

General Information

Mission Information

Project name	11927
Processing date	2020-12-30 02:08:24
Mission date	2020-12-21 20:38:43
Mission duration	02:54:07.490
Processing mode	IN-Fusion PP-RTX

Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N10633
IMU type	57
Receiver type	BD982
Antenna type	AV39

Project File List

Rover Data Files

File name	File type
201221F2.728	POS Data
201221F2.729	POS Data
201221F2.730	POS Data
201221F2.731	POS Data
201221F2.732	POS Data
201221F2.733	POS Data
201221F2.734	POS Data
201221F2.735	POS Data
201221F2.736	POS Data
201221F2.737	POS Data
201221F2.738	POS Data
201221F2.739	POS Data
201221F2.740	POS Data
201221F2.741	POS Data
201221F2.742	POS Data
201221F2.743	POS Data
201221F2.744	POS Data
201221F2.745	POS Data
201221F2.746	POS Data
201221F2.747	POS Data
201221F2.748	POS Data
201221F2.749	POS Data

Input Files

File Name	File Type
Ephm3560.20g	GLONASS Broadcast Ephemeris
Ephm3560.20n	GPS Broadcast Ephemeris

Output Files

Filename	File type
sbet_11927.out	SBET Trajectory File
eo_11927.txt	ZI Imaging POSEO Output
sbet_11927_NAD83(2011).out	Custom Smoothed BET Export Output
lever_arm_values.txt	ReferenceToPrimaryLeverArms Export Output

Rover Data Summary

First raw data file	201221F2.728		
Last raw data file	201221F2.749		
Start GPS week	2137		
Start time	160722.905 (12/21/2020 20:38:42)		
End time	171170.395 (12/21/2020 23:32:50)		
Start of fine alignment	161095.002 (12/21/2020 20:44:55)		
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	180.000
Reference to Primary GNSS lever arm (m)	-0.485	-0.379	-1.087
Reference to Primary GNSS lever arm std dev (m)	-1.000		
Aircraft to Reference mounting angles (deg)	0.000	0.000	0.000

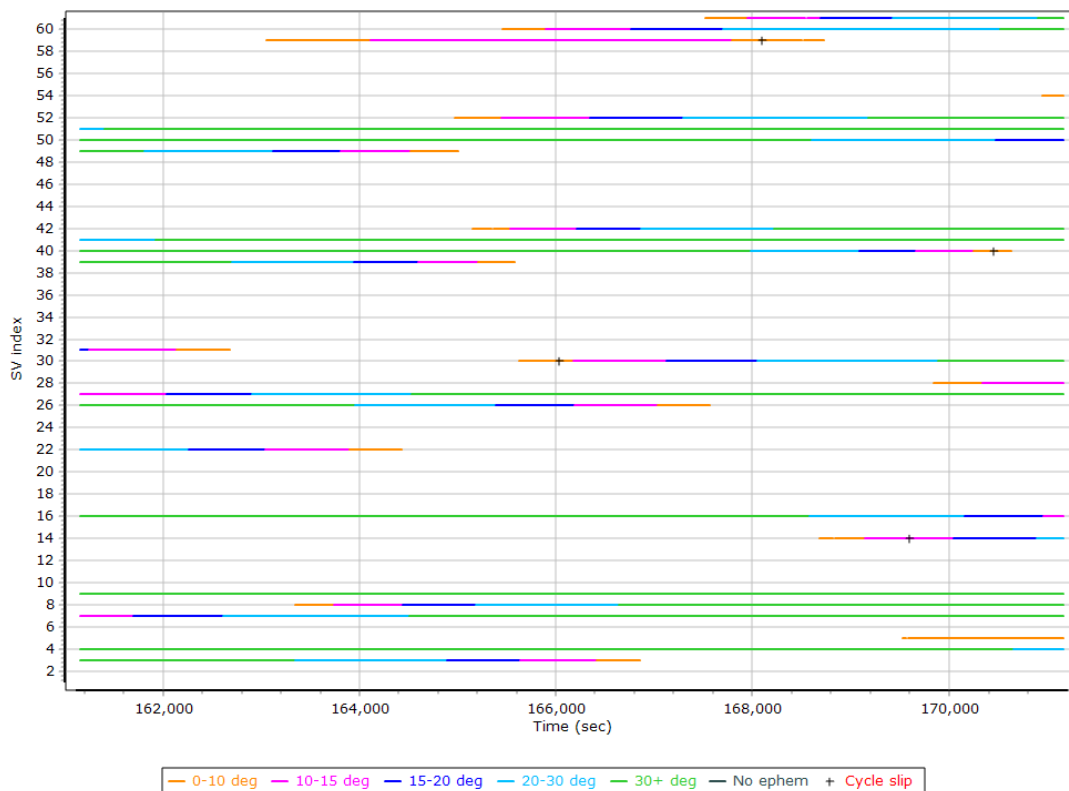
Rover Data QC

Raw IMU Import QC Summary

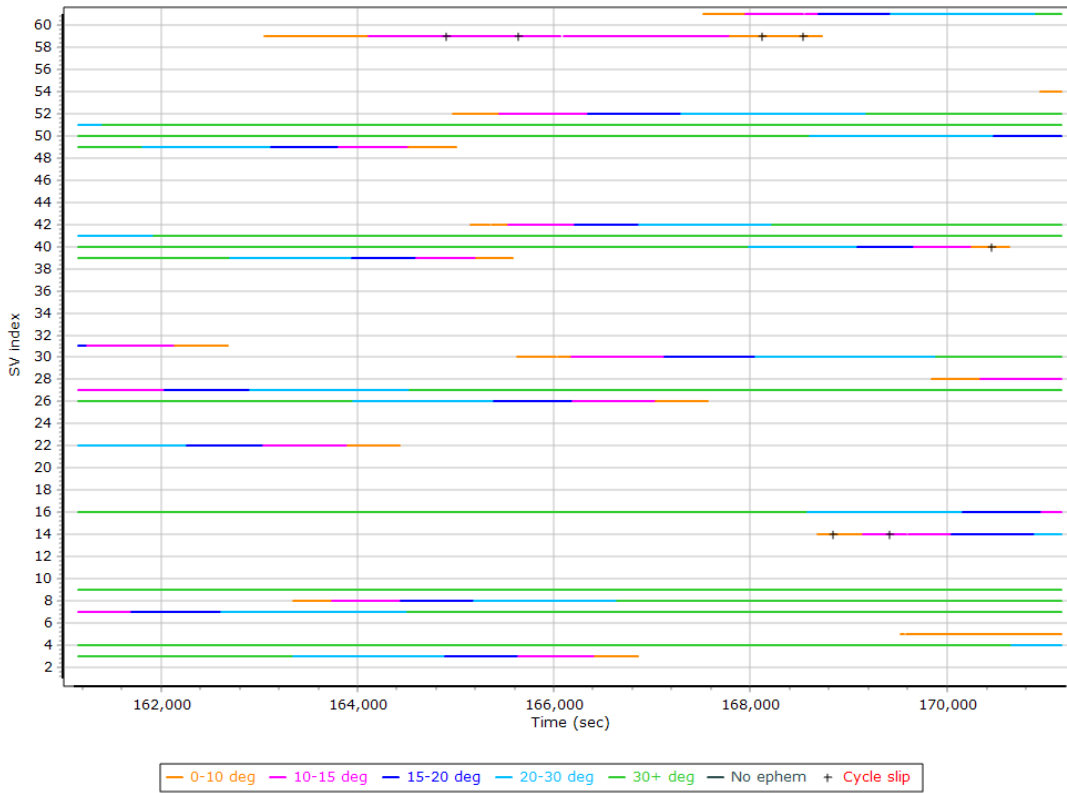
IMU data input file	imu_11927.dat
IMU data check log file	imudt_11927.log
IMU Records Processed	2089129
Termination Status	Warnings
IMU Anomalies	1
IMU Failure Messages	
160722.905 : WARNING : Gap of 160698.9157 seconds in CHECKDT input data	

Primary Observables & Satellite Data

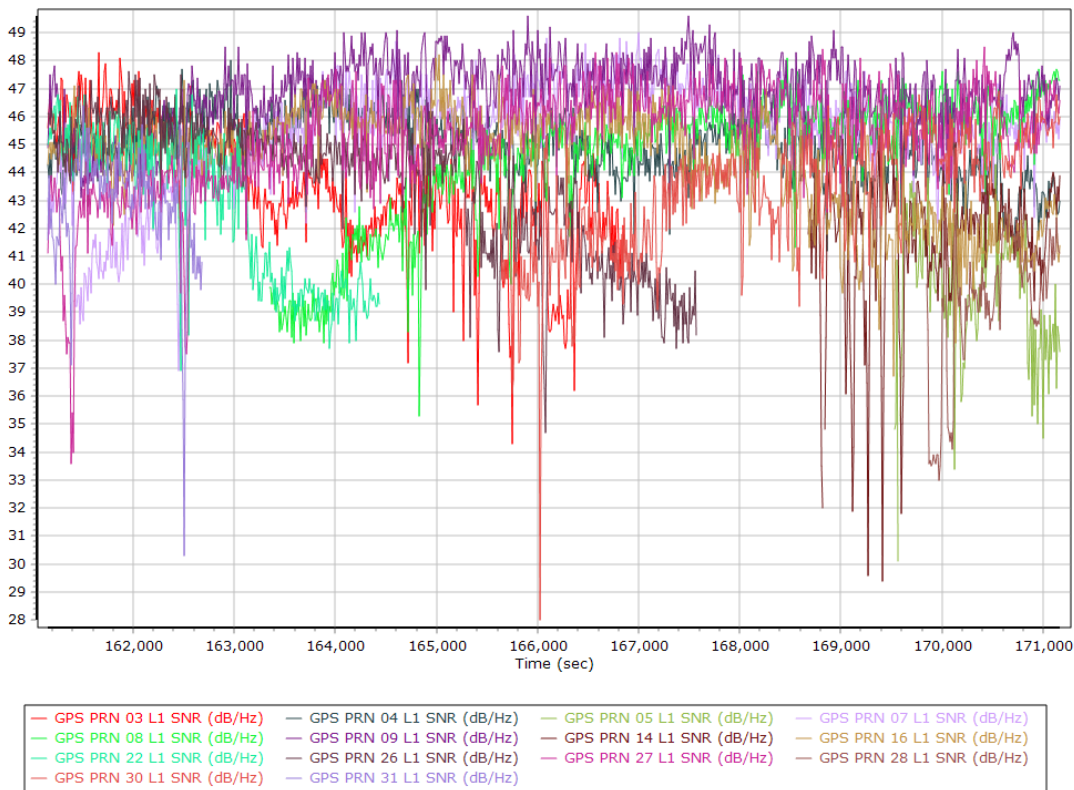
L1 Satellite Lock/Elevation



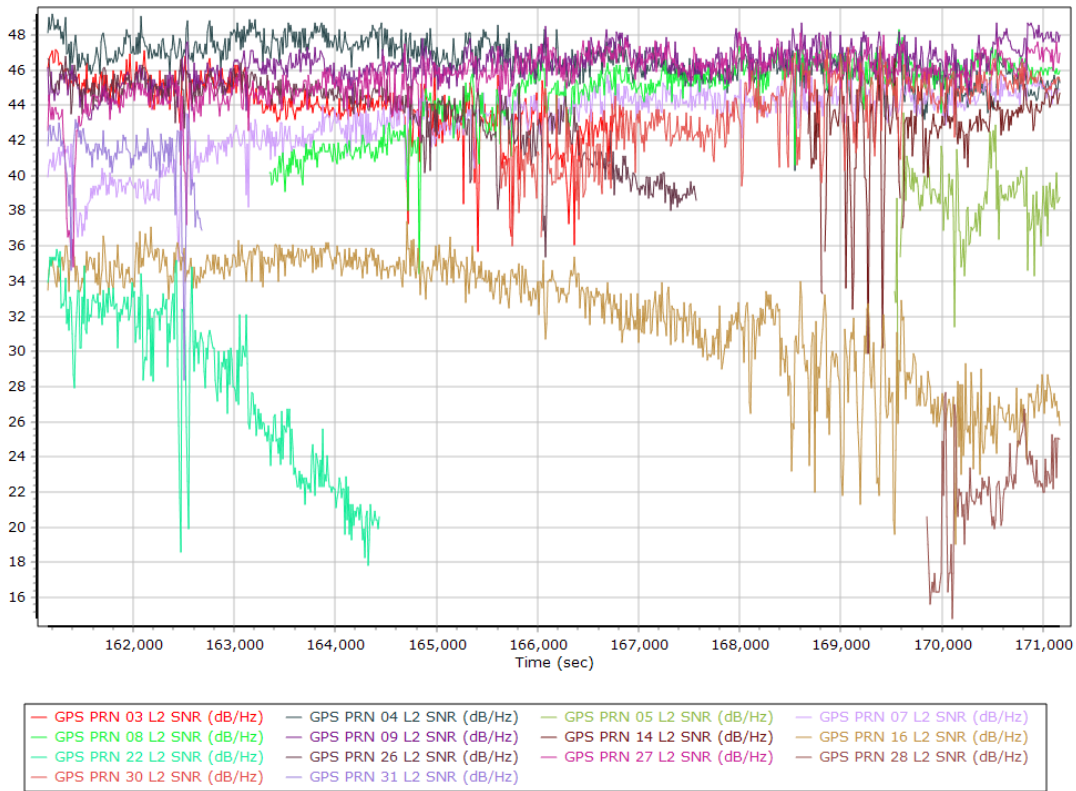
L2 Satellite Lock/Elevation



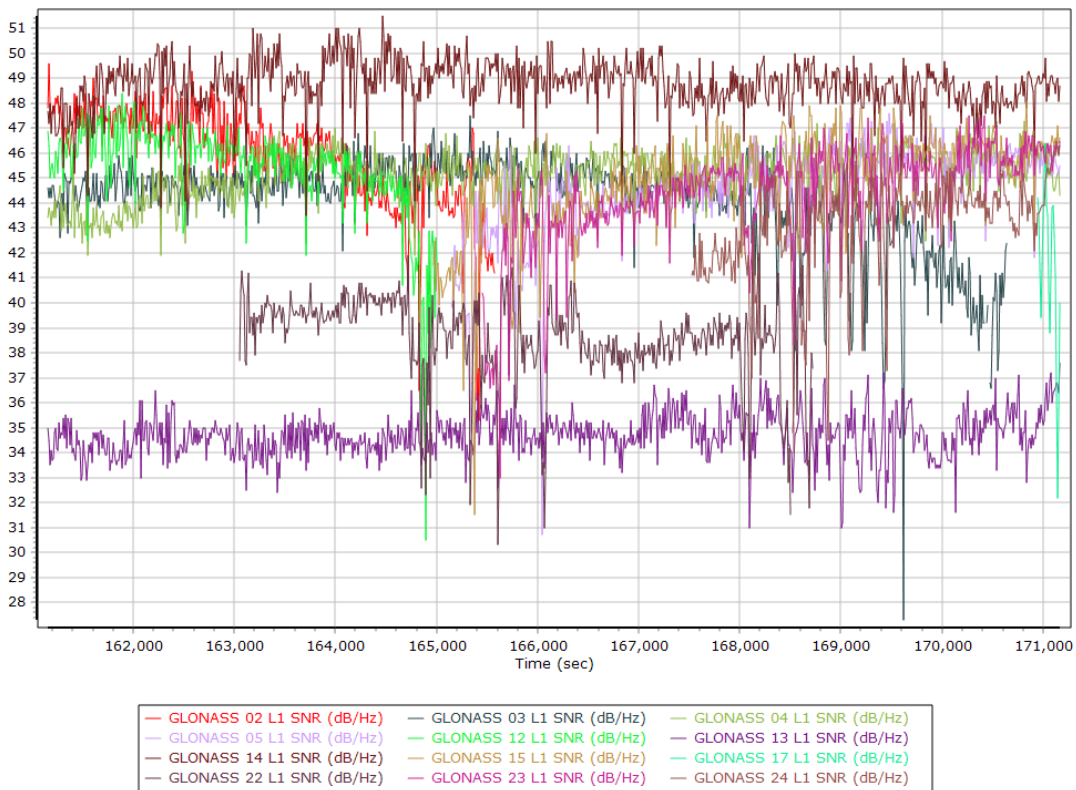
GPS L1 SNR



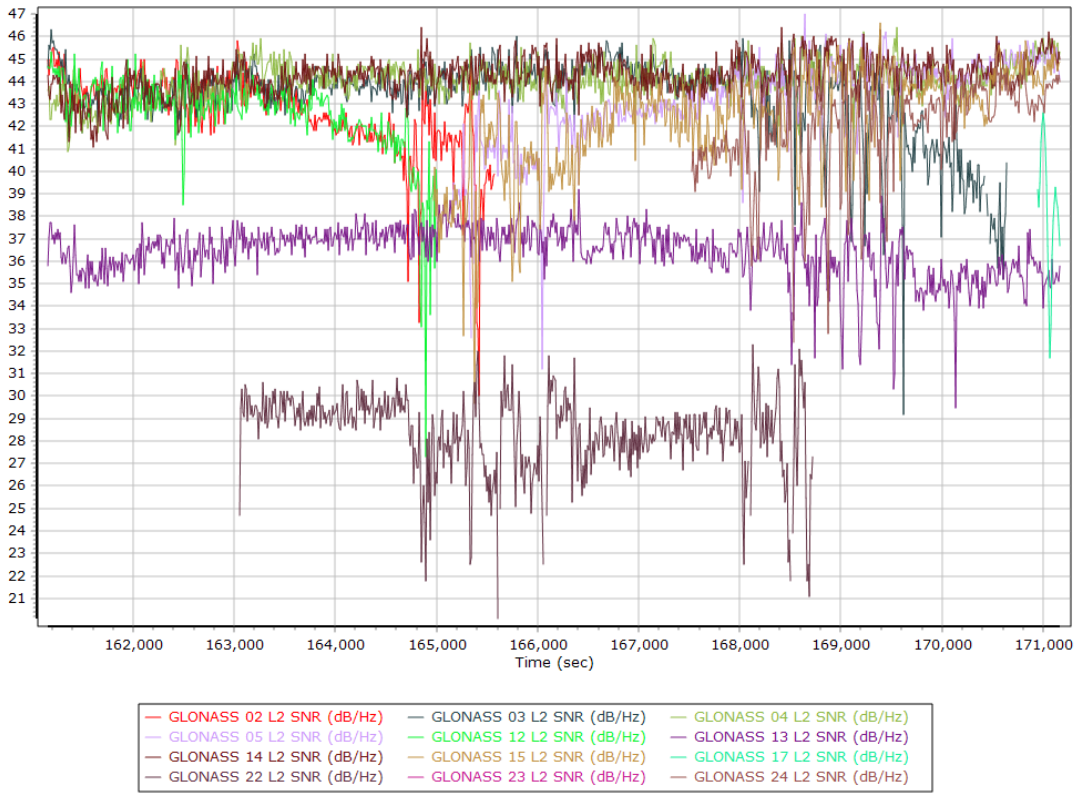
GPS L2 SNR



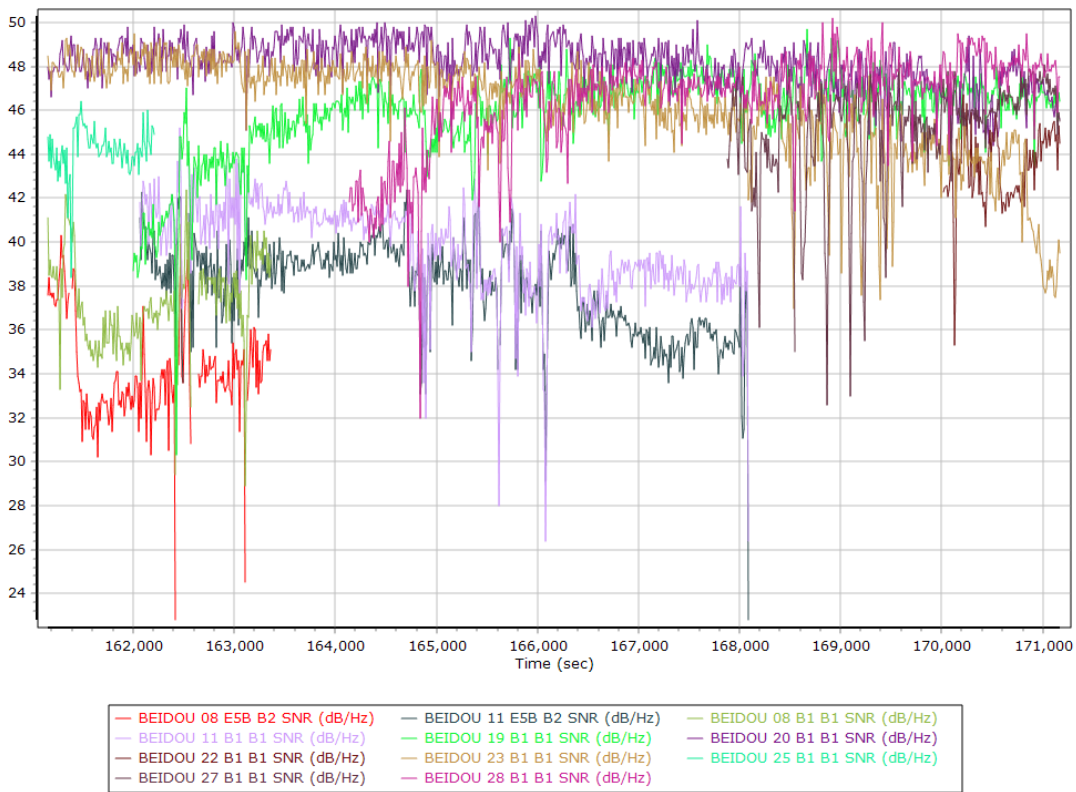
GLONASS L1 SNR



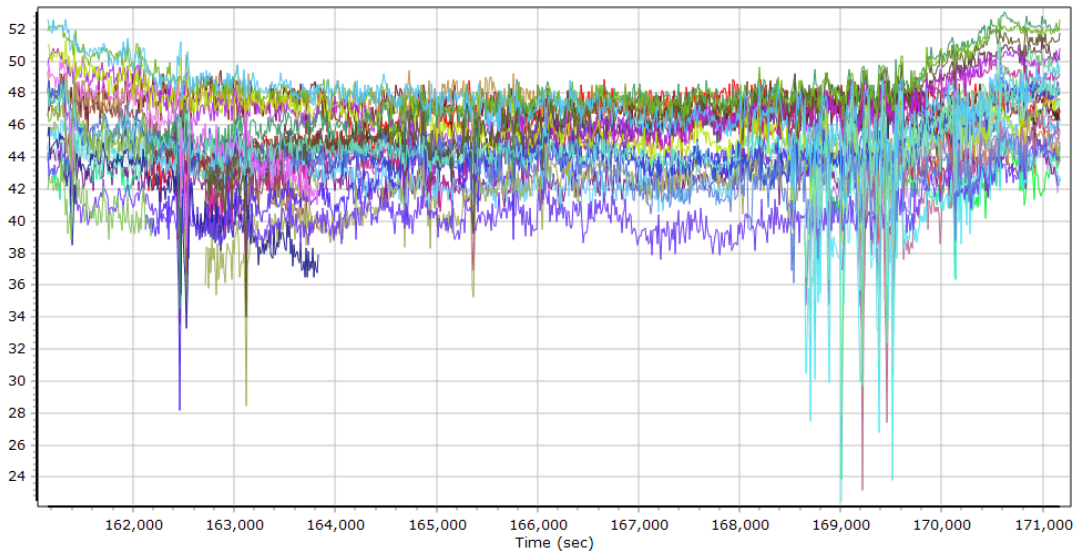
GLONASS L2 SNR



BEIDOU SNR



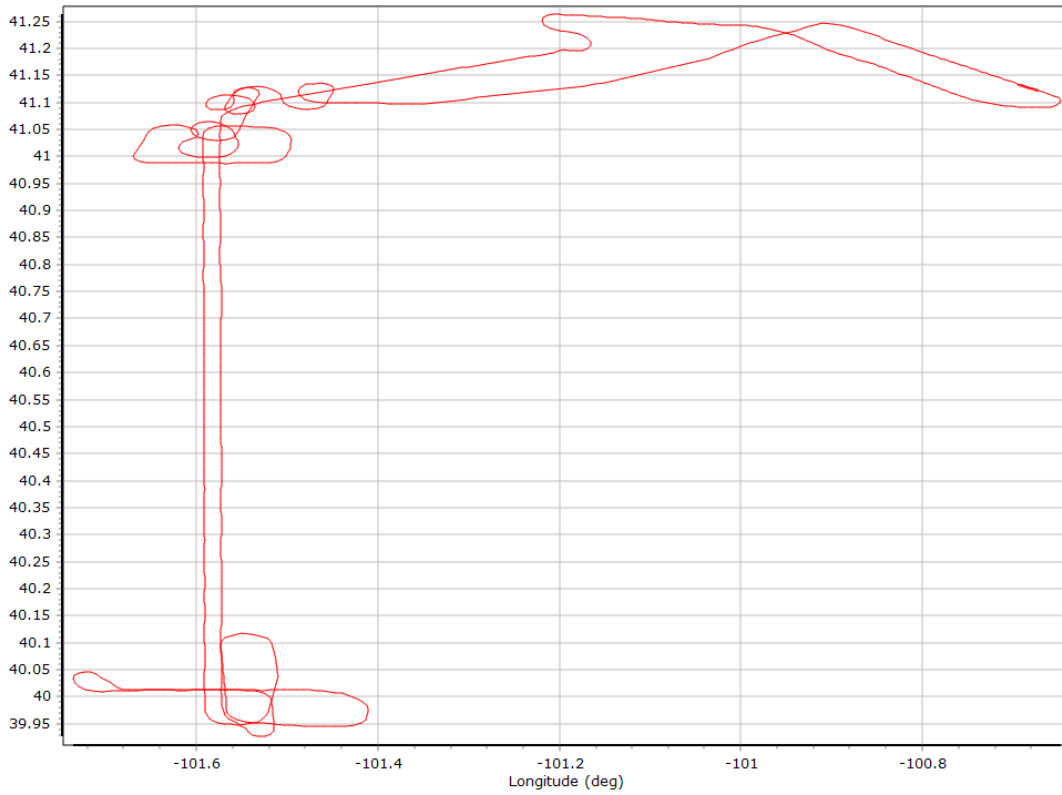
GALILEO SNR



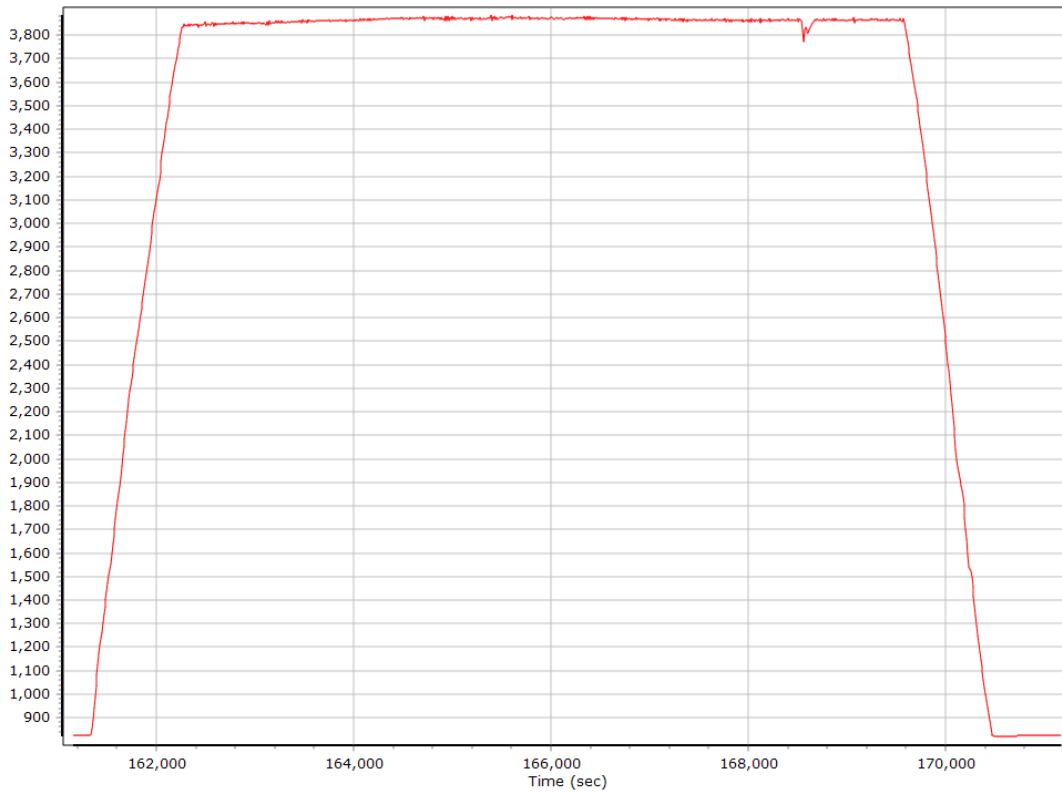
- | | |
|--|--|
| — GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 15 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 19 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 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 01 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 07 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 15 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 19 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 21 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 27 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 30 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 01 E5B BPSK10_PD SNR (dB/Hz) | — GALILEO 04 E5B BPSK10_PD SNR (dB/Hz) |

