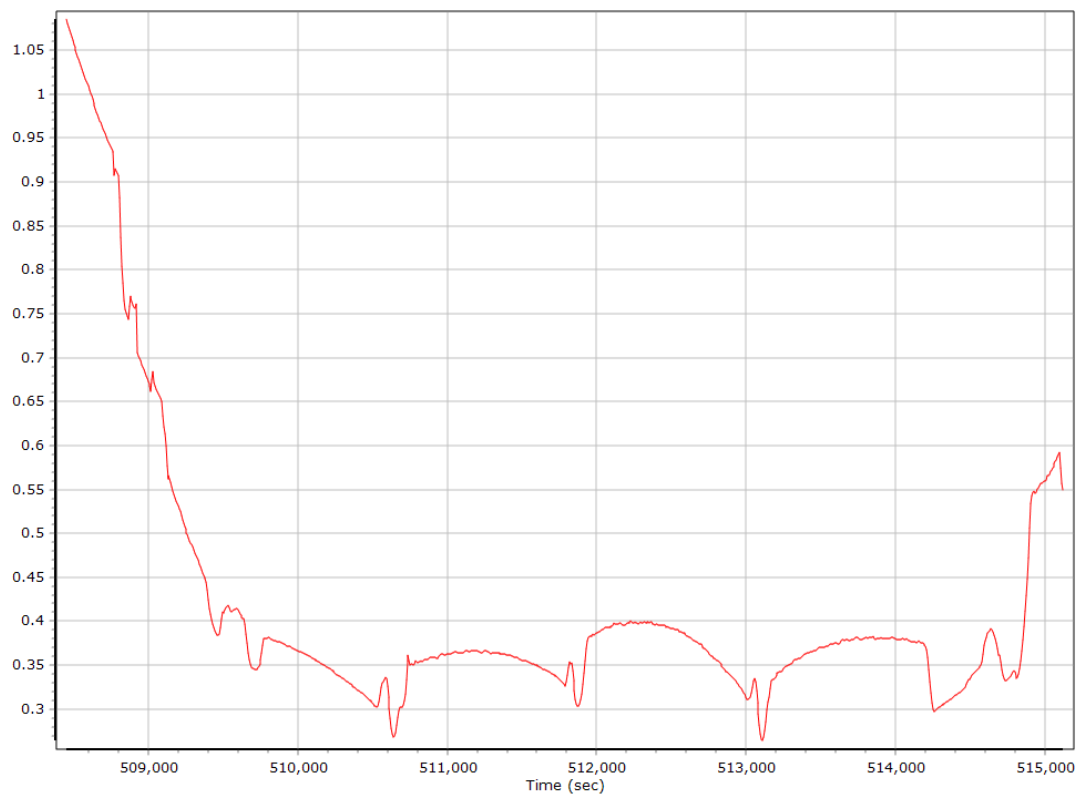
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

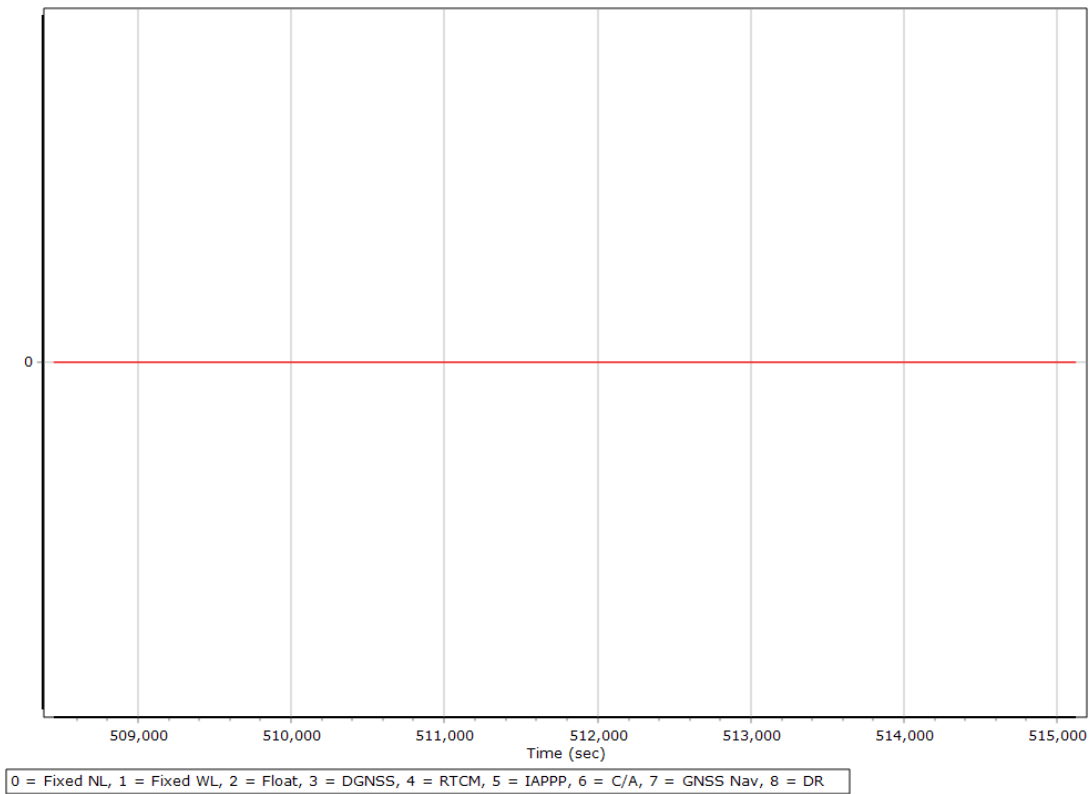


Heading Error RMS (arc-min)

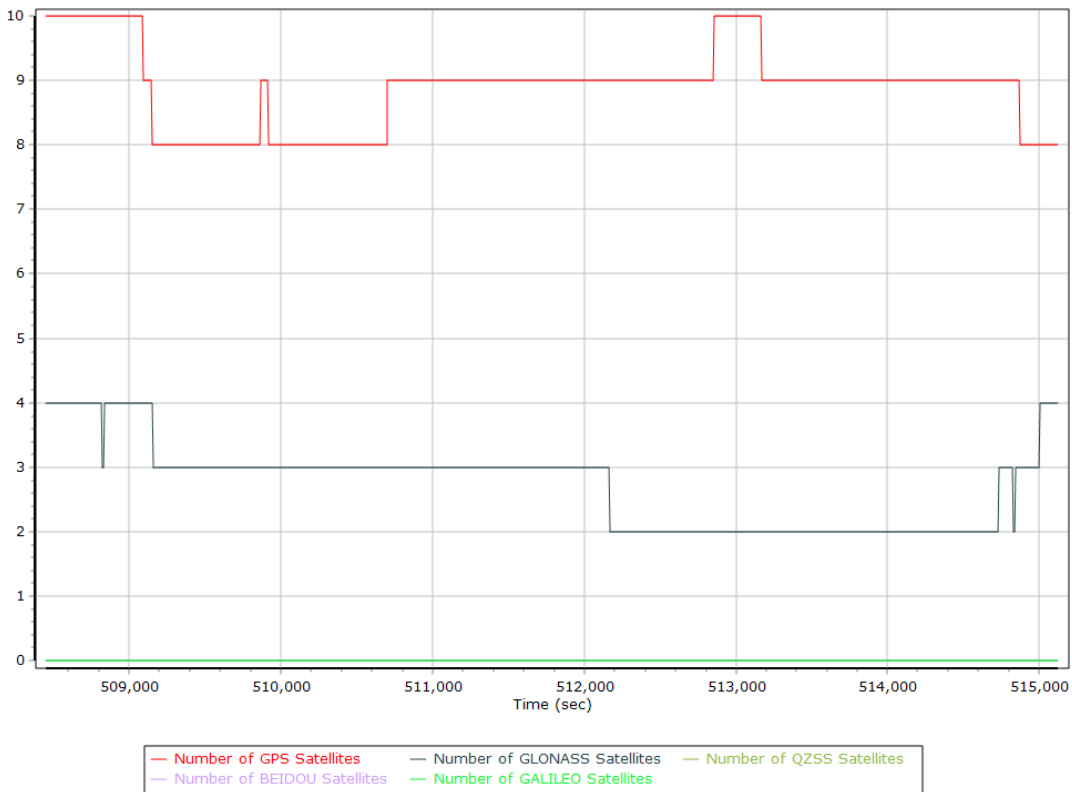


Smoothed Solution Status

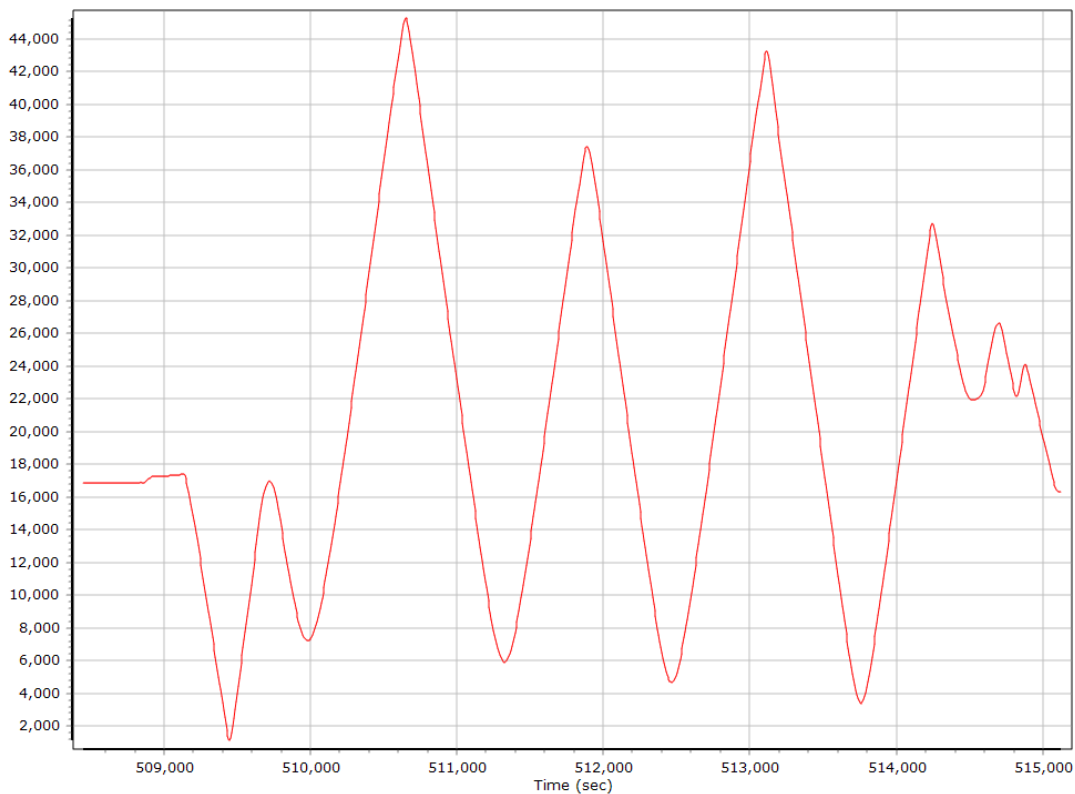
Processing Mode



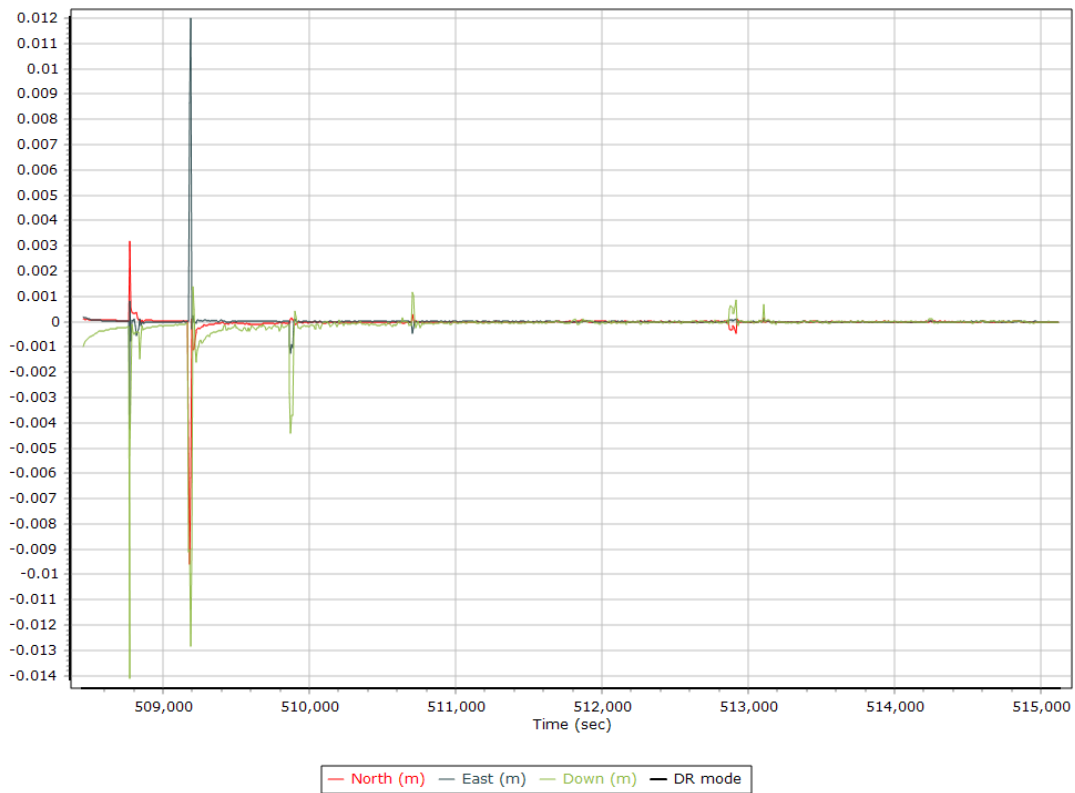
Number of Satellites



Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	88619333A_v3
Processing date	2019-12-12 18:56:35
Mission date	2019-11-29 14:53:36
Mission duration	04:23:48.658
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N9642
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
191129_145319_INS-GPS_1.raw	POS Data

Input Files

File Name	File Type
Ephm3330.19g	GLONASS Broadcast Ephemeris
Ephm3330.19n	GPS Broadcast Ephemeris
flcb_daily3330.19o	GNSS SingleBase
flcb_daily3340.19o	GNSS SingleBase
flck_daily3330.19o	GNSS SingleBase
flck_daily3340.19o	GNSS SingleBase
gnvl_daily3330.19o	GNSS SingleBase
gnvl_daily3340.19o	GNSS SingleBase
prry_daily3330.19o	GNSS SingleBase
prry_daily3340.19o	GNSS SingleBase
talh_daily3330.19o	GNSS SingleBase
talh_daily3340.19o	GNSS SingleBase
xcty_daily3330.19o	GNSS SingleBase
xcty_daily3340.19o	GNSS SingleBase
Ephm3320.19g	GLONASS Broadcast Ephemeris
Ephm3320.19n	GPS Broadcast Ephemeris
Ephm3340.19g	GLONASS Broadcast Ephemeris
Ephm3340.19n	GPS Broadcast Ephemeris
igr20813.sp3	GPS Precise Ephemeris
igr20814.sp3	GPS Precise Ephemeris
igr20815.sp3	GPS Precise Ephemeris
igr20816.sp3	GPS Precise Ephemeris
igr20820.sp3	GPS Precise Ephemeris

Output Files

Filename	File type
sbt_88619333A_v3.out	SBET Trajectory File

Rover Data Summary

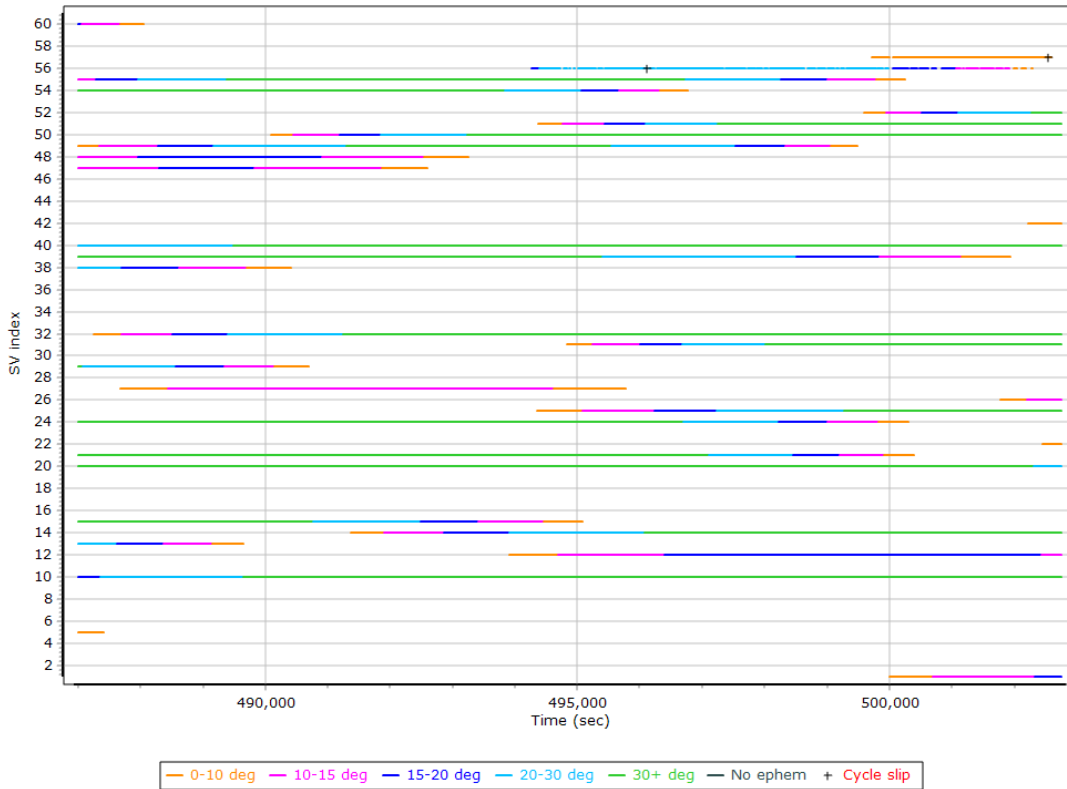
First raw data file	191129_145319_INS-GPS_1.raw		
Last raw data file	191129_145319_INS-GPS_1.raw		
Start GPS week	2081		
Start time	485597.096 (11/29/2019 2:53:17 PM)		
End time	502766.385 (11/29/2019 7:39:26 PM)		
Start of fine alignment	486937.717 (11/29/2019 3:15:37 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

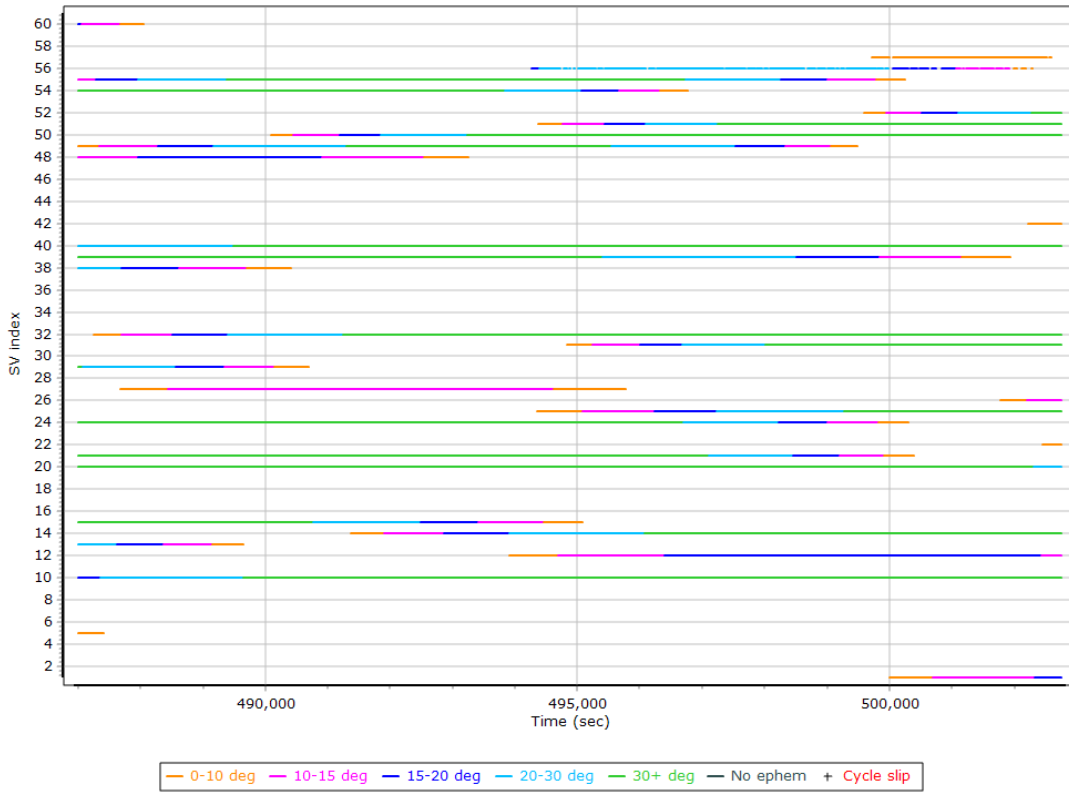
Raw IMU Import QC Summary

IMU data input file	imu_88619333A_v3.dat
IMU data check log file	imudt_88619333A_v3.log
IMU Records Processed	3433408
Termination Status	Normal
IMU Anomalies	0

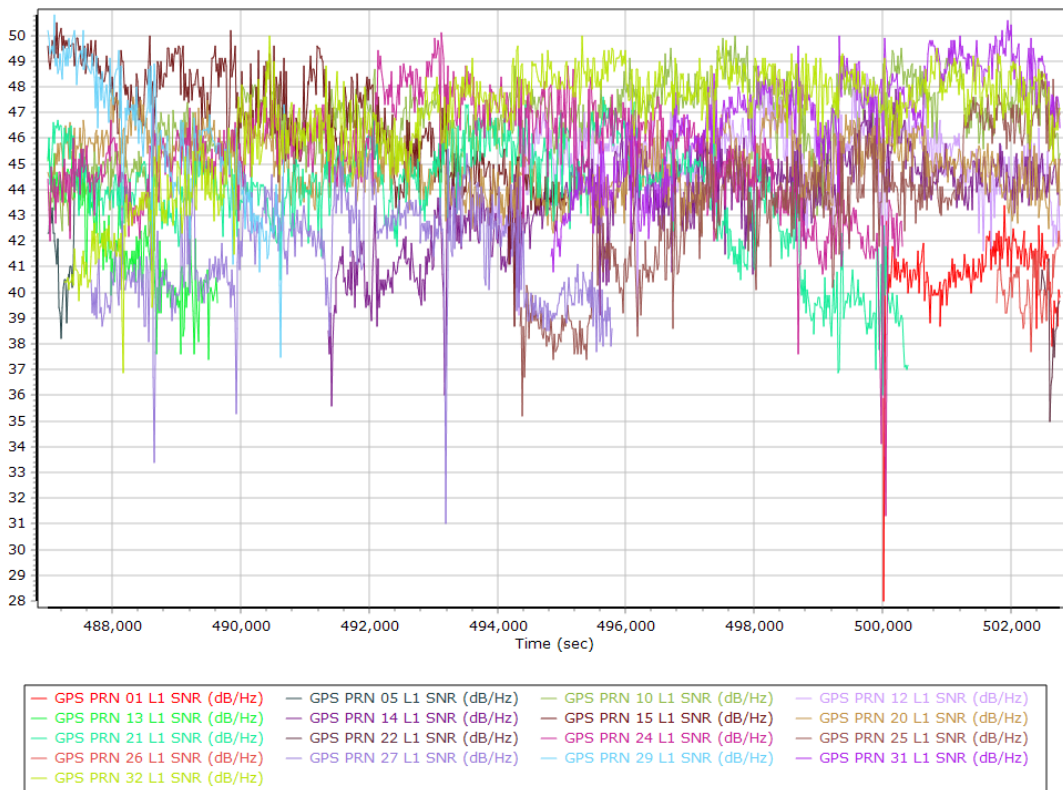
L1 Satellite Lock/Elevation



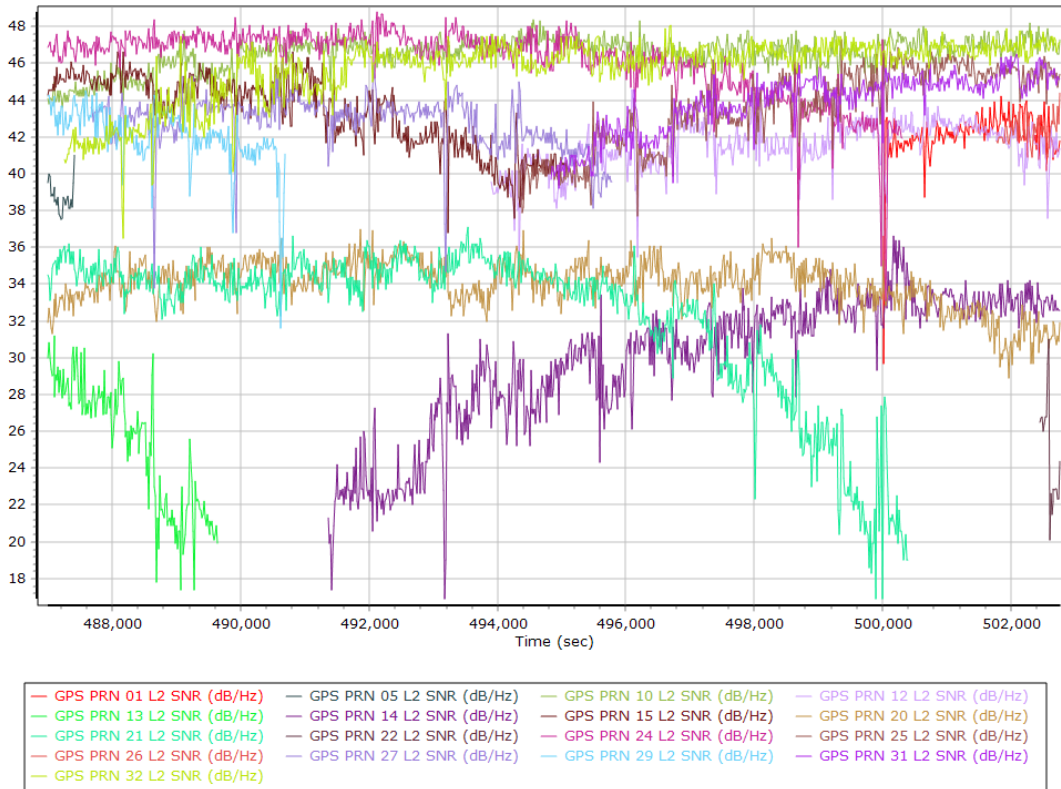
L2 Satellite Lock/Elevation



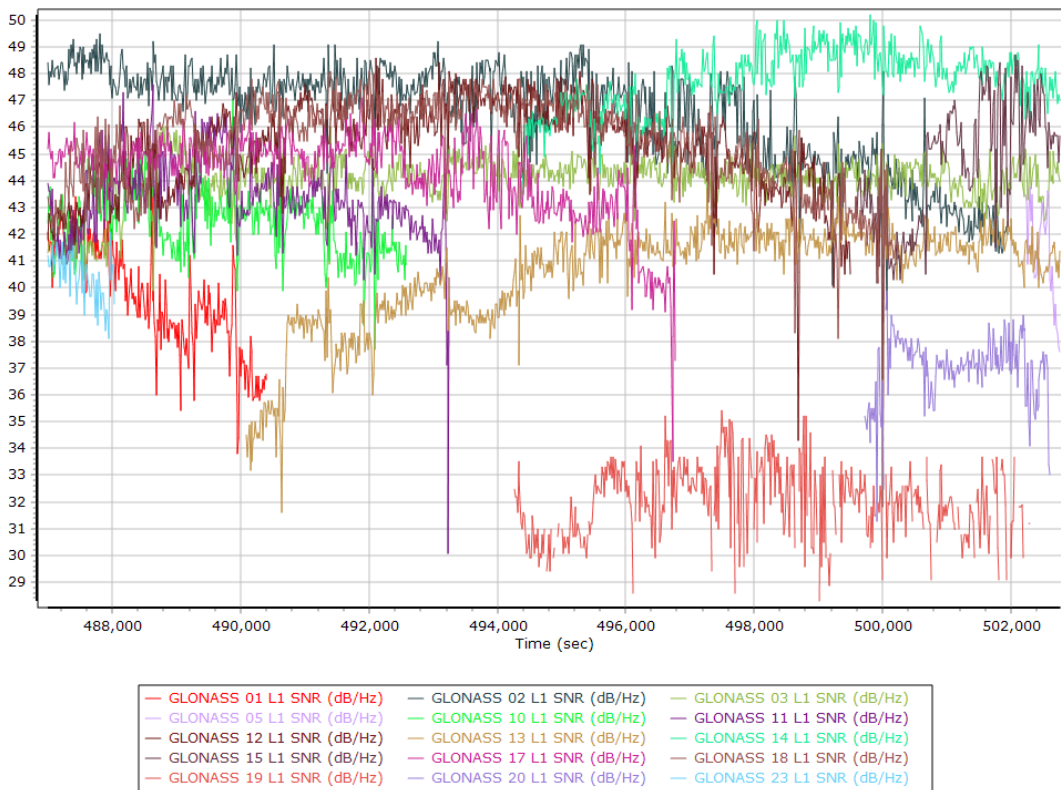
GPS L1 SNR



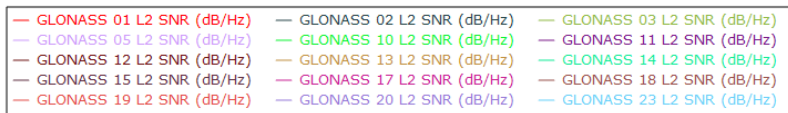
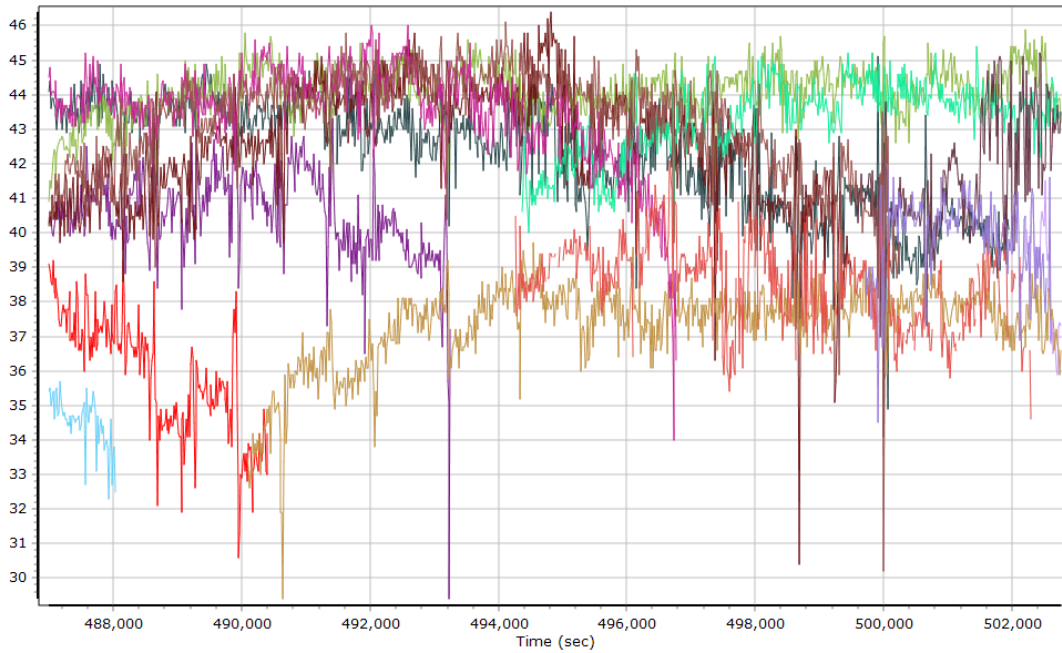
GPS L2 SNR



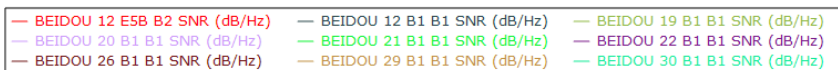
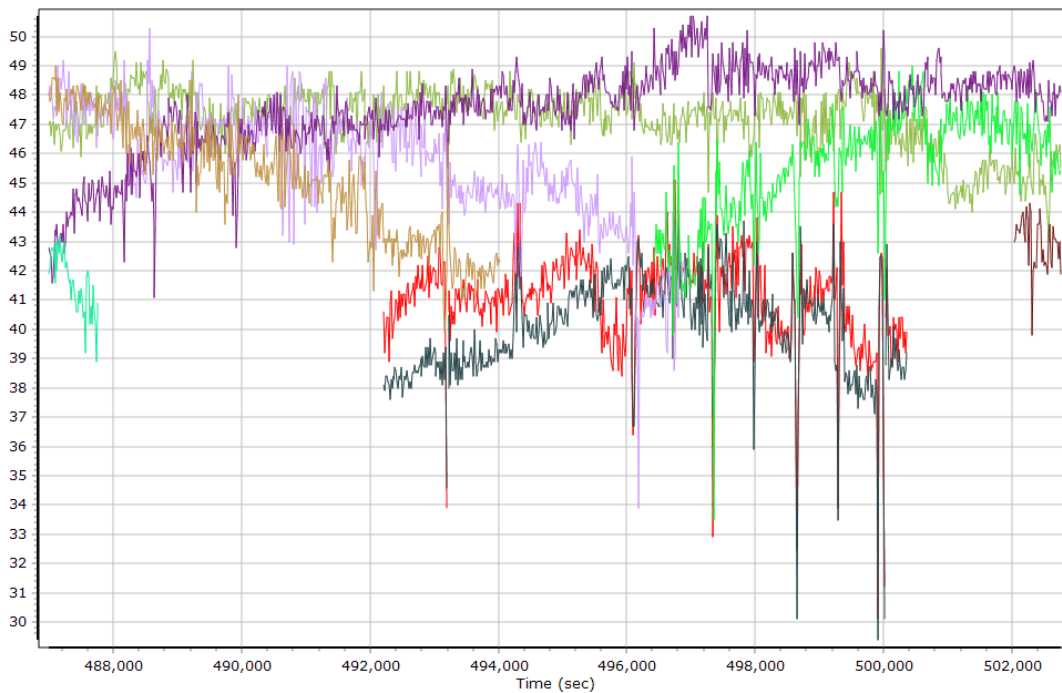
GLONASS L1 SNR



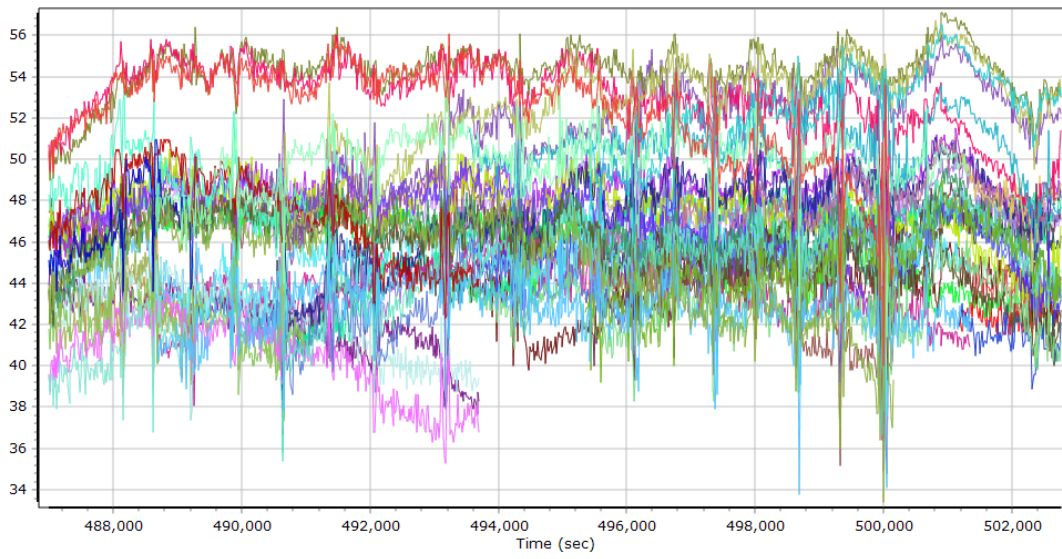
GLONASS L2 SNR



BEIDOU SNR



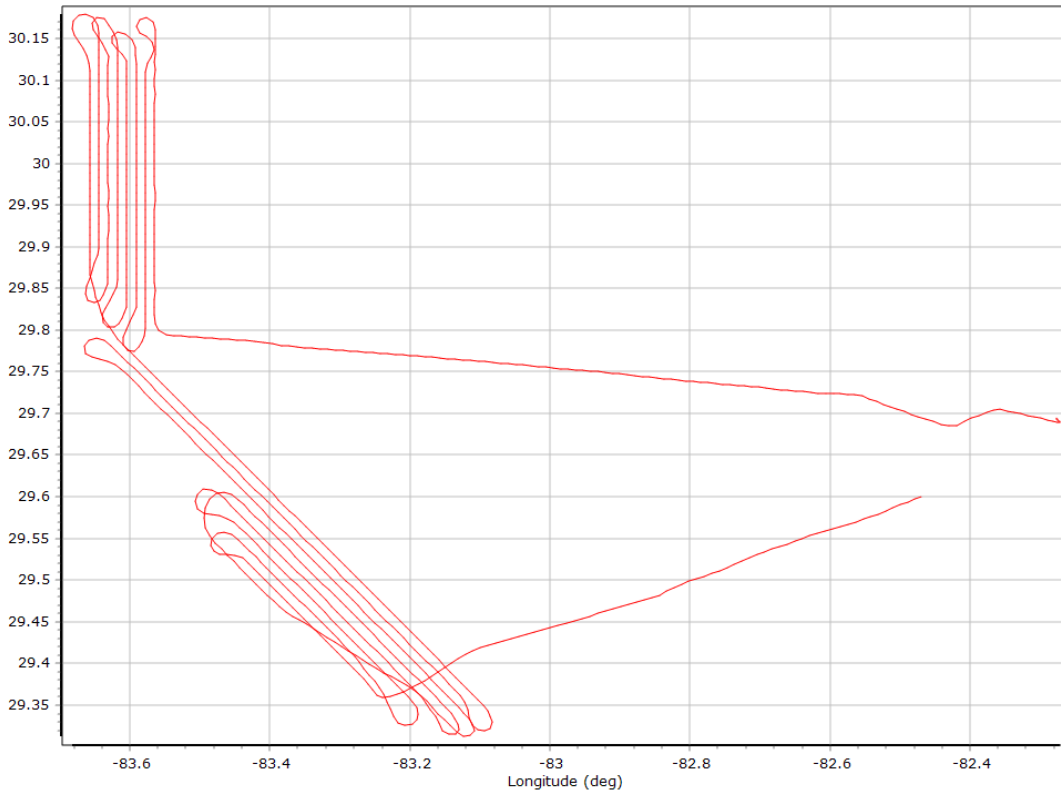
GALILEO SNR



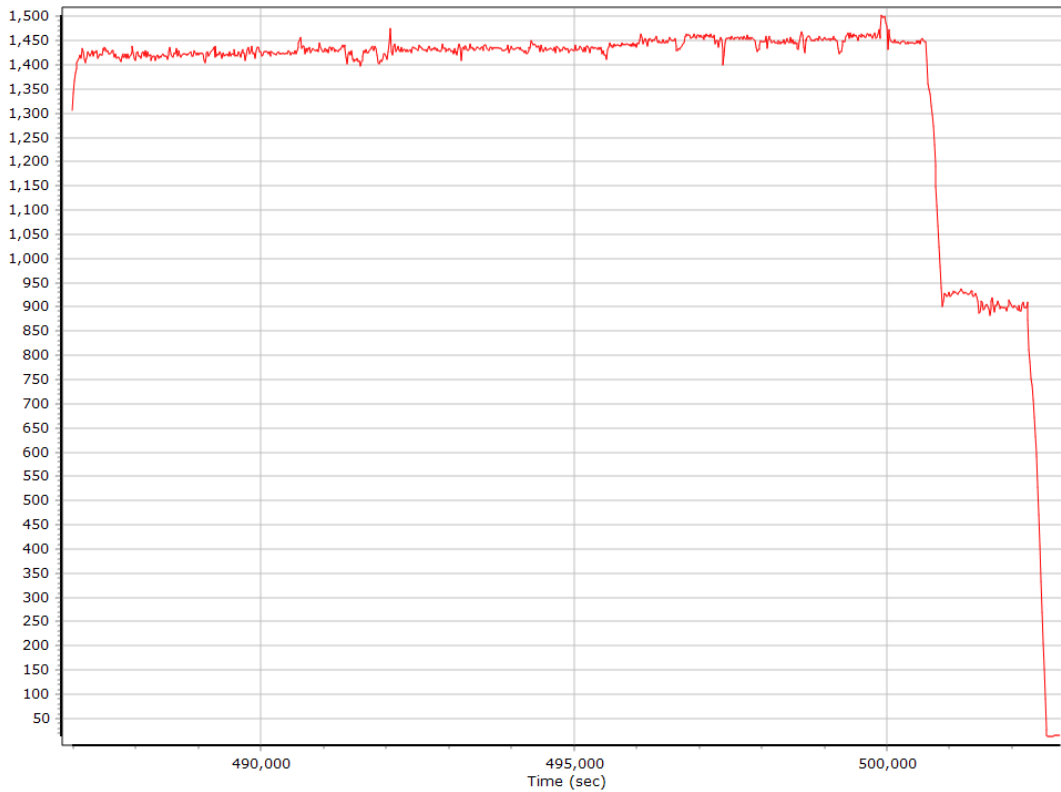
- | | |
|--|--|
| — GALILEO 02 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 11 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 15 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 18 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 31 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 36 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 02 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 03 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 05 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 11 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 15 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 18 L5E5A BPSK10_PD SNR (dB/Hz) |

Trajectory Information

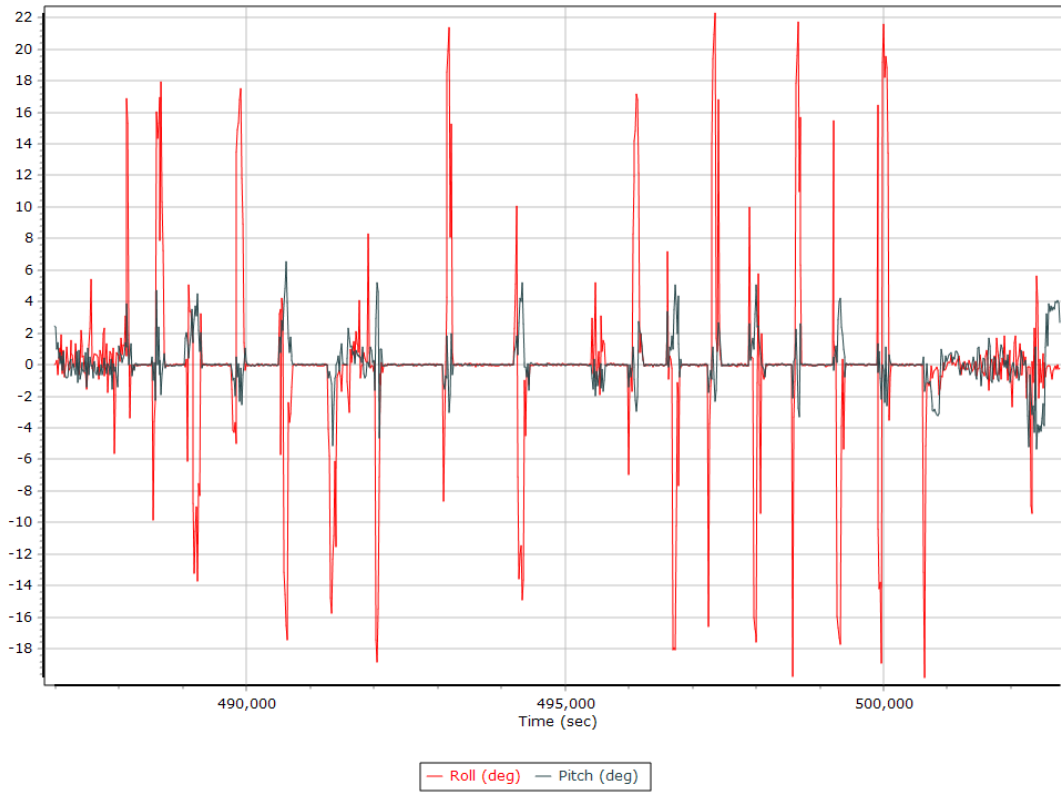
Top View



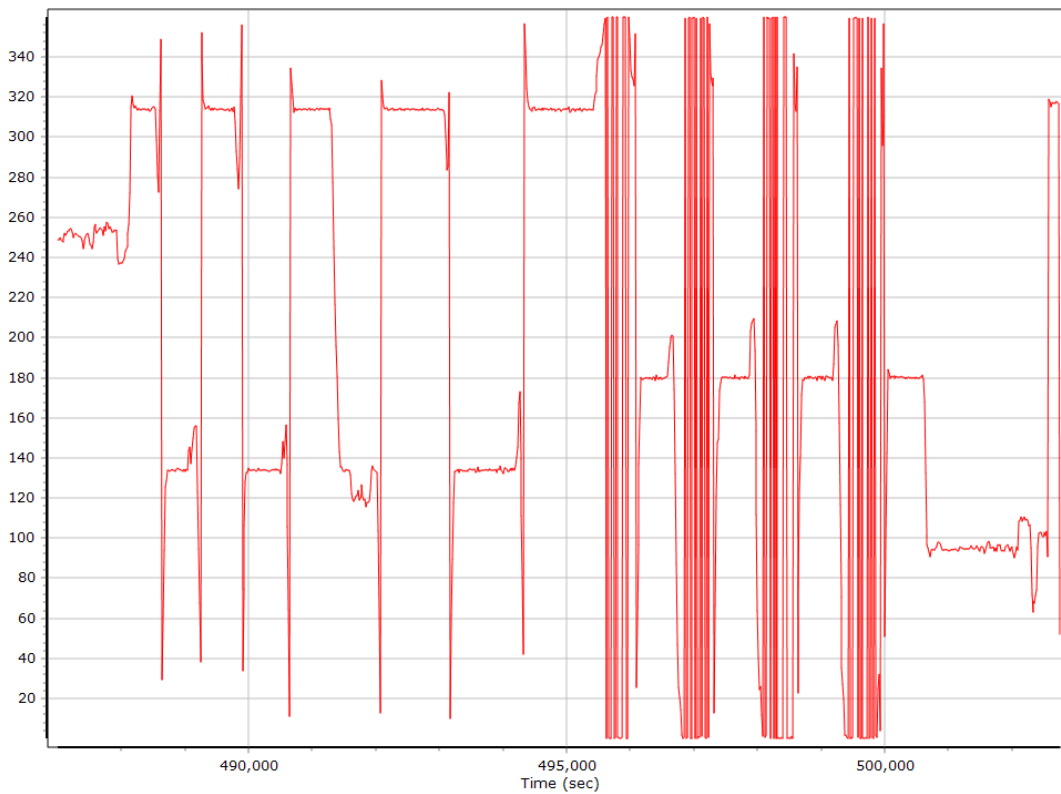
Altitude



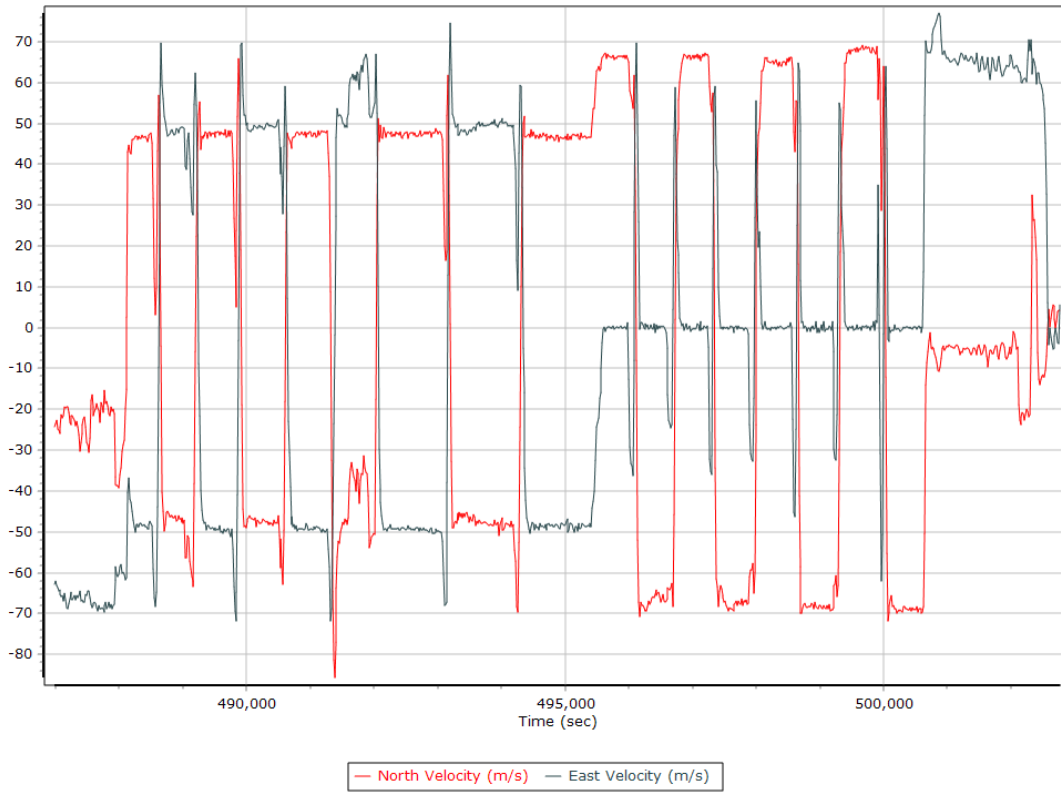
Roll/Pitch



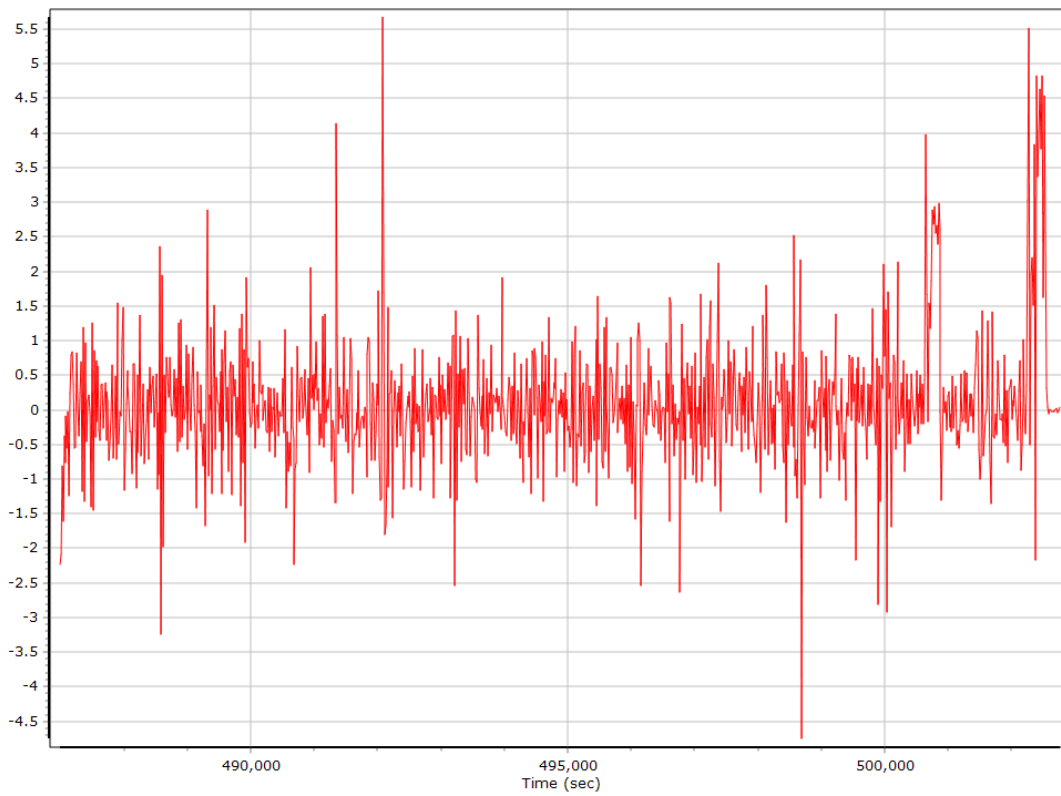
Heading



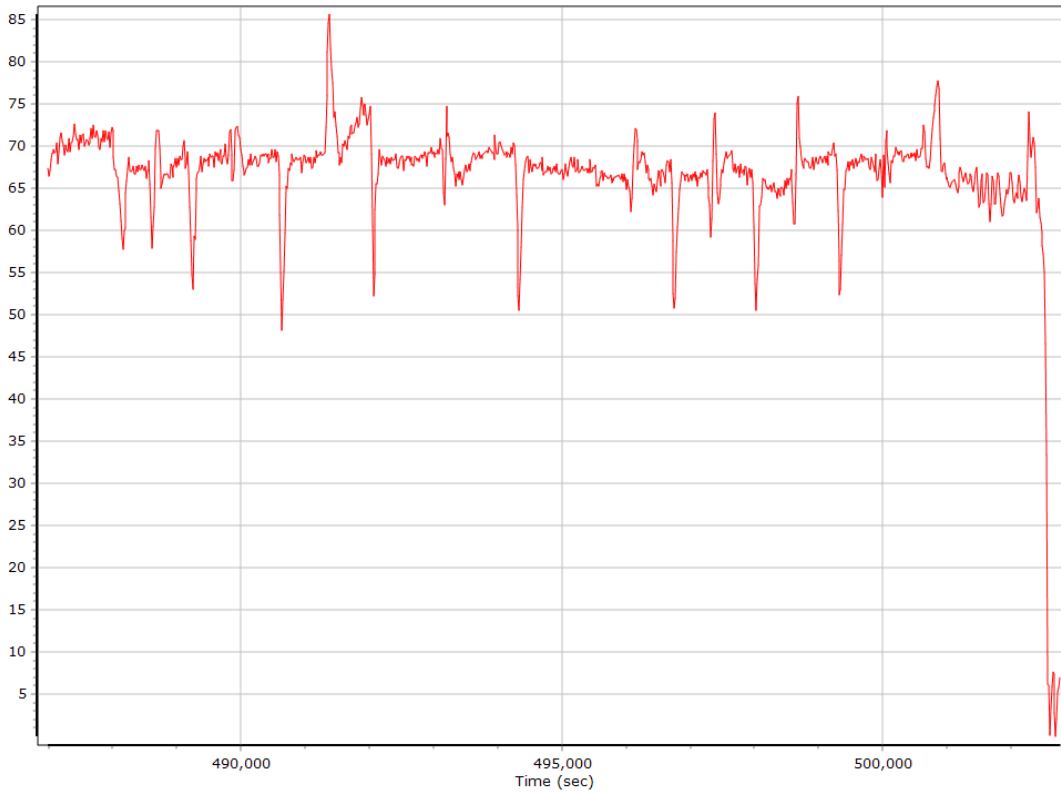
North/East Velocity



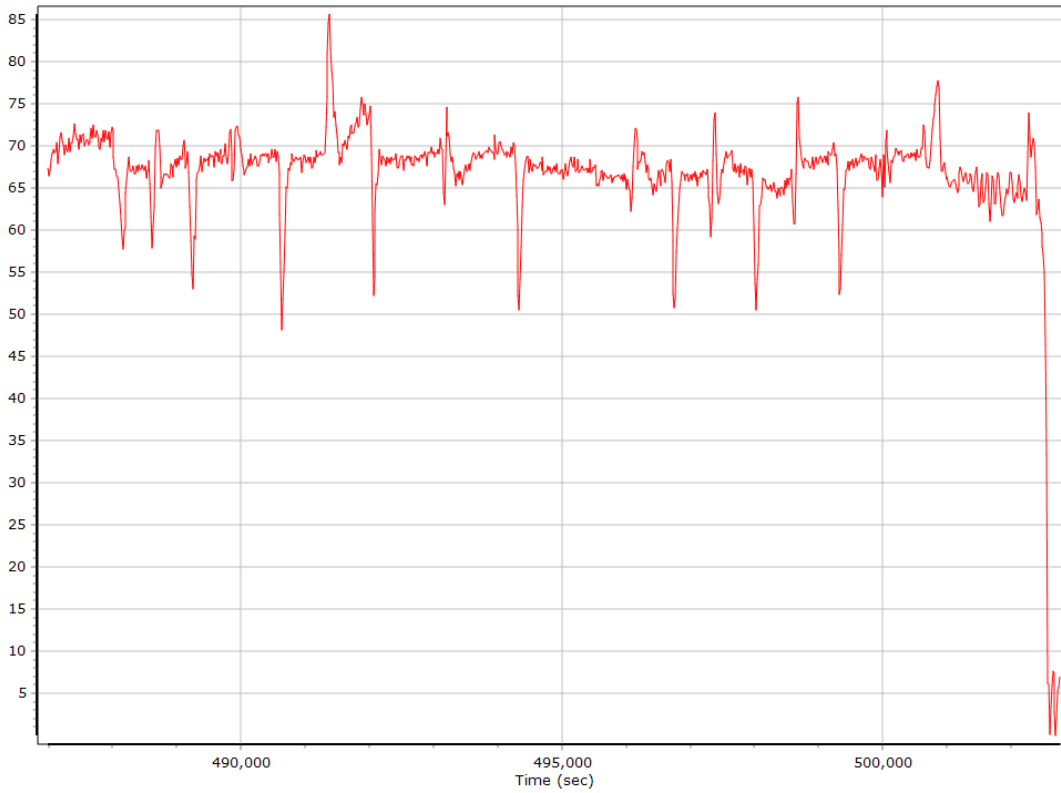
Down Velocity



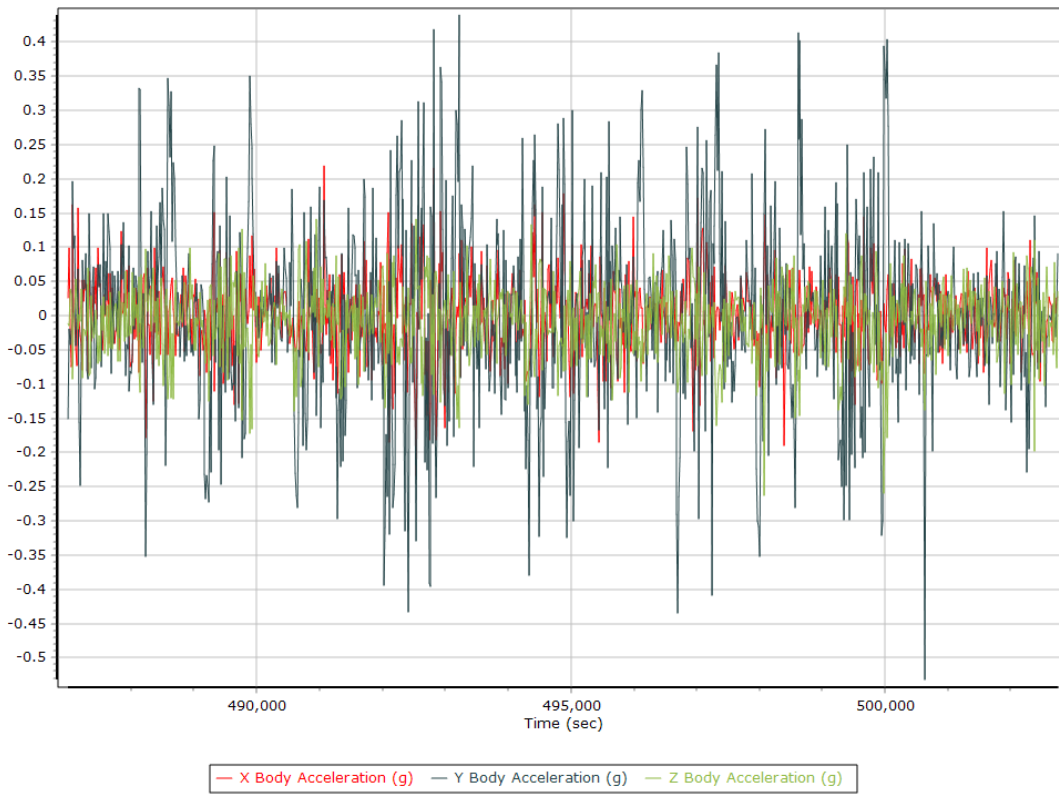
Total Speed



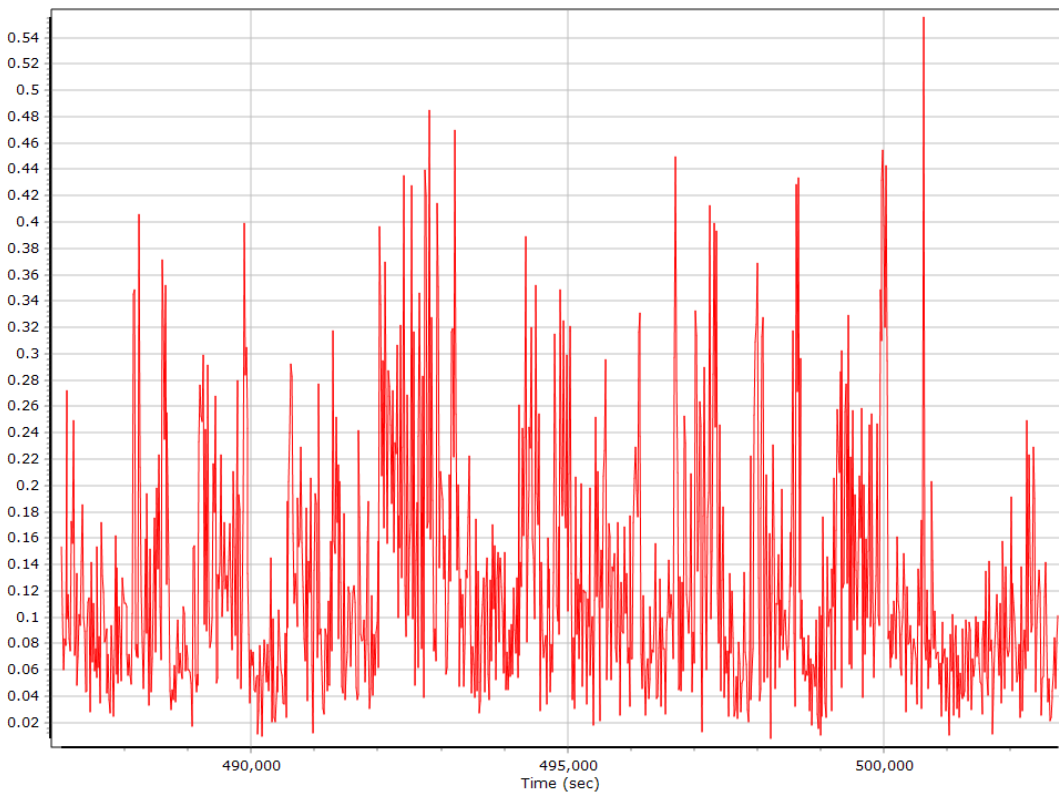
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
11/29/2019	XCTY	22.07	GNSS	1	User	None	Imported
11/29/2019	TAHL	126.41	GNSS	1	User	None	Imported
11/29/2019	PRRY	49.04	GNSS	1	User	None	Imported
11/29/2019	GNVL	101.39	GNSS	1	User	None	Imported
11/29/2019	FLCK	68.25	GNSS	1	User	None	Imported
11/29/2019	FLCB	133.63	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	XCTY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	17168 s (2081 485616 - 2081 502784)
Number of reference stations	6
Primary station GPS measurement usage (%)	99.8
Primary station GLONASS measurement usage (%)	83.8
Average number of satellites per epoch	13.4
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	18059
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - XCTY

Status	CONTROL	SBQI	0	
Duration (Hours)	39.61	Output Coordinates	Control	
Solution Epochs	9506	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°37'51.61276"	W83°06'29.33653"	13.808
Adjusted		N29°37'51.61276"	W83°06'29.33653"	13.808
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	XCTY		
Filename	xcty_daily3330.19o, xcty_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 7:59:59 PM		
Duration	1:15:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80790		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - TAHL

Status	OK	SBQI	0	
Duration (Hours)	23.40	Output Coordinates	Original	
Solution Epochs	5616	Mean Epoch SVs	8.1	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°23'47.48344"	W84°21'21.03499"	5.836
Adjusted		N30°23'47.48330"	W84°21'21.03540"	5.852
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.012	0.016	0.020

Base Station Information

Station ID	TAHL		
Filename	talh_daily3330.19o, talh_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 3:29:59 AM		
Duration	23:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702012
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°23'47.48344"		
Longitude	W84°21'21.03499"		
Ellipsoidal height (m)	-5.83600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PRRY

Status	OK	SBQI	0	
Duration (Hours)	22.84	Output Coordinates	Original	
Solution Epochs	5482	Mean Epoch SVs	5.0	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°04'40.11938"	W83°34'28.60872"	12.936
Adjusted		N30°04'40.11937"	W83°34'28.60809"	12.937
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.017	0.001	0.017

Base Station Information

Station ID	PRRY		
Filename	prry_daily3330.19o, prry_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 3:29:59 AM		
Duration	23:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702545
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°04'40.11938"		
Longitude	W83°34'28.60872"		
Ellipsoidal height (m)	-12.93590		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	OK	SBQI	0	
Duration (Hours)	39.60	Output Coordinates	Original	
Solution Epochs	9505	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55723"	W82°16'36.73517"	23.931
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.008	0.005	0.010

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3330.19o, gnv1_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 7:59:59 PM		
Duration	1:15:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCK

Status	OK	SBQI	0	
Duration (Hours)	38.94	Output Coordinates	Original	
Solution Epochs	9345	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°08'01.87610"	W83°01'51.05281"	17.224
Adjusted		N29°08'01.87611"	W83°01'51.05253"	17.215
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.008	0.009	0.012

Base Station Information

Station ID	FLCK		
Filename	flck_daily3330.19o, flck_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 7:59:59 PM		
Duration	1:15:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCB

Status	OK	SBQI	0	
Duration (Hours)	23.40	Output Coordinates	Original	
Solution Epochs	5616	Mean Epoch SVs	7.7	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°50'33.36155"	W84°41'42.53223"	19.609
Adjusted		N29°50'33.36129"	W84°41'42.53211"	19.622
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.009	0.013	0.016

Base Station Information

Station ID	FLCB		
Filename	flcb_daily3330.19o, flcb_daily3340.19o		
Start date	11/29/2019 4:00:00 AM		
End date	11/30/2019 3:29:59 AM		
Duration	23:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702509
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°50'33.36155"		
Longitude	W84°41'42.53223"		
Ellipsoidal height (m)	-19.60890		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	8.86	96.92	
Number of GPS SV	6	9	8
Number of GLONASS SV	0	7	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	7	15	13
PDOP	1.23	2.58	1.51
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	17121.00	0.00	1.00
Percentage	99.99	0.00	0.01

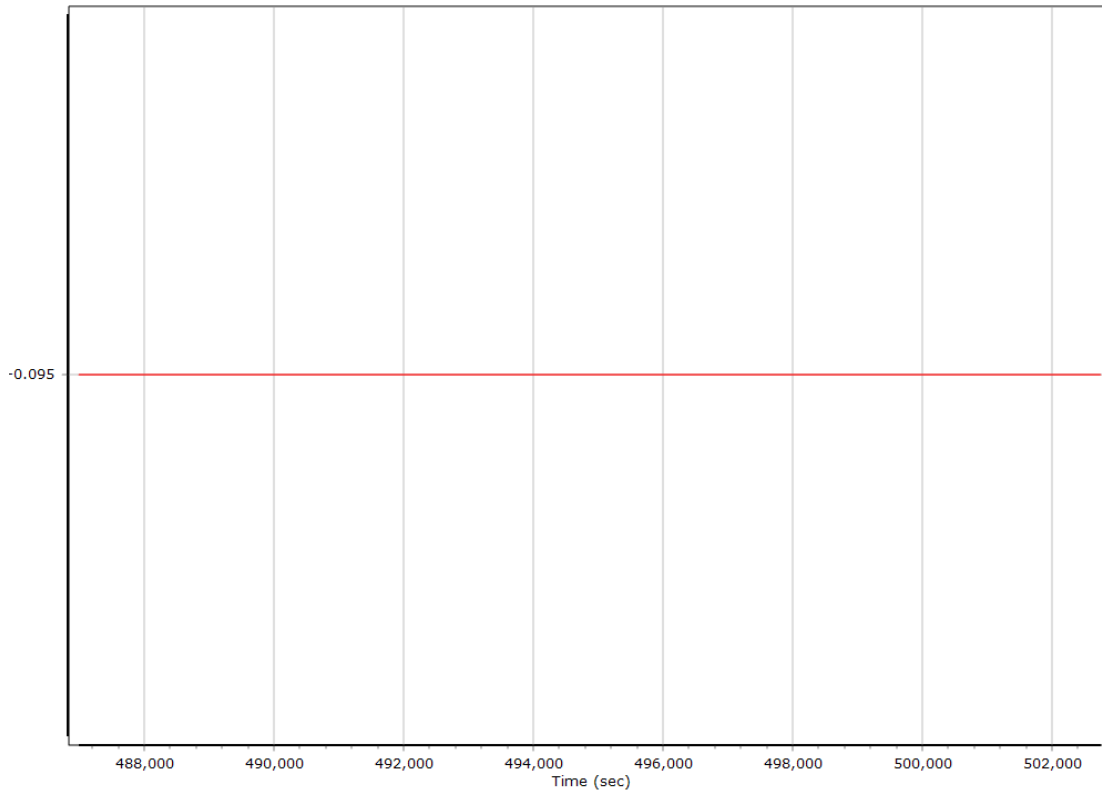
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	486937.342 (11/29/2019 3:15:37 PM)		
Processing end time	502766.000 (11/29/2019 7:39:26 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	-0.095	0.063	-1.259
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

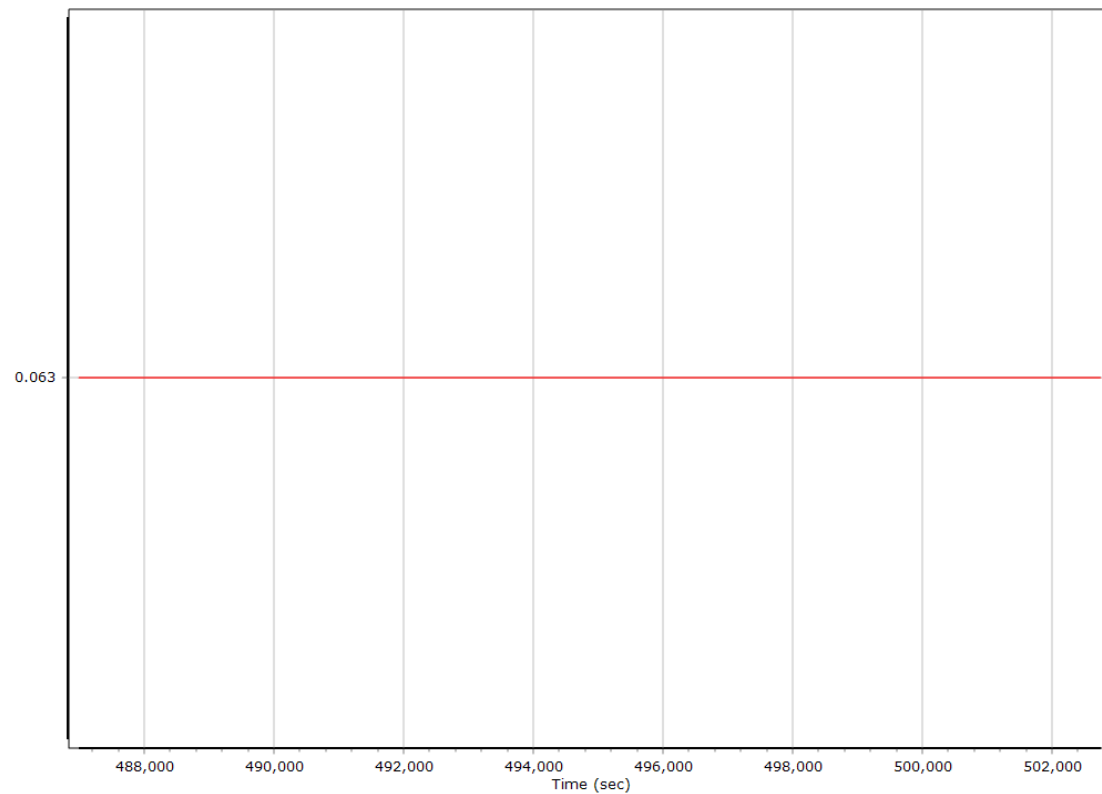
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

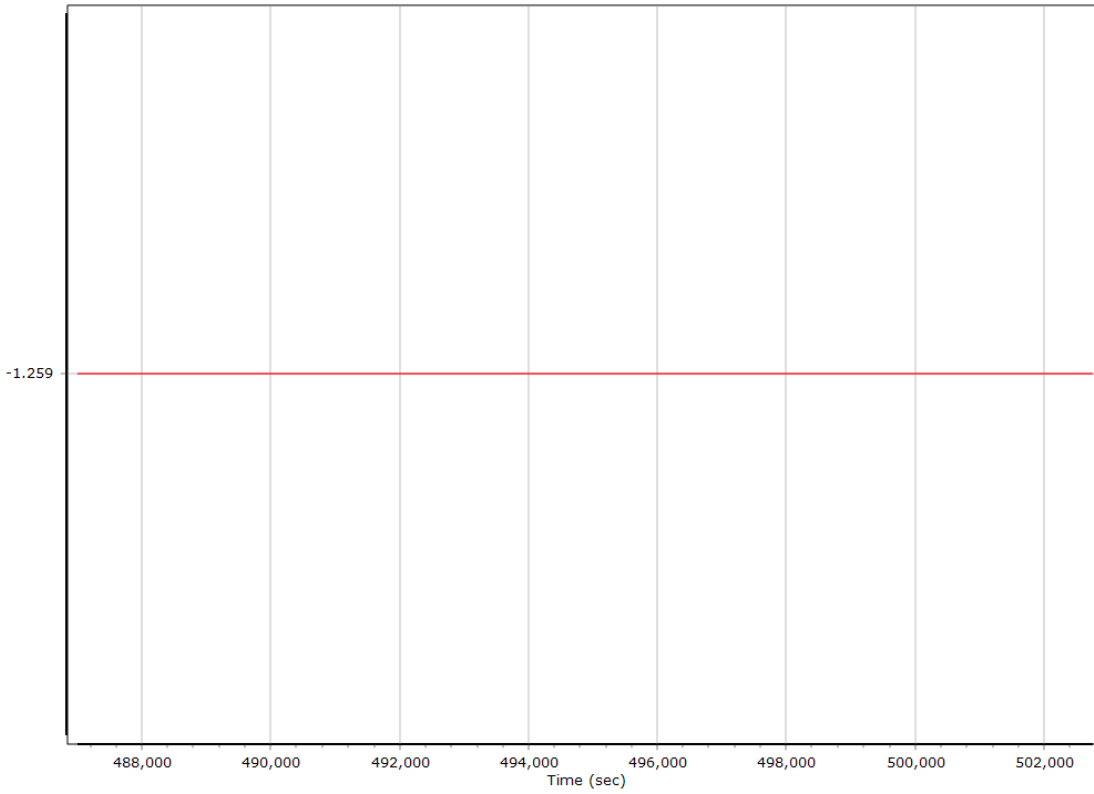
X Reference-Primary GNSS Lever Arm (m)



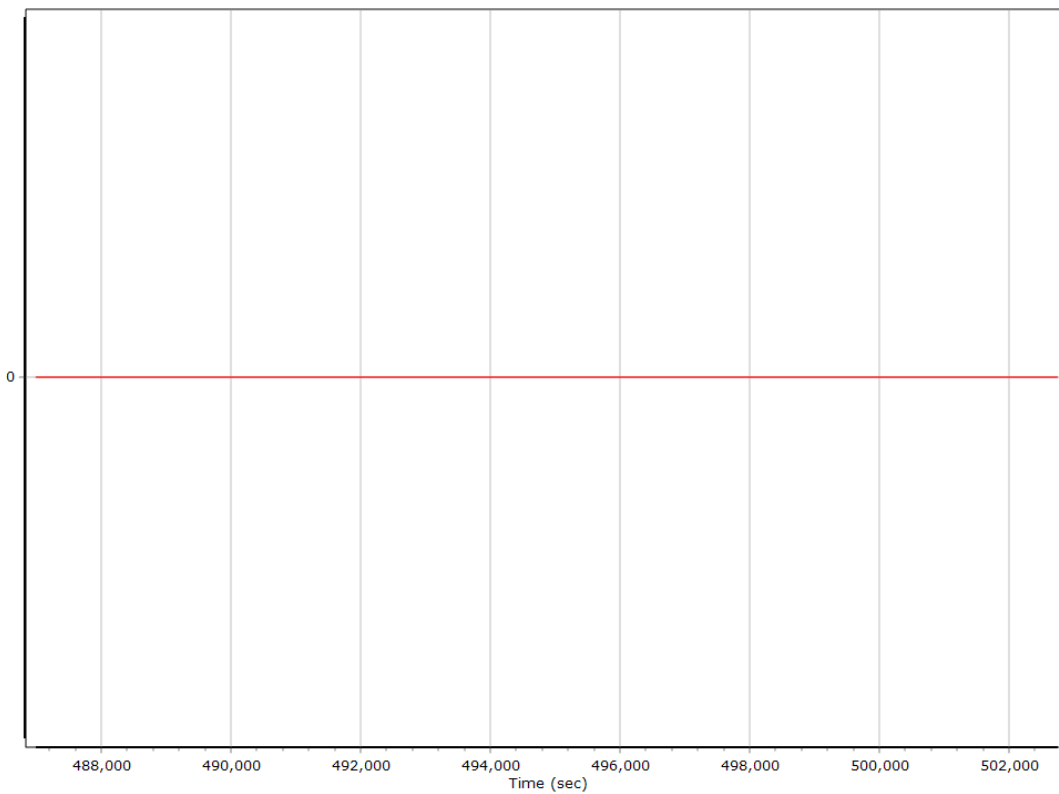
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



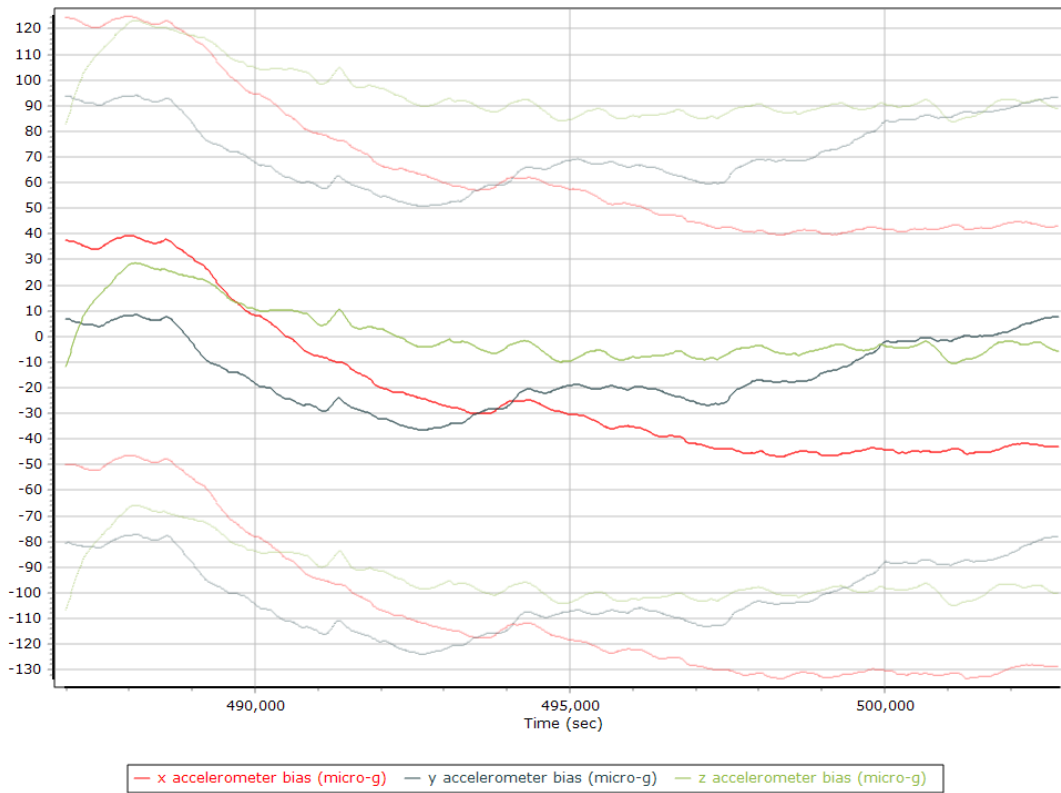
Reference-Primary GNSS Lever Arm Figure of Merit



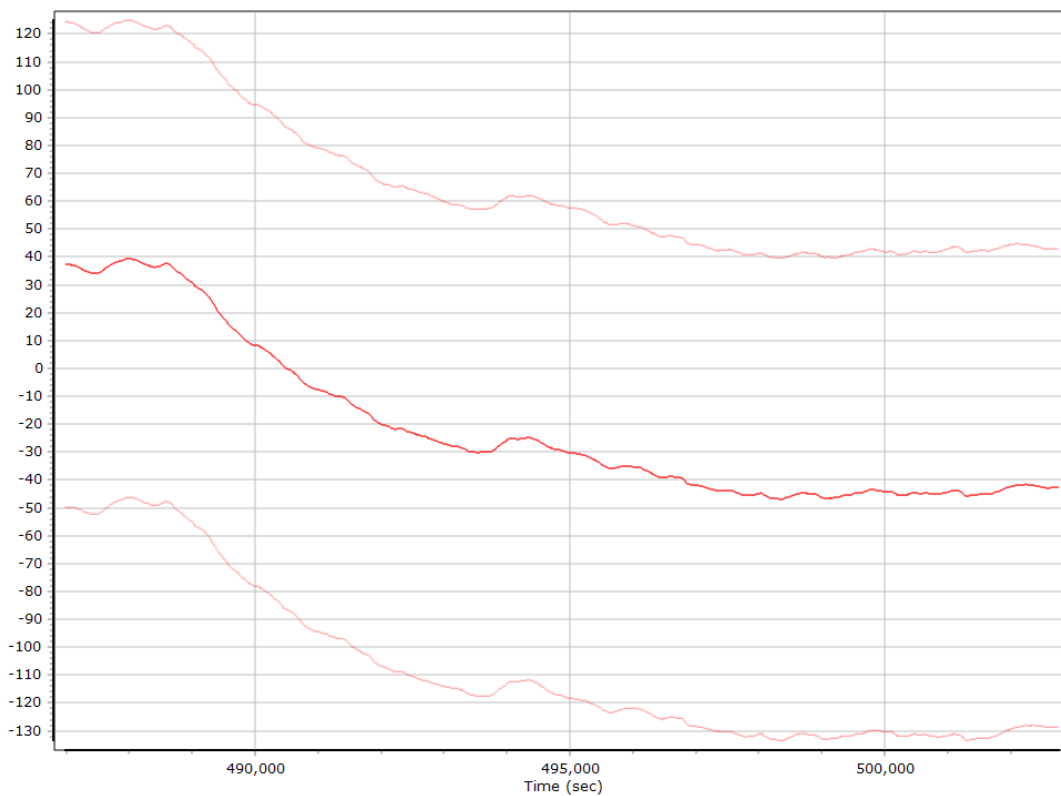
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

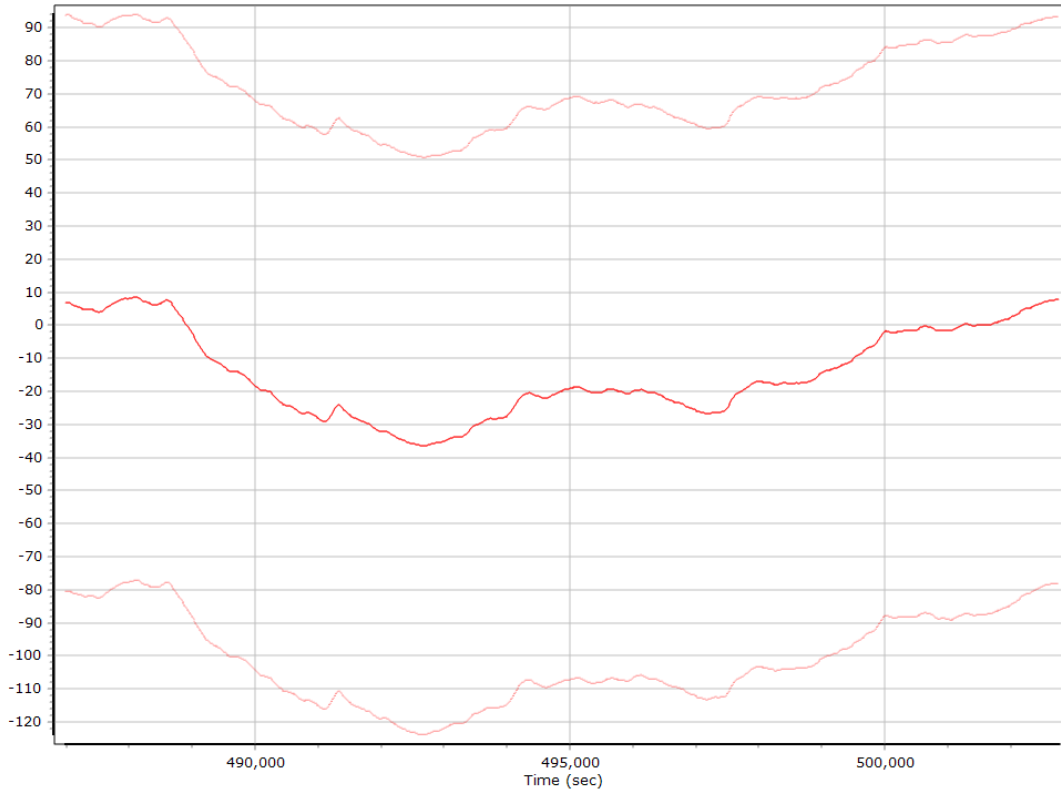
Accelerometer Bias (micro-g)



X Accelerometer Bias (micro-g)



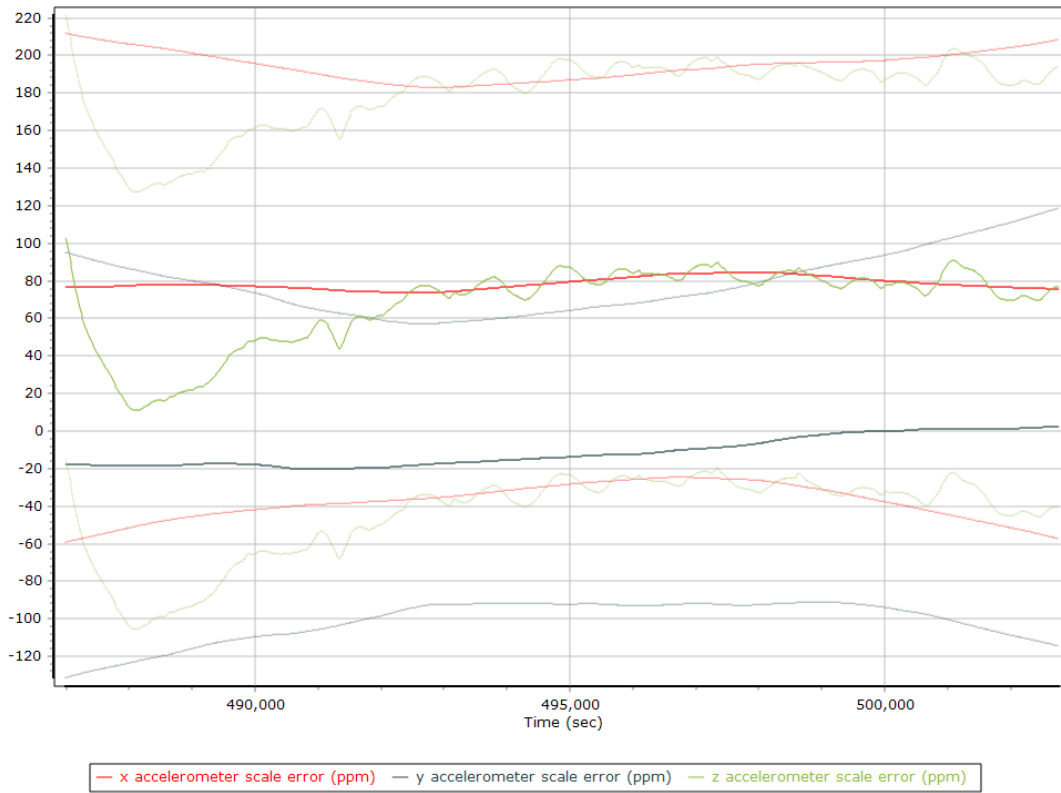
Y Accelerometer Bias (micro-g)



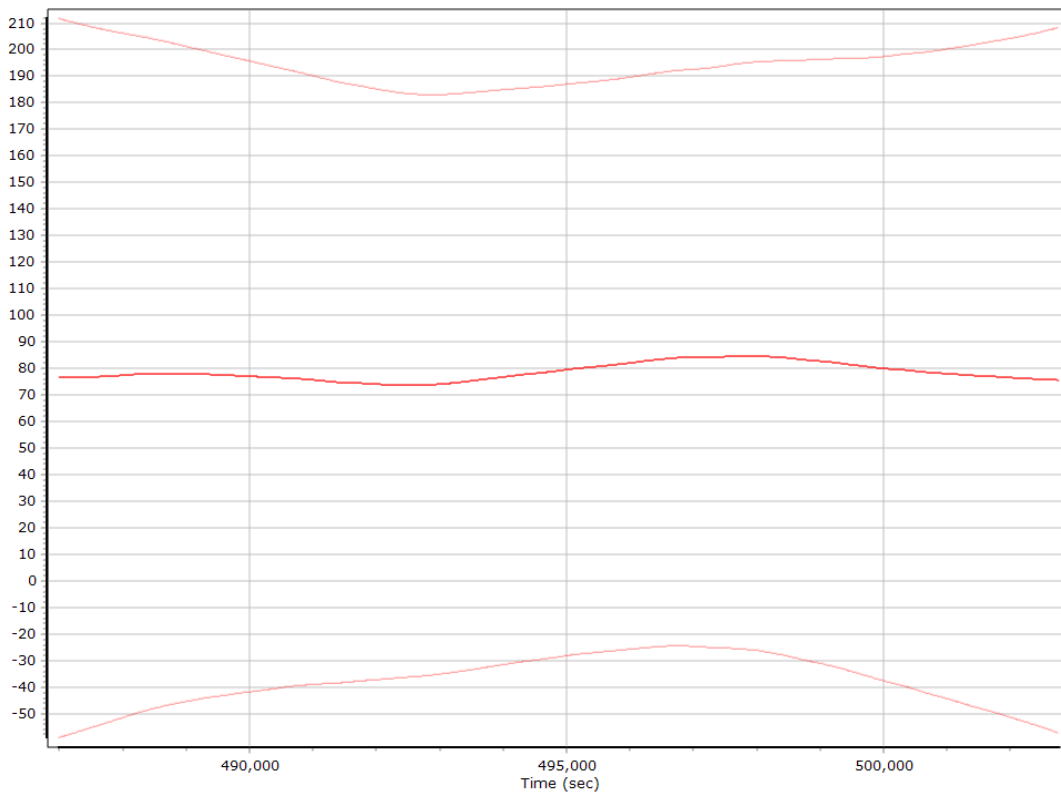
Z Accelerometer Bias (micro-g)



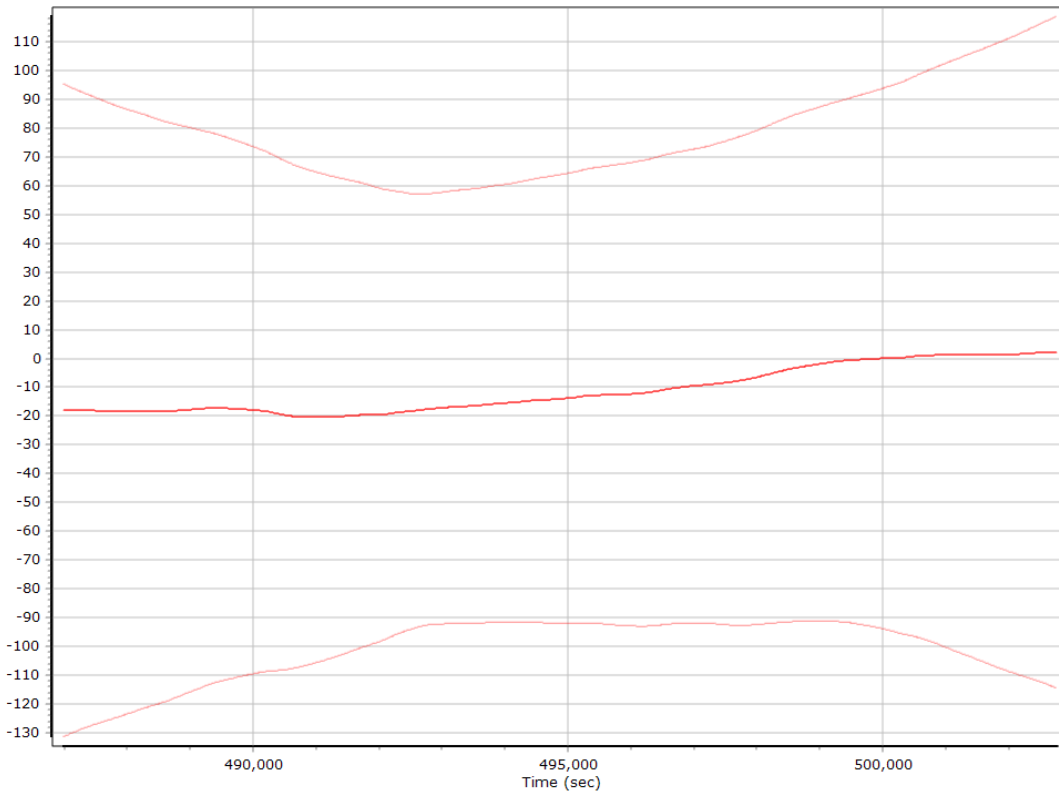
Accelerometer Scale Error (ppm)



X Accelerometer Scale Error (ppm)



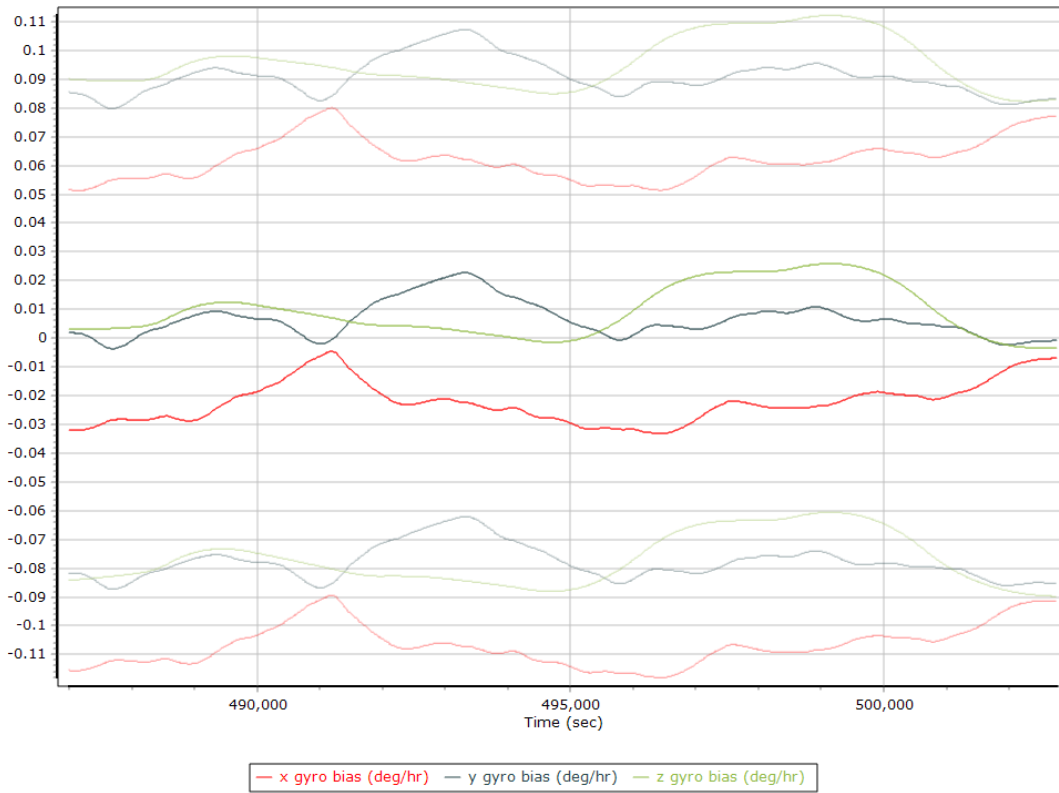
Y Accelerometer Scale Error (ppm)



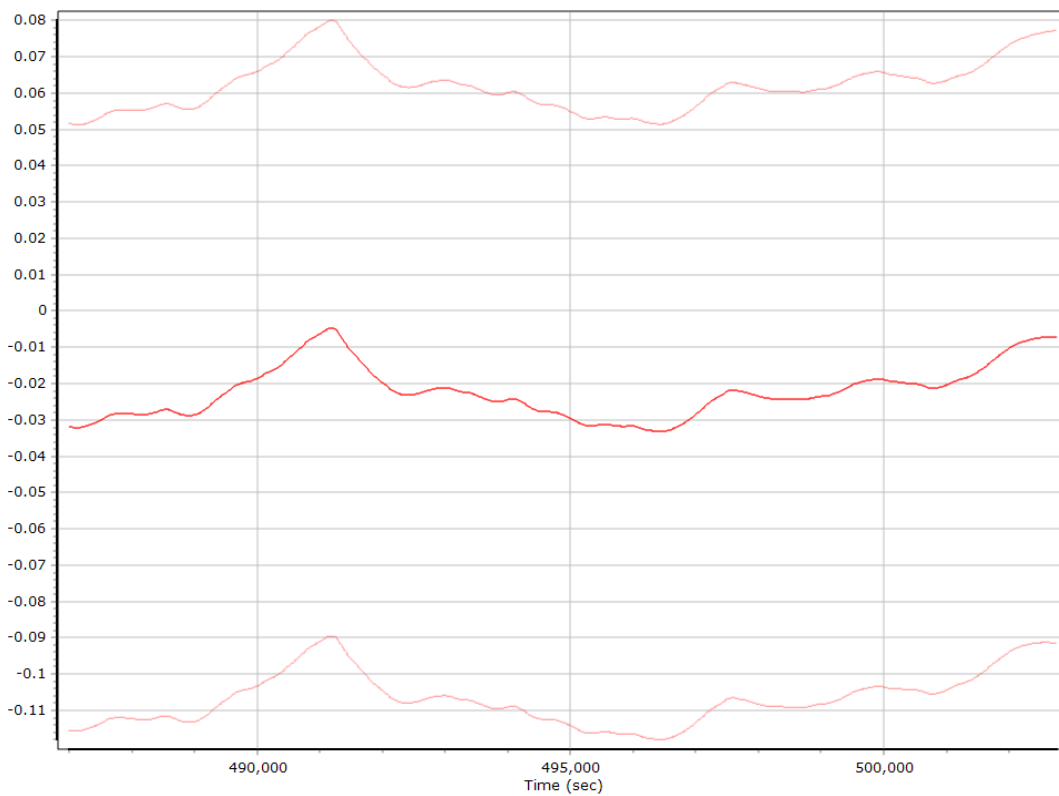
Z Accelerometer Scale Error (ppm)



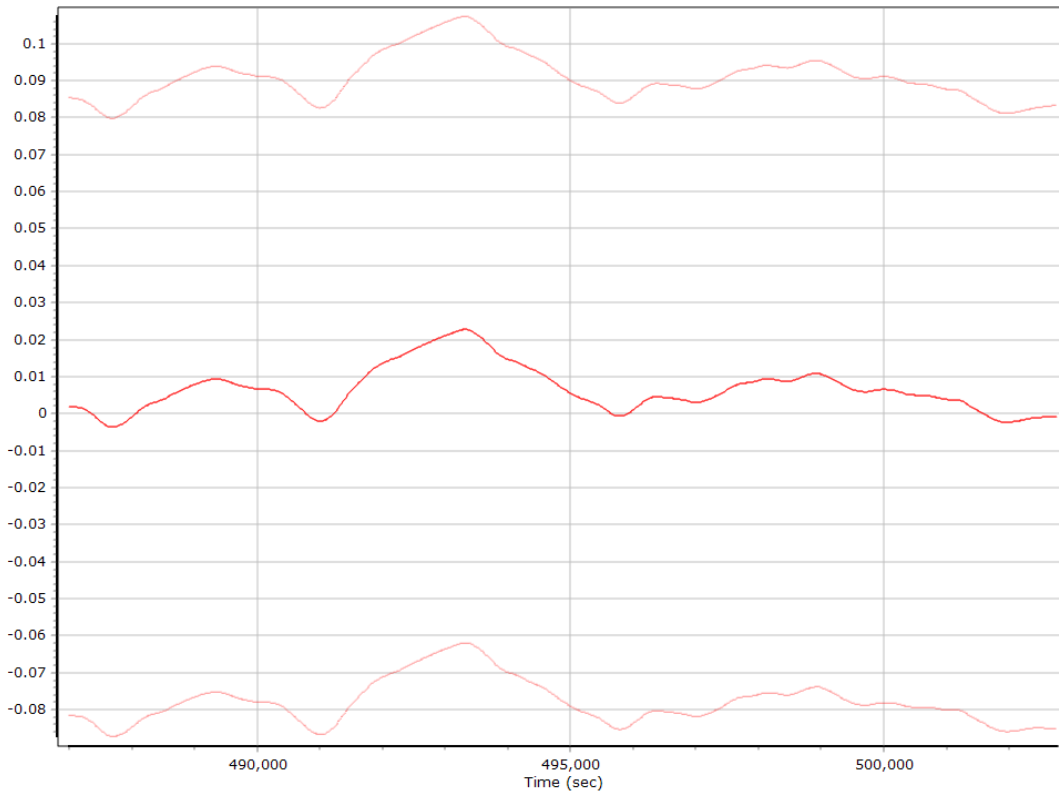
Gyro Bias (deg/h)



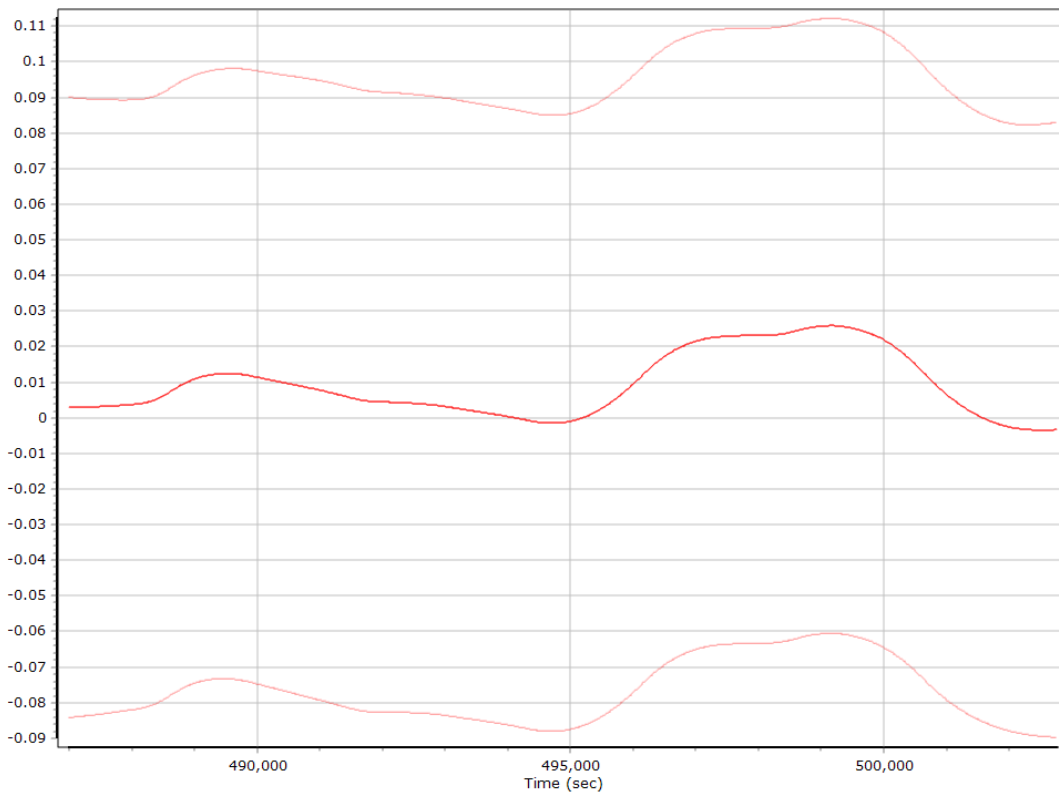
X Gyro Bias (deg/h)



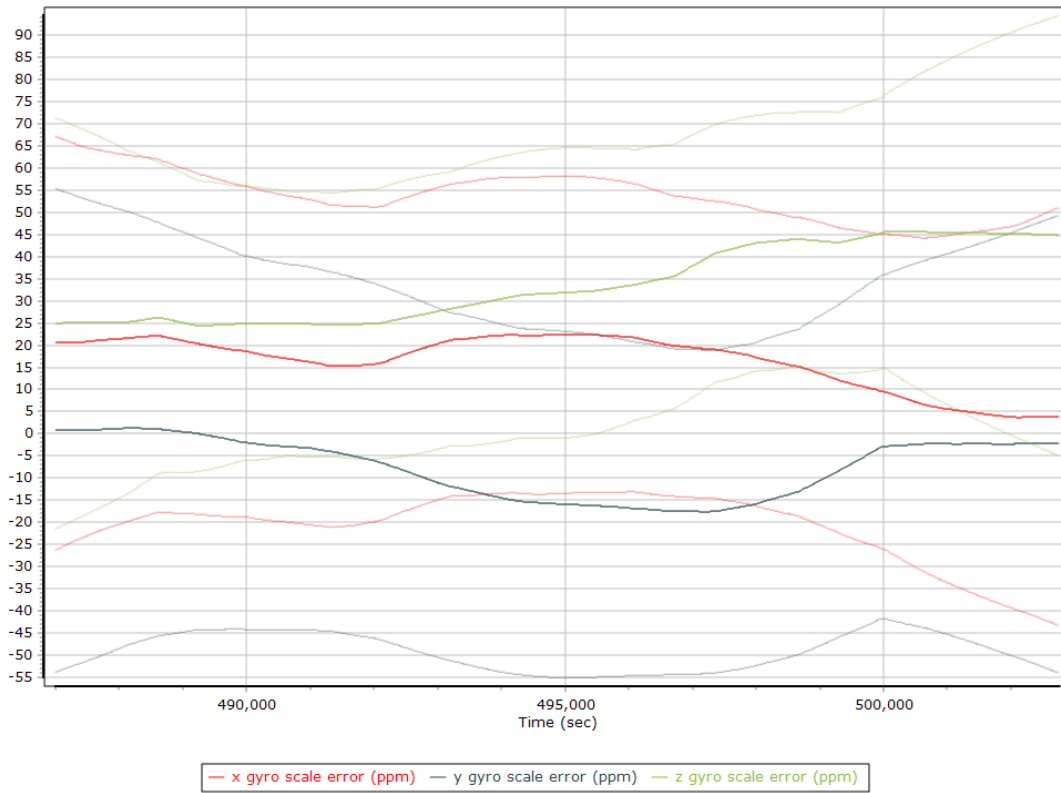
Y Gyro Bias (deg/h)



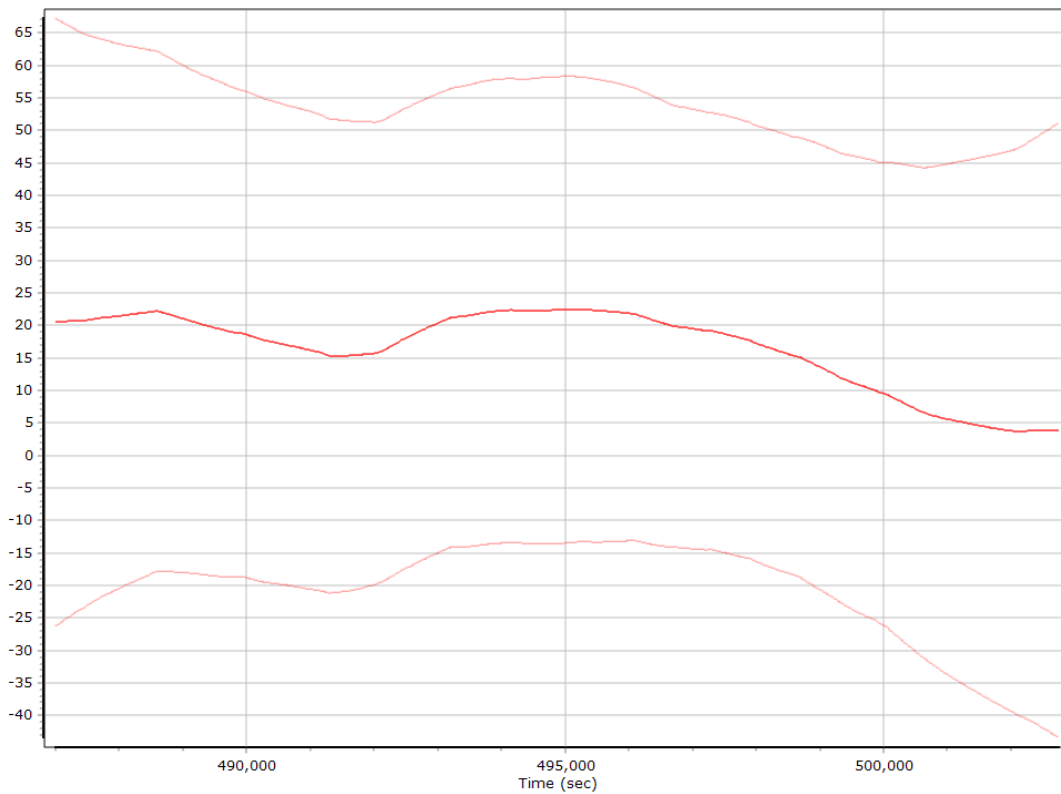
Z Gyro Bias (deg/h)



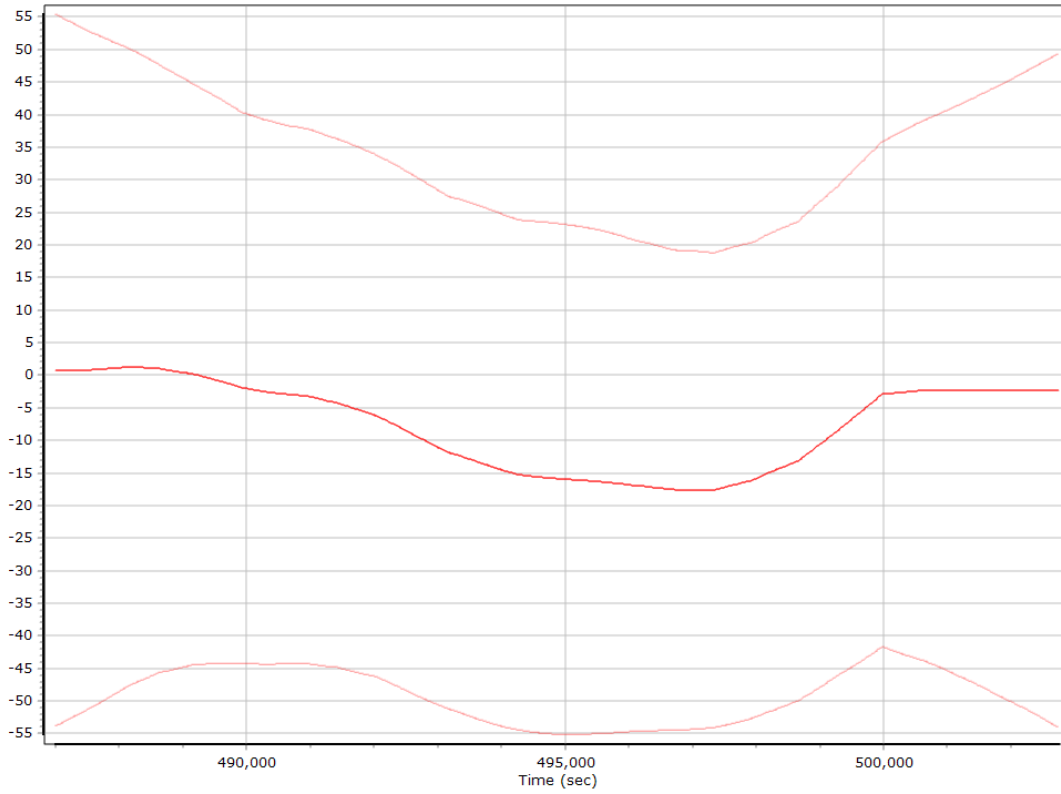
Gyro Scale Error (ppm)



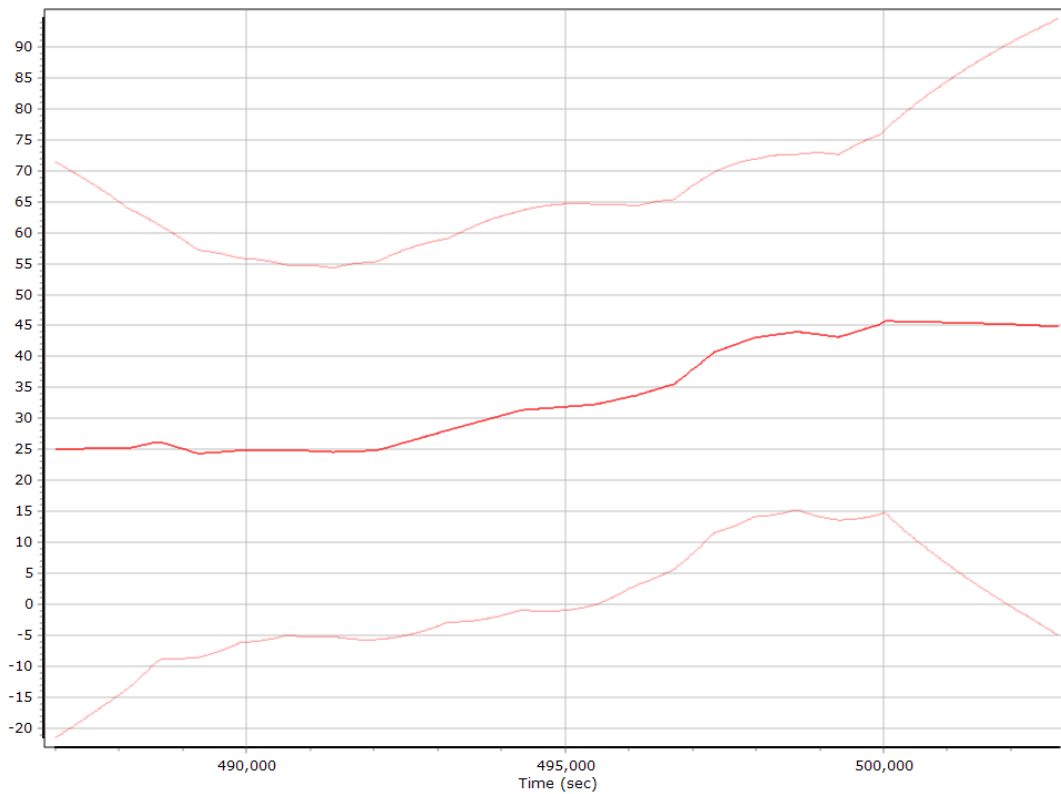
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)



Z Gyro Scale Error (ppm)

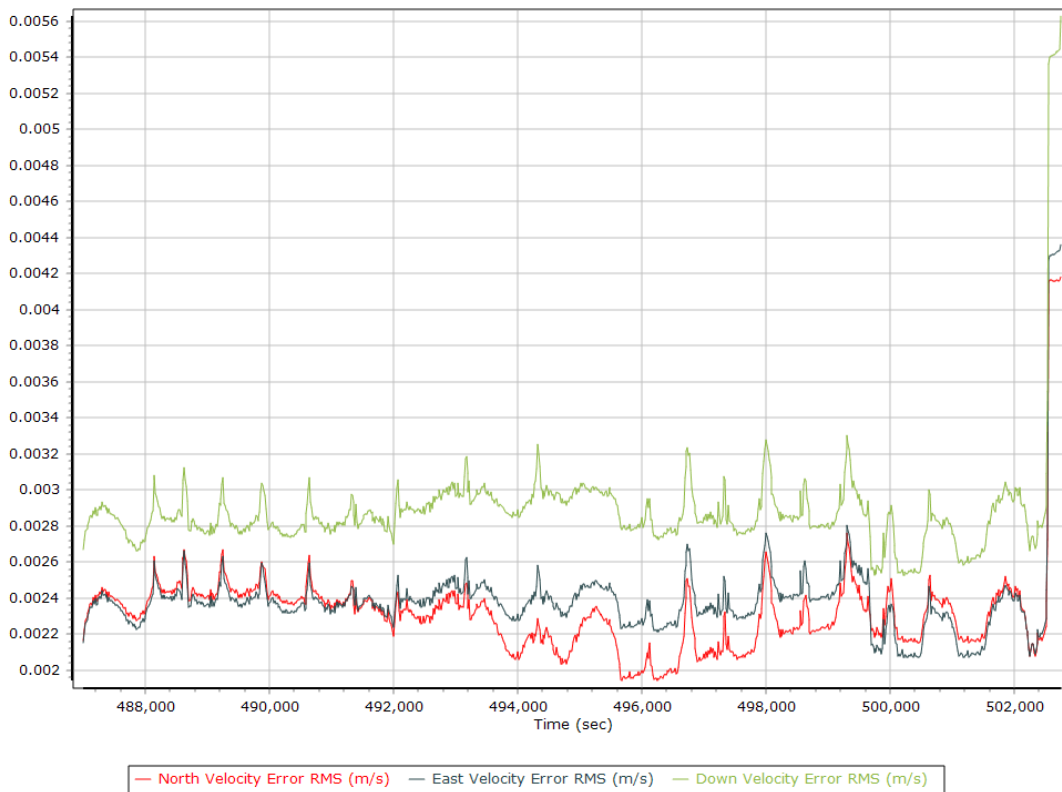


Smoothed Performance Metrics

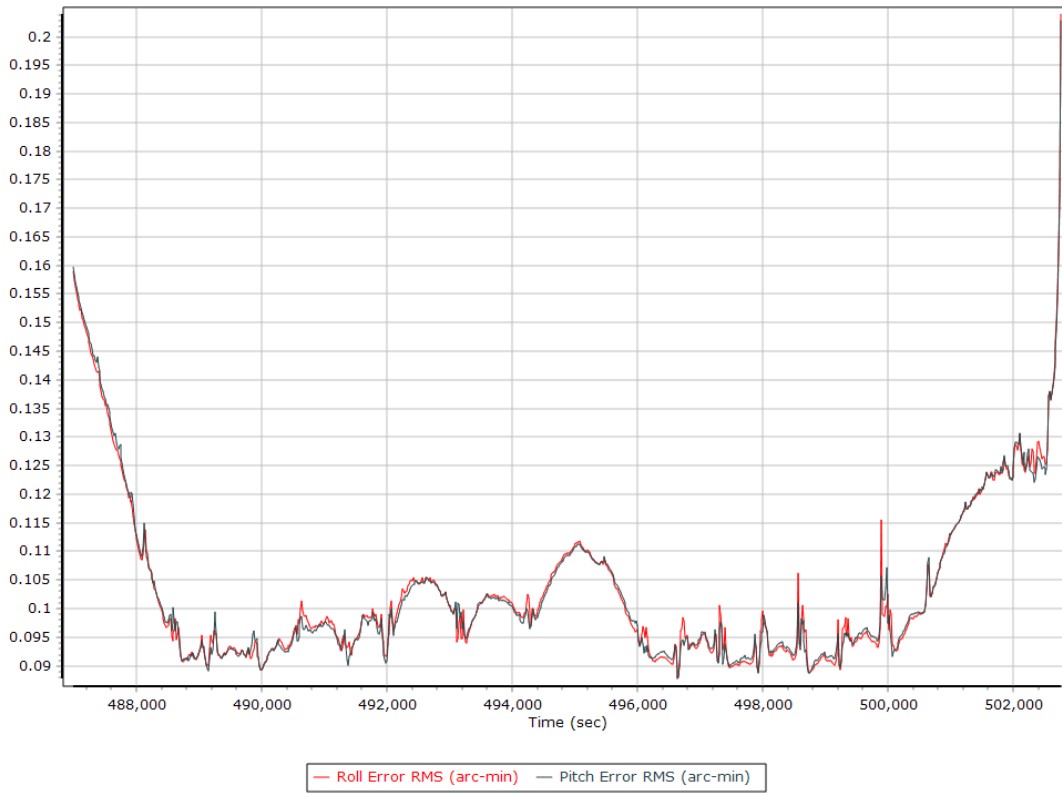
Position Error RMS (m)



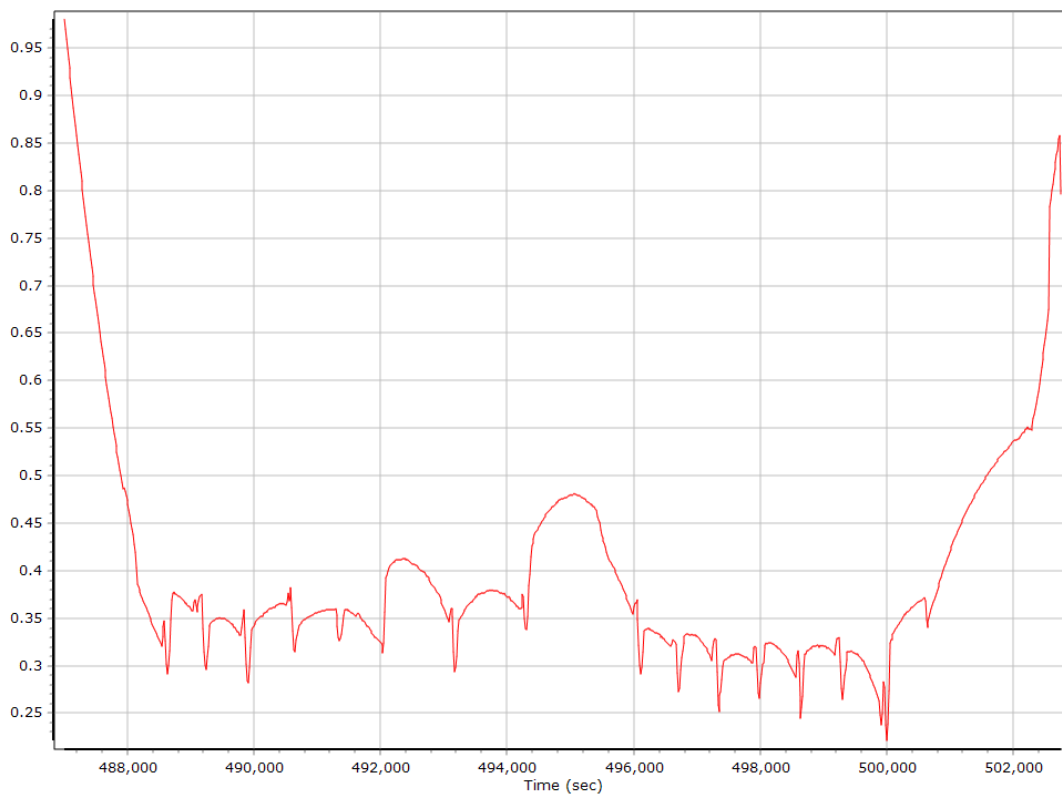
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

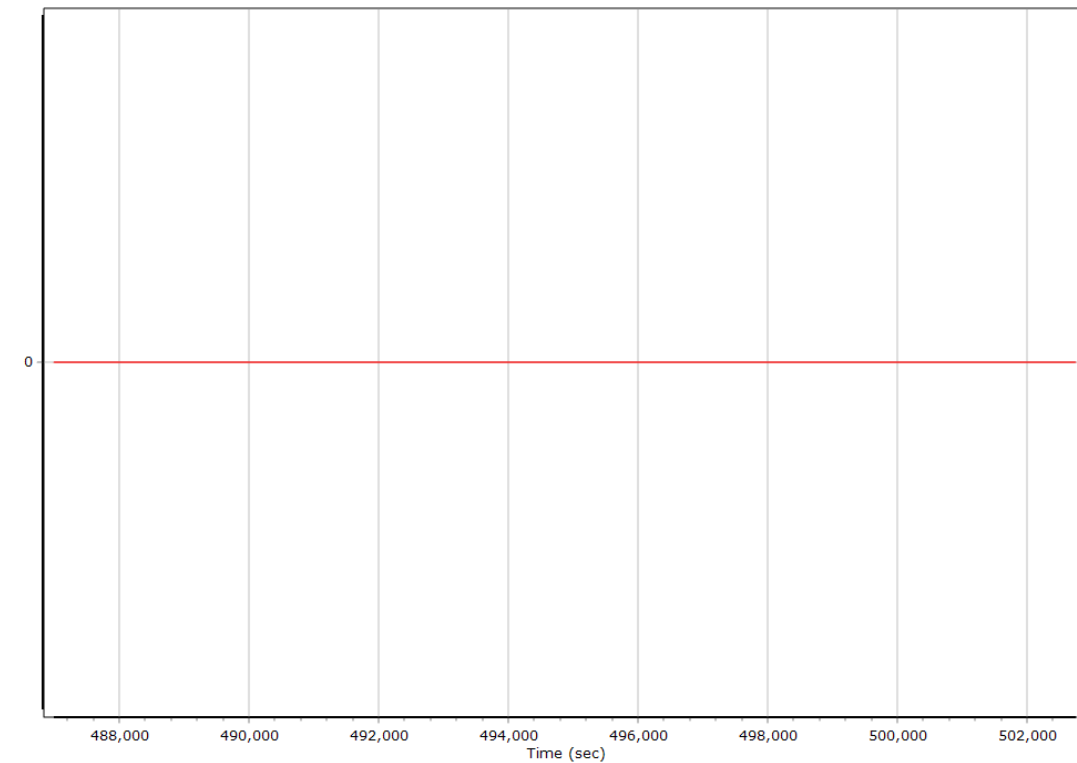


Heading Error RMS (arc-min)



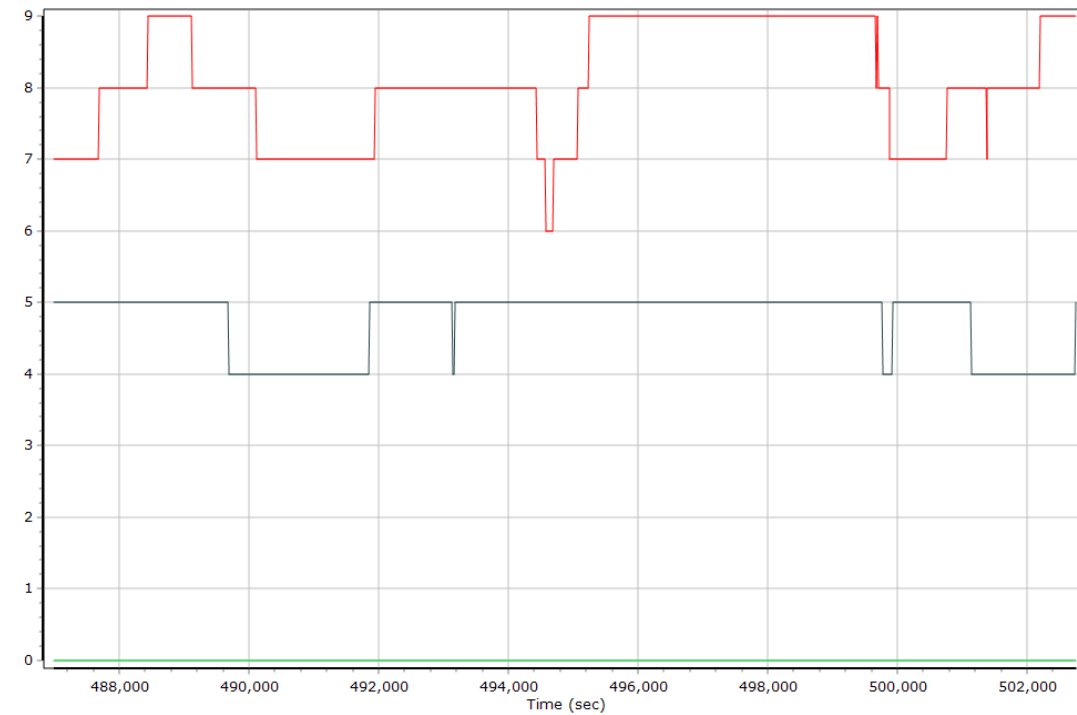
Smoothed Solution Status

Processing Mode



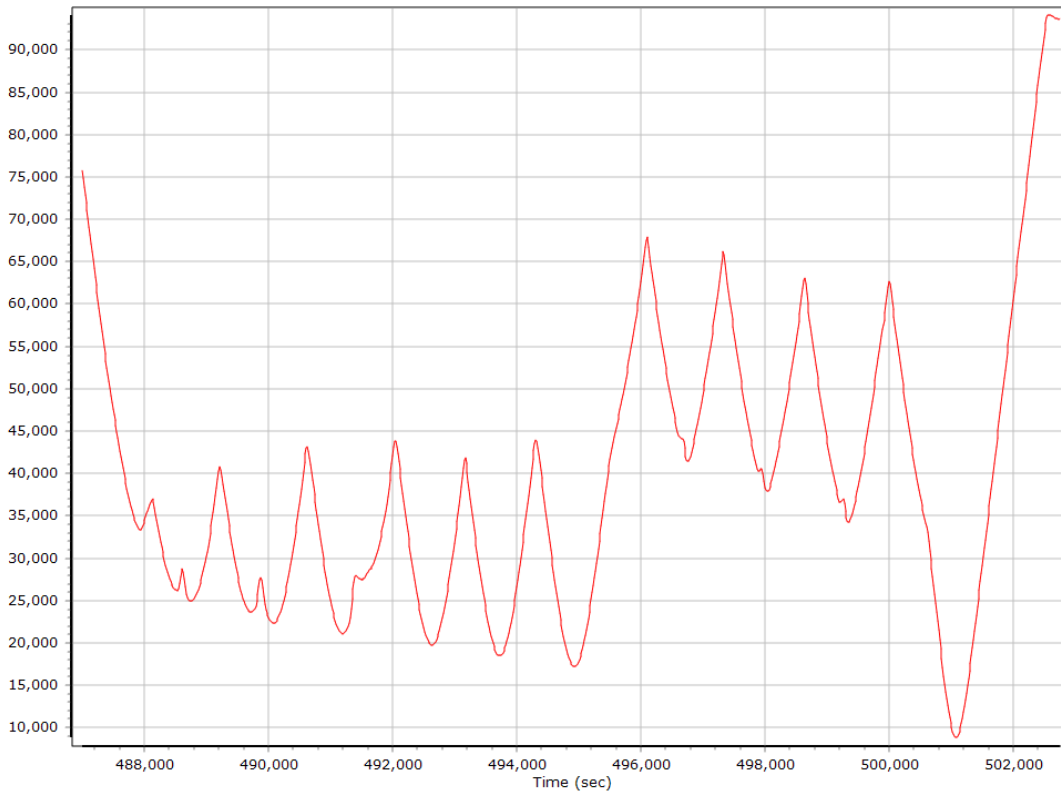
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites

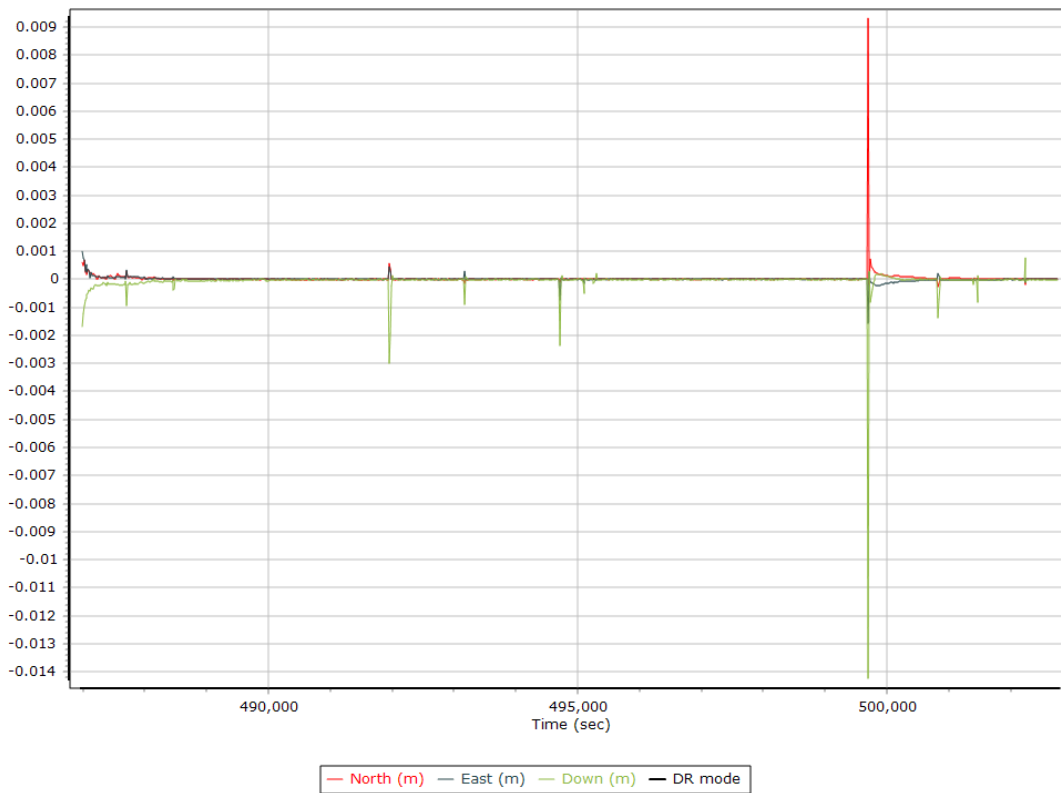


— Number of GPS Satellites
 — Number of GLONASS Satellites
 — Number of QZSS Satellites
— Number of BEIDOU Satellites
 — Number of GALILEO Satellites

Baseline Length



SBET IAkar Separation



General Information

Mission Information

Project name	88619334A
Processing date	2019-12-12 19:05:06
Mission date	2019-11-30 12:14:23
Mission duration	05:53:52.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N9642
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
N63886_19_334_A.001	POS Data
N63886_19_334_A.002	POS Data
N63886_19_334_A.003	POS Data
N63886_19_334_A.004	POS Data
N63886_19_334_A.005	POS Data
N63886_19_334_A.006	POS Data
N63886_19_334_A.007	POS Data
N63886_19_334_A.008	POS Data
N63886_19_334_A.009	POS Data
N63886_19_334_A.010	POS Data
N63886_19_334_A.011	POS Data
N63886_19_334_A.012	POS Data
N63886_19_334_A.013	POS Data
N63886_19_334_A.014	POS Data
N63886_19_334_A.015	POS Data
N63886_19_334_A.016	POS Data
N63886_19_334_A.017	POS Data
N63886_19_334_A.018	POS Data
N63886_19_334_A.019	POS Data
N63886_19_334_A.020	POS Data
N63886_19_334_A.021	POS Data
N63886_19_334_A.022	POS Data
N63886_19_334_A.023	POS Data
N63886_19_334_A.024	POS Data
N63886_19_334_A.025	POS Data
N63886_19_334_A.026	POS Data
N63886_19_334_A.027	POS Data
N63886_19_334_A.028	POS Data
N63886_19_334_A.029	POS Data
N63886_19_334_A.030	POS Data
N63886_19_334_A.031	POS Data
N63886_19_334_A.032	POS Data
N63886_19_334_A.033	POS Data
N63886_19_334_A.034	POS Data
N63886_19_334_A.035	POS Data
N63886_19_334_A.036	POS Data
N63886_19_334_A.037	POS Data
N63886_19_334_A.038	POS Data
N63886_19_334_A.039	POS Data
N63886_19_334_A.040	POS Data
N63886_19_334_A.041	POS Data
N63886_19_334_A.042	POS Data
N63886_19_334_A.043	POS Data
N63886_19_334_A.044	POS Data
N63886_19_334_A.045	POS Data
N63886_19_334_A.046	POS Data
N63886_19_334_A.047	POS Data
N63886_19_334_A.048	POS Data
N63886_19_334_A.049	POS Data
N63886_19_334_A.050	POS Data
N63886_19_334_A.051	POS Data
N63886_19_334_A.052	POS Data
N63886_19_334_A.053	POS Data

Input Files

File Name	File Type
Ephm3340.19g	GLONASS Broadcast Ephemeris
Ephm3340.19n	GPS Broadcast Ephemeris
Ephm3330.19g	GLONASS Broadcast Ephemeris

File Name	File Type
Ephm3330.19n	GPS Broadcast Ephemeris
Ephm3350.19g	GLONASS Broadcast Ephemeris
Ephm3350.19n	GPS Broadcast Ephemeris
igr20814.sp3	GPS Precise Ephemeris
igr20815.sp3	GPS Precise Ephemeris
igr20816.sp3	GPS Precise Ephemeris
igr20820.sp3	GPS Precise Ephemeris
igr20821.sp3	GPS Precise Ephemeris
flck_daily3340.19o	GNSS SingleBase
flck_daily3350.19o	GNSS SingleBase
lkcy_daily3340.19o	GNSS SingleBase
lkcy_daily3350.19o	GNSS SingleBase
pltk_daily3340.19o	GNSS SingleBase
pltk_daily3350.19o	GNSS SingleBase
xcty_daily3340.19o	GNSS SingleBase
xcty_daily3350.19o	GNSS SingleBase
talh_daily3340.19o	GNSS SingleBase
talh_daily3350.19o	GNSS SingleBase

Output Files

Filename	File type
sbet_88619334A.out	SBET Trajectory File

Rover Data Summary

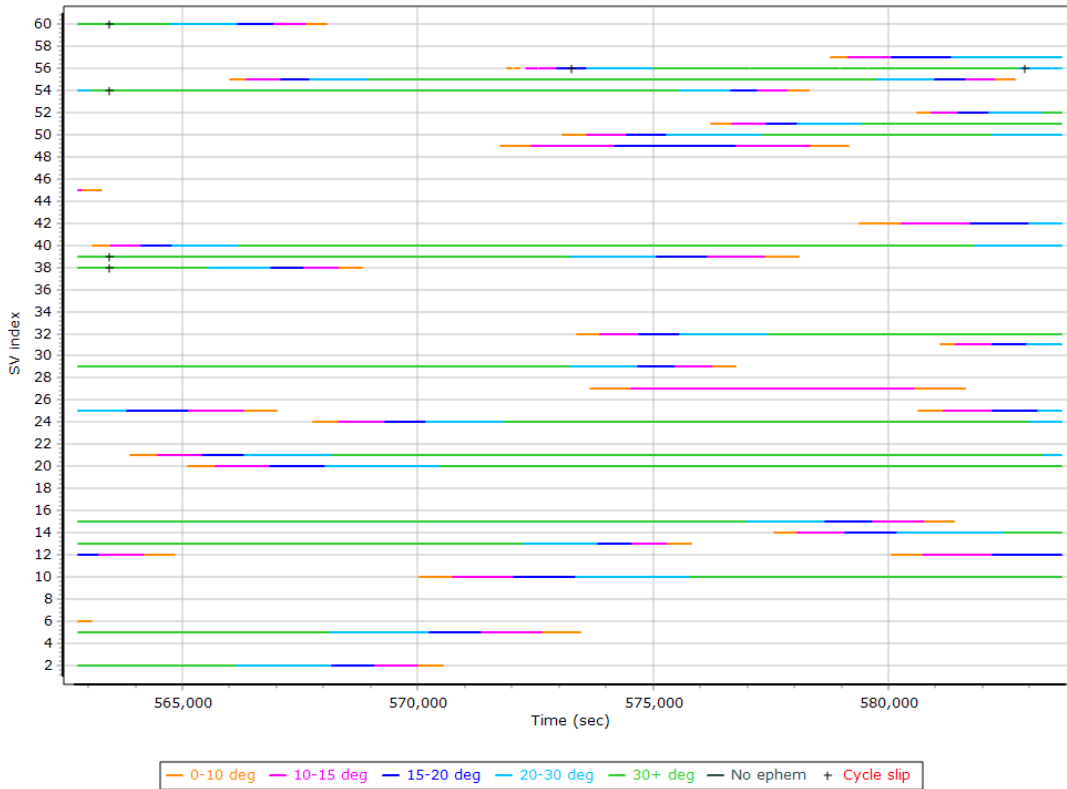
First raw data file	N63886_19_334_A.001		
Last raw data file	N63886_19_334_A.053		
Start GPS week	2081		
Start time	562444.590 (11/30/2019 12:14:04 PM)		
End time	583668.636 (11/30/2019 6:07:48 PM)		
Start of fine alignment	562727.430 (11/30/2019 12:18:47 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

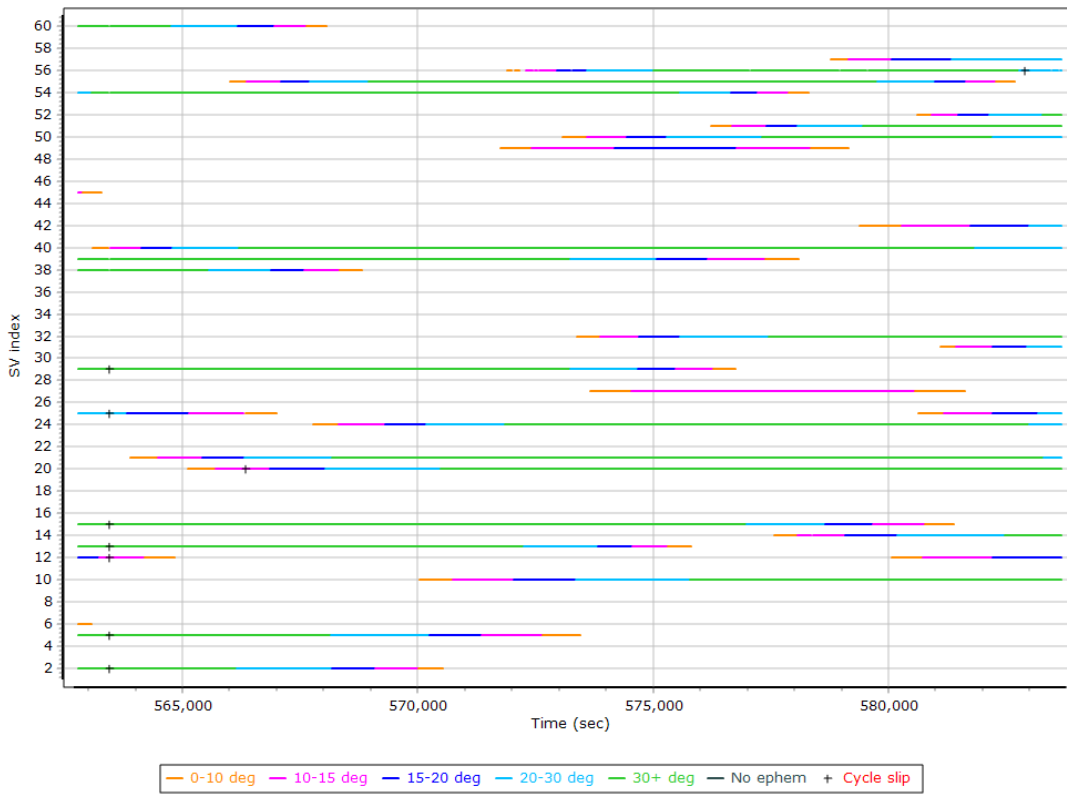
Raw IMU Import QC Summary

IMU data input file	imu_88619334A.dat
IMU data check log file	imudt_88619334A.log
IMU Records Processed	4245818
Termination Status	Normal
IMU Anomalies	0

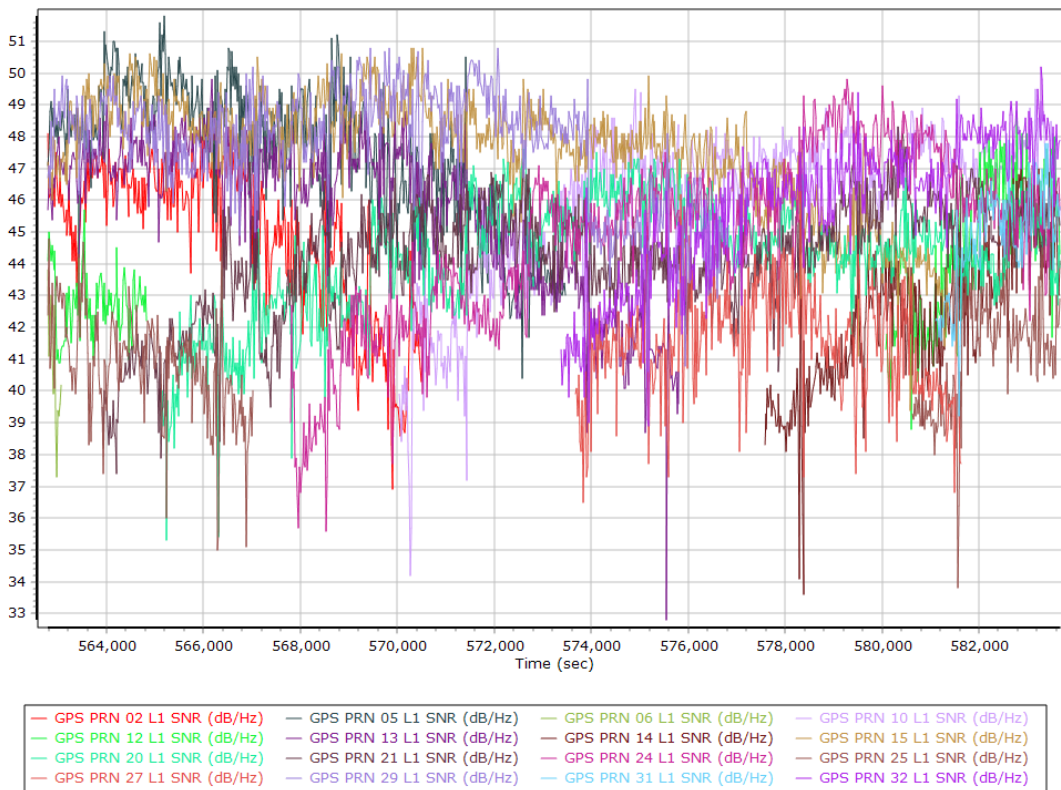
L1 Satellite Lock/Elevation



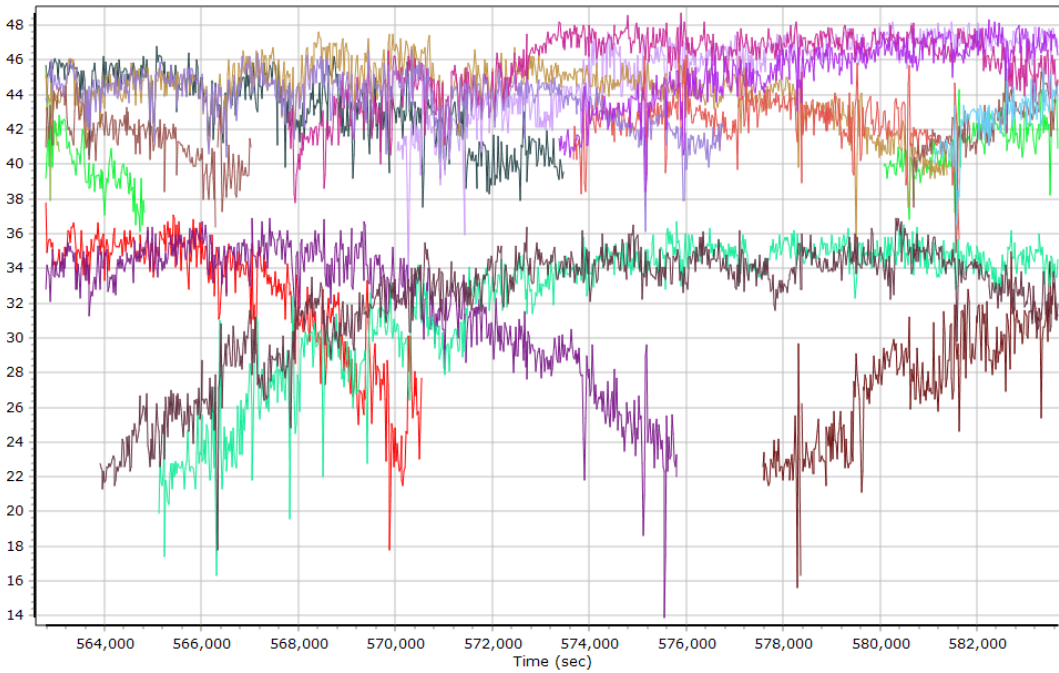
L2 Satellite Lock/Elevation



GPS L1 SNR

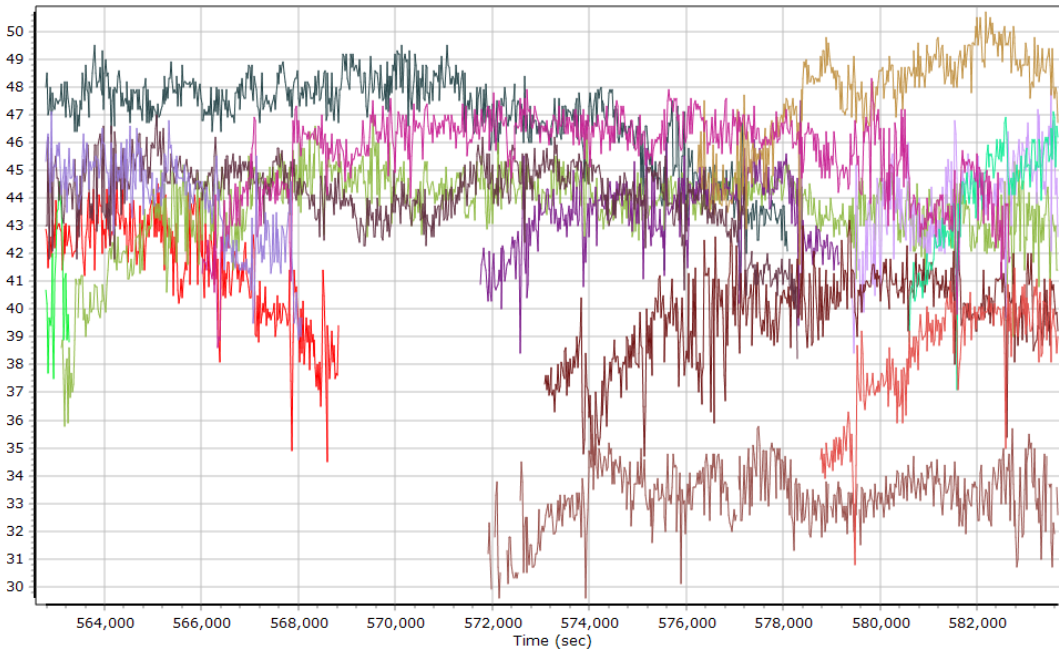


GPS L2 SNR



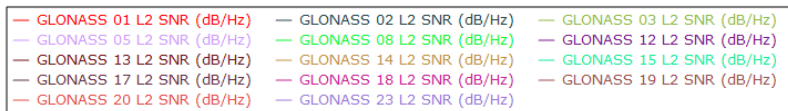
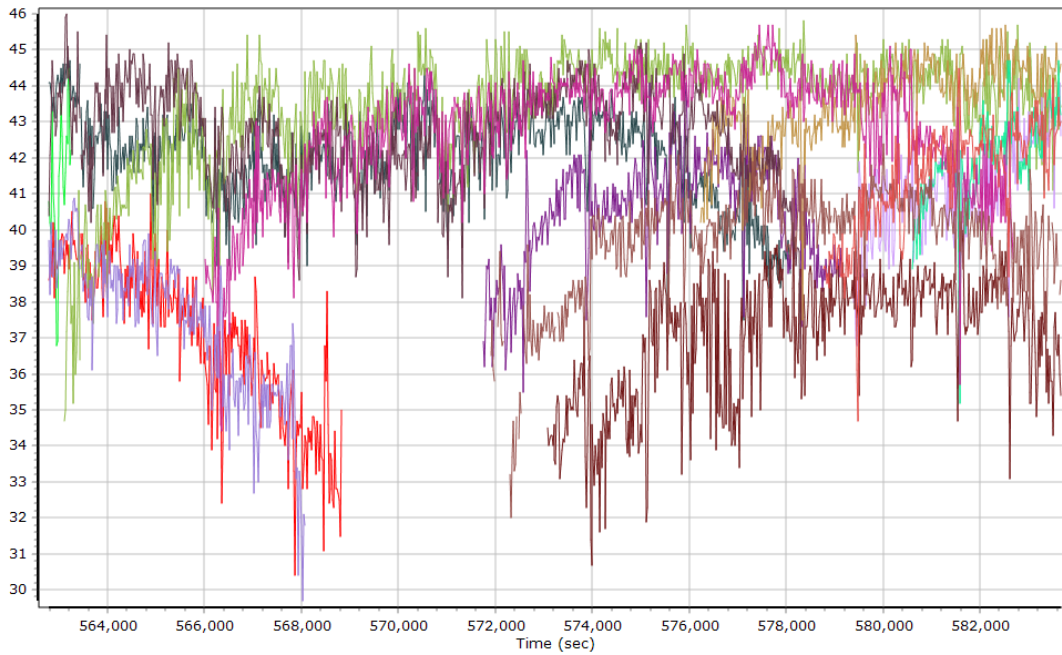
- GPS PRN 02 L2 SNR (dB/Hz)
- GPS PRN 05 L2 SNR (dB/Hz)
- GPS PRN 06 L2 SNR (dB/Hz)
- GPS PRN 10 L2 SNR (dB/Hz)
- GPS PRN 12 L2 SNR (dB/Hz)
- GPS PRN 13 L2 SNR (dB/Hz)
- GPS PRN 14 L2 SNR (dB/Hz)
- GPS PRN 15 L2 SNR (dB/Hz)
- GPS PRN 20 L2 SNR (dB/Hz)
- GPS PRN 21 L2 SNR (dB/Hz)
- GPS PRN 24 L2 SNR (dB/Hz)
- GPS PRN 25 L2 SNR (dB/Hz)
- GPS PRN 27 L2 SNR (dB/Hz)
- GPS PRN 29 L2 SNR (dB/Hz)
- GPS PRN 31 L2 SNR (dB/Hz)
- GPS PRN 32 L2 SNR (dB/Hz)

GLONASS L1 SNR

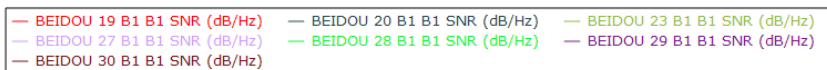
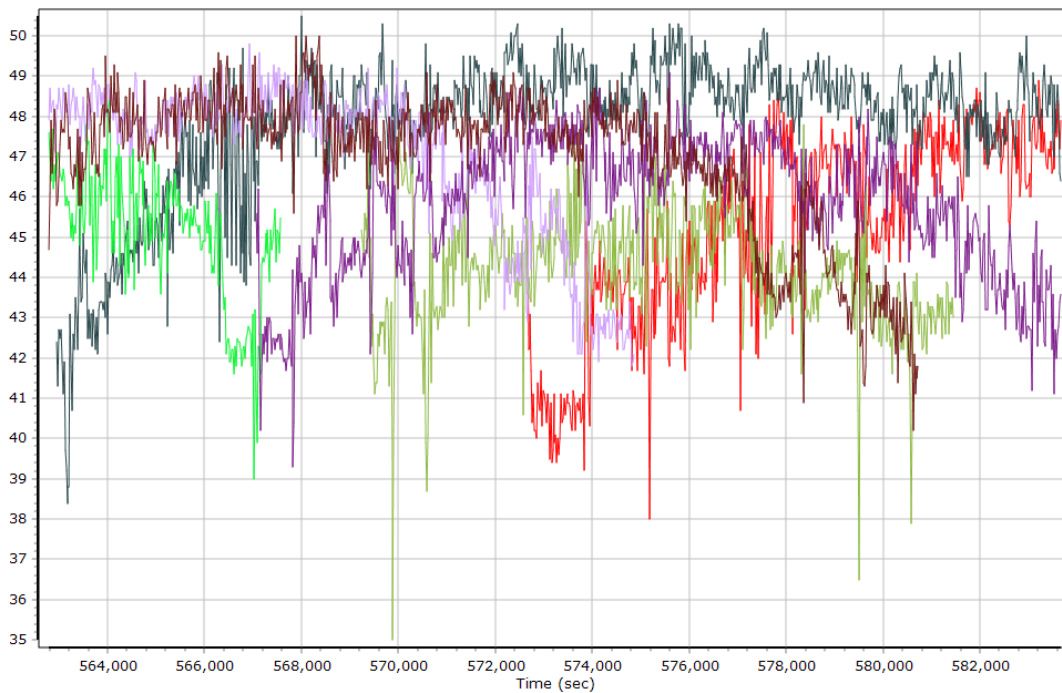


- GLONASS 01 L1 SNR (dB/Hz)
- GLONASS 02 L1 SNR (dB/Hz)
- GLONASS 03 L1 SNR (dB/Hz)
- GLONASS 05 L1 SNR (dB/Hz)
- GLONASS 08 L1 SNR (dB/Hz)
- GLONASS 12 L1 SNR (dB/Hz)
- GLONASS 13 L1 SNR (dB/Hz)
- GLONASS 14 L1 SNR (dB/Hz)
- GLONASS 15 L1 SNR (dB/Hz)
- GLONASS 17 L1 SNR (dB/Hz)
- GLONASS 18 L1 SNR (dB/Hz)
- GLONASS 19 L1 SNR (dB/Hz)
- GLONASS 20 L1 SNR (dB/Hz)
- GLONASS 23 L1 SNR (dB/Hz)

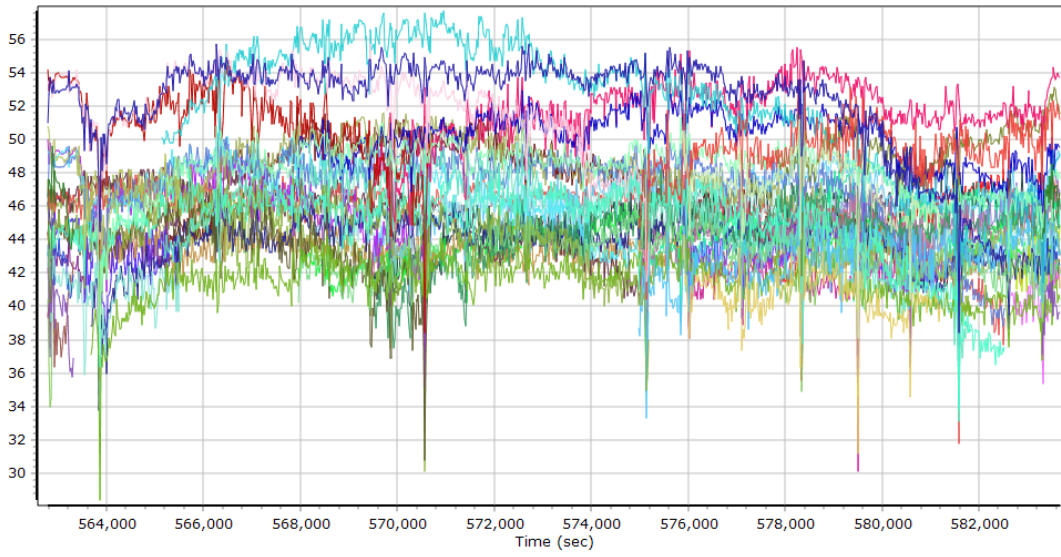
GLONASS L2 SNR



BEIDOU SNR



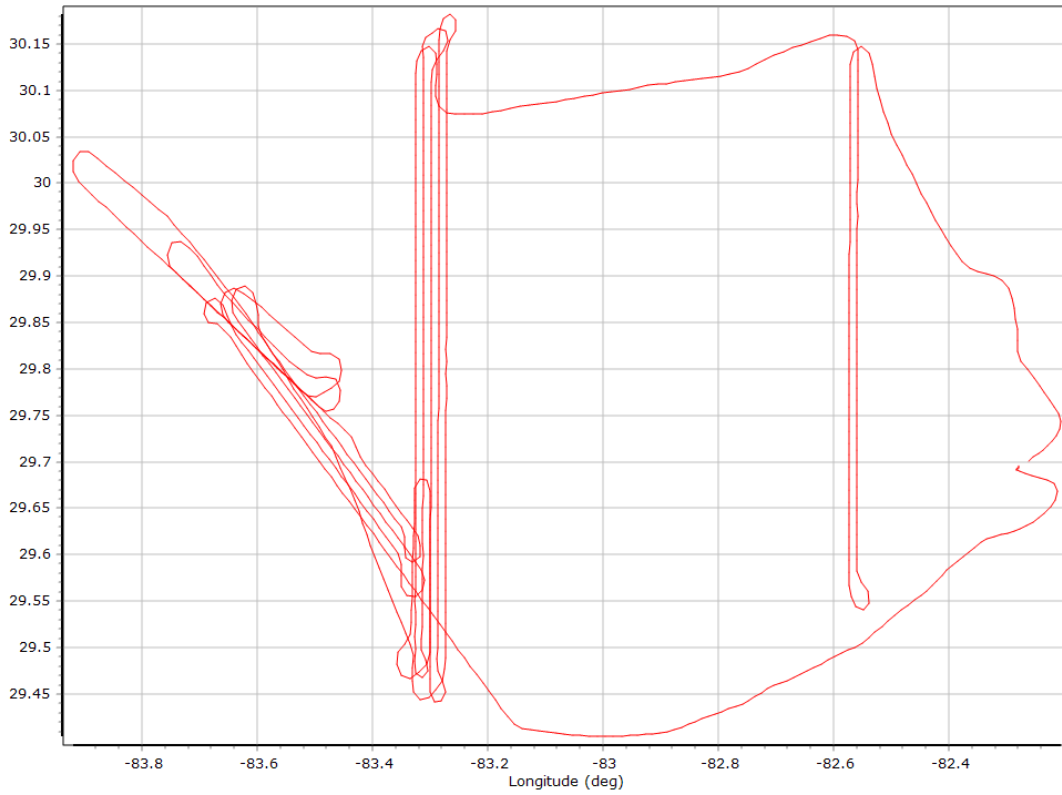
GALILEO SNR



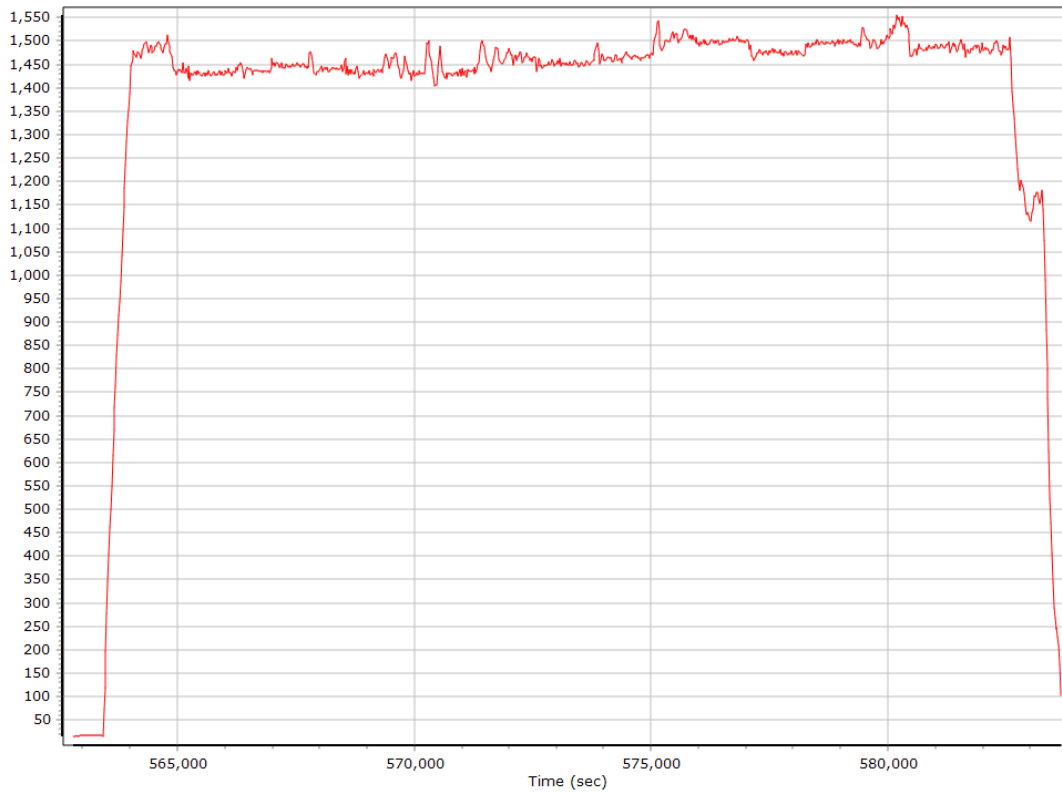
— GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 12 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 18 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 19 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 21 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 26 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 27 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 31 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 33 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 01 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 07 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 12 L5E5A BPSK10_PD SNR (dB/Hz)
— GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz)	— GALILEO 18 L5E5A BPSK10_PD SNR (dB/Hz)

Trajectory Information

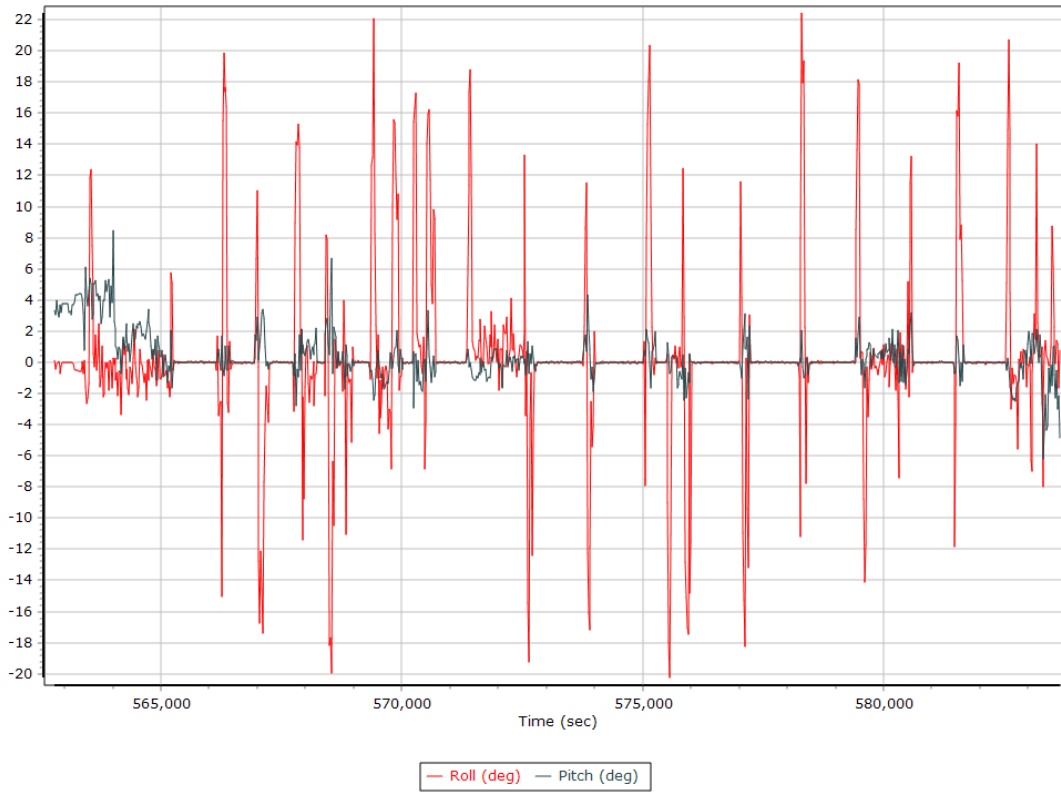
Top View



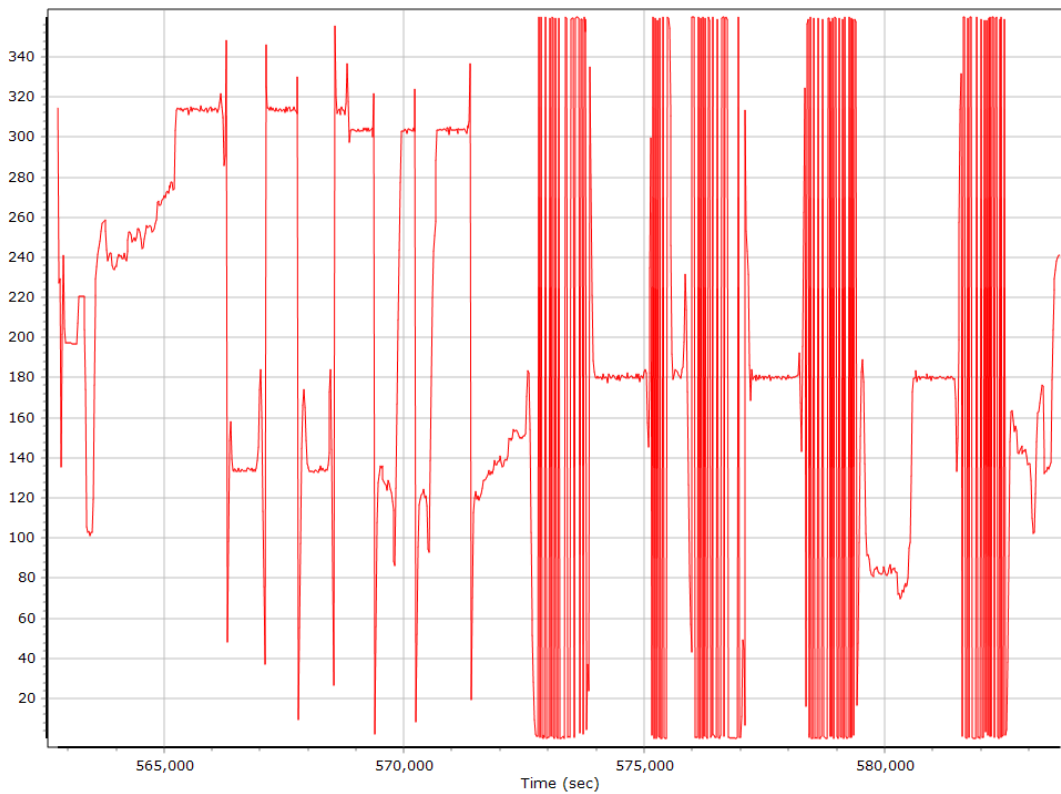
Altitude



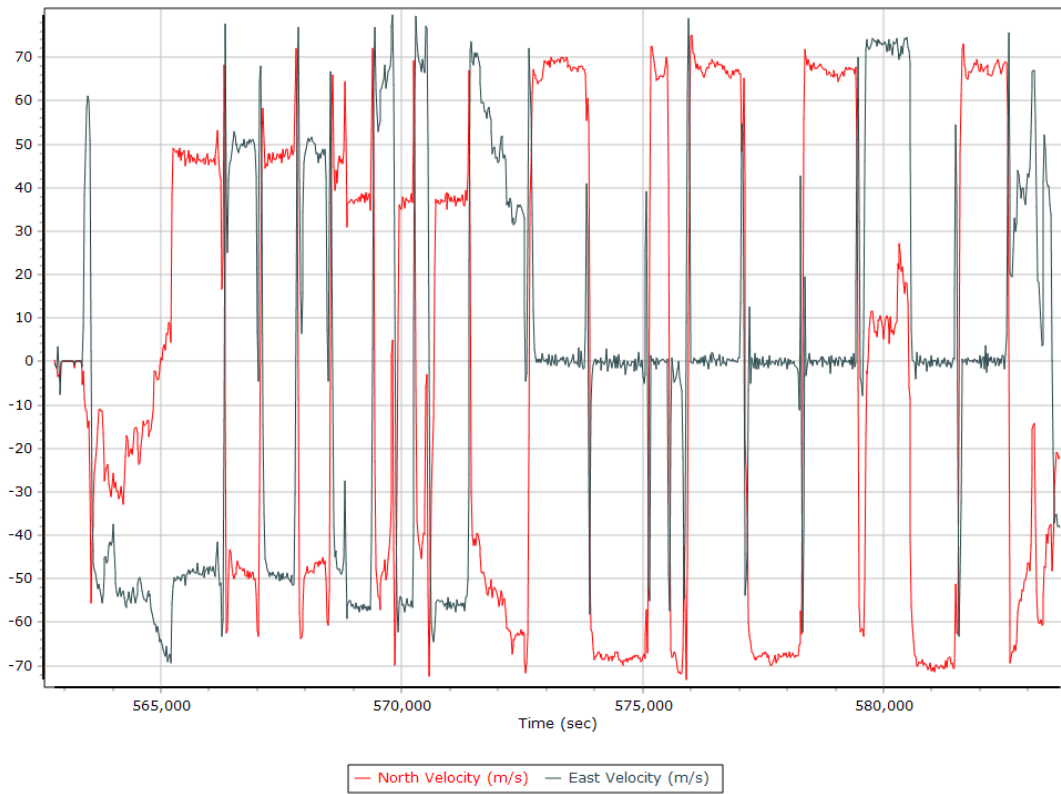
Roll/Pitch



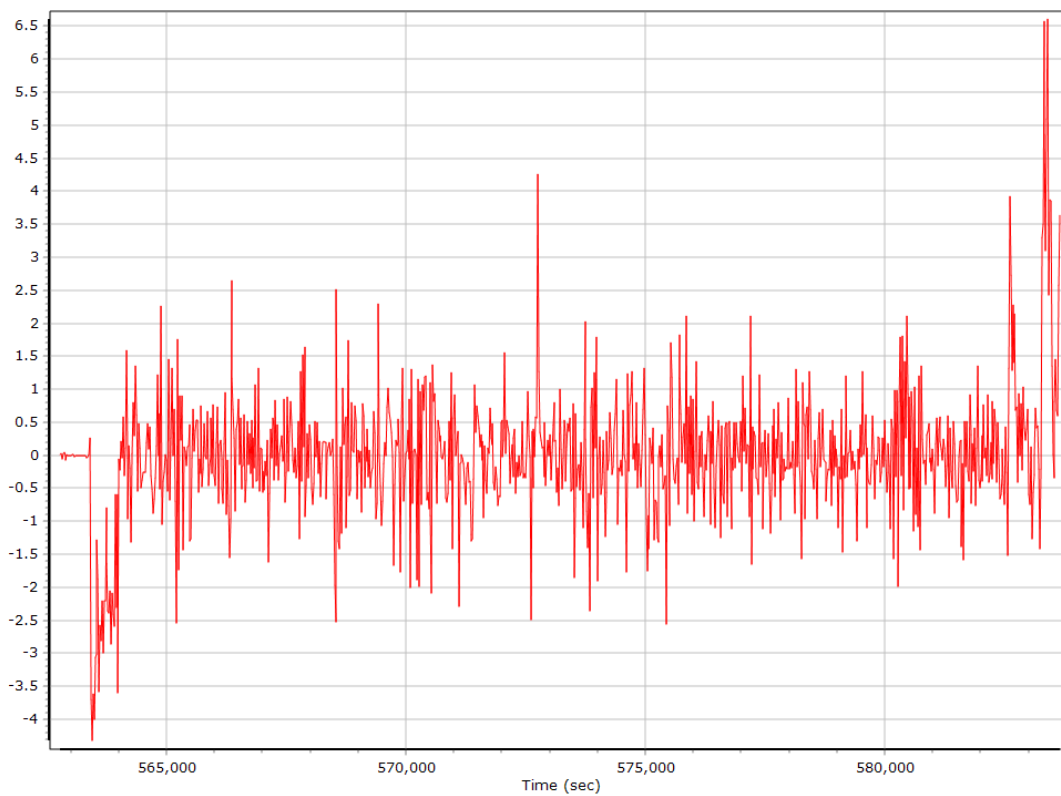
Heading



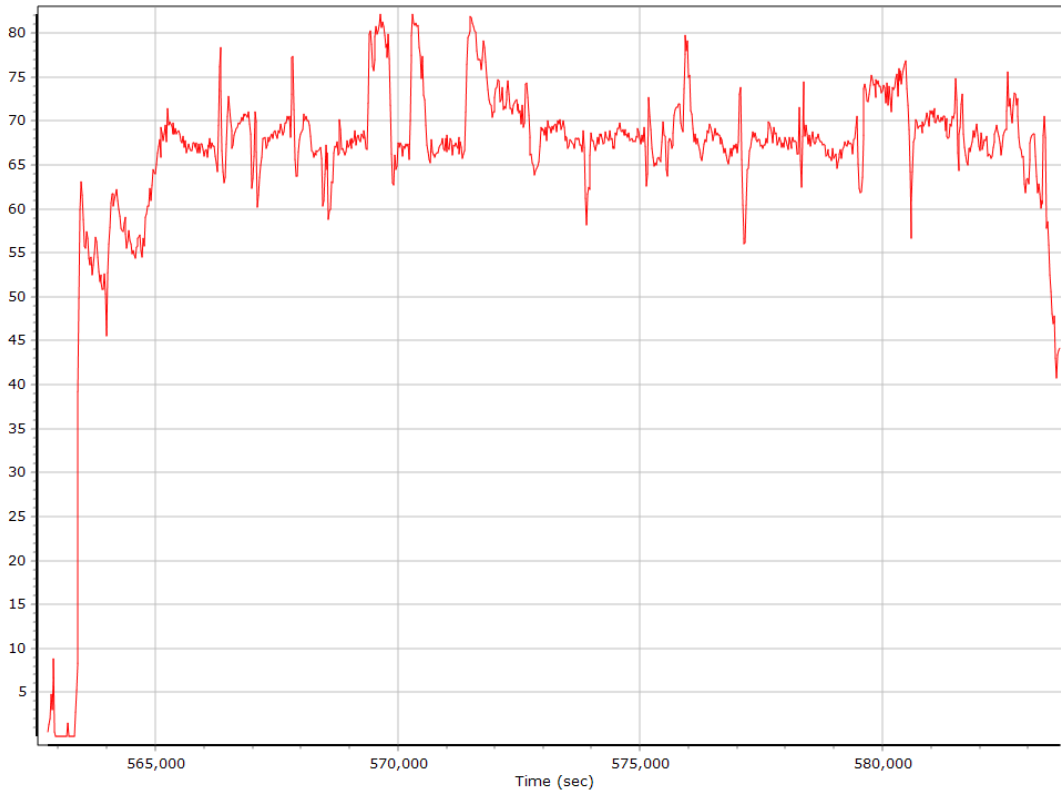
North/East Velocity



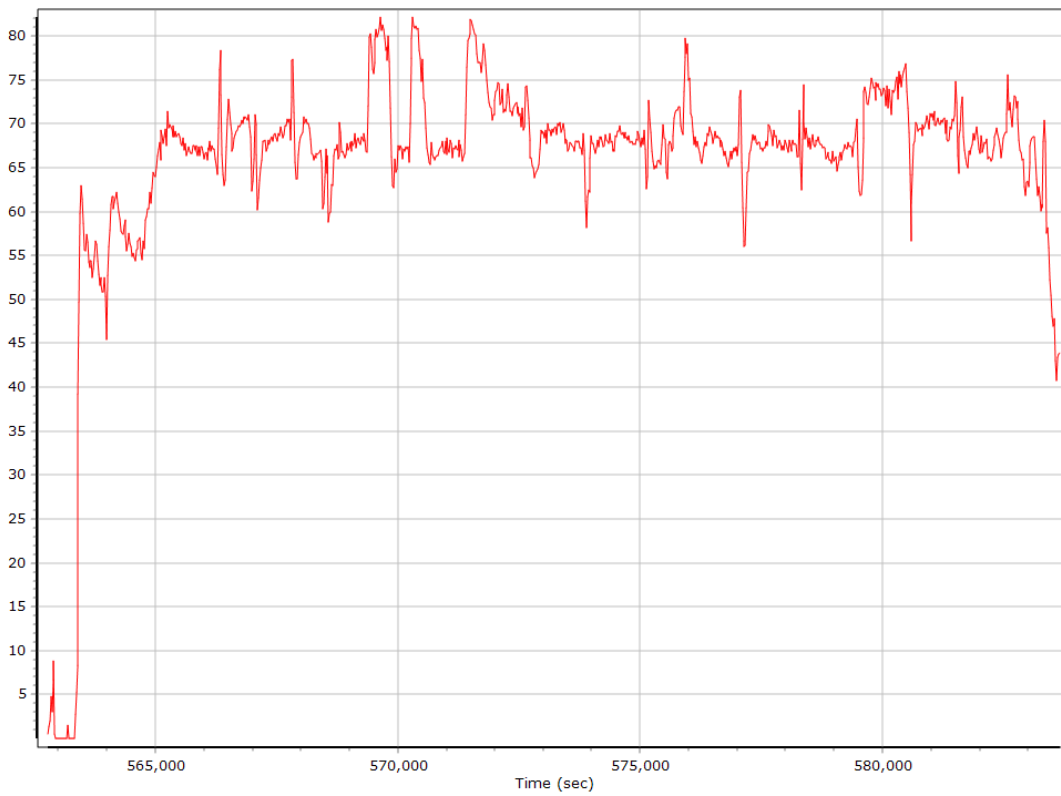
Down Velocity



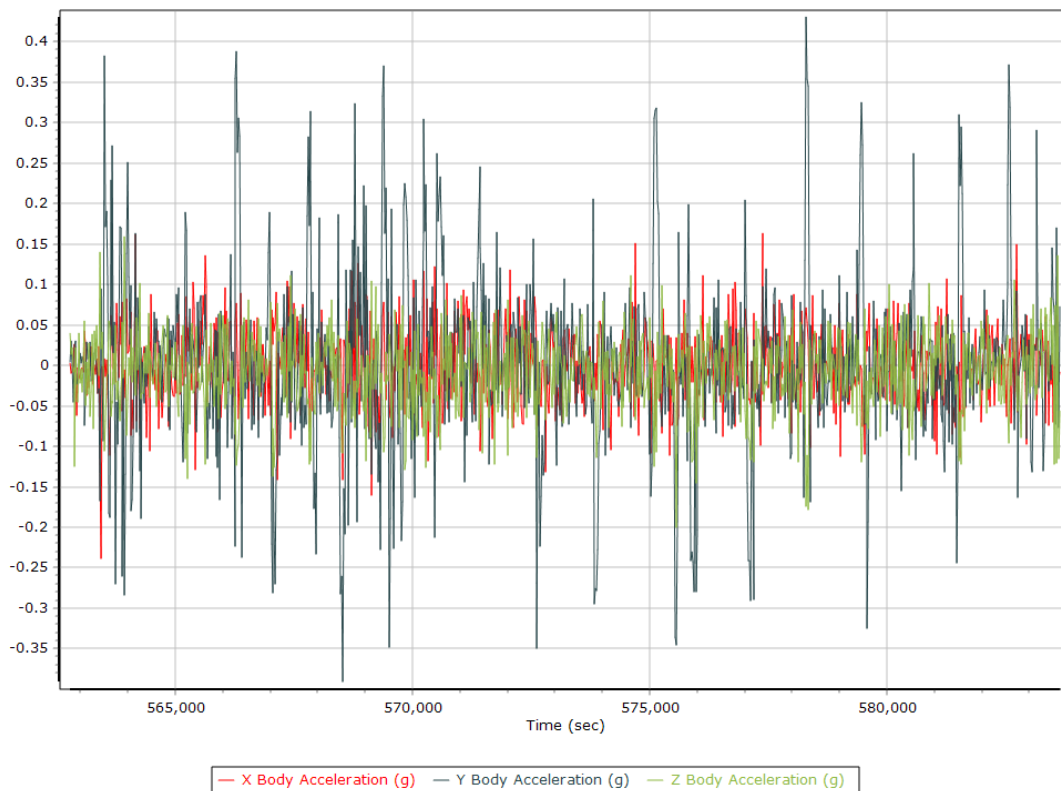
Total Speed



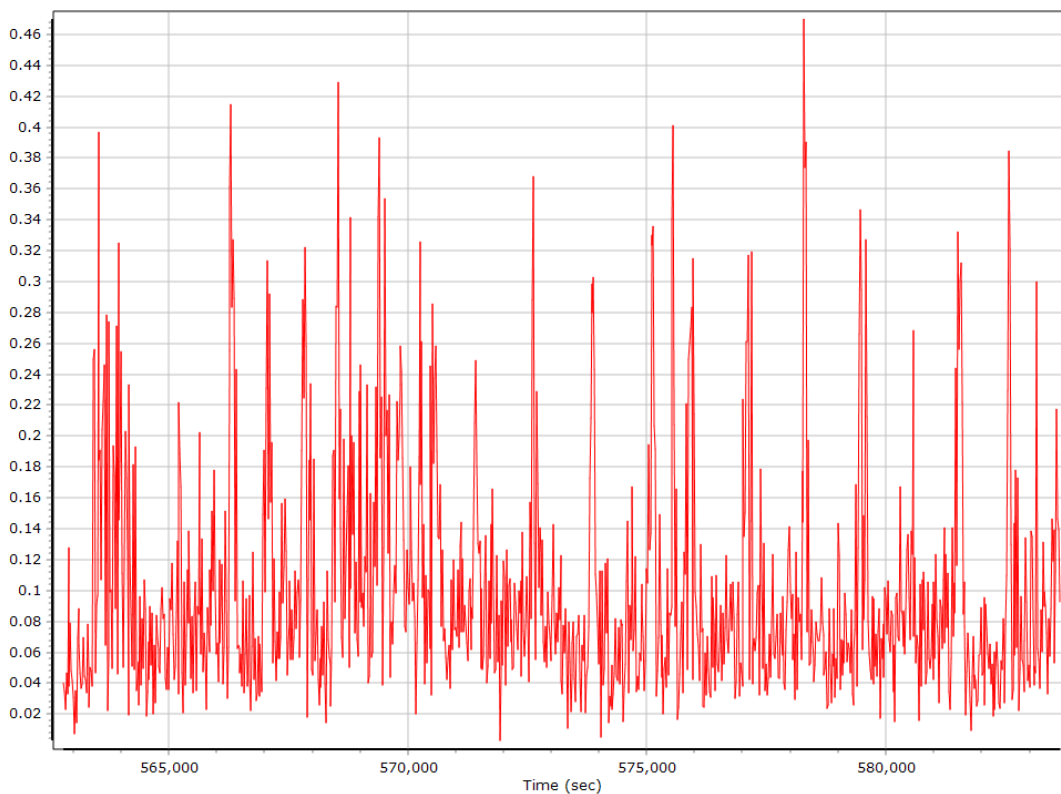
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
11/30/2019	TAHL	135.84	GNSS	1	User	None	Imported
11/30/2019	XCTY	16.55	GNSS	1	User	None	Imported
11/30/2019	PLTK	141.12	GNSS	1	User	None	Imported
11/30/2019	LCKY	70.71	GNSS	1	User	None	Imported
11/30/2019	FLCK	72.11	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	XCTY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	21231 s (2081 562463 - 2081 583694)
Number of reference stations	5
Primary station GPS measurement usage (%)	99.1
Primary station GLONASS measurement usage (%)	93.3
Average number of satellites per epoch	12.9
Max number of GPS stations used	4
Min number of GPS stations used	3
Max number of GLONASS stations used	4
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	9538
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - TAHL

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	16.03	Output Coordinates	Disabled	
Solution Epochs	3846	Mean Epoch SVs	7.9	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°23'47.48344"	W84°21'21.03499"	5.836
Adjusted		N30°23'47.48312"	W84°21'21.03480"	5.843
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	TAHL		
Filename	talh_daily3340.19o, talh_daily3350.19o		
Start date	11/30/2019 12:00:00 AM		
End date	12/1/2019 4:14:59 PM		
Duration	1:16:14:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702012
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°23'47.48344"		
Longitude	W84°21'21.03499"		
Ellipsoidal height (m)	-5.83600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - XCTY

Status	CONTROL	SBQI	0	
Duration (Hours)	19.62	Output Coordinates	Control	
Solution Epochs	4709	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°37'51.61276"	W83°06'29.33653"	13.808
Adjusted		N29°37'51.61276"	W83°06'29.33653"	13.808
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	XCTY		
Filename	xcty_daily3340.19o, xcty_daily3350.19o		
Start date	11/30/2019 12:00:00 AM		
End date	12/1/2019 4:14:59 PM		
Duration	1:16:14:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80800		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PLTK

Status	OK	SBQI	0	
Duration (Hours)	18.40	Output Coordinates	Original	
Solution Epochs	4415	Mean Epoch SVs	8.1	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14856"	W81°41'15.86069"	17.966
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.012	0.020	0.023

Base Station Information

Station ID	PLTK		
Filename	pltk_daily3340.19o, pltk_daily3350.19o		
Start date	11/30/2019 12:00:00 AM		
End date	12/1/2019 4:14:59 PM		
Duration	1:16:14:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LCKY

Status	OK	SBQI	0	
Duration (Hours)	19.62	Output Coordinates	Original	
Solution Epochs	4709	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°11'07.49182"	W82°34'39.14410"	35.193
Adjusted		N30°11'07.49200"	W82°34'39.14426"	35.209
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.007	0.016	0.017

Base Station Information

Station ID	LCKY		
Filename	lkcy_daily3340.19o, lkcy_daily3350.19o		
Start date	11/30/2019 12:00:00 AM		
End date	12/1/2019 4:14:59 PM		
Duration	1:16:14:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCK

Status	OK	SBQI	0	
Duration (Hours)	19.20	Output Coordinates	Original	
Solution Epochs	4608	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°08'01.87610"	W83°01'51.05281"	17.224
Adjusted		N29°08'01.87610"	W83°01'51.05251"	17.214
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.008	0.010	0.013

Base Station Information

Station ID	FLCK		
Filename	flck_daily3340.19o, flck_daily3350.19o		
Start date	11/30/2019 12:00:00 AM		
End date	12/1/2019 4:14:59 PM		
Duration	1:16:14:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	12.70	90.78	
Number of GPS SV	6	9	8
Number of GLONASS SV	0	8	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	7	17	13
PDOP	1.26	3.57	1.57
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	21217.00	0.00	1.00
Percentage	100.00	0.00	0.00

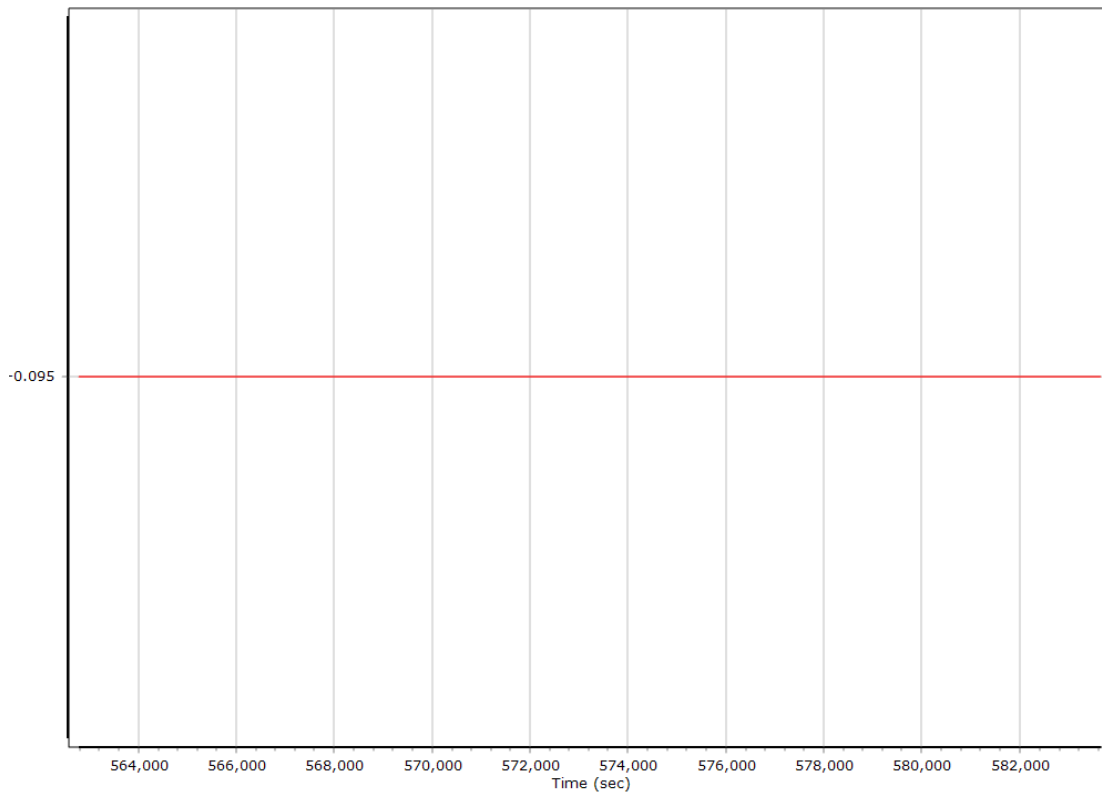
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	562445.000 (11/30/2019 12:14:05 PM)		
Processing end time	583677.000 (11/30/2019 6:07:57 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	-0.095	0.063	-1.259
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

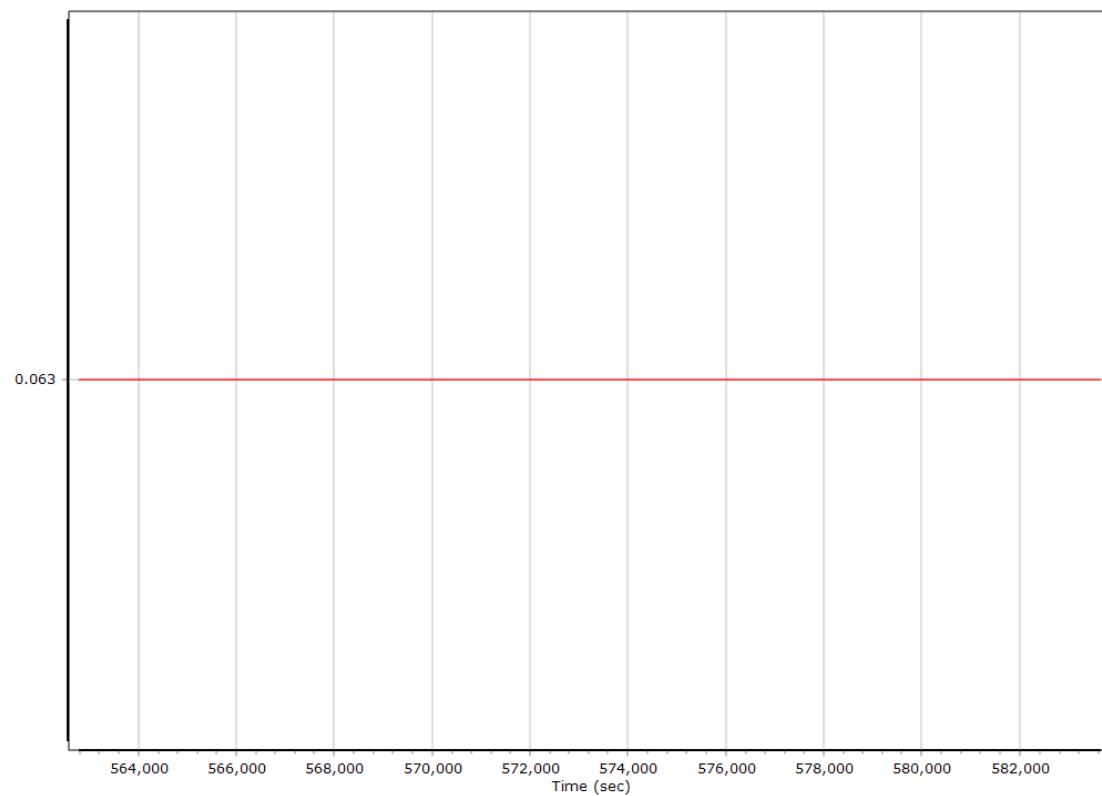
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

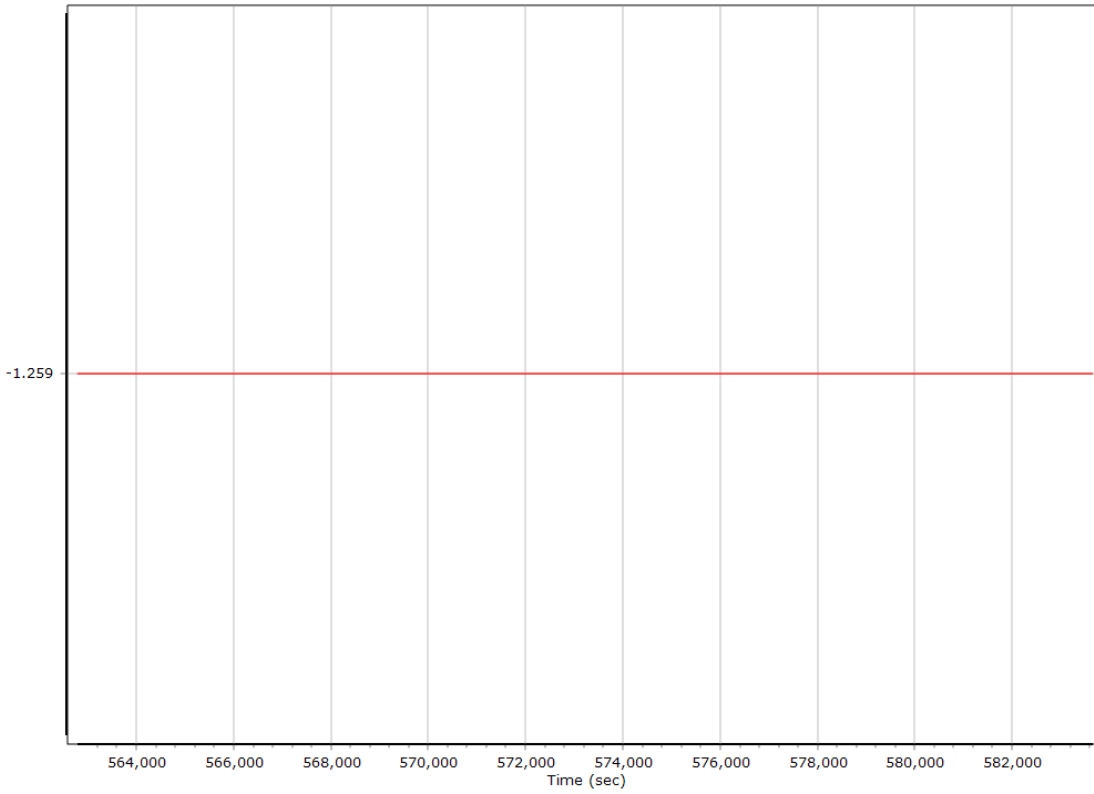
X Reference-Primary GNSS Lever Arm (m)



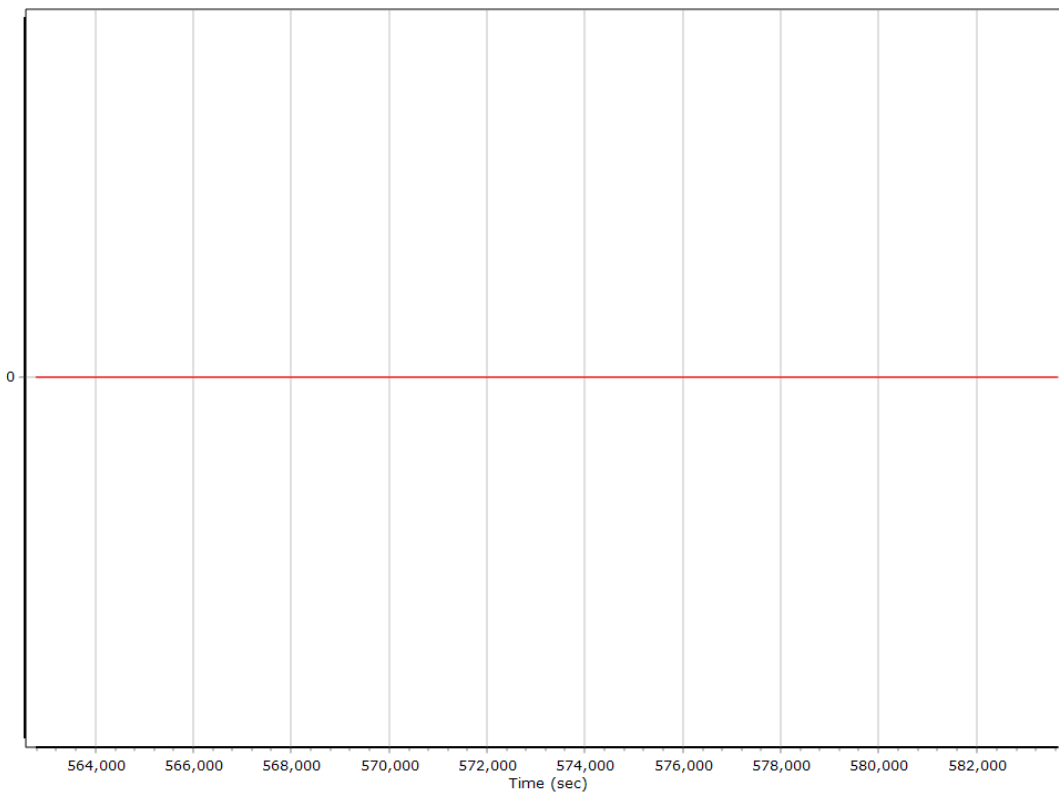
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



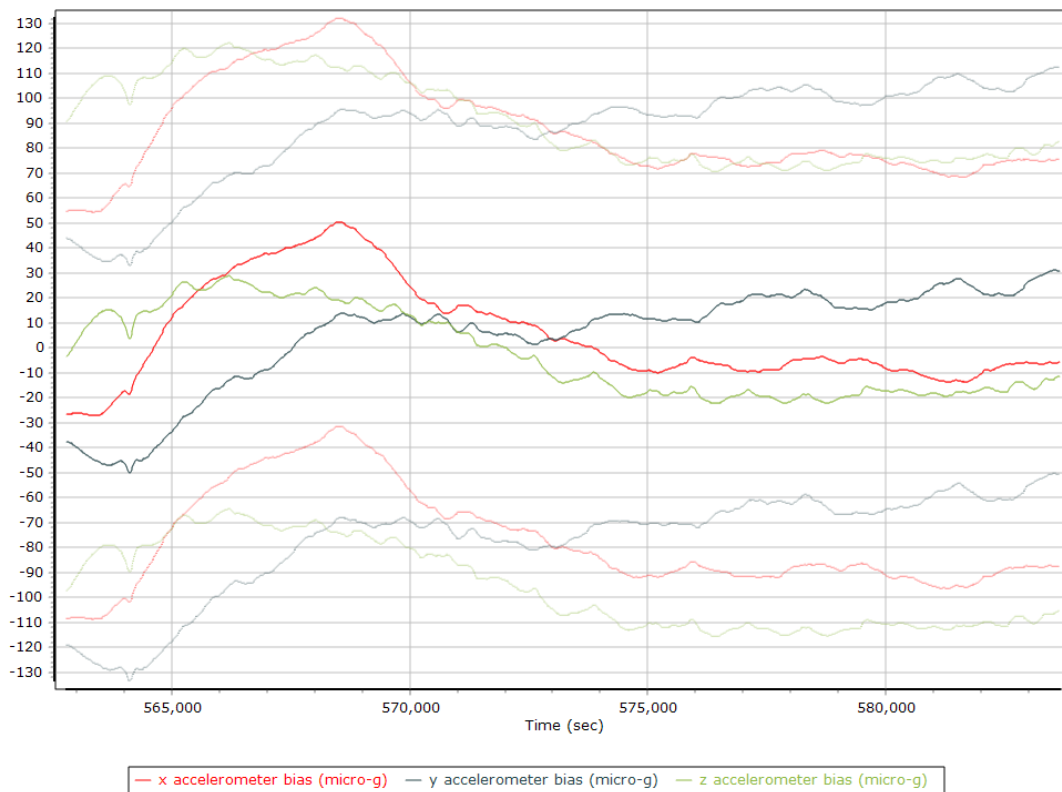
Reference-Primary GNSS Lever Arm Figure of Merit



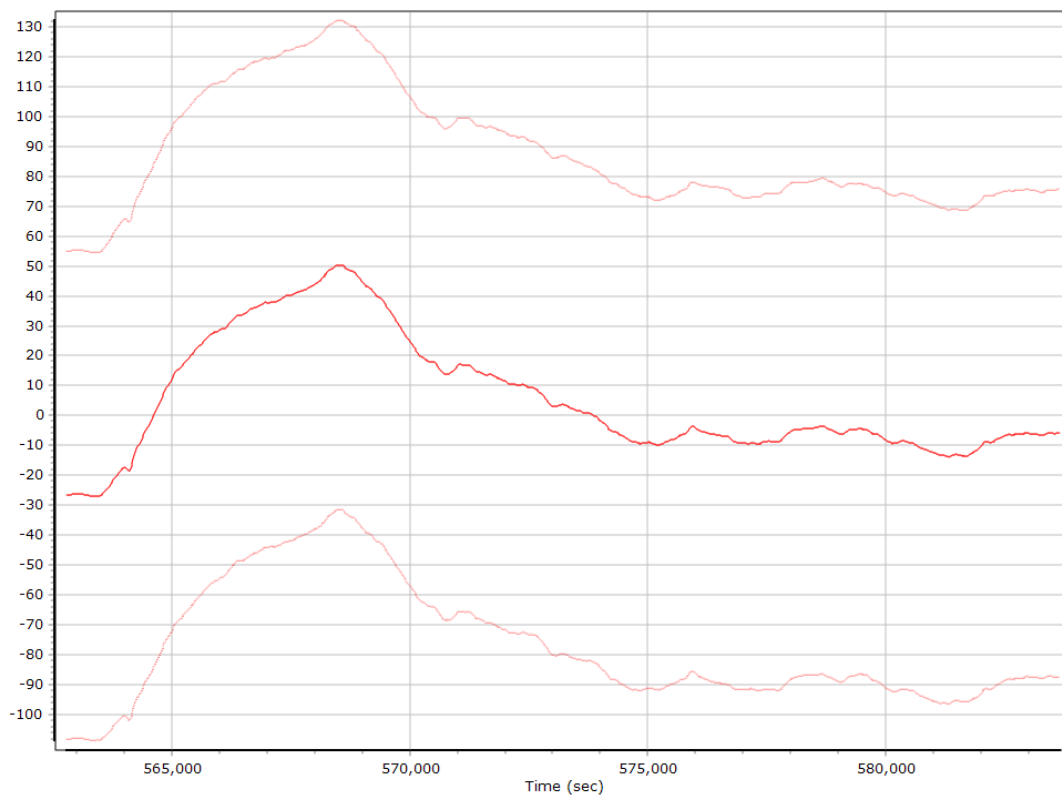
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

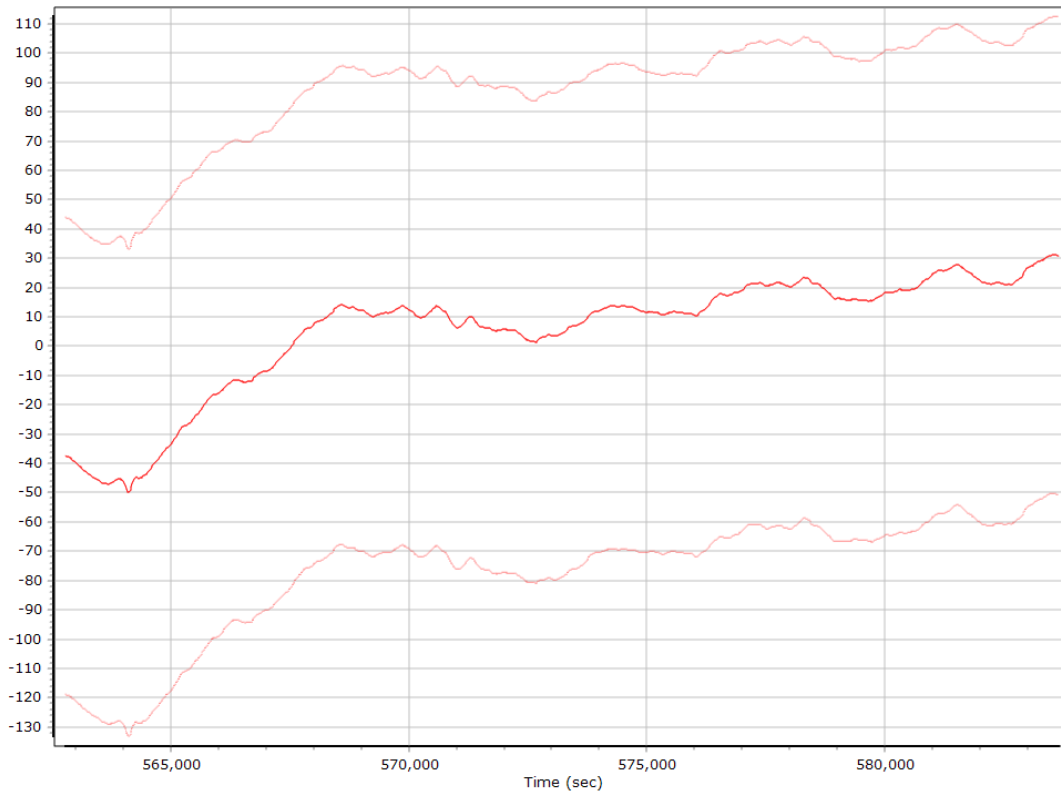
Accelerometer Bias (micro-g)



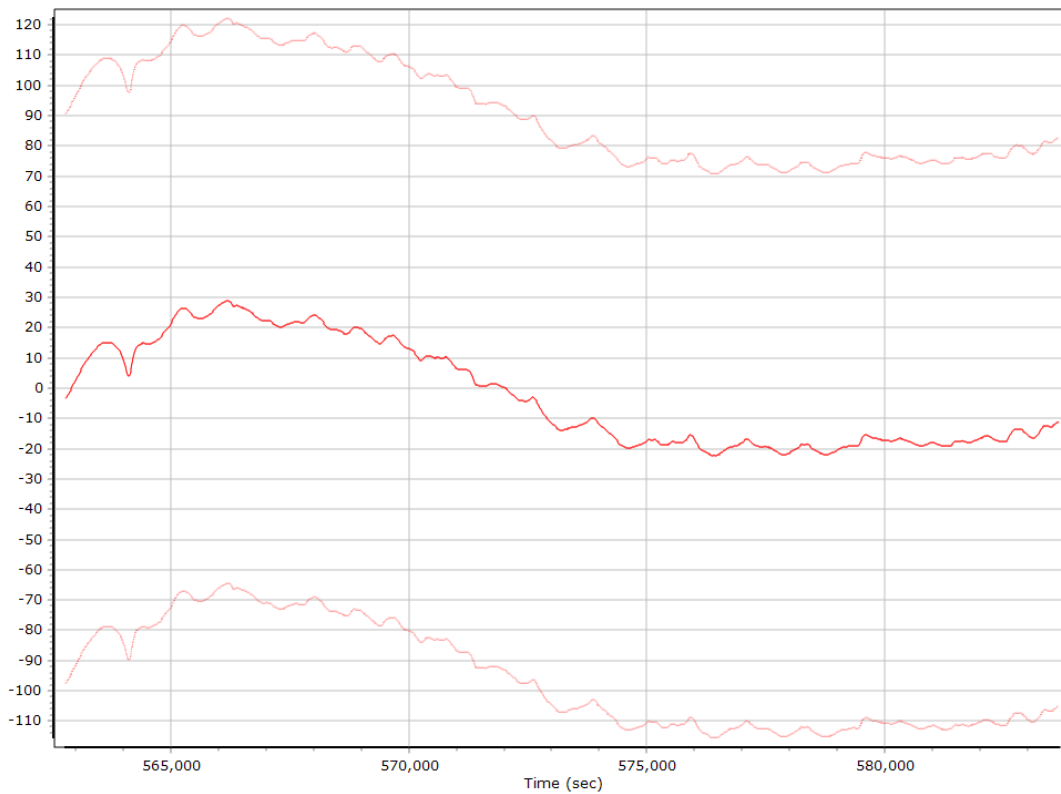
X Accelerometer Bias (micro-g)



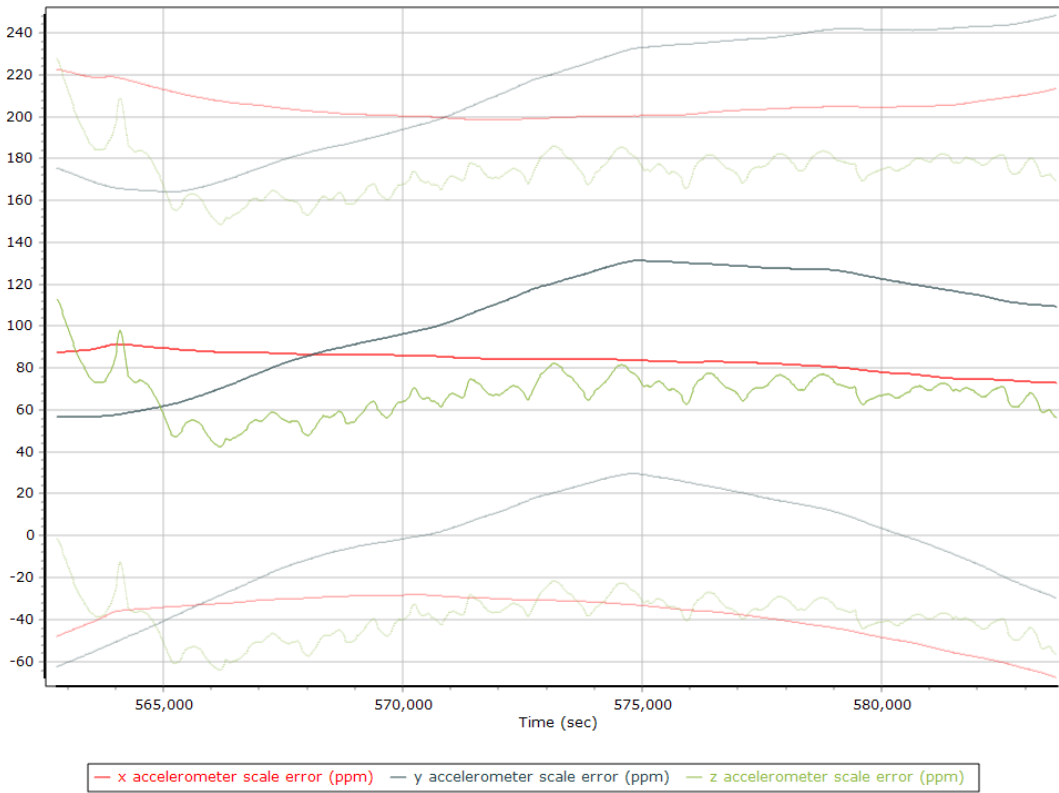
Y Accelerometer Bias (micro-g)



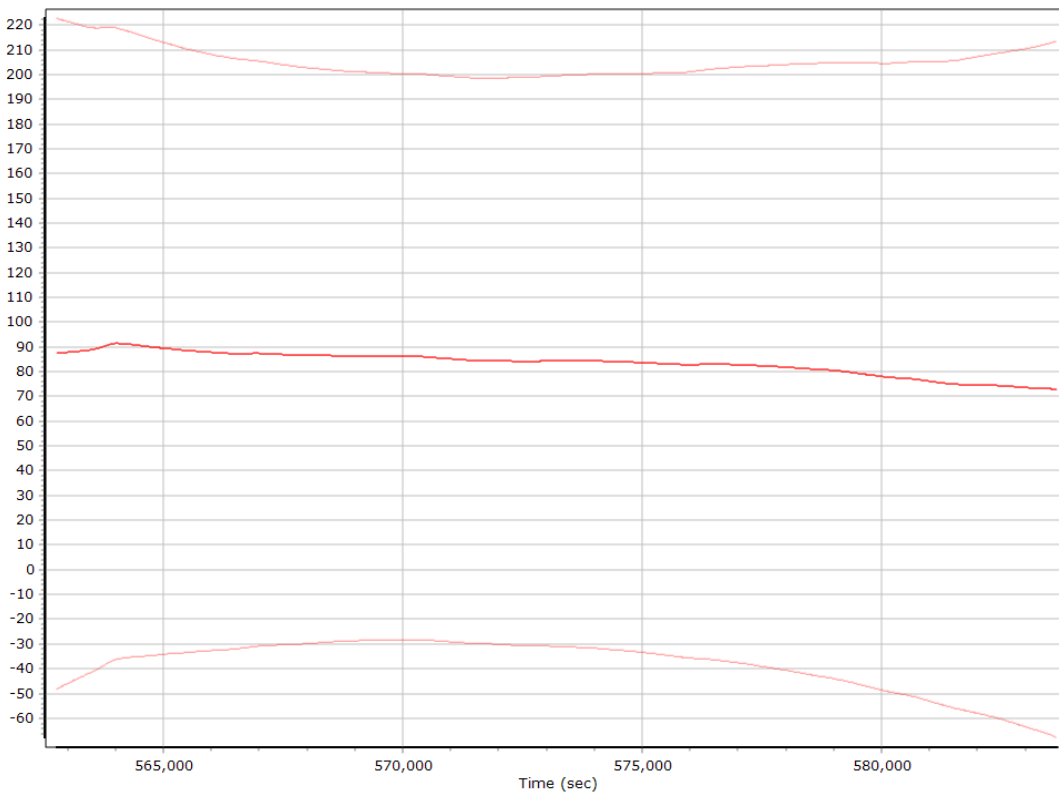
Z Accelerometer Bias (micro-g)



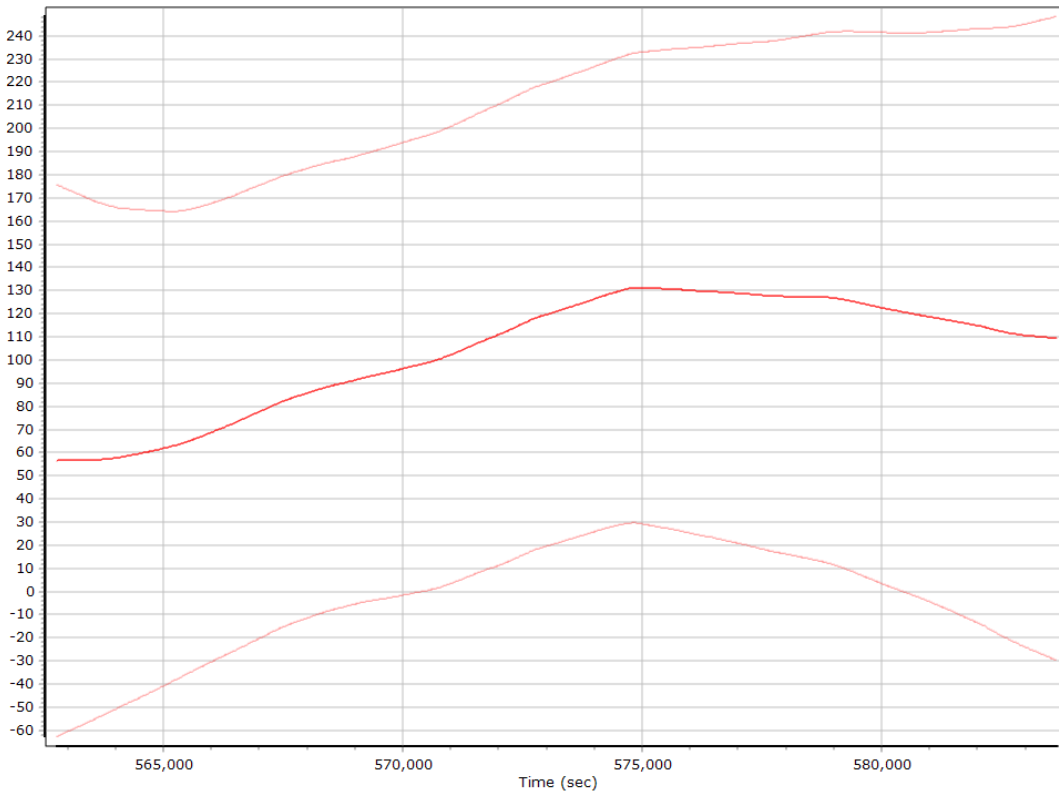
Accelerometer Scale Error (ppm)



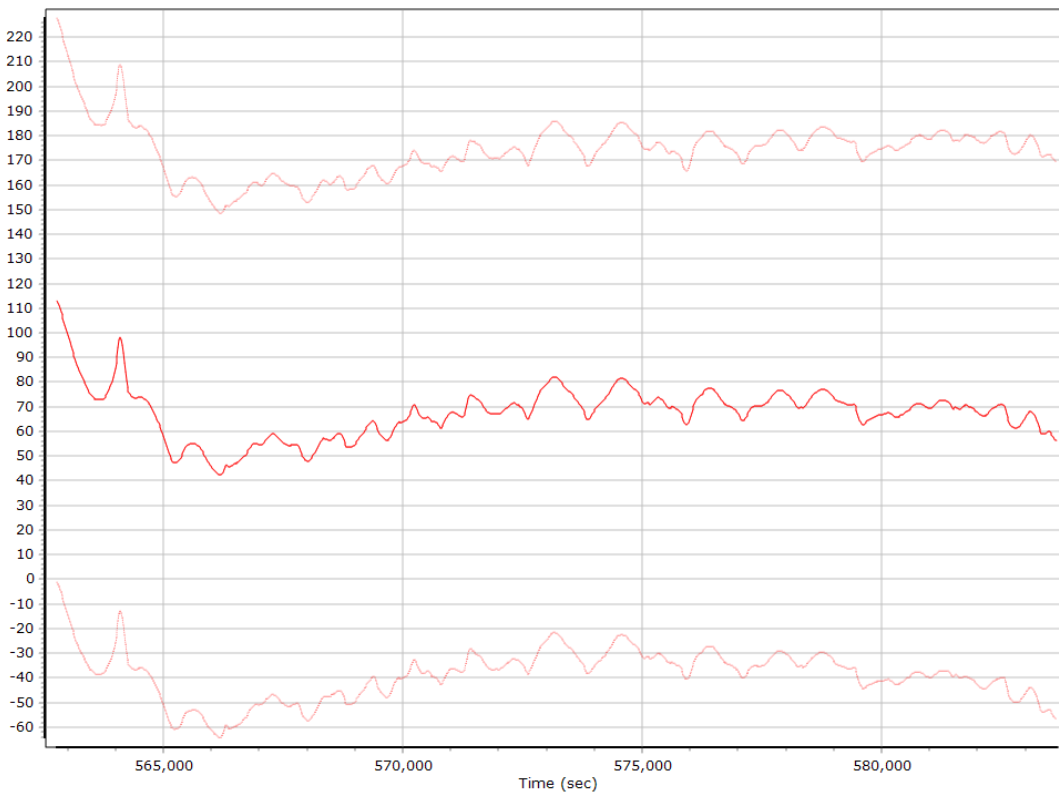
X Accelerometer Scale Error (ppm)



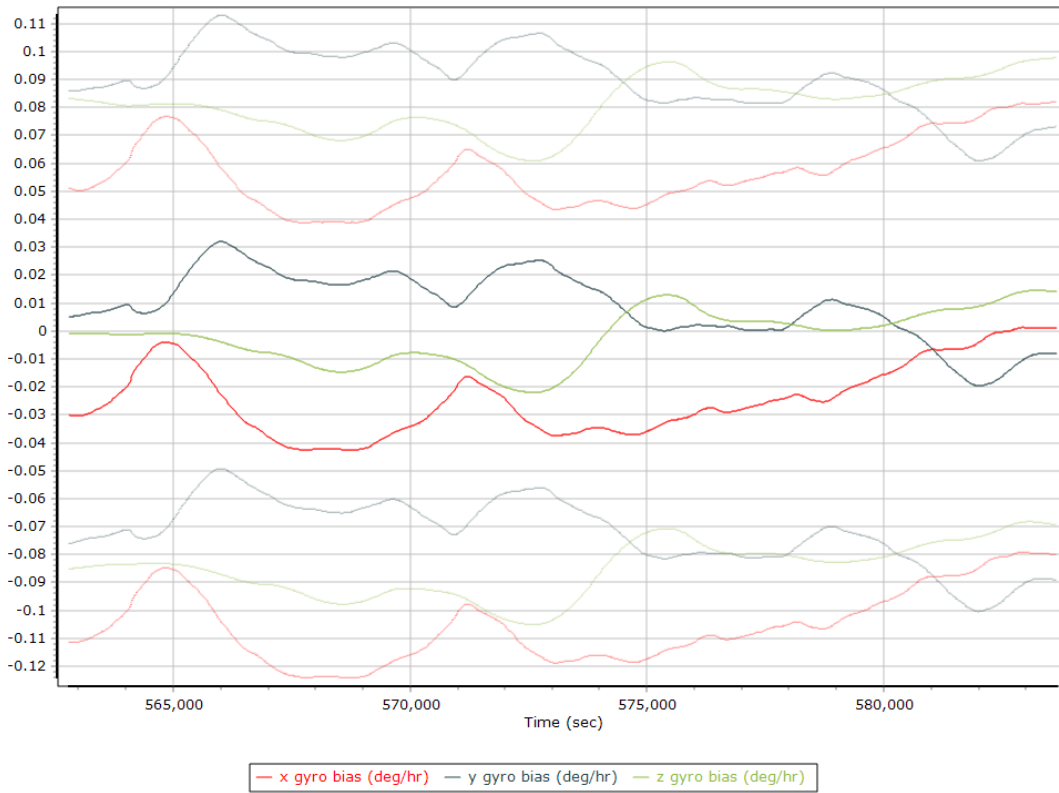
Y Accelerometer Scale Error (ppm)



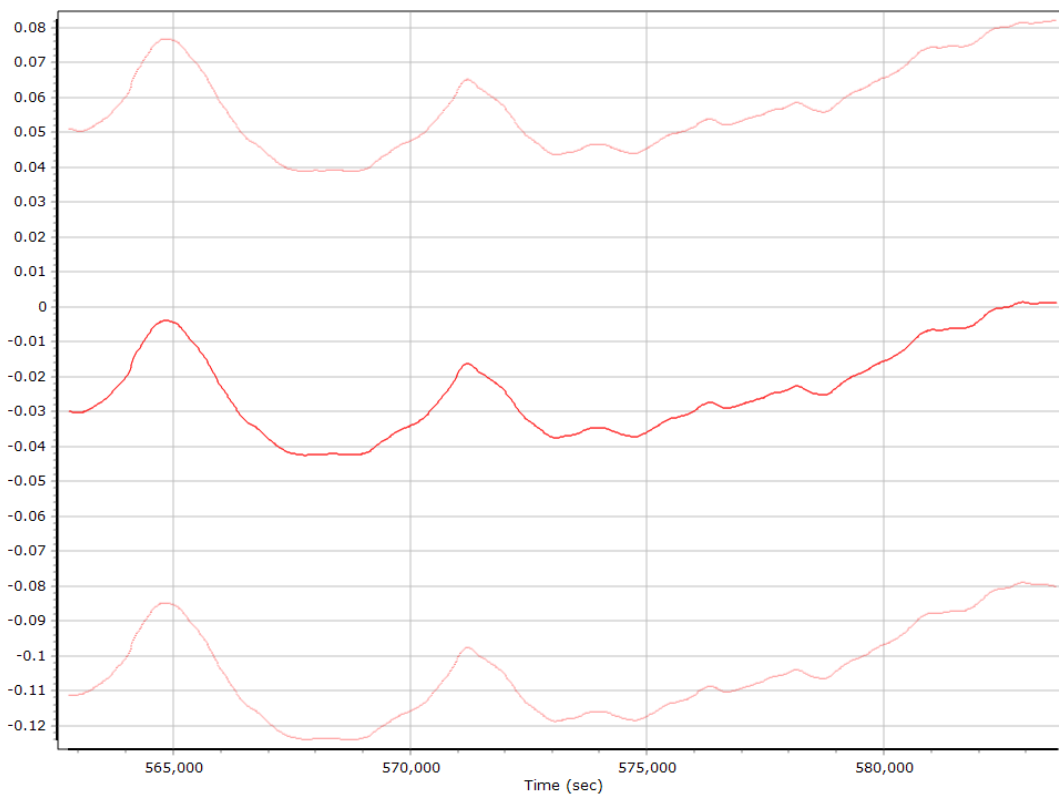
Z Accelerometer Scale Error (ppm)



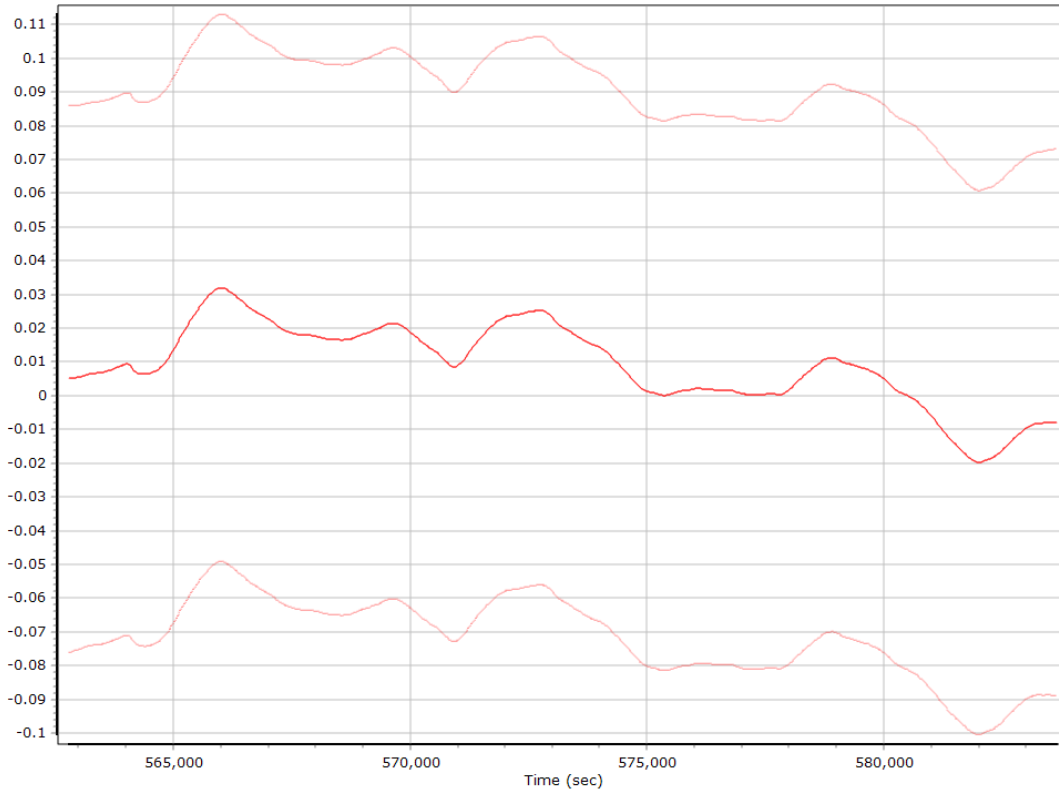
Gyro Bias (deg/h)



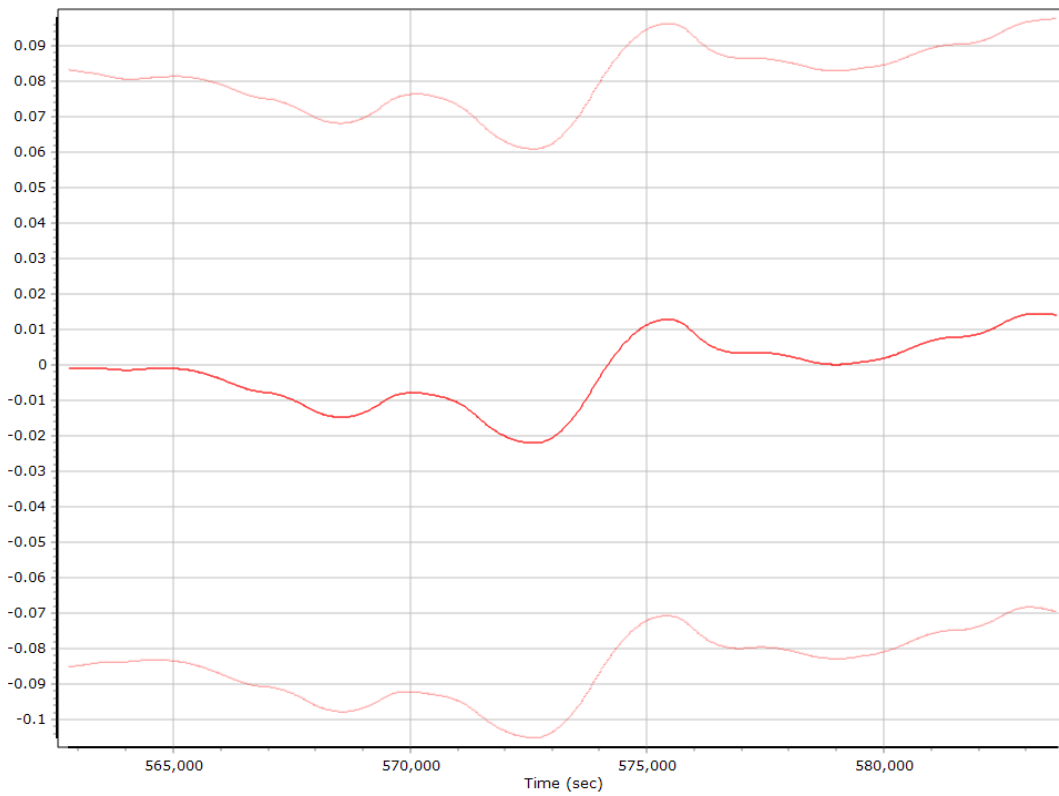
X Gyro Bias (deg/h)



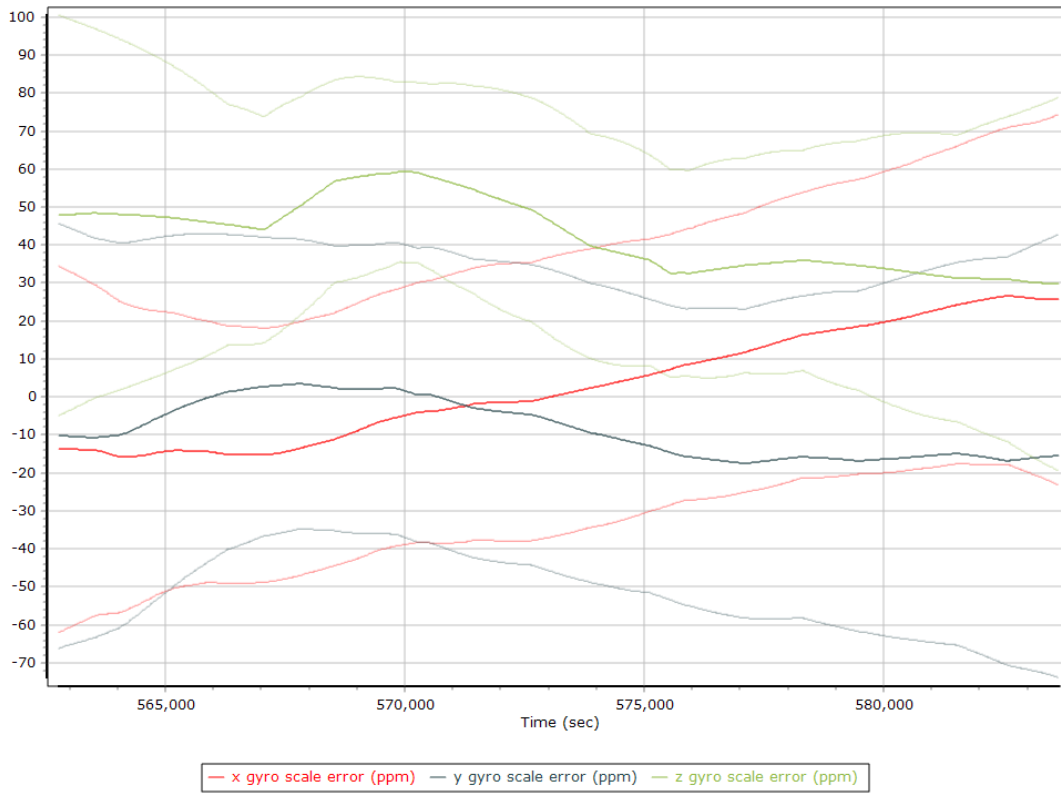
Y Gyro Bias (deg/h)



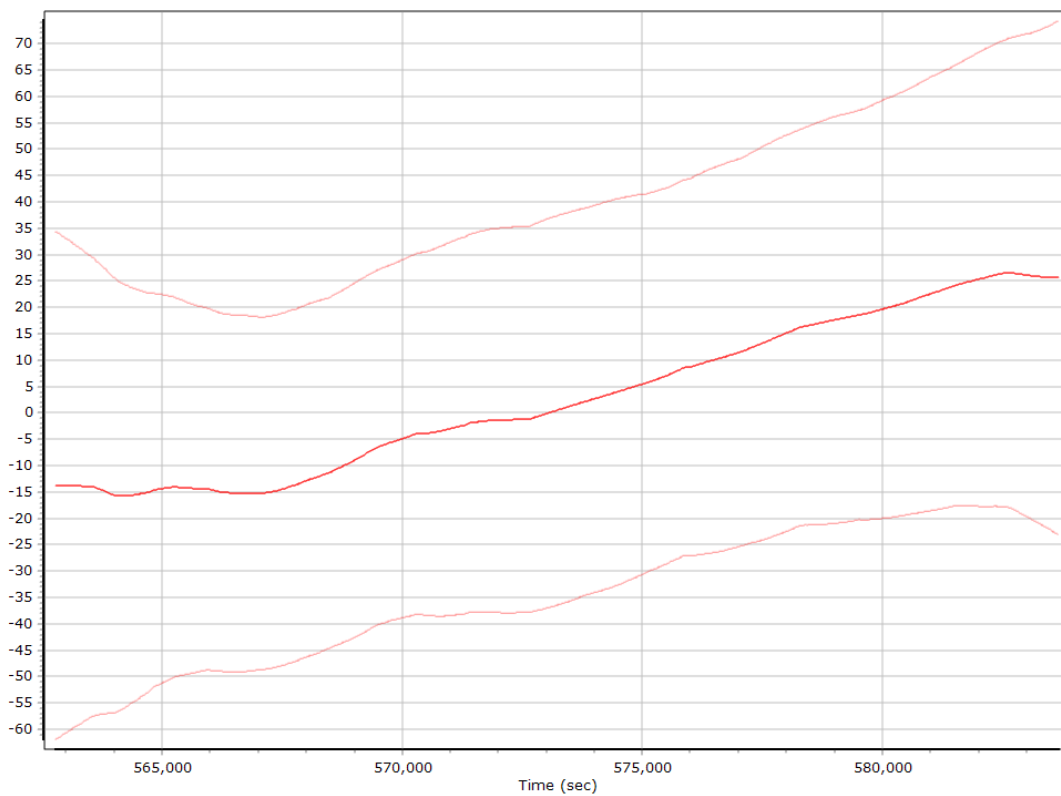
Z Gyro Bias (deg/h)



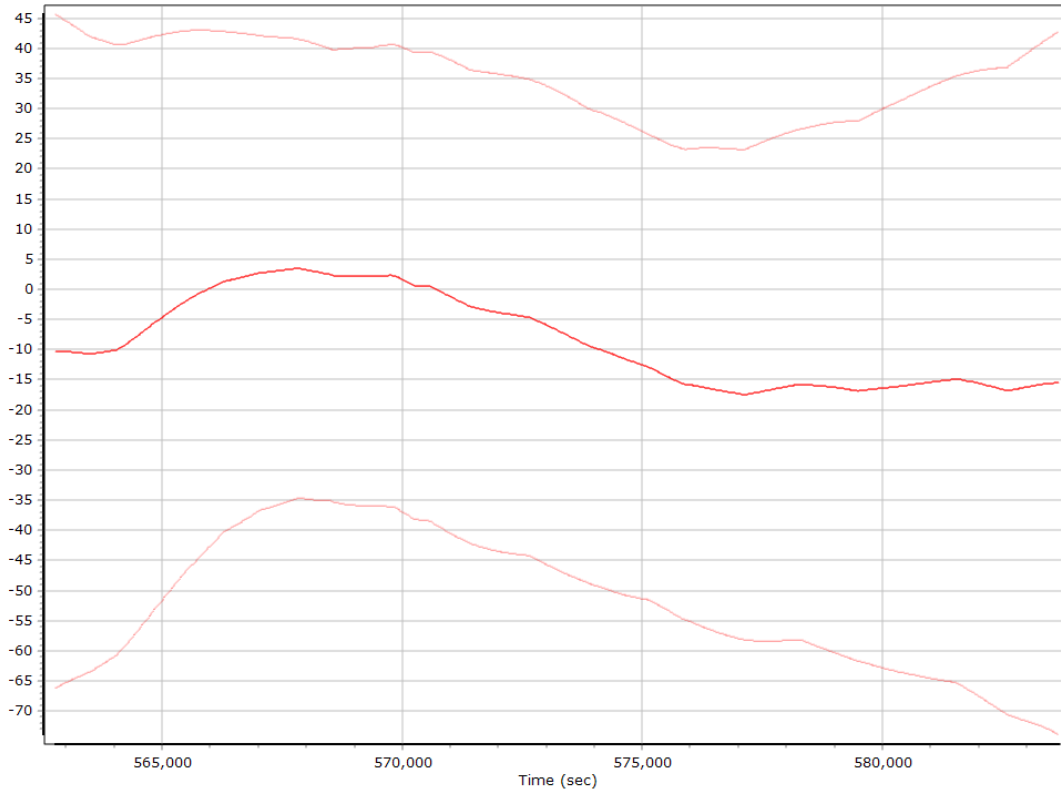
Gyro Scale Error (ppm)



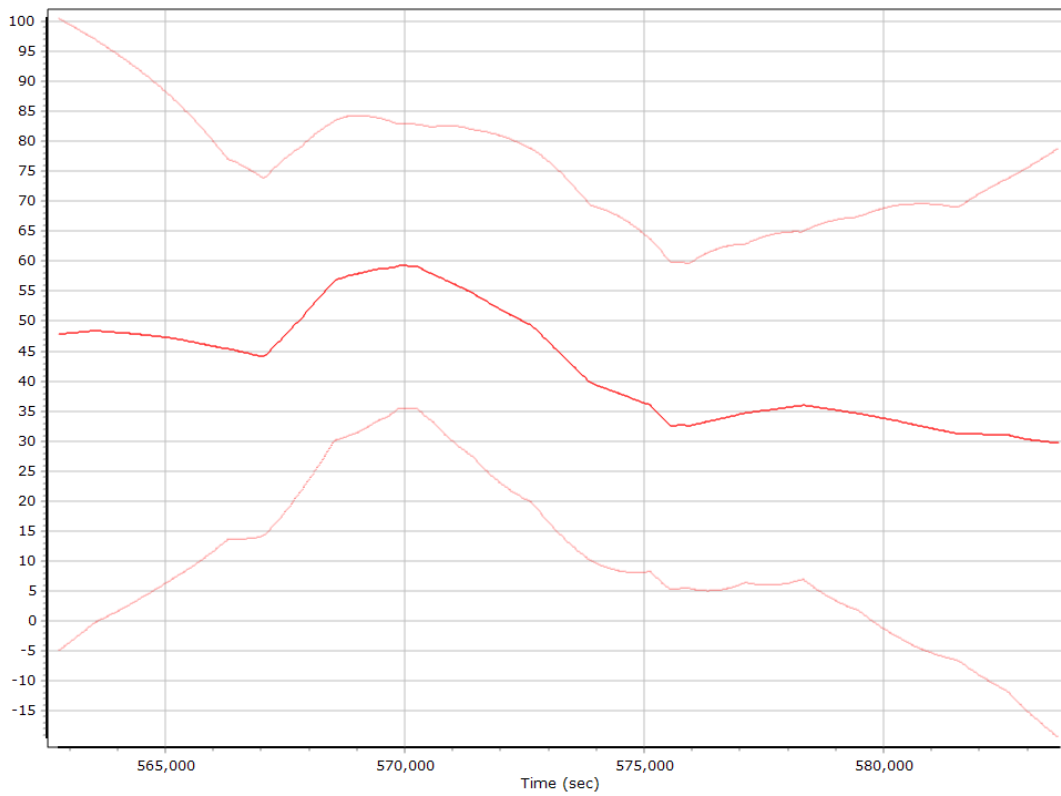
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

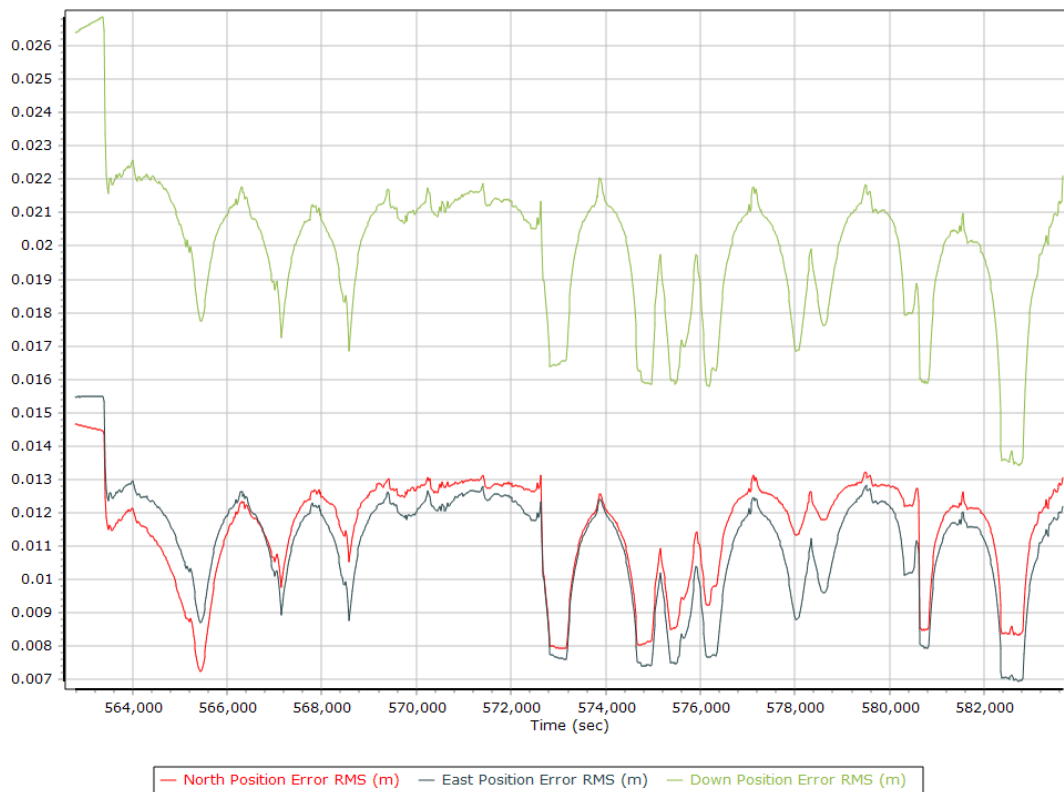


Z Gyro Scale Error (ppm)

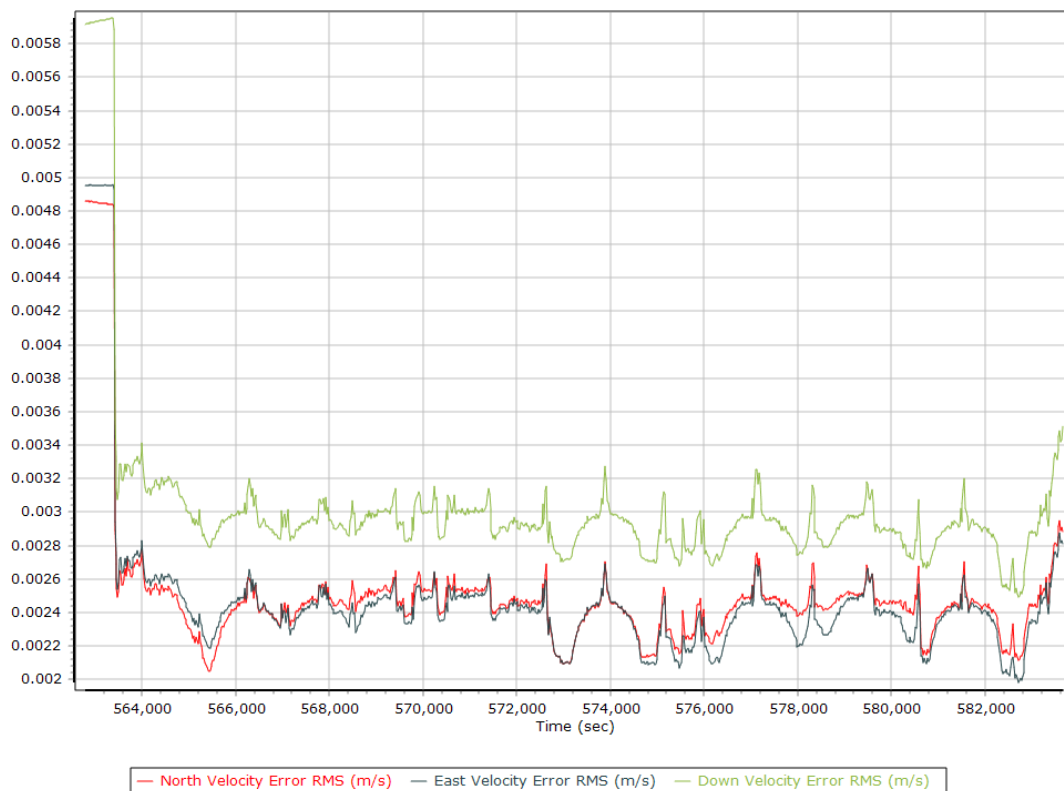


Smoothed Performance Metrics

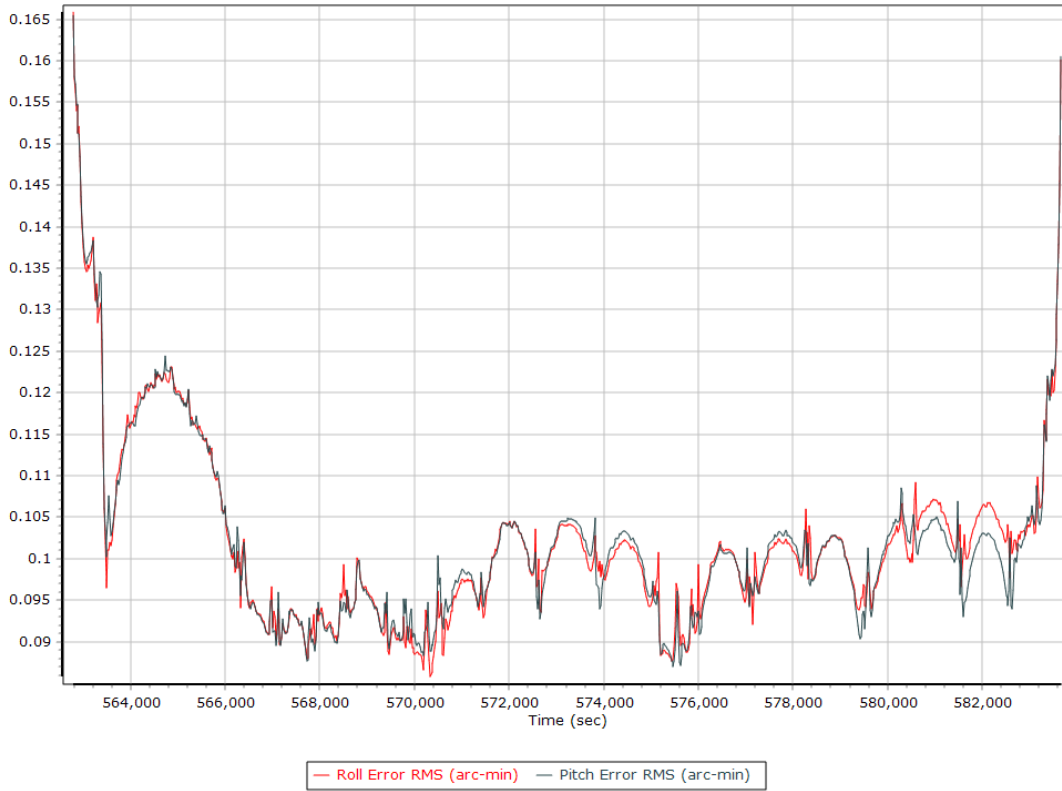
Position Error RMS (m)



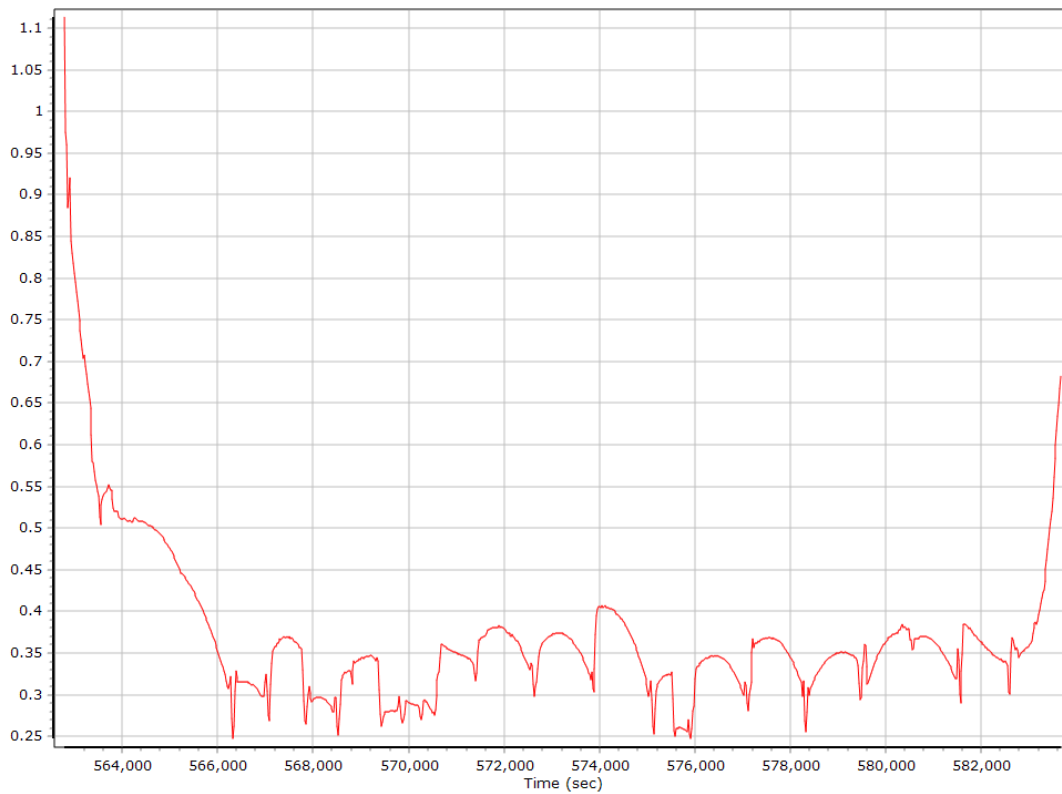
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

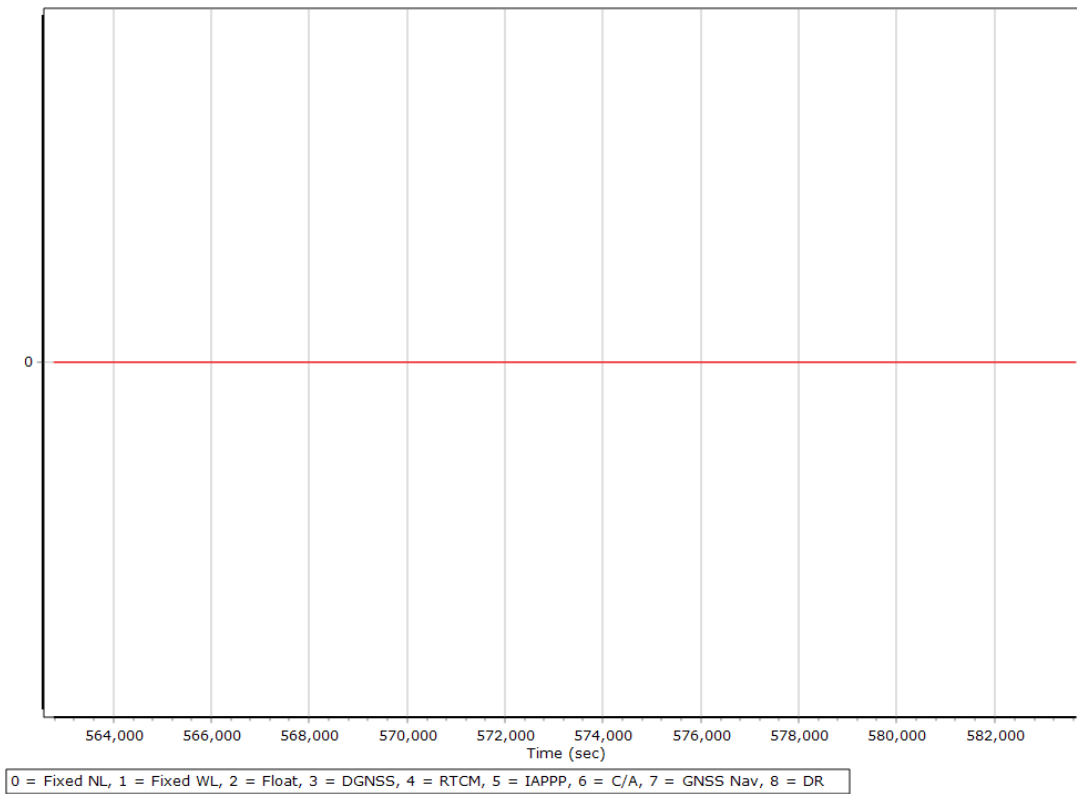


Heading Error RMS (arc-min)

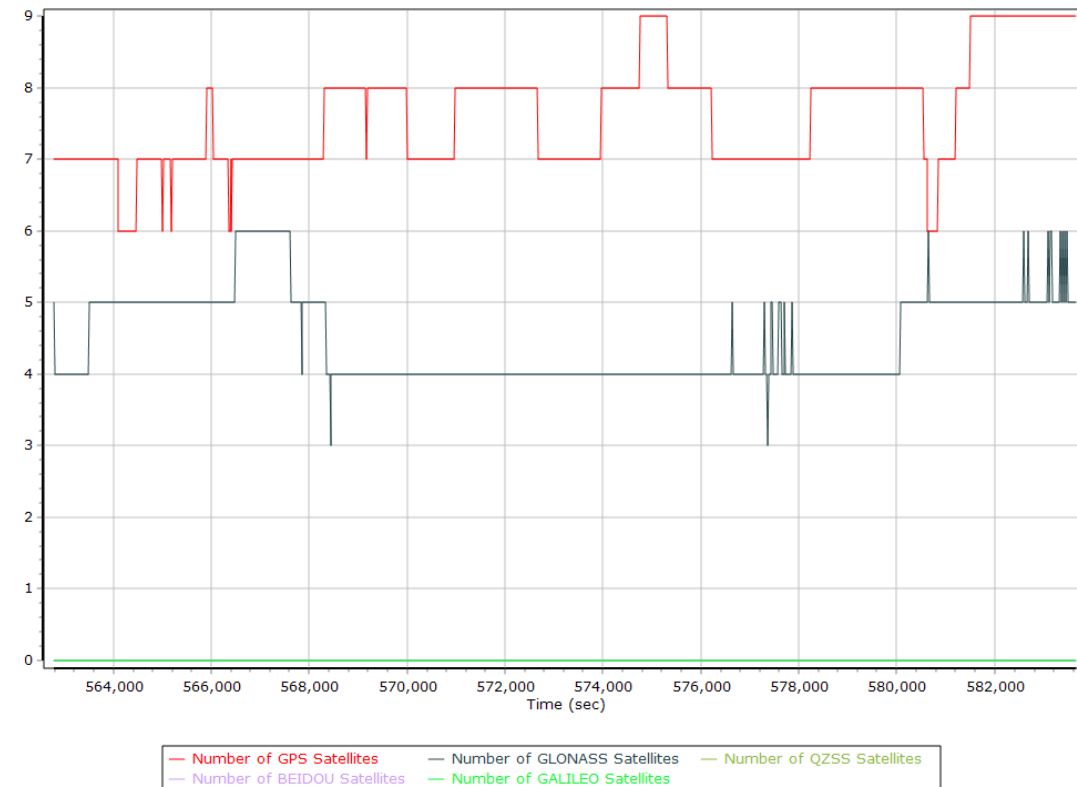


Smoothed Solution Status

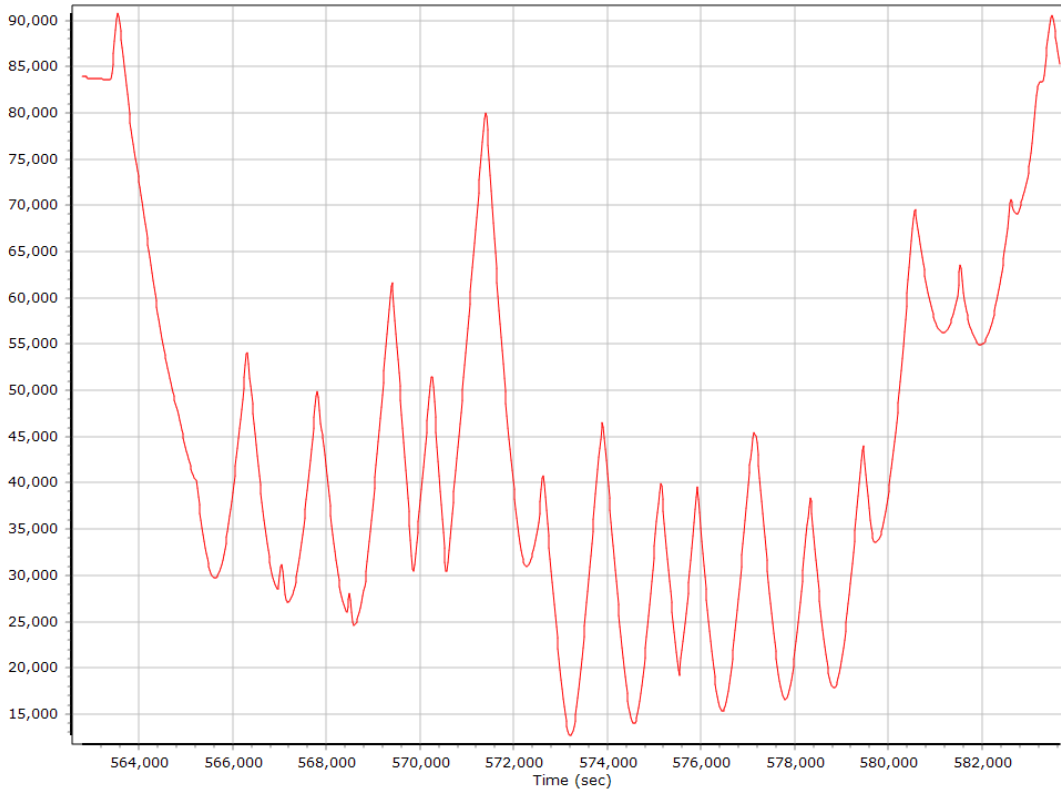
Processing Mode



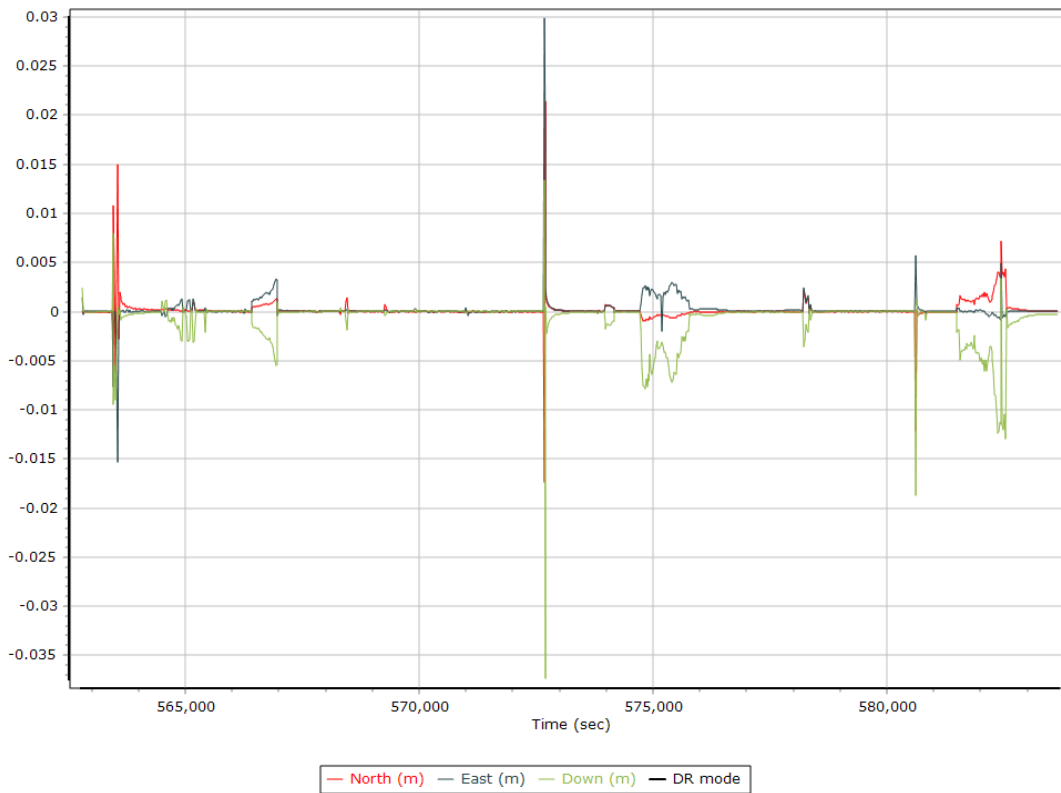
Number of Satellites



Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	88619334B_v2
Processing date	2019-12-11 15:01:02
Mission date	2019-11-30 19:24:59
Mission duration	01:17:24.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N9642
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
N63886_19_334_B.056	POS Data
N63886_19_334_B.057	POS Data
N63886_19_334_B.058	POS Data
N63886_19_334_B.059	POS Data
N63886_19_334_B.060	POS Data
N63886_19_334_B.061	POS Data
N63886_19_334_B.062	POS Data
N63886_19_334_B.063	POS Data
N63886_19_334_B.064	POS Data
N63886_19_334_B.065	POS Data
N63886_19_334_B.066	POS Data
N63886_19_334_B.067	POS Data
N63886_19_334_B.068	POS Data
N63886_19_334_B.069	POS Data
N63886_19_334_B.070	POS Data
N63886_19_334_B.071	POS Data

Input Files

File Name	File Type
Ephm3340.19g	GLONASS Broadcast Ephemeris
Ephm3340.19n	GPS Broadcast Ephemeris
flbr_daily3340.19o	GNSS SingleBase
flbr_daily3350.19o	GNSS SingleBase
flmc_daily3340.19o	GNSS SingleBase
flmc_daily3350.19o	GNSS SingleBase
flmd_daily3340.19o	GNSS SingleBase
flmd_daily3350.19o	GNSS SingleBase
lkcy_daily3340.19o	GNSS SingleBase
lkcy_daily3350.19o	GNSS SingleBase
pltk_daily3340.19o	GNSS SingleBase
pltk_daily3350.19o	GNSS SingleBase
xcty_daily3340.19o	GNSS SingleBase
xcty_daily3350.19o	GNSS SingleBase
Ephm3330.19g	GLONASS Broadcast Ephemeris
Ephm3330.19n	GPS Broadcast Ephemeris
Ephm3350.19g	GLONASS Broadcast Ephemeris
Ephm3350.19n	GPS Broadcast Ephemeris
igr20814.sp3	GPS Precise Ephemeris
igr20815.sp3	GPS Precise Ephemeris
igr20816.sp3	GPS Precise Ephemeris
igr20820.sp3	GPS Precise Ephemeris
igr20821.sp3	GPS Precise Ephemeris

Output Files

Filename	File type
sbet_88619334B_v2.out	SBET Trajectory File

Rover Data Summary

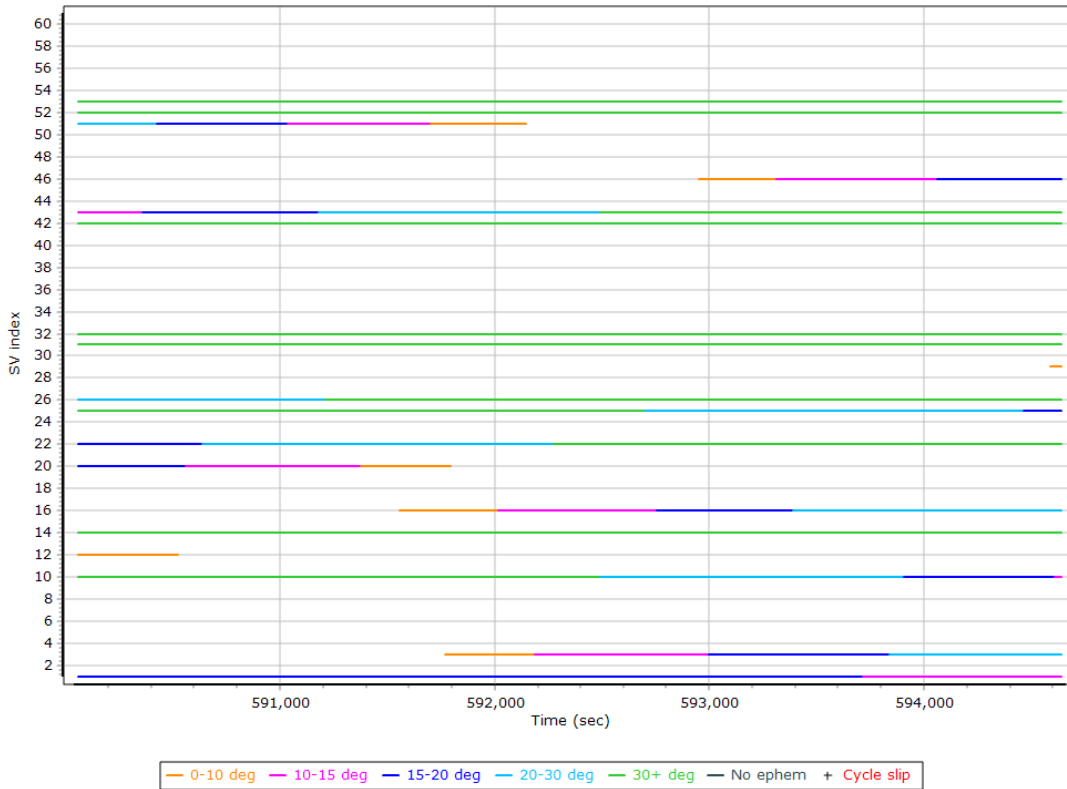
First raw data file	N63886_19_334_B.056		
Last raw data file	N63886_19_334_B.071		
Start GPS week	2081		
Start time	588280.642 (11/30/2019 7:24:40 PM)		
End time	594645.900 (11/30/2019 9:10:45 PM)		
Start of fine alignment	590000.092 (11/30/2019 7:53:20 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

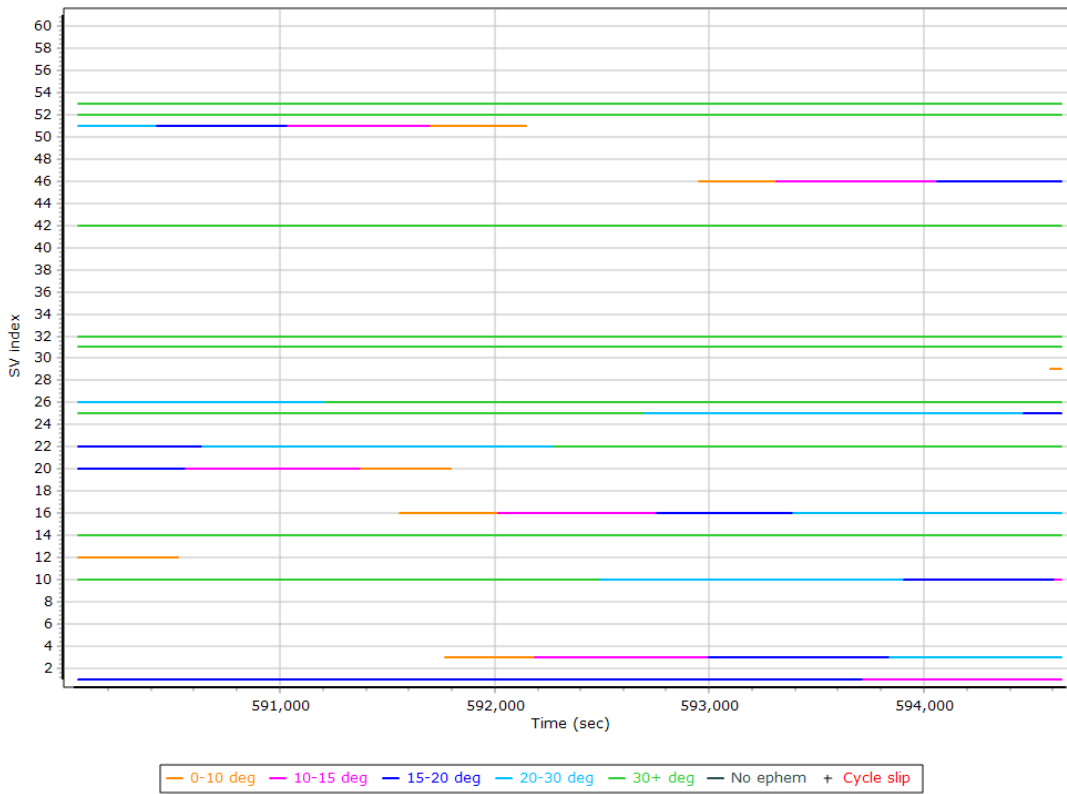
Raw IMU Import QC Summary

IMU data input file	imu_88619334B_v2.dat
IMU data check log file	imudt_88619334B_v2.log
IMU Records Processed	1272821
Termination Status	Normal
IMU Anomalies	0

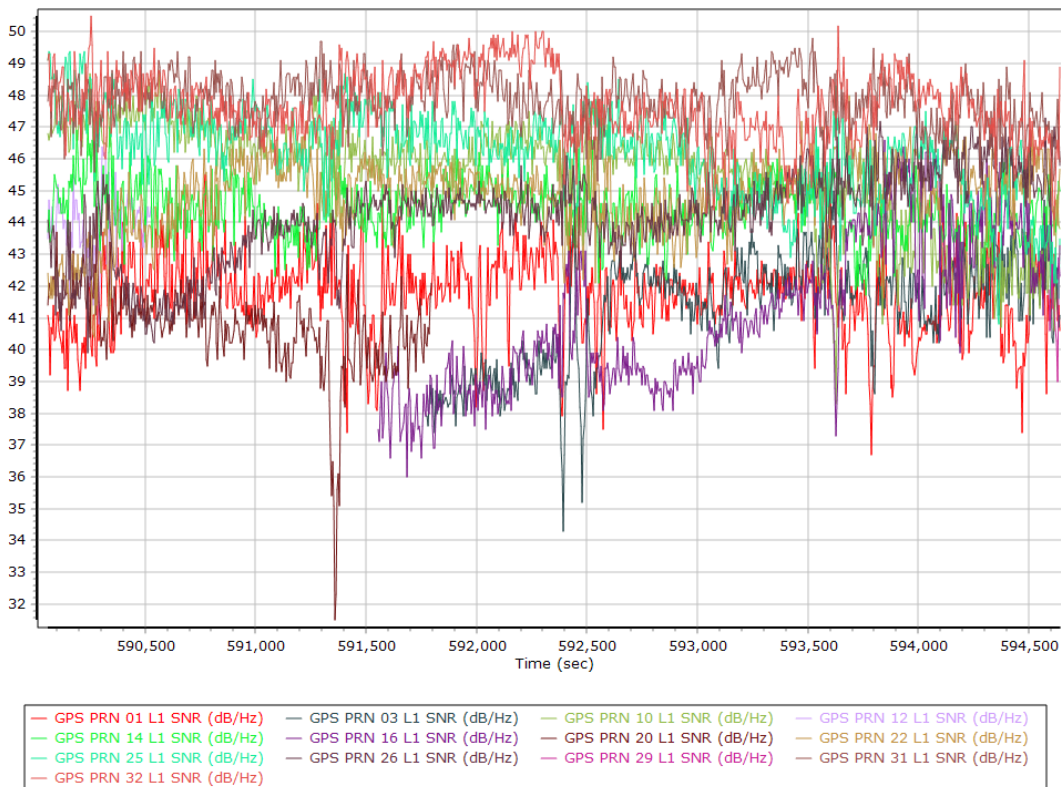
L1 Satellite Lock/Elevation



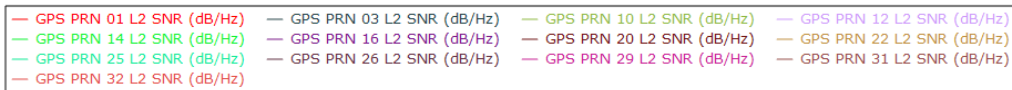
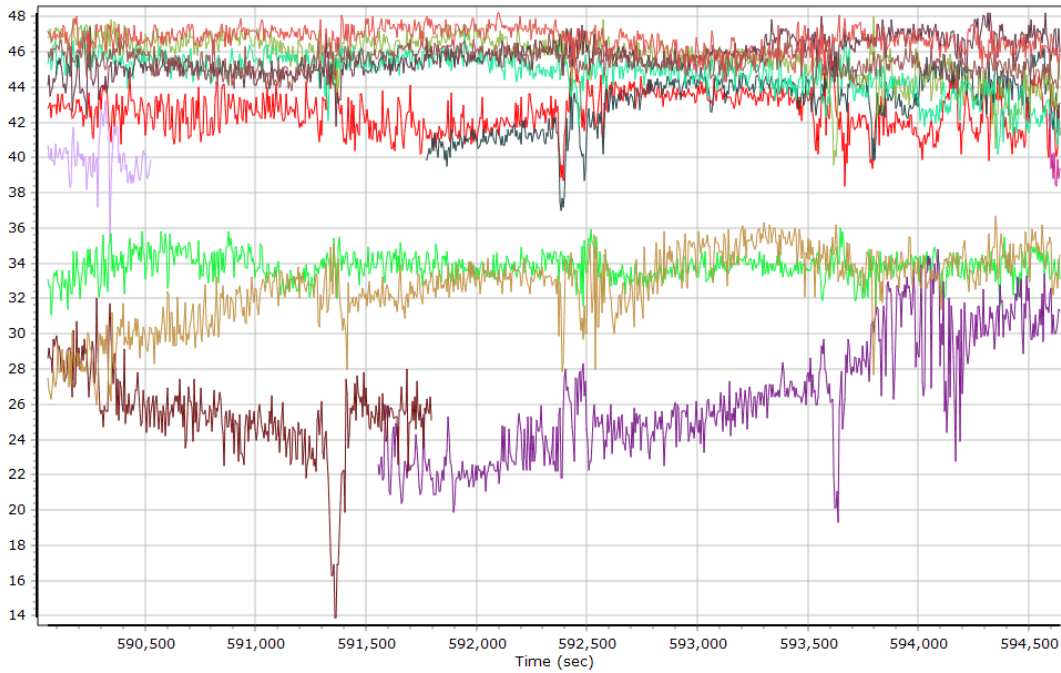
L2 Satellite Lock/Elevation



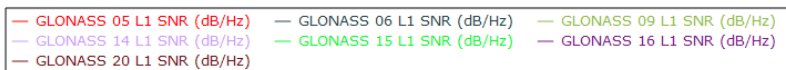
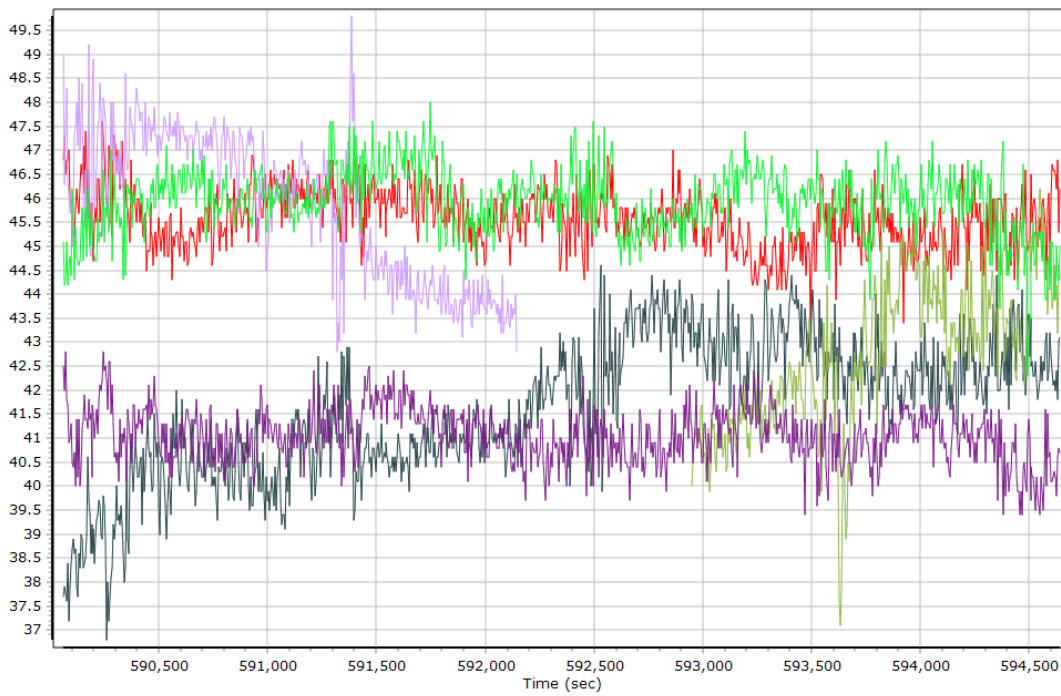
GPS L1 SNR



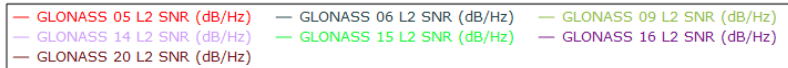
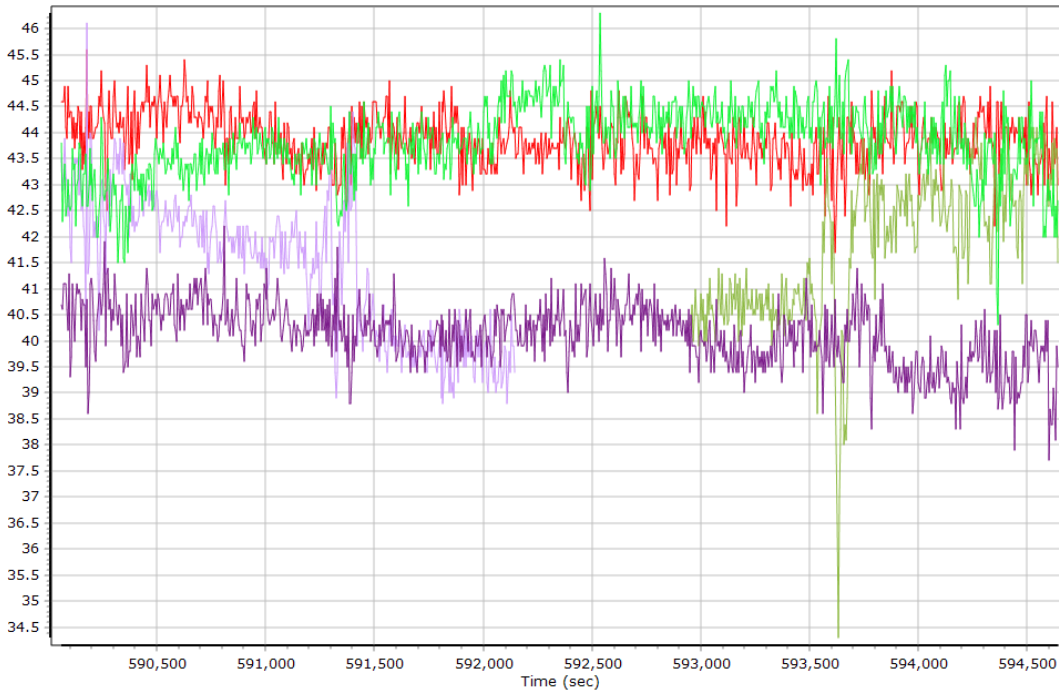
GPS L2 SNR



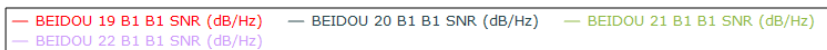
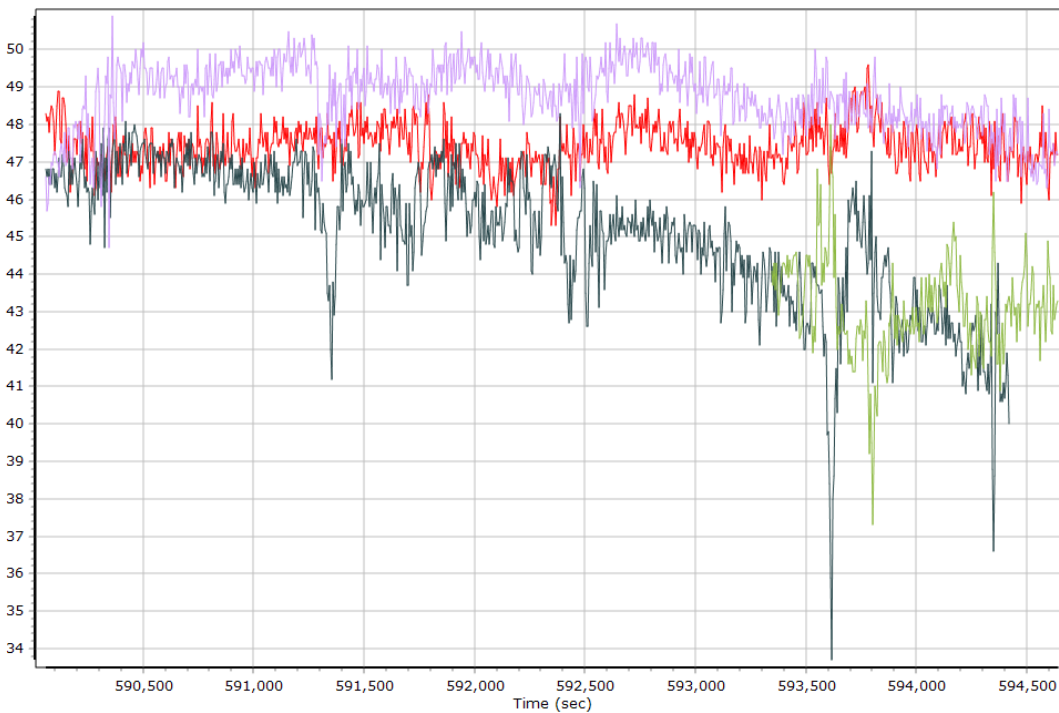
GLONASS L1 SNR



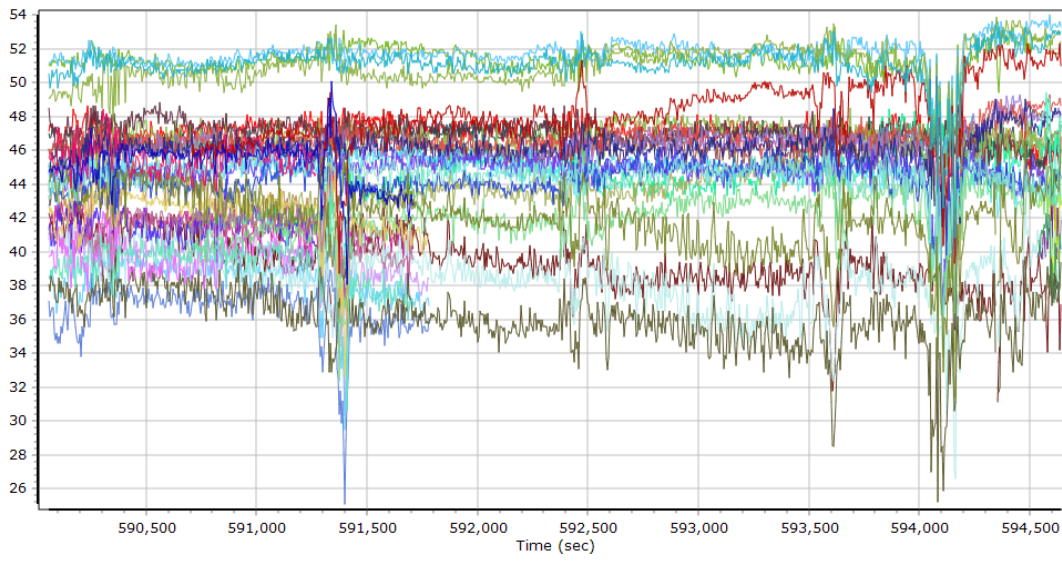
GLONASS L2 SNR



BEIDOU SNR



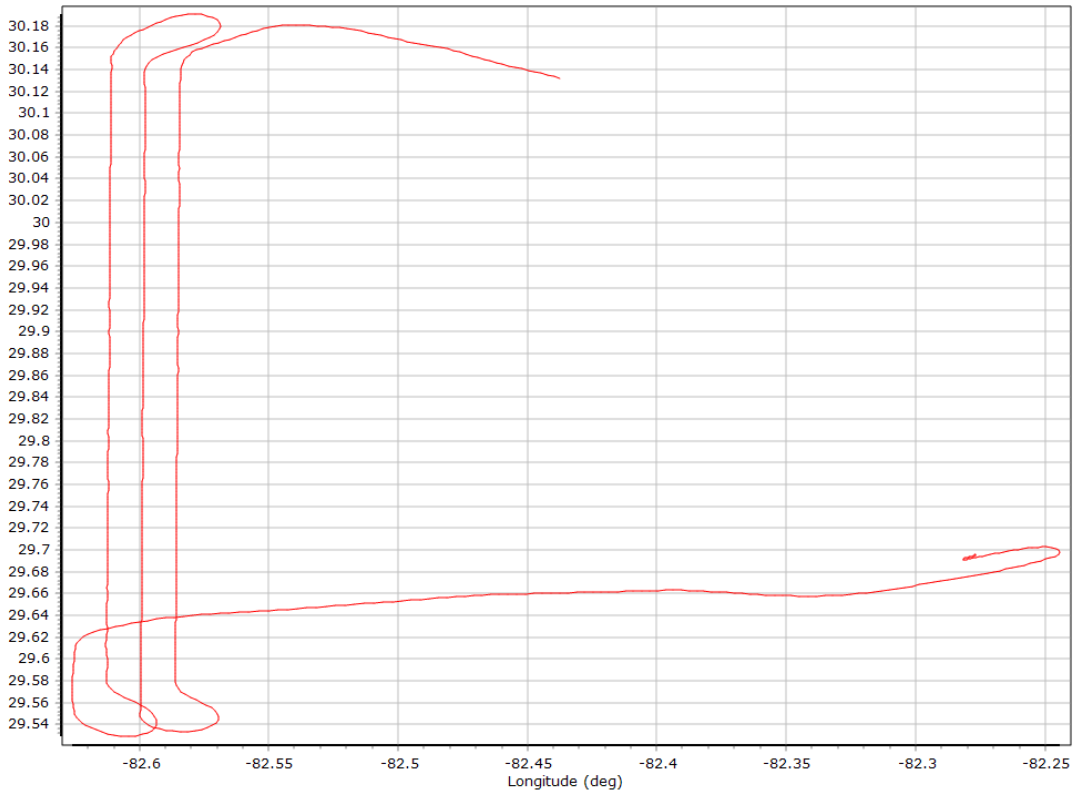
GALILEO SNR



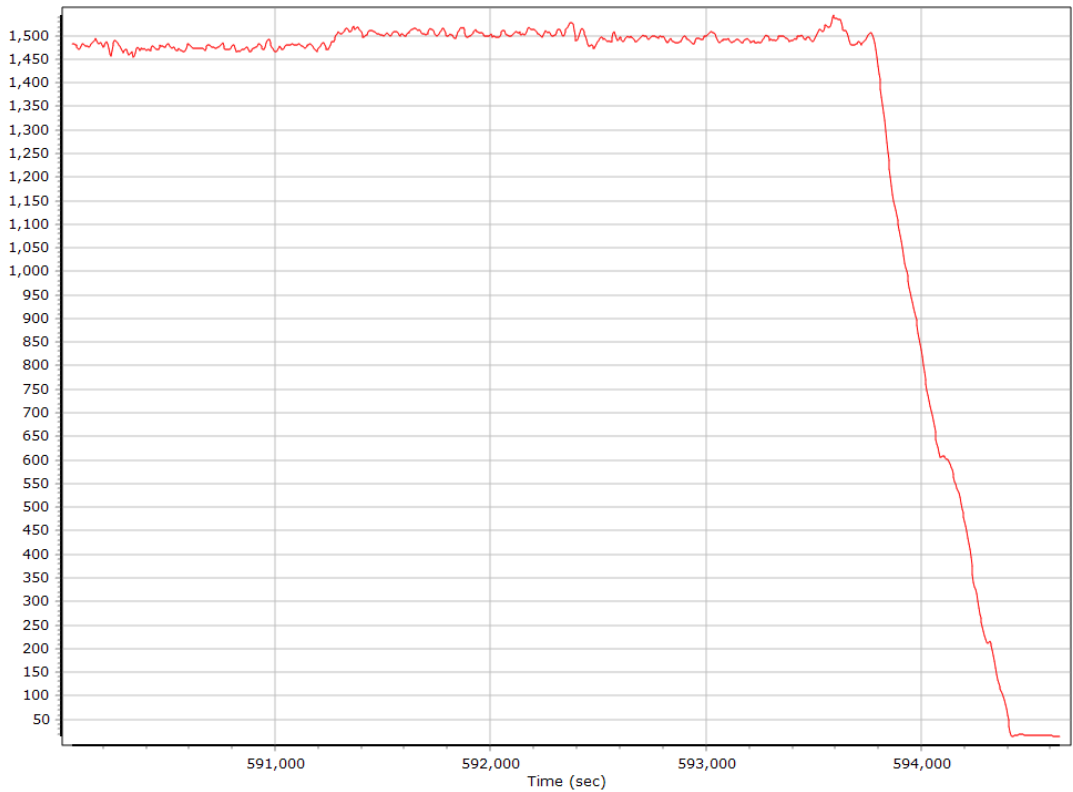
- | | |
|--|--|
| — GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 11 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 12 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 18 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 19 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 21 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 31 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 36 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 01 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 11 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 12 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 18 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 19 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 21 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 24 L5E5A BPSK10_PD SNR (dB/Hz) |

