

## General Information

### Mission Information

Project name	11904
Processing date	2020-12-14 20:54:23
Mission date	2020-12-04 22:01:04
Mission duration	02:37:12.289
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
20201204F1.249	POS Data
20201204F1.250	POS Data
20201204F1.251	POS Data
20201204F1.252	POS Data
20201204F1.253	POS Data
20201204F1.254	POS Data
20201204F1.255	POS Data
20201204F1.256	POS Data
20201204F1.257	POS Data
20201204F1.258	POS Data
20201204F1.259	POS Data
20201204F1.260	POS Data
20201204F1.261	POS Data
20201204F1.262	POS Data
20201204F1.263	POS Data
20201204F1.264	POS Data
20201204F1.265	POS Data
20201204F1.266	POS Data
20201204F1.267	POS Data
20201204F1.268	POS Data

### Input Files

File Name	File Type
Ephm3390.20g	GLONASS Broadcast Ephemeris
Ephm3390.20n	GPS Broadcast Ephemeris
Ephm3400.20g	GLONASS Broadcast Ephemeris
Ephm3400.20n	GPS Broadcast Ephemeris

### Output Files

Filename	File type
sbet_11904.out	SBET Trajectory File
eo_11904.txt	ZI Imaging POSEO Output
sbet_11904_NAD83(2011).out	Custom Smoothed BET Export Output
lever_arm_values.txt	ReferenceToPrimaryLeverArms Export Output

## Rover Data Summary

First raw data file	20201204F1.249		
Last raw data file	20201204F1.268		
Start GPS week	2134		
Start time	511263.651 (12/04/2020 22:01:03)		
End time	520695.940 (12/05/2020 00:38:15)		
Start of fine alignment	511722.151 (12/04/2020 22:08:42)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	None		
Correction data	None		
<b>IMU Installation Lever Arms &amp; Mounting Angles</b>			
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

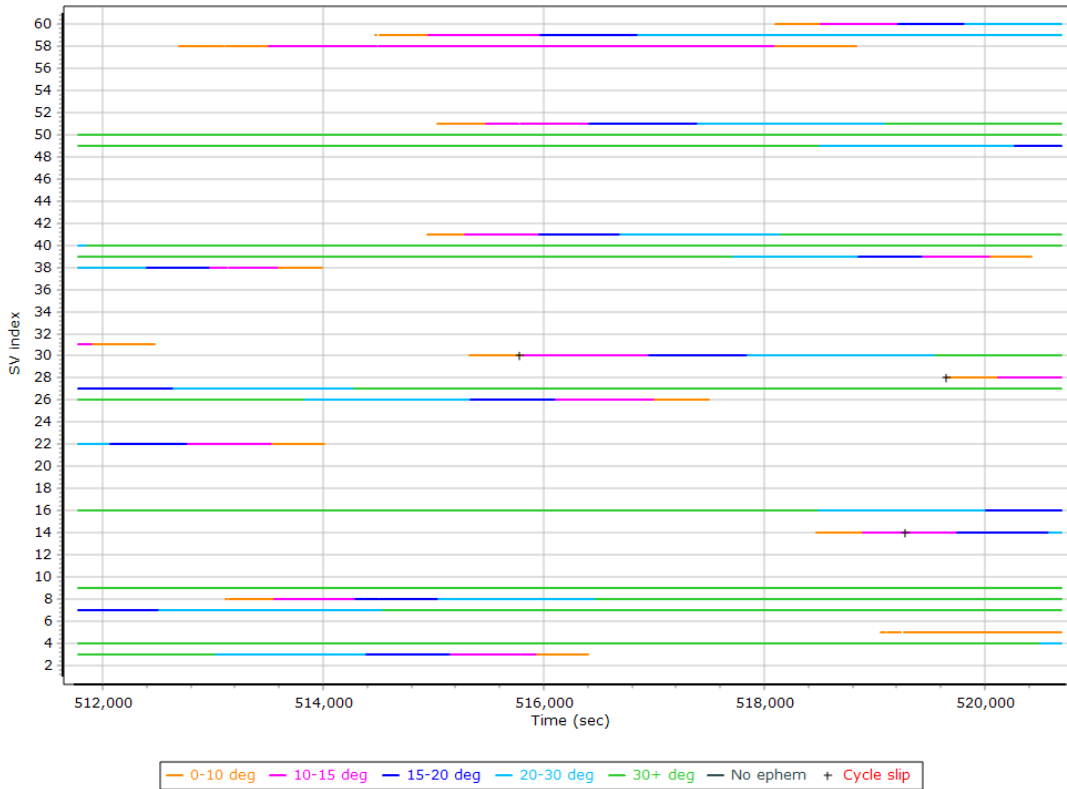
## Rover Data QC

### Raw IMU Import QC Summary

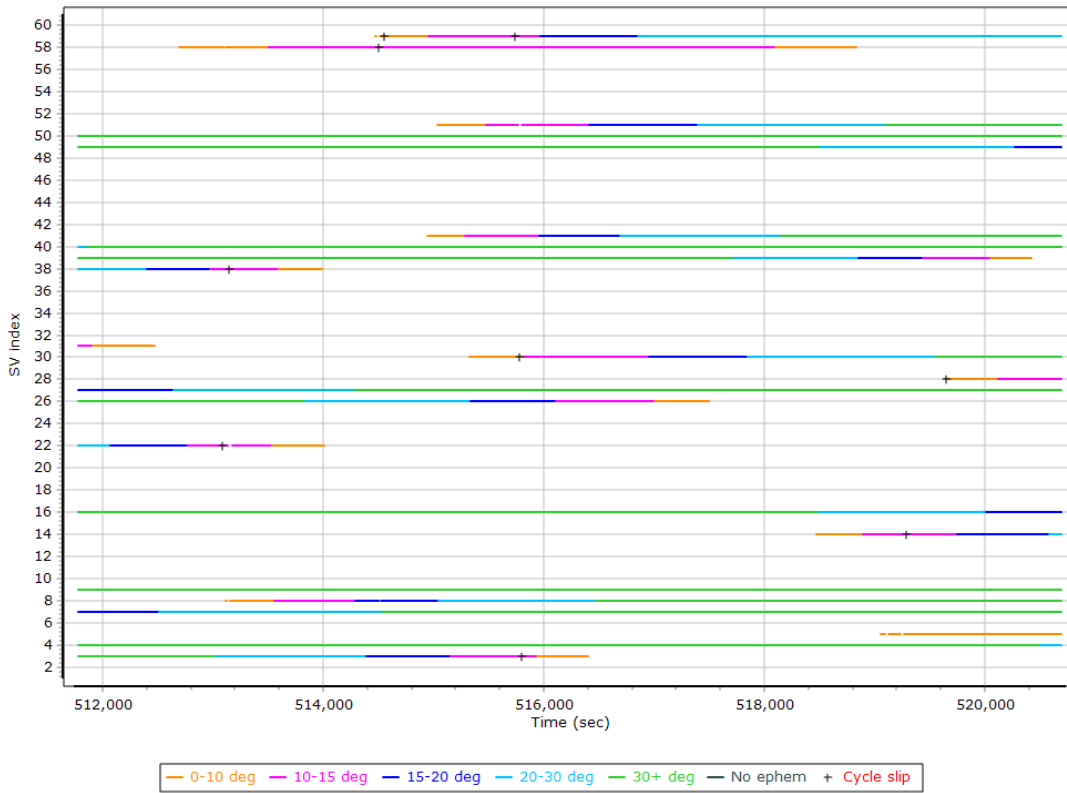
IMU data input file	imu_11904.dat
IMU data check log file	imudt_11904.log
IMU Records Processed	1886227
Termination Status	Normal
IMU Anomalies	0

## Primary Observables & Satellite Data

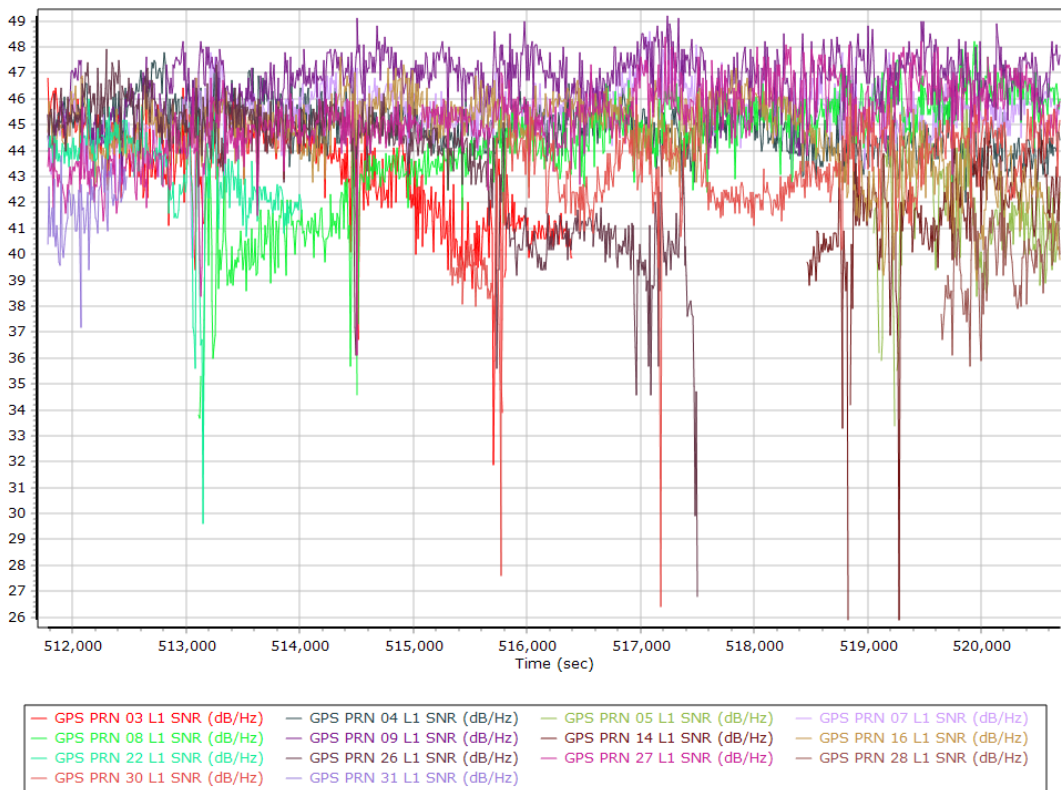
### L1 Satellite Lock/Elevation



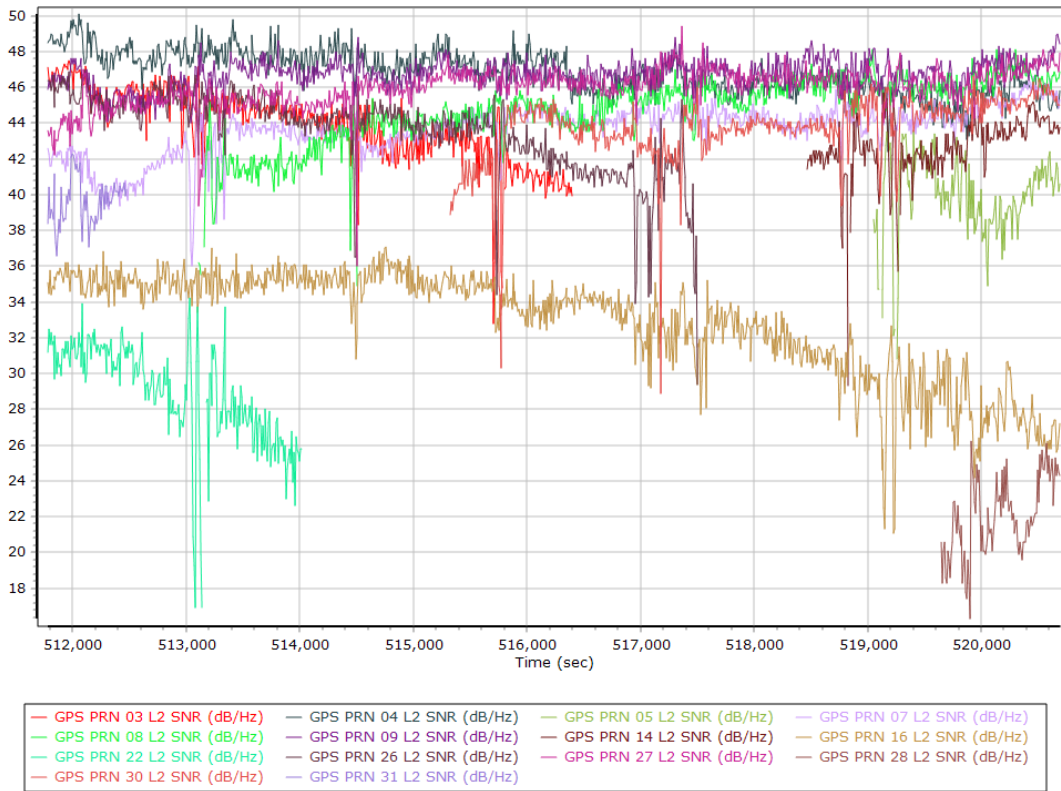
## L2 Satellite Lock/Elevation



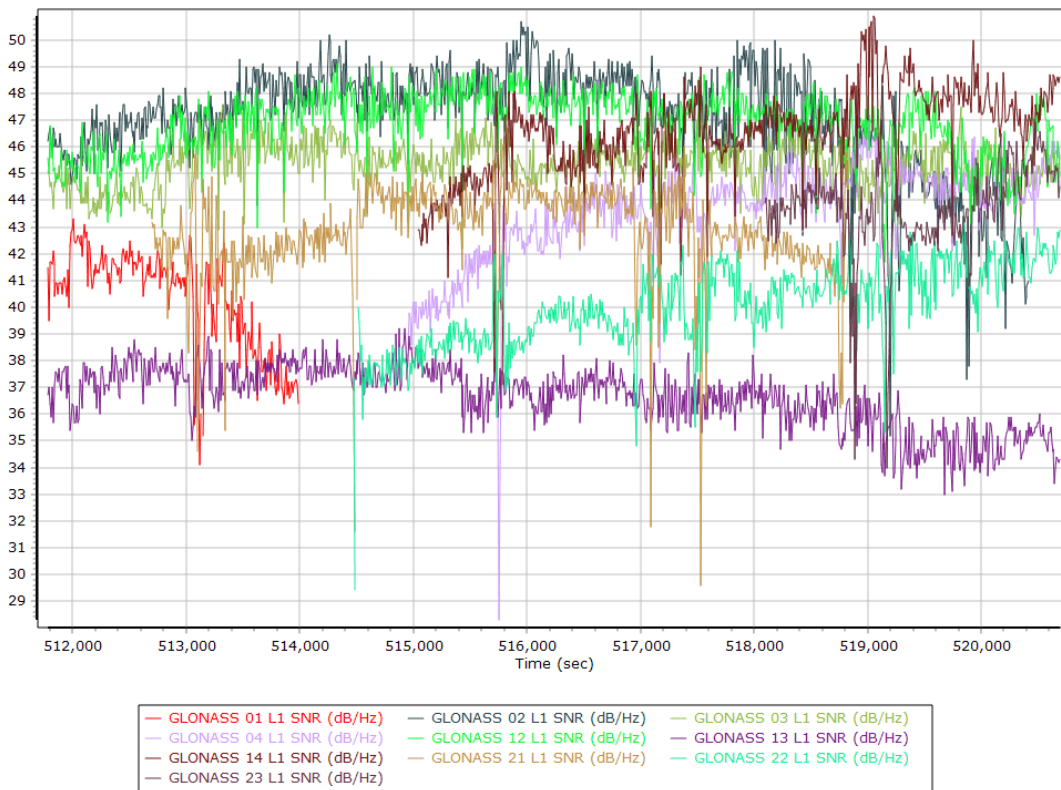
## GPS L1 SNR



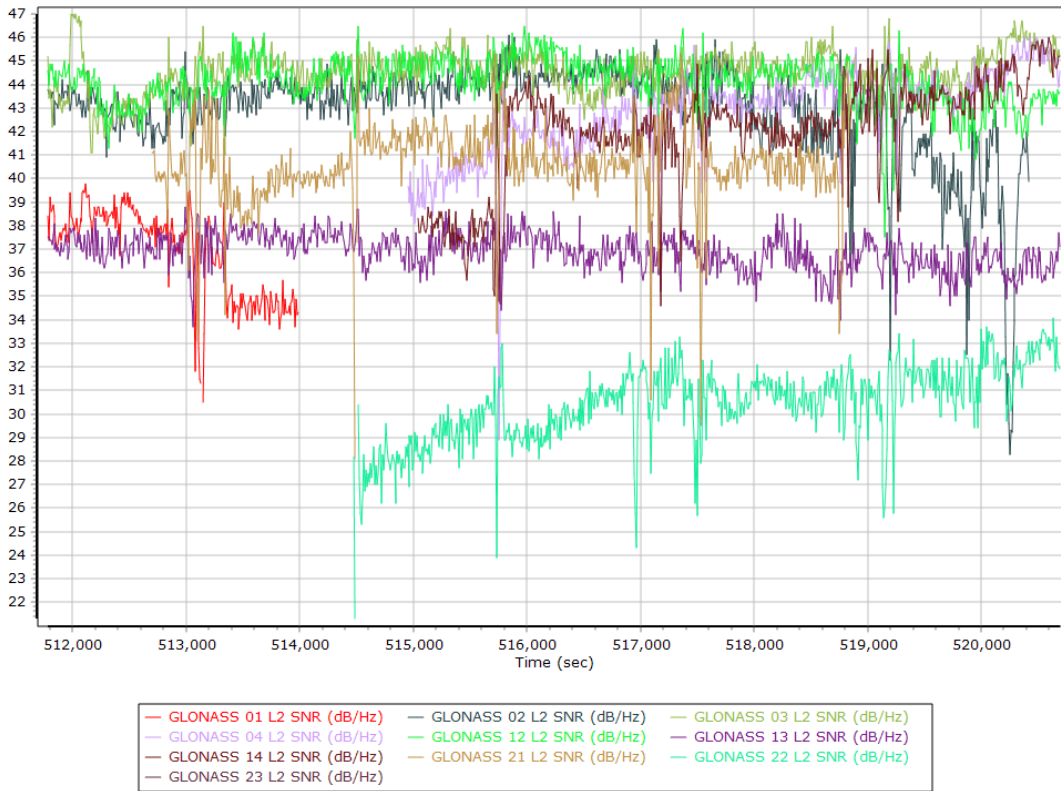
### GPS L2 SNR



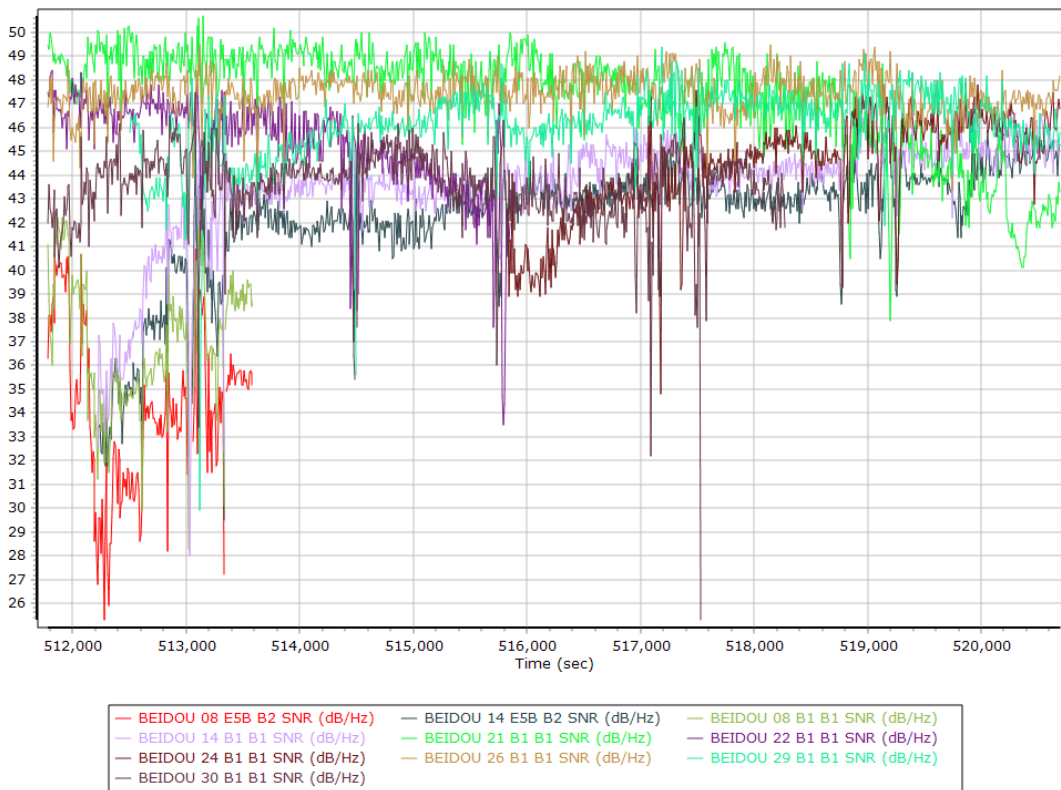
### GLONASS L1 SNR



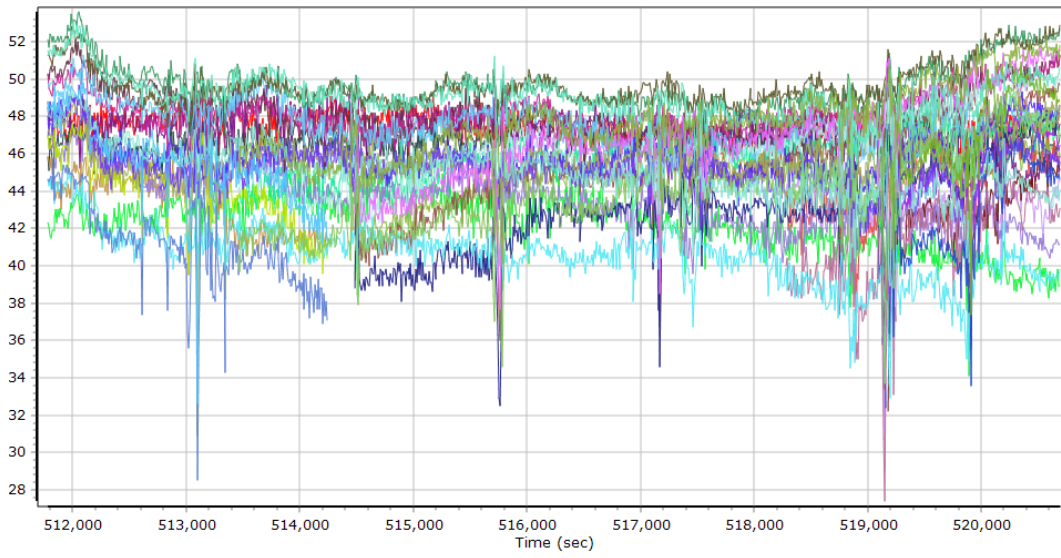
### GLONASS L2 SNR



### BEIDOU SNR



## GALILEO SNR

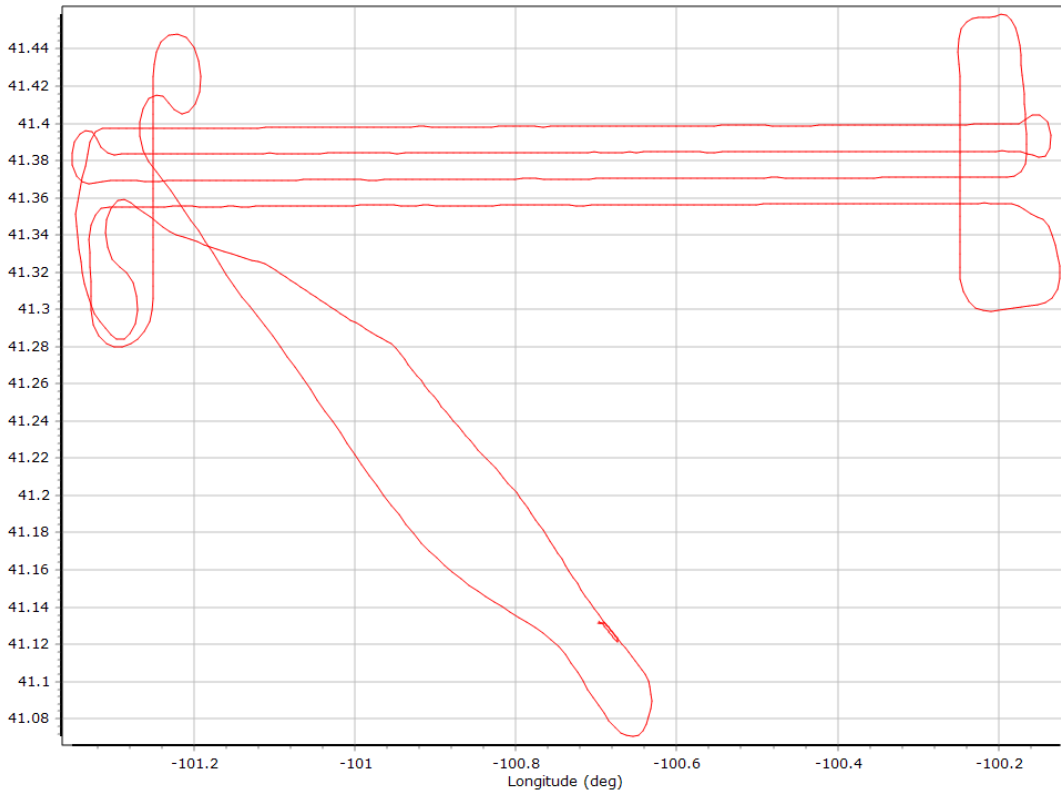


- |  |  |
|--|--|
| — GALILEO 01 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 04 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 09 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 19 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 21 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 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 01 L5E5A BPSK10_PD SNR (dB/Hz)   |
| — GALILEO 04 L5E5A BPSK10_PD SNR (dB/Hz)   | — GALILEO 09 L5E5A BPSK10_PD SNR (dB/Hz)   |
| — GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz)   | — GALILEO 19 L5E5A BPSK10_PD SNR (dB/Hz)   |
| — GALILEO 21 L5E5A BPSK10_PD SNR (dB/Hz)   | — GALILEO 26 L5E5A BPSK10_PD SNR (dB/Hz)   |
| — GALILEO 27 L5E5A BPSK10_PD SNR (dB/Hz)   | — GALILEO 31 L5E5A BPSK10_PD SNR (dB/Hz)   |
| — GALILEO 01 E5B BPSK10_PD SNR (dB/Hz)     | — GALILEO 04 E5B BPSK10_PD SNR (dB/Hz)     |

