

## General Information

### Mission Information

Project name	13284-1805_20181212
Processing date	2018-12-15 18:13:48
Mission date	2018-12-12 12:53:30
Mission duration	04:24:47.000
Processing mode	IN-Fusion SmartBase
GPS Station	ASB

### Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N9865
IMU type	57
Receiver type	BD982
Antenna type	AV37

## Project File List

### Rover Data Files

File name	File type
181212_125311_INS-GPS_1.raw	POS Data

### Input Files

File Name	File type
Ephm3460.18g	GLONASS Broadcast Ephemeris
Ephm3460.18n	GPS Broadcast Ephemeris
GALP346A.18g	GLONASS Broadcast Ephemeris
WVMZ346A.18g	GLONASS Broadcast Ephemeris
WVMZ346A.18n	GPS Broadcast Ephemeris
WVMZ346A.18o	GNSS SingleBase
WVOH346A.18g	GLONASS Broadcast Ephemeris
WVOH346A.18n	GPS Broadcast Ephemeris
WVOH346A.18o	GNSS SingleBase
WVRA346A.18g	GLONASS Broadcast Ephemeris
WVRA346A.18n	GPS Broadcast Ephemeris
WVRA346A.18o	GNSS SingleBase
WVRH346A.18g	GLONASS Broadcast Ephemeris
WVRH346A.18n	GPS Broadcast Ephemeris
WVHU346A.18o	GNSS SingleBase
WVHU346A.18n	GPS Broadcast Ephemeris
WVHU346A.18g	GLONASS Broadcast Ephemeris
GALP346A.18n	GPS Broadcast Ephemeris
GALP346A.18o	GNSS SingleBase
WVCH346A.18g	GLONASS Broadcast Ephemeris
WVCH346A.18n	GPS Broadcast Ephemeris
WVCH346A.18o	GNSS SingleBase
WVCL346A.18g	GLONASS Broadcast Ephemeris
WVCL346A.18n	GPS Broadcast Ephemeris
WVCL346A.18o	GNSS SingleBase
WVFL346A.18g	GLONASS Broadcast Ephemeris
WVFL346A.18n	GPS Broadcast Ephemeris
WVFL346A.18o	GNSS SingleBase
WVRH346A.18o	GNSS SingleBase
igr20312.sp3	GPS Precise Ephemeris
igr20313.sp3	GPS Precise Ephemeris
igr20314.sp3	GPS Precise Ephemeris

### Output Files

Filename	File type
sbet_Mission 1.out	SBET Trajectory File

## Rover Data Summary

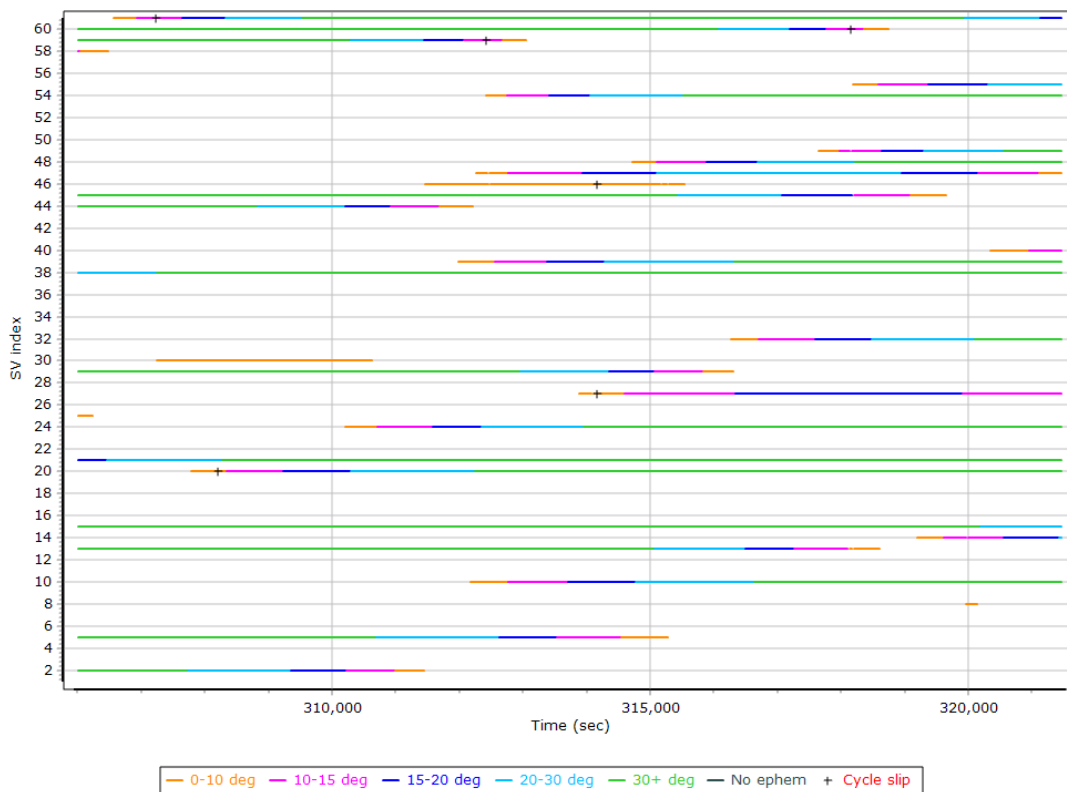
First raw data file	181212_125311_INS-GPS_1.raw		
Last raw data file	181212_125311_INS-GPS_1.raw		
Start GPS week	2031		
Start time	305591.942 (12/12/2018 12:53:11 PM)		
End time	321478.796 (12/12/2018 5:17:58 PM)		
Start of fine alignment	305954.033 (12/12/2018 12:59:14 PM)		
Available subsystems	Primary GNSS, Gimbal, IMU		
POS Event Input	Event 1 Input, Event 2 Input, Event 3 Input, Event 4 Input, Event 5 Input, Event 6 Input		
Correction data	None		
<b>IMU Installation Lever Arms &amp; Mounting Angles</b>			
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

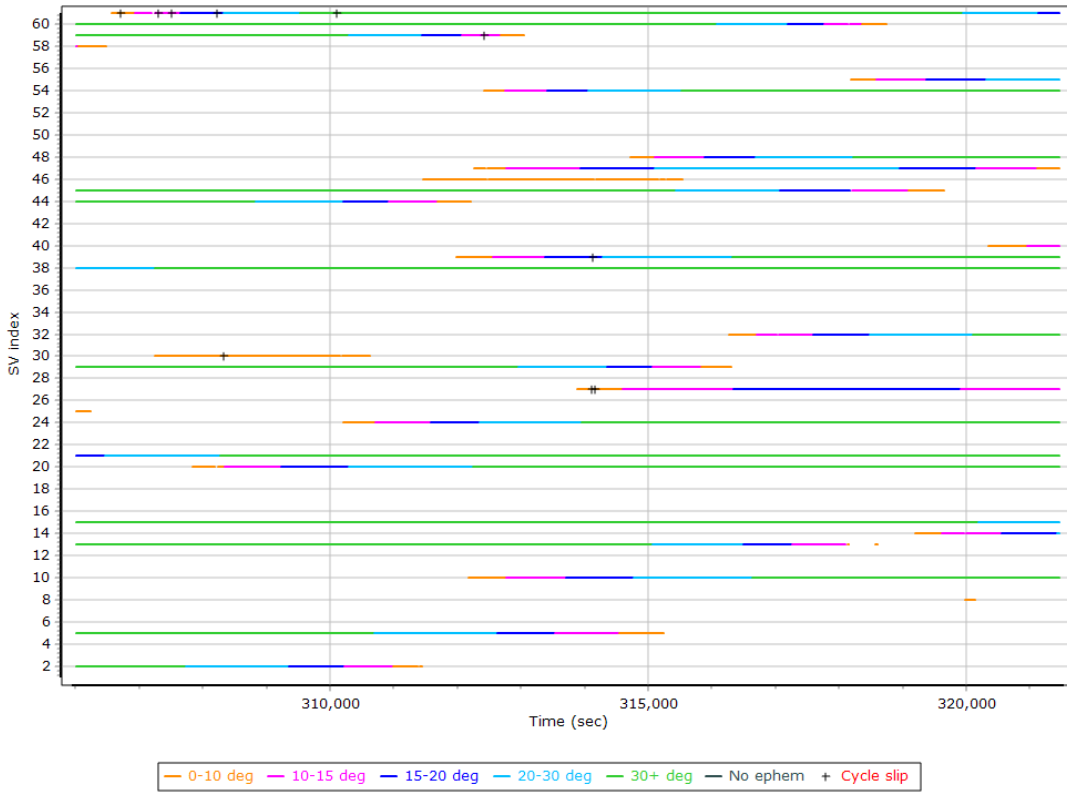
## Raw IMU Import QC Summary

IMU data input file	imu_Mission 1.dat
IMU data check log file	imudt_Mission 1.log
IMU Records Processed	3176704
Termination Status	Normal
IMU Anomalies	0

