

## General Information

### Mission Information

Project name	20211107_F2_Basestation_v2
Processing date	2021-12-08 20:37:14
Mission date	2021-11-07 17:19:20
Mission duration	05:11:18.000
Processing mode	IN-Fusion Single Base
GPS Station	PIN1 Pinyon 1

### Rover Hardware Information

Product	POS AV 610 VER6 HW2.5-12
Serial number	S/N12299
IMU type	57
Receiver type	BD982
Antenna type	AV39

## Project File List

### Rover Data Files

File name	File type
VQ1560.549	POS Data
VQ1560.550	POS Data
VQ1560.551	POS Data
VQ1560.552	POS Data
VQ1560.553	POS Data
VQ1560.554	POS Data
VQ1560.555	POS Data
VQ1560.556	POS Data
VQ1560.557	POS Data
VQ1560.558	POS Data
VQ1560.559	POS Data
VQ1560.560	POS Data
VQ1560.561	POS Data
VQ1560.562	POS Data
VQ1560.563	POS Data
VQ1560.564	POS Data
VQ1560.565	POS Data
VQ1560.566	POS Data
VQ1560.567	POS Data
VQ1560.568	POS Data
VQ1560.569	POS Data
VQ1560.570	POS Data
VQ1560.571	POS Data
VQ1560.572	POS Data
VQ1560.573	POS Data
VQ1560.574	POS Data
VQ1560.575	POS Data
VQ1560.576	POS Data
VQ1560.577	POS Data
VQ1560.578	POS Data
VQ1560.579	POS Data
VQ1560.580	POS Data
VQ1560.581	POS Data
VQ1560.582	POS Data
VQ1560.583	POS Data
VQ1560.584	POS Data
VQ1560.585	POS Data
VQ1560.586	POS Data
VQ1560.587	POS Data
VQ1560.588	POS Data
VQ1560.589	POS Data
VQ1560.590	POS Data
VQ1560.591	POS Data

### Input Files

File Name	File type
Ephm3110.21g	GLONASS Broadcast Ephemeris
Ephm3110.21n	GPS Broadcast Ephemeris
pin13110.21o	GNSS SingleBase

### Output Files

Filename	File type
sbet_20211107_F2_Basestation_v2.out	SBET Trajectory File
export_20211107_F2_Basestation_v2.out	Custom Smoothed BET Export Output

## Rover Data Summary

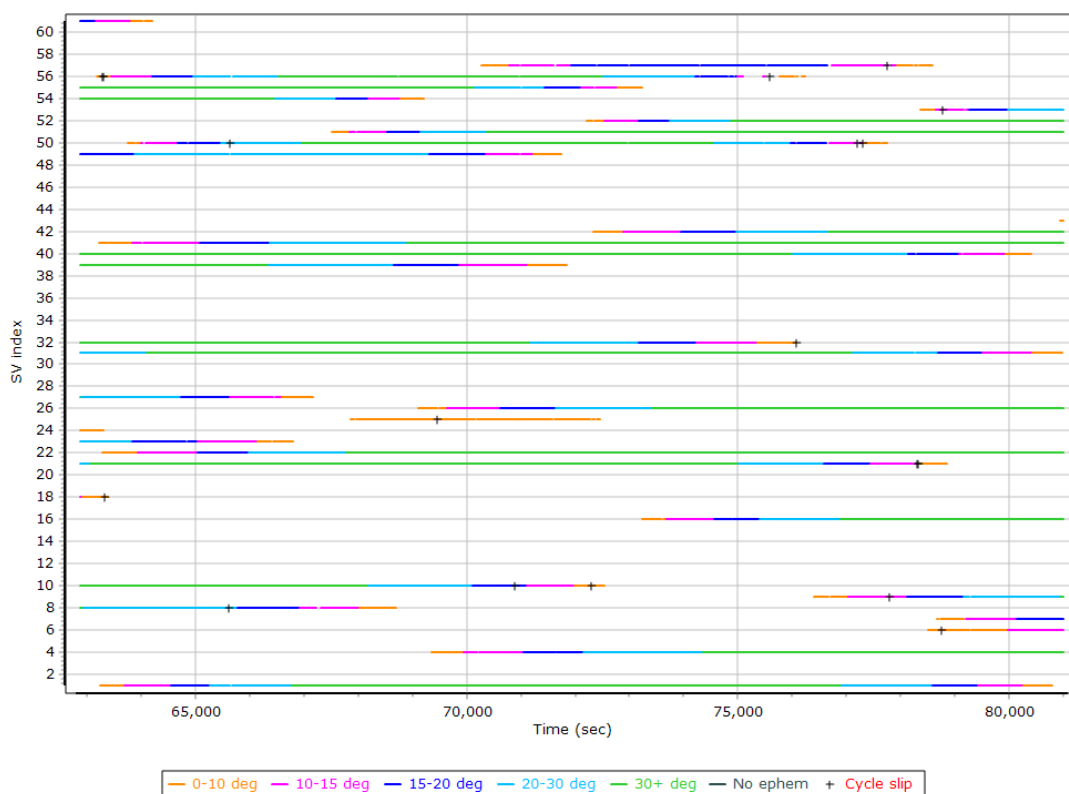
First raw data file	VQ1560.549		
Last raw data file	VQ1560.591		
Start GPS week	2183		
Start time	62353.509 (11/07/2021 17:19:13)		
End time	81018.151 (11/07/2021 22:30:18)		
Start of fine alignment	62813.474 (11/07/2021 17:26:53)		
Available subsystems	Primary GNSS, IMU		
POS Event Input	None		
Correction data	None		
<b>IMU Installation Lever Arms &amp; Mounting Angles</b>			
Reference to IMU lever arm [m]	0.018	-0.010	-0.464
Reference to IMU mounting angles [deg]	0.000	0.000	0.000
Reference to Primary GNSS lever arm [m]	0.000	0.000	-1.000
Reference to Primary GNSS lever arm std dev [m]	-1.000		
Aircraft to Reference mounting angles [deg]	0.000	0.000	0.000

## Raw Data QC

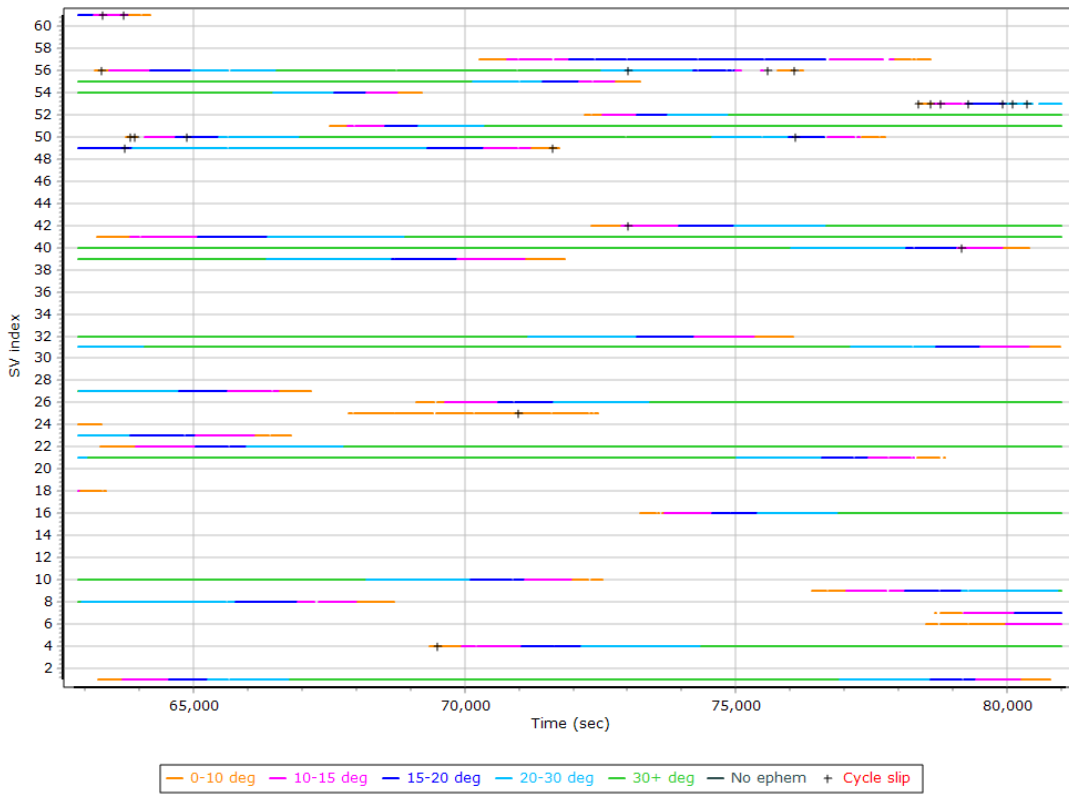
### Raw IMU Import QC Summary

IMU data input file	imu_20211107_F2_Basestation_v2.dat
IMU data check log file	imudt_20211107_F2_Basestation_v2.log
IMU Records Processed	3734809
Termination Status	Warnings
IMU Anomalies	1
IMU Failure Messages	
62353.324 : WARNING : Gap of 62341.3624 seconds in CHECKDT input data	

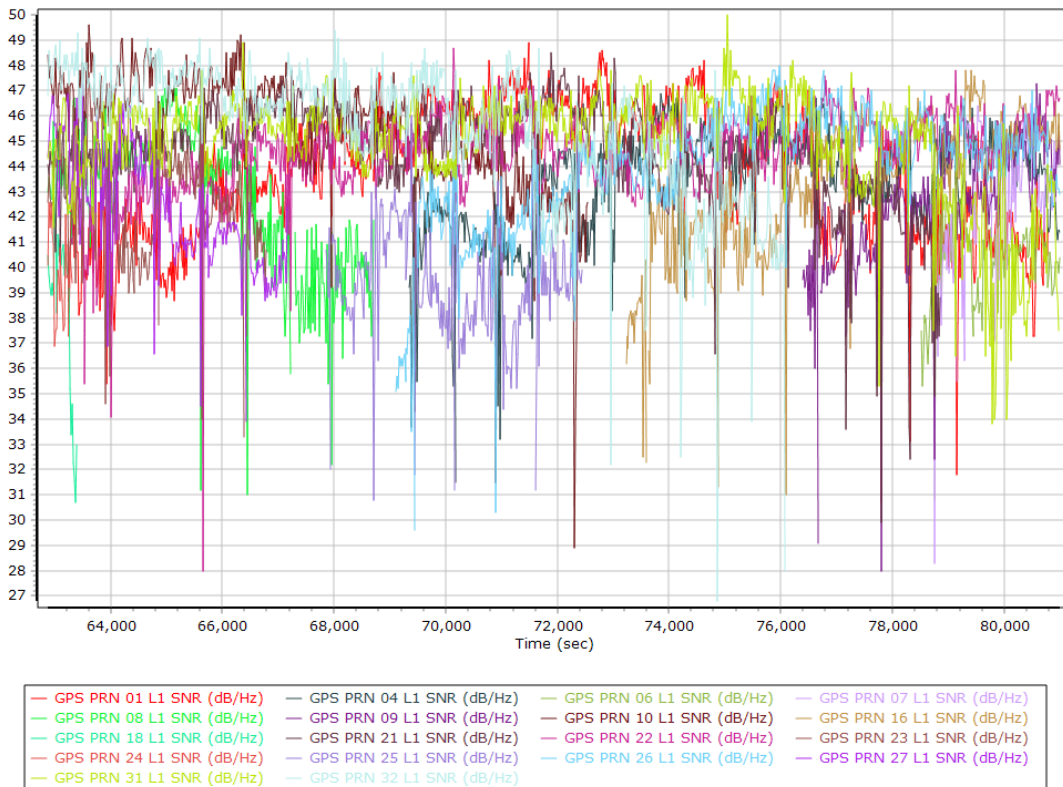
### L1 Satellite Lock/Elevation



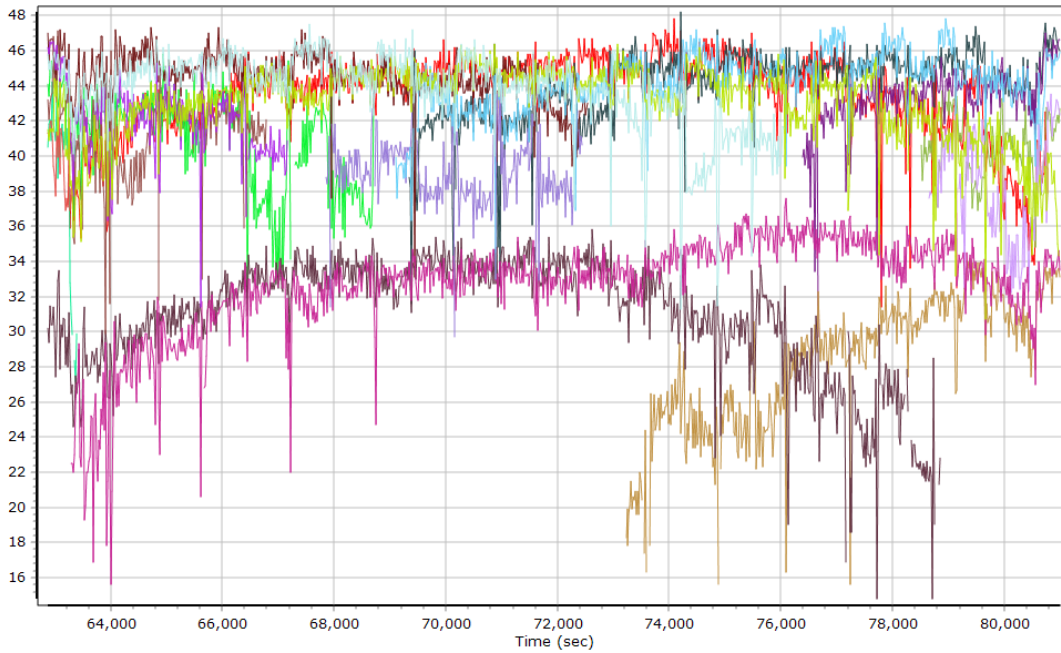
## L2 Satellite Lock/Elevation



## GPS L1 SNR

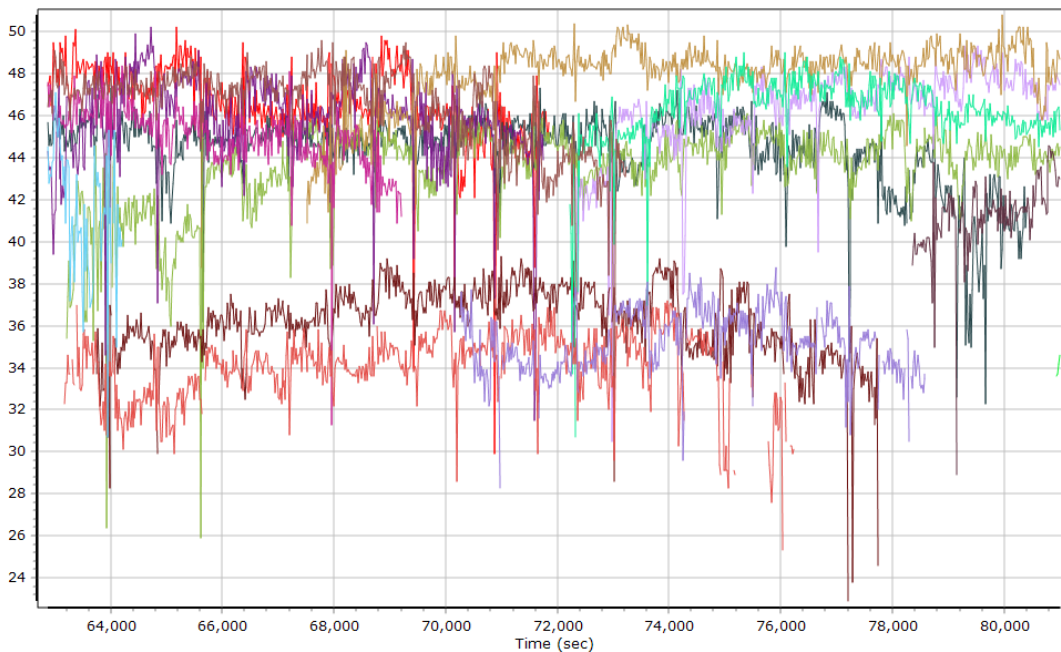


## GPS L2 SNR



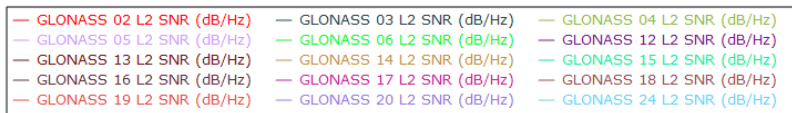
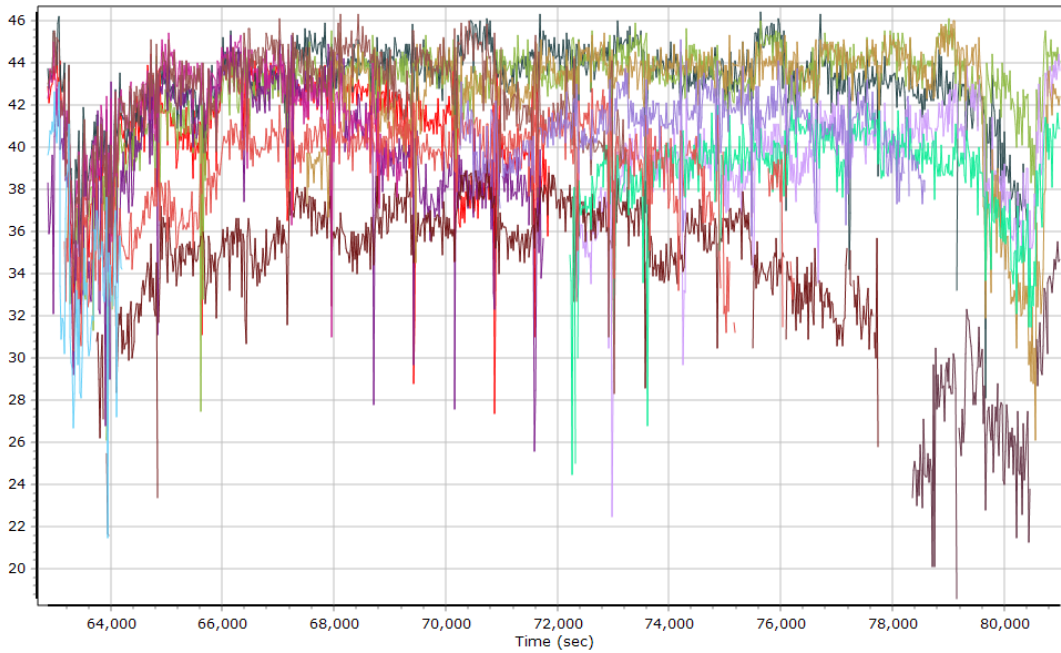
- |                           |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|---------------------------|
| GPS PRN 01 L2 SNR (dB/Hz) | GPS PRN 04 L2 SNR (dB/Hz) | GPS PRN 06 L2 SNR (dB/Hz) | GPS PRN 07 L2 SNR (dB/Hz) |
| GPS PRN 08 L2 SNR (dB/Hz) | GPS PRN 09 L2 SNR (dB/Hz) | GPS PRN 10 L2 SNR (dB/Hz) | GPS PRN 16 L2 SNR (dB/Hz) |
| GPS PRN 18 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

