

## General Information

### Mission Information

Project name	11884
Processing date	2020-12-06 13:16:11
Mission date	2020-12-05 15:03:51
Mission duration	03:57:29.286
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
20201205F1.302	POS Data
20201205F1.303	POS Data
20201205F1.304	POS Data
20201205F1.305	POS Data
20201205F1.306	POS Data
20201205F1.307	POS Data
20201205F1.308	POS Data
20201205F1.309	POS Data
20201205F1.310	POS Data
20201205F1.311	POS Data
20201205F1.312	POS Data
20201205F1.313	POS Data
20201205F1.314	POS Data
20201205F1.315	POS Data
20201205F1.316	POS Data
20201205F1.317	POS Data
20201205F1.318	POS Data
20201205F1.319	POS Data
20201205F1.320	POS Data
20201205F1.321	POS Data
20201205F1.322	POS Data
20201205F1.323	POS Data
20201205F1.324	POS Data
20201205F1.325	POS Data
20201205F1.326	POS Data
20201205F1.327	POS Data
20201205F1.328	POS Data
20201205F1.329	POS Data
20201205F1.330	POS Data
20201205F1.331	POS Data
20201205F1.332	POS Data

### Input Files

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

### Output Files

Filename	File type
sbt_11884.out	SBET Trajectory File
eo_11884.txt	ZI Imaging POSEO Output
sbt_11884_NAD83(2011).out	Custom Smoothed BET Export Output
lever_arm_values.txt	ReferenceToPrimaryLeverArms Export Output

## Rover Data Summary

First raw data file	20201205F1.302		
Last raw data file	20201205F1.332		
Start GPS week	2134		
Start time	572630.446 (12/05/2020 15:03:50)		
End time	586879.732 (12/05/2020 19:01:19)		
Start of fine alignment	573025.820 (12/05/2020 15:10:25)		
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

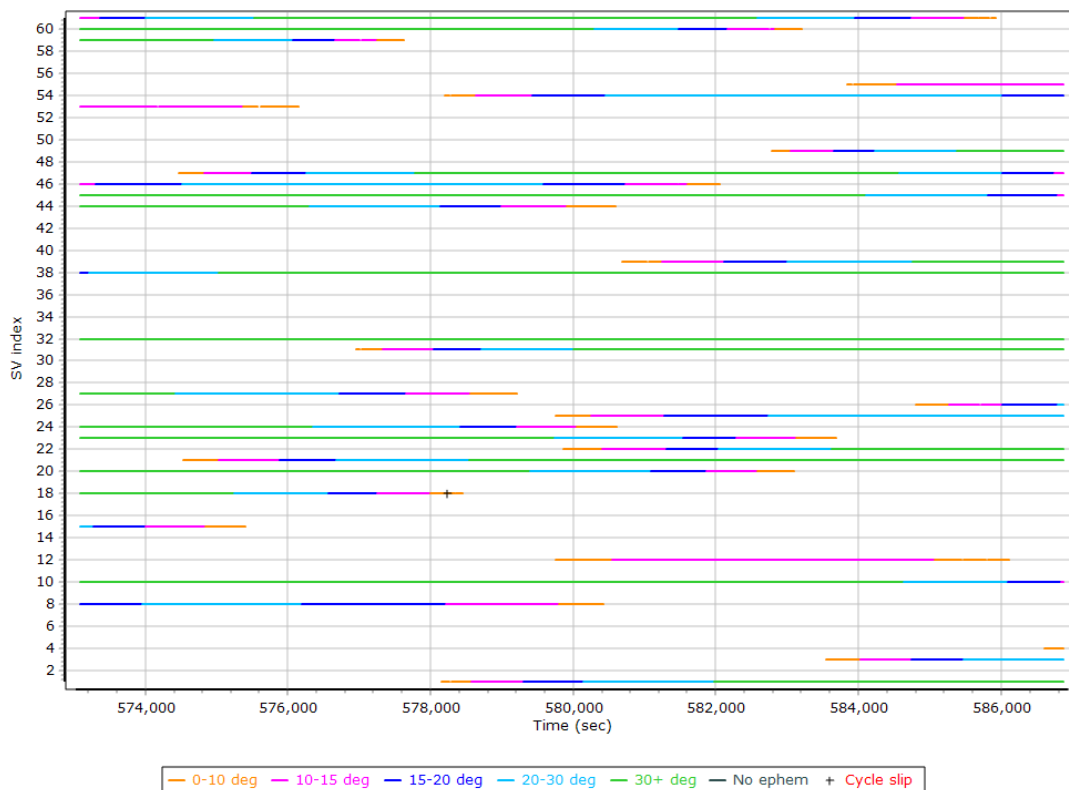
## Rover Data QC

### Raw IMU Import QC Summary

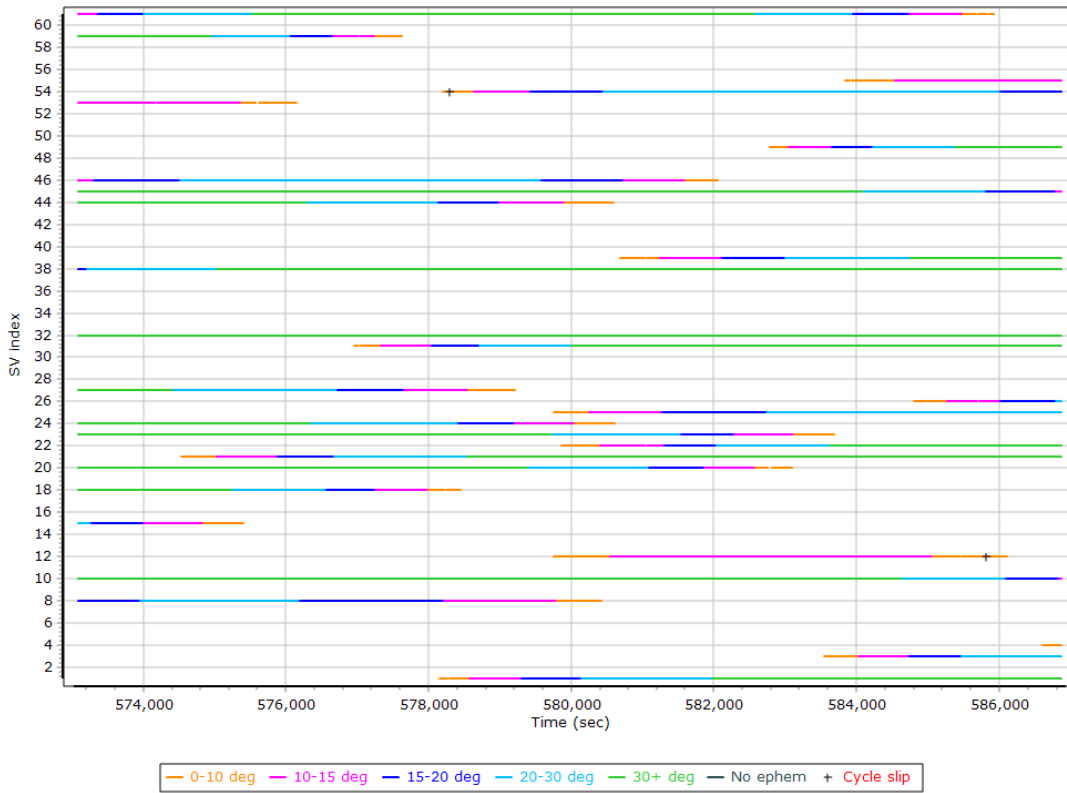
IMU data input file	imu_11884.dat
IMU data check log file	imudt_11884.log
IMU Records Processed	2849385
Termination Status	Normal
IMU Anomalies	0

## Primary Observables & Satellite Data

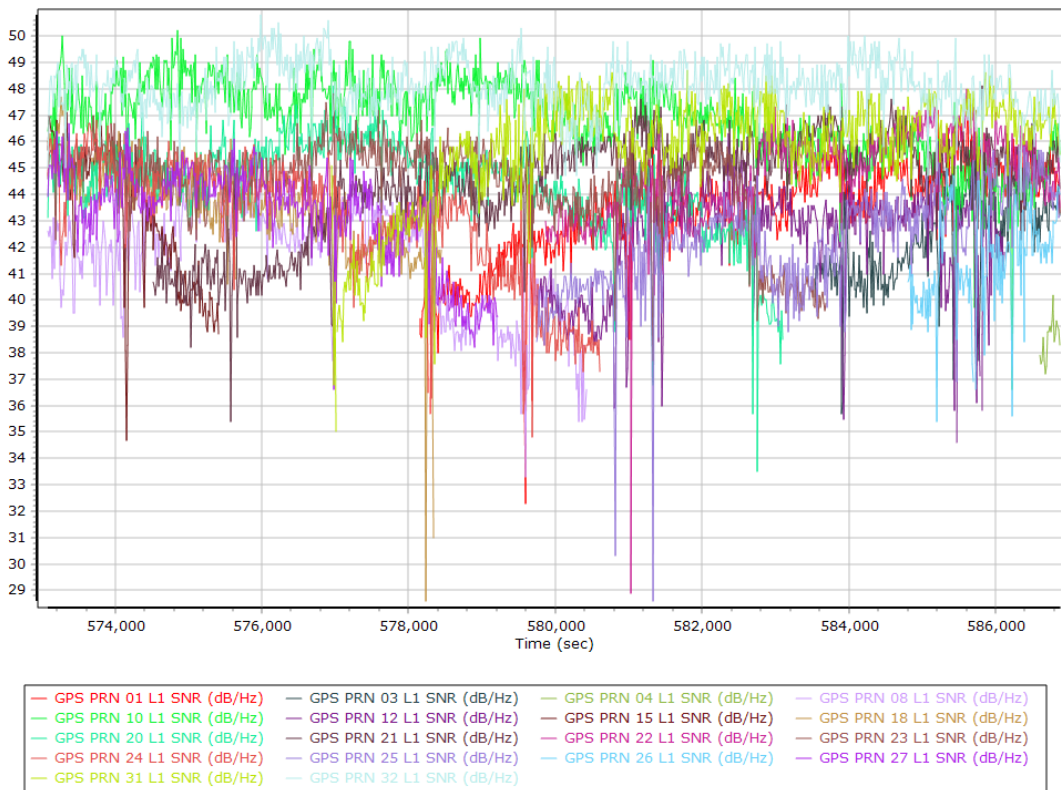
### L1 Satellite Lock/Elevation



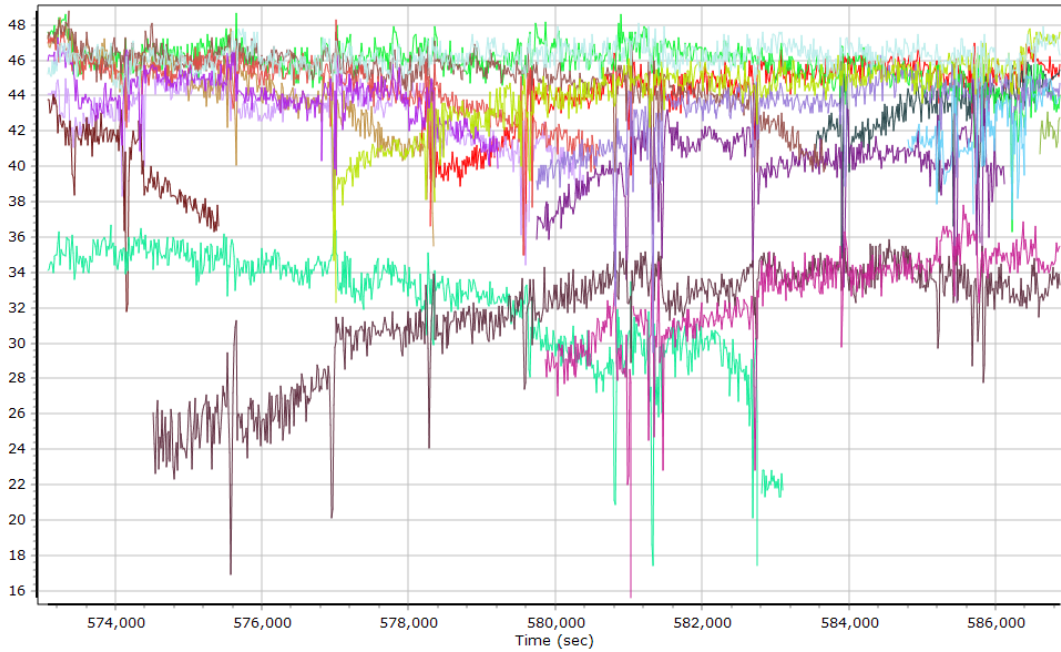
## L2 Satellite Lock/Elevation



## GPS L1 SNR

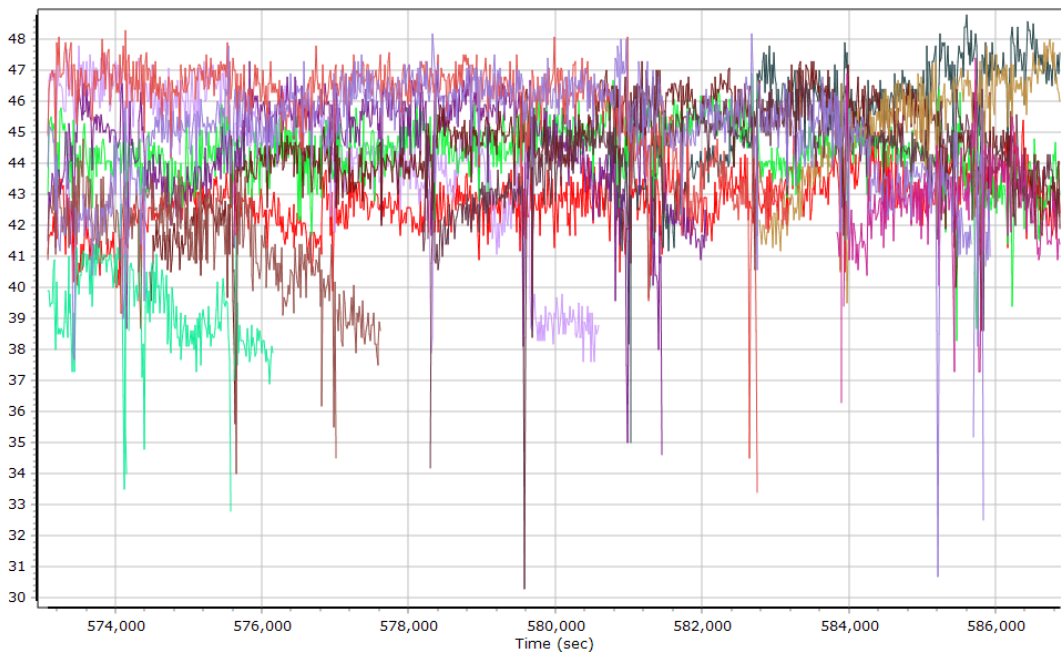


### GPS L2 SNR



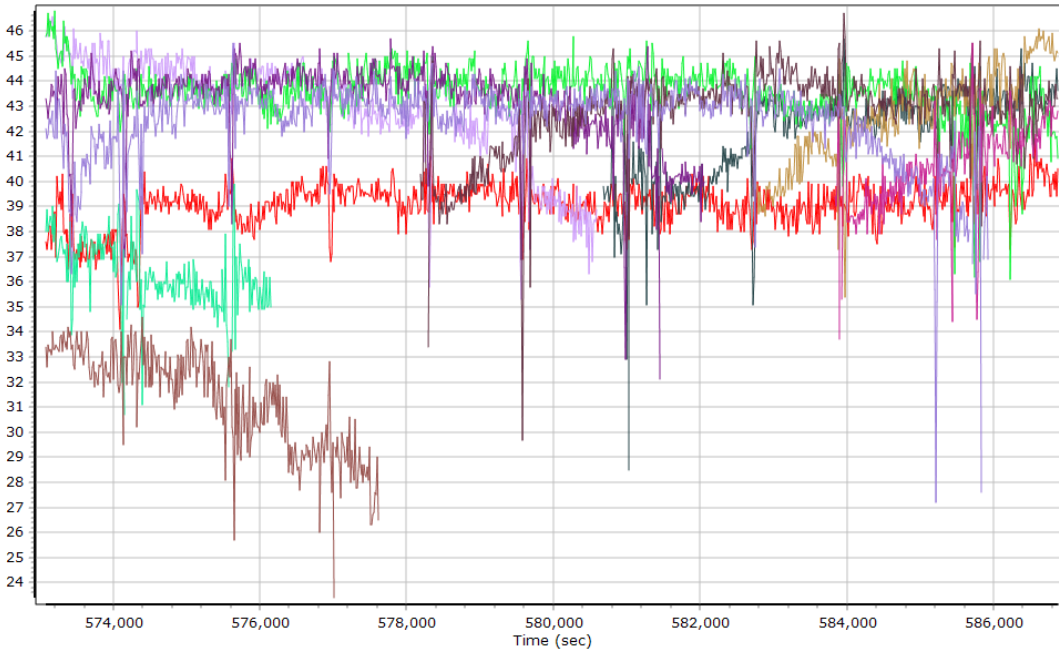
- |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 03 L2 SNR (dB/Hz) | GPS PRN 04 L2 SNR (dB/Hz) | GPS PRN 08 L2 SNR (dB/Hz) |
| GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 12 L2 SNR (dB/Hz) | GPS PRN 15 L2 SNR (dB/Hz) | GPS PRN 18 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 23 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 31 L2 SNR (dB/Hz) | GPS PRN 32 L2 SNR (dB/Hz) |                           |                           |

### GLONASS L1 SNR



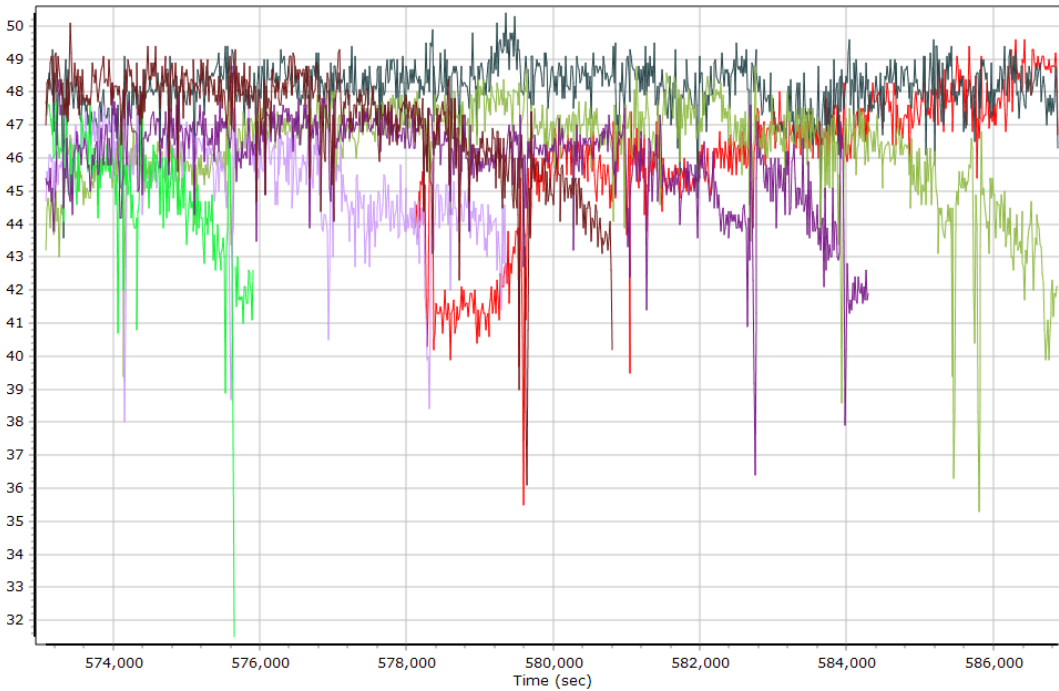
- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L1 SNR (dB/Hz) | GLONASS 02 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) |
| GLONASS 07 L1 SNR (dB/Hz) | GLONASS 08 L1 SNR (dB/Hz) | GLONASS 09 L1 SNR (dB/Hz) |
| GLONASS 10 L1 SNR (dB/Hz) | GLONASS 12 L1 SNR (dB/Hz) | GLONASS 16 L1 SNR (dB/Hz) |
| GLONASS 17 L1 SNR (dB/Hz) | GLONASS 18 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**



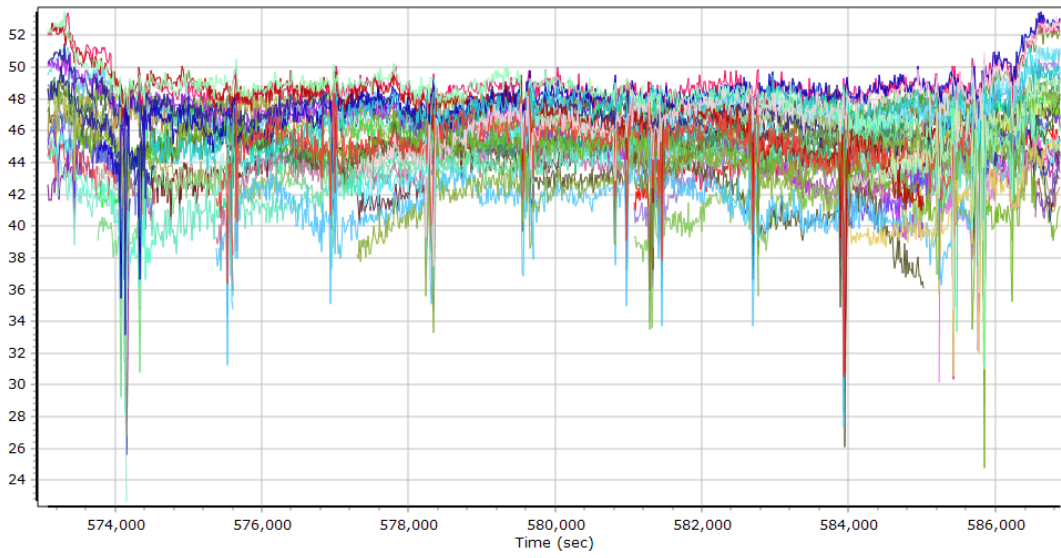
- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 01 L2 SNR (dB/Hz) | GLONASS 02 L2 SNR (dB/Hz) | GLONASS 06 L2 SNR (dB/Hz) |
| GLONASS 07 L2 SNR (dB/Hz) | GLONASS 08 L2 SNR (dB/Hz) | GLONASS 09 L2 SNR (dB/Hz) |
| GLONASS 10 L2 SNR (dB/Hz) | GLONASS 12 L2 SNR (dB/Hz) | GLONASS 16 L2 SNR (dB/Hz) |
| GLONASS 17 L2 SNR (dB/Hz) | GLONASS 18 L2 SNR (dB/Hz) | GLONASS 22 L2 SNR (dB/Hz) |
| GLONASS 23 L2 SNR (dB/Hz) | GLONASS 24 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 25 B1 B1 SNR (dB/Hz) | BEIDOU 27 B1 B1 SNR (dB/Hz) | BEIDOU 29 B1 B1 SNR (dB/Hz) |
| BEIDOU 30 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 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 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 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 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 07 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)   |