Trajectory Information

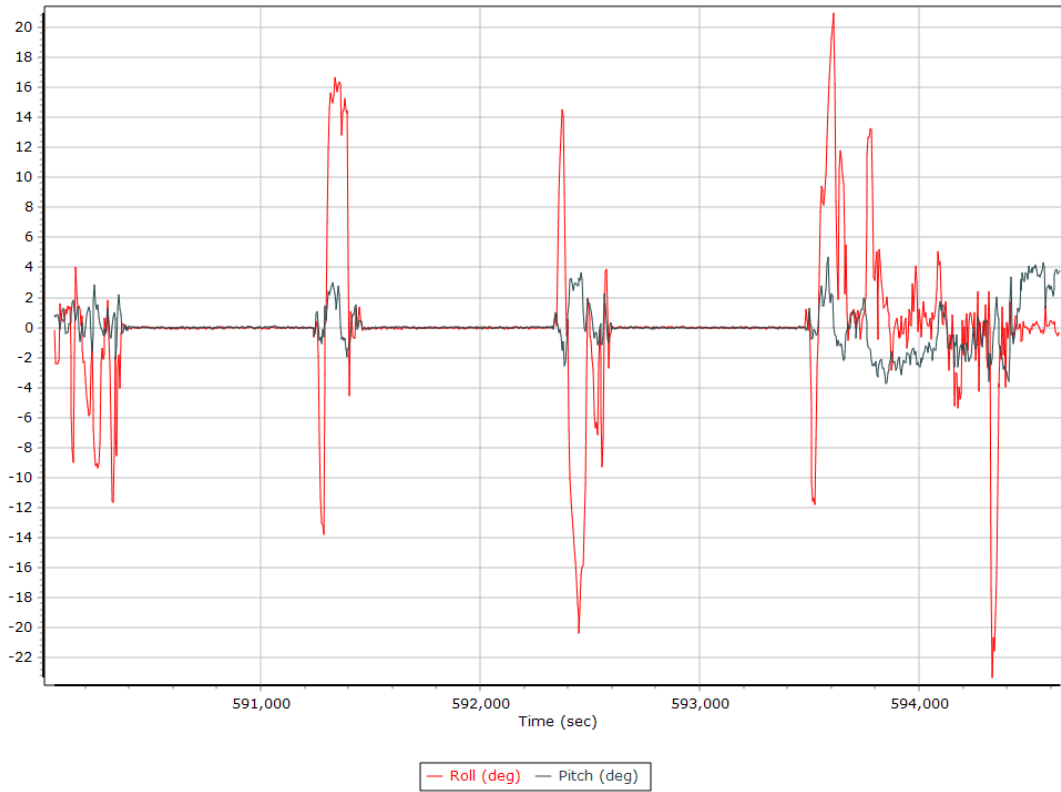
Top View



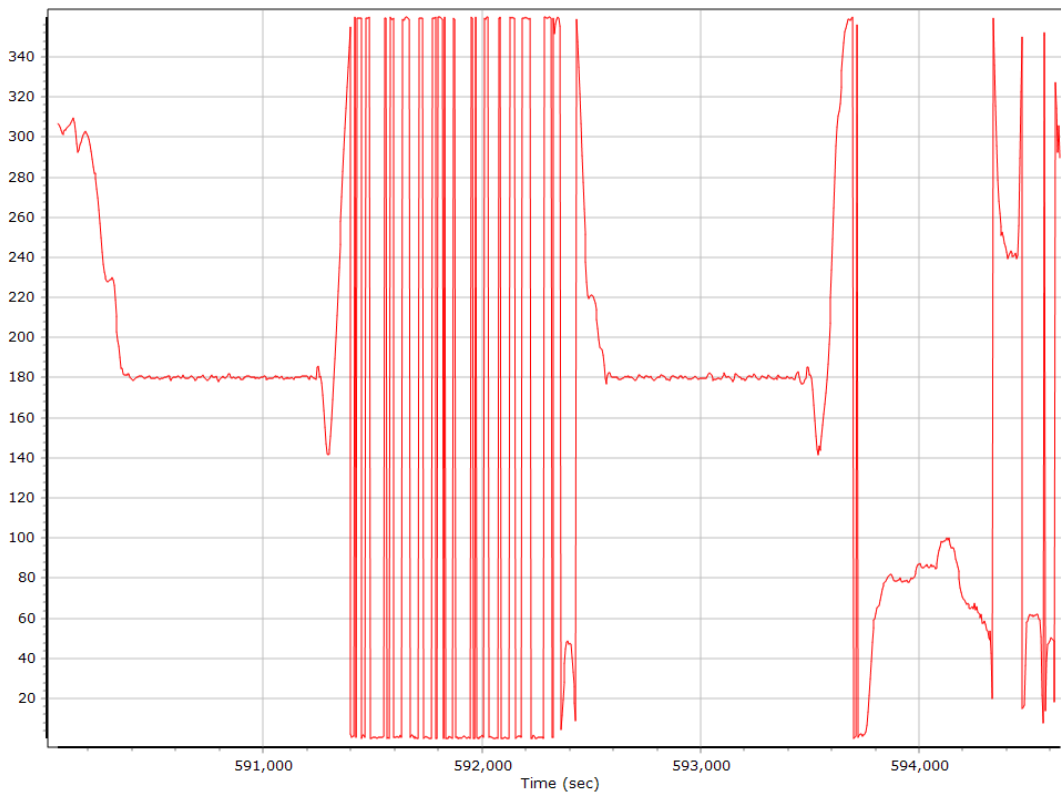
Altitude



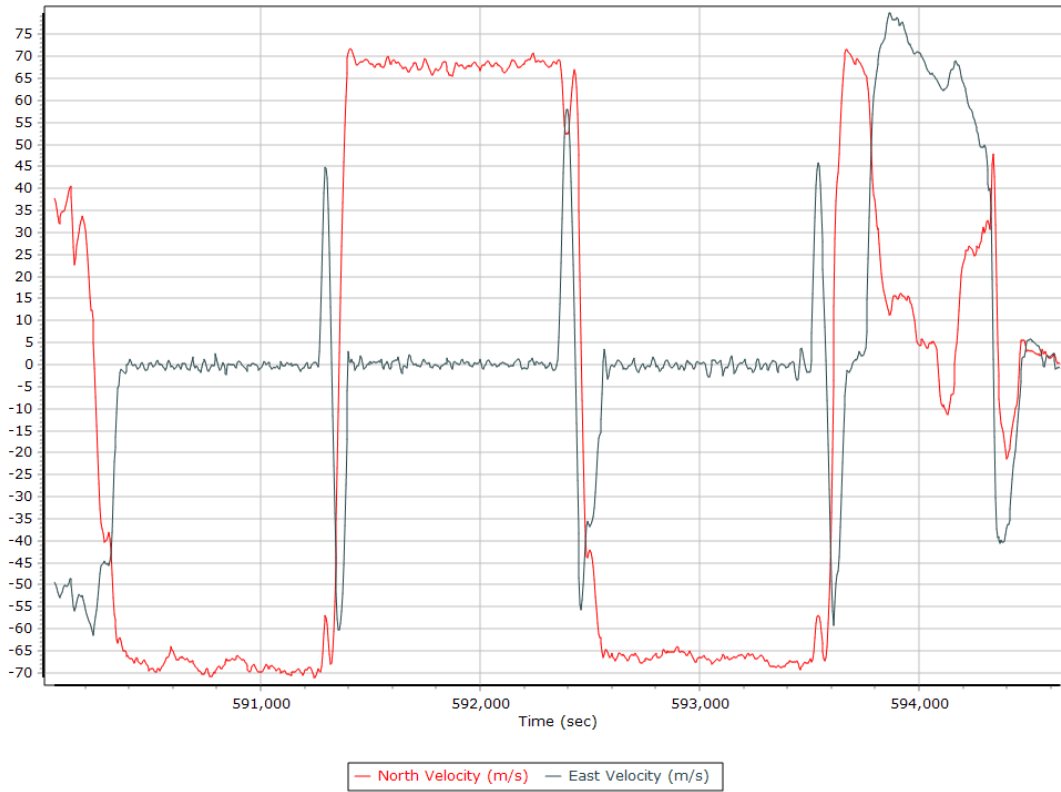
Roll/Pitch



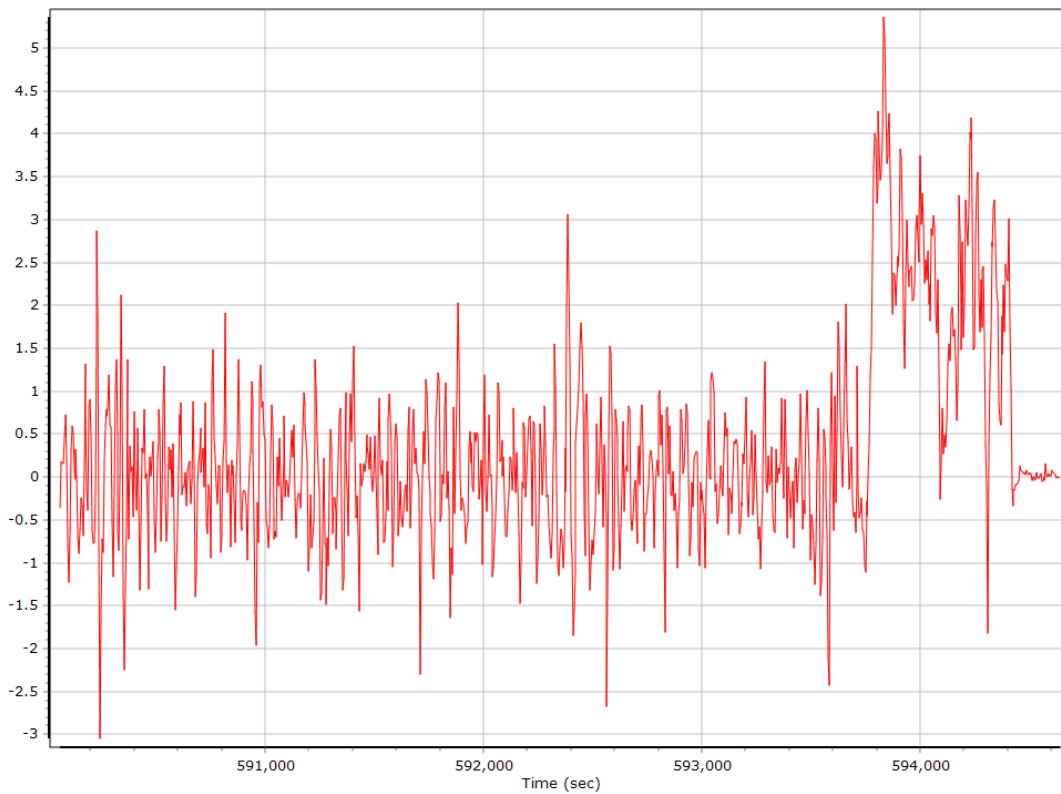
Heading



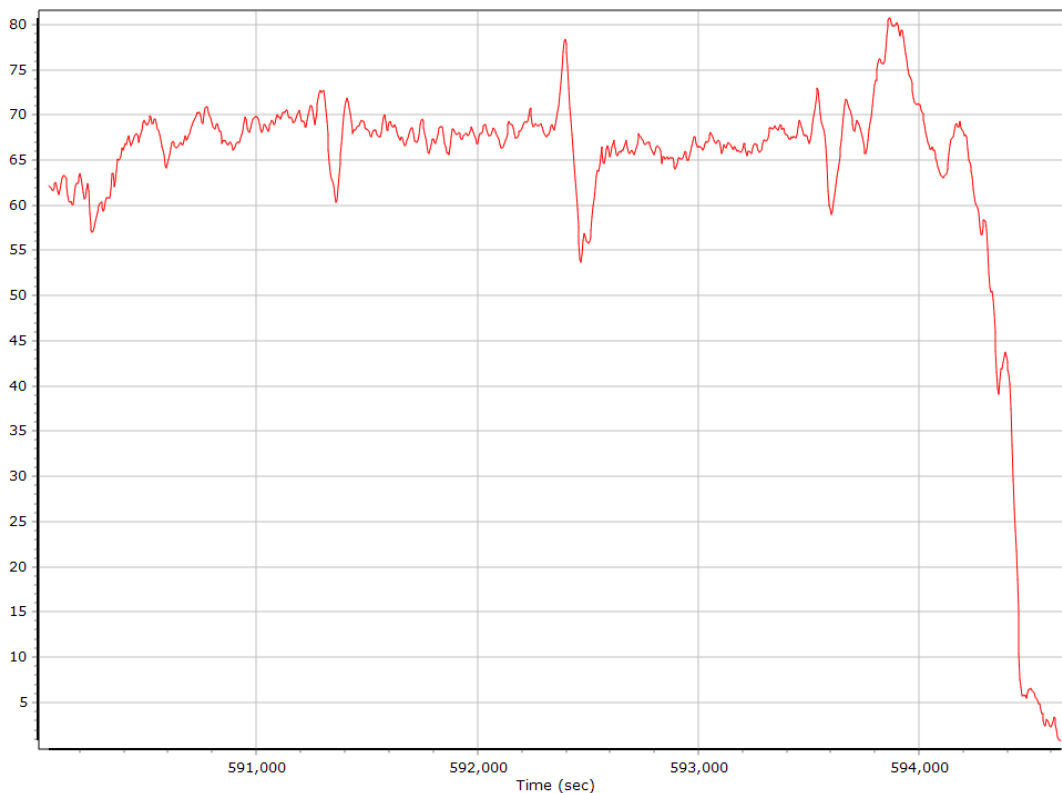
North/East Velocity



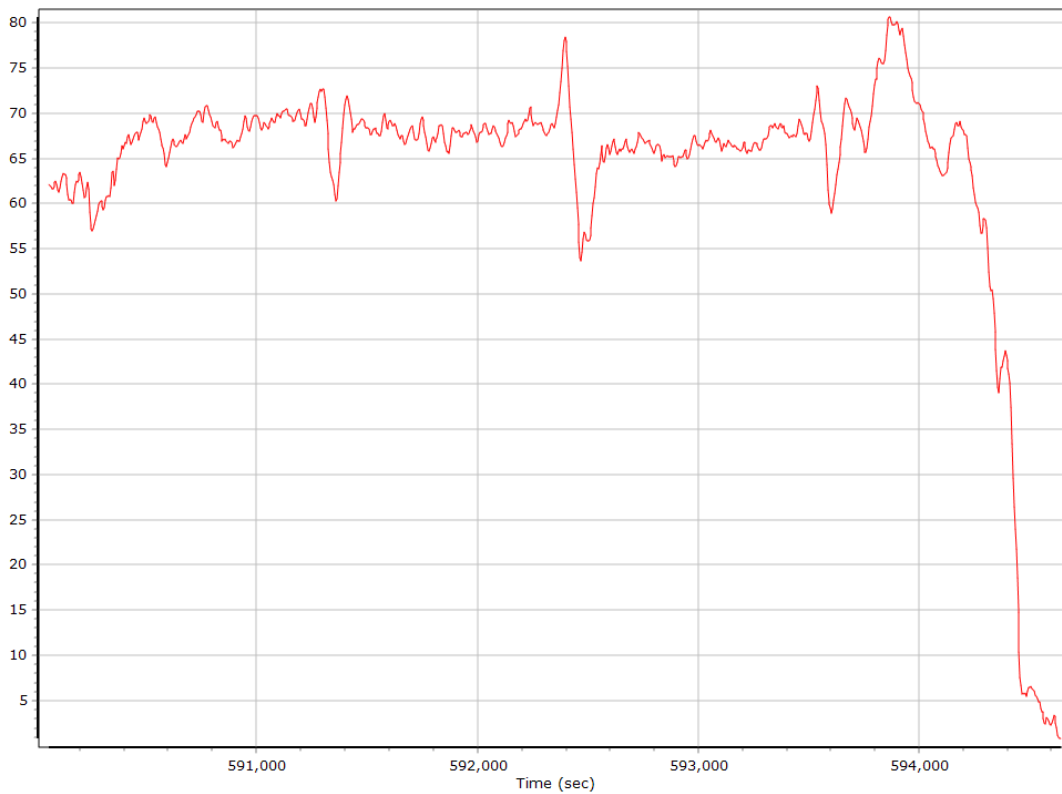
Down Velocity



Total Speed



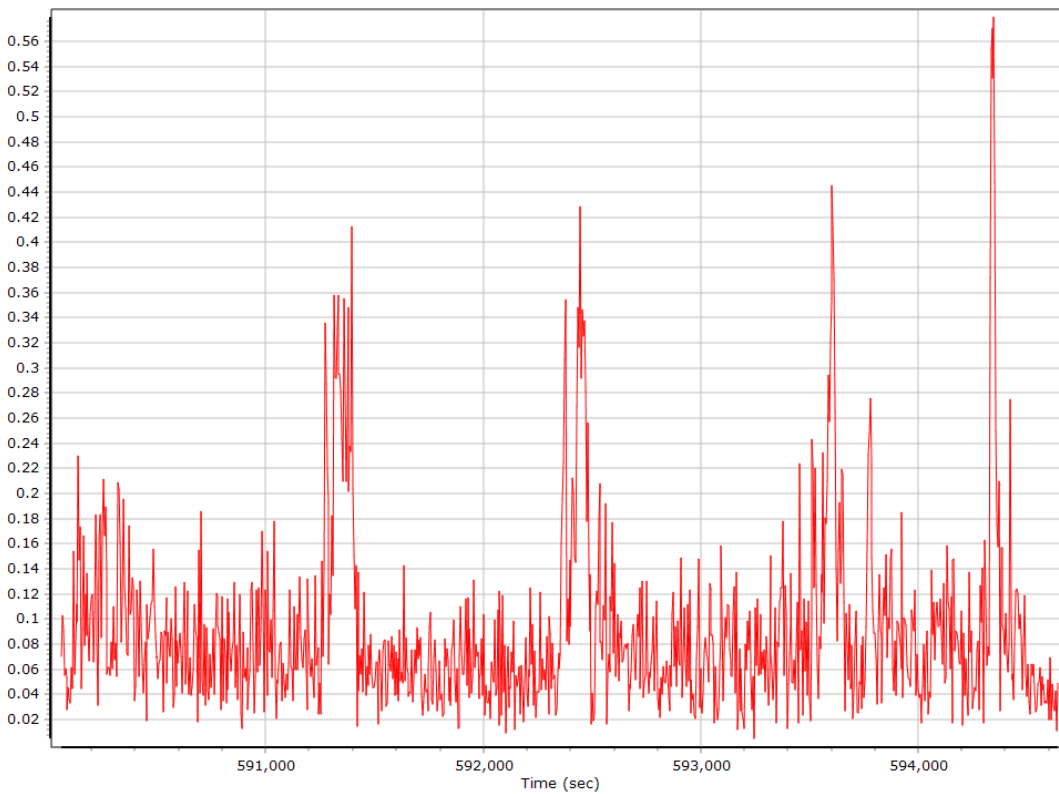
Ground Speed



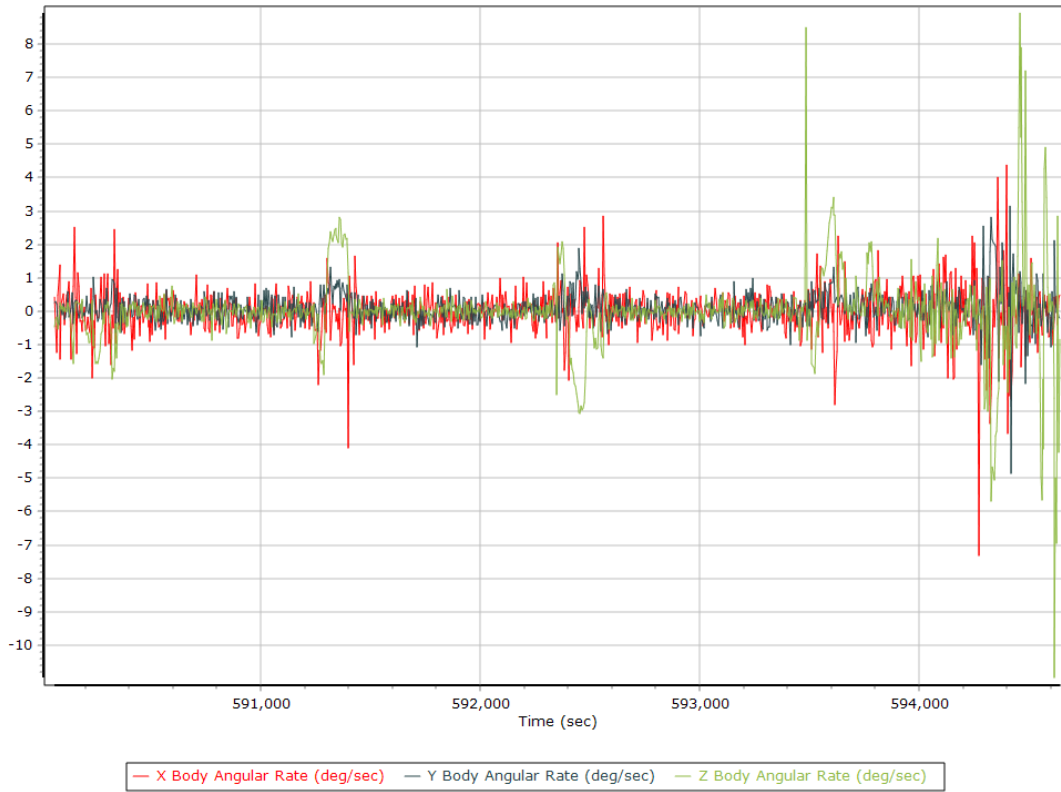
Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
11/30/2019	XCTY	58.70	GNSS	1	User	None	Imported
11/30/2019	PTLK	85.44	GNSS	1	User	None	Imported
11/30/2019	LCKY	38.94	GNSS	1	User	None	Imported
11/30/2019	FLMD	92.08	GNSS	1	User	None	Imported
11/30/2019	FLMC	63.19	GNSS	1	User	None	Imported
11/30/2019	FLBR	44.96	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	LCKY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	6363 s (2081 588299 - 2081 594662)
Number of reference stations	6
Primary station GPS measurement usage (%)	99.9
Primary station GLONASS measurement usage (%)	60.3
Average number of satellites per epoch	12.1
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	11582
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - XCTY

Status	OK	SBQI	0	
Duration (Hours)	23.30	Output Coordinates	Original	
Solution Epochs	5592	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°37'51.61276"	W83°06'29.33653"	13.808
Adjusted		N29°37'51.61262"	W83°06'29.33624"	13.820
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.009	0.012	0.015

Base Station Information

Station ID	XCTY		
Filename	xcty_daily3340.19o, xcty_daily3350.19o		
Start date	11/30/2019 4:00:00 AM		
End date	12/1/2019 3:29:59 AM		
Duration	23:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80790		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PTLK

Status	OK	SBQI	0	
Duration (Hours)	22.05	Output Coordinates	Original	
Solution Epochs	5291	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14837"	W81°41'15.86069"	17.977
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.006	0.031	0.032

Base Station Information

Station ID	PTLK		
Filename	pltk_daily3340.19o, pltk_daily3350.19o		
Start date	11/30/2019 4:00:00 AM		
End date	12/1/2019 3:29:59 AM		
Duration	23:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LCKY

Status	CONTROL	SBQI	0	
Duration (Hours)	23.40	Output Coordinates	Control	
Solution Epochs	5615	Mean Epoch SVs	8.3	
Base Station Coordinates	Latitude	Longitude	Height (m)	
Original	N30°11'07.49182"	W82°34'39.14410"	35.193	
Adjusted	N30°11'07.49182"	W82°34'39.14410"	35.193	
Coordinate Adjustments	Horizontal (m)	Vertical (m)	Total (m)	
Adjustments	0.000	0.000	0.000	

Base Station Information

Station ID	LCKY		
Filename	lkcy_daily3340.19o, lkcy_daily3350.19o		
Start date	11/30/2019 4:00:00 AM		
End date	12/1/2019 3:29:59 AM		
Duration	23:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19310		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMD

Status	OK	SBQI	0	
Duration (Hours)	23.30	Output Coordinates	Original	
Solution Epochs	5592	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°22'26.47817"	W83°16'31.72158"	0.095
Adjusted		N30°22'26.47795"	W83°16'31.72159"	0.116
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.007	0.021	0.022

Base Station Information

Station ID	FLMD		
Filename	flmd_daily3340.19o, flmd_daily3350.19o		
Start date	11/30/2019 4:00:00 AM		
End date	12/1/2019 3:29:59 AM		
Duration	23:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701993
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°22'26.47817"		
Longitude	W83°16'31.72158"		
Ellipsoidal height (m)	0.09500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMC

Status	OK	SBQI	0	
Duration (Hours)	23.40	Output Coordinates	Original	
Solution Epochs	5615	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°16'15.87532"	W82°07'35.14360"	11.221
Adjusted		N30°16'15.87542"	W82°07'35.14392"	11.228
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.009	0.007	0.011

Base Station Information

Station ID	FLMC		
Filename	flmc_daily3340.19o, flmc_daily3350.19o		
Start date	11/30/2019 4:00:00 AM		
End date	12/1/2019 3:29:59 AM		
Duration	23:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701977
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°16'15.87532"		
Longitude	W82°07'35.14360"		
Ellipsoidal height (m)	11.22100		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLBR

Status	OK	SBQI	0	
Duration (Hours)	22.06	Output Coordinates	Original	
Solution Epochs	5294	Mean Epoch SVs	8.1	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°26'19.83659"	W82°38'43.13027"	4.337
Adjusted		N29°26'19.83622"	W82°38'43.13024"	4.328
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.011	0.009	0.015

Base Station Information

Station ID	FLBR		
Filename	flbr_daily3340.19o, flbr_daily3350.19o		
Start date	11/30/2019 4:00:00 AM		
End date	12/1/2019 3:29:59 AM		
Duration	23:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701978
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°26'19.83659"		
Longitude	W82°38'43.13027"		
Ellipsoidal height (m)	-4.33700		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	10.71	41.62	
Number of GPS SV	8	10	9
Number of GLONASS SV	0	3	2
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	9	13	12
PDOP	1.34	2.25	1.61
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	6312.00	0.00	1.00
Percentage	99.98	0.00	0.02

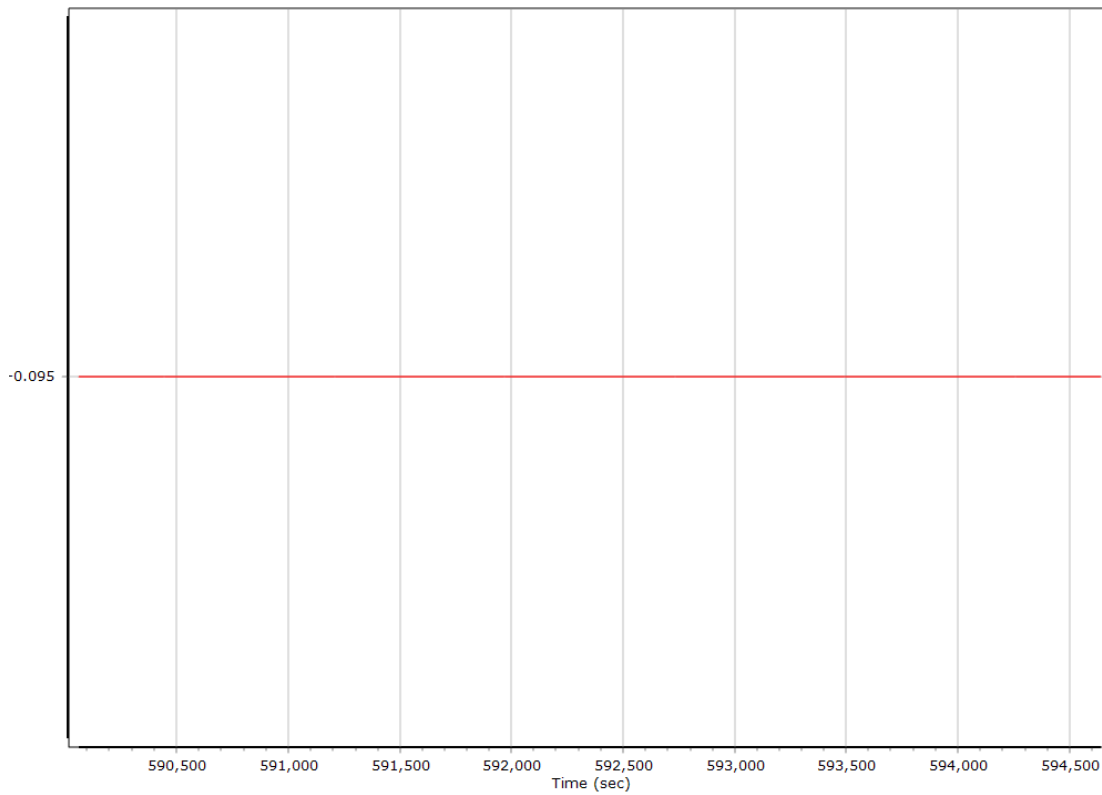
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	590000.000 (11/30/2019 7:53:20 PM)		
Processing end time	594644.000 (11/30/2019 9:10:44 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	-0.095	0.063	-1.259
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

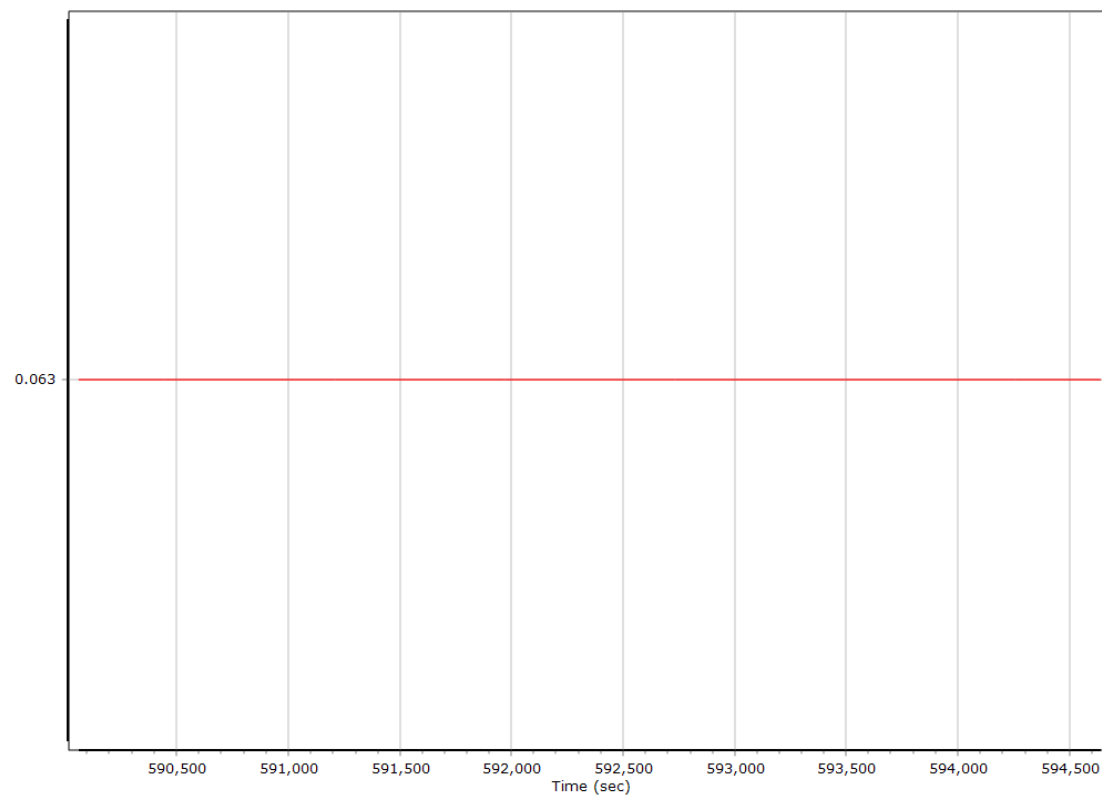
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

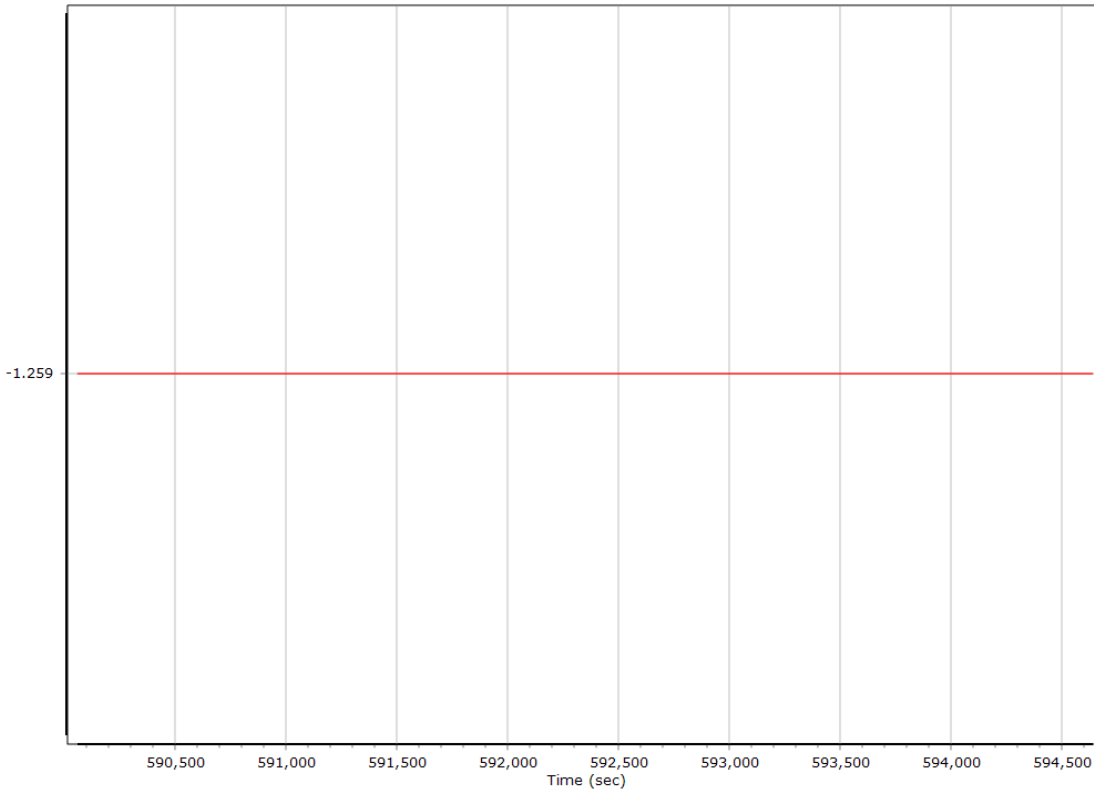
X Reference-Primary GNSS Lever Arm (m)



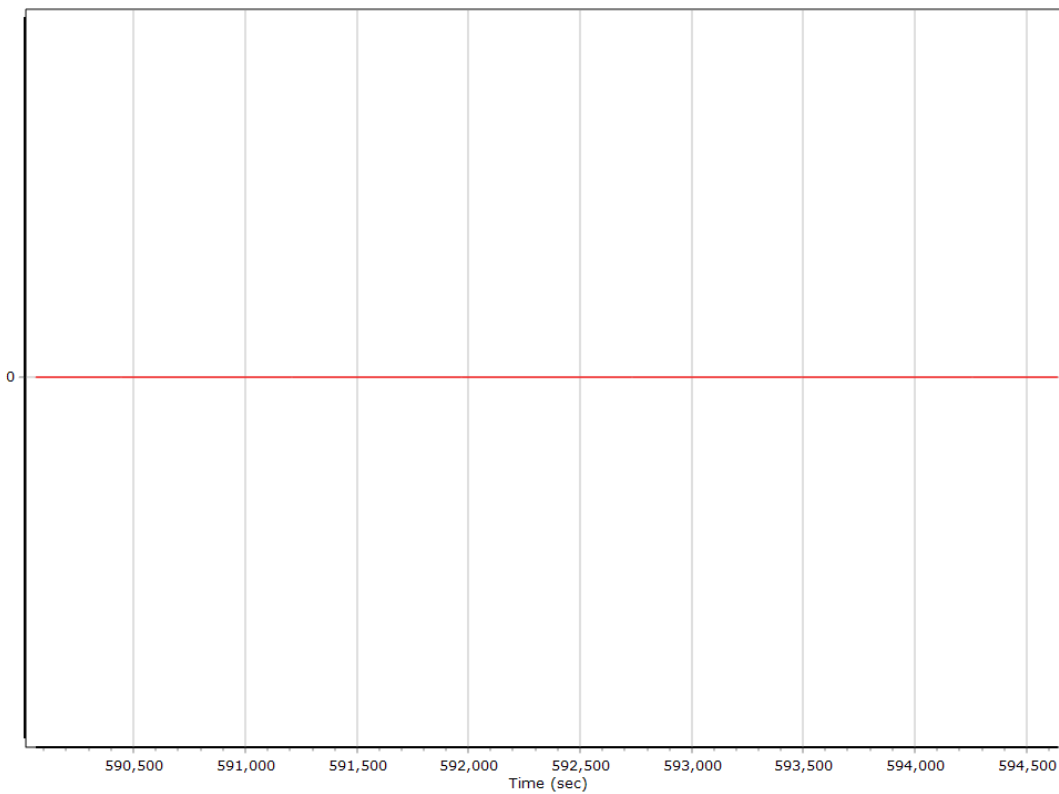
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



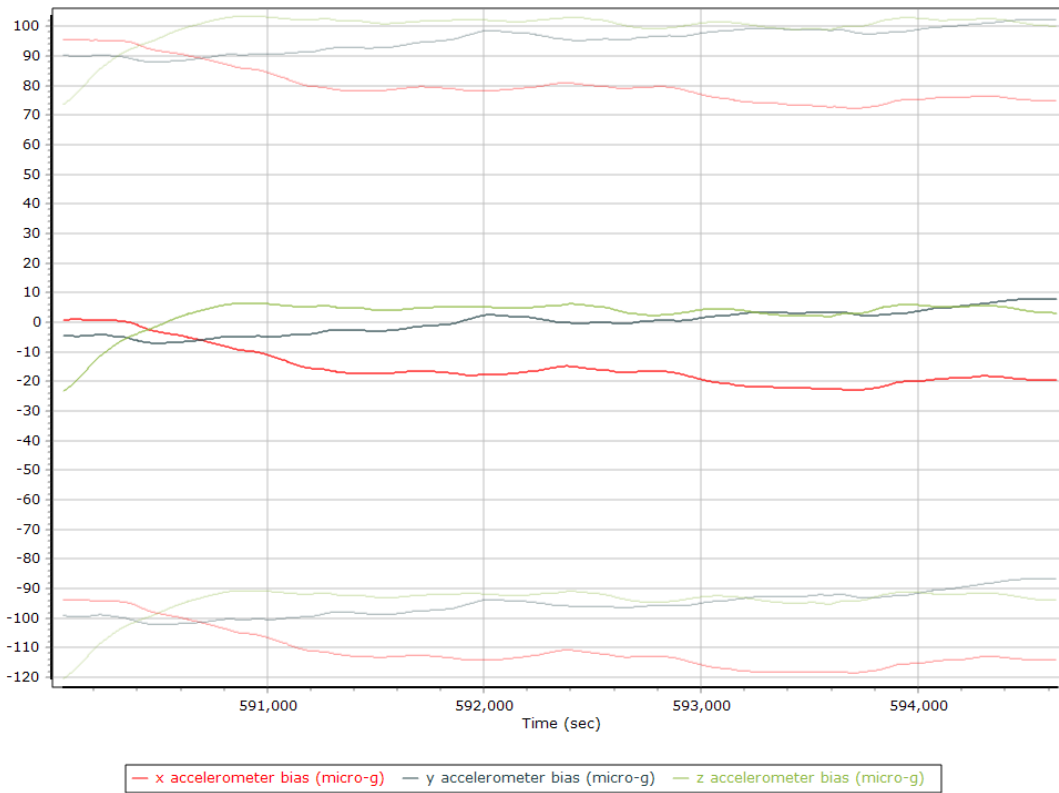
Reference-Primary GNSS Lever Arm Figure of Merit



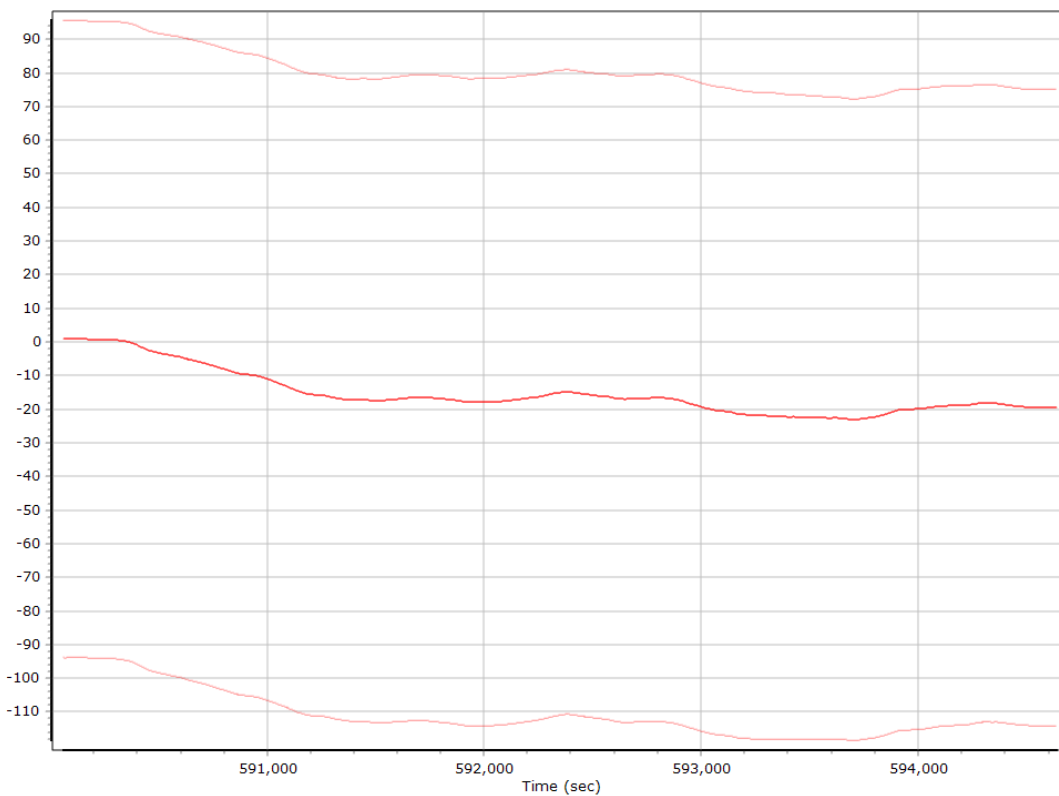
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

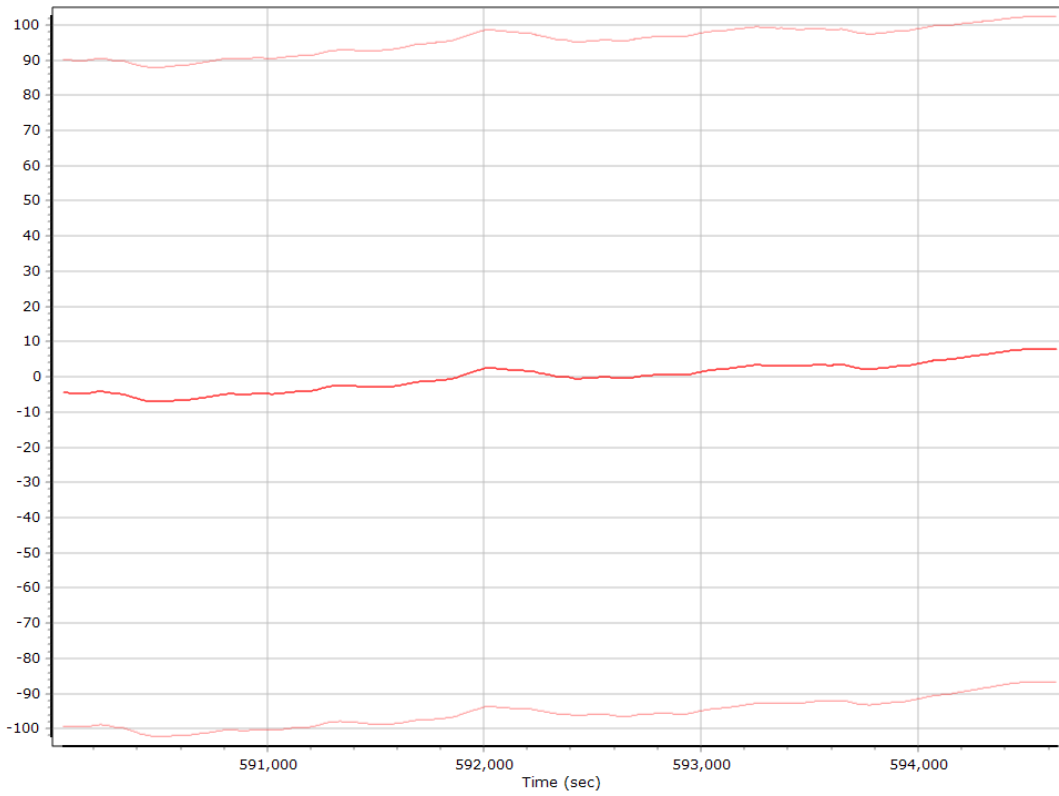
Accelerometer Bias (micro-g)



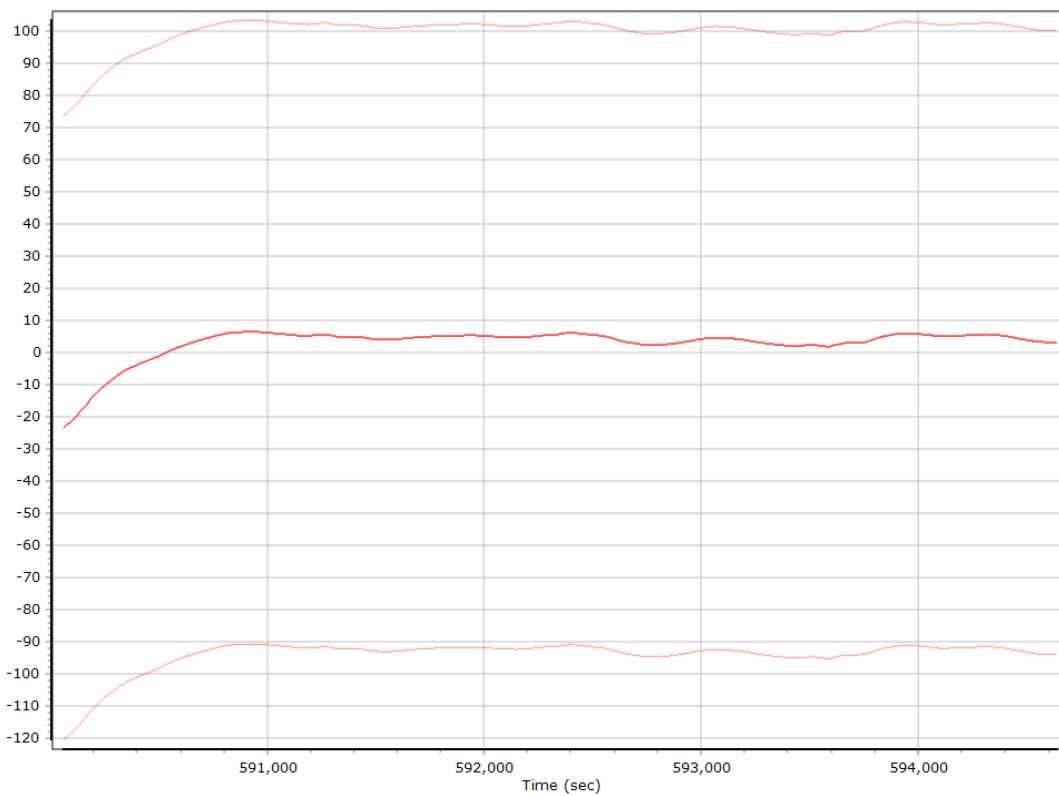
X Accelerometer Bias (micro-g)



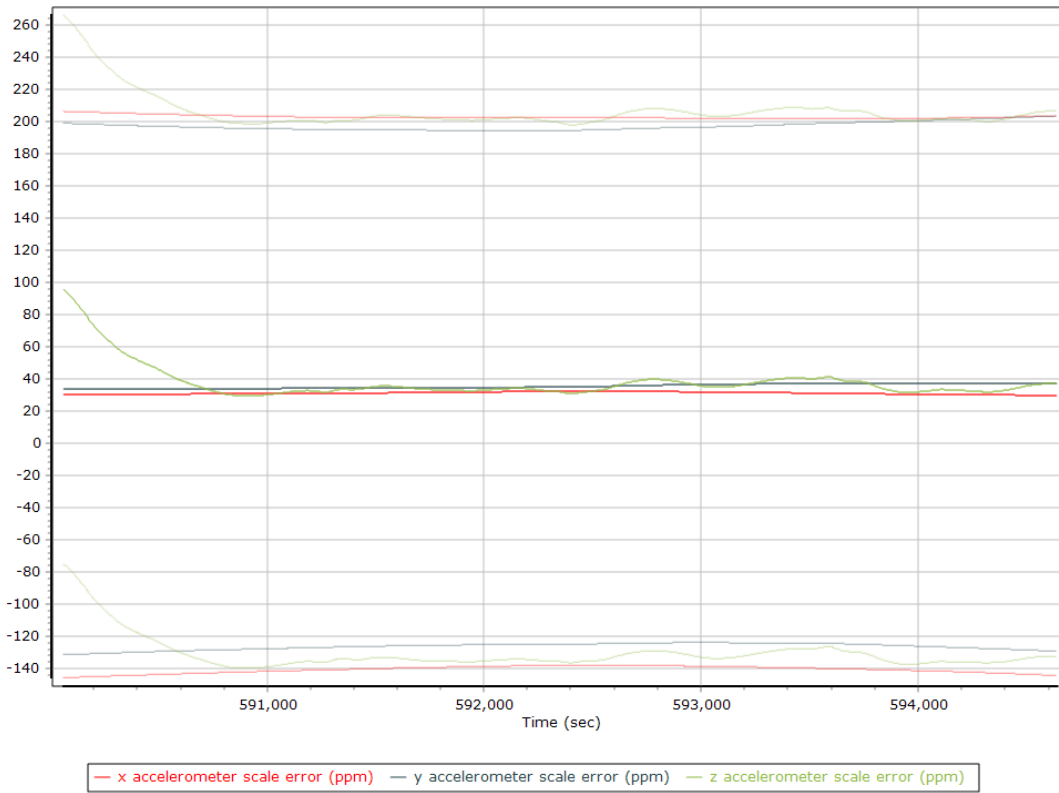
Y Accelerometer Bias (micro-g)



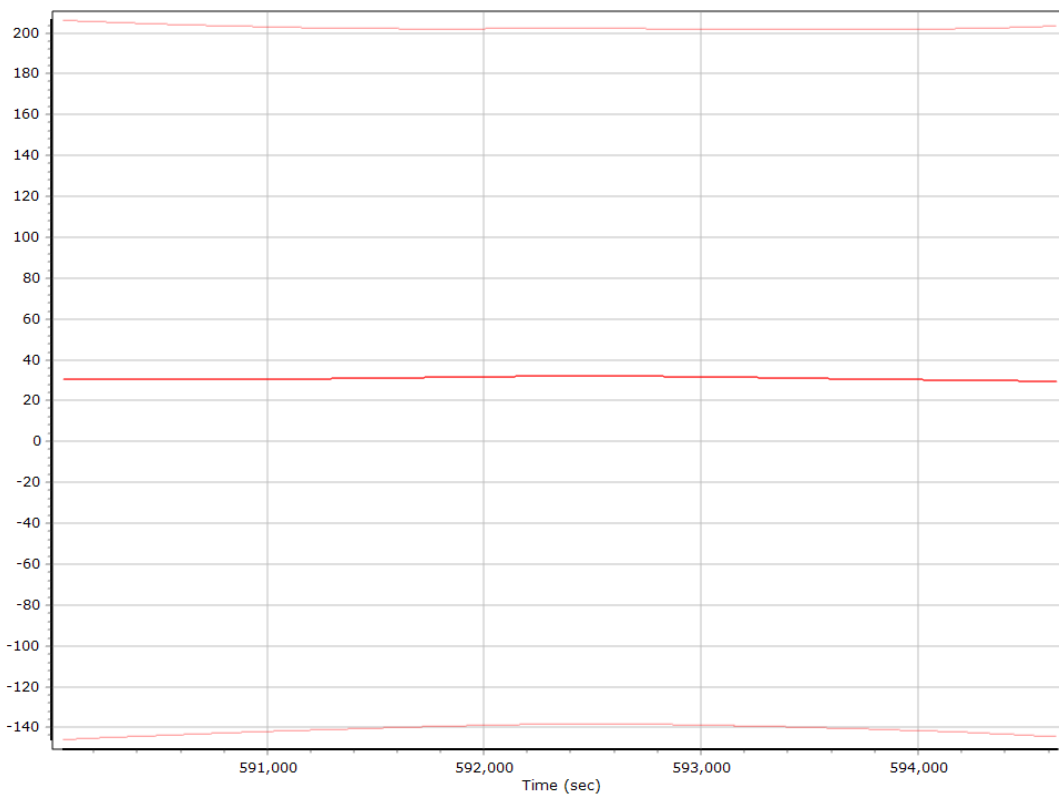
Z Accelerometer Bias (micro-g)



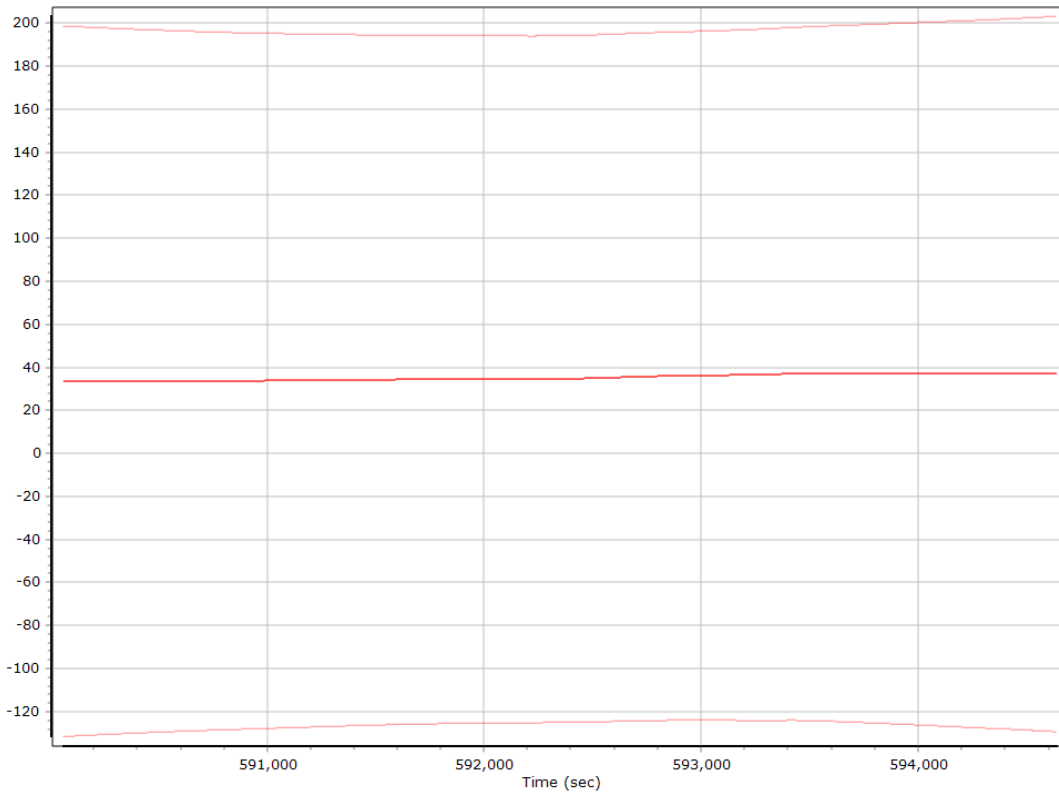
Accelerometer Scale Error (ppm)



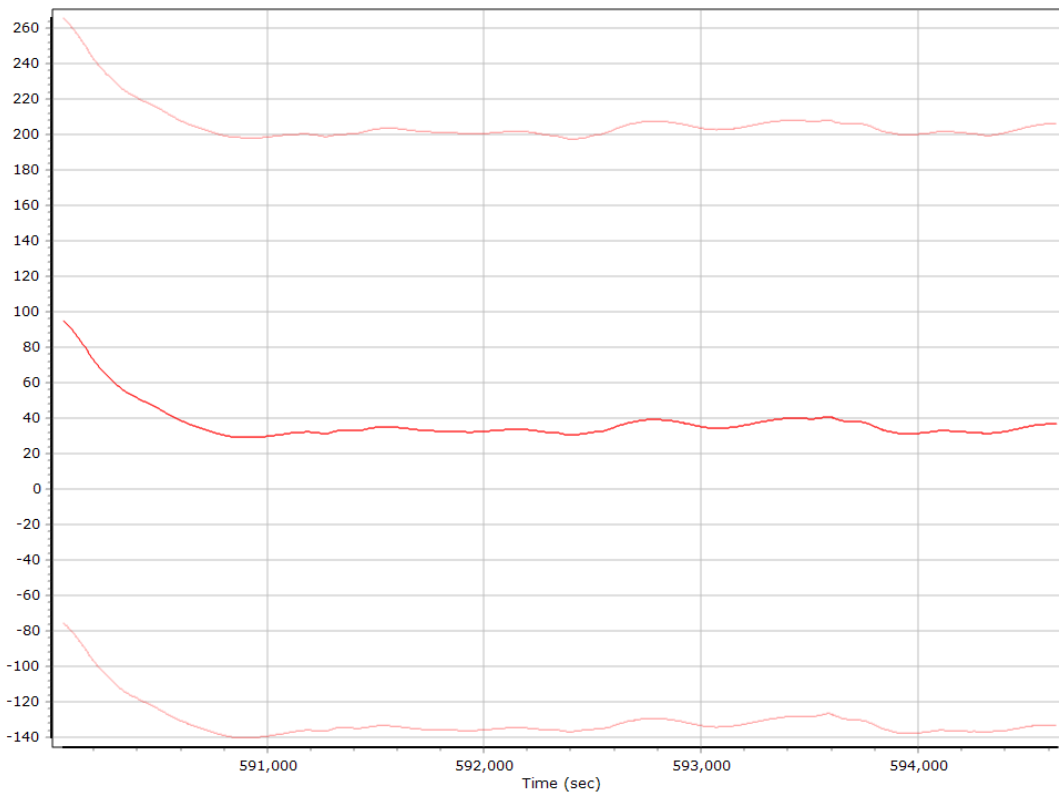
X Accelerometer Scale Error (ppm)



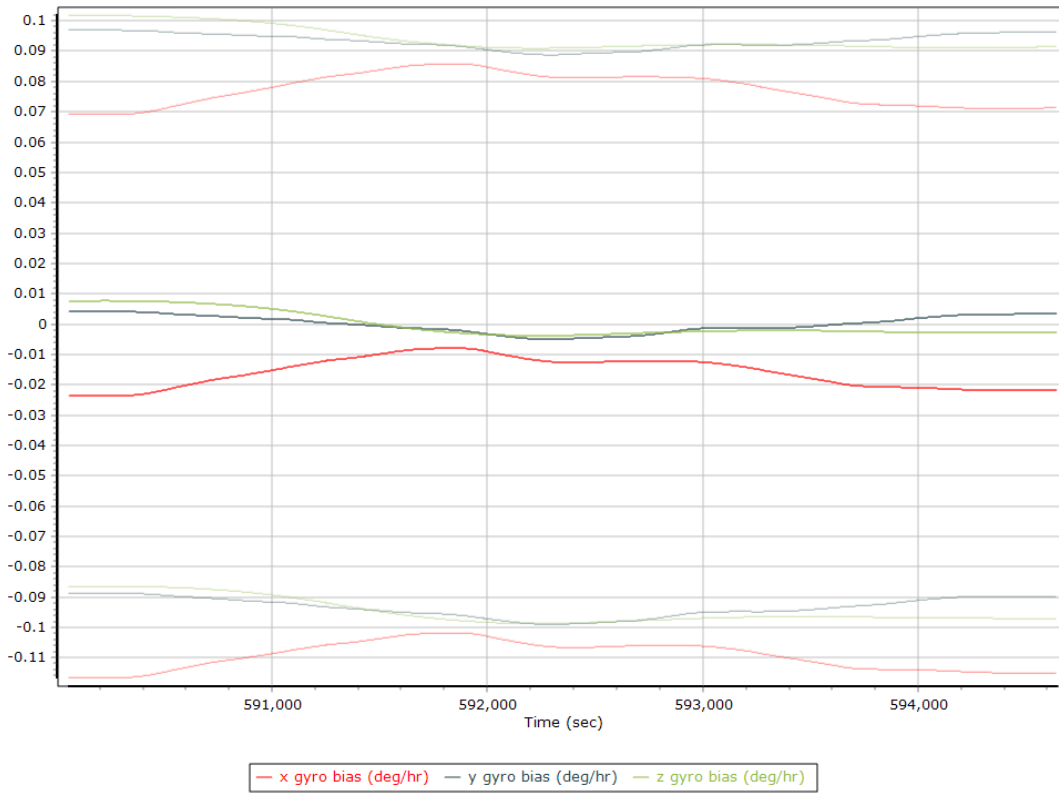
Y Accelerometer Scale Error (ppm)



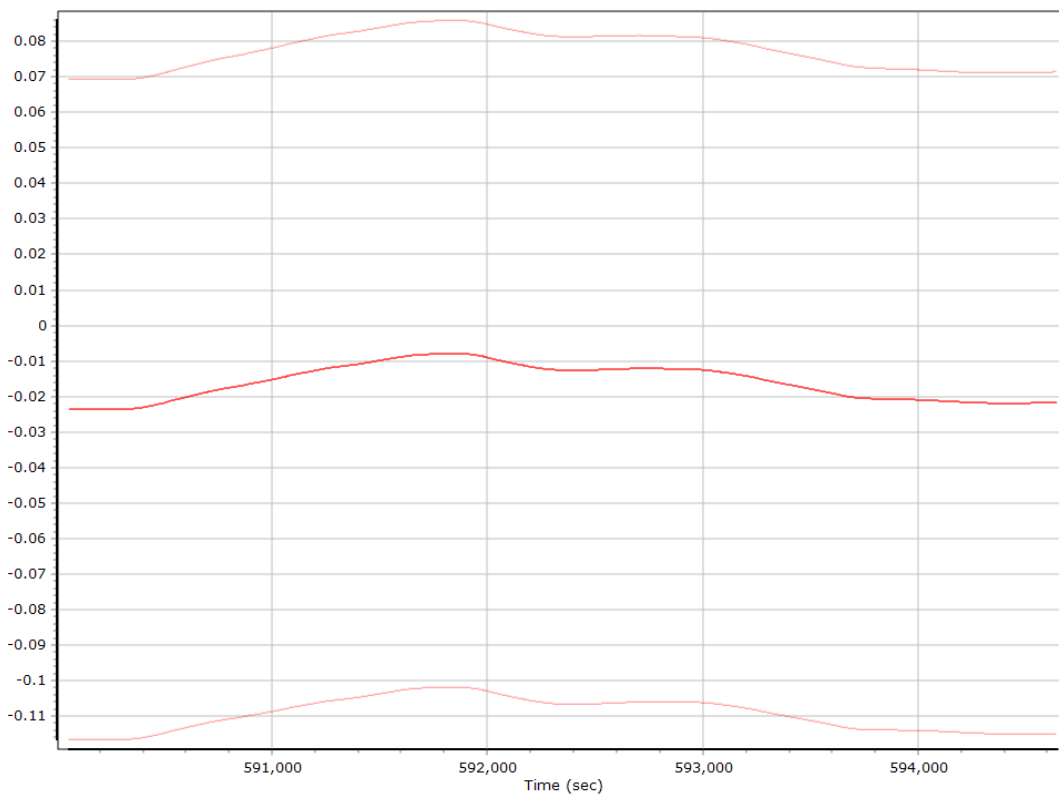
Z Accelerometer Scale Error (ppm)



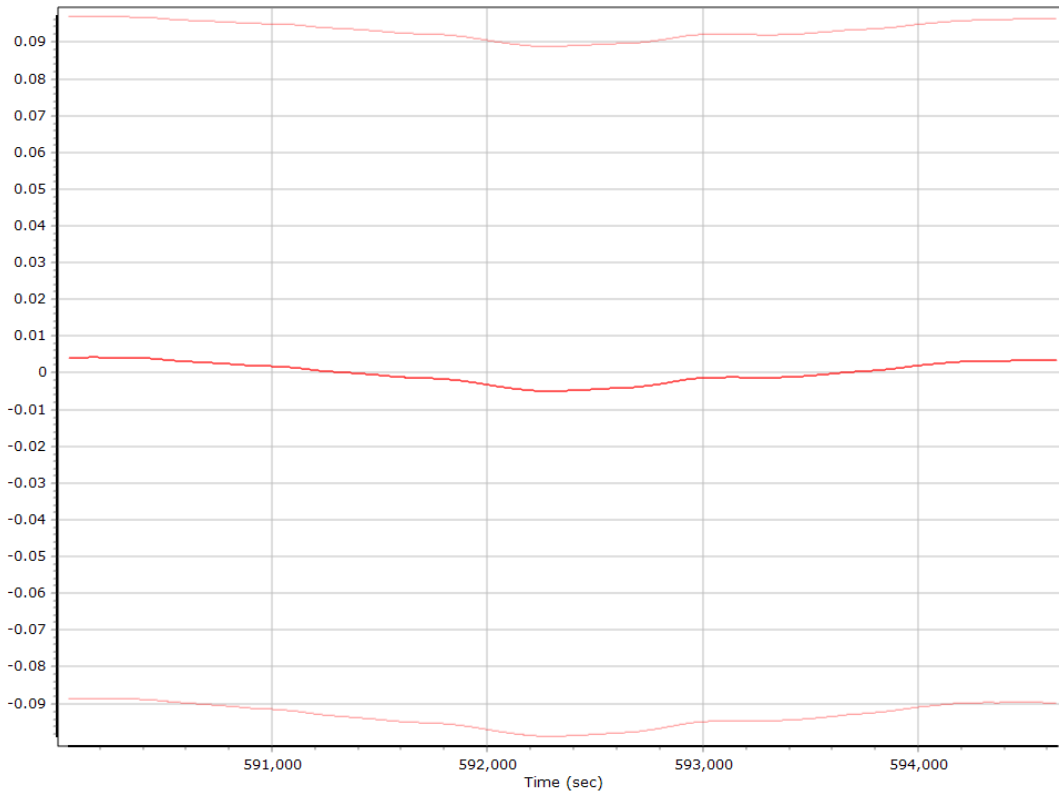
Gyro Bias (deg/h)



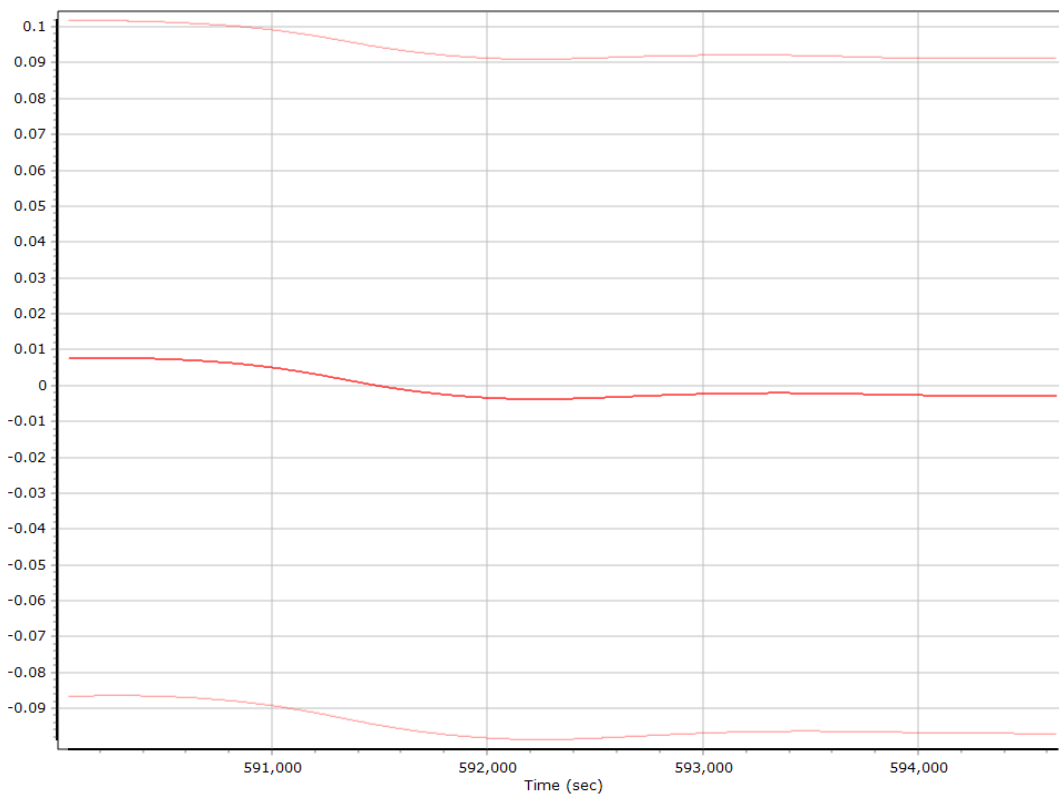
X Gyro Bias (deg/h)



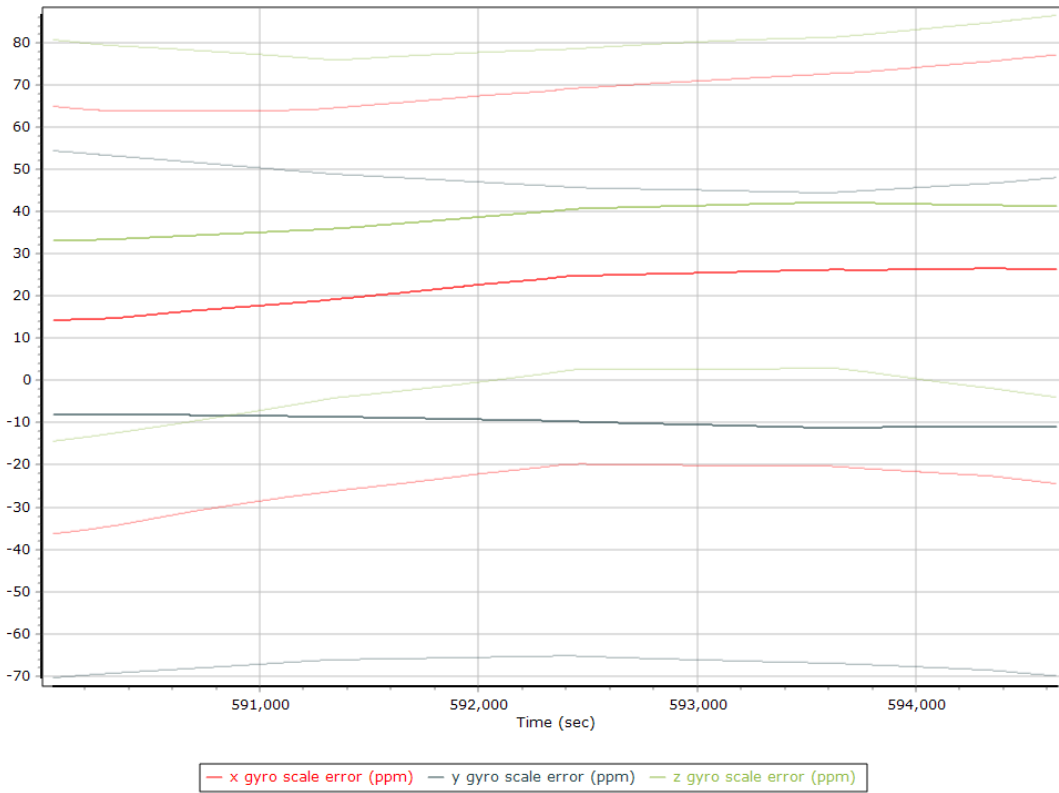
Y Gyro Bias (deg/h)



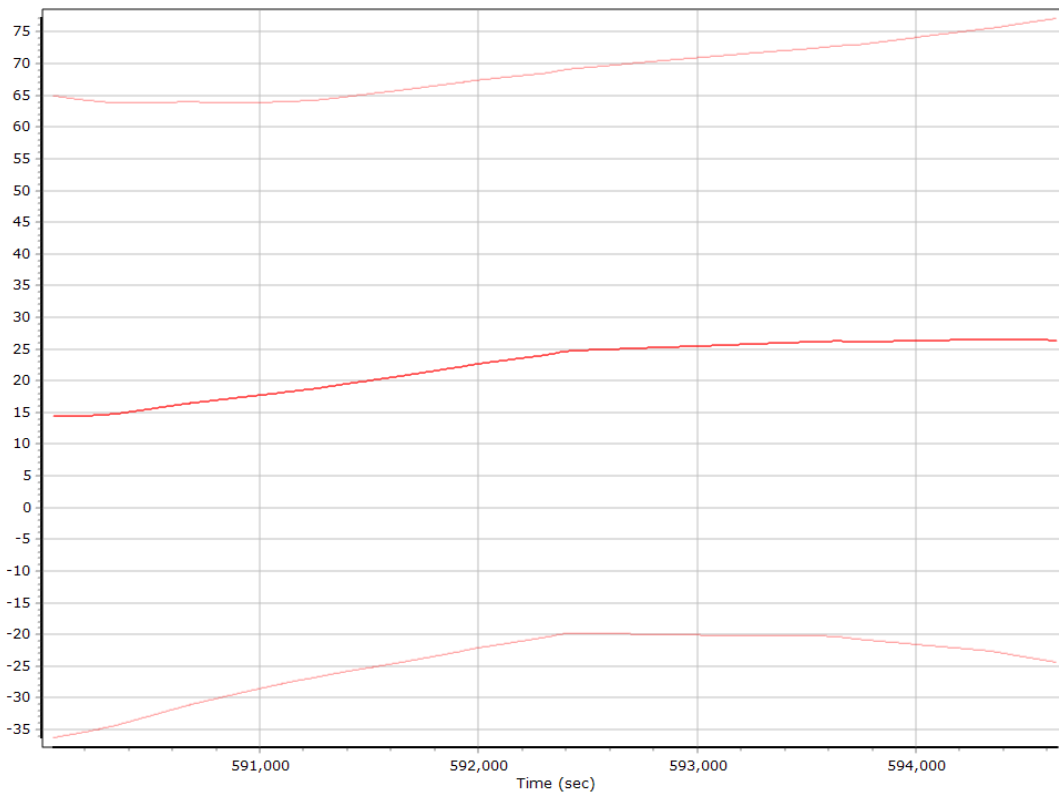
Z Gyro Bias (deg/h)



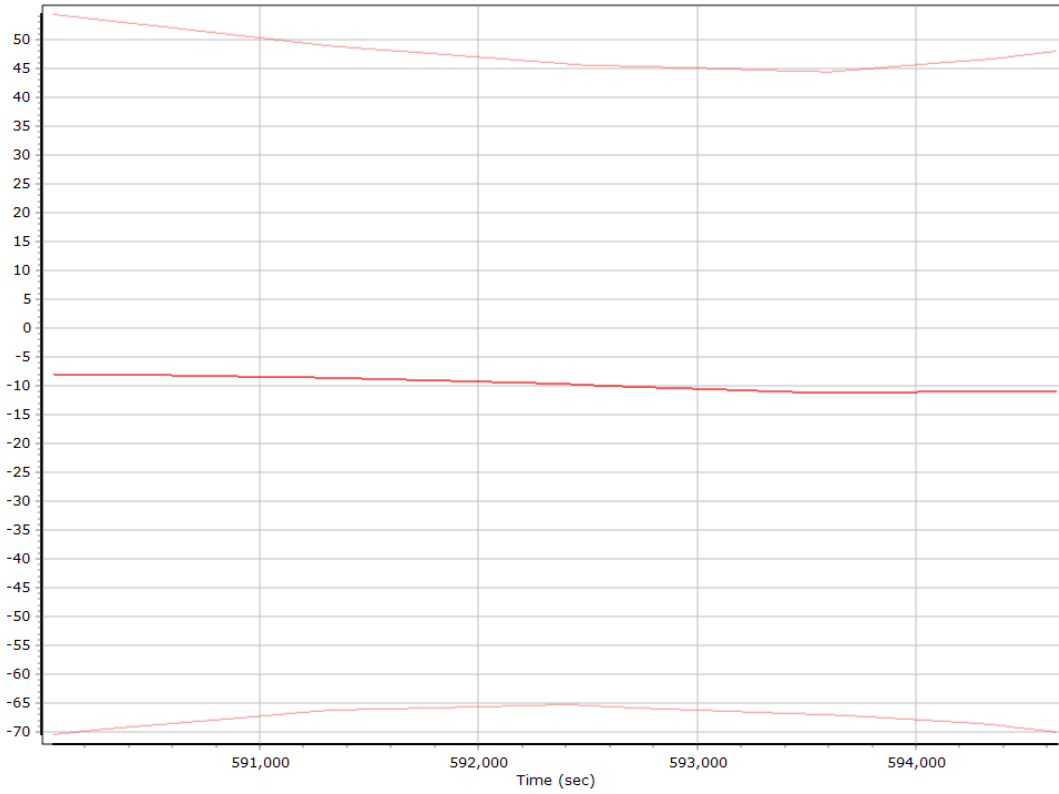
Gyro Scale Error (ppm)



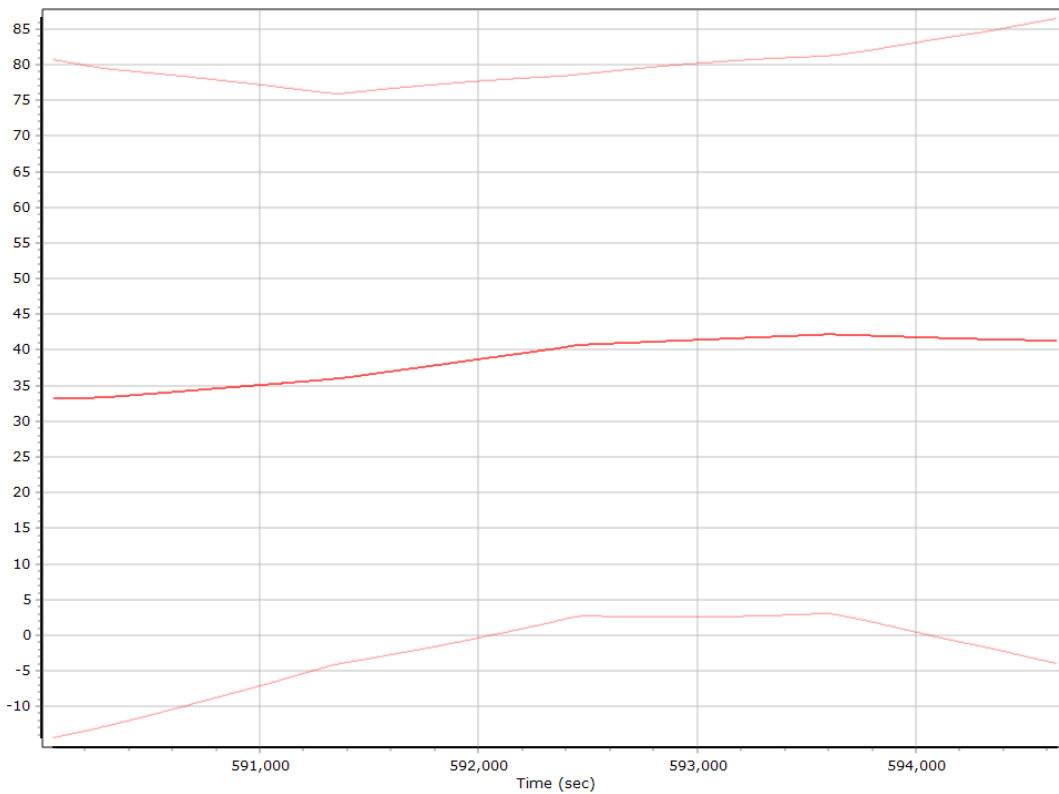
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

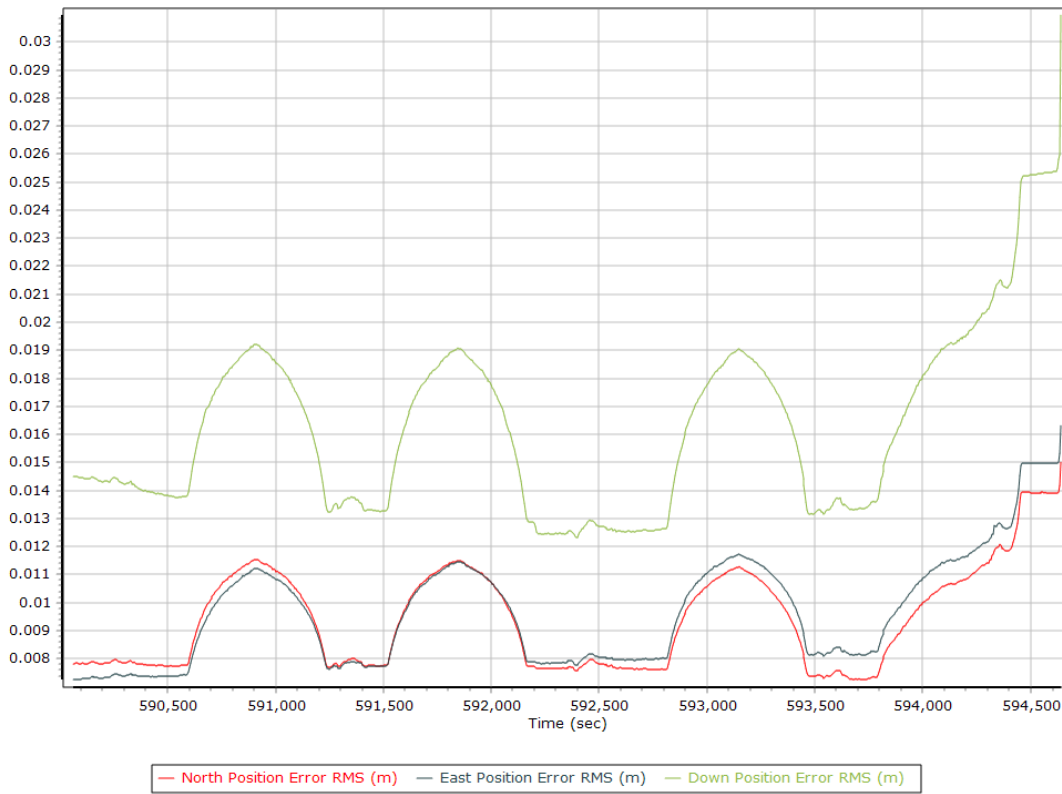


Z Gyro Scale Error (ppm)

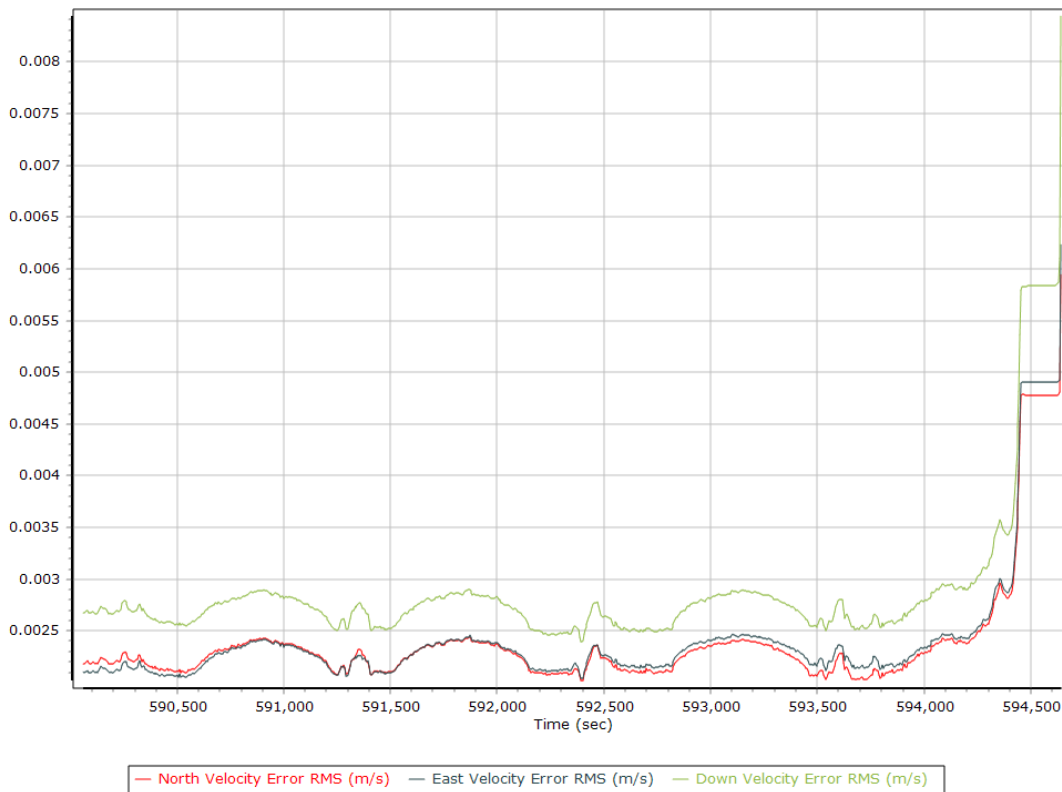


Smoothed Performance Metrics

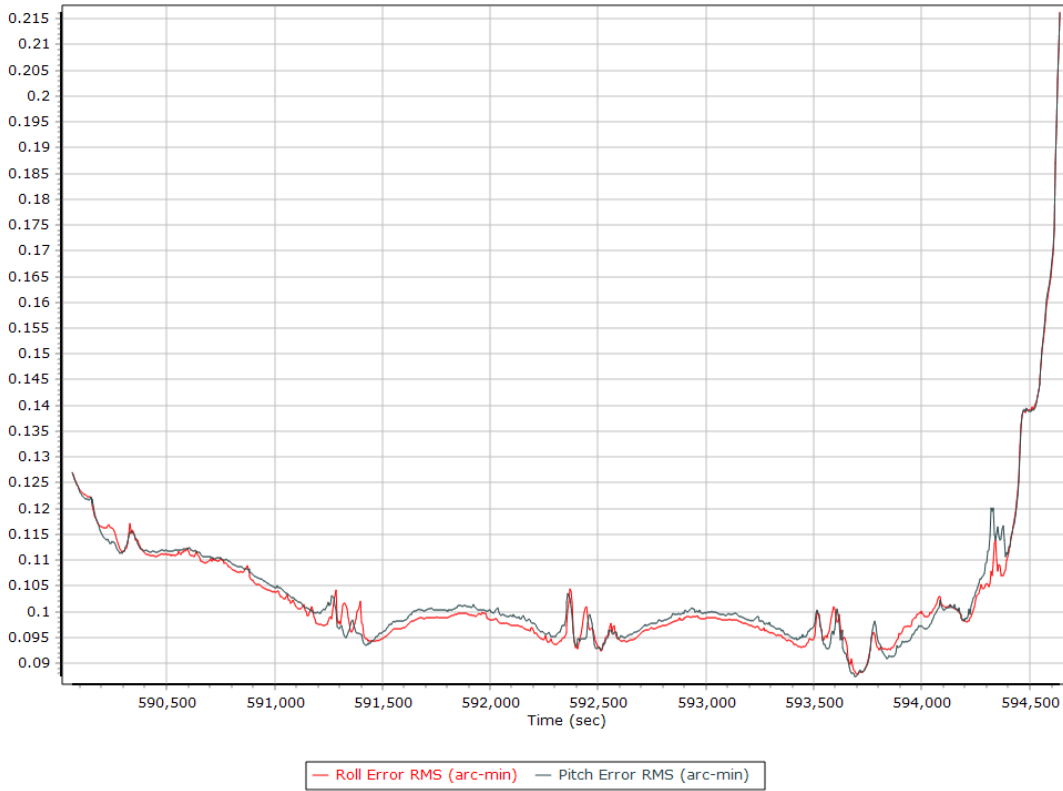
Position Error RMS (m)



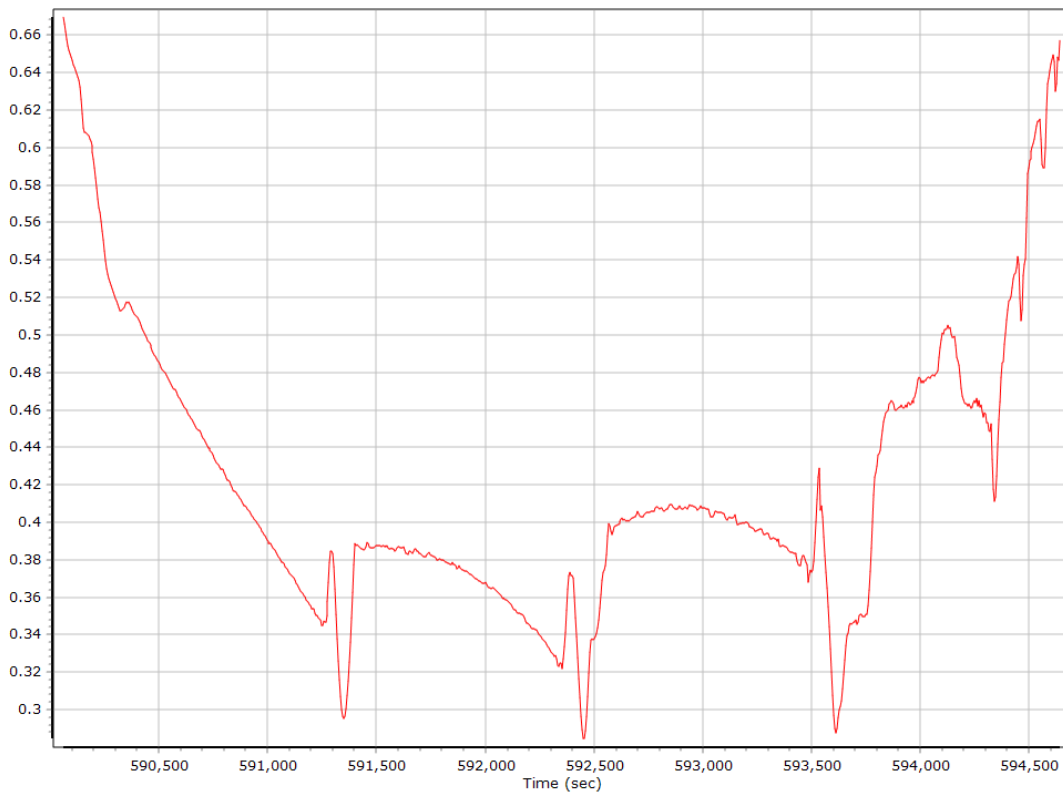
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

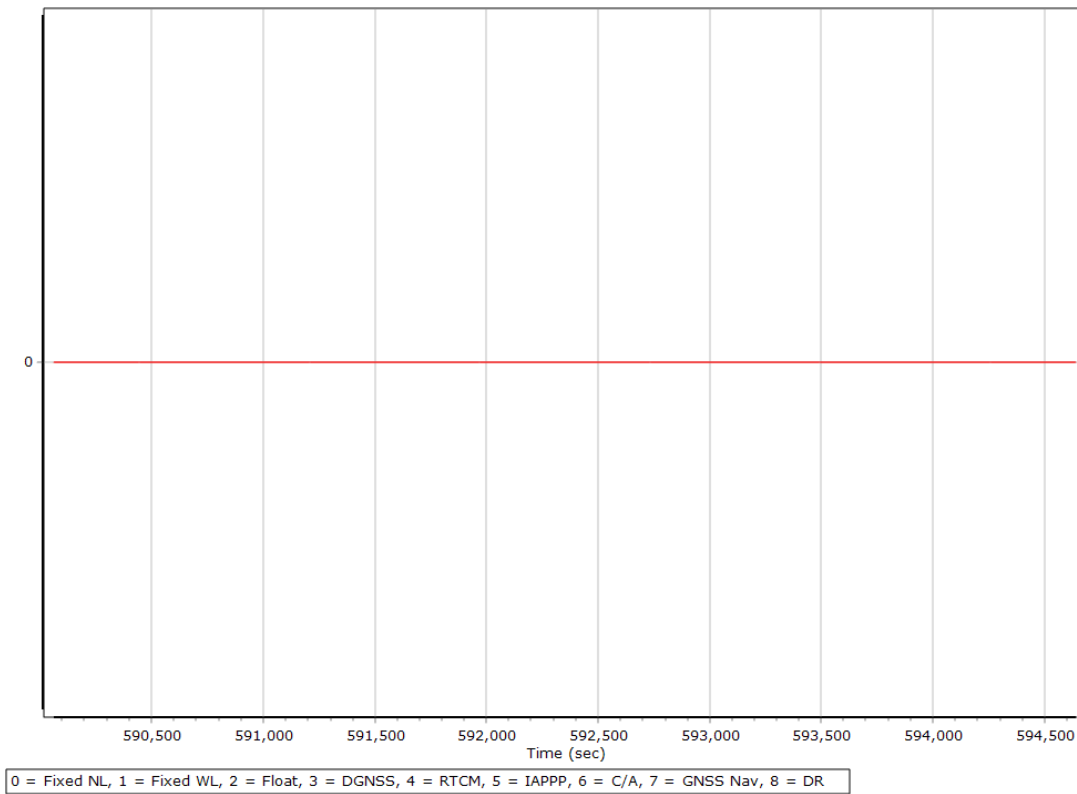


Heading Error RMS (arc-min)

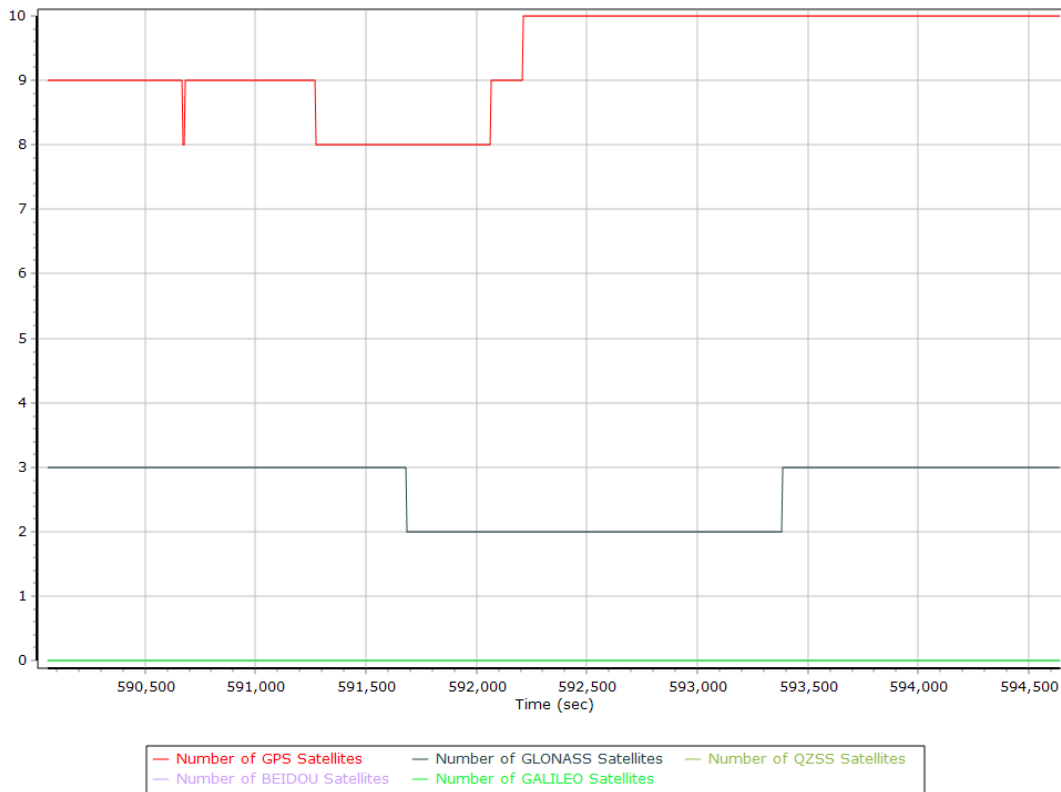


Smoothed Solution Status

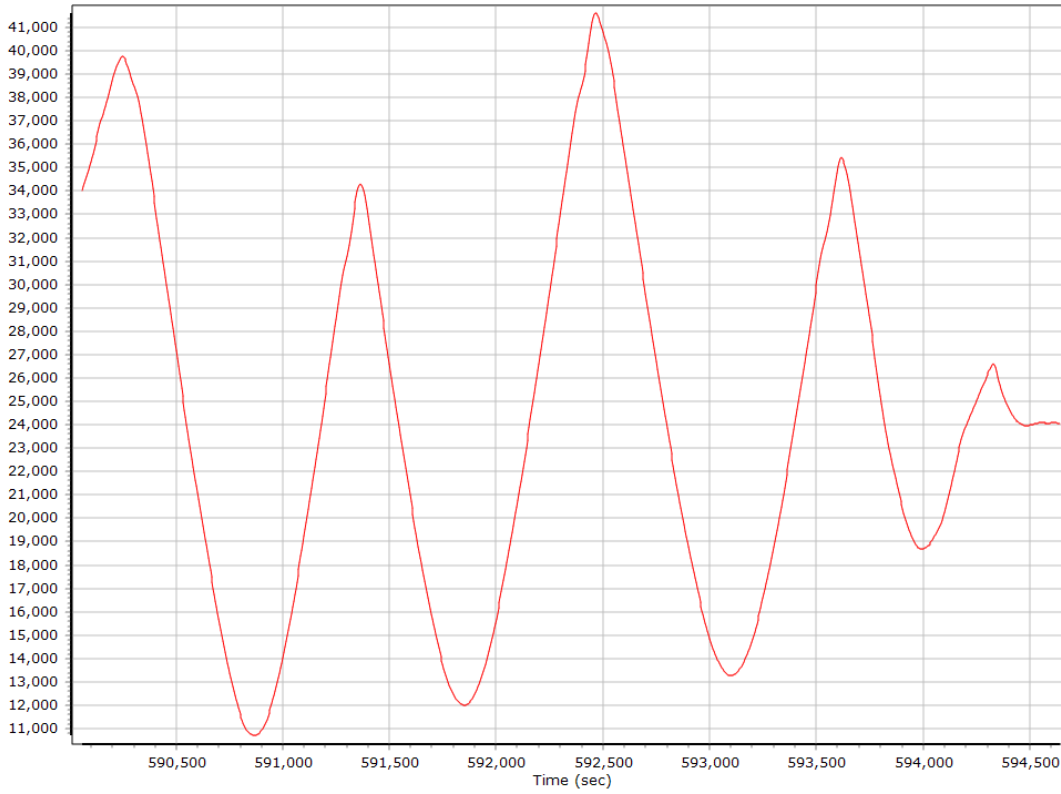
Processing Mode



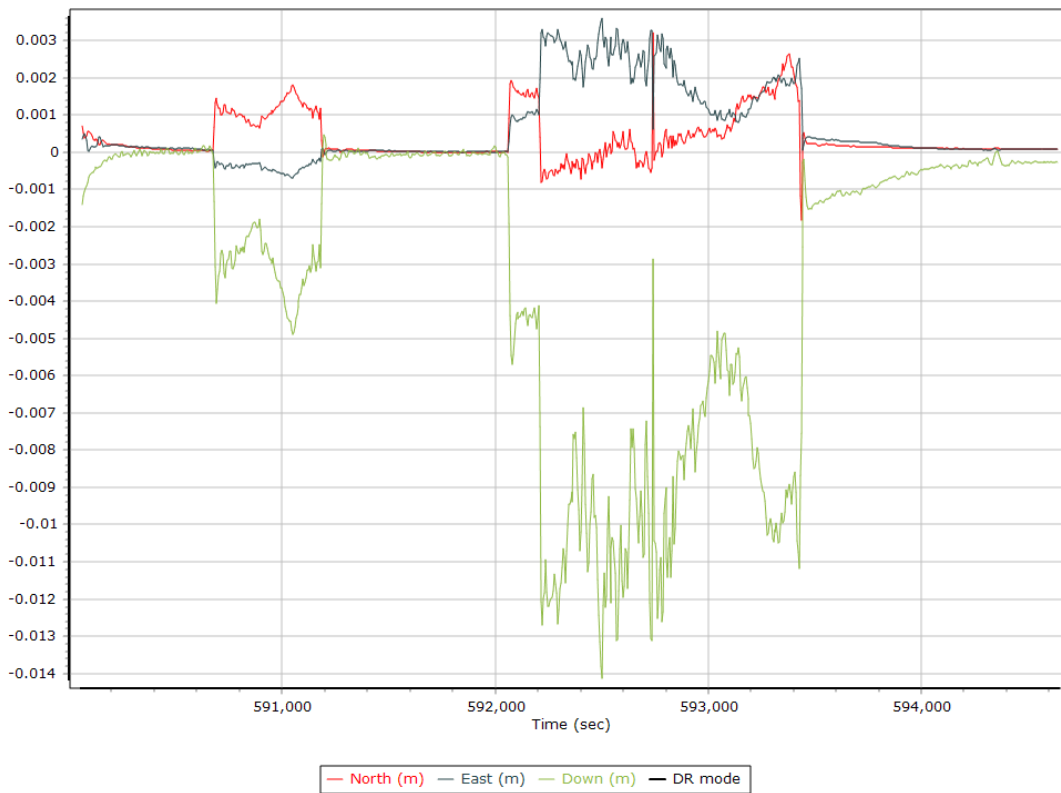
Number of Satellites



Baseline Length



SBET IAkar Separation



General Information

Mission Information

Project name	88619336A_v2
Processing date	2019-12-12 16:14:38
Mission date	2019-12-02 13:09:48
Mission duration	04:13:55.010
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N9642
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
N63886_19_336_A.073	POS Data
N63886_19_336_A.074	POS Data
N63886_19_336_A.075	POS Data
N63886_19_336_A.076	POS Data
N63886_19_336_A.077	POS Data
N63886_19_336_A.078	POS Data
N63886_19_336_A.079	POS Data
N63886_19_336_A.080	POS Data
N63886_19_336_A.081	POS Data
N63886_19_336_A.082	POS Data
N63886_19_336_A.083	POS Data
N63886_19_336_A.084	POS Data
N63886_19_336_A.085	POS Data
N63886_19_336_A.086	POS Data
N63886_19_336_A.087	POS Data
N63886_19_336_A.088	POS Data
N63886_19_336_A.089	POS Data
N63886_19_336_A.090	POS Data
N63886_19_336_A.091	POS Data
N63886_19_336_A.092	POS Data
N63886_19_336_A.093	POS Data
N63886_19_336_A.094	POS Data
N63886_19_336_A.095	POS Data
N63886_19_336_A.096	POS Data
N63886_19_336_A.097	POS Data
N63886_19_336_A.098	POS Data
N63886_19_336_A.099	POS Data
N63886_19_336_A.100	POS Data
N63886_19_336_A.101	POS Data
N63886_19_336_A.102	POS Data
N63886_19_336_A.103	POS Data
N63886_19_336_A.104	POS Data
N63886_19_336_A.105	POS Data
N63886_19_336_A.106	POS Data
N63886_19_336_A.107	POS Data
N63886_19_336_A.108	POS Data
N63886_19_336_A.109	POS Data
N63886_19_336_A.110	POS Data
N63886_19_336_A.111	POS Data

Input Files

File Name	File Type
Ephm3360.19g	GLONASS Broadcast Ephemeris
Ephm3360.19n	GPS Broadcast Ephemeris
flcb_daily3360.19o	GNSS SingleBase
flcb_daily3370.19o	GNSS SingleBase
gnvl_daily3360.19o	GNSS SingleBase
gnvl_daily3370.19o	GNSS SingleBase
prry_daily3360.19o	GNSS SingleBase
prry_daily3370.19o	GNSS SingleBase
talh_daily3360.19o	GNSS SingleBase
talh_daily3370.19o	GNSS SingleBase
xcty_daily3360.19o	GNSS SingleBase
xcty_daily3370.19o	GNSS SingleBase
lkcy_daily3360.19o	GNSS SingleBase
lkcy_daily3370.19o	GNSS SingleBase
Ephm3350.19g	GLONASS Broadcast Ephemeris
Ephm3350.19n	GPS Broadcast Ephemeris
Ephm3370.19g	GLONASS Broadcast Ephemeris

File Name	File Type
Ephm3370.19n	GPS Broadcast Ephemeris
igr20816.sp3	GPS Precise Ephemeris
igr20820.sp3	GPS Precise Ephemeris
igr20821.sp3	GPS Precise Ephemeris
igr20822.sp3	GPS Precise Ephemeris
igr20823.sp3	GPS Precise Ephemeris
ocla_daily3360.19o	GNSS SingleBase
ocla_daily3370.19o	GNSS SingleBase
pltk_daily3360.19o	GNSS SingleBase
pltk_daily3370.19o	GNSS SingleBase
flmd_daily3360.19o	GNSS SingleBase
flmd_daily3370.19o	GNSS SingleBase

Output Files

Filename	File type
rnav_88619336A_v2.out	RNAV Trajectory File

Rover Data Summary

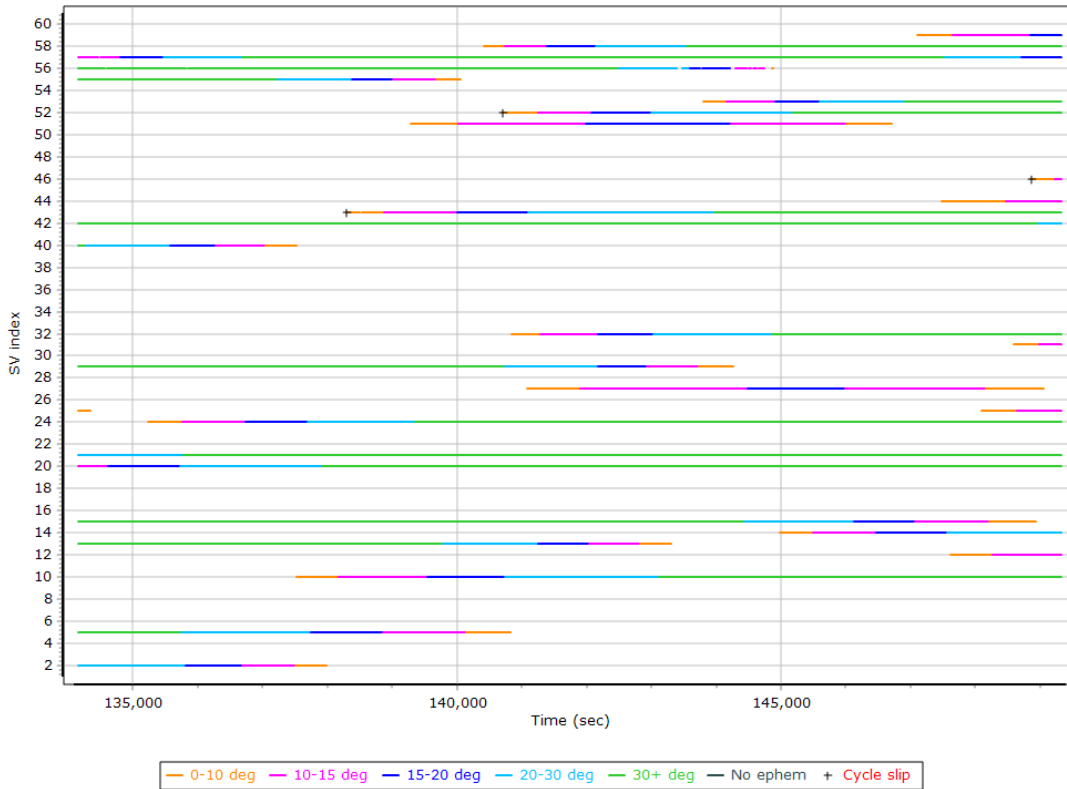
First raw data file	N63886_19_336_A.073		
Last raw data file	N63886_19_336_A.111		
Start GPS week	2082		
Start time	133769.928 (12/2/2019 1:09:29 PM)		
End time	149328.862 (12/2/2019 5:28:48 PM)		
Start of fine alignment	134093.670 (12/2/2019 1:14:53 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

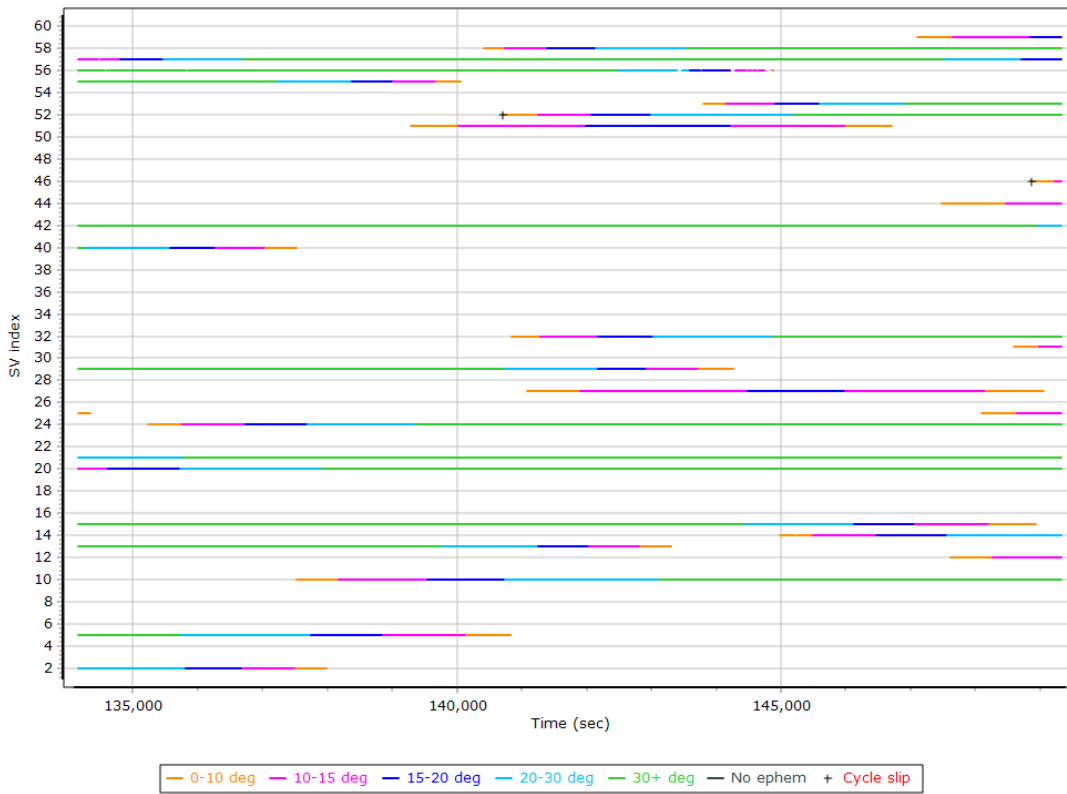
Raw IMU Import QC Summary

IMU data input file	imu_88619336A_v2.dat
IMU data check log file	imudt_88619336A_v2.log
IMU Records Processed	3111317
Termination Status	Normal
IMU Anomalies	0

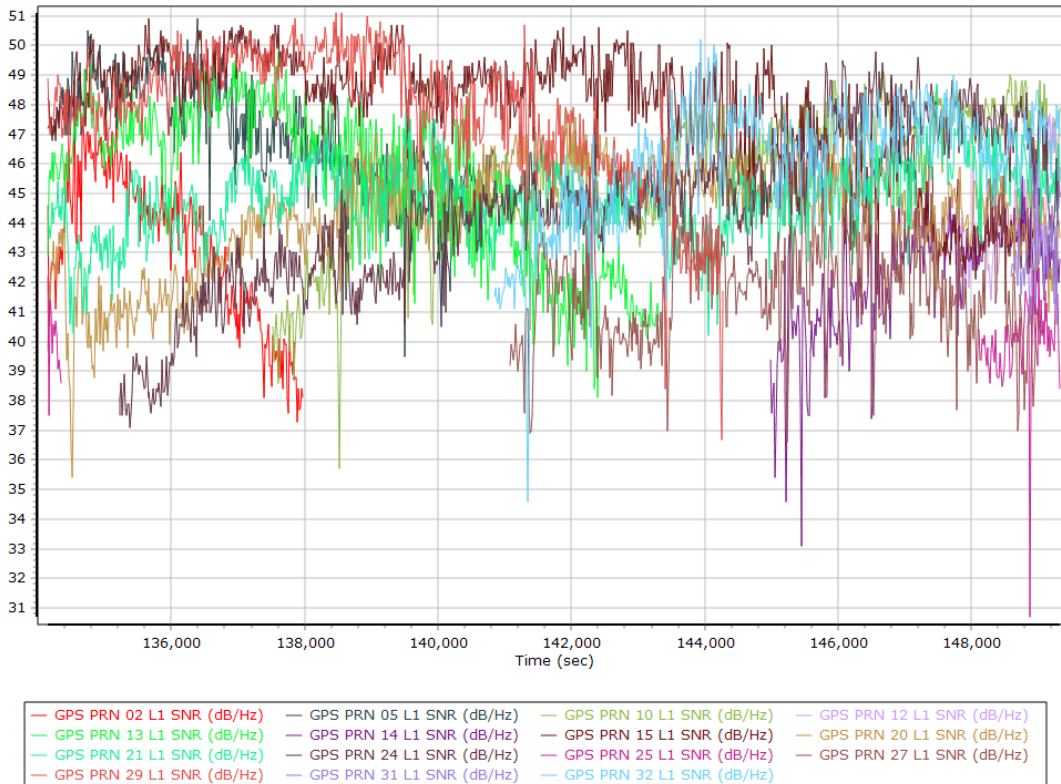
L1 Satellite Lock/Elevation



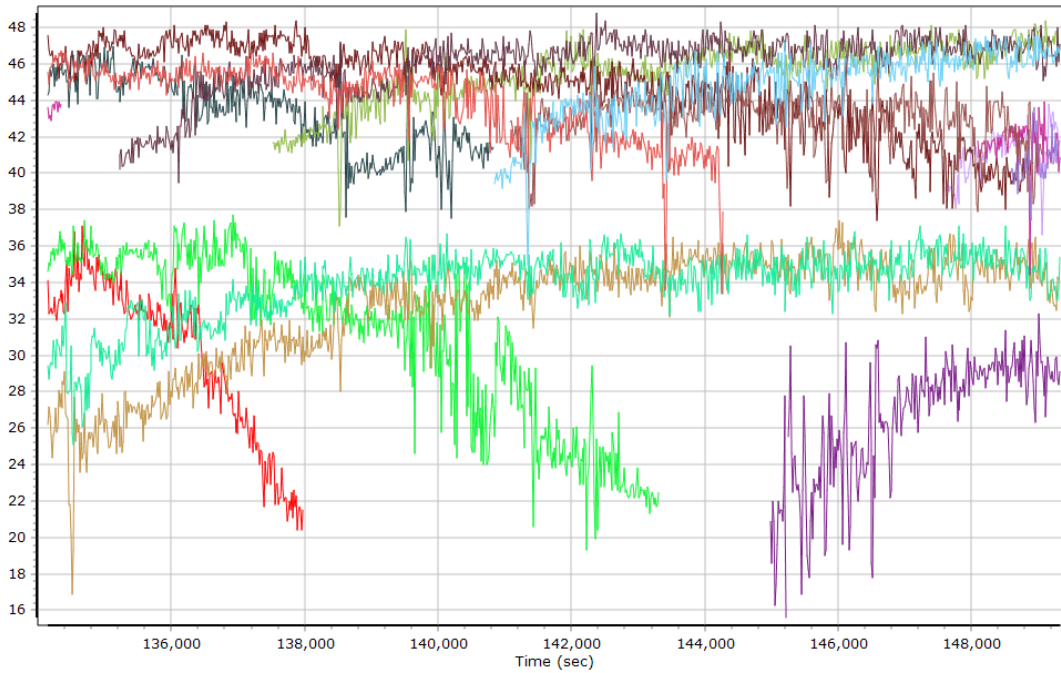
L2 Satellite Lock/Elevation



GPS L1 SNR

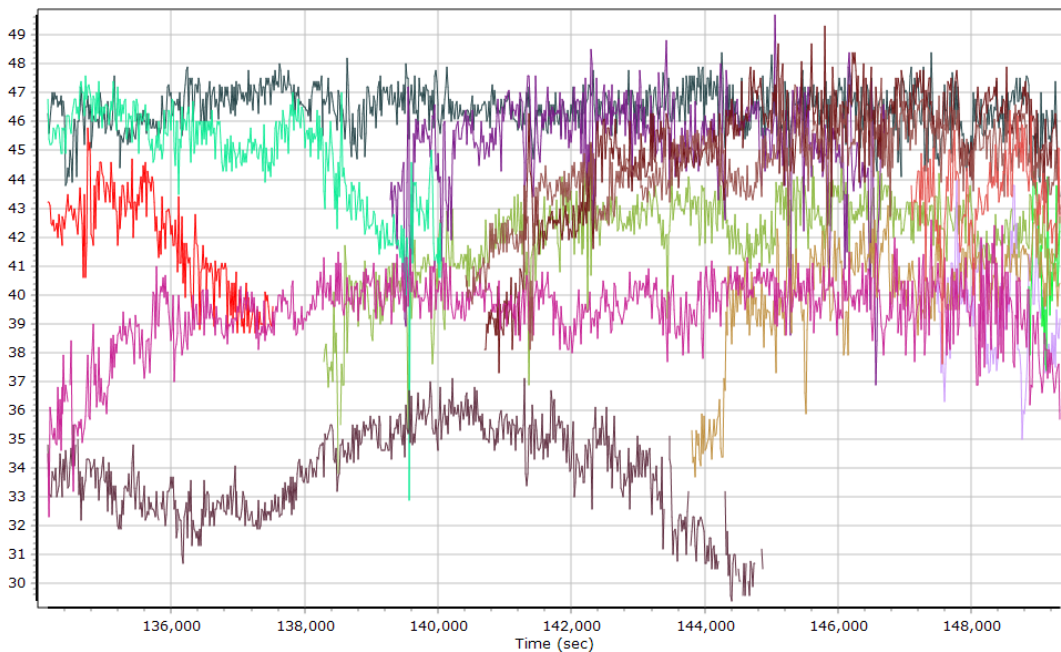


GPS L2 SNR



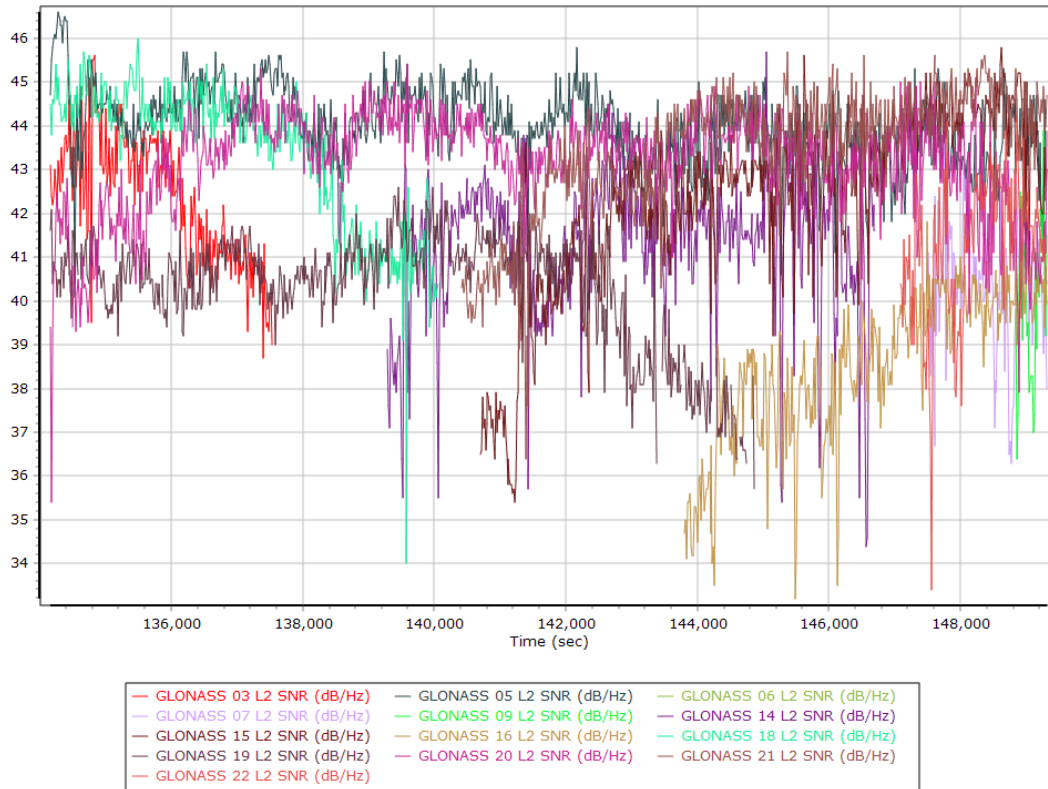
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 02 L2 SNR (dB/Hz) | GPS PRN 05 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 12 L2 SNR (dB/Hz) |
| GPS PRN 13 L2 SNR (dB/Hz) | GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 15 L2 SNR (dB/Hz) | GPS PRN 20 L2 SNR (dB/Hz) |
| GPS PRN 21 L2 SNR (dB/Hz) | GPS PRN 24 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) |
| GPS PRN 29 L2 SNR (dB/Hz) | GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) | |

GLONASS L1 SNR

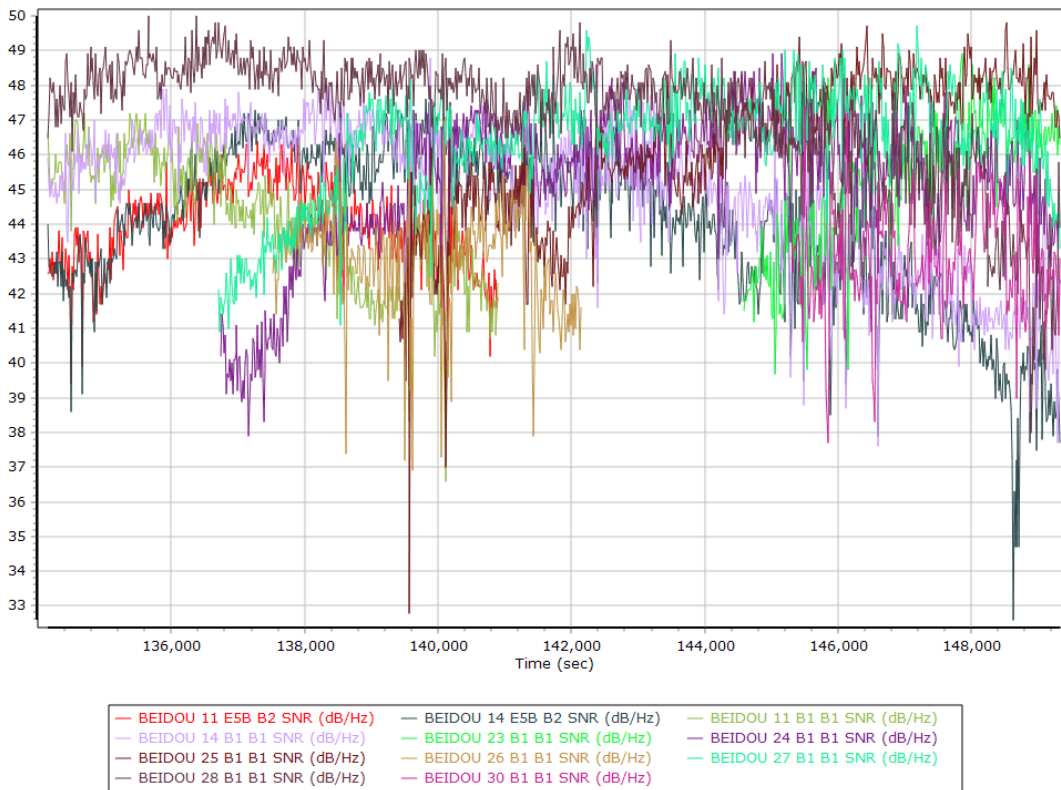


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 03 L1 SNR (dB/Hz) | GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) |
| GLONASS 07 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) | GLONASS 14 L1 SNR (dB/Hz) |
| GLONASS 15 L1 SNR (dB/Hz) | GLONASS 16 L1 SNR (dB/Hz) | GLONASS 18 L1 SNR (dB/Hz) |
| GLONASS 19 L1 SNR (dB/Hz) | GLONASS 20 L1 SNR (dB/Hz) | GLONASS 21 L1 SNR (dB/Hz) |
| GLONASS 22 L1 SNR (dB/Hz) | | |

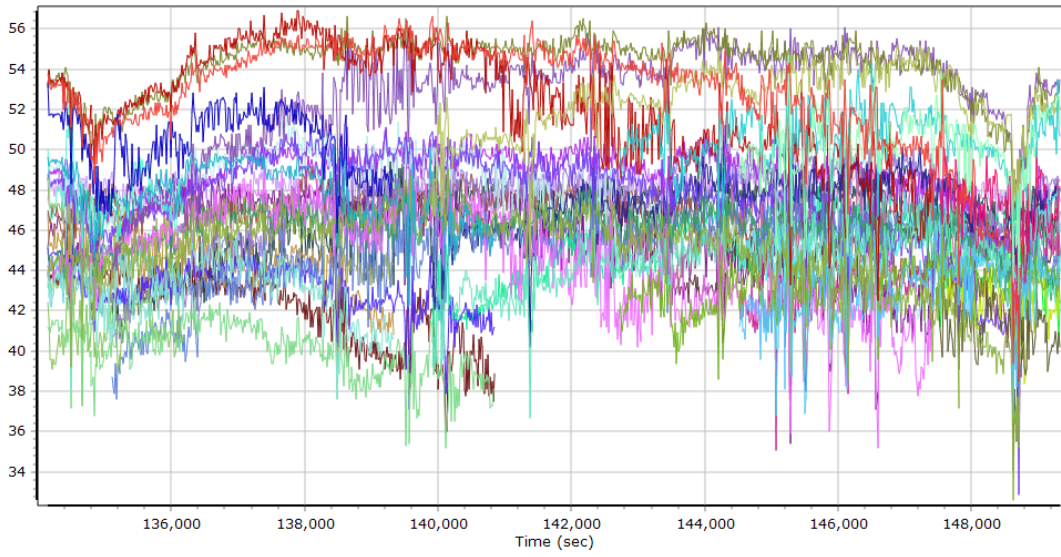
GLONASS L2 SNR



BEIDOU SNR



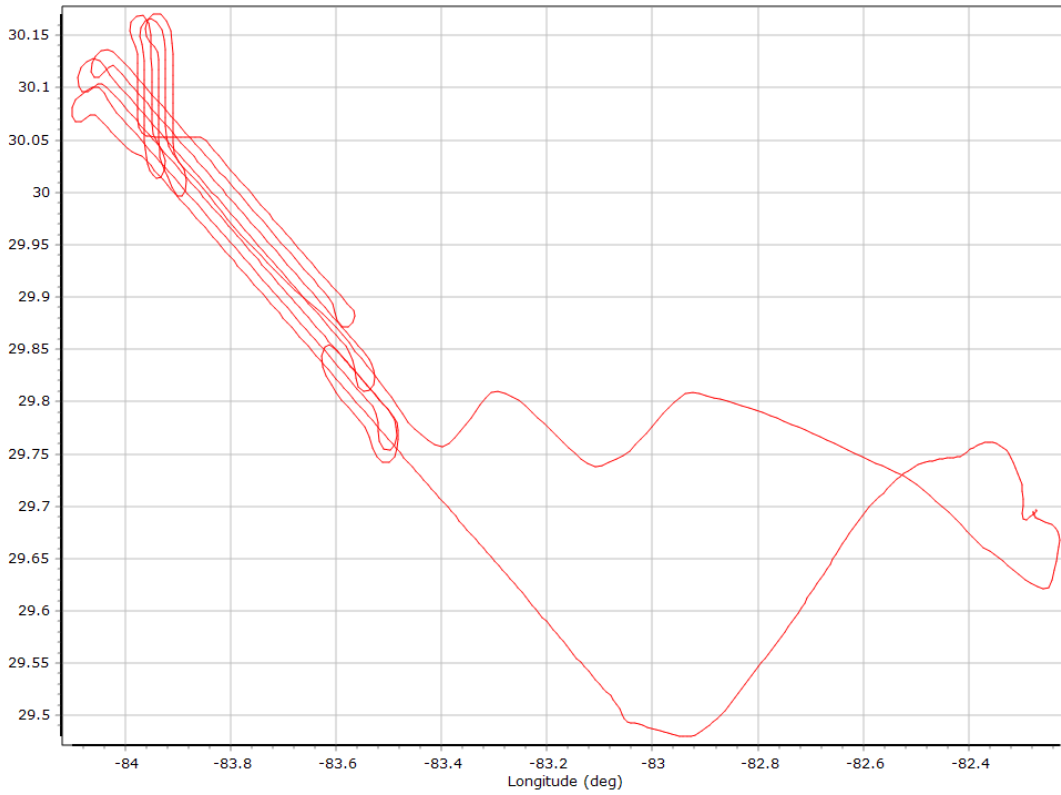
GALILEO SNR



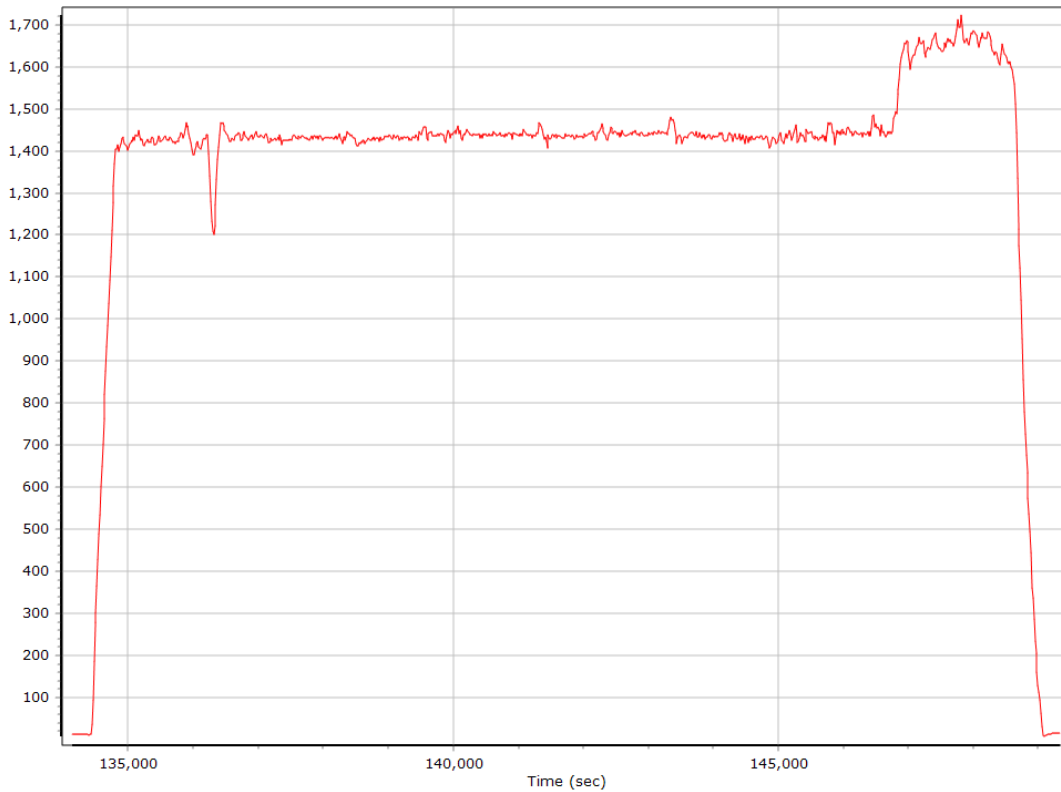
- | | |
|--|--|
| — GALILEO 02 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 11 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 14 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 15 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 36 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 02 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 03 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 05 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 08 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 11 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 14 L5E5A BPSK10_PD SNR (dB/Hz) |

Trajectory Information

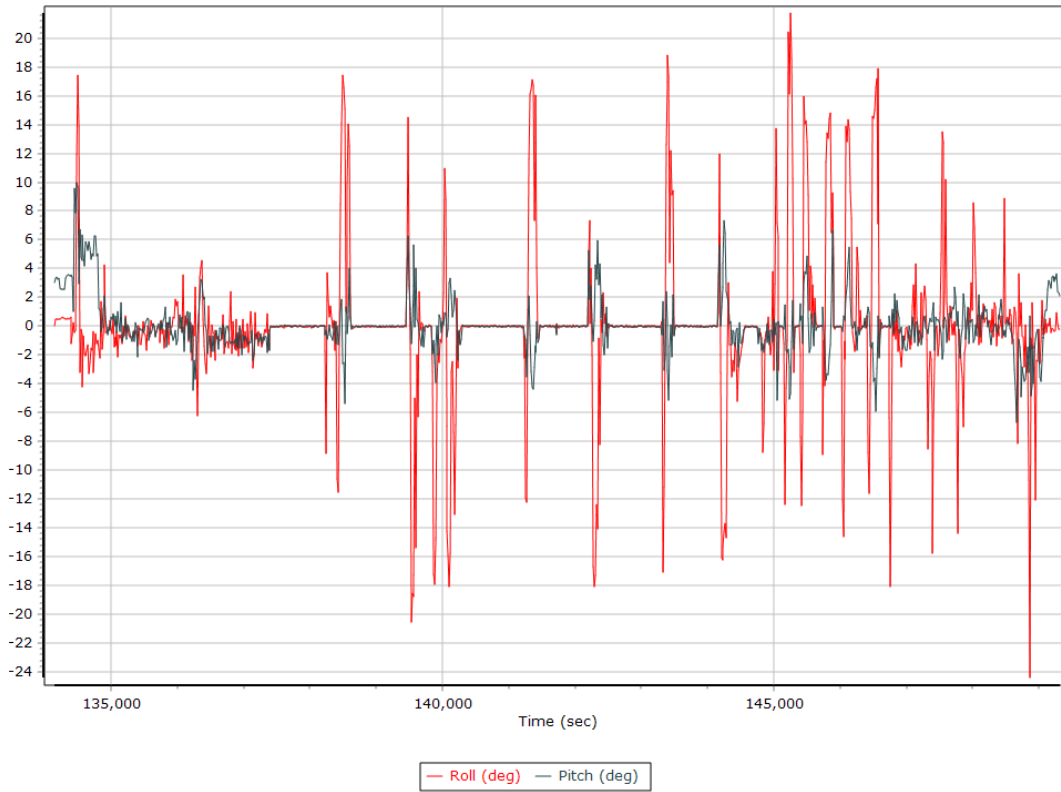
Top View



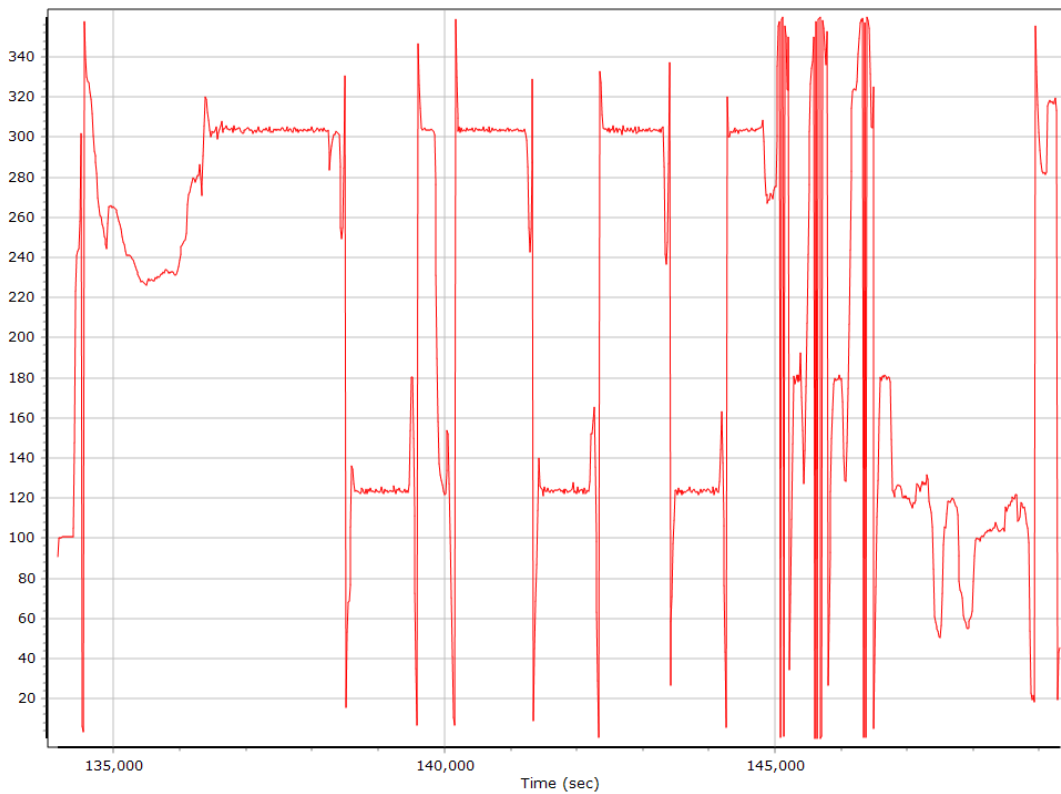
Altitude



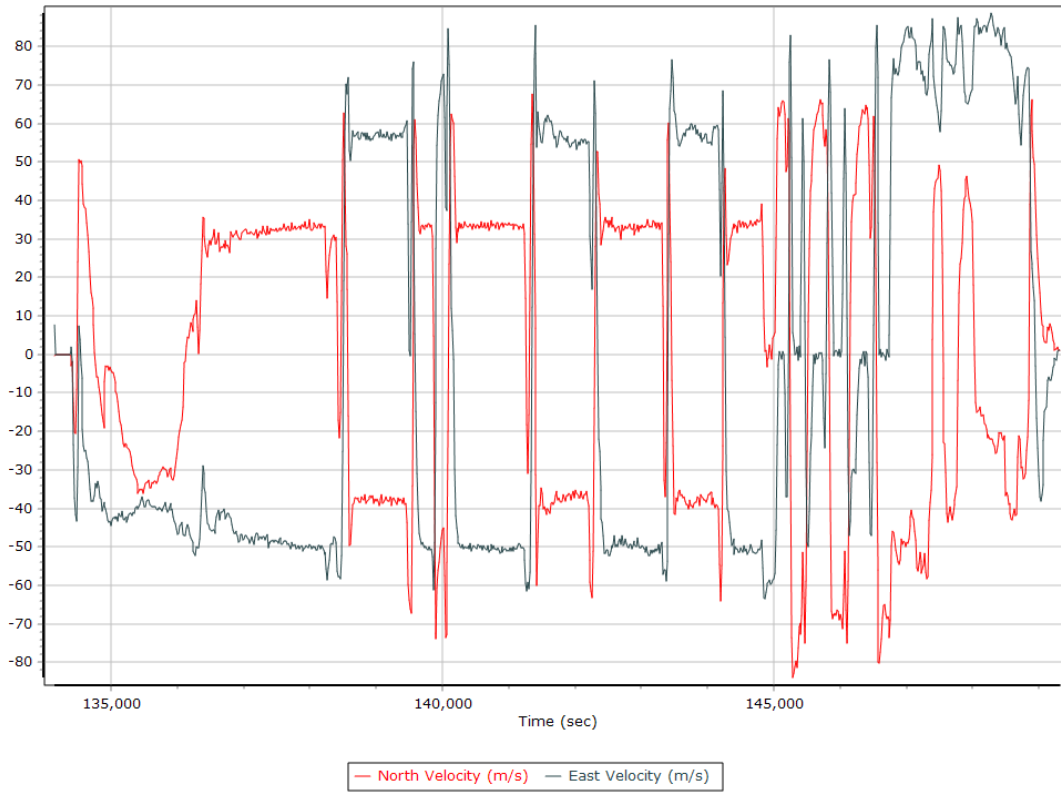
Roll/Pitch



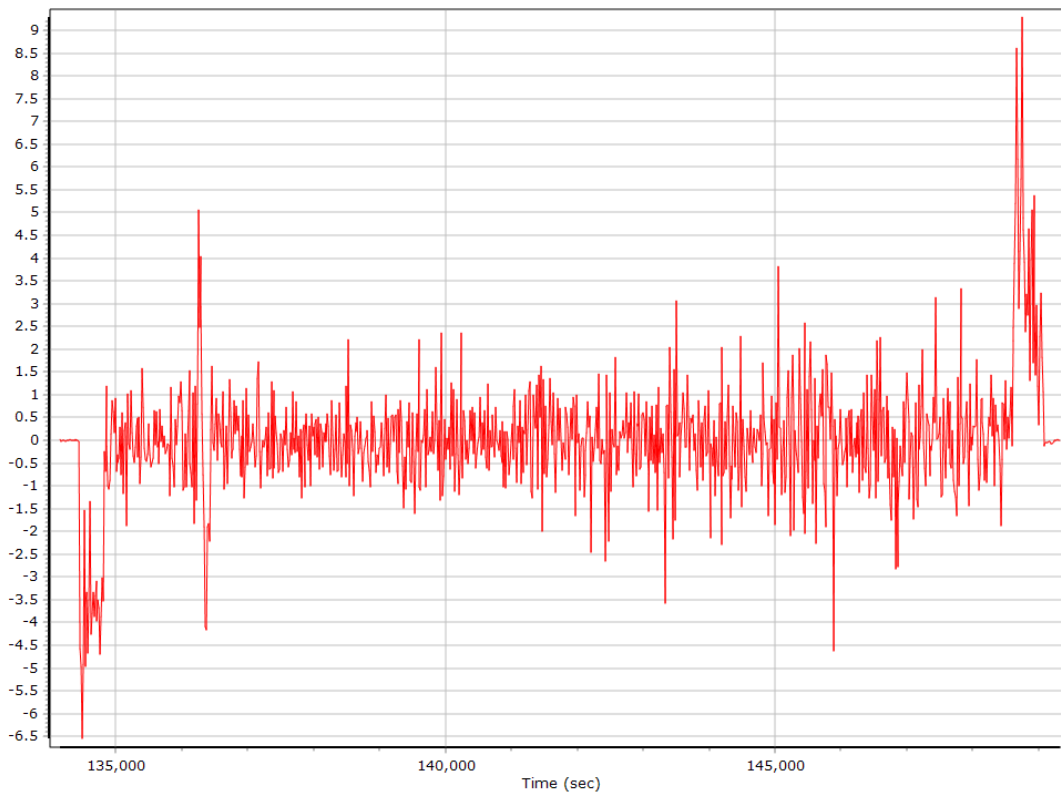
Heading



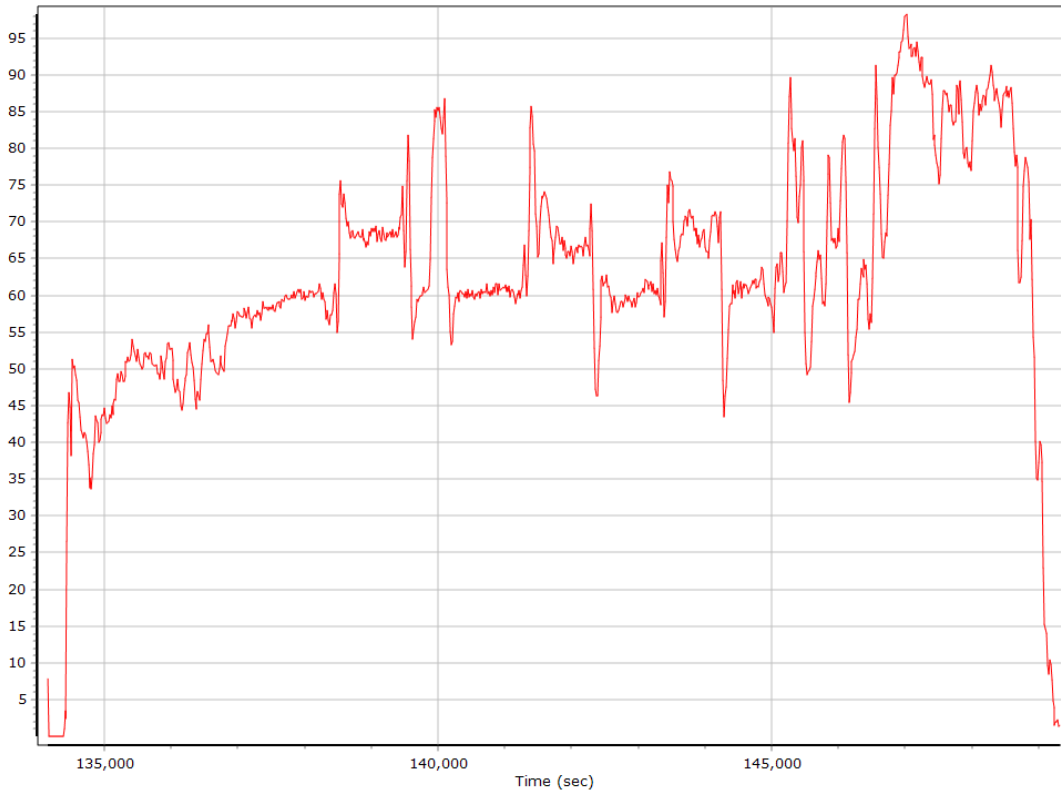
North/East Velocity



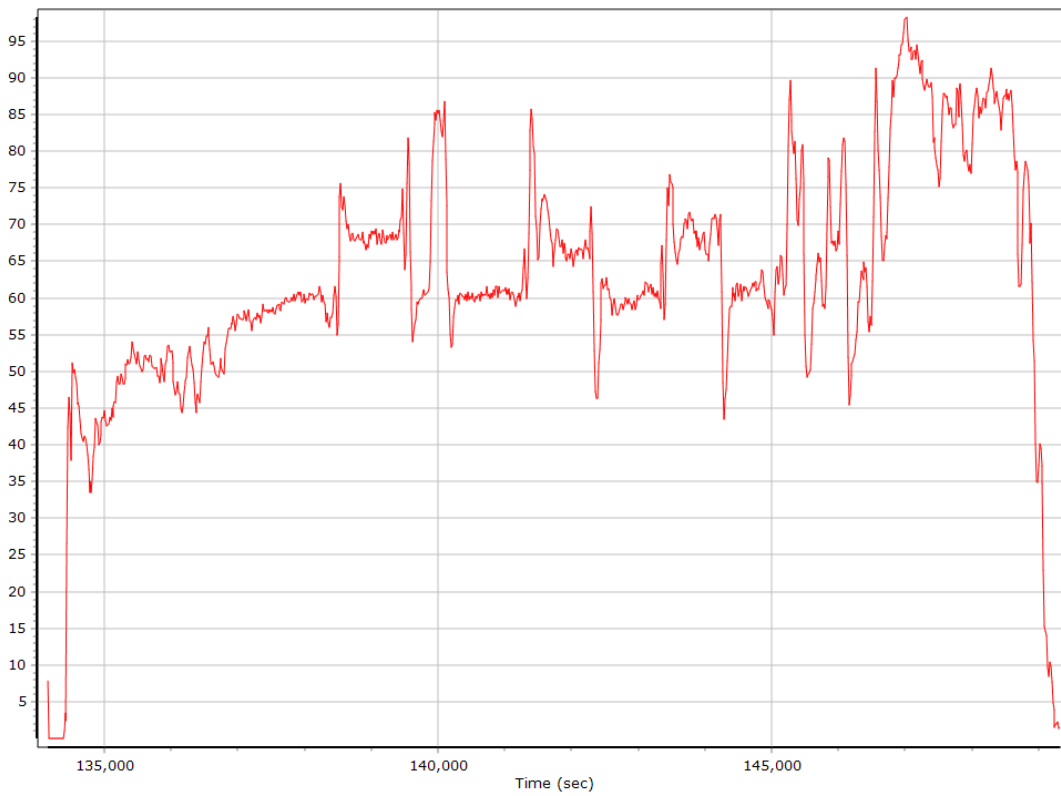
Down Velocity



Total Speed



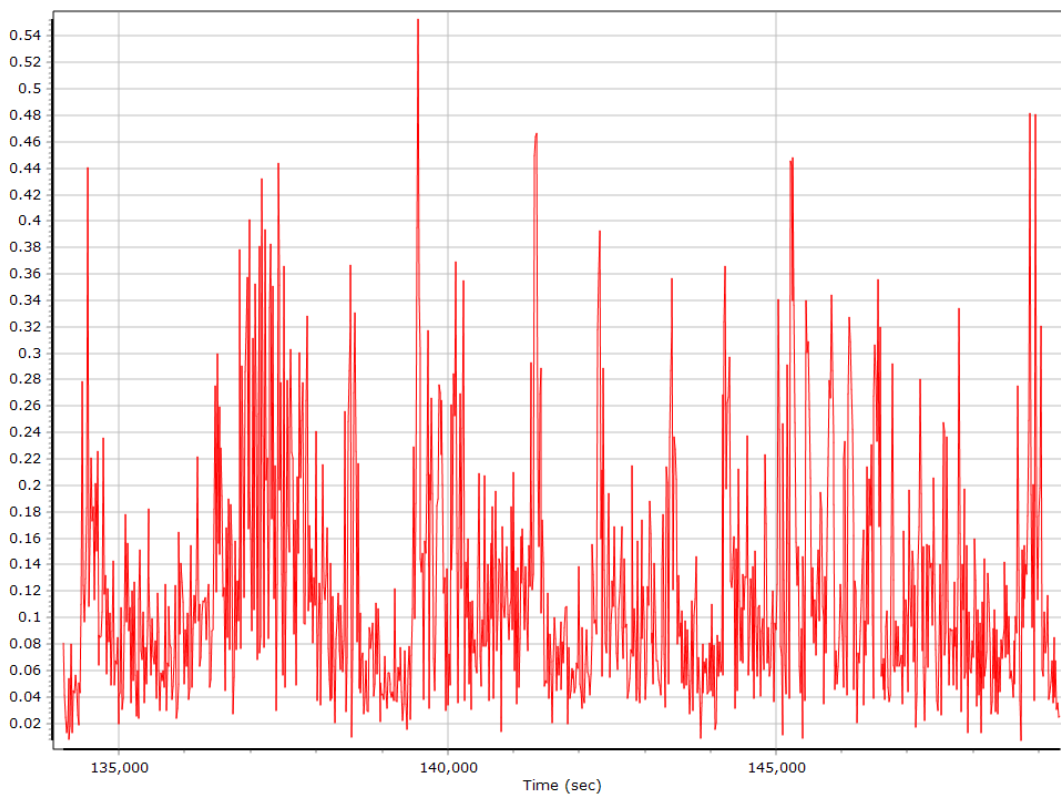
Ground Speed



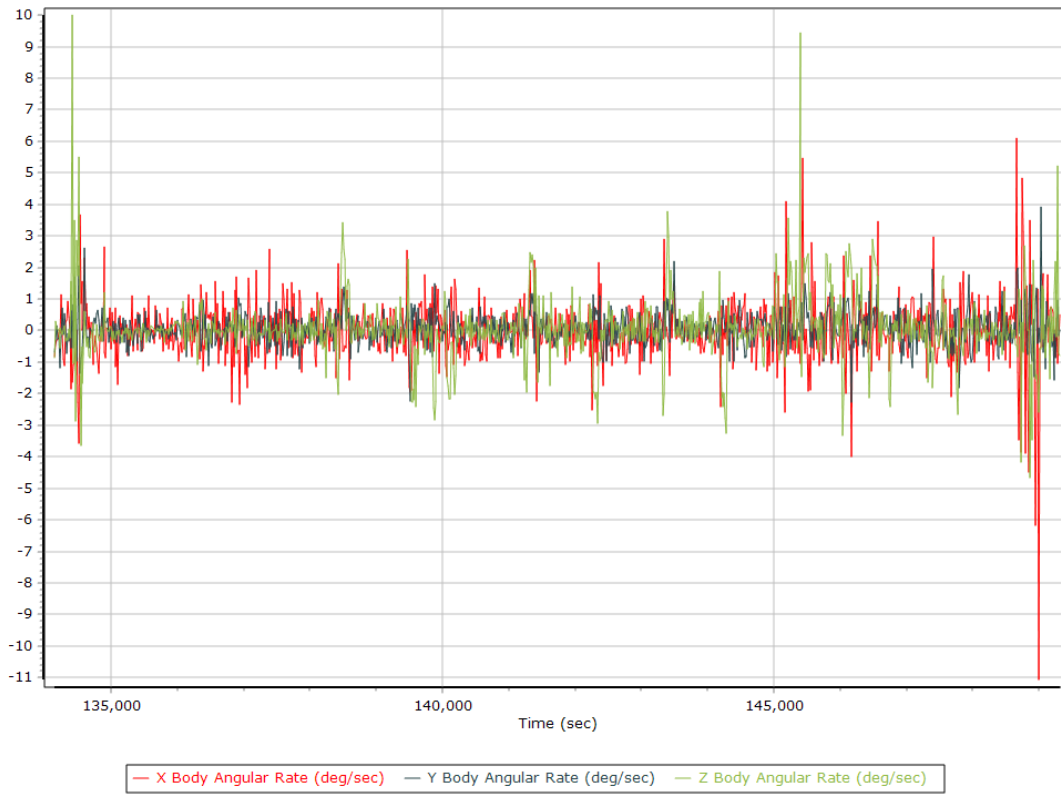
Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/02/2019	FLMD	57.83	GNSS	1	User	None	Imported
12/02/2019	PTLK	170.71	GNSS	1	User	None	Imported
12/02/2019	OCLA	150.11	GNSS	1	User	None	Imported
12/02/2019	LCKY	89.88	GNSS	1	User	None	Imported
12/02/2019	XCTY	41.51	GNSS	1	User	None	Imported
12/02/2019	TAHL	106.00	GNSS	1	User	None	Imported
12/02/2019	PRRY	26.49	GNSS	1	User	None	Imported
12/02/2019	GNVL	114.02	GNSS	1	User	None	Imported
12/02/2019	FLCB	121.67	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	TAHL
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	15558 s (2082 133788 - 2082 149346)
Number of reference stations	6
Primary station GPS measurement usage (%)	98.5
Primary station GLONASS measurement usage (%)	81.9
Average number of satellites per epoch	12.4
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	18485
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

Base Station Information - FLMD

Station ID	FLMD		
Filename	flmd_daily3360.19o, flmd_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701993
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°22'26.47817"		
Longitude	W83°16'31.72158"		
Ellipsoidal height (m)	0.09500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - PTLK

Station ID	PTLK		
Filename	pltk_daily3360.19o, pltk_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - OCLA

Station ID	OCLA		
Filename	ocla_daily3360.19o, ocla_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - LCKY

Station ID	LCKY		
Filename	lkcy_daily3360.19o, lkcy_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19310		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - XCTY

Station ID	XCTY		
Filename	xcty_daily3360.19o, xcty_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80800		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - TAHL

Station ID	TAHL		
Filename	talh_daily3360.19o, talh_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 3:14:59 AM		
Duration	23:14:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702012
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°23'47.48344"		
Longitude	W84°21'21.03499"		
Ellipsoidal height (m)	-5.83600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - PRRY

Station ID	PRRY		
Filename	prry_daily3360.19o, prry_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702545
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°04'40.11938"		
Longitude	W83°34'28.60872"		
Ellipsoidal height (m)	-12.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - GNVL

Station ID	GNVL		
Filename	gnvl_daily3360.19o, gnv1_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - FLCB

Station ID	FLCB		
Filename	flcb_daily3360.19o, flcb_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 3:14:59 AM		
Duration	23:14:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702509
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°50'33.36155"		
Longitude	W84°41'42.53223"		
Ellipsoidal height (m)	-19.60900		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	10.44	116.98	
Number of GPS SV	6	9	8
Number of GLONASS SV	0	6	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	7	15	12
PDOP	1.19	2.37	1.59
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	15528.00	0.00	1.00
Percentage	99.99	0.00	0.01

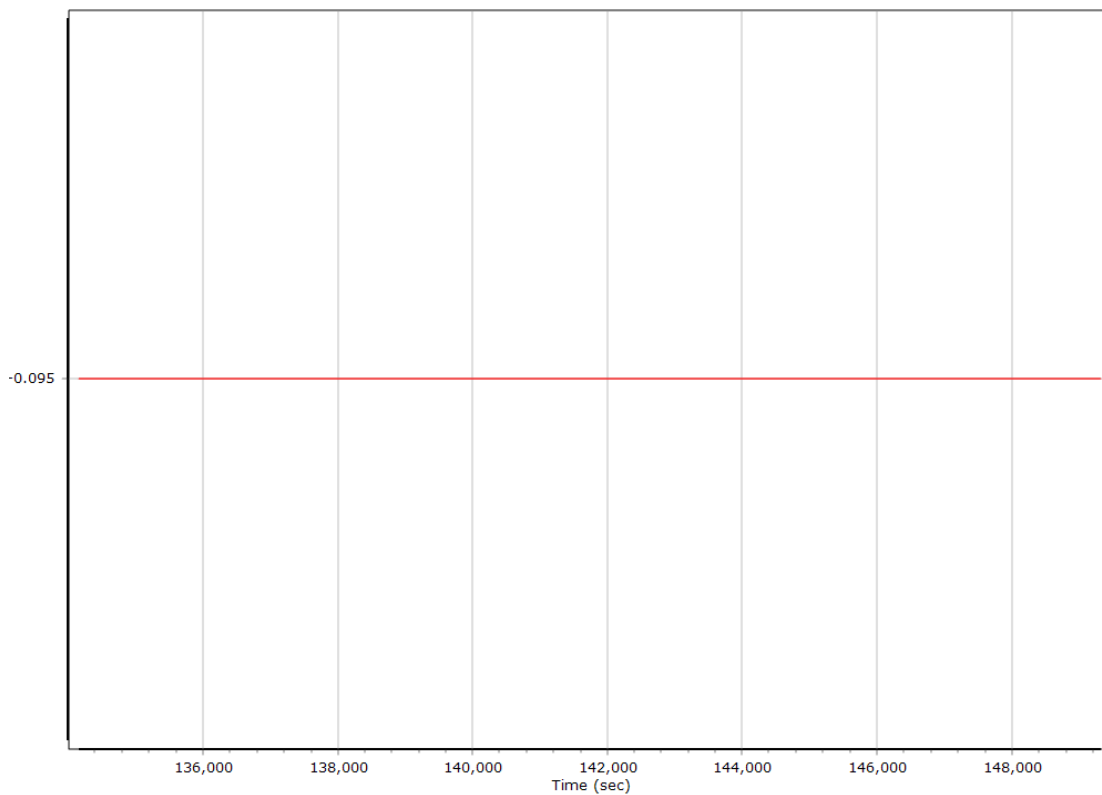
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	134092.990 (12/2/2019 1:14:52 PM)		
Processing end time	149328.000 (12/2/2019 5:28:48 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	-0.095	0.063	-1.259
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

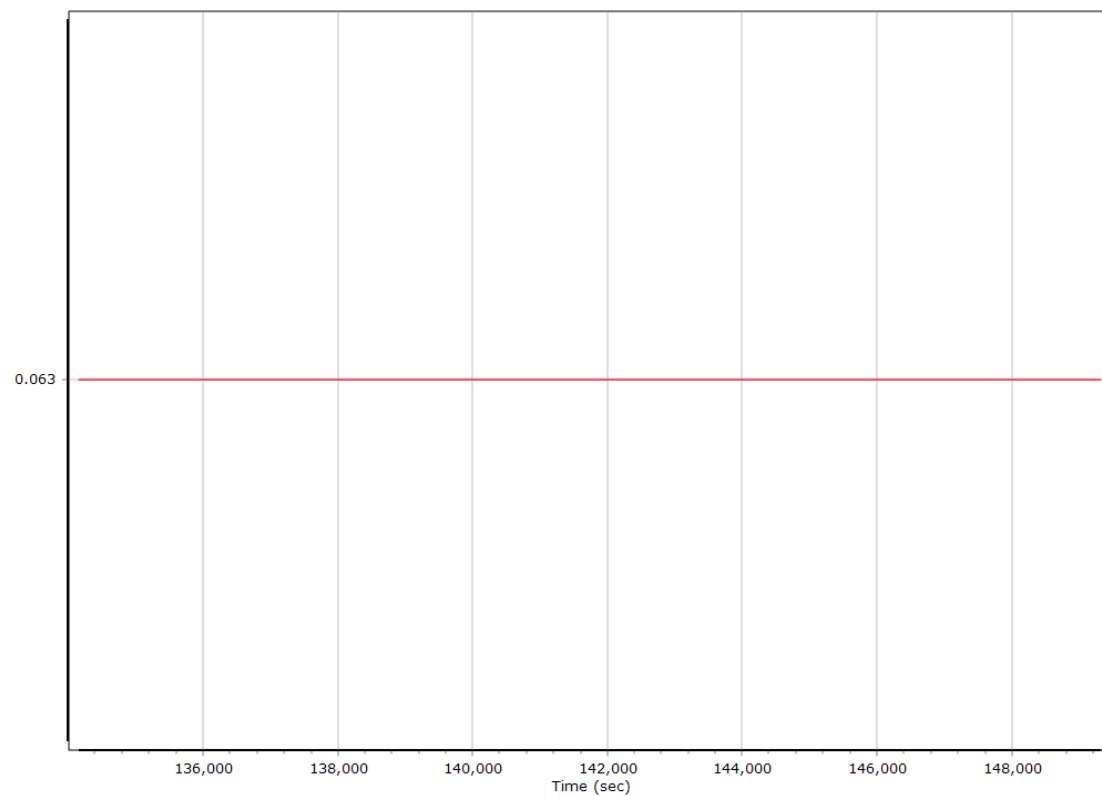
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

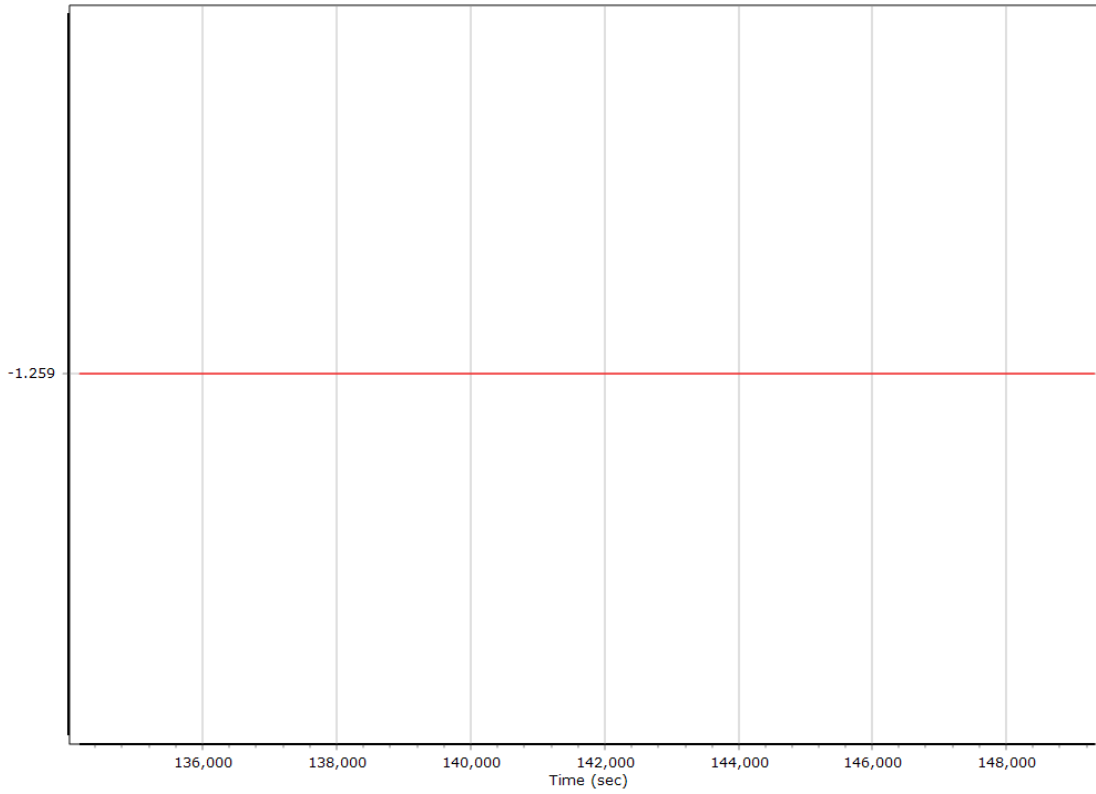
X Reference-Primary GNSS Lever Arm (m)



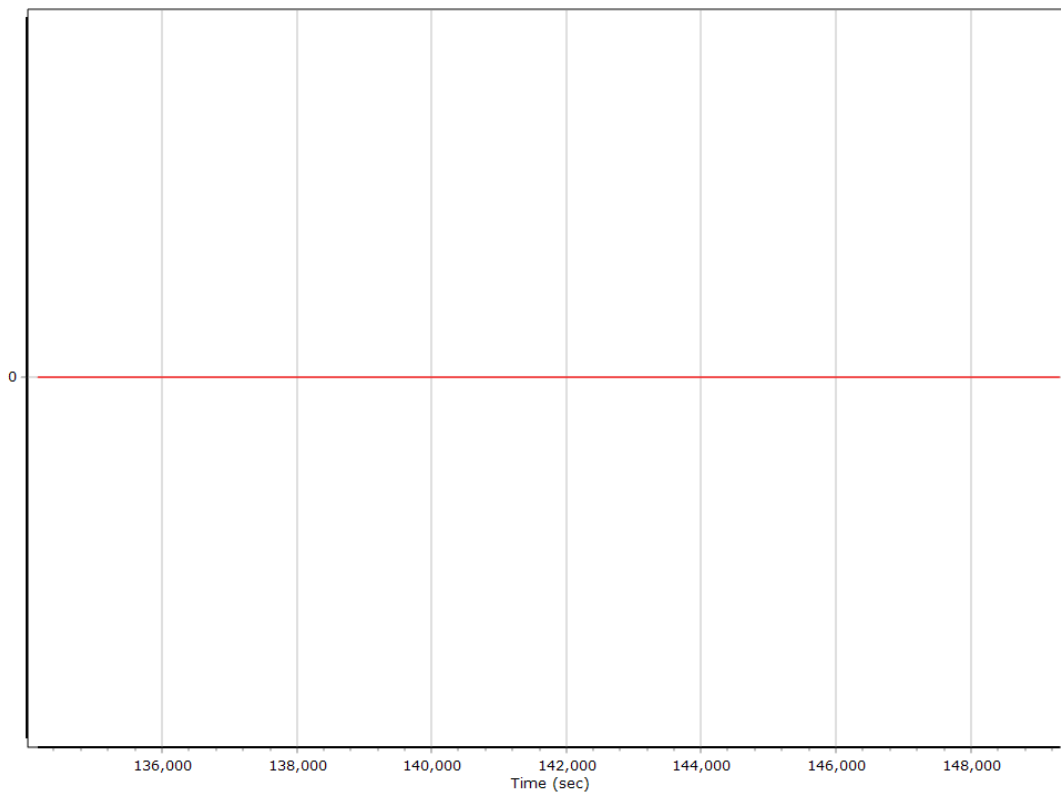
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



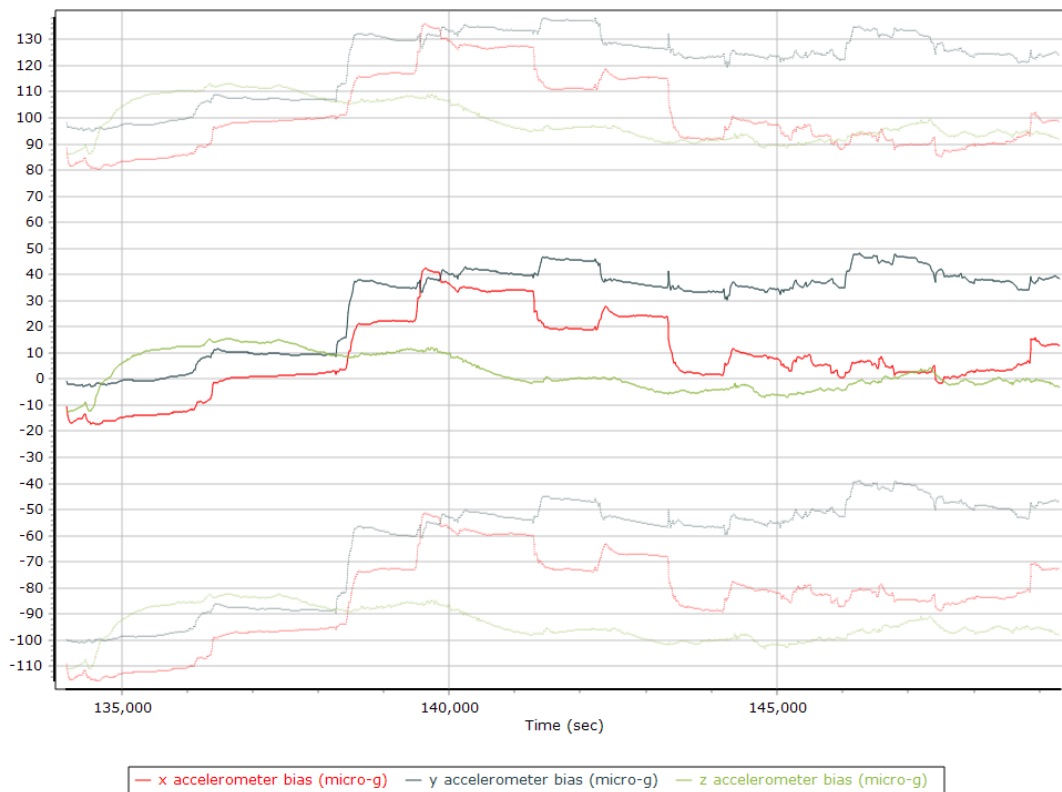
Reference-Primary GNSS Lever Arm Figure of Merit



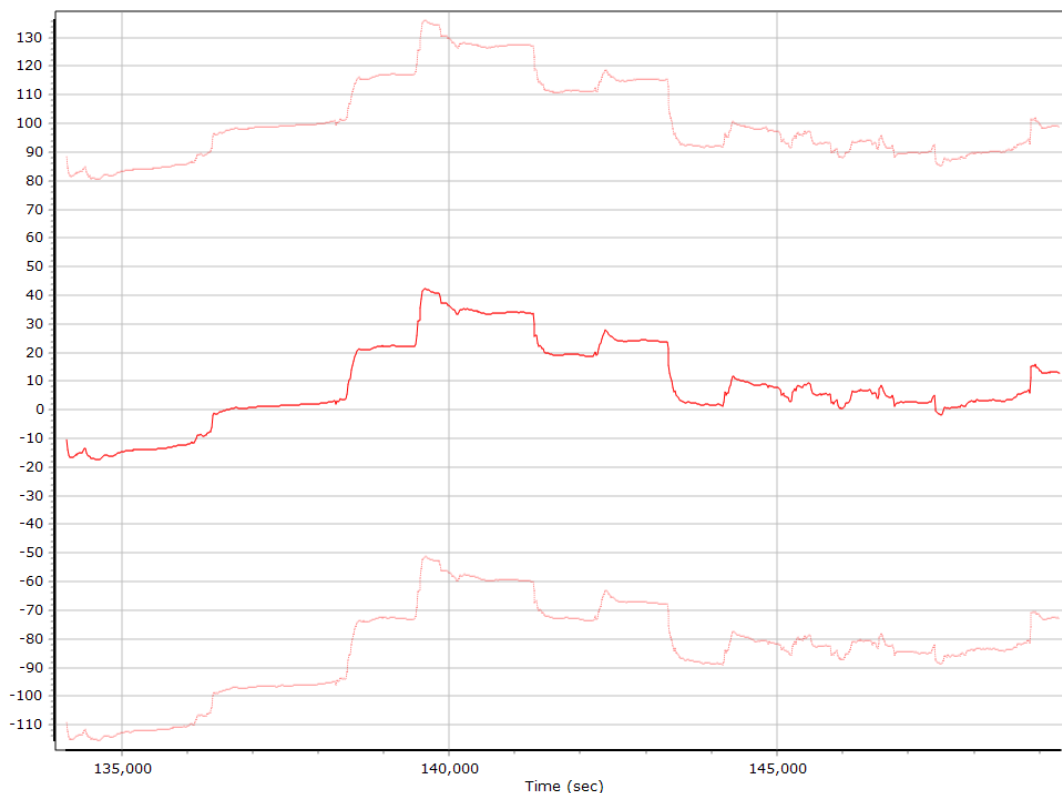
Forward Processed IN-Fusion QC

Forward Processed Estimated Errors, Reference Frame

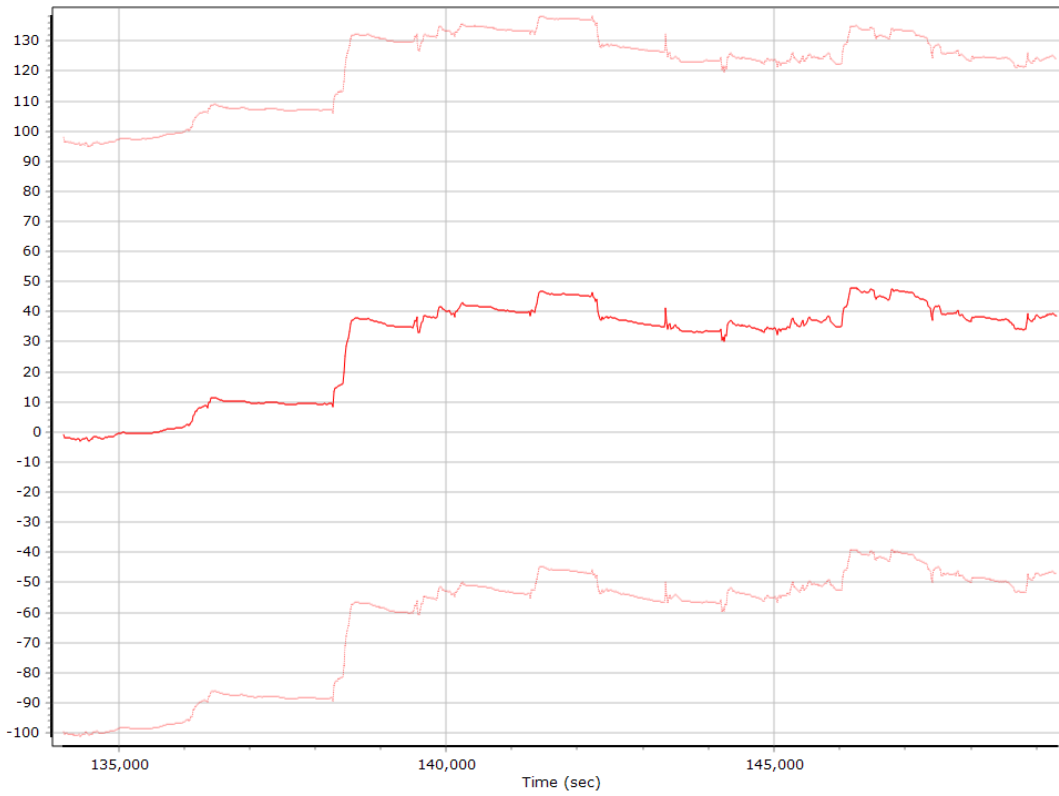
Accelerometer Bias (micro-g)



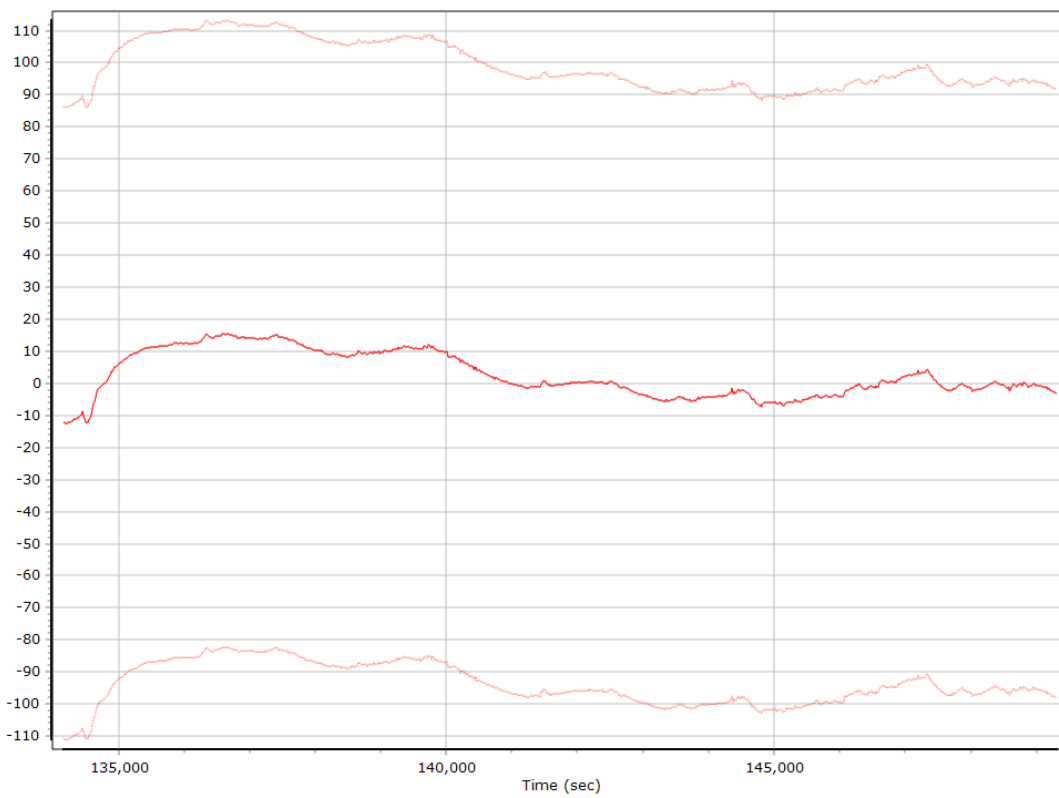
X Accelerometer Bias (micro-g)



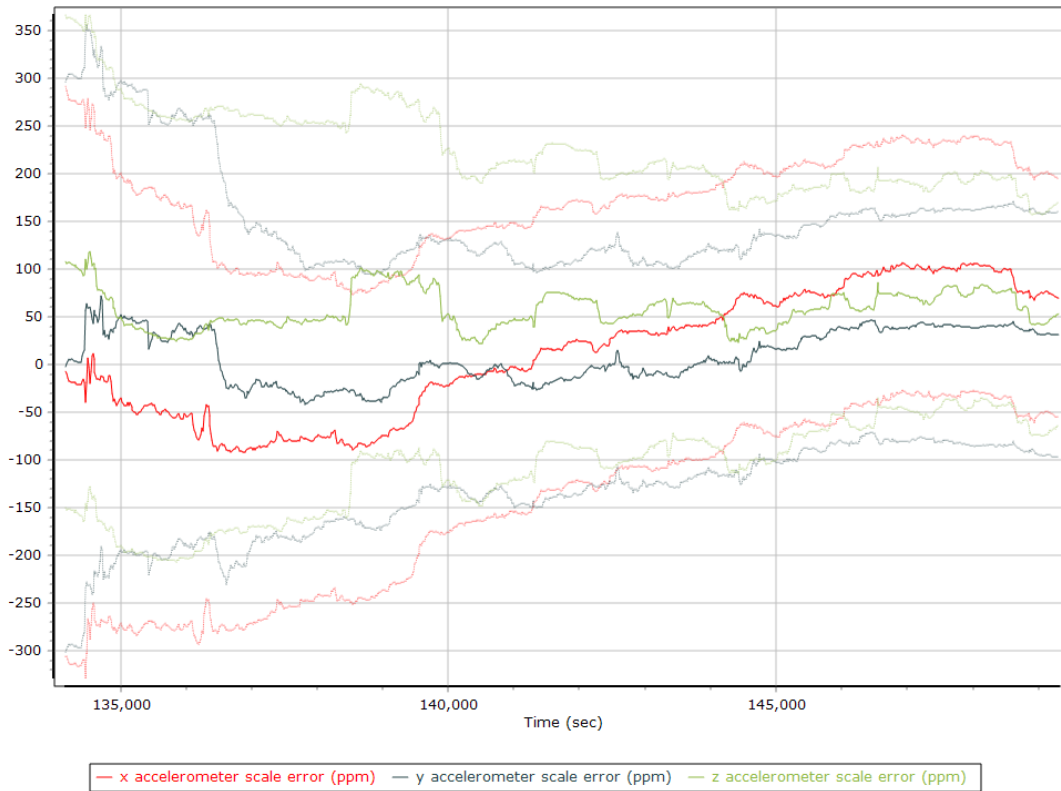
Y Accelerometer Bias (micro-g)



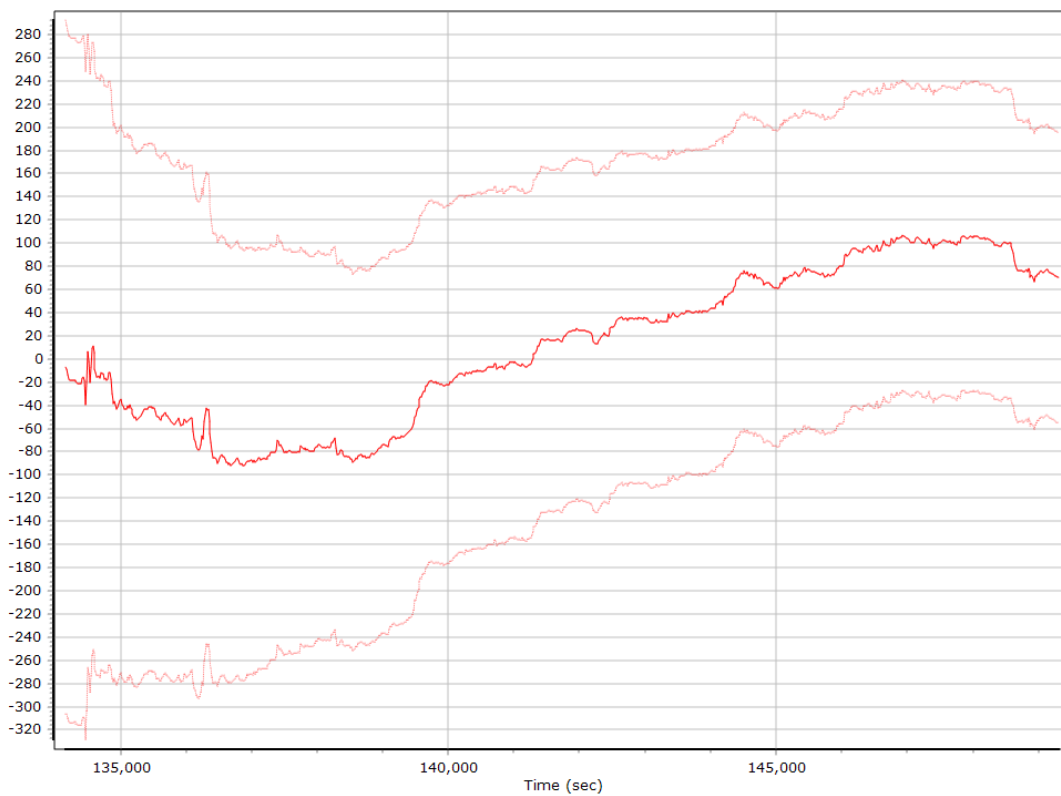
Z Accelerometer Bias (micro-g)



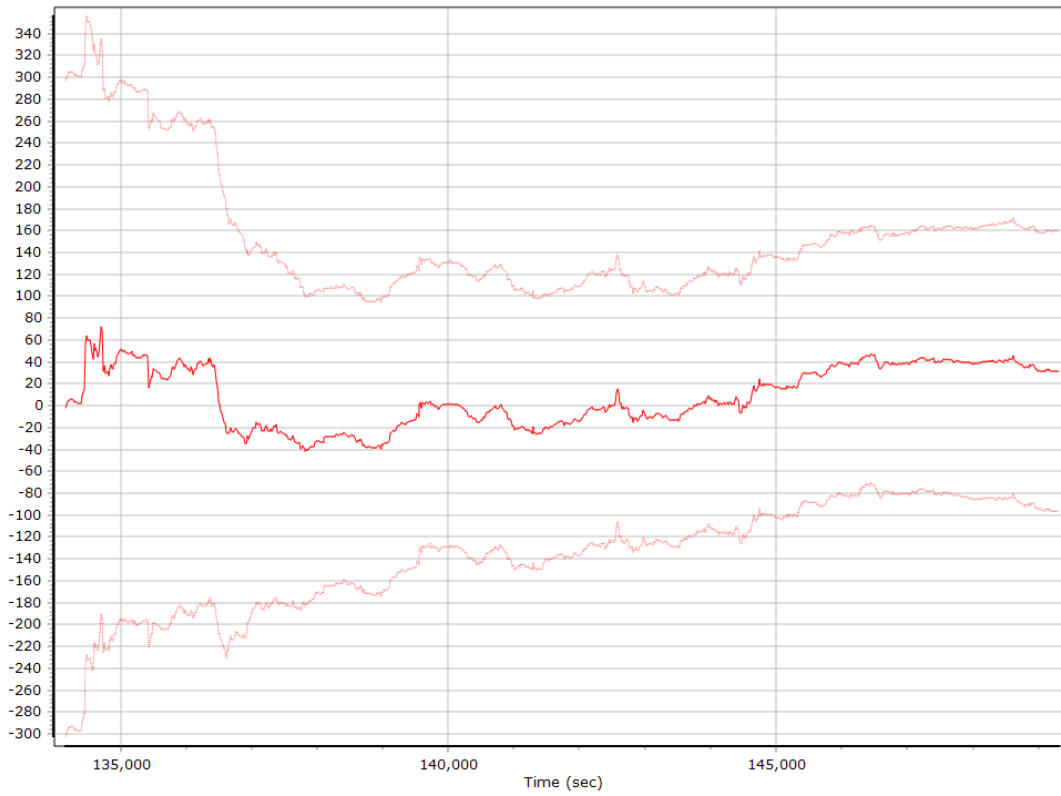
Accelerometer Scale Error (ppm)



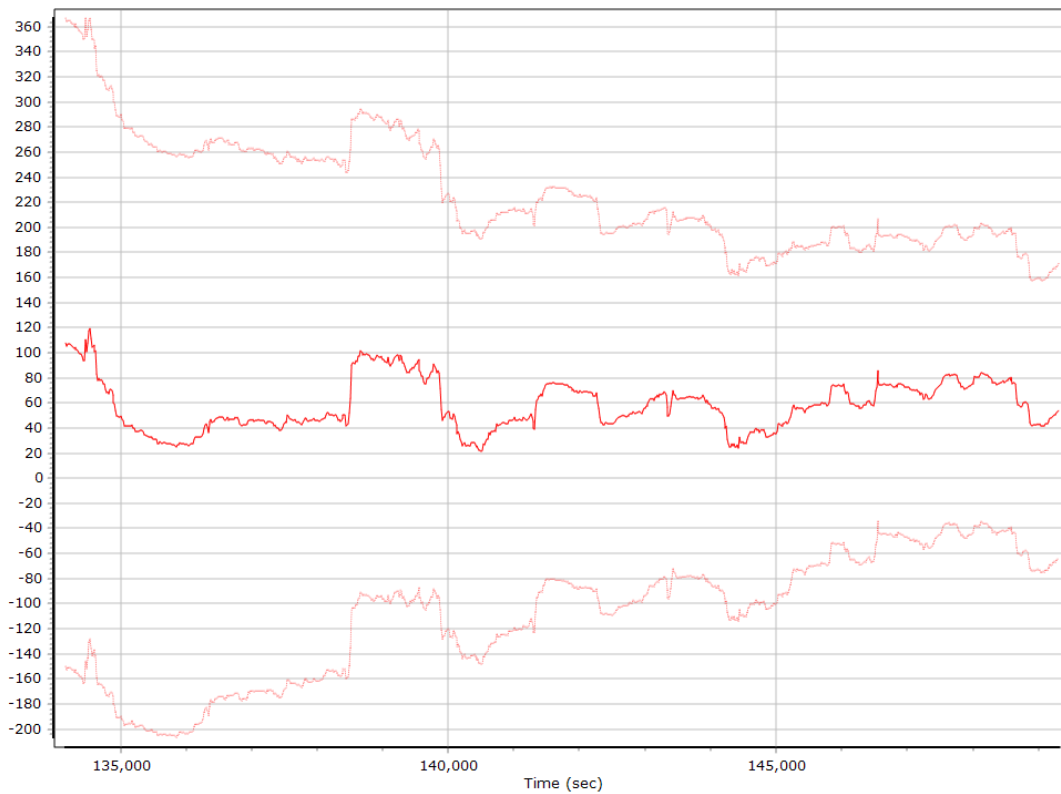
X Accelerometer Scale Error (ppm)



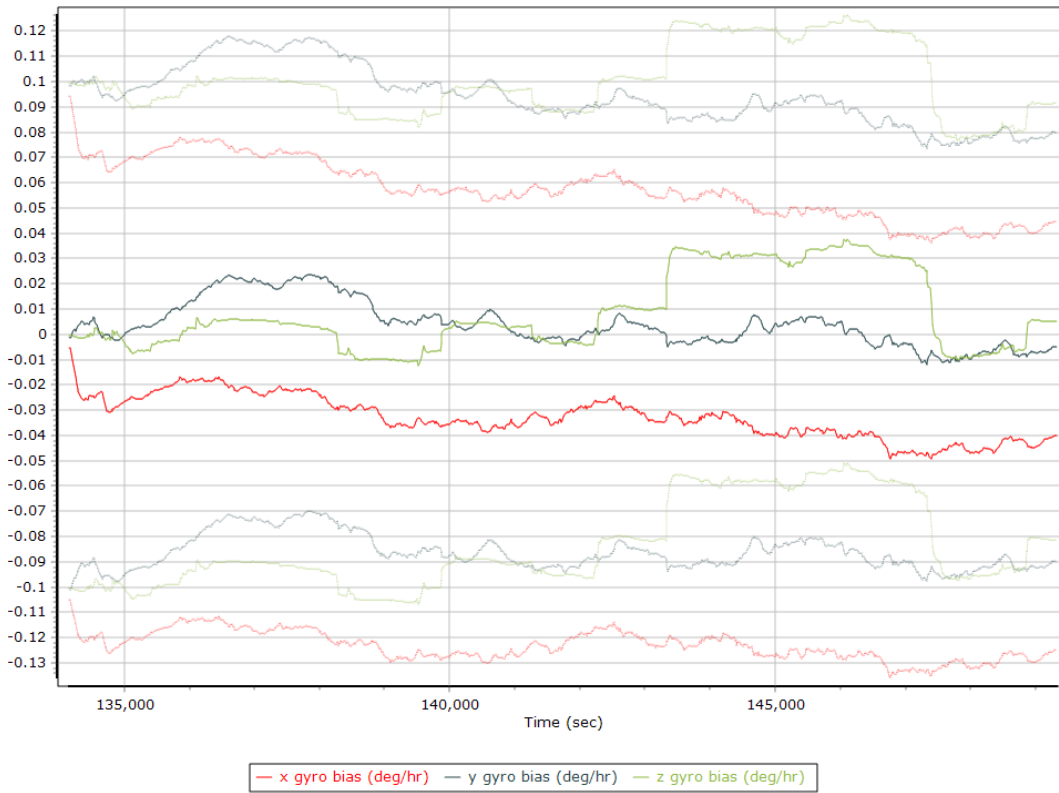
Y Accelerometer Scale Error (ppm)



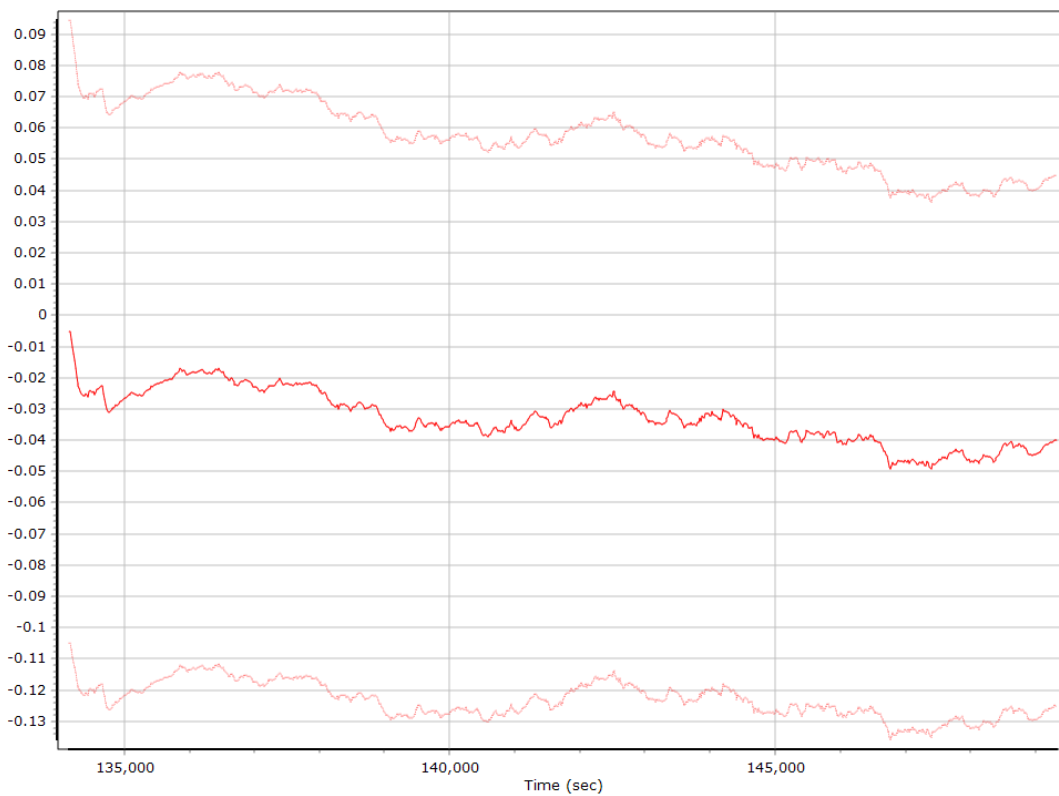
Z Accelerometer Scale Error (ppm)



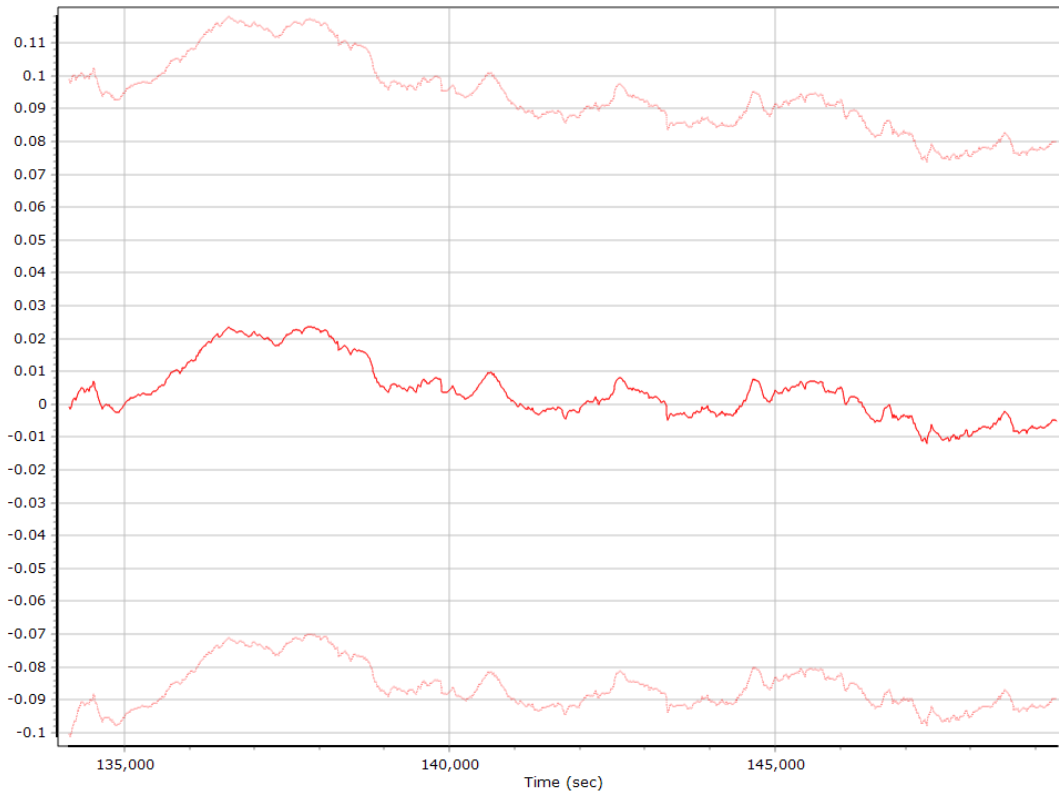
Gyro Bias (deg/h)



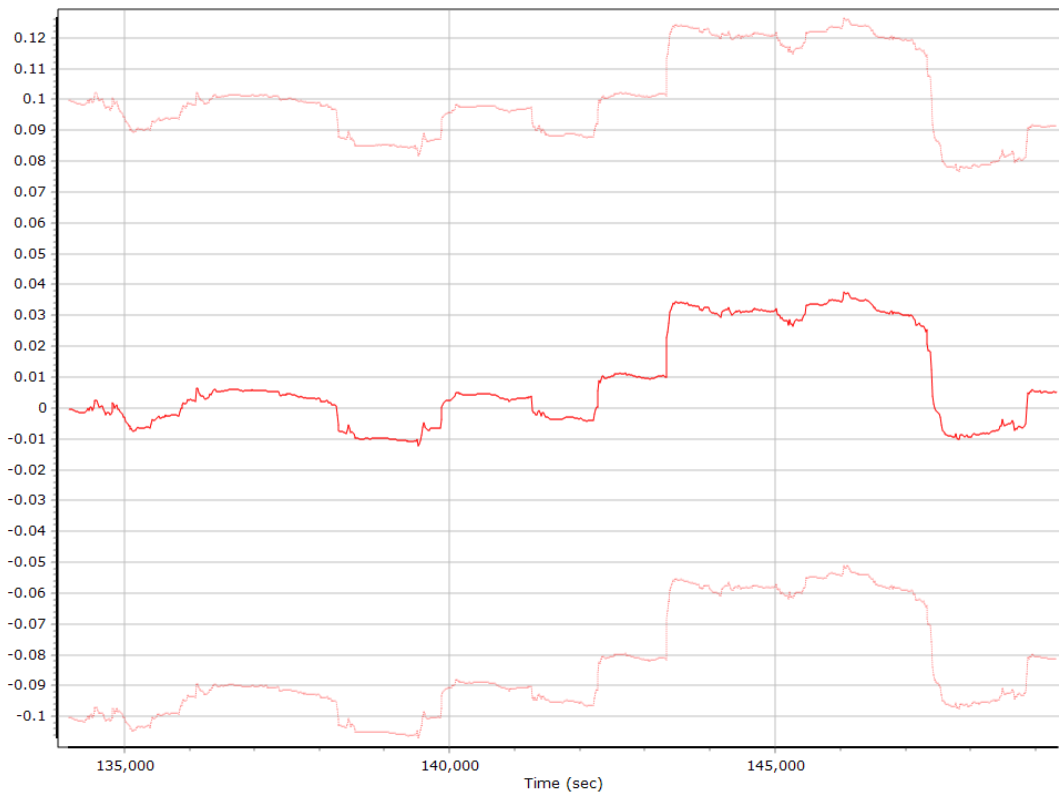
X Gyro Bias (deg/h)



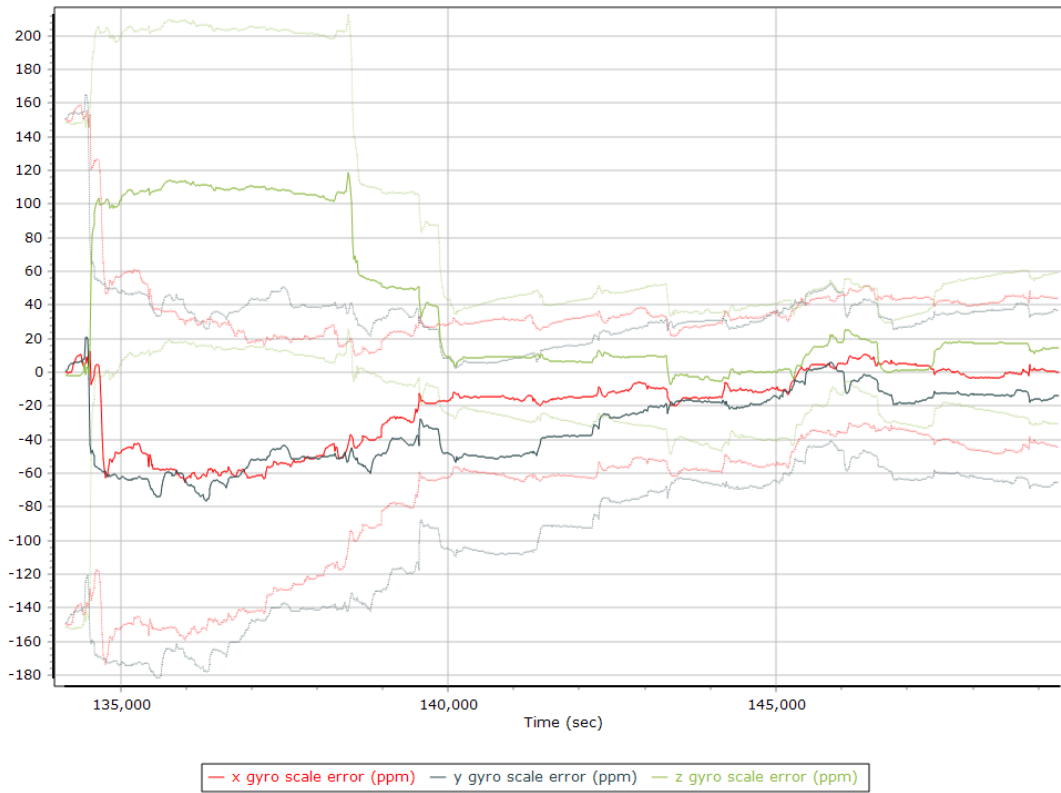
Y Gyro Bias (deg/h)



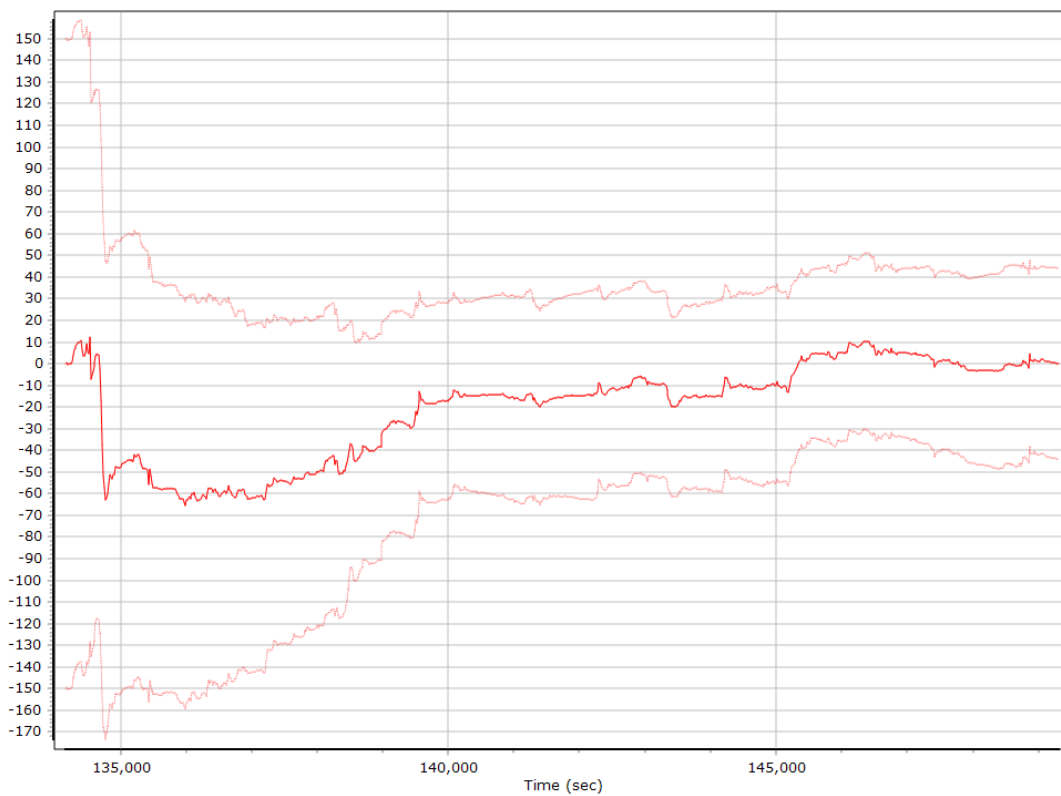
Z Gyro Bias (deg/h)



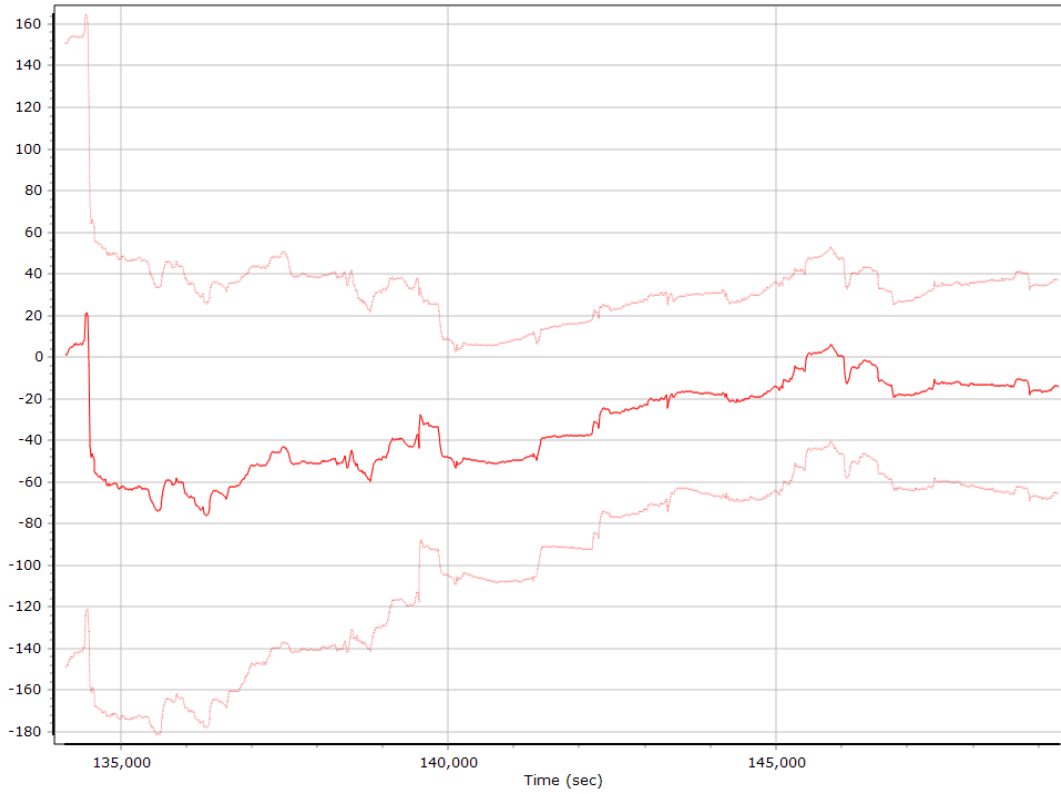
Gyro Scale Error (ppm)



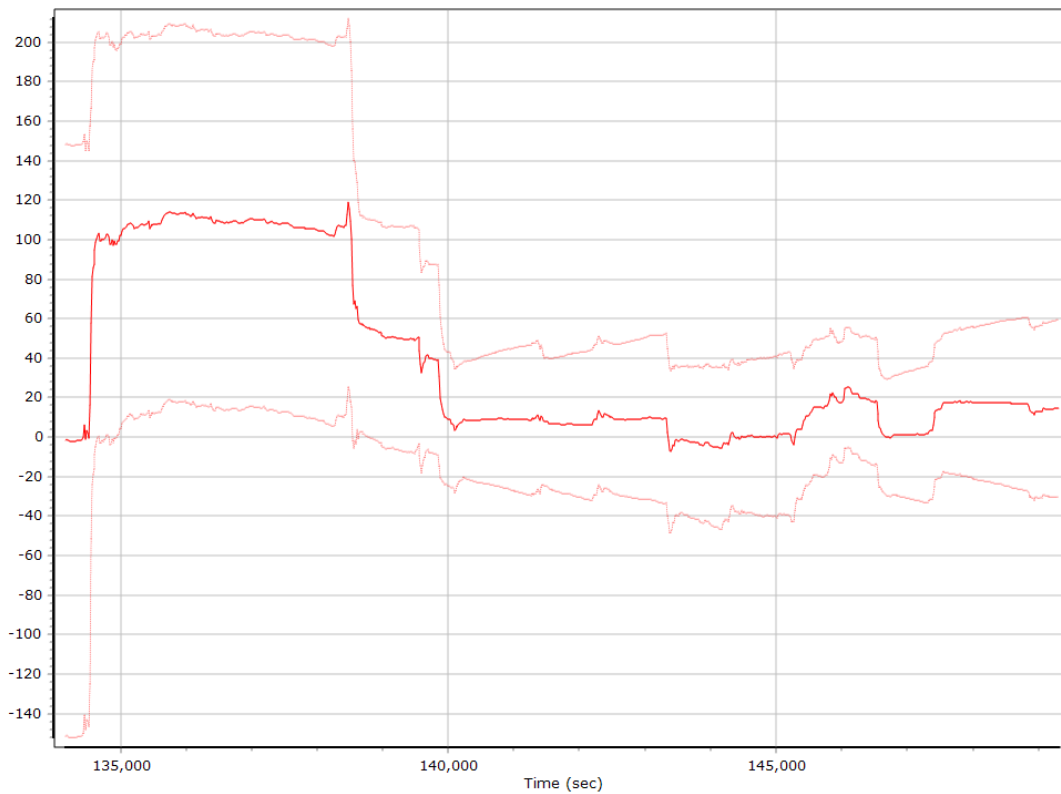
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

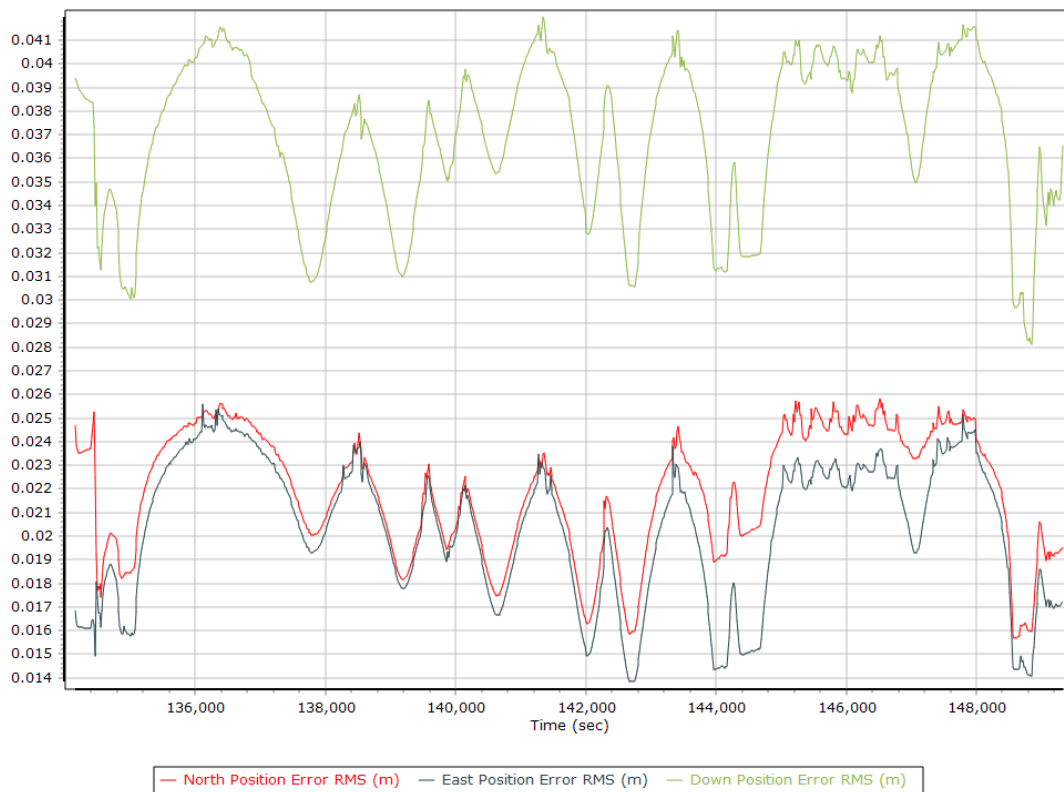


Z Gyro Scale Error (ppm)

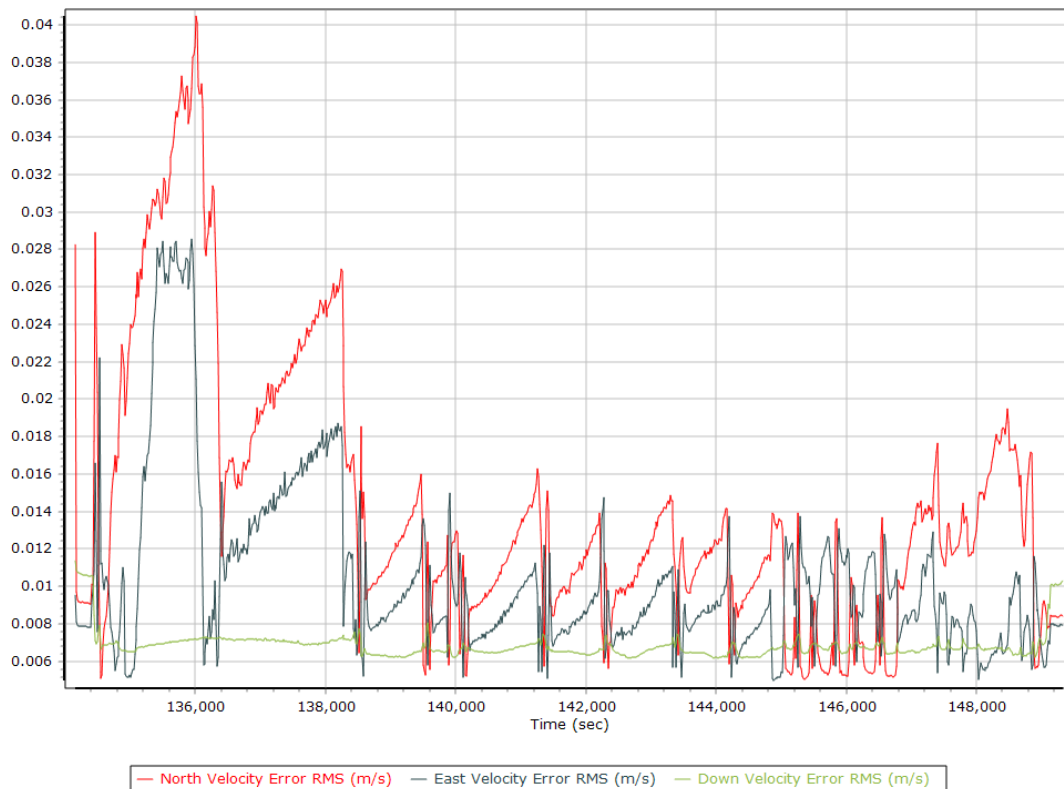


Forward Processed Performance Metrics

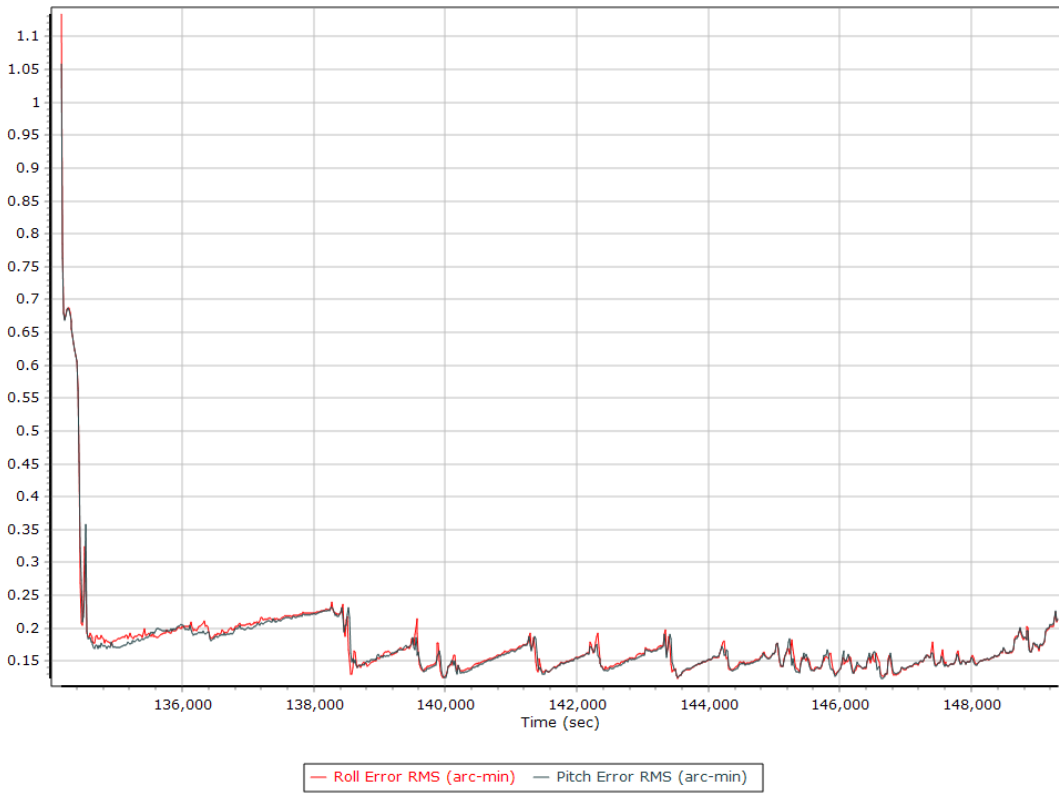
Position Error RMS (m)



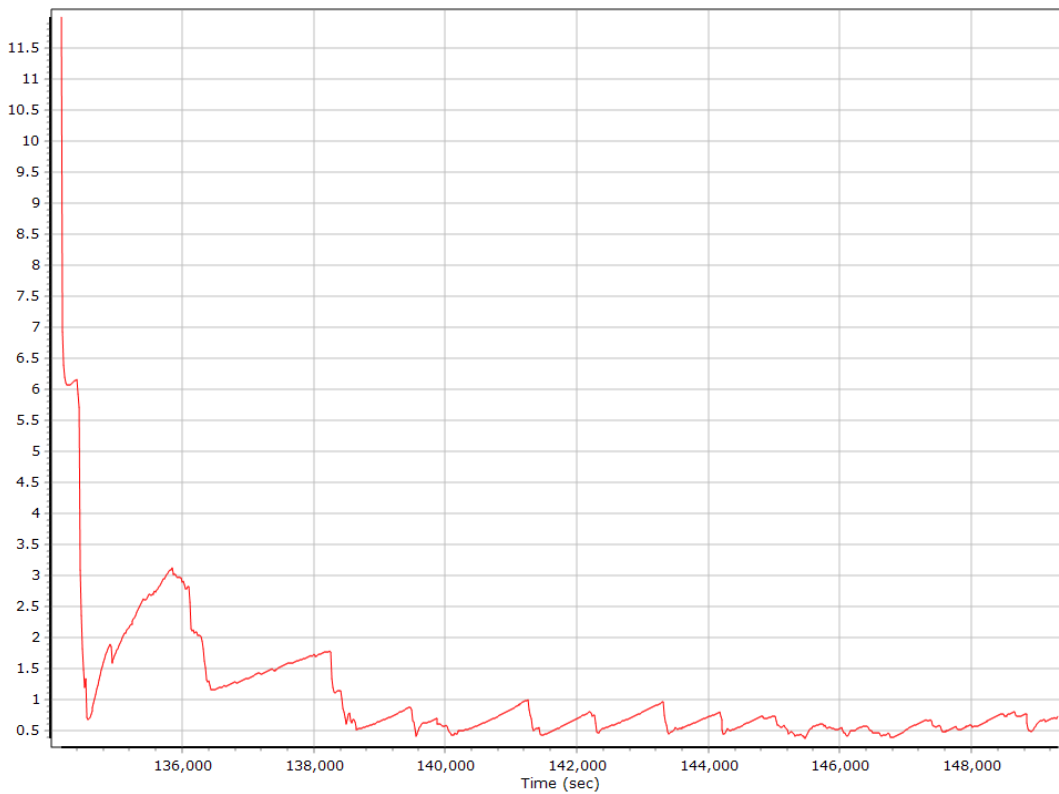
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

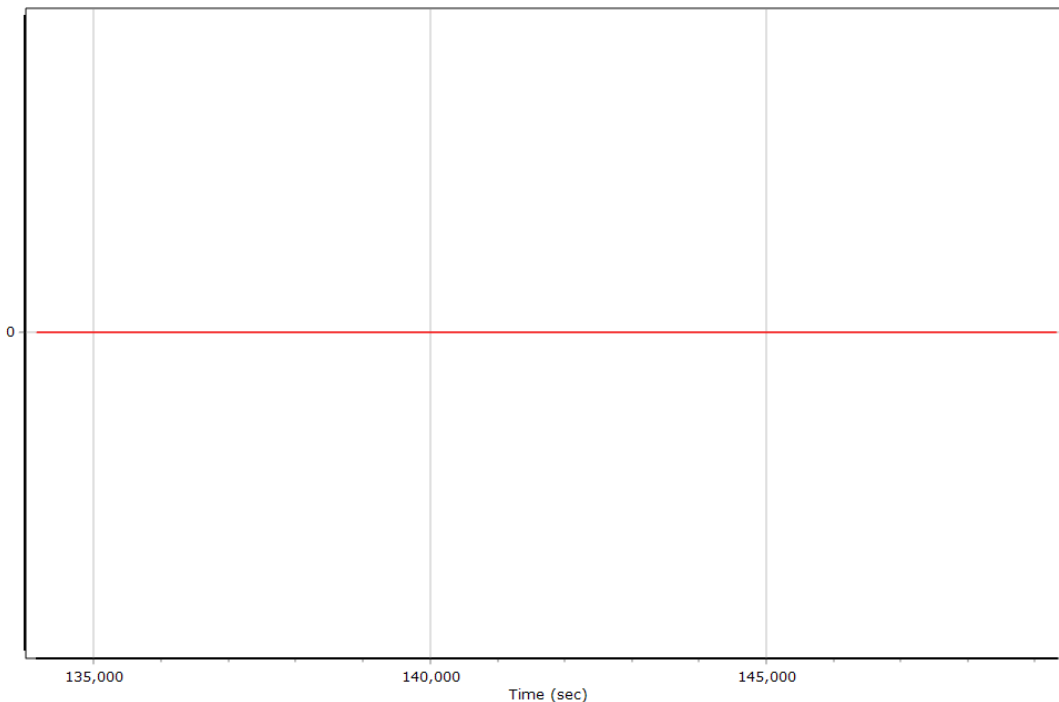


Heading Error RMS (arc-min)



Forward Processed Solution Status

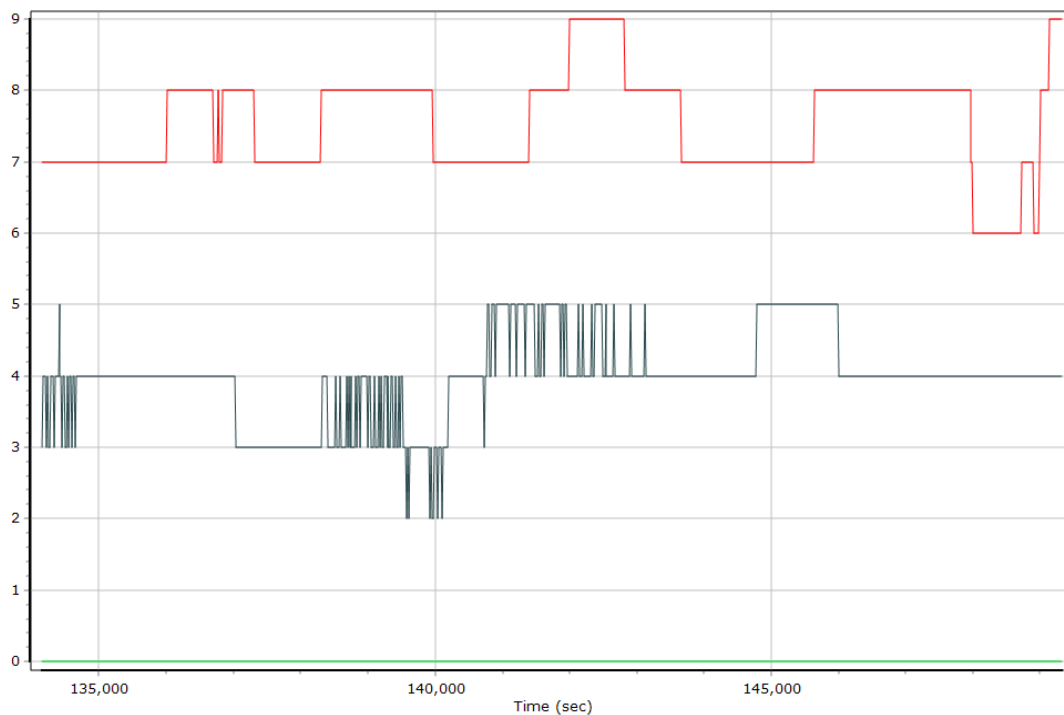
Processing Mode



Forward Reverse

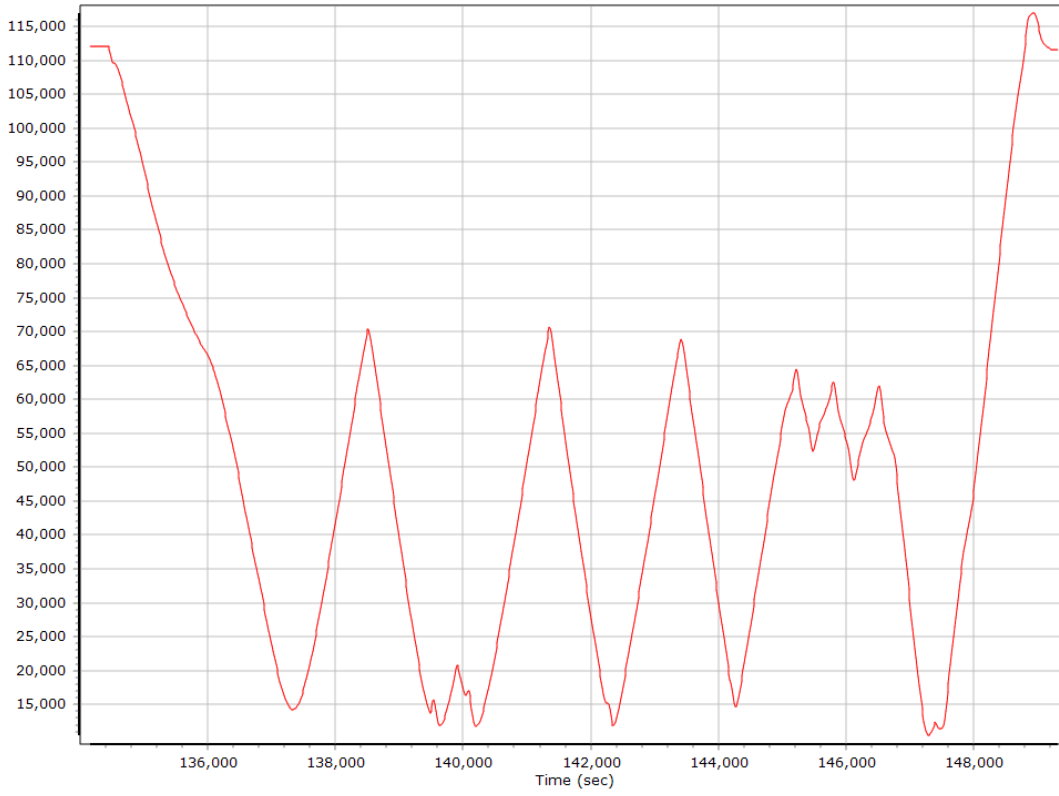
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites



— Number of GPS Satellites
 — Number of GLONASS Satellites
 — Number of QZSS Satellites
— Number of BEIDOU Satellites
 — Number of GALILEO Satellites

Baseline Length



General Information

Mission Information

Project name	88619337A
Processing date	2019-12-11 15:02:51
Mission date	2019-12-03 18:25:11
Mission duration	03:46:16.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N9642
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
N63886_19_337_A.113	POS Data
N63886_19_337_A.114	POS Data
N63886_19_337_A.115	POS Data
N63886_19_337_A.116	POS Data
N63886_19_337_A.117	POS Data
N63886_19_337_A.118	POS Data
N63886_19_337_A.119	POS Data
N63886_19_337_A.120	POS Data
N63886_19_337_A.121	POS Data
N63886_19_337_A.122	POS Data
N63886_19_337_A.123	POS Data
N63886_19_337_A.124	POS Data
N63886_19_337_A.125	POS Data
N63886_19_337_A.126	POS Data
N63886_19_337_A.127	POS Data
N63886_19_337_A.128	POS Data
N63886_19_337_A.129	POS Data
N63886_19_337_A.130	POS Data
N63886_19_337_A.131	POS Data
N63886_19_337_A.132	POS Data
N63886_19_337_A.133	POS Data
N63886_19_337_A.134	POS Data
N63886_19_337_A.135	POS Data
N63886_19_337_A.136	POS Data
N63886_19_337_A.137	POS Data
N63886_19_337_A.138	POS Data
N63886_19_337_A.139	POS Data
N63886_19_337_A.140	POS Data
N63886_19_337_A.141	POS Data
N63886_19_337_A.142	POS Data
N63886_19_337_A.143	POS Data
N63886_19_337_A.144	POS Data
N63886_19_337_A.145	POS Data
N63886_19_337_A.146	POS Data

Input Files

File Name	File Type
Ephm3370.19g	GLONASS Broadcast Ephemeris
Ephm3370.19n	GPS Broadcast Ephemeris
flbr_daily3370.19o	GNSS SingleBase
flcb_daily3370.19o	GNSS SingleBase
flck_daily3370.19o	GNSS SingleBase
flmd_daily3370.19o	GNSS SingleBase
gnvl_daily3370.19o	GNSS SingleBase
pltk_daily3370.19o	GNSS SingleBase
prry_daily3370.19o	GNSS SingleBase
talh_daily3370.19o	GNSS SingleBase
xcty_daily3370.19o	GNSS SingleBase
Ephm3360.19g	GLONASS Broadcast Ephemeris
Ephm3360.19n	GPS Broadcast Ephemeris
Ephm3380.19g	GLONASS Broadcast Ephemeris
Ephm3380.19n	GPS Broadcast Ephemeris
igu20820_18.sp3	GPS Precise Ephemeris
igu20821_18.sp3	GPS Precise Ephemeris
igu20822_18.sp3	GPS Precise Ephemeris
igu20823_18.sp3	GPS Precise Ephemeris

Output Files

Filename	File type
sbet_88619337A.out	SBET Trajectory File

Rover Data Summary

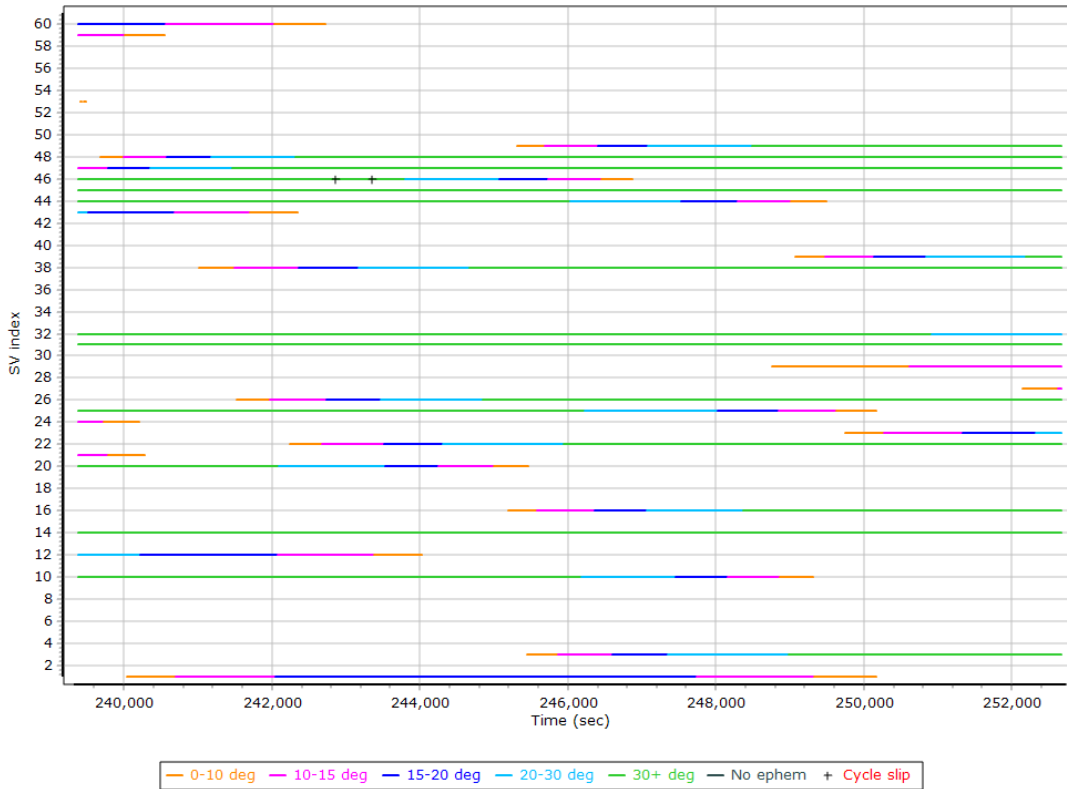
First raw data file	N63886_19_337_A.113		
Last raw data file	N63886_19_337_A.146		
Start GPS week	2082		
Start time	239092.106 (12/3/2019 6:24:52 PM)		
End time	252669.680 (12/3/2019 10:11:09 PM)		
Start of fine alignment	239320.171 (12/3/2019 6:28:40 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

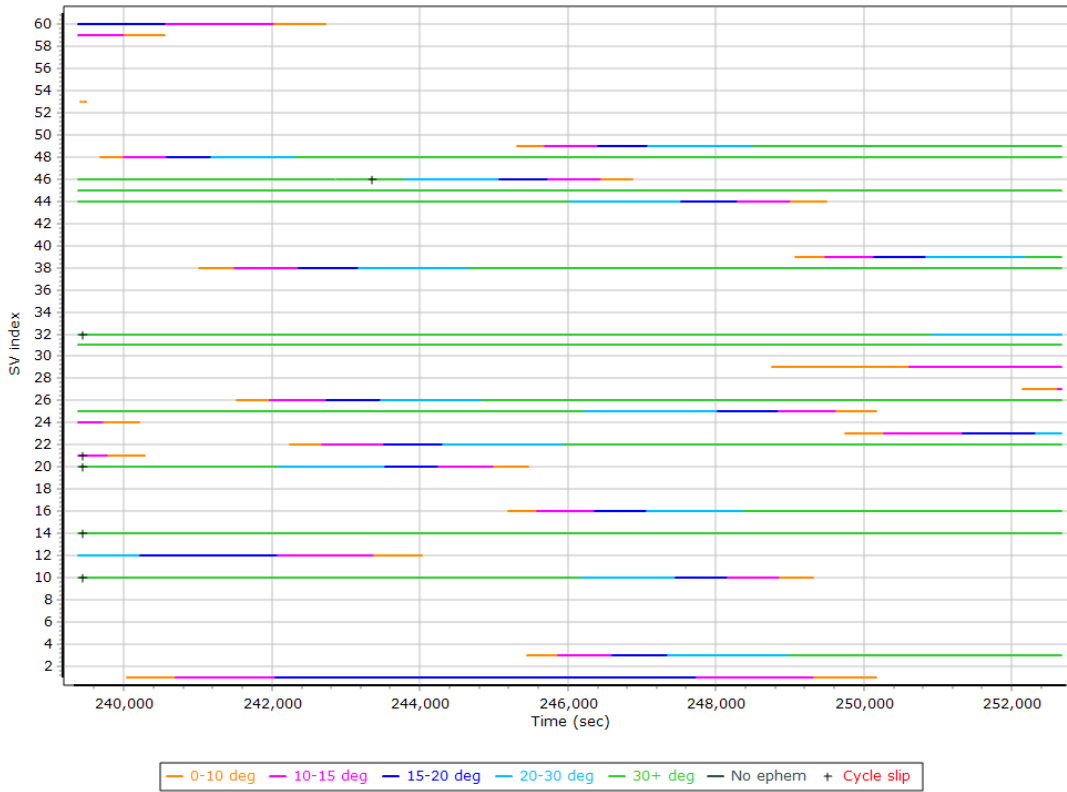
Raw IMU Import QC Summary

IMU data input file	imu_88619337A.dat
IMU data check log file	imudt_88619337A.log
IMU Records Processed	2715123
Termination Status	Normal
IMU Anomalies	0

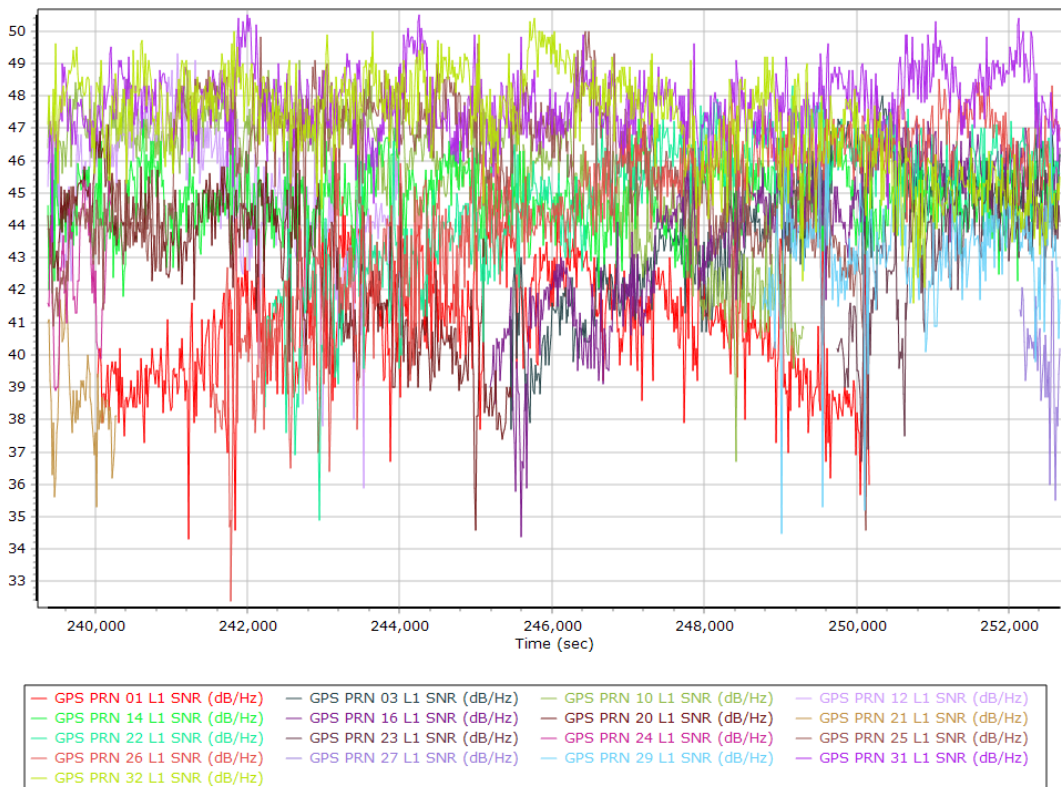
L1 Satellite Lock/Elevation



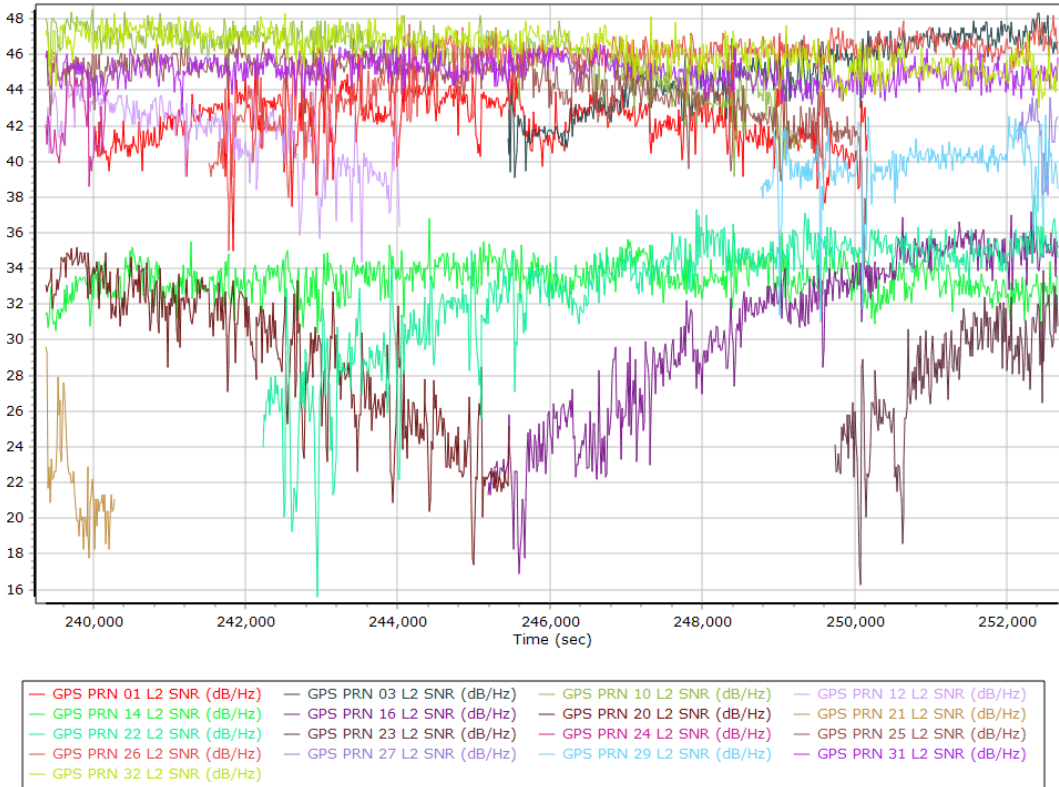
L2 Satellite Lock/Elevation



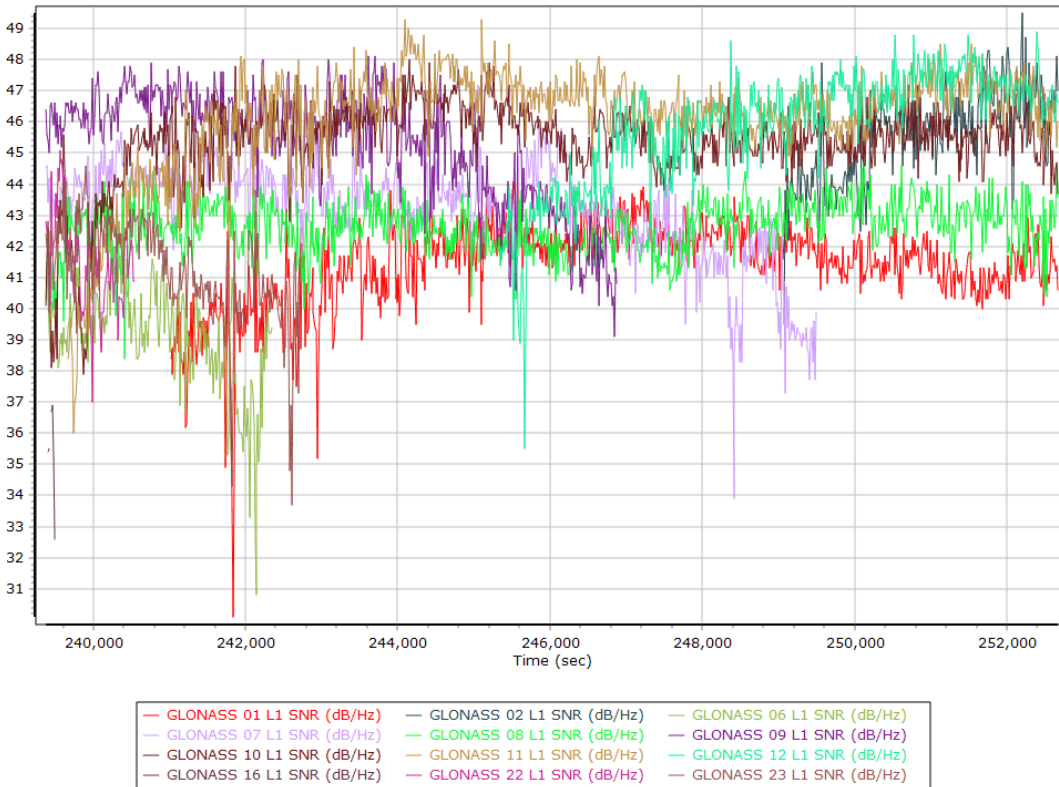
GPS L1 SNR



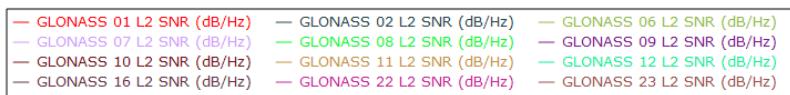
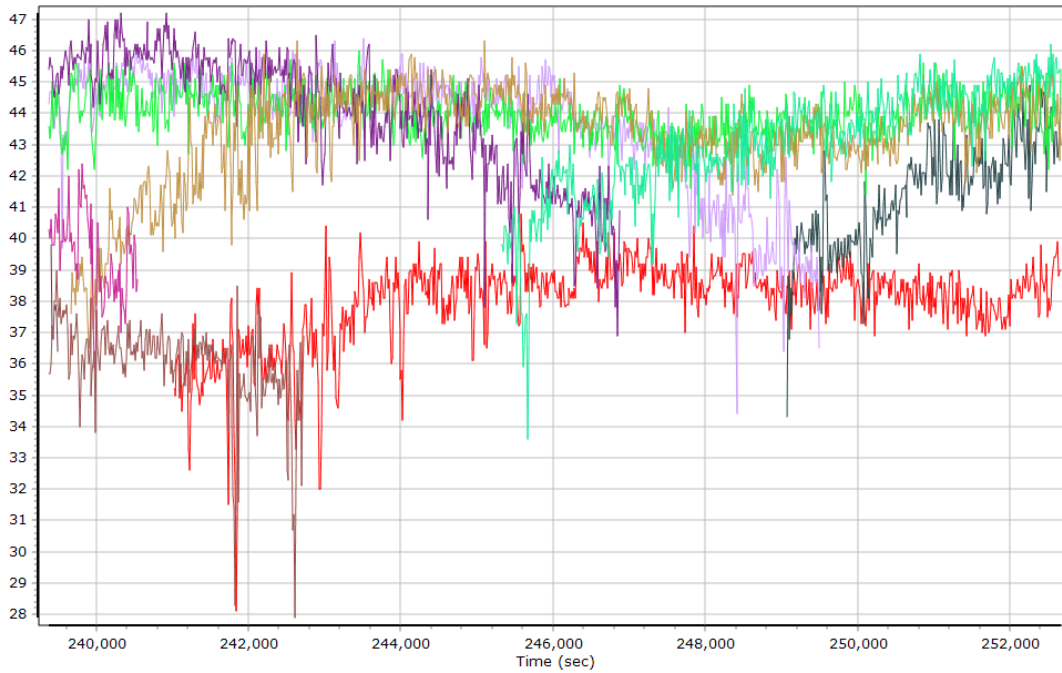
GPS L2 SNR



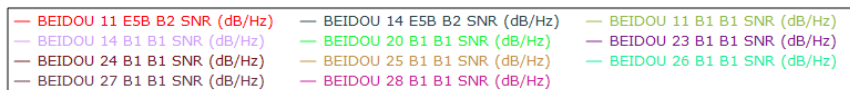
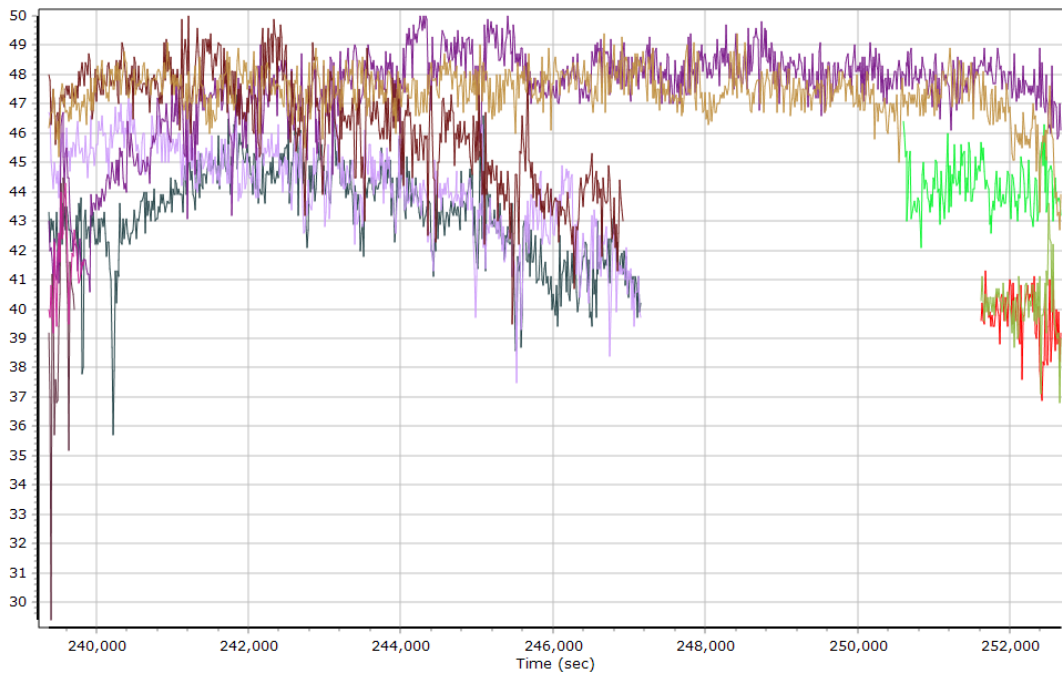
GLONASS L1 SNR



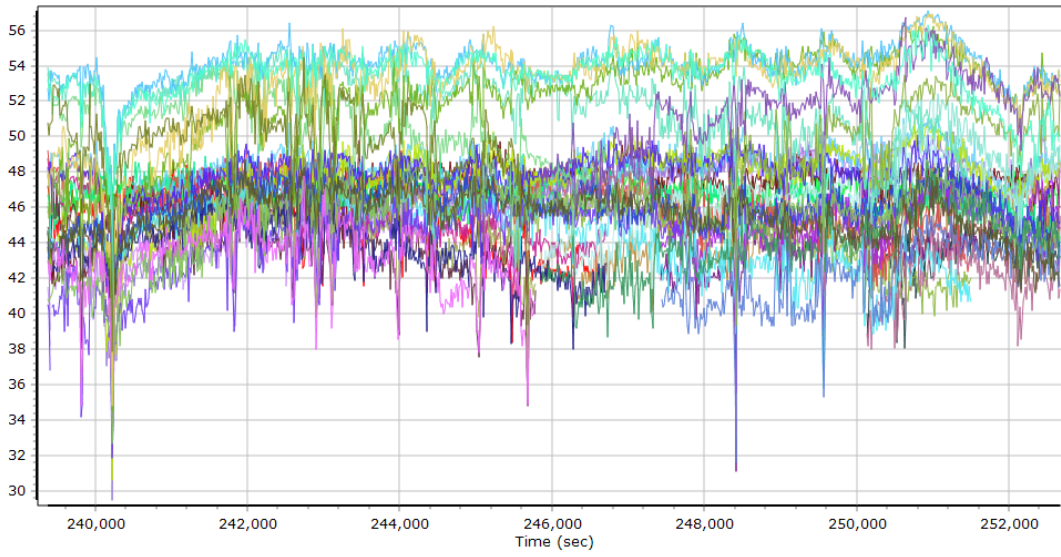
GLONASS L2 SNR



BEIDOU SNR



GALILEO SNR



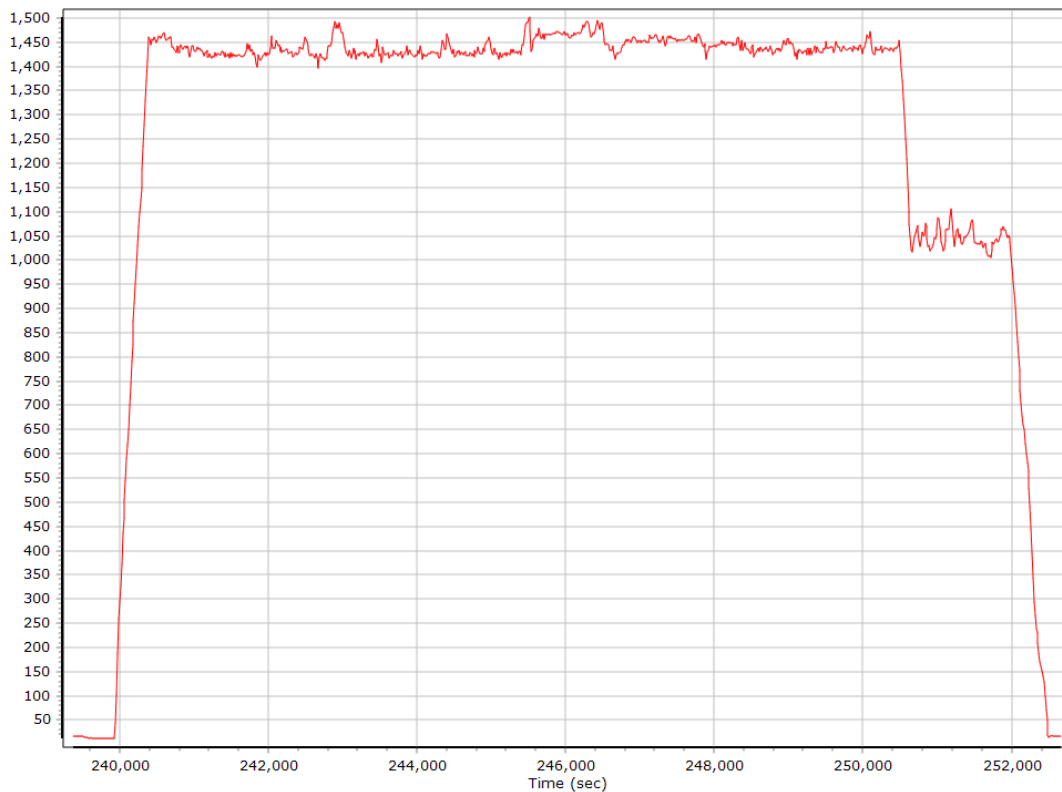
- | | |
|--|--|
| — GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 14 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 31 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 36 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 01 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 03 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 05 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 14 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 24 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 25 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 31 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 36 L5E5A BPSK10_PD SNR (dB/Hz) |

Trajectory Information

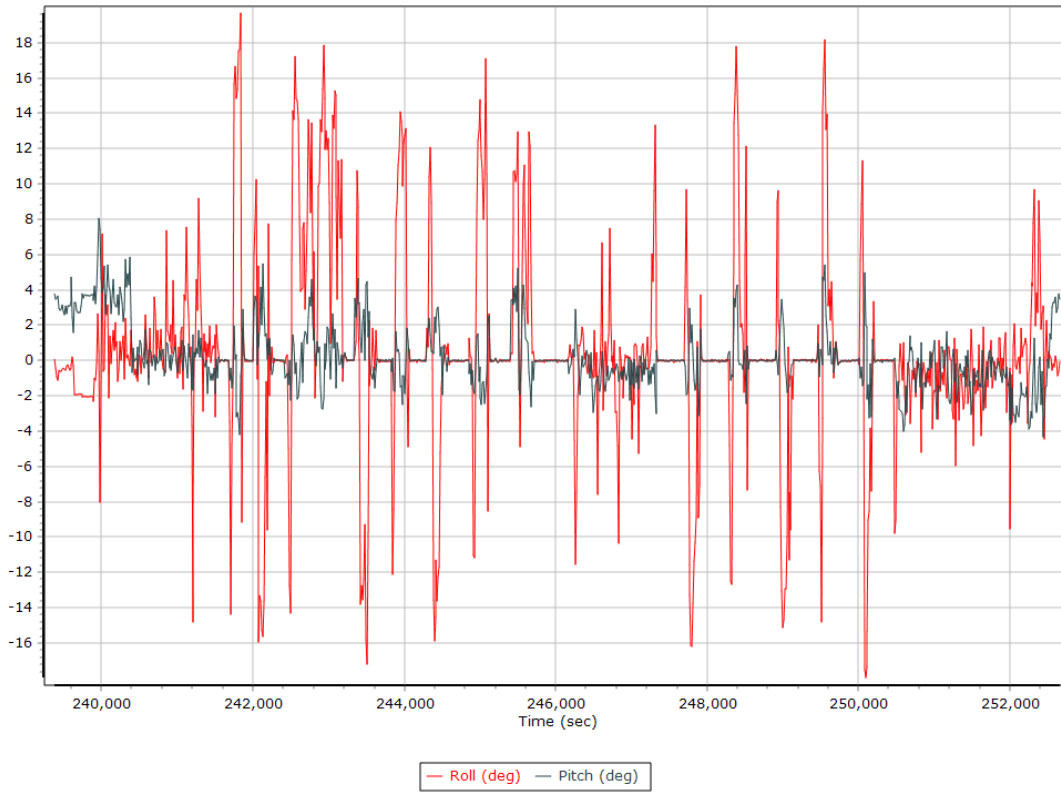
Top View



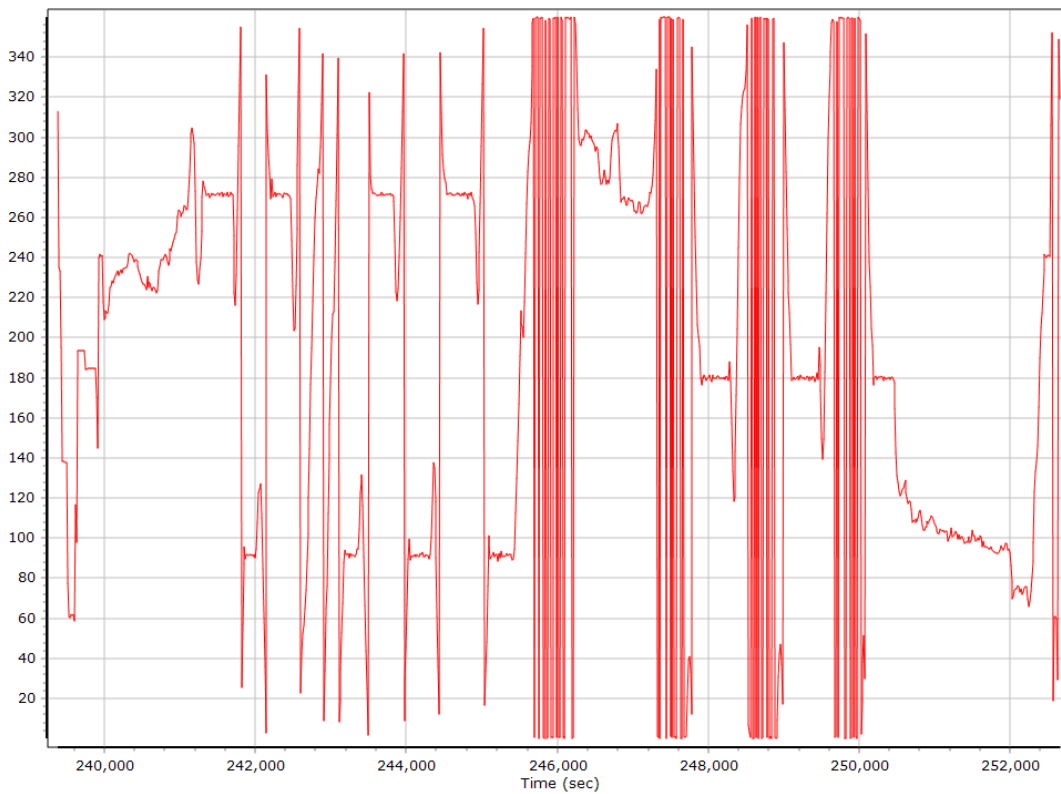
Altitude



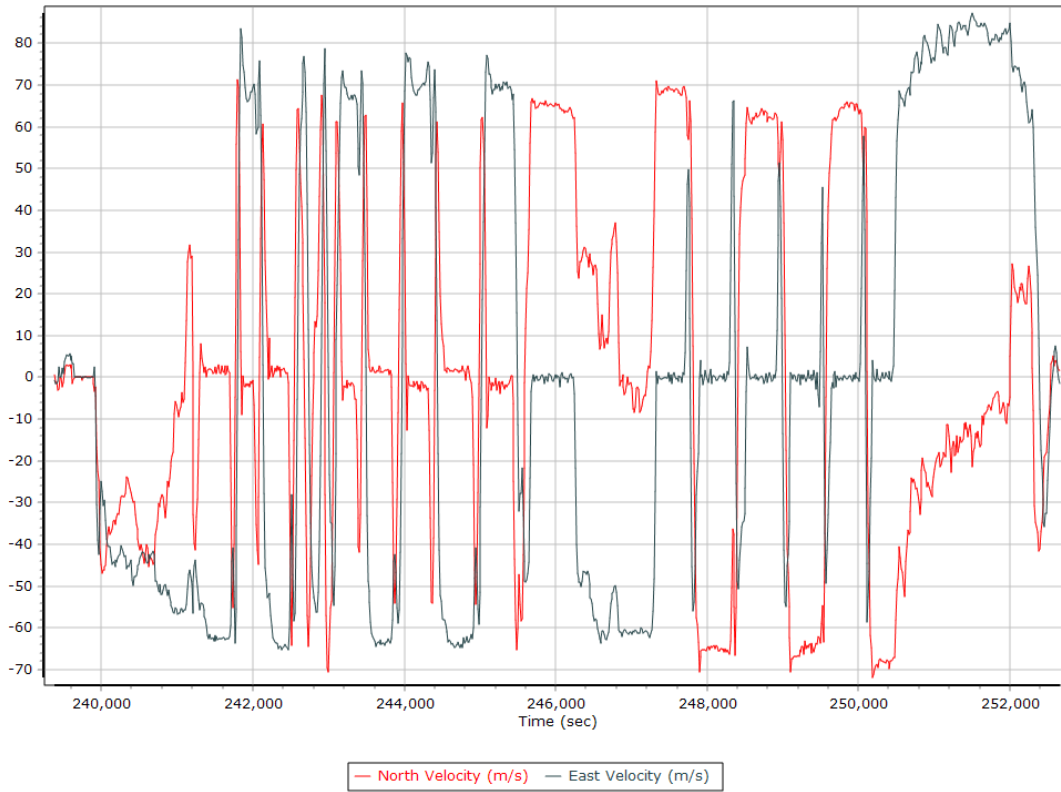
Roll/Pitch



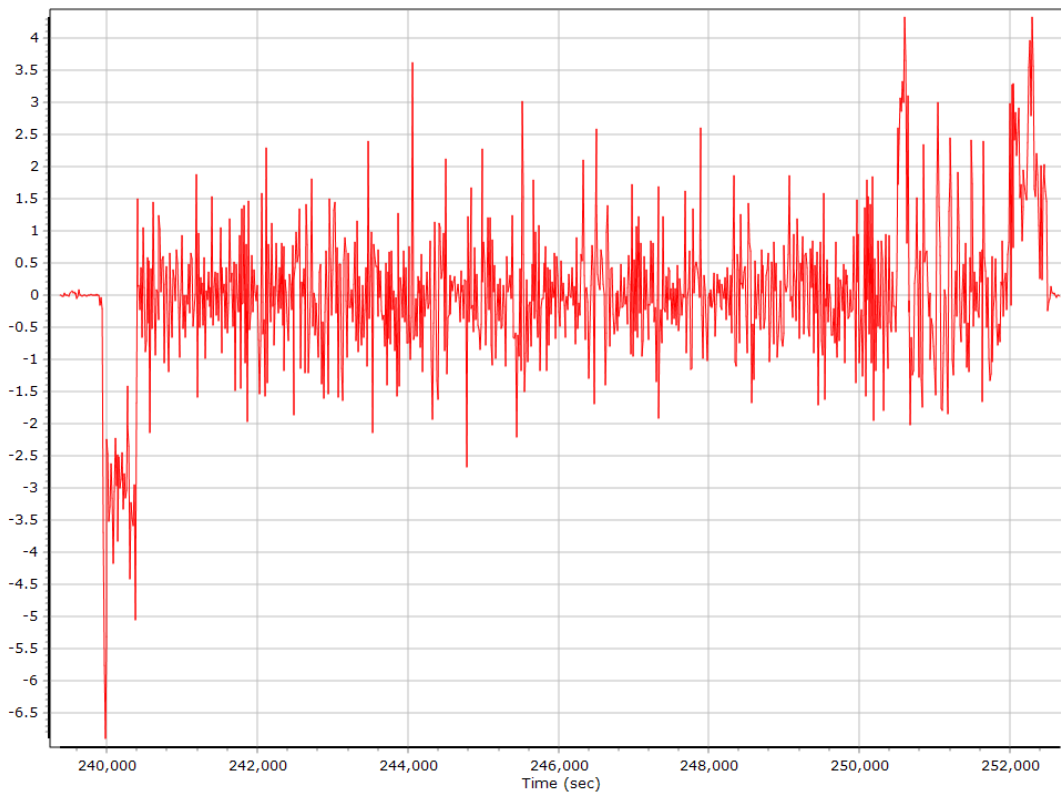
Heading



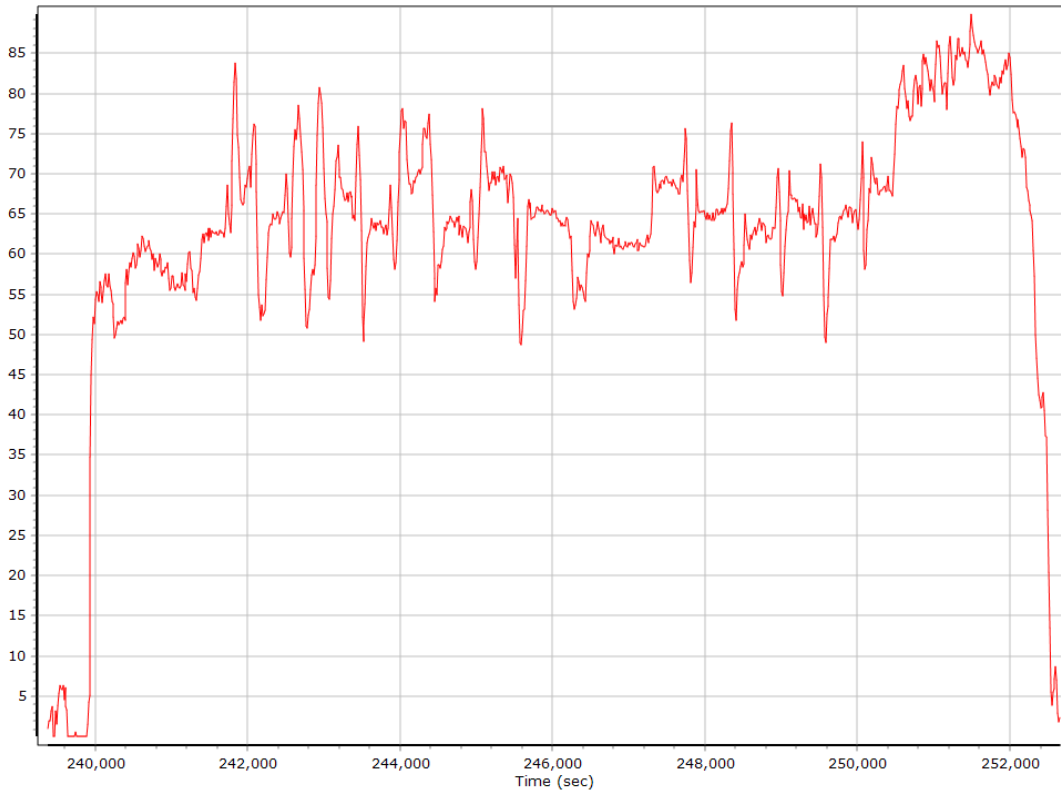
North/East Velocity



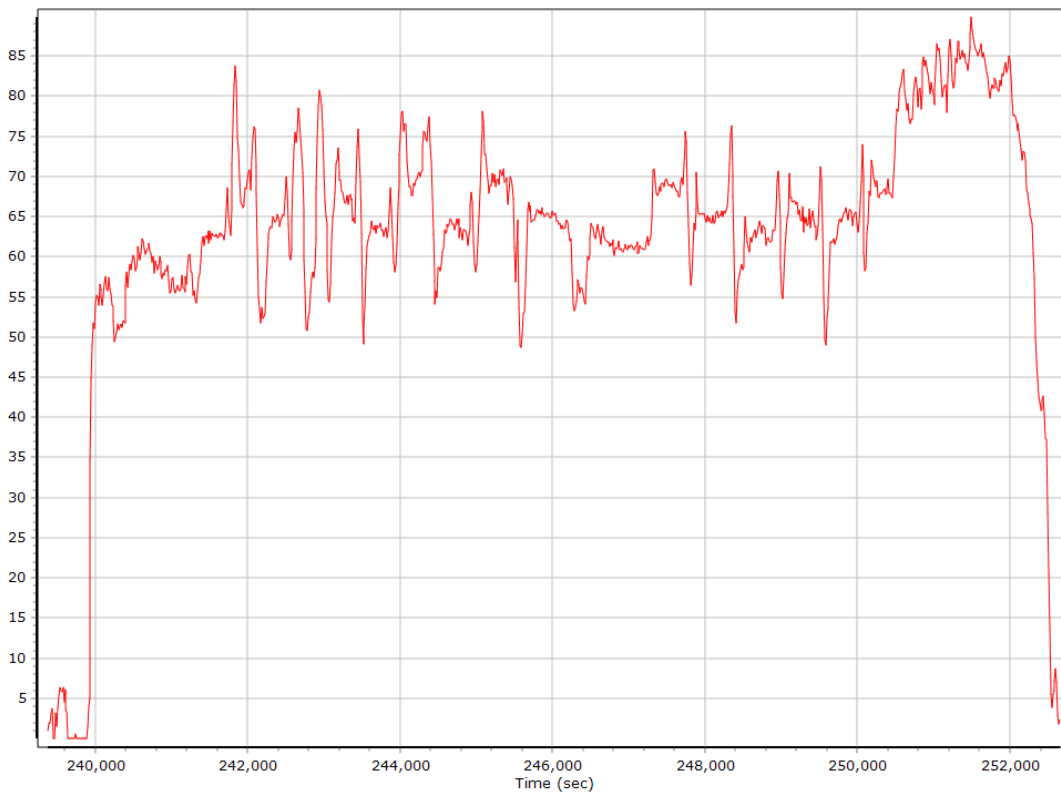
Down Velocity



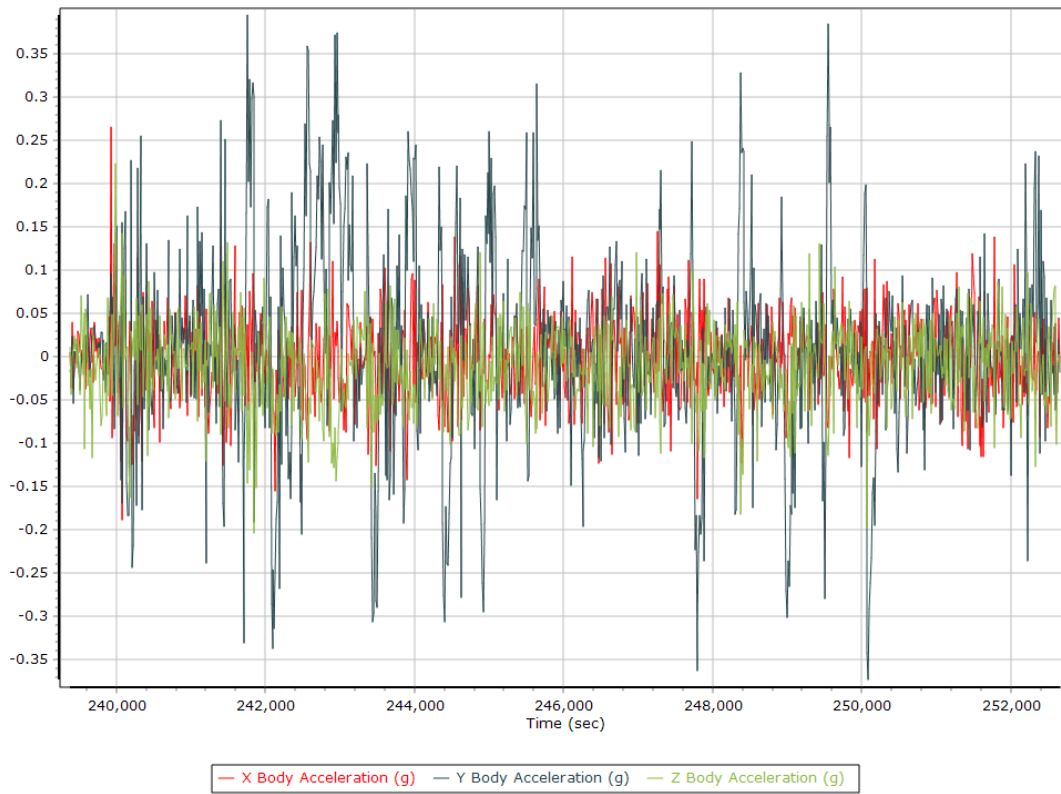
Total Speed



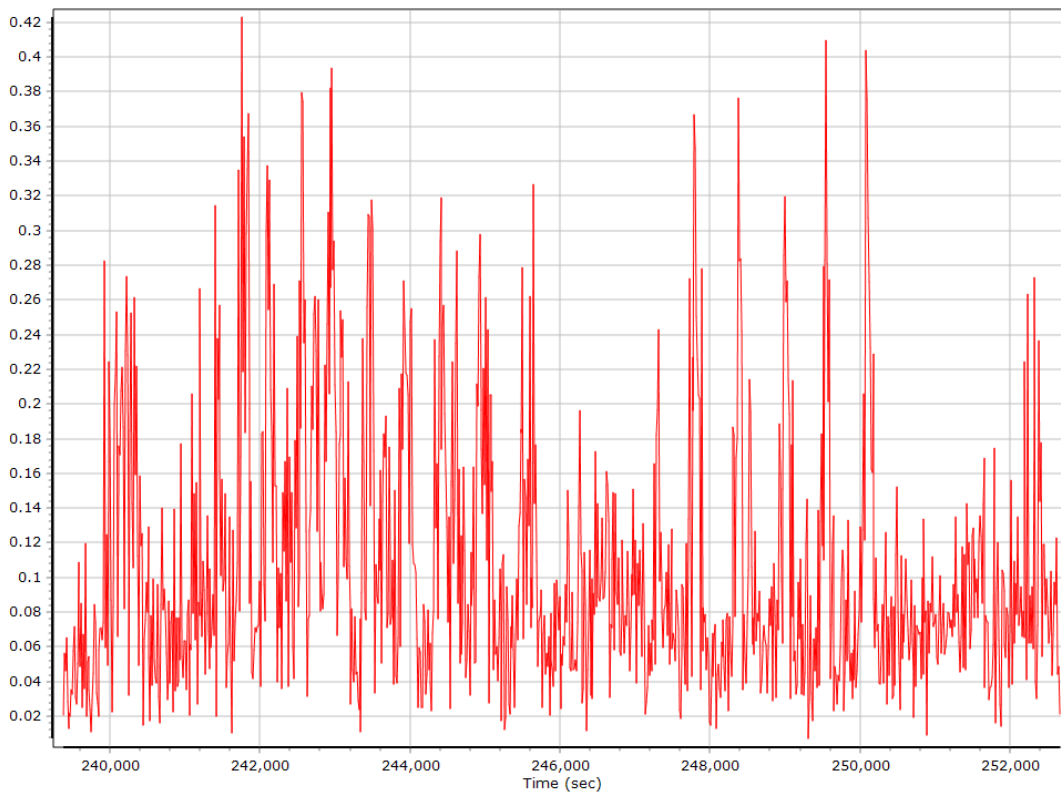
Ground Speed



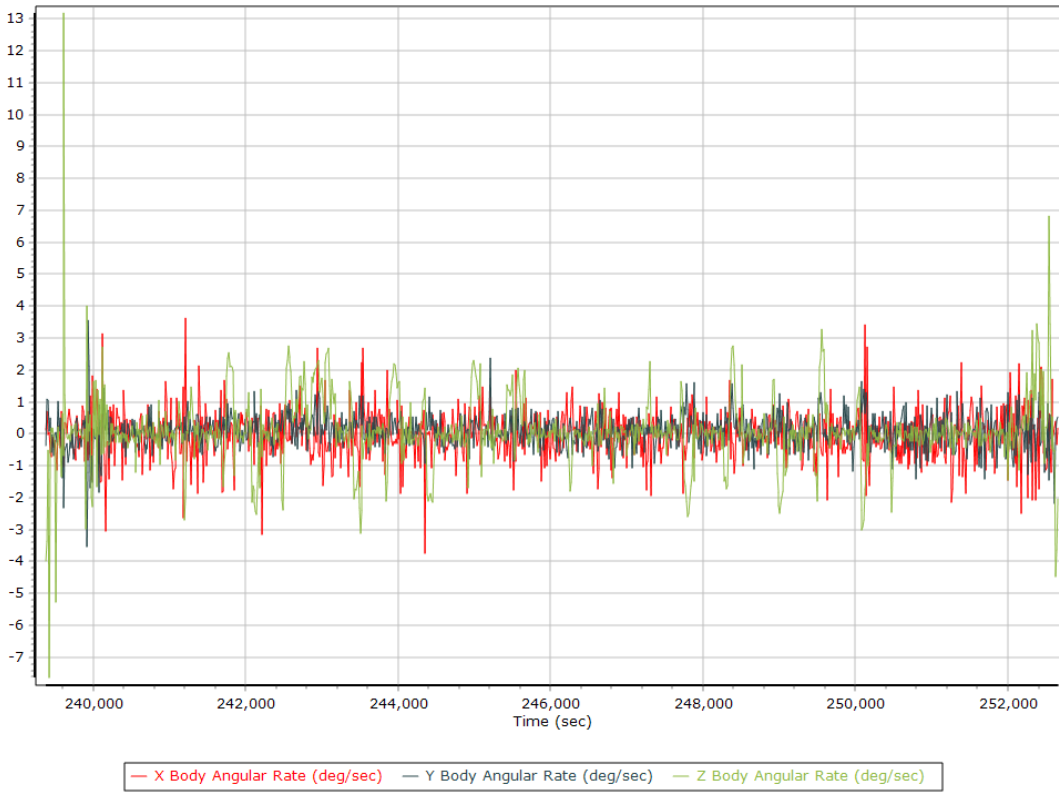
Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/03/2019	XCTY	5.91	GNSS	1	User	None	Imported
12/03/2019	TAHL	142.57	GNSS	1	User	None	Imported
12/03/2019	PRRY	61.68	GNSS	1	User	None	Imported
12/03/2019	PLTK	139.50	GNSS	1	User	None	Imported
12/03/2019	GNVL	82.46	GNSS	1	User	None	Imported
12/03/2019	FLMD	78.25	GNSS	1	User	None	Imported
12/03/2019	FLCK	61.29	GNSS	1	User	None	Imported
12/03/2019	FLCB	152.60	GNSS	1	User	None	Imported
12/03/2019	FLBR	53.94	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	XCTY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	13576 s (2082 239111 - 2082 252687)
Number of reference stations	8
Primary station GPS measurement usage (%)	99.8
Primary station GLONASS measurement usage (%)	72.7
Average number of satellites per epoch	13.4
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	23441
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - XCTY

Status	OK	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Original	
Solution Epochs	4716	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°37'51.61276"	W83°06'29.33653"	13.808
Adjusted		N29°37'51.61279"	W83°06'29.33665"	13.811
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.003	0.003	0.004

Base Station Information

Station ID	XCTY		
Filename	xcty_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80800		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - TAHL

Status	OK	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Original	
Solution Epochs	4716	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°23'47.48344"	W84°21'21.03499"	5.836
Adjusted		N30°23'47.48332"	W84°21'21.03550"	5.851
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.014	0.015	0.020

Base Station Information

Station ID	TAHL		
Filename	talh_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702012
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°23'47.48344"		
Longitude	W84°21'21.03499"		
Ellipsoidal height (m)	-5.83600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PRRY

Status	CONTROL	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Control	
Solution Epochs	4716	Mean Epoch SVs	5.6	
Base Station Coordinates	Latitude	Longitude	Height (m)	
Original	N30°04'40.11938"	W83°34'28.60872"	12.936	
Adjusted	N30°04'40.11938"	W83°34'28.60872"	12.936	
Coordinate Adjustments	Horizontal (m)	Vertical (m)	Total (m)	
Adjustments	0.000	0.000	0.000	

Base Station Information

Station ID	PRRY		
Filename	prry_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702545
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°04'40.11938"		
Longitude	W83°34'28.60872"		
Ellipsoidal height (m)	-12.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PLTK

Status	OK	SBQI	0	
Duration (Hours)	19.48	Output Coordinates	Original	
Solution Epochs	4675	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14853"	W81°41'15.86070"	17.975
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.011	0.029	0.031

Base Station Information

Station ID	PLTK		
Filename	pltk_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	OK	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Original	
Solution Epochs	4716	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55729"	W82°16'36.73534"	23.921
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.011	0.015	0.019

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMD

Status	OK	SBQI	0
Duration (Hours)	19.65	Output Coordinates	Original
Solution Epochs	4716	Mean Epoch SVs	8.2
Base Station Coordinates	Latitude	Longitude	Height (m)
Original	N30°22'26.47817"	W83°16'31.72158"	0.095
Adjusted	N30°22'26.47826"	W83°16'31.72183"	0.115
Coordinate Adjustments	Horizontal (m)	Vertical (m)	Total (m)
Adjustments	0.007	0.020	0.021

Base Station Information

Station ID	FLMD		
Filename	flmd_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701993
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°22'26.47817"		
Longitude	W83°16'31.72158"		
Ellipsoidal height (m)	0.09500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCK

Status	OK	SBQI	0	
Duration (Hours)	19.47	Output Coordinates	Original	
Solution Epochs	4673	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°08'01.87610"	W83°01'51.05281"	17.224
Adjusted		N29°08'01.87615"	W83°01'51.05274"	17.226
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.002	0.002	0.003

Base Station Information

Station ID	FLCK		
Filename	flck_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCB

Status	OK	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Original	
Solution Epochs	4716	Mean Epoch SVs	7.7	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°50'33.36155"	W84°41'42.53223"	19.609
Adjusted		N29°50'33.36136"	W84°41'42.53239"	19.625
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.007	0.016	0.018

Base Station Information

Station ID	FLCB		
Filename	flcb_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702509
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°50'33.36155"		
Longitude	W84°41'42.53223"		
Ellipsoidal height (m)	-19.60900		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLBR

Status	BAD POSITION	SBQI	0	
Duration (Hours)	18.02	Output Coordinates	Adjusted	
Solution Epochs	4325	Mean Epoch SVs	8.0	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°26'19.83659"	W82°38'43.13027"	4.337
Adjusted		N29°26'19.83805"	W82°38'43.13091"	4.277
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.048	0.060	0.077

Base Station Information

Station ID	FLBR		
Filename	flbr_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701978
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°26'19.83659"		
Longitude	W82°38'43.13027"		
Ellipsoidal height (m)	-4.33700		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	7.54	85.71	
Number of GPS SV	3	10	9
Number of GLONASS SV	0	6	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	7	15	13
PDOP	1.24	2.73	1.51
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	13537.00	0.00	1.00
Percentage	99.99	0.00	0.01

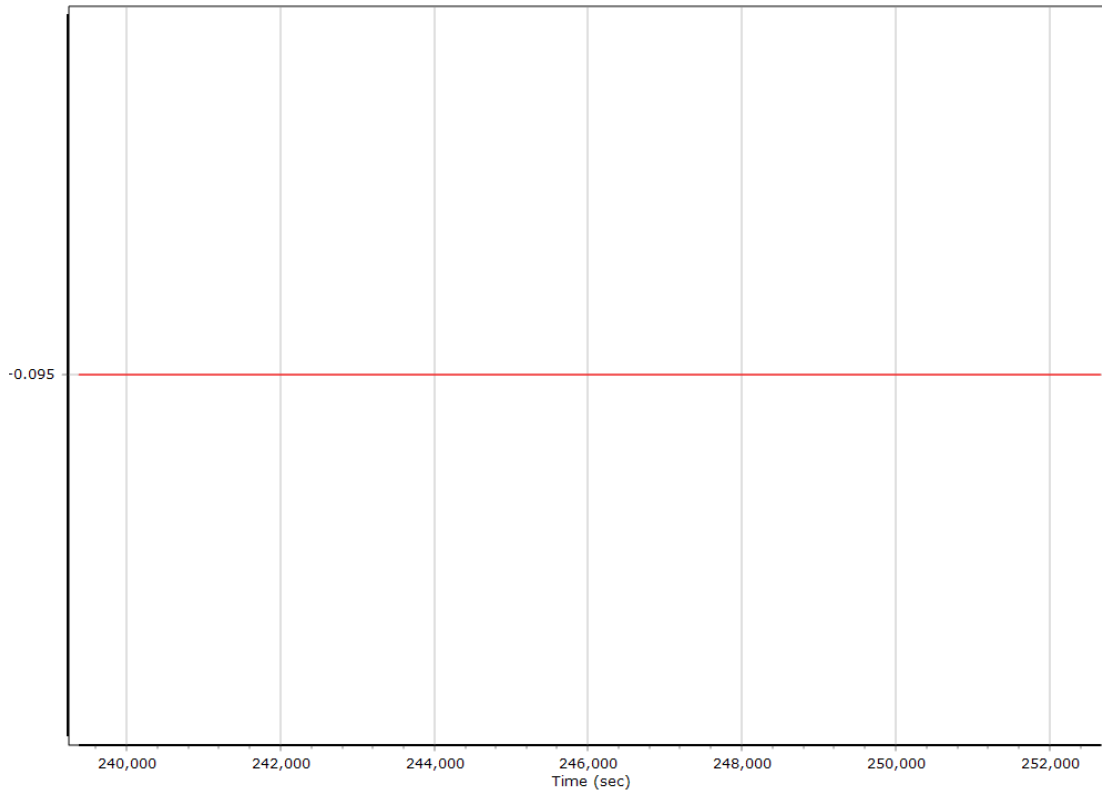
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	239093.000 (12/3/2019 6:24:53 PM)		
Processing end time	252669.000 (12/3/2019 10:11:09 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	-0.095	0.063	-1.259
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

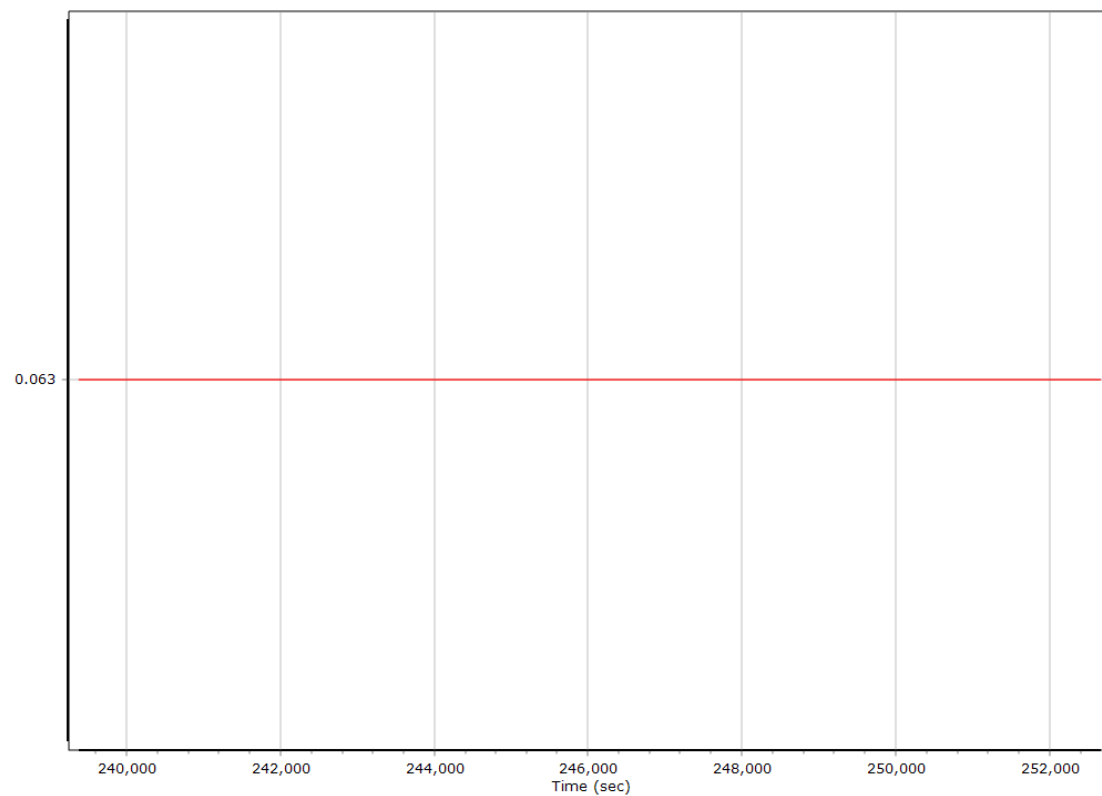
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

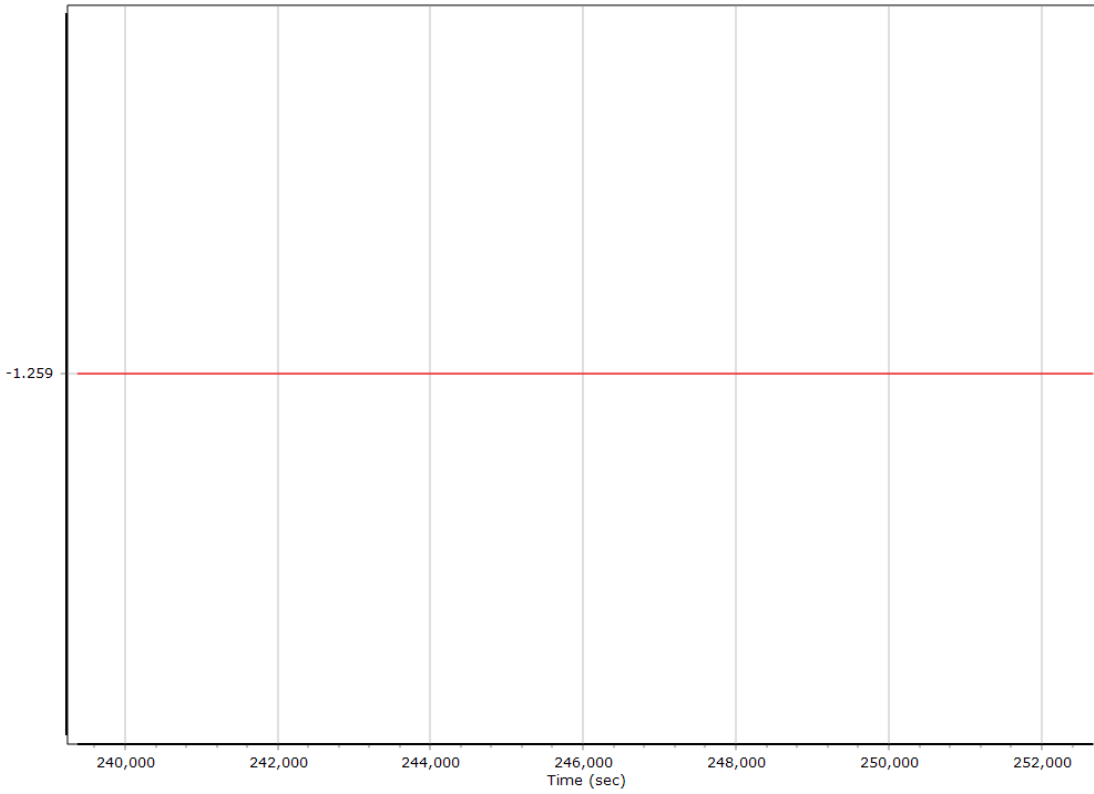
X Reference-Primary GNSS Lever Arm (m)



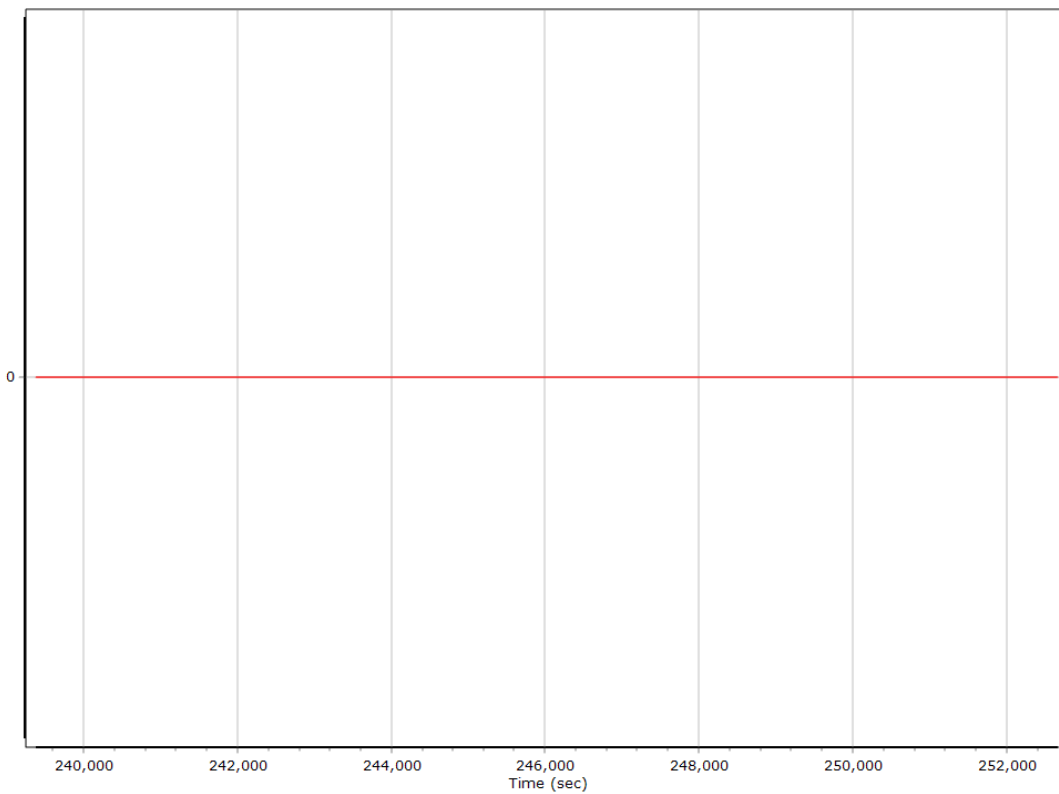
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



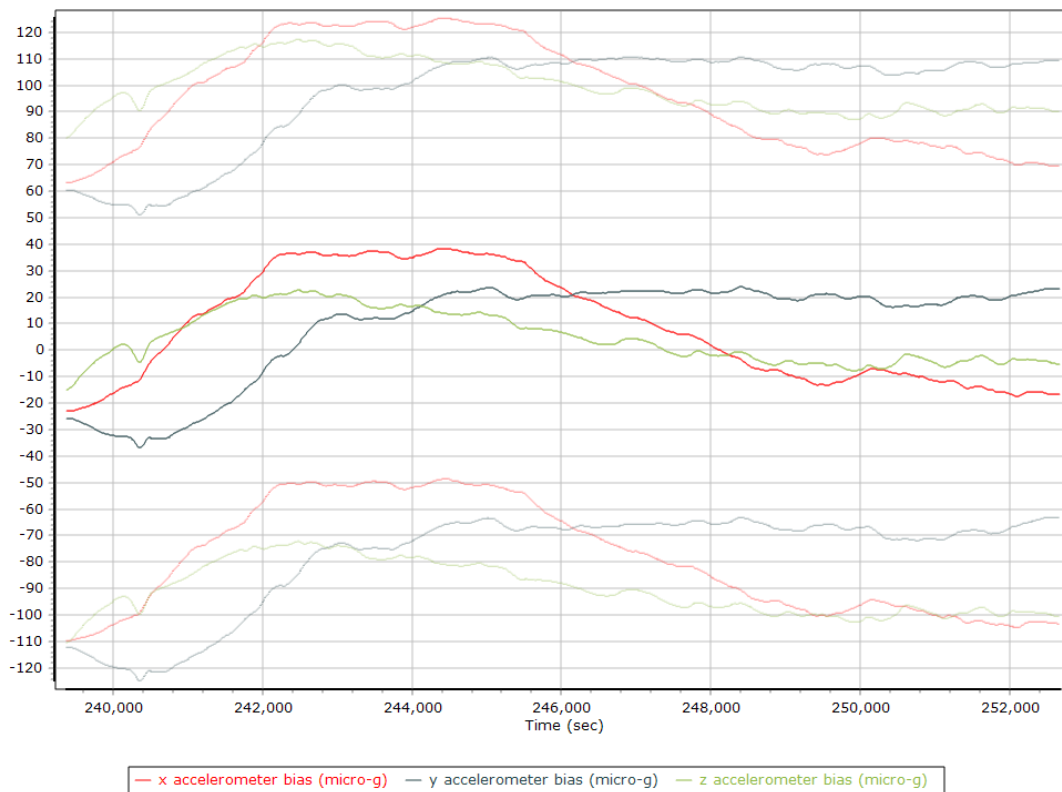
Reference-Primary GNSS Lever Arm Figure of Merit



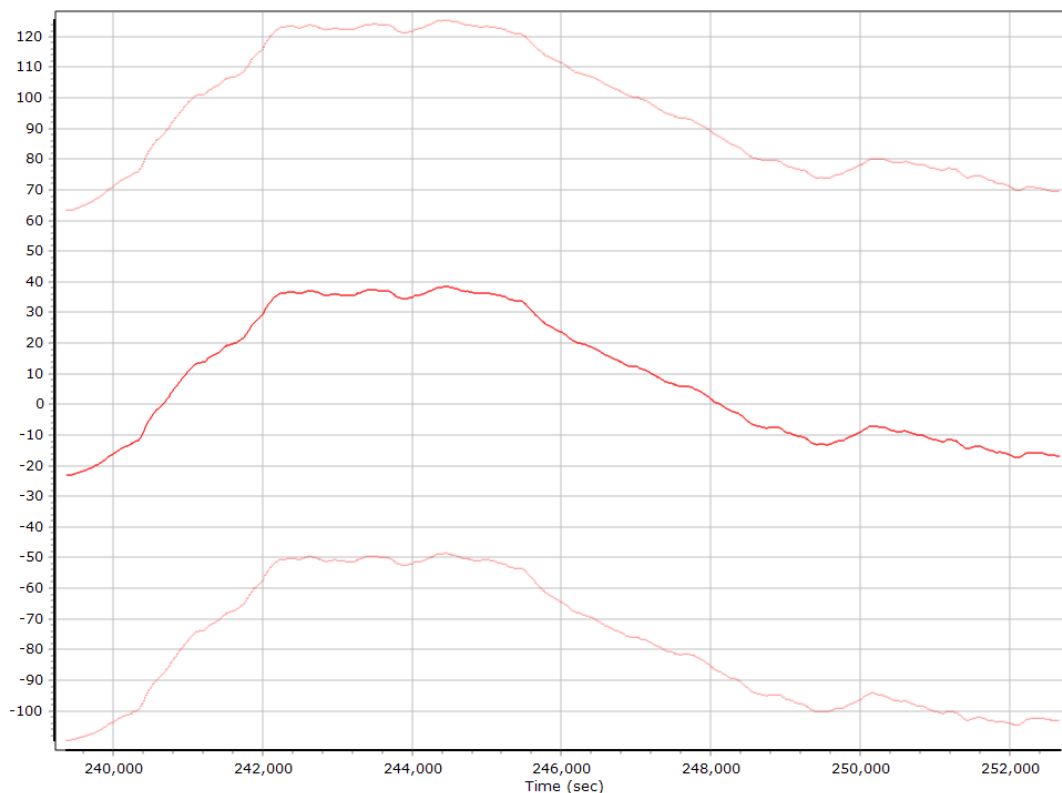
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

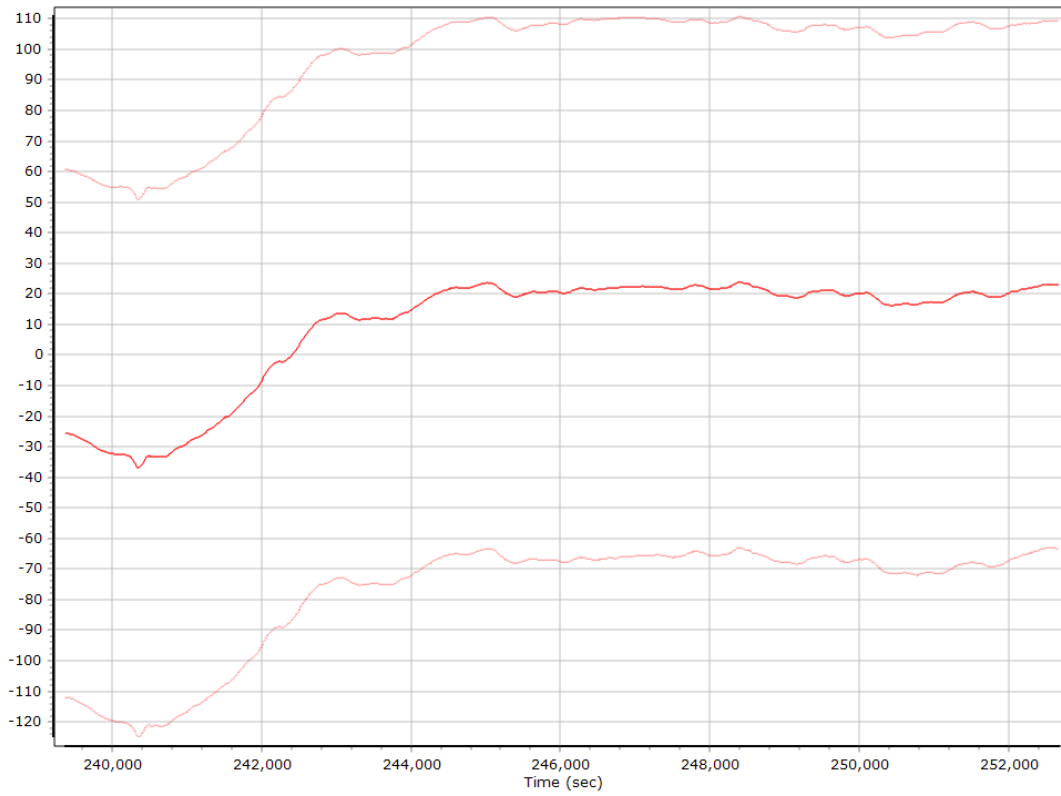
Accelerometer Bias (micro-g)



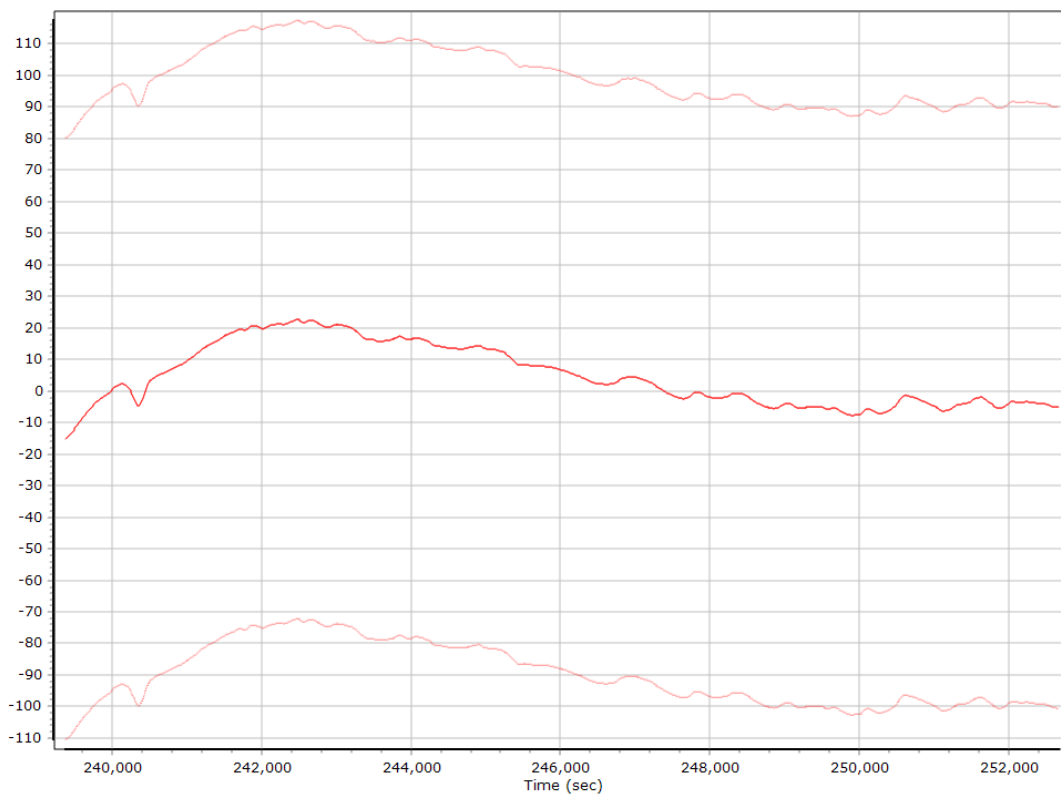
X Accelerometer Bias (micro-g)



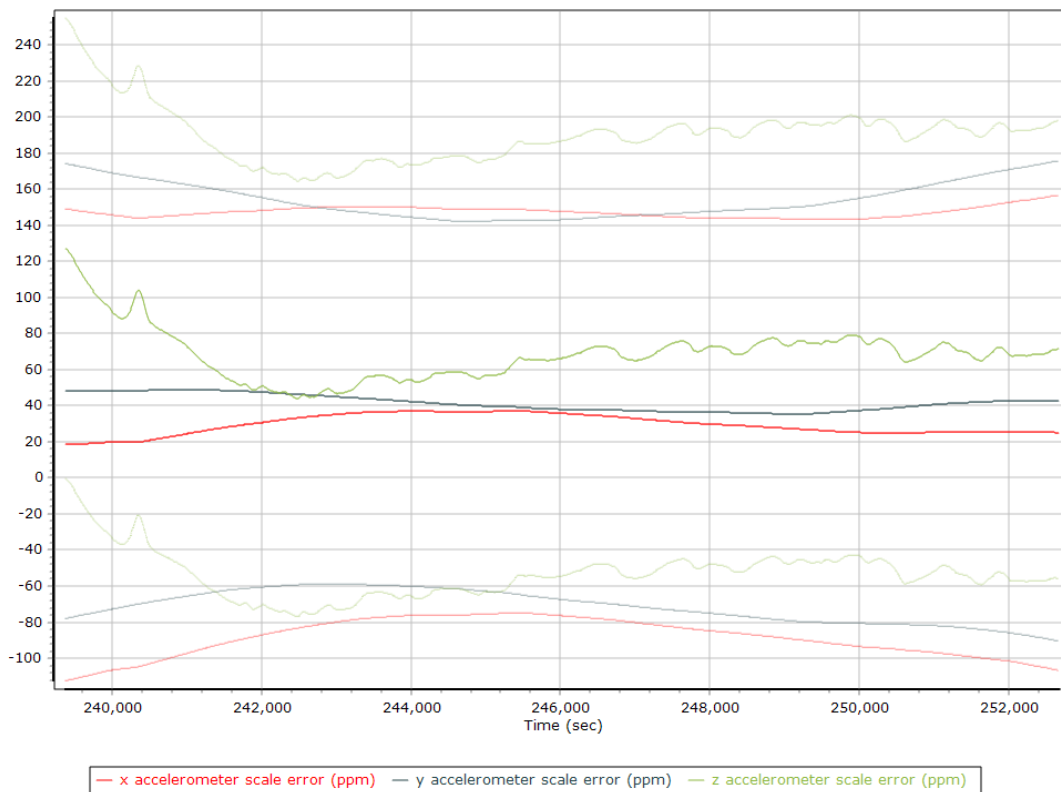
Y Accelerometer Bias (micro-g)



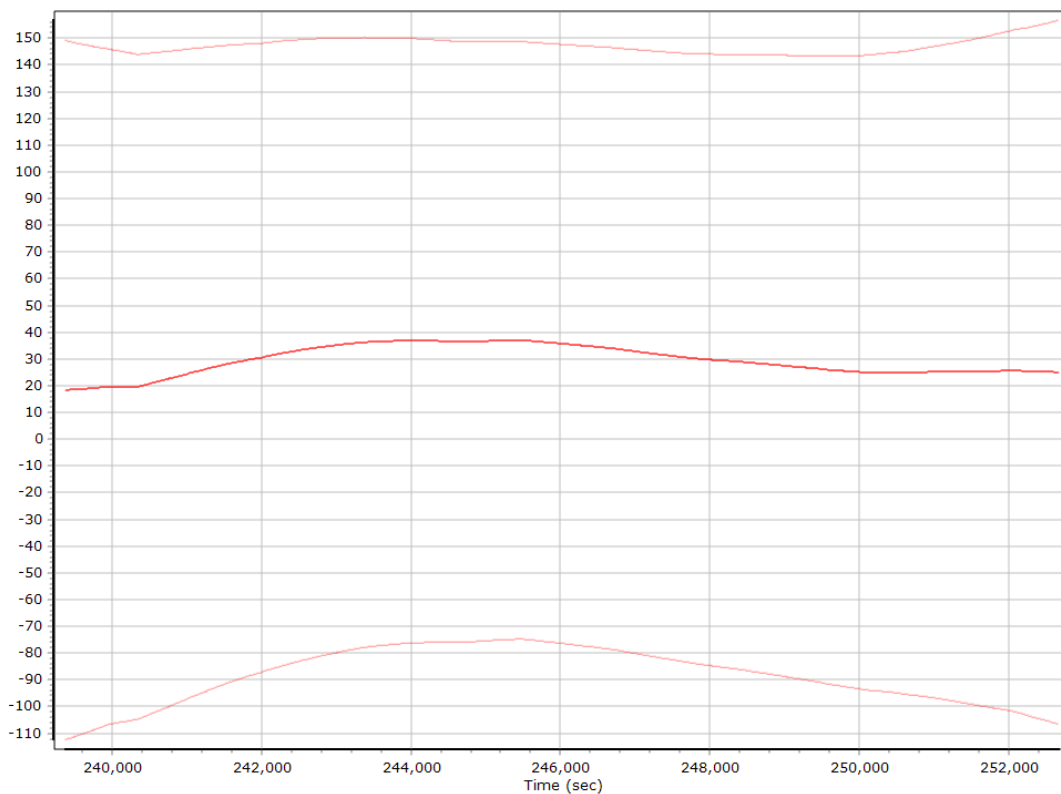
Z Accelerometer Bias (micro-g)



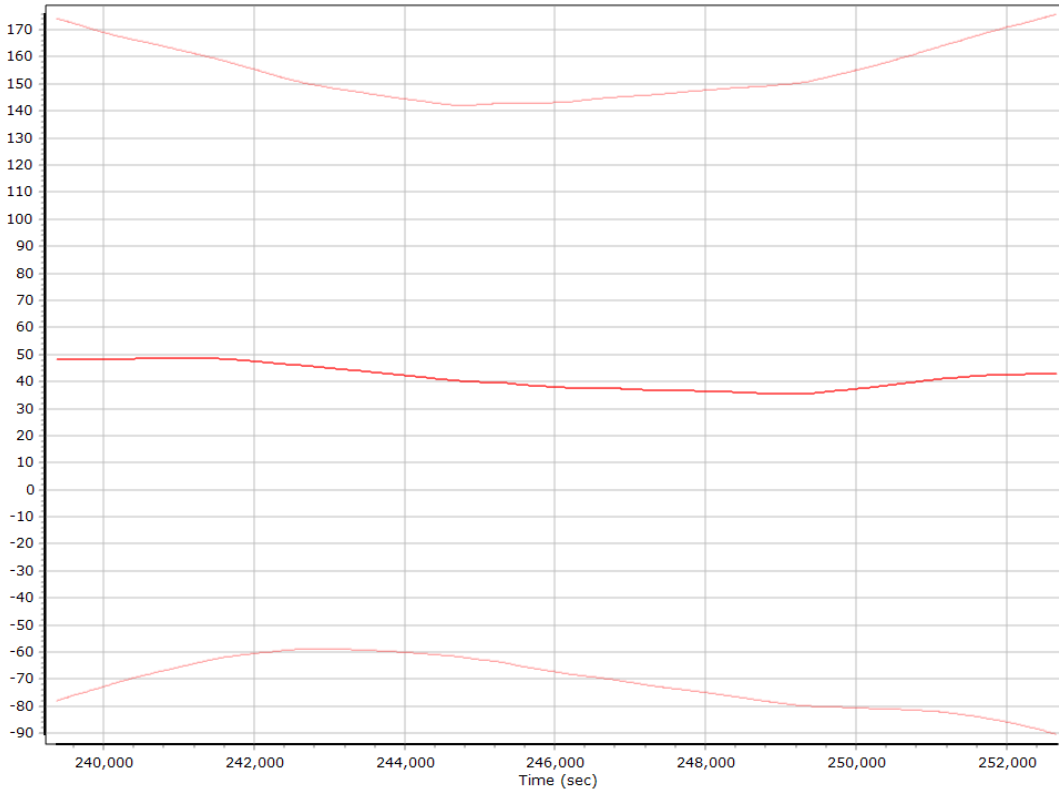
Accelerometer Scale Error (ppm)