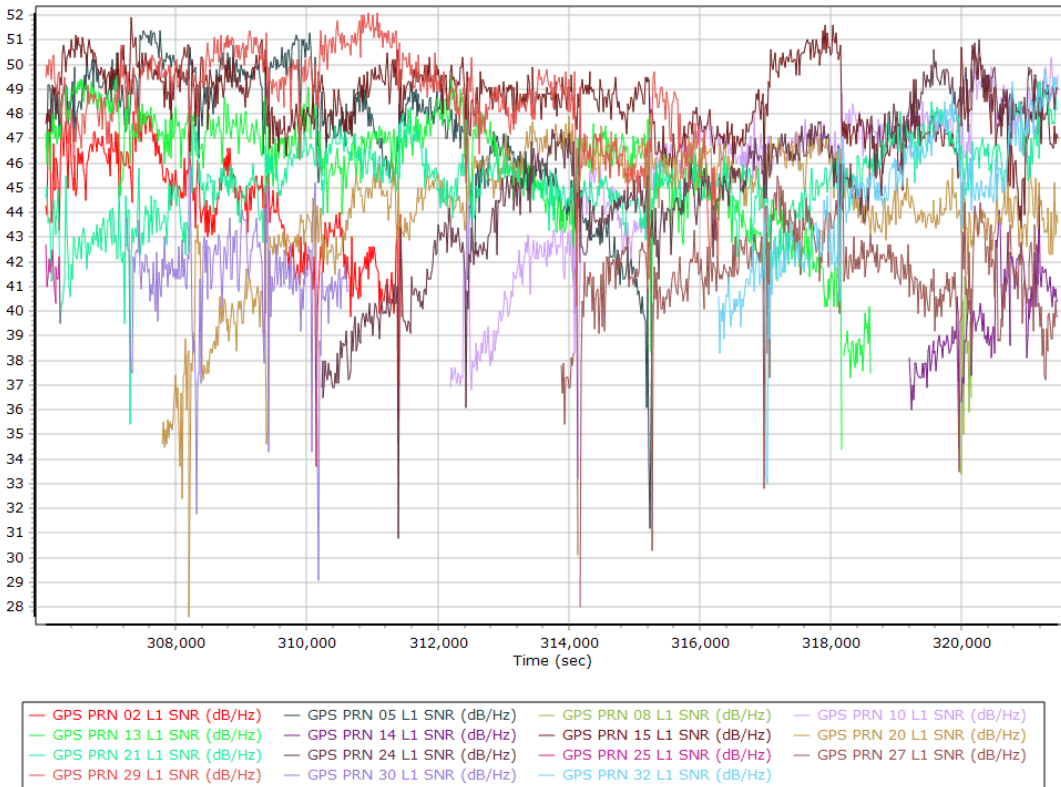
### L1 Satellite Lock/Elevation



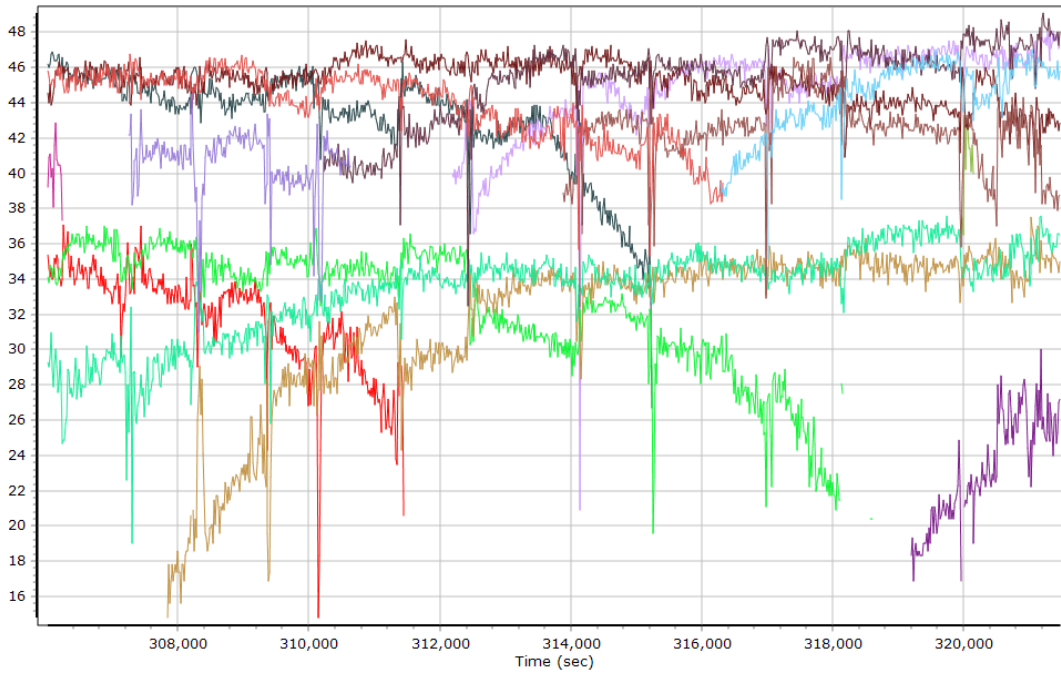
## L2 Satellite Lock/Elevation



## GPS L1 SNR

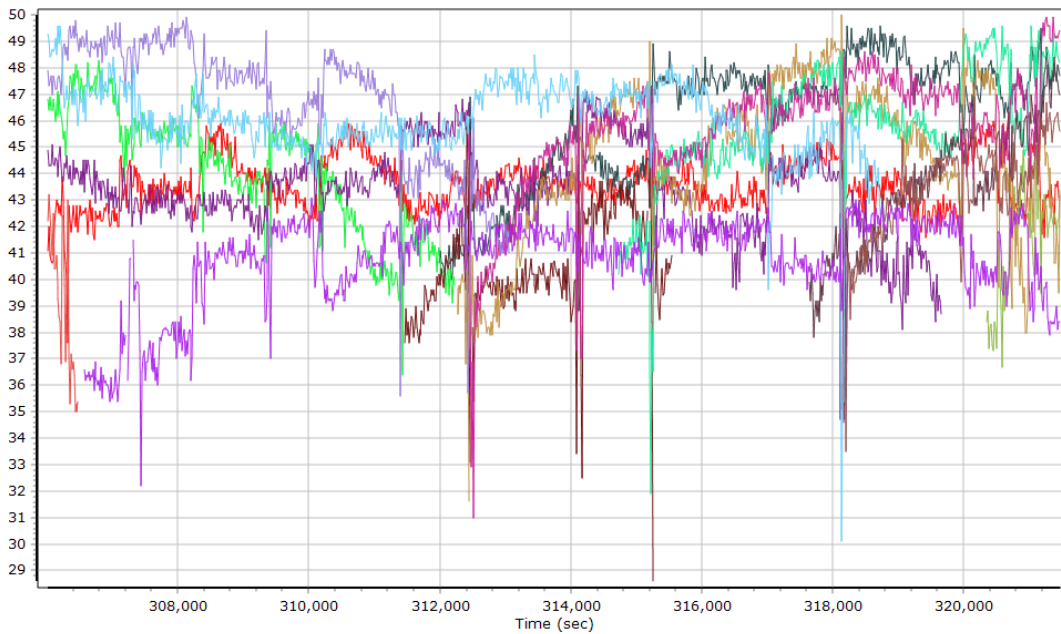


## GPS L2 SNR



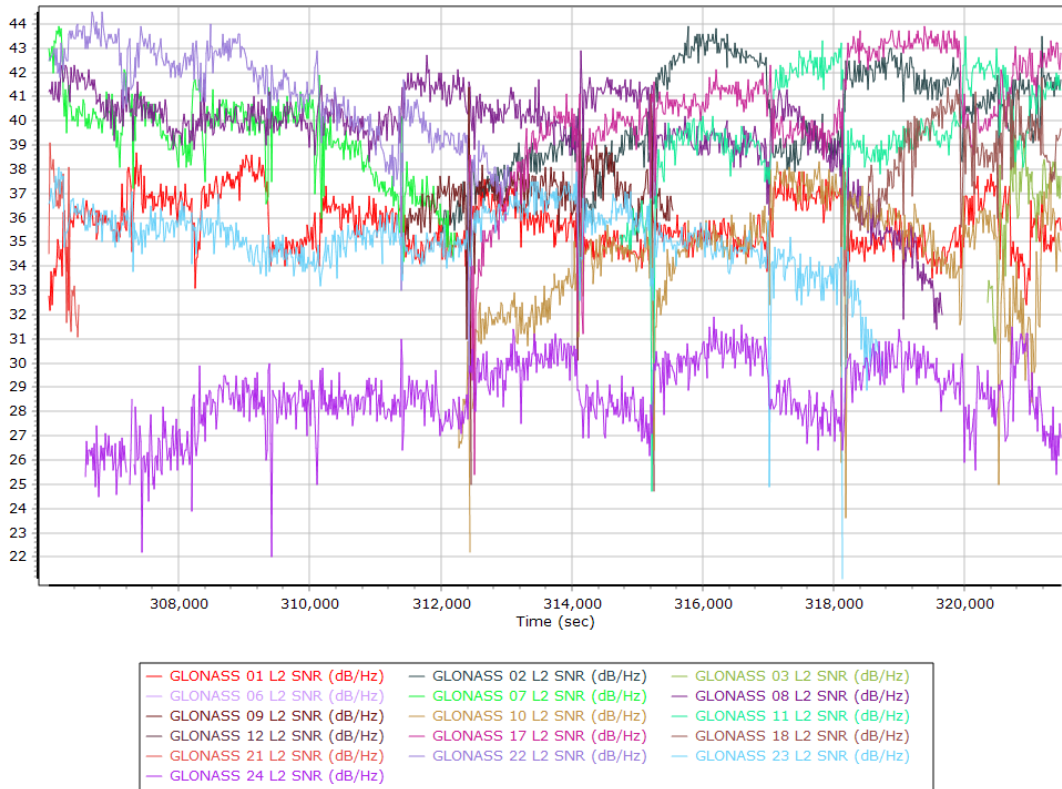
- |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 02 L2 SNR (dB/Hz) | GPS PRN 05 L2 SNR (dB/Hz) | GPS PRN 08 L2 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 30 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) |                           |

## GLONASS L1 SNR

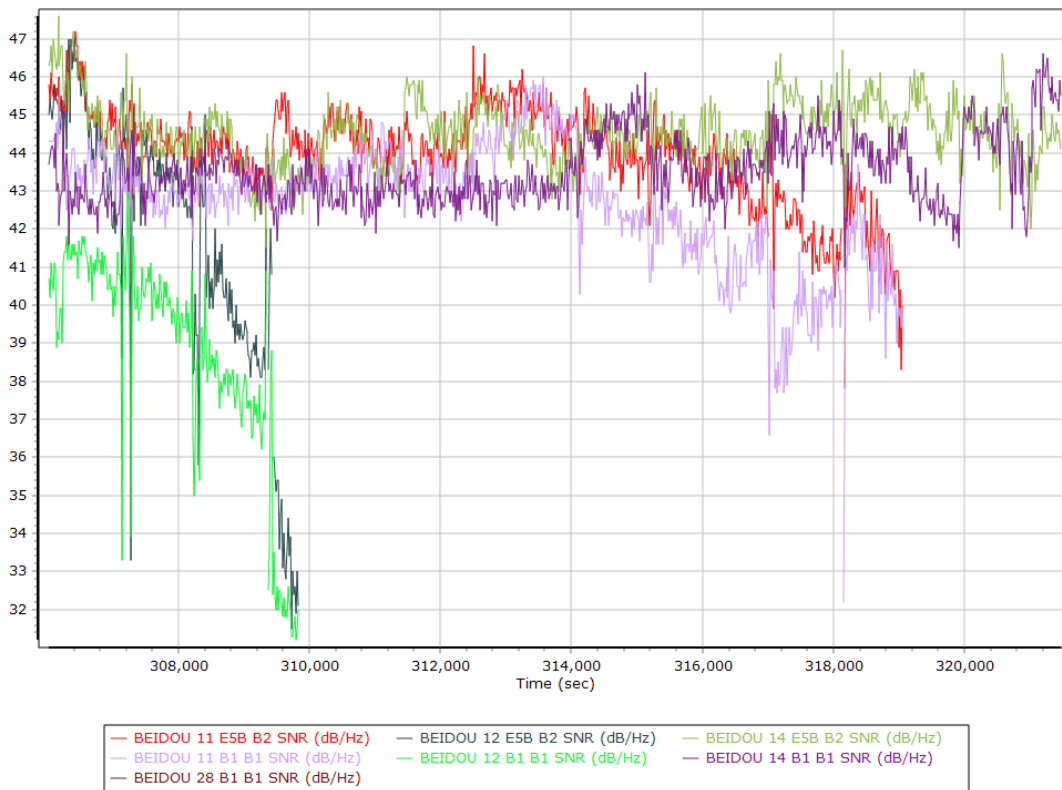


- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 02 L1 SNR (dB/Hz) | GLONASS 03 L1 SNR (dB/Hz) |
| GLONASS 06 L1 SNR (dB/Hz) | GLONASS 07 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 17 L1 SNR (dB/Hz) | GLONASS 18 L1 SNR (dB/Hz) |
| GLONASS 21 L1 SNR (dB/Hz) | GLONASS 22 L1 SNR (dB/Hz) | GLONASS 23 L1 SNR (dB/Hz) |
| GLONASS 24 L1 SNR (dB/Hz) |                           |                           |