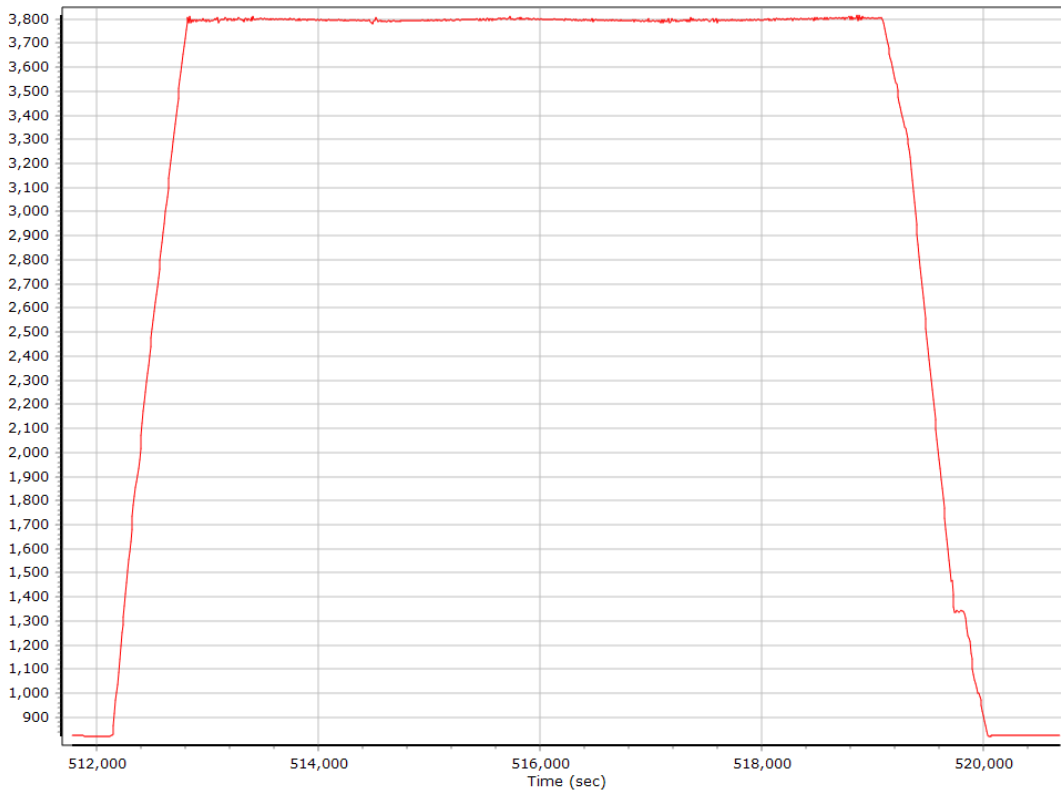


## Smoothed Trajectory Information

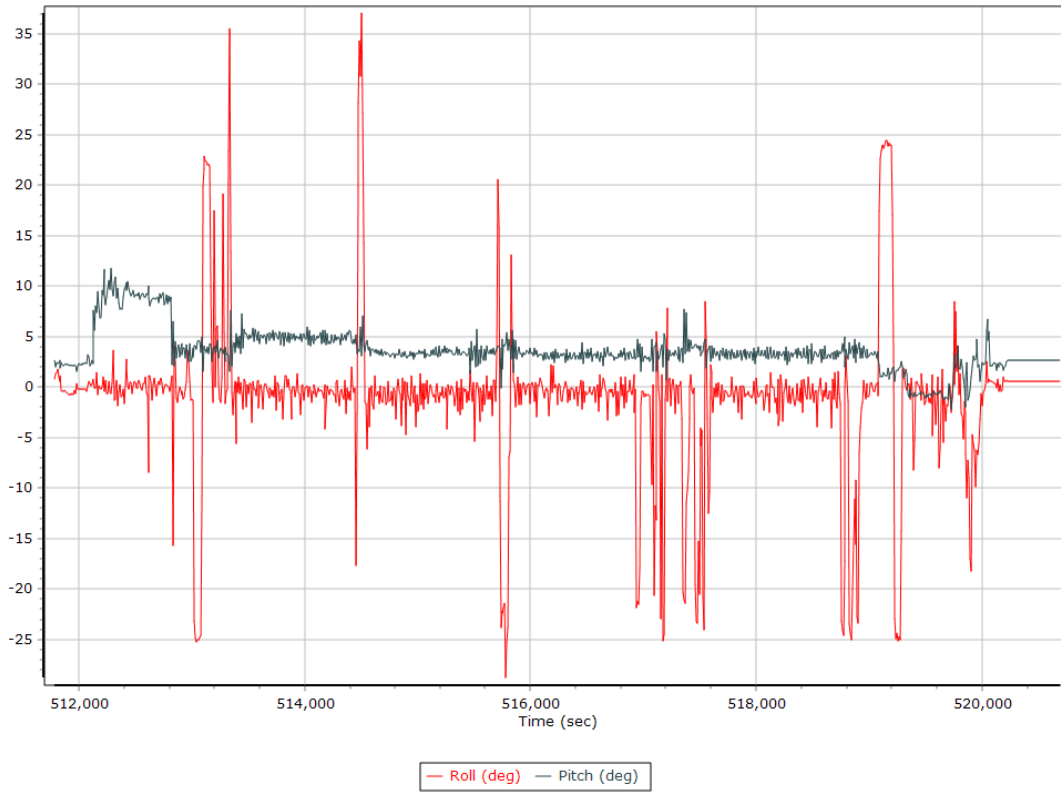
### Top View



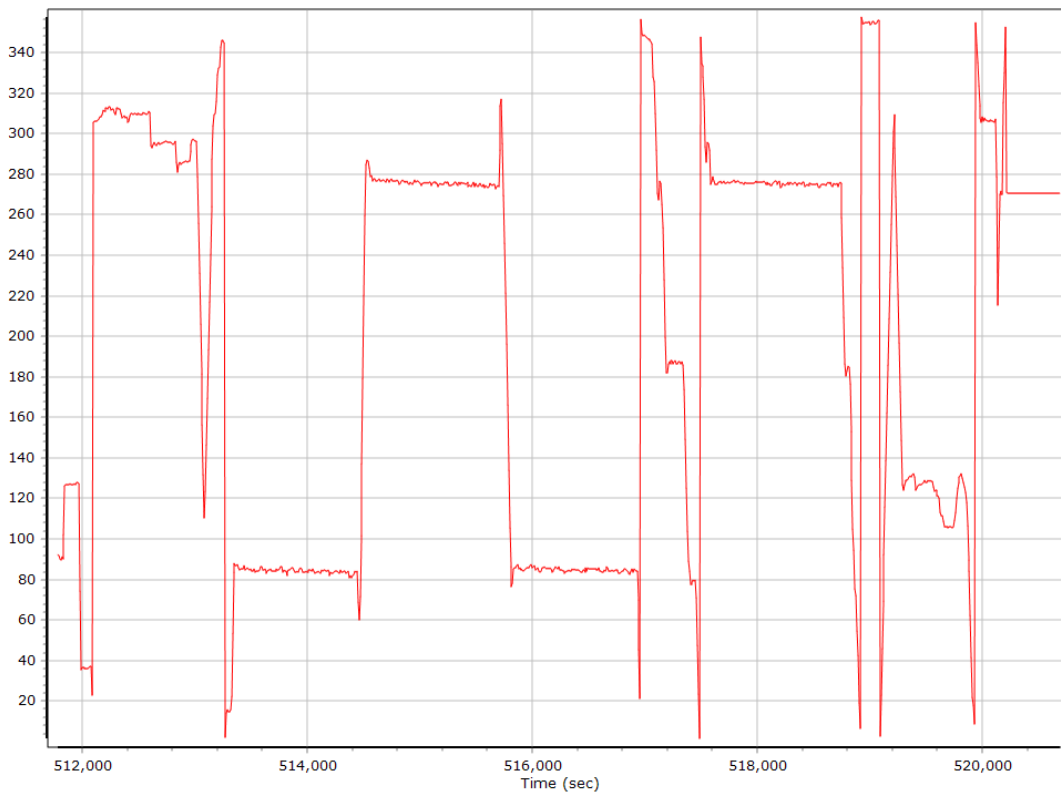
### Altitude



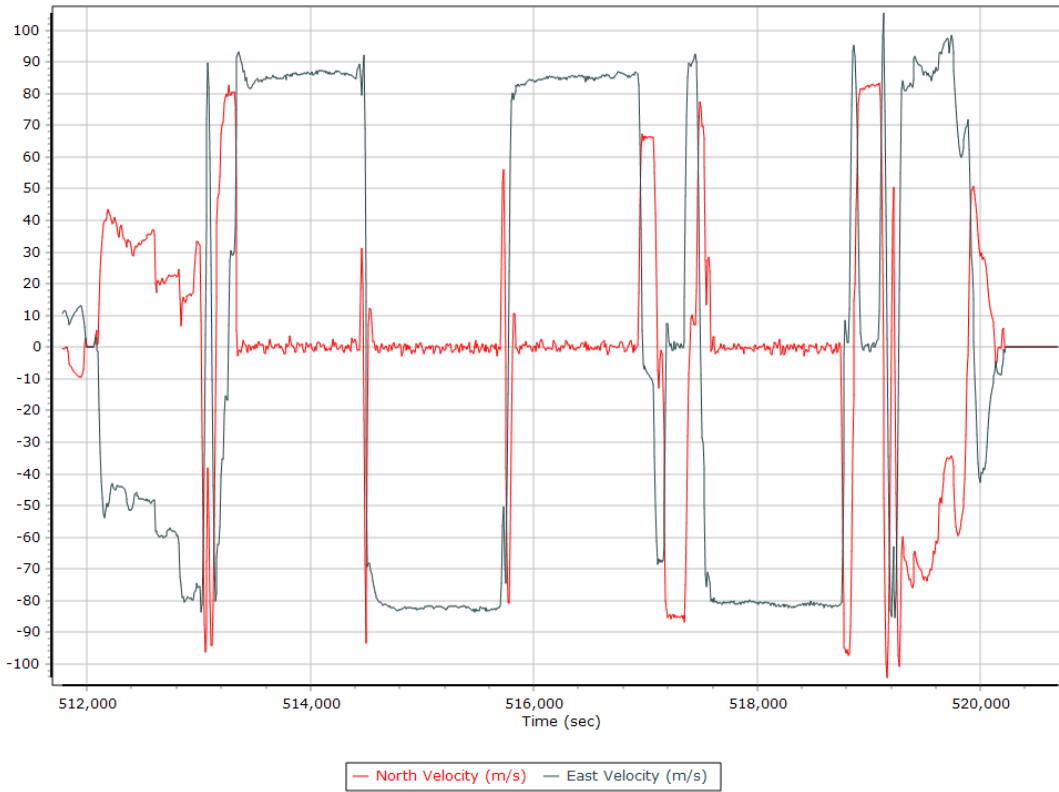
## Roll/Pitch



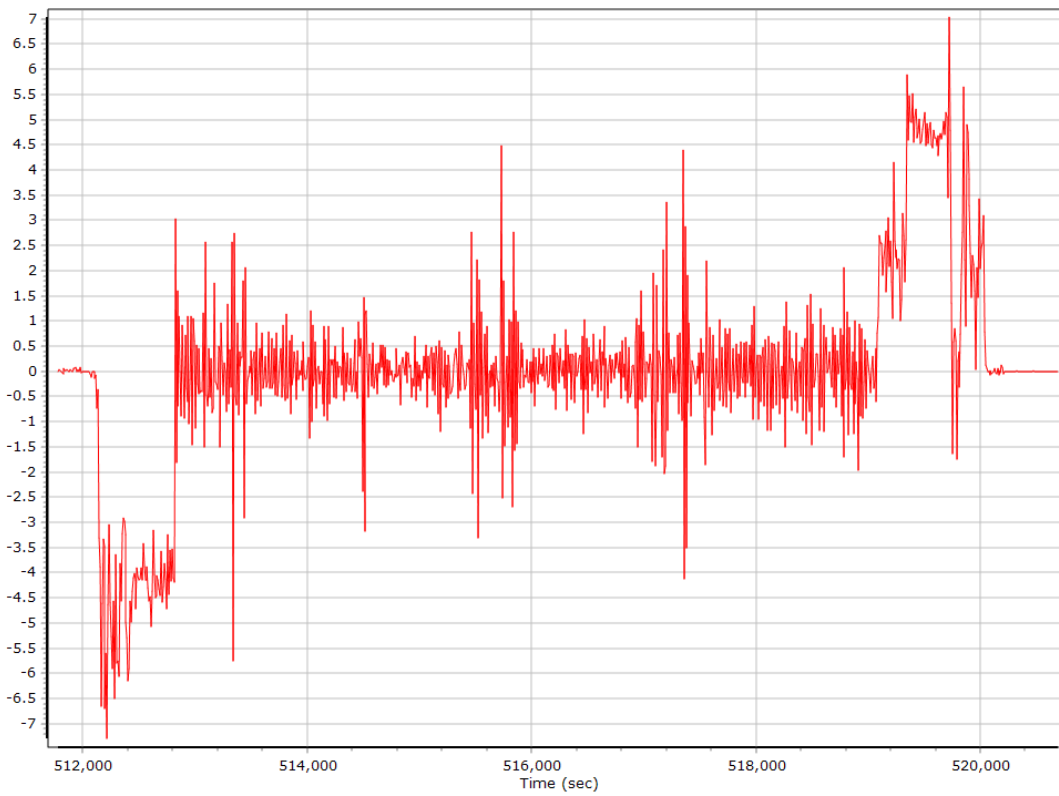
## Heading



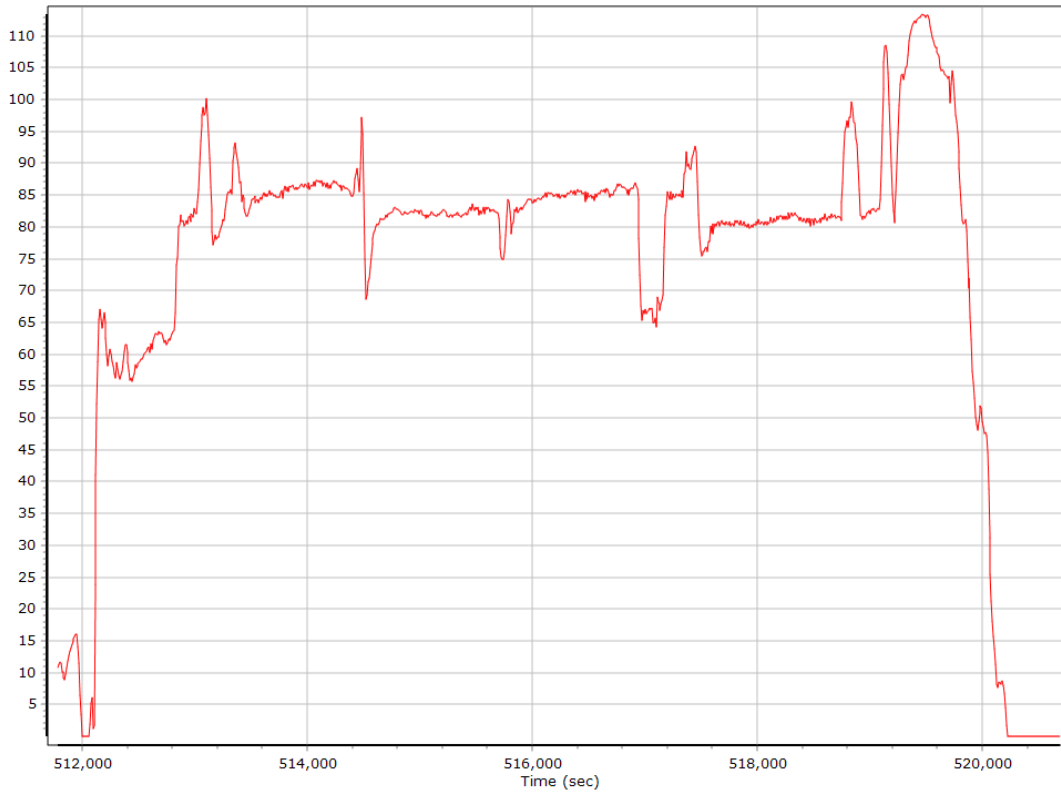
## North/East Velocity



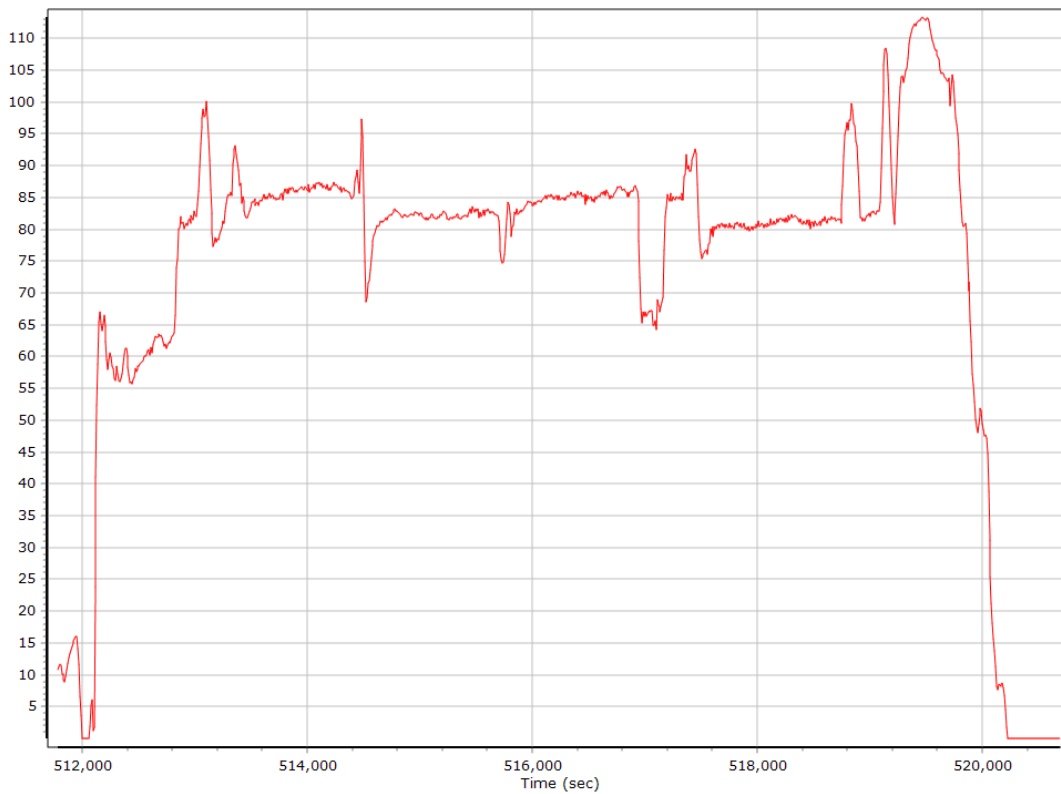
## Down Velocity



## Total Speed



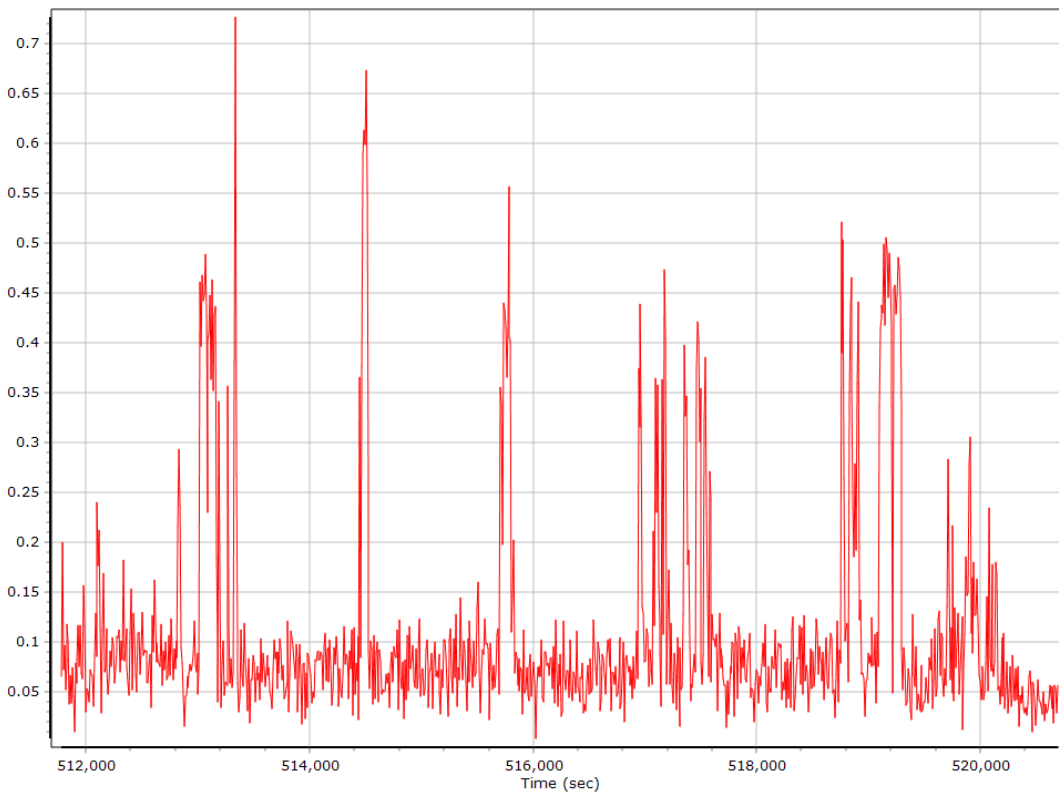
## Ground Speed



## Body Acceleration



## Total Body Acceleration

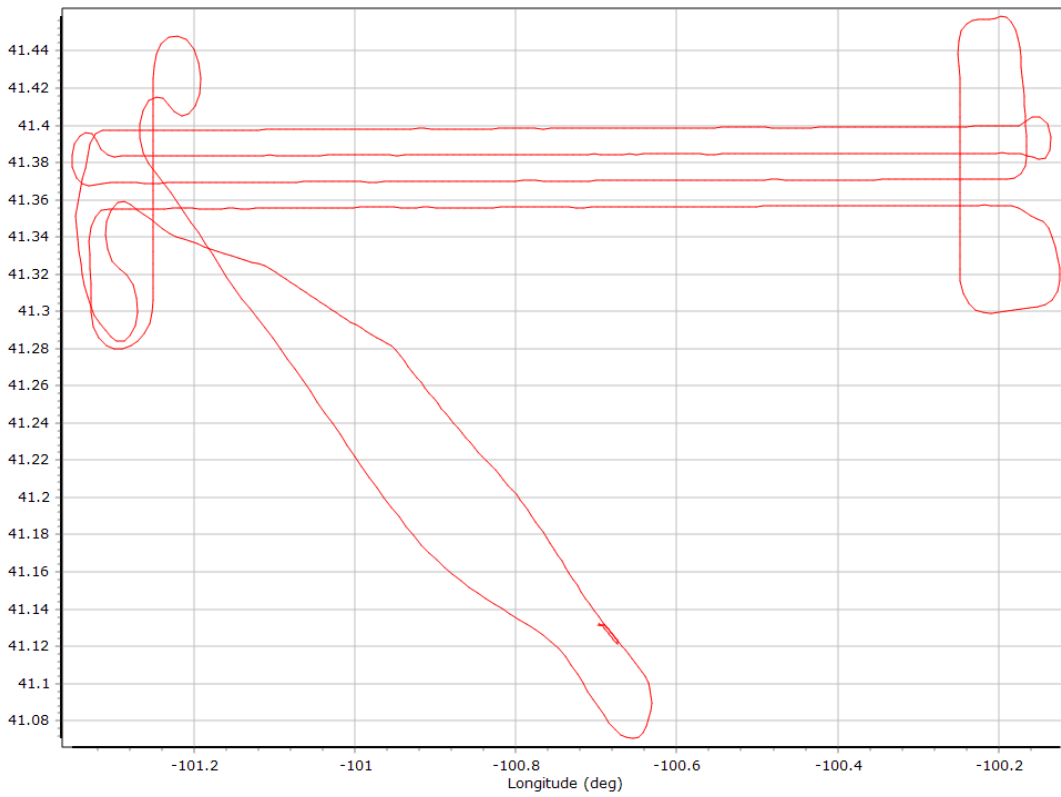


## Body Angular Rate

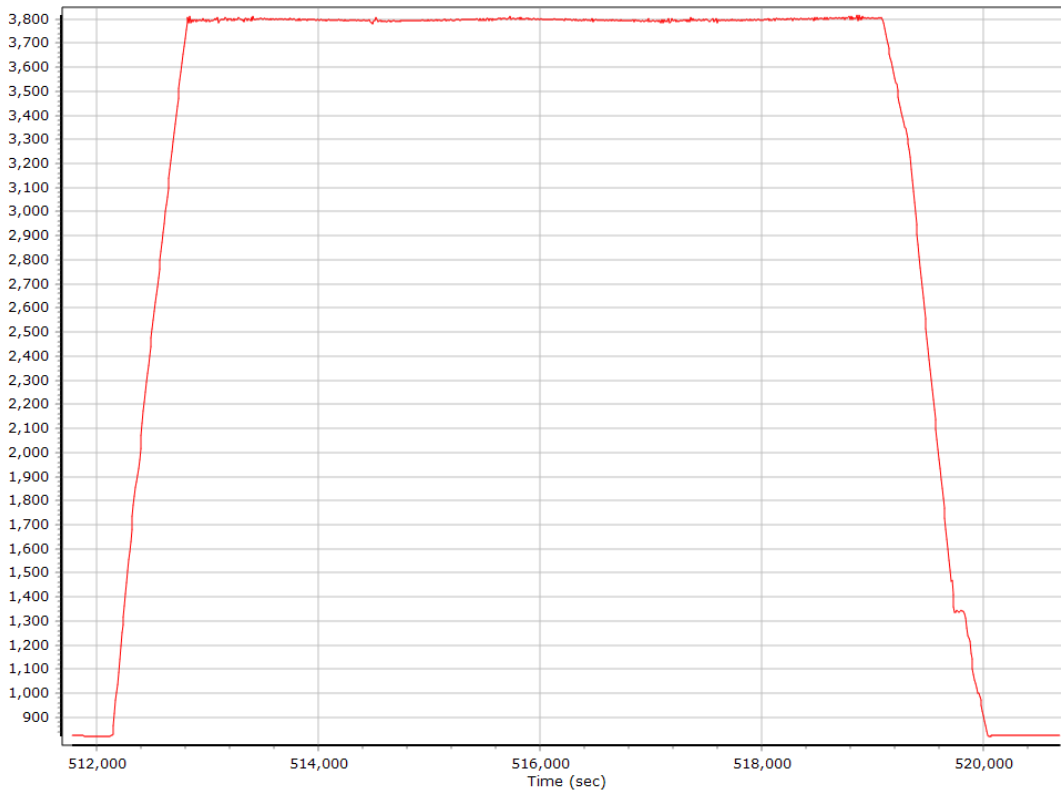


## Forward Processed Trajectory Information

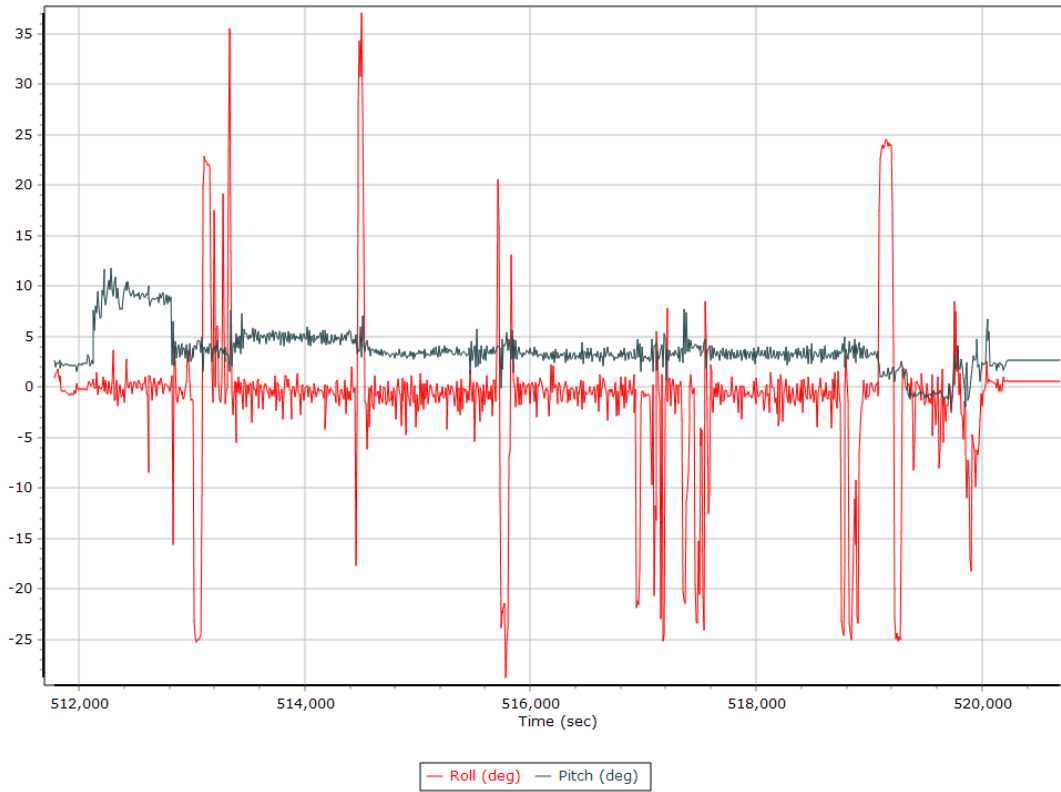