Smoothed Trajectory Information

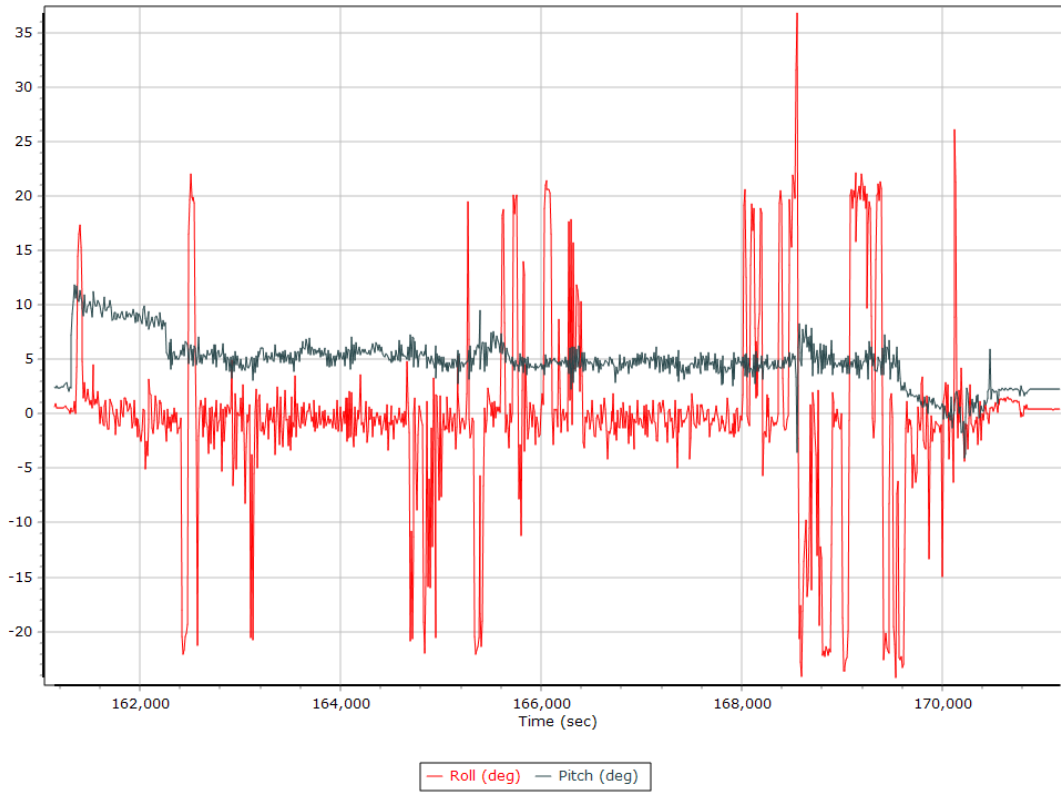
Top View



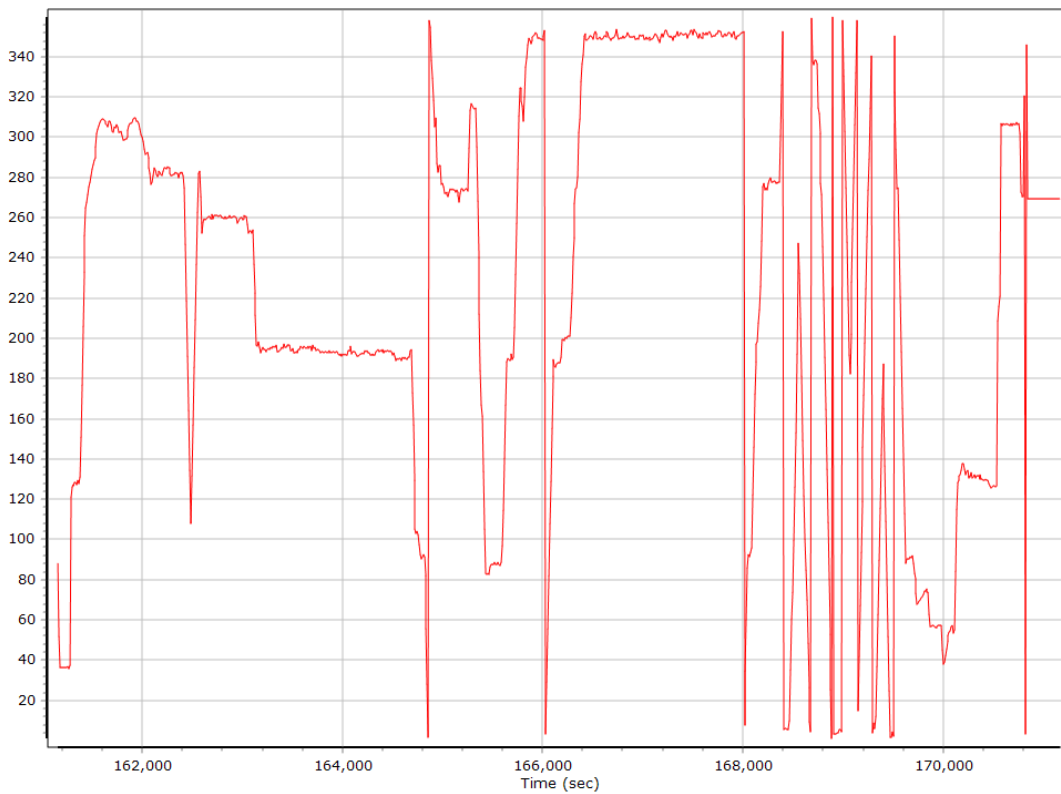
Altitude



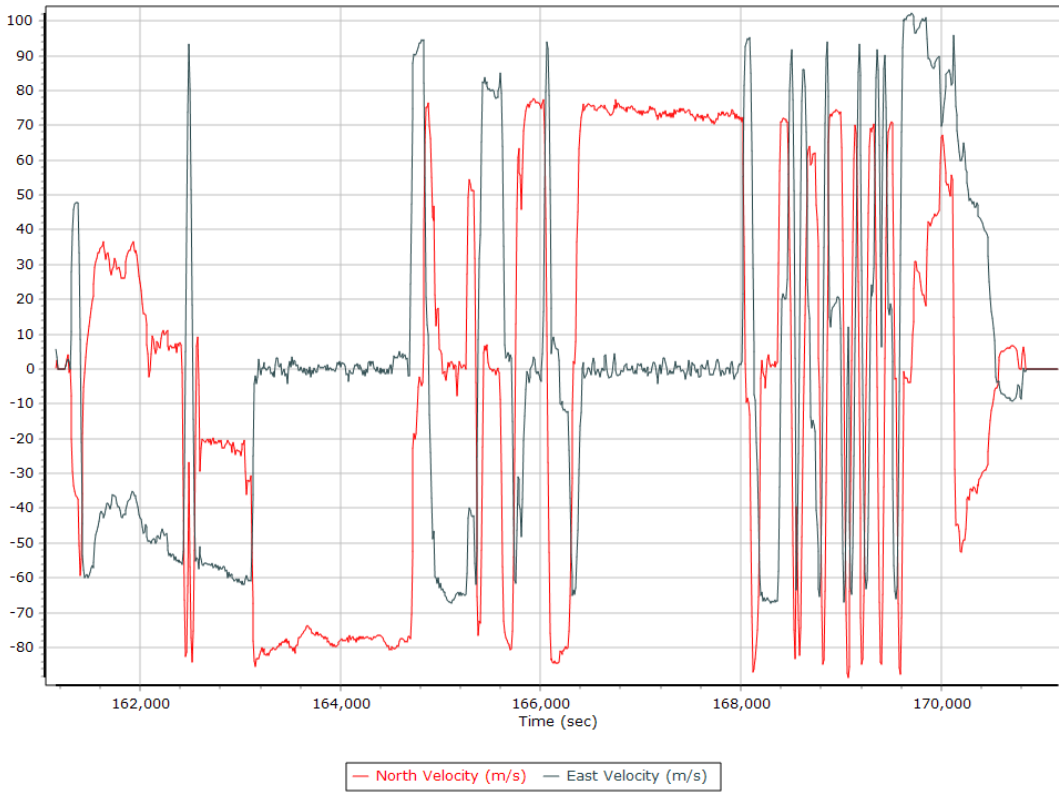
Roll/Pitch



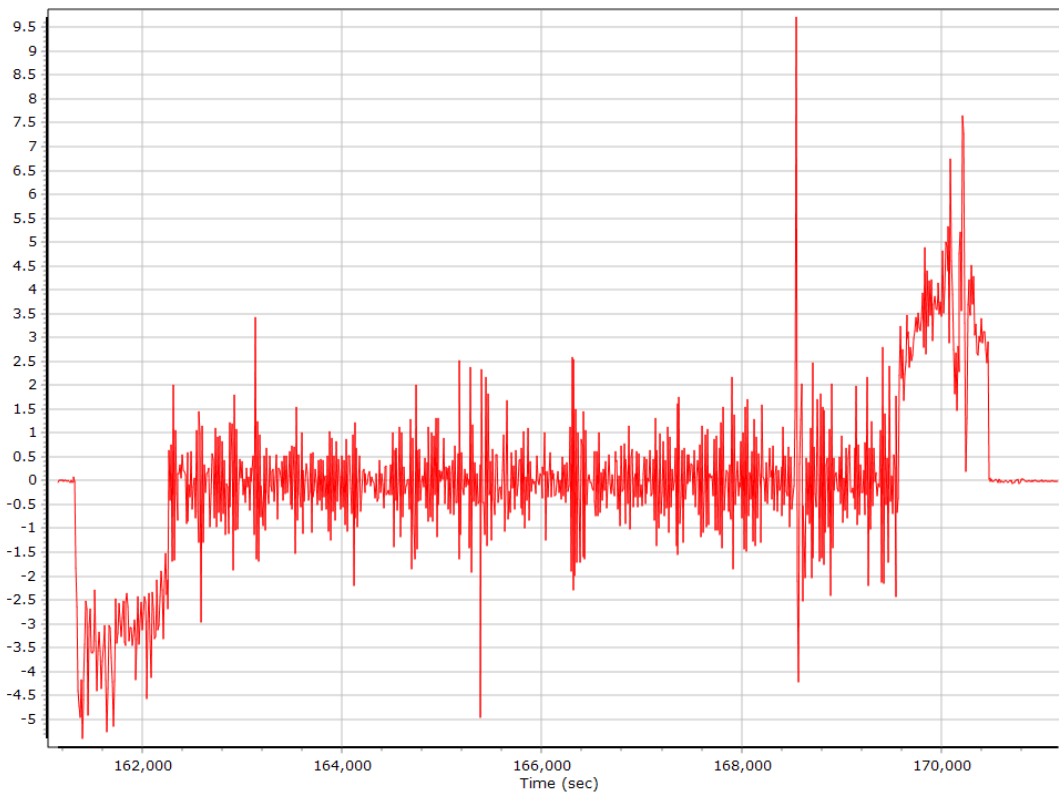
Heading



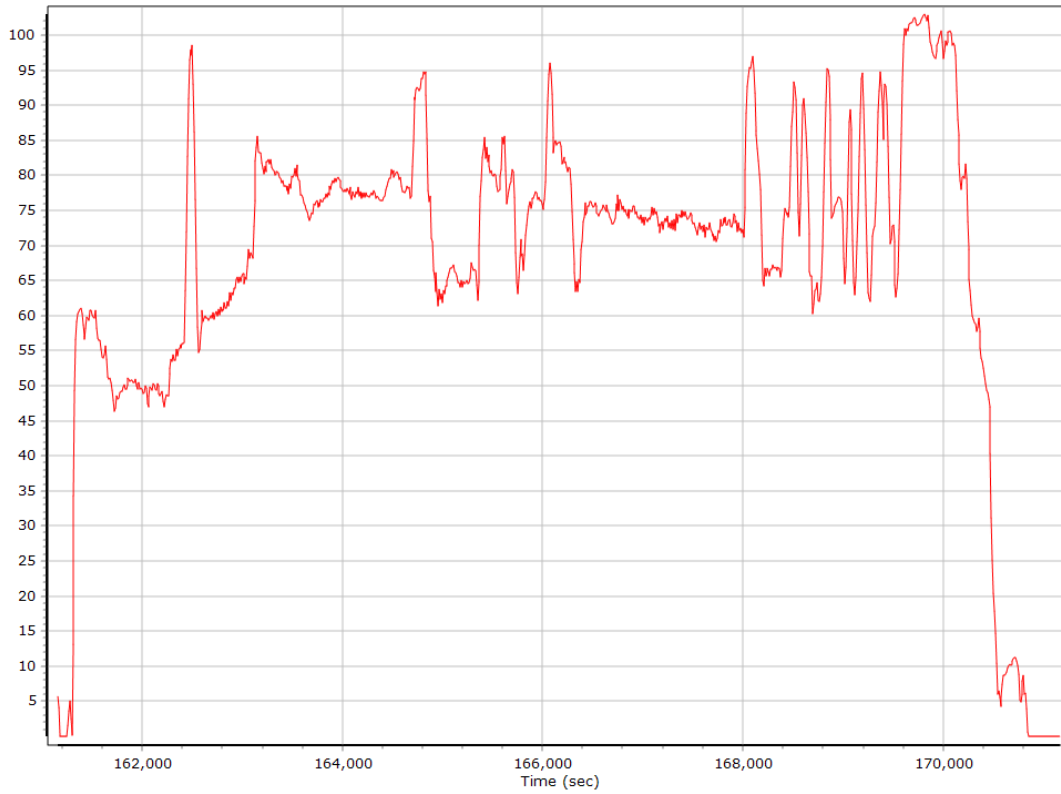
North/East Velocity



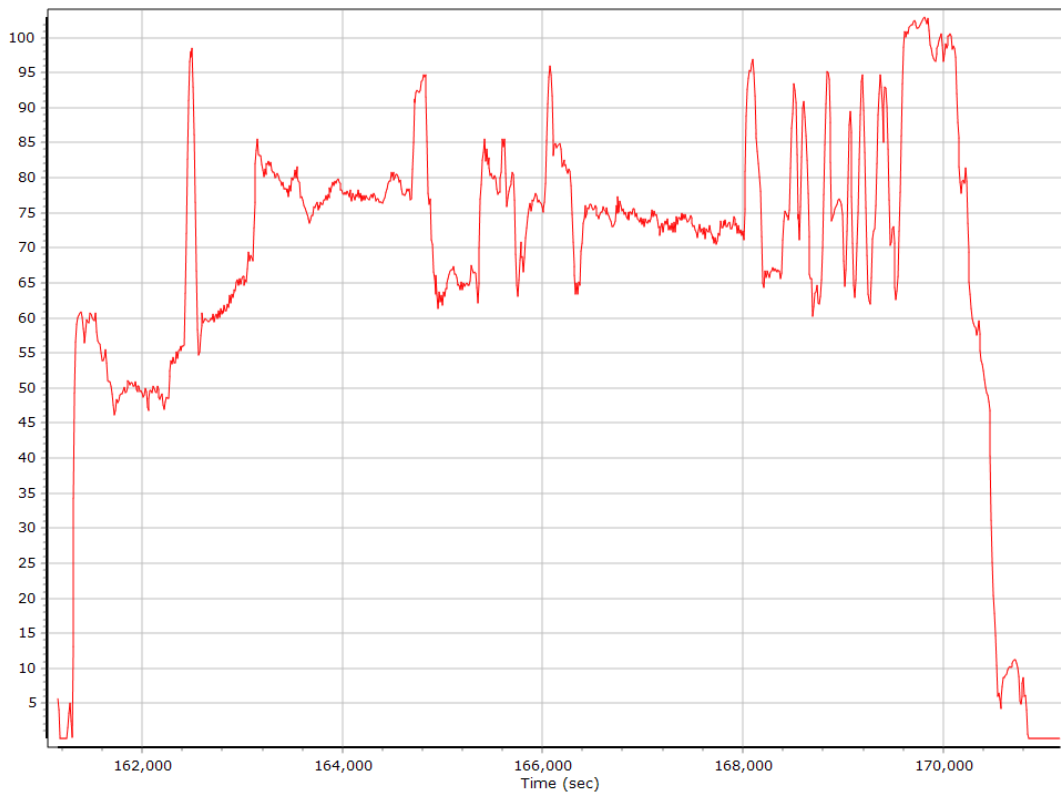
Down Velocity



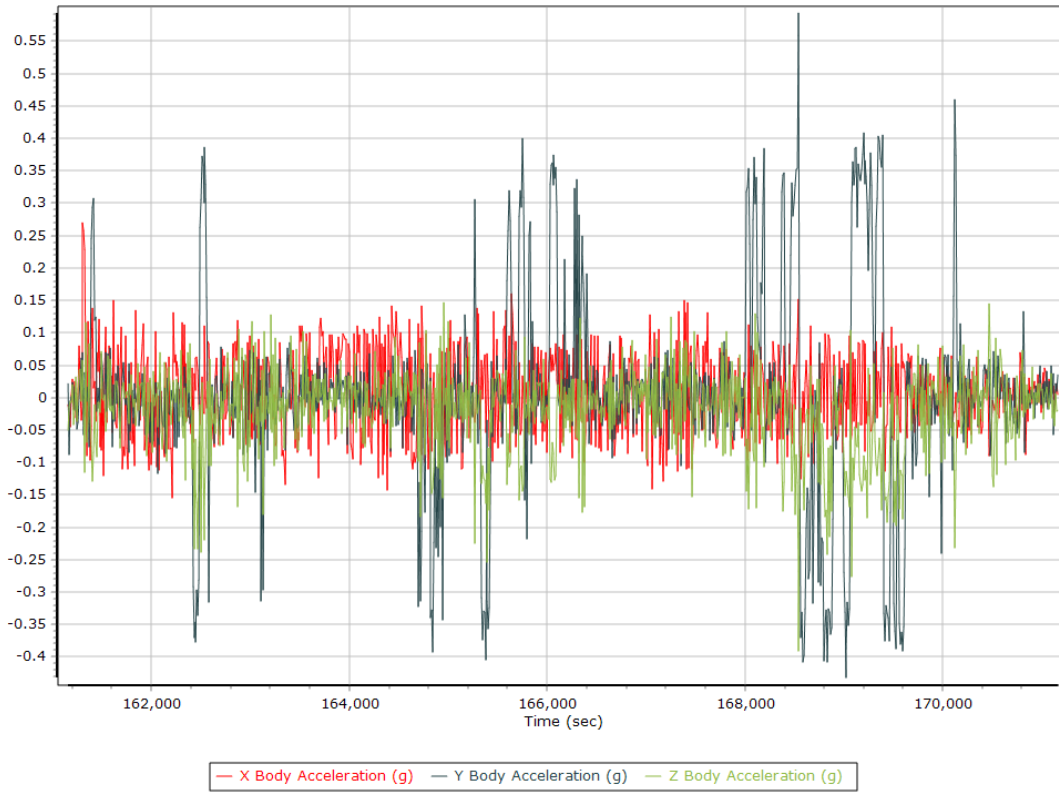
Total Speed



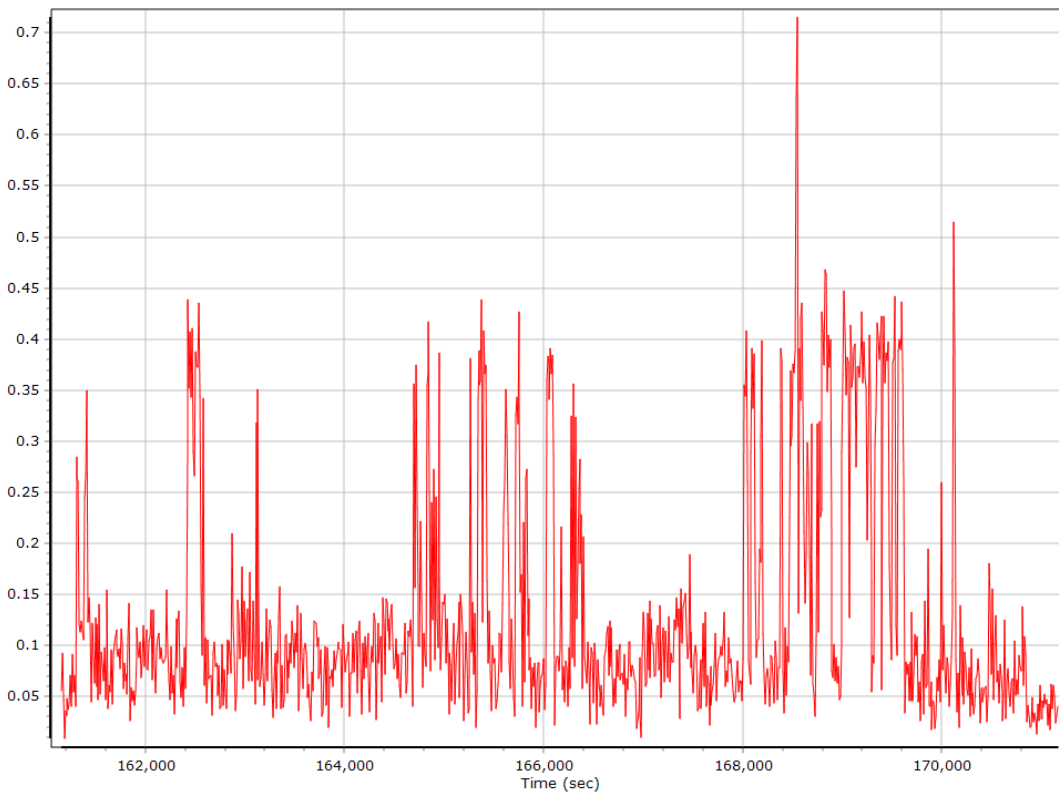
Ground Speed



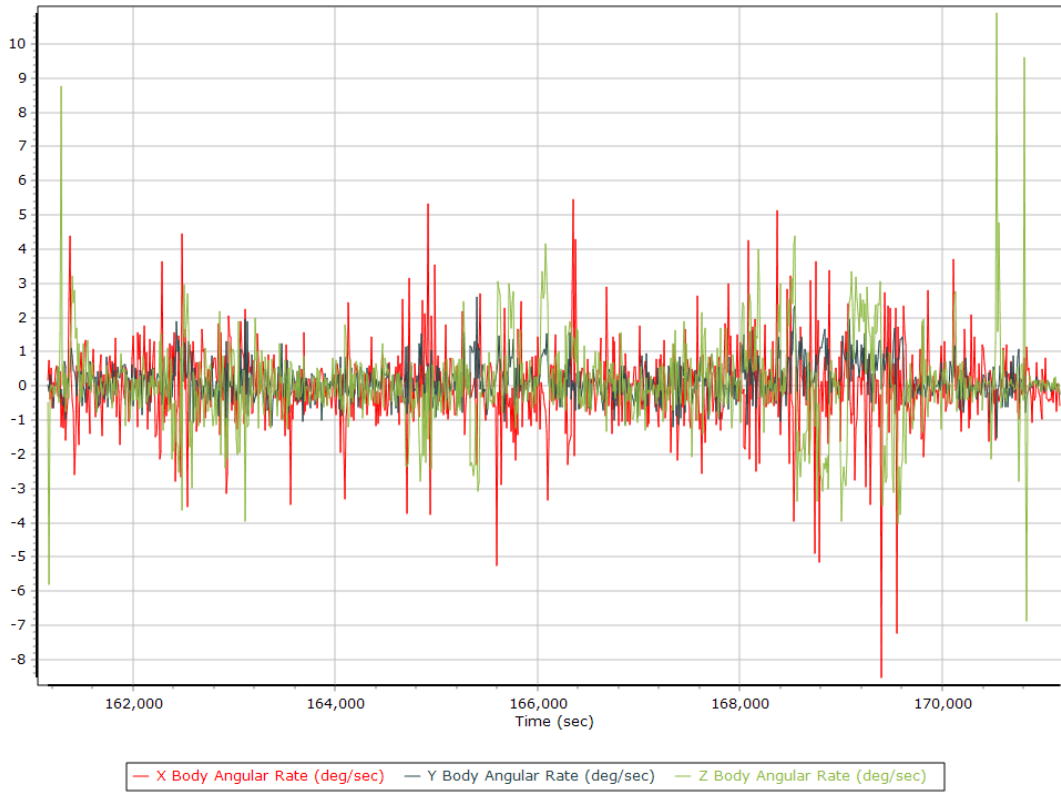
Body Acceleration



Total Body Acceleration

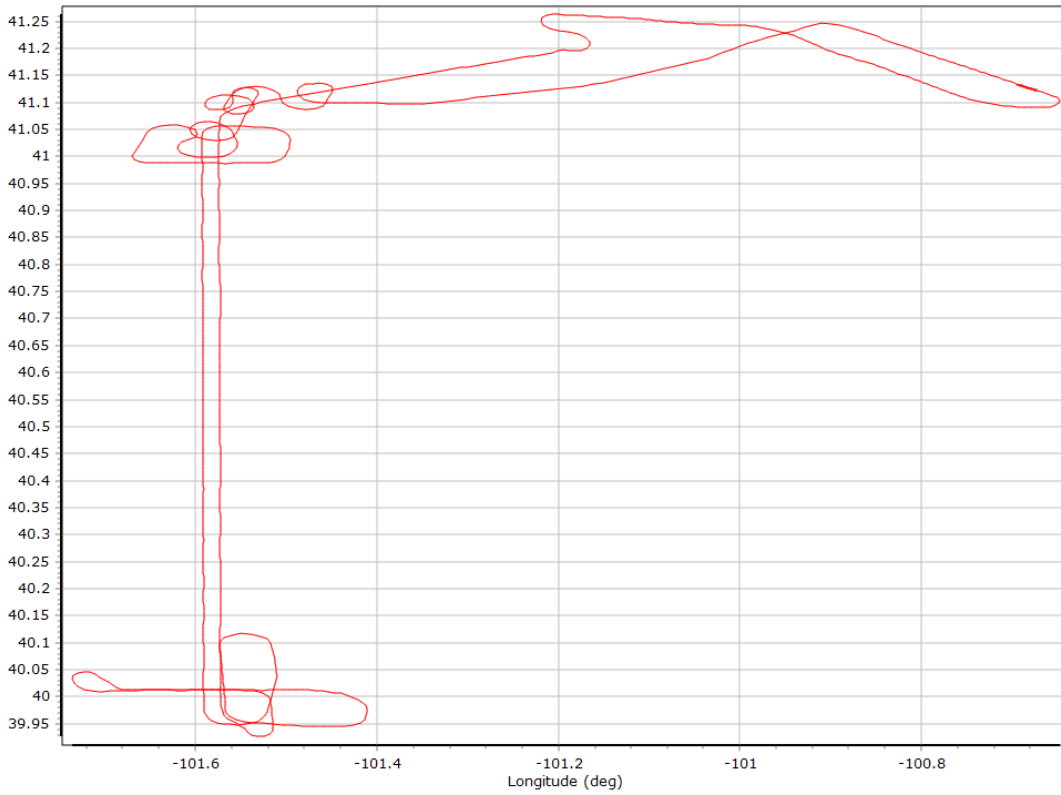


Body Angular Rate

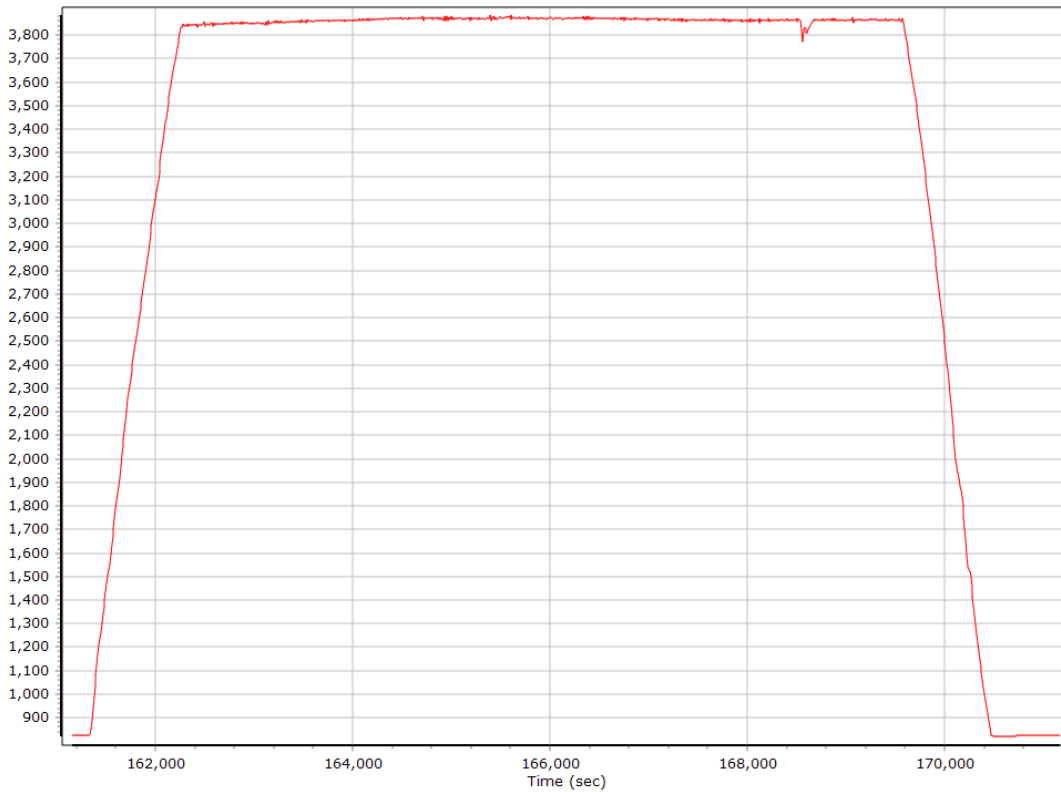


Forward Processed Trajectory Information

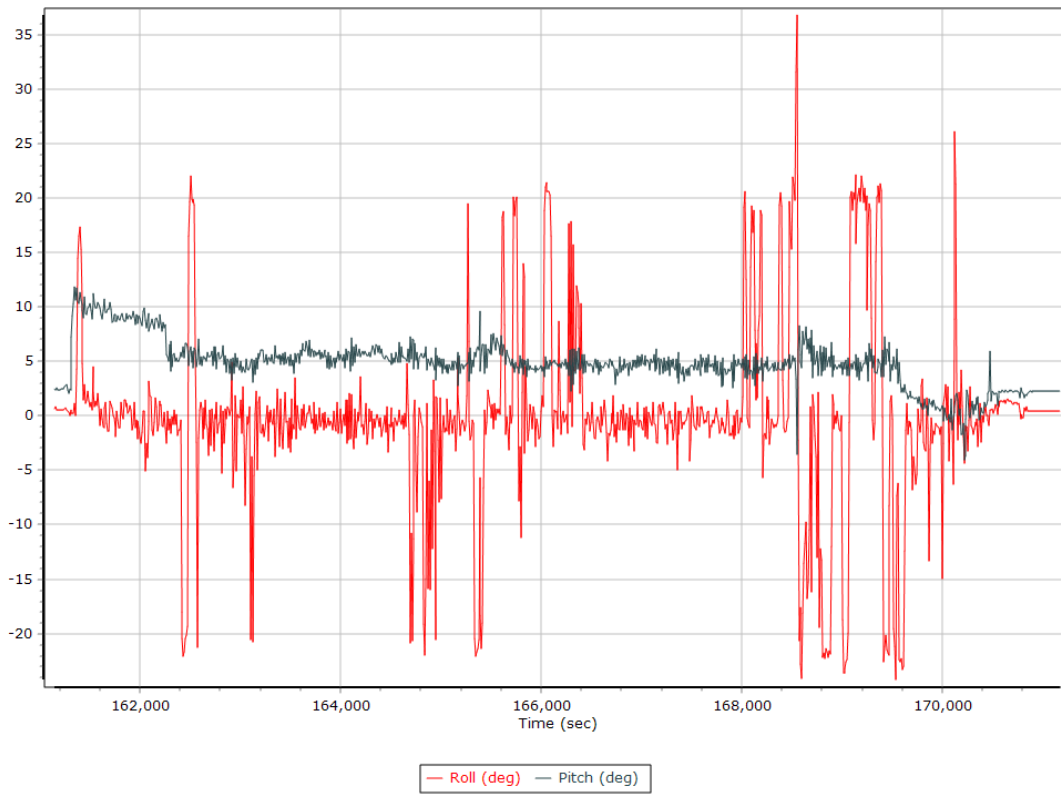
Top View



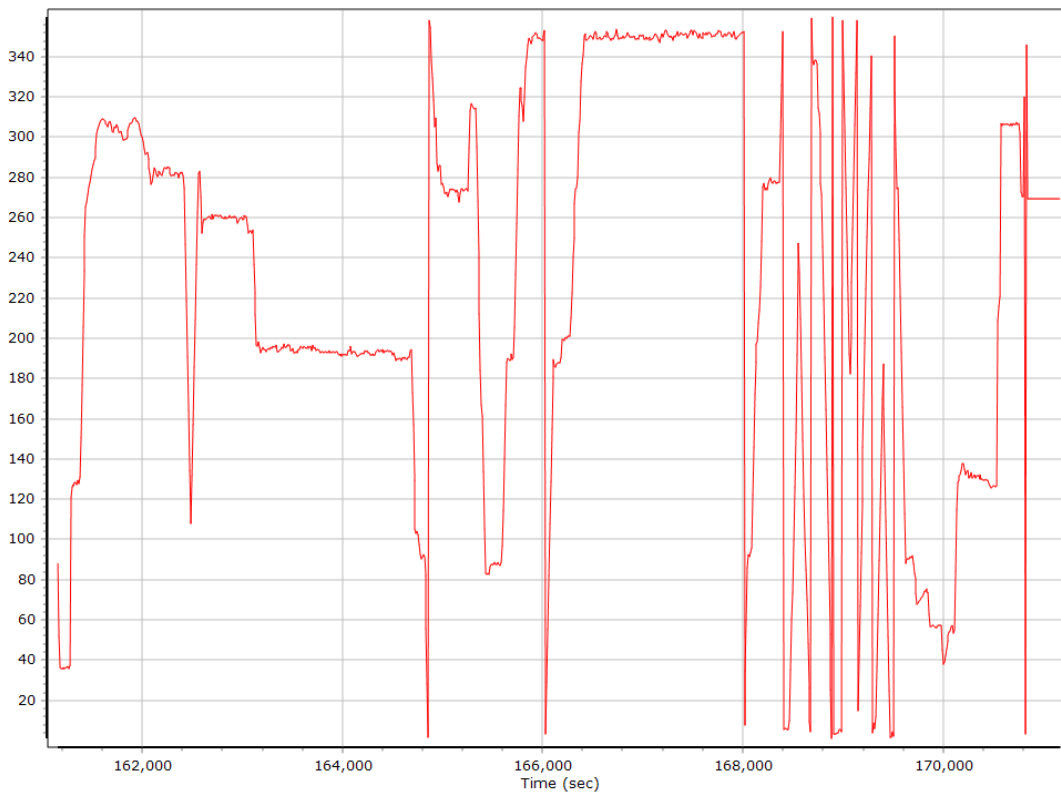
Altitude



