

General Information

Mission Information

| | |
|------------------|---------------------|
| Project name | 12070 |
| Processing date | 2021-03-04 00:43:58 |
| Mission date | 2021-02-26 13:28:47 |
| Mission duration | 02:17:09.916 |
| 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 |
|----------------|-----------|
| 2021022601.820 | POS Data |
| 2021022601.821 | POS Data |
| 2021022601.822 | POS Data |
| 2021022601.823 | POS Data |
| 2021022601.824 | POS Data |
| 2021022601.825 | POS Data |
| 2021022601.826 | POS Data |
| 2021022601.827 | POS Data |
| 2021022601.828 | POS Data |
| 2021022601.829 | POS Data |
| 2021022601.830 | POS Data |
| 2021022601.831 | POS Data |
| 2021022601.832 | POS Data |
| 2021022601.833 | POS Data |
| 2021022601.834 | POS Data |
| 2021022601.835 | POS Data |
| 2021022601.836 | POS Data |

Input Files

| File Name | File Type |
|--------------|-----------------------------|
| Ephm0570.21g | GLONASS Broadcast Ephemeris |
| Ephm0570.21n | GPS Broadcast Ephemeris |

Output Files

| Filename | File type |
|----------------------------|---|
| sbet_12070.out | SBET Trajectory File |
| eo_12070.txt | ZI Imaging POSEO Output |
| sbet_12070_NAD83(2011).out | Custom Smoothed BET Export Output |
| lever_arm_values.txt | ReferenceToPrimaryLeverArms Export Output |

Rover Data Summary

| | | | |
|--|----------------------------------|--------|---------|
| First raw data file | 2021022601.820 | | |
| Last raw data file | 2021022601.836 | | |
| Start GPS week | 2146 | | |
| Start time | 480526.577 (02/26/2021 13:28:46) | | |
| End time | 488756.493 (02/26/2021 15:45:56) | | |
| Start of fine alignment | 480894.056 (02/26/2021 13:34:54) | | |
| Available subsystems | Primary GNSS, IMU | | |
| POS Event Input | None | | |
| Correction data | None | | |
| IMU Installation Lever Arms & Mounting Angles | | | |
| Reference to IMU lever arm (m) | 0.000 | 0.000 | 0.000 |
| Reference to IMU mounting angles (deg) | 0.000 | 0.000 | 180.000 |
| Reference to Primary GNSS lever arm (m) | -0.108 | -0.248 | -0.901 |
| Reference to Primary GNSS lever arm std dev (m) | -1.000 | | |
| Aircraft to Reference mounting angles (deg) | 0.000 | 0.000 | 0.000 |

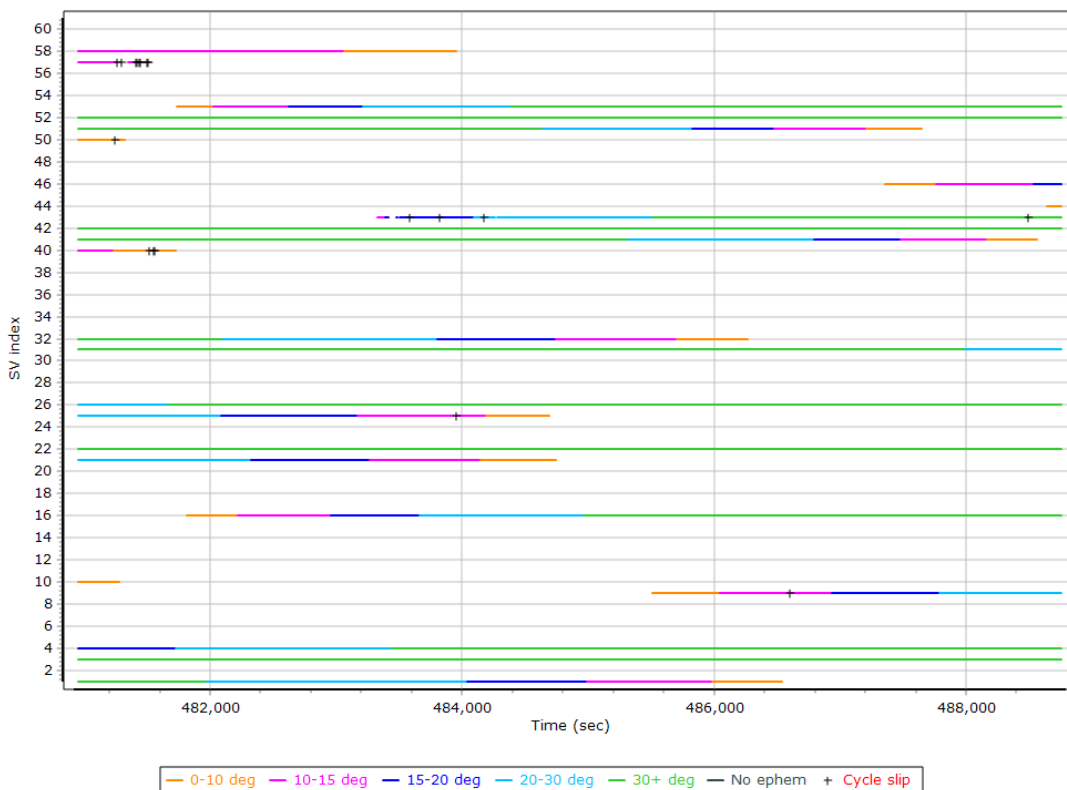
Rover Data QC

Raw IMU Import QC Summary

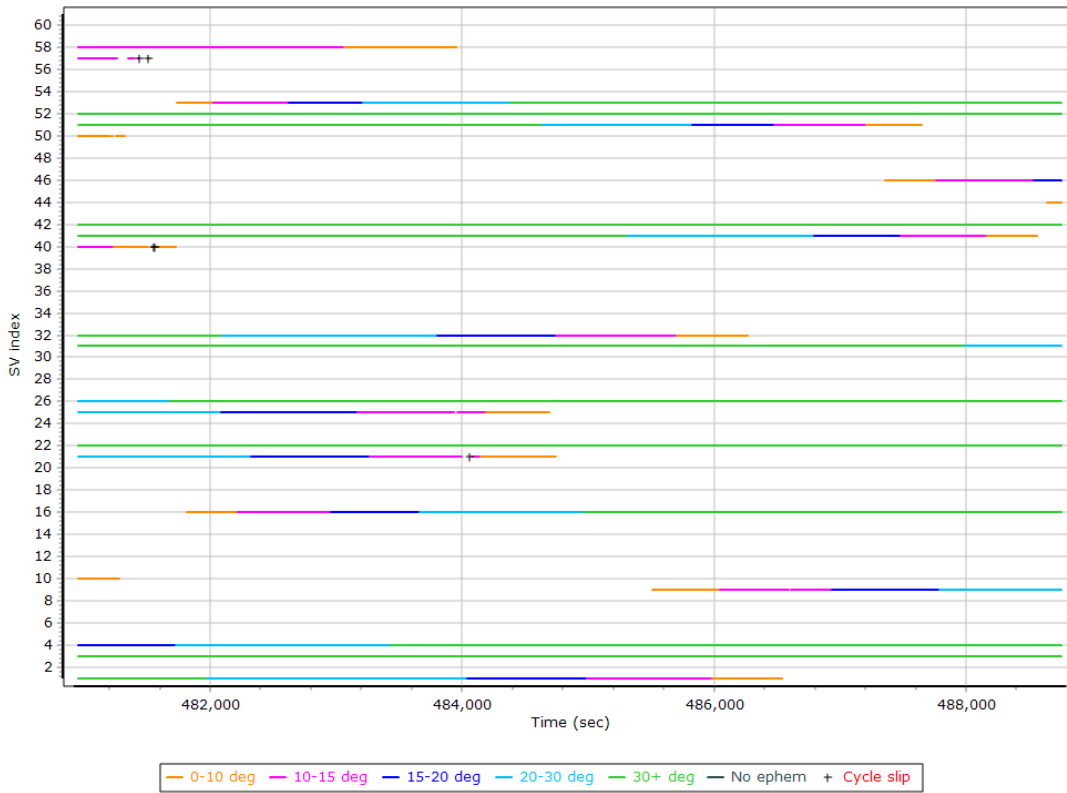
| | |
|-------------------------|-----------------|
| IMU data input file | imu_12070.dat |
| IMU data check log file | imudt_12070.log |
| IMU Records Processed | 1645810 |
| Termination Status | Normal |
| IMU Anomalies | 0 |