## GLONASS L2 SNR

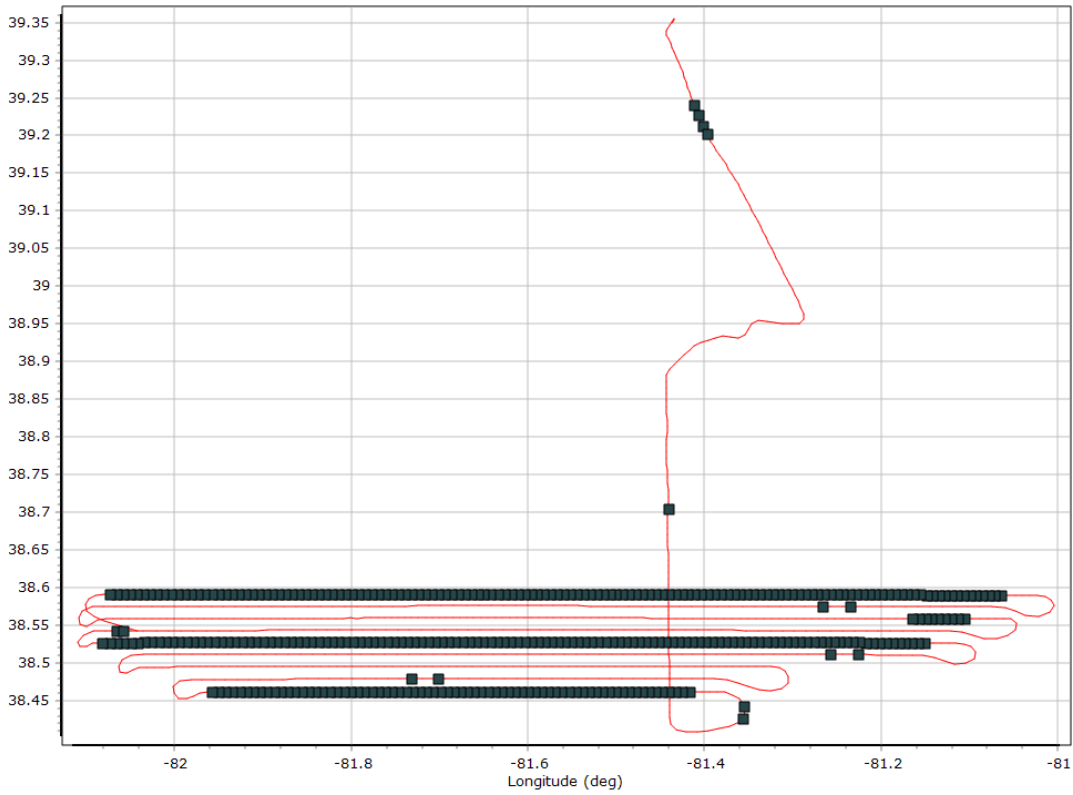


## BEIDOU SNR

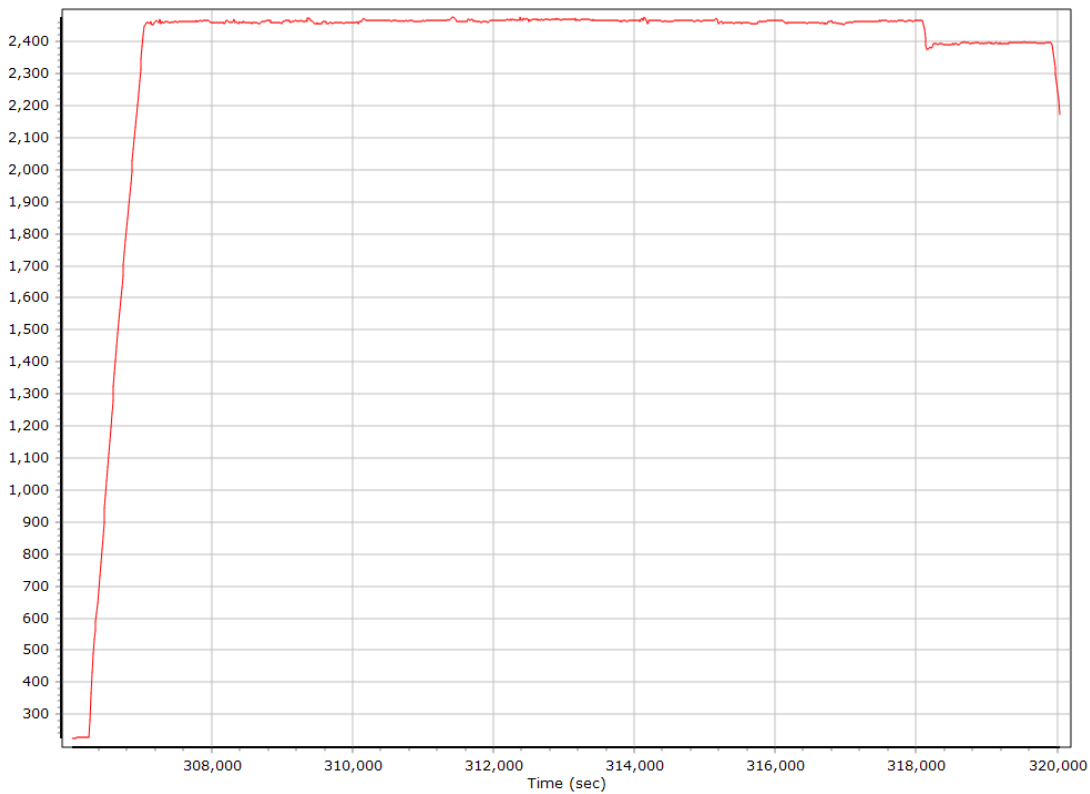


## Trajectory Information

### Top View

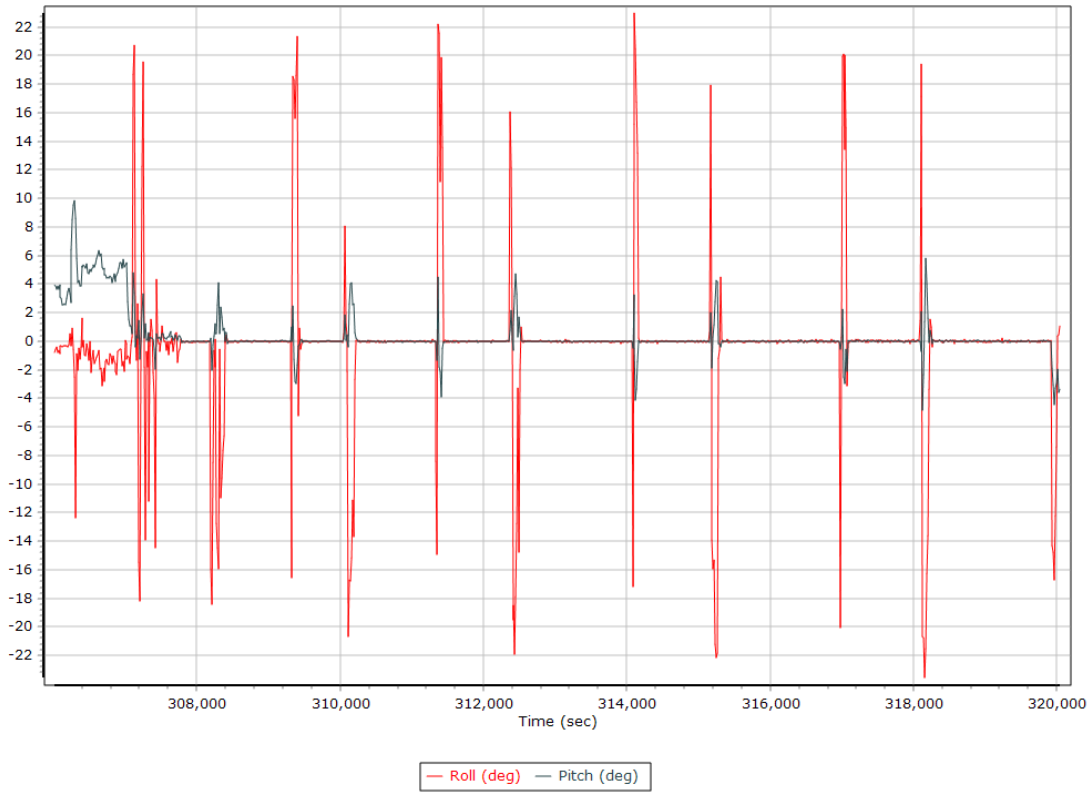


### Altitude

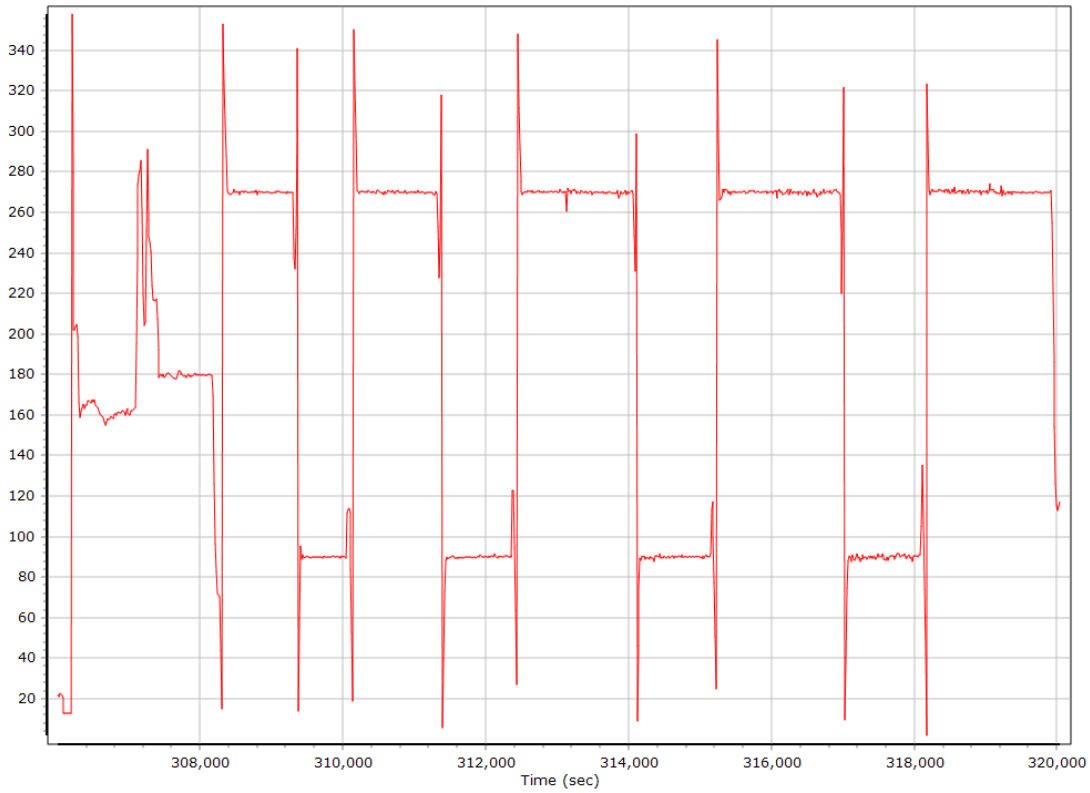




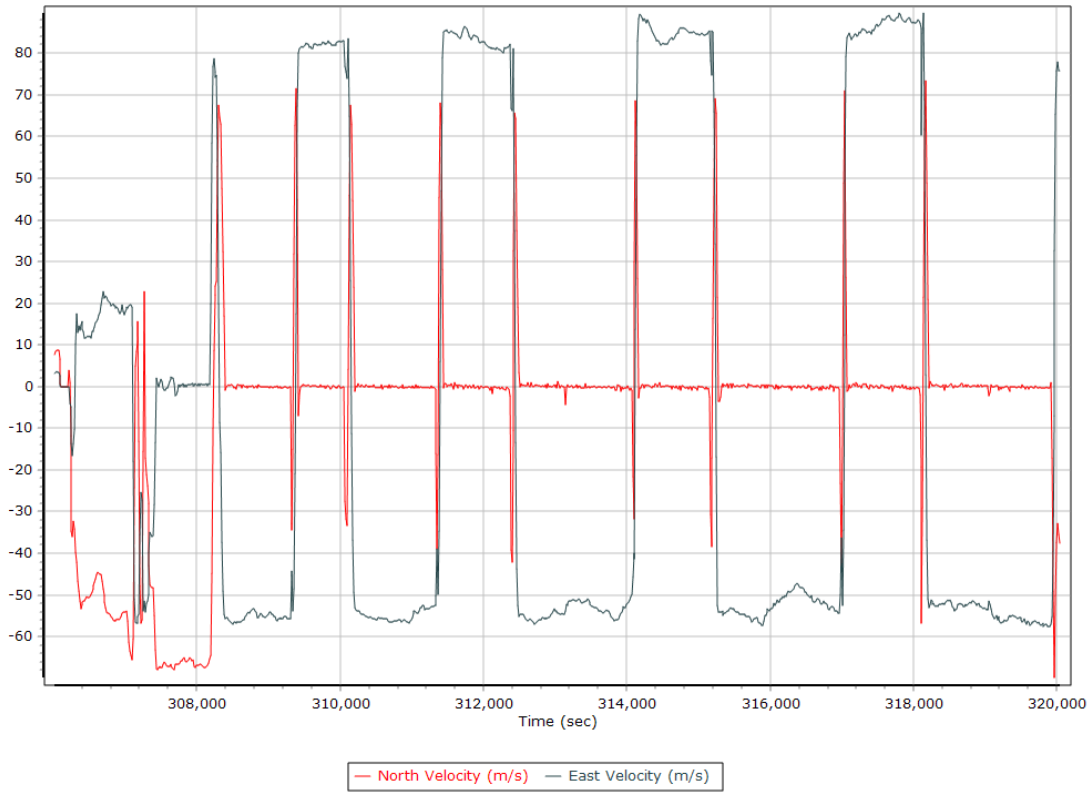
## Roll/Pitch



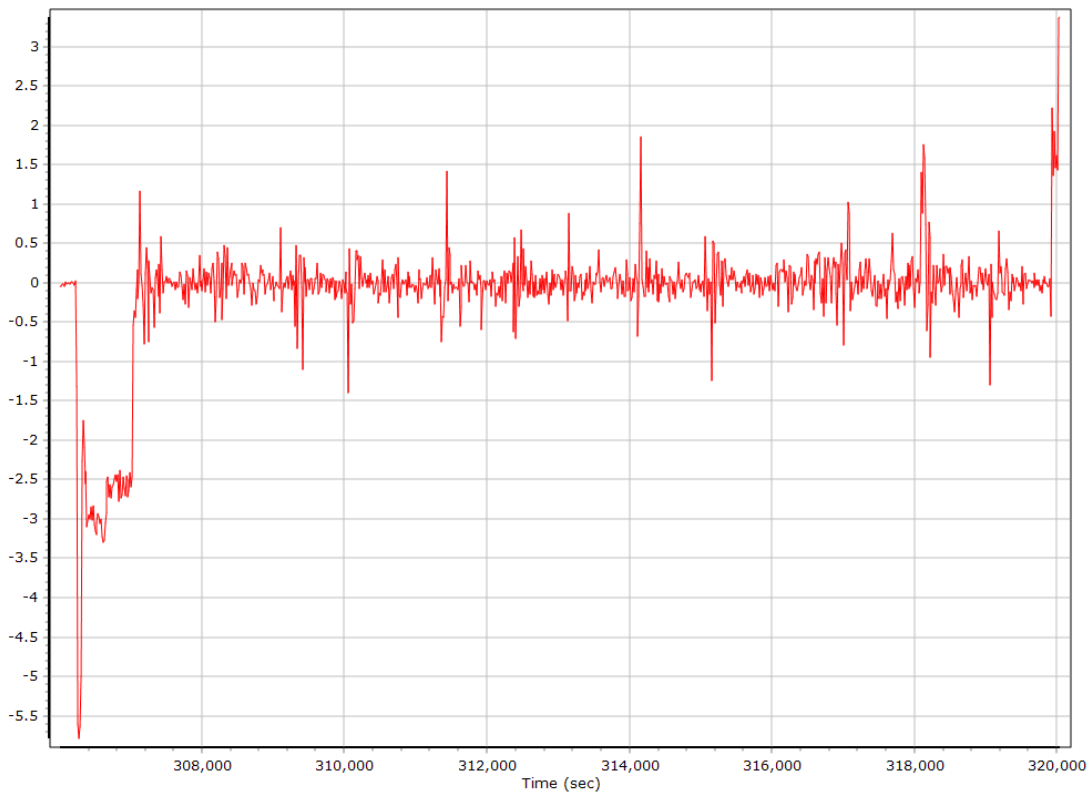
## Heading



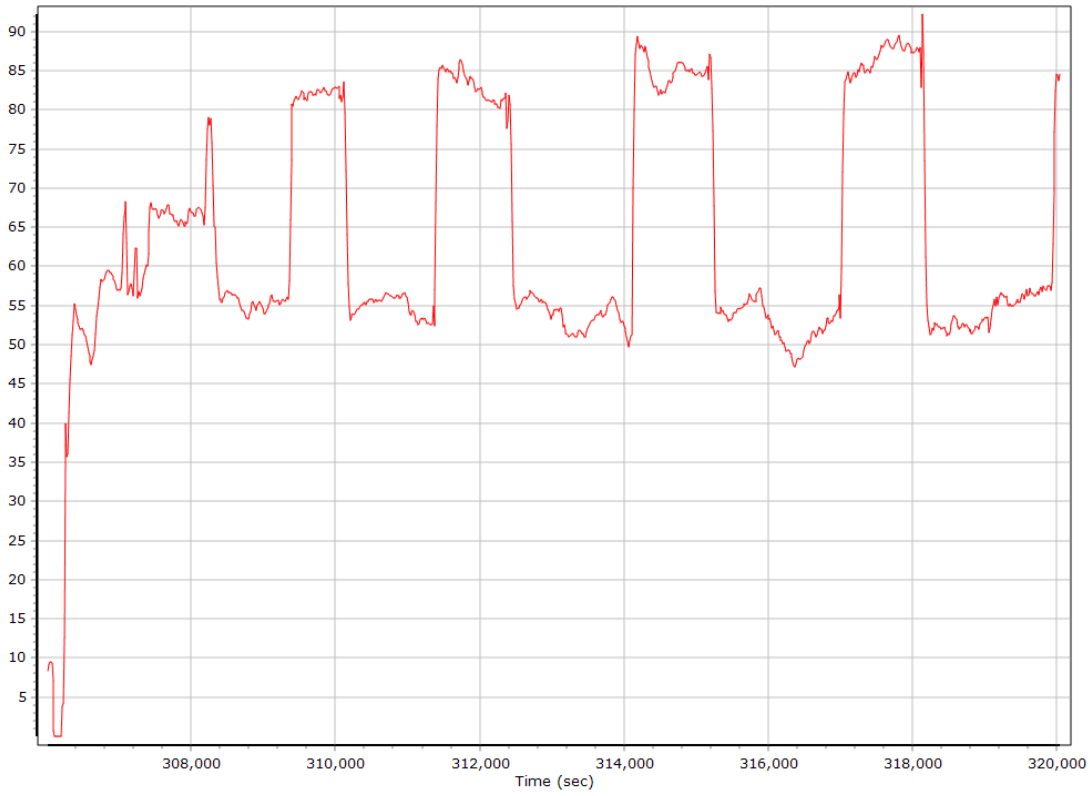
## North/East Velocity



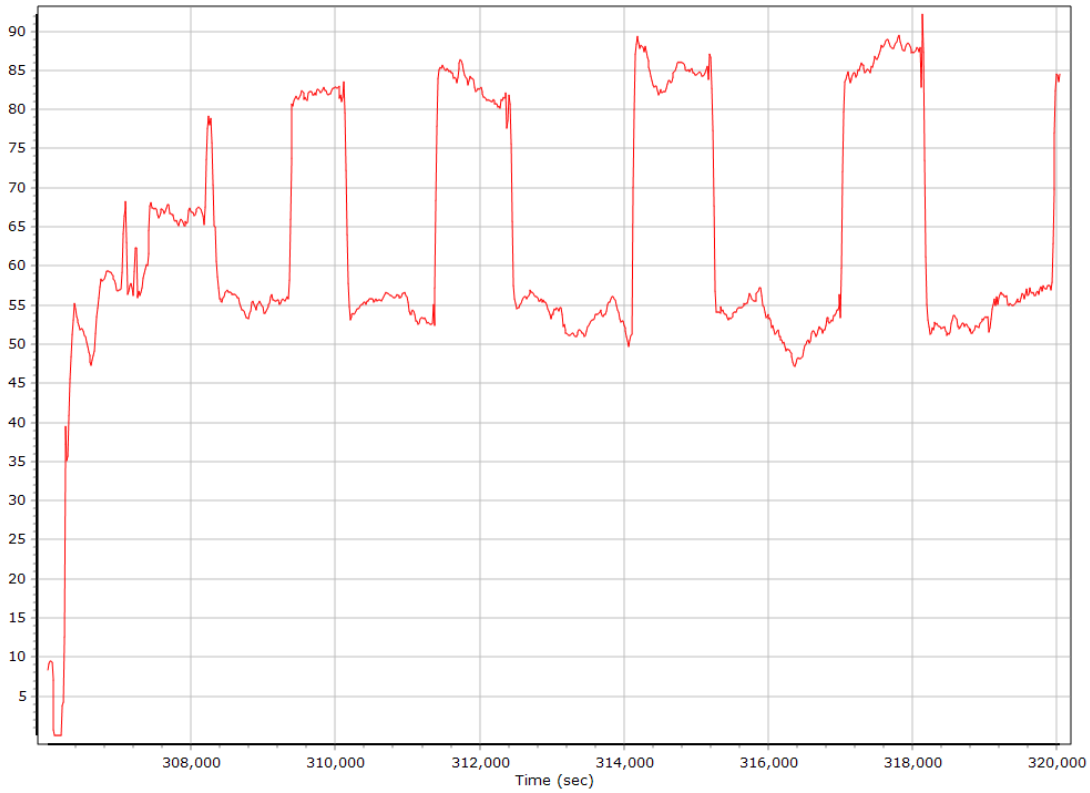
## Down Velocity



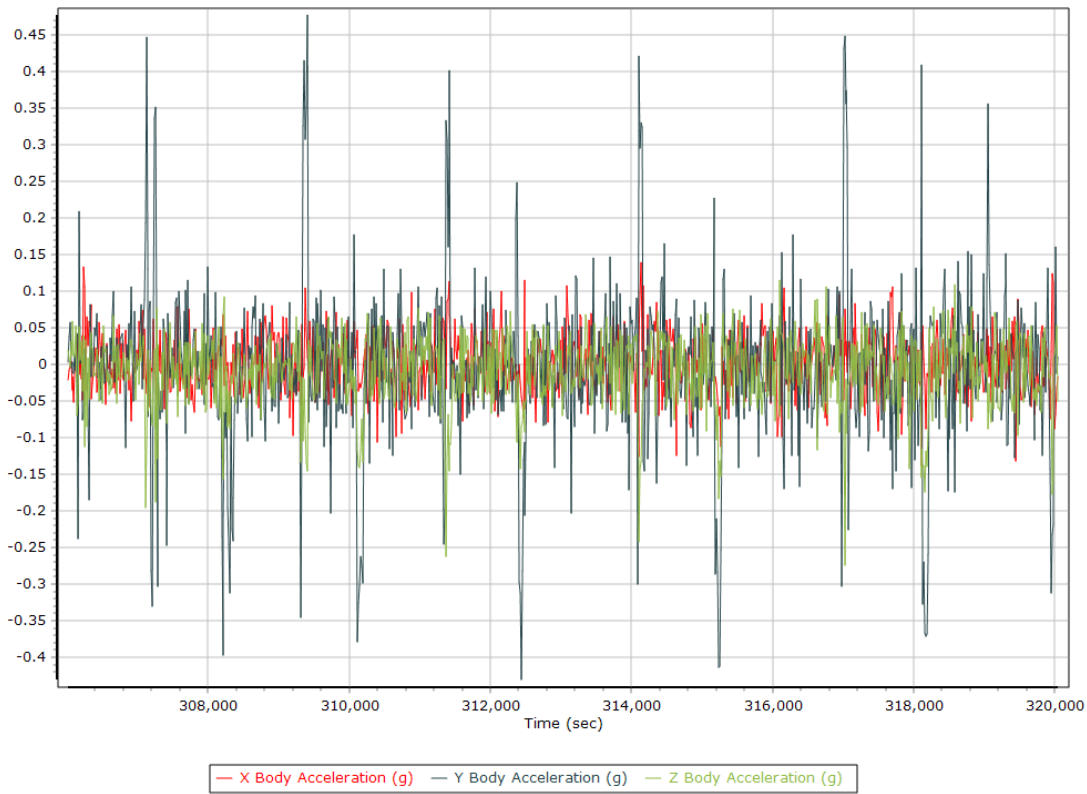
## Total Speed



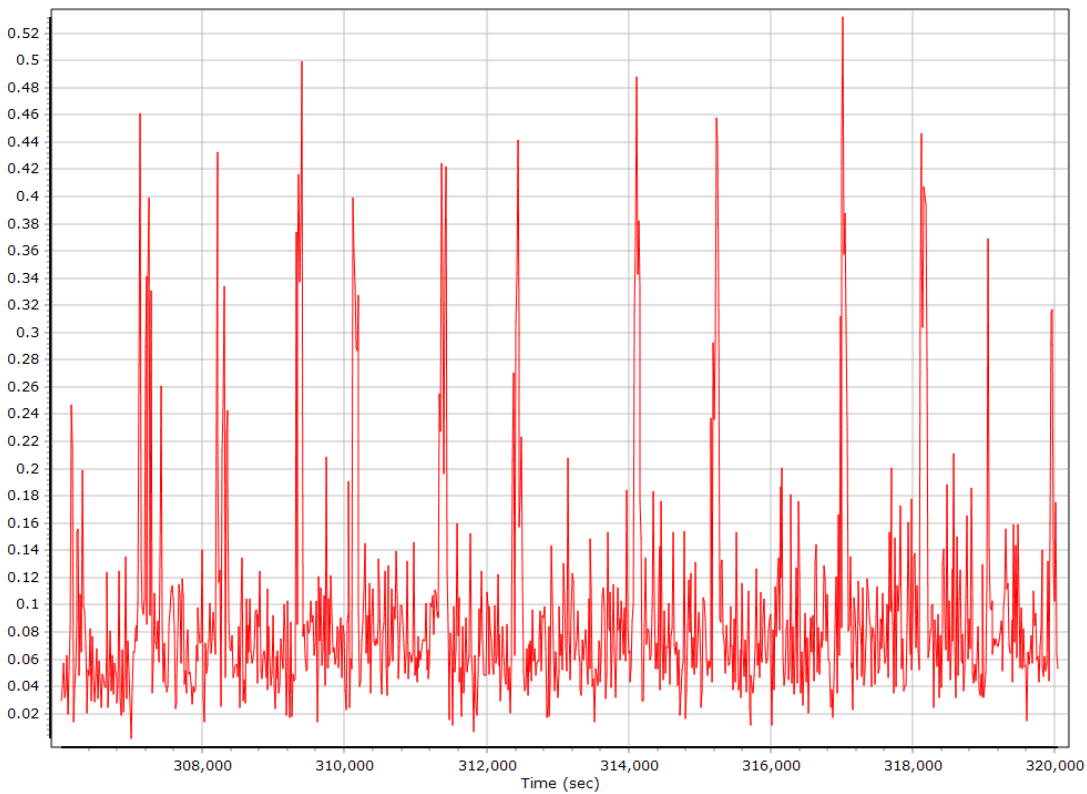
## Ground Speed



## 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	Data Type	Rate	Service	Database	Status
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### SmartBase Results