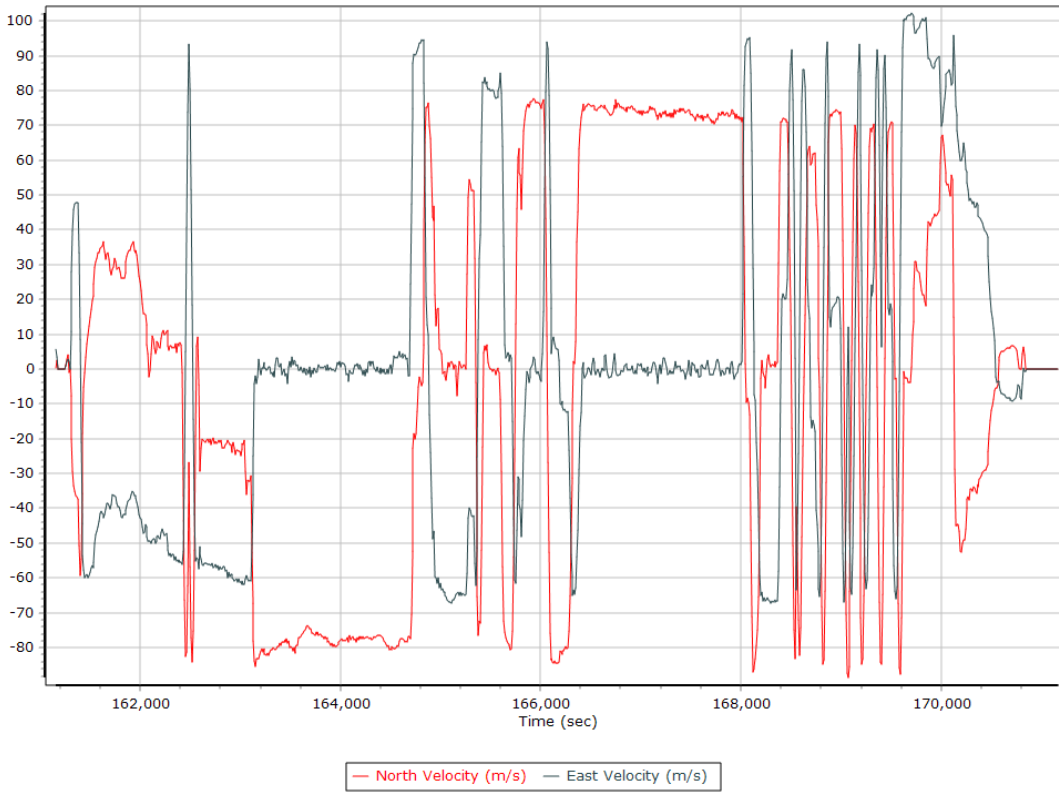
Roll/Pitch



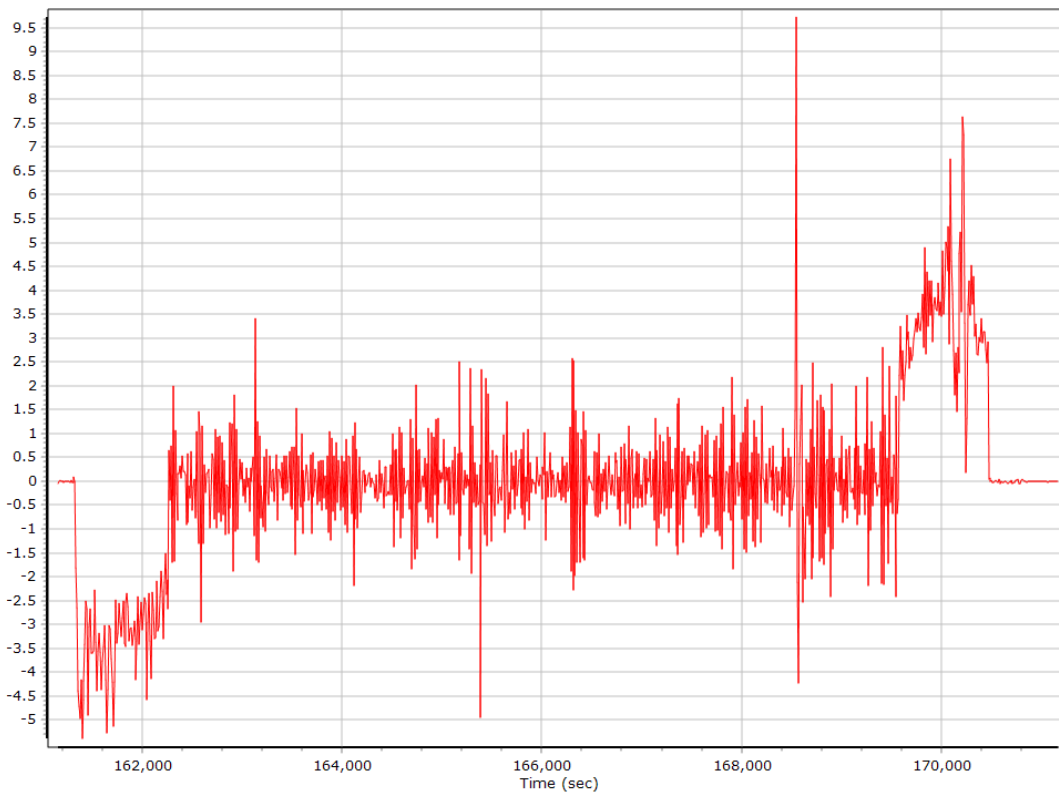
Heading



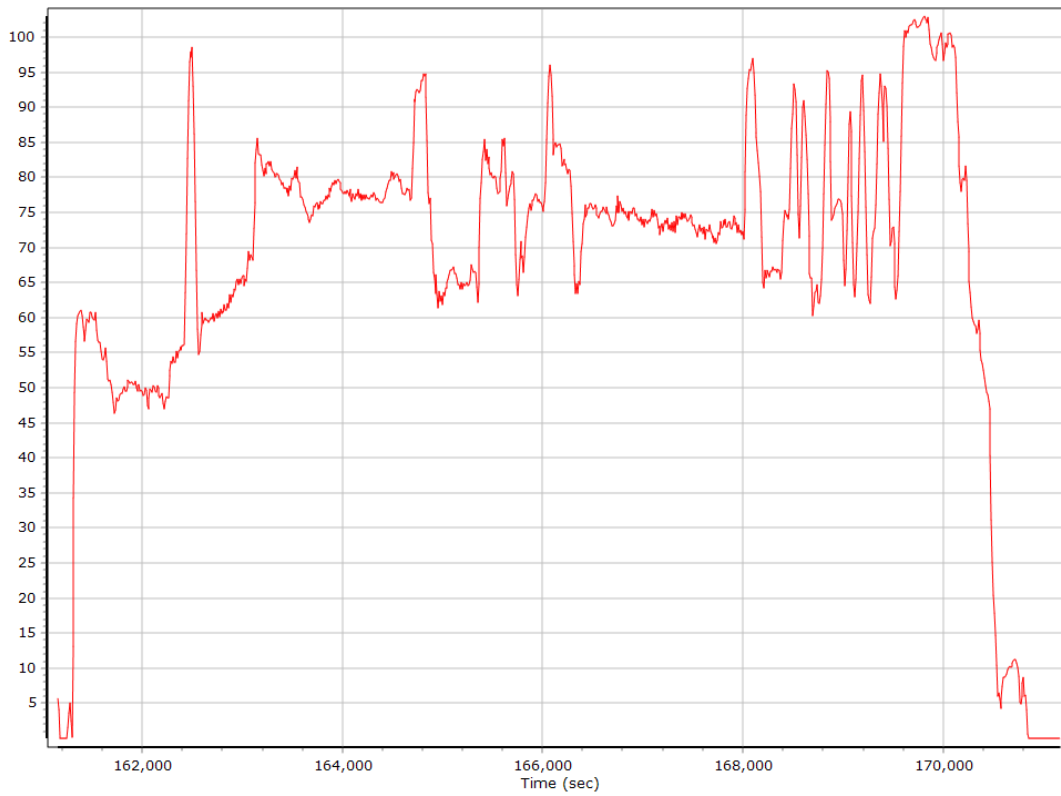
North/East Velocity



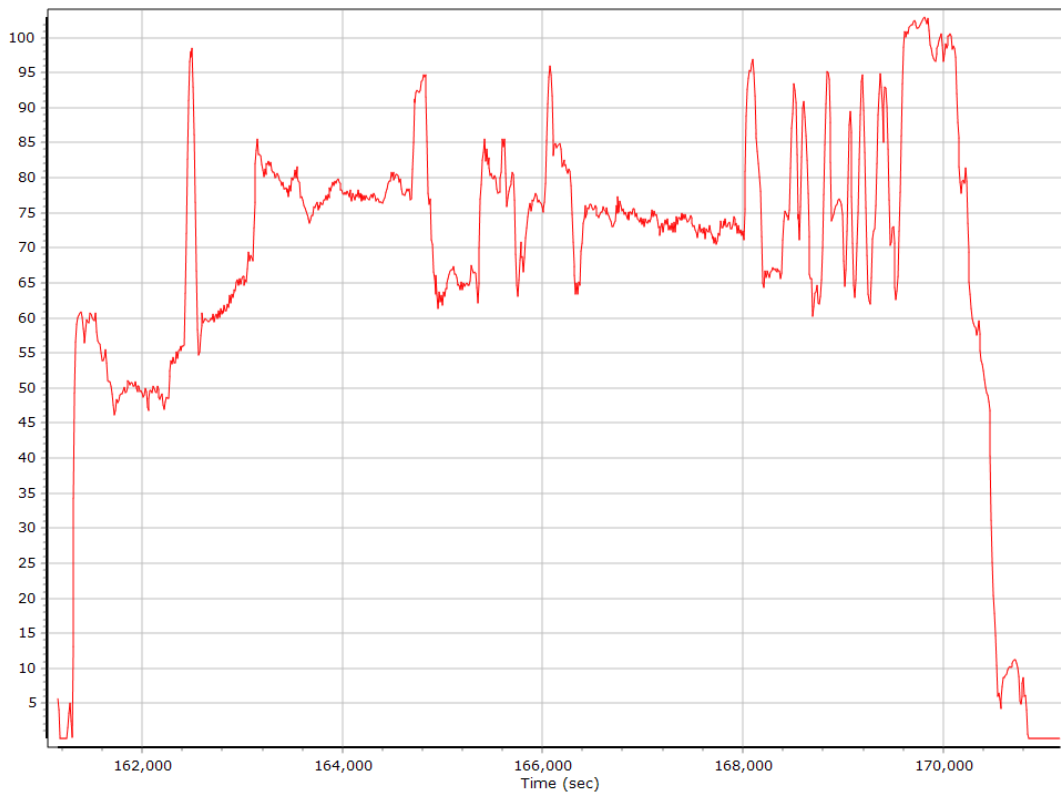
Down Velocity



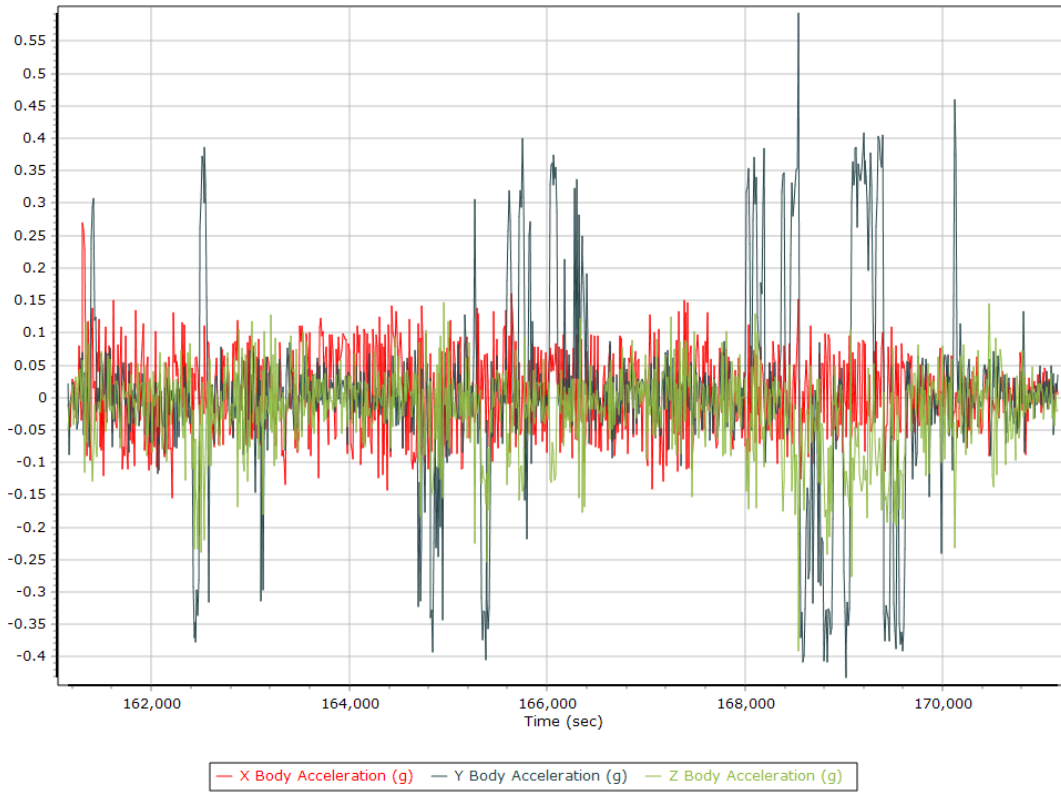
Total Speed



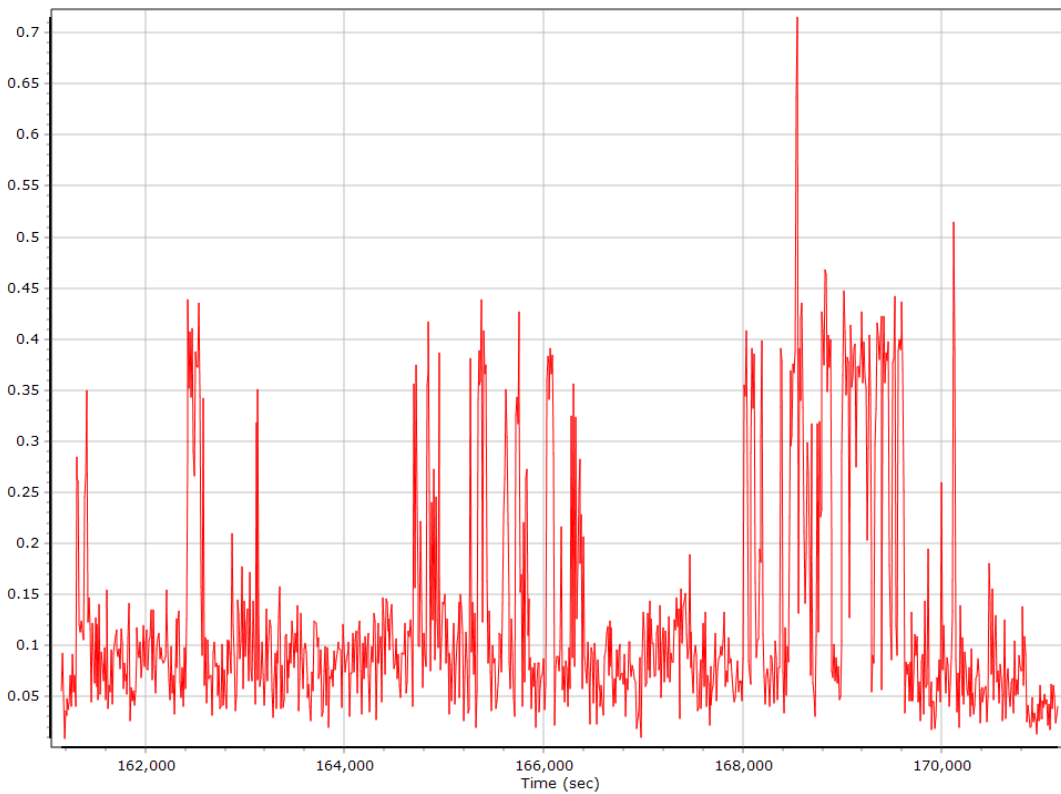
Ground Speed



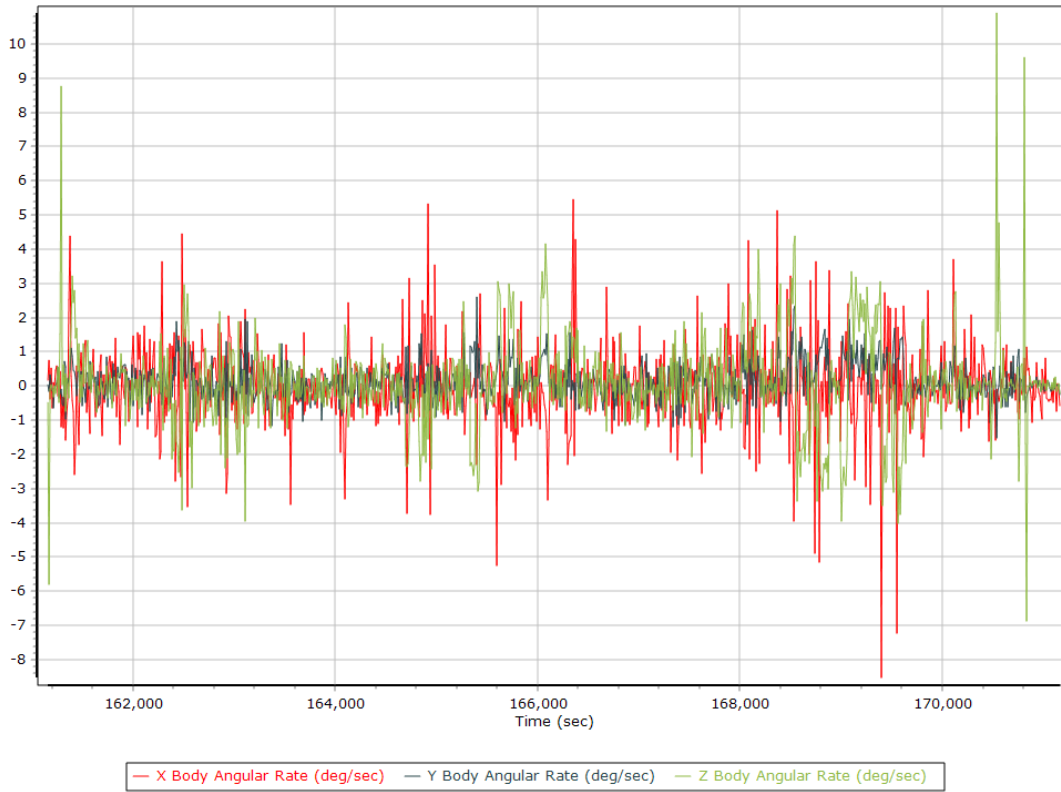
Body Acceleration



Total Body Acceleration



Body Angular Rate

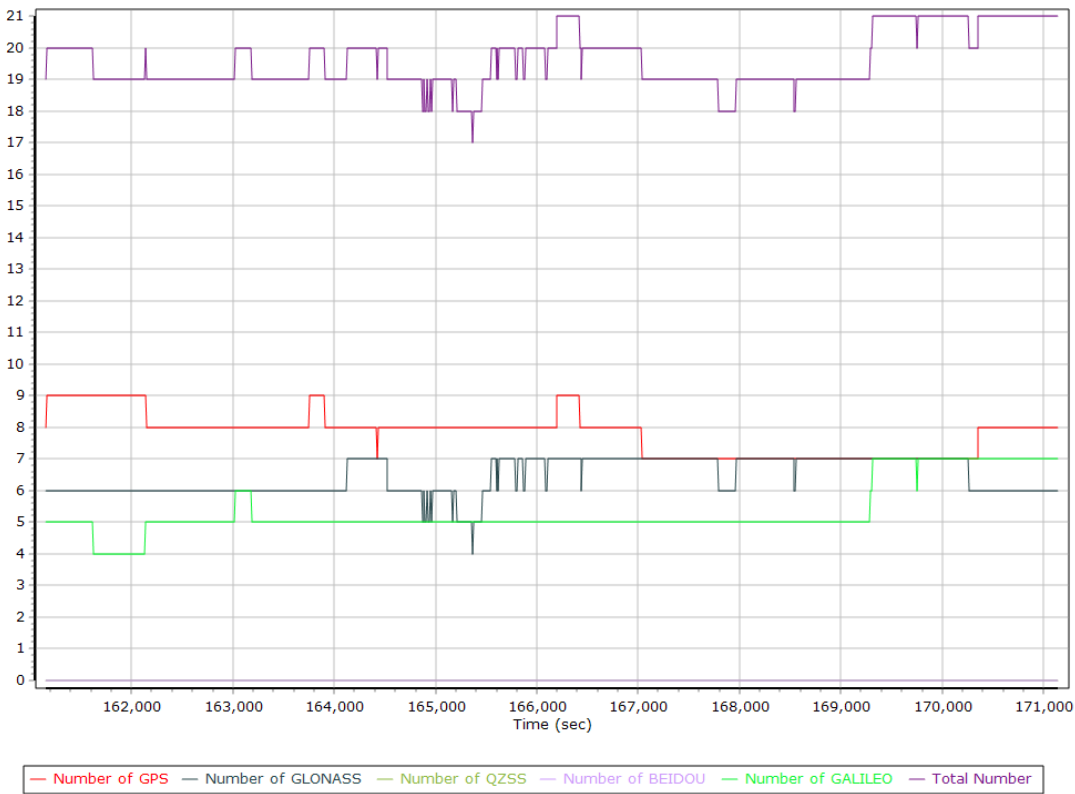


GNSS QC

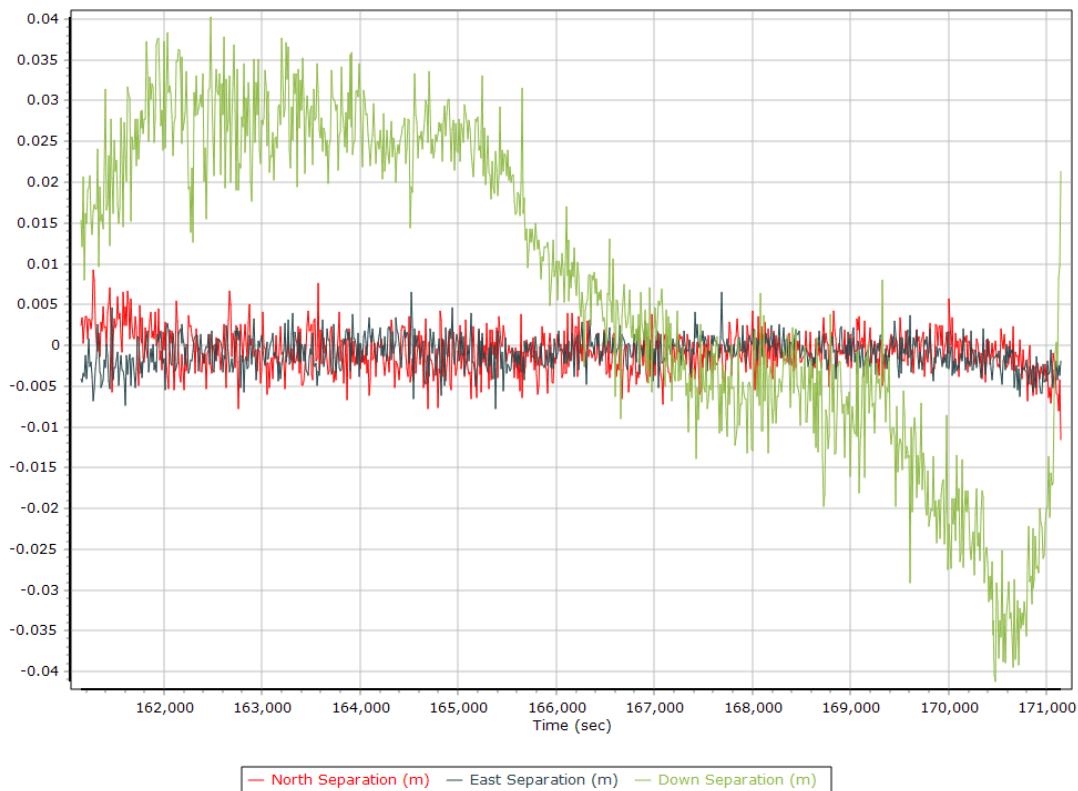
GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	7	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	4	7	5
Total number of SV	17	21	20
PDOP	1.04	1.48	1.20
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	10405.00	0.00	13.00
Percentage	99.88	0.00	0.12

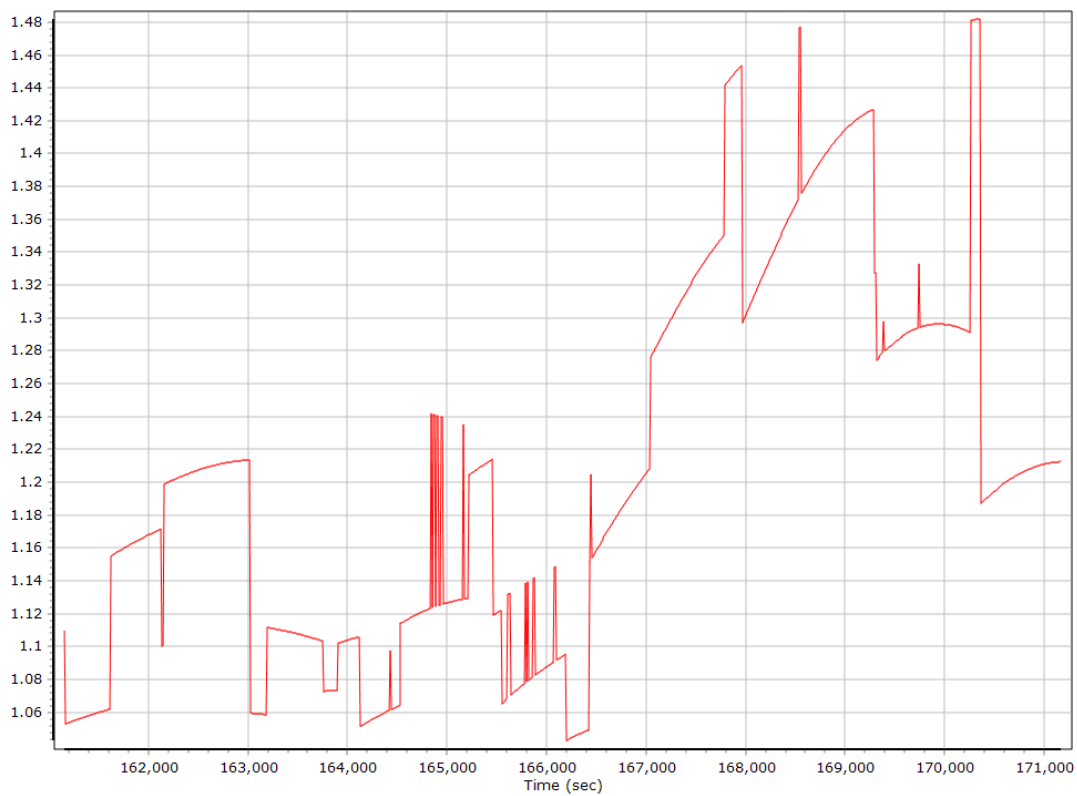