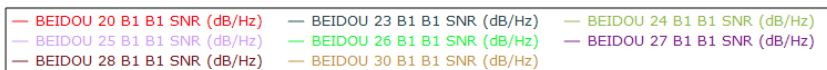
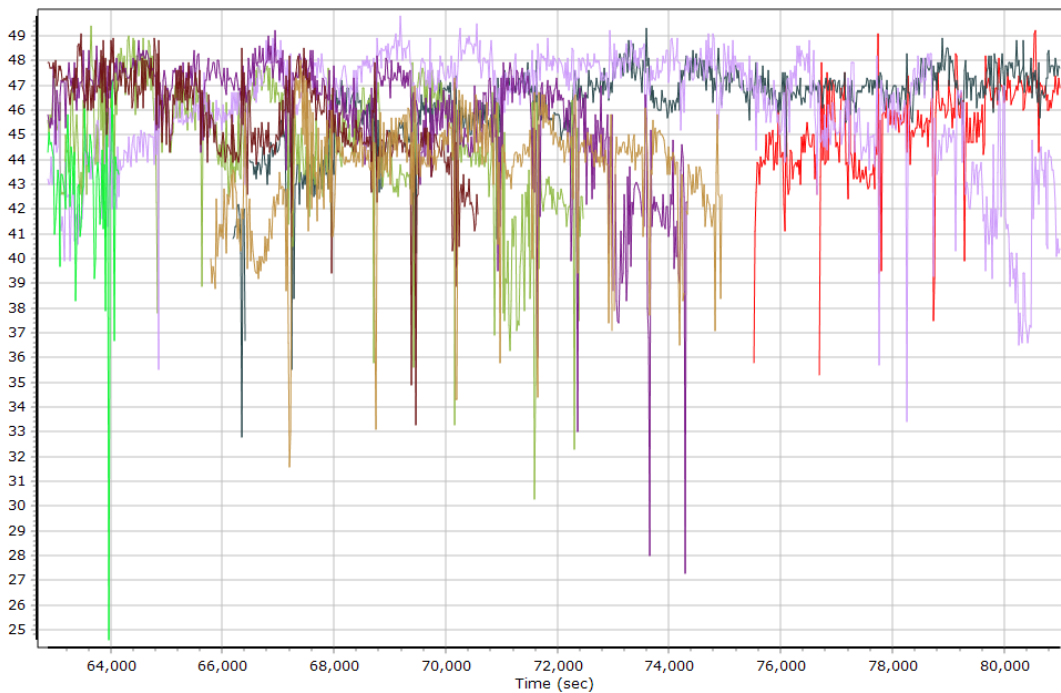


- |                           |                           |                           |
|---------------------------|---------------------------|---------------------------|
| GLONASS 02 L1 SNR (dB/Hz) | GLONASS 03 L1 SNR (dB/Hz) | GLONASS 04 L1 SNR (dB/Hz) |
| GLONASS 05 L1 SNR (dB/Hz) | GLONASS 06 L1 SNR (dB/Hz) | GLONASS 12 L1 SNR (dB/Hz) |
| GLONASS 13 L1 SNR (dB/Hz) | GLONASS 14 L1 SNR (dB/Hz) | GLONASS 15 L1 SNR (dB/Hz) |
| GLONASS 16 L1 SNR (dB/Hz) | GLONASS 17 L1 SNR (dB/Hz) | GLONASS 18 L1 SNR (dB/Hz) |
| GLONASS 19 L1 SNR (dB/Hz) | GLONASS 20 L1 SNR (dB/Hz) | GLONASS 24 L1 SNR (dB/Hz) |