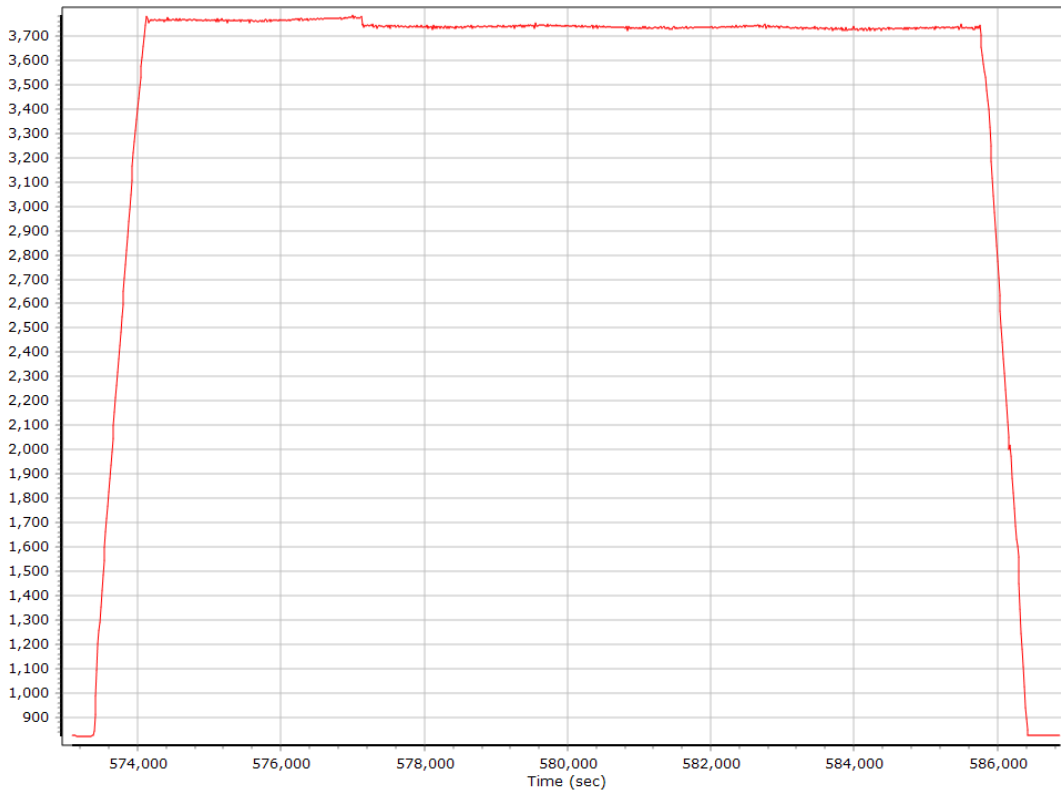


## Smoothed Trajectory Information

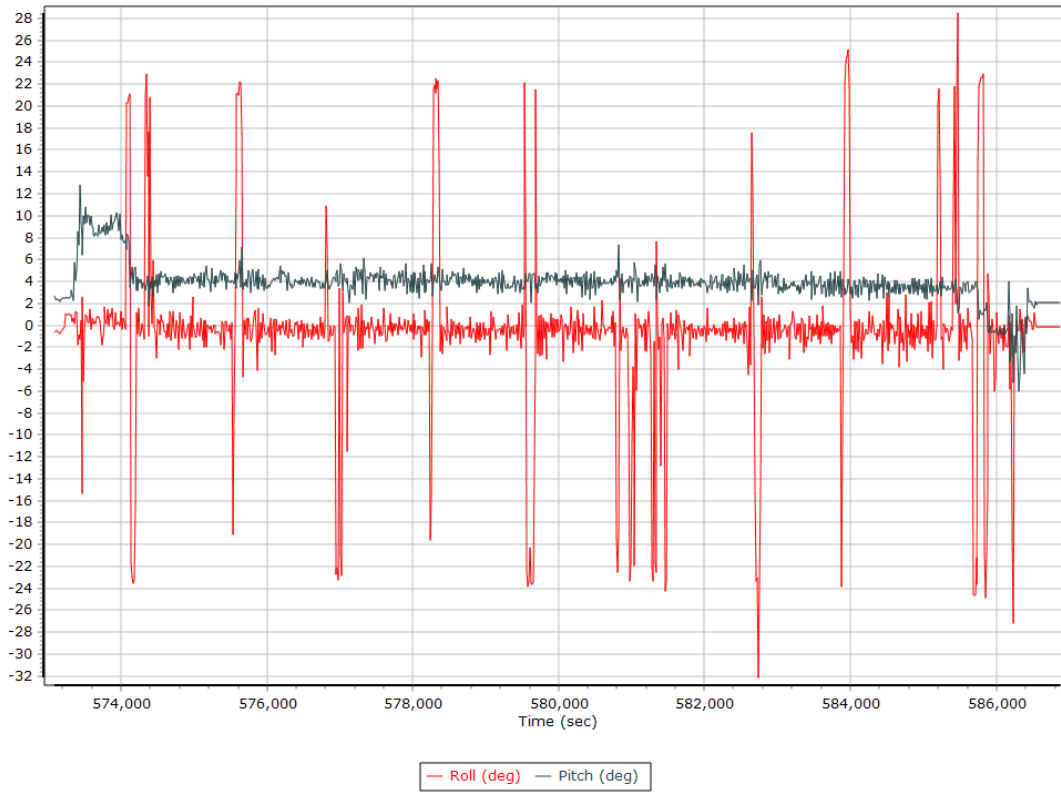
### Top View



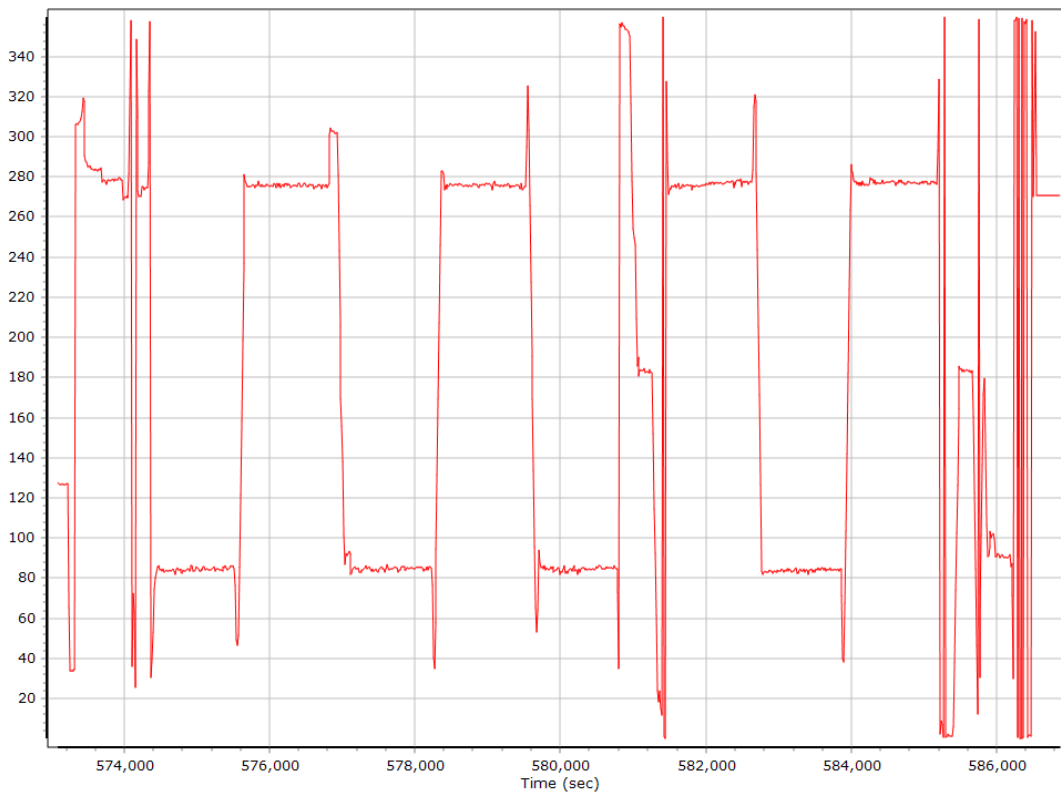
### Altitude



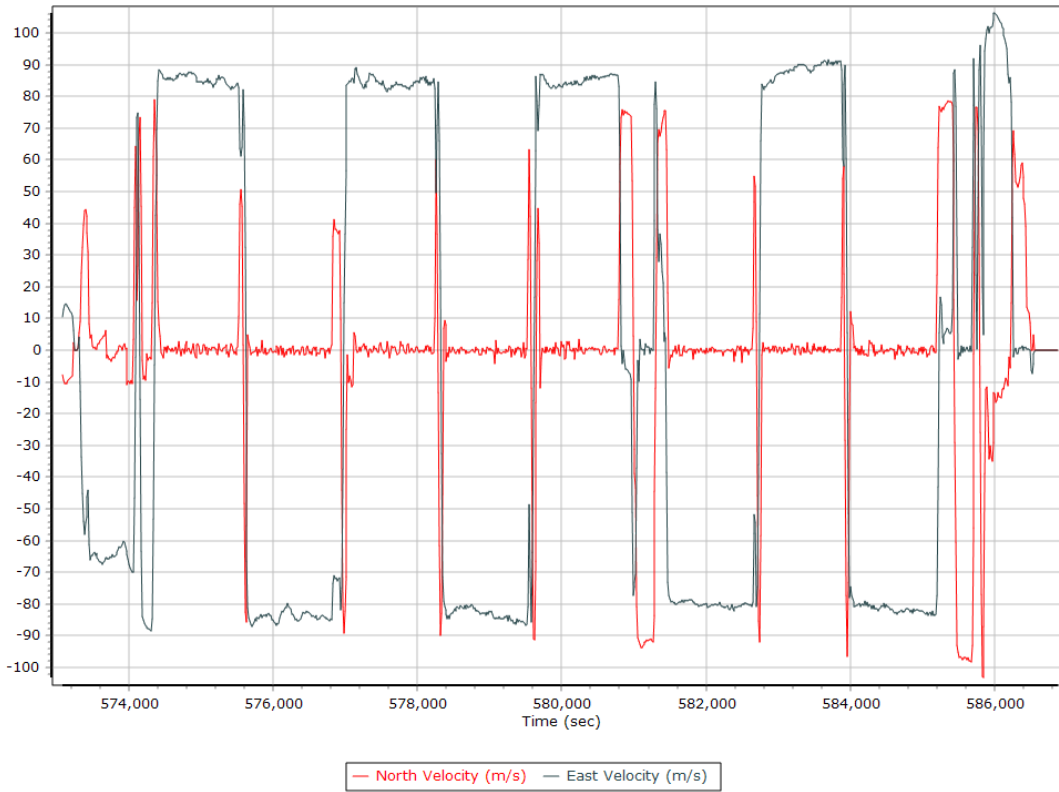
## Roll/Pitch



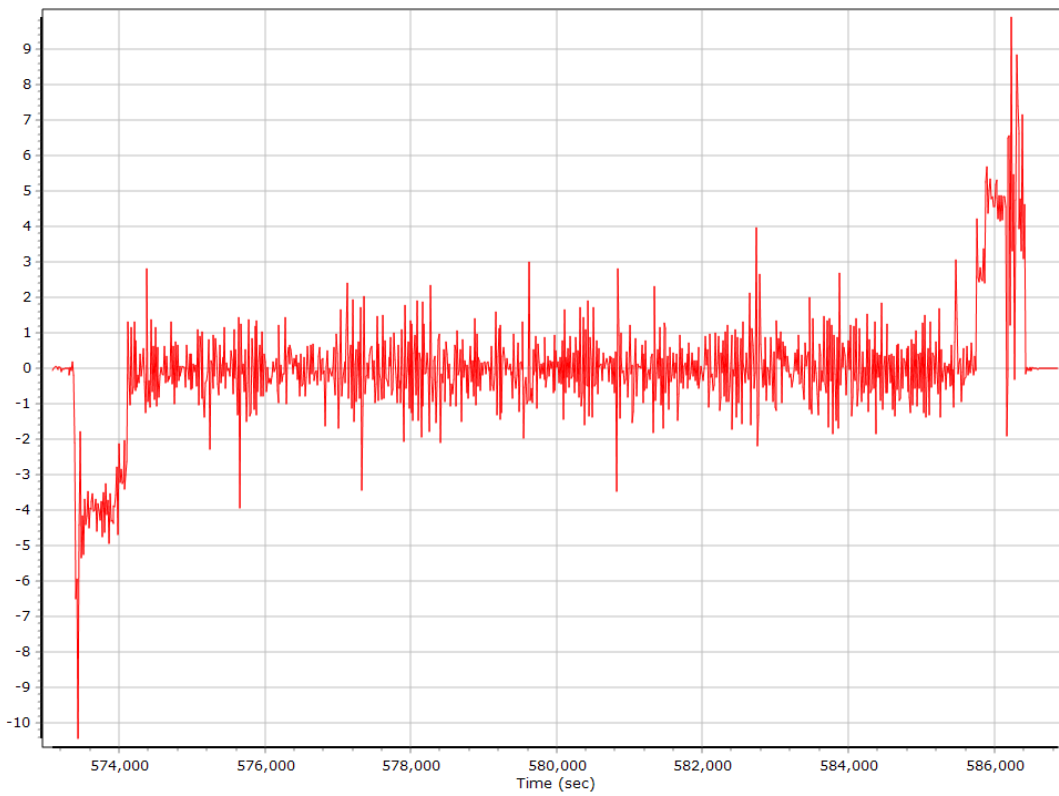
## Heading



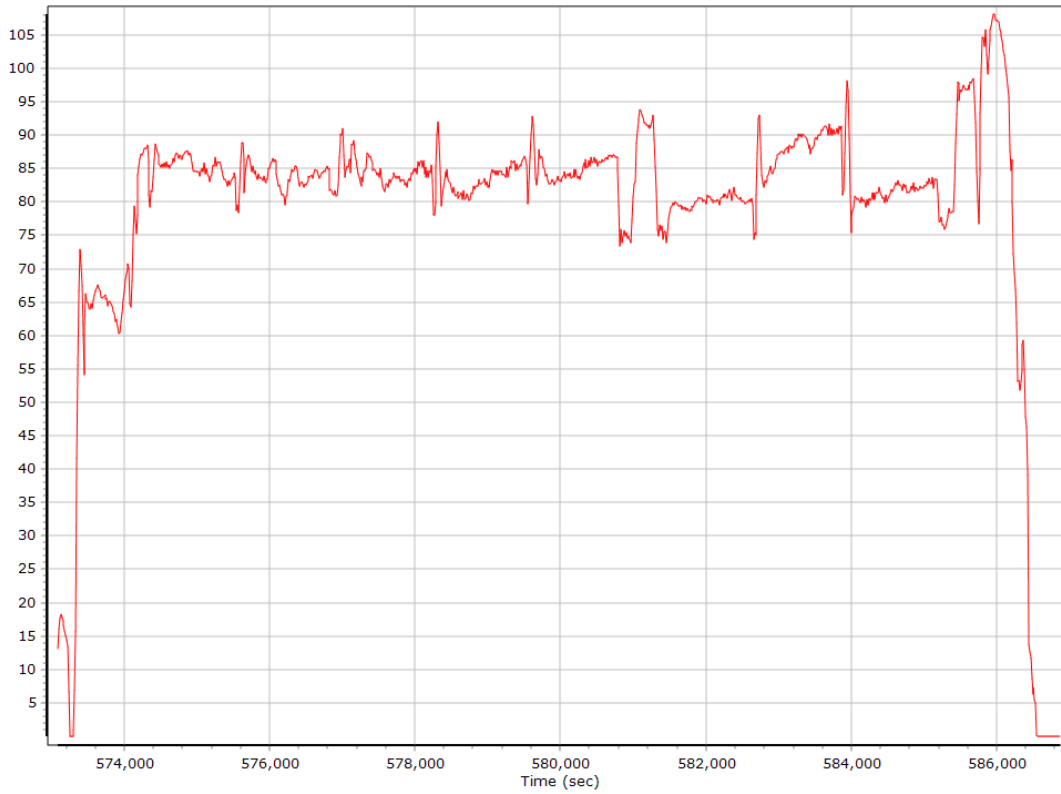
## North/East Velocity



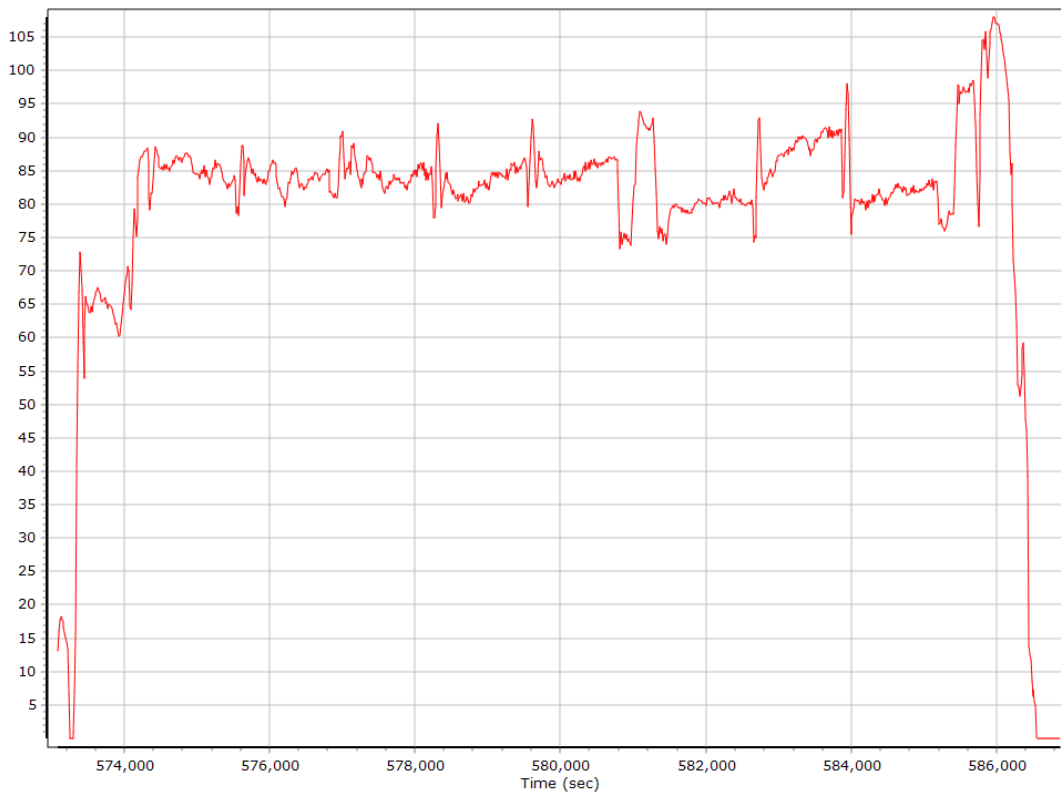
## Down Velocity



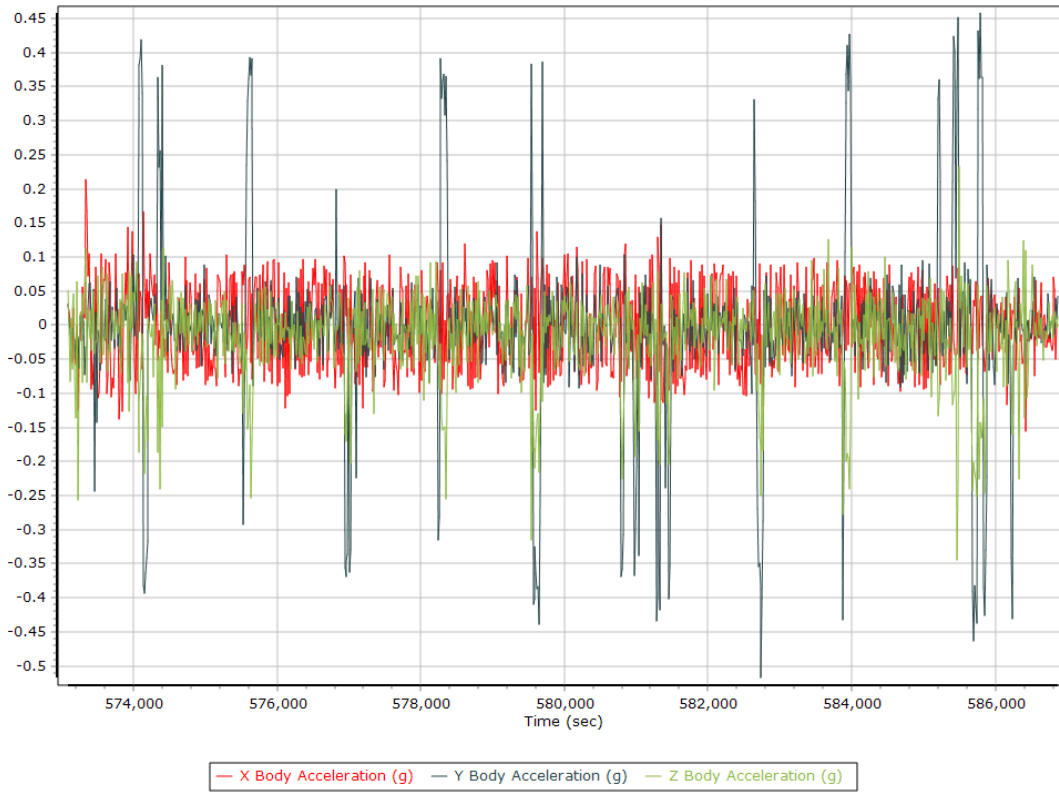
## Total Speed



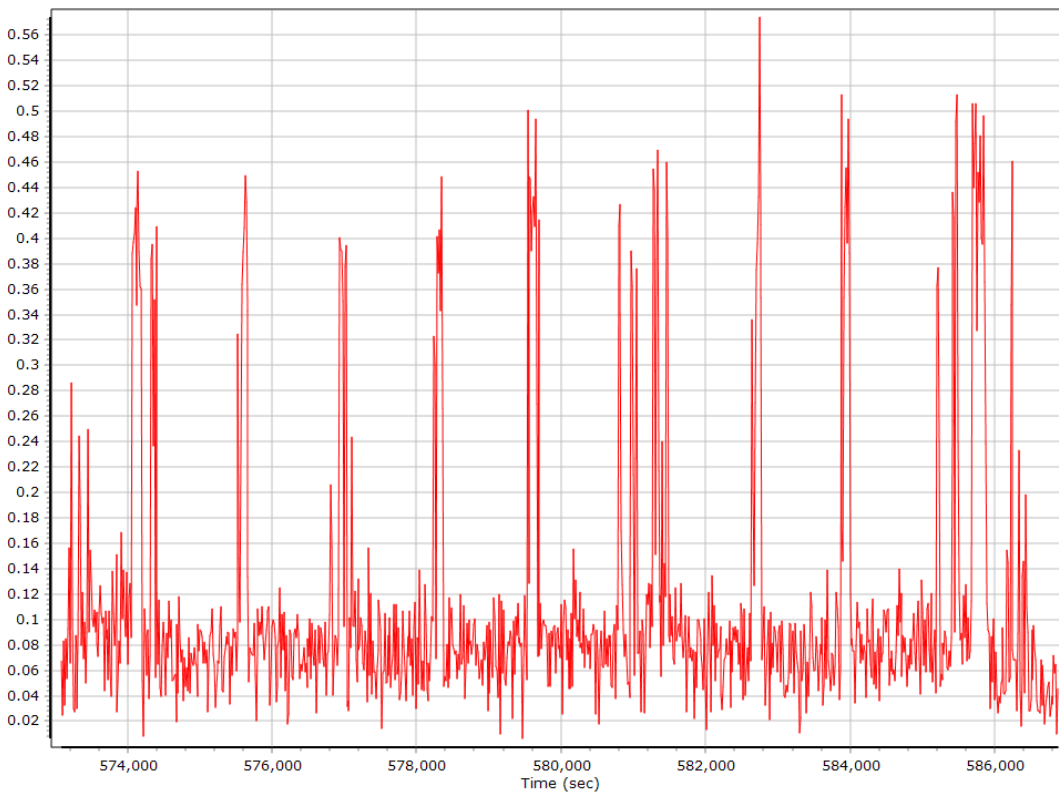
## Ground Speed



## Body Acceleration



## Total Body Acceleration



## Body Angular Rate

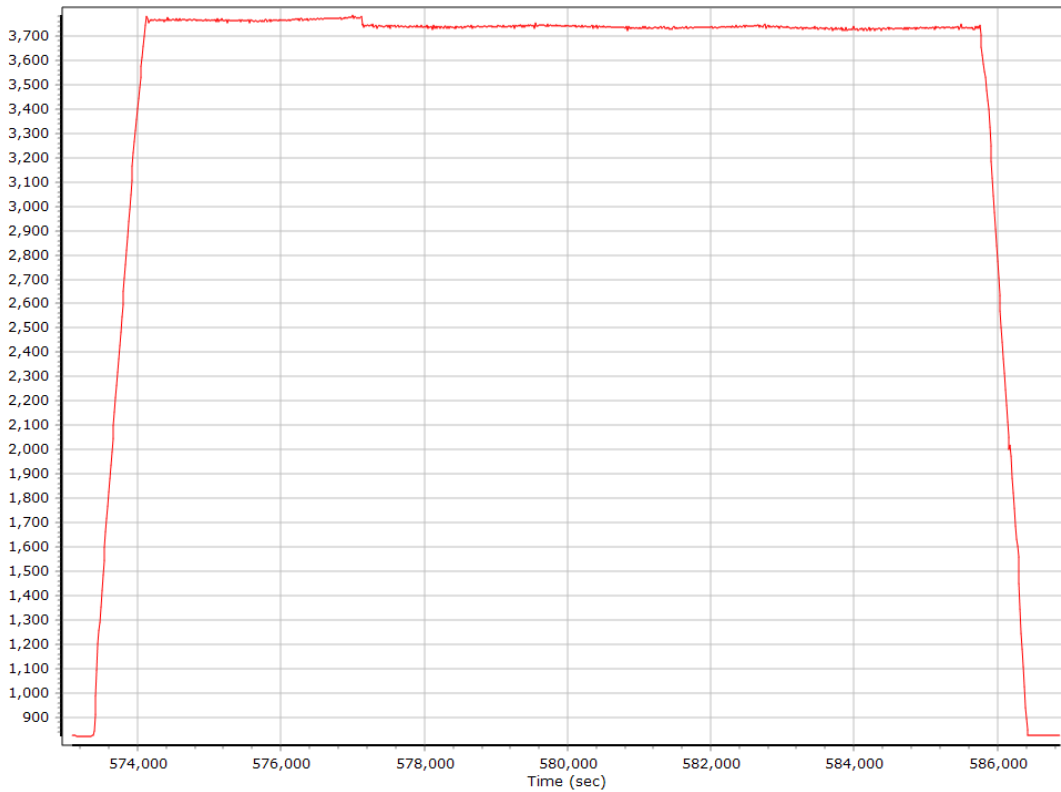


## Forward Processed Trajectory Information

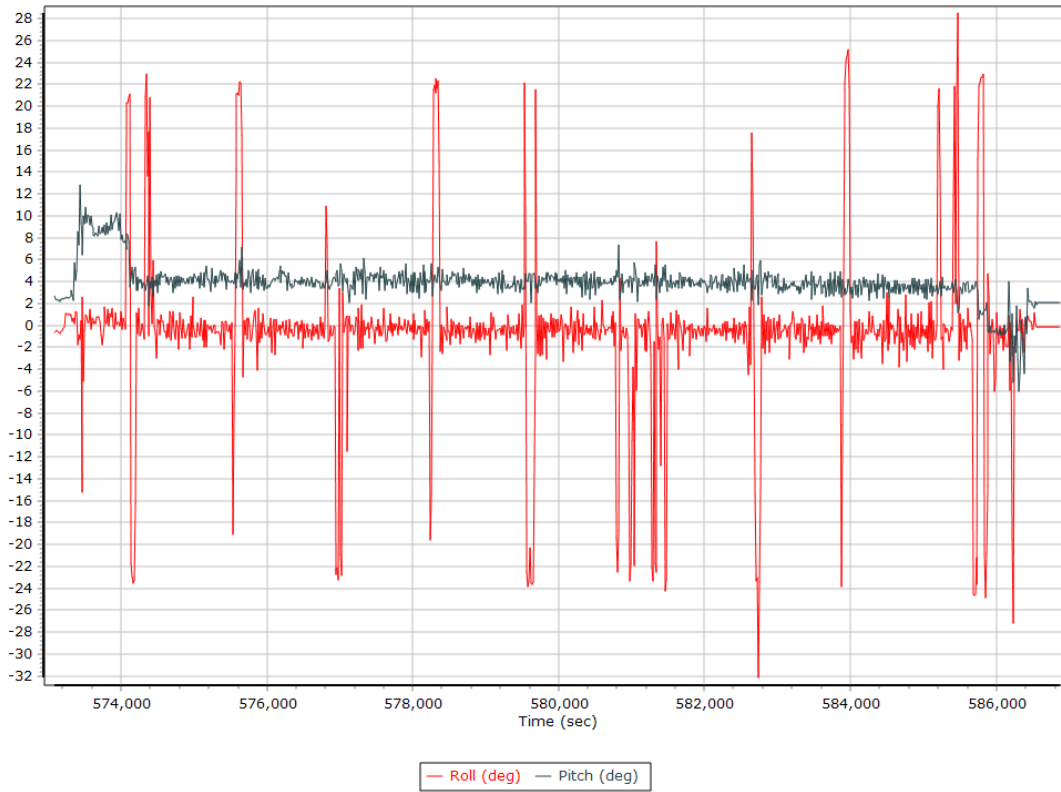
### Top View



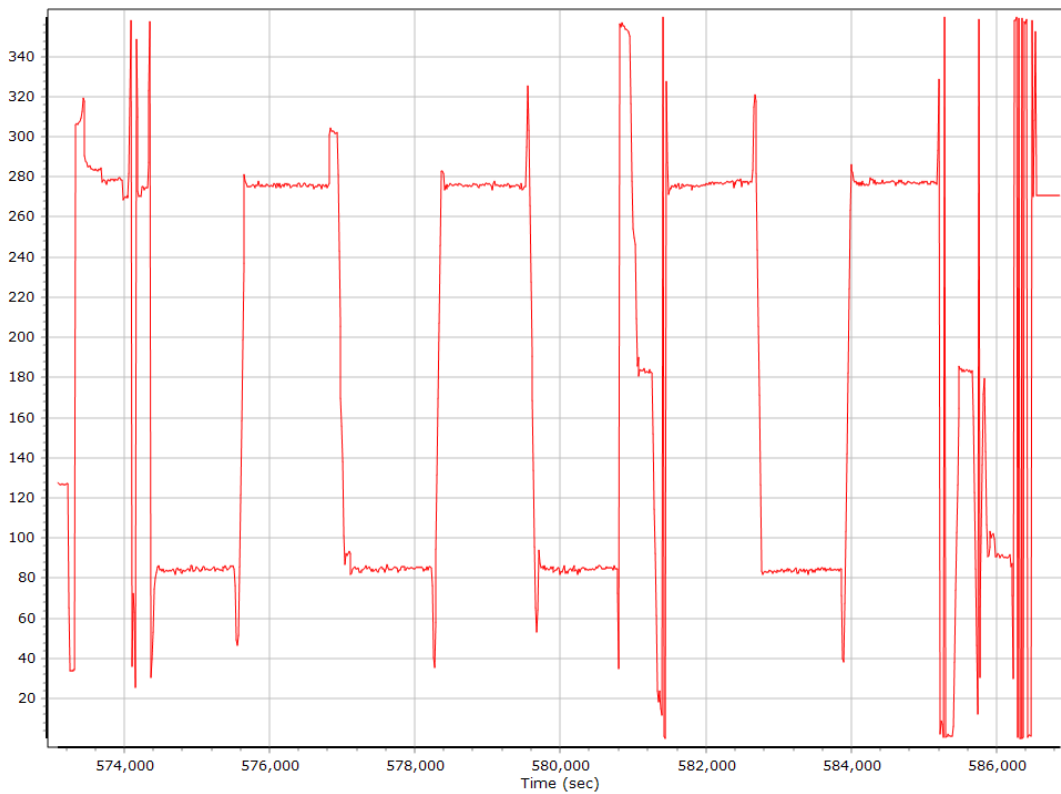
### Altitude



## Roll/Pitch

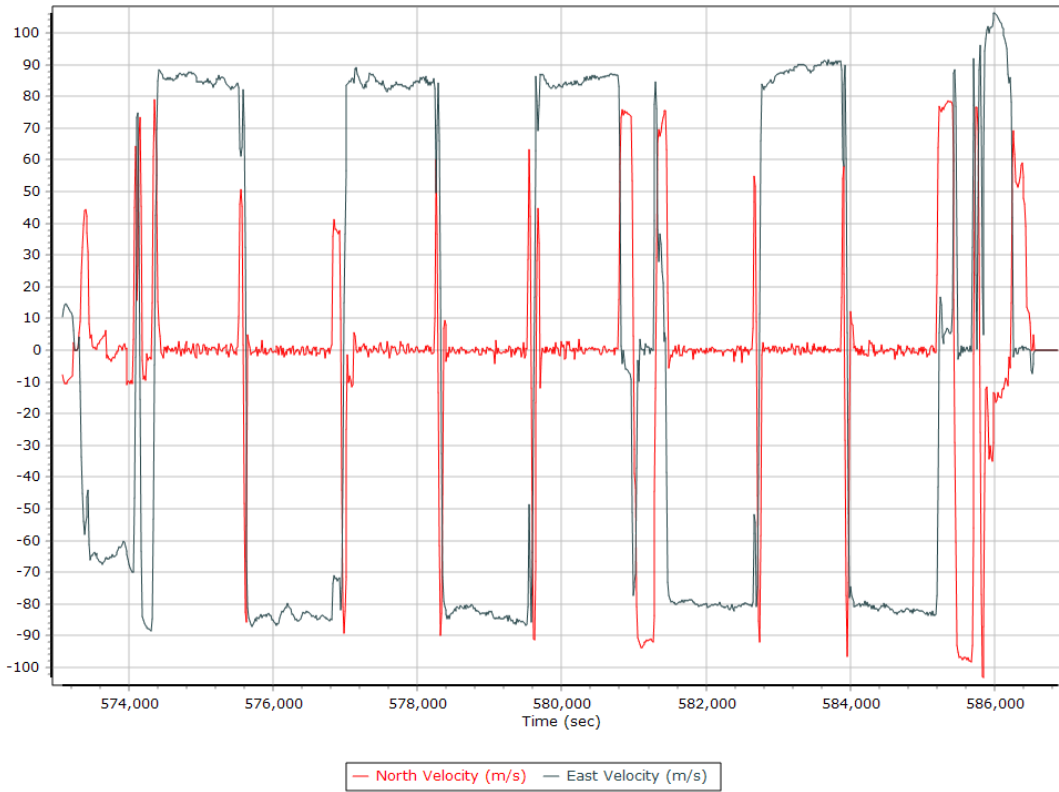