### Top View



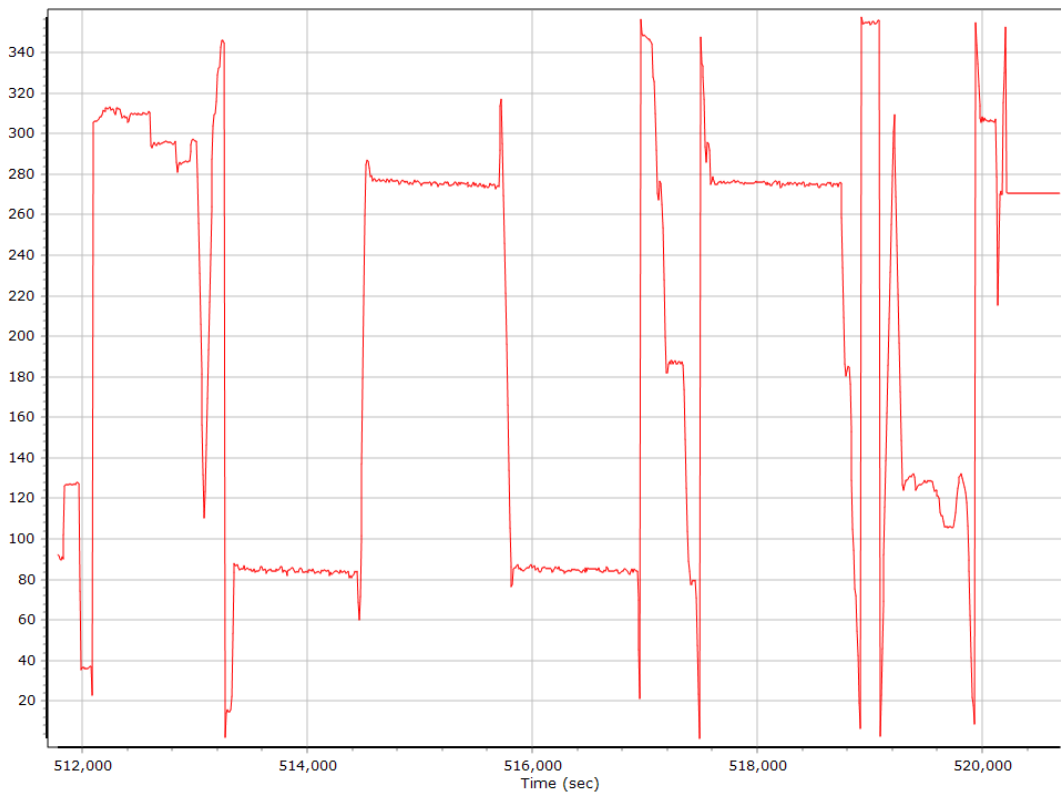
### Altitude



## Roll/Pitch

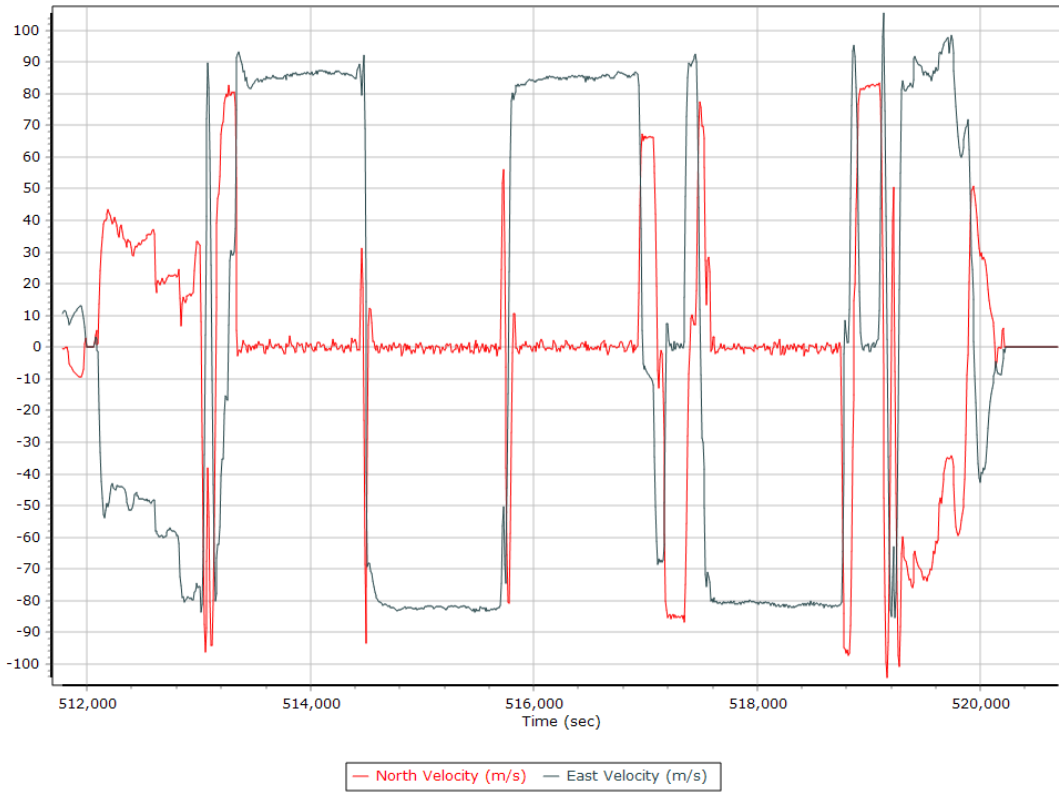


## Heading

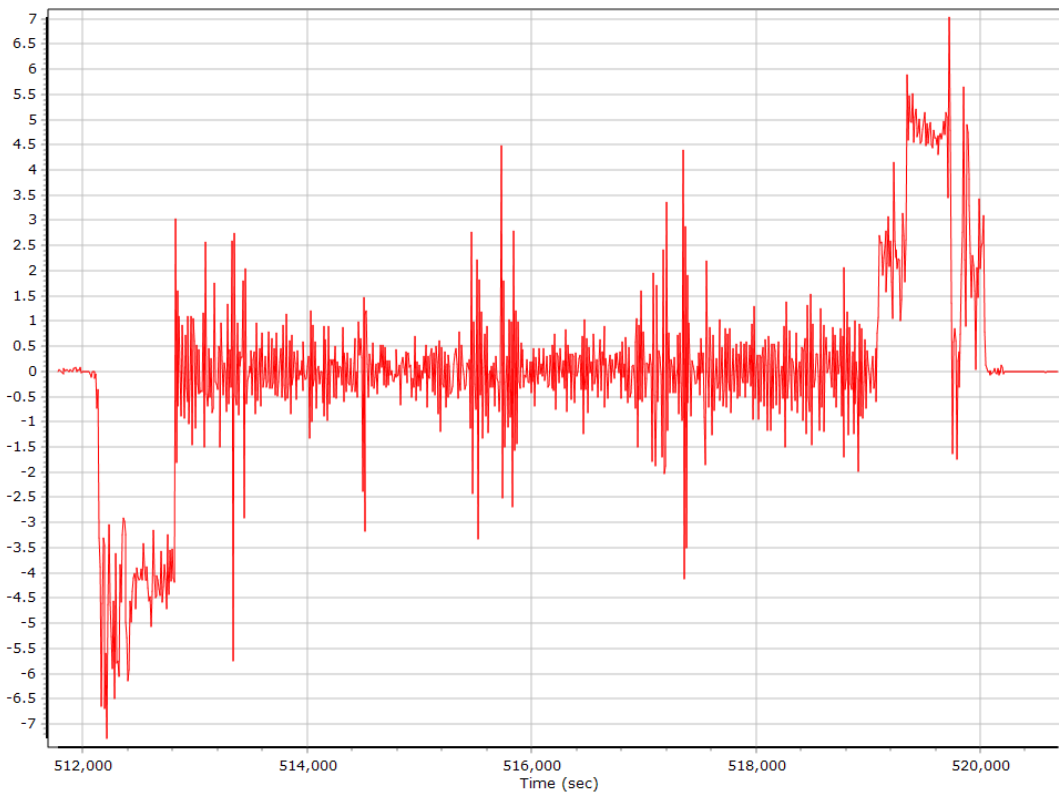




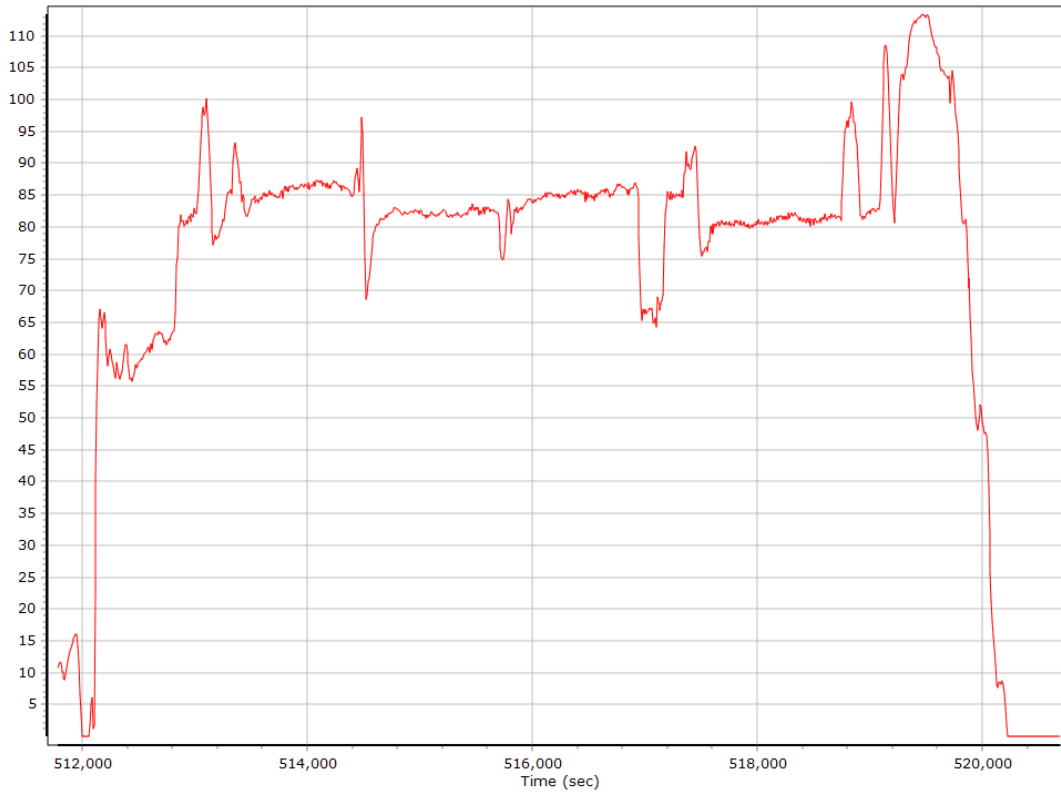
## North/East Velocity



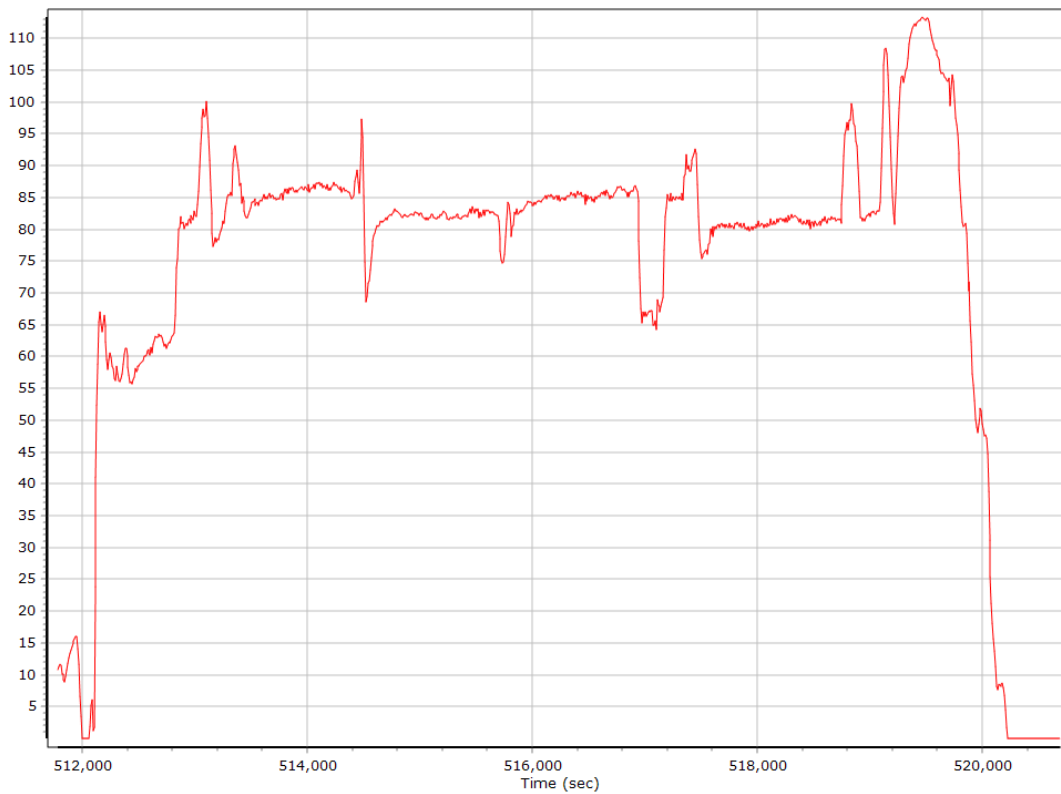
## Down Velocity



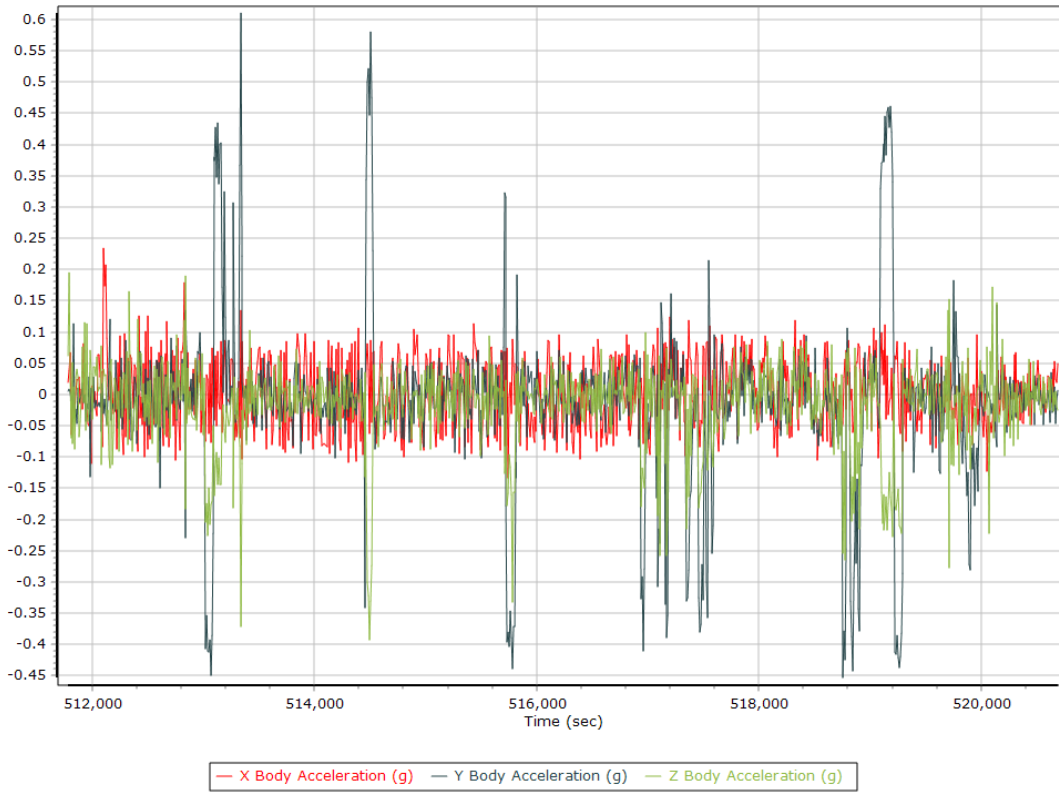
## Total Speed



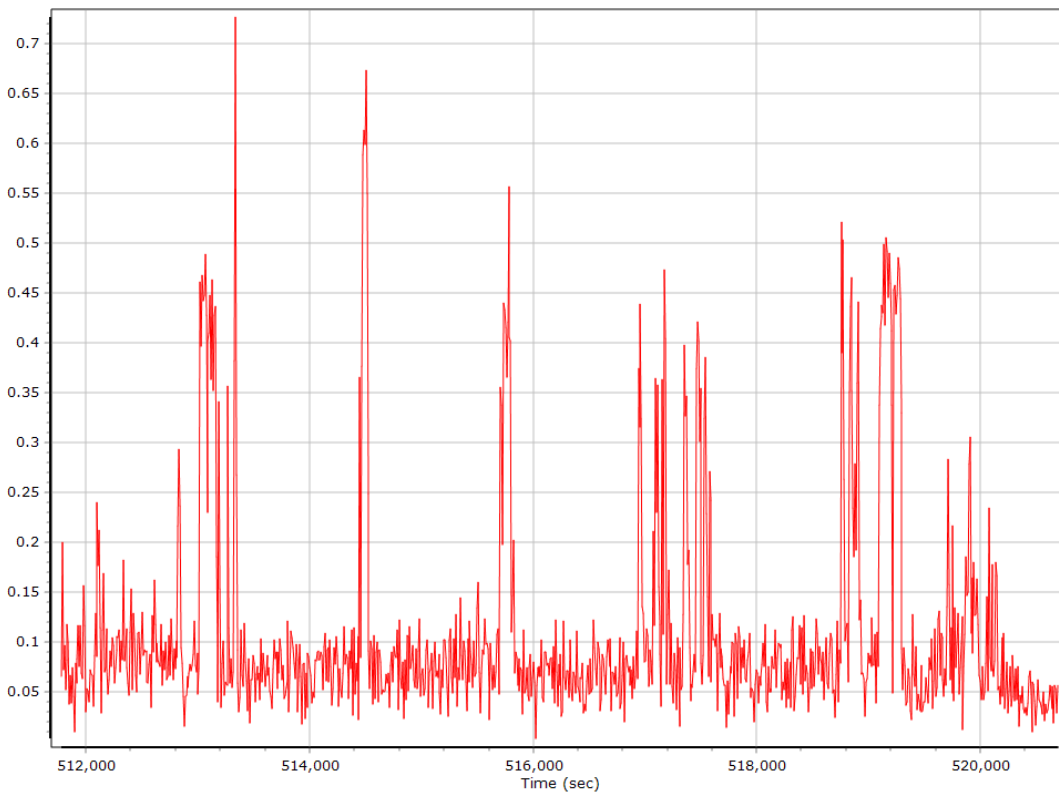
## Ground Speed



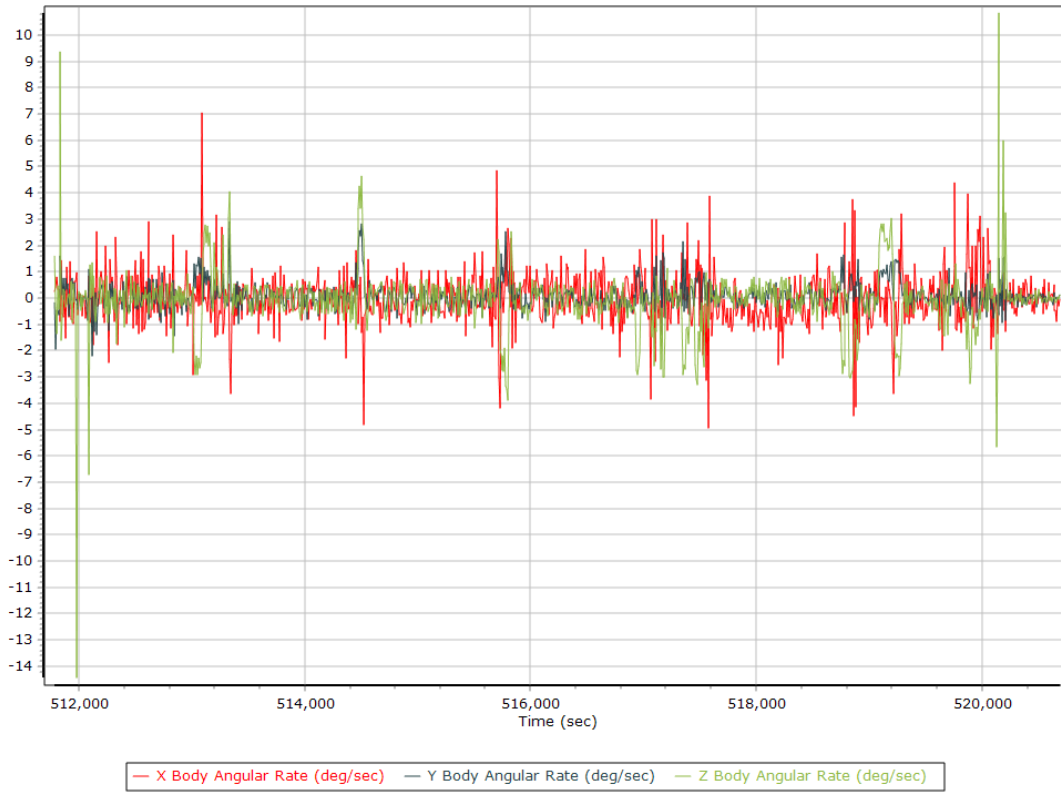
## Body Acceleration



## Total Body Acceleration



## Body Angular Rate

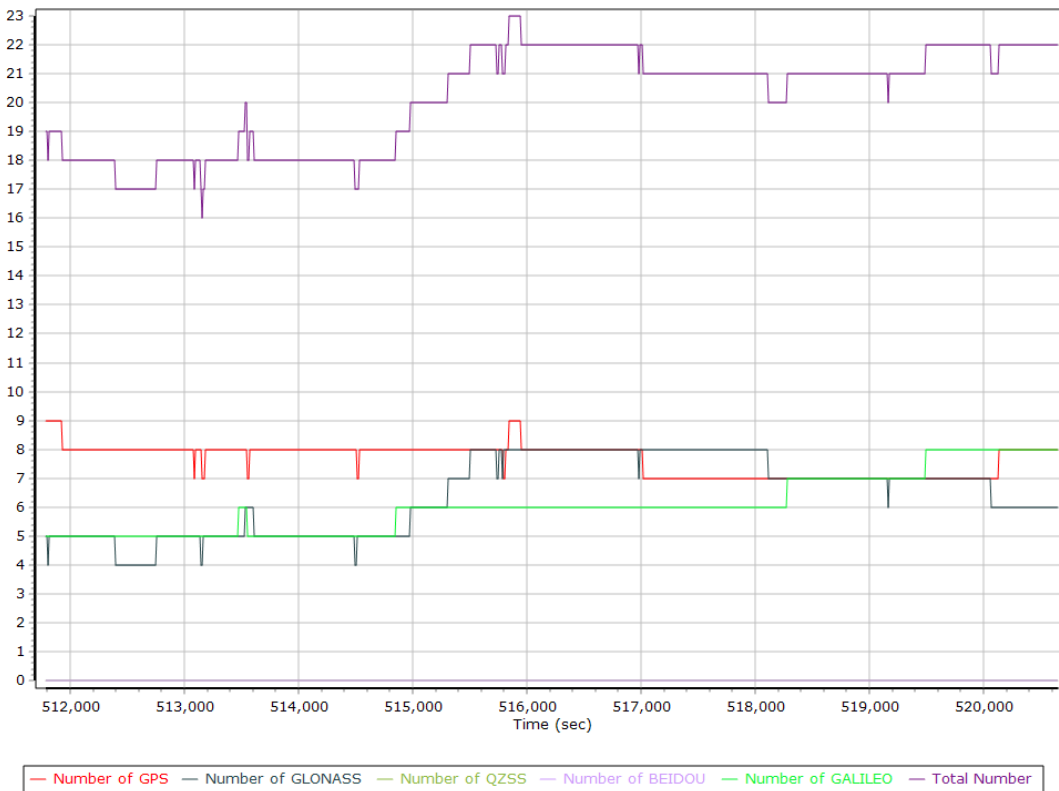


## GNSS QC

### 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	8	6
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	5	8	6
Total number of SV	16	23	20