Primary Observables & Satellite Data

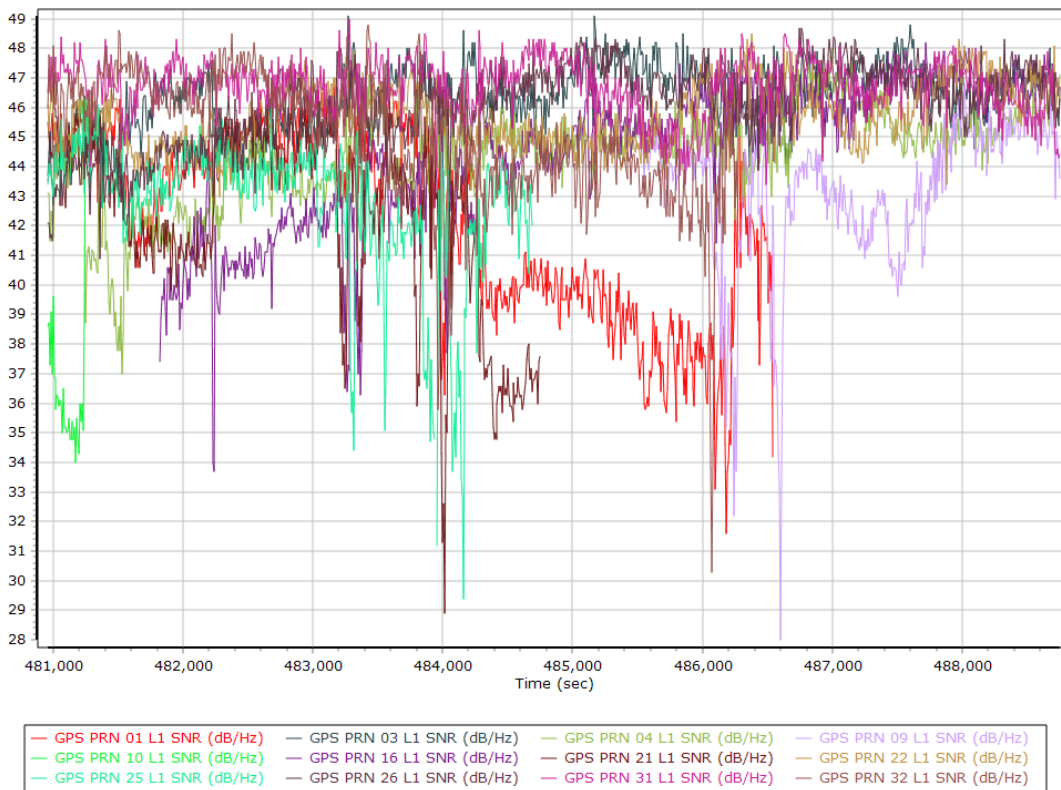
L1 Satellite Lock/Elevation



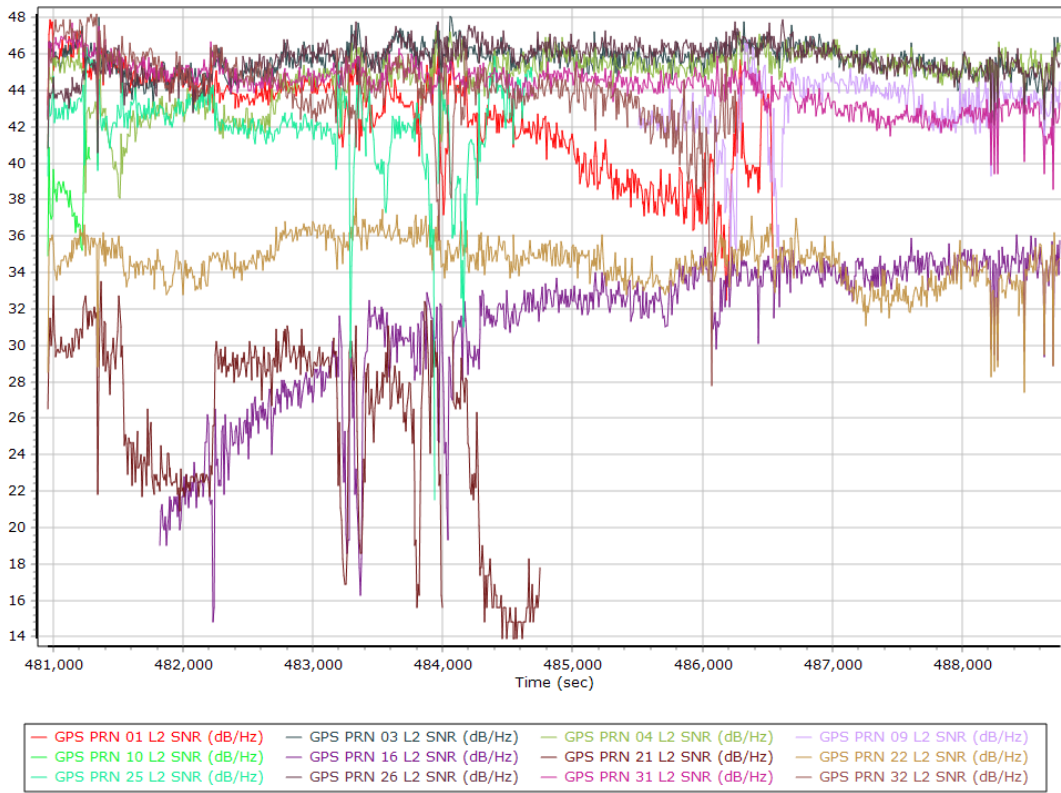
L2 Satellite Lock/Elevation



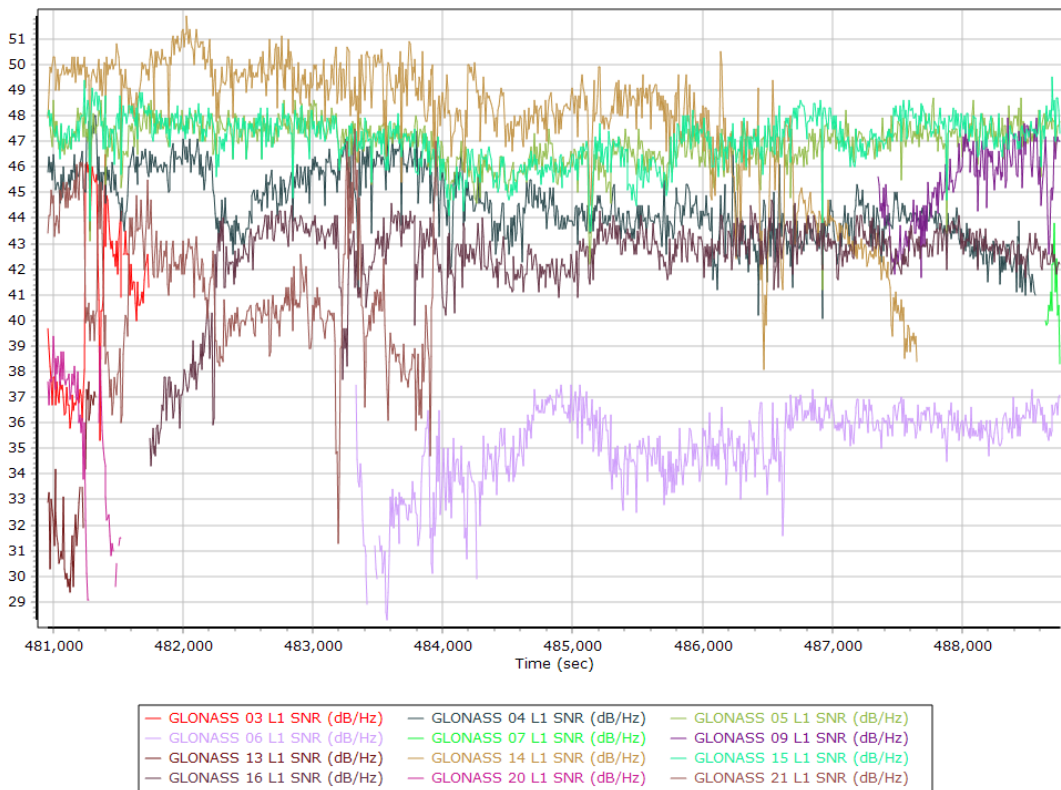
GPS L1 SNR



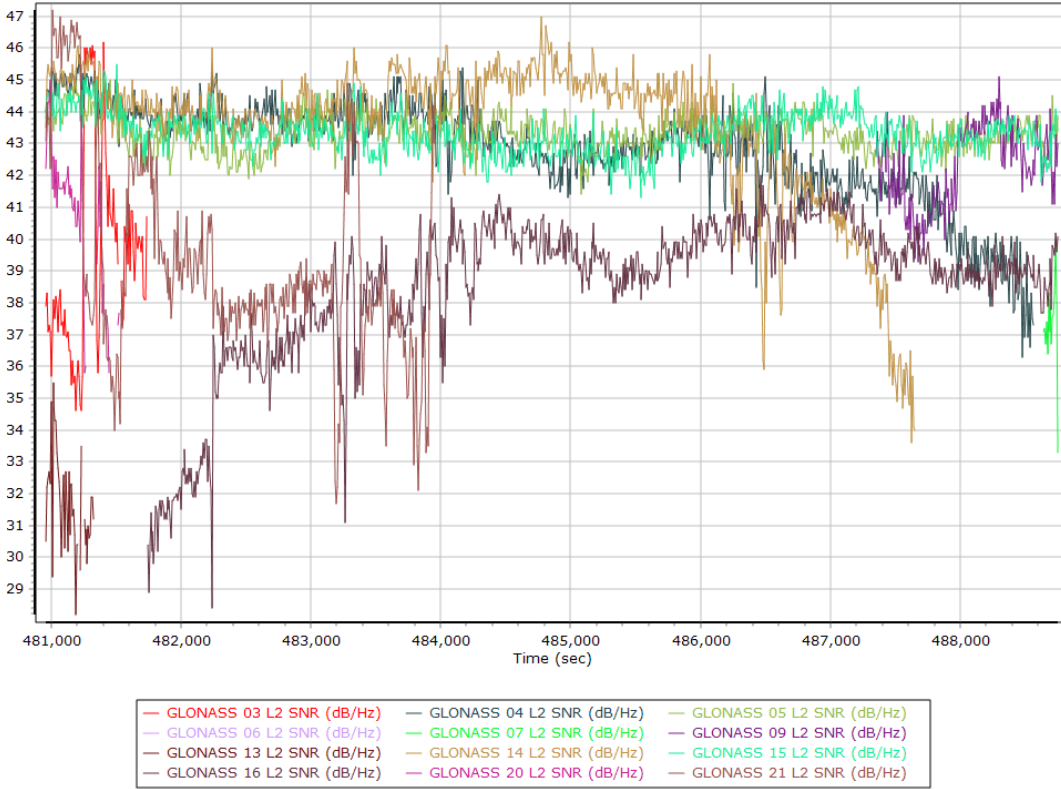
GPS L2 SNR



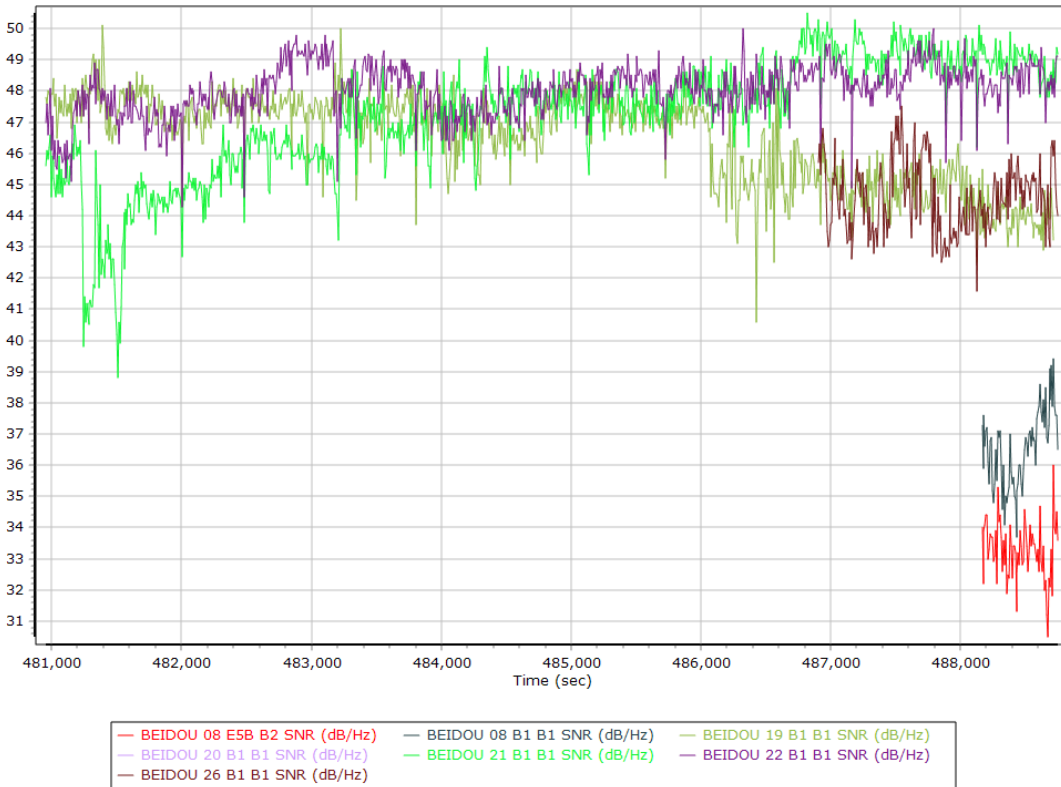
GLONASS L1 SNR



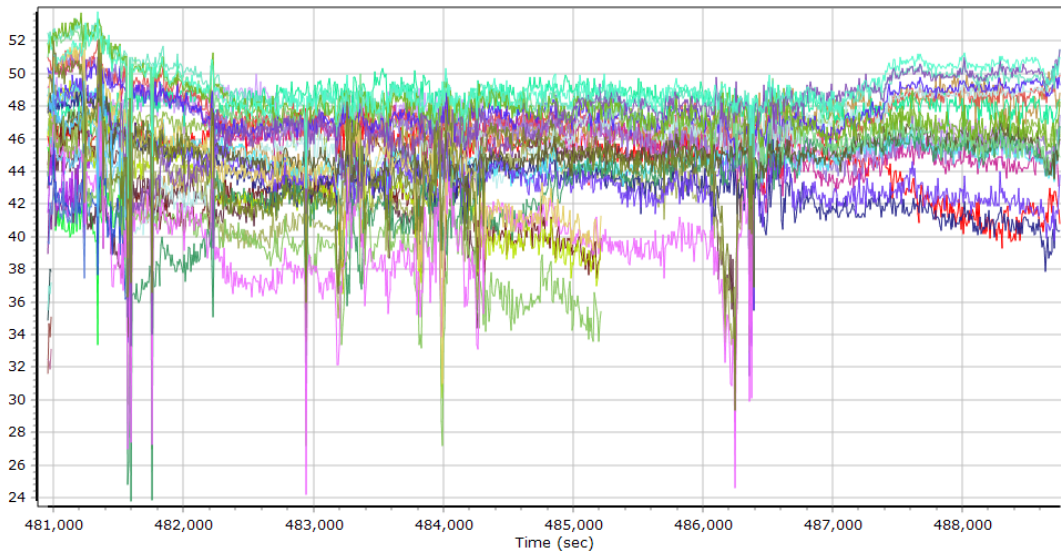
GLONASS L2 SNR



BEIDOU SNR



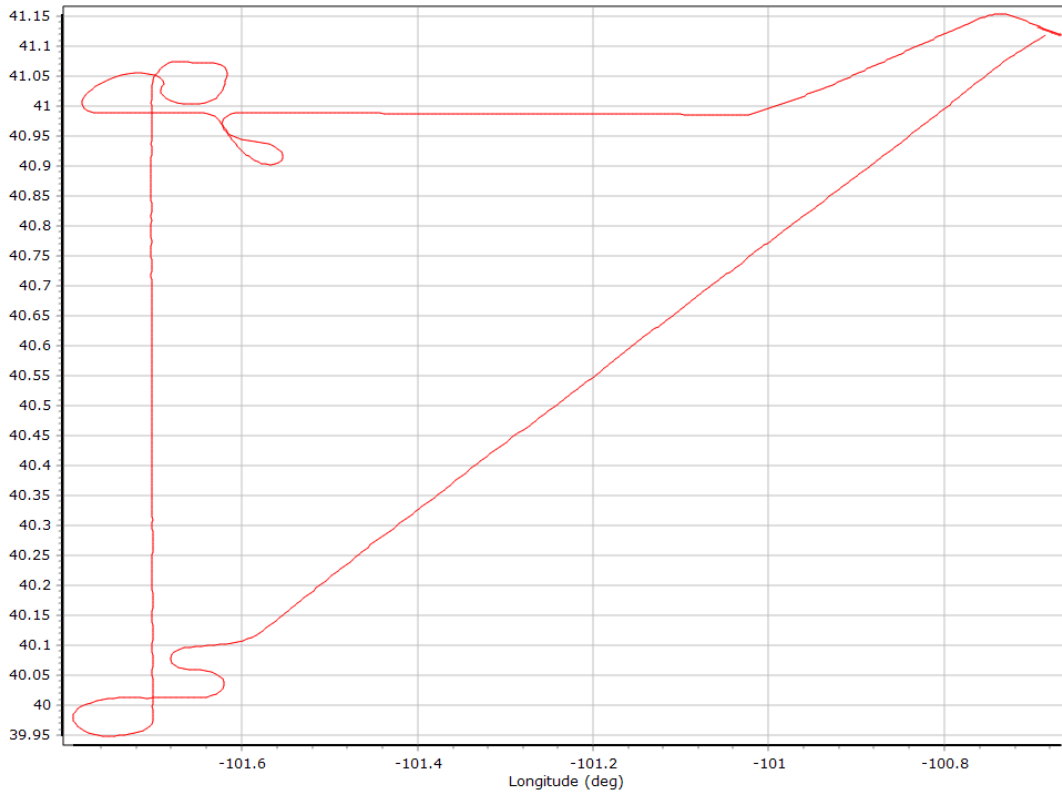
GALILEO SNR



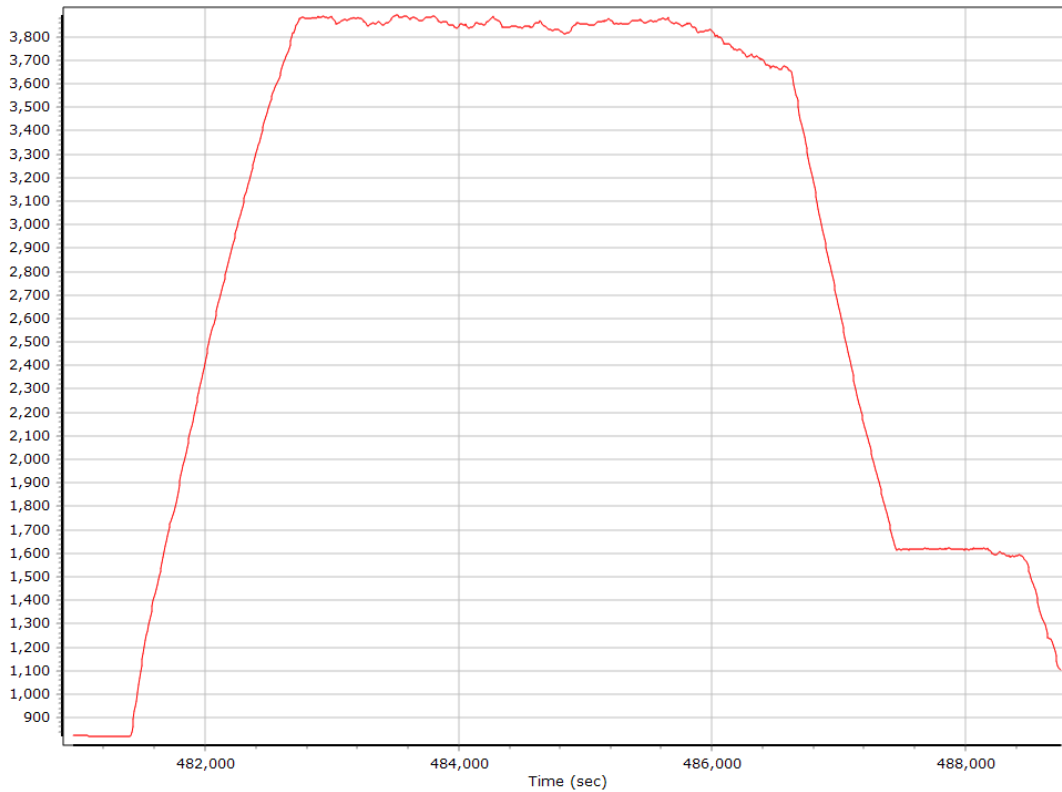
| | |
|--|--|
| — GALILEO 02 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 03 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 07 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 08 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 13 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 25 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 26 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 27 L1 BOC_1_1_D_MBOC SNR (dB/Hz) |
| — GALILEO 30 L1 BOC_1_1_D_MBOC SNR (dB/Hz) | — GALILEO 33 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 07 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 08 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 13 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 25 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 26 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 27 L5E5A BPSK10_PD SNR (dB/Hz) |
| — GALILEO 30 L5E5A BPSK10_PD SNR (dB/Hz) | — GALILEO 33 L5E5A BPSK10_PD SNR (dB/Hz) |