Num SVs in solution



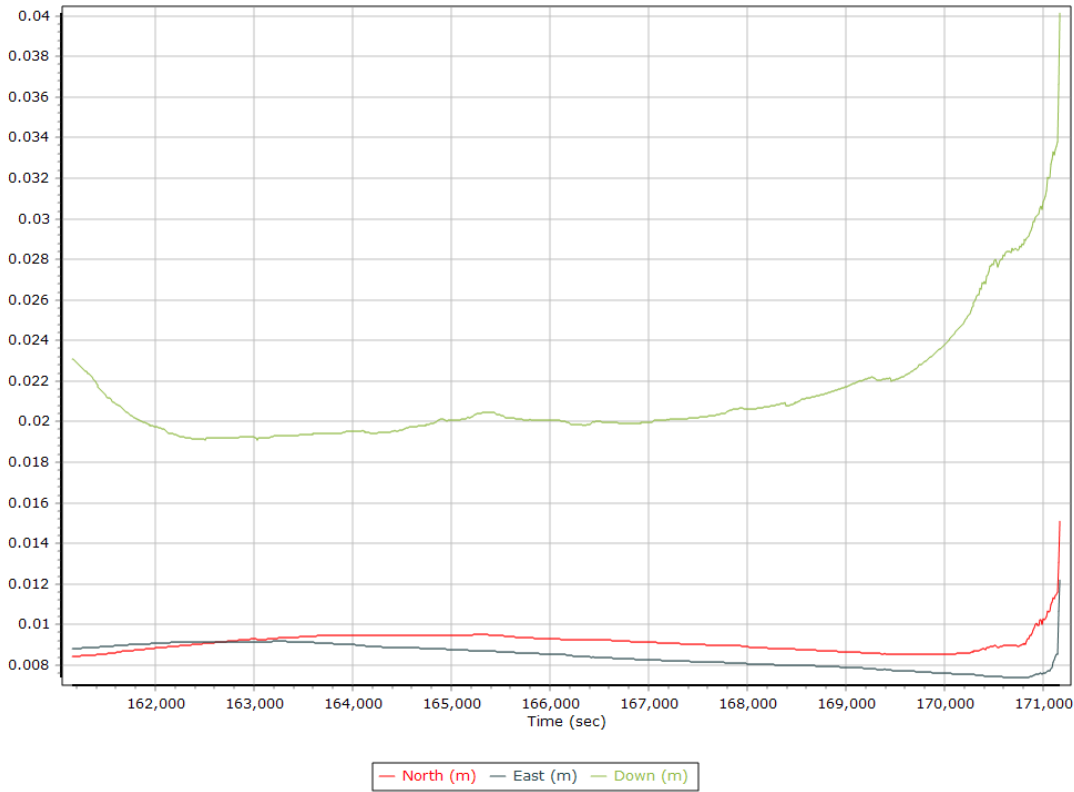
Forward/Reverse Separation



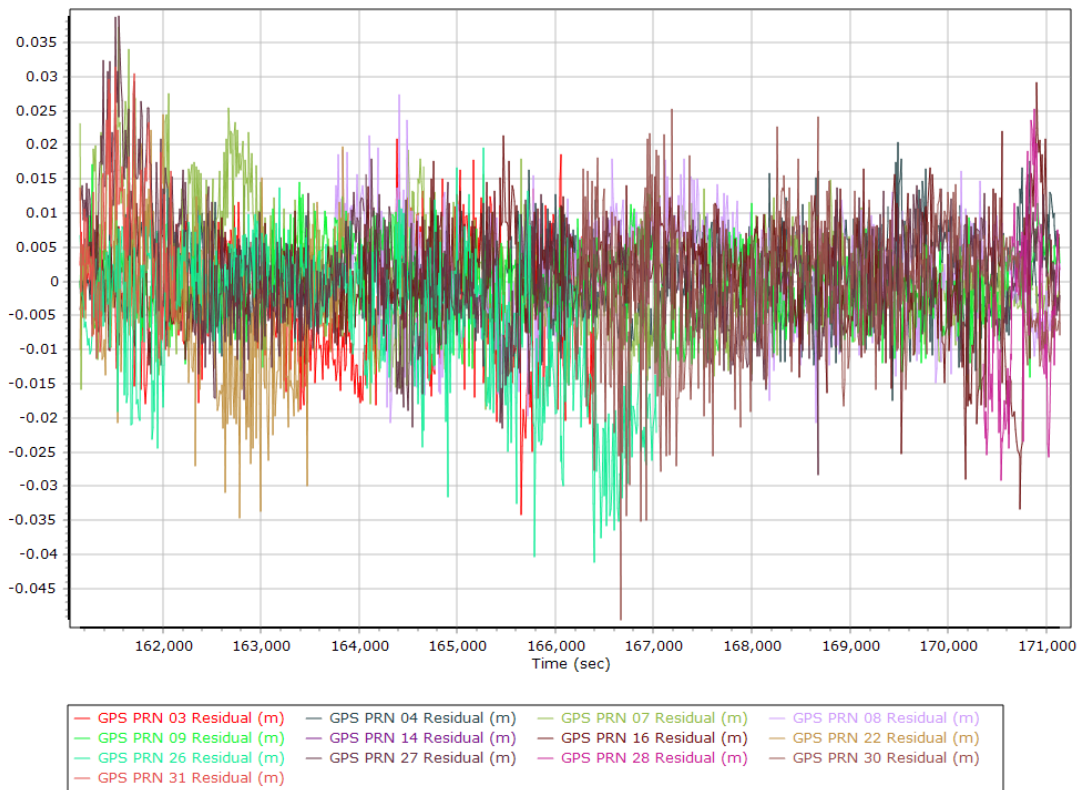
PDOP



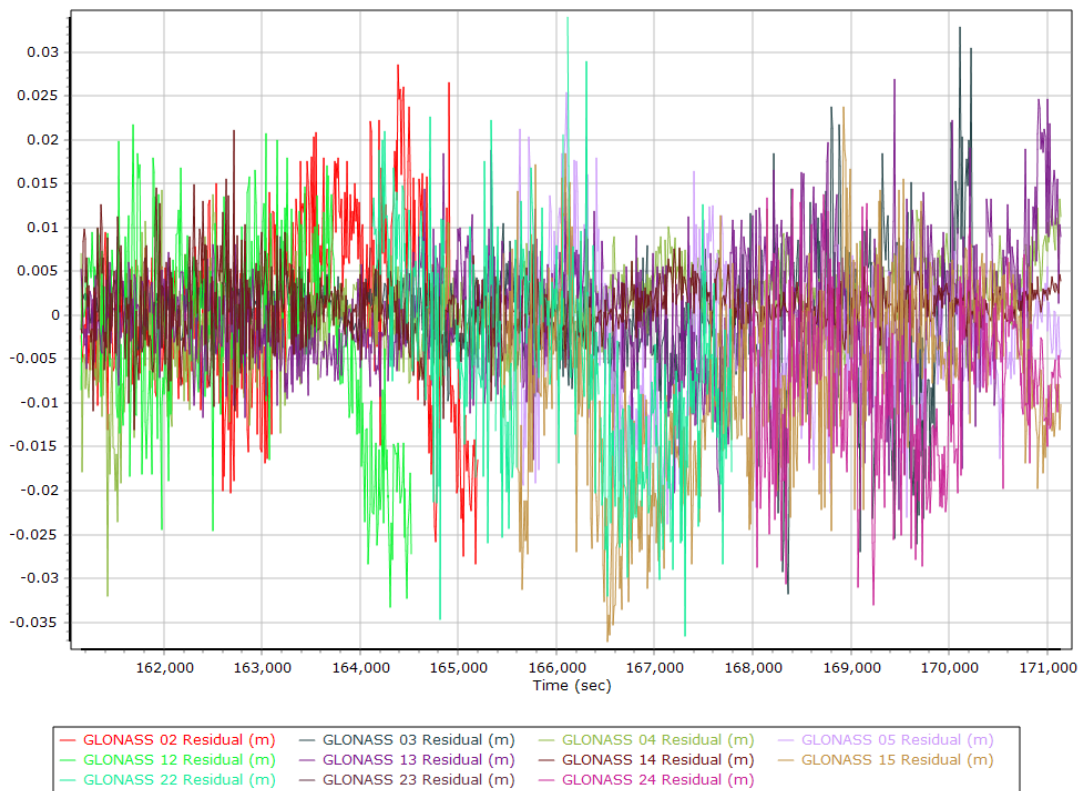
Estimated Position Accuracy



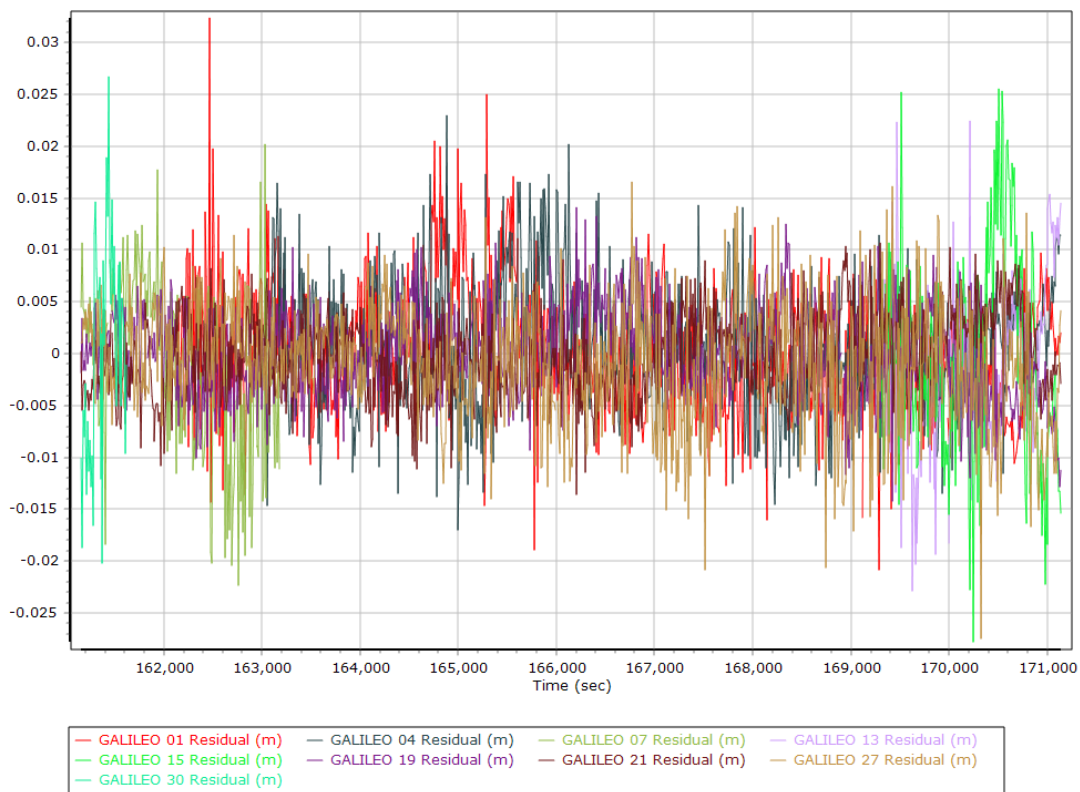
GPS Residuals



GLONASS Residuals



GALILEO Residuals



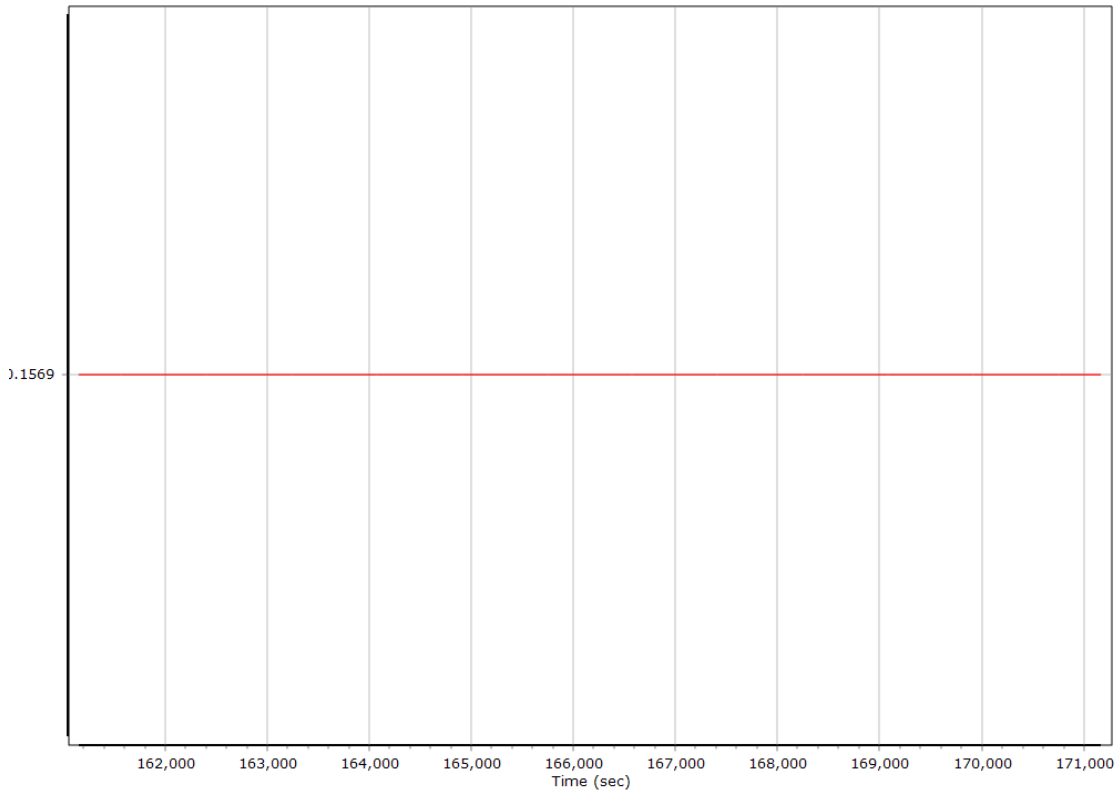
GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	160723.000 (12/21/2020 20:38:43)		
Processing end time	171170.000 (12/21/2020 23:32:50)		
Initial attitude source	Real-Time VNAV/RNAV Attitude		
IMU Sensor Context	Processing with Onboard IMU		
Reference to IMU lever arm (m)	0.000	0.000	0.000
Reference to IMU mounting angles (deg)	0.000	0.000	180.000
Reference to Primary GNSS lever arm (m)	0.157	-0.150	-1.090
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