SmartBase status	
Primary station Id	
Primary station data rate [sec]	0.0
VRS/ASB generation rate [sec]	0.0
VRS/ASB timespan	
Number of reference stations	0
Primary station GPS measurement usage [%]	0.0
Average number of satellites per epoch	0.0
Max number of GPS stations used	0
Min number of GPS stations used	0
Total full data gap [sec]	0
Total individual satellite data gap [sec]	0
GPS precise vs. broadcast ephemeris used	0.0 % / 0.0 %
Termination Status	

## **SmartBase Quality Check**

## GNSS QC

### GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length [km]	1.73	84.00	
Number of GPS SV	5	8	7
Number of GLONASS SV	0	8	7
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Total number of SV	6	16	14
PDOP	1.19	2.82	1.53
QC Solution Gaps	1.00	123.00	
Solution Type	Fixed	Float	No solution
Epoch (s)	15413.00	0.00	457.00
Percentage	97.12	0.00	2.88



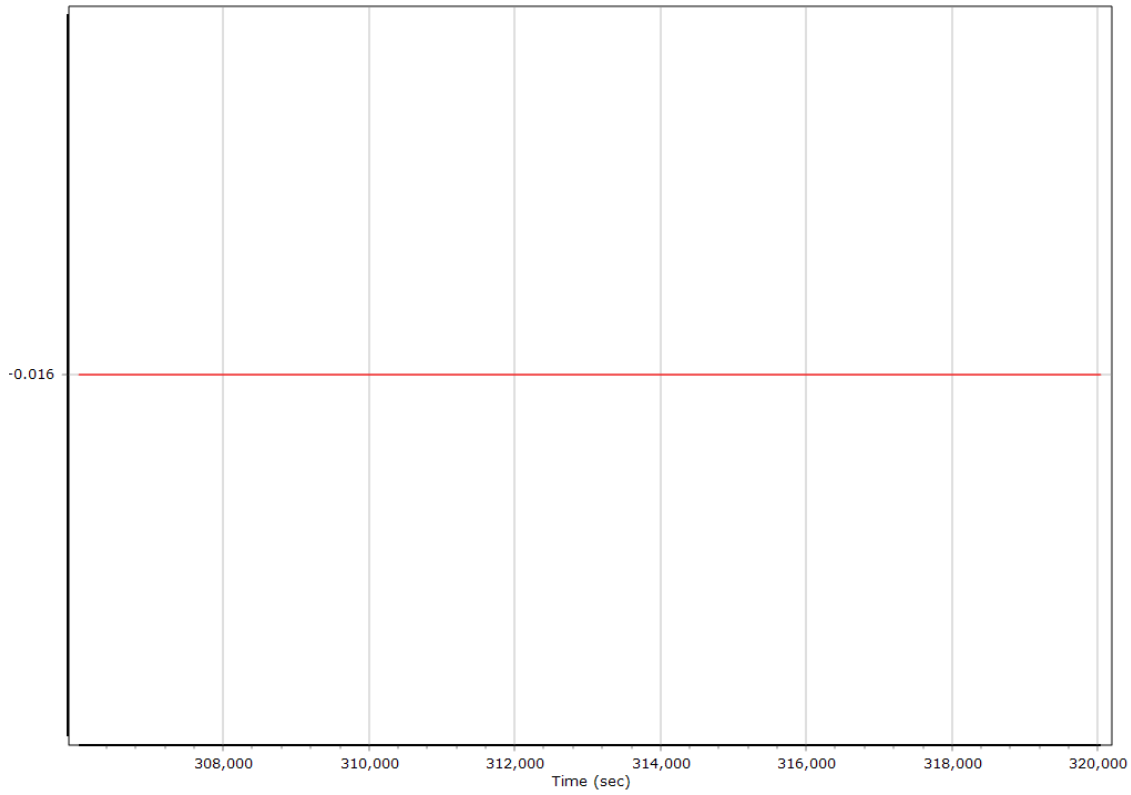
## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion SmartBase		
Stabilized mount	True		
Base station	ASB		
Processing start time	305592.000 (12/12/2018 12:53:12 PM)		
Processing end time	321479.000 (12/12/2018 5:17:59 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]	-0.016	0.008	-0.680
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

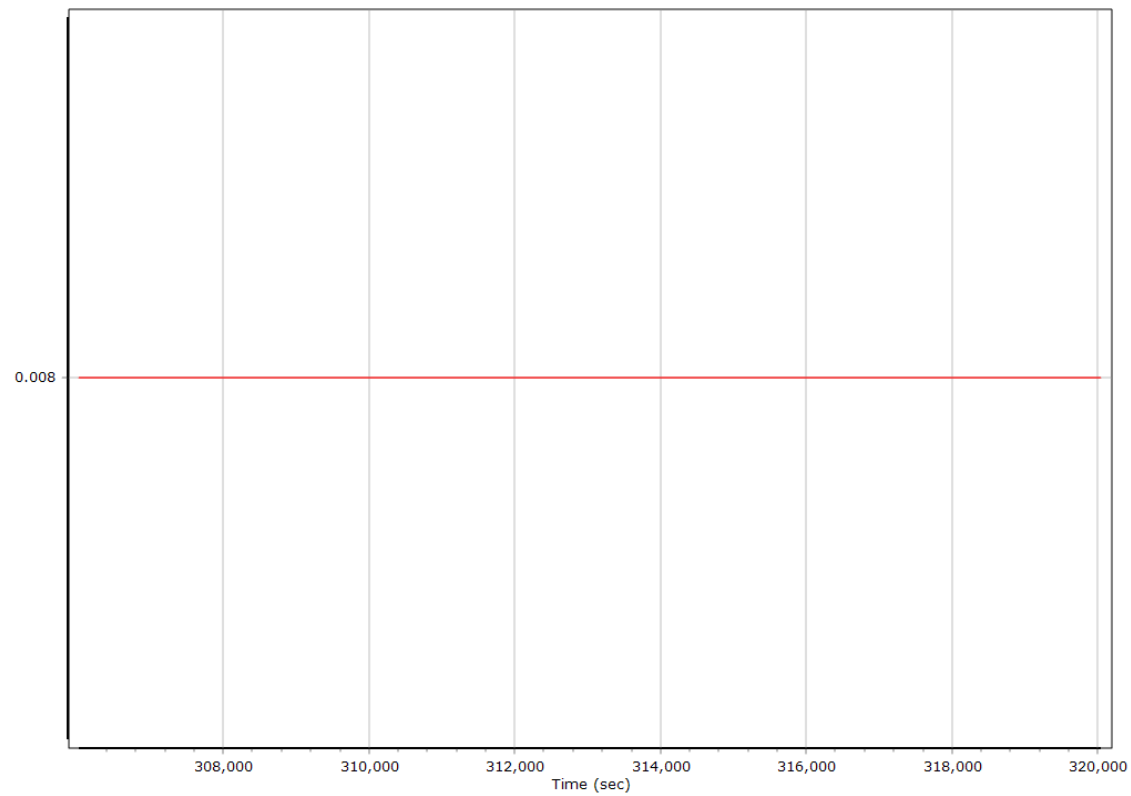
## Calibrated Installation Parameters

### Reference-Primary GNSS Lever Arm

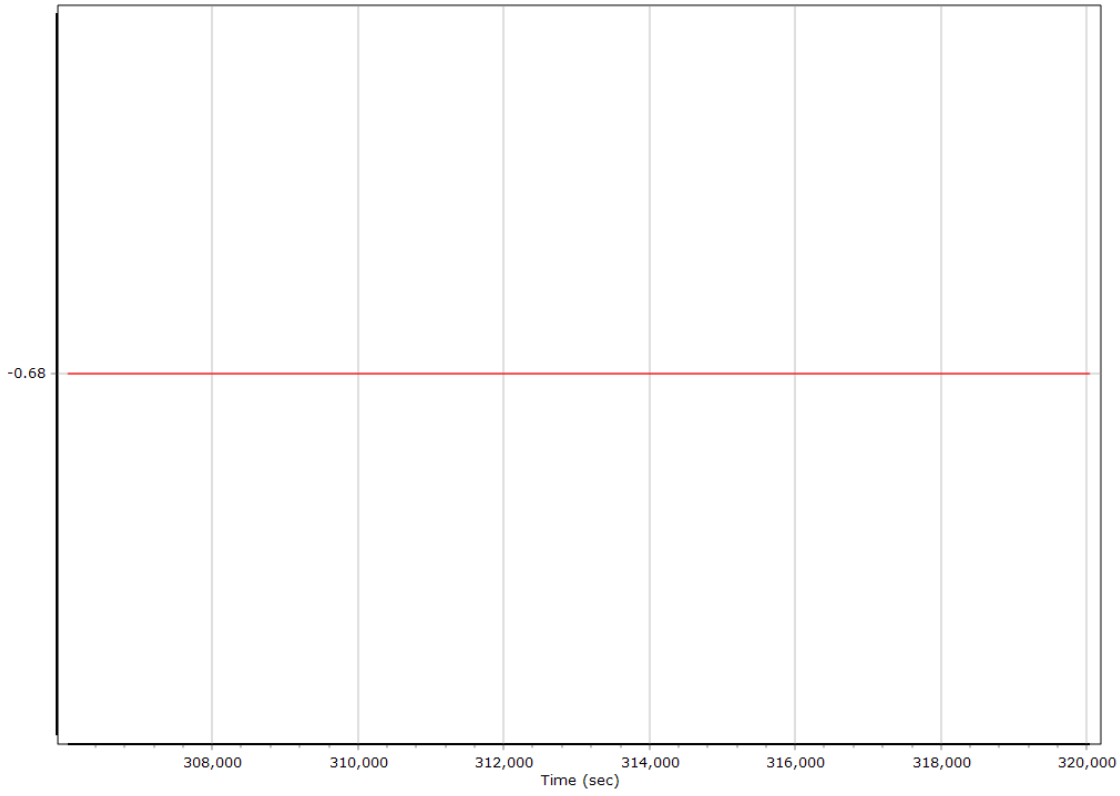
#### X Reference-Primary GNSS Lever Arm (m)



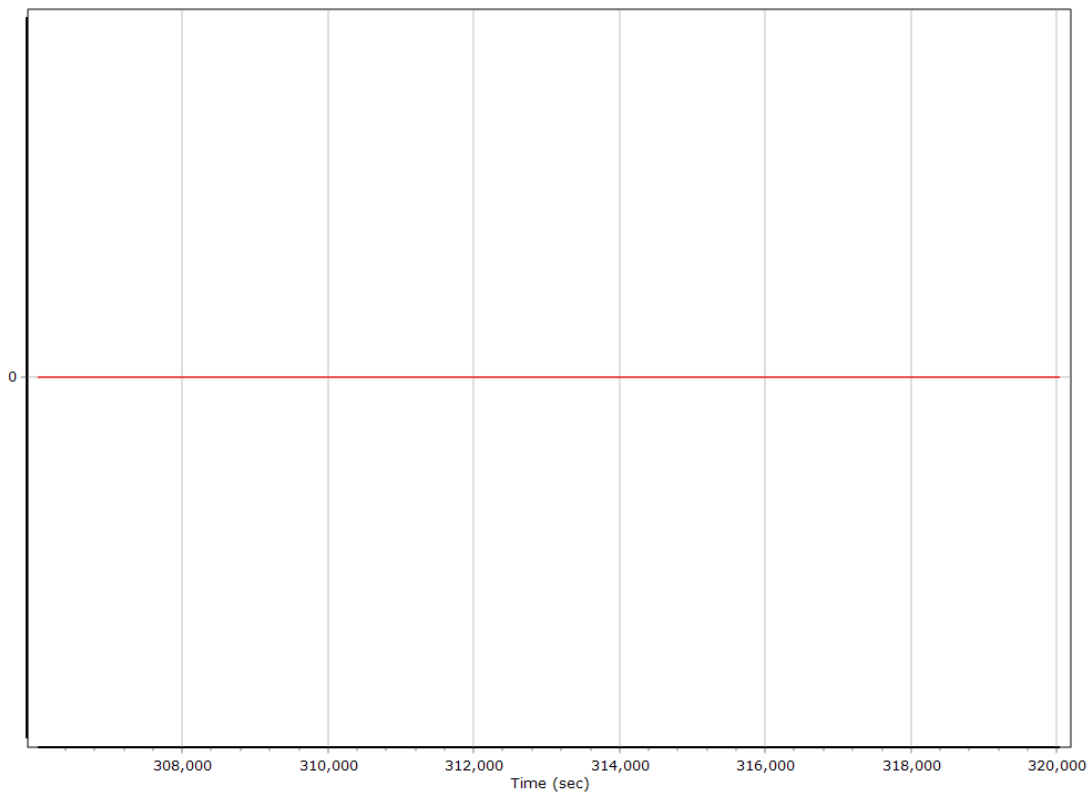
#### Y Reference-Primary GNSS Lever Arm (m)