Smoothed Trajectory Information

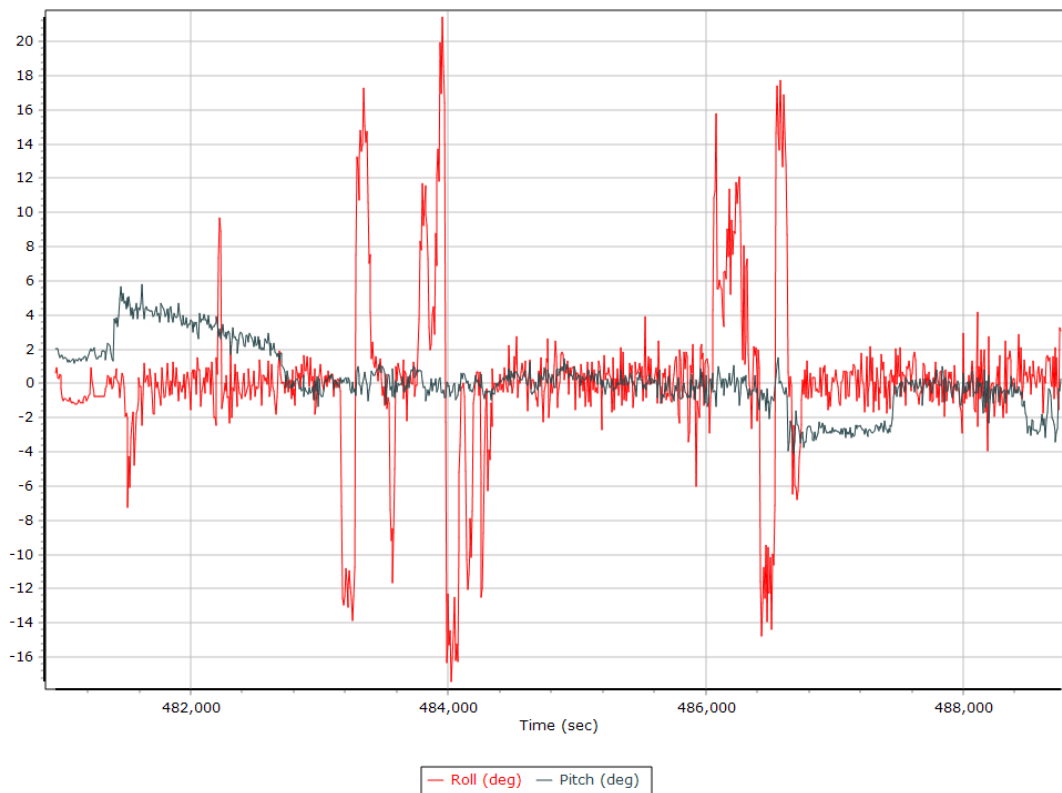
Top View



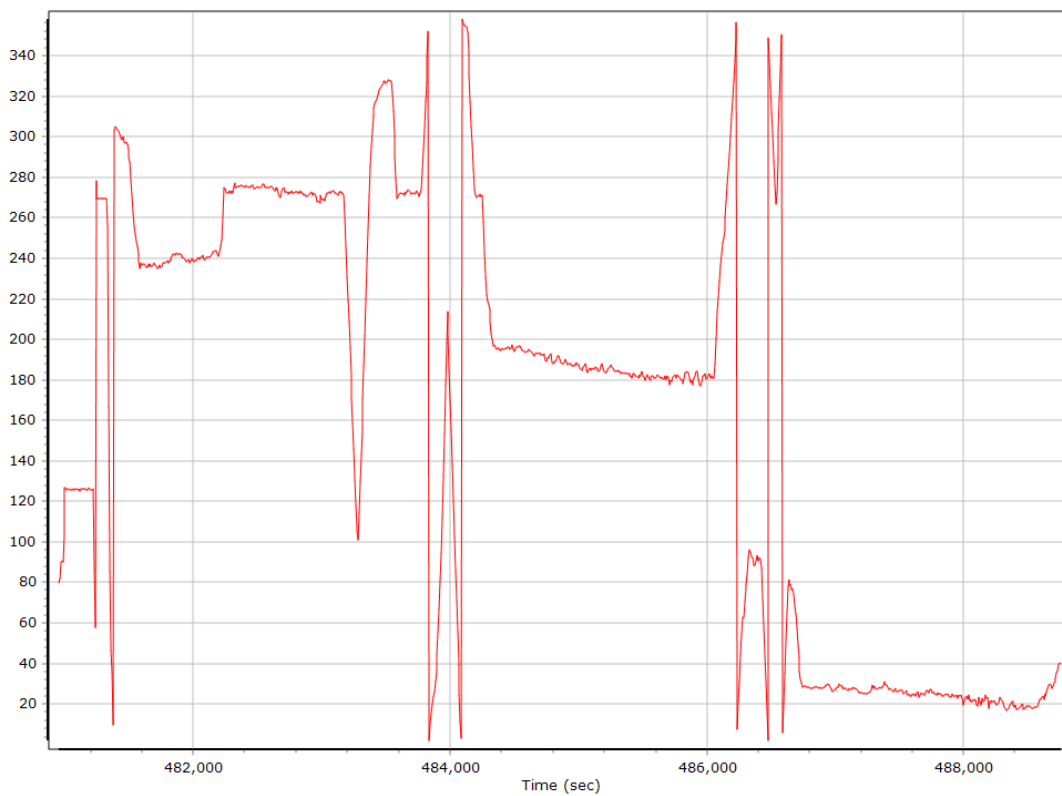
Altitude



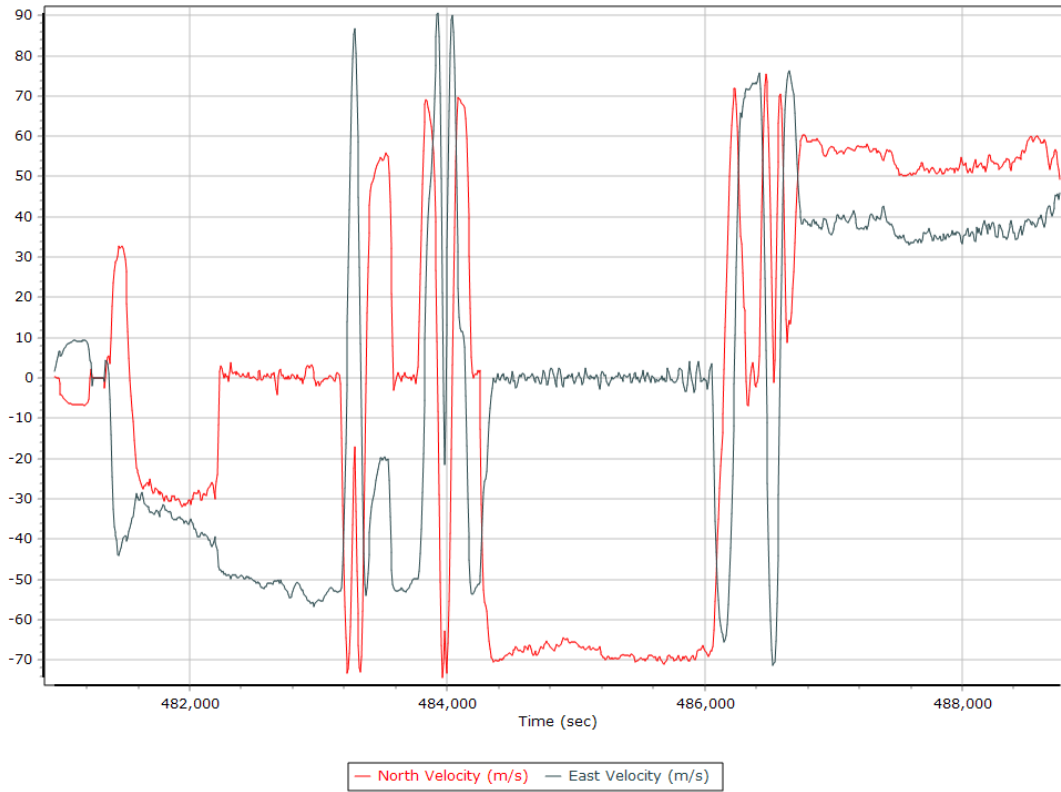
Roll/Pitch



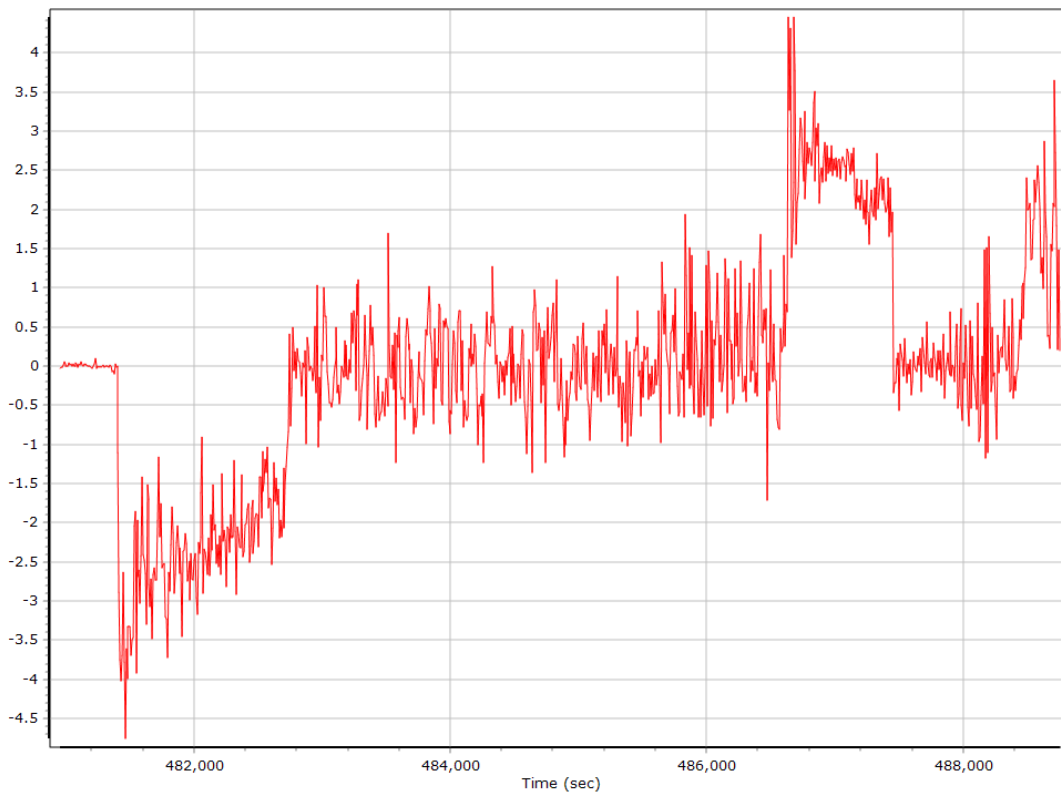
Heading



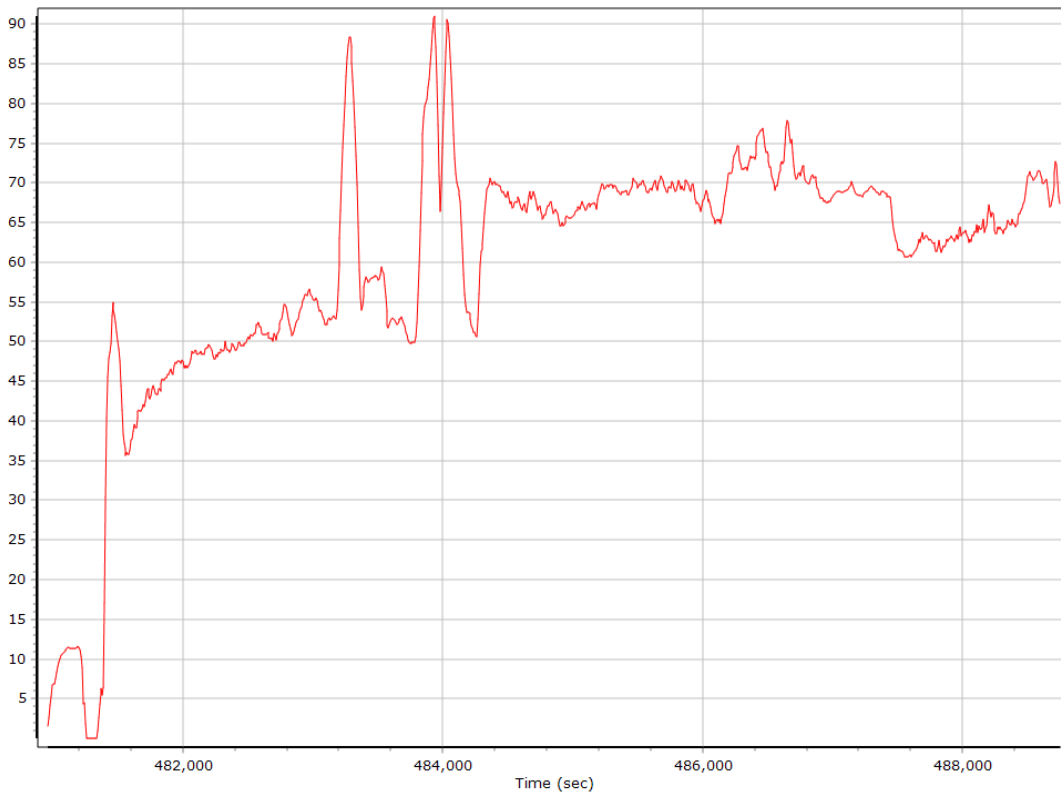
North/East Velocity



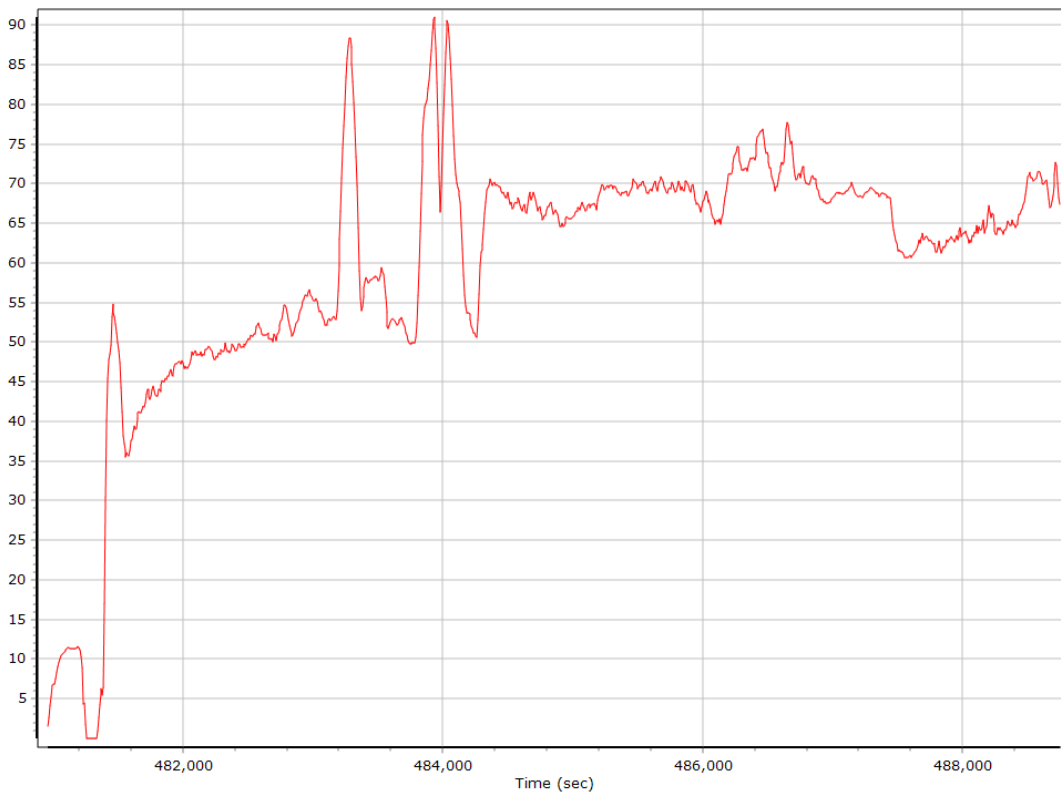
Down Velocity



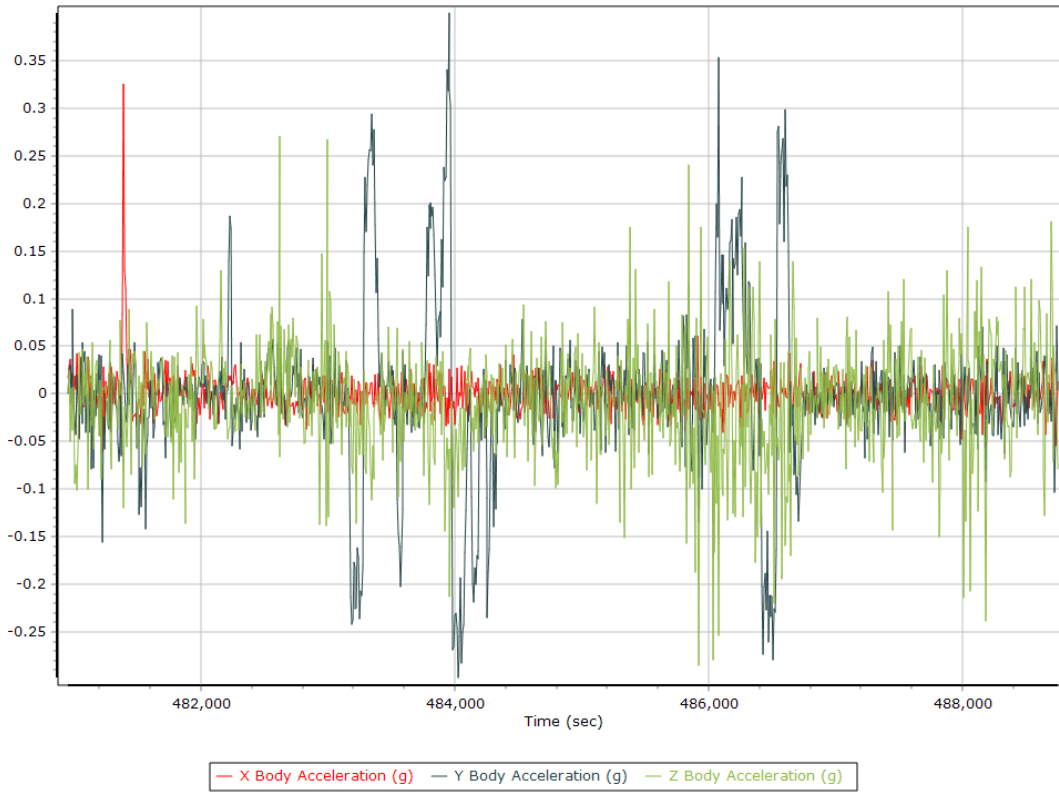
Total Speed



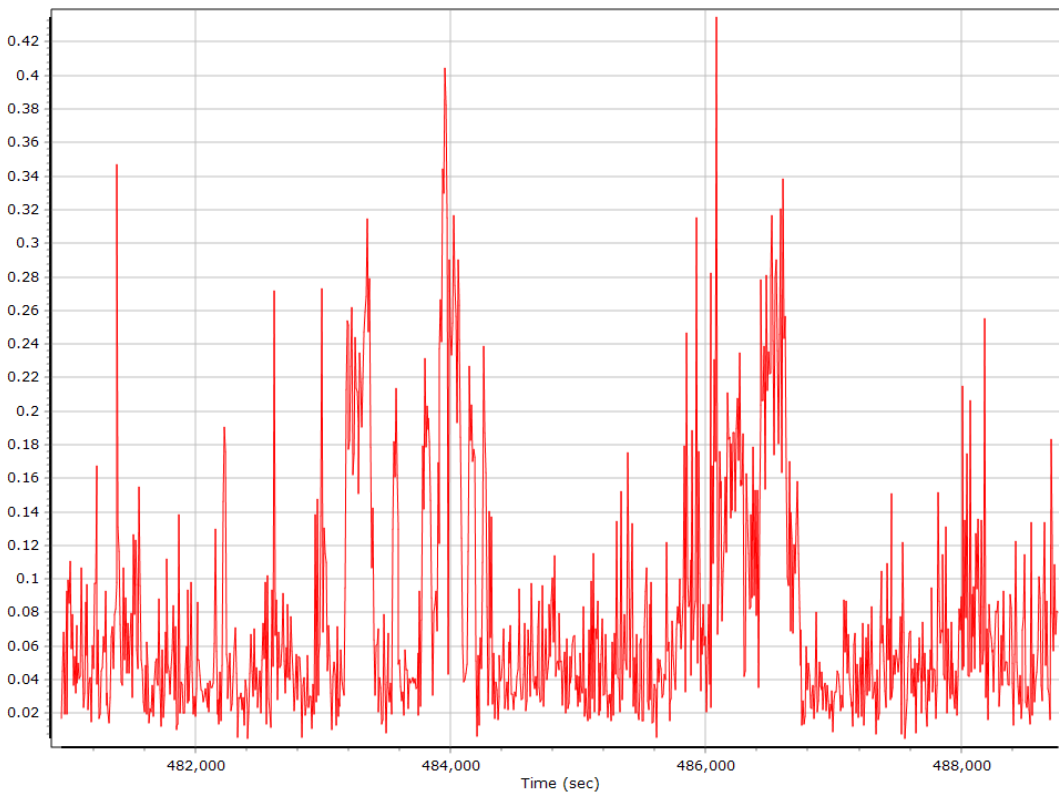
Ground Speed



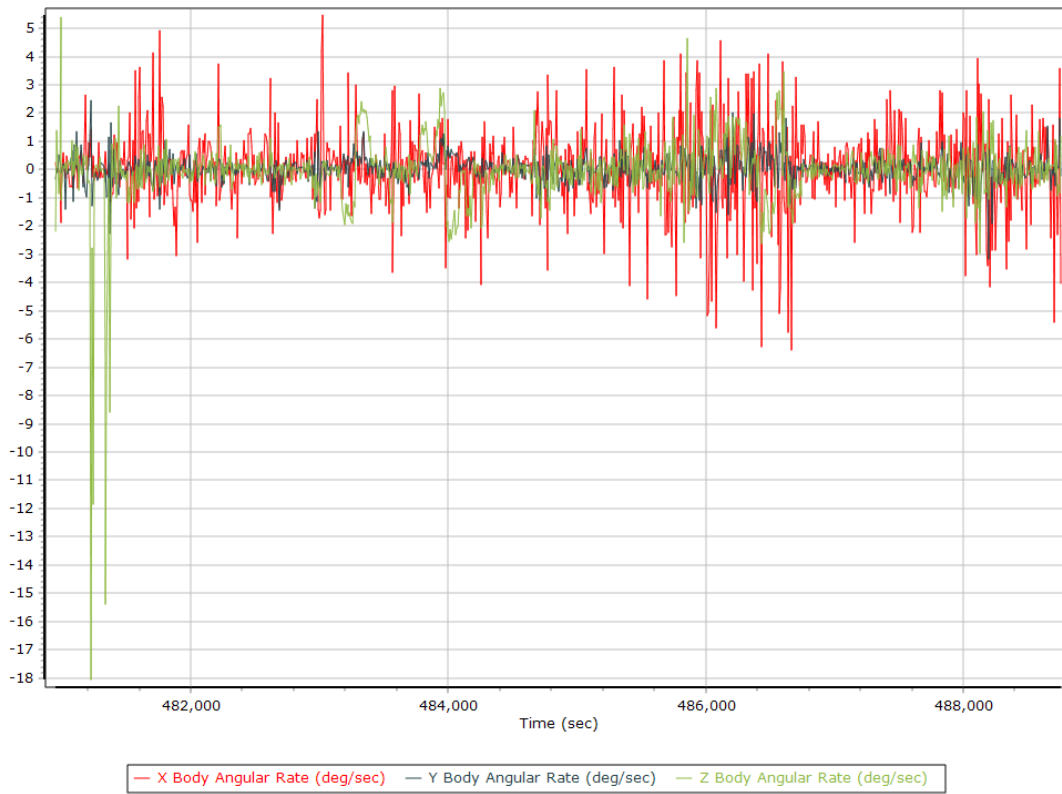
Body Acceleration



Total Body Acceleration

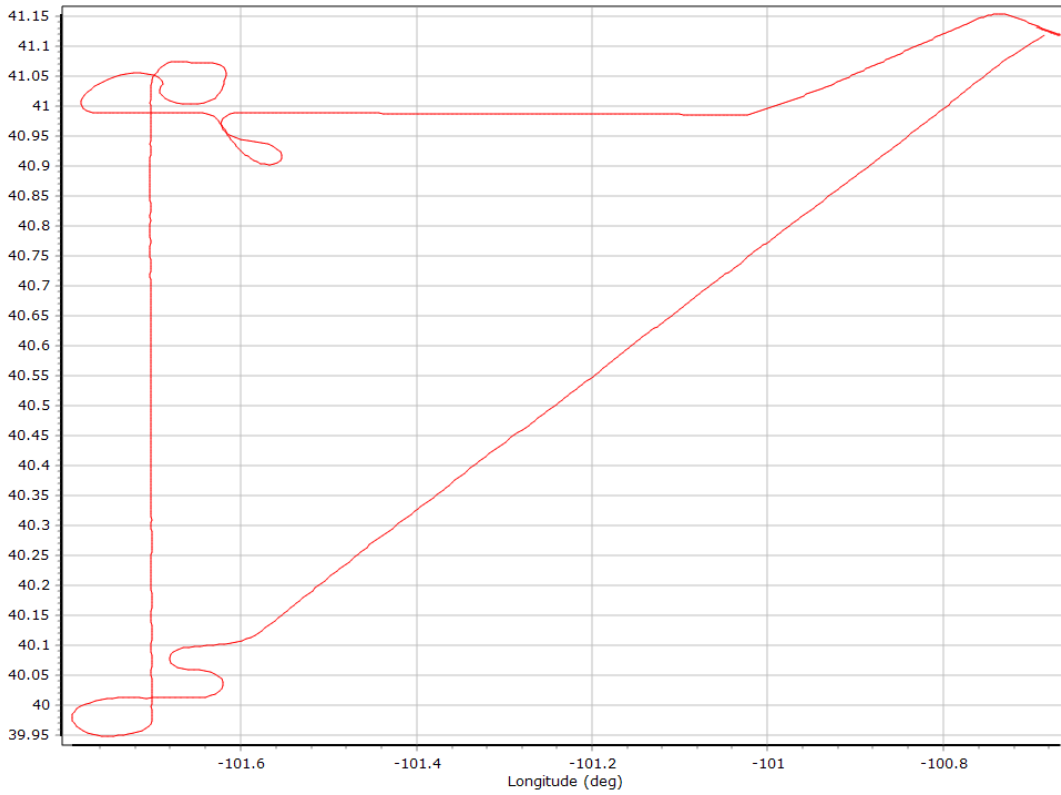