## Heading

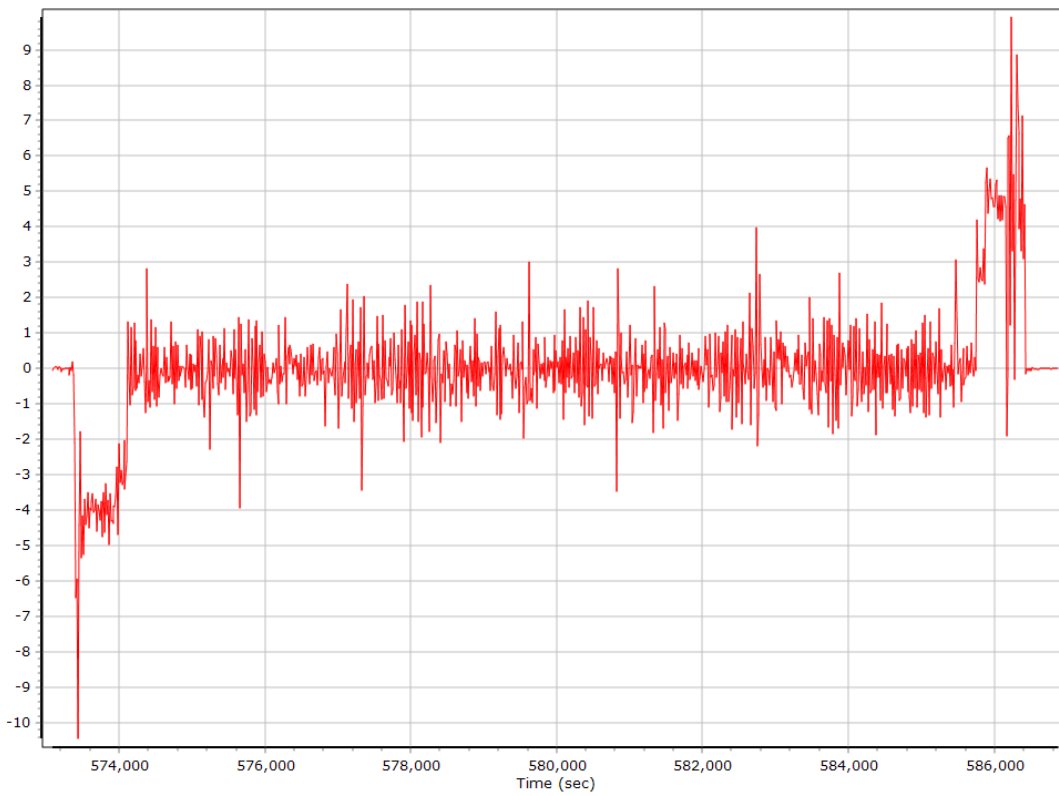




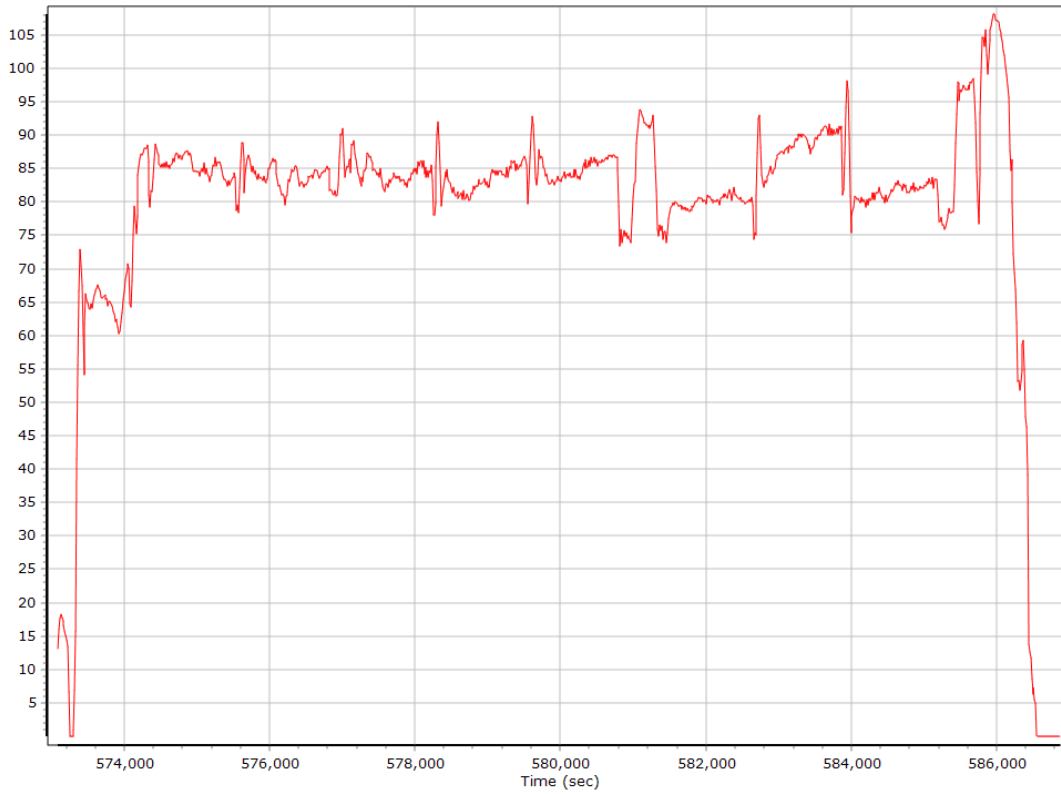
## North/East Velocity



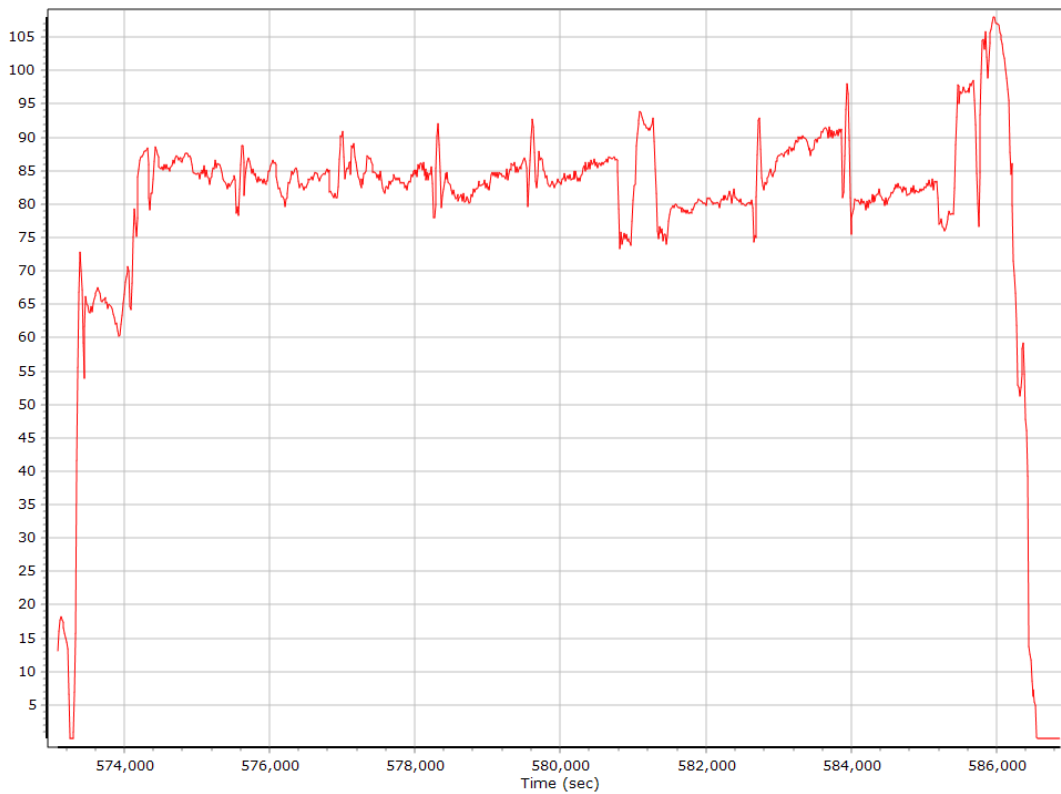
## Down Velocity



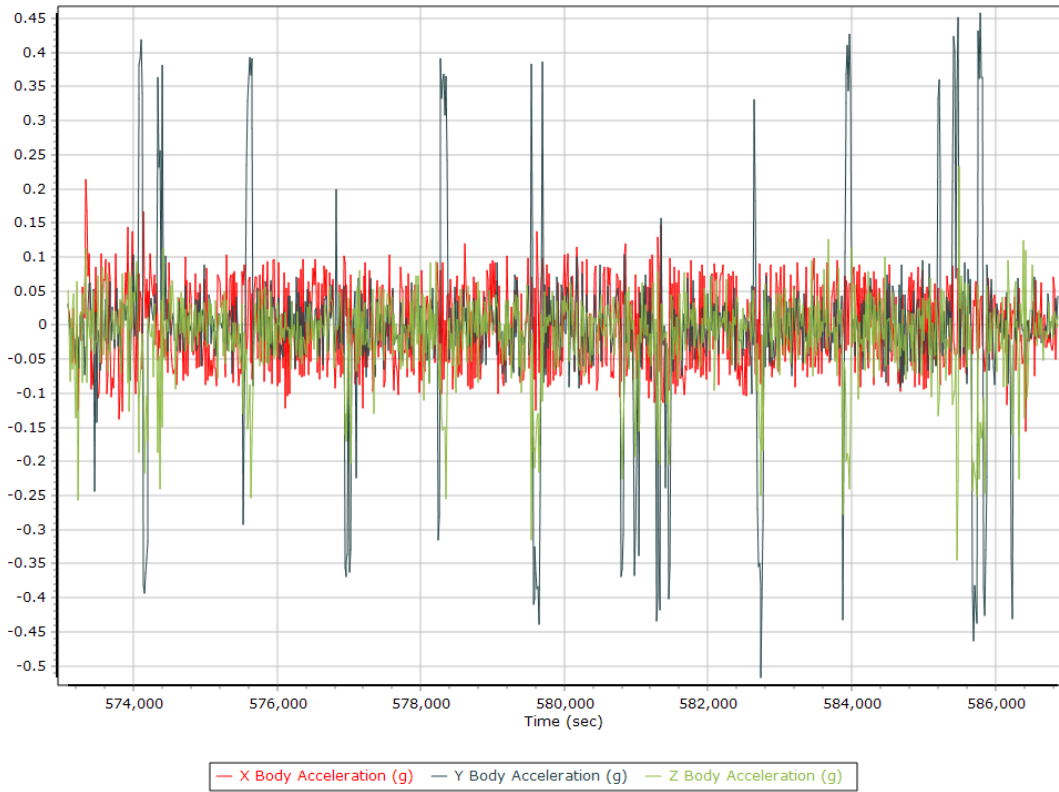
## Total Speed



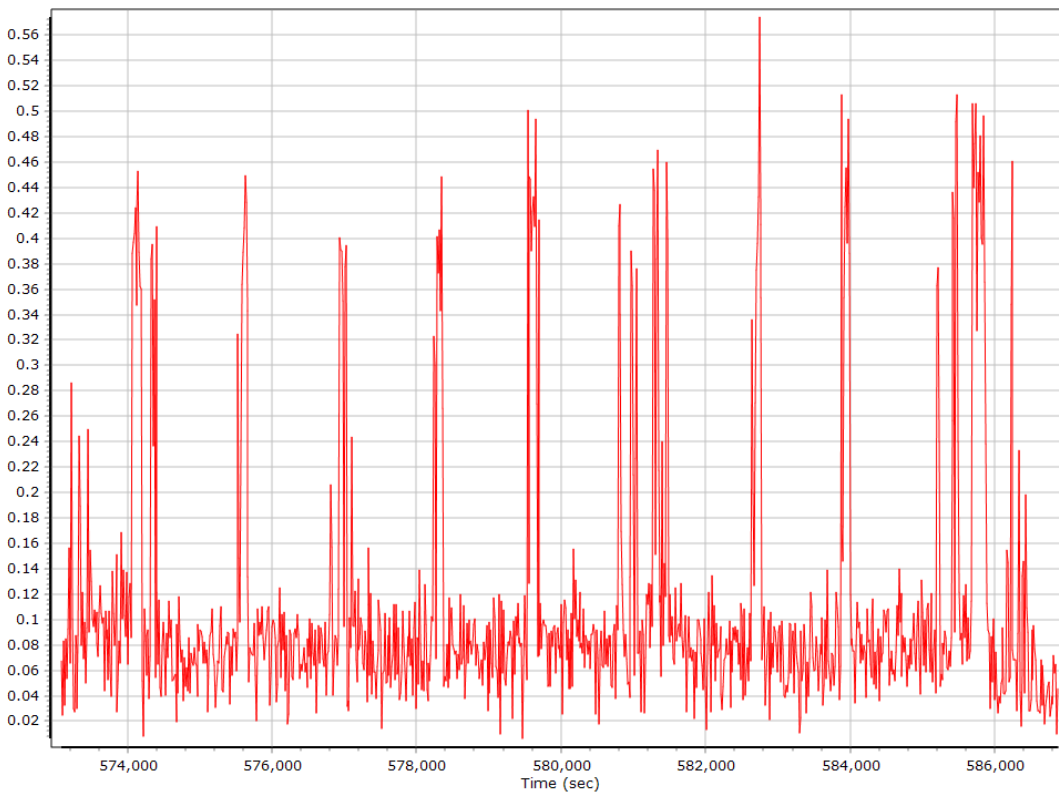
## Ground Speed



## Body Acceleration



## Total Body Acceleration



## Body Angular Rate

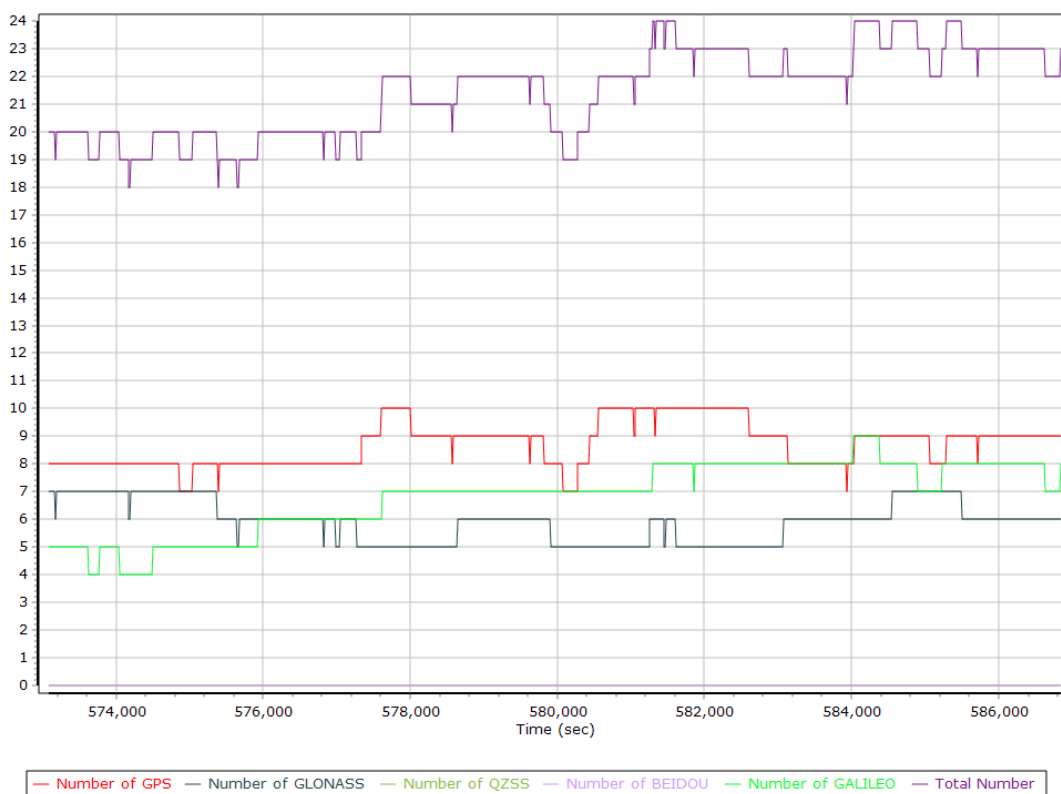


## GNSS QC

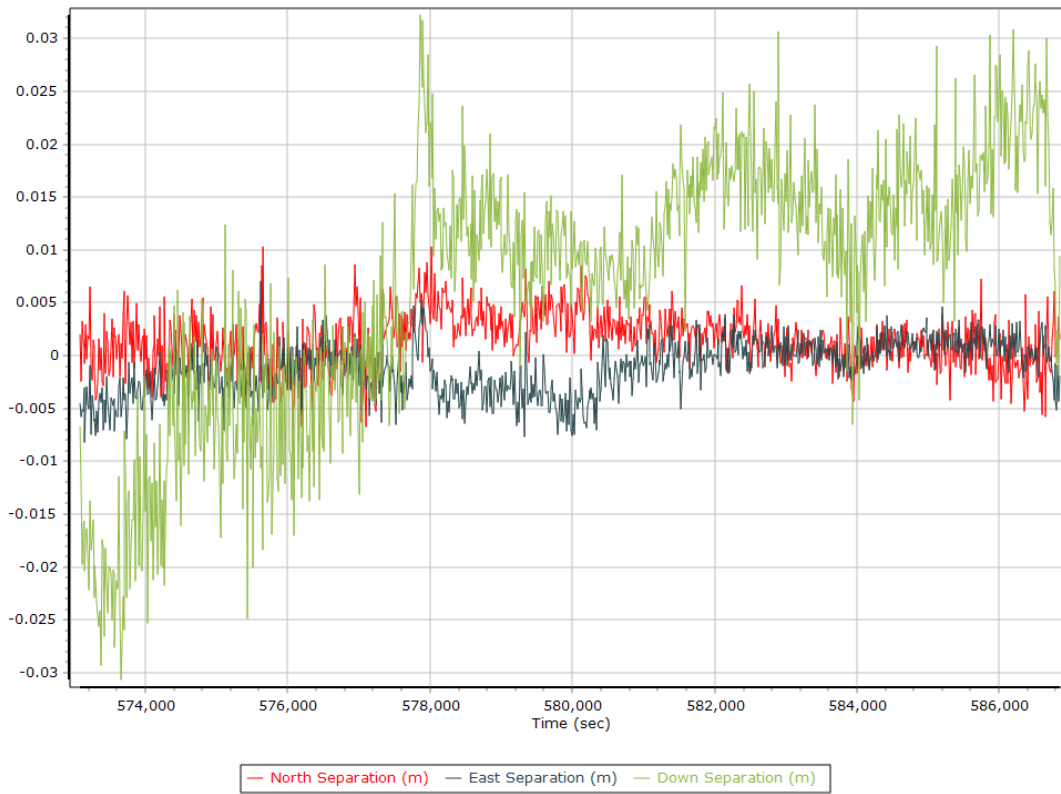
### GNSS QC Statistics

Statistics	Min	Max	Mean
Baseline length (km)	0.00	0.00	
Number of GPS SV	6	10	9
Number of GLONASS SV	5	7	6
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Number of GALILEO SV	4	9	7
Total number of SV	16	24	21
PDOP	1.05	1.80	1.15
QC Solution Gaps	1.00	1.00	
Solution Type	Fixed	Float	No solution
Epoch (sec)	14217.00	0.00	2.00
Percentage	99.99	0.00	0.01

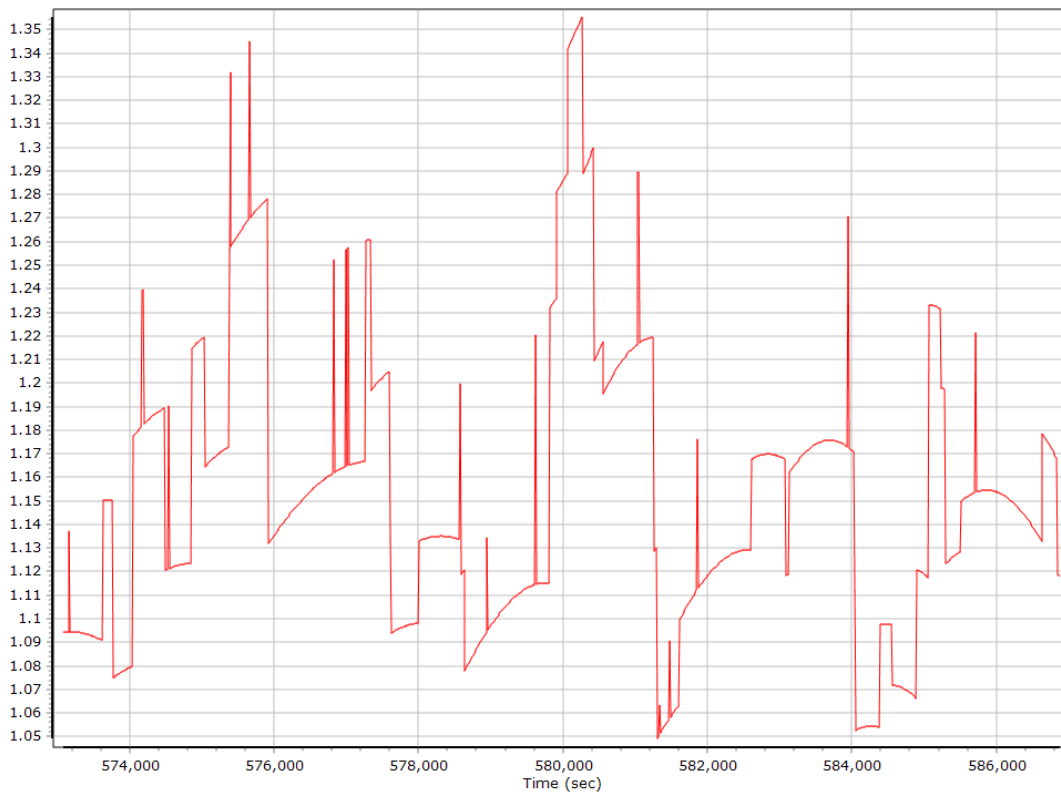