PDOP	0.95	1.50	1.18
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	9381.00	0.00	0.00
Percentage	100.00	0.00	0.00

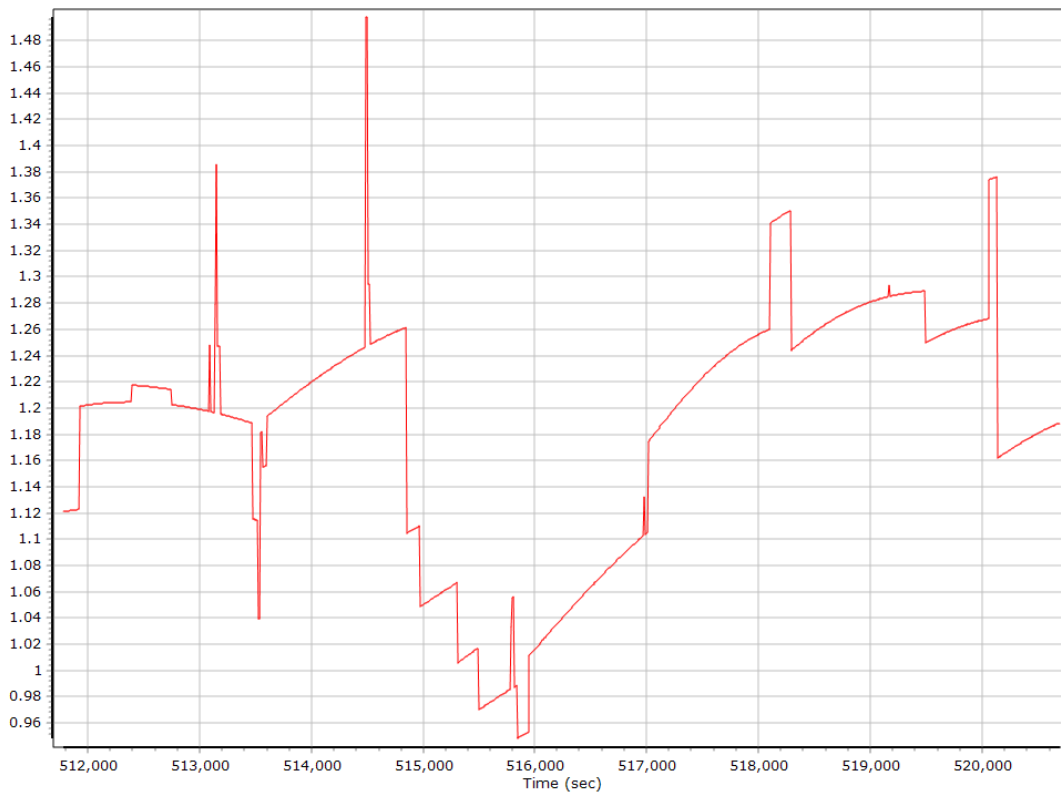
### Num SVs in solution



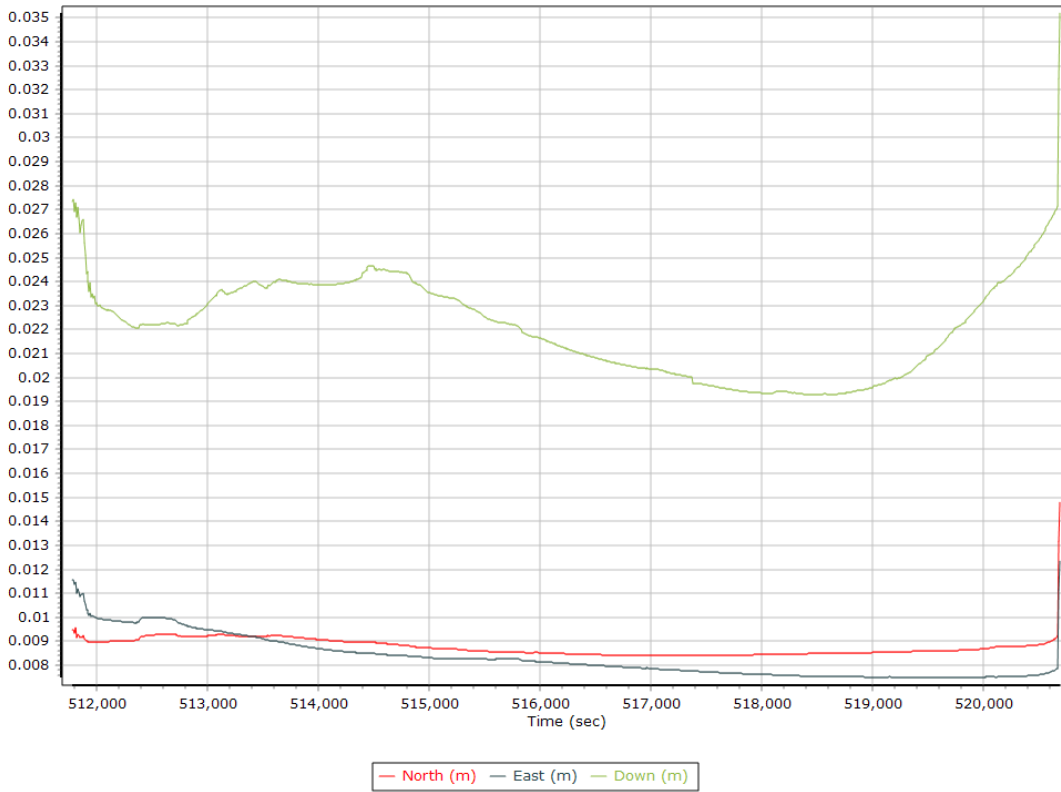
## Forward/Reverse Separation



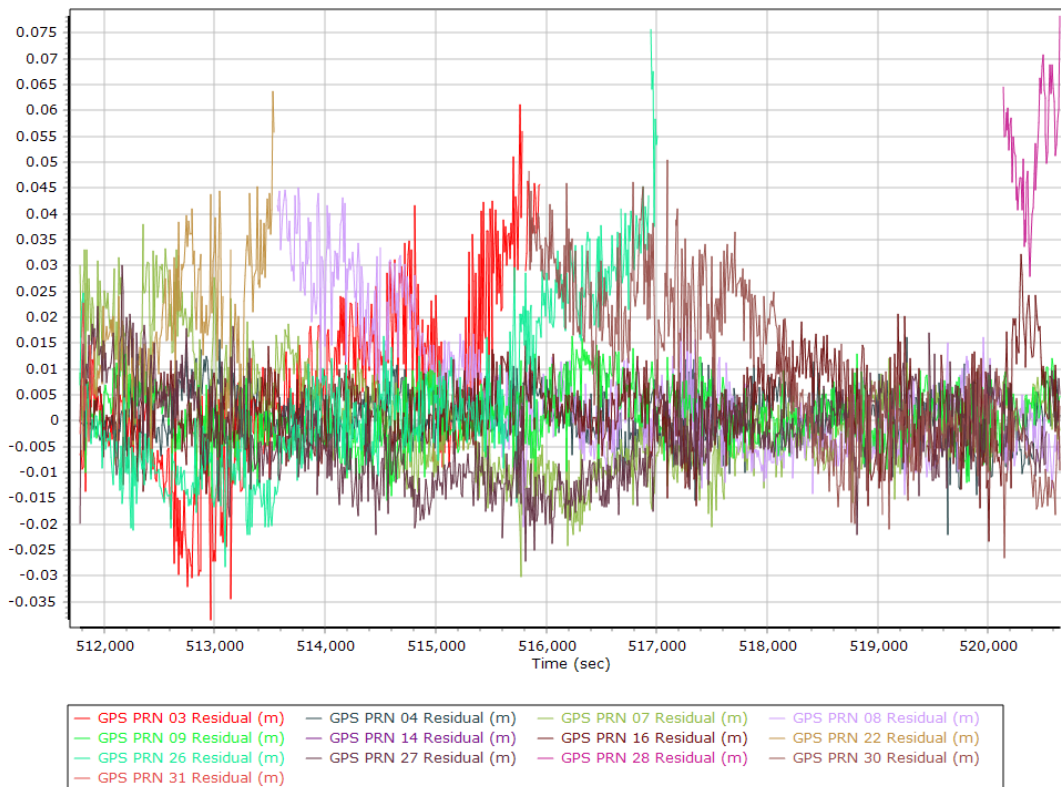
## PDOP



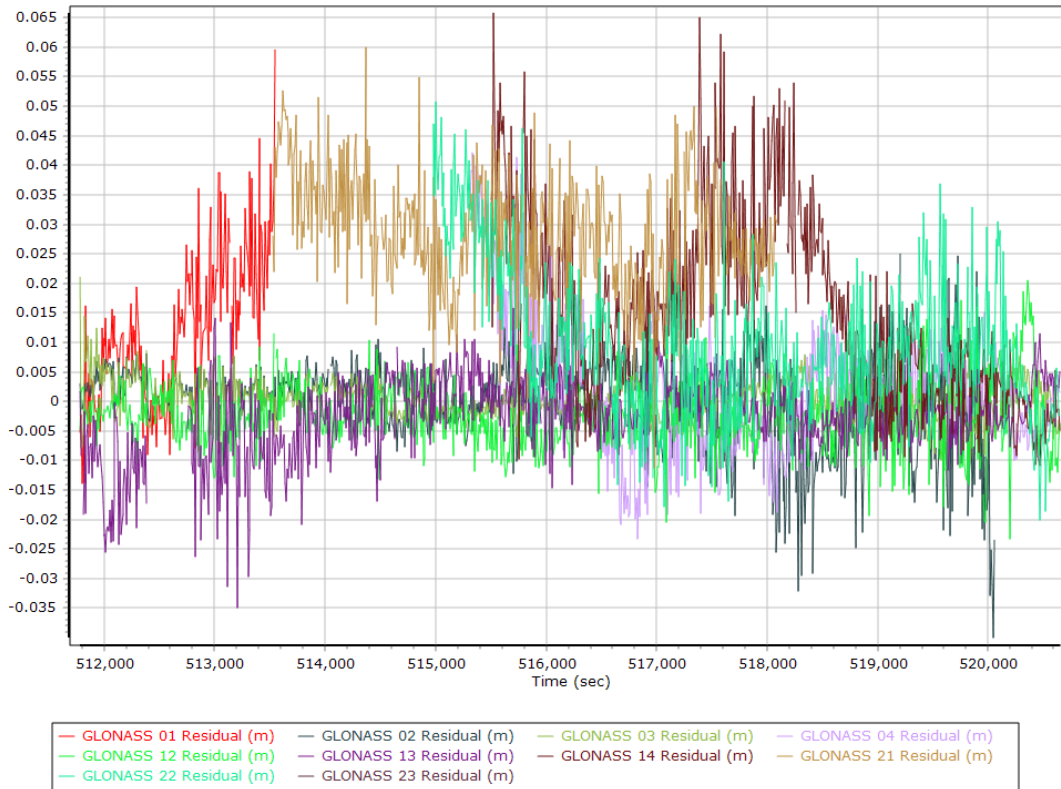
## Estimated Position Accuracy



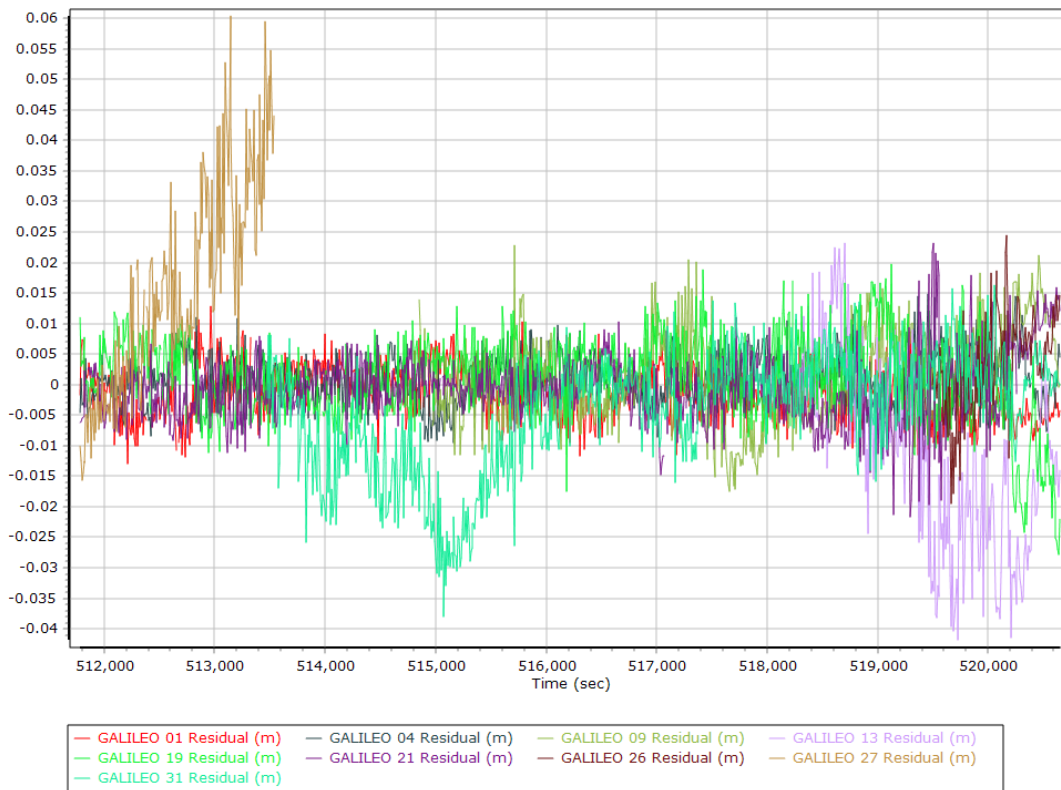
## GPS Residuals



## GLONASS Residuals



## GALILEO Residuals





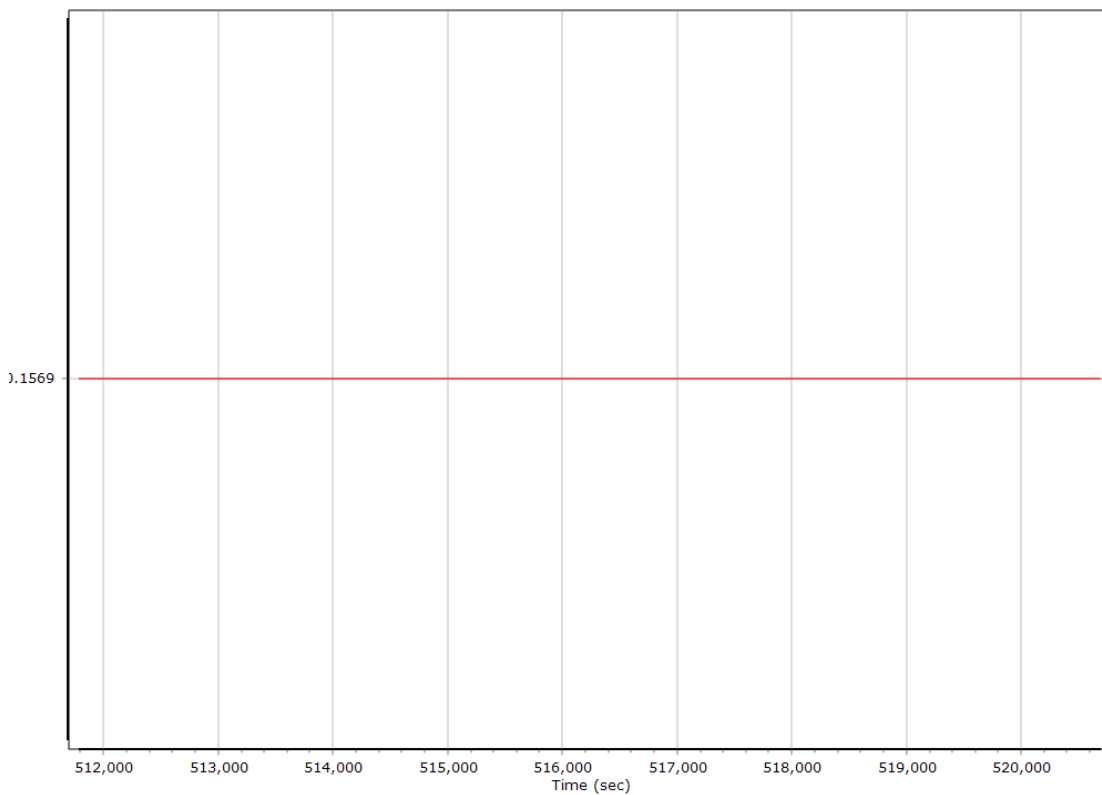
## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	511264.000 (12/04/2020 22:01:04)		
Processing end time	520696.000 (12/05/2020 00:38:16)		
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