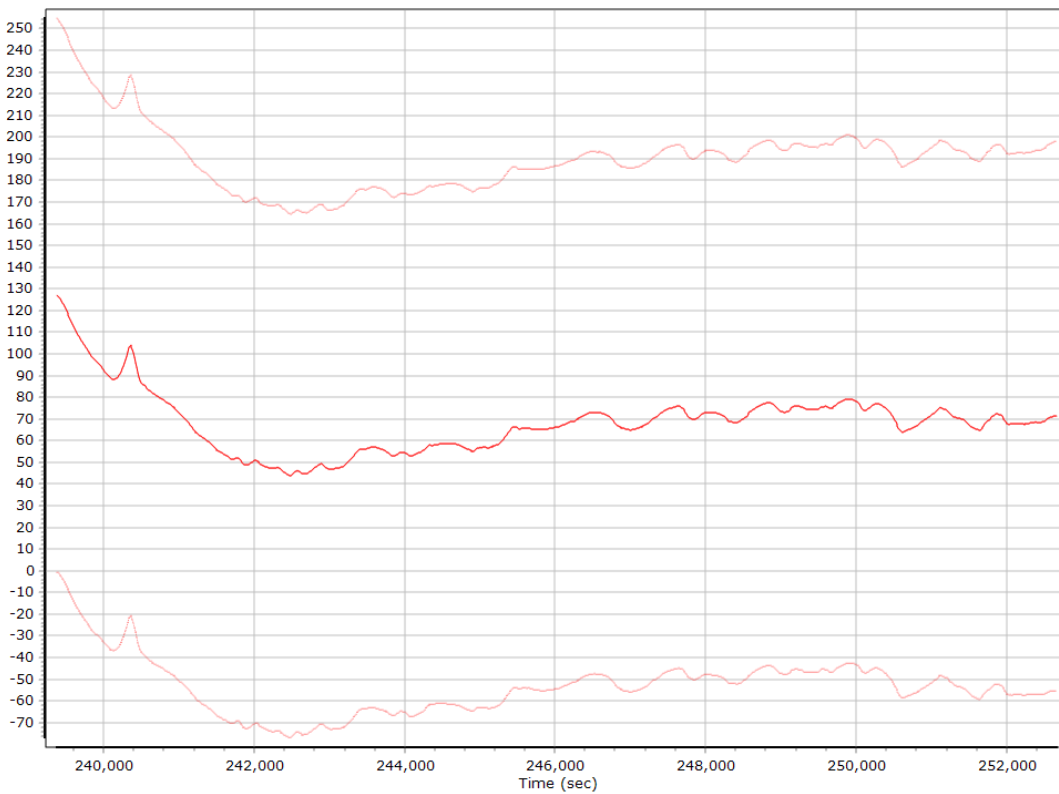
X Accelerometer Scale Error (ppm)



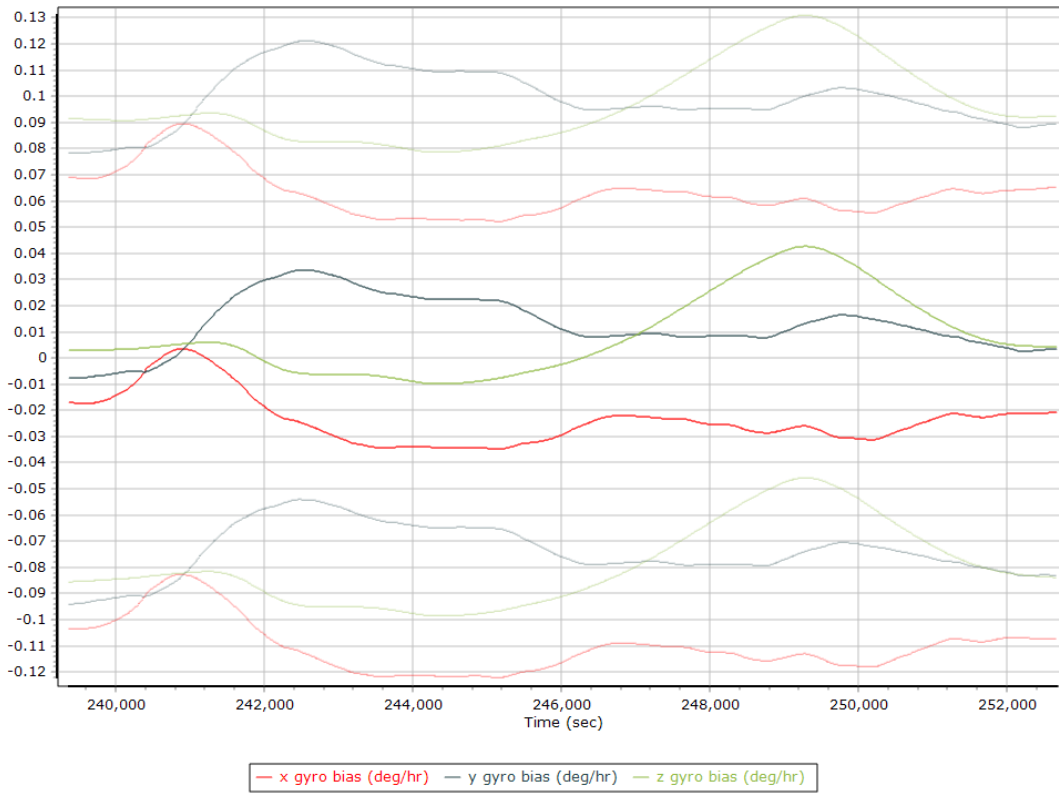
Y Accelerometer Scale Error (ppm)



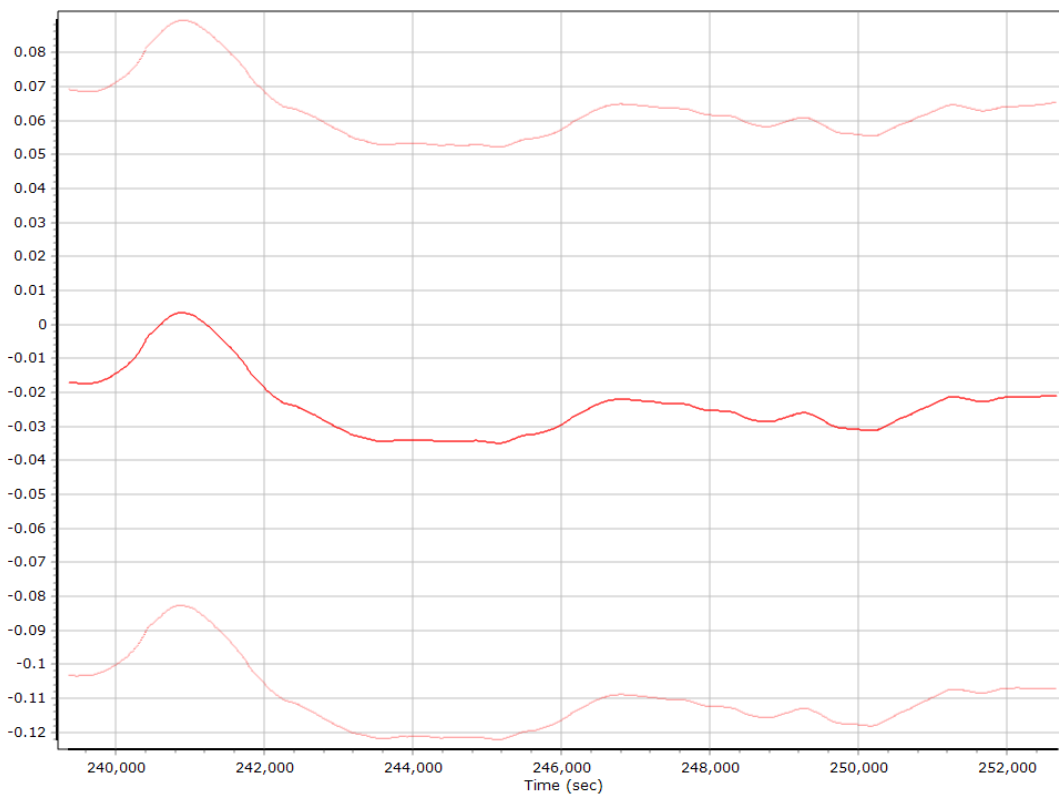
Z Accelerometer Scale Error (ppm)



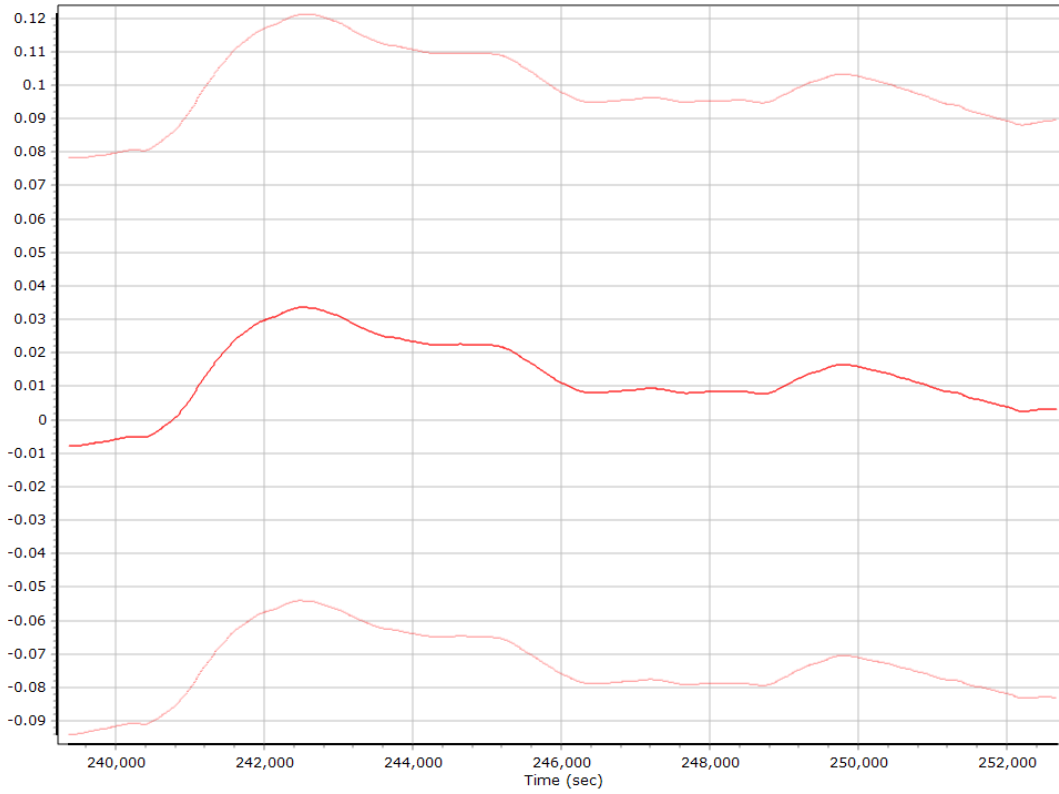
Gyro Bias (deg/h)



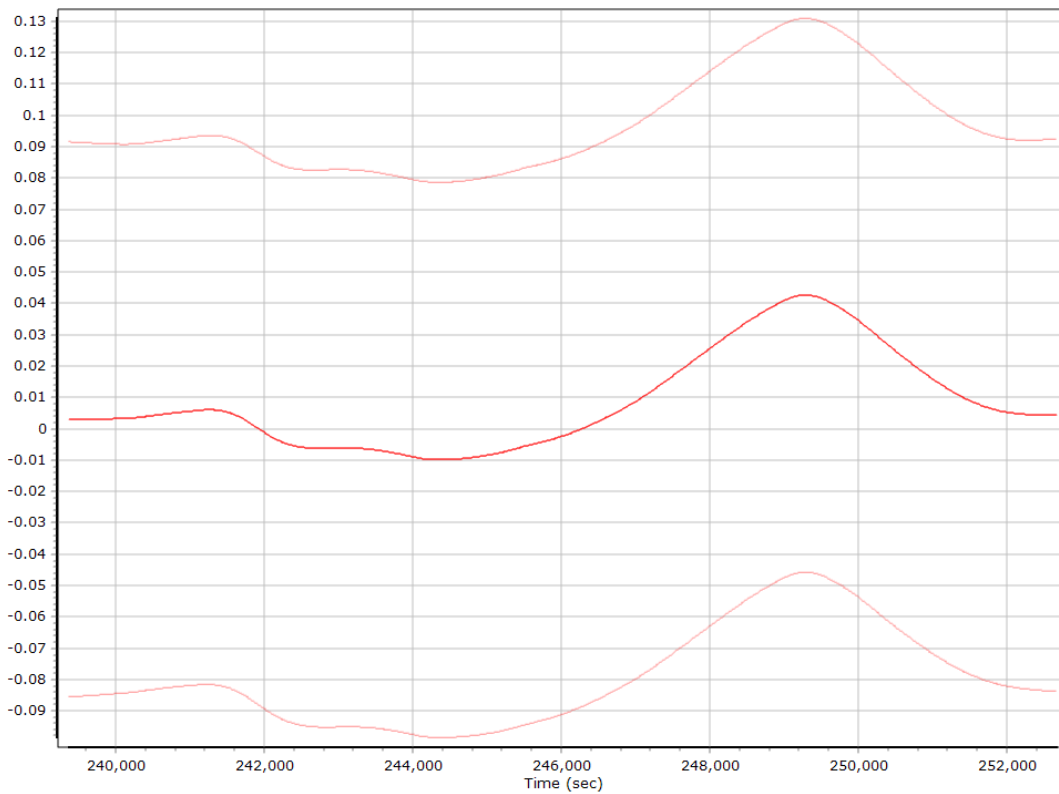
X Gyro Bias (deg/h)



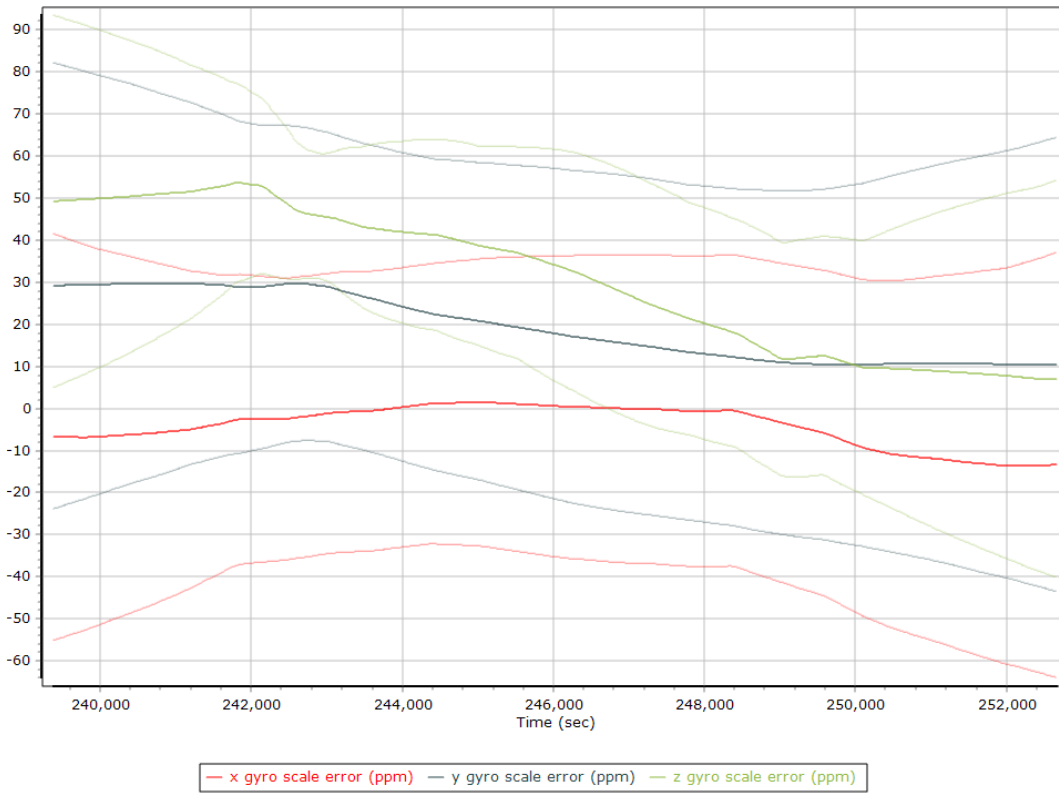
Y Gyro Bias (deg/h)



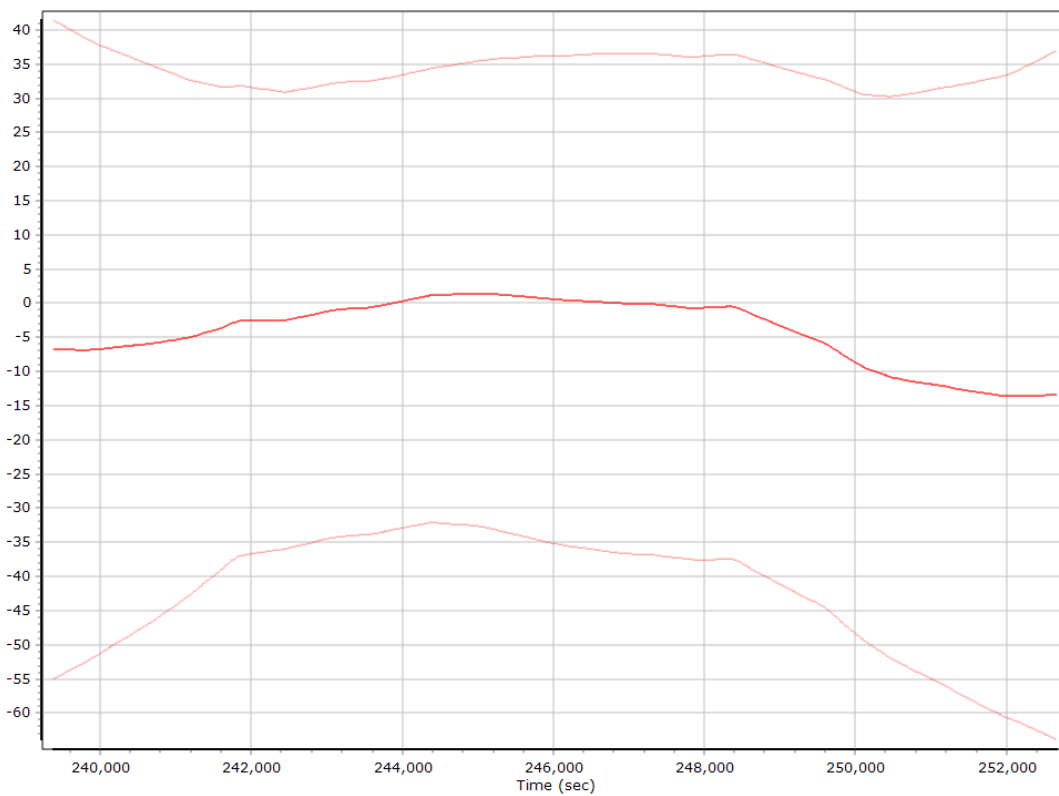
Z Gyro Bias (deg/h)



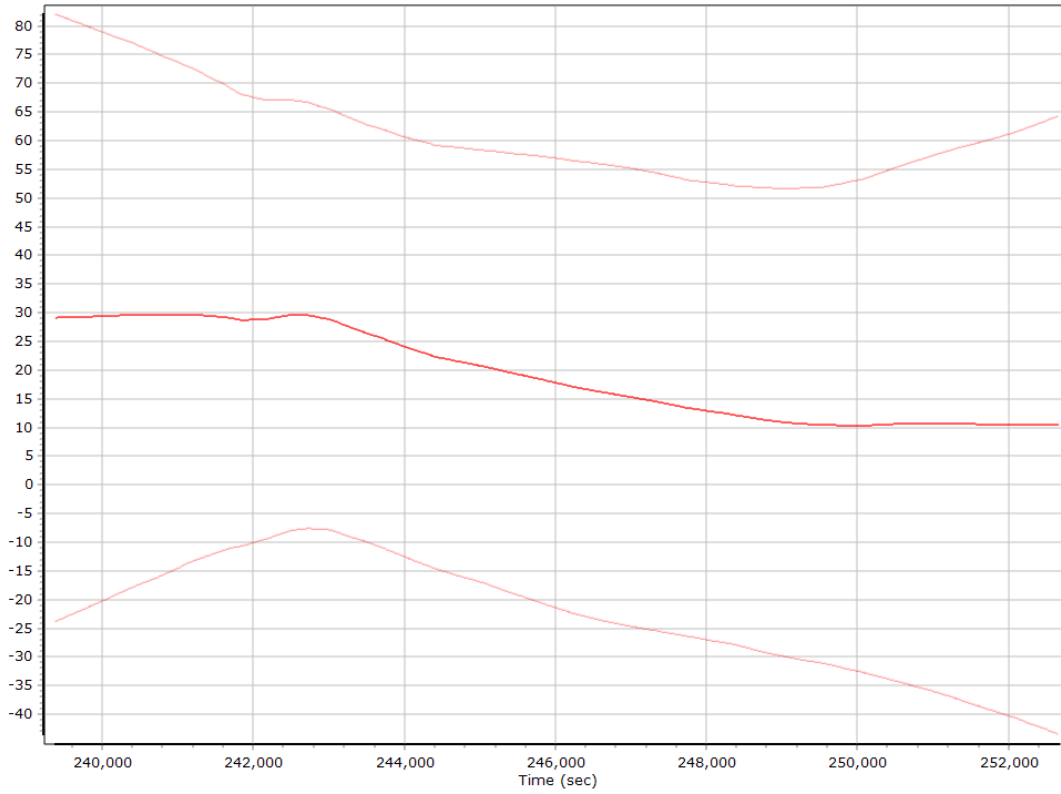
Gyro Scale Error (ppm)



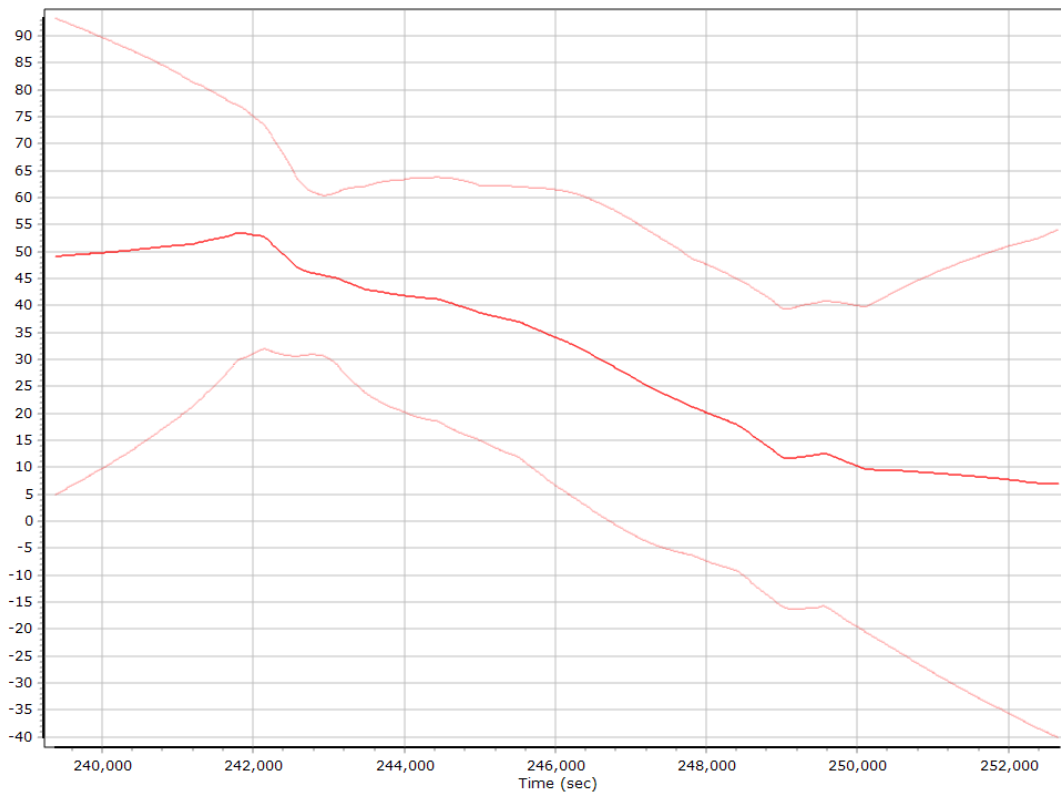
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

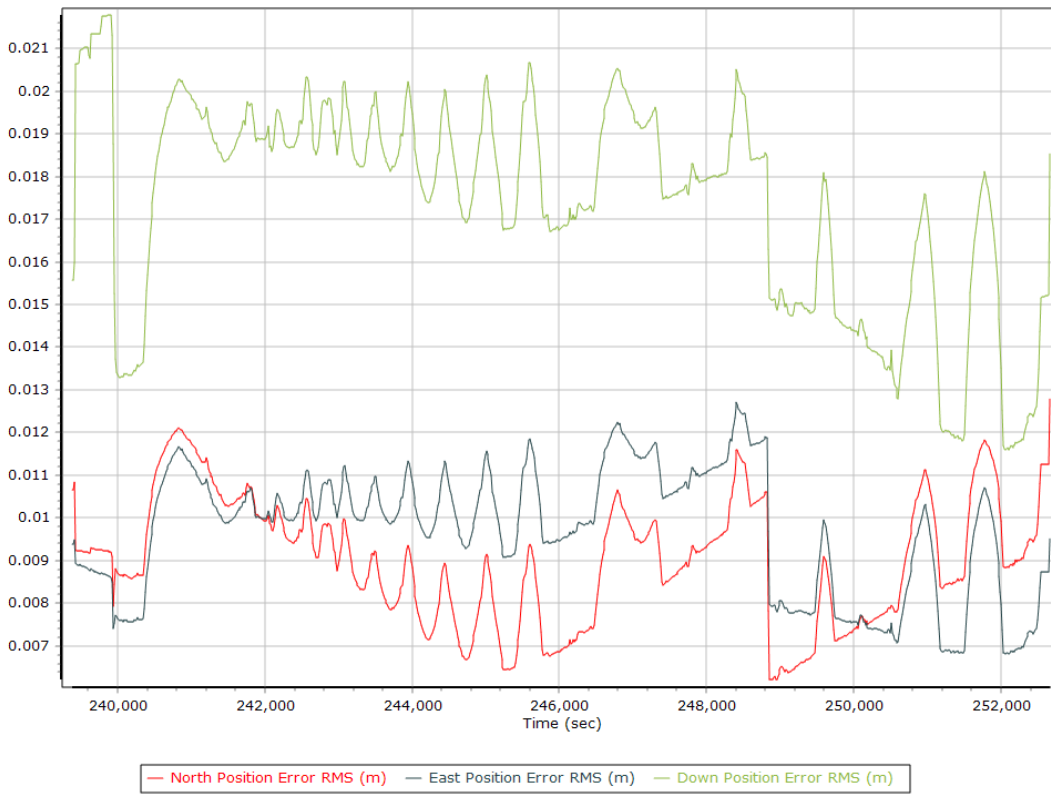


Z Gyro Scale Error (ppm)

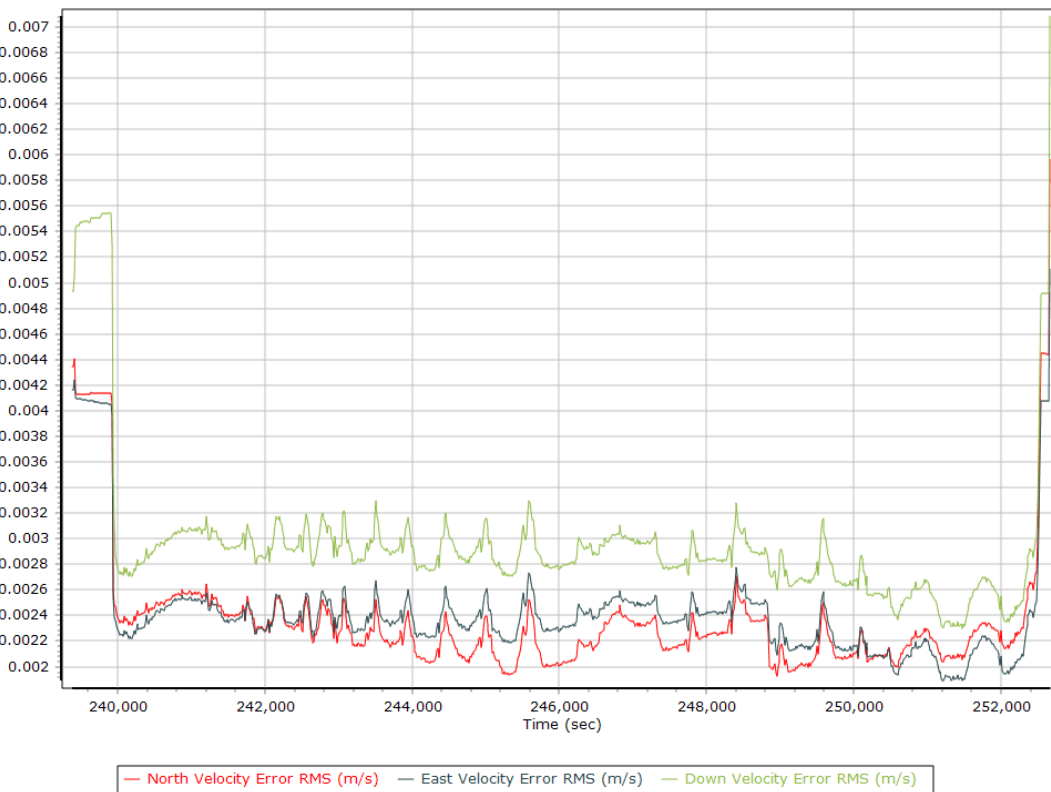


Smoothed Performance Metrics

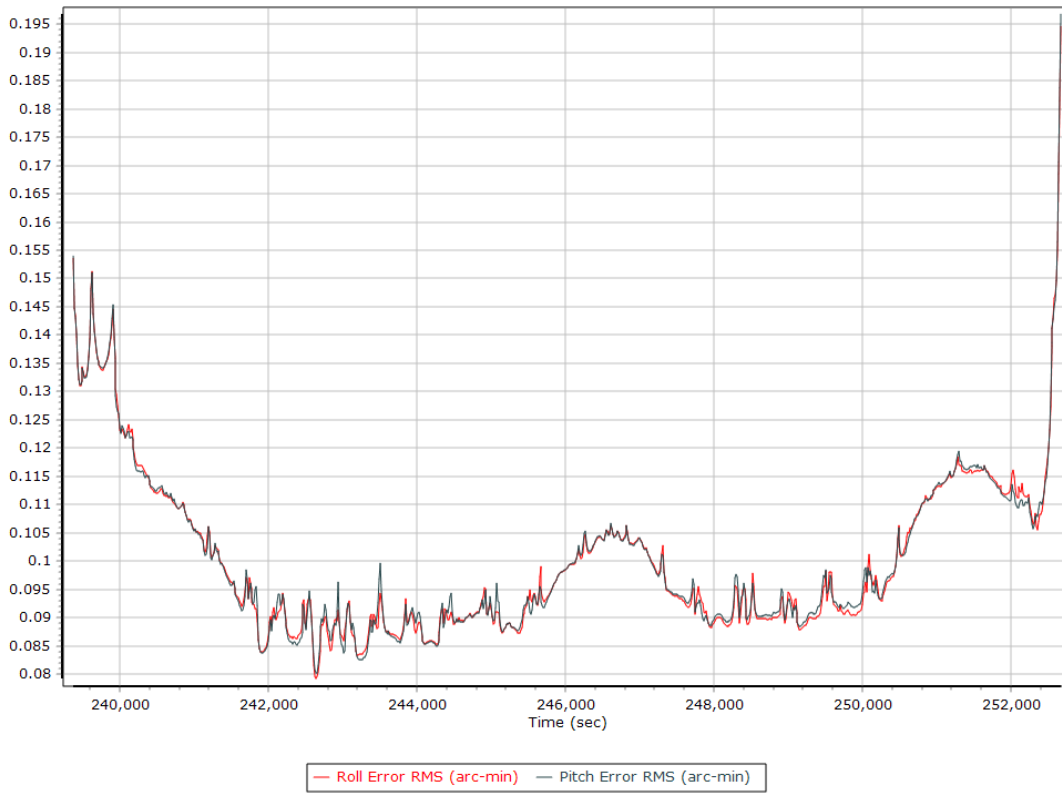
Position Error RMS (m)



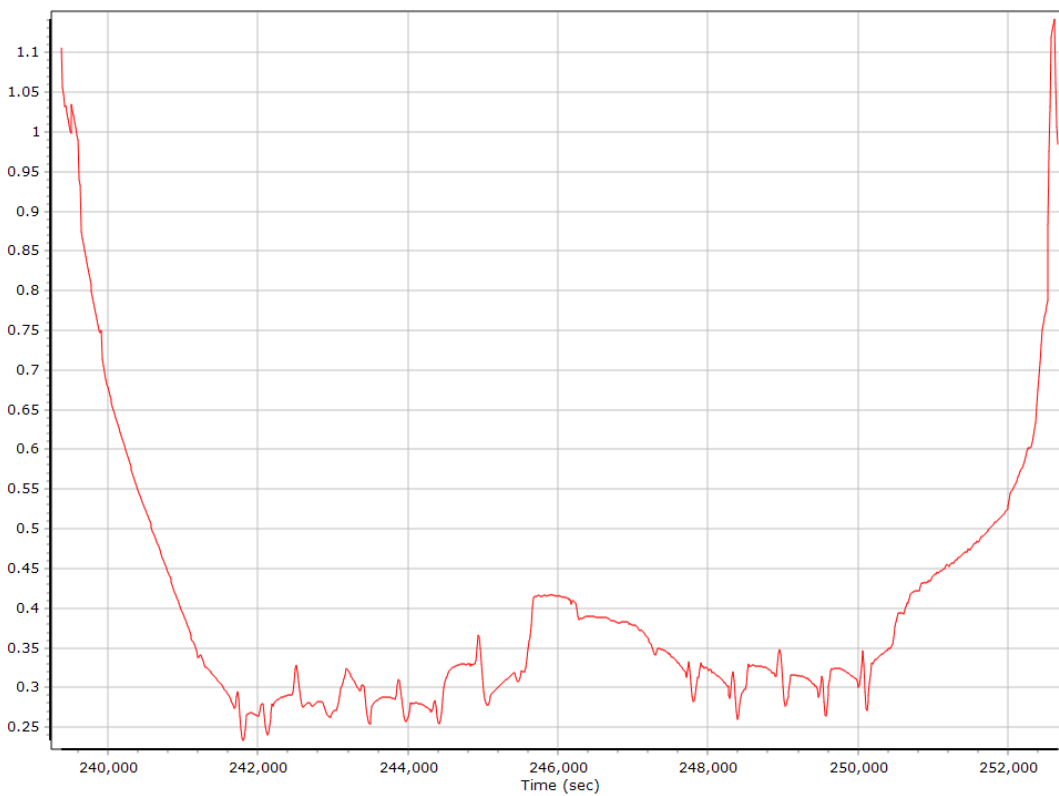
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

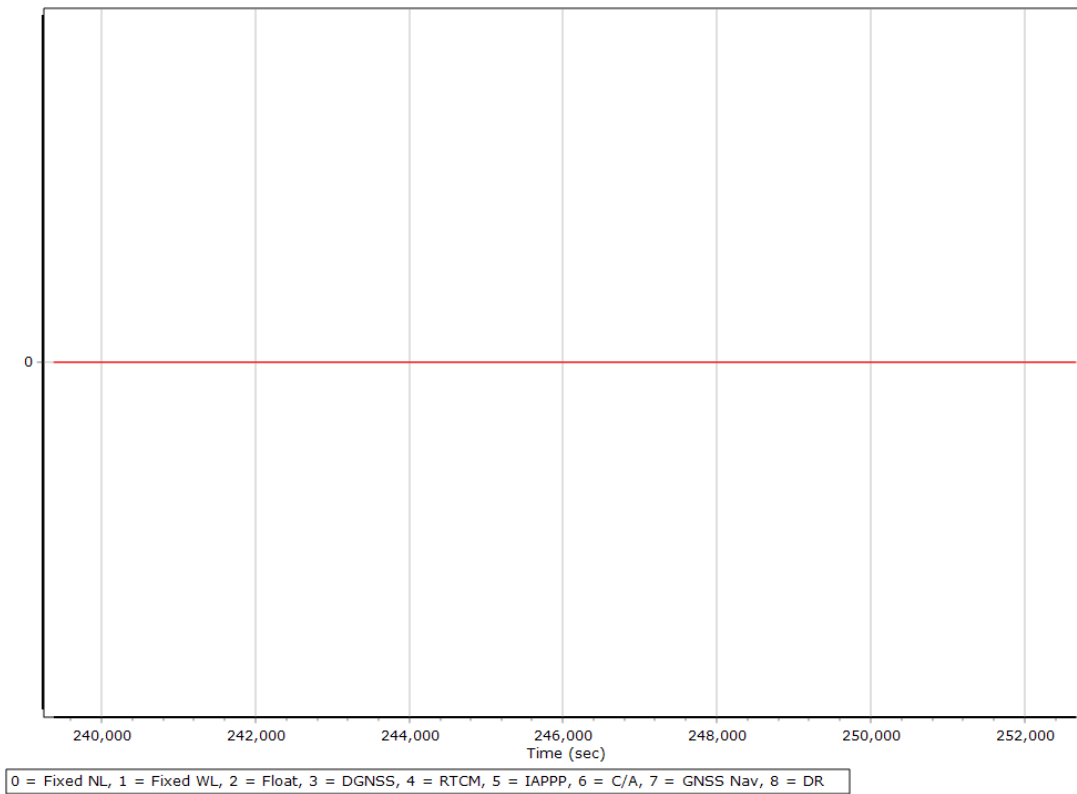


Heading Error RMS (arc-min)

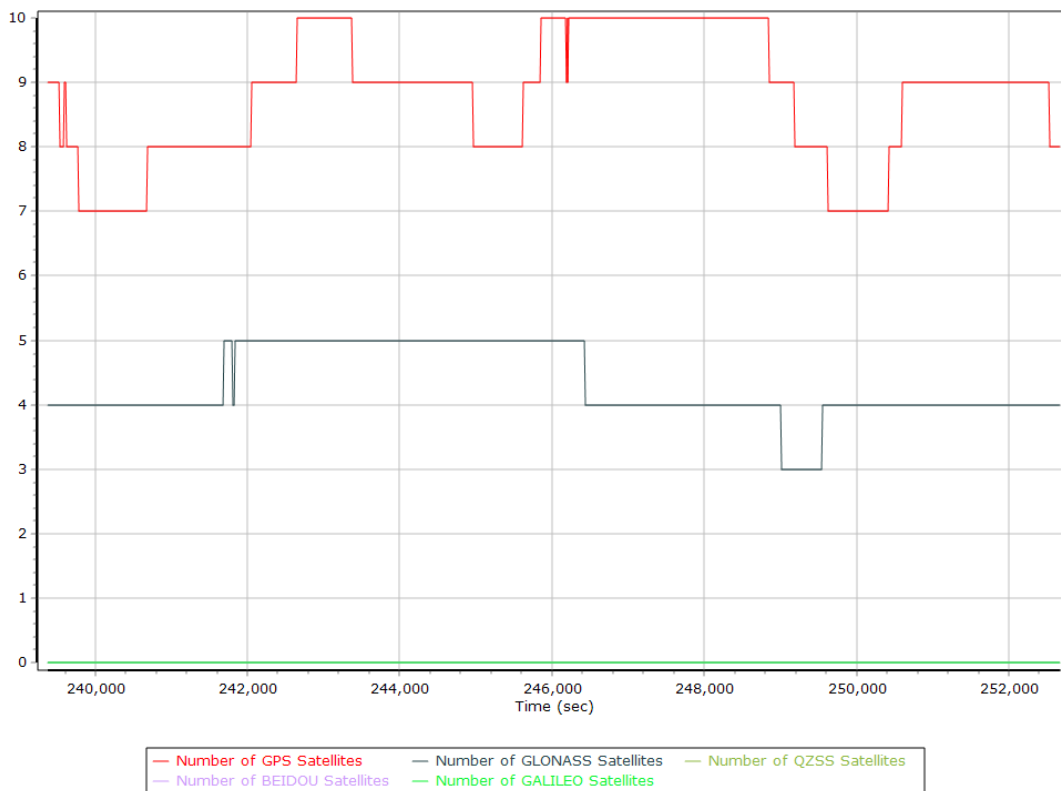


Smoothed Solution Status

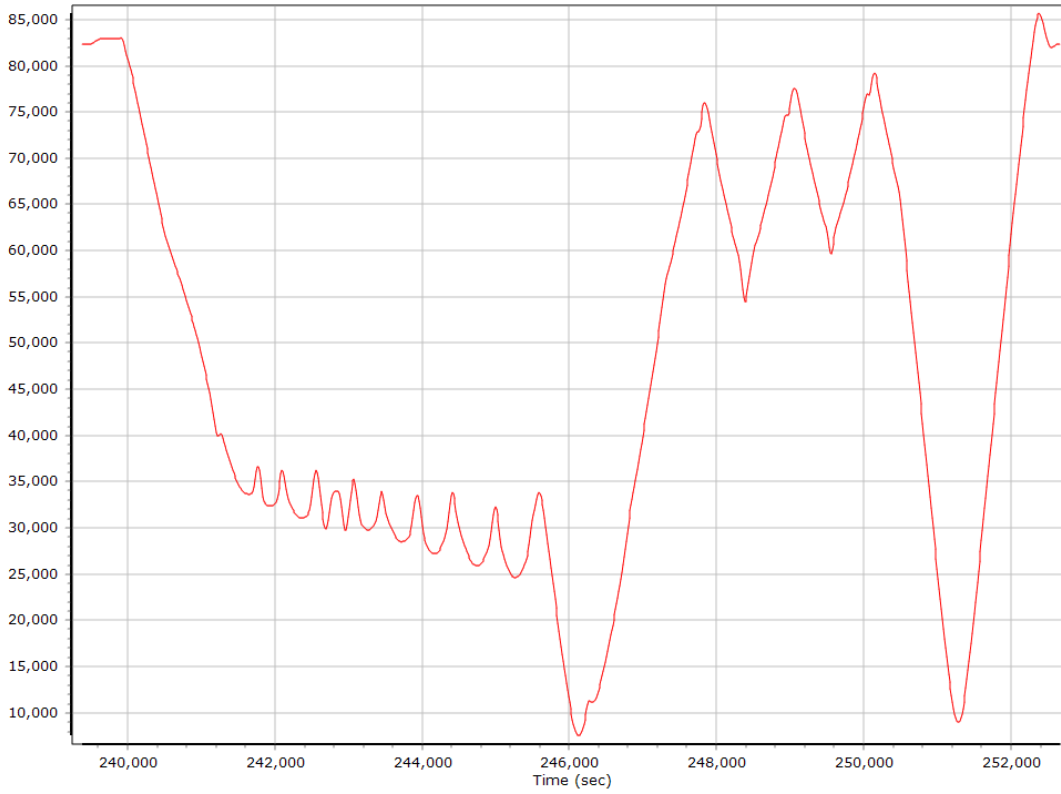
Processing Mode



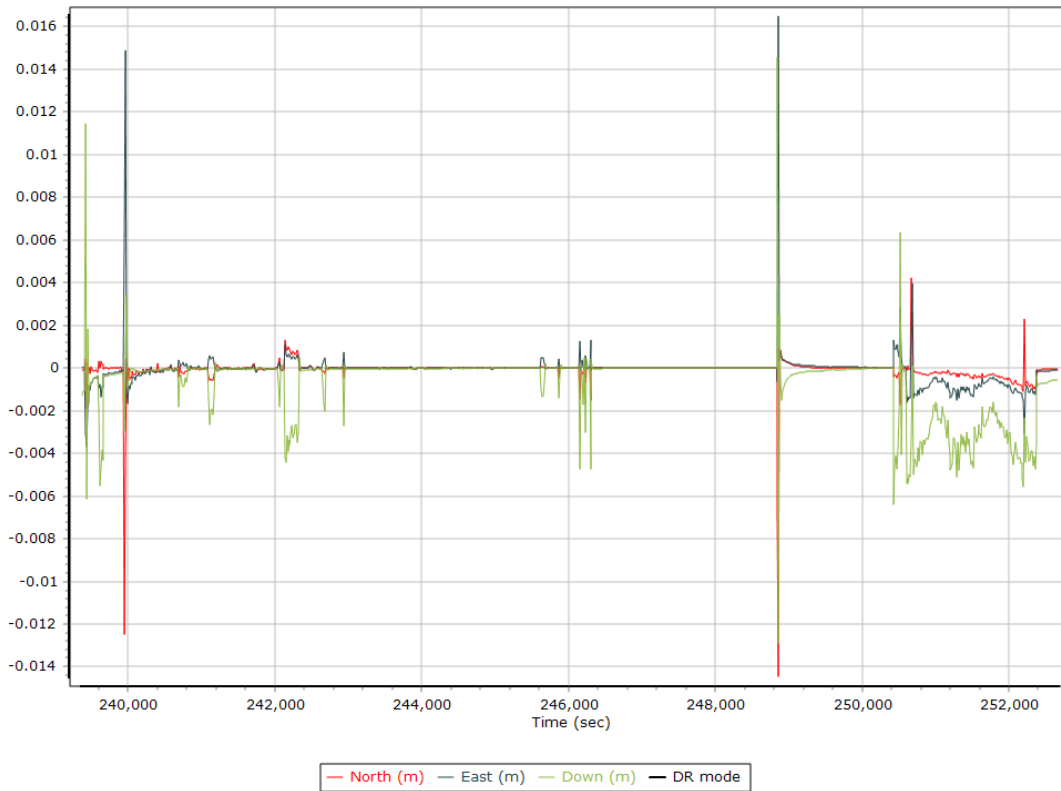
Number of Satellites



Baseline Length



SBET IAkar Separation



General Information

Mission Information

Project name	88619338A_v3
Processing date	2019-12-12 16:23:06
Mission date	2019-12-04 13:09:14
Mission duration	06:24:45.975
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N9642
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
N63886_19_338_A.149	POS Data
N63886_19_338_A.150	POS Data
N63886_19_338_A.151	POS Data
N63886_19_338_A.152	POS Data
N63886_19_338_A.153	POS Data
N63886_19_338_A.154	POS Data
N63886_19_338_A.155	POS Data
N63886_19_338_A.156	POS Data
N63886_19_338_A.157	POS Data
N63886_19_338_A.158	POS Data
N63886_19_338_A.159	POS Data
N63886_19_338_A.160	POS Data
N63886_19_338_A.161	POS Data
N63886_19_338_A.162	POS Data
N63886_19_338_A.163	POS Data
N63886_19_338_A.164	POS Data
N63886_19_338_A.165	POS Data
N63886_19_338_A.166	POS Data
N63886_19_338_A.167	POS Data
N63886_19_338_A.168	POS Data
N63886_19_338_A.169	POS Data
N63886_19_338_A.170	POS Data
N63886_19_338_A.171	POS Data
N63886_19_338_A.172	POS Data
N63886_19_338_A.173	POS Data
N63886_19_338_A.174	POS Data
N63886_19_338_A.175	POS Data
N63886_19_338_A.176	POS Data
N63886_19_338_A.177	POS Data
N63886_19_338_A.178	POS Data
N63886_19_338_A.179	POS Data
N63886_19_338_A.180	POS Data
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N63886_19_338_A.182	POS Data
N63886_19_338_A.183	POS Data
N63886_19_338_A.184	POS Data
N63886_19_338_A.185	POS Data
N63886_19_338_A.186	POS Data
N63886_19_338_A.187	POS Data
N63886_19_338_A.188	POS Data
N63886_19_338_A.189	POS Data
N63886_19_338_A.190	POS Data
N63886_19_338_A.191	POS Data
N63886_19_338_A.192	POS Data
N63886_19_338_A.193	POS Data
N63886_19_338_A.194	POS Data
N63886_19_338_A.195	POS Data
N63886_19_338_A.196	POS Data
N63886_19_338_A.197	POS Data
N63886_19_338_A.198	POS Data
N63886_19_338_A.199	POS Data
N63886_19_338_A.200	POS Data
N63886_19_338_A.201	POS Data
N63886_19_338_A.202	POS Data
N63886_19_338_A.203	POS Data
N63886_19_338_A.204	POS Data
N63886_19_338_A.205	POS Data
N63886_19_338_A.206	POS Data

Input Files

File Name	File Type
Ephm3380.19g	GLONASS Broadcast Ephemeris
Ephm3380.19n	GPS Broadcast Ephemeris
flcb_daily3380.19o	GNSS SingleBase
flck_daily3380.19o	GNSS SingleBase
flmd_daily3380.19o	GNSS SingleBase
gnvl_daily3380.19o	GNSS SingleBase
talh_daily3380.19o	GNSS SingleBase
xcty_daily3380.19o	GNSS SingleBase
brdc3410.19n	GPS Broadcast Ephemeris
Ephm3390.19g	GLONASS Broadcast Ephemeris
Ephm3390.19n	GPS Broadcast Ephemeris
Ephm3400.19g	GLONASS Broadcast Ephemeris
Ephm3400.19n	GPS Broadcast Ephemeris
Ephm3410.19g	GLONASS Broadcast Ephemeris
igu20823_18.sp3	GPS Precise Ephemeris
igu20824_18.sp3	GPS Precise Ephemeris
igu20825_18.sp3	GPS Precise Ephemeris
igu20826_18.sp3	GPS Precise Ephemeris
igu20830_18.sp3	GPS Precise Ephemeris

Output Files

Filename	File type
sbet_8861938A_v3.out	SBET Trajectory File
export_8861938A_v3.txt	ASCII Export Output

Rover Data Summary

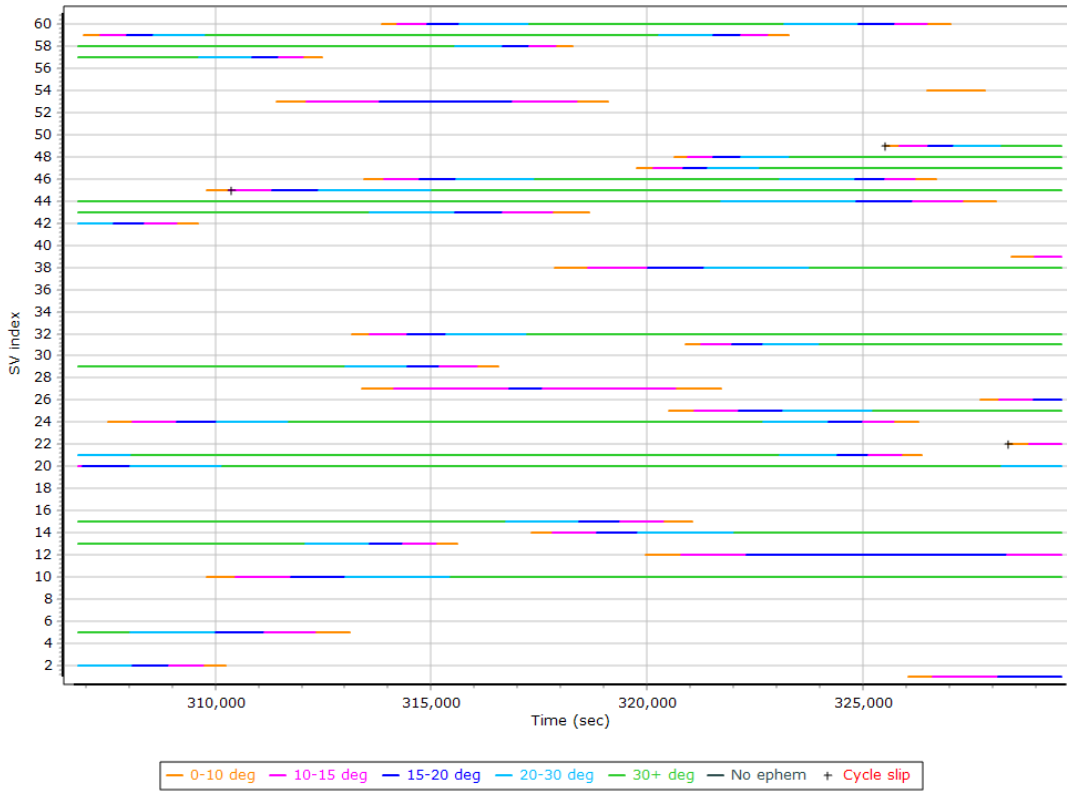
First raw data file	N63886_19_338_A.149		
Last raw data file	N63886_19_338_A.206		
Start GPS week	2082		
Start time	306536.035 (12/4/2019 1:08:56 PM)		
End time	329620.381 (12/4/2019 7:33:40 PM)		
Start of fine alignment	306768.695 (12/4/2019 1:12:48 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

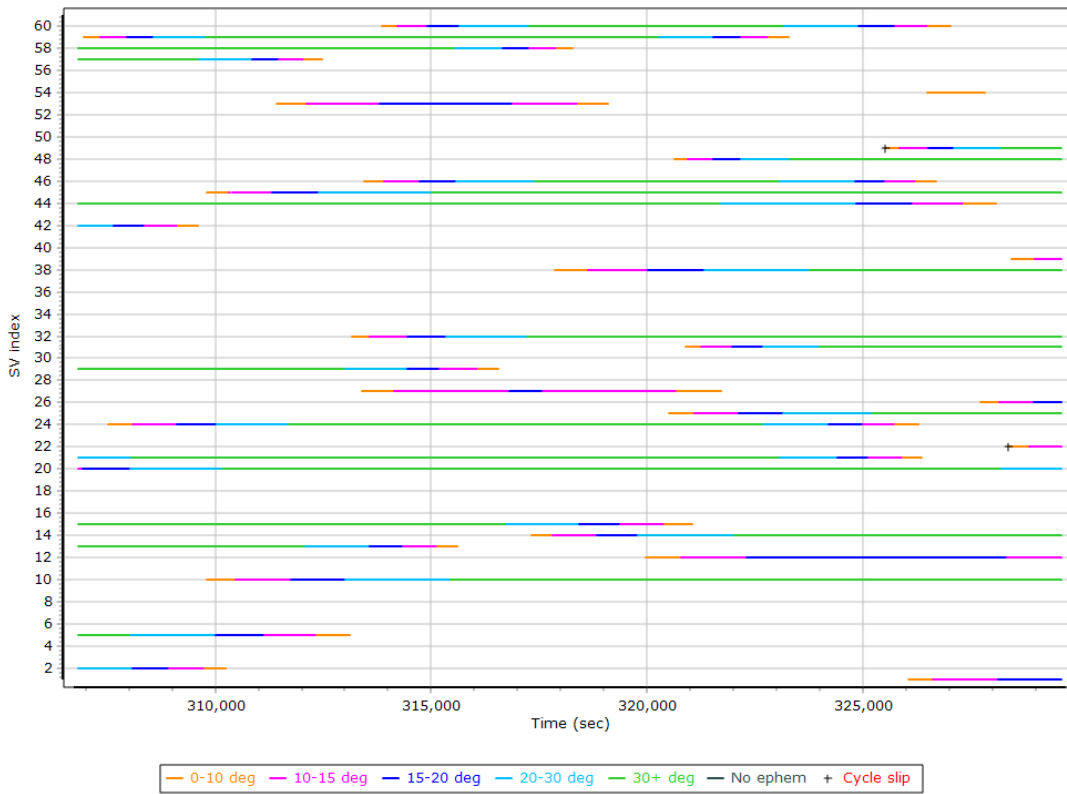
Raw IMU Import QC Summary

IMU data input file	imu_8861938A_v3.dat
IMU data check log file	imudt_8861938A_v3.log
IMU Records Processed	4616559
Termination Status	Normal
IMU Anomalies	0

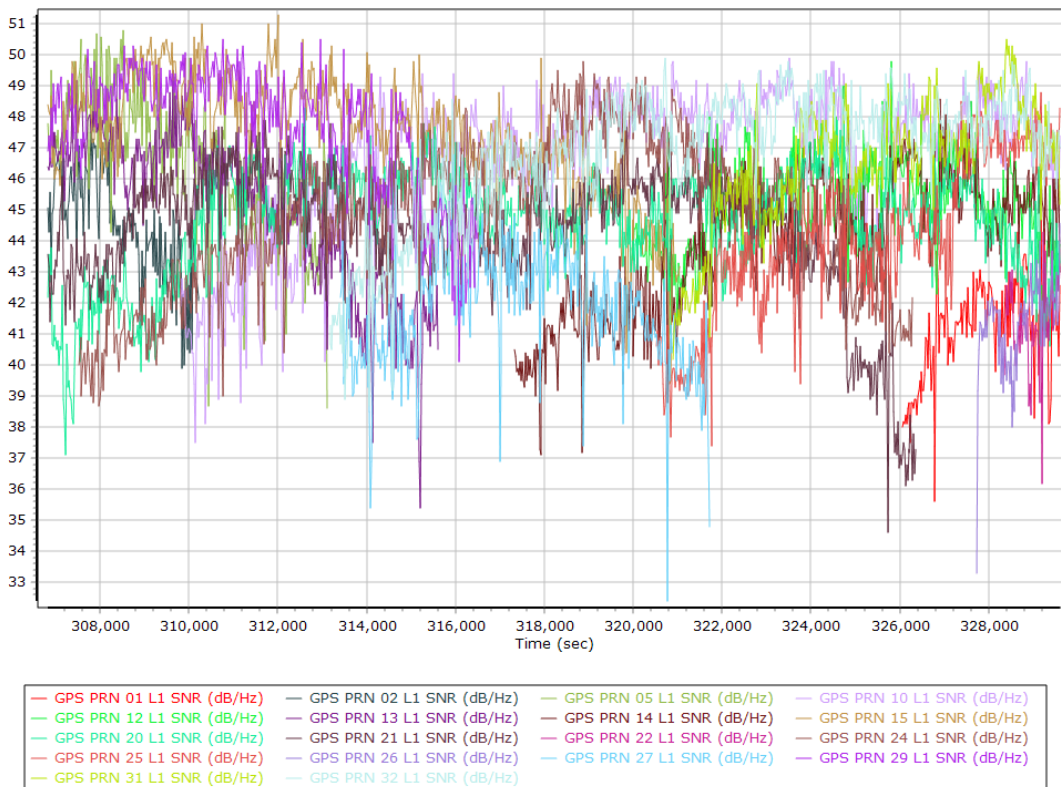
L1 Satellite Lock/Elevation



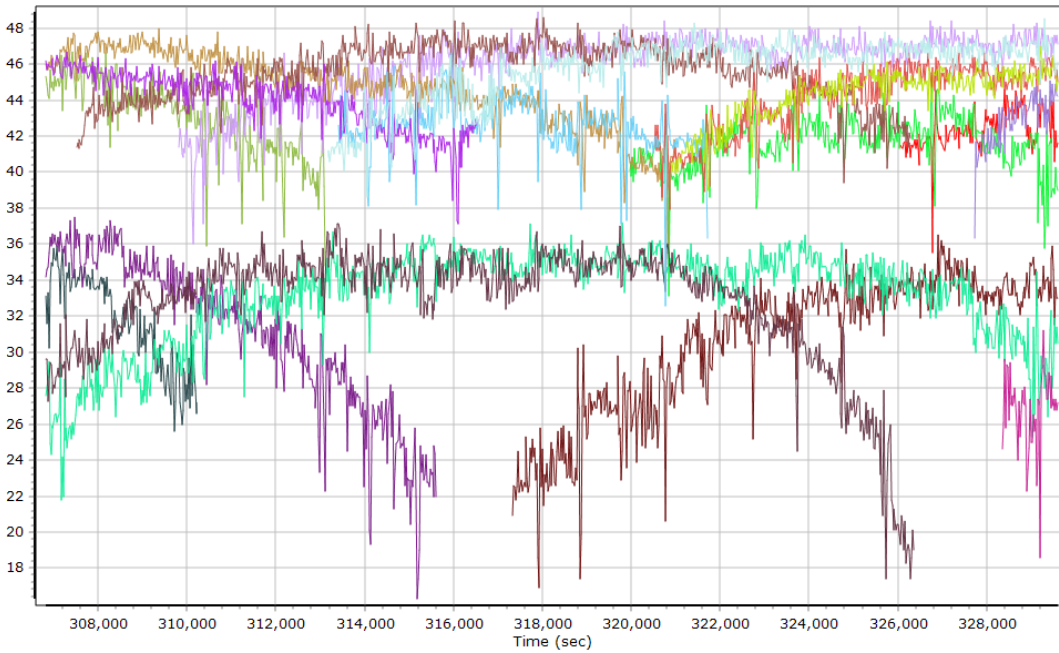
L2 Satellite Lock/Elevation



GPS L1 SNR

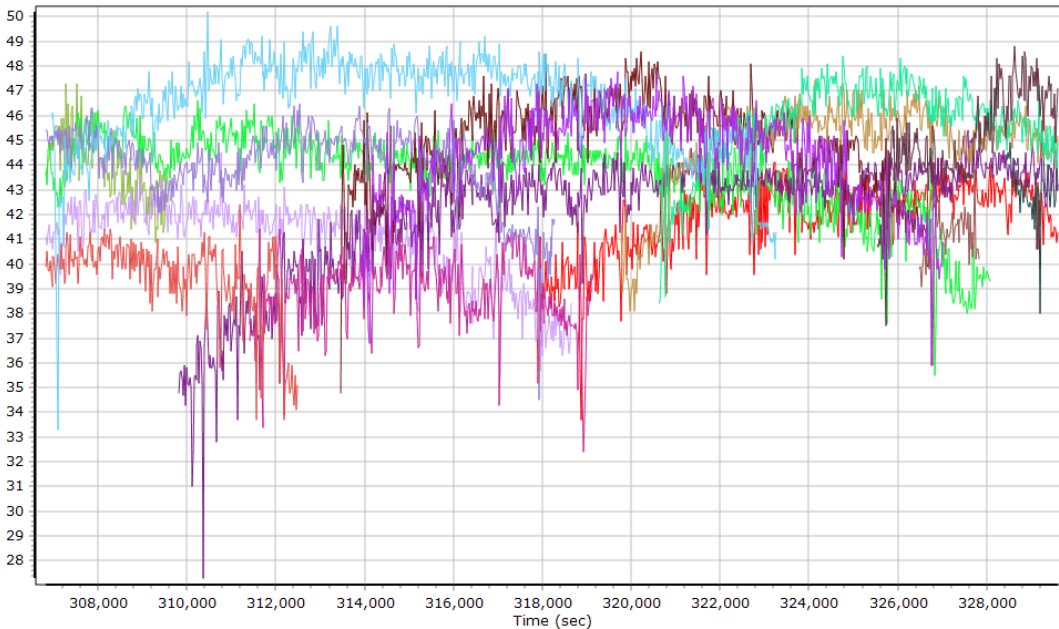


GPS L2 SNR



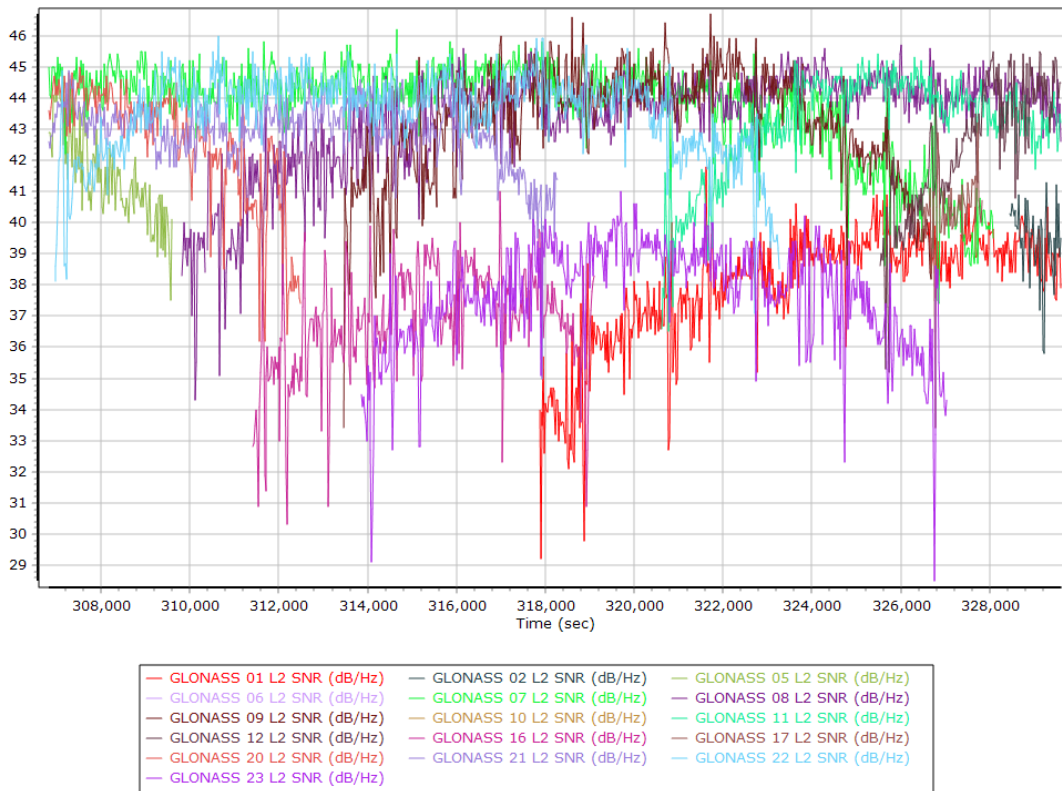
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 02 L2 SNR (dB/Hz) | GPS PRN 05 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) |
| GPS PRN 12 L2 SNR (dB/Hz) | GPS PRN 13 L2 SNR (dB/Hz) | GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 15 L2 SNR (dB/Hz) |
| GPS PRN 20 L2 SNR (dB/Hz) | GPS PRN 21 L2 SNR (dB/Hz) | GPS PRN 22 L2 SNR (dB/Hz) | GPS PRN 24 L2 SNR (dB/Hz) |
| GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 26 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) | GPS PRN 29 L2 SNR (dB/Hz) |
| GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) | | |

GLONASS L1 SNR

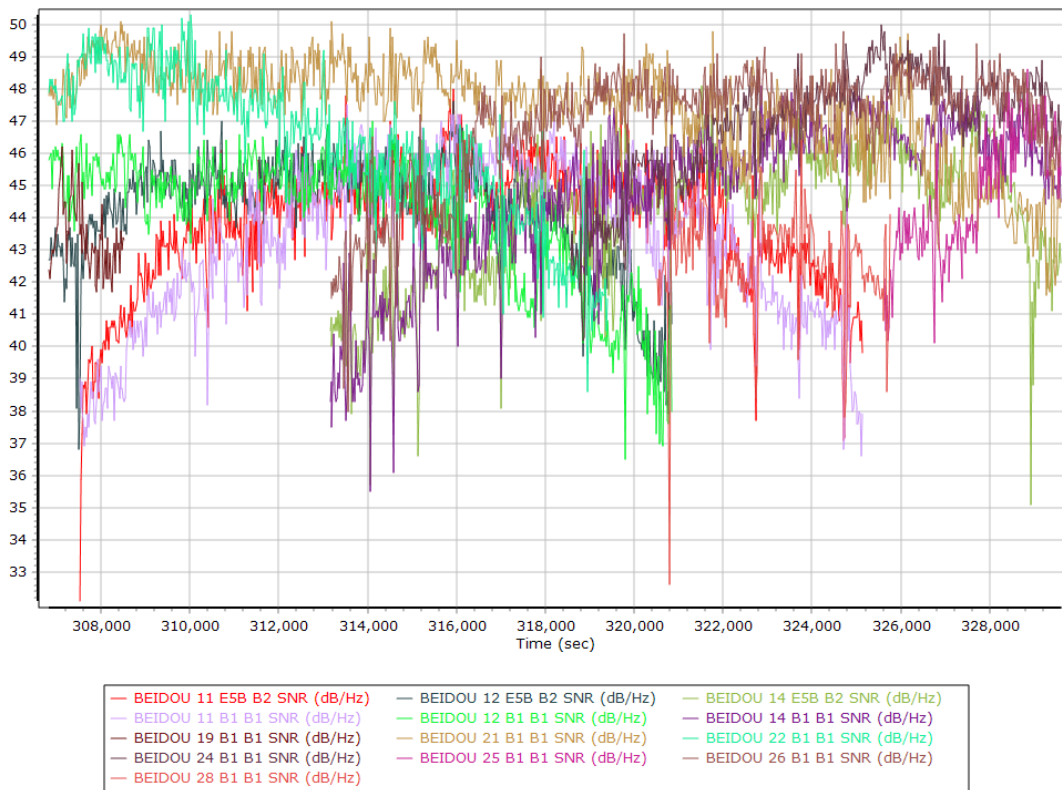


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 02 L1 SNR (dB/Hz) | GLONASS 05 L1 SNR (dB/Hz) |
| GLONASS 06 L1 SNR (dB/Hz) | GLONASS 07 L1 SNR (dB/Hz) | GLONASS 08 L1 SNR (dB/Hz) |
| GLONASS 09 L1 SNR (dB/Hz) | GLONASS 10 L1 SNR (dB/Hz) | GLONASS 11 L1 SNR (dB/Hz) |
| GLONASS 12 L1 SNR (dB/Hz) | GLONASS 16 L1 SNR (dB/Hz) | GLONASS 17 L1 SNR (dB/Hz) |
| GLONASS 20 L1 SNR (dB/Hz) | GLONASS 21 L1 SNR (dB/Hz) | GLONASS 22 L1 SNR (dB/Hz) |
| GLONASS 23 L1 SNR (dB/Hz) | | |

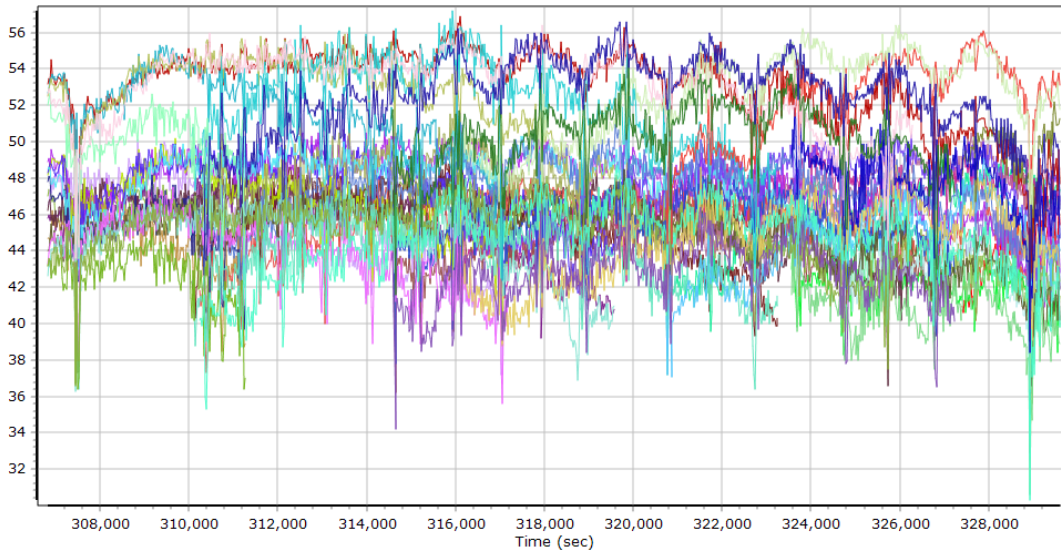
GLONASS L2 SNR



BEIDOU SNR



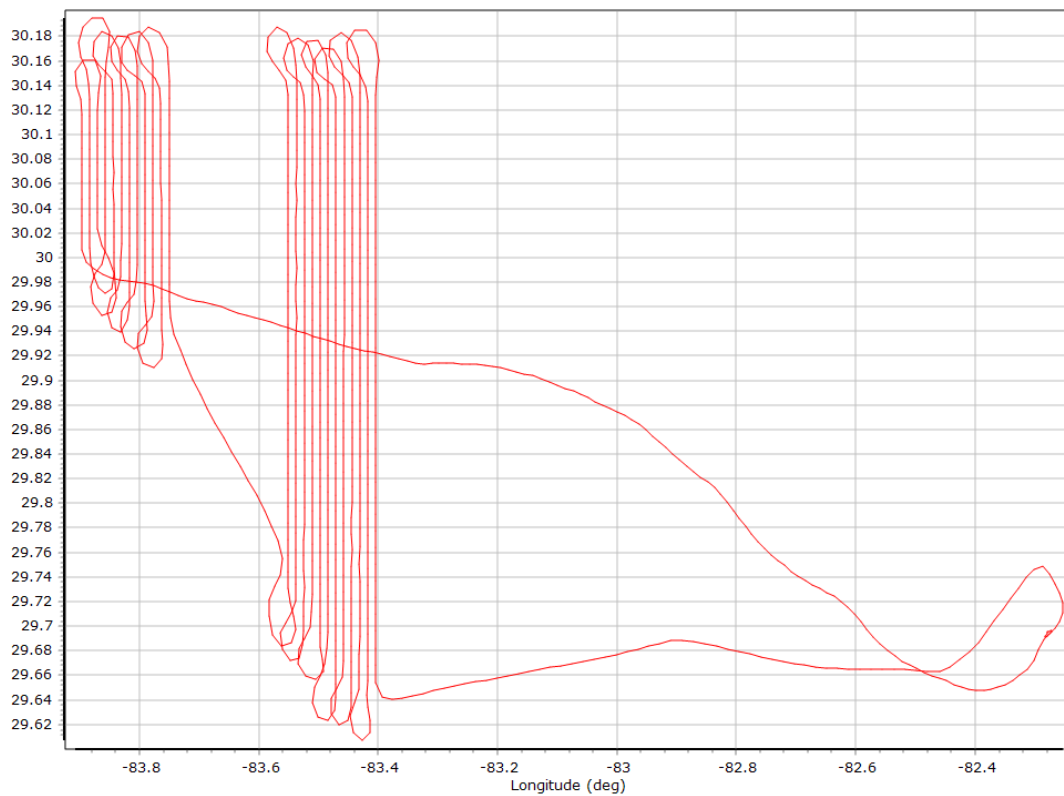
GALILEO SNR



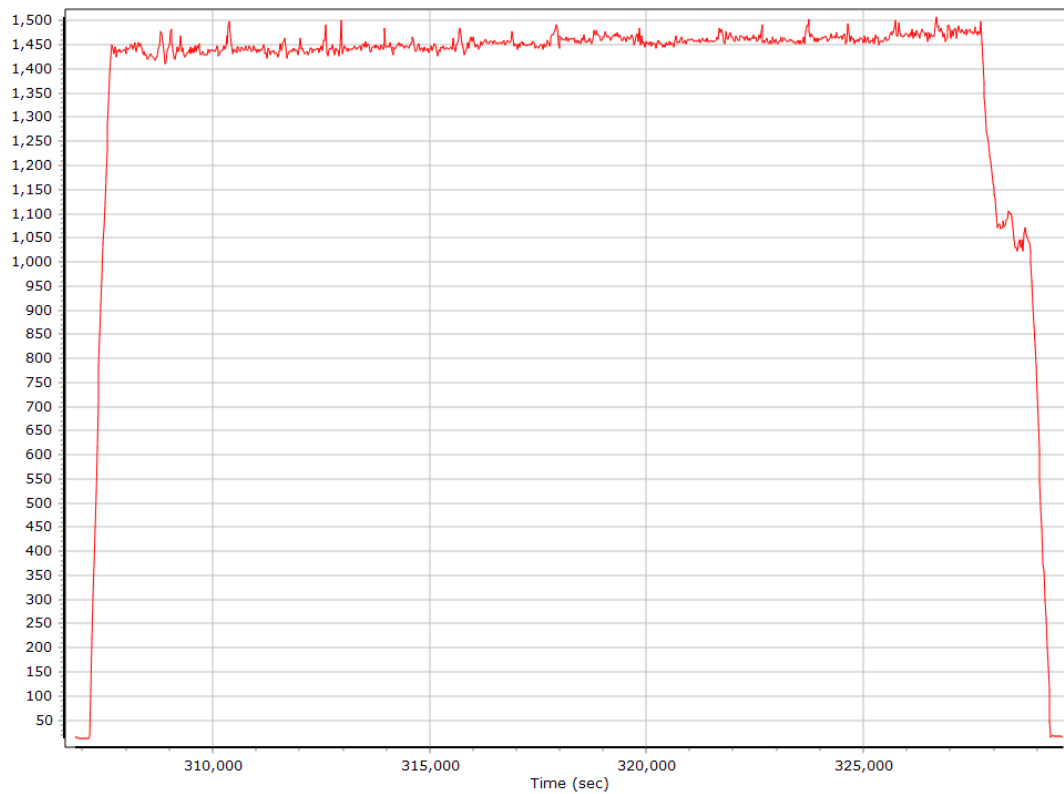
- | | |
|--|--|
| — GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 12 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 14 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 15 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 21 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 26 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 27 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 30 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 33 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 01 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 03 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 07 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 08 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 12 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 14 L5E5A BPSK10_PD SNR (dB/Hz) |

Trajectory Information

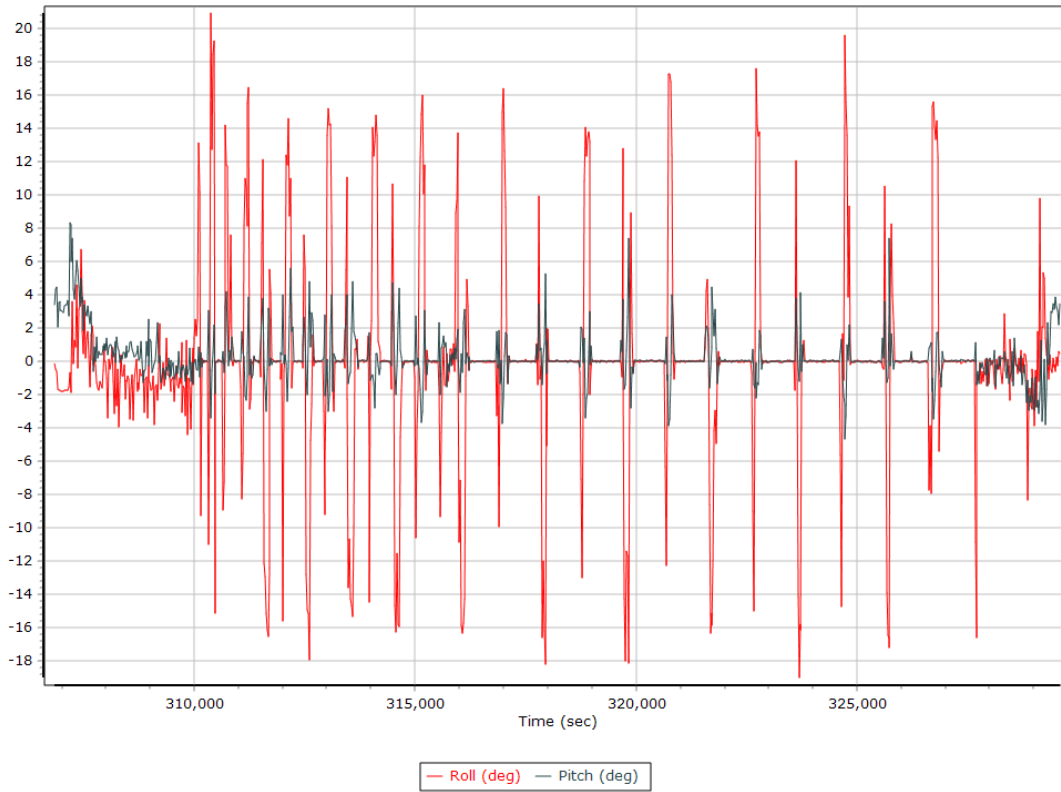
Top View



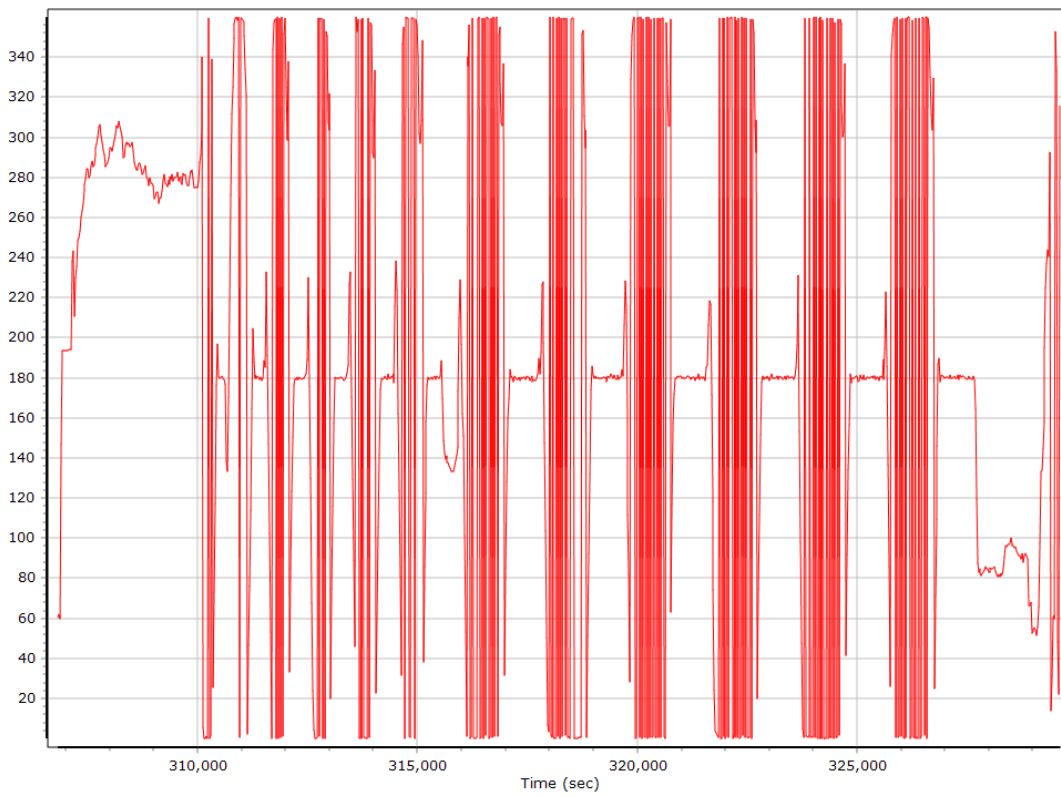
Altitude



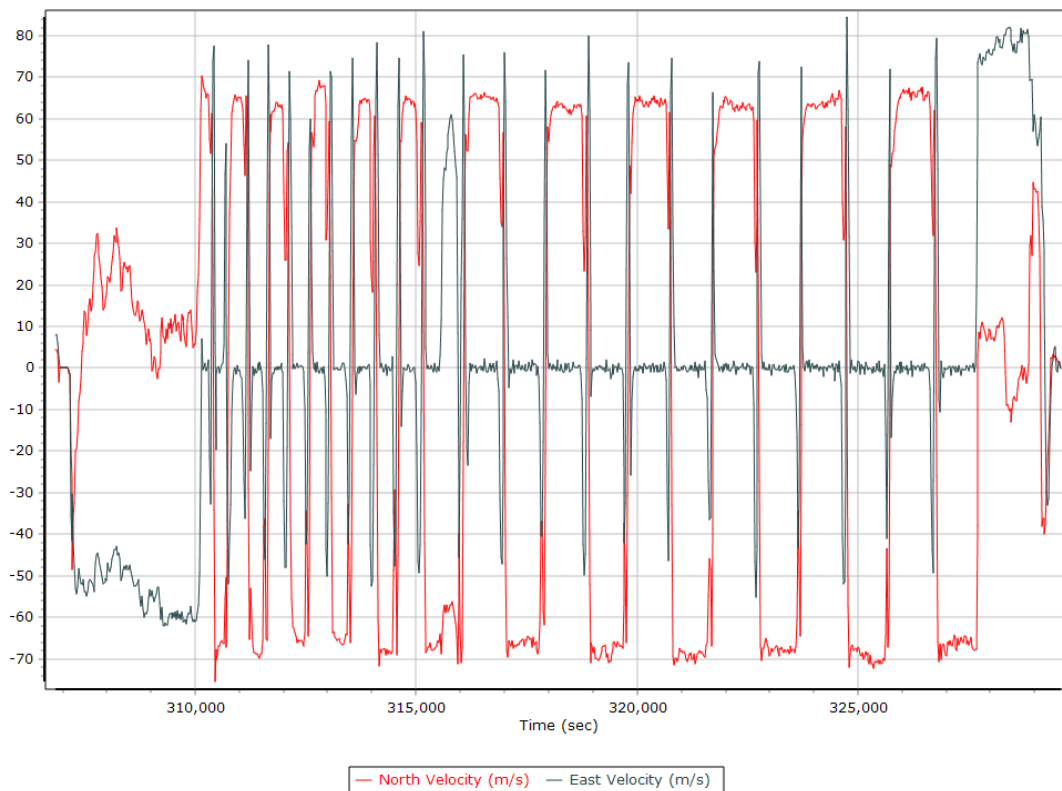
Roll/Pitch



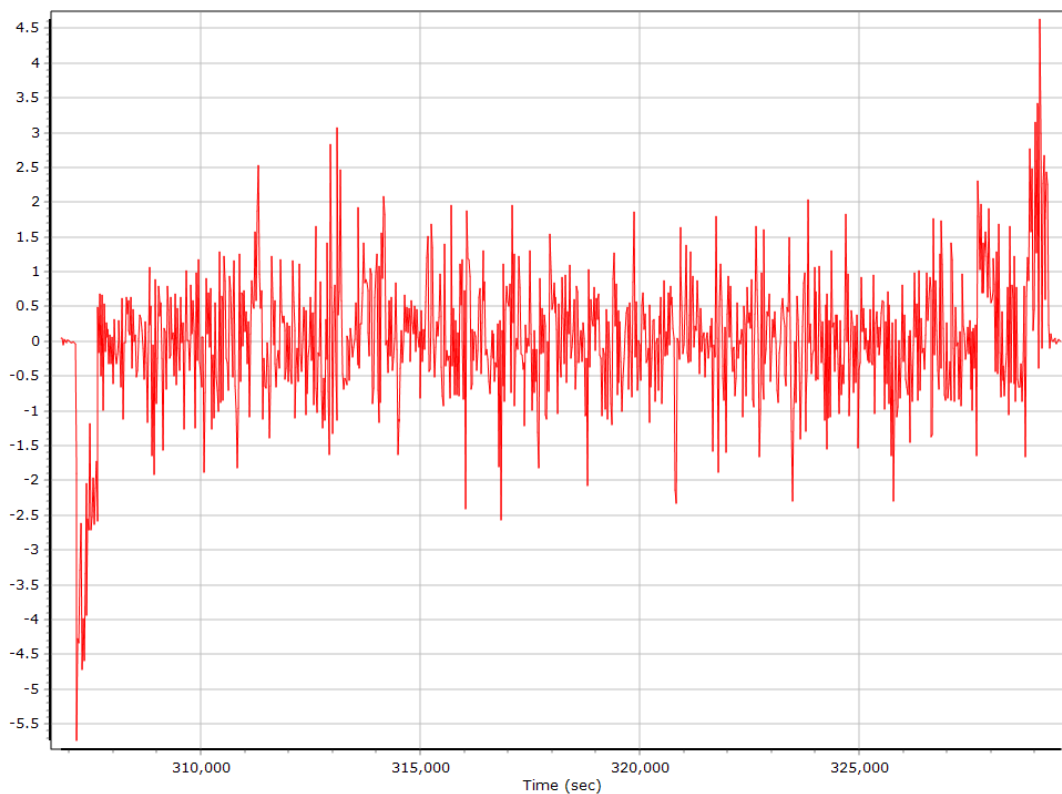
Heading



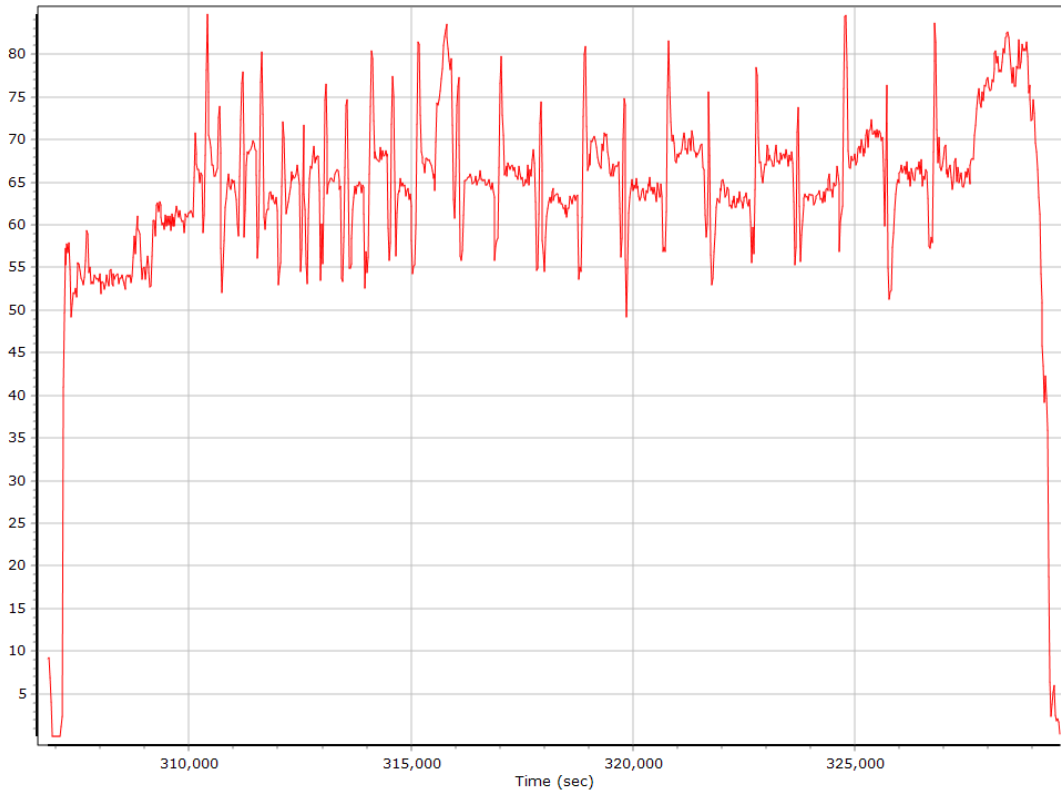
North/East Velocity



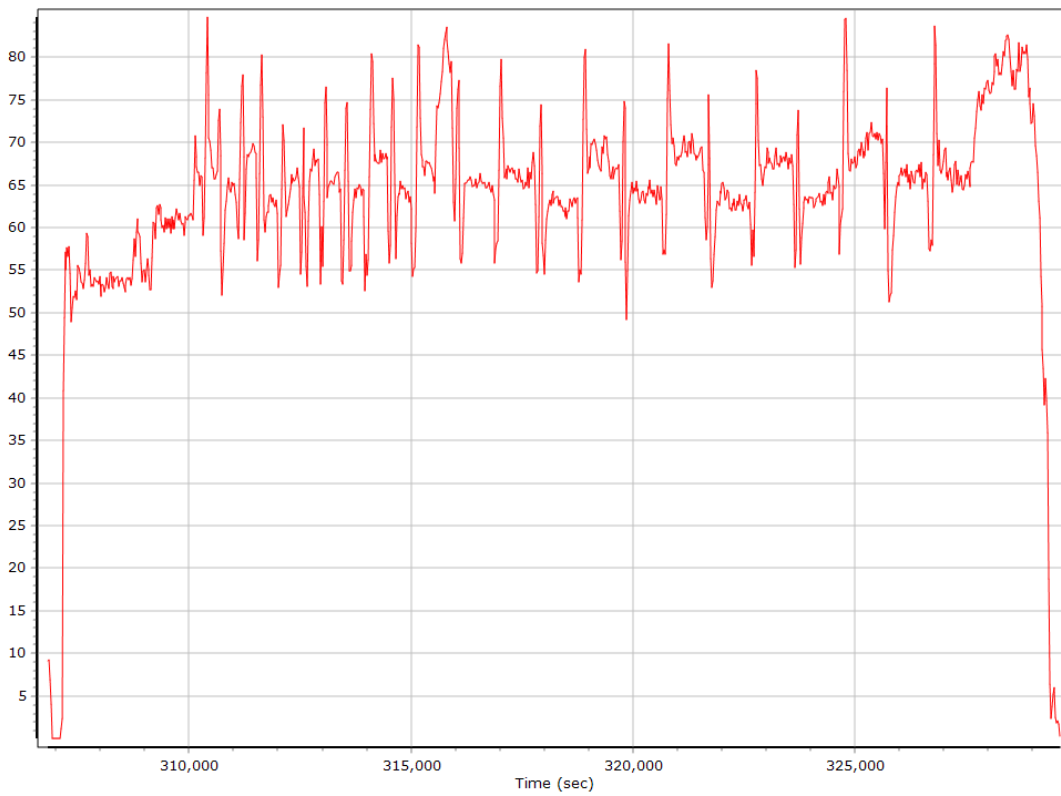
Down Velocity



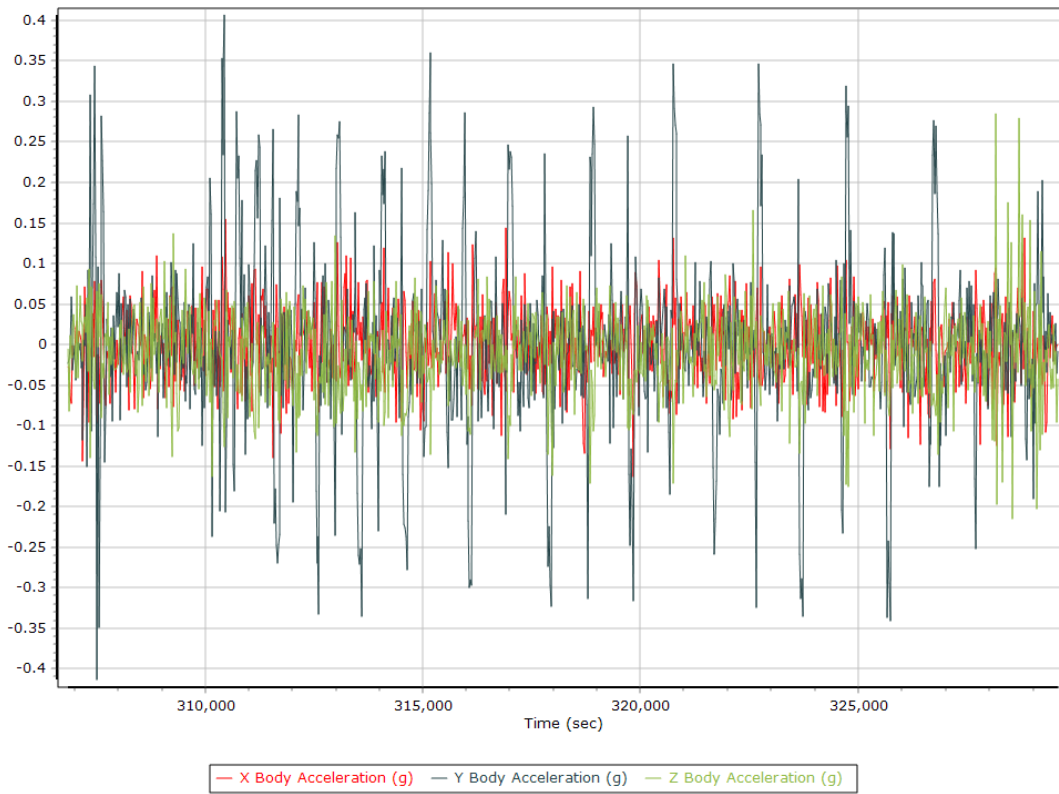
Total Speed



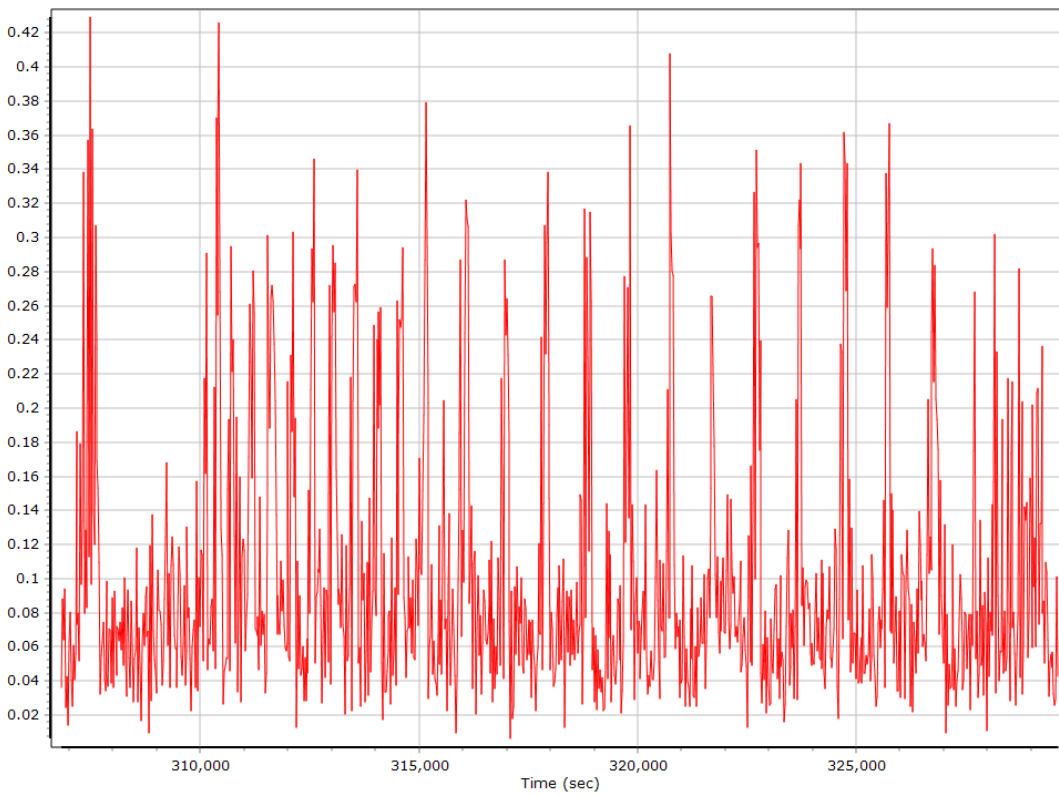
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/04/2019	XCTY	42.68	GNSS	1	User	None	Imported
12/04/2019	TAHL	105.78	GNSS	1	User	None	Imported
12/04/2019	GNVL	112.44	GNSS	1	User	None	Imported
12/04/2019	FLMD	53.00	GNSS	1	User	None	Imported
12/04/2019	FLCK	93.69	GNSS	1	User	None	Imported
12/04/2019	FLCB	124.31	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	XCTY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	23086 s (2082 306554 - 2082 329640)
Number of reference stations	6
Primary station GPS measurement usage (%)	99.9
Primary station GLONASS measurement usage (%)	79.4
Average number of satellites per epoch	13.2
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	31448
GPS precise vs. broadcast ephemeris used	25.9 % / 74.2 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - XCTY

Status	CONTROL	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Control	
Solution Epochs	4776	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°37'51.61276"	W83°06'29.33653"	13.808
Adjusted		N29°37'51.61276"	W83°06'29.33653"	13.808
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	XCTY		
Filename	xcty_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80800		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - TAHL

Status	OK	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Original	
Solution Epochs	4776	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°23'47.48344"	W84°21'21.03499"	5.836
Adjusted		N30°23'47.48323"	W84°21'21.03528"	5.844
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.010	0.008	0.013

Base Station Information

Station ID	TAHL		
Filename	talh_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702012
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°23'47.48344"		
Longitude	W84°21'21.03499"		
Ellipsoidal height (m)	-5.83600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	OK	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Original	
Solution Epochs	4776	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55721"	W82°16'36.73515"	23.927
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.007	0.009	0.012

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMD

Status	OK	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Original	
Solution Epochs	4776	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°22'26.47817"	W83°16'31.72158"	0.095
Adjusted		N30°22'26.47817"	W83°16'31.72163"	0.123
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.001	0.028	0.028

Base Station Information

Station ID	FLMD		
Filename	flmd_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701993
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°22'26.47817"		
Longitude	W83°16'31.72158"		
Ellipsoidal height (m)	0.09500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCK

Status	OK	SBQI	0
Duration (Hours)	19.46	Output Coordinates	Original
Solution Epochs	4671	Mean Epoch SVs	8.3
Base Station Coordinates	Latitude	Longitude	Height (m)
Original	N29°08'01.87610"	W83°01'51.05281"	17.224
Adjusted	N29°08'01.87610"	W83°01'51.05273"	17.223
Coordinate Adjustments	Horizontal (m)	Vertical (m)	Total (m)
Adjustments	0.002	0.001	0.003

Base Station Information

Station ID	FLCK		
Filename	flck_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCB

Status	OK	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Original	
Solution Epochs	4776	Mean Epoch SVs	7.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°50'33.36155"	W84°41'42.53223"	19.609
Adjusted		N29°50'33.36130"	W84°41'42.53217"	19.619
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.008	0.010	0.013

Base Station Information

Station ID	FLCB		
Filename	flcb_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702509
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°50'33.36155"		
Longitude	W84°41'42.53223"		
Ellipsoidal height (m)	-19.60900		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.65	114.17	
Number of GPS SV	3	10	8
Number of GLONASS SV	0	7	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	7	16	13
PDOP	1.20	2.91	1.57
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	23037.00	0.00	2.00
Percentage	99.99	0.00	0.01

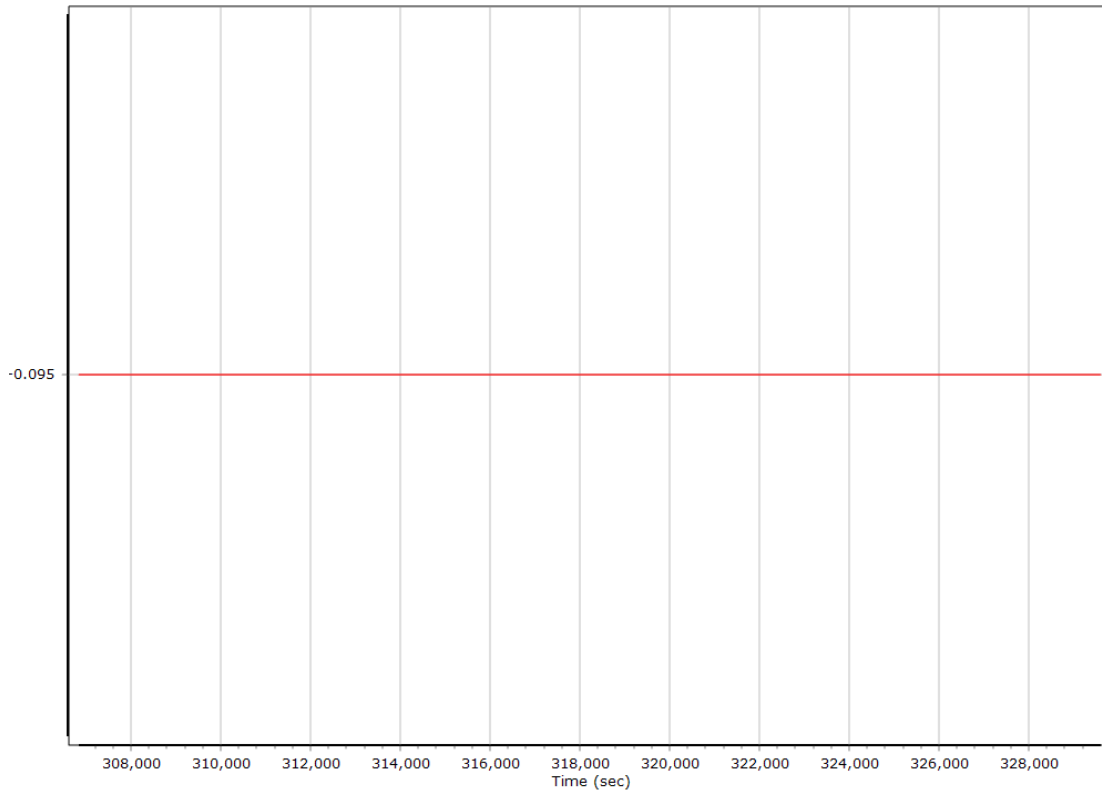
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	306536.025 (12/4/2019 1:08:56 PM)		
Processing end time	329622.000 (12/4/2019 7:33:42 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	-0.095	0.063	-1.259
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

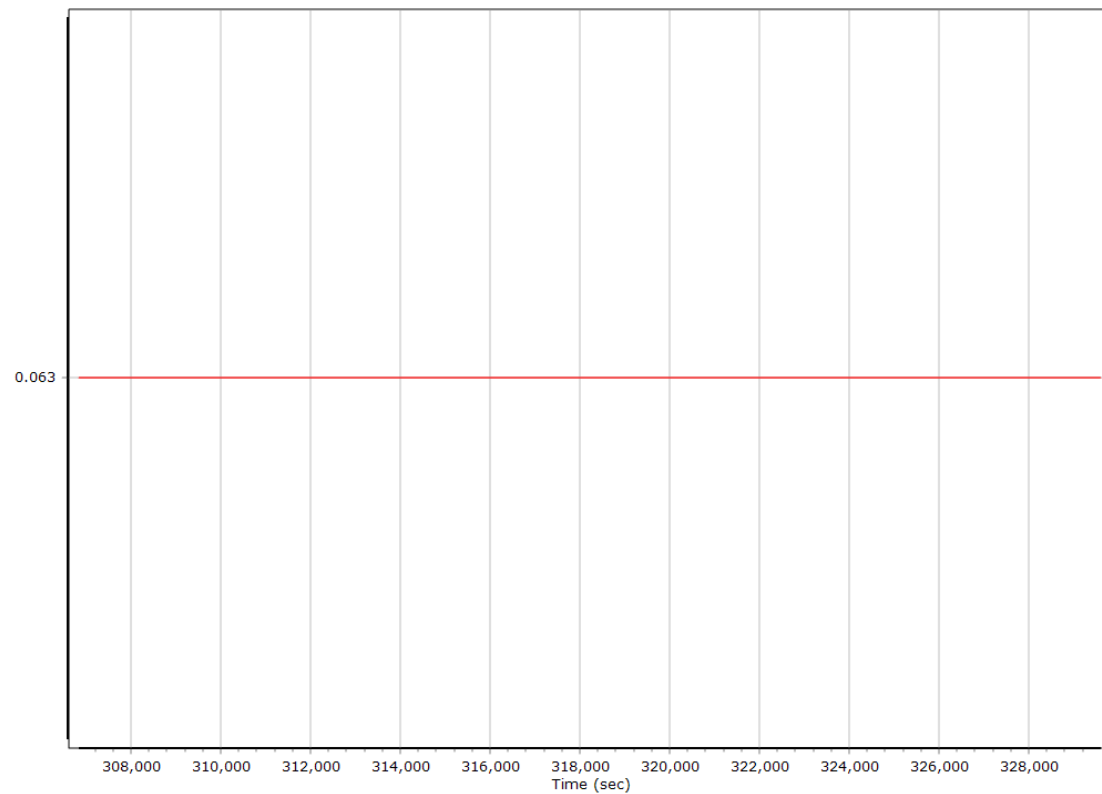
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

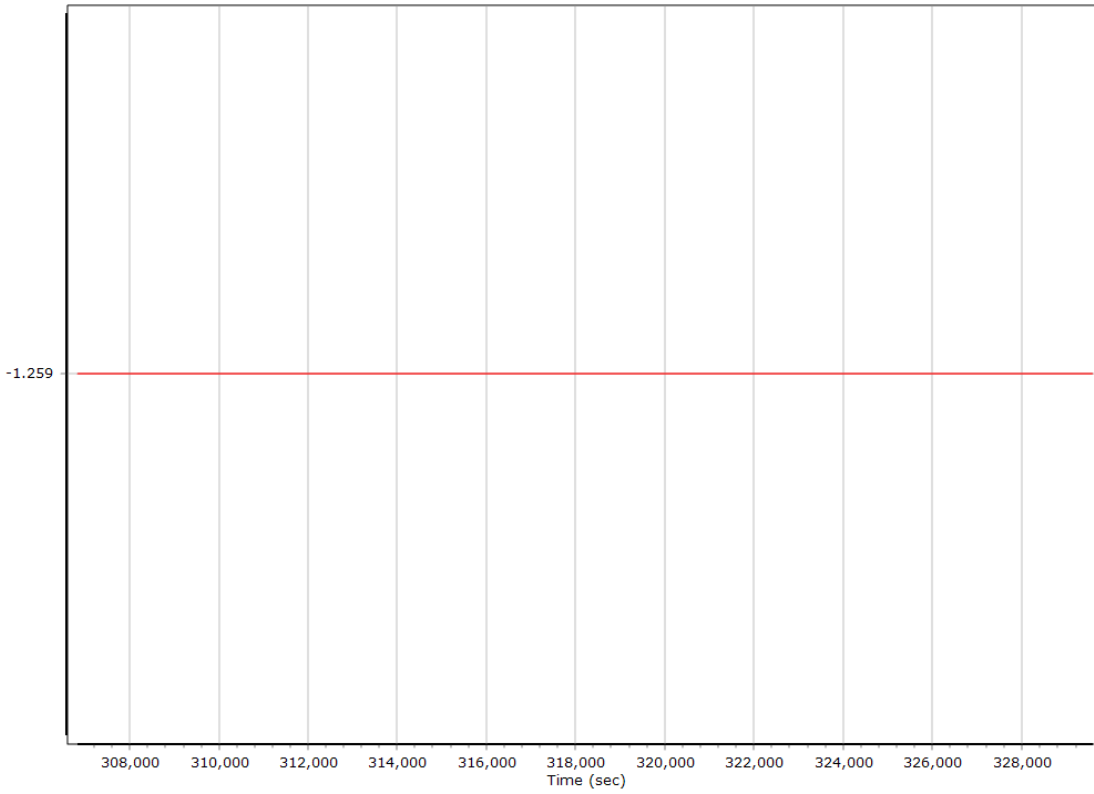
X Reference-Primary GNSS Lever Arm (m)



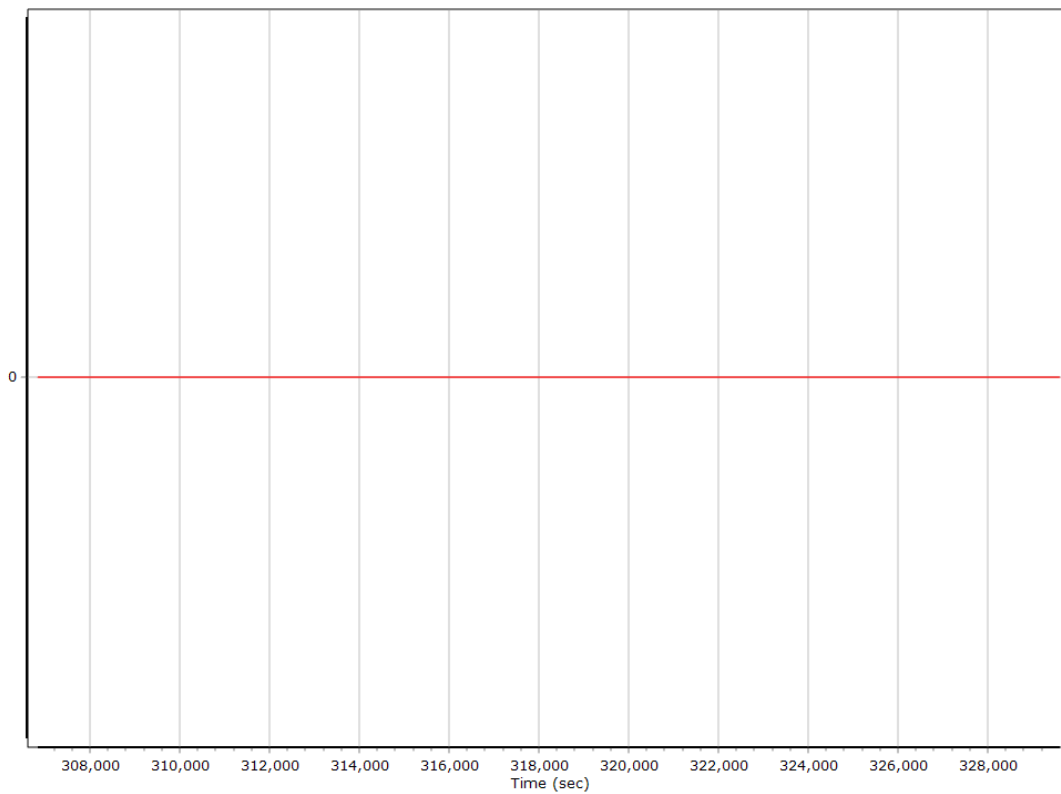
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



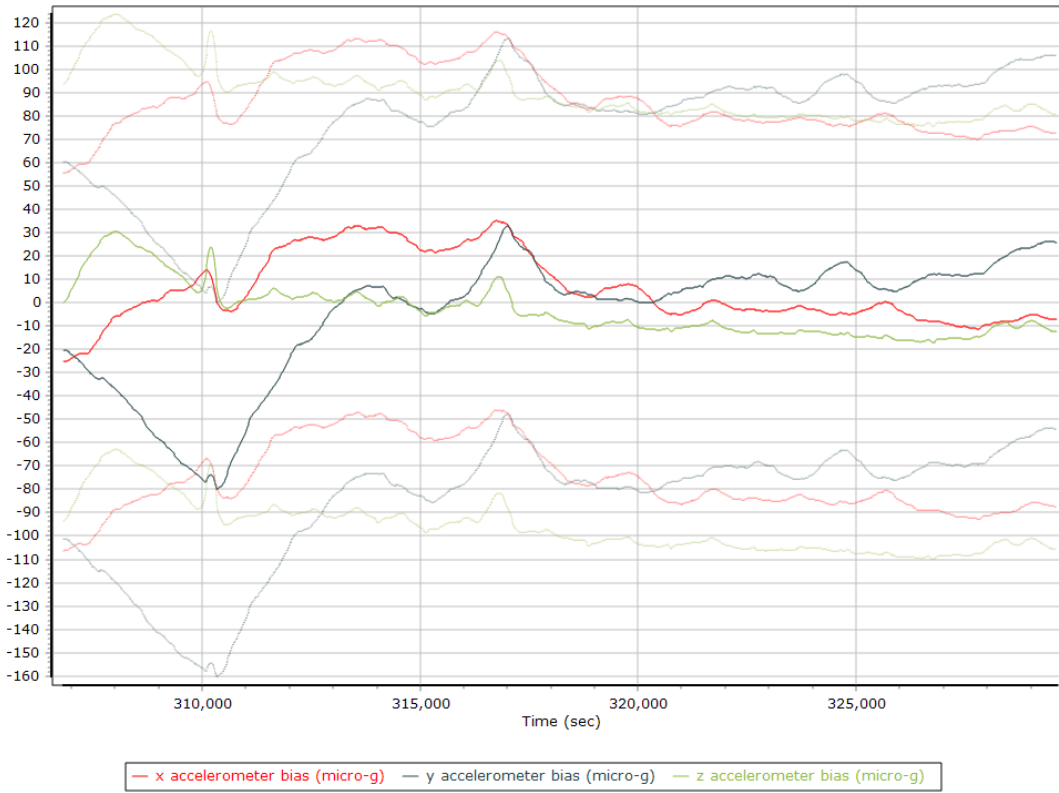
Reference-Primary GNSS Lever Arm Figure of Merit



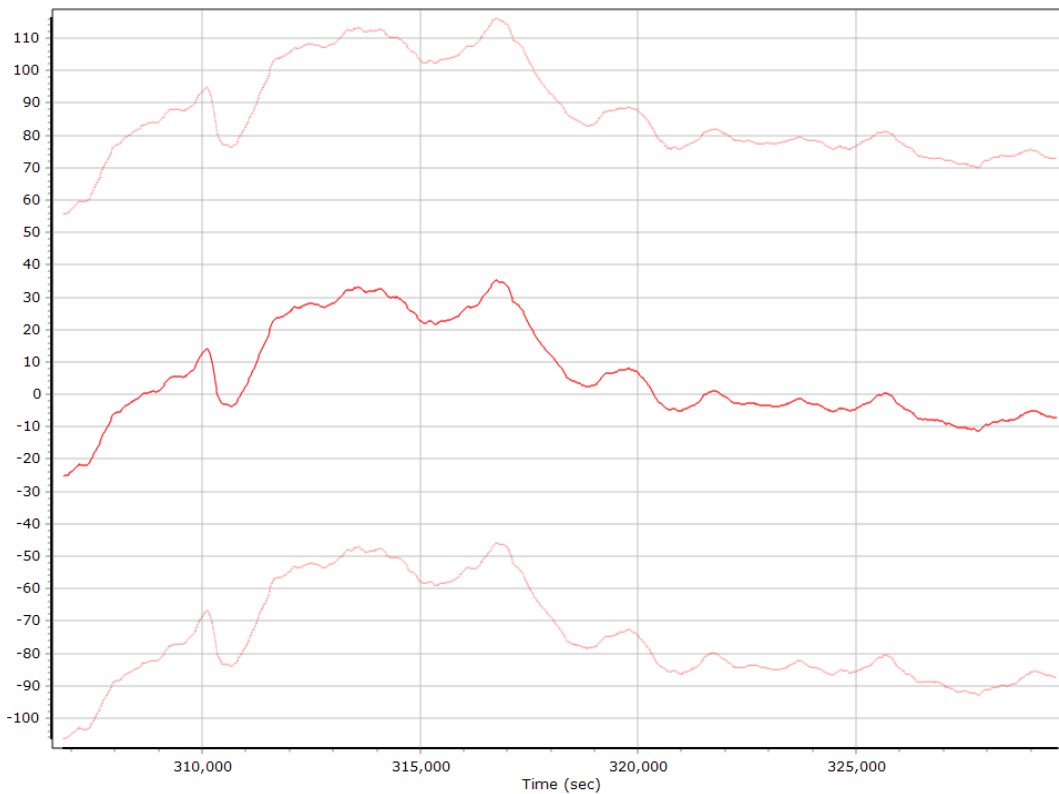
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

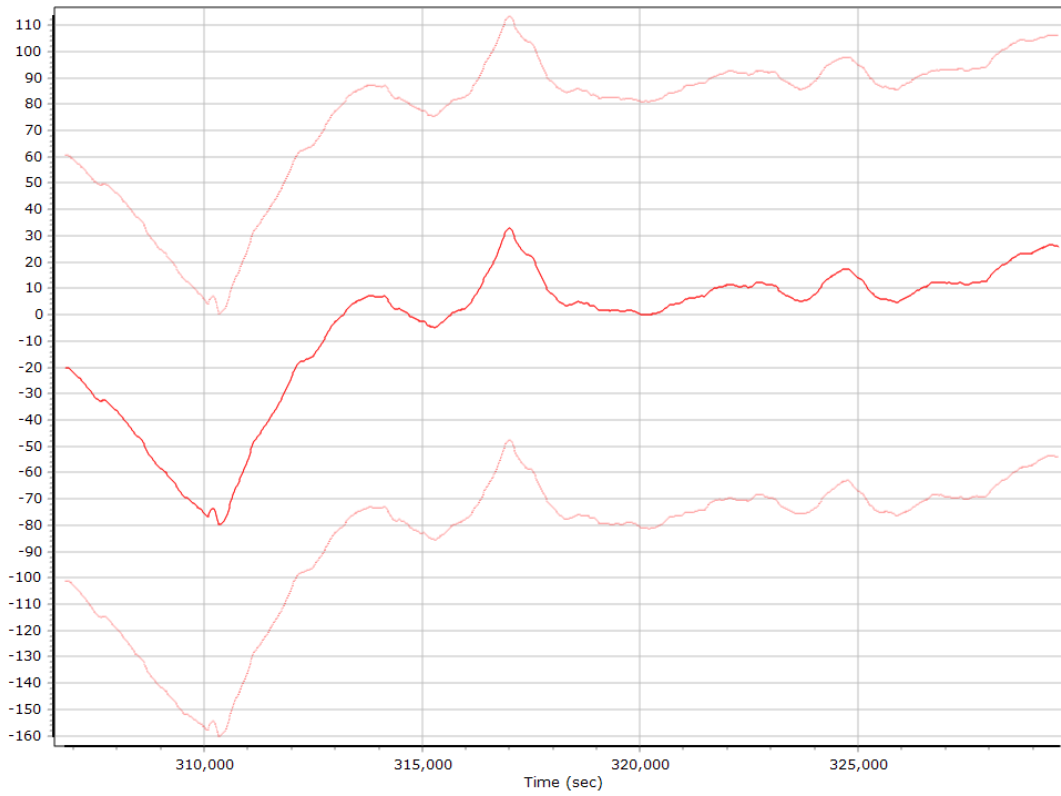
Accelerometer Bias (micro-g)



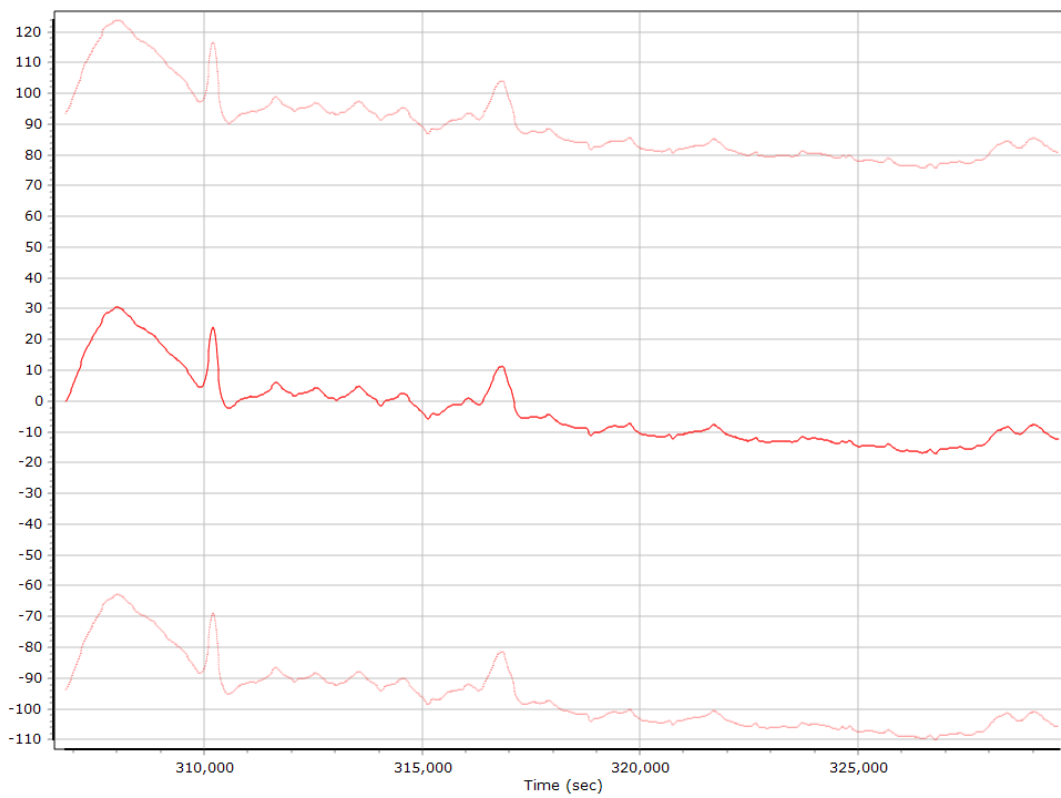
X Accelerometer Bias (micro-g)



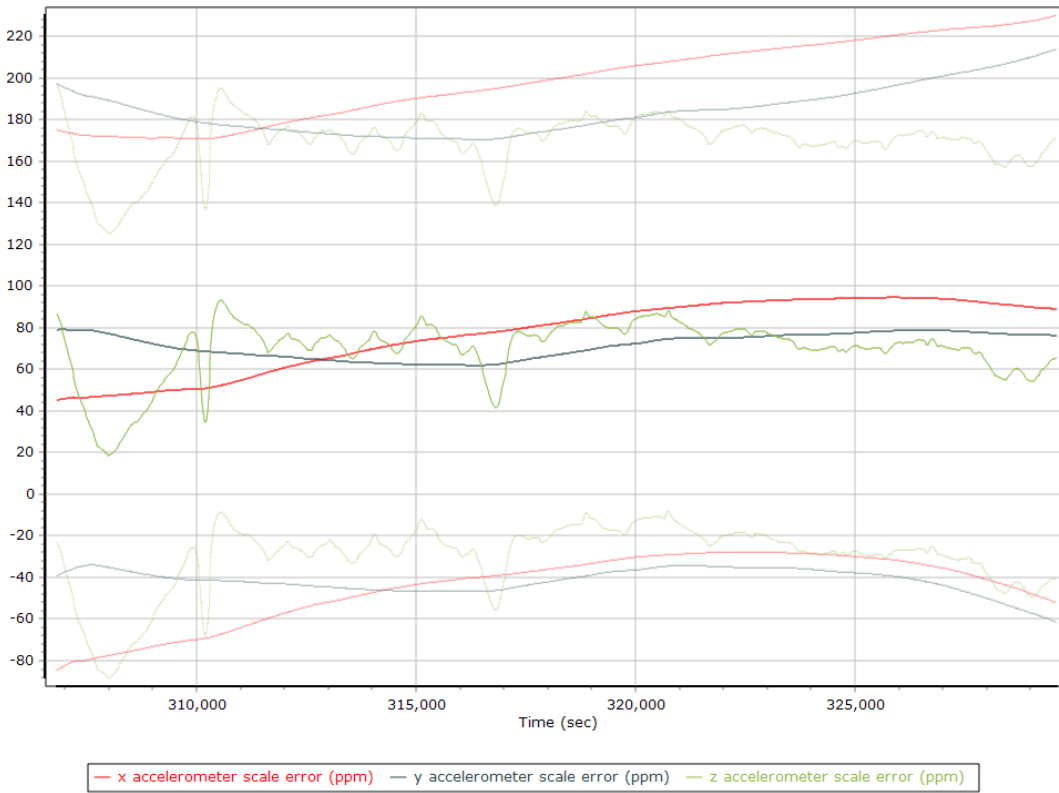
Y Accelerometer Bias (micro-g)



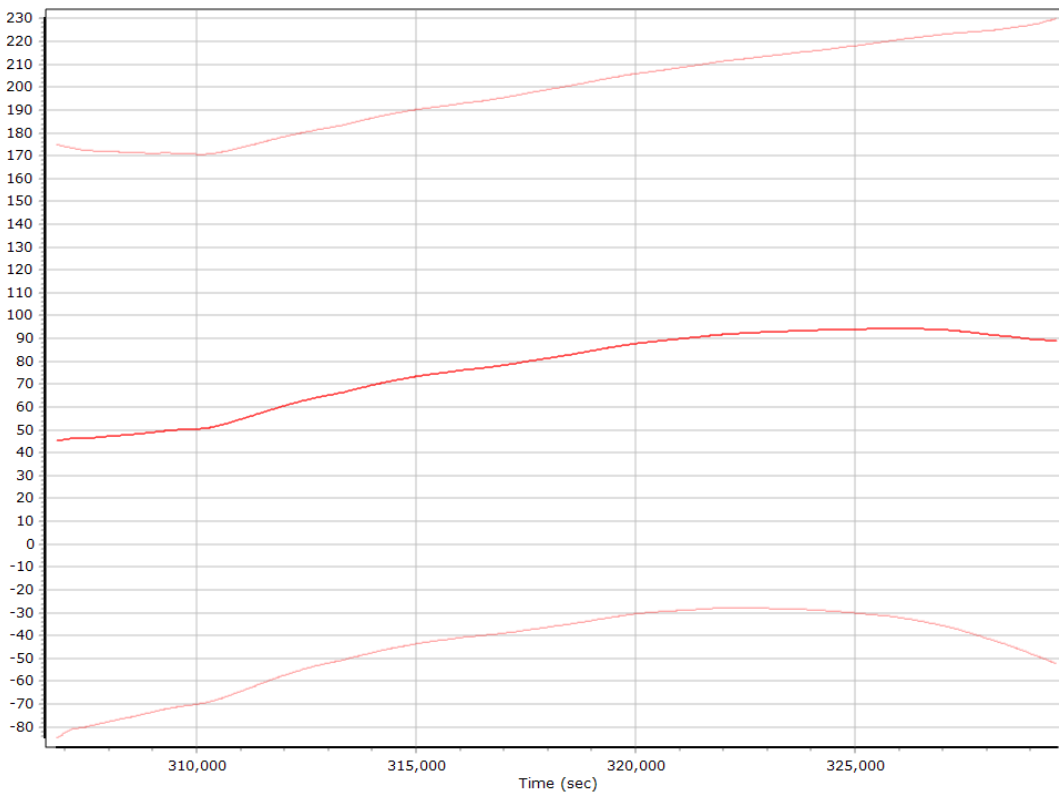
Z Accelerometer Bias (micro-g)



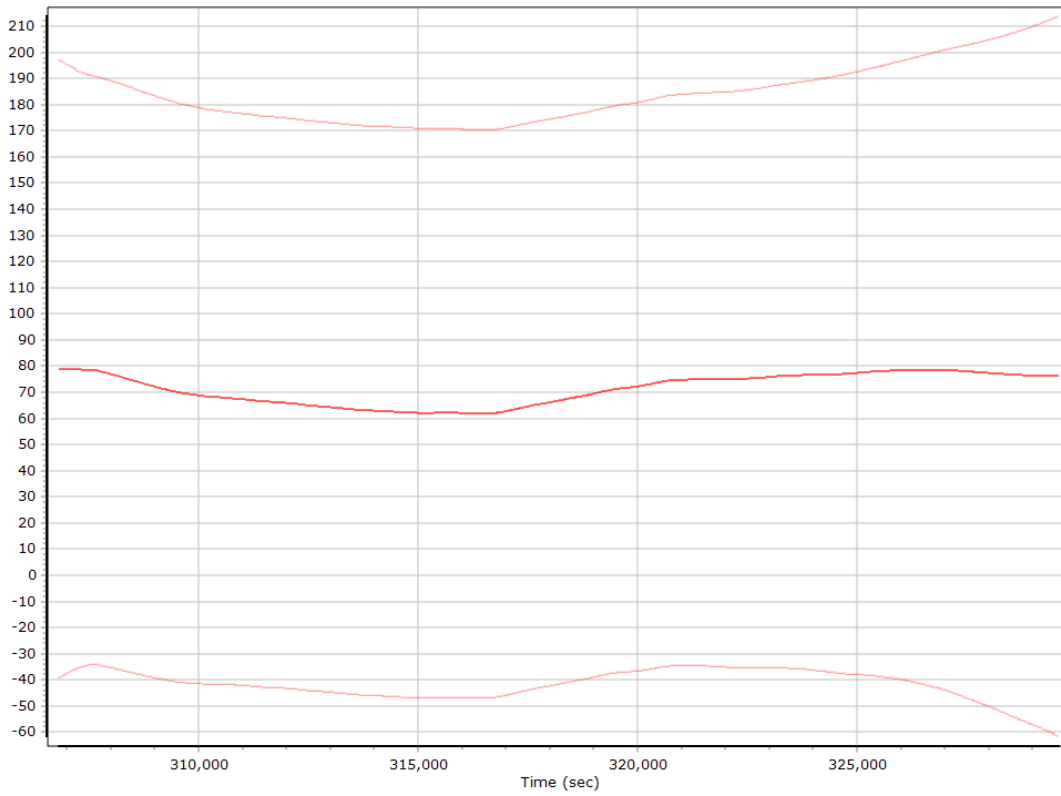
Accelerometer Scale Error (ppm)



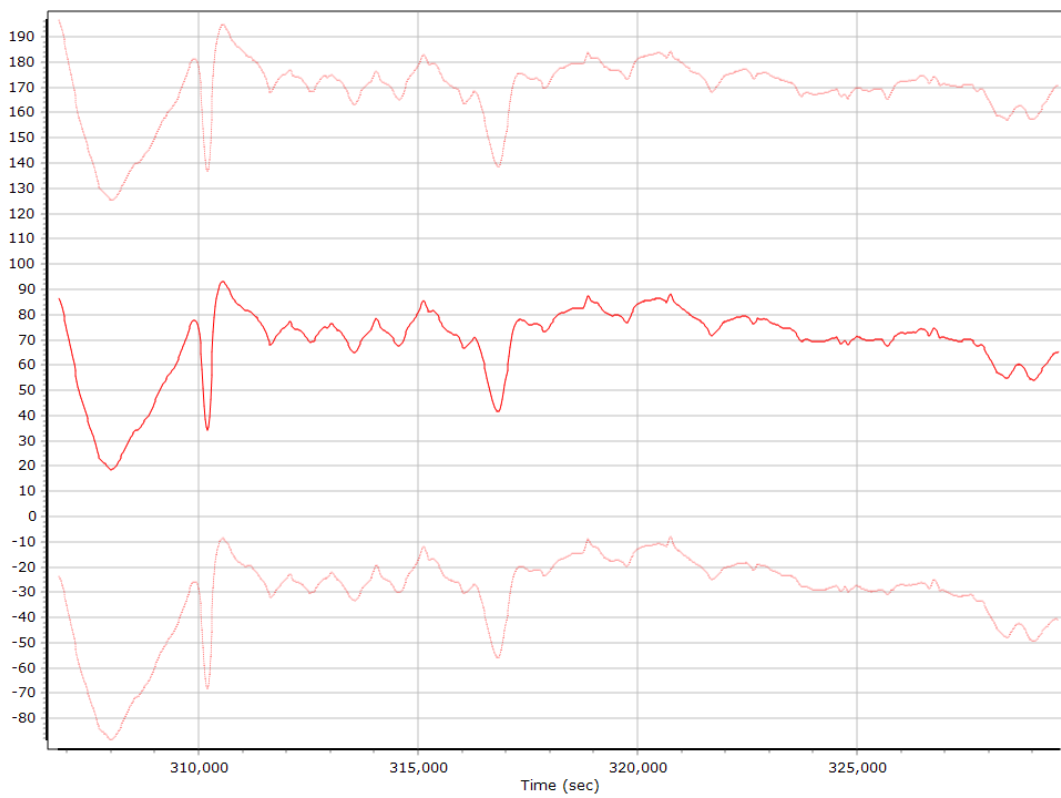
X Accelerometer Scale Error (ppm)



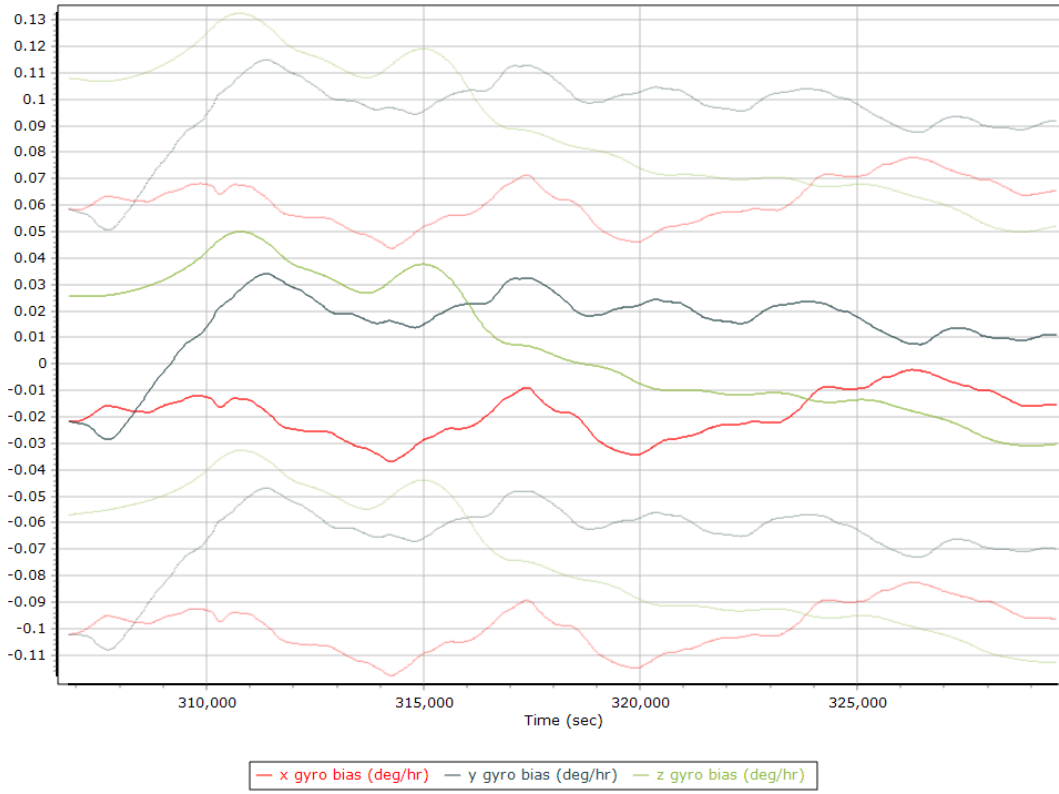
Y Accelerometer Scale Error (ppm)



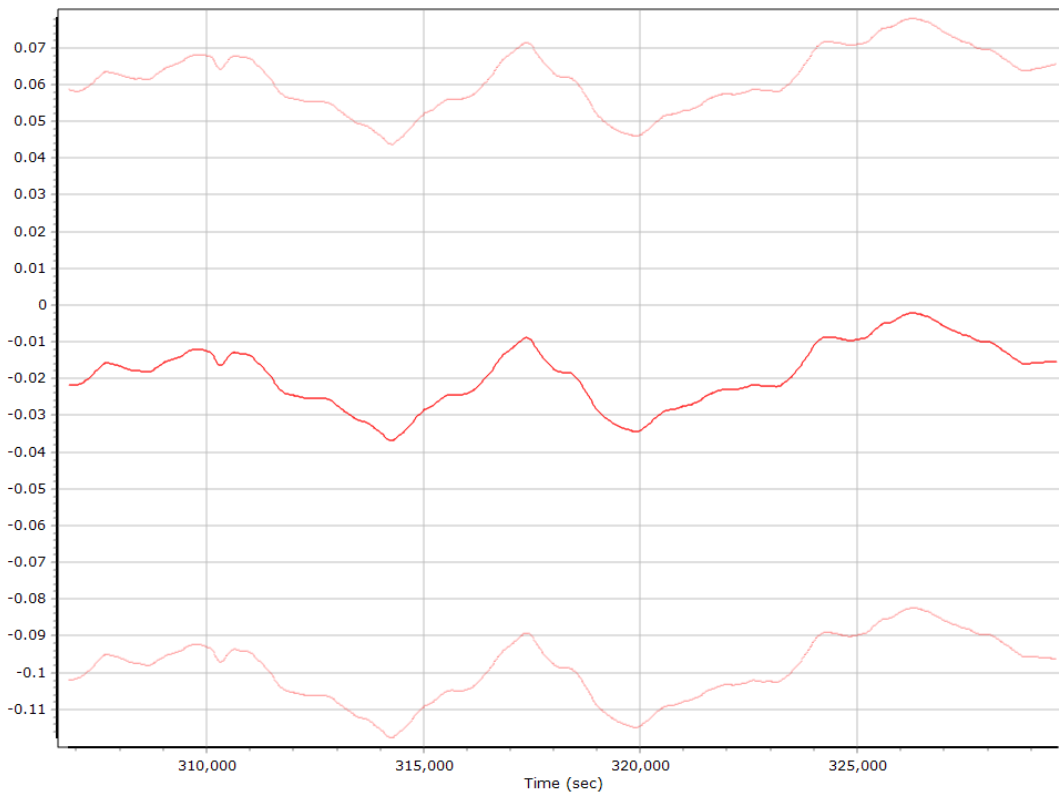
Z Accelerometer Scale Error (ppm)



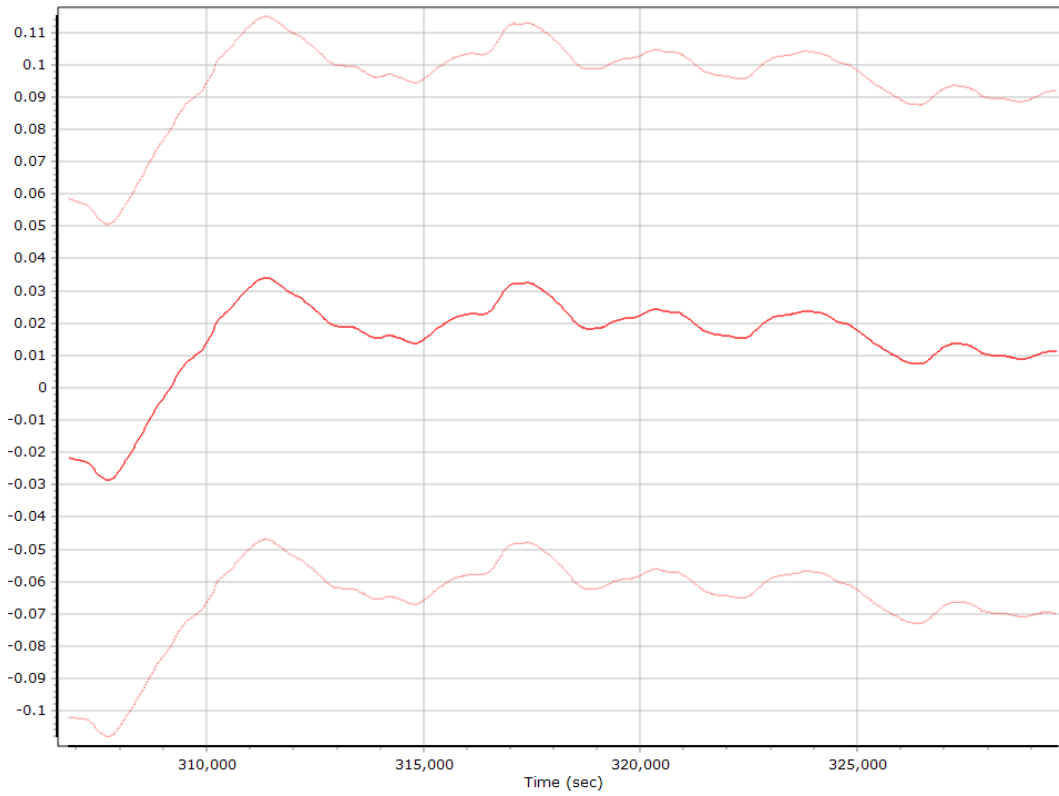
Gyro Bias (deg/h)



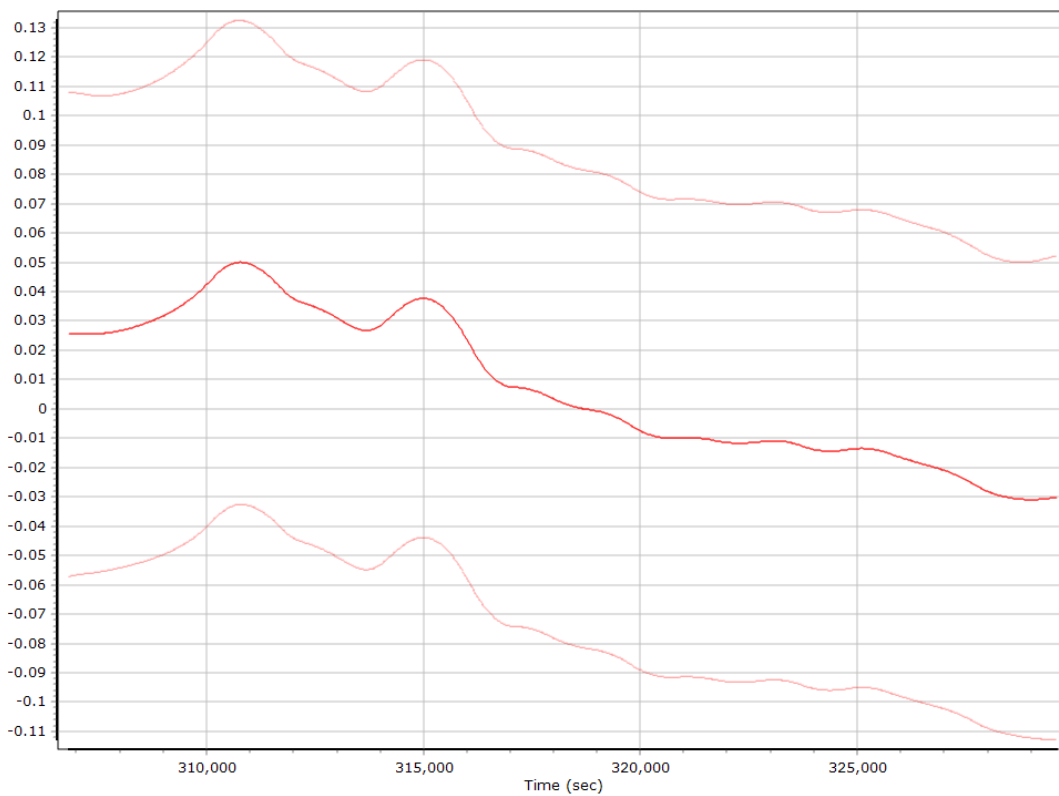
X Gyro Bias (deg/h)



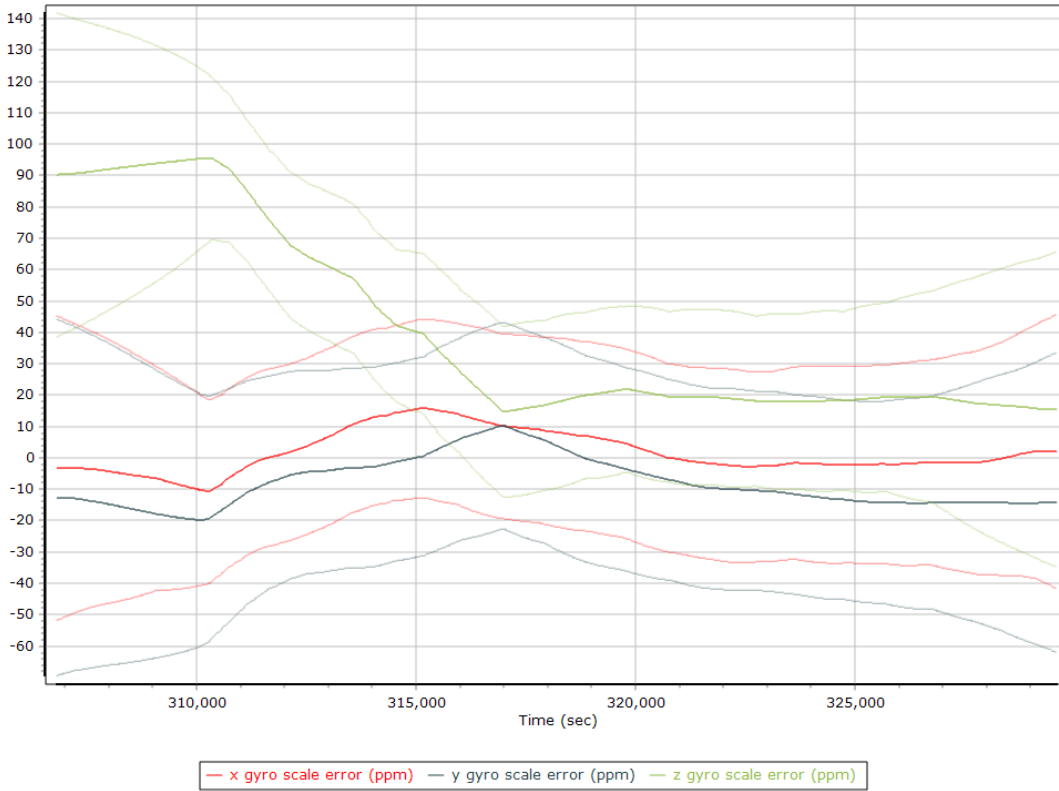
Y Gyro Bias (deg/h)



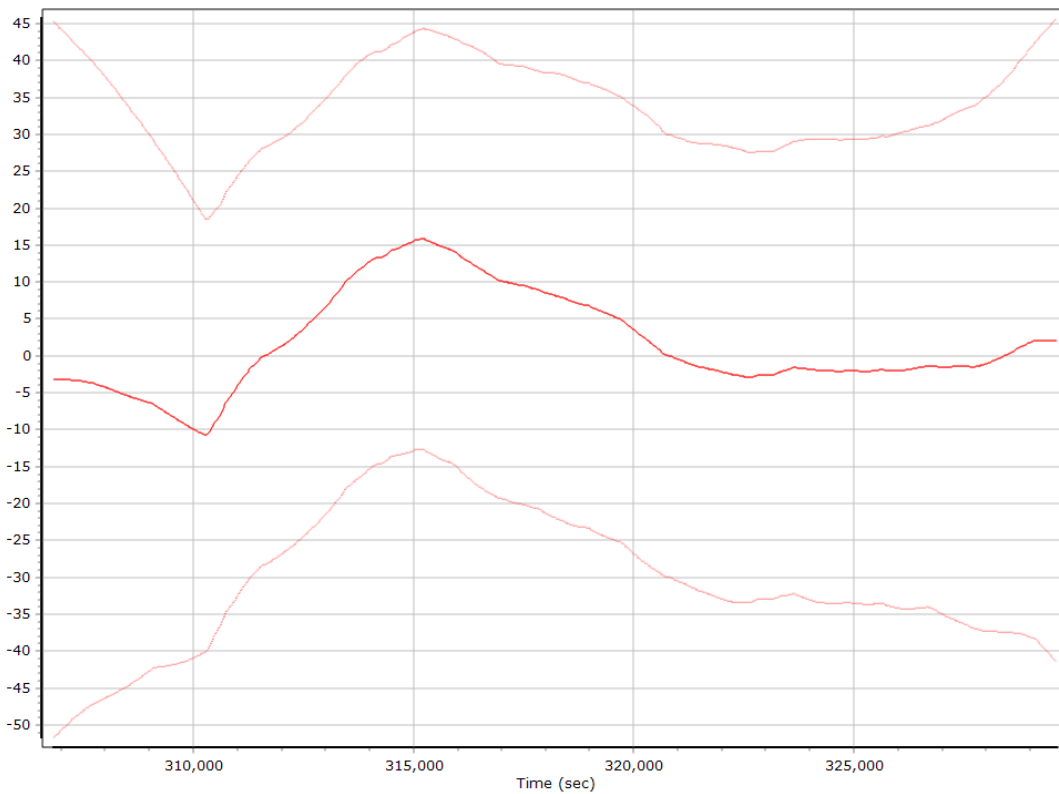
Z Gyro Bias (deg/h)



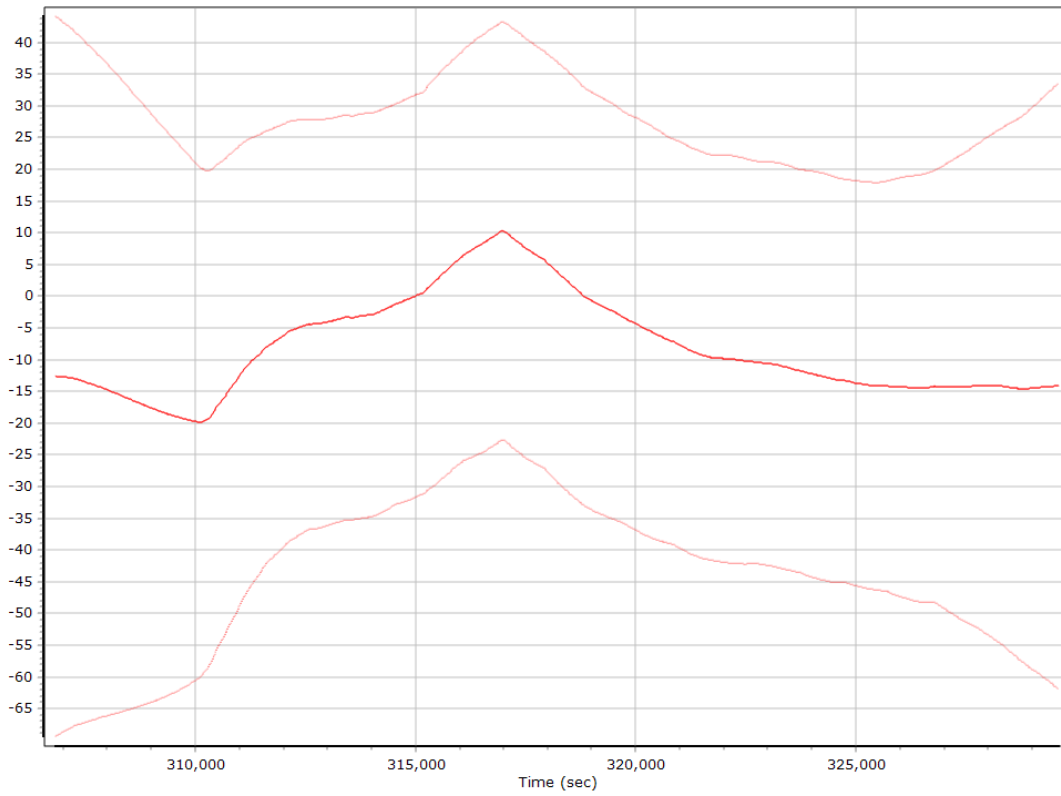
Gyro Scale Error (ppm)



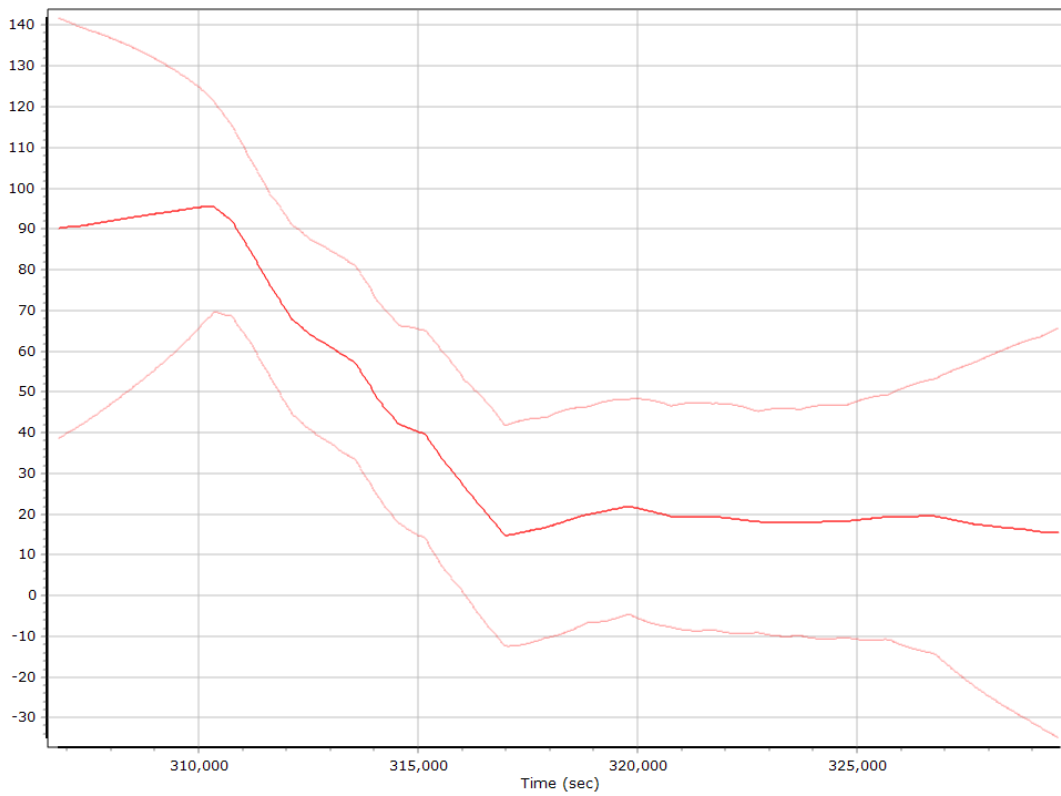
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

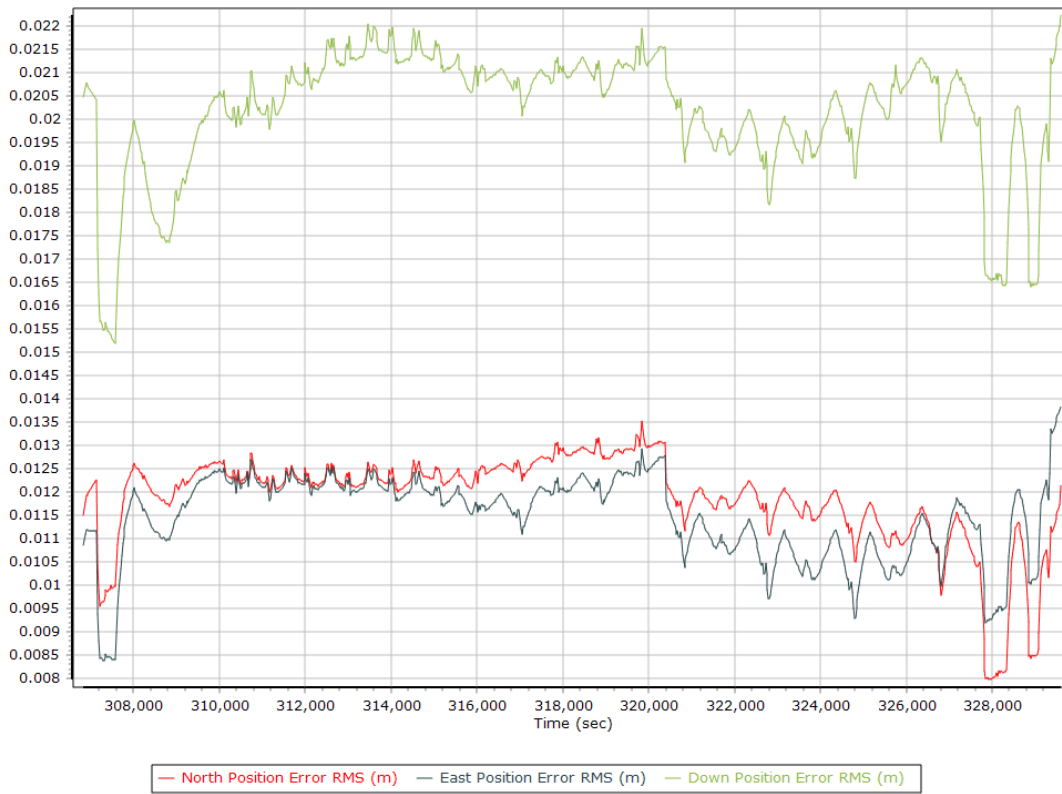


Z Gyro Scale Error (ppm)

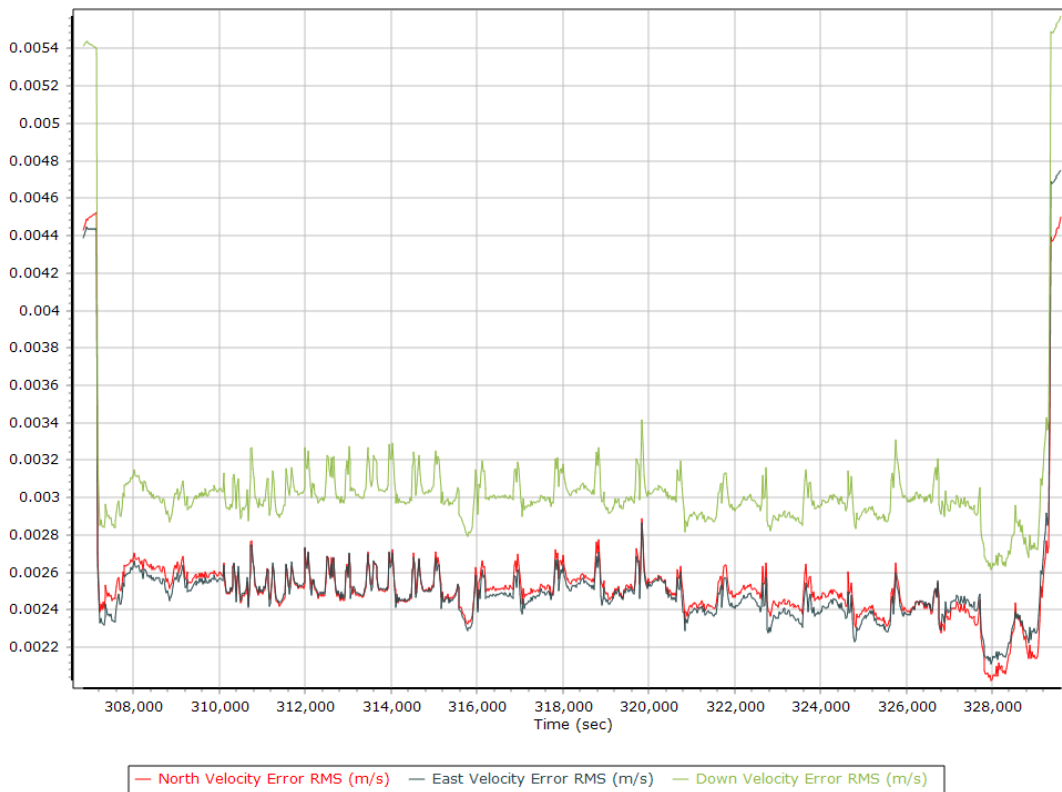


Smoothed Performance Metrics

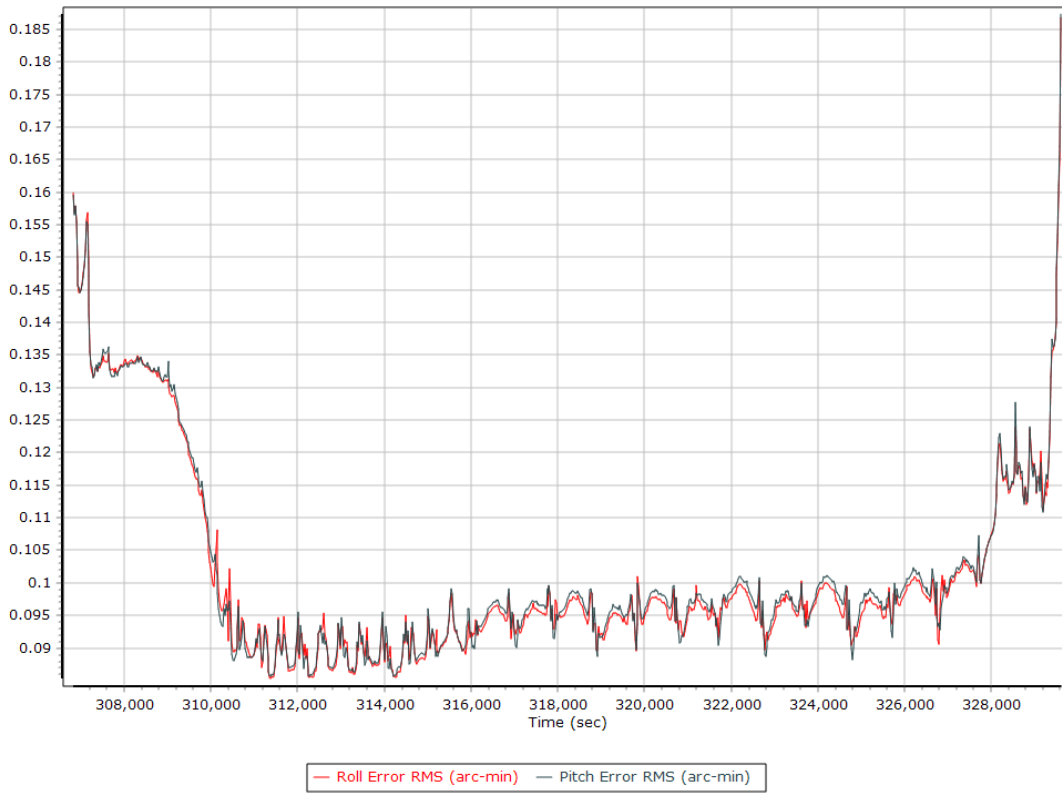
Position Error RMS (m)



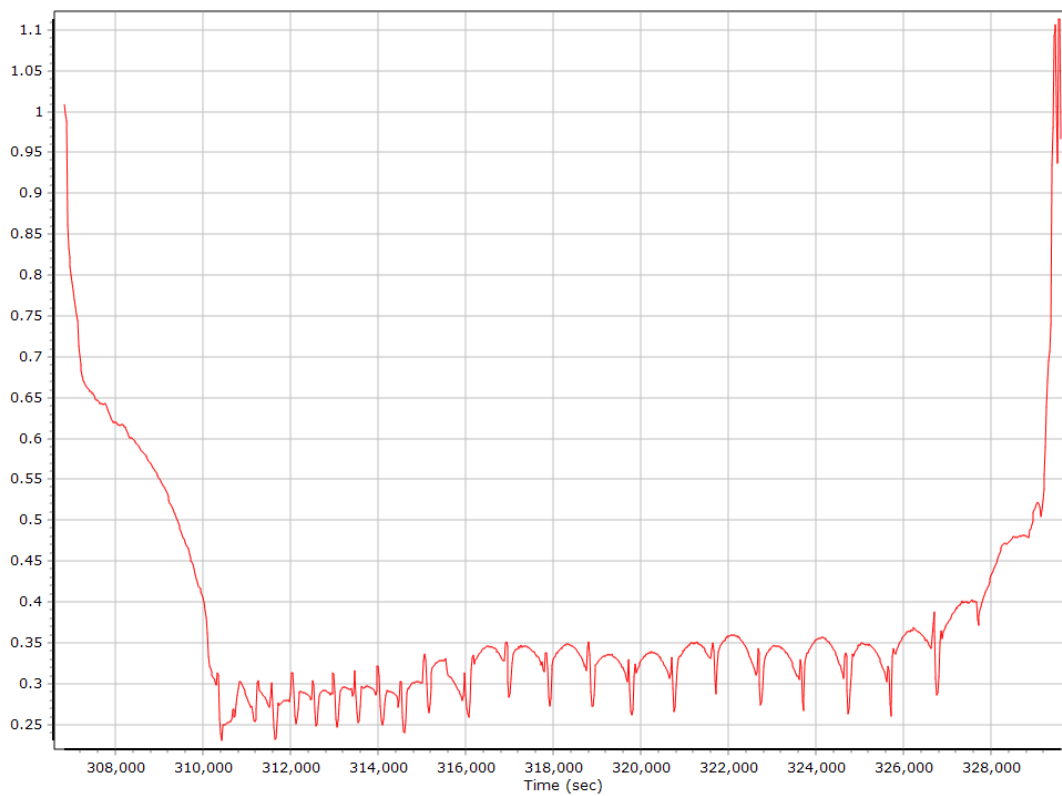
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

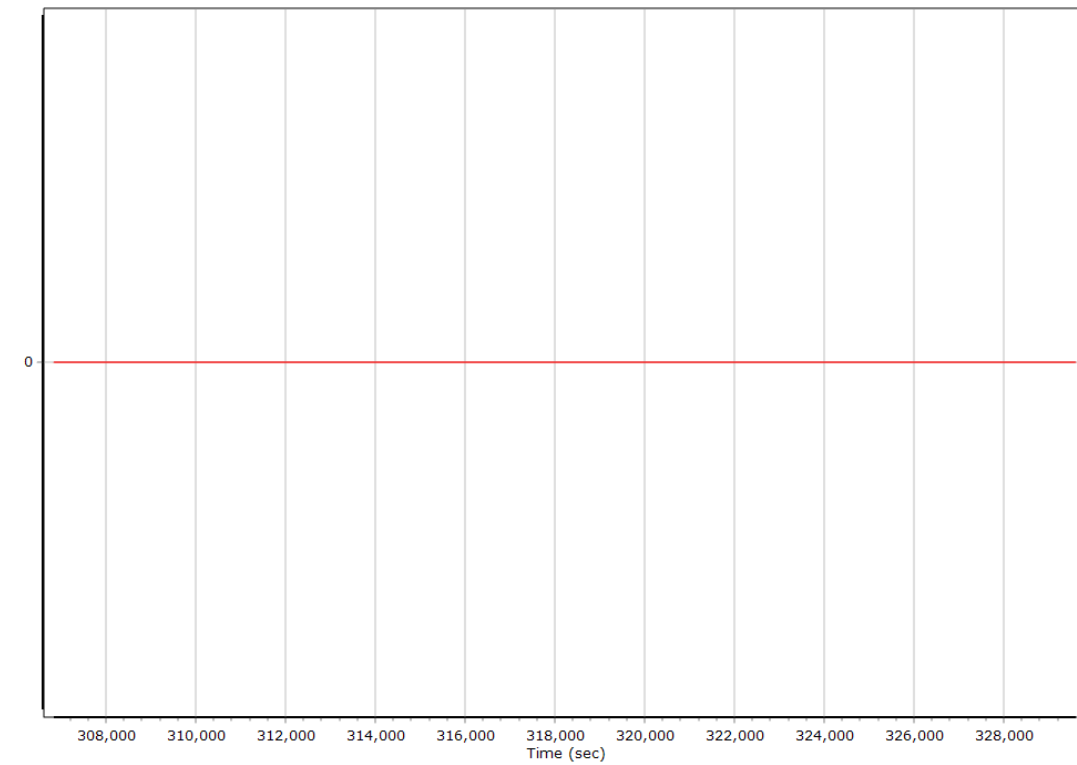


Heading Error RMS (arc-min)



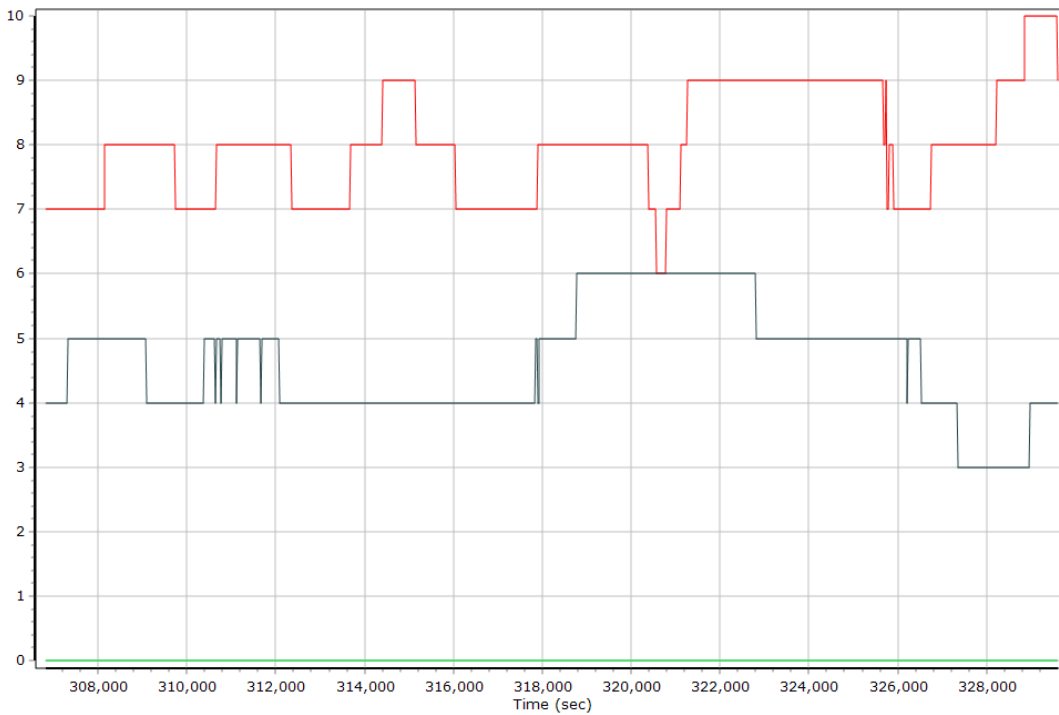
Smoothed Solution Status

Processing Mode



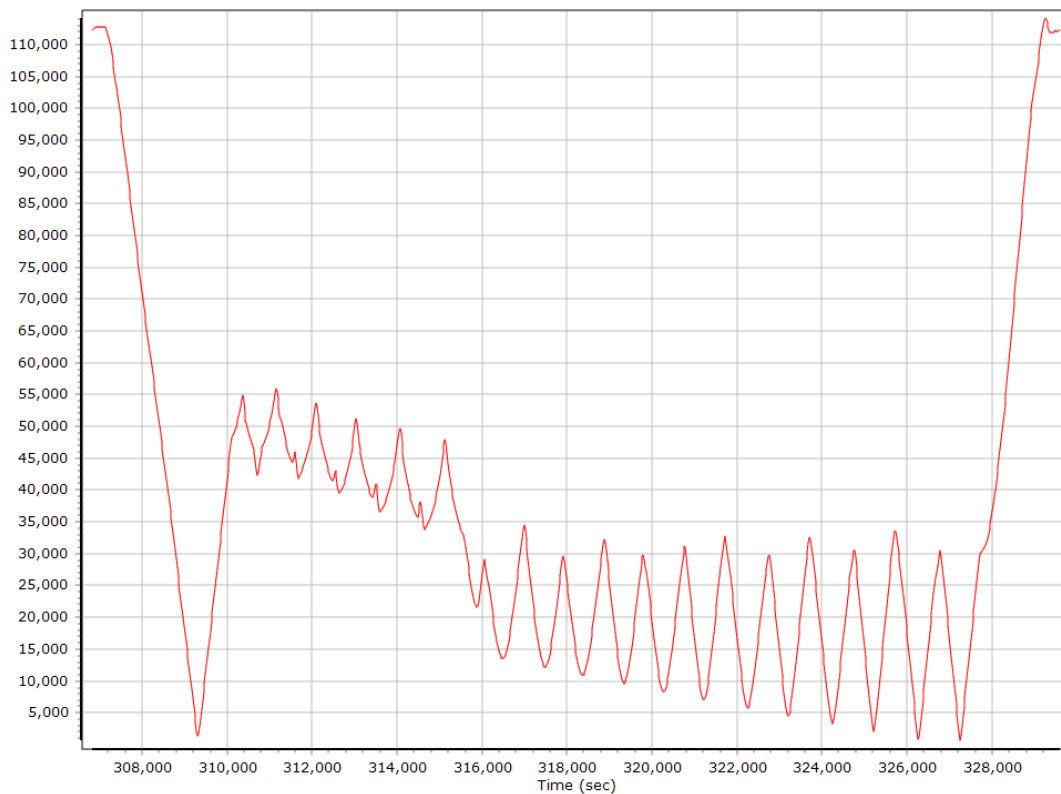
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites



— Number of GPS Satellites
 — Number of GLONASS Satellites
 — Number of QZSS Satellites
— Number of BEIDOU Satellites
 — Number of GALILEO Satellites

Baseline Length



SBET IAKAR Separation



Export Summary

Export file	export_8861938A_v3.txt		
Export format	ASCII		
Solution in use	Post-processed		
Output rate	All Records		
Reference to Output lever arm (m)	0.000	0.000	0.000
Reference mounting angles (deg)	0.000	0.000	0.000
Output units (Coordinate / Lat & Lon)	Meter	Deg Decimal	
Export start time	306770.001 (12/4/2019 1:12:50 PM)		
Export end time	329622.001 (12/4/2019 7:33:42 PM)		
Height option	Ellipsoid Height		
WGS84 height flag	False		
Grid	Universal Transverse Mercator		
Zone	UTM North 17 (84W to 78W)		
Datum	WGS84		
Ellipsoid	WGS84		
Local Transformation	NONE		
Target Epoch	2019.923288		

General Information

Mission Information

Project name	88619339A_v2
Processing date	2019-12-12 16:27:32
Mission date	2019-12-05 13:03:17
Mission duration	03:06:58.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N9642
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
N63886_19_339_A.210	POS Data
N63886_19_339_A.211	POS Data
N63886_19_339_A.212	POS Data
N63886_19_339_A.213	POS Data
N63886_19_339_A.214	POS Data
N63886_19_339_A.215	POS Data
N63886_19_339_A.216	POS Data
N63886_19_339_A.217	POS Data
N63886_19_339_A.218	POS Data
N63886_19_339_A.219	POS Data
N63886_19_339_A.220	POS Data
N63886_19_339_A.221	POS Data
N63886_19_339_A.222	POS Data
N63886_19_339_A.223	POS Data
N63886_19_339_A.224	POS Data
N63886_19_339_A.225	POS Data
N63886_19_339_A.226	POS Data
N63886_19_339_A.227	POS Data
N63886_19_339_A.228	POS Data
N63886_19_339_A.229	POS Data
N63886_19_339_A.230	POS Data
N63886_19_339_A.231	POS Data
N63886_19_339_A.232	POS Data
N63886_19_339_A.233	POS Data
N63886_19_339_A.234	POS Data
N63886_19_339_A.235	POS Data
N63886_19_339_A.236	POS Data
N63886_19_339_A.237	POS Data

Input Files

File Name	File Type
Ephm3390.19g	GLONASS Broadcast Ephemeris
Ephm3390.19n	GPS Broadcast Ephemeris
flck_daily3390.19o	GNSS SingleBase
flmc_daily3390.19o	GNSS SingleBase
flmd_daily3390.19o	GNSS SingleBase
prry_daily3390.19o	GNSS SingleBase
xcty_daily3390.19o	GNSS SingleBase
Ephm3380.19g	GLONASS Broadcast Ephemeris
Ephm3380.19n	GPS Broadcast Ephemeris
Ephm3400.19g	GLONASS Broadcast Ephemeris
Ephm3400.19n	GPS Broadcast Ephemeris
igr20822.sp3	GPS Precise Ephemeris
igr20823.sp3	GPS Precise Ephemeris
igr20824.sp3	GPS Precise Ephemeris
igr20825.sp3	GPS Precise Ephemeris
igr20826.sp3	GPS Precise Ephemeris

Output Files

Filename	File type
sbet_88619339A_v2.out	SBET Trajectory File

Rover Data Summary

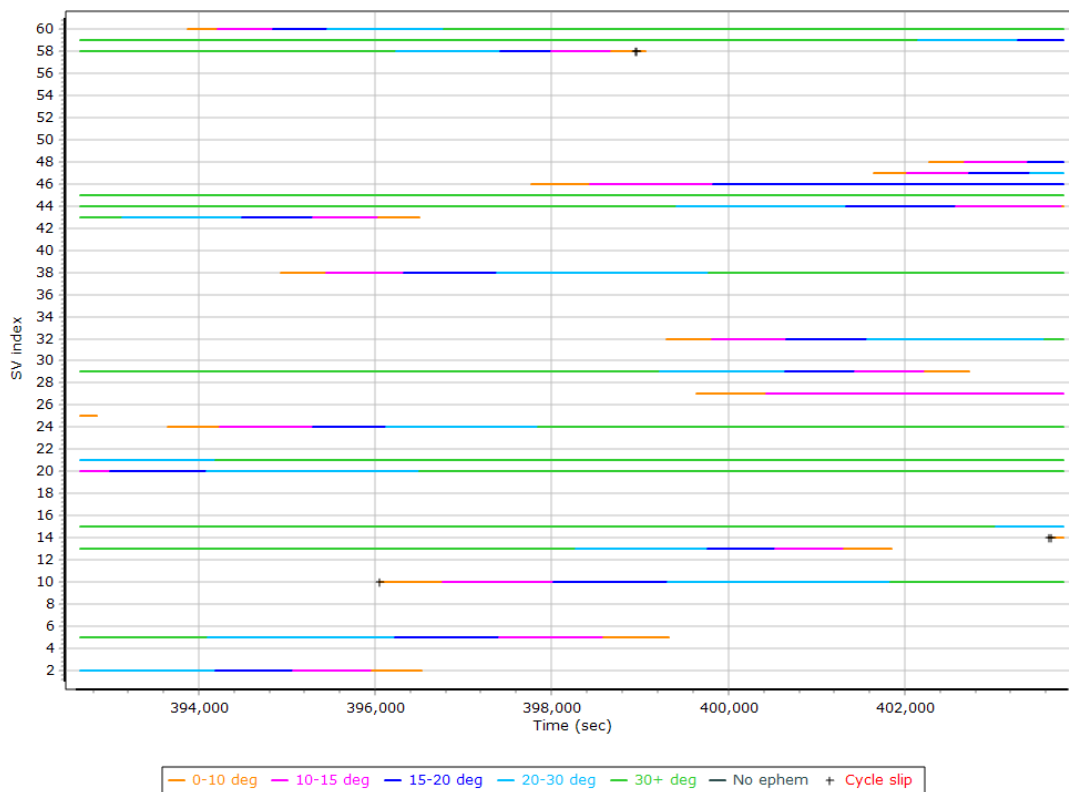
First raw data file	N63886_19_339_A.210		
Last raw data file	N63886_19_339_A.237		
Start GPS week	2082		
Start time	392578.515 (12/5/2019 1:02:58 PM)		
End time	403797.605 (12/5/2019 4:09:57 PM)		
Start of fine alignment	392598.533 (12/5/2019 1:03:18 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

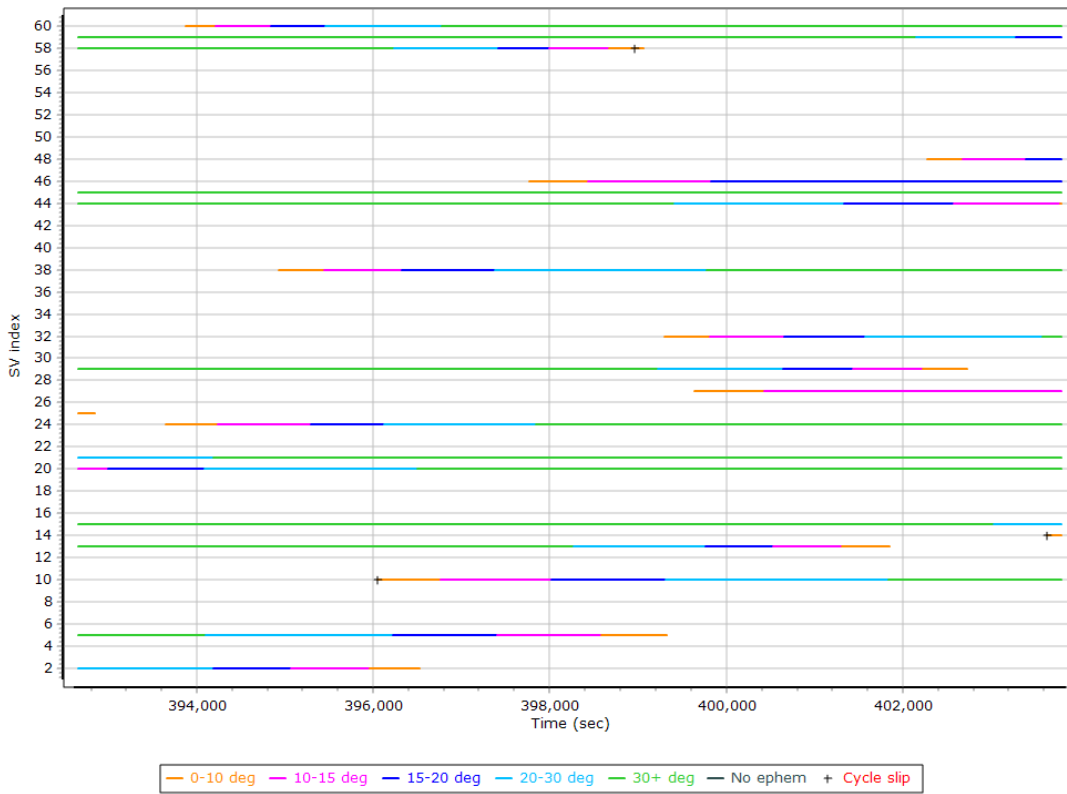
Raw IMU Import QC Summary

IMU data input file	imu_88619339A_v2.dat
IMU data check log file	imudt_88619339A_v2.log
IMU Records Processed	2243552
Termination Status	Normal
IMU Anomalies	0

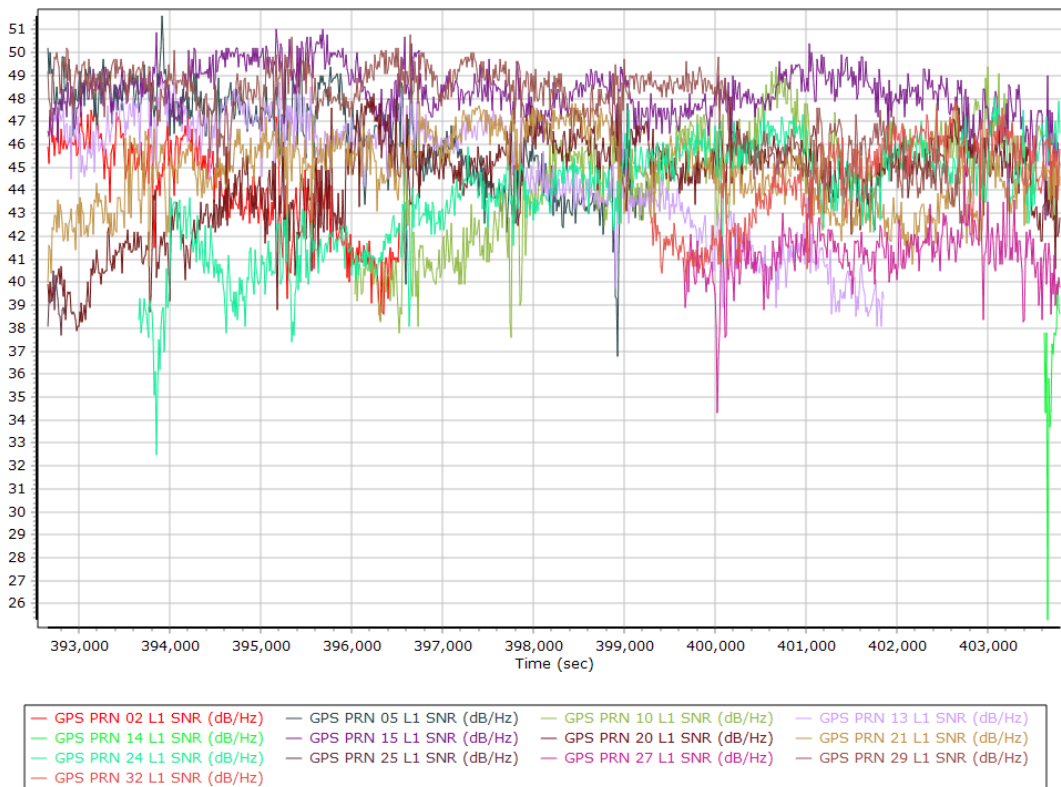
L1 Satellite Lock/Elevation



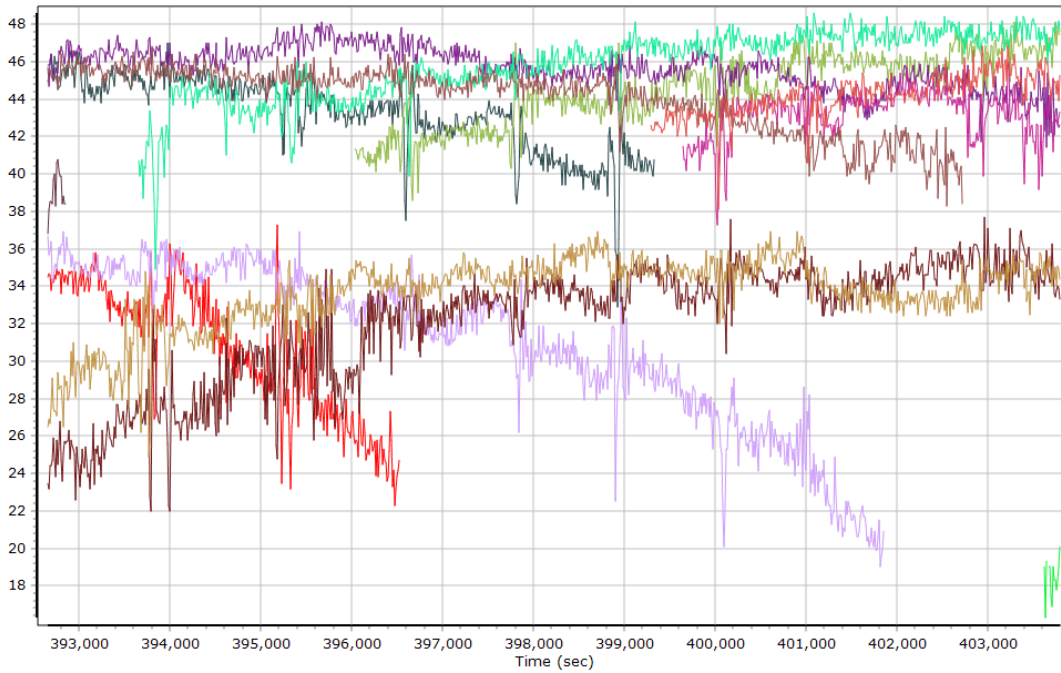
L2 Satellite Lock/Elevation



GPS L1 SNR

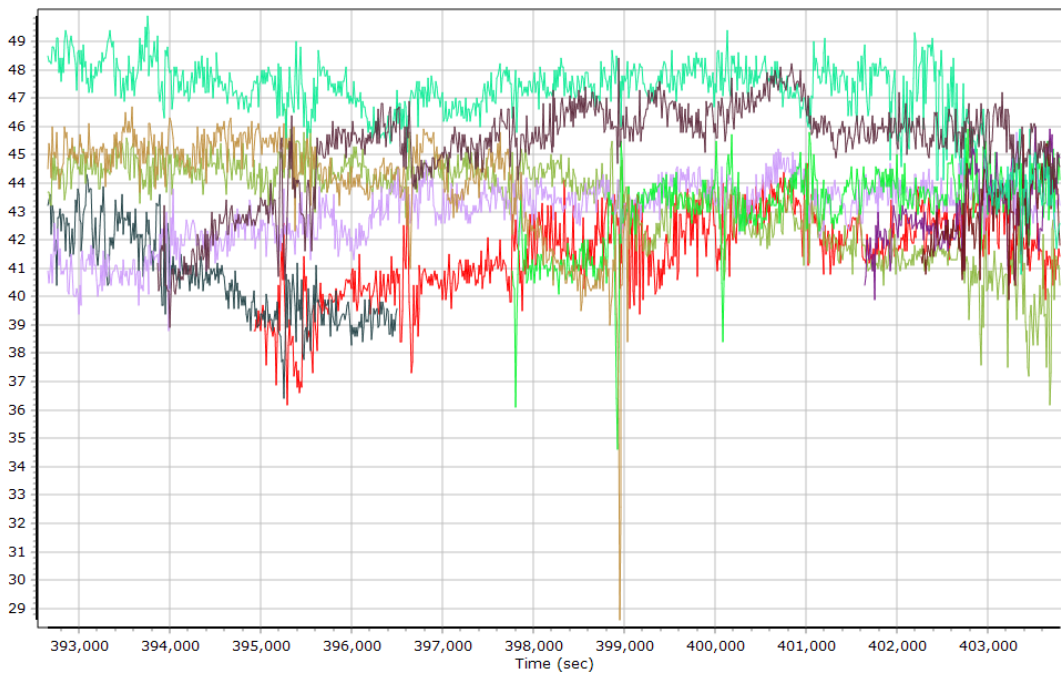


GPS L2 SNR



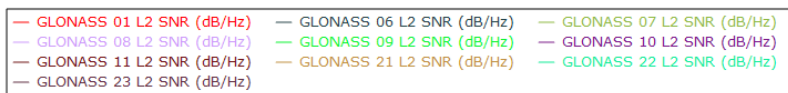
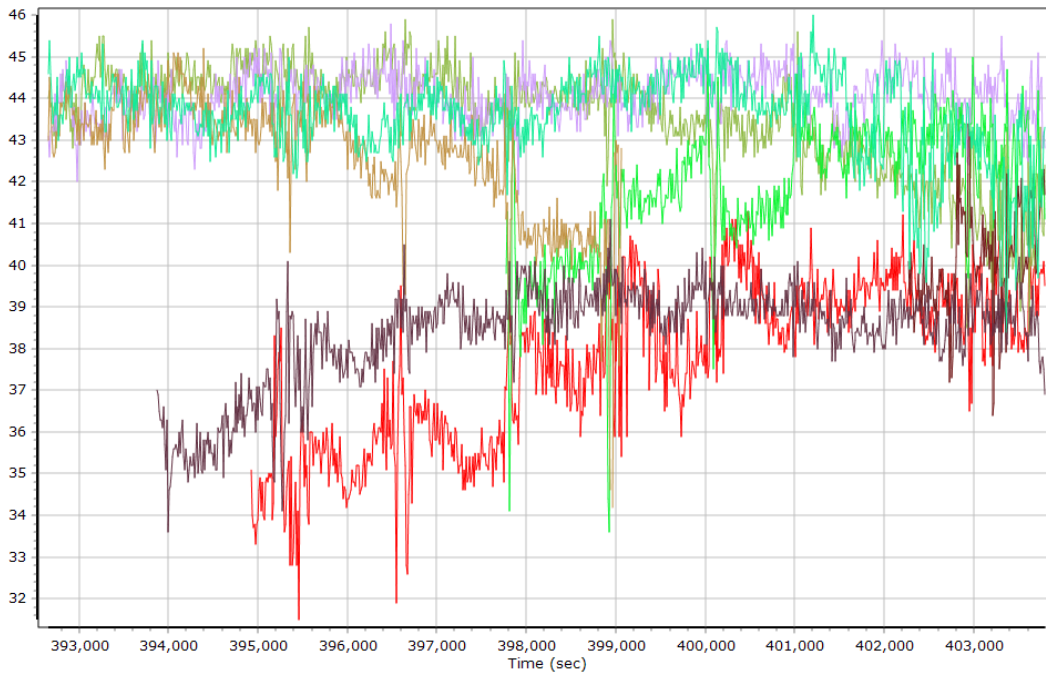
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 02 L2 SNR (dB/Hz) | GPS PRN 05 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 13 L2 SNR (dB/Hz) |
| GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 15 L2 SNR (dB/Hz) | GPS PRN 20 L2 SNR (dB/Hz) | GPS PRN 21 L2 SNR (dB/Hz) |
| GPS PRN 24 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) | GPS PRN 29 L2 SNR (dB/Hz) |
| GPS PRN 32 L2 SNR (dB/Hz) | | | |

GLONASS L1 SNR

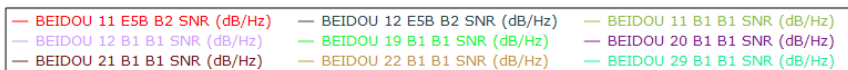
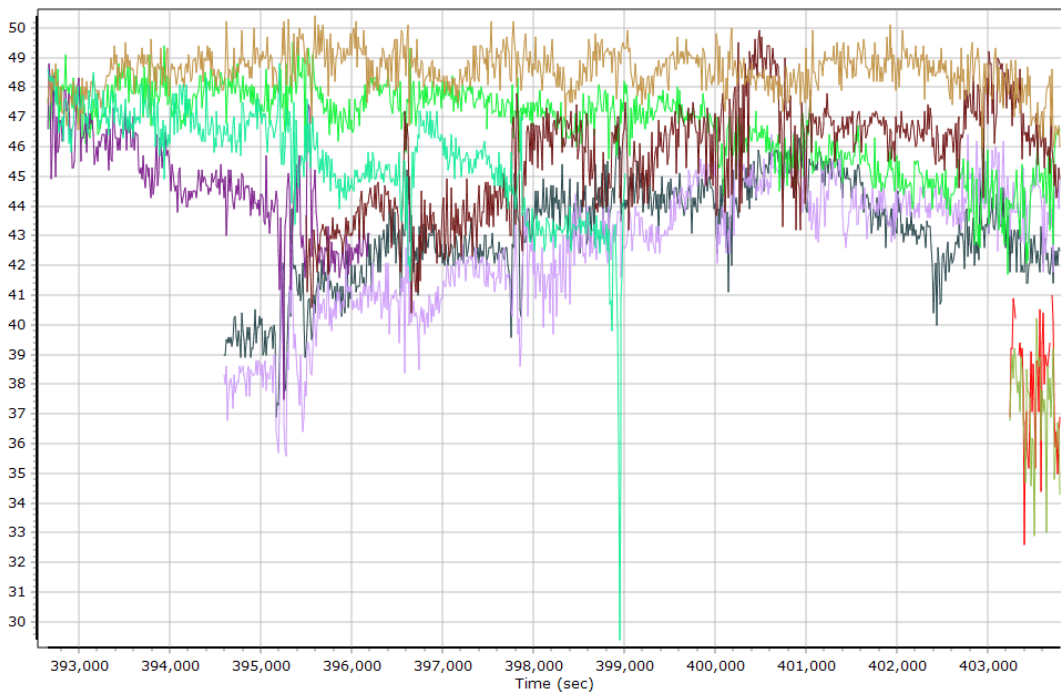


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) | GLONASS 07 L1 SNR (dB/Hz) |
| GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) | GLONASS 10 L1 SNR (dB/Hz) |
| GLONASS 11 L1 SNR (dB/Hz) | GLONASS 21 L1 SNR (dB/Hz) | GLONASS 22 L1 SNR (dB/Hz) |
| GLONASS 23 L1 SNR (dB/Hz) | | |

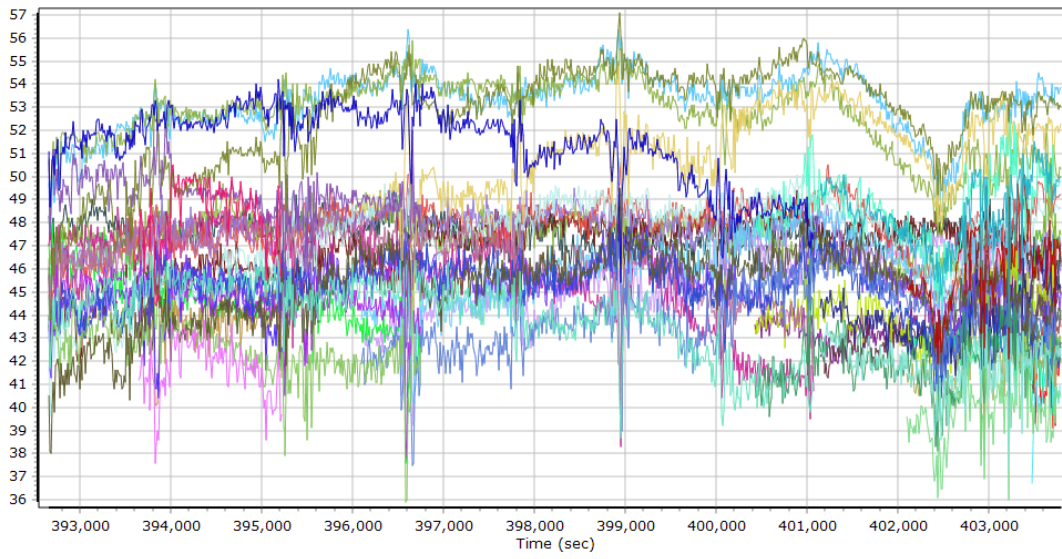
GLONASS L2 SNR



BEIDOU SNR



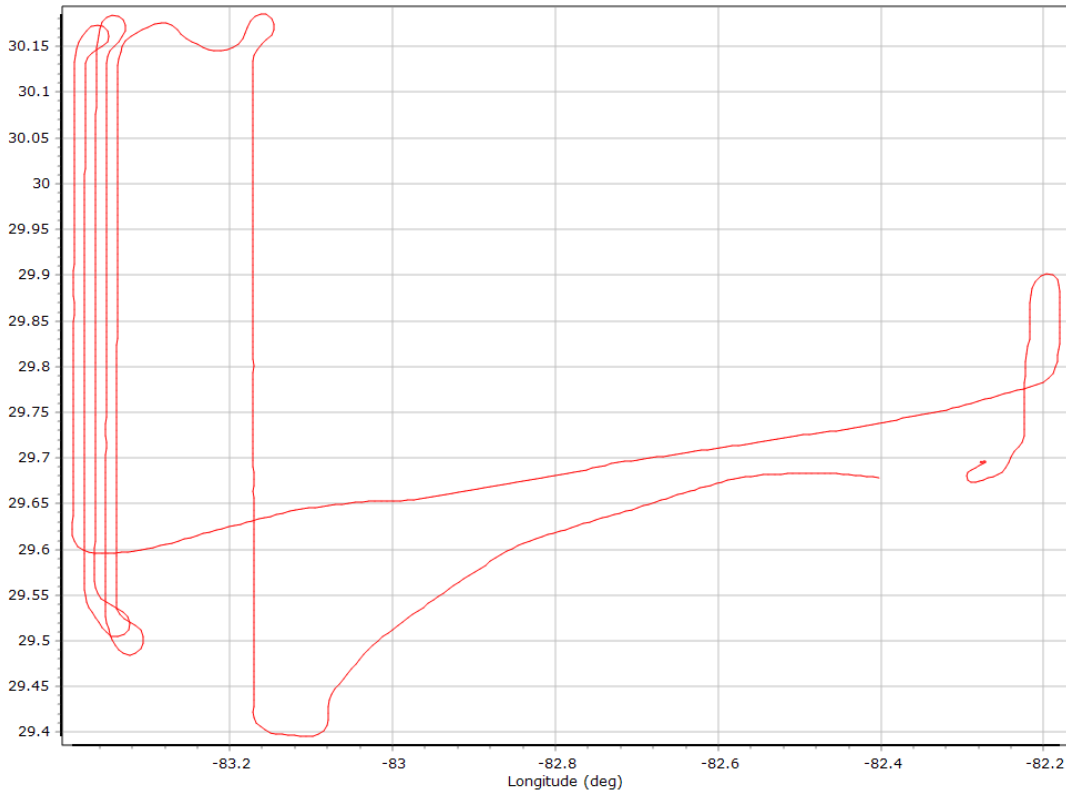
GALILEO SNR



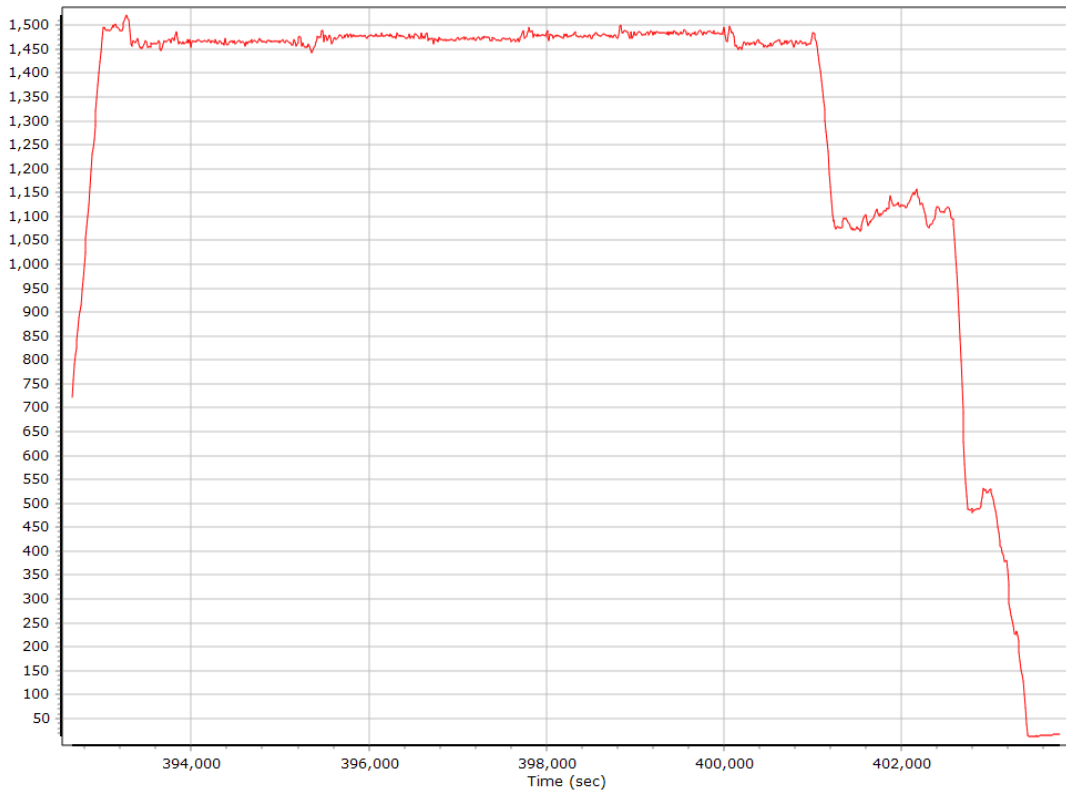
- | | |
|--|--|
| — GALILEO 02 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 15 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 18 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 36 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 02 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 03 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 05 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 08 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 15 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 18 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 24 L5E5A BPSK10_PD SNR (dB/Hz) |

Trajectory Information

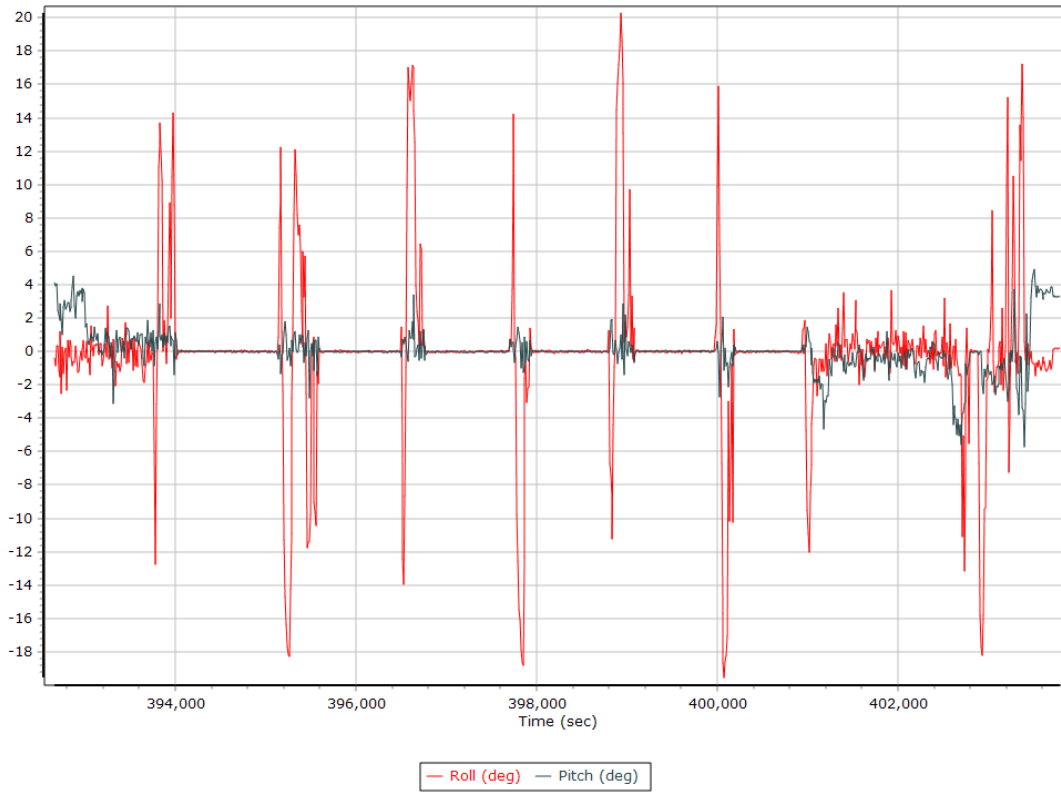
Top View



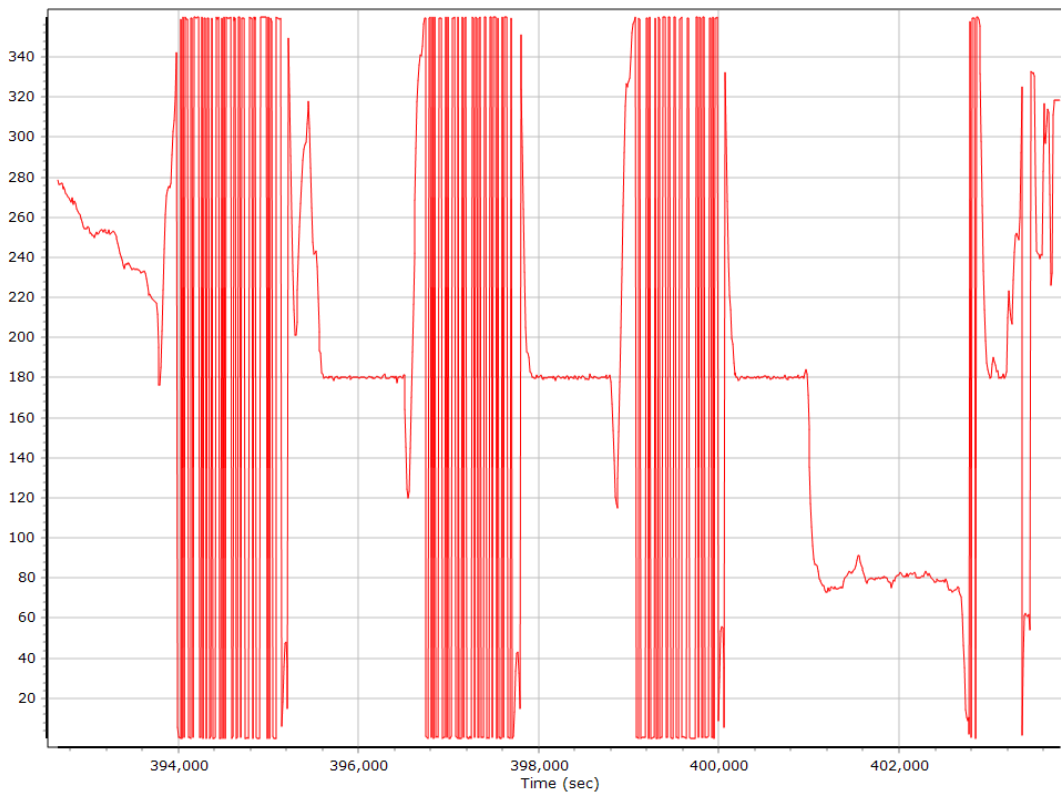
Altitude



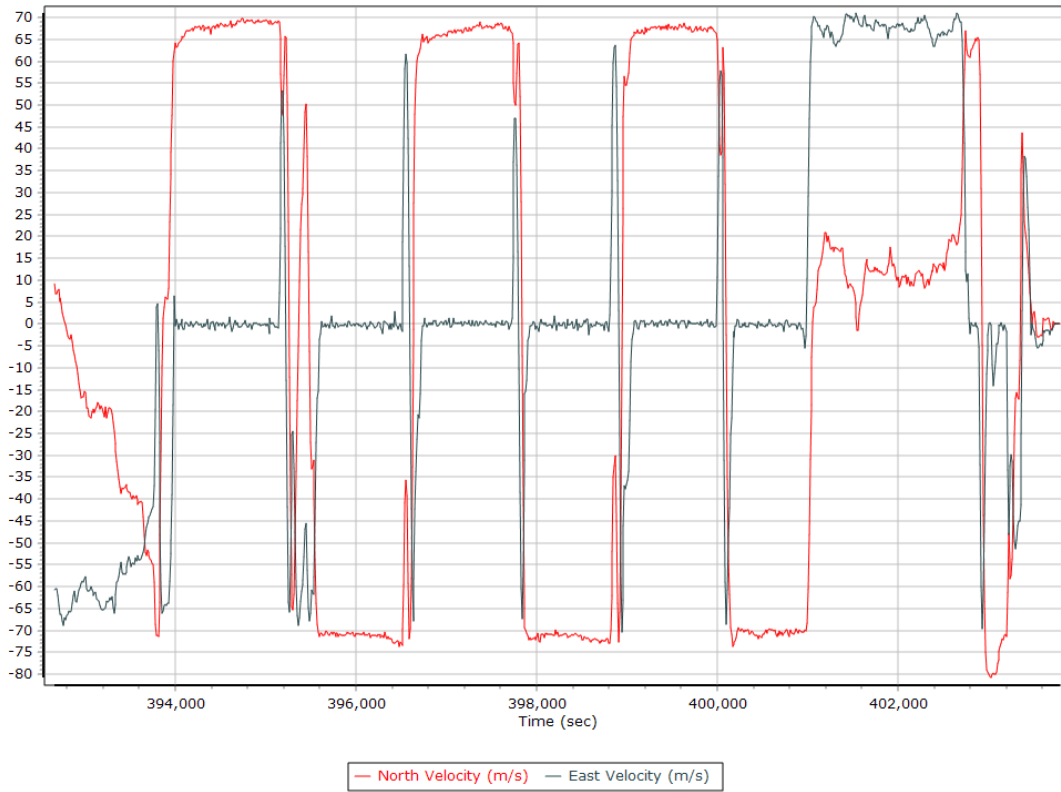
Roll/Pitch



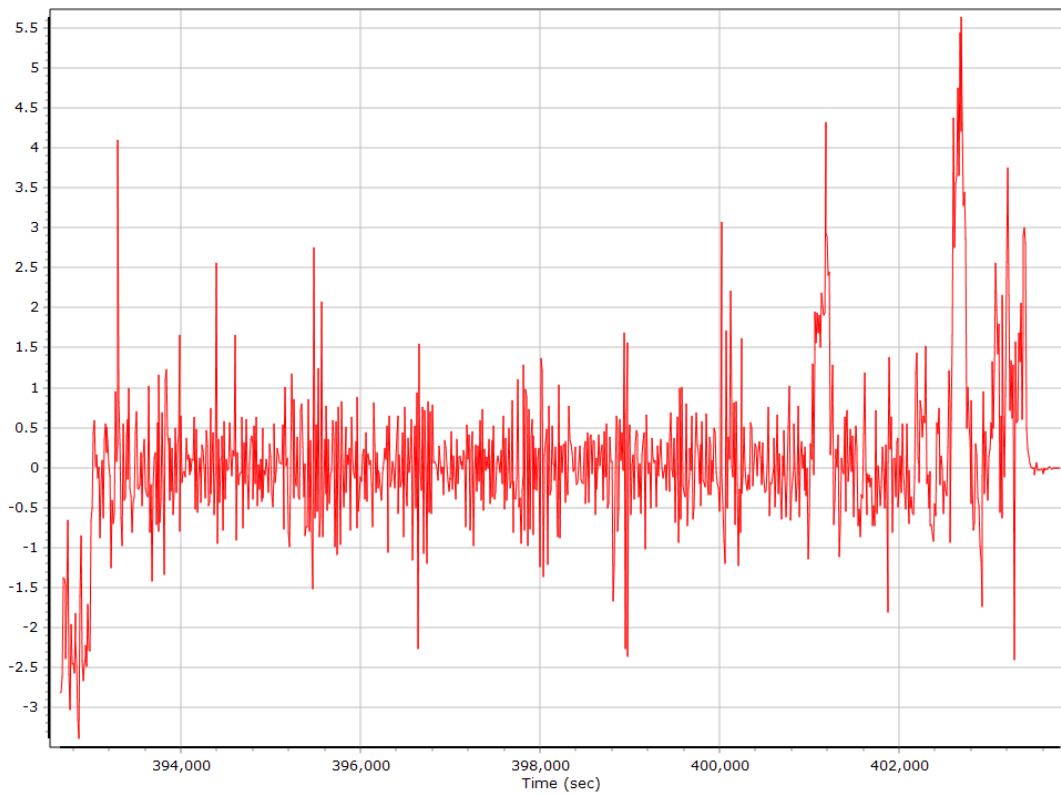
Heading



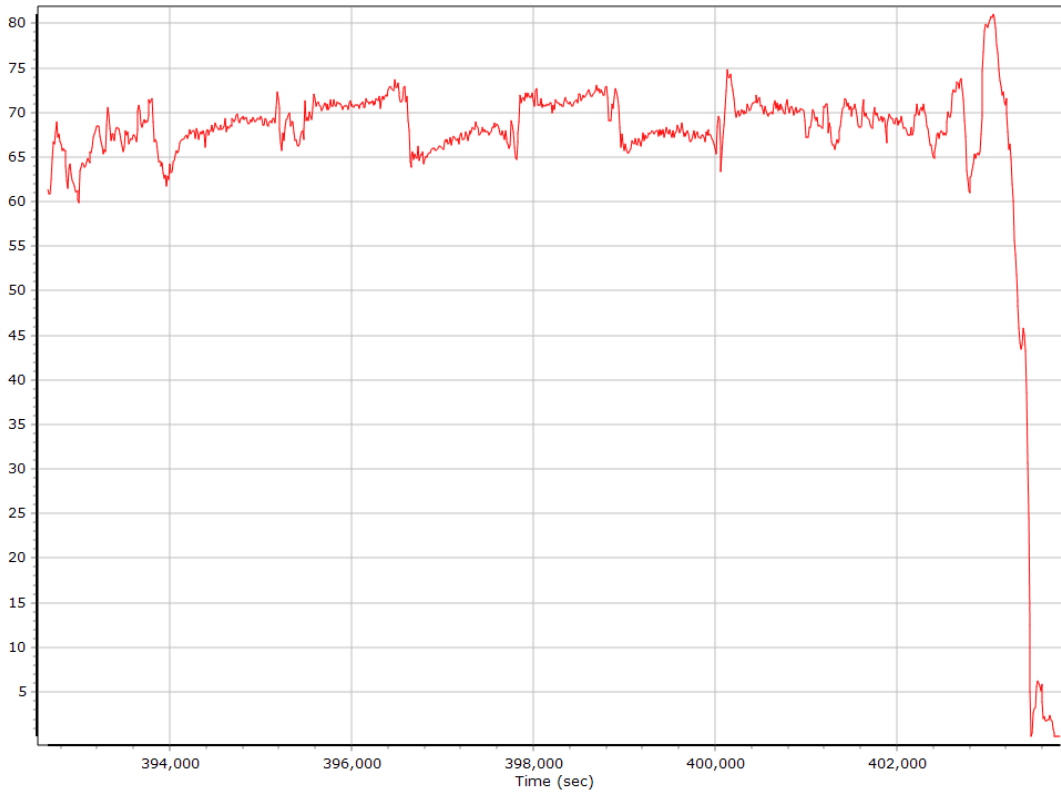
North/East Velocity



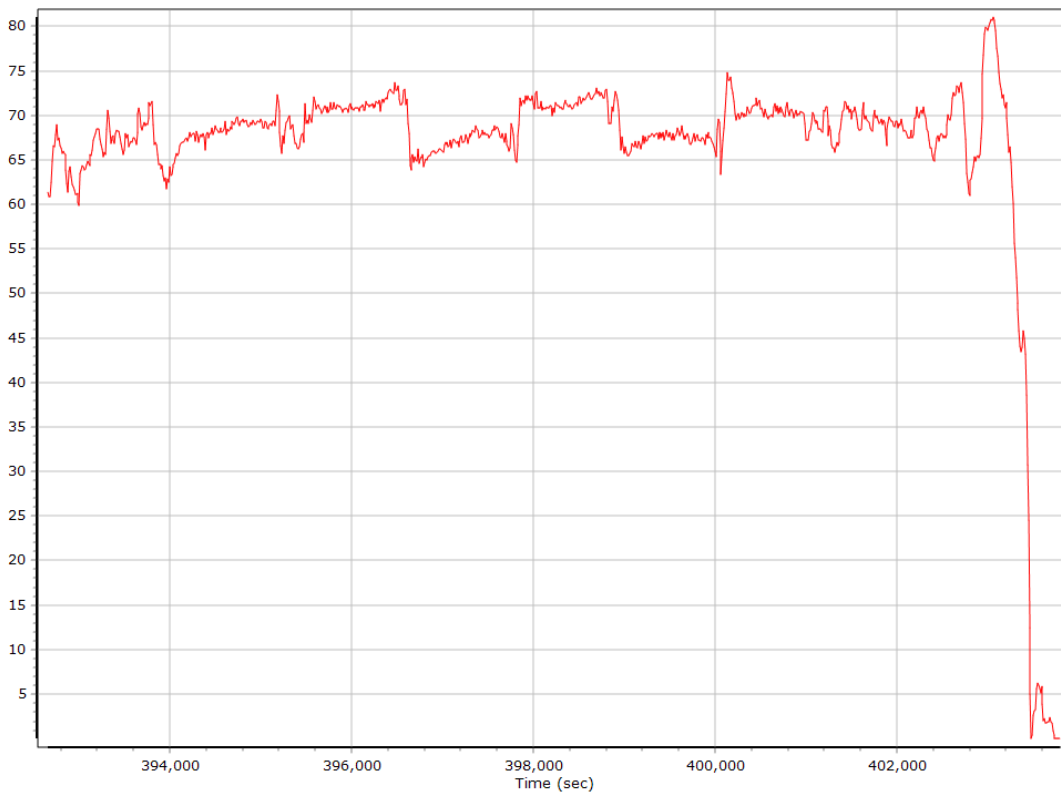
Down Velocity



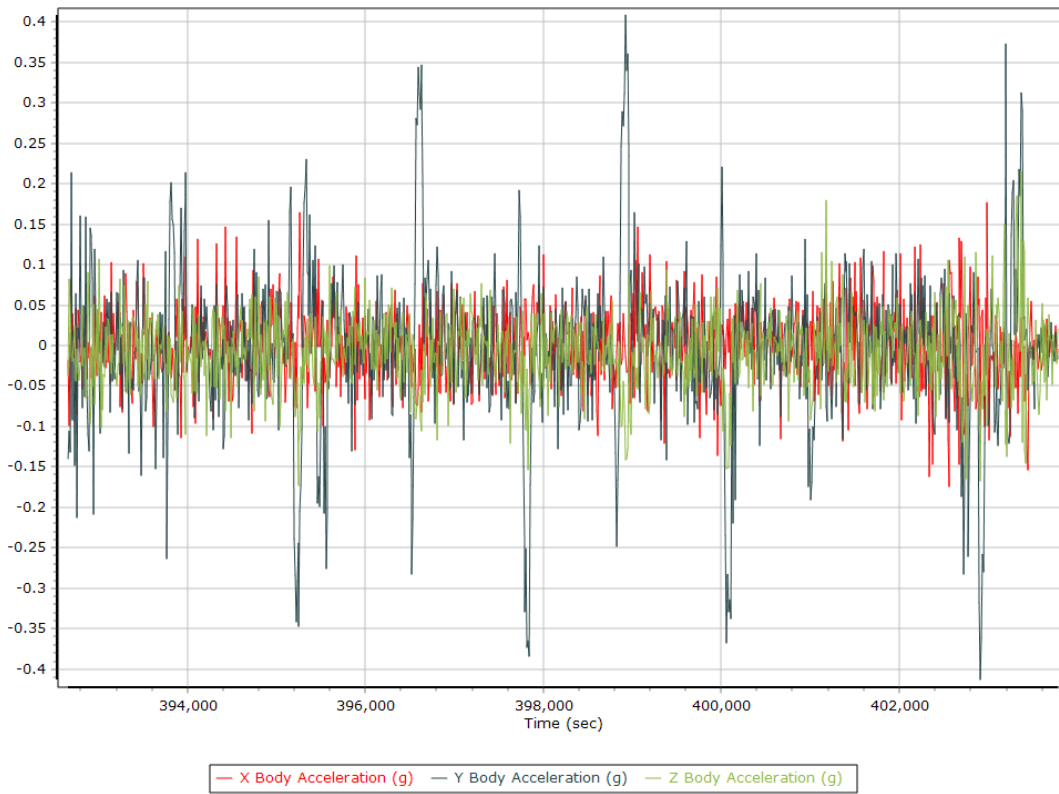
Total Speed



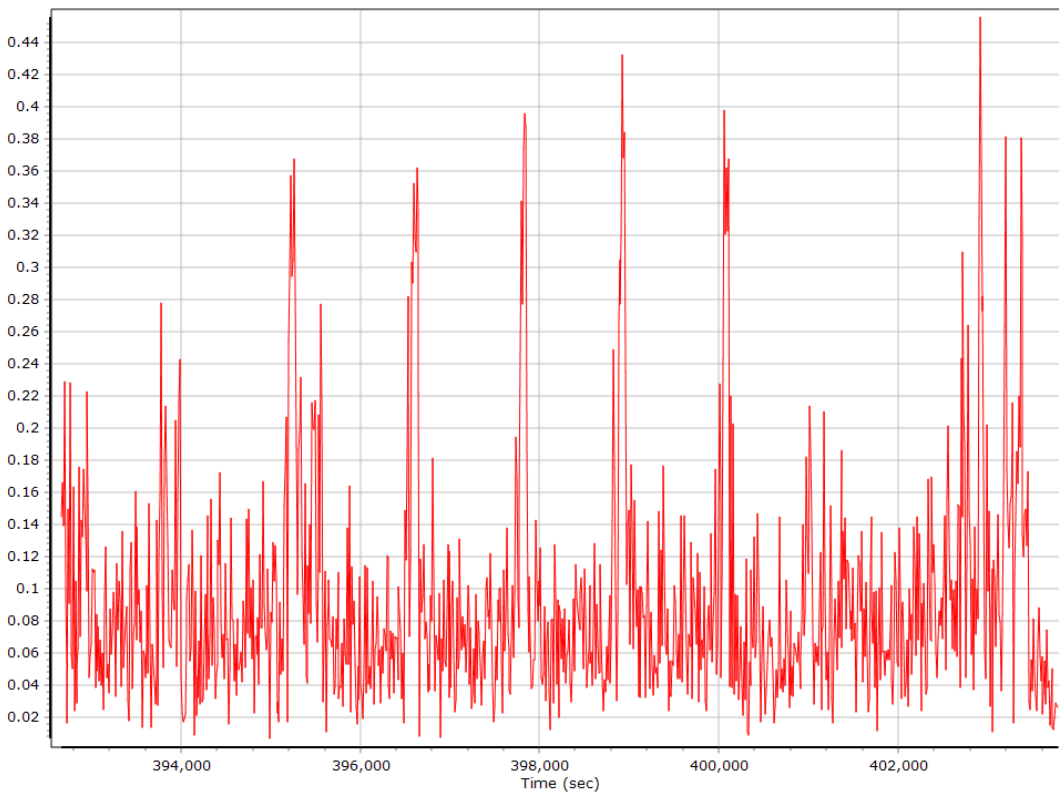
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/05/2019	XCTY	17.06	GNSS	1	User	None	Imported
12/05/2019	PRRY	58.69	GNSS	1	User	None	Imported
12/05/2019	FLMD	68.63	GNSS	1	User	None	Imported
12/05/2019	FLMC	106.13	GNSS	1	User	None	Imported
12/05/2019	FLCK	71.87	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	XCTY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	11218 s (2082 392597 - 2082 403815)
Number of reference stations	5
Primary station GPS measurement usage (%)	99.2
Primary station GLONASS measurement usage (%)	92.0
Average number of satellites per epoch	13.2
Max number of GPS stations used	5
Min number of GPS stations used	3
Max number of GLONASS stations used	5
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	6287
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - XCTY

Status	OK	SBQI	0	
Duration (Hours)	23.37	Output Coordinates	Original	
Solution Epochs	5608	Mean Epoch SVs	8.5	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°37'51.61276"	W83°06'29.33653"	13.808
Adjusted		N29°37'51.61272"	W83°06'29.33641"	13.834
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.003	0.026	0.026

Base Station Information

Station ID	XCTY		
Filename	xcty_daily3390.19o		
Start date	12/5/2019 12:00:00 AM		
End date	12/5/2019 11:59:59 PM		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80800		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PRRY

Status	OK	SBQI	0	
Duration (Hours)	23.00	Output Coordinates	Original	
Solution Epochs	5520	Mean Epoch SVs	5.9	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°04'40.11938"	W83°34'28.60872"	12.936
Adjusted		N30°04'40.11930"	W83°34'28.60847"	12.969
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.007	0.033	0.034

Base Station Information

Station ID	PRRY		
Filename	prry_daily3390.19o		
Start date	12/5/2019 12:00:00 AM		
End date	12/5/2019 11:59:59 PM		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702545
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°04'40.11938"		
Longitude	W83°34'28.60872"		
Ellipsoidal height (m)	-12.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMD

Status	CONTROL	SBQI	0	
Duration (Hours)	23.37	Output Coordinates	Control	
Solution Epochs	5608	Mean Epoch SVs	8.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°22'26.47817"	W83°16'31.72158"	0.095
Adjusted		N30°22'26.47817"	W83°16'31.72158"	0.095
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	FLMD		
Filename	flmd_daily3390.19o		
Start date	12/5/2019 12:00:00 AM		
End date	12/5/2019 11:59:59 PM		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701993
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°22'26.47817"		
Longitude	W83°16'31.72158"		
Ellipsoidal height (m)	0.09500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMC

Status	OK	SBQI	0	
Duration (Hours)	22.98	Output Coordinates	Original	
Solution Epochs	5514	Mean Epoch SVs	8.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°16'15.87532"	W82°07'35.14360"	11.221
Adjusted		N30°16'15.87560"	W82°07'35.14373"	11.208
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.009	0.013	0.016

Base Station Information

Station ID	FLMC		
Filename	flmc_daily3390.19o		
Start date	12/5/2019 12:00:00 AM		
End date	12/5/2019 11:59:59 PM		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701977
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°16'15.87532"		
Longitude	W82°07'35.14360"		
Ellipsoidal height (m)	11.22100		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCK

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	16.98	Output Coordinates	Disabled	
Solution Epochs	4076	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°08'01.87610"	W83°01'51.05281"	17.224
Adjusted		N29°08'01.87605"	W83°01'51.05256"	17.239
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.007	0.015	0.017

Base Station Information

Station ID	FLCK		
Filename	flck_daily3390.19o		
Start date	12/5/2019 12:00:00 AM		
End date	12/5/2019 11:59:59 PM		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	9.60	86.91	
Number of GPS SV	6	9	8
Number of GLONASS SV	4	7	6
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	11	15	13
PDOP	1.26	1.77	1.46
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	11206.00	0.00	0.00
Percentage	100.00	0.00	0.00

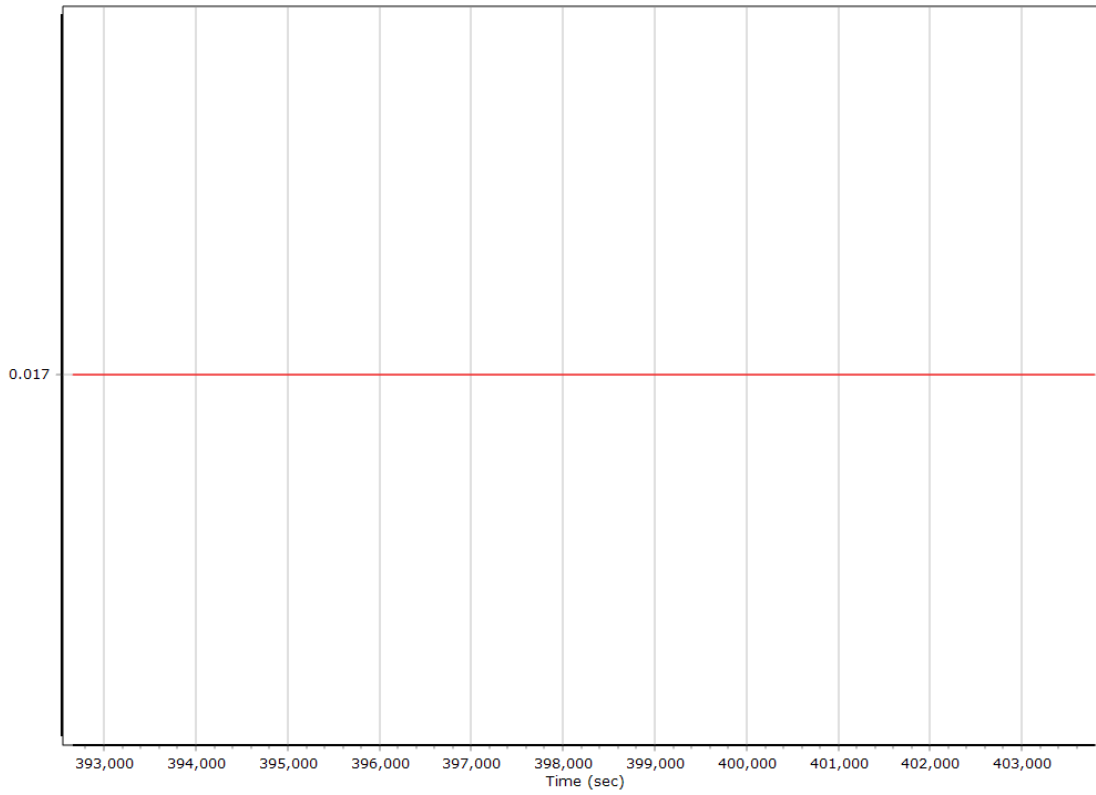
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	392579.000 (12/5/2019 1:02:59 PM)		
Processing end time	403797.000 (12/5/2019 4:09:57 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

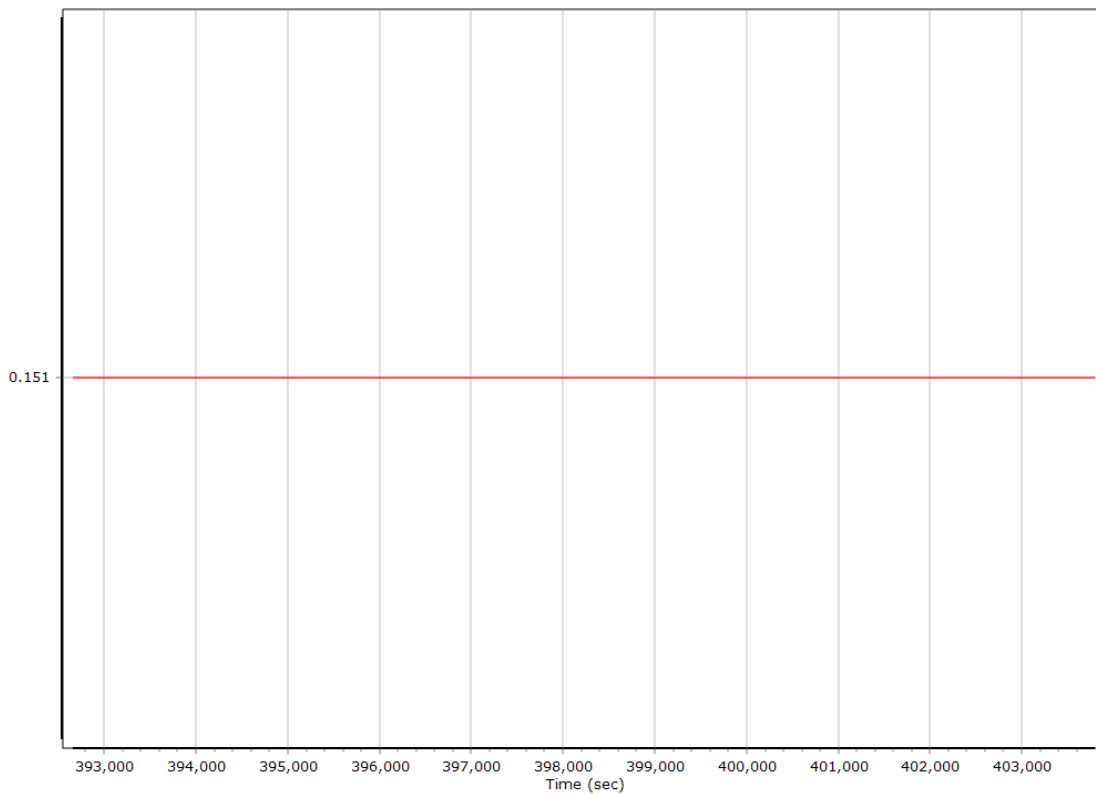
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

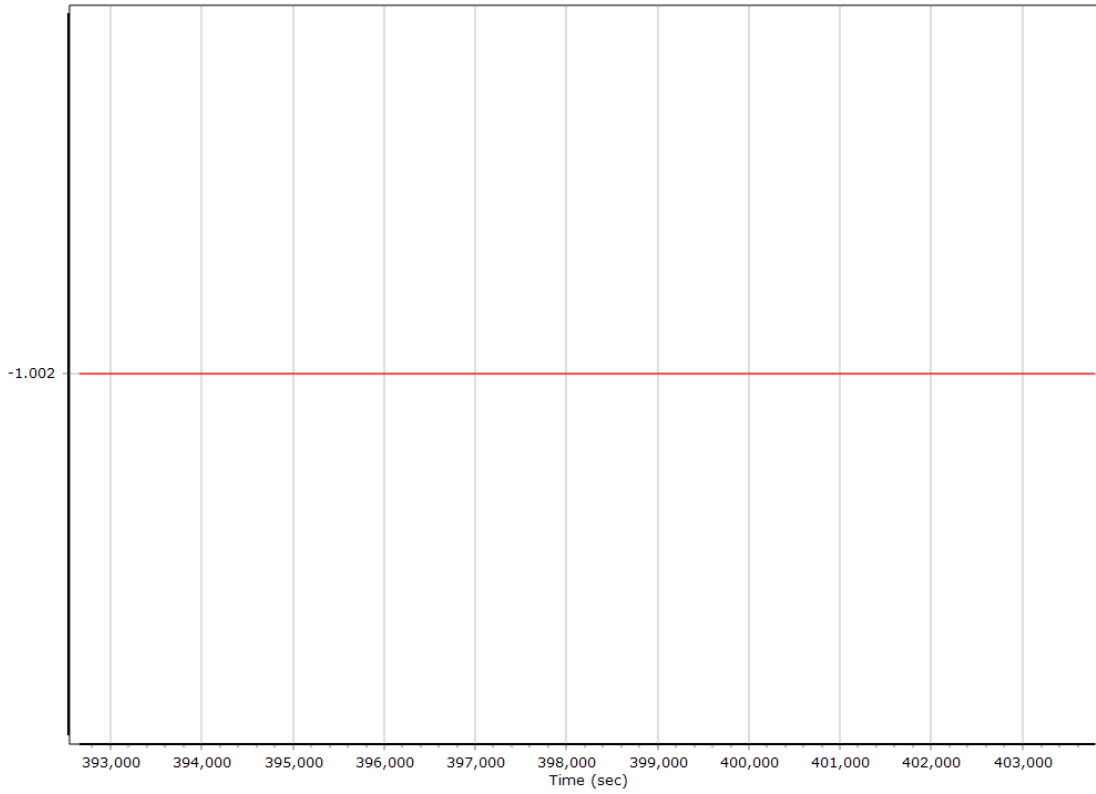
X Reference-Primary GNSS Lever Arm (m)



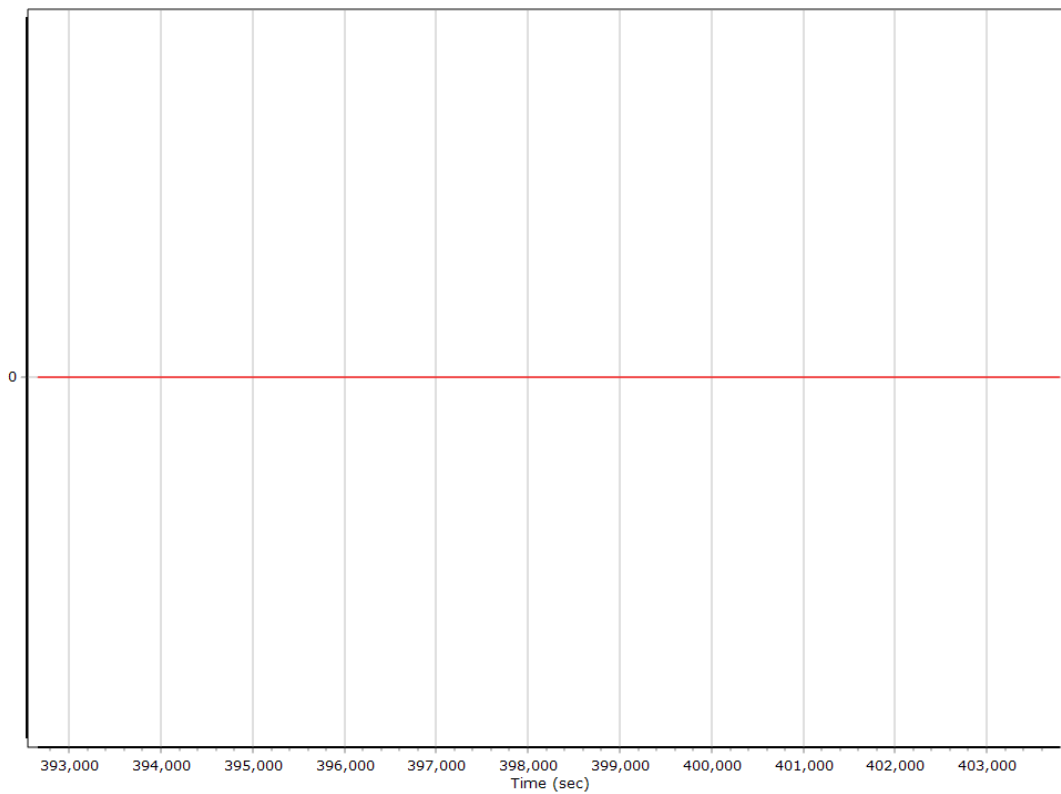
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



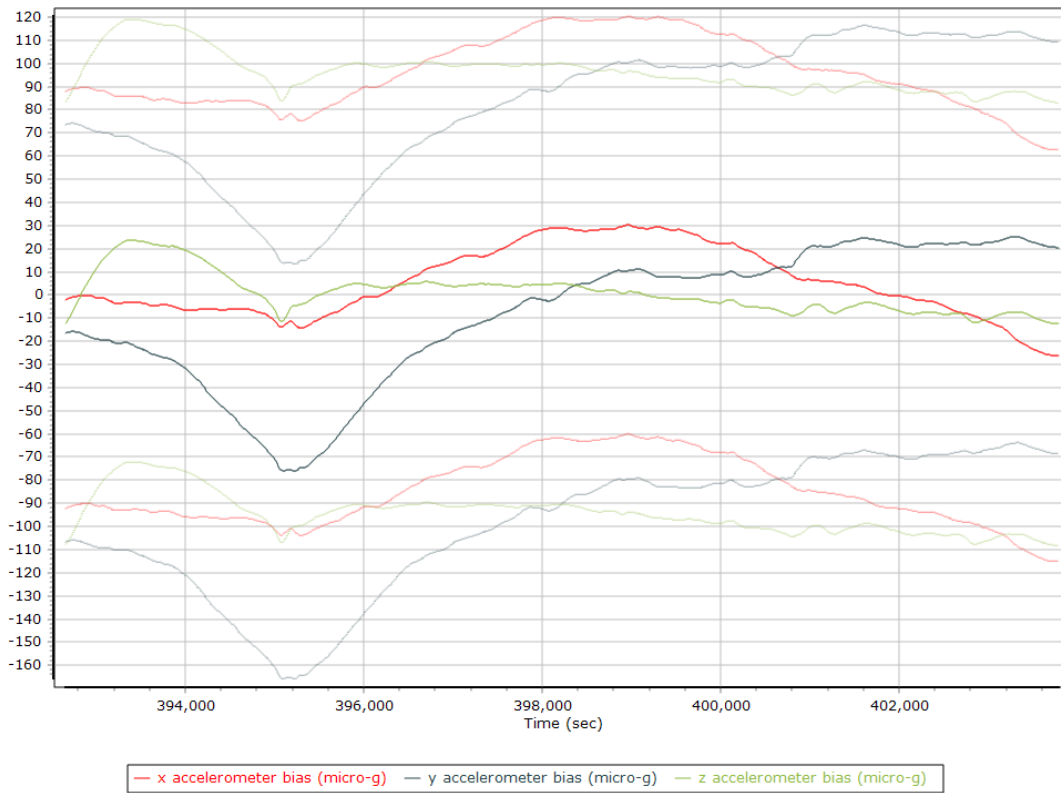
Reference-Primary GNSS Lever Arm Figure of Merit



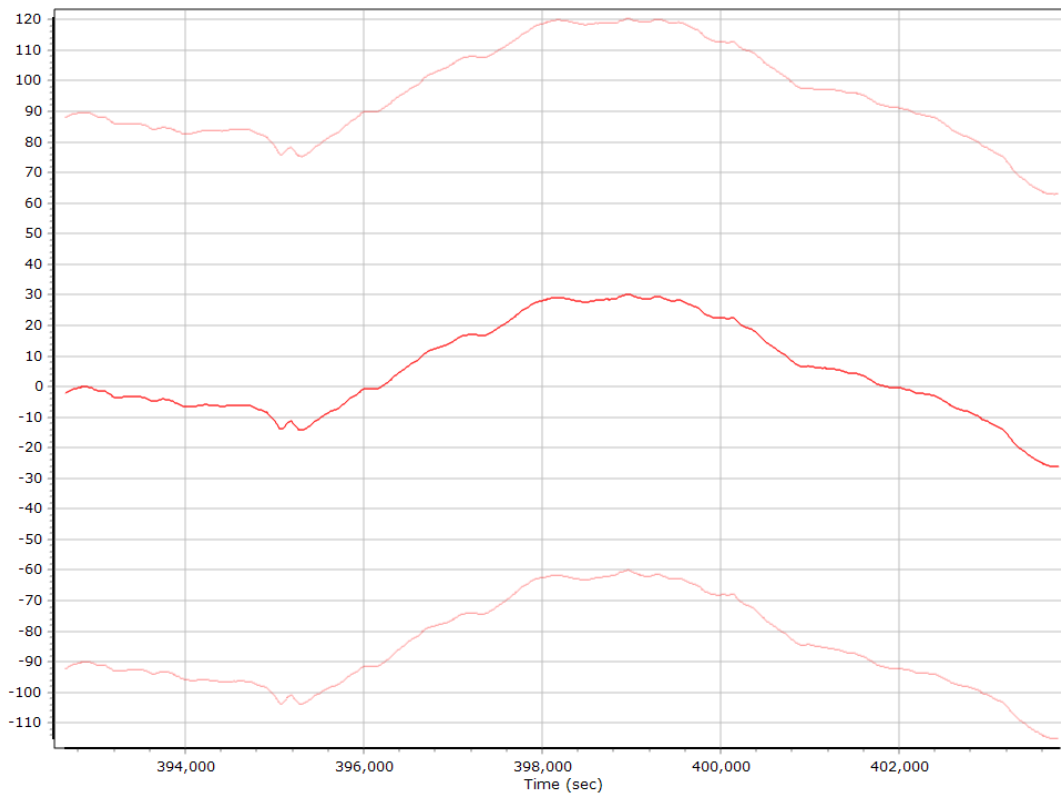
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

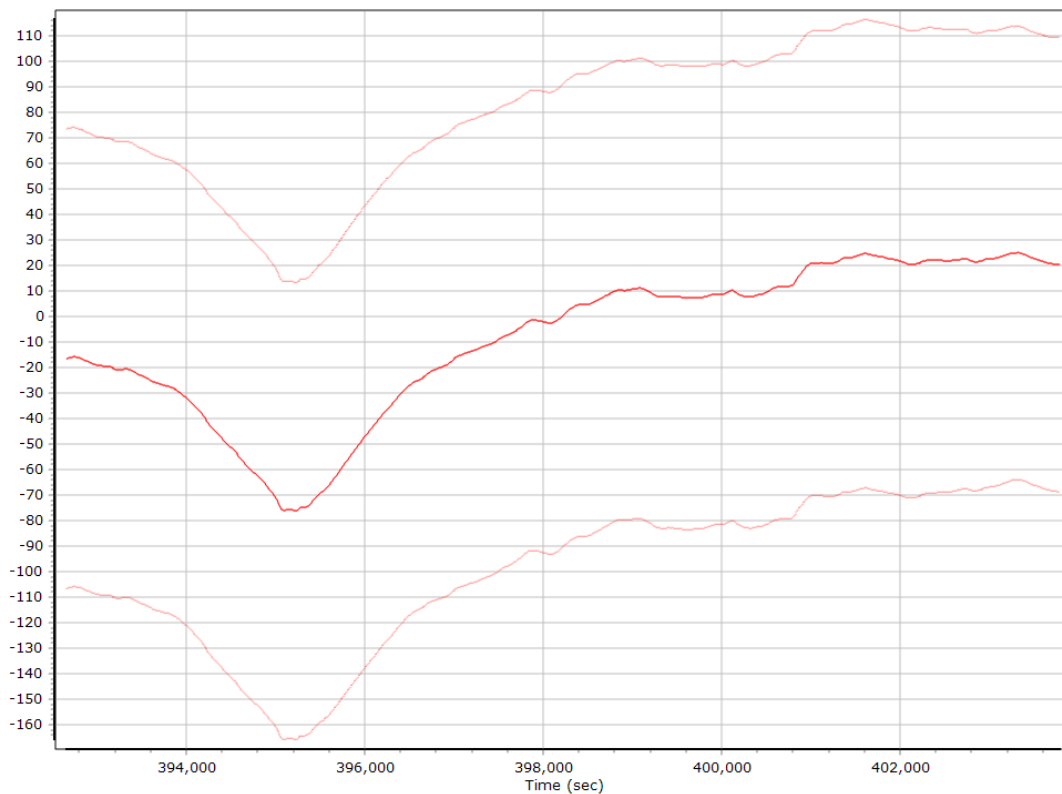
Accelerometer Bias (micro-g)



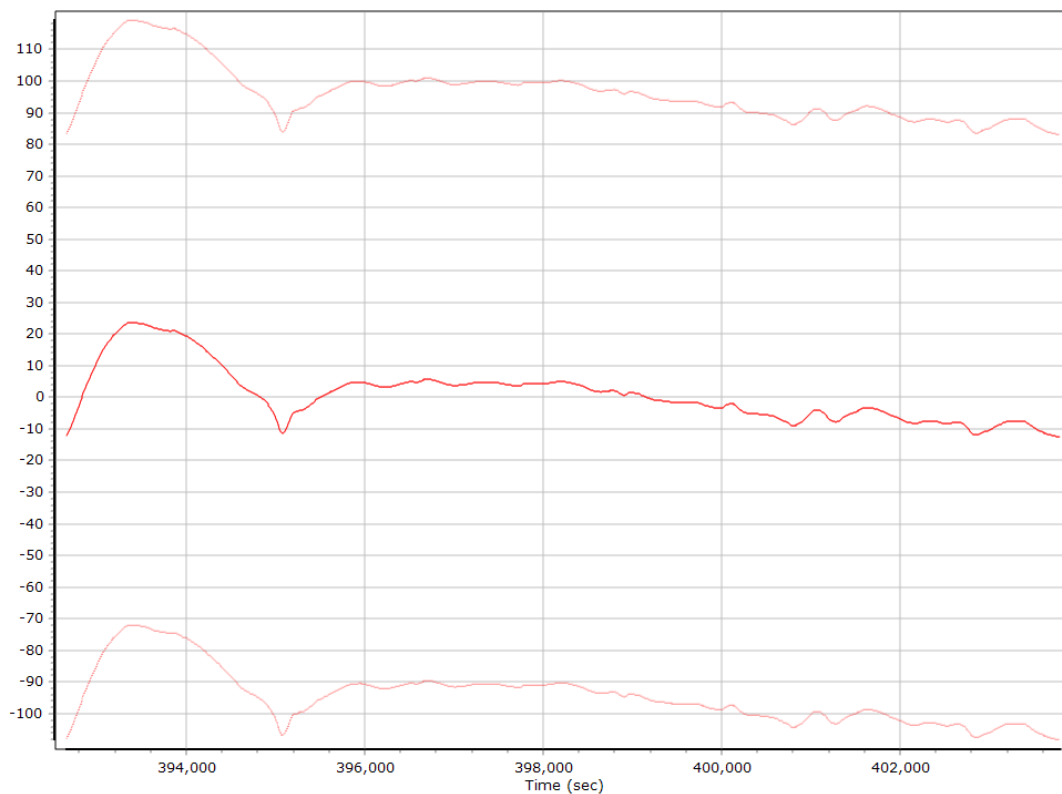
X Accelerometer Bias (micro-g)



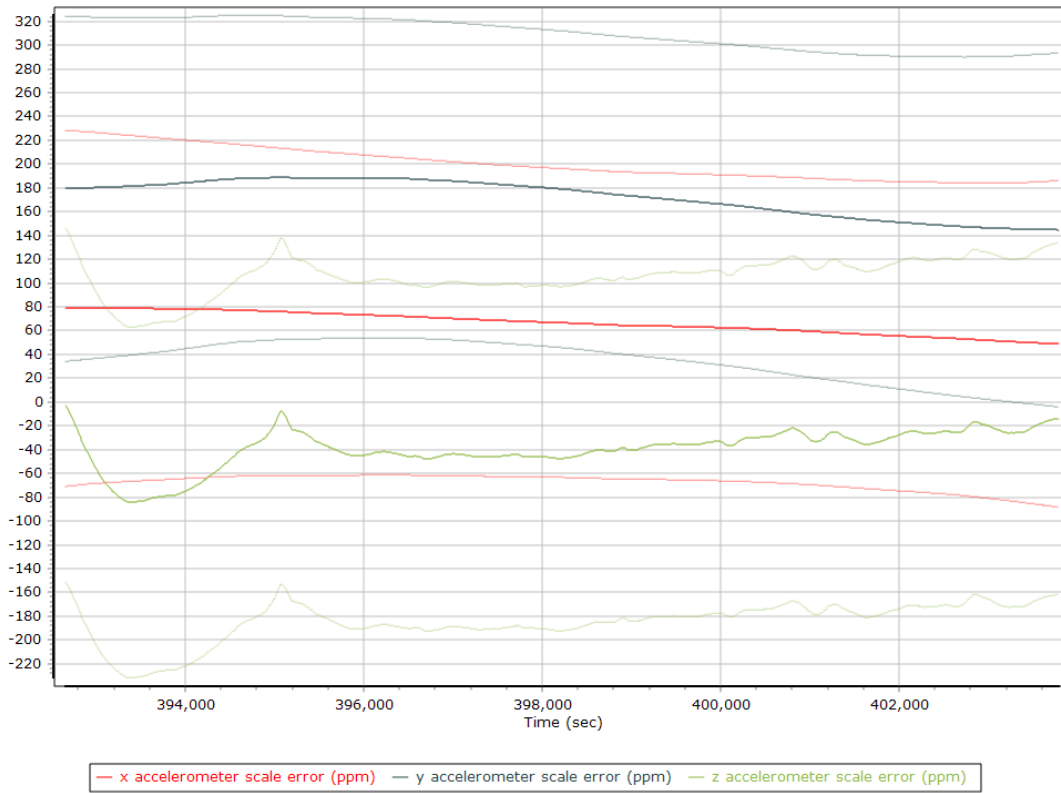
Y Accelerometer Bias (micro-g)



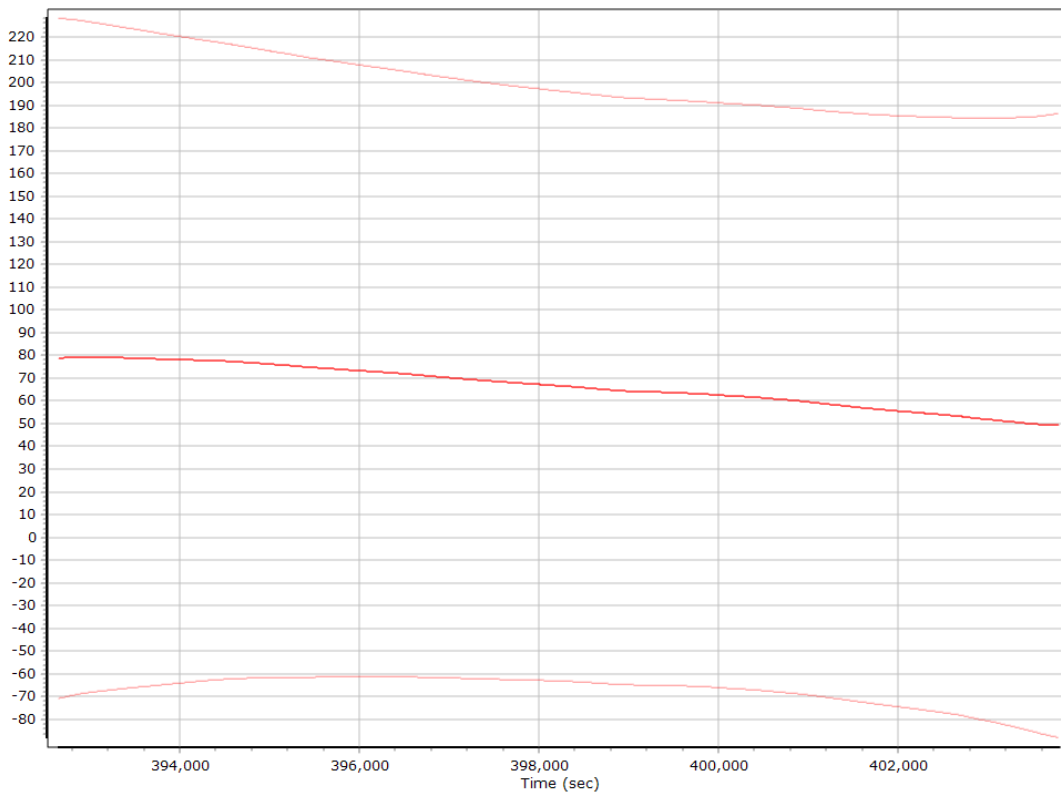
Z Accelerometer Bias (micro-g)



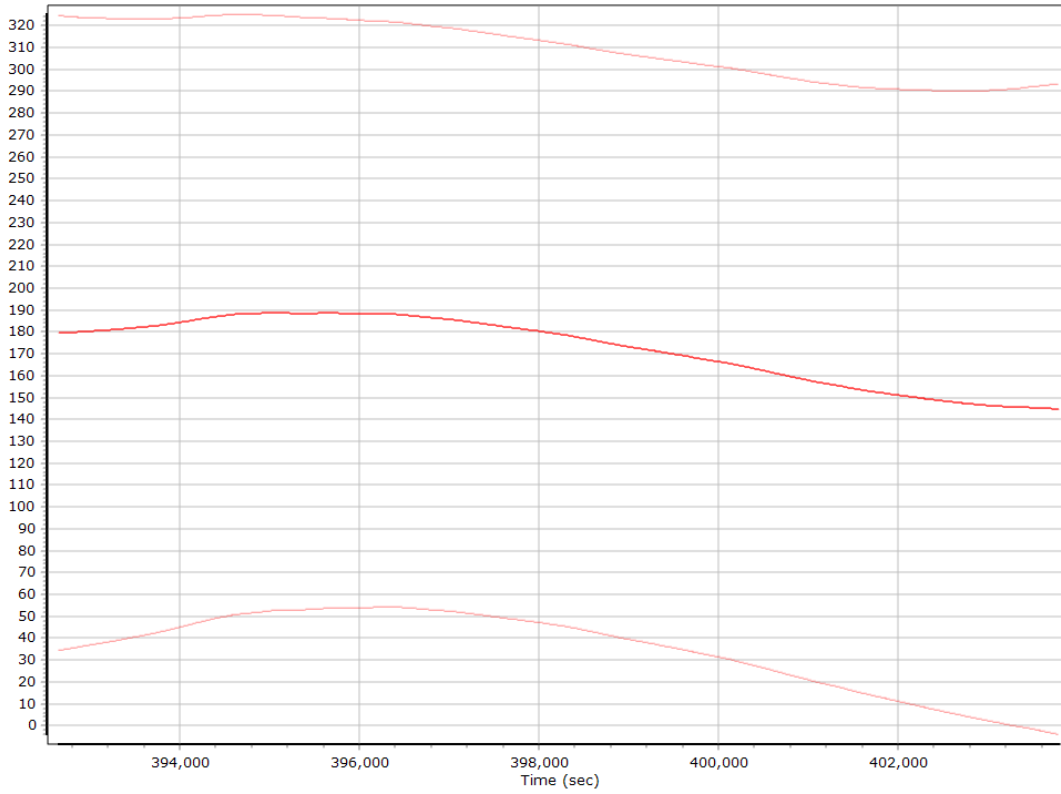
Accelerometer Scale Error (ppm)



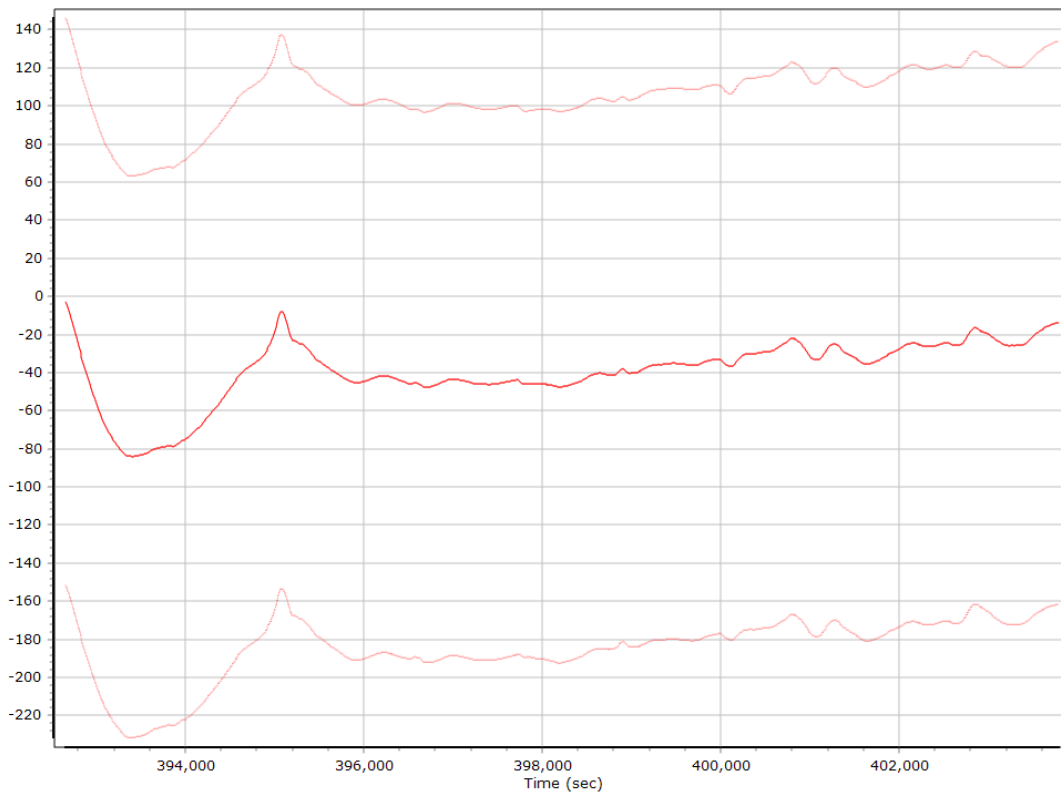
X Accelerometer Scale Error (ppm)



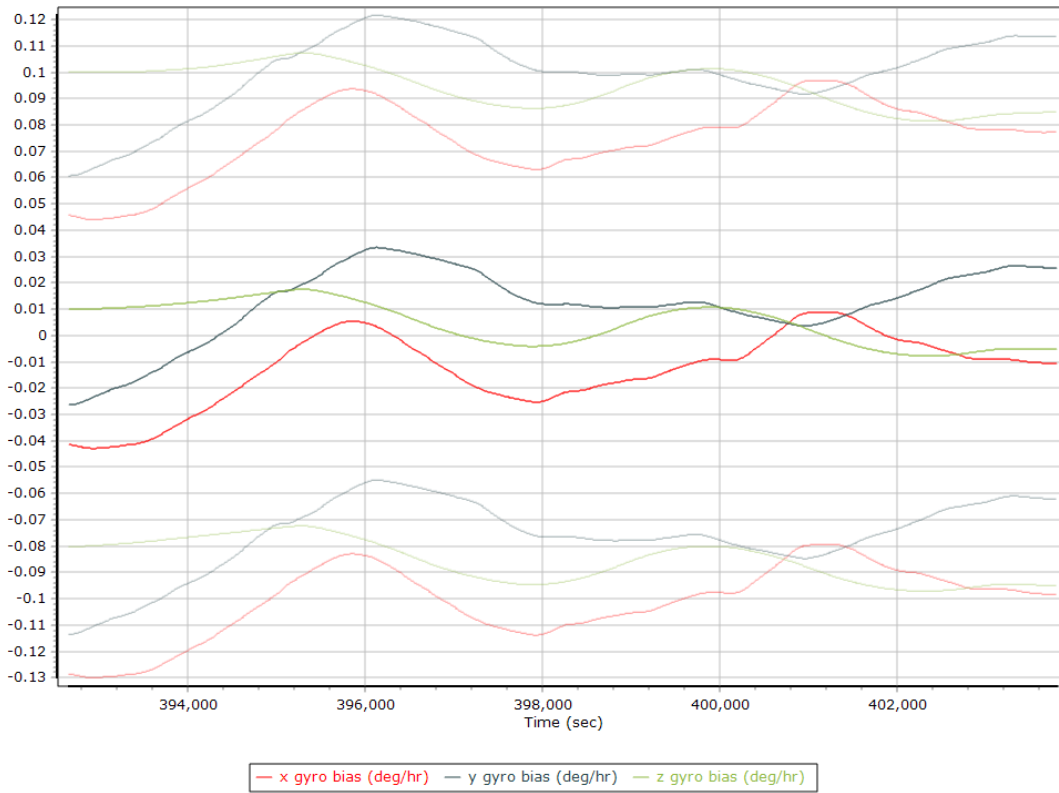
Y Accelerometer Scale Error (ppm)



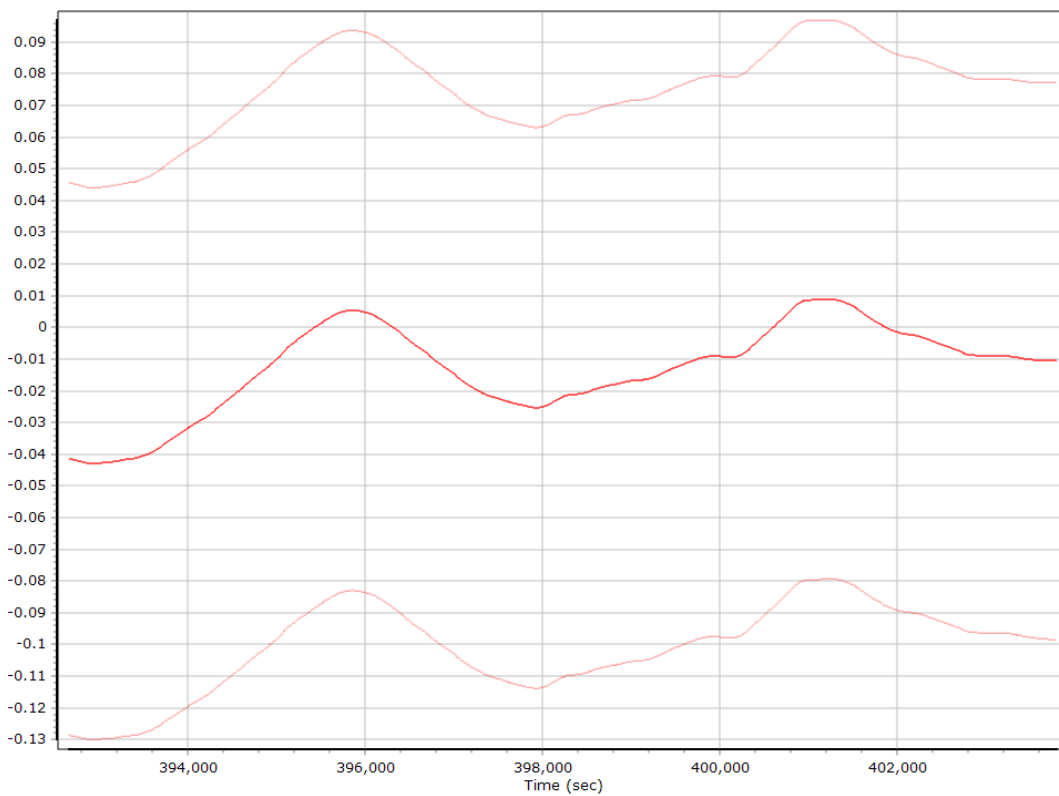
Z Accelerometer Scale Error (ppm)



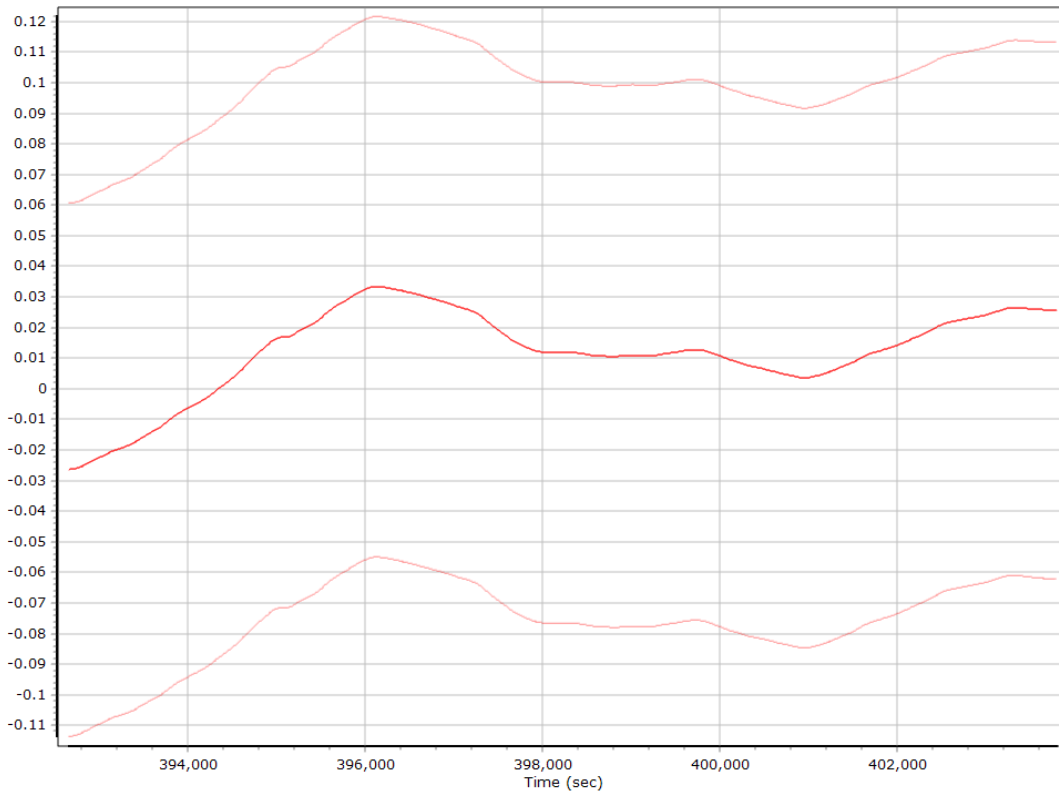
Gyro Bias (deg/h)



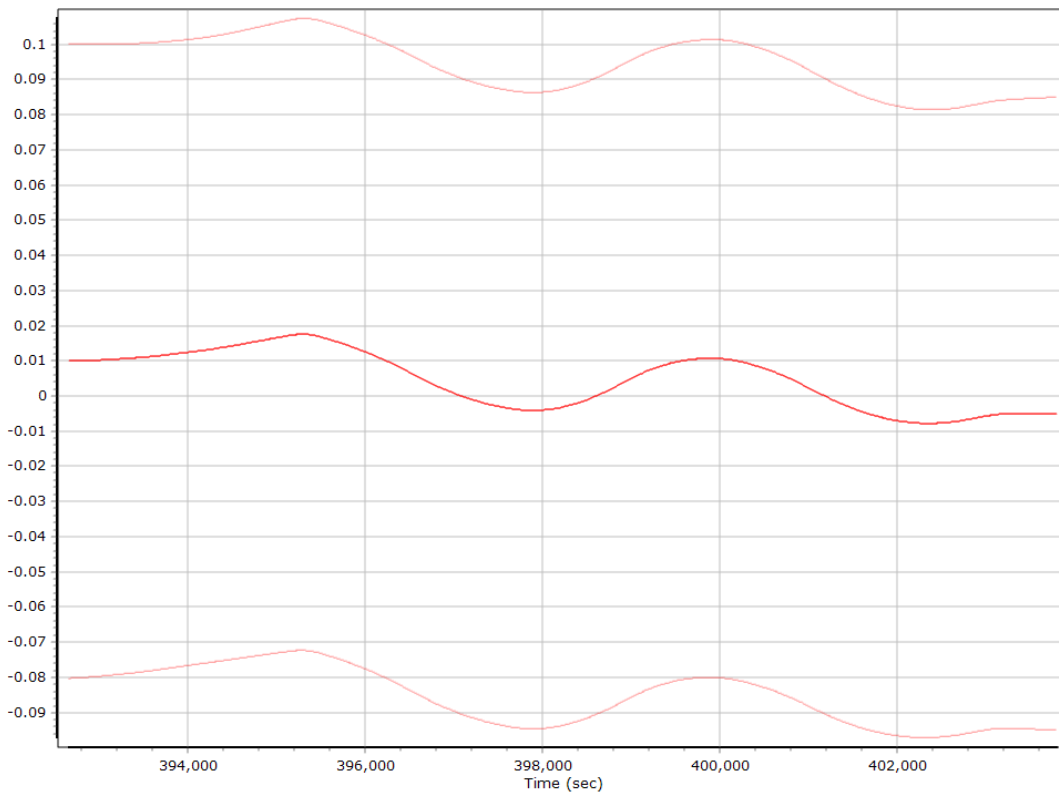
X Gyro Bias (deg/h)



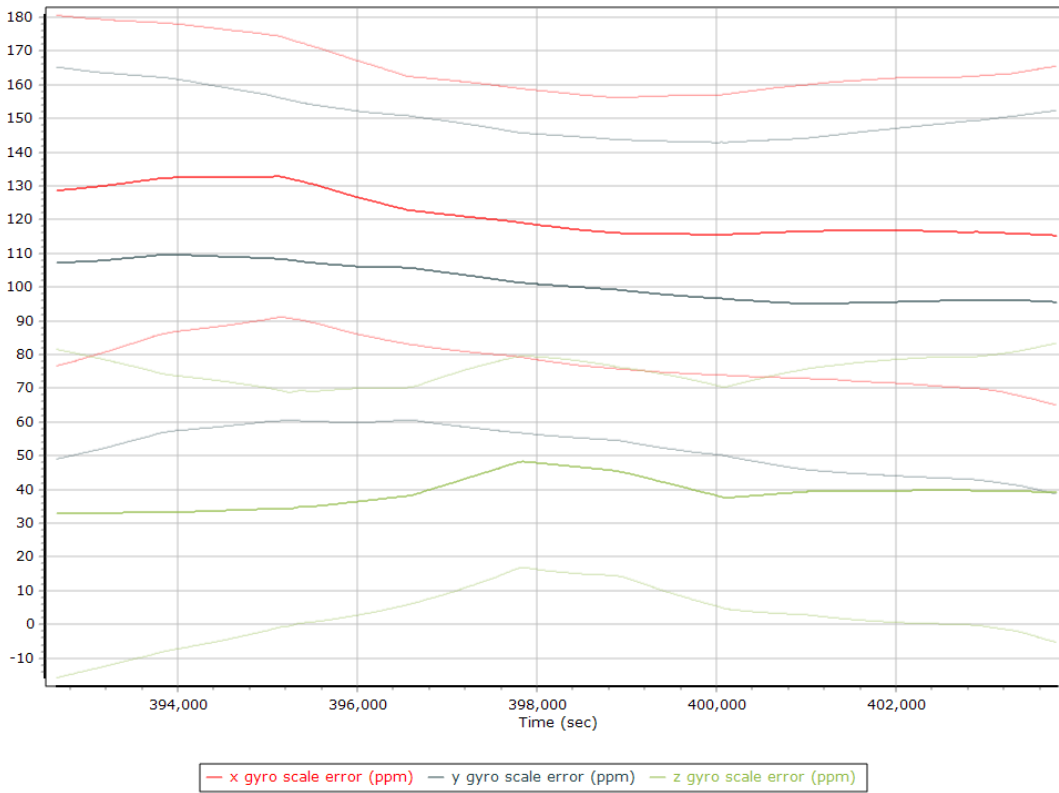
Y Gyro Bias (deg/h)



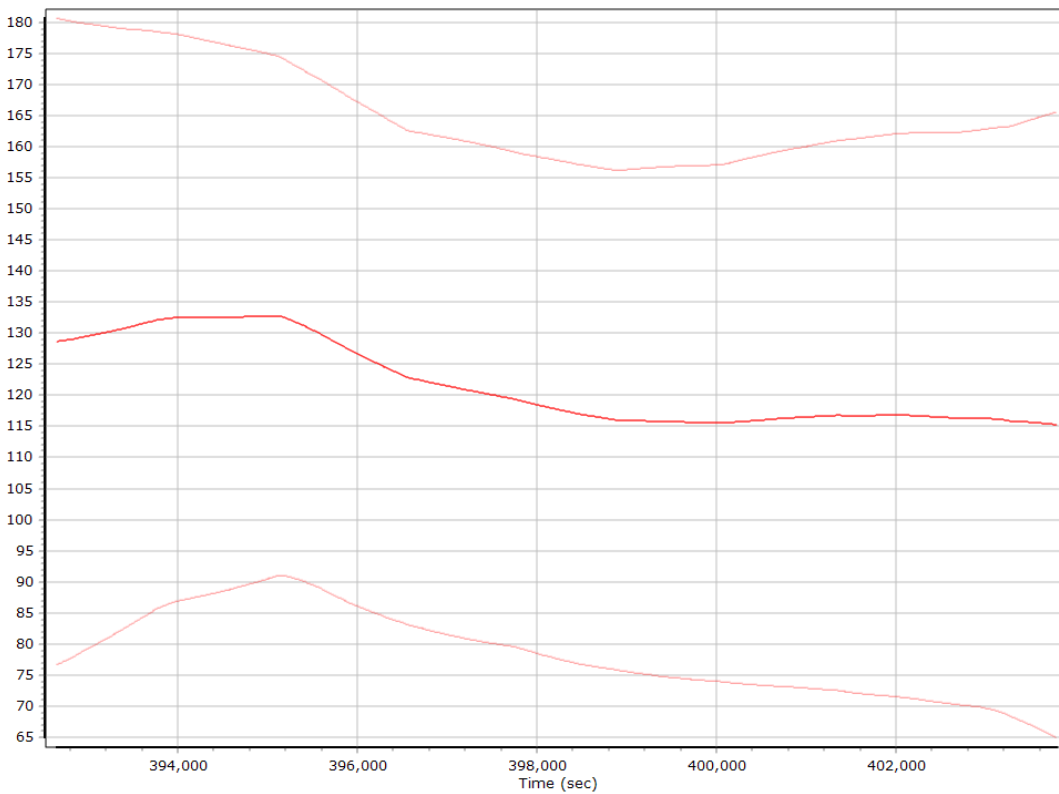
Z Gyro Bias (deg/h)



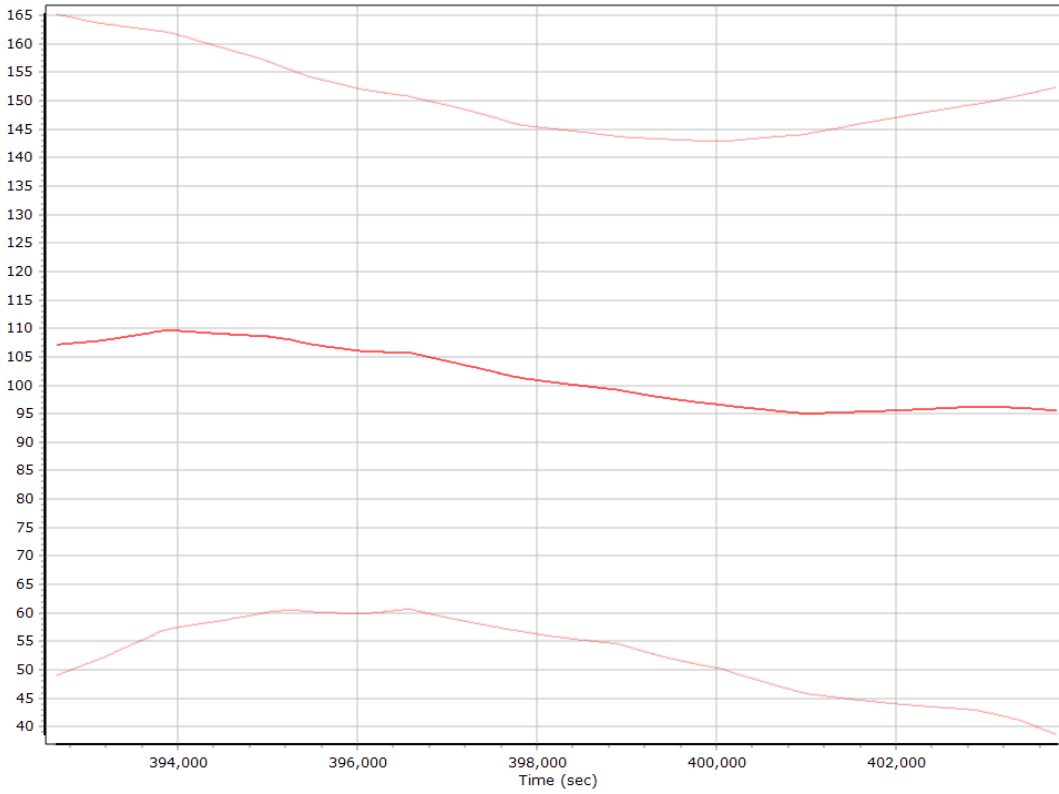
Gyro Scale Error (ppm)



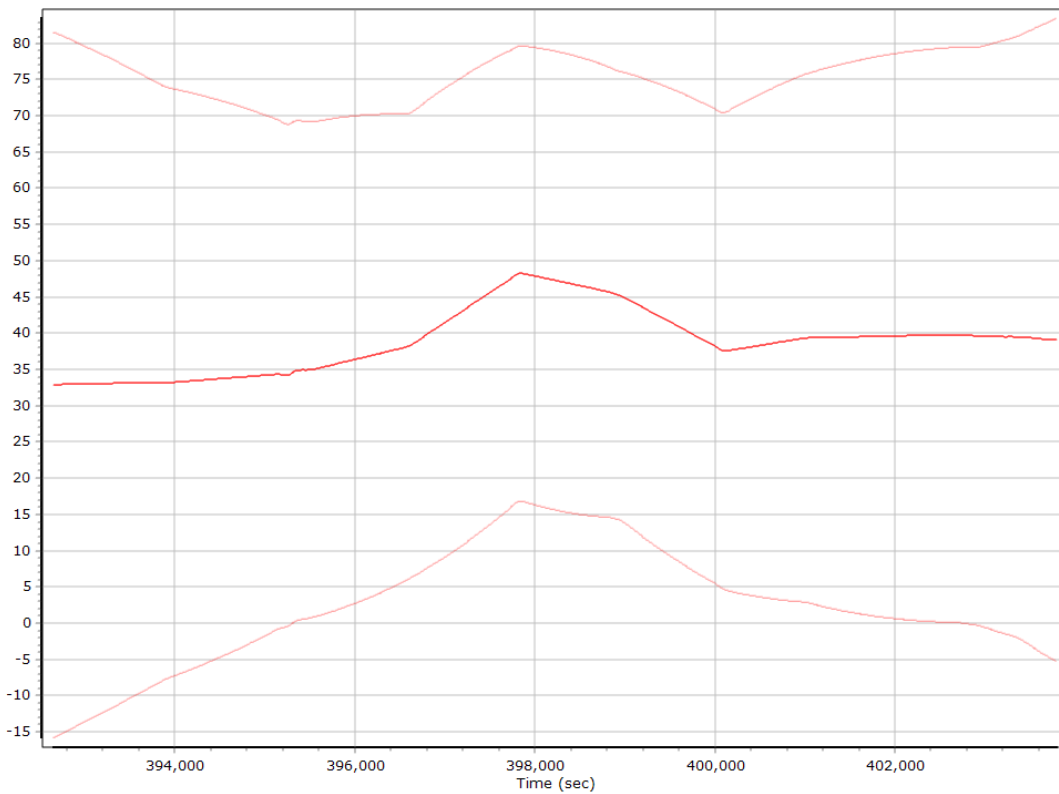
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

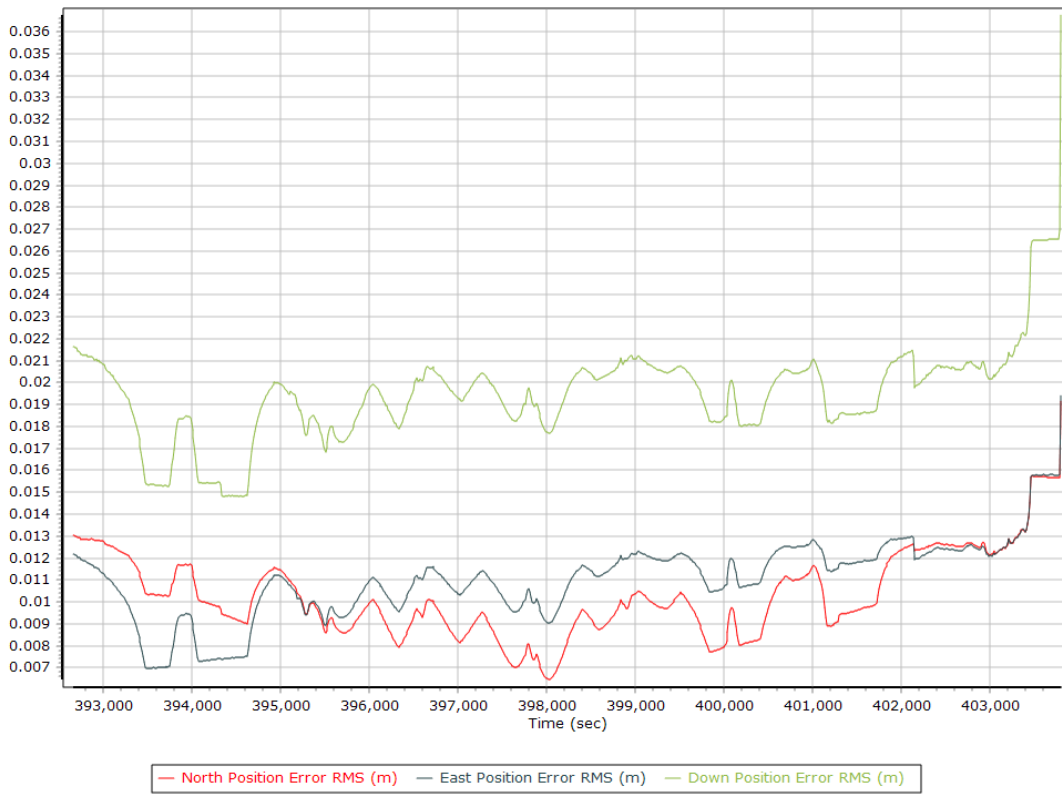


Z Gyro Scale Error (ppm)

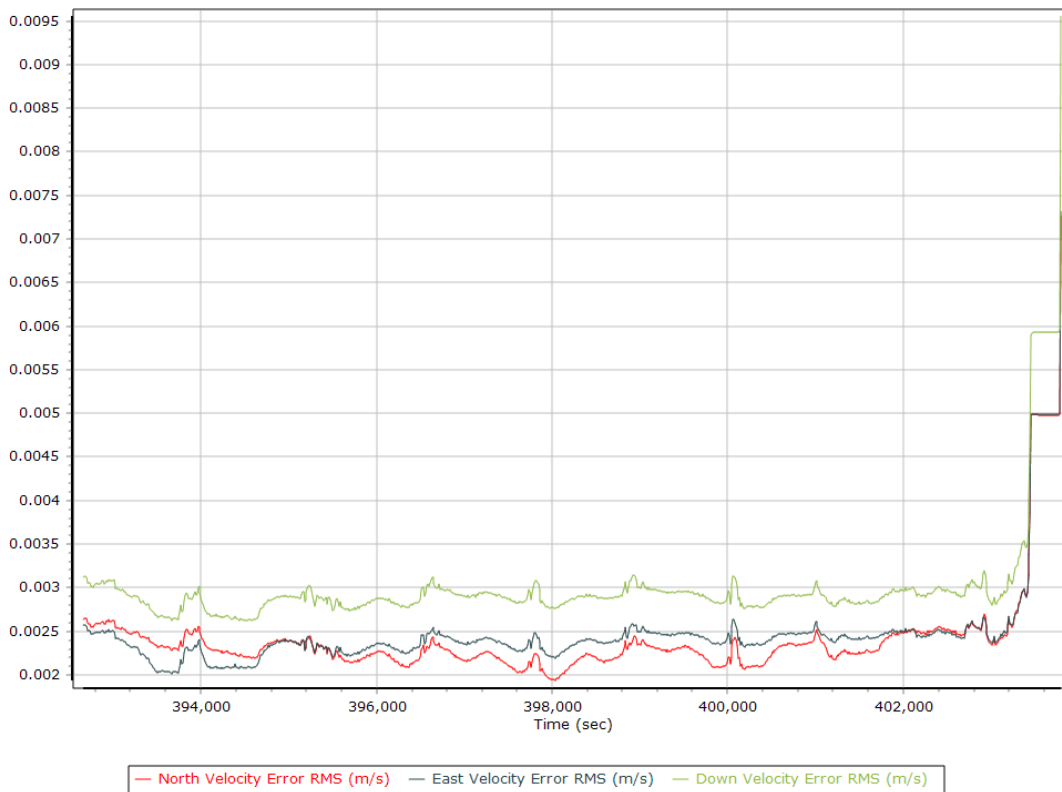


Smoothed Performance Metrics

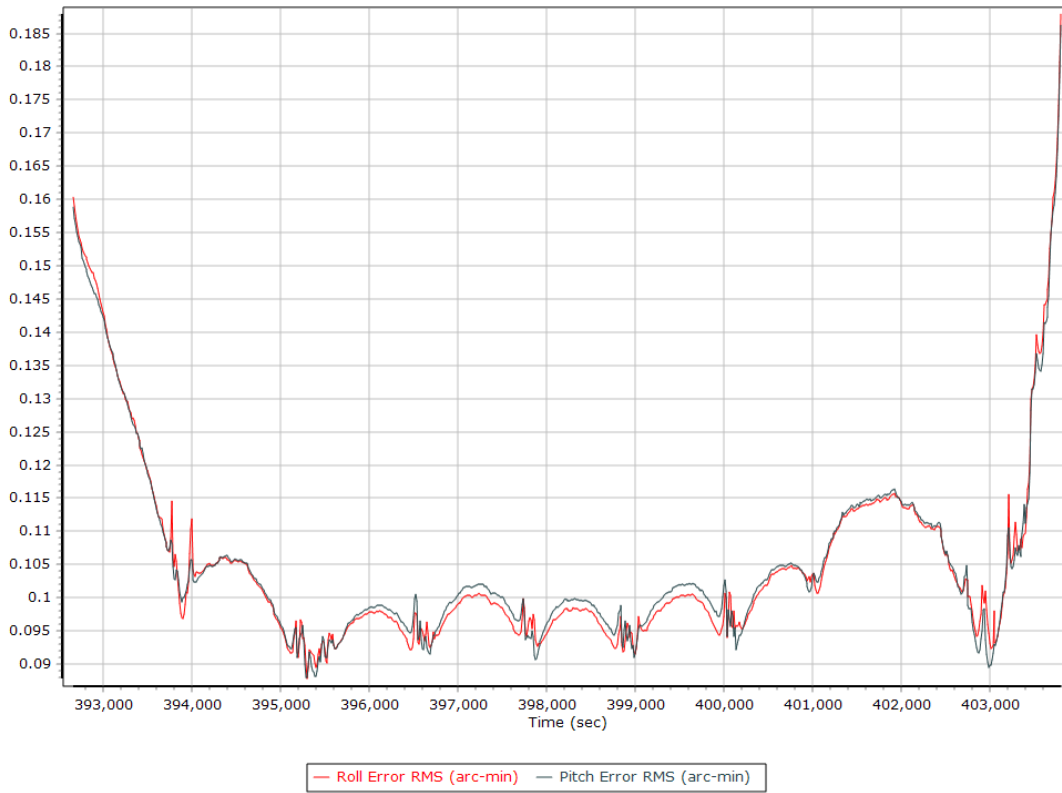
Position Error RMS (m)



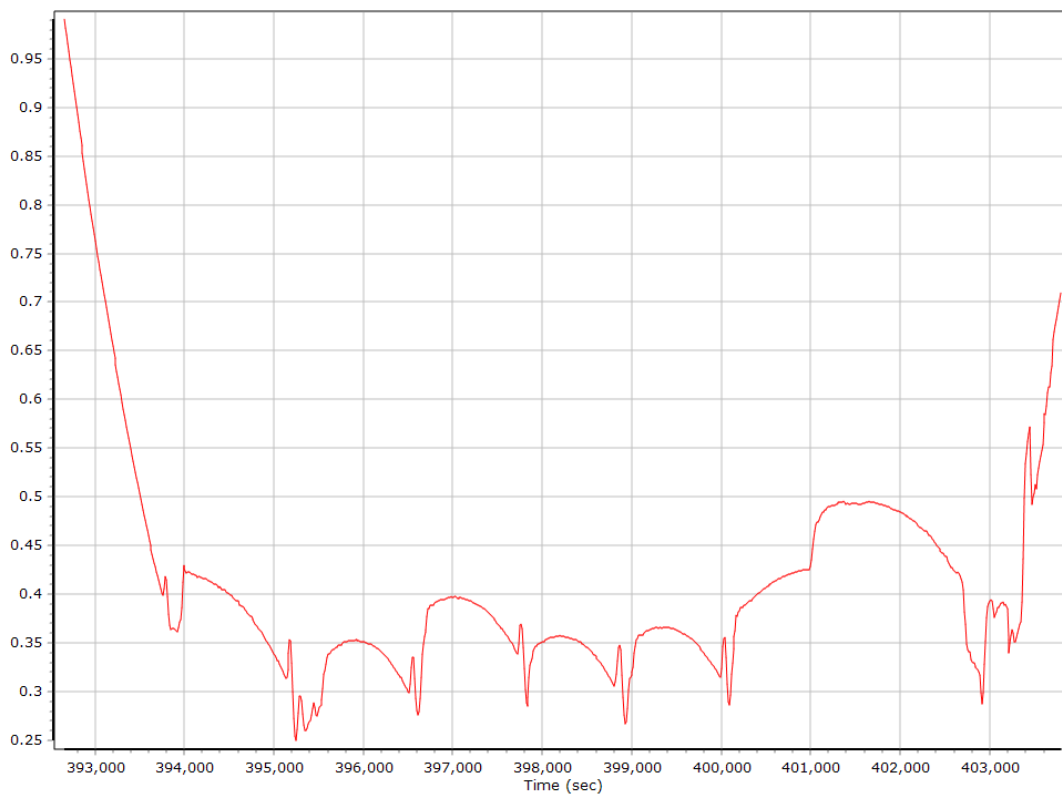
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

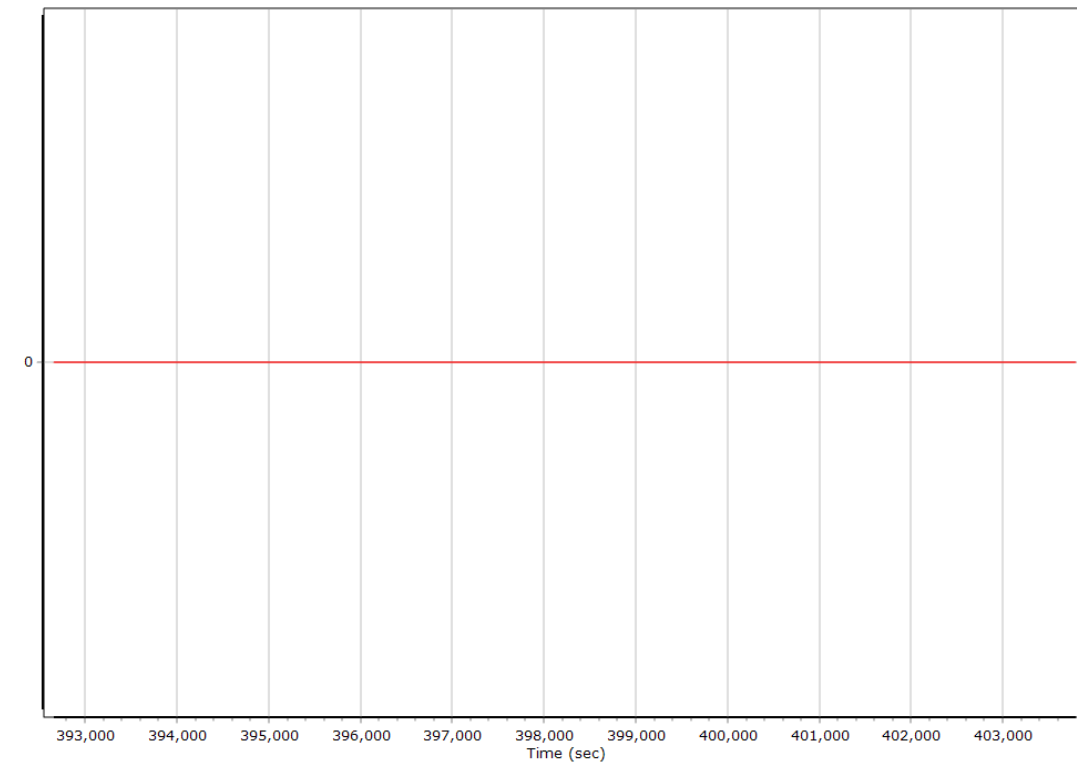


Heading Error RMS (arc-min)



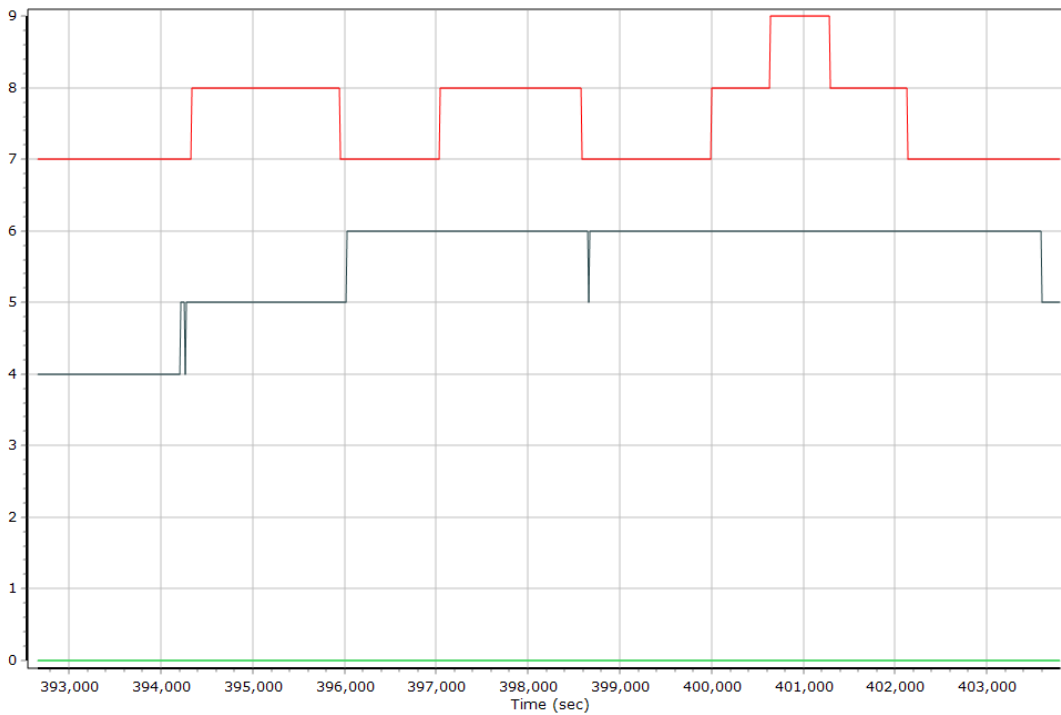
Smoothed Solution Status

Processing Mode



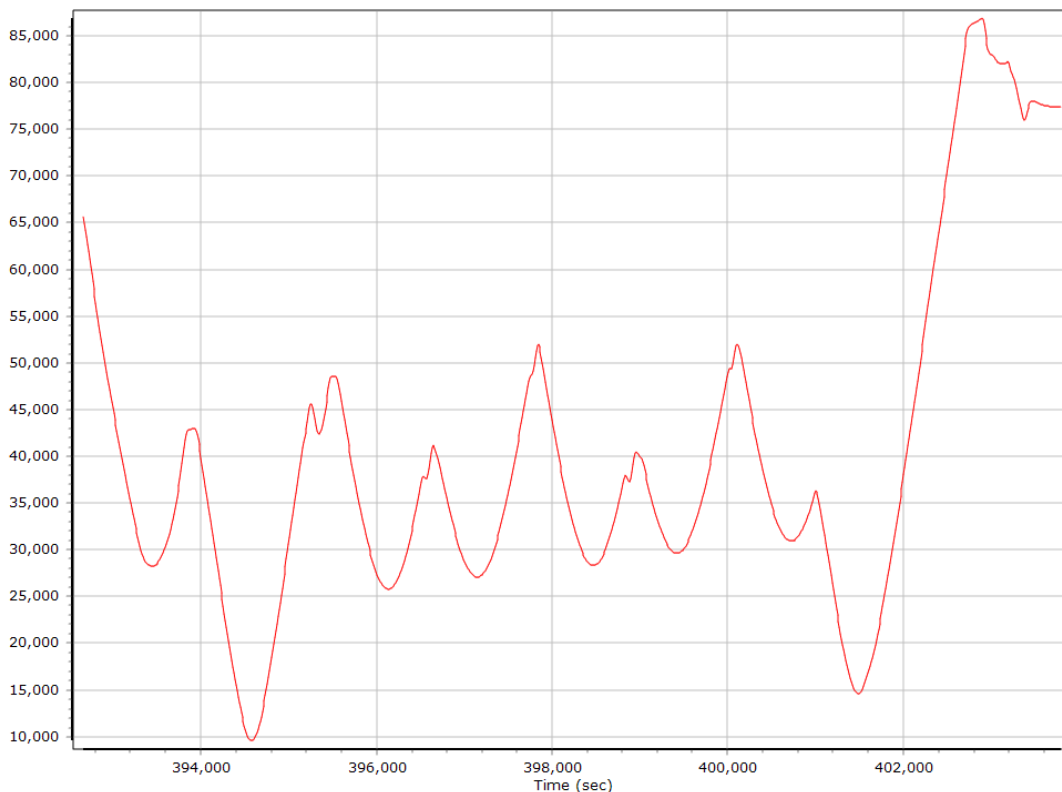
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites

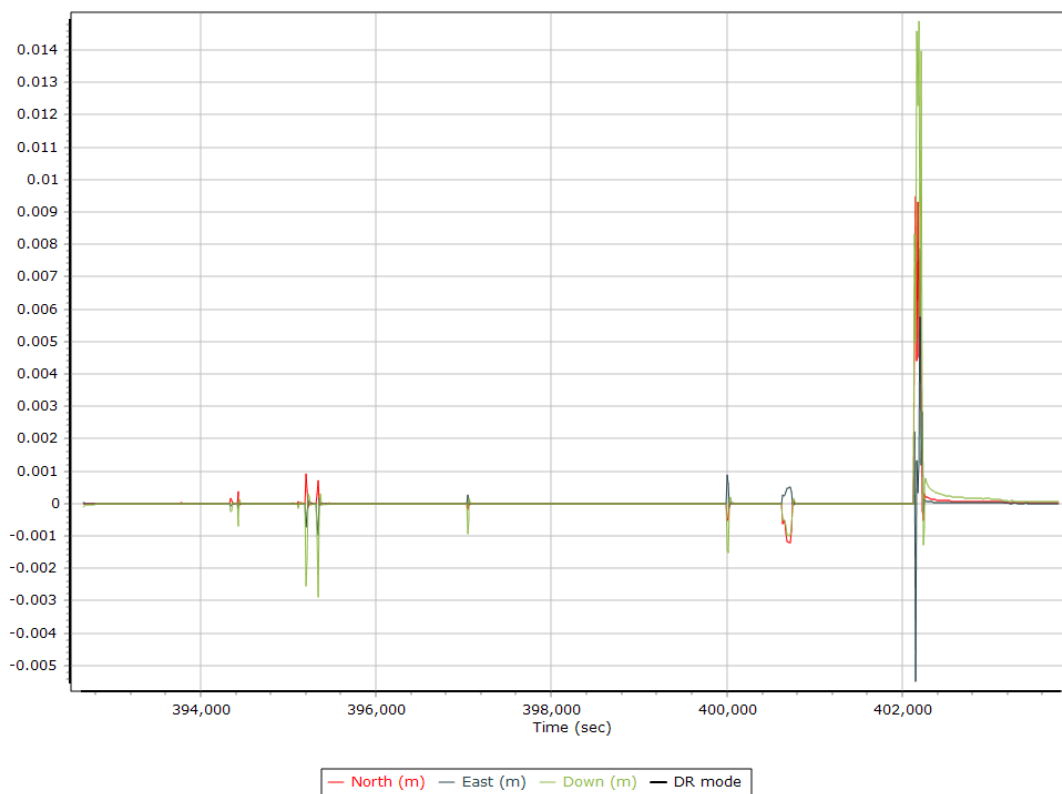


— Number of GPS Satellites
 — Number of GLONASS Satellites
 — Number of QZSS Satellites
— Number of BEIDOU Satellites
 — Number of GALILEO Satellites

Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	ptg19329A_v2
Processing date	2019-12-12 16:32:31
Mission date	2019-11-25 16:21:37
Mission duration	03:44:50.973
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
PTG19329.208	POS Data
PTG19329.209	POS Data
PTG19329.210	POS Data
PTG19329.211	POS Data
PTG19329.212	POS Data
PTG19329.213	POS Data
PTG19329.214	POS Data
PTG19329.215	POS Data
PTG19329.216	POS Data
PTG19329.217	POS Data
PTG19329.218	POS Data
PTG19329.219	POS Data
PTG19329.220	POS Data
PTG19329.221	POS Data
PTG19329.222	POS Data
PTG19329.223	POS Data
PTG19329.224	POS Data
PTG19329.225	POS Data
PTG19329.226	POS Data
PTG19329.227	POS Data
PTG19329.228	POS Data
PTG19329.229	POS Data
PTG19329.230	POS Data
PTG19329.231	POS Data
PTG19329.232	POS Data
PTG19329.233	POS Data
PTG19329.234	POS Data
PTG19329.235	POS Data
PTG19329.236	POS Data
PTG19329.237	POS Data
PTG19329.238	POS Data
PTG19329.239	POS Data
PTG19329.240	POS Data
PTG19329.241	POS Data

Input Files

File Name	File Type
Ephm3290.19g	GLONASS Broadcast Ephemeris
Ephm3290.19n	GPS Broadcast Ephemeris
flbf_daily3290.19o	GNSS SingleBase
flbr_daily3290.19o	GNSS SingleBase
flck_daily3290.19o	GNSS SingleBase
flmc_daily3290.19o	GNSS SingleBase
gnvl_daily3290.19o	GNSS SingleBase
ocla_daily3290.19o	GNSS SingleBase
pltk_daily3290.19o	GNSS SingleBase
xcty_daily3290.19o	GNSS SingleBase
lkcy_daily3290.19o	GNSS SingleBase
igr20810.sp3	GPS Precise Ephemeris
igr20811.sp3	GPS Precise Ephemeris
igr20812.sp3	GPS Precise Ephemeris
xcty_daily3290.19o	GNSS SingleBase

Output Files

Filename	File type
sbet_ptg19329A_v2.out	SBET Trajectory File

Rover Data Summary

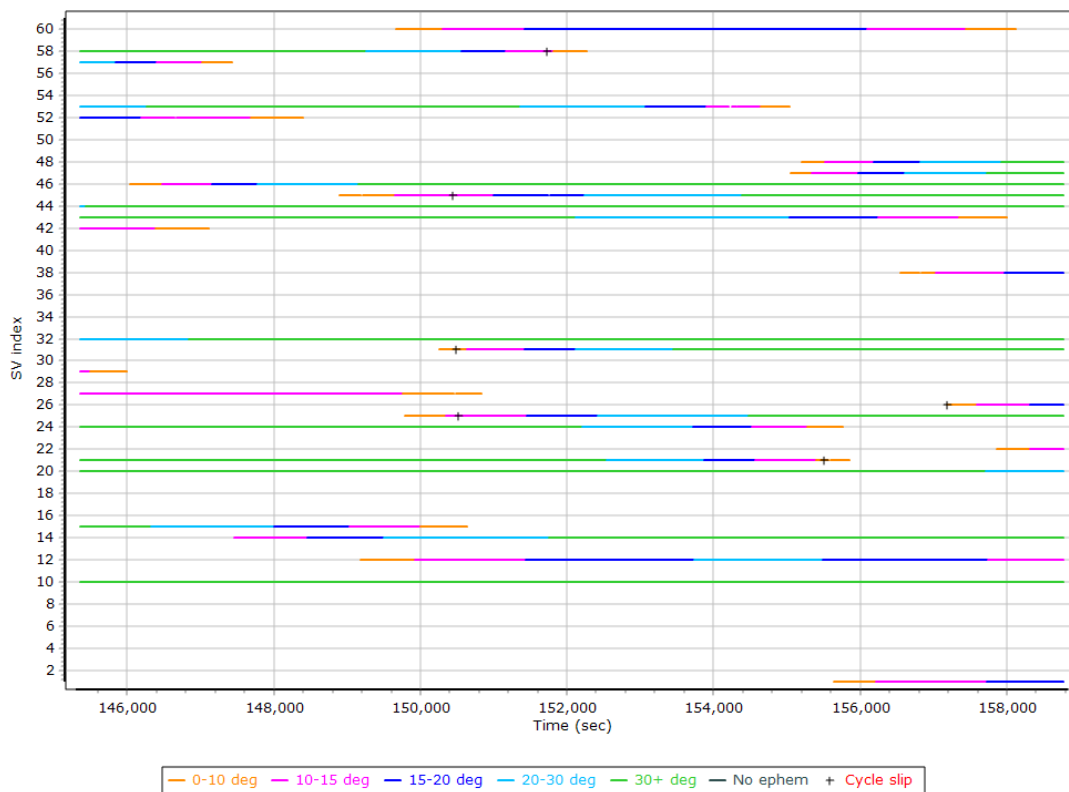
First raw data file	PTG19329.208		
Last raw data file	PTG19329.241		
Start GPS week	2081		
Start time	145279.032 (11/25/2019 4:21:19 PM)		
End time	158771.196 (11/25/2019 8:06:11 PM)		
Start of fine alignment	145298.206 (11/25/2019 4:21:38 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

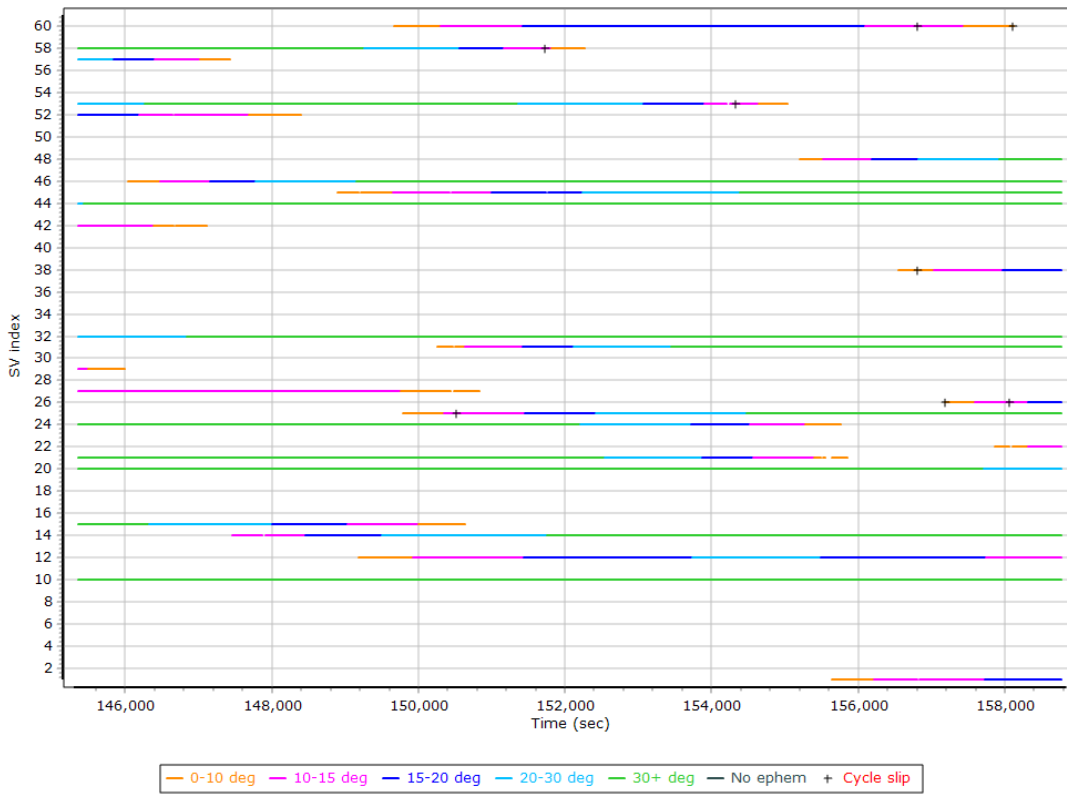
Raw IMU Import QC Summary

IMU data input file	imu_ptg19329A_v2.dat
IMU data check log file	imudt_ptg19329A_v2.log
IMU Records Processed	2697961
Termination Status	Normal
IMU Anomalies	0

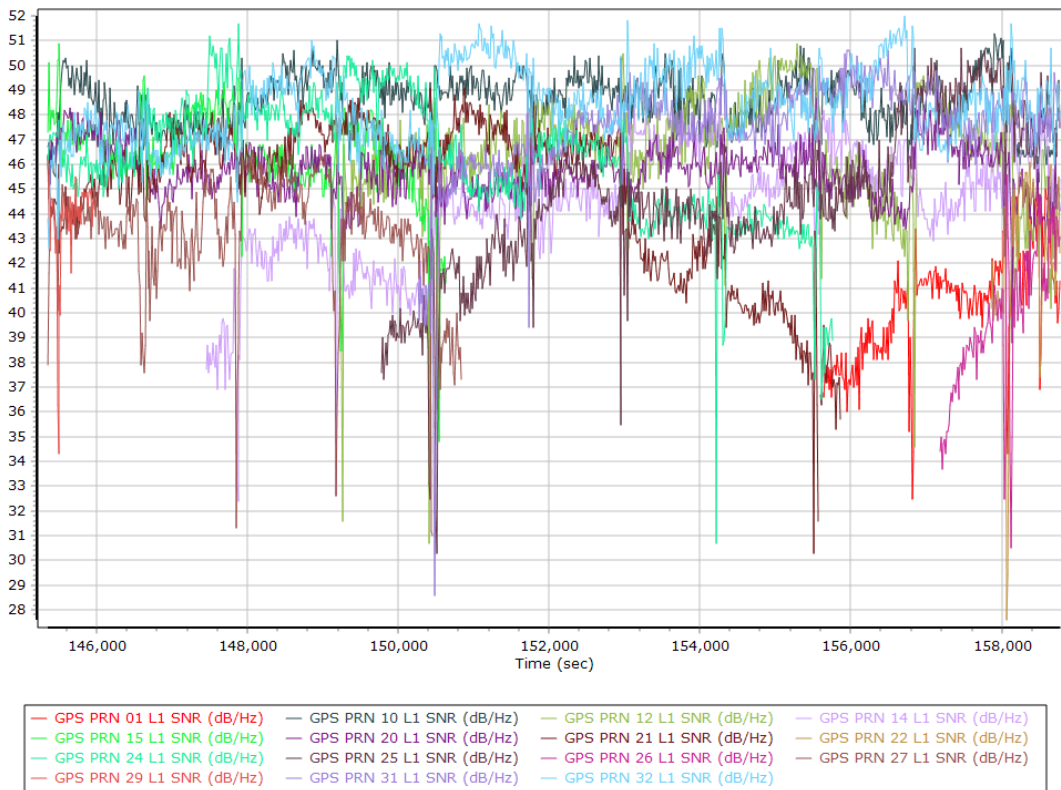
L1 Satellite Lock/Elevation



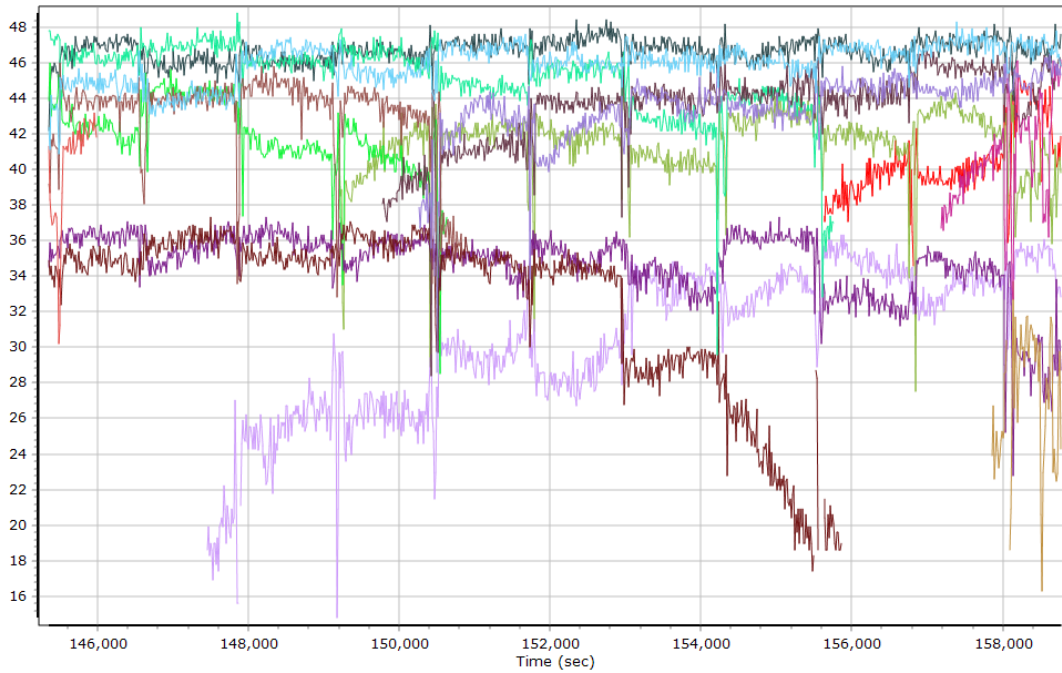
L2 Satellite Lock/Elevation



GPS L1 SNR

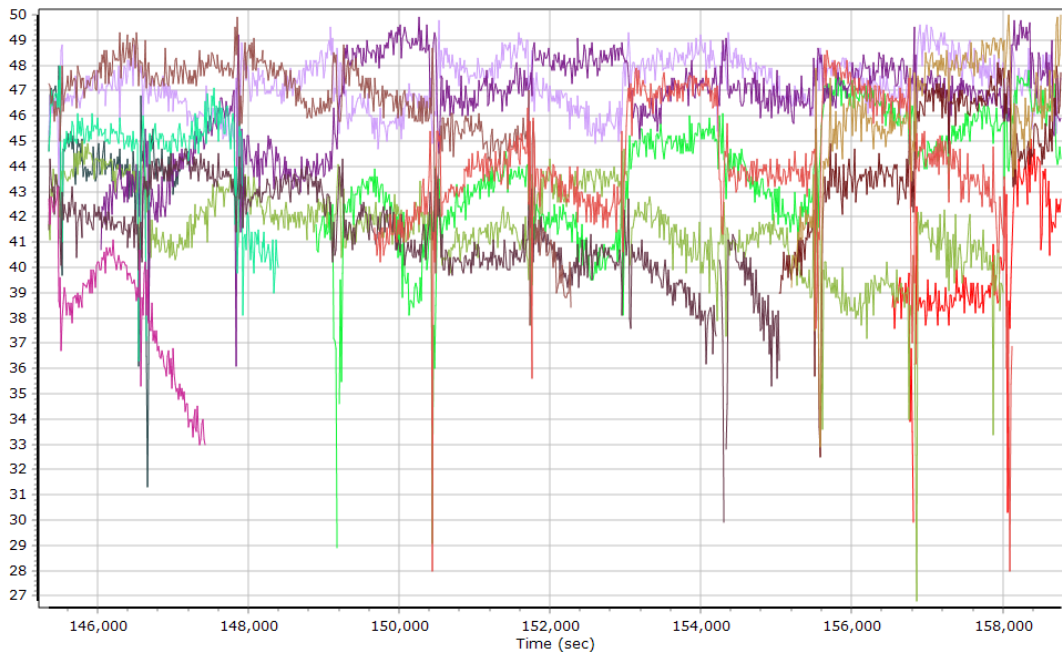


GPS L2 SNR



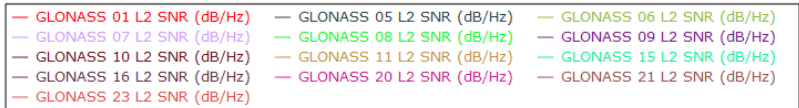
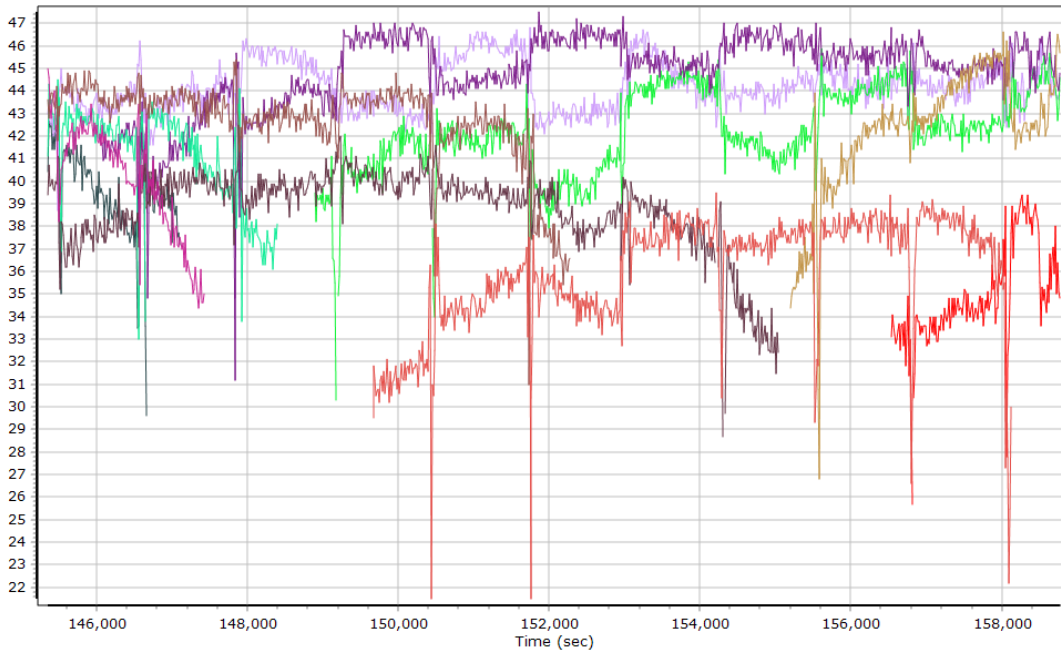
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 12 L2 SNR (dB/Hz) | GPS PRN 14 L2 SNR (dB/Hz) |
| GPS PRN 15 L2 SNR (dB/Hz) | GPS PRN 20 L2 SNR (dB/Hz) | GPS PRN 21 L2 SNR (dB/Hz) | GPS PRN 22 L2 SNR (dB/Hz) |
| GPS PRN 24 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 26 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) |
| GPS PRN 29 L2 SNR (dB/Hz) | GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) | |

GLONASS L1 SNR

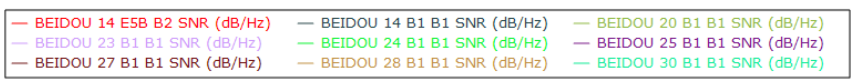
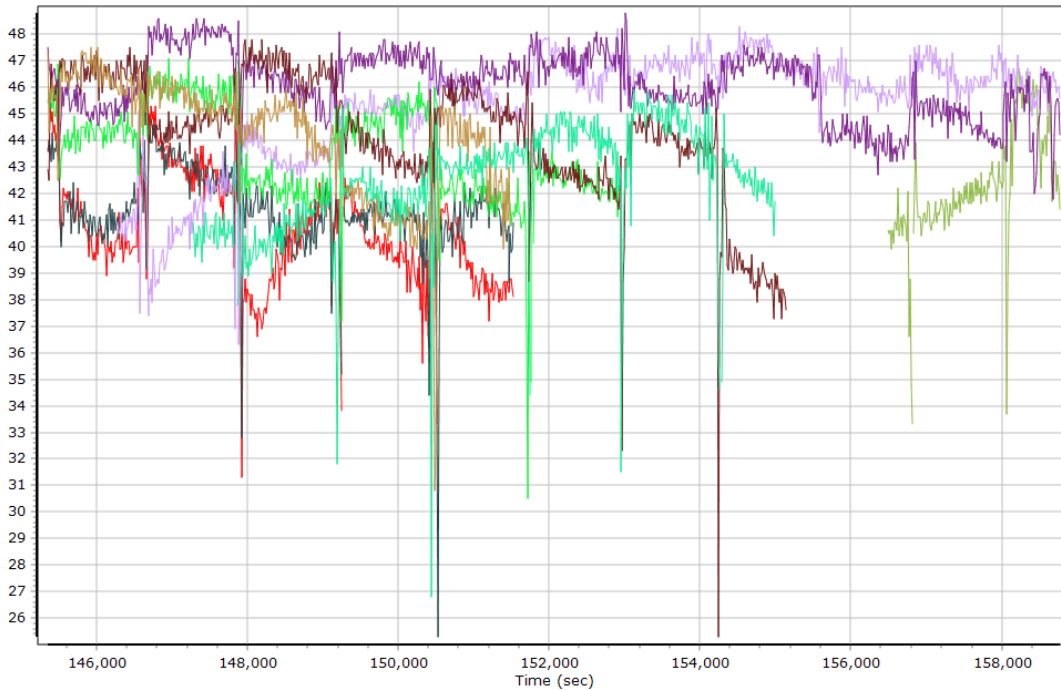


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) |
| GLONASS 07 L1 SNR (dB/Hz) | GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) |
| GLONASS 10 L1 SNR (dB/Hz) | GLONASS 11 L1 SNR (dB/Hz) | GLONASS 15 L1 SNR (dB/Hz) |
| GLONASS 16 L1 SNR (dB/Hz) | GLONASS 20 L1 SNR (dB/Hz) | GLONASS 21 L1 SNR (dB/Hz) |
| GLONASS 23 L1 SNR (dB/Hz) | | |

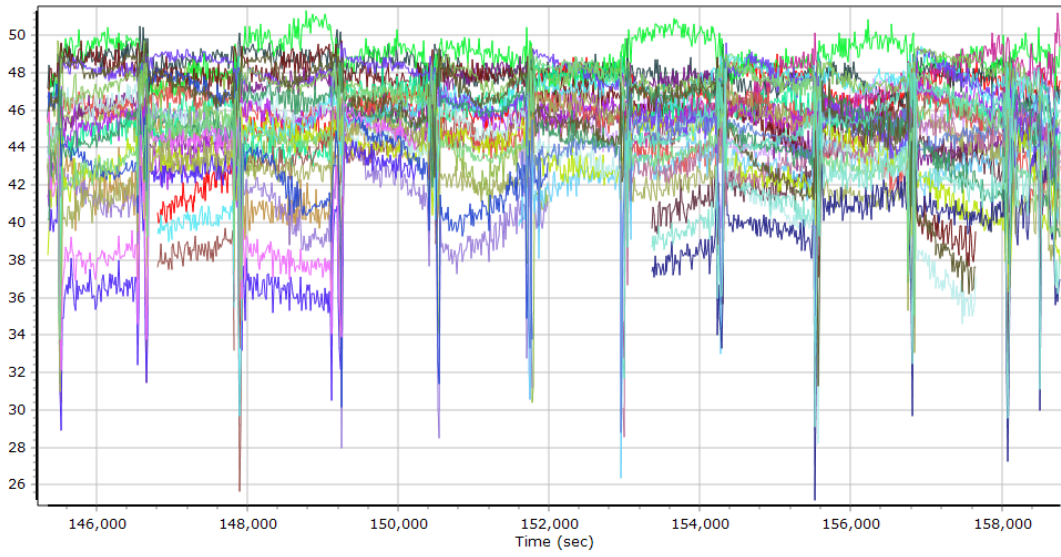
GLONASS L2 SNR



BEIDOU SNR



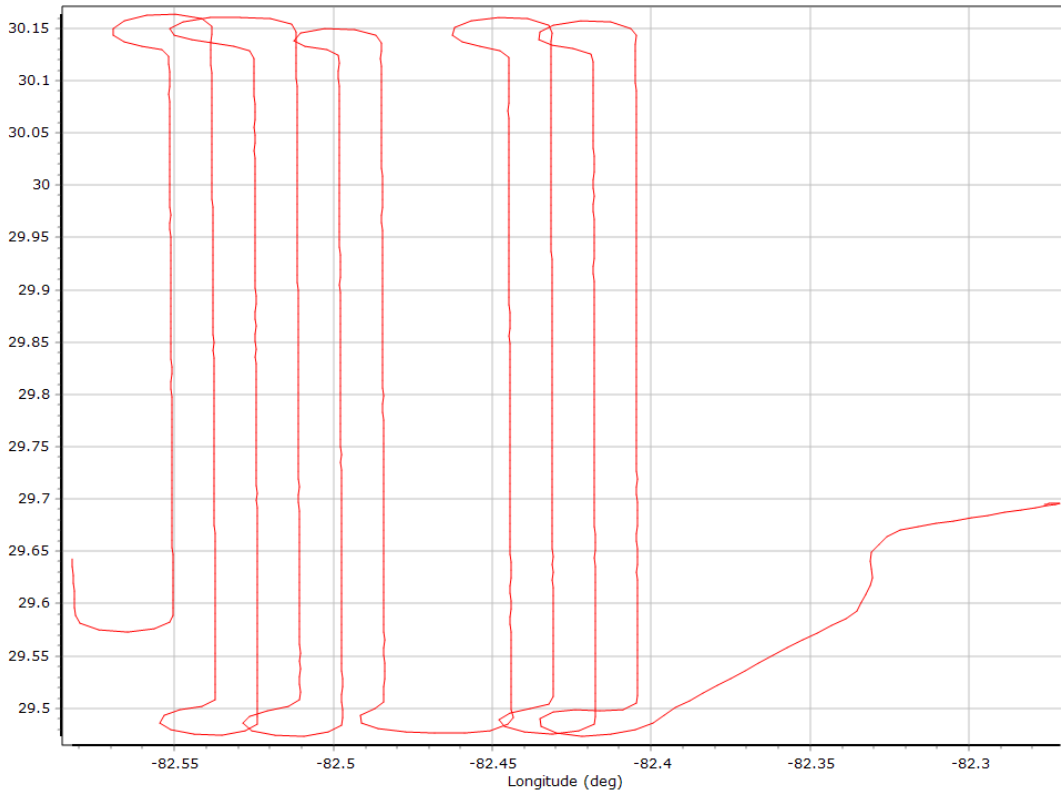
GALILEO SNR



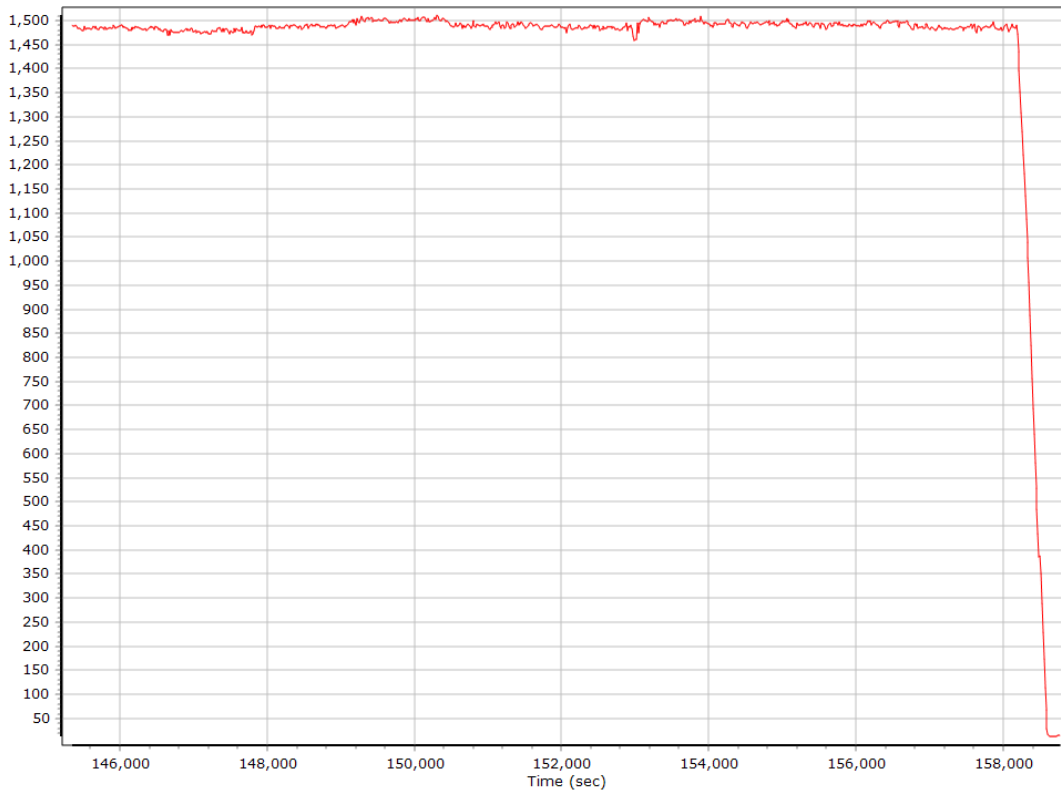
- | | |
|--|--|
| — GALILEO 02 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 15 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 26 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 30 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 02 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 03 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 05 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 07 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 08 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 13 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 15 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 24 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 25 E5B BPSK10_PD SNR (dB/Hz) |

Trajectory Information

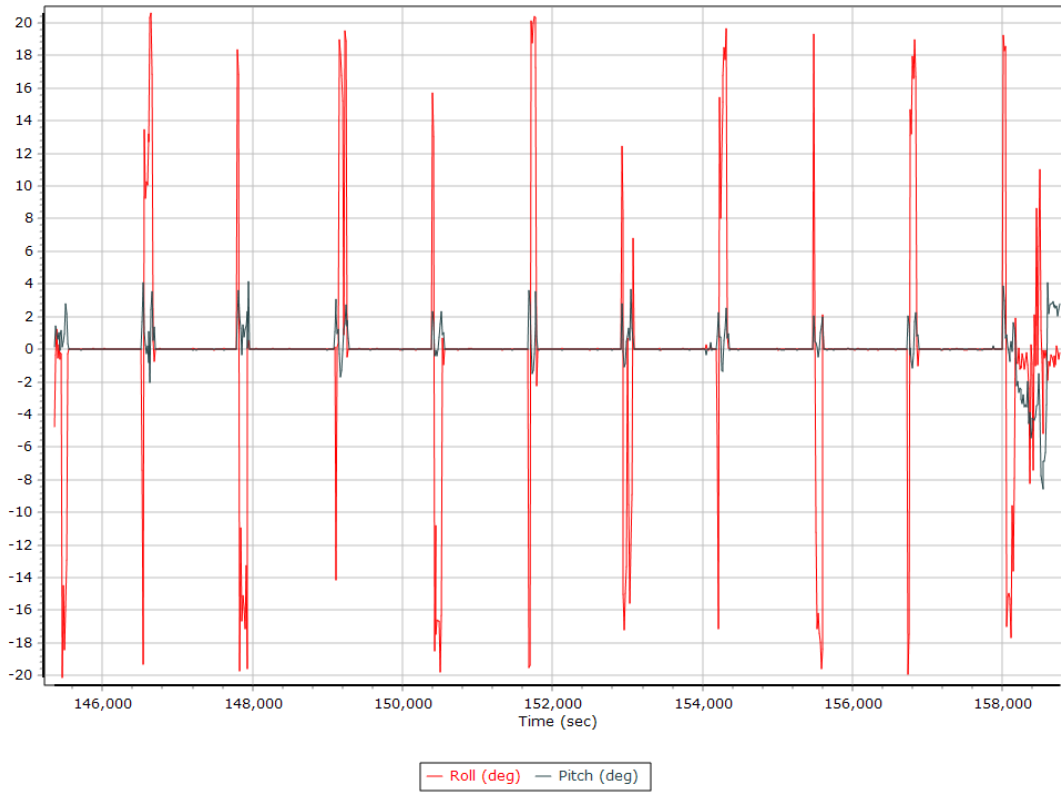
Top View



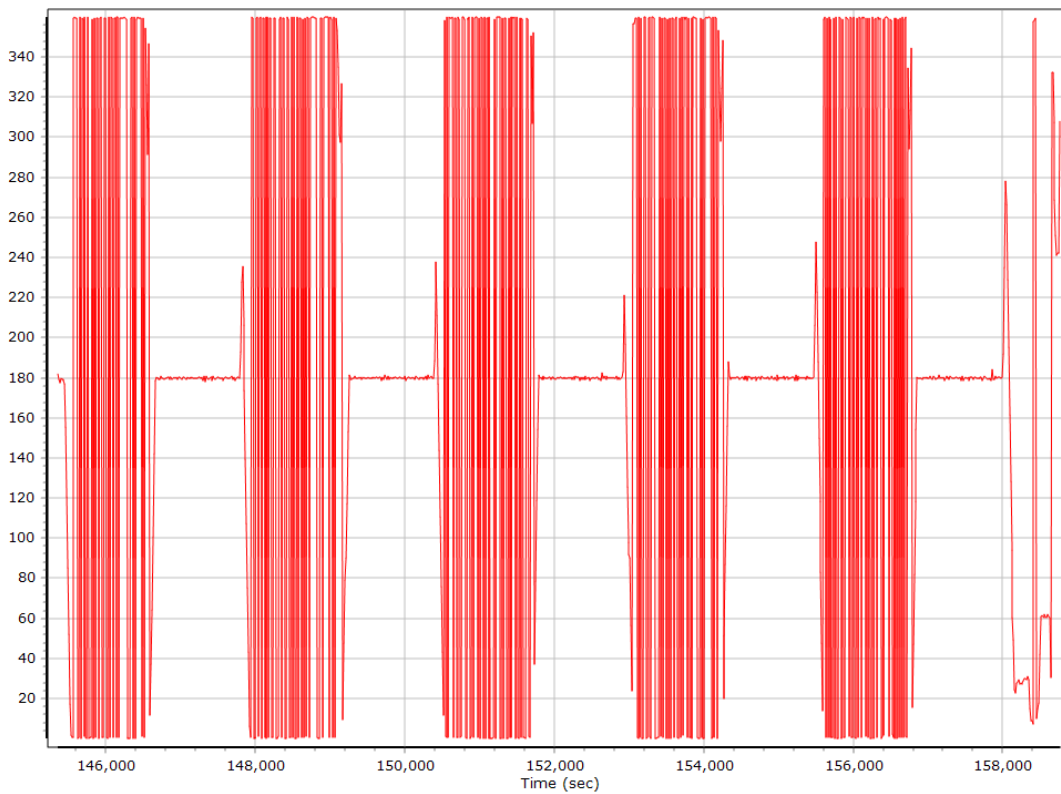
Altitude



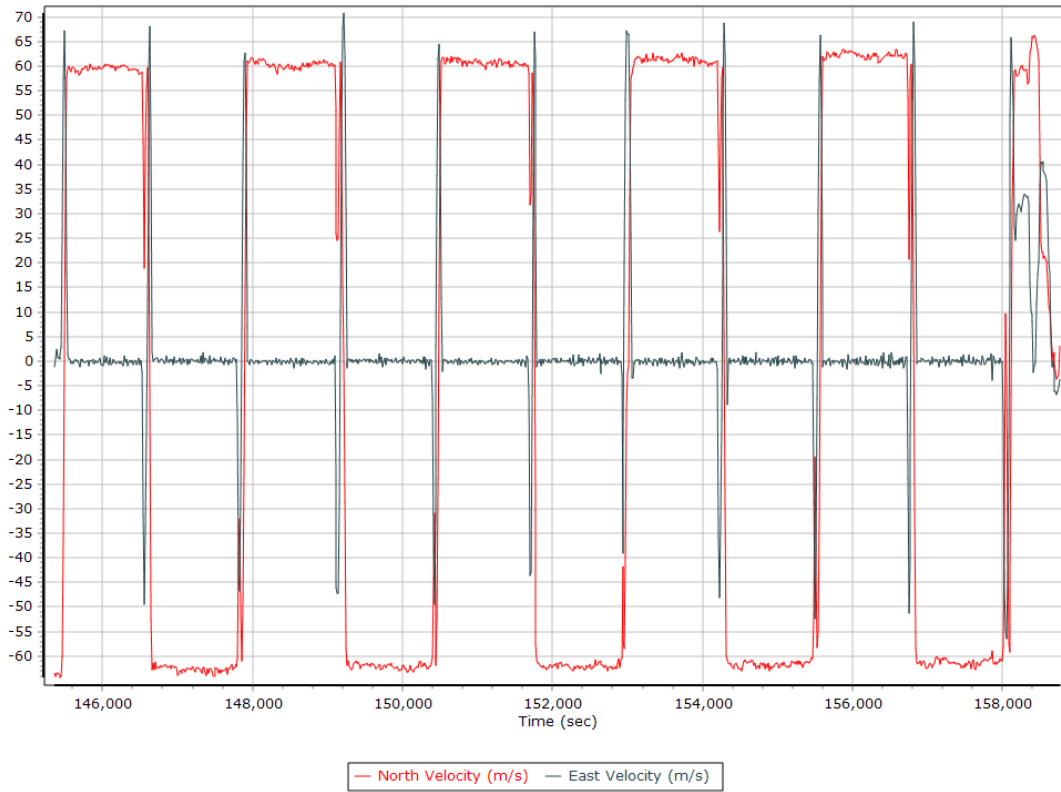
Roll/Pitch



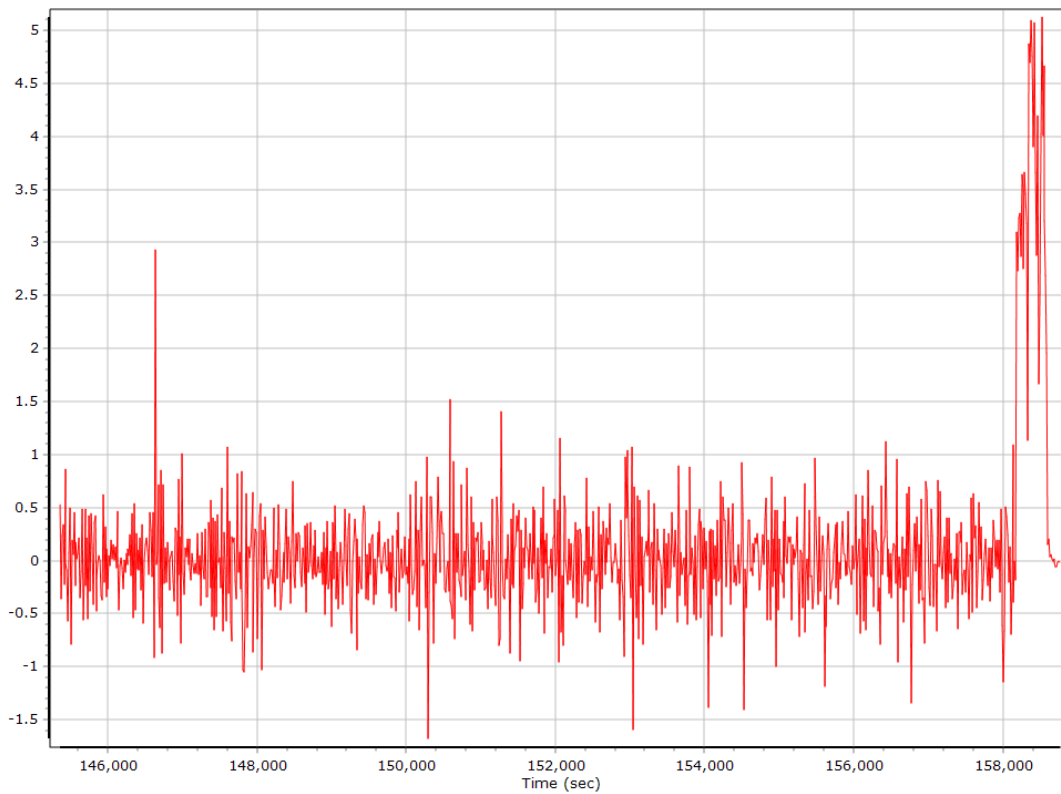
Heading



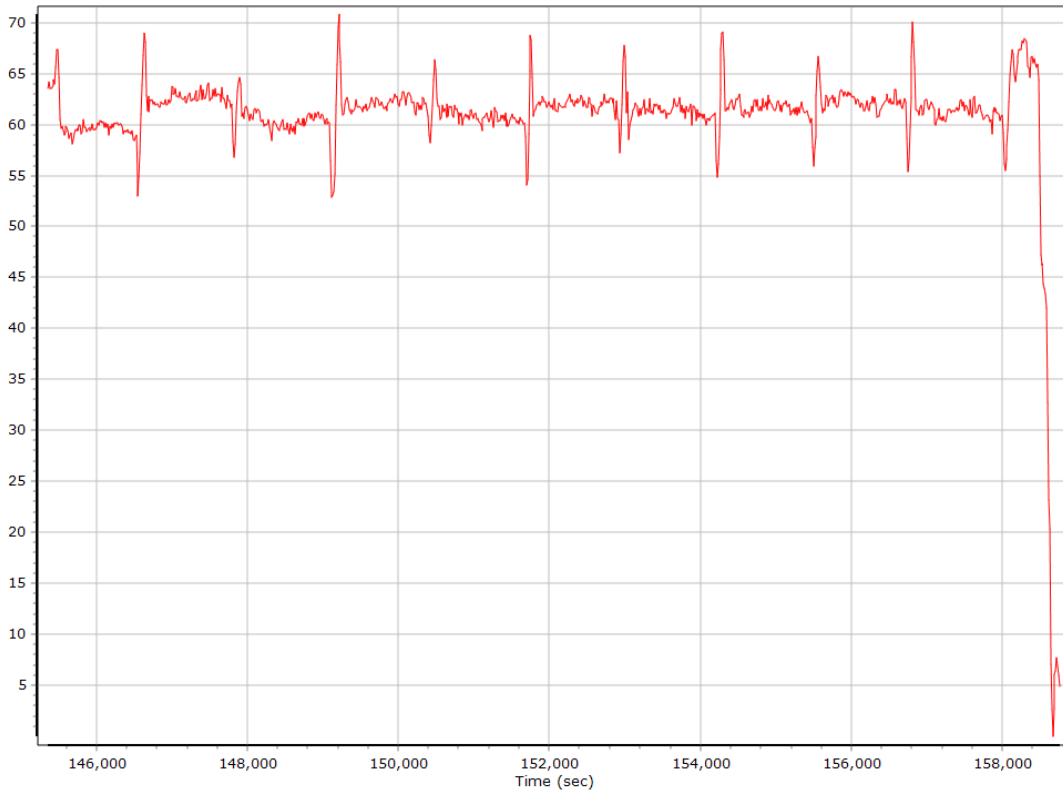
North/East Velocity



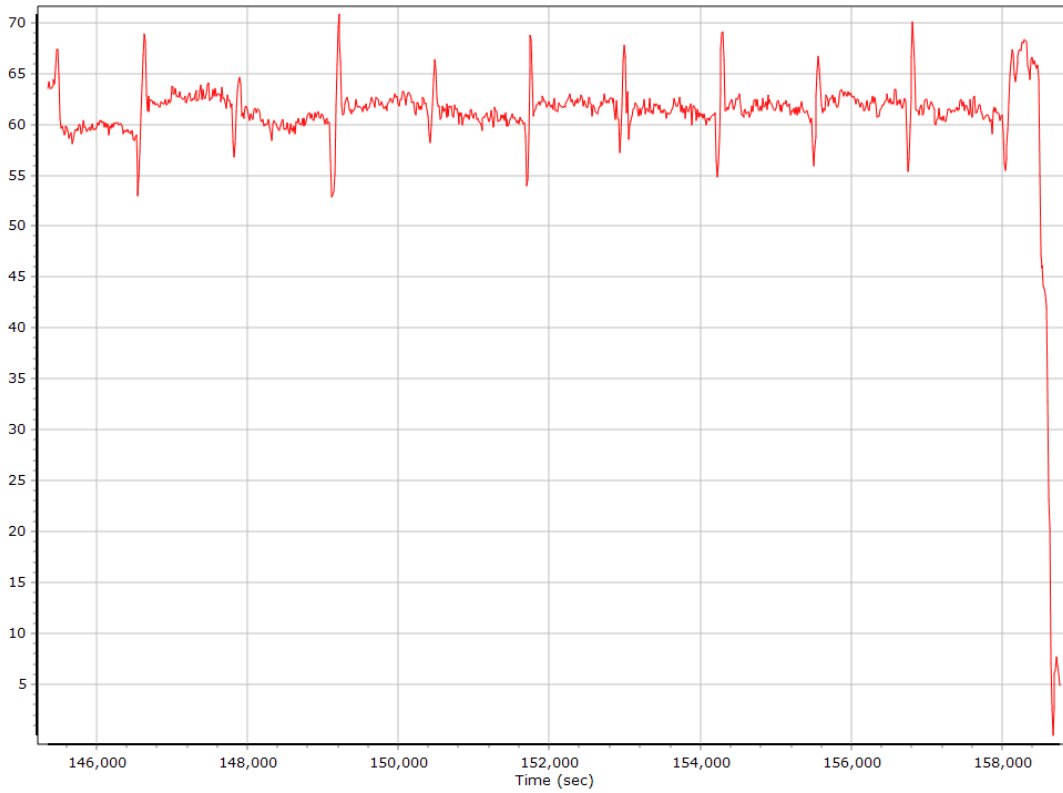
Down Velocity



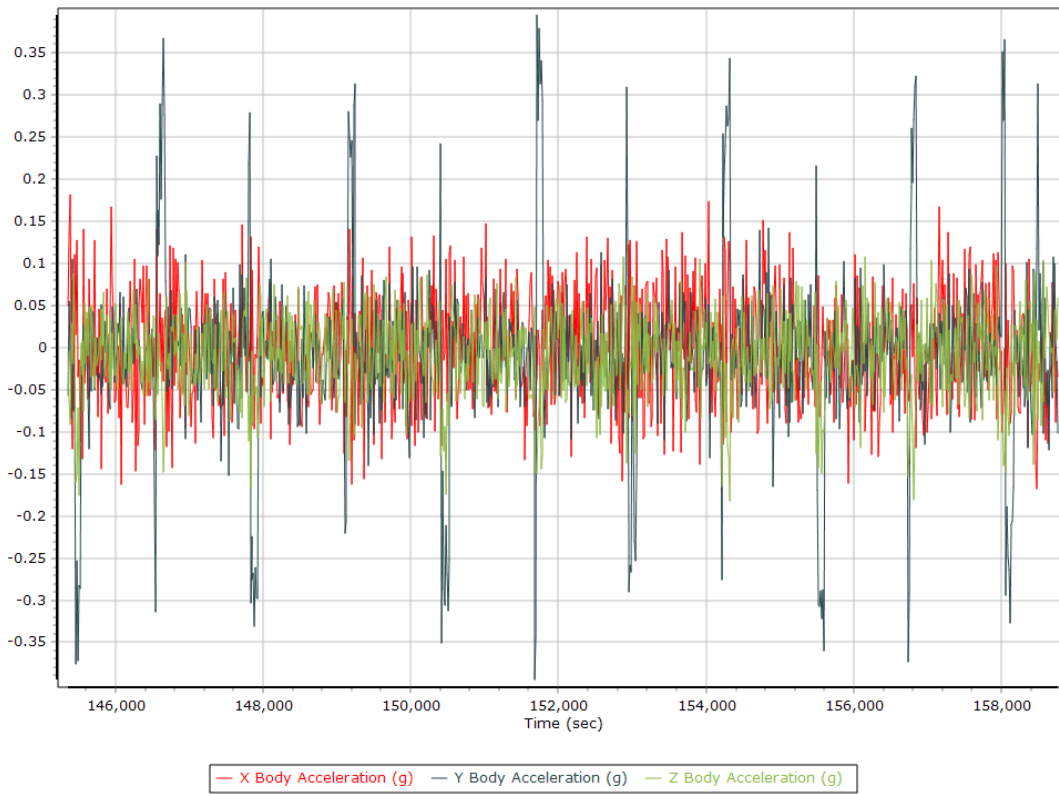
Total Speed



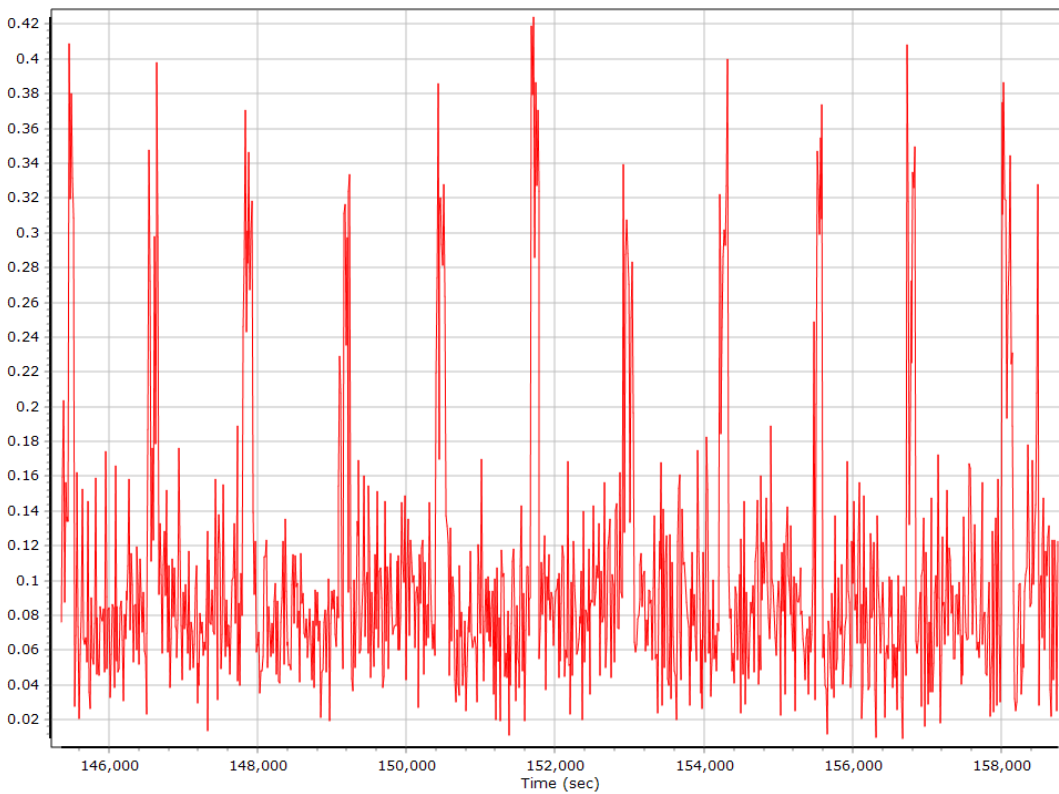
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	False
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
11/25/2019	XCTY	64.35	GNSS	1	User	None	Imported
11/25/2019	LCKY	43.03	GNSS	1	User	None	Imported
11/25/2019	PTLK	77.85	GNSS	1	User	None	Imported
11/25/2019	Ocala	78.18	GNSS	1	User	None	Imported
11/25/2019	GNVL	23.46	GNSS	1	User	None	Imported
11/25/2019	FLMC	61.40	GNSS	1	User	None	Imported
11/25/2019	FLCK	92.16	GNSS	1	User	None	Imported
11/25/2019	Bronson	44.14	GNSS	1	User	None	Imported
11/25/2019	Branfor	45.34	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	GNVL
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	13491 s (2081 145297 - 2081 158788)
Number of reference stations	9
Primary station GPS measurement usage (%)	99.9
Primary station GLONASS measurement usage (%)	70.2
Average number of satellites per epoch	12.6
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	4
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	25016
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

Base Station Information - XCTY

Station ID	XCTY		
Filename	xcty_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80800		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - LCKY

Station ID	LCKY		
Filename	lkcy_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - PTLK

Station ID	PTLK		
Filename	pltk_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - Ocala

Station ID	Ocala		
Filename	ocla_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - GNVL

Station ID	GNVL		
Filename	gnvl_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - FLMC

Station ID	FLMC		
Filename	flmc_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701977
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°16'15.87532"		
Longitude	W82°07'35.14360"		
Ellipsoidal height (m)	11.22100		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - FLCK

Station ID	FLCK		
Filename	flck_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - Bronson

Station ID	Bronson		
Filename	flbr_daily3290.19o		
Start date	11/25/2019 4:08:30 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:51:29.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701978
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°26'19.83659"		
Longitude	W82°38'43.13027"		
Ellipsoidal height (m)	-4.33700		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - Branford

Station ID	Branford		
Filename	flbf_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702018
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°57'42.67560"		
Longitude	W82°54'34.51255"		
Ellipsoidal height (m)	-13.28600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.90	40.18	
Number of GPS SV	6	10	8
Number of GLONASS SV	3	6	4
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	9	15	13
PDOP	1.29	2.36	1.48
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	13481.00	0.00	0.00
Percentage	100.00	0.00	0.00

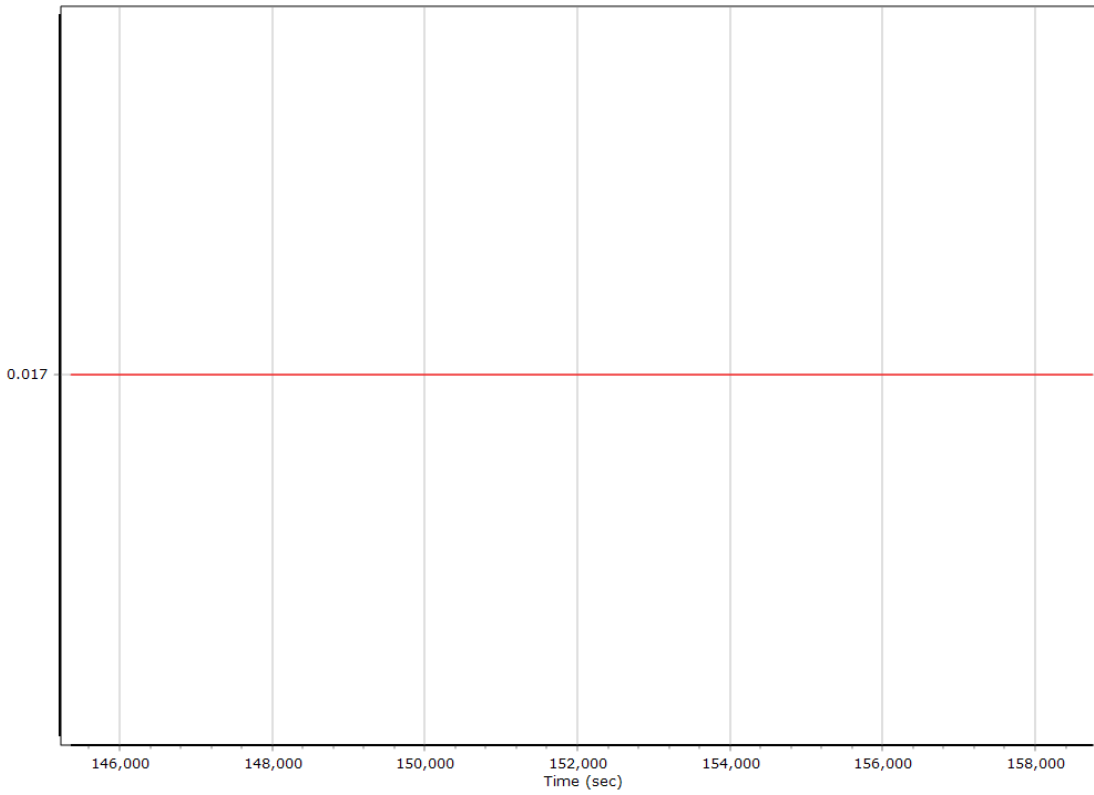
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	145279.027 (11/25/2019 4:21:19 PM)		
Processing end time	158770.000 (11/25/2019 8:06:10 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

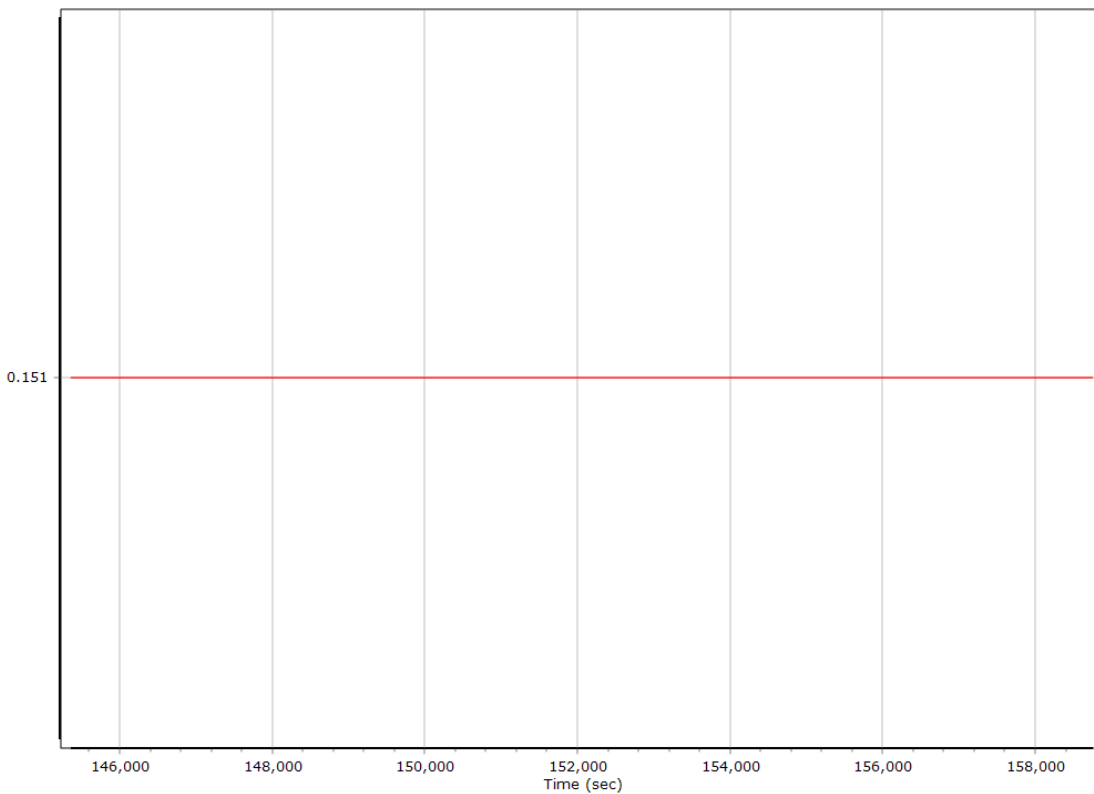
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

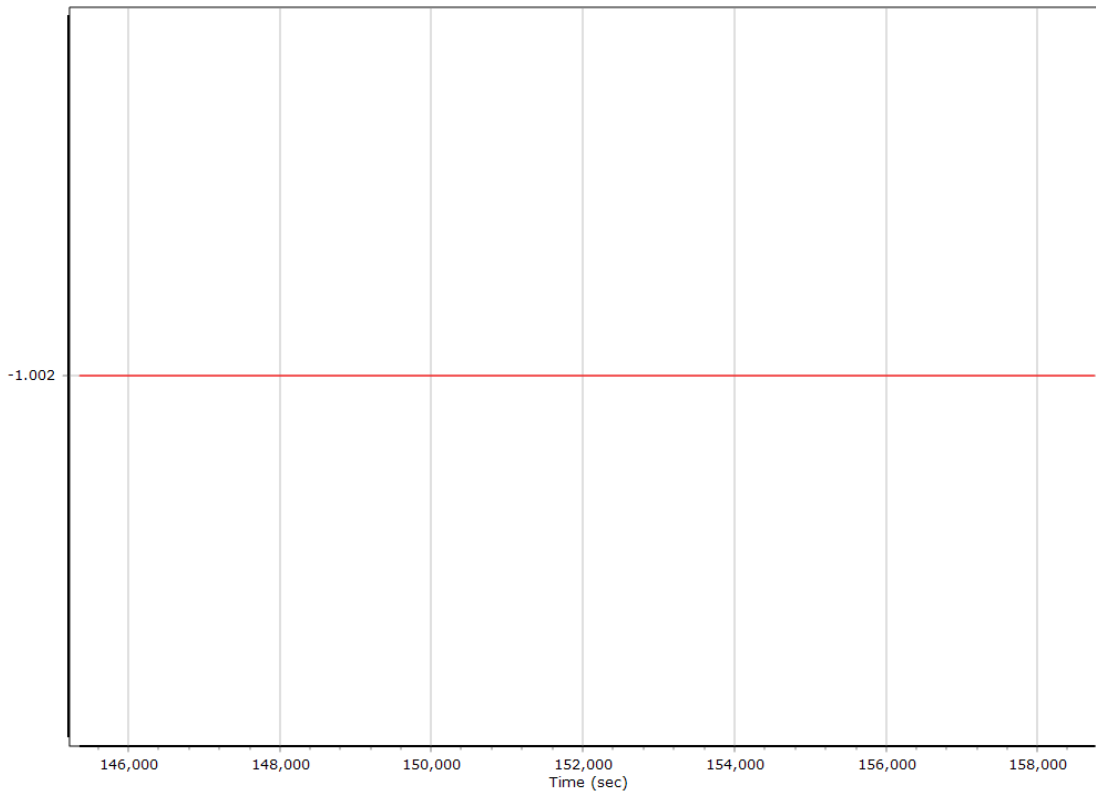
X Reference-Primary GNSS Lever Arm (m)



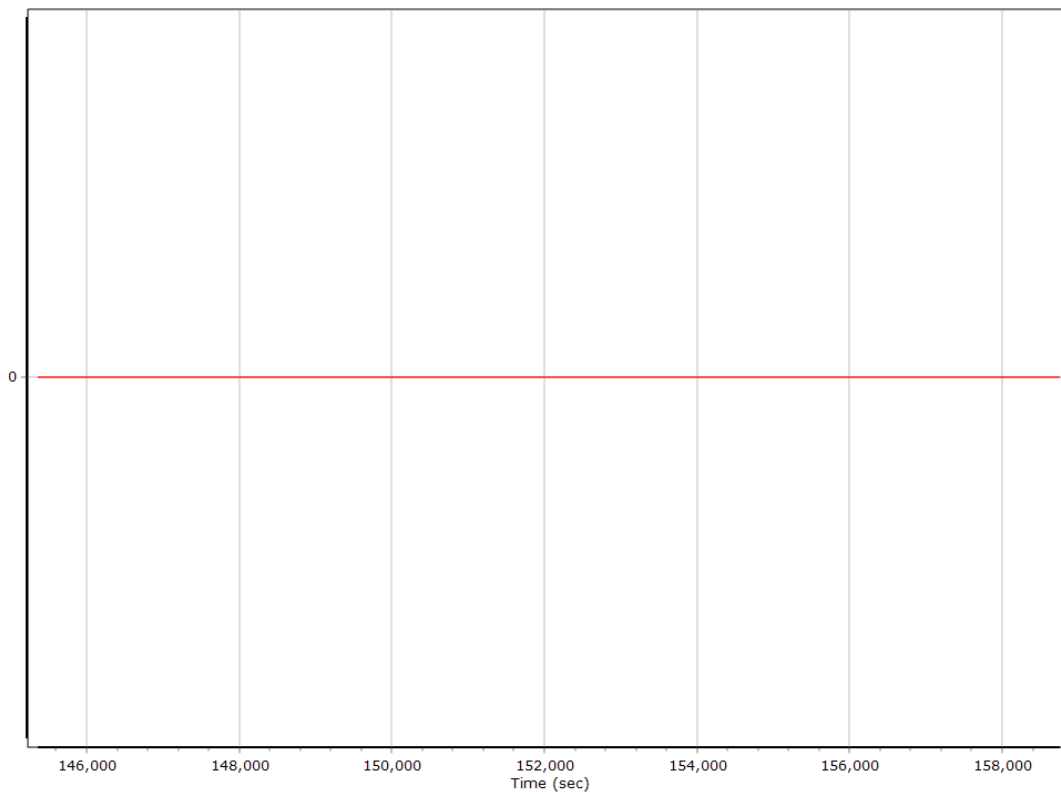
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



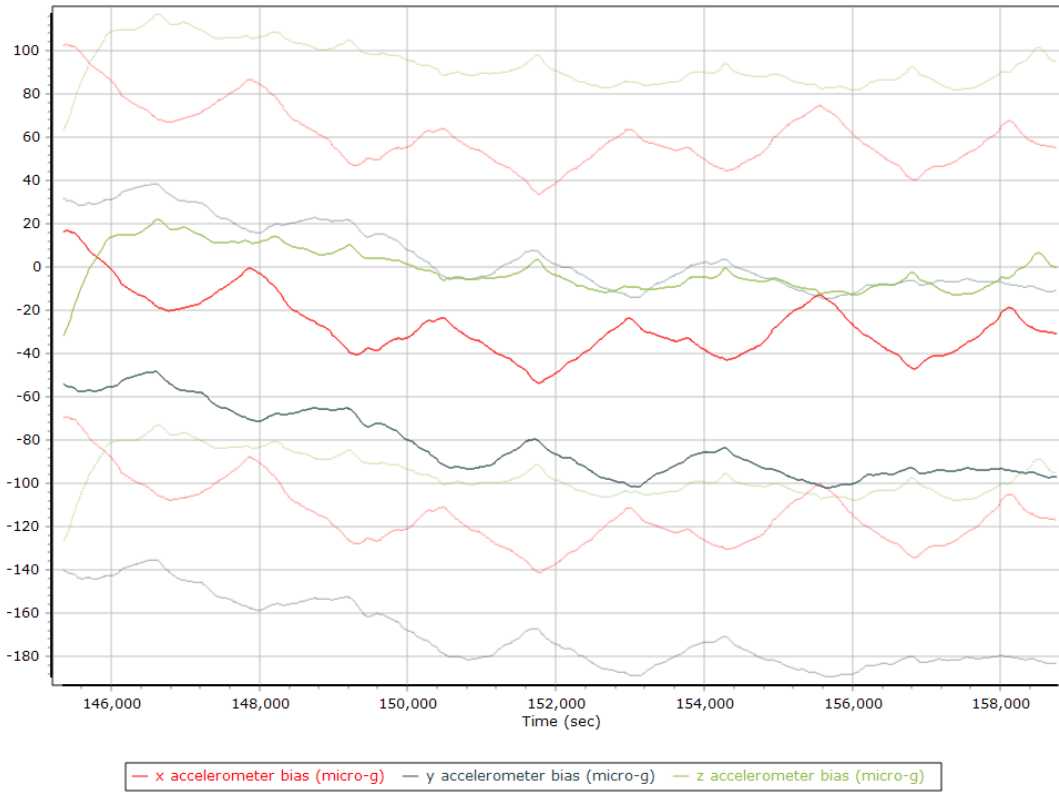
Reference-Primary GNSS Lever Arm Figure of Merit



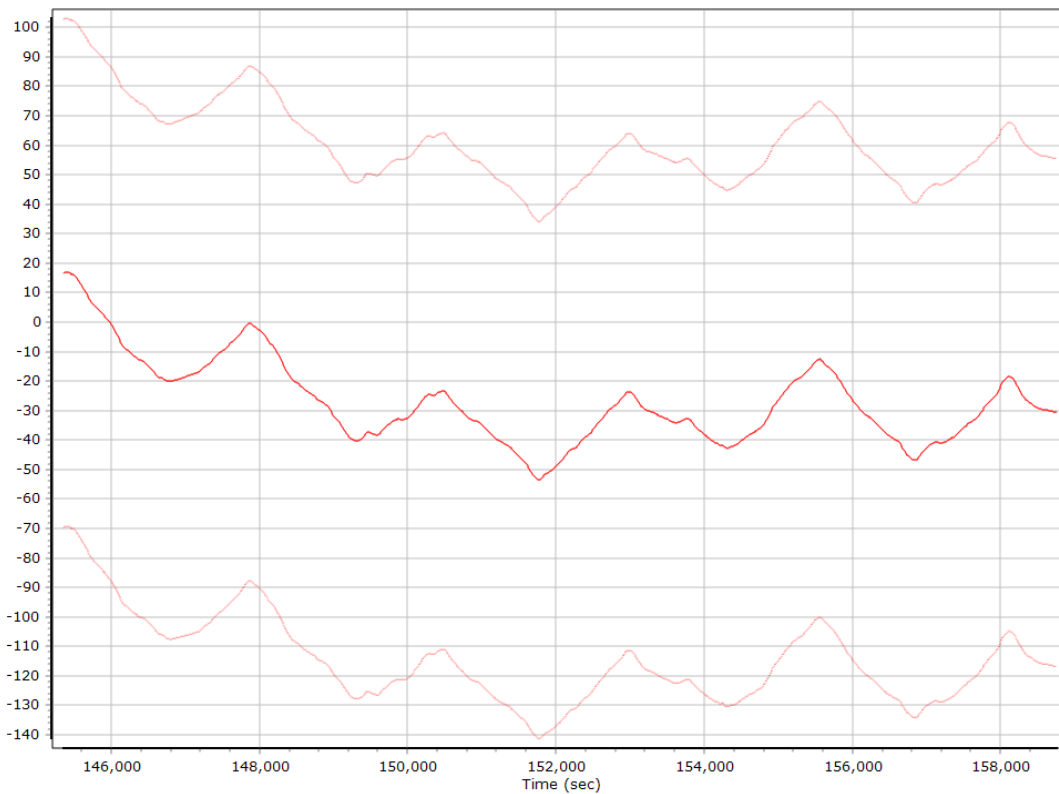
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

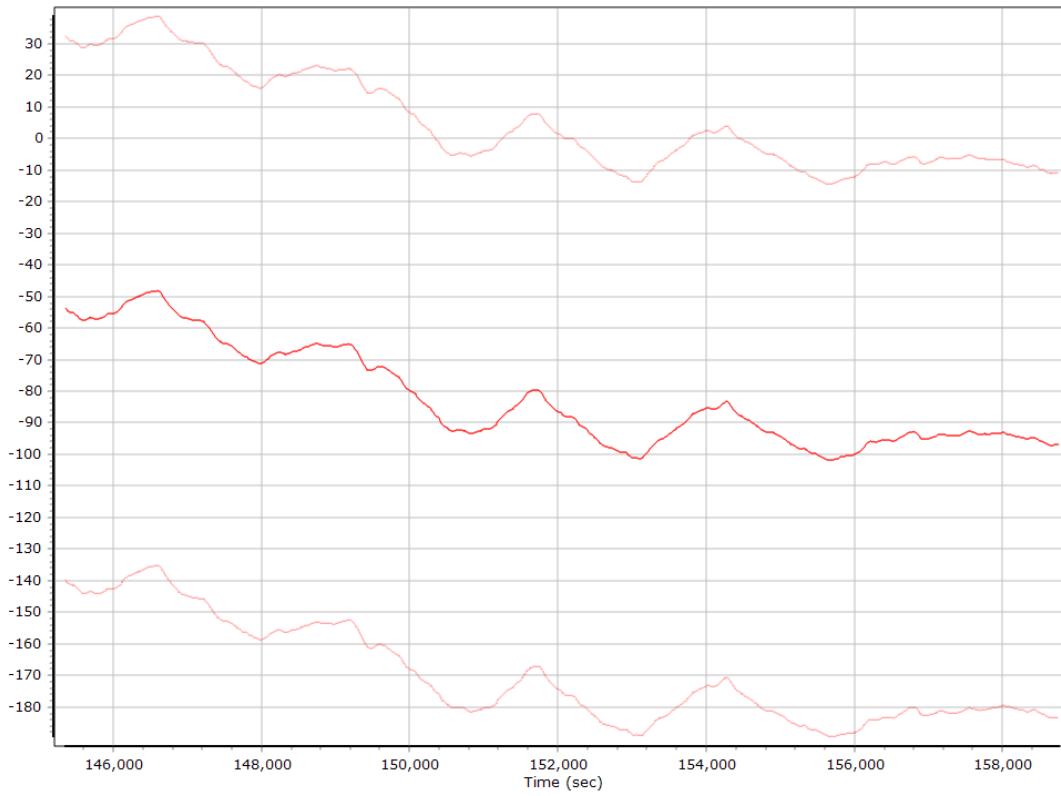
Accelerometer Bias (micro-g)



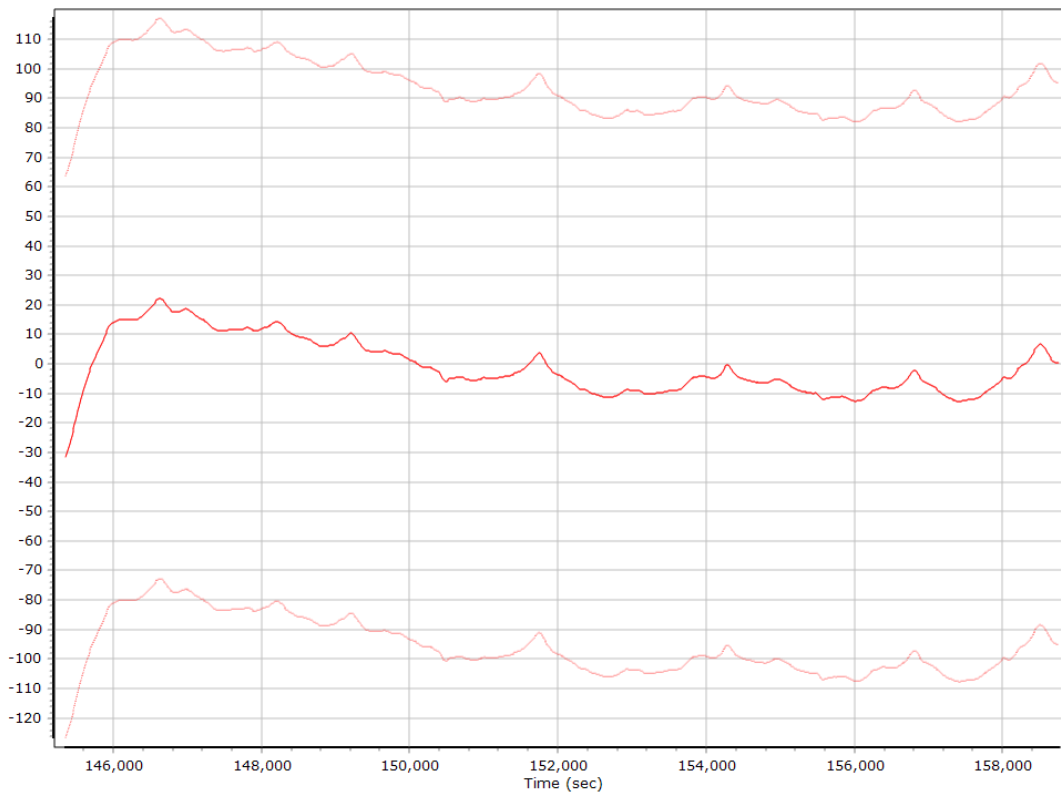
X Accelerometer Bias (micro-g)



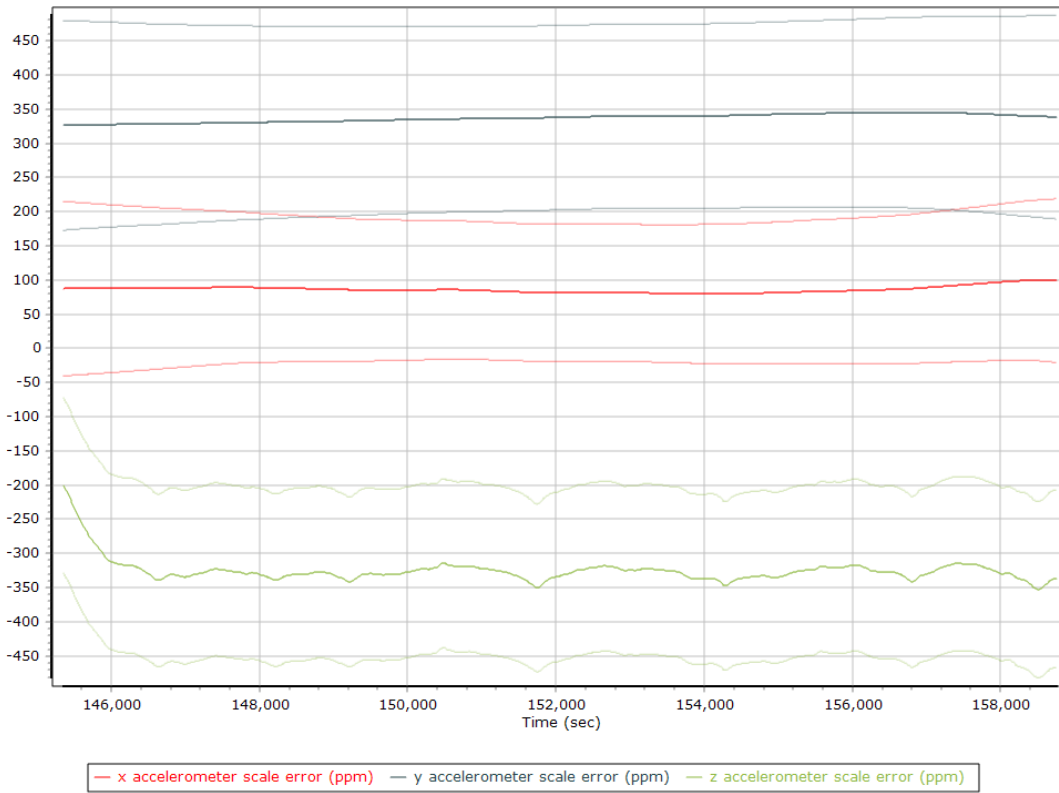
Y Accelerometer Bias (micro-g)



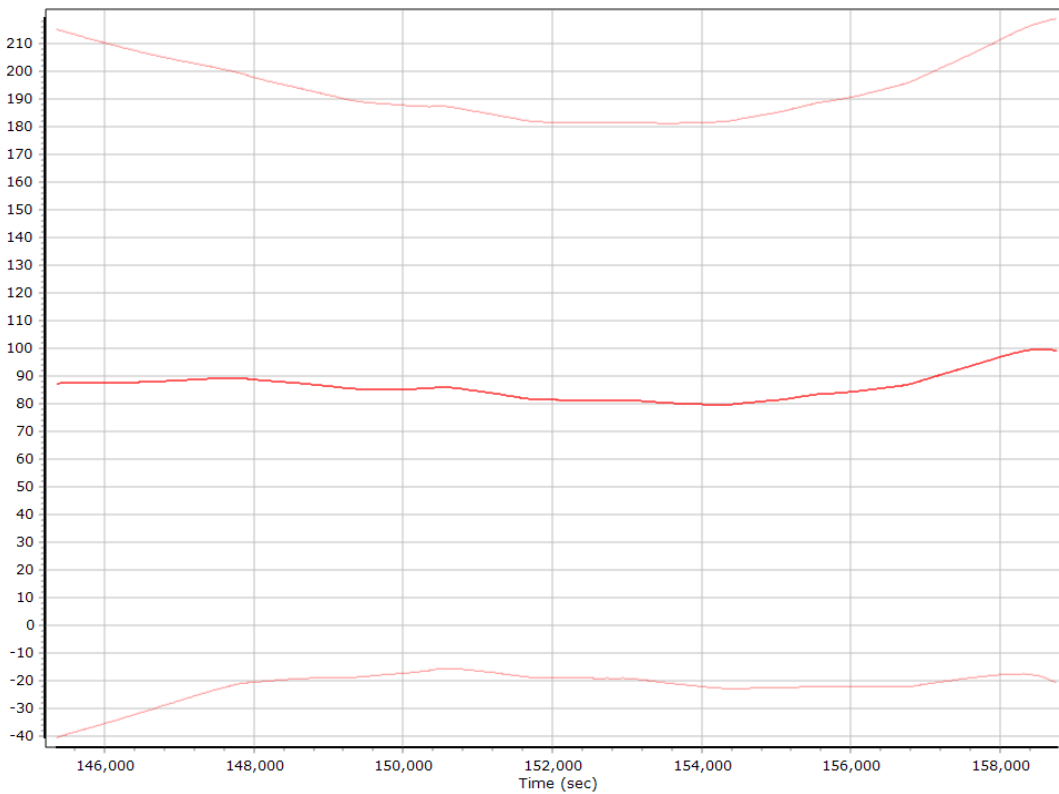
Z Accelerometer Bias (micro-g)



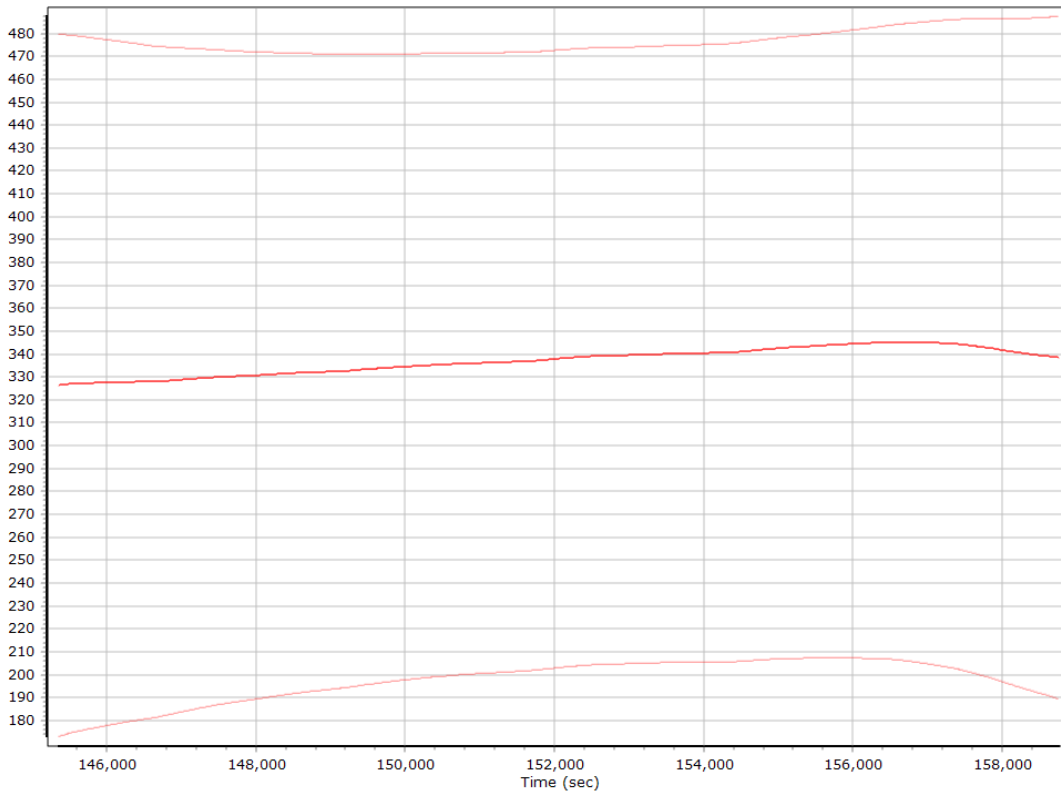
Accelerometer Scale Error (ppm)



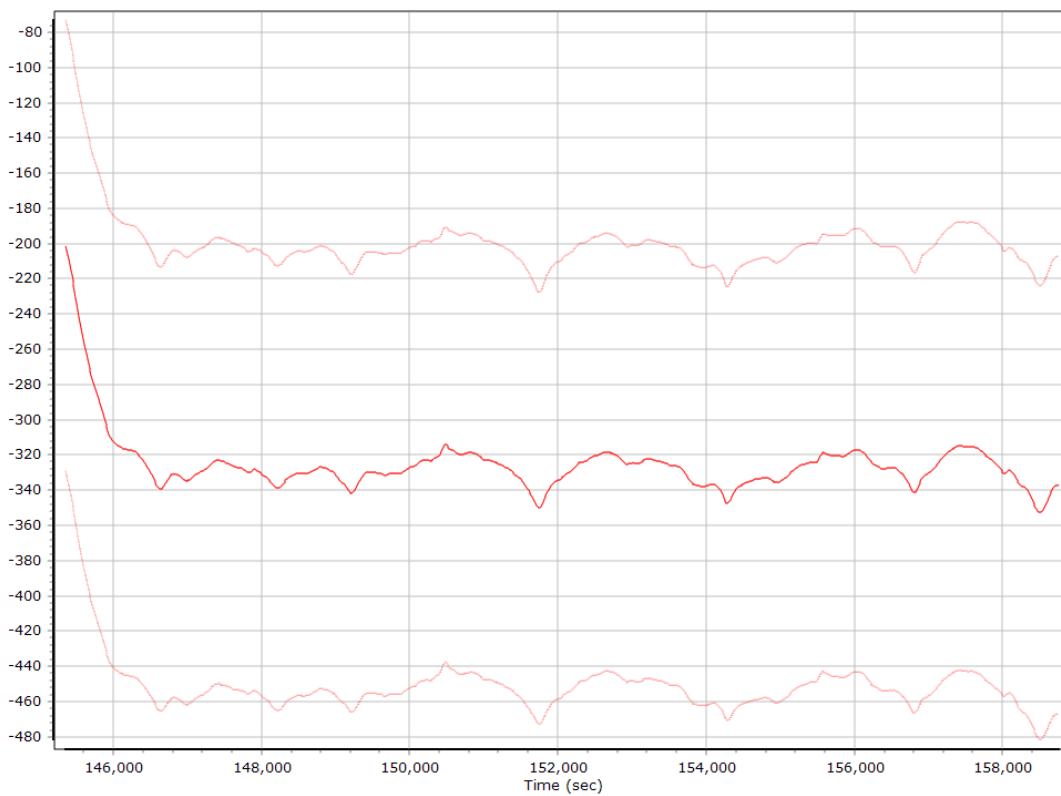
X Accelerometer Scale Error (ppm)



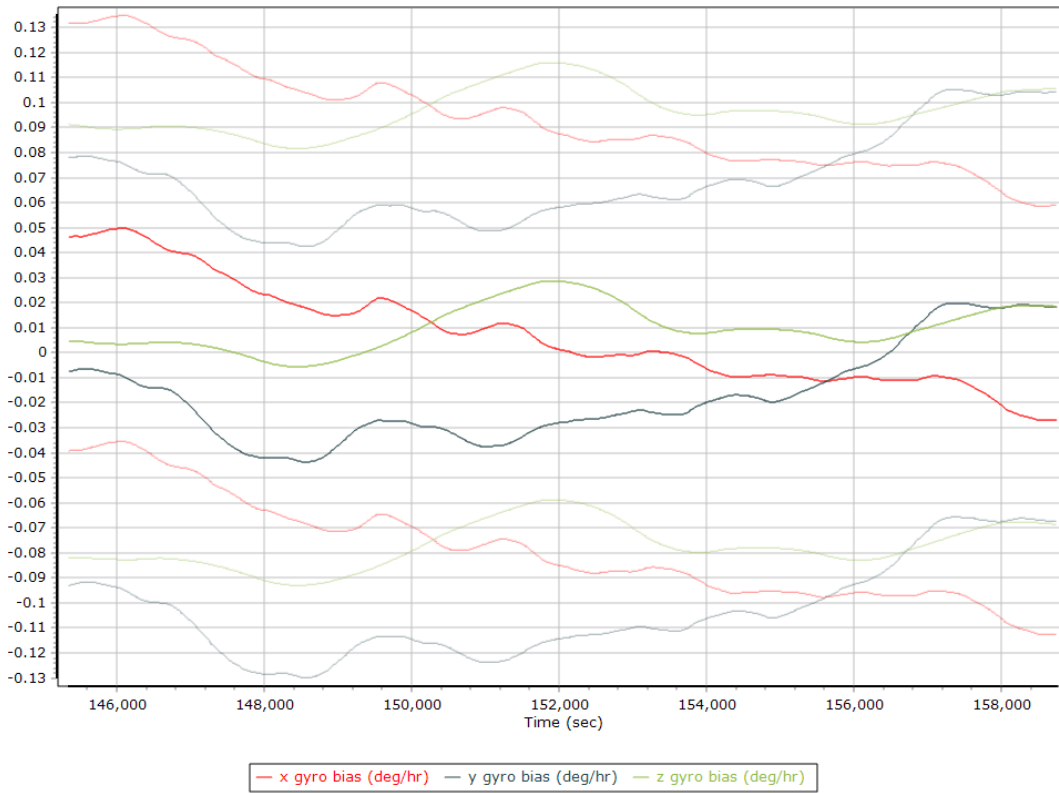
Y Accelerometer Scale Error (ppm)



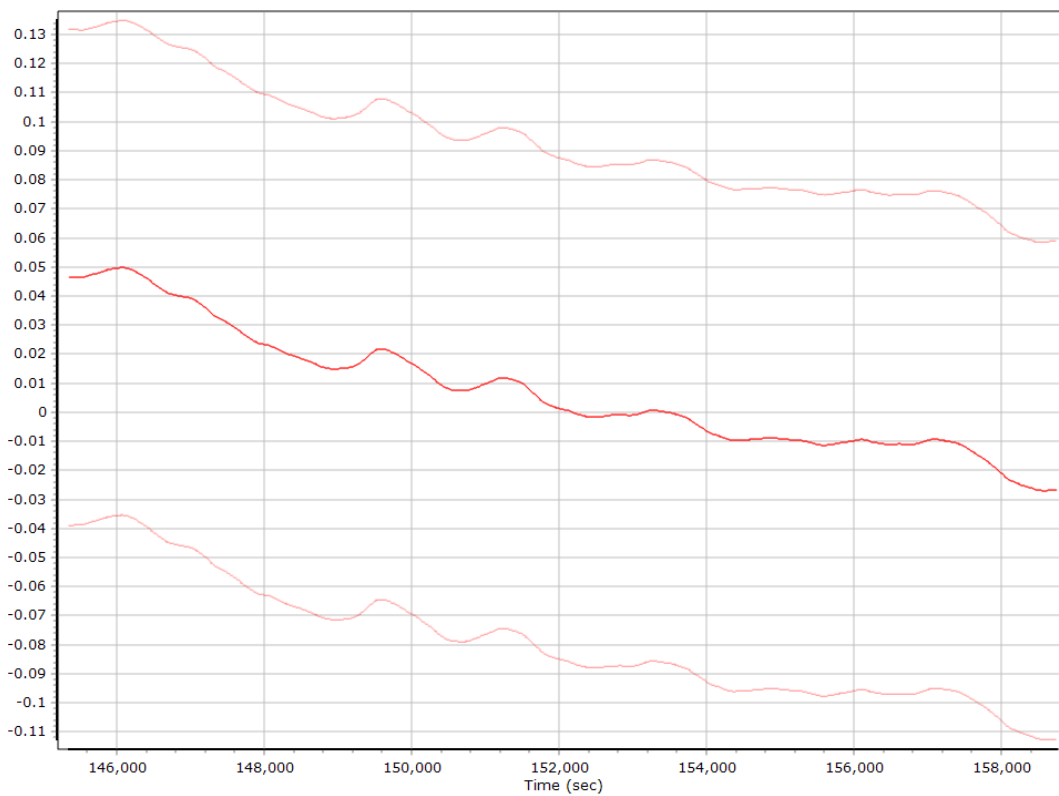
Z Accelerometer Scale Error (ppm)



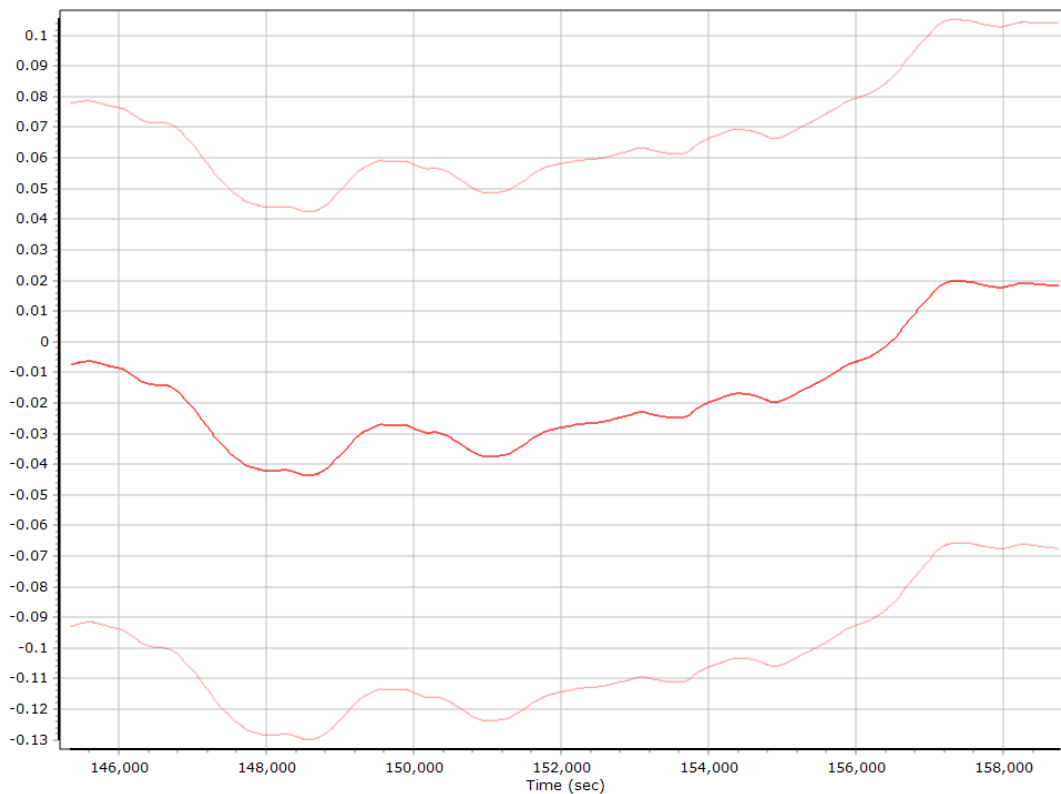
Gyro Bias (deg/h)



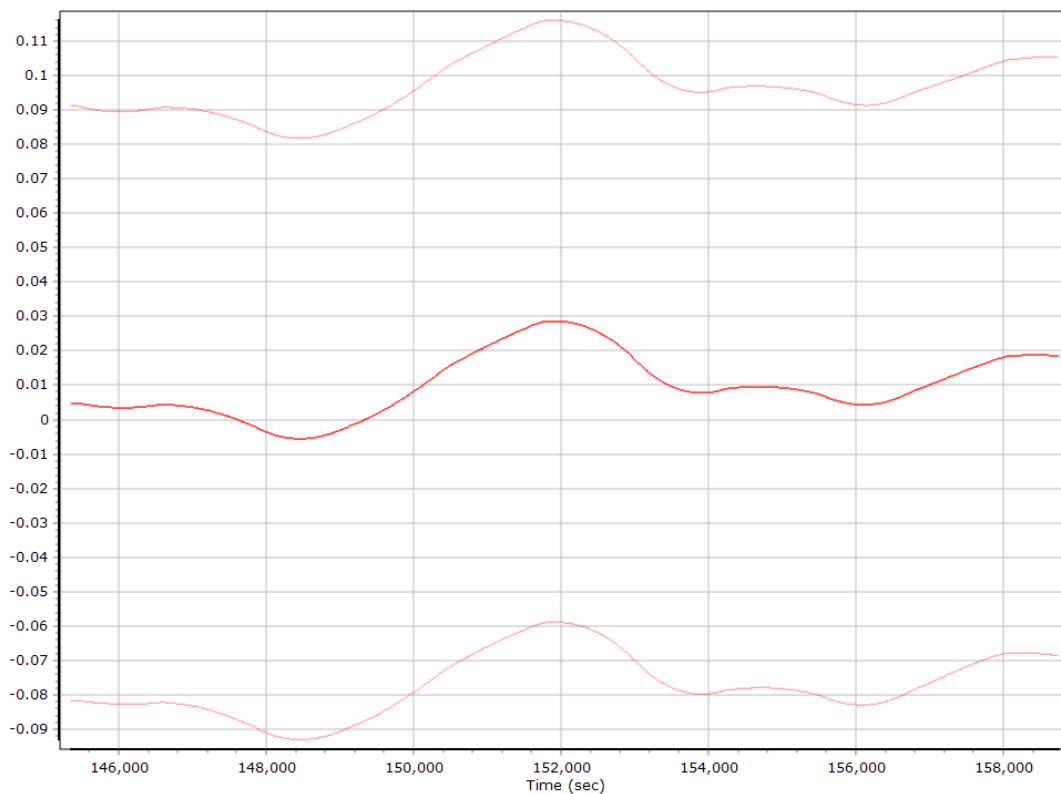
X Gyro Bias (deg/h)



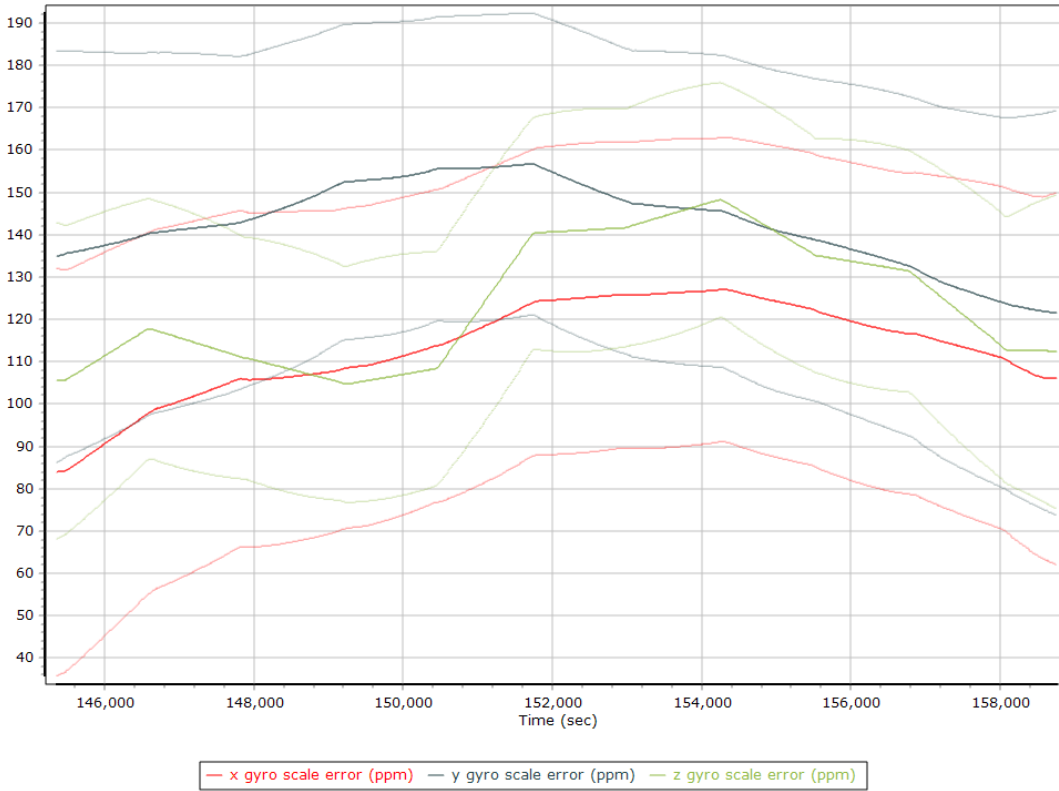
Y Gyro Bias (deg/h)



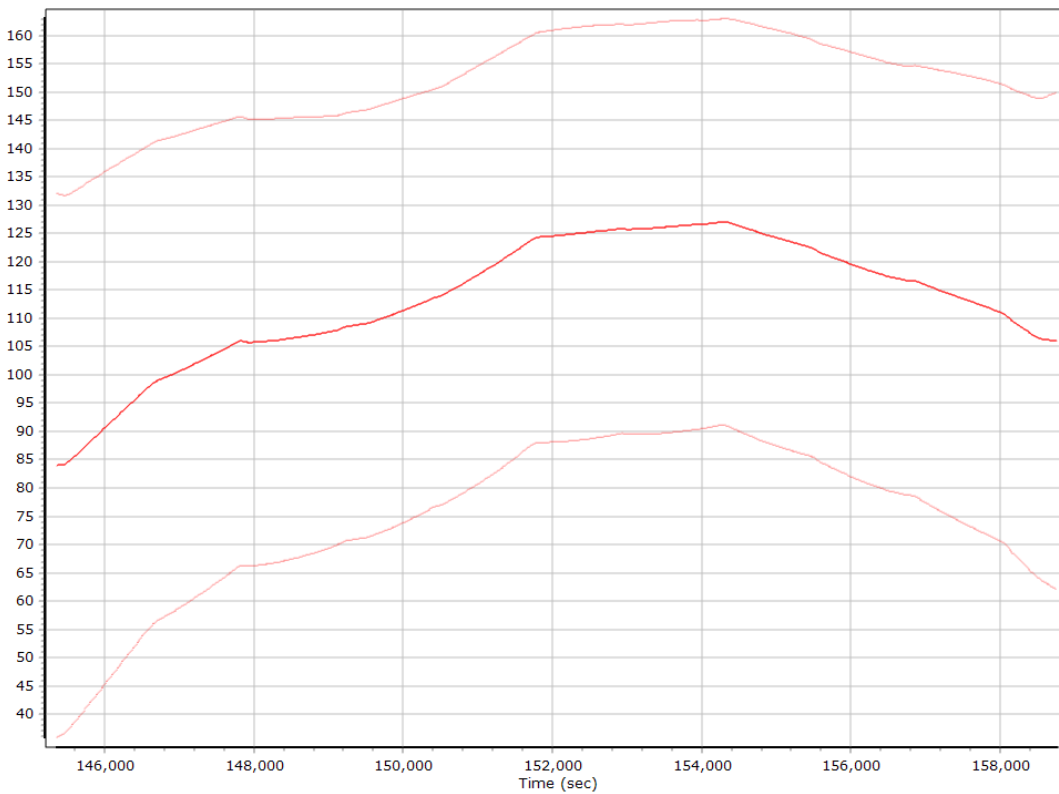
Z Gyro Bias (deg/h)



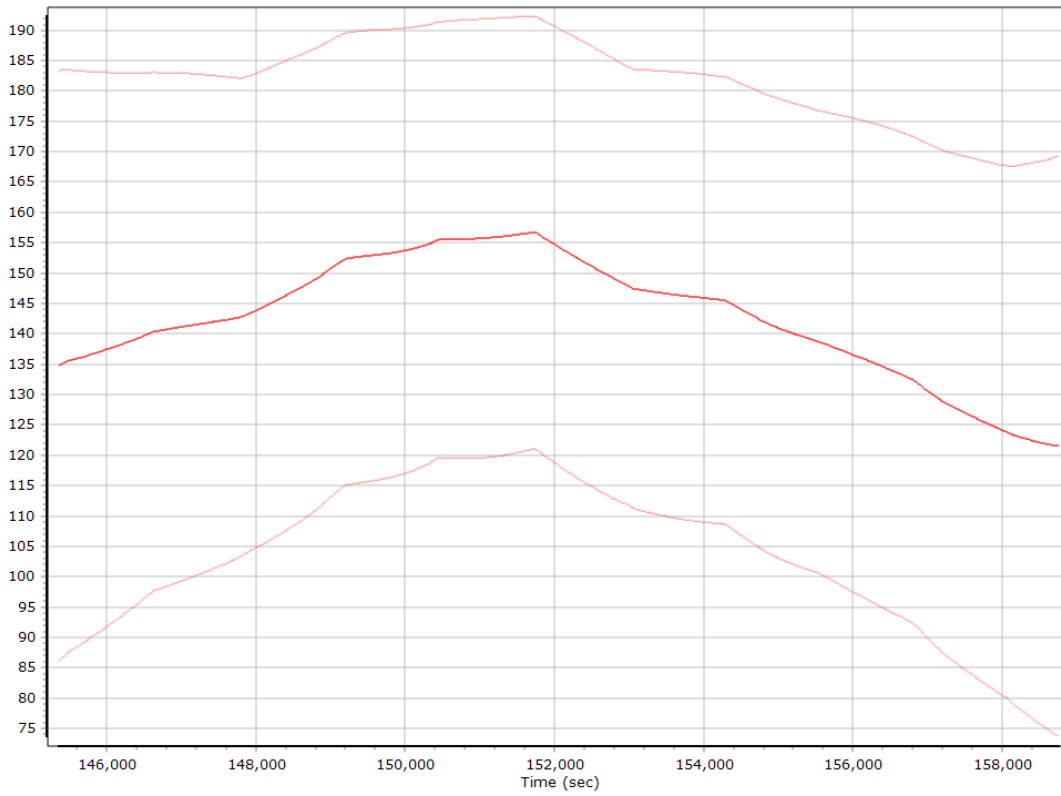
Gyro Scale Error (ppm)



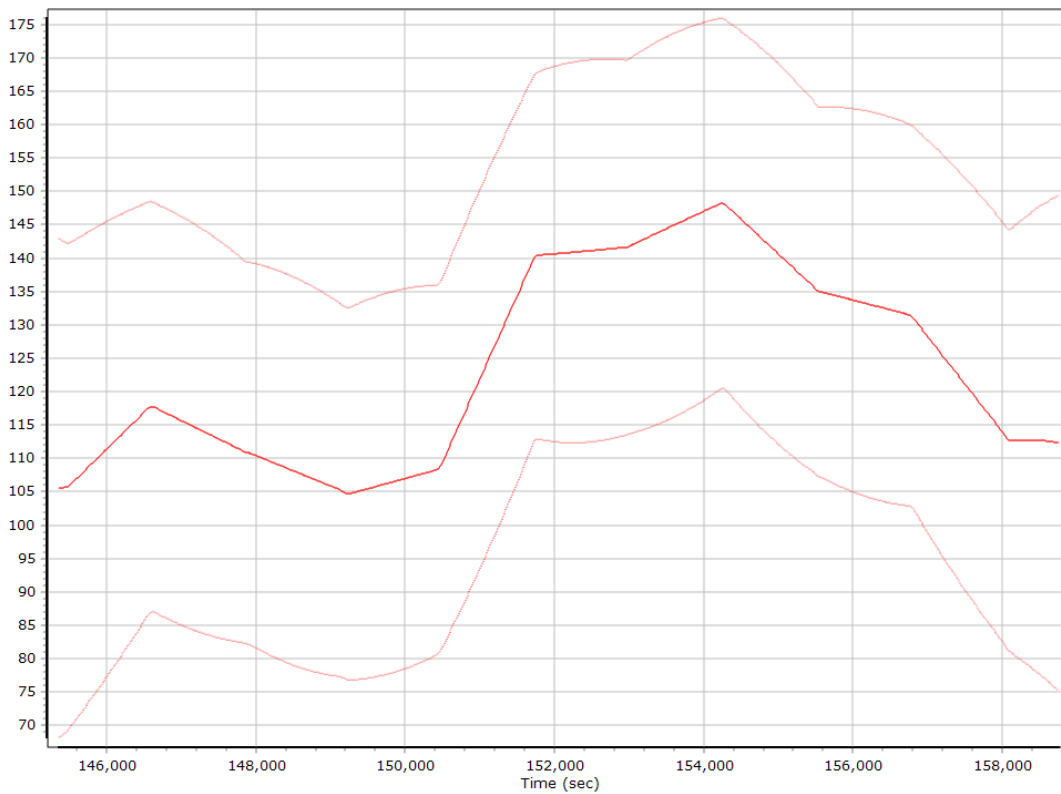
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

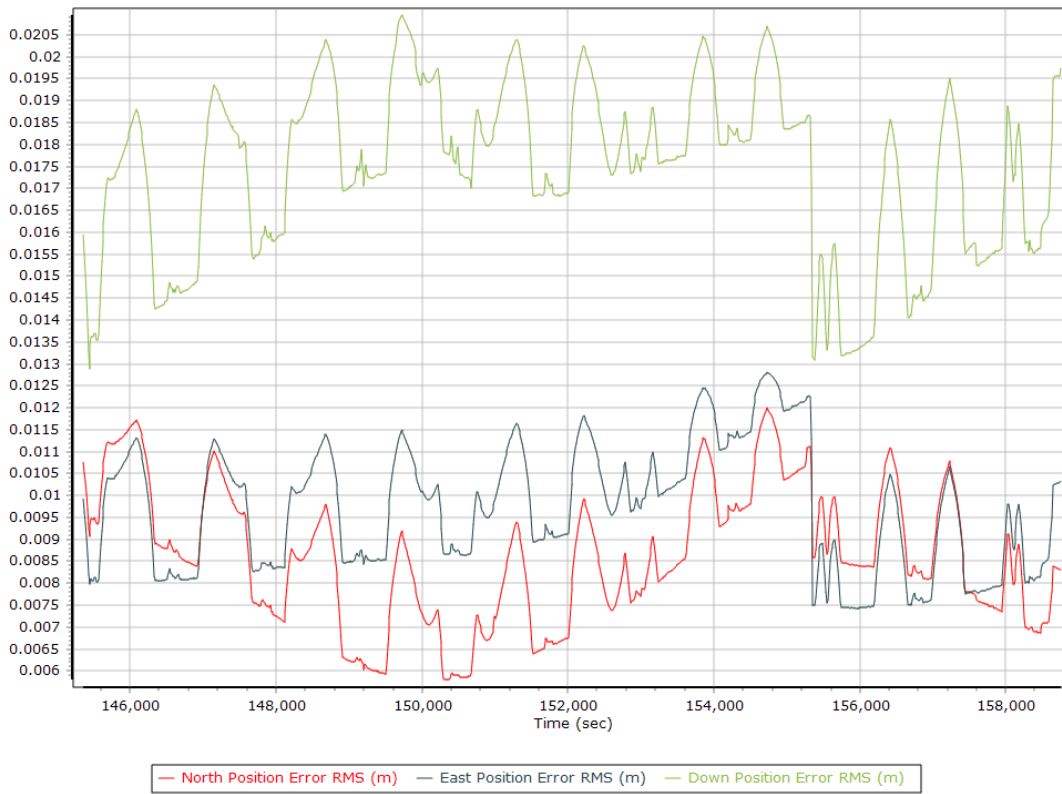


Z Gyro Scale Error (ppm)

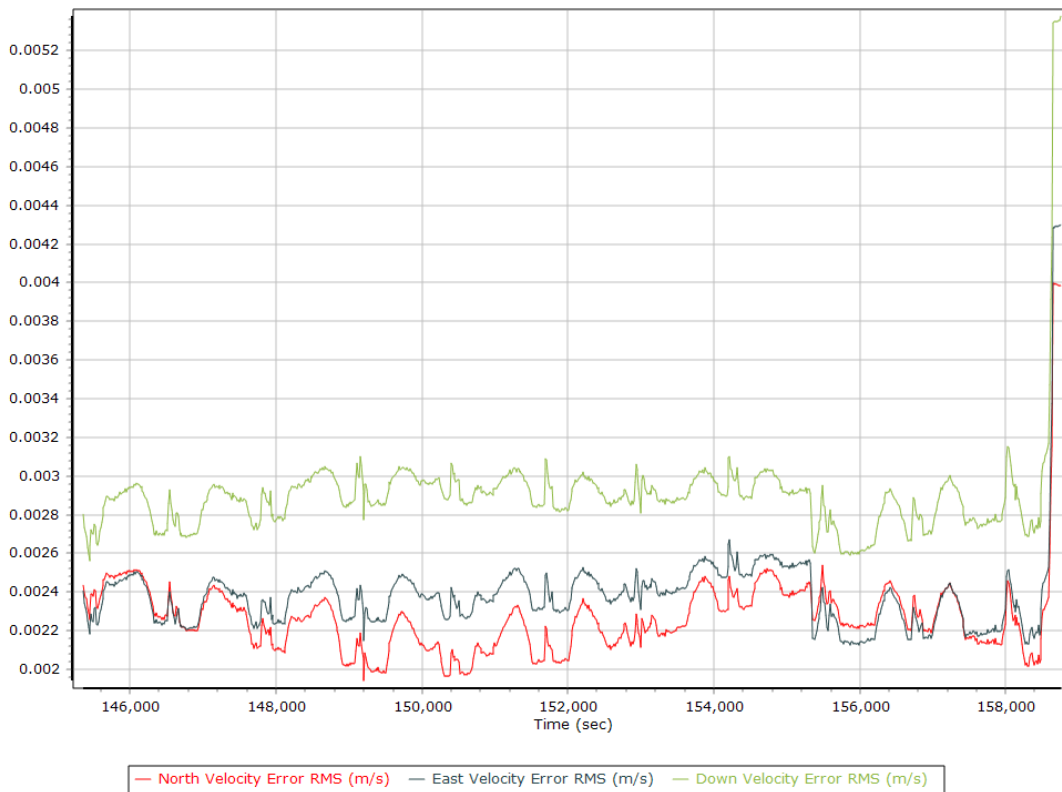


Smoothed Performance Metrics

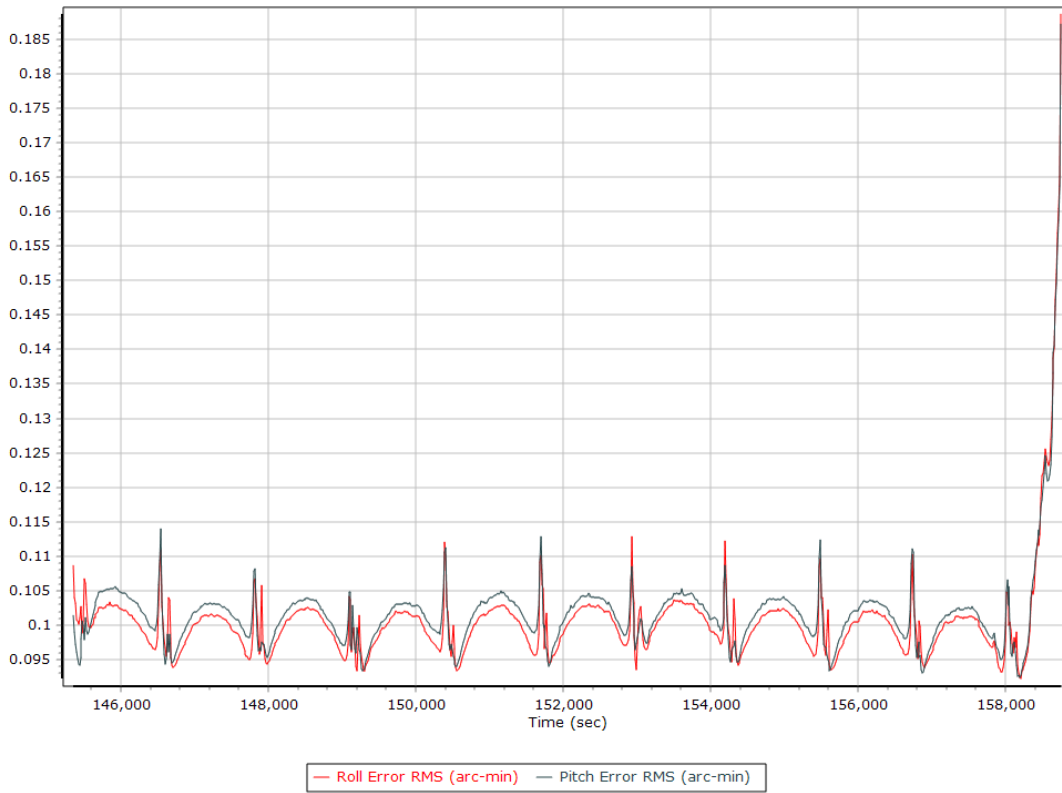
Position Error RMS (m)



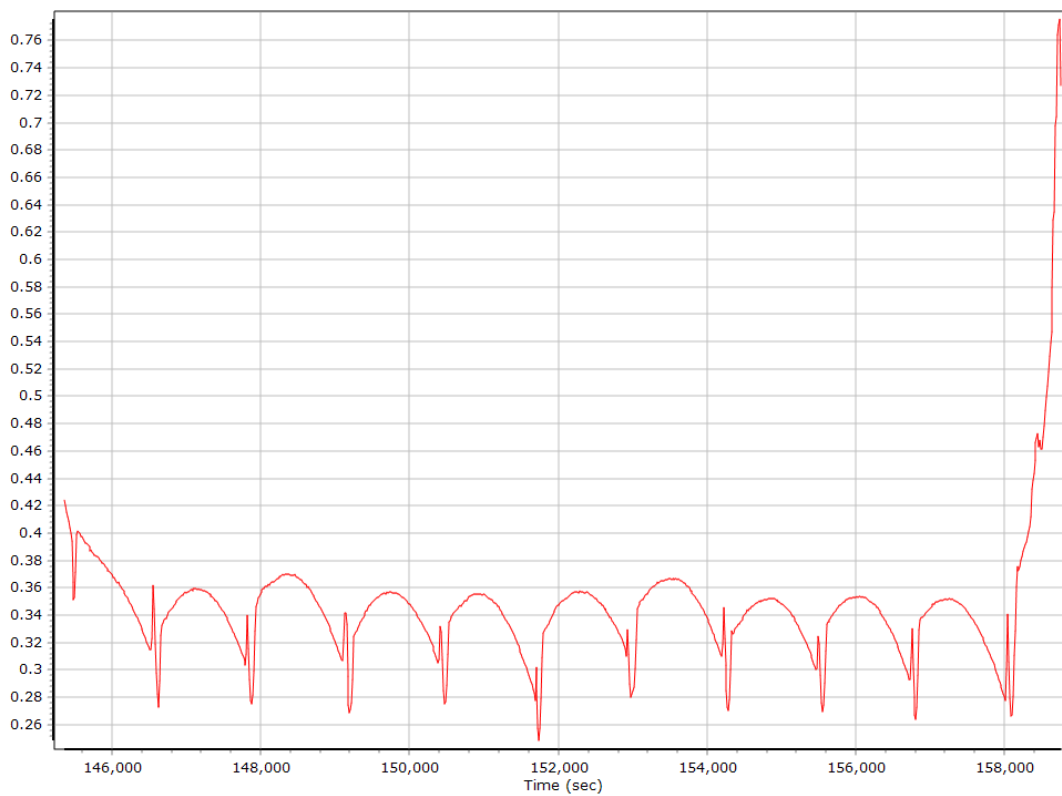
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

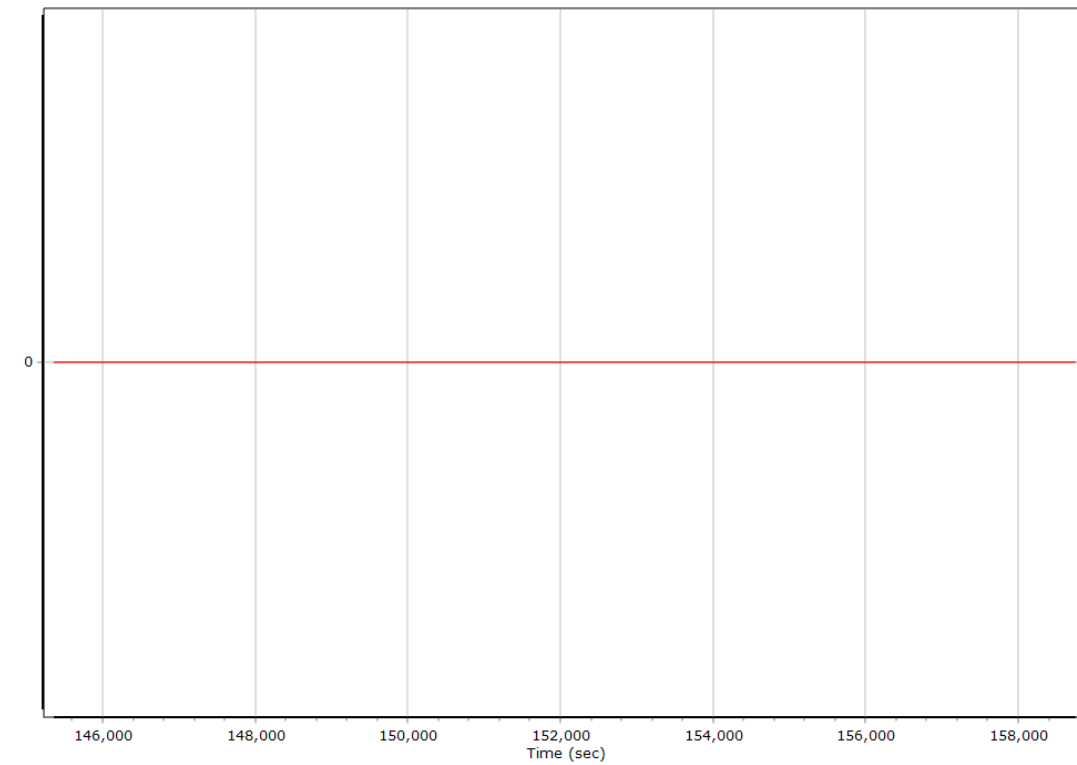


Heading Error RMS (arc-min)



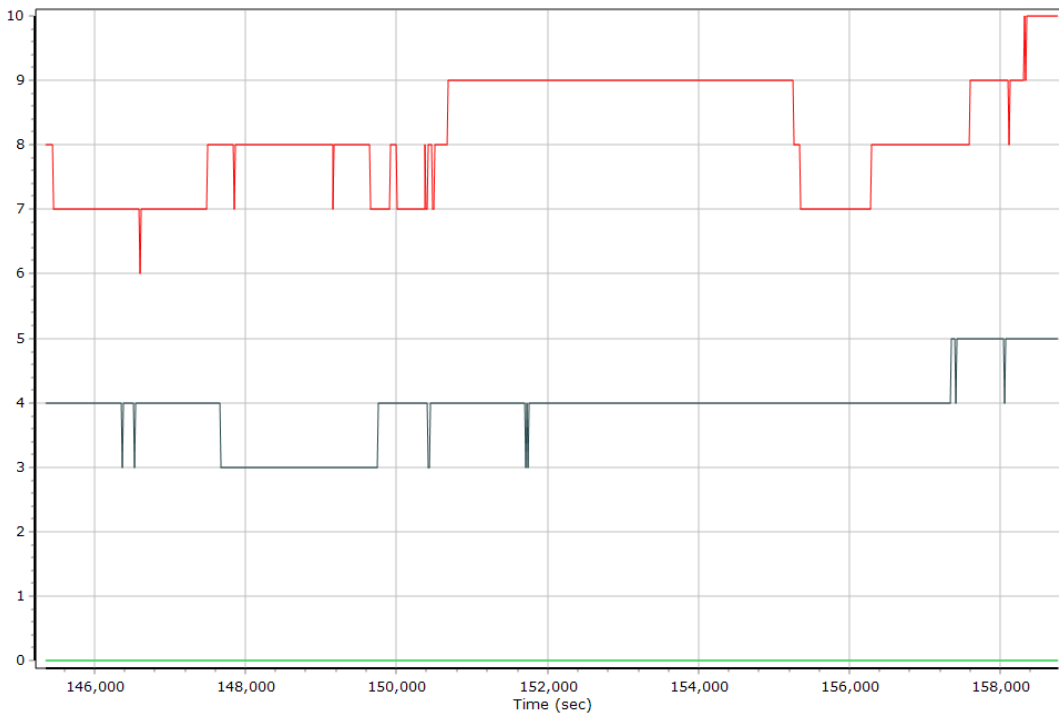
Smoothed Solution Status

Processing Mode



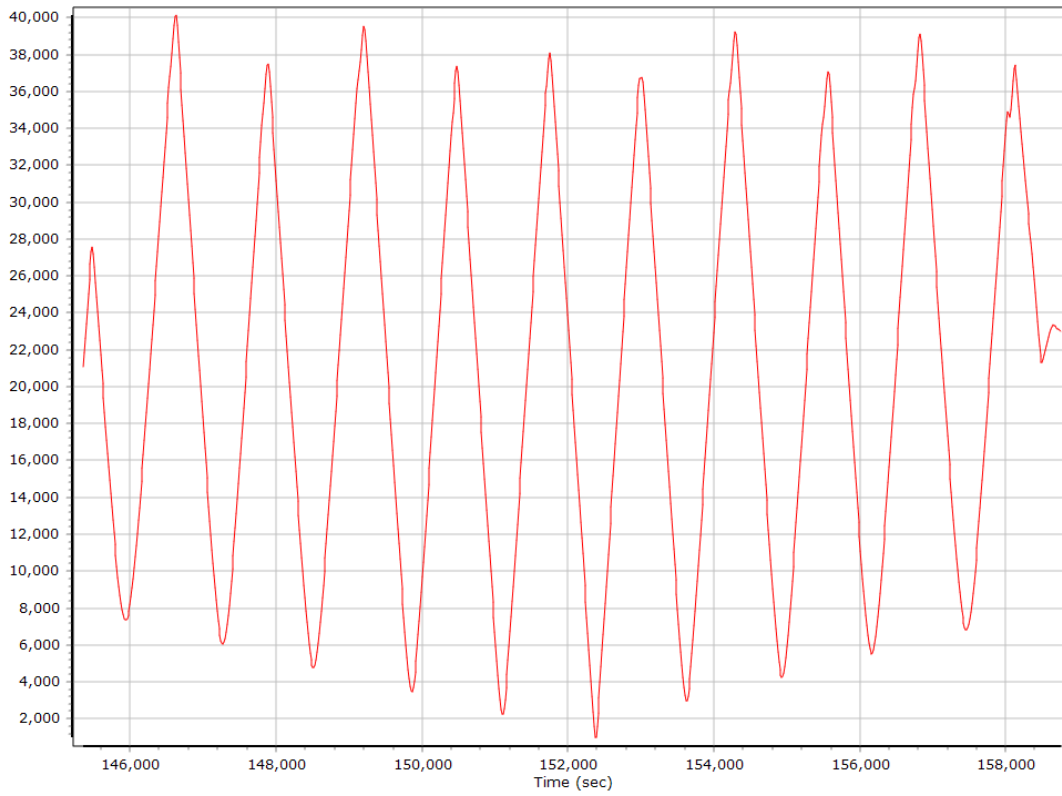
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites

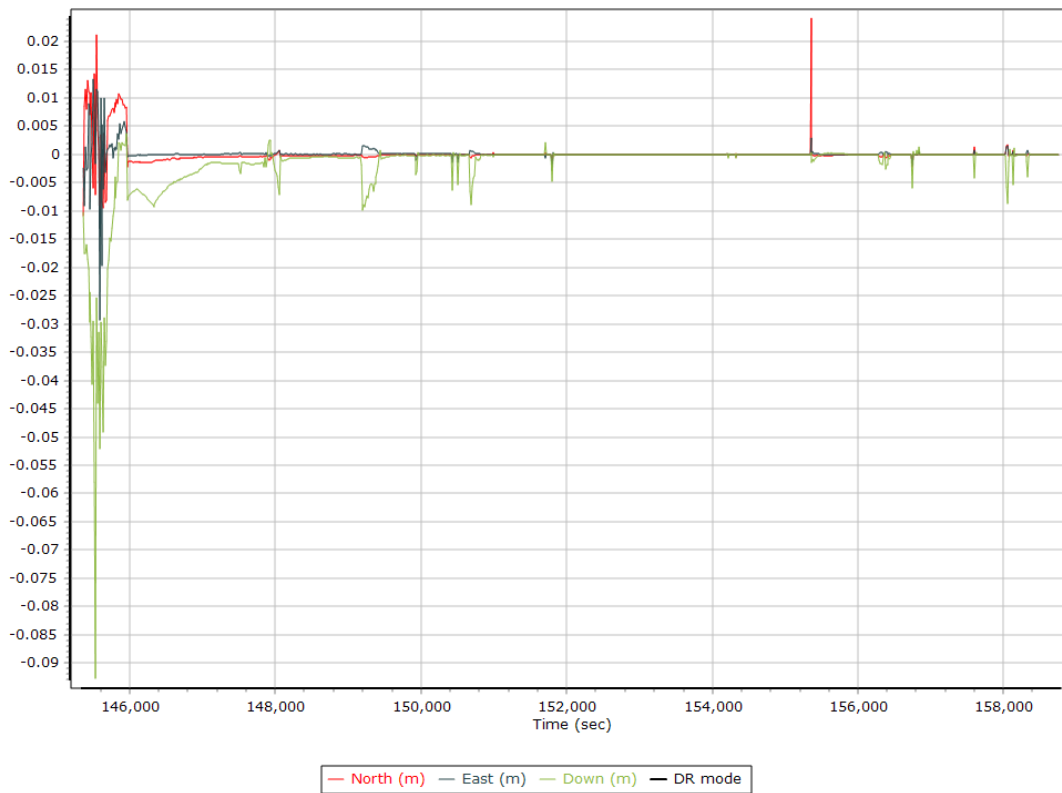


— Number of GPS Satellites — Number of GLONASS Satellites — Number of QZSS Satellites
— Number of BEIDOU Satellites — Number of GALILEO Satellites

Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	PTG19329B
Processing date	2019-12-11 21:36:15
Mission date	2019-11-25 21:08:21
Mission duration	02:00:50.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
PTG19329.243	POS Data
PTG19329.244	POS Data
PTG19329.245	POS Data
PTG19329.246	POS Data
PTG19329.247	POS Data
PTG19329.248	POS Data
PTG19329.249	POS Data
PTG19329.250	POS Data
PTG19329.251	POS Data
PTG19329.252	POS Data
PTG19329.253	POS Data
PTG19329.254	POS Data
PTG19329.255	POS Data
PTG19329.256	POS Data
PTG19329.257	POS Data
PTG19329.258	POS Data
PTG19329.259	POS Data
PTG19329.260	POS Data

Input Files

File Name	File Type
Ephm3290.19g	GLONASS Broadcast Ephemeris
Ephm3290.19n	GPS Broadcast Ephemeris
flbf_daily3290.19o	GNSS SingleBase
flbr_daily3290.19o	GNSS SingleBase
flck_daily3290.19o	GNSS SingleBase
flmc_daily3290.19o	GNSS SingleBase
gnvl_daily3290.19o	GNSS SingleBase
lkcy_daily3290.19o	GNSS SingleBase
ocla_daily3290.19o	GNSS SingleBase
pltk_daily3290.19o	GNSS SingleBase
Ephm3280.19g	GLONASS Broadcast Ephemeris
Ephm3280.19n	GPS Broadcast Ephemeris
Ephm3300.19g	GLONASS Broadcast Ephemeris
Ephm3300.19n	GPS Broadcast Ephemeris
igu20806_18.sp3	GPS Precise Ephemeris
igu20810_18.sp3	GPS Precise Ephemeris
igu20811_18.sp3	GPS Precise Ephemeris
igu20812_18.sp3	GPS Precise Ephemeris
igu20813_00.sp3	GPS Precise Ephemeris

Output Files

Filename	File type
sbet_PTG19329B.out	SBET Trajectory File

Rover Data Summary

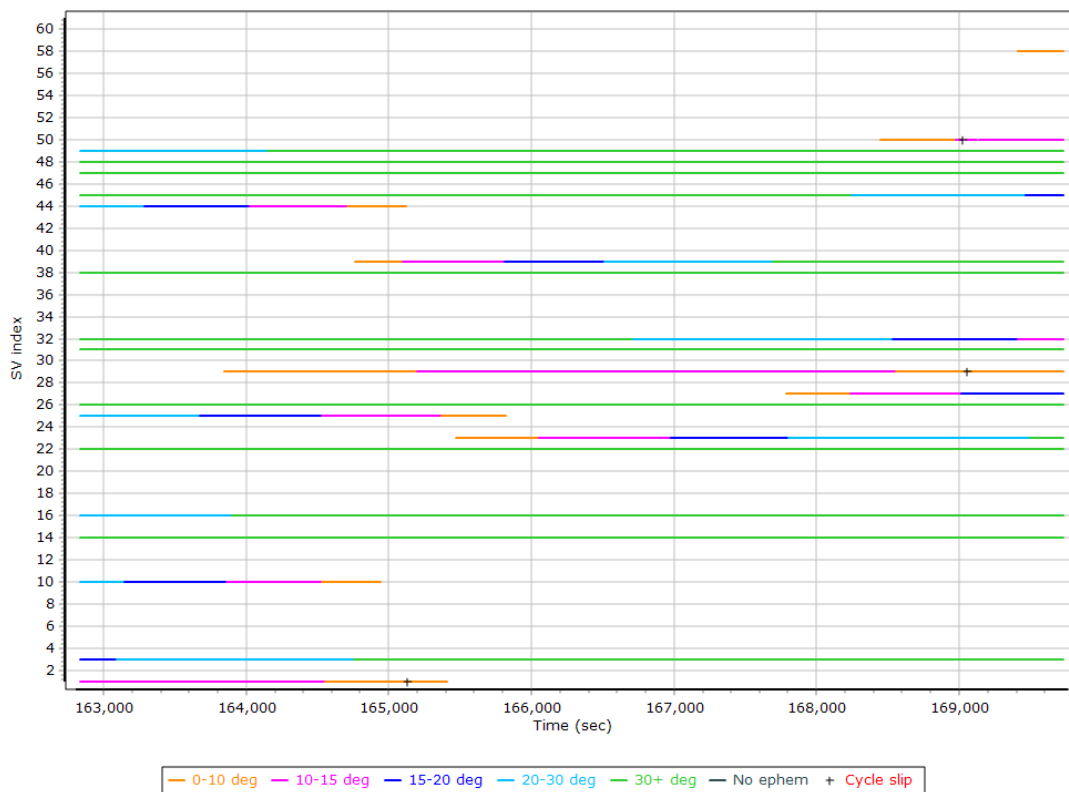
First raw data file	PTG19329.243		
Last raw data file	PTG19329.260		
Start GPS week	2081		
Start time	162482.239 (11/25/2019 9:08:02 PM)		
End time	169733.947 (11/25/2019 11:08:53 PM)		
Start of fine alignment	162775.557 (11/25/2019 9:12:55 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	Event 2 Input, Event 3 Input		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

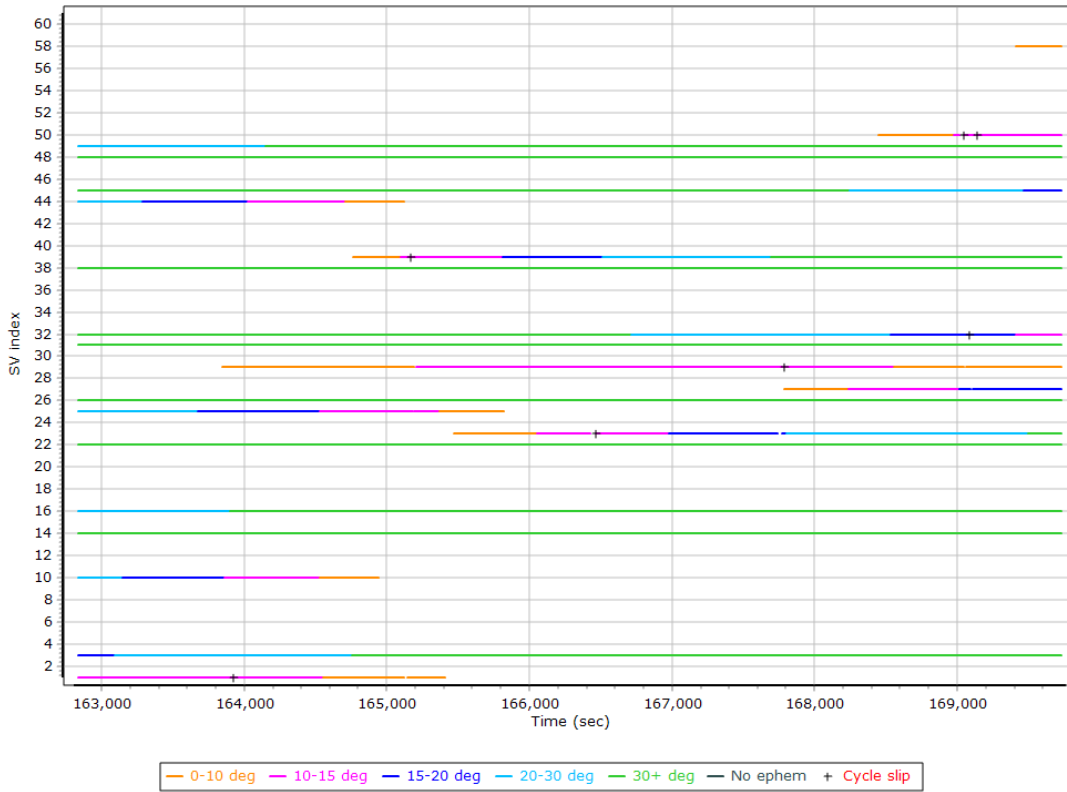
Raw IMU Import QC Summary

IMU data input file	imu_PTG19329B.dat
IMU data check log file	imudt_PTG19329B.log
IMU Records Processed	1450185
Termination Status	Normal
IMU Anomalies	0

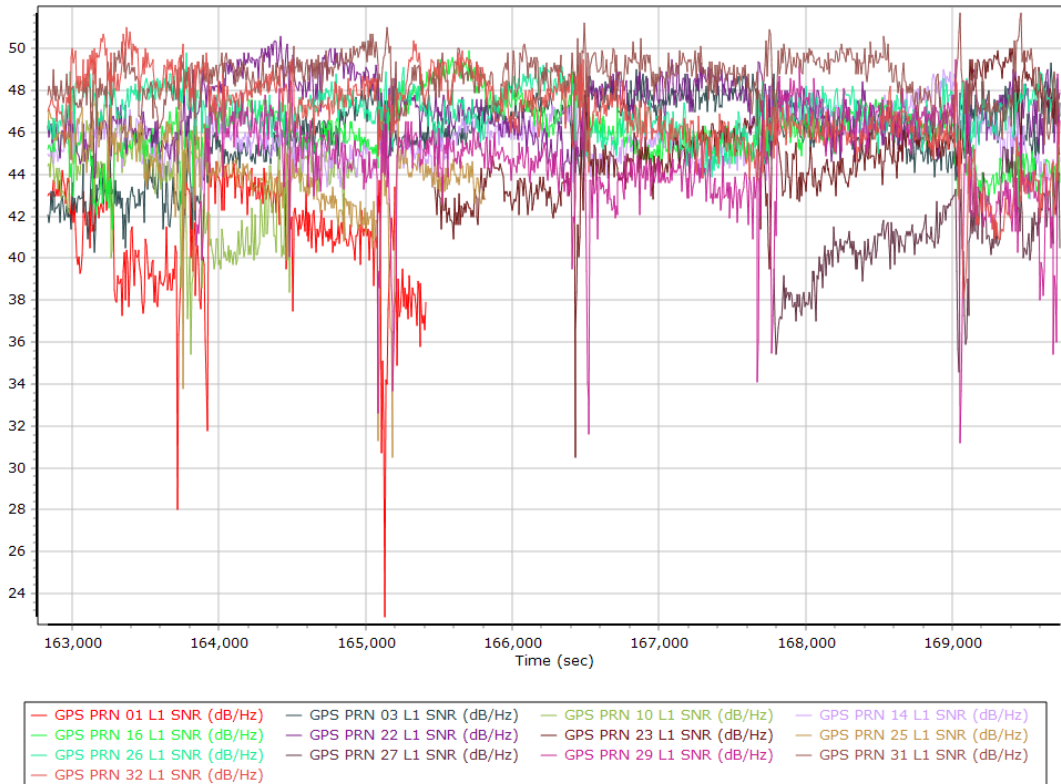
L1 Satellite Lock/Elevation



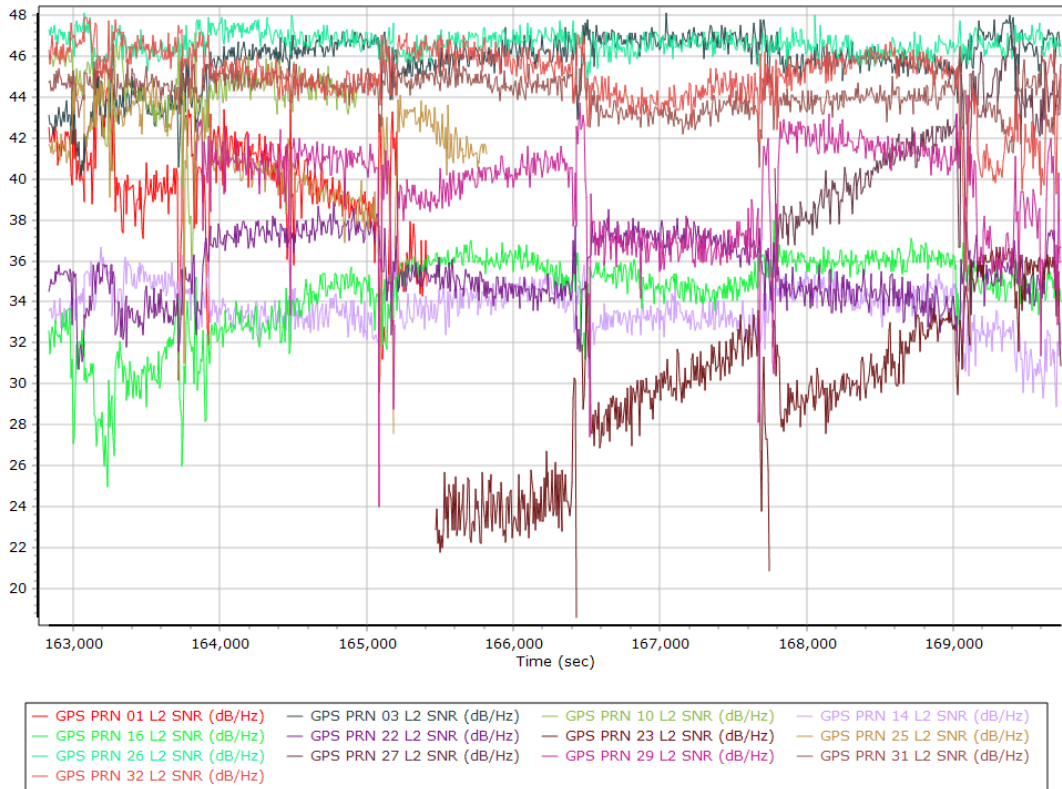
L2 Satellite Lock/Elevation



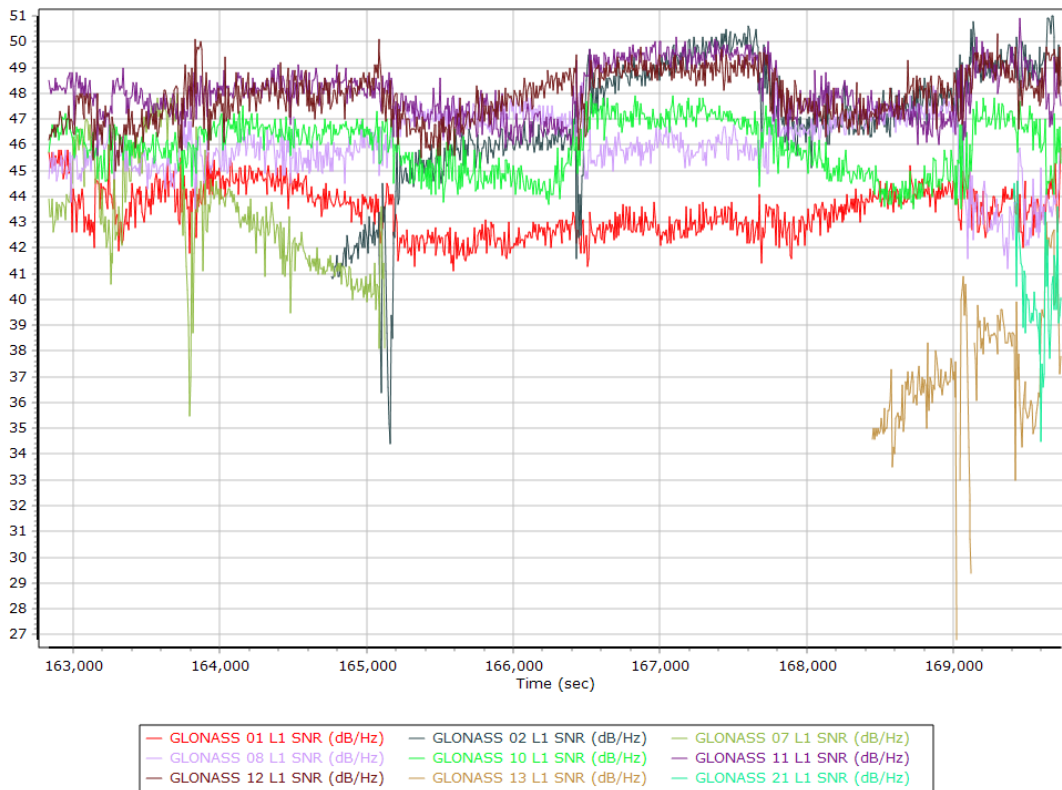
GPS L1 SNR



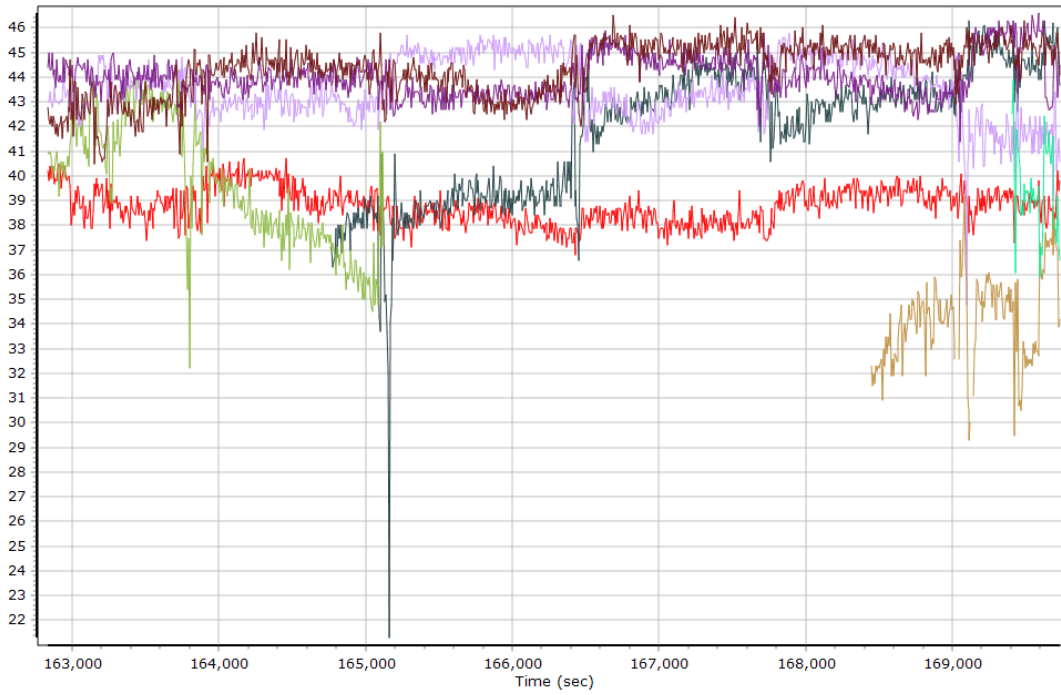
GPS L2 SNR



GLONASS L1 SNR



GLONASS L2 SNR



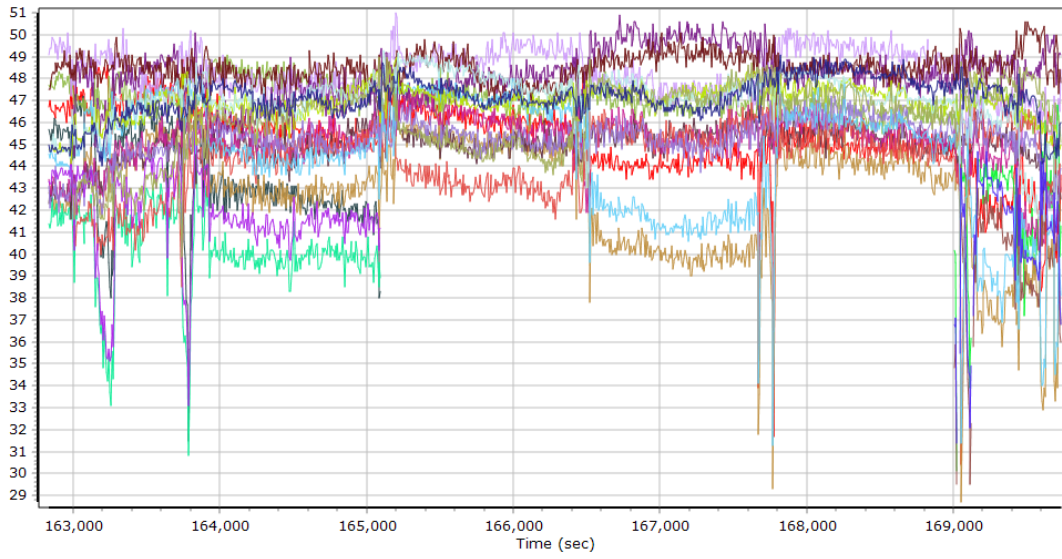
- GLONASS 01 L2 SNR (dB/Hz)
- GLONASS 02 L2 SNR (dB/Hz)
- GLONASS 07 L2 SNR (dB/Hz)
- GLONASS 08 L2 SNR (dB/Hz)
- GLONASS 10 L2 SNR (dB/Hz)
- GLONASS 11 L2 SNR (dB/Hz)
- GLONASS 12 L2 SNR (dB/Hz)
- GLONASS 13 L2 SNR (dB/Hz)
- GLONASS 21 L2 SNR (dB/Hz)

BEIDOU SNR



- BEIDOU 19 B1 B1 SNR (dB/Hz)
- BEIDOU 20 B1 B1 SNR (dB/Hz)
- BEIDOU 23 B1 B1 SNR (dB/Hz)
- BEIDOU 27 B1 B1 SNR (dB/Hz)
- BEIDOU 28 B1 B1 SNR (dB/Hz)

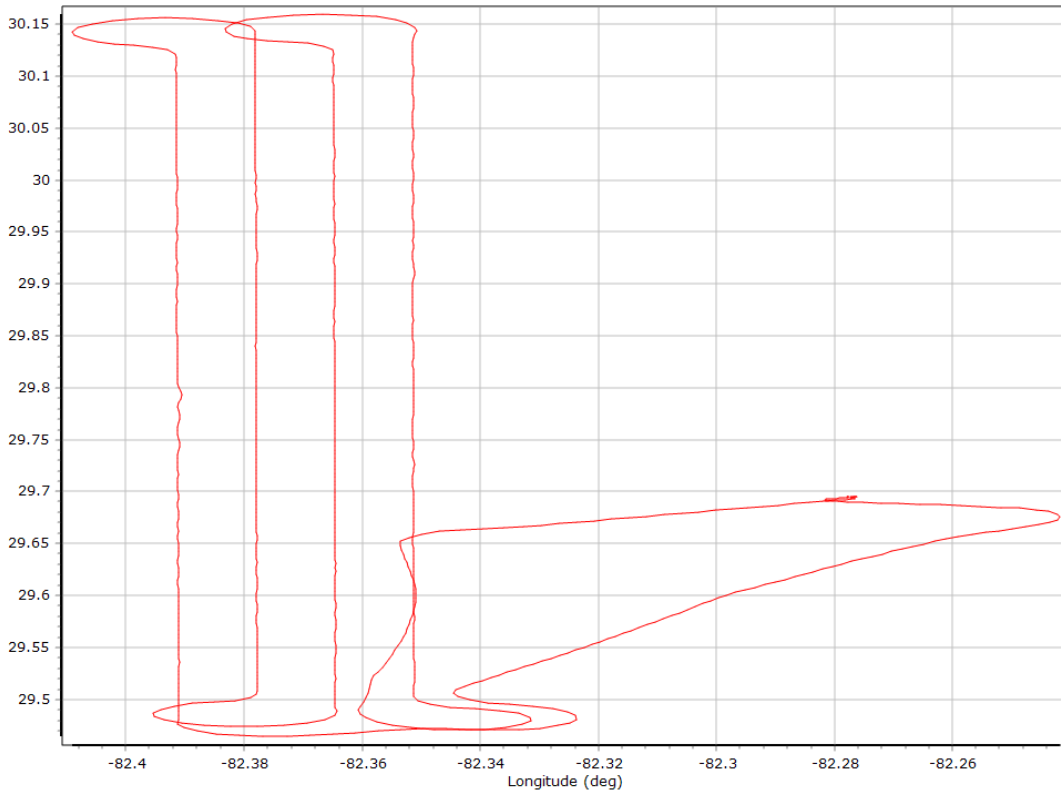
GALILEO SNR



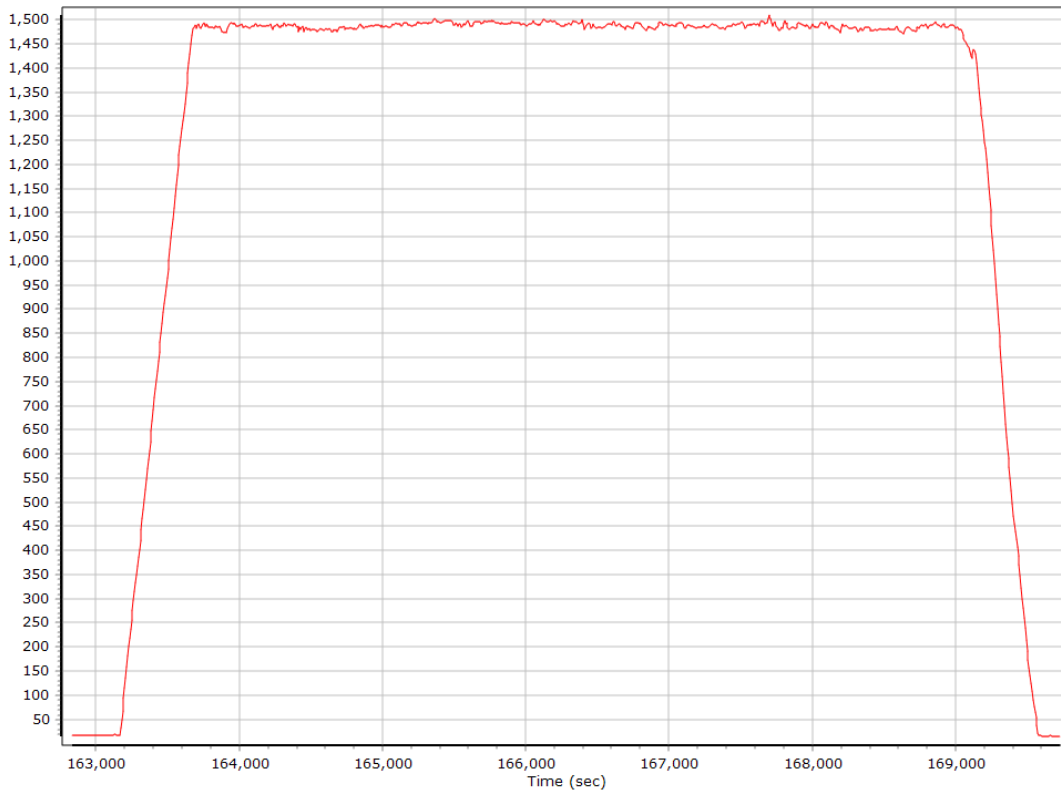
— GALILEO 02 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 21 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 27 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 30 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 02 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 03 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 07 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 08 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 21 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 27 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 30 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 02 E5ABCentre AltBOCCompPD SNR (dB/Hz)	— GALILEO 03 E5ABCentre AltBOCCompPD SNR (dB/Hz)
— GALILEO 07 E5ABCentre AltBOCCompPD SNR (dB/Hz)	— GALILEO 08 E5ABCentre AltBOCCompPD SNR (dB/Hz)
— GALILEO 21 E5ABCentre AltBOCCompPD SNR (dB/Hz)	— GALILEO 27 E5ABCentre AltBOCCompPD SNR (dB/Hz)

Trajectory Information

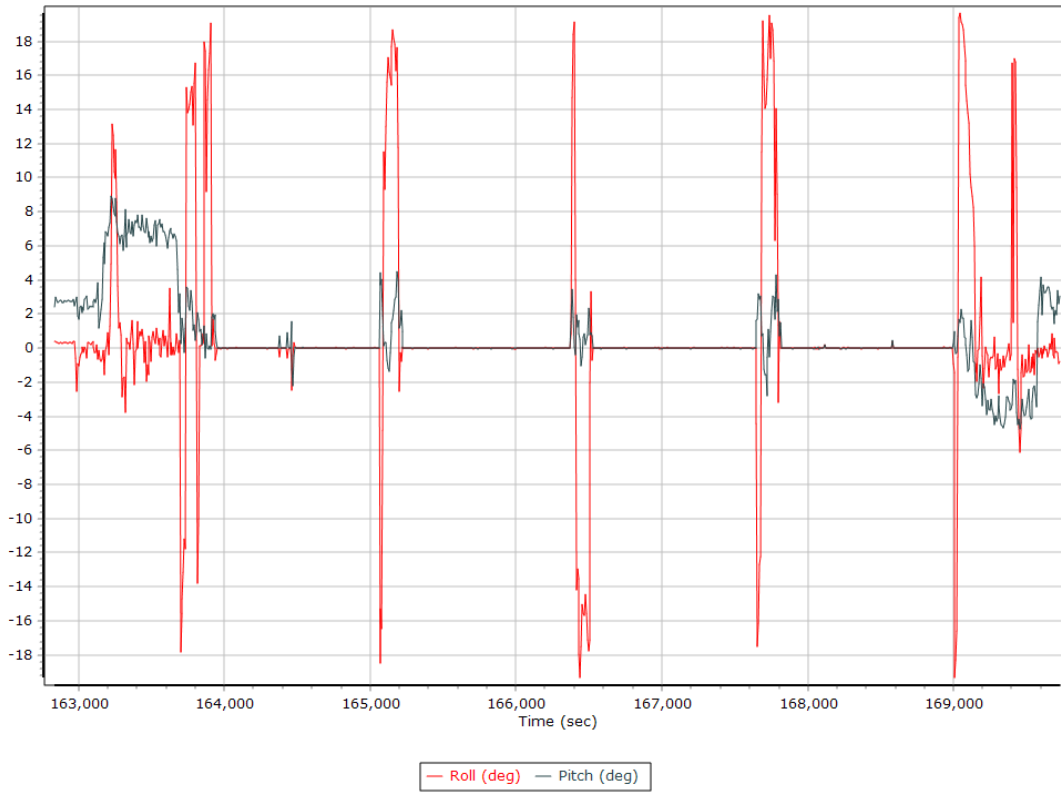
Top View



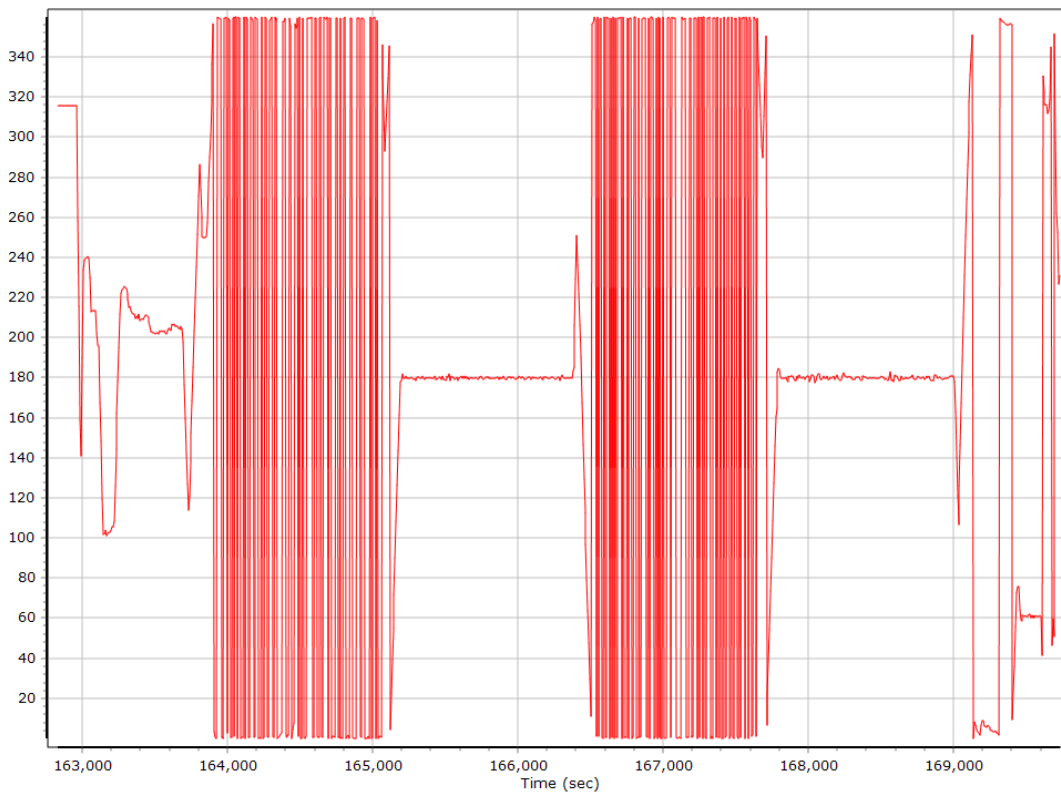
Altitude



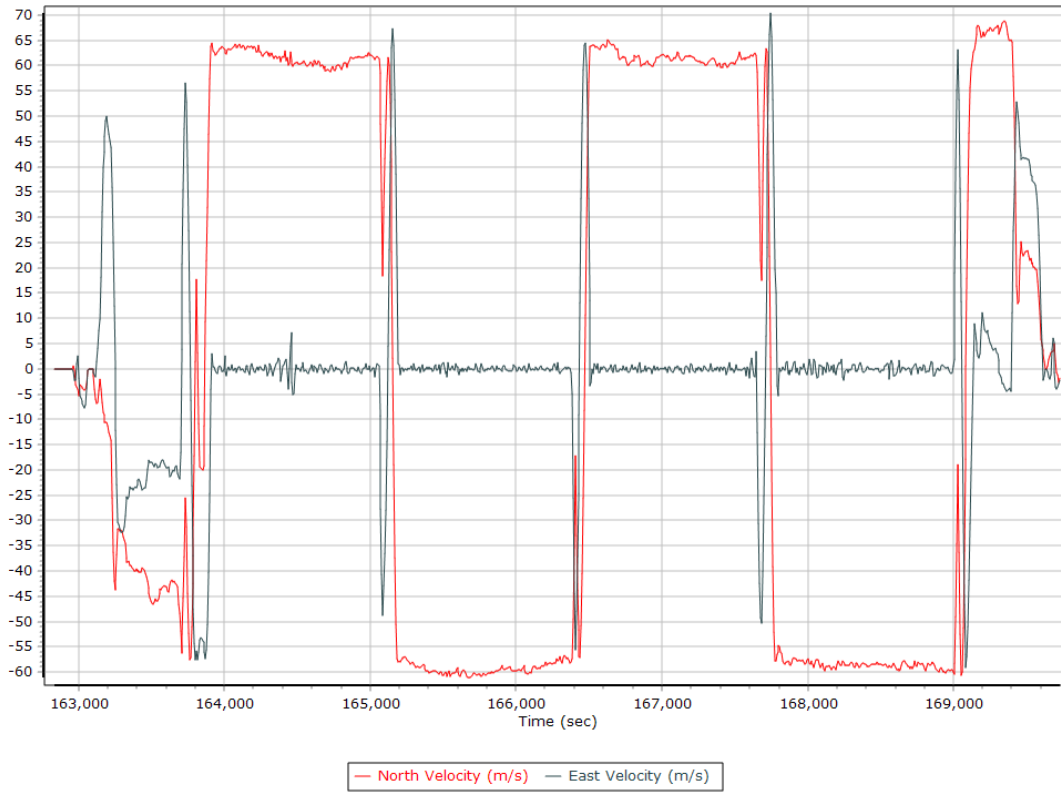
Roll/Pitch



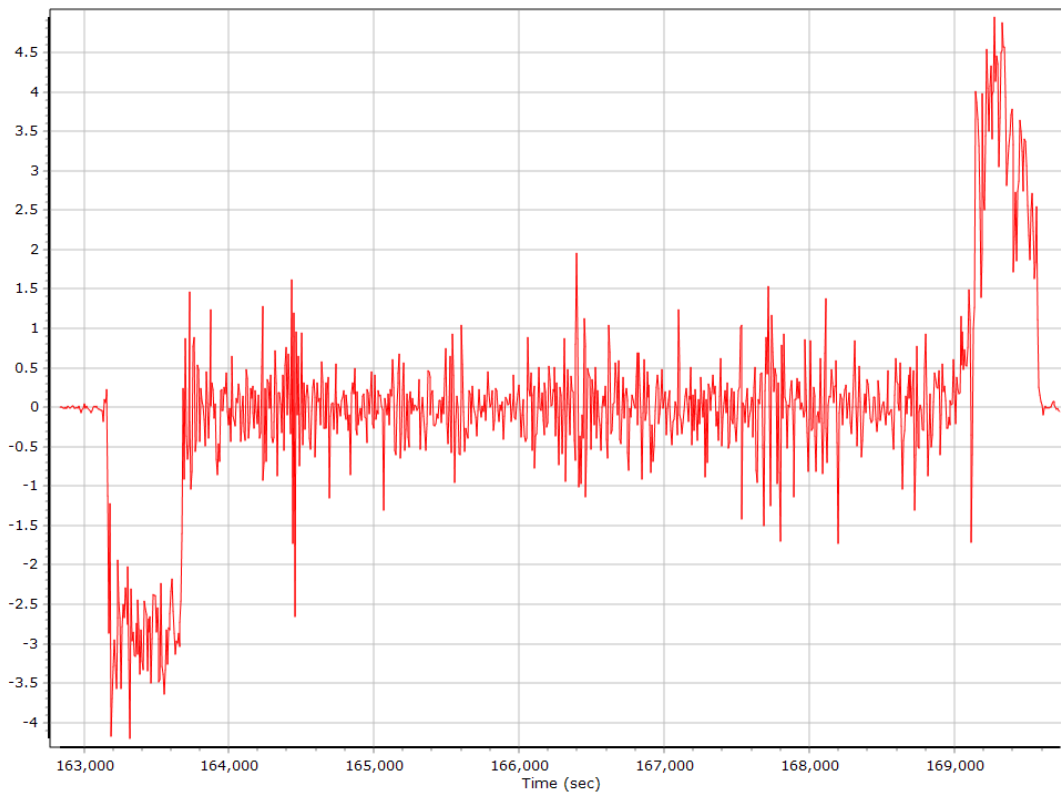
Heading



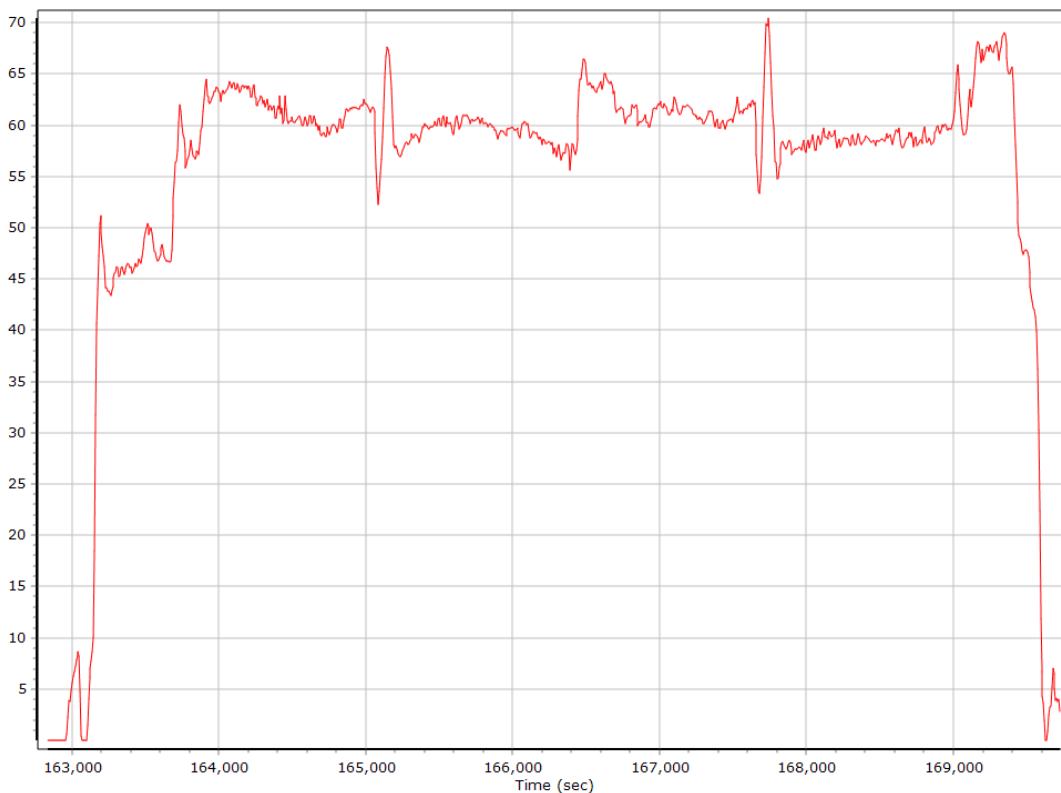
North/East Velocity



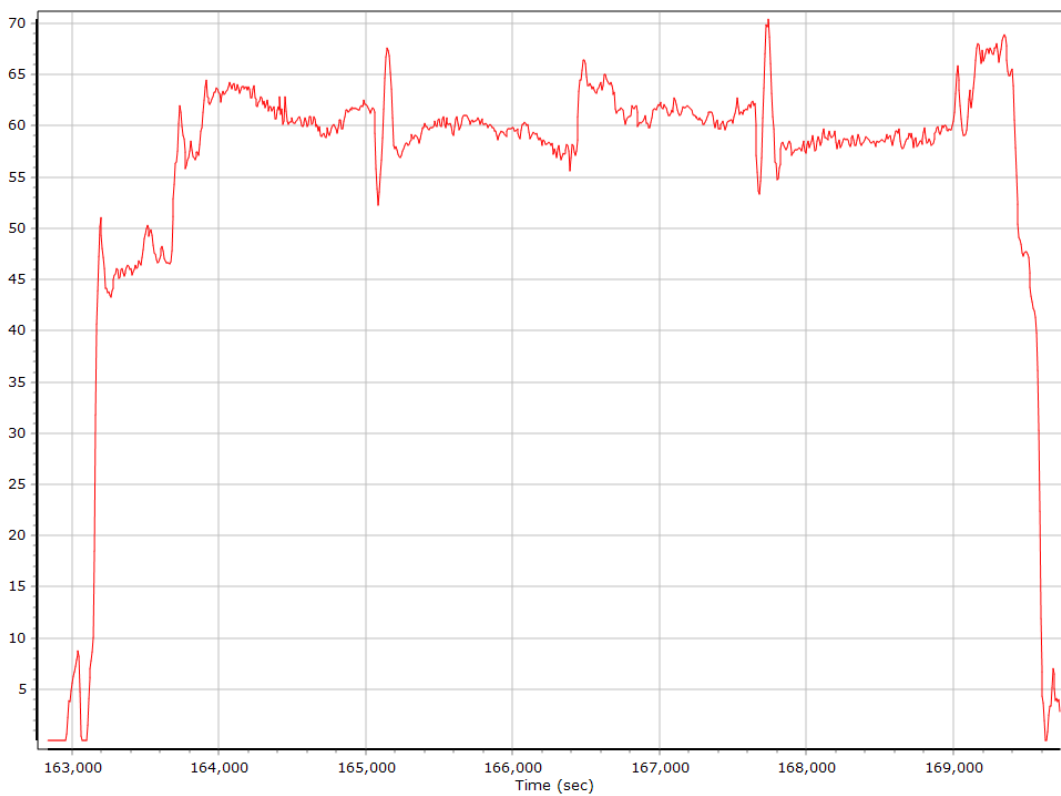
Down Velocity



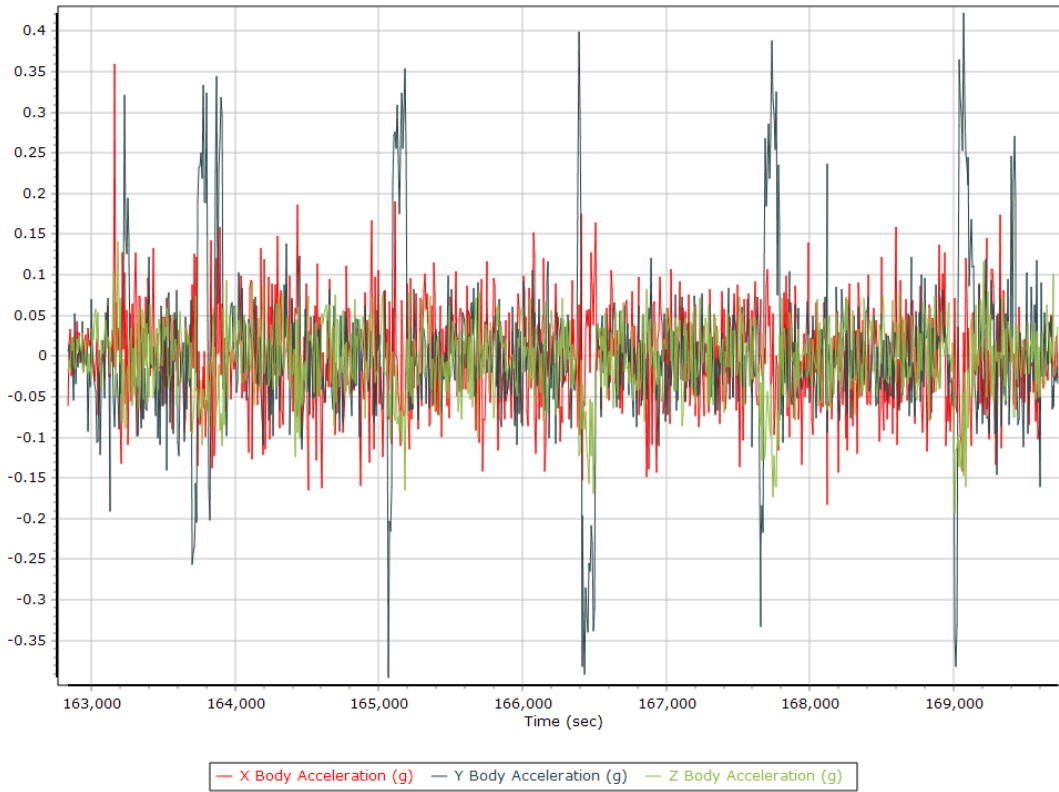
Total Speed



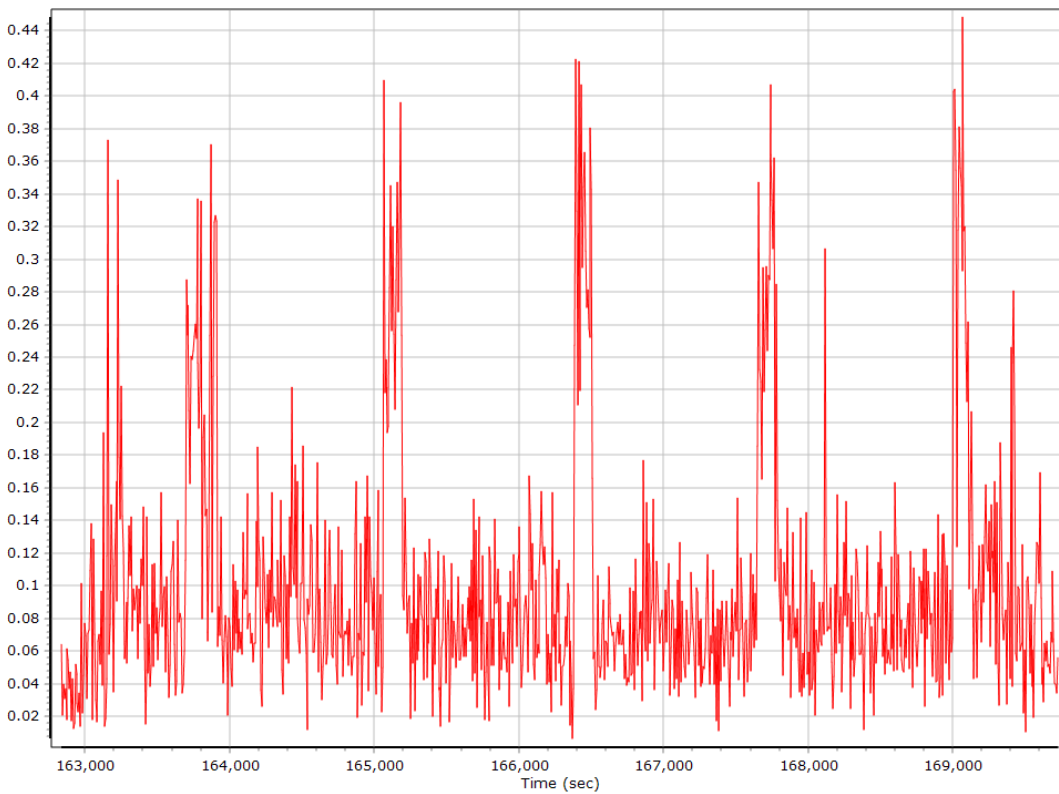
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
11/25/2019	Palatka	65.27	GNSS	1	User	None	Imported
11/25/2019	Ocala	68.89	GNSS	1	User	None	Imported
11/25/2019	LCKY	51.54	GNSS	1	User	None	Imported
11/25/2019	GNVL	11.33	GNSS	1	User	None	Imported
11/25/2019	FLMC	60.29	GNSS	1	User	None	Imported
11/25/2019	FLCK	96.01	GNSS	1	User	None	Imported
11/25/2019	Bronson	45.91	GNSS	1	User	None	Imported
11/25/2019	FLBF	58.17	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	GNVL
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	7250 s (2081 162501 - 2081 169751)
Number of reference stations	8
Primary station GPS measurement usage (%)	100.0
Primary station GLONASS measurement usage (%)	66.4
Average number of satellites per epoch	13.1
Max number of GPS stations used	6
Min number of GPS stations used	4
Max number of GLONASS stations used	6
Min number of GLONASS stations used	4
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	14568
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

Base Station Information - Palatka

Station ID	Palatka		
Filename	pltk_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - Ocala

Station ID	Ocala		
Filename	ocla_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - LCKY

Station ID	LCKY		
Filename	lkcy_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - GNVL

Station ID	GNVL		
Filename	gnvl_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - FLMC

Station ID	FLMC		
Filename	flmc_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701977
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°16'15.87532"		
Longitude	W82°07'35.14360"		
Ellipsoidal height (m)	11.22100		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - FLCK

Station ID	FLCK		
Filename	flck_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - Bronson

Station ID	Bronson		
Filename	flbr_daily3290.19o		
Start date	11/25/2019 4:08:30 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:51:29.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701978
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°26'19.83659"		
Longitude	W82°38'43.13027"		
Ellipsoidal height (m)	-4.33700		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station Information - FLBF

Station ID	FLBF		
Filename	flbf_daily3290.19o		
Start date	11/25/2019 4:00:00 AM		
End date	11/25/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702018
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°57'42.67561"		
Longitude	W82°54'34.51255"		
Ellipsoidal height (m)	-13.28600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.28	43.89	
Number of GPS SV	7	10	9
Number of GLONASS SV	0	5	4
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	10	14	13
PDOP	1.28	2.99	1.55
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	7222.00	0.00	1.00
Percentage	99.99	0.00	0.01

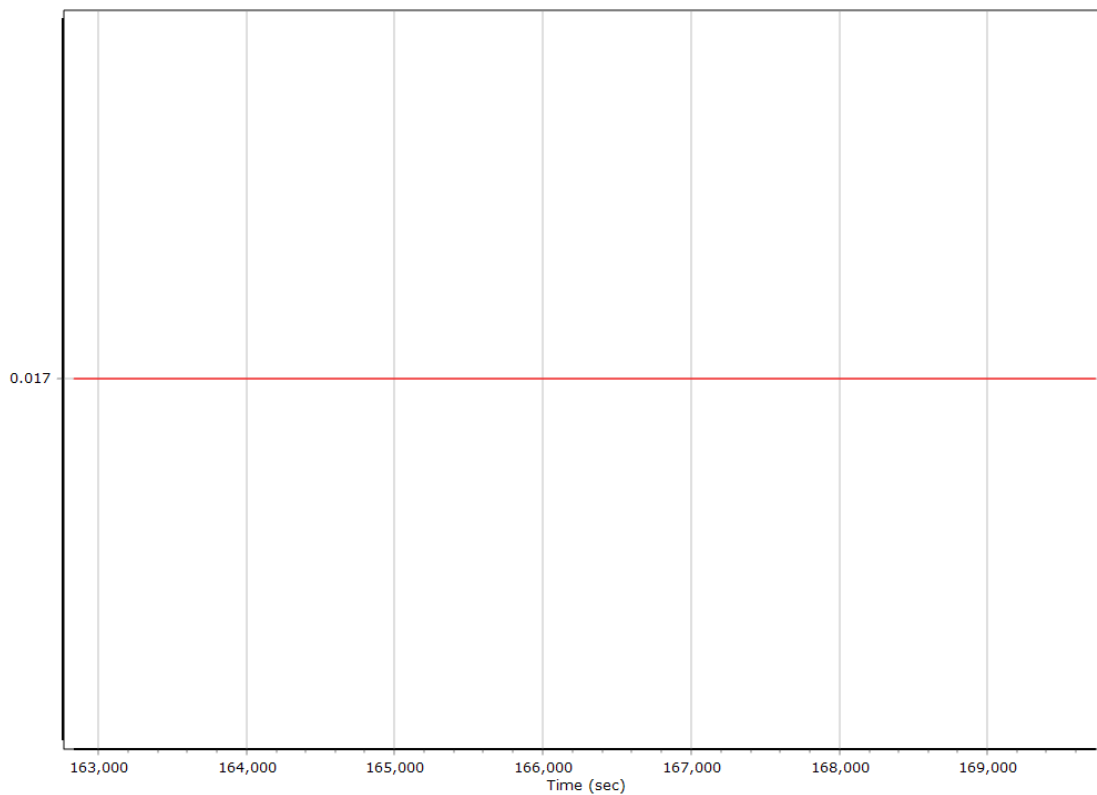
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	162483.000 (11/25/2019 9:08:03 PM)		
Processing end time	169733.000 (11/25/2019 11:08:53 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

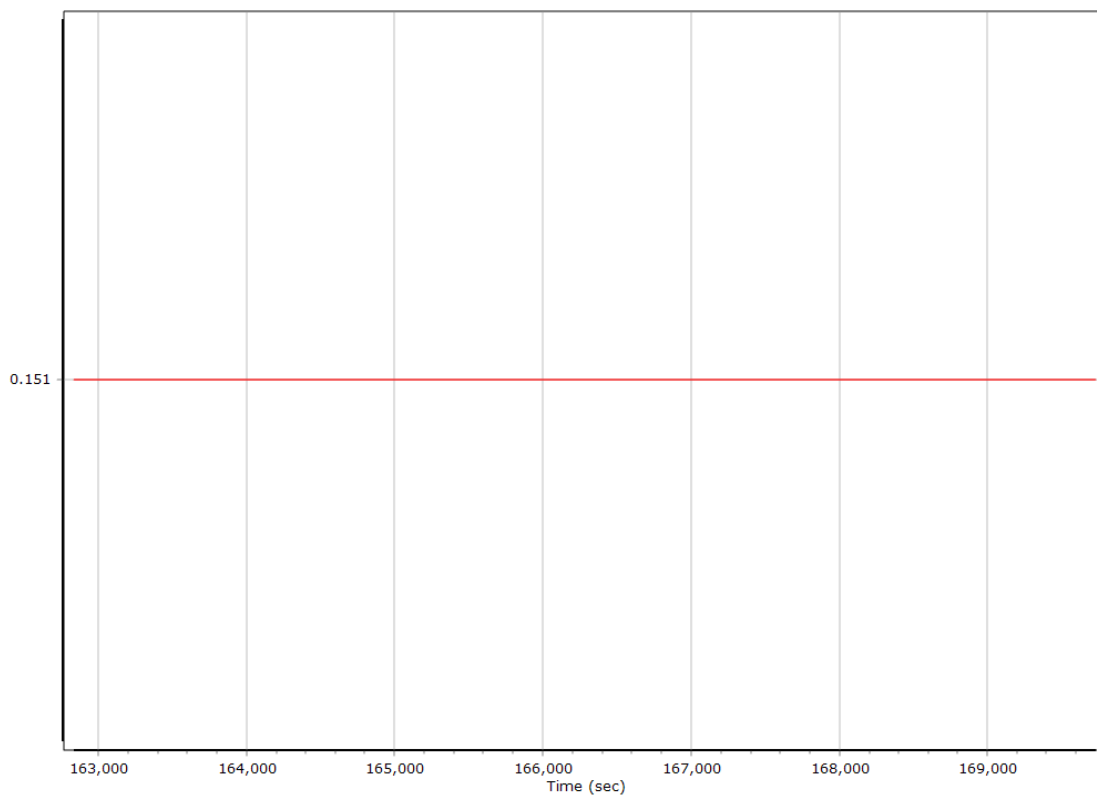
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

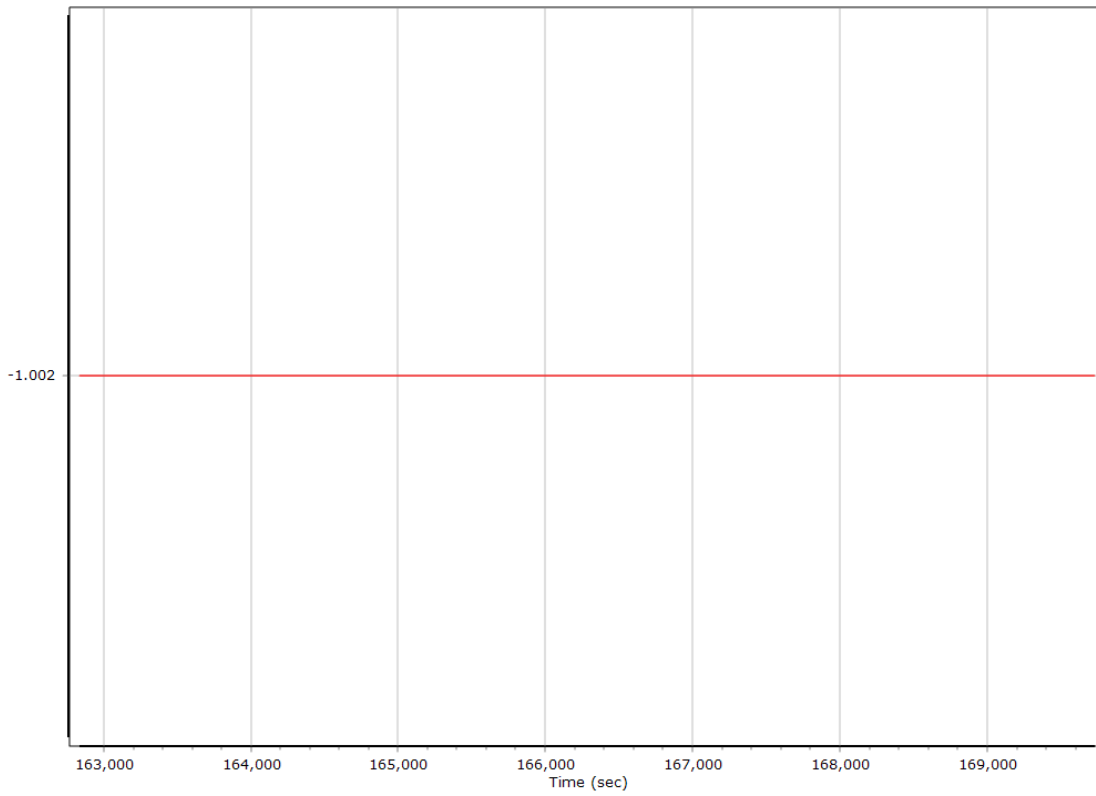
X Reference-Primary GNSS Lever Arm (m)



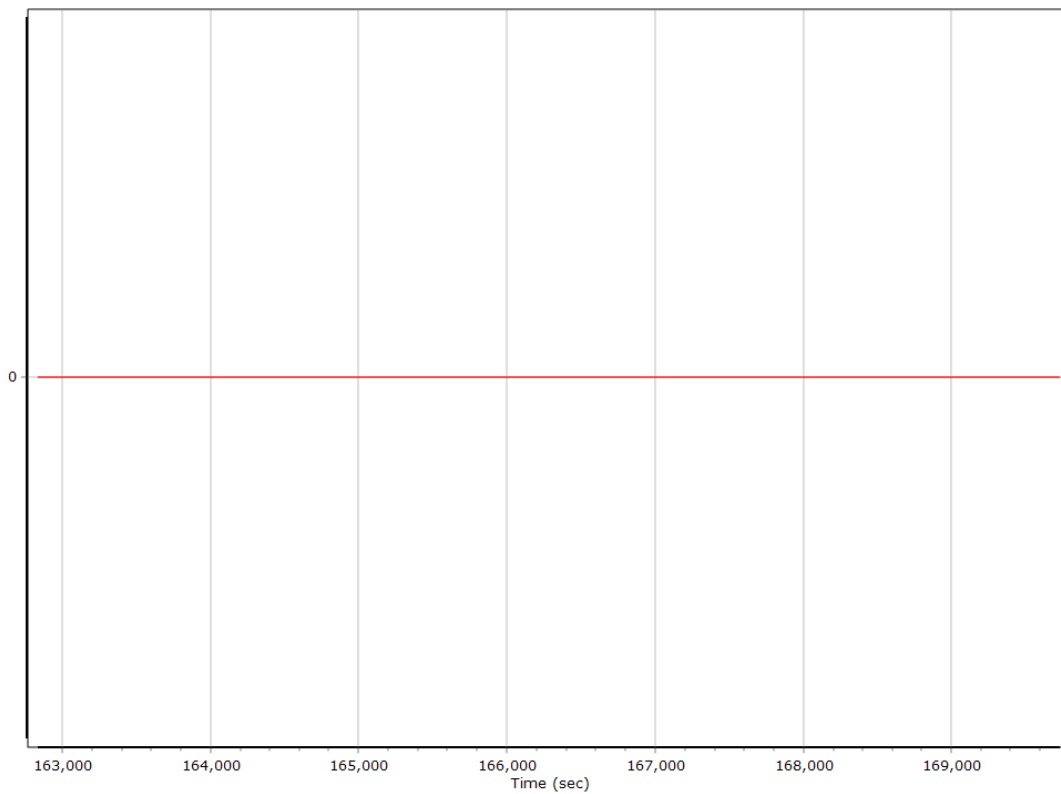
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



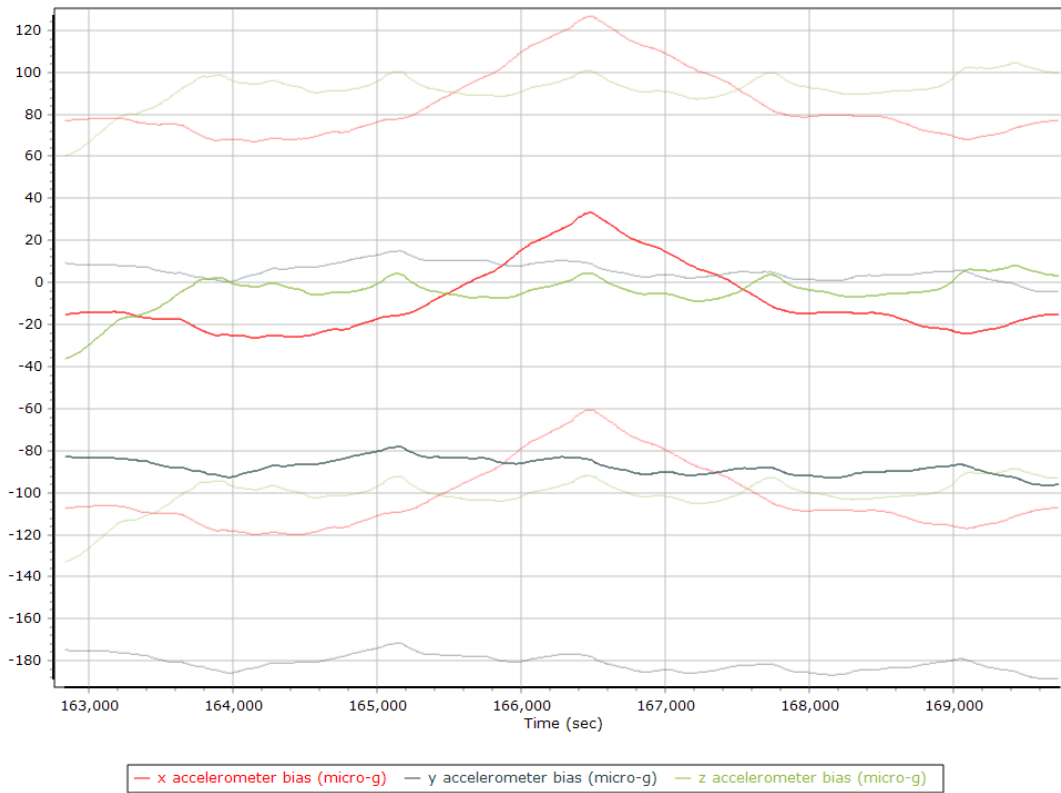
Reference-Primary GNSS Lever Arm Figure of Merit



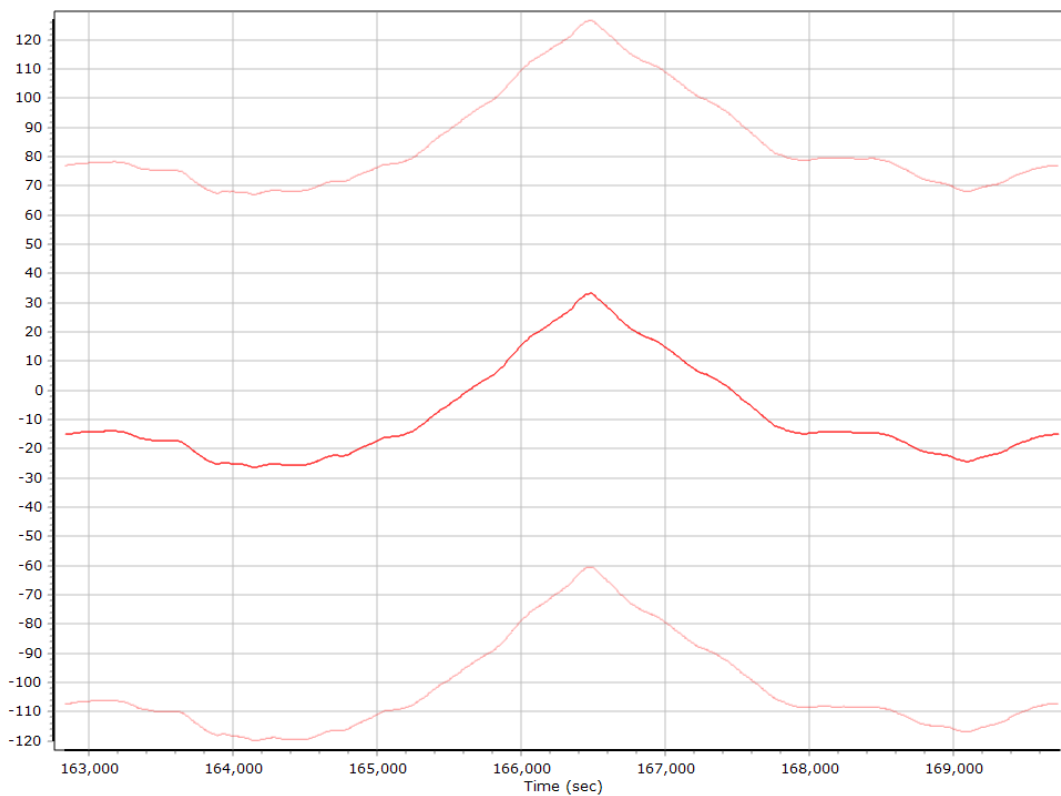
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

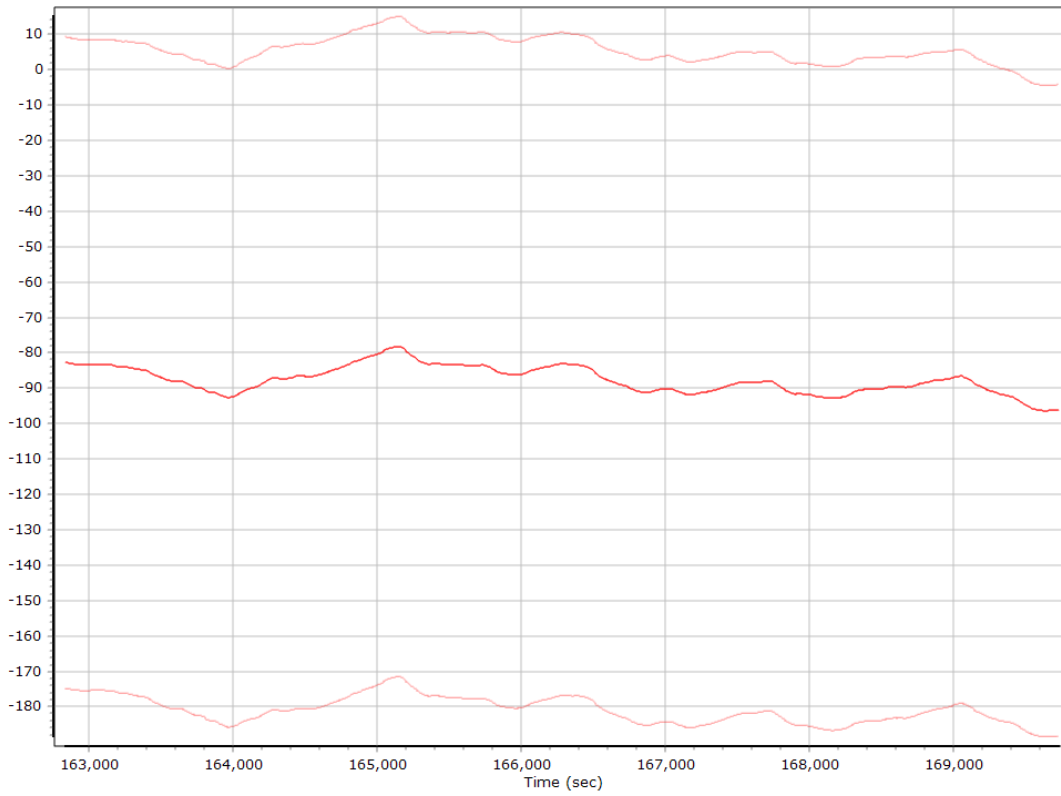
Accelerometer Bias (micro-g)



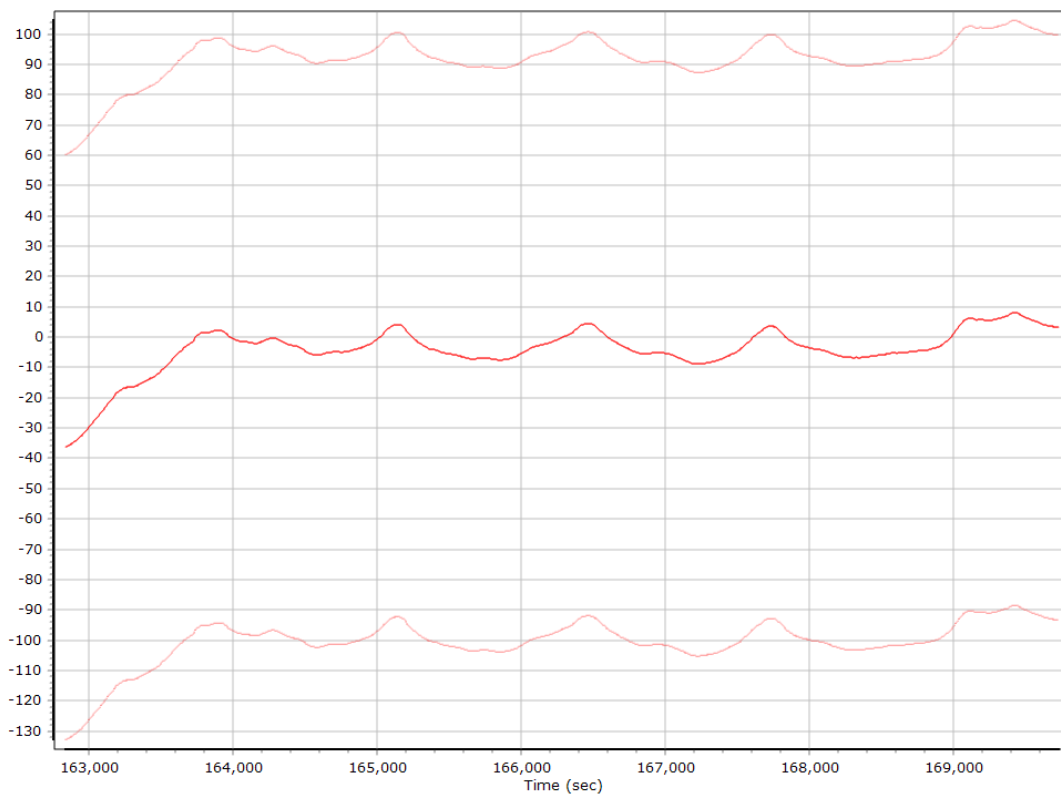
X Accelerometer Bias (micro-g)



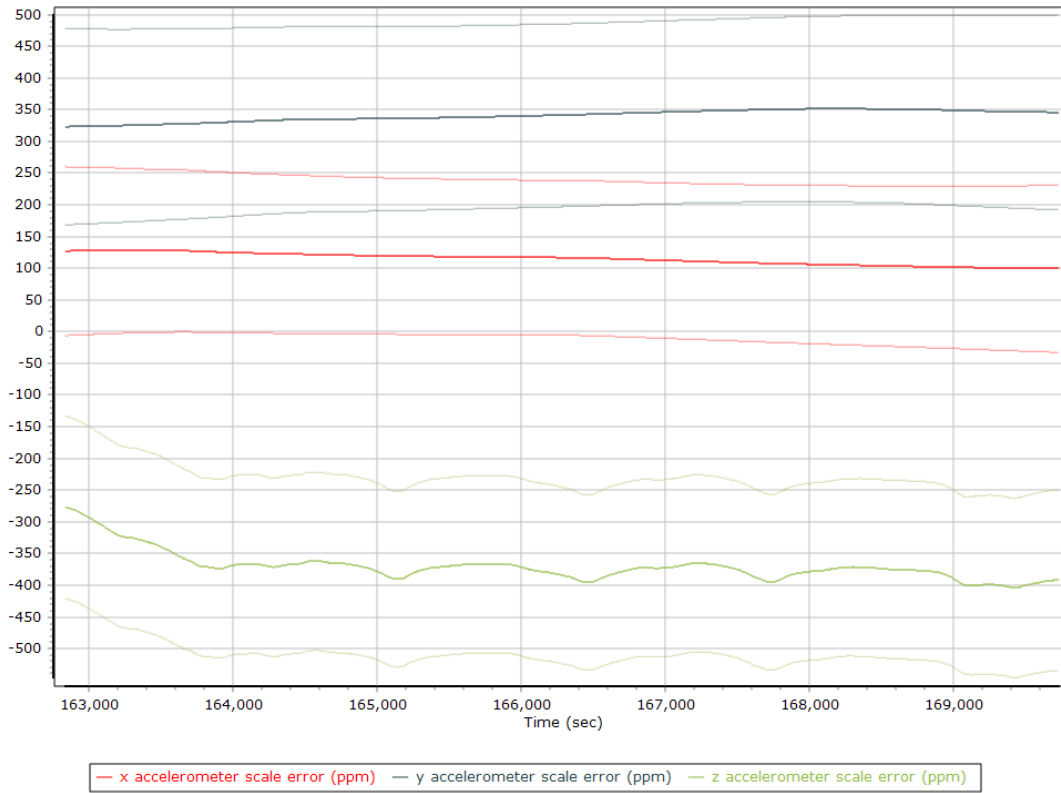
Y Accelerometer Bias (micro-g)



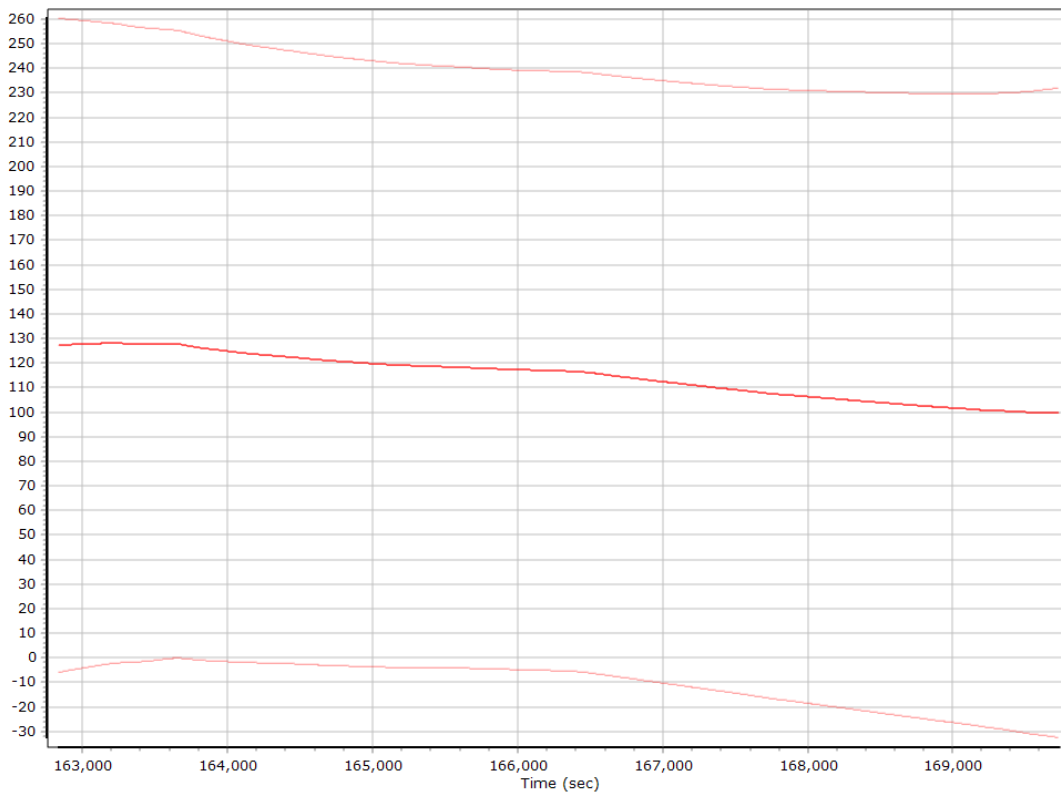
Z Accelerometer Bias (micro-g)



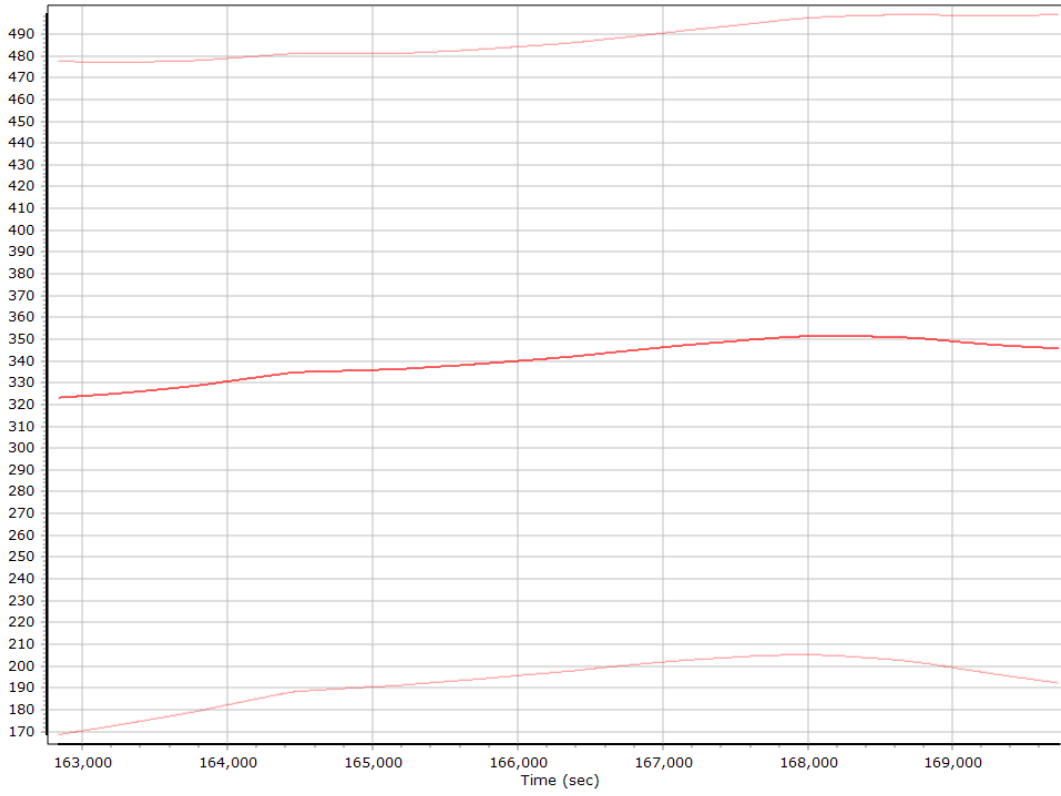
Accelerometer Scale Error (ppm)



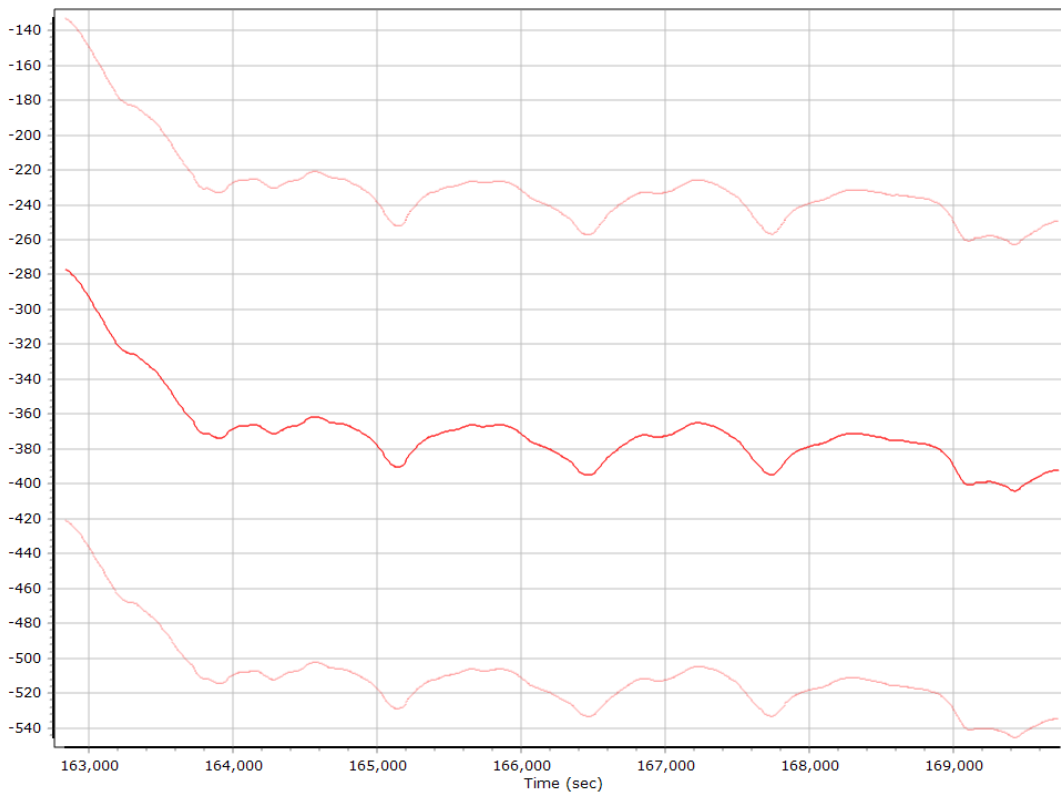
X Accelerometer Scale Error (ppm)



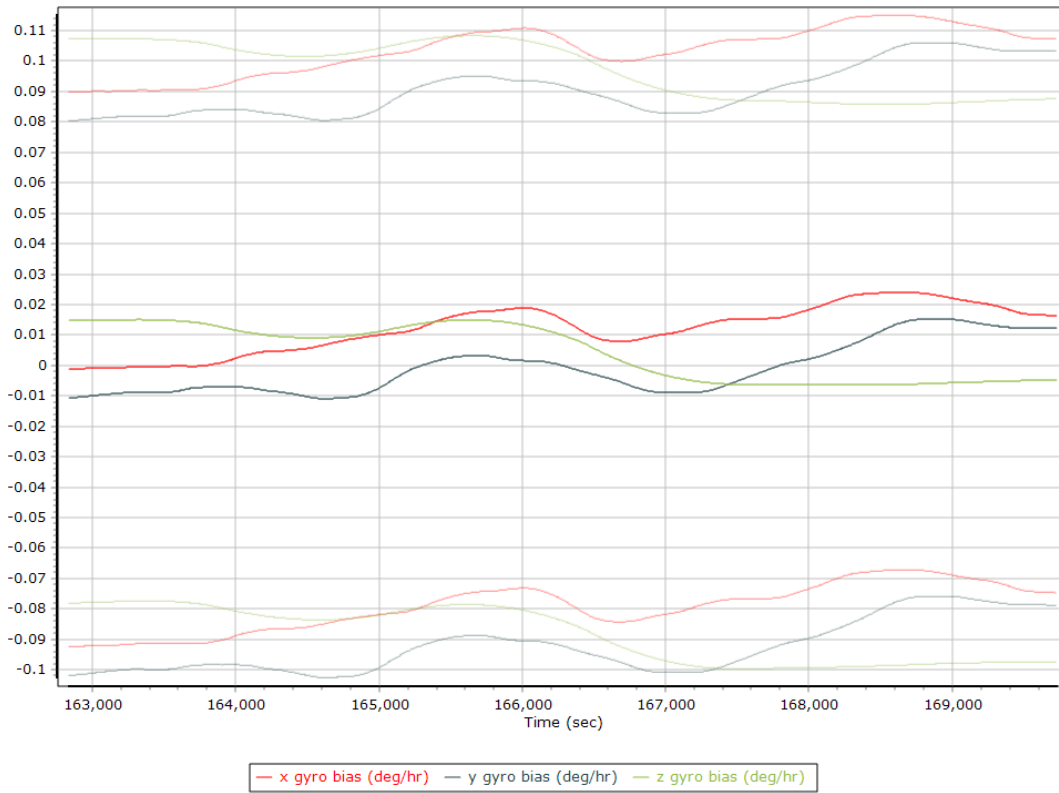
Y Accelerometer Scale Error (ppm)



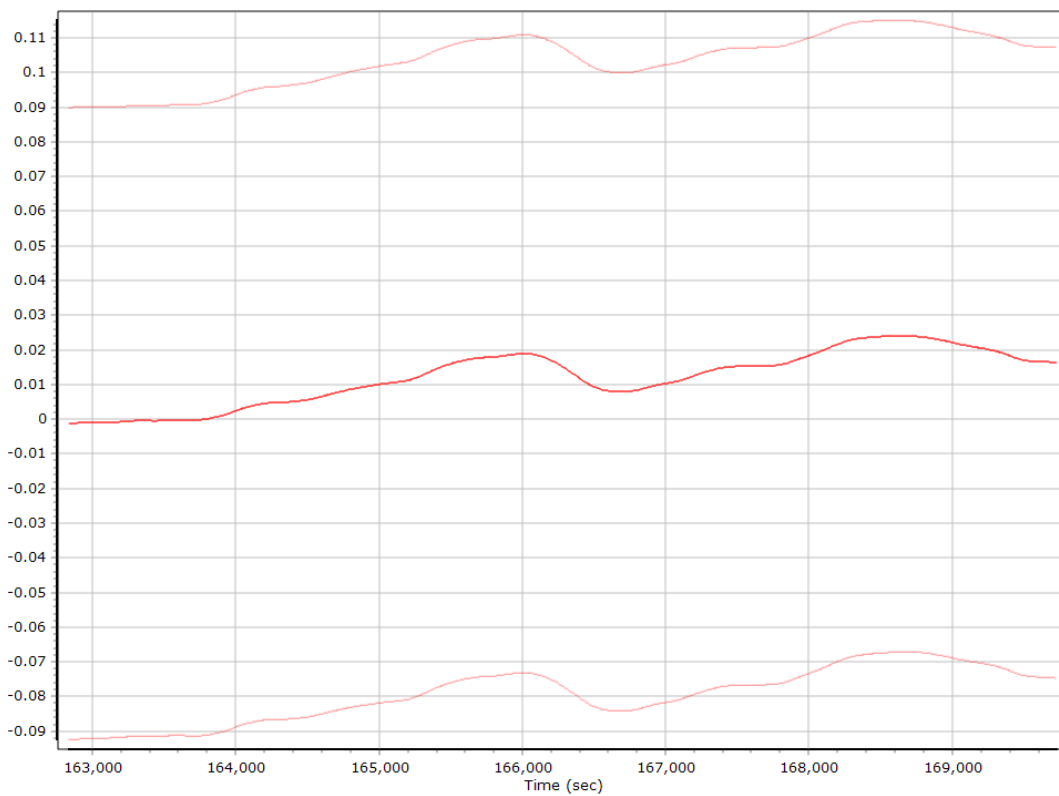
Z Accelerometer Scale Error (ppm)



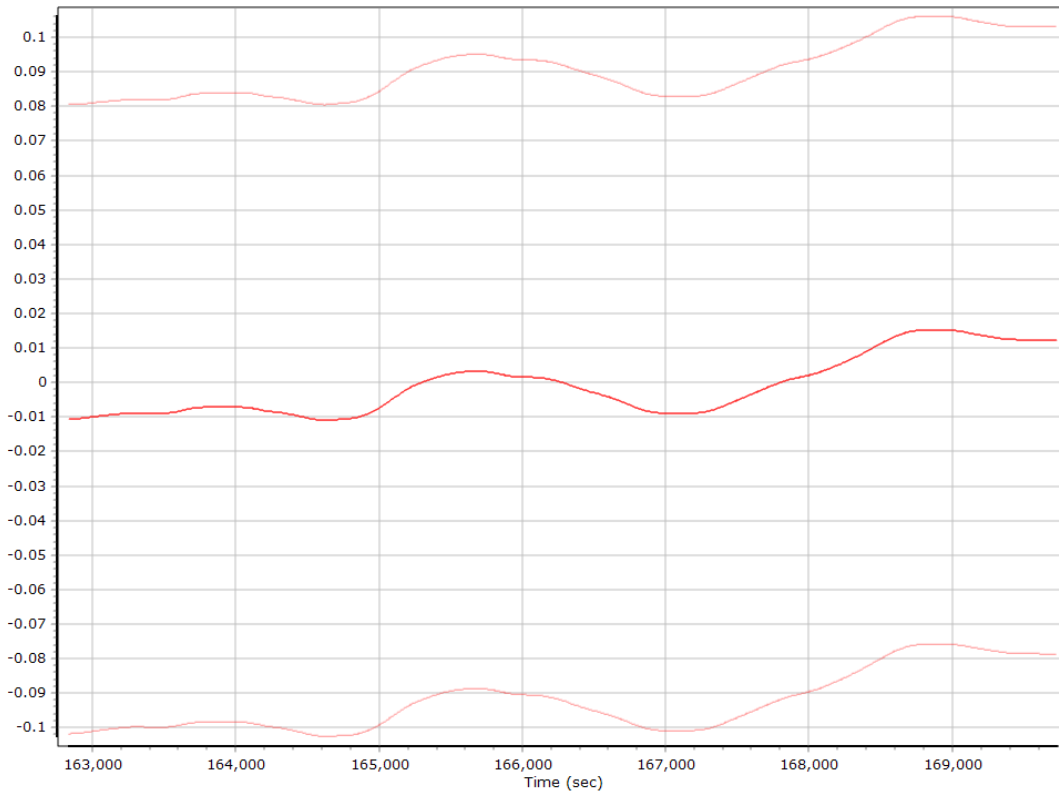
Gyro Bias (deg/h)



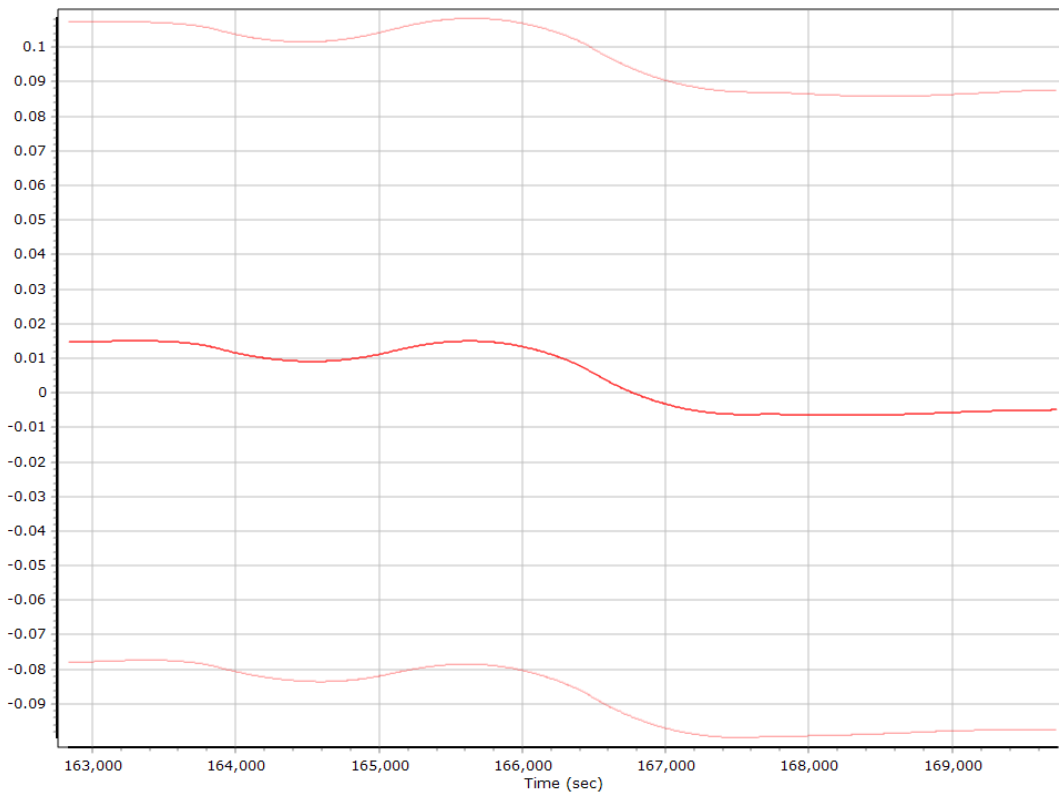
X Gyro Bias (deg/h)



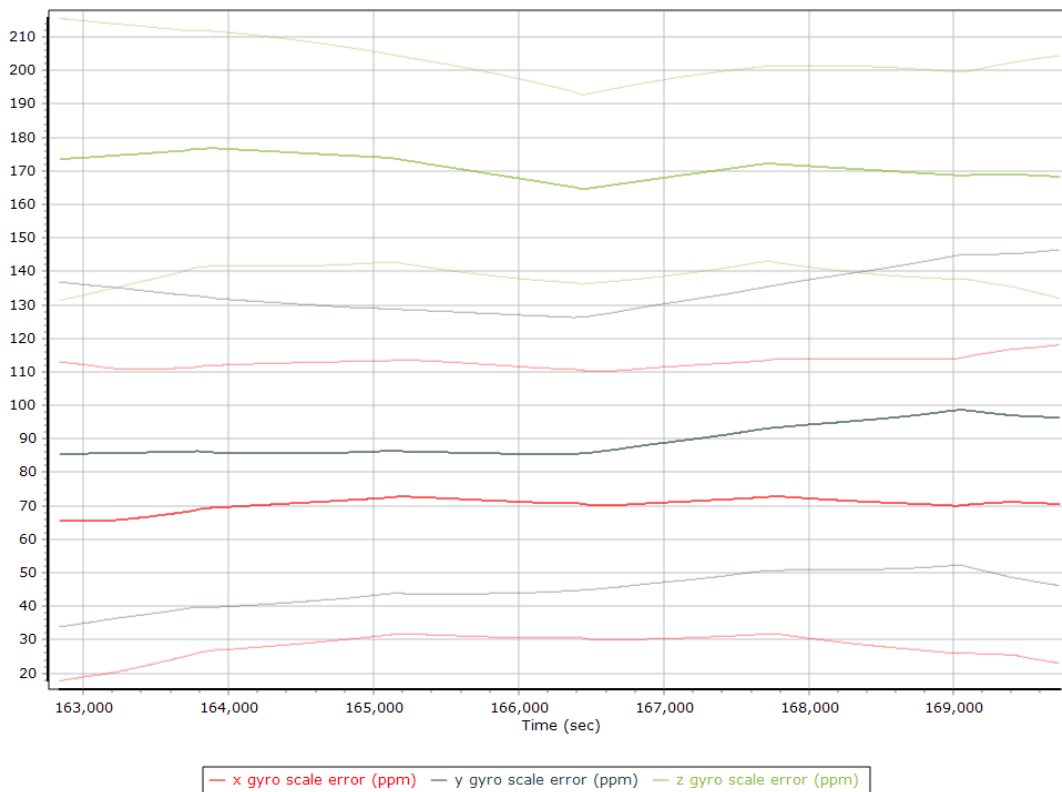
Y Gyro Bias (deg/h)



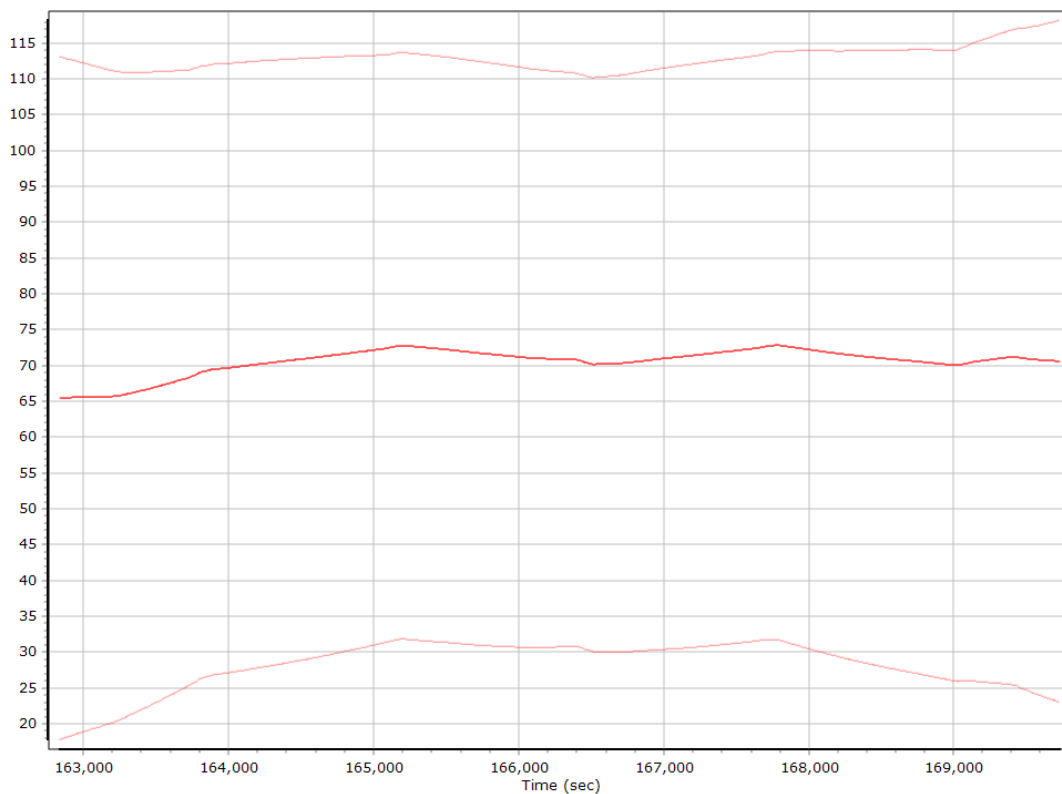
Z Gyro Bias (deg/h)



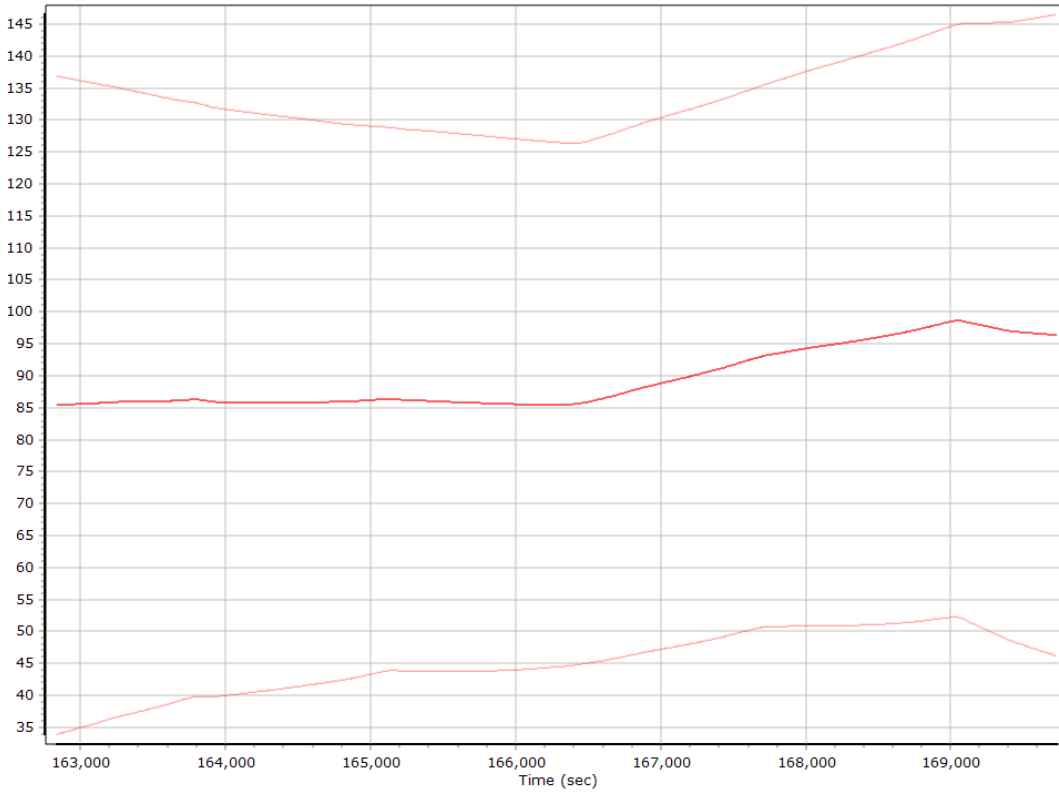
Gyro Scale Error (ppm)



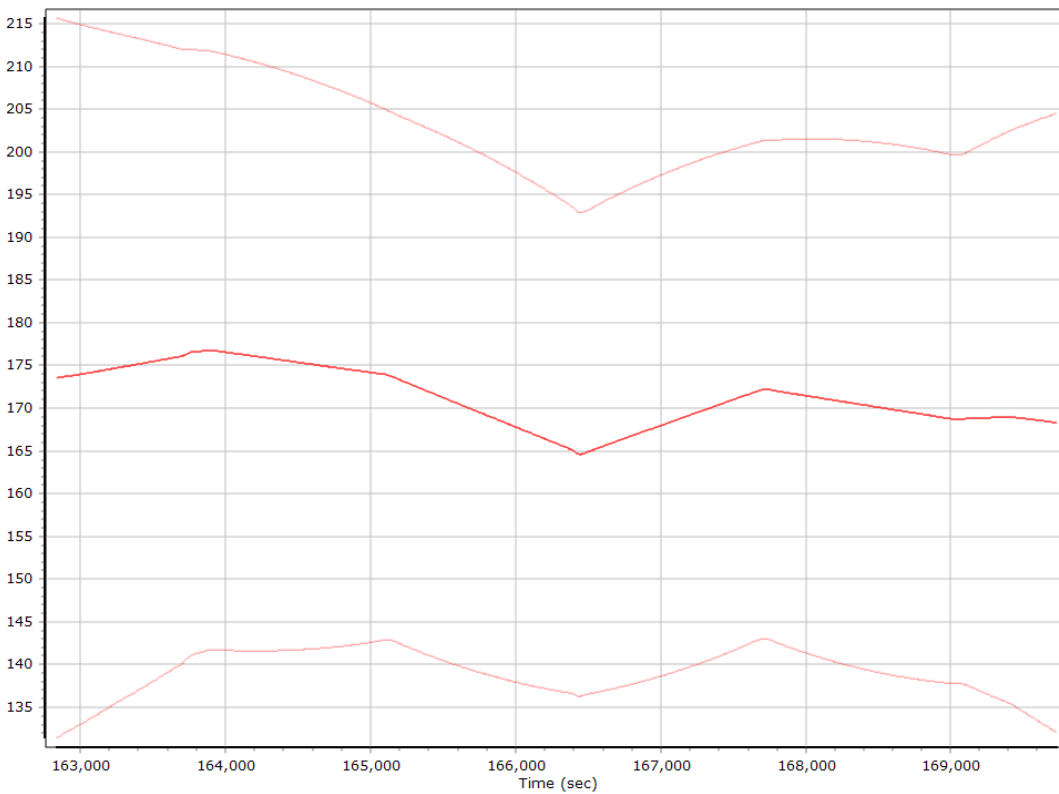
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

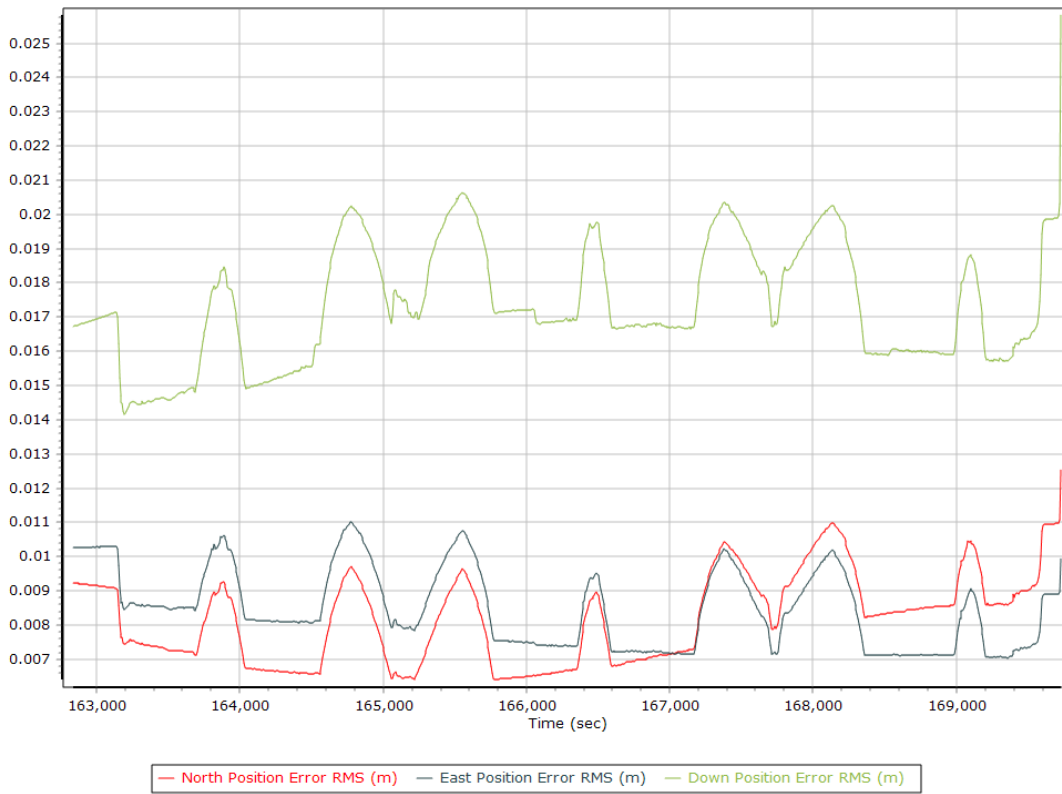


Z Gyro Scale Error (ppm)

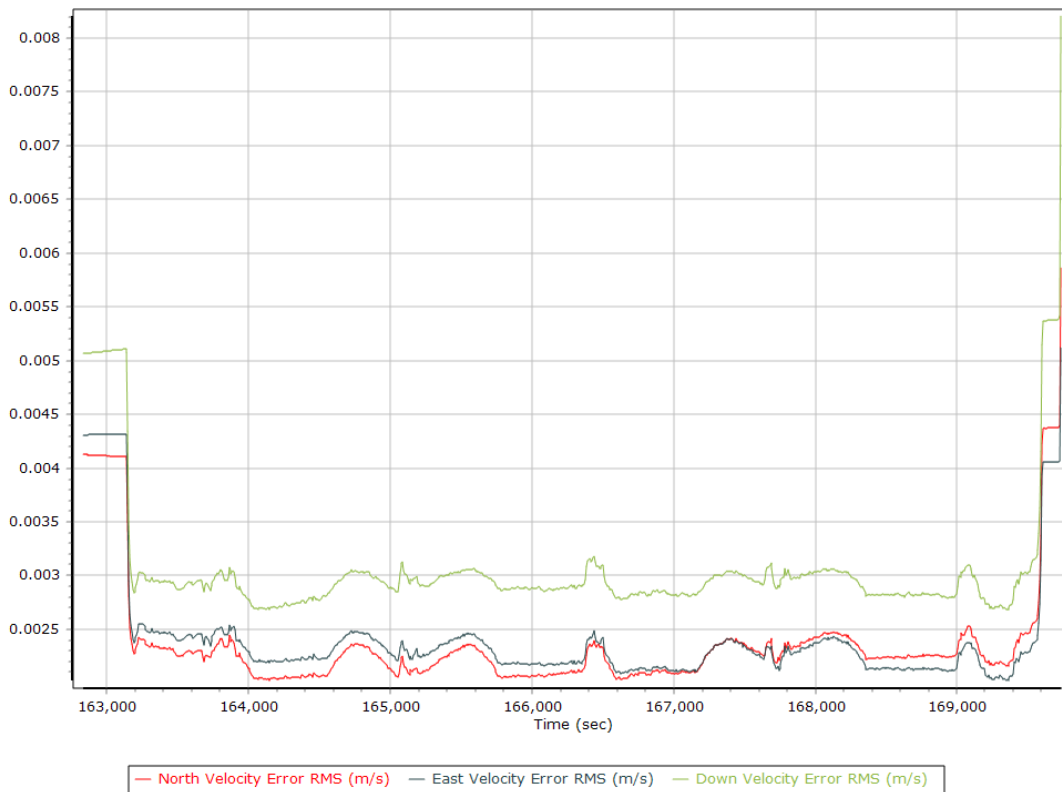


Smoothed Performance Metrics

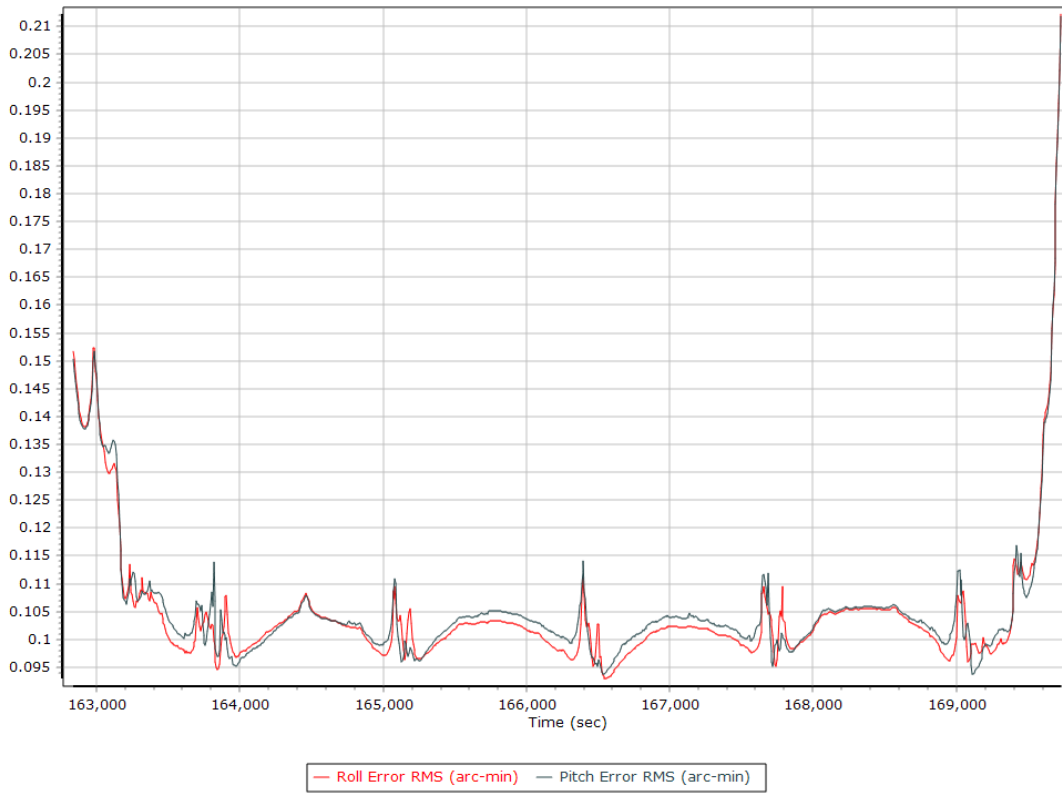
Position Error RMS (m)



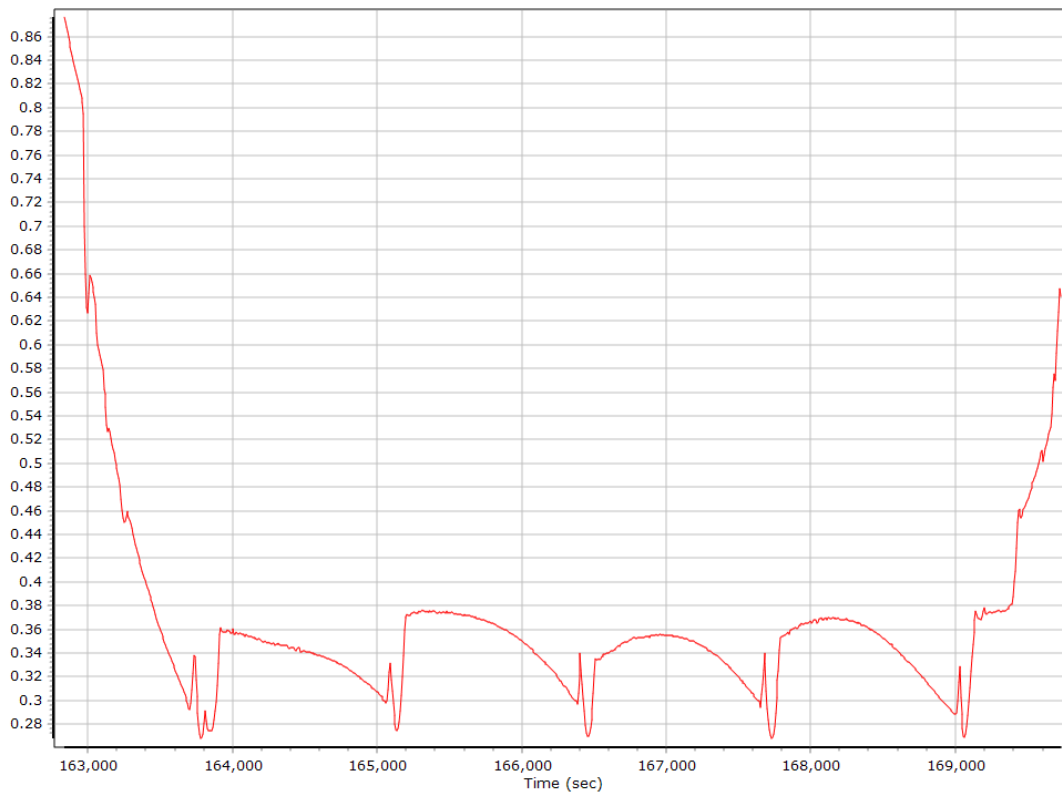
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

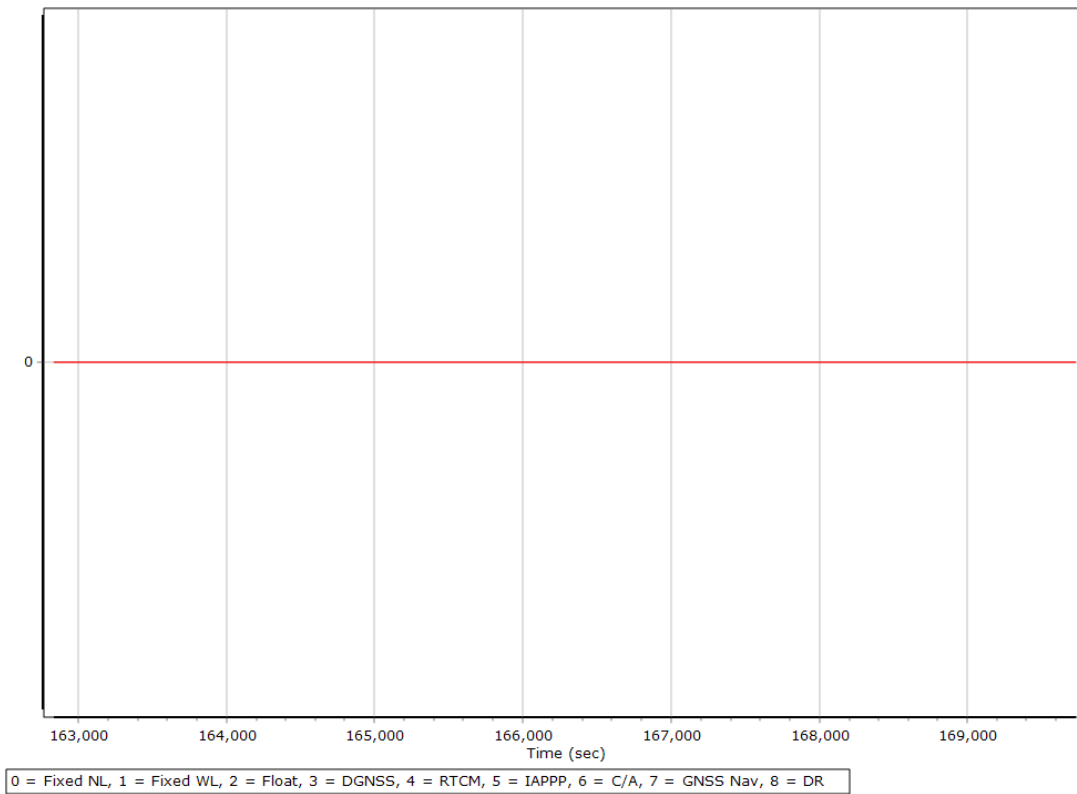


Heading Error RMS (arc-min)

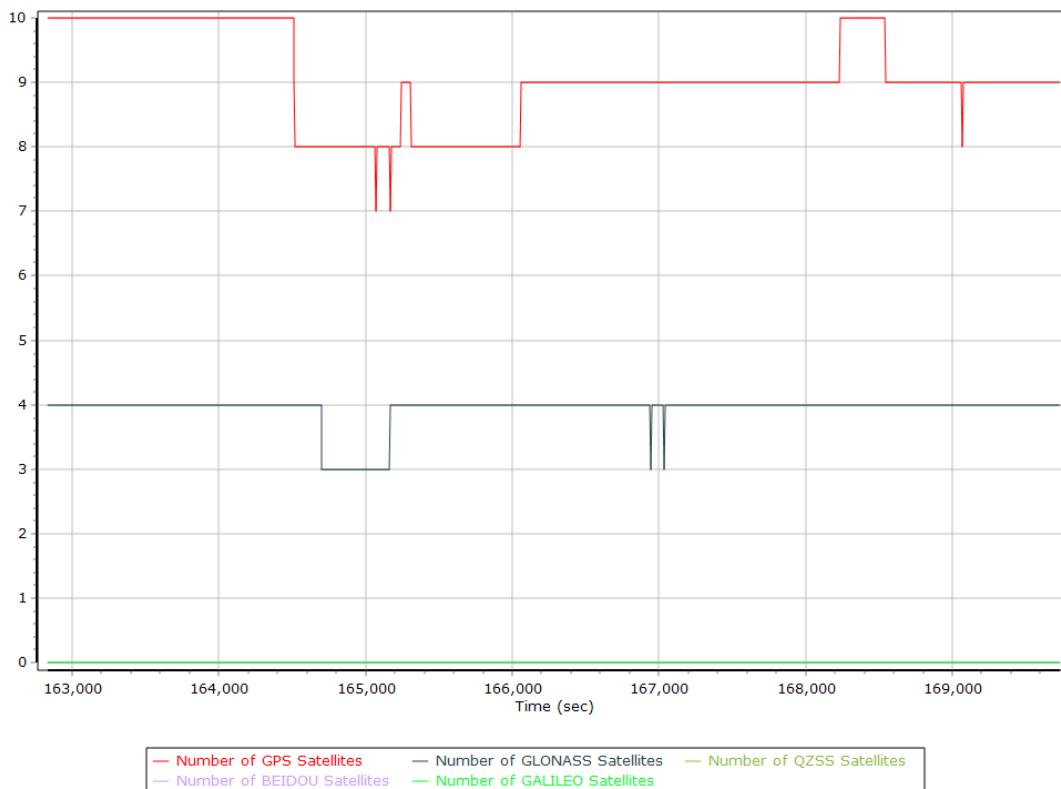


Smoothed Solution Status

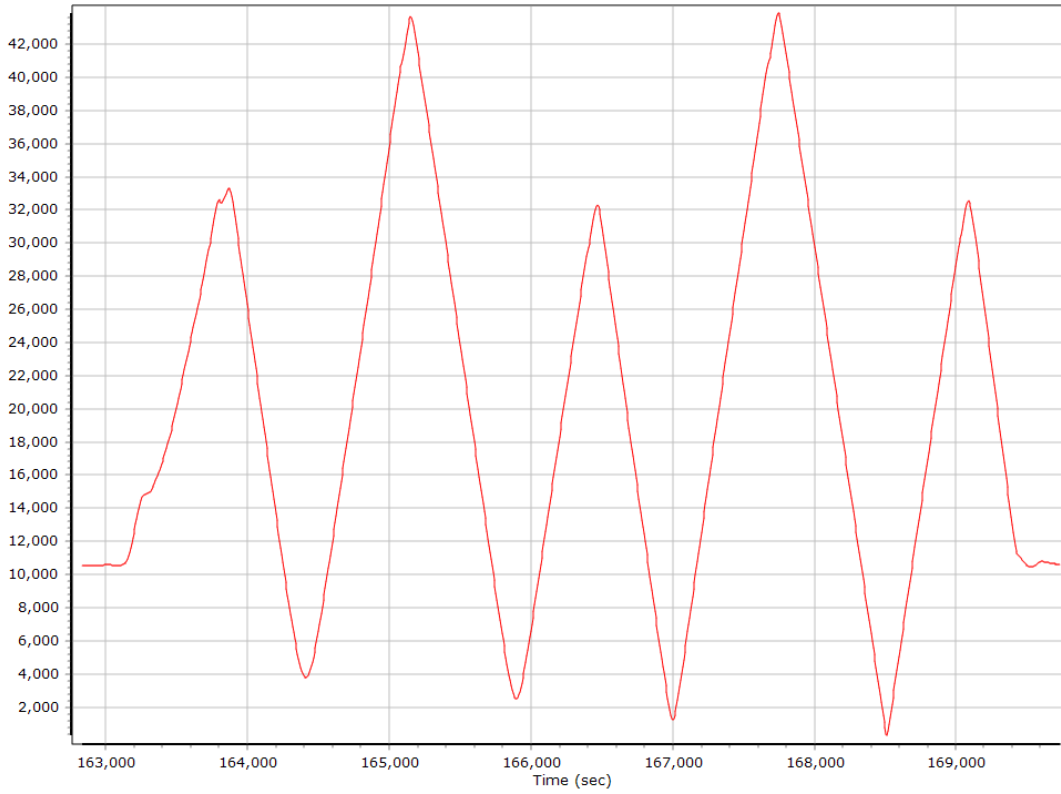
Processing Mode



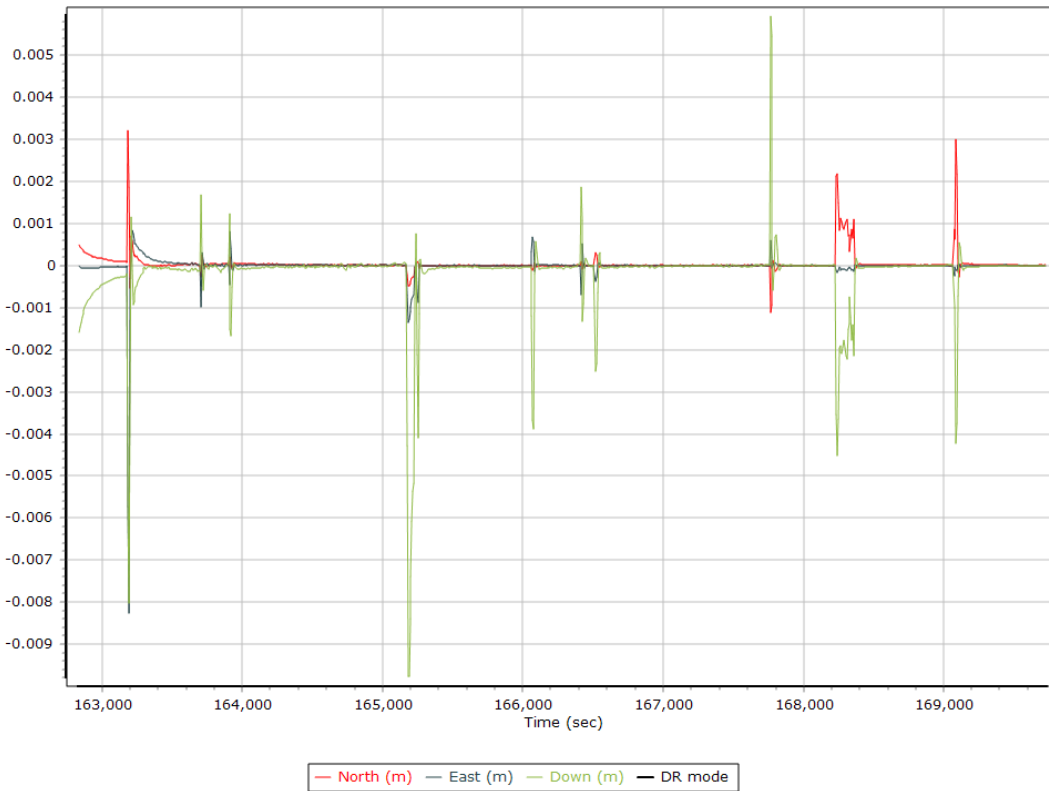
Number of Satellites



Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	PTG19330A
Processing date	2019-12-12 16:42:42
Mission date	2019-11-26 13:10:32
Mission duration	03:36:28.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	AV37

Project File List

Rover Data Files

File name	File type
PTG19330.263	POS Data
PTG19330.264	POS Data
PTG19330.265	POS Data
PTG19330.266	POS Data
PTG19330.267	POS Data
PTG19330.268	POS Data
PTG19330.269	POS Data
PTG19330.270	POS Data
PTG19330.271	POS Data
PTG19330.272	POS Data
PTG19330.273	POS Data
PTG19330.274	POS Data
PTG19330.275	POS Data
PTG19330.276	POS Data
PTG19330.277	POS Data
PTG19330.278	POS Data
PTG19330.279	POS Data
PTG19330.280	POS Data
PTG19330.281	POS Data
PTG19330.282	POS Data
PTG19330.283	POS Data
PTG19330.284	POS Data
PTG19330.285	POS Data
PTG19330.286	POS Data
PTG19330.287	POS Data
PTG19330.288	POS Data
PTG19330.289	POS Data
PTG19330.290	POS Data
PTG19330.291	POS Data
PTG19330.292	POS Data
PTG19330.293	POS Data

Input Files

File Name	File Type
Ephm3300.19g	GLONASS Broadcast Ephemeris
Ephm3300.19n	GPS Broadcast Ephemeris
flbf_daily3300.19o	GNSS SingleBase
flbr_daily3300.19o	GNSS SingleBase
flmc_daily3300.19o	GNSS SingleBase
gnvl_daily3300.19o	GNSS SingleBase
ocla_daily3300.19o	GNSS SingleBase
pltk_daily3300.19o	GNSS SingleBase

Output Files

Filename	File type
sbet_PTG19330A.out	SBET Trajectory File

Rover Data Summary

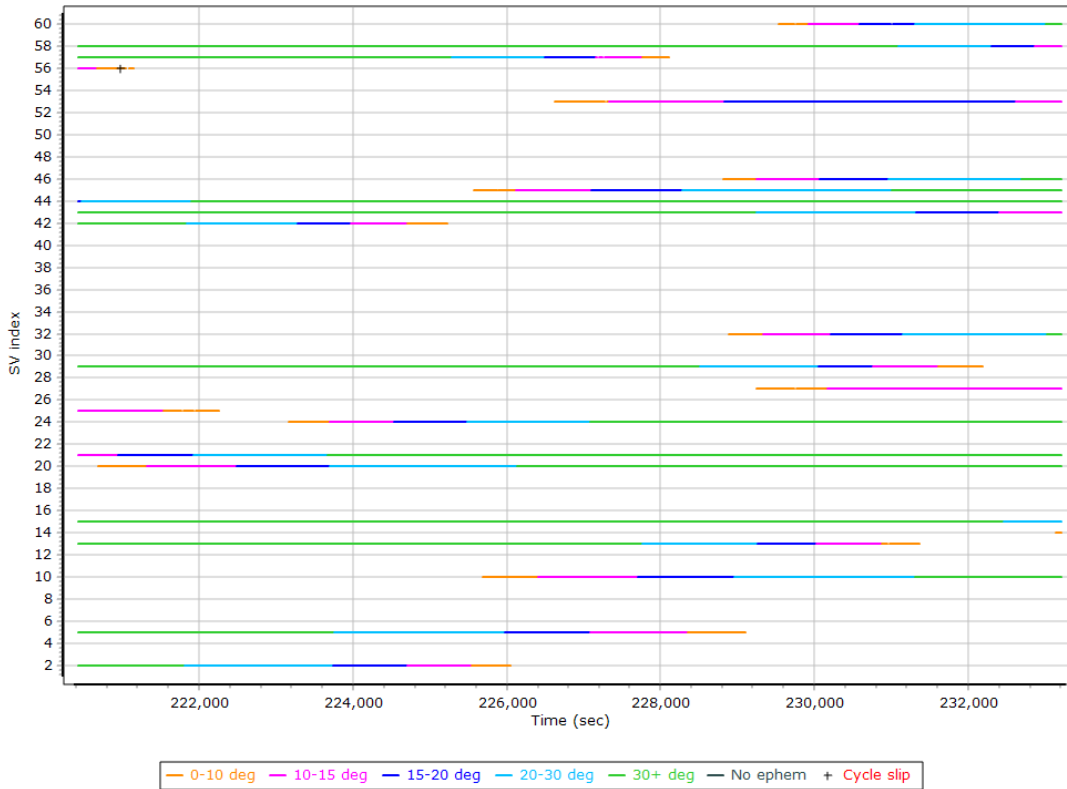
First raw data file	PTG19330.263		
Last raw data file	PTG19330.293		
Start GPS week	2081		
Start time	220213.504 (11/26/2019 1:10:13 PM)		
End time	233203.513 (11/26/2019 4:46:43 PM)		
Start of fine alignment	220376.774 (11/26/2019 1:12:56 PM)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	Event 2 Input, Event 3 Input		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Reference to IMU lever arm (m)	0.000	0.000	0.000
Reference to IMU mounting angles (deg)	0.000	0.000	0.000
Reference to Primary GNSS lever arm (m)	0.000	0.000	0.000
Reference to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

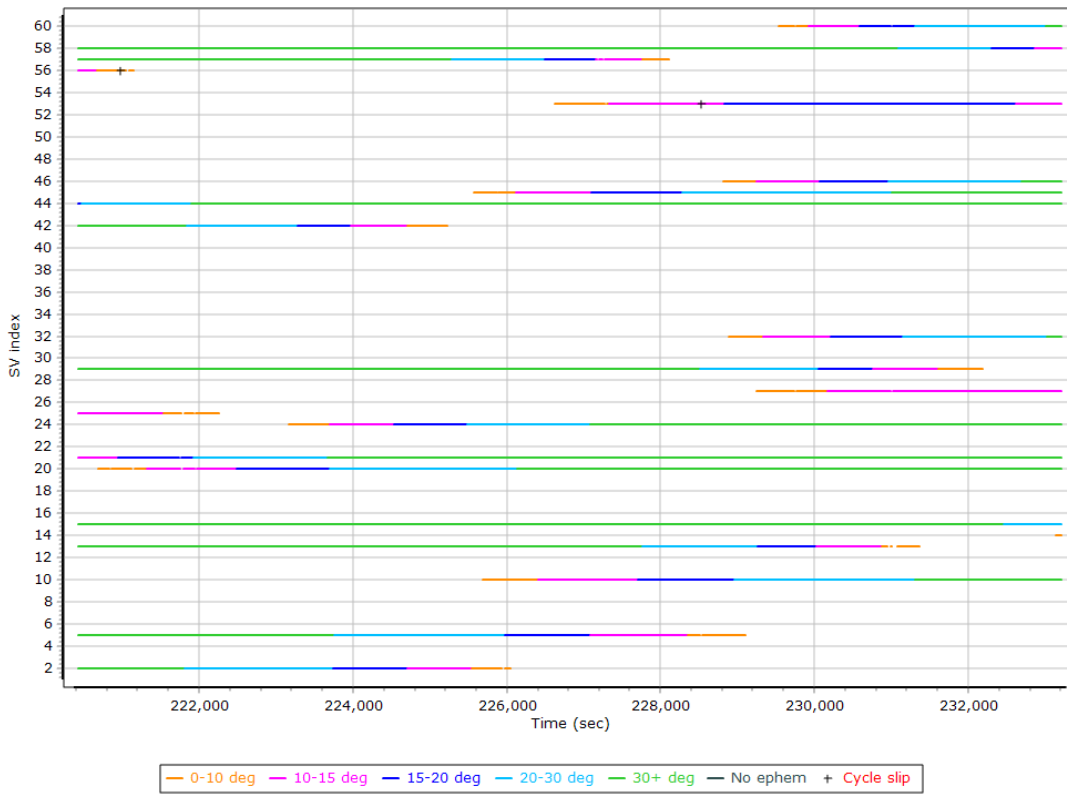
Raw IMU Import QC Summary

IMU data input file	imu_PTG19330A.dat
IMU data check log file	imudt_PTG19330A.log
IMU Records Processed	2597441
Termination Status	Normal
IMU Anomalies	0

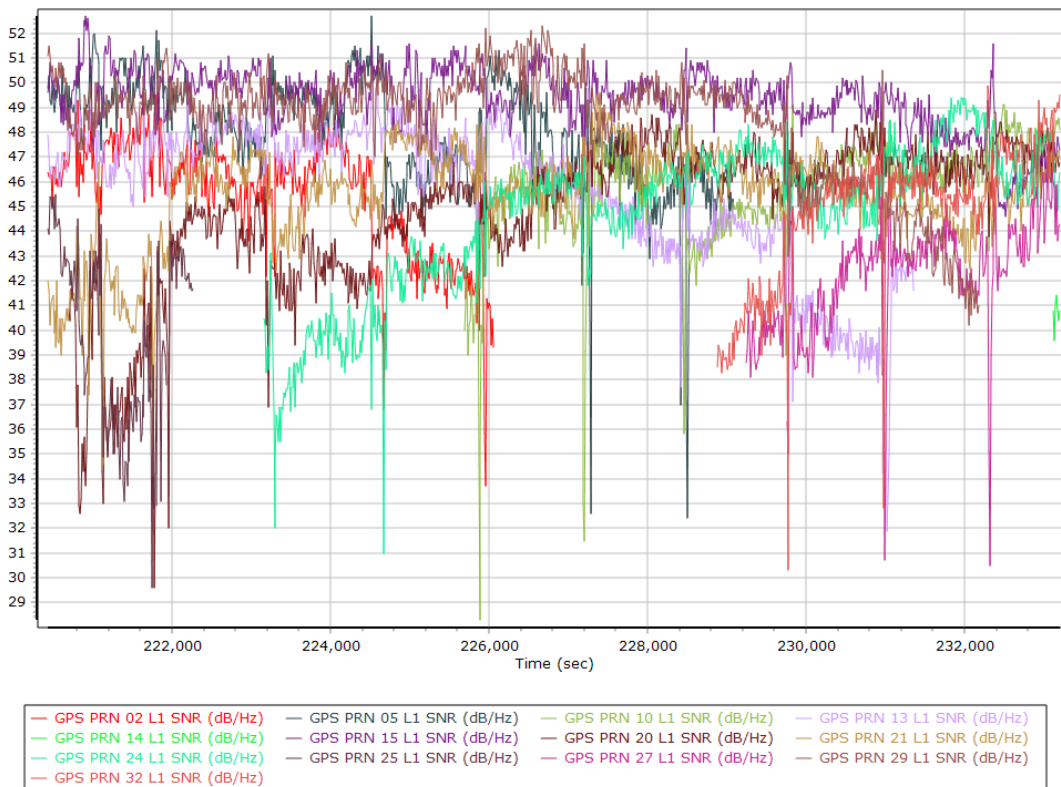
L1 Satellite Lock/Elevation



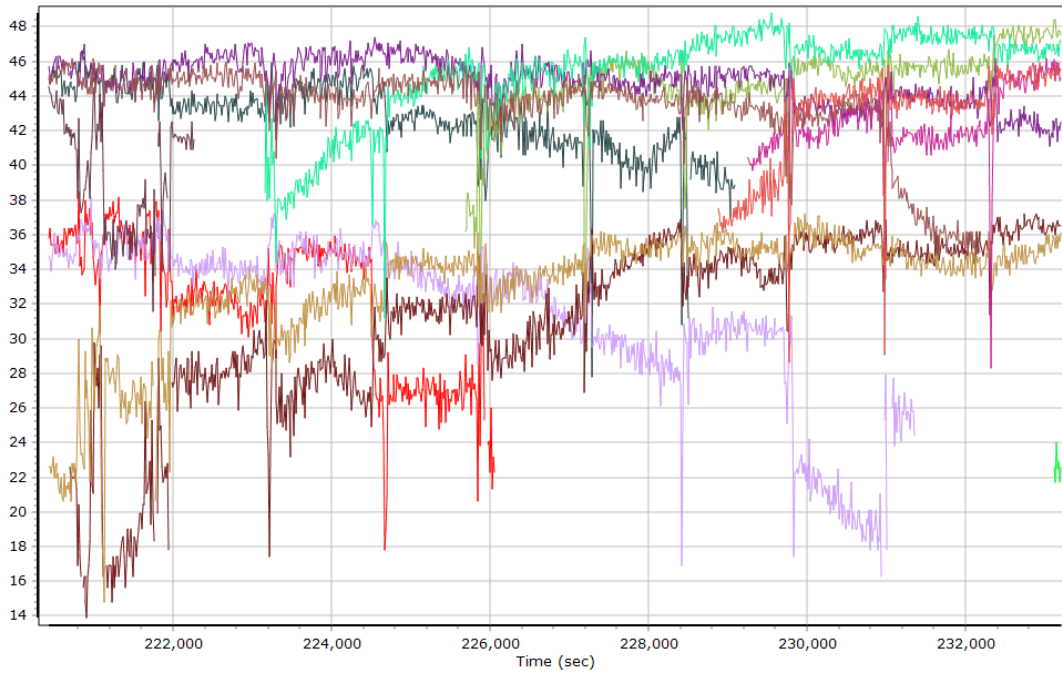
L2 Satellite Lock/Elevation



GPS L1 SNR

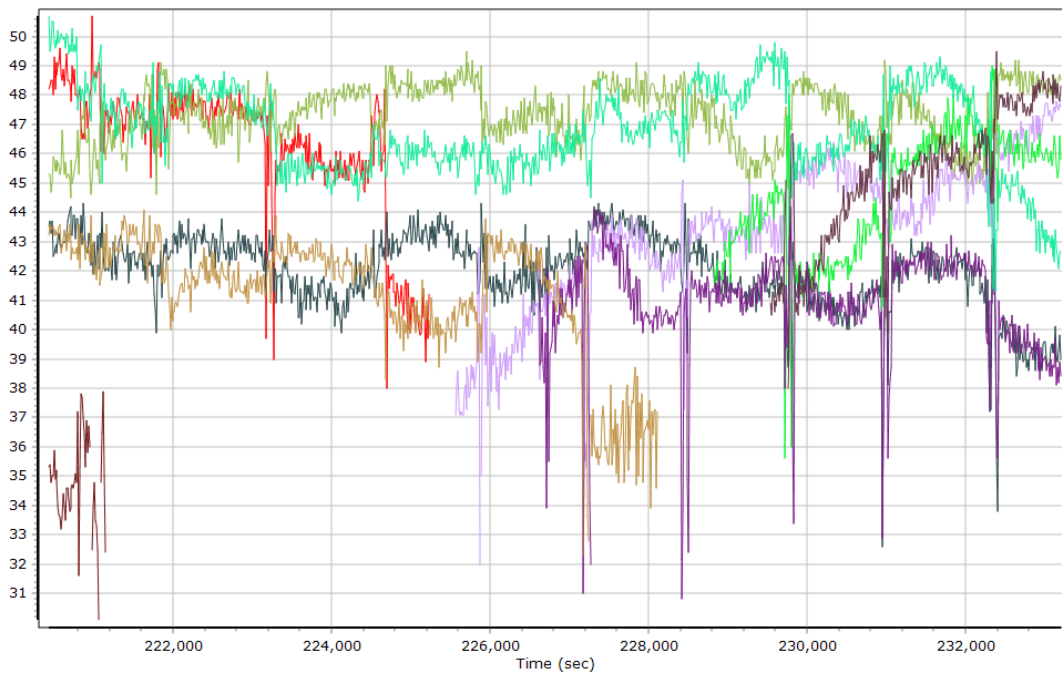


GPS L2 SNR



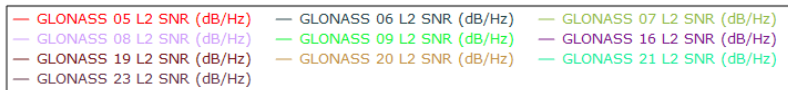
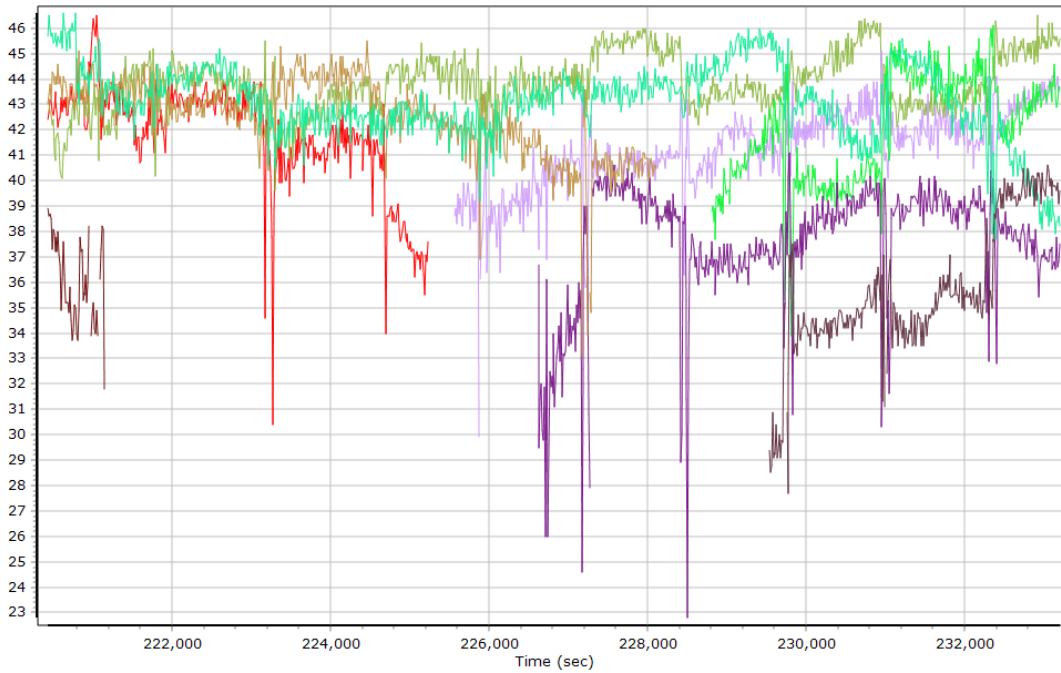
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 02 L2 SNR (dB/Hz) | GPS PRN 05 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 13 L2 SNR (dB/Hz) |
| GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 15 L2 SNR (dB/Hz) | GPS PRN 20 L2 SNR (dB/Hz) | GPS PRN 21 L2 SNR (dB/Hz) |
| GPS PRN 24 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) | GPS PRN 29 L2 SNR (dB/Hz) |
| GPS PRN 32 L2 SNR (dB/Hz) | | | |

GLONASS L1 SNR

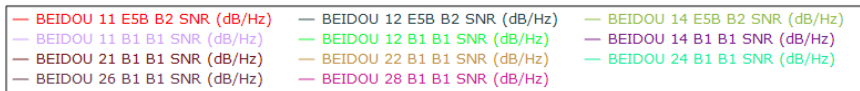
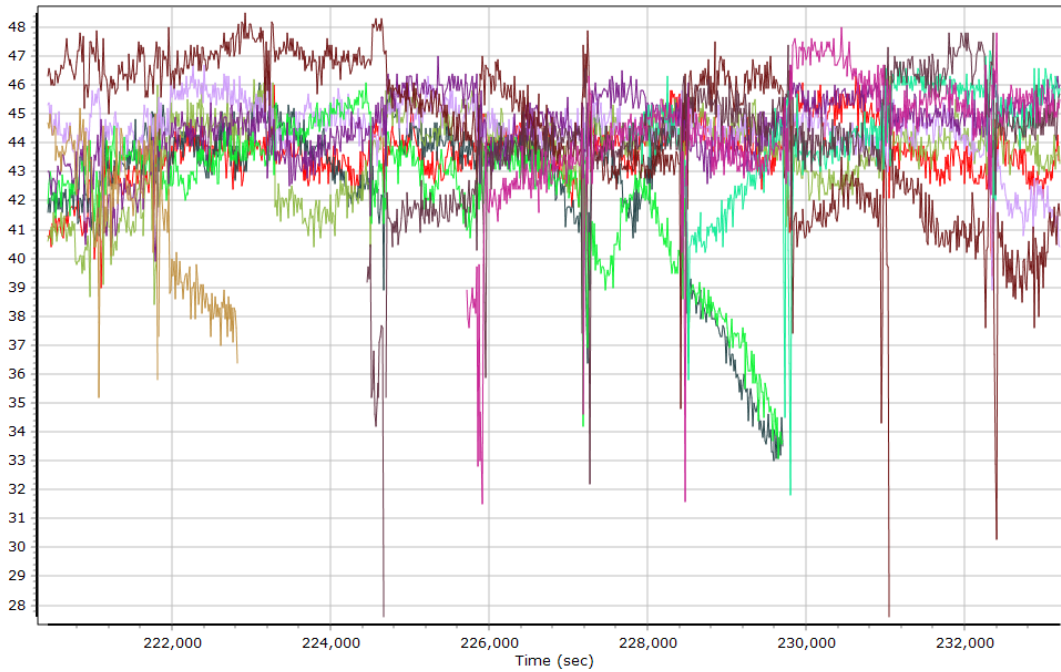


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) | GLONASS 07 L1 SNR (dB/Hz) |
| GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) | GLONASS 16 L1 SNR (dB/Hz) |
| GLONASS 19 L1 SNR (dB/Hz) | GLONASS 20 L1 SNR (dB/Hz) | GLONASS 21 L1 SNR (dB/Hz) |
| GLONASS 23 L1 SNR (dB/Hz) | | |

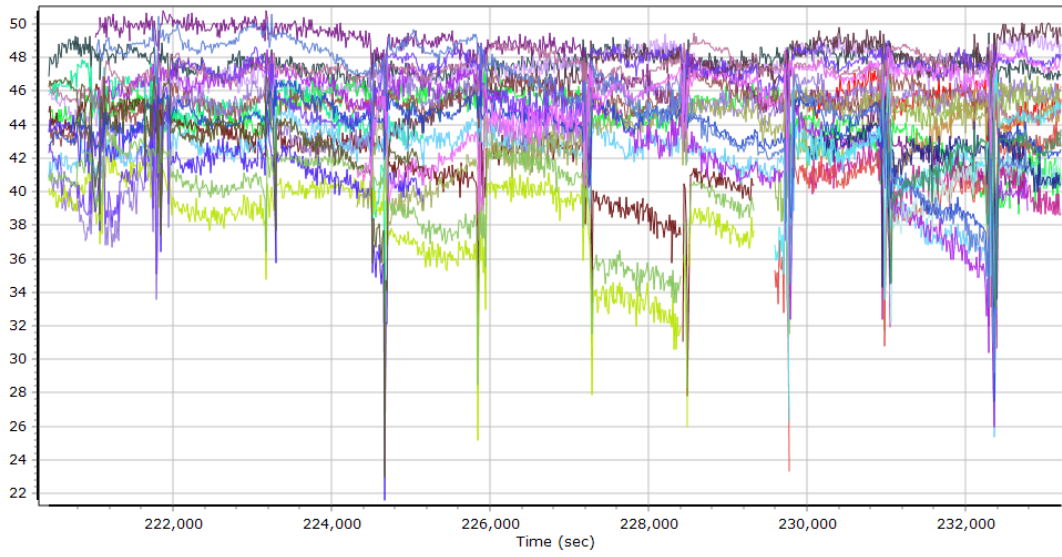
GLONASS L2 SNR



BEIDOU SNR



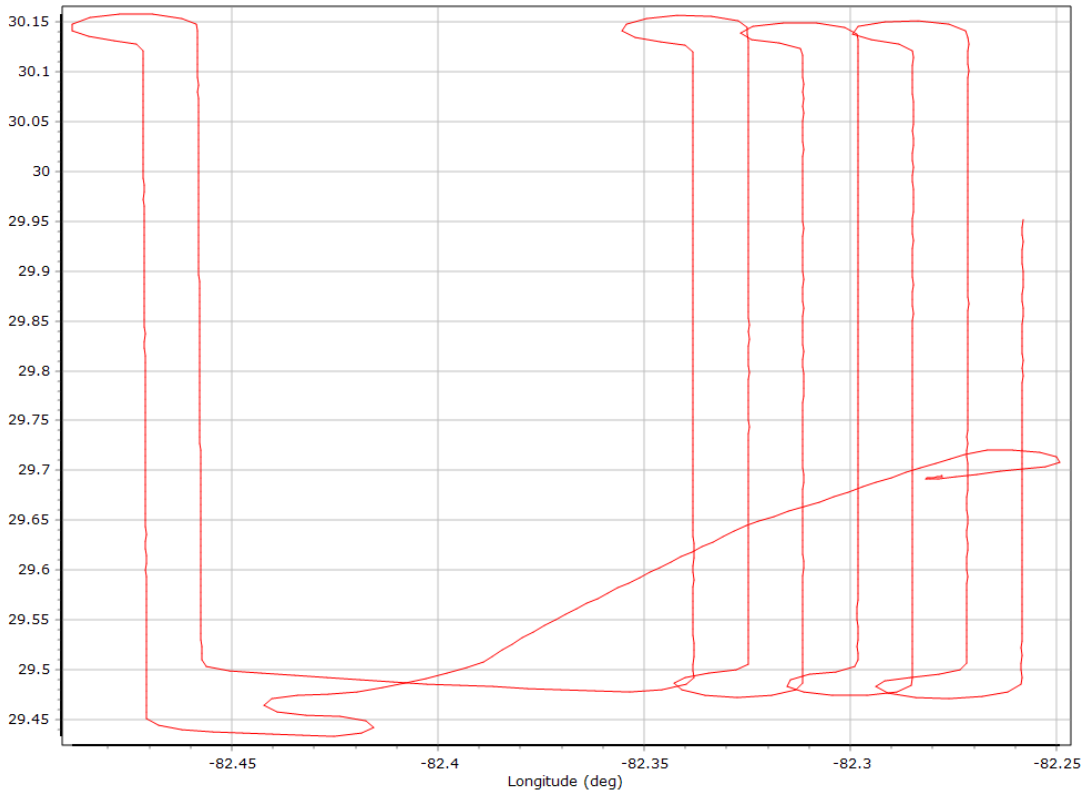
GALILEO SNR



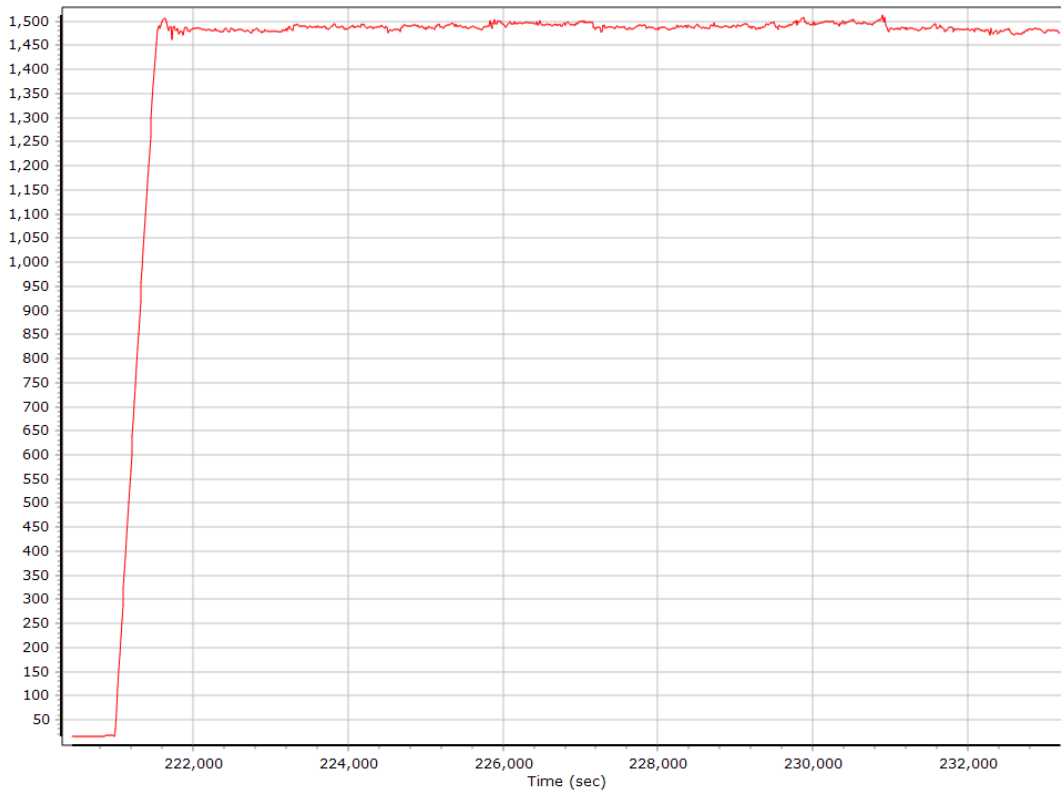
- | | |
|--|--|
| — GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 12 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 14 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 19 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 31 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 33 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 36 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 01 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 04 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 05 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 09 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 12 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 14 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 19 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 31 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 33 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 36 E5B BPSK10_PD SNR (dB/Hz) |

Trajectory Information

Top View



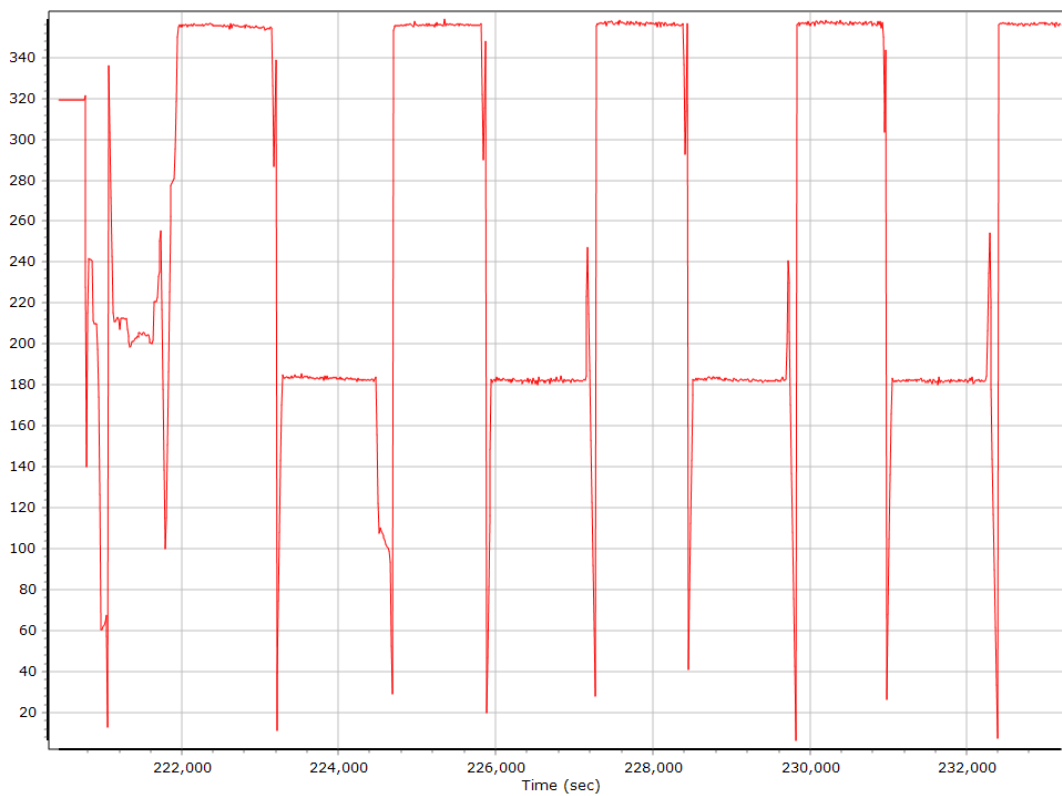
Altitude



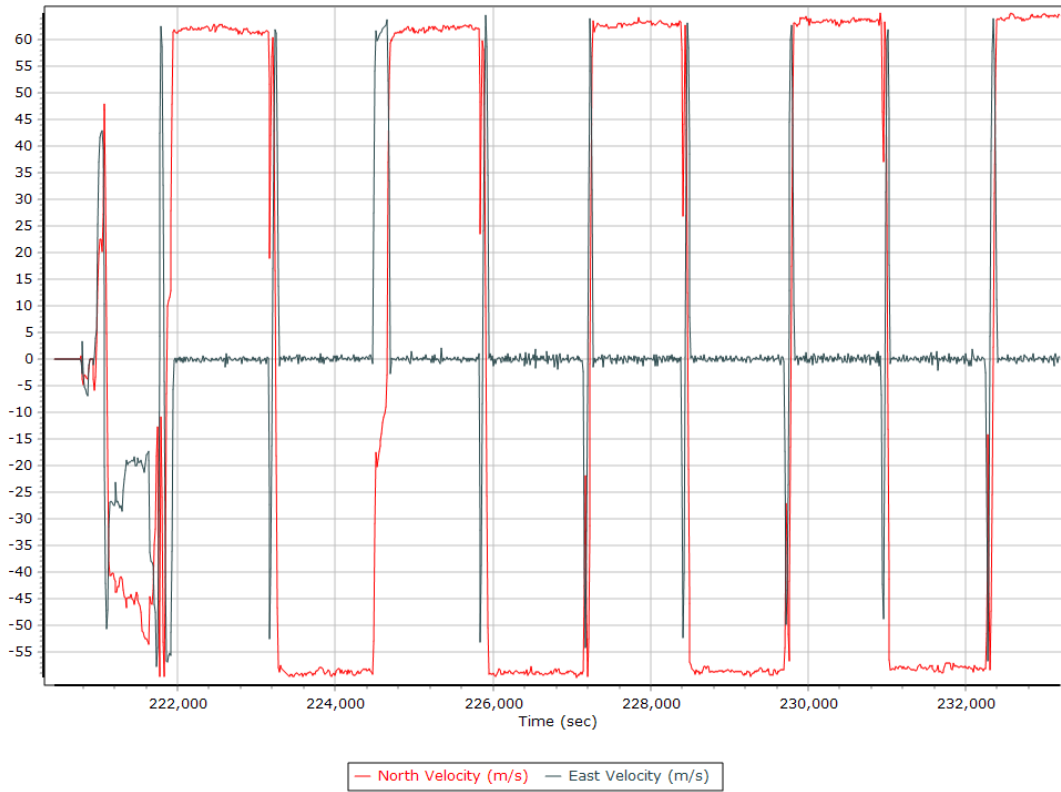
Roll/Pitch



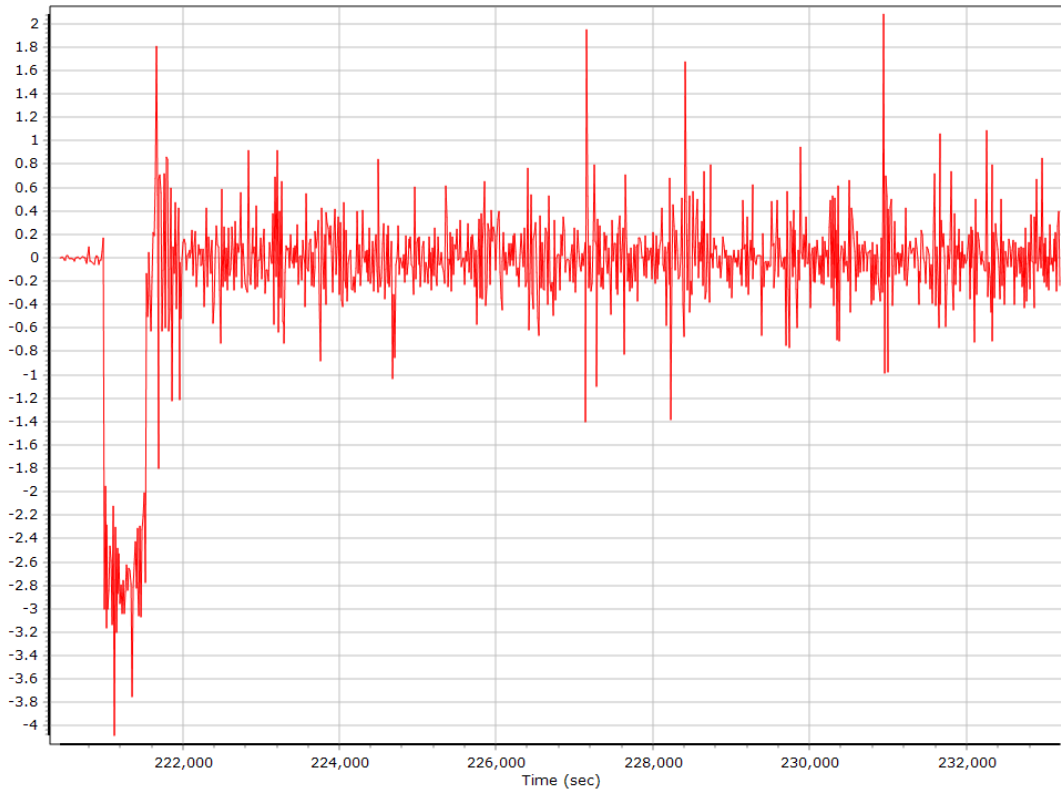
Heading



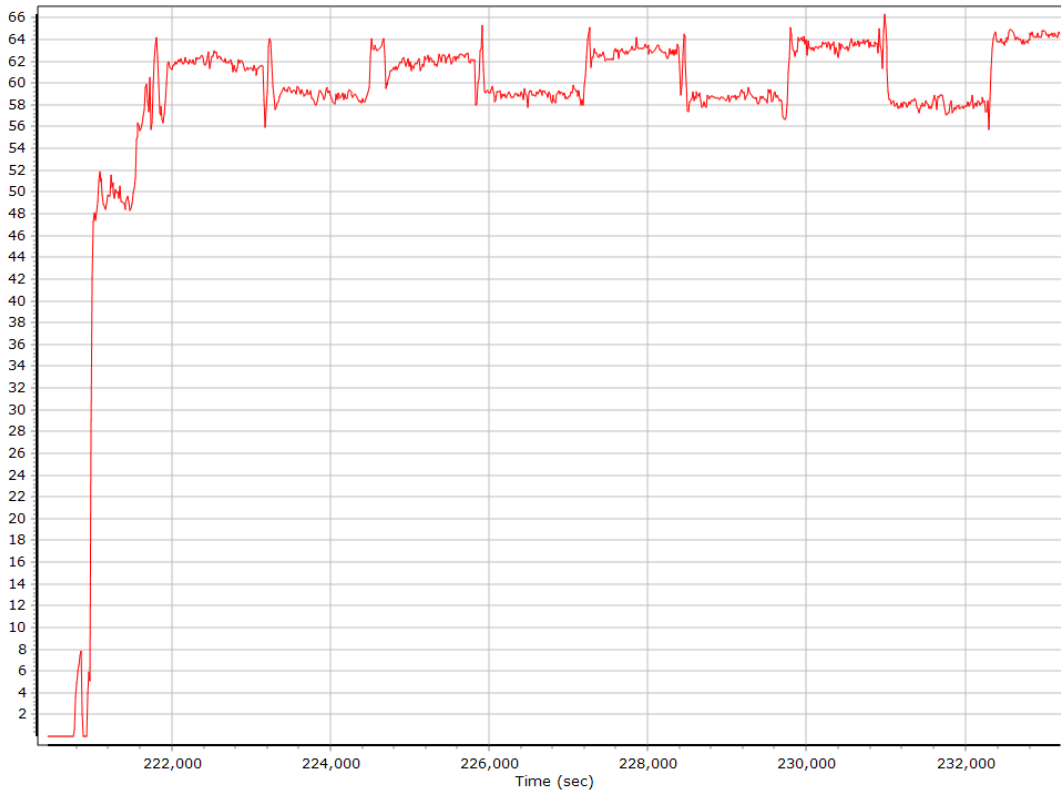
North/East Velocity



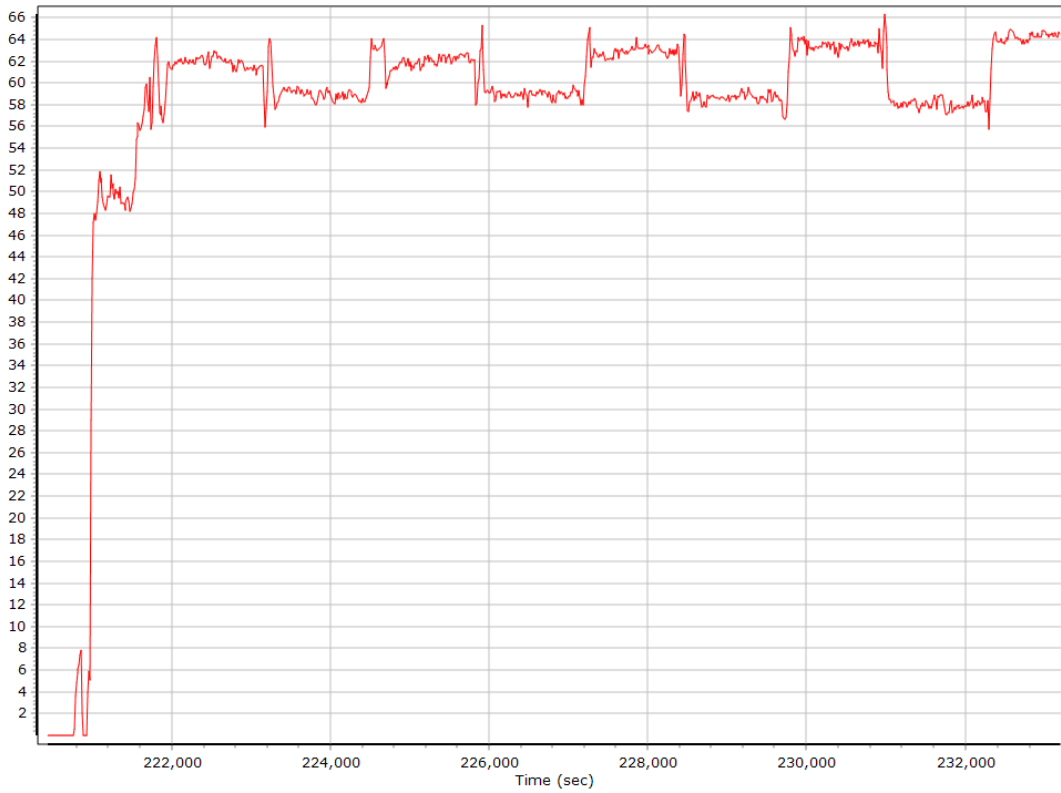
Down Velocity



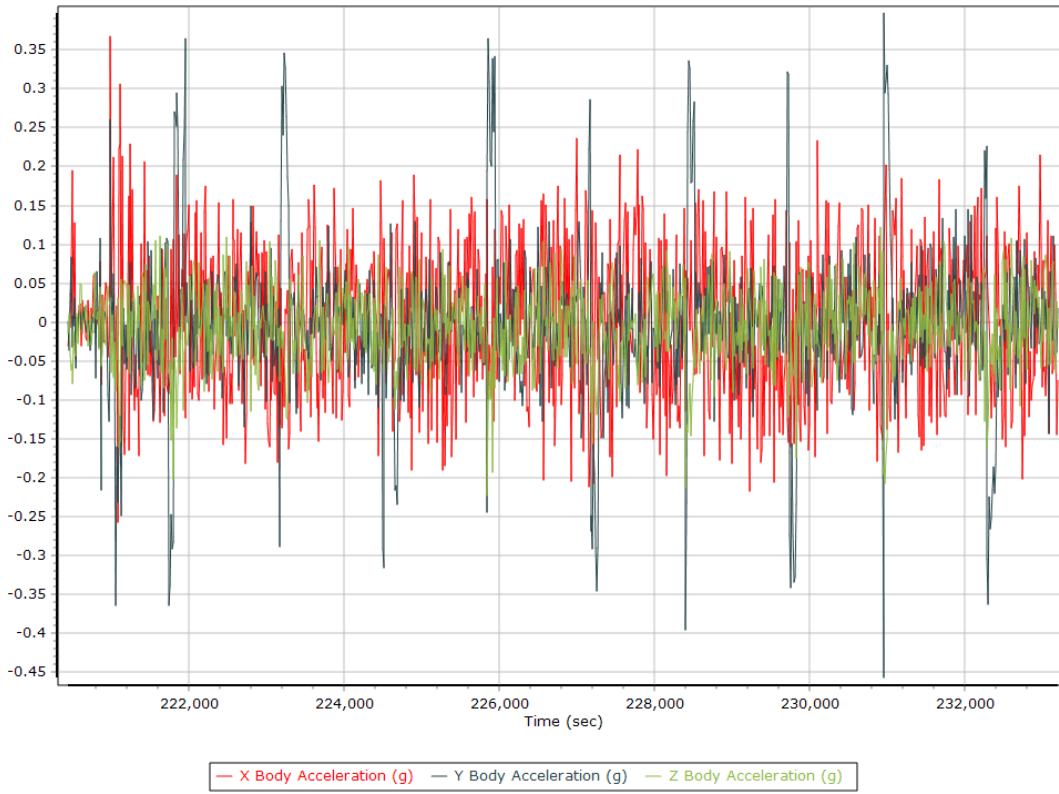
Total Speed



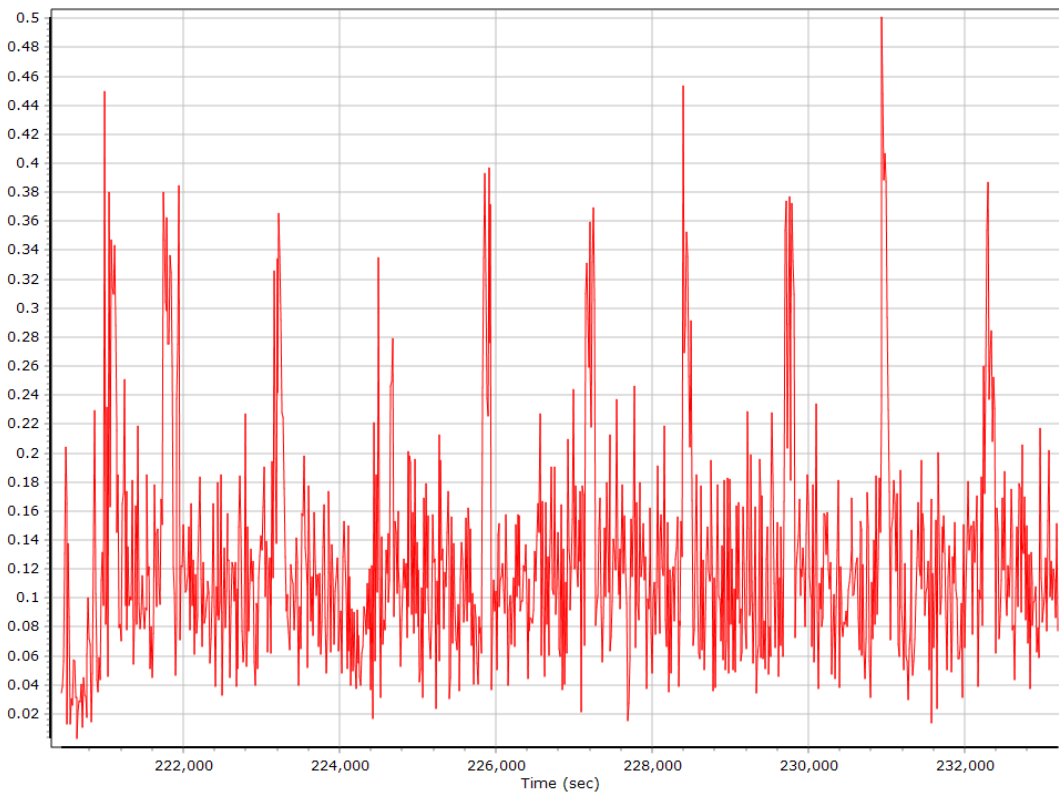
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	False
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
11/26/2019	PLTK	64.14	GNSS	1	User	None	Imported
11/26/2019	OCLA	69.96	GNSS	1	User	None	Imported
11/26/2019	GNVL	11.86	GNSS	1	User	None	Imported
11/26/2019	FLMC	58.23	GNSS	1	User	None	Imported
11/26/2019	FLBR	48.12	GNSS	1	User	None	Imported
11/26/2019	FLBF	58.94	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	GNVL
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	12988 s (2081 220232 - 2081 233220)
Number of reference stations	6
Primary station GPS measurement usage (%)	99.9
Primary station GLONASS measurement usage (%)	73.6
Average number of satellites per epoch	11.6
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	19030
GPS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - PLTK

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	13.63	Output Coordinates	Disabled	
Solution Epochs	3272	Mean Epoch SVs	7.8	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14824"	W81°41'15.86068"	17.950
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.003	0.005	0.005

Base Station Information

Station ID	PLTK		
Filename	pltk_daily3300.19o		
Start date	11/26/2019 12:00:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	17:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - OCLA

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	13.90	Output Coordinates	Disabled	
Solution Epochs	3336	Mean Epoch SVs	7.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°10'54.46980"	W82°06'15.28619"	17.715
Adjusted		N29°10'54.46985"	W82°06'15.28617"	17.722
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.002	0.007	0.007

Base Station Information

Station ID	OCLA		
Filename	ocla_daily3300.19o		
Start date	11/26/2019 4:00:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	13:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	CONTROL	SBQI	0	
Duration (Hours)	13.90	Output Coordinates	Control	
Solution Epochs	3336	Mean Epoch SVs	7.9	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55697"	W82°16'36.73521"	23.936
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3300.19o		
Start date	11/26/2019 4:00:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	13:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMC

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	13.90	Output Coordinates	Disabled	
Solution Epochs	3336	Mean Epoch SVs	7.7	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°16'15.87532"	W82°07'35.14360"	11.221
Adjusted		N30°16'15.87529"	W82°07'35.14408"	11.247
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.013	0.026	0.029

Base Station Information

Station ID	FLMC		
Filename	flmc_daily3300.19o		
Start date	11/26/2019 4:00:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	13:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701977
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°16'15.87532"		
Longitude	W82°07'35.14360"		
Ellipsoidal height (m)	11.22100		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLBR

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	13.73	Output Coordinates	Disabled	
Solution Epochs	3294	Mean Epoch SVs	7.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°26'19.83659"	W82°38'43.13027"	4.337
Adjusted		N29°26'19.83630"	W82°38'43.13025"	4.369
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.009	0.032	0.034

Base Station Information

Station ID	FLBR		
Filename	flbr_daily3300.19o		
Start date	11/26/2019 4:00:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	13:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701978
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°26'19.83659"		
Longitude	W82°38'43.13027"		
Ellipsoidal height (m)	-4.33700		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLBF

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	13.81	Output Coordinates	Disabled	
Solution Epochs	3314	Mean Epoch SVs	7.6	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°57'42.67561"	W82°54'34.51255"	13.286
Adjusted		N29°57'42.67537"	W82°54'34.51264"	13.260
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.008	0.026	0.027

Base Station Information

Station ID	FLBF		
Filename	flbf_daily3300.19o		
Start date	11/26/2019 1:30:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	16:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702018
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°57'42.67561"		
Longitude	W82°54'34.51255"		
Ellipsoidal height (m)	-13.28600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.16	44.19	
Number of GPS SV	5	9	8
Number of GLONASS SV	0	5	4
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	7	14	12
PDOP	1.28	2.38	1.62
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	12968.00	0.00	1.00
Percentage	99.99	0.00	0.01