### Num SVs in solution



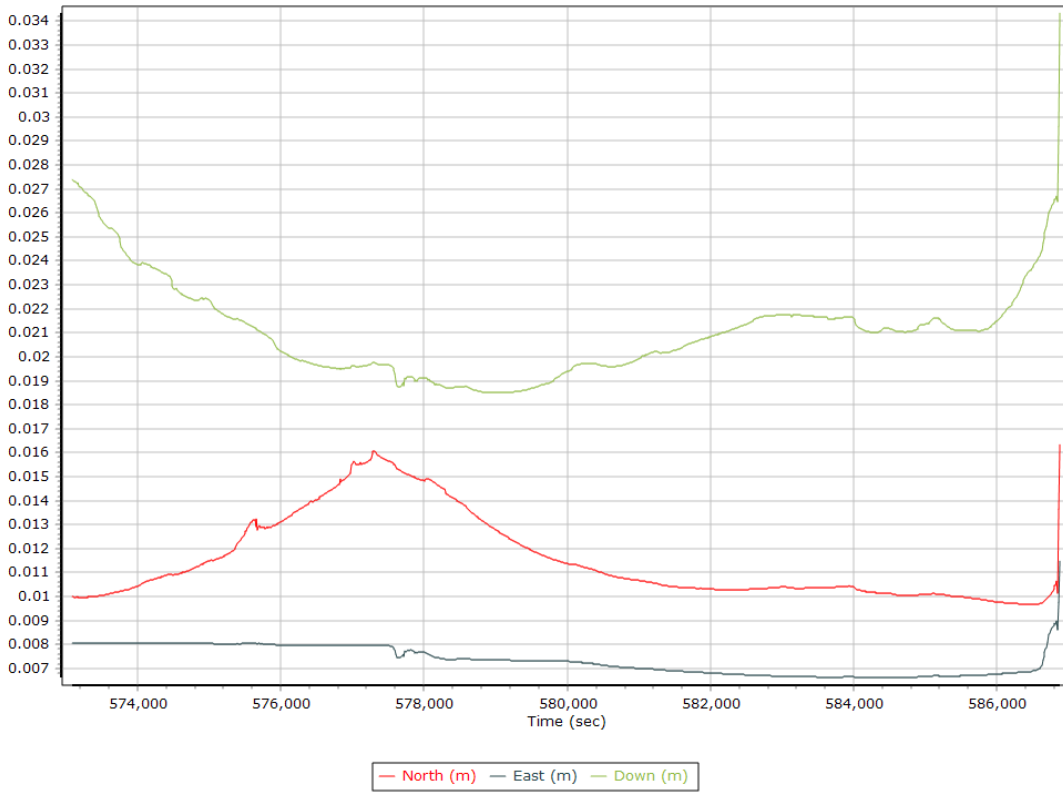
### Forward/Reverse Separation



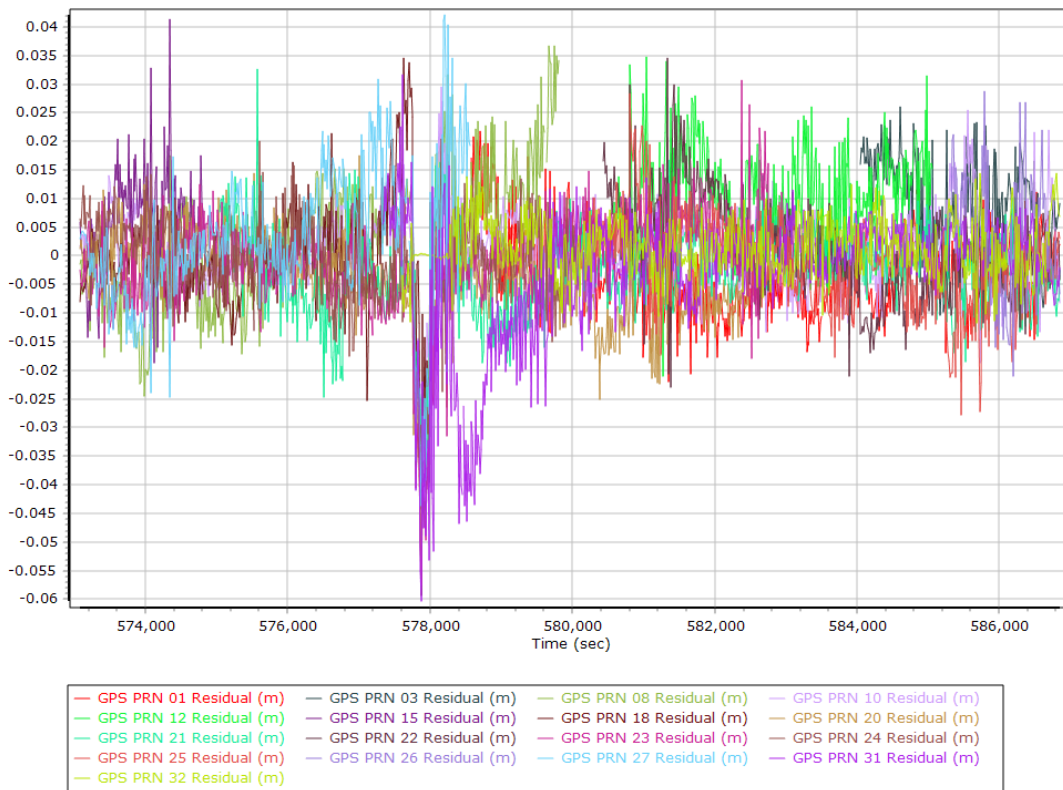
### PDOP



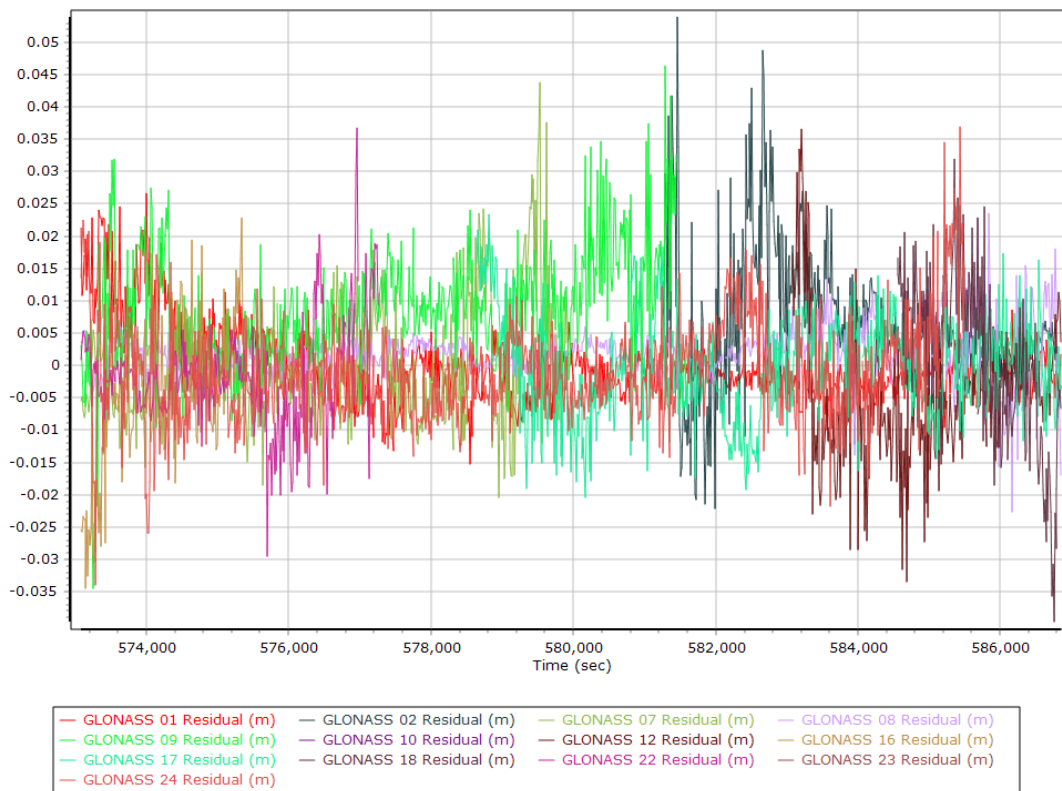
## Estimated Position Accuracy



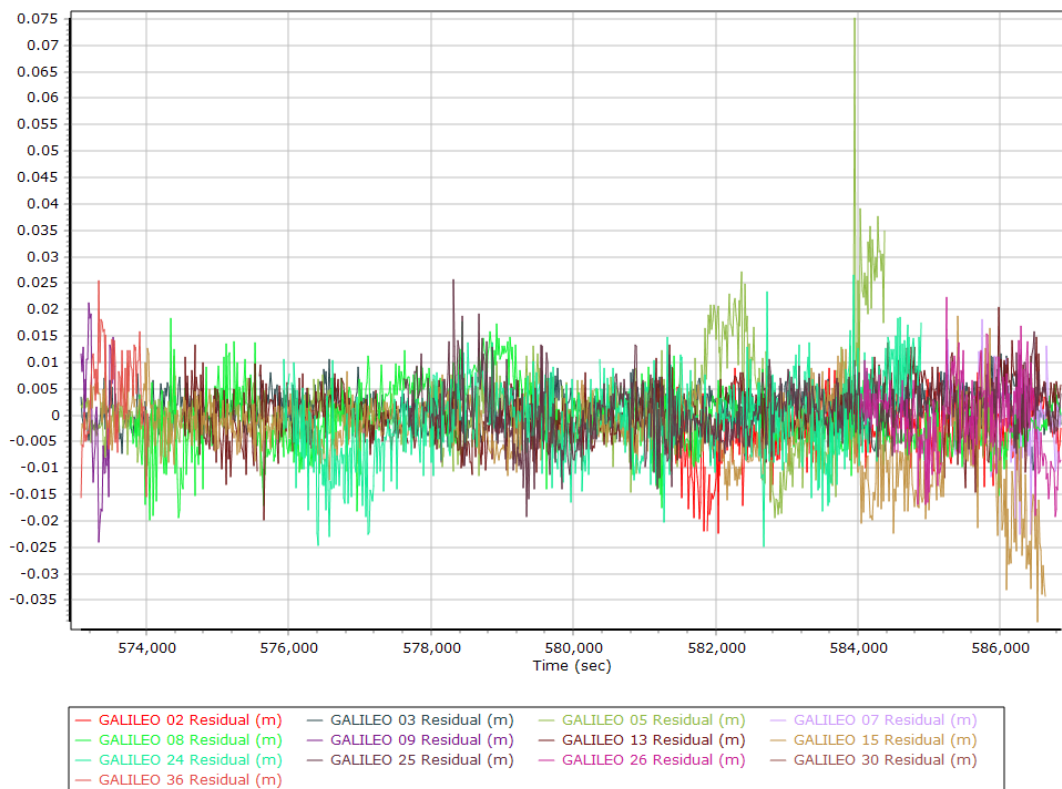
## GPS Residuals



## GLONASS Residuals



## GALILEO Residuals





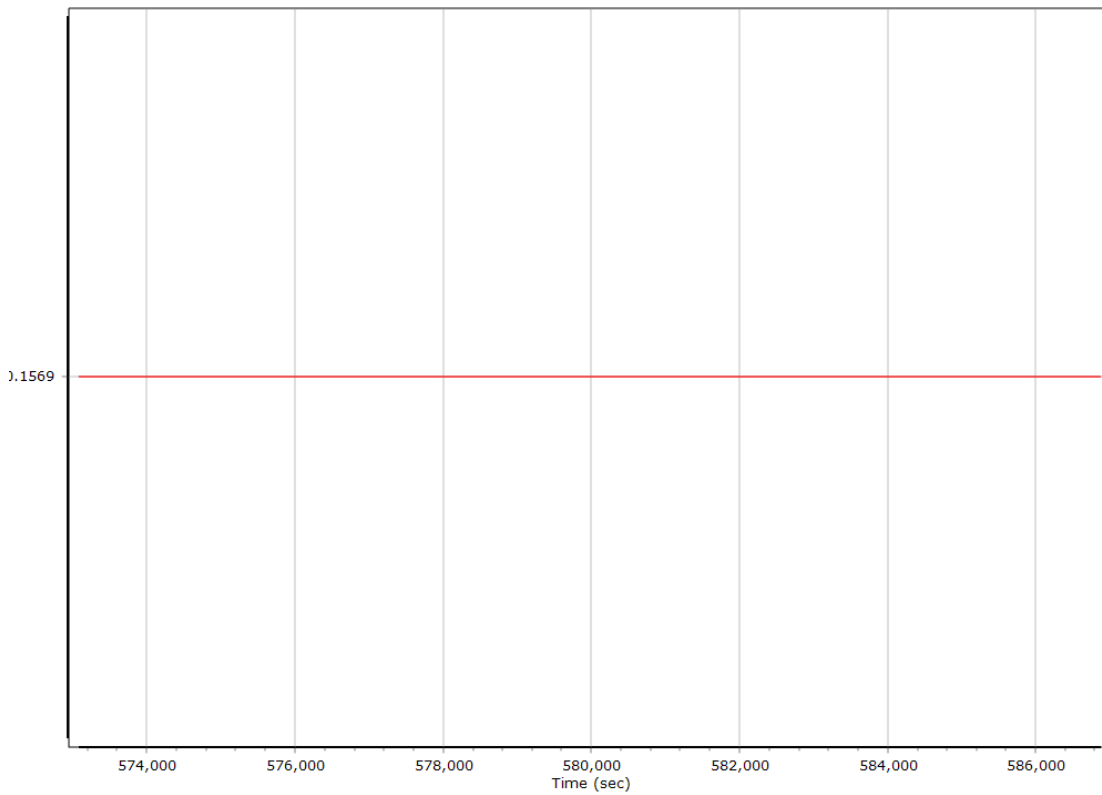
## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion PP-RTX		
Stabilized mount	False		
Processing start time	572631.000 (12/05/2020 15:03:51)		
Processing end time	586880.000 (12/05/2020 19:01:20)		
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

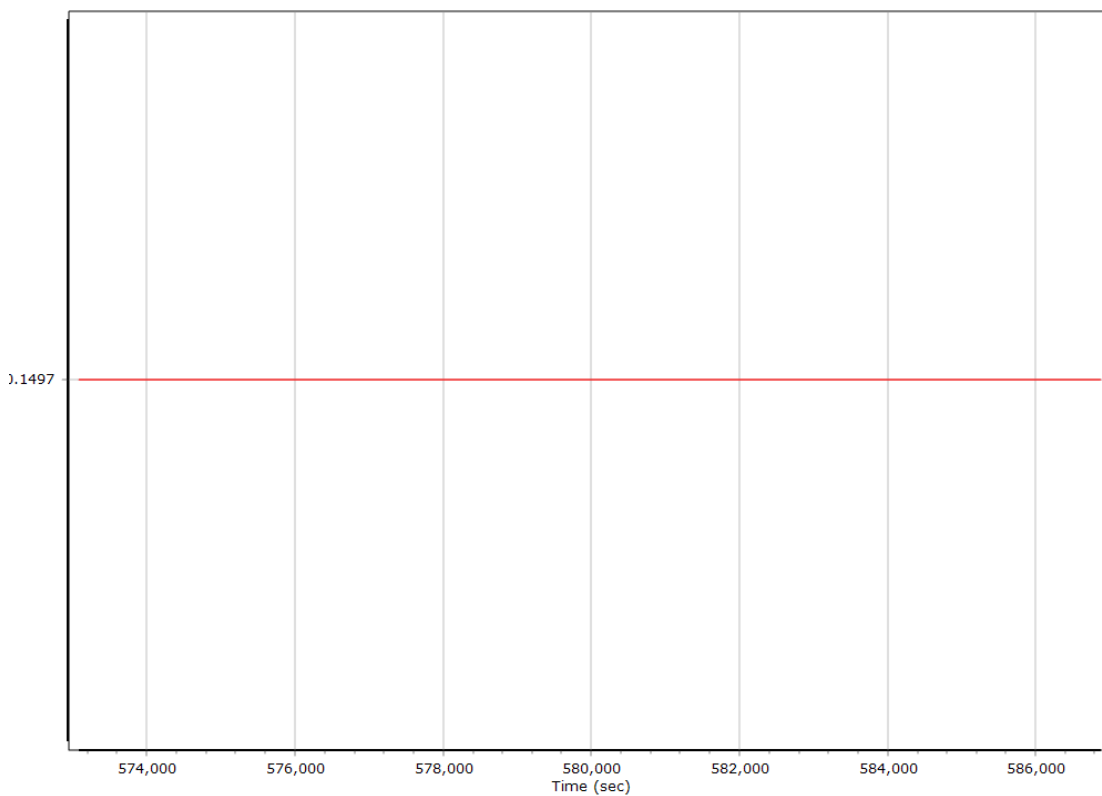
## Calibrated Installation Parameters

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

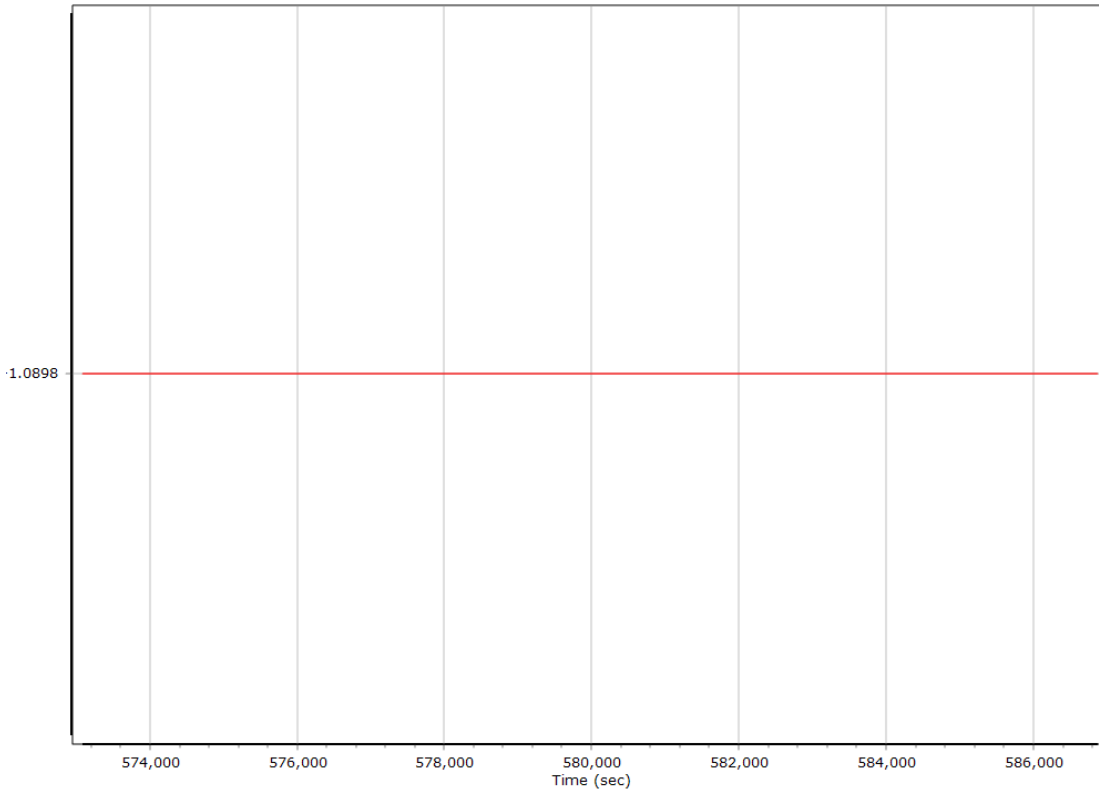
#### X Reference-Primary GNSS Lever Arm (m)