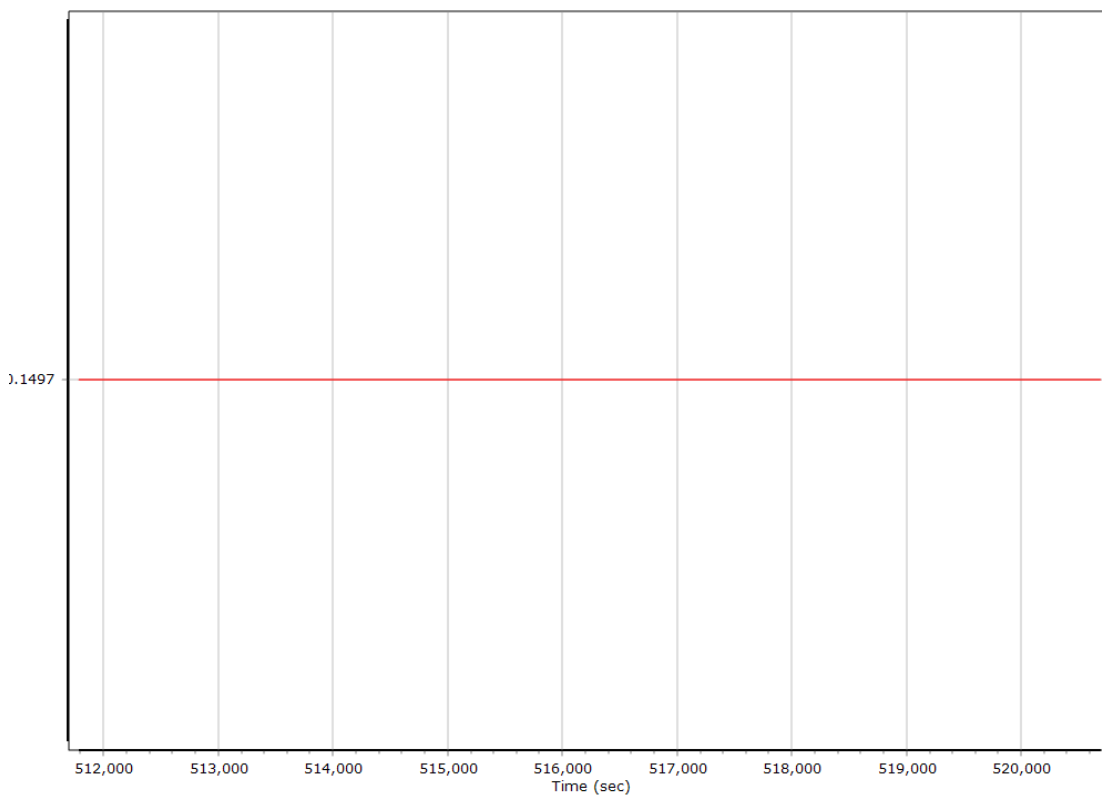
## Calibrated Installation Parameters

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

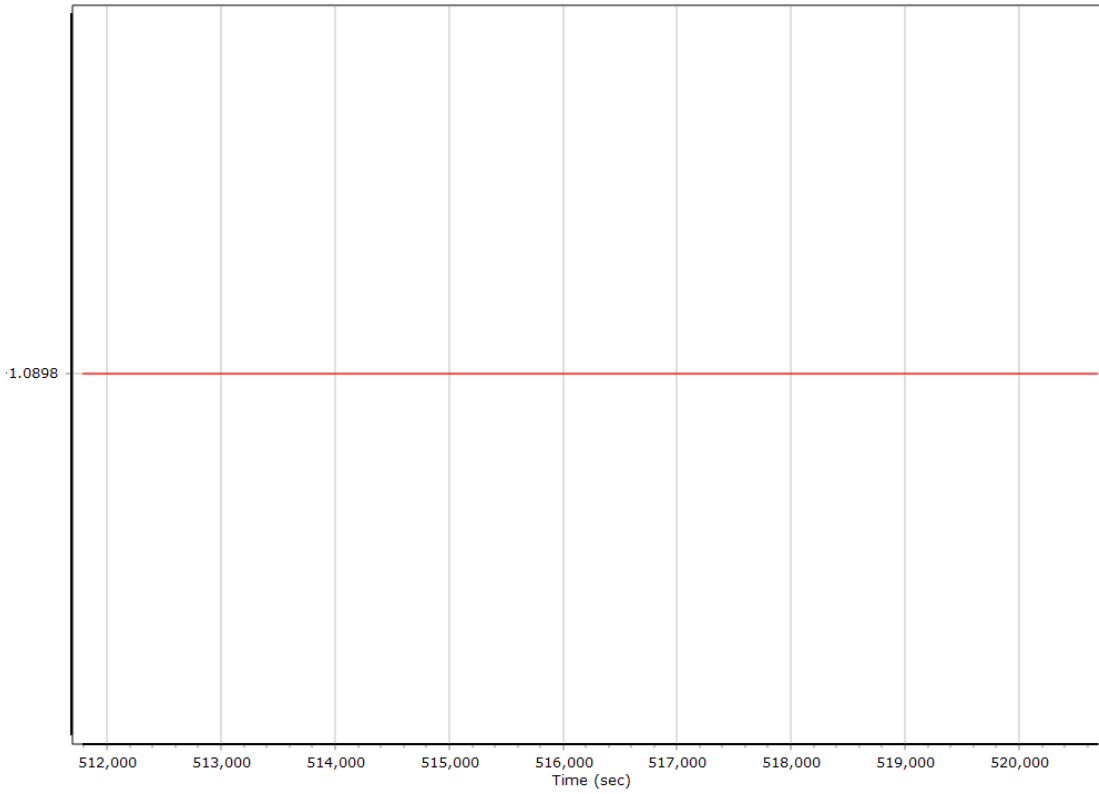
#### X Reference-Primary GNSS Lever Arm (m)



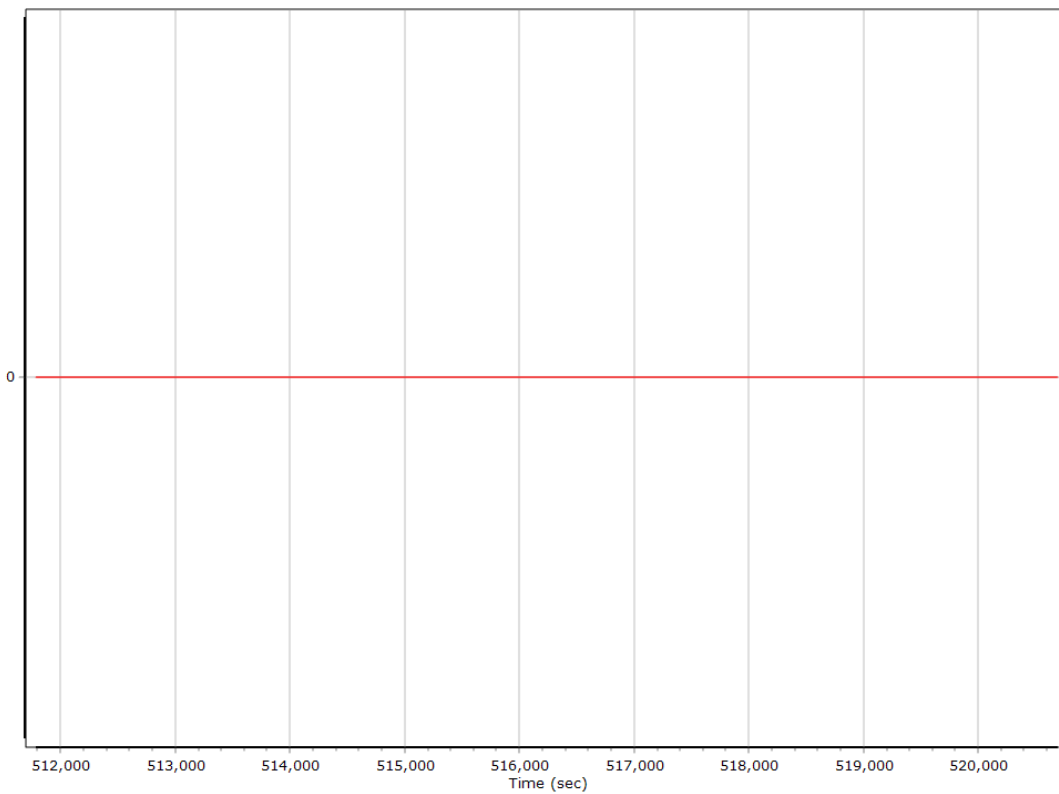
#### Y Reference-Primary GNSS Lever Arm (m)



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



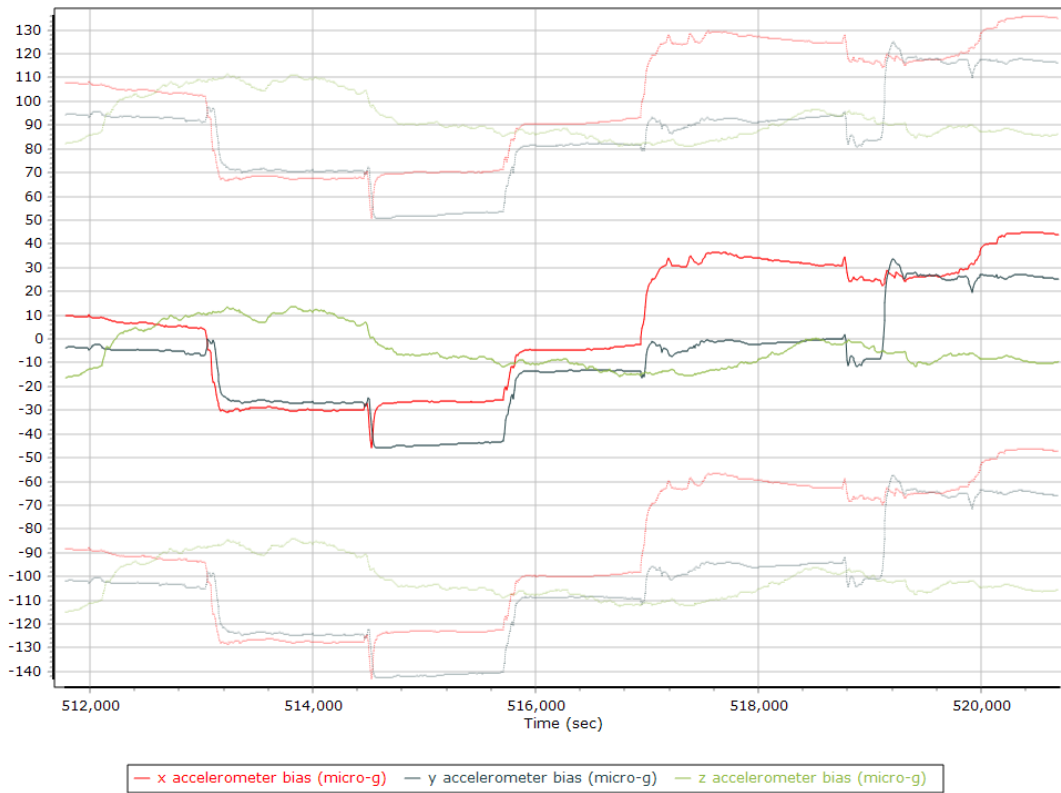
### Reference-Primary GNSS Lever Arm Figure of Merit



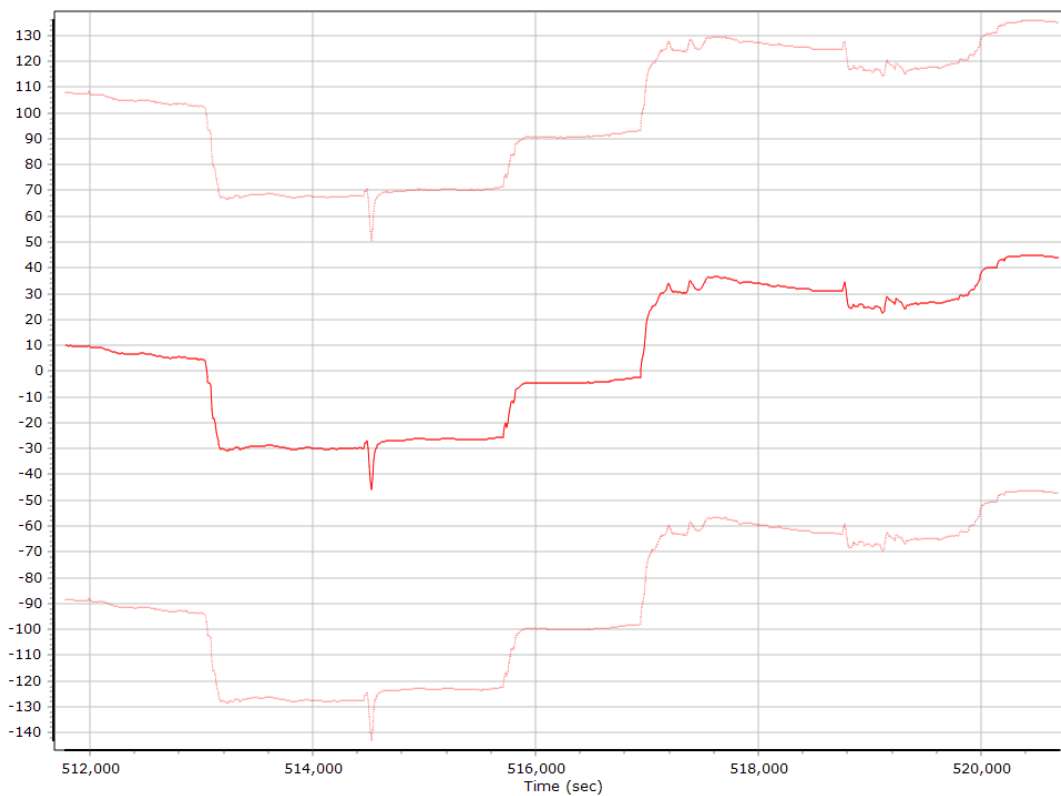
## IN-Fusion QC

### Forward Processed Estimated Errors, Reference Frame

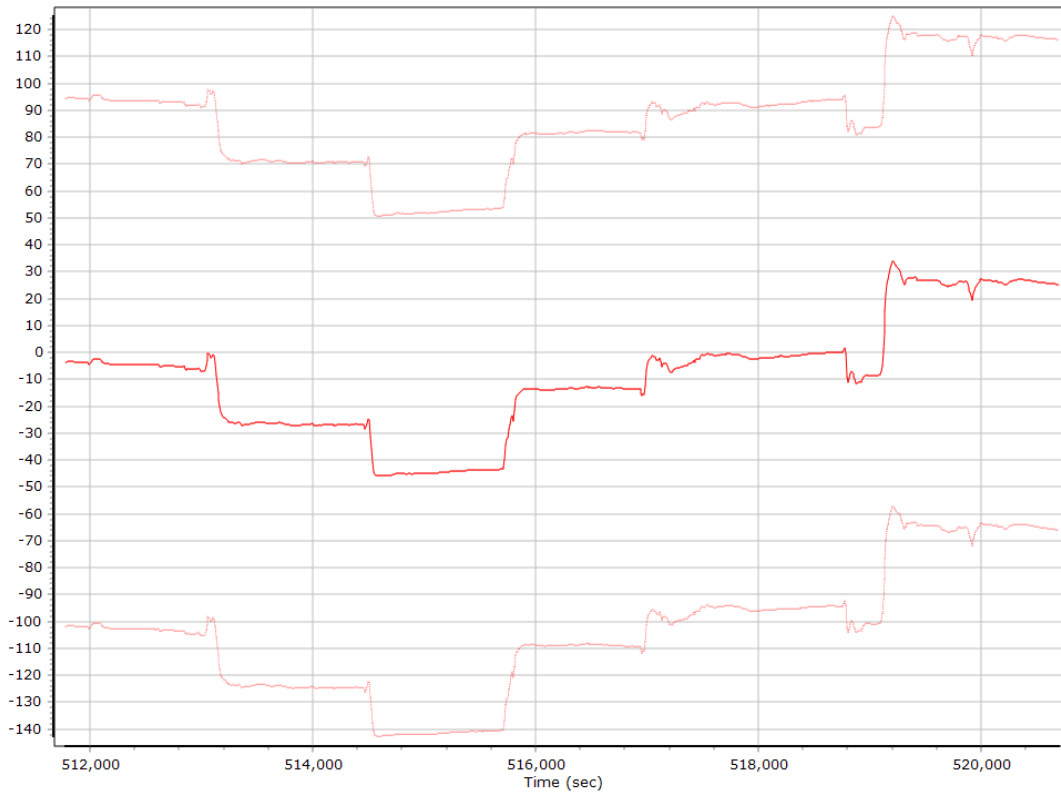
#### Accelerometer Bias (micro-g)



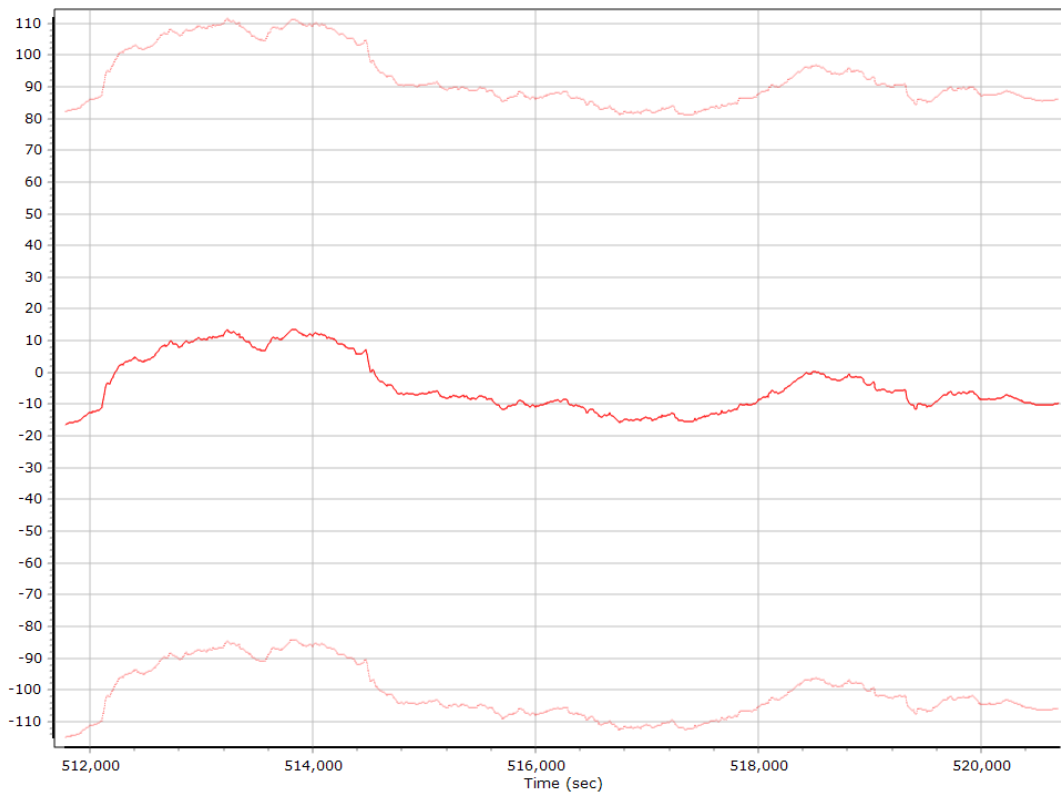
#### X Accelerometer Bias (micro-g)



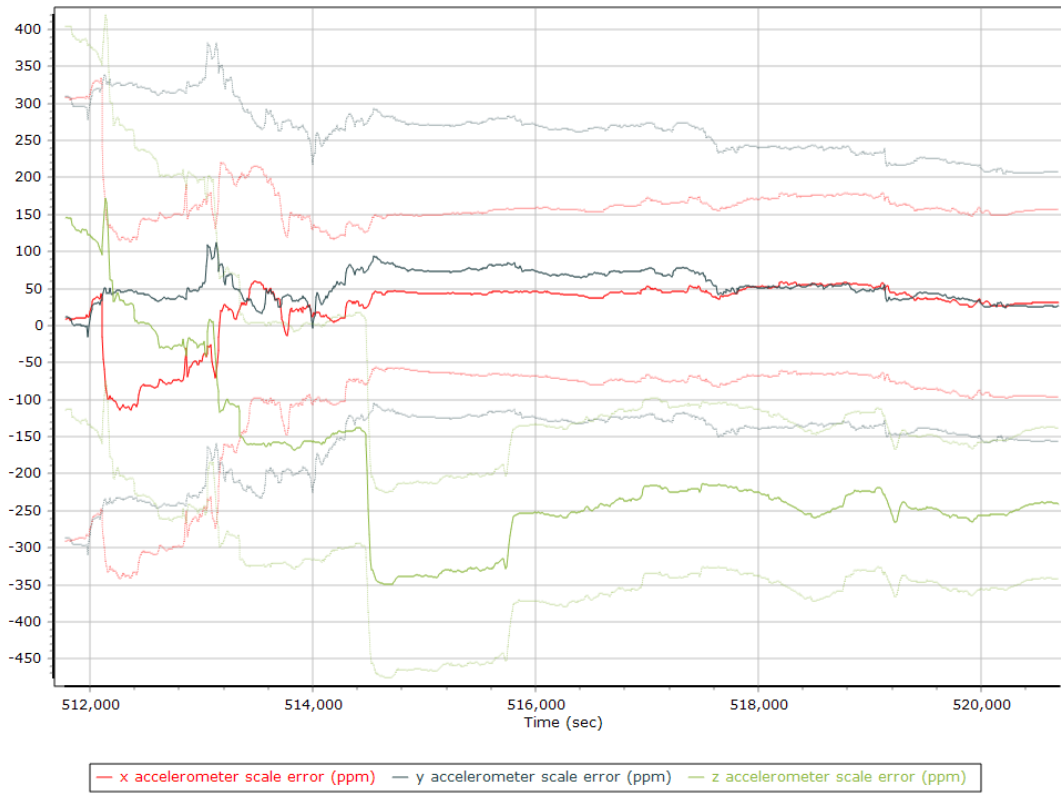
### Y Accelerometer Bias (micro-g)



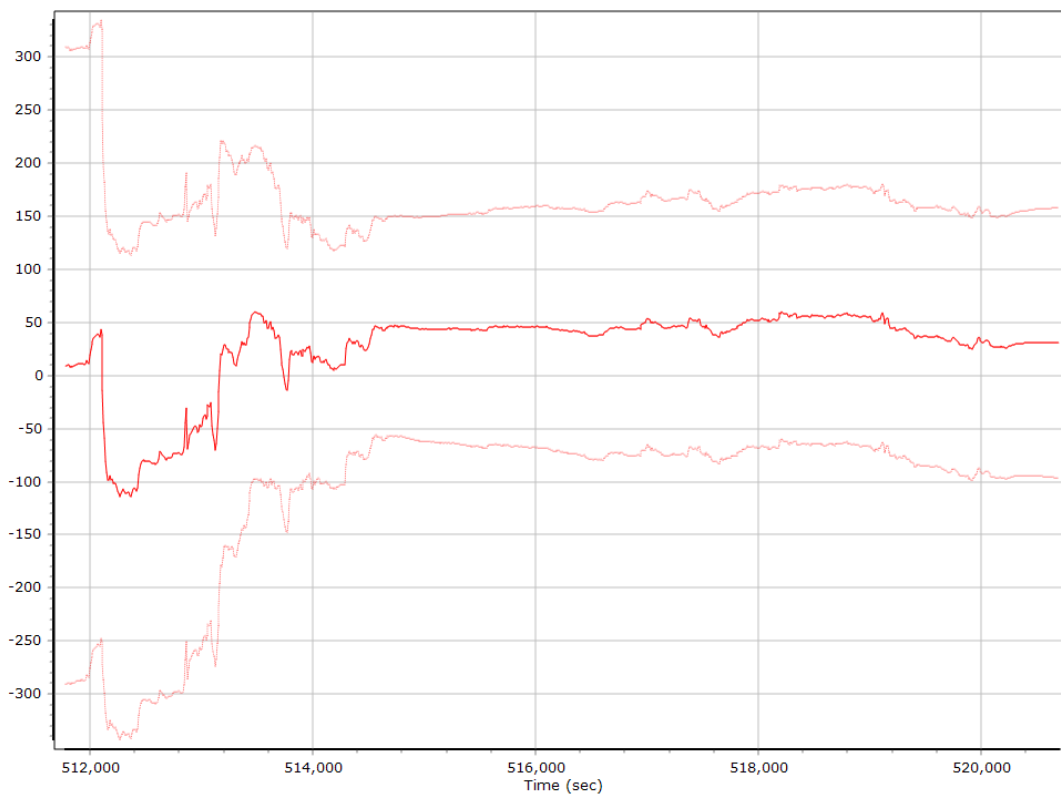
### Z Accelerometer Bias (micro-g)



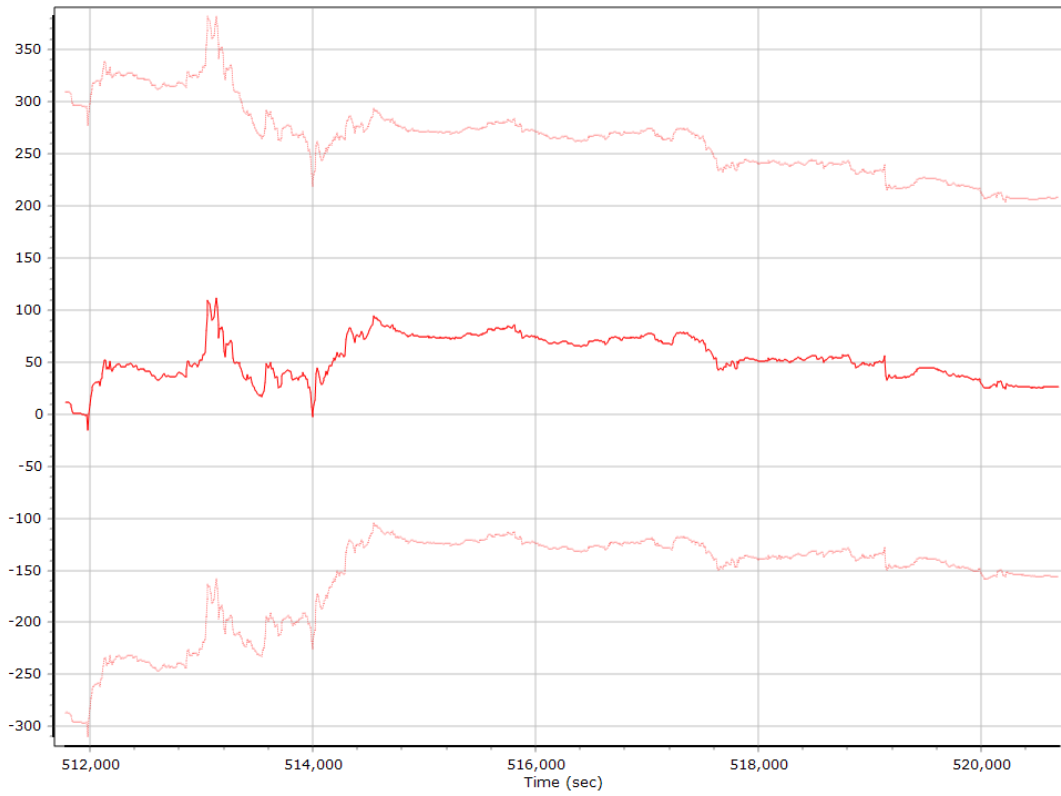
### Accelerometer Scale Error (ppm)