## GLONASS L2 SNR

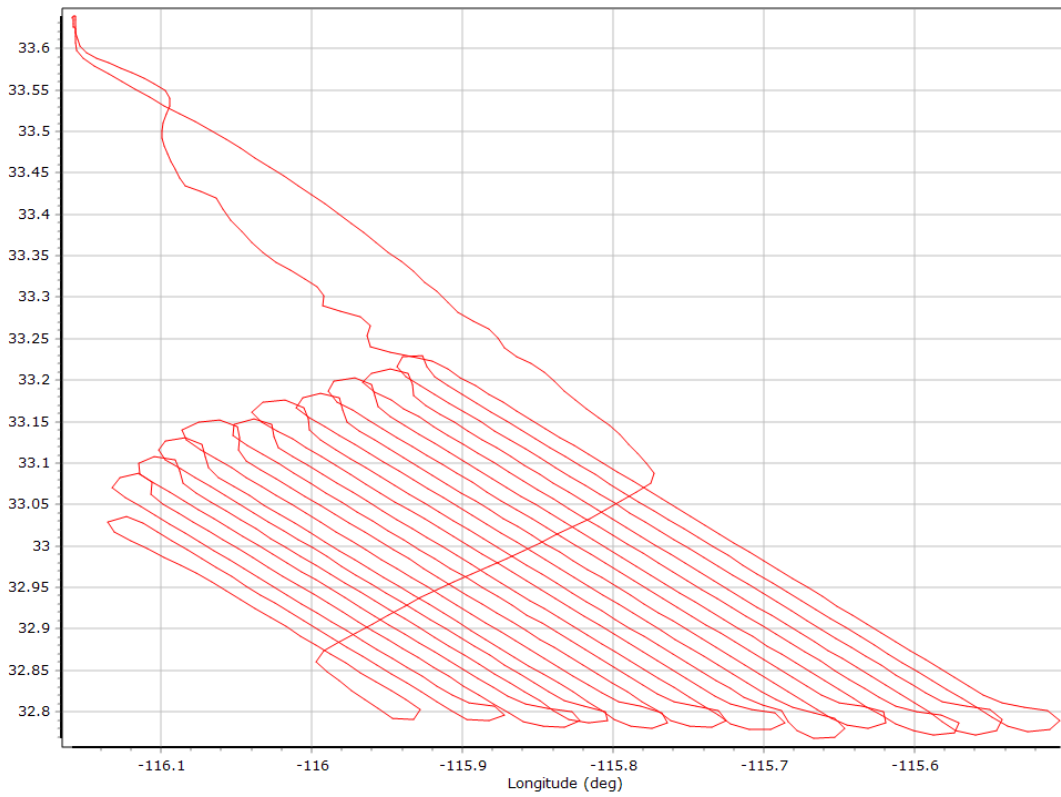


## BEIDOU SNR

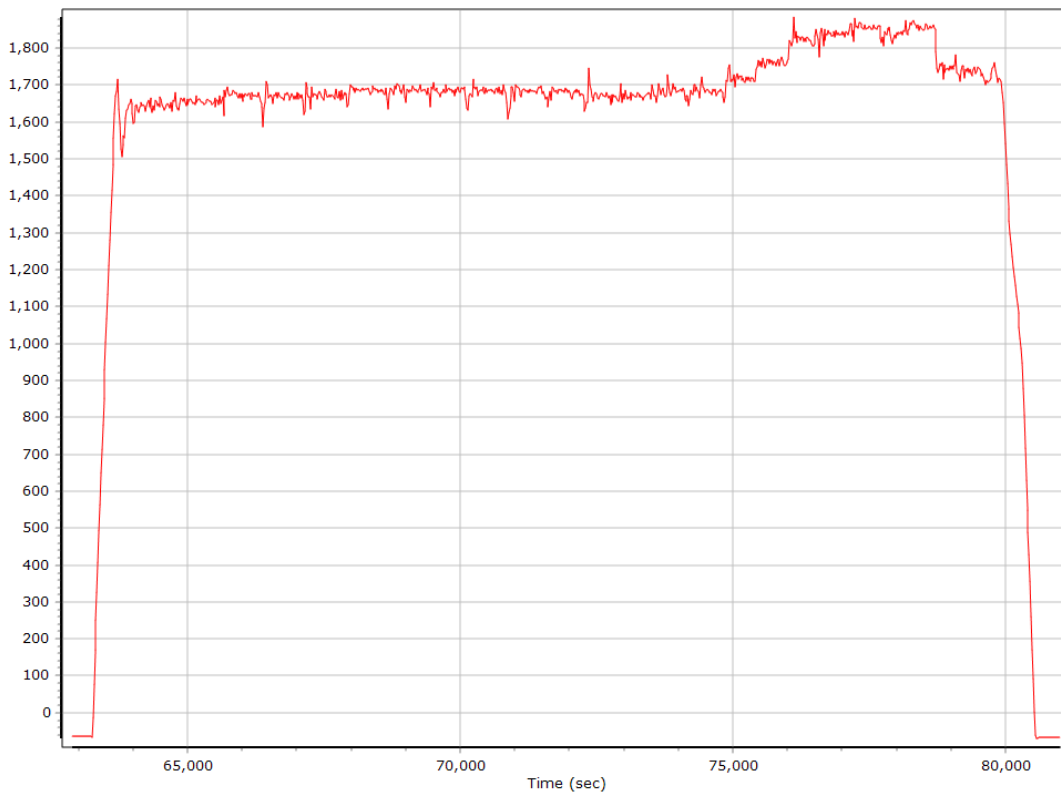


## Trajectory Information

### Top View

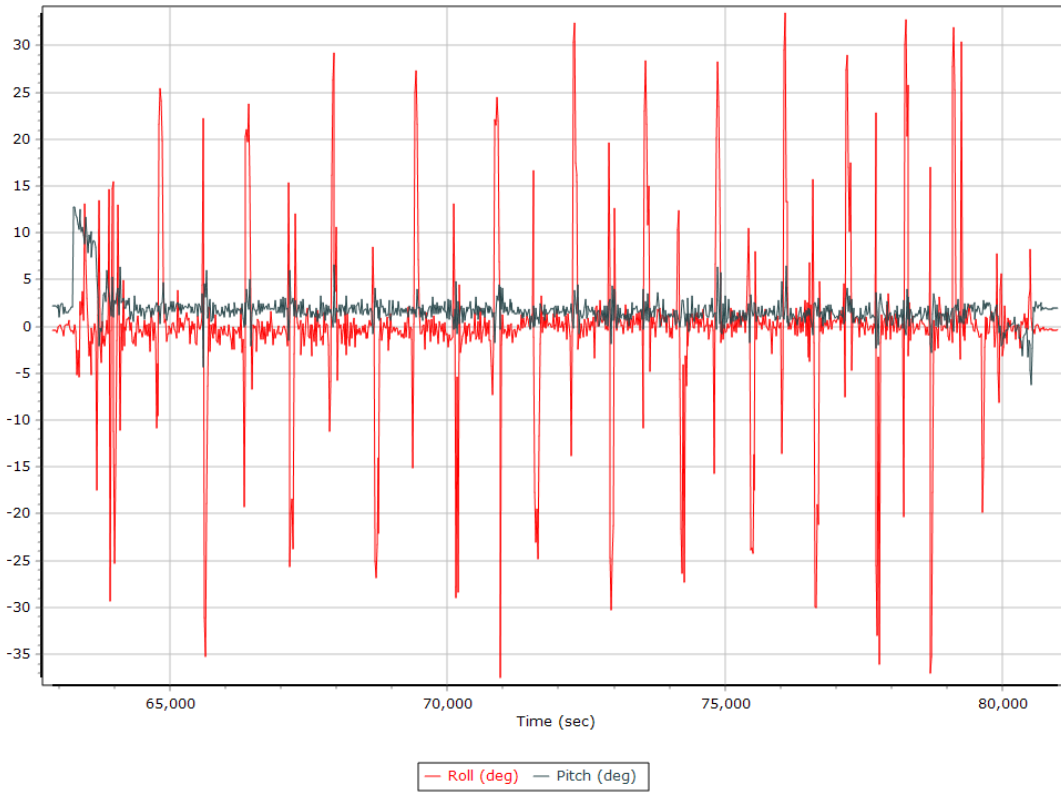


### Altitude

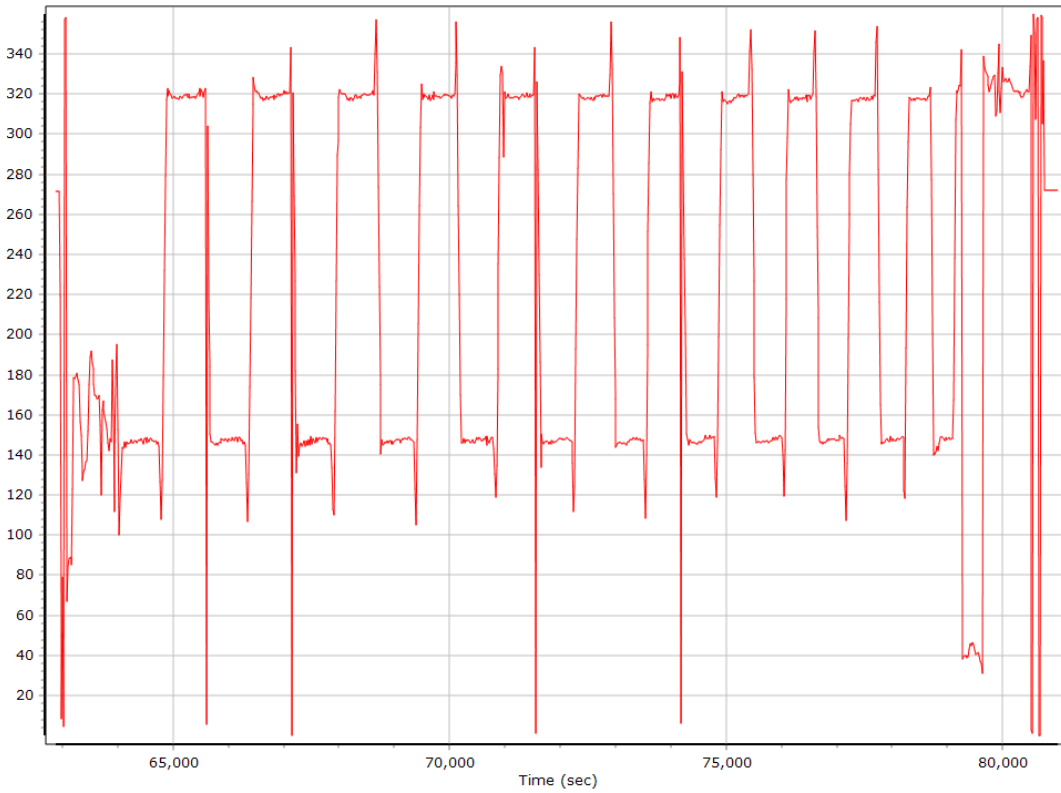




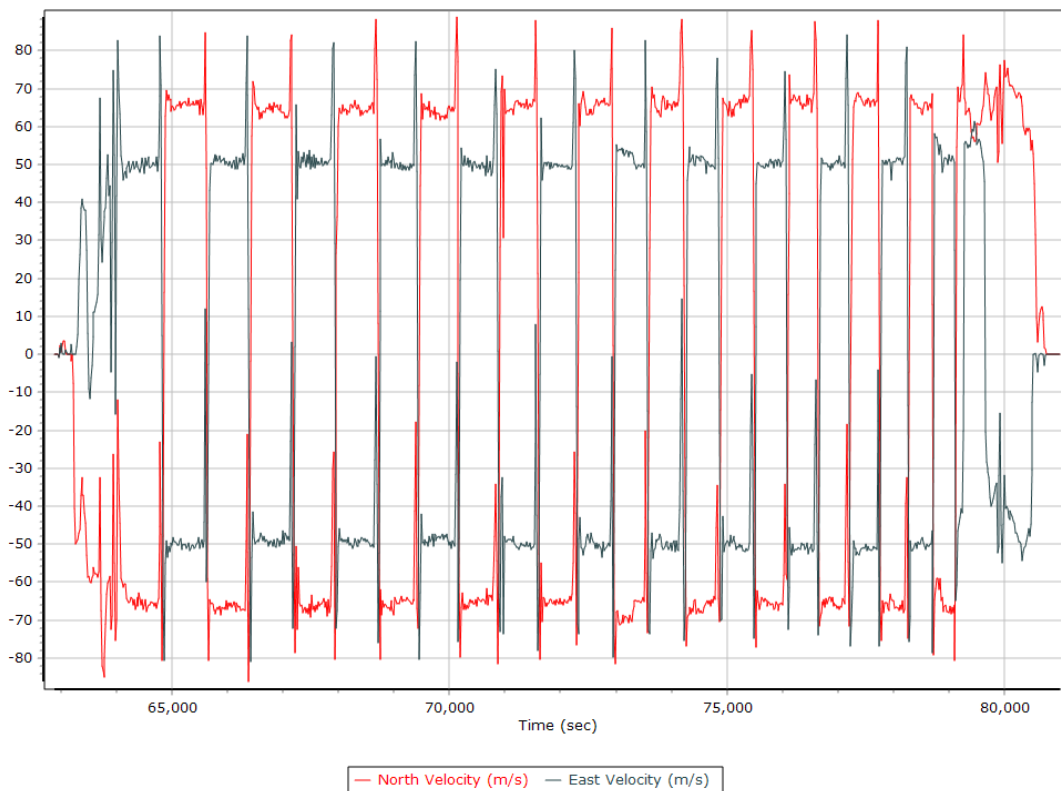
### Roll/Pitch



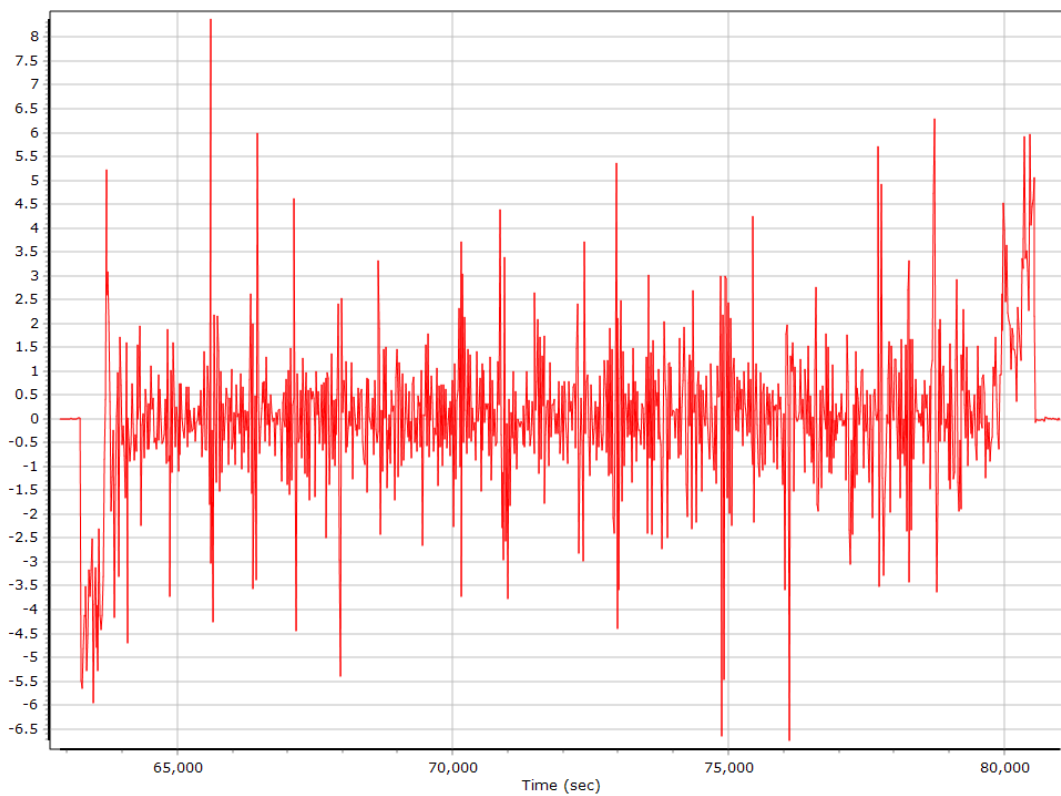
### Heading



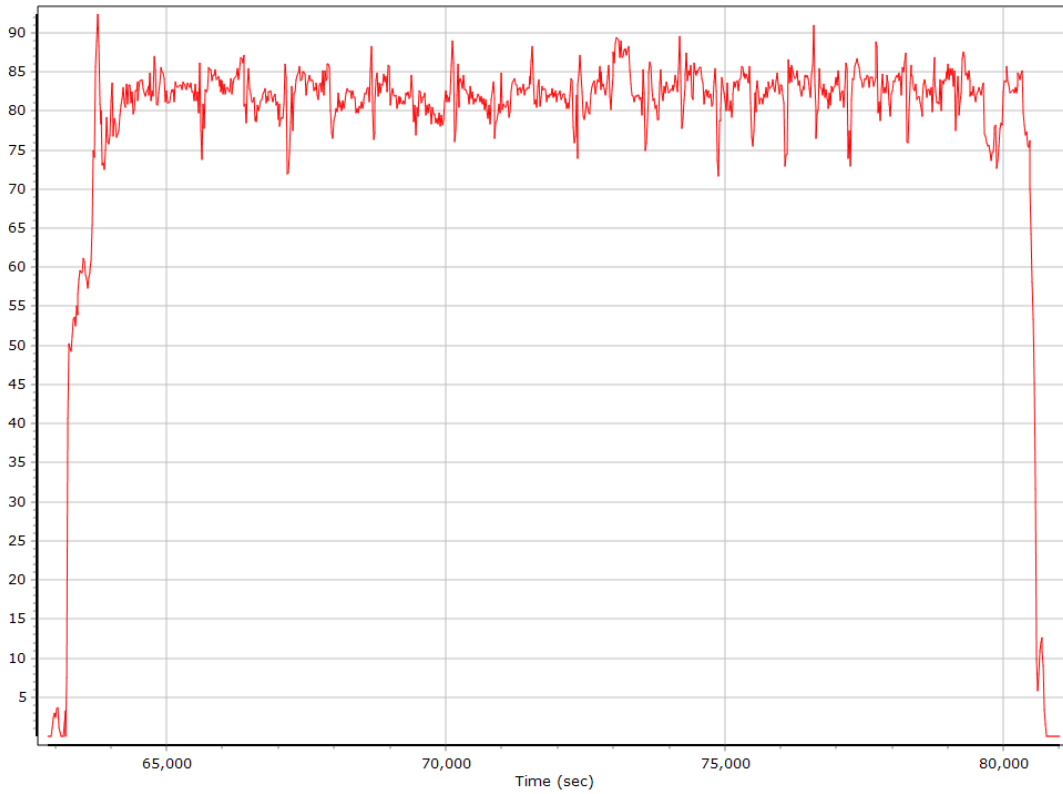
### North/East Velocity



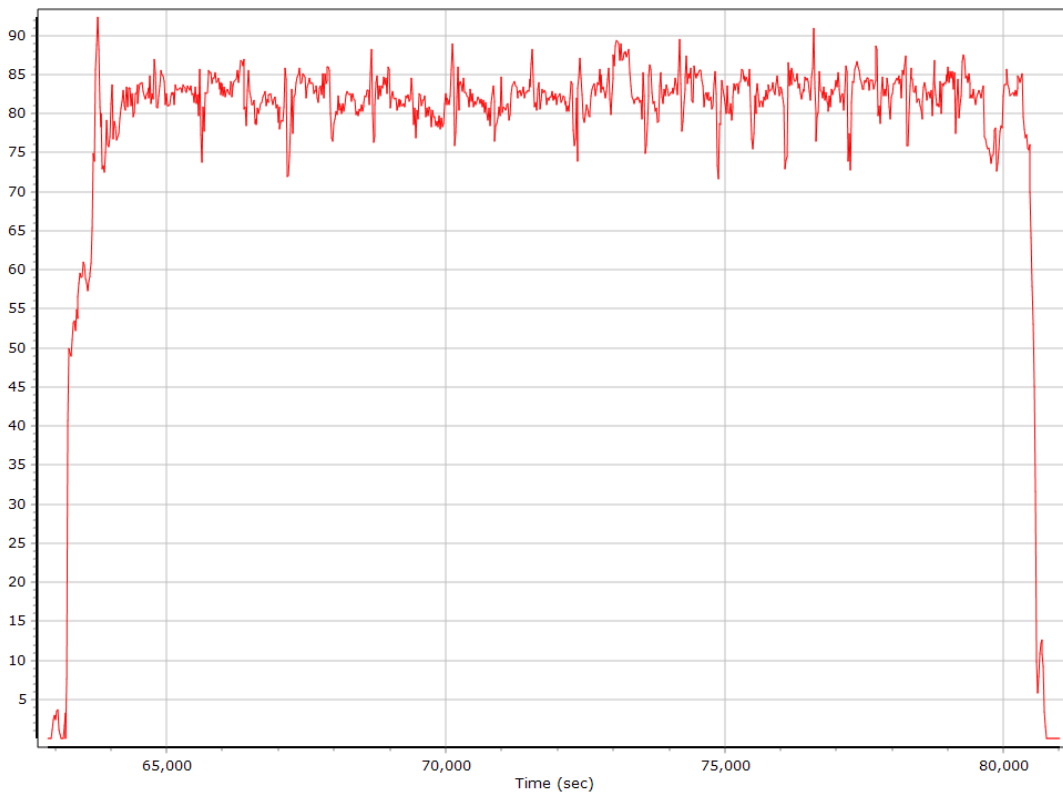
### Down Velocity



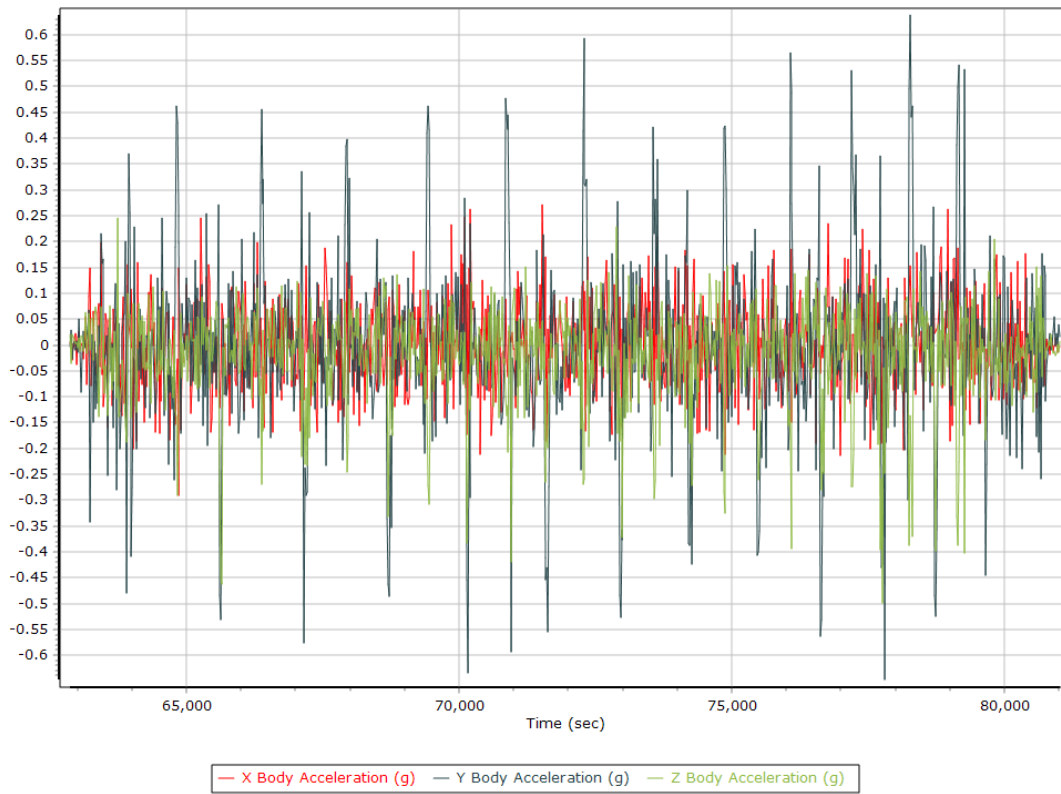
## Total Speed



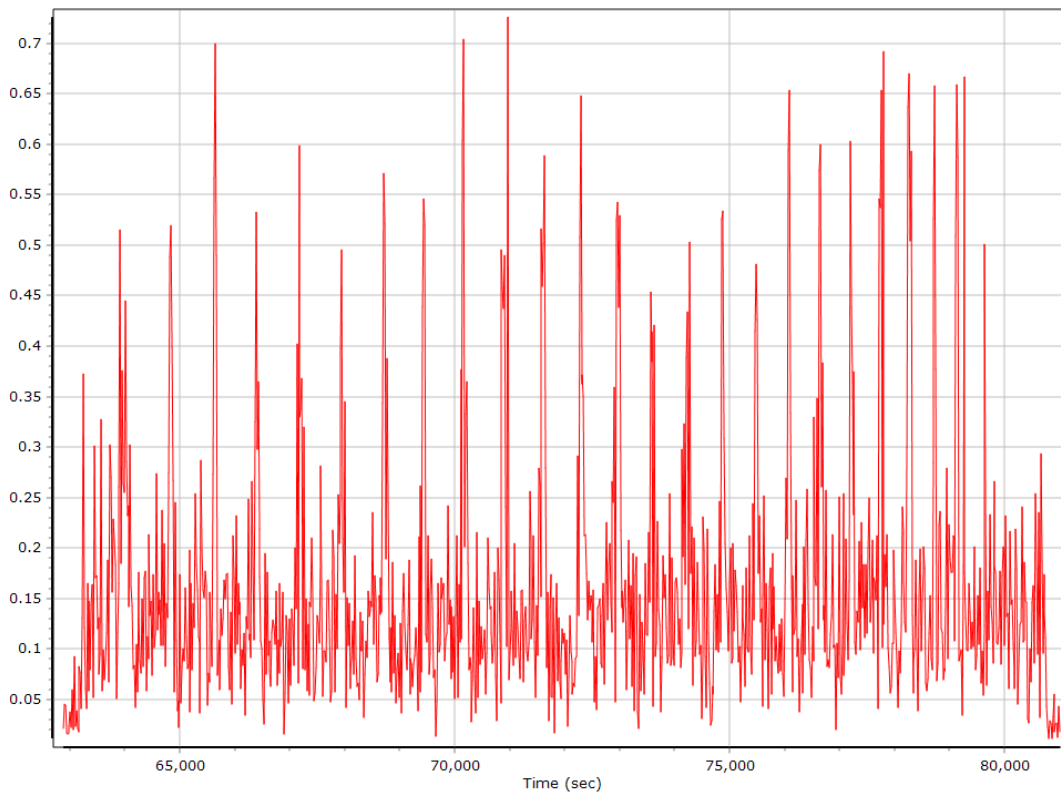
## Ground Speed



## Body Acceleration



## Total Body Acceleration



### Body Angular Rate



## Base Station Information

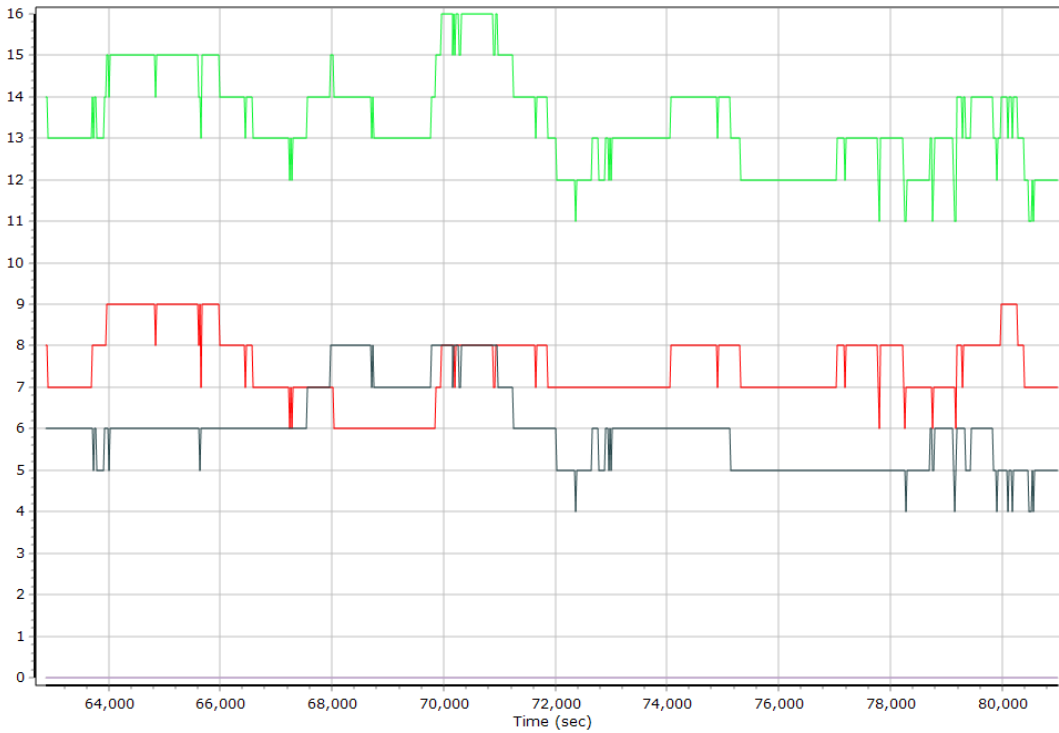
Station ID	PIN1 Pinyon 1		
Filename	pin13110.21o		
Start date	11/07/2021 00:00:00		
End date	11/07/2021 23:59:59		
Duration	23:59:59.000		
Data type	GNSS		
Receiver manufacturer, model, serial no.	Topcon	NET-G3A	618-01134
Antenna manufacturer, model	Ashtech	701945B_M w/SCIS Dome	
Antenna height [m]	1.745		
Antenna measurement method	Bottom of antenna mount		
Offset from measured point to APC [m]	0.11		
Latitude	N33°36'43.74989"		
Longitude	W116°27'29.33078"		
Ellipsoidal height [m]	1258.66610		
Frame	ITRF00		
Epoch	1997		
Ellipsoid	WGS84		
Velocity North [mm/y]	0		
Velocity East [mm/y]	0		
Velocity Up [mm/y]	0		