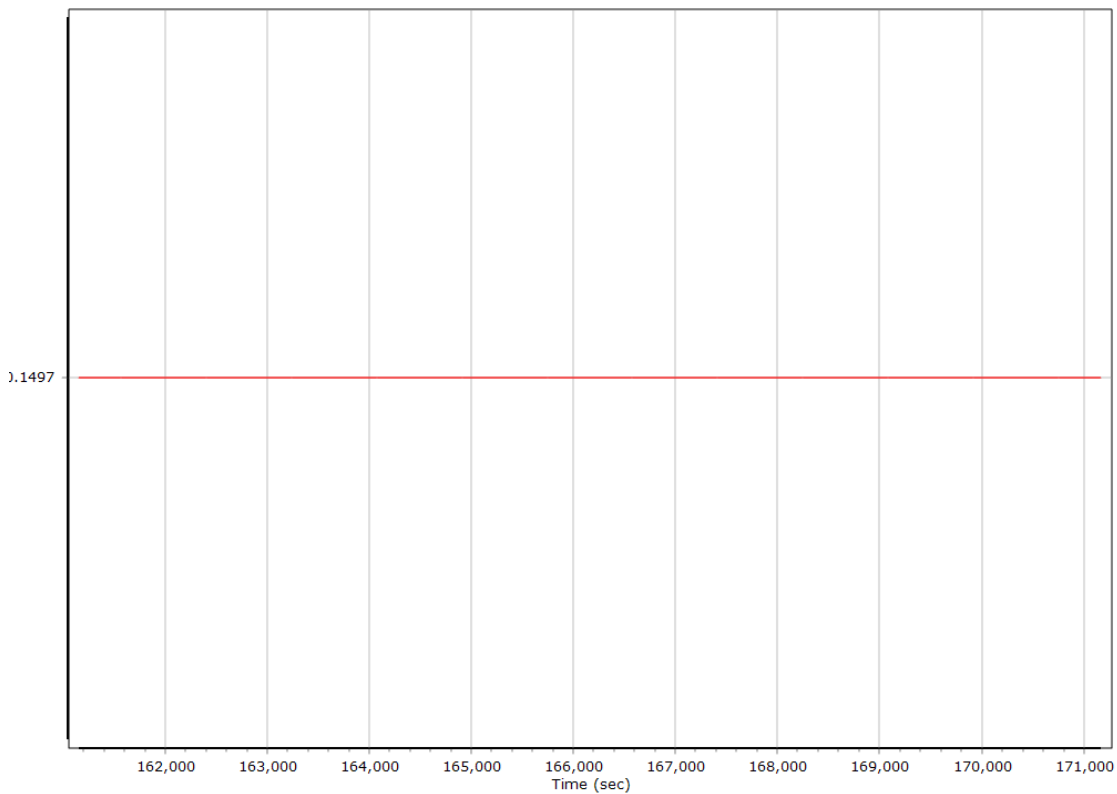
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

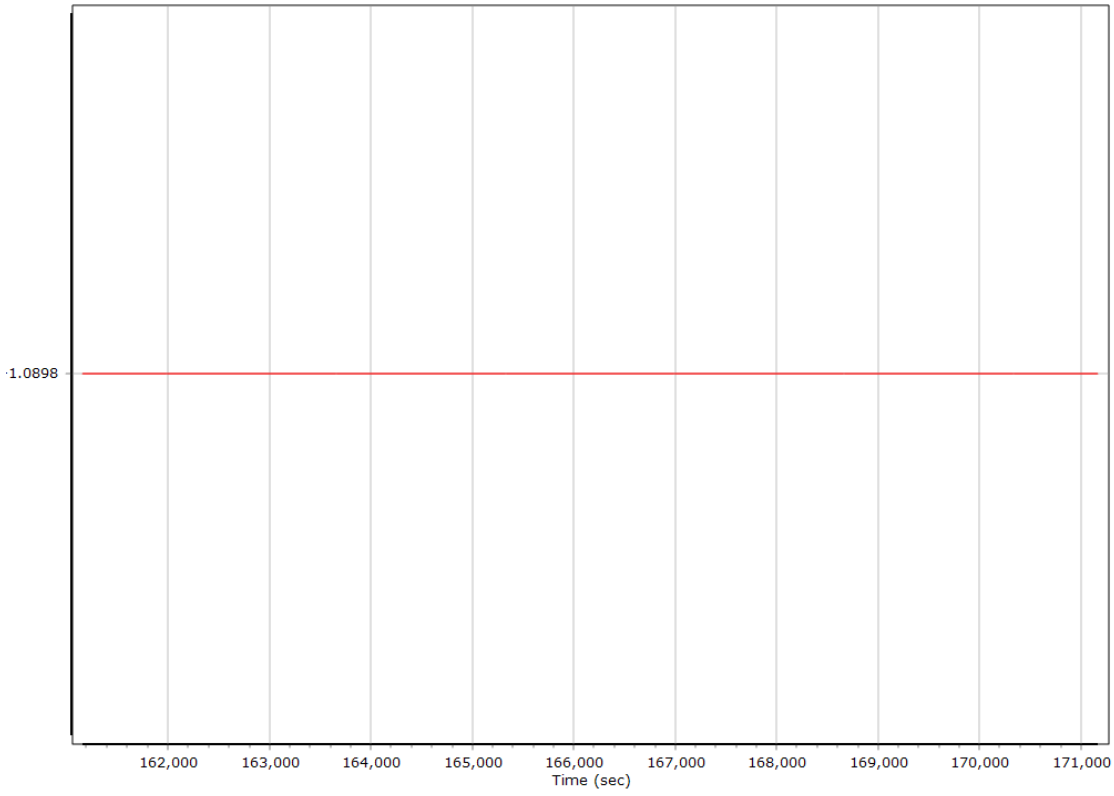
X Reference-Primary GNSS Lever Arm (m)



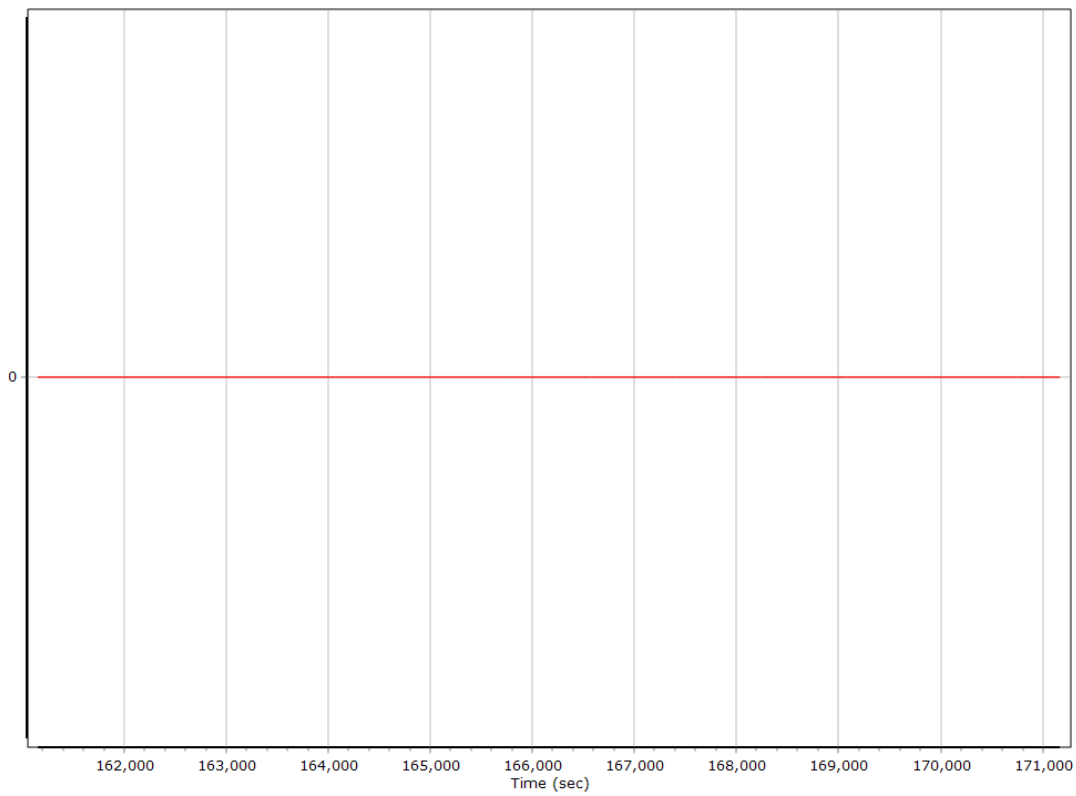
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



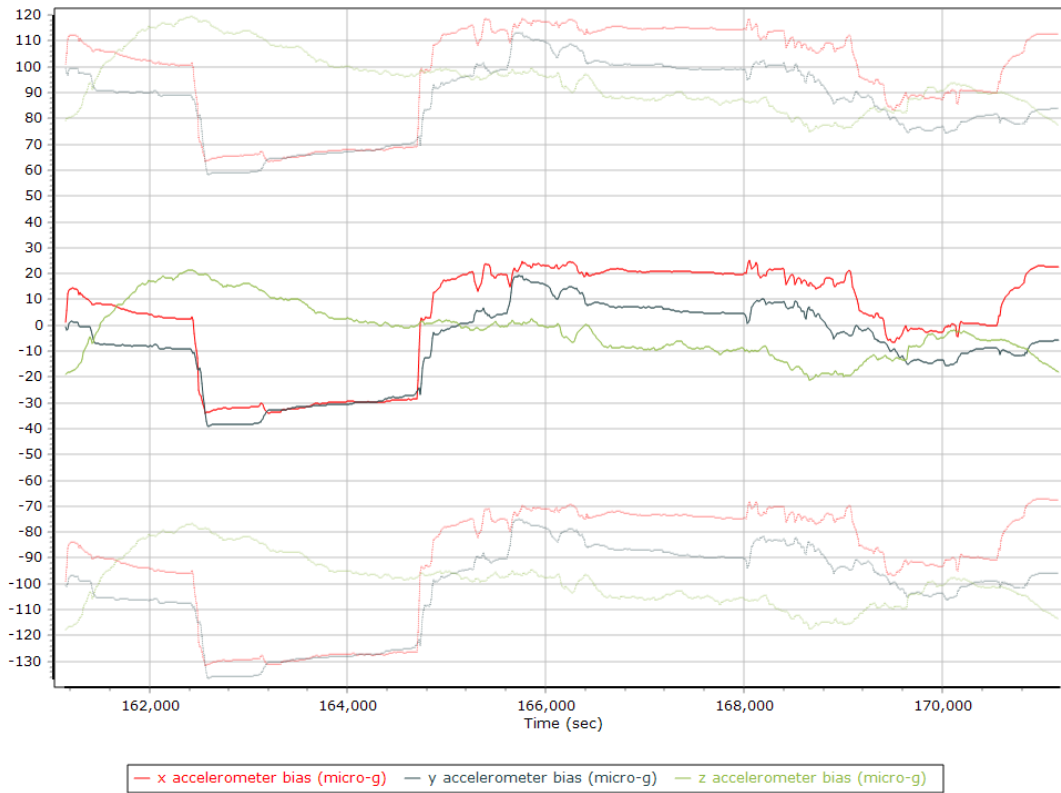
Reference-Primary GNSS Lever Arm Figure of Merit



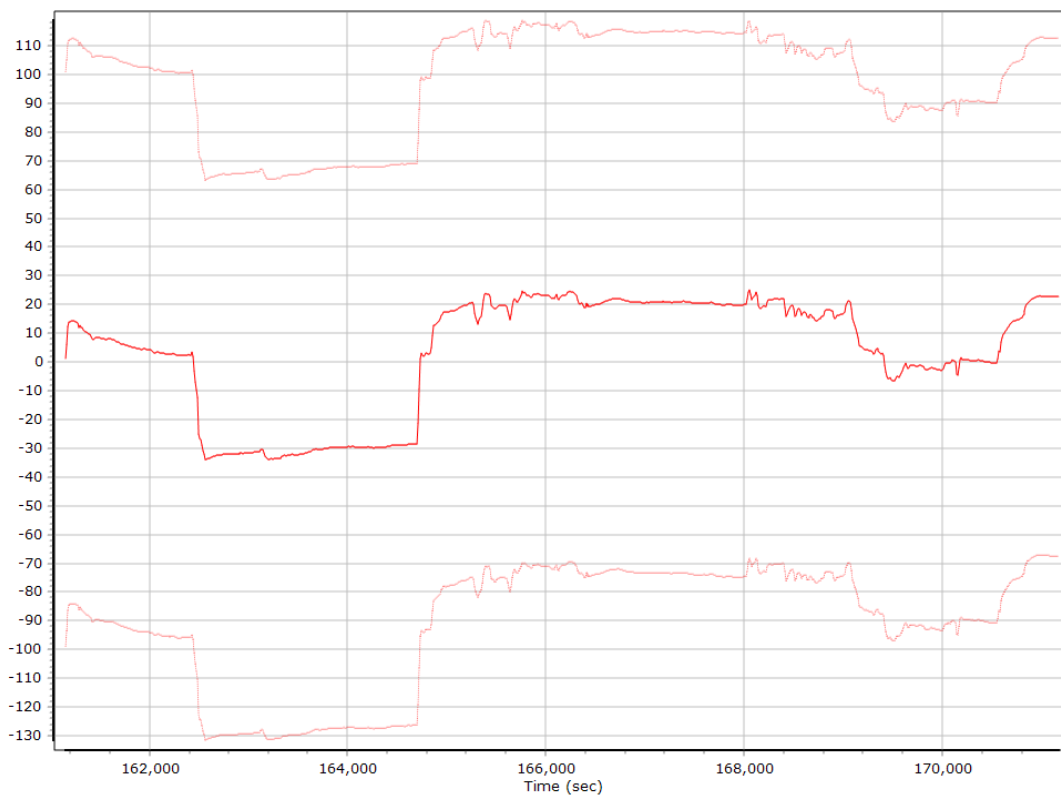
IN-Fusion QC

Forward Processed Estimated Errors, Reference Frame

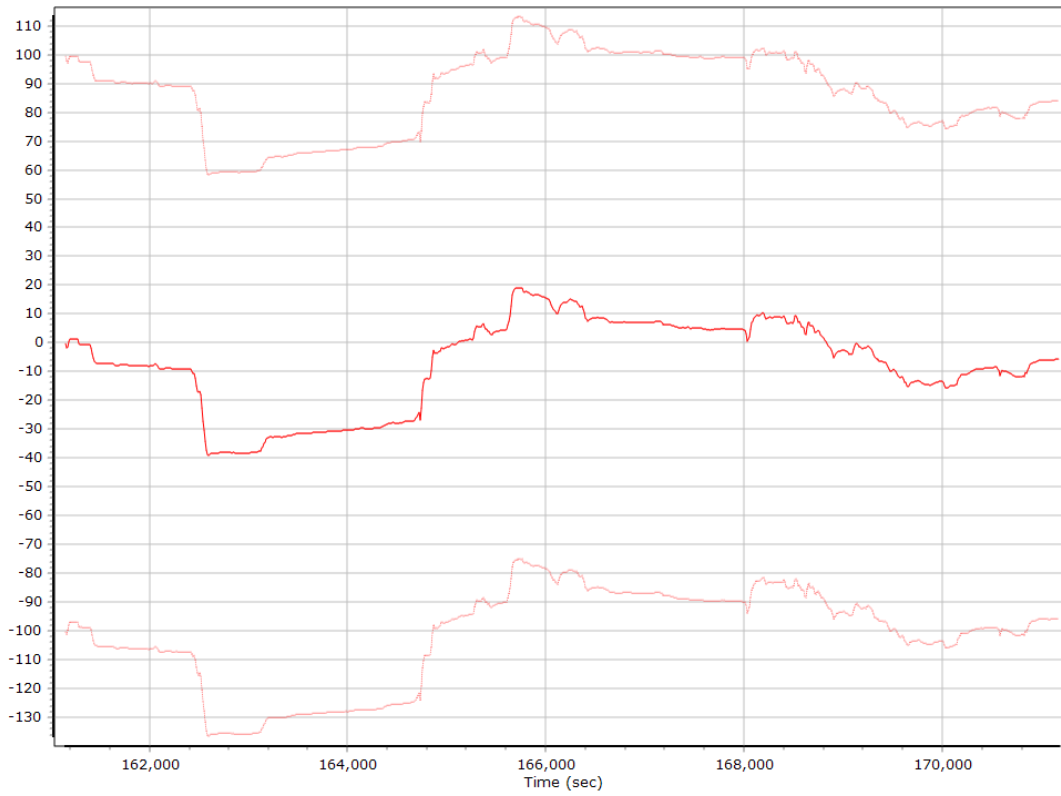
Accelerometer Bias (micro-g)



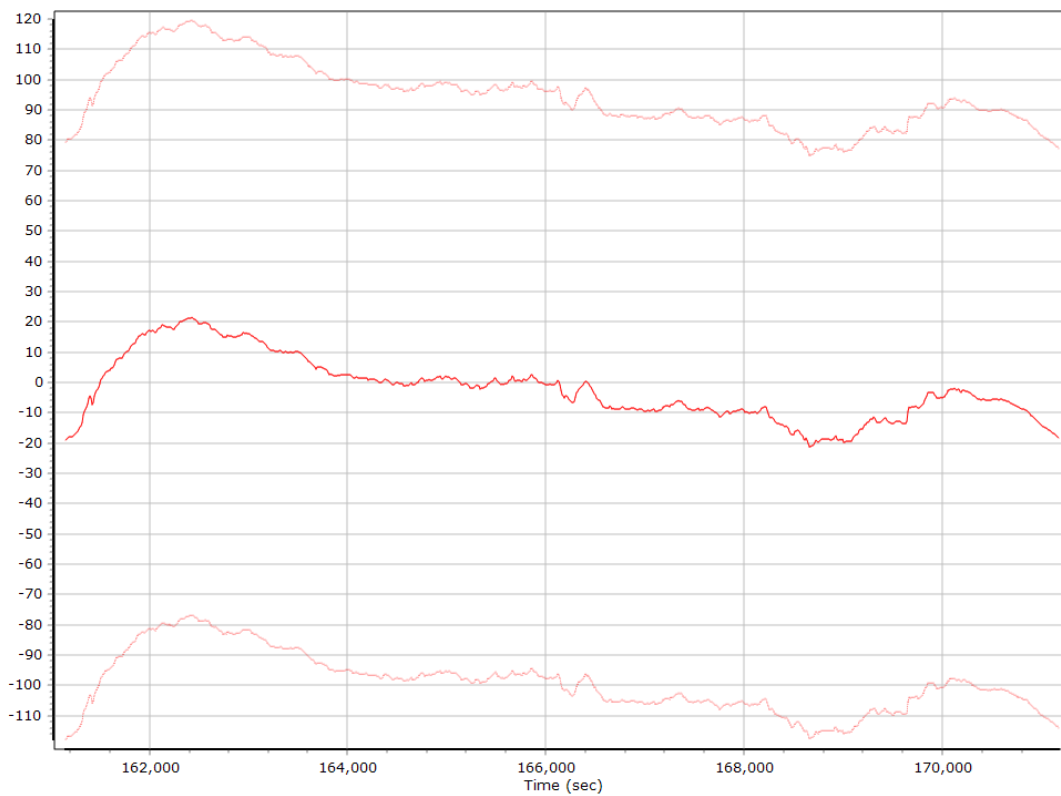
X Accelerometer Bias (micro-g)



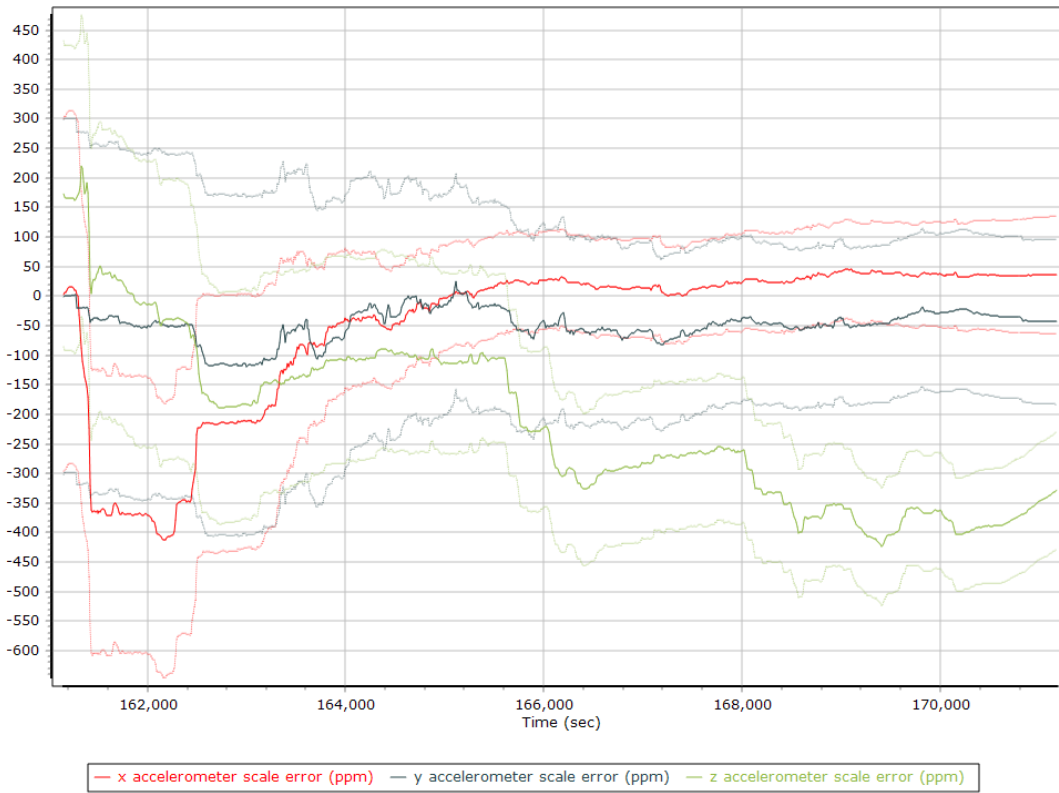
Y Accelerometer Bias (micro-g)



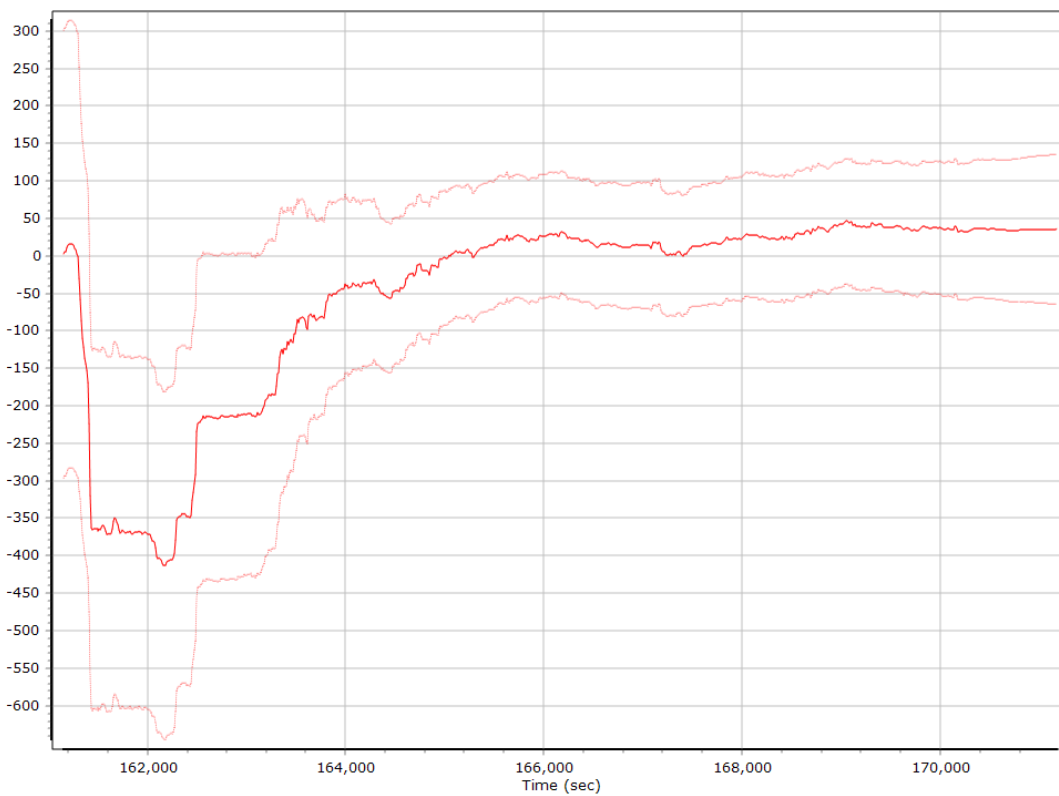
Z Accelerometer Bias (micro-g)



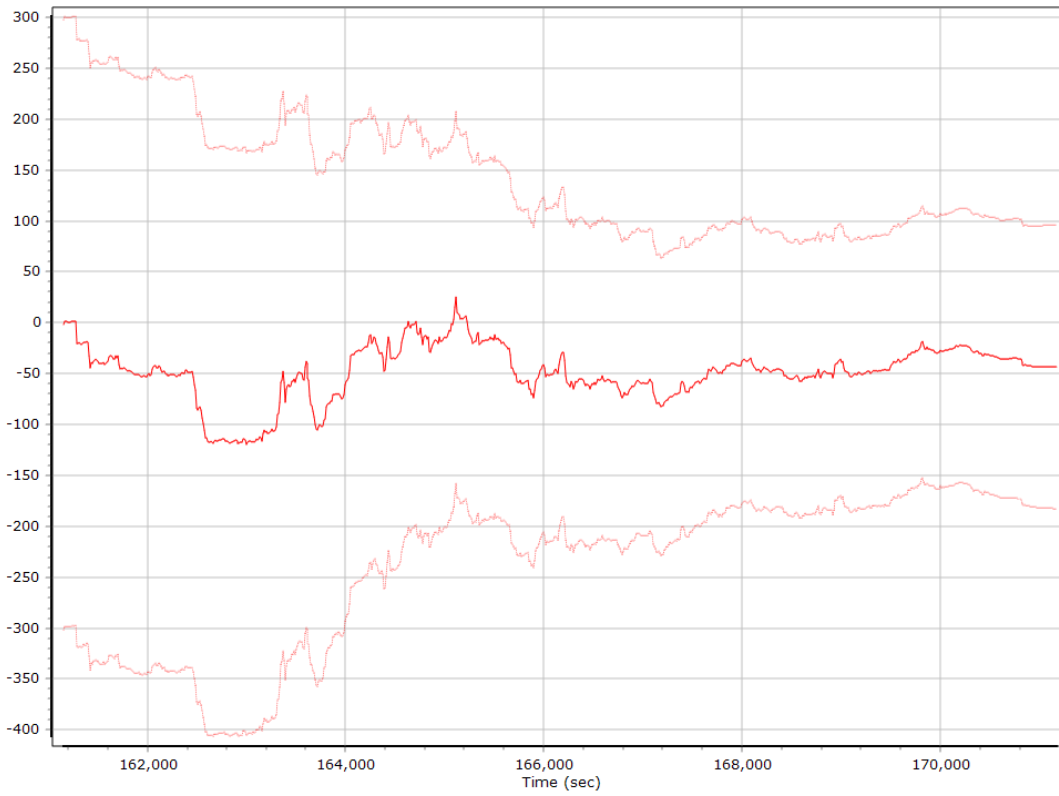
Accelerometer Scale Error (ppm)