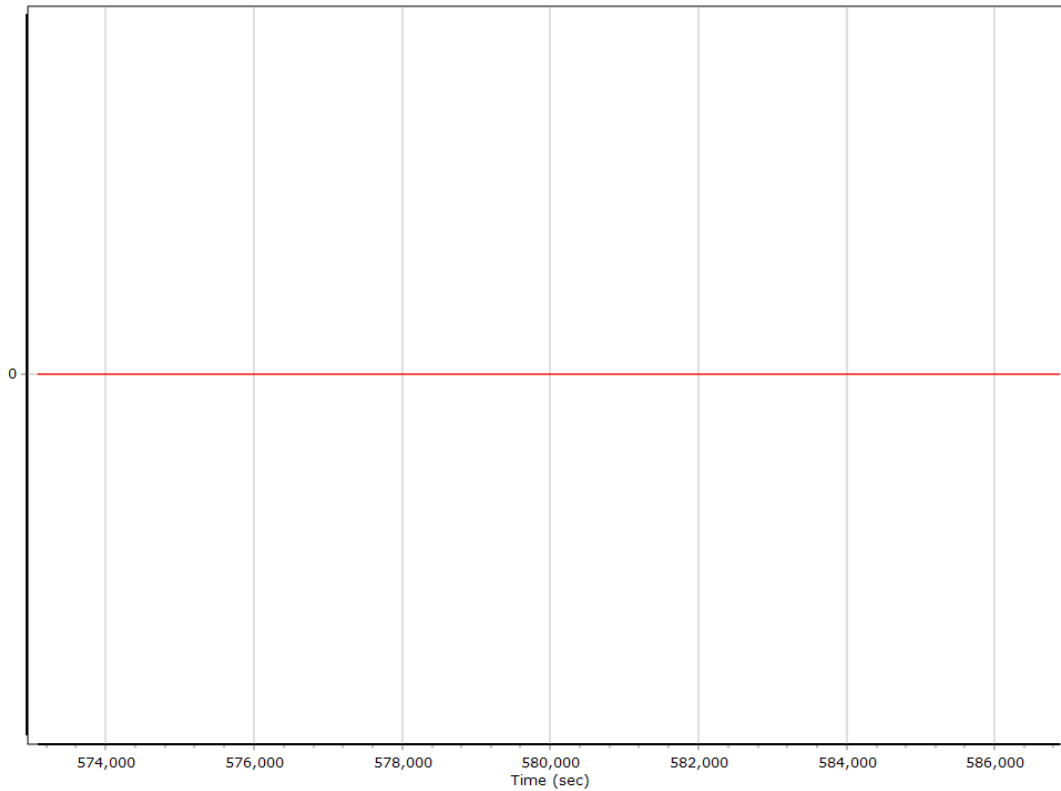
#### Y Reference-Primary GNSS Lever Arm (m)



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



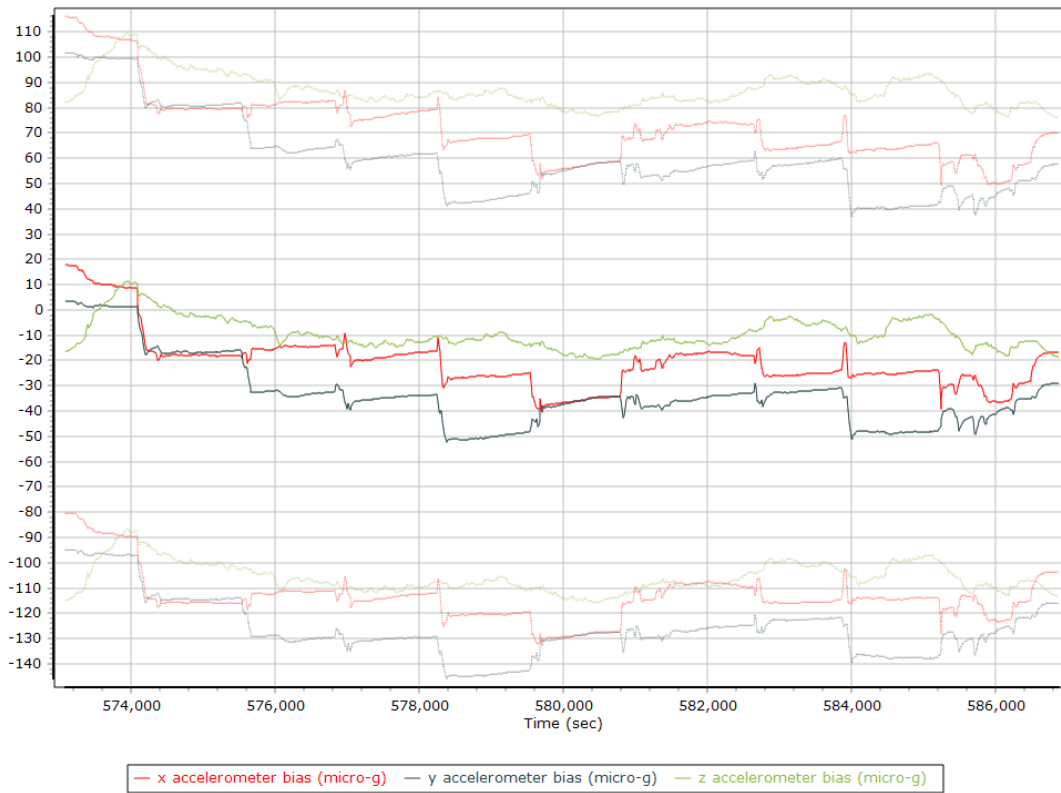
### Reference-Primary GNSS Lever Arm Figure of Merit



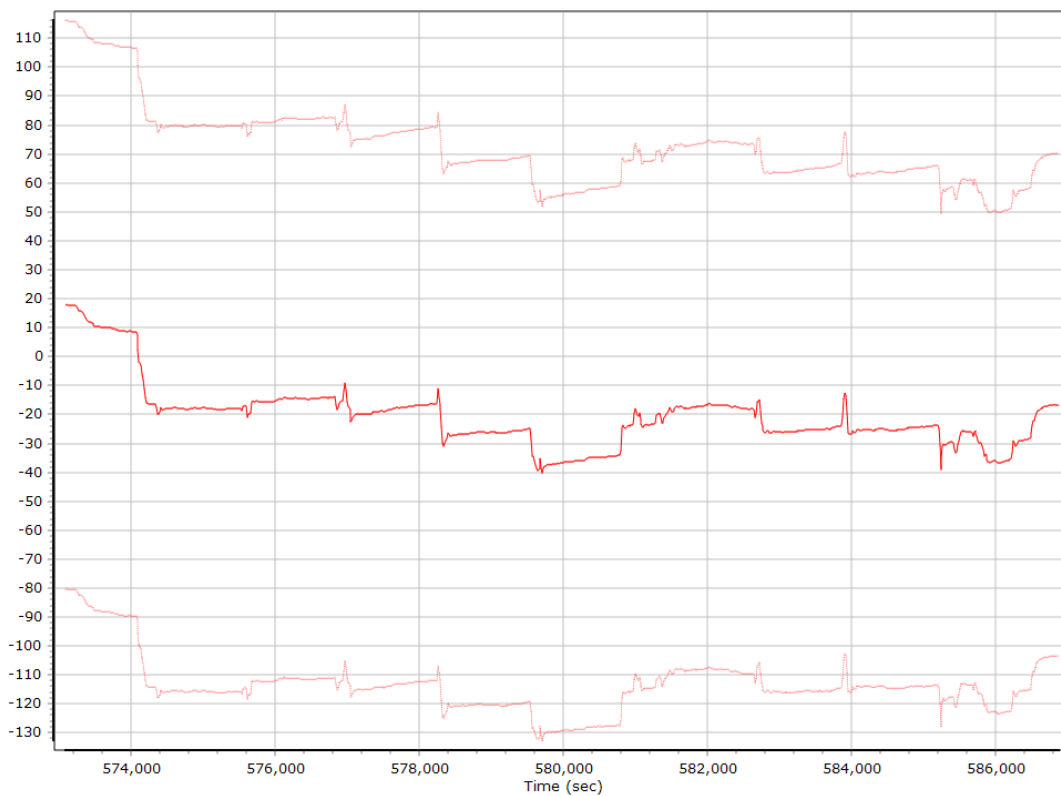
## IN-Fusion QC

### Forward Processed Estimated Errors, Reference Frame

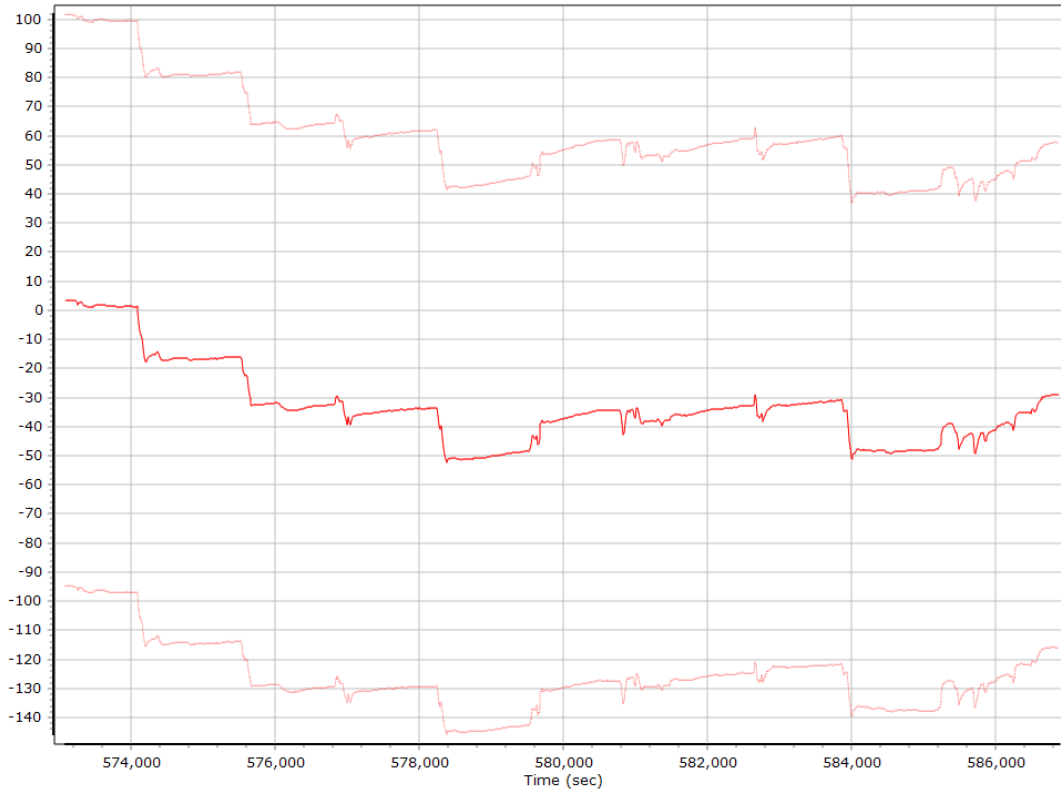
#### Accelerometer Bias (micro-g)



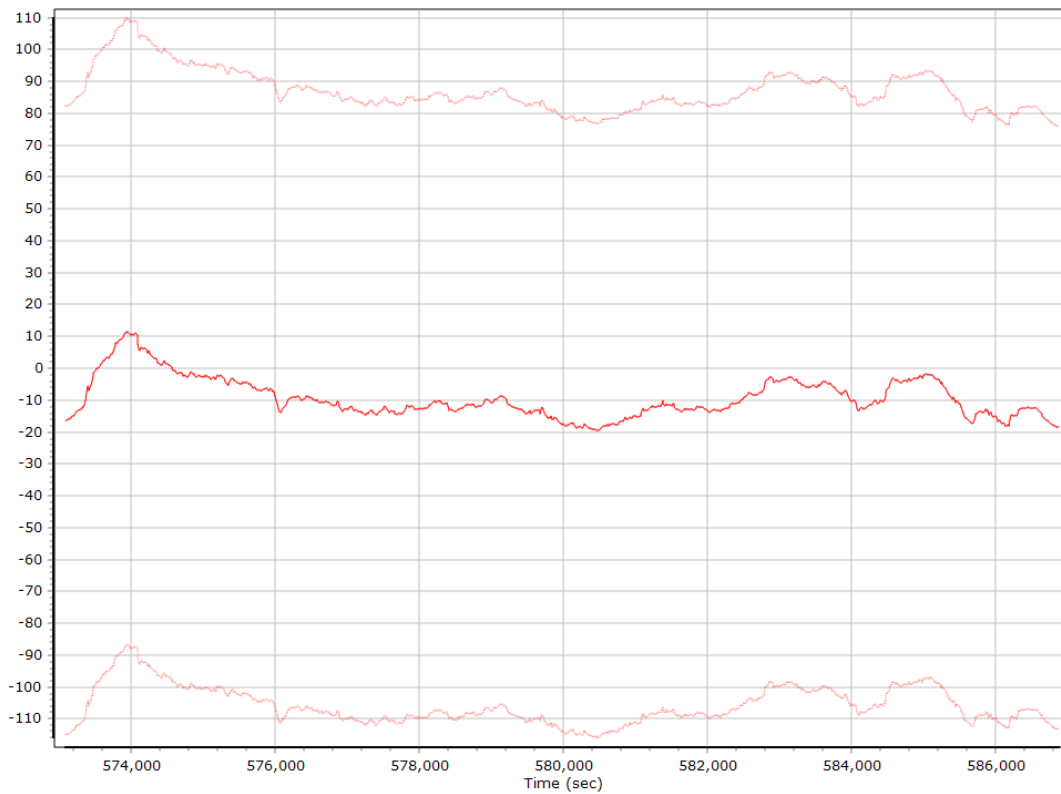
#### X Accelerometer Bias (micro-g)



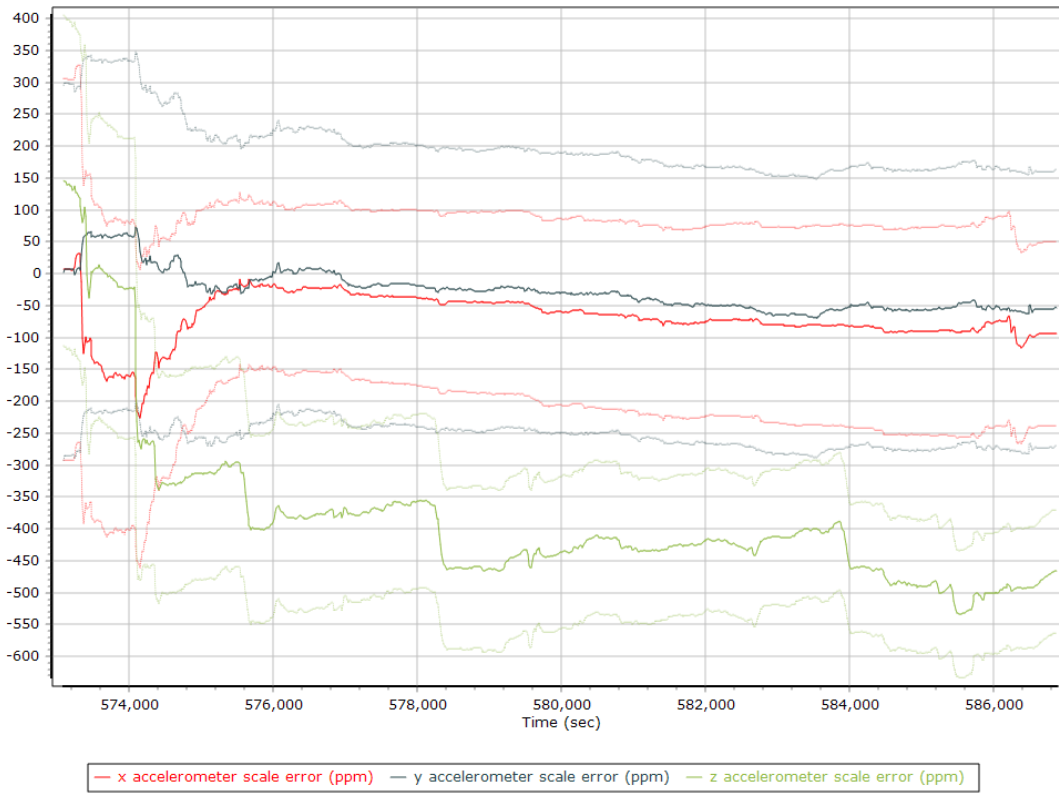
### Y Accelerometer Bias (micro-g)



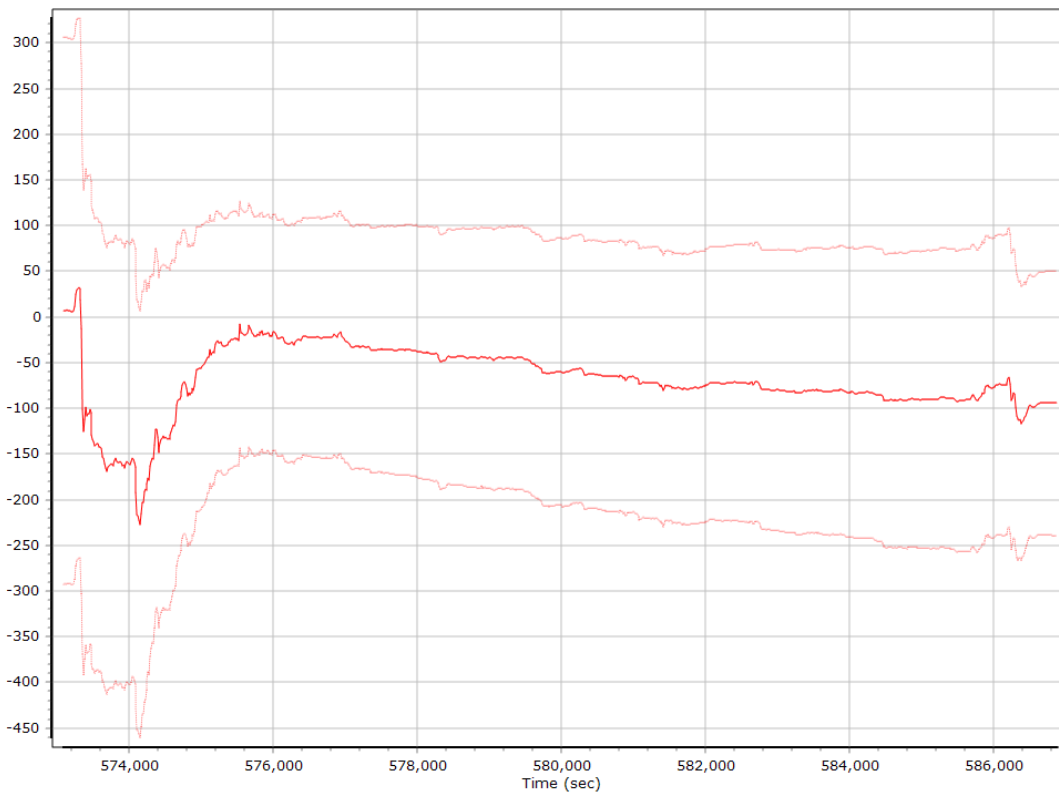
### Z Accelerometer Bias (micro-g)



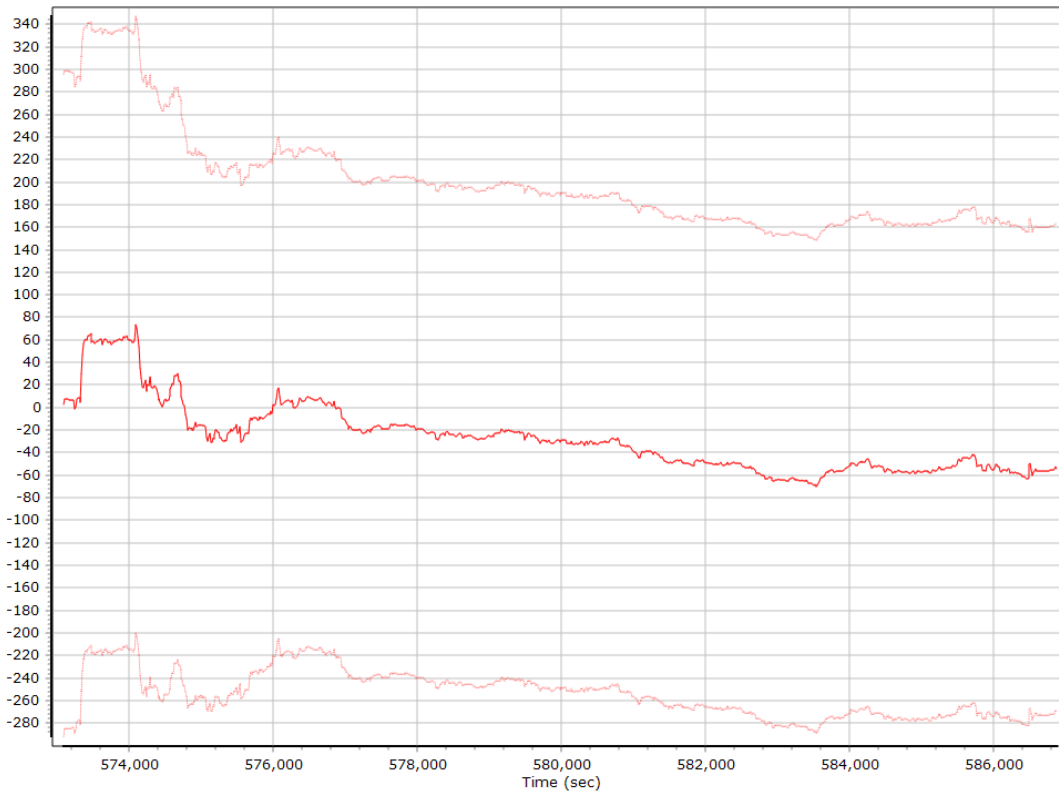
### Accelerometer Scale Error (ppm)