## GNSS QC

### GNSS QC Statistics

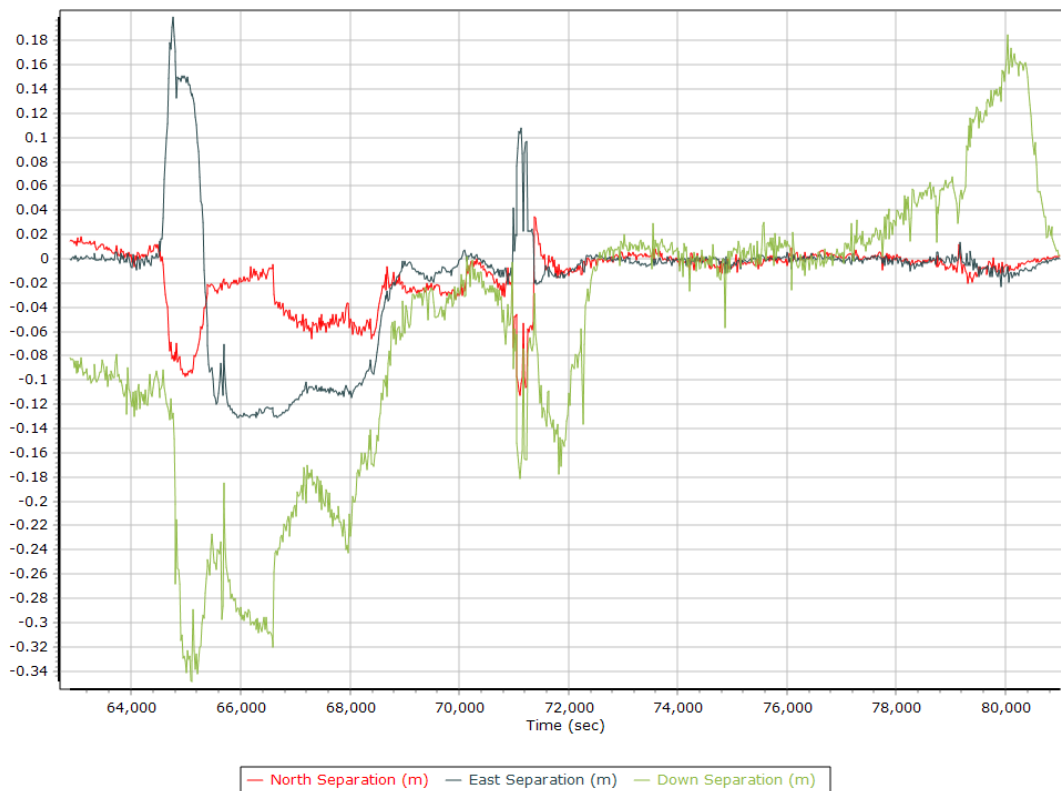
Statistics	Min	Max	Mean
Baseline length [km]	27.94	128.01	
Number of GPS SV	6	9	8
Number of GLONASS SV	4	8	6
Number of QZSS SV	0	0	0
Number of BEIDOU SV	0	0	0
Total number of SV	10	16	13
PDOP	1.28	2.50	1.60
QC Solution Gaps	0.00	0.00	
Solution Type	Fixed	Float	No solution
Epoch (s)	18658.00	0.00	0.00
Percentage	100.00	0.00	0.00

### Num SVs in solution

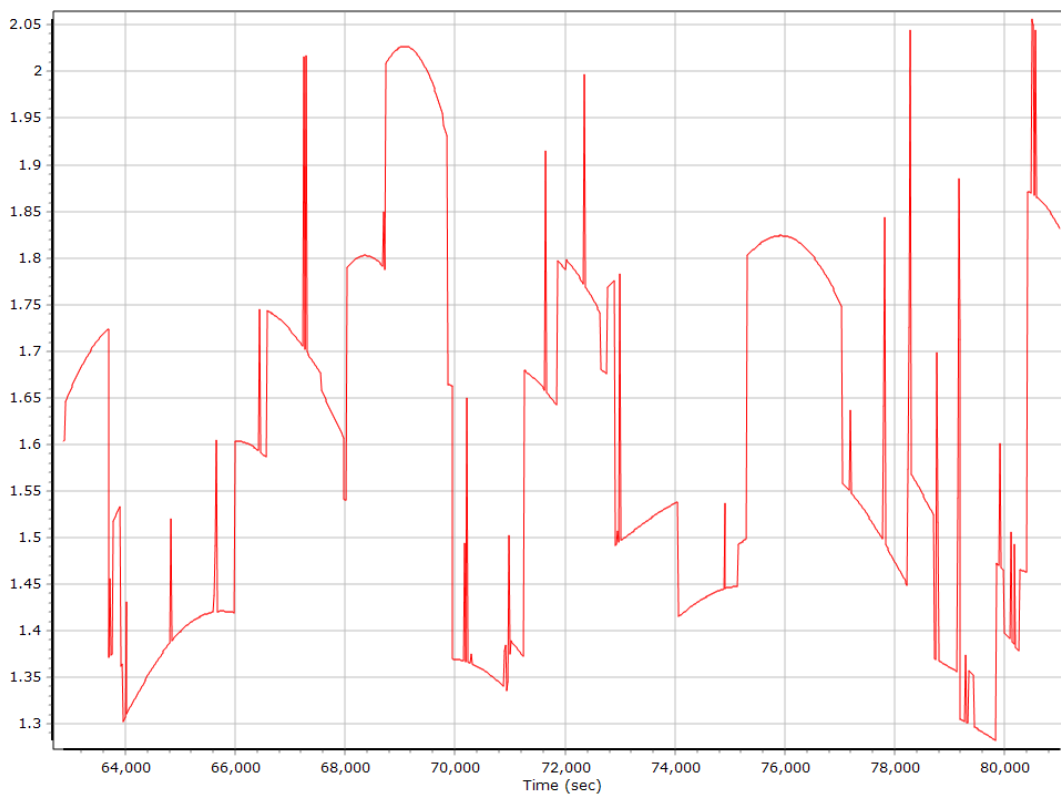


— Number of GPS — Number of GLONASS — Number of QZSS — Number of BEIDOU — Total Number

### Forward/Reverse Separation

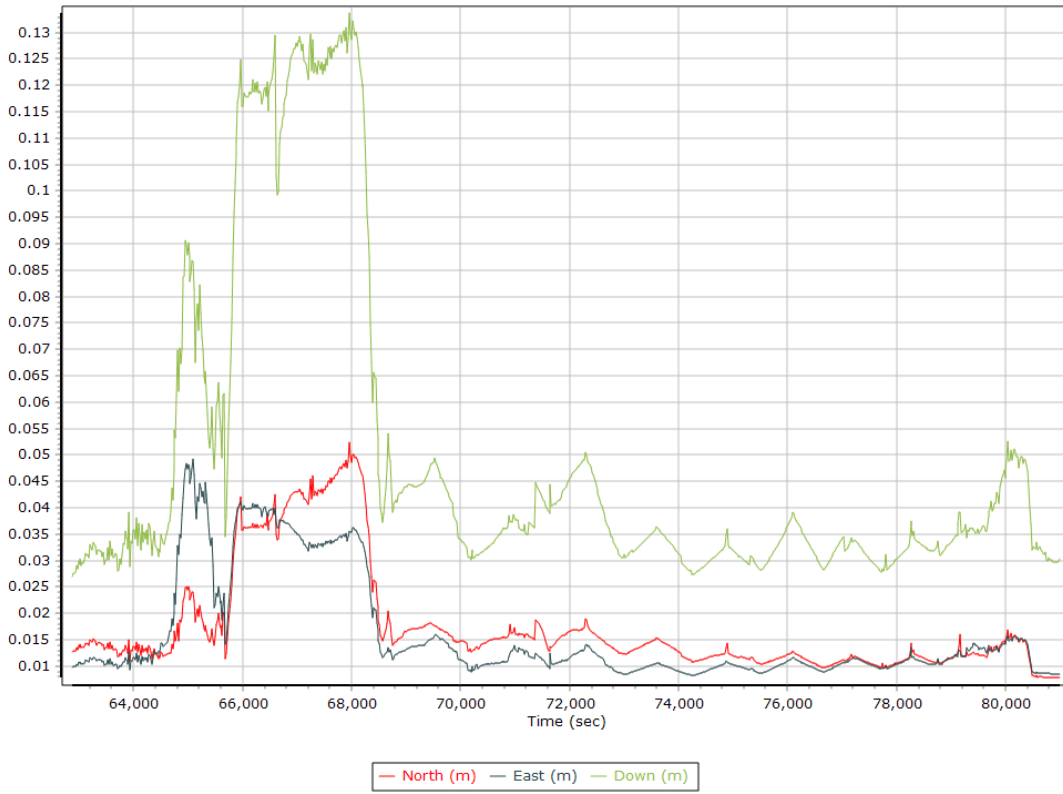


### PDOP





### Estimated Position Accuracy



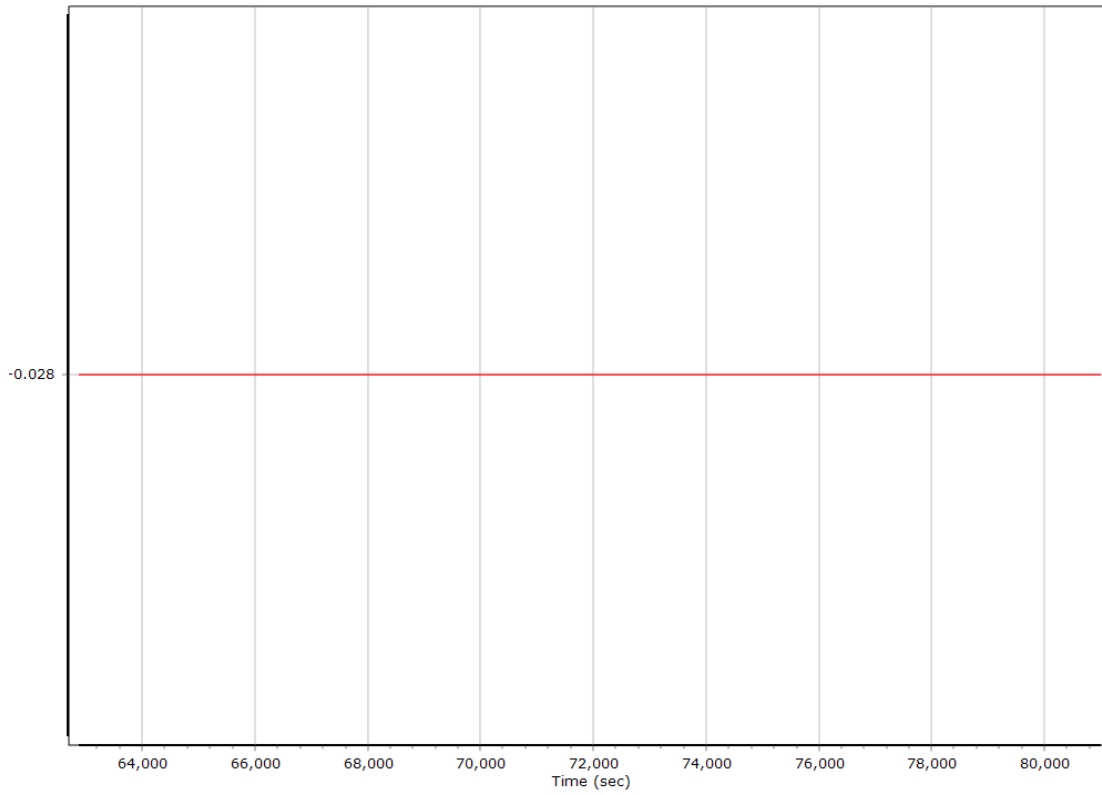
## GNSS-Inertial Processor Configuration

Processing mode	IN-Fusion Single Base		
Stabilized mount	False		
Base station	PIN1 Pinyon 1		
Processing start time	62342.000 (11/07/2021 17:19:02)		
Processing end time	81020.000 (11/07/2021 22:30:20)		
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	0.000
Reference to Primary GNSS lever arm [m]	-0.028	-0.054	-0.948
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

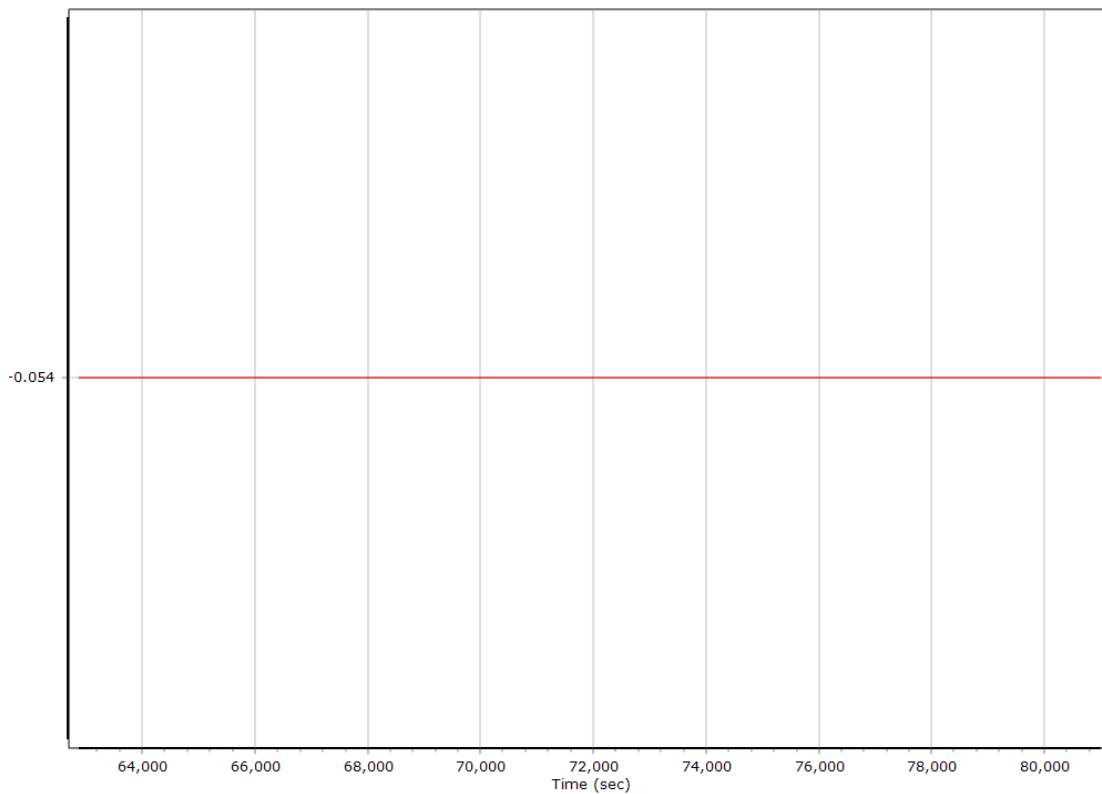
## Calibrated Installation Parameters

### Reference-Primary GNSS Lever Arm

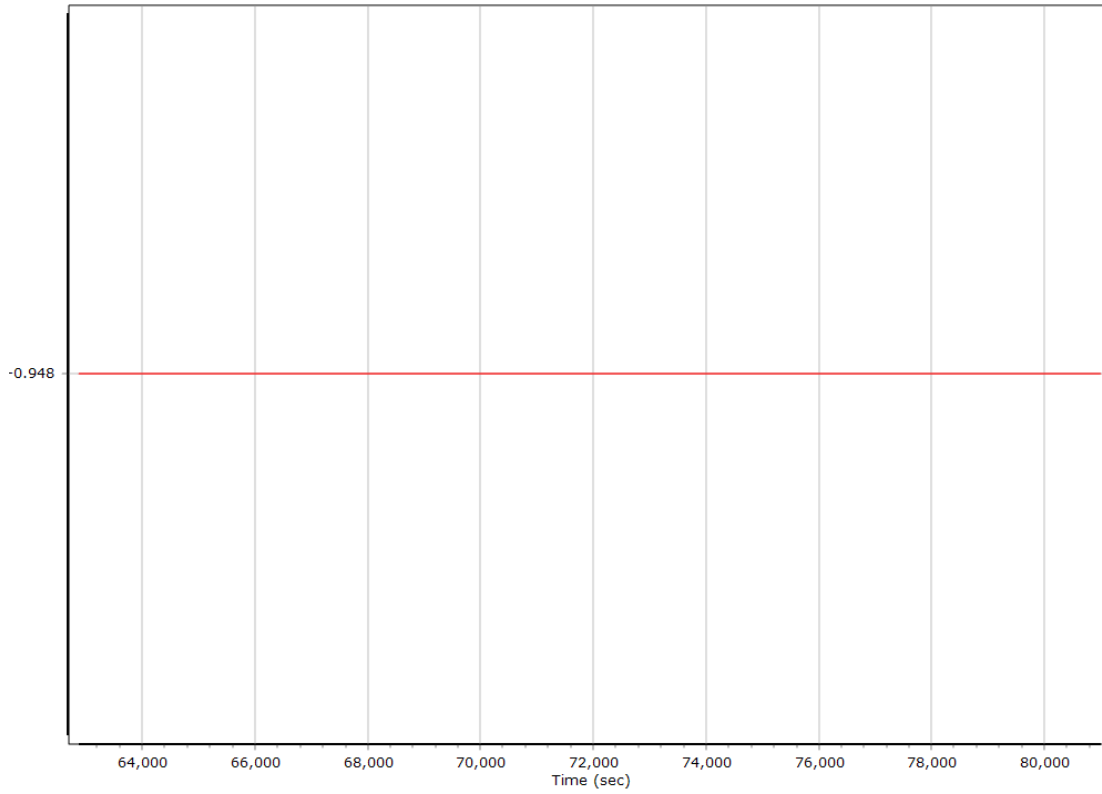
#### X Reference-Primary GNSS Lever Arm (m)