Body Angular Rate

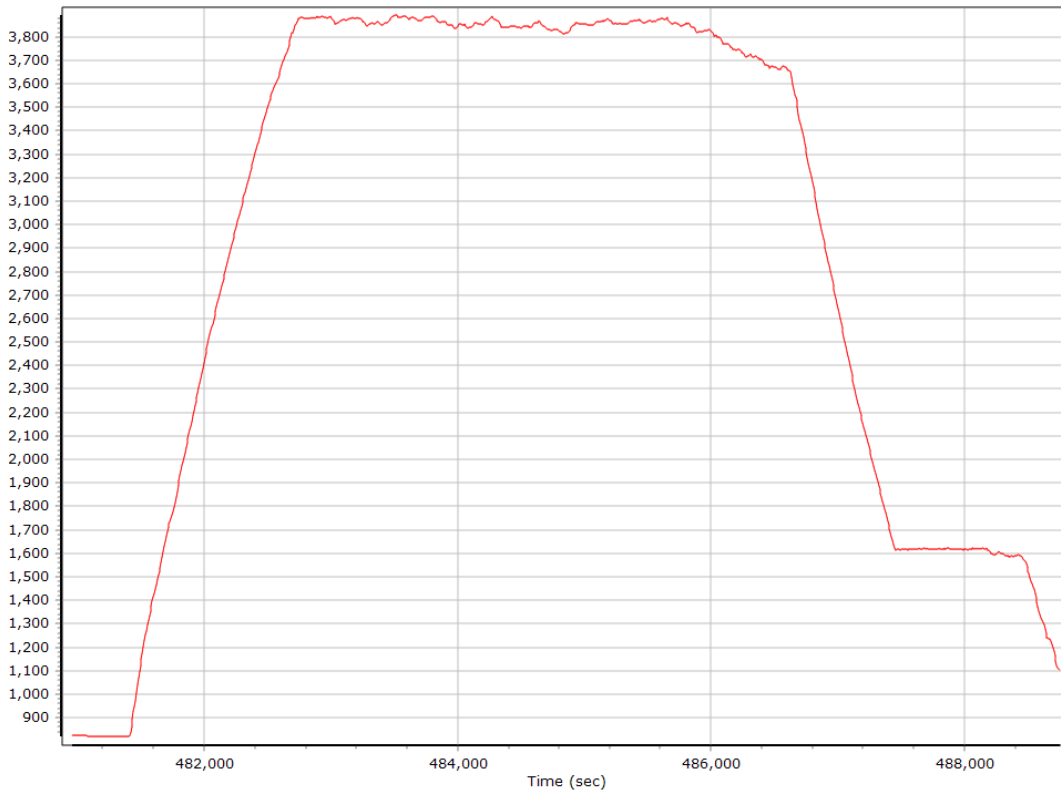


Forward Processed Trajectory Information

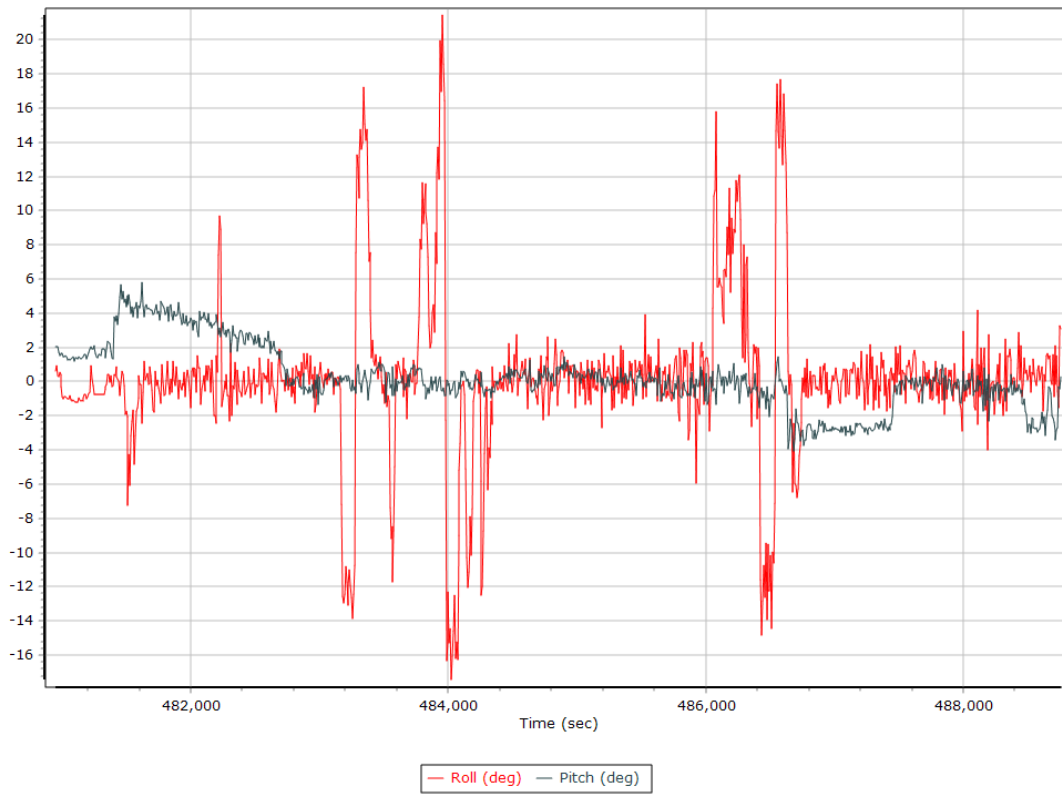
Top View



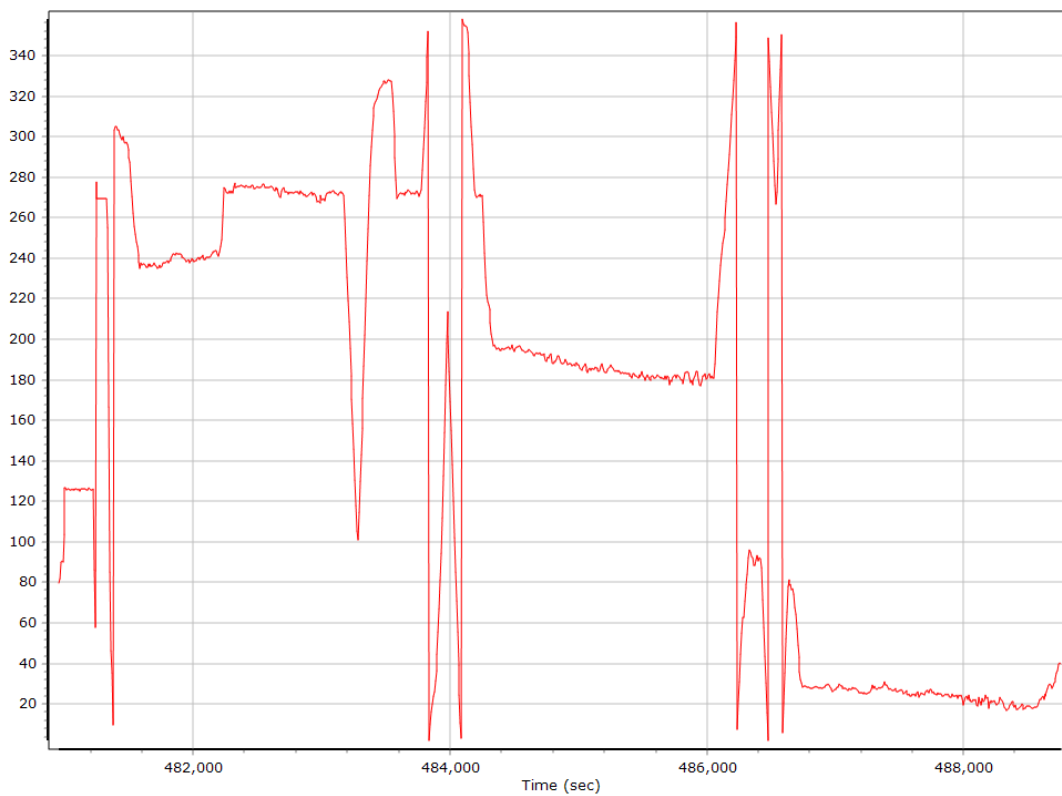
Altitude



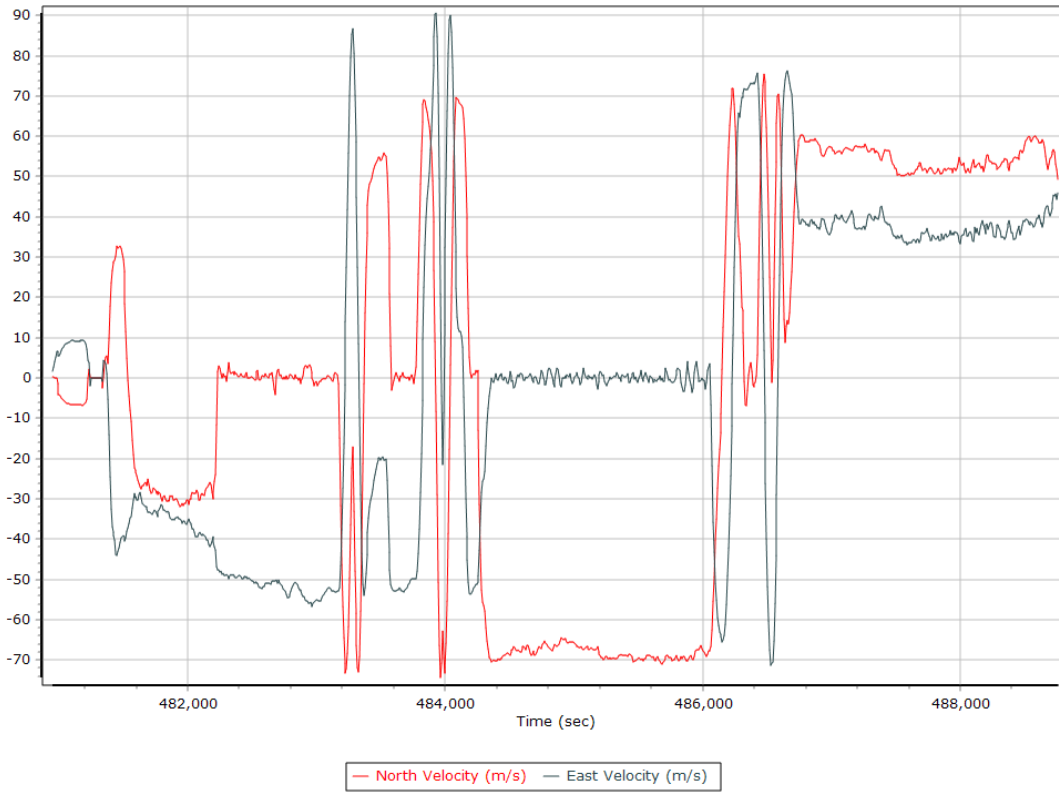
Roll/Pitch



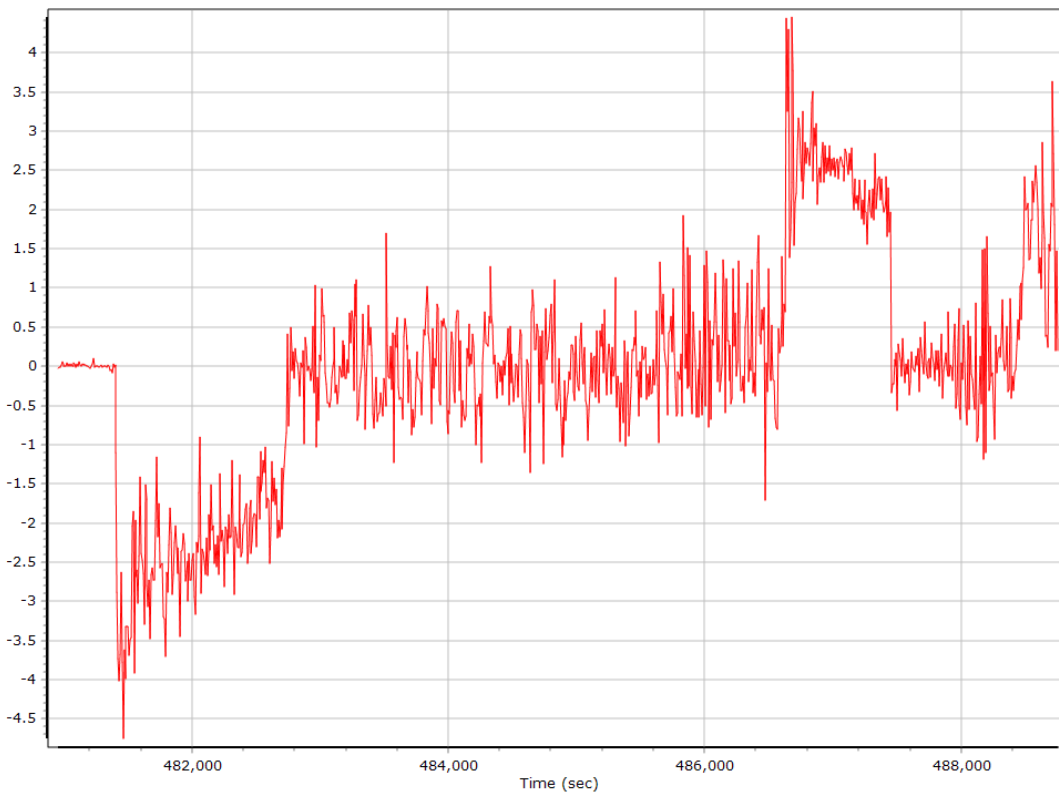
Heading



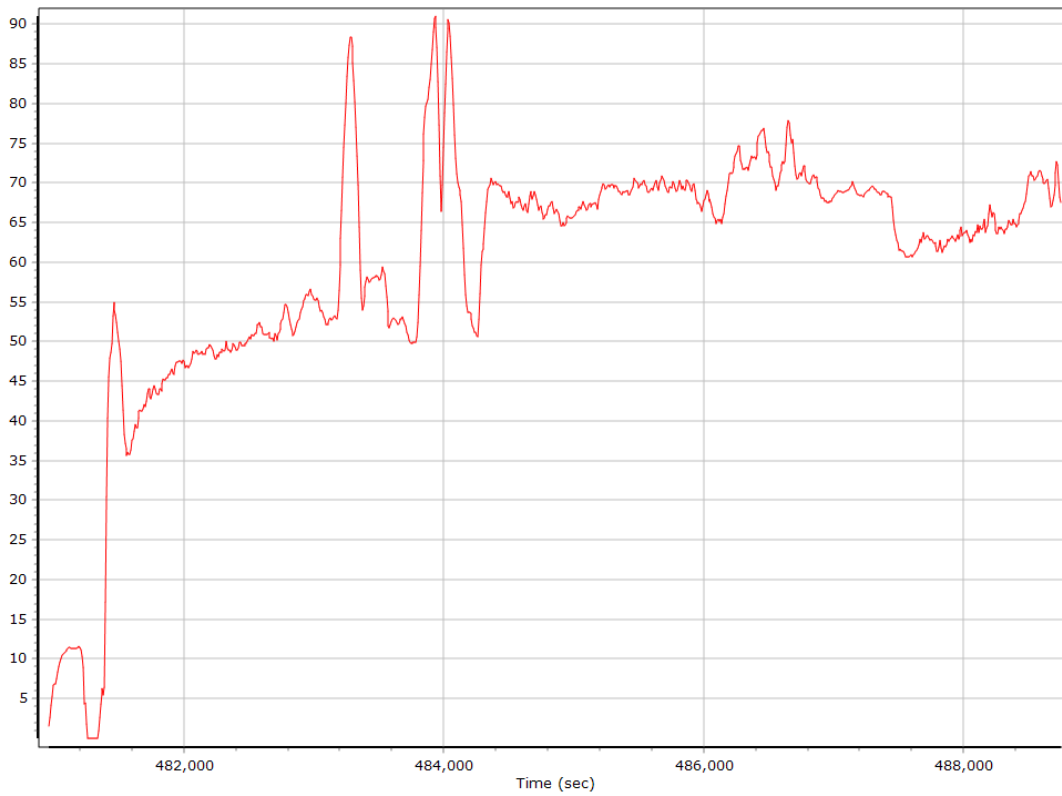
North/East Velocity



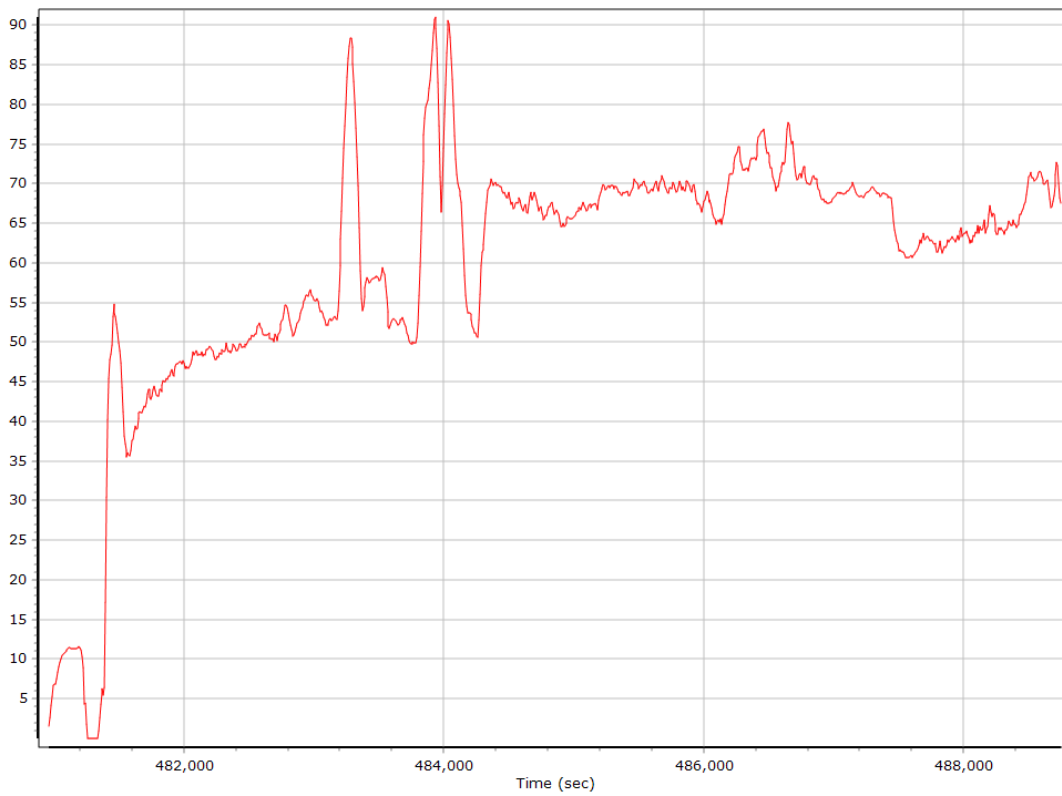
Down Velocity



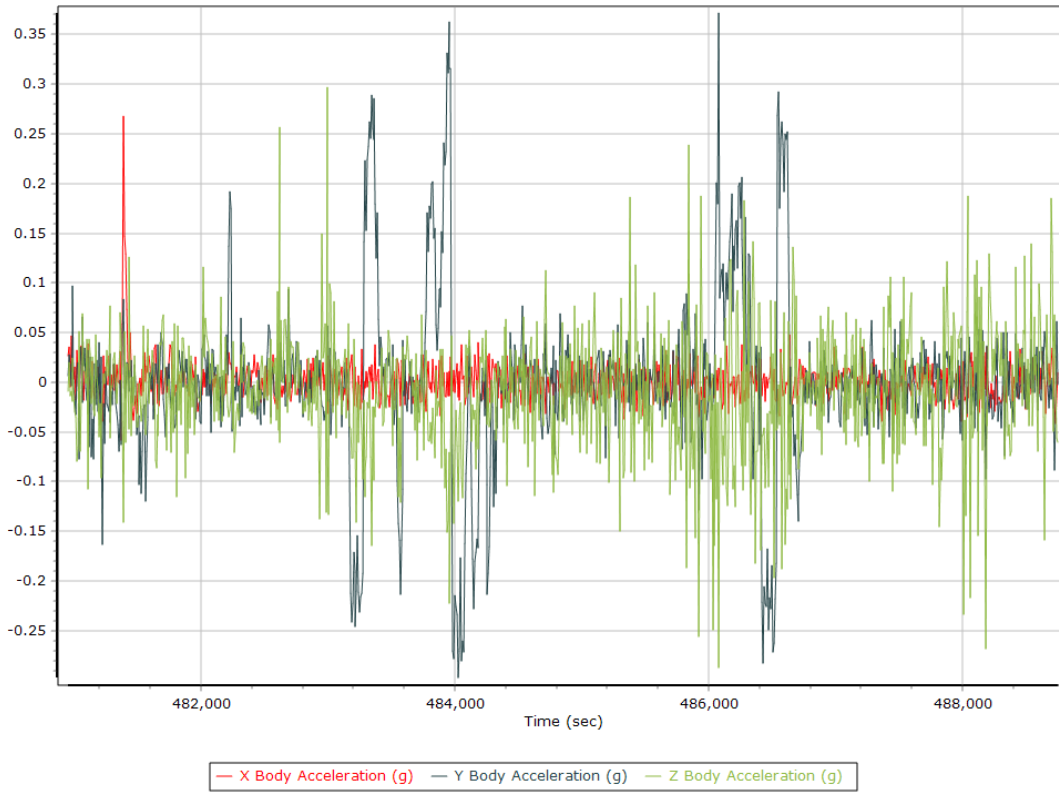
Total Speed



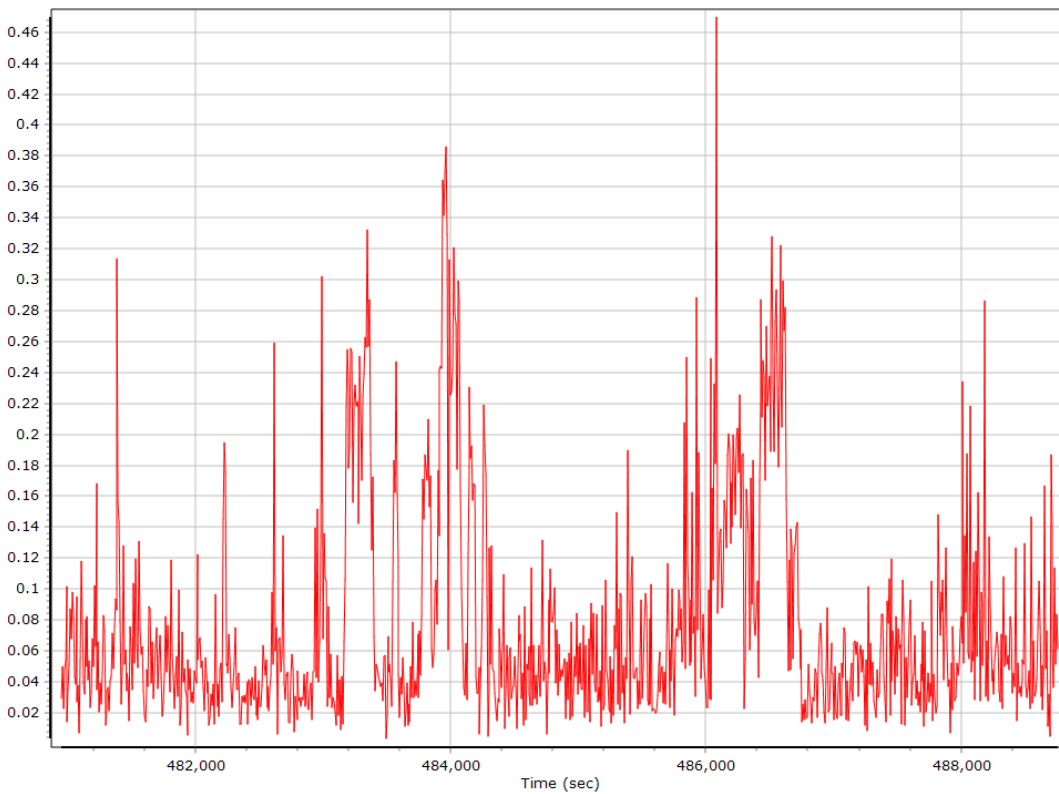
Ground Speed



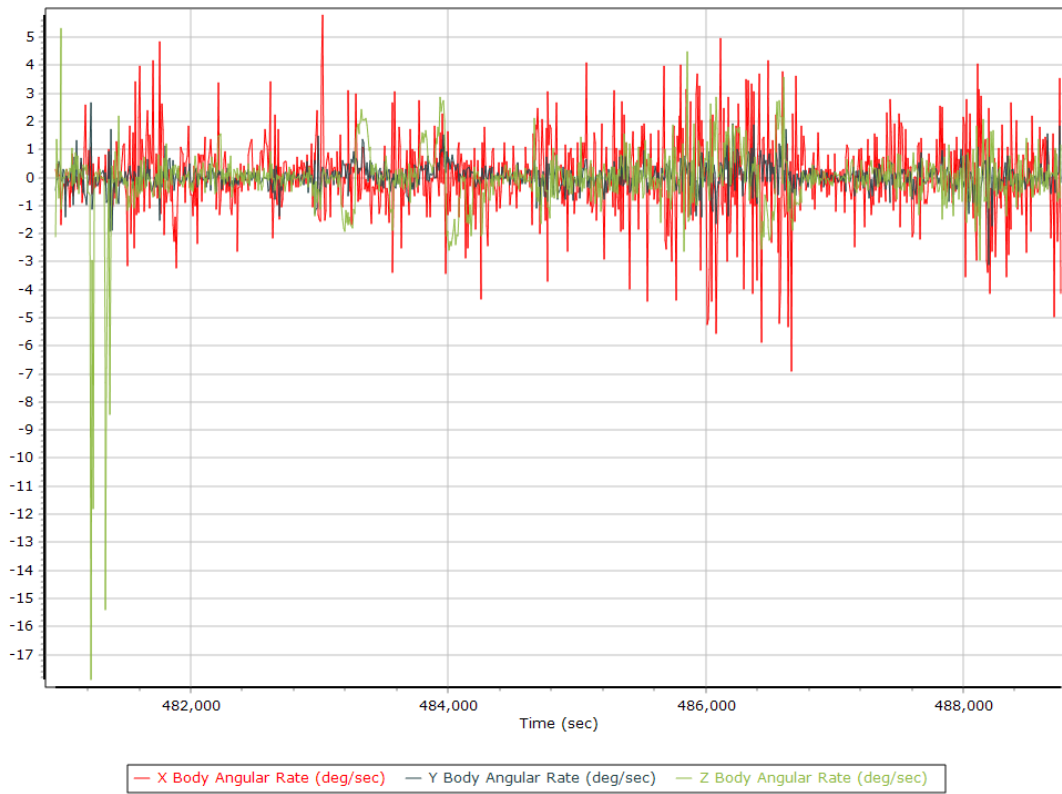
Body Acceleration