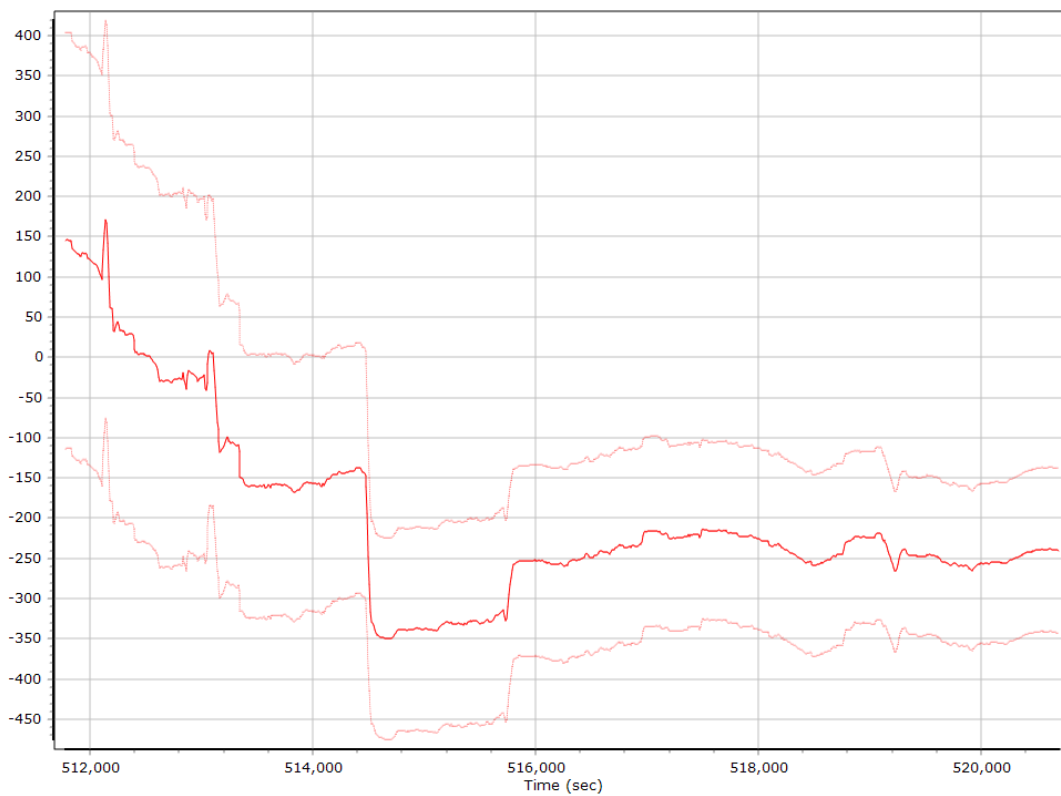
### X Accelerometer Scale Error (ppm)



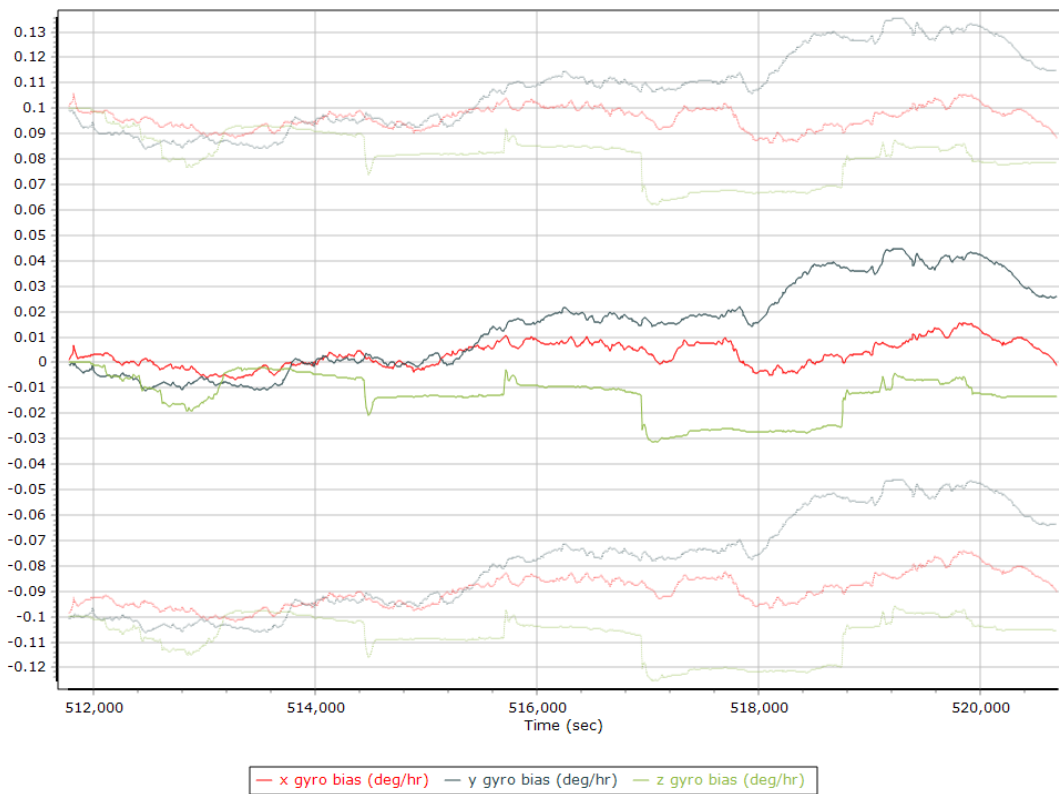
### Y Accelerometer Scale Error (ppm)



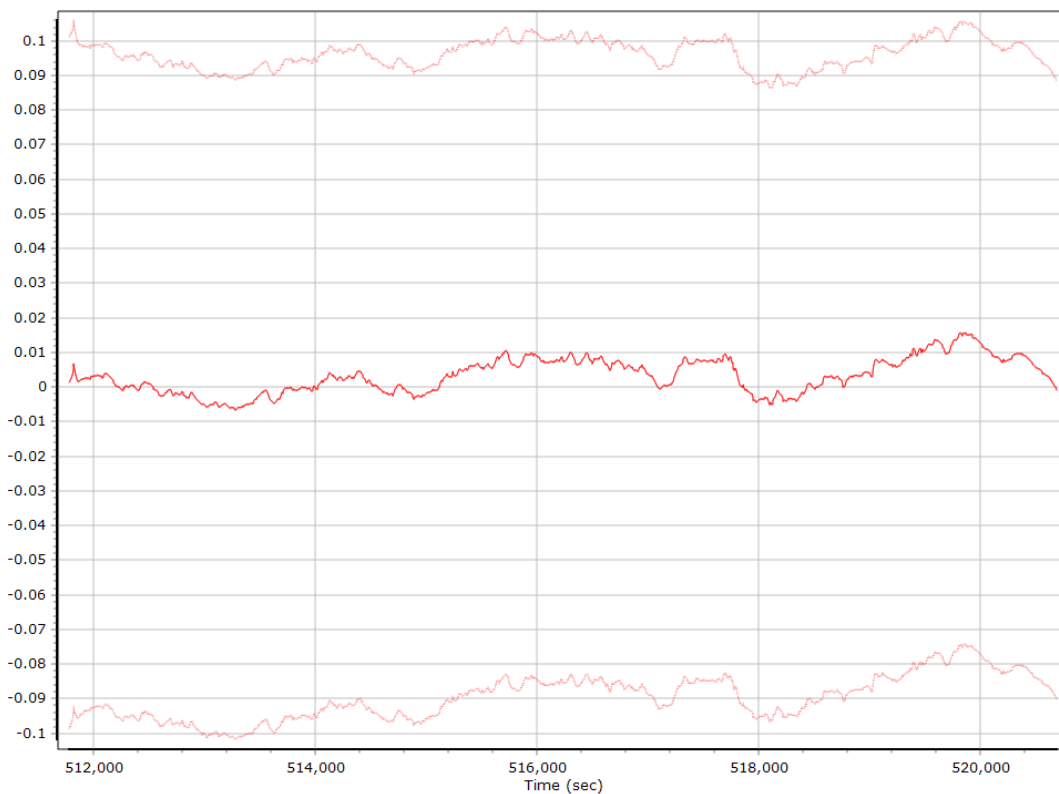
### Z Accelerometer Scale Error (ppm)



### Gyro Bias (deg/h)

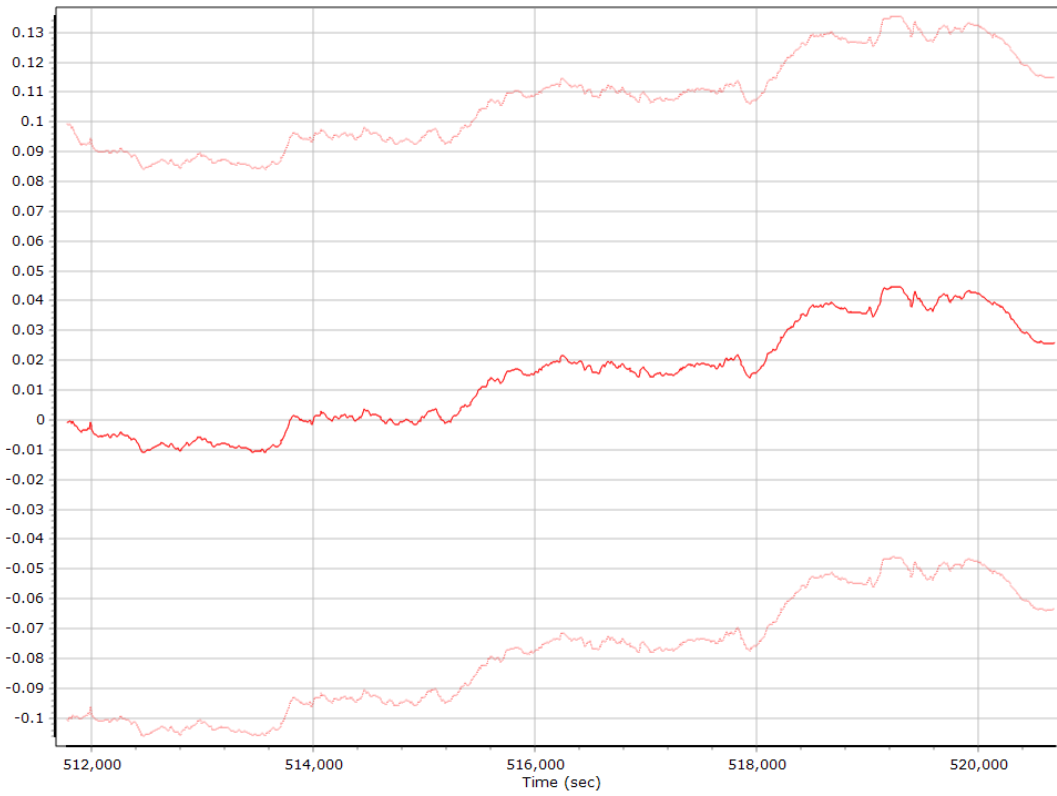


### X Gyro Bias (deg/h)

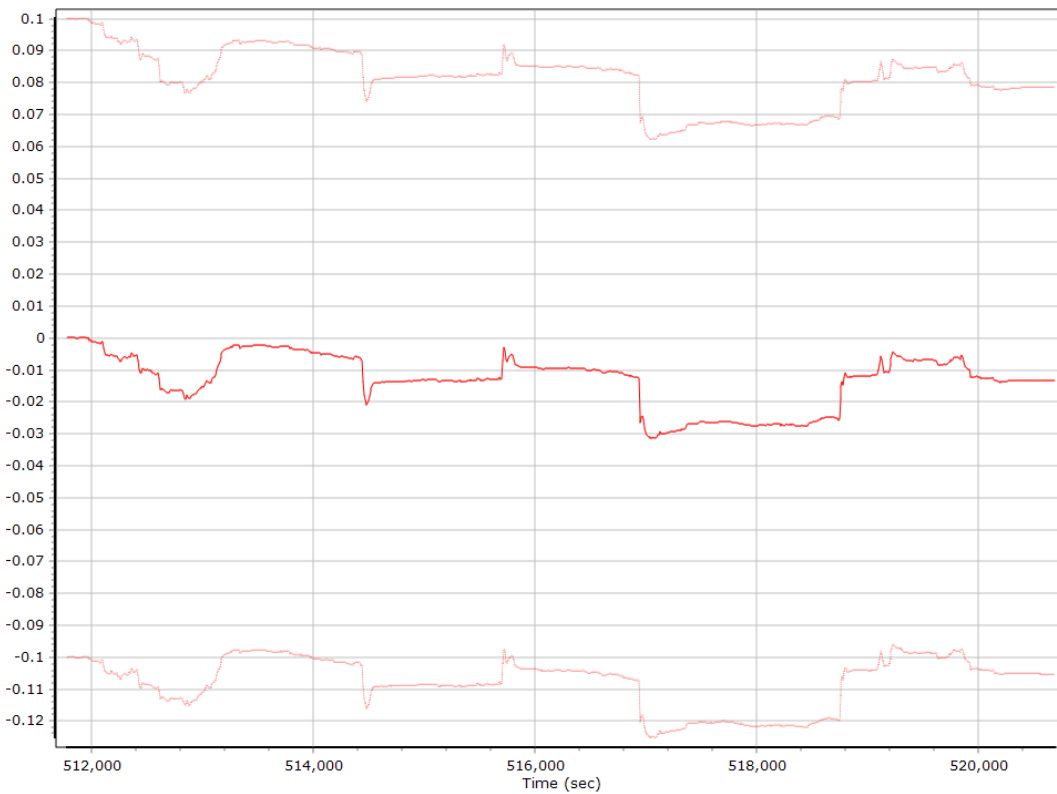




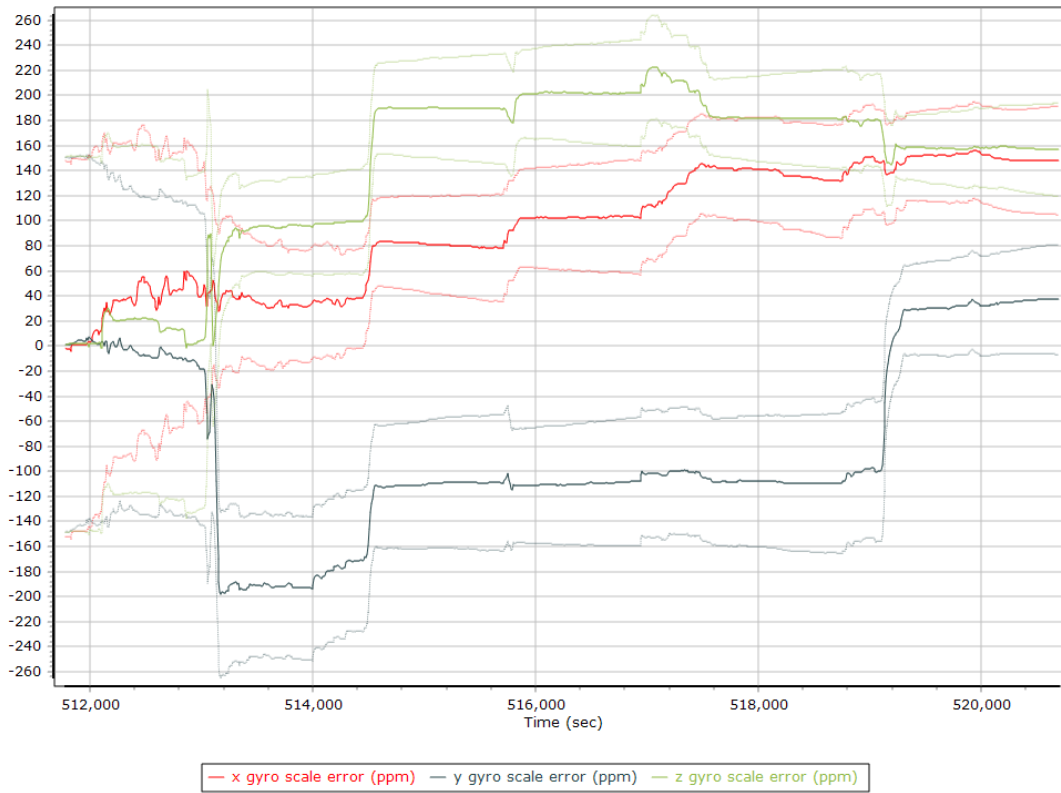
### Y Gyro Bias (deg/h)



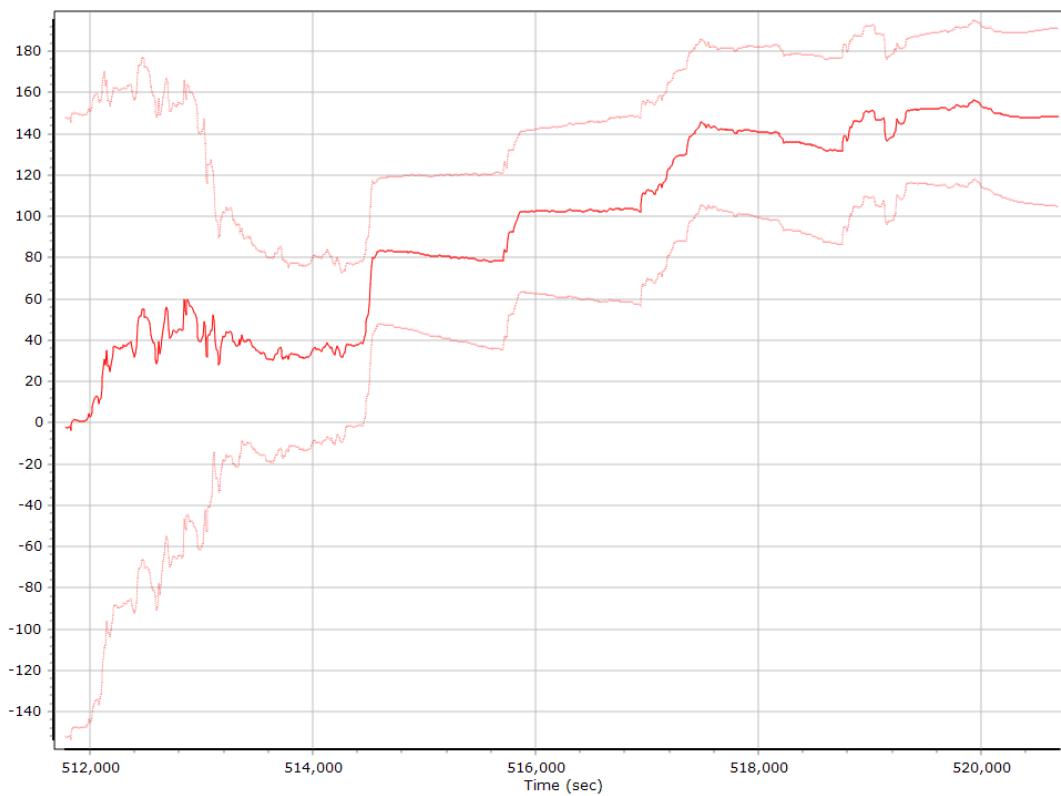
### Z Gyro Bias (deg/h)



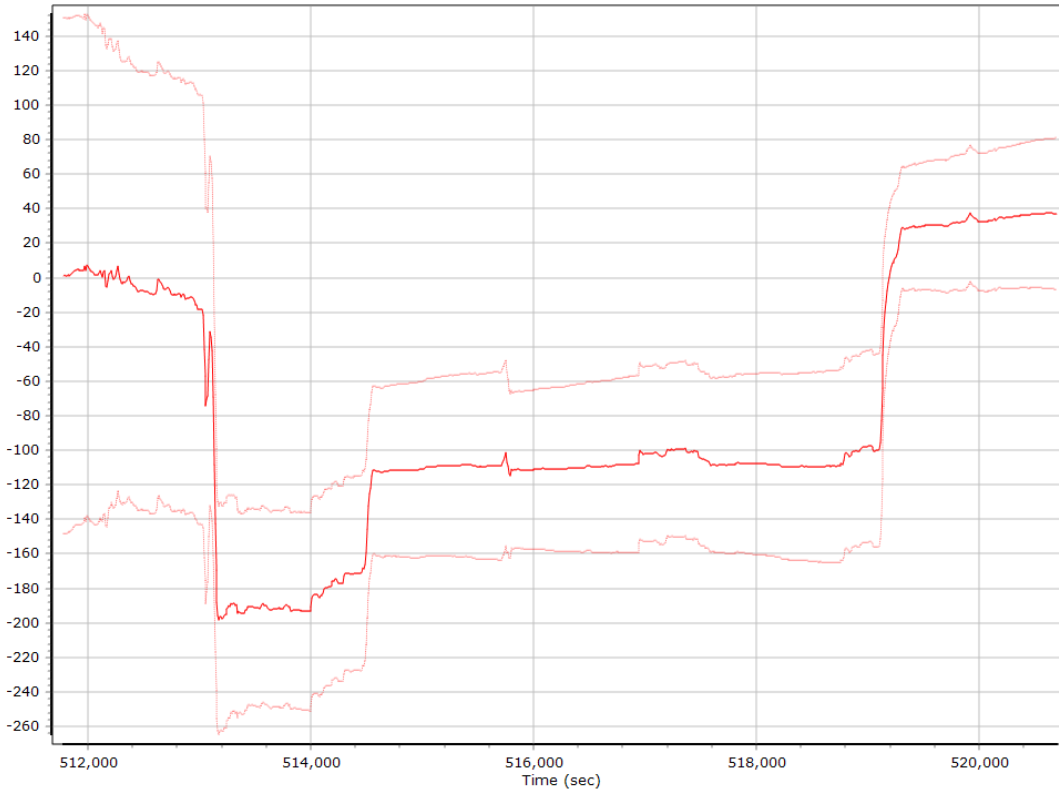
### Gyro Scale Error (ppm)



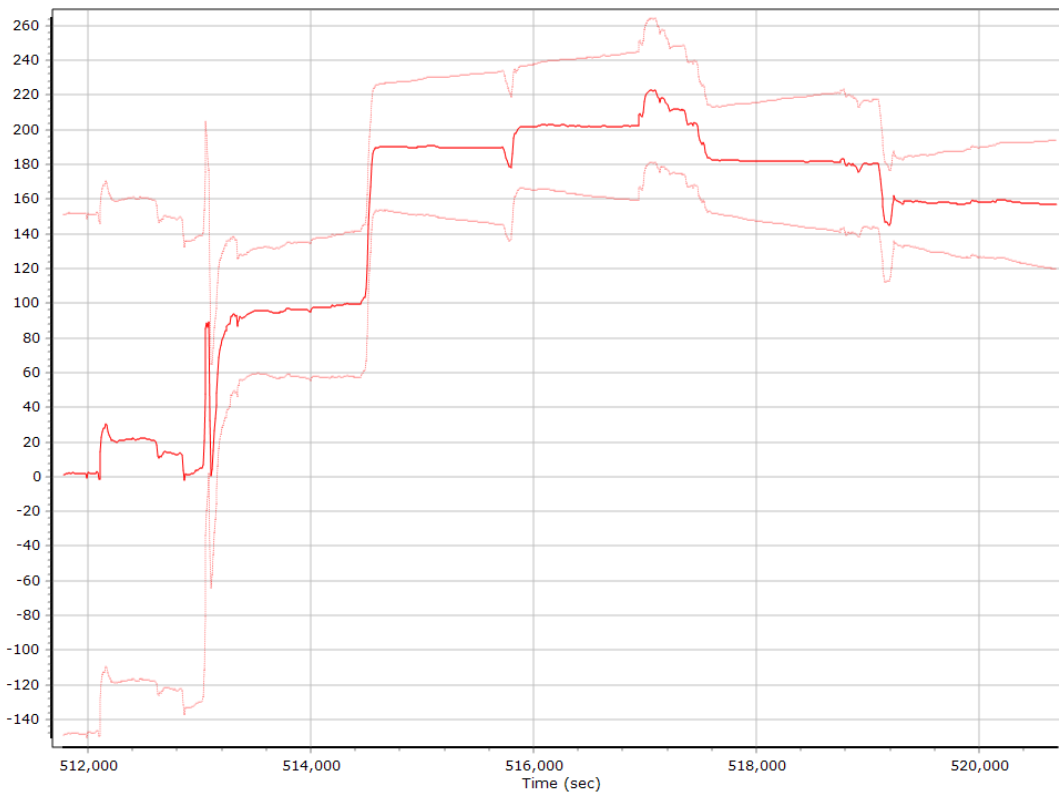
### X Gyro Scale Error (ppm)