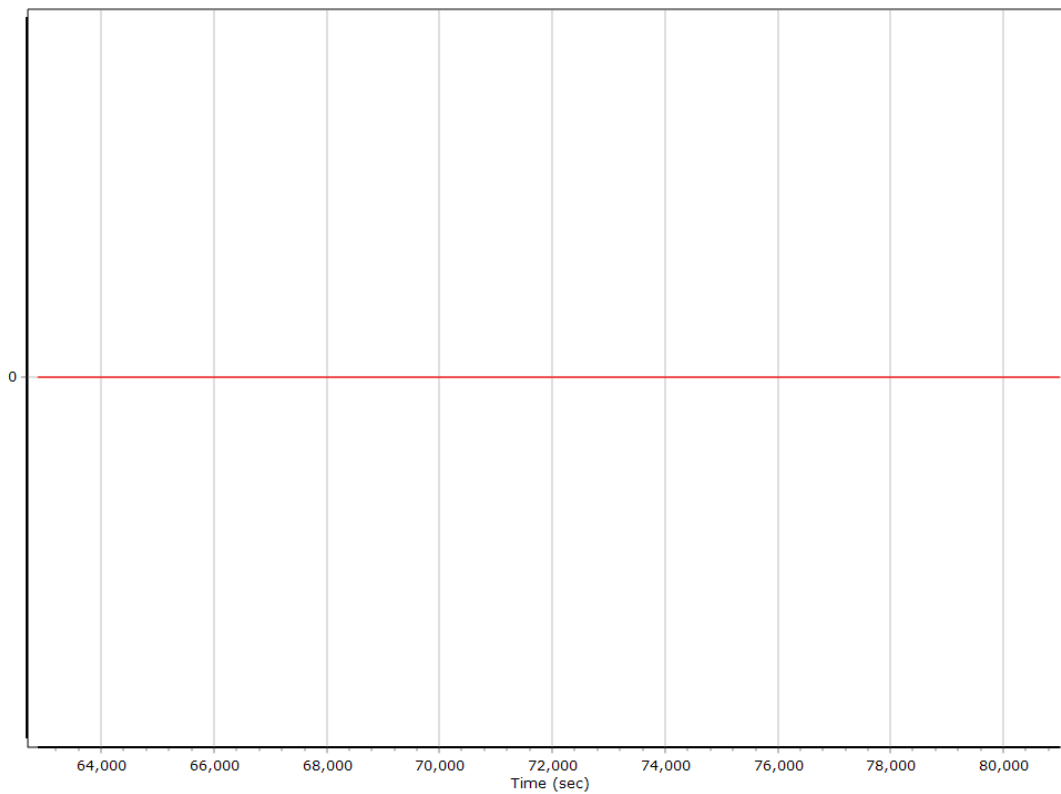
#### Y Reference-Primary GNSS Lever Arm (m)



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



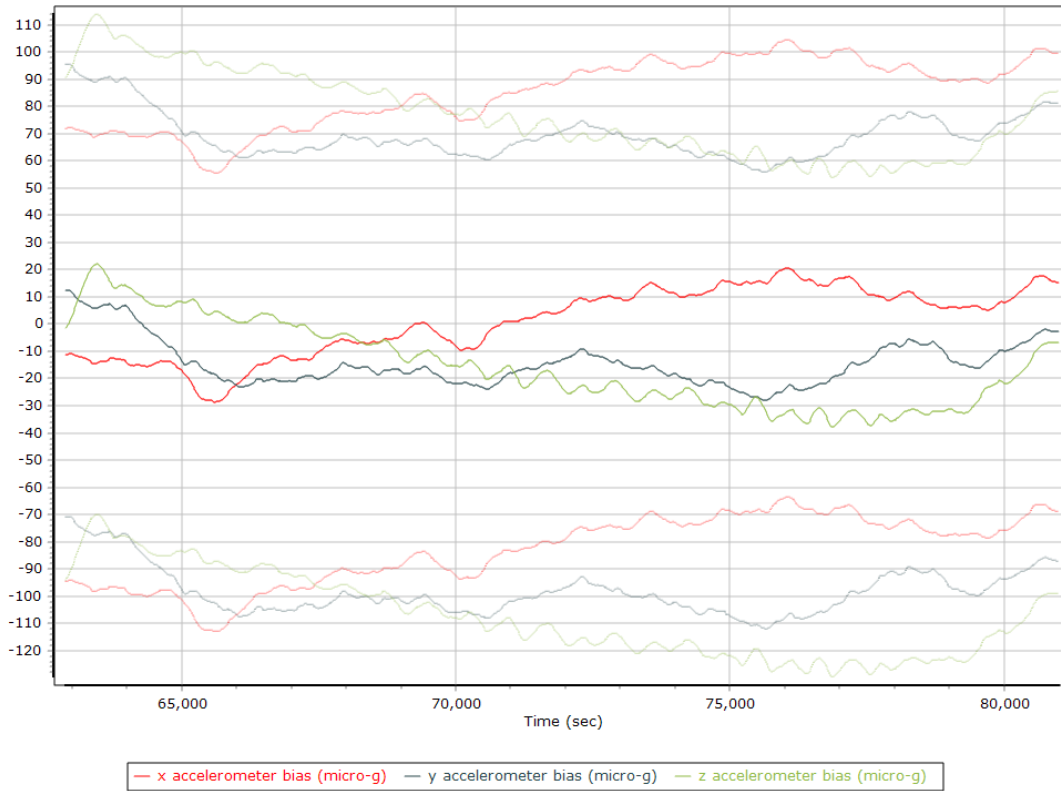
### Reference-Primary GNSS Lever Arm Figure of Merit



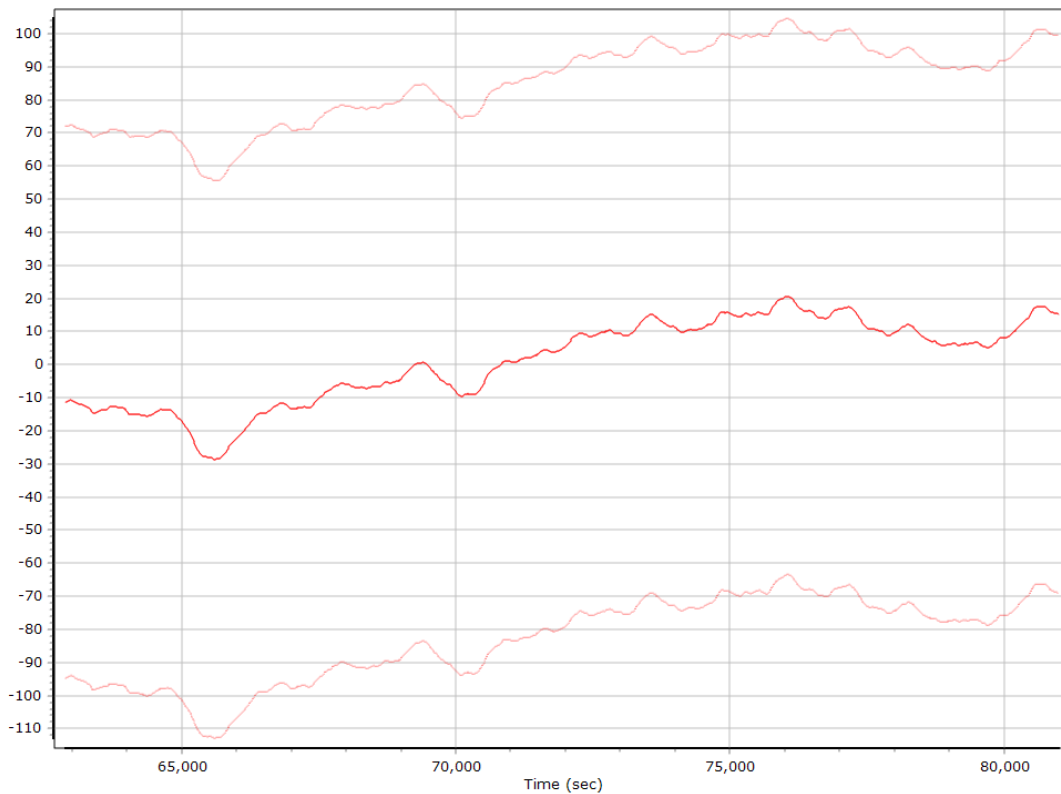
## Smoothed IN-Fusion QC

### Smoothed Estimated Errors, Reference Frame

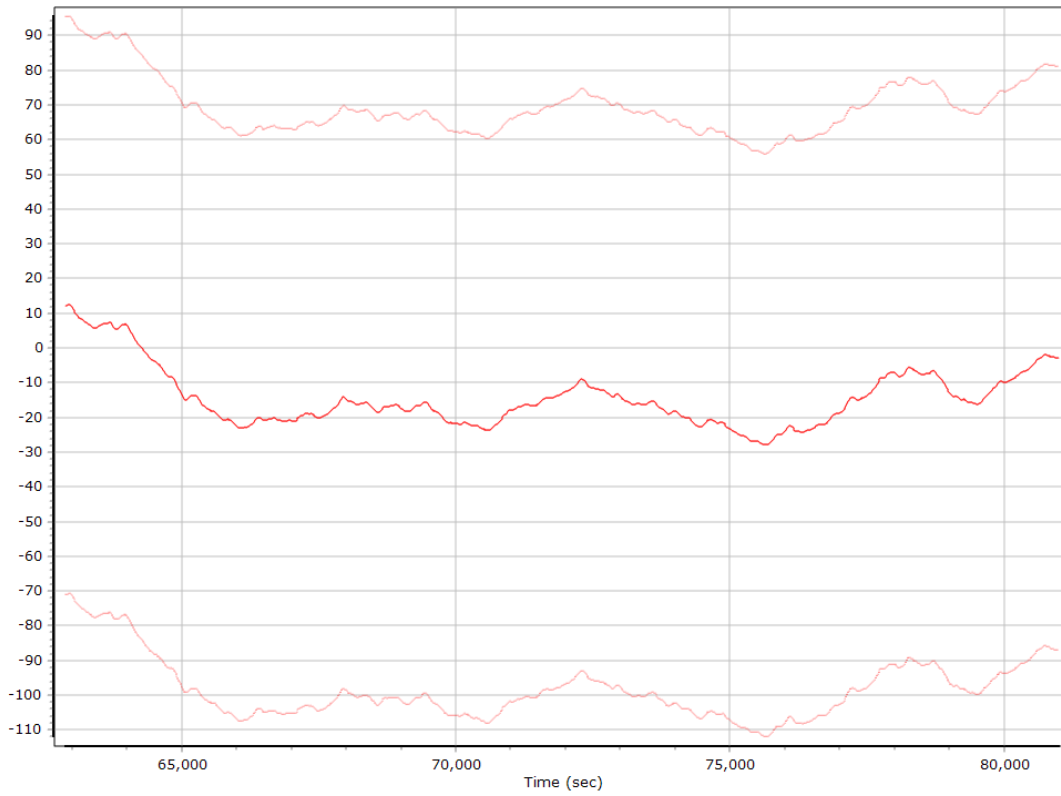
#### Accelerometer Bias (micro-g)



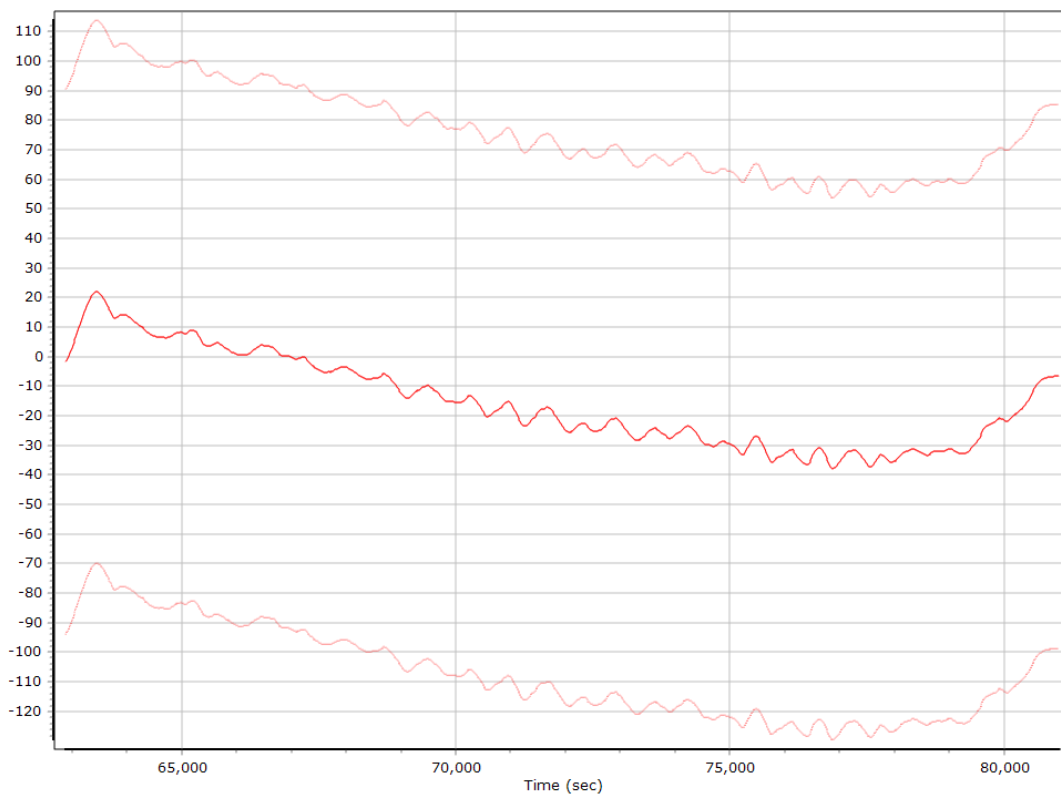
#### X Accelerometer Bias (micro-g)



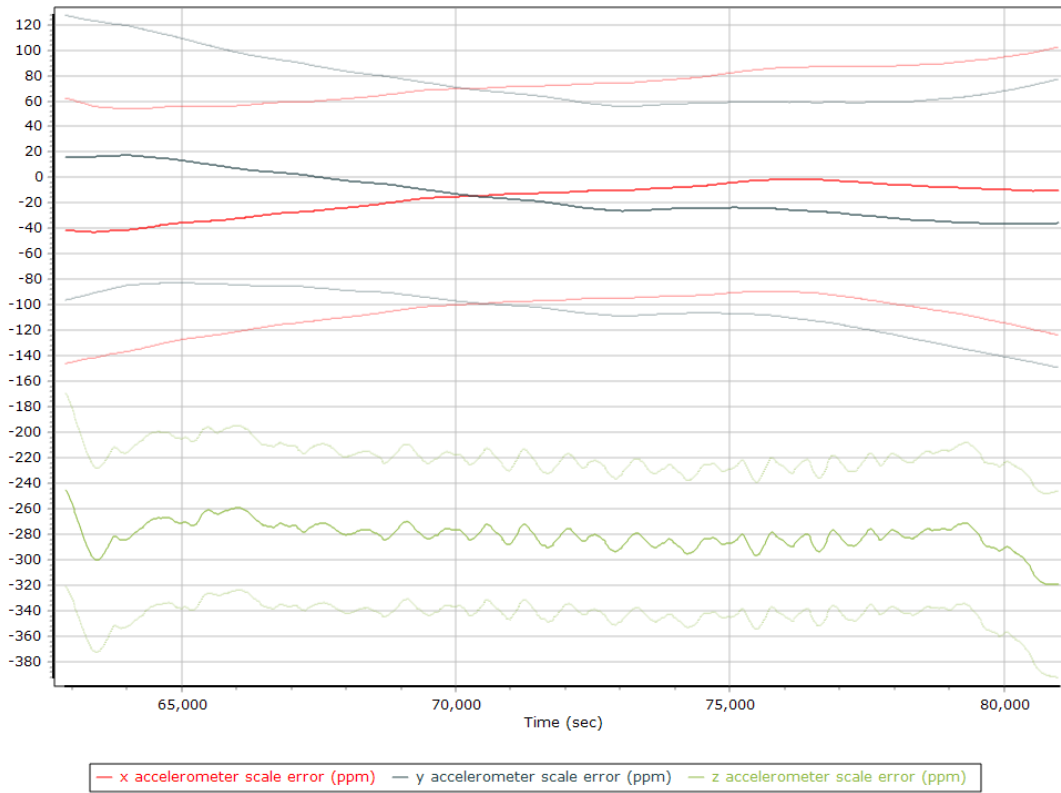
### Y Accelerometer Bias (micro-g)