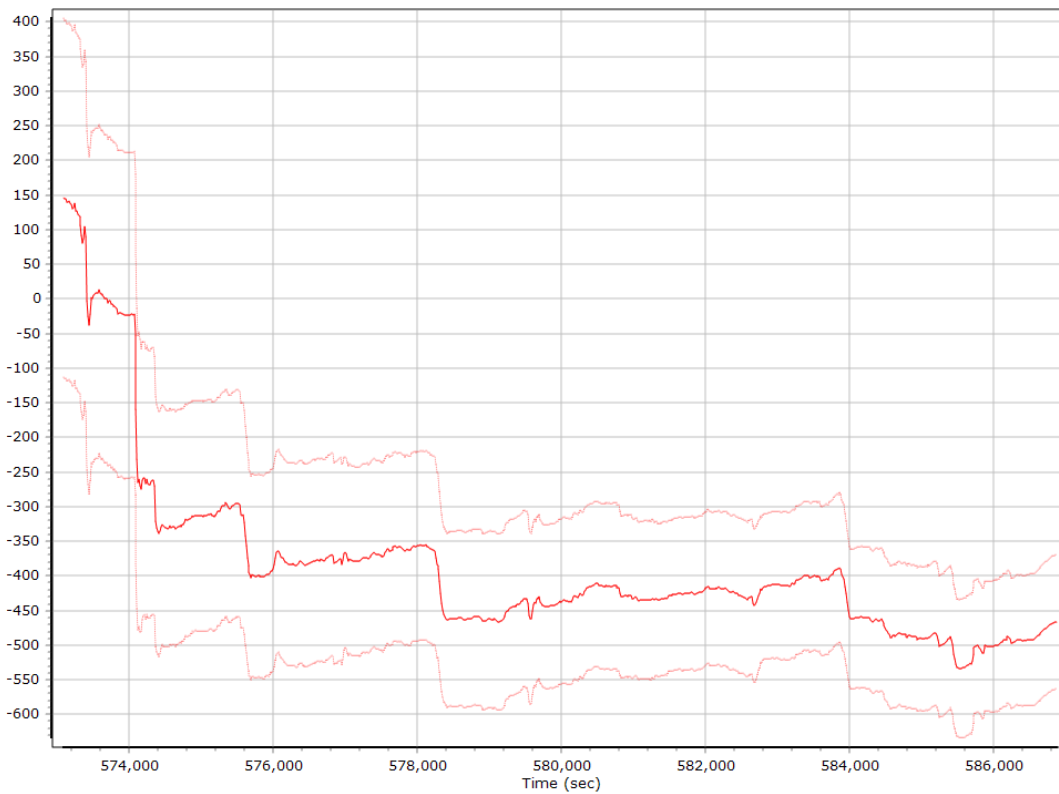
### X Accelerometer Scale Error (ppm)



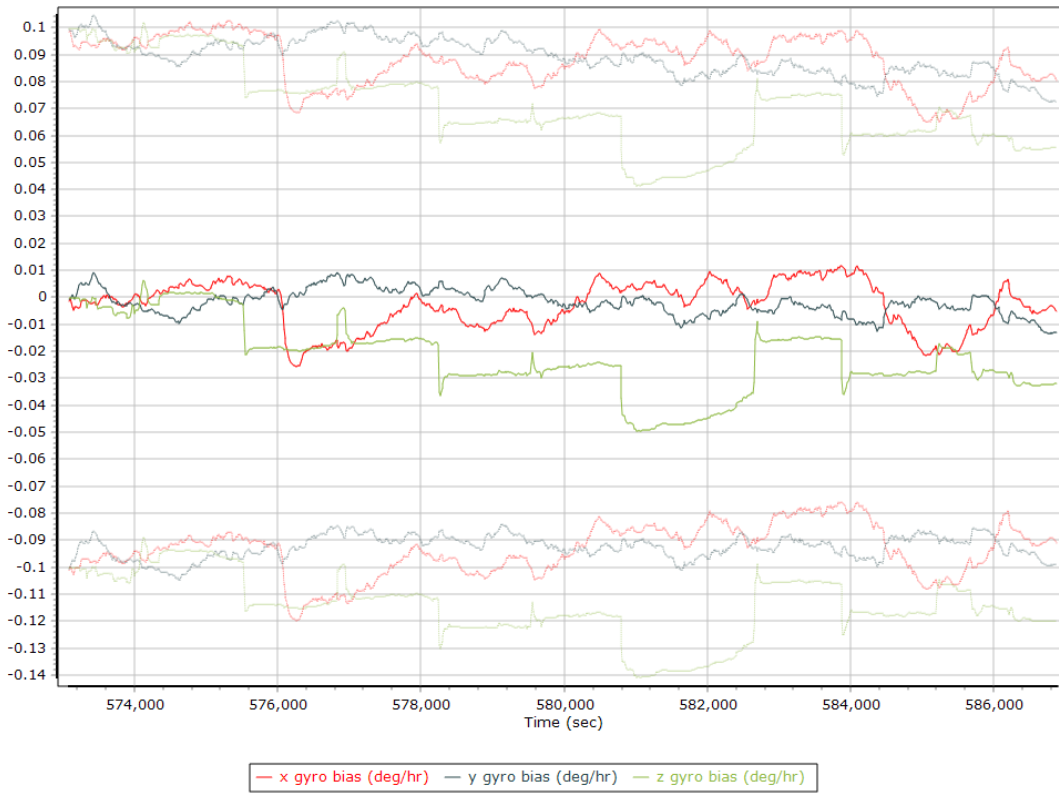
### Y Accelerometer Scale Error (ppm)



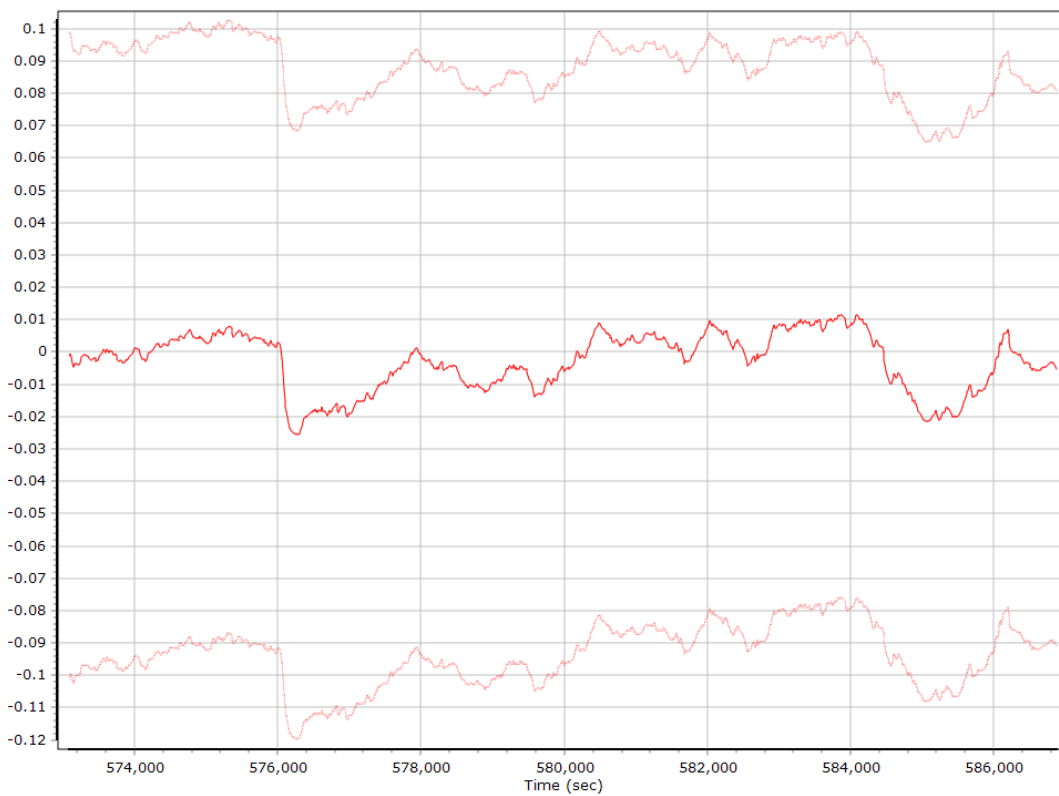
### Z Accelerometer Scale Error (ppm)



### Gyro Bias (deg/h)

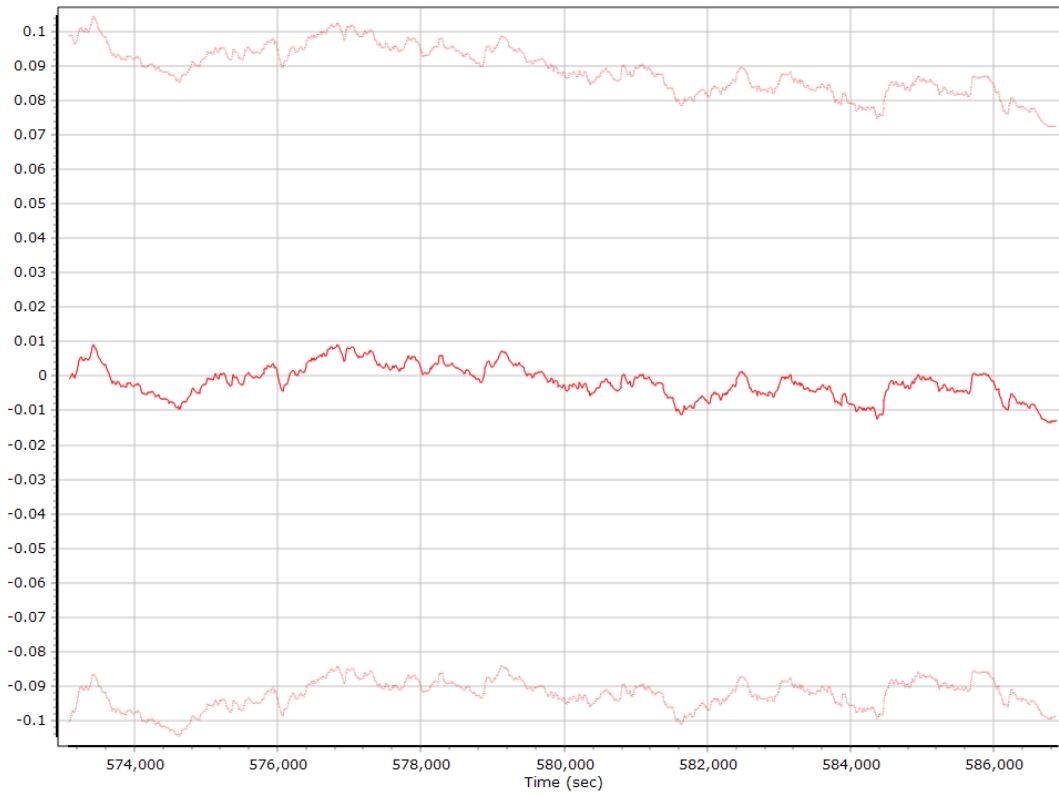


### X Gyro Bias (deg/h)

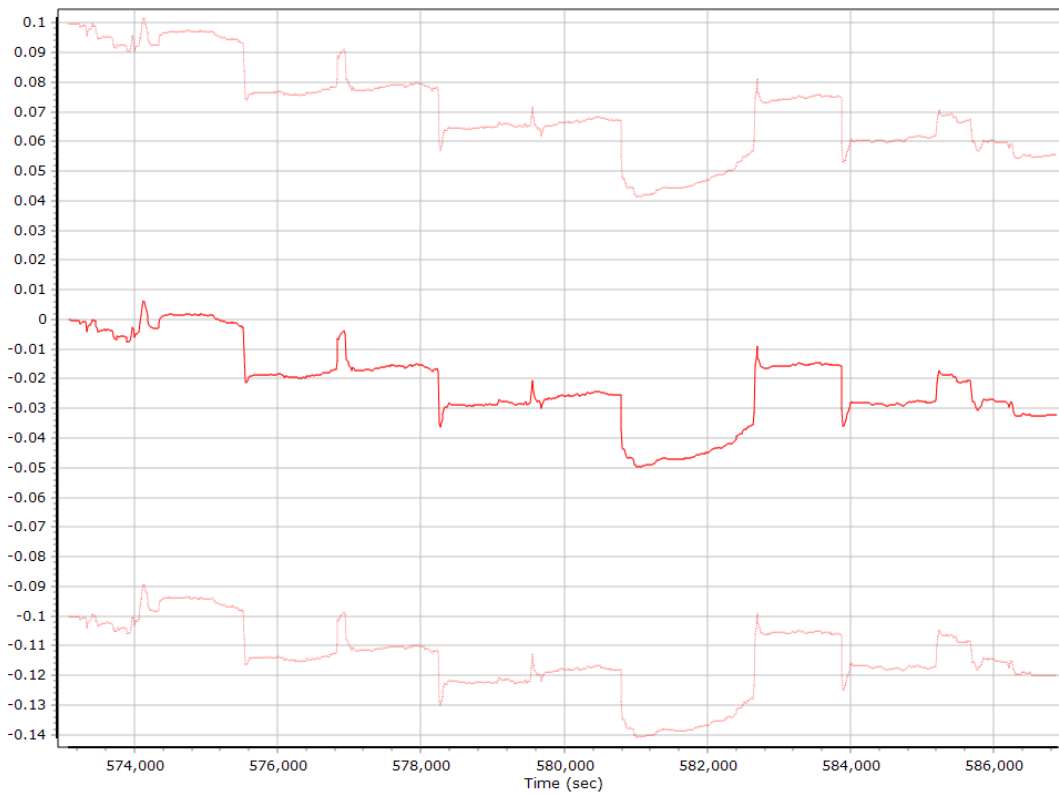




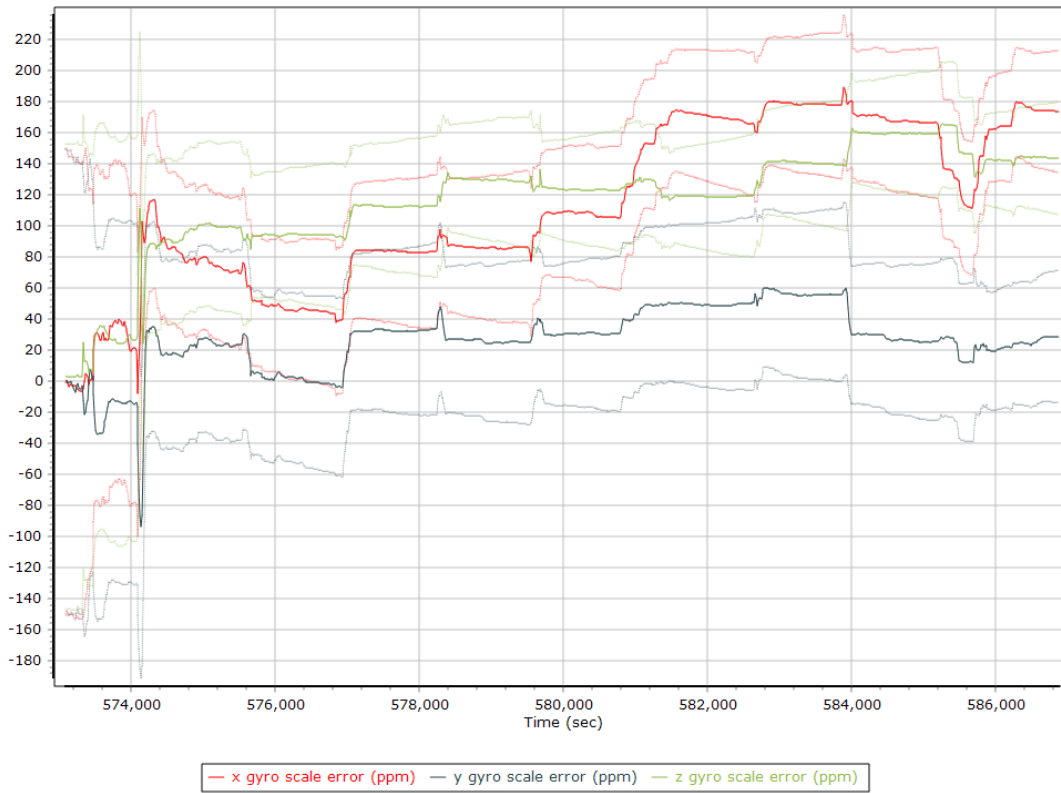
### Y Gyro Bias (deg/h)



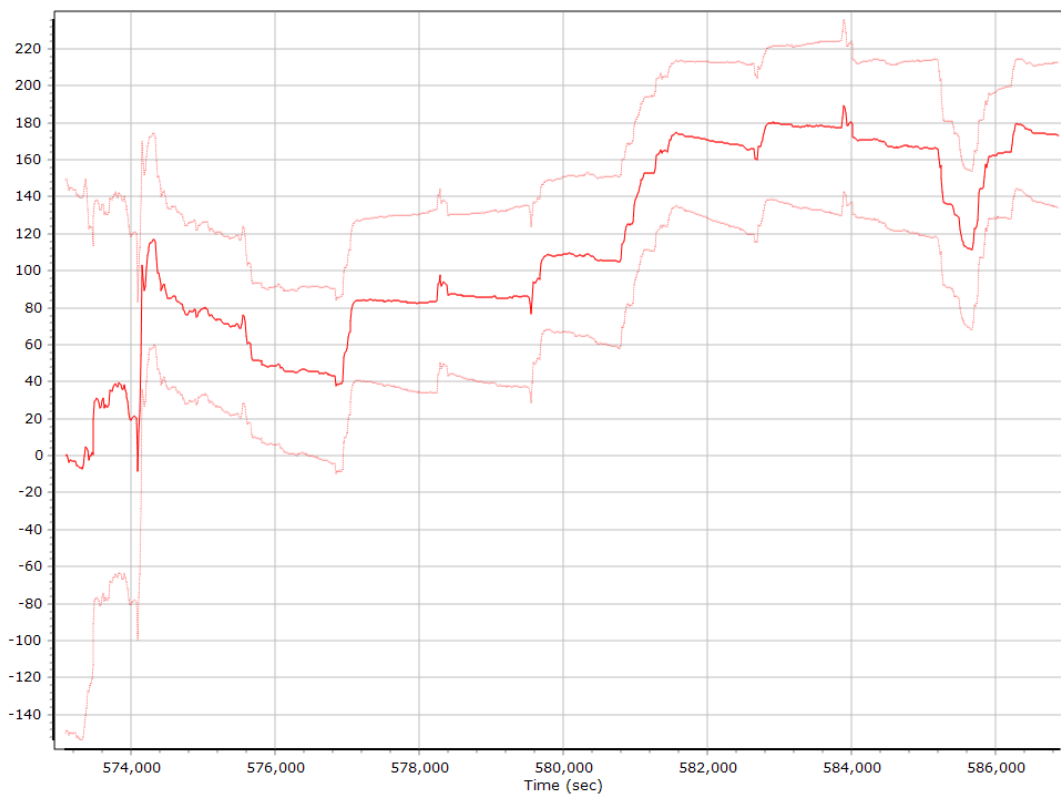
### Z Gyro Bias (deg/h)



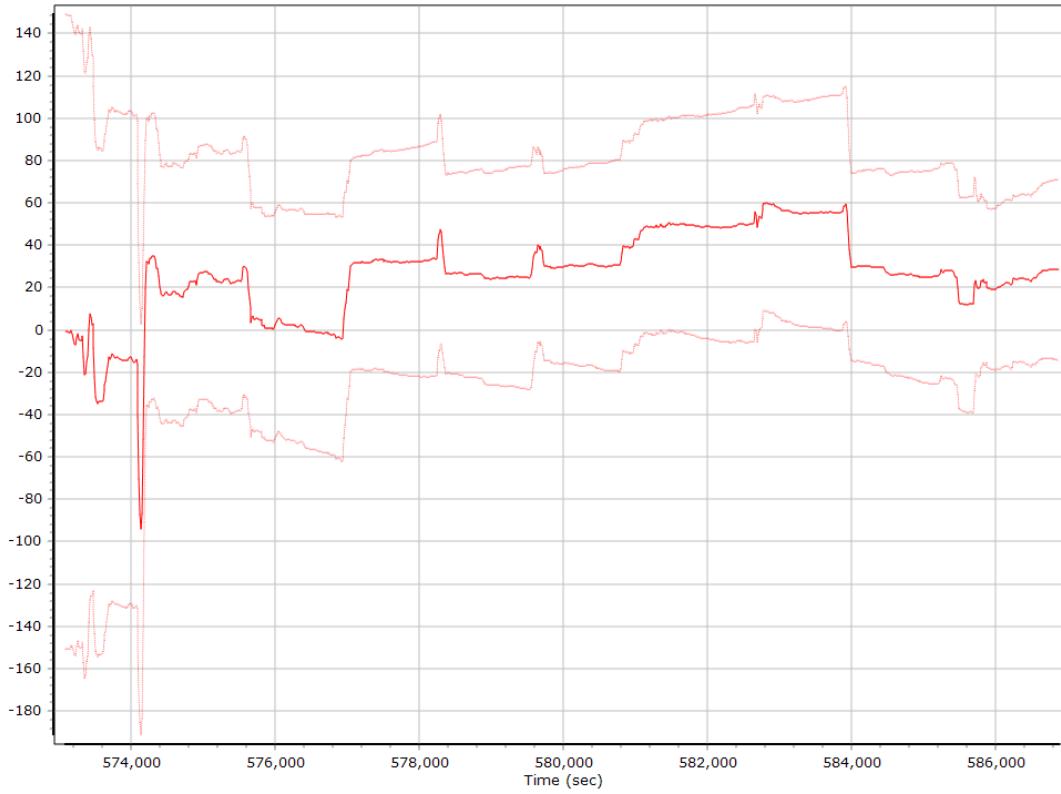
### Gyro Scale Error (ppm)



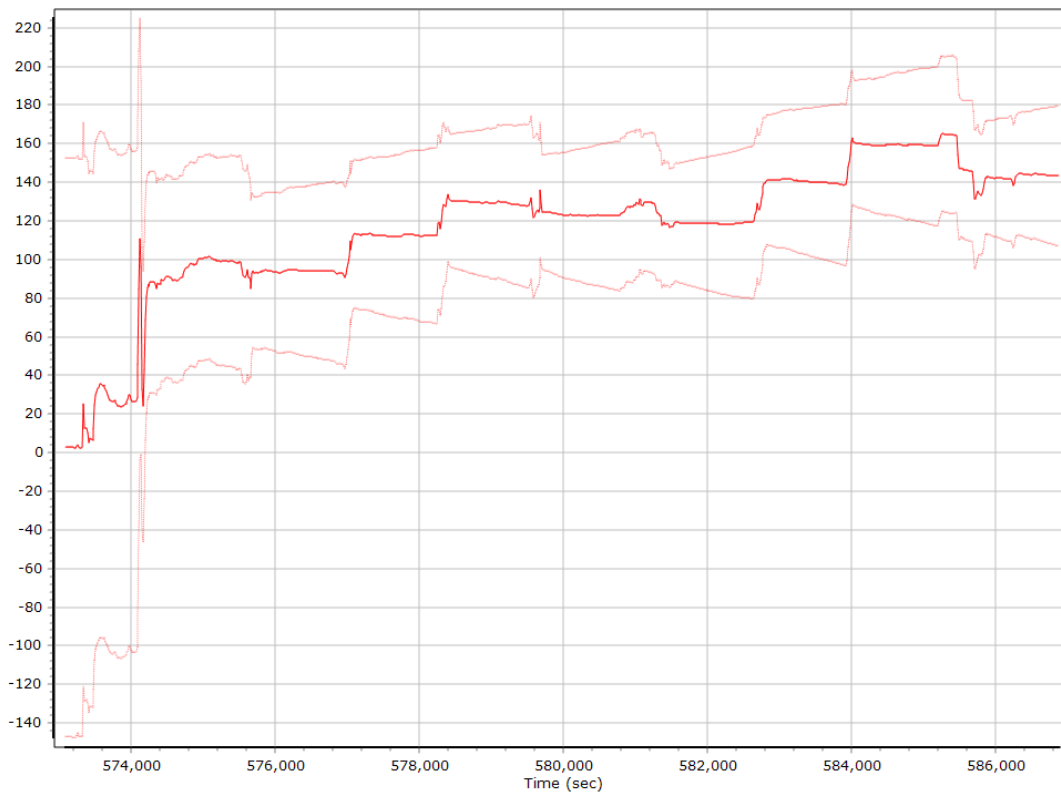
### X Gyro Scale Error (ppm)