Total Body Acceleration



Body Angular Rate

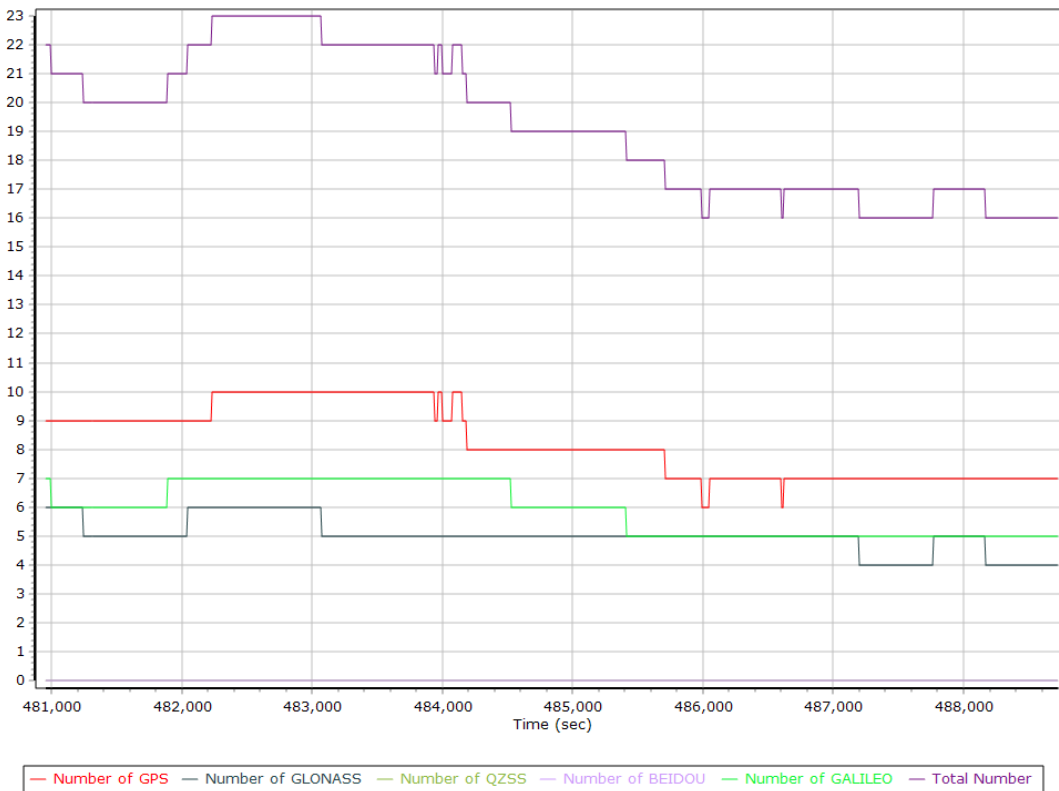


GNSS QC

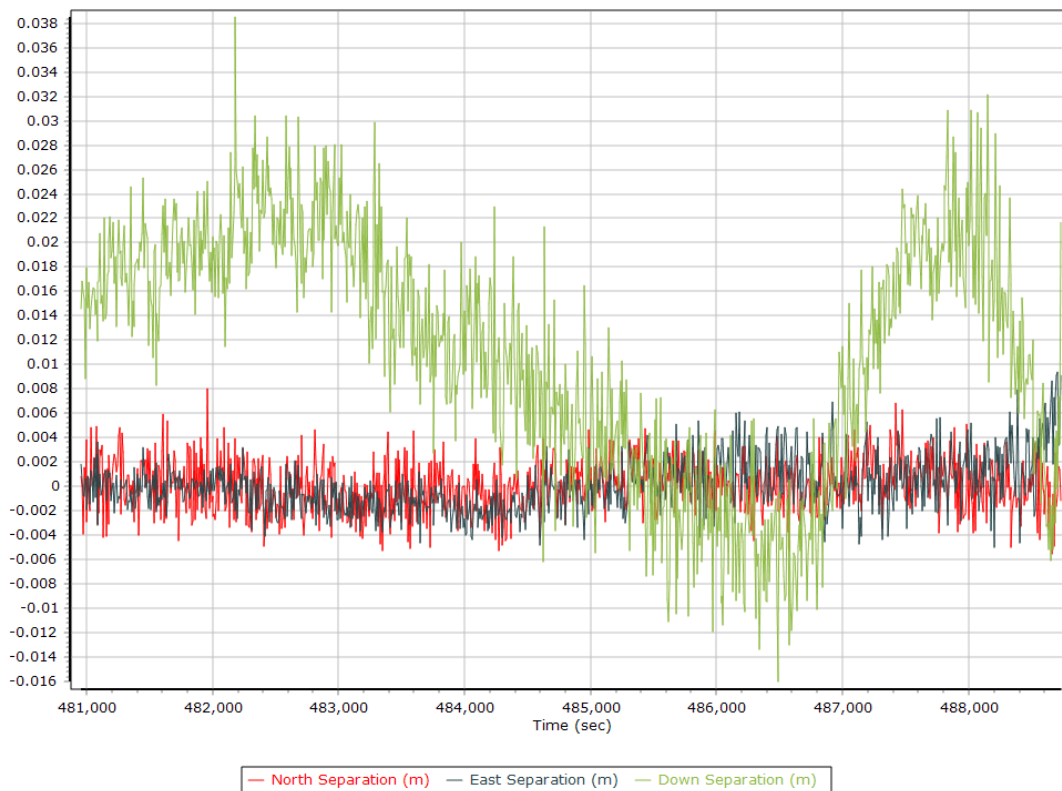
GNSS QC Statistics

| Statistics | Min | Max | Mean |
|----------------------|---------|-------|-------------|
| Baseline length (km) | 0.00 | 0.00 | |
| Number of GPS SV | 6 | 10 | 8 |
| Number of GLONASS SV | 4 | 7 | 5 |
| 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 | 25 | 19 |
| PDOP | 0.93 | 1.62 | 1.20 |
| QC Solution Gaps | 1.00 | 1.00 | |
| Solution Type | Fixed | Float | No solution |
| Epoch (sec) | 8187.00 | 0.00 | 10.00 |
| Percentage | 99.88 | 0.00 | 0.12 |