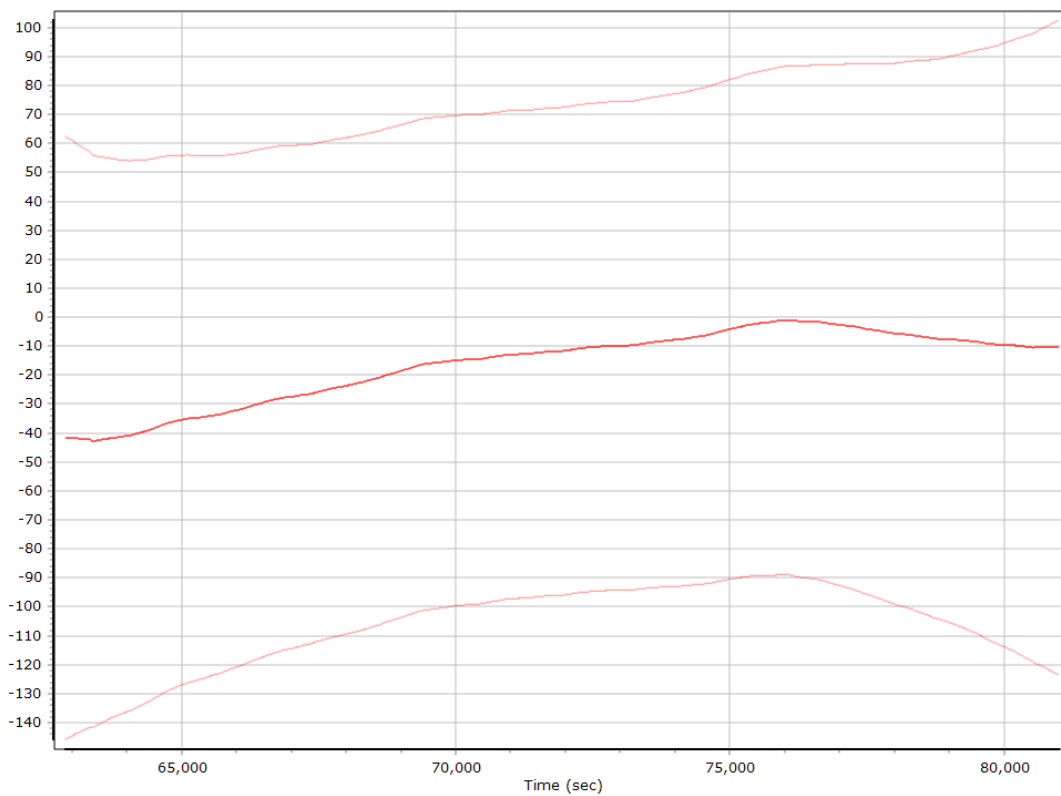
### Z Accelerometer Bias (micro-g)



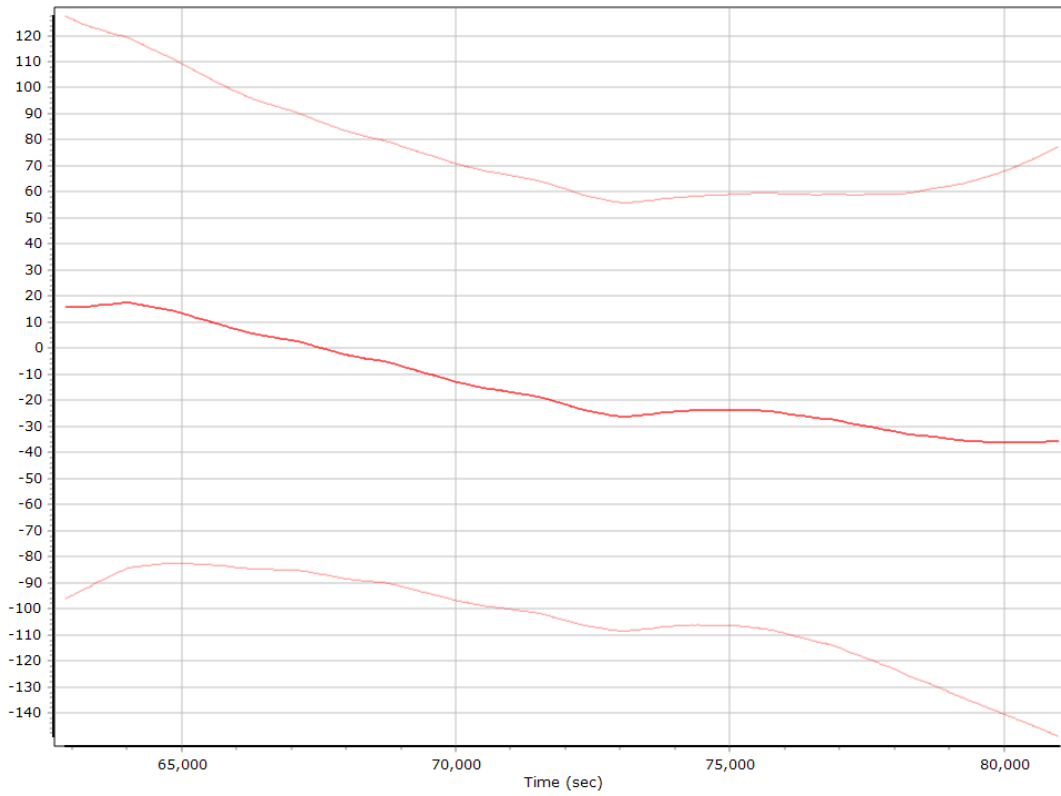
### Accelerometer Scale Error (ppm)



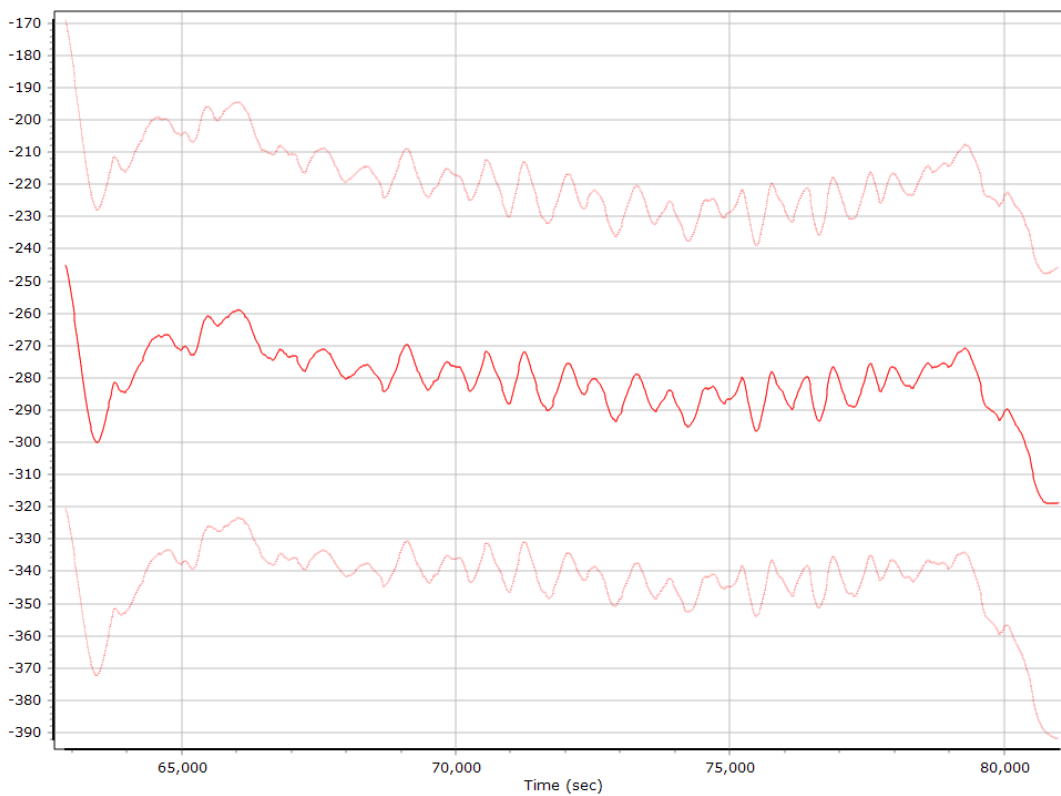
### X Accelerometer Scale Error (ppm)



### Y Accelerometer Scale Error (ppm)

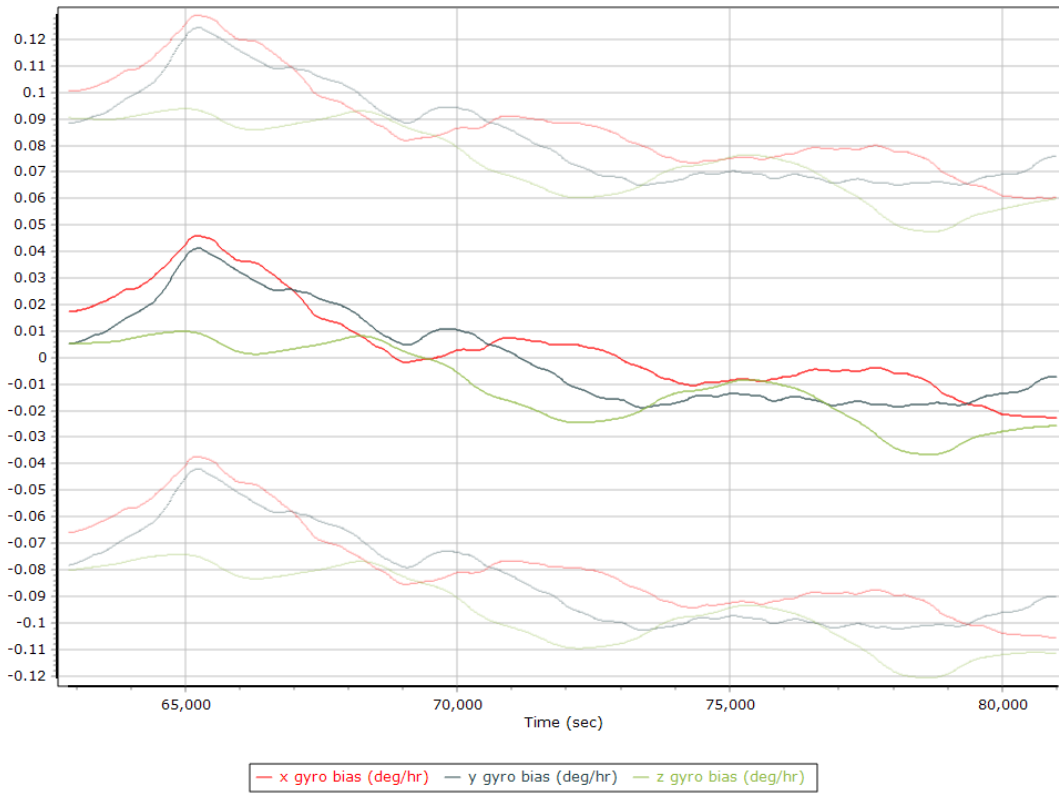


### Z Accelerometer Scale Error (ppm)

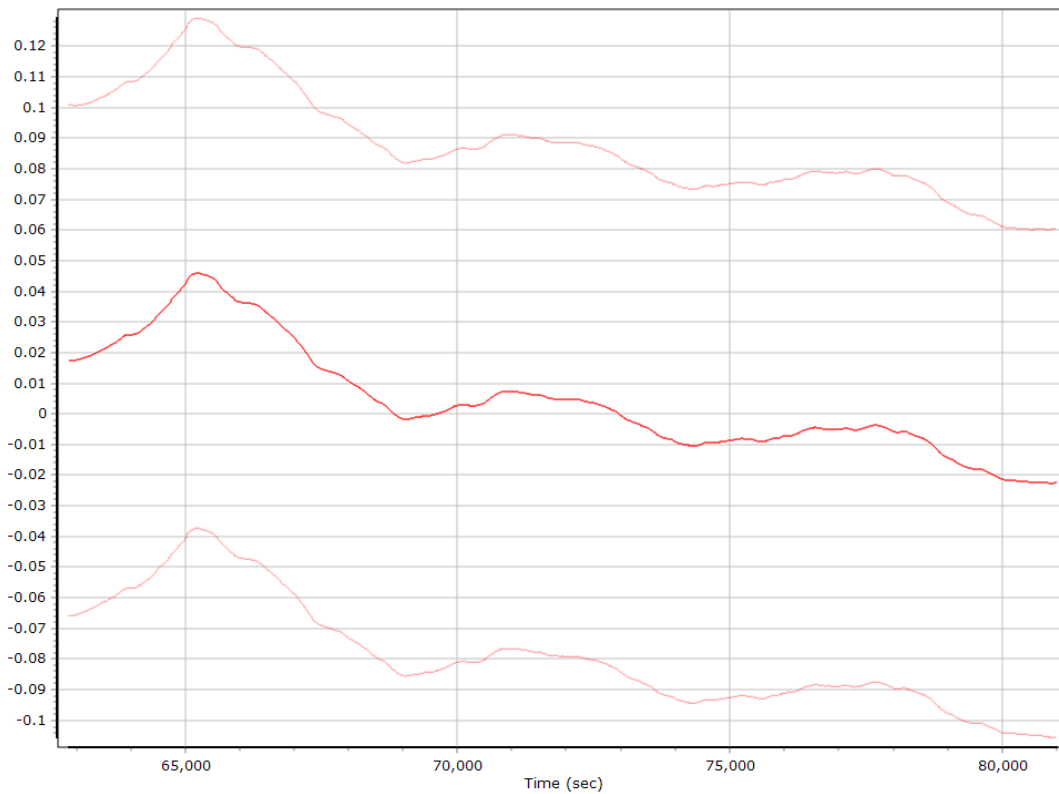




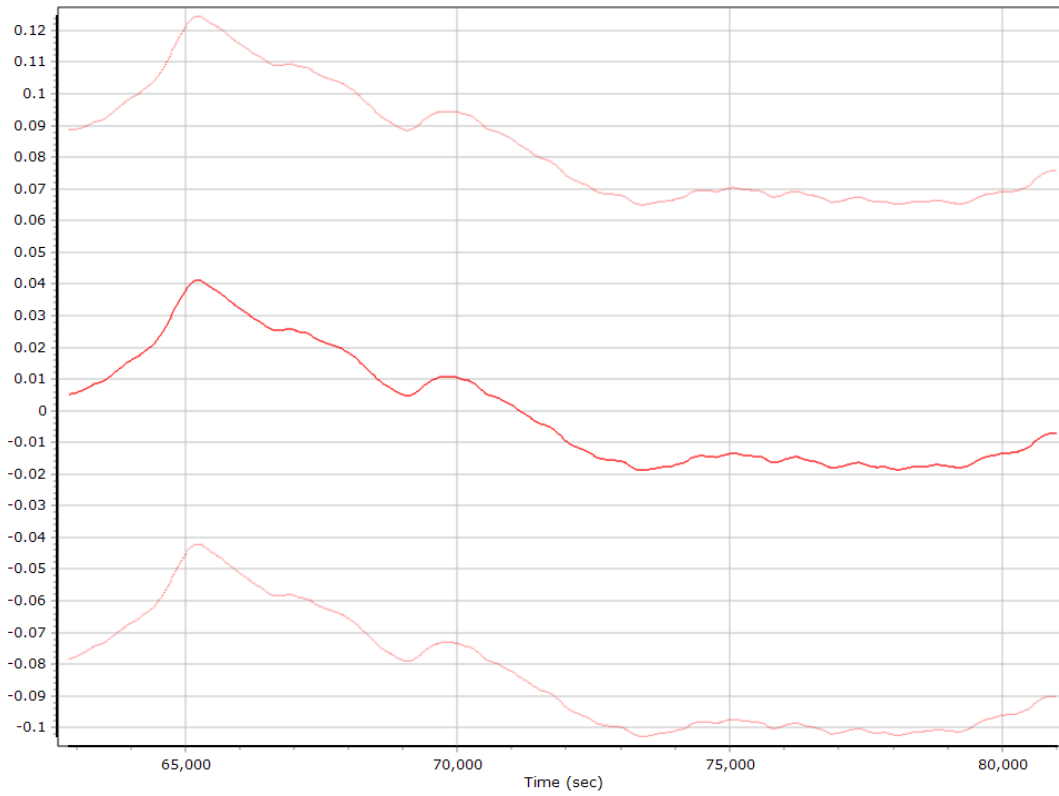
### Gyro Bias (deg/h)



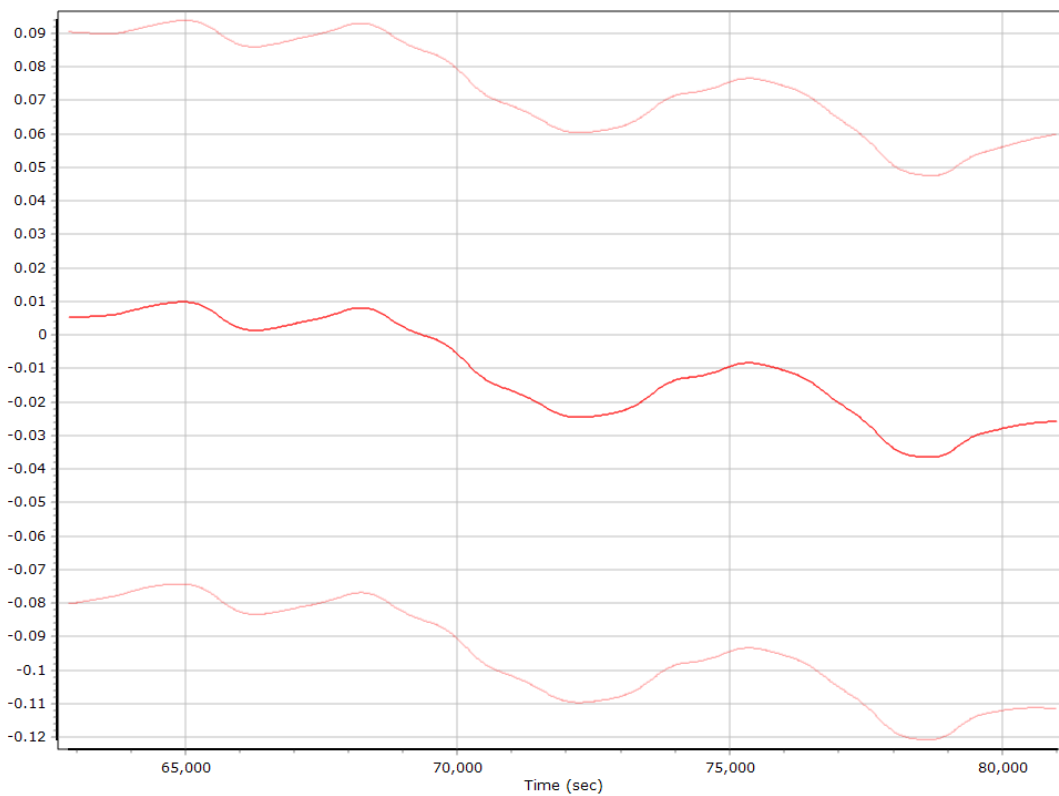
### X Gyro Bias (deg/h)