### Z Reference-Primary GNSS Lever Arm (m)



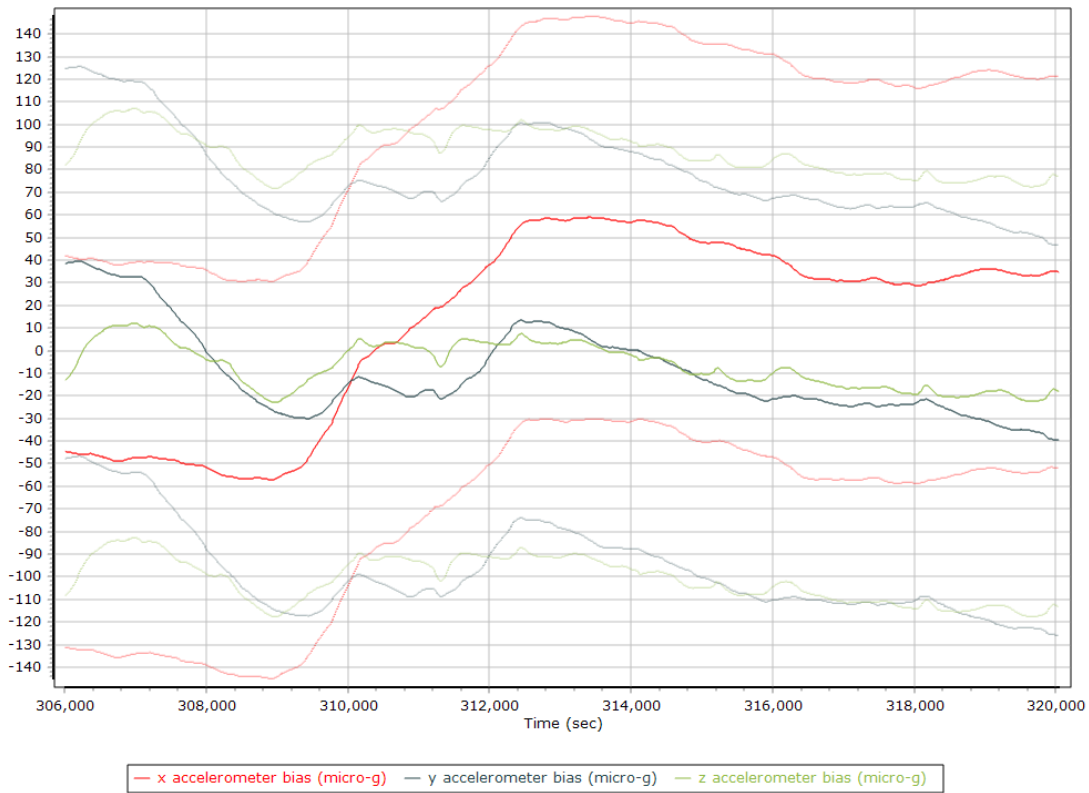
### Reference-Primary GNSS Lever Arm Figure of Merit



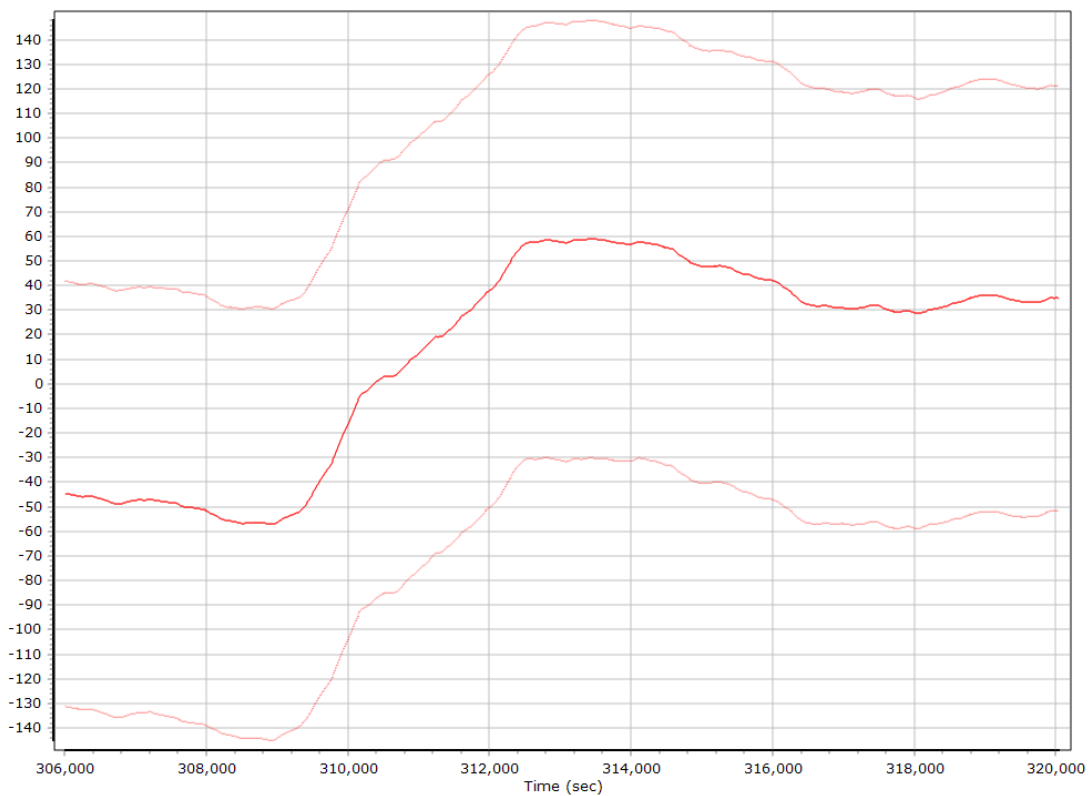
## Smoothed IN-Fusion QC

### Smoothed Estimated Errors, Reference Frame

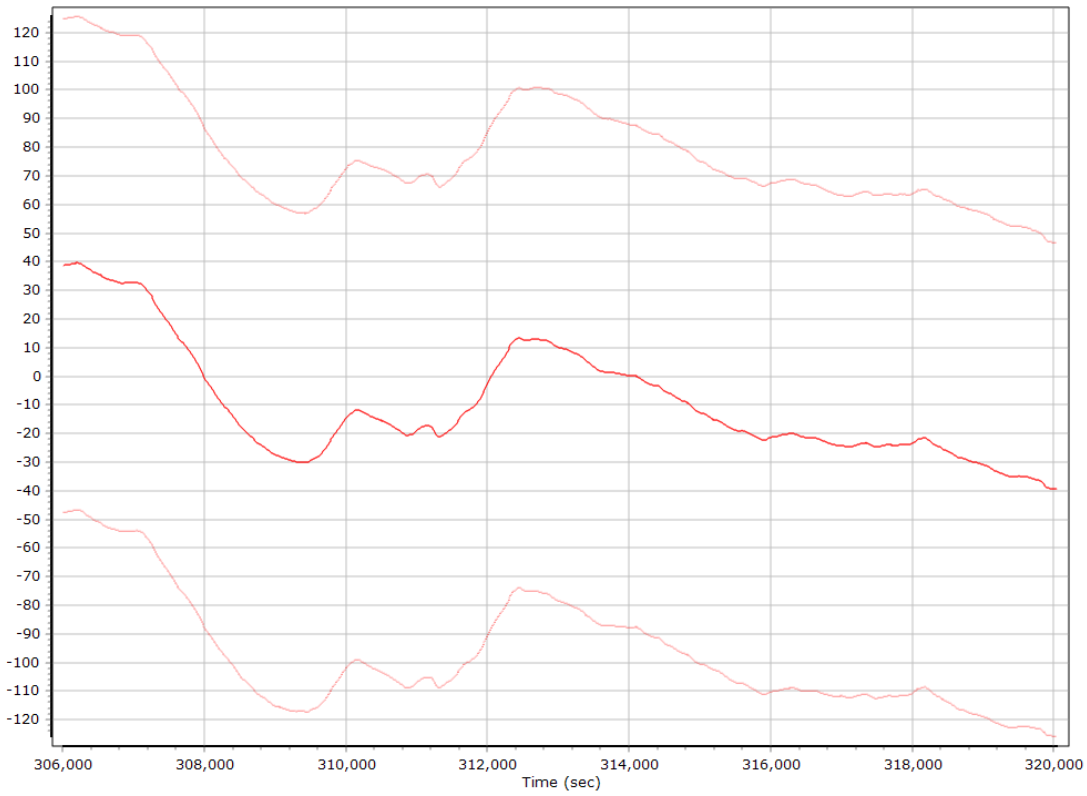
#### Accelerometer Bias (micro-g)



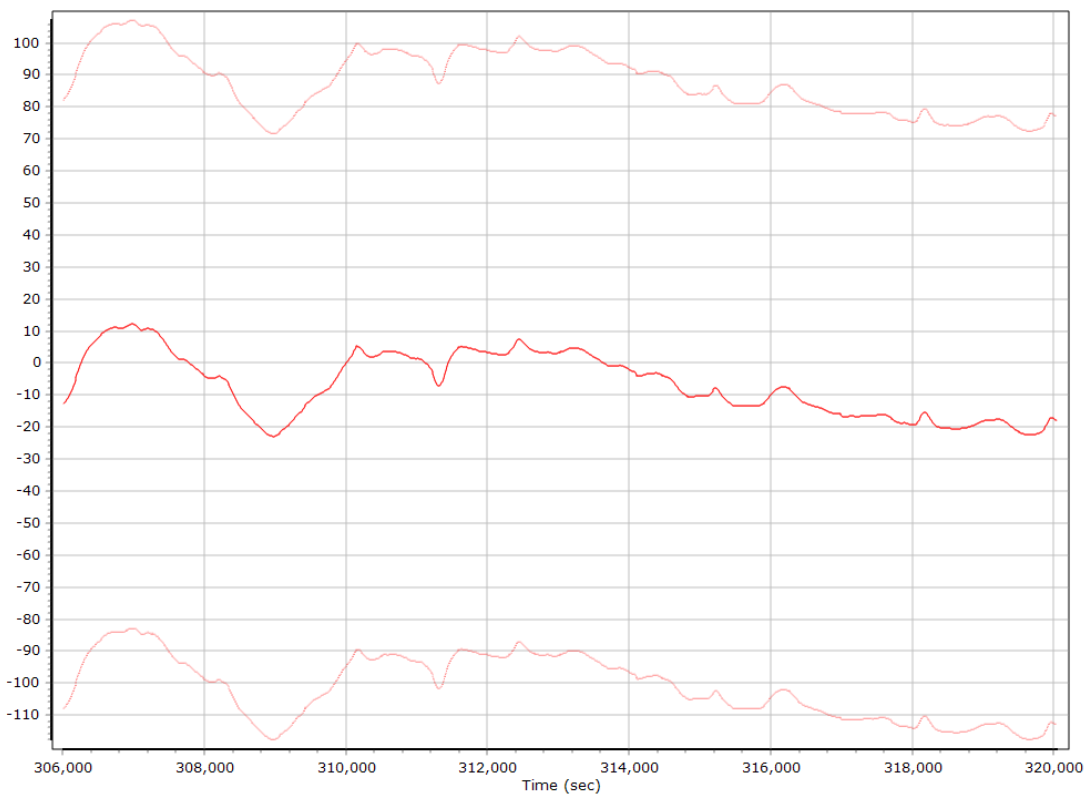
#### X Accelerometer Bias (micro-g)



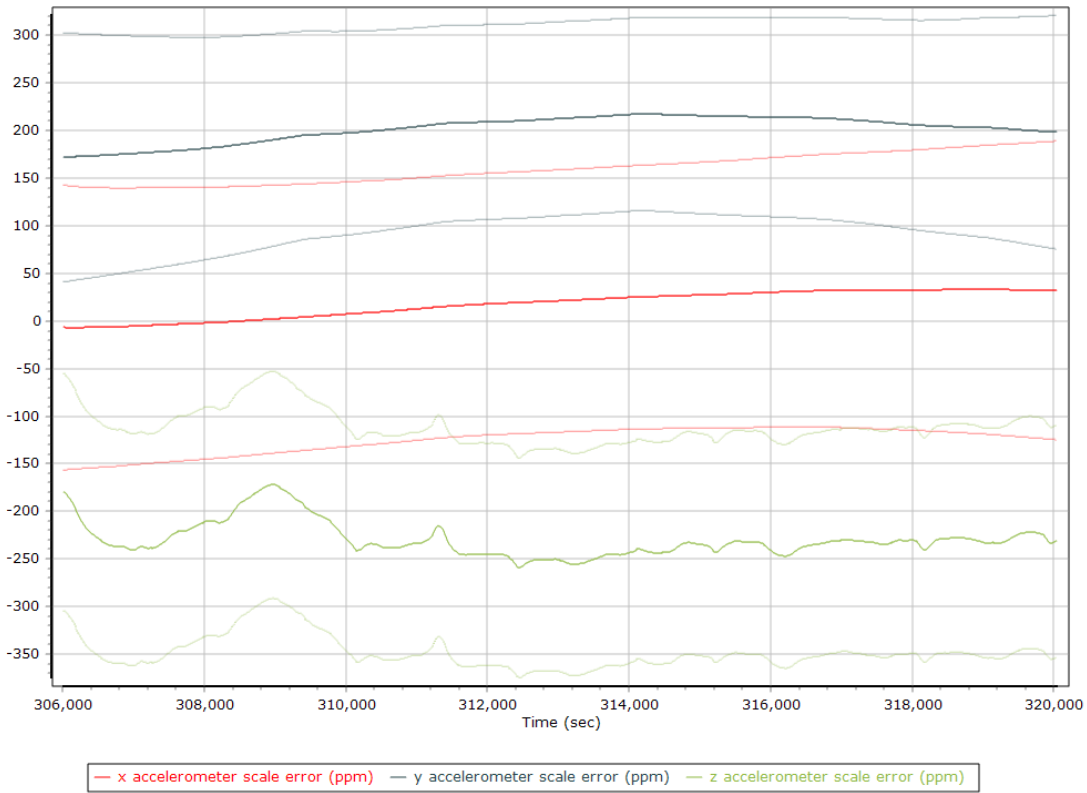
### Y Accelerometer Bias (micro-g)



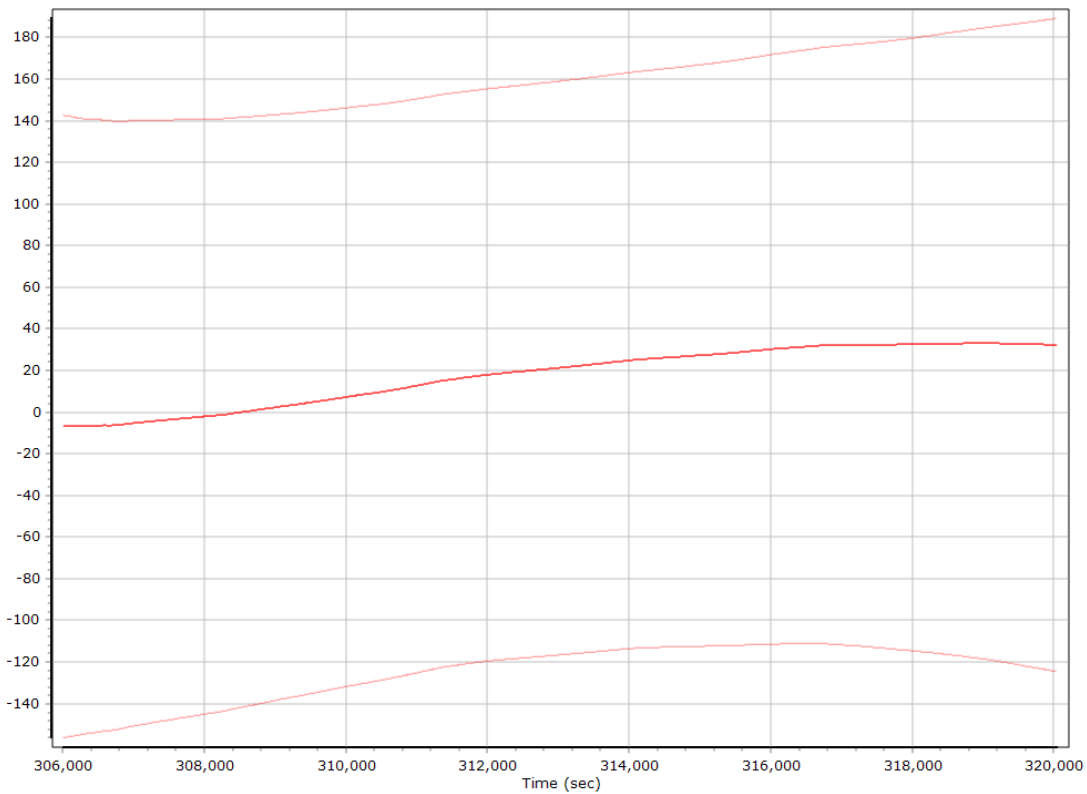
### Z Accelerometer Bias (micro-g)