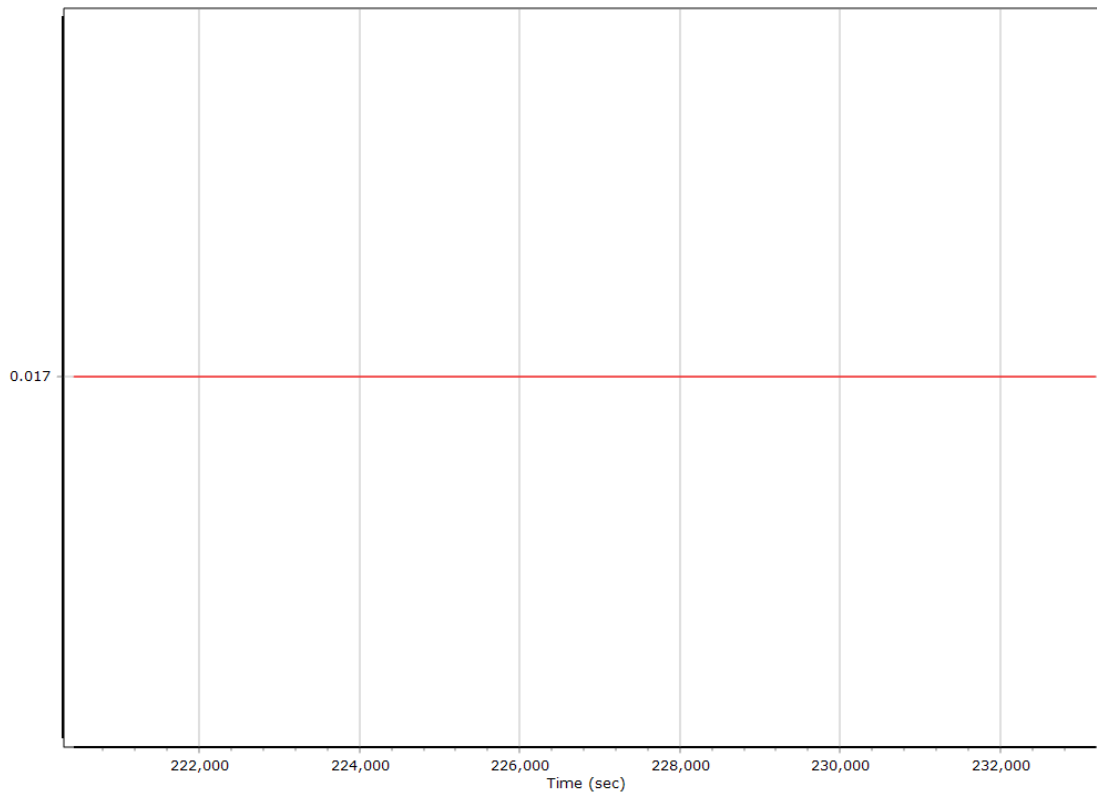
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	False		
Base station	ASB		
Processing start time	220214.000 (11/26/2019 1:10:14 PM)		
Processing end time	233202.000 (11/26/2019 4:46:42 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Reference to IMU lever arm (m)	-0.034	-0.010	-0.352
Reference to IMU mounting angles (deg)	0.000	0.000	0.000
Reference to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Reference to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

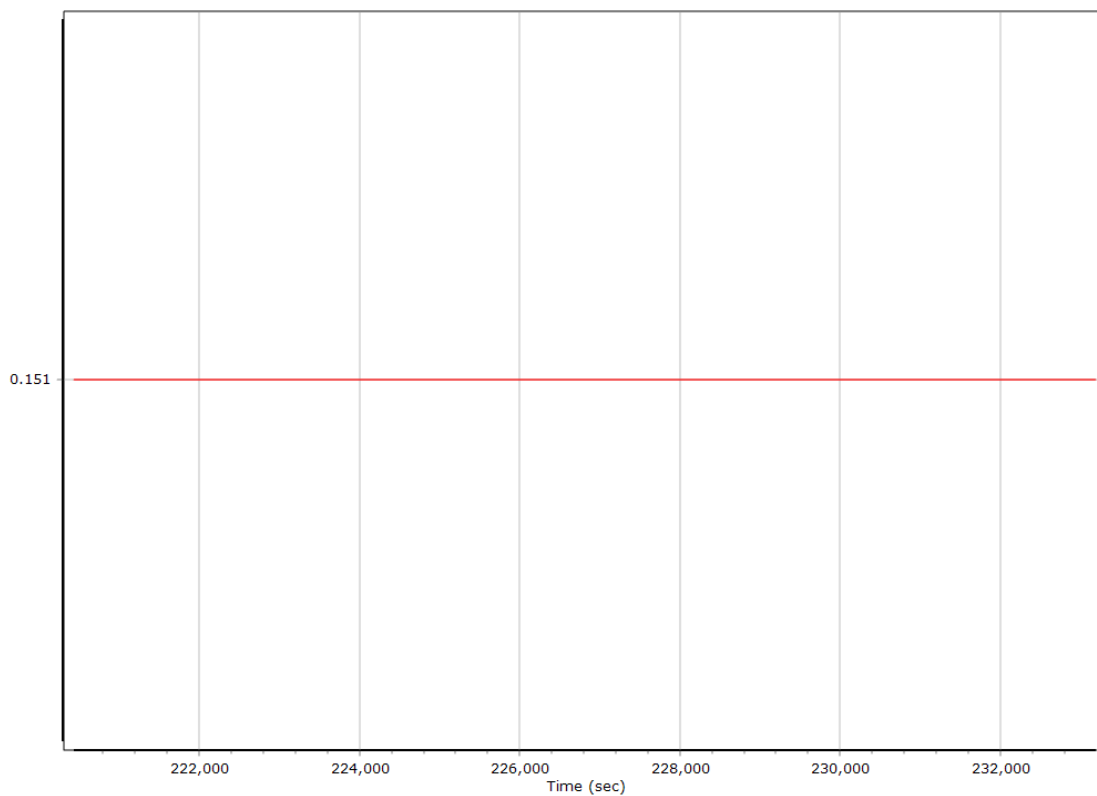
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

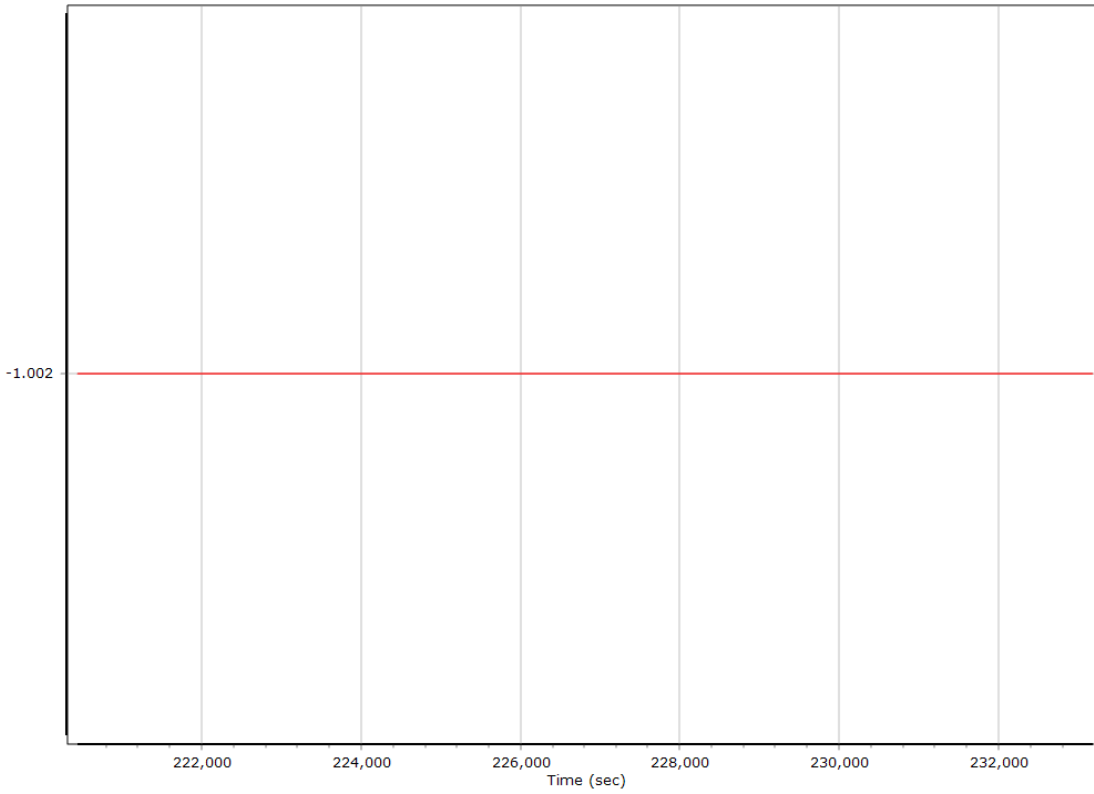
X Reference-Primary GNSS Lever Arm (m)



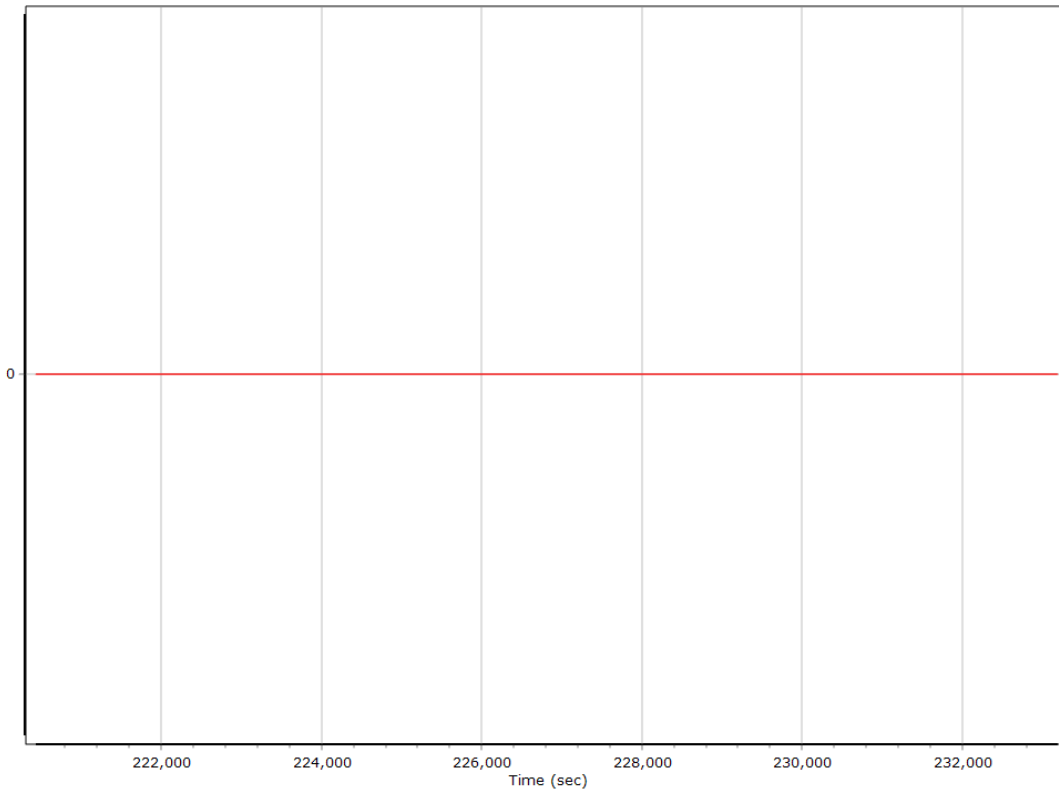
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



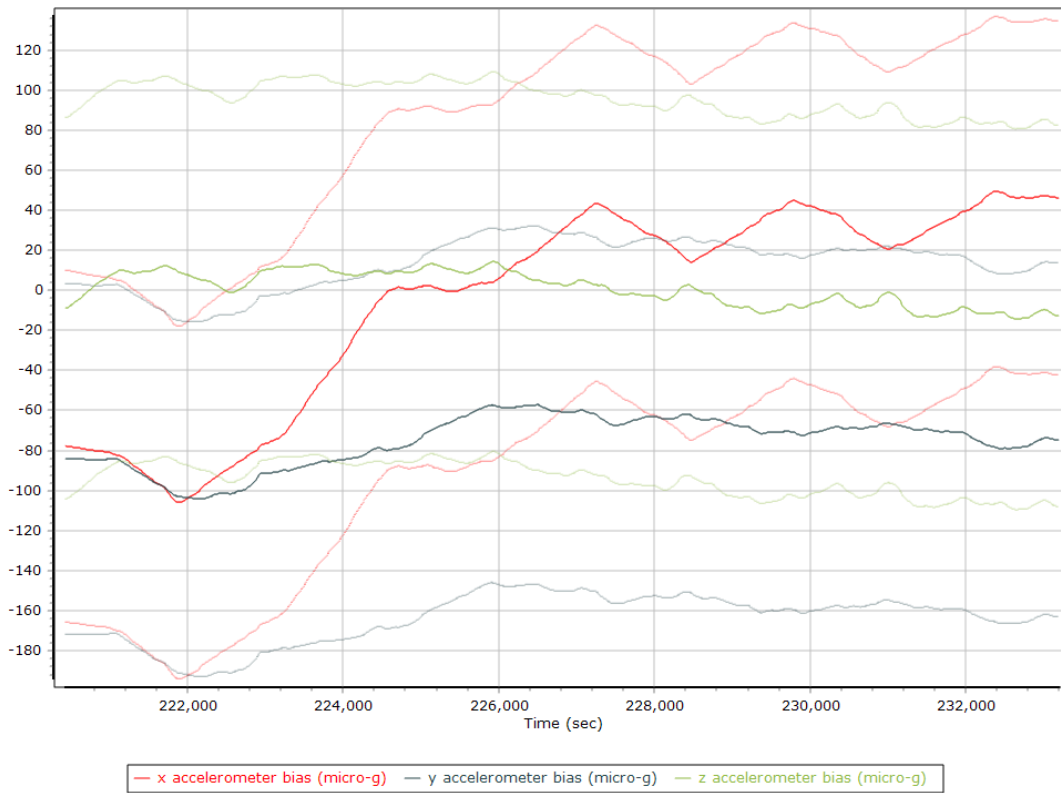
Reference-Primary GNSS Lever Arm Figure of Merit



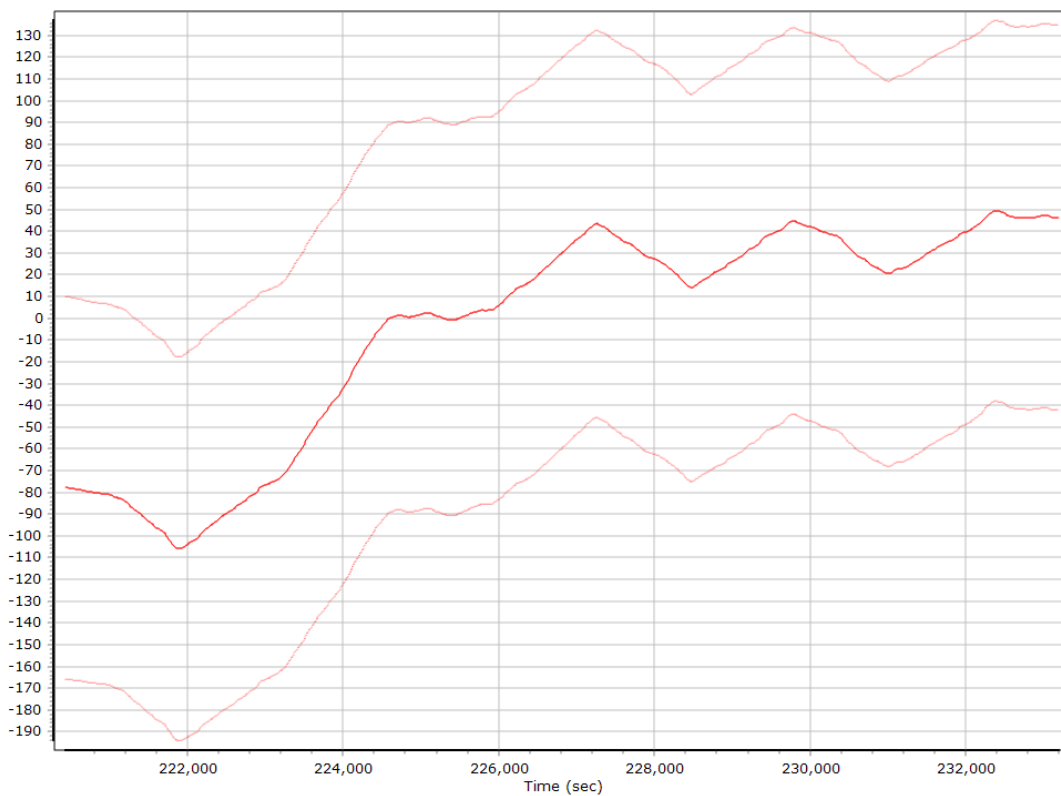
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

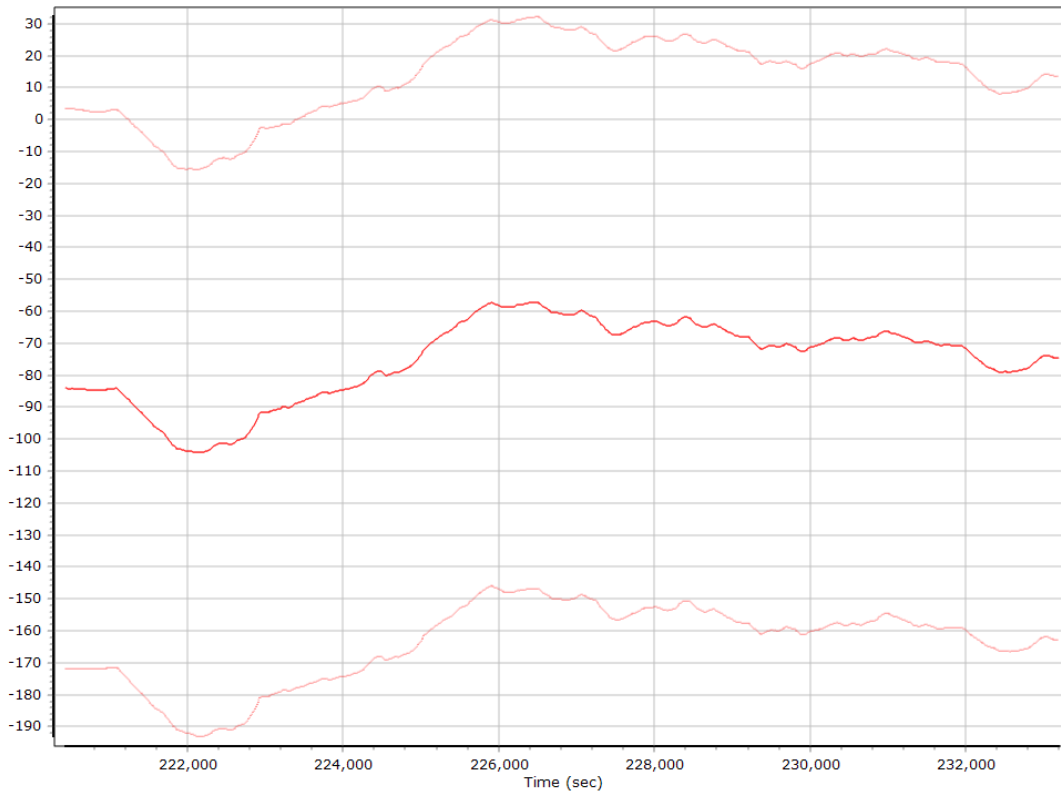
Accelerometer Bias (micro-g)



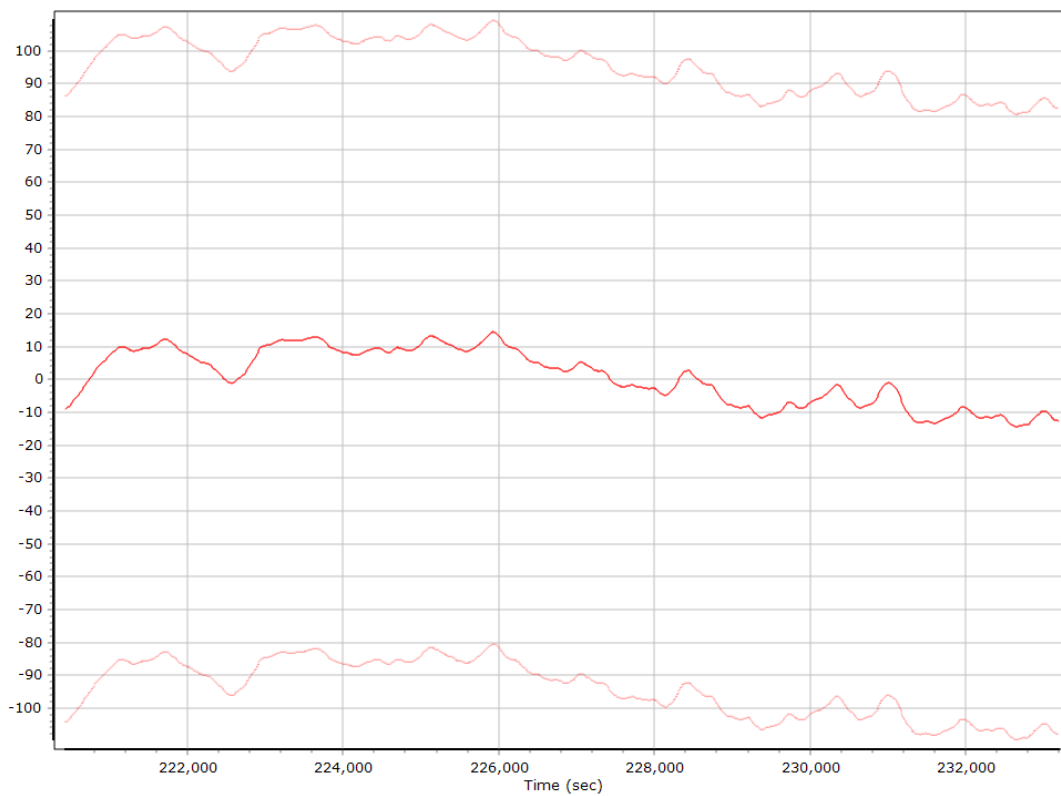
X Accelerometer Bias (micro-g)



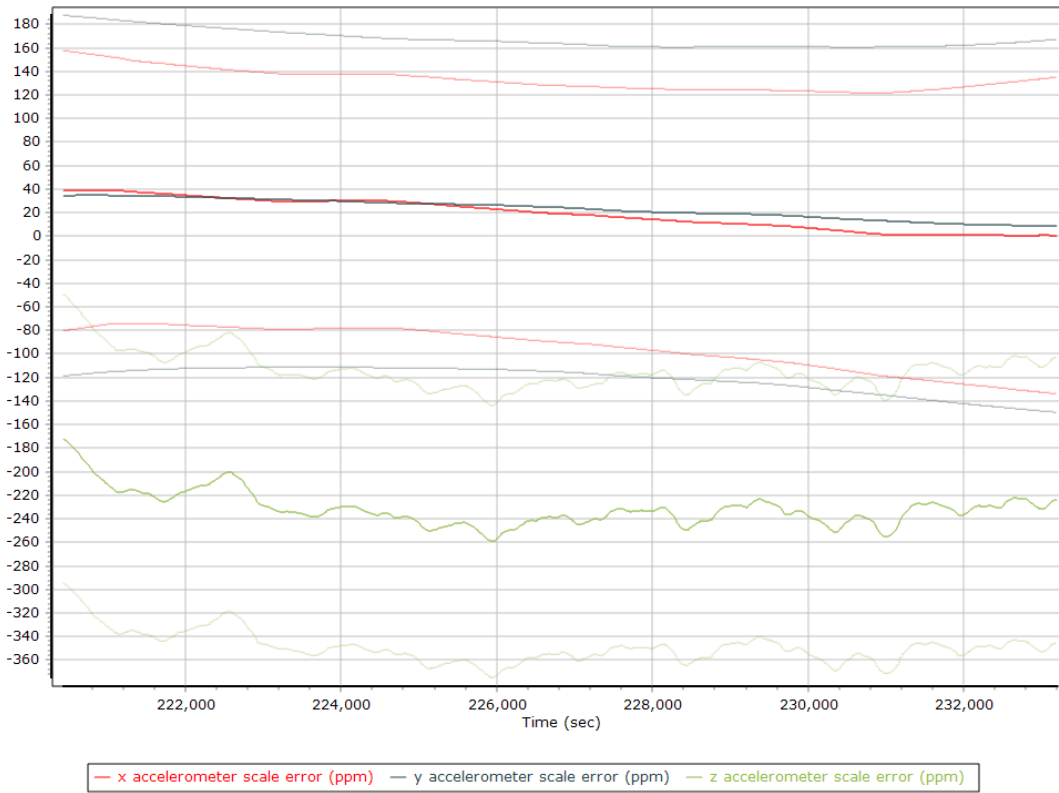
Y Accelerometer Bias (micro-g)



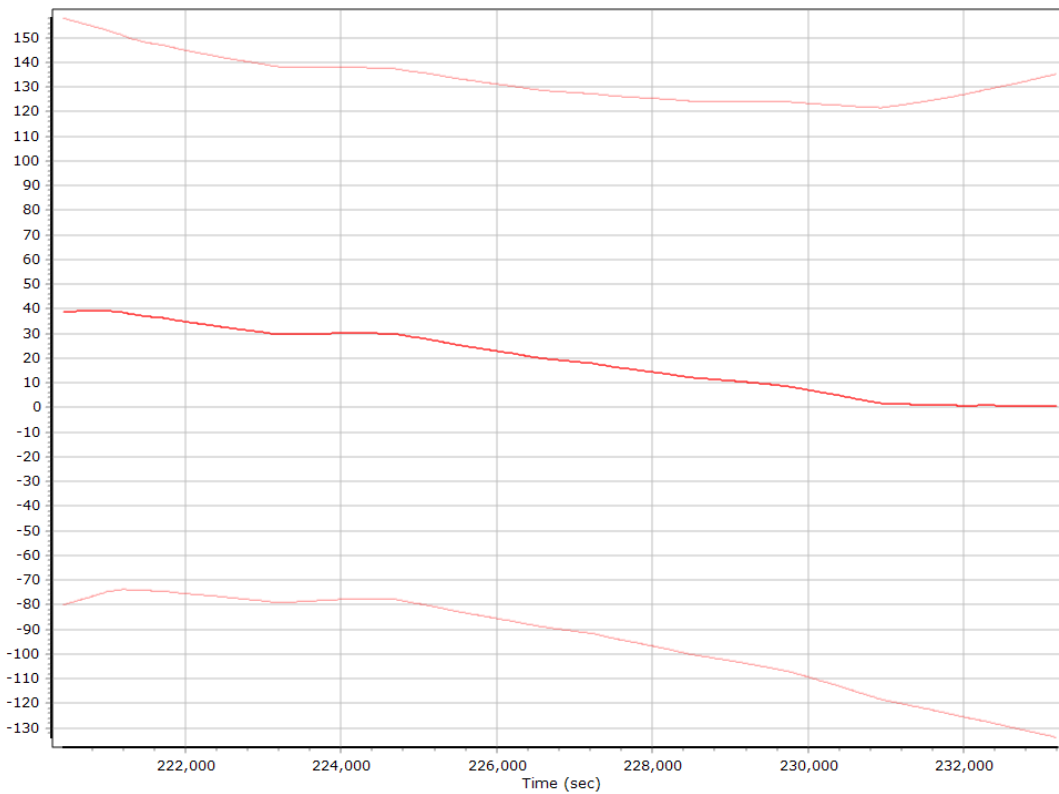
Z Accelerometer Bias (micro-g)



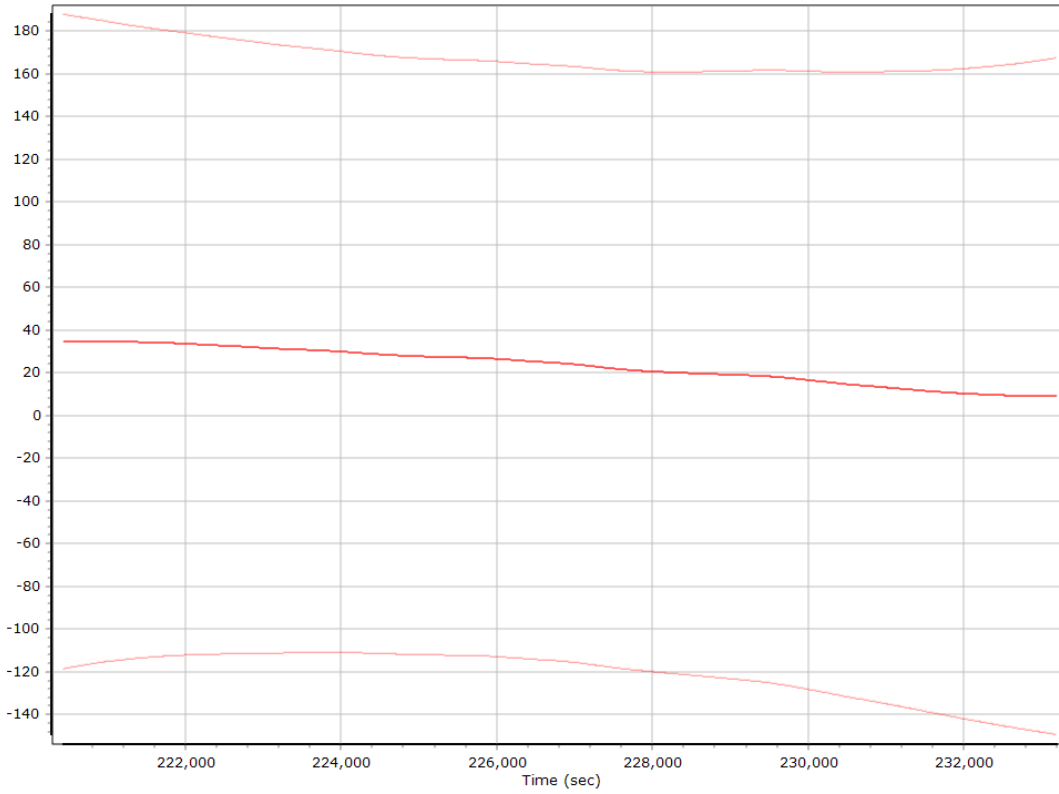
Accelerometer Scale Error (ppm)



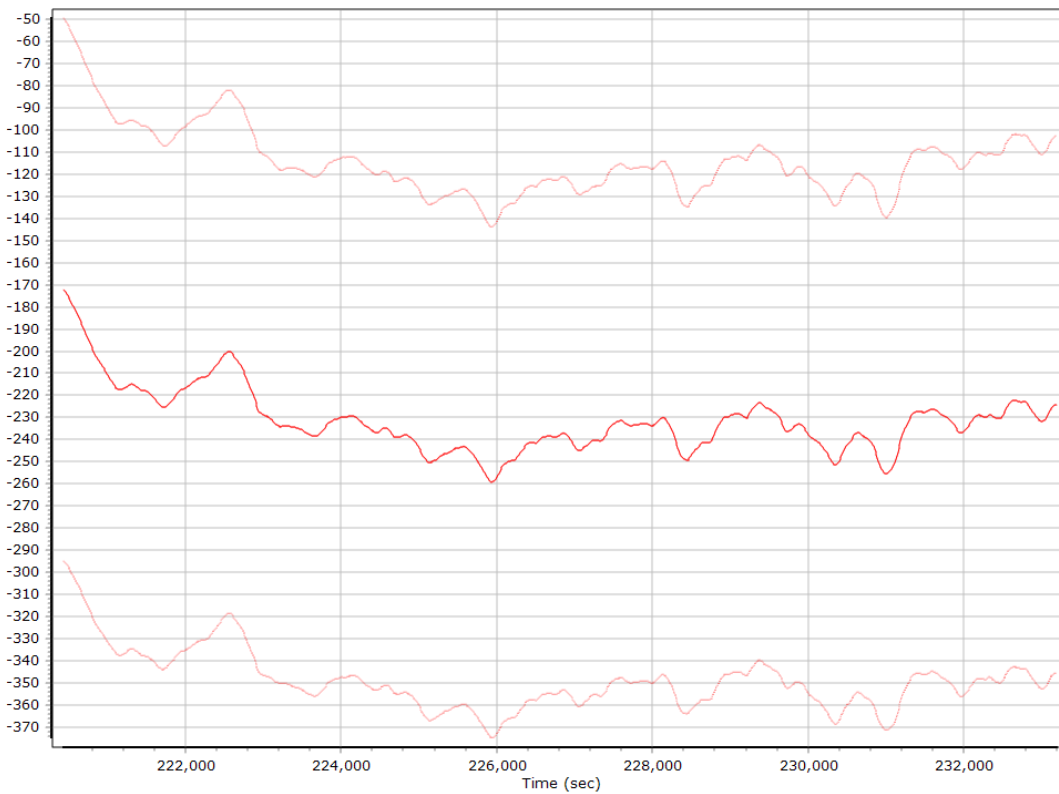
X Accelerometer Scale Error (ppm)



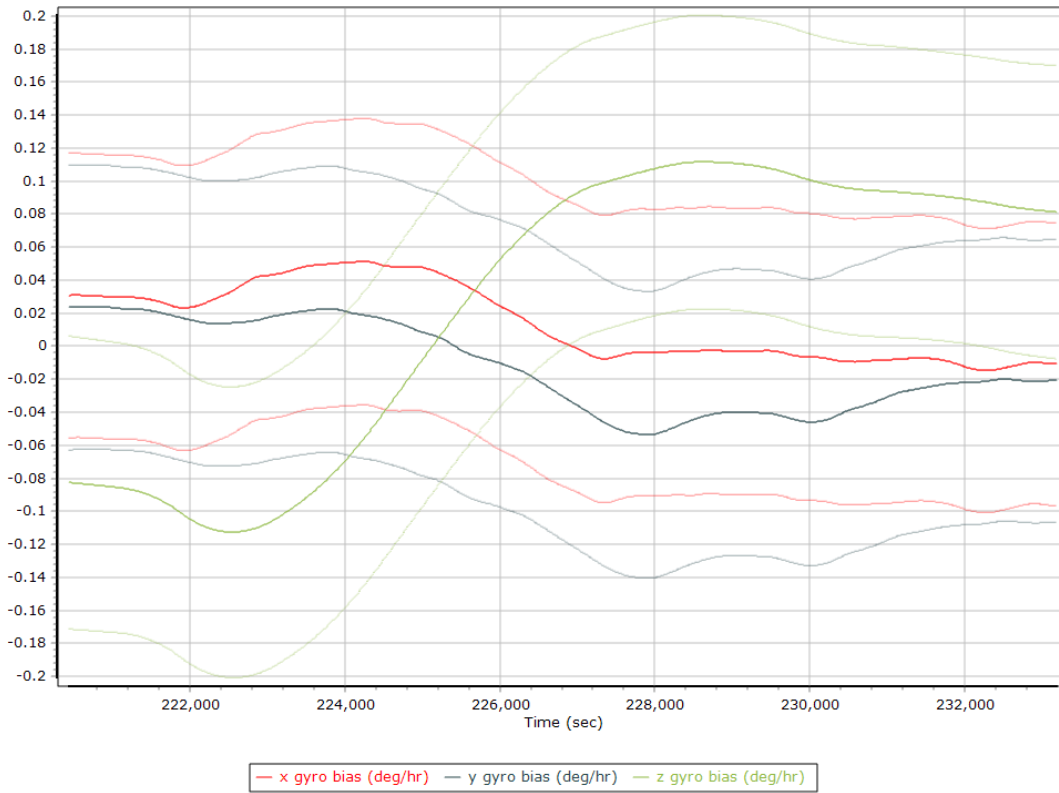
Y Accelerometer Scale Error (ppm)



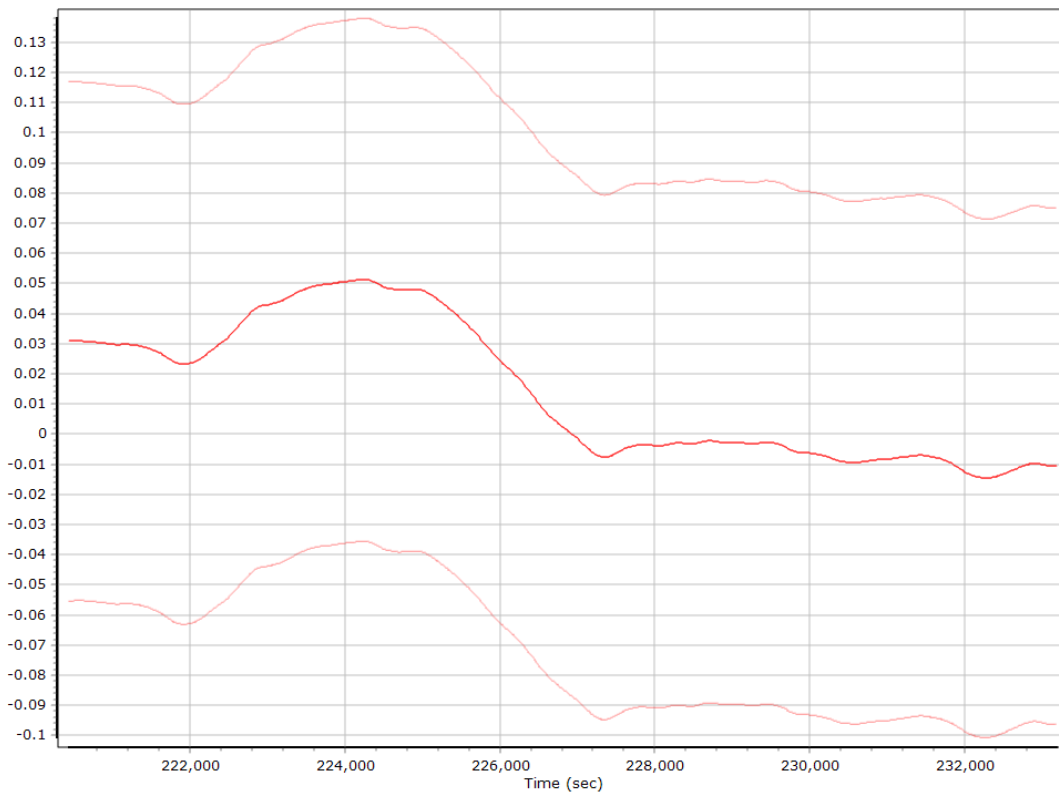
Z Accelerometer Scale Error (ppm)



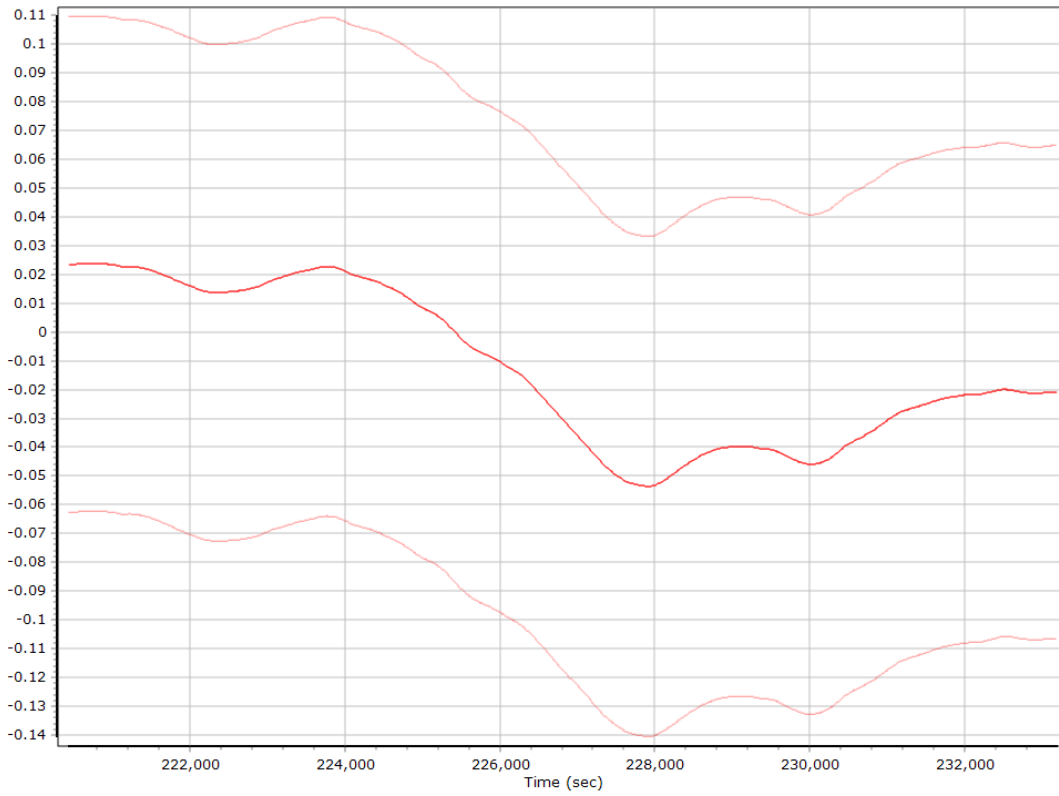
Gyro Bias (deg/h)



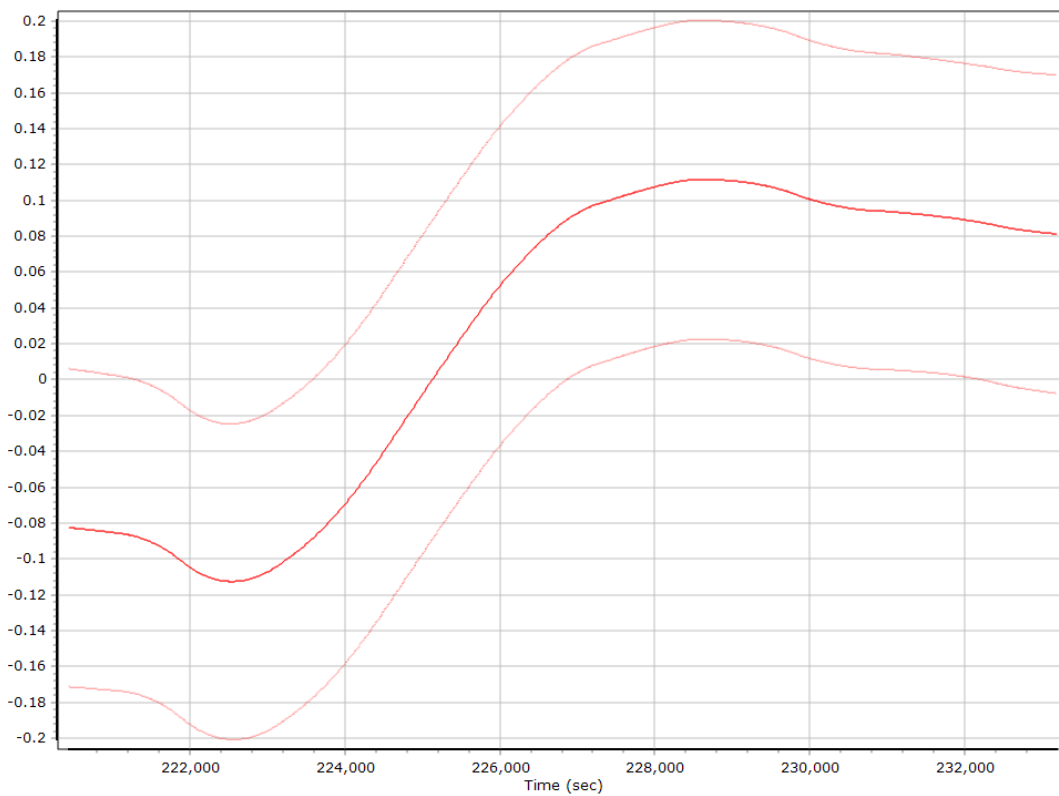
X Gyro Bias (deg/h)



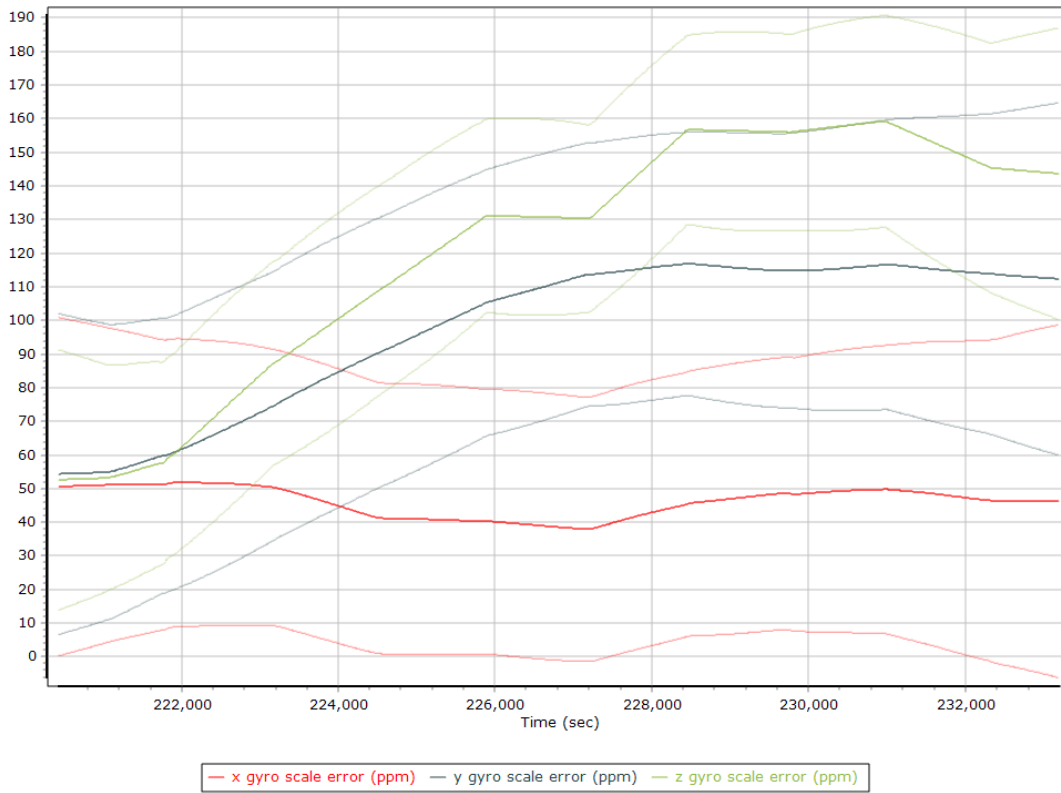
Y Gyro Bias (deg/h)



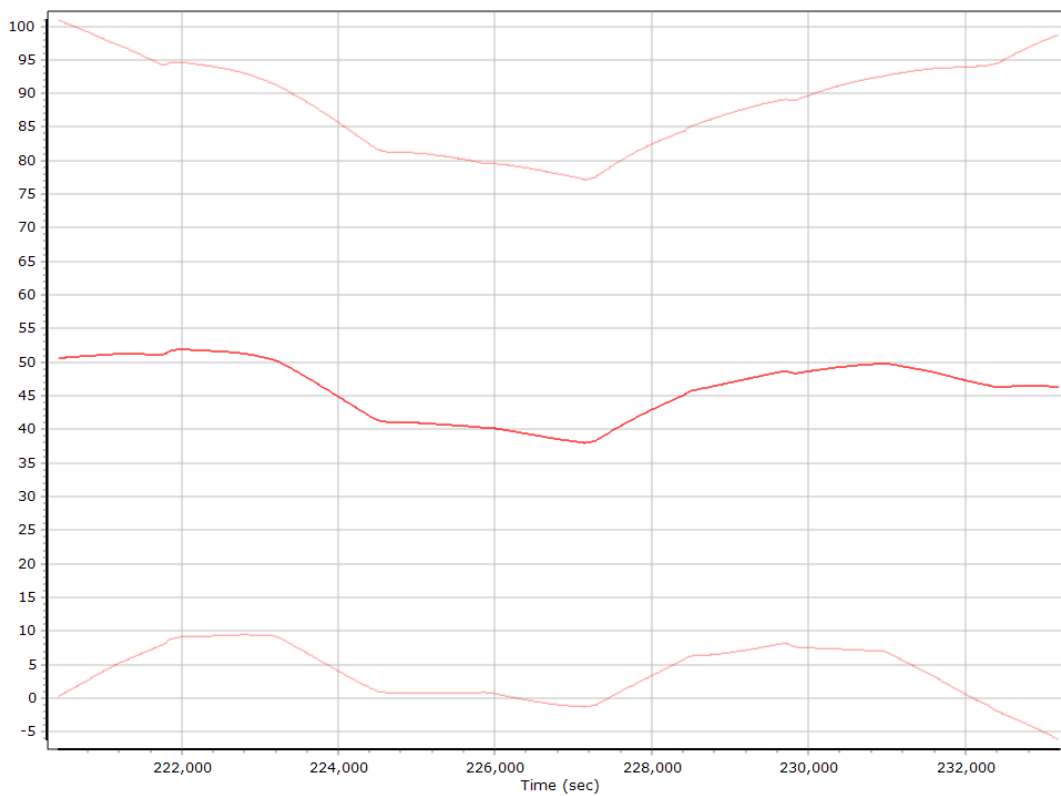
Z Gyro Bias (deg/h)



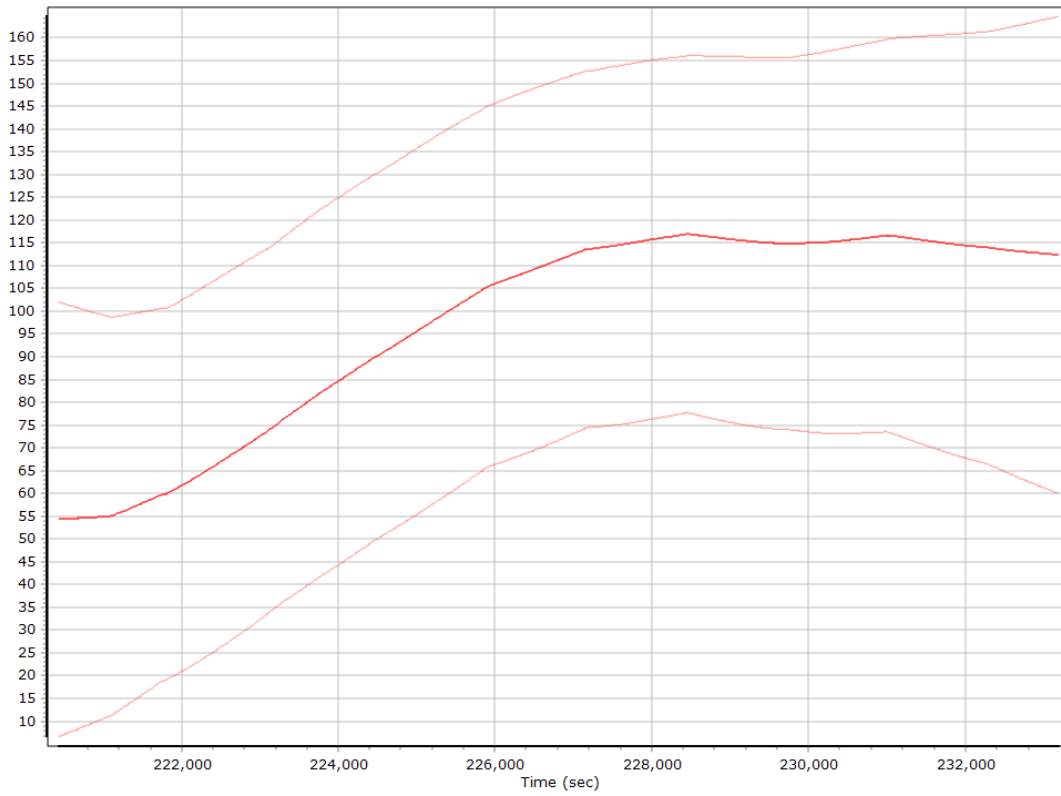
Gyro Scale Error (ppm)



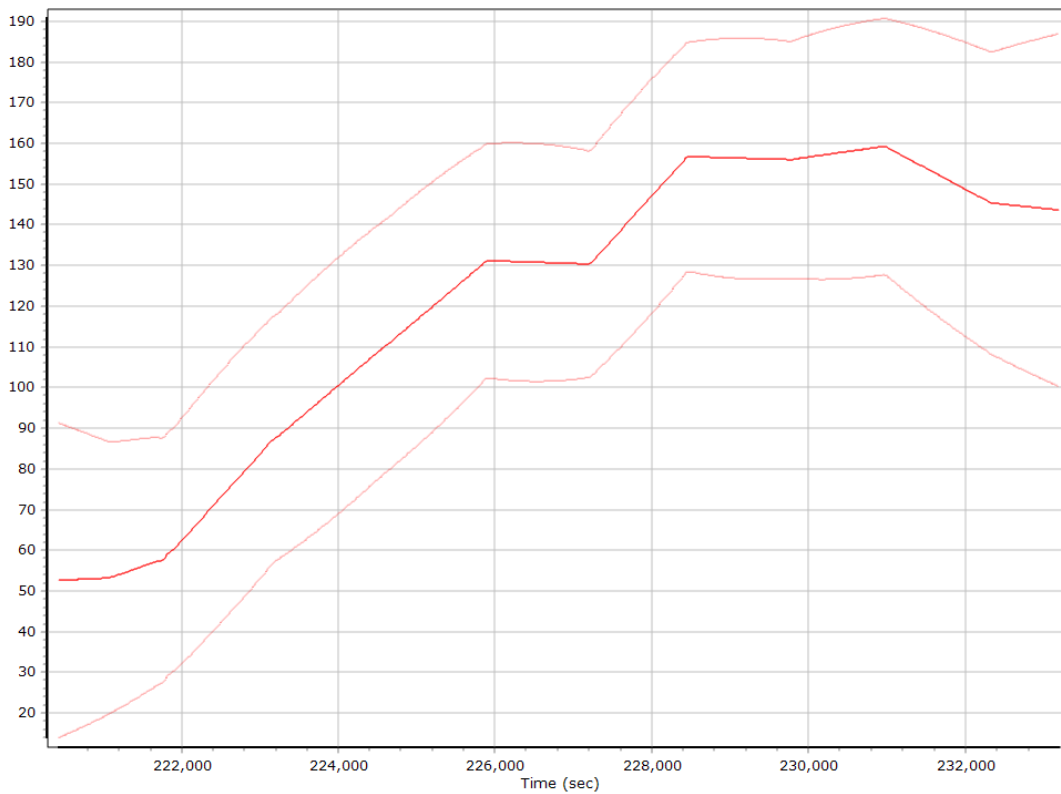
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

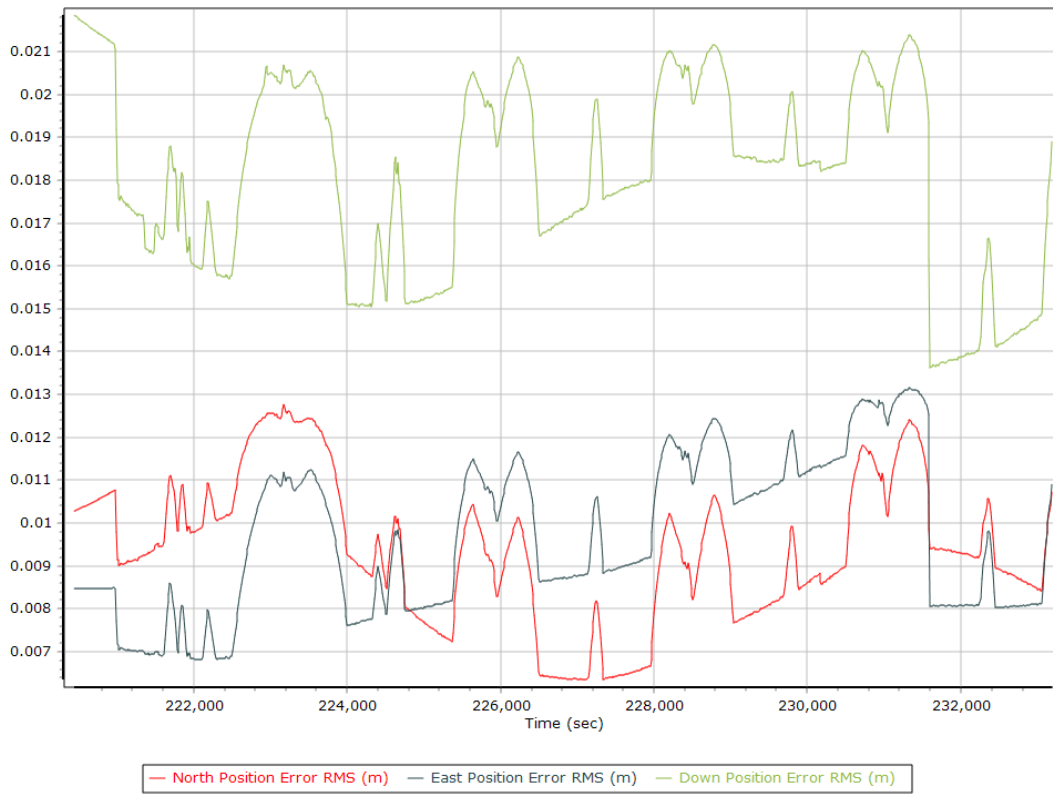


Z Gyro Scale Error (ppm)

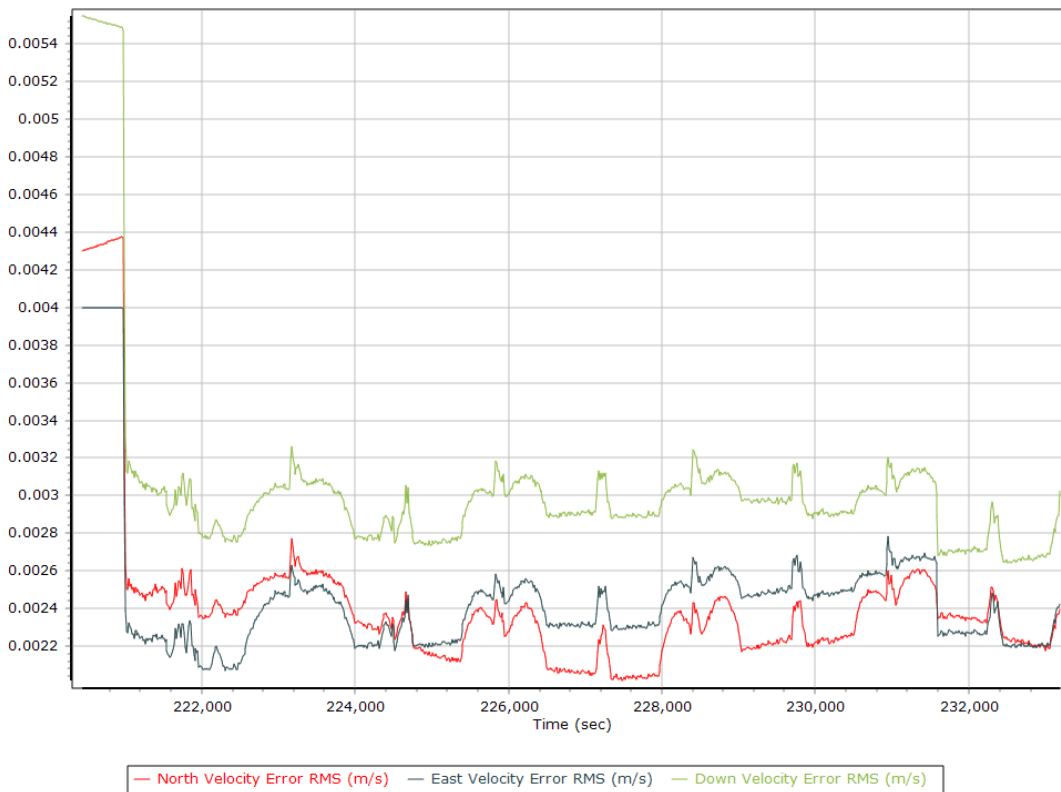


Smoothed Performance Metrics

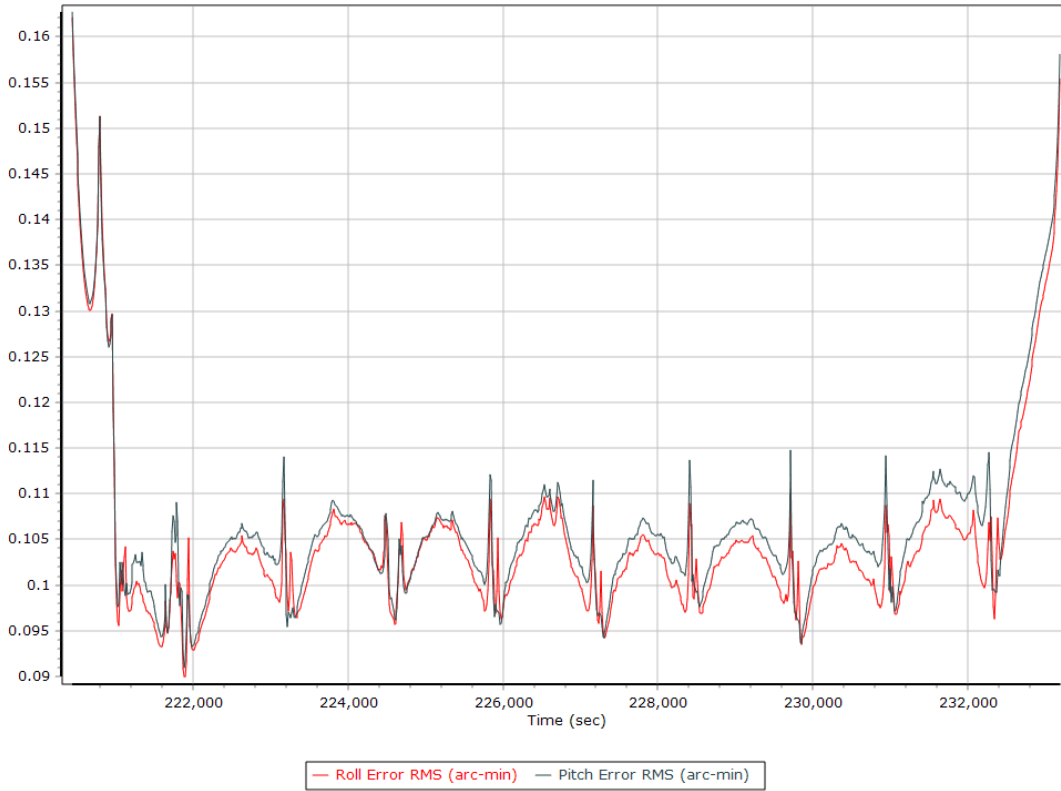
Position Error RMS (m)



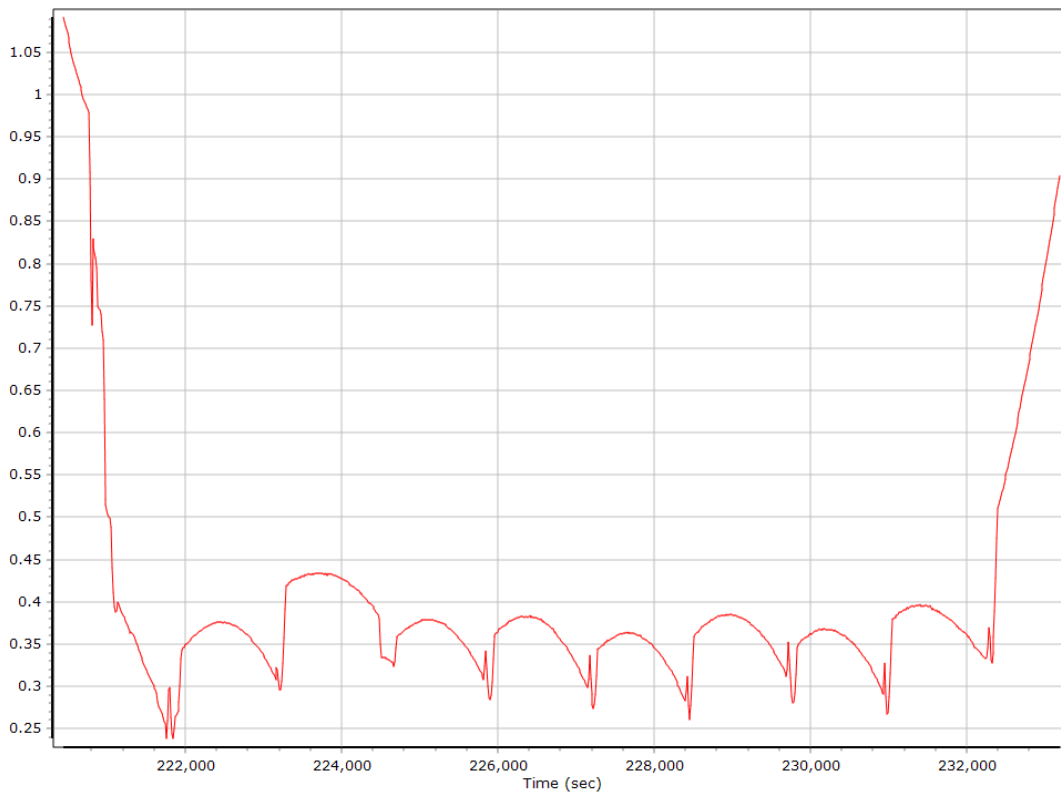
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

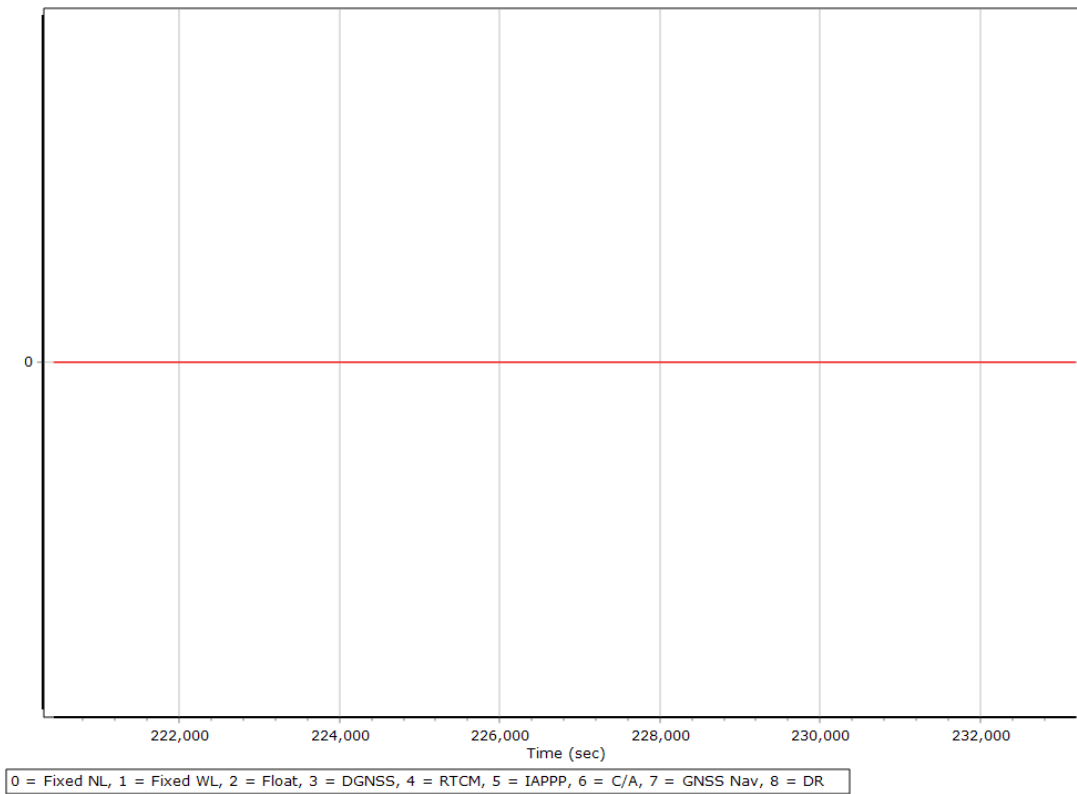


Heading Error RMS (arc-min)

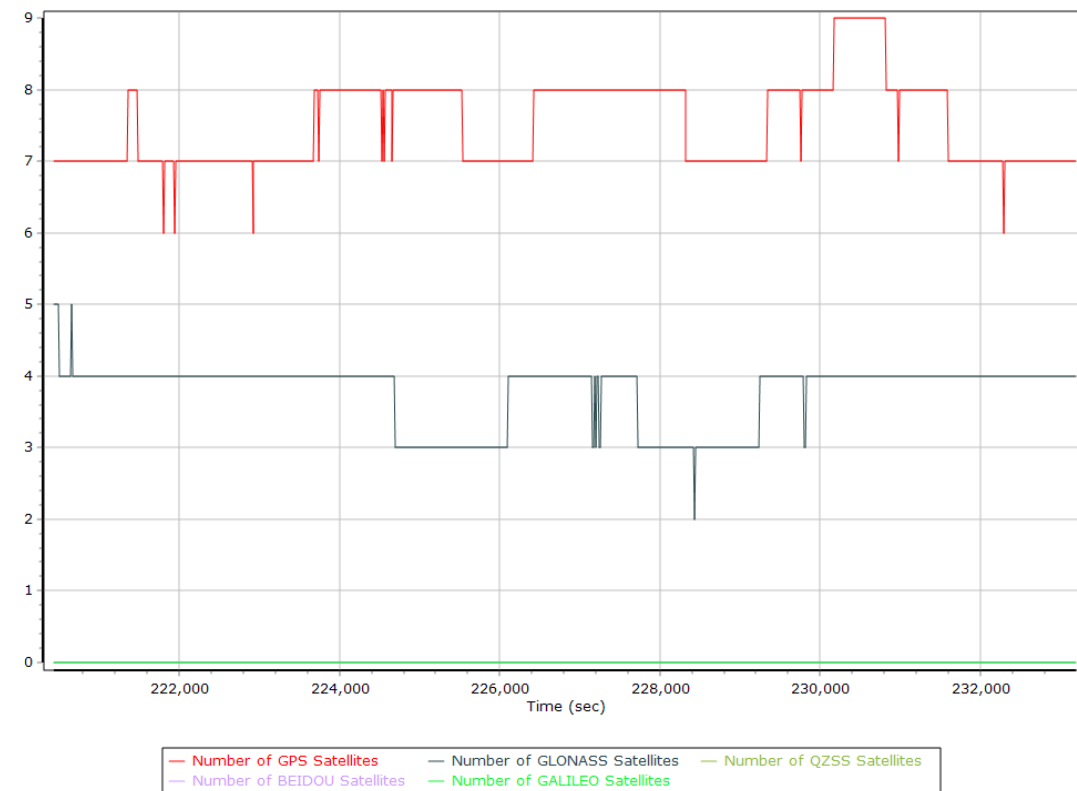


Smoothed Solution Status

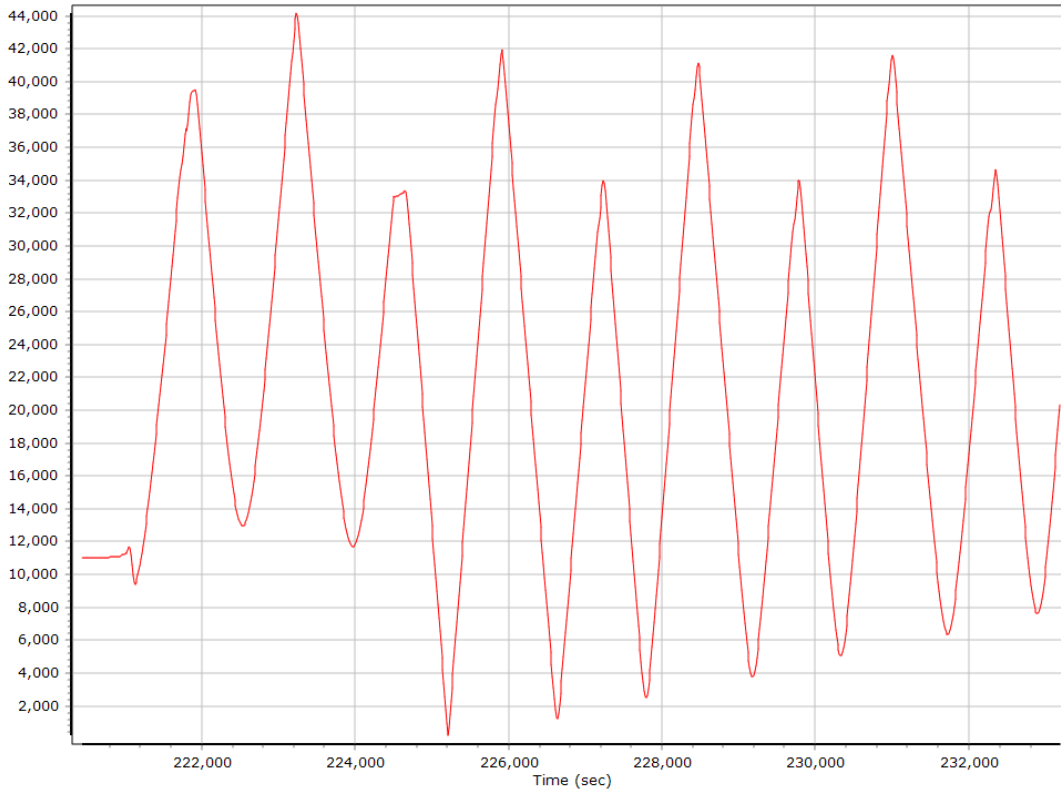
Processing Mode



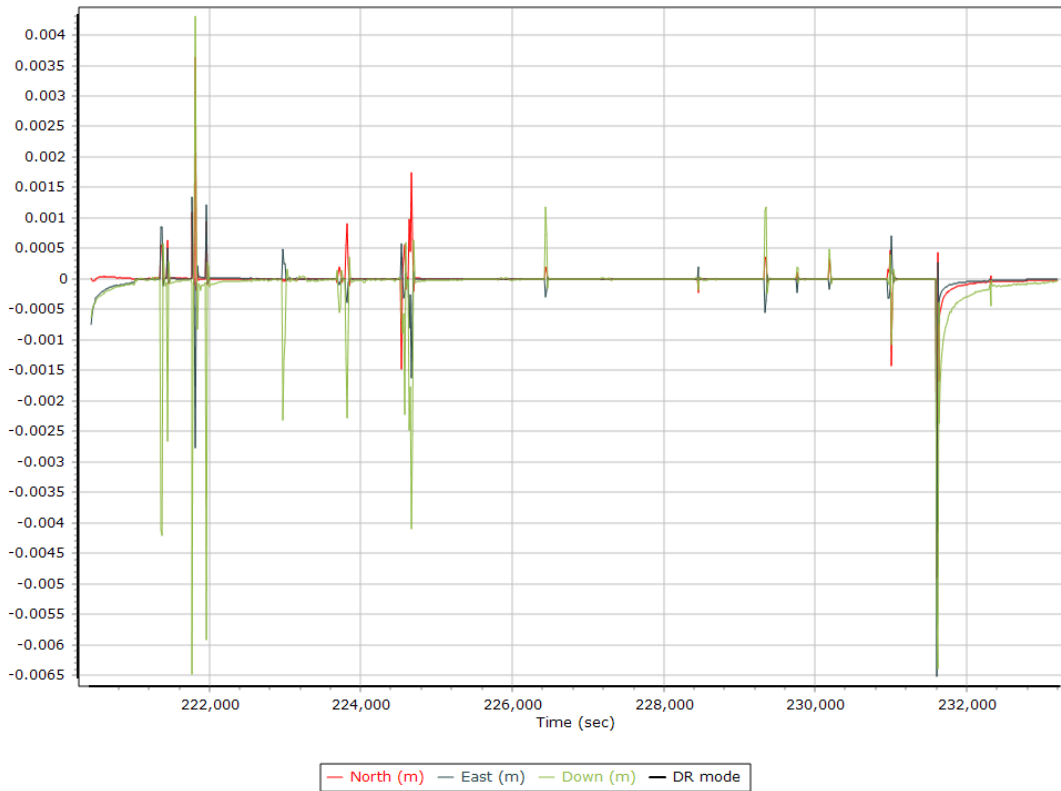
Number of Satellites



Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	PTG19330A2
Processing date	2019-12-12 16:44:34
Mission date	2019-11-26 16:50:18
Mission duration	00:37:20.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	AV37

Project File List

Rover Data Files

File name	File type
PTG19330.295	POS Data
PTG19330.296	POS Data
PTG19330.297	POS Data
PTG19330.298	POS Data
PTG19330.299	POS Data
PTG19330.300	POS Data

Input Files

File Name	File Type
Ephm3300.19g	GLONASS Broadcast Ephemeris
Ephm3300.19n	GPS Broadcast Ephemeris
flbf_daily3300.19o	GNSS SingleBase
flbr_daily3300.19o	GNSS SingleBase
flmc_daily3300.19o	GNSS SingleBase
gnvl_daily3300.19o	GNSS SingleBase
ocla_daily3300.19o	GNSS SingleBase
pltk_daily3300.19o	GNSS SingleBase

Output Files

Filename	File type
sbet_PTG19330A2.out	SBET Trajectory File

Rover Data Summary

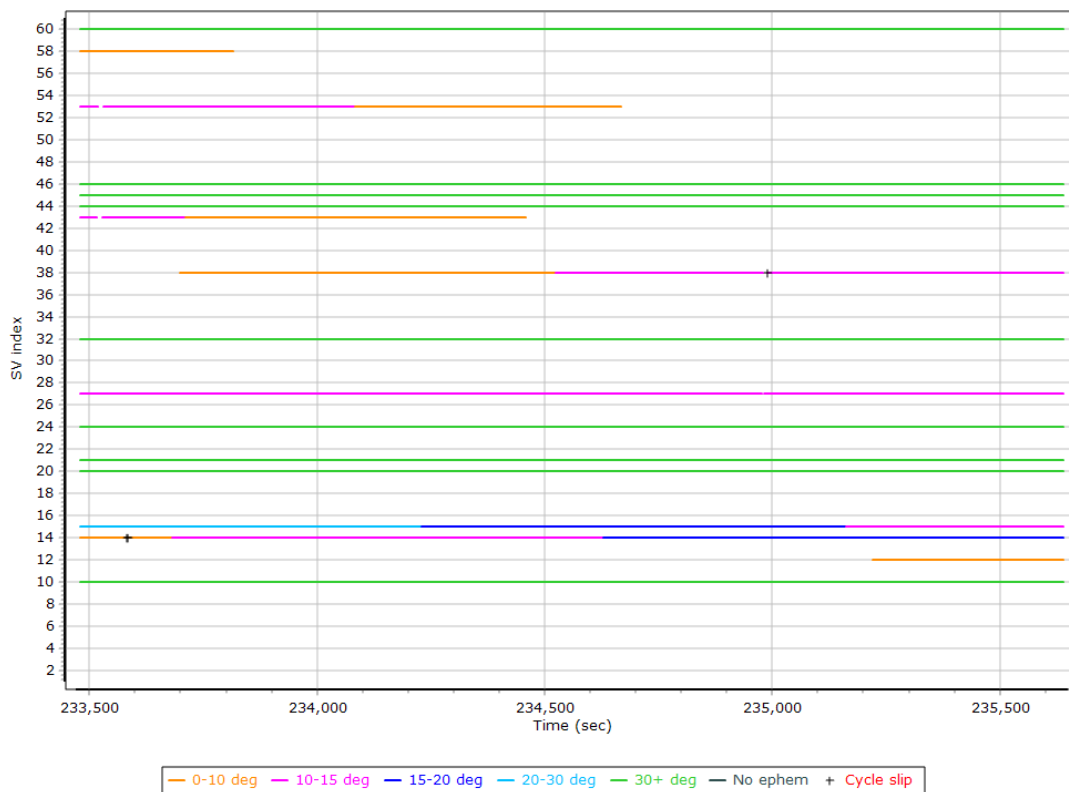
First raw data file	PTG19330.295		
Last raw data file	PTG19330.300		
Start GPS week	2081		
Start time	233399.664 (11/26/2019 4:49:59 PM)		
End time	235641.220 (11/26/2019 5:27:21 PM)		
Start of fine alignment	233419.769 (11/26/2019 4:50:19 PM)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Reference to IMU lever arm (m)	0.000	0.000	0.000
Reference to IMU mounting angles (deg)	0.000	0.000	0.000
Reference to Primary GNSS lever arm (m)	0.000	0.000	0.000
Reference to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

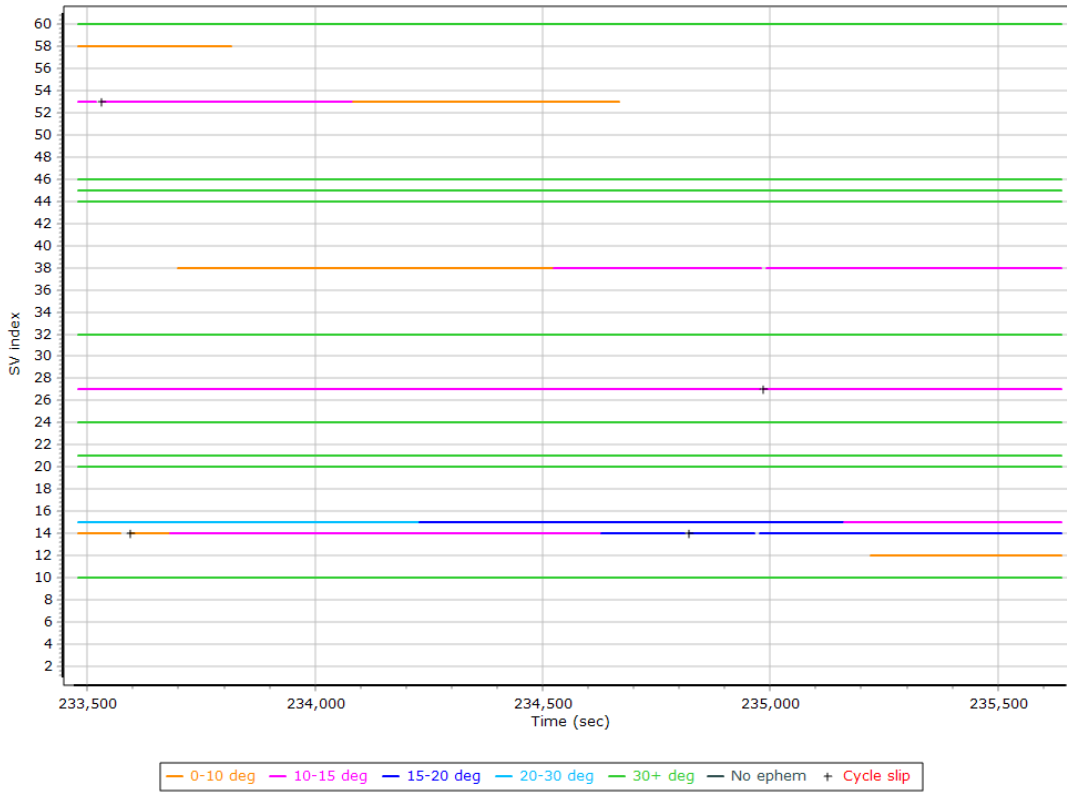
Raw IMU Import QC Summary

IMU data input file	imu_PTG19330A2.dat
IMU data check log file	imudt_PTG19330A2.log
IMU Records Processed	448356
Termination Status	Normal
IMU Anomalies	0

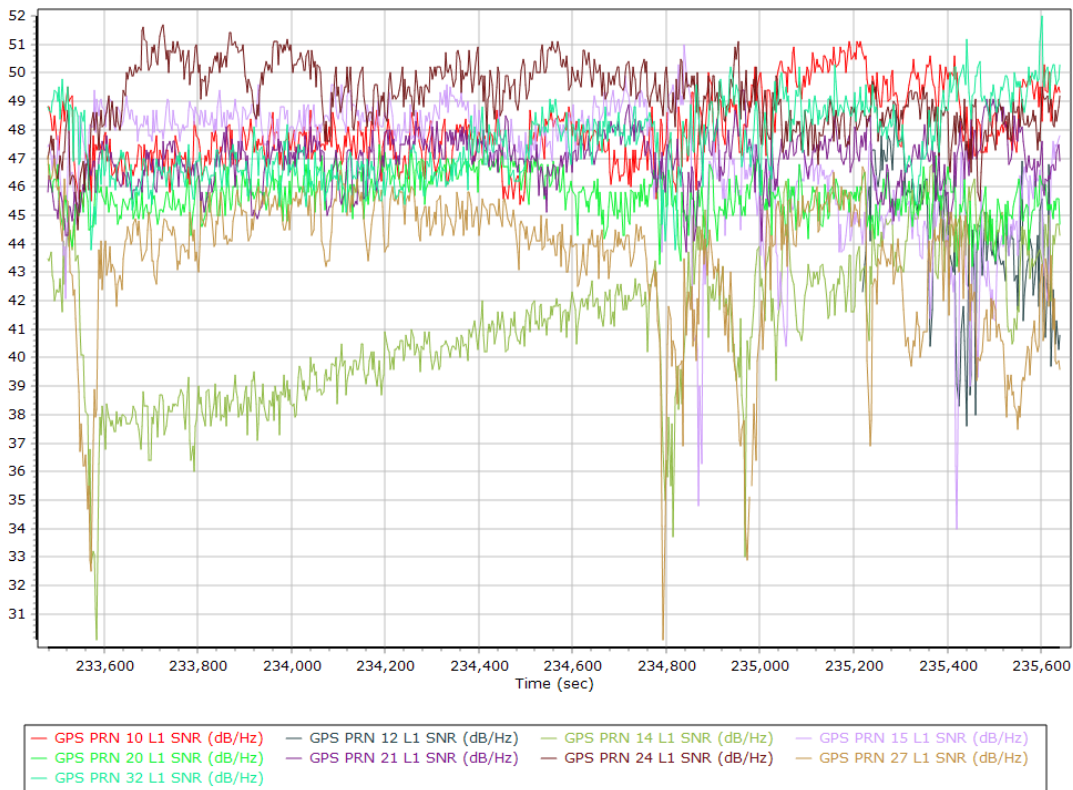
L1 Satellite Lock/Elevation



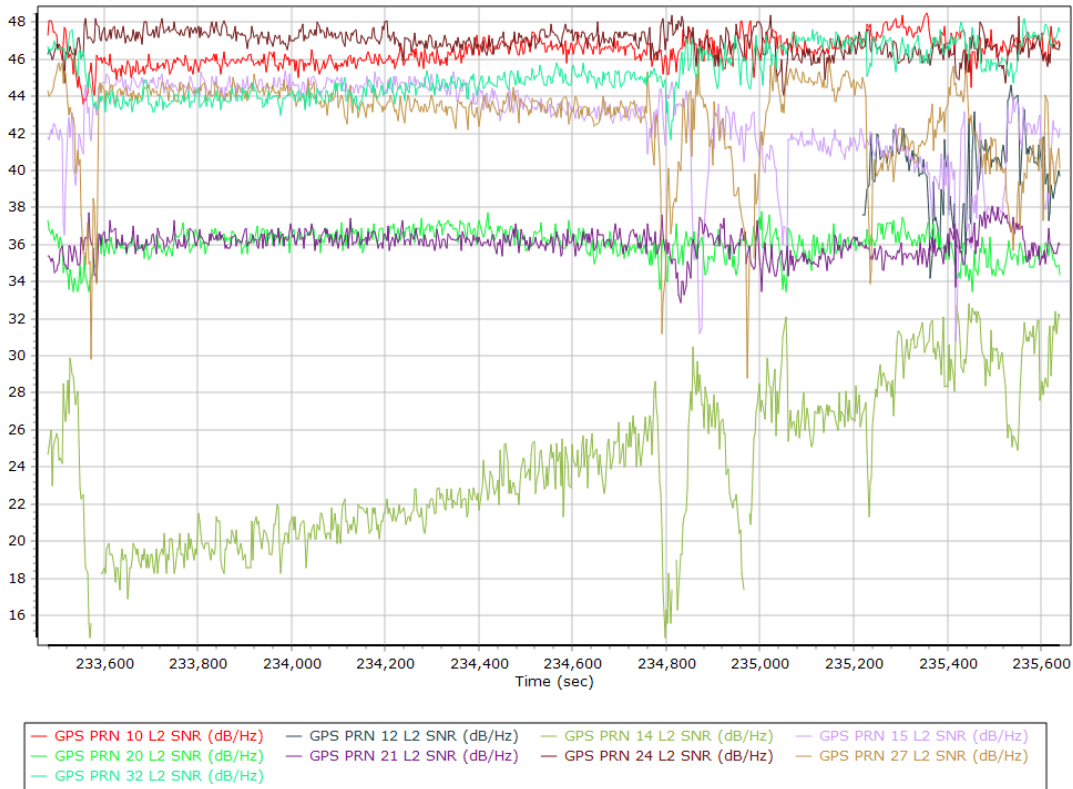
L2 Satellite Lock/Elevation



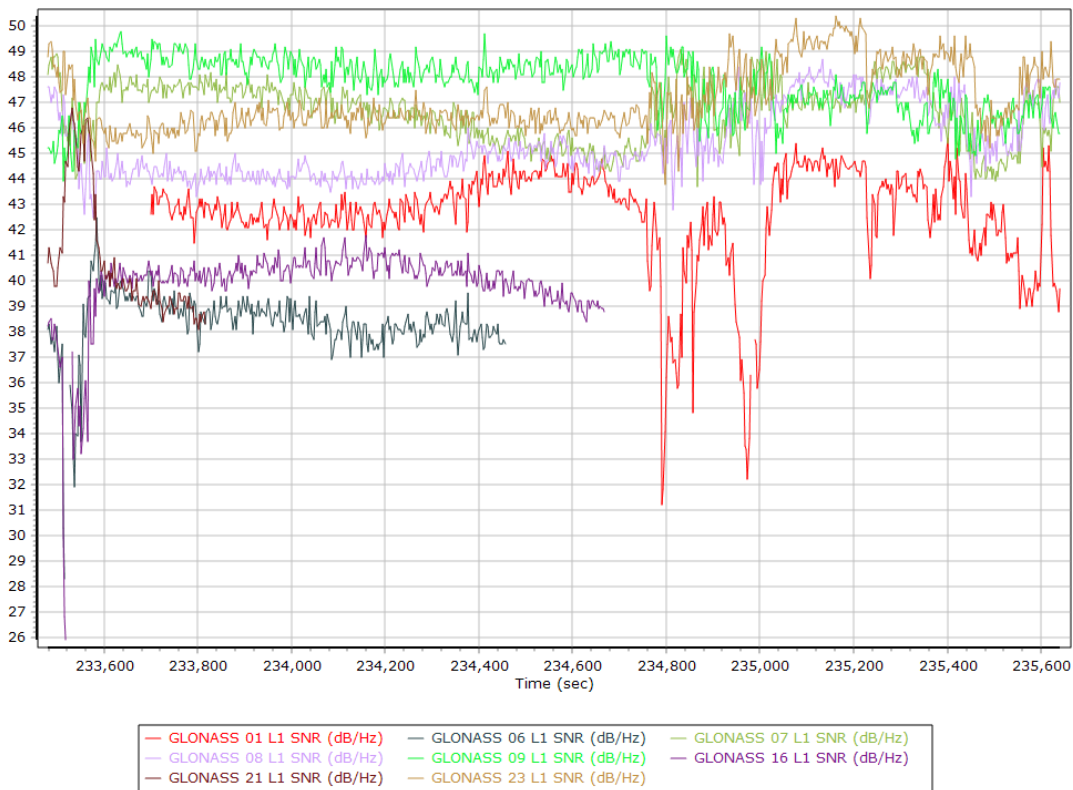
GPS L1 SNR



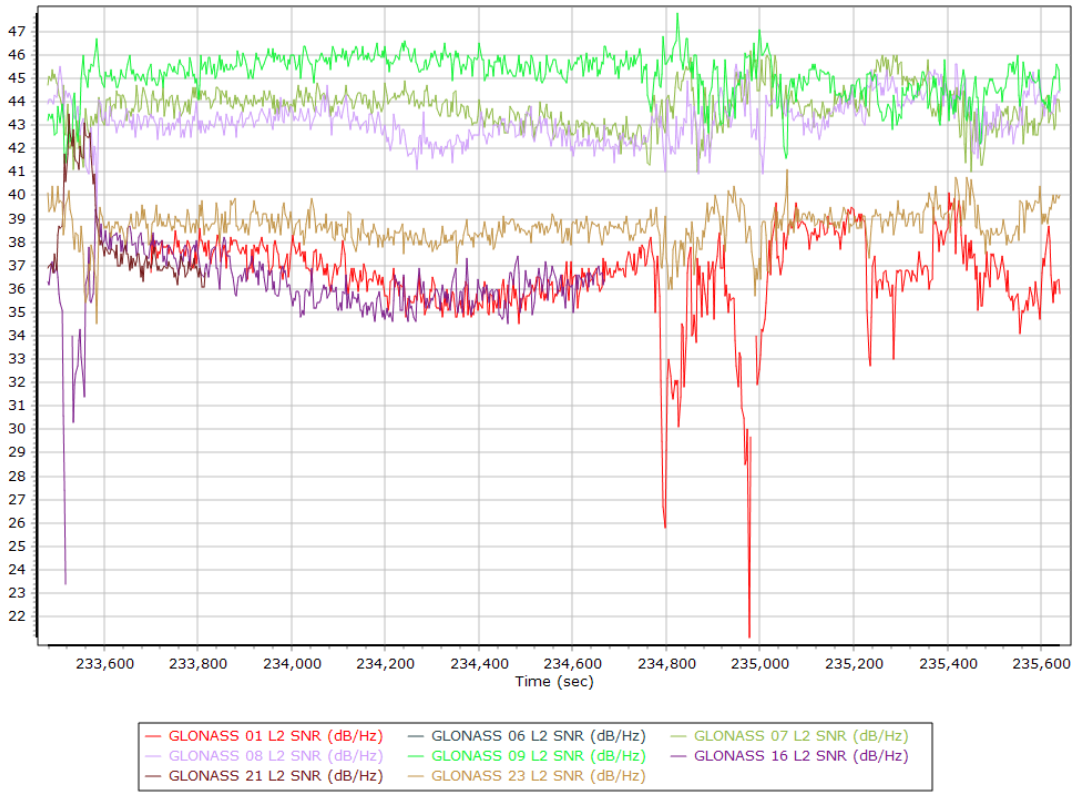
GPS L2 SNR



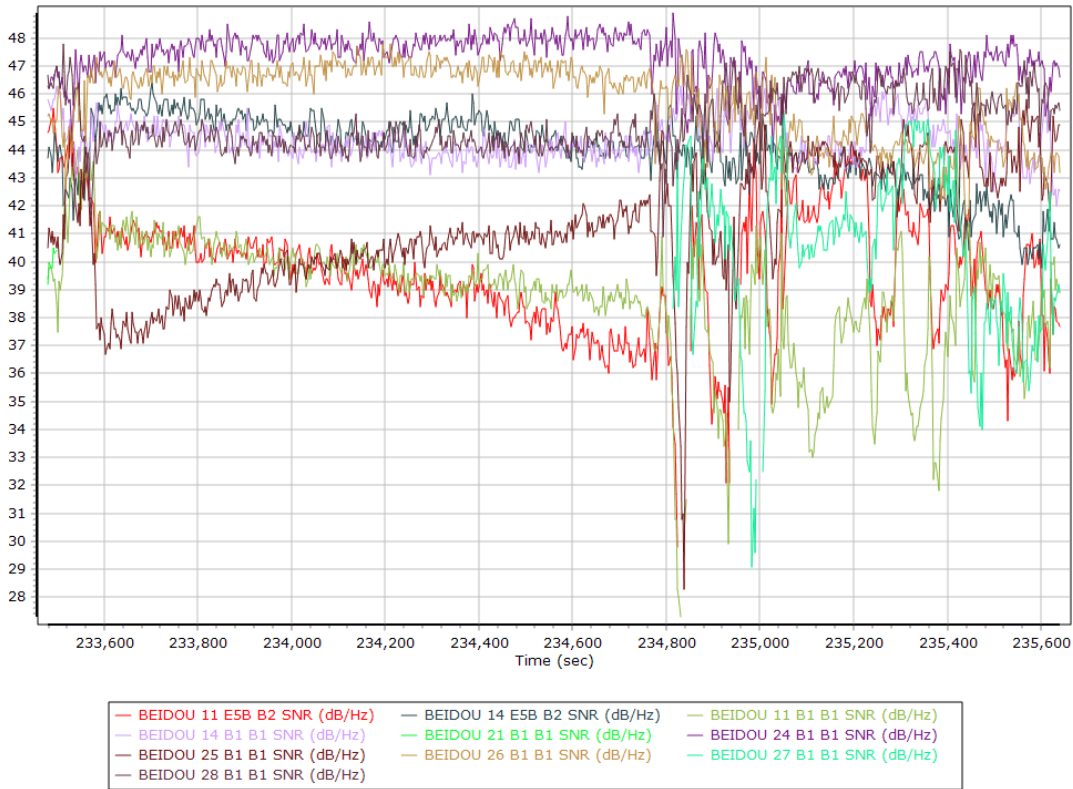
GLONASS L1 SNR



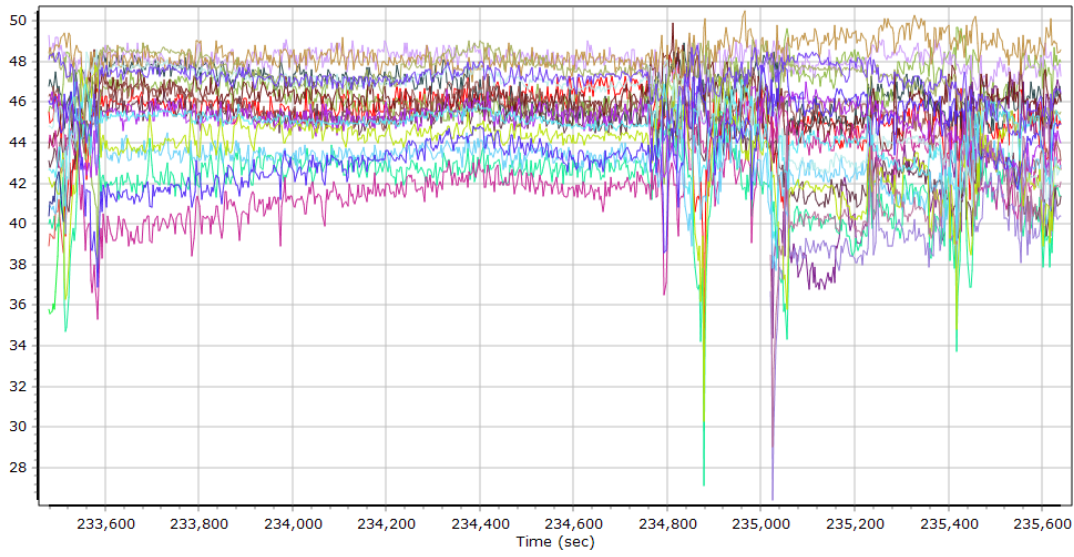
GLONASS L2 SNR



BEIDOU SNR



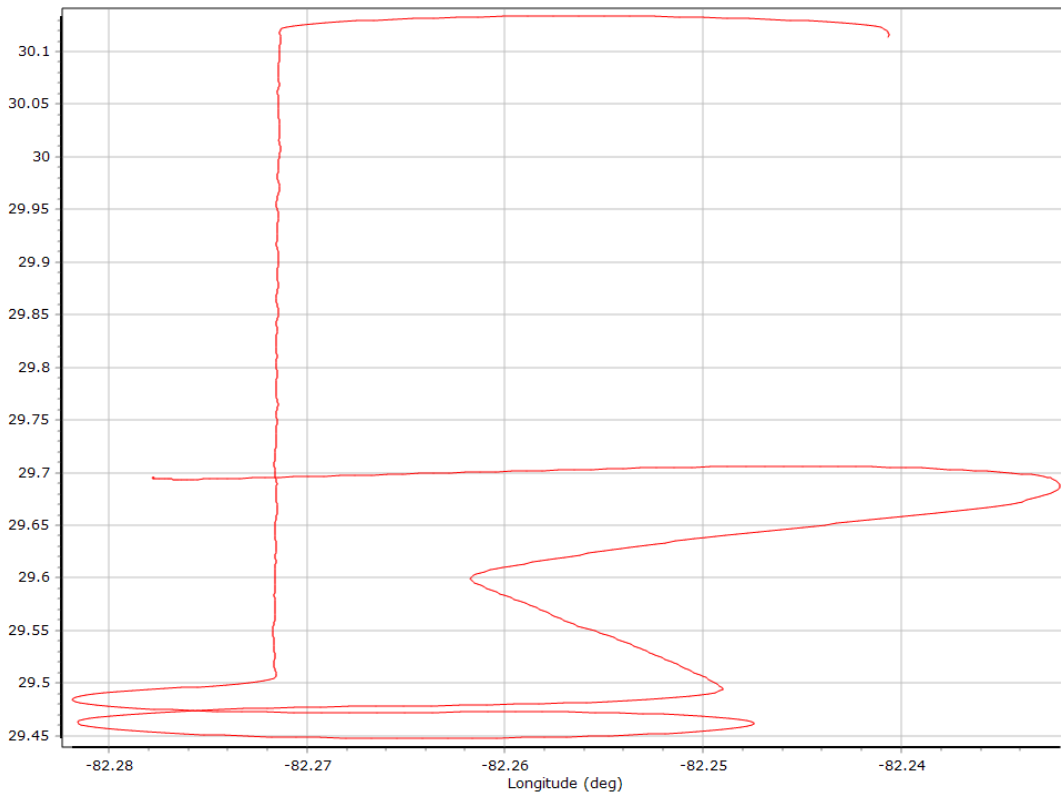
GALILEO SNR



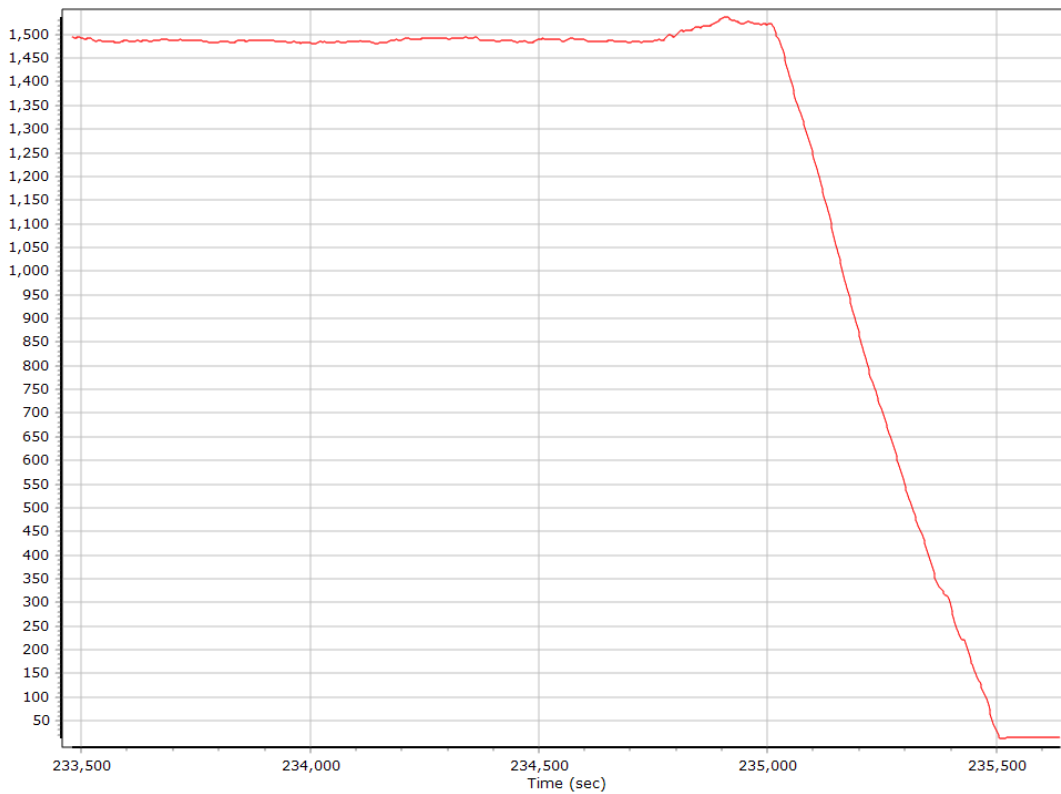
— GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 12 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 31 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 36 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 01 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 04 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 05 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 09 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 12 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 24 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 31 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 36 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 01 E5ABCentre AltBOCCompPD SNR (dB/Hz)	— GALILEO 04 E5ABCentre AltBOCCompPD SNR (dB/Hz)
— GALILEO 05 E5ABCentre AltBOCCompPD SNR (dB/Hz)	— GALILEO 09 E5ABCentre AltBOCCompPD SNR (dB/Hz)

Trajectory Information

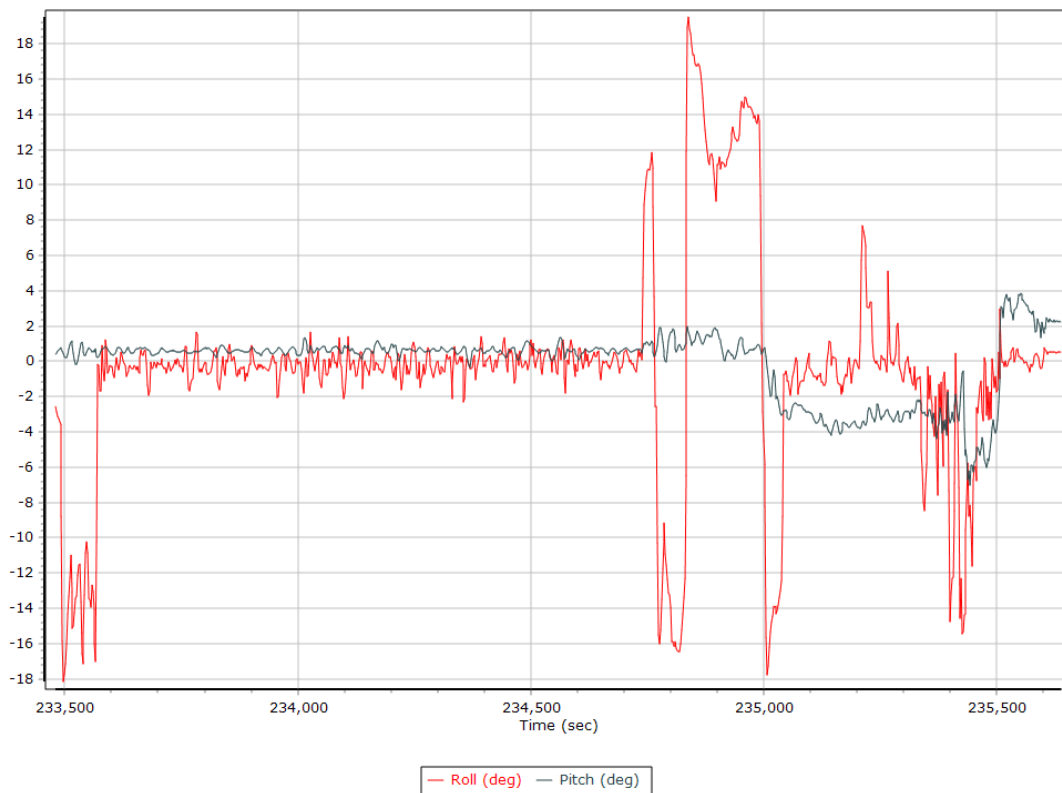
Top View



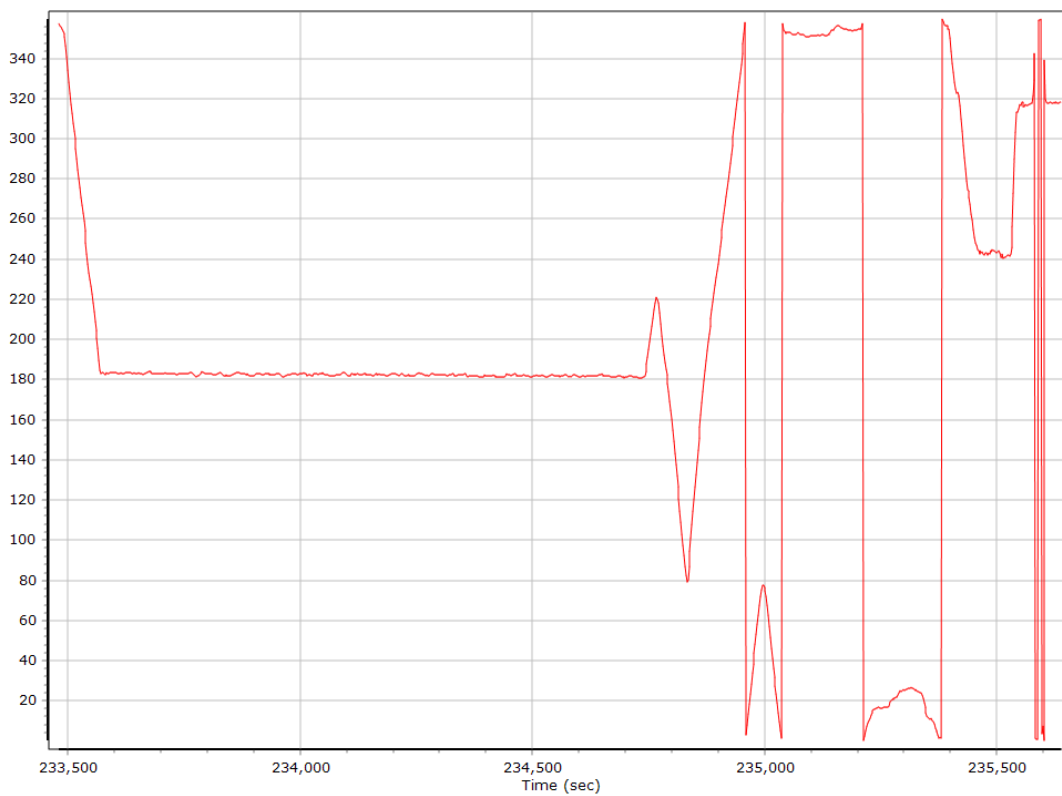
Altitude



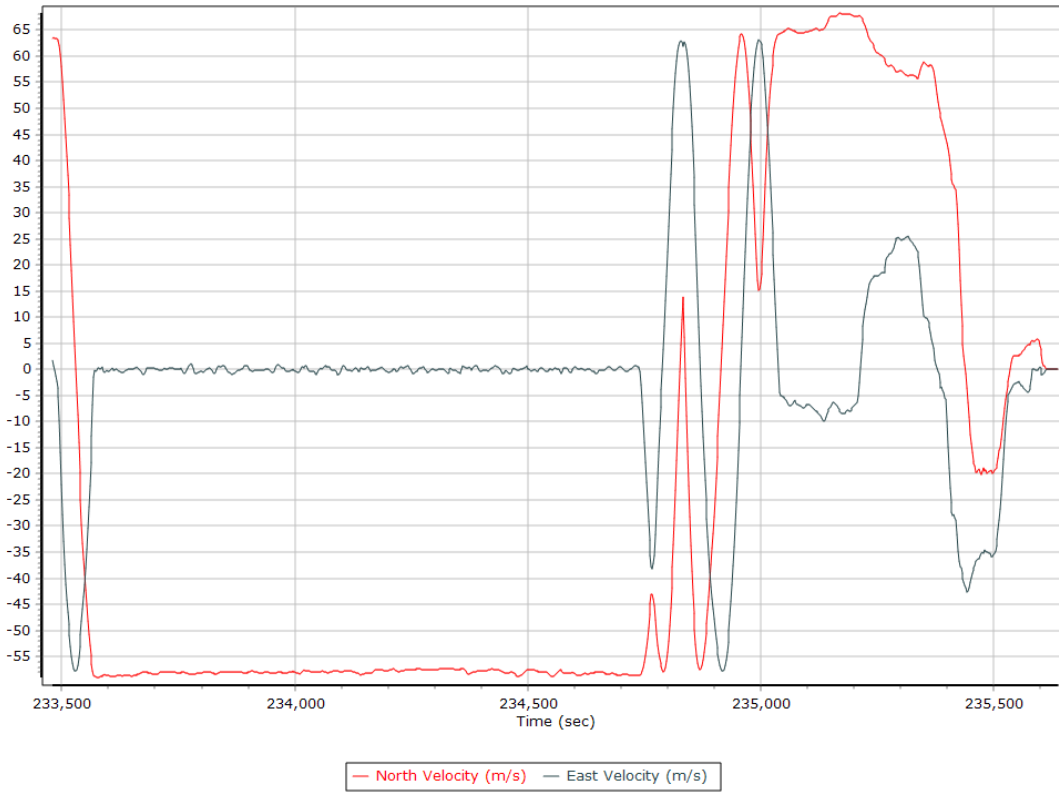
Roll/Pitch



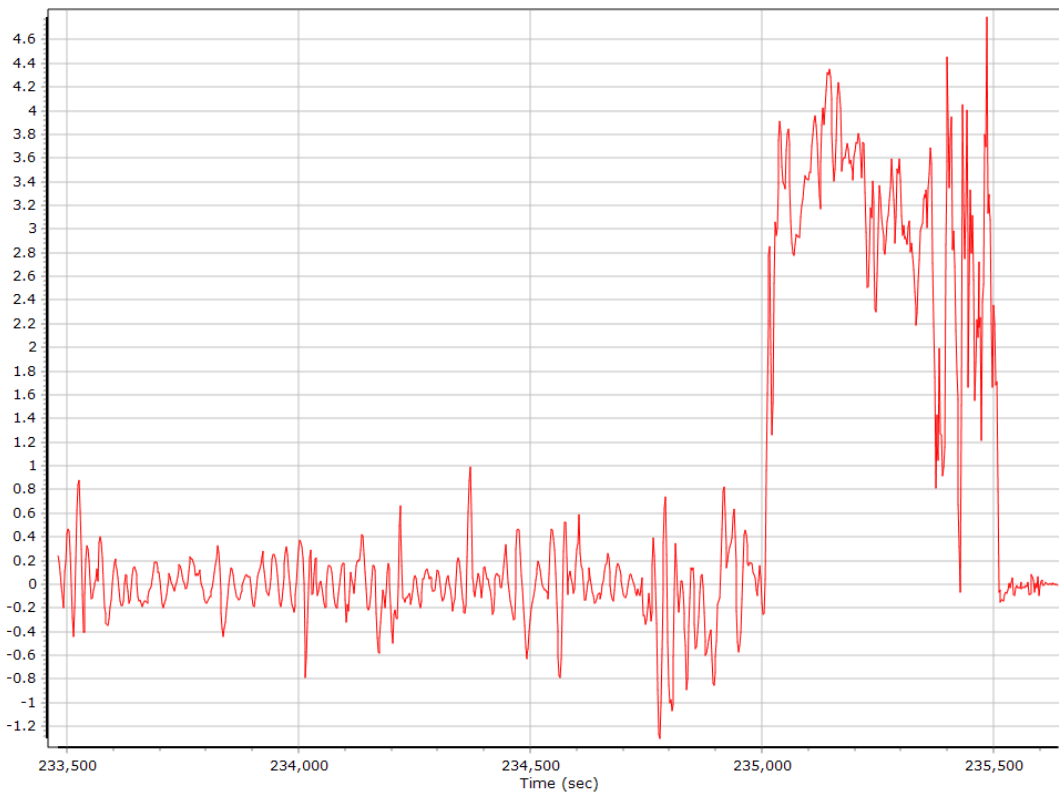
Heading



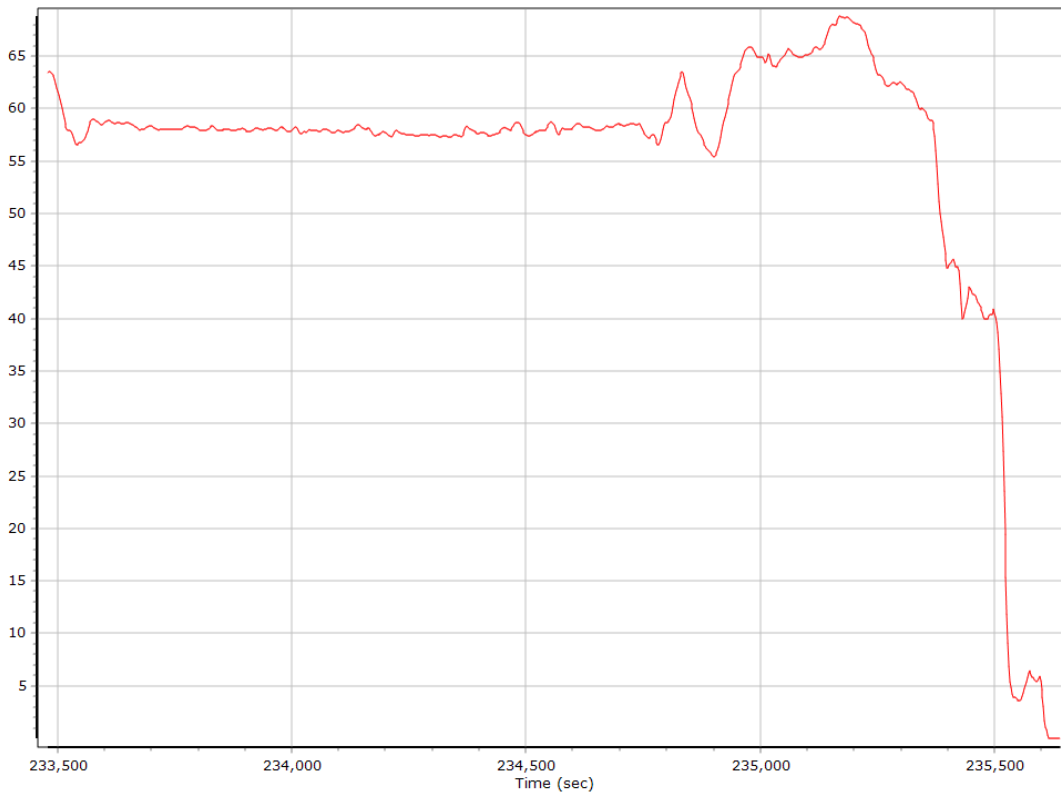
North/East Velocity



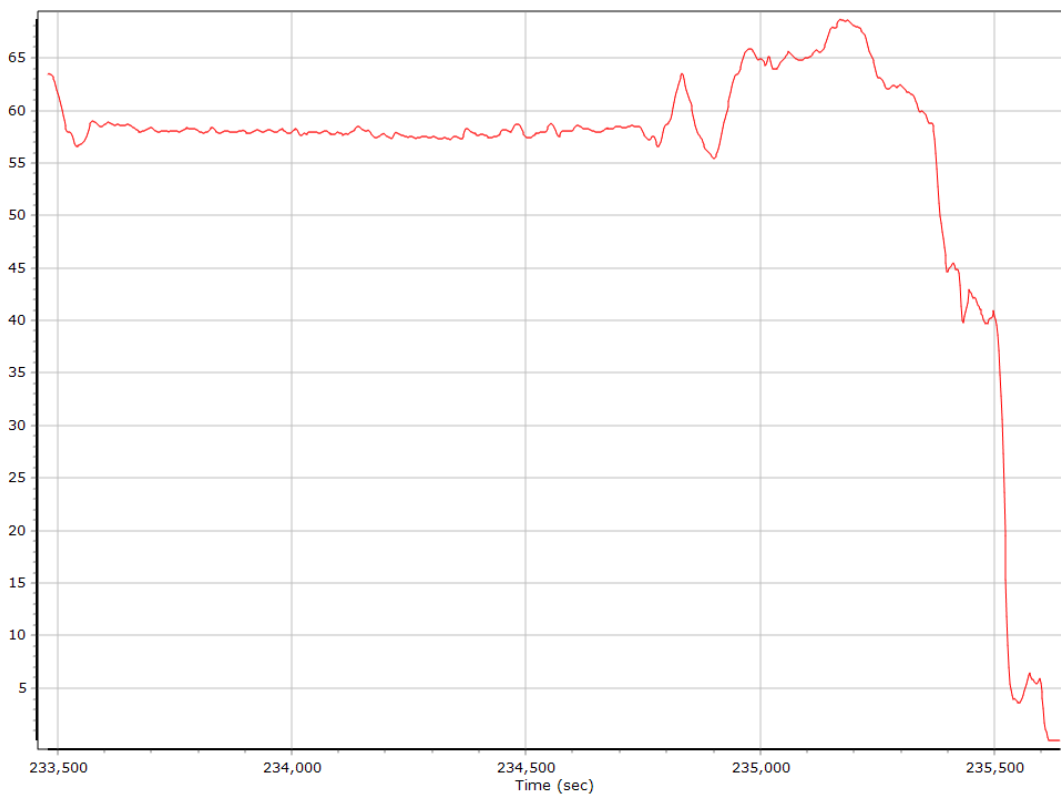
Down Velocity



Total Speed



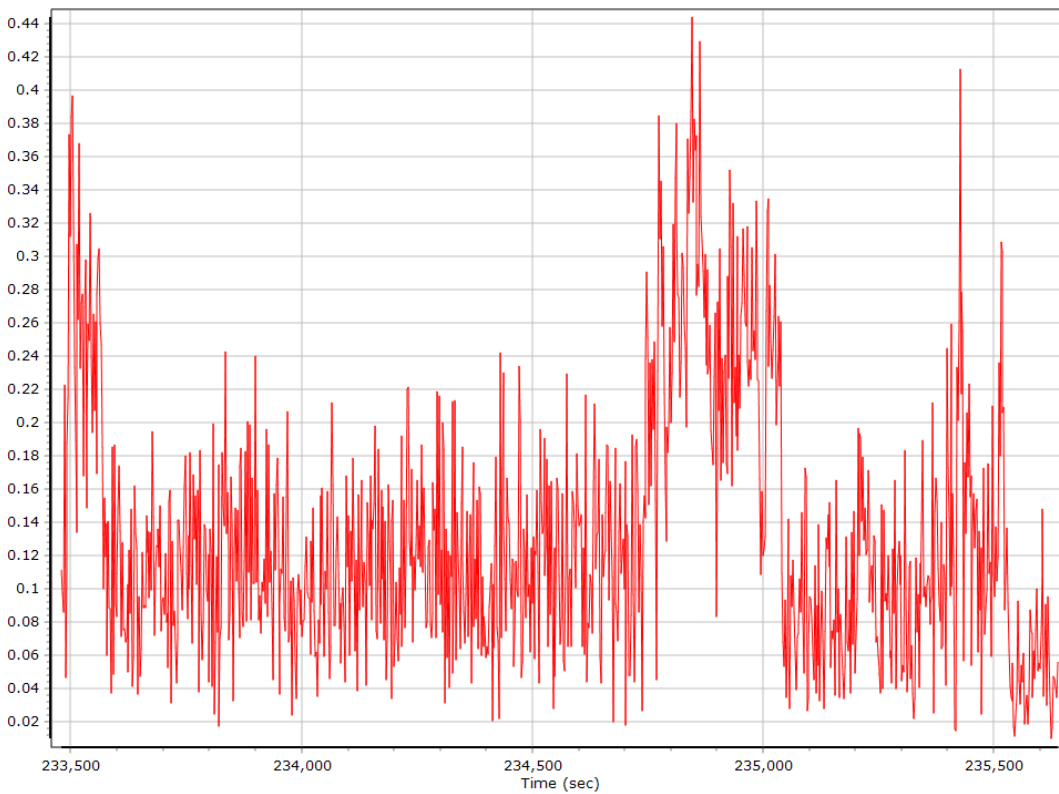
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	False
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
11/26/2019	PLTK	56.59	GNSS	1	User	None	Imported
11/26/2019	OCLA	64.30	GNSS	1	User	None	Imported
11/26/2019	GNVL	6.63	GNSS	1	User	None	Imported
11/26/2019	FLMC	59.91	GNSS	1	User	None	Imported
11/26/2019	FLBR	50.08	GNSS	1	User	None	Imported
11/26/2019	FLBF	66.81	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	GNVL
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	2240 s (2081 233418 - 2081 235658)
Number of reference stations	6
Primary station GPS measurement usage (%)	99.8
Primary station GLONASS measurement usage (%)	91.8
Average number of satellites per epoch	12.4
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	4
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	936
GPS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - PLTK

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	13.63	Output Coordinates	Disabled	
Solution Epochs	3272	Mean Epoch SVs	7.8	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14824"	W81°41'15.86068"	17.951
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.003	0.004	0.005

Base Station Information

Station ID	PLTK		
Filename	pltk_daily3300.19o		
Start date	11/26/2019 12:00:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	17:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - OCLA

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	13.90	Output Coordinates	Disabled	
Solution Epochs	3336	Mean Epoch SVs	7.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°10'54.46980"	W82°06'15.28619"	17.715
Adjusted		N29°10'54.46985"	W82°06'15.28617"	17.722
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.002	0.007	0.007

Base Station Information

Station ID	OCLA		
Filename	ocla_daily3300.19o		
Start date	11/26/2019 4:00:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	13:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	CONTROL	SBQI	0	
Duration (Hours)	13.90	Output Coordinates	Control	
Solution Epochs	3336	Mean Epoch SVs	7.9	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55697"	W82°16'36.73521"	23.936
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3300.19o		
Start date	11/26/2019 4:00:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	13:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMC

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	13.90	Output Coordinates	Disabled	
Solution Epochs	3336	Mean Epoch SVs	7.7	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°16'15.87532"	W82°07'35.14360"	11.221
Adjusted		N30°16'15.87529"	W82°07'35.14408"	11.247
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.013	0.026	0.029

Base Station Information

Station ID	FLMC		
Filename	flmc_daily3300.19o		
Start date	11/26/2019 4:00:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	13:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701977
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°16'15.87532"		
Longitude	W82°07'35.14360"		
Ellipsoidal height (m)	11.22100		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLBR

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	13.73	Output Coordinates	Disabled	
Solution Epochs	3294	Mean Epoch SVs	7.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°26'19.83659"	W82°38'43.13027"	4.337
Adjusted		N29°26'19.83630"	W82°38'43.13025"	4.369
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.009	0.032	0.034

Base Station Information

Station ID	FLBR		
Filename	flbr_daily3300.19o		
Start date	11/26/2019 4:00:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	13:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701978
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°26'19.83659"		
Longitude	W82°38'43.13027"		
Ellipsoidal height (m)	-4.33700		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLBF

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	13.81	Output Coordinates	Disabled	
Solution Epochs	3314	Mean Epoch SVs	7.6	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°57'42.67561"	W82°54'34.51255"	13.286
Adjusted		N29°57'42.67537"	W82°54'34.51264"	13.260
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.008	0.026	0.027

Base Station Information

Station ID	FLBF		
Filename	flbf_daily3300.19o		
Start date	11/26/2019 1:30:00 AM		
End date	11/26/2019 5:59:59 PM		
Duration	16:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702018
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°57'42.67561"		
Longitude	W82°54'34.51255"		
Ellipsoidal height (m)	-13.28600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.69	43.18	
Number of GPS SV	6	8	8
Number of GLONASS SV	4	5	4
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	11	13	12
PDOP	1.63	1.97	1.70
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	2217.00	0.00	0.00
Percentage	100.00	0.00	0.00

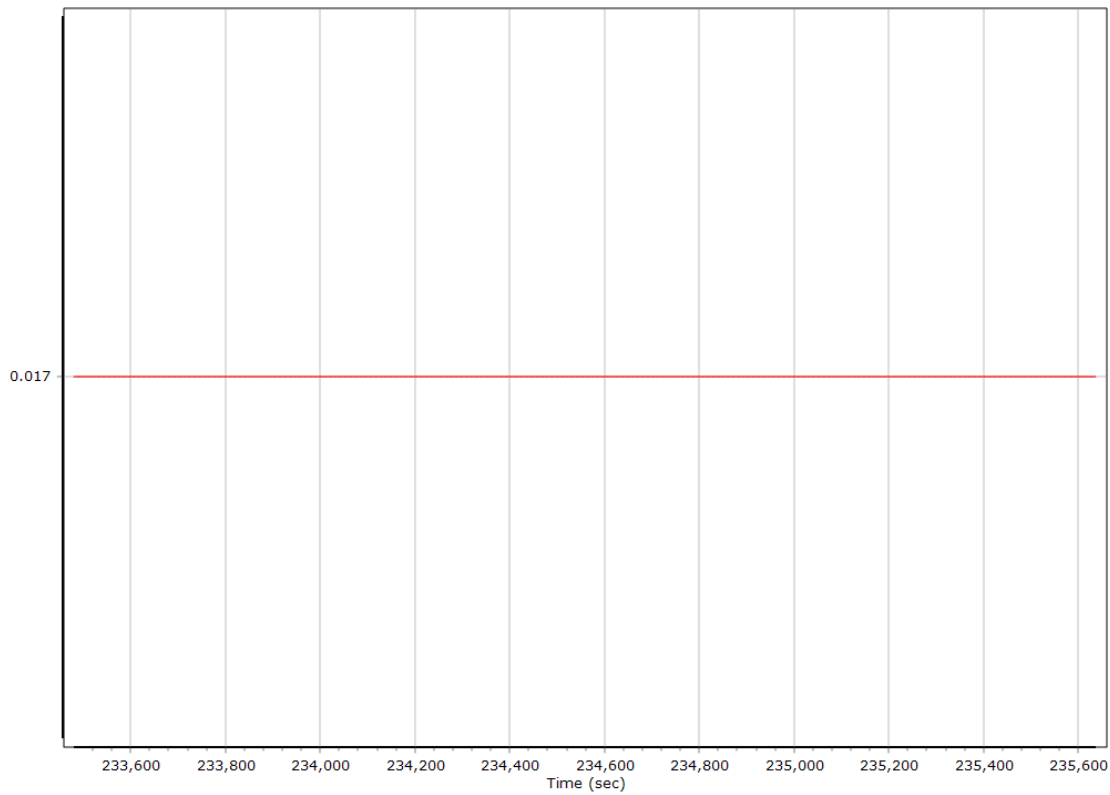
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	False		
Base station	ASB		
Processing start time	233400.000 (11/26/2019 4:50:00 PM)		
Processing end time	235640.000 (11/26/2019 5:27:20 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Reference to IMU lever arm (m)	-0.034	-0.010	-0.352
Reference to IMU mounting angles (deg)	0.000	0.000	0.000
Reference to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Reference to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

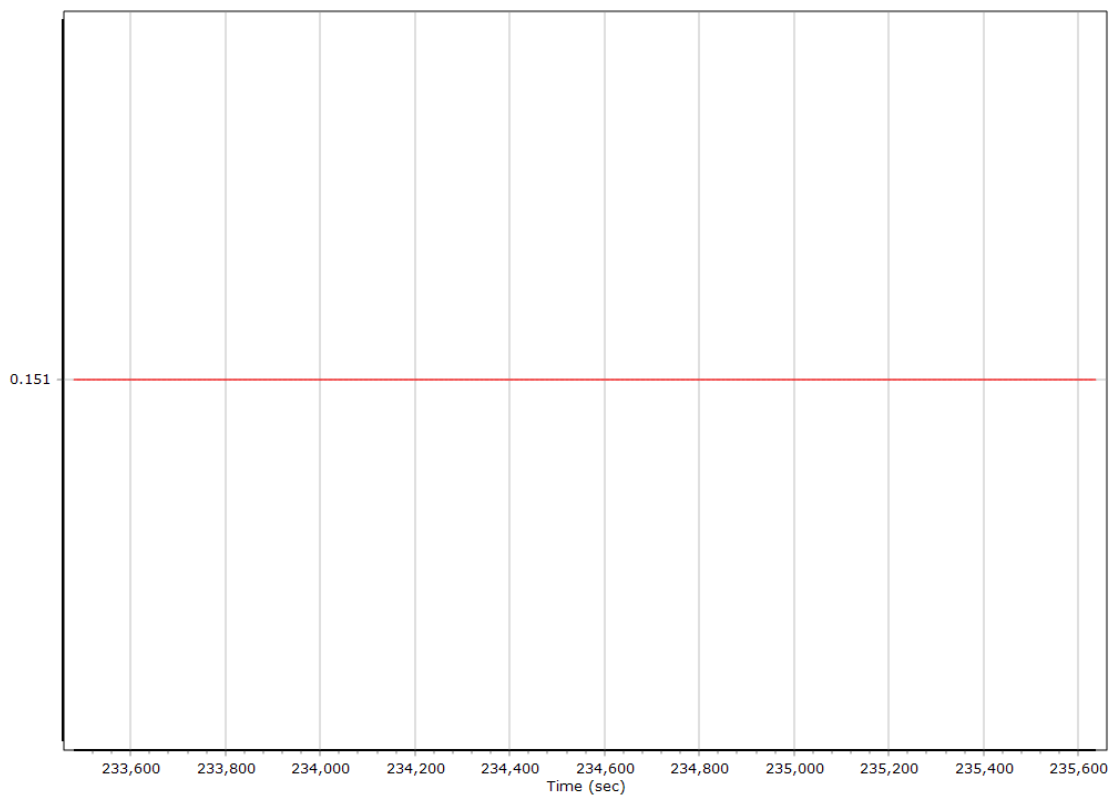
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

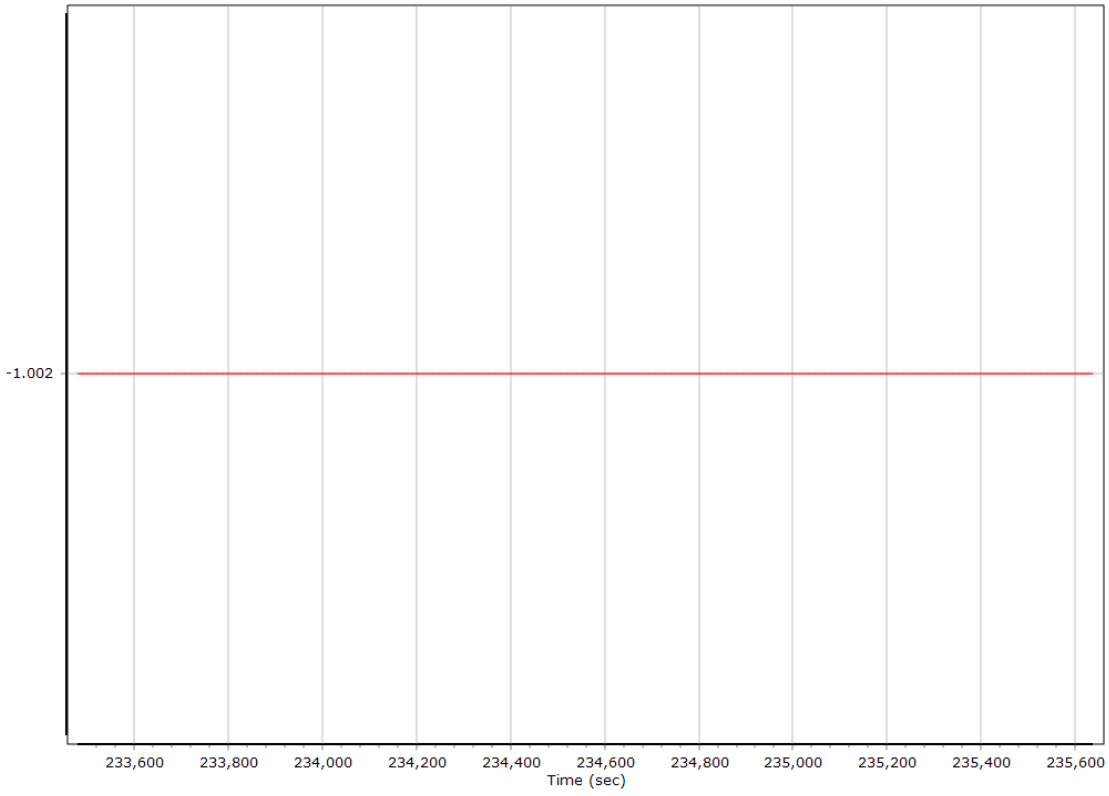
X Reference-Primary GNSS Lever Arm (m)



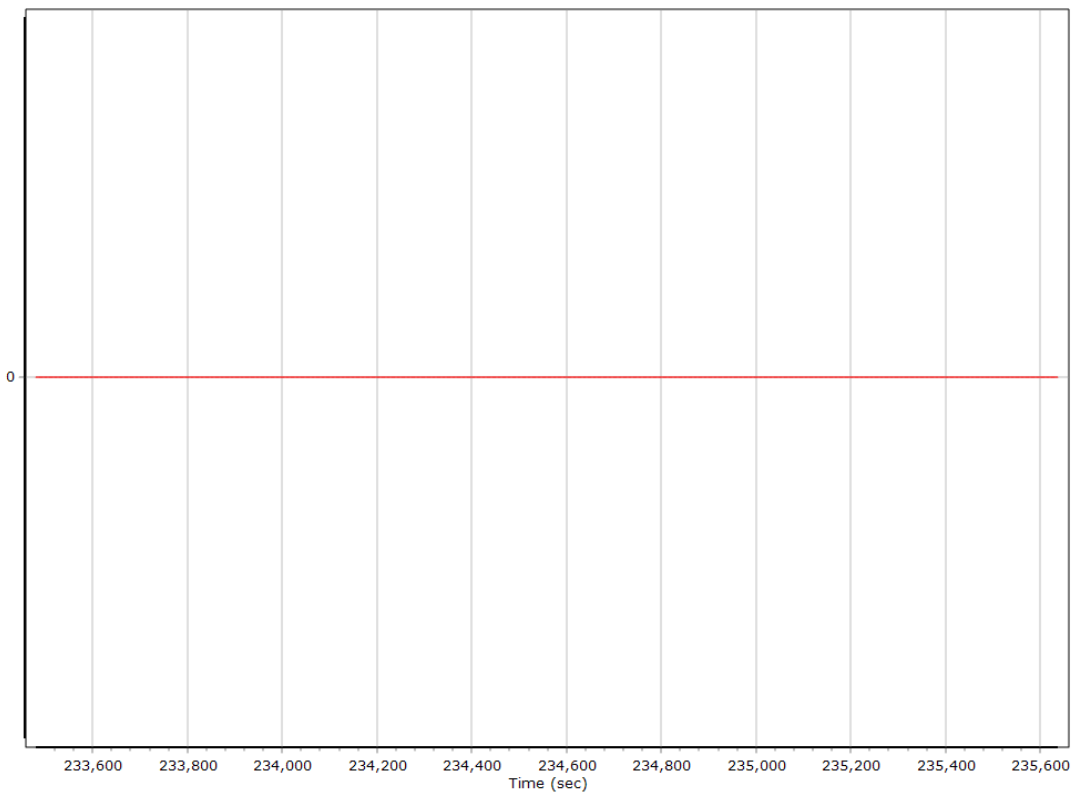
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



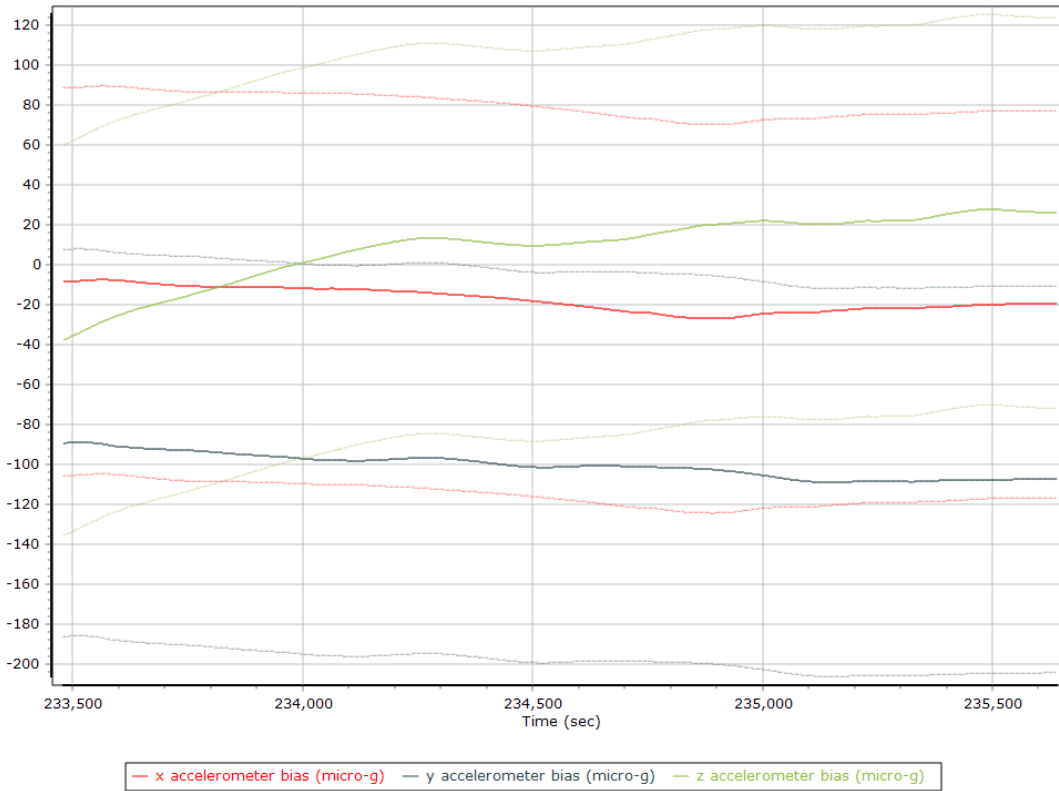
Reference-Primary GNSS Lever Arm Figure of Merit



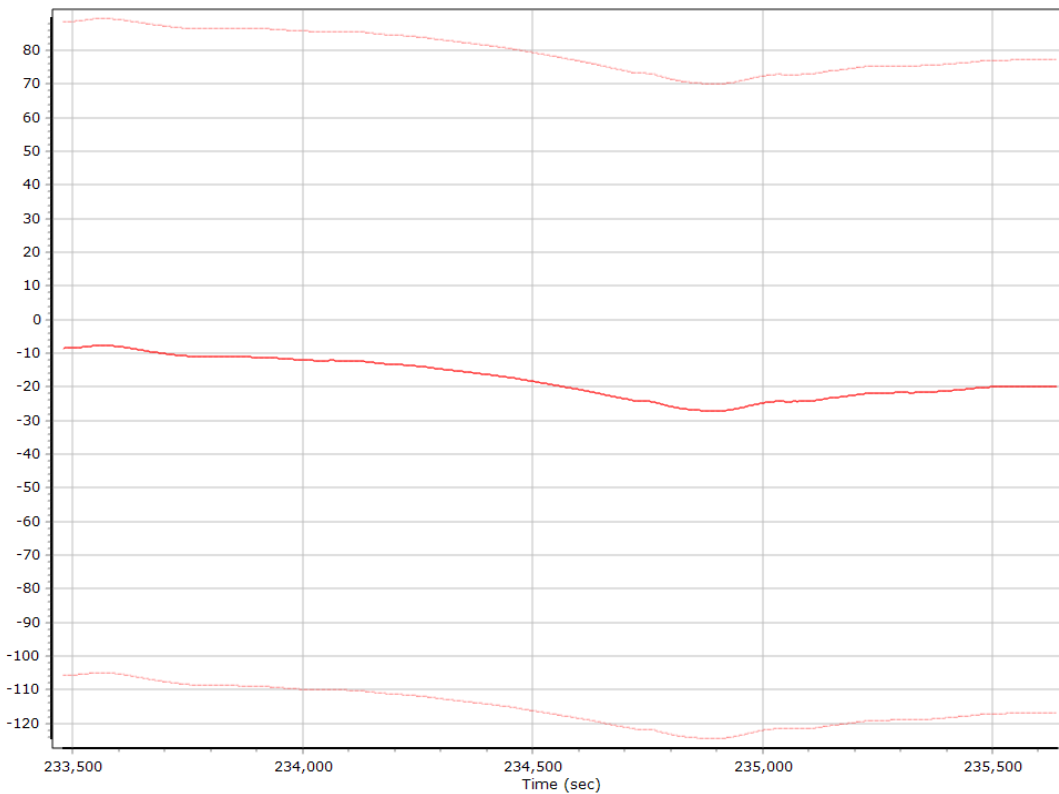
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

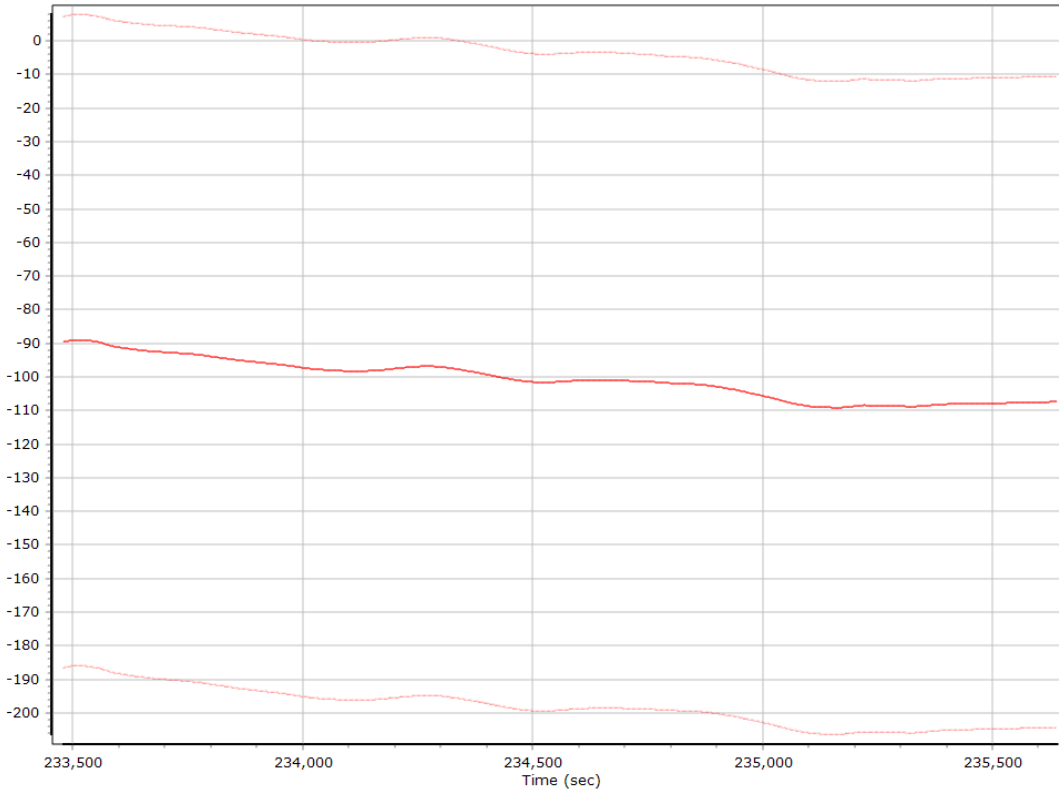
Accelerometer Bias (micro-g)



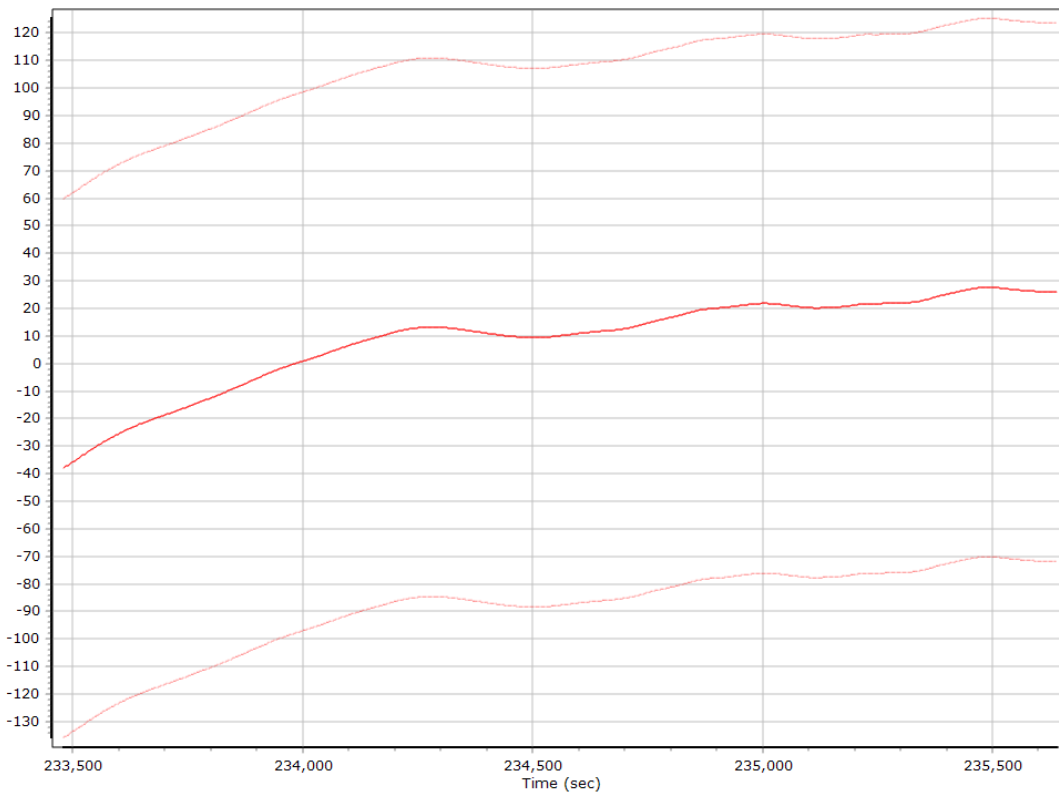
X Accelerometer Bias (micro-g)



Y Accelerometer Bias (micro-g)



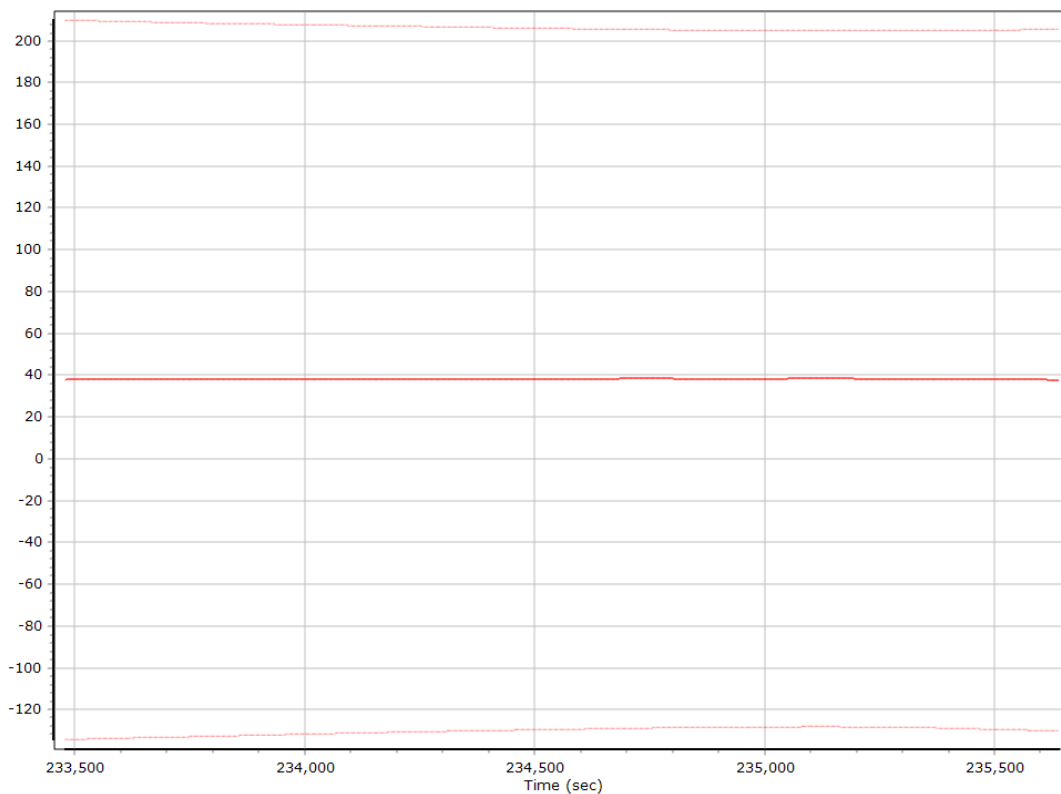
Z Accelerometer Bias (micro-g)



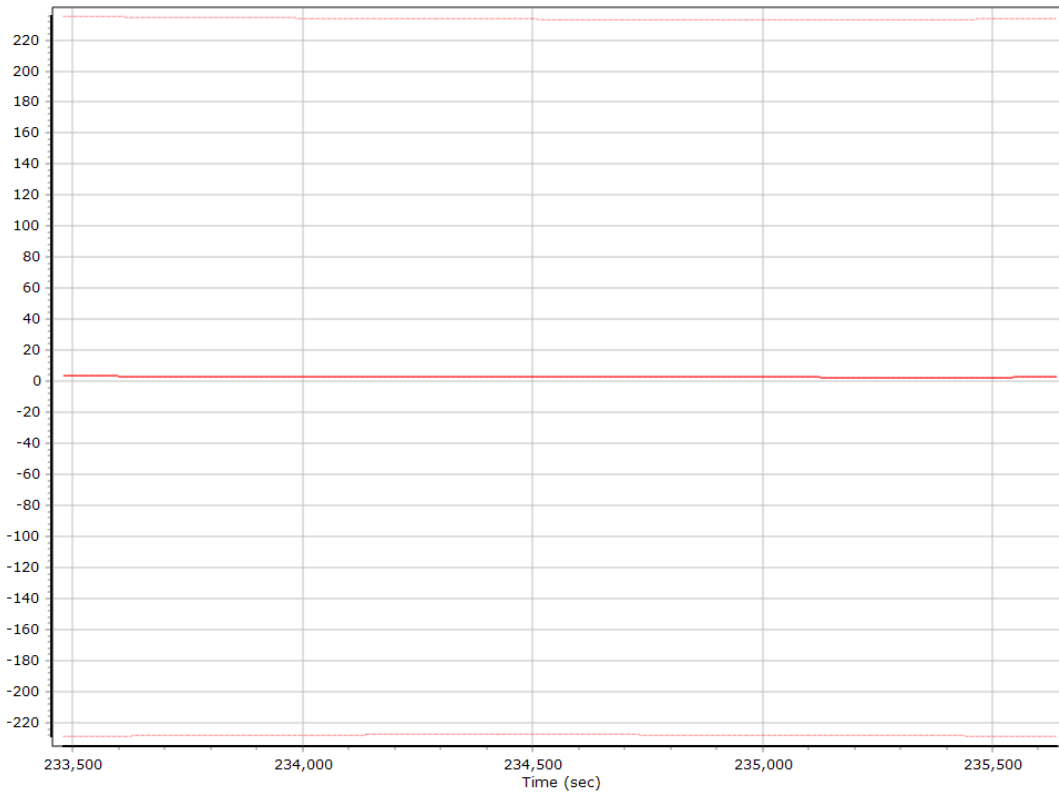
Accelerometer Scale Error (ppm)



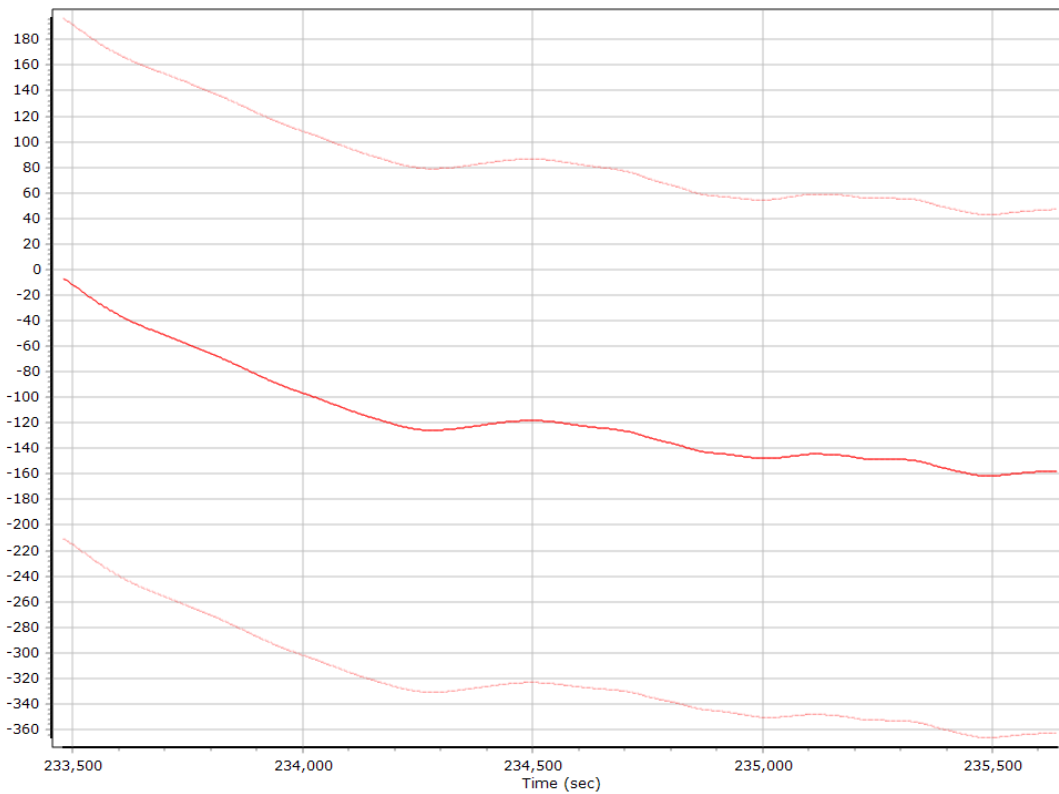
X Accelerometer Scale Error (ppm)



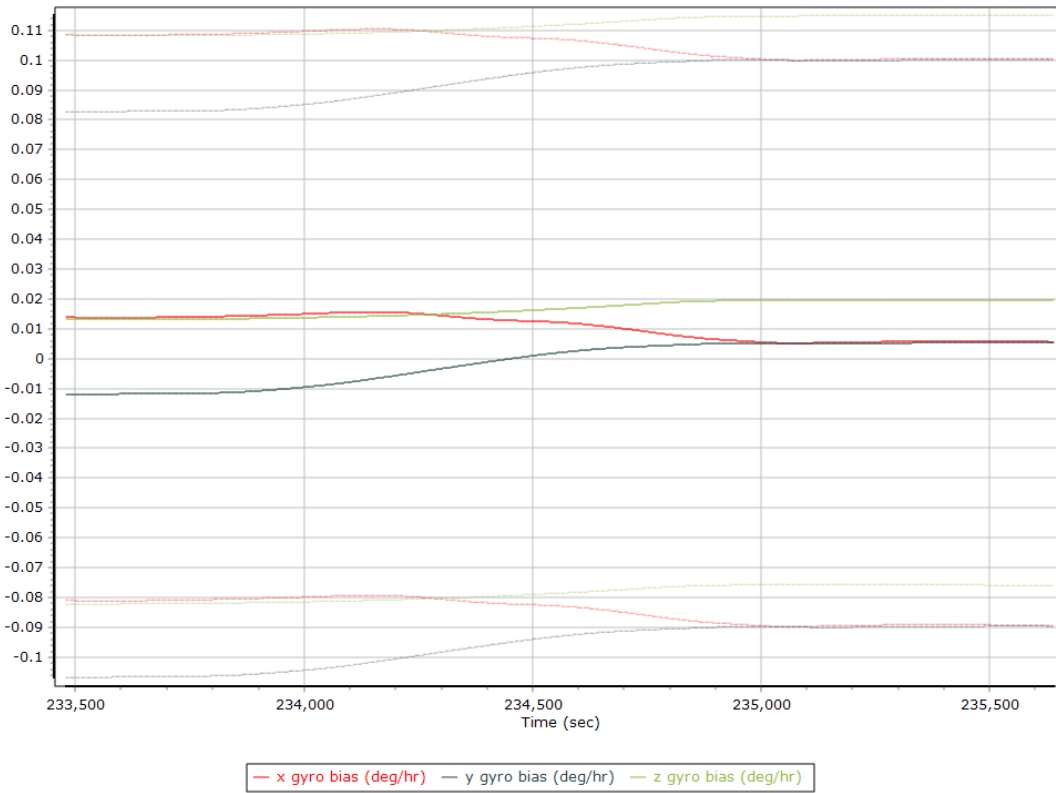
Y Accelerometer Scale Error (ppm)



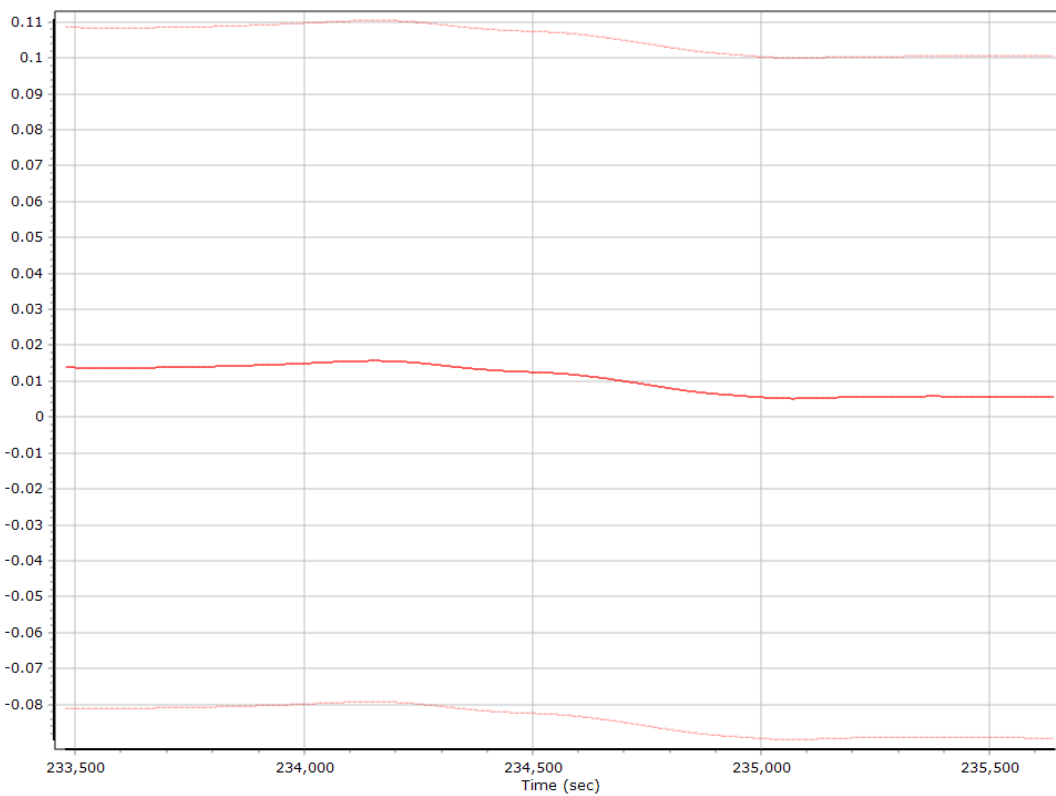
Z Accelerometer Scale Error (ppm)



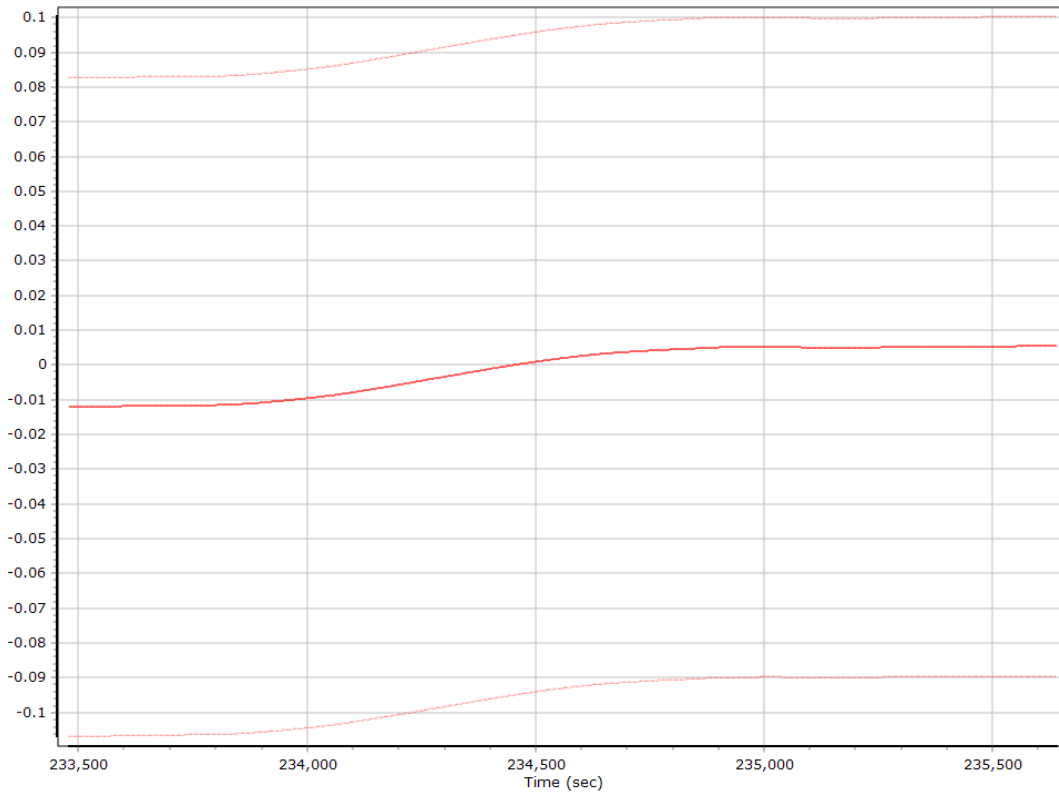
Gyro Bias (deg/h)



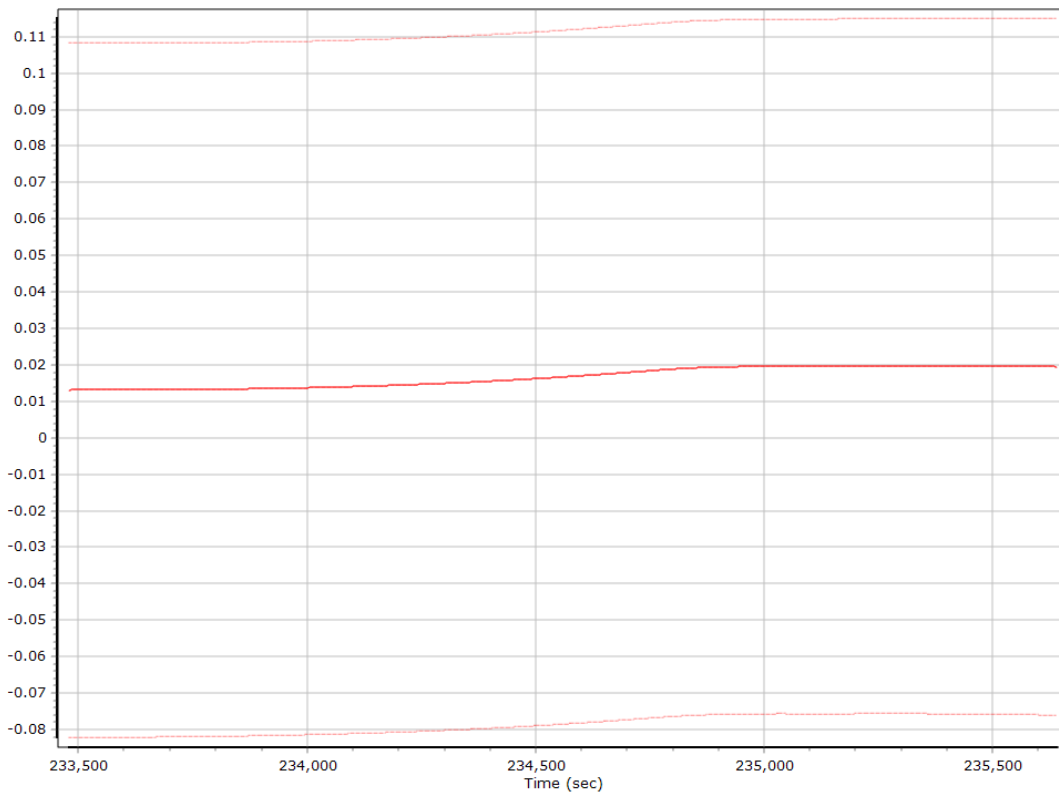
X Gyro Bias (deg/h)



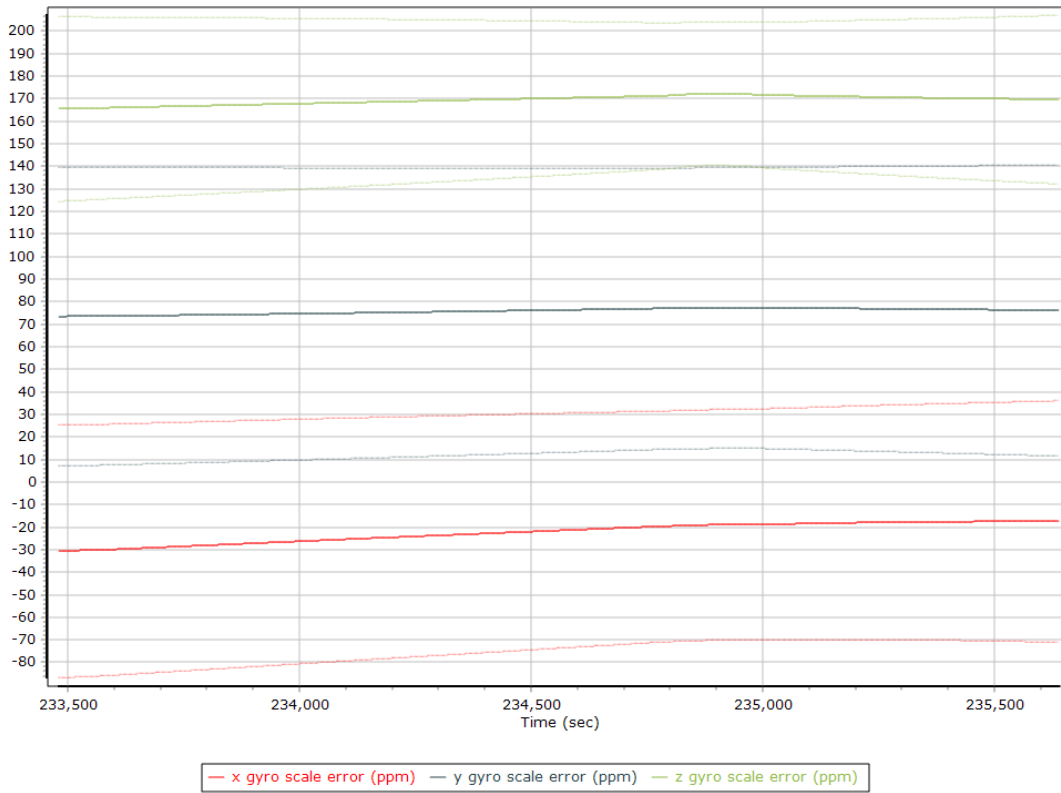
Y Gyro Bias (deg/h)



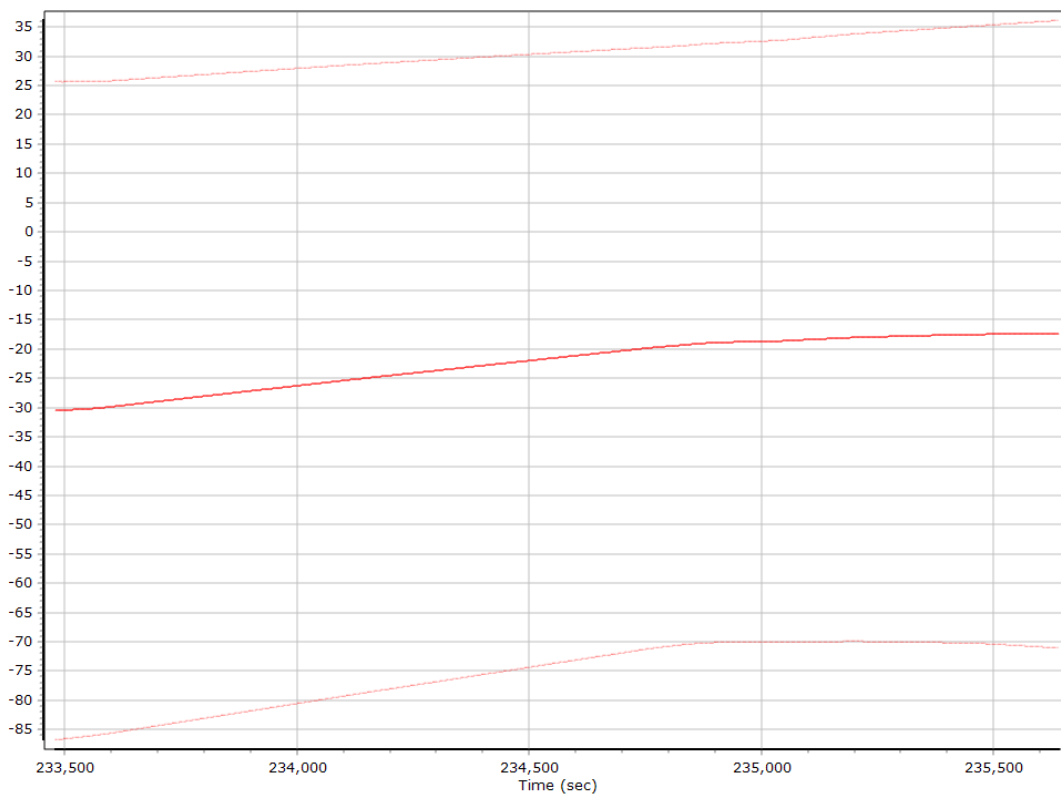
Z Gyro Bias (deg/h)



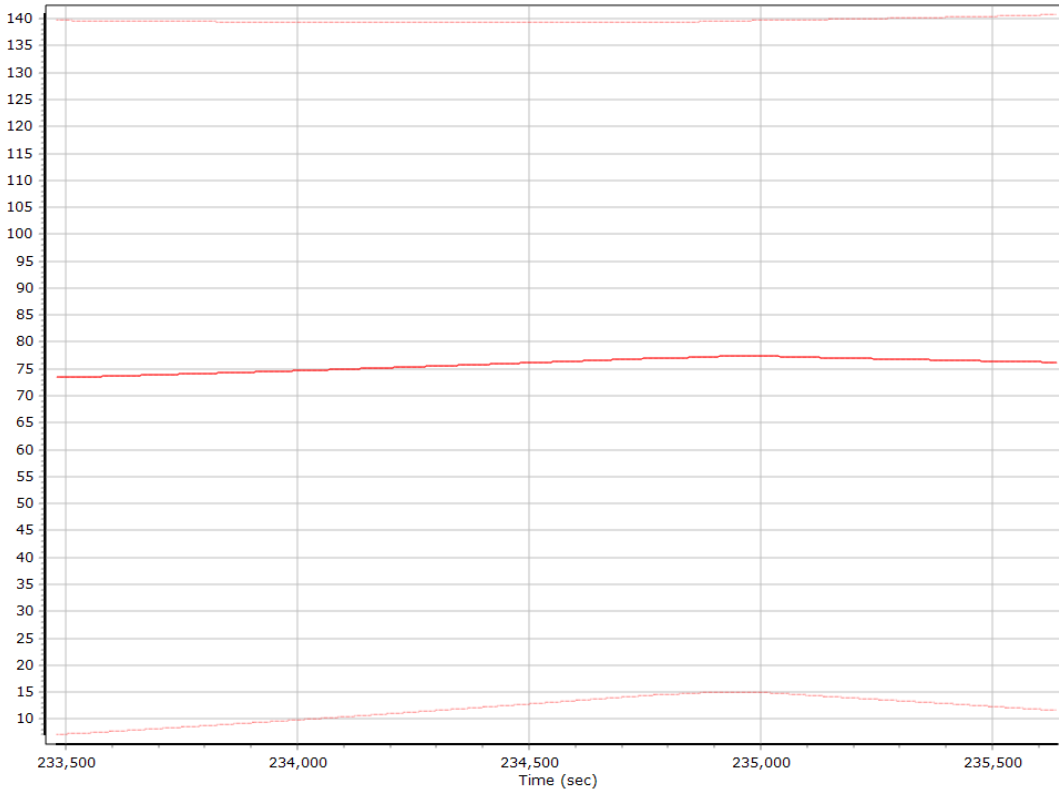
Gyro Scale Error (ppm)



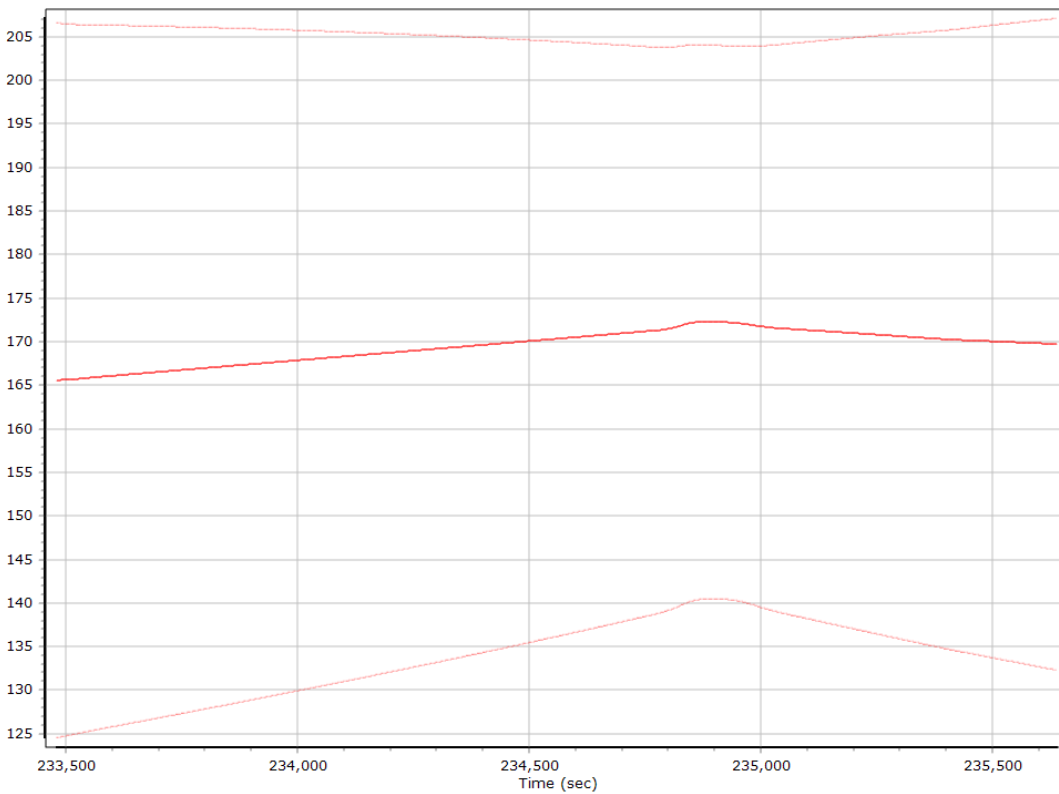
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

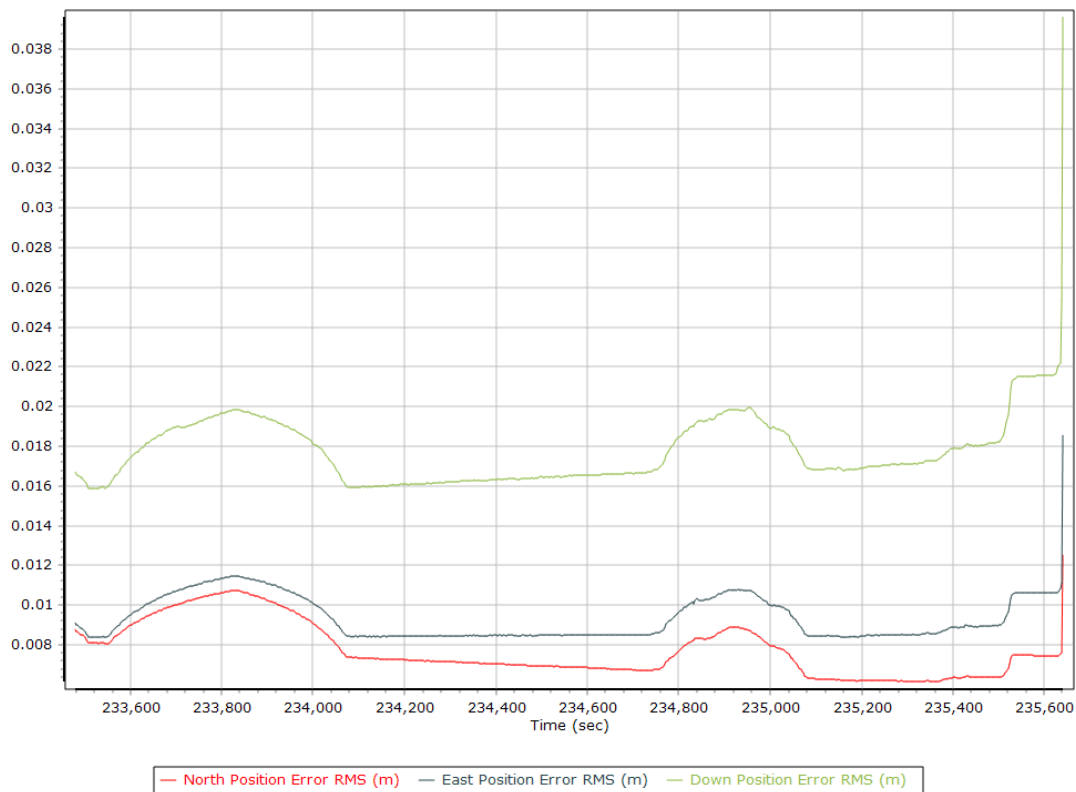


Z Gyro Scale Error (ppm)

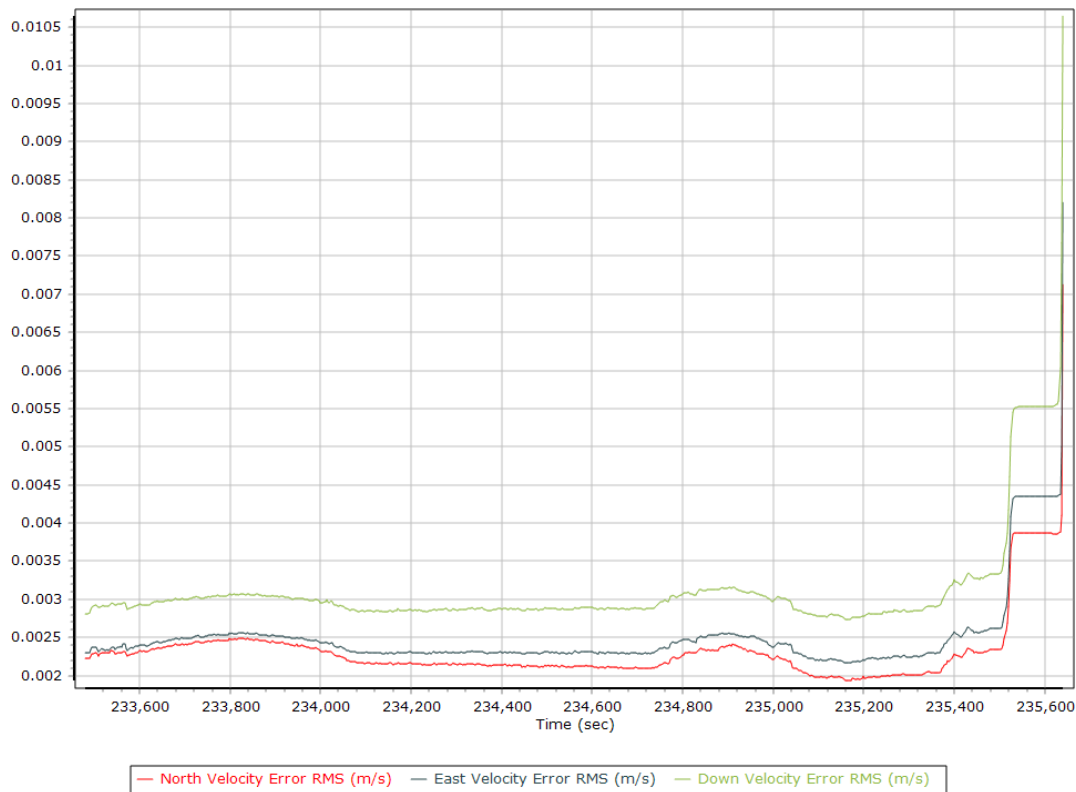


Smoothed Performance Metrics

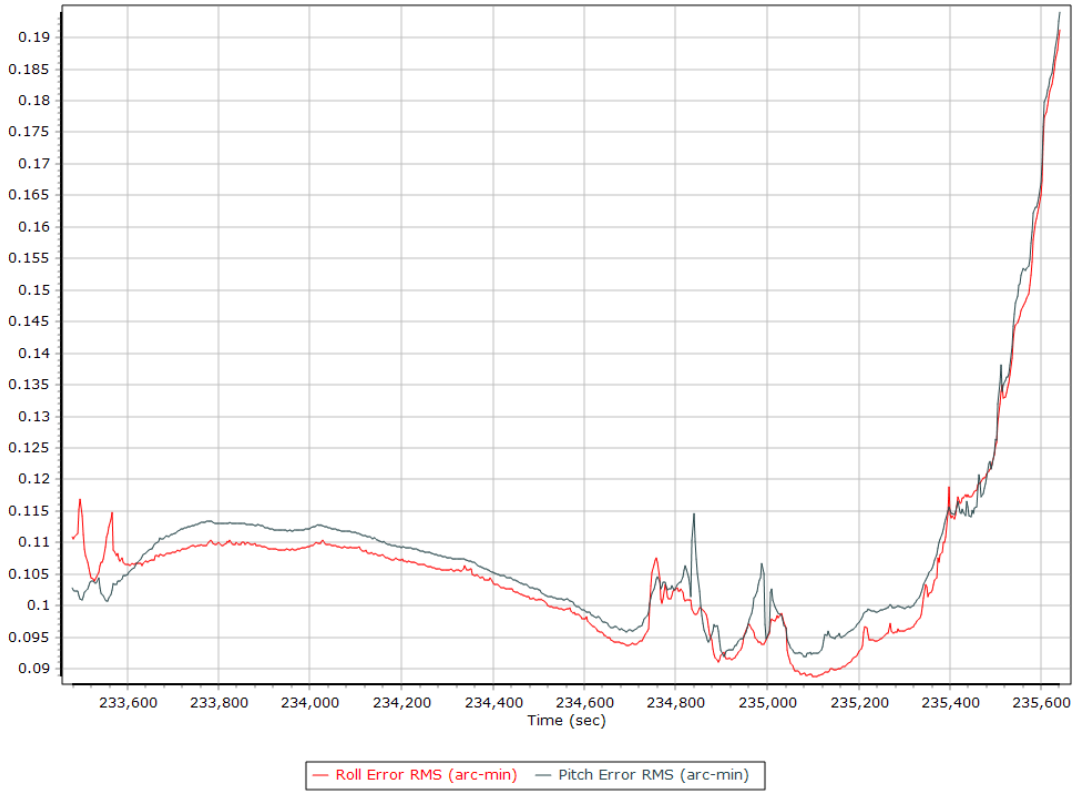
Position Error RMS (m)



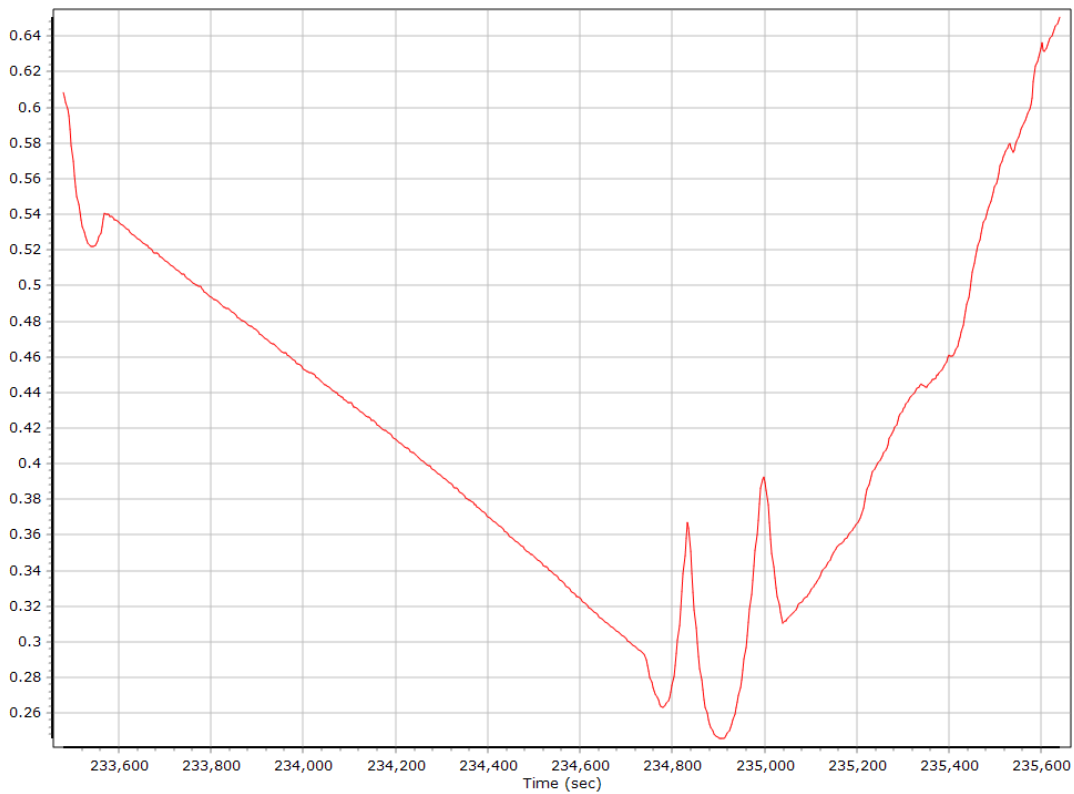
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

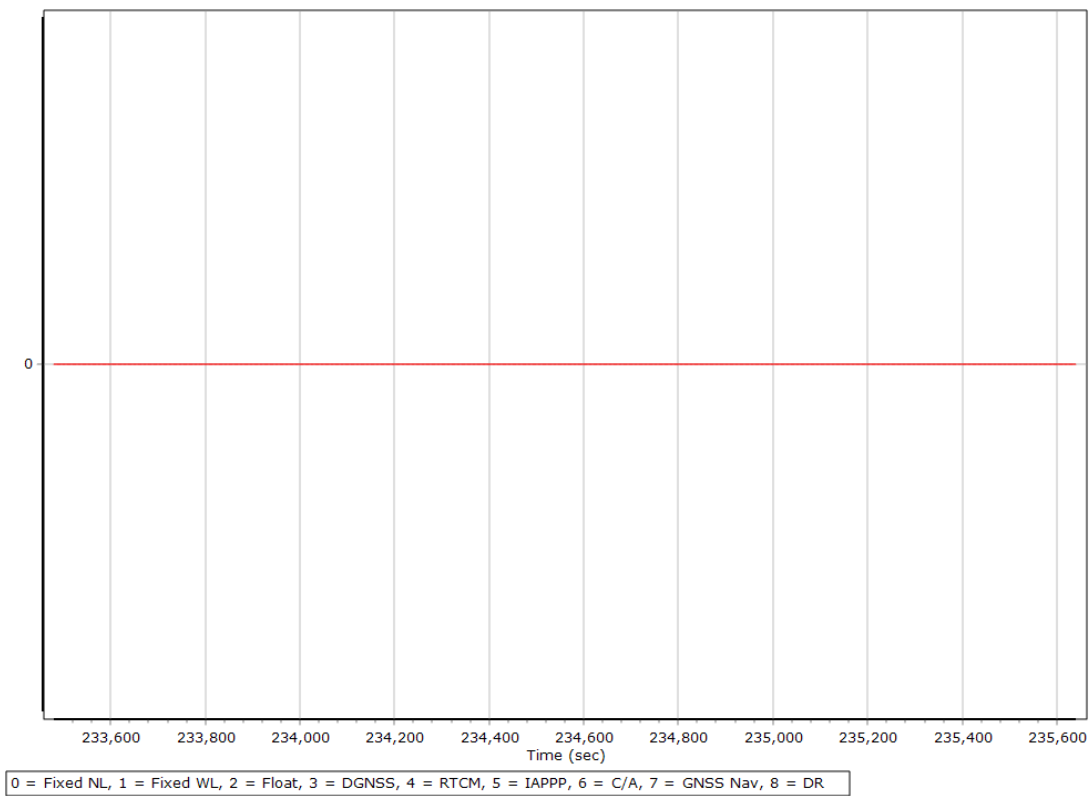


Heading Error RMS (arc-min)

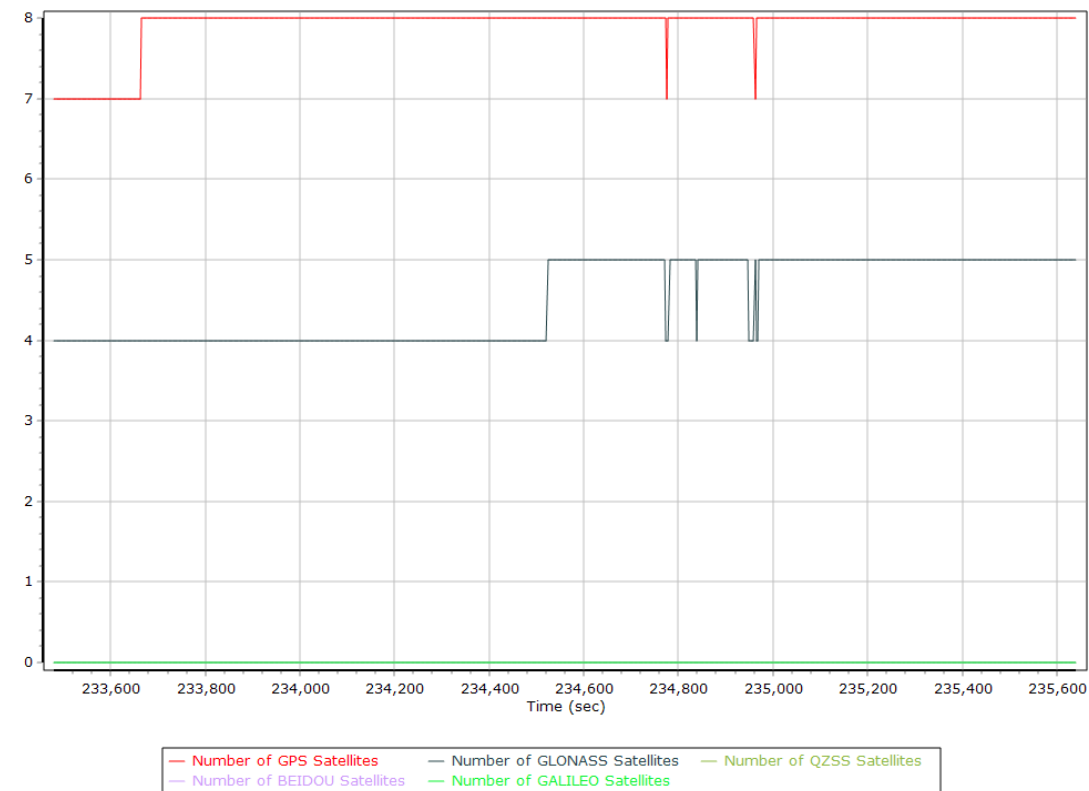


Smoothed Solution Status

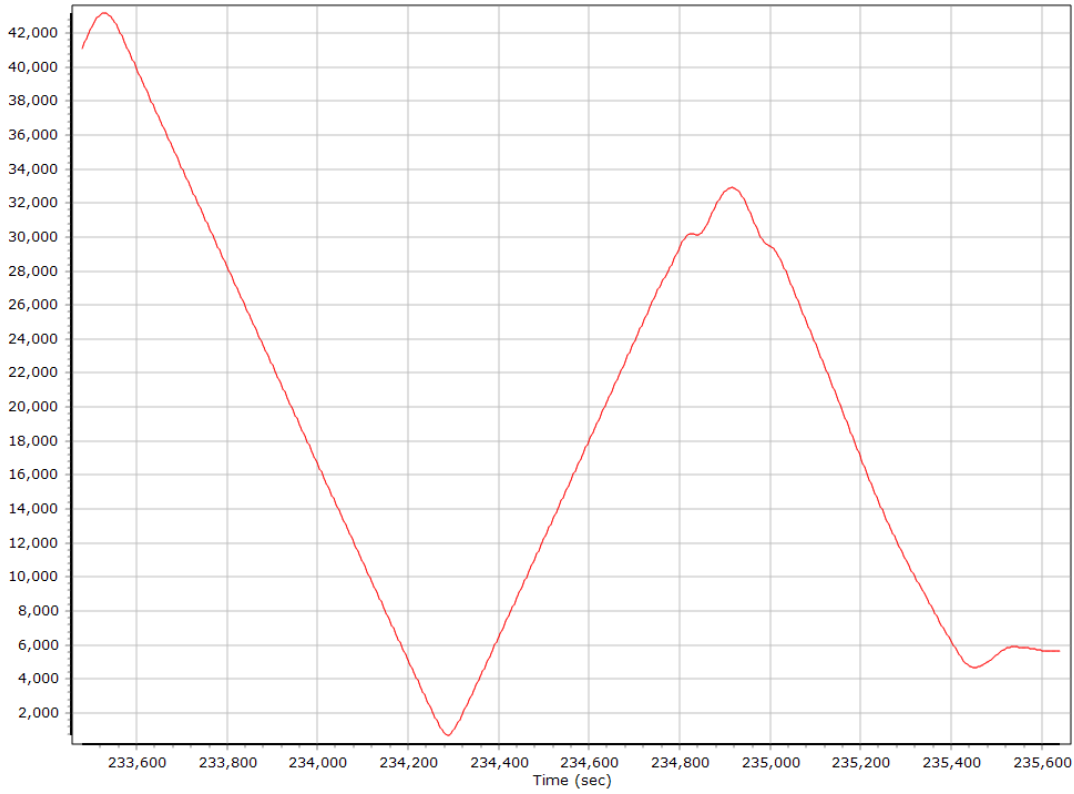
Processing Mode



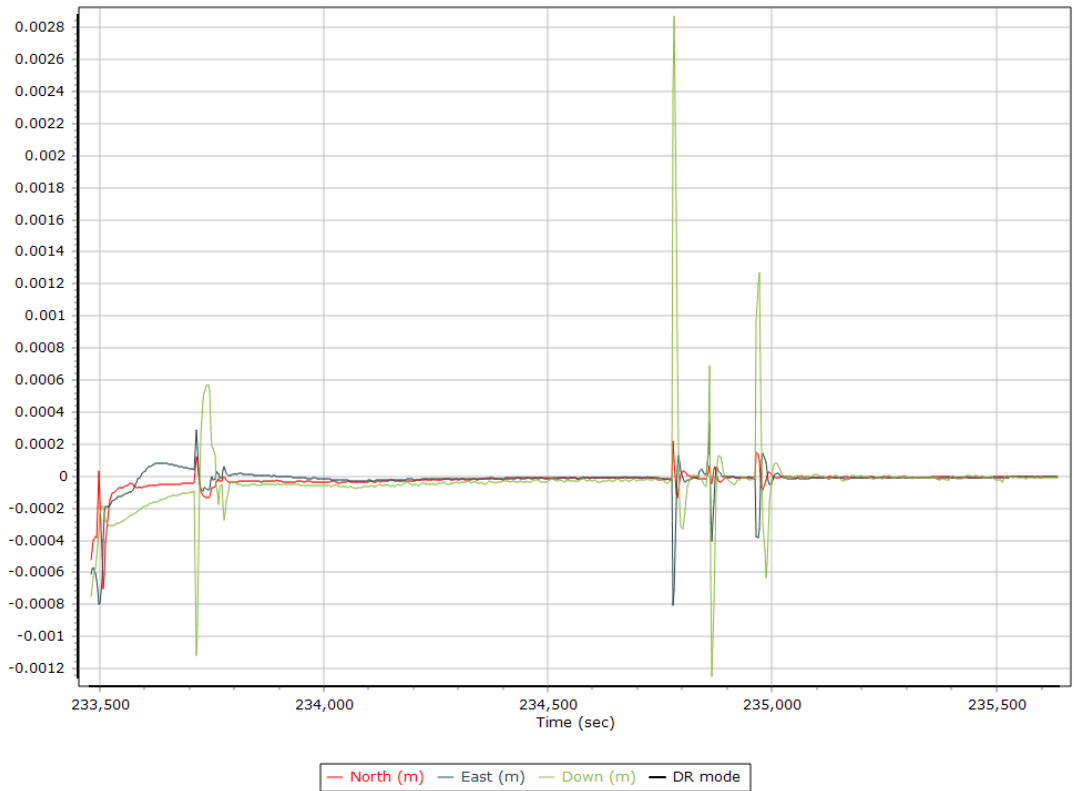
Number of Satellites



Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	PTG19330B
Processing date	2019-11-28 20:13:05
Mission date	2019-11-26 18:33:19
Mission duration	02:14:06.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	AV37

Project File List

Rover Data Files

File name	File type
PTG19330.302	POS Data
PTG19330.303	POS Data
PTG19330.304	POS Data
PTG19330.305	POS Data
PTG19330.306	POS Data
PTG19330.307	POS Data
PTG19330.308	POS Data
PTG19330.309	POS Data
PTG19330.310	POS Data
PTG19330.311	POS Data
PTG19330.312	POS Data
PTG19330.313	POS Data
PTG19330.314	POS Data
PTG19330.315	POS Data
PTG19330.316	POS Data
PTG19330.317	POS Data
PTG19330.318	POS Data
PTG19330.319	POS Data
PTG19330.320	POS Data
PTG19330.321	POS Data

Input Files

File Name	File Type
Ephm3300.19g	GLONASS Broadcast Ephemeris
Ephm3300.19n	GPS Broadcast Ephemeris
flbf_daily3300.19o	GNSS SingleBase
flbf_daily3310.19o	GNSS SingleBase
flbr_daily3300.19o	GNSS SingleBase
flbr_daily3310.19o	GNSS SingleBase
flmc_daily3300.19o	GNSS SingleBase
flmc_daily3310.19o	GNSS SingleBase
gnvl_daily3300.19o	GNSS SingleBase
gnvl_daily3310.19o	GNSS SingleBase
lkcy_daily3300.19o	GNSS SingleBase
lkcy_daily3310.19o	GNSS SingleBase
ocla_daily3300.19o	GNSS SingleBase
ocla_daily3310.19o	GNSS SingleBase
pltk_daily3300.19o	GNSS SingleBase
pltk_daily3310.19o	GNSS SingleBase
Ephm3310.19g	GLONASS Broadcast Ephemeris
Ephm3310.19n	GPS Broadcast Ephemeris
igu20811_18.sp3	GPS Precise Ephemeris
igu20812_18.sp3	GPS Precise Ephemeris
igu20813_18.sp3	GPS Precise Ephemeris
igu20814_12.sp3	GPS Precise Ephemeris

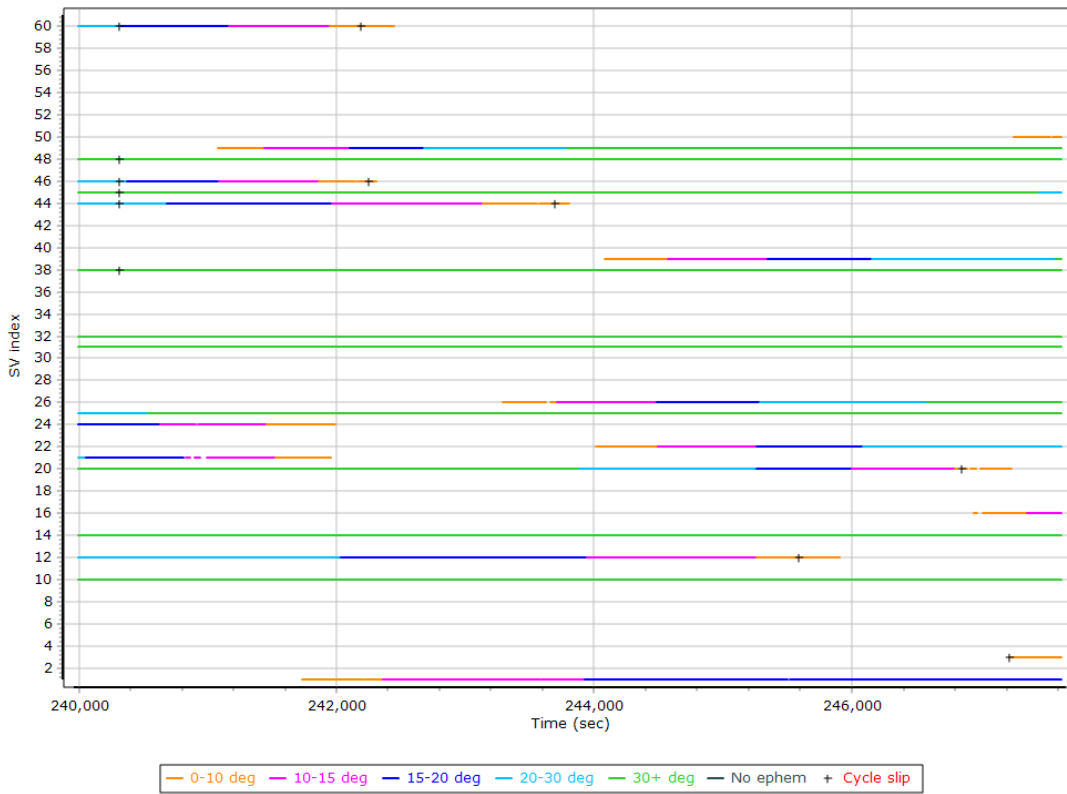
Output Files

Filename	File type
sbet_PTG19330B.out	SBET Trajectory File

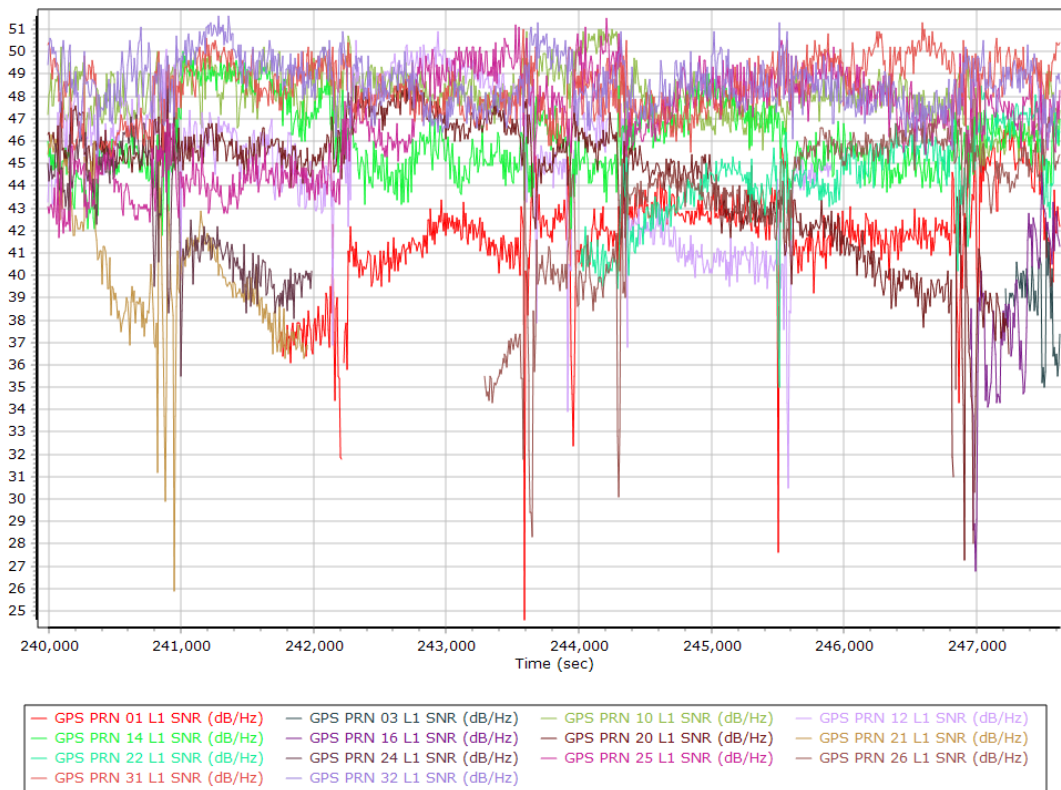
Rover Data Summary

First raw data file	PTG19330.302		
Last raw data file	PTG19330.321		
Start GPS week	2081		
Start time	239580.045 (11/26/2019 6:33:00 PM)		
End time	247627.947 (11/26/2019 8:47:07 PM)		
Start of fine alignment	239934.757 (11/26/2019 6:38:54 PM)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	Event 2 Input, Event 3 Input		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Reference to IMU lever arm (m)	0.000	0.000	0.000
Reference to IMU mounting angles (deg)	0.000	0.000	0.000
Reference to Primary GNSS lever arm (m)	0.000	0.000	0.000
Reference to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

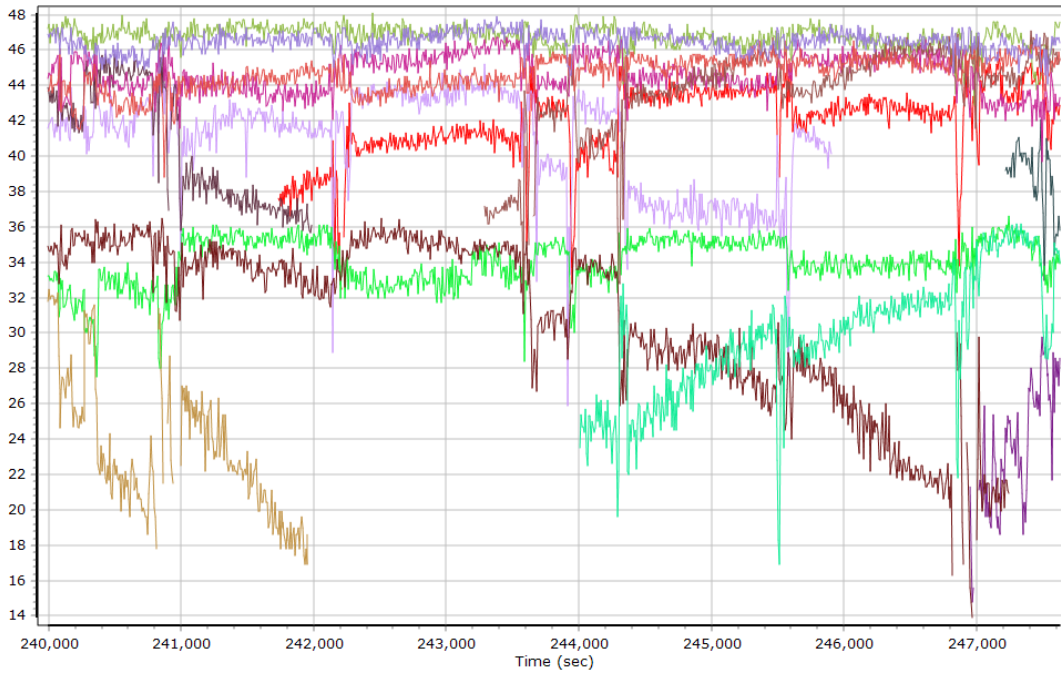
L2 Satellite Lock/Elevation



GPS L1 SNR

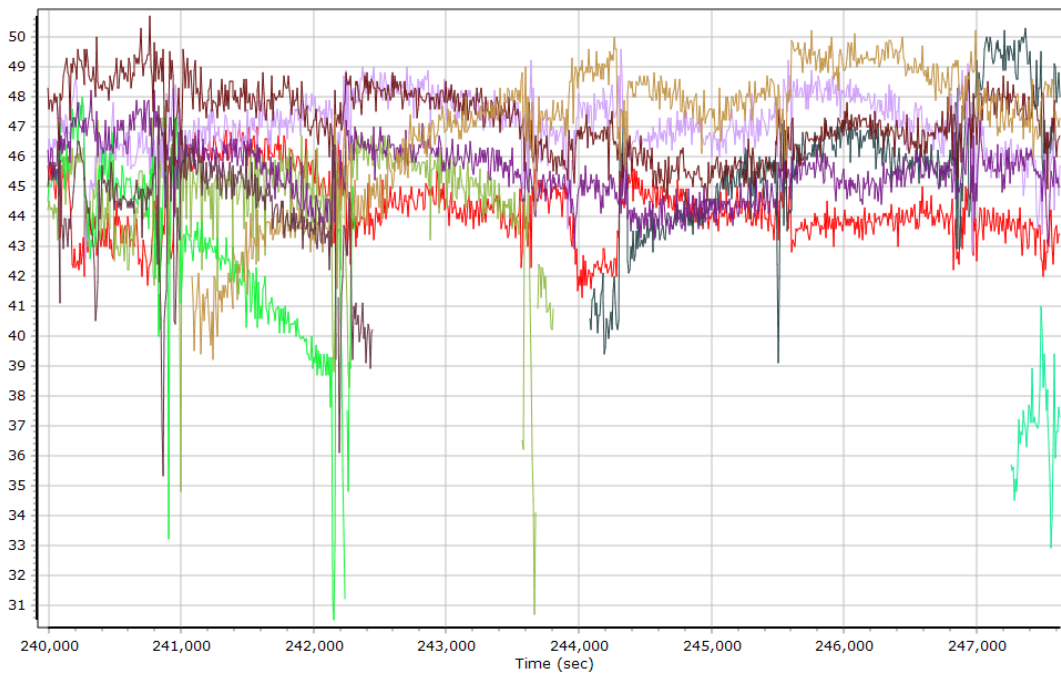


GPS L2 SNR



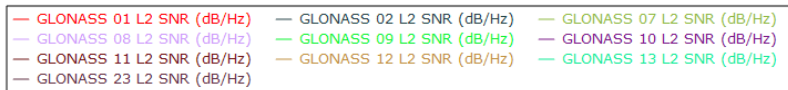
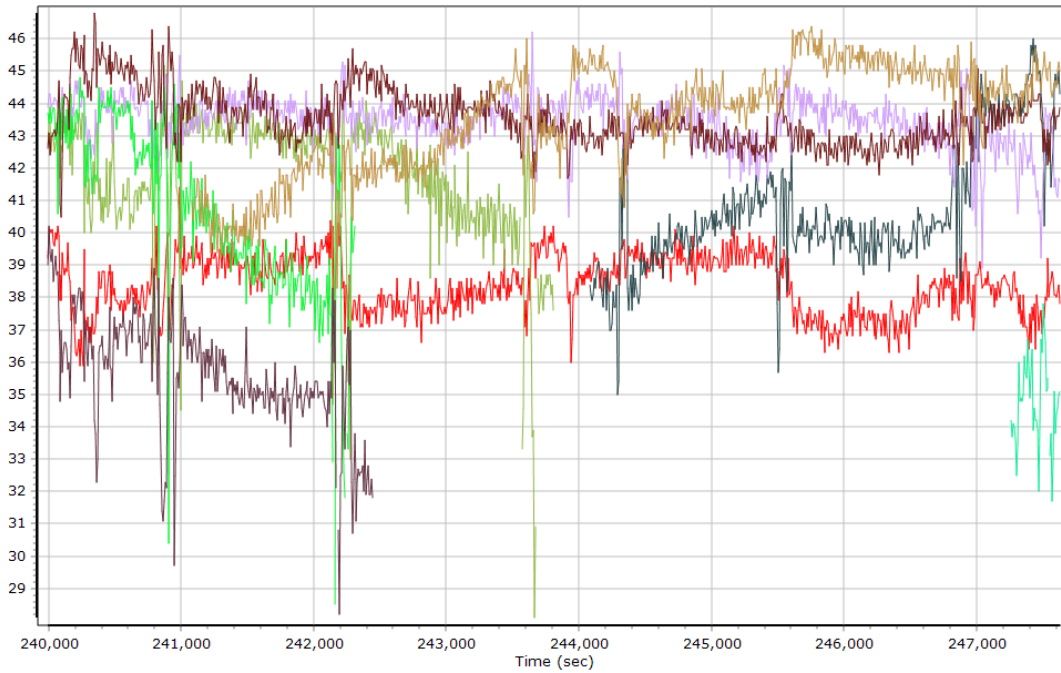
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 03 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 12 L2 SNR (dB/Hz) |
| GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 16 L2 SNR (dB/Hz) | GPS PRN 20 L2 SNR (dB/Hz) | GPS PRN 21 L2 SNR (dB/Hz) |
| GPS PRN 22 L2 SNR (dB/Hz) | GPS PRN 24 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 26 L2 SNR (dB/Hz) |
| GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) | | |

GLONASS L1 SNR

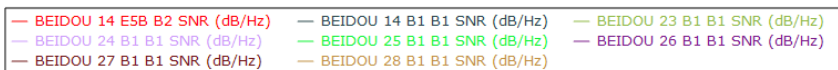
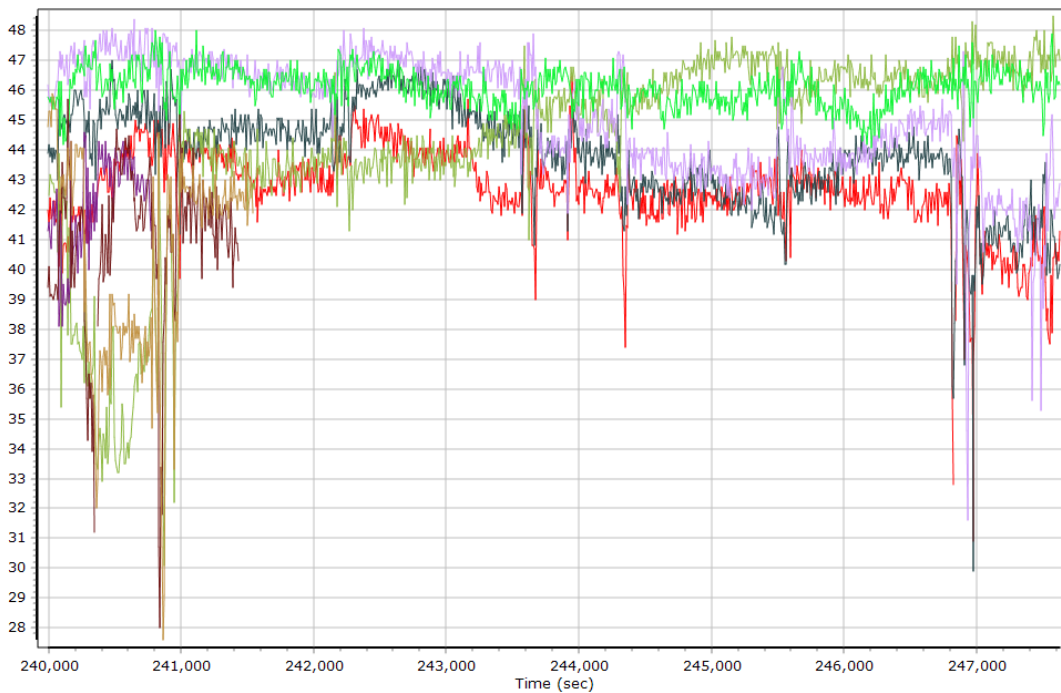


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 02 L1 SNR (dB/Hz) | GLONASS 07 L1 SNR (dB/Hz) |
| GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) | GLONASS 10 L1 SNR (dB/Hz) |
| GLONASS 11 L1 SNR (dB/Hz) | GLONASS 12 L1 SNR (dB/Hz) | GLONASS 13 L1 SNR (dB/Hz) |
| GLONASS 23 L1 SNR (dB/Hz) | | |

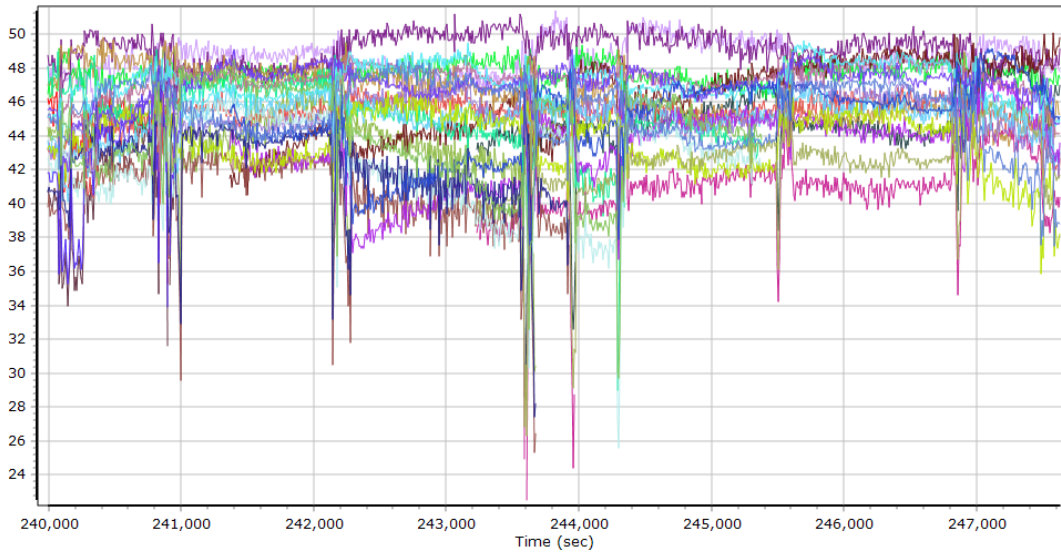
GLONASS L2 SNR



BEIDOU SNR

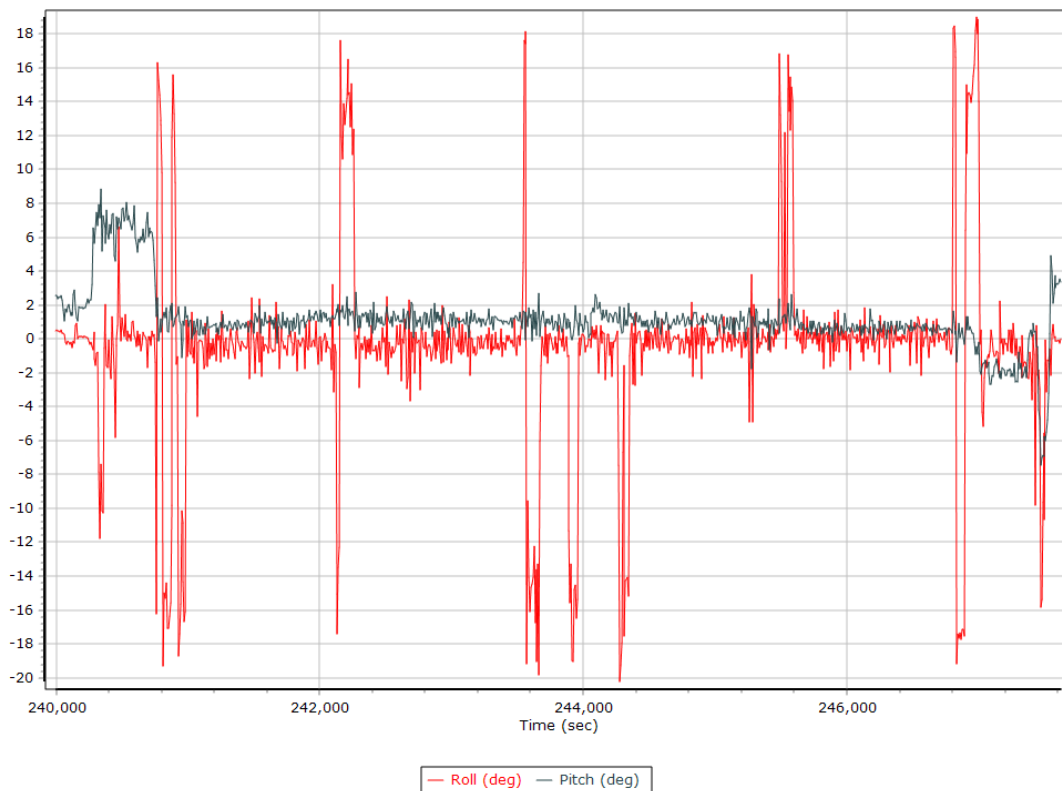


GALILEO SNR

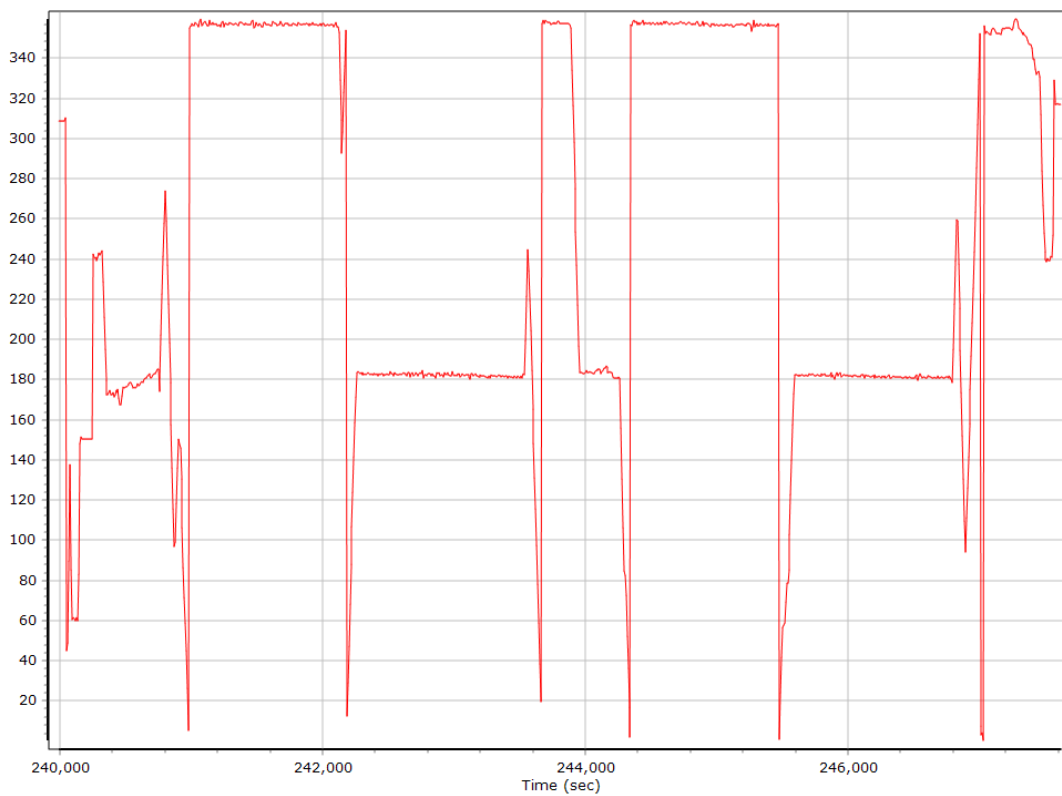


- | | |
|--|--|
| — GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 31 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 36 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 01 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 03 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 04 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 05 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 09 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 24 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 25 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 31 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 36 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 01 E5ABCentre AltBOCCompPD SNR (dB/Hz) | — GALILEO 03 E5ABCentre AltBOCCompPD SNR (dB/Hz) |

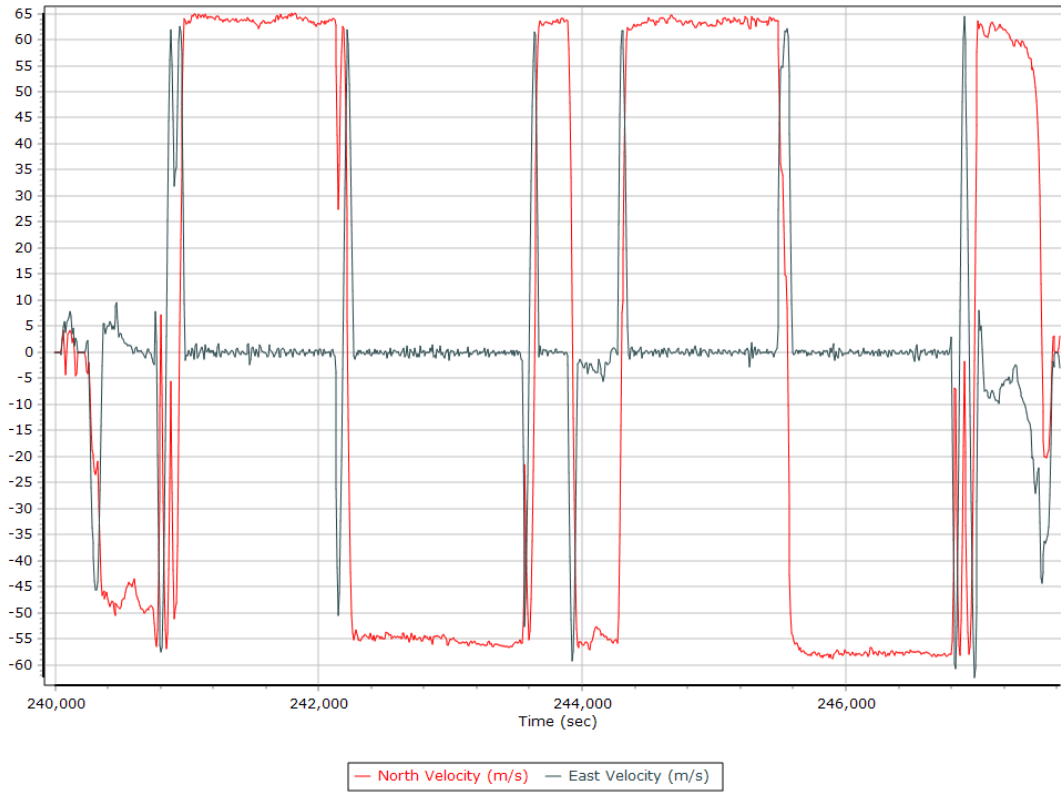
Roll/Pitch



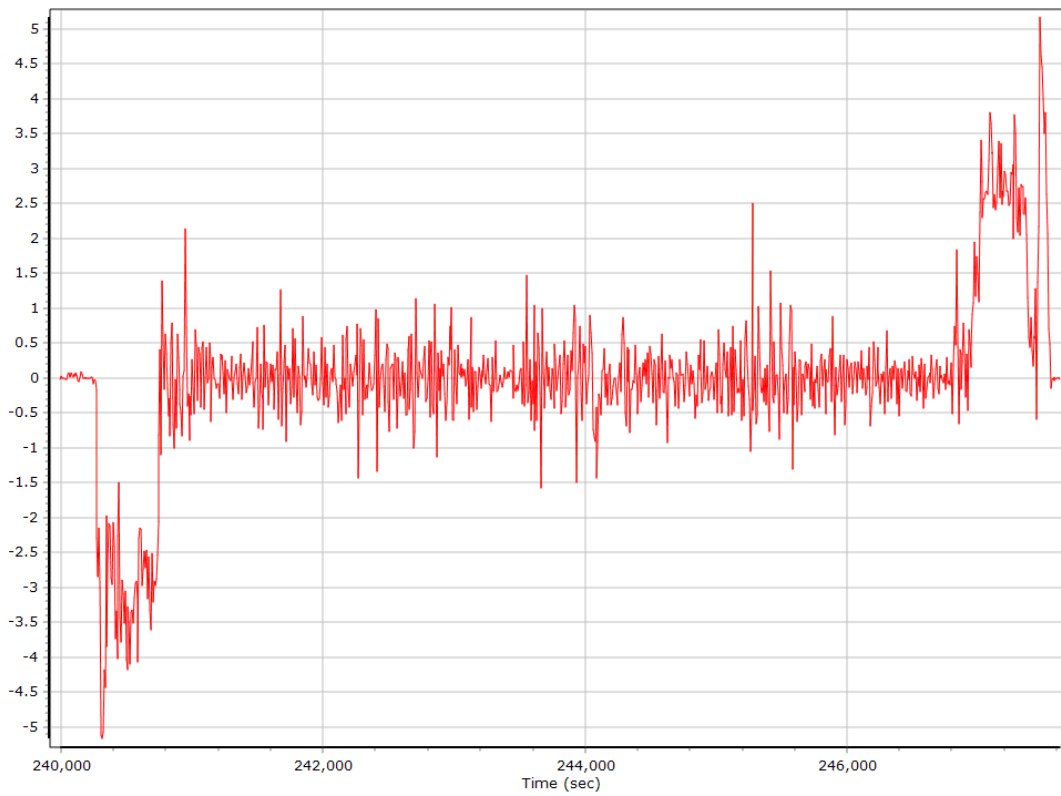
Heading



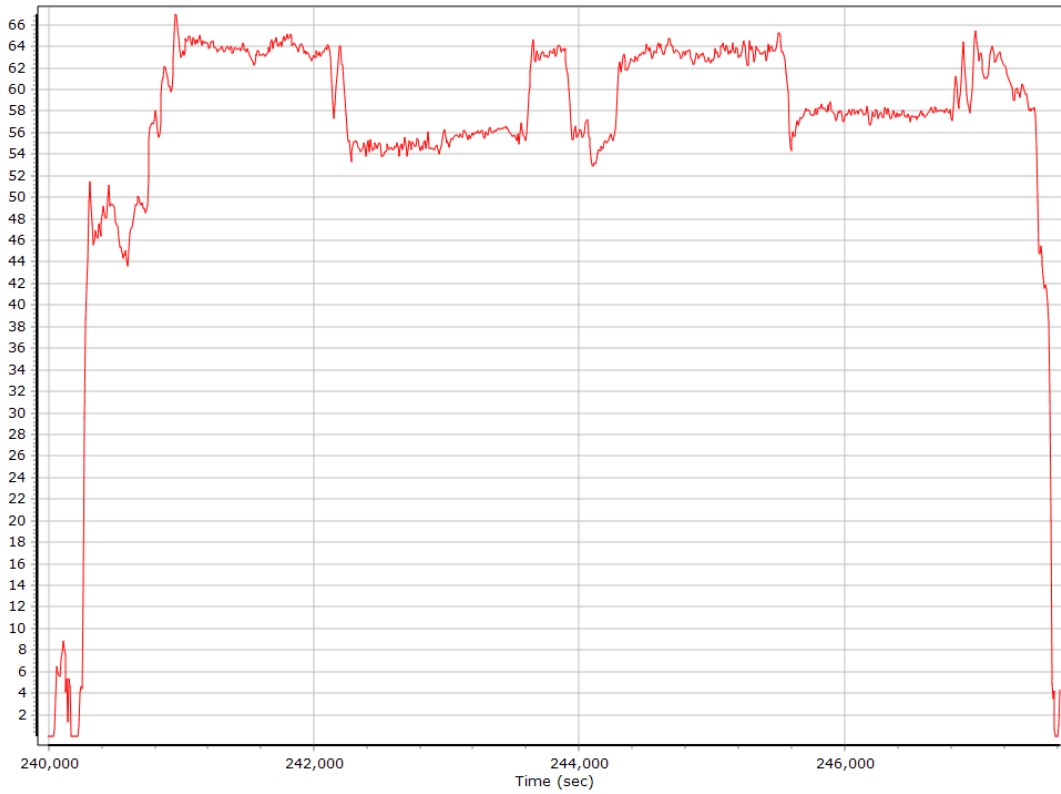
North/East Velocity



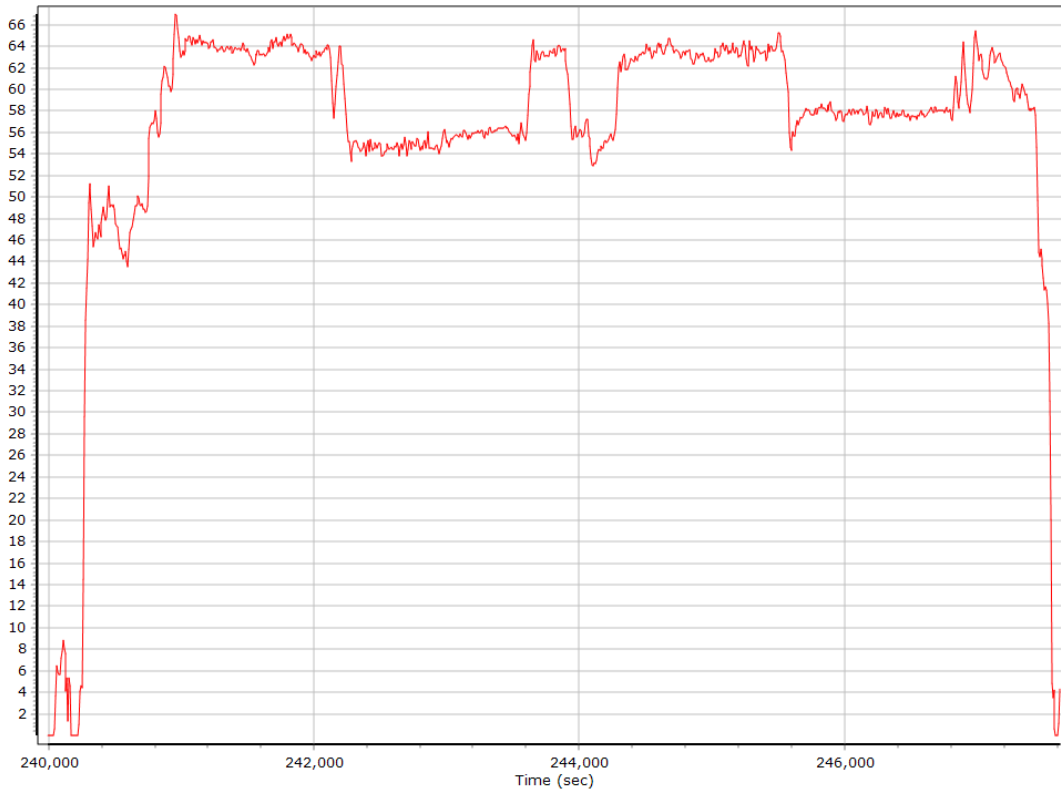
Down Velocity



Total Speed



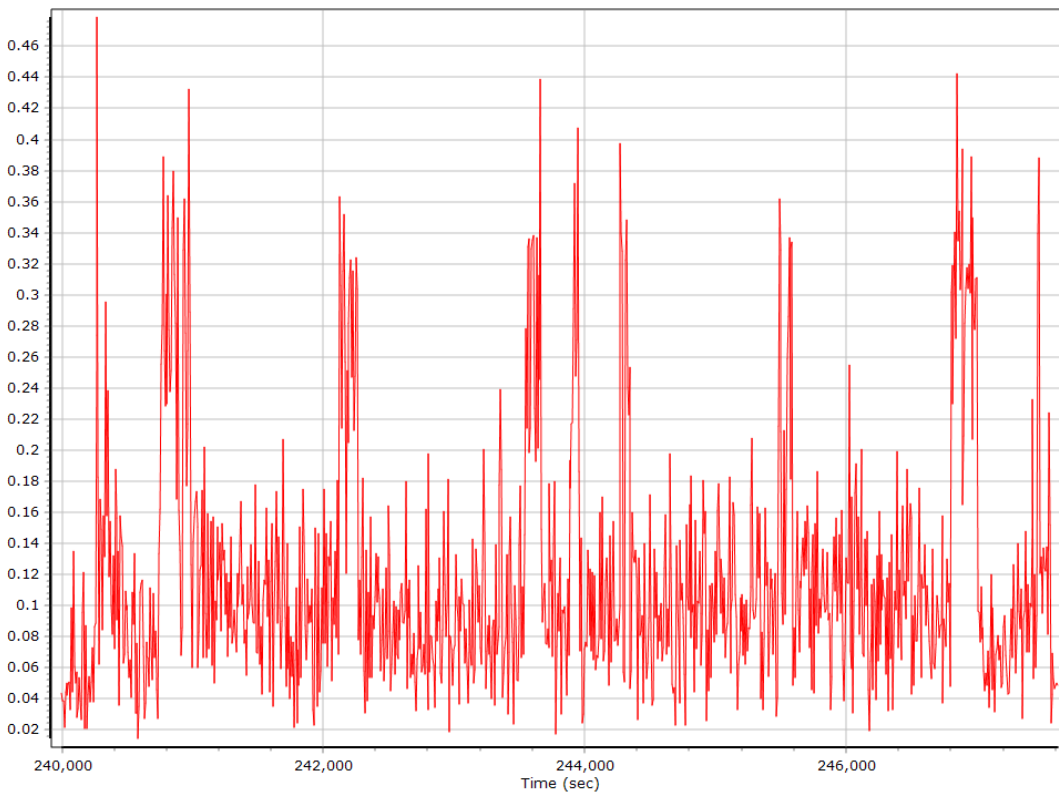
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
11/26/2019	PLTK	54.00	GNSS	1	User	None	Imported
11/26/2019	OCLA	62.71	GNSS	1	User	None	Imported
11/26/2019	LKCY	59.67	GNSS	1	User	None	Imported
11/26/2019	GNVL	6.58	GNSS	1	User	None	Imported
11/26/2019	FLMC	60.45	GNSS	1	User	None	Imported
11/26/2019	FLBR	51.23	GNSS	1	User	None	Imported
11/26/2019	FLBF	69.48	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	GNVL
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	8046 s (2081 239599 - 2081 247645)
Number of reference stations	7
Primary station GPS measurement usage (%)	99.9
Primary station GLONASS measurement usage (%)	71.3
Average number of satellites per epoch	13.0
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	14317
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - PLTK

Status	OK	SBQI	0	
Duration (Hours)	37.79	Output Coordinates	Original	
Solution Epochs	9070	Mean Epoch SVs	8.1	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14826"	W81°41'15.86068"	17.959
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.003	0.013	0.013

Base Station Information

Station ID	PLTK		
Filename	pltk_daily3300.19o, pltk_daily3310.19o		
Start date	11/26/2019 12:00:00 AM		
End date	11/27/2019 2:14:59 PM		
Duration	1:14:14:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - OCLA

Status	OK	SBQI	0
Duration (Hours)	38.05	Output Coordinates	Original
Solution Epochs	9133	Mean Epoch SVs	7.8
Base Station Coordinates	Latitude	Longitude	Height (m)
Original	N29°10'54.46980"	W82°06'15.28619"	17.715
Adjusted	N29°10'54.46981"	W82°06'15.28613"	17.721
Coordinate Adjustments	Horizontal (m)	Vertical (m)	Total (m)
Adjustments	0.002	0.006	0.006

Base Station Information

Station ID	OCLA		
Filename	ocla_daily3300.19o, ocla_daily3310.19o		
Start date	11/26/2019 12:00:00 AM		
End date	11/27/2019 2:14:59 PM		
Duration	1:14:14:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LKCY

Status	OK	SBQI	0	
Duration (Hours)	22.15	Output Coordinates	Original	
Solution Epochs	5316	Mean Epoch SVs	8.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°11'07.49182"	W82°34'39.14410"	35.193
Adjusted		N30°11'07.49171"	W82°34'39.14423"	35.211
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.005	0.018	0.018

Base Station Information

Station ID	LKCY		
Filename	lkcy_daily3300.19o, lkcy_daily3310.19o		
Start date	11/26/2019 4:00:00 PM		
End date	11/27/2019 2:14:59 PM		
Duration	22:14:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	CONTROL	SBQI	0	
Duration (Hours)	38.15	Output Coordinates	Control	
Solution Epochs	9155	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55697"	W82°16'36.73521"	23.936
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3300.19o, gnlv_daily3310.19o		
Start date	11/26/2019 12:00:00 AM		
End date	11/27/2019 2:14:59 PM		
Duration	1:14:14.59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMC

Status	OK	SBQI	0	
Duration (Hours)	38.15	Output Coordinates	Original	
Solution Epochs	9155	Mean Epoch SVs	7.9	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°16'15.87532"	W82°07'35.14360"	11.221
Adjusted		N30°16'15.87530"	W82°07'35.14396"	11.244
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.010	0.023	0.025

Base Station Information

Station ID	FLMC		
Filename	flmc_daily3300.19o, flmc_daily3310.19o		
Start date	11/26/2019 12:00:00 AM		
End date	11/27/2019 2:14:59 PM		
Duration	1:14:14.59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701977
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°16'15.87532"		
Longitude	W82°07'35.14360"		
Ellipsoidal height (m)	11.22100		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLBR

Status	OK	SBQI	0	
Duration (Hours)	36.43	Output Coordinates	Original	
Solution Epochs	8743	Mean Epoch SVs	7.7	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°26'19.83659"	W82°38'43.13027"	4.337
Adjusted		N29°26'19.83626"	W82°38'43.13052"	4.367
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.012	0.030	0.032

Base Station Information

Station ID	FLBR		
Filename	flbr_daily3300.19o, flbr_daily3310.19o		
Start date	11/26/2019 12:00:00 AM		
End date	11/27/2019 2:14:59 PM		
Duration	1:14:14.59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701978
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°26'19.83659"		
Longitude	W82°38'43.13027"		
Ellipsoidal height (m)	-4.33700		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLBF

Status	OK	SBQI	0	
Duration (Hours)	38.15	Output Coordinates	Original	
Solution Epochs	9155	Mean Epoch SVs	7.8	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°57'42.67561"	W82°54'34.51255"	13.286
Adjusted		N29°57'42.67539"	W82°54'34.51272"	13.260
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.008	0.026	0.027

Base Station Information

Station ID	FLBF		
Filename	flbf_daily3300.19o, flbf_daily3310.19o		
Start date	11/26/2019 12:00:00 AM		
End date	11/27/2019 2:14:59 PM		
Duration	1:14:14.59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702018
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°57'42.67561"		
Longitude	W82°54'34.51255"		
Ellipsoidal height (m)	-13.28600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.58	46.88	
Number of GPS SV	7	10	9
Number of GLONASS SV	0	6	4
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	9	15	13
PDOP	1.23	2.85	1.59
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	8019.00	0.00	1.00
Percentage	99.99	0.00	0.01

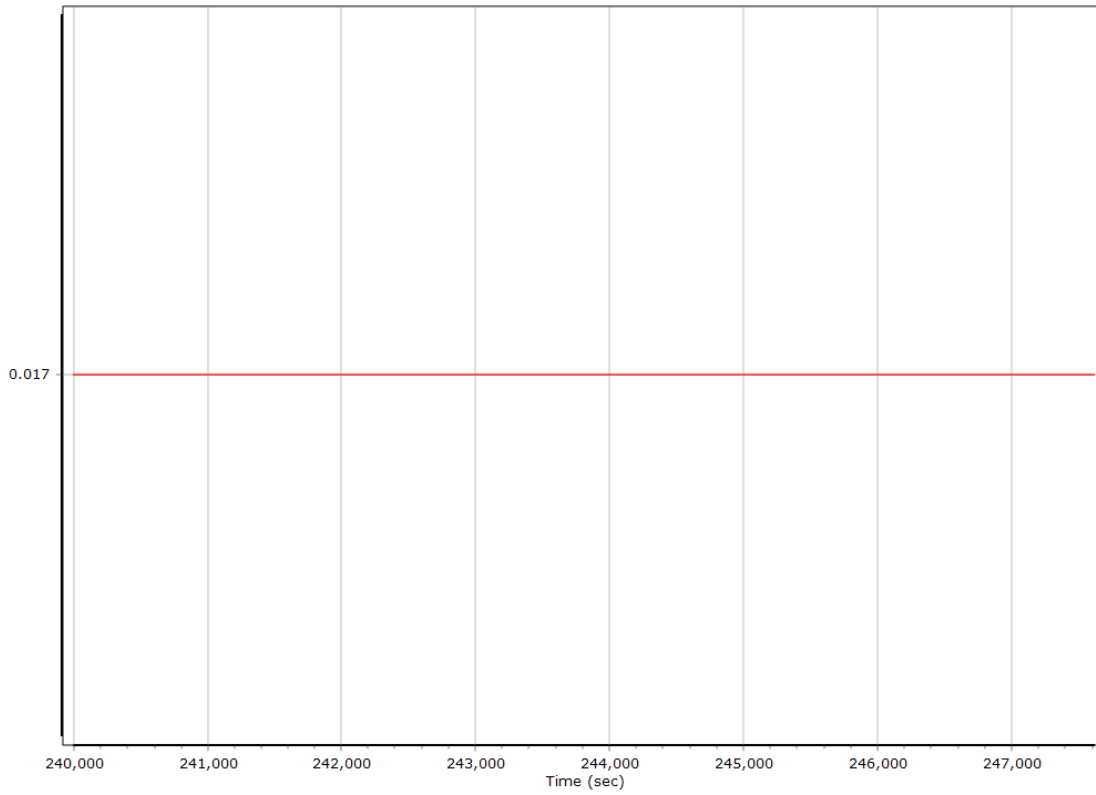
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	False		
Base station	ASB		
Processing start time	239581.000 (11/26/2019 6:33:01 PM)		
Processing end time	247627.000 (11/26/2019 8:47:07 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Reference to IMU lever arm (m)	-0.034	-0.010	-0.352
Reference to IMU mounting angles (deg)	0.000	0.000	0.000
Reference to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Reference to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

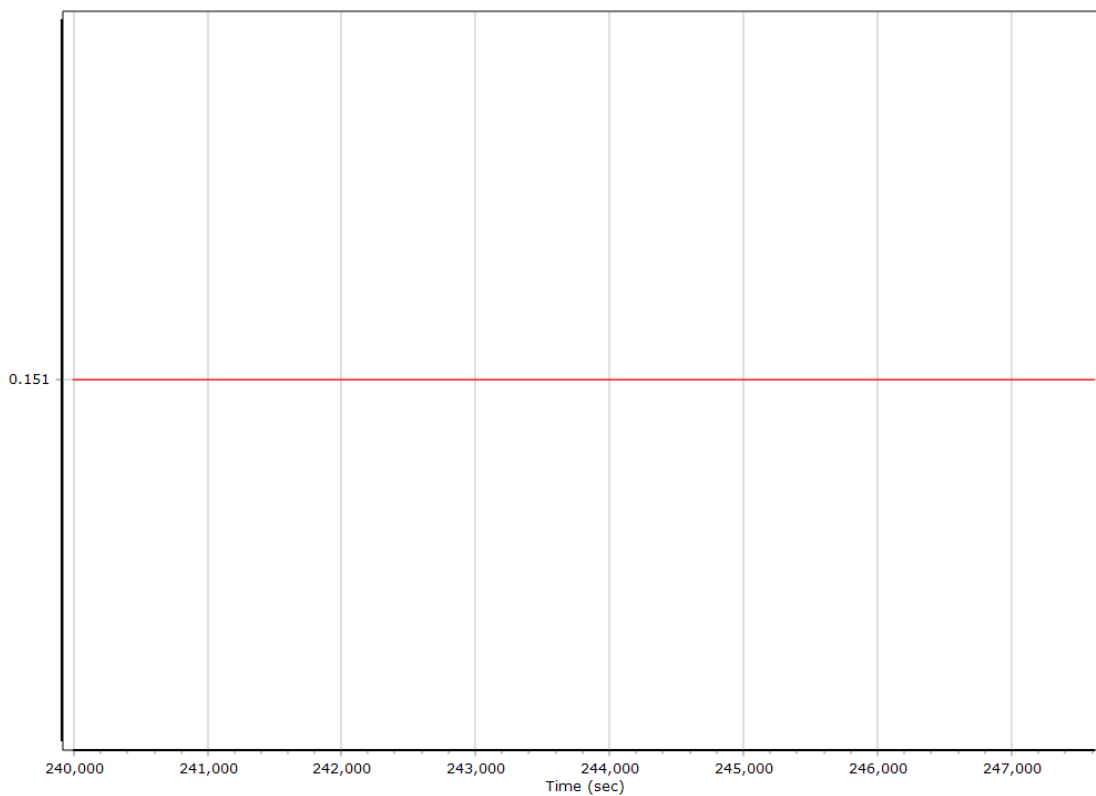
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

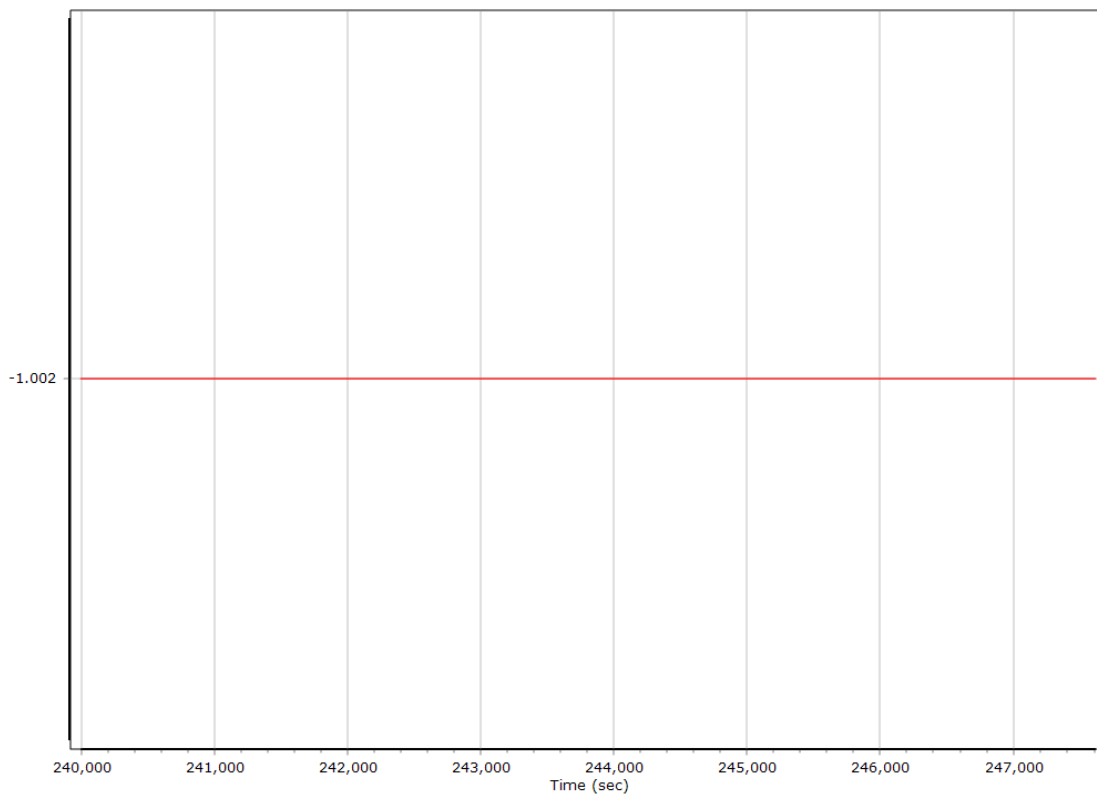
X Reference-Primary GNSS Lever Arm (m)



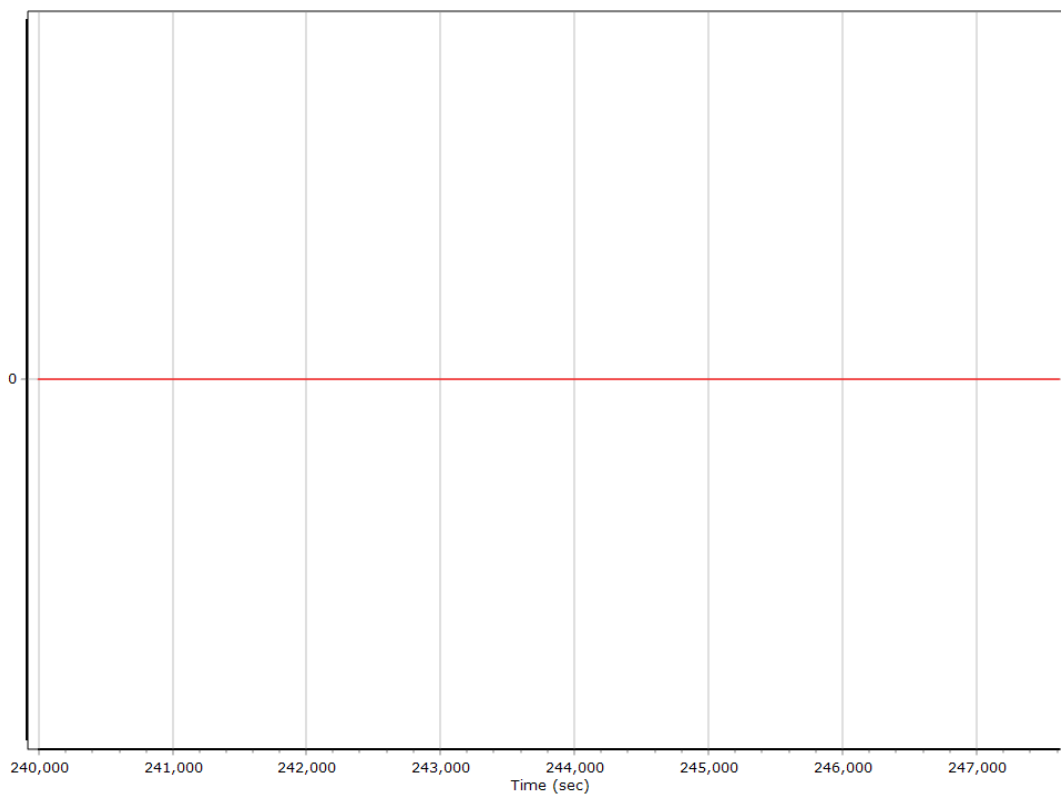
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



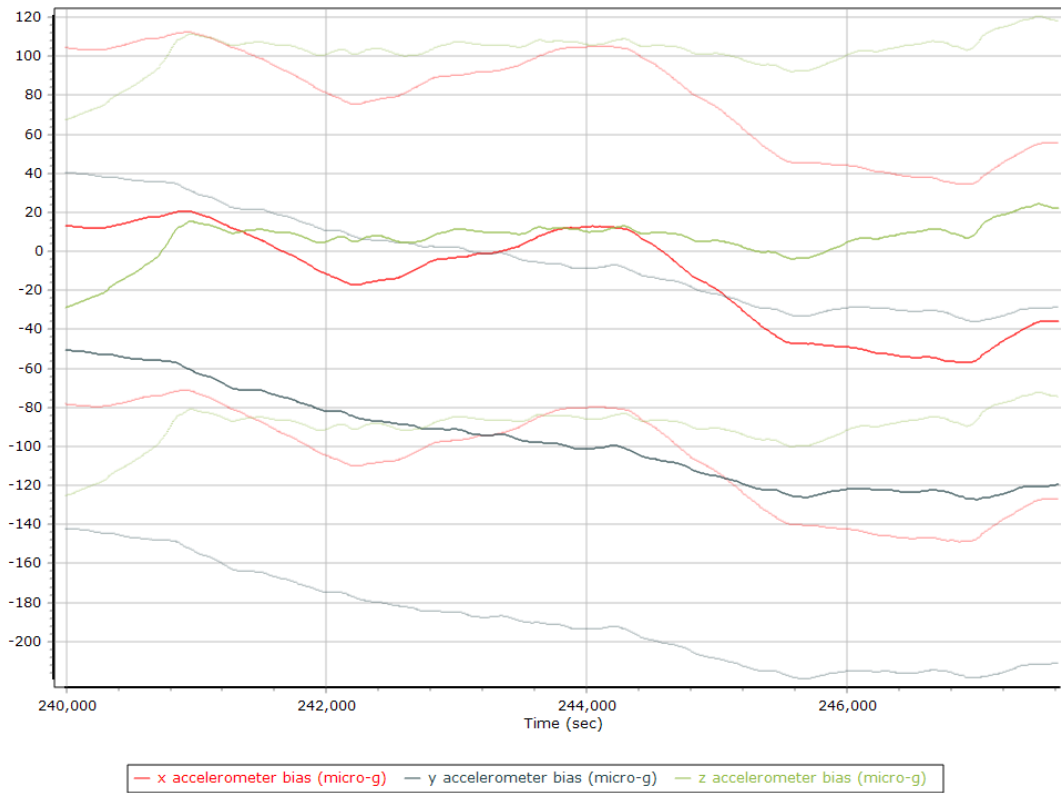
Reference-Primary GNSS Lever Arm Figure of Merit



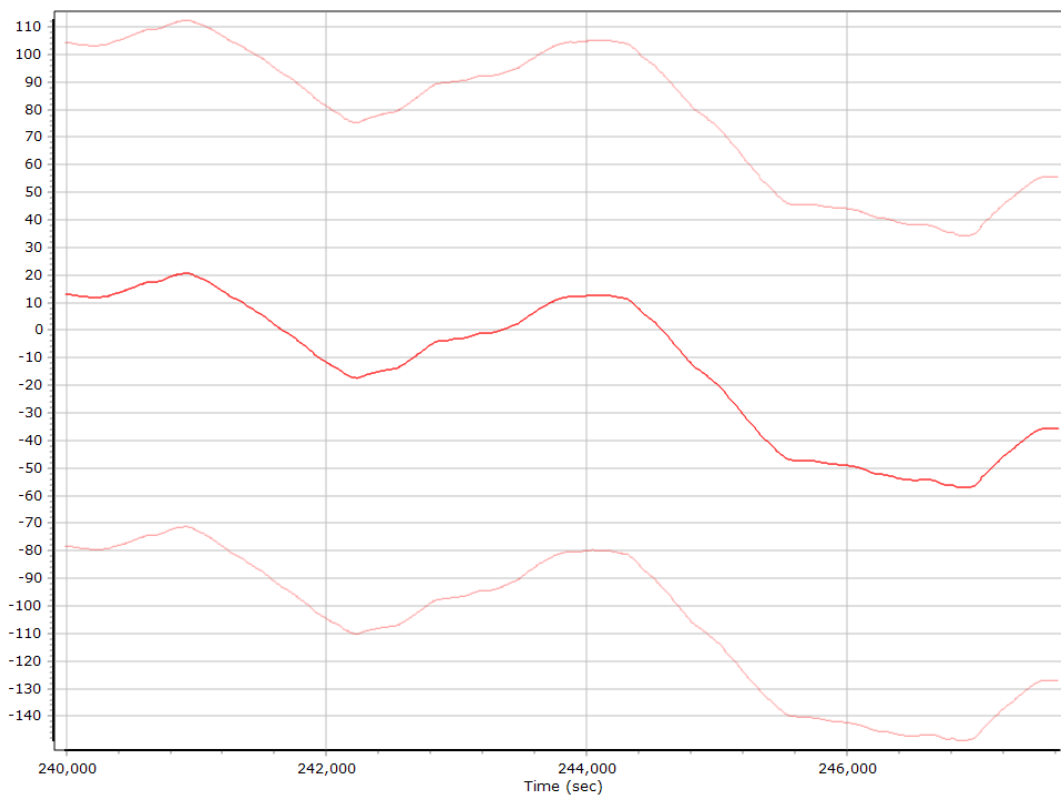
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

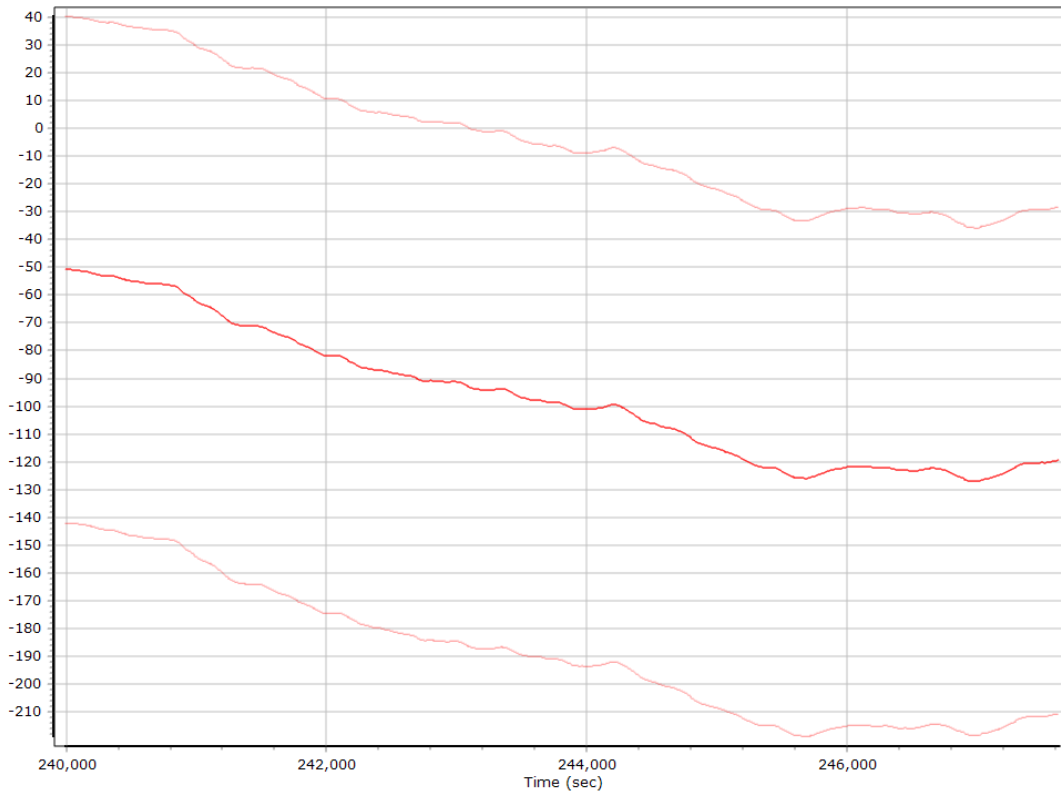
Accelerometer Bias (micro-g)



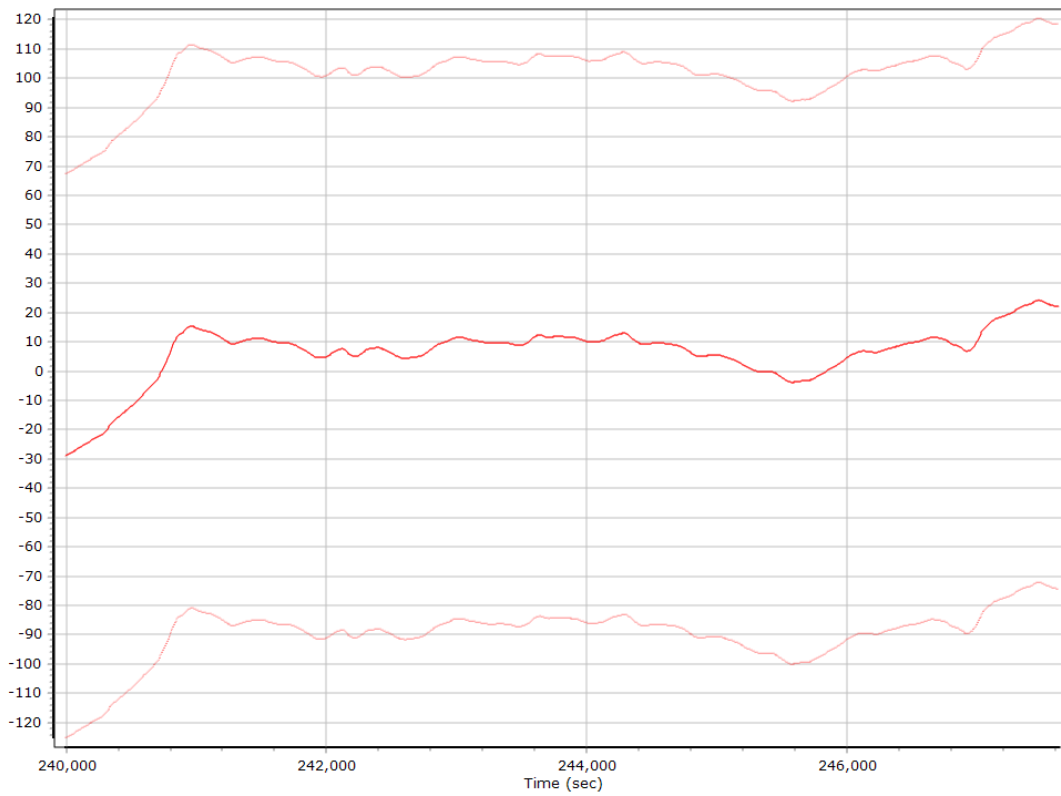
X Accelerometer Bias (micro-g)



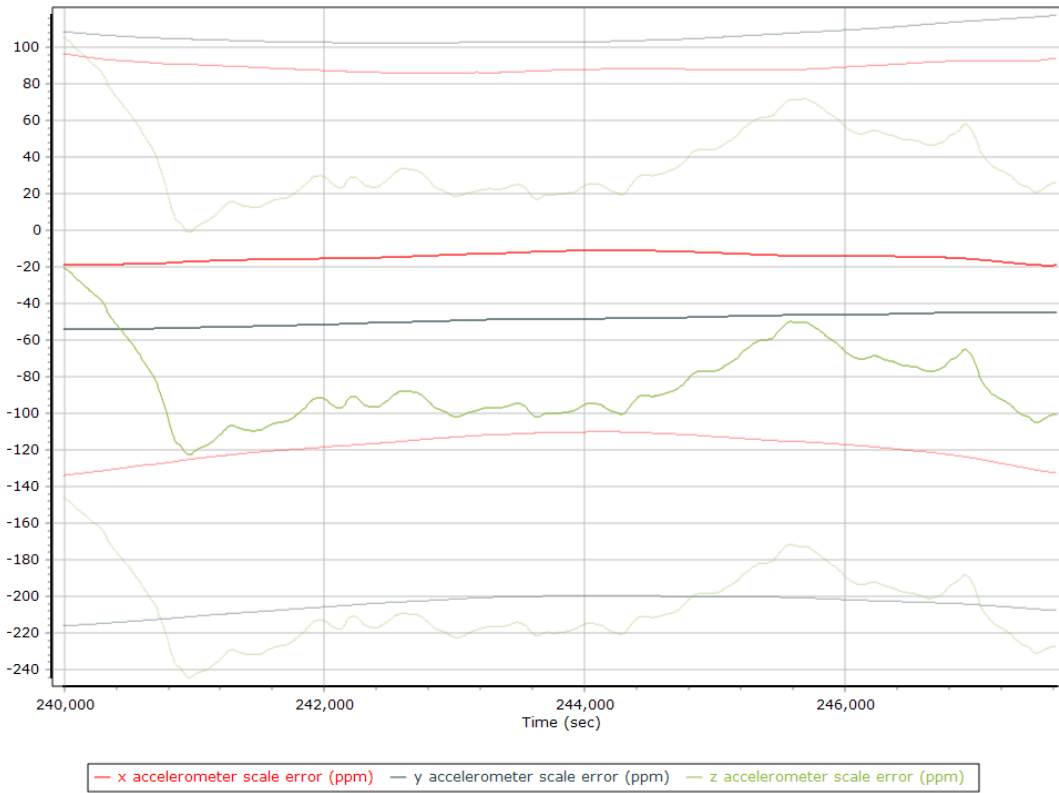
Y Accelerometer Bias (micro-g)



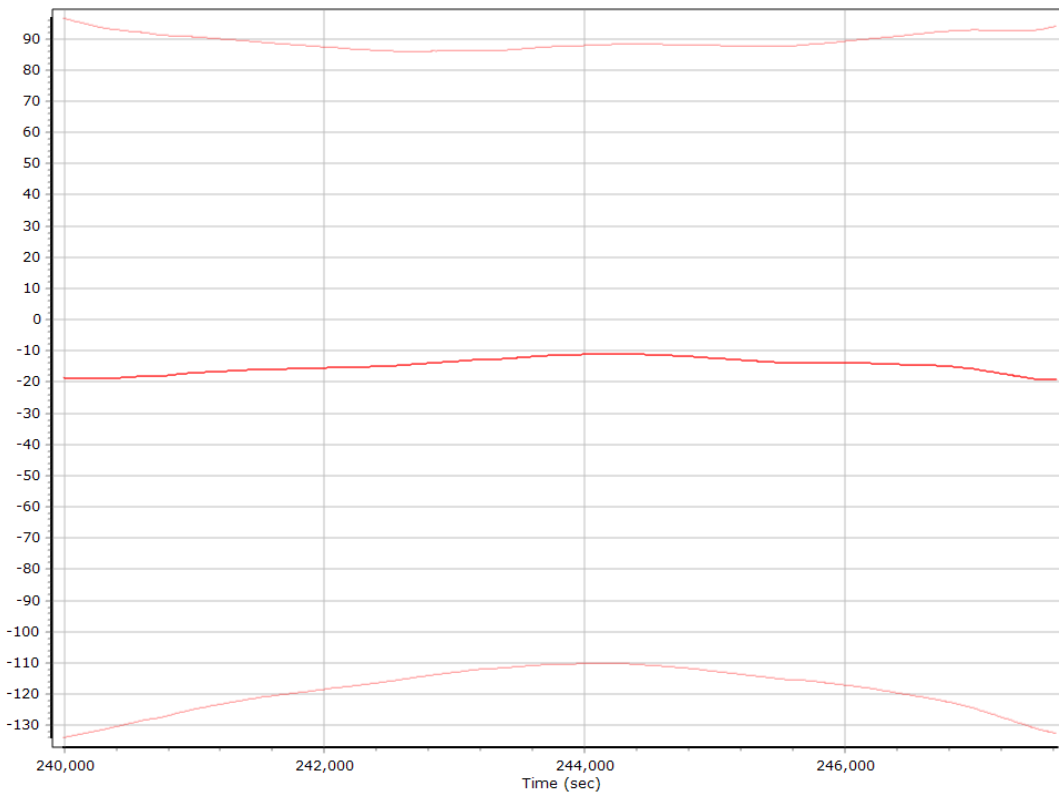
Z Accelerometer Bias (micro-g)



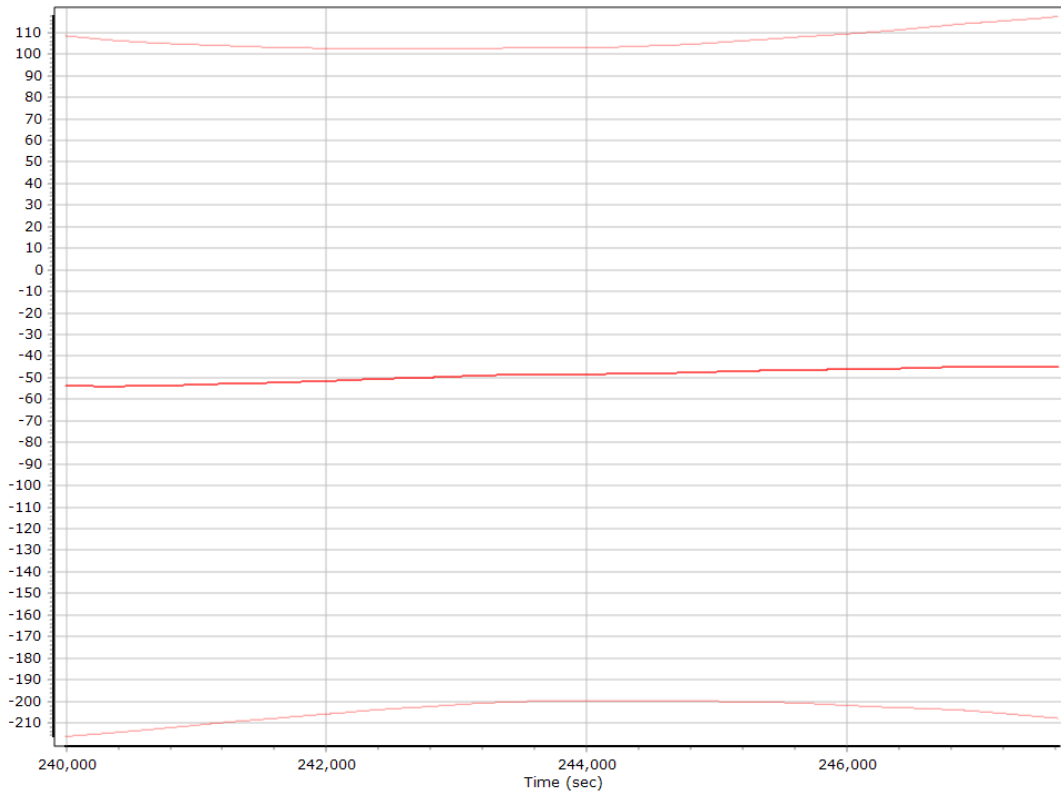
Accelerometer Scale Error (ppm)



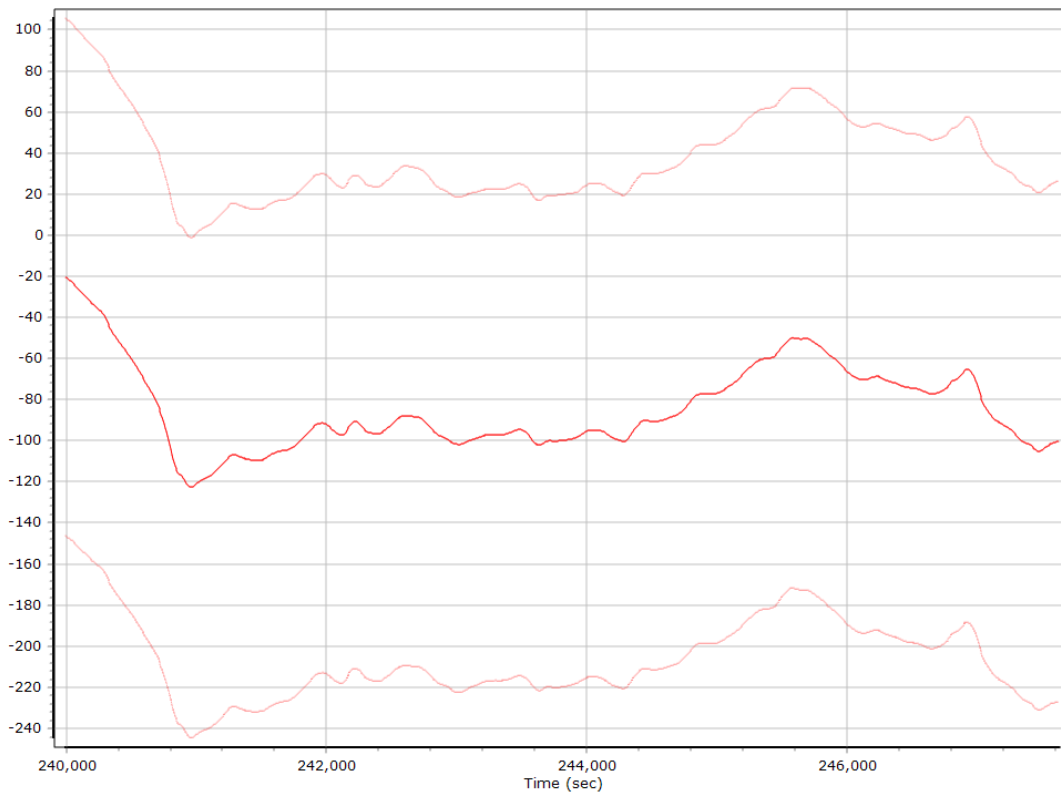
X Accelerometer Scale Error (ppm)



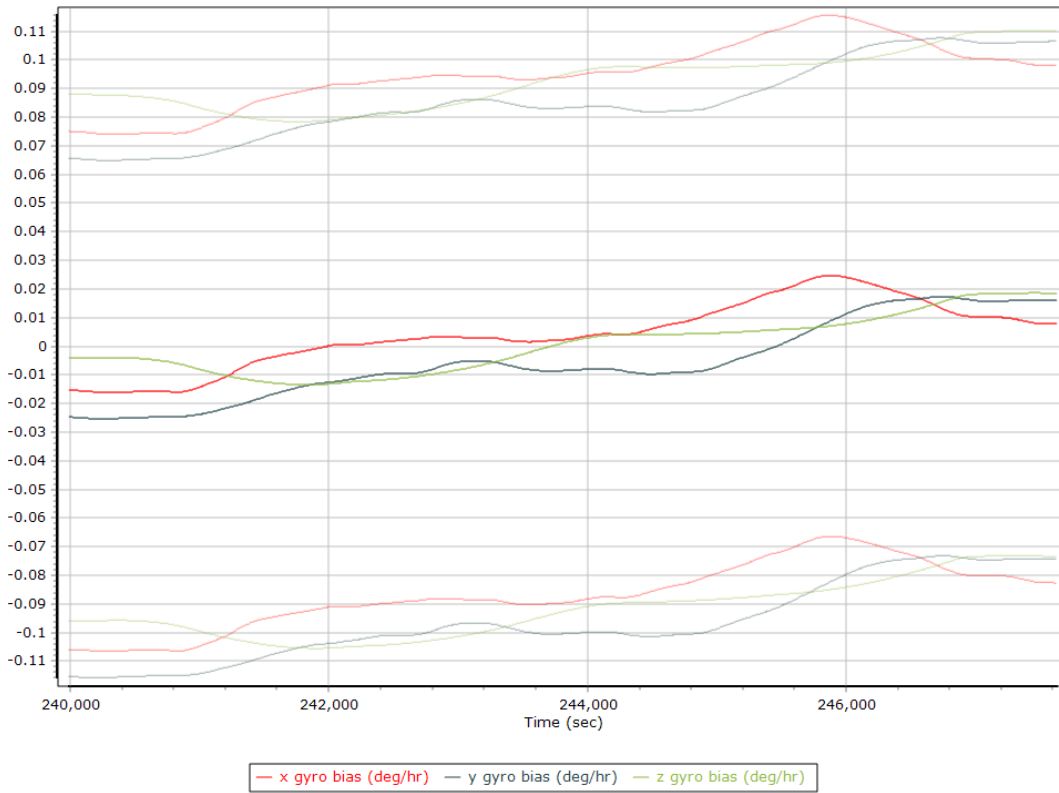
Y Accelerometer Scale Error (ppm)



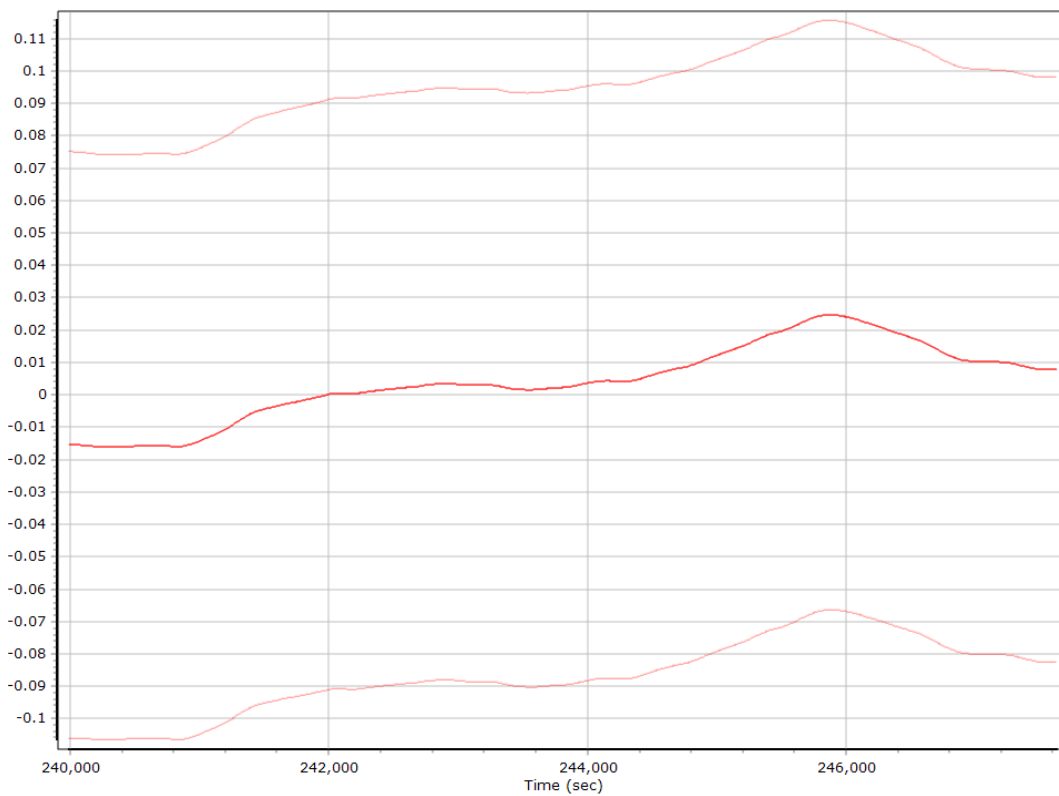
Z Accelerometer Scale Error (ppm)



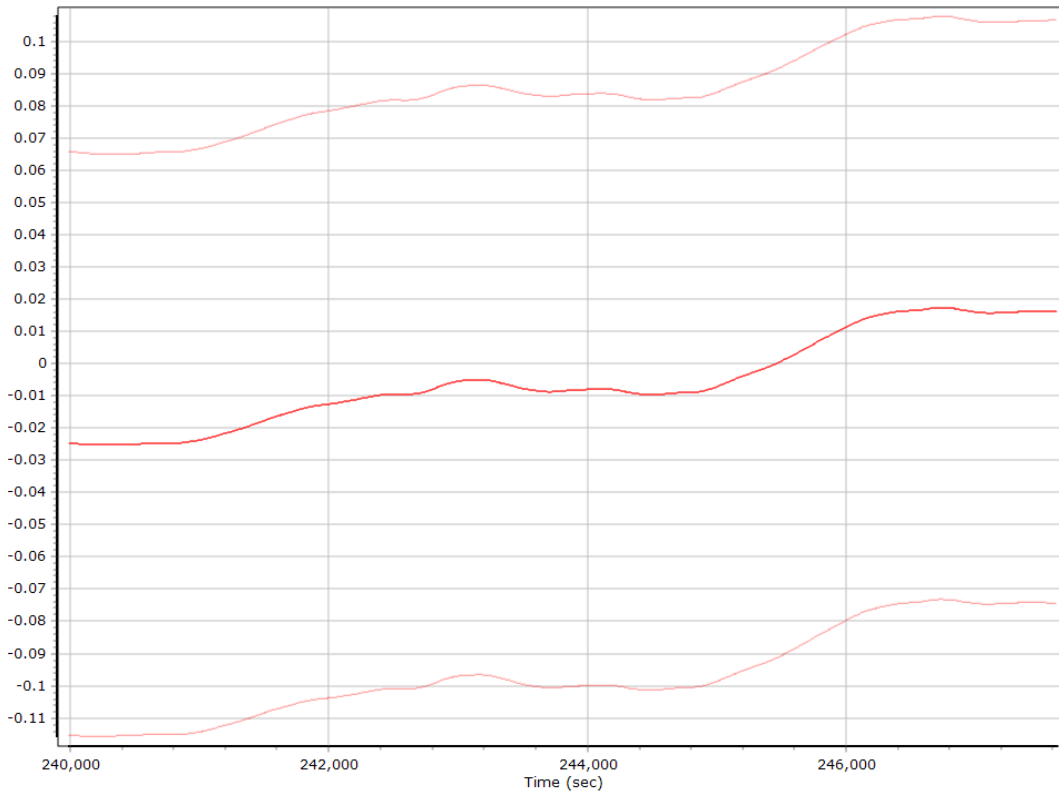
Gyro Bias (deg/h)



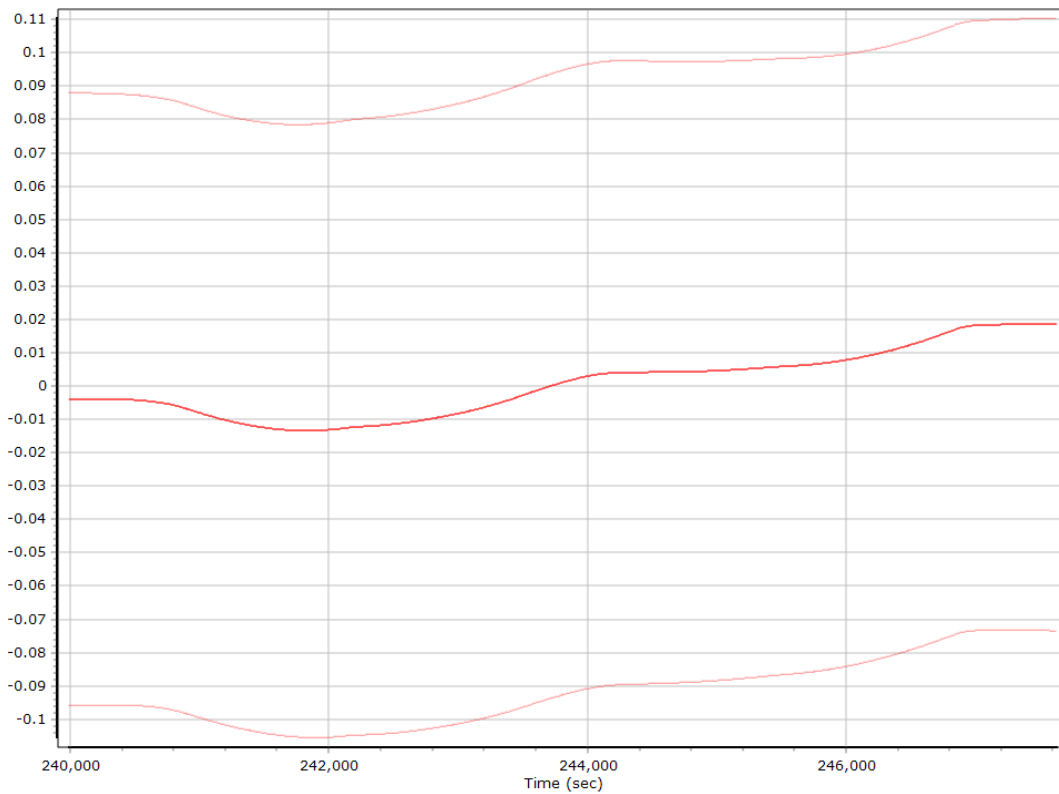
X Gyro Bias (deg/h)



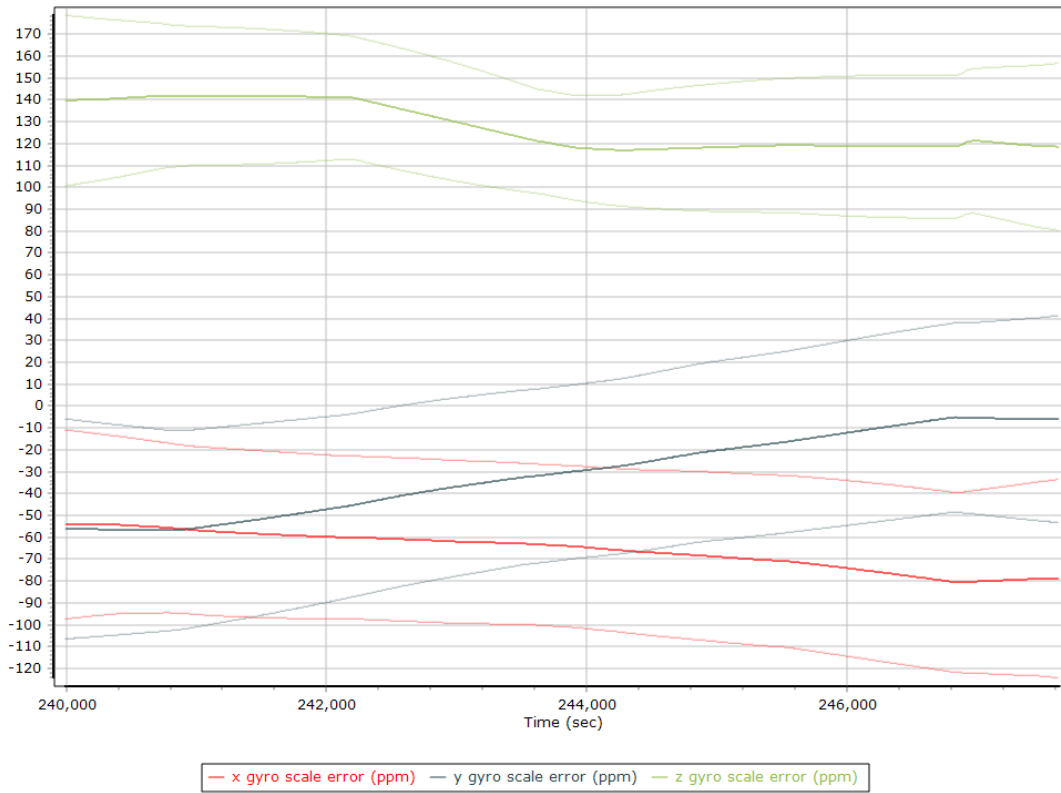
Y Gyro Bias (deg/h)



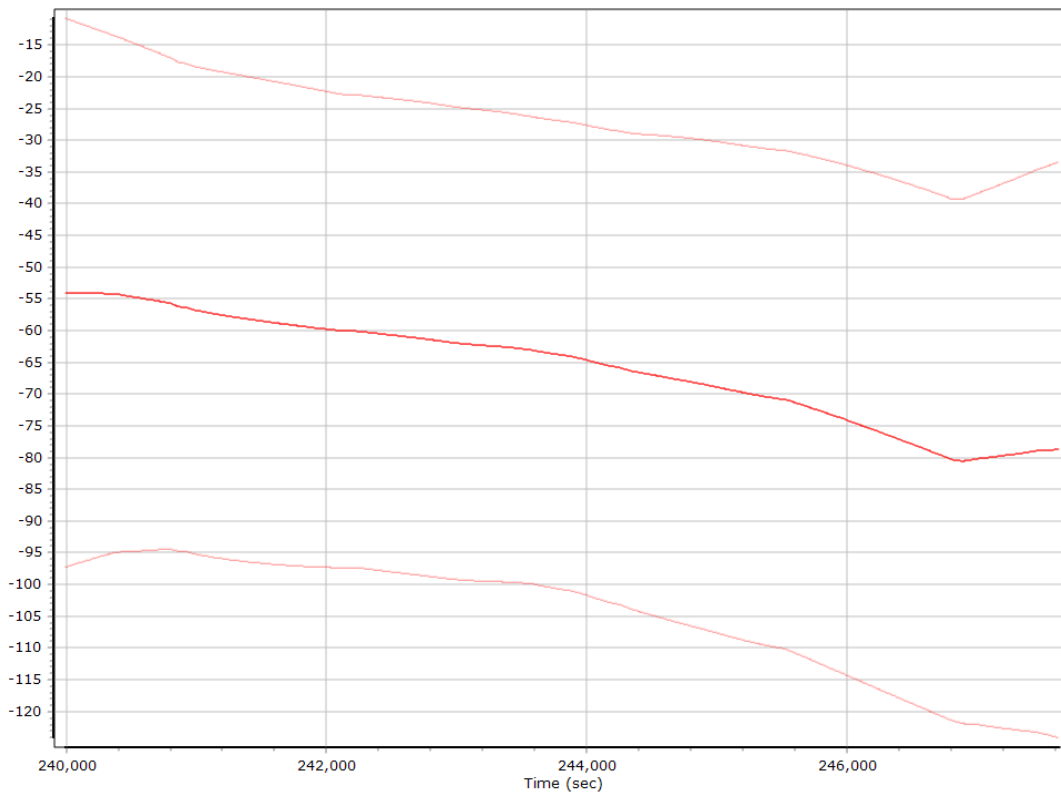
Z Gyro Bias (deg/h)



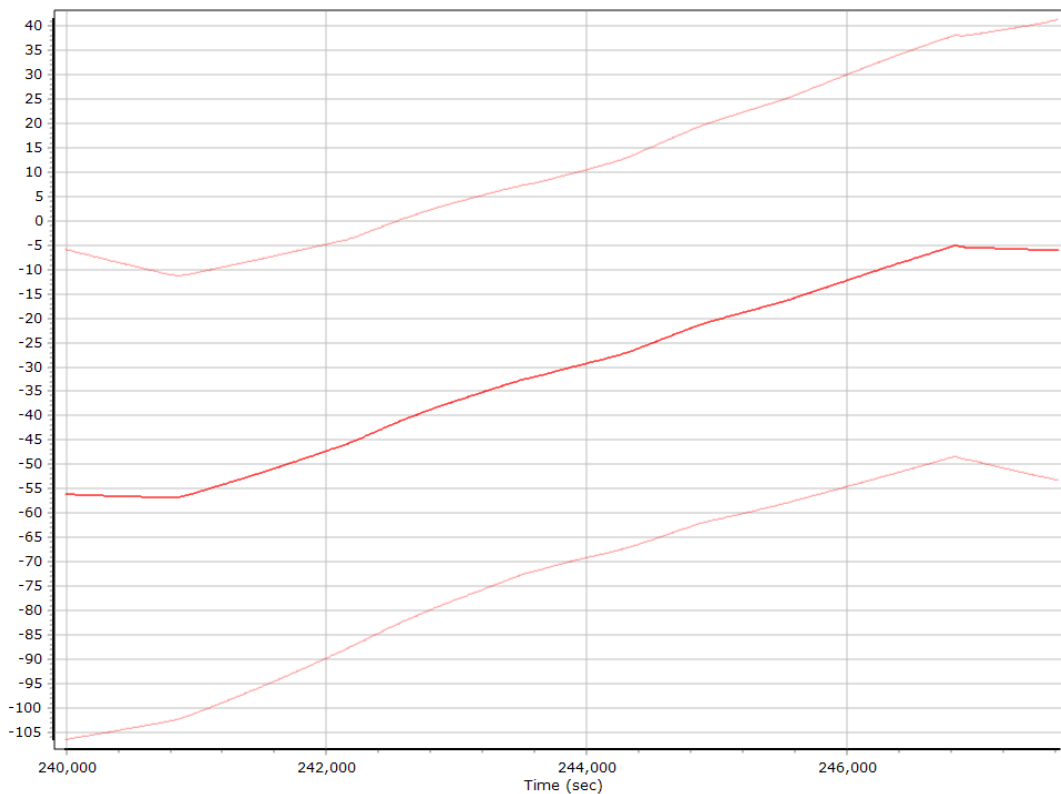
Gyro Scale Error (ppm)



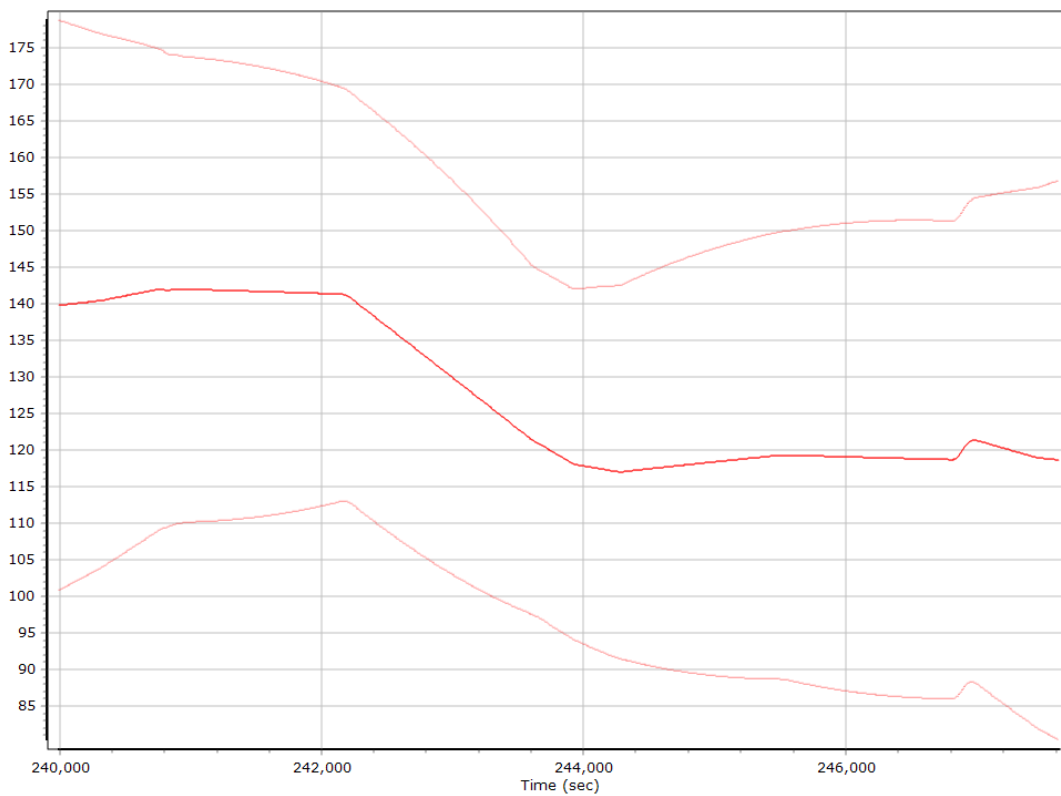
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

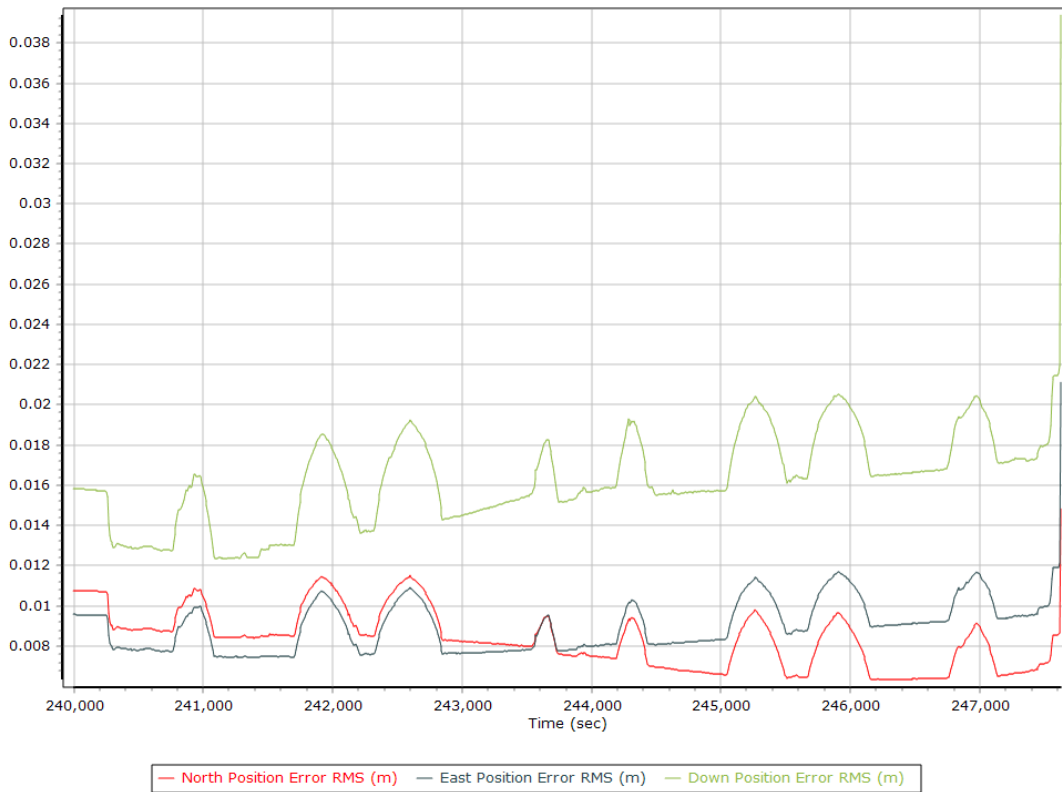


Z Gyro Scale Error (ppm)