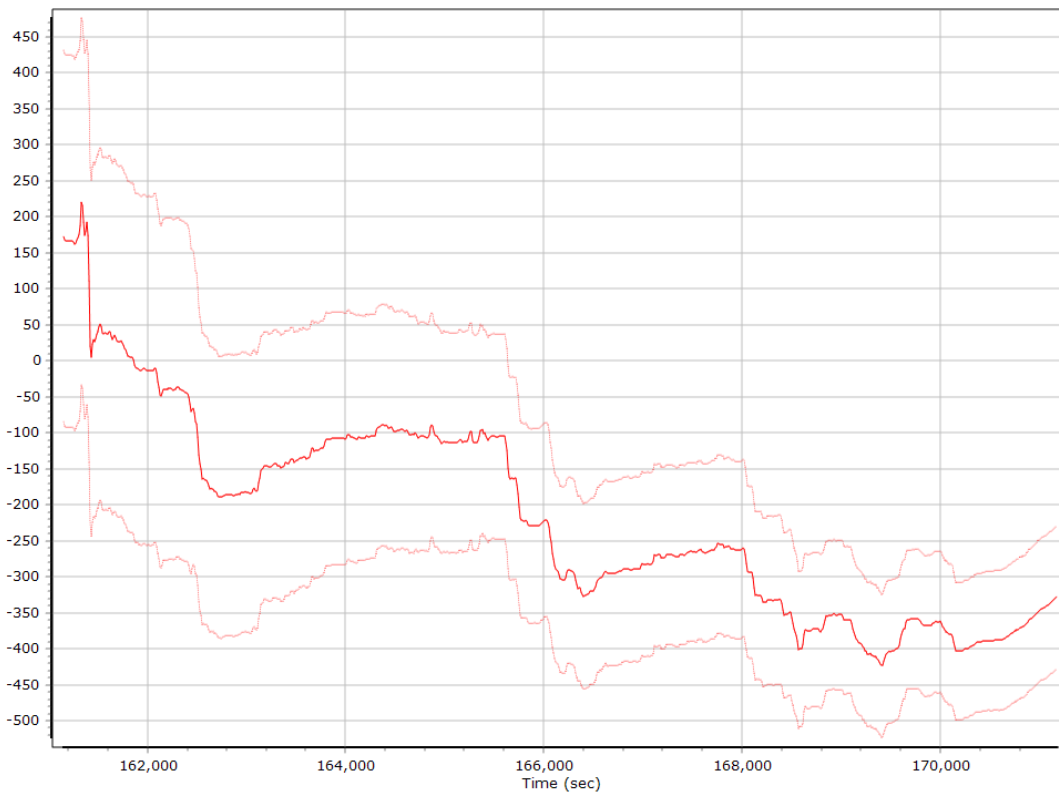
X Accelerometer Scale Error (ppm)



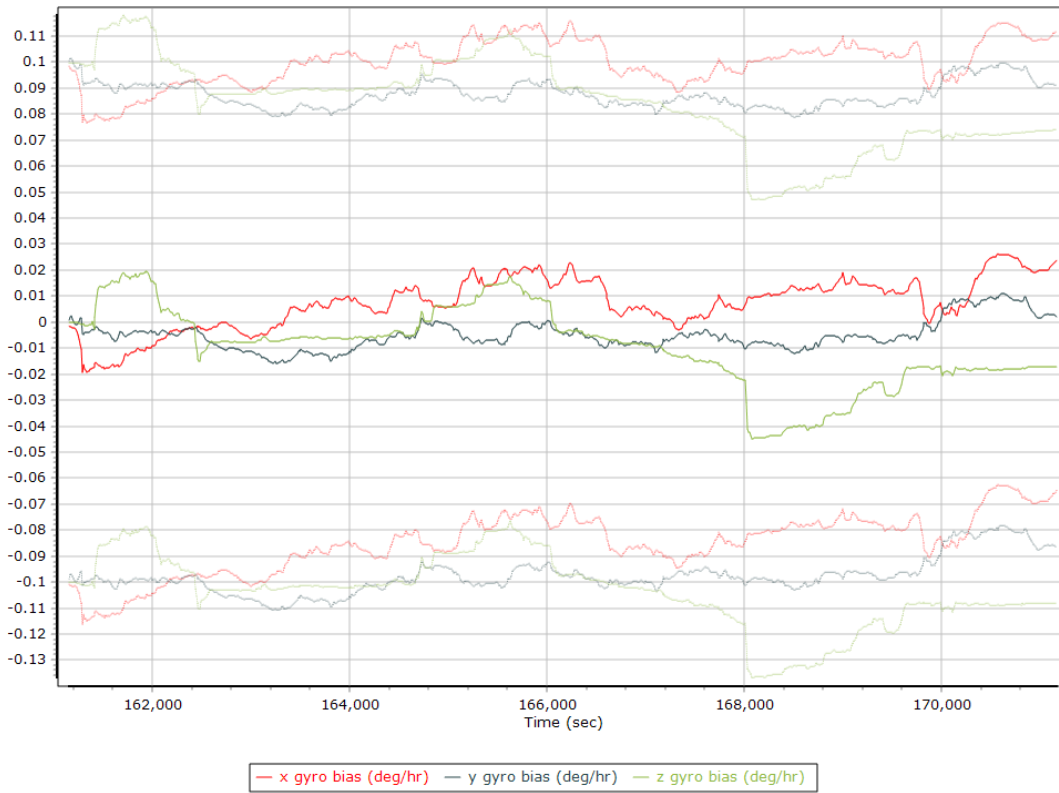
Y Accelerometer Scale Error (ppm)



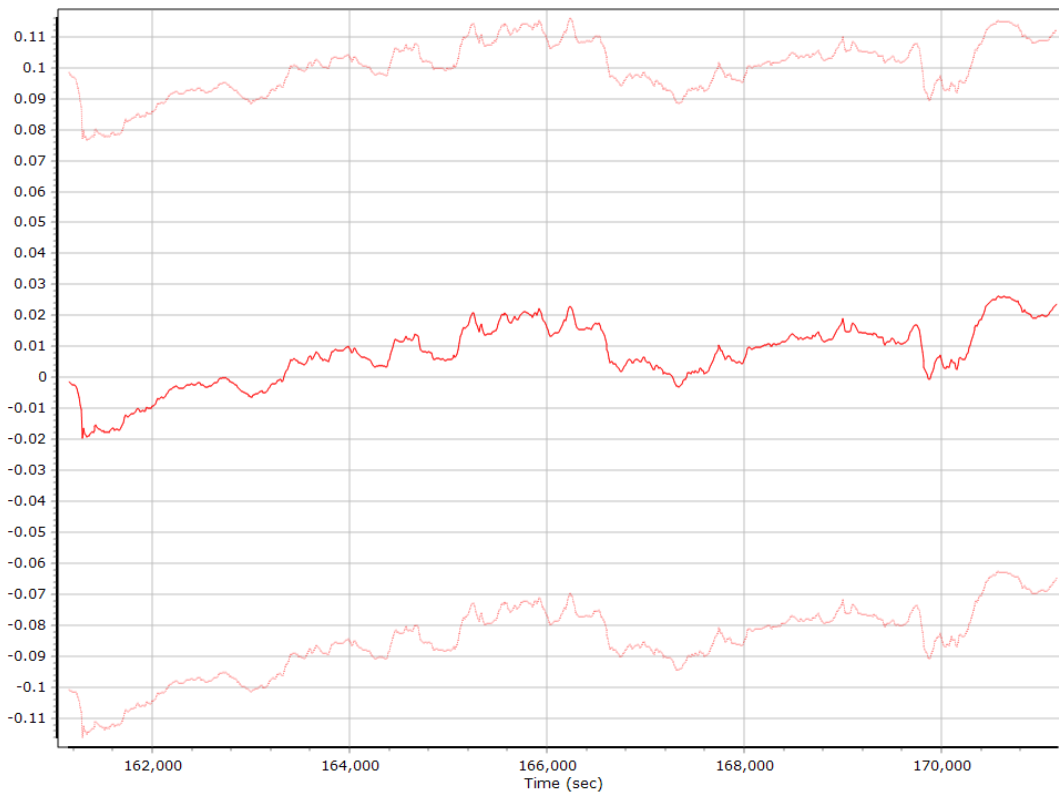
Z Accelerometer Scale Error (ppm)



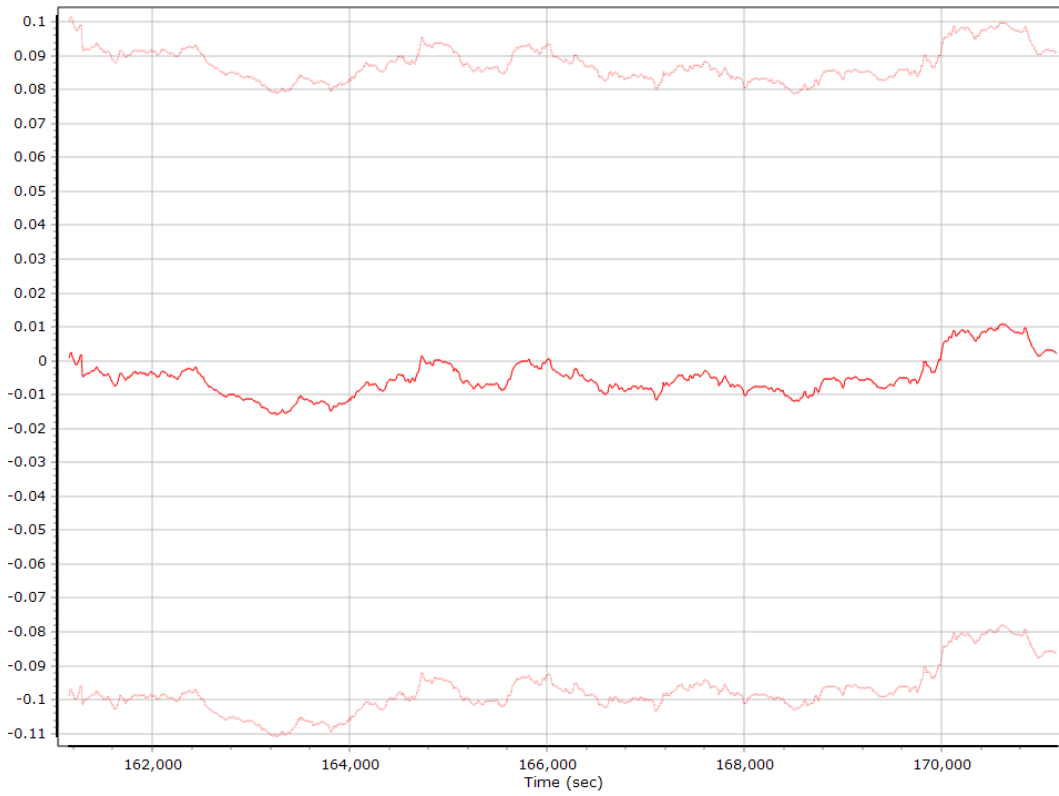
Gyro Bias (deg/h)



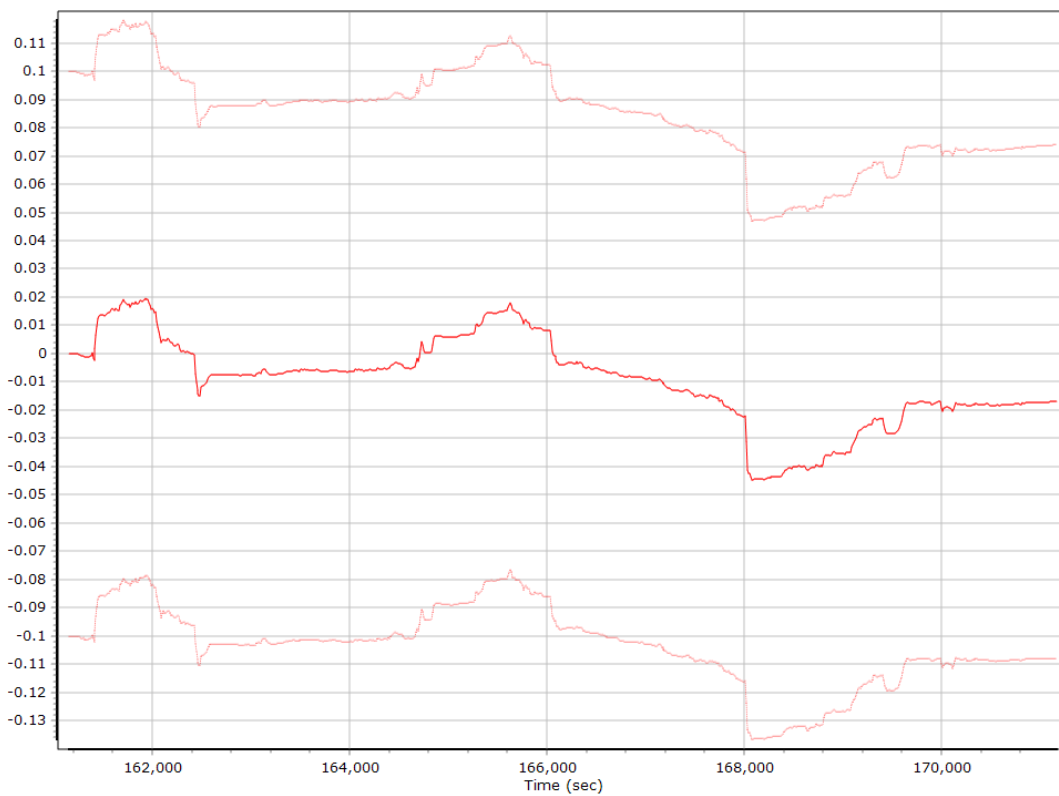
X Gyro Bias (deg/h)



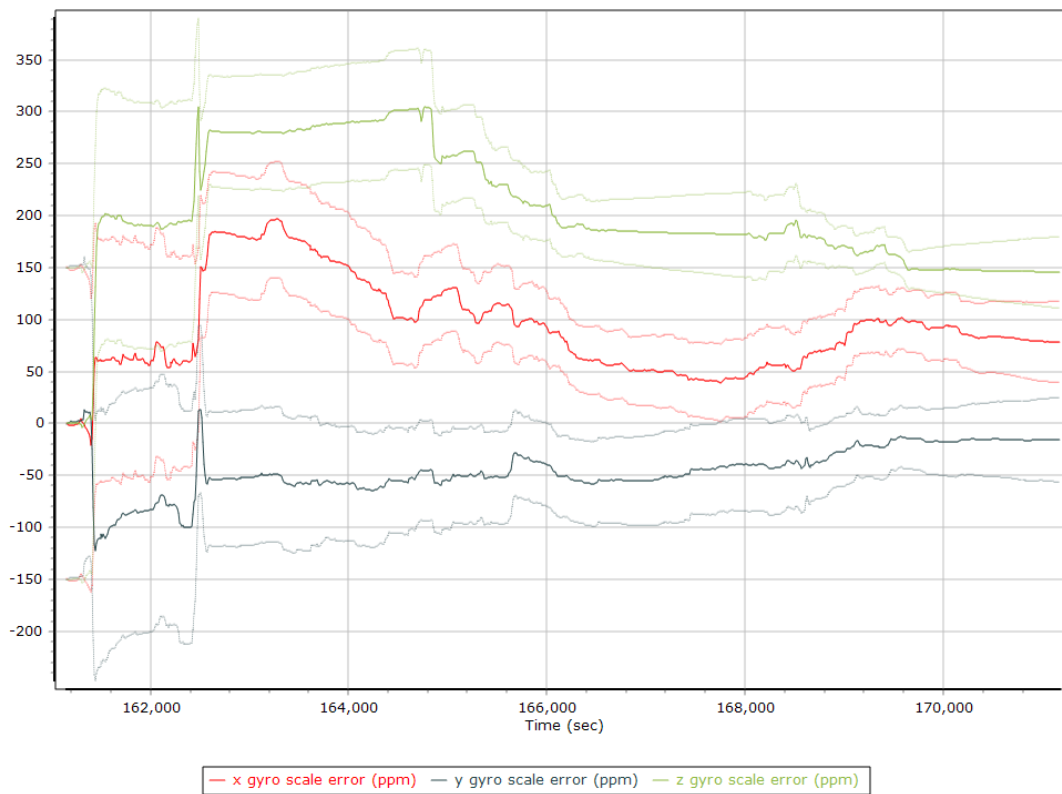
Y Gyro Bias (deg/h)



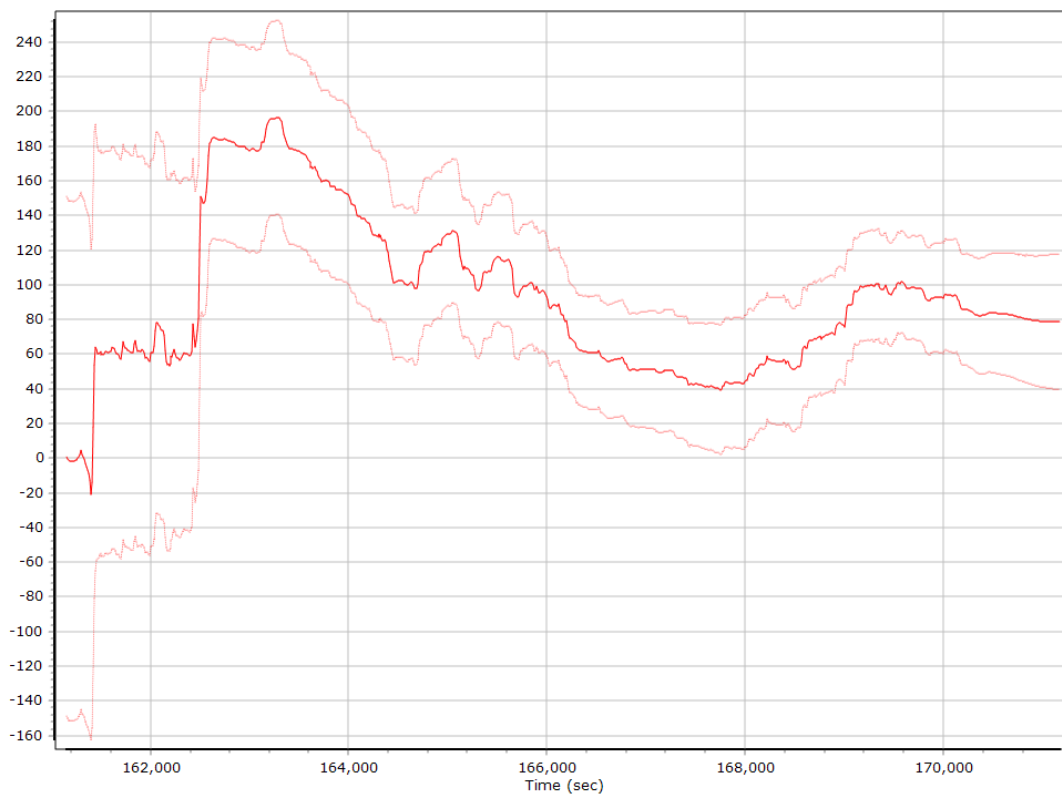
Z Gyro Bias (deg/h)



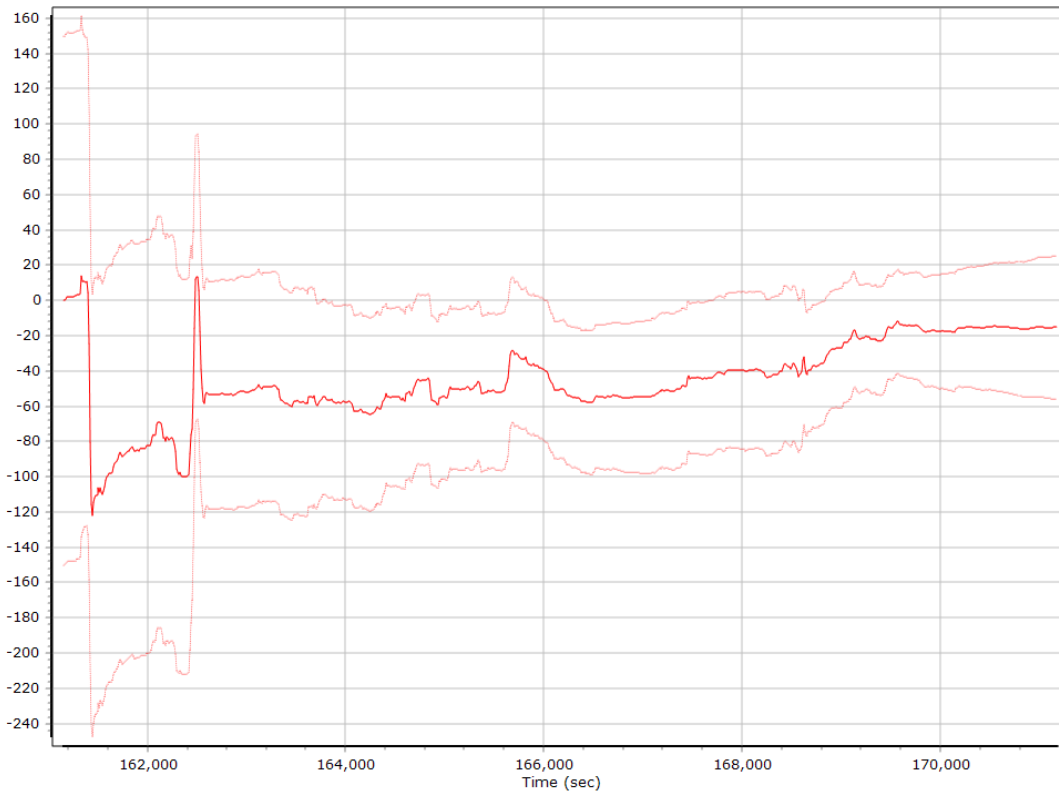
Gyro Scale Error (ppm)



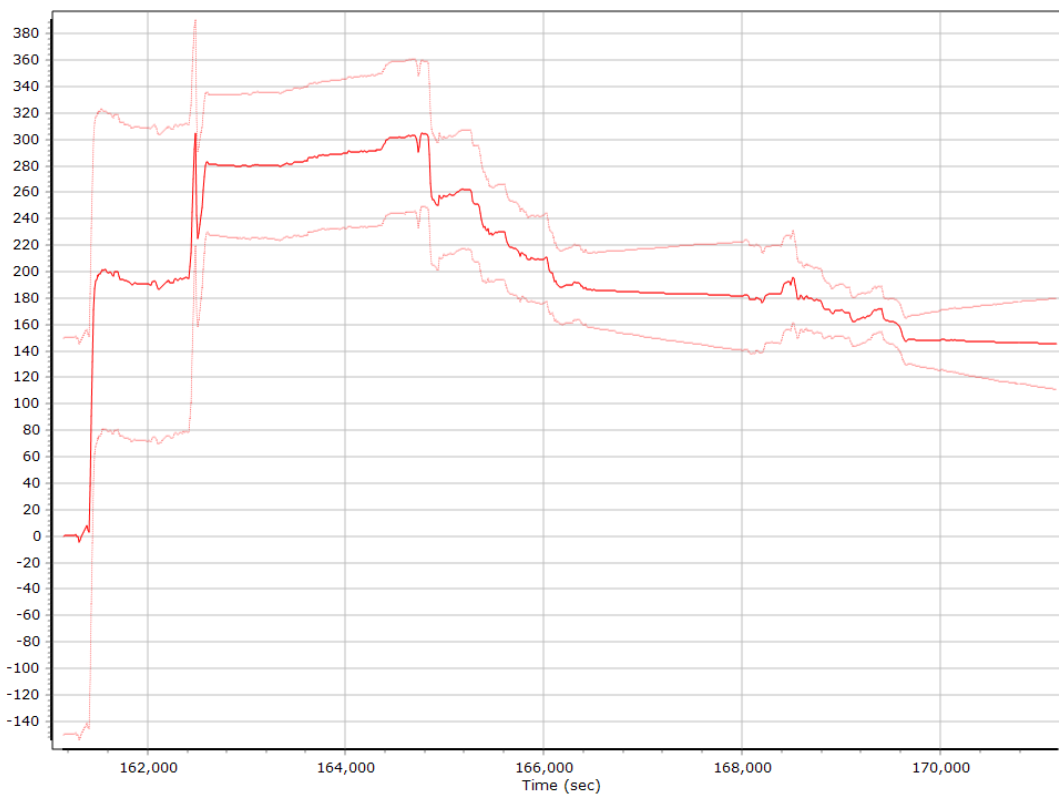
X Gyro Scale Error (ppm)