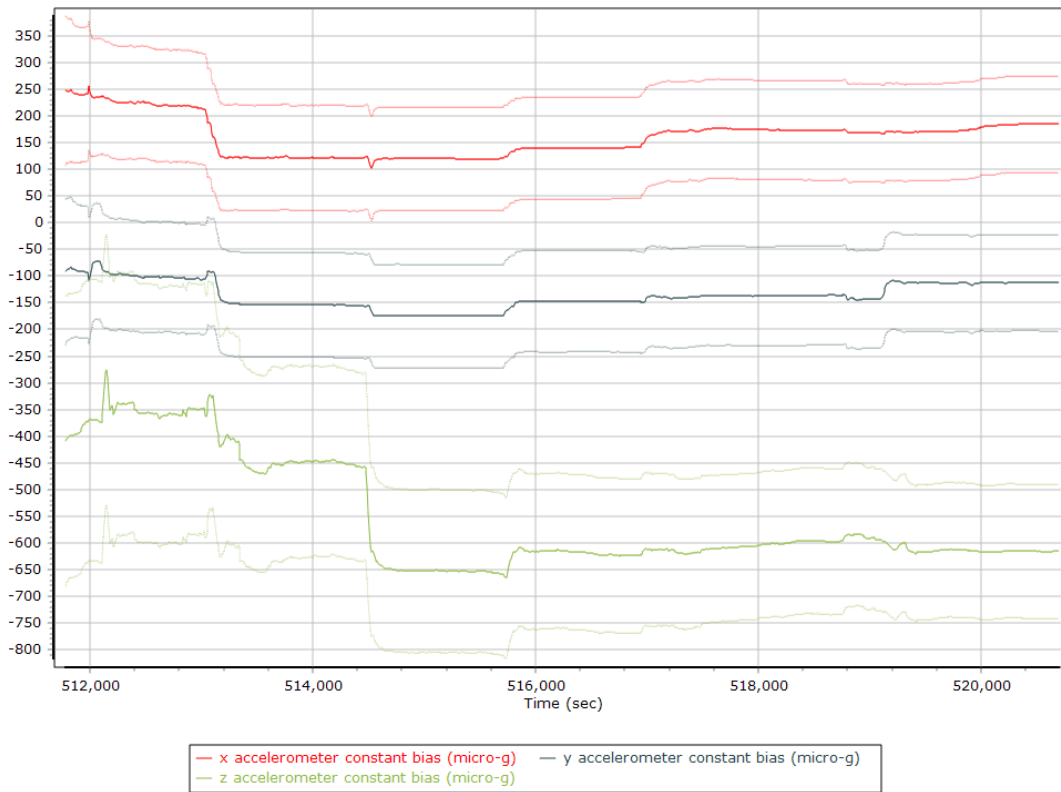
### Y Gyro Scale Error (ppm)



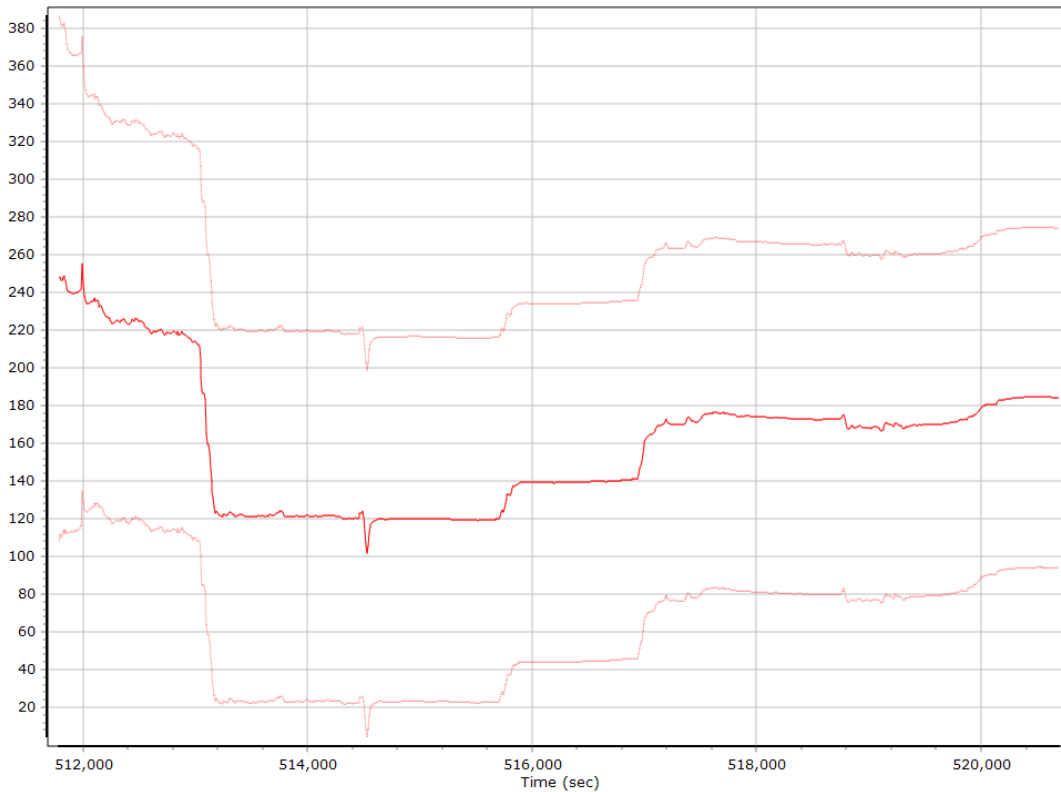
### Z Gyro Scale Error (ppm)



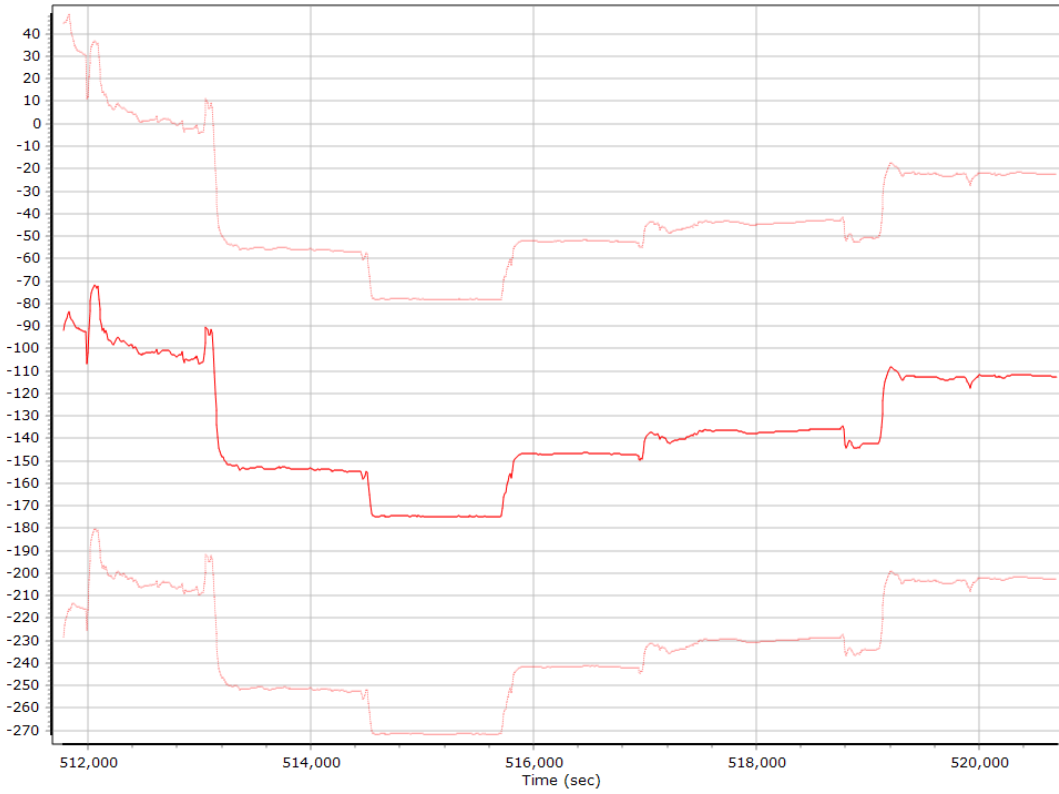
### Forward Processed Estimated Constant Errors, Reference Frame Accelerometer Bias (micro-g)



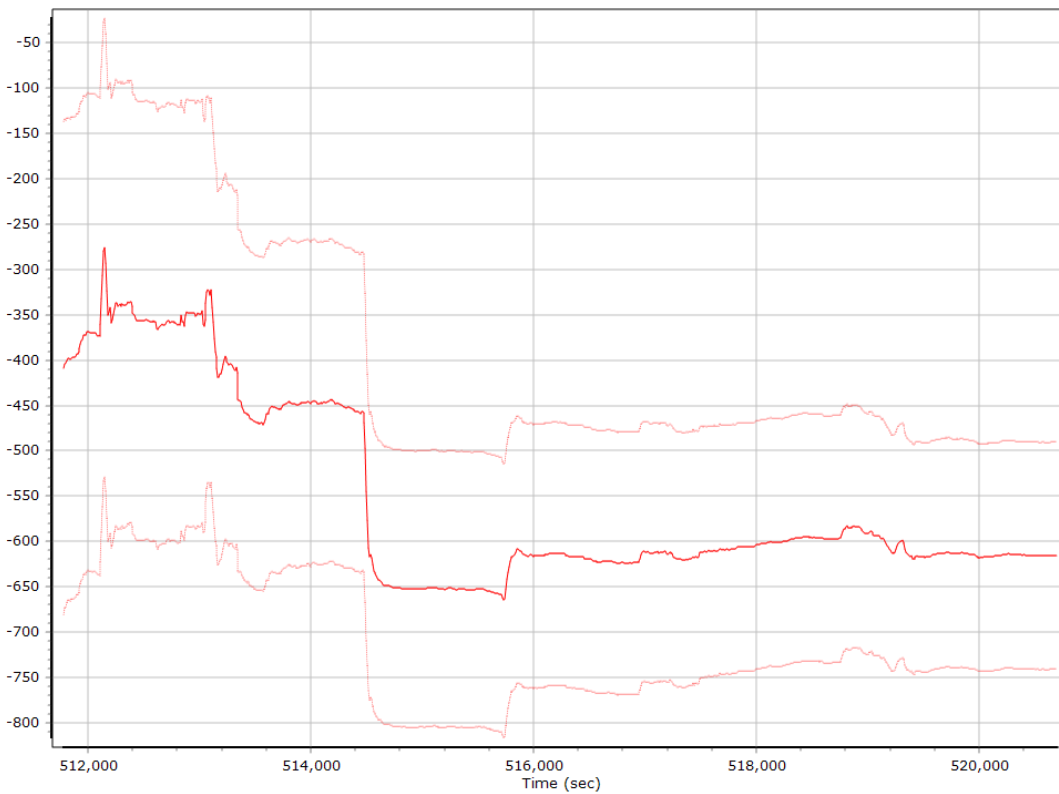
### X Accelerometer Bias (micro-g)



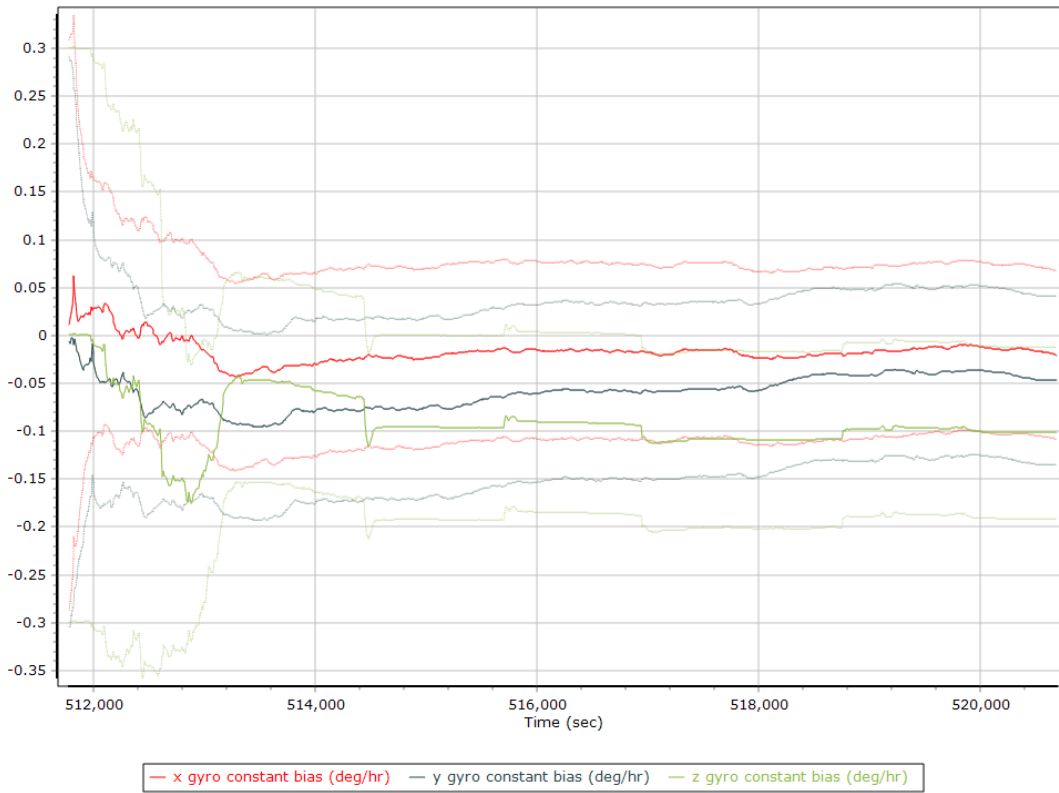
### Y Accelerometer Bias (micro-g)



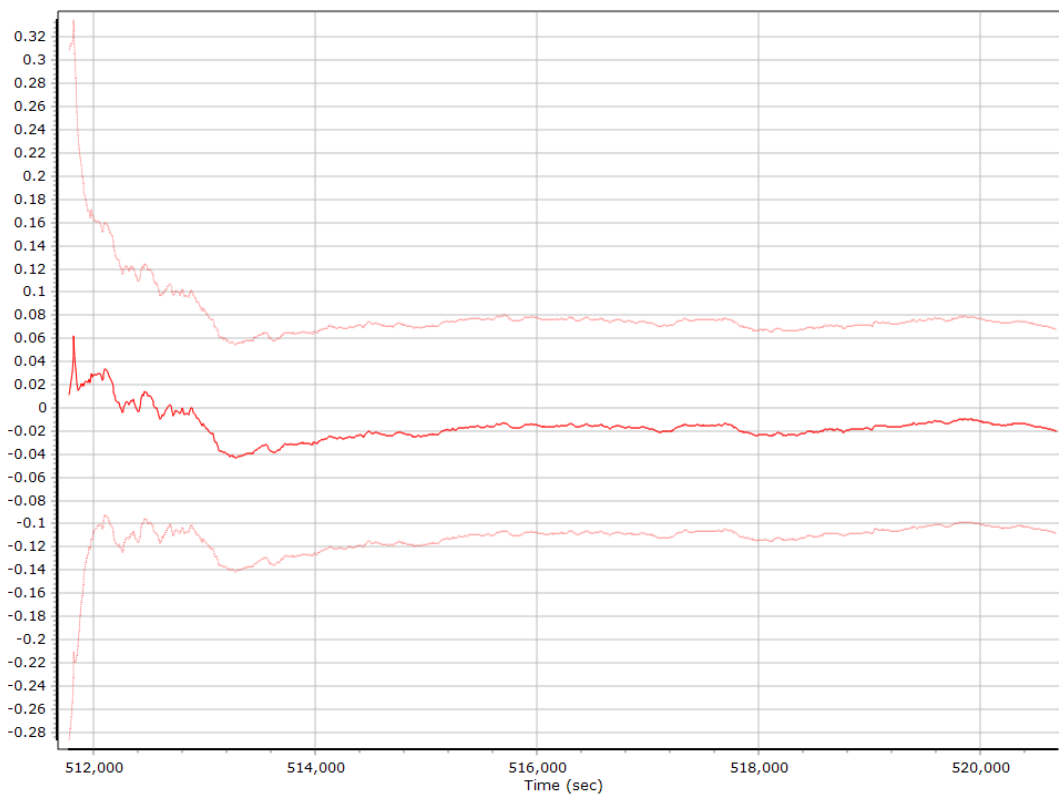
### Z Accelerometer Bias (micro-g)



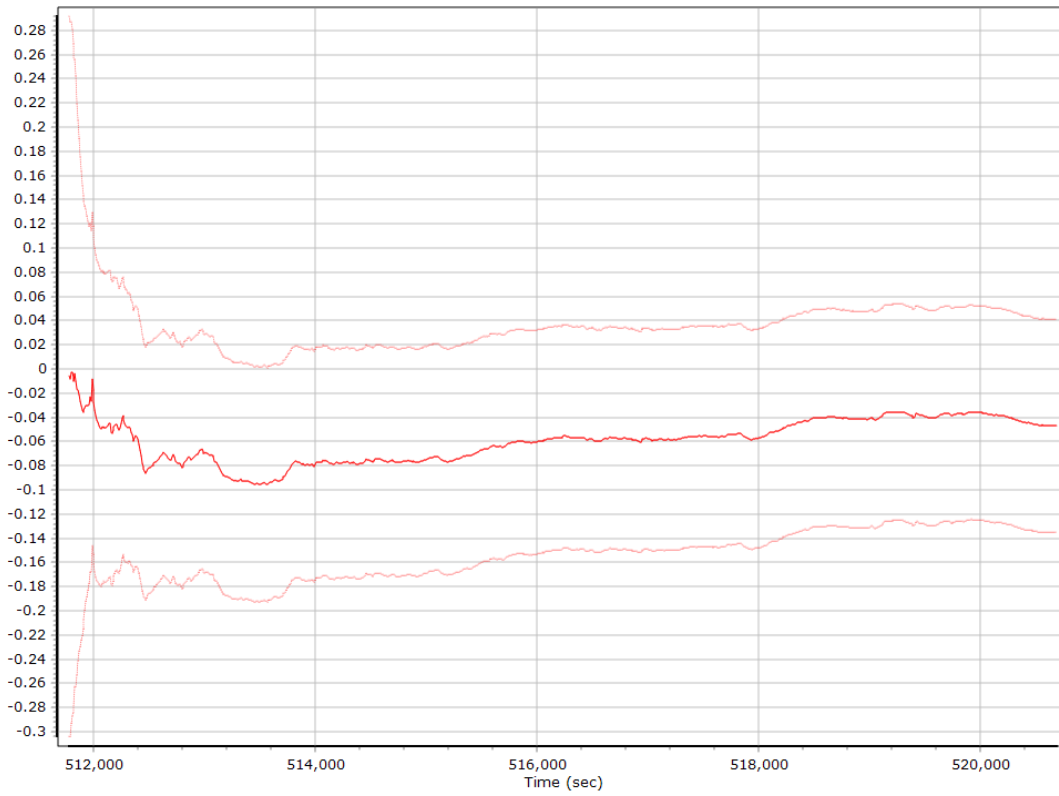
### Gyro Bias (deg/h)



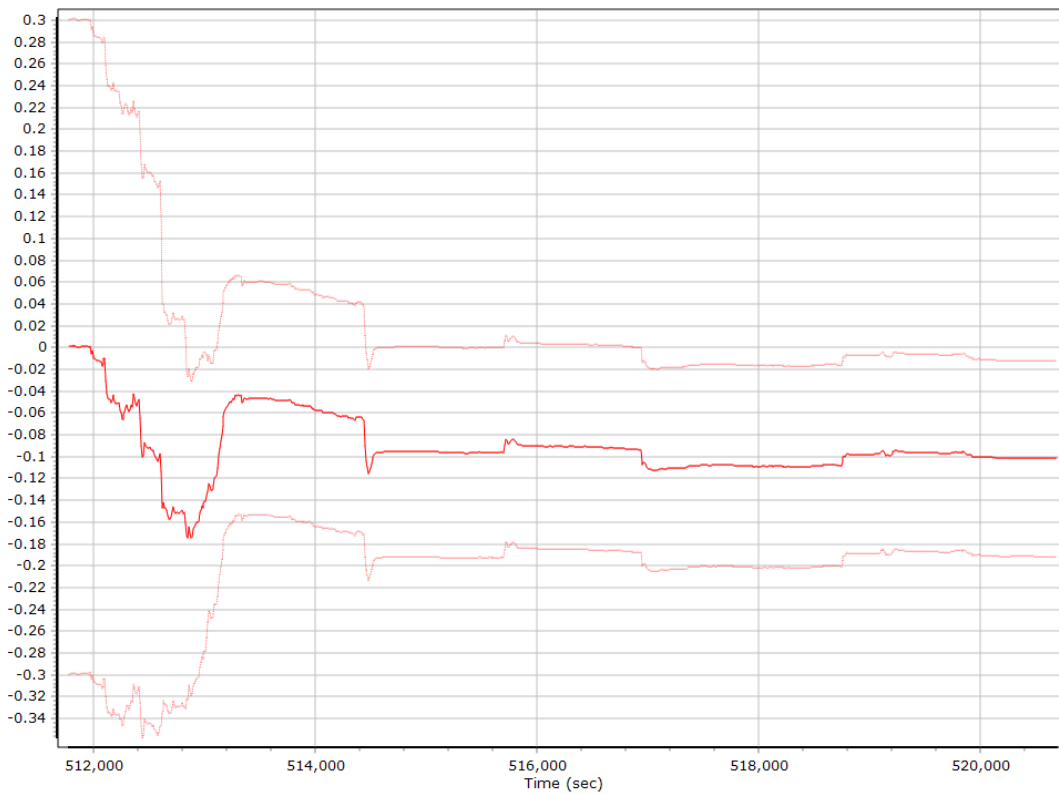
### X Gyro Bias (deg/h)