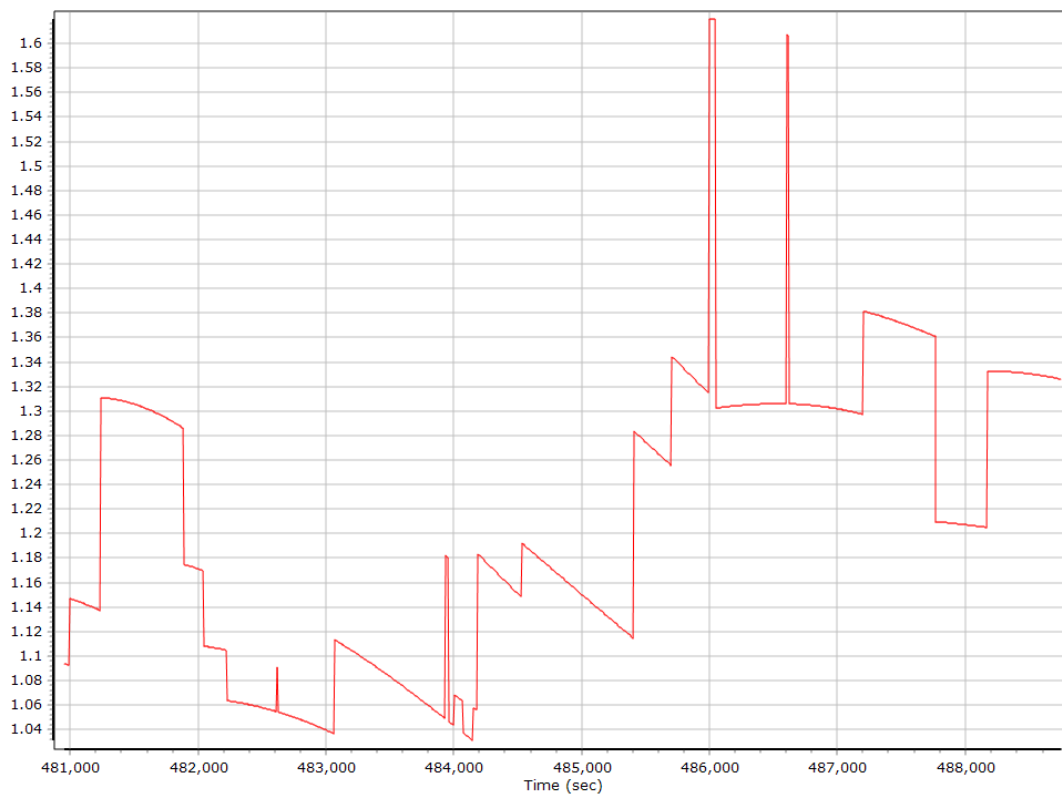
Num SVs in solution



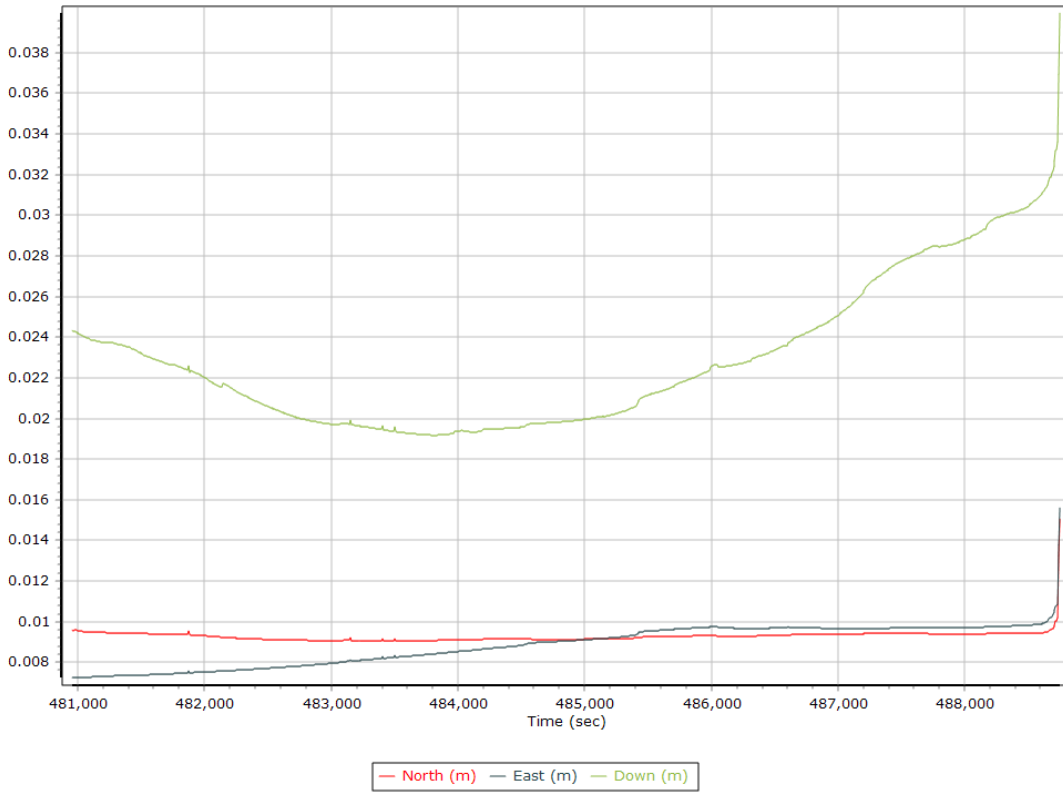
Forward/Reverse Separation



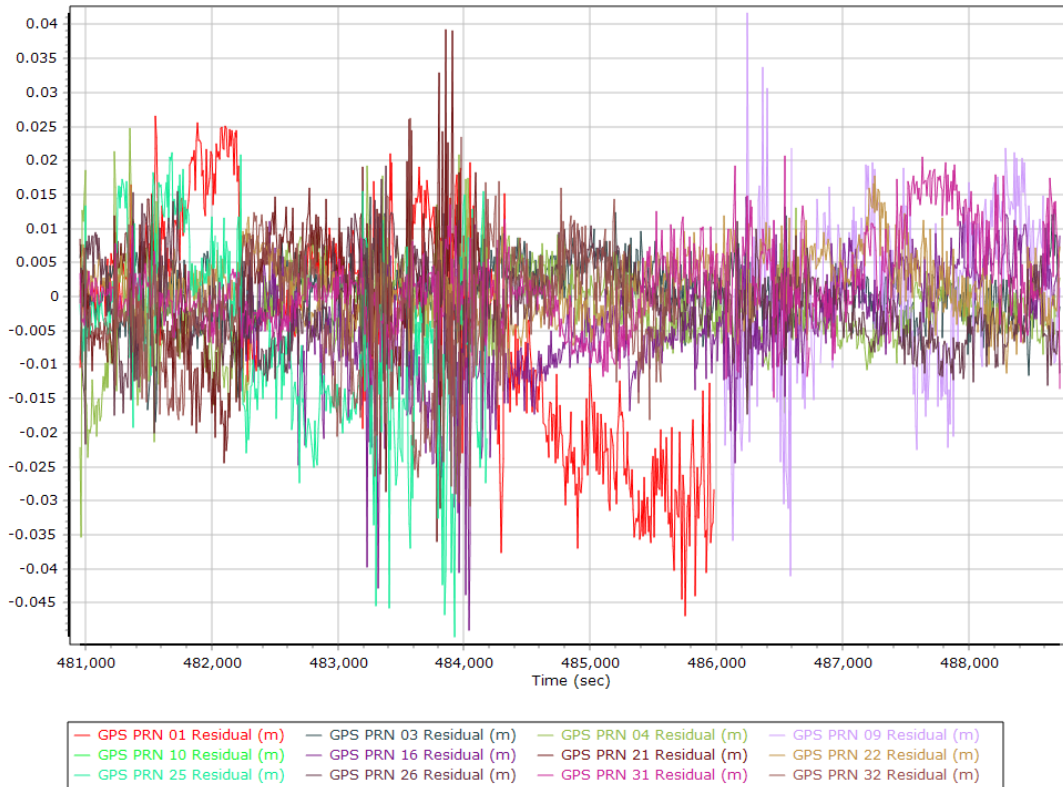
PDOP



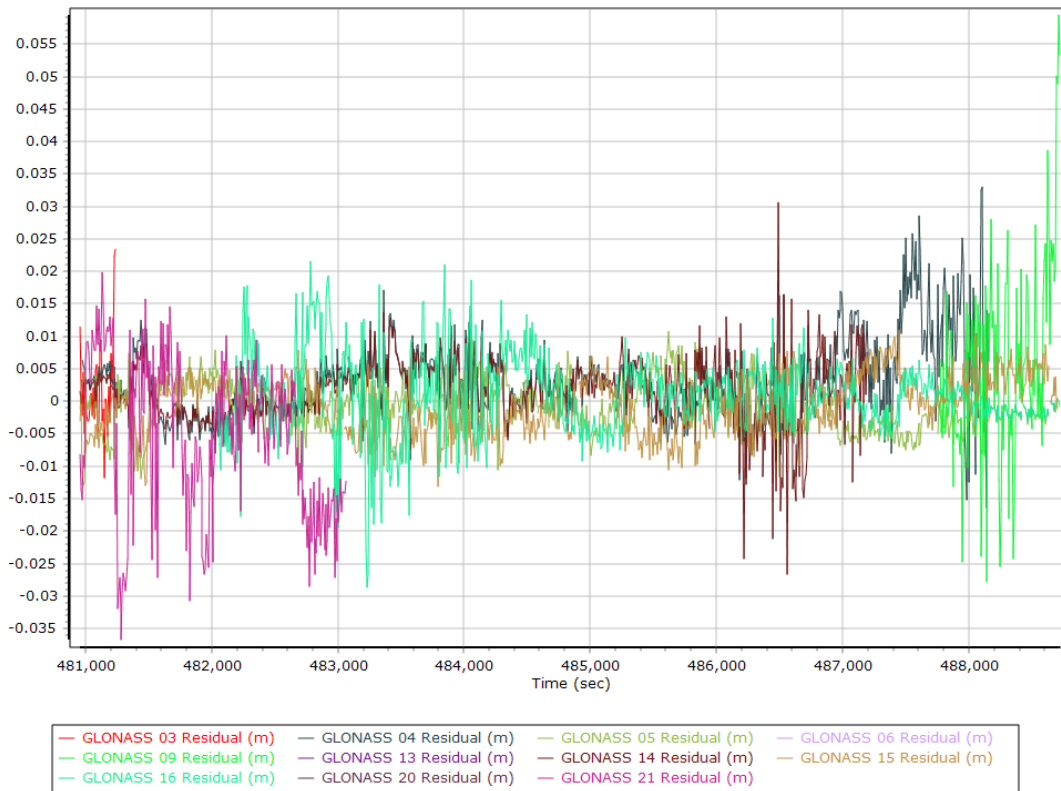
Estimated Position Accuracy



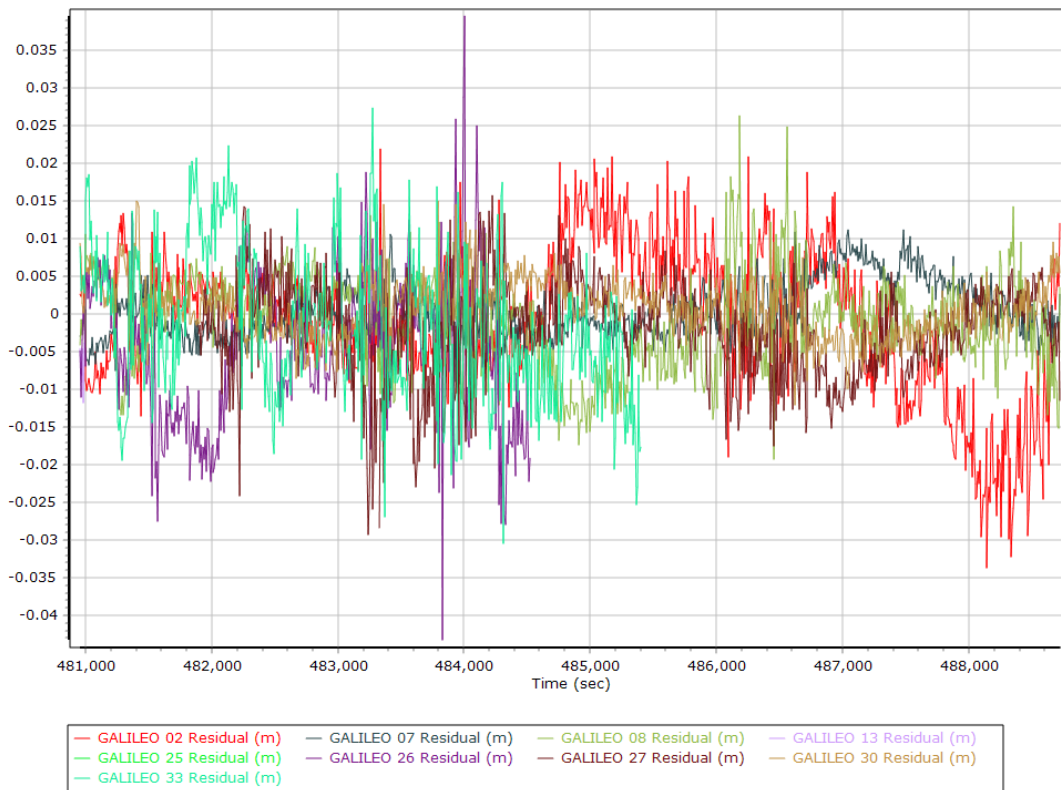
GPS Residuals



GLONASS Residuals



GALILEO Residuals



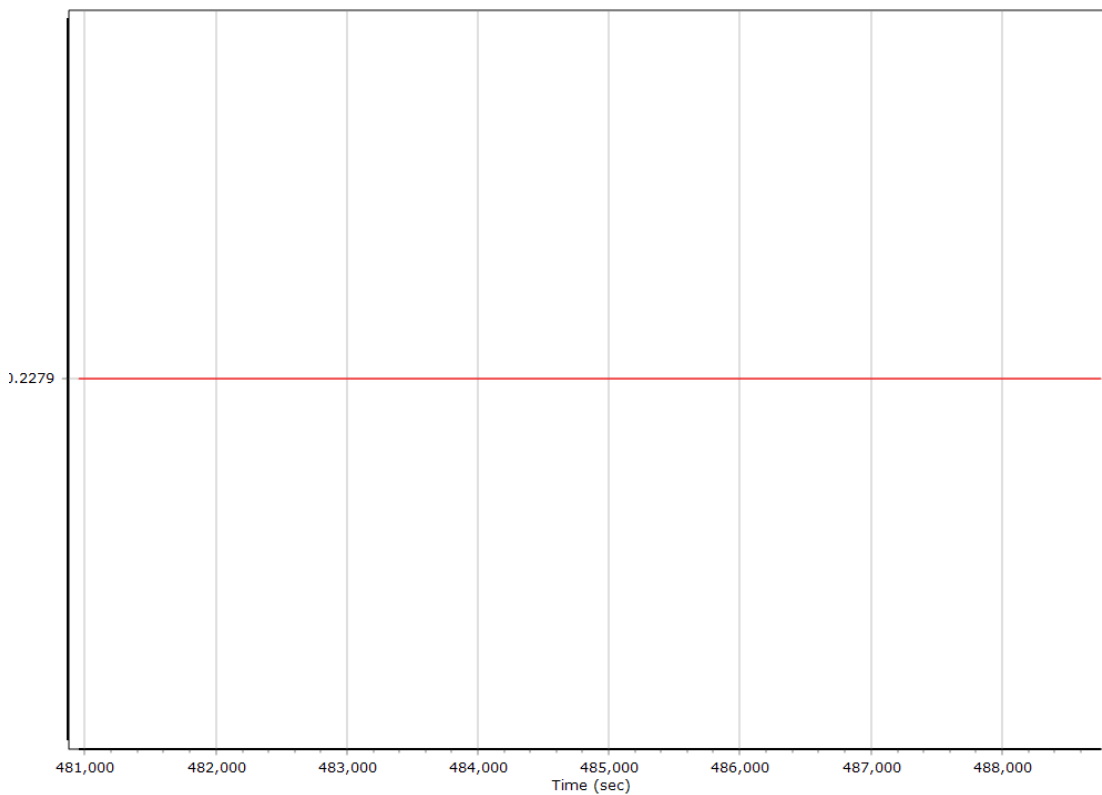
GNSS-Inertial Processor Configuration

| | | | |
|---|----------------------------------|--------|---------|
| Processing mode | IN-Fusion PP-RTX | | |
| Stabilized mount | False | | |
| Processing start time | 480527.000 (02/26/2021 13:28:47) | | |
| Processing end time | 488757.000 (02/26/2021 15:45:57) | | |
| 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) | 0.228 | -0.286 | -0.967 |
| 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 |

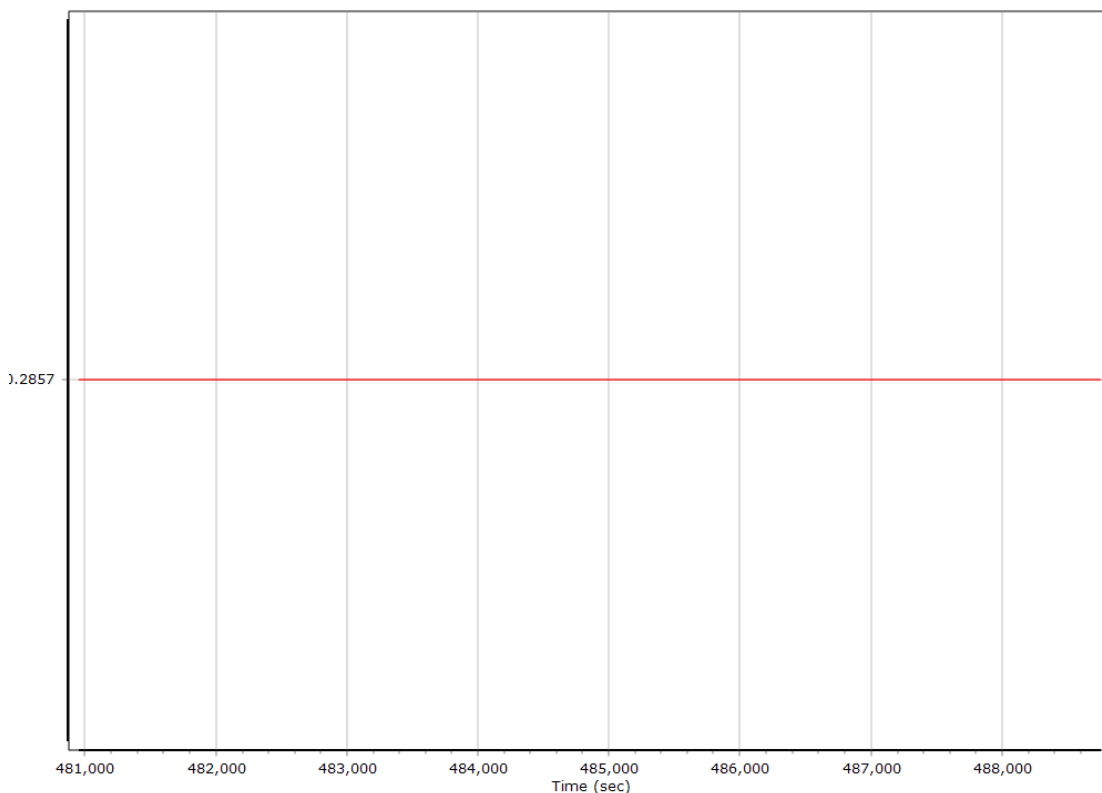
Calibrated Installation Parameters

Reference-Primary GNSS Lever Arm (m)

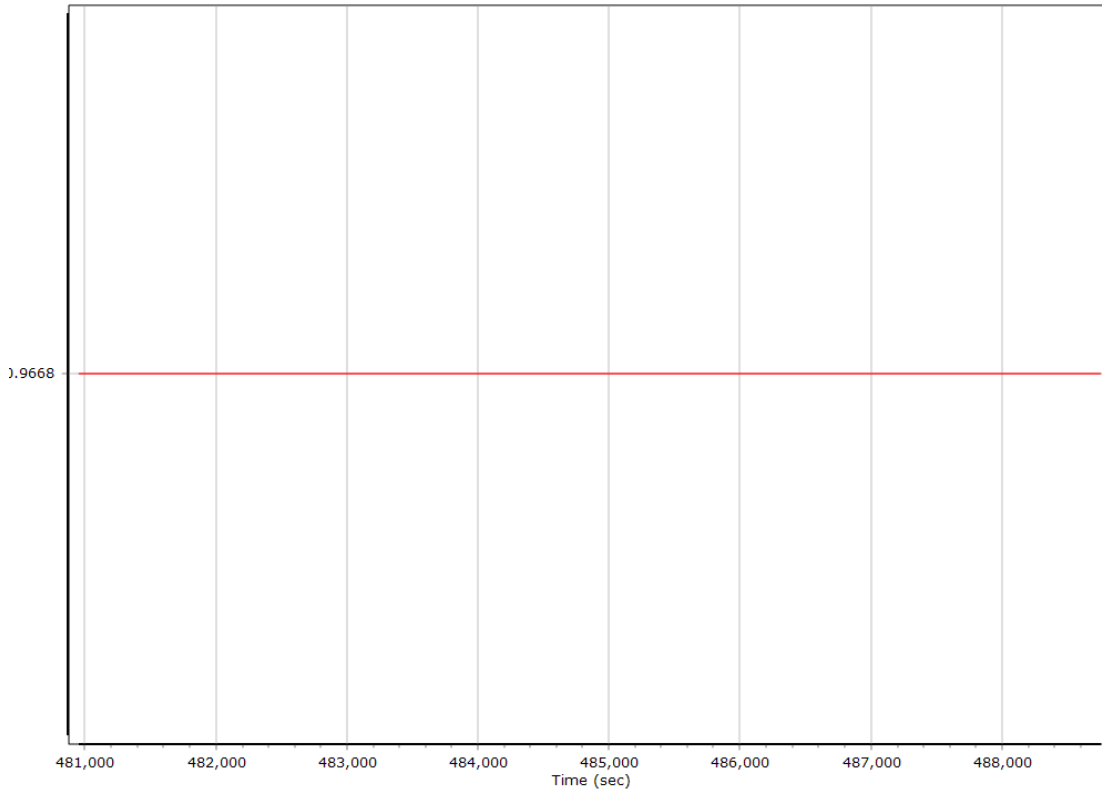
X Reference-Primary GNSS Lever Arm (m)



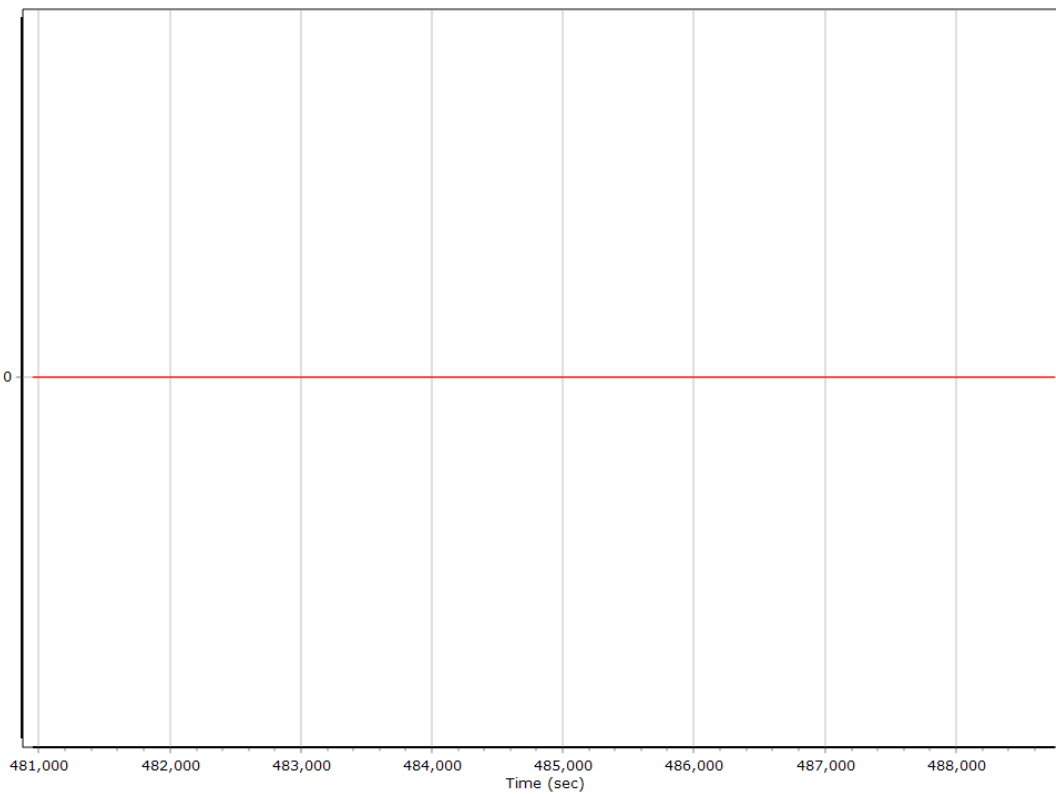
Y Reference-Primary GNSS Lever Arm (m)



Z Reference-Primary GNSS Lever Arm (m)



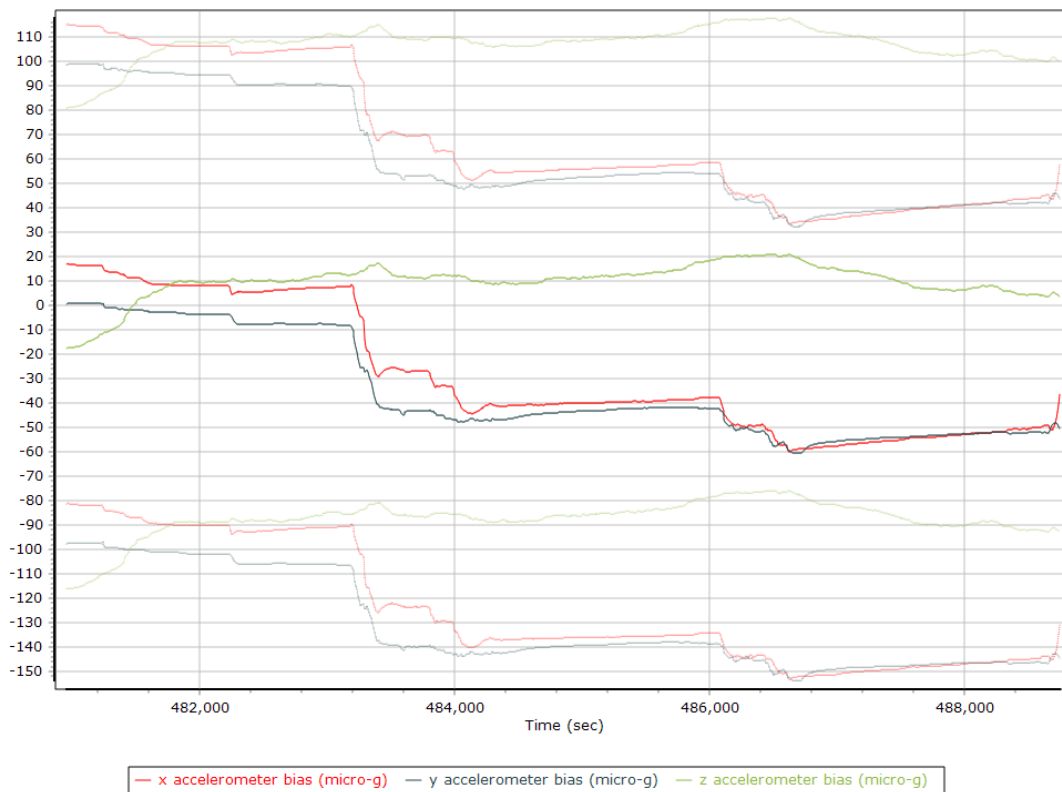
Reference-Primary GNSS Lever Arm Figure of Merit