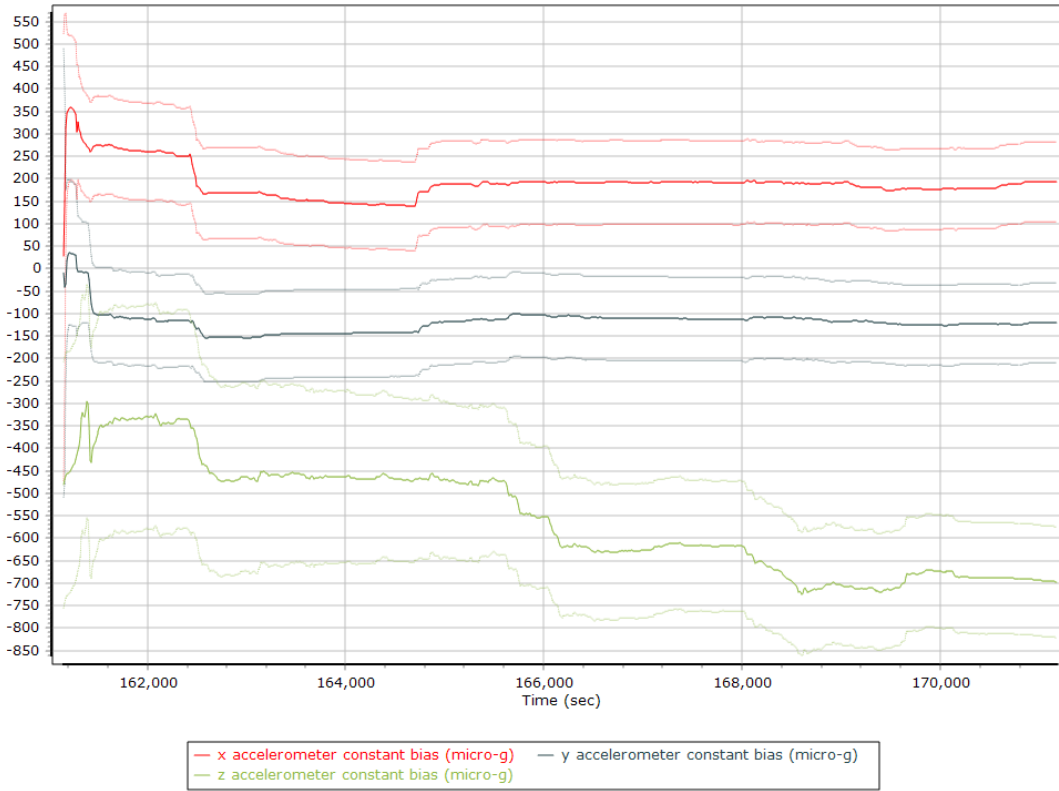
Y Gyro Scale Error (ppm)



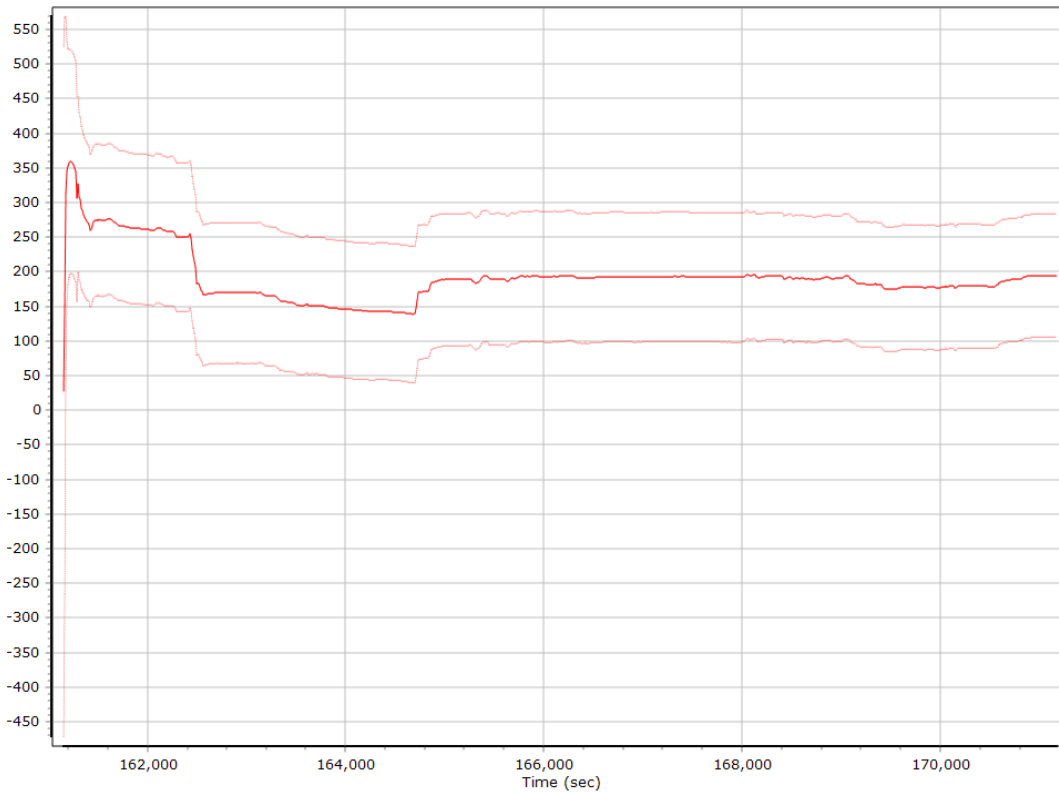
Z Gyro Scale Error (ppm)



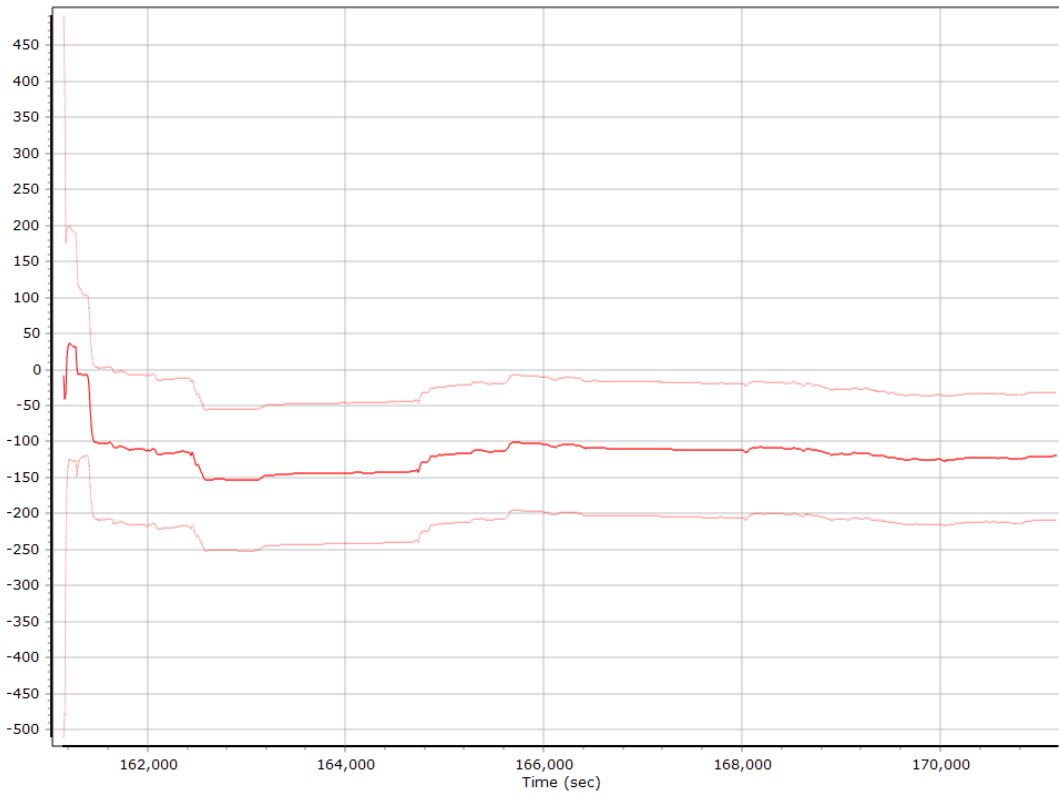
Forward Processed Estimated Constant Errors, Reference Frame Accelerometer Bias (micro-g)



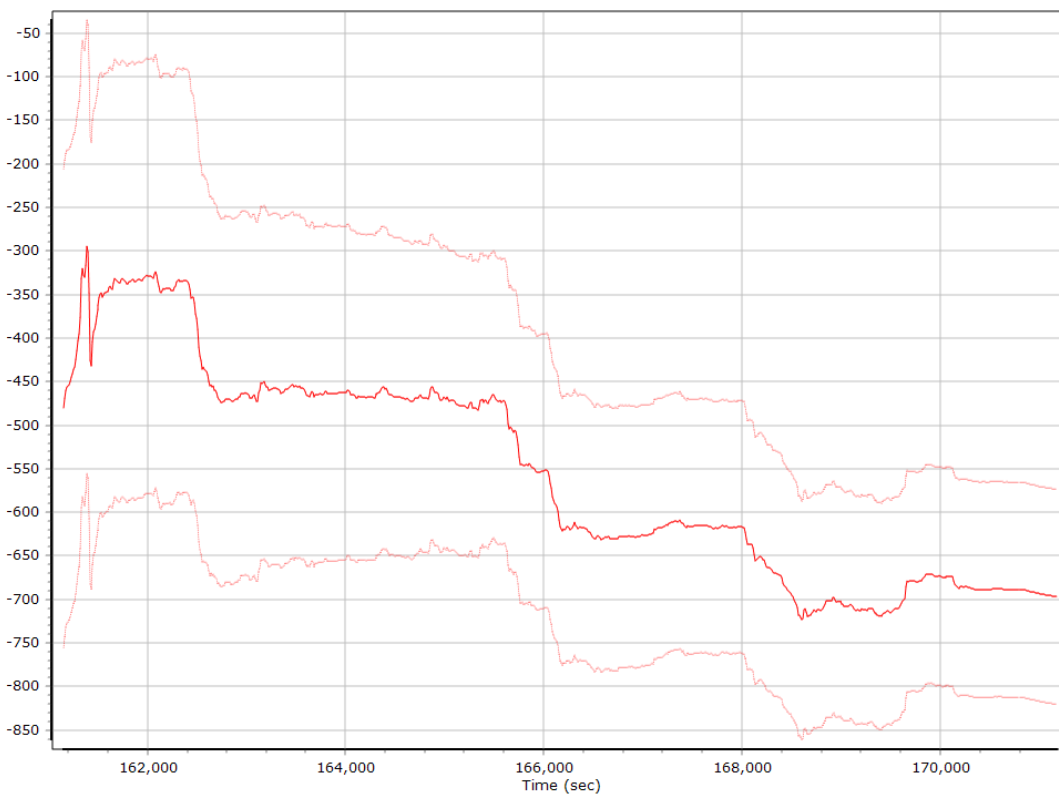
X Accelerometer Bias (micro-g)



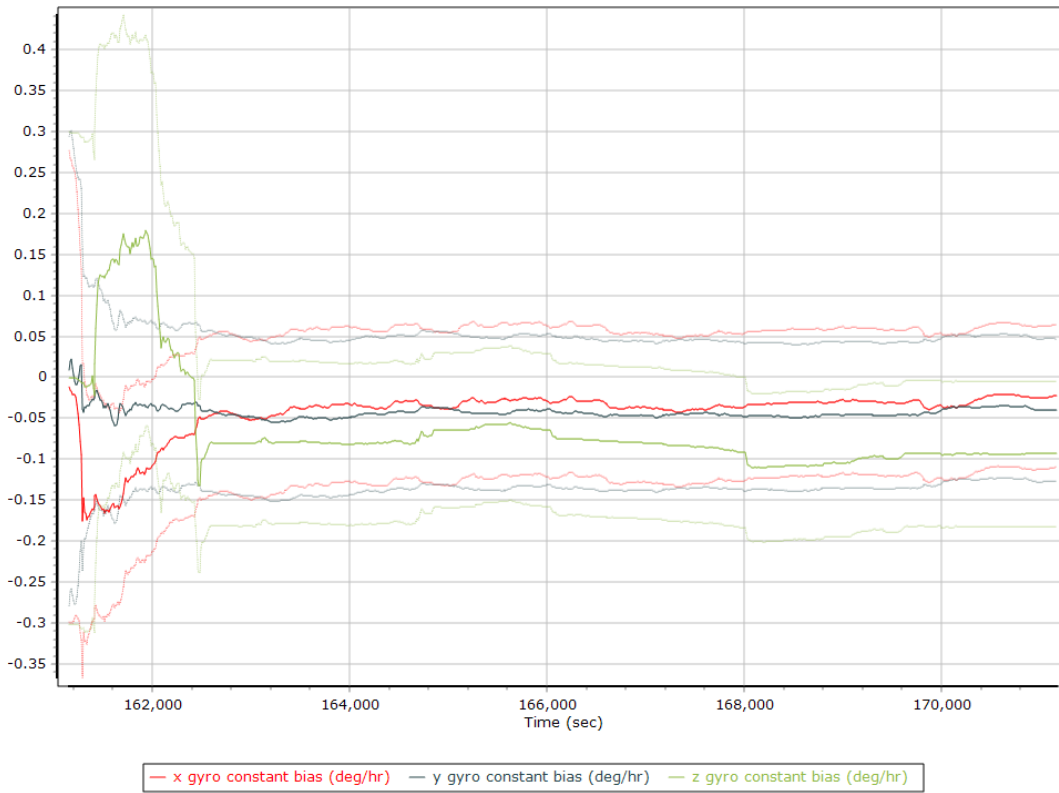
Y Accelerometer Bias (micro-g)



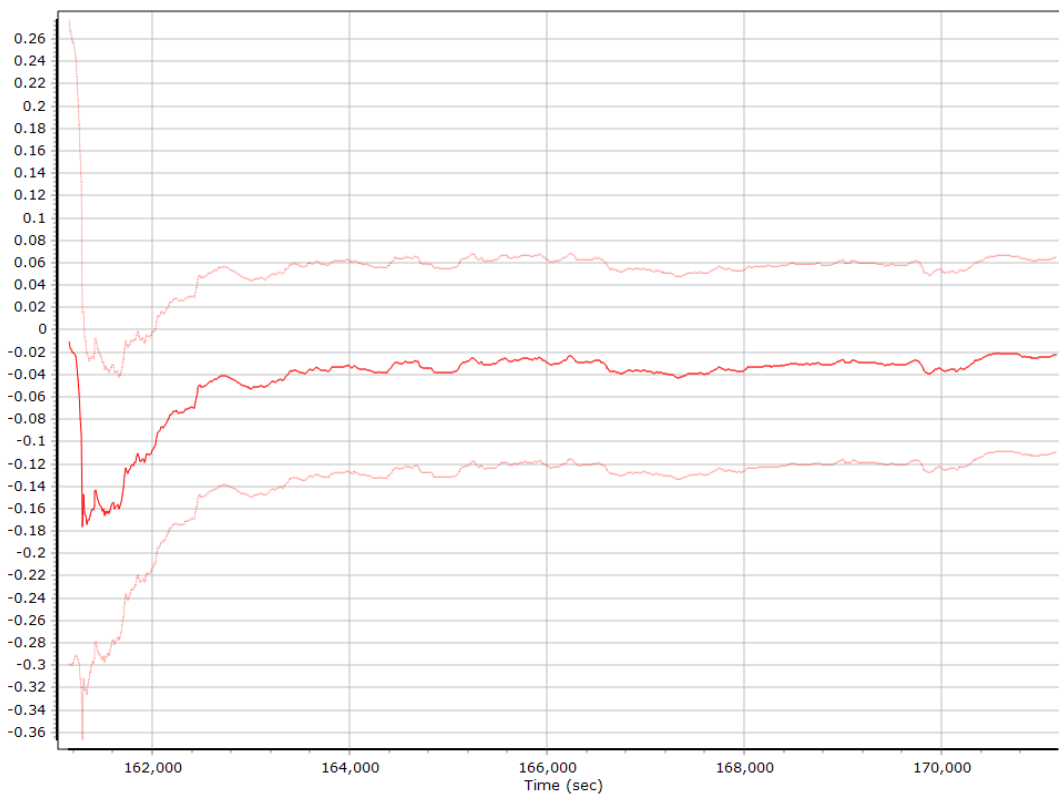
Z Accelerometer Bias (micro-g)



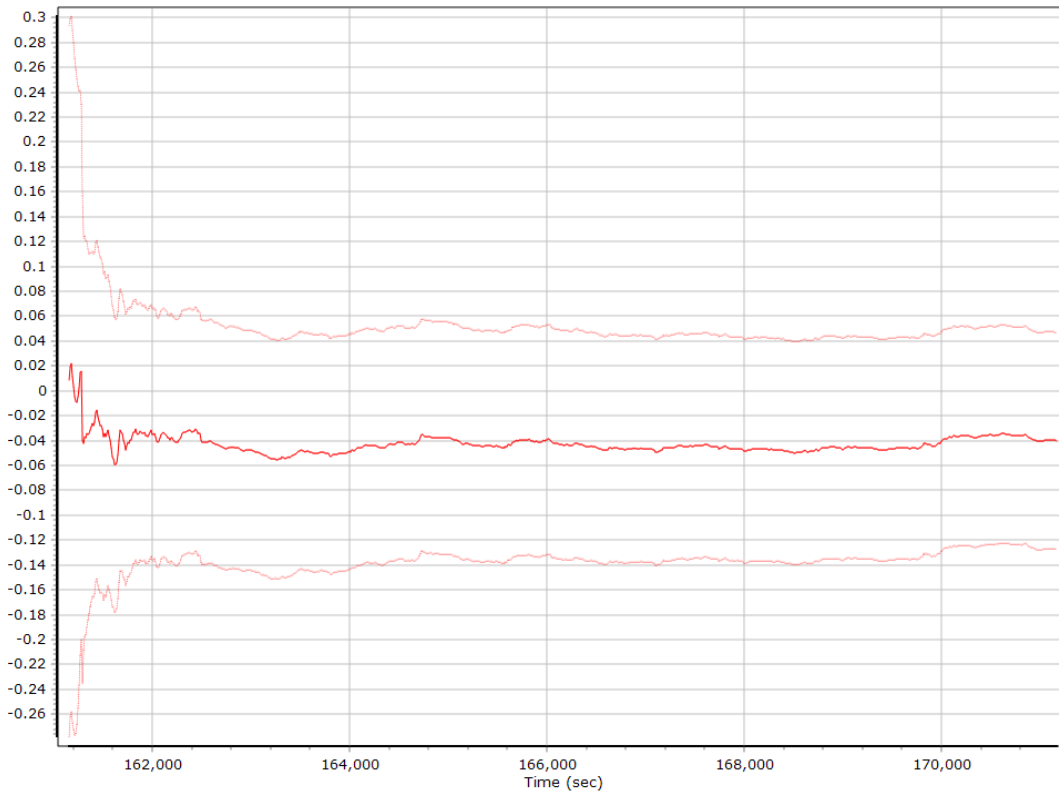
Gyro Bias (deg/h)



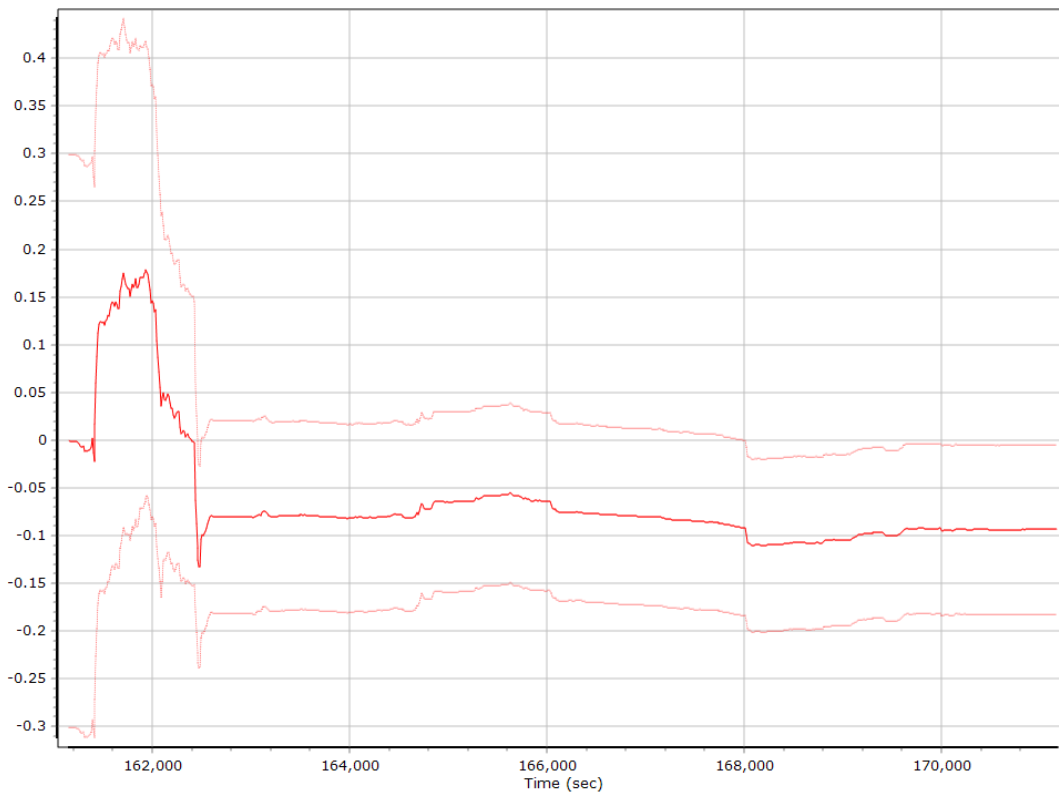
X Gyro Bias (deg/h)



Y Gyro Bias (deg/h)

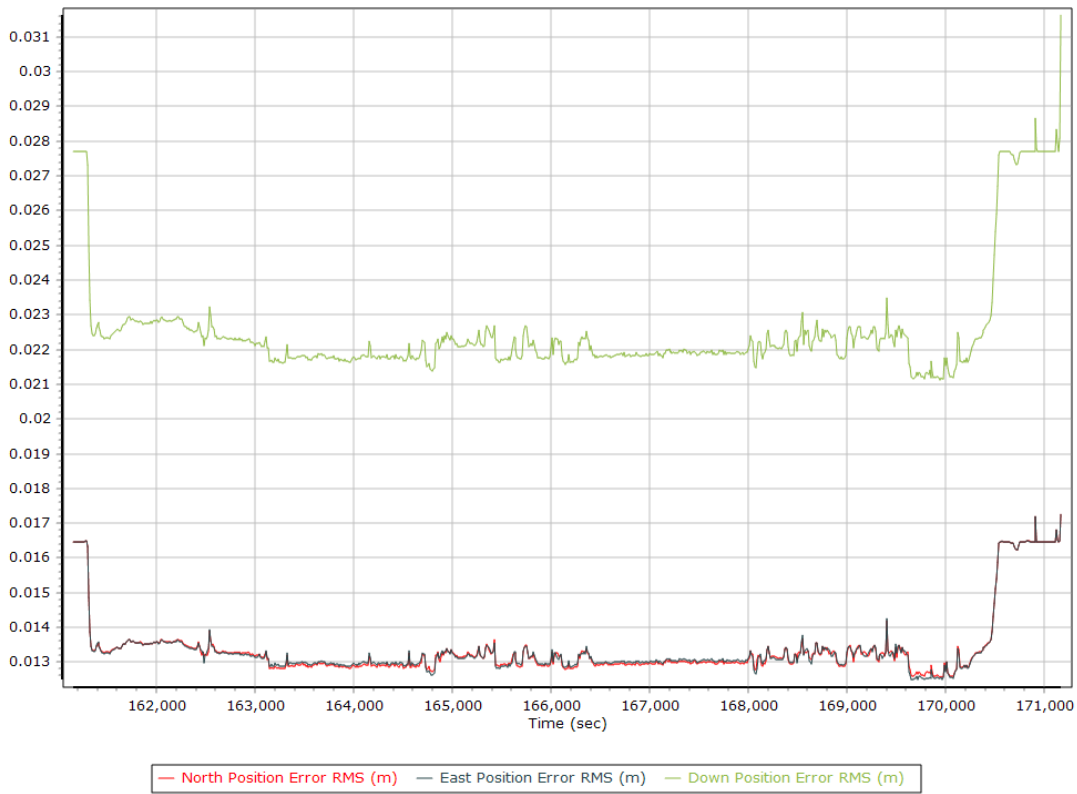


Z Gyro Bias (deg/h)