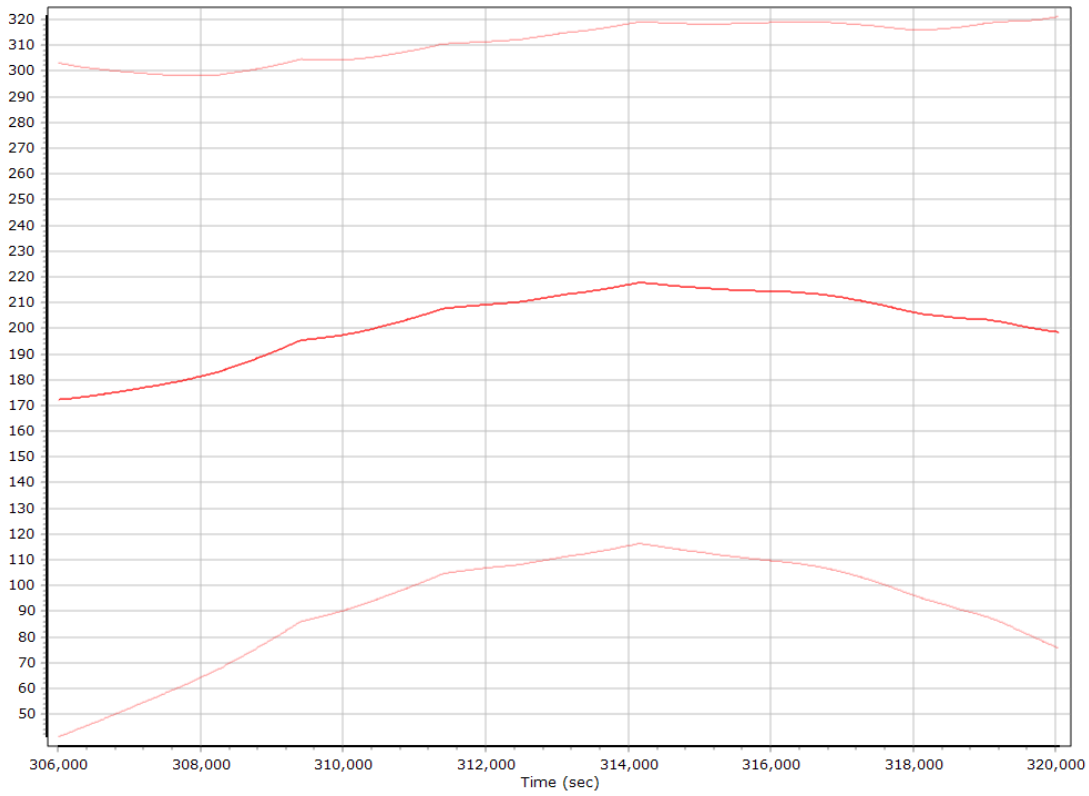
### Accelerometer Scale Error (ppm)



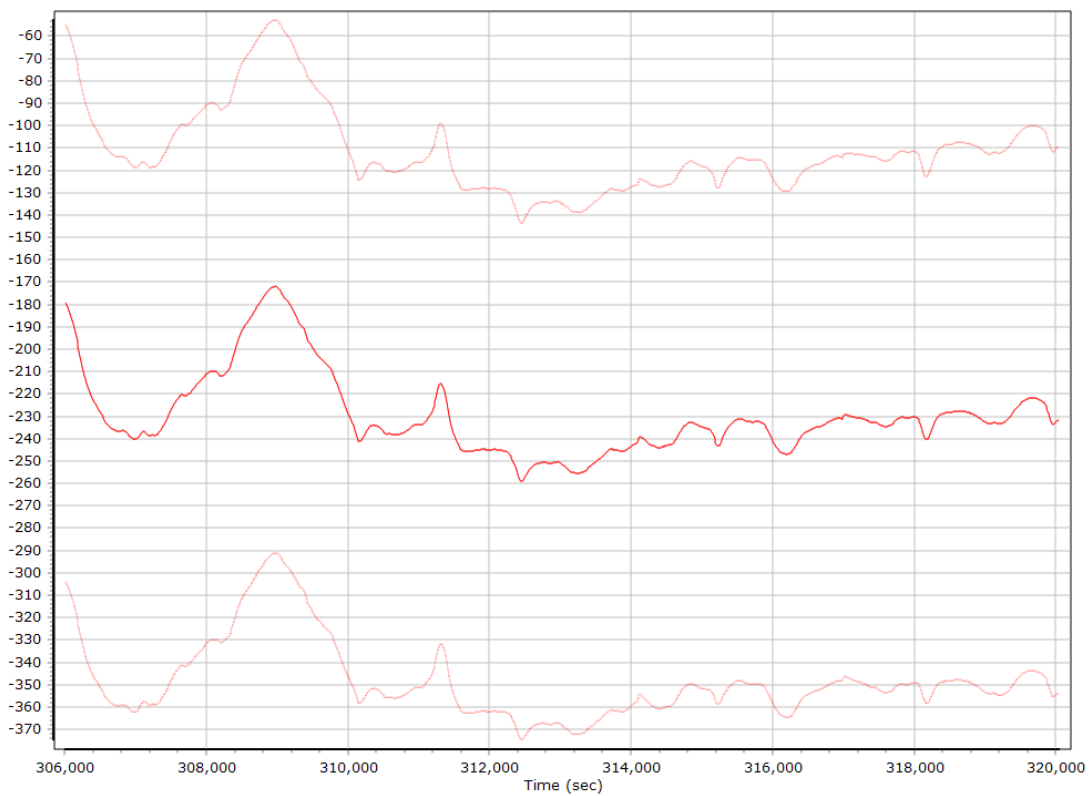
### X Accelerometer Scale Error (ppm)



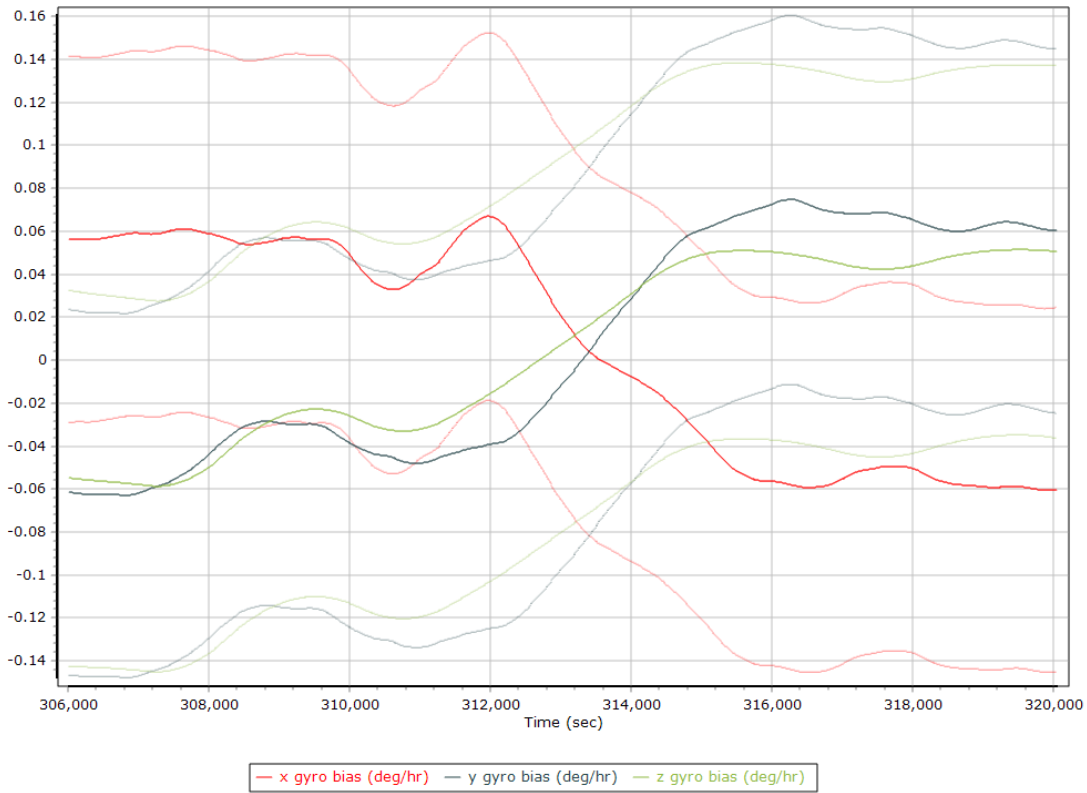
### Y Accelerometer Scale Error (ppm)



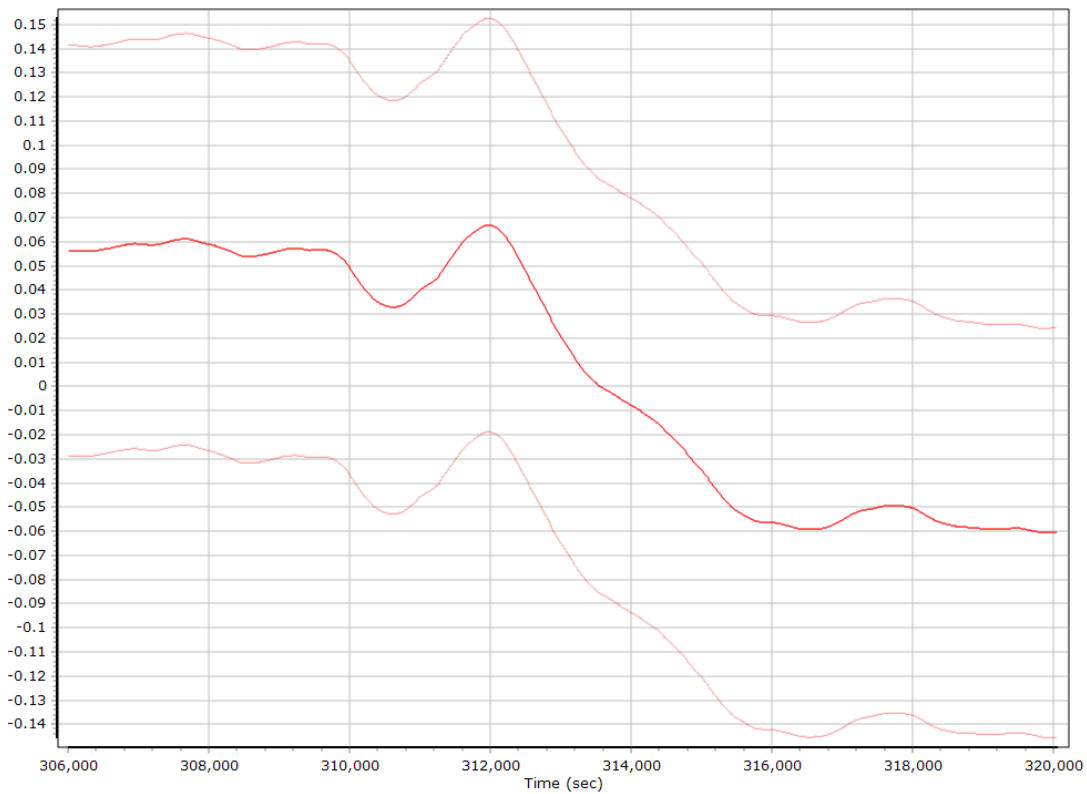
### Z Accelerometer Scale Error (ppm)