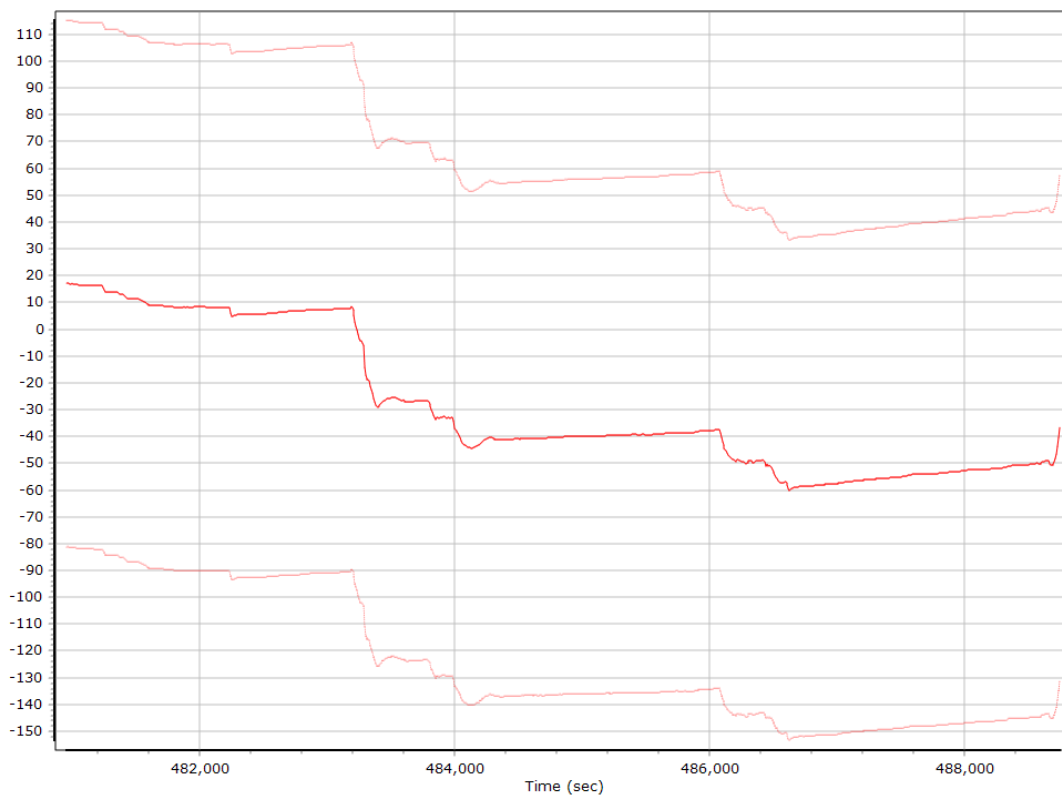
IN-Fusion QC

Forward Processed Estimated Errors, Reference Frame

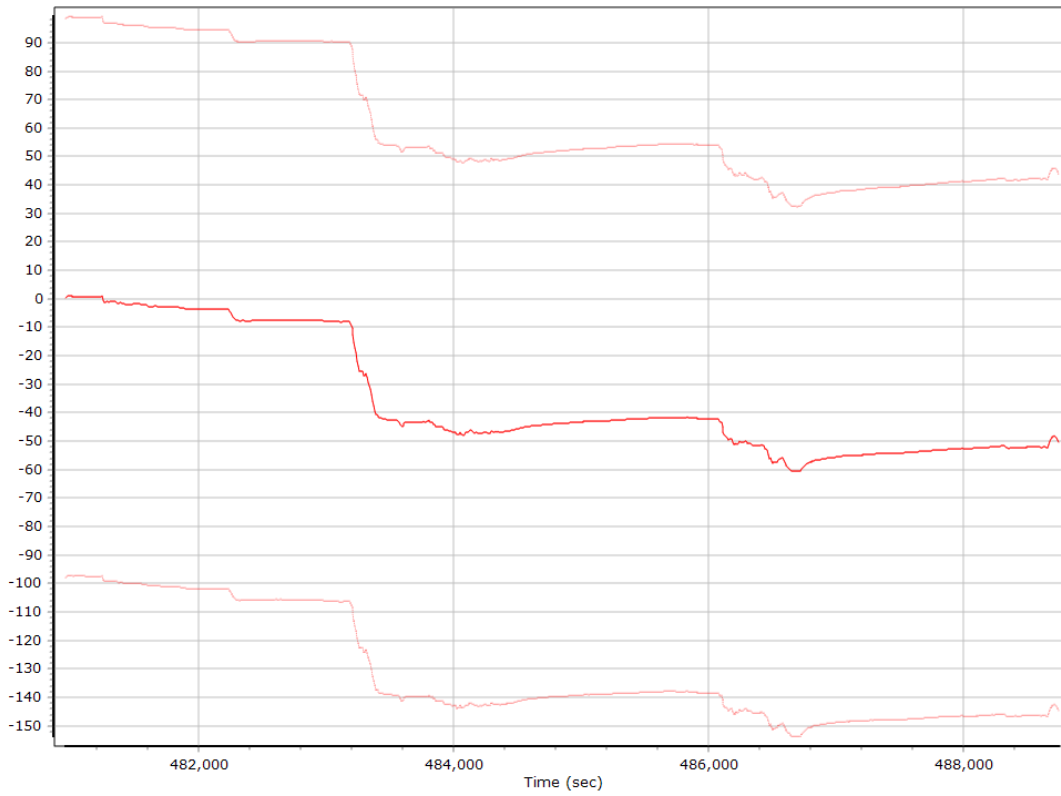
Accelerometer Bias (micro-g)



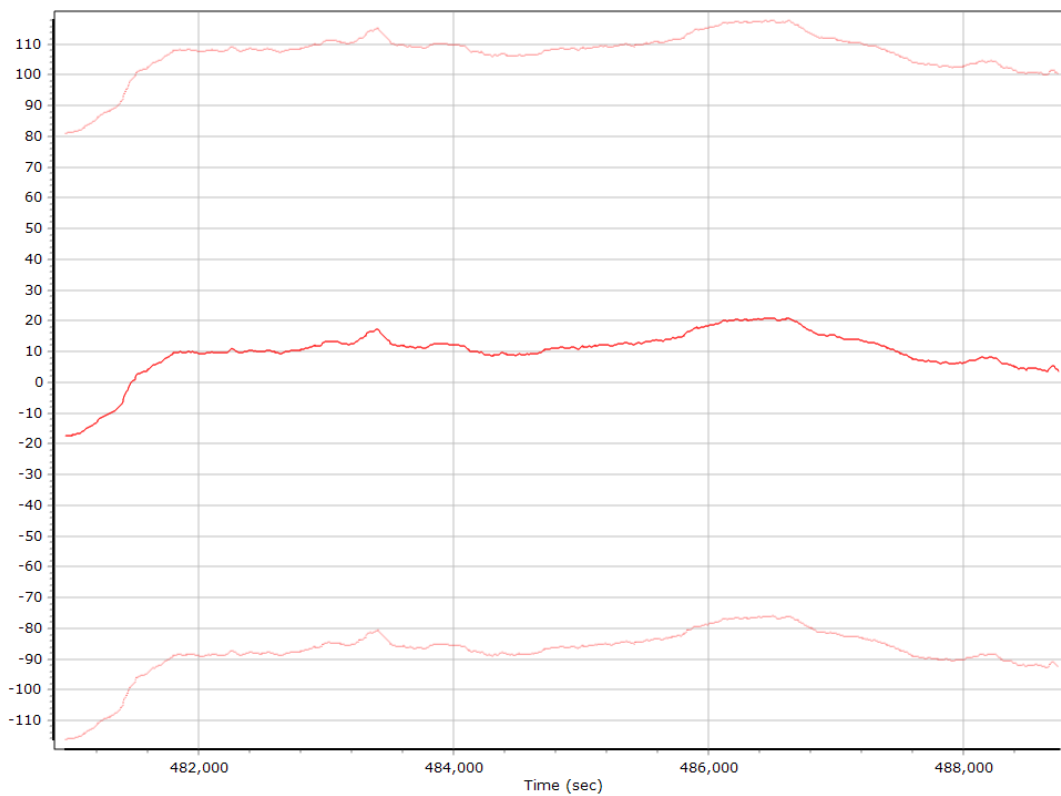
X Accelerometer Bias (micro-g)



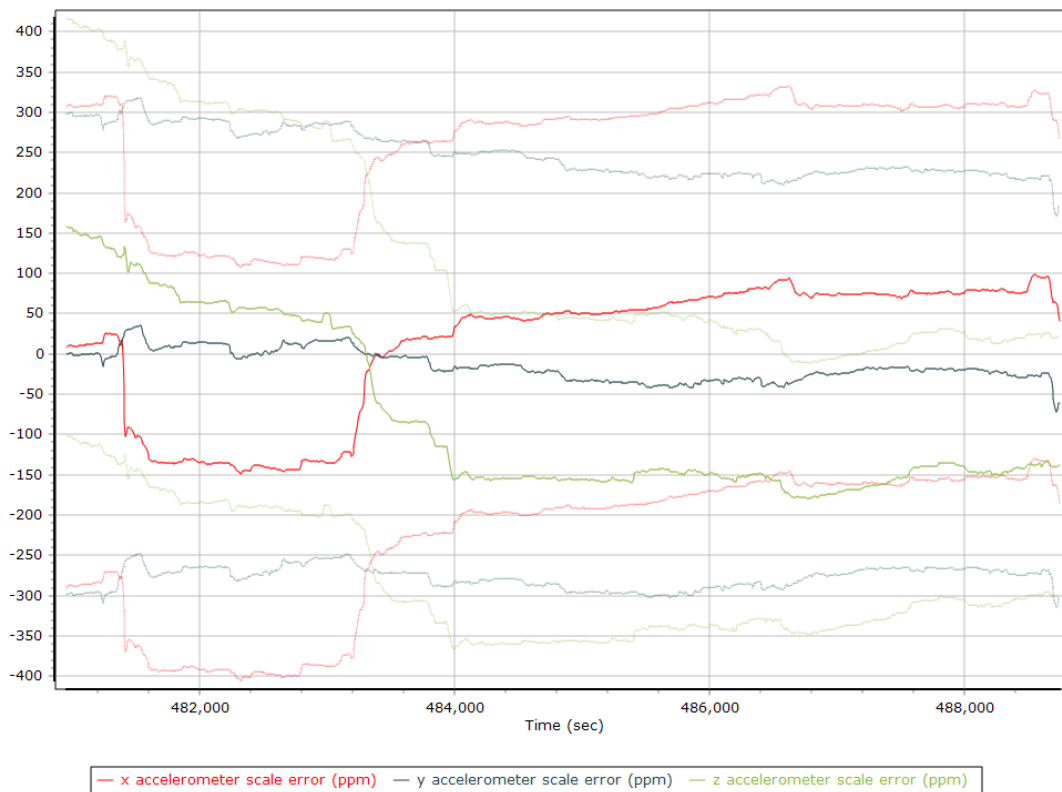
Y Accelerometer Bias (micro-g)



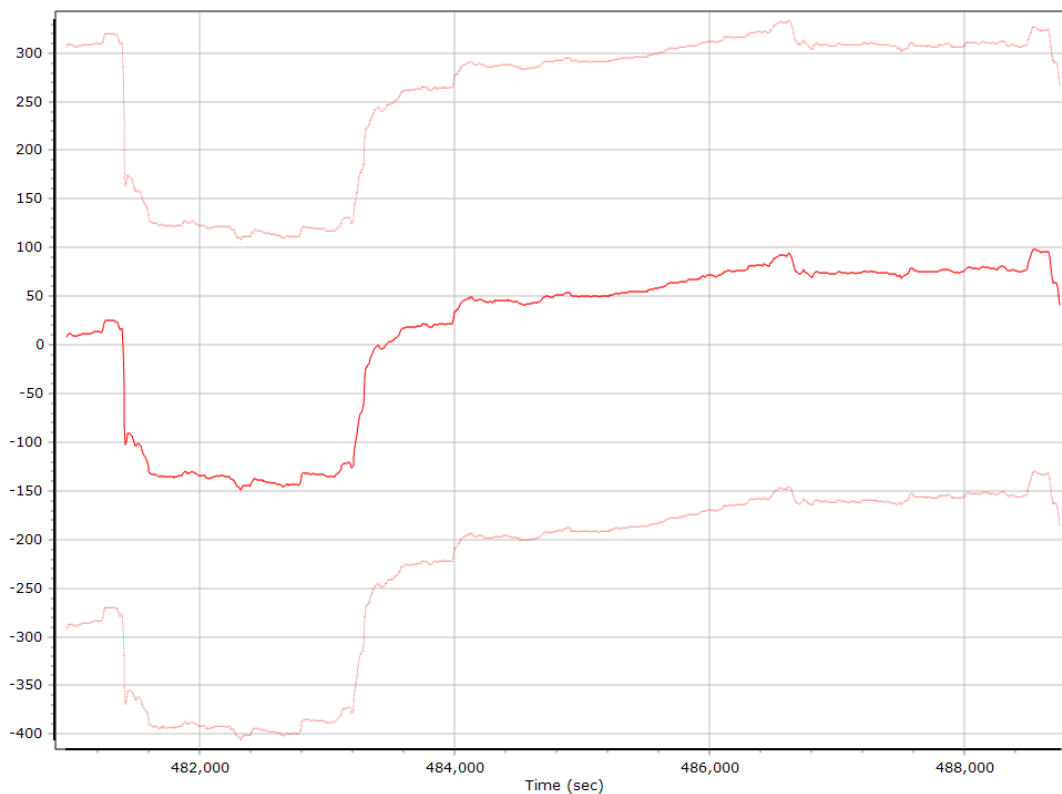
Z Accelerometer Bias (micro-g)



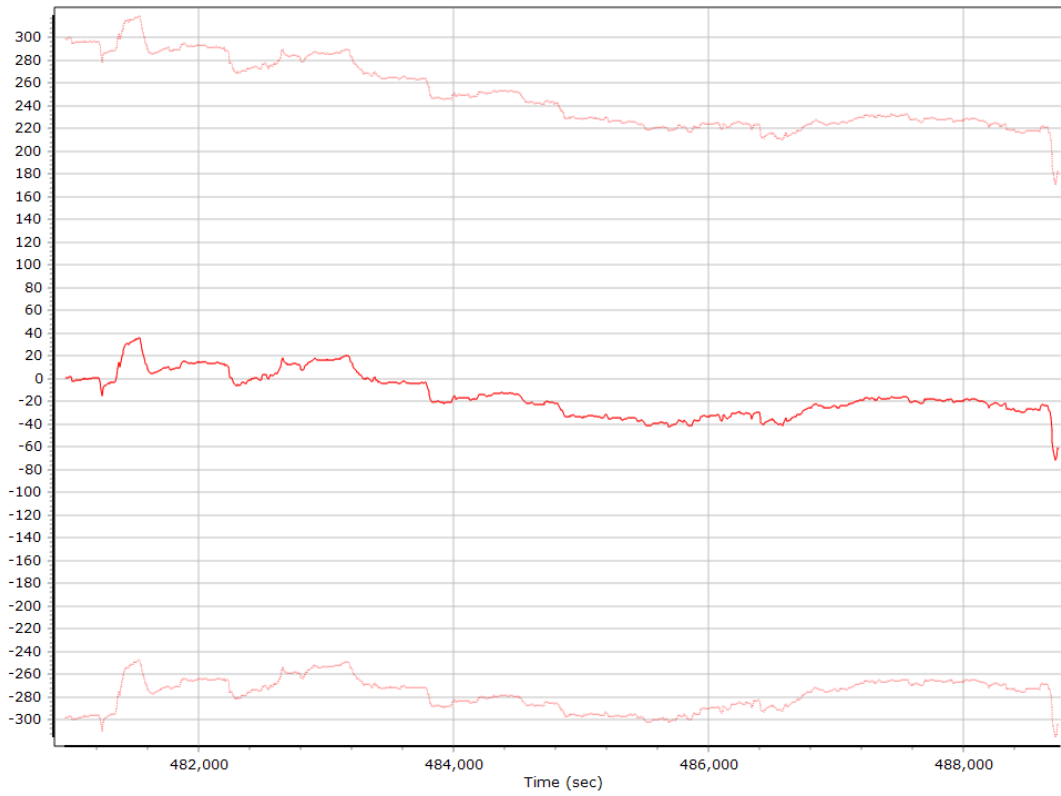
Accelerometer Scale Error (ppm)



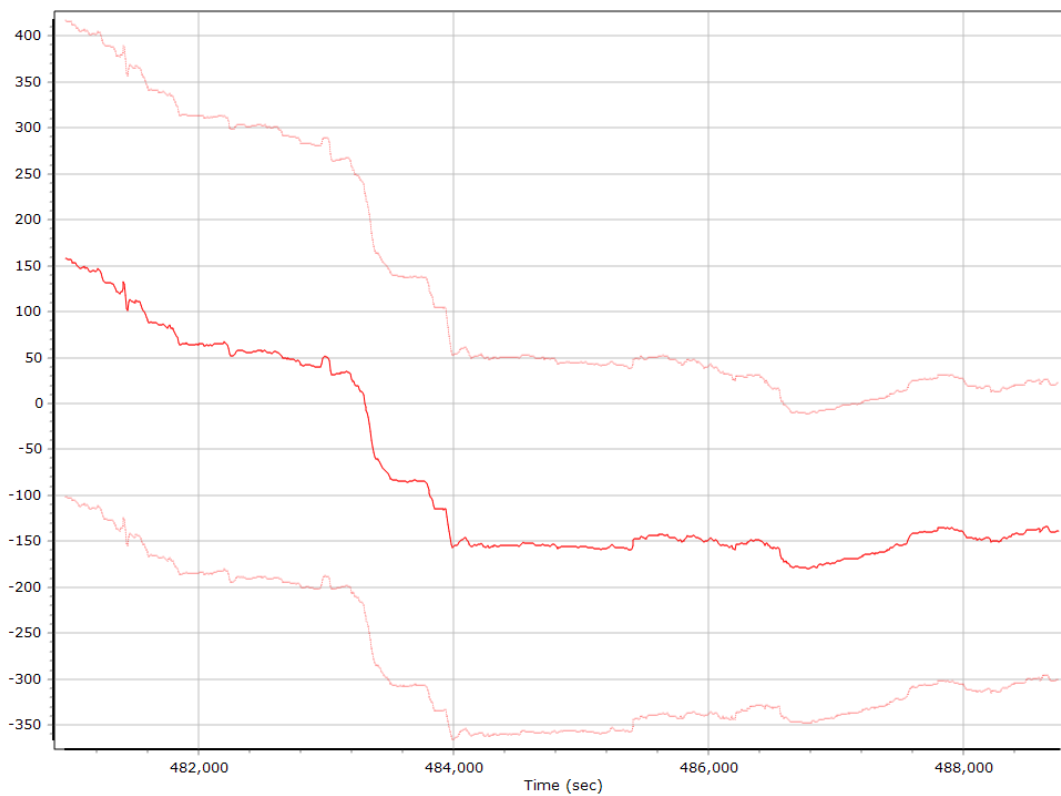
X Accelerometer Scale Error (ppm)