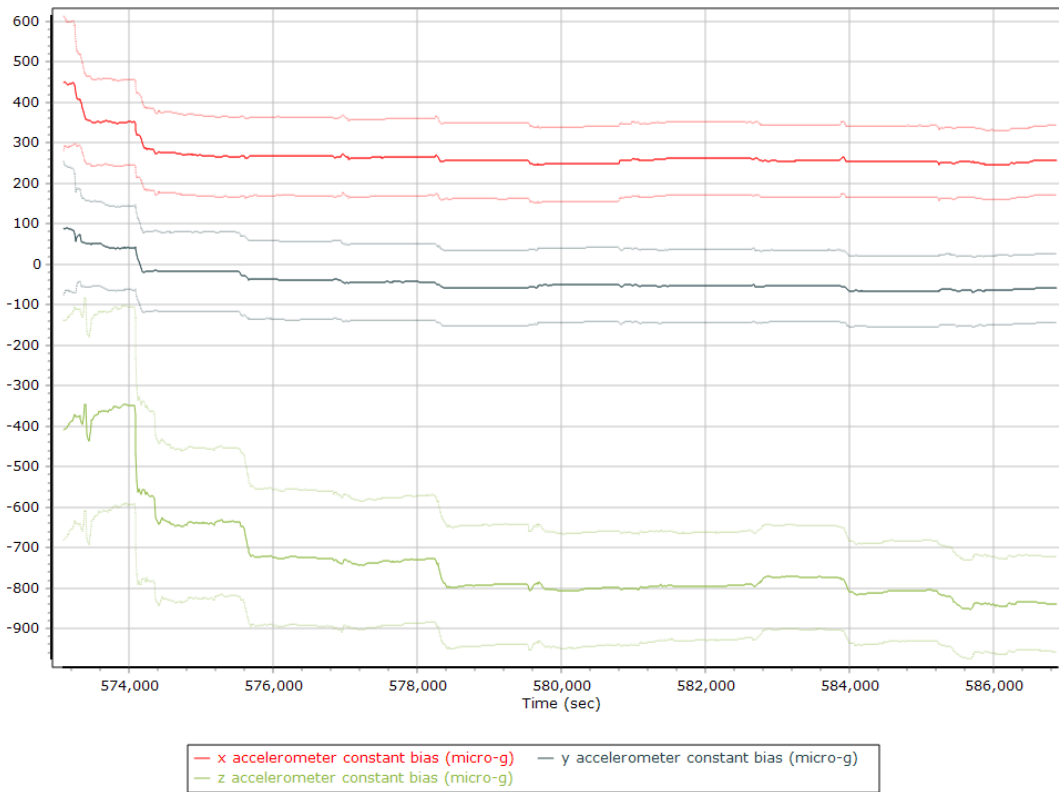
### Y Gyro Scale Error (ppm)



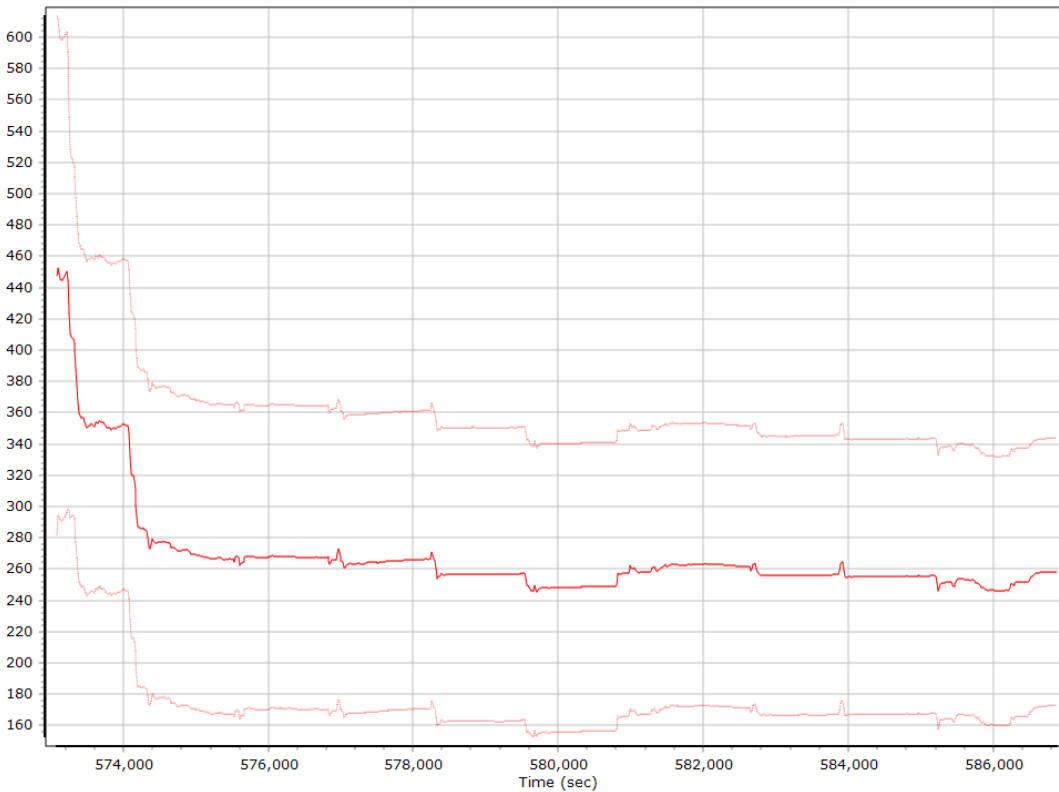
### Z Gyro Scale Error (ppm)



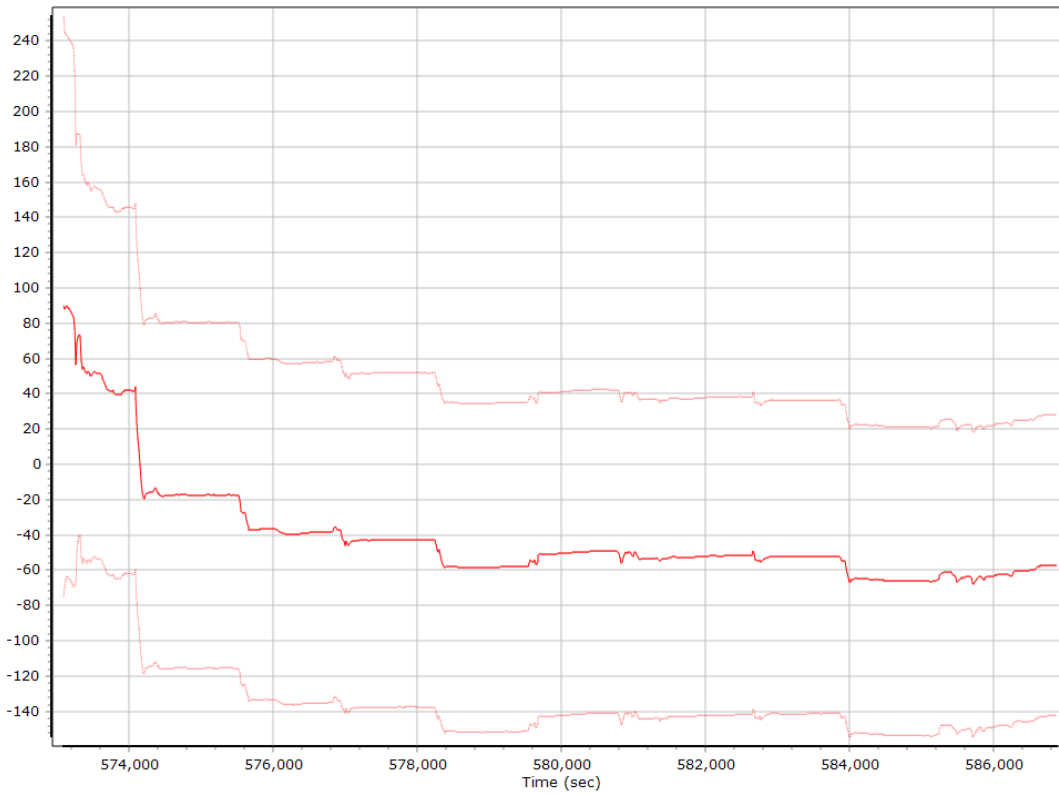
### Forward Processed Estimated Constant Errors, Reference Frame Accelerometer Bias (micro-g)



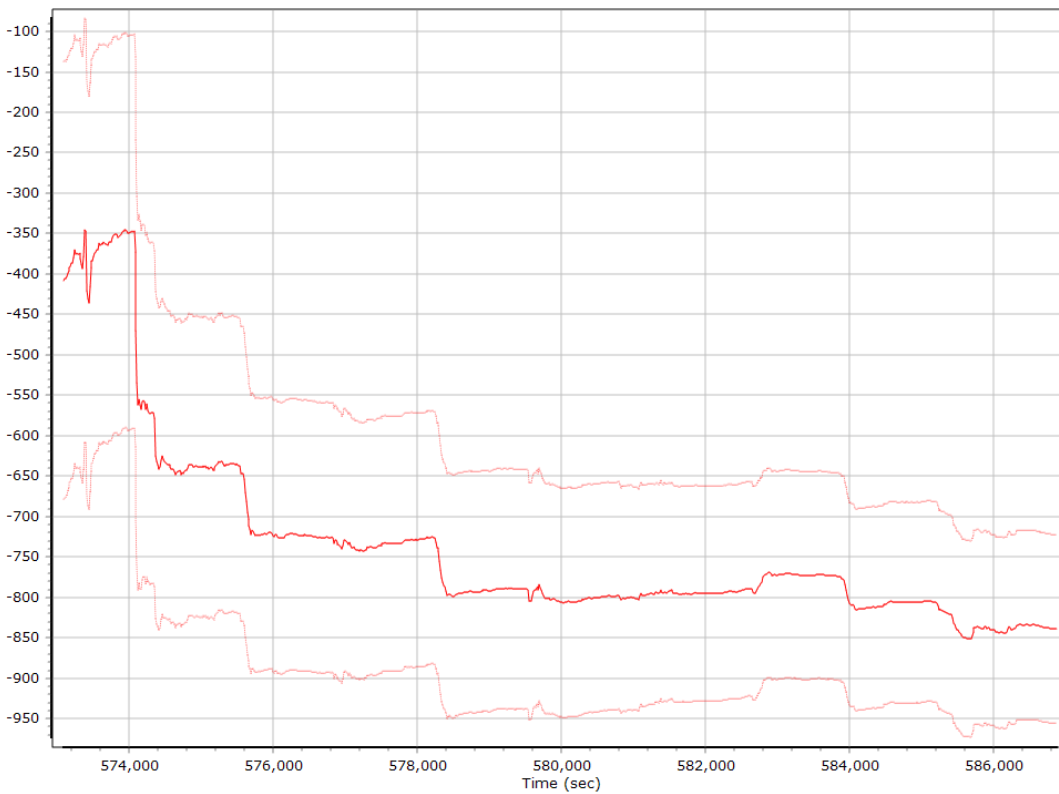
### X Accelerometer Bias (micro-g)



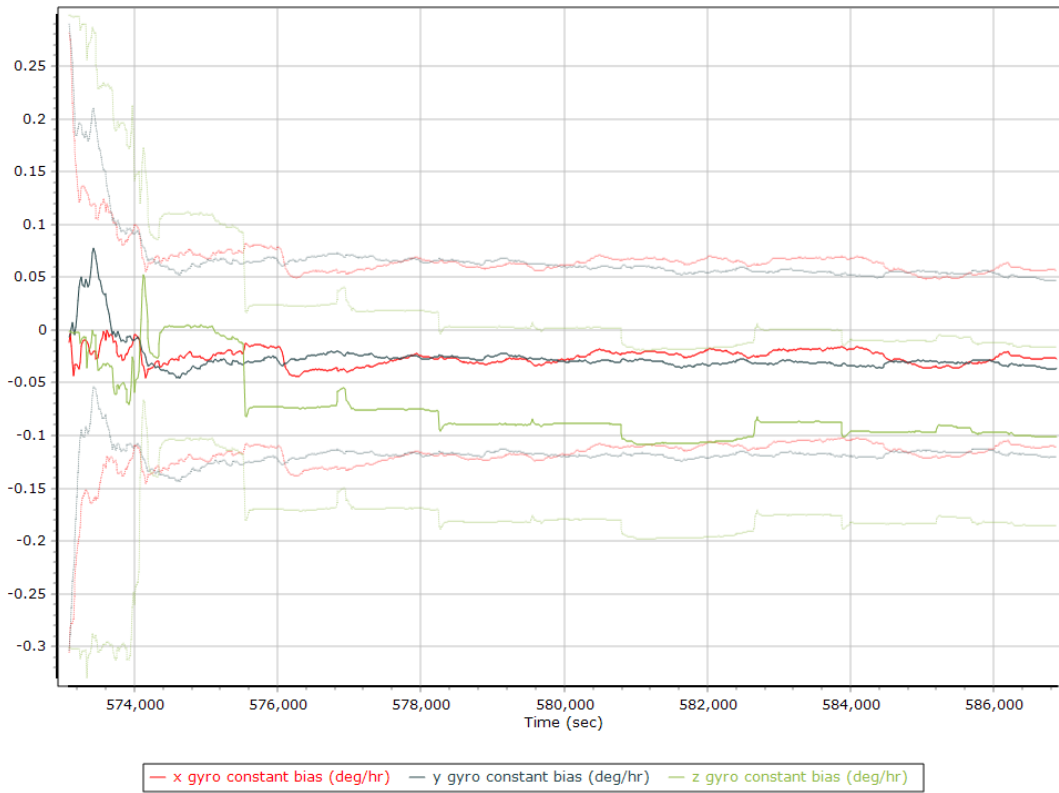
### Y Accelerometer Bias (micro-g)



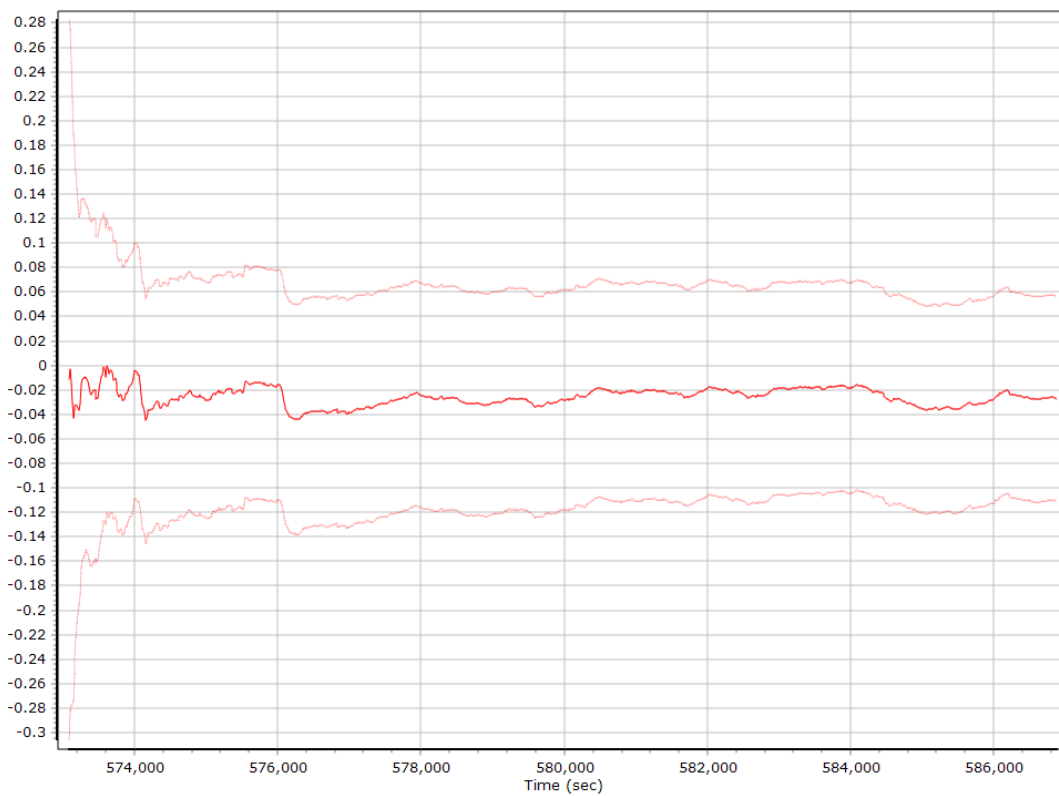
### Z Accelerometer Bias (micro-g)



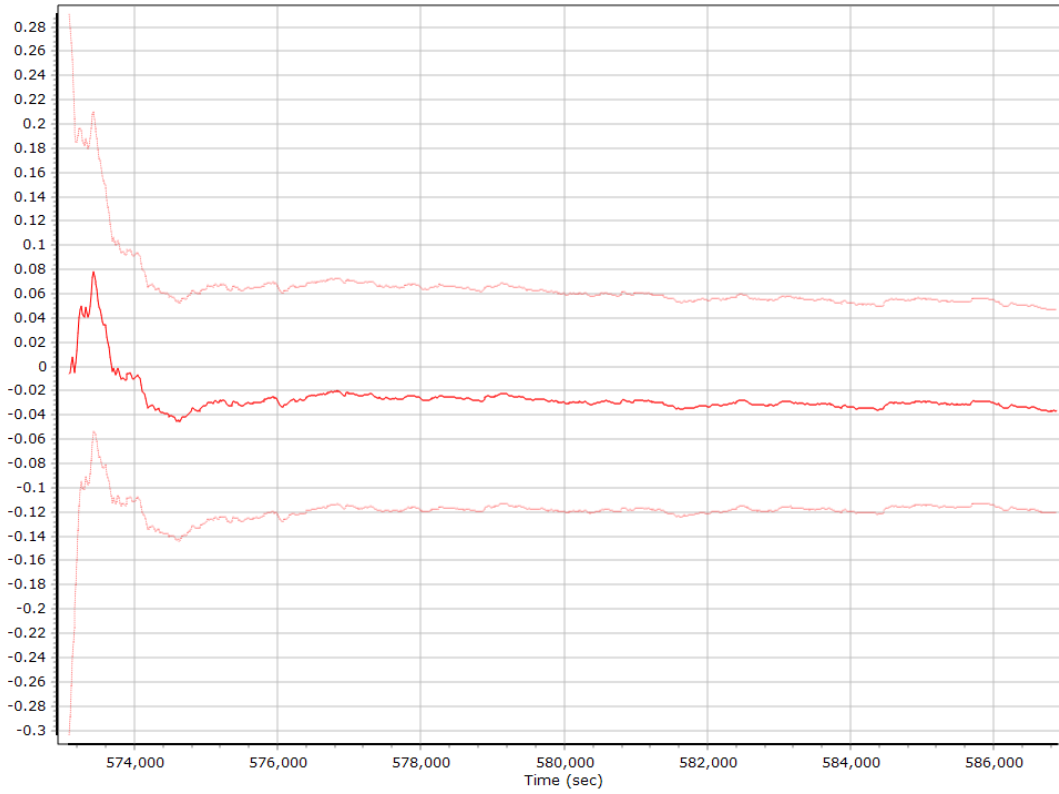
### Gyro Bias (deg/h)



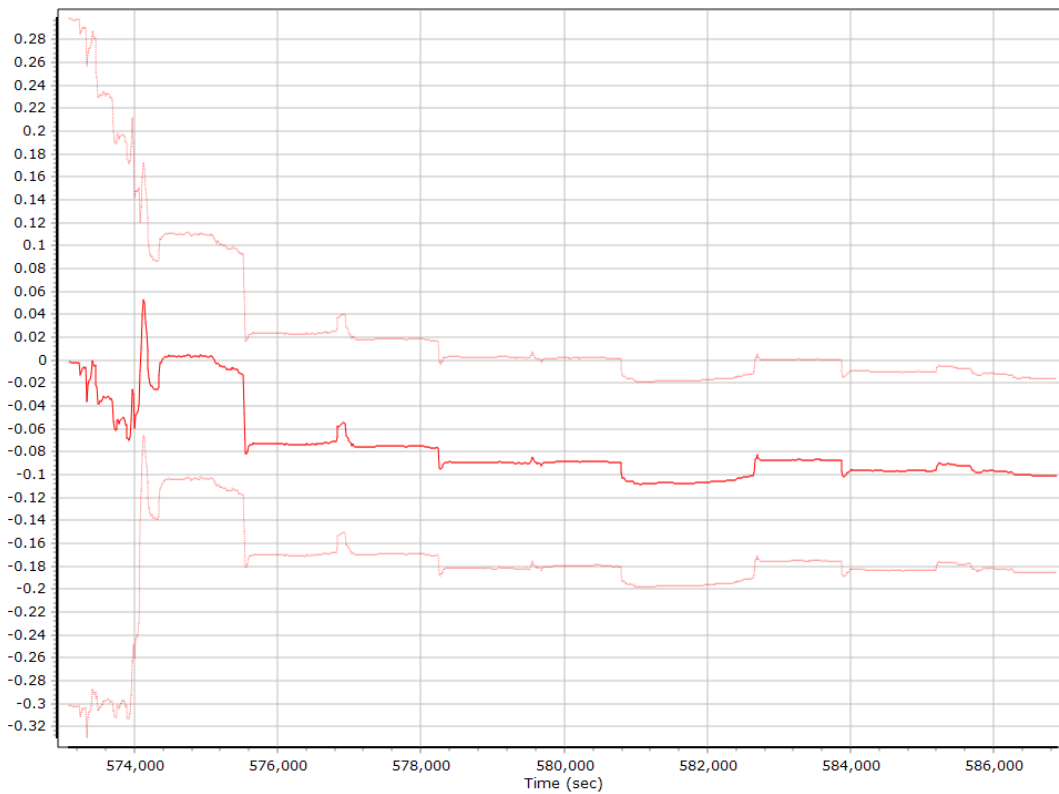
### X Gyro Bias (deg/h)