### Gyro Bias (deg/h)

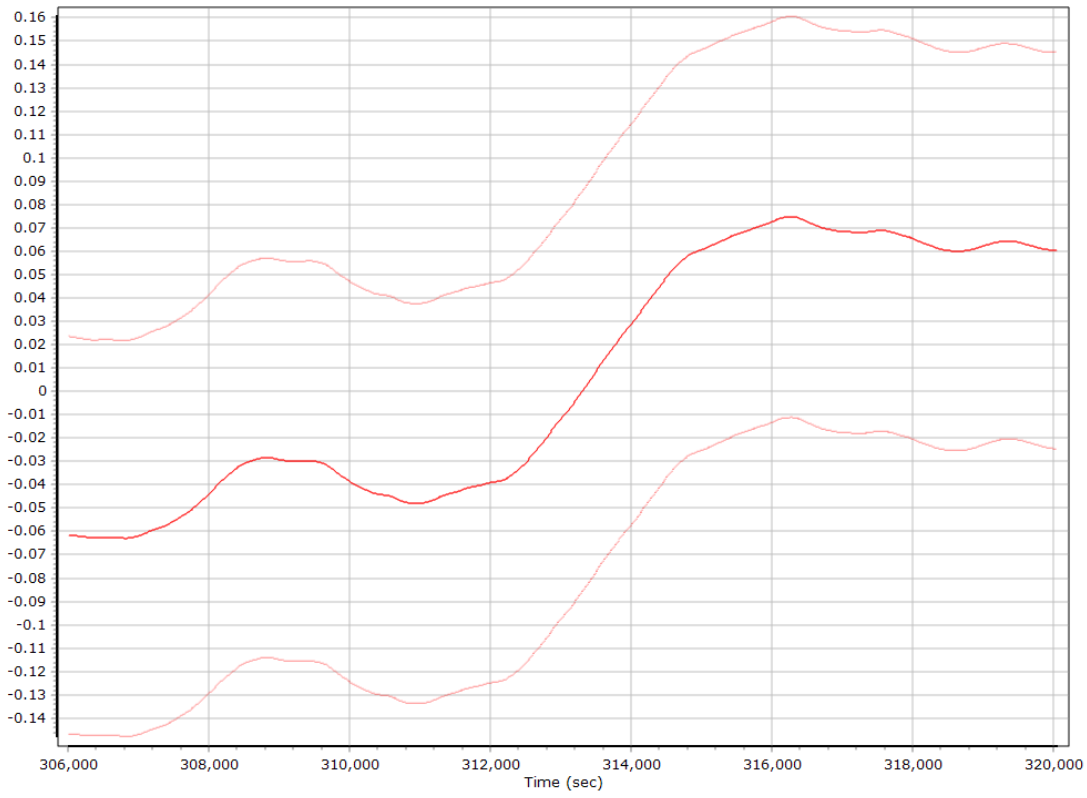


### X Gyro Bias (deg/h)

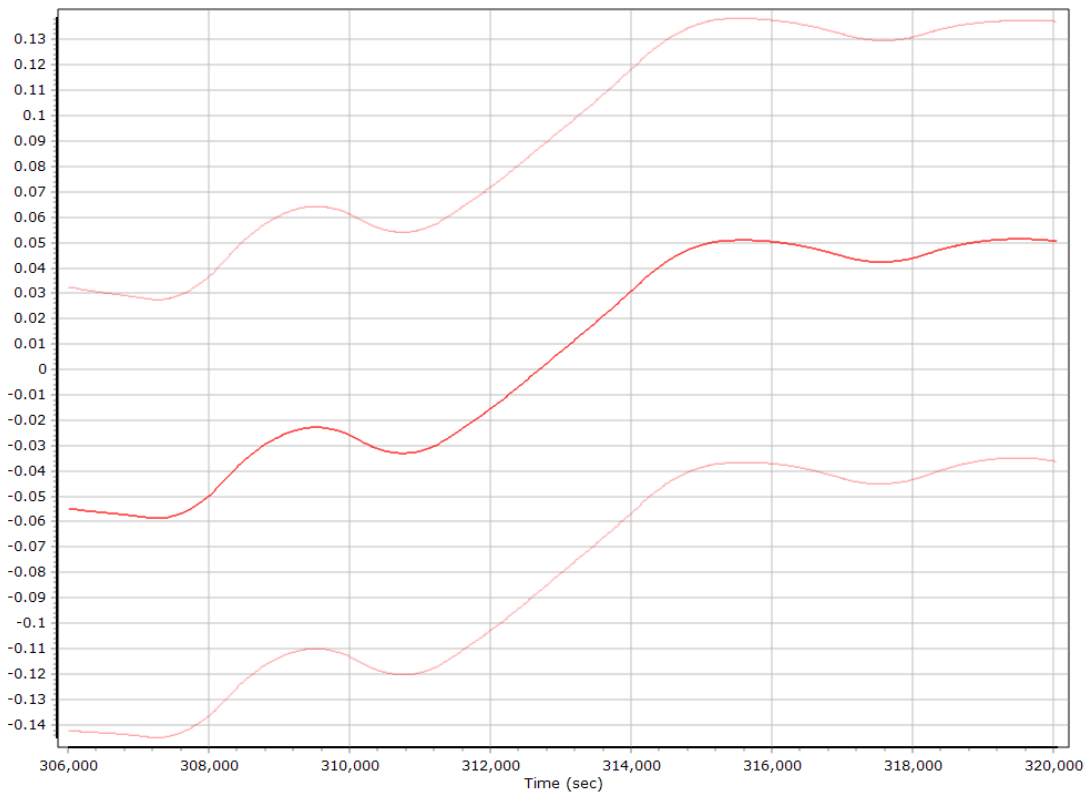




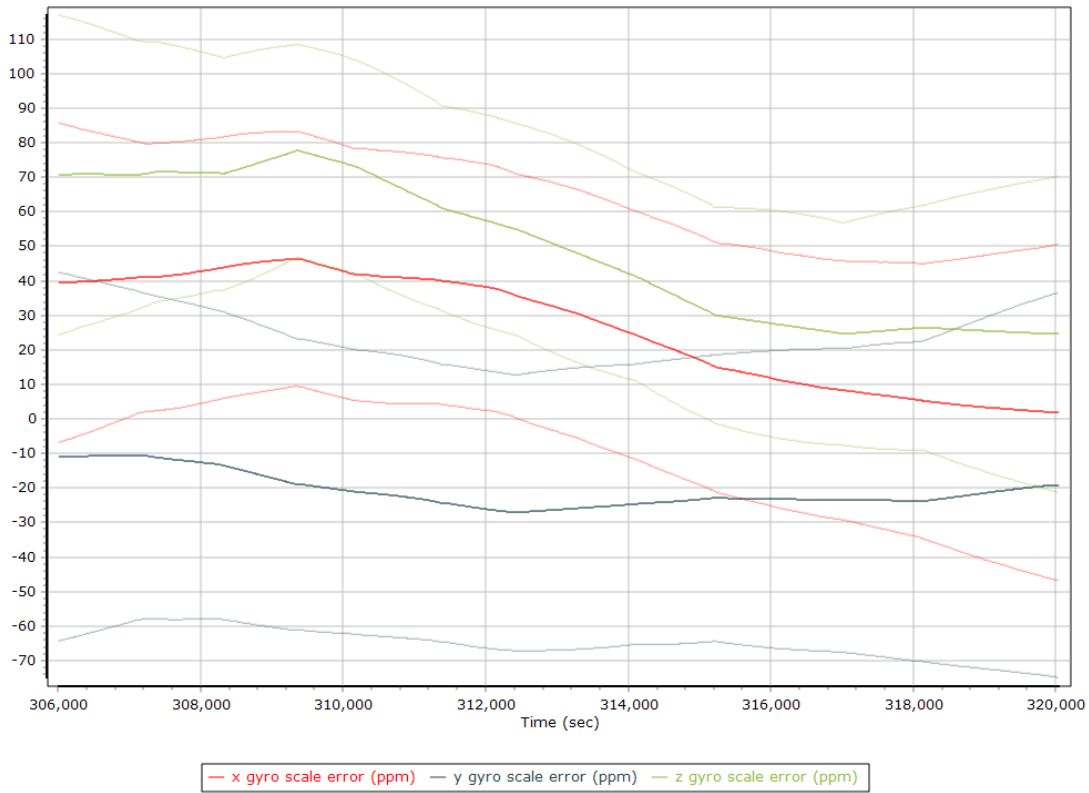
### Y Gyro Bias (deg/h)



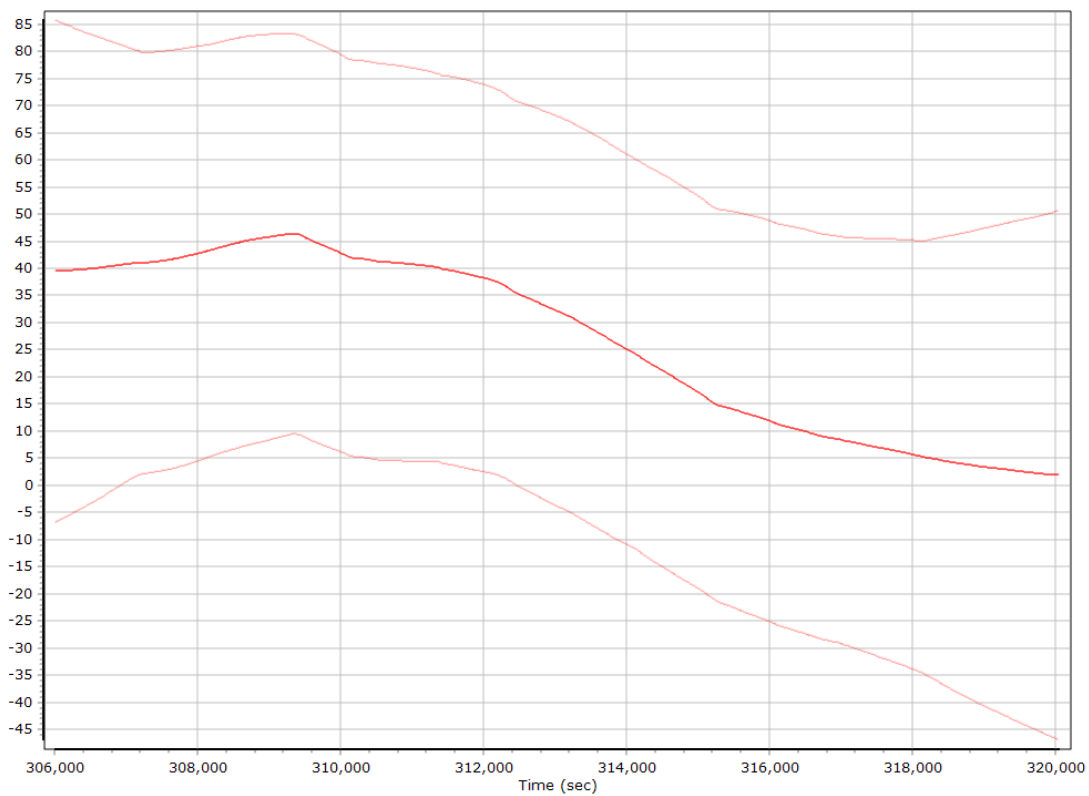
### Z Gyro Bias (deg/h)



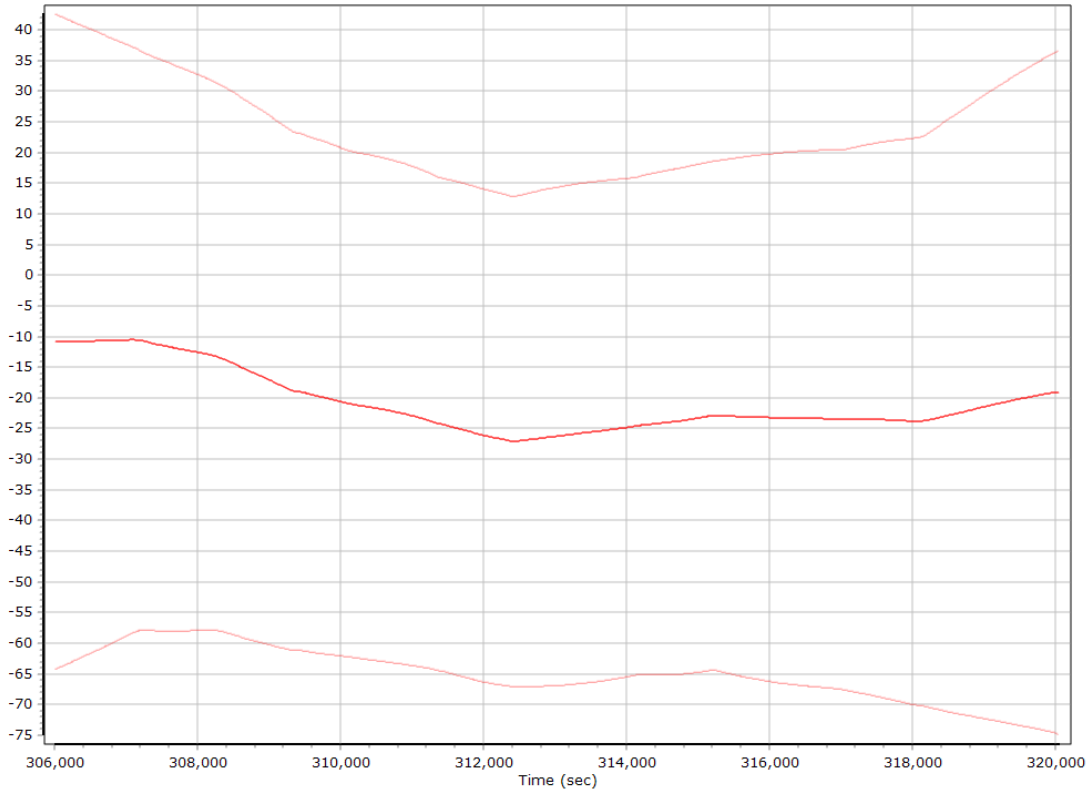
### Gyro Scale Error (ppm)



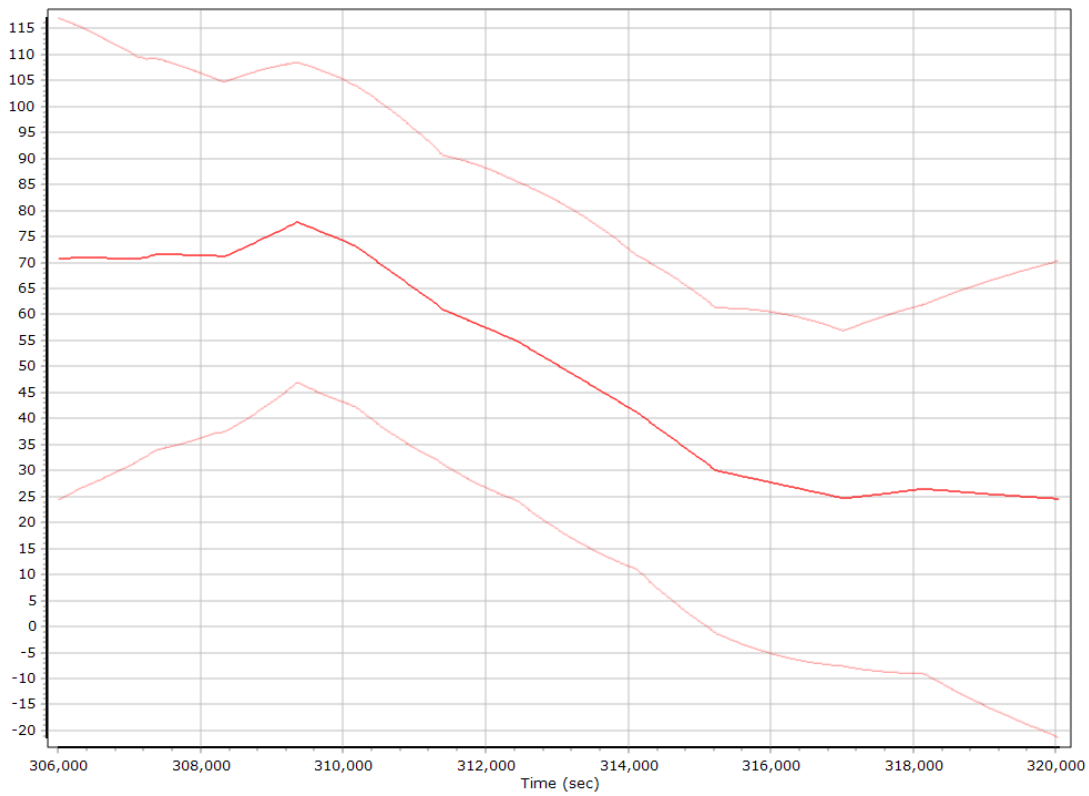
### X Gyro Scale Error (ppm)