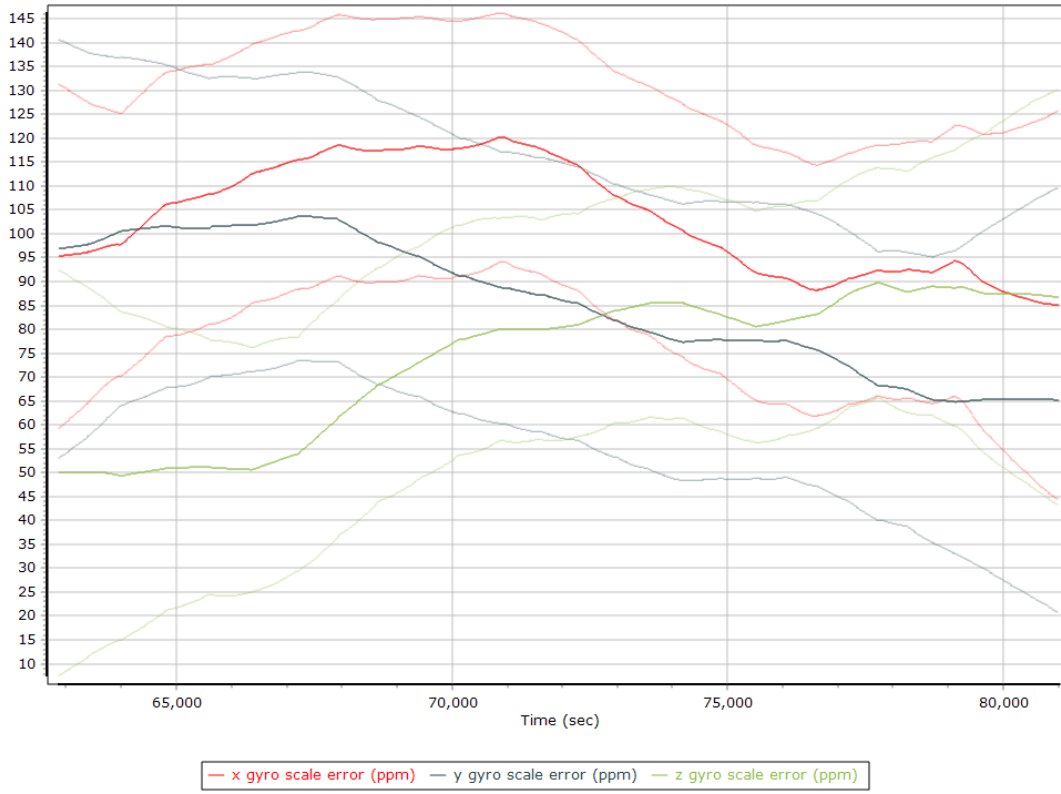
### Y Gyro Bias (deg/h)



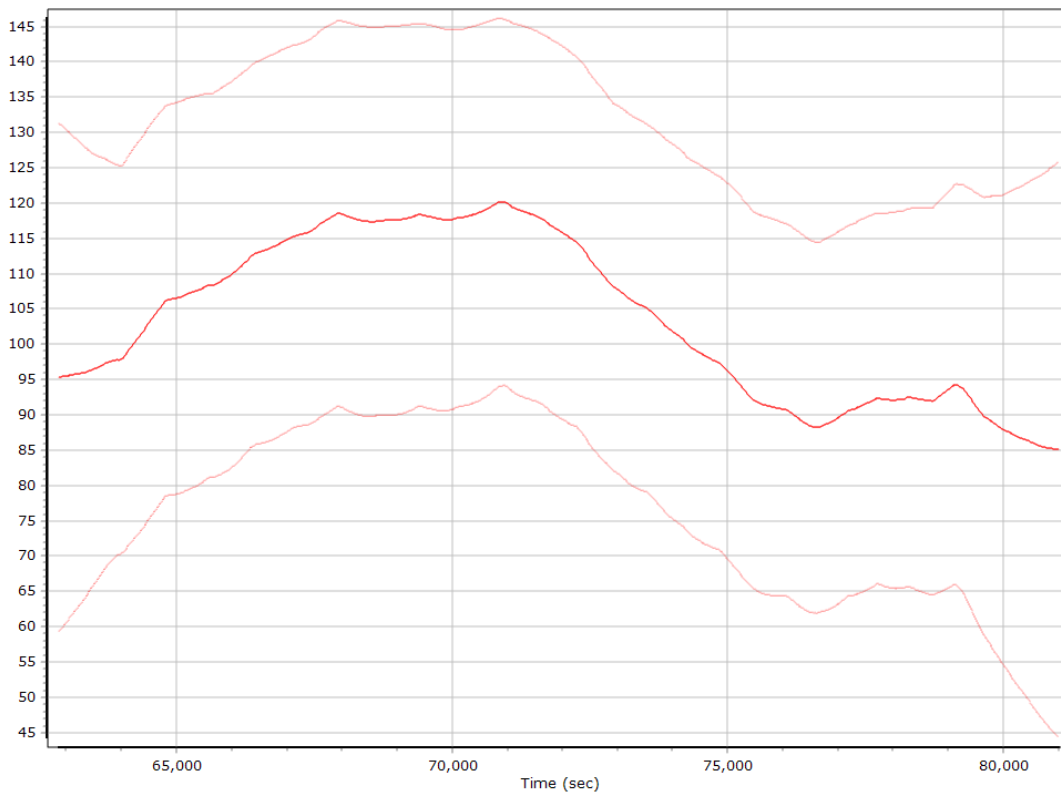
### Z Gyro Bias (deg/h)



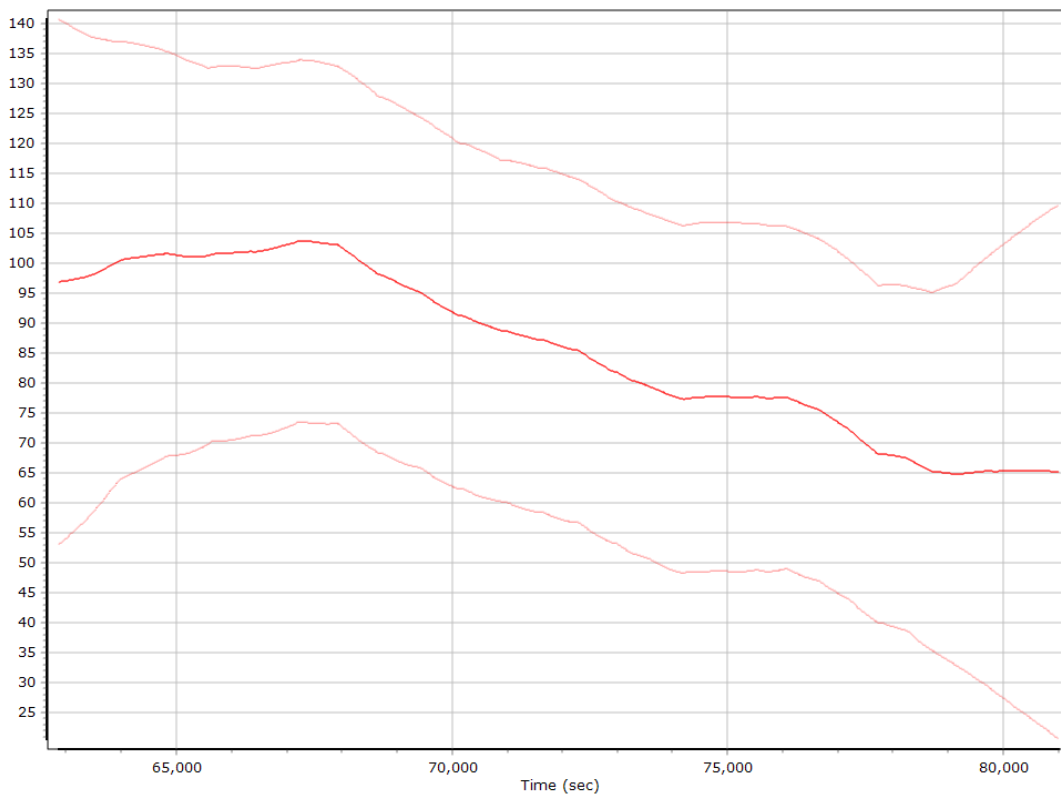
### Gyro Scale Error (ppm)



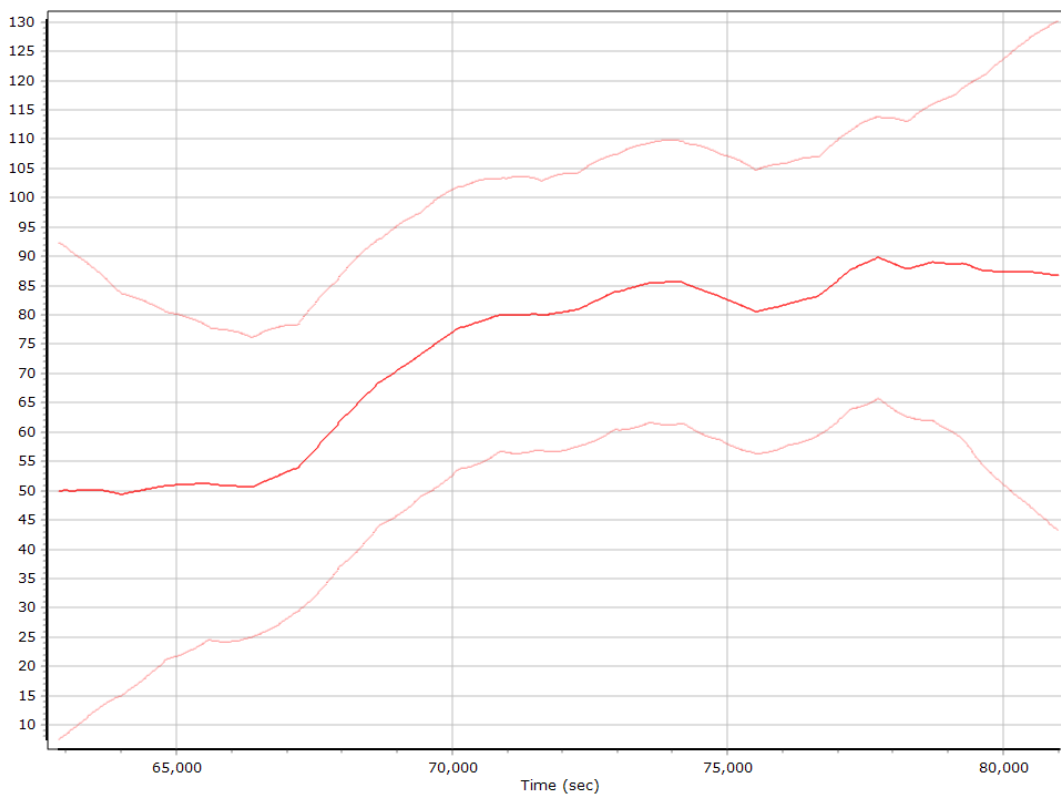
### X Gyro Scale Error (ppm)