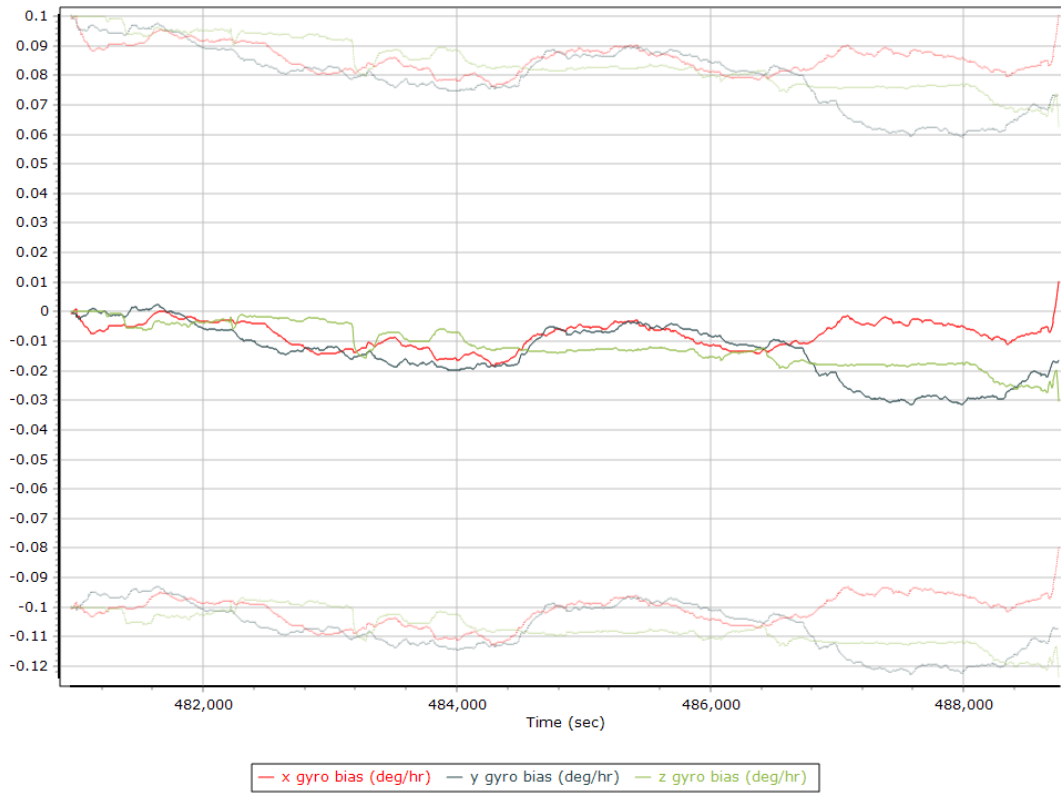
Y Accelerometer Scale Error (ppm)



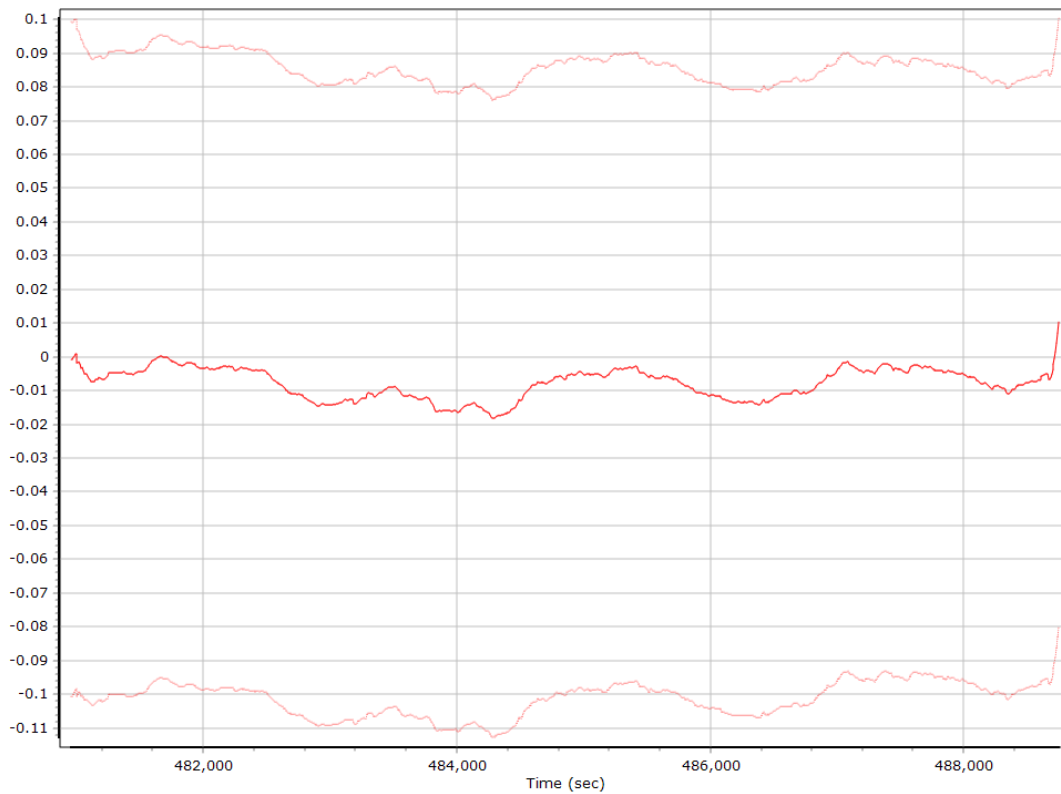
Z Accelerometer Scale Error (ppm)



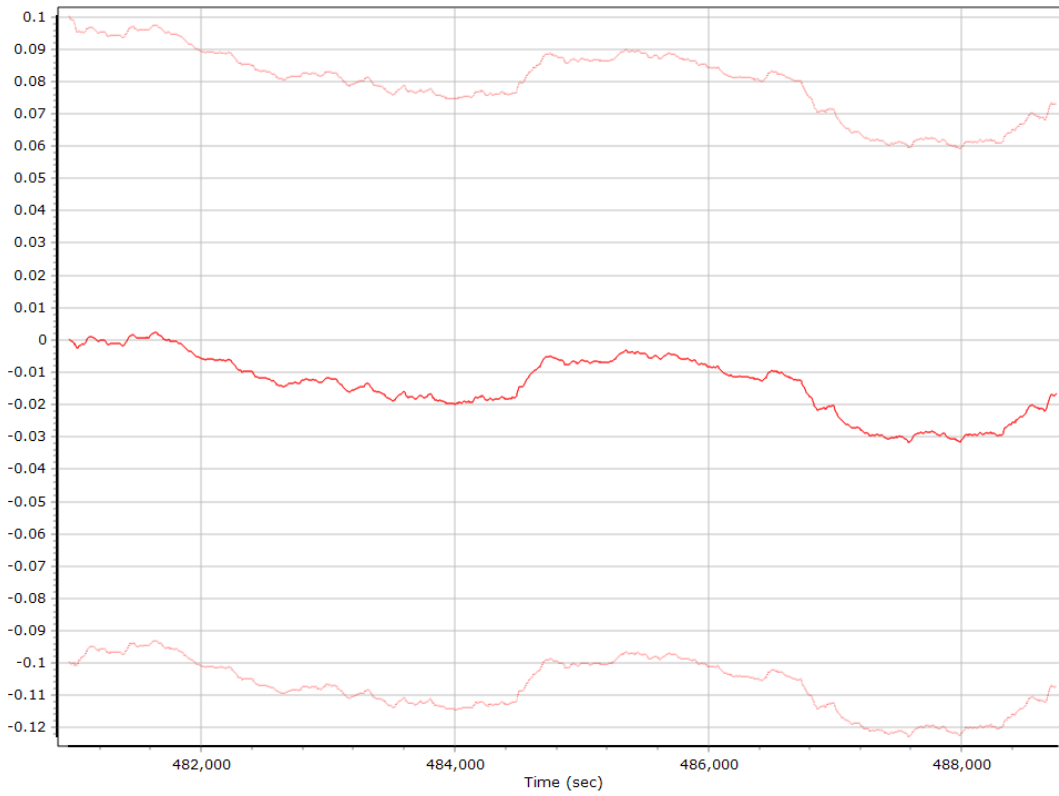
Gyro Bias (deg/h)



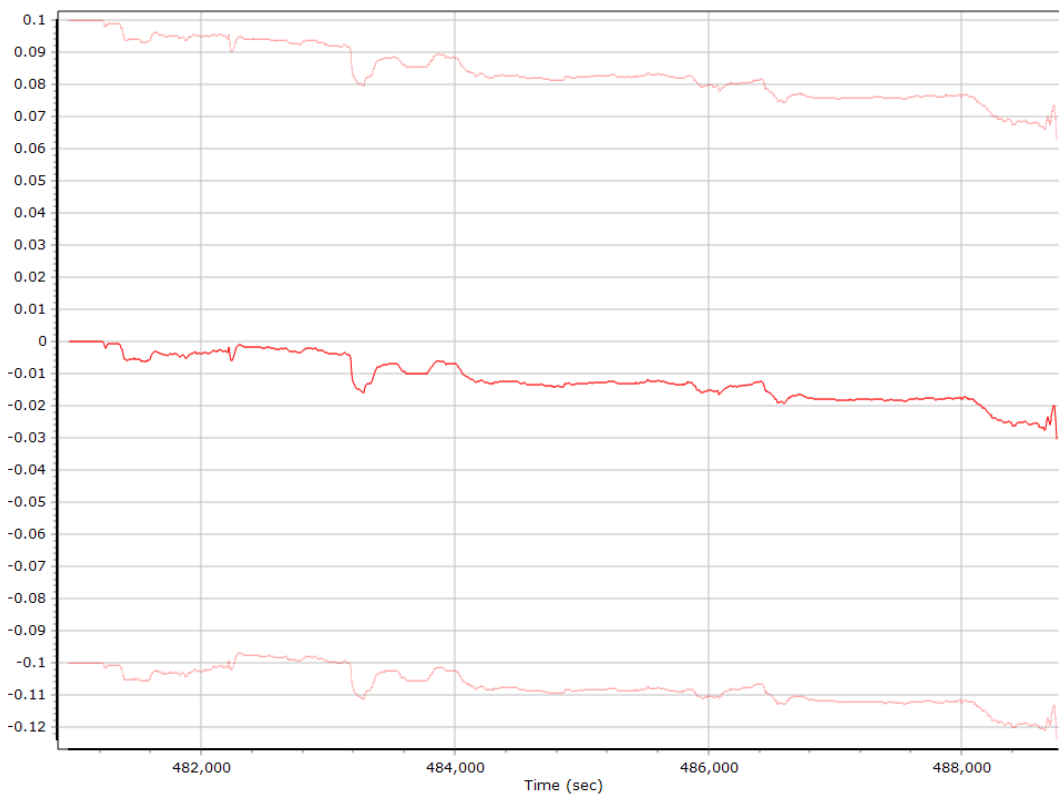
X Gyro Bias (deg/h)



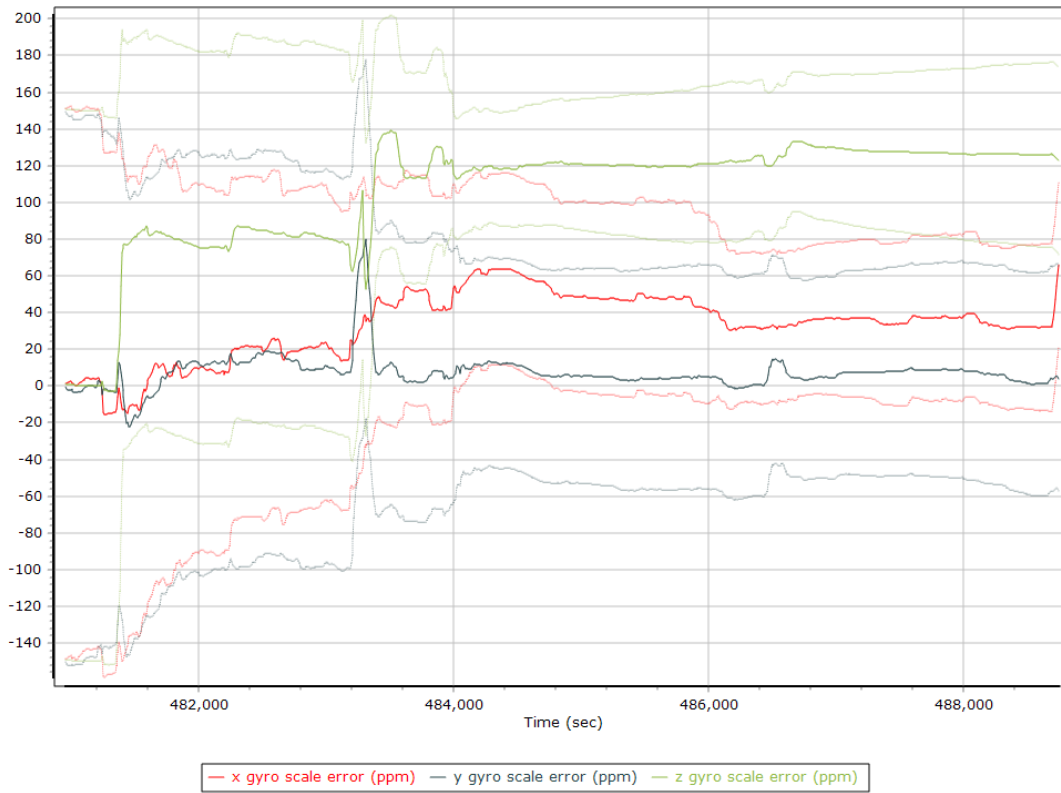
Y Gyro Bias (deg/h)



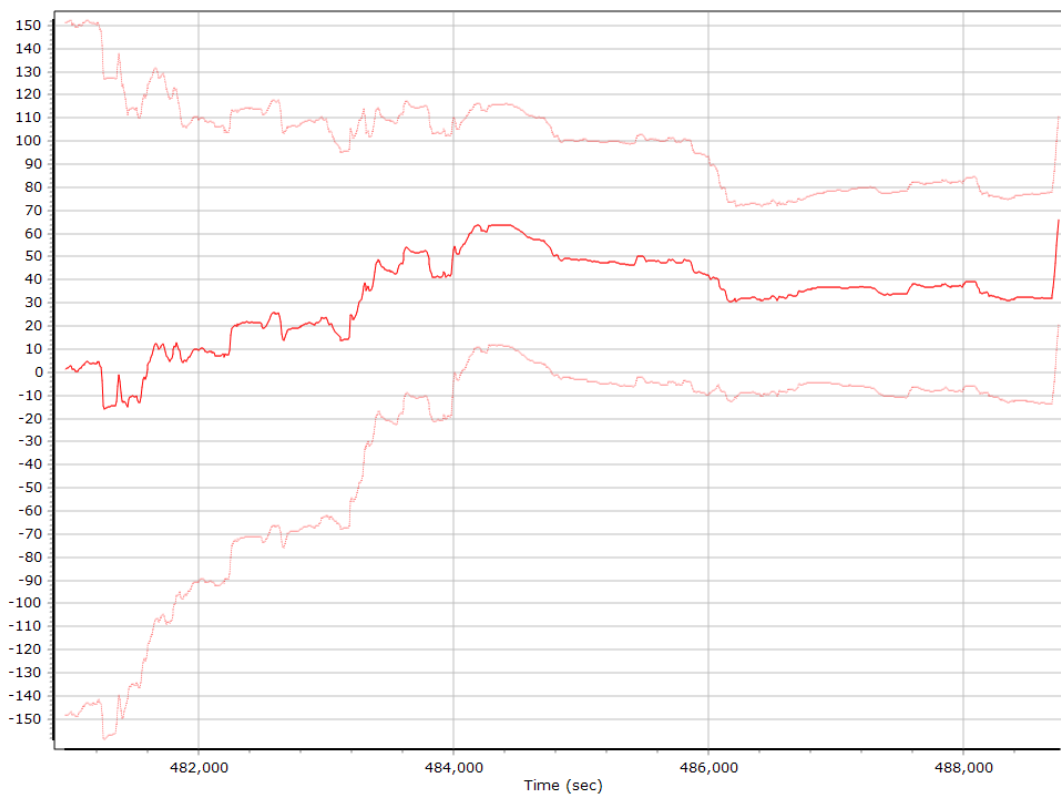
Z Gyro Bias (deg/h)



Gyro Scale Error (ppm)



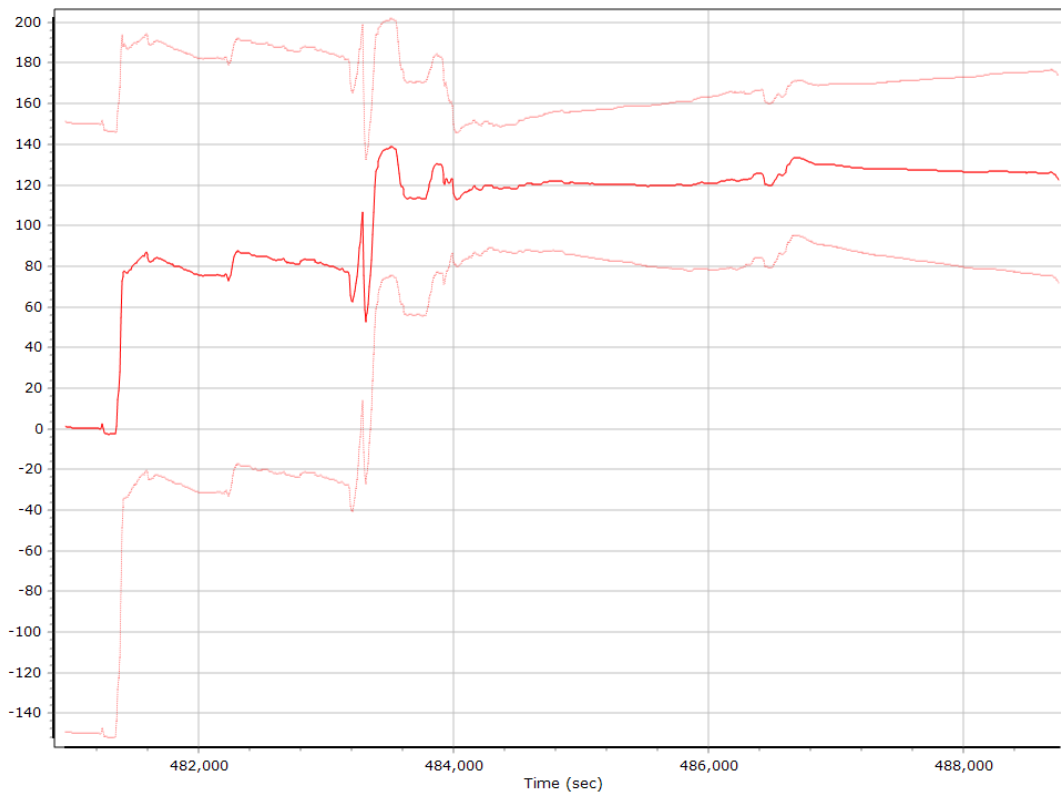
X Gyro Scale Error (ppm)