### Y Gyro Bias (deg/h)

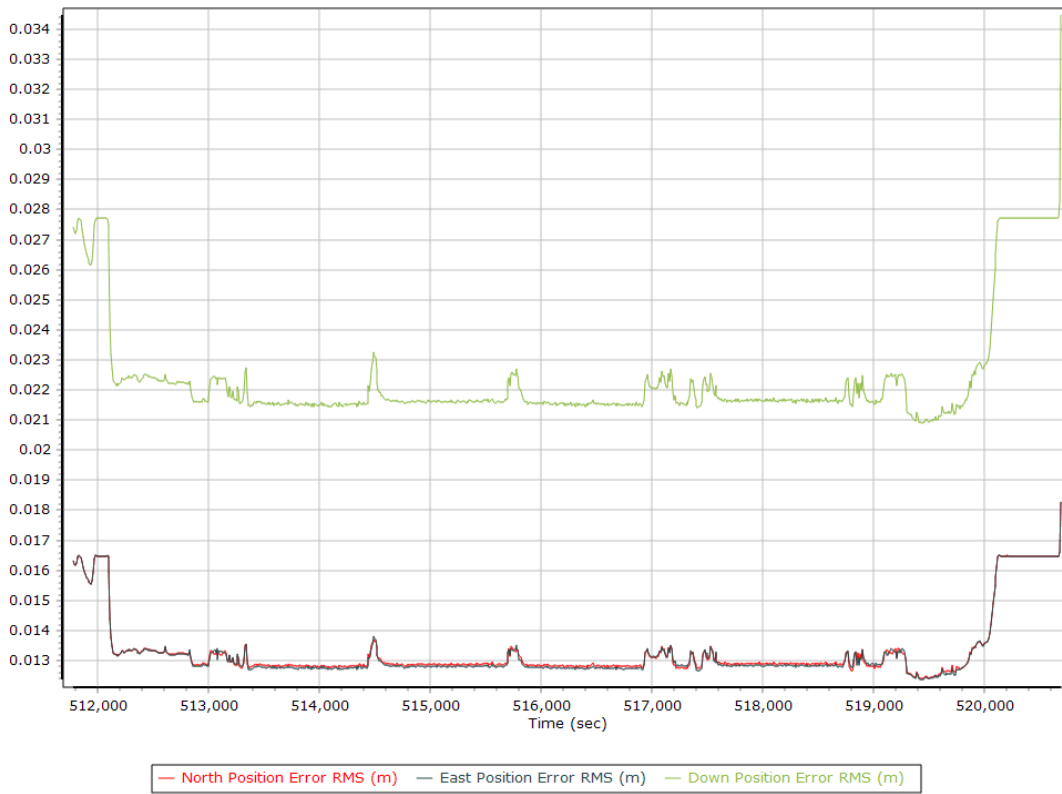


### Z Gyro Bias (deg/h)

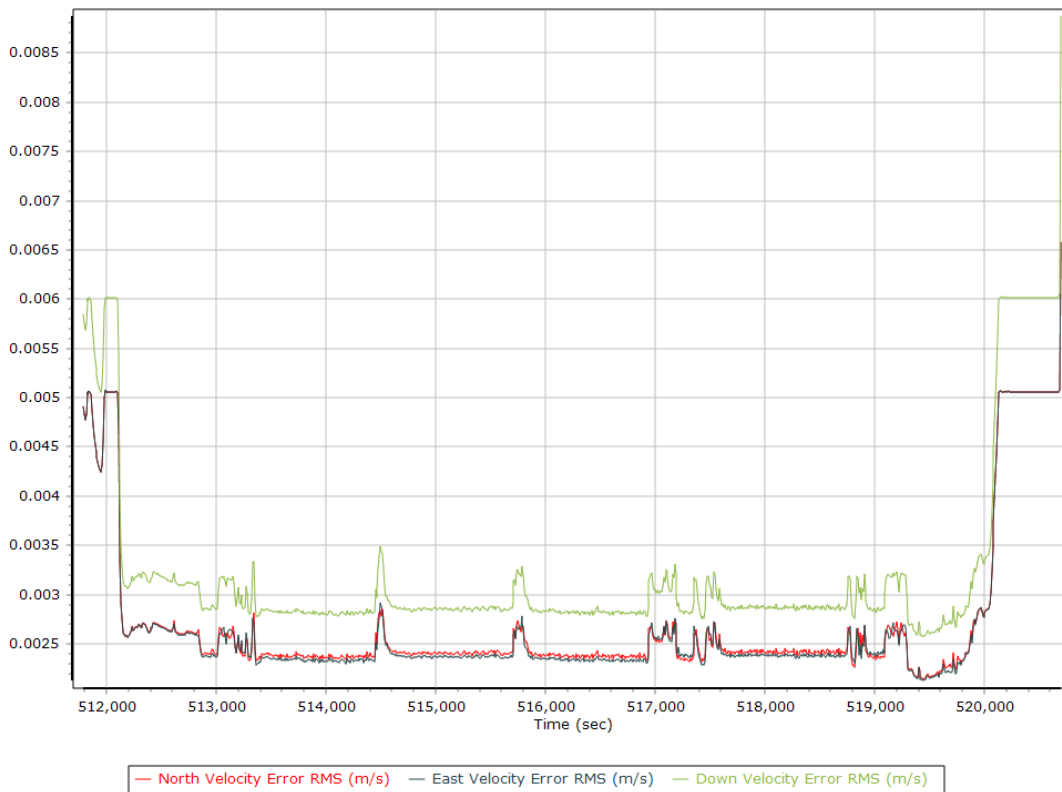


## Smoothed Performance Metrics

### Position Error RMS (m)

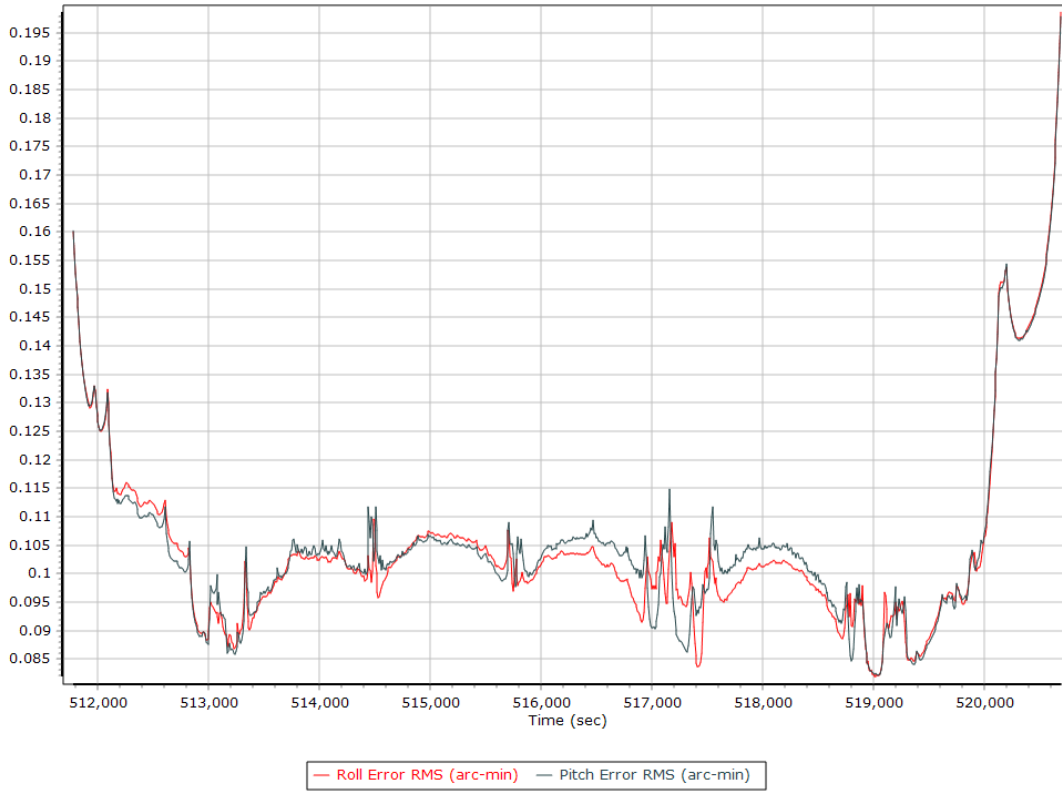


### Velocity Error RMS (m/s)

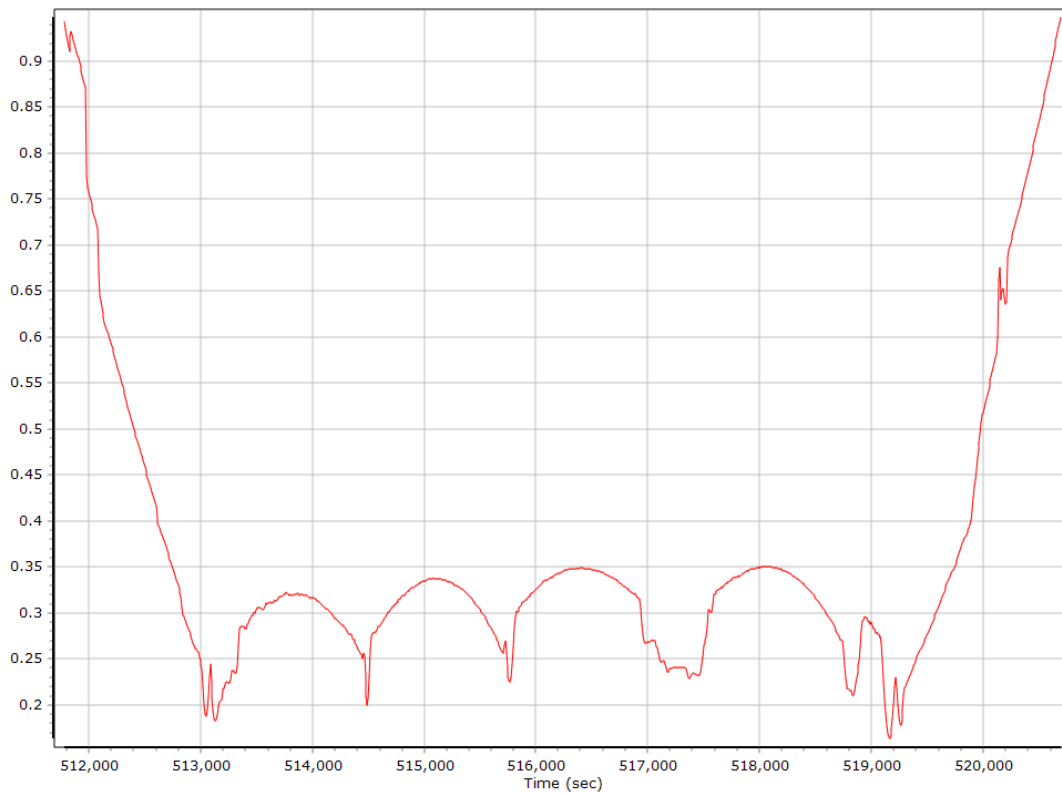




### Roll/Pitch Error RMS (arc-min)



### Heading Error RMS (arc-min)

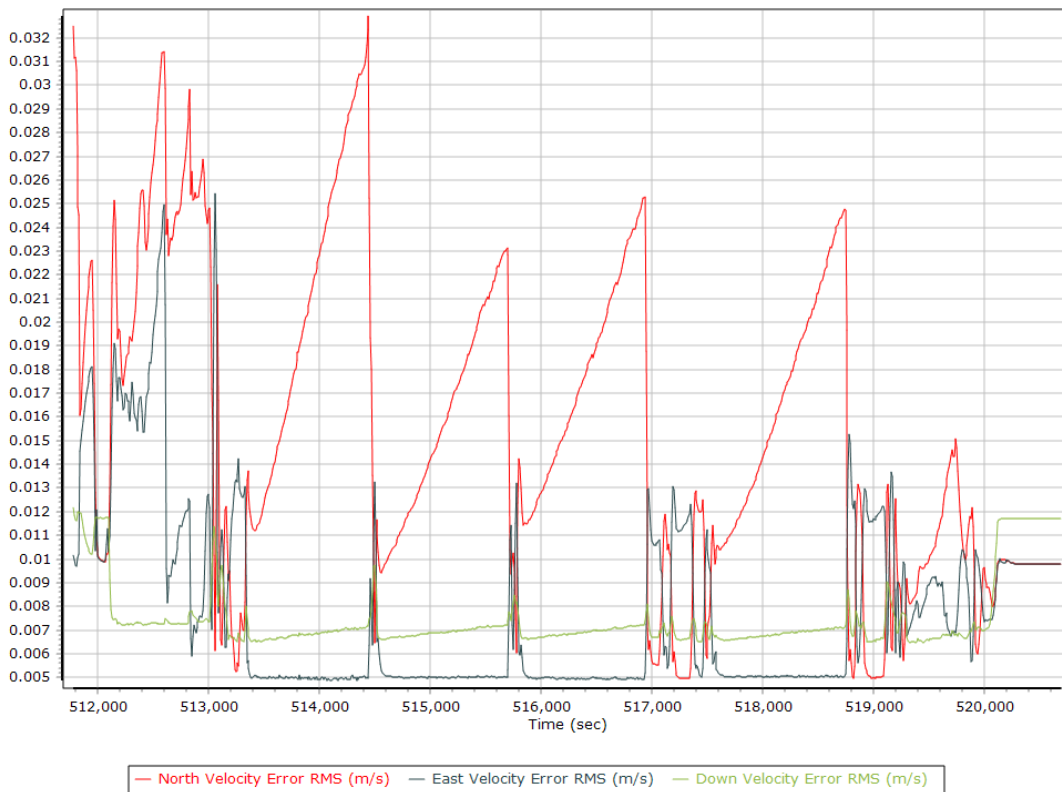


## Forward Processed Performance Metrics

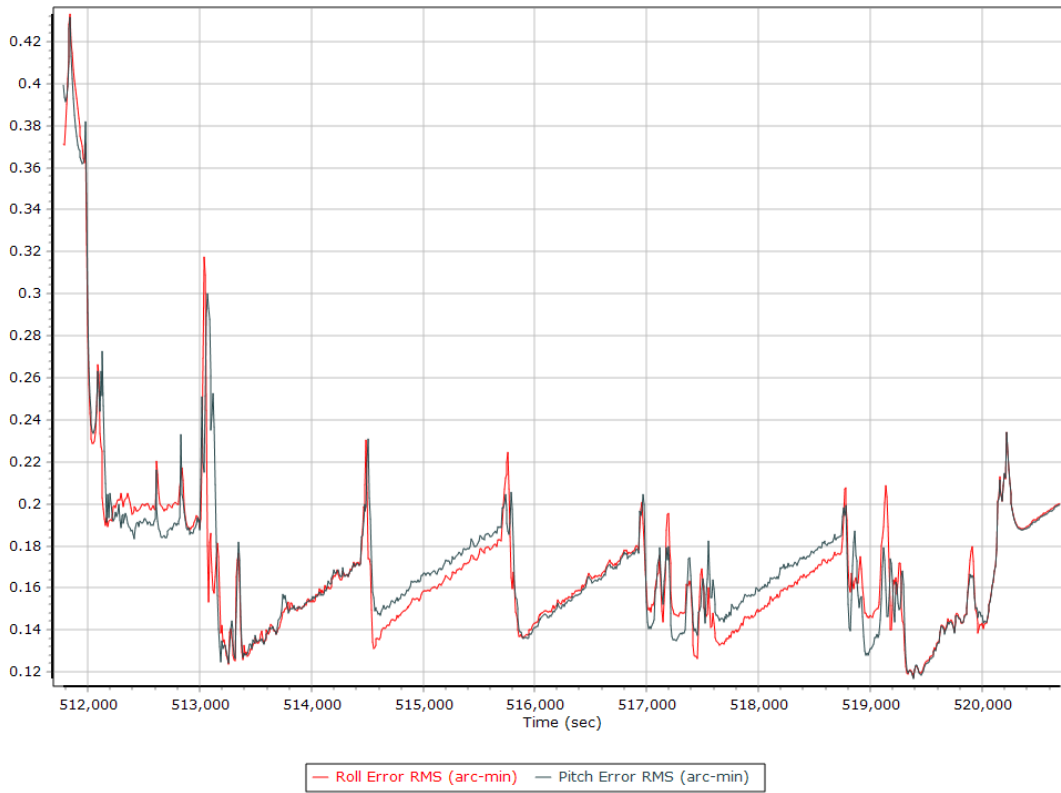
### Position Error RMS (m)



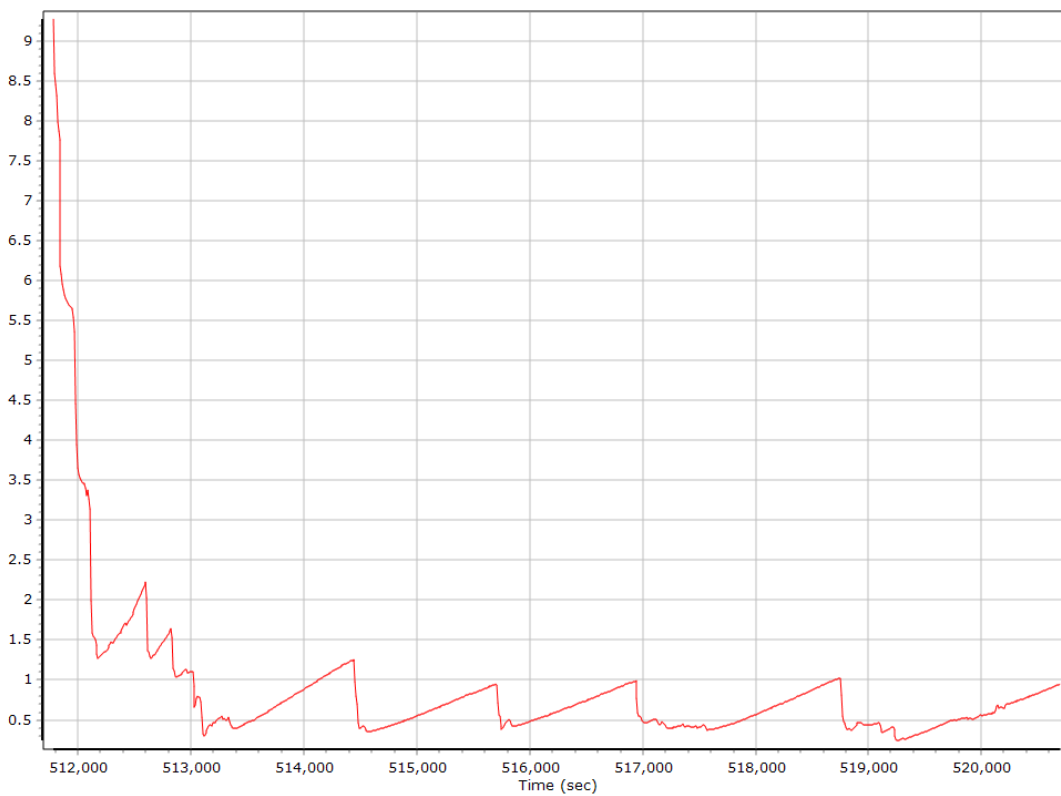
### Velocity Error RMS (m/s)



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

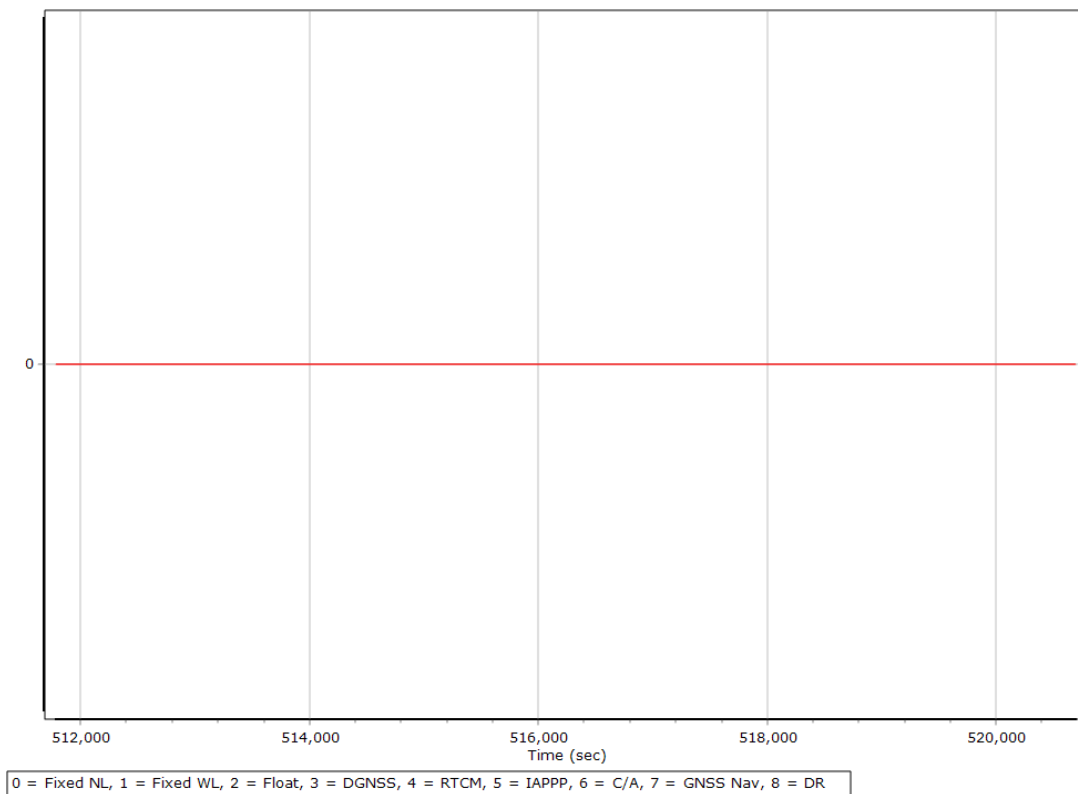


### Heading Error RMS (arc-min)

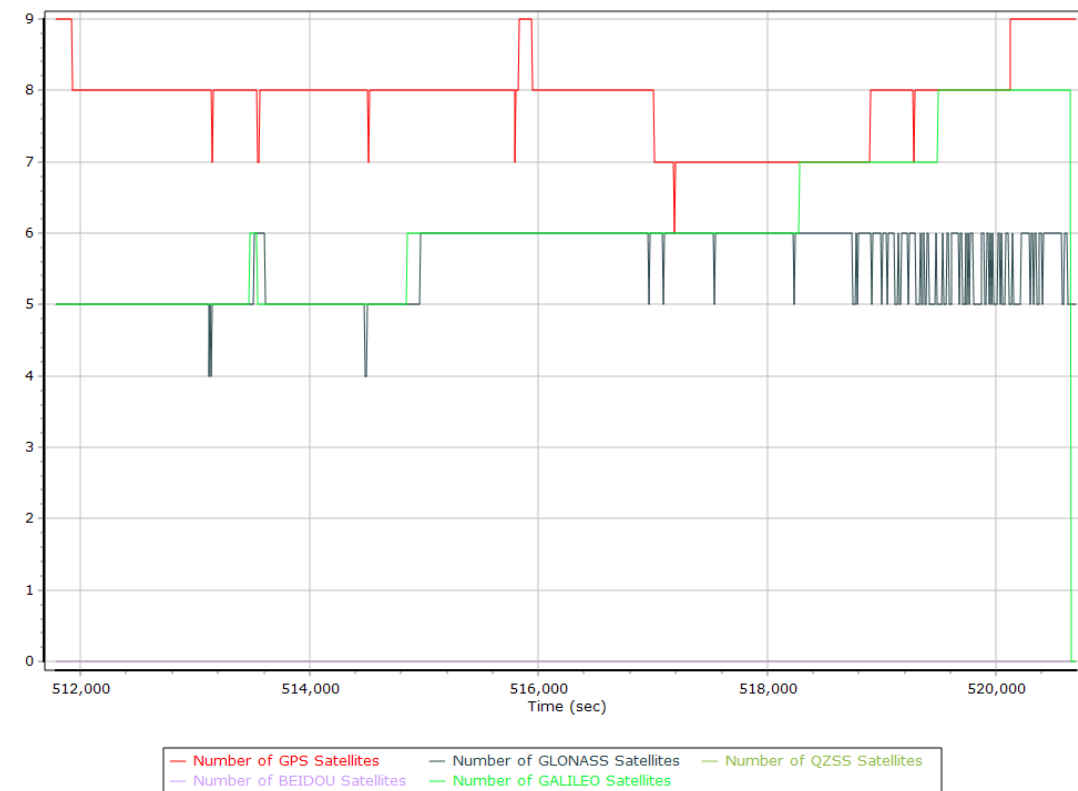


## Forward Processed Solution Status

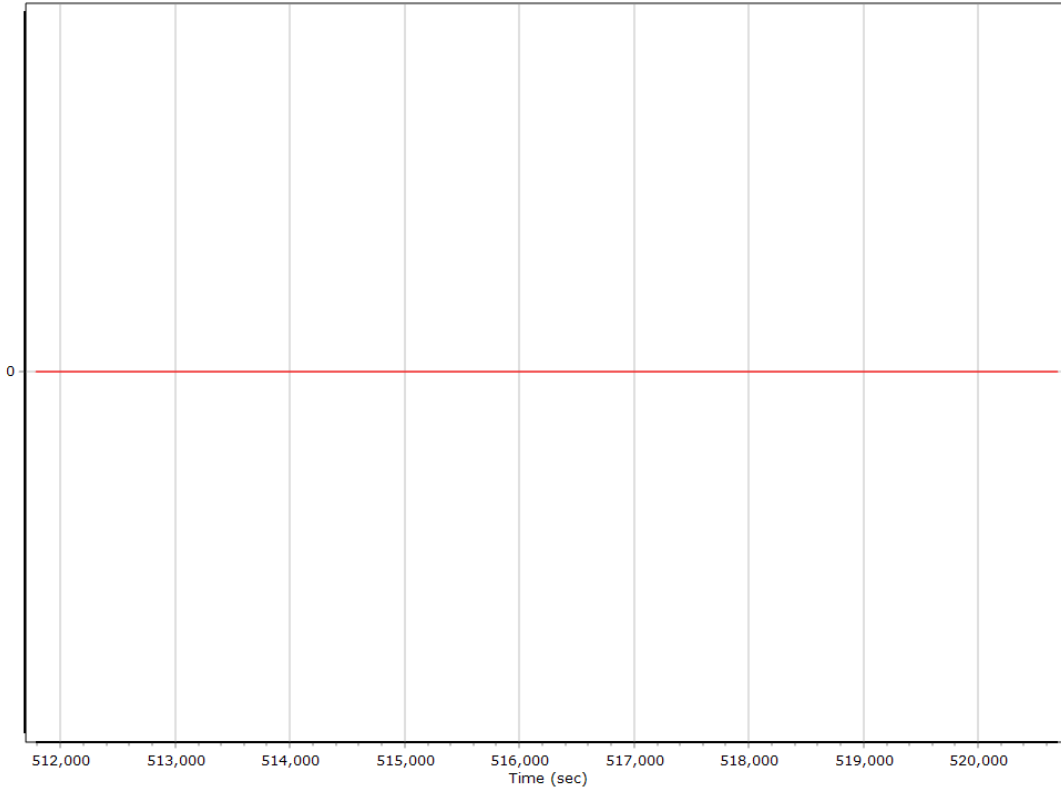
### Processing Mode



### Number of Satellites



**Baseline Length**



## Export Summary Section 1

Export file	sbet_11904_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	511724.001 (12/04/2020 22:08:44)		
Export end time	520696.000 (12/05/2020 00:38:16)		
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	511724.001 (12/04/2020 22:08:44)		
Export end time	520696.000 (12/05/2020 00:38:16)		
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	511724.001 (12/04/2020 22:08:44)		
EO end time	520696.000 (12/05/2020 00:38:16)		
Grid	Universal Transverse Mercator		
Zone	UTM North 14 (102W to 96W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		