### Y Gyro Scale Error (ppm)

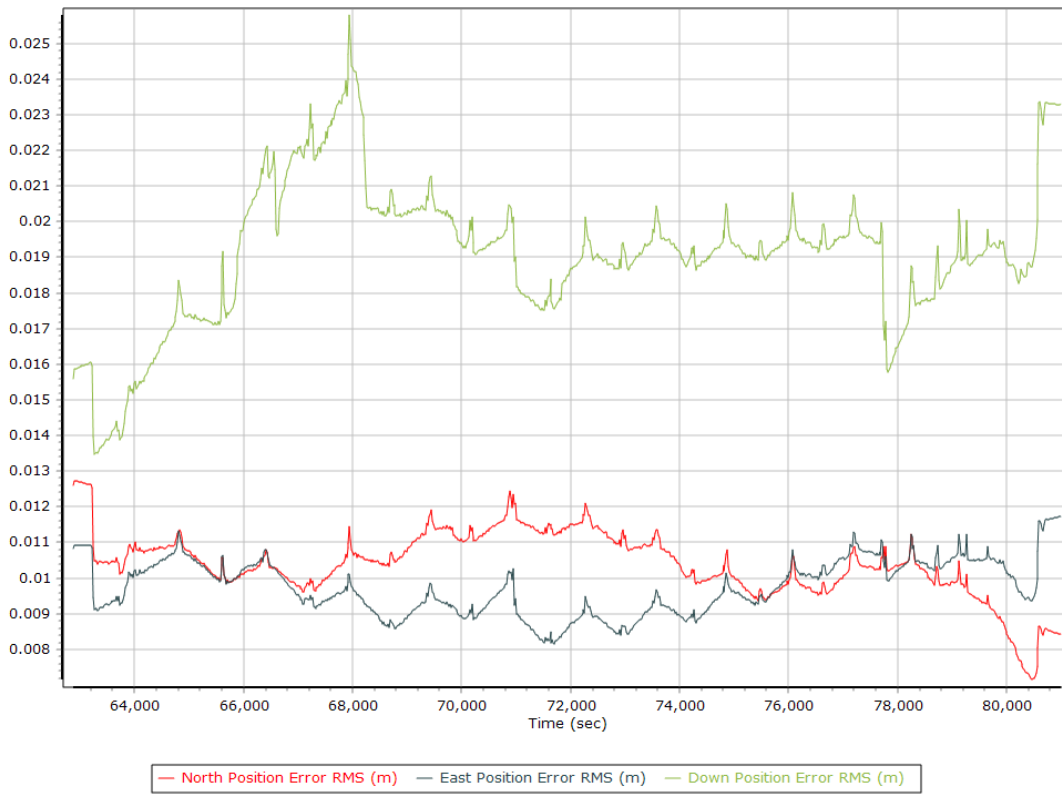


### Z Gyro Scale Error (ppm)

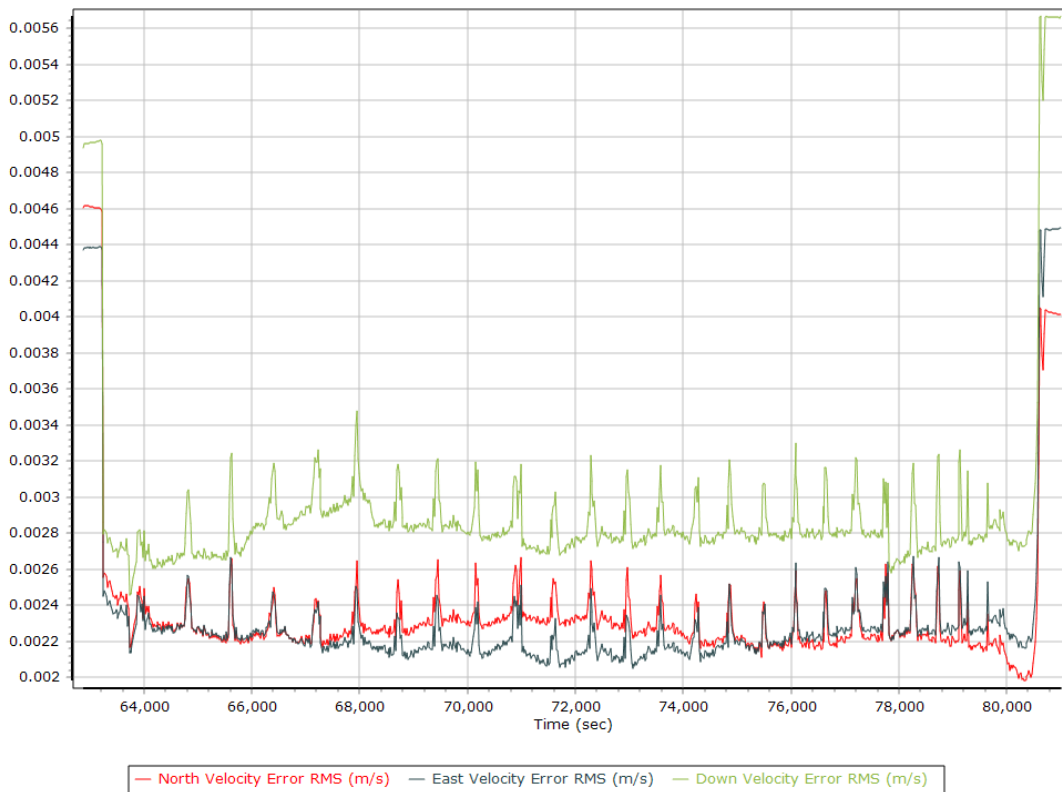


## Smoothed Performance Metrics

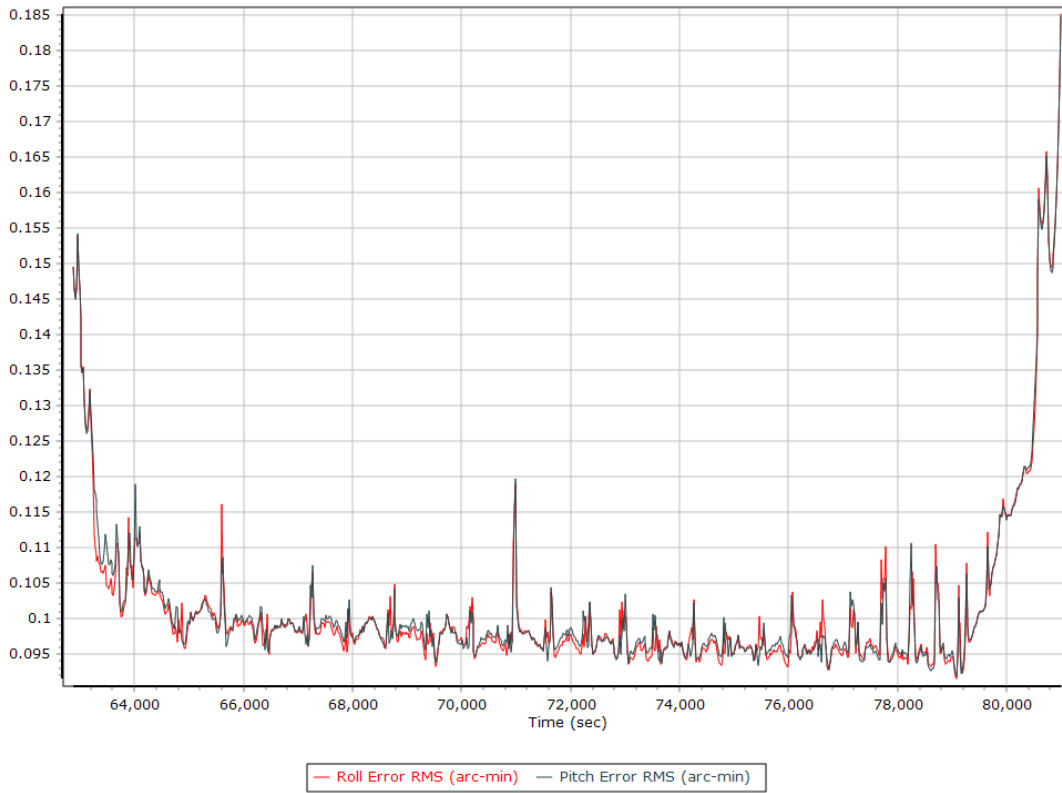
### Position Error RMS (m)



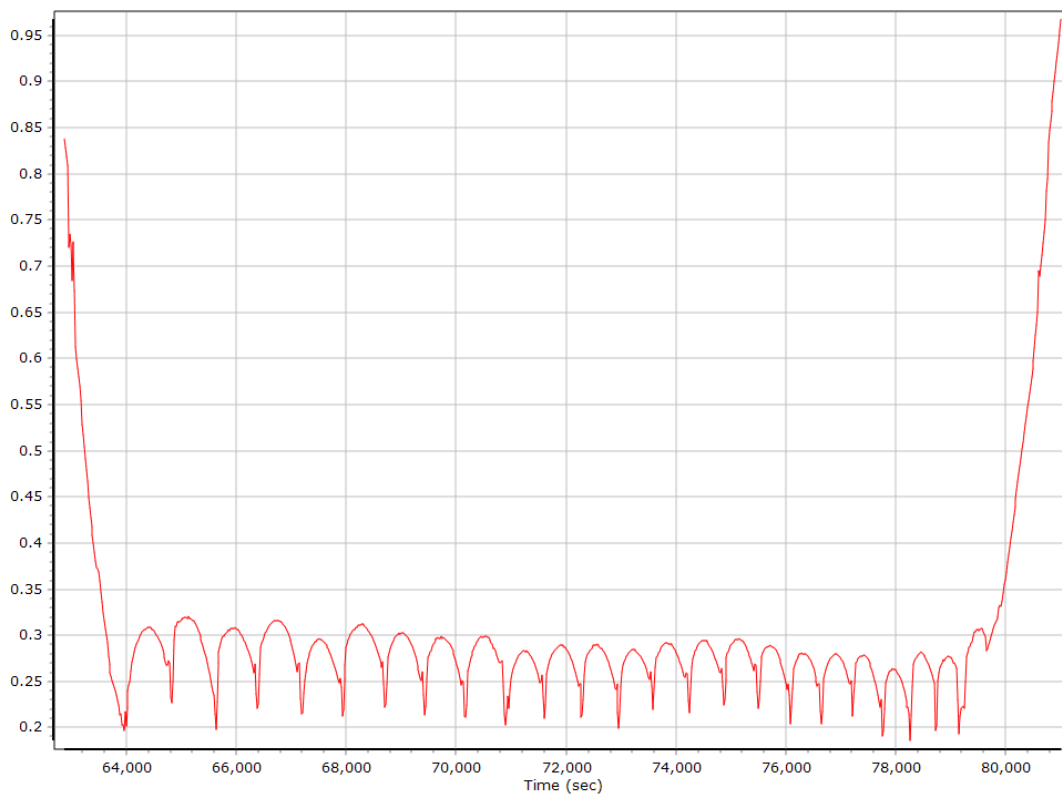
### Velocity Error RMS (m/s)



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

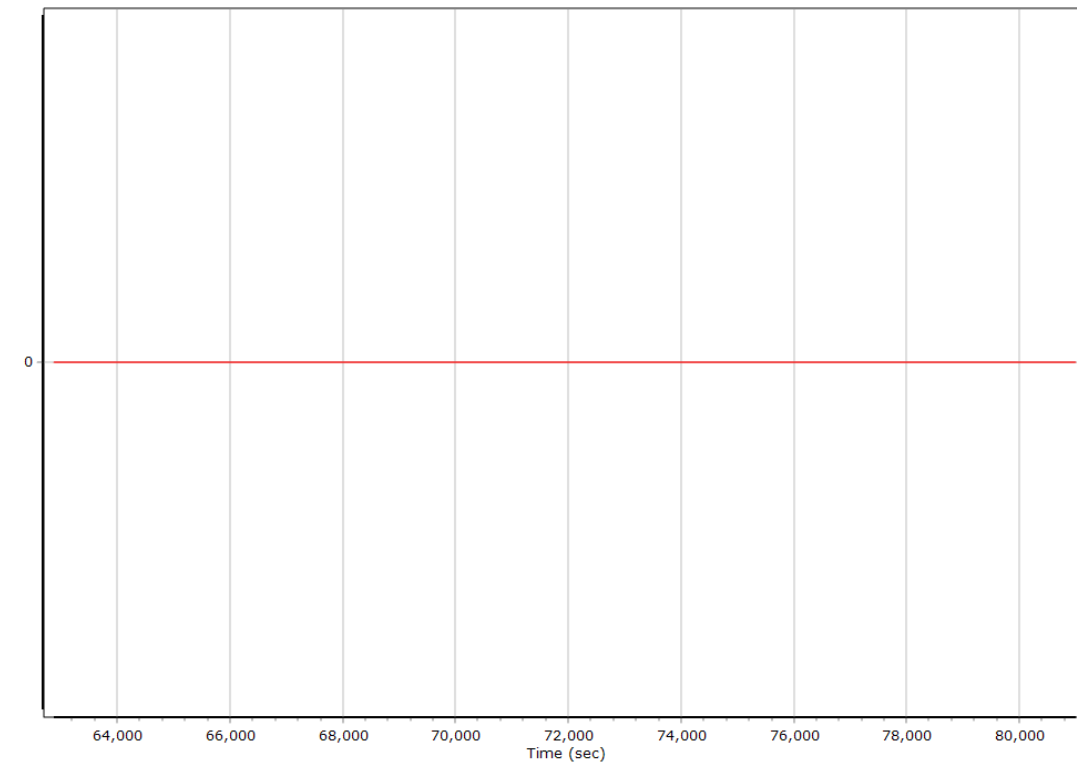


### Heading Error RMS (arc-min)



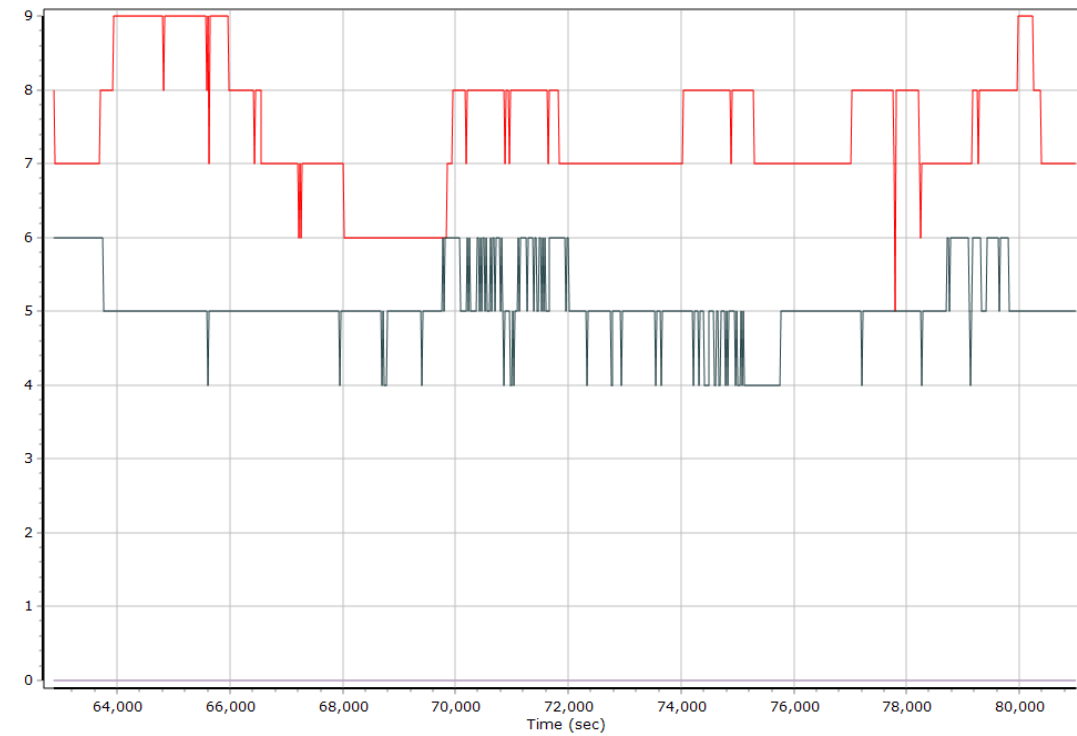
## Smoothed Solution Status

### Processing Mode



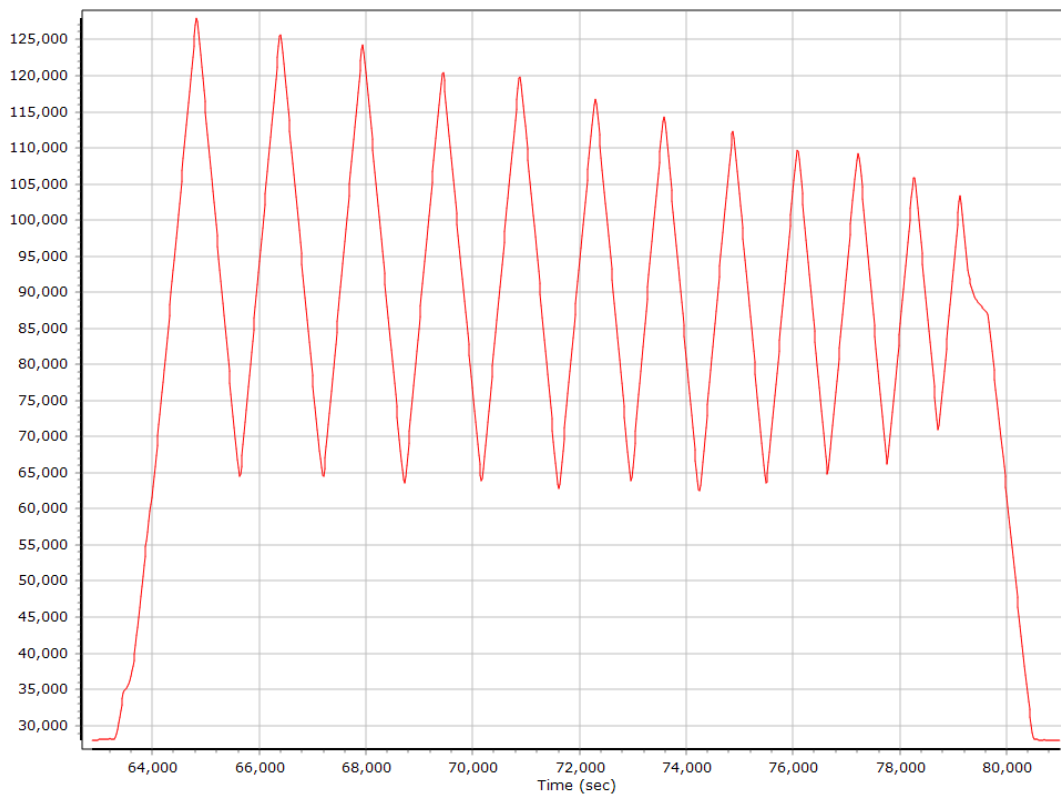
0 = Fixed NL, 1 = Fixed WL, 2 = Float, 3 = DGNSS, 4 = RTCM, 5 = IAPPP, 6 = C/A, 7 = GNSS Nav, 8 = DR

### Number of Satellites

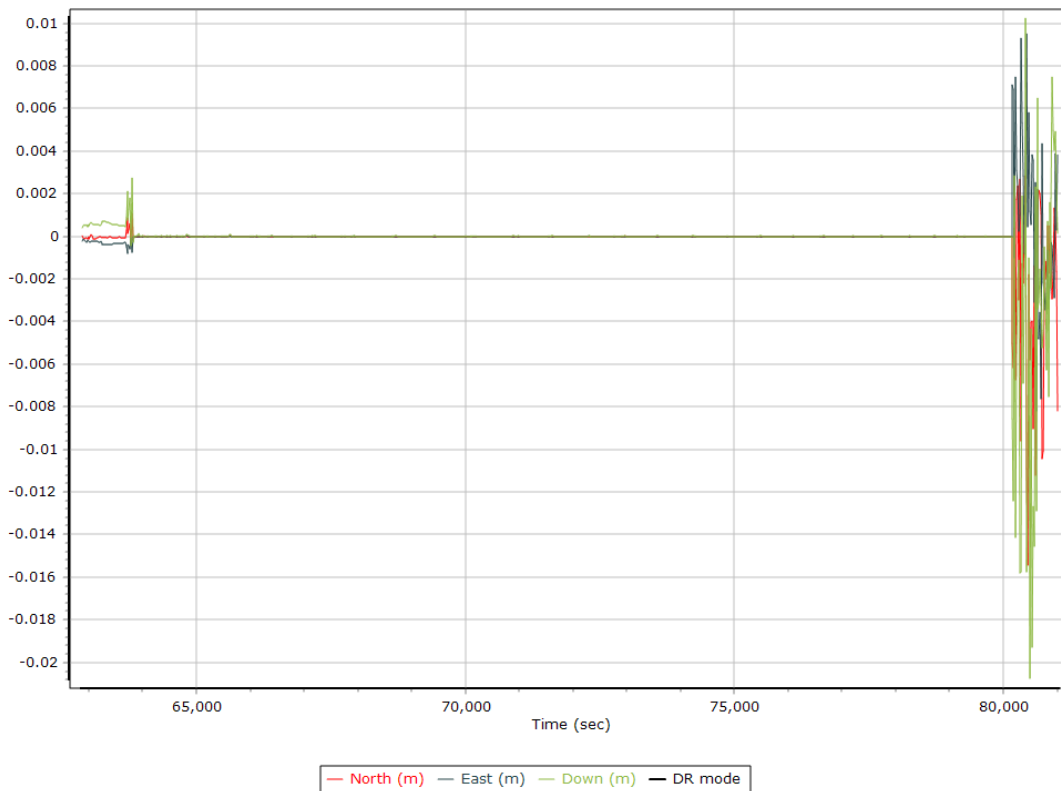


— Number of GPS Satellites — Number of GLONASS Satellites — Number of QZSS Satellites — Number of BEIDOU Satellites

### Baseline Length



### SBET IAKAR Separation





## Export Summary

Export file	export_20211107_F2_Basestation_v2.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	Deg Decimal	
Export start time	62815.005 (11/07/2021 17:26:55)		
Export end time	81020.001 (11/07/2021 22:30:20)		
Height option	Ellipsoid Height		
WGS84 height flag	False		
Grid	Universal Transverse Mercator		
Zone	UTM North 11 (120W to 114W)		
Datum	NAD83 (2011)		
Ellipsoid	GRS 1980		
Local Transformation	NONE		
Target Epoch	2010		

## EO Summary

EO file			
EO format			
Lever arm [m]	0.000	0.000	0.000
Boresight angles [arcmin]	0.000	0.000	0.000
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	62815.005 (11/07/2021 17:26:55)		
EO end time	81020.001 (11/07/2021 22:30:20)		
Grid	Universal Transverse Mercator		
Zone	UTM North 11 (120W to 114W)		
Datum	WGS84		
Ellipsoid	WGS84		
Local Transformation	NONE		
Target Epoch	2021.849315		