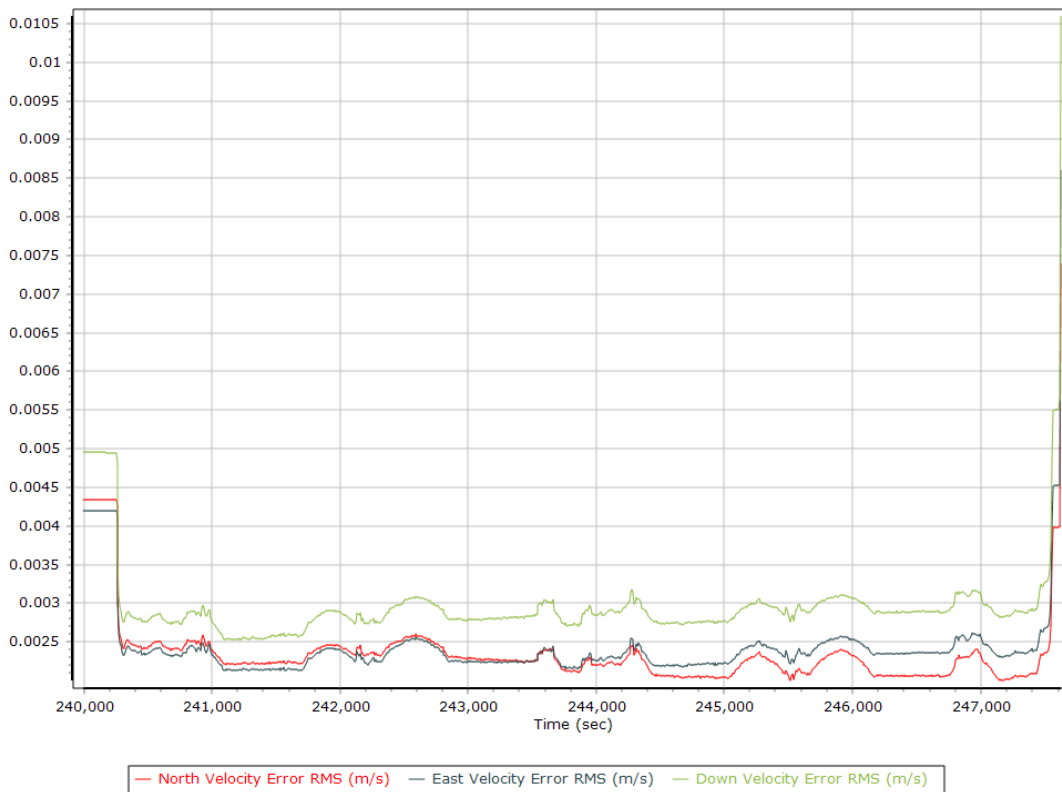


Smoothed Performance Metrics

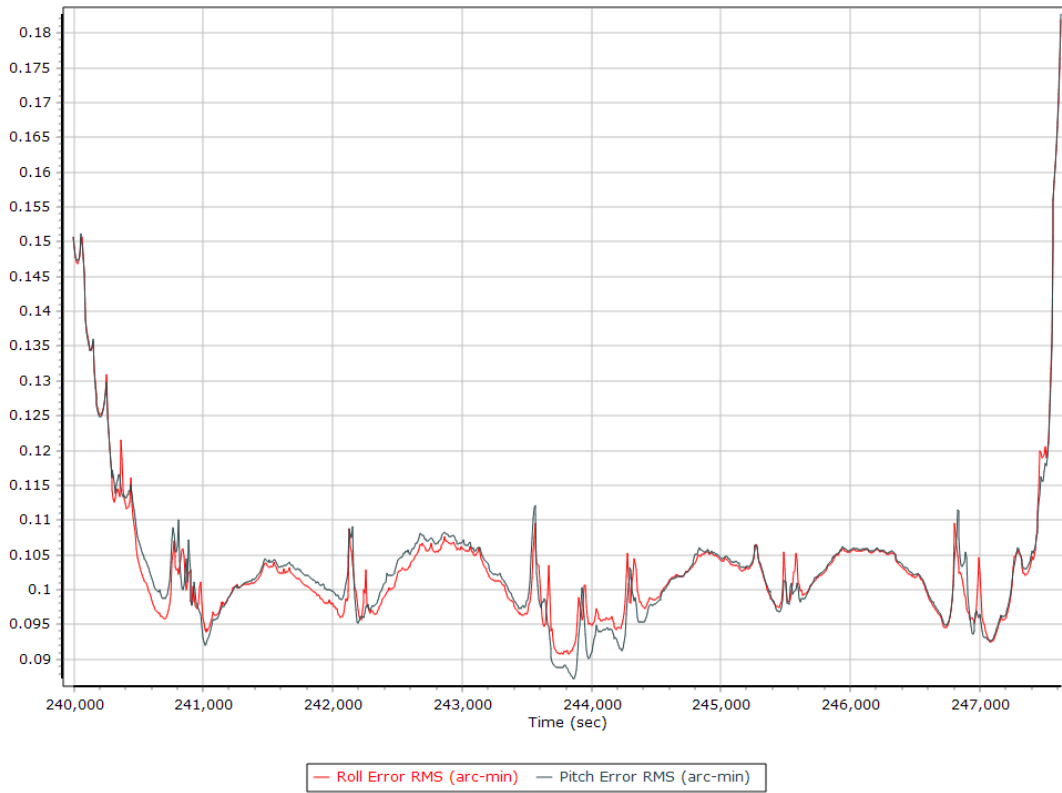
Position Error RMS (m)



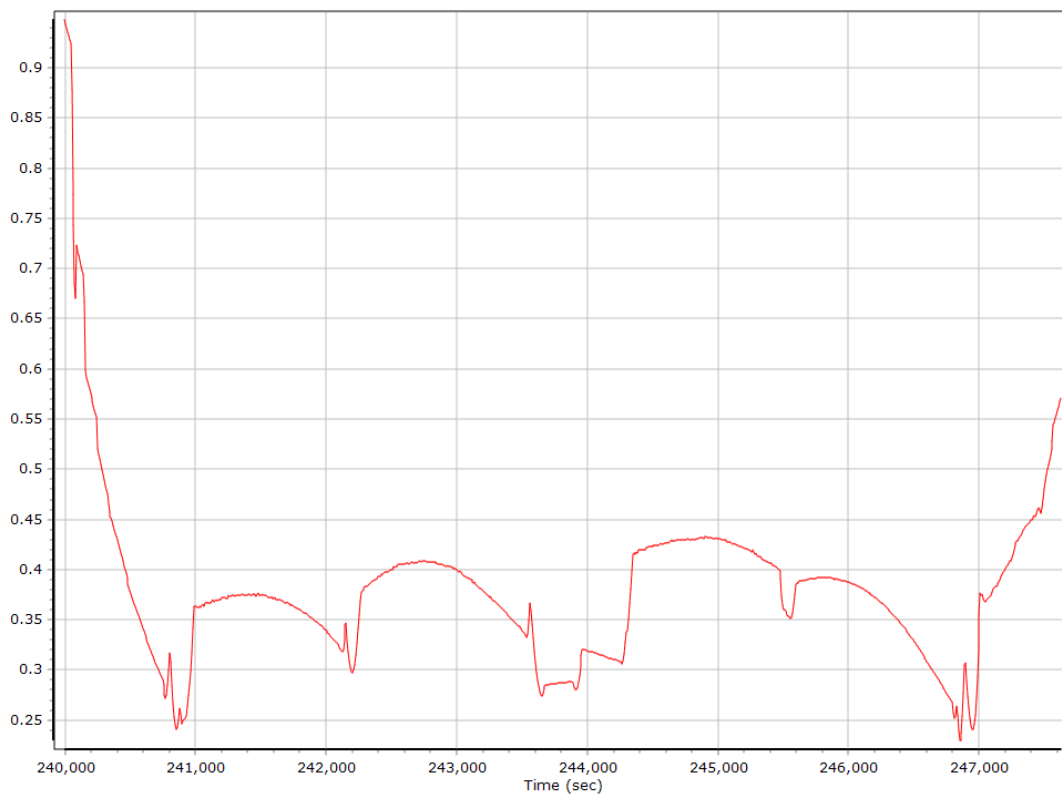
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

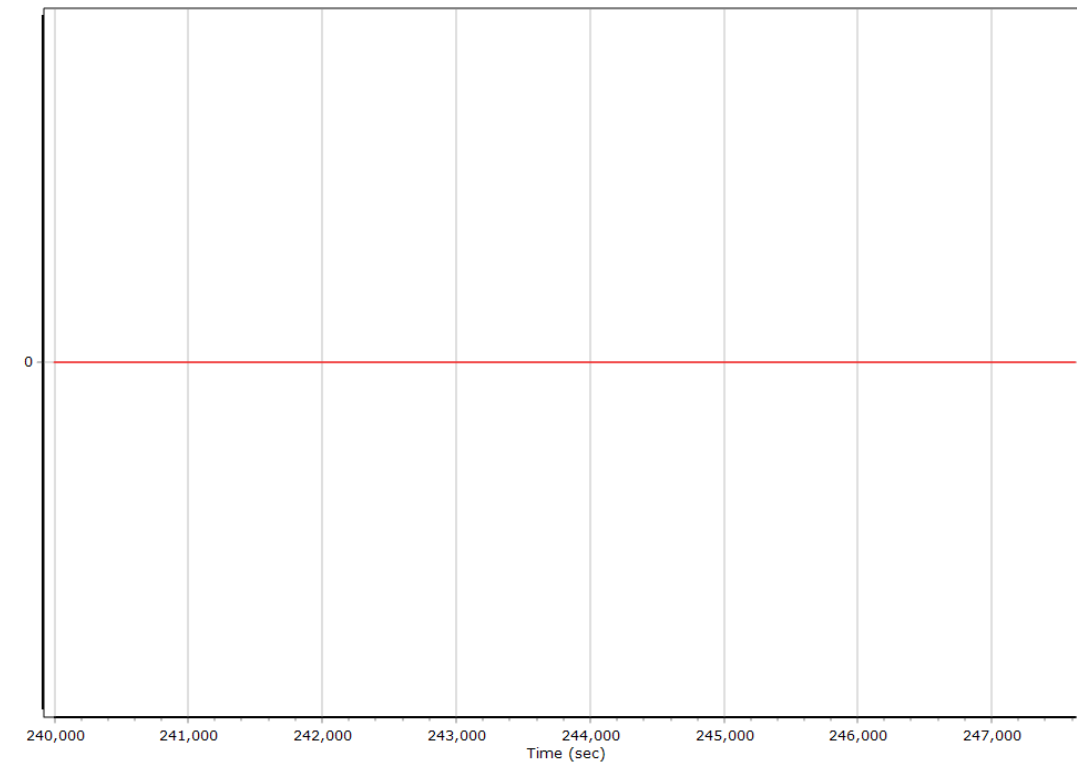


Heading Error RMS (arc-min)



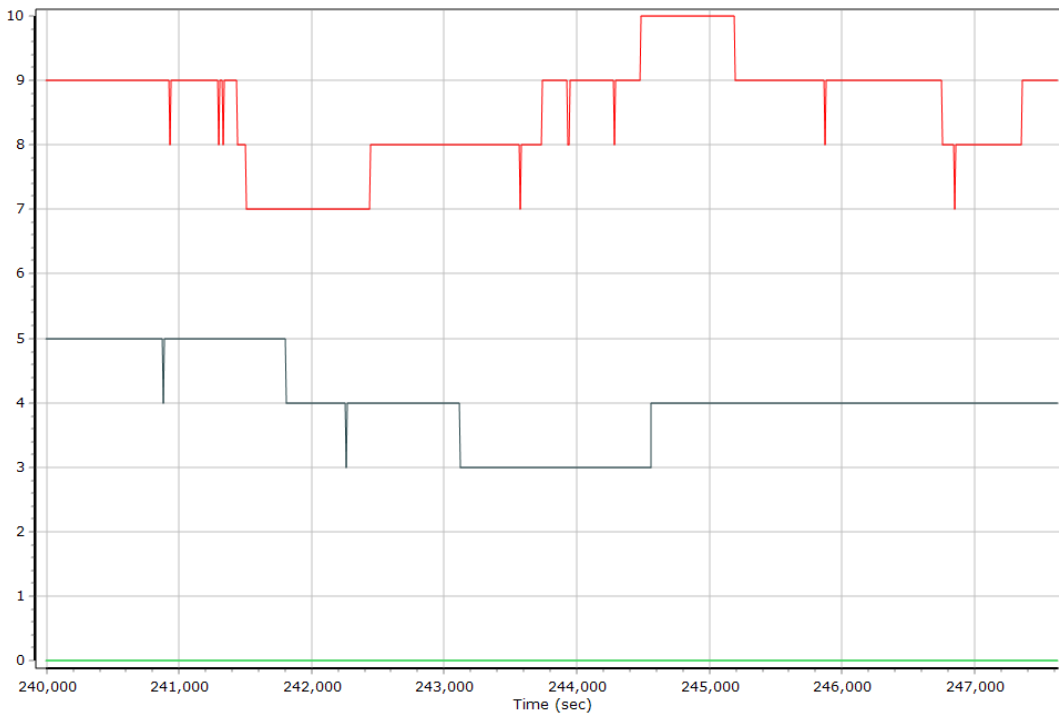
Smoothed Solution Status

Processing Mode



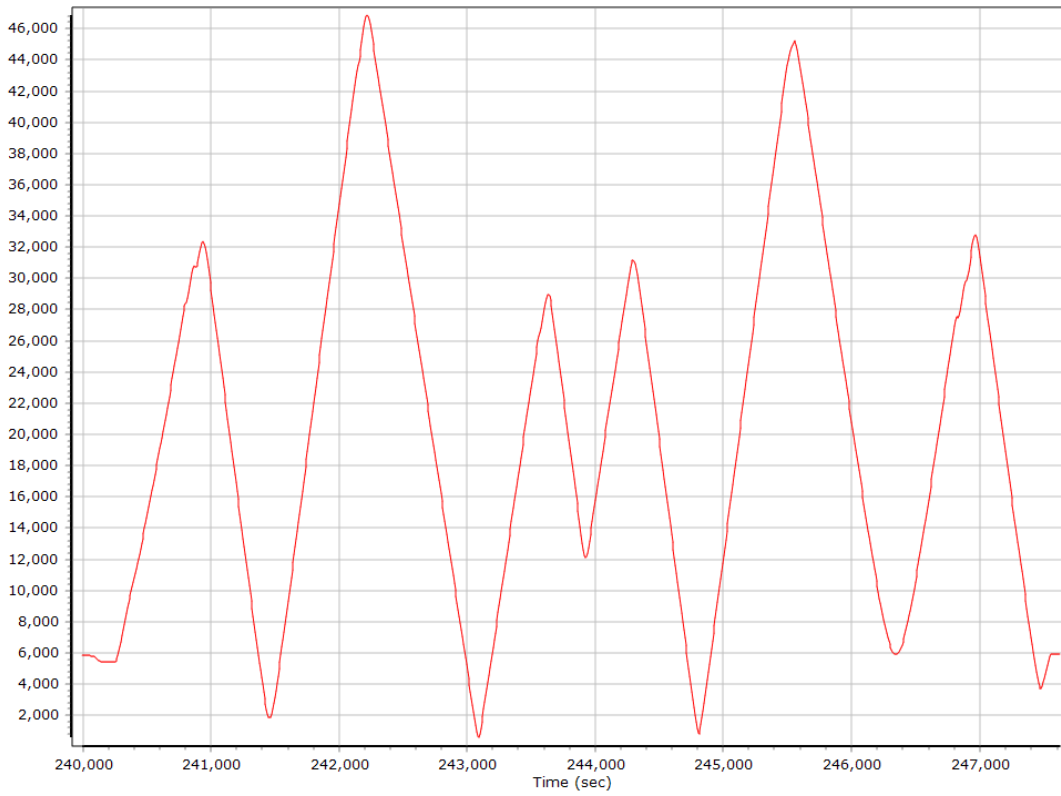
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites

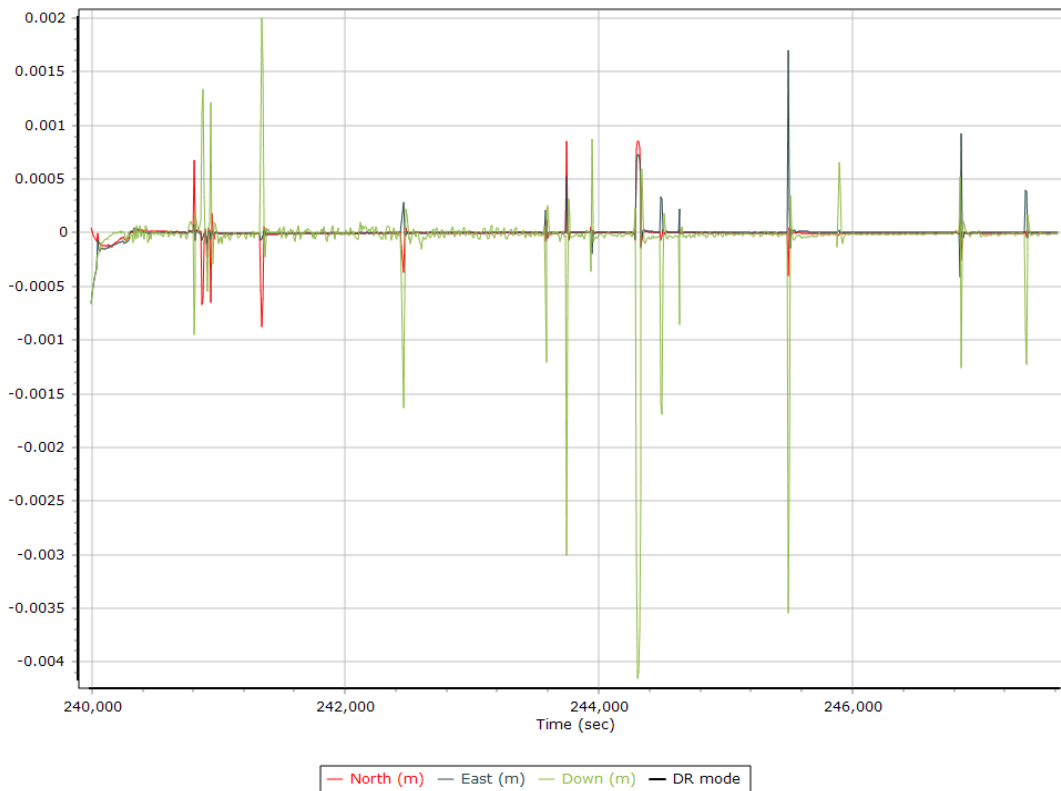


— Number of GPS Satellites
 — Number of GLONASS Satellites
 — Number of QZSS Satellites
— Number of BEIDOU Satellites
 — Number of GALILEO Satellites

Baseline Length



SBET IAkar Separation



General Information

Mission Information

Project name	PTG19336A
Processing date	2019-12-12 17:04:39
Mission date	2019-12-02 13:10:58
Mission duration	04:07:30.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
PTG19336.000	POS Data
PTG19336.001	POS Data
PTG19336.002	POS Data
PTG19336.003	POS Data
PTG19336.004	POS Data
PTG19336.005	POS Data
PTG19336.006	POS Data
PTG19336.007	POS Data
PTG19336.008	POS Data
PTG19336.009	POS Data
PTG19336.010	POS Data
PTG19336.011	POS Data
PTG19336.012	POS Data
PTG19336.013	POS Data
PTG19336.014	POS Data
PTG19336.015	POS Data
PTG19336.016	POS Data
PTG19336.017	POS Data
PTG19336.018	POS Data
PTG19336.019	POS Data
PTG19336.020	POS Data
PTG19336.021	POS Data
PTG19336.022	POS Data
PTG19336.023	POS Data
PTG19336.024	POS Data
PTG19336.025	POS Data
PTG19336.026	POS Data
PTG19336.027	POS Data
PTG19336.028	POS Data
PTG19336.029	POS Data
PTG19336.030	POS Data
PTG19336.031	POS Data
PTG19336.032	POS Data
PTG19336.033	POS Data
PTG19336.034	POS Data
PTG19336.035	POS Data
PTG19336.036	POS Data

Input Files

File Name	File Type
Ephm3360.19g	GLONASS Broadcast Ephemeris
Ephm3360.19n	GPS Broadcast Ephemeris
gnvl_daily3360.19o	GNSS SingleBase
lkcy_daily3360.19o	GNSS SingleBase
ocla_daily3360.19o	GNSS SingleBase
prry_daily3360.19o	GNSS SingleBase
xcty_daily3360.19o	GNSS SingleBase
Ephm3350.19g	GLONASS Broadcast Ephemeris
Ephm3350.19n	GPS Broadcast Ephemeris
Ephm3370.19g	GLONASS Broadcast Ephemeris
Ephm3370.19n	GPS Broadcast Ephemeris
igu20816_18.sp3	GPS Precise Ephemeris
igu20820_18.sp3	GPS Precise Ephemeris
igu20821_18.sp3	GPS Precise Ephemeris
igu20822_18.sp3	GPS Precise Ephemeris
igu20823_12.sp3	GPS Precise Ephemeris

Output Files

Filename	File type
sbet_PTG19336A.out	SBET Trajectory File

Rover Data Summary

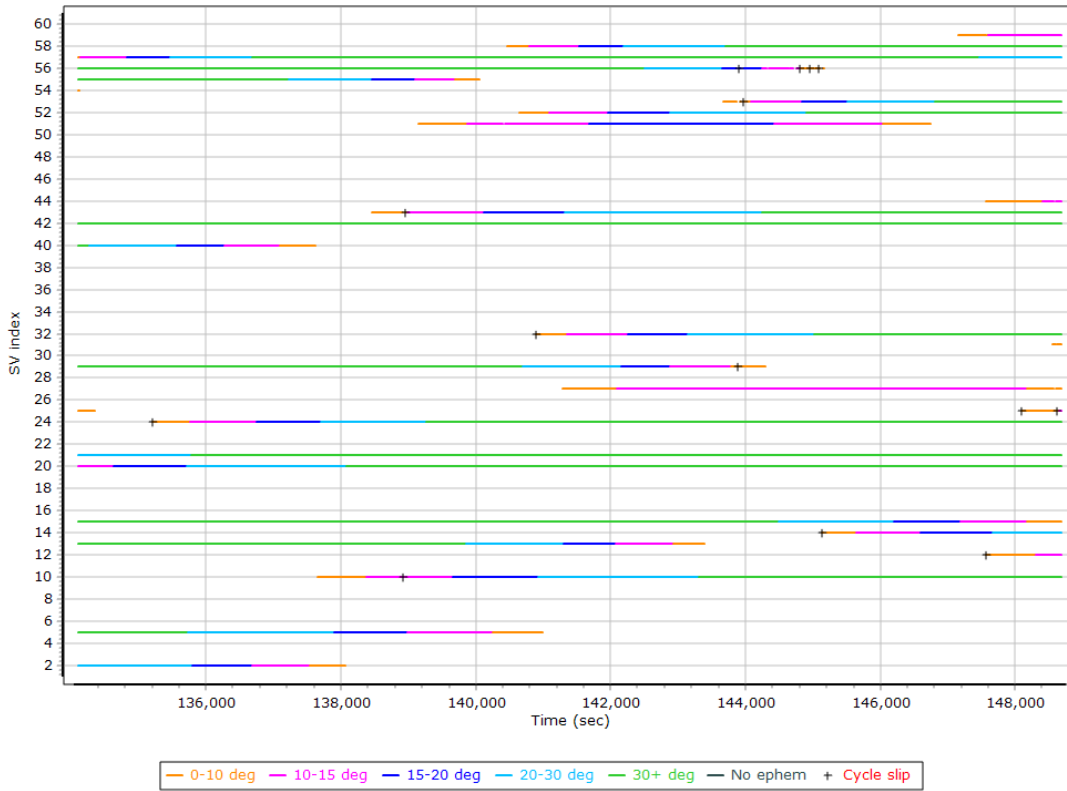
First raw data file	PTG19336.000		
Last raw data file	PTG19336.036		
Start GPS week	2082		
Start time	133839.400 (12/2/2019 1:10:39 PM)		
End time	148690.825 (12/2/2019 5:18:10 PM)		
Start of fine alignment	134043.580 (12/2/2019 1:14:03 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	Event 1 Input, Event 2 Input, Event 3 Input		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

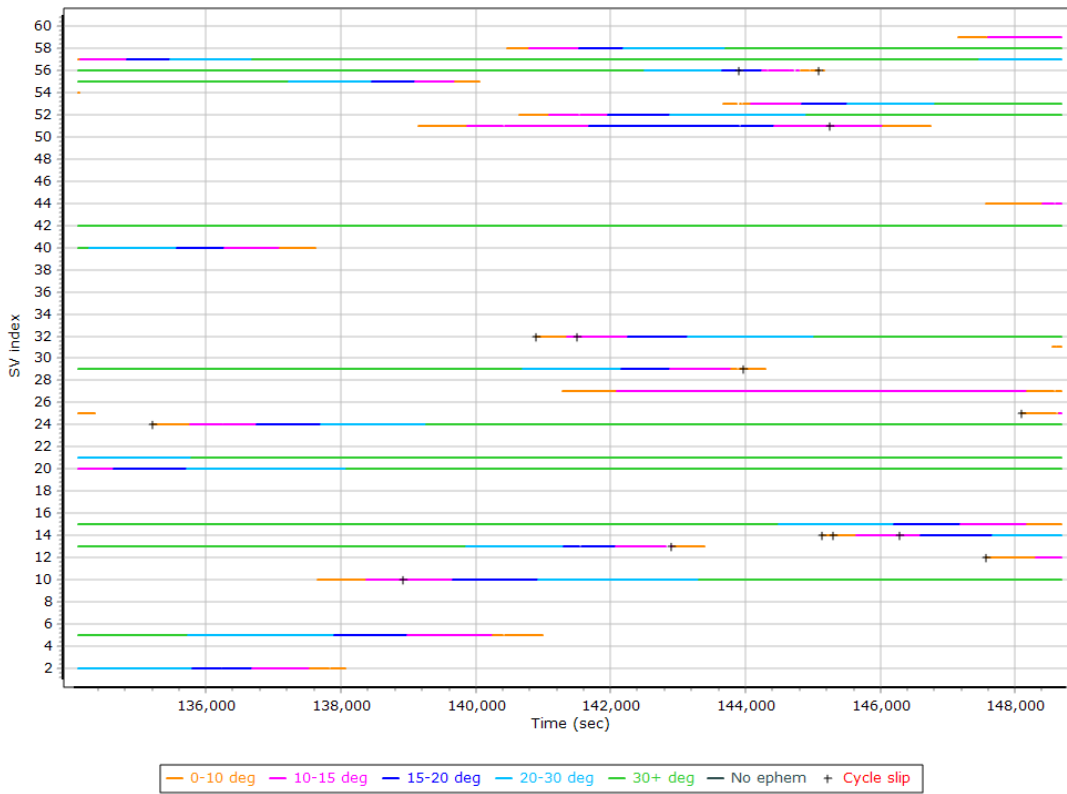
Raw IMU Import QC Summary

IMU data input file	imu_PTG19336A.dat
IMU data check log file	imudt_PTG19336A.log
IMU Records Processed	2969804
Termination Status	Normal
IMU Anomalies	0

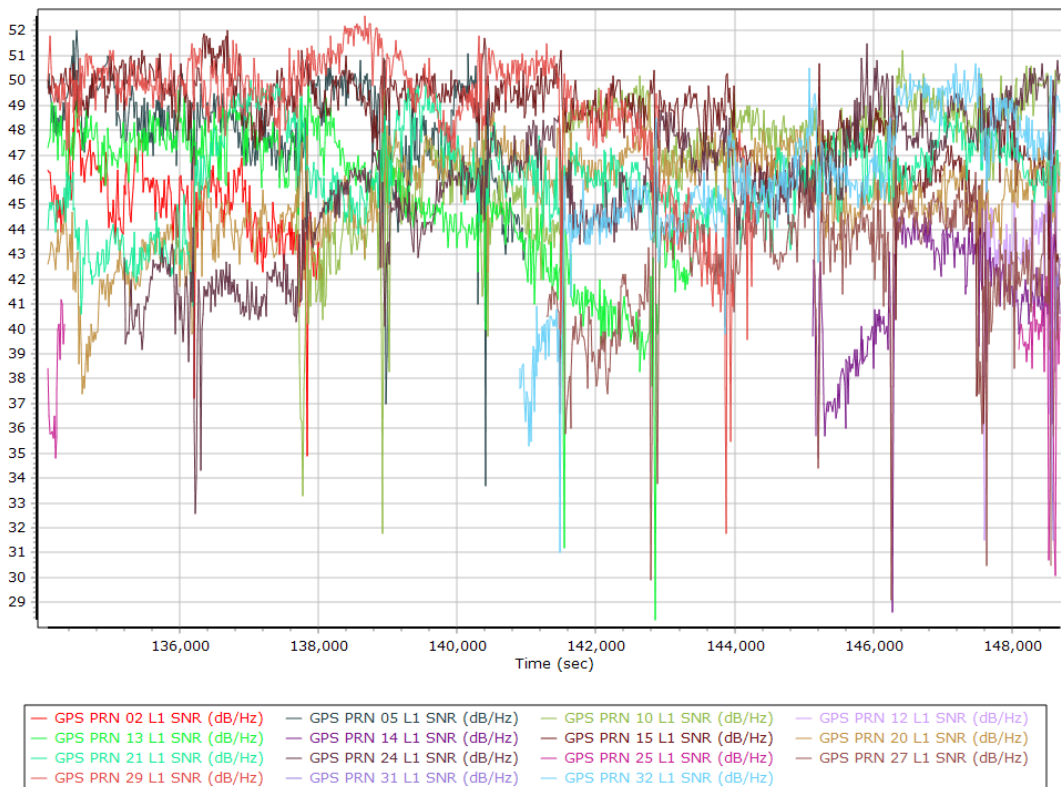
L1 Satellite Lock/Elevation



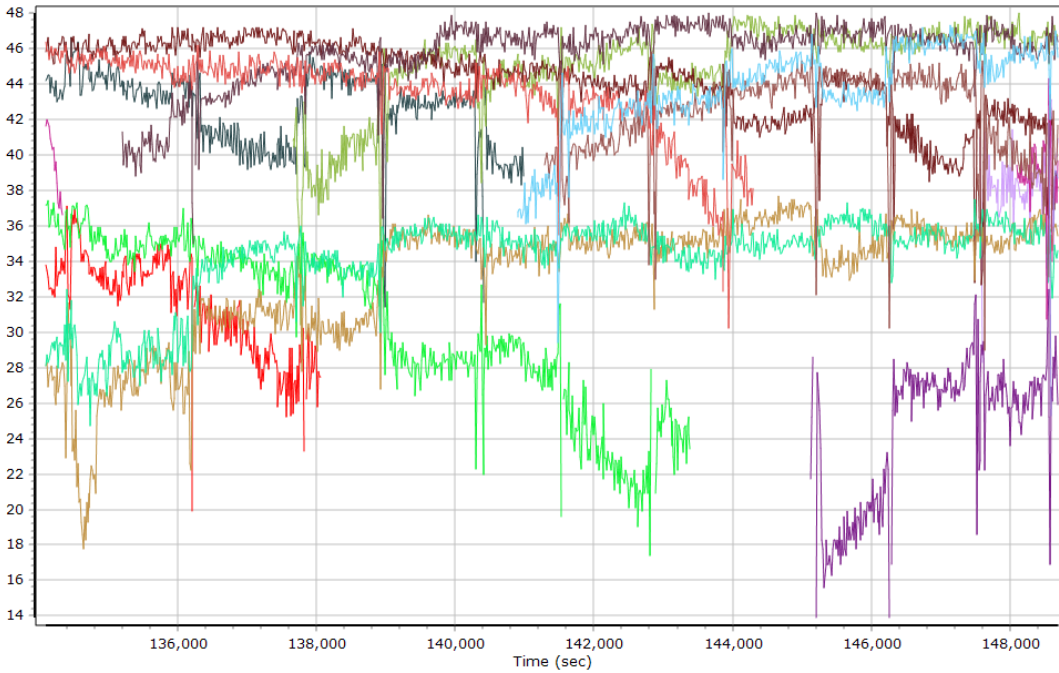
L2 Satellite Lock/Elevation



GPS L1 SNR

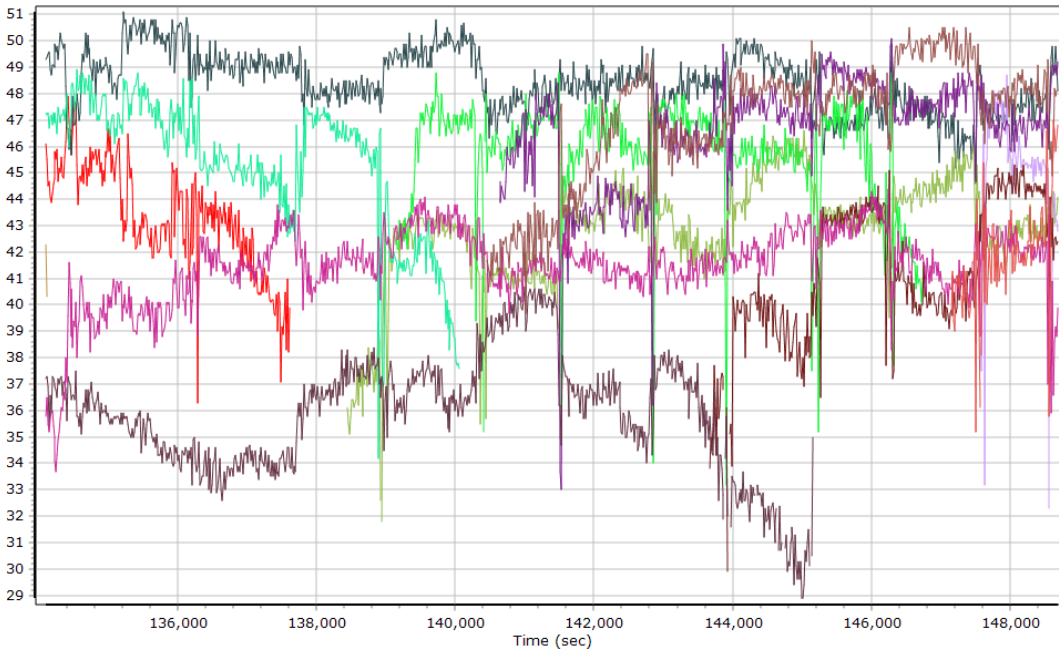


GPS L2 SNR



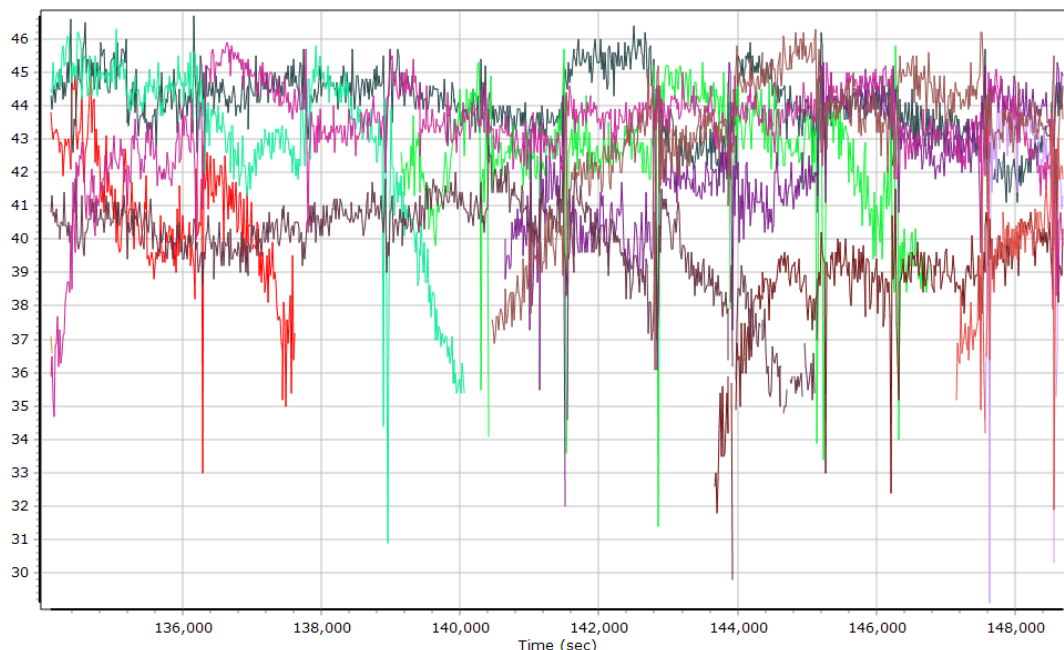
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 02 L2 SNR (dB/Hz) | GPS PRN 05 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 12 L2 SNR (dB/Hz) |
| GPS PRN 13 L2 SNR (dB/Hz) | GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 15 L2 SNR (dB/Hz) | GPS PRN 20 L2 SNR (dB/Hz) |
| GPS PRN 21 L2 SNR (dB/Hz) | GPS PRN 24 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) |
| GPS PRN 29 L2 SNR (dB/Hz) | GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) | |

GLONASS L1 SNR



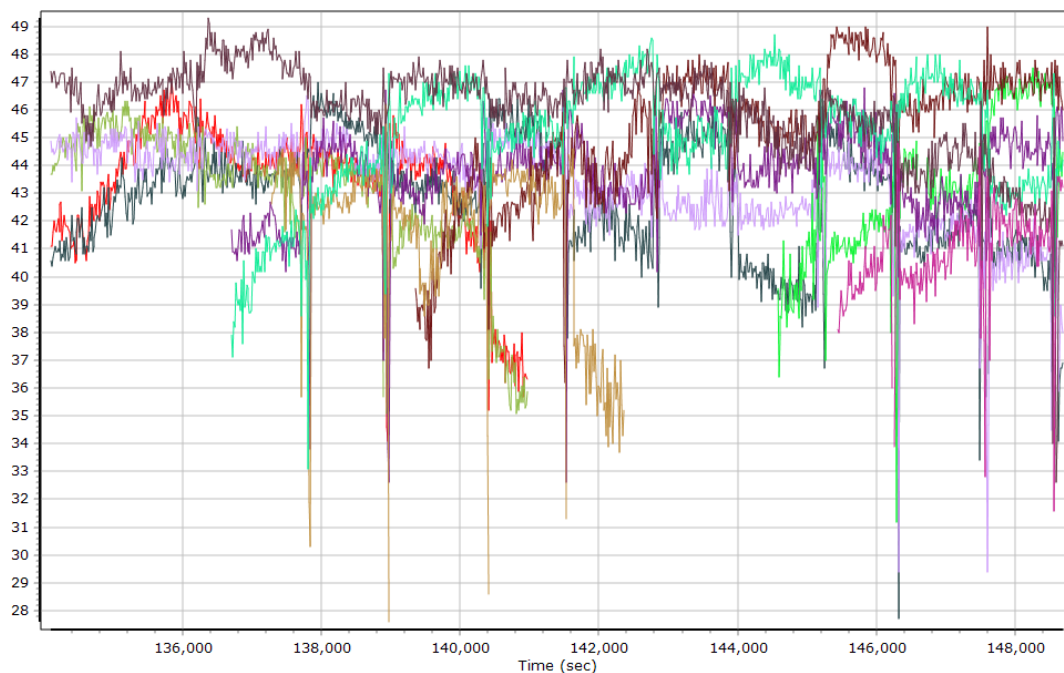
- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 03 L1 SNR (dB/Hz) | GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) |
| GLONASS 07 L1 SNR (dB/Hz) | GLONASS 14 L1 SNR (dB/Hz) | GLONASS 15 L1 SNR (dB/Hz) |
| GLONASS 16 L1 SNR (dB/Hz) | GLONASS 17 L1 SNR (dB/Hz) | GLONASS 18 L1 SNR (dB/Hz) |
| GLONASS 19 L1 SNR (dB/Hz) | GLONASS 20 L1 SNR (dB/Hz) | GLONASS 21 L1 SNR (dB/Hz) |
| GLONASS 22 L1 SNR (dB/Hz) | | |

GLONASS L2 SNR



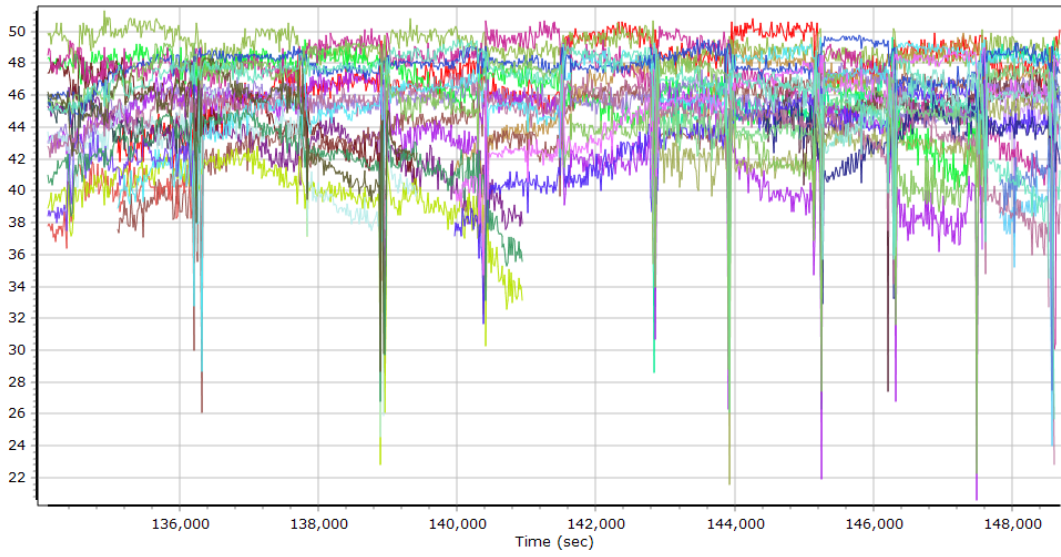
- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 03 L2 SNR (dB/Hz) | GLONASS 05 L2 SNR (dB/Hz) | GLONASS 06 L2 SNR (dB/Hz) |
| GLONASS 07 L2 SNR (dB/Hz) | GLONASS 14 L2 SNR (dB/Hz) | GLONASS 15 L2 SNR (dB/Hz) |
| GLONASS 16 L2 SNR (dB/Hz) | GLONASS 17 L2 SNR (dB/Hz) | GLONASS 18 L2 SNR (dB/Hz) |
| GLONASS 19 L2 SNR (dB/Hz) | GLONASS 20 L2 SNR (dB/Hz) | GLONASS 21 L2 SNR (dB/Hz) |
| GLONASS 22 L2 SNR (dB/Hz) | | |

BEIDOU SNR



- | | | |
|------------------------------|------------------------------|-----------------------------|
| BEIDOU 11 ESB B2 SNR (dB/Hz) | BEIDOU 14 ESB B2 SNR (dB/Hz) | BEIDOU 11 B1 B1 SNR (dB/Hz) |
| BEIDOU 14 B1 B1 SNR (dB/Hz) | BEIDOU 23 B1 B1 SNR (dB/Hz) | BEIDOU 24 B1 B1 SNR (dB/Hz) |
| BEIDOU 25 B1 B1 SNR (dB/Hz) | BEIDOU 26 B1 B1 SNR (dB/Hz) | BEIDOU 27 B1 B1 SNR (dB/Hz) |
| BEIDOU 28 B1 B1 SNR (dB/Hz) | BEIDOU 30 B1 B1 SNR (dB/Hz) | |

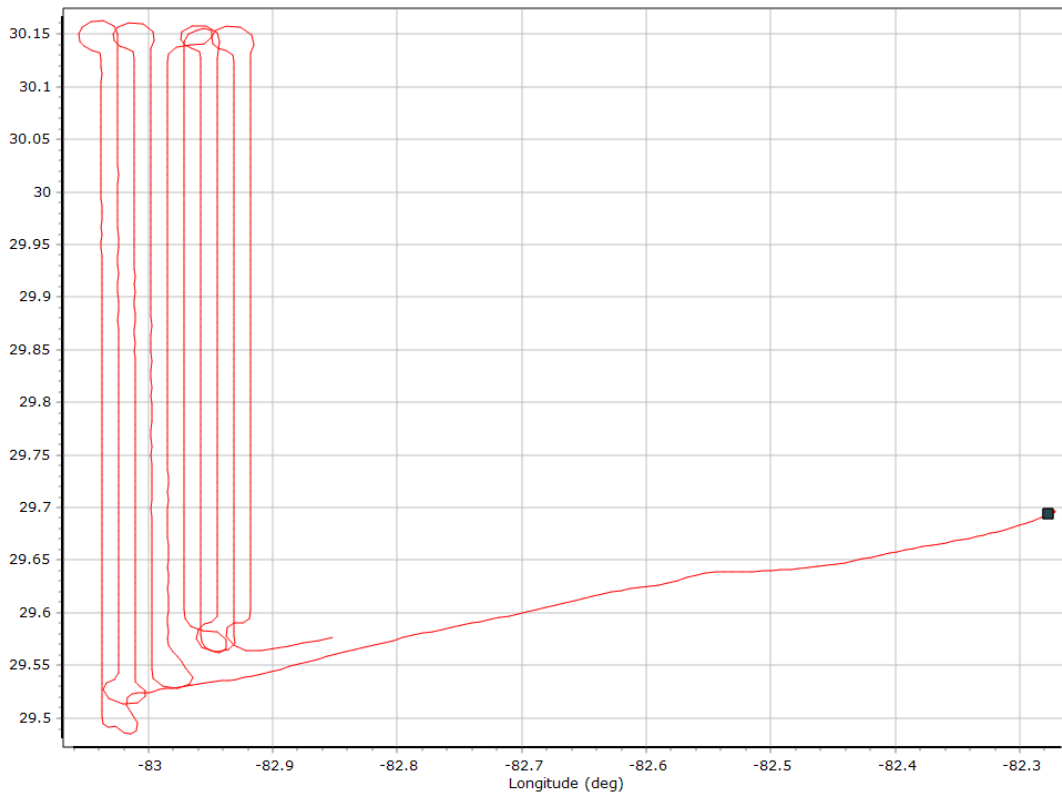
GALILEO SNR



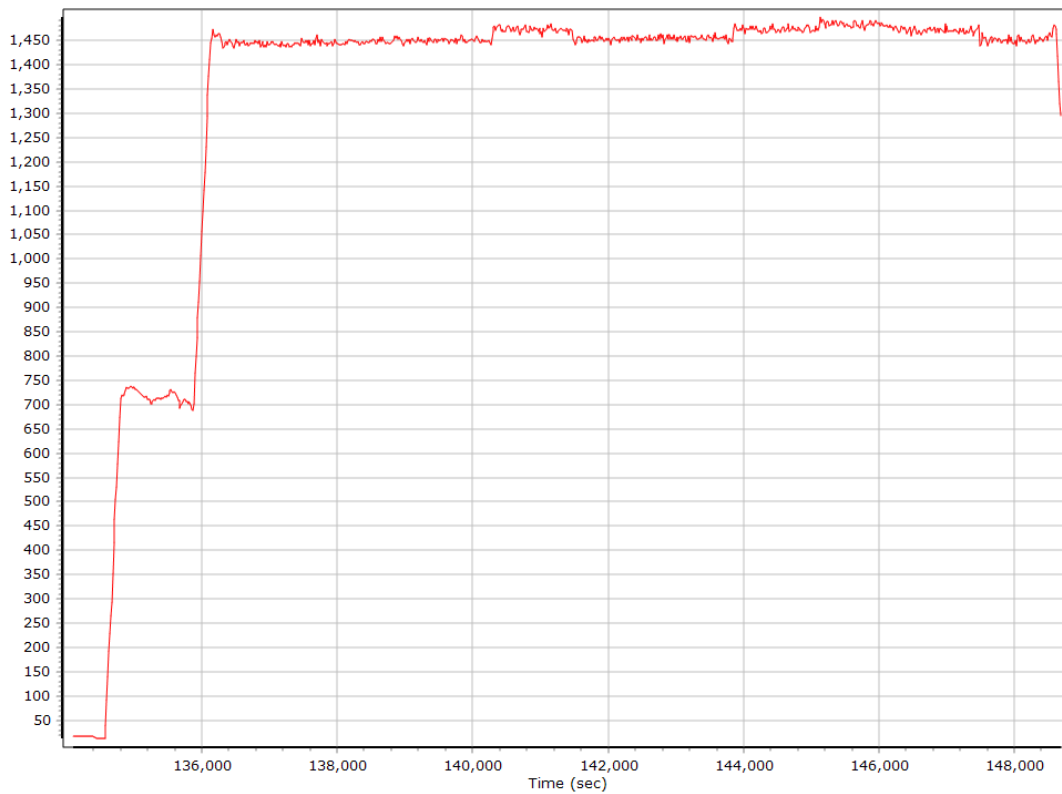
- | | |
|--|--|
| — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 11 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 14 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 15 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 36 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 04 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 05 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 08 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 09 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 11 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 14 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 15 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 24 E5B BPSK10_PD SNR (dB/Hz) |

Trajectory Information

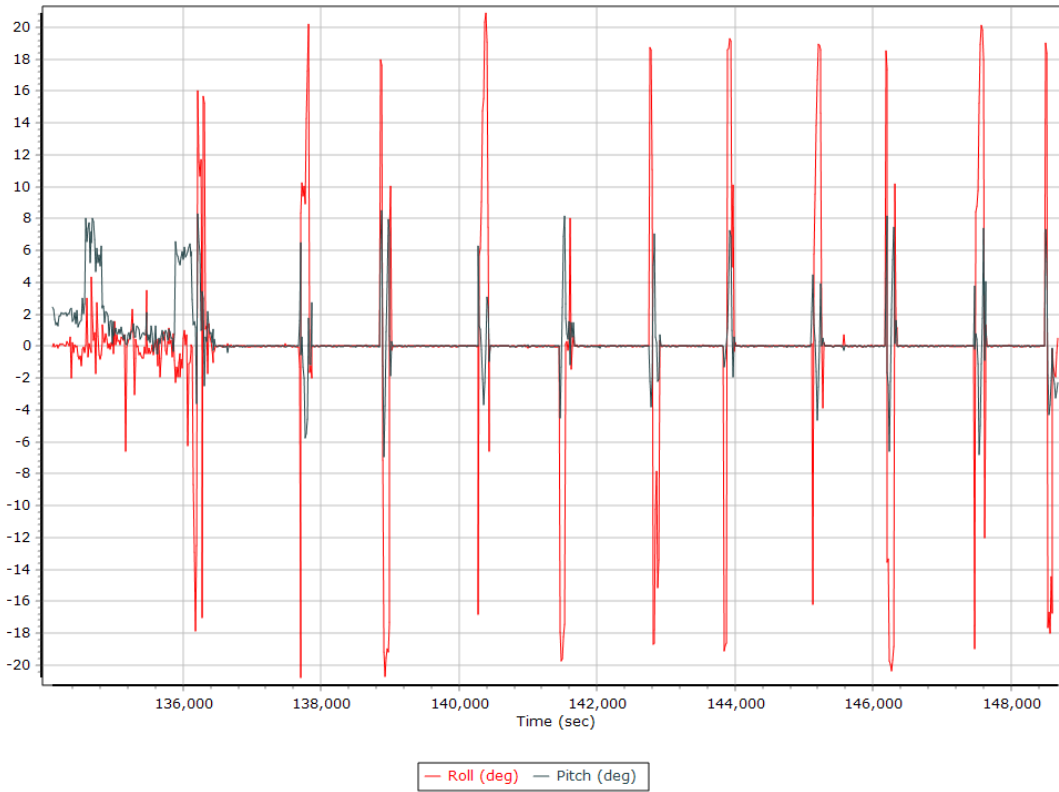
Top View



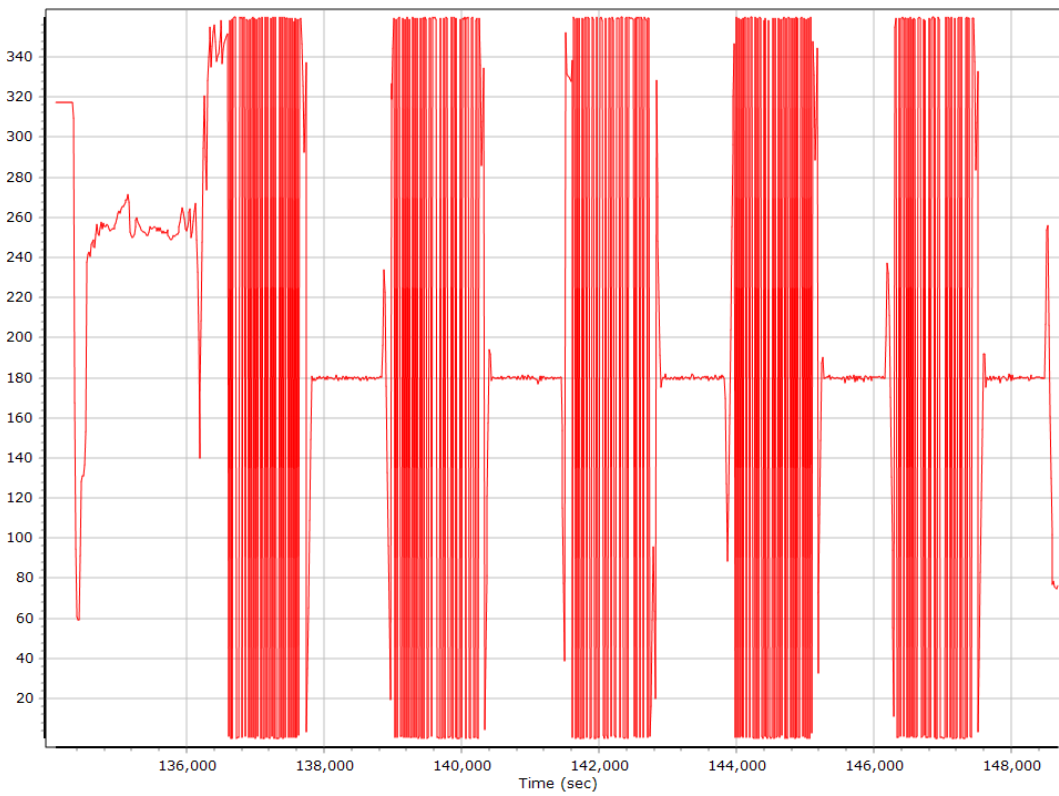
Altitude



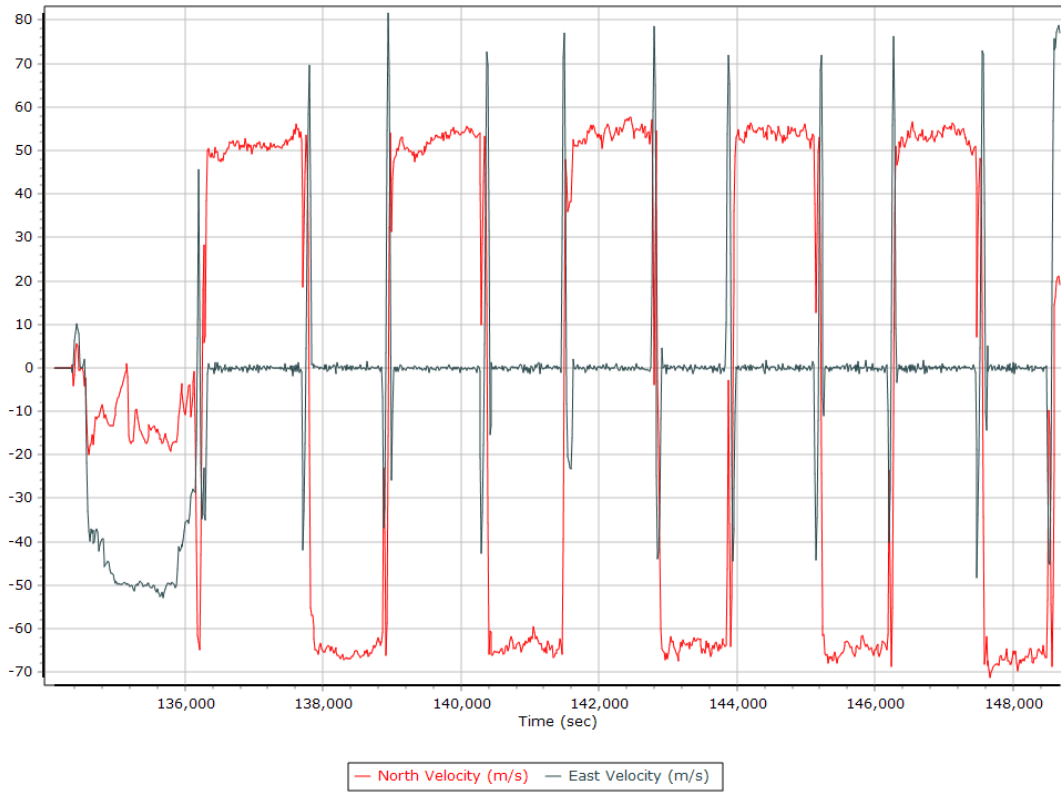
Roll/Pitch



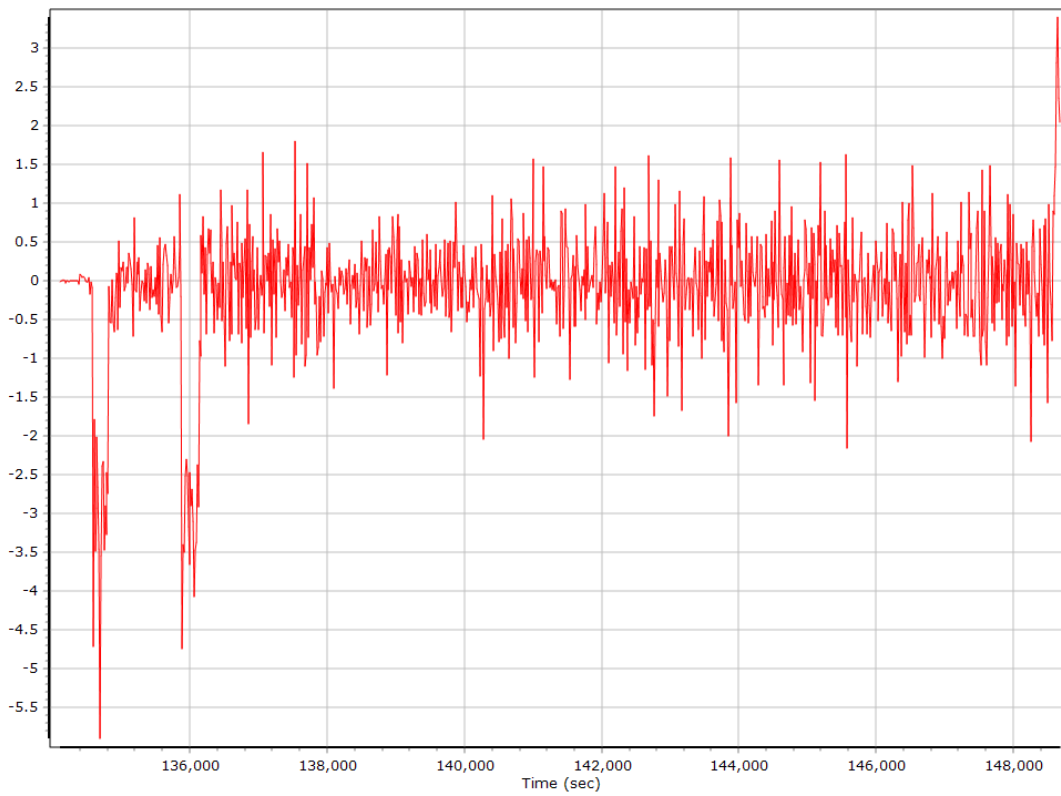
Heading



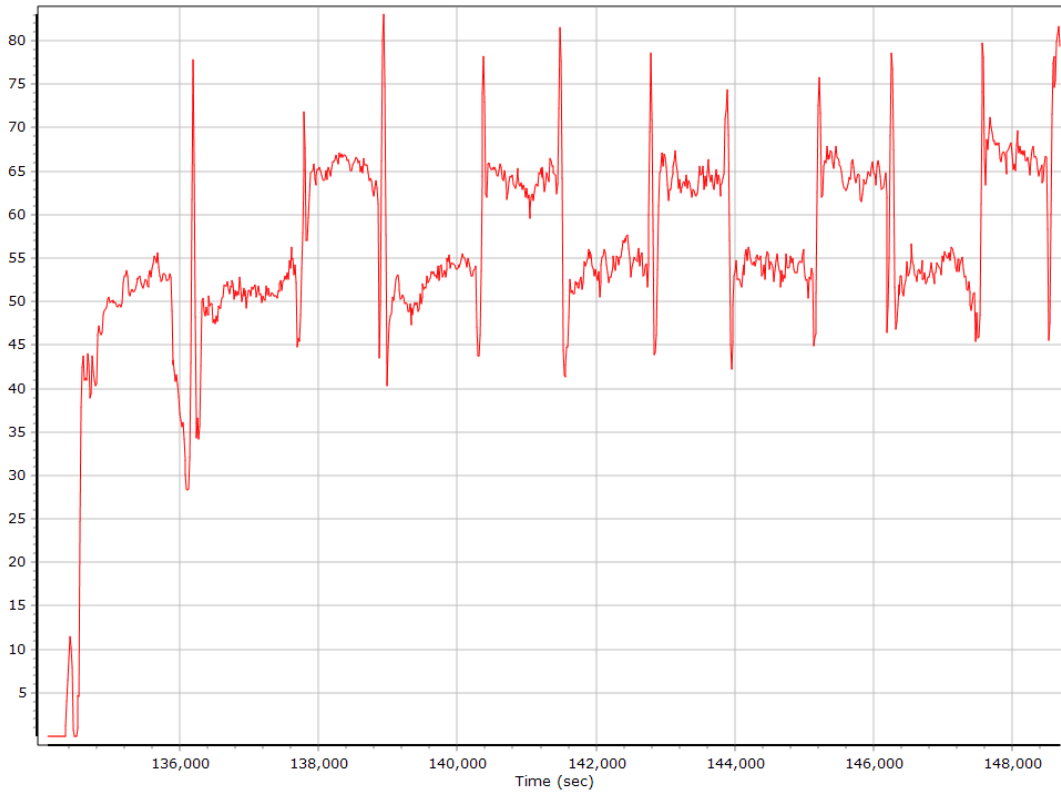
North/East Velocity



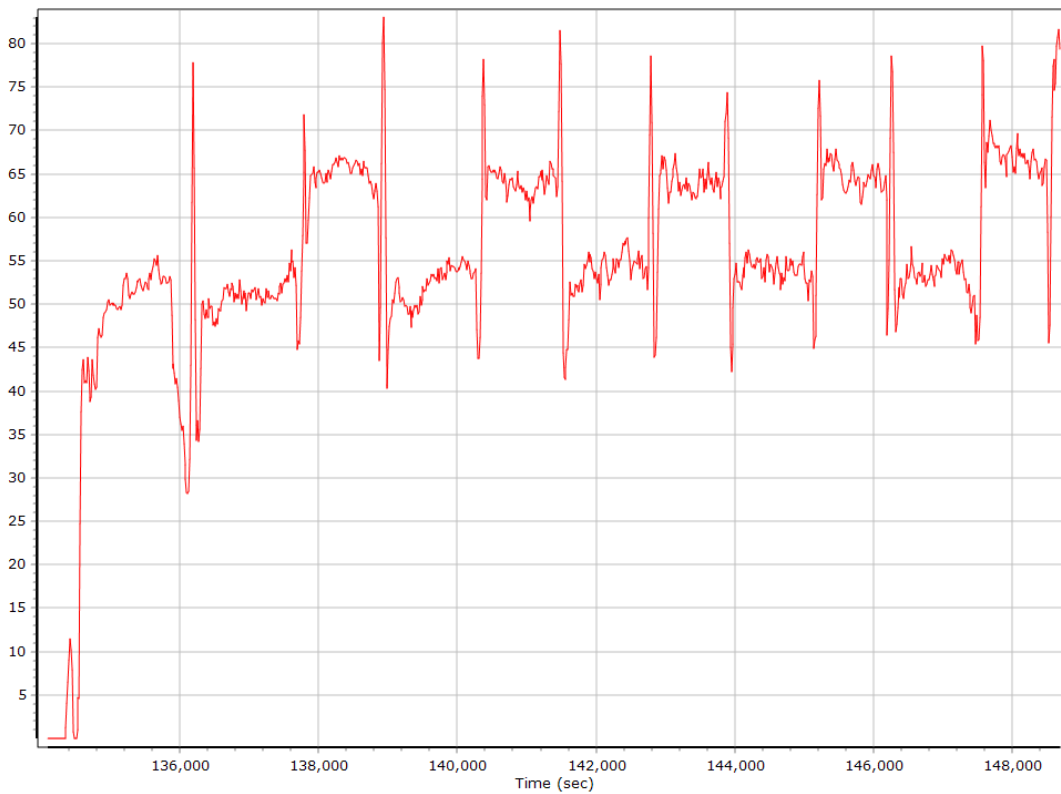
Down Velocity



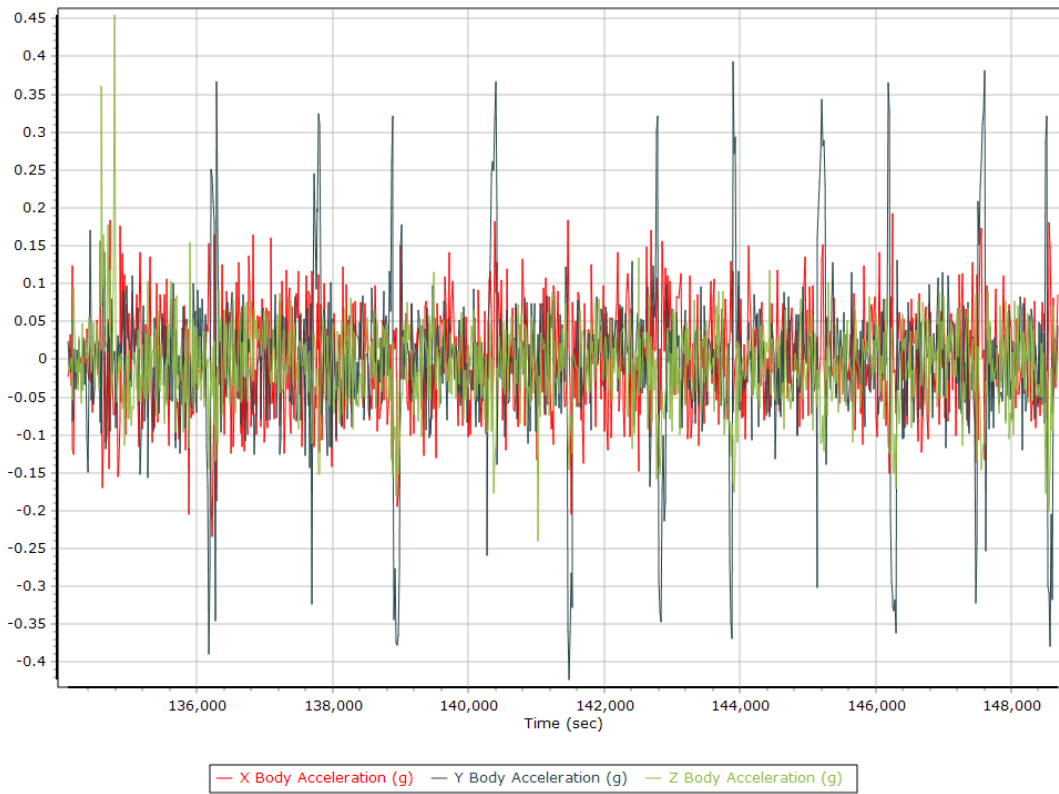
Total Speed



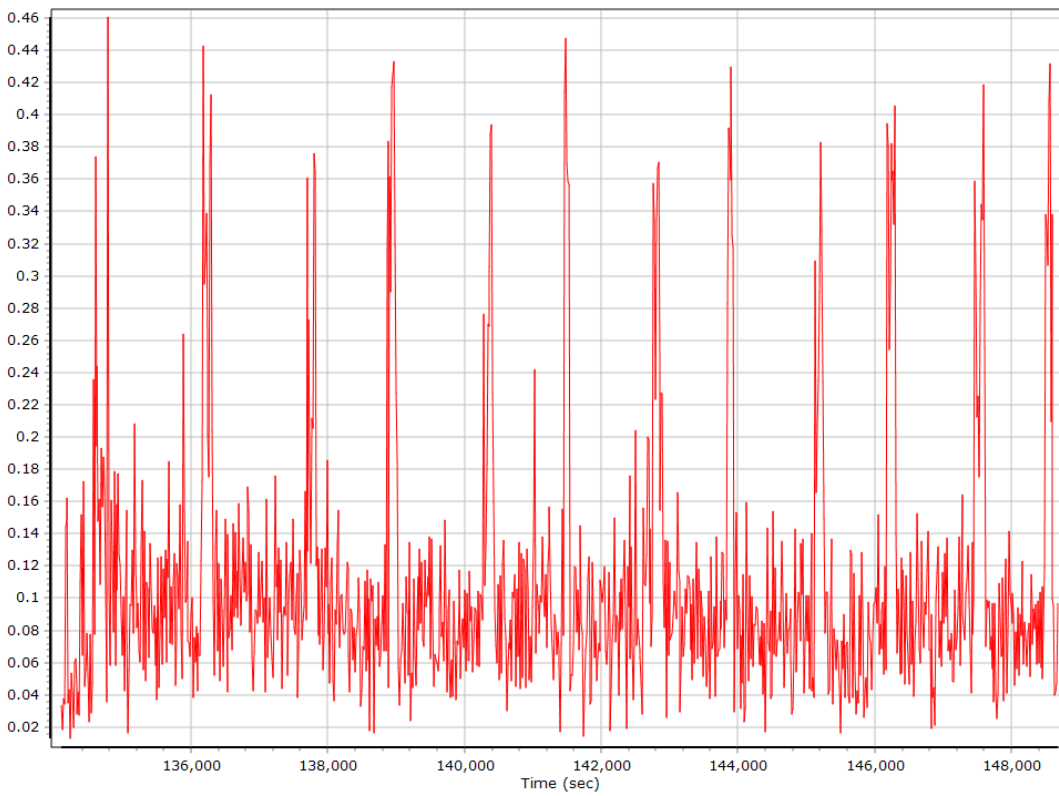
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/02/2019	XCTY	27.52	GNSS	1	User	None	Imported
12/02/2019	PRRY	70.78	GNSS	1	User	None	Imported
12/02/2019	OCLA	104.58	GNSS	1	User	None	Imported
12/02/2019	LKCY	52.68	GNSS	1	User	None	Imported
12/02/2019	GNVL	62.74	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	XCTY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	14850 s (2082 133858 - 2082 148708)
Number of reference stations	5
Primary station GPS measurement usage (%)	99.1
Primary station GLONASS measurement usage (%)	82.5
Average number of satellites per epoch	12.4
Max number of GPS stations used	5
Min number of GPS stations used	3
Max number of GLONASS stations used	5
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	16144
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - XCTY

Status	OK	SBQI	0	
Duration (Hours)	19.35	Output Coordinates	Original	
Solution Epochs	4644	Mean Epoch SVs	8.1	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°37'51.61276"	W83°06'29.33653"	13.808
Adjusted		N29°37'51.61250"	W83°06'29.33642"	13.800
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.008	0.008	0.012

Base Station Information

Station ID	XCTY		
Filename	xcty_daily3360.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/2/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80800		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PRRY

Status	OK	SBQI	0
Duration (Hours)	19.20	Output Coordinates	Original
Solution Epochs	4608	Mean Epoch SVs	5.1
Base Station Coordinates	Latitude	Longitude	Height (m)
Original	N30°04'40.11938"	W83°34'28.60872"	12.936
Adjusted	N30°04'40.11892"	W83°34'28.60814"	12.950
Coordinate Adjustments	Horizontal (m)	Vertical (m)	Total (m)
Adjustments	0.021	0.014	0.025

Base Station Information

Station ID	PRRY		
Filename	prry_daily3360.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/2/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702545
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°04'40.11938"		
Longitude	W83°34'28.60872"		
Ellipsoidal height (m)	-12.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - OCLA

Status	OK	SBQI	0
Duration (Hours)	19.74	Output Coordinates	Original
Solution Epochs	4737	Mean Epoch SVs	7.8
Base Station Coordinates	Latitude	Longitude	Height (m)
Original	N29°10'54.46980"	W82°06'15.28619"	17.715
Adjusted	N29°10'54.46968"	W82°06'15.28639"	17.728
Coordinate Adjustments	Horizontal (m)	Vertical (m)	Total (m)
Adjustments	0.007	0.013	0.015

Base Station Information

Station ID	OCLA		
Filename	ocla_daily3360.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/2/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LKCY

Status	OK	SBQI	0	
Duration (Hours)	19.70	Output Coordinates	Original	
Solution Epochs	4728	Mean Epoch SVs	8.1	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°11'07.49182"	W82°34'39.14410"	35.193
Adjusted		N30°11'07.49173"	W82°34'39.14396"	35.213
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.005	0.020	0.020

Base Station Information

Station ID	LKCY		
Filename	lkcy_daily3360.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/2/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	CONTROL	SBQI	0	
Duration (Hours)	19.74	Output Coordinates	Control	
Solution Epochs	4737	Mean Epoch SVs	8.1	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55697"	W82°16'36.73521"	23.936
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3360.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/2/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.78	63.06	
Number of GPS SV	6	9	8
Number of GLONASS SV	0	6	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	7	15	12
PDOP	1.20	2.34	1.56
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	14846.00	0.00	1.00
Percentage	99.99	0.00	0.01

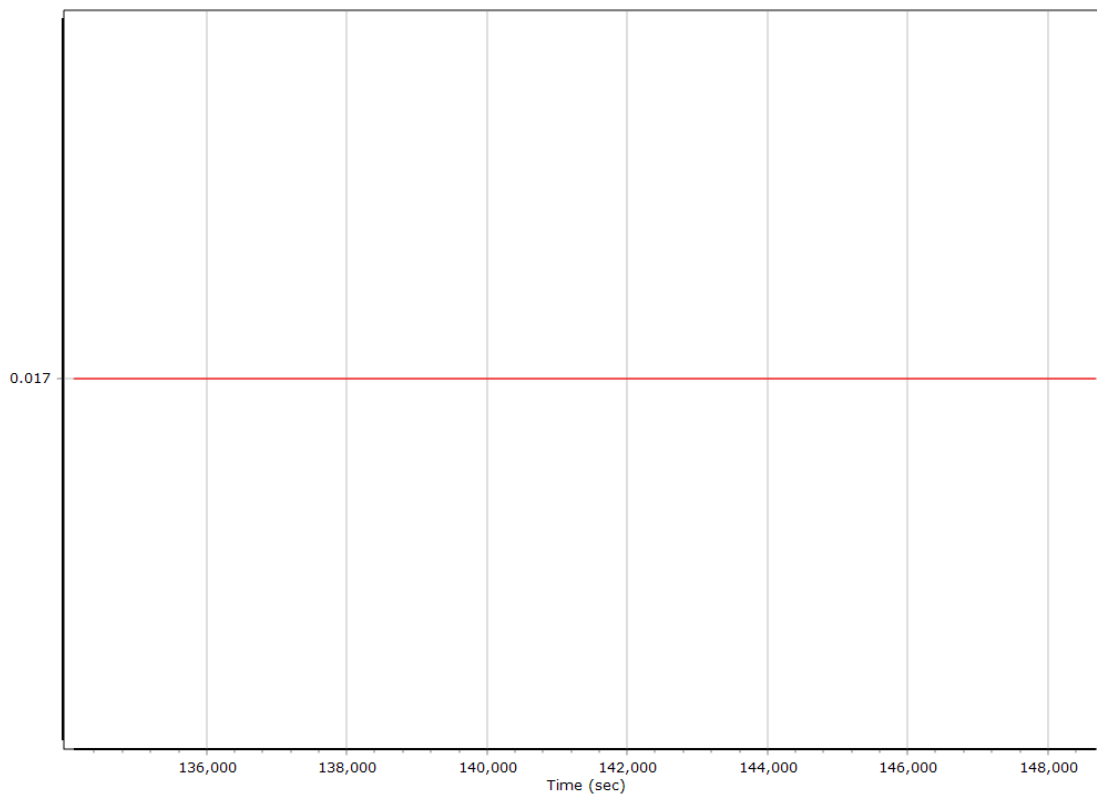
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	133840.000 (12/2/2019 1:10:40 PM)		
Processing end time	148690.000 (12/2/2019 5:18:10 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

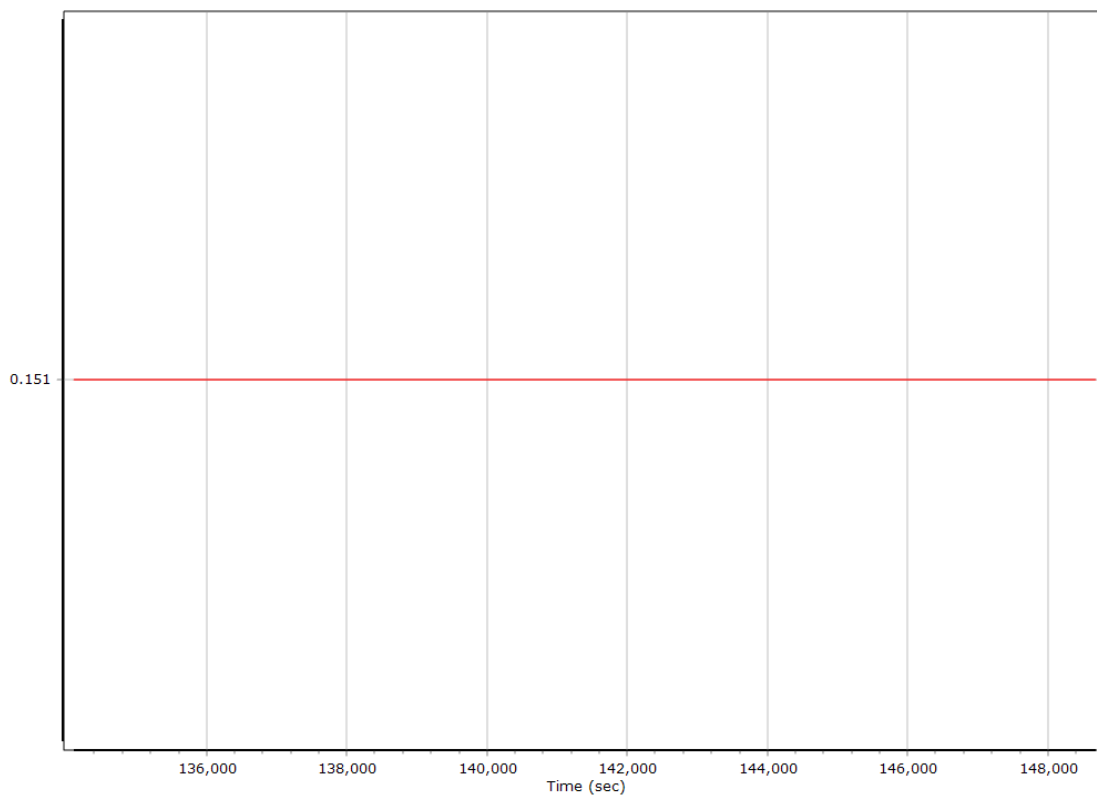
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

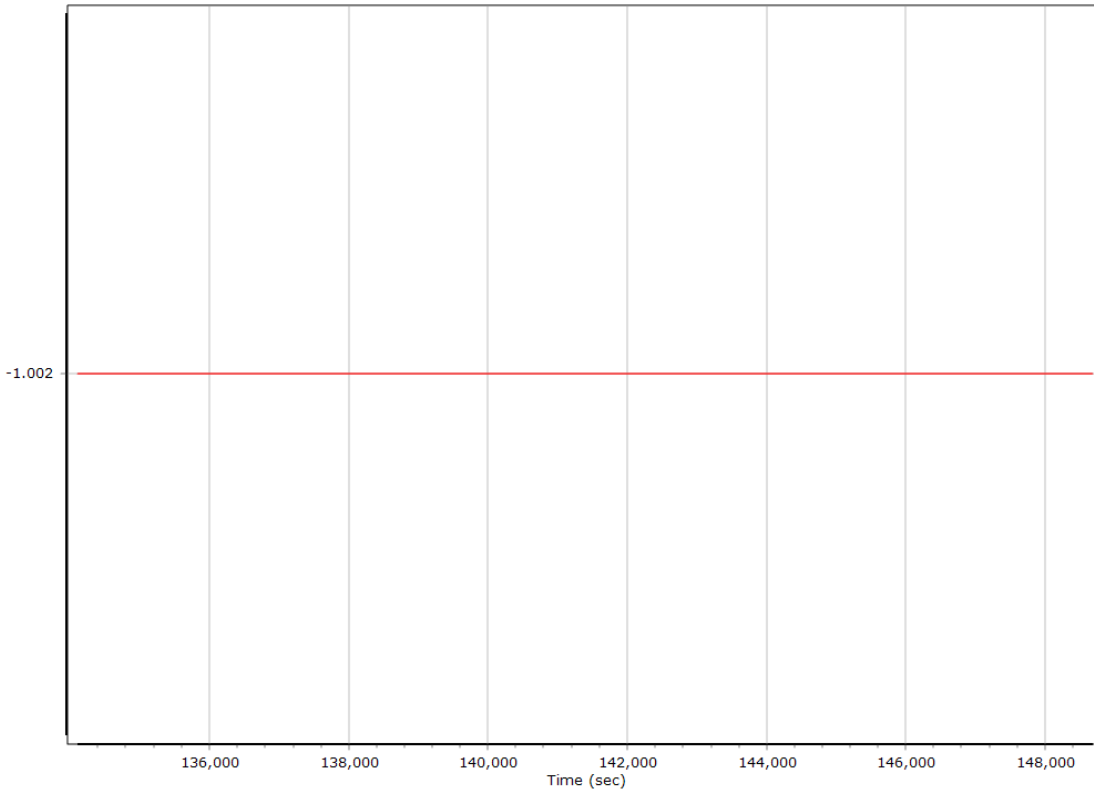
X Reference-Primary GNSS Lever Arm (m)



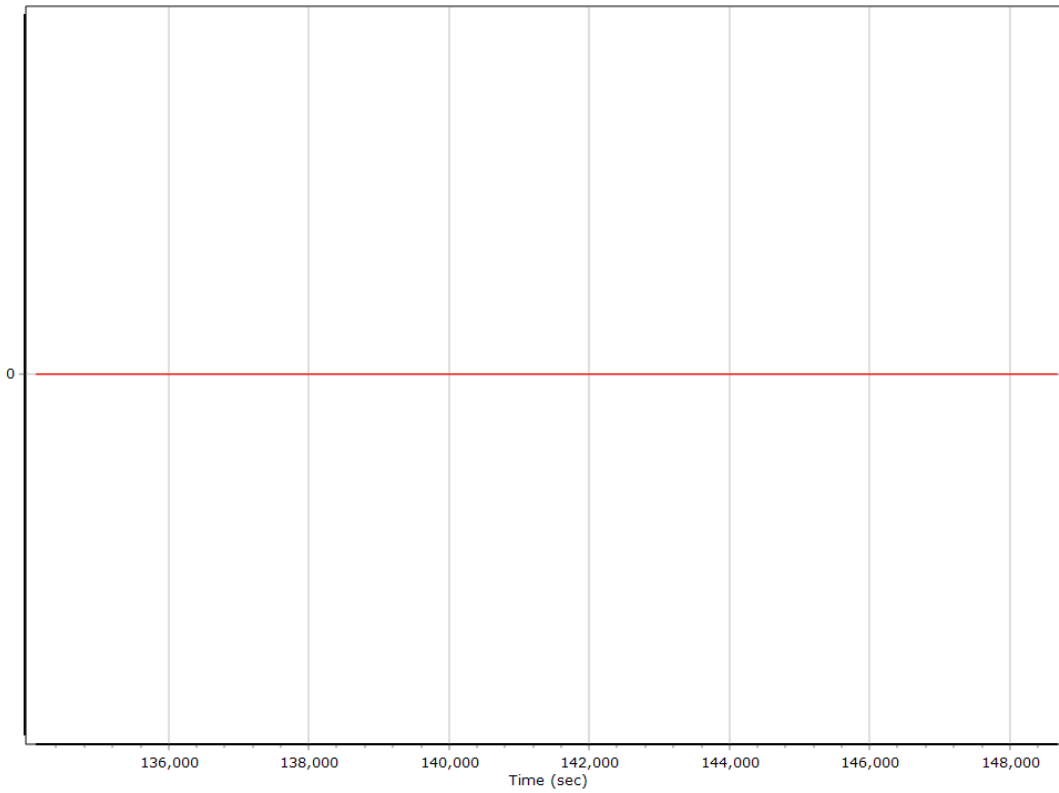
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



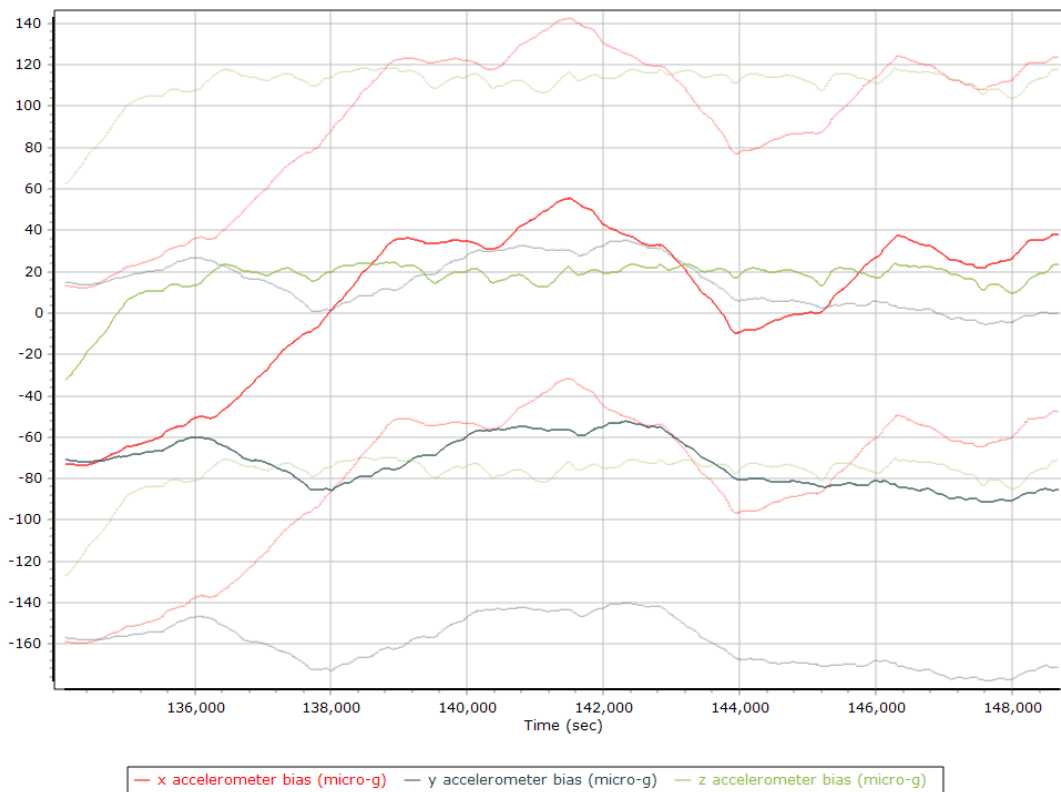
Reference-Primary GNSS Lever Arm Figure of Merit



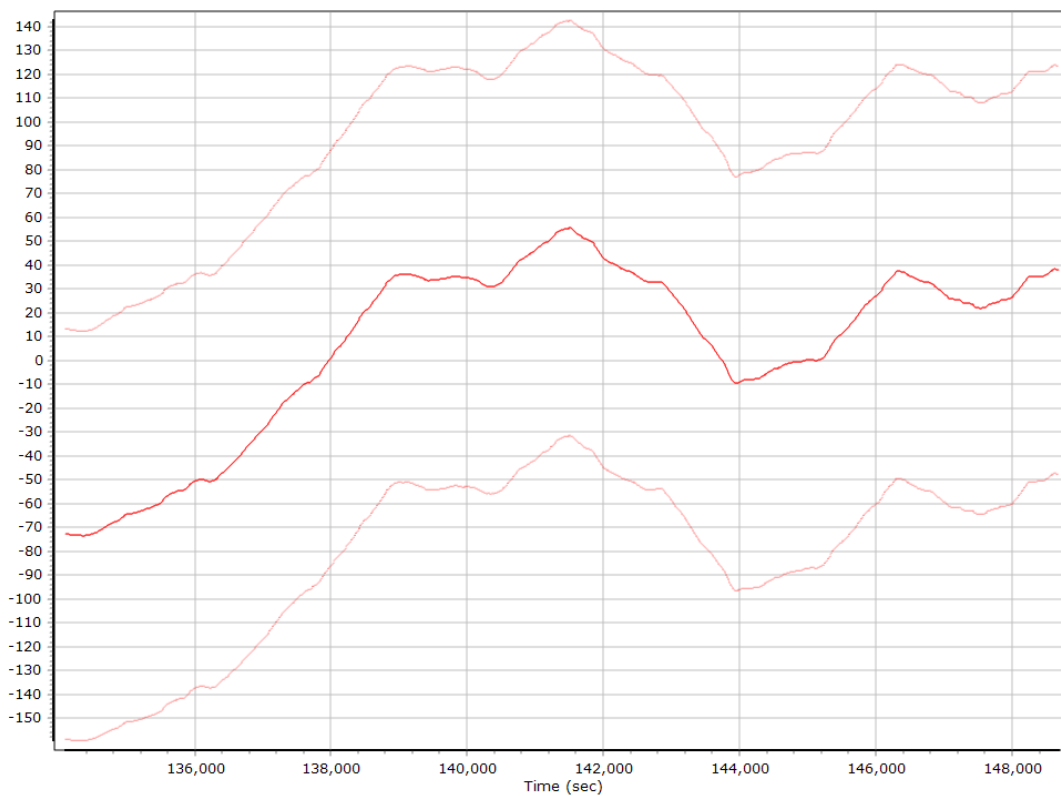
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

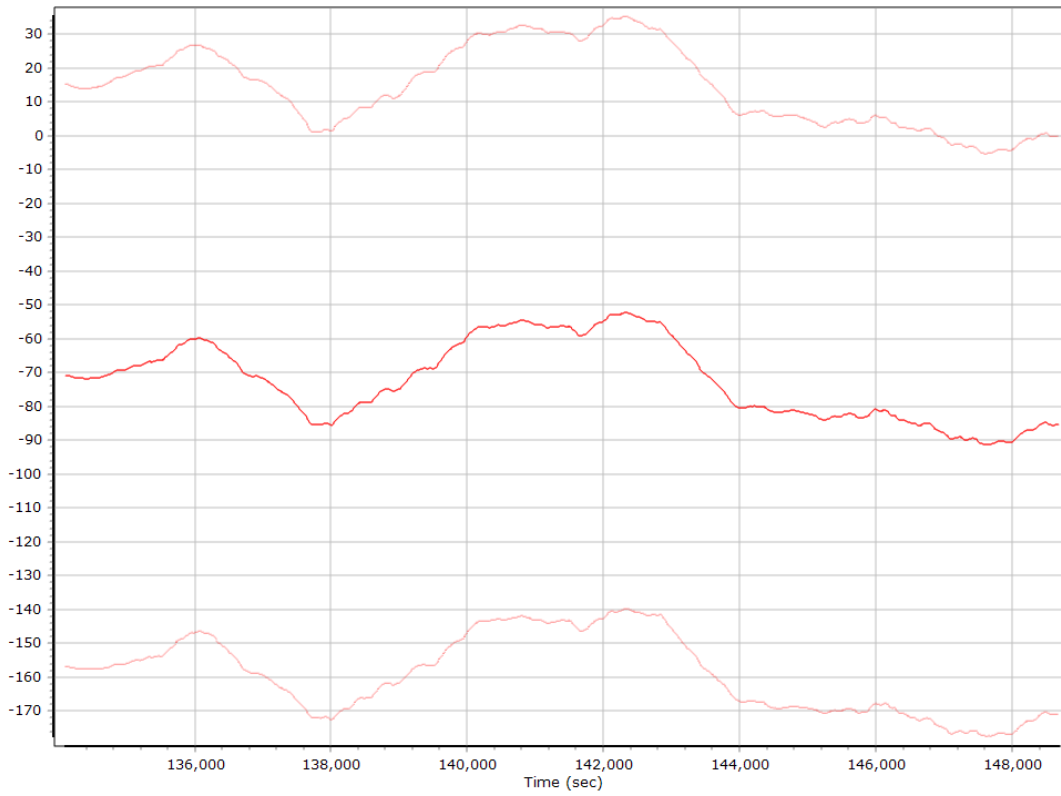
Accelerometer Bias (micro-g)



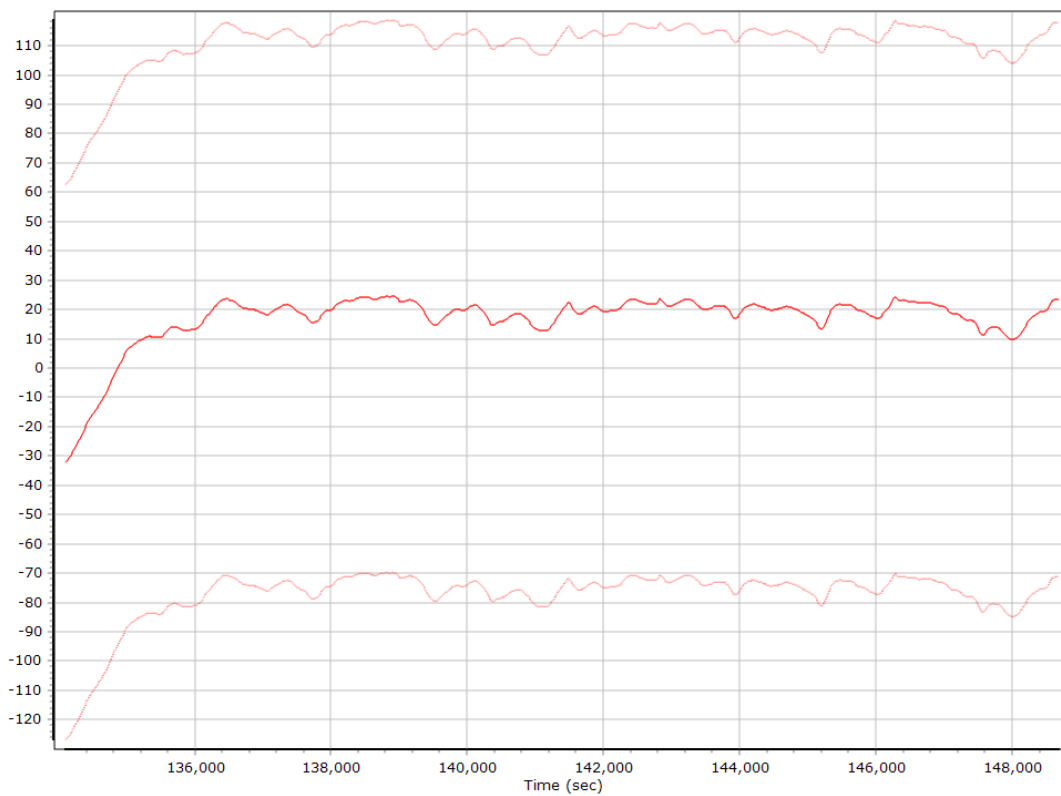
X Accelerometer Bias (micro-g)



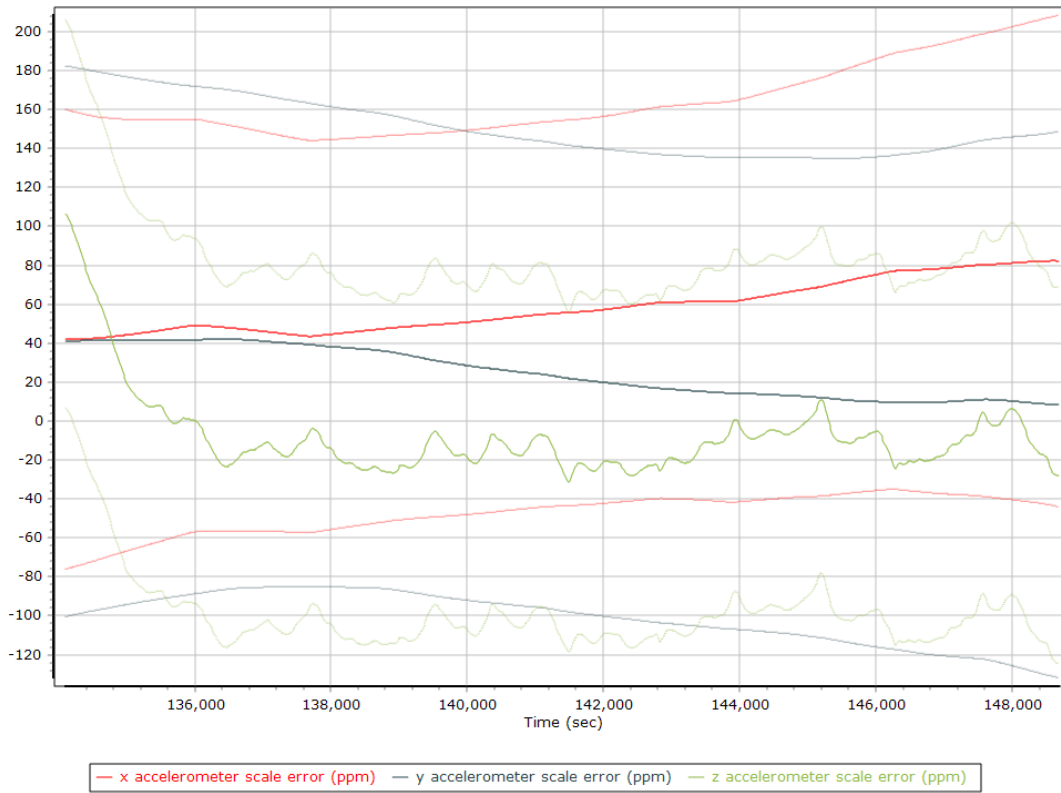
Y Accelerometer Bias (micro-g)



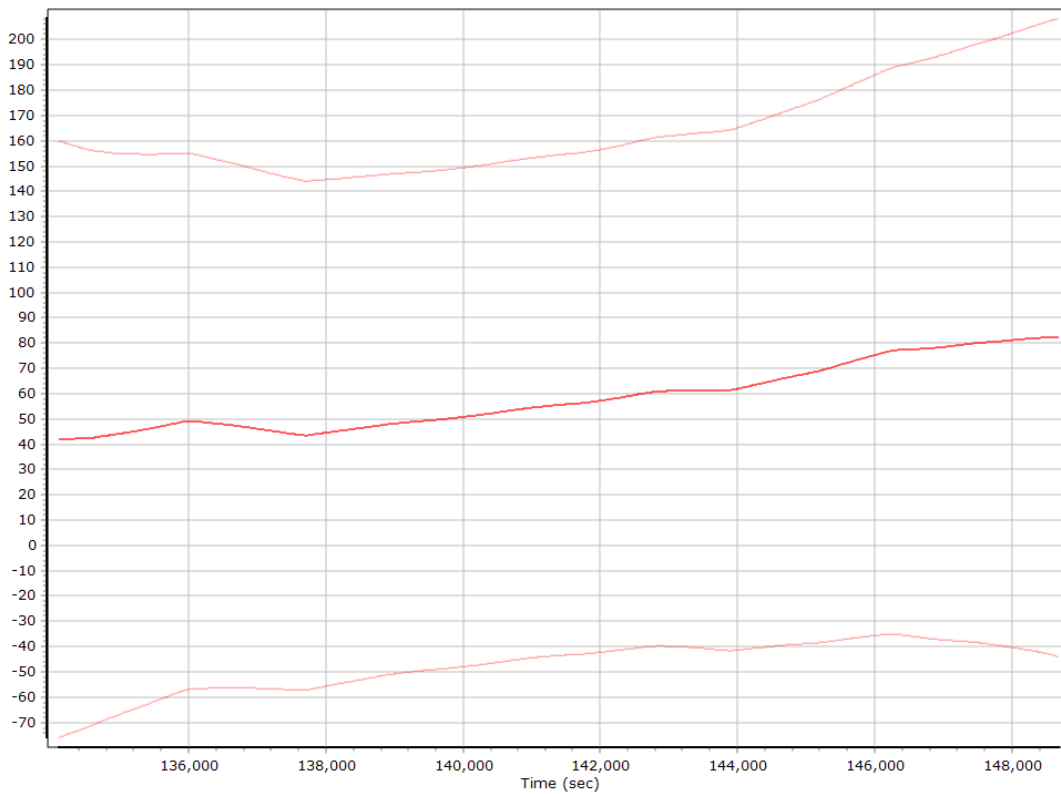
Z Accelerometer Bias (micro-g)



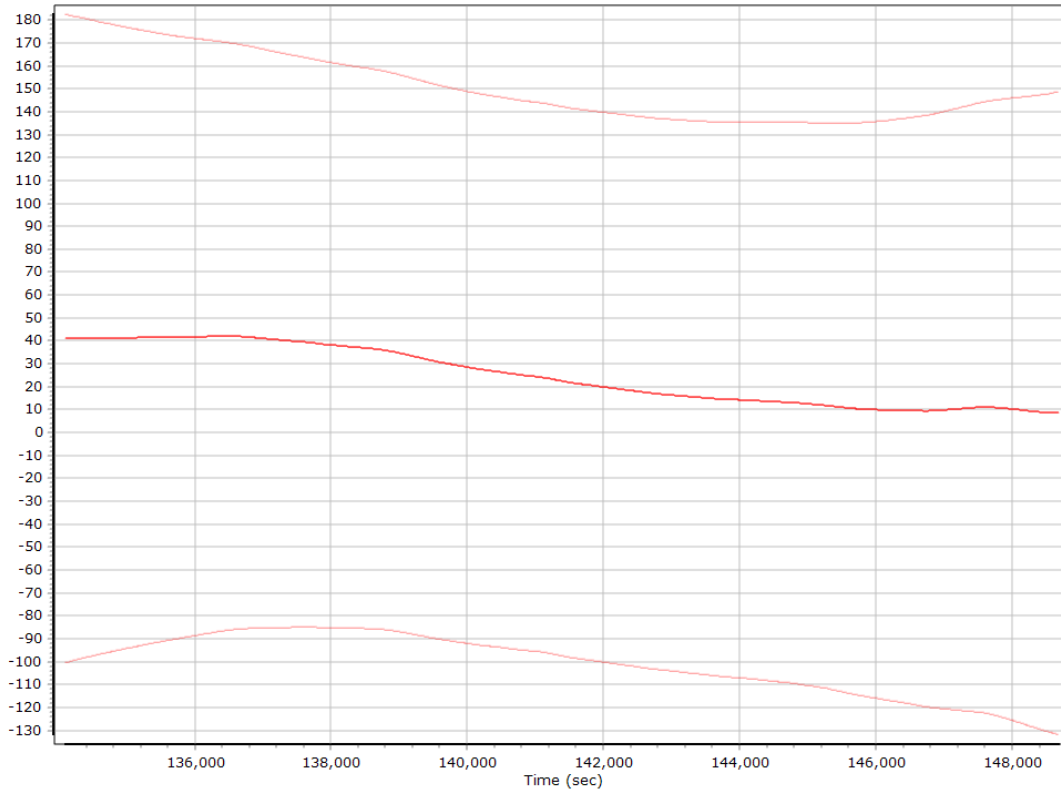
Accelerometer Scale Error (ppm)



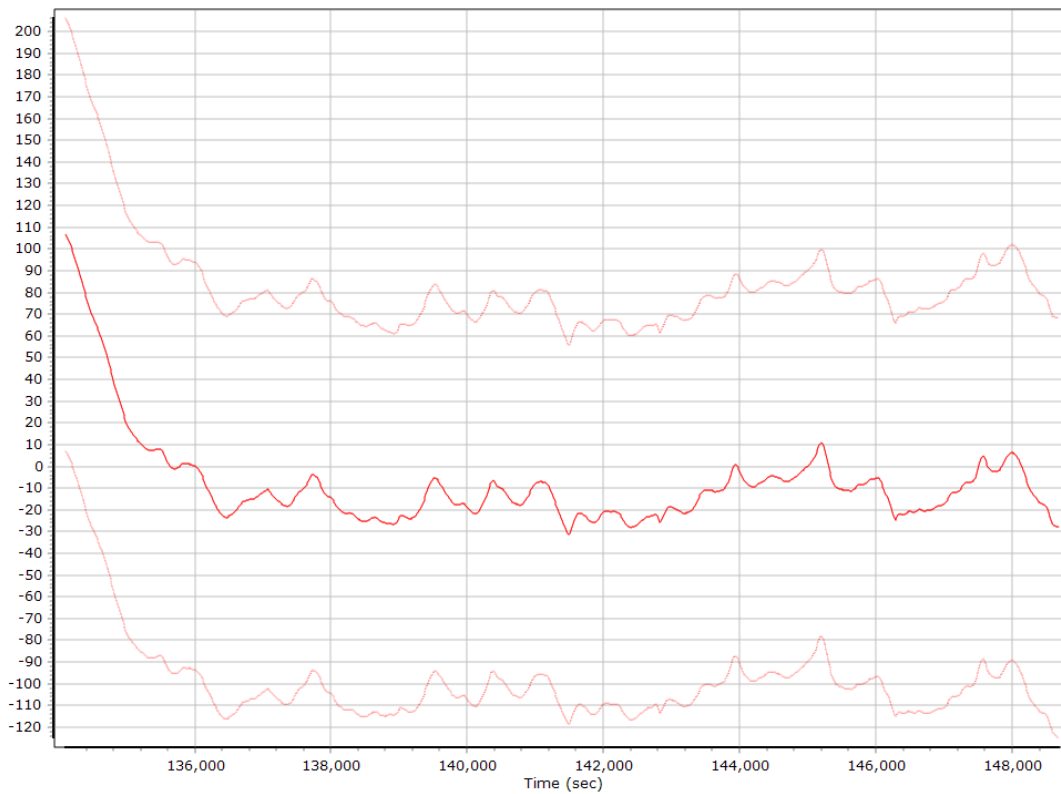
X Accelerometer Scale Error (ppm)



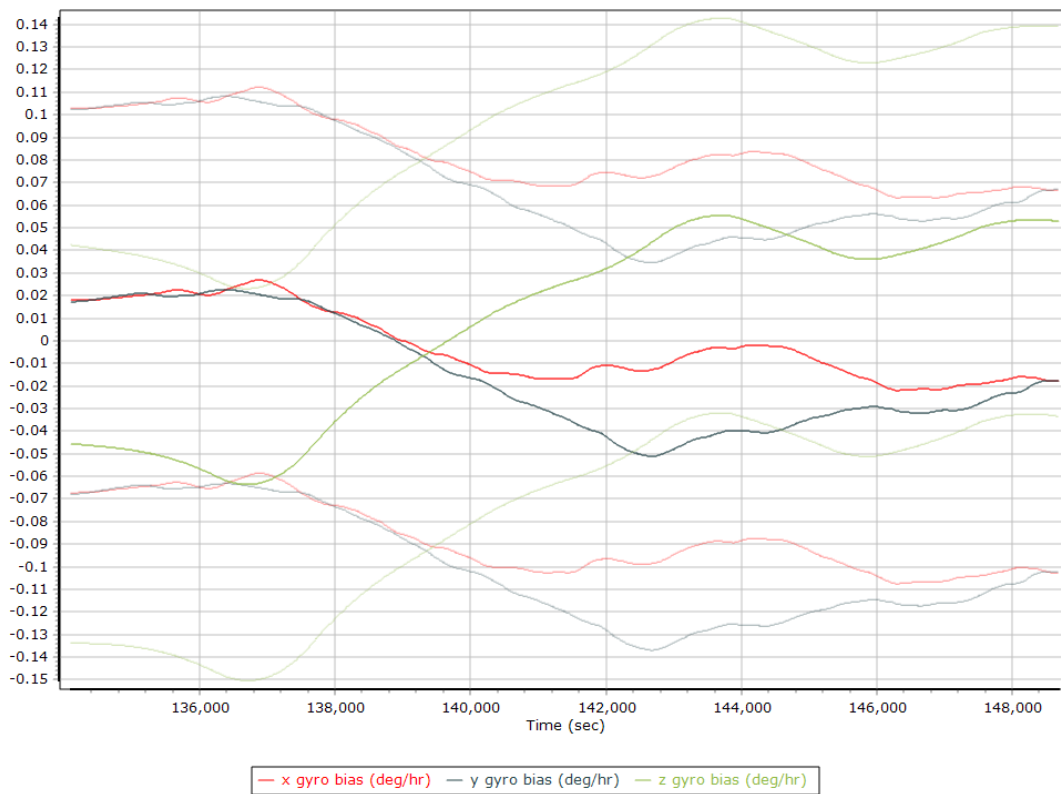
Y Accelerometer Scale Error (ppm)



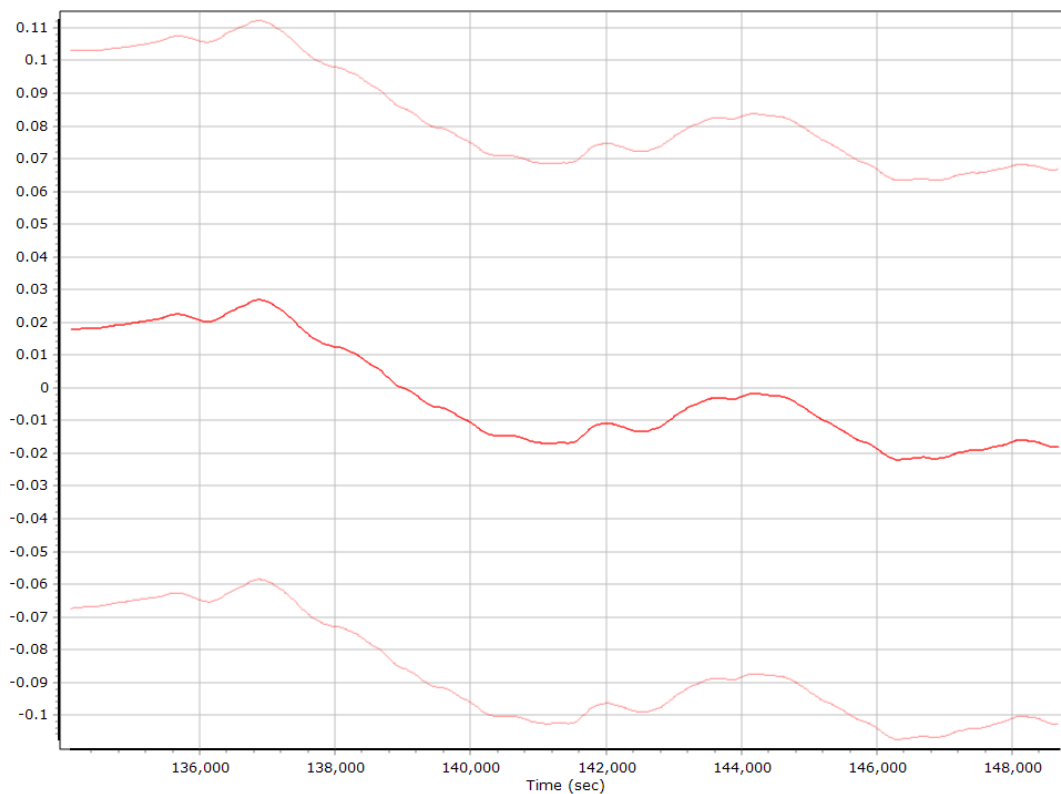
Z Accelerometer Scale Error (ppm)



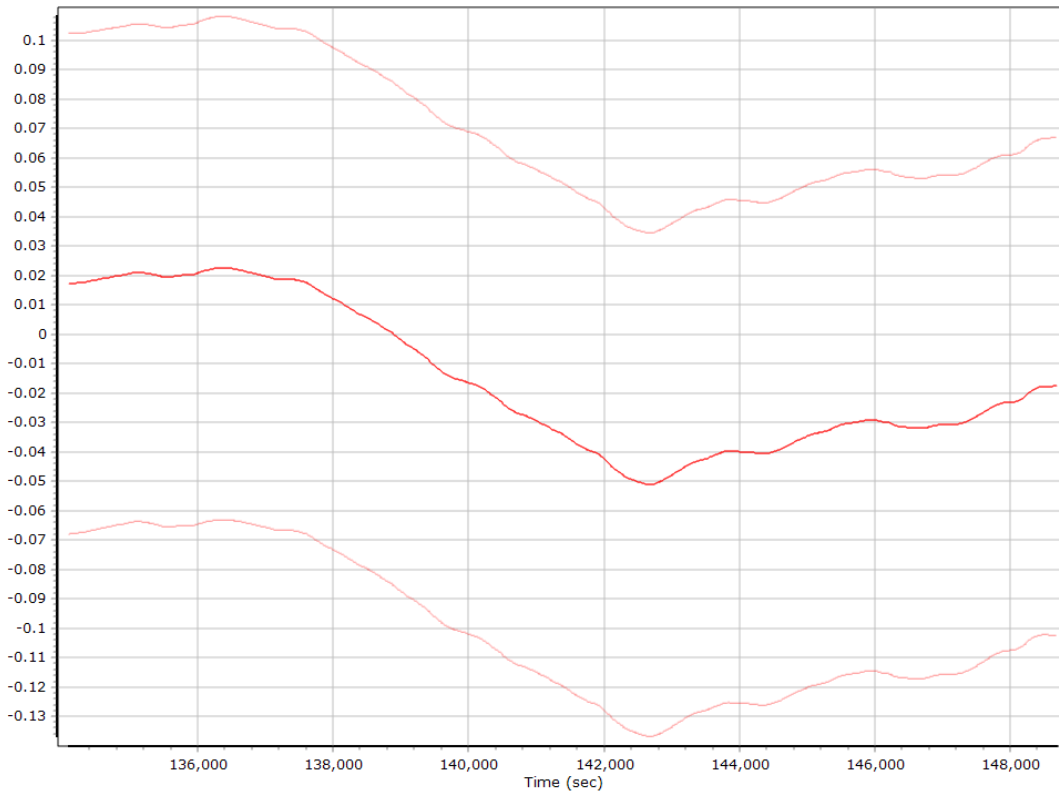
Gyro Bias (deg/h)



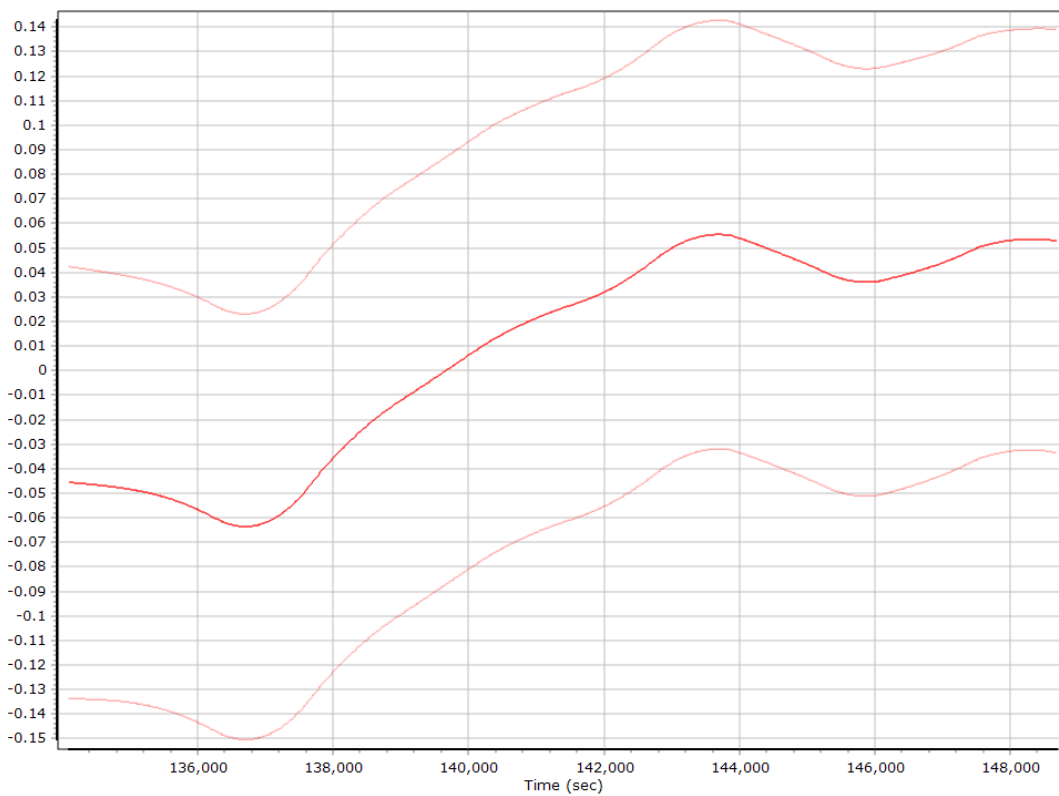
X Gyro Bias (deg/h)



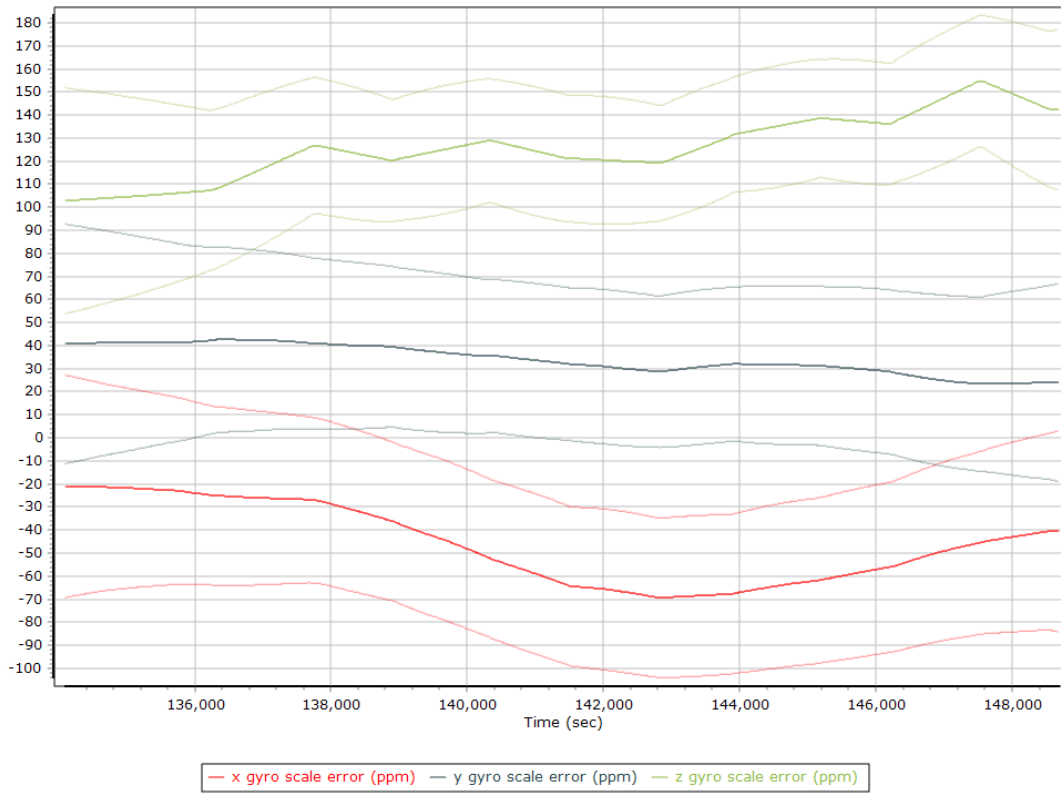
Y Gyro Bias (deg/h)



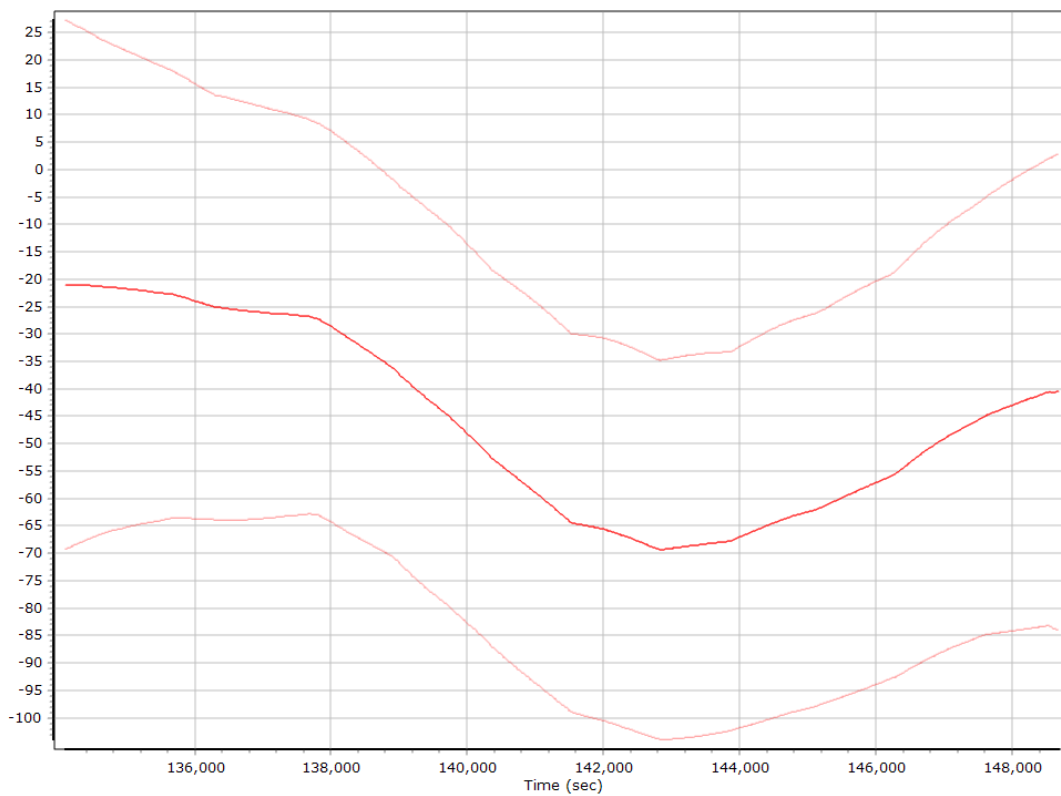
Z Gyro Bias (deg/h)



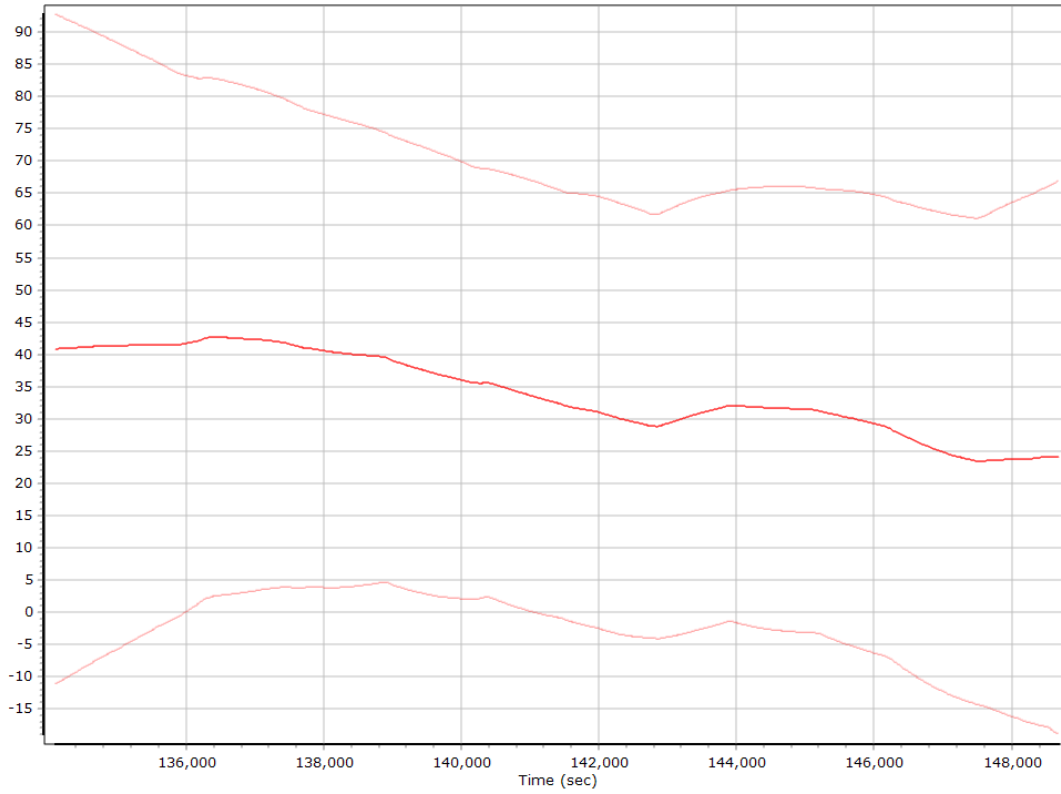
Gyro Scale Error (ppm)



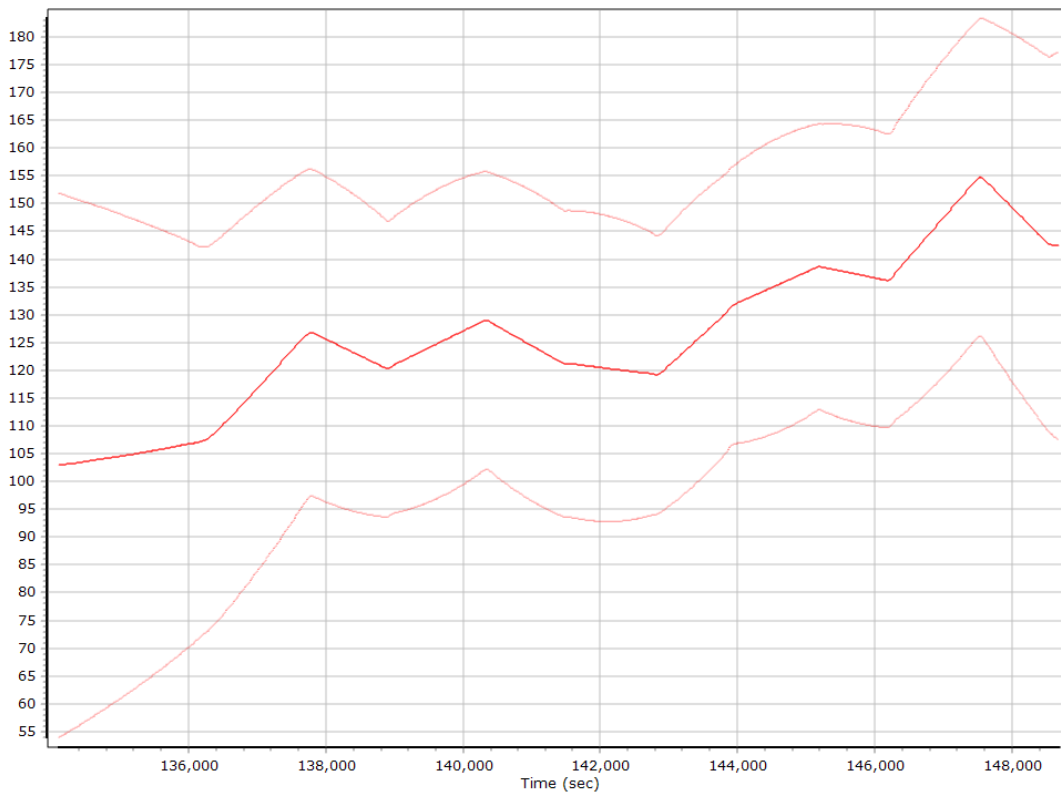
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

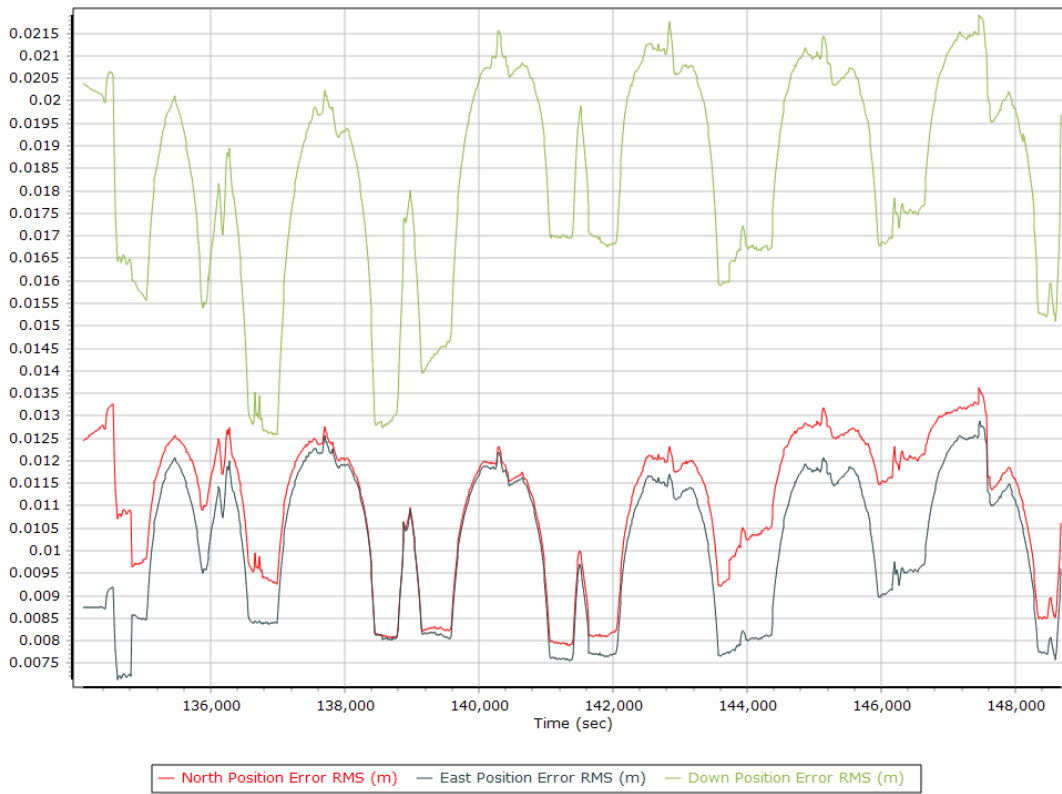


Z Gyro Scale Error (ppm)

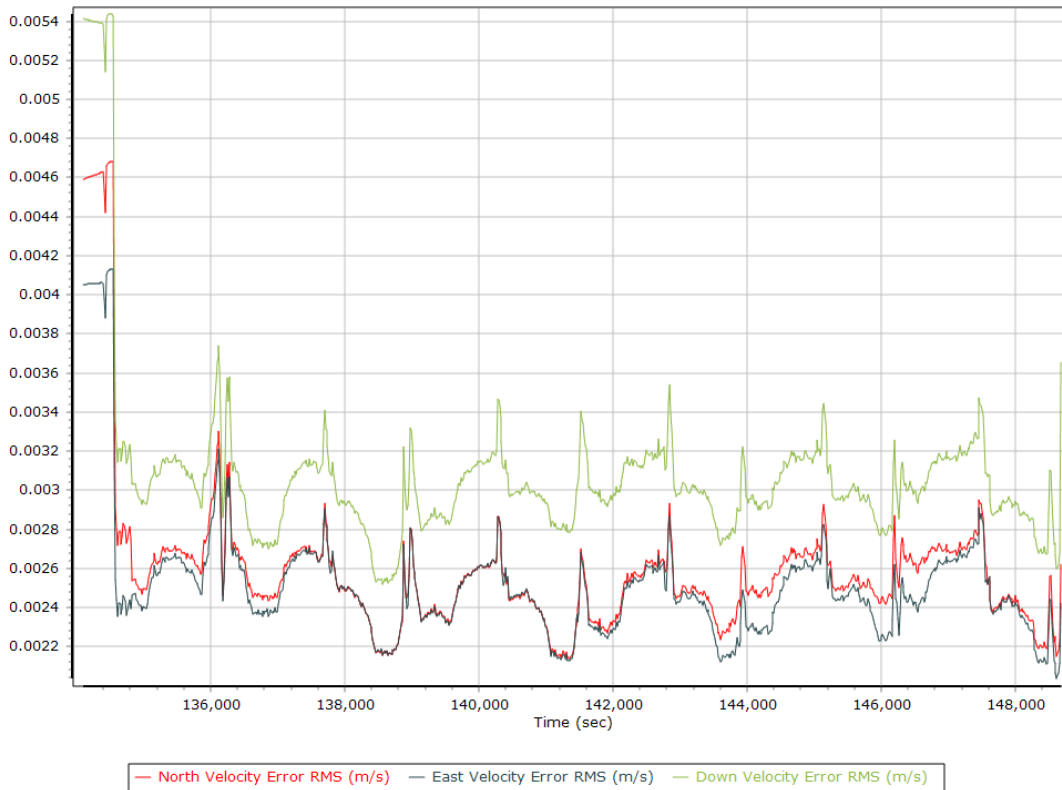


Smoothed Performance Metrics

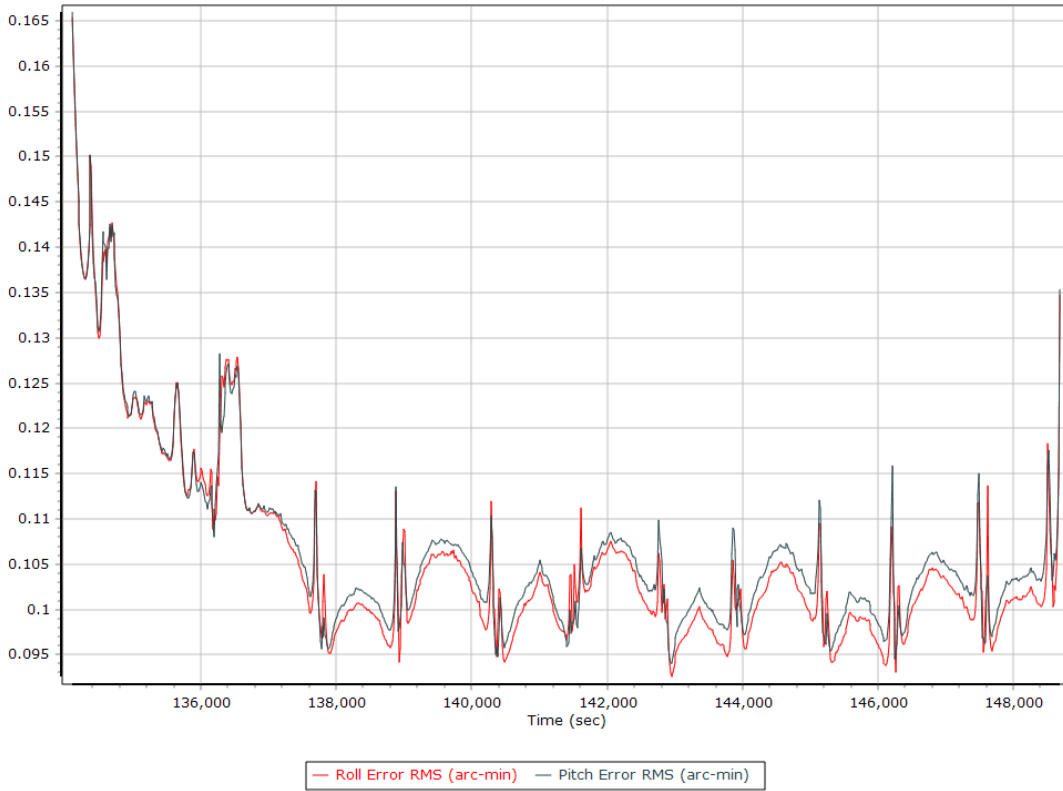
Position Error RMS (m)



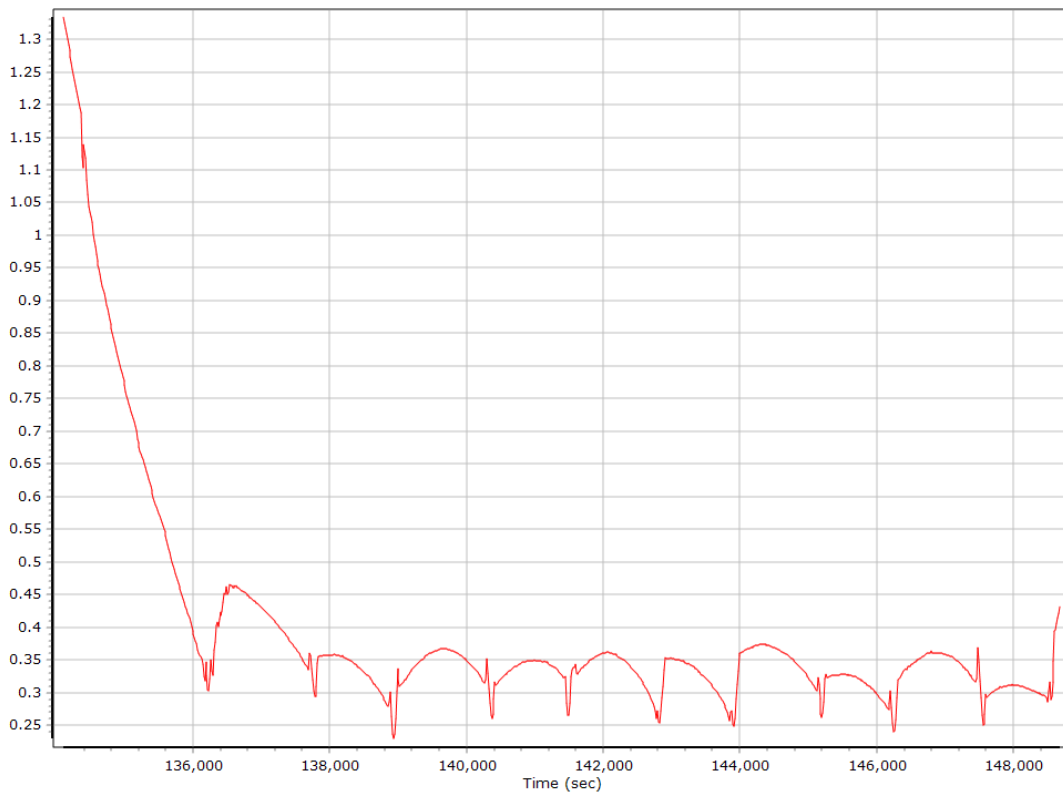
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

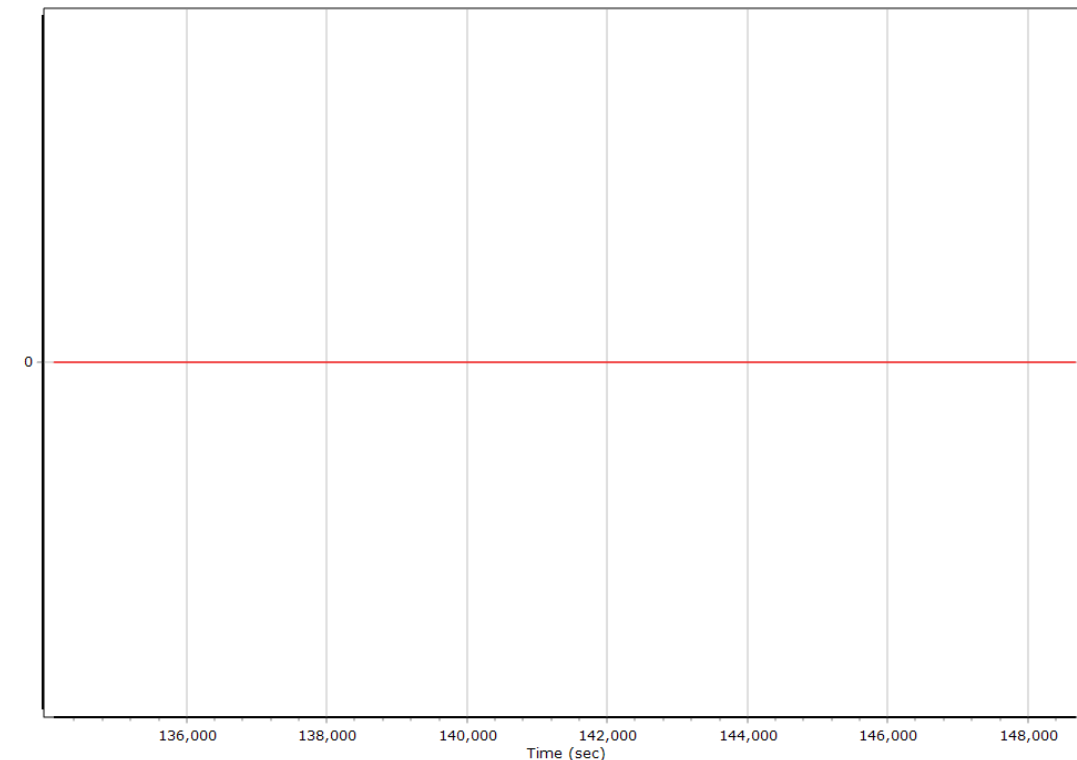


Heading Error RMS (arc-min)



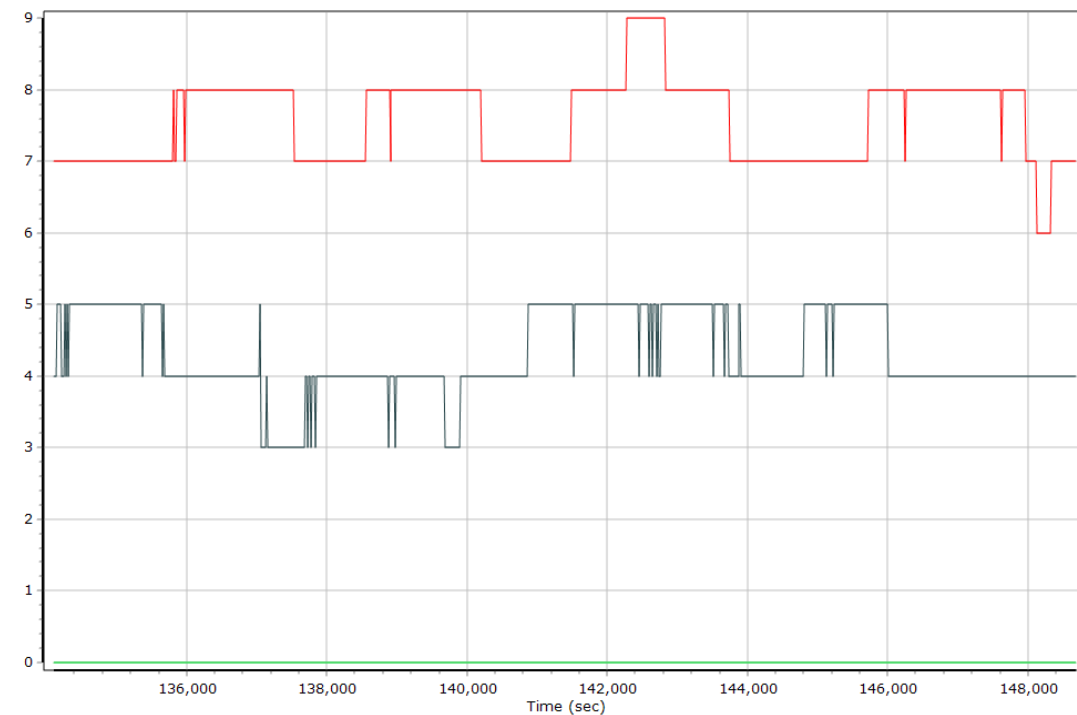
Smoothed Solution Status

Processing Mode



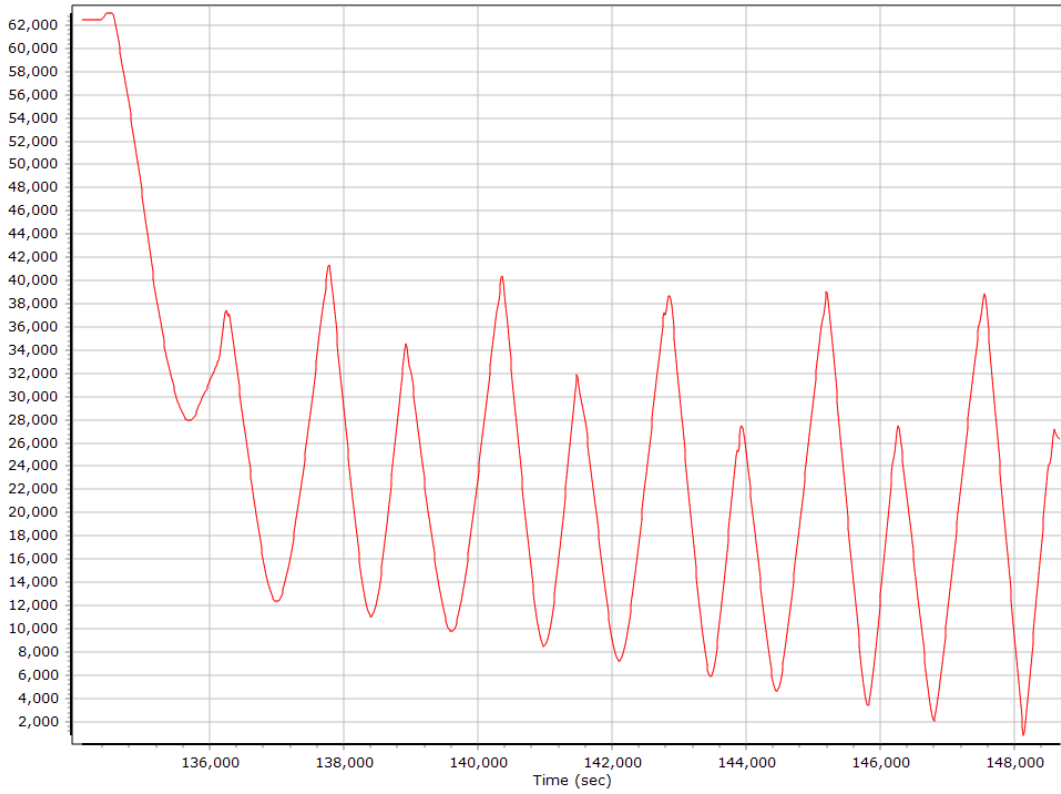
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites

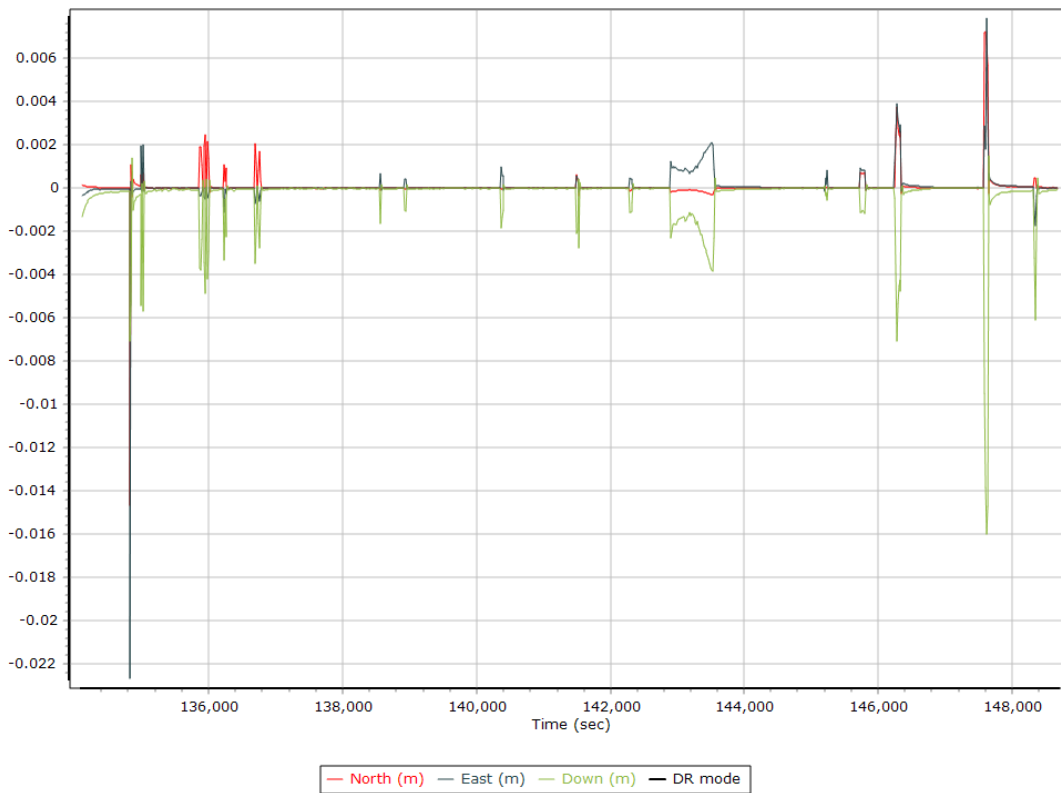


— Number of GPS Satellites — Number of GLONASS Satellites — Number of QZSS Satellites
— Number of BEIDOU Satellites — Number of GALILEO Satellites

Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	PTG19336B
Processing date	2019-12-12 17:14:08
Mission date	2019-12-02 18:52:38
Mission duration	03:40:47.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
PTG19336.042	POS Data
PTG19336.043	POS Data
PTG19336.044	POS Data
PTG19336.045	POS Data
PTG19336.046	POS Data
PTG19336.047	POS Data
PTG19336.048	POS Data
PTG19336.049	POS Data
PTG19336.050	POS Data
PTG19336.051	POS Data
PTG19336.052	POS Data
PTG19336.053	POS Data
PTG19336.054	POS Data
PTG19336.055	POS Data
PTG19336.056	POS Data
PTG19336.057	POS Data
PTG19336.058	POS Data
PTG19336.059	POS Data
PTG19336.060	POS Data
PTG19336.061	POS Data
PTG19336.062	POS Data
PTG19336.063	POS Data
PTG19336.064	POS Data
PTG19336.065	POS Data
PTG19336.066	POS Data
PTG19336.067	POS Data
PTG19336.068	POS Data
PTG19336.069	POS Data
PTG19336.070	POS Data
PTG19336.071	POS Data
PTG19336.072	POS Data
PTG19336.073	POS Data
PTG19336.074	POS Data

Input Files

File Name	File Type
Ephm3360.19g	GLONASS Broadcast Ephemeris
Ephm3360.19n	GPS Broadcast Ephemeris
gnvl_daily3360.19o	GNSS SingleBase
gnvl_daily3370.19o	GNSS SingleBase
lkcy_daily3360.19o	GNSS SingleBase
lkcy_daily3370.19o	GNSS SingleBase
prry_daily3360.19o	GNSS SingleBase
prry_daily3370.19o	GNSS SingleBase
xcty_daily3360.19o	GNSS SingleBase
xcty_daily3370.19o	GNSS SingleBase
Ephm3350.19g	GLONASS Broadcast Ephemeris
Ephm3350.19n	GPS Broadcast Ephemeris
Ephm3370.19g	GLONASS Broadcast Ephemeris
Ephm3370.19n	GPS Broadcast Ephemeris
igu20816_18.sp3	GPS Precise Ephemeris
igu20820_18.sp3	GPS Precise Ephemeris
igu20821_18.sp3	GPS Precise Ephemeris
igu20822_18.sp3	GPS Precise Ephemeris
igu20823_18.sp3	GPS Precise Ephemeris
flmd_daily3360.19o	GNSS SingleBase
flmd_daily3370.19o	GNSS SingleBase
ocla_daily3360.19o	GNSS SingleBase
ocla_daily3370.19o	GNSS SingleBase

Output Files

Filename	File type
sbet_PTG19336B.out	SBET Trajectory File

Rover Data Summary

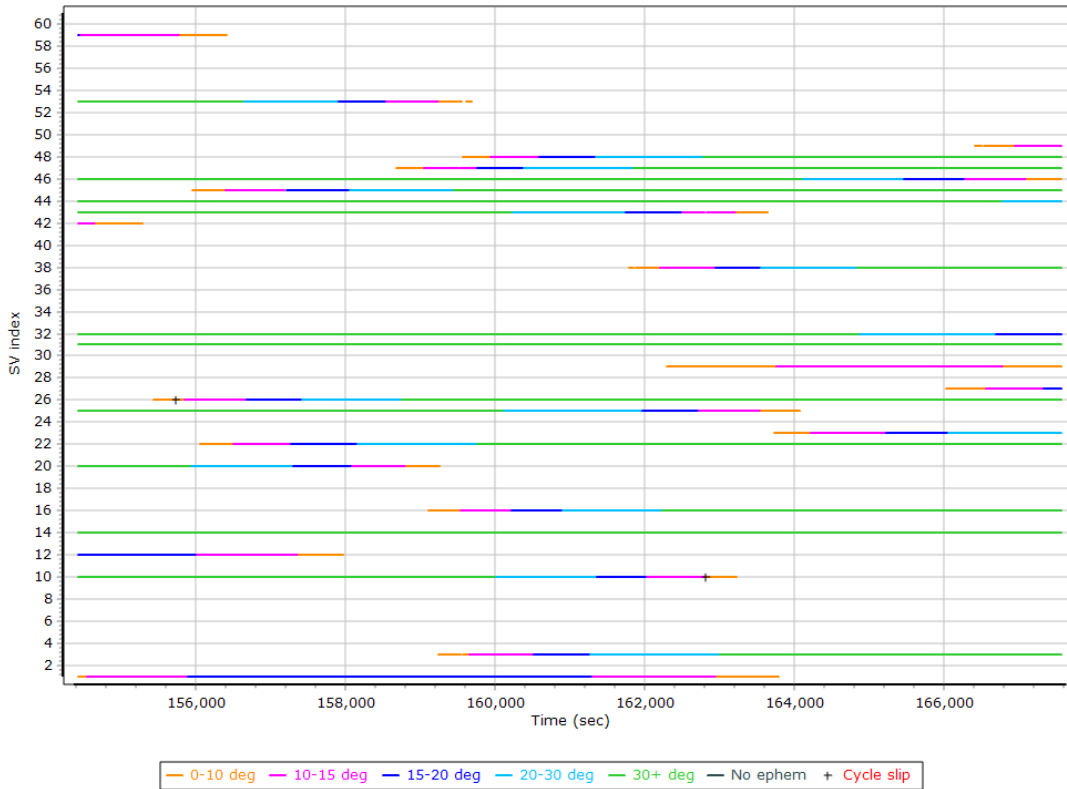
First raw data file	PTG19336.042		
Last raw data file	PTG19336.074		
Start GPS week	2082		
Start time	154339.575 (12/2/2019 6:52:19 PM)		
End time	167588.673 (12/2/2019 10:33:08 PM)		
Start of fine alignment	154359.245 (12/2/2019 6:52:39 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

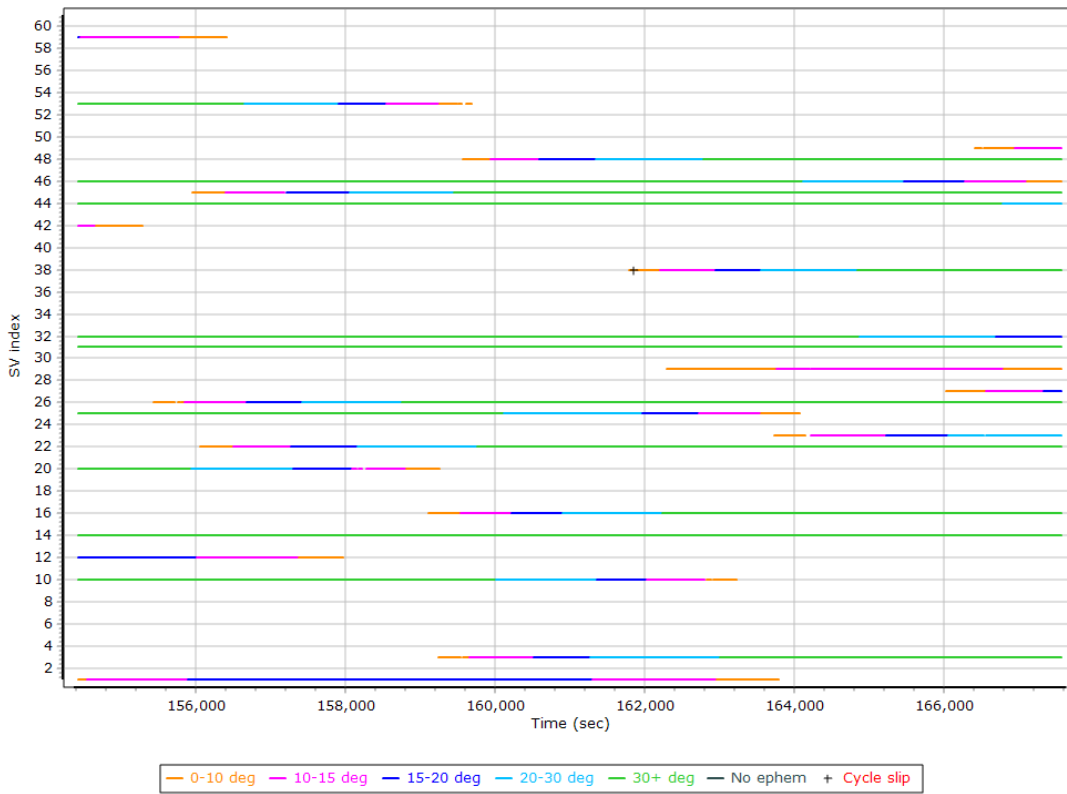
Raw IMU Import QC Summary

IMU data input file	imu_PTG19336B.dat
IMU data check log file	imudt_PTG19336B.log
IMU Records Processed	2649255
Termination Status	Normal
IMU Anomalies	0

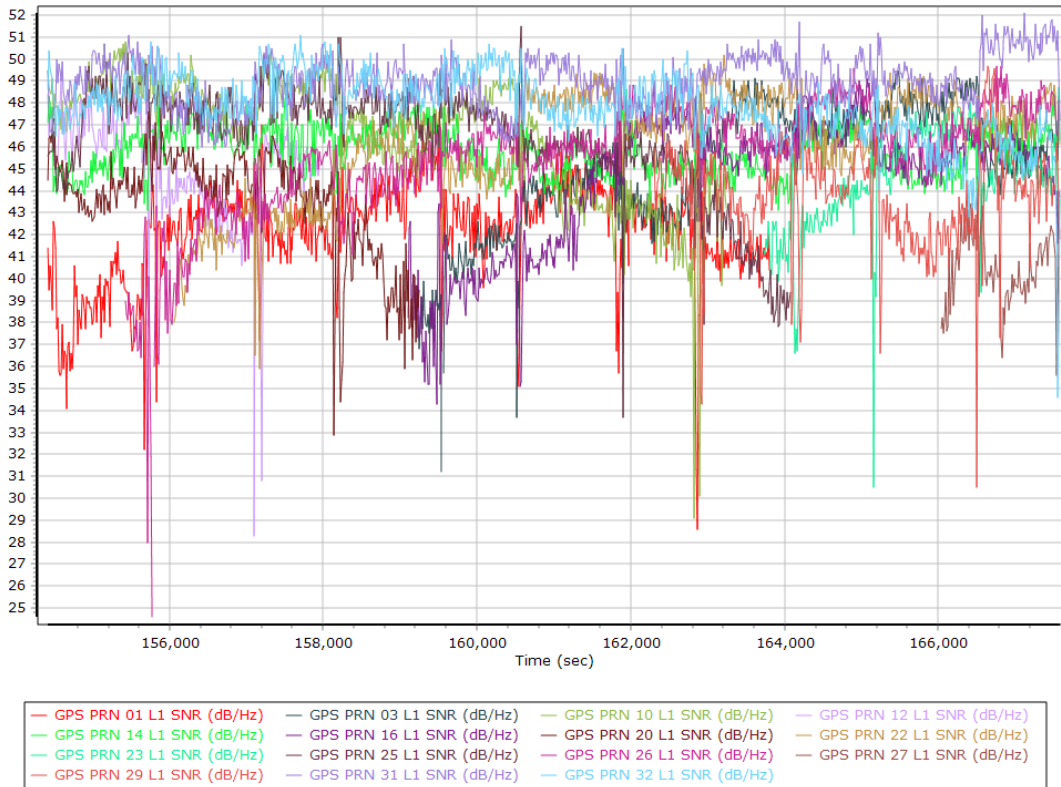
L1 Satellite Lock/Elevation



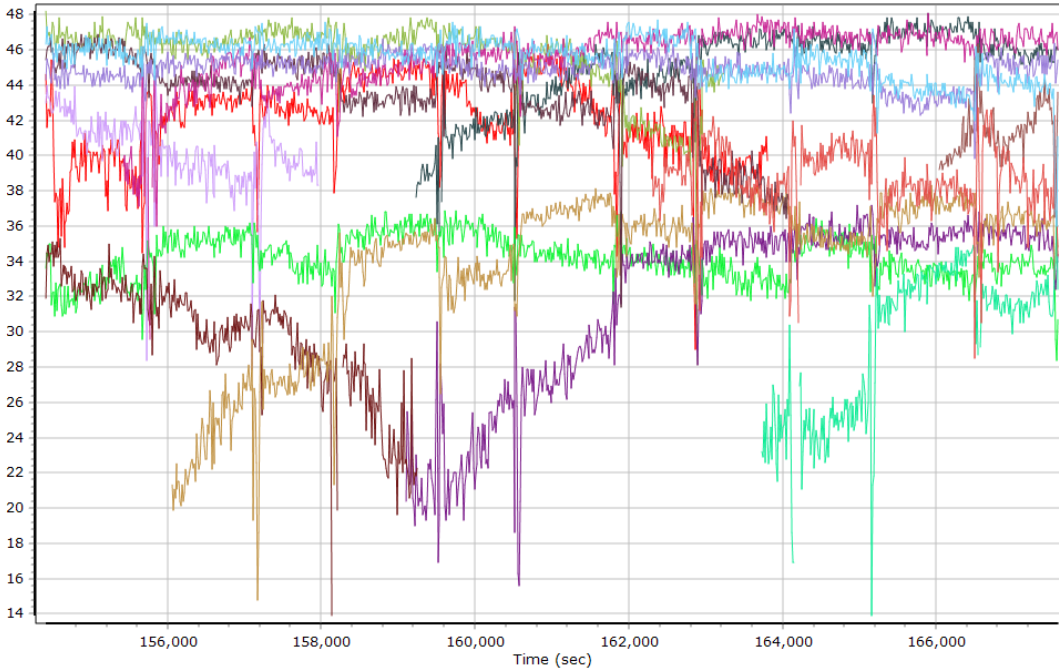
L2 Satellite Lock/Elevation



GPS L1 SNR

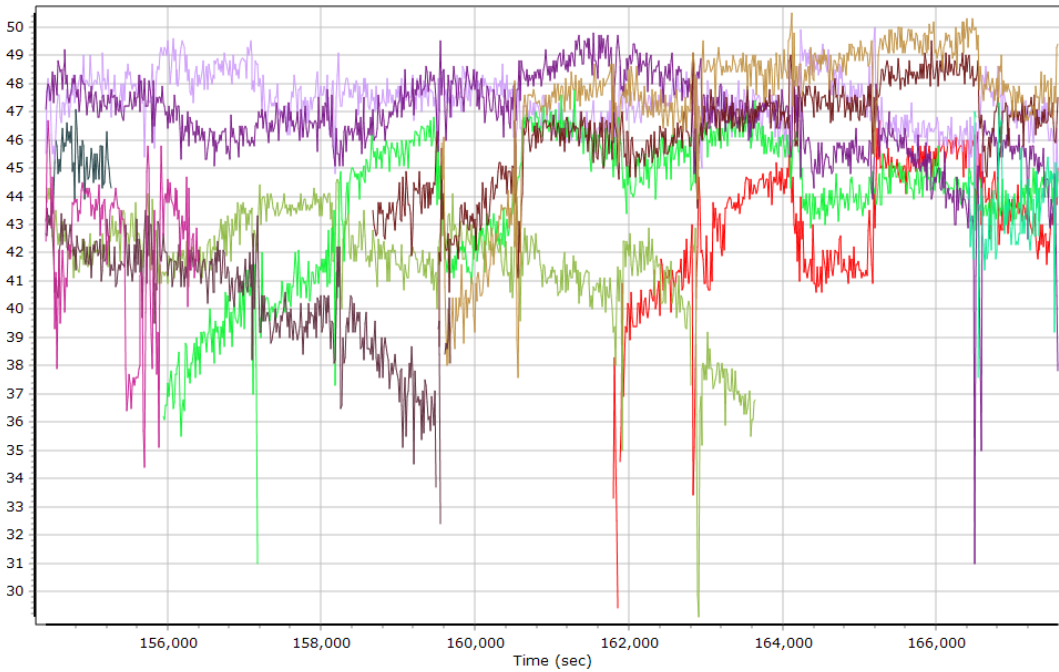


GPS L2 SNR



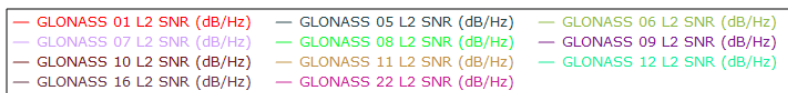
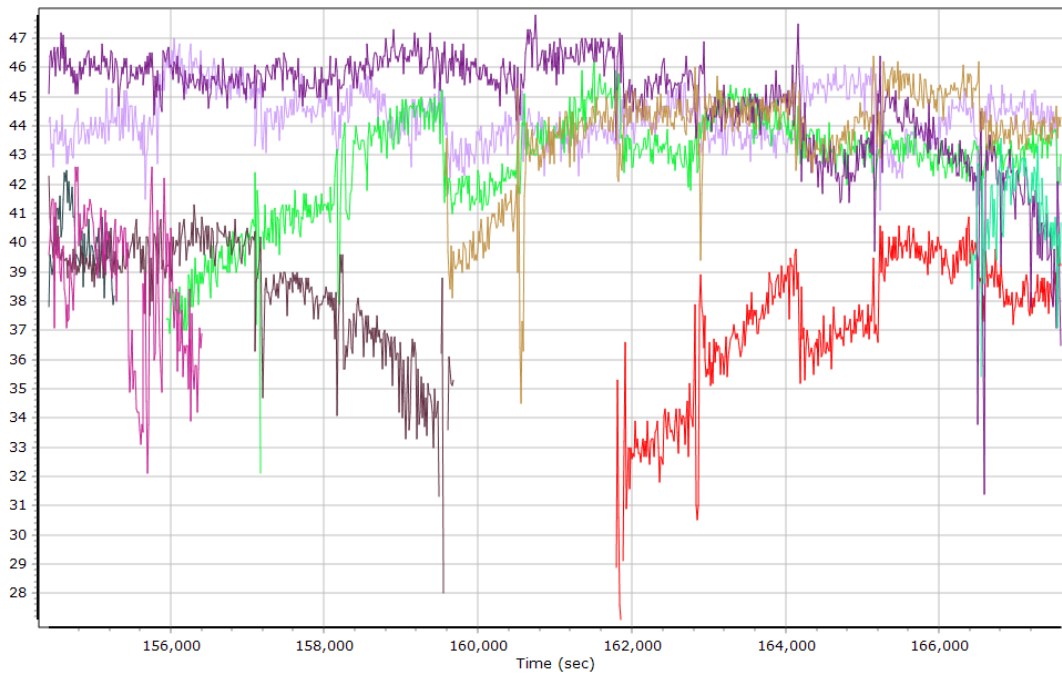
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 03 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 12 L2 SNR (dB/Hz) |
| GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 16 L2 SNR (dB/Hz) | GPS PRN 20 L2 SNR (dB/Hz) | GPS PRN 22 L2 SNR (dB/Hz) |
| GPS PRN 23 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 26 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) |
| GPS PRN 29 L2 SNR (dB/Hz) | GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) | |

GLONASS L1 SNR

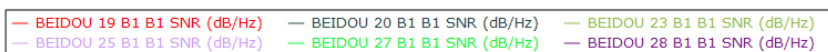
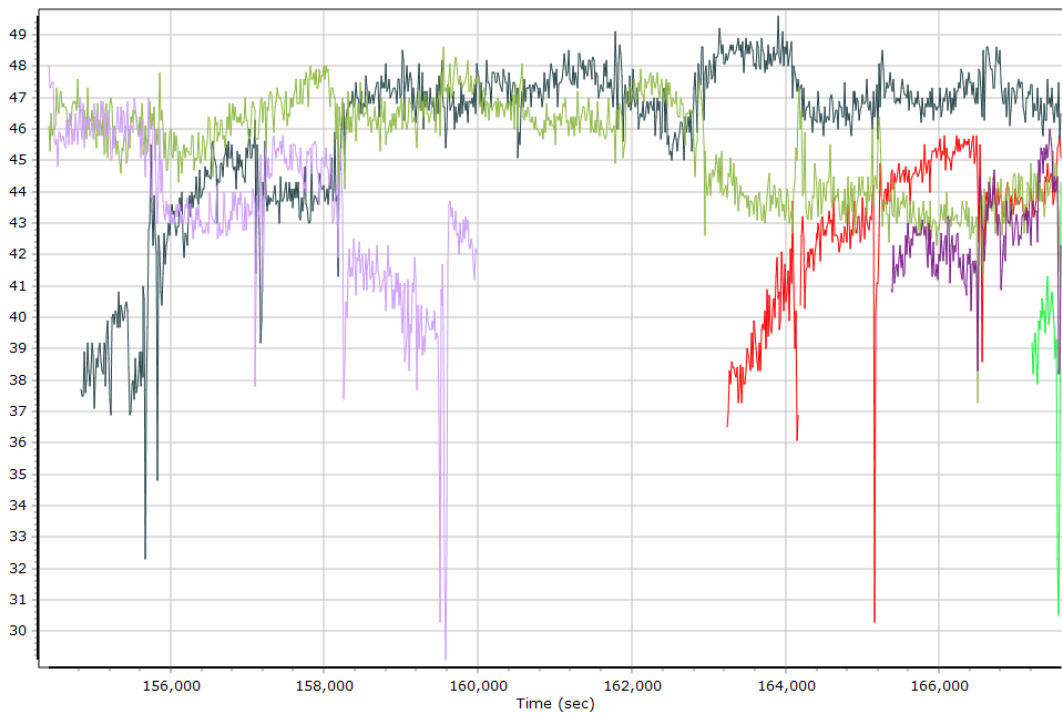


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) |
| GLONASS 07 L1 SNR (dB/Hz) | GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) |
| GLONASS 10 L1 SNR (dB/Hz) | GLONASS 11 L1 SNR (dB/Hz) | GLONASS 12 L1 SNR (dB/Hz) |
| GLONASS 16 L1 SNR (dB/Hz) | GLONASS 22 L1 SNR (dB/Hz) | |

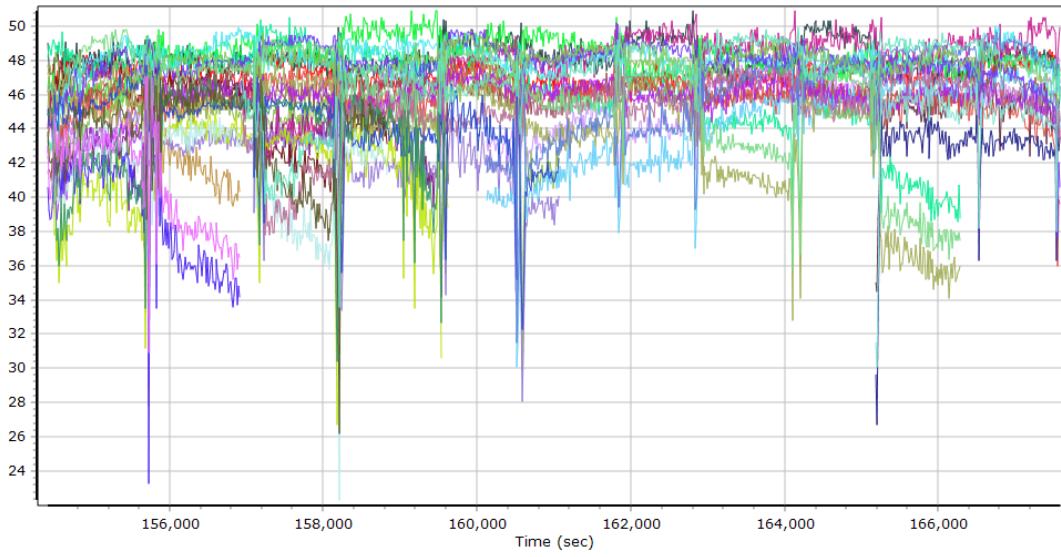
GLONASS L2 SNR



BEIDOU SNR



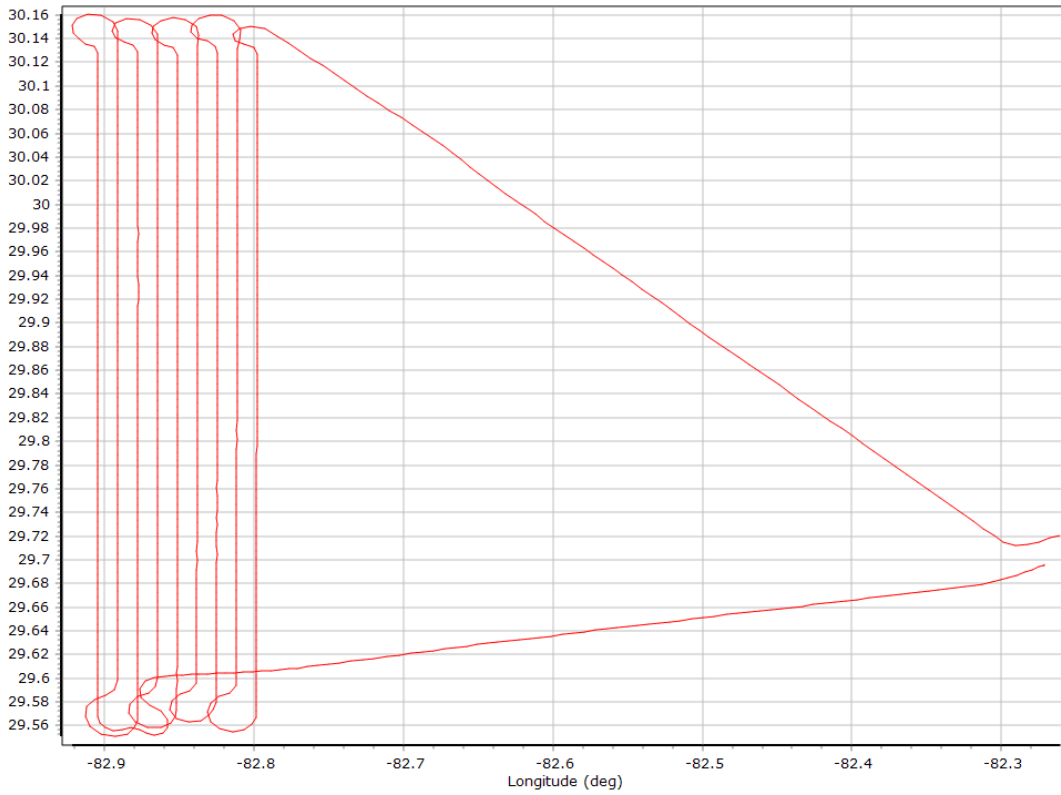
GALILEO SNR



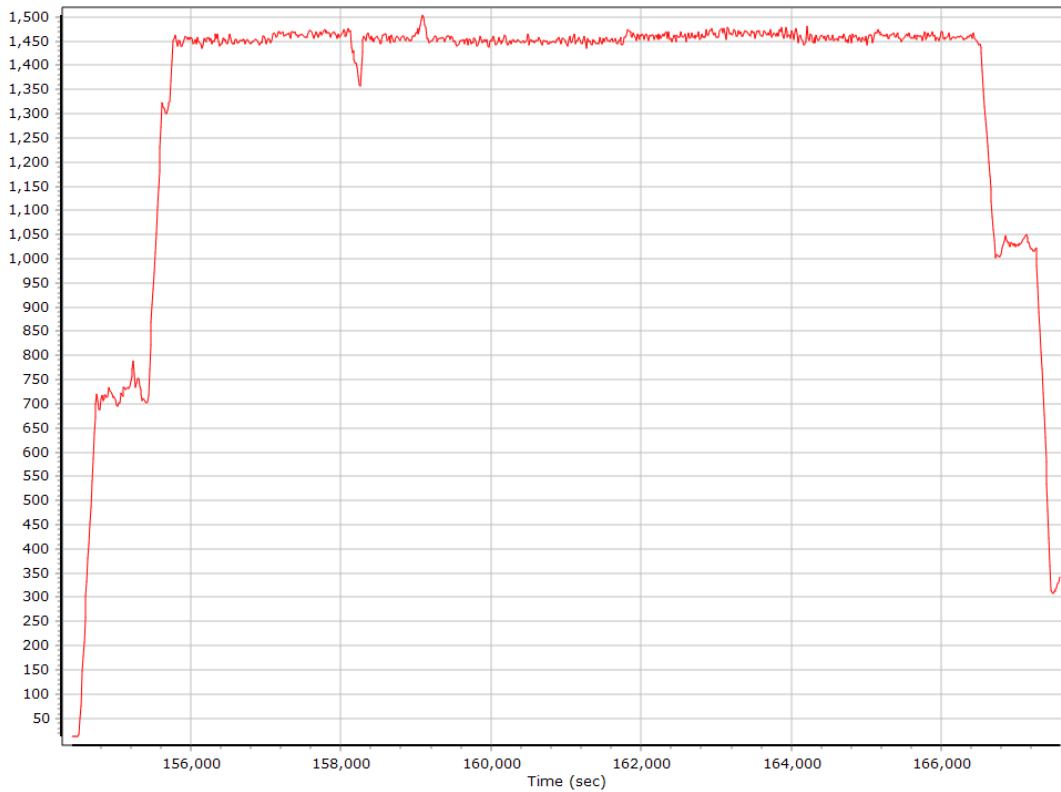
- | | |
|--|--|
| — GALILEO 02 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 15 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 27 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 30 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 02 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 03 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 05 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 07 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 08 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 13 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 15 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 24 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 25 E5B BPSK10_PD SNR (dB/Hz) |

Trajectory Information

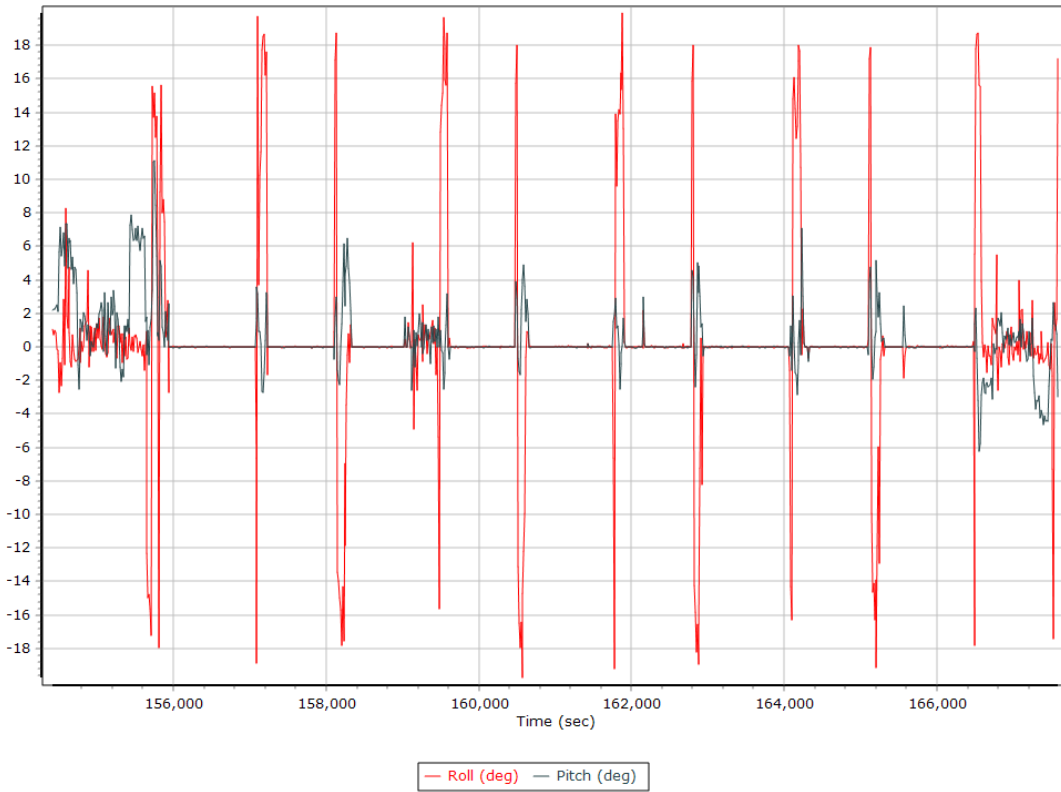
Top View



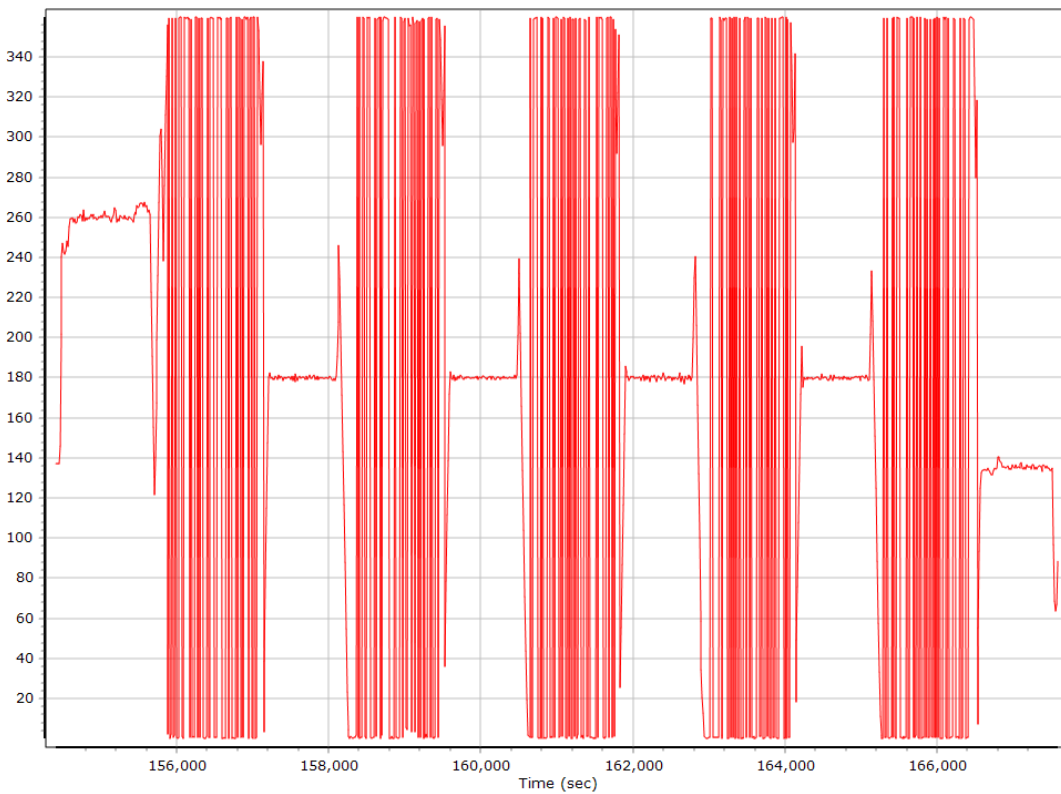
Altitude



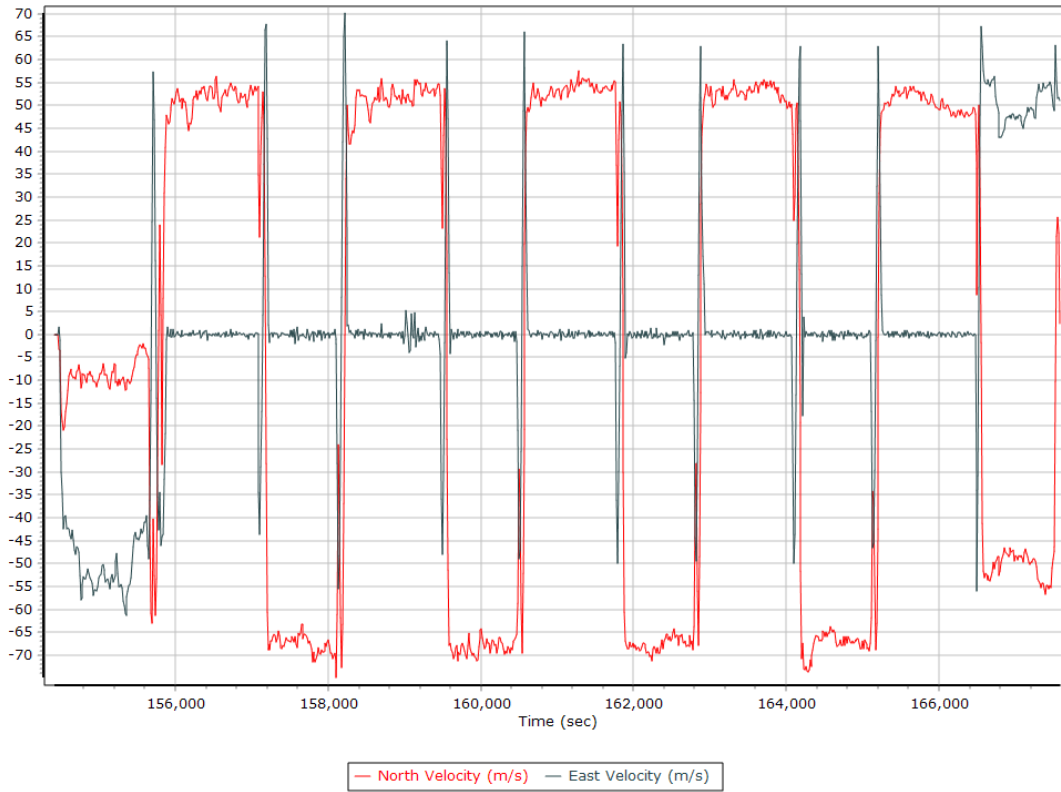
Roll/Pitch



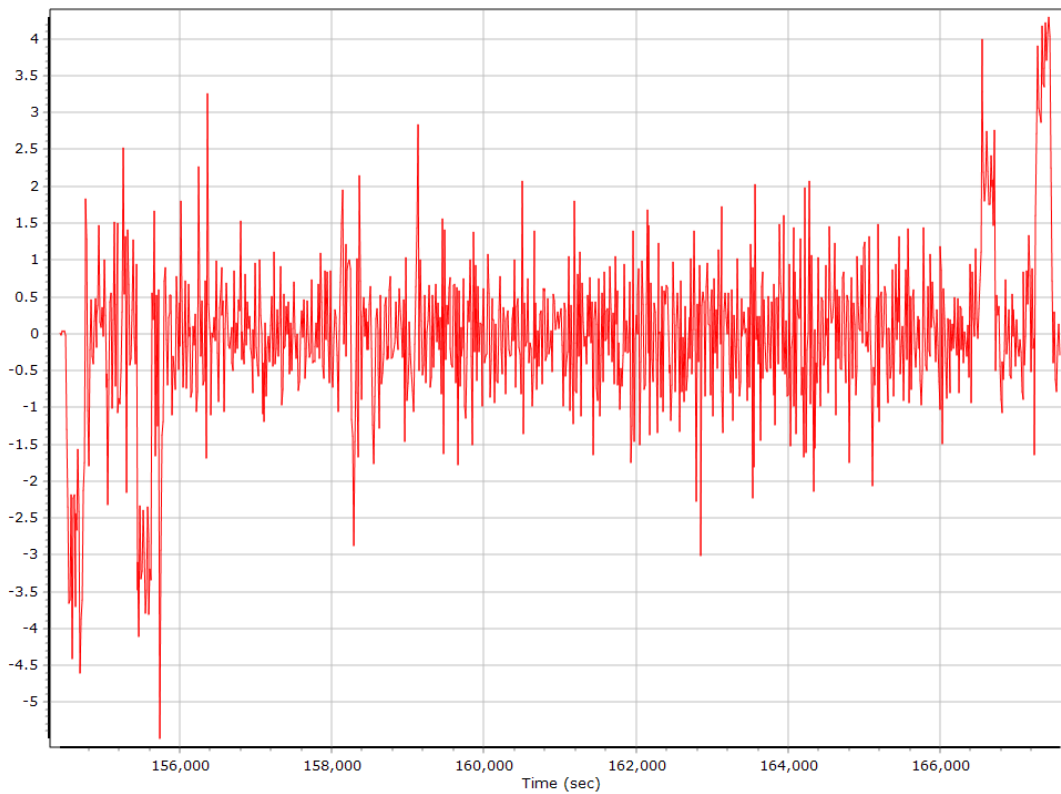
Heading



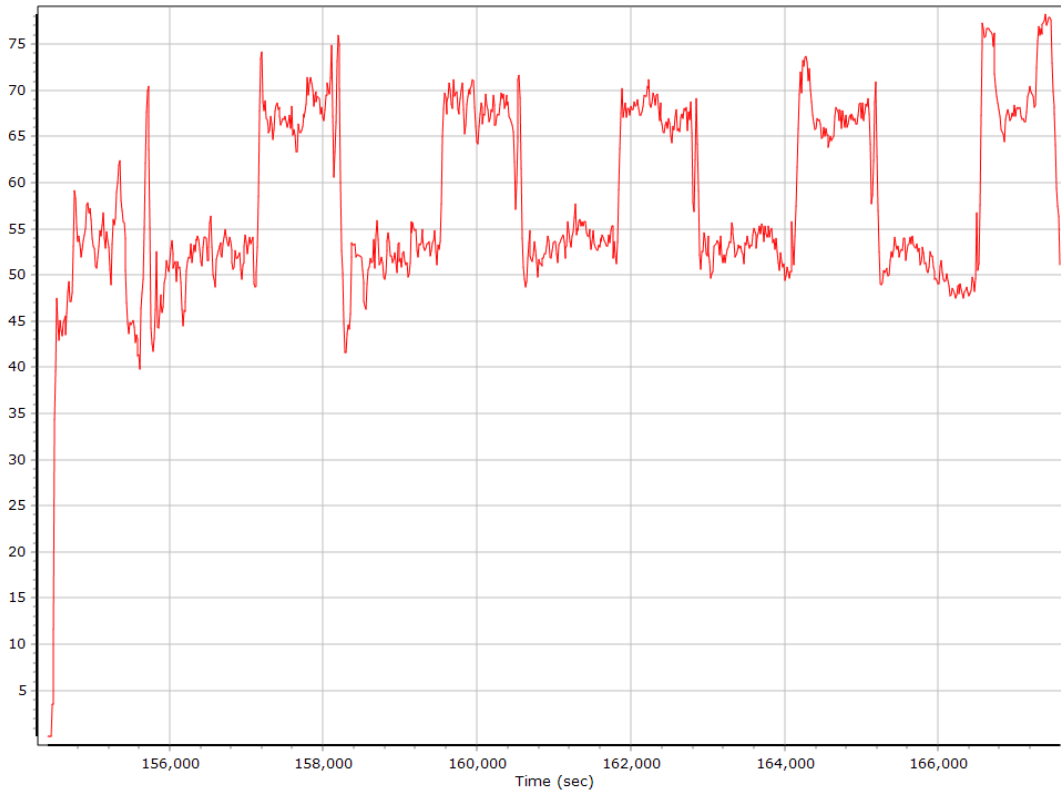
North/East Velocity



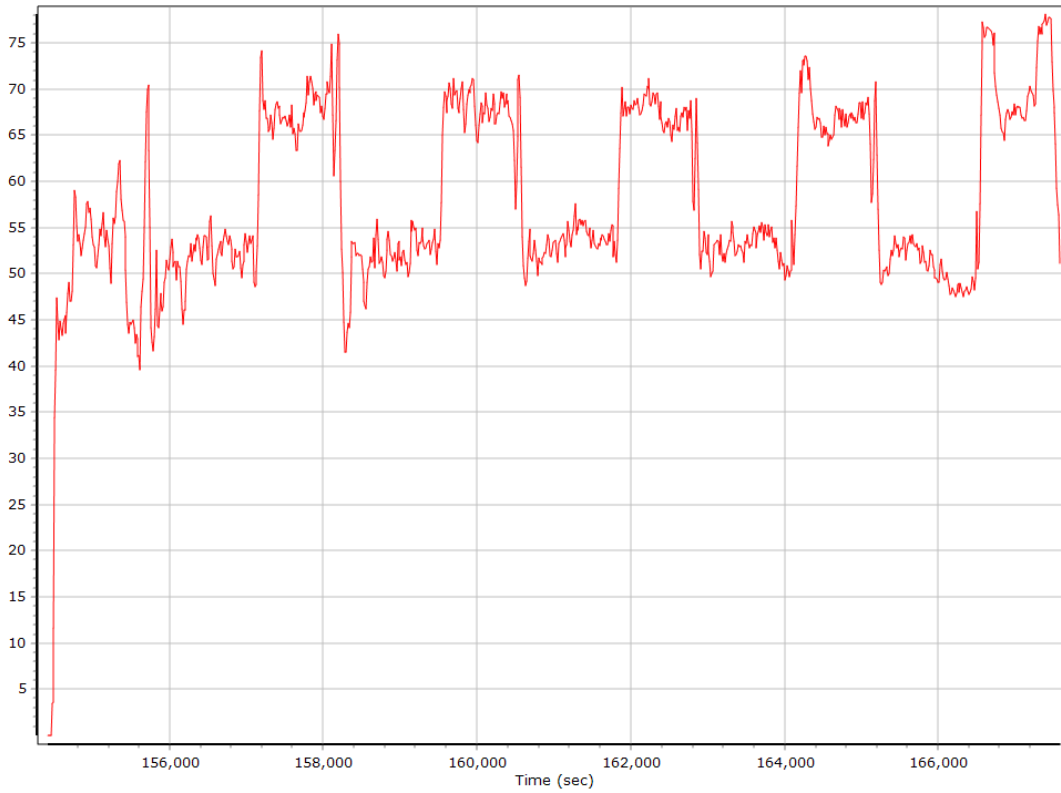
Down Velocity



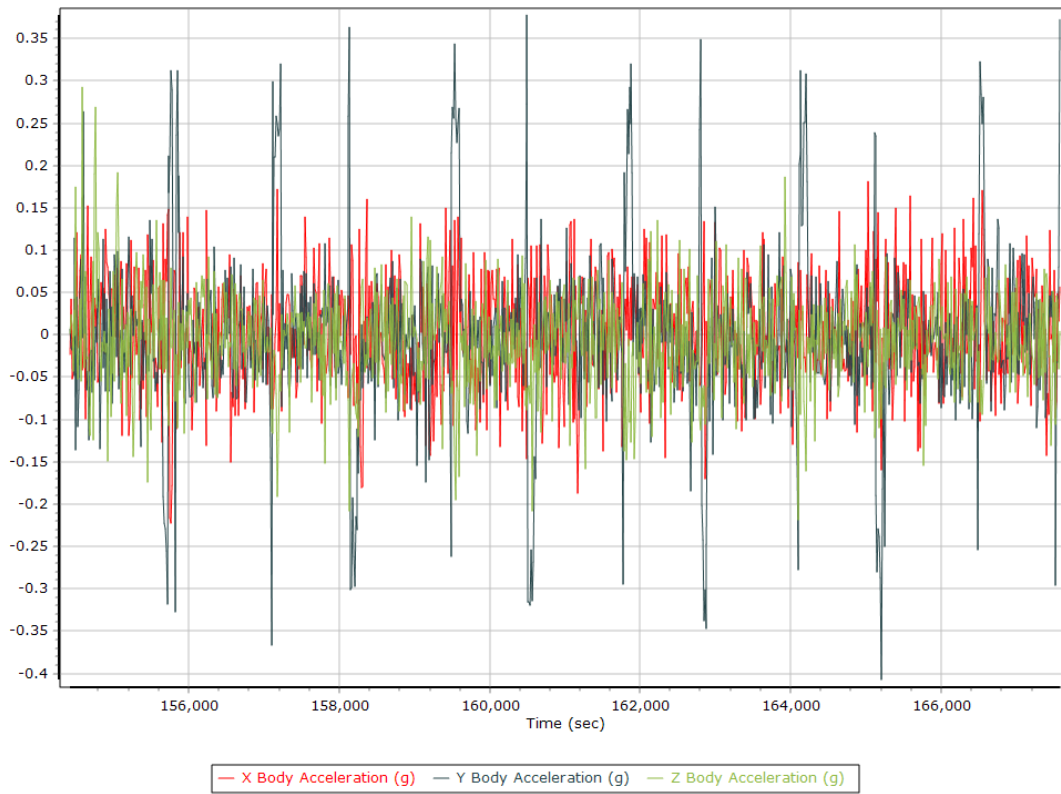
Total Speed



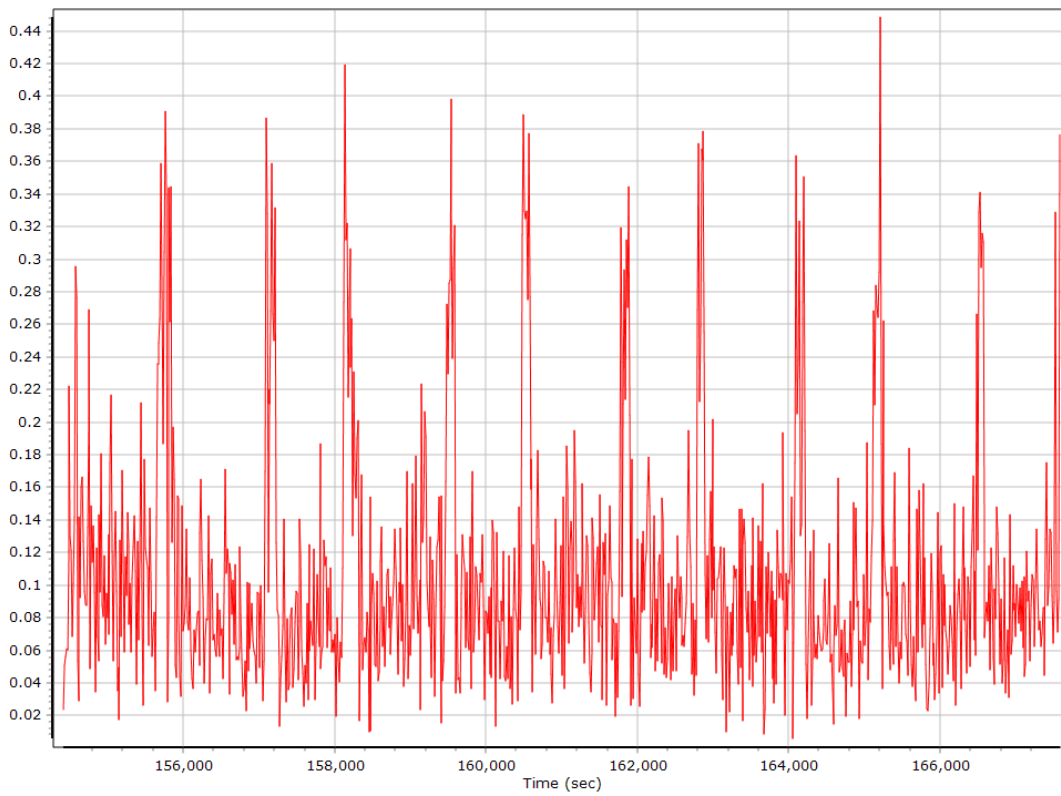
Ground Speed



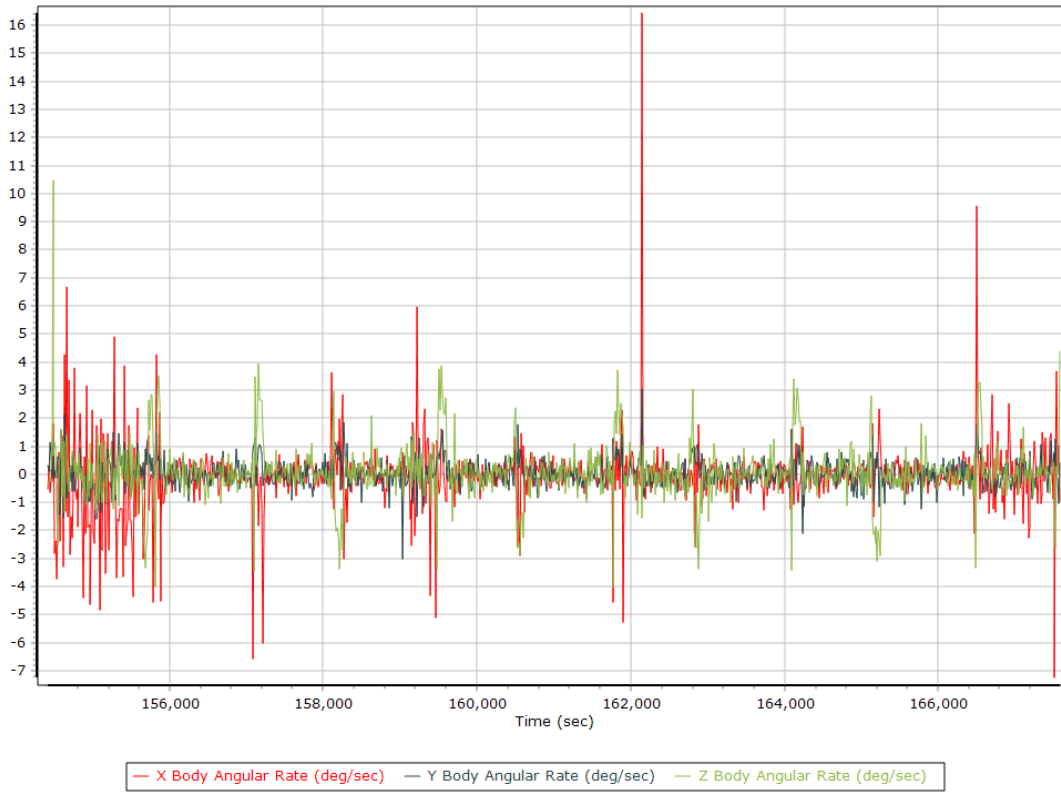
Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/02/2019	OCLA	98.89	GNSS	1	User	None	Imported
12/02/2019	FLMD	75.37	GNSS	1	User	None	Imported
12/02/2019	XCTY	37.88	GNSS	1	User	None	Imported
12/02/2019	PRRY	79.76	GNSS	1	User	None	Imported
12/02/2019	LKCY	44.03	GNSS	1	User	None	Imported
12/02/2019	GNVL	52.94	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	XCTY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	13247 s (2082 154358 - 2082 167605)
Number of reference stations	6
Primary station GPS measurement usage (%)	99.7
Primary station GLONASS measurement usage (%)	69.0
Average number of satellites per epoch	12.9
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	23571
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - OCLA

Status	OK	SBQI	0	
Duration (Hours)	21.59	Output Coordinates	Original	
Solution Epochs	5181	Mean Epoch SVs	7.7	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°10'54.46980"	W82°06'15.28619"	17.715
Adjusted		N29°10'54.46968"	W82°06'15.28635"	17.726
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.006	0.011	0.012

Base Station Information

Station ID	OCLA		
Filename	ocla_daily3360.19o, ocla_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMD

Status	OK	SBQI	0	
Duration (Hours)	21.55	Output Coordinates	Original	
Solution Epochs	5172	Mean Epoch SVs	8.0	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°22'26.47817"	W83°16'31.72158"	0.095
Adjusted		N30°22'26.47788"	W83°16'31.72144"	0.131
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.010	0.037	0.038

Base Station Information

Station ID	FLMD		
Filename	flmd_daily3360.19o, flmd_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701993
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°22'26.47817"		
Longitude	W83°16'31.72158"		
Ellipsoidal height (m)	0.09500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - XCTY

Status	OK	SBQI	0	
Duration (Hours)	21.10	Output Coordinates	Original	
Solution Epochs	5064	Mean Epoch SVs	8.1	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°37'51.61276"	W83°06'29.33653"	13.808
Adjusted		N29°37'51.61251"	W83°06'29.33640"	13.800
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.009	0.008	0.012

Base Station Information

Station ID	XCTY		
Filename	xcty_daily3360.19o, xcty_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80800		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PRRY

Status	OK	SBQI	0	
Duration (Hours)	20.62	Output Coordinates	Original	
Solution Epochs	4948	Mean Epoch SVs	5.0	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°04'40.11938"	W83°34'28.60872"	12.936
Adjusted		N30°04'40.11896"	W83°34'28.60802"	12.951
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.023	0.015	0.027

Base Station Information

Station ID	PRRY		
Filename	prry_daily3360.19o, prry_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702545
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°04'40.11938"		
Longitude	W83°34'28.60872"		
Ellipsoidal height (m)	-12.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LKCY

Status	OK	SBQI	0
Duration (Hours)	21.45	Output Coordinates	Original
Solution Epochs	5148	Mean Epoch SVs	8.1
Base Station Coordinates	Latitude	Longitude	Height (m)
Original	N30°11'07.49182"	W82°34'39.14410"	35.193
Adjusted	N30°11'07.49174"	W82°34'39.14390"	35.210
Coordinate Adjustments	Horizontal (m)	Vertical (m)	Total (m)
Adjustments	0.006	0.017	0.018

Base Station Information

Station ID	LKCY		
Filename	lkcy_daily3360.19o, lkcy_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	CONTROL	SBQI	0
Duration (Hours)	21.59	Output Coordinates	Control
Solution Epochs	5181	Mean Epoch SVs	8.1
Base Station Coordinates	Latitude	Longitude	Height (m)
Original	N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted	N29°41'11.55697"	W82°16'36.73521"	23.936
Coordinate Adjustments	Horizontal (m)	Vertical (m)	Total (m)
Adjustments	0.000	0.000	0.000

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3360.19o, gnvl_daily3370.19o		
Start date	12/2/2019 4:00:00 AM		
End date	12/3/2019 1:44:59 AM		
Duration	21:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.24	53.14	
Number of GPS SV	7	10	9
Number of GLONASS SV	0	5	4
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	8	15	13
PDOP	1.27	2.14	1.62
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	13196.00	0.00	1.00
Percentage	99.99	0.00	0.01

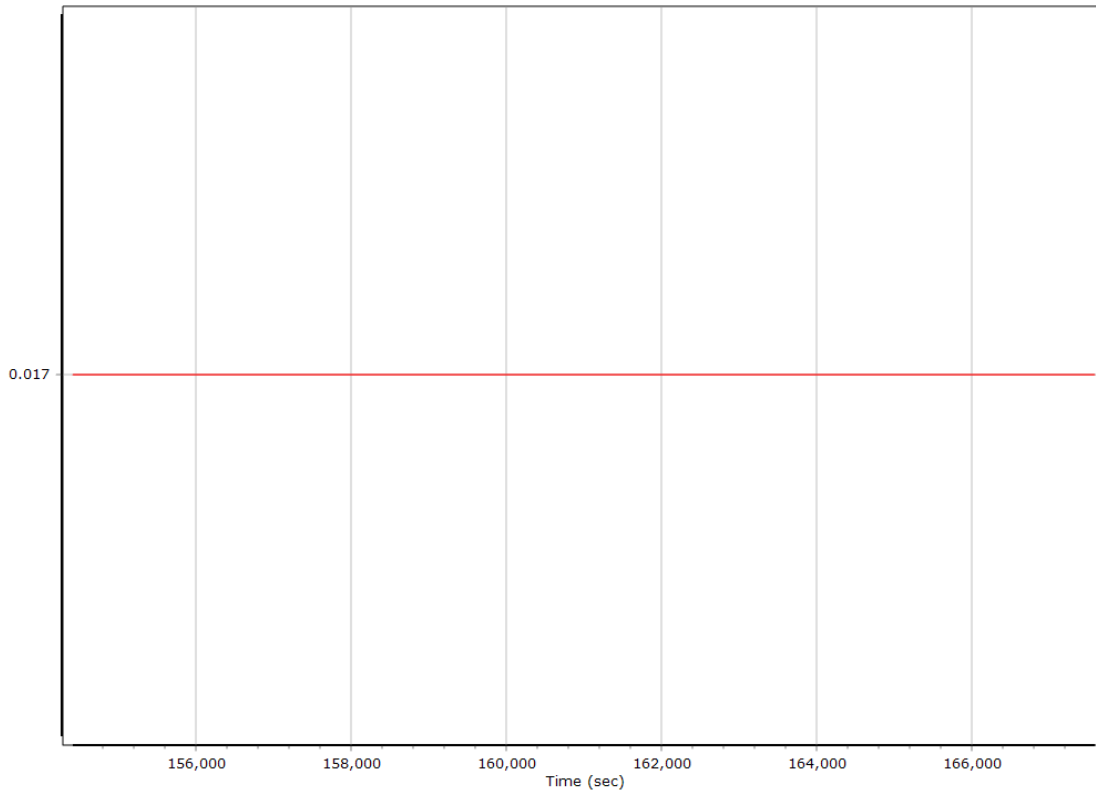
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	154340.000 (12/2/2019 6:52:20 PM)		
Processing end time	167587.000 (12/2/2019 10:33:07 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

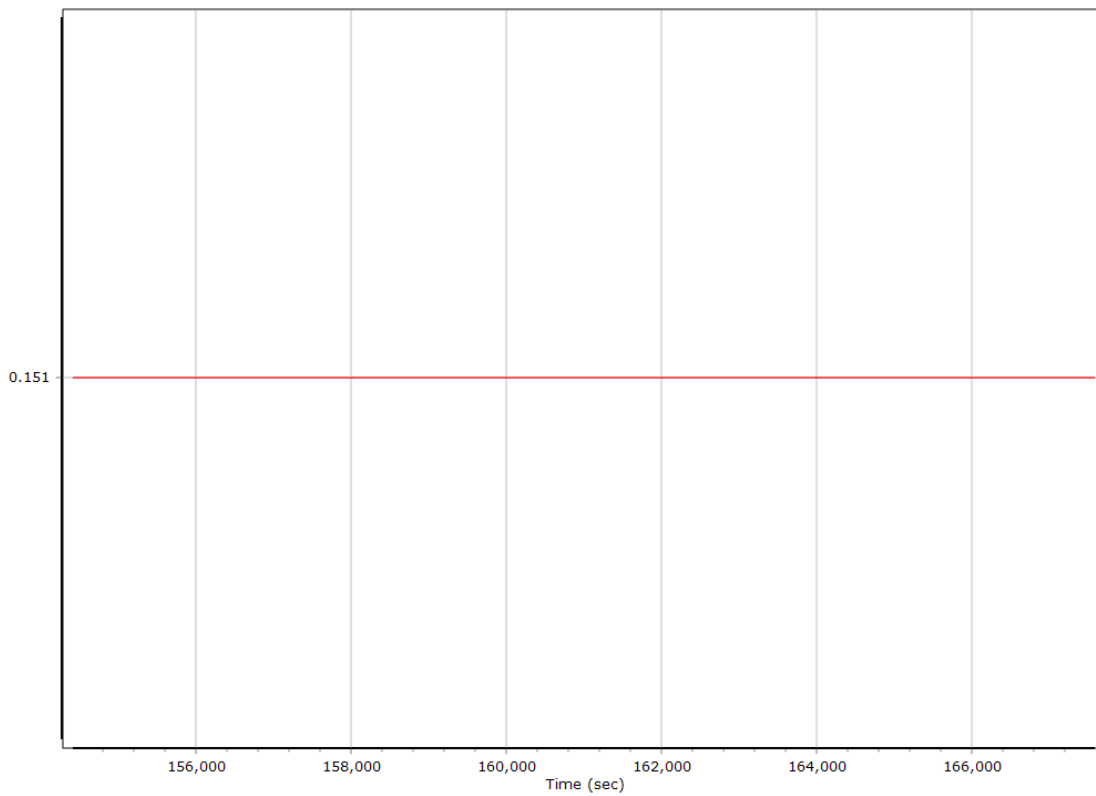
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

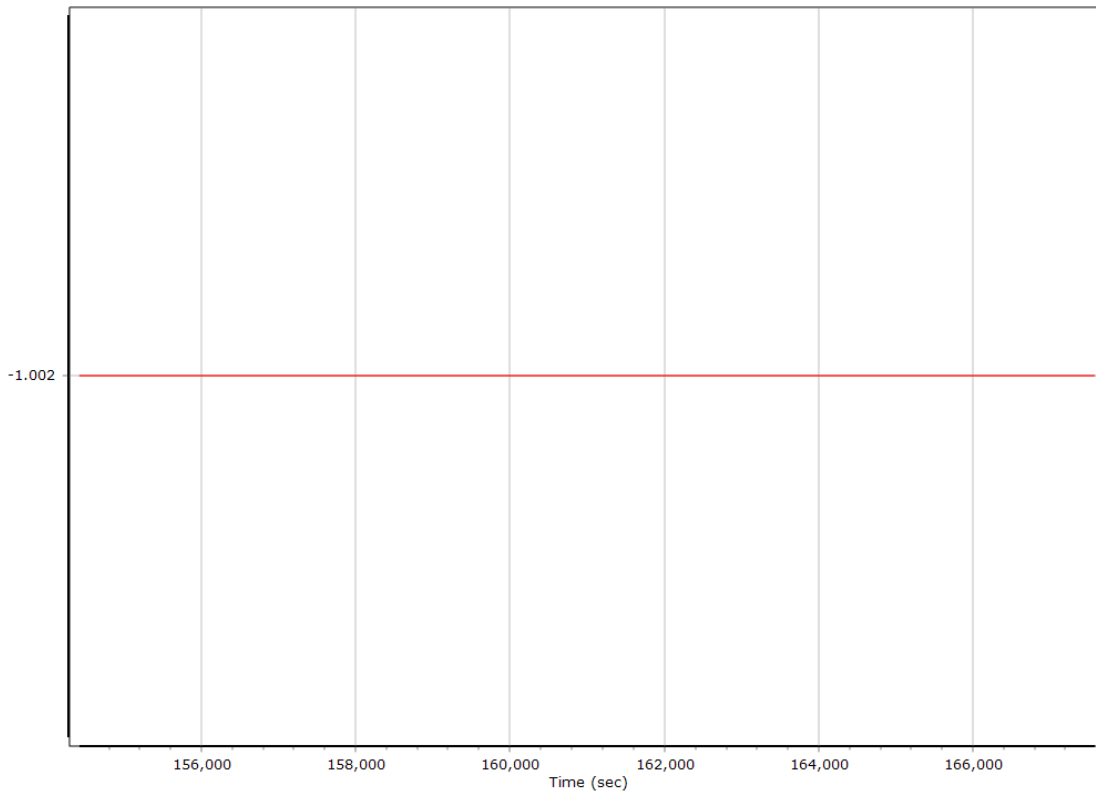
X Reference-Primary GNSS Lever Arm (m)



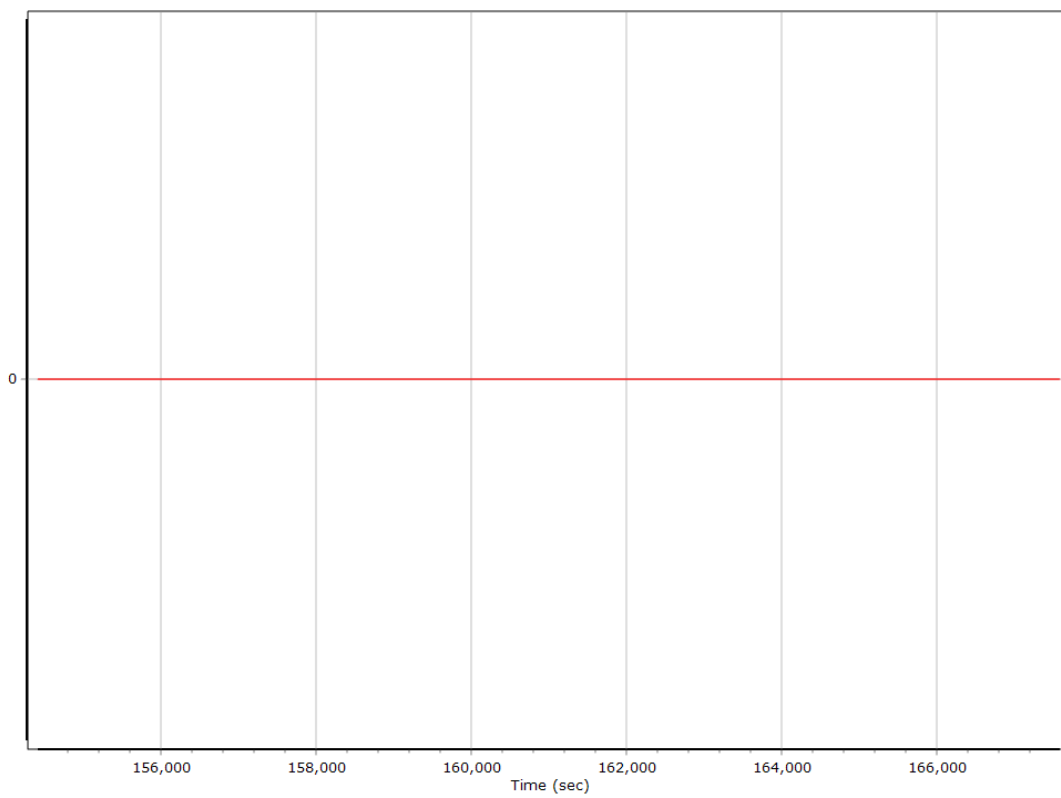
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



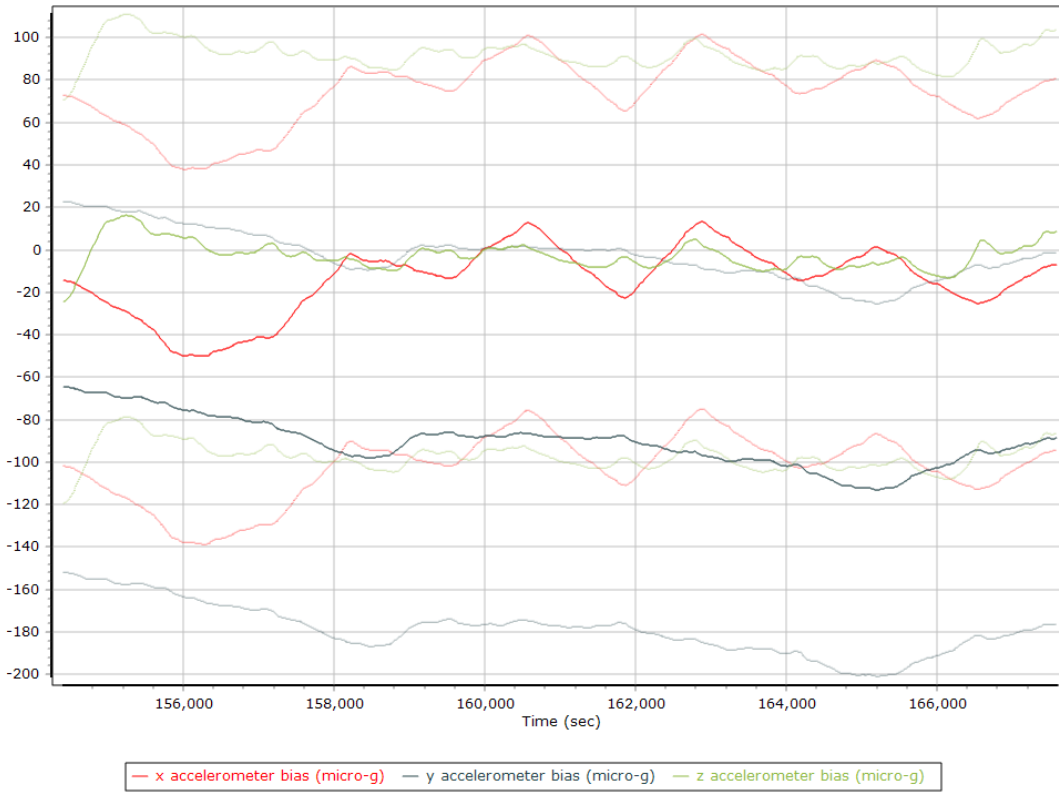
Reference-Primary GNSS Lever Arm Figure of Merit



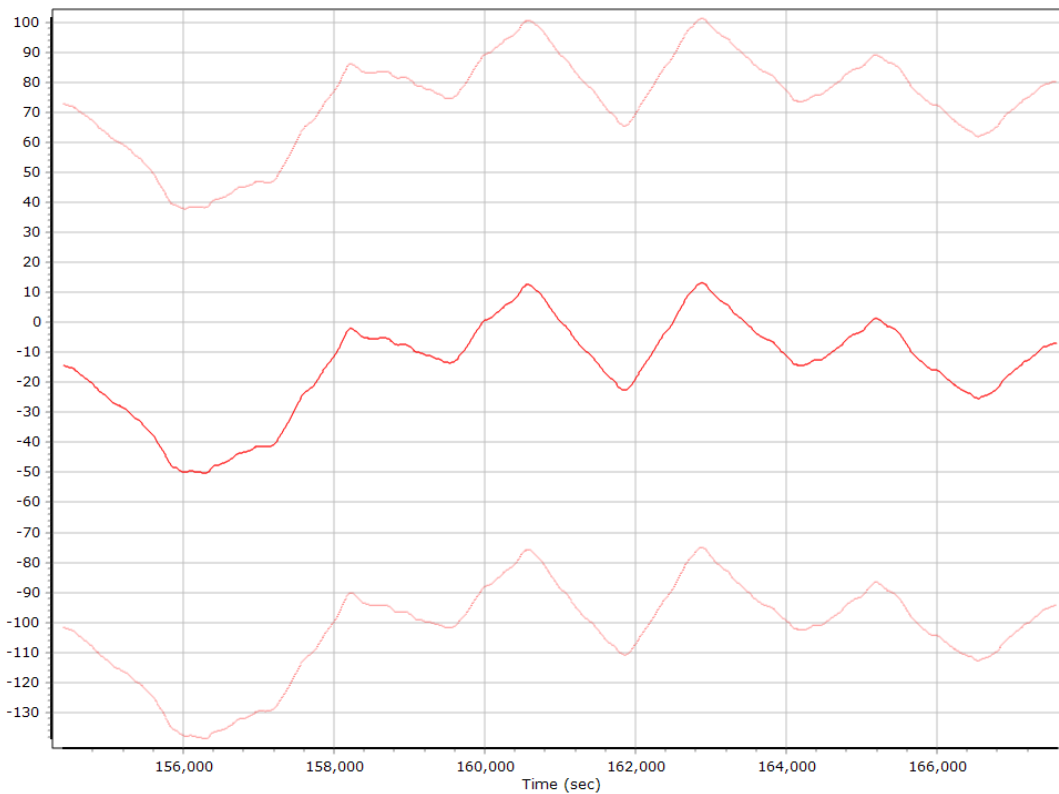
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

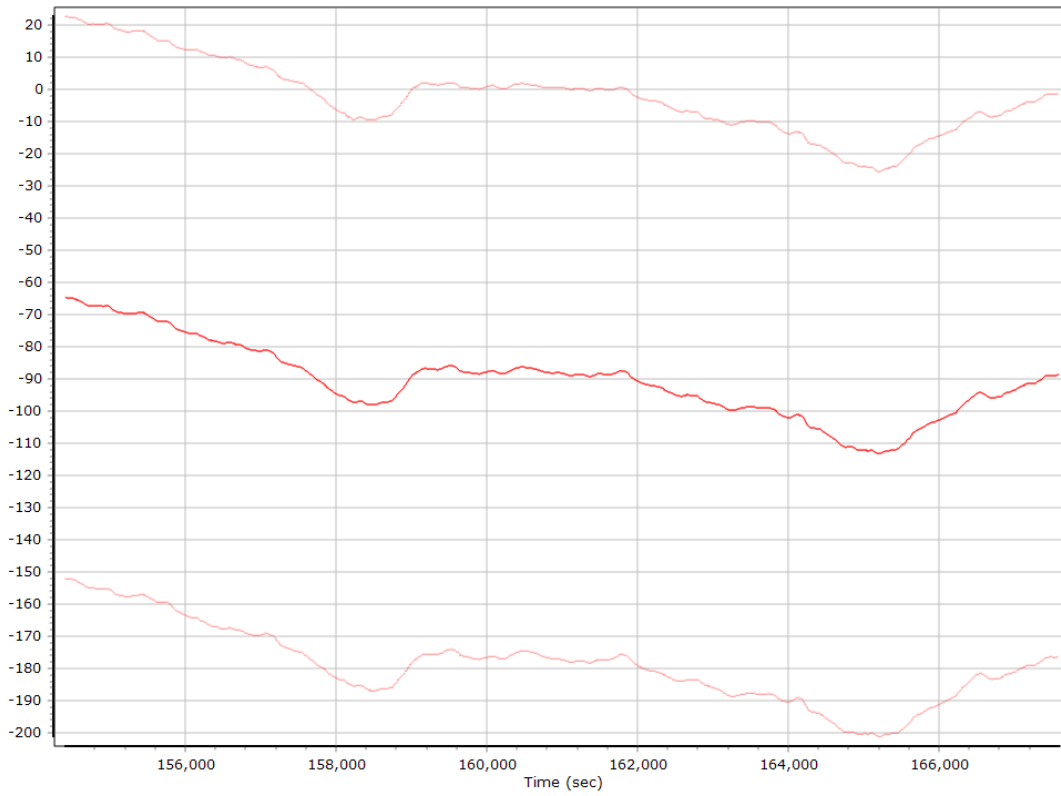
Accelerometer Bias (micro-g)



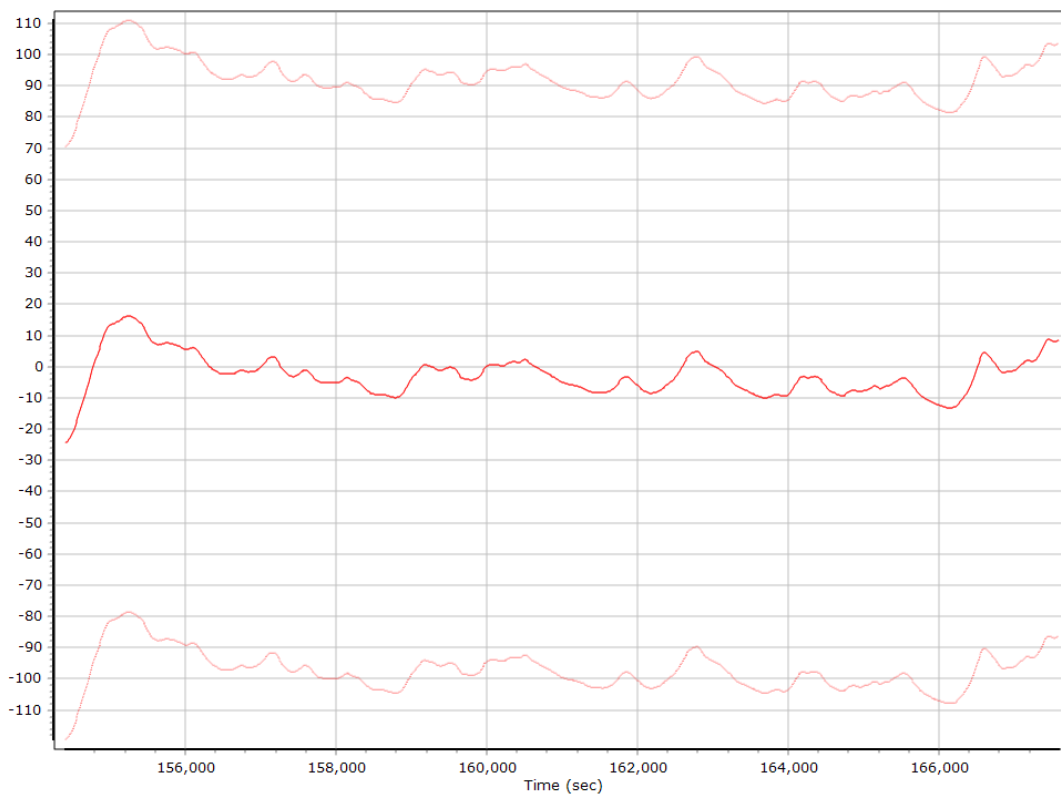
X Accelerometer Bias (micro-g)



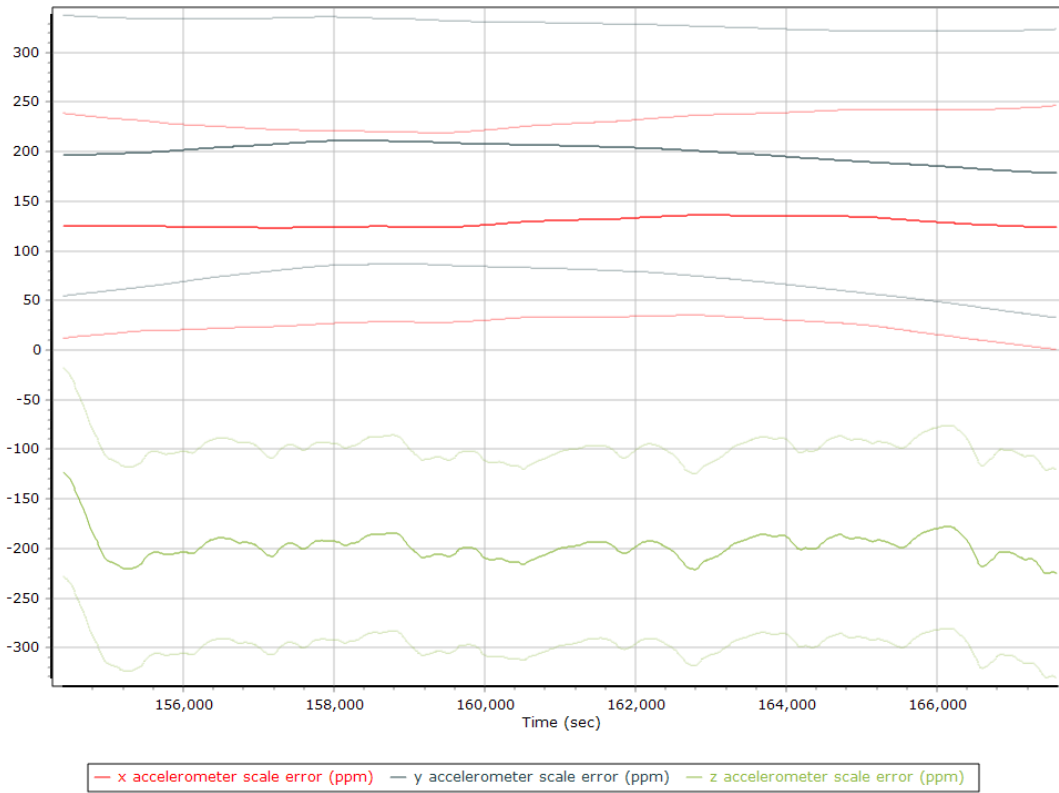
Y Accelerometer Bias (micro-g)



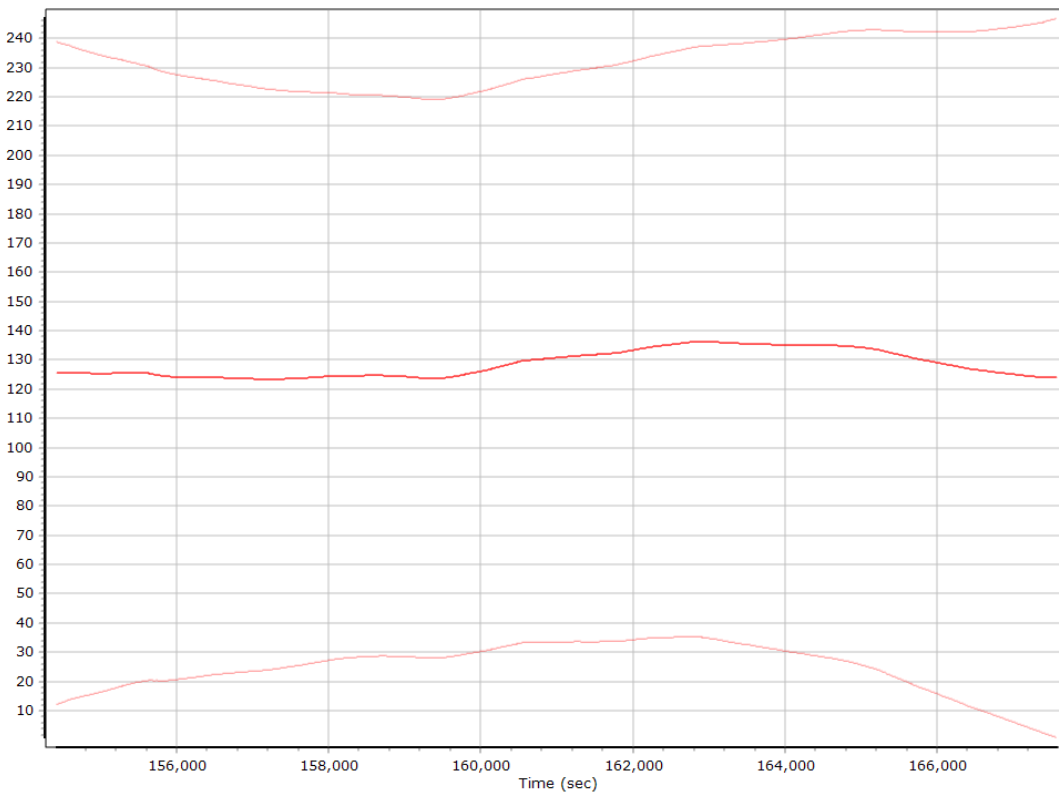
Z Accelerometer Bias (micro-g)



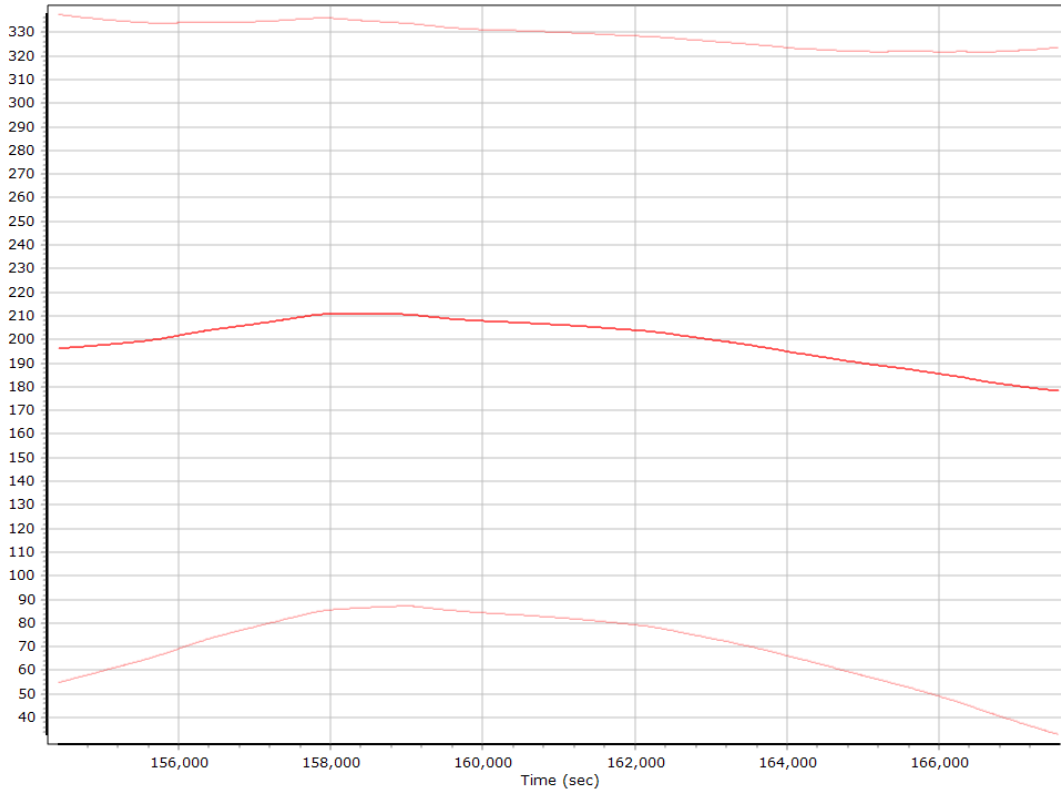
Accelerometer Scale Error (ppm)



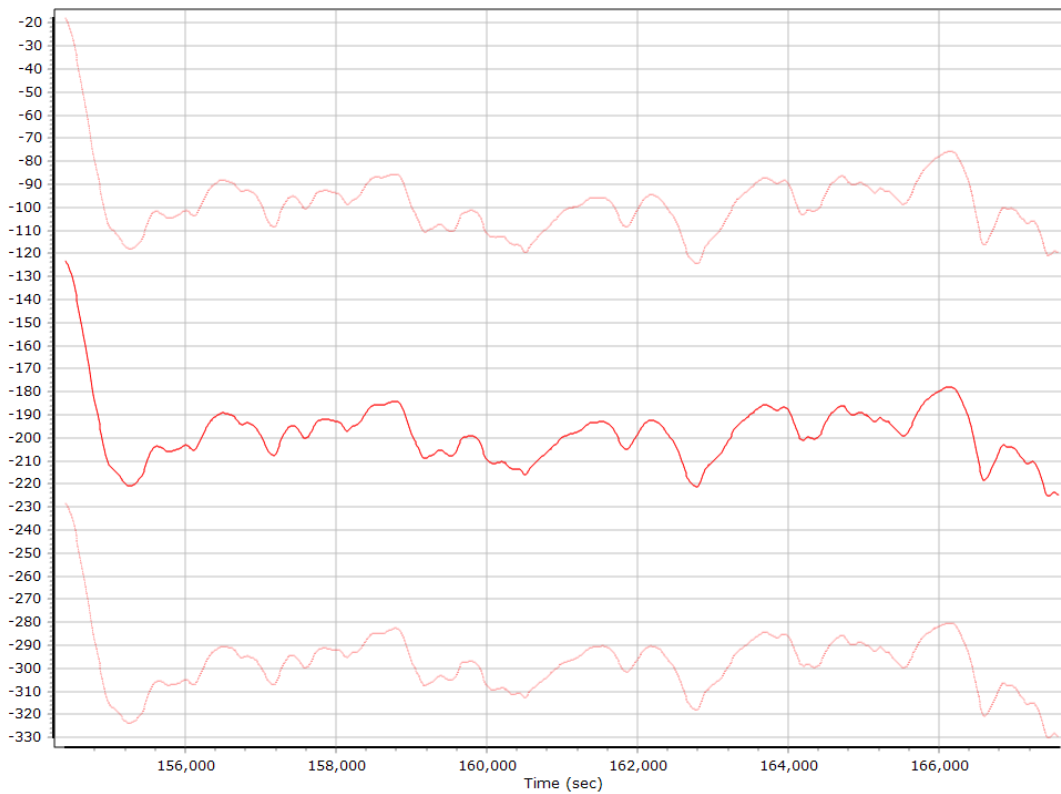
X Accelerometer Scale Error (ppm)



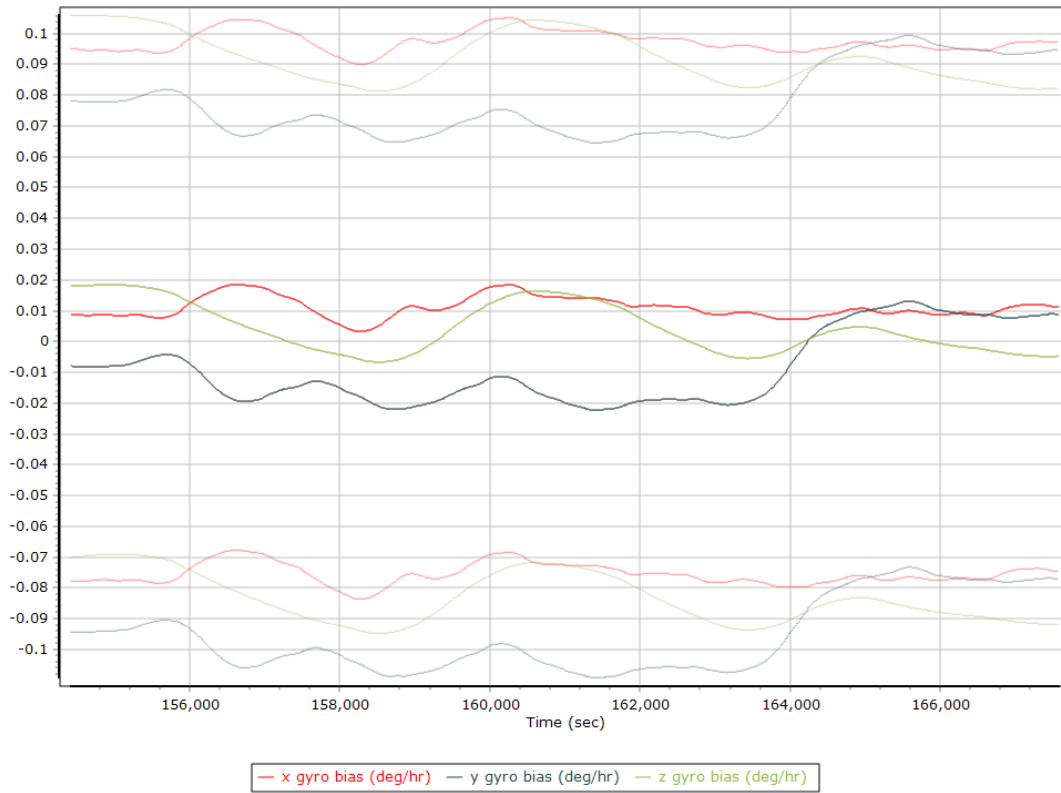
Y Accelerometer Scale Error (ppm)



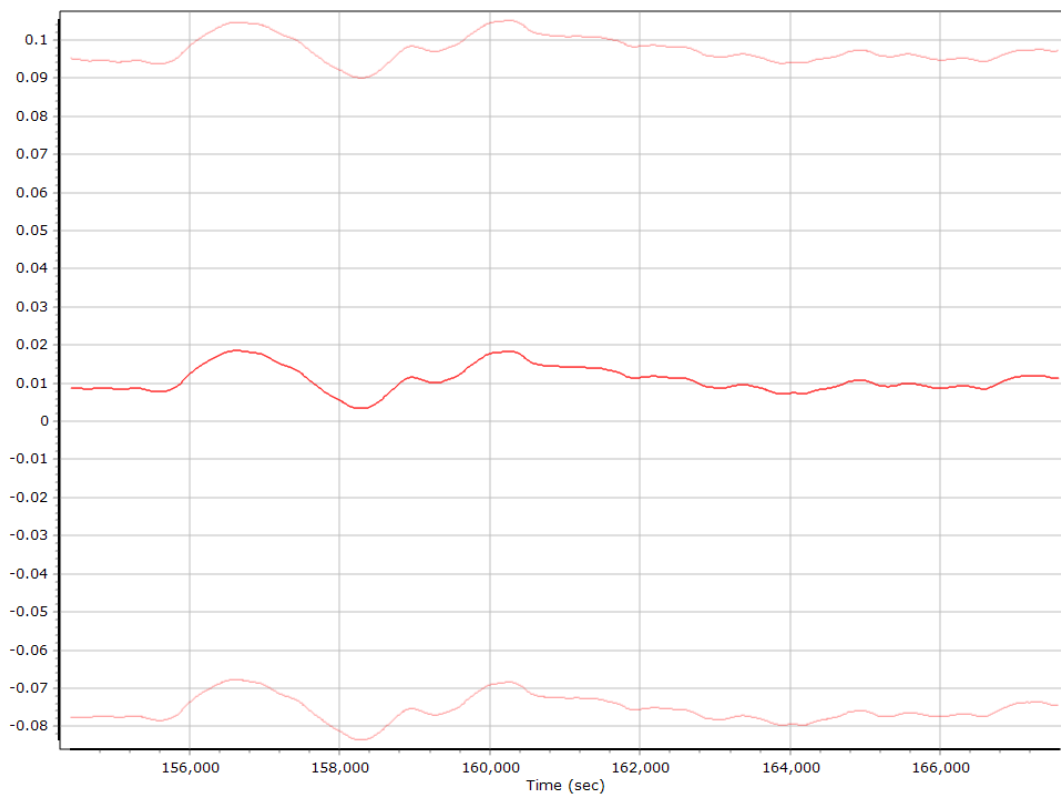
Z Accelerometer Scale Error (ppm)



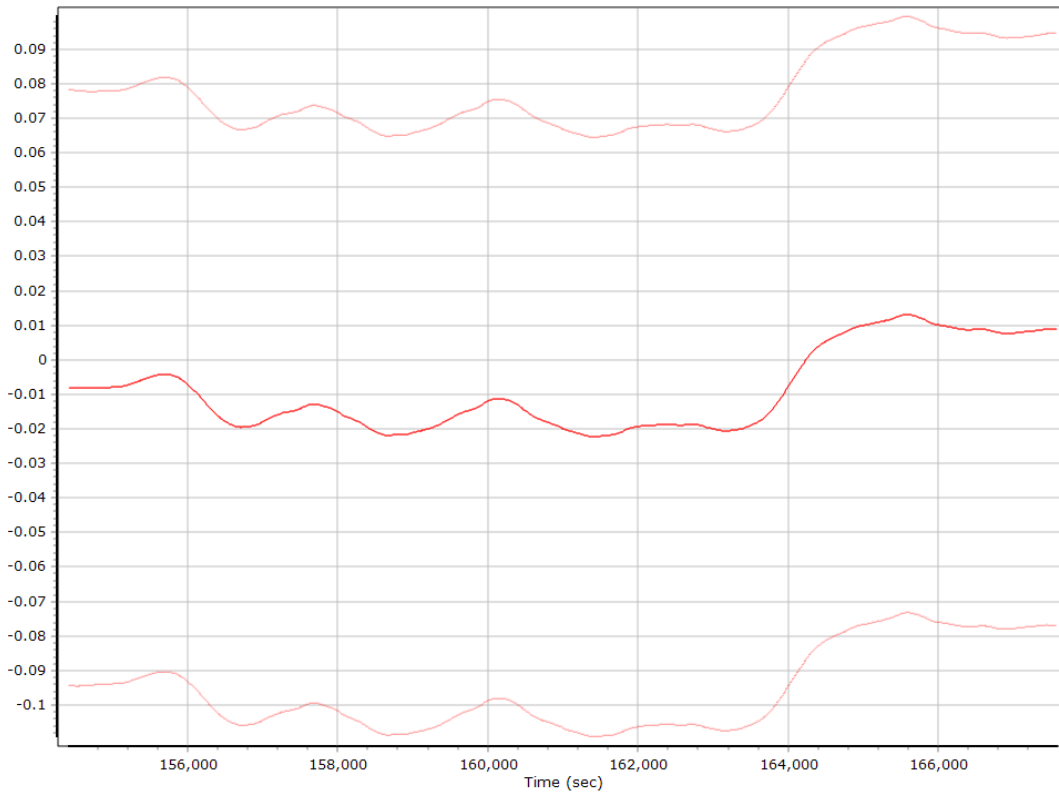
Gyro Bias (deg/h)



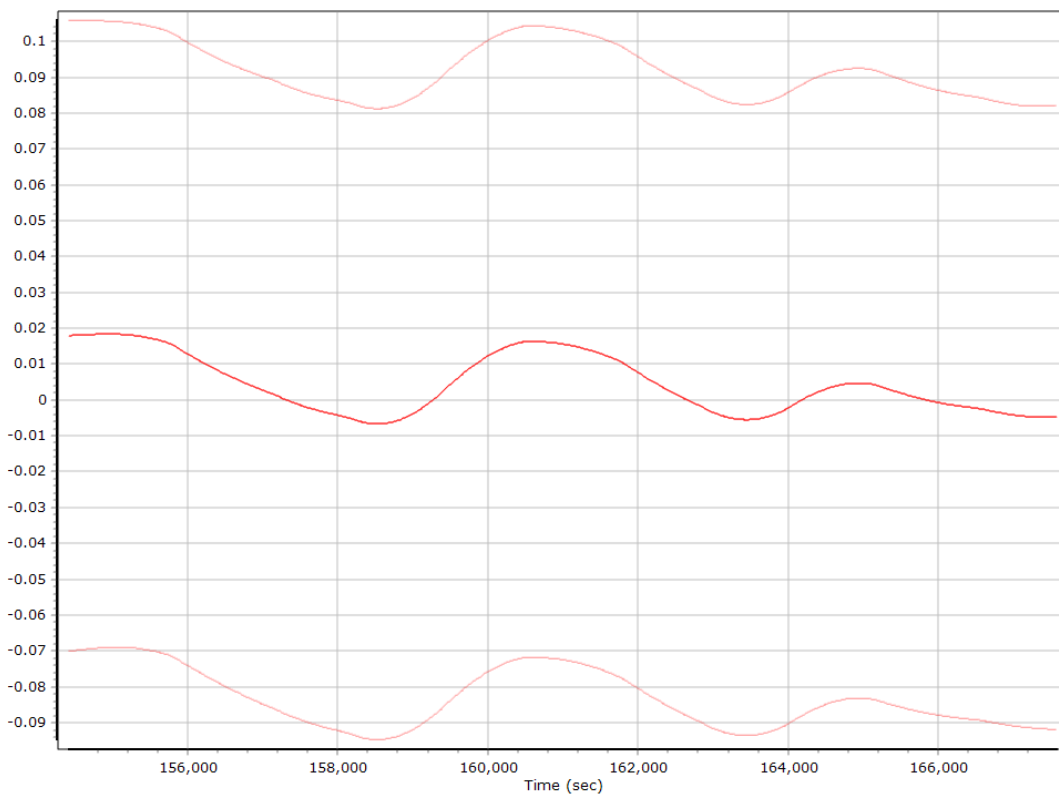
X Gyro Bias (deg/h)



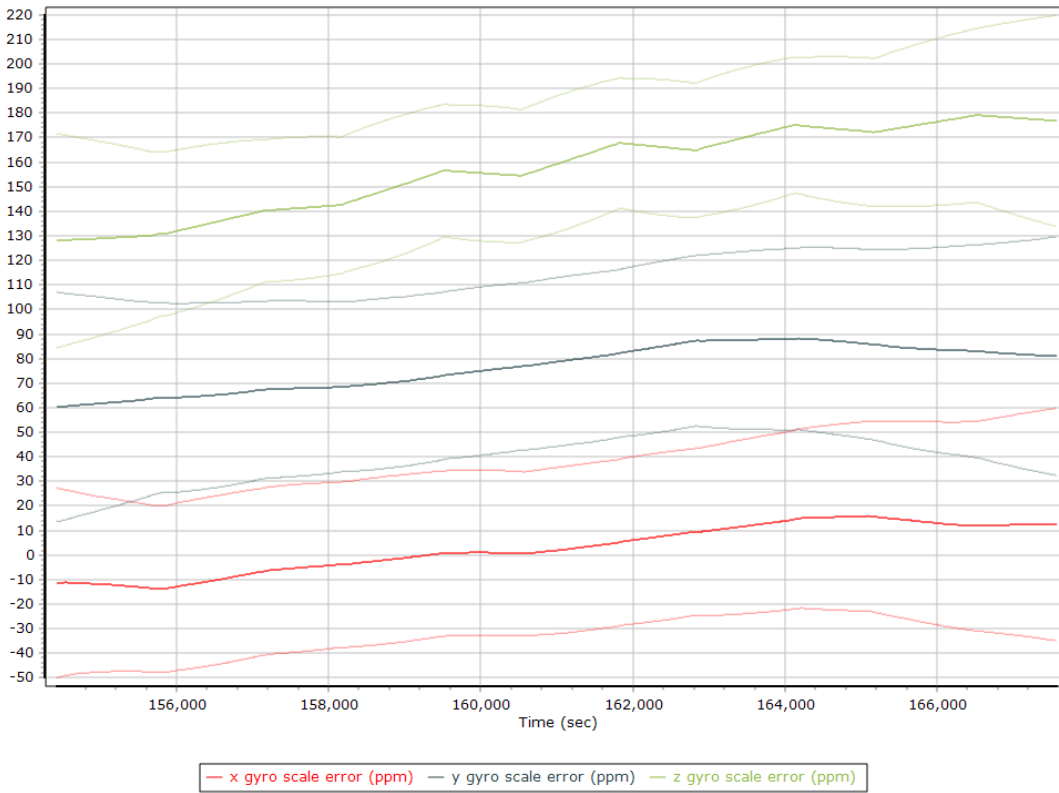
Y Gyro Bias (deg/h)



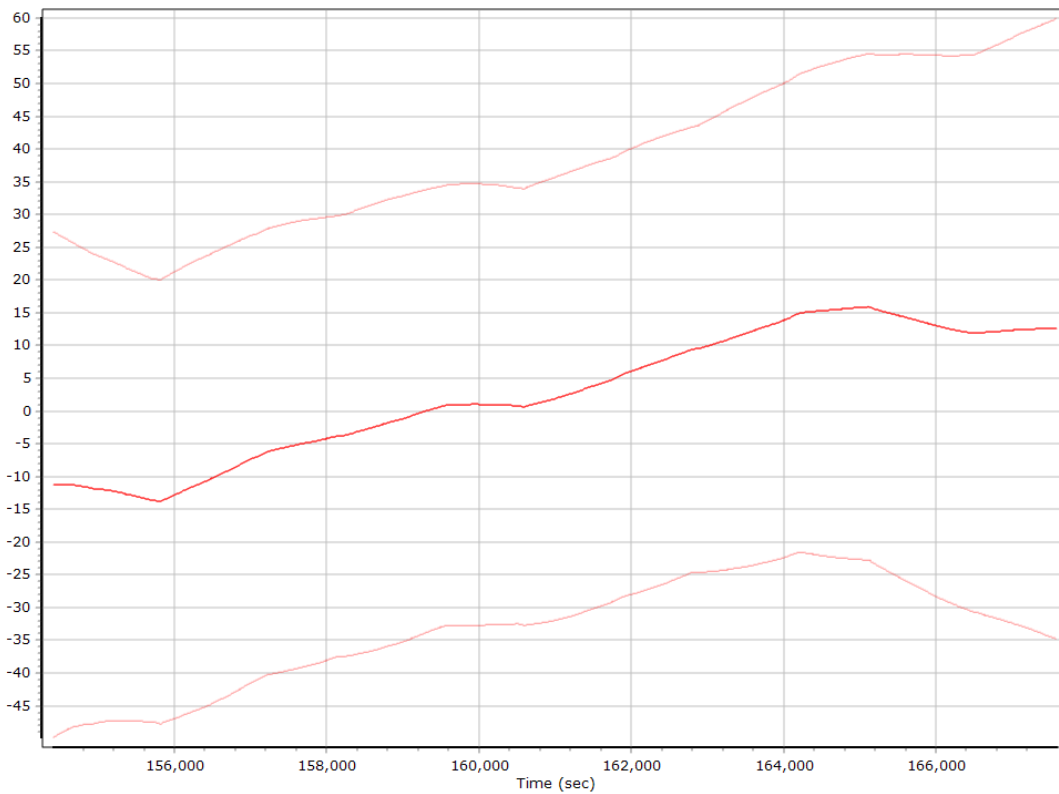
Z Gyro Bias (deg/h)



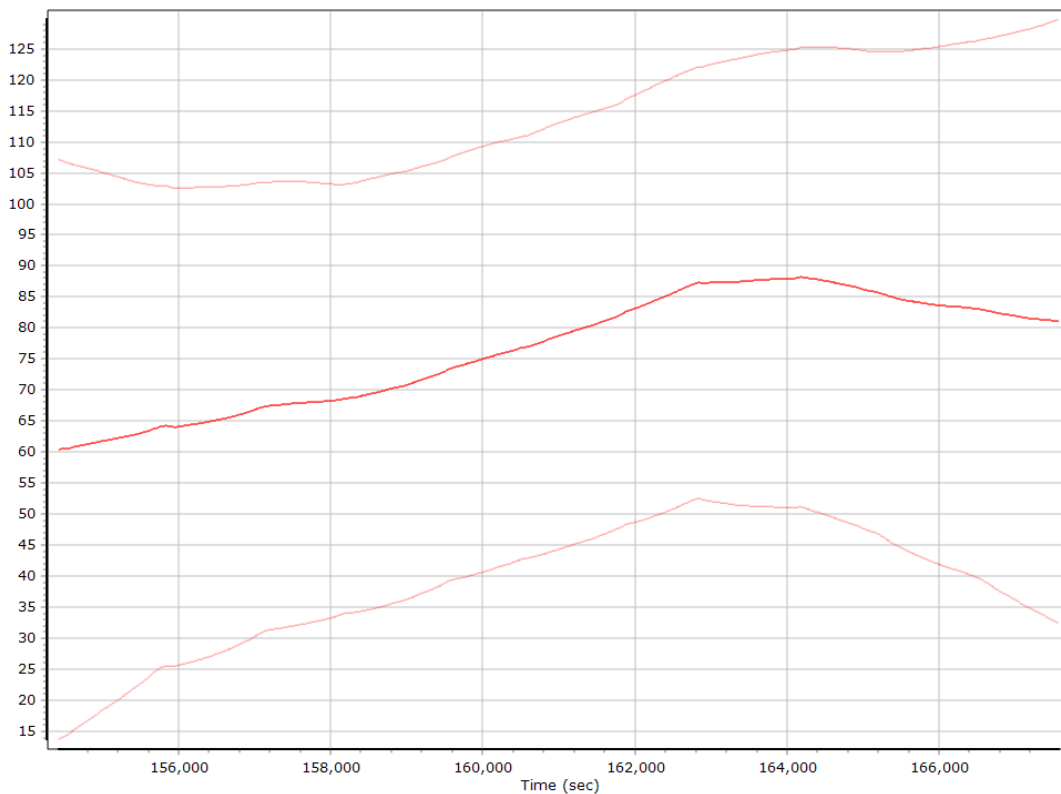
Gyro Scale Error (ppm)



X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

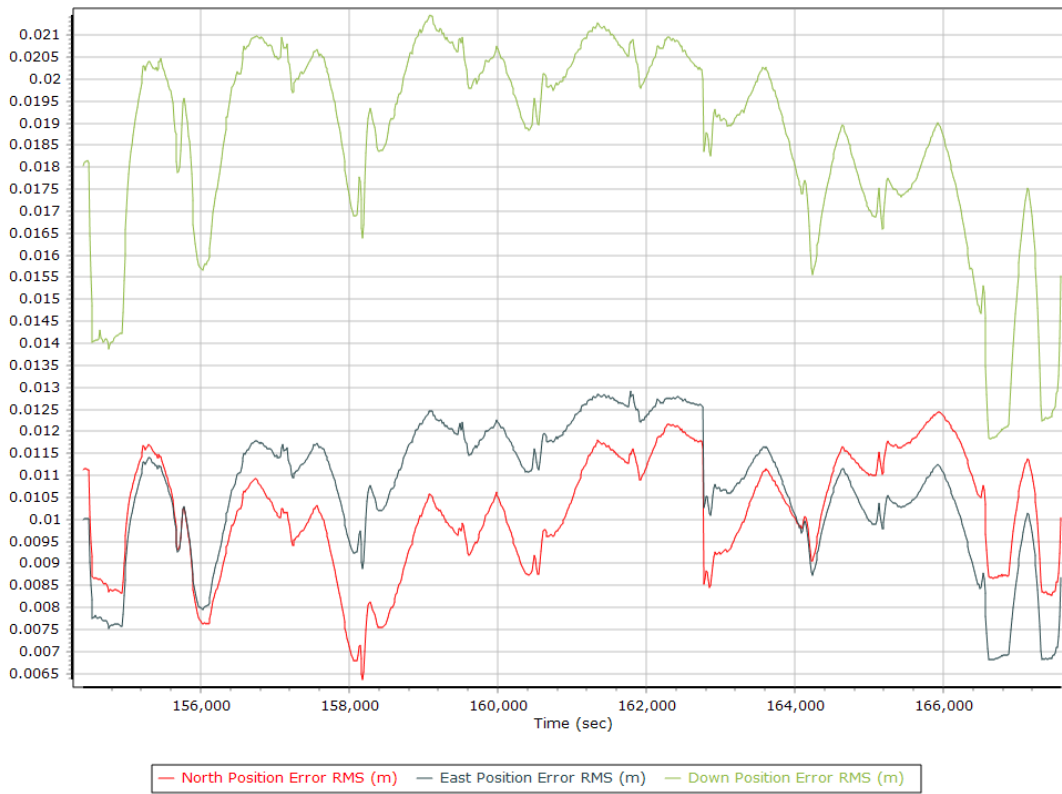


Z Gyro Scale Error (ppm)

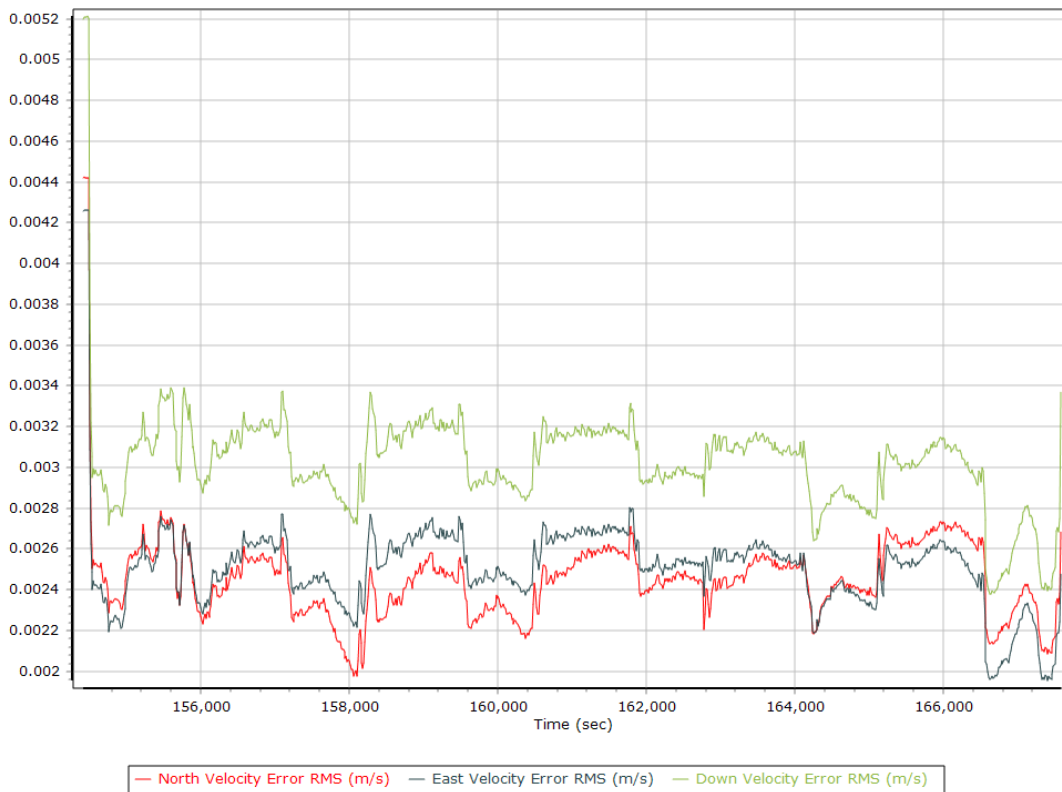


Smoothed Performance Metrics

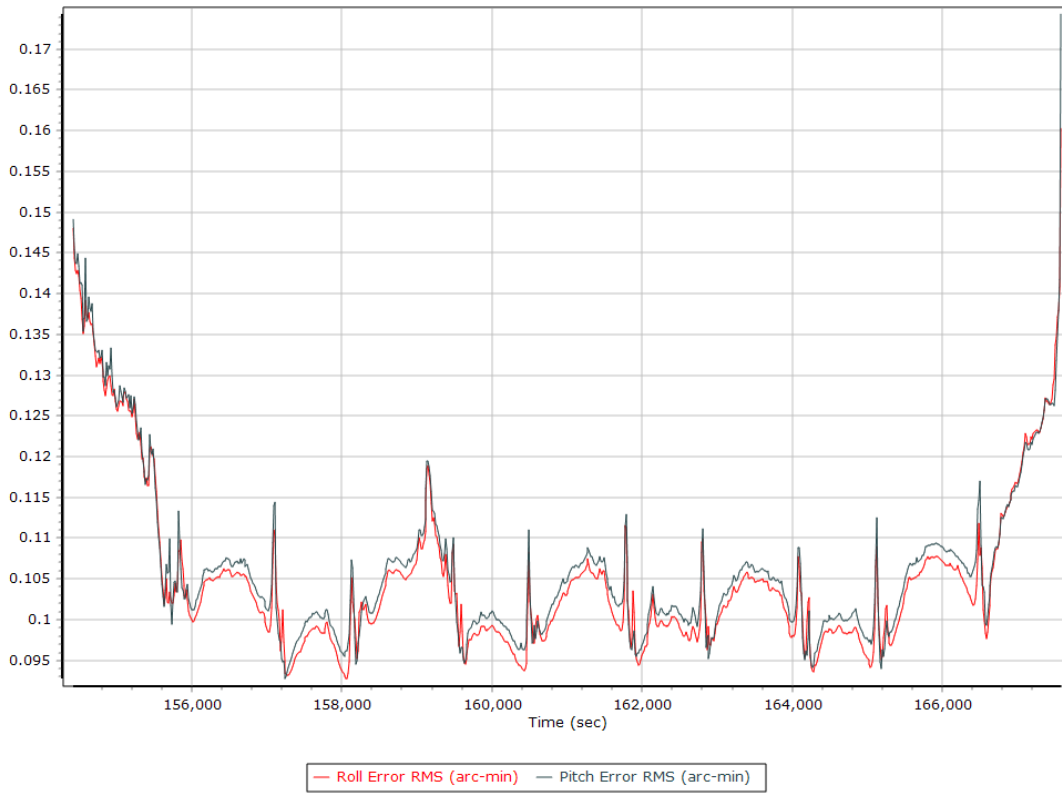
Position Error RMS (m)



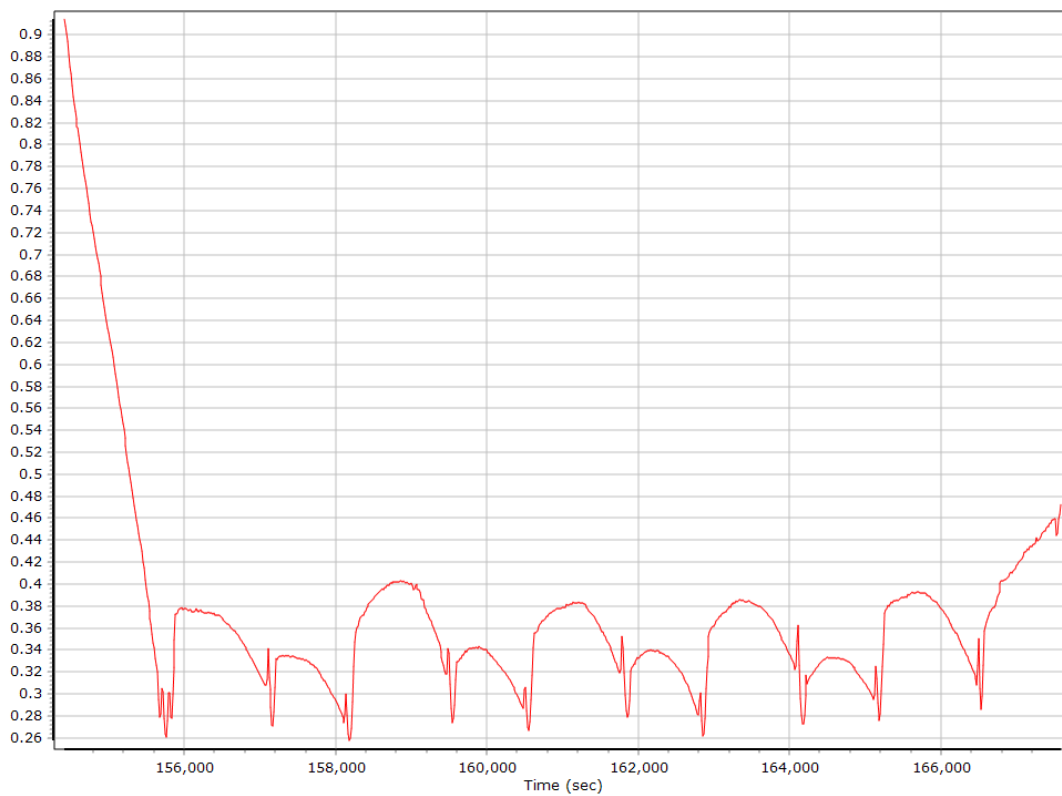
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

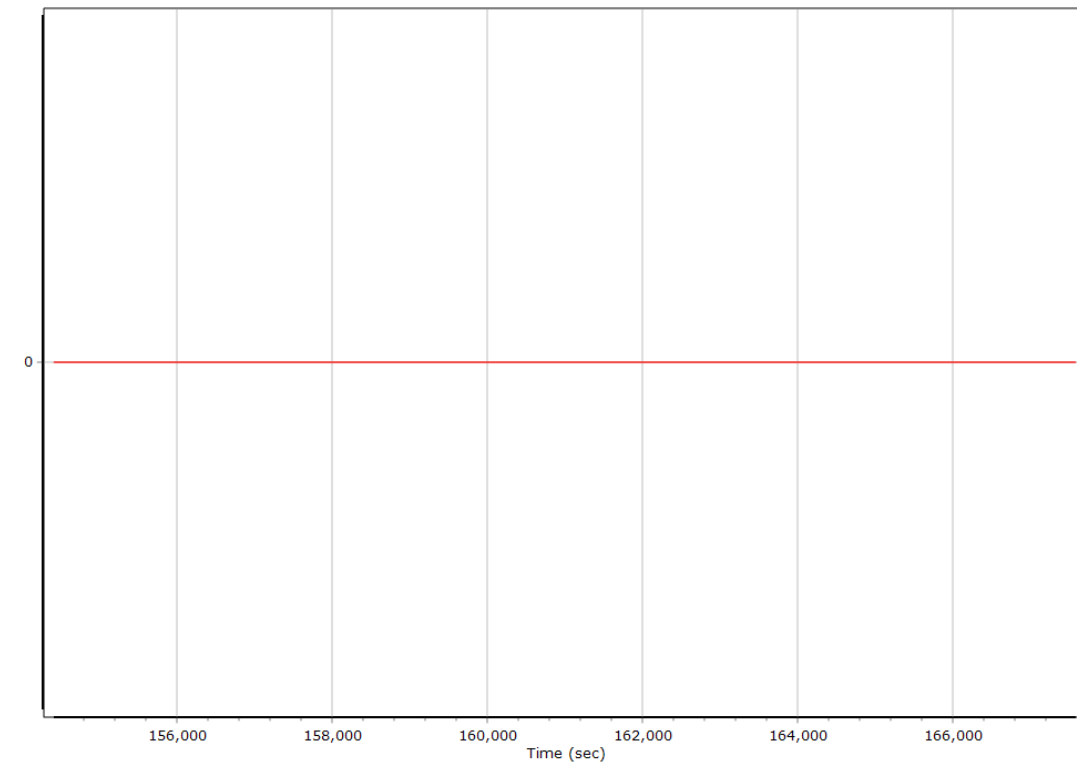


Heading Error RMS (arc-min)



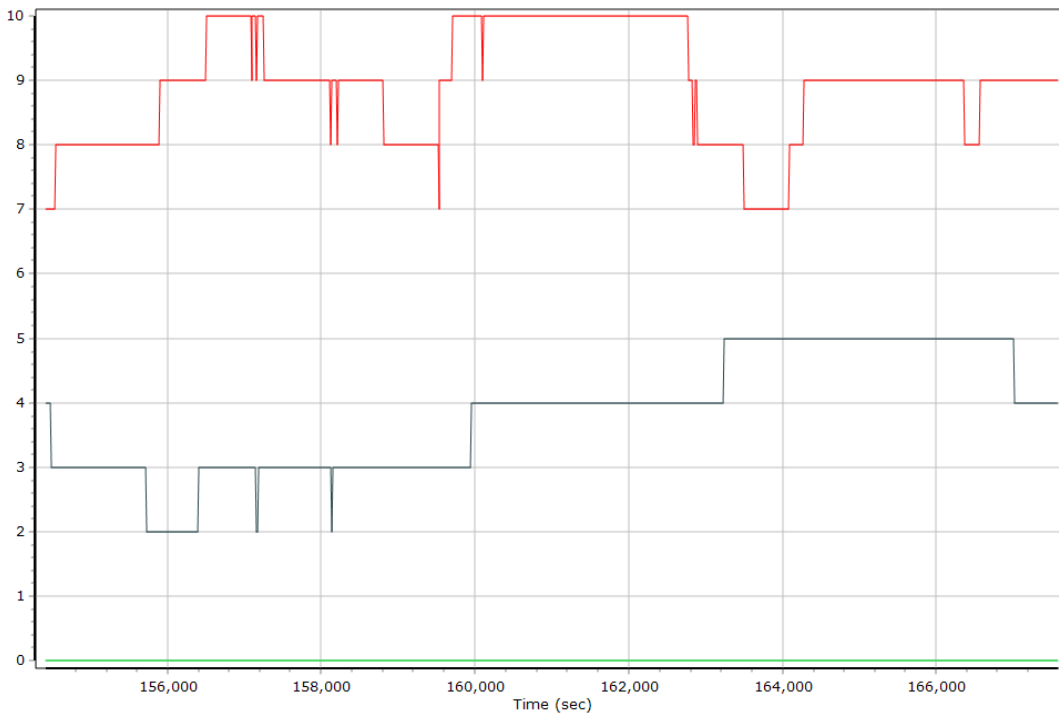
Smoothed Solution Status

Processing Mode



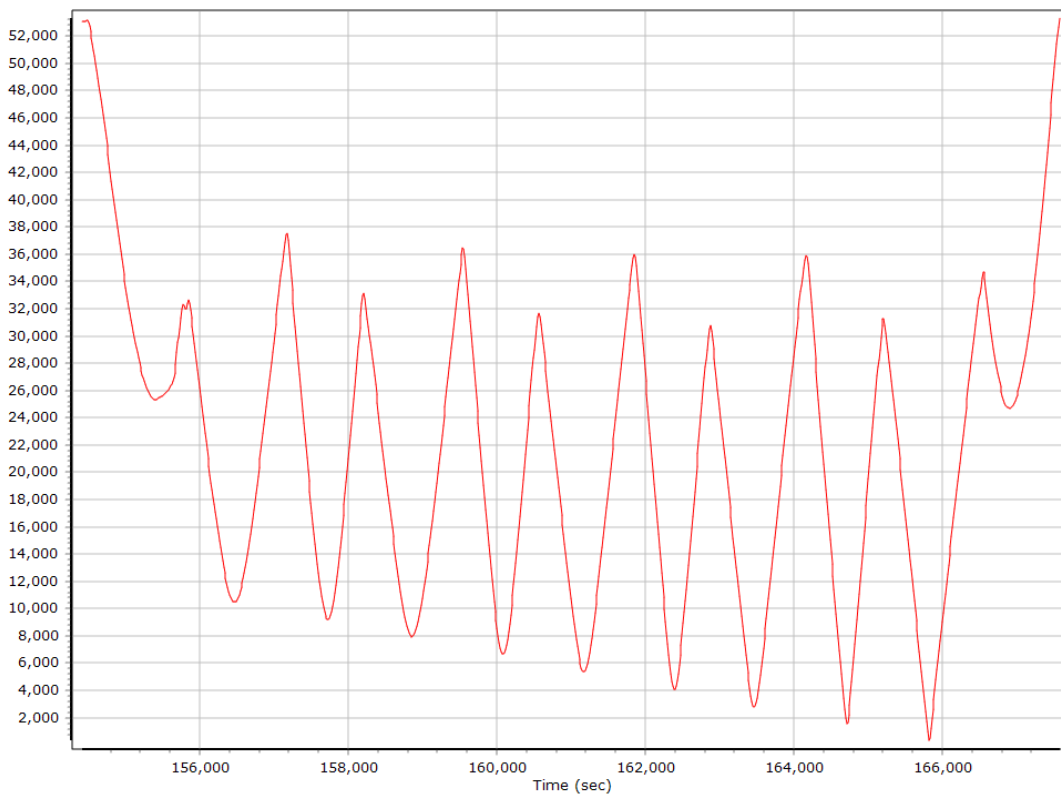
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites

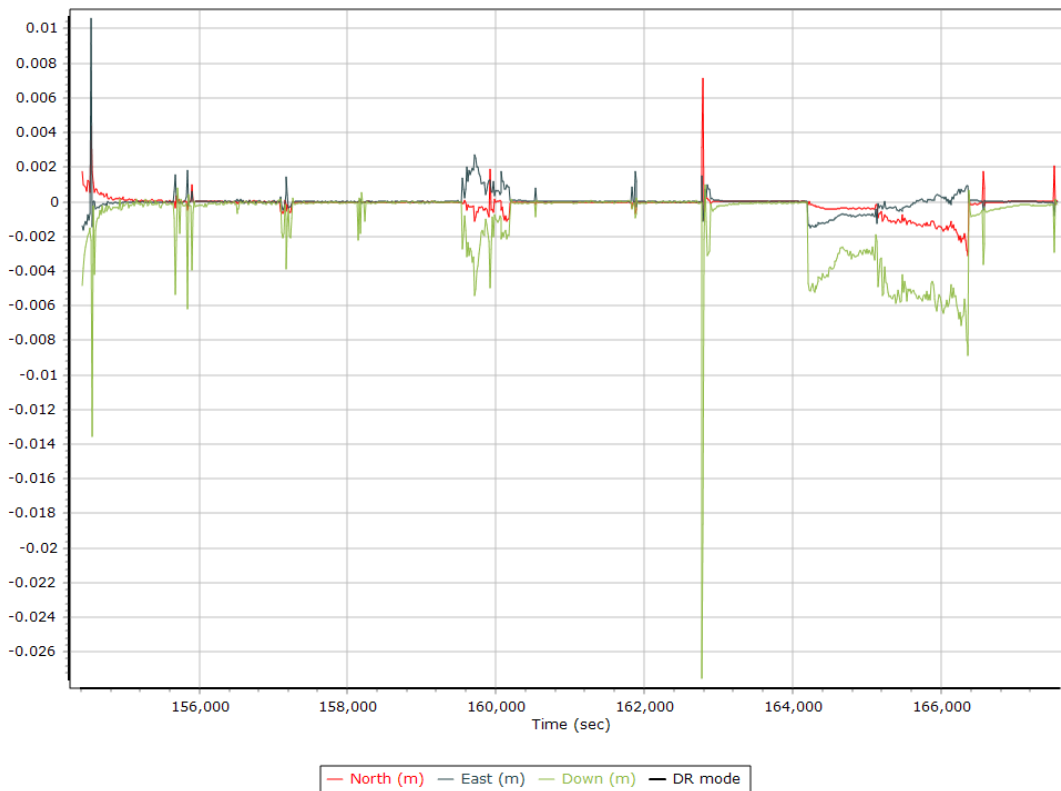


— Number of GPS Satellites
 — Number of GLONASS Satellites
 — Number of QZSS Satellites
— Number of BEIDOU Satellites
 — Number of GALILEO Satellites

Baseline Length



SBET IAkar Separation



General Information

Mission Information

Project name	PTG19337A
Processing date	2019-12-12 17:22:07
Mission date	2019-12-03 15:04:02
Mission duration	04:32:23.993
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
PTG19337.000	POS Data
PTG19337.001	POS Data
PTG19337.002	POS Data
PTG19337.003	POS Data
PTG19337.004	POS Data
PTG19337.005	POS Data
PTG19337.006	POS Data
PTG19337.007	POS Data
PTG19337.008	POS Data
PTG19337.009	POS Data
PTG19337.010	POS Data
PTG19337.011	POS Data
PTG19337.012	POS Data
PTG19337.013	POS Data
PTG19337.014	POS Data
PTG19337.015	POS Data
PTG19337.016	POS Data
PTG19337.017	POS Data
PTG19337.018	POS Data
PTG19337.019	POS Data
PTG19337.020	POS Data
PTG19337.021	POS Data
PTG19337.022	POS Data
PTG19337.023	POS Data
PTG19337.024	POS Data
PTG19337.025	POS Data
PTG19337.026	POS Data
PTG19337.027	POS Data
PTG19337.028	POS Data
PTG19337.029	POS Data
PTG19337.030	POS Data
PTG19337.031	POS Data
PTG19337.032	POS Data
PTG19337.033	POS Data
PTG19337.034	POS Data
PTG19337.035	POS Data
PTG19337.036	POS Data
PTG19337.037	POS Data
PTG19337.038	POS Data
PTG19337.039	POS Data
PTG19337.040	POS Data

Input Files

File Name	File Type
Ephm3370.19g	GLONASS Broadcast Ephemeris
Ephm3370.19n	GPS Broadcast Ephemeris
pltk_daily3370.19o	GNSS SingleBase
xcty_daily3370.19o	GNSS SingleBase
Ephm3360.19g	GLONASS Broadcast Ephemeris
Ephm3360.19n	GPS Broadcast Ephemeris
Ephm3380.19g	GLONASS Broadcast Ephemeris
Ephm3380.19n	GPS Broadcast Ephemeris
igu20820_18.sp3	GPS Precise Ephemeris
igu20821_18.sp3	GPS Precise Ephemeris
igu20822_18.sp3	GPS Precise Ephemeris
igu20823_18.sp3	GPS Precise Ephemeris
lkcy_daily3370.19o	GNSS SingleBase
ocla_daily3370.19o	GNSS SingleBase
flmd_daily3370.19o	GNSS SingleBase

Output Files

Filename	File type
sbet_PTG19337A.out	SBET Trajectory File

Rover Data Summary

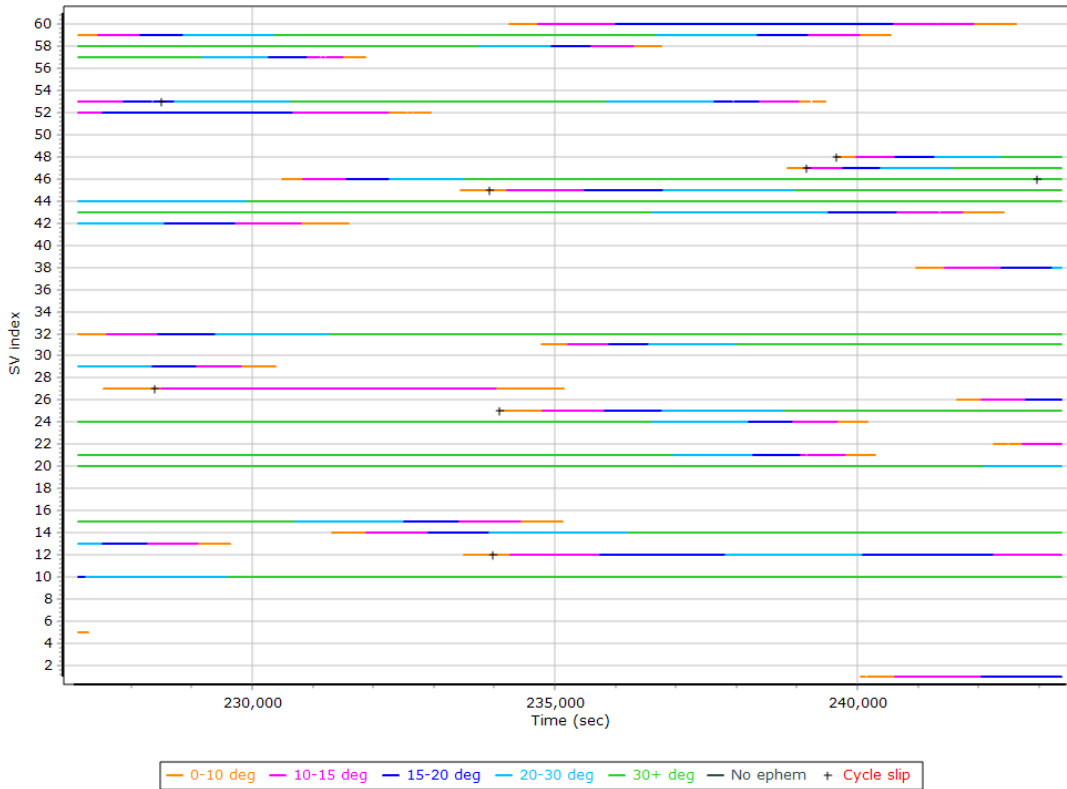
First raw data file	PTG19337.000		
Last raw data file	PTG19337.040		
Start GPS week	2082		
Start time	227024.002 (12/3/2019 3:03:44 PM)		
End time	243369.789 (12/3/2019 7:36:09 PM)		
Start of fine alignment	227065.821 (12/3/2019 3:04:25 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

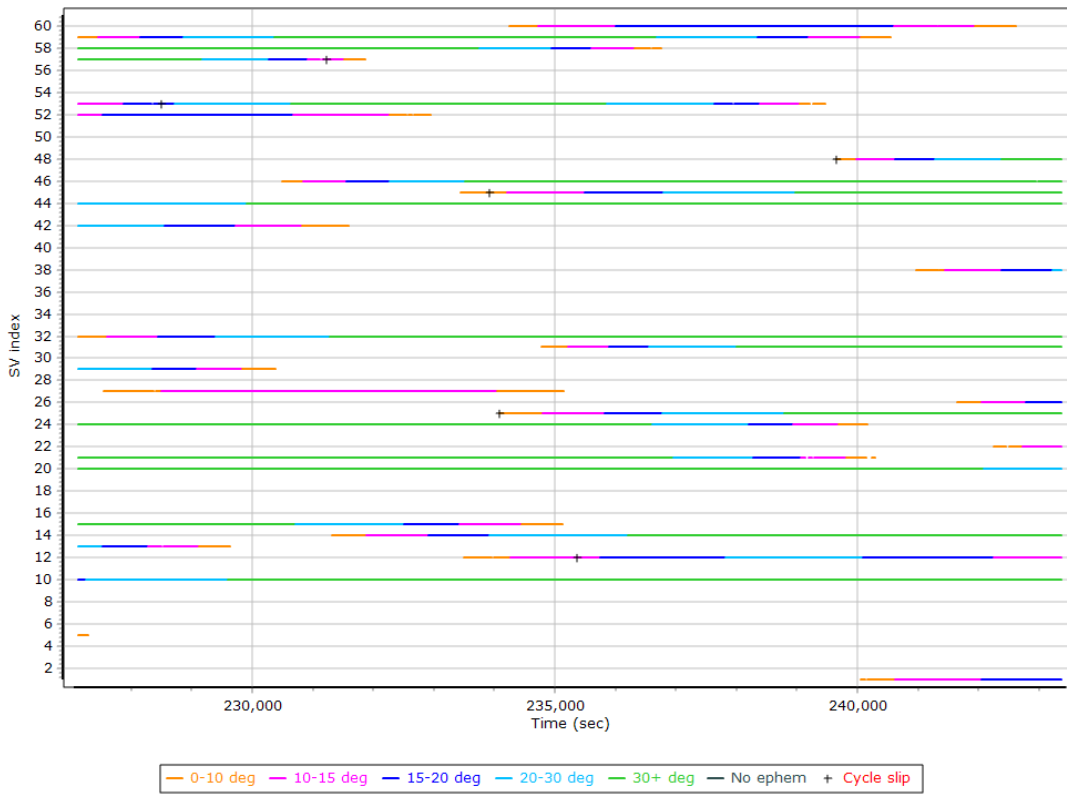
Raw IMU Import QC Summary

IMU data input file	imu_PTG19337A.dat
IMU data check log file	imudt_PTG19337A.log
IMU Records Processed	3268451
Termination Status	Normal
IMU Anomalies	0

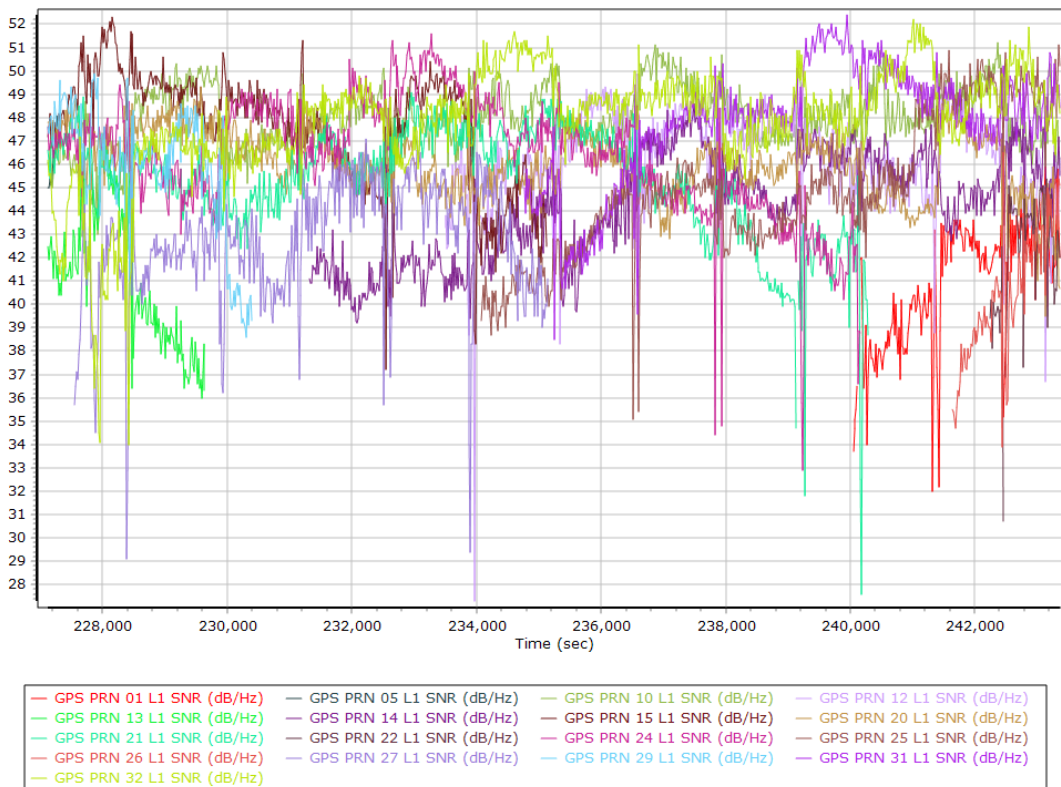
L1 Satellite Lock/Elevation



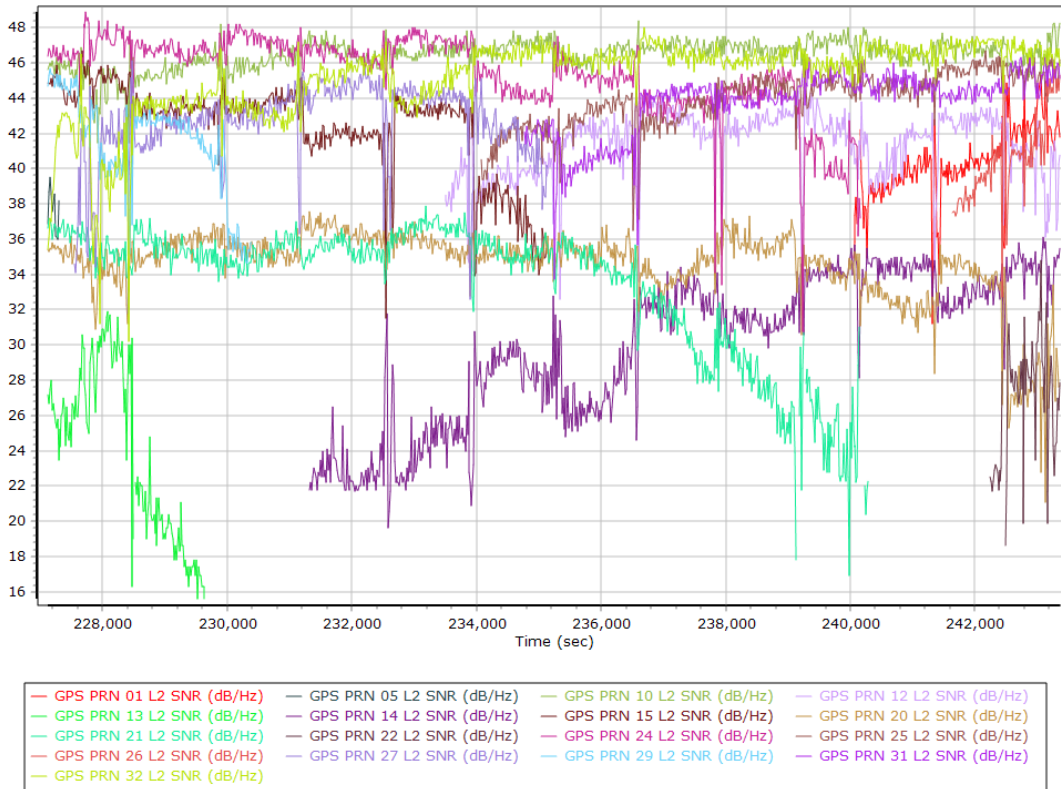
L2 Satellite Lock/Elevation



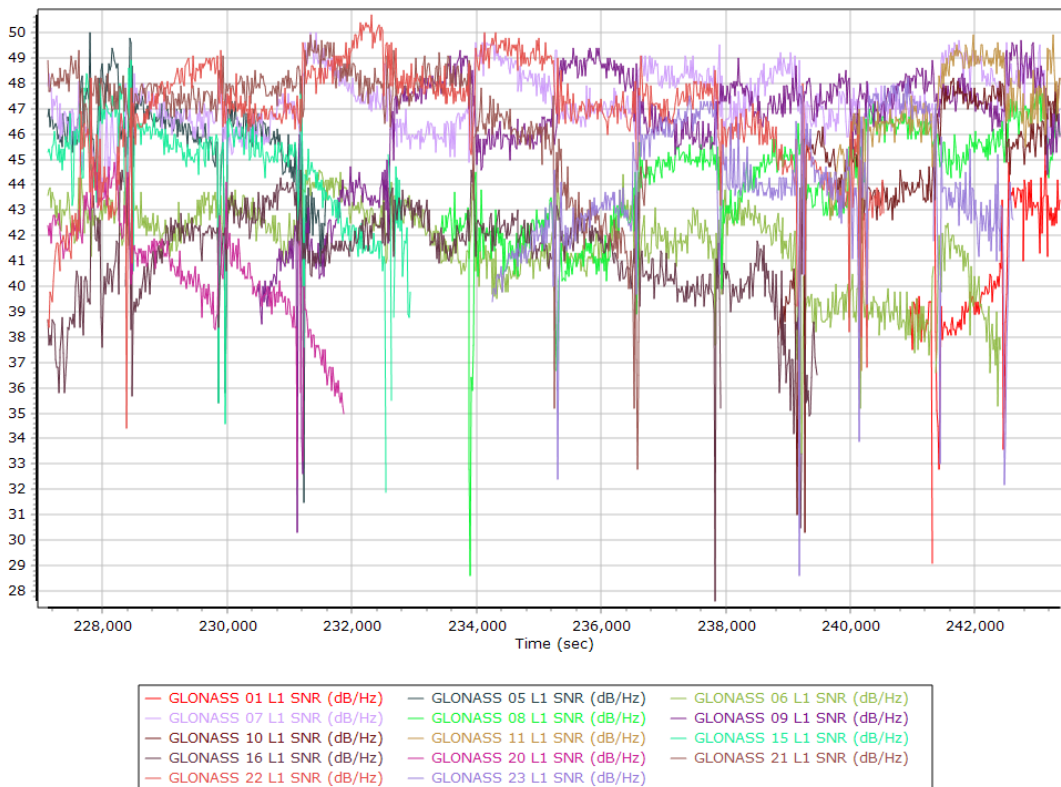
GPS L1 SNR



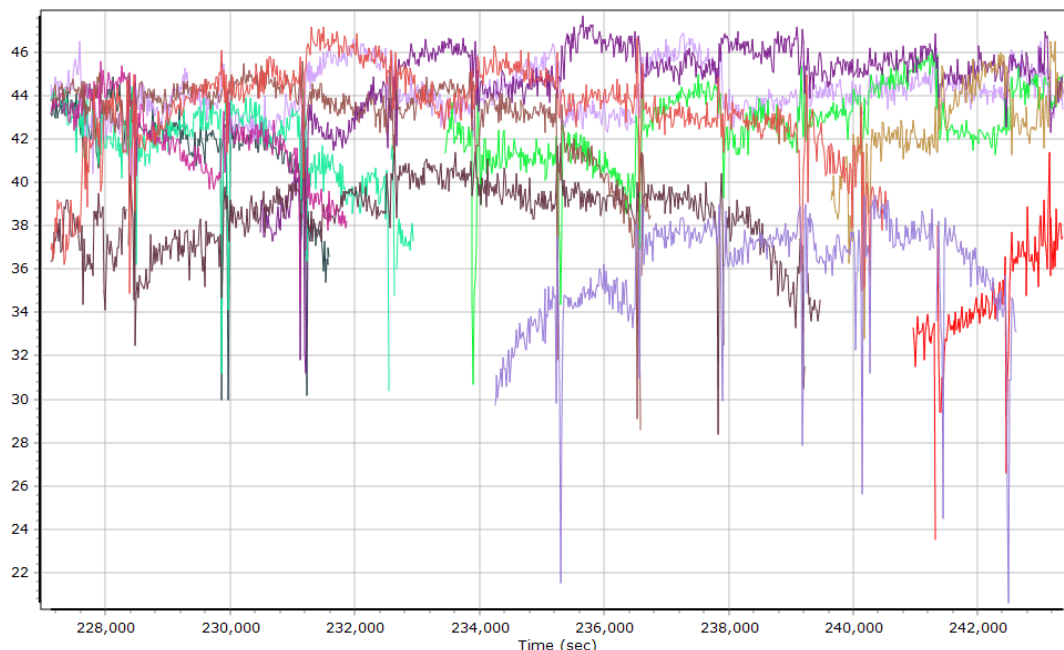
GPS L2 SNR



GLONASS L1 SNR

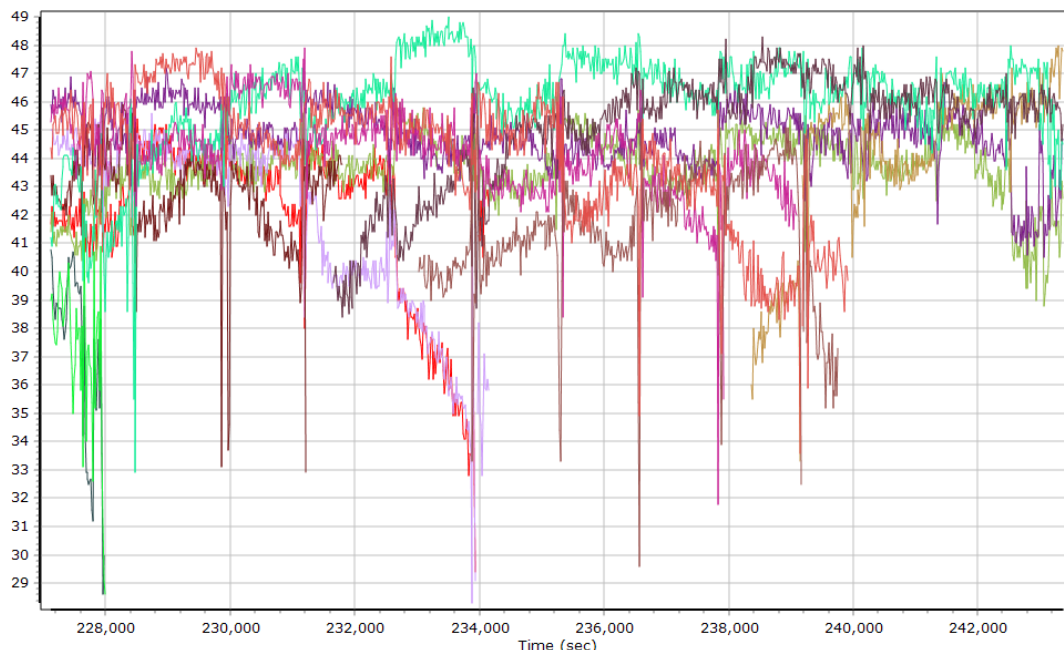


GLONASS L2 SNR



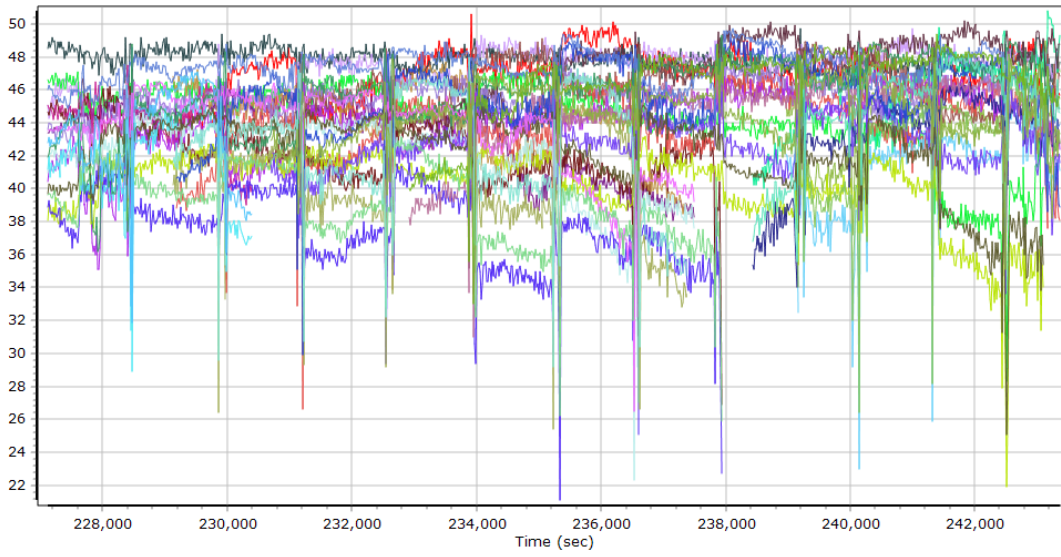
- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L2 SNR (dB/Hz) | GLONASS 05 L2 SNR (dB/Hz) | GLONASS 06 L2 SNR (dB/Hz) |
| GLONASS 07 L2 SNR (dB/Hz) | GLONASS 08 L2 SNR (dB/Hz) | GLONASS 09 L2 SNR (dB/Hz) |
| GLONASS 10 L2 SNR (dB/Hz) | GLONASS 11 L2 SNR (dB/Hz) | GLONASS 15 L2 SNR (dB/Hz) |
| GLONASS 16 L2 SNR (dB/Hz) | GLONASS 20 L2 SNR (dB/Hz) | GLONASS 21 L2 SNR (dB/Hz) |
| GLONASS 22 L2 SNR (dB/Hz) | GLONASS 23 L2 SNR (dB/Hz) | |

BEIDOU SNR



- | | | |
|------------------------------|------------------------------|------------------------------|
| BEIDOU 11 E5B B2 SNR (dB/Hz) | BEIDOU 12 E5B B2 SNR (dB/Hz) | BEIDOU 14 E5B B2 SNR (dB/Hz) |
| BEIDOU 11 B1 B1 SNR (dB/Hz) | BEIDOU 12 B1 B1 SNR (dB/Hz) | BEIDOU 14 B1 B1 SNR (dB/Hz) |
| BEIDOU 21 B1 B1 SNR (dB/Hz) | BEIDOU 23 B1 B1 SNR (dB/Hz) | BEIDOU 24 B1 B1 SNR (dB/Hz) |
| BEIDOU 25 B1 B1 SNR (dB/Hz) | BEIDOU 26 B1 B1 SNR (dB/Hz) | BEIDOU 27 B1 B1 SNR (dB/Hz) |
| BEIDOU 28 B1 B1 SNR (dB/Hz) | | |

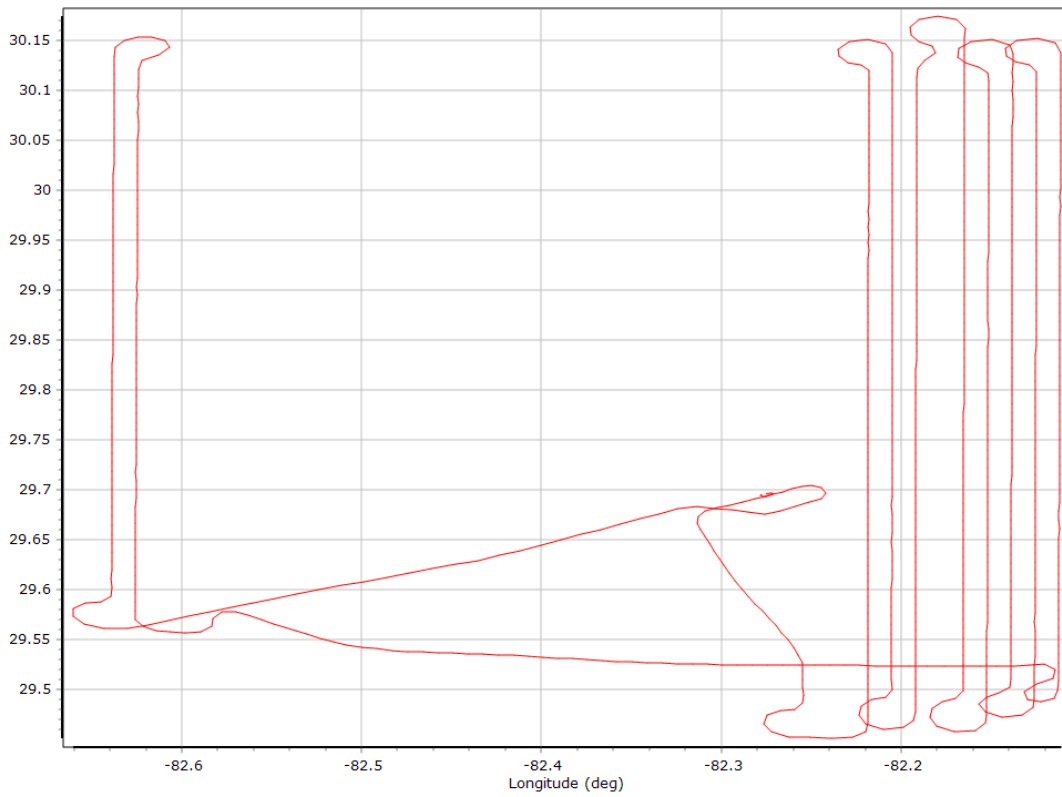
GALILEO SNR



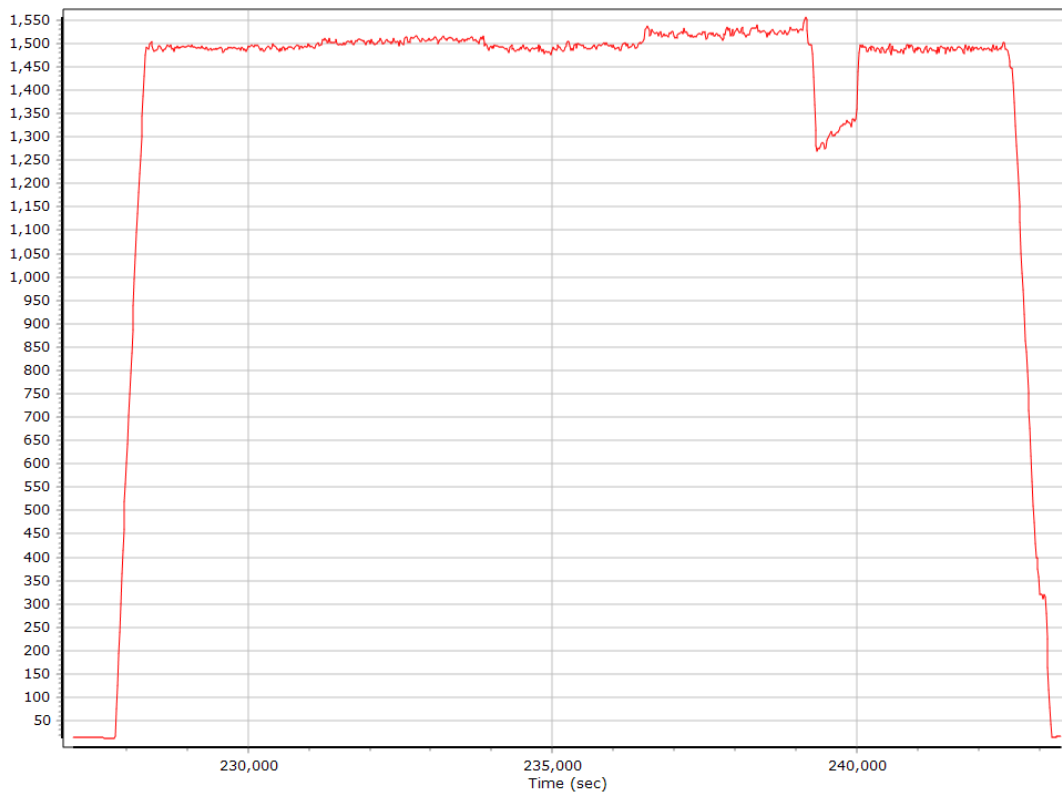
— GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 11 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 12 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 19 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 21 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 31 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 33 L1 BOC_1_1_D_MBOC SNR (dB/Hz)	— GALILEO 36 L1 BOC_1_1_D_MBOC SNR (dB/Hz)
— GALILEO 01 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 04 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 05 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 09 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 11 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 12 E5B BPSK10_PD SNR (dB/Hz)
— GALILEO 19 E5B BPSK10_PD SNR (dB/Hz)	— GALILEO 21 E5B BPSK10_PD SNR (dB/Hz)