### Y Gyro Scale Error (ppm)

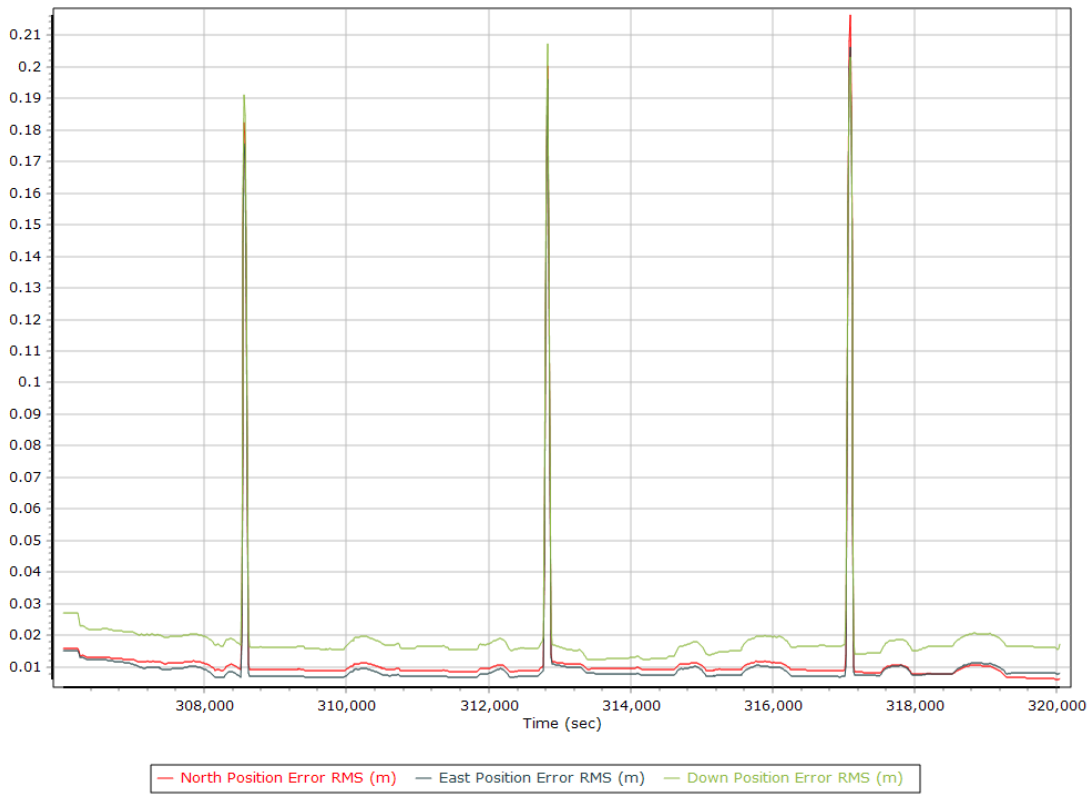


### Z Gyro Scale Error (ppm)

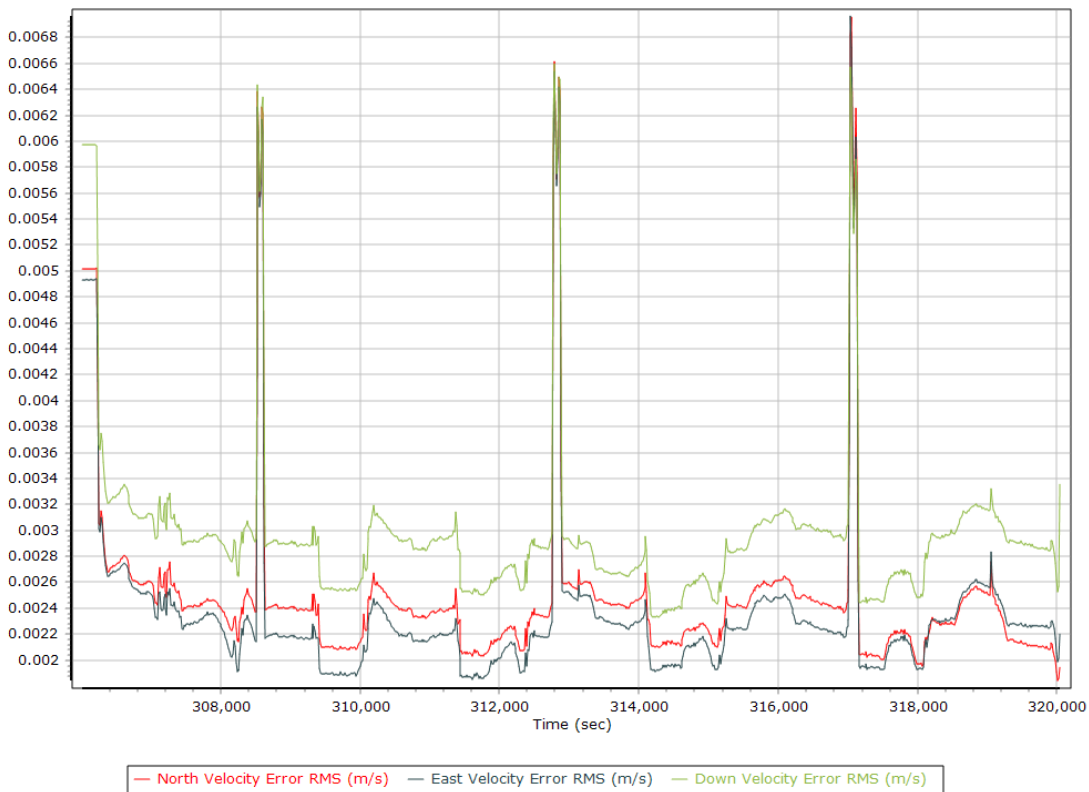


## Smoothed Performance Metrics

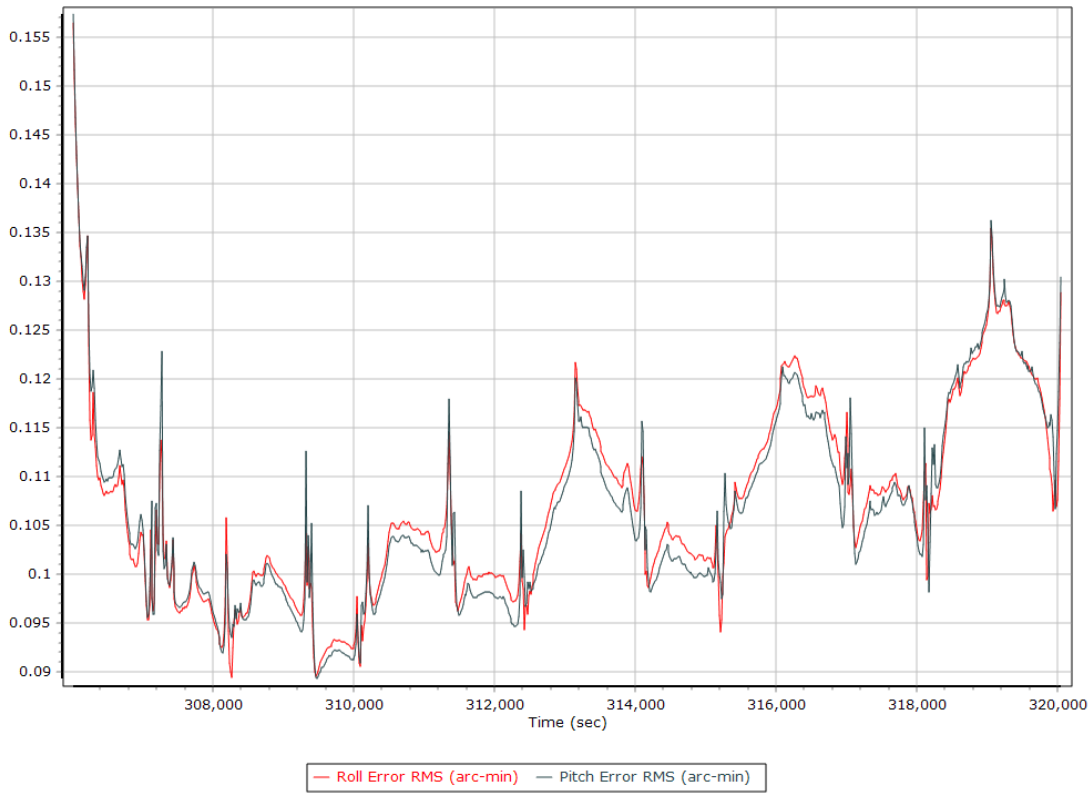
### Position Error RMS (m)



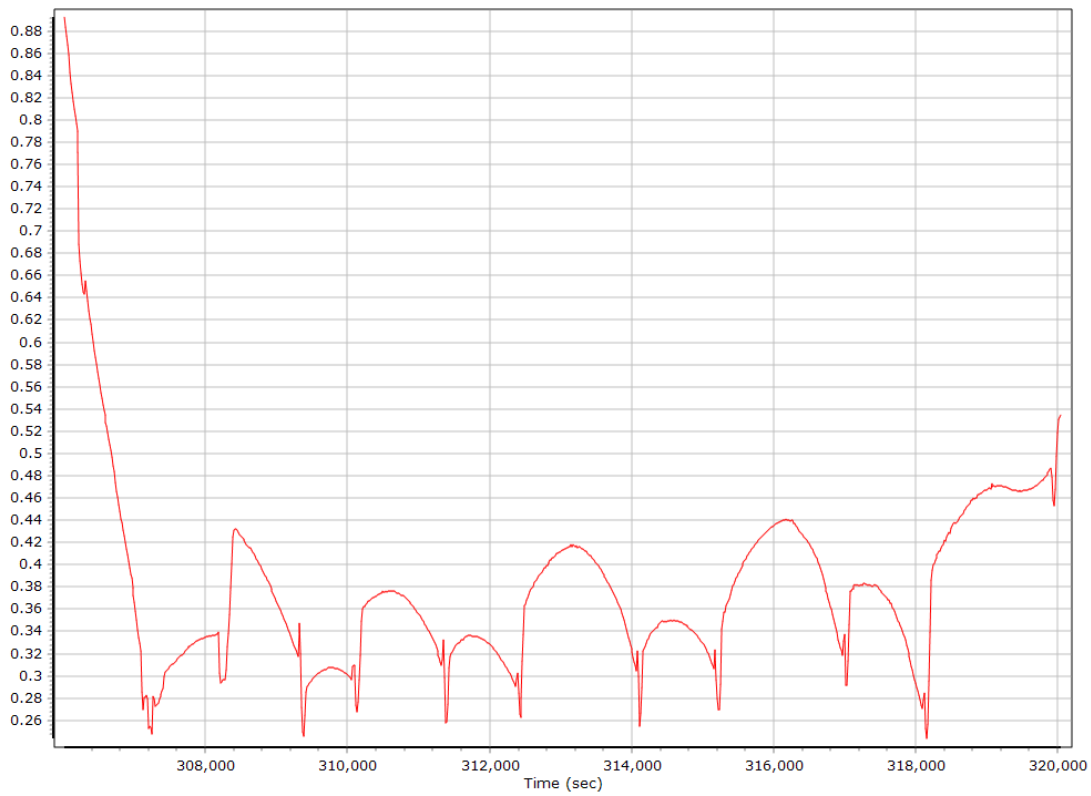
### Velocity Error RMS (m/s)



### Roll/Pitch Error RMS (arc-min)

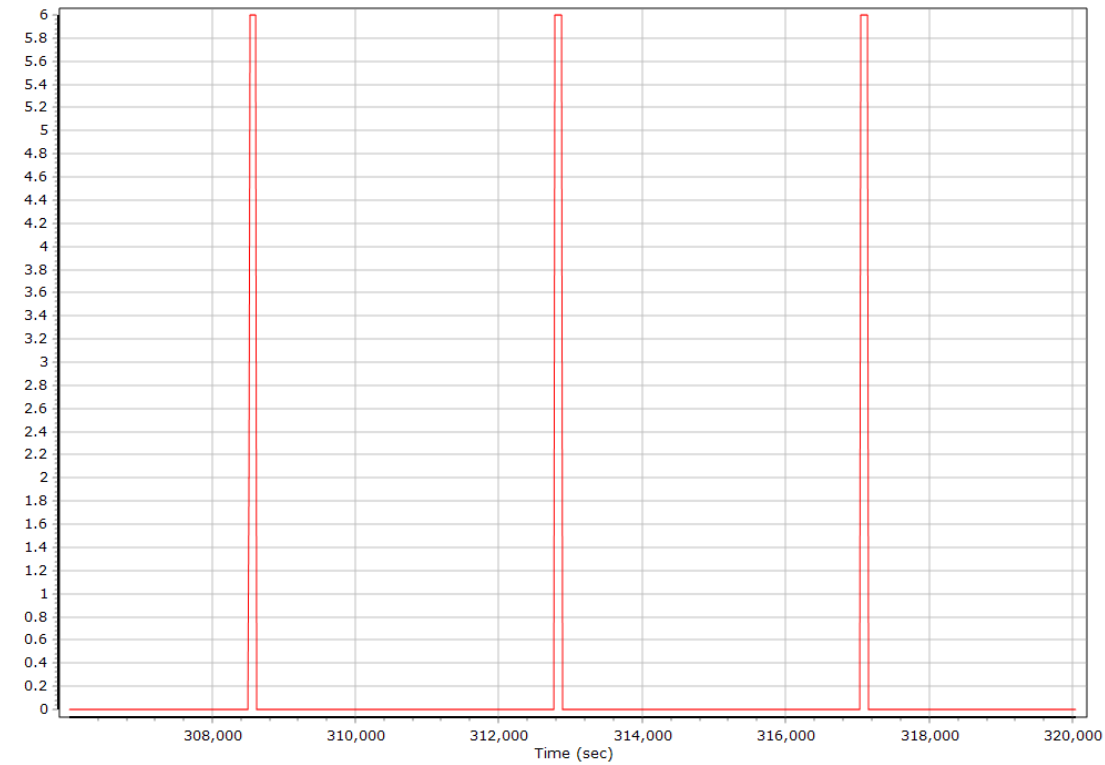


### Heading Error RMS (arc-min)



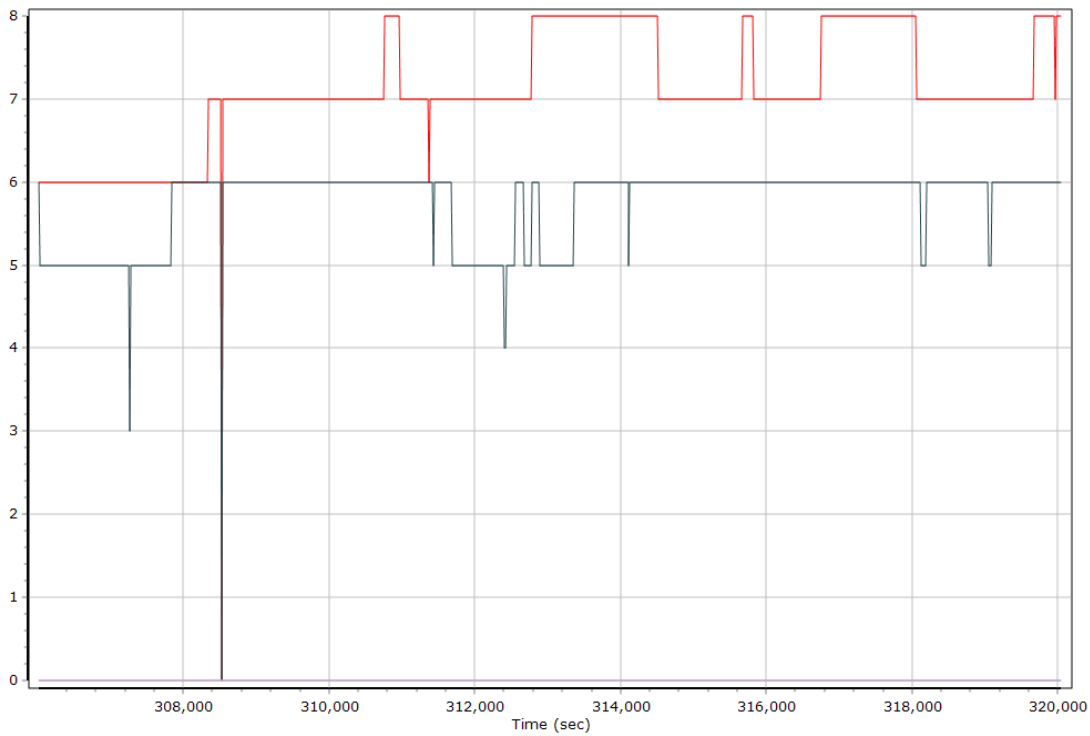
## Smoothed Solution Status

### Processing Mode



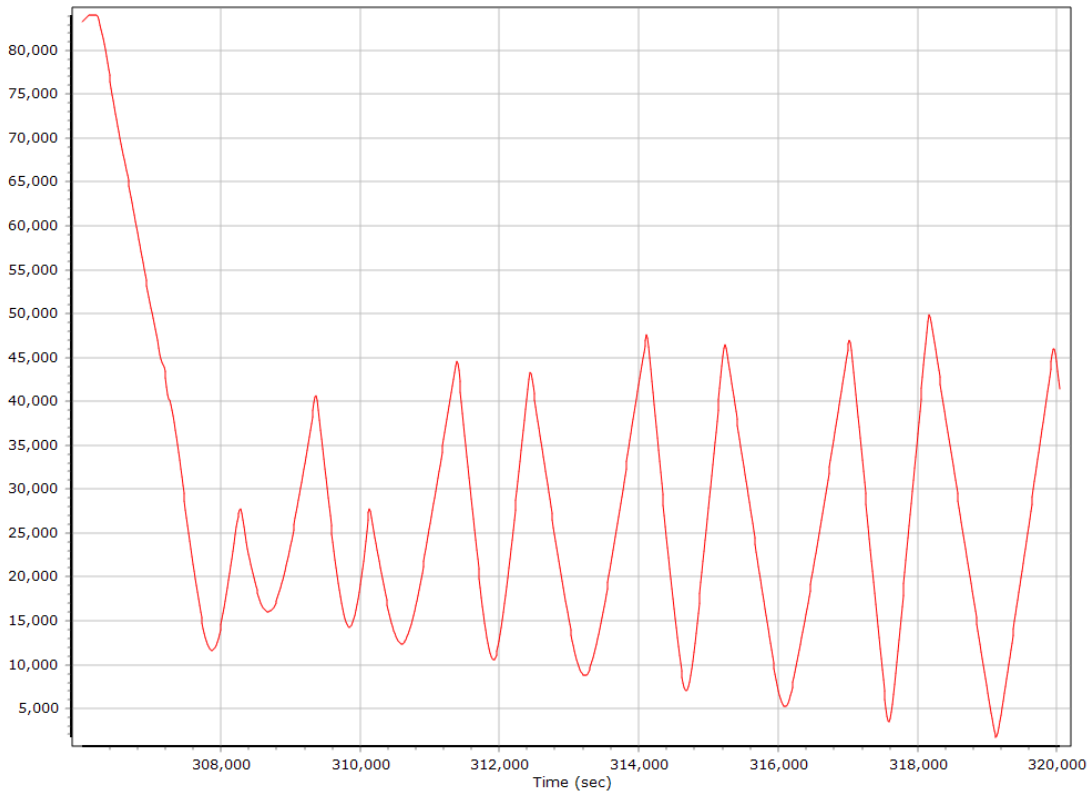
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

### Number of Satellites



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

### Baseline Length



### SBET IAkar Separation