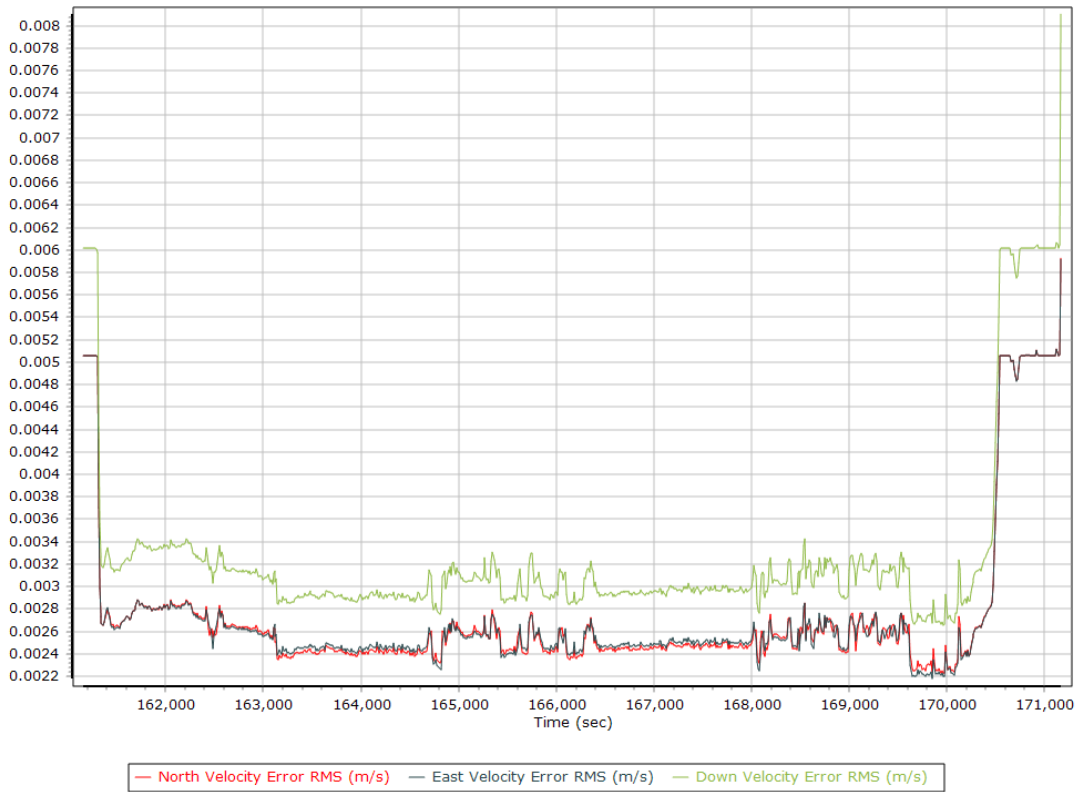


Smoothed Performance Metrics

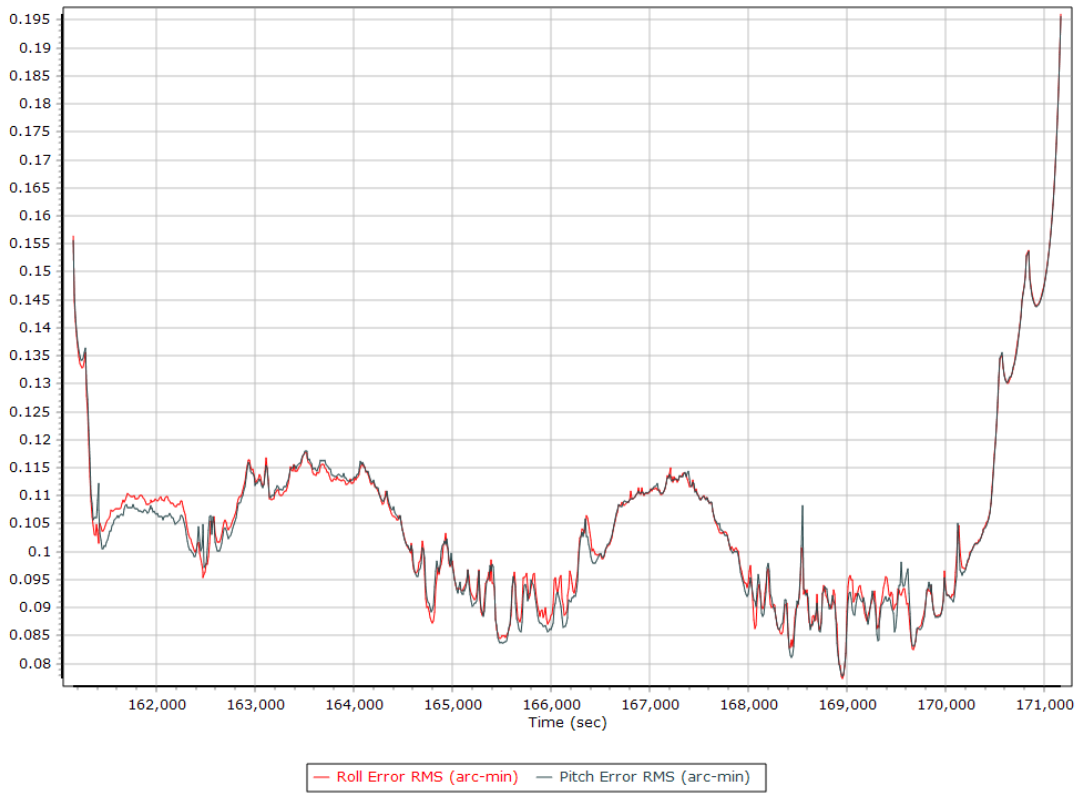
Position Error RMS (m)



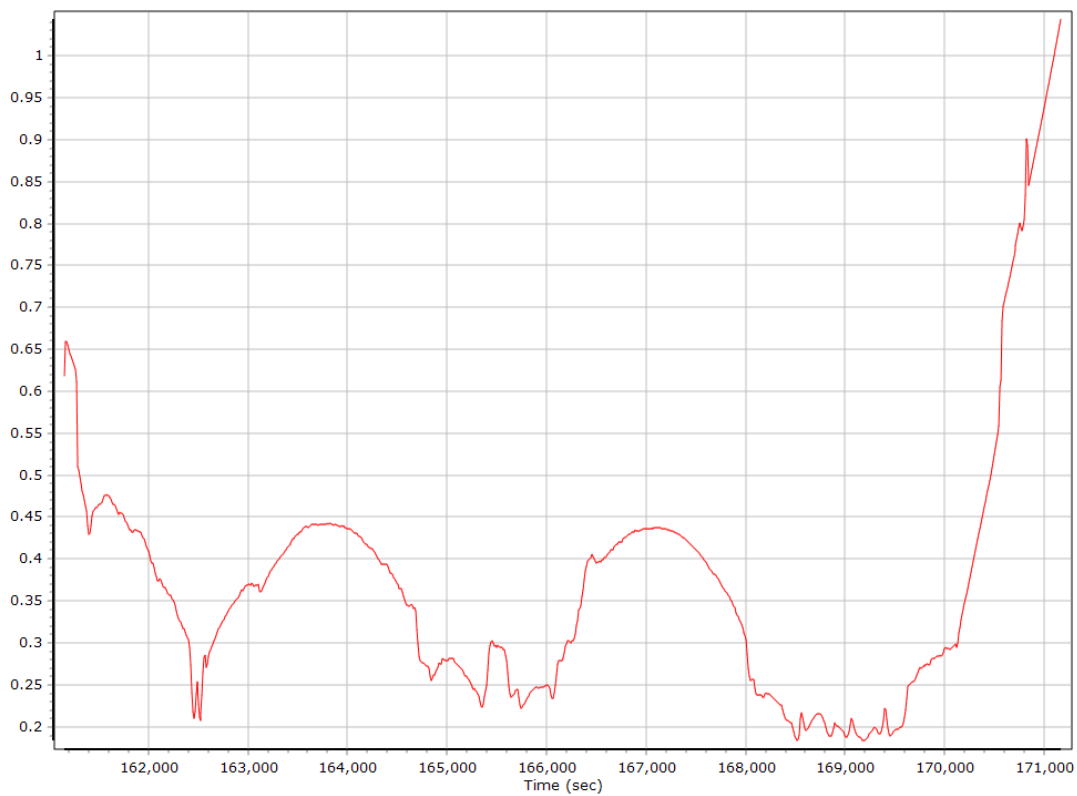
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

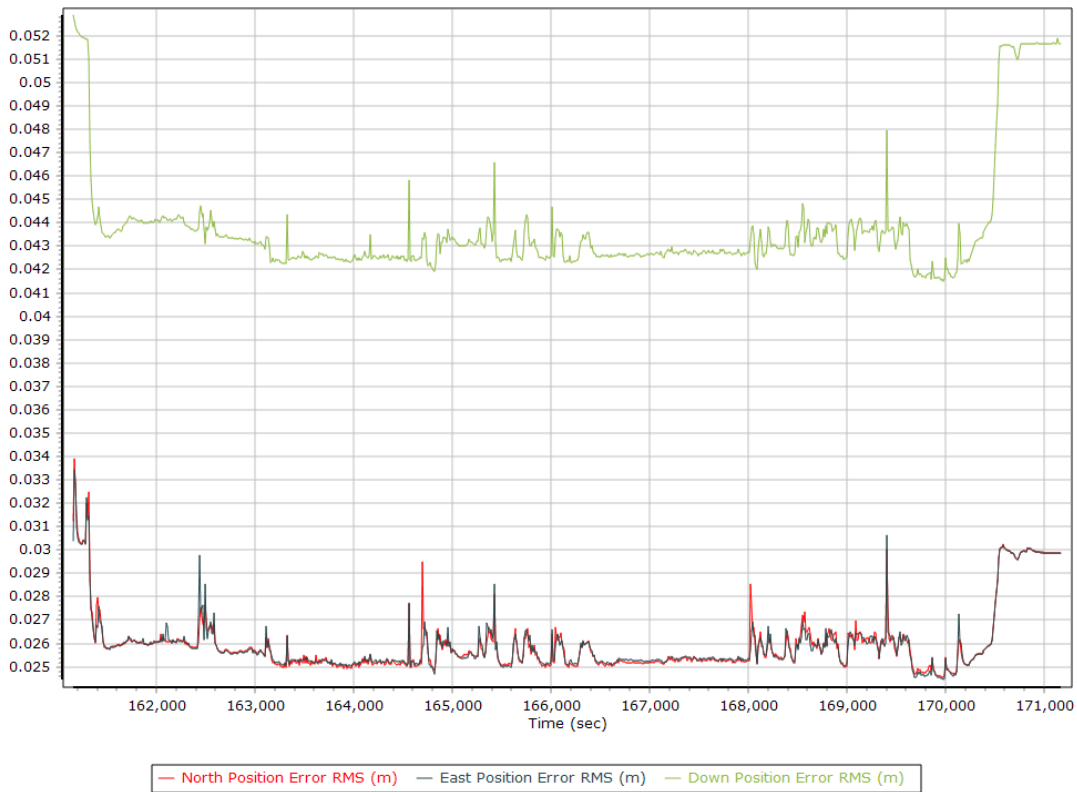


Heading Error RMS (arc-min)

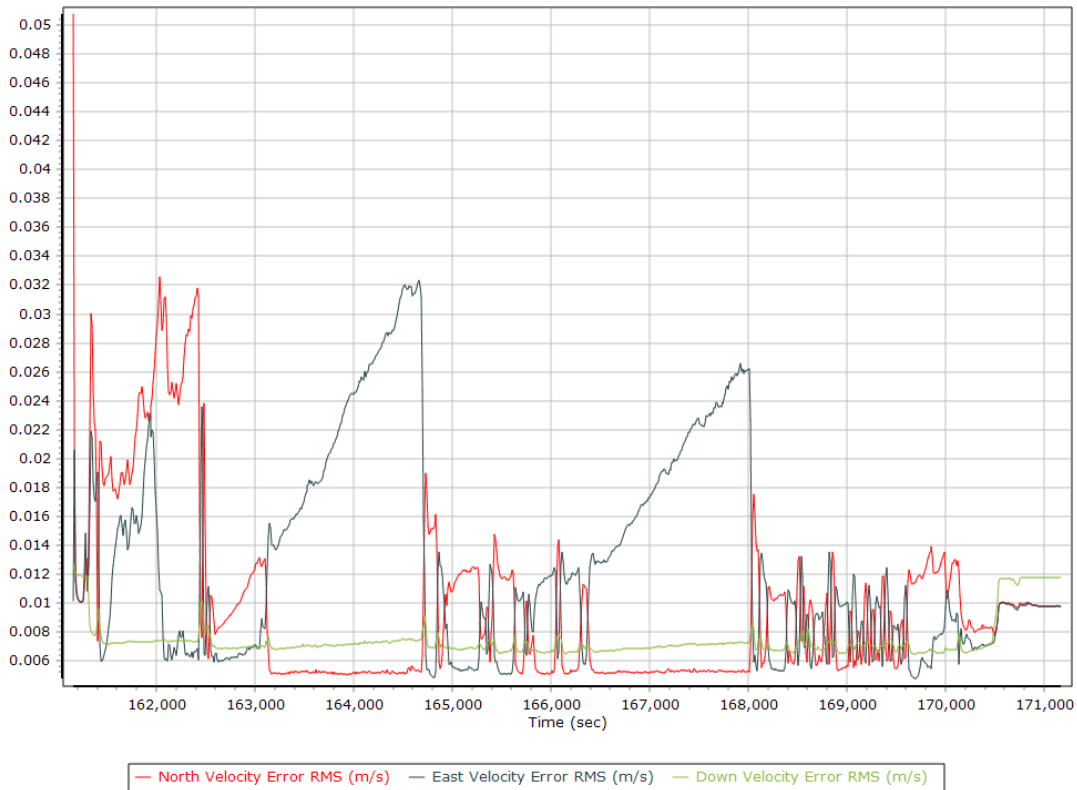


Forward Processed Performance Metrics

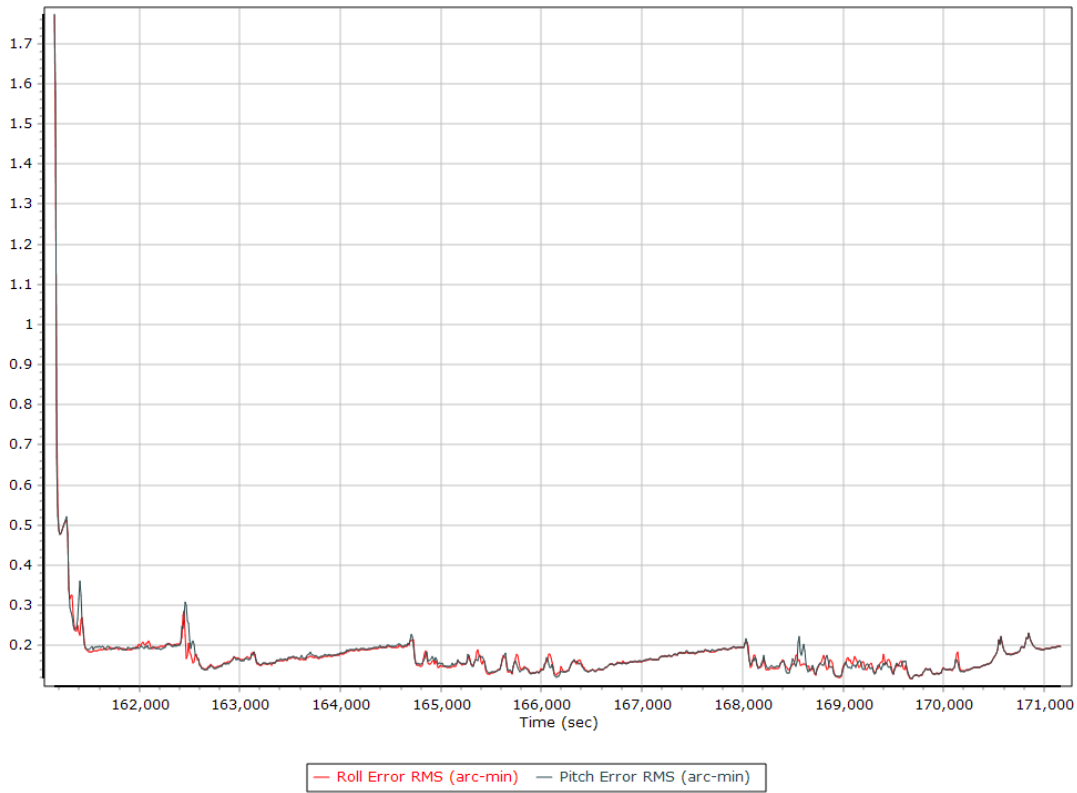
Position Error RMS (m)



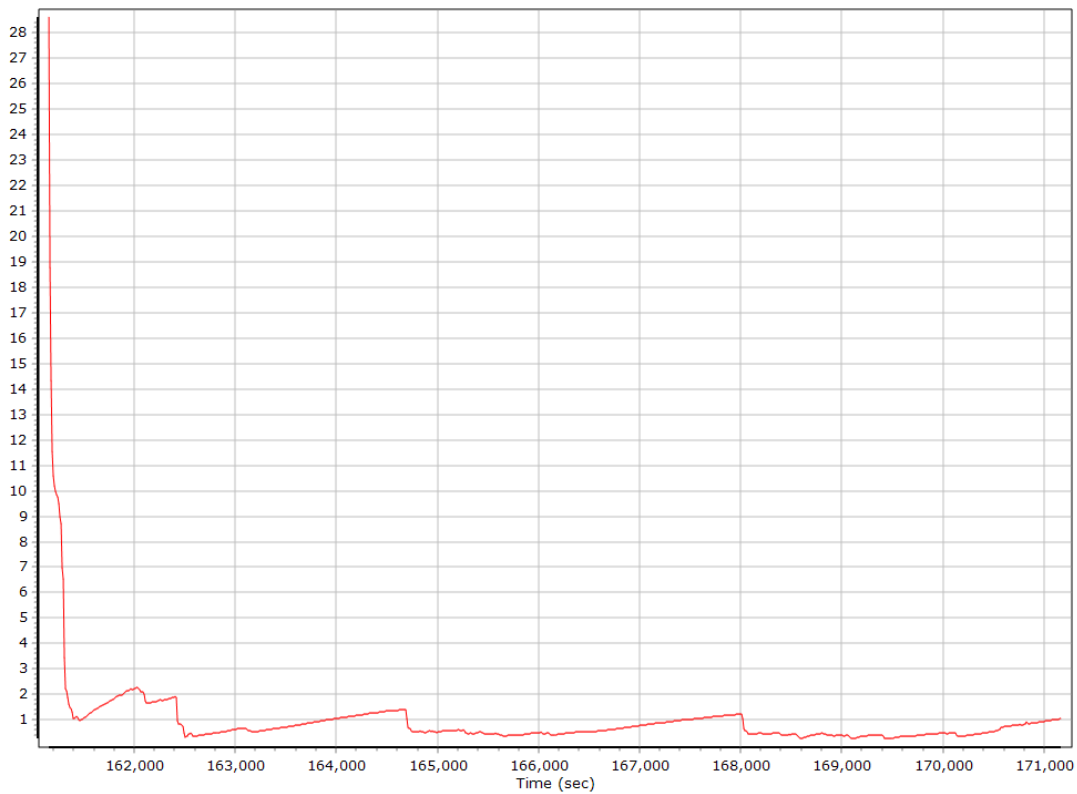
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

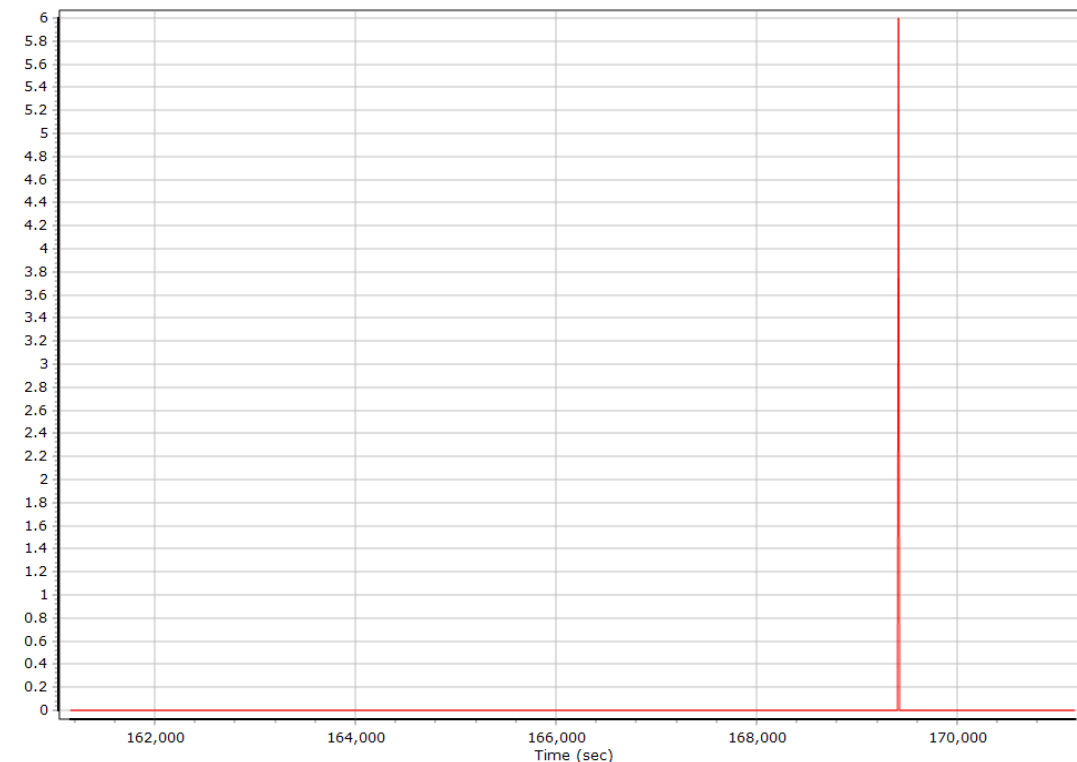


Heading Error RMS (arc-min)



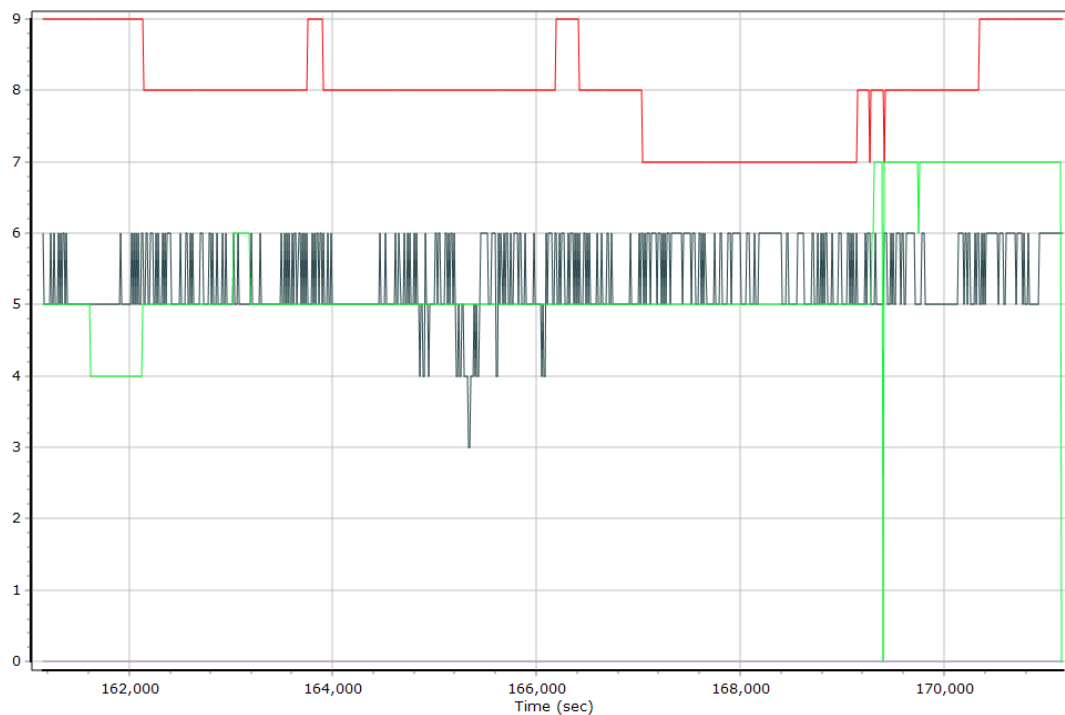
Forward Processed Solution Status

Processing Mode



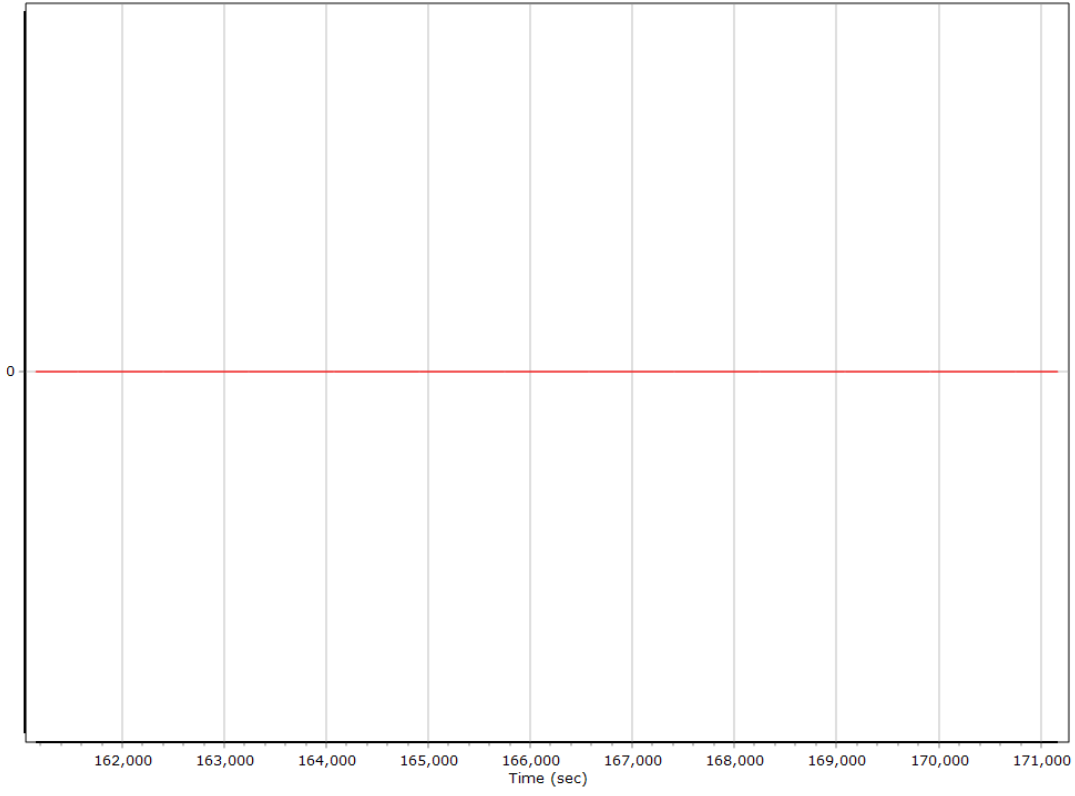
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

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



Export Summary Section 1

Export file	sbet_11927_NAD83(2011).out		
Export format	Custom Smoothed BET		
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	Meter	
Export start time	161096.003 (12/21/2020 20:44:56)		
Export end time	171170.005 (12/21/2020 23:32:50)		
Height option	Ellipsoid Height		
WGS84 height flag	False		
Grid			
Zone			
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation			
Target Epoch	2010		

Export Summary Section 2

Export file	lever_arm_values.txt		
Export format	ReferenceToPrimaryLeverArms		
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	Meter	
Export start time	161096.003 (12/21/2020 20:44:56)		
Export end time	171170.005 (12/21/2020 23:32:50)		
Height option	Ellipsoid Height		
WGS84 height flag	False		
Grid	Universal Transverse Mercator		
Zone	UTM North 14 (102W to 96W)		
Datum	WGS84		
Ellipsoid	WGS84		
Local Transformation	NONE		
Target Epoch	2010		

EO Summary Section 1

EO file			
EO format	ZI Imaging		
Lever arm (m)	0.000	0.000	0.000
Boresight angles (arcmin)	0.0000	0.0000	0.0000
Output rate	All Records		
Rotation sequence	x omega	y phi	z kappa
Local shift (m)	0.000	0.000	0.000
Output units (coordinate / angle / lat & lon)	Meter	Degree	Deg Decimal
Height option	Ellipsoid Height		
WGS84 height flag	False		
Scale height option	False		
Kappa cardinal rotation (deg)	0		
Solution in use	Post-processed		
EO start time	161096.003 (12/21/2020 20:44:56)		
EO end time	171170.005 (12/21/2020 23:32:50)		
Grid	Universal Transverse Mercator		
Zone	UTM North 14 (102W to 96W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		