Trajectory Information

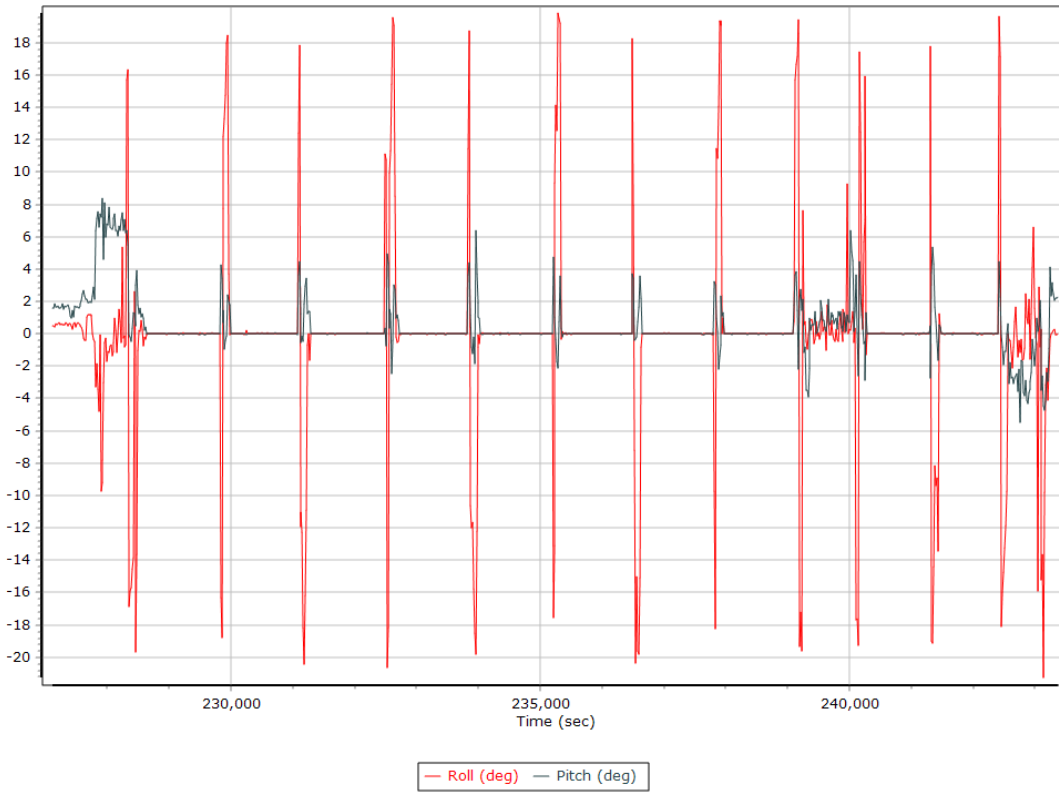
Top View



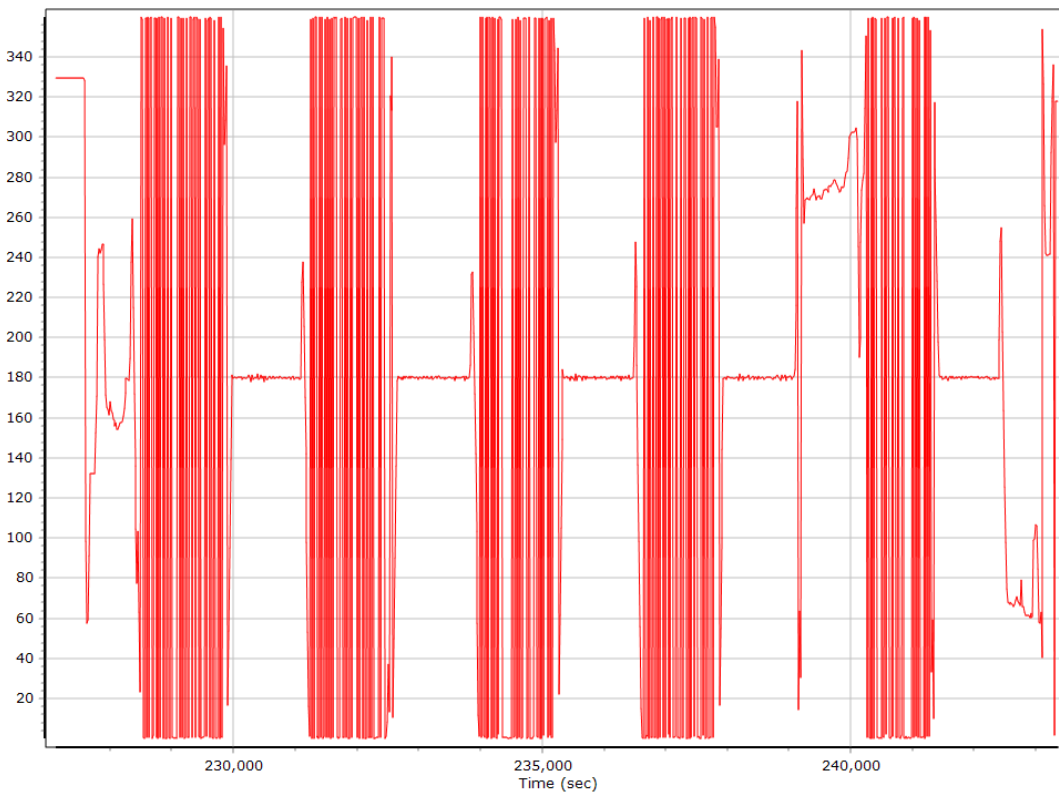
Altitude



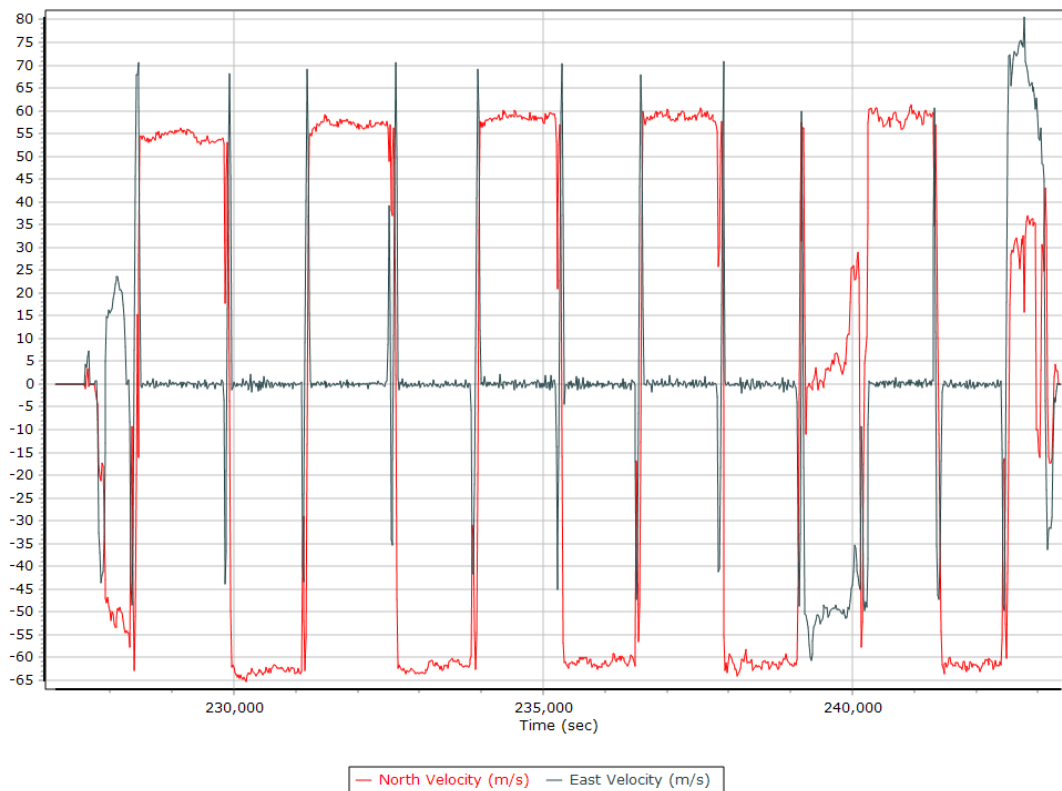
Roll/Pitch



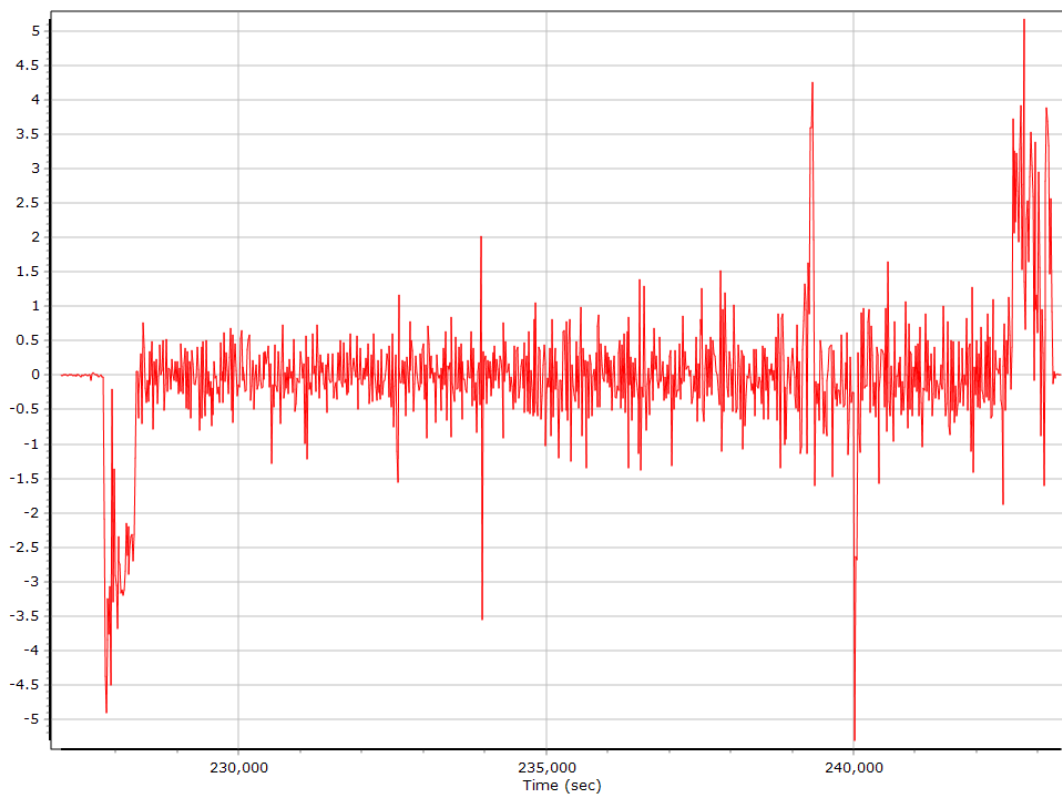
Heading



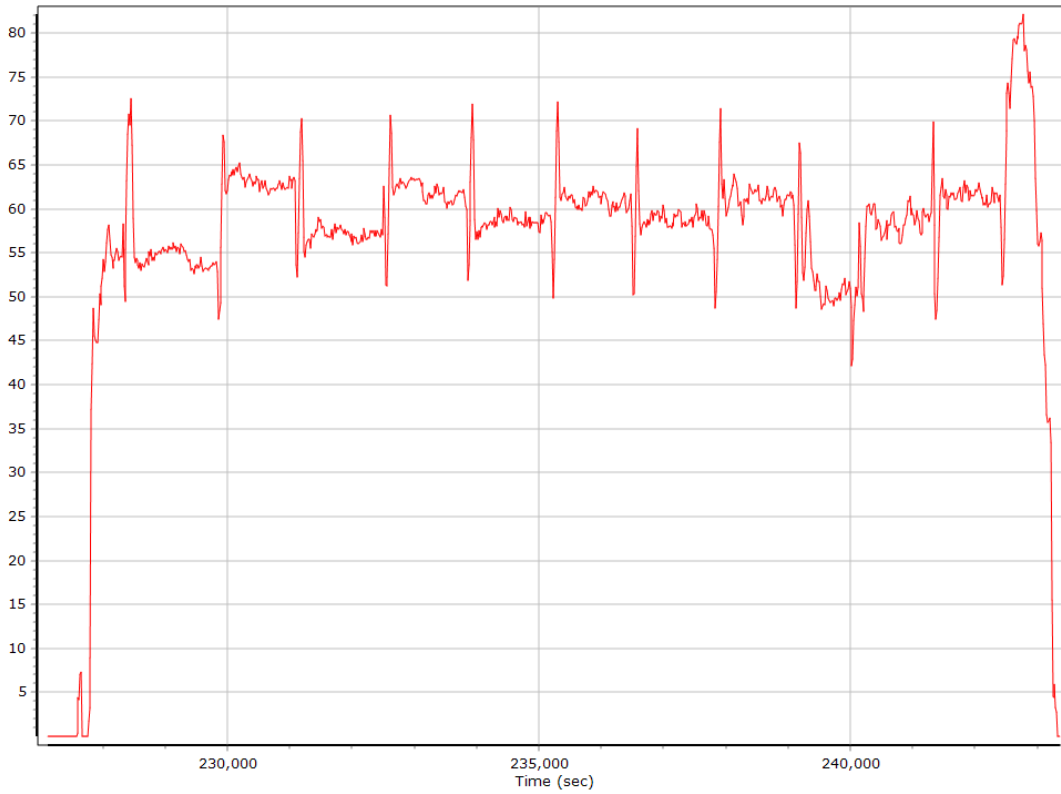
North/East Velocity



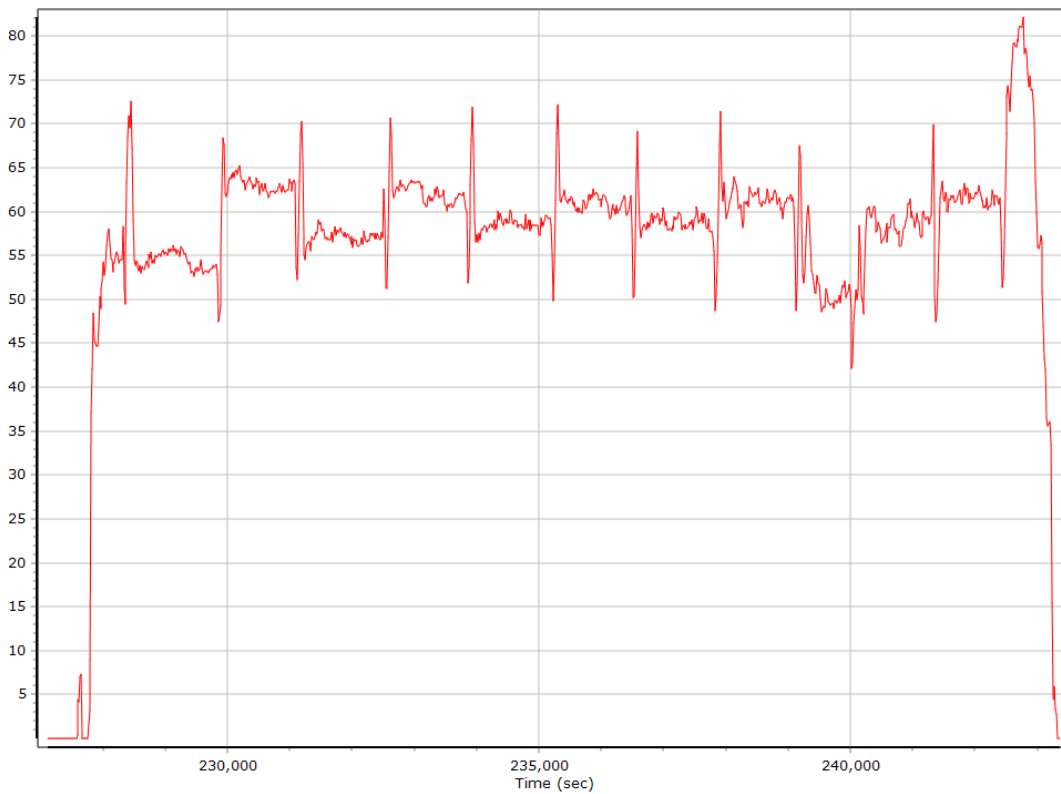
Down Velocity



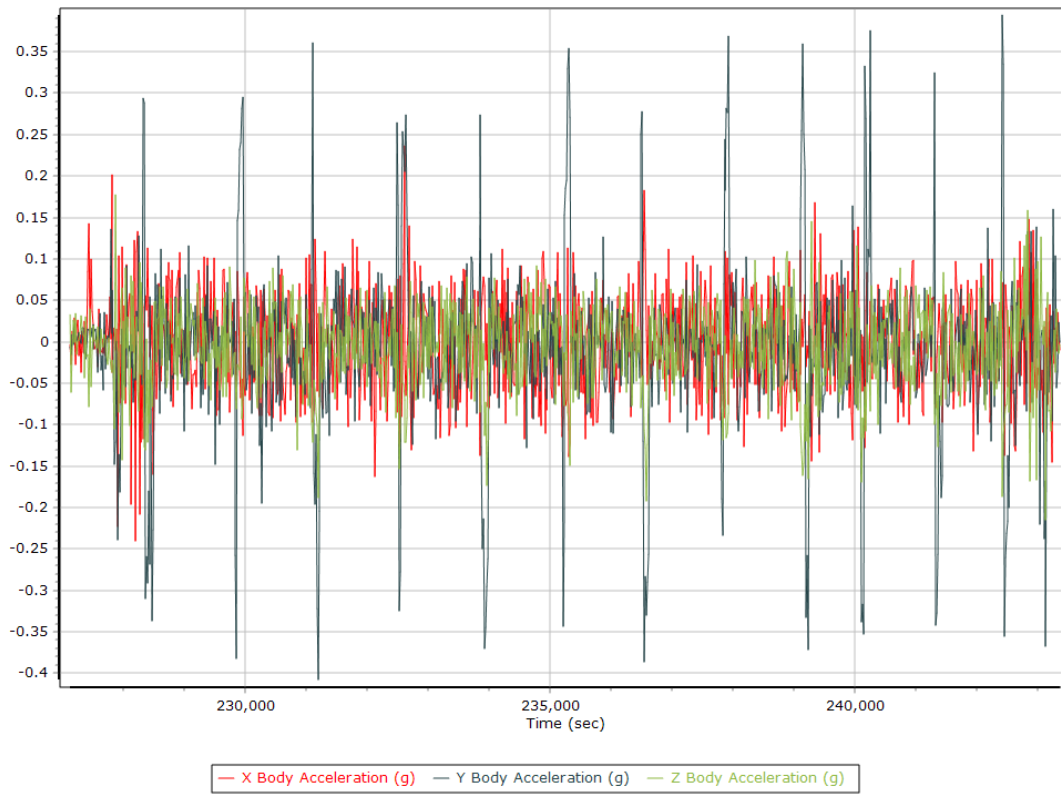
Total Speed



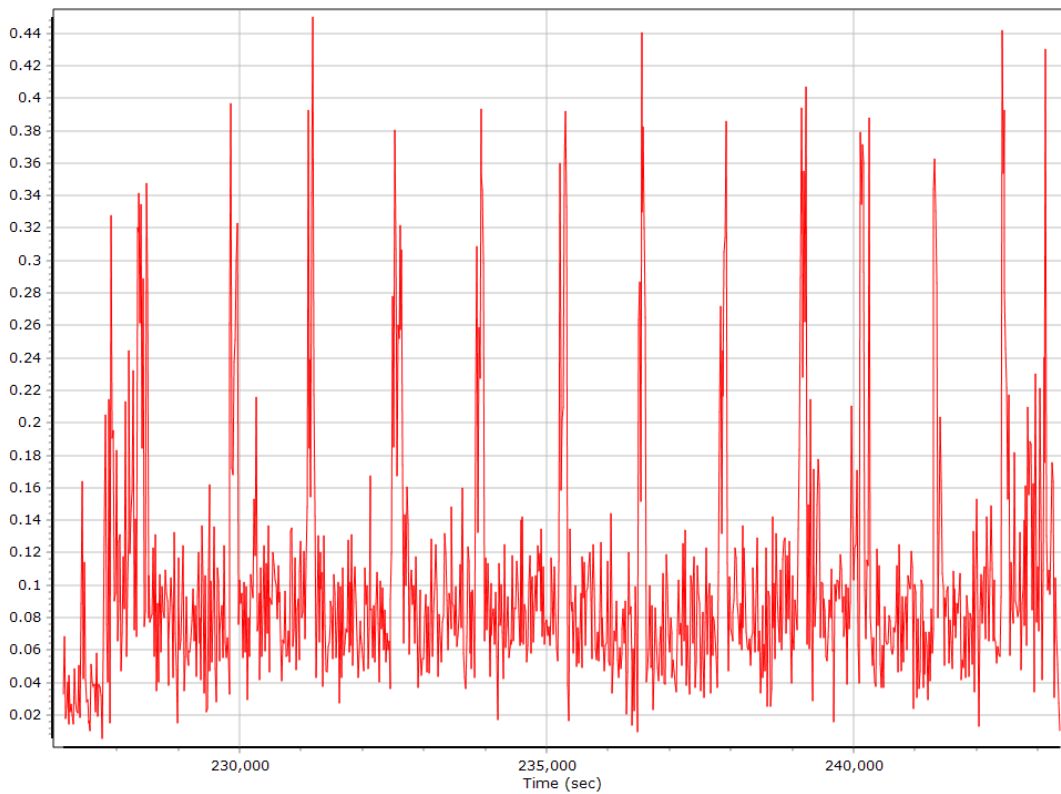
Ground Speed



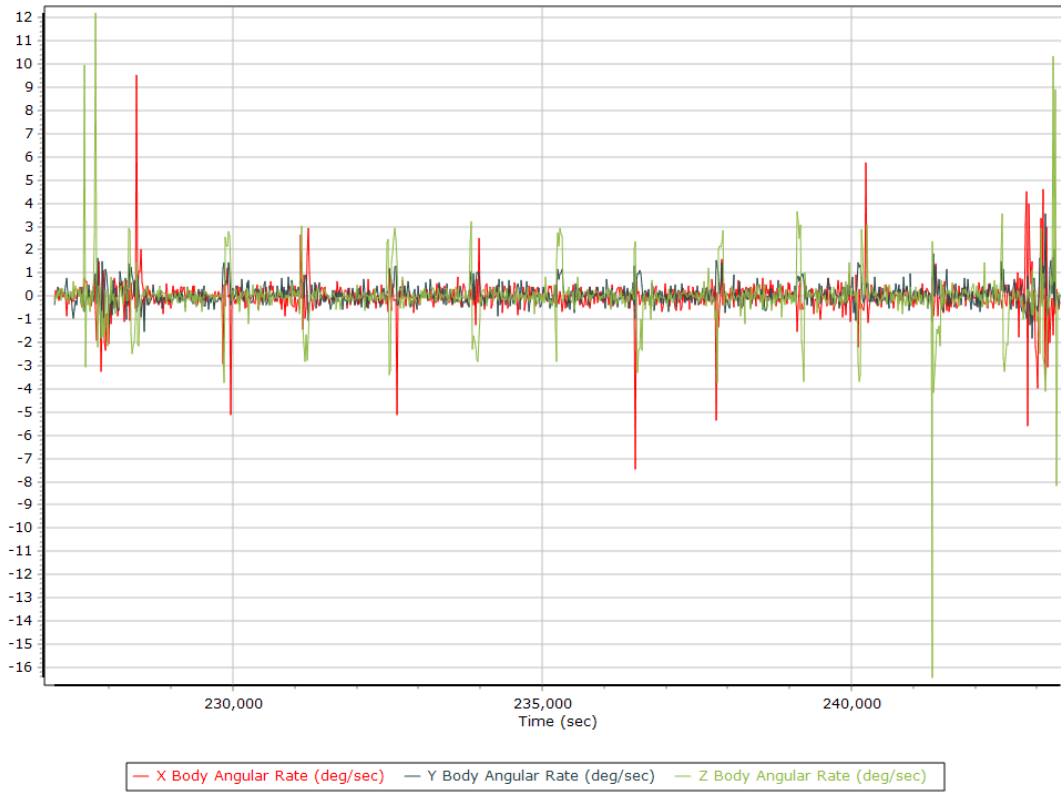
Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/03/2019	FLMD	117.87	GNSS	1	User	None	Imported
12/03/2019	OCLA	67.71	GNSS	1	User	None	Imported
12/03/2019	LKCY	54.52	GNSS	1	User	None	Imported
12/03/2019	XCTY	83.21	GNSS	1	User	None	Imported
12/03/2019	PLTK	57.23	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	OCLA
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	16344 s (2082 227042 - 2082 243386)
Number of reference stations	5
Primary station GPS measurement usage (%)	99.0
Primary station GLONASS measurement usage (%)	73.1
Average number of satellites per epoch	13.2
Max number of GPS stations used	5
Min number of GPS stations used	3
Max number of GLONASS stations used	5
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	32224
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - FLMD

Status	OK	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Original	
Solution Epochs	4716	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°22'26.47817"	W83°16'31.72158"	0.095
Adjusted		N30°22'26.47800"	W83°16'31.72150"	0.111
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.006	0.016	0.017

Base Station Information

Station ID	FLMD		
Filename	flmd_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701993
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°22'26.47817"		
Longitude	W83°16'31.72158"		
Ellipsoidal height (m)	0.09500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - OCLA

Status	OK	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Original	
Solution Epochs	4716	Mean Epoch SVs	8.0	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°10'54.46980"	W82°06'15.28619"	17.715
Adjusted		N29°10'54.46985"	W82°06'15.28601"	17.709
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.005	0.006	0.008

Base Station Information

Station ID	OCLA		
Filename	ocla_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LKCY

Status	CONTROL	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Control	
Solution Epochs	4716	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°11'07.49182"	W82°34'39.14410"	35.193
Adjusted		N30°11'07.49182"	W82°34'39.14410"	35.193
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	LKCY		
Filename	lkcy_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - XCTY

Status	OK	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Original	
Solution Epochs	4716	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°37'51.61276"	W83°06'29.33653"	13.808
Adjusted		N29°37'51.61258"	W83°06'29.33636"	13.819
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.007	0.011	0.013

Base Station Information

Station ID	XCTY		
Filename	xcty_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33653"		
Ellipsoidal height (m)	-13.80800		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PLTK

Status	OK	SBQI	0	
Duration (Hours)	19.48	Output Coordinates	Original	
Solution Epochs	4675	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14832"	W81°41'15.86049"	17.978
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.005	0.032	0.032

Base Station Information

Station ID	PLTK		
Filename	pltk_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	4.49	54.58	
Number of GPS SV	6	10	8
Number of GLONASS SV	0	6	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	7	15	13
PDOP	1.23	3.03	1.48
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	16325.00	0.00	1.00
Percentage	99.99	0.00	0.01

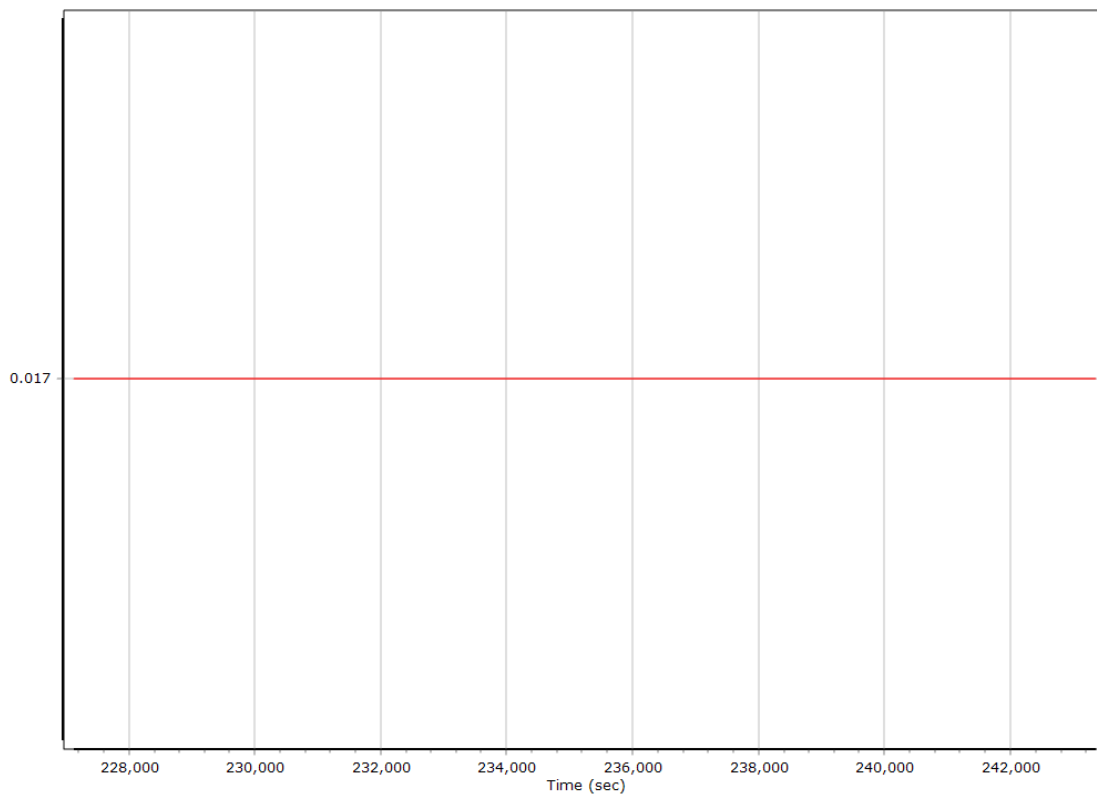
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	227024.007 (12/3/2019 3:03:44 PM)		
Processing end time	243368.000 (12/3/2019 7:36:08 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

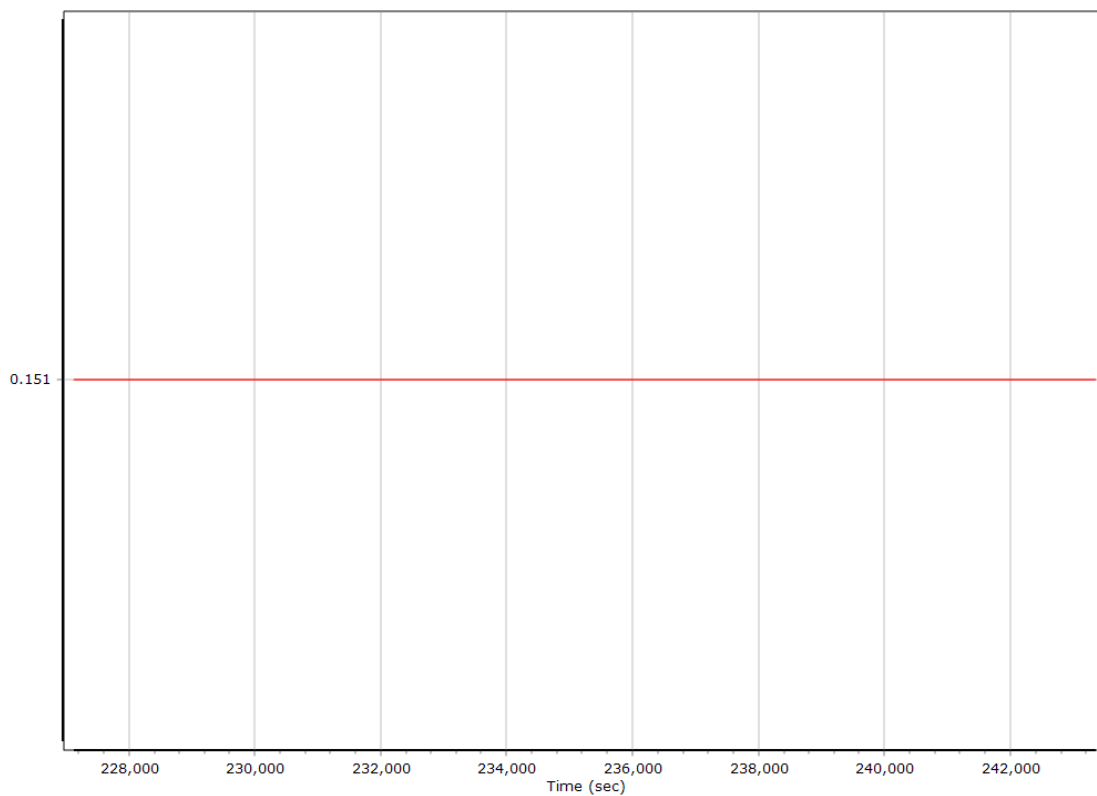
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

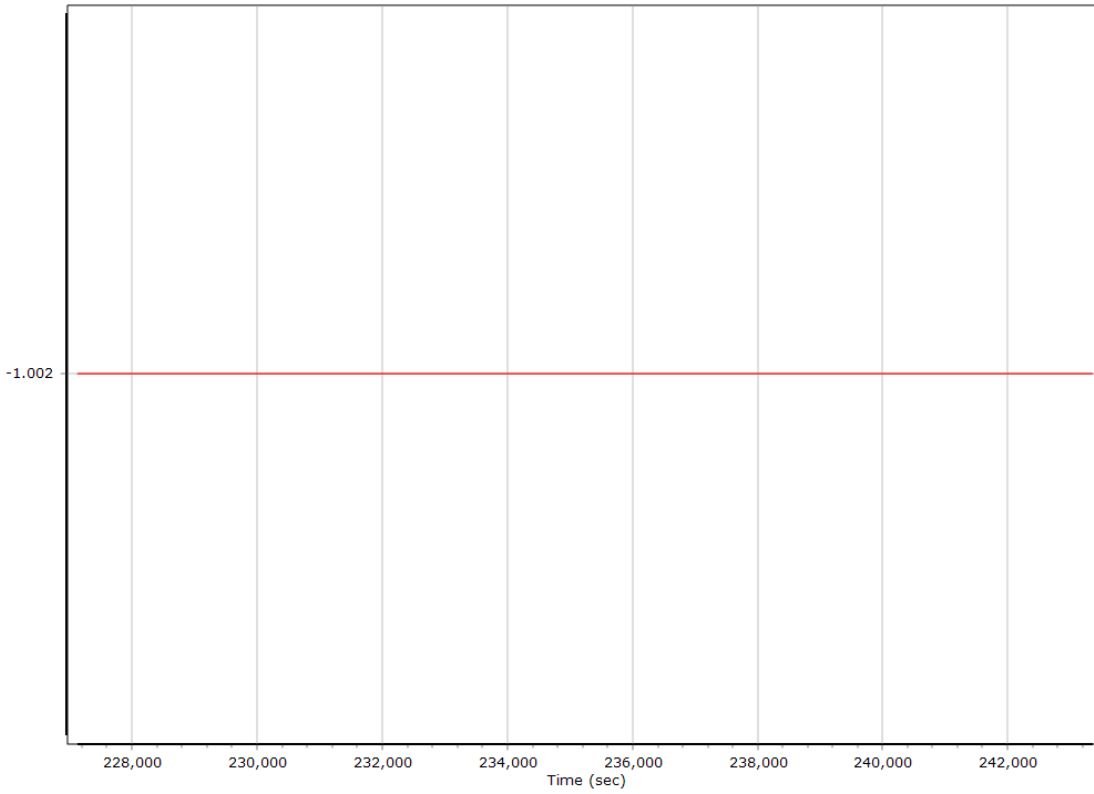
X Reference-Primary GNSS Lever Arm (m)



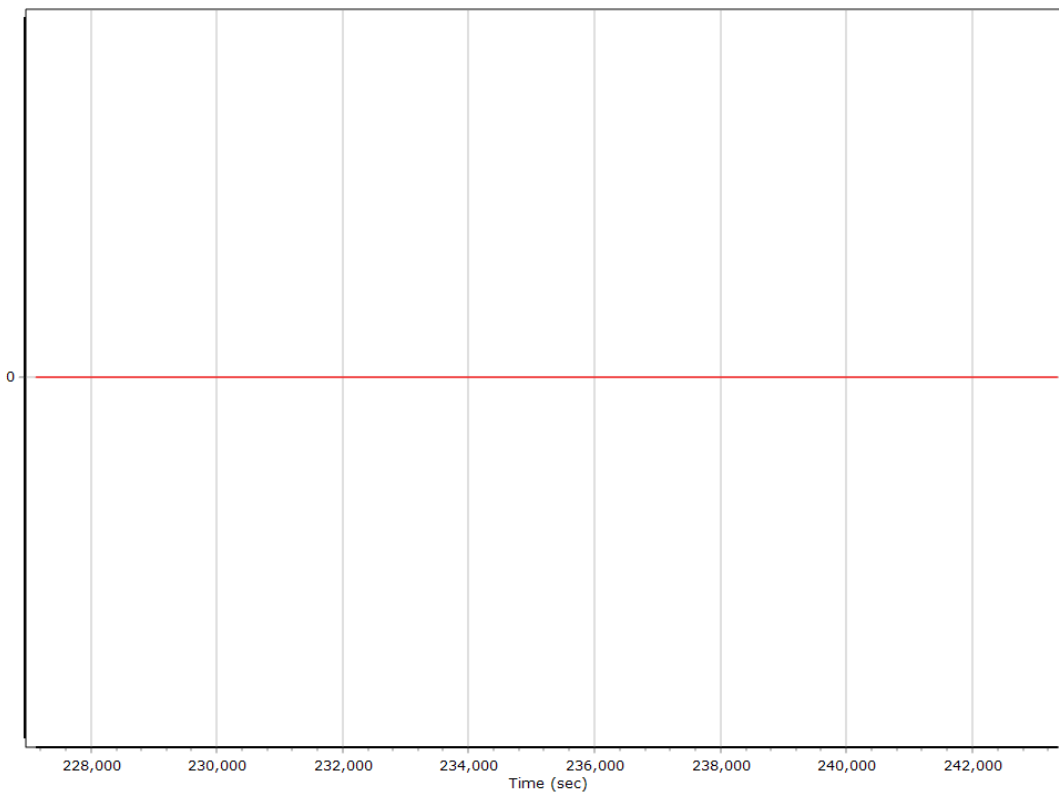
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



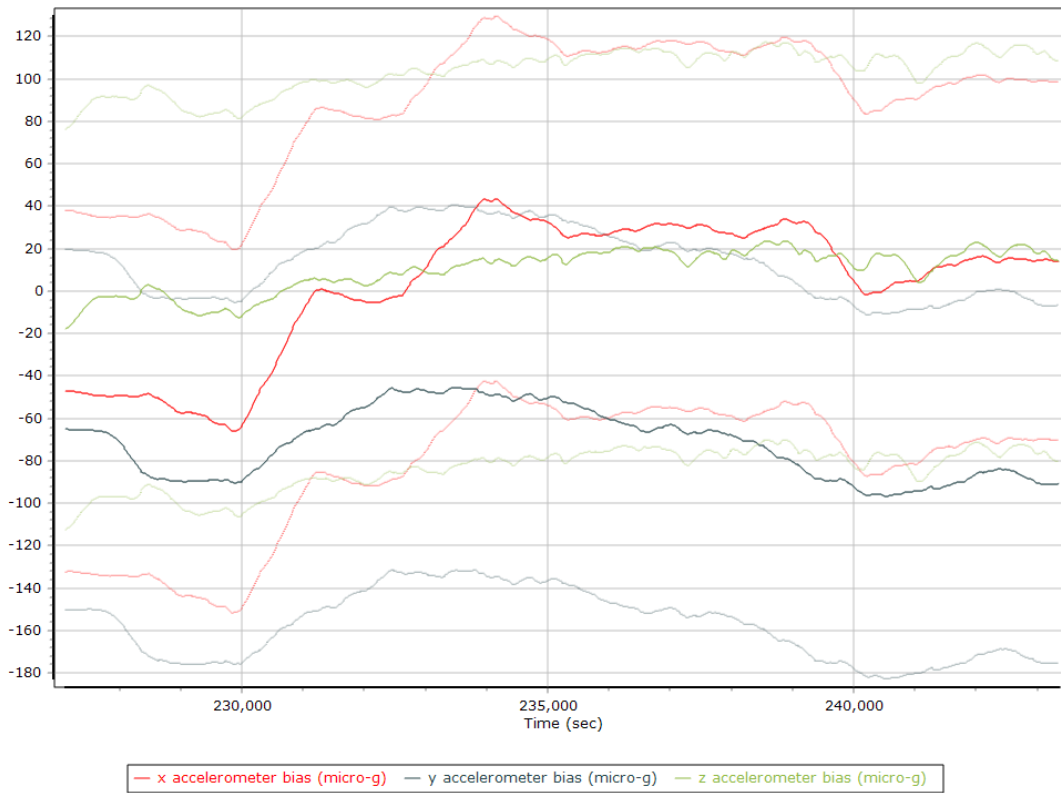
Reference-Primary GNSS Lever Arm Figure of Merit



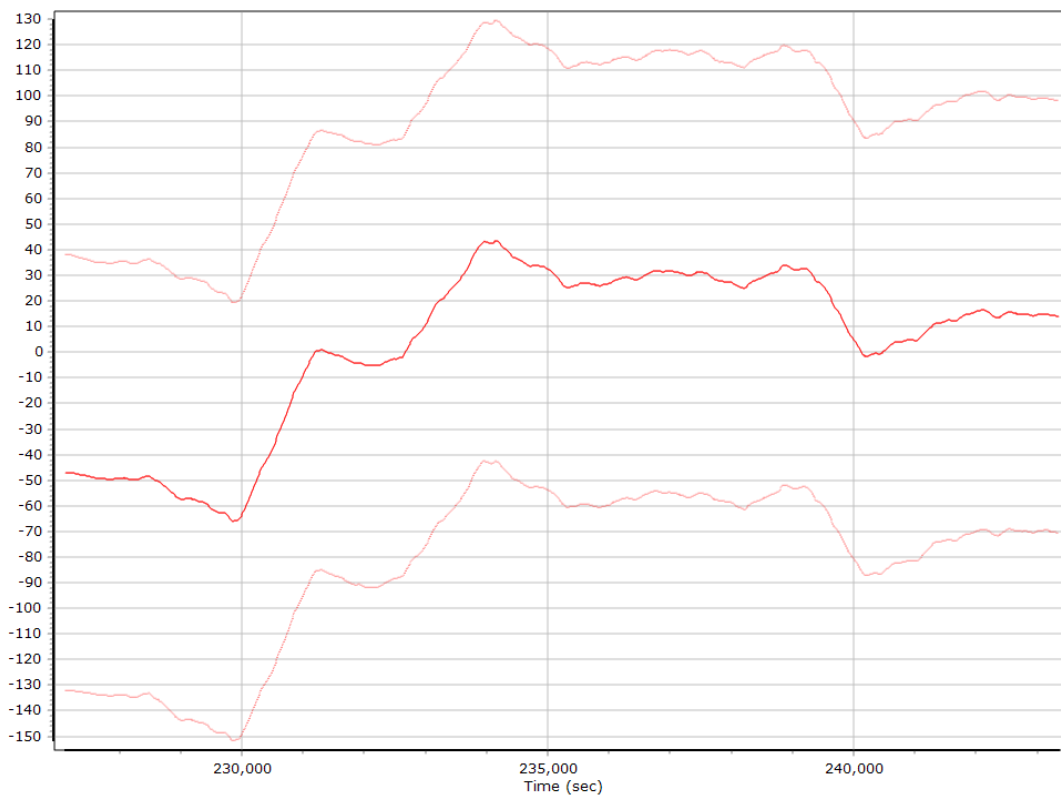
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

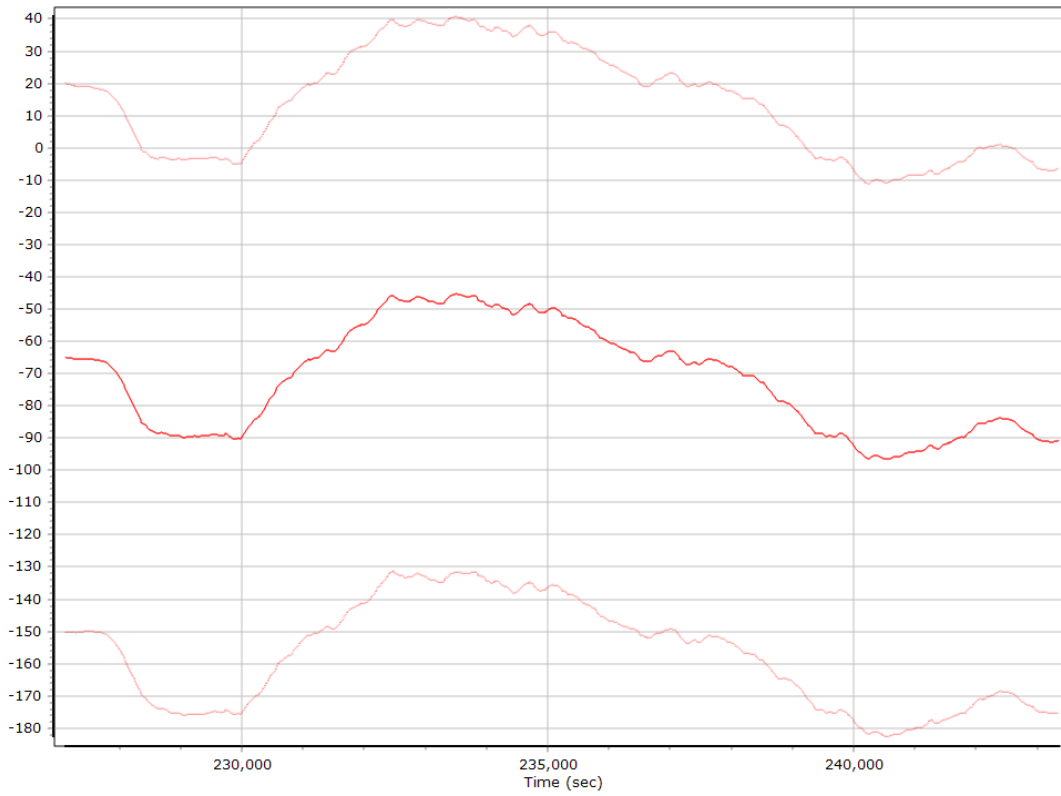
Accelerometer Bias (micro-g)



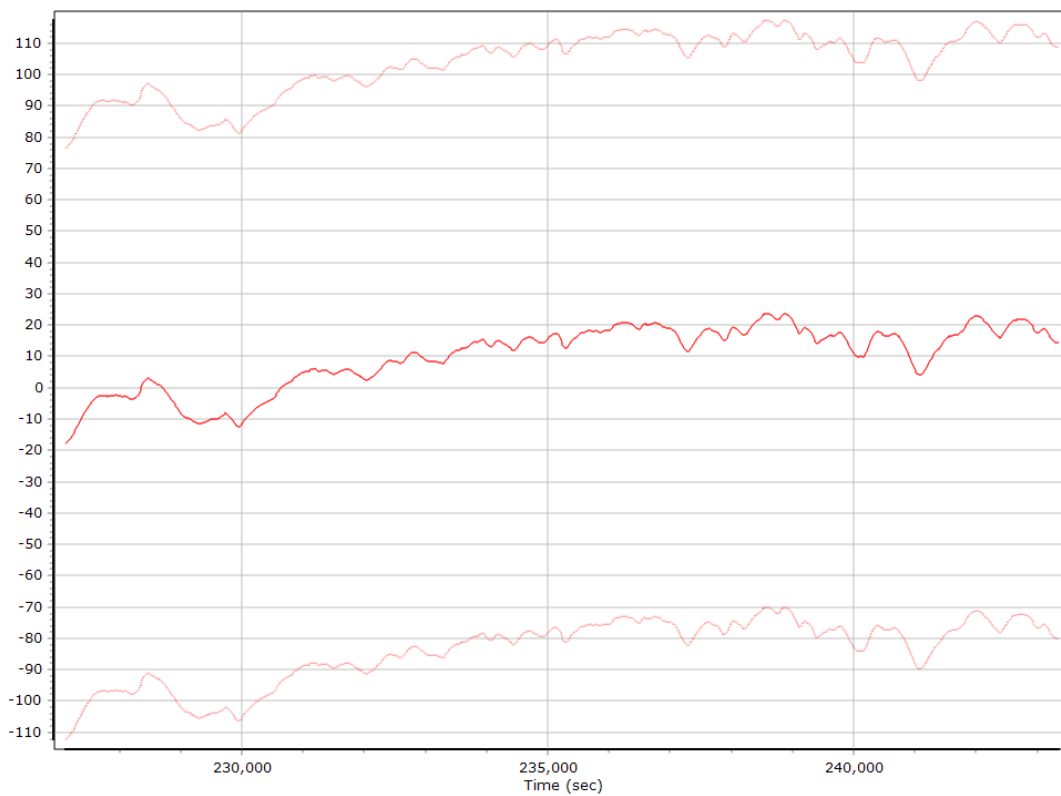
X Accelerometer Bias (micro-g)



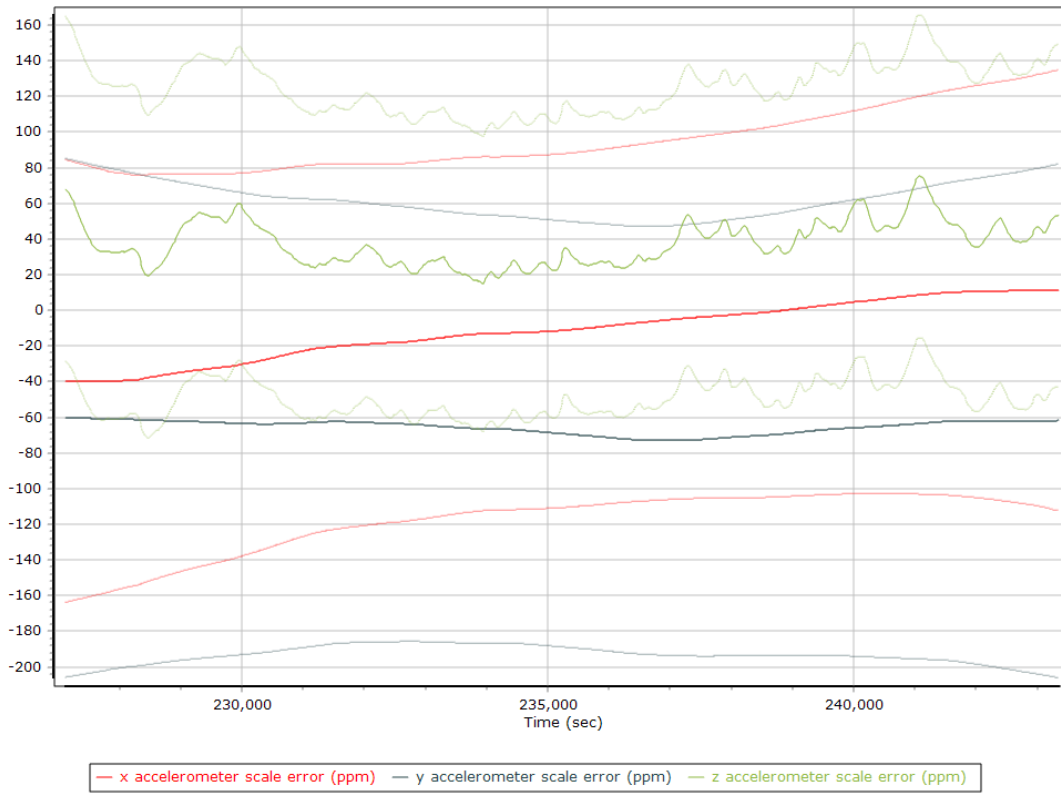
Y Accelerometer Bias (micro-g)



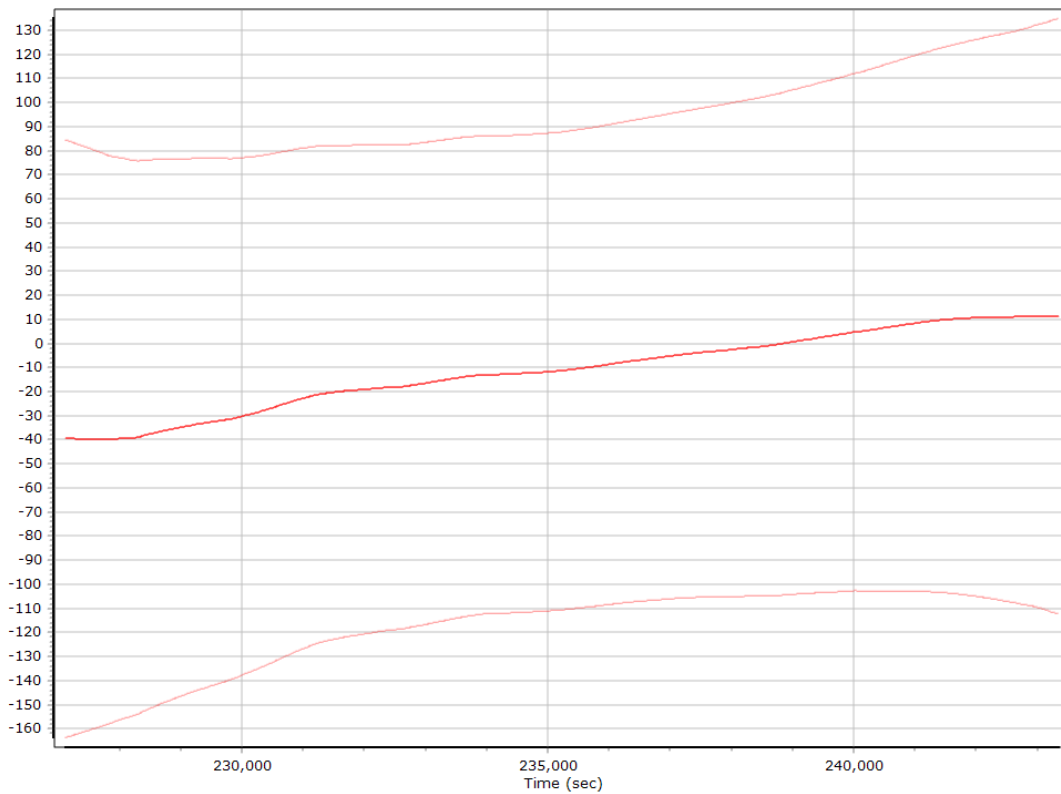
Z Accelerometer Bias (micro-g)



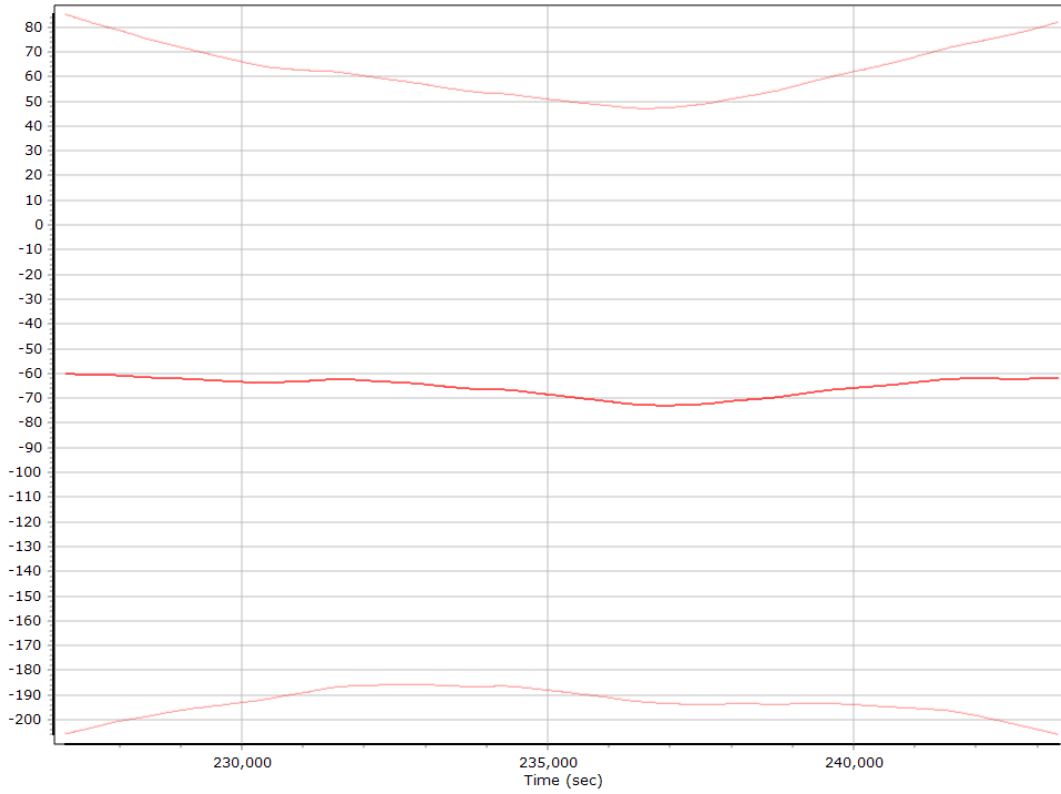
Accelerometer Scale Error (ppm)



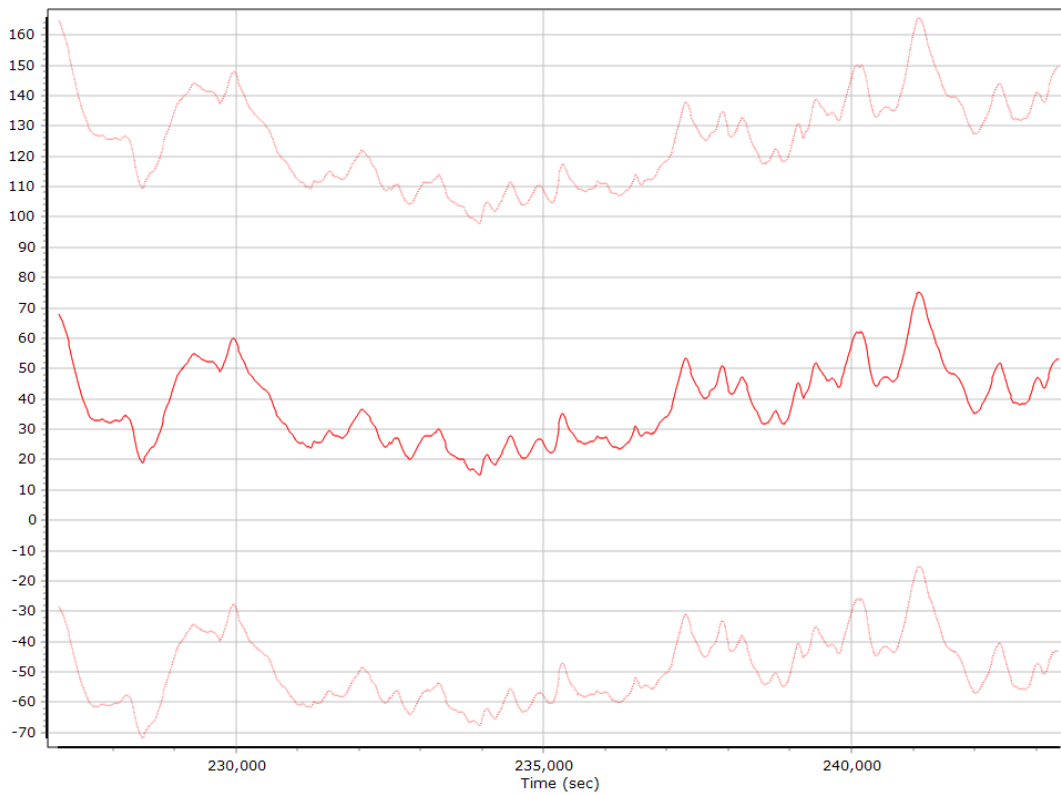
X Accelerometer Scale Error (ppm)



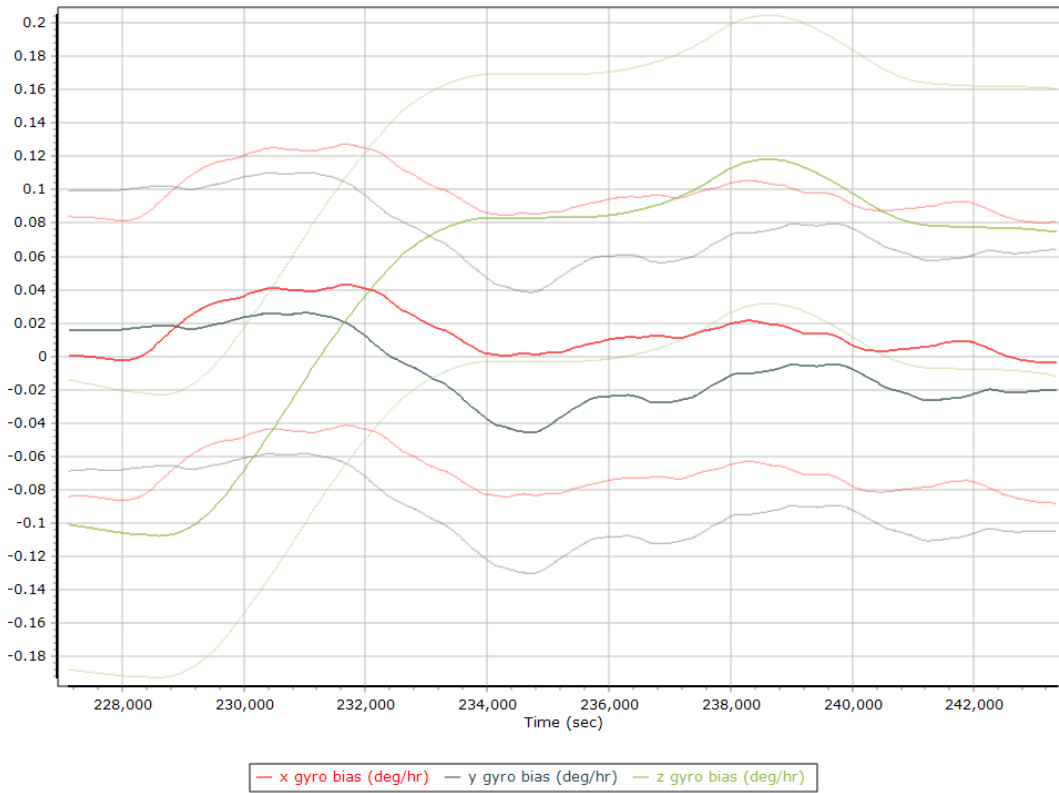
Y Accelerometer Scale Error (ppm)



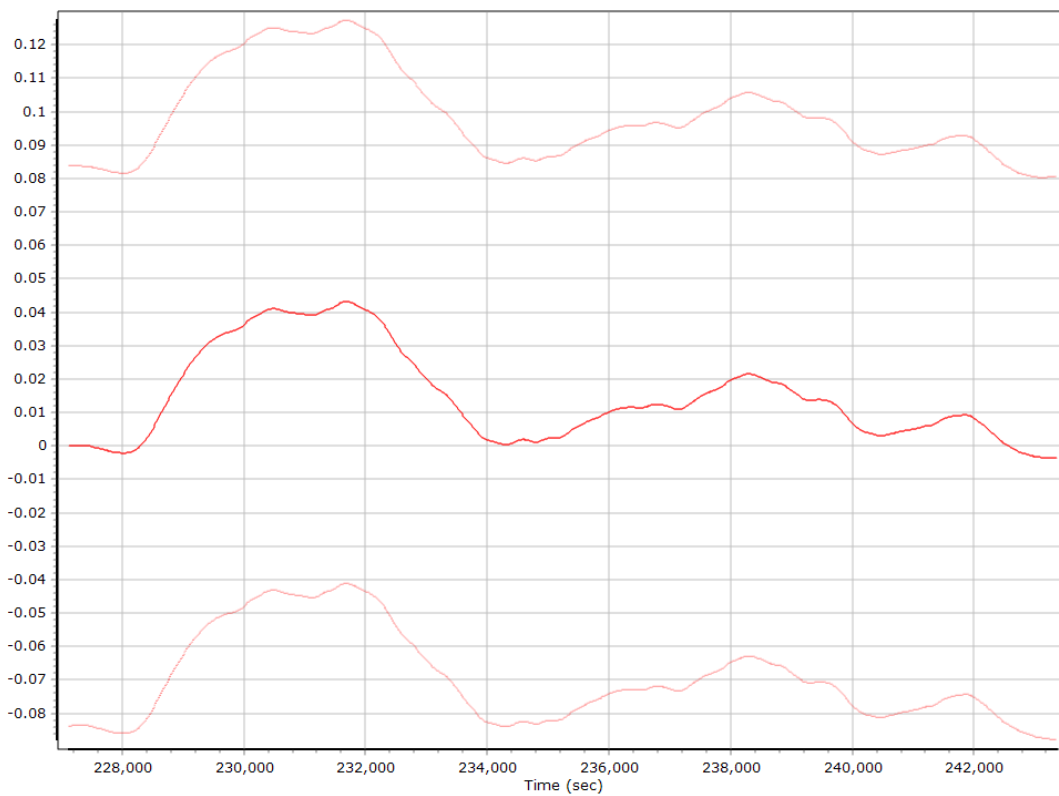
Z Accelerometer Scale Error (ppm)



Gyro Bias (deg/h)



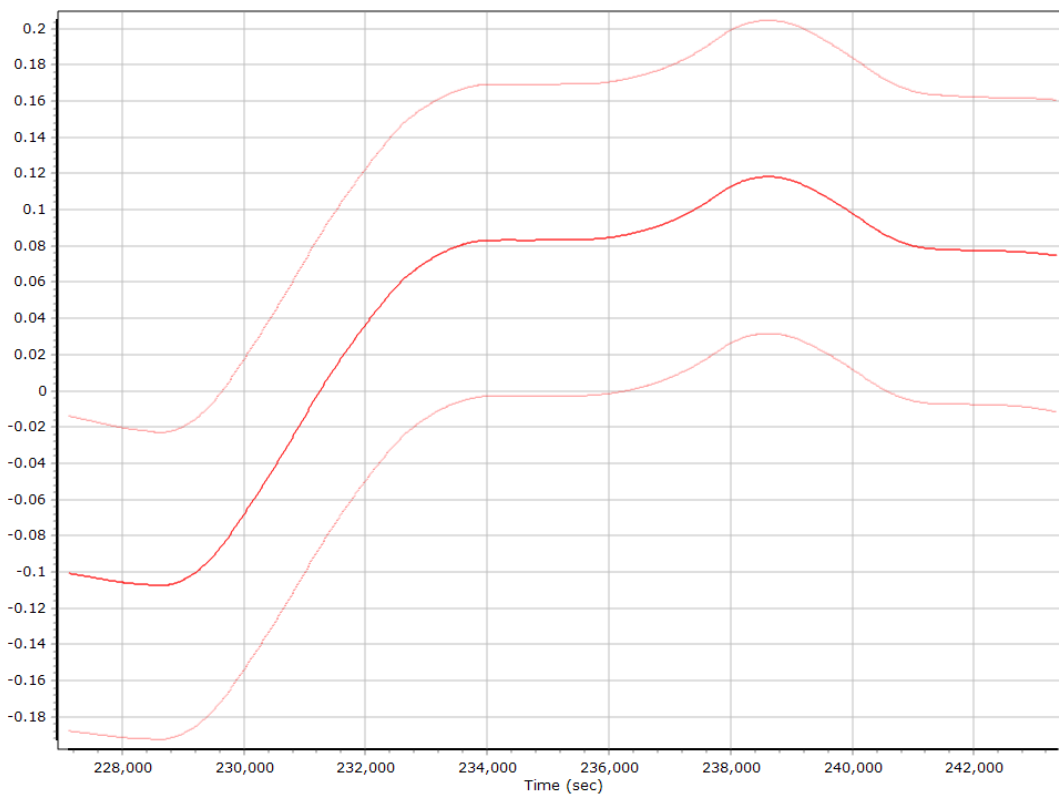
X Gyro Bias (deg/h)



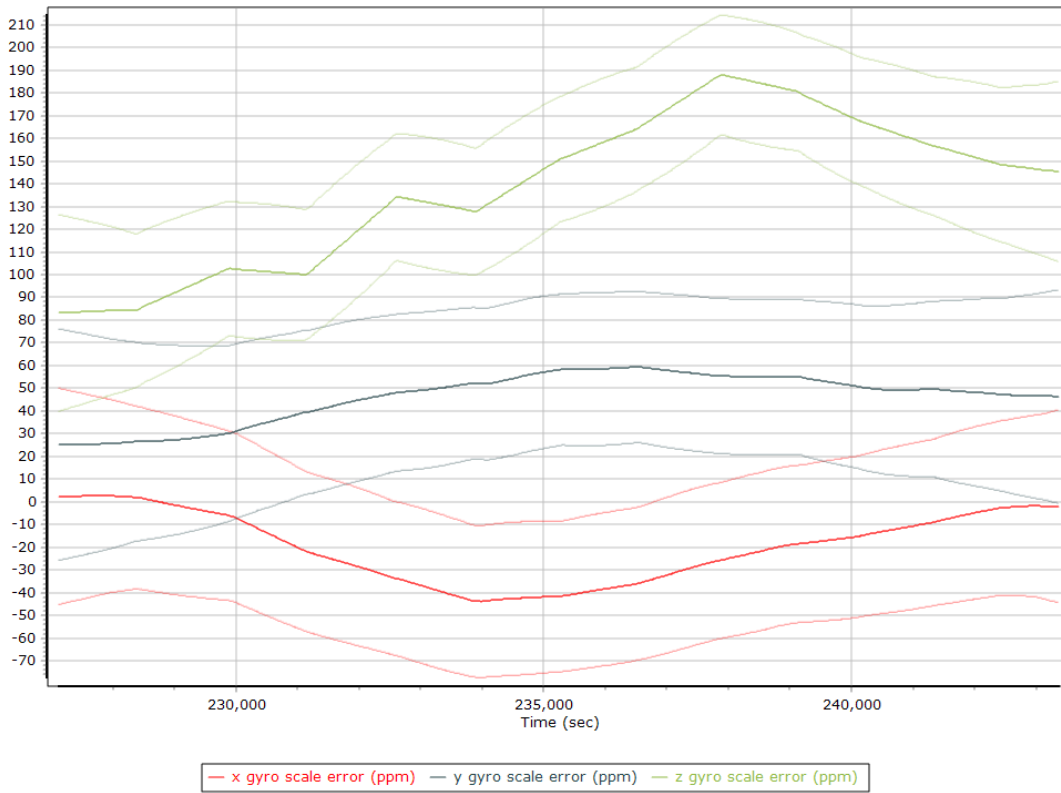
Y Gyro Bias (deg/h)



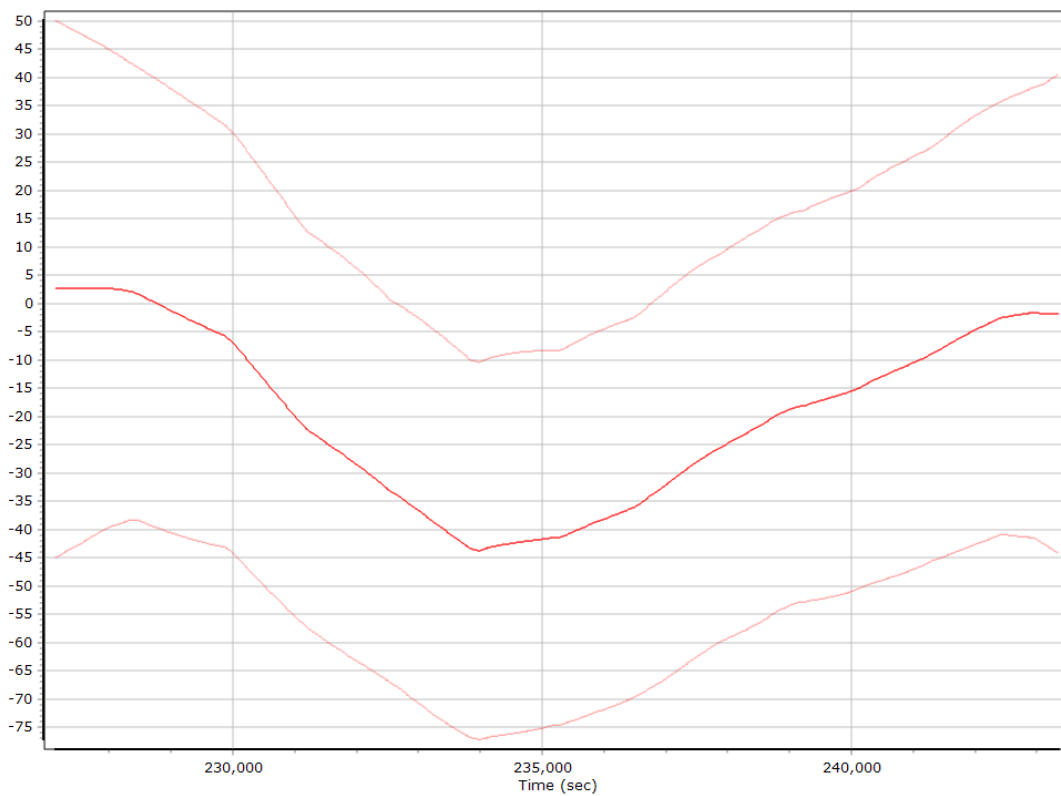
Z Gyro Bias (deg/h)



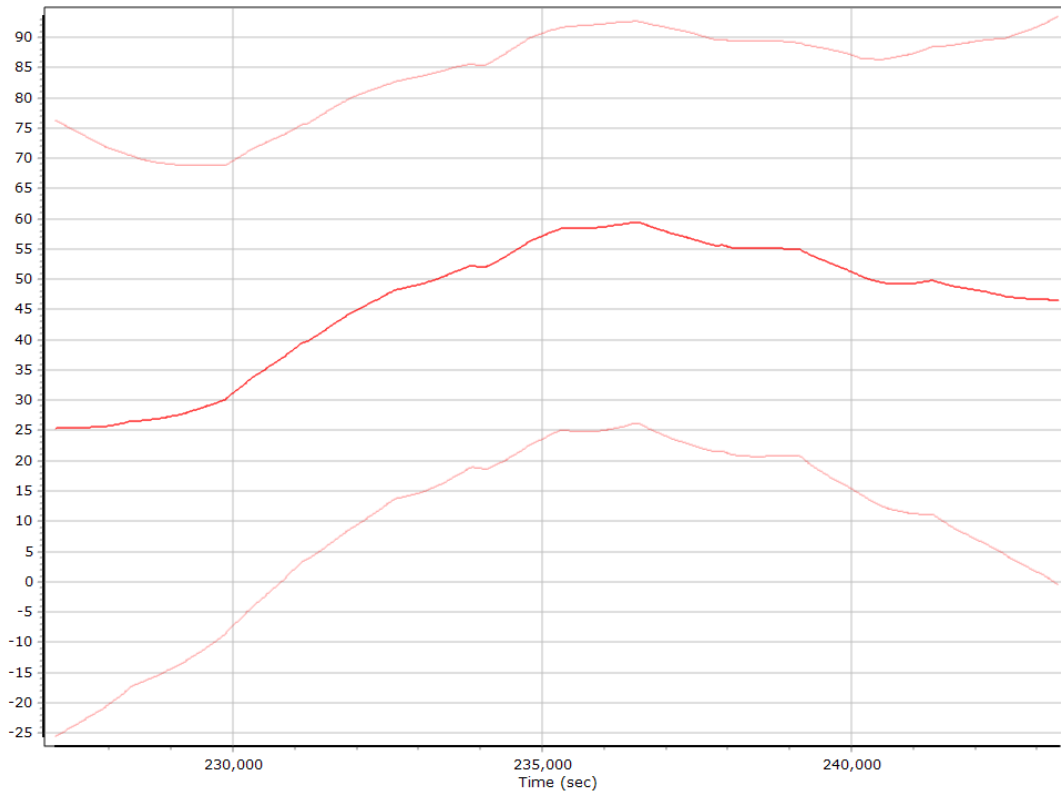
Gyro Scale Error (ppm)



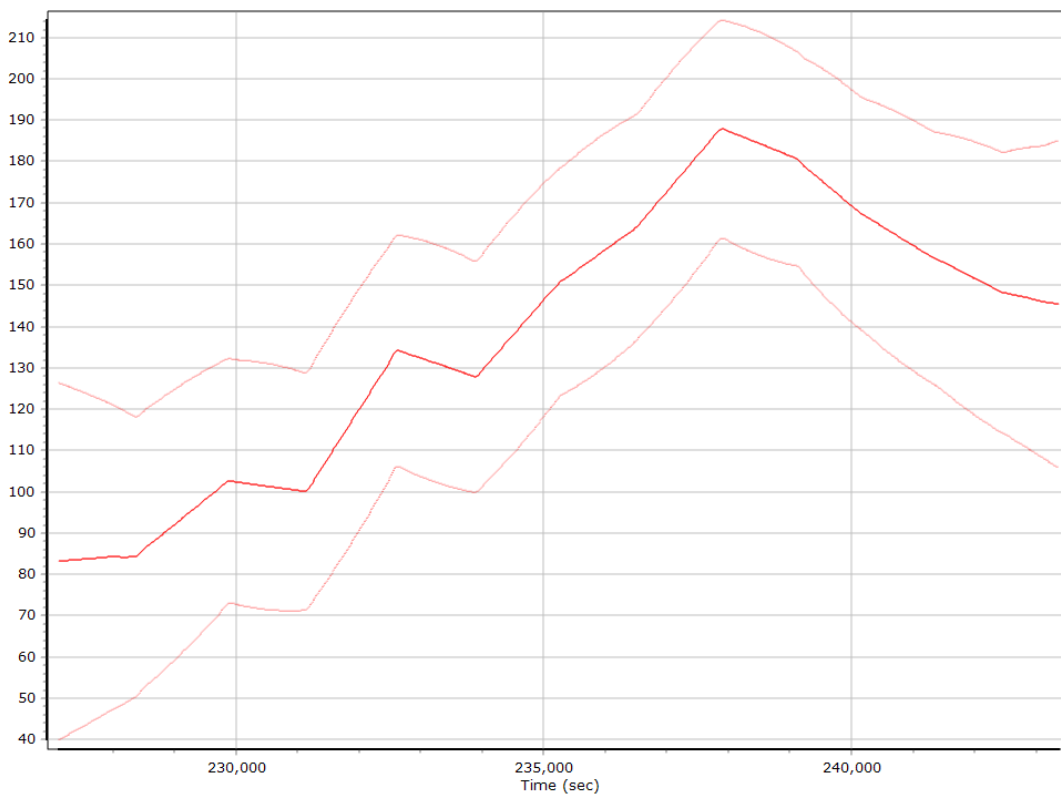
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

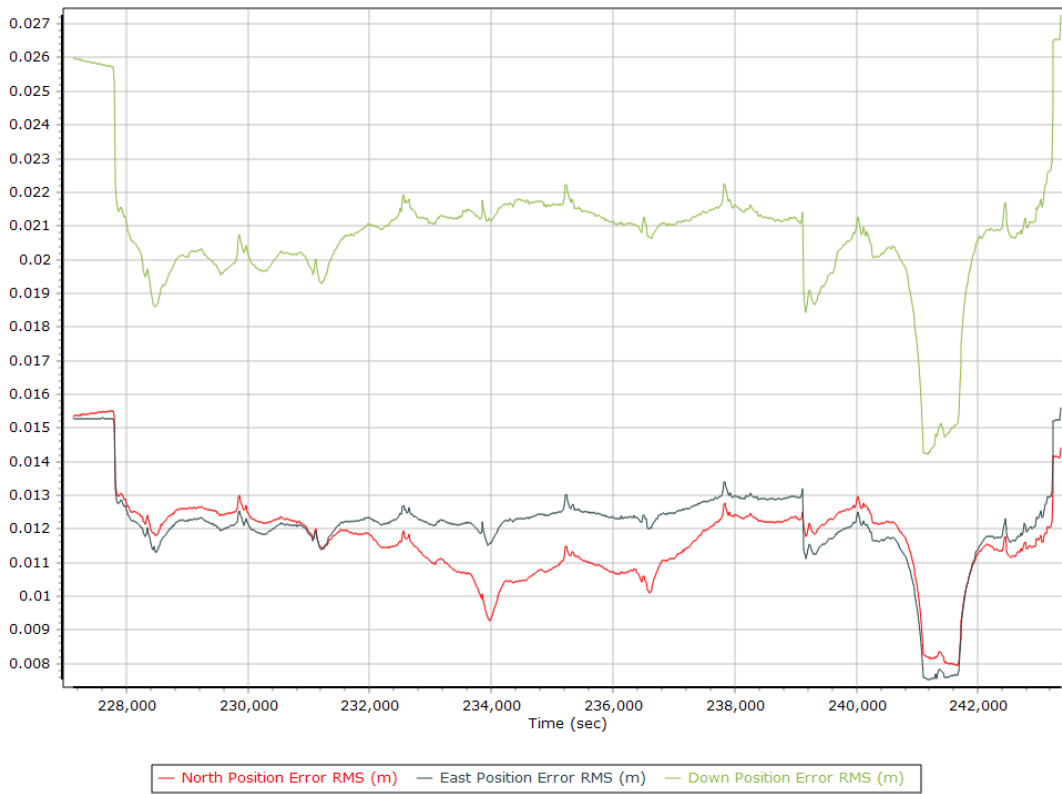


Z Gyro Scale Error (ppm)

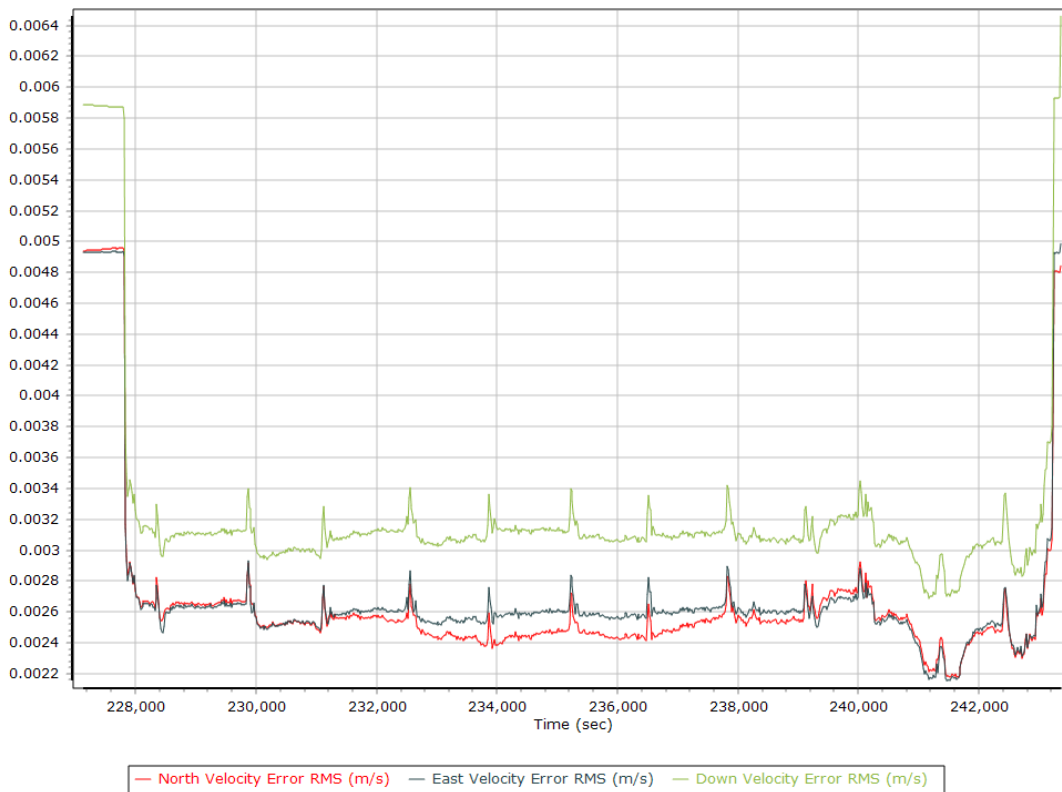


Smoothed Performance Metrics

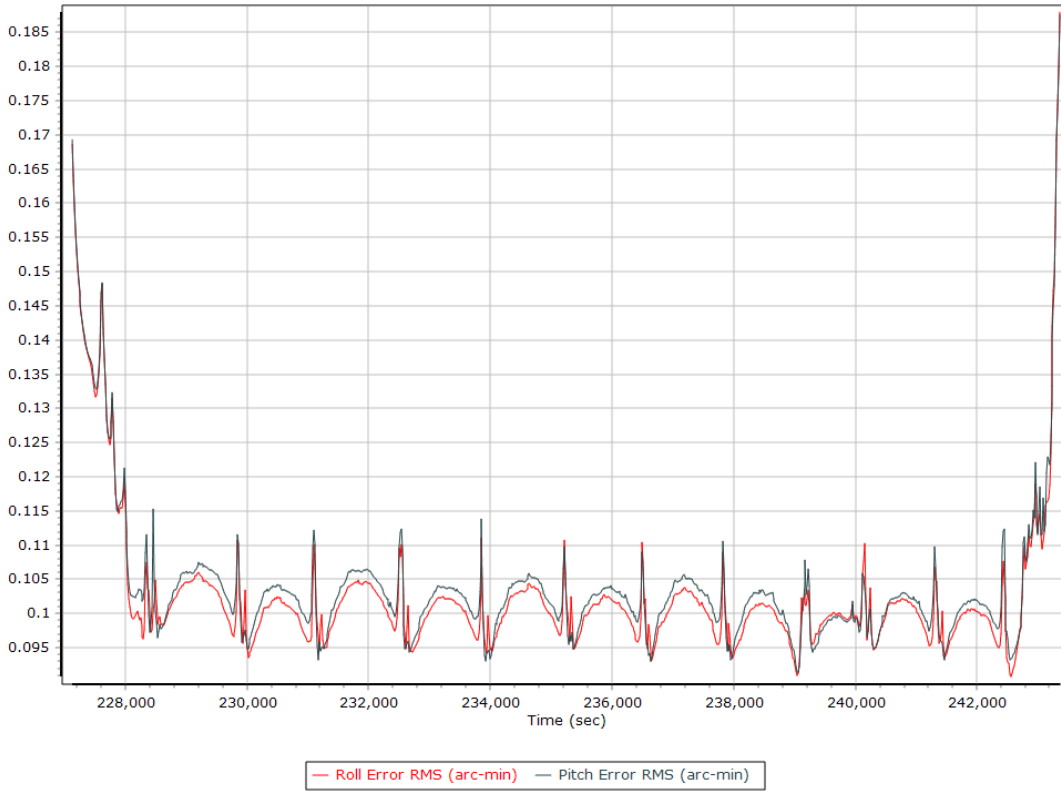
Position Error RMS (m)



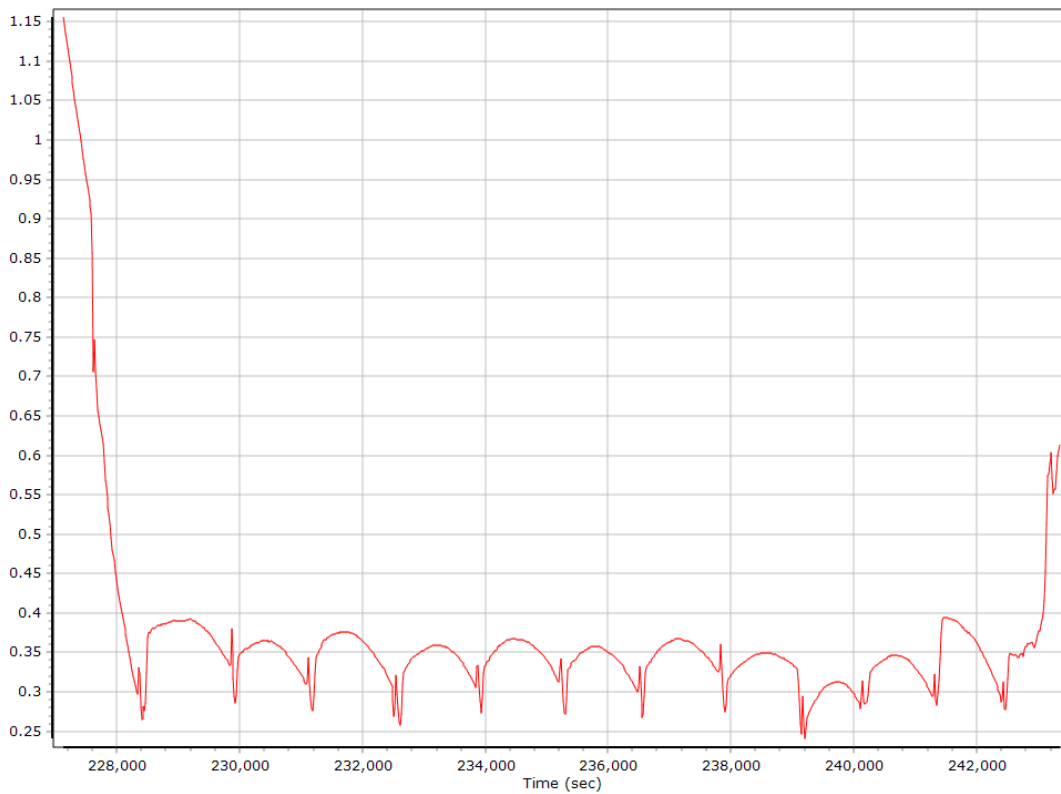
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

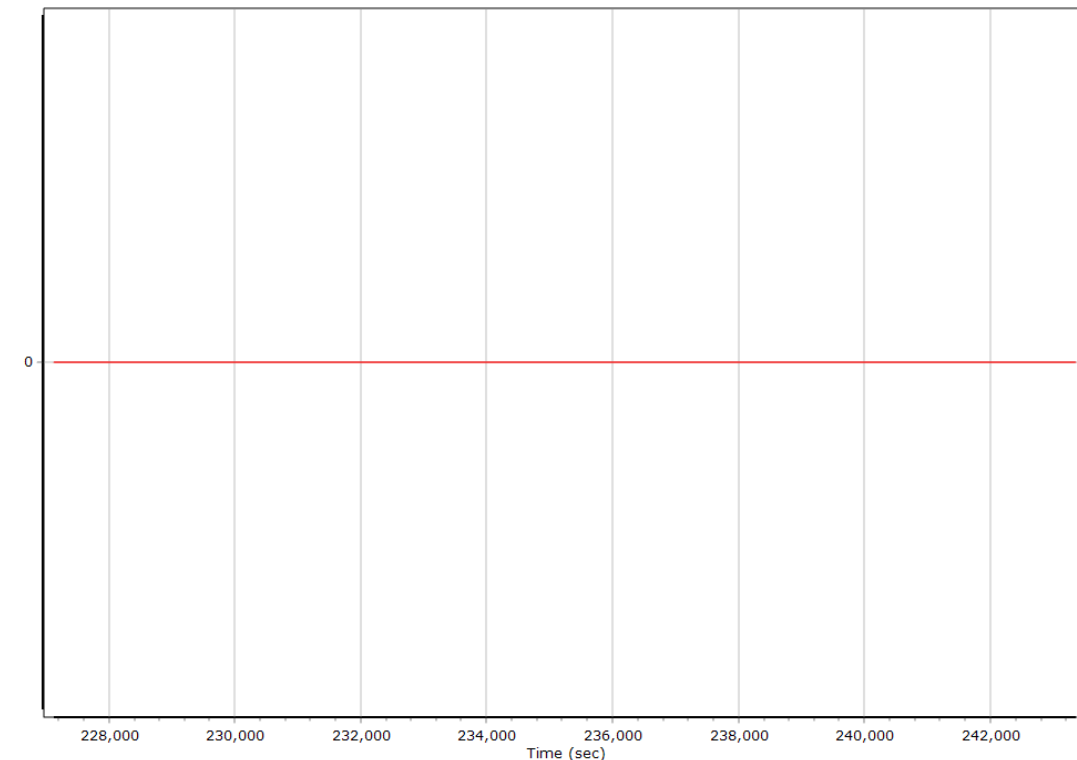


Heading Error RMS (arc-min)



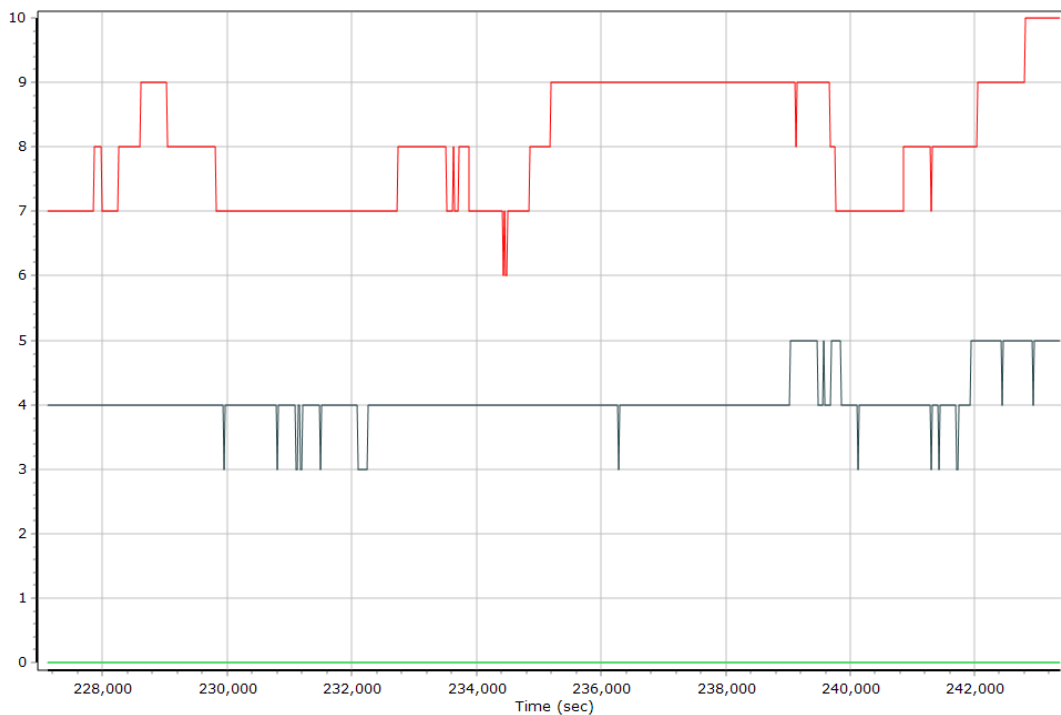
Smoothed Solution Status

Processing Mode



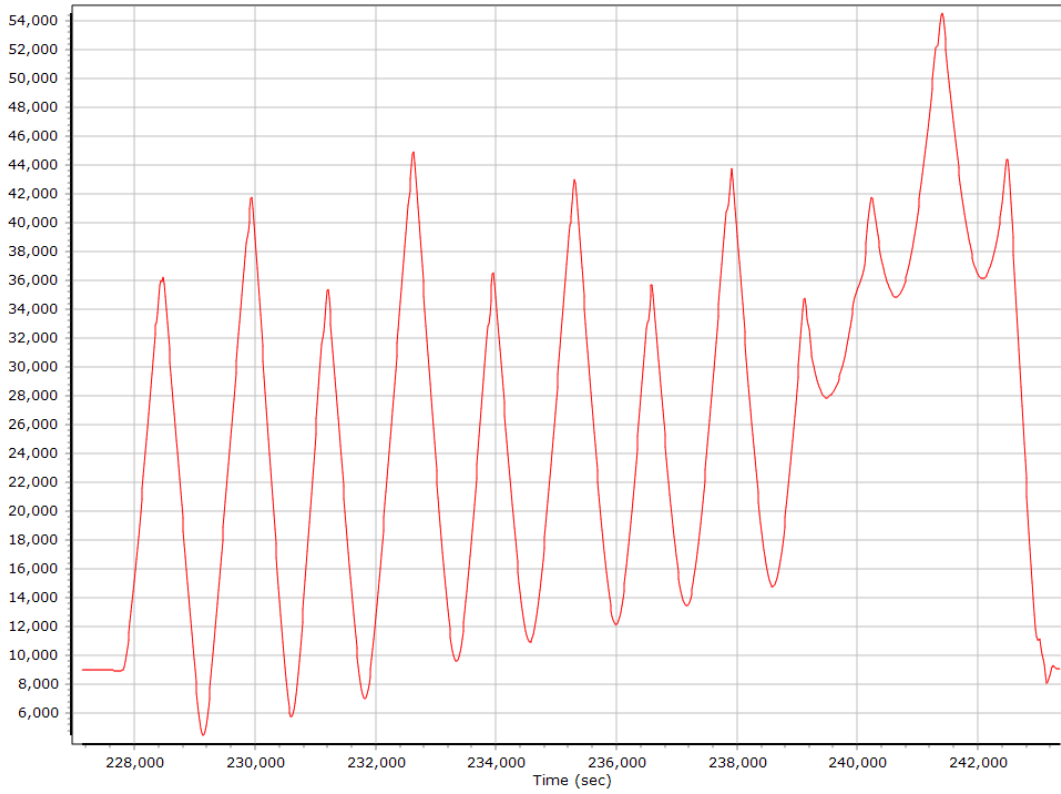
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites

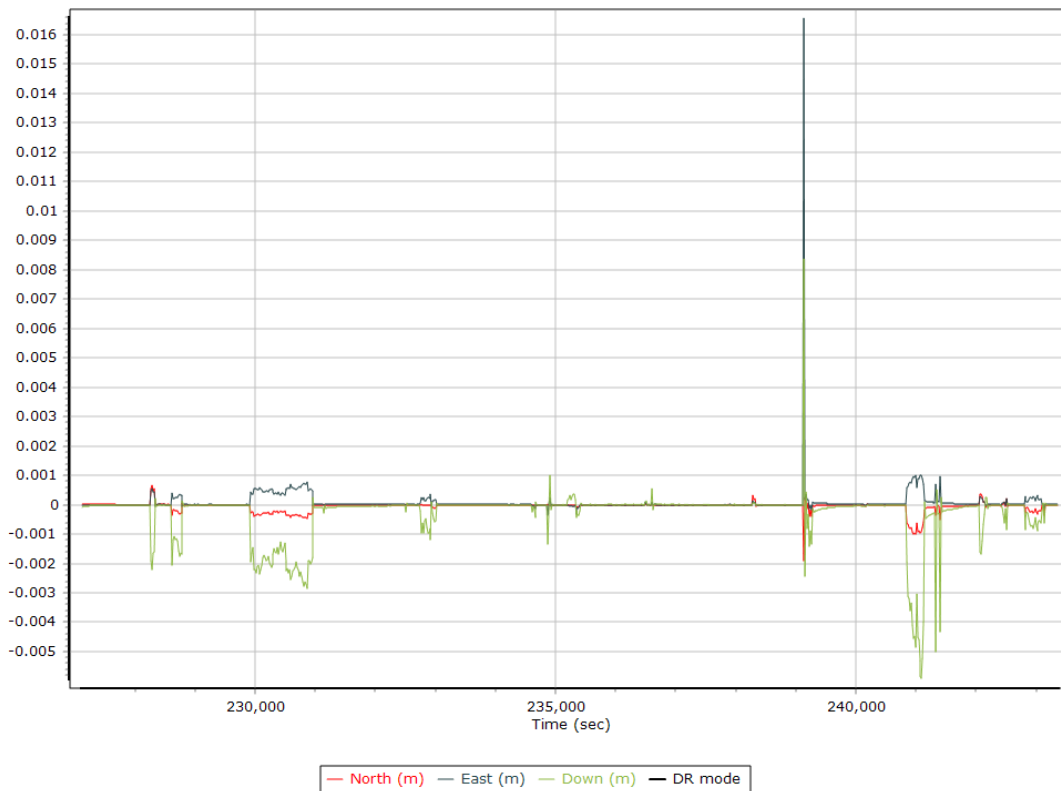


— Number of GPS Satellites
 — Number of GLONASS Satellites
 — Number of QZSS Satellites
— Number of BEIDOU Satellites
 — Number of GALILEO Satellites

Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	PTG19337B
Processing date	2019-12-12 17:28:43
Mission date	2019-12-03 20:34:57
Mission duration	01:45:21.969
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
PTG19337.043	POS Data
PTG19337.044	POS Data
PTG19337.045	POS Data
PTG19337.046	POS Data
PTG19337.047	POS Data
PTG19337.048	POS Data
PTG19337.049	POS Data
PTG19337.050	POS Data
PTG19337.051	POS Data
PTG19337.052	POS Data
PTG19337.053	POS Data
PTG19337.054	POS Data
PTG19337.055	POS Data
PTG19337.056	POS Data
PTG19337.057	POS Data
PTG19337.058	POS Data

Input Files

File Name	File Type
Ephm3370.19g	GLONASS Broadcast Ephemeris
Ephm3370.19n	GPS Broadcast Ephemeris
Ephm3360.19g	GLONASS Broadcast Ephemeris
Ephm3360.19n	GPS Broadcast Ephemeris
Ephm3380.19g	GLONASS Broadcast Ephemeris
Ephm3380.19n	GPS Broadcast Ephemeris
igu20820_18.sp3	GPS Precise Ephemeris
igu20821_18.sp3	GPS Precise Ephemeris
igu20822_18.sp3	GPS Precise Ephemeris
igu20823_18.sp3	GPS Precise Ephemeris
flbr_daily3370.19o	GNSS SingleBase
flck_daily3370.19o	GNSS SingleBase
flmc_daily3370.19o	GNSS SingleBase
flmd_daily3370.19o	GNSS SingleBase
gnvl_daily3370.19o	GNSS SingleBase
lkcy_daily3370.19o	GNSS SingleBase
pltk_daily3370.19o	GNSS SingleBase
xcty_daily3370.19o	GNSS SingleBase

Output Files

Filename	File type
sbet_PTG19337B.out	SBET Trajectory File

Rover Data Summary

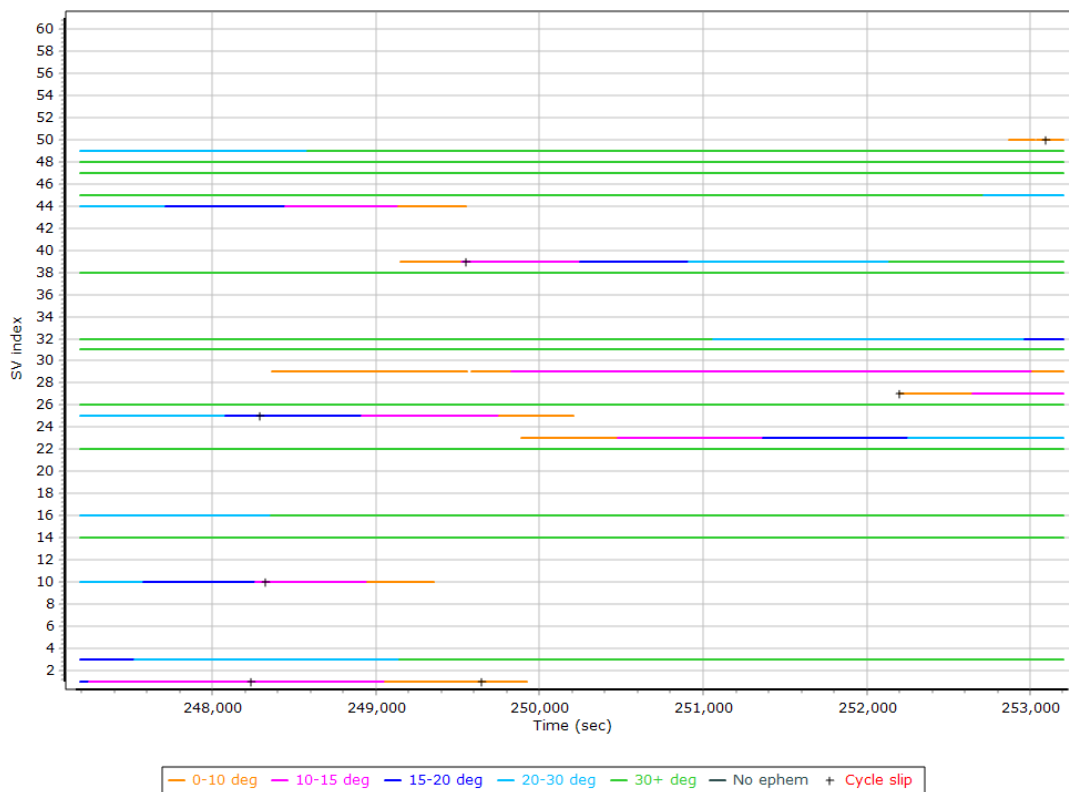
First raw data file	PTG19337.043		
Last raw data file	PTG19337.058		
Start GPS week	2082		
Start time	246879.031 (12/3/2019 8:34:39 PM)		
End time	253202.534 (12/3/2019 10:20:02 PM)		
Start of fine alignment	247133.309 (12/3/2019 8:38:53 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

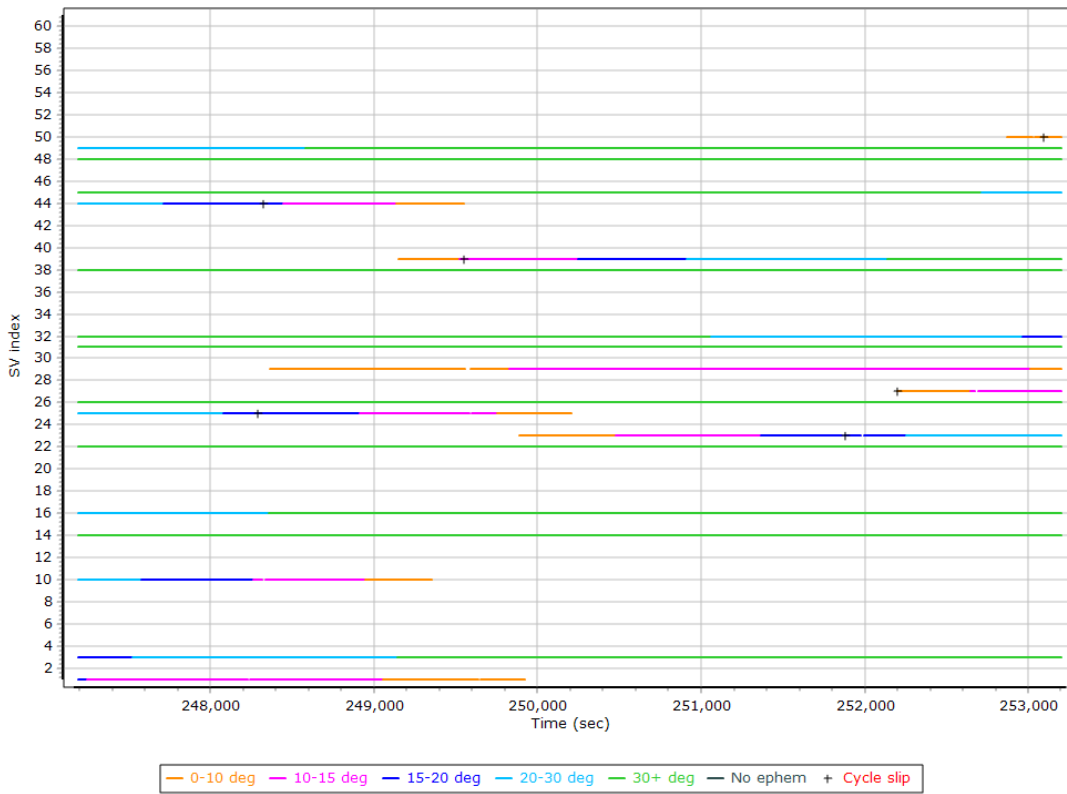
Raw IMU Import QC Summary

IMU data input file	imu_PTG19337B.dat
IMU data check log file	imudt_PTG19337B.log
IMU Records Processed	1264504
Termination Status	Normal
IMU Anomalies	0

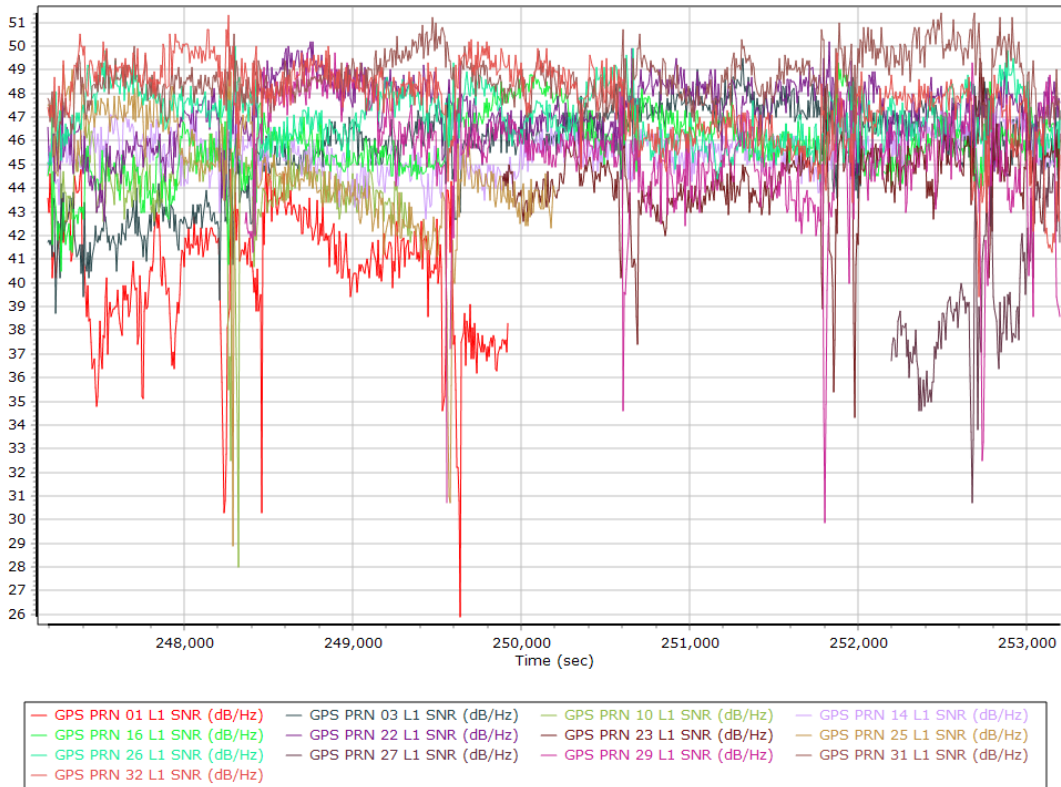
L1 Satellite Lock/Elevation



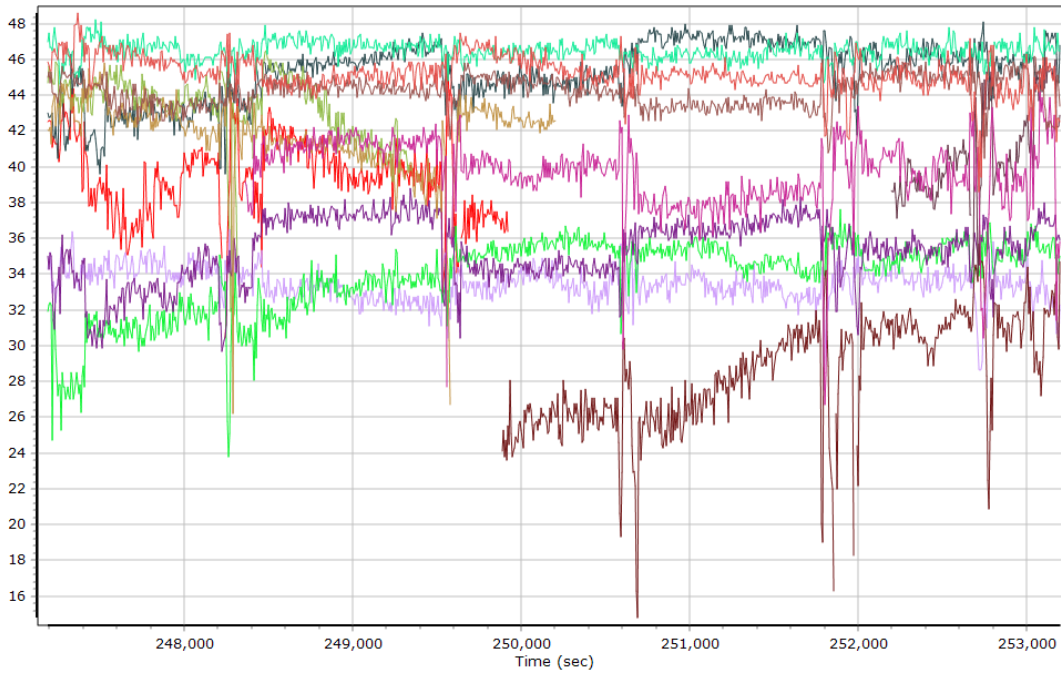
L2 Satellite Lock/Elevation



GPS L1 SNR

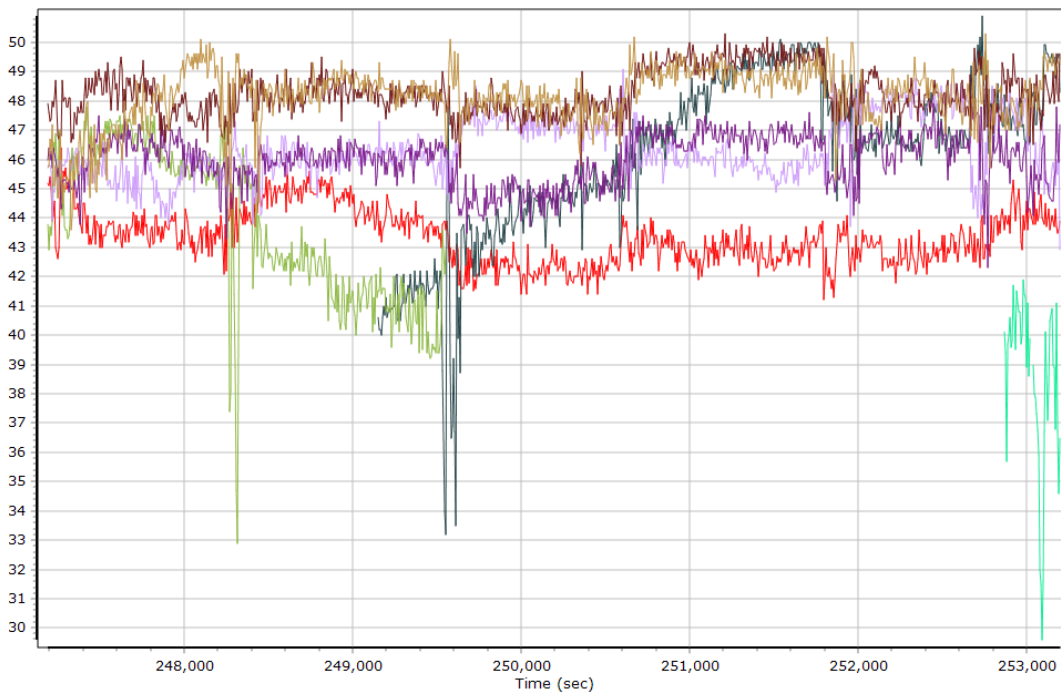


GPS L2 SNR



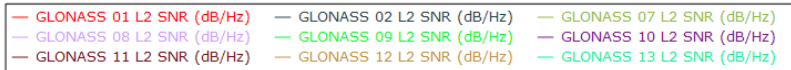
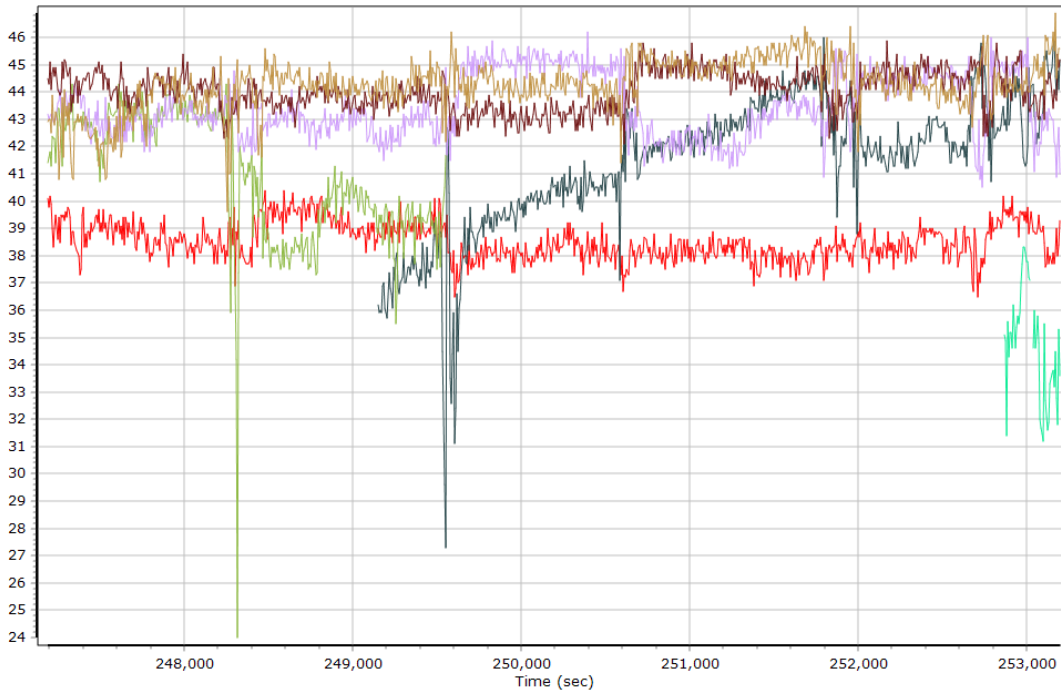
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 03 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 14 L2 SNR (dB/Hz) |
| GPS PRN 16 L2 SNR (dB/Hz) | GPS PRN 22 L2 SNR (dB/Hz) | GPS PRN 23 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) |
| GPS PRN 26 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) | GPS PRN 29 L2 SNR (dB/Hz) | GPS PRN 31 L2 SNR (dB/Hz) |
| GPS PRN 32 L2 SNR (dB/Hz) | | | |

GLONASS L1 SNR

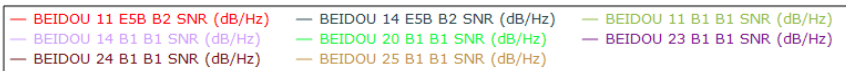
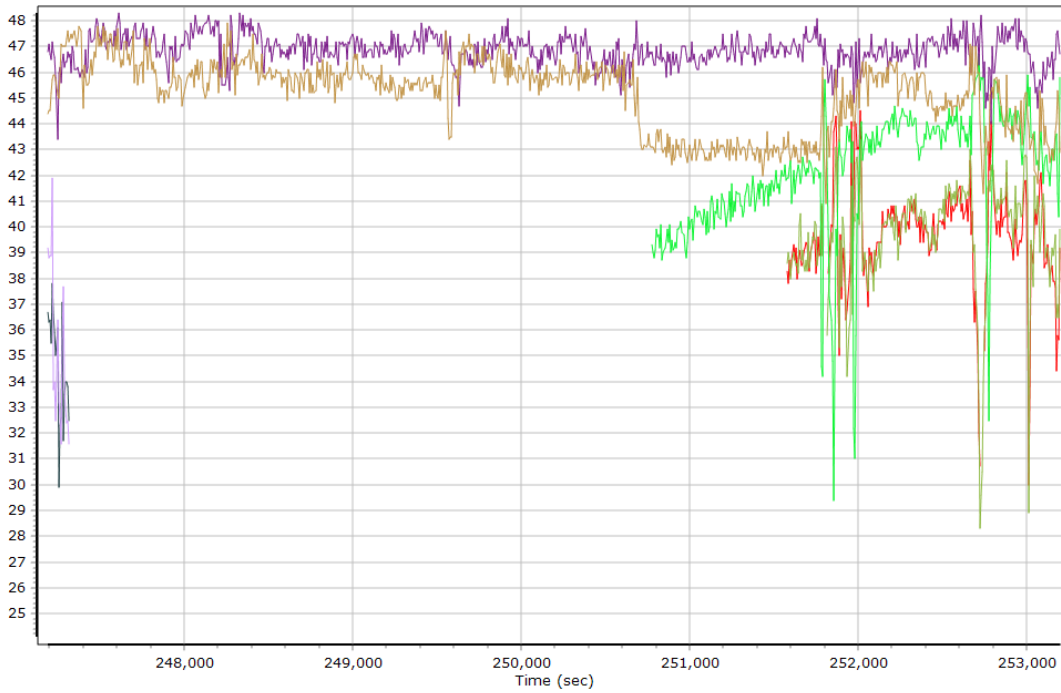


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 02 L1 SNR (dB/Hz) | GLONASS 07 L1 SNR (dB/Hz) |
| GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) | GLONASS 10 L1 SNR (dB/Hz) |
| GLONASS 11 L1 SNR (dB/Hz) | GLONASS 12 L1 SNR (dB/Hz) | GLONASS 13 L1 SNR (dB/Hz) |

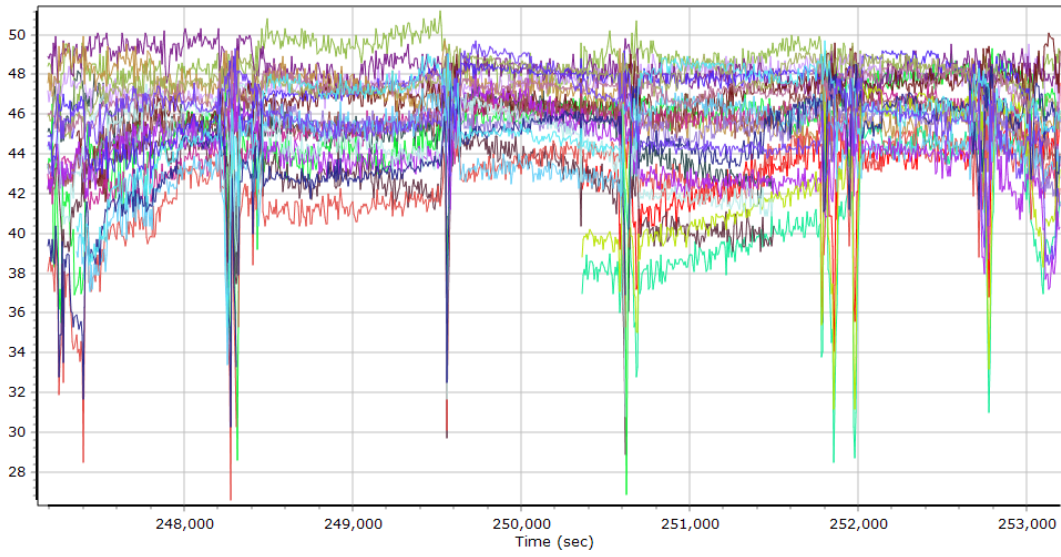
GLONASS L2 SNR



BEIDOU SNR



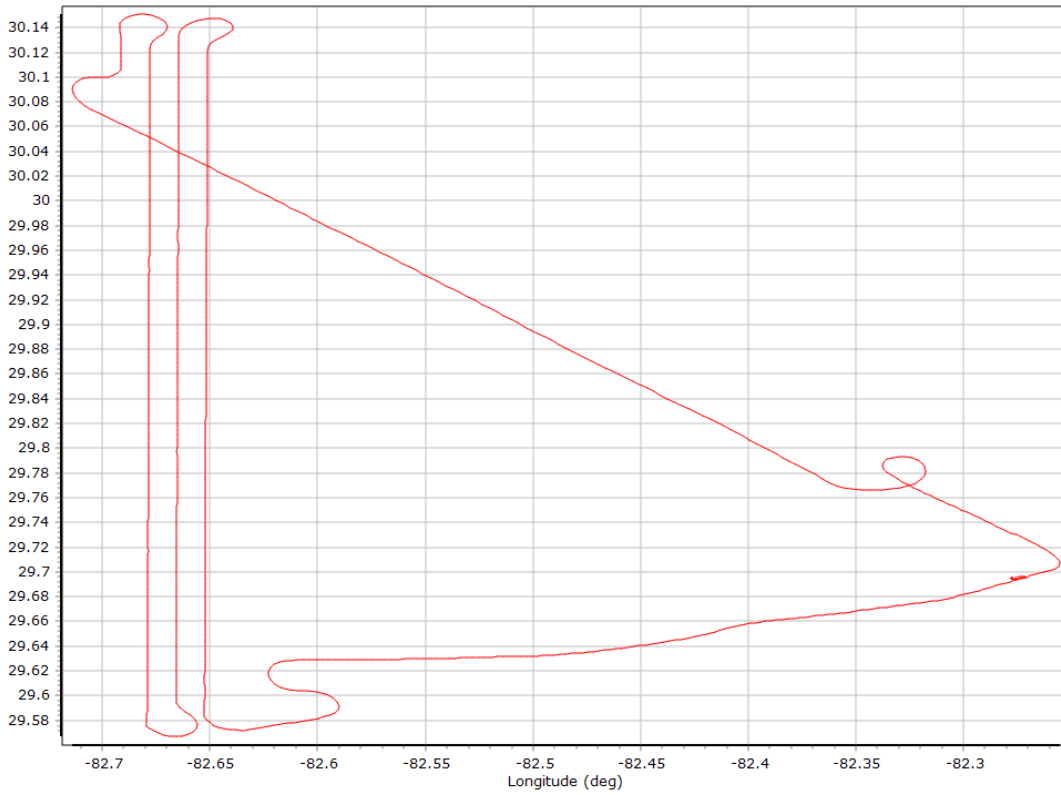
GALILEO SNR



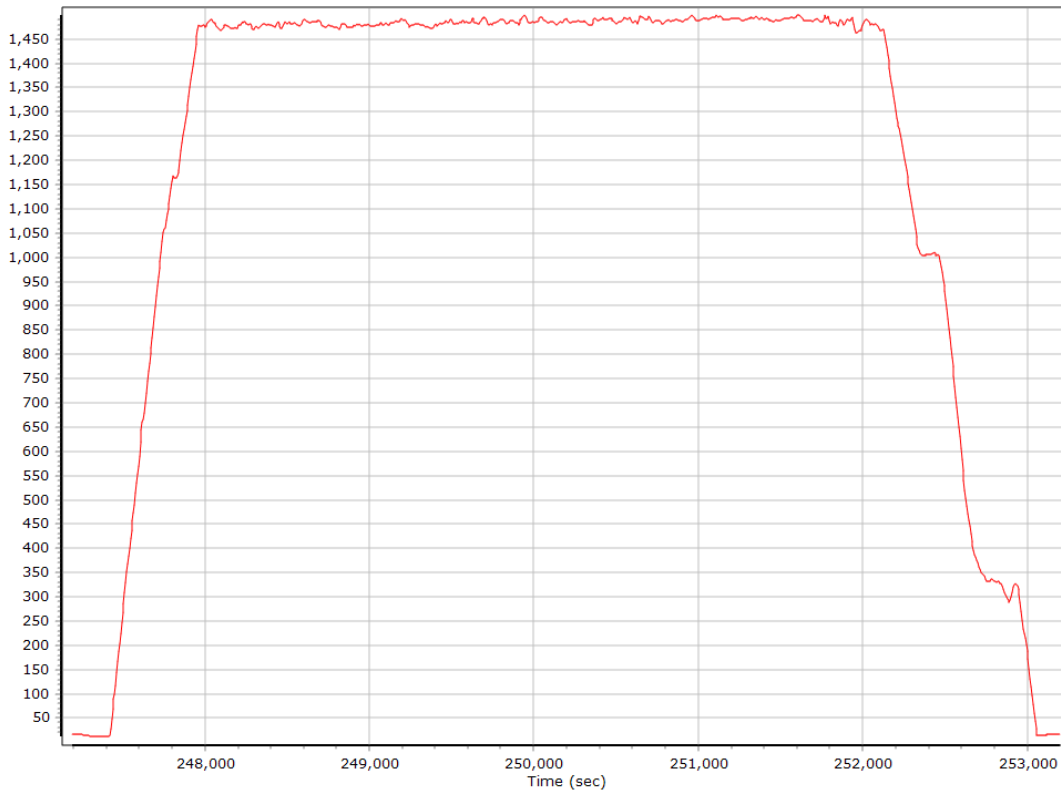
- | | |
|--|--|
| — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 05 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 14 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 24 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 31 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 03 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 04 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 05 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 09 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 14 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 24 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 25 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 31 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 03 E5ABCentre AltBOCCompPD SNR (dB/Hz) | — GALILEO 04 E5ABCentre AltBOCCompPD SNR (dB/Hz) |
| — GALILEO 05 E5ABCentre AltBOCCompPD SNR (dB/Hz) | — GALILEO 09 E5ABCentre AltBOCCompPD SNR (dB/Hz) |

Trajectory Information

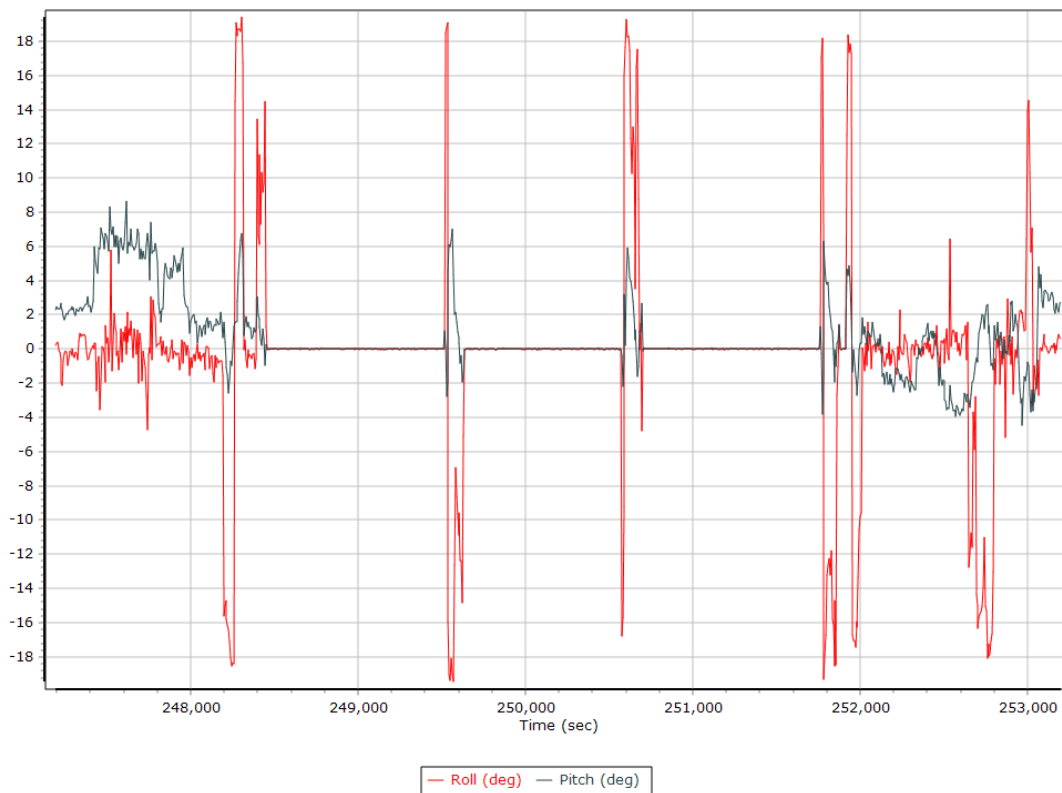
Top View



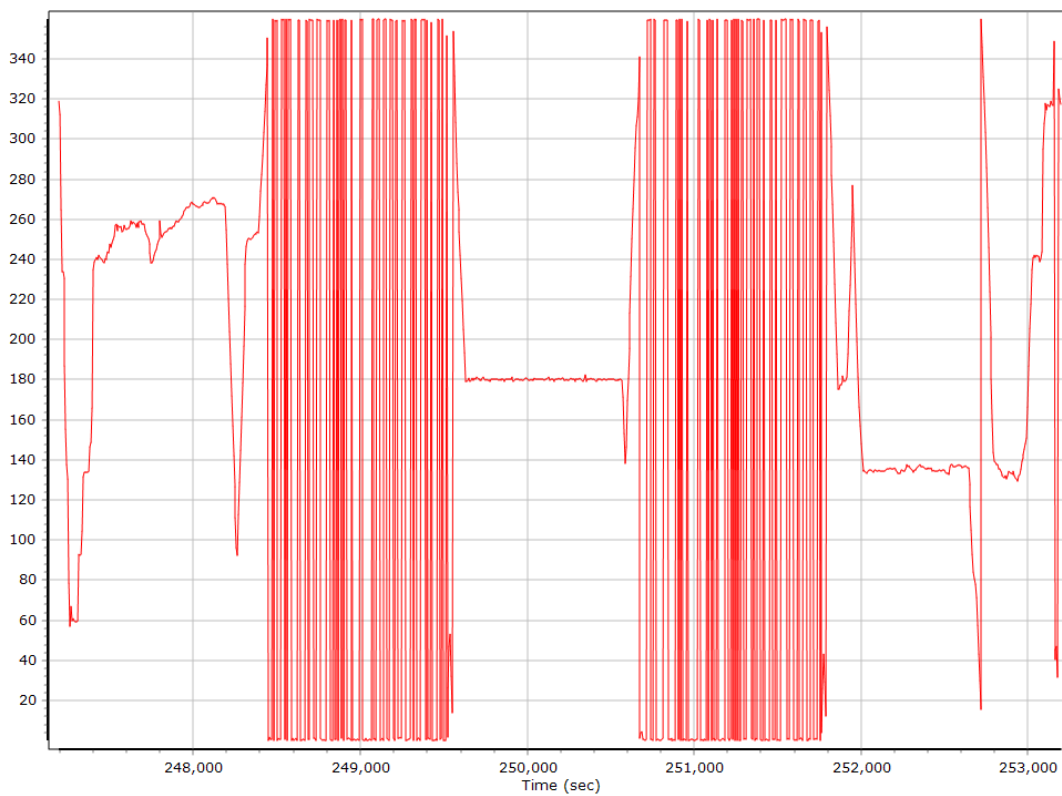
Altitude



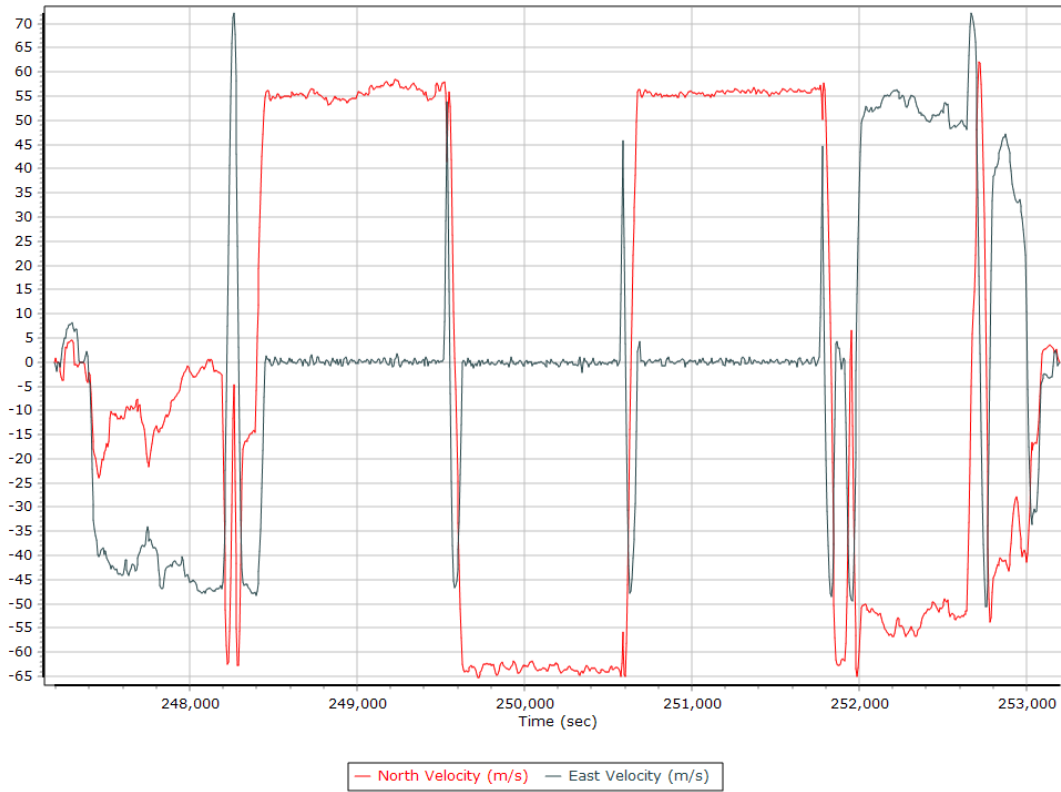
Roll/Pitch



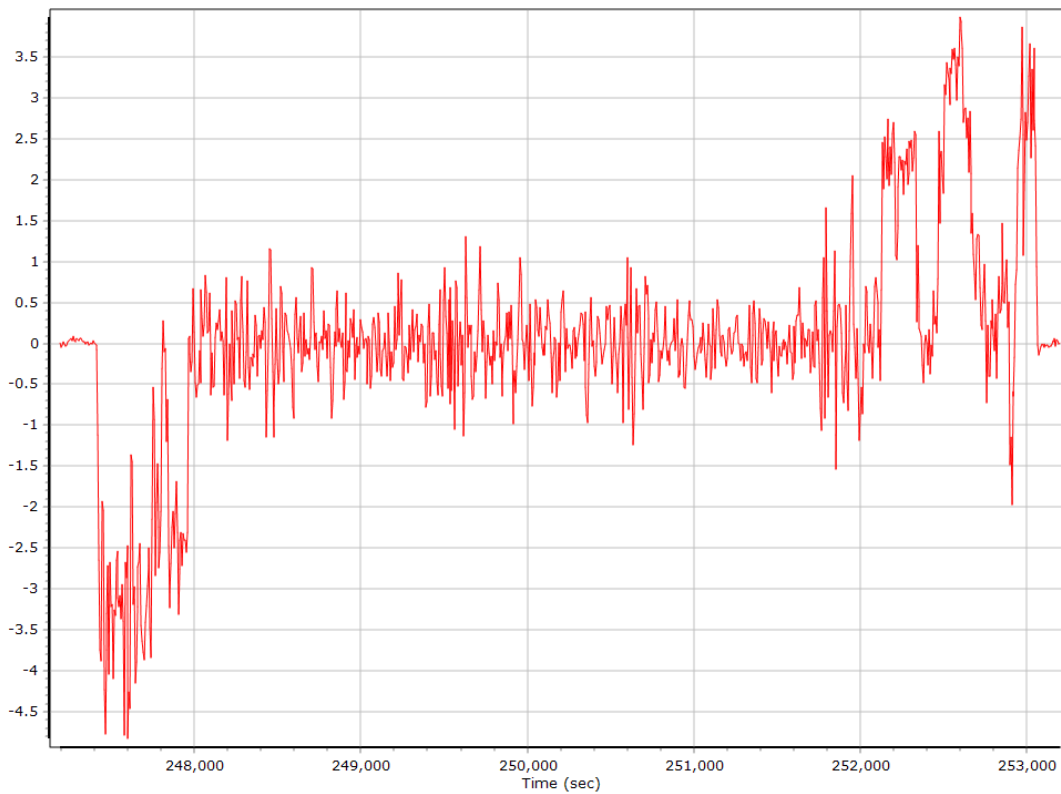
Heading



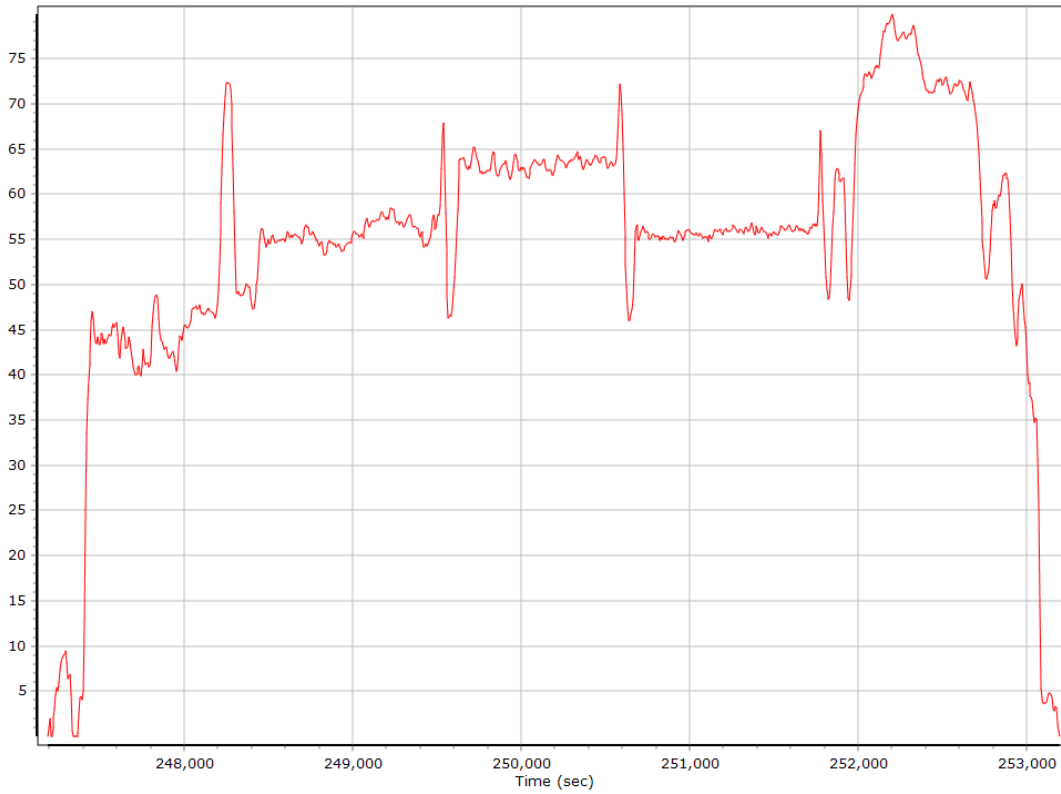
North/East Velocity



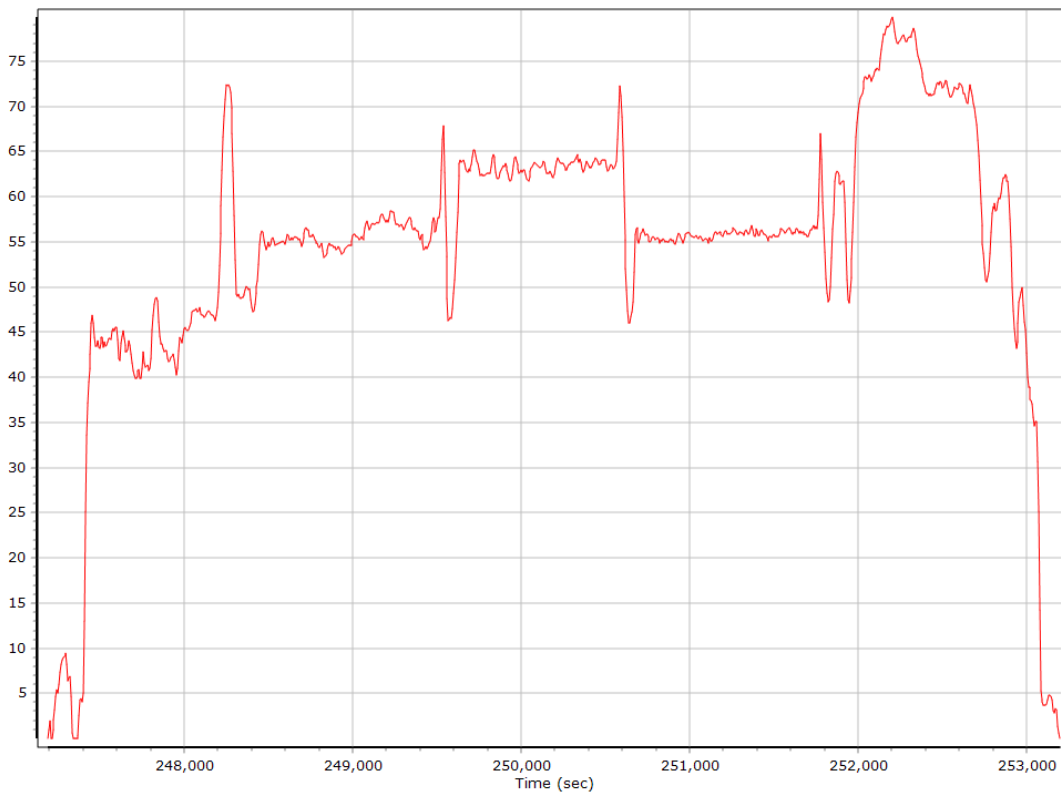
Down Velocity



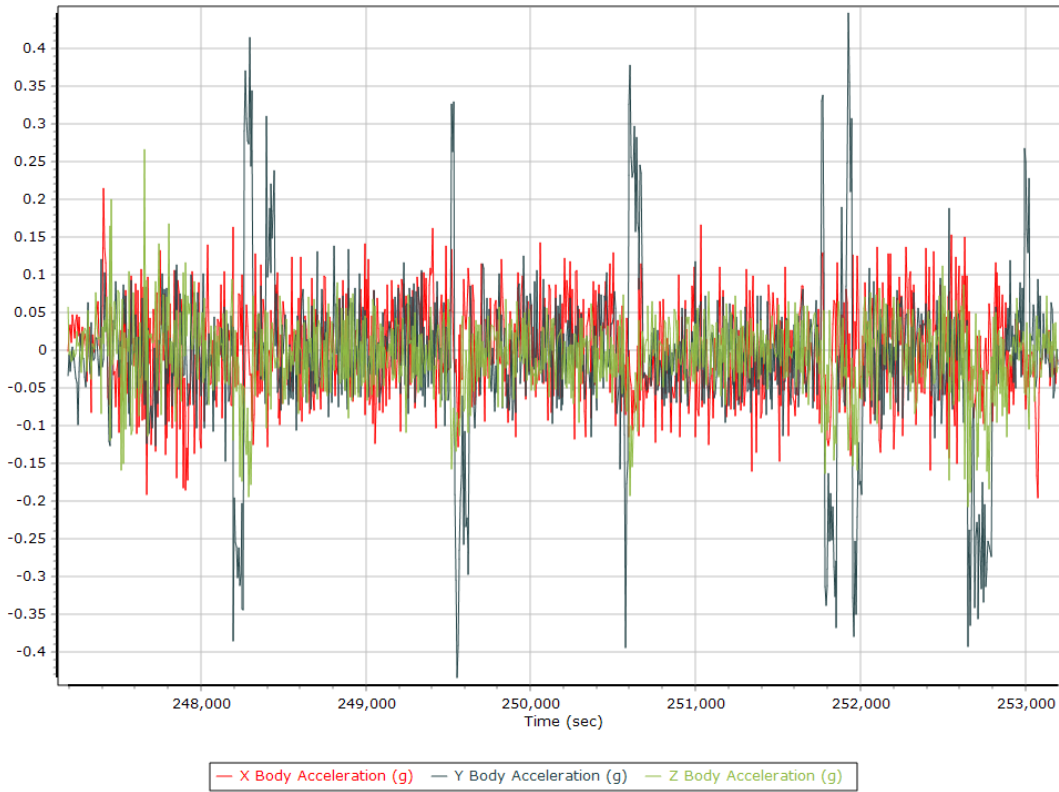
Total Speed



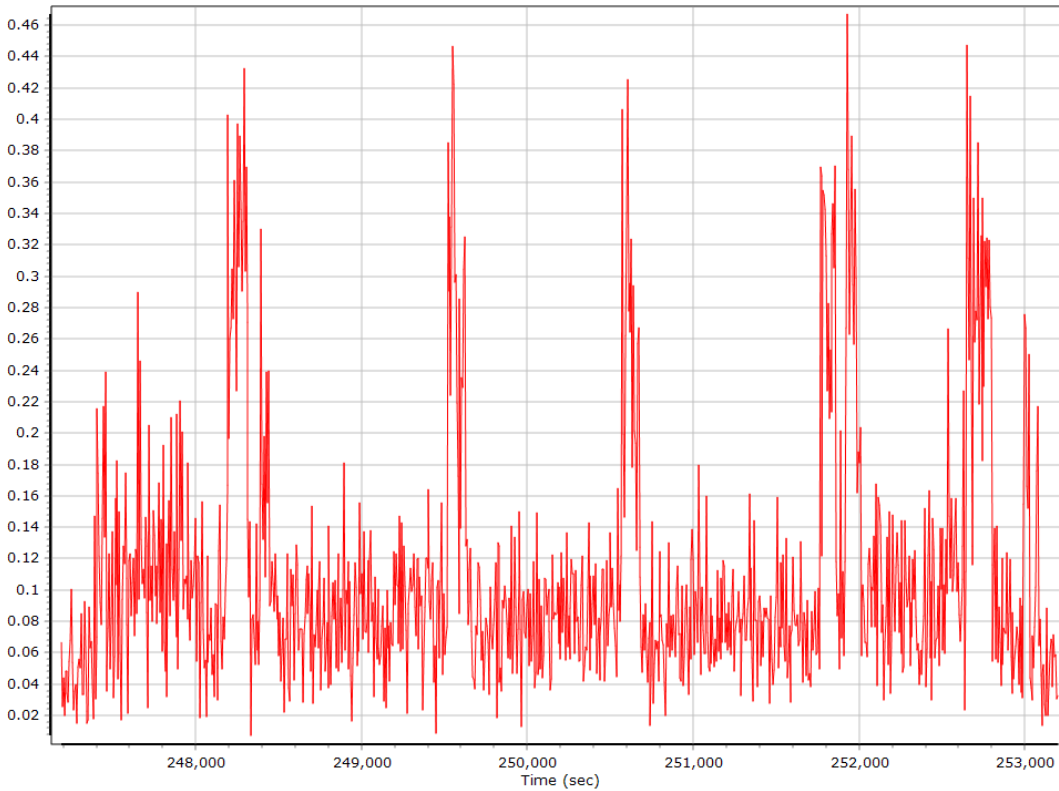
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/03/2019	XCTY	56.97	GNSS	1	User	None	Imported
12/03/2019	PTLK	85.81	GNSS	1	User	None	Imported
12/03/2019	LCKY	41.30	GNSS	1	User	None	Imported
12/03/2019	GNVL	30.62	GNSS	1	User	None	Imported
12/03/2019	FLMD	93.01	GNSS	1	User	None	Imported
12/03/2019	FLMC	65.63	GNSS	1	User	None	Imported
12/03/2019	FLCK	88.21	GNSS	1	User	None	Imported
12/03/2019	FLBR	42.40	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	GNVL
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	6322 s (2082 246897 - 2082 253219)
Number of reference stations	6
Primary station GPS measurement usage (%)	99.7
Primary station GLONASS measurement usage (%)	66.2
Average number of satellites per epoch	13.1
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	12869
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - XCTY

Status	OK	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Original	
Solution Epochs	4716	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°37'51.61276"	W83°06'29.33630"	13.808
Adjusted		N29°37'51.61247"	W83°06'29.33646"	13.798
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.010	0.010	0.014

Base Station Information

Station ID	XCTY		
Filename	xcty_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702526
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°37'51.61276"		
Longitude	W83°06'29.33630"		
Ellipsoidal height (m)	-13.80800		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PTLK

Status	OK	SBQI	0	
Duration (Hours)	19.48	Output Coordinates	Original	
Solution Epochs	4675	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14820"	W81°41'15.86058"	17.958
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.001	0.012	0.012

Base Station Information

Station ID	PTLK		
Filename	pltk_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LCKY

Status	OK	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Original	
Solution Epochs	4716	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°11'07.49182"	W82°34'39.14410"	35.193
Adjusted		N30°11'07.49172"	W82°34'39.14422"	35.211
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.004	0.018	0.019

Base Station Information

Station ID	LCKY		
Filename	lky_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19310		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	CONTROL	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Control	
Solution Epochs	4716	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55697"	W82°16'36.73521"	23.936
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMD

Status	OK	SBQI	0	
Duration (Hours)	19.65	Output Coordinates	Original	
Solution Epochs	4716	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°22'26.47817"	W83°16'31.72158"	0.095
Adjusted		N30°22'26.47789"	W83°16'31.72162"	0.130
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.009	0.035	0.036

Base Station Information

Station ID	FLMD		
Filename	flmd_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701993
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°22'26.47817"		
Longitude	W83°16'31.72158"		
Ellipsoidal height (m)	0.09500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLMC

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	6.40	Output Coordinates	Disabled	
Solution Epochs	1536	Mean Epoch SVs	8.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°16'15.87532"	W82°07'35.14360"	11.221
Adjusted		N30°16'15.87524"	W82°07'35.14392"	11.252
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.009	0.031	0.032

Base Station Information

Station ID	FLMC		
Filename	flmc_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 10:29:59 AM		
Duration	06:29:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701977
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°16'15.87532"		
Longitude	W82°07'35.14360"		
Ellipsoidal height (m)	11.22100		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCK

Status	OK	SBQI	0	
Duration (Hours)	19.47	Output Coordinates	Original	
Solution Epochs	4673	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°08'01.87610"	W83°01'51.05281"	17.224
Adjusted		N29°08'01.87587"	W83°01'51.05254"	17.213
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.010	0.011	0.015

Base Station Information

Station ID	FLCK		
Filename	flck_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLBR

Status	BAD POSITION	SBQI	0	
Duration (Hours)	18.02	Output Coordinates	Adjusted	
Solution Epochs	4325	Mean Epoch SVs	8.0	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°26'19.83659"	W82°38'43.13027"	4.337
Adjusted		N29°26'19.83774"	W82°38'43.13076"	4.263
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.038	0.074	0.083

Base Station Information

Station ID	FLBR		
Filename	flbr_daily3370.19o		
Start date	12/3/2019 4:00:00 AM		
End date	12/3/2019 11:44:59 PM		
Duration	19:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1701978
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°26'19.83659"		
Longitude	W82°38'43.13027"		
Ellipsoidal height (m)	-4.33700		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	9.11	39.35	
Number of GPS SV	7	10	9
Number of GLONASS SV	0	4	4
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	10	14	13
PDOP	1.28	2.99	1.55
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	6312.00	0.00	1.00
Percentage	99.98	0.00	0.02

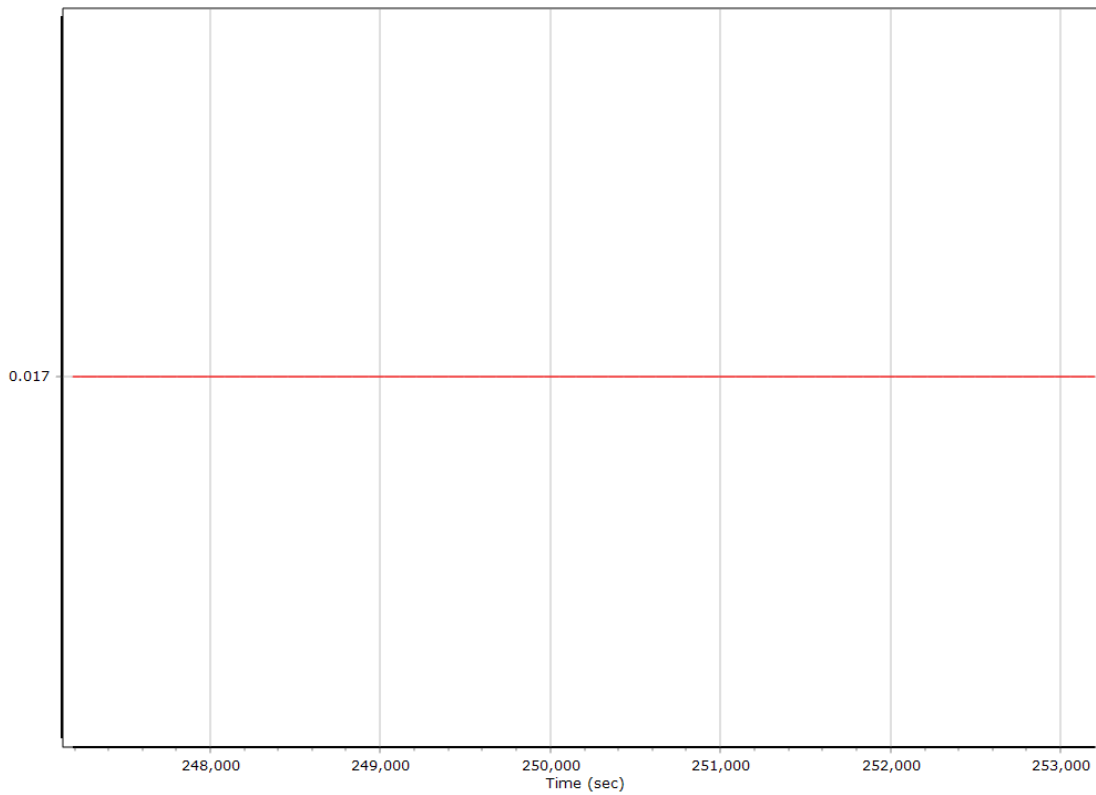
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	246879.031 (12/3/2019 8:34:39 PM)		
Processing end time	253201.000 (12/3/2019 10:20:01 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

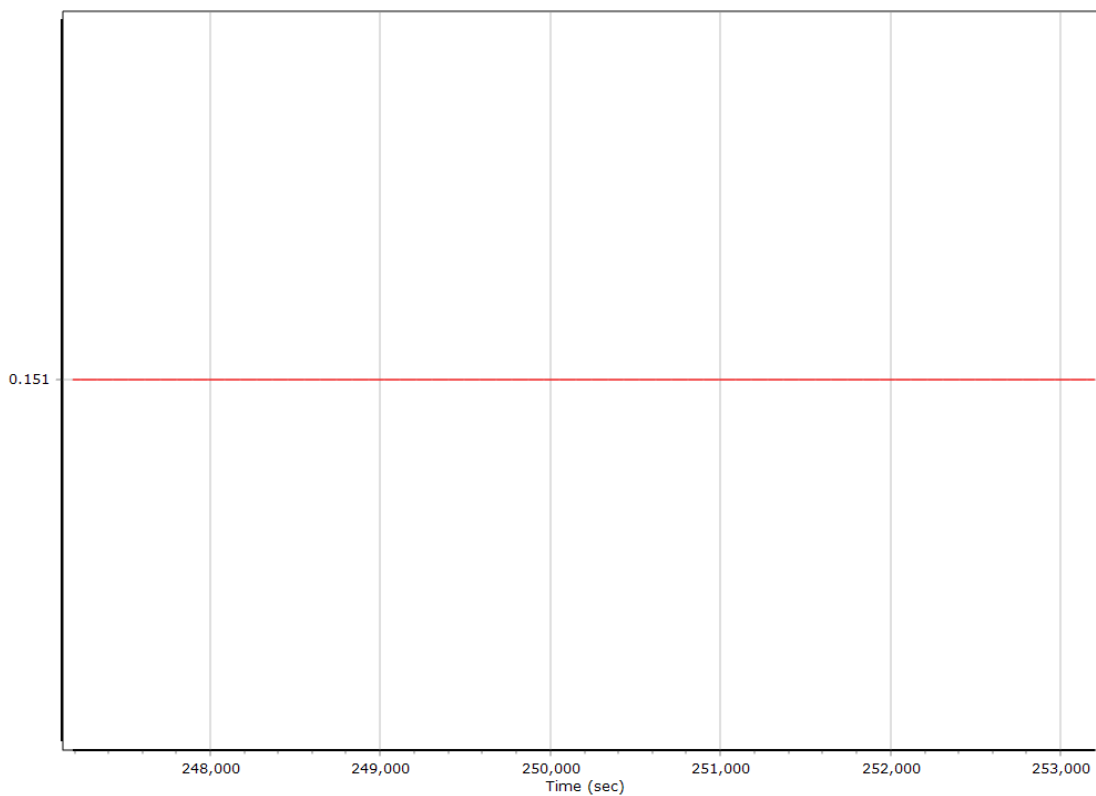
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

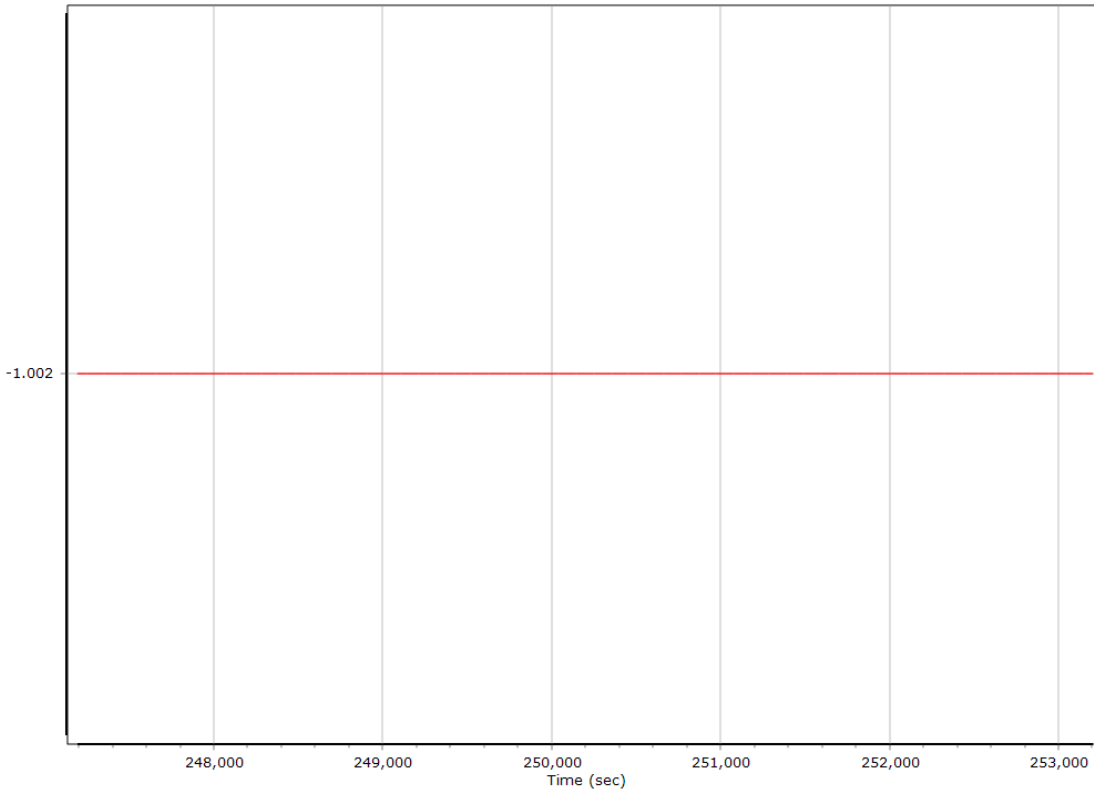
X Reference-Primary GNSS Lever Arm (m)



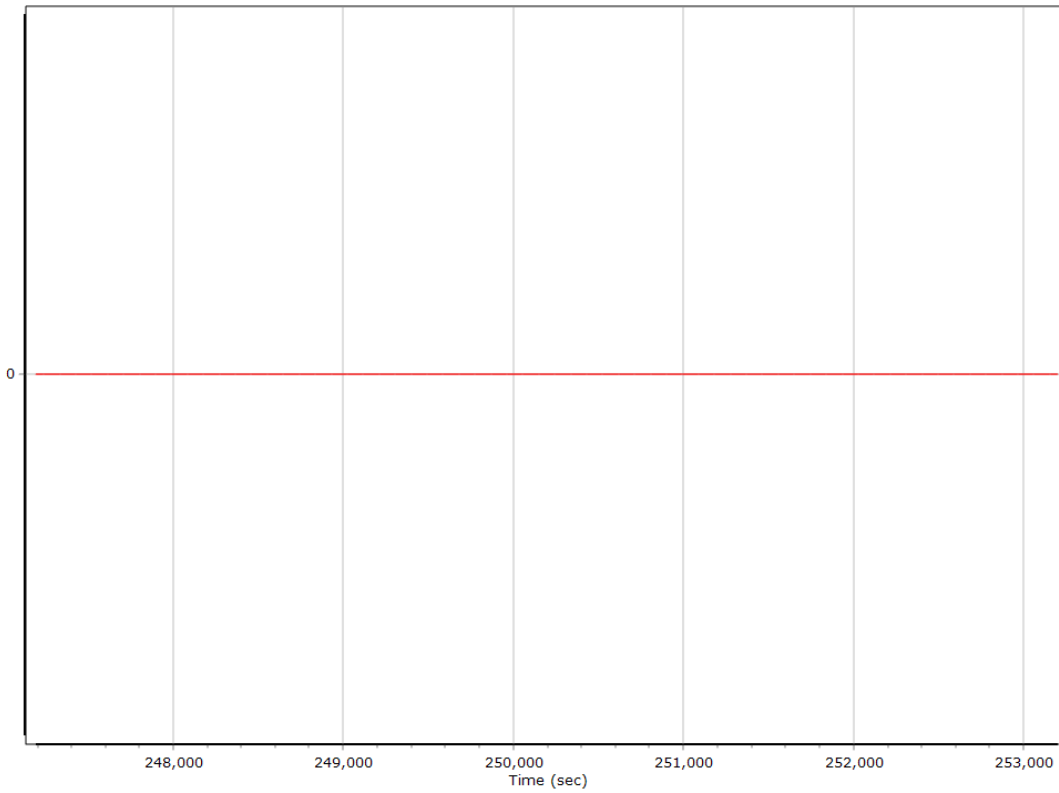
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



Reference-Primary GNSS Lever Arm Figure of Merit



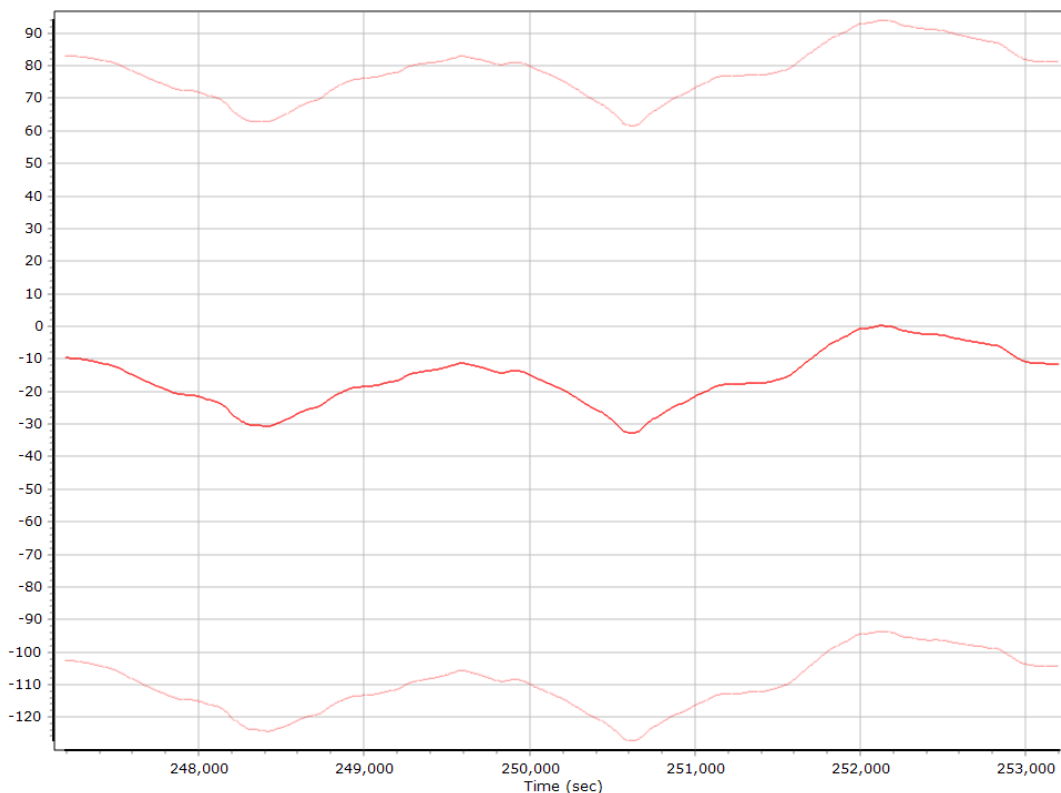
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

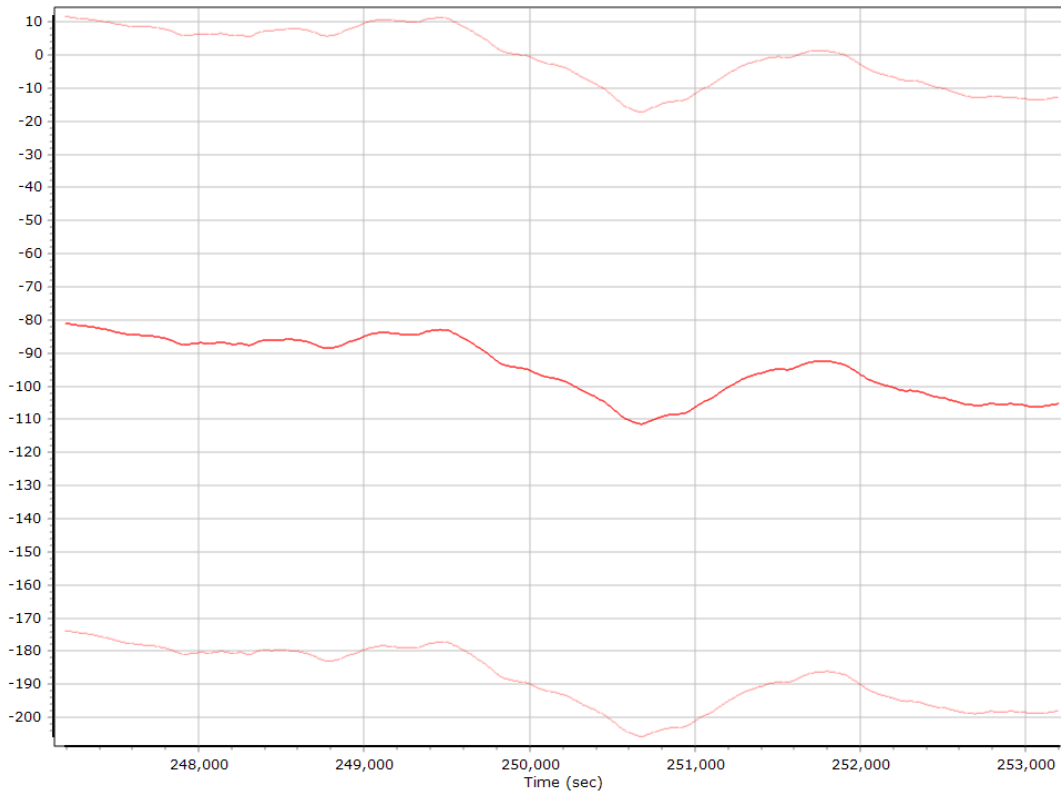
Accelerometer Bias (micro-g)



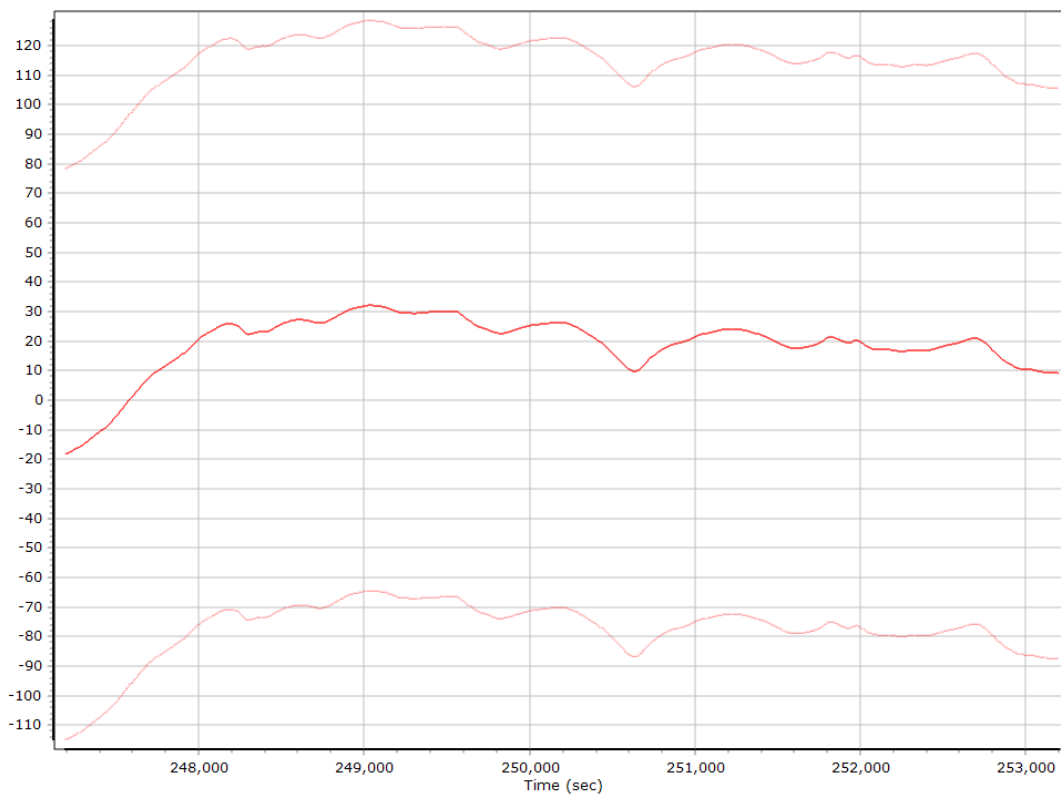
X Accelerometer Bias (micro-g)



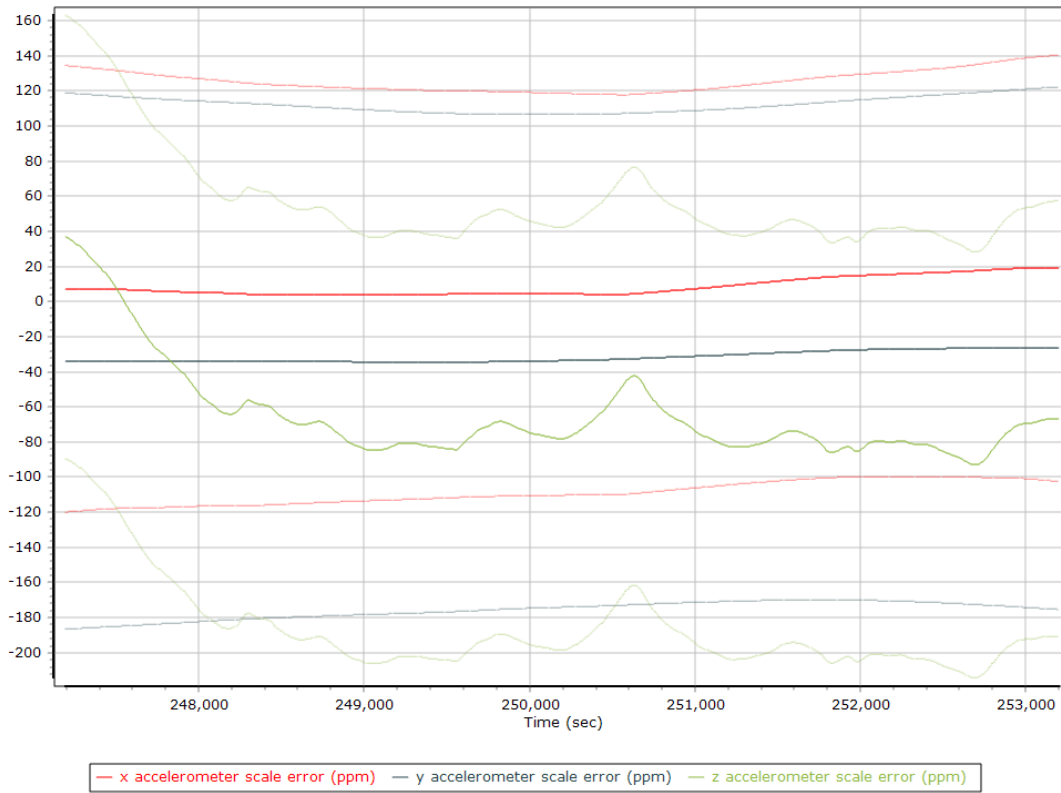
Y Accelerometer Bias (micro-g)



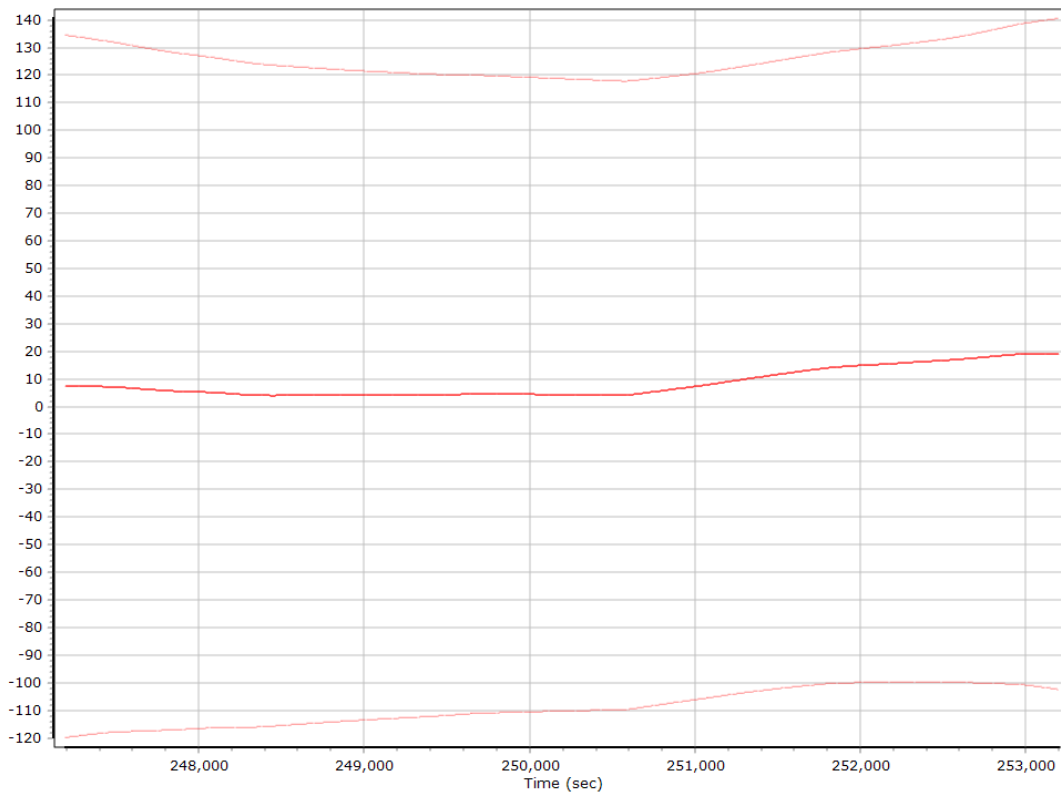
Z Accelerometer Bias (micro-g)



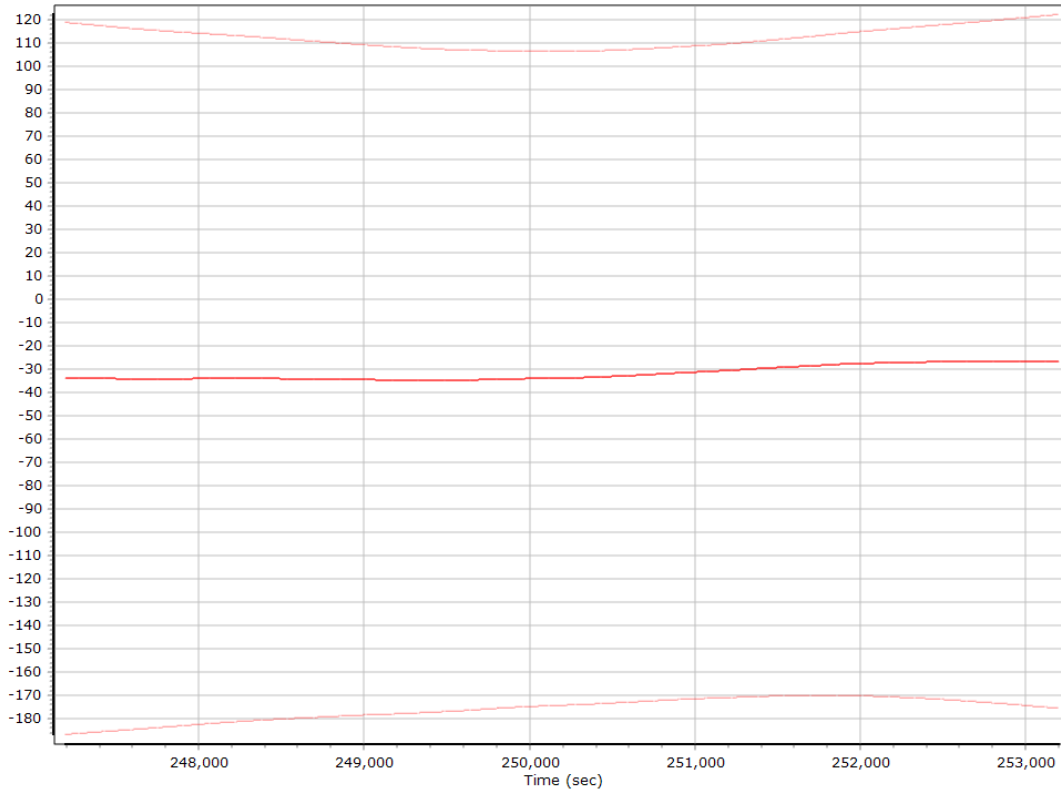
Accelerometer Scale Error (ppm)



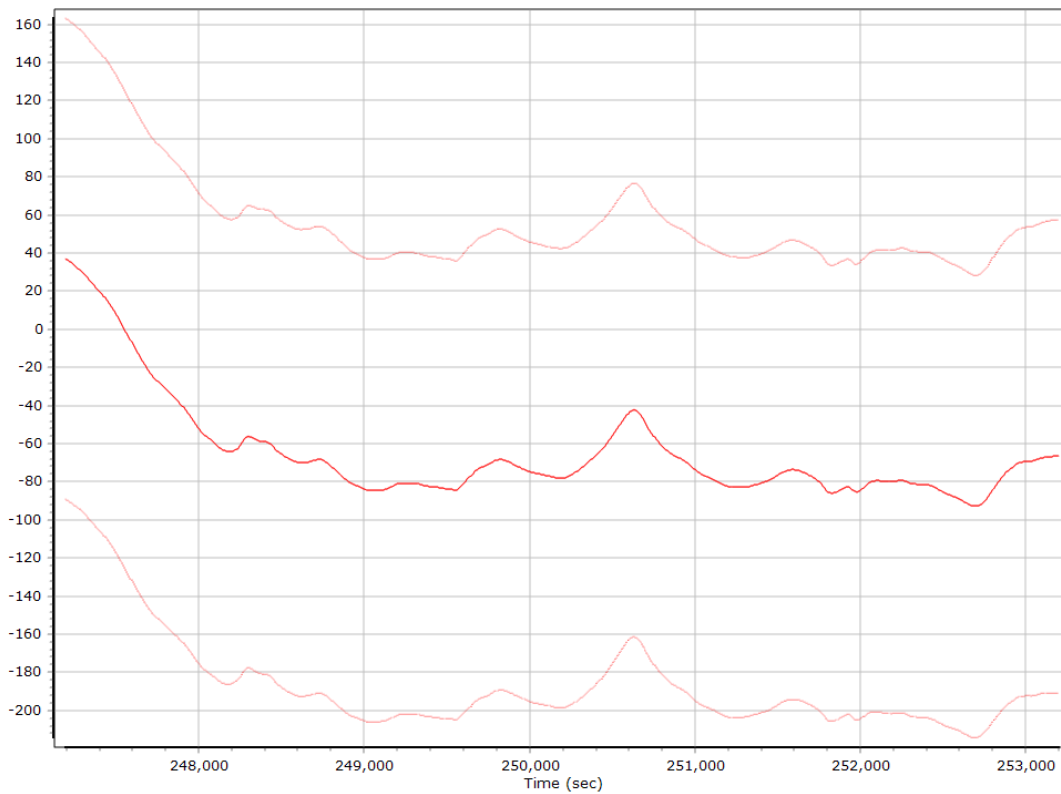
X Accelerometer Scale Error (ppm)



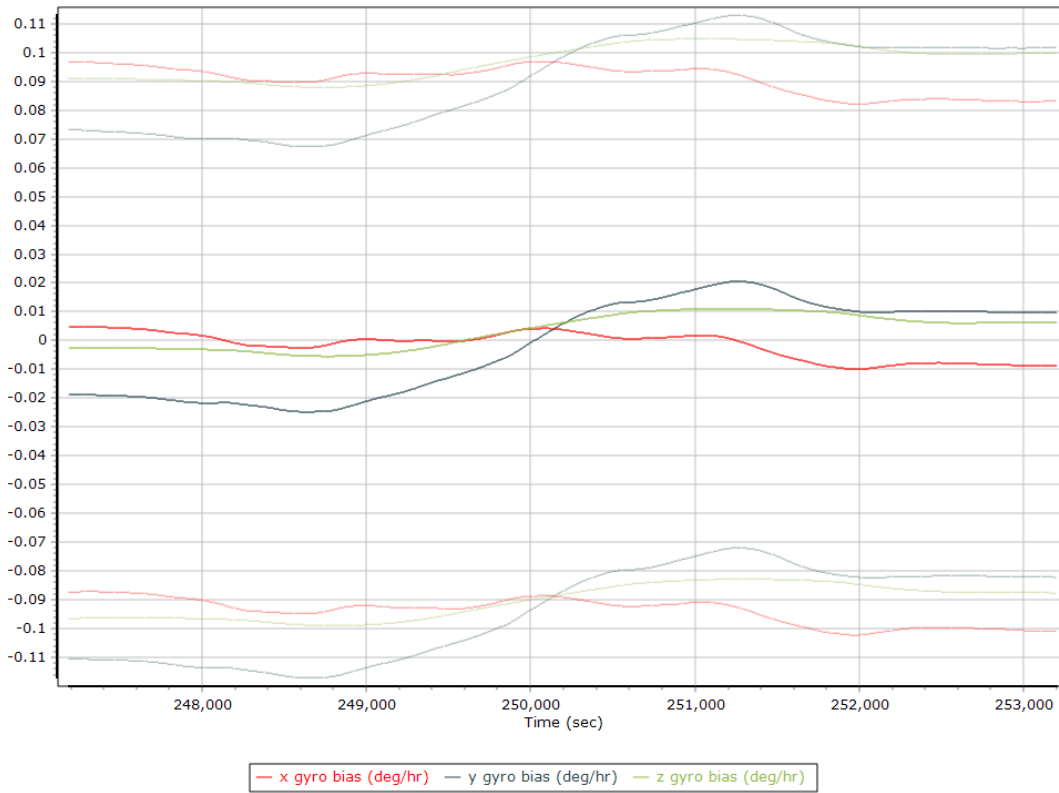
Y Accelerometer Scale Error (ppm)



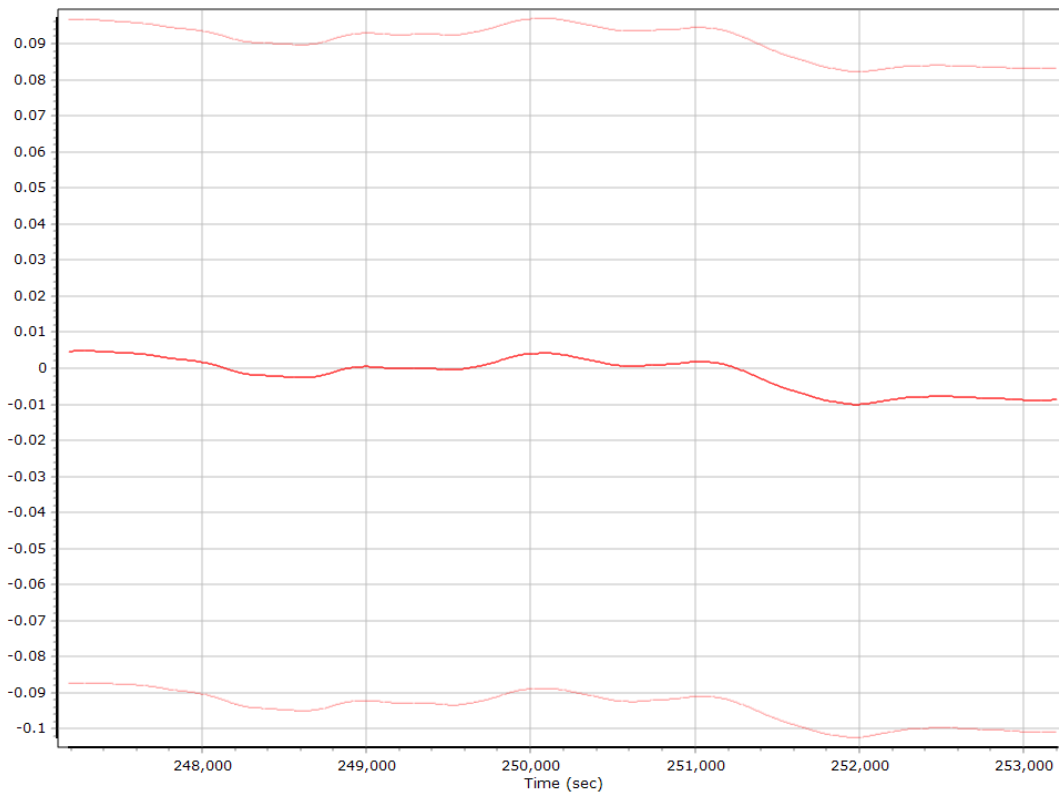
Z Accelerometer Scale Error (ppm)



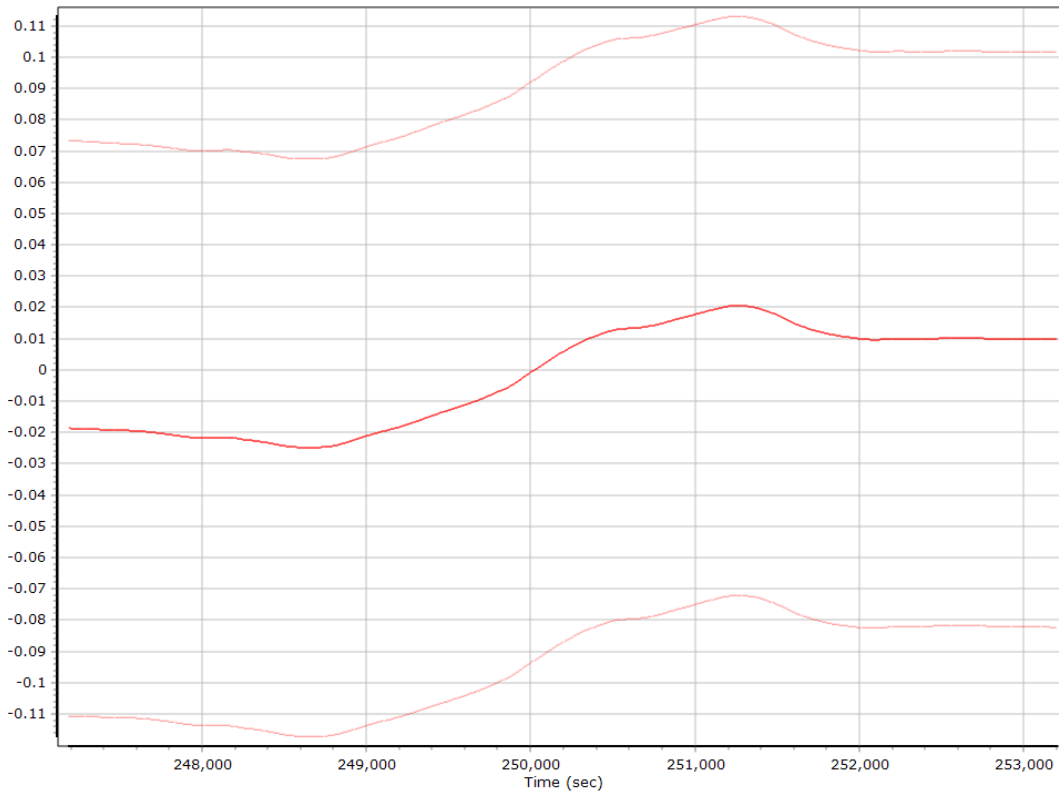
Gyro Bias (deg/h)



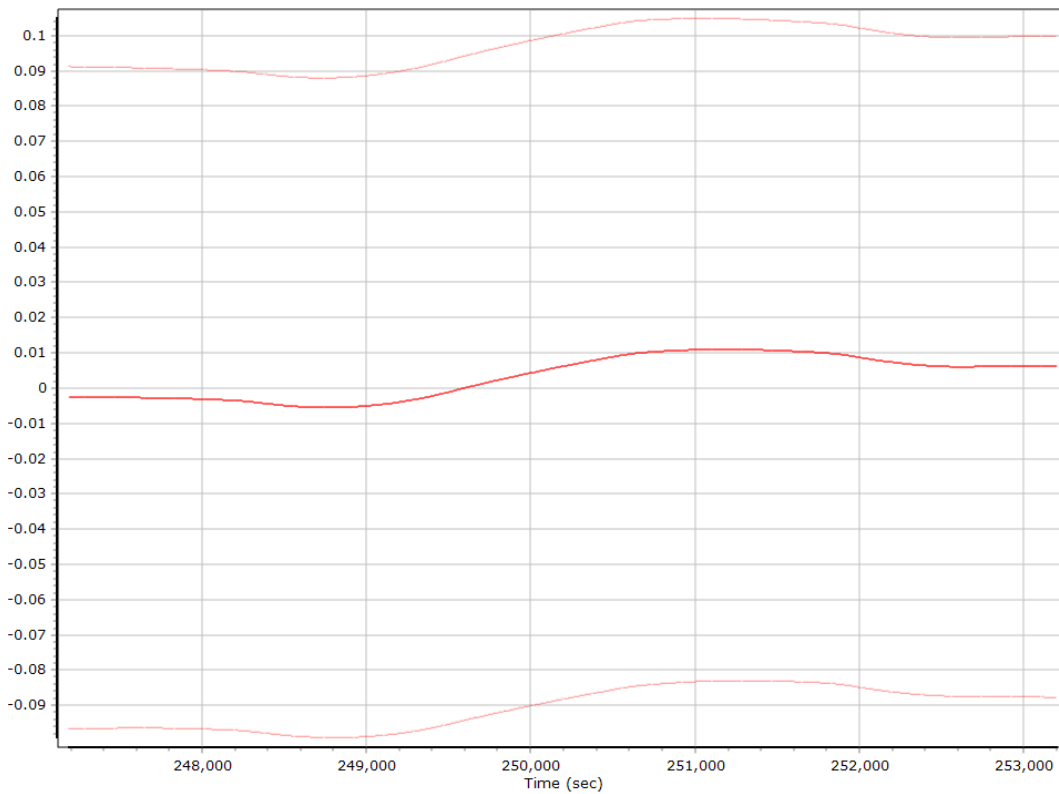
X Gyro Bias (deg/h)



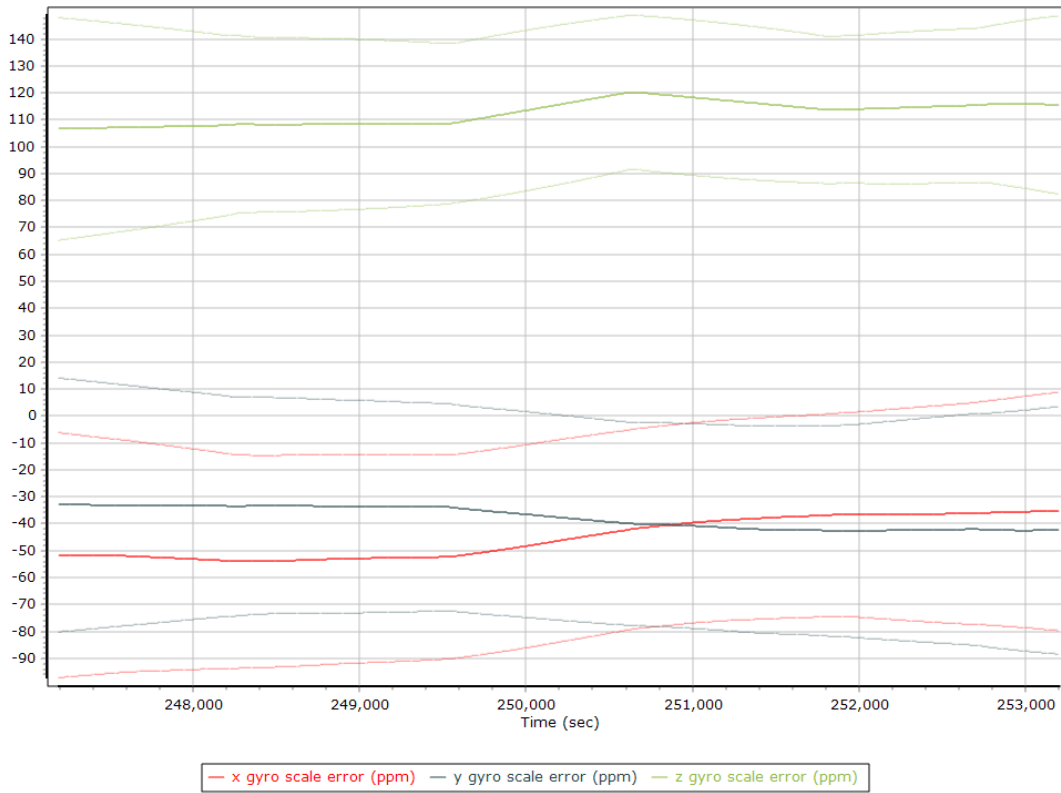
Y Gyro Bias (deg/h)



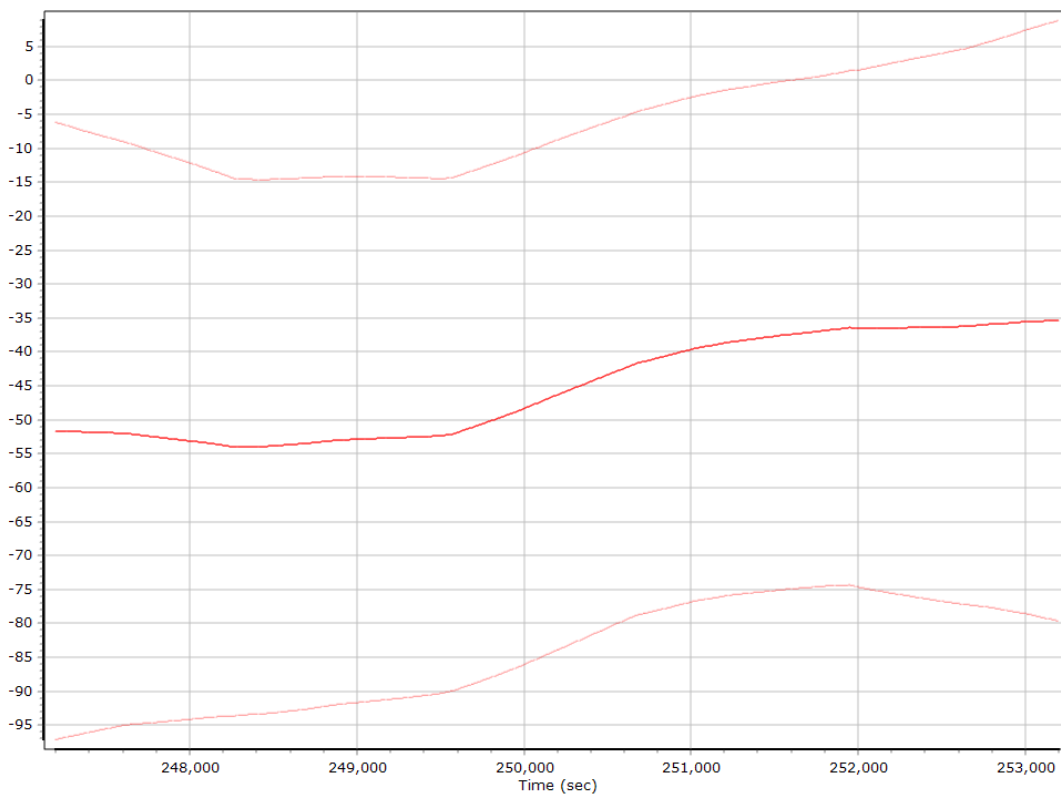
Z Gyro Bias (deg/h)



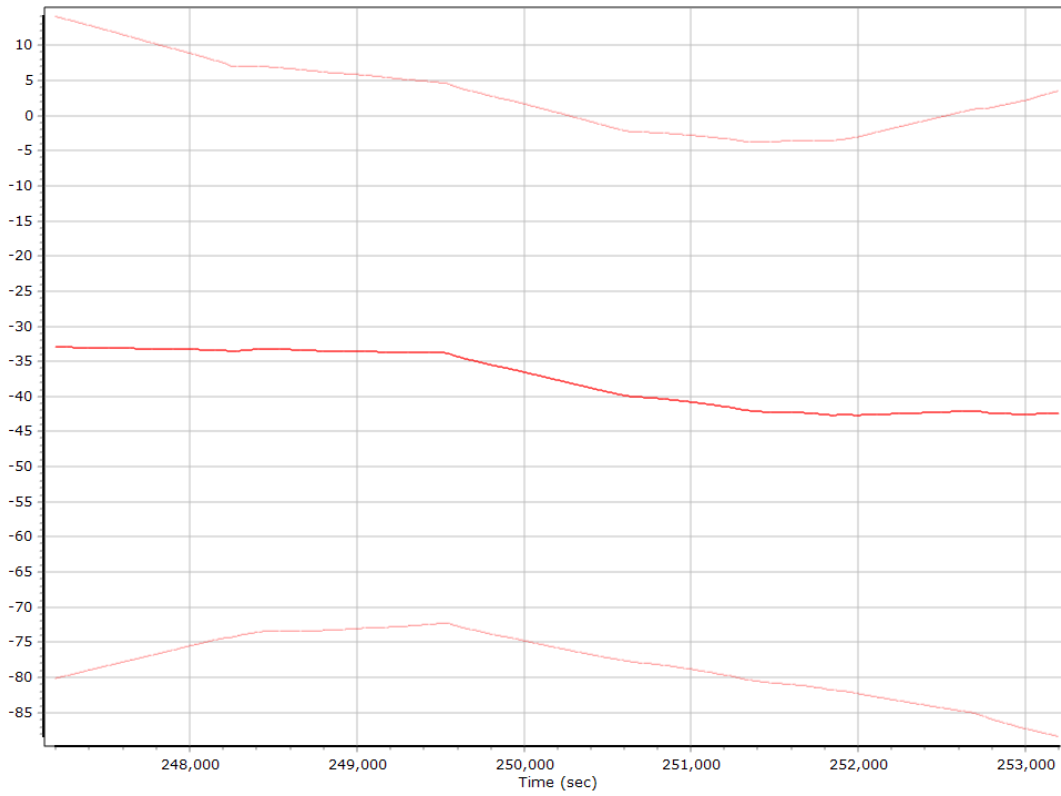
Gyro Scale Error (ppm)



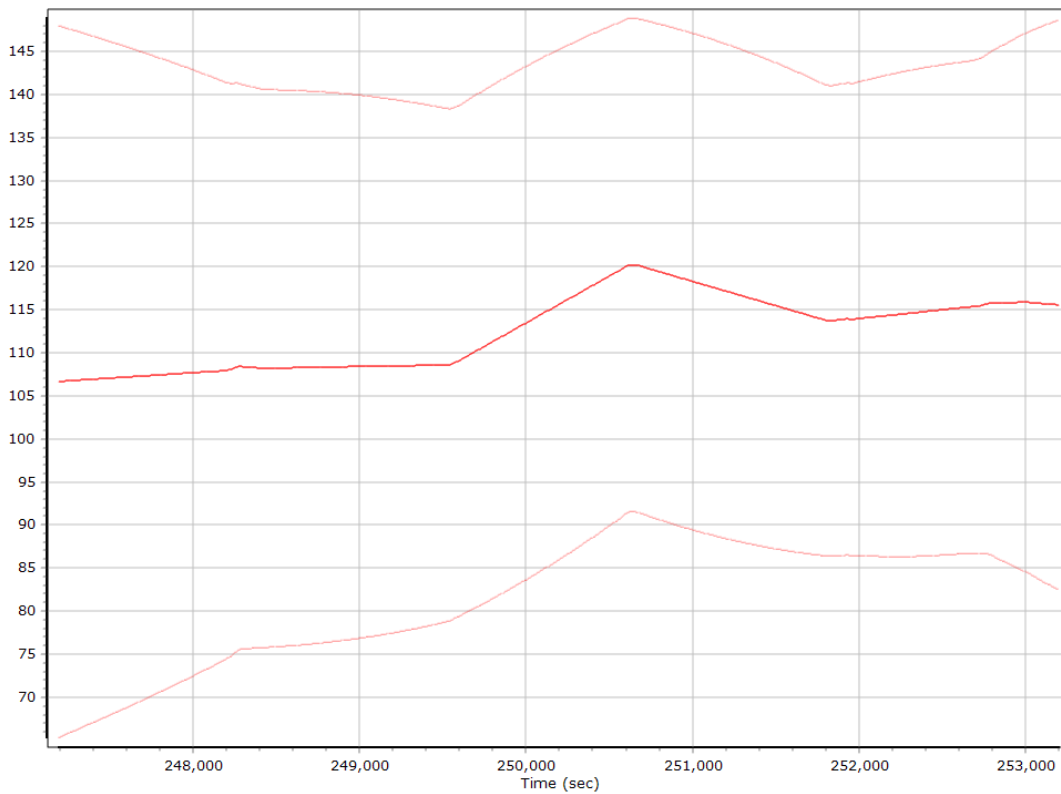
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

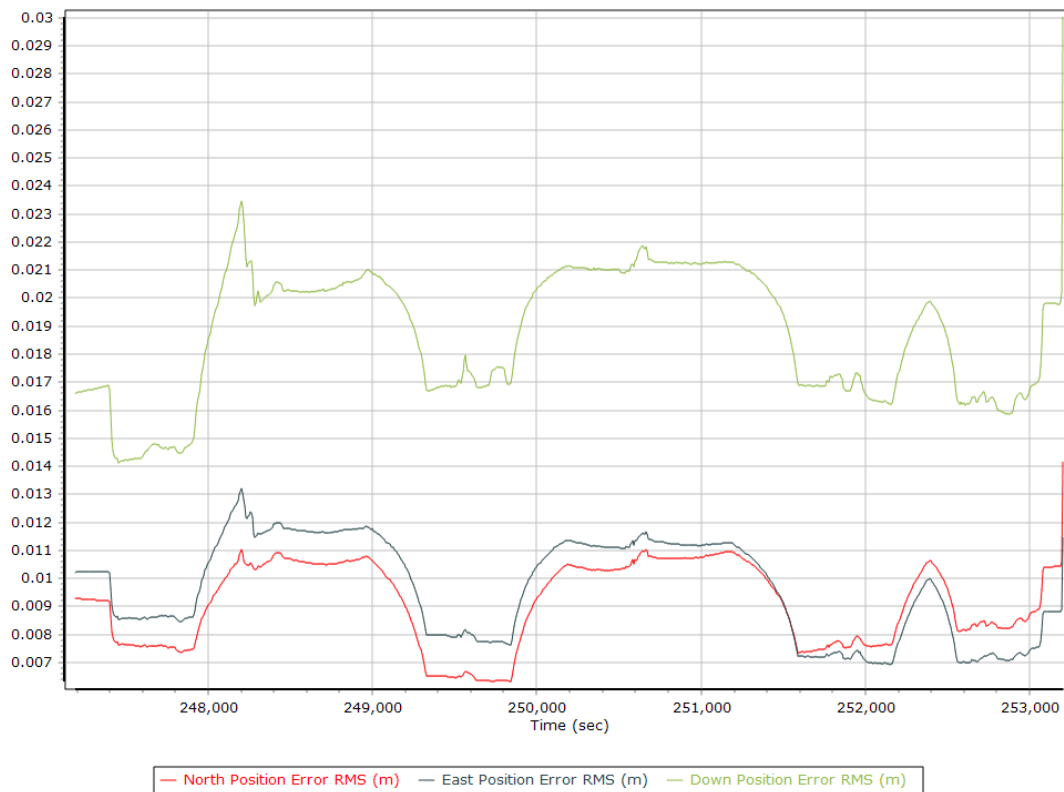


Z Gyro Scale Error (ppm)

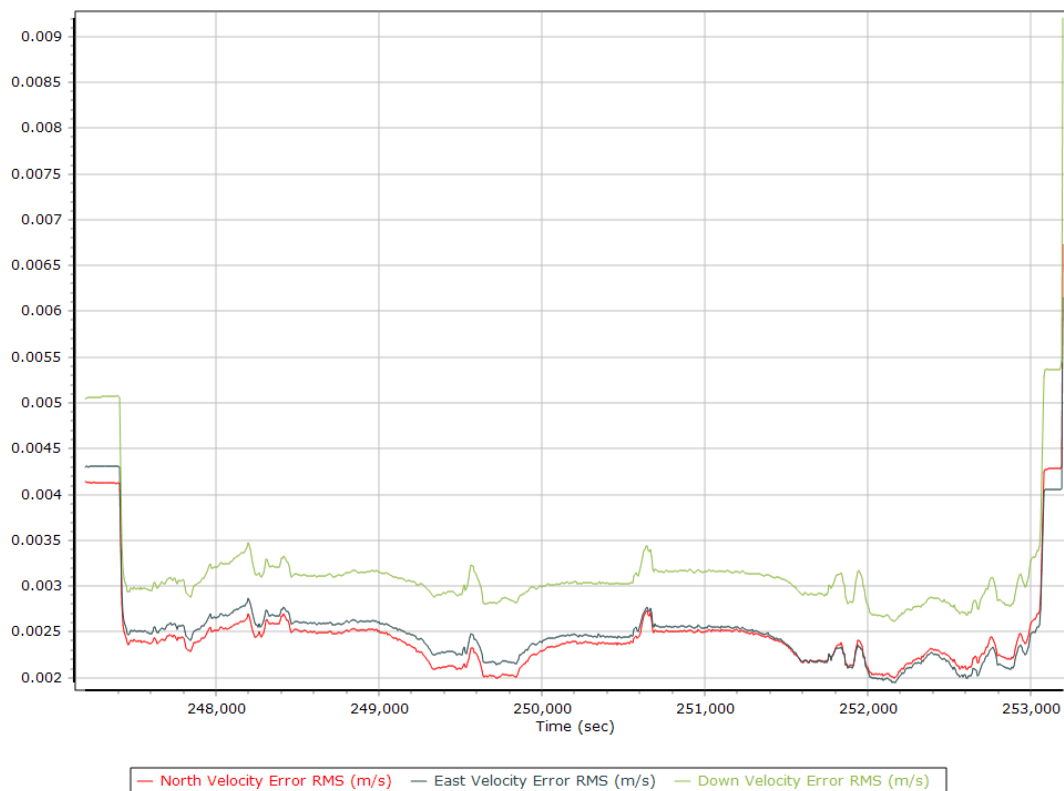


Smoothed Performance Metrics

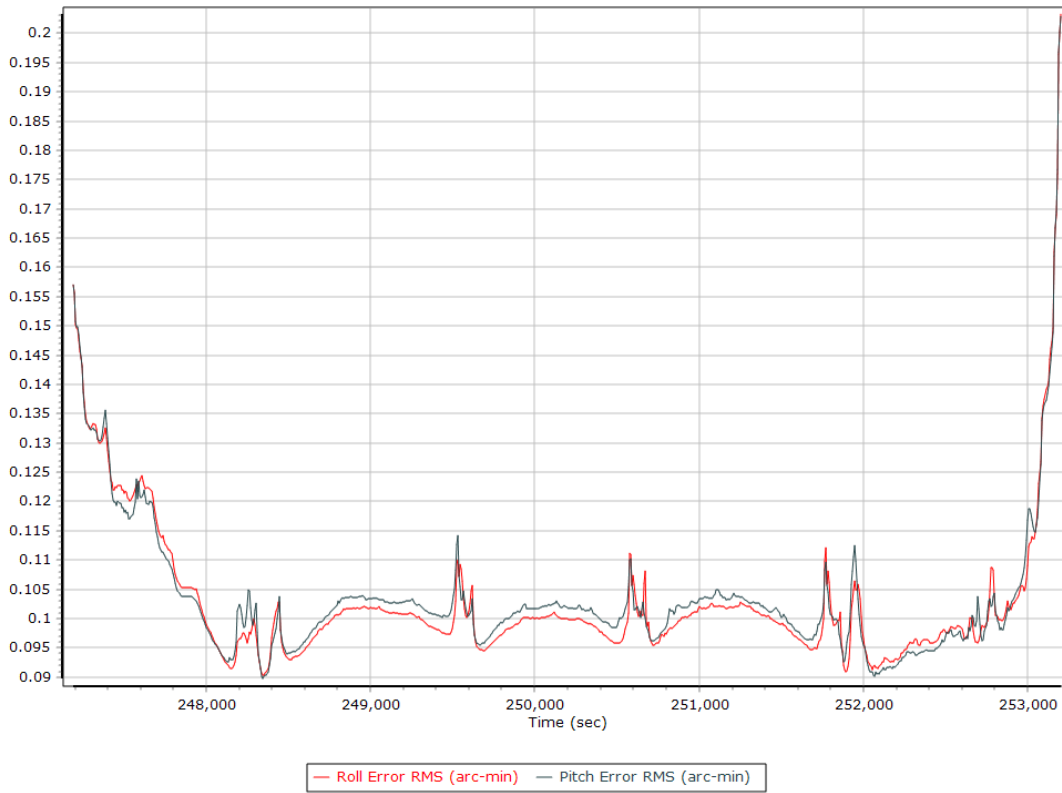
Position Error RMS (m)



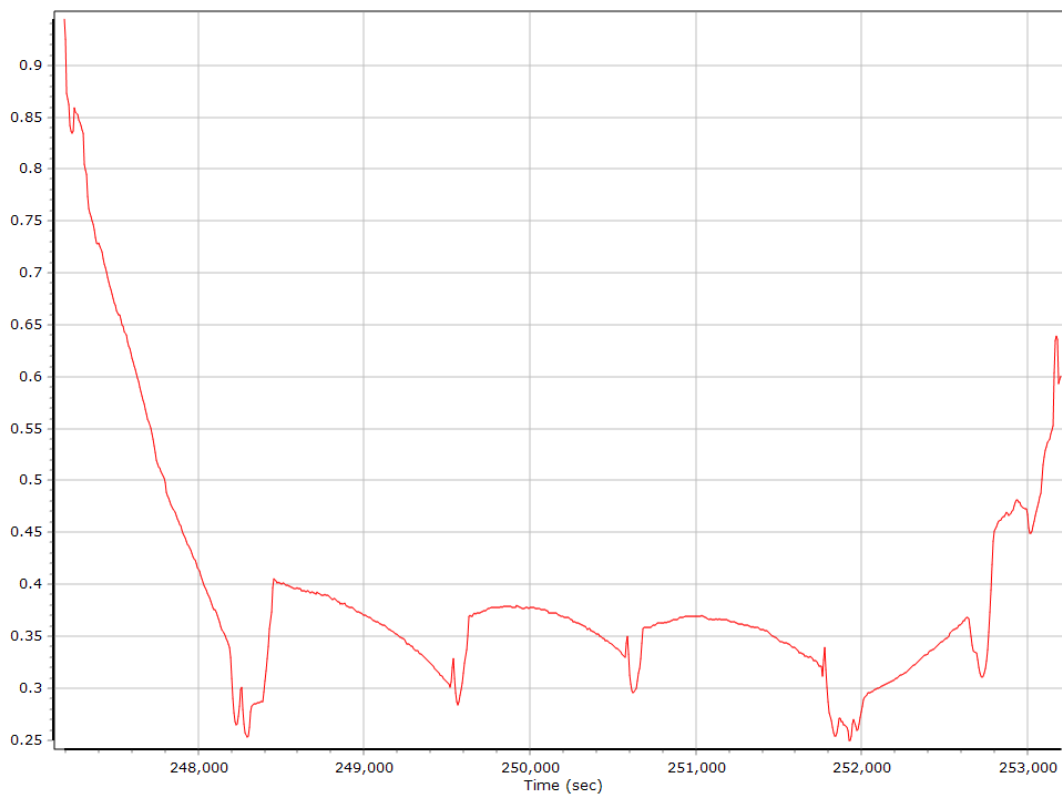
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

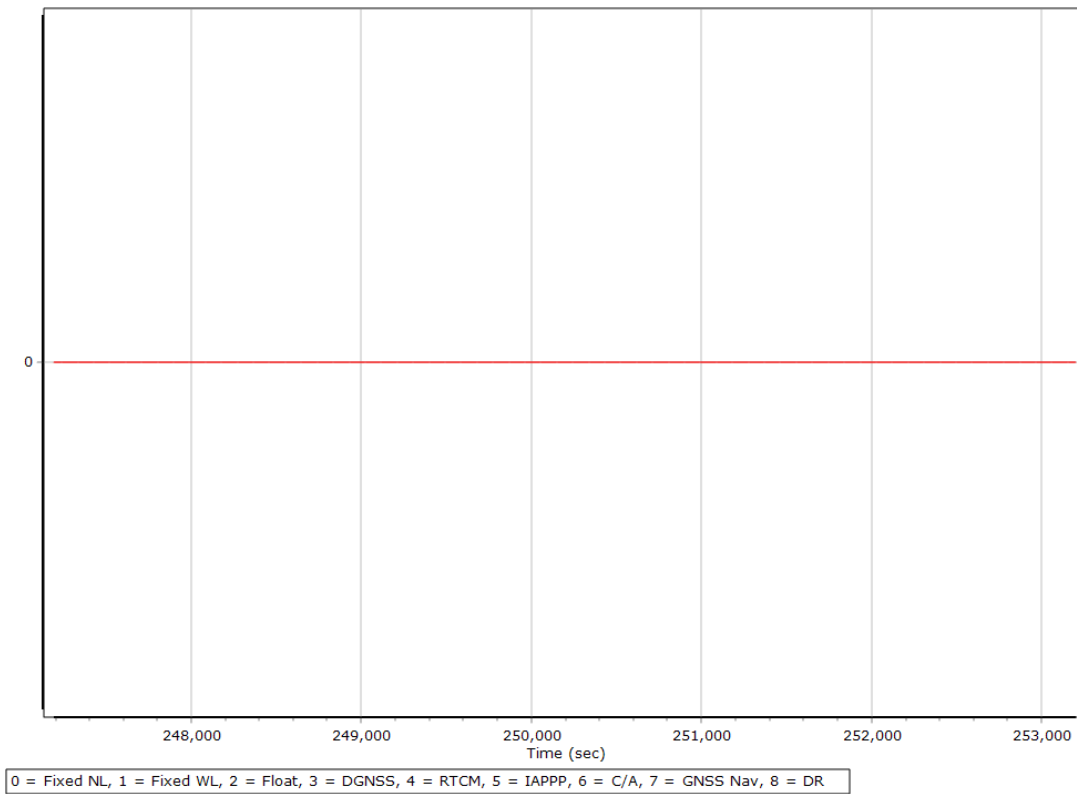


Heading Error RMS (arc-min)

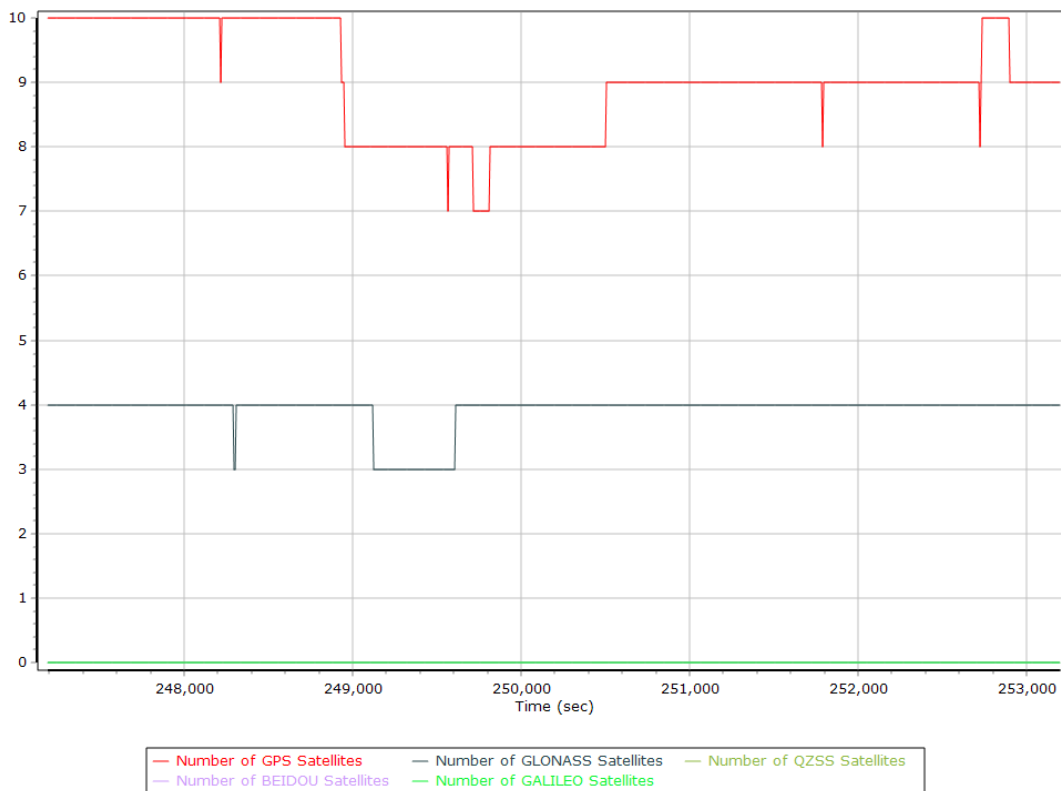


Smoothed Solution Status

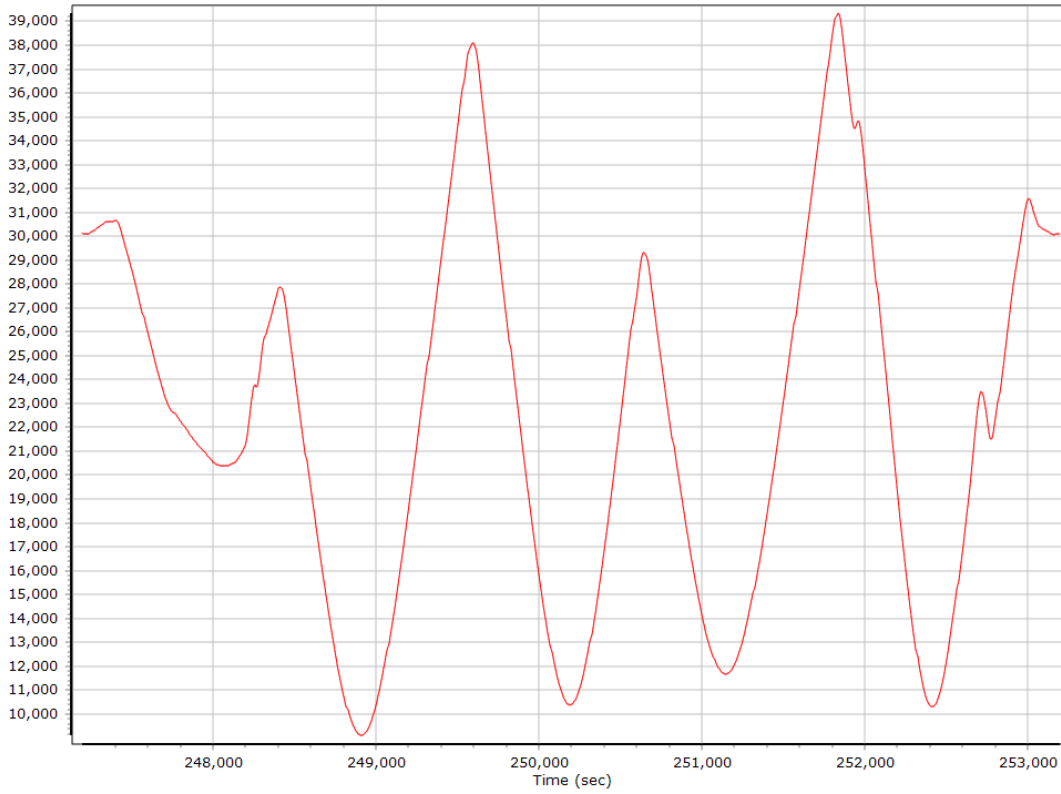
Processing Mode



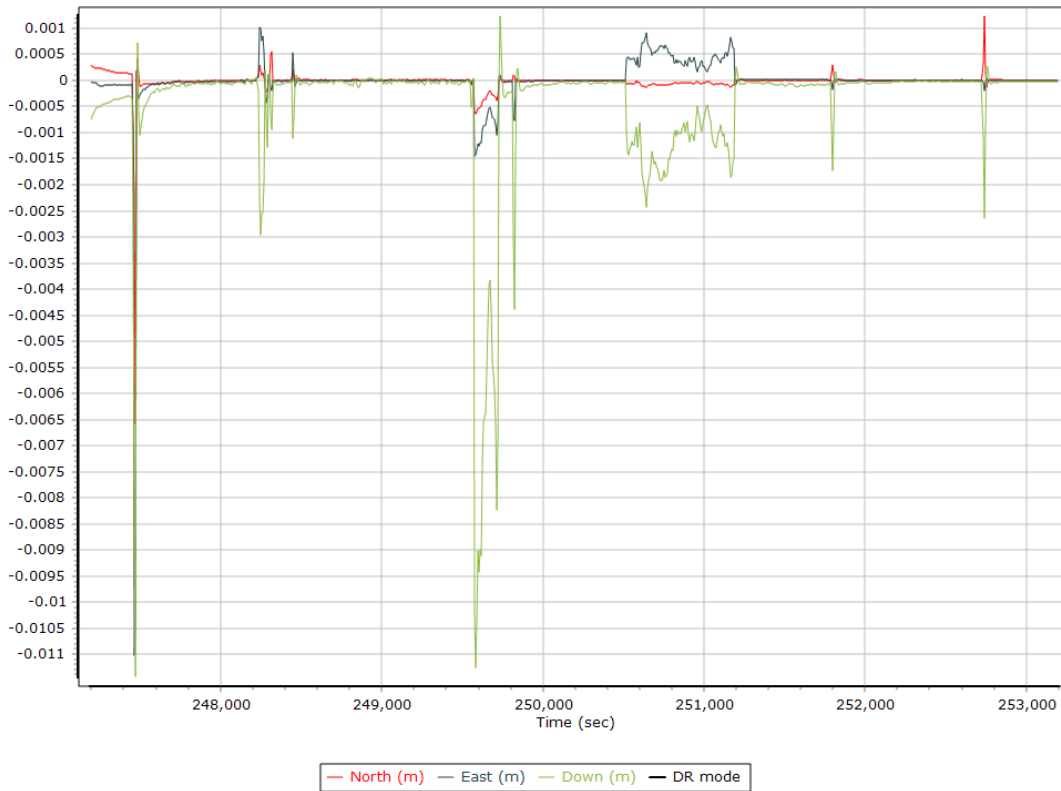
Number of Satellites



Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	PTG19338A_1
Processing date	2019-12-12 17:34:05
Mission date	2019-12-04 13:31:15
Mission duration	01:20:41.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
PTG19338.005	POS Data
PTG19338.006	POS Data
PTG19338.007	POS Data
PTG19338.008	POS Data
PTG19338.009	POS Data
PTG19338.010	POS Data
PTG19338.011	POS Data
PTG19338.012	POS Data
PTG19338.013	POS Data
PTG19338.014	POS Data
PTG19338.015	POS Data
PTG19338.016	POS Data

Input Files

File Name	File Type
Ephm3380.19g	GLONASS Broadcast Ephemeris
Ephm3380.19n	GPS Broadcast Ephemeris
flbr_daily3380.19o	GNSS SingleBase
gnvl_daily3380.19o	GNSS SingleBase
lkcy_daily3380.19o	GNSS SingleBase
pltk_daily3380.19o	GNSS SingleBase
brdc3390.19g	GLONASS Broadcast Ephemeris
brdc3390.19n	GPS Broadcast Ephemeris
Ephm3370.19g	GLONASS Broadcast Ephemeris
Ephm3370.19n	GPS Broadcast Ephemeris
igu20821_18.sp3	GPS Precise Ephemeris
igu20822_18.sp3	GPS Precise Ephemeris
igu20823_18.sp3	GPS Precise Ephemeris
igu20824_12.sp3	GPS Precise Ephemeris
ocla_daily3380.19o	GNSS SingleBase
flck_daily3380.19o	GNSS SingleBase
prry_daily3380.19o	GNSS SingleBase

Output Files

Filename	File type
sbt_PTG19338A_1.out	SBET Trajectory File

Rover Data Summary

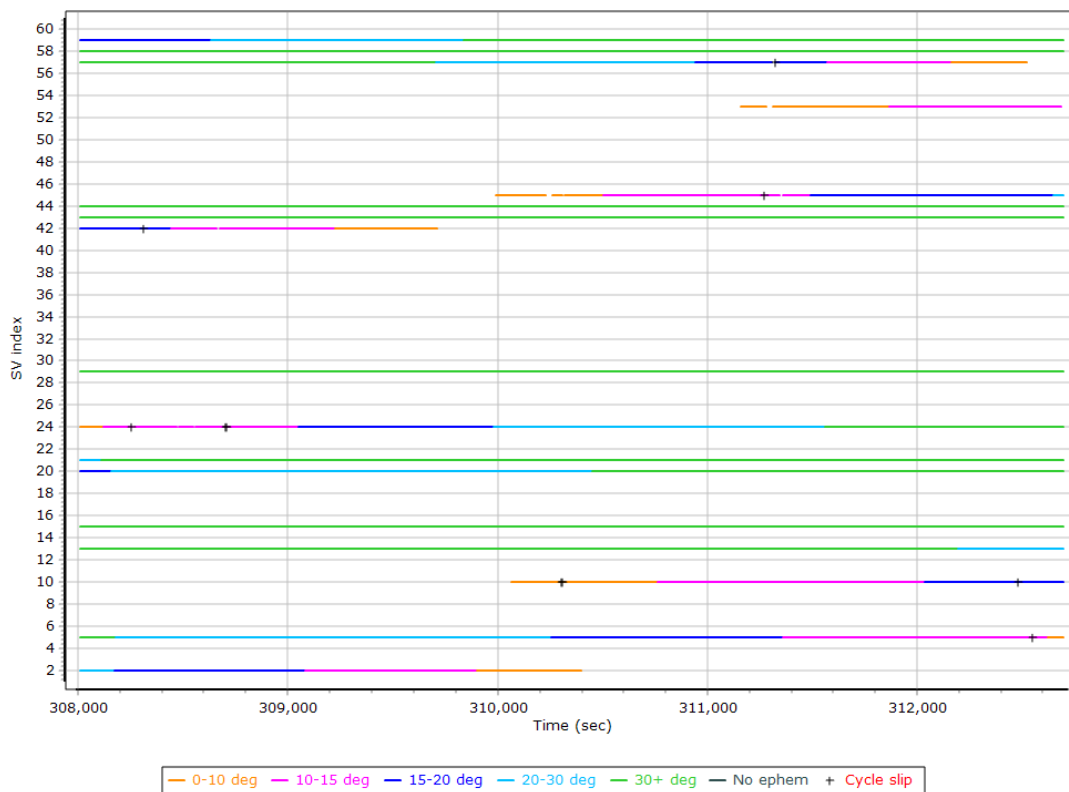
First raw data file	PTG19338.005		
Last raw data file	PTG19338.016		
Start GPS week	2082		
Start time	307856.190 (12/4/2019 1:30:56 PM)		
End time	312698.301 (12/4/2019 2:51:38 PM)		
Start of fine alignment	307950.280 (12/4/2019 1:32:30 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	Event 2 Input, Event 3 Input		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

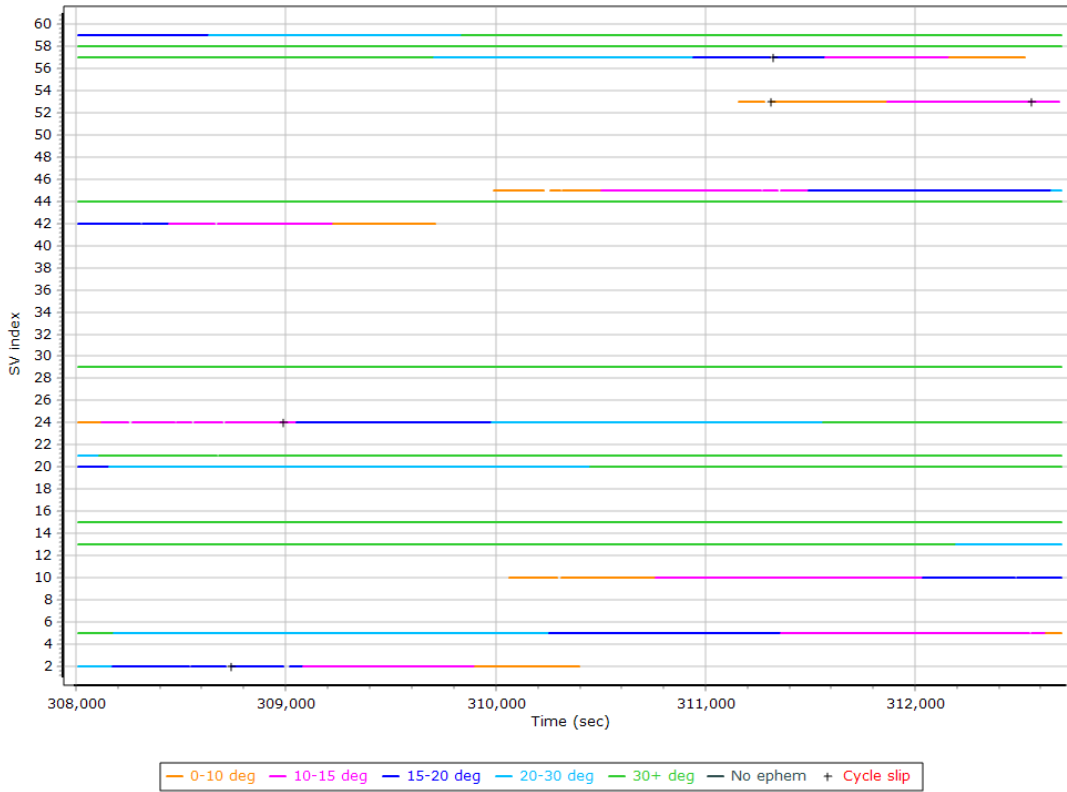
Raw IMU Import QC Summary

IMU data input file	imu_PTG19338A_1.dat
IMU data check log file	imudt_PTG19338A_1.log
IMU Records Processed	968388
Termination Status	Normal
IMU Anomalies	0

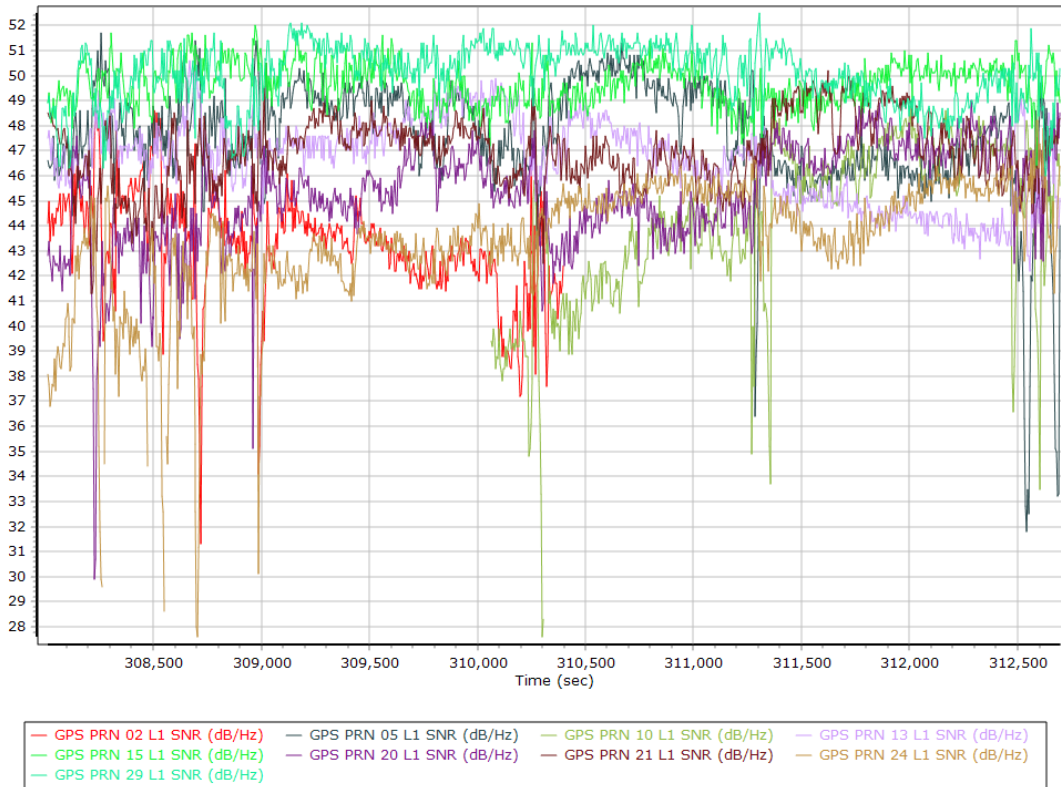
L1 Satellite Lock/Elevation



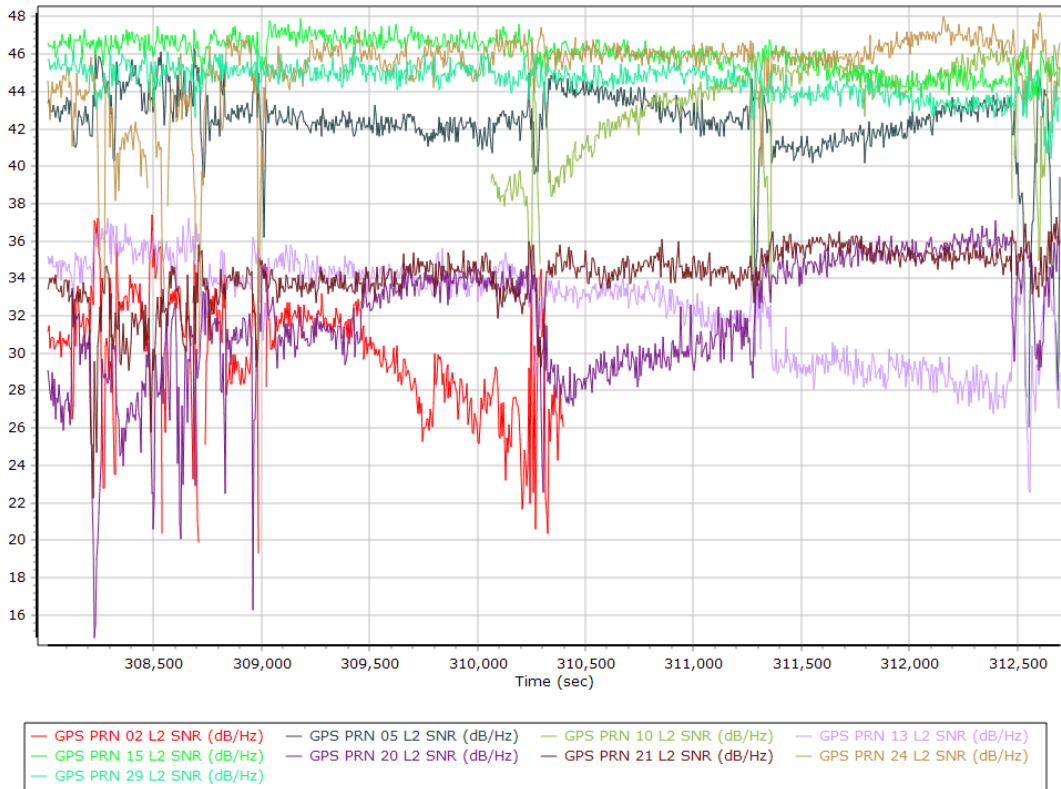
L2 Satellite Lock/Elevation



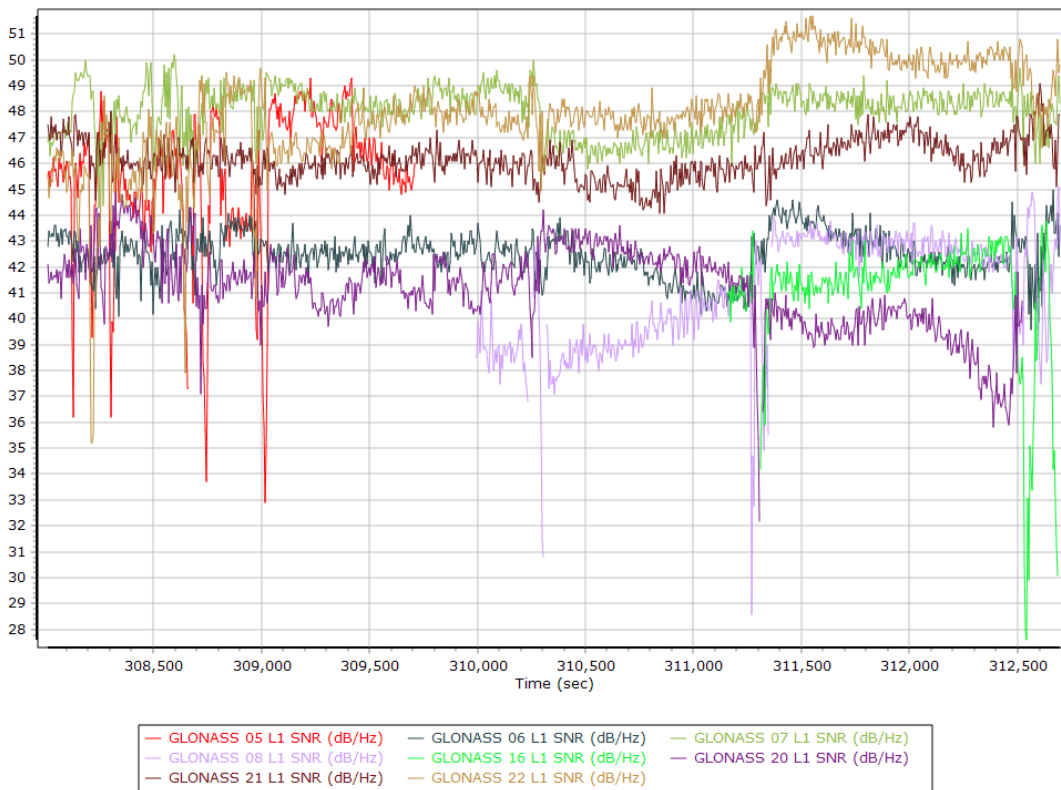
GPS L1 SNR



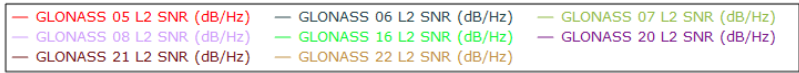
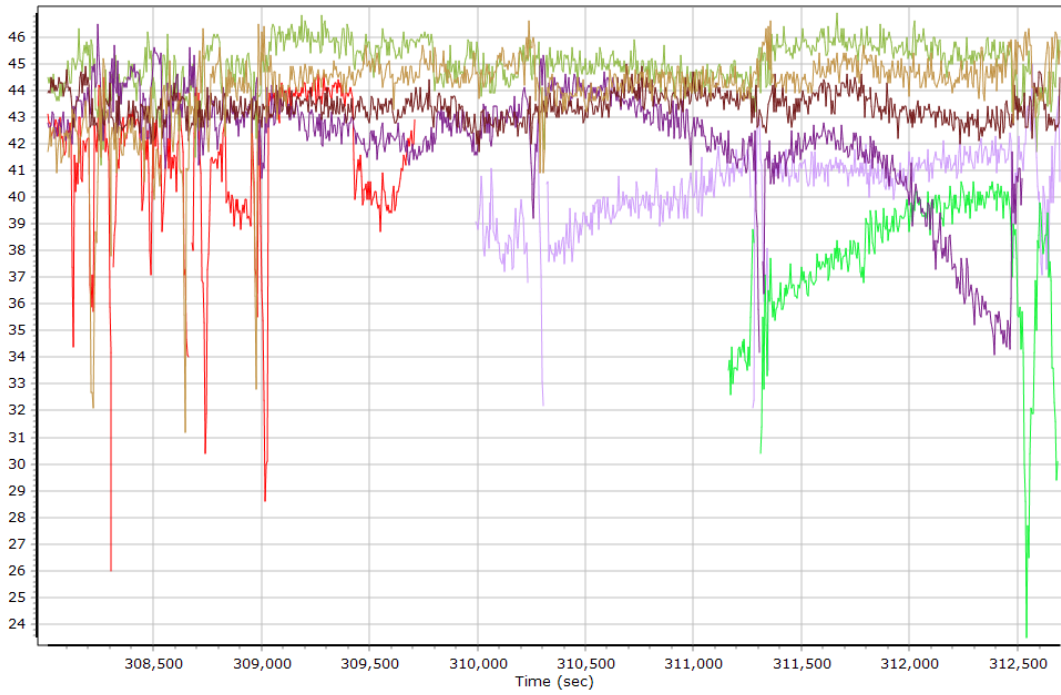
GPS L2 SNR



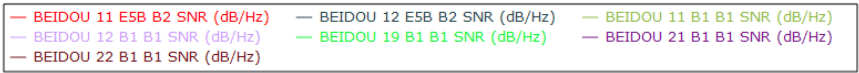
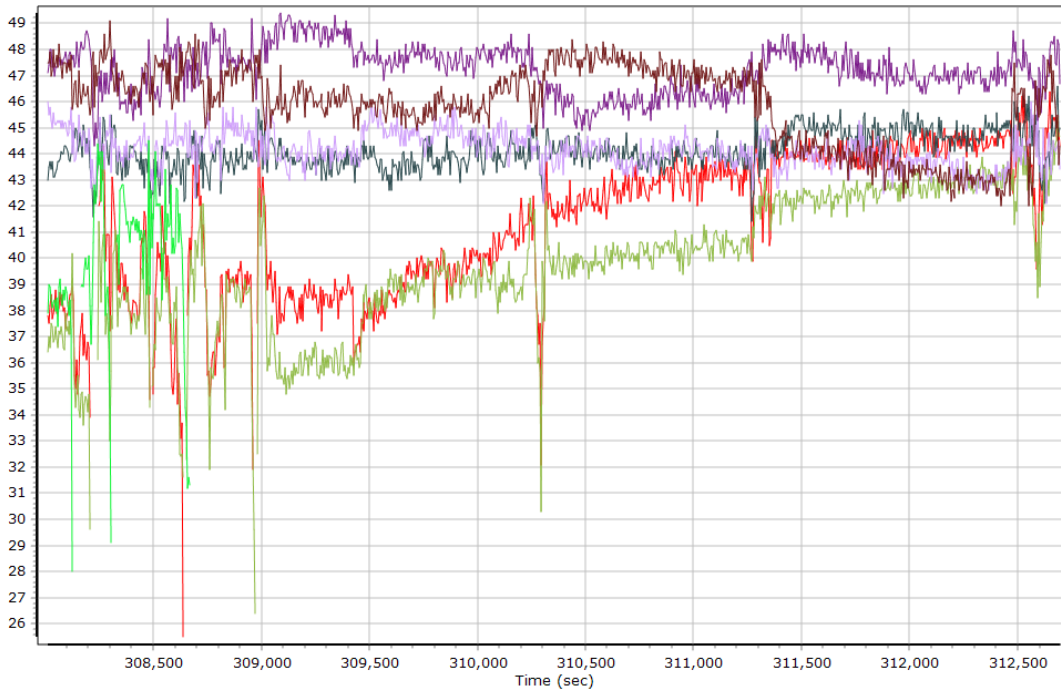
GLONASS L1 SNR



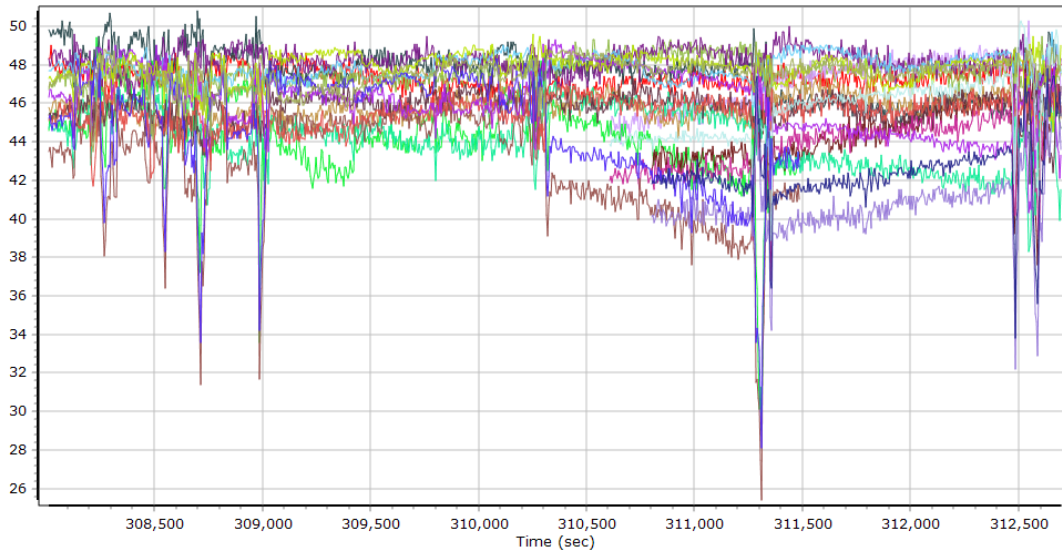
GLONASS L2 SNR



BEIDOU SNR



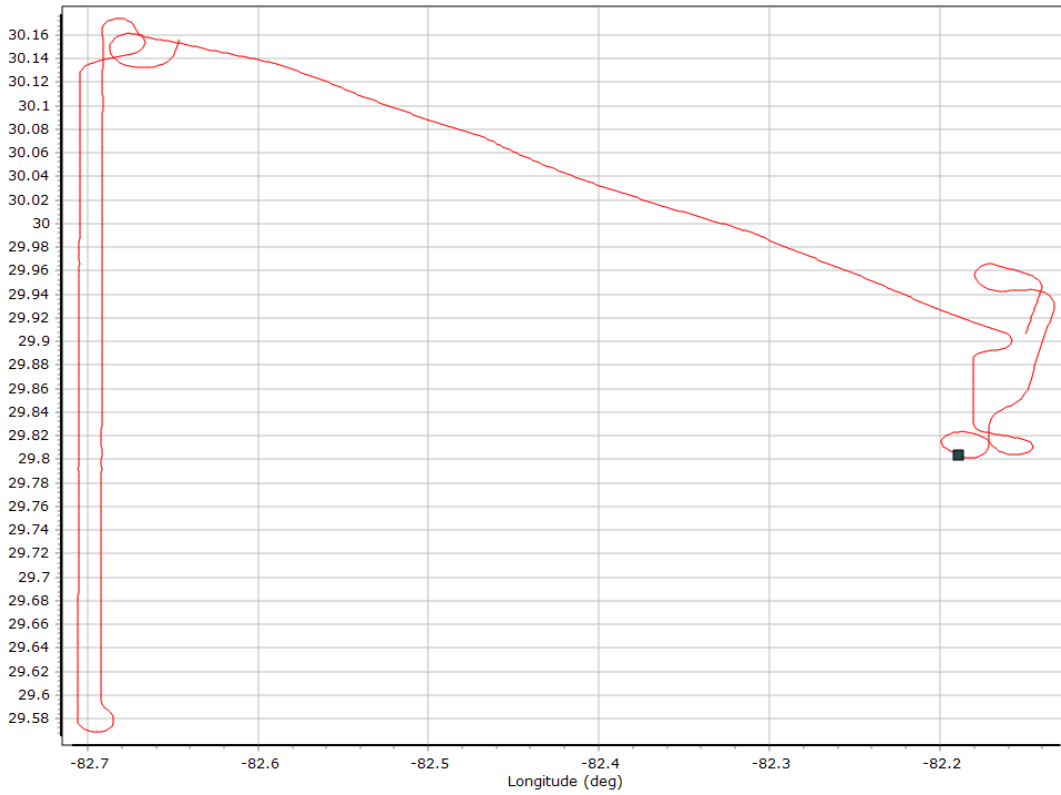
GALILEO SNR



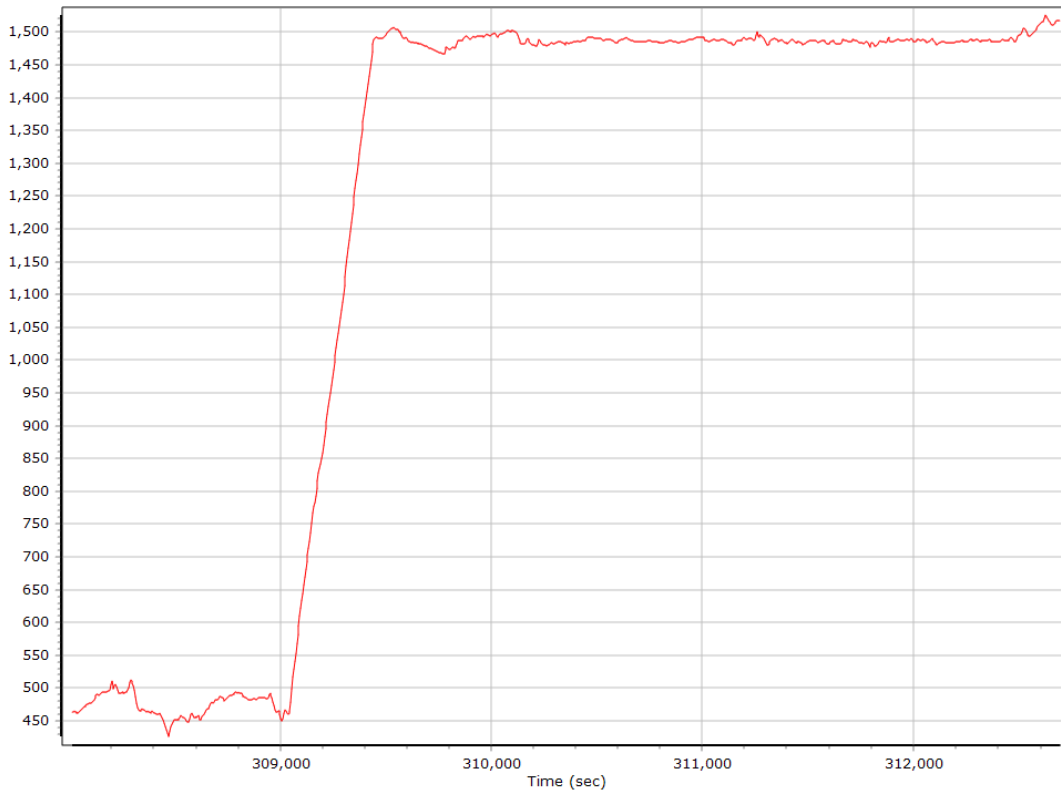
- | | |
|--|--|
| — GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 14 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 15 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 26 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 33 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 07 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 08 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 13 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 14 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 15 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 26 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 33 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 07 E5ABCentre AltBOCCompPD SNR (dB/Hz) | — GALILEO 08 E5ABCentre AltBOCCompPD SNR (dB/Hz) |
| — GALILEO 13 E5ABCentre AltBOCCompPD SNR (dB/Hz) | — GALILEO 14 E5ABCentre AltBOCCompPD SNR (dB/Hz) |
| — GALILEO 15 E5ABCentre AltBOCCompPD SNR (dB/Hz) | — GALILEO 26 E5ABCentre AltBOCCompPD SNR (dB/Hz) |

Trajectory Information

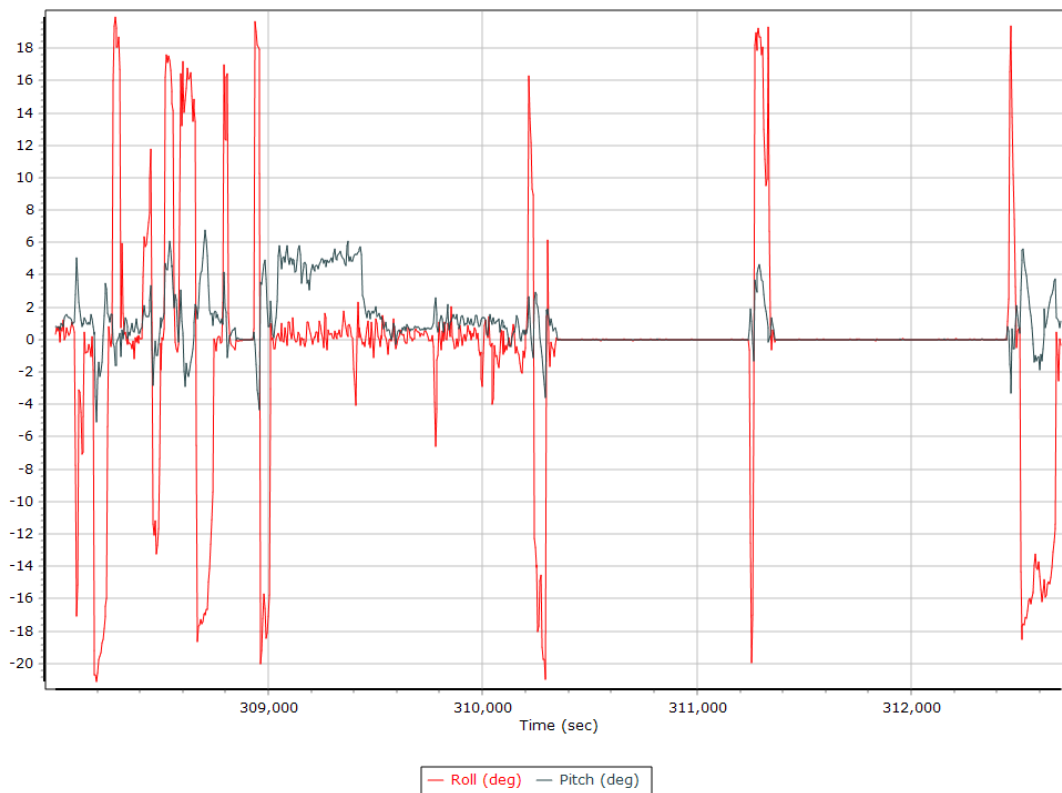
Top View



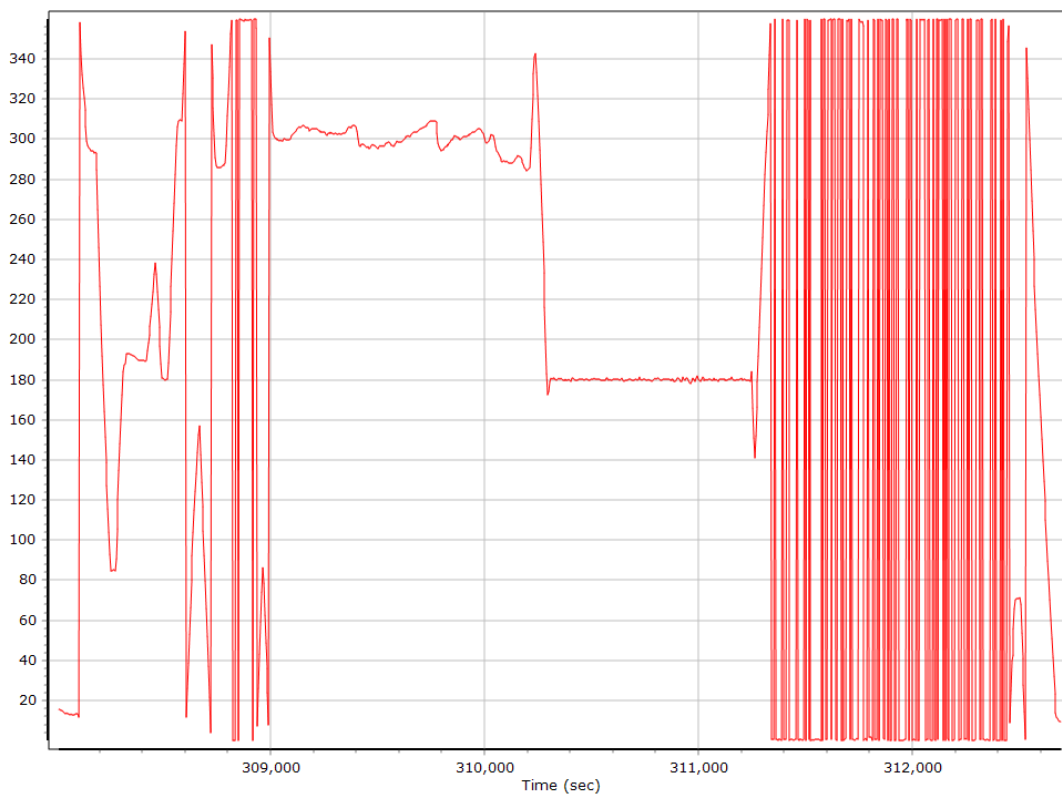
Altitude



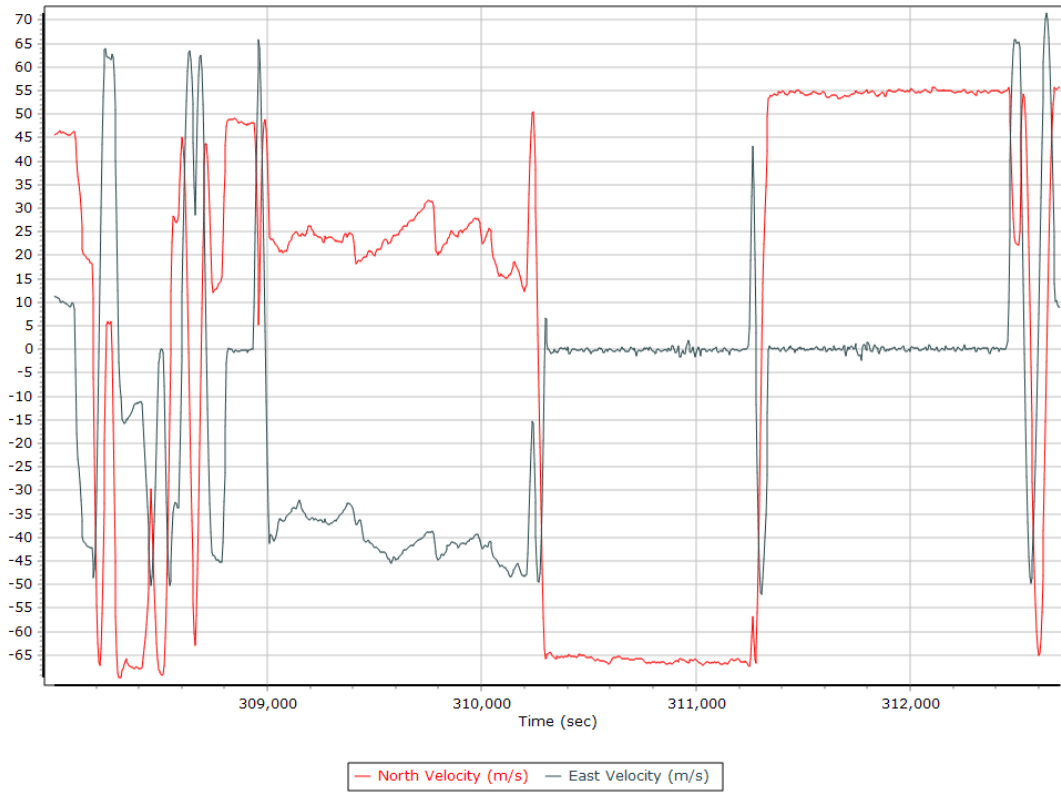
Roll/Pitch



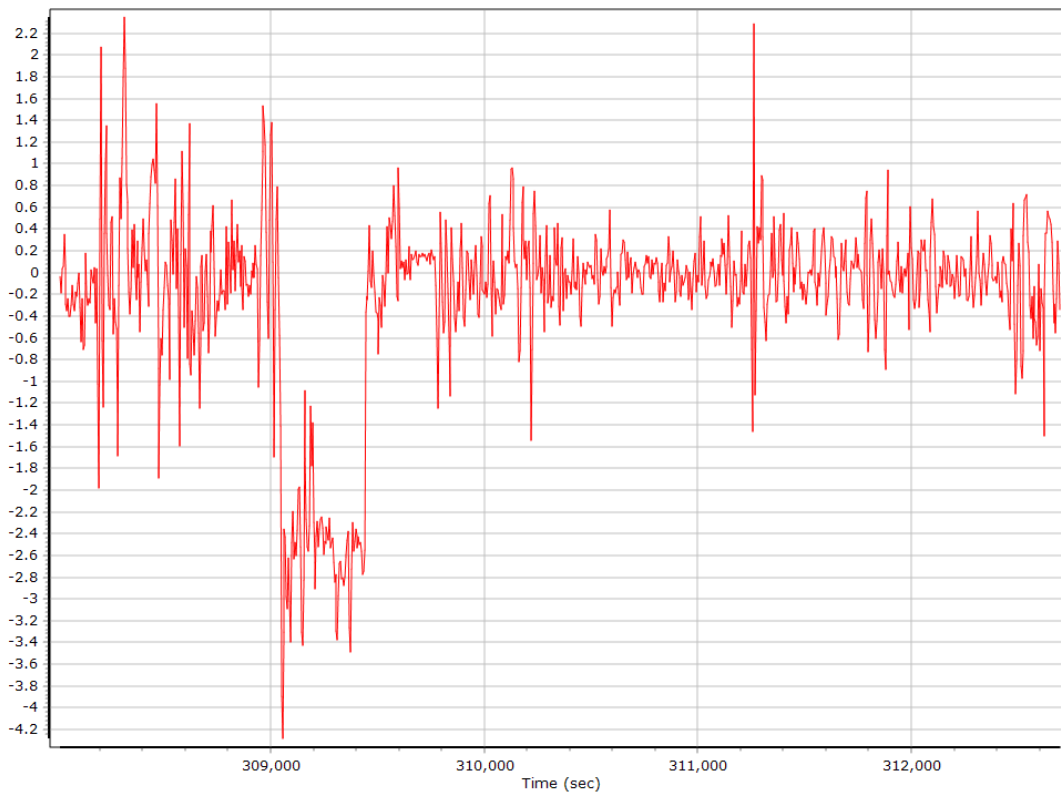
Heading



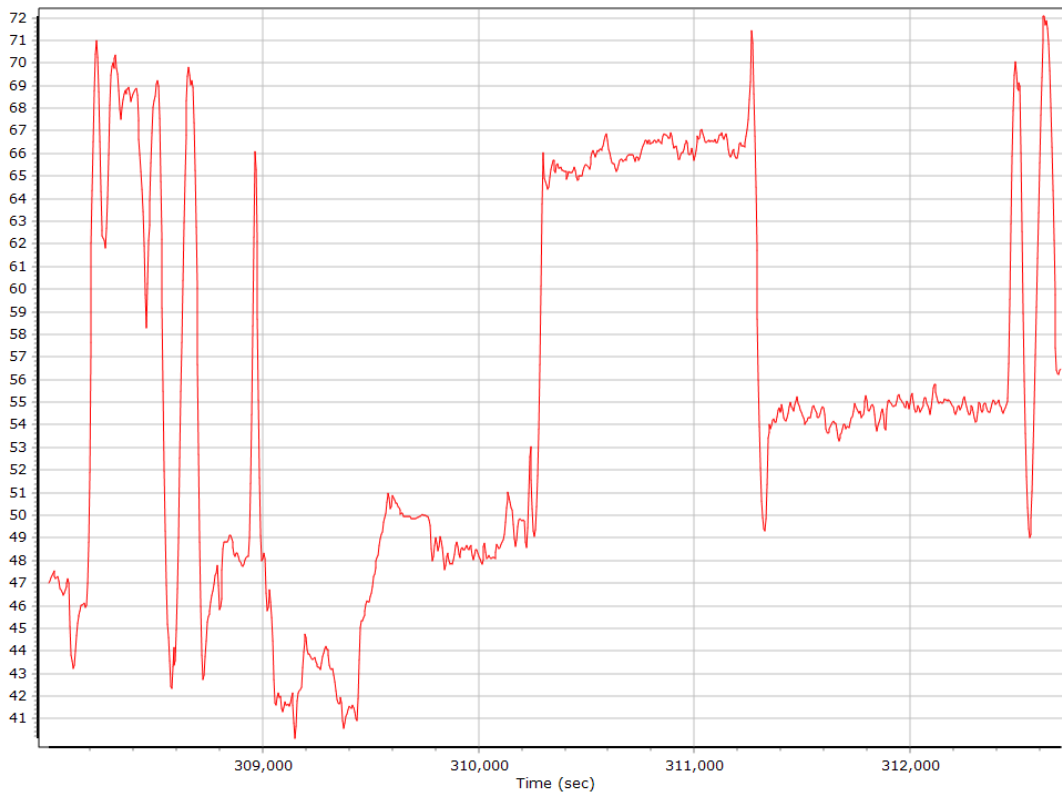
North/East Velocity



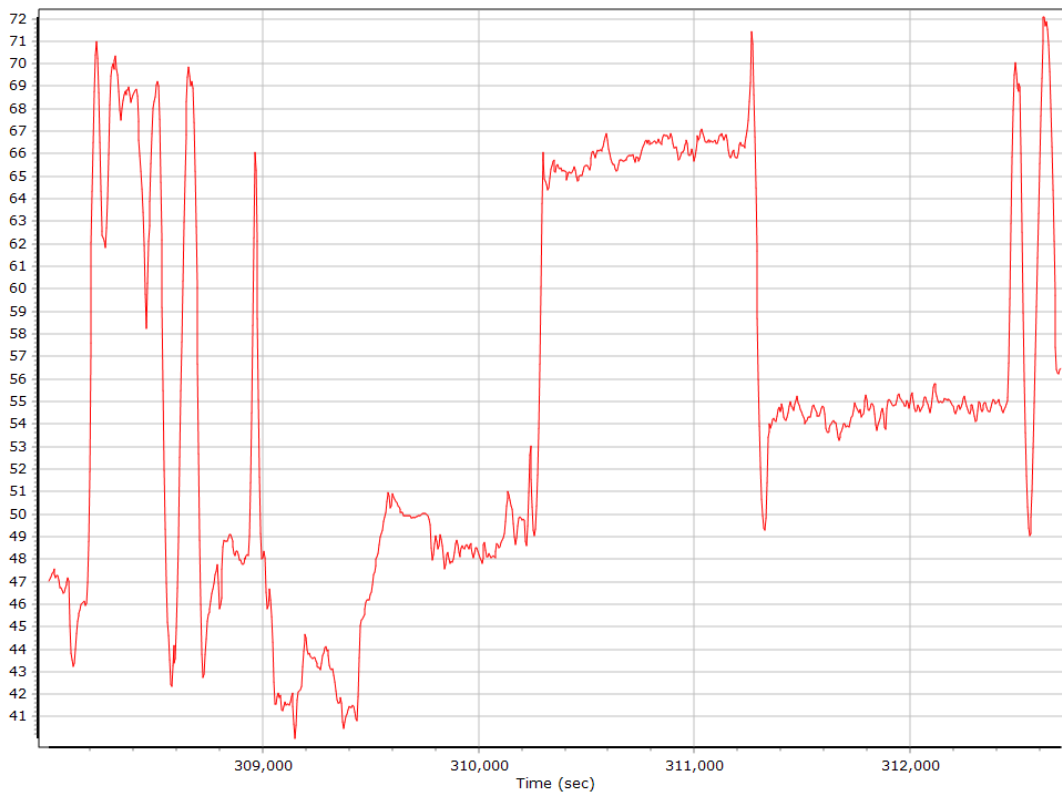
Down Velocity



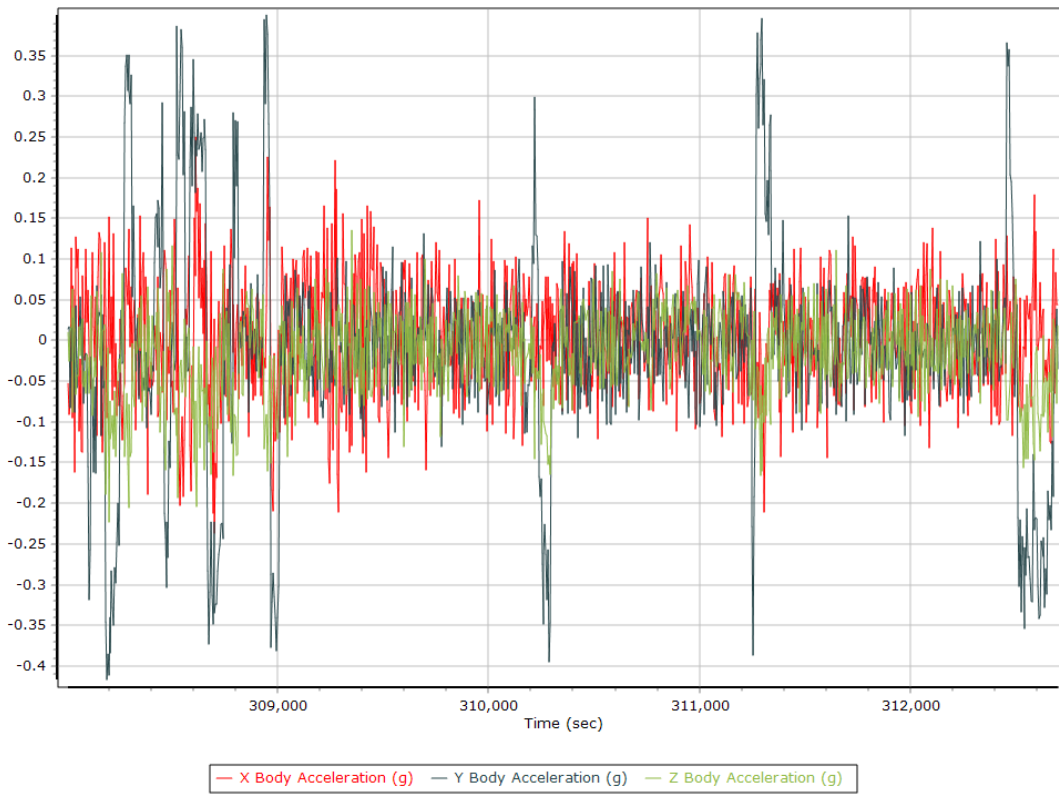
Total Speed



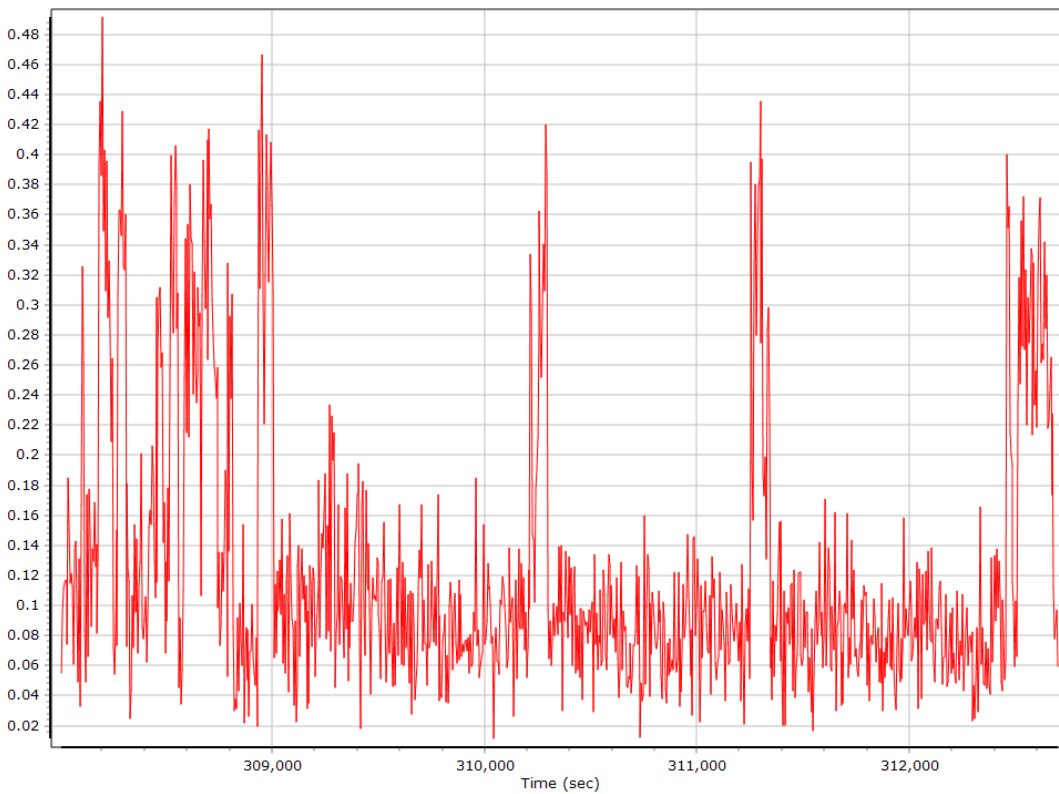
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/04/2019	Perry	105.61	GNSS	1	User	None	Imported
12/04/2019	FLCK	101.77	GNSS	1	User	None	Imported
12/04/2019	OCLA	90.49	GNSS	1	User	None	Imported
12/04/2019	PLTK	83.19	GNSS	1	User	None	Imported
12/04/2019	LKCY	30.18	GNSS	1	User	None	Imported
12/04/2019	GNVL	33.66	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	LKCY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	4841 s (2082 307875 - 2082 312716)
Number of reference stations	6
Primary station GPS measurement usage (%)	99.6
Primary station GLONASS measurement usage (%)	79.2
Average number of satellites per epoch	12.3
Max number of GPS stations used	6
Min number of GPS stations used	3
Max number of GLONASS stations used	6
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	5988
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - Perry

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	10.49	Output Coordinates	Disabled	
Solution Epochs	2518	Mean Epoch SVs	5.5	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°04'40.11938"	W83°34'28.60872"	12.936
Adjusted		N30°04'40.11909"	W83°34'28.60837"	12.930
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.013	0.006	0.014

Base Station Information

Station ID	Perry		
Filename	prry_daily3380.19o		
Start date	12/4/2019 5:15:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	18:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702545
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°04'40.11938"		
Longitude	W83°34'28.60872"		
Ellipsoidal height (m)	-12.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCK

Status	OK	SBQI	0	
Duration (Hours)	19.46	Output Coordinates	Original	
Solution Epochs	4671	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°08'01.87610"	W83°01'51.05281"	17.224
Adjusted		N29°08'01.87588"	W83°01'51.05274"	17.213
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.007	0.011	0.013

Base Station Information

Station ID	FLCK		
Filename	flck_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - OCLA

Status	OK	SBQI	0	
Duration (Hours)	19.41	Output Coordinates	Original	
Solution Epochs	4659	Mean Epoch SVs	7.7	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°10'54.46980"	W82°06'15.28619"	17.715
Adjusted		N29°10'54.46973"	W82°06'15.28622"	17.728
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.002	0.013	0.013

Base Station Information

Station ID	OCLA		
Filename	ocla_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PLTK

Status	OK	SBQI	0	
Duration (Hours)	19.47	Output Coordinates	Original	
Solution Epochs	4673	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14813"	W81°41'15.86050"	17.955
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.003	0.009	0.010

Base Station Information

Station ID	PLTK		
Filename	pltk_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LKCY

Status	OK	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Original	
Solution Epochs	4776	Mean Epoch SVs	8.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°11'07.49182"	W82°34'39.14410"	35.193
Adjusted		N30°11'07.49173"	W82°34'39.14422"	35.209
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.004	0.016	0.017

Base Station Information

Station ID	LKCY		
Filename	lkcy_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	CONTROL	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Control	
Solution Epochs	4776	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55697"	W82°16'36.73521"	23.936
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	15.10	43.86	
Number of GPS SV	6	8	8
Number of GLONASS SV	4	5	5
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	10	13	12
PDOP	1.28	1.98	1.49
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	4834.00	0.00	0.00
Percentage	100.00	0.00	0.00

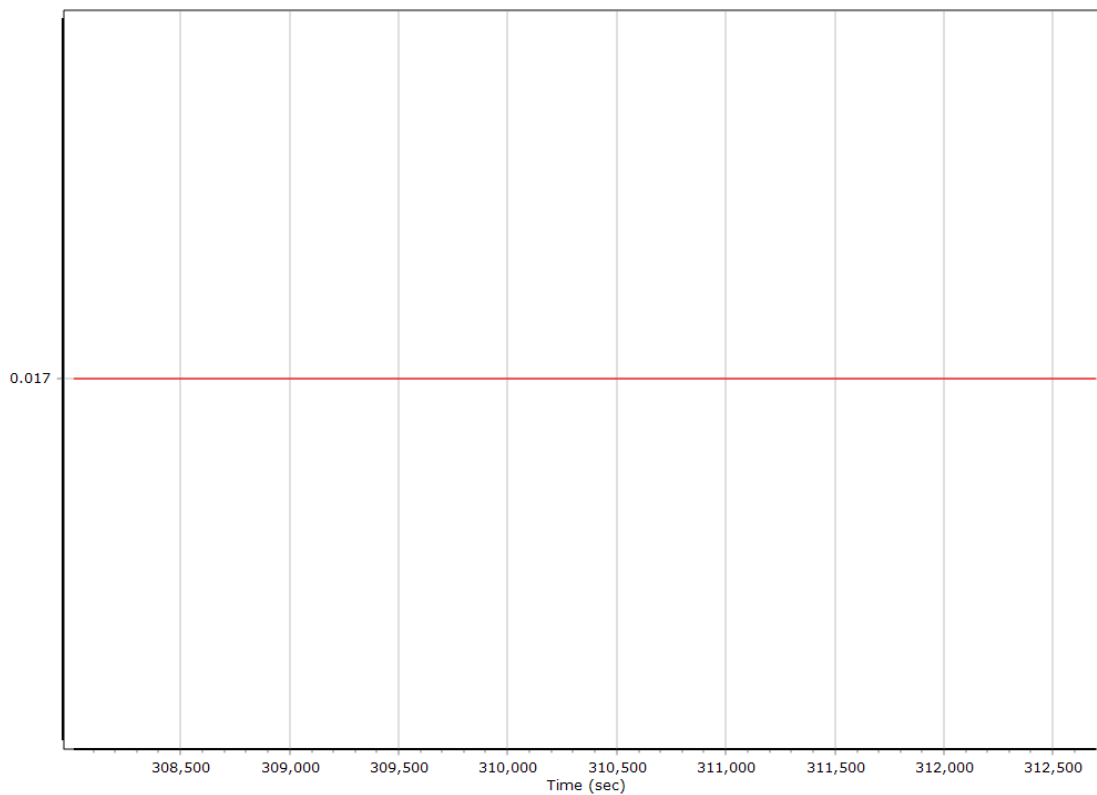
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	307857.000 (12/4/2019 1:30:57 PM)		
Processing end time	312698.000 (12/4/2019 2:51:38 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

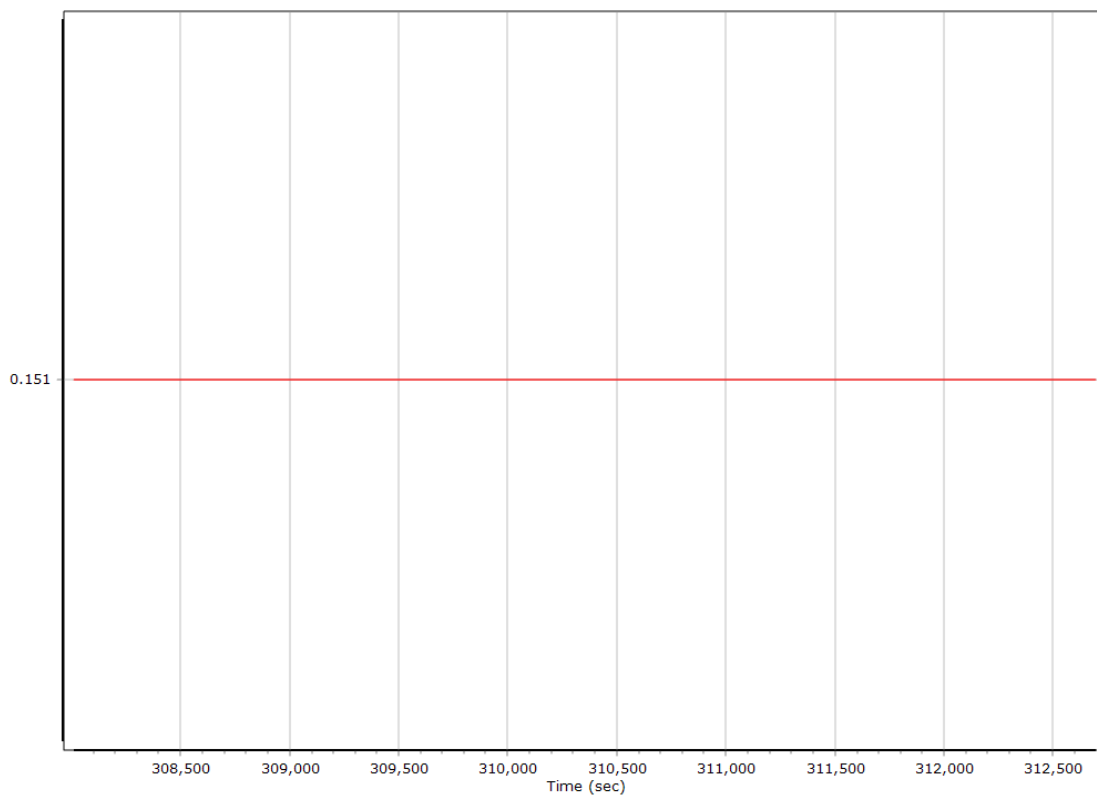
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

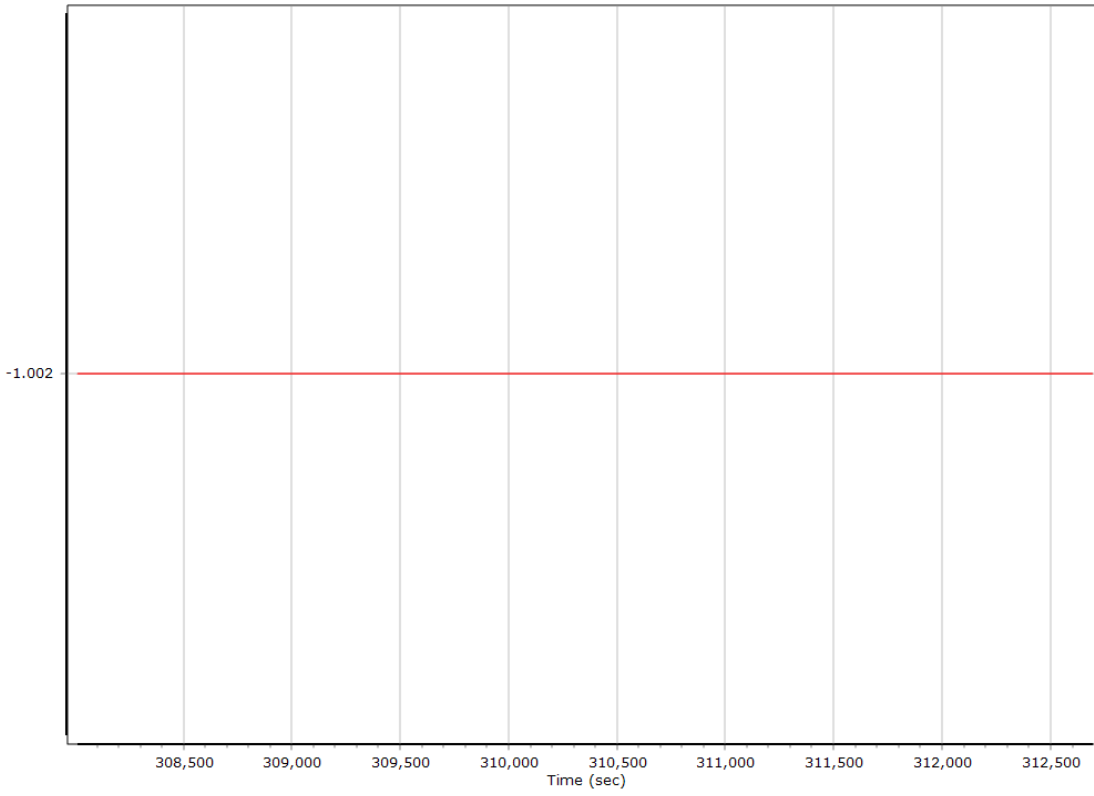
X Reference-Primary GNSS Lever Arm (m)



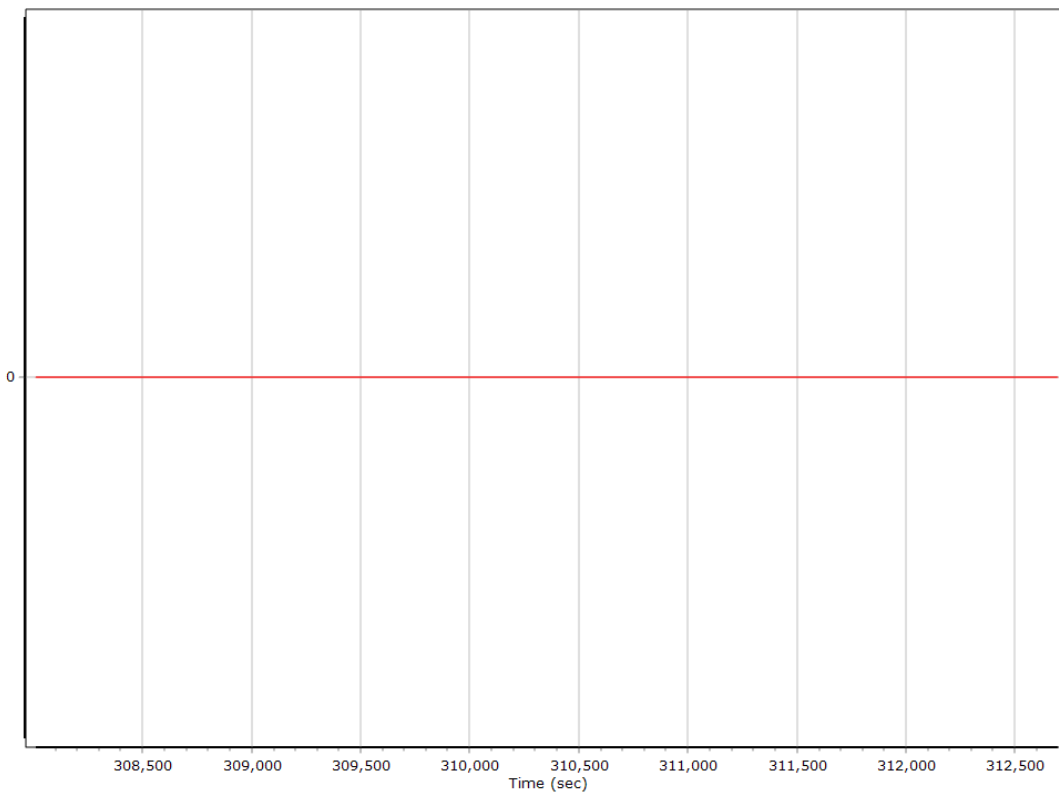
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



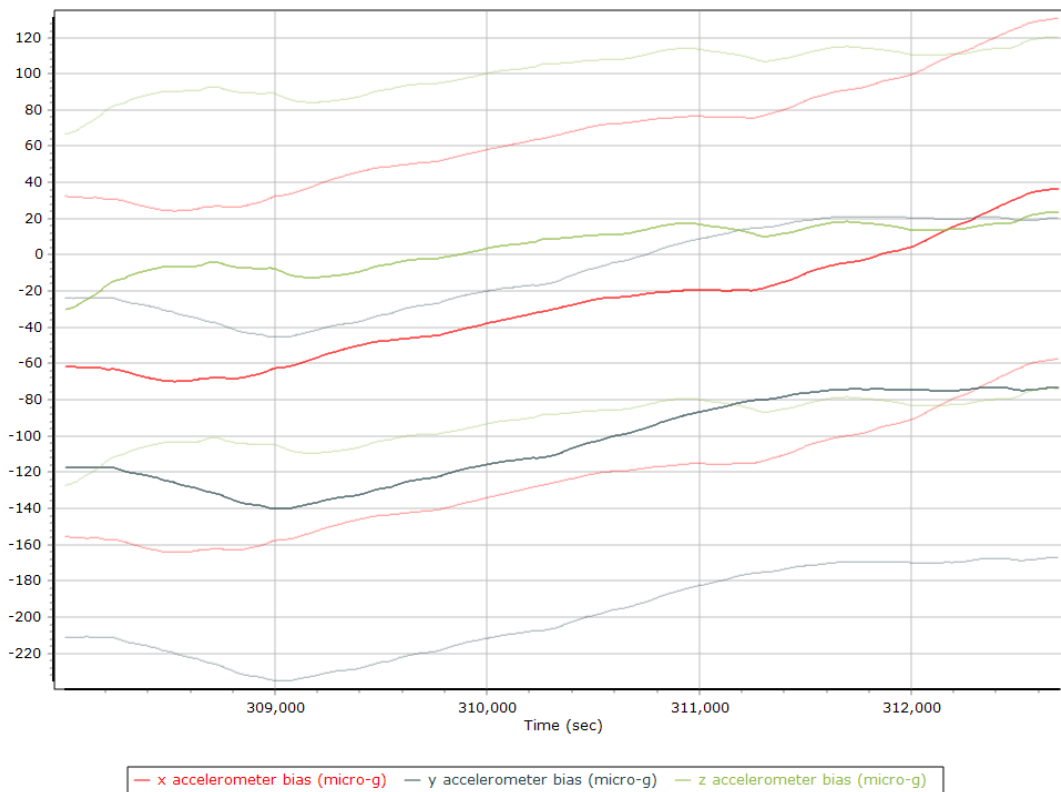
Reference-Primary GNSS Lever Arm Figure of Merit



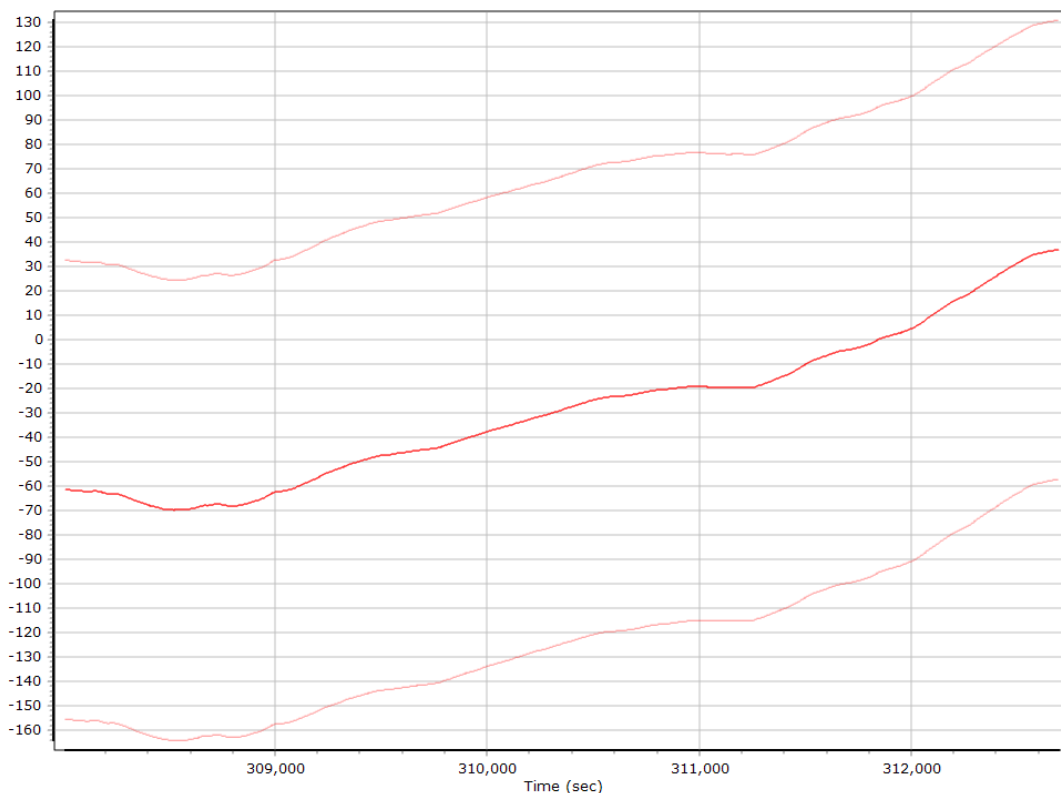
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

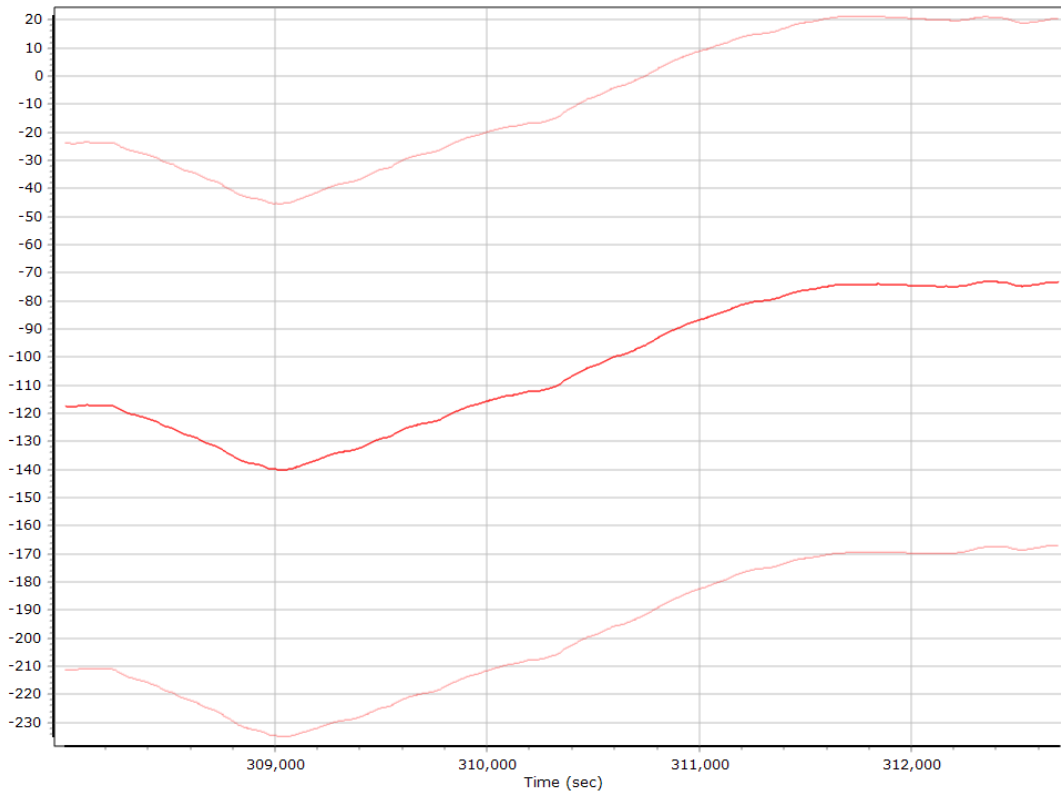
Accelerometer Bias (micro-g)



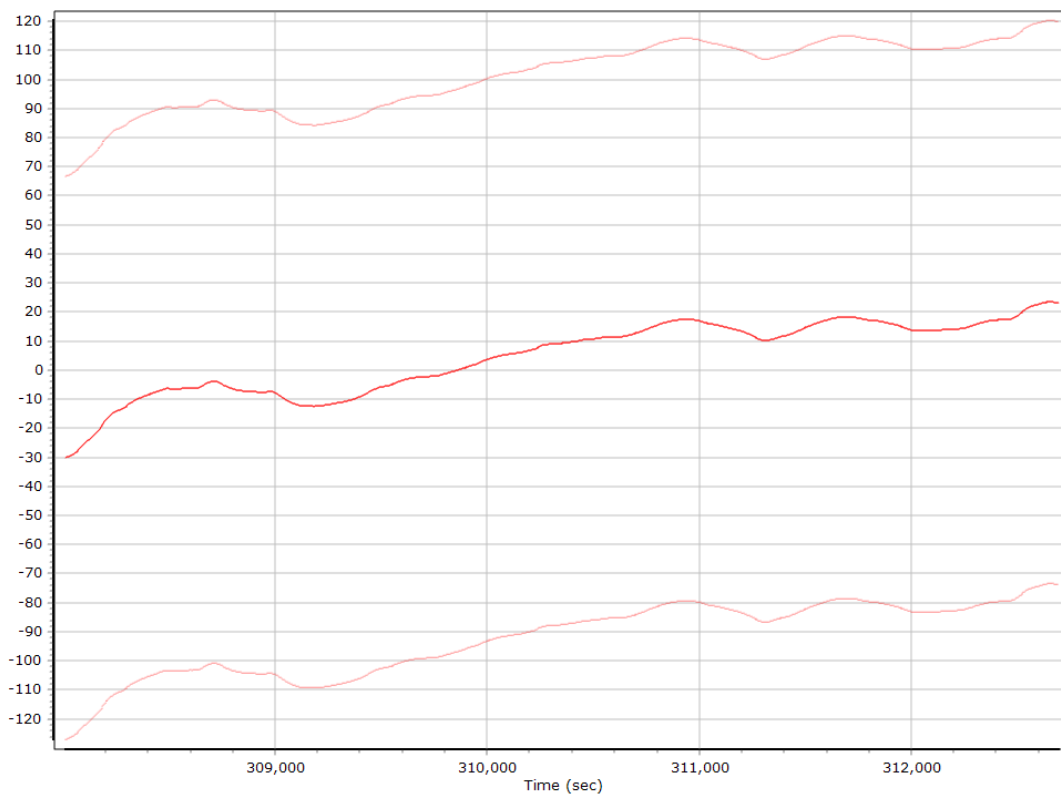
X Accelerometer Bias (micro-g)



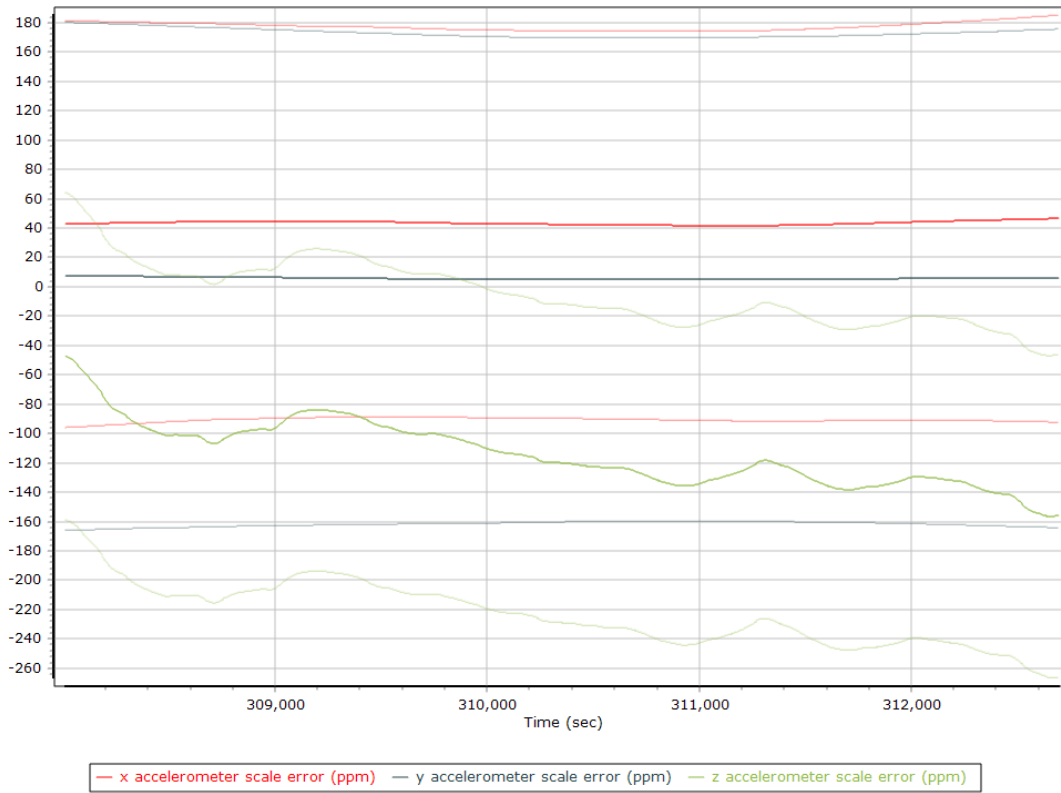
Y Accelerometer Bias (micro-g)