### Y Gyro Bias (deg/h)



### Z Gyro Bias (deg/h)

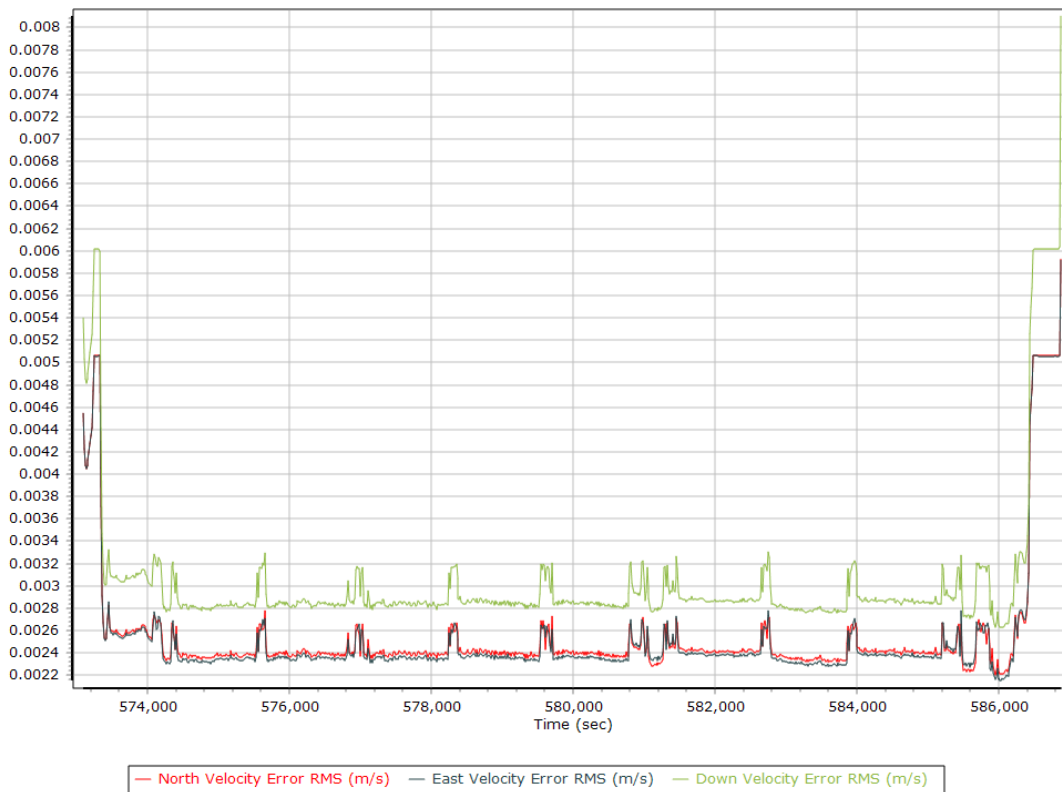


## Smoothed Performance Metrics

### Position Error RMS (m)

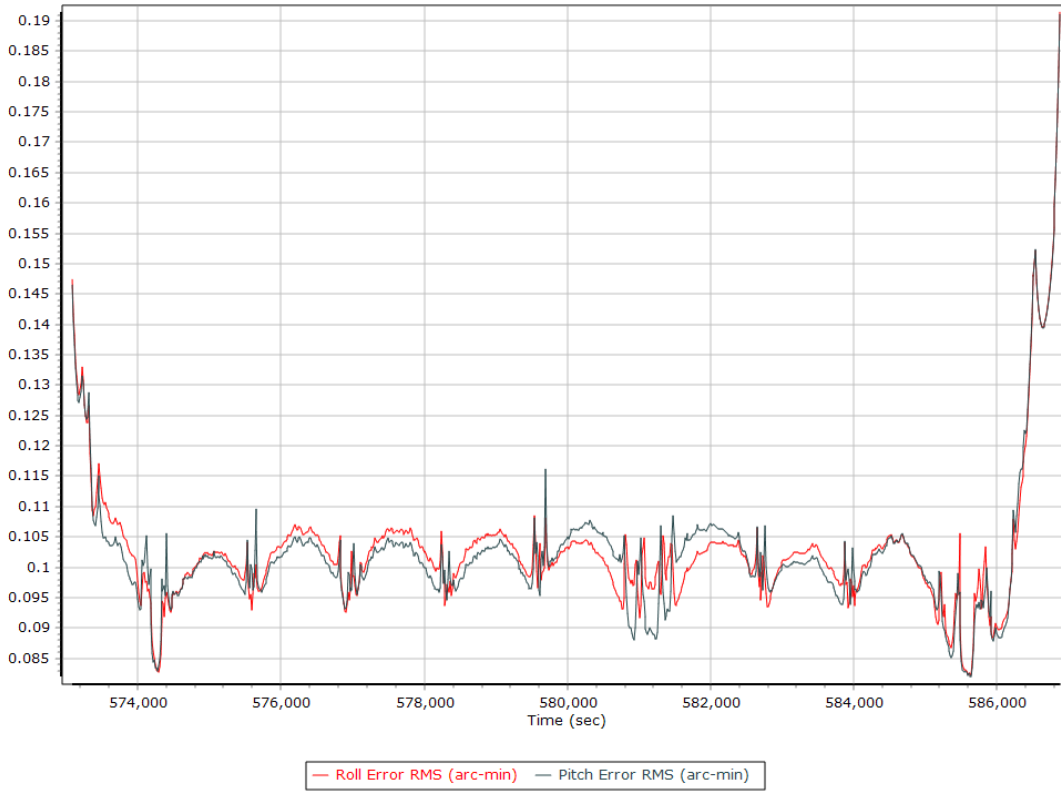


### Velocity Error RMS (m/s)

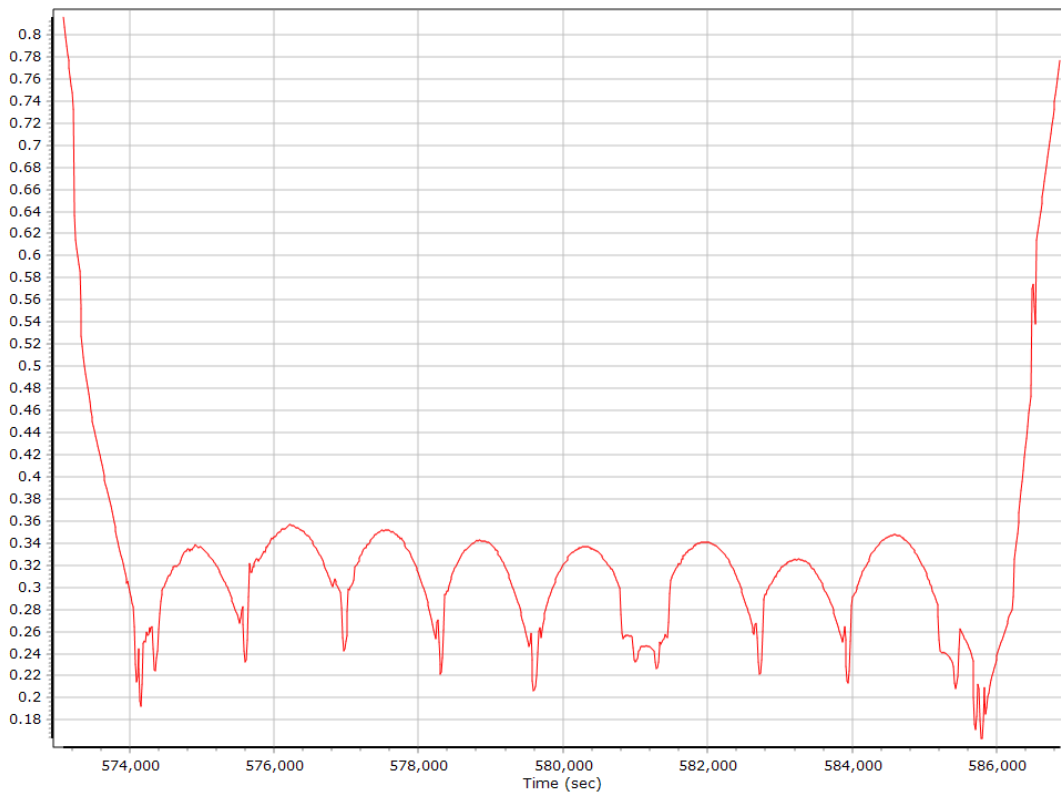




### Roll/Pitch Error RMS (arc-min)

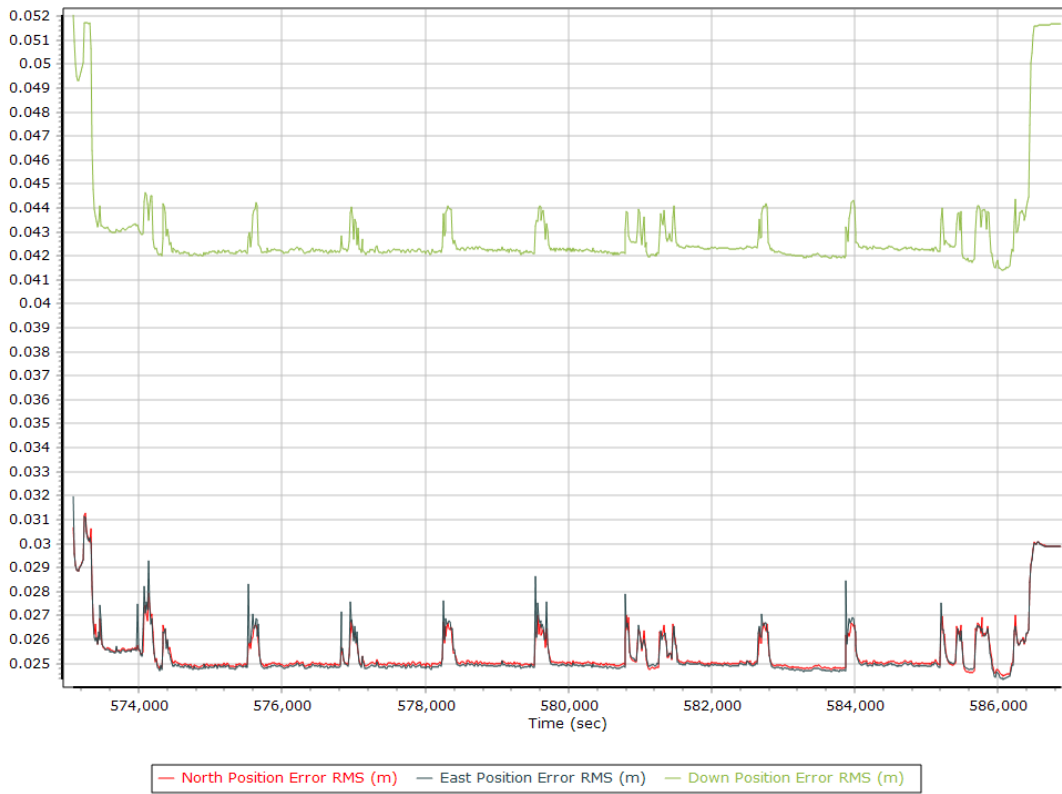


### Heading Error RMS (arc-min)

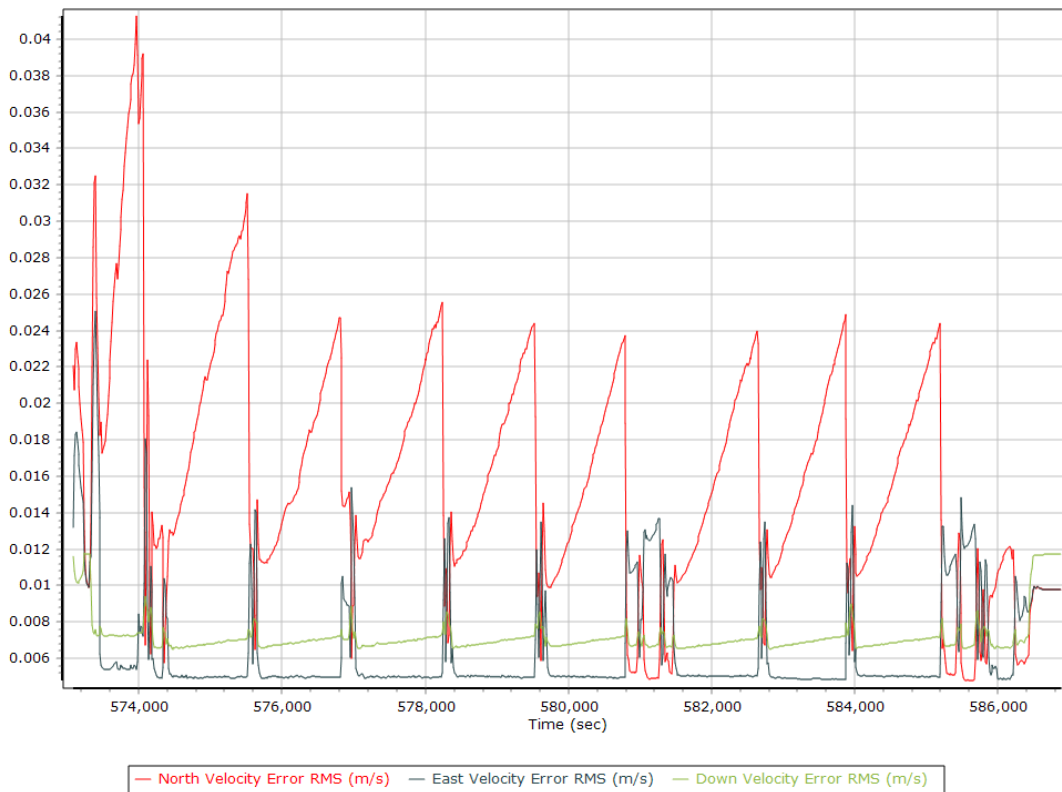


## Forward Processed Performance Metrics

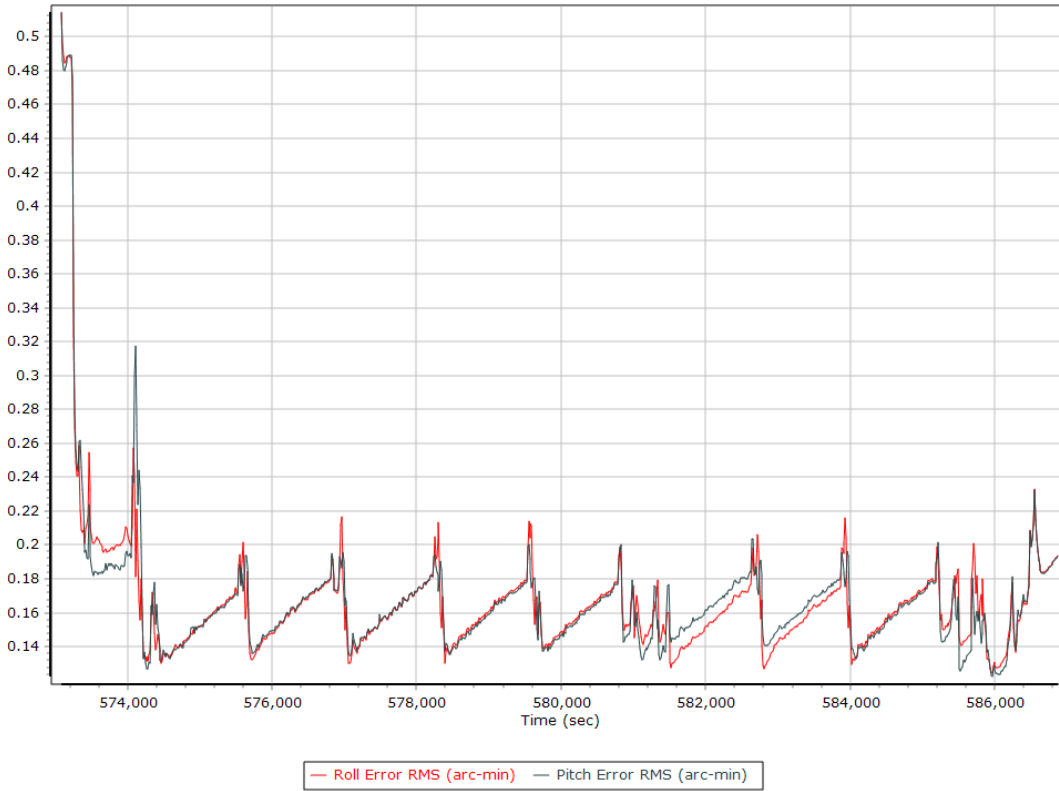
### Position Error RMS (m)



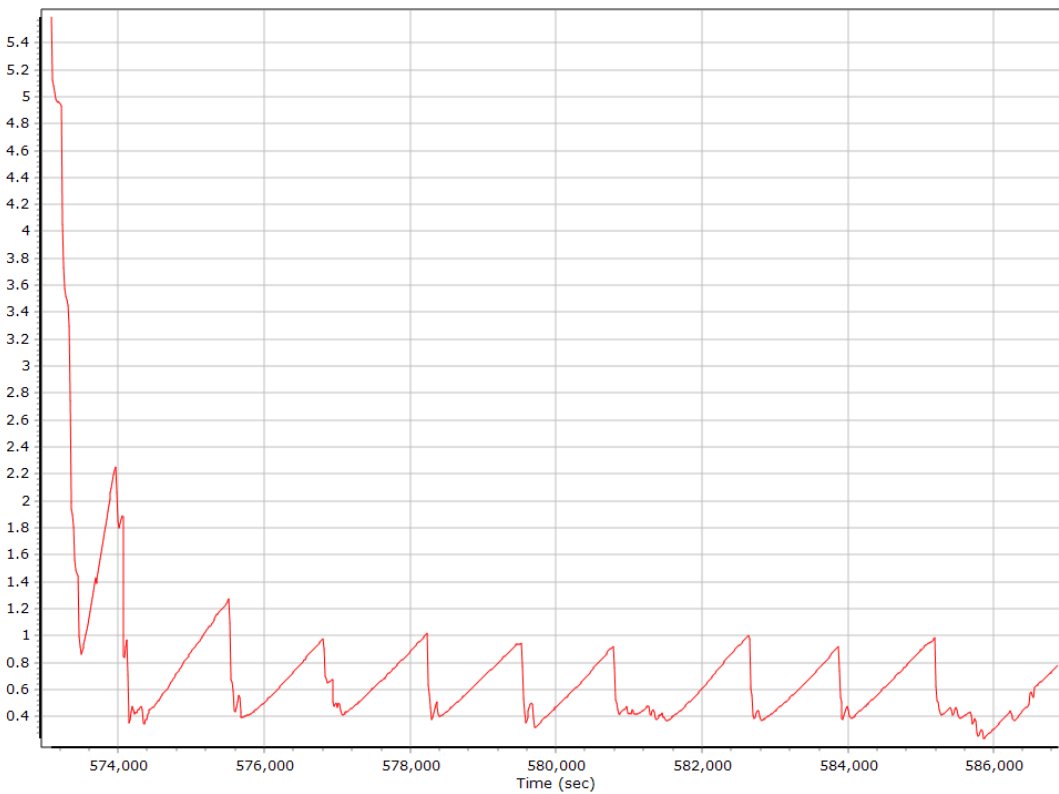
### Velocity Error RMS (m/s)



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

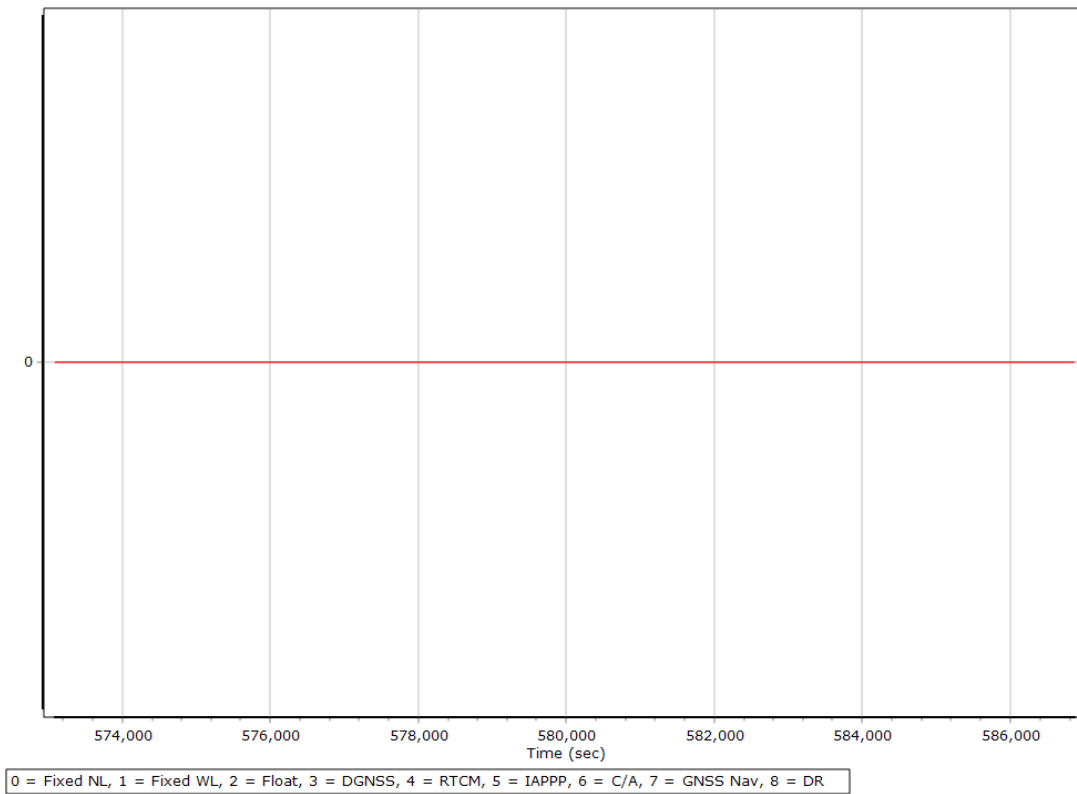


### Heading Error RMS (arc-min)

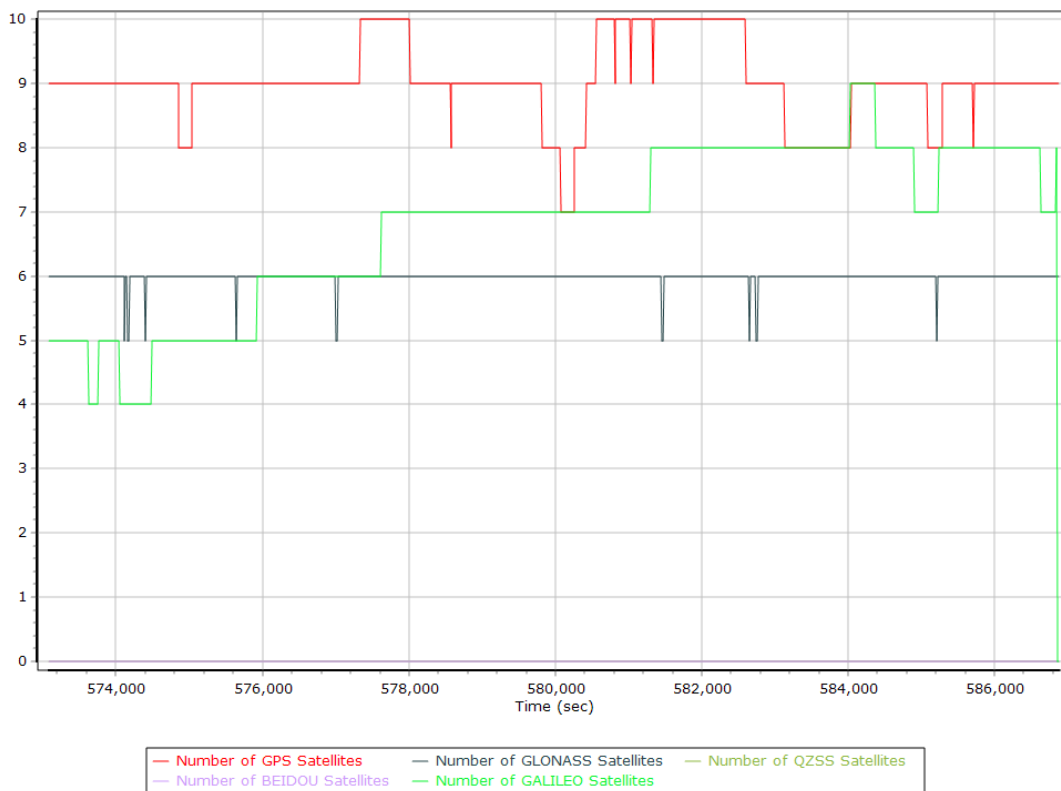


## Forward Processed Solution Status

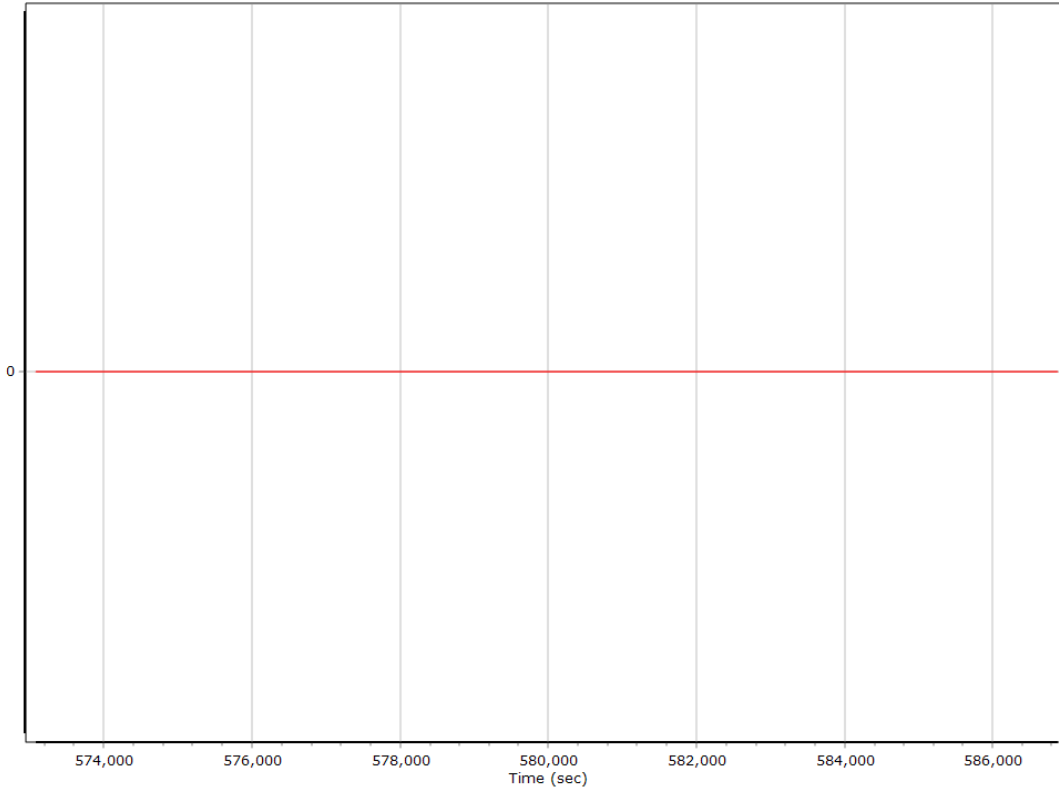
### Processing Mode



### Number of Satellites



### Baseline Length



## Export Summary Section 1

Export file	sbet_11884_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	573027.005 (12/05/2020 15:10:27)		
Export end time	586880.003 (12/05/2020 19:01:20)		
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	573027.005 (12/05/2020 15:10:27)		
Export end time	586880.003 (12/05/2020 19:01:20)		
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	573027.005 (12/05/2020 15:10:27)		
EO end time	586880.003 (12/05/2020 19:01:20)		
Grid	Universal Transverse Mercator		
Zone	UTM North 14 (102W to 96W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		