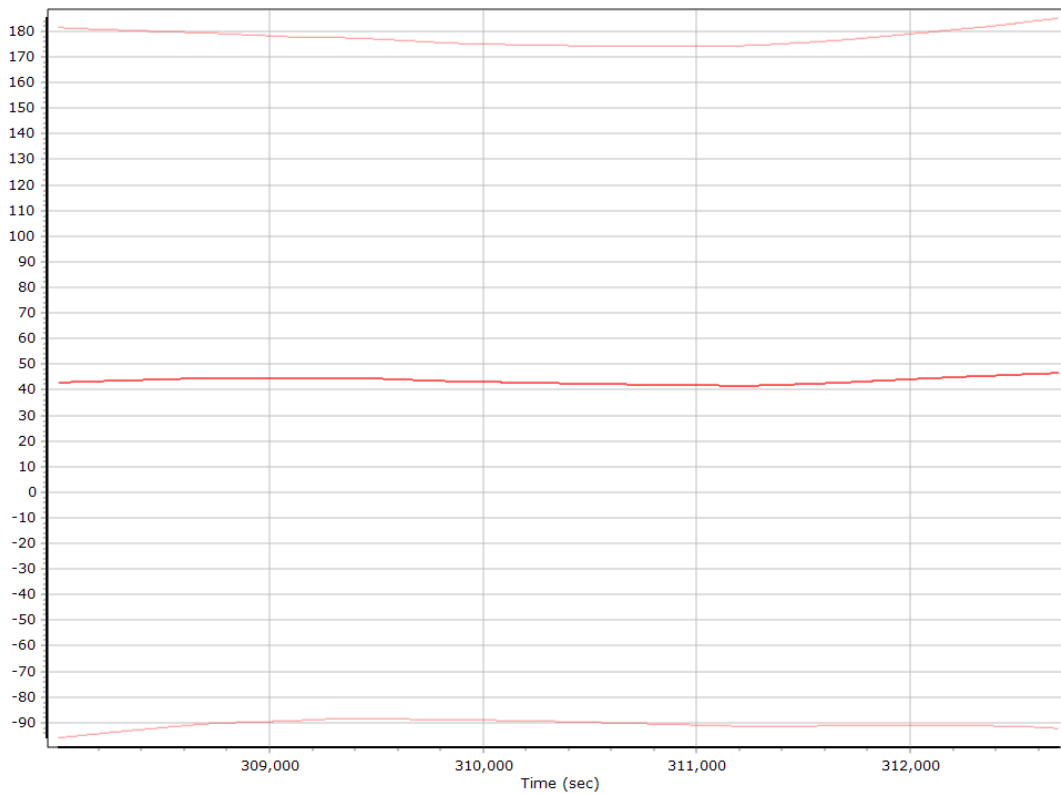
Z Accelerometer Bias (micro-g)



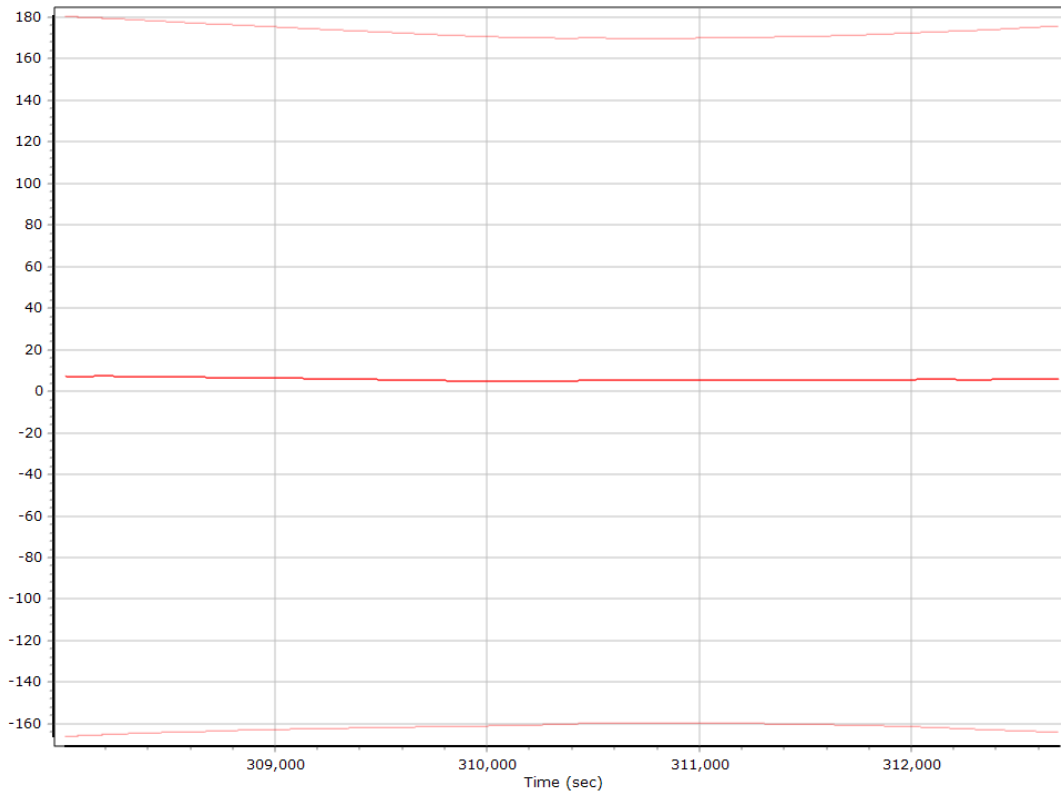
Accelerometer Scale Error (ppm)



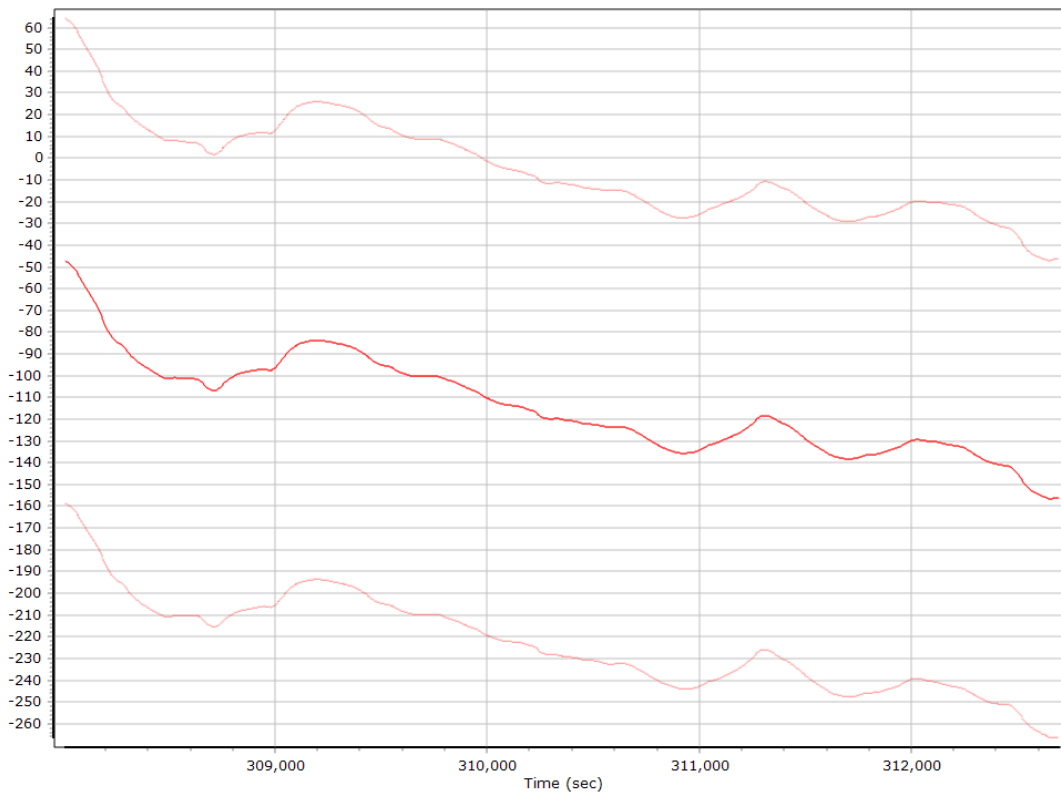
X Accelerometer Scale Error (ppm)



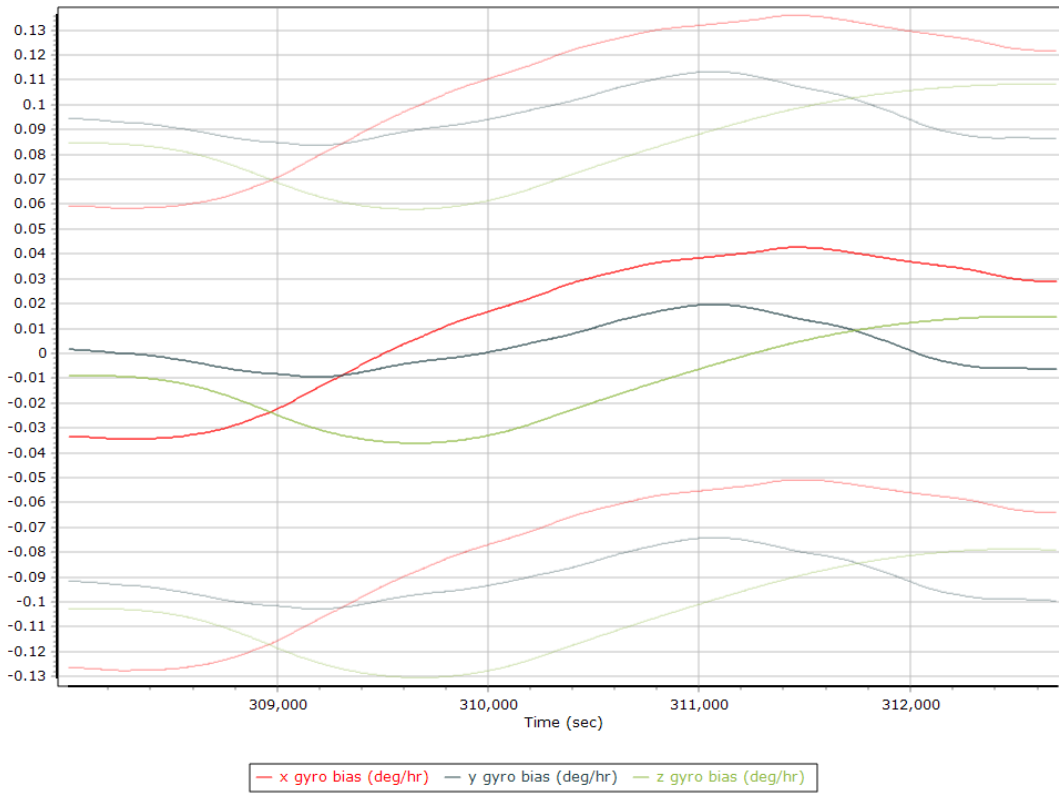
Y Accelerometer Scale Error (ppm)



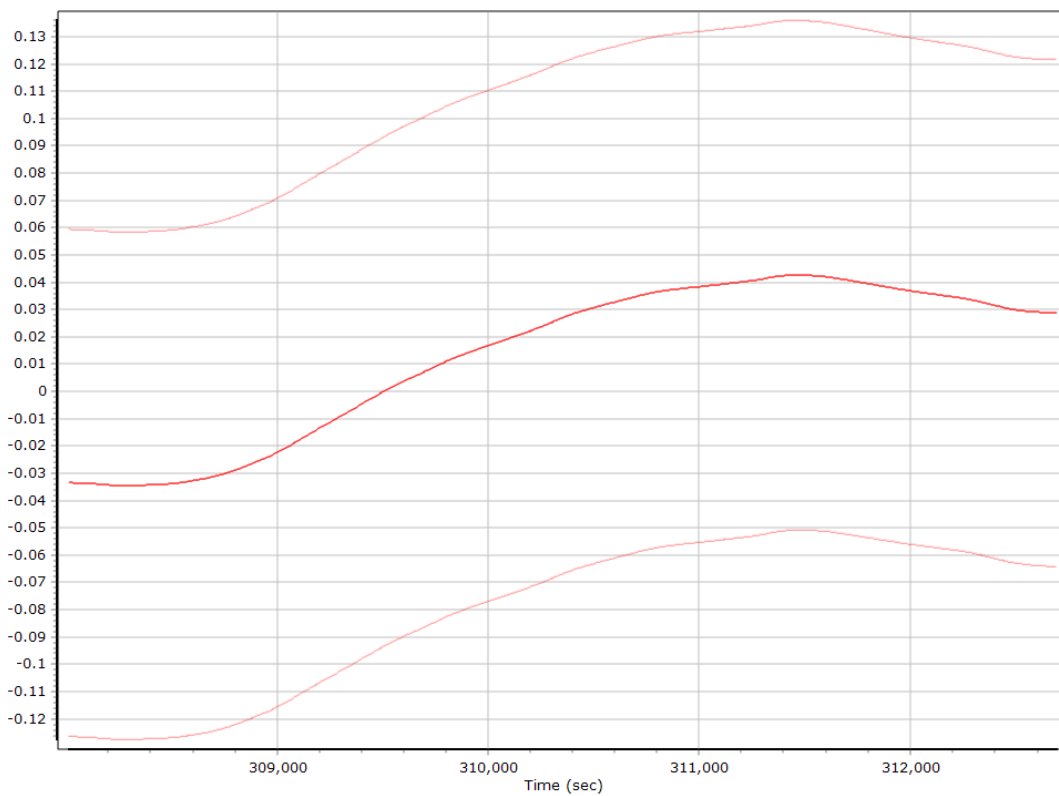
Z Accelerometer Scale Error (ppm)



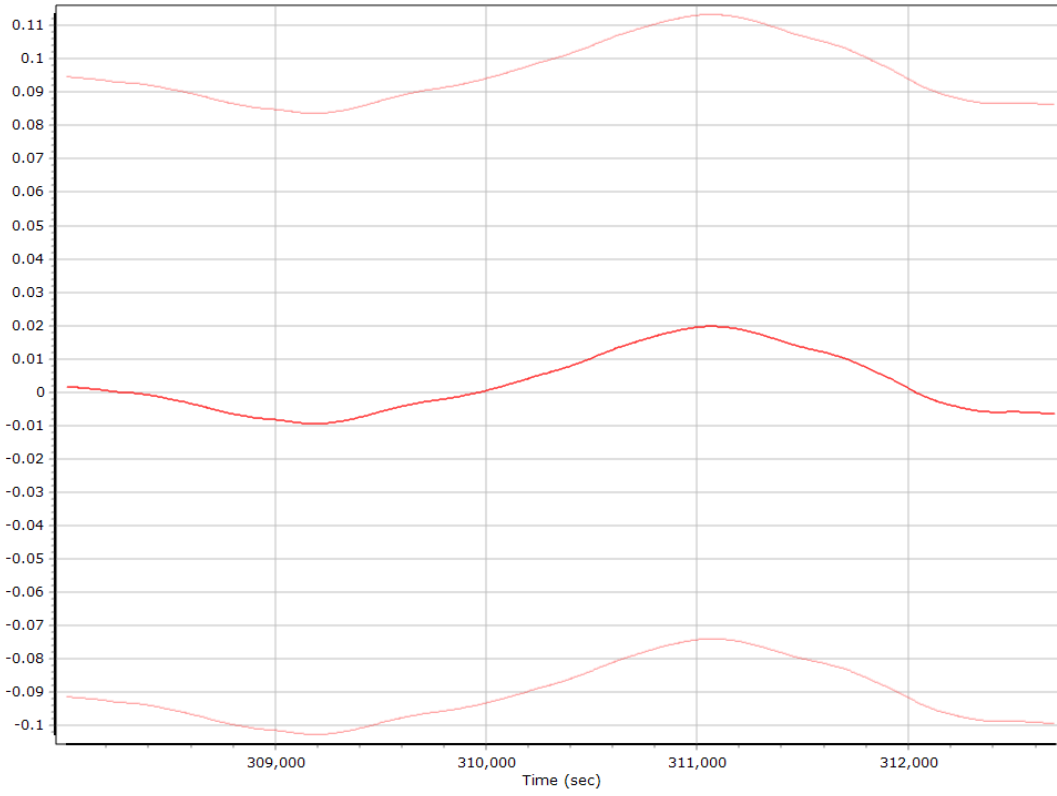
Gyro Bias (deg/h)



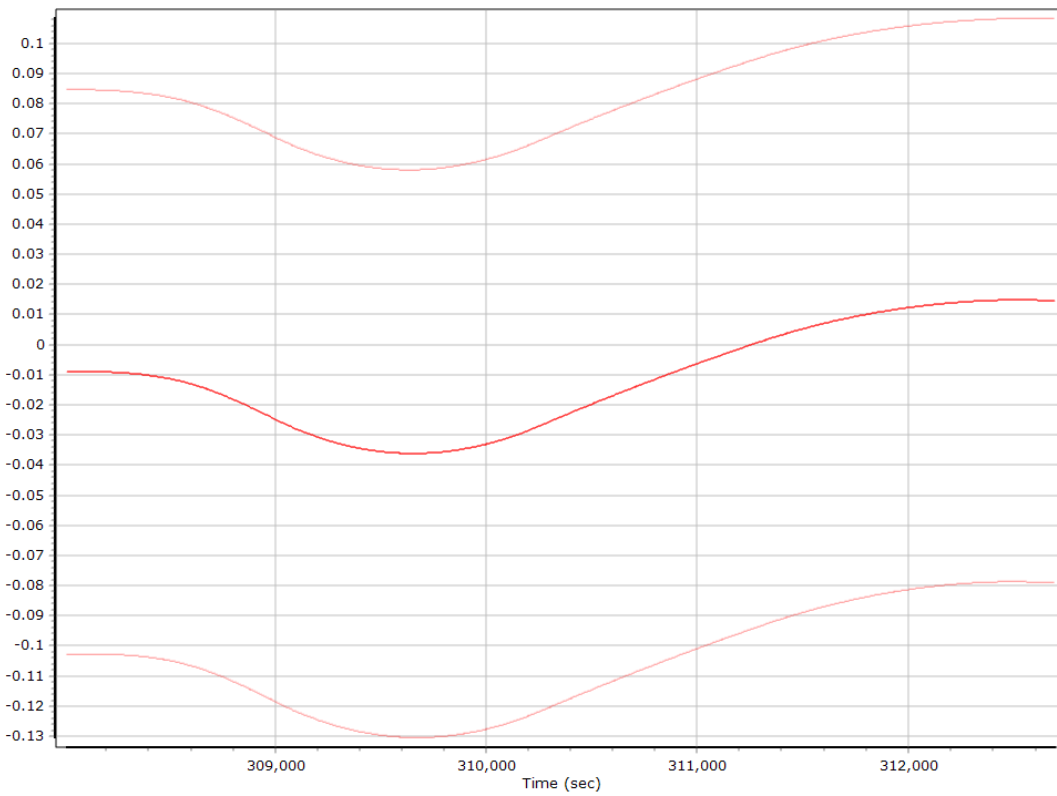
X Gyro Bias (deg/h)



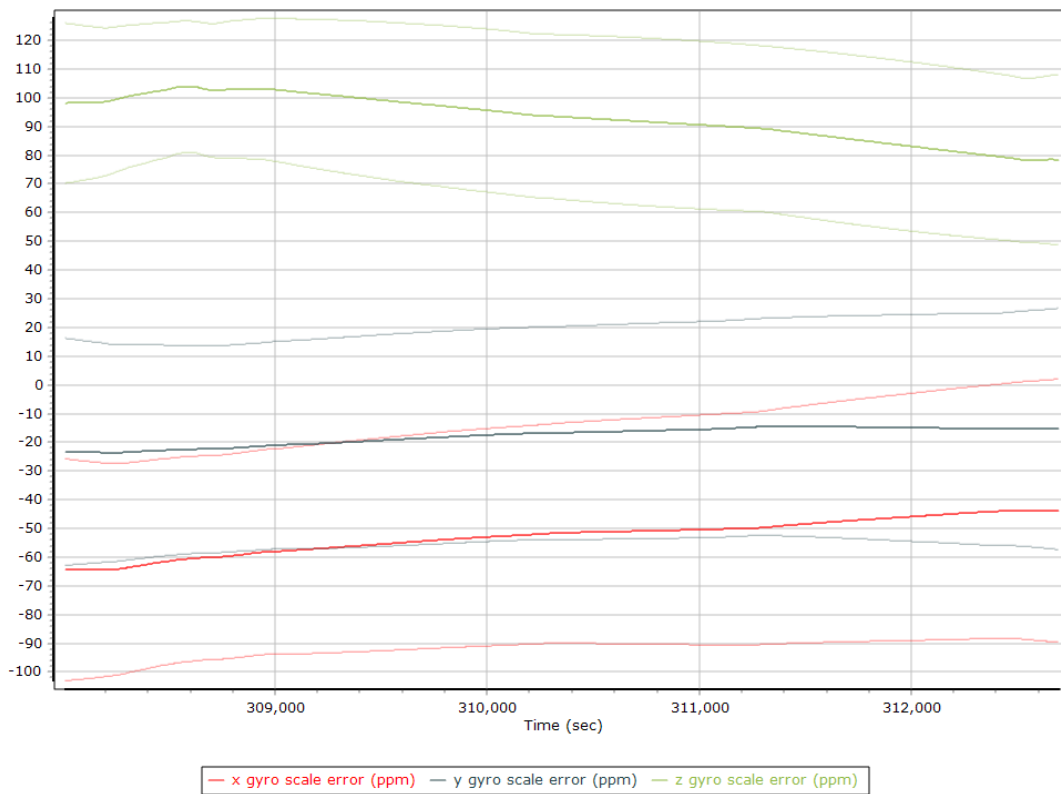
Y Gyro Bias (deg/h)



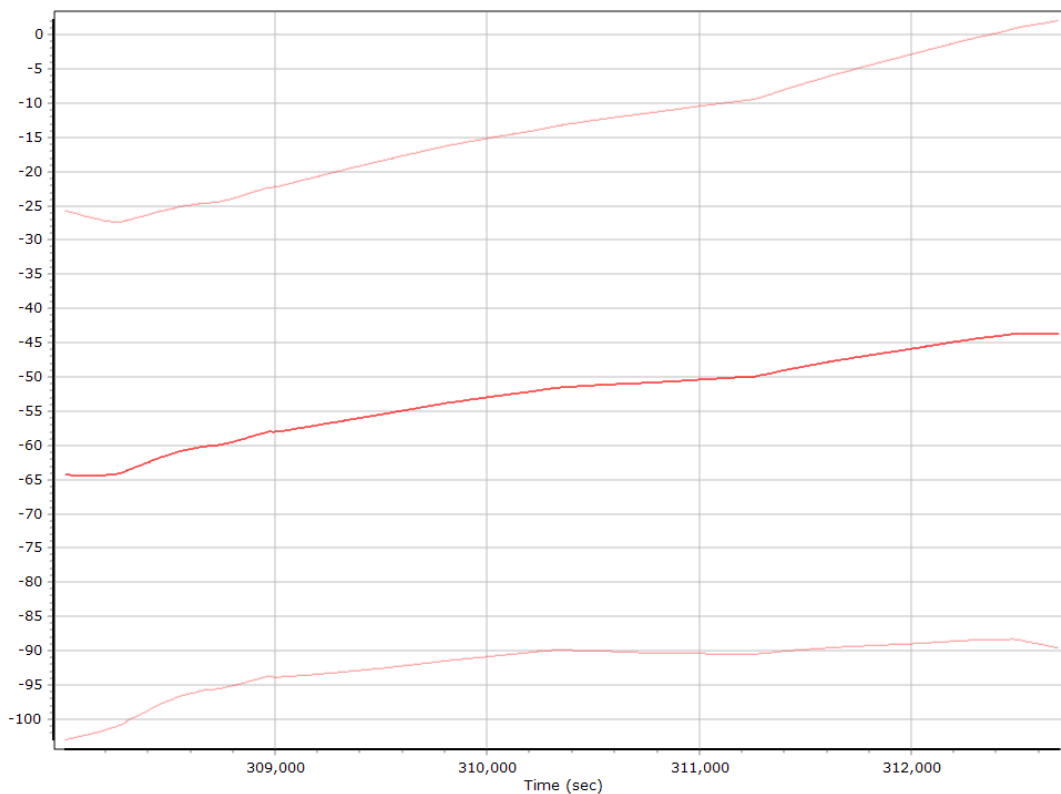
Z Gyro Bias (deg/h)



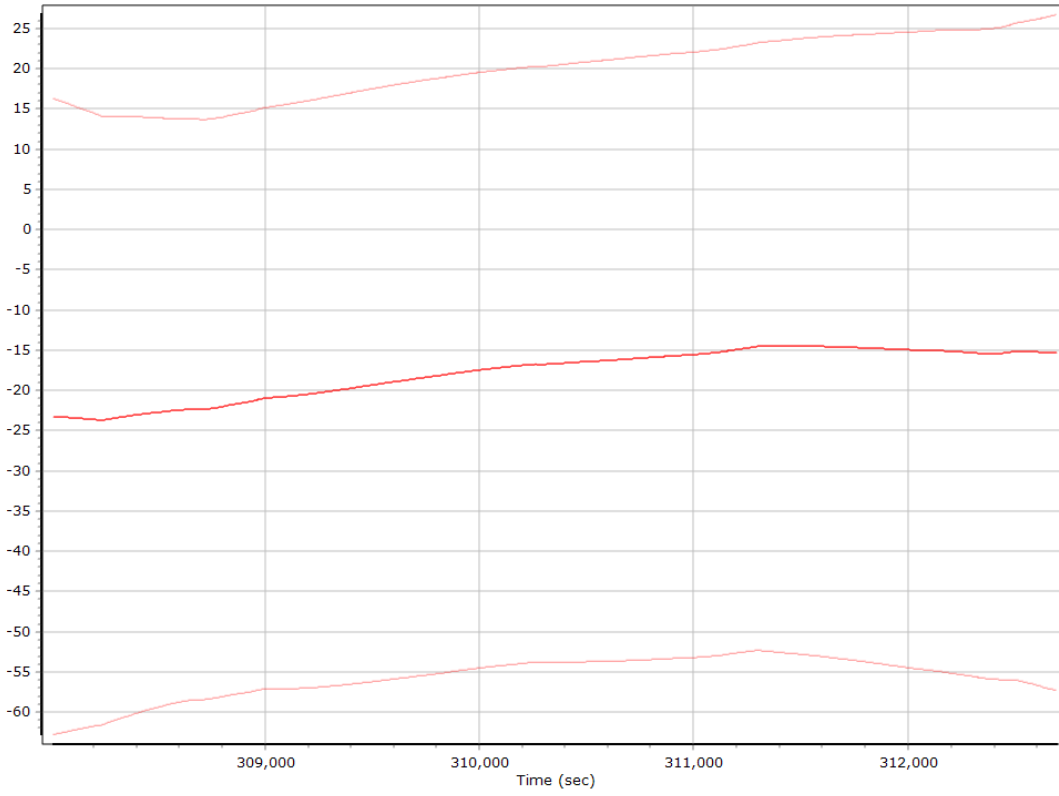
Gyro Scale Error (ppm)



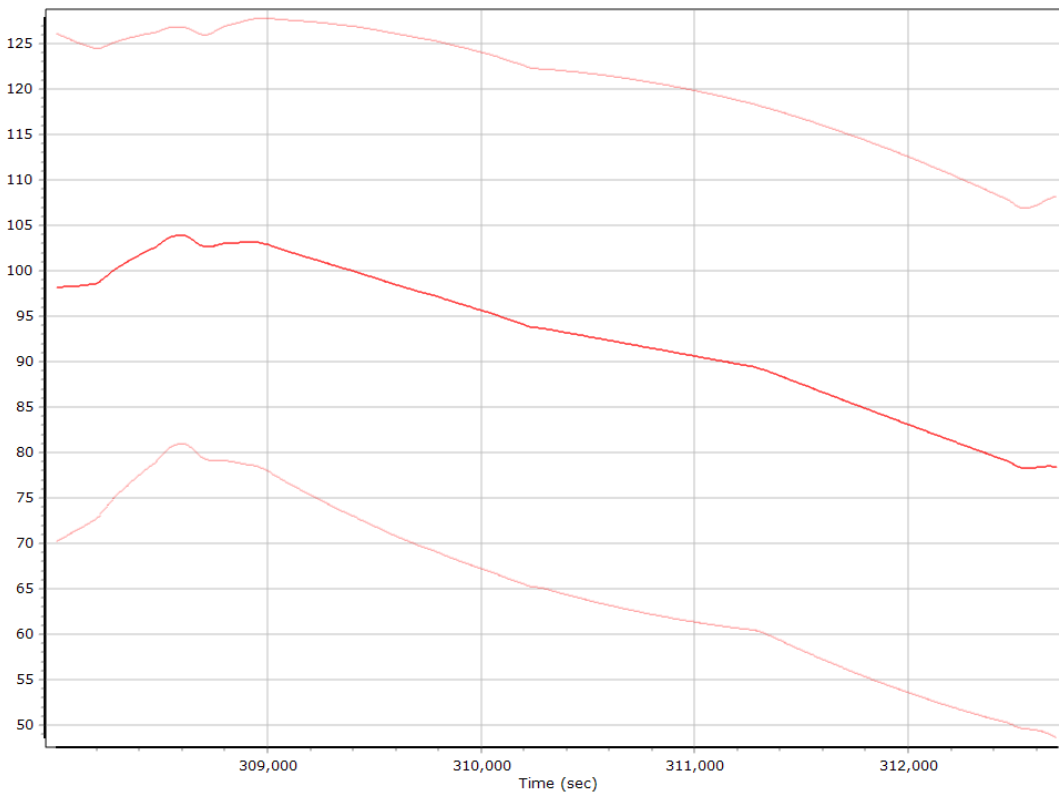
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

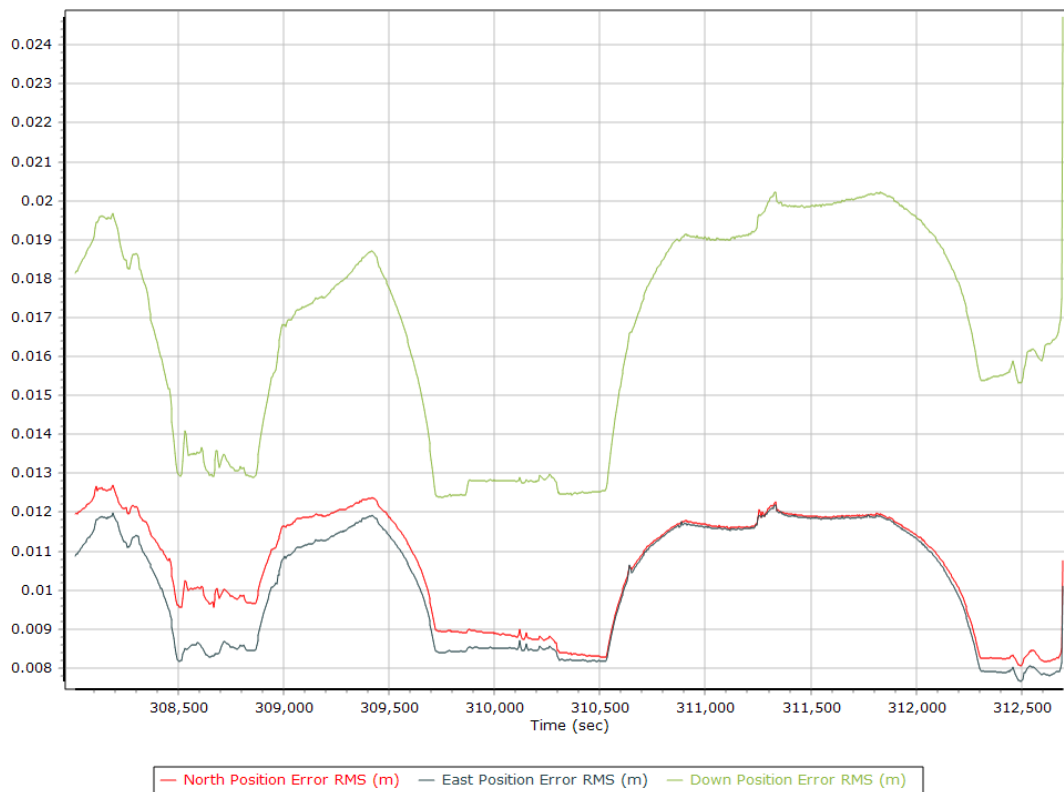


Z Gyro Scale Error (ppm)

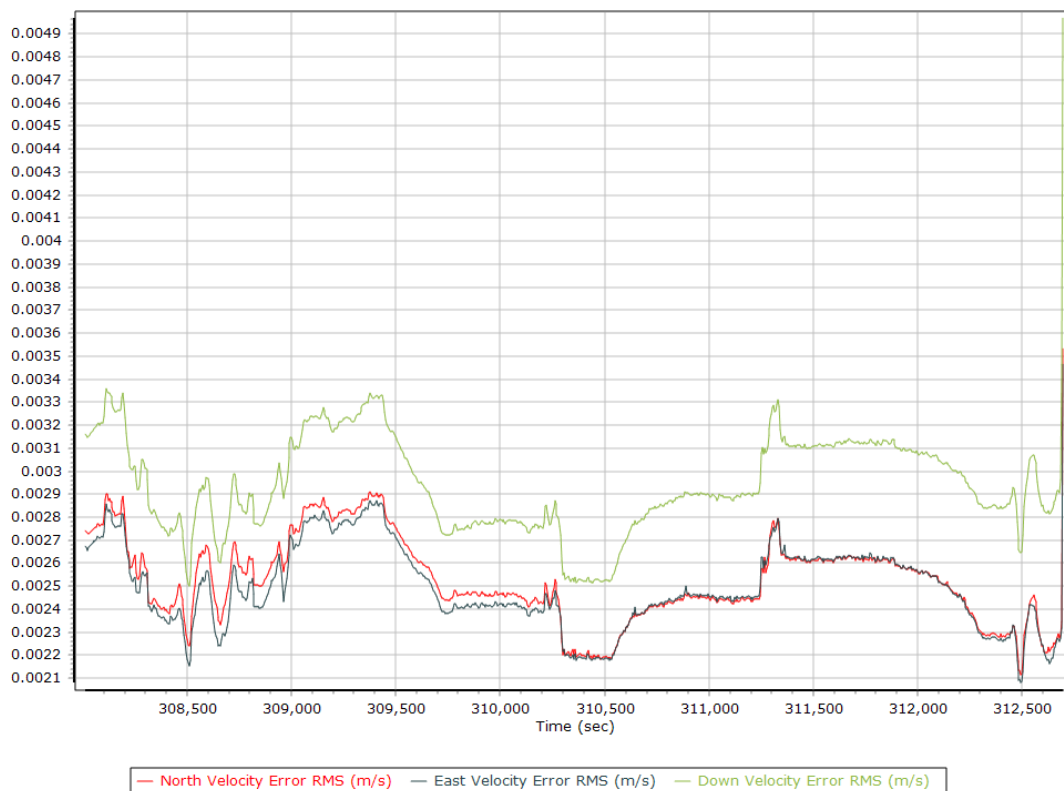


Smoothed Performance Metrics

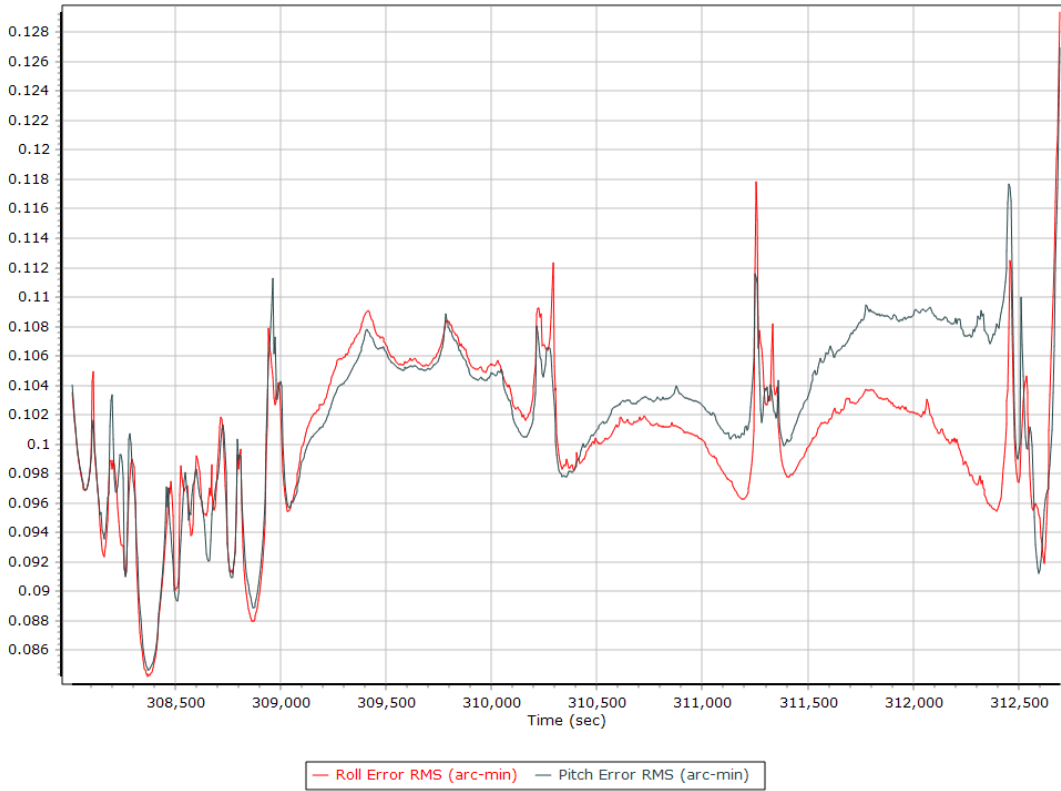
Position Error RMS (m)



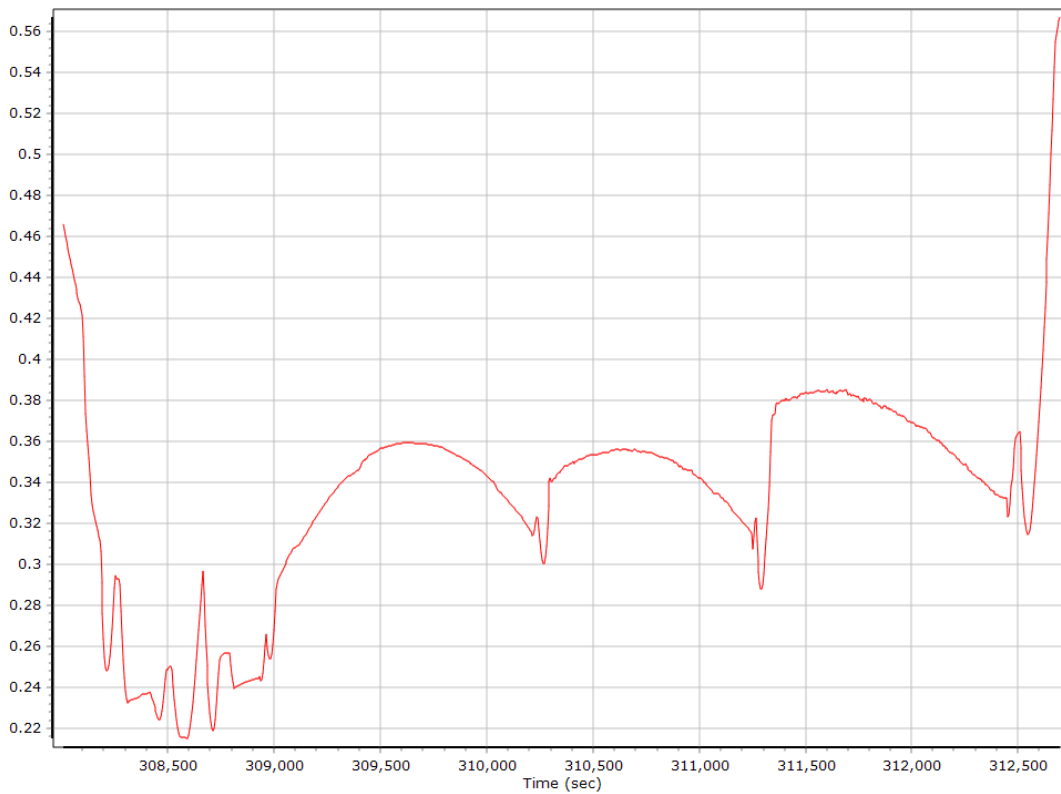
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

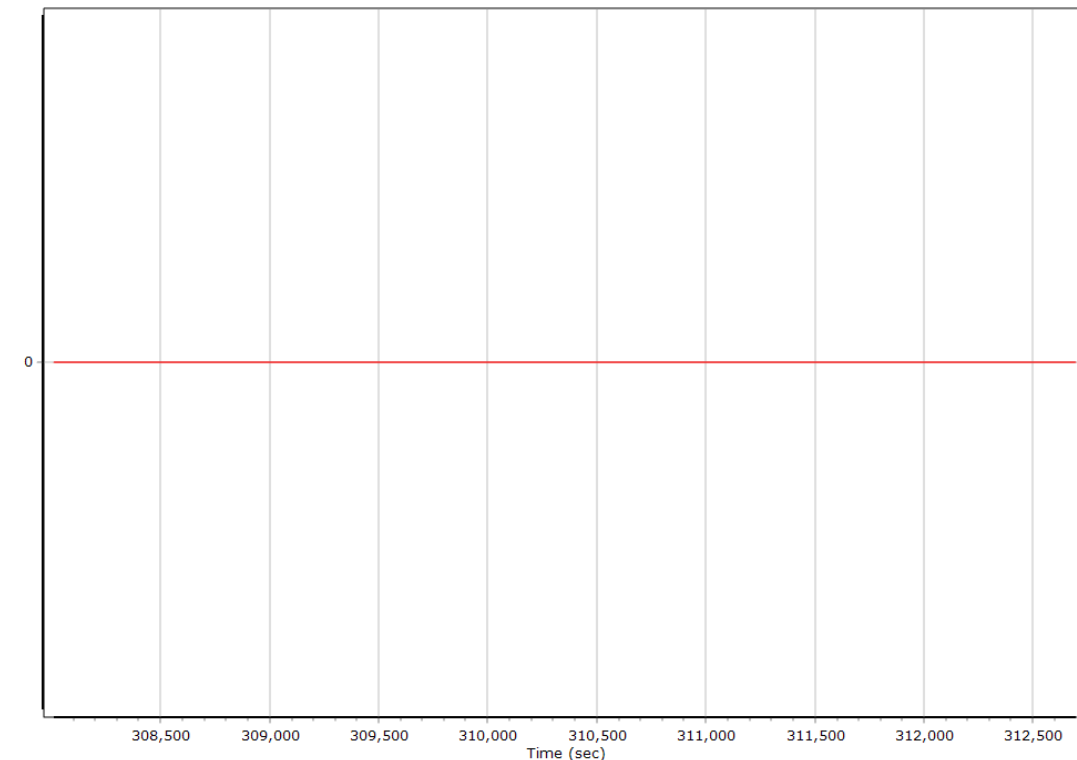


Heading Error RMS (arc-min)



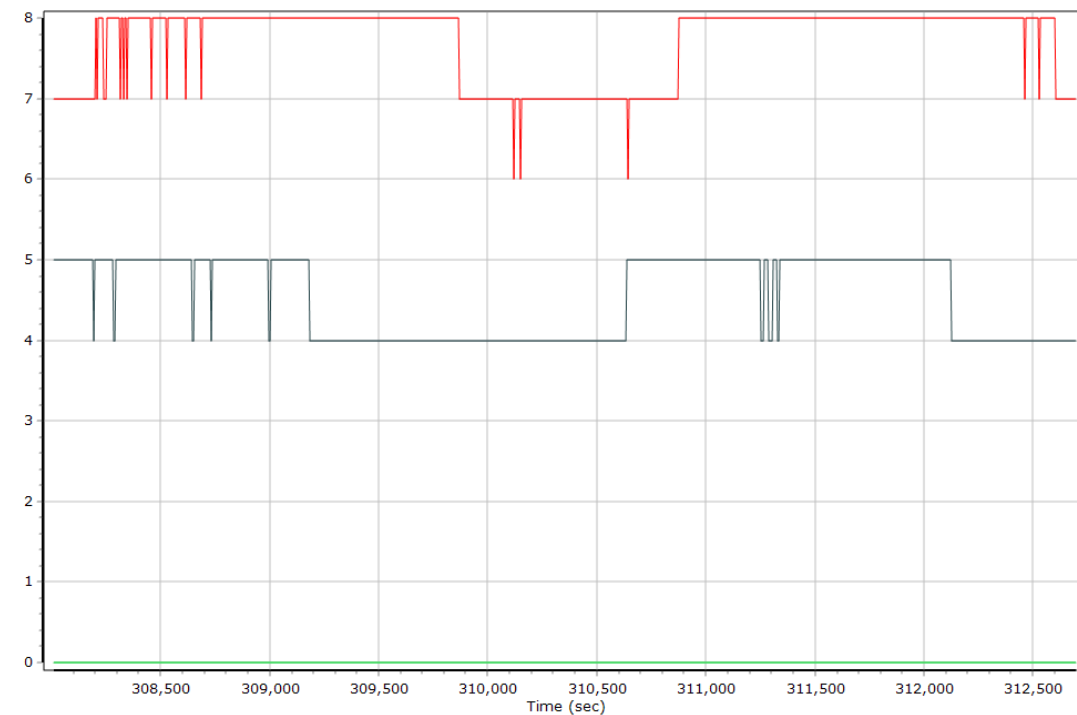
Smoothed Solution Status

Processing Mode



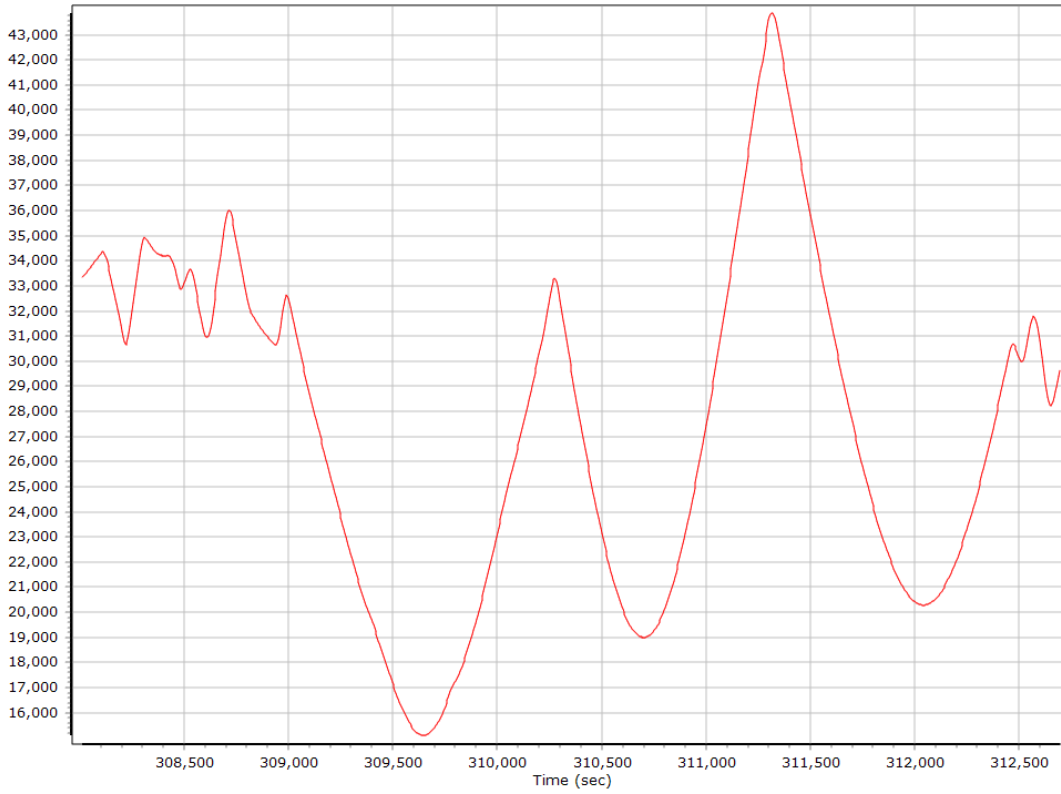
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites

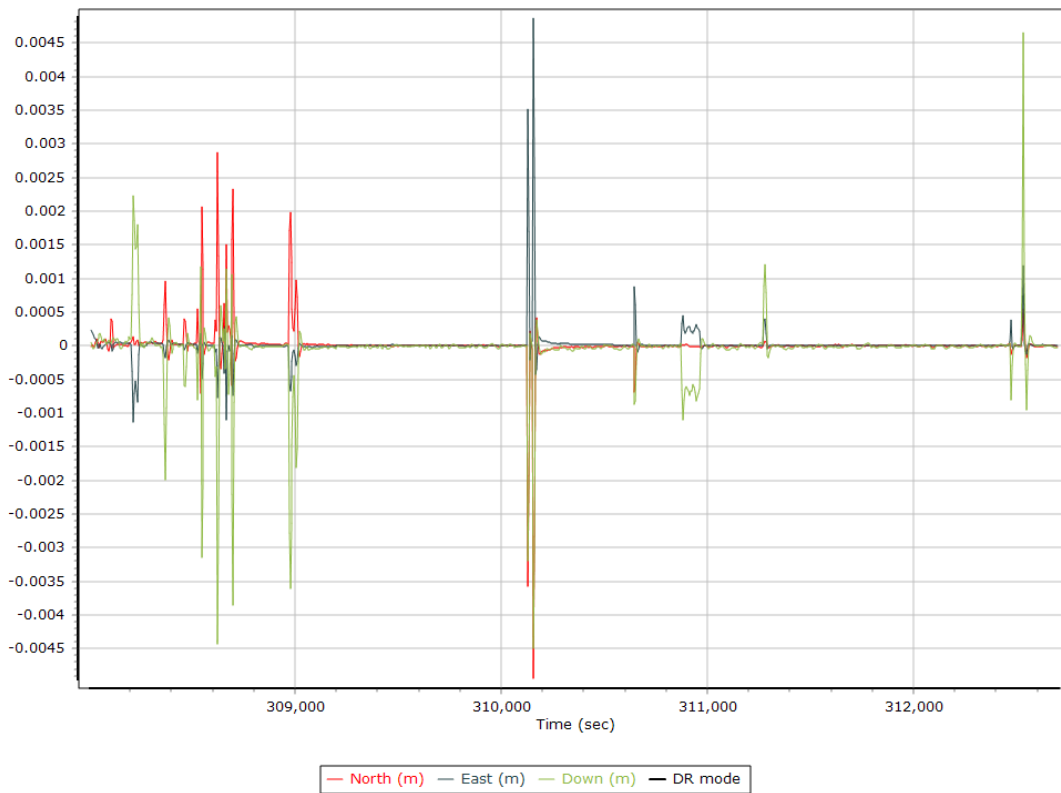


— Number of GPS Satellites — Number of GLONASS Satellites — Number of QZSS Satellites
— Number of BEIDOU Satellites — Number of GALILEO Satellites

Baseline Length



SBET IAKAR Separation



General Information

Mission Information

Project name	PTG19338A_2
Processing date	2019-12-12 17:35:34
Mission date	2019-12-04 14:52:28
Mission duration	02:19:34.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
PTG19338.018	POS Data
PTG19338.019	POS Data
PTG19338.020	POS Data
PTG19338.021	POS Data
PTG19338.022	POS Data
PTG19338.023	POS Data
PTG19338.024	POS Data
PTG19338.025	POS Data
PTG19338.026	POS Data
PTG19338.027	POS Data
PTG19338.028	POS Data
PTG19338.029	POS Data
PTG19338.030	POS Data
PTG19338.031	POS Data
PTG19338.032	POS Data
PTG19338.033	POS Data
PTG19338.034	POS Data
PTG19338.035	POS Data
PTG19338.036	POS Data
PTG19338.037	POS Data
PTG19338.038	POS Data

Input Files

File Name	File Type
Ephm3380.19g	GLONASS Broadcast Ephemeris
Ephm3380.19n	GPS Broadcast Ephemeris
flck_daily3380.19o	GNSS SingleBase
gnvl_daily3380.19o	GNSS SingleBase
lkcy_daily3380.19o	GNSS SingleBase
ocla_daily3380.19o	GNSS SingleBase
brdc3390.19g	GLONASS Broadcast Ephemeris
brdc3390.19n	GPS Broadcast Ephemeris
Ephm3370.19g	GLONASS Broadcast Ephemeris
Ephm3370.19n	GPS Broadcast Ephemeris
igu20821_18.sp3	GPS Precise Ephemeris
igu20822_18.sp3	GPS Precise Ephemeris
igu20823_18.sp3	GPS Precise Ephemeris
igu20824_12.sp3	GPS Precise Ephemeris
prry_daily3380.19o	GNSS SingleBase

Output Files

Filename	File type
sbet_PTG19338A_2.out	SBET Trajectory File

Rover Data Summary

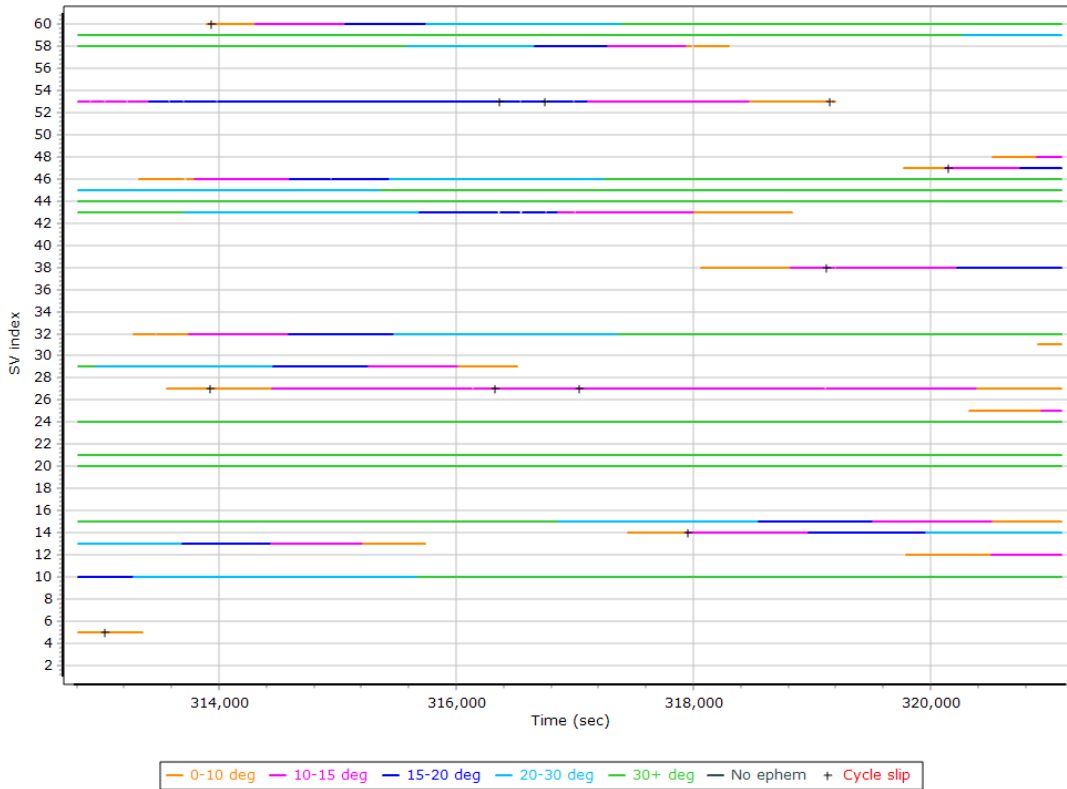
First raw data file	PTG19338.018		
Last raw data file	PTG19338.038		
Start GPS week	2082		
Start time	312729.563 (12/4/2019 2:52:09 PM)		
End time	321104.536 (12/4/2019 5:11:44 PM)		
Start of fine alignment	312749.358 (12/4/2019 2:52:29 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	None		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

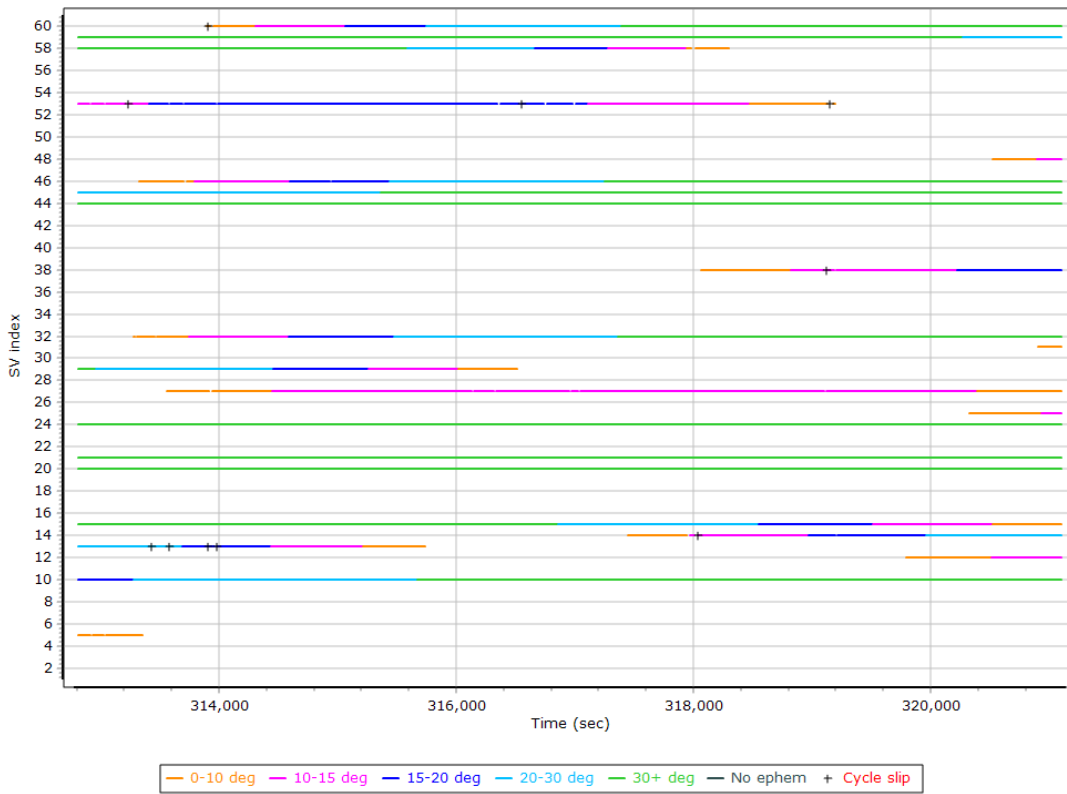
Raw IMU Import QC Summary

IMU data input file	imu_PTG19338A_2.dat
IMU data check log file	imudt_PTG19338A_2.log
IMU Records Processed	1674708
Termination Status	Normal
IMU Anomalies	0

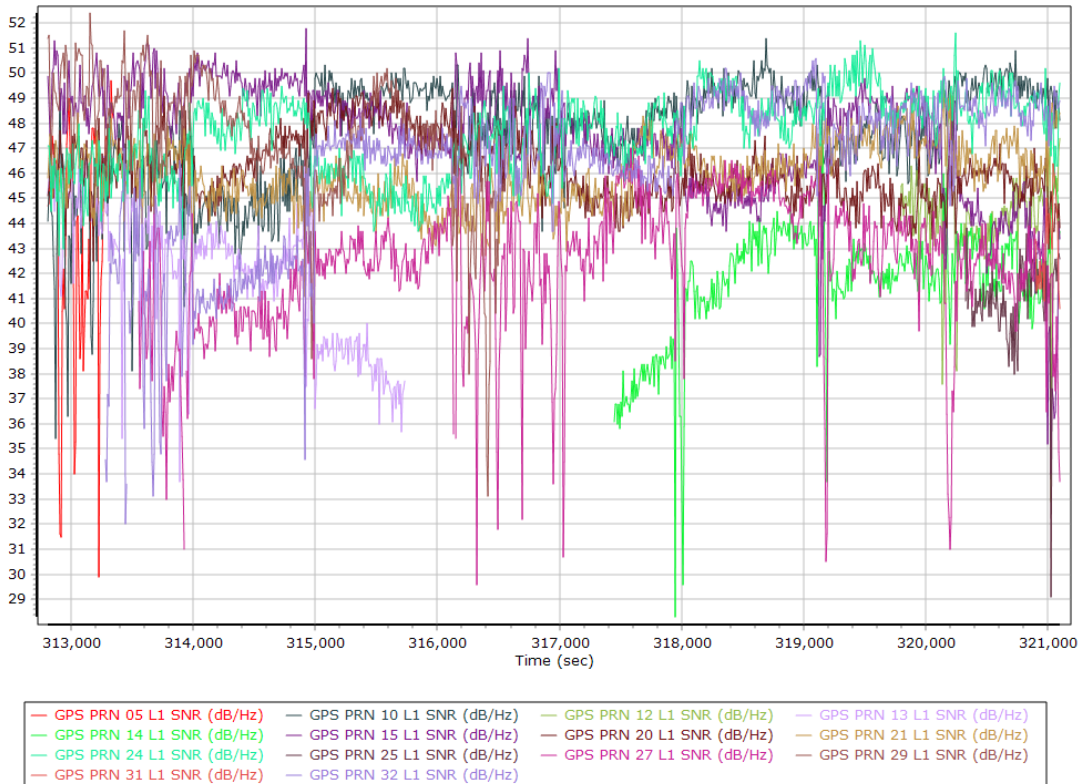
L1 Satellite Lock/Elevation



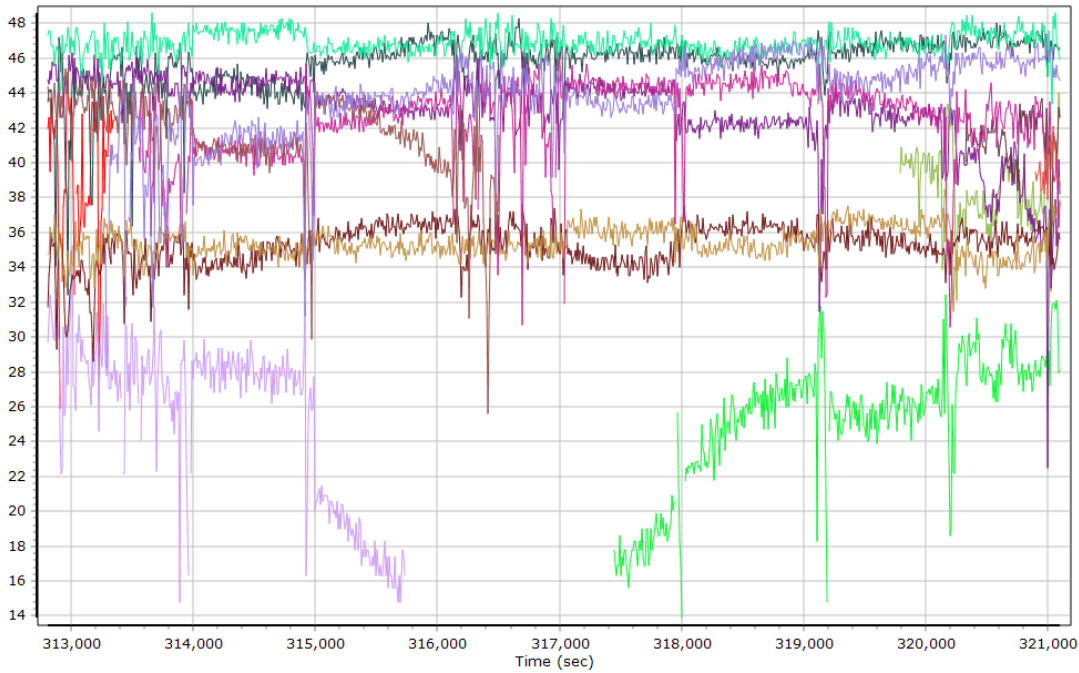
L2 Satellite Lock/Elevation



GPS L1 SNR

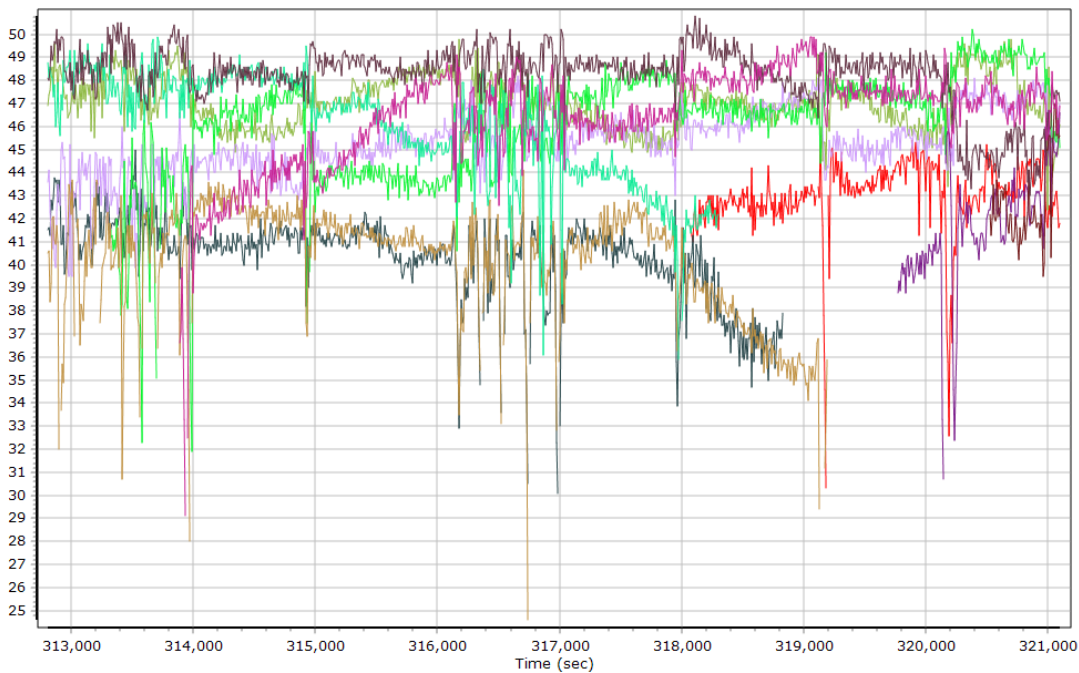


GPS L2 SNR



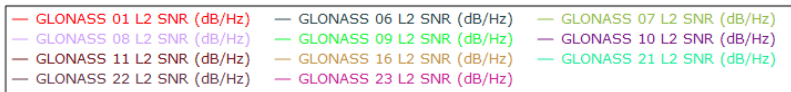
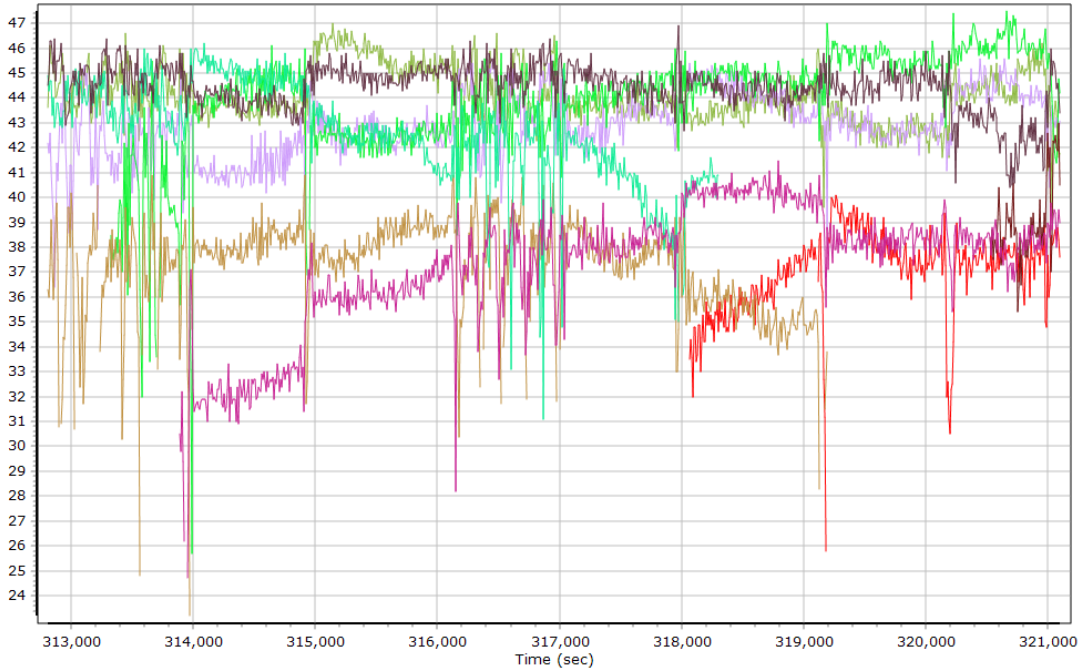
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 05 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 12 L2 SNR (dB/Hz) | GPS PRN 13 L2 SNR (dB/Hz) |
| GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 15 L2 SNR (dB/Hz) | GPS PRN 20 L2 SNR (dB/Hz) | GPS PRN 21 L2 SNR (dB/Hz) |
| GPS PRN 24 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 27 L2 SNR (dB/Hz) | GPS PRN 29 L2 SNR (dB/Hz) |
| GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) | | |

GLONASS L1 SNR

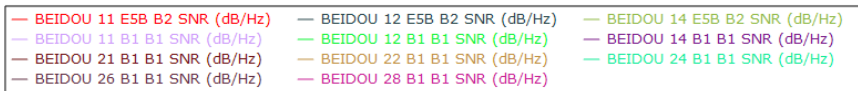
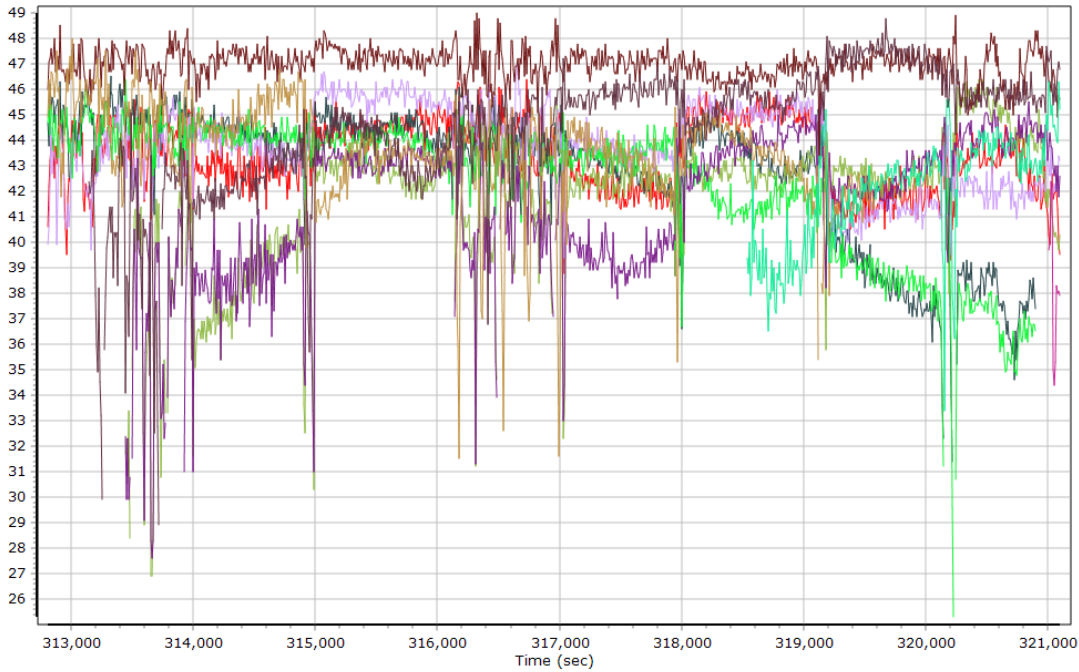


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) | GLONASS 07 L1 SNR (dB/Hz) |
| GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) | GLONASS 10 L1 SNR (dB/Hz) |
| GLONASS 11 L1 SNR (dB/Hz) | GLONASS 16 L1 SNR (dB/Hz) | GLONASS 21 L1 SNR (dB/Hz) |
| GLONASS 22 L1 SNR (dB/Hz) | GLONASS 23 L1 SNR (dB/Hz) | |

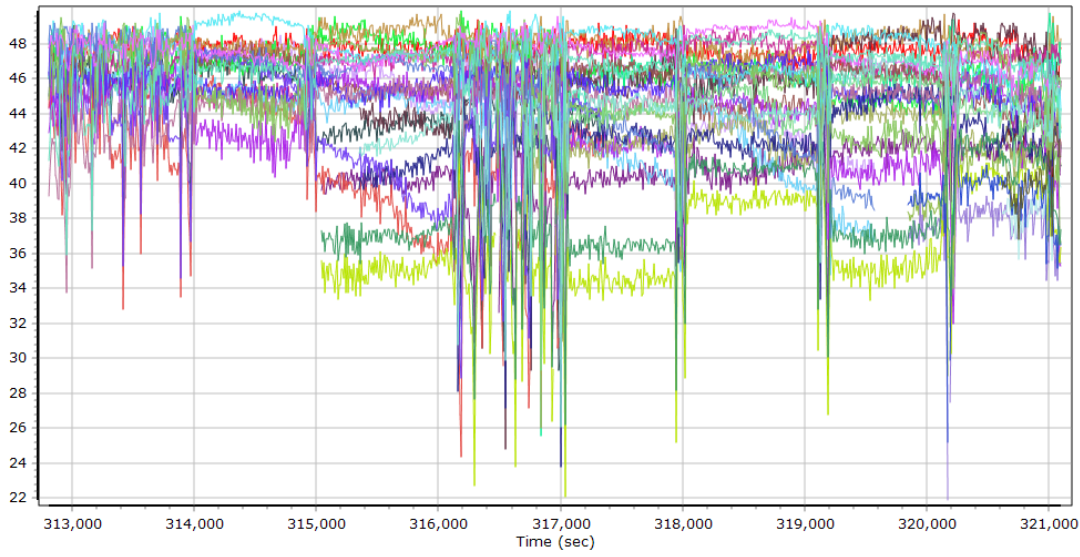
GLONASS L2 SNR



BEIDOU SNR



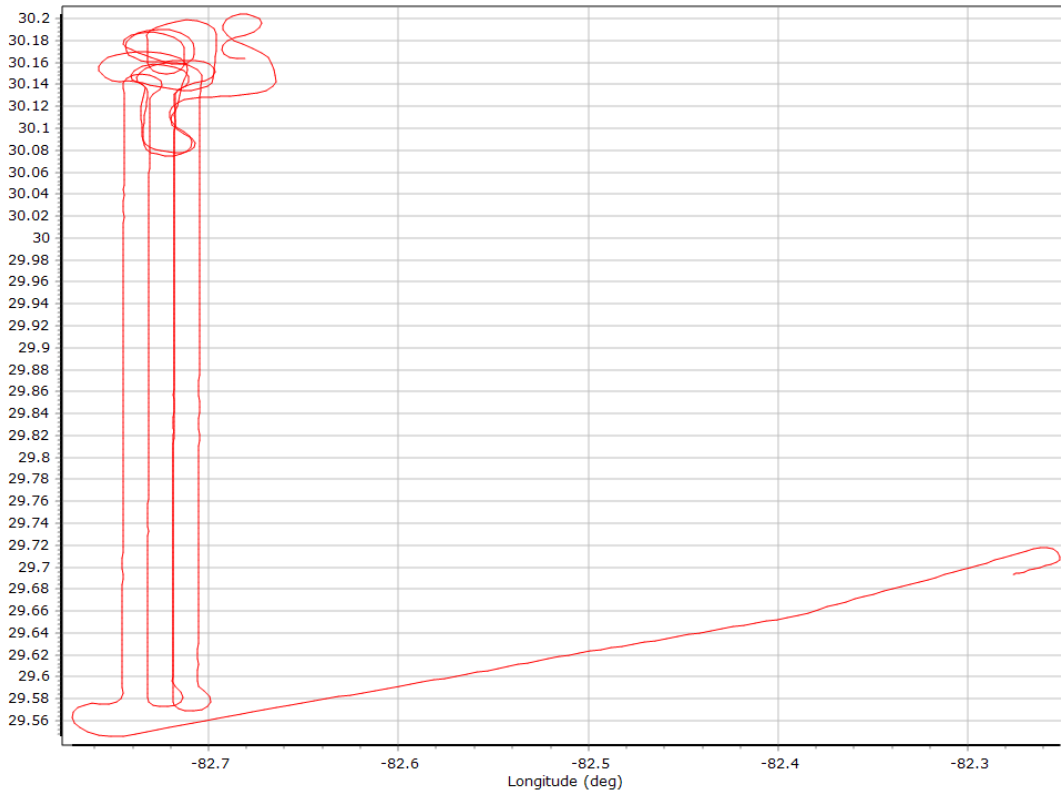
GALILEO SNR



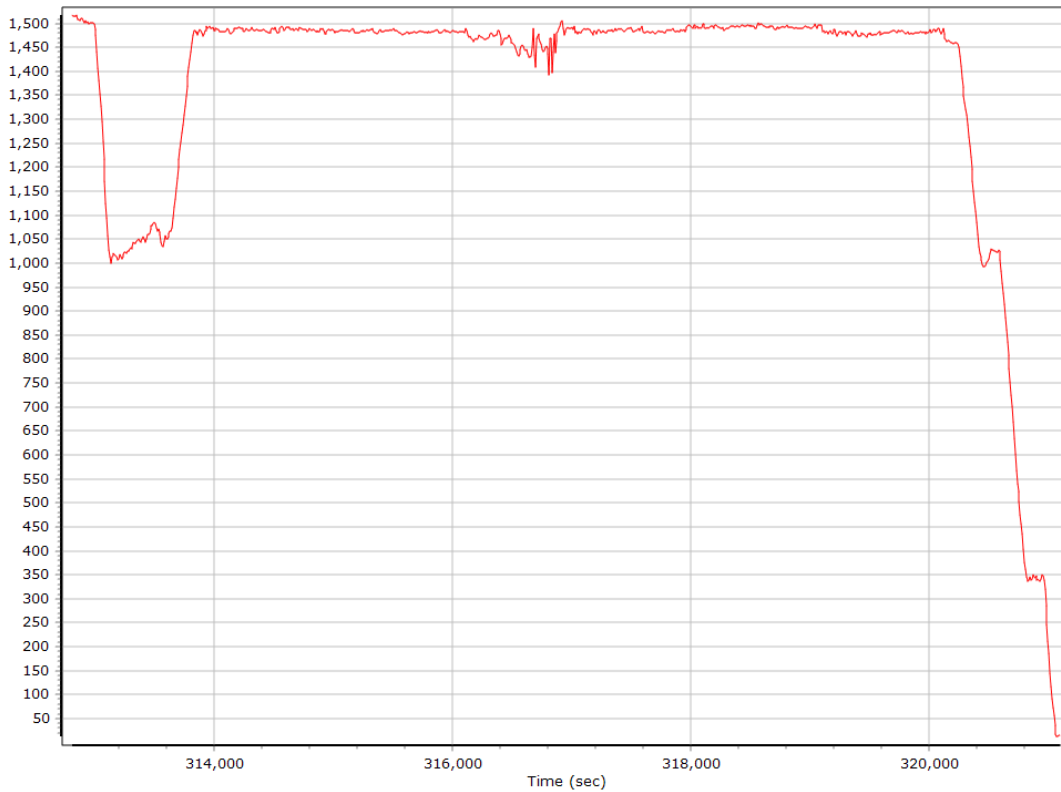
- | | |
|--|--|
| — GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 12 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 14 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 19 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 21 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 26 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 27 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 30 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 33 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 07 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 08 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 12 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 13 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 14 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 19 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 21 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 26 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 27 E5B BPSK10_PD SNR (dB/Hz) |

Trajectory Information

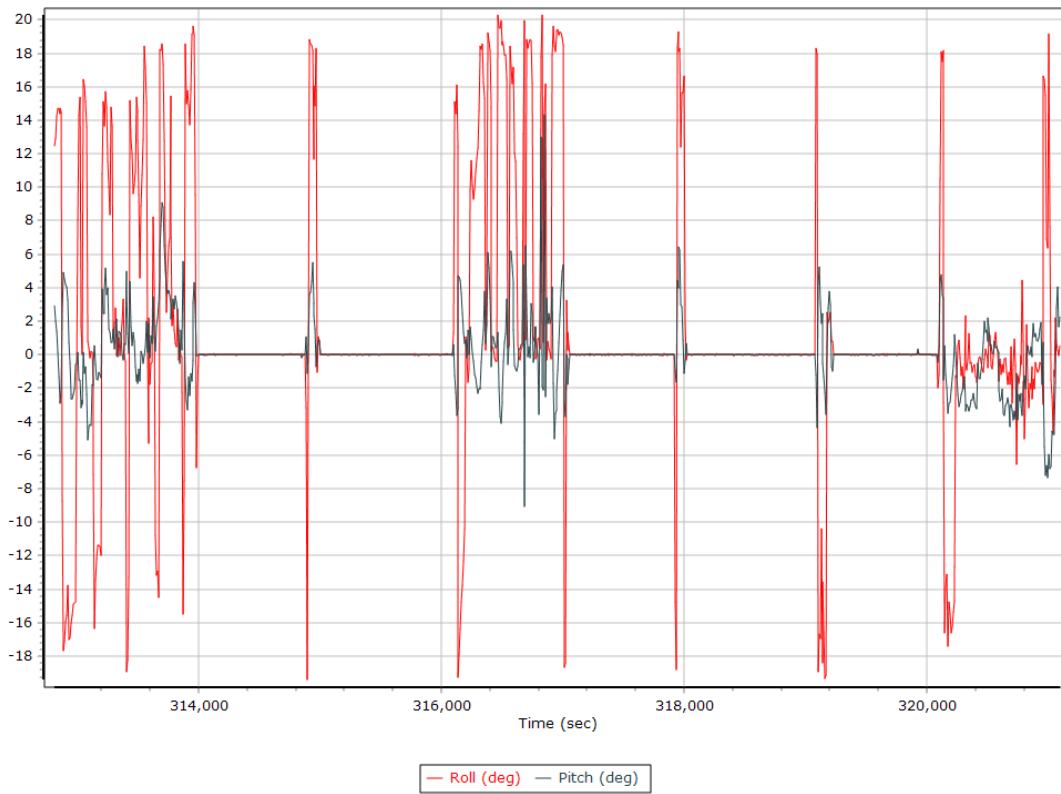
Top View



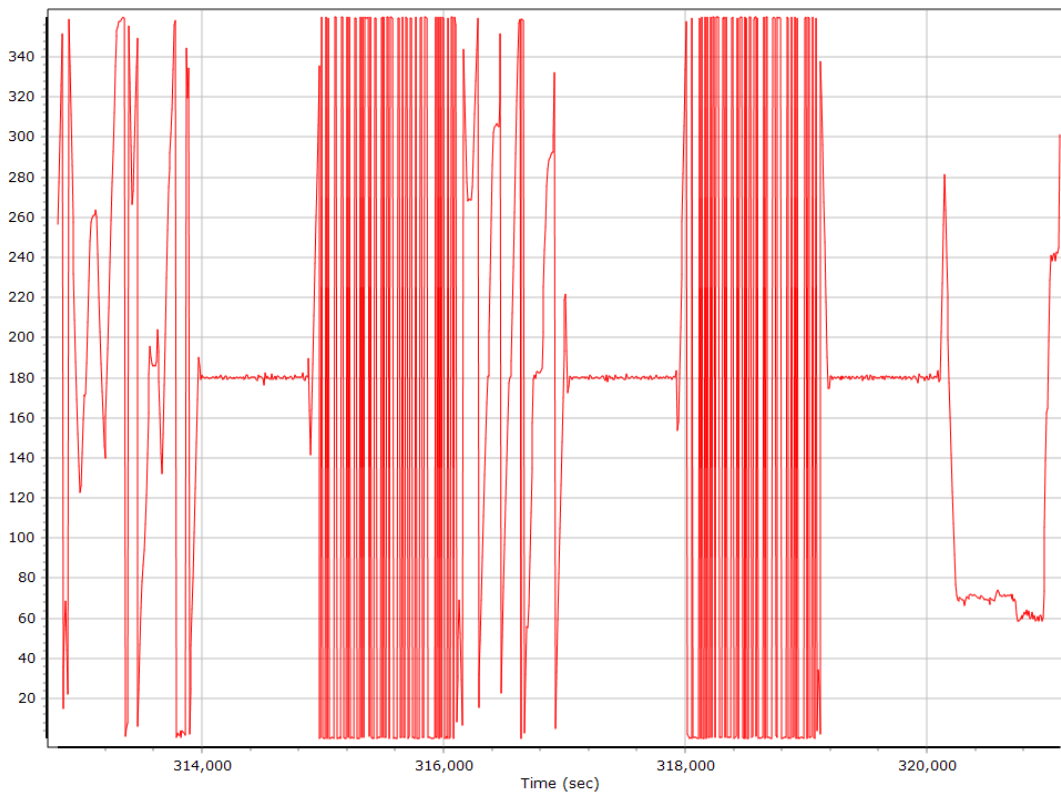
Altitude



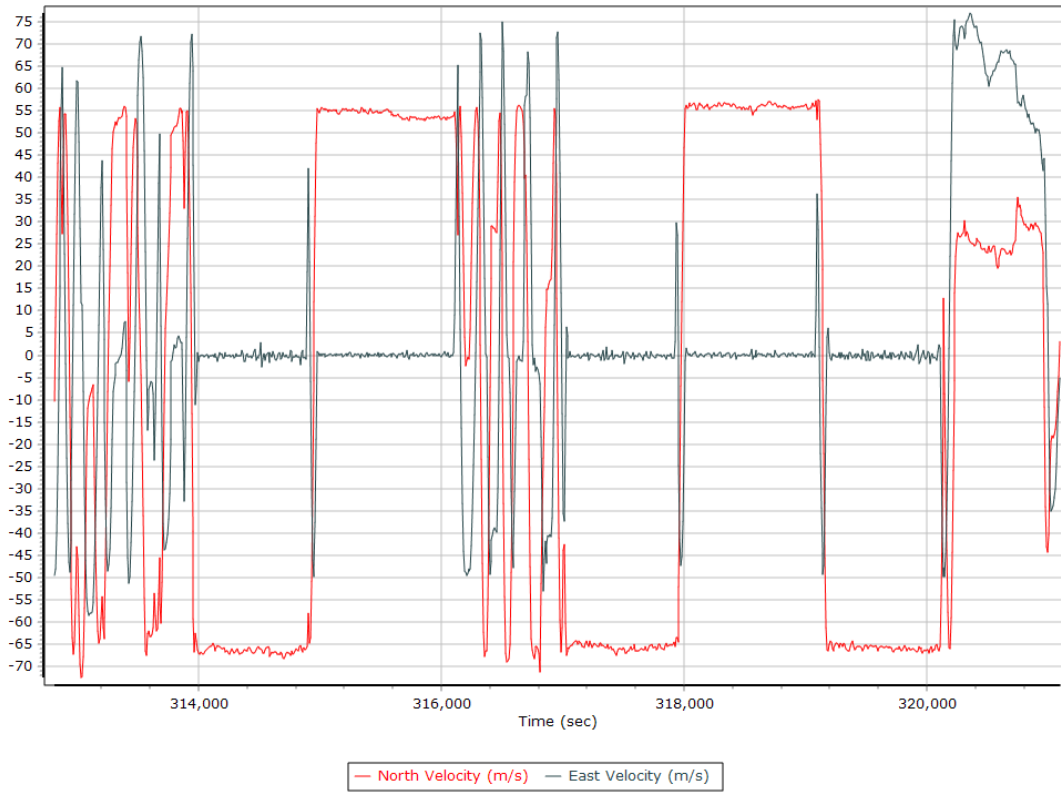
Roll/Pitch



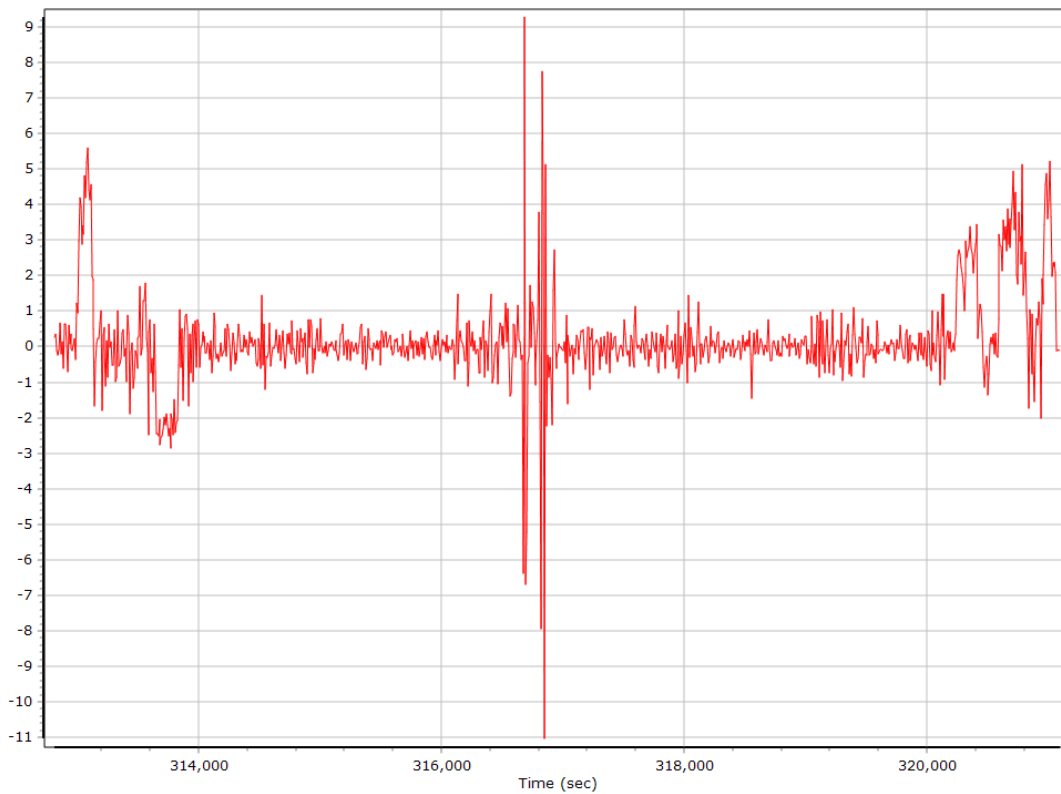
Heading



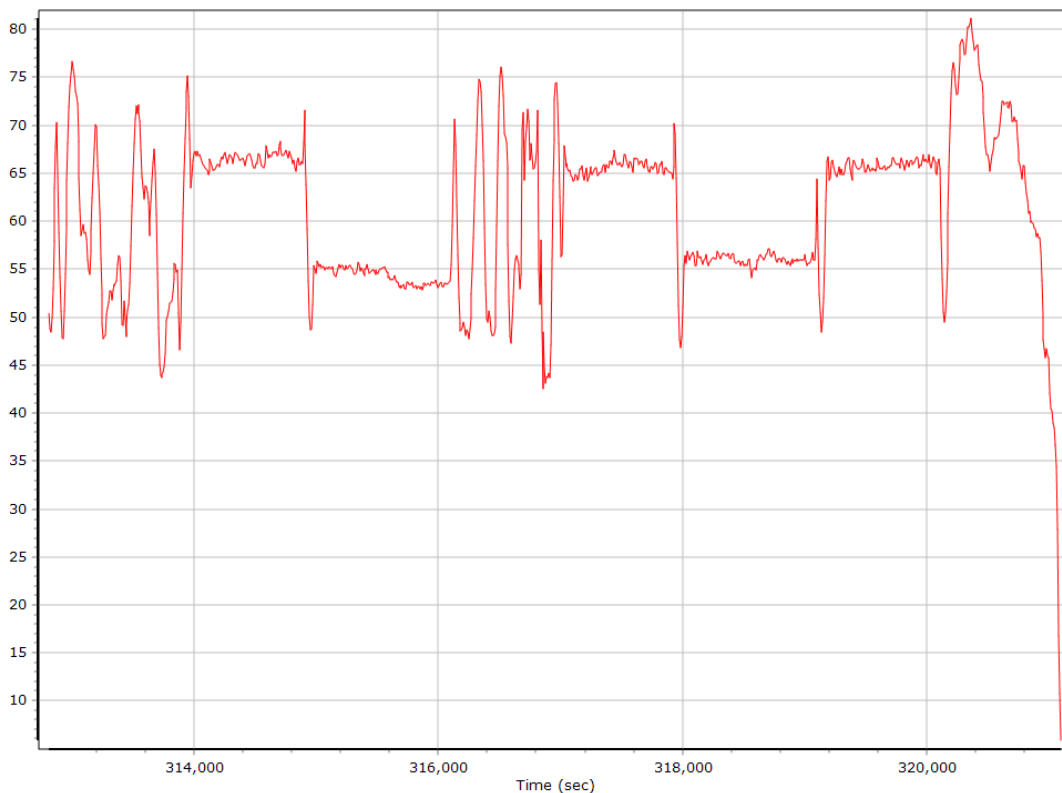
North/East Velocity



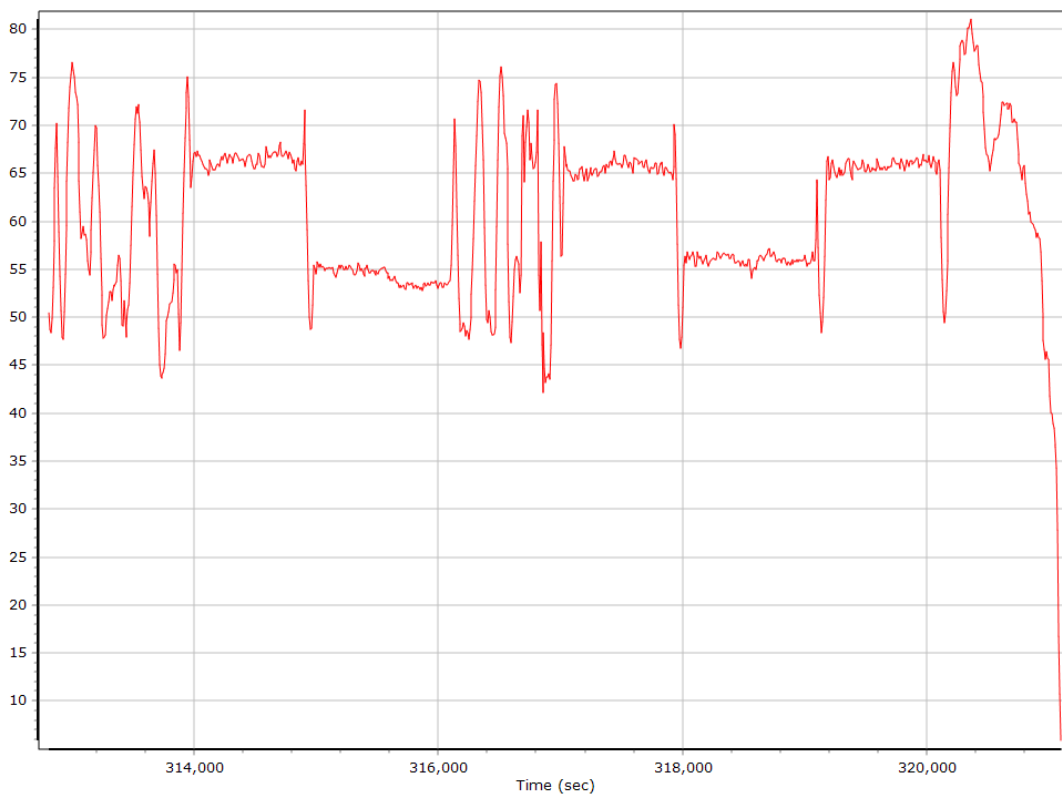
Down Velocity



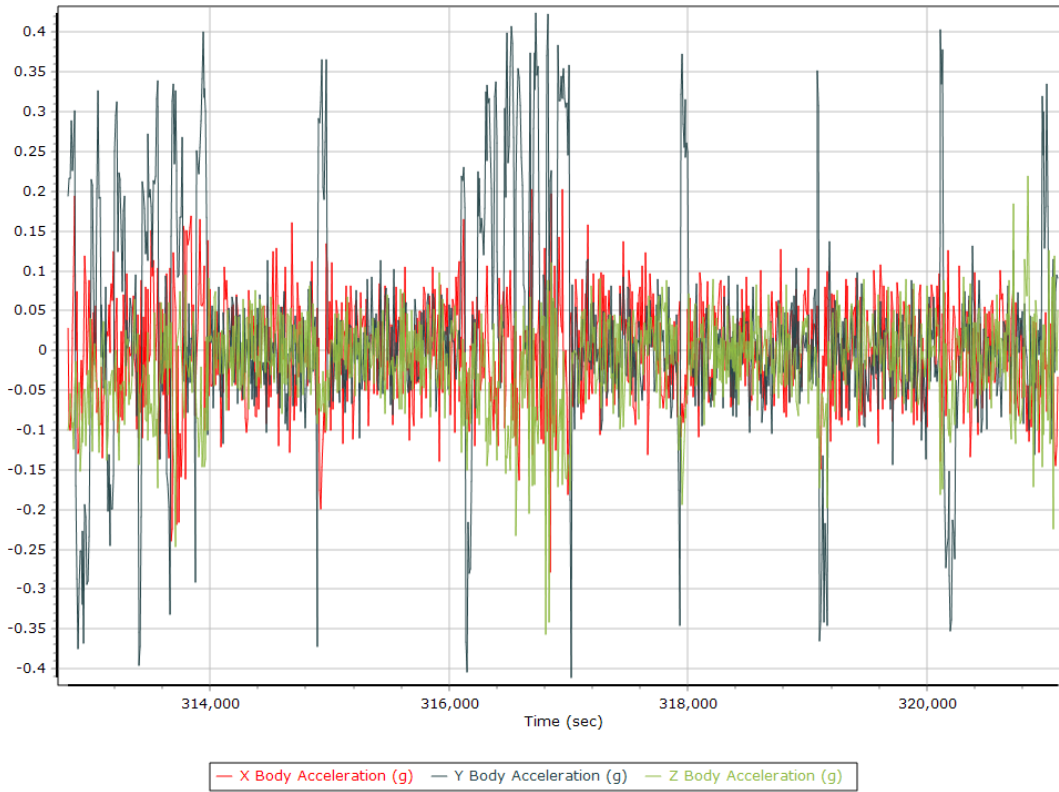
Total Speed



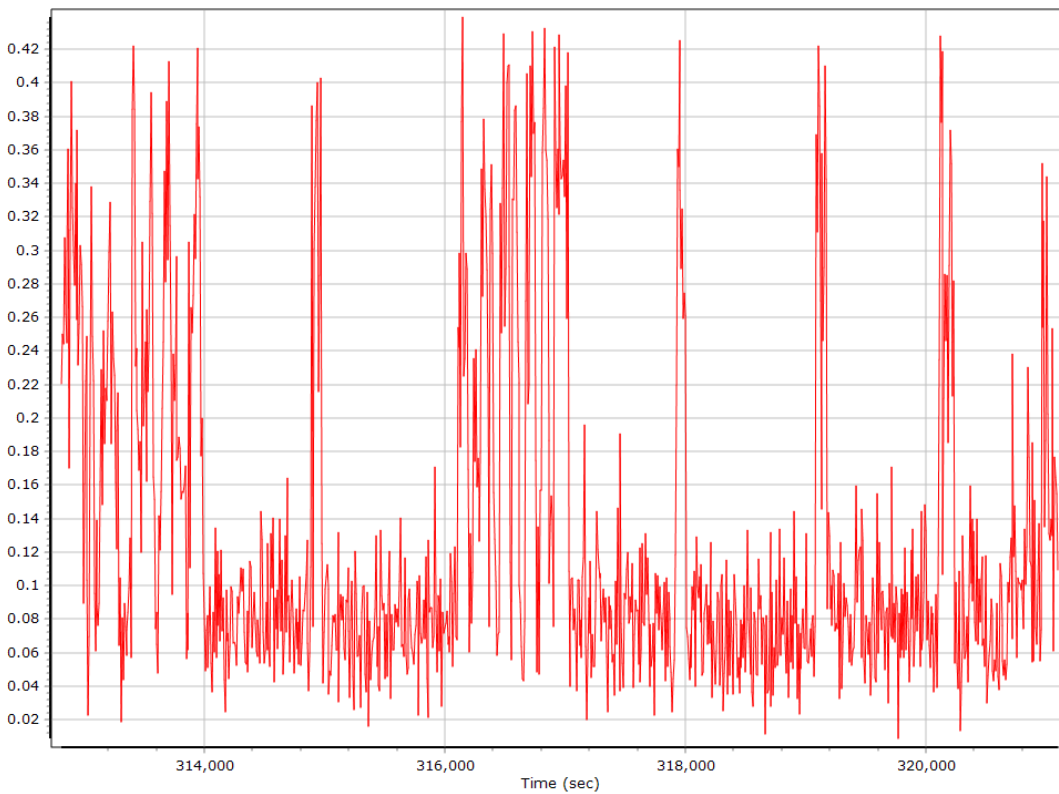
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/04/2019	Perry	87.08	GNSS	1	User	None	Imported
12/04/2019	OCLA	98.52	GNSS	1	User	None	Imported
12/04/2019	LKCY	33.08	GNSS	1	User	None	Imported
12/04/2019	GNVL	47.12	GNSS	1	User	None	Imported
12/04/2019	FLCK	91.53	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	LKCY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	8374 s (2082 312748 - 2082 321122)
Number of reference stations	5
Primary station GPS measurement usage (%)	98.9
Primary station GLONASS measurement usage (%)	79.0
Average number of satellites per epoch	13.1
Max number of GPS stations used	5
Min number of GPS stations used	3
Max number of GLONASS stations used	5
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	13029
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - Perry

Status	BAD ESTIMATE	SBQI	0	
Duration (Hours)	10.49	Output Coordinates	Disabled	
Solution Epochs	2518	Mean Epoch SVs	5.5	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°04'40.11938"	W83°34'28.60872"	12.936
Adjusted		N30°04'40.11910"	W83°34'28.60842"	12.929
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.012	0.007	0.014

Base Station Information

Station ID	Perry		
Filename	prry_daily3380.19o		
Start date	12/4/2019 5:15:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	18:44:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702545
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°04'40.11938"		
Longitude	W83°34'28.60872"		
Ellipsoidal height (m)	-12.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - OCLA

Status	OK	SBQI	0	
Duration (Hours)	19.41	Output Coordinates	Original	
Solution Epochs	4659	Mean Epoch SVs	7.7	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°10'54.46980"	W82°06'15.28619"	17.715
Adjusted		N29°10'54.46972"	W82°06'15.28620"	17.731
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.003	0.016	0.016

Base Station Information

Station ID	OCLA		
Filename	ocla_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702523
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°10'54.46980"		
Longitude	W82°06'15.28619"		
Ellipsoidal height (m)	17.71500		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LKCY

Status	OK	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Original	
Solution Epochs	4776	Mean Epoch SVs	8.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°11'07.49182"	W82°34'39.14410"	35.193
Adjusted		N30°11'07.49176"	W82°34'39.14425"	35.209
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.005	0.016	0.017

Base Station Information

Station ID	LKCY		
Filename	lkcy_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	CONTROL	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Control	
Solution Epochs	4776	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55697"	W82°16'36.73521"	23.936
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCK

Status	OK	SBQI	0	
Duration (Hours)	19.46	Output Coordinates	Original	
Solution Epochs	4671	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°08'01.87610"	W83°01'51.05281"	17.224
Adjusted		N29°08'01.87587"	W83°01'51.05278"	17.211
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.007	0.013	0.015

Base Station Information

Station ID	FLCK		
Filename	flck_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	1.00	48.15	
Number of GPS SV	6	9	8
Number of GLONASS SV	4	7	6
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	10	15	13
PDOP	1.20	3.20	1.59
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	8361.00	0.00	0.00
Percentage	100.00	0.00	0.00

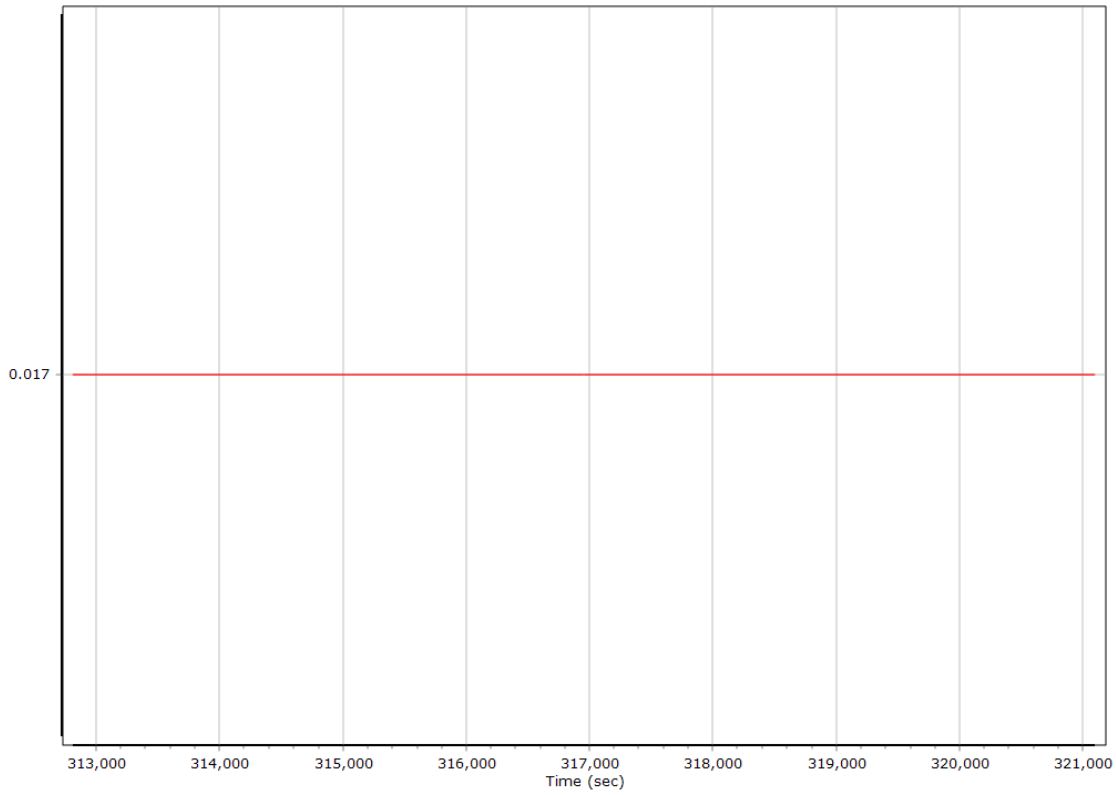
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	312730.000 (12/4/2019 2:52:10 PM)		
Processing end time	321104.000 (12/4/2019 5:11:44 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

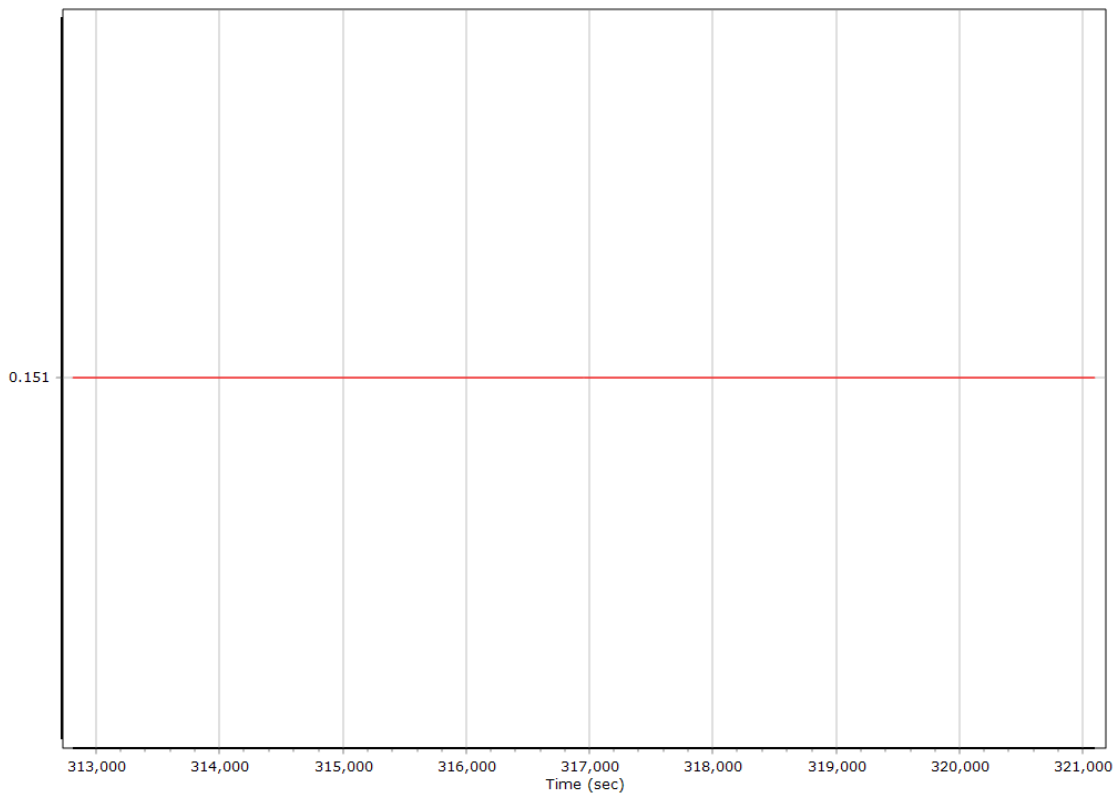
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

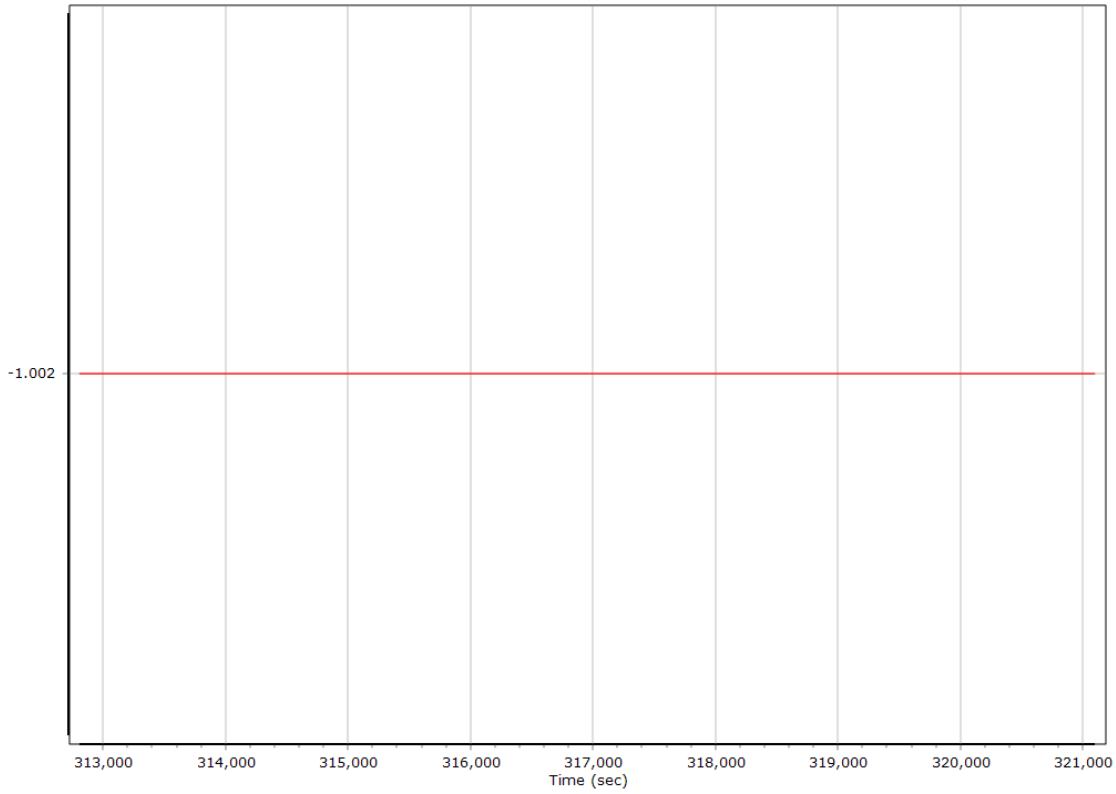
X Reference-Primary GNSS Lever Arm (m)



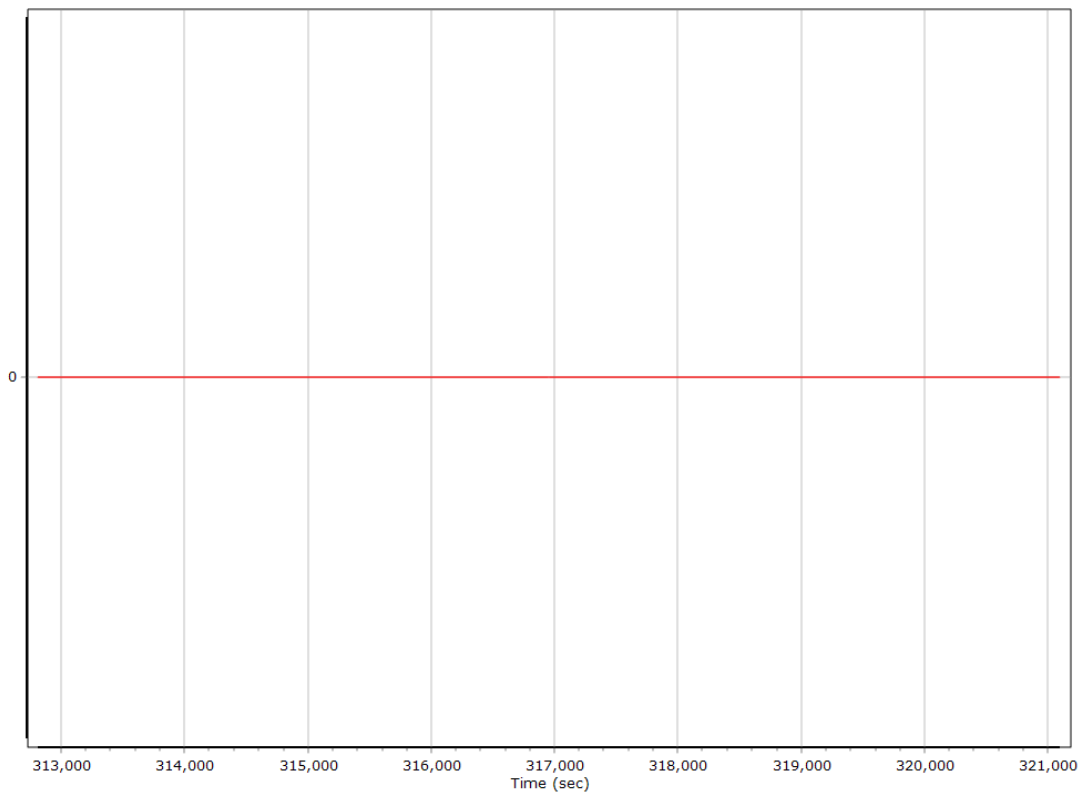
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



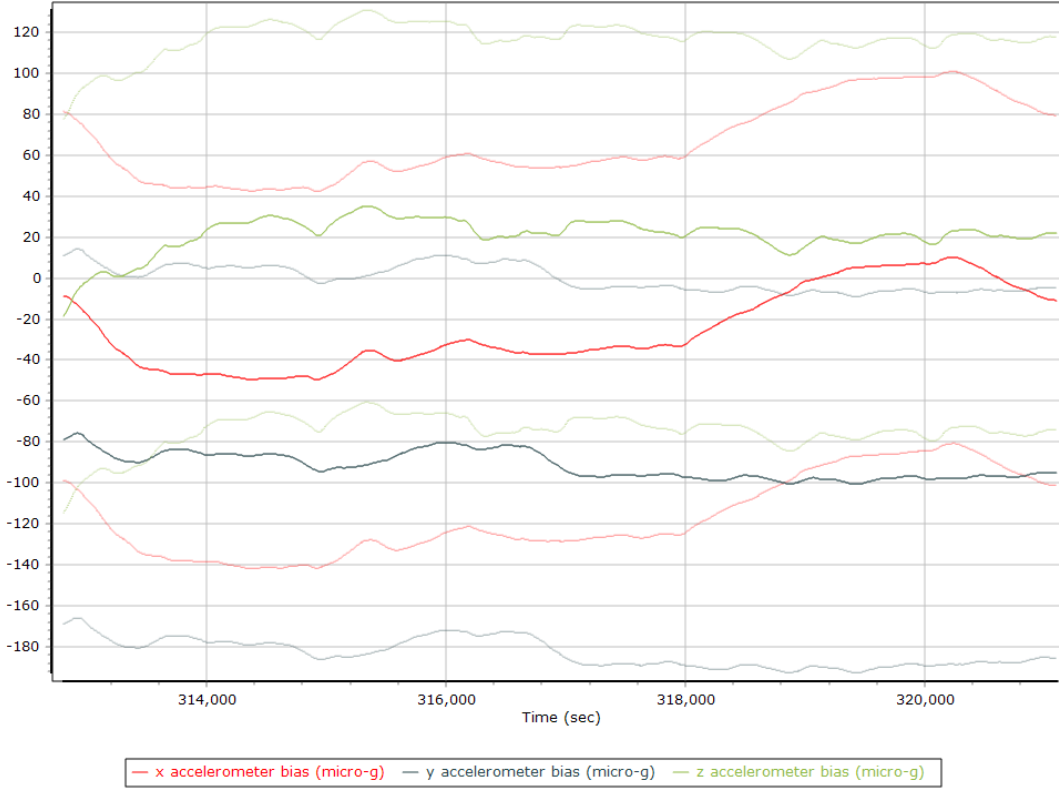
Reference-Primary GNSS Lever Arm Figure of Merit



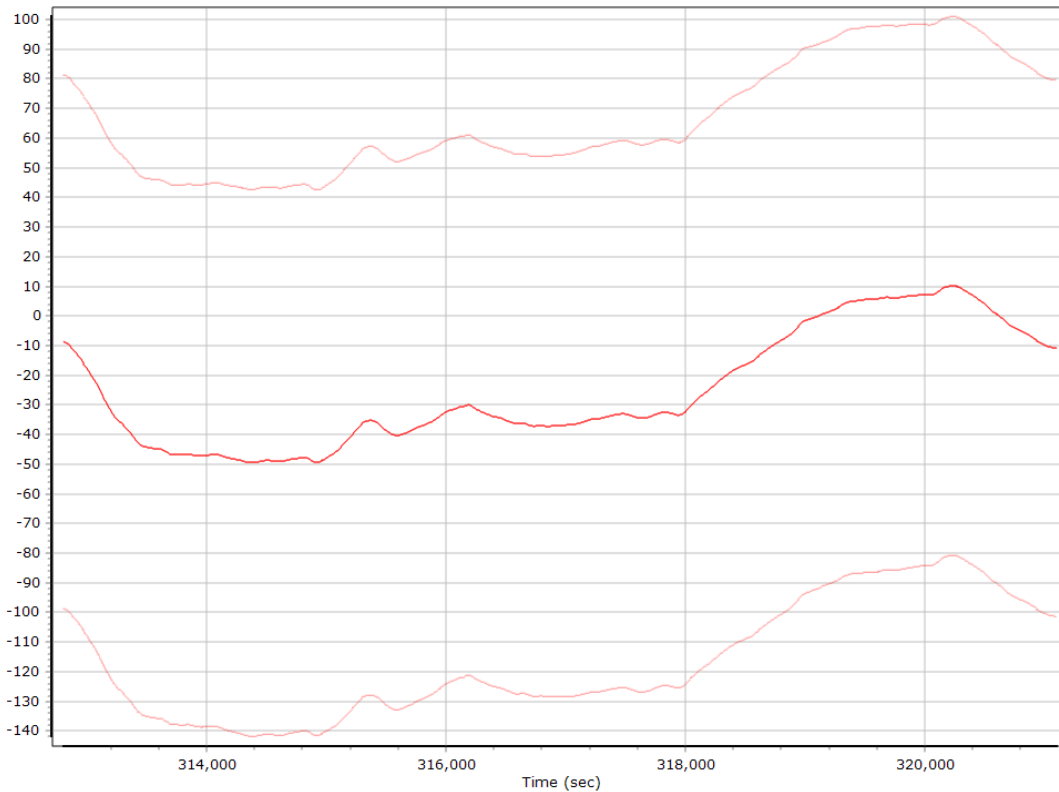
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

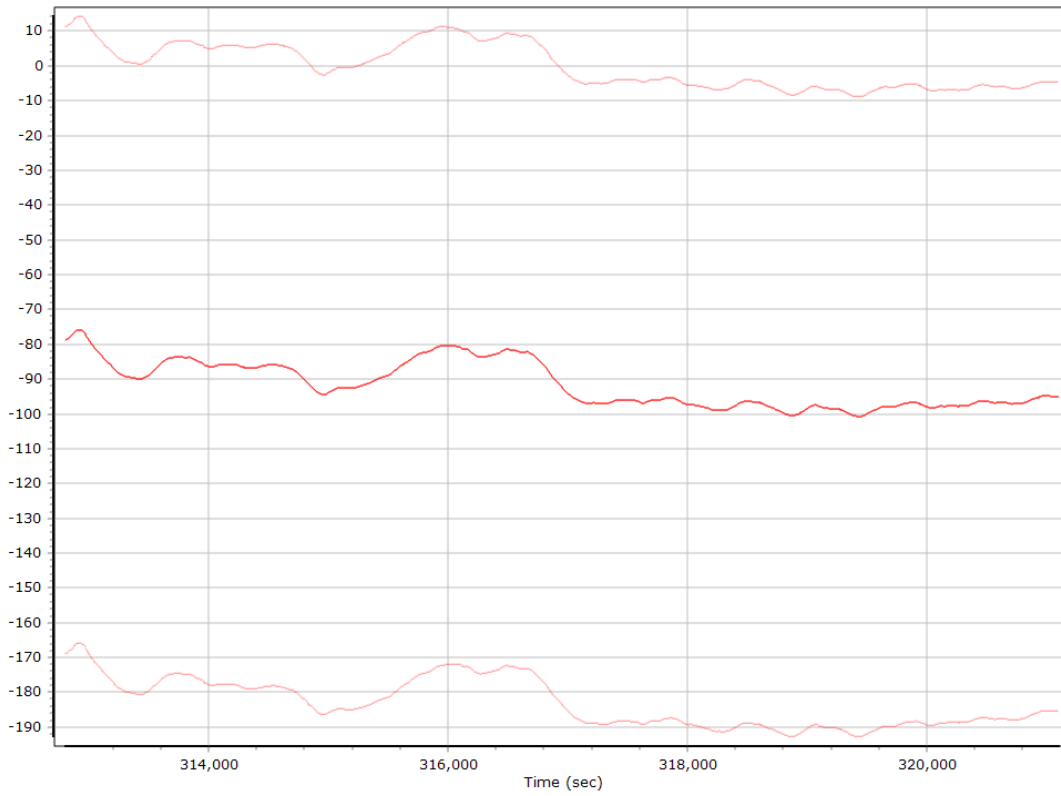
Accelerometer Bias (micro-g)



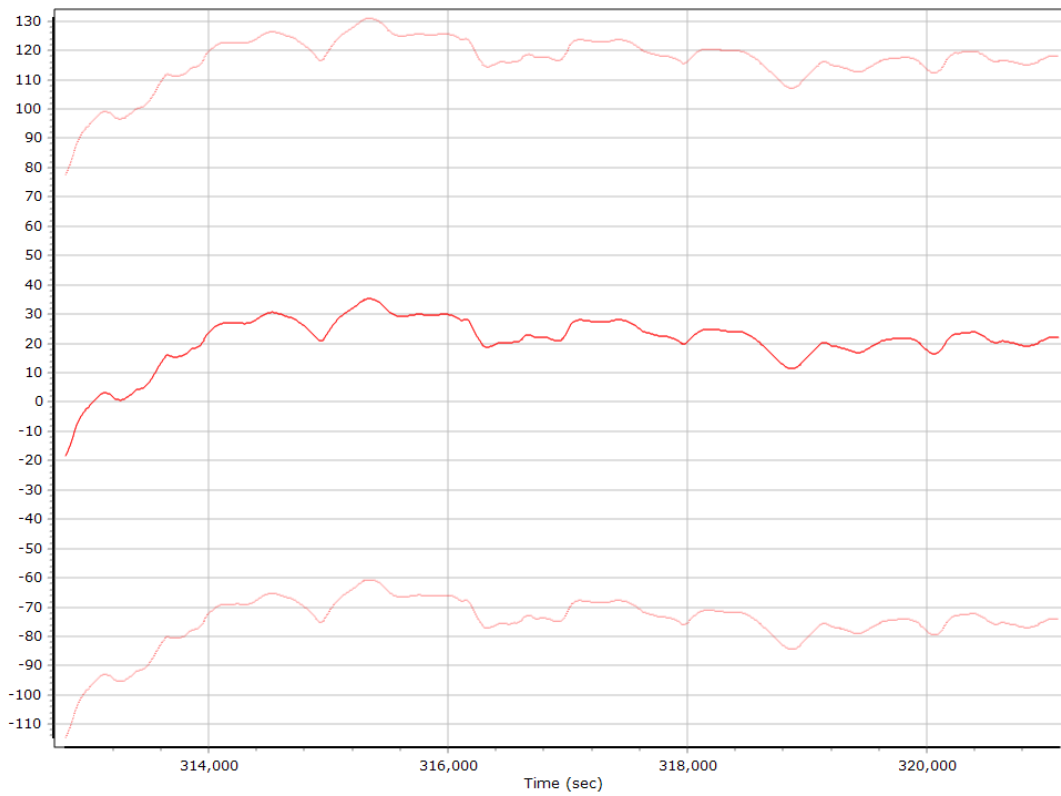
X Accelerometer Bias (micro-g)



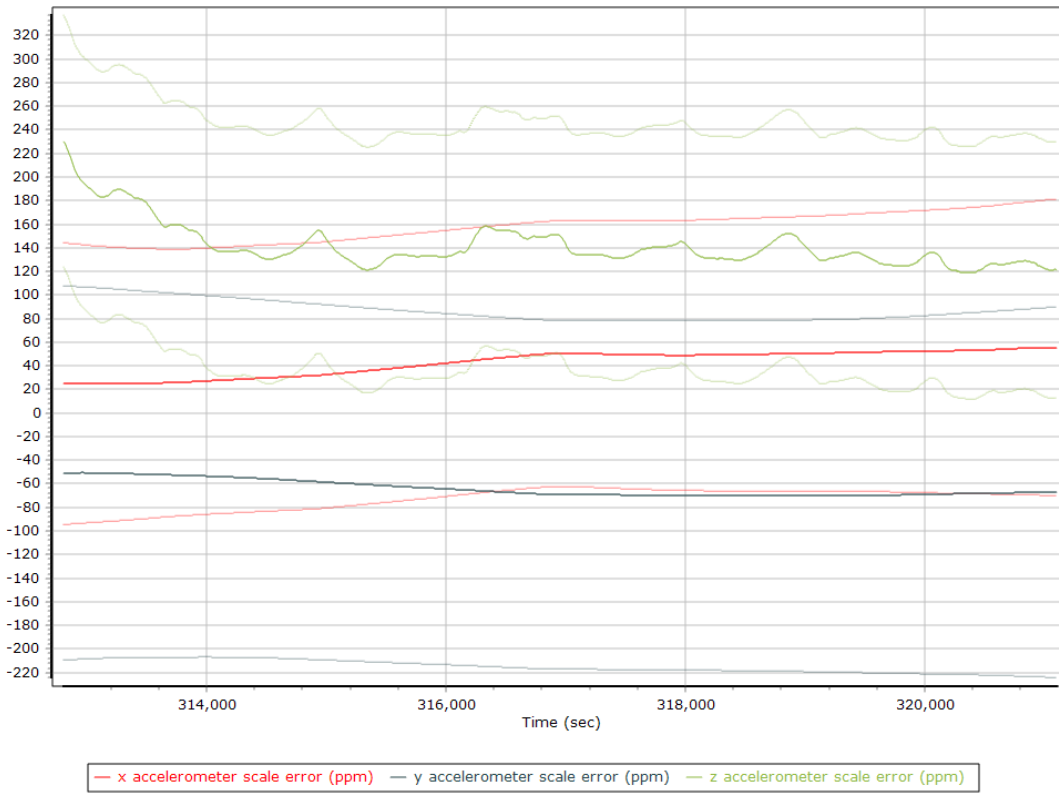
Y Accelerometer Bias (micro-g)



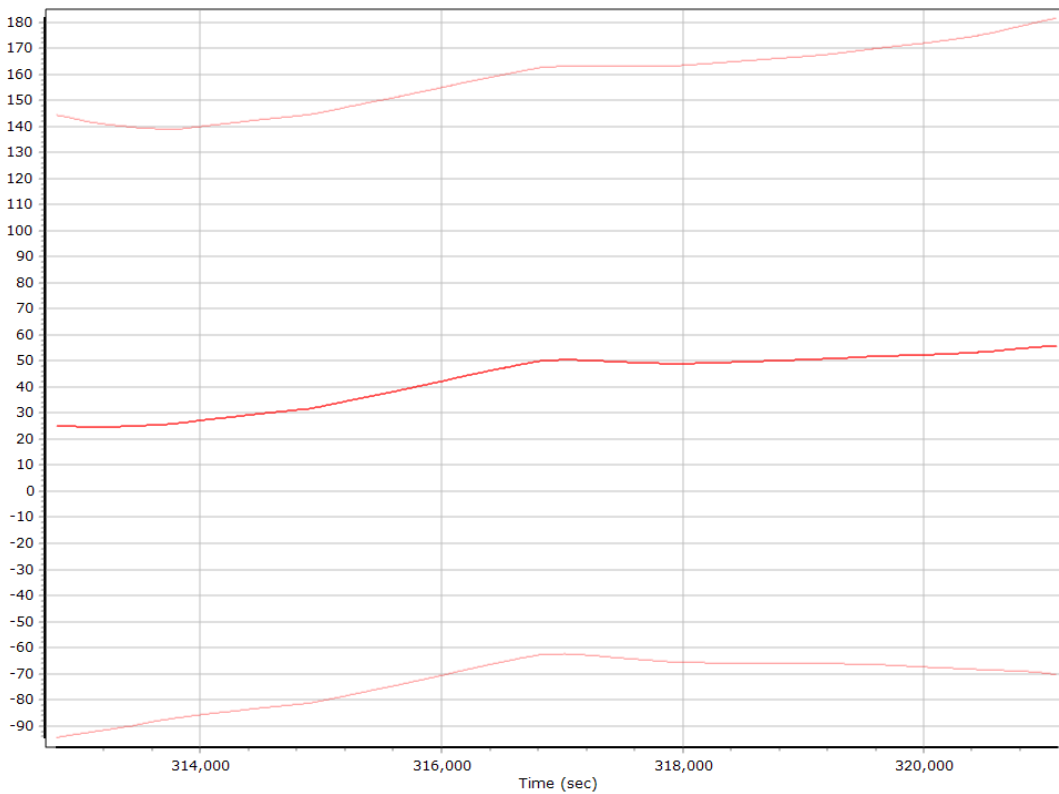
Z Accelerometer Bias (micro-g)



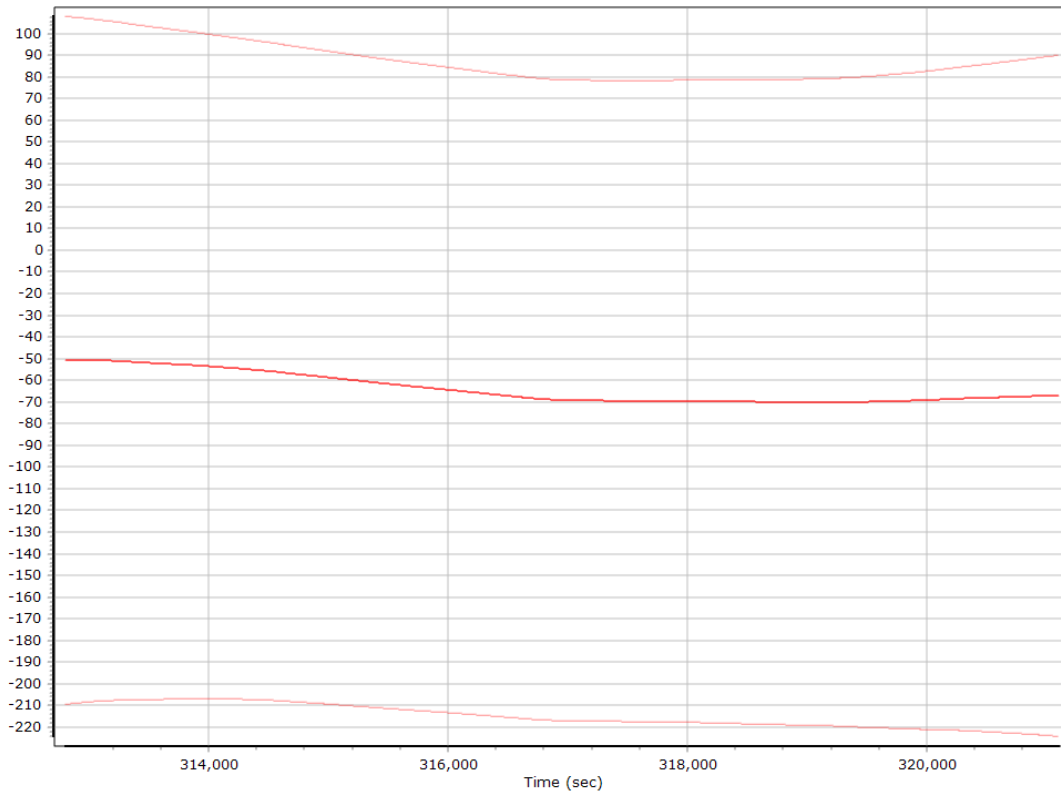
Accelerometer Scale Error (ppm)



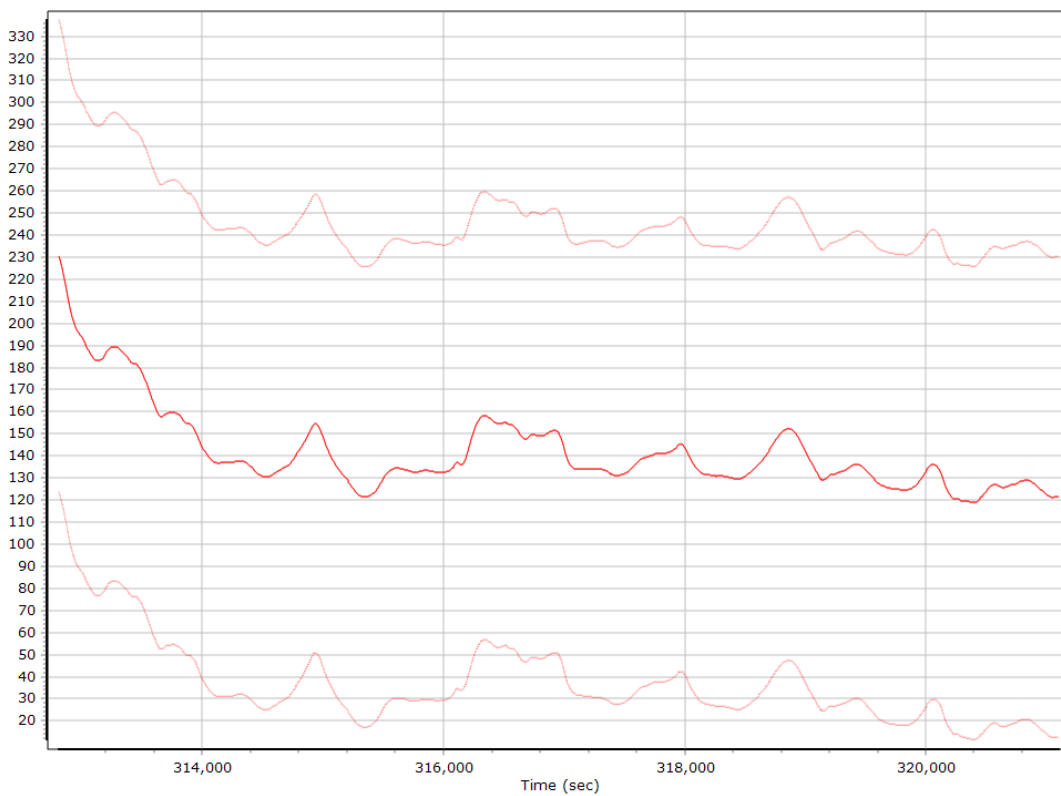
X Accelerometer Scale Error (ppm)



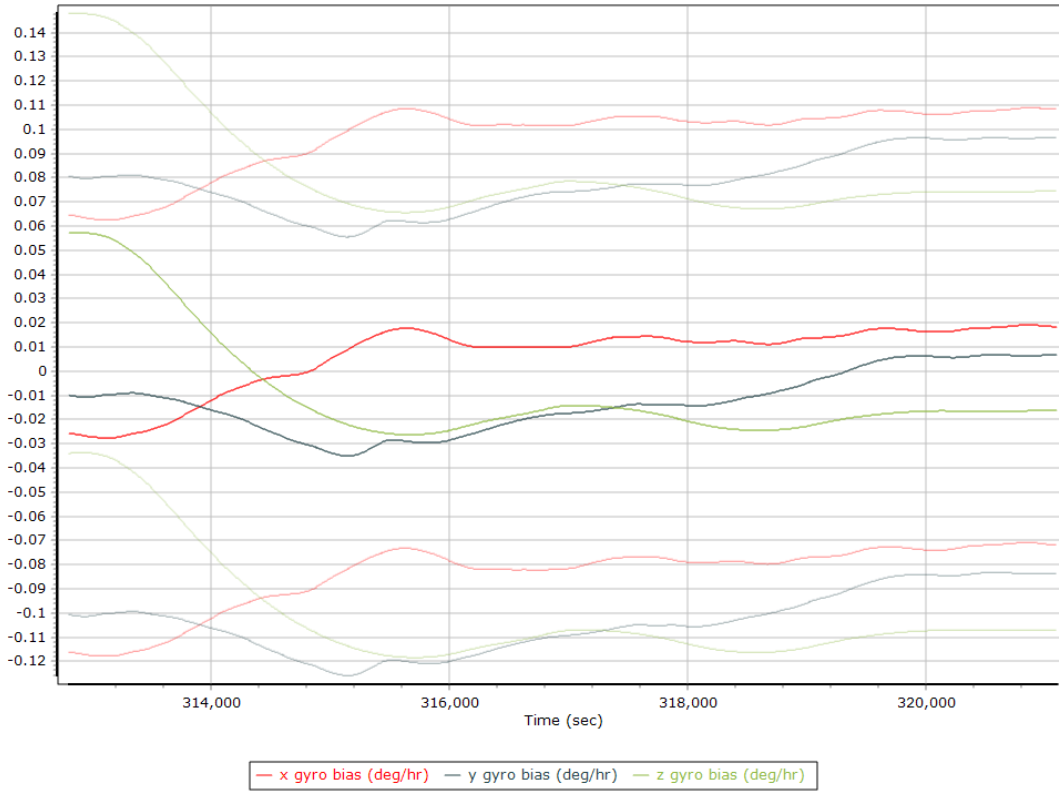
Y Accelerometer Scale Error (ppm)



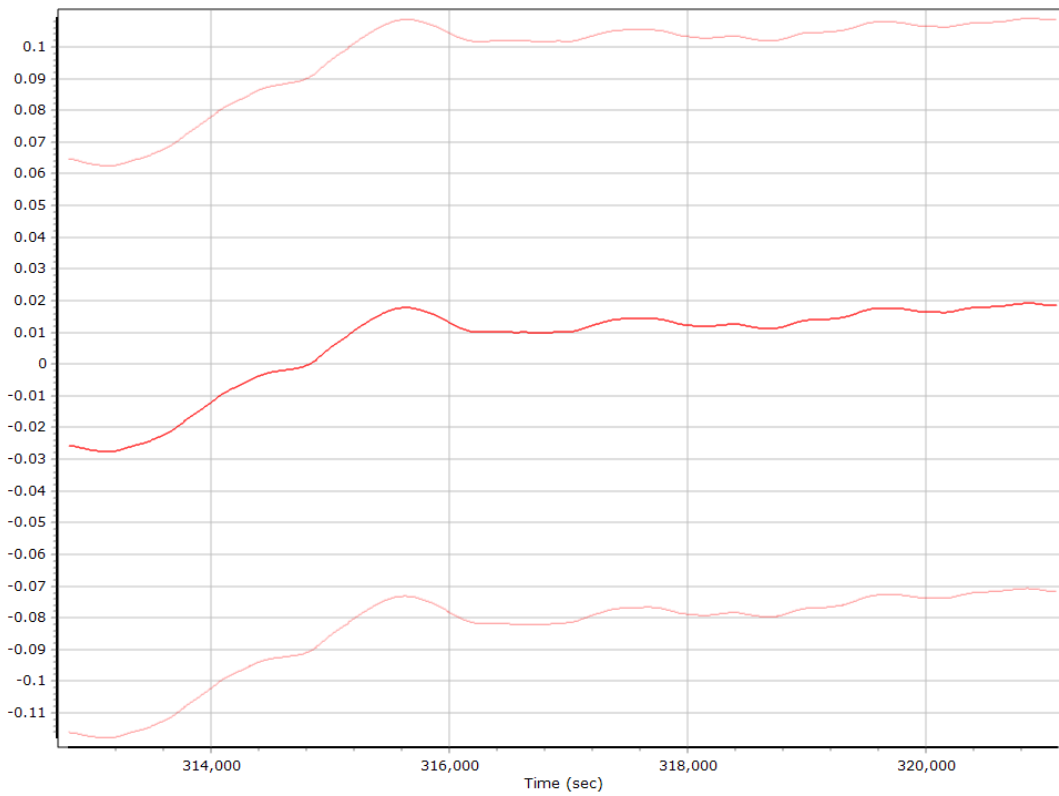
Z Accelerometer Scale Error (ppm)



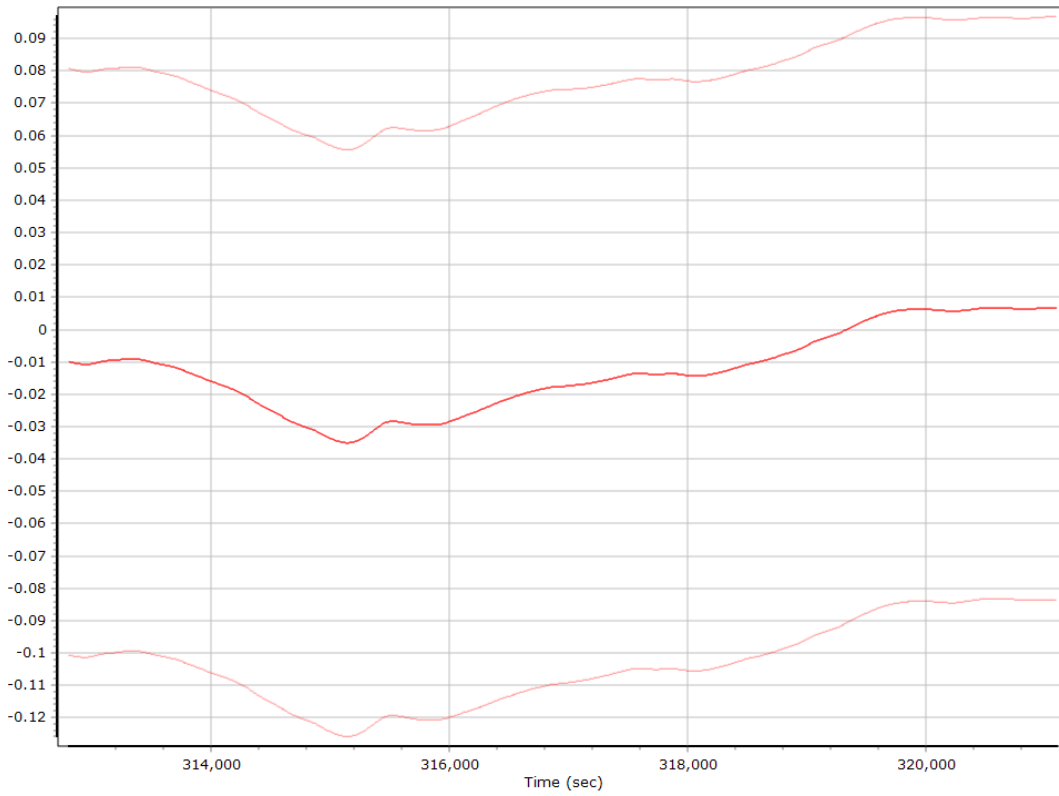
Gyro Bias (deg/h)



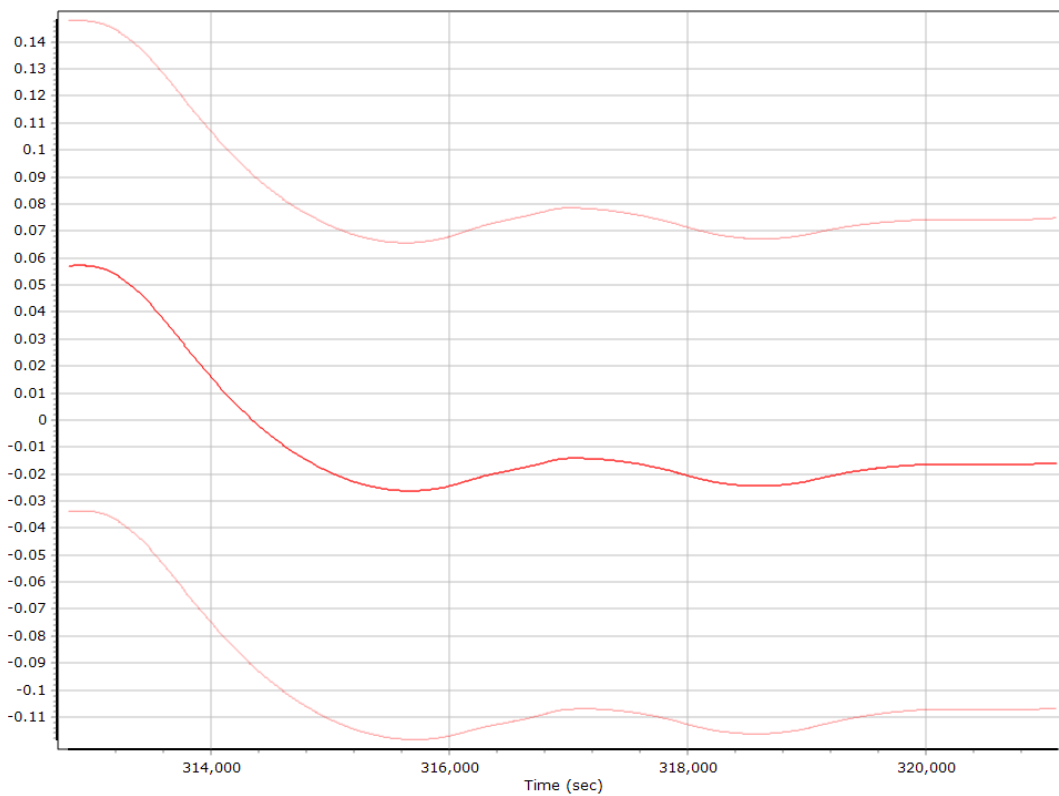
X Gyro Bias (deg/h)



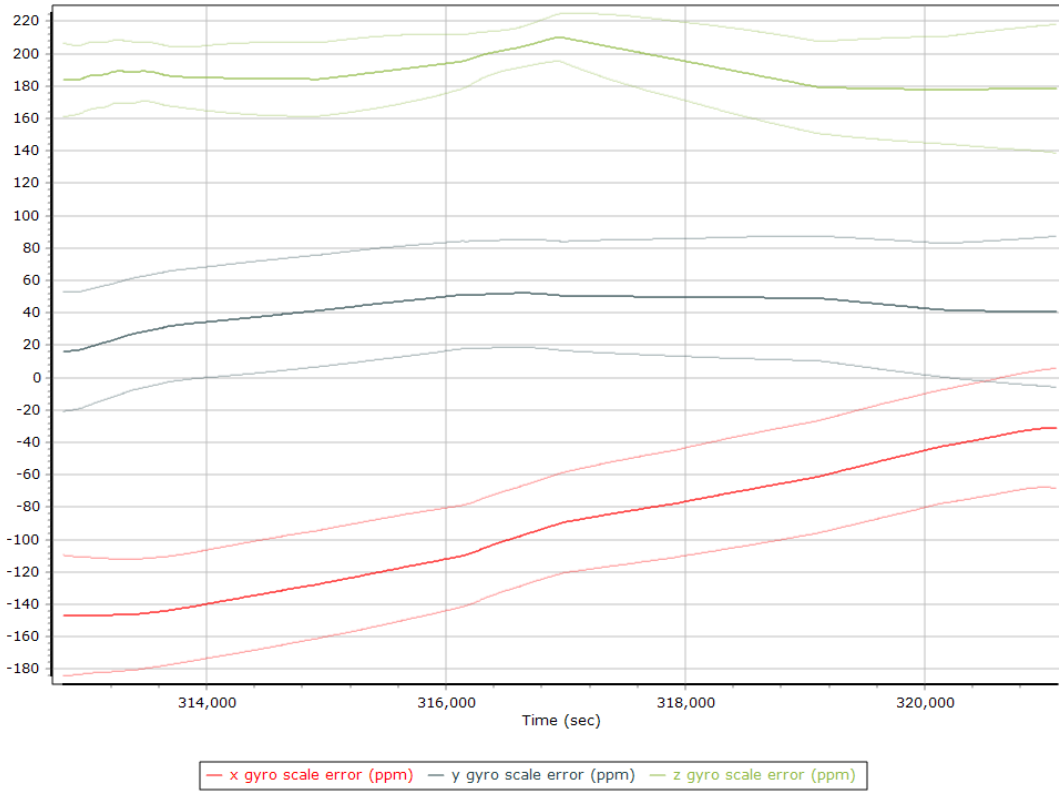
Y Gyro Bias (deg/h)



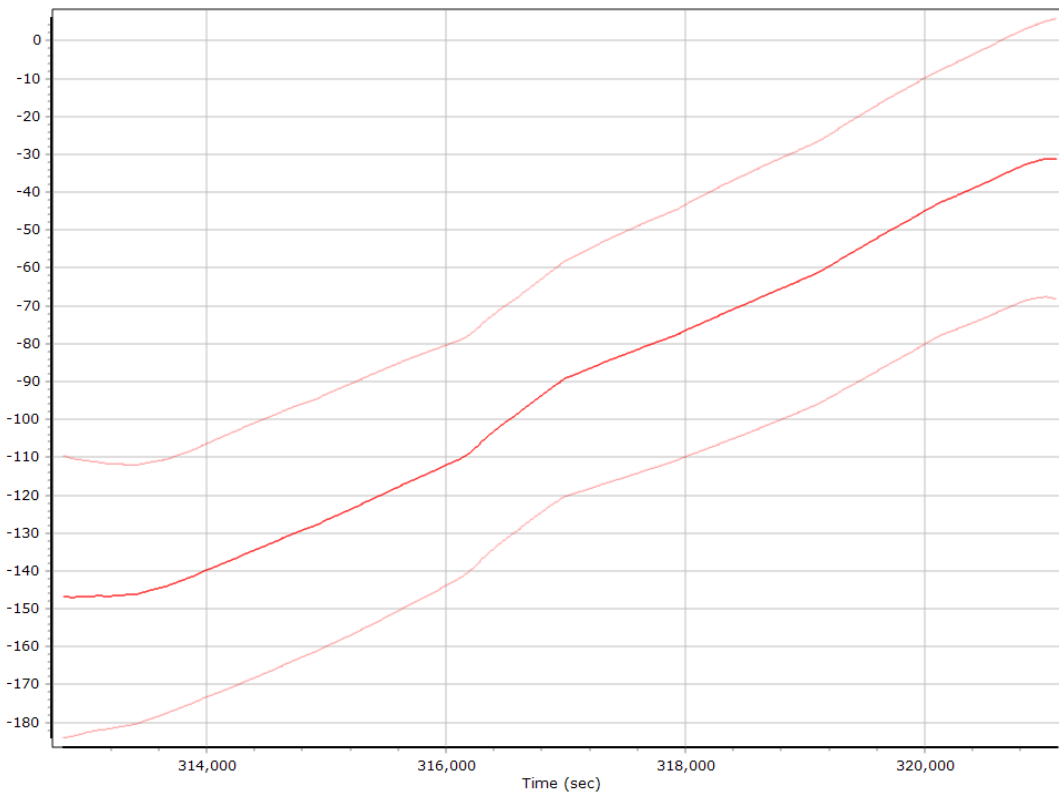
Z Gyro Bias (deg/h)



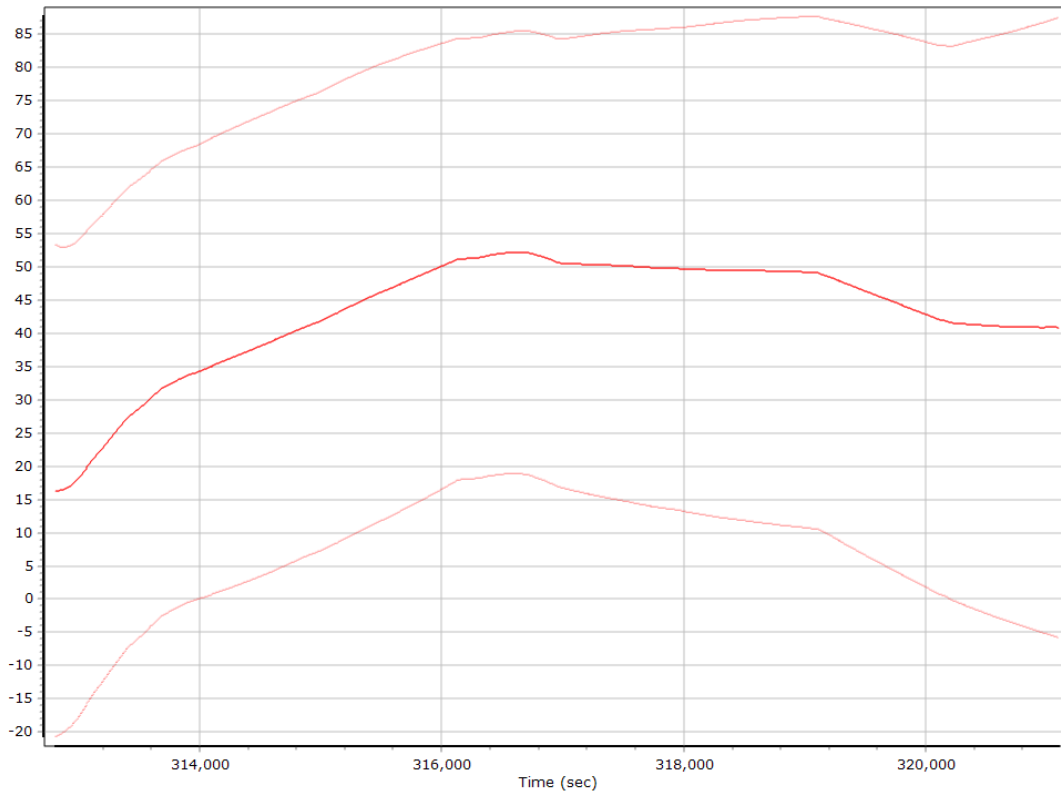
Gyro Scale Error (ppm)



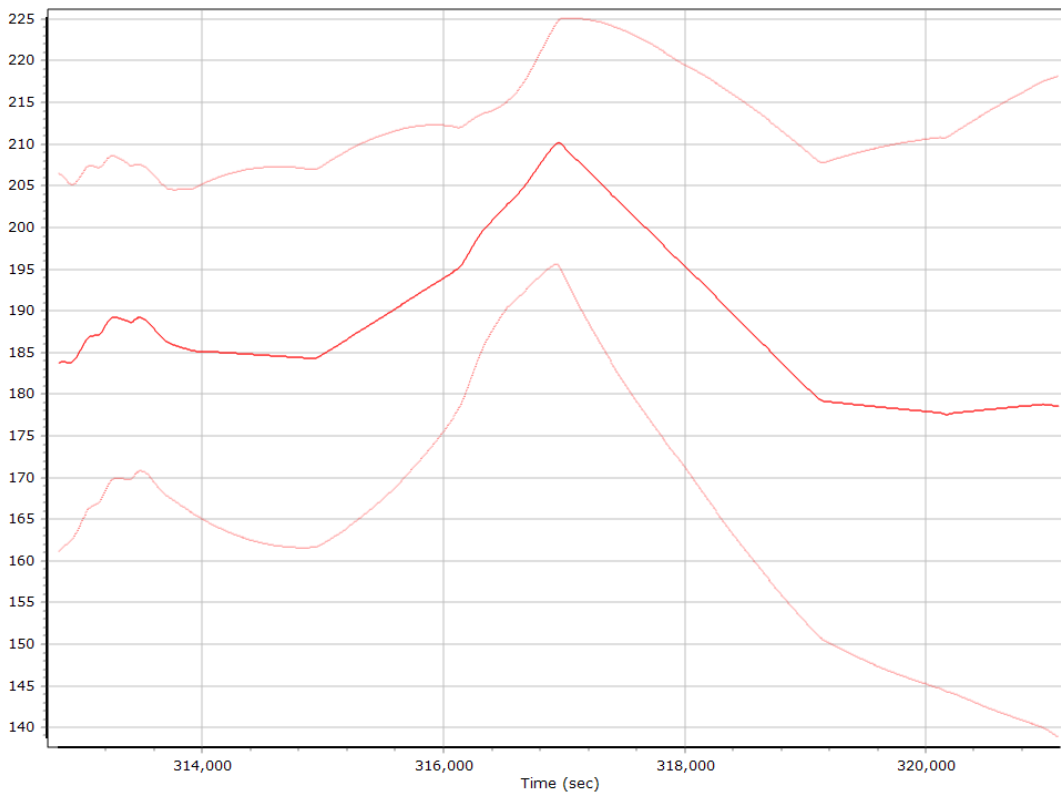
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

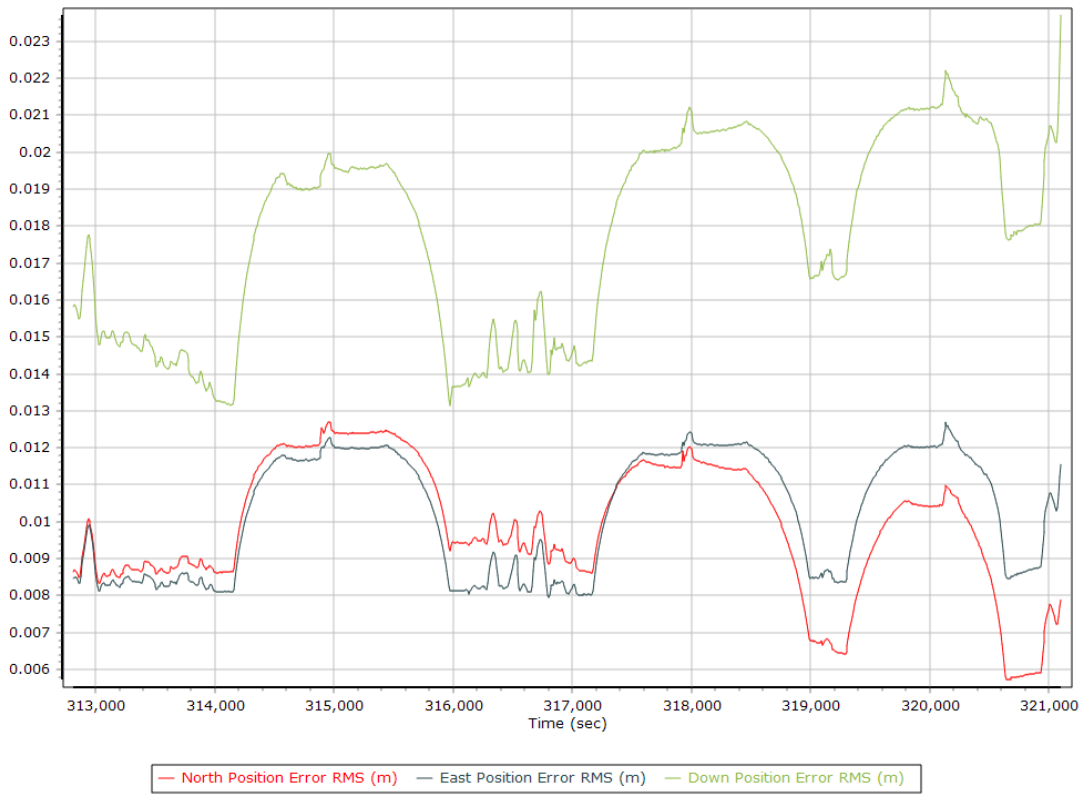


Z Gyro Scale Error (ppm)

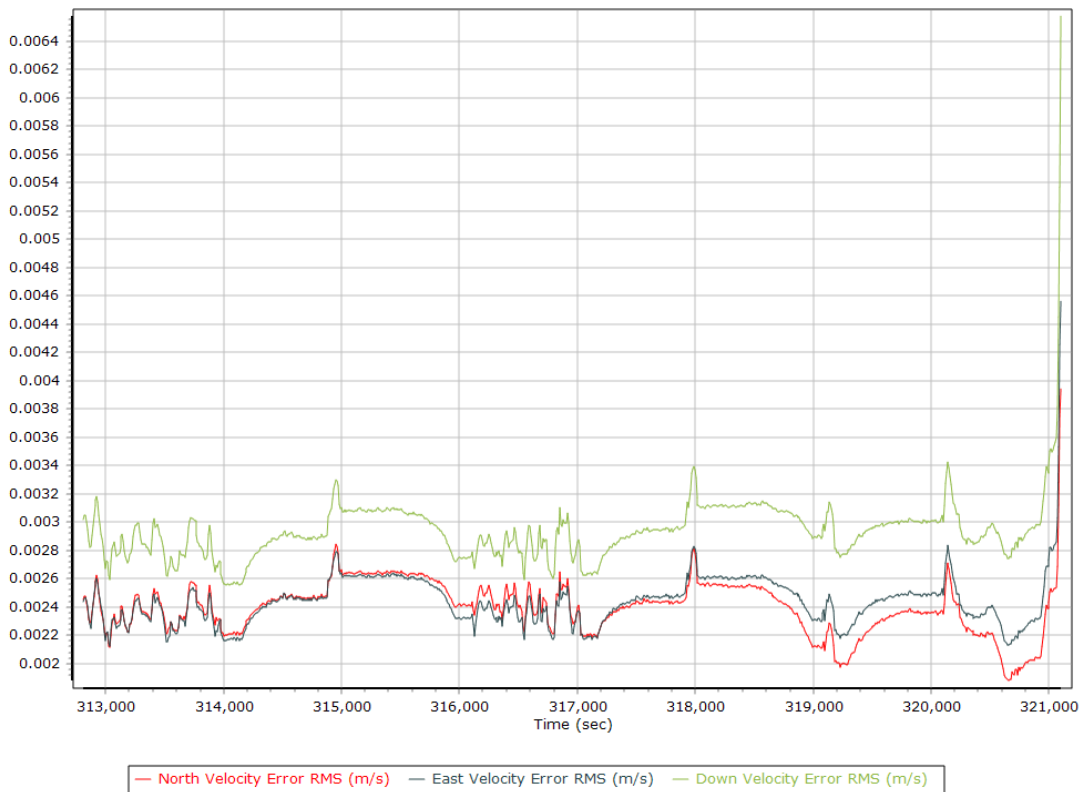


Smoothed Performance Metrics

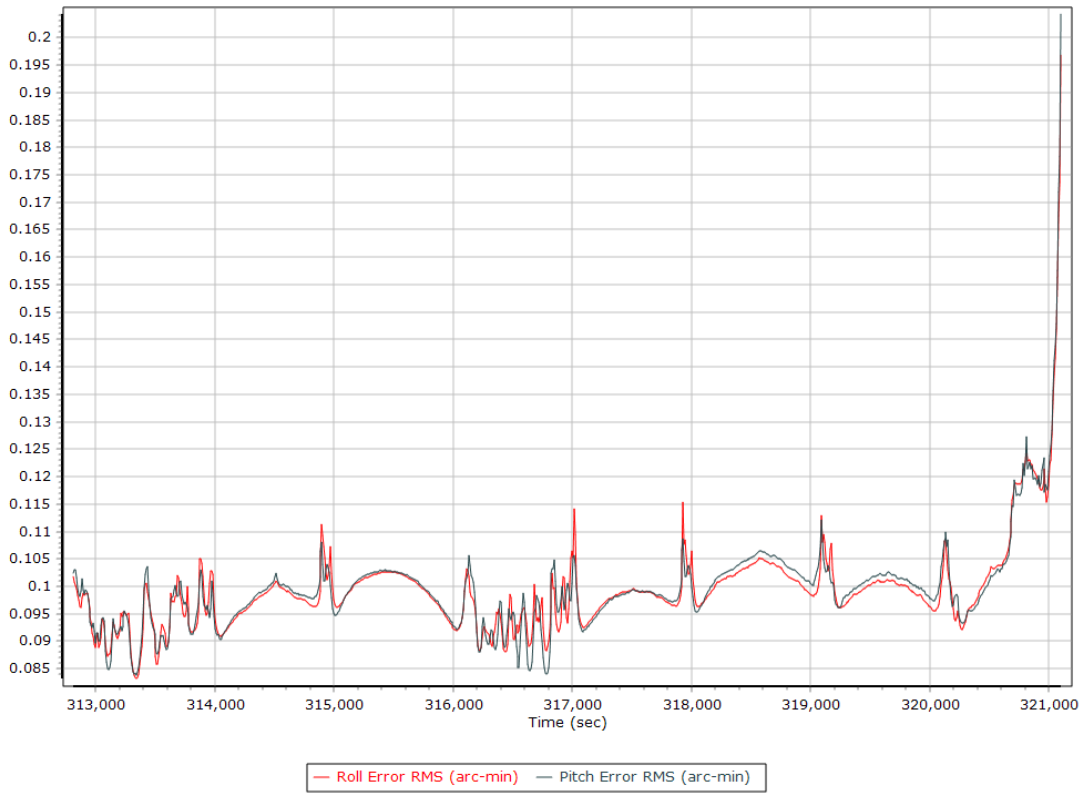
Position Error RMS (m)



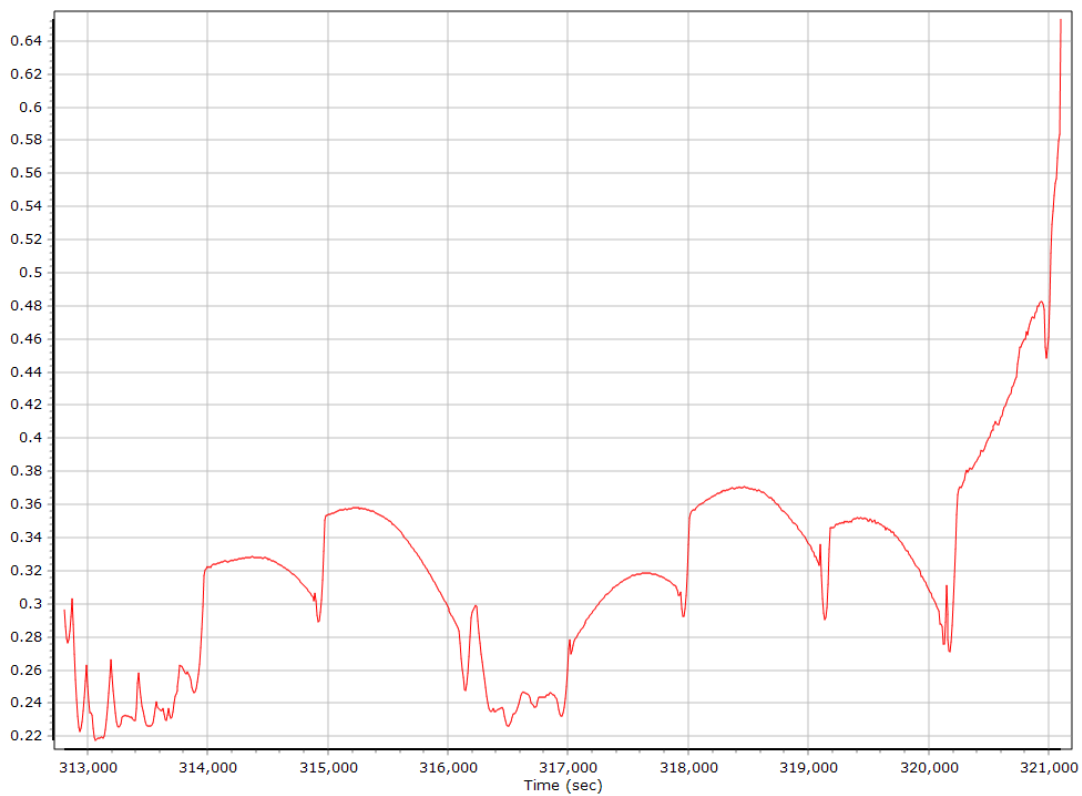
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

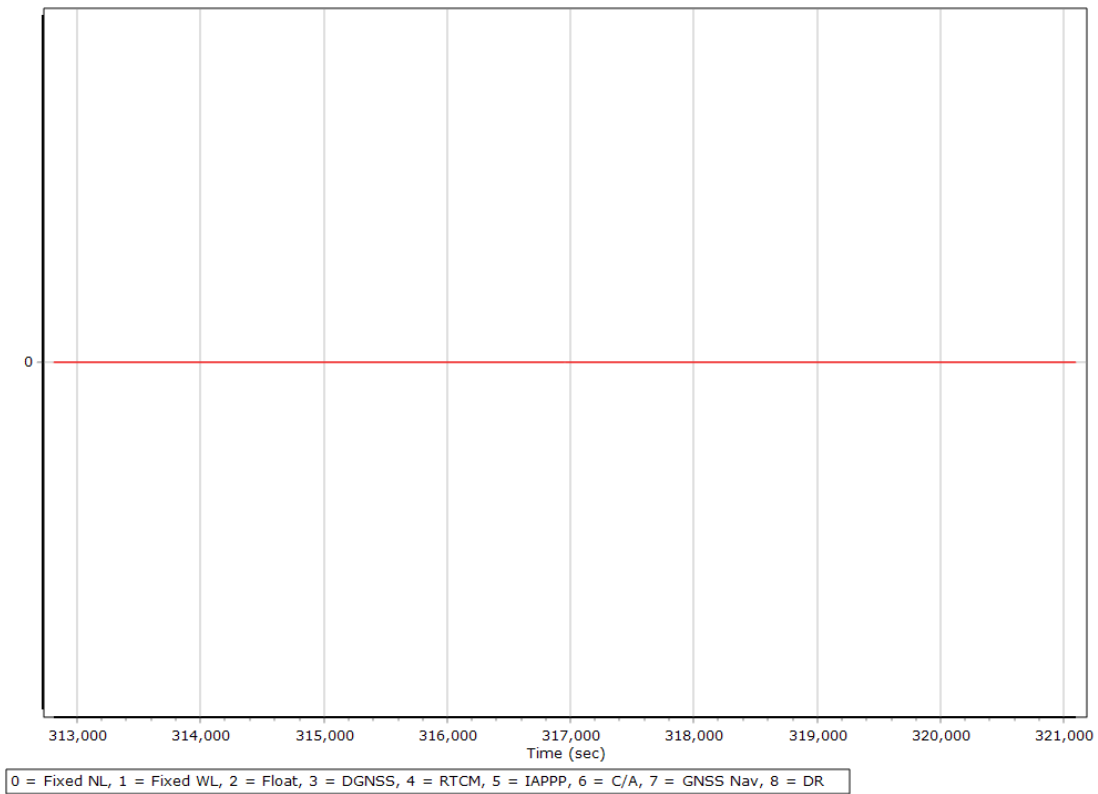


Heading Error RMS (arc-min)

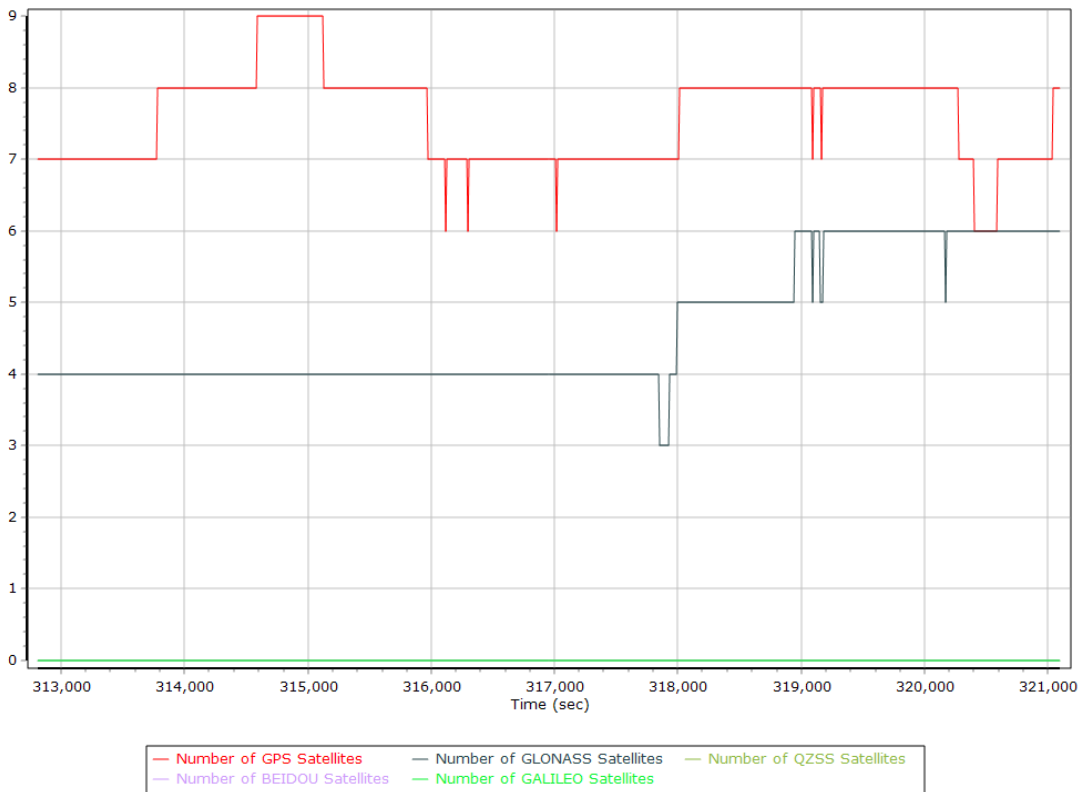


Smoothed Solution Status

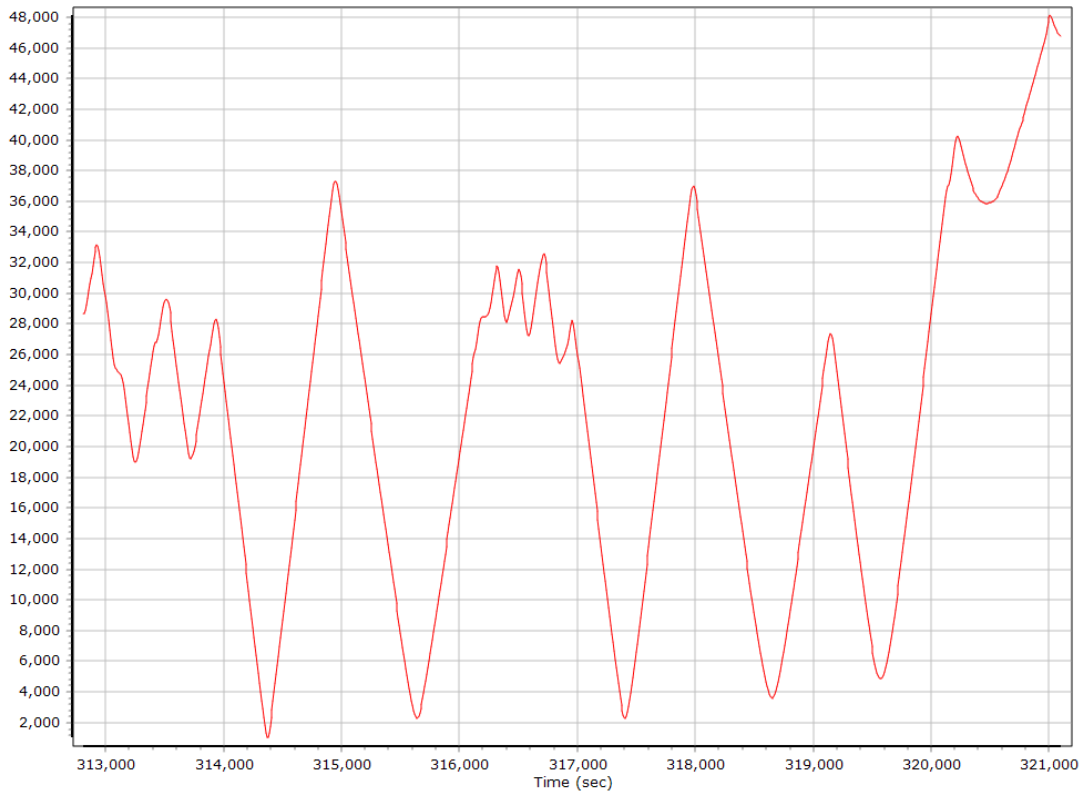
Processing Mode



Number of Satellites



Baseline Length



SBET IAkar Separation



General Information

Mission Information

Project name	PTG19338B
Processing date	2019-12-12 17:39:20
Mission date	2019-12-04 17:52:54
Mission duration	02:19:52.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N8572
IMU type	57
Receiver type	BD982
Antenna type	Unknown External

Project File List

Rover Data Files

File name	File type
PTG19338.041	POS Data
PTG19338.042	POS Data
PTG19338.043	POS Data
PTG19338.044	POS Data
PTG19338.045	POS Data
PTG19338.046	POS Data
PTG19338.047	POS Data
PTG19338.048	POS Data
PTG19338.049	POS Data
PTG19338.050	POS Data
PTG19338.051	POS Data
PTG19338.052	POS Data
PTG19338.053	POS Data
PTG19338.054	POS Data
PTG19338.055	POS Data
PTG19338.056	POS Data
PTG19338.057	POS Data
PTG19338.058	POS Data
PTG19338.059	POS Data
PTG19338.060	POS Data
PTG19338.061	POS Data

Input Files

File Name	File Type
Ephm3380.19g	GLONASS Broadcast Ephemeris
Ephm3380.19n	GPS Broadcast Ephemeris
flmd_daily3380.19o	GNSS SingleBase
gnvl_daily3380.19o	GNSS SingleBase
lkcy_daily3380.19o	GNSS SingleBase
flck_daily3380.19o	GNSS SingleBase
brdc3390.19g	GLONASS Broadcast Ephemeris
brdc3390.19n	GPS Broadcast Ephemeris
Ephm3370.19g	GLONASS Broadcast Ephemeris
Ephm3370.19n	GPS Broadcast Ephemeris
igu20821_18.sp3	GPS Precise Ephemeris
igu20822_18.sp3	GPS Precise Ephemeris
igu20823_18.sp3	GPS Precise Ephemeris
igu20824_12.sp3	GPS Precise Ephemeris
pltk_daily3380.19o	GNSS SingleBase
flcb_daily3380.19o	GNSS SingleBase

Output Files

Filename	File type
sbet_PTG19338B.out	SBET Trajectory File

Rover Data Summary

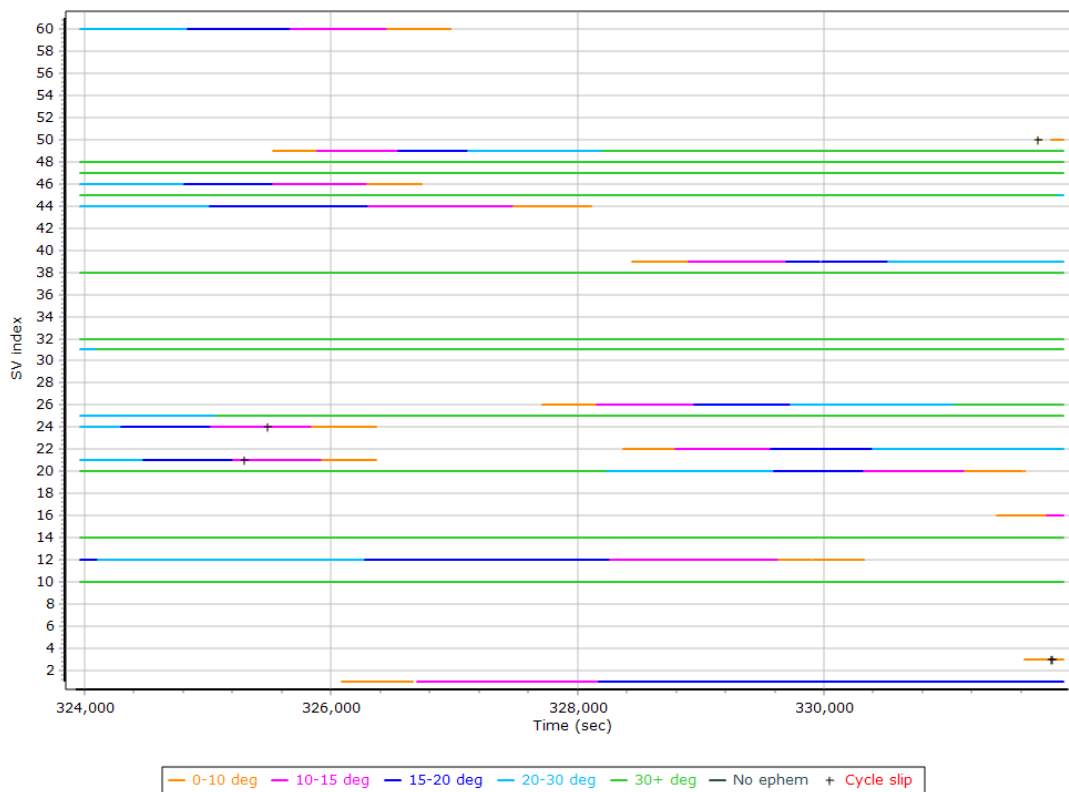
First raw data file	PTG19338.041		
Last raw data file	PTG19338.061		
Start GPS week	2082		
Start time	323556.002 (12/4/2019 5:52:36 PM)		
End time	331948.977 (12/4/2019 8:12:28 PM)		
Start of fine alignment	323901.506 (12/4/2019 5:58:21 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	Event 2 Input, Event 3 Input		
Correction data	None		
IMU Installation Lever Arms & Mounting Angles			
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

Raw Data QC

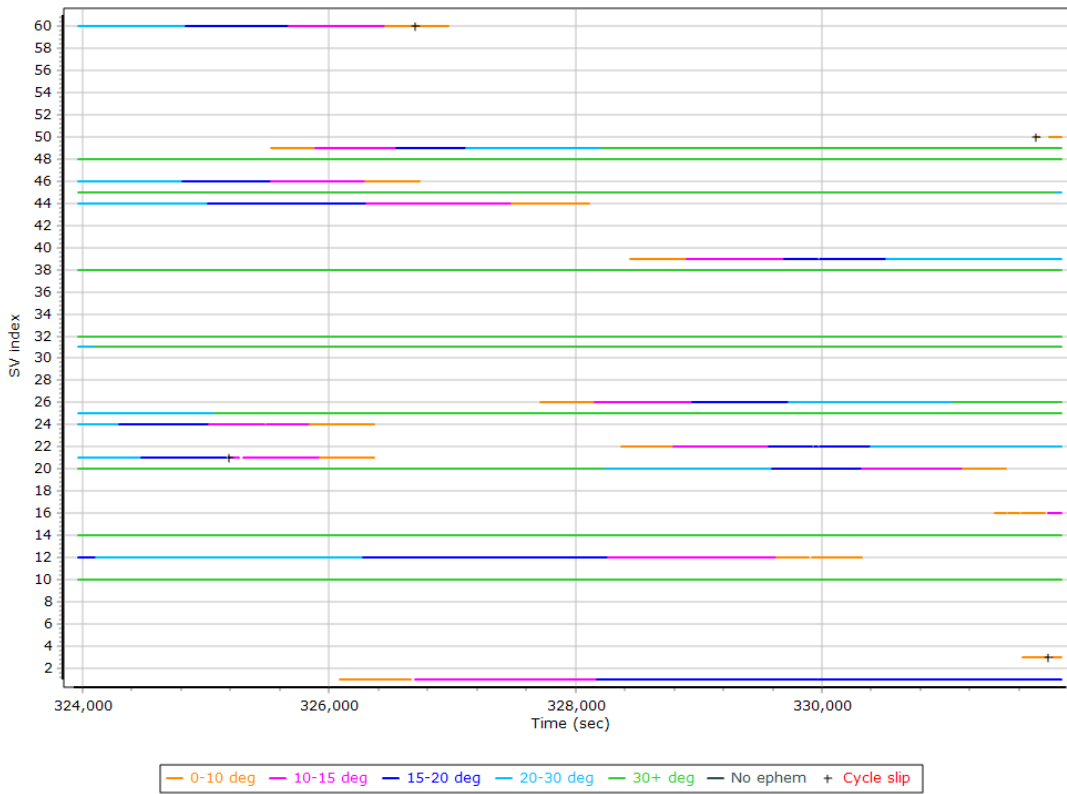
Raw IMU Import QC Summary

IMU data input file	imu_PTG19338B.dat
IMU data check log file	imudt_PTG19338B.log
IMU Records Processed	1678398
Termination Status	Normal
IMU Anomalies	0

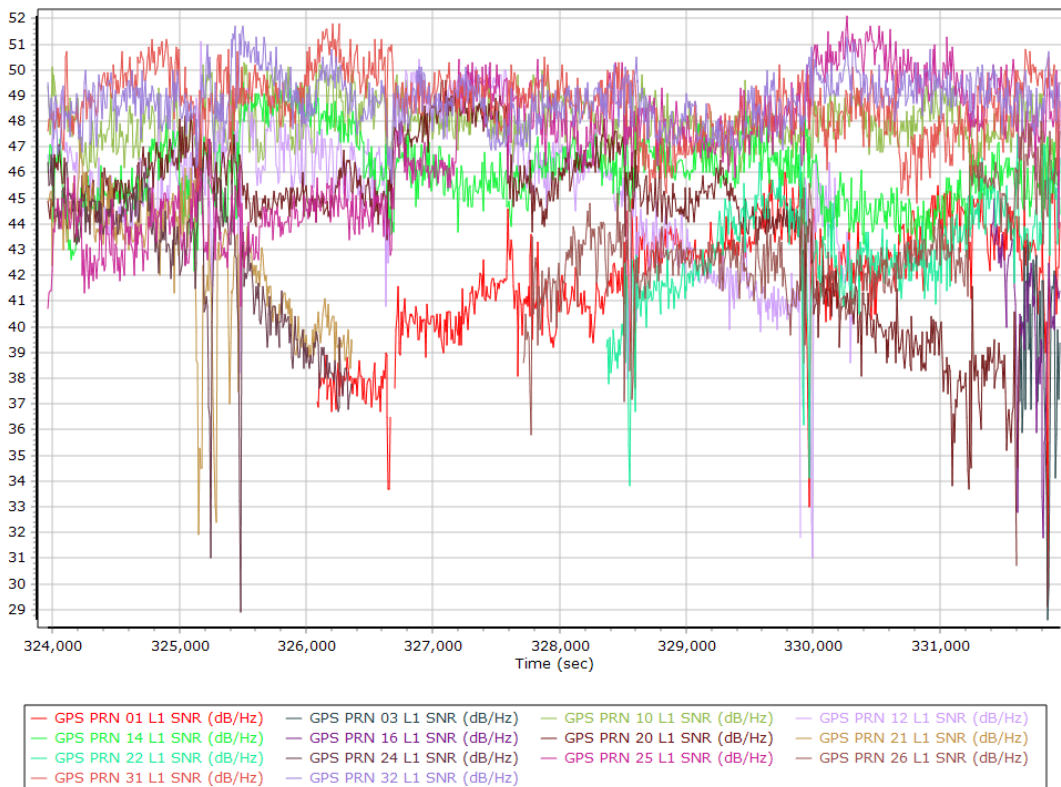
L1 Satellite Lock/Elevation



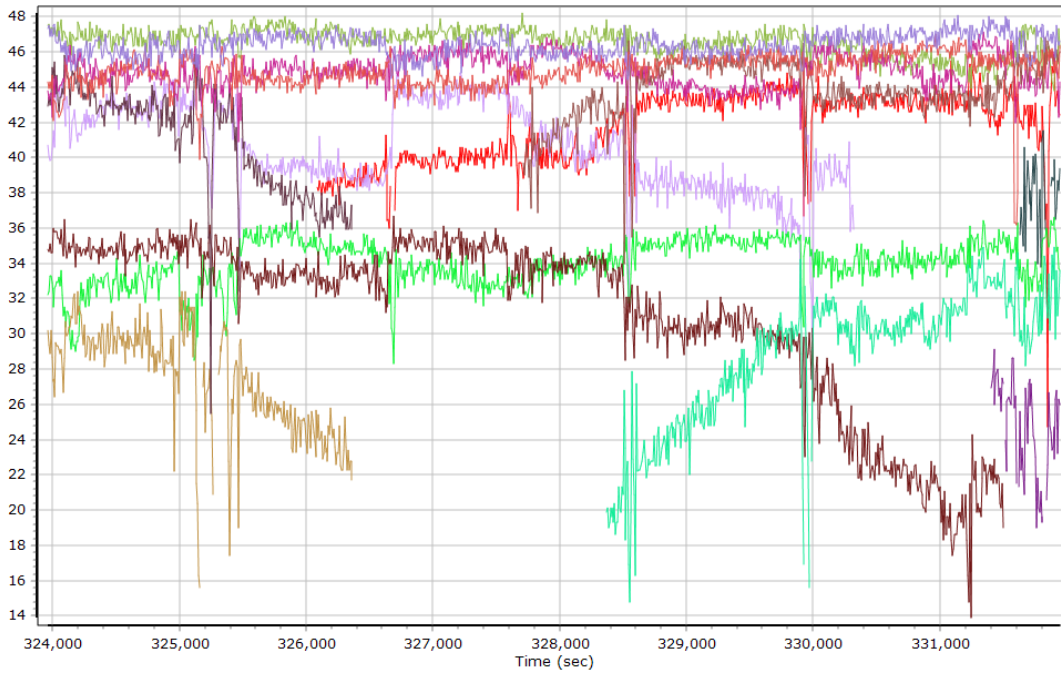
L2 Satellite Lock/Elevation



GPS L1 SNR

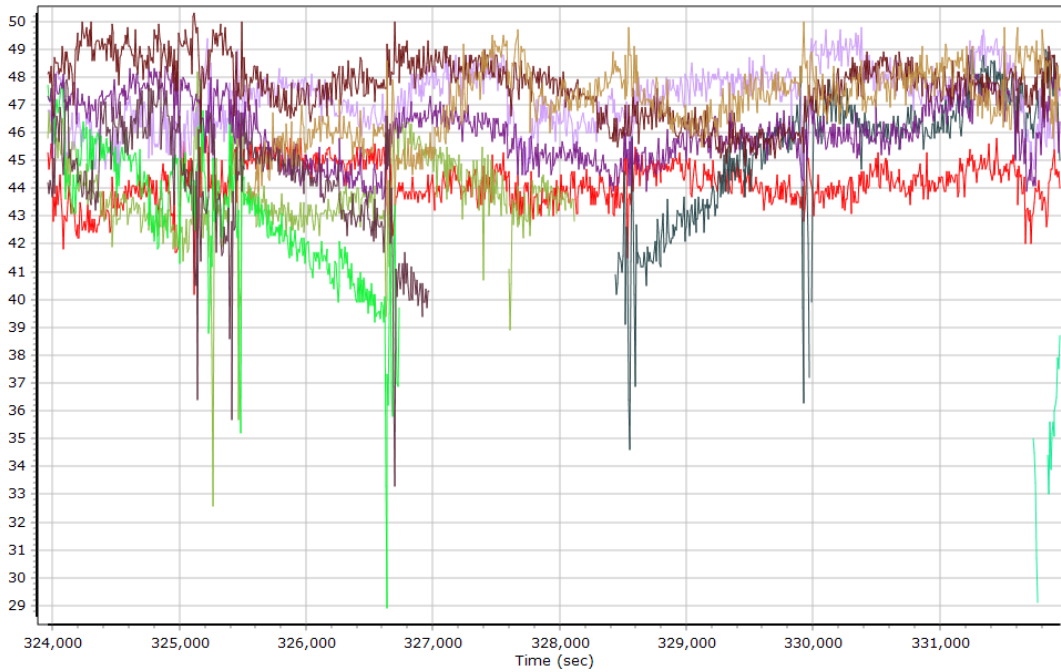


GPS L2 SNR



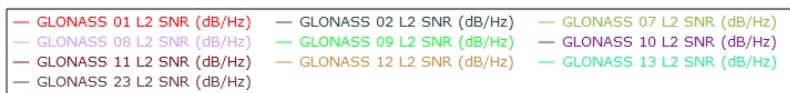
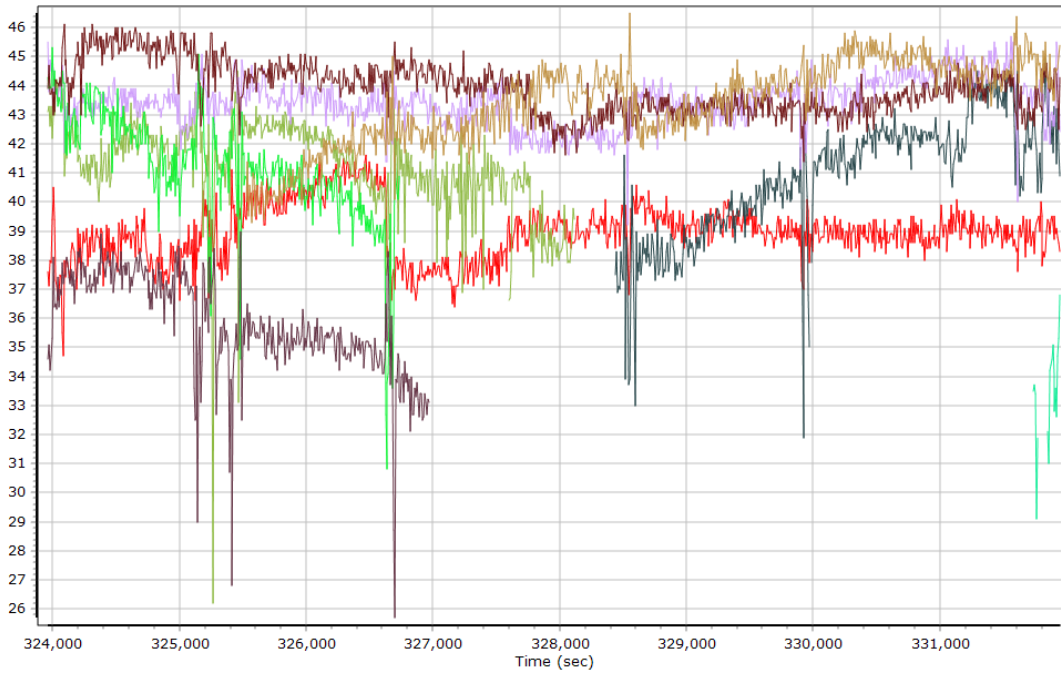
- | | | | |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 03 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 12 L2 SNR (dB/Hz) |
| GPS PRN 14 L2 SNR (dB/Hz) | GPS PRN 16 L2 SNR (dB/Hz) | GPS PRN 20 L2 SNR (dB/Hz) | GPS PRN 21 L2 SNR (dB/Hz) |
| GPS PRN 22 L2 SNR (dB/Hz) | GPS PRN 24 L2 SNR (dB/Hz) | GPS PRN 25 L2 SNR (dB/Hz) | GPS PRN 26 L2 SNR (dB/Hz) |
| GPS PRN 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) | | |

GLONASS L1 SNR

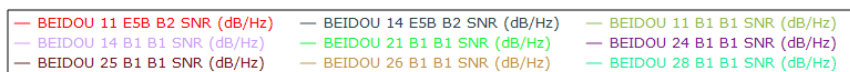
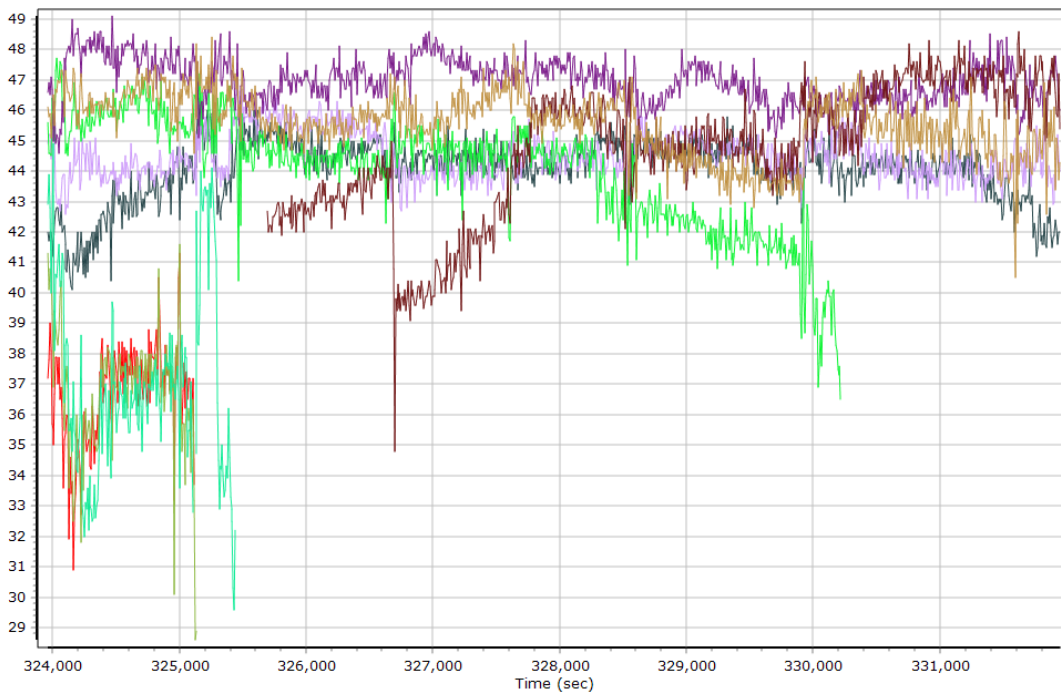


- | | | |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 02 L1 SNR (dB/Hz) | GLONASS 07 L1 SNR (dB/Hz) |
| GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) | GLONASS 10 L1 SNR (dB/Hz) |
| GLONASS 11 L1 SNR (dB/Hz) | GLONASS 12 L1 SNR (dB/Hz) | GLONASS 13 L1 SNR (dB/Hz) |
| GLONASS 23 L1 SNR (dB/Hz) | | |

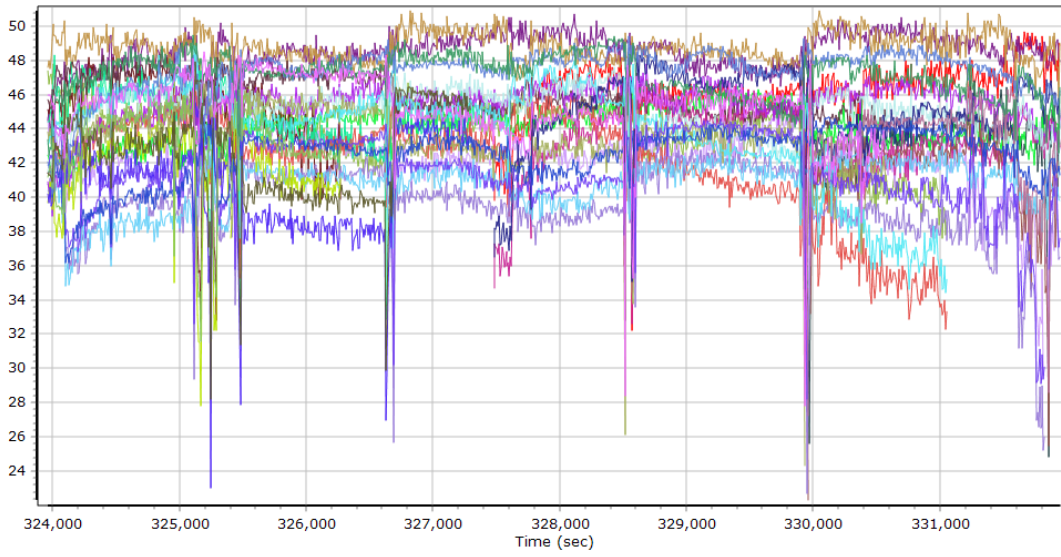
GLONASS L2 SNR



BEIDOU SNR



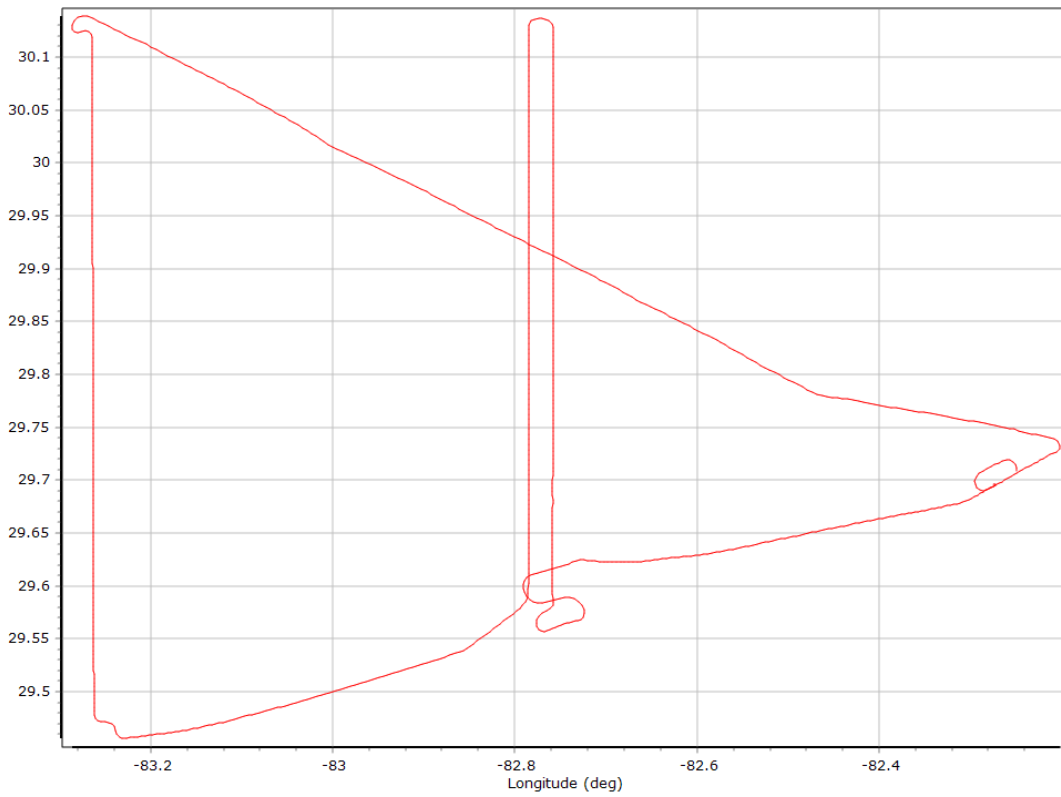
GALILEO SNR



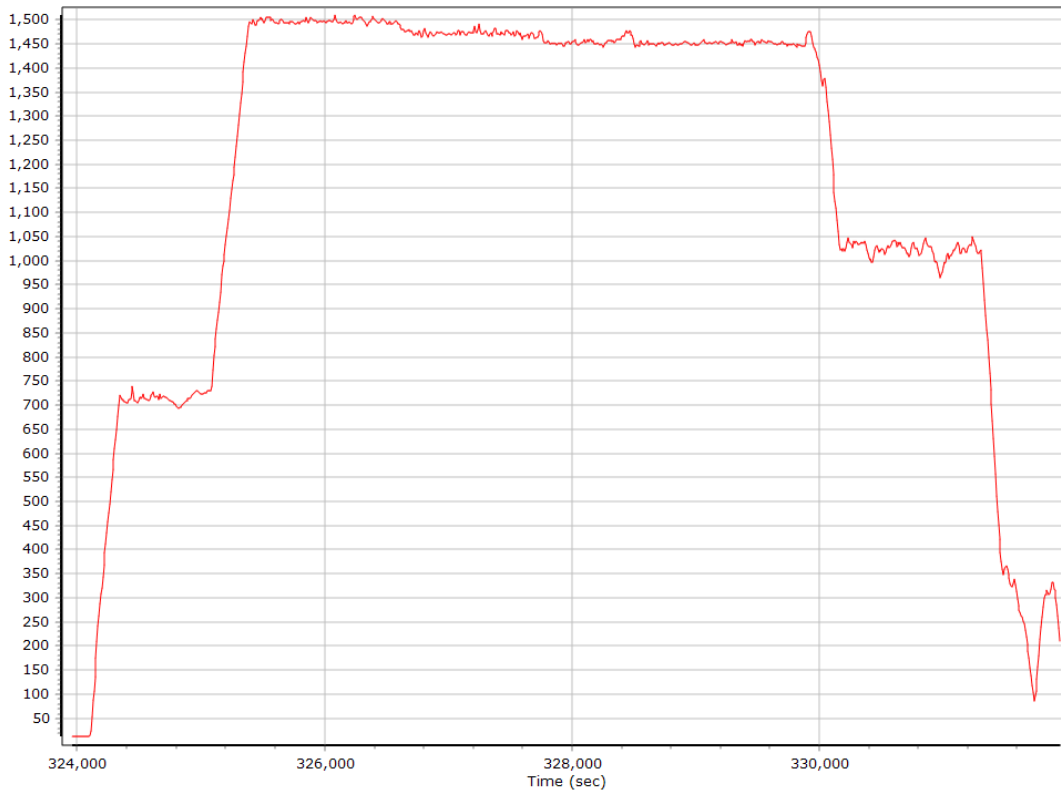
- | | |
|--|--|
| — GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 12 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 19 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 21 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 26 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 27 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 30 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 33 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 01 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 04 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 07 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 12 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 19 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 21 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 26 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 27 E5B BPSK10_PD SNR (dB/Hz) |
| — GALILEO 30 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 33 E5B BPSK10_PD SNR (dB/Hz) |

Trajectory Information

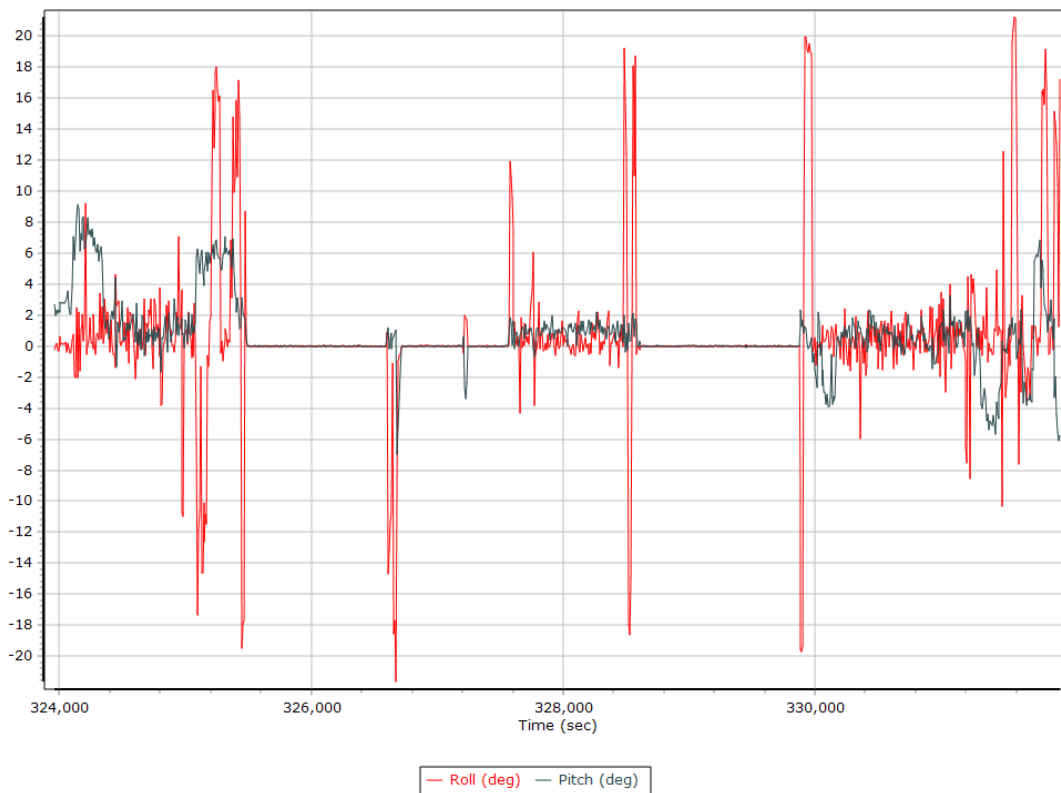
Top View



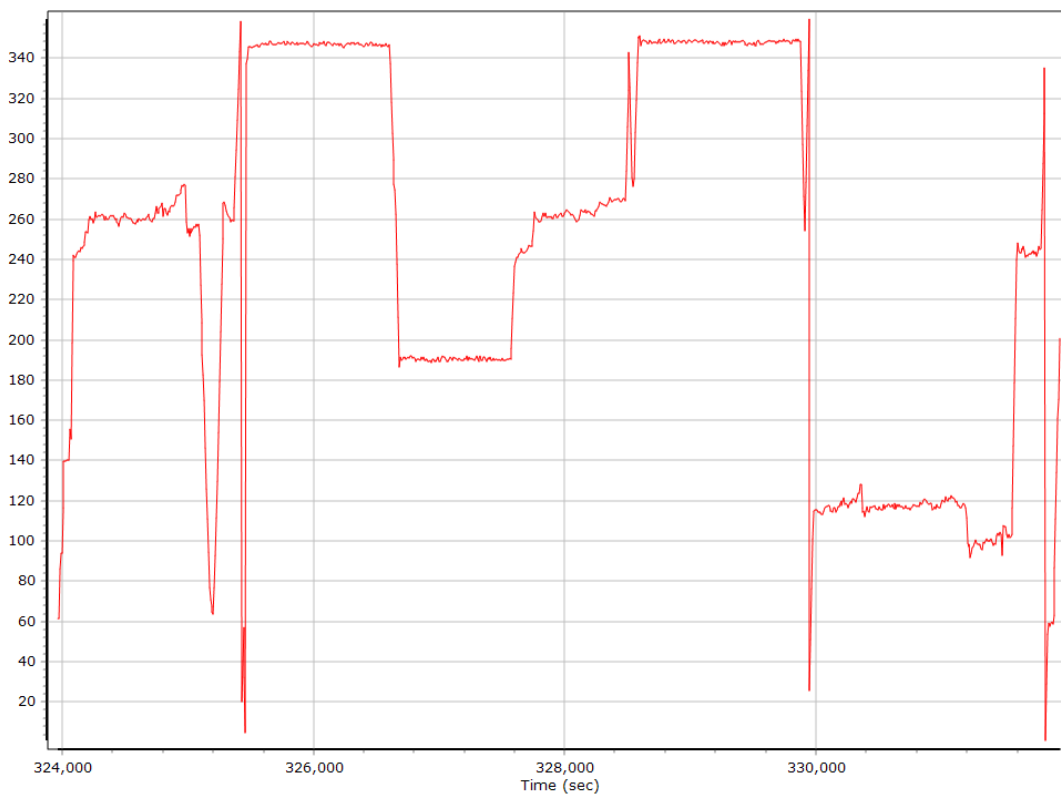
Altitude



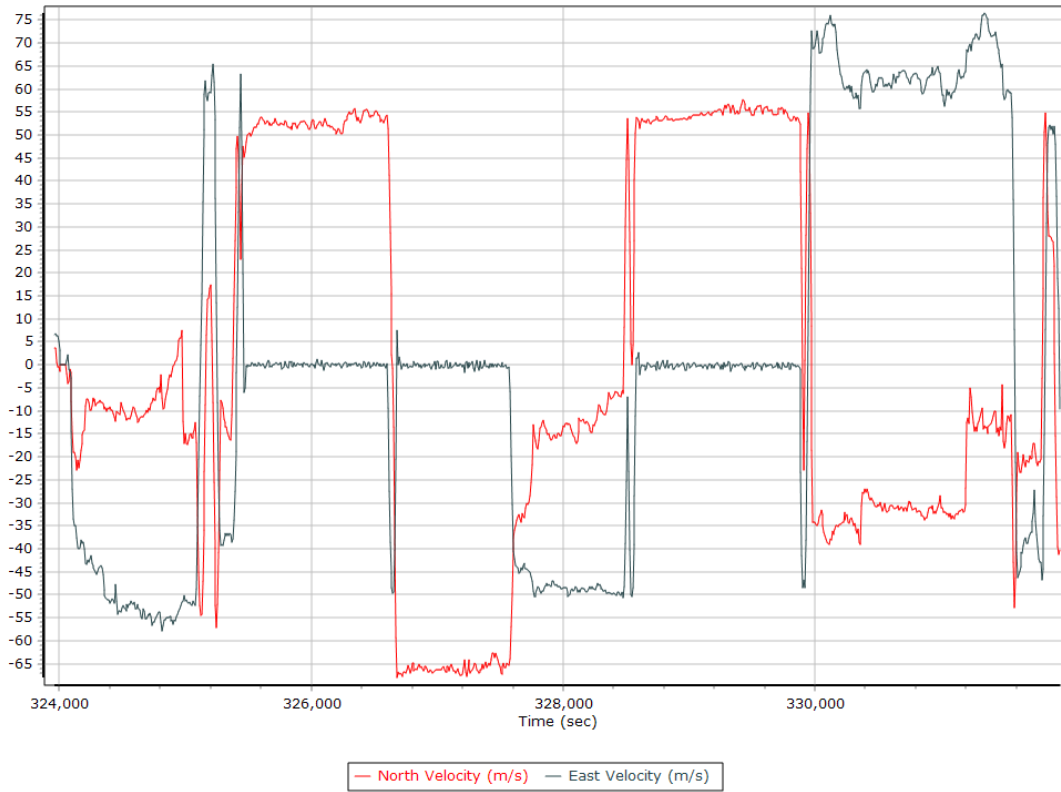
Roll/Pitch



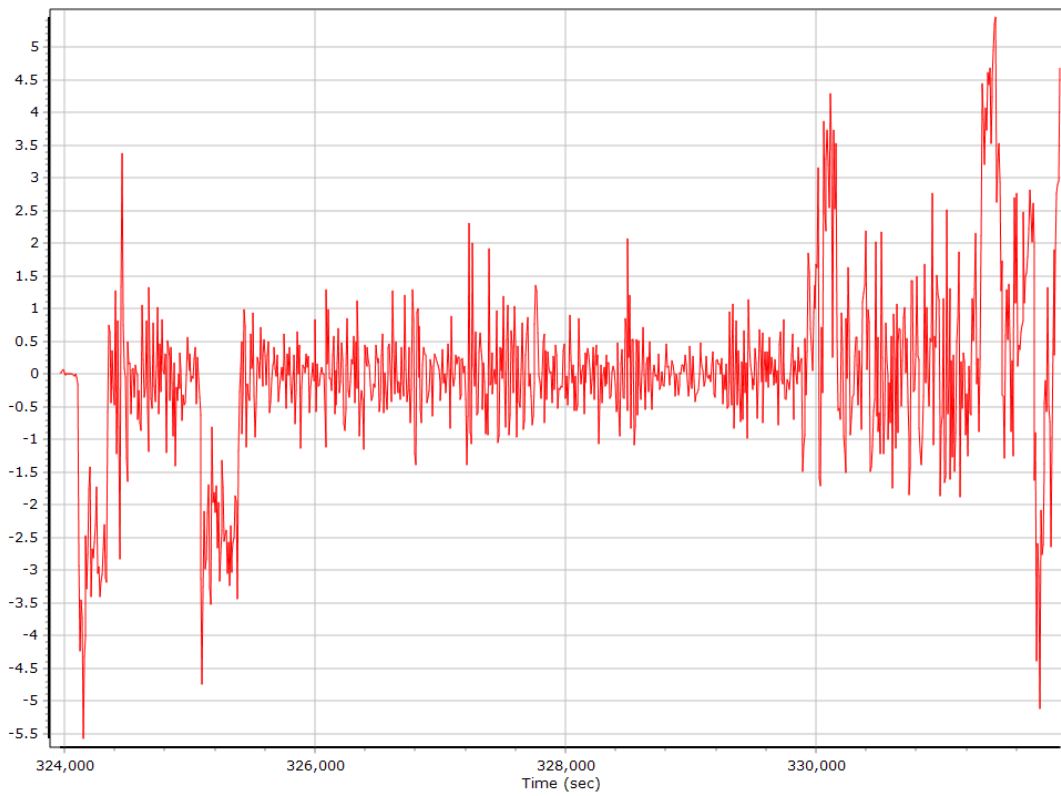
Heading



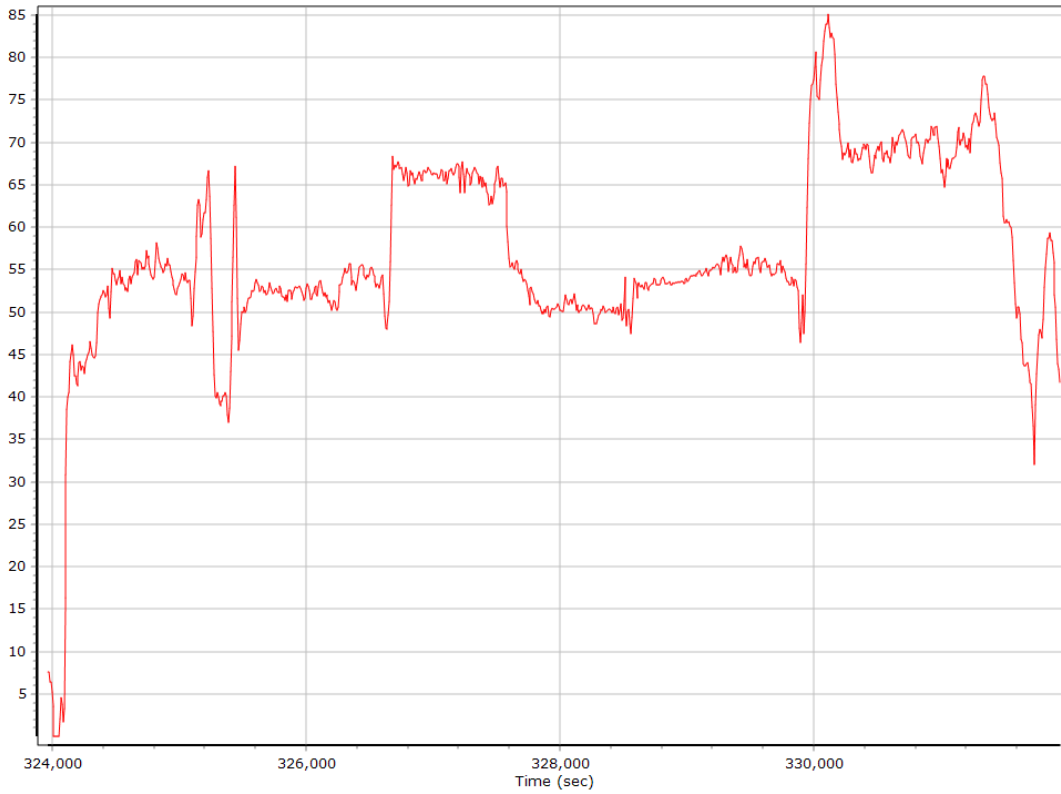
North/East Velocity



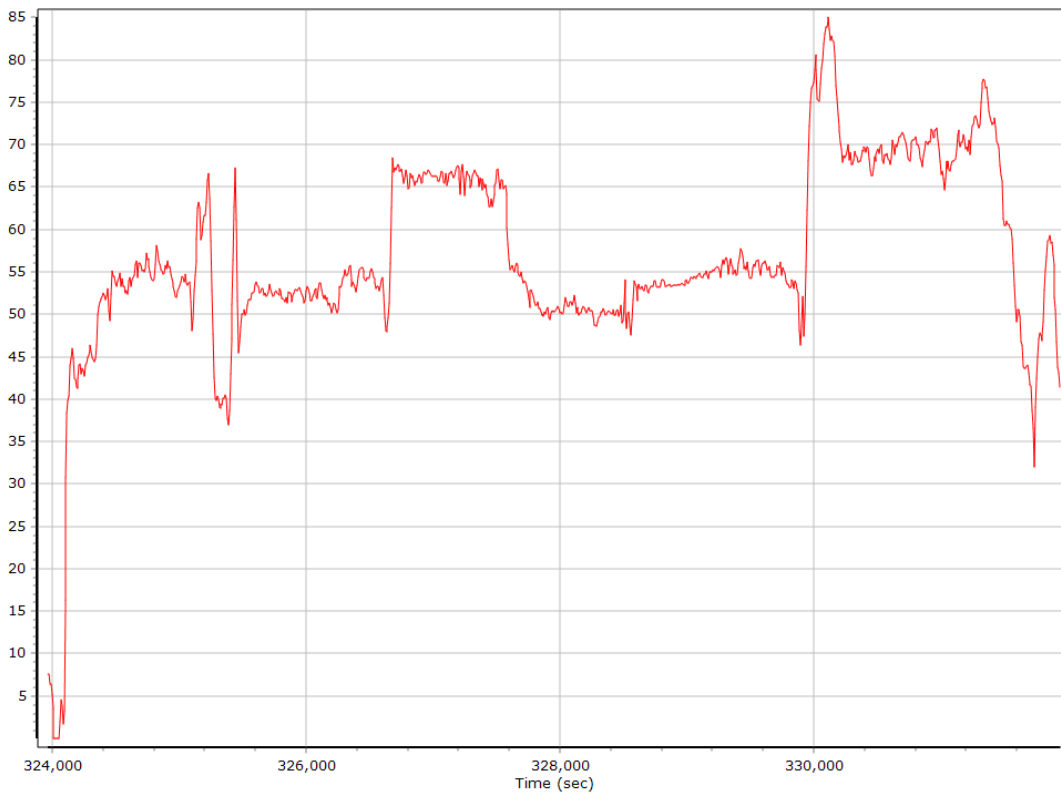
Down Velocity



Total Speed



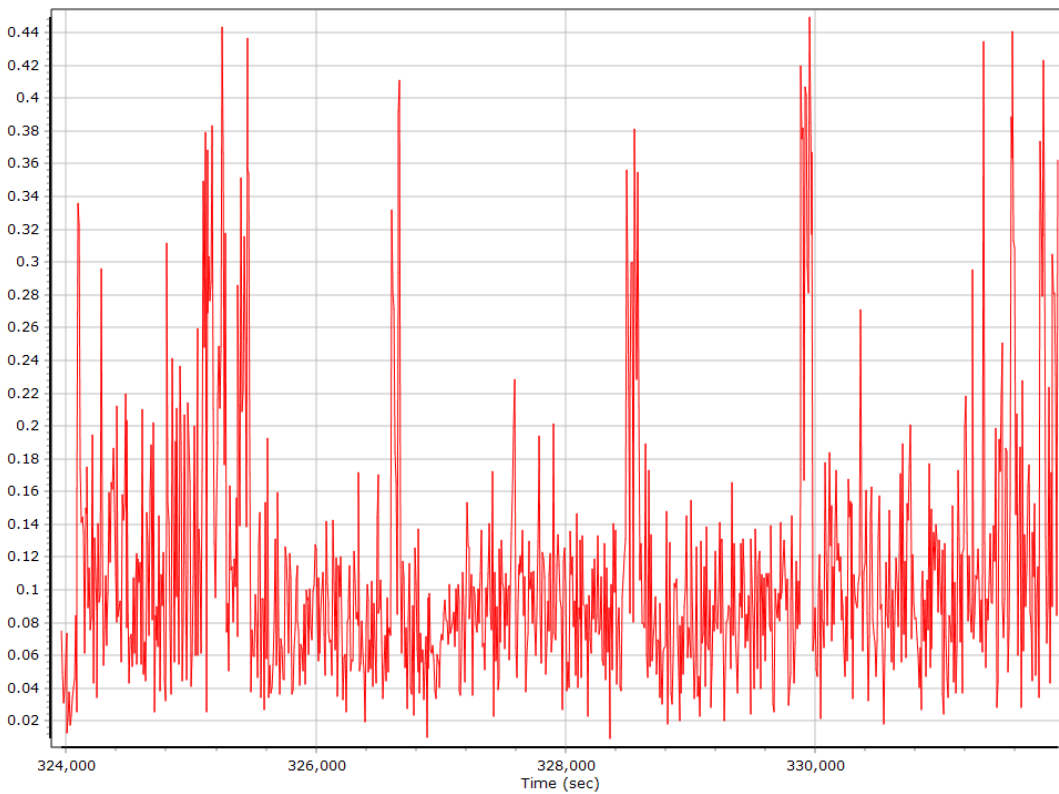
Ground Speed



Body Acceleration



Total Body Acceleration



Body Angular Rate



SmartBase Processing Summary

Smart Select Options

Archive enabled	False
User database enabled	False
Include high-rate data sites	True
Target GNSS Selection	GNSS

Basestation Selection

Date	ID	Dist	System	Rate	Service	Database	Status
12/04/2019	FLCB	184.23	GNSS	1	User	None	Imported
12/04/2019	PLTK	107.43	GNSS	1	User	None	Imported
12/04/2019	FLCK	73.87	GNSS	1	User	None	Imported
12/04/2019	LKCY	50.85	GNSS	1	User	None	Imported
12/04/2019	GNVL	50.59	GNSS	1	User	None	Imported

SmartBase Results

SmartBase status	PROC_STATUS_OK
Primary station Id	LKCY
Primary station data rate (sec)	1.0
VRS/ASB generation rate (sec)	1.0
VRS/ASB timespan	8392 s (2082 323574 - 2082 331966)
Number of reference stations	5
Primary station GPS measurement usage (%)	99.6
Primary station GLONASS measurement usage (%)	72.2
Average number of satellites per epoch	13.1
Max number of GPS stations used	5
Min number of GPS stations used	3
Max number of GLONASS stations used	5
Min number of GLONASS stations used	3
Total full data gap (sec)	0
Total GPS full data gaps	0
Total GLONASS full data gaps	0
Total individual satellite data gap (sec)	14835
GPS precise vs. broadcast ephemeris used	100.0 % / 0.0 %
GLONASS precise vs. broadcast ephemeris used	0.0 % / 100.0 %
Termination Status	Normal

SmartBase Quality Check

Base Station - FLCB

Status	OK	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Original	
Solution Epochs	4776	Mean Epoch SVs	7.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°50'33.36155"	W84°41'42.53223"	19.609
Adjusted		N29°50'33.36104"	W84°41'42.53199"	19.613
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.017	0.004	0.017

Base Station Information

Station ID	FLCB		
Filename	flcb_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702509
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°50'33.36155"		
Longitude	W84°41'42.53223"		
Ellipsoidal height (m)	-19.60900		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - PLTK

Status	OK	SBQI	0	
Duration (Hours)	19.47	Output Coordinates	Original	
Solution Epochs	4673	Mean Epoch SVs	8.2	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°39'48.14819"	W81°41'15.86060"	17.946
Adjusted		N29°39'48.14814"	W81°41'15.86051"	17.958
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.003	0.012	0.012

Base Station Information

Station ID	PLTK		
Filename	pltk_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702037
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°39'48.14819"		
Longitude	W81°41'15.86060"		
Ellipsoidal height (m)	-17.94600		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - FLCK

Status	OK	SBQI	0	
Duration (Hours)	19.46	Output Coordinates	Original	
Solution Epochs	4671	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°08'01.87610"	W83°01'51.05281"	17.224
Adjusted		N29°08'01.87592"	W83°01'51.05270"	17.217
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.006	0.007	0.009

Base Station Information

Station ID	FLCK		
Filename	flck_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702503
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°08'01.87610"		
Longitude	W83°01'51.05281"		
Ellipsoidal height (m)	-17.22400		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - LKCY

Status	OK	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Original	
Solution Epochs	4776	Mean Epoch SVs	8.4	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N30°11'07.49182"	W82°34'39.14410"	35.193
Adjusted		N30°11'07.49170"	W82°34'39.14418"	35.212
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.004	0.020	0.020

Base Station Information

Station ID	LKCY		
Filename	lkcy_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702050
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N30°11'07.49182"		
Longitude	W82°34'39.14410"		
Ellipsoidal height (m)	35.19300		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

Base Station - GNVL

Status	CONTROL	SBQI	0	
Duration (Hours)	19.90	Output Coordinates	Control	
Solution Epochs	4776	Mean Epoch SVs	8.3	
Base Station Coordinates		Latitude	Longitude	Height (m)
Original		N29°41'11.55697"	W82°16'36.73521"	23.936
Adjusted		N29°41'11.55697"	W82°16'36.73521"	23.936
Coordinate Adjustments		Horizontal (m)	Vertical (m)	Total (m)
Adjustments		0.000	0.000	0.000

Base Station Information

Station ID	GNVL		
Filename	gnvl_daily3380.19o		
Start date	12/4/2019 4:00:00 AM		
End date	12/4/2019 11:59:59 PM		
Duration	19:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Leica	GR30	1702008
Antenna manufacturer, model	Leica	AR20	
Antenna height [m]	0.000		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC (m)	0.12424		
Latitude	N29°41'11.55697"		
Longitude	W82°16'36.73521"		
Ellipsoidal height (m)	23.93600		
Frame	ITRF00		
Epoch	2019.9233		
Ellipsoid	WGS84		
Velocity North (mm/y)	0		
Velocity East (mm/y)	0		
Velocity Up (mm/y)	0		

GNSS QC

GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.73	62.70	
Number of GPS SV	7	10	9
Number of GLONASS SV	0	6	4
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	0	0	0
Total number of SV	9	15	13
PDOP	1.24	2.19	1.60
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	8360.00	0.00	1.00
Percentage	99.99	0.00	0.01

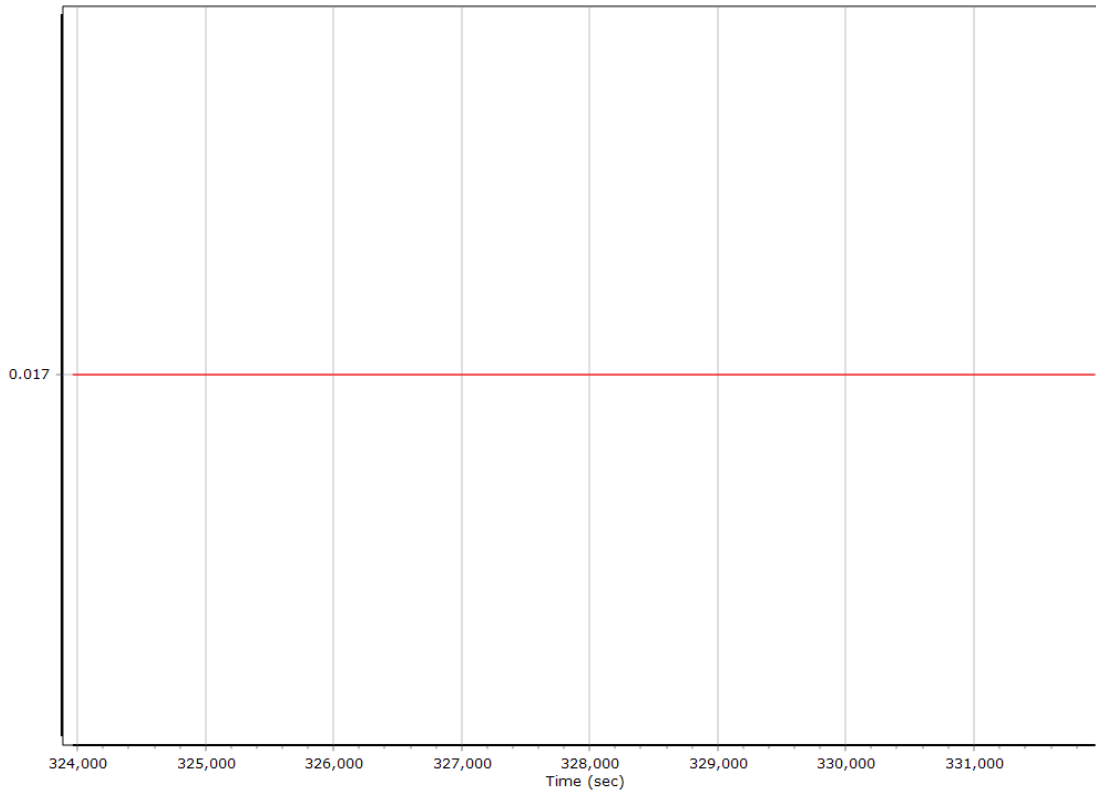
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	323556.000 (12/4/2019 5:52:36 PM)		
Processing end time	331948.000 (12/4/2019 8:12:28 PM)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Gimbal to IMU lever arm (m)	0.000	0.000	0.000
Gimbal to IMU mounting angles (deg)	0.000	0.000	0.000
Gimbal to Primary GNSS lever arm (m)	0.017	0.151	-1.002
Gimbal to Primary GNSS lever arm std dev (m)	0.030	0.030	0.030
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

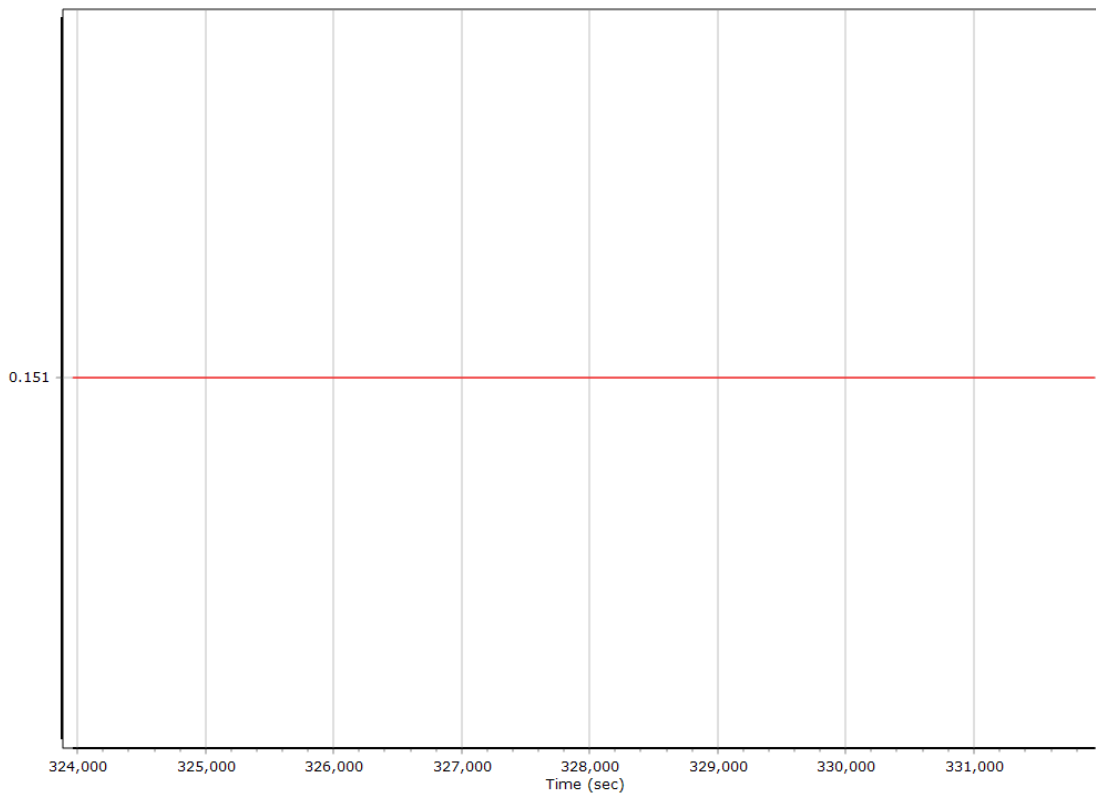
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

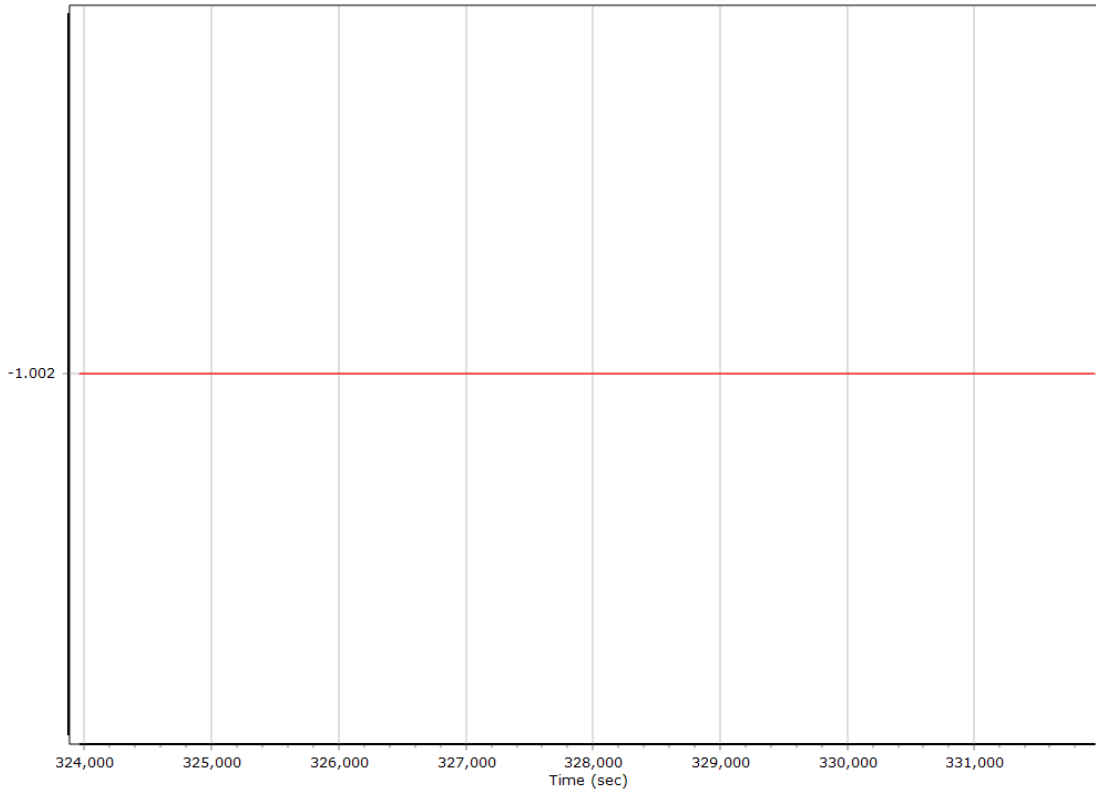
X Reference-Primary GNSS Lever Arm (m)



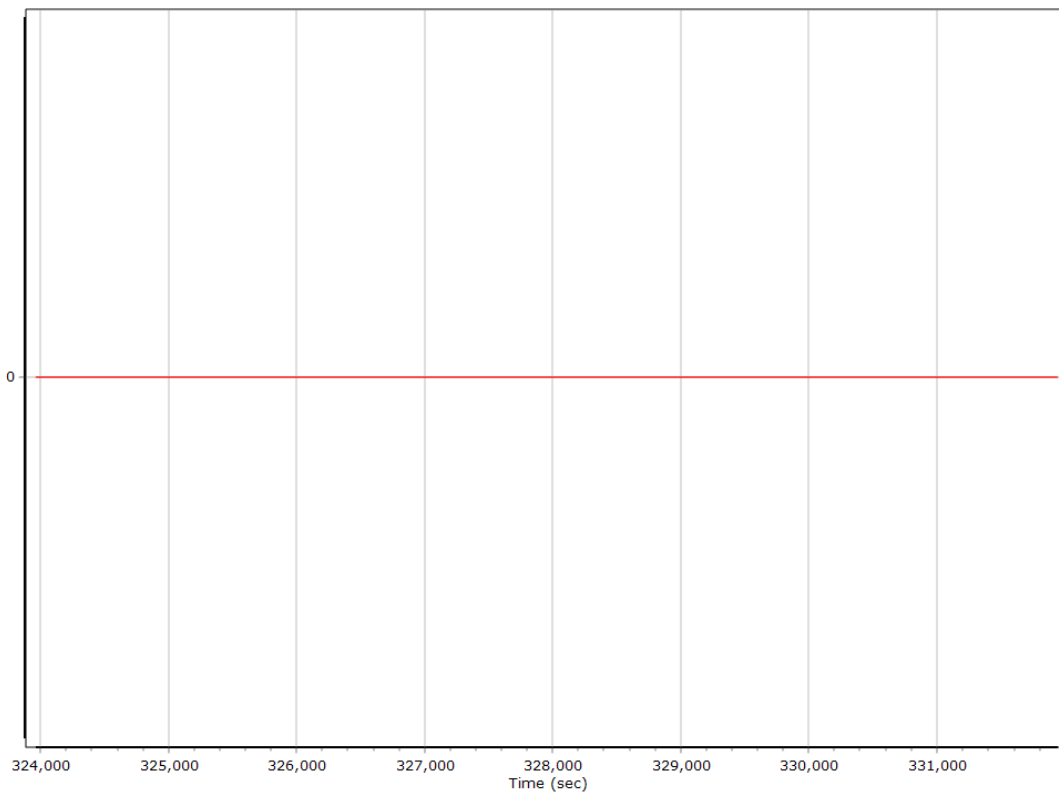
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



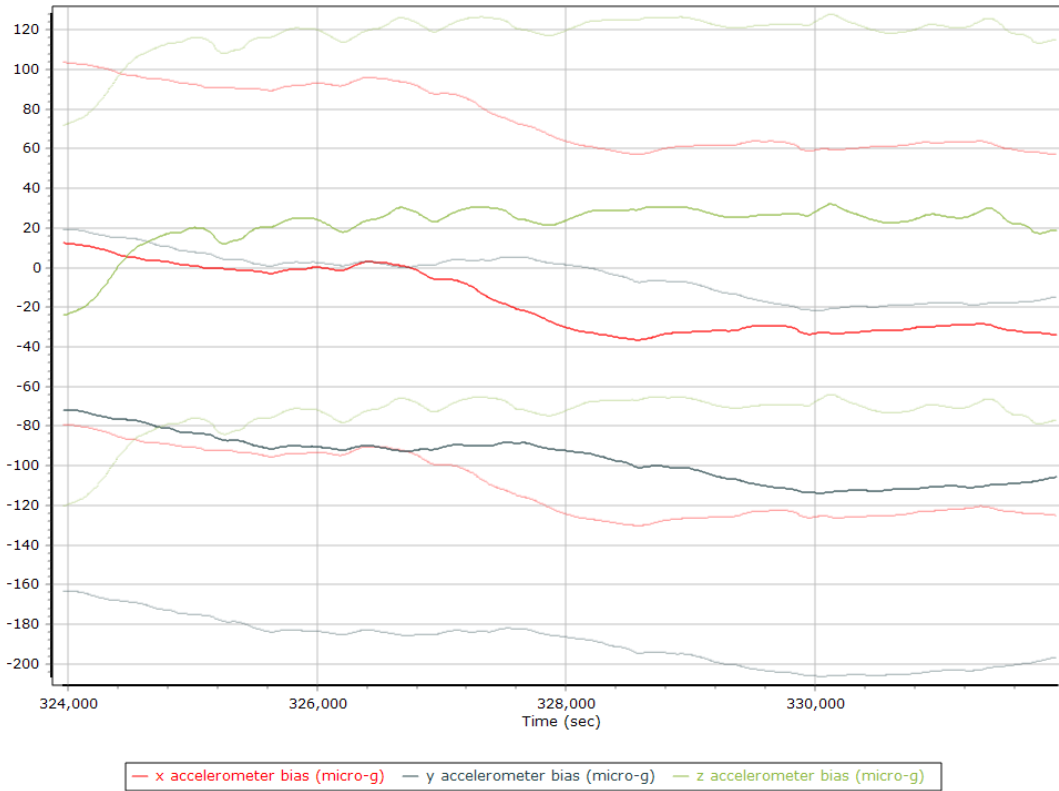
Reference-Primary GNSS Lever Arm Figure of Merit



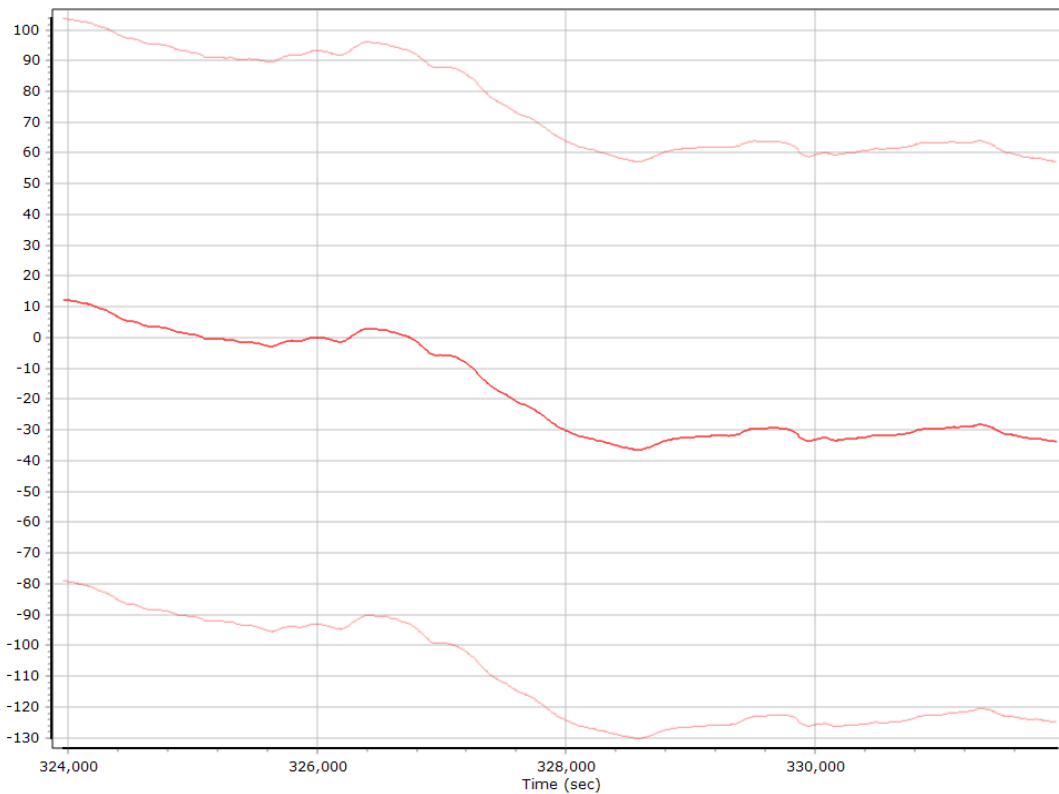
Smoothed IN-Fusion QC

Smoothed Estimated Errors, Reference Frame

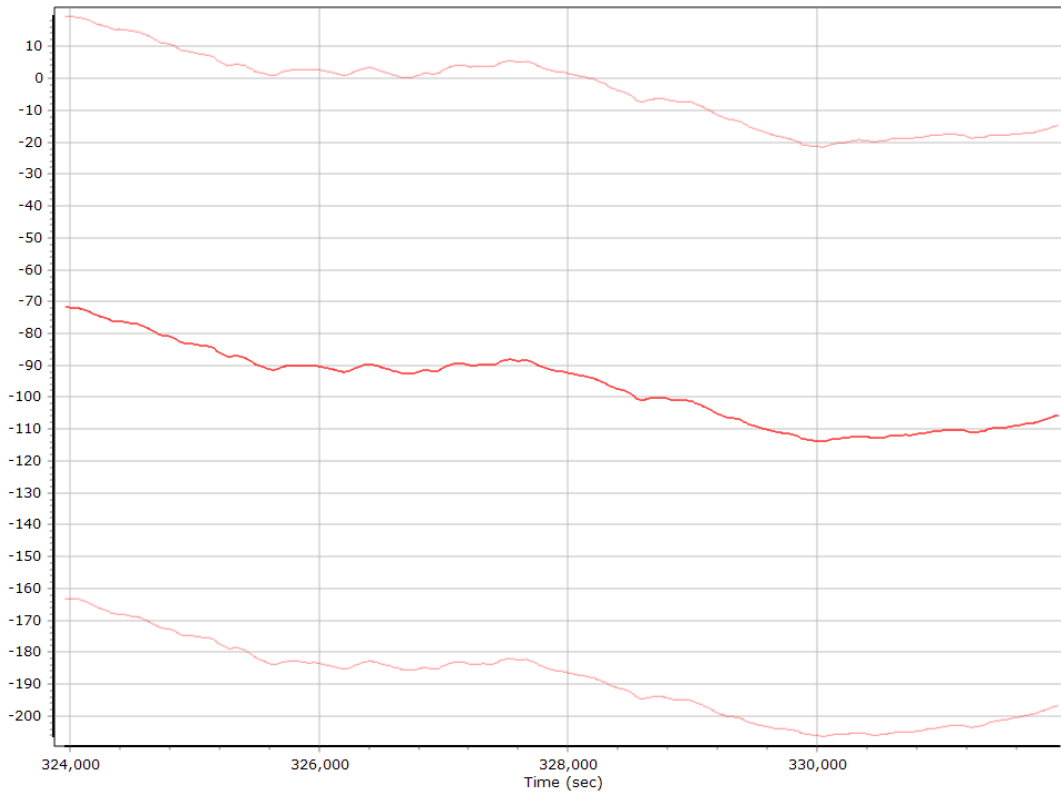
Accelerometer Bias (micro-g)



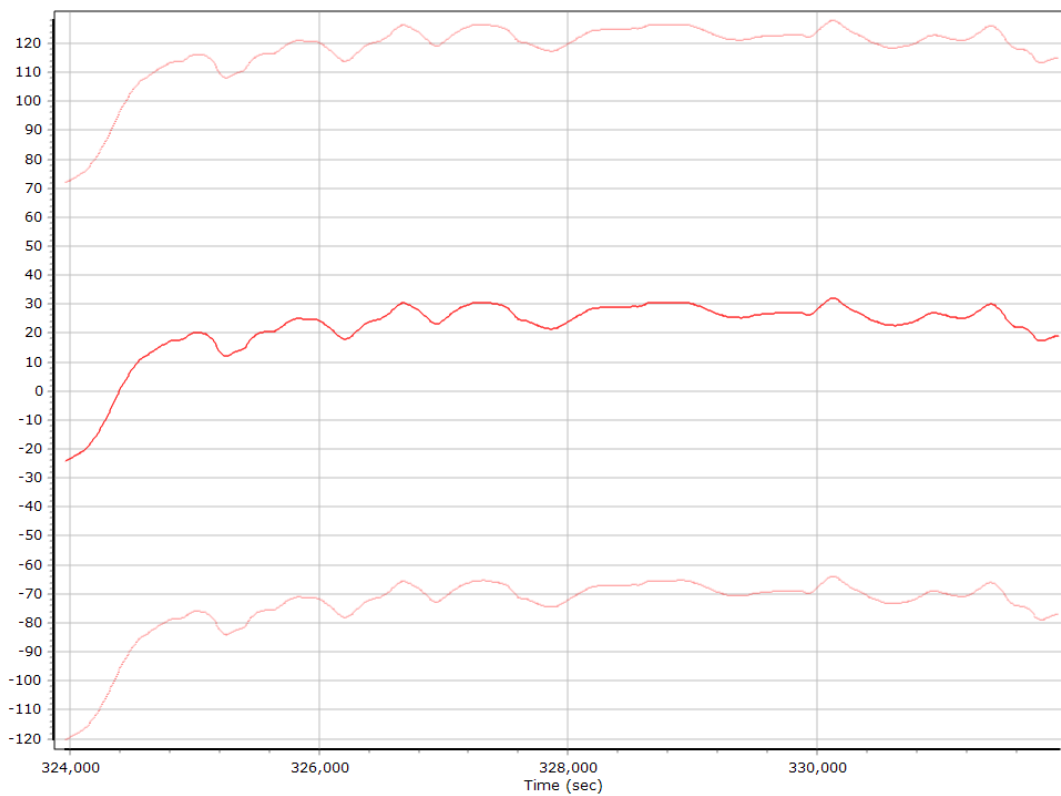
X Accelerometer Bias (micro-g)



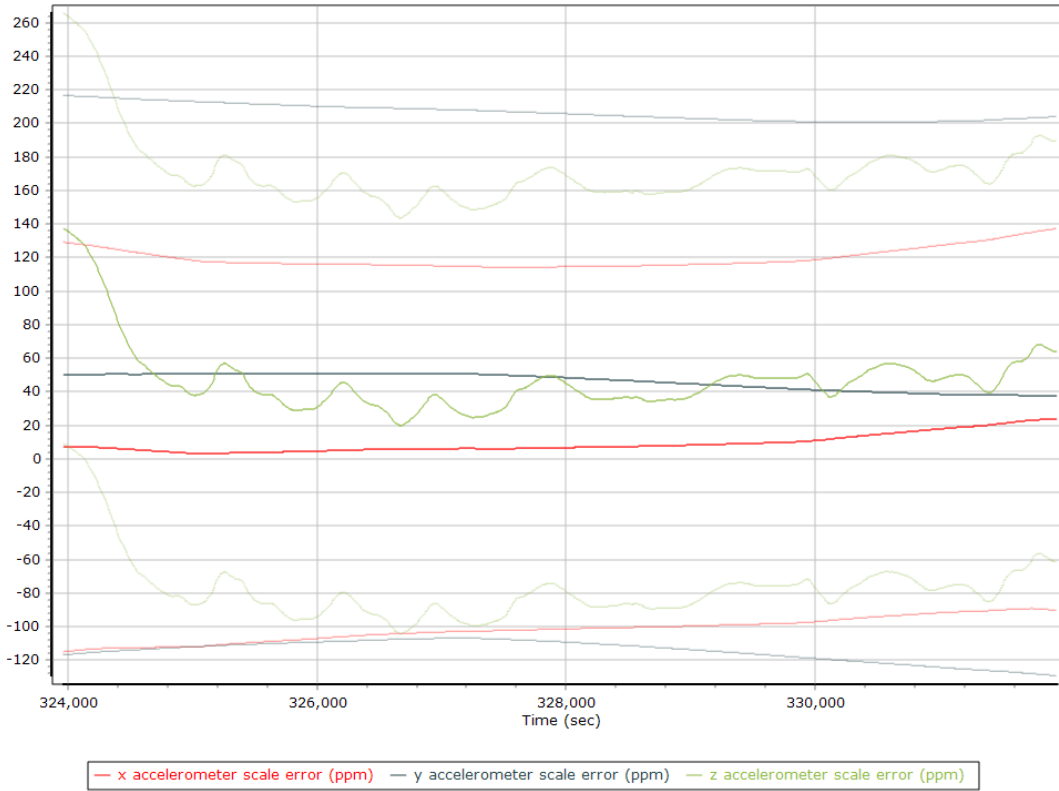
Y Accelerometer Bias (micro-g)



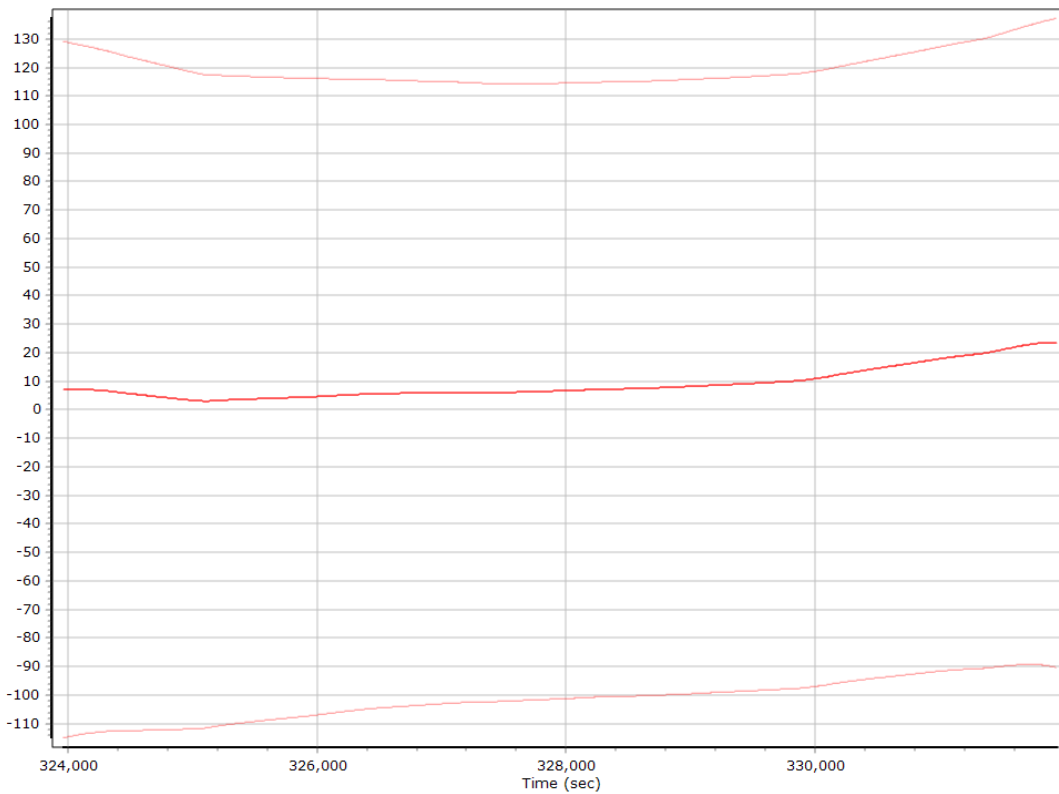
Z Accelerometer Bias (micro-g)



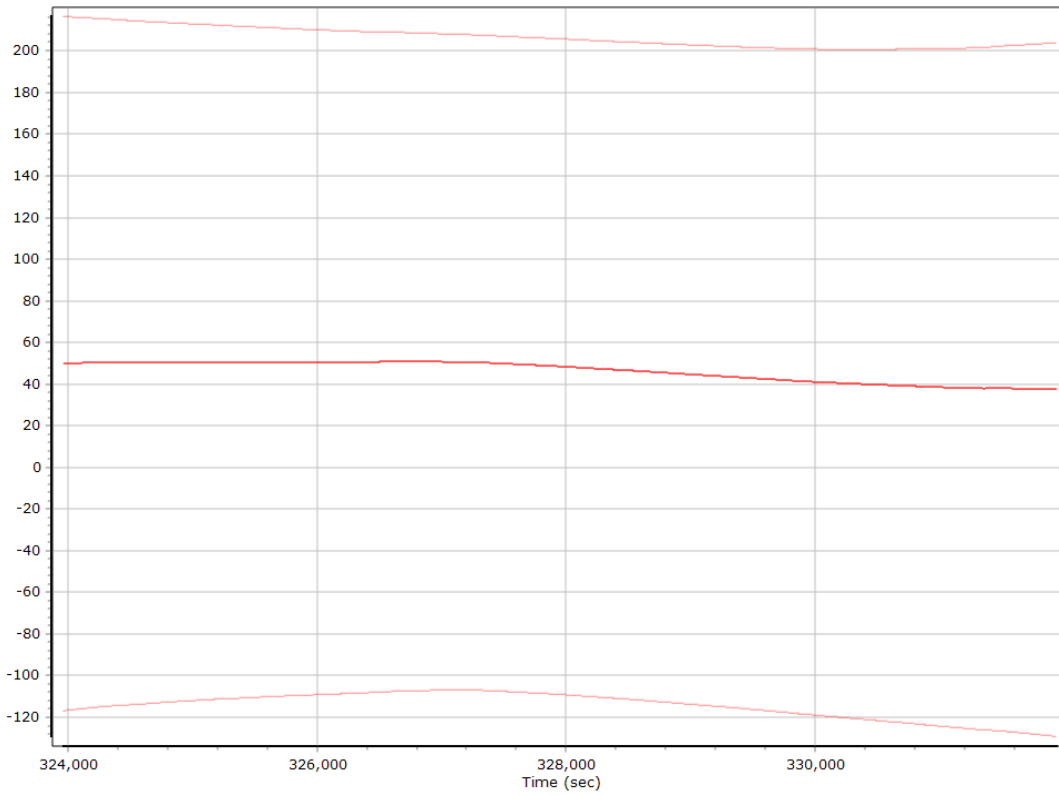
Accelerometer Scale Error (ppm)



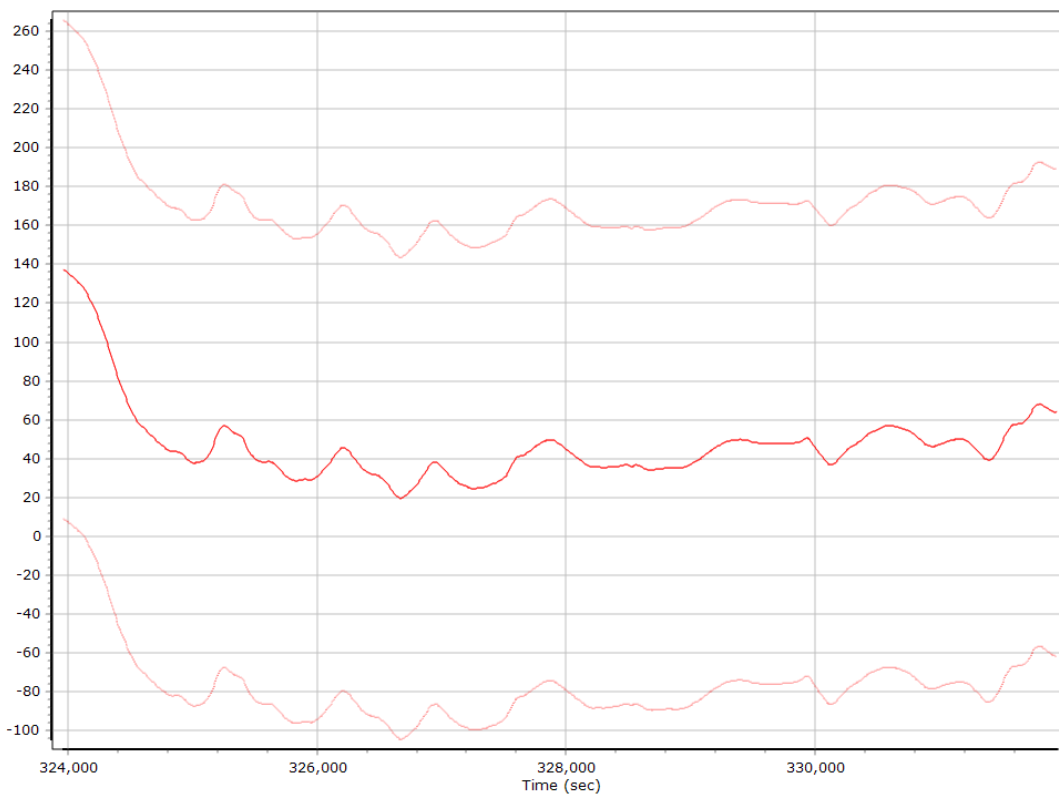
X Accelerometer Scale Error (ppm)



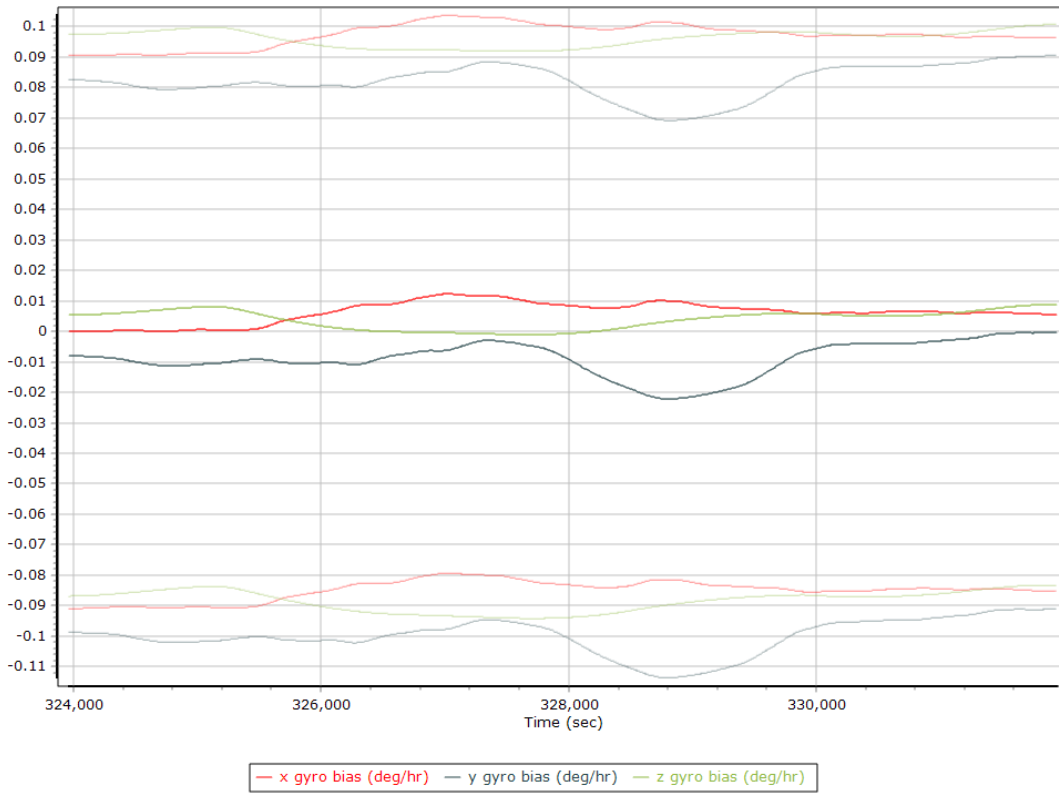
Y Accelerometer Scale Error (ppm)



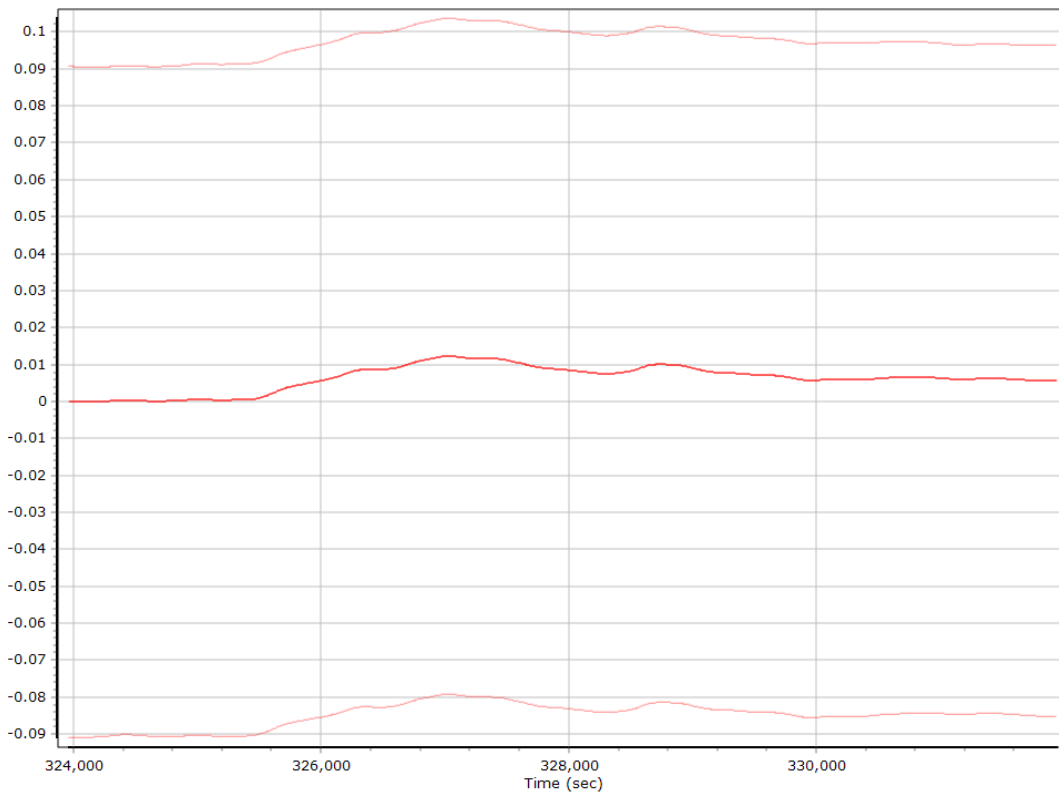
Z Accelerometer Scale Error (ppm)



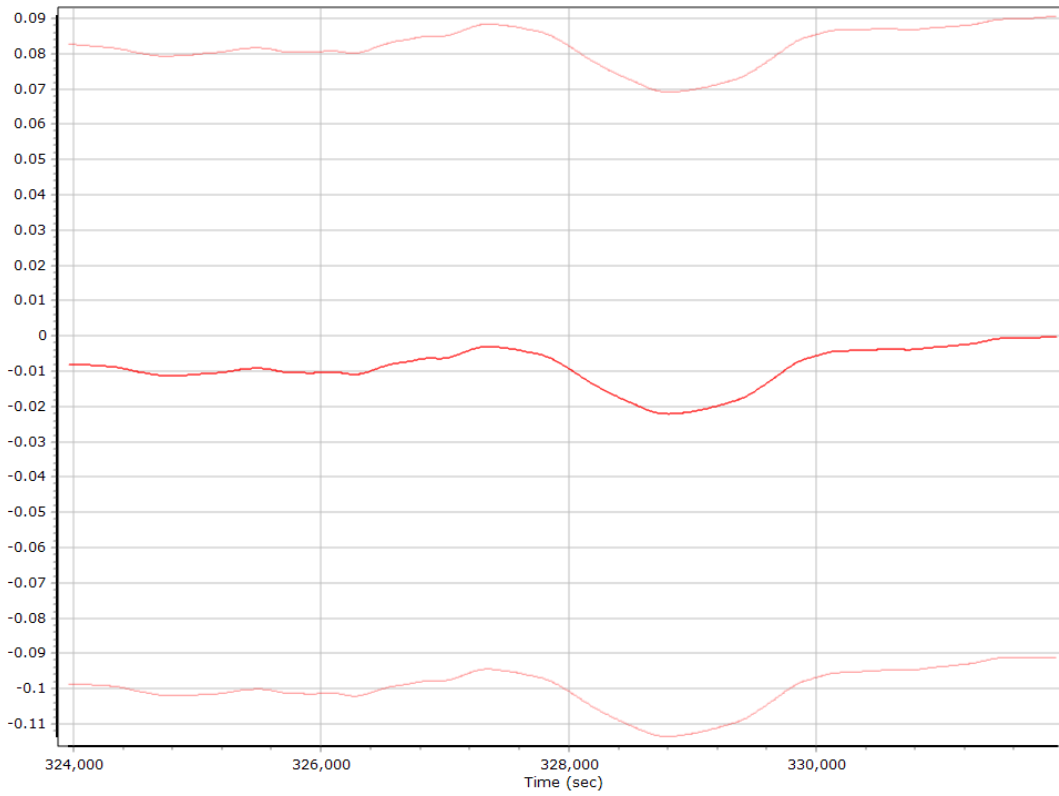
Gyro Bias (deg/h)



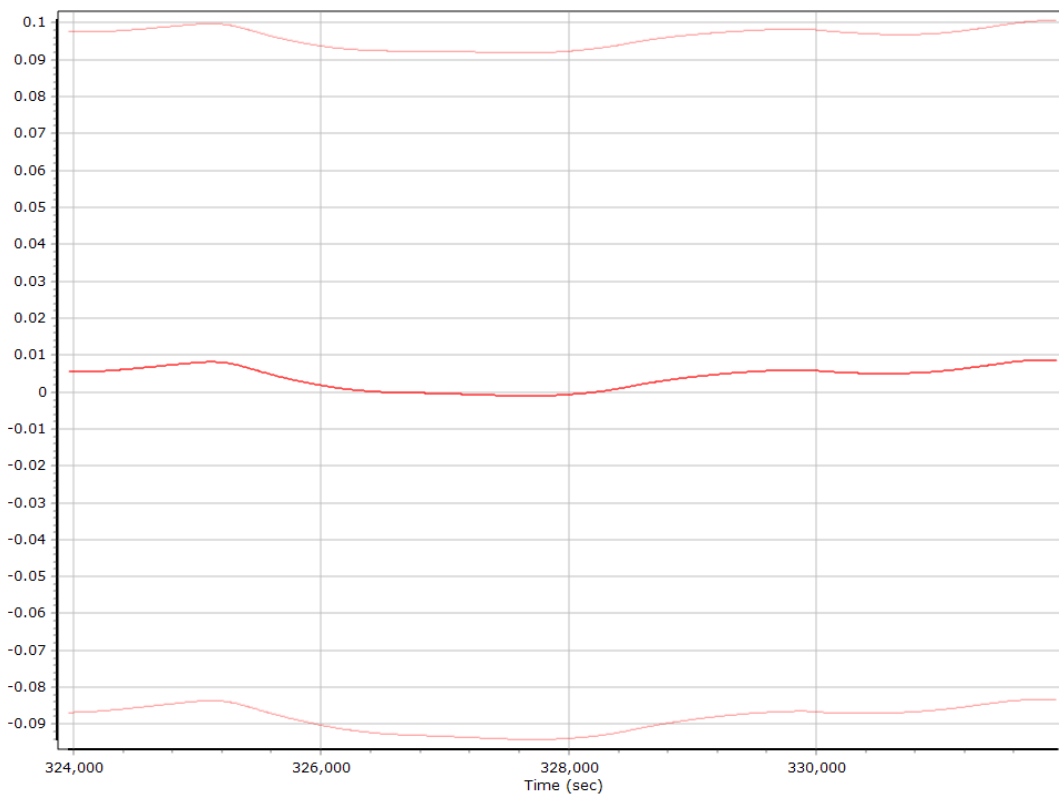
X Gyro Bias (deg/h)



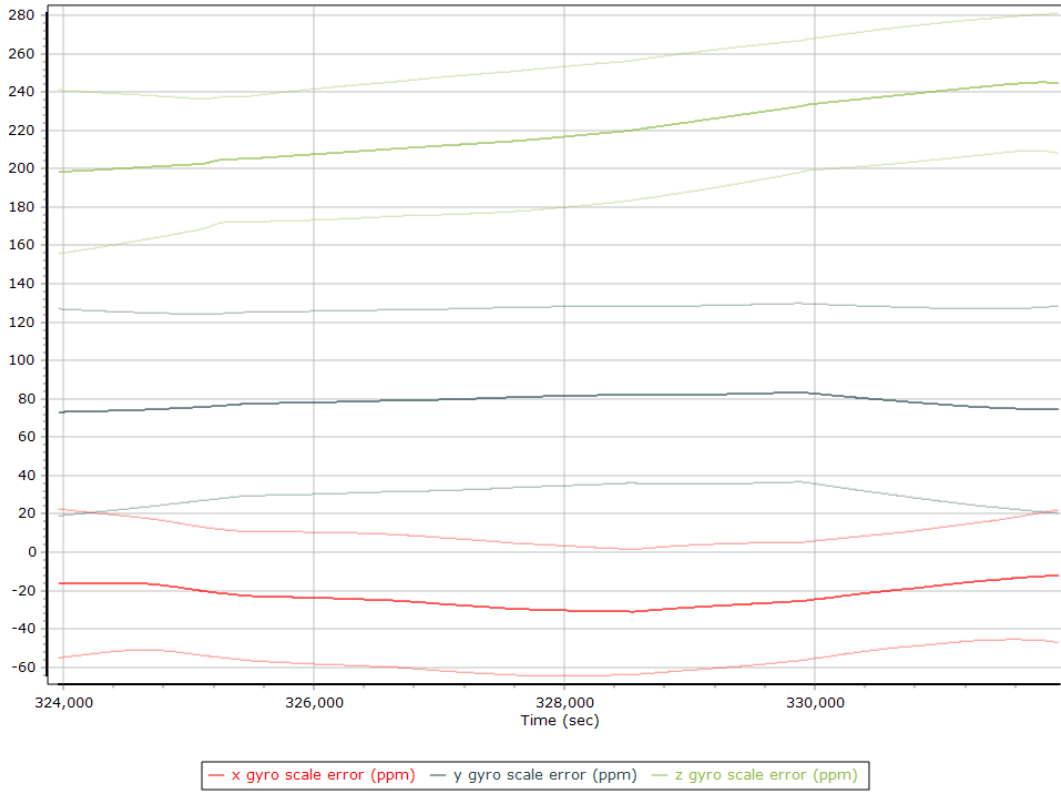
Y Gyro Bias (deg/h)



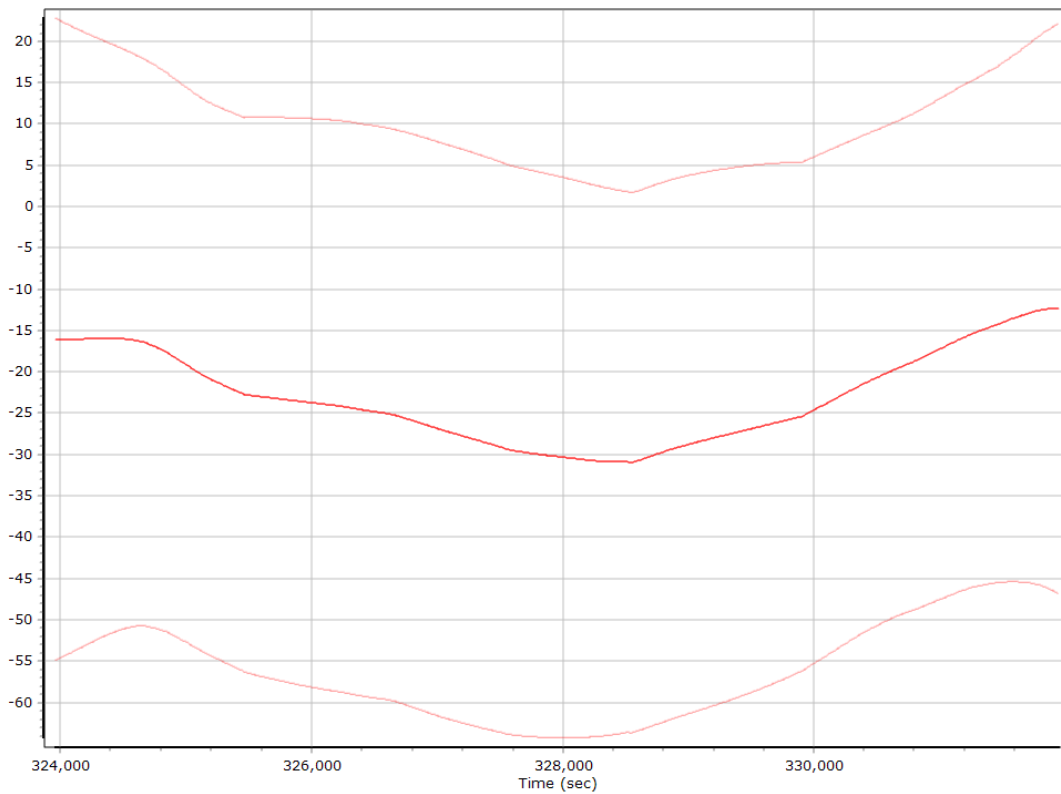
Z Gyro Bias (deg/h)



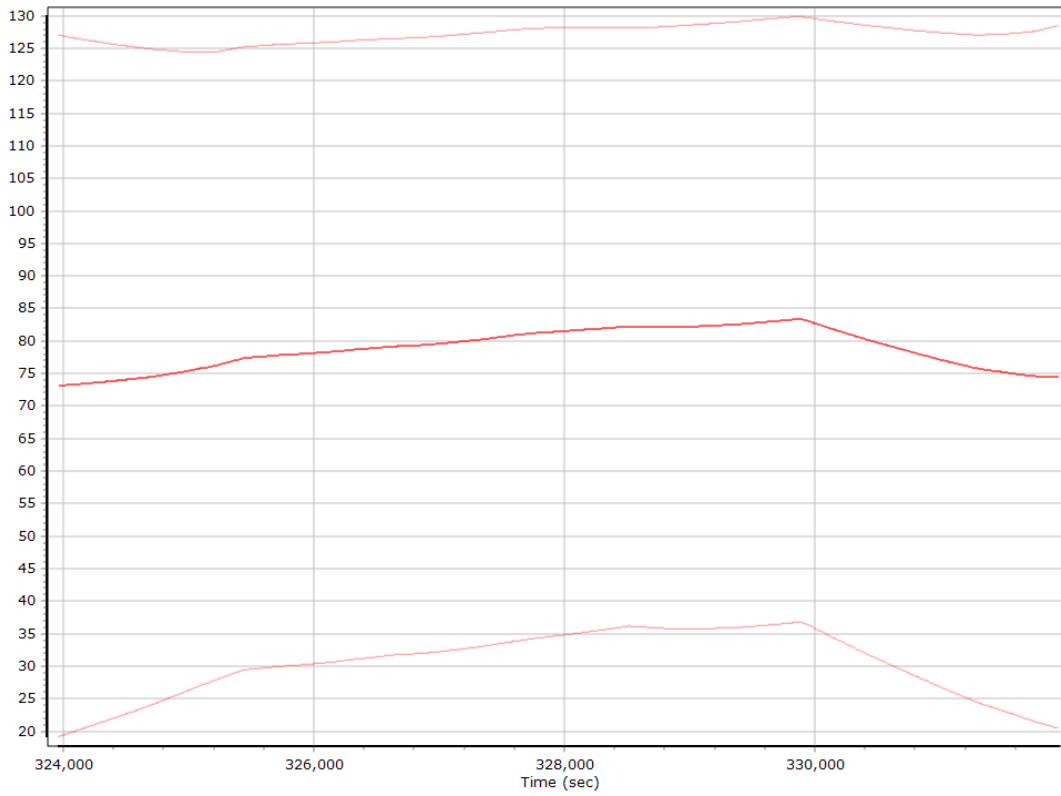
Gyro Scale Error (ppm)



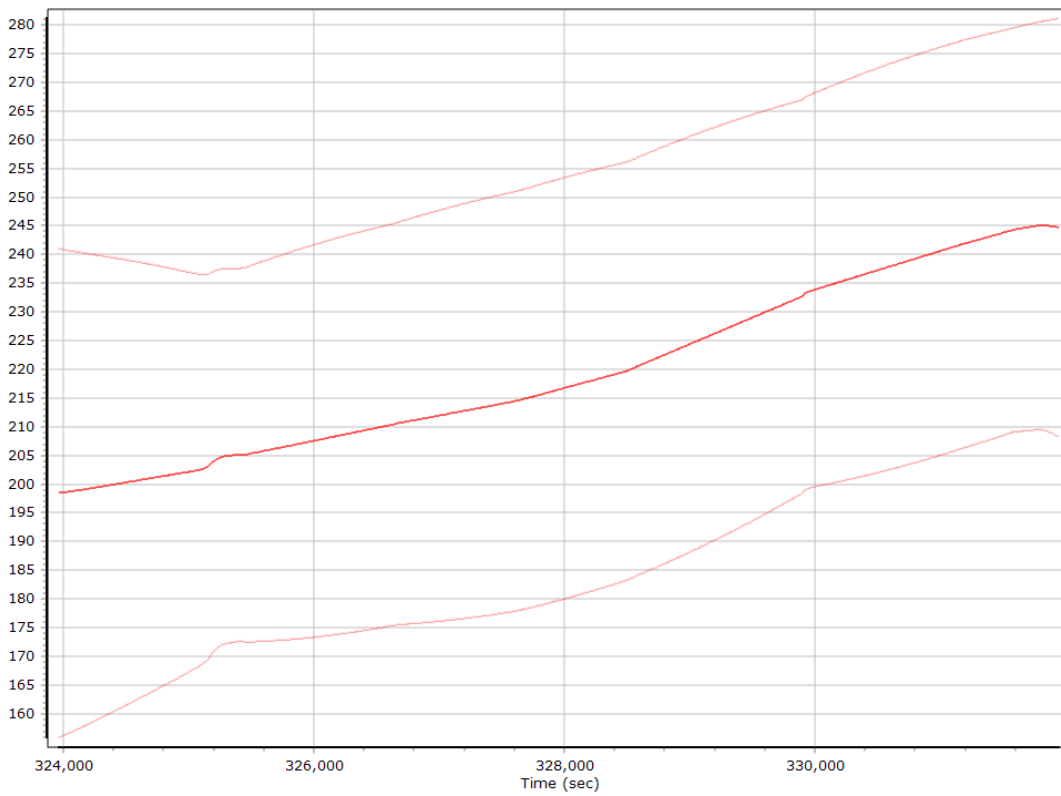
X Gyro Scale Error (ppm)



Y Gyro Scale Error (ppm)

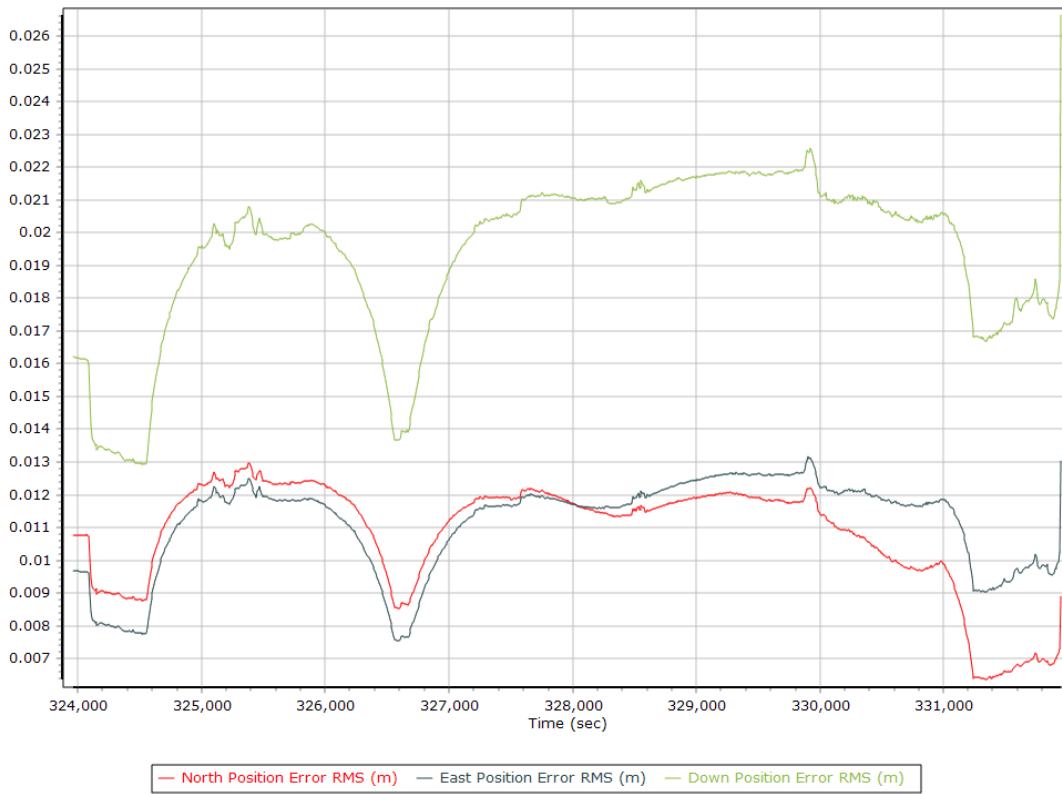


Z Gyro Scale Error (ppm)

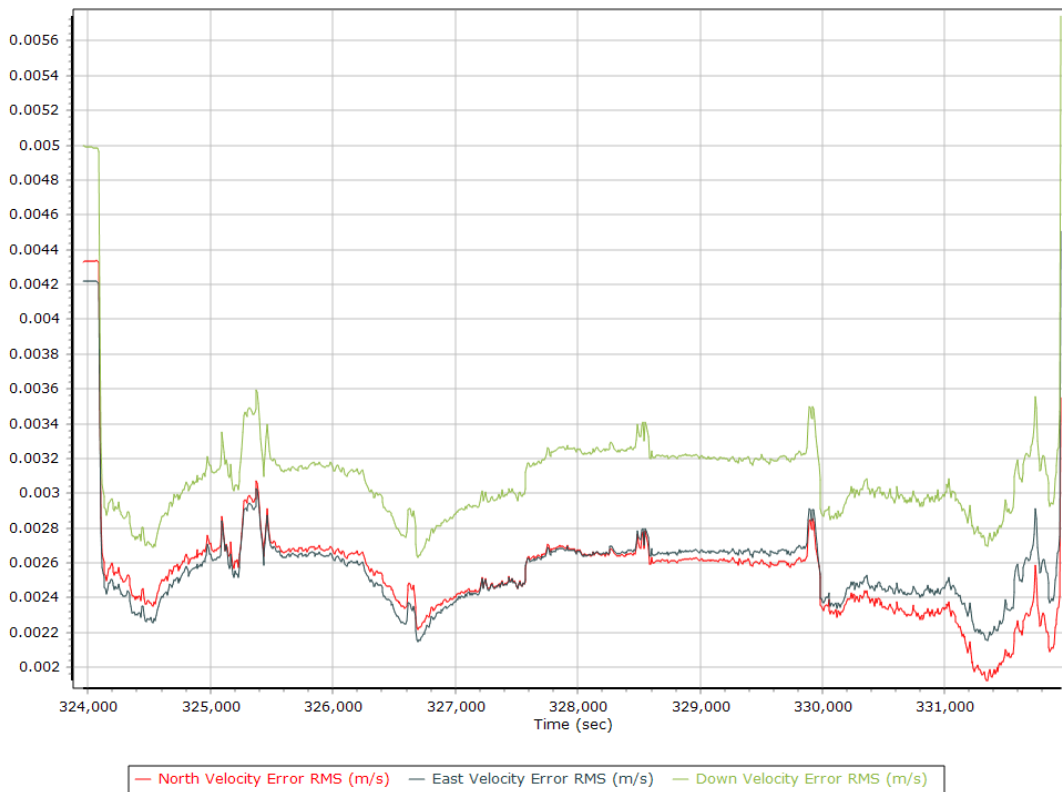


Smoothed Performance Metrics

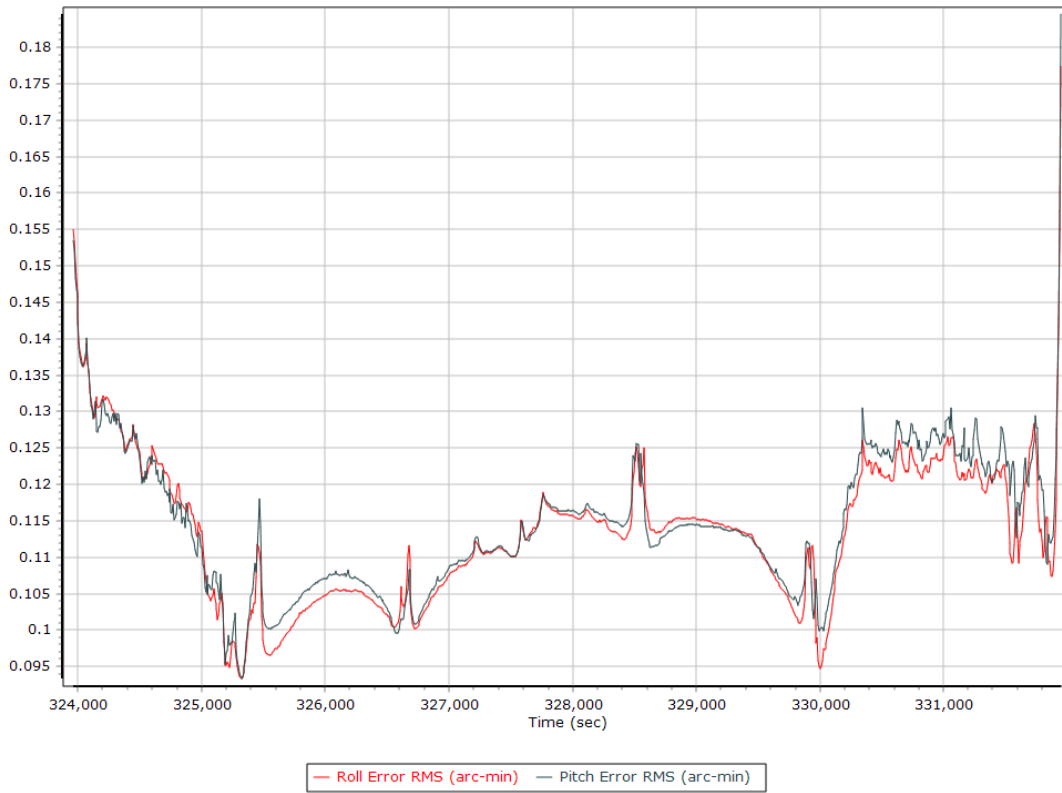
Position Error RMS (m)



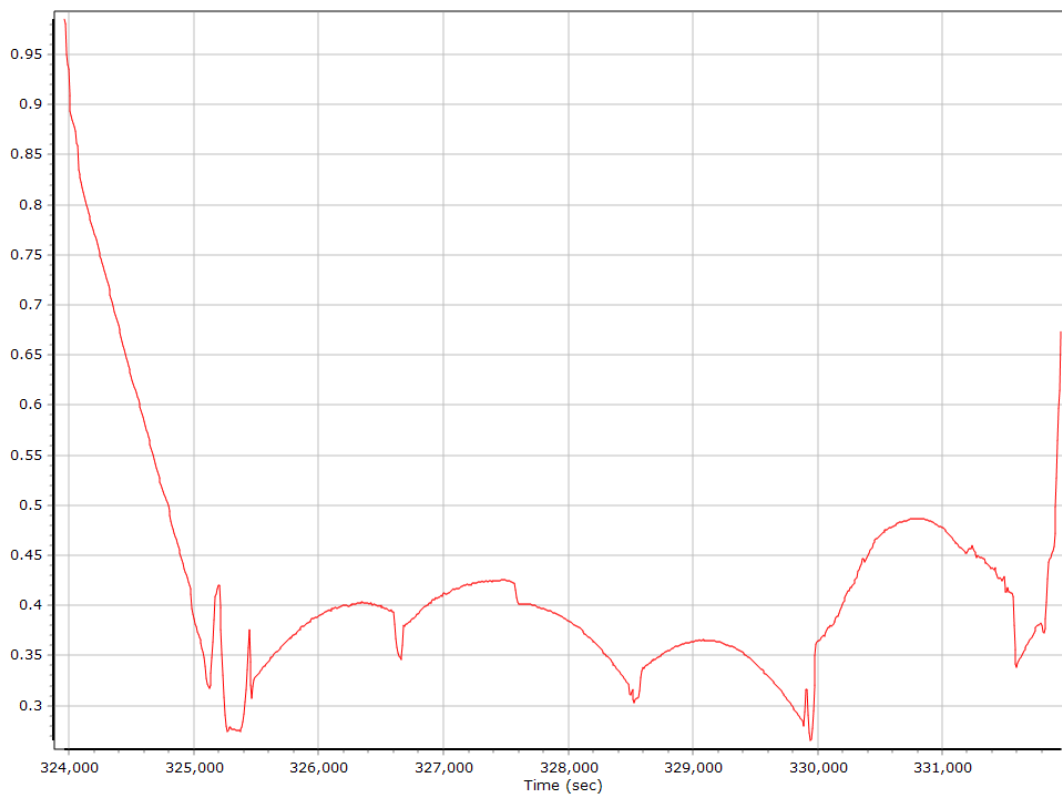
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

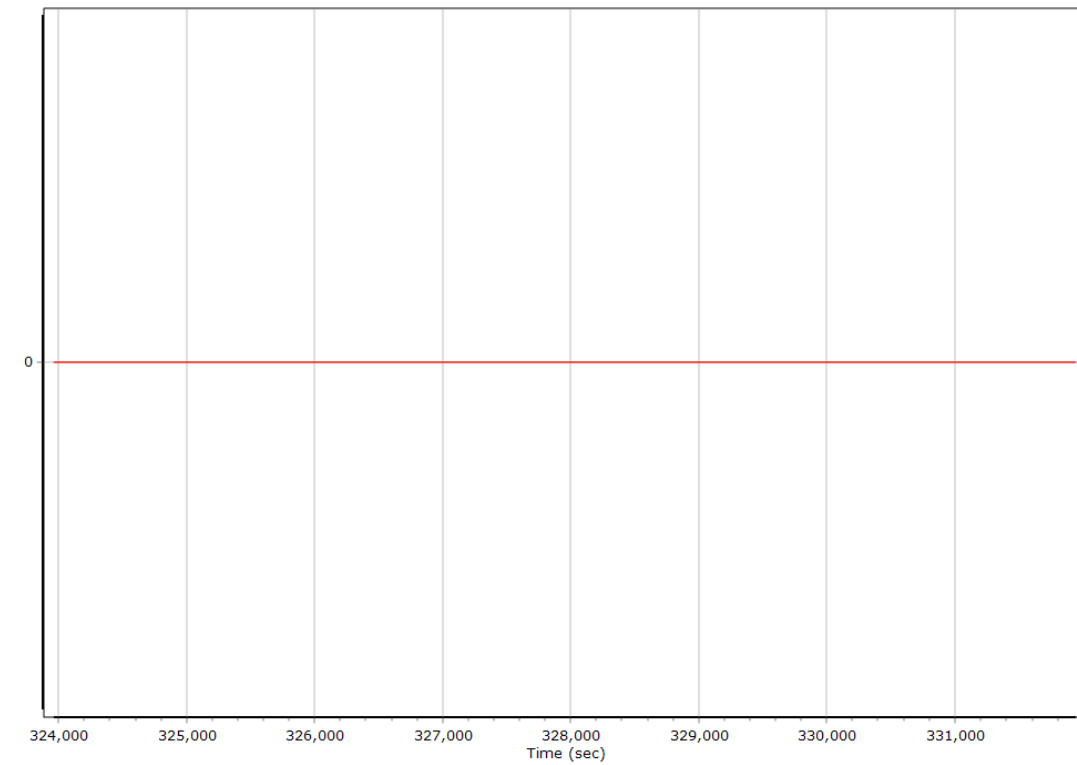


Heading Error RMS (arc-min)



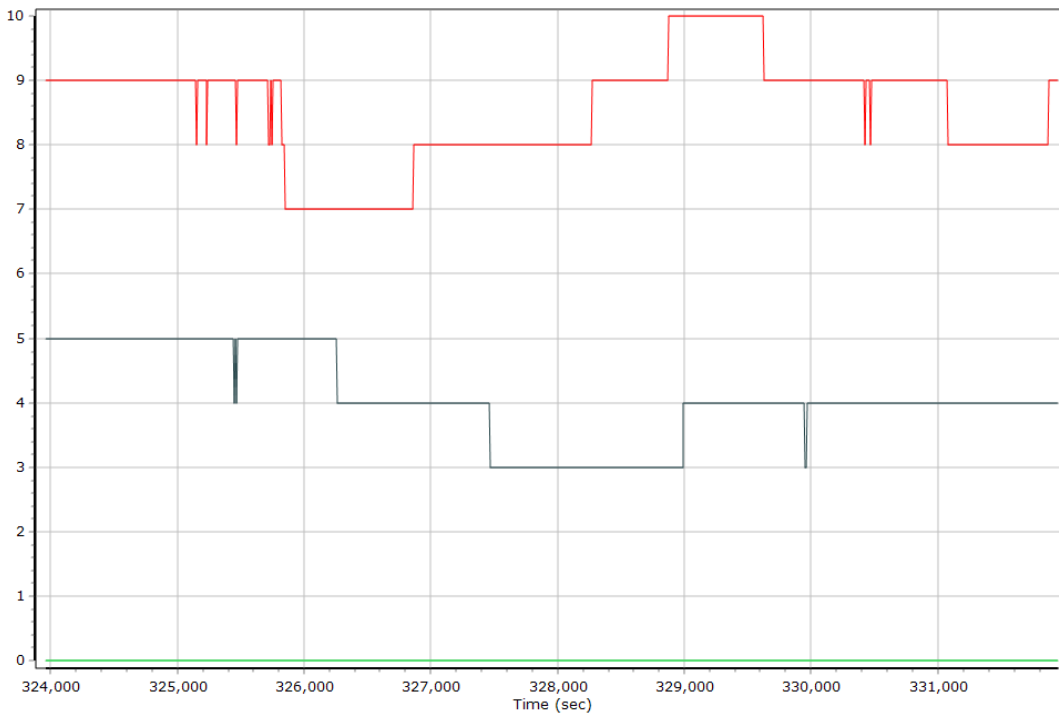
Smoothed Solution Status

Processing Mode



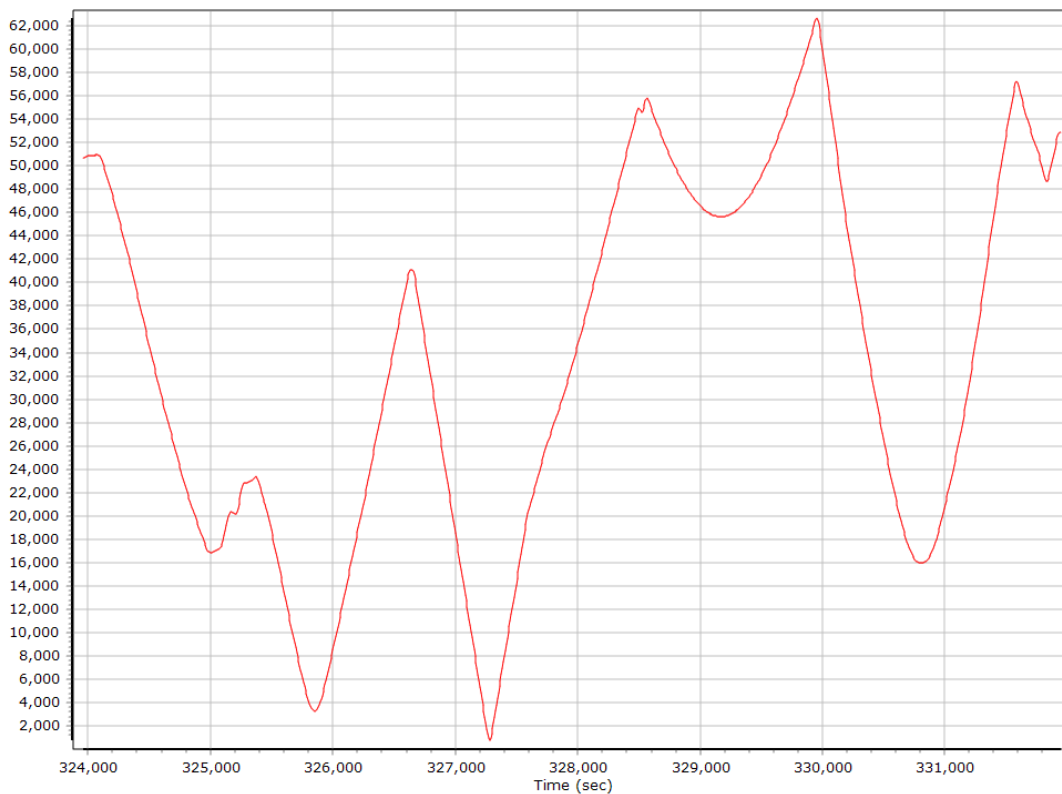
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

Number of Satellites



— Number of GPS Satellites
 — Number of GLONASS Satellites
 — Number of QZSS Satellites
— Number of BEIDOU Satellites
 — Number of GALILEO Satellites

Baseline Length



SBET IAkar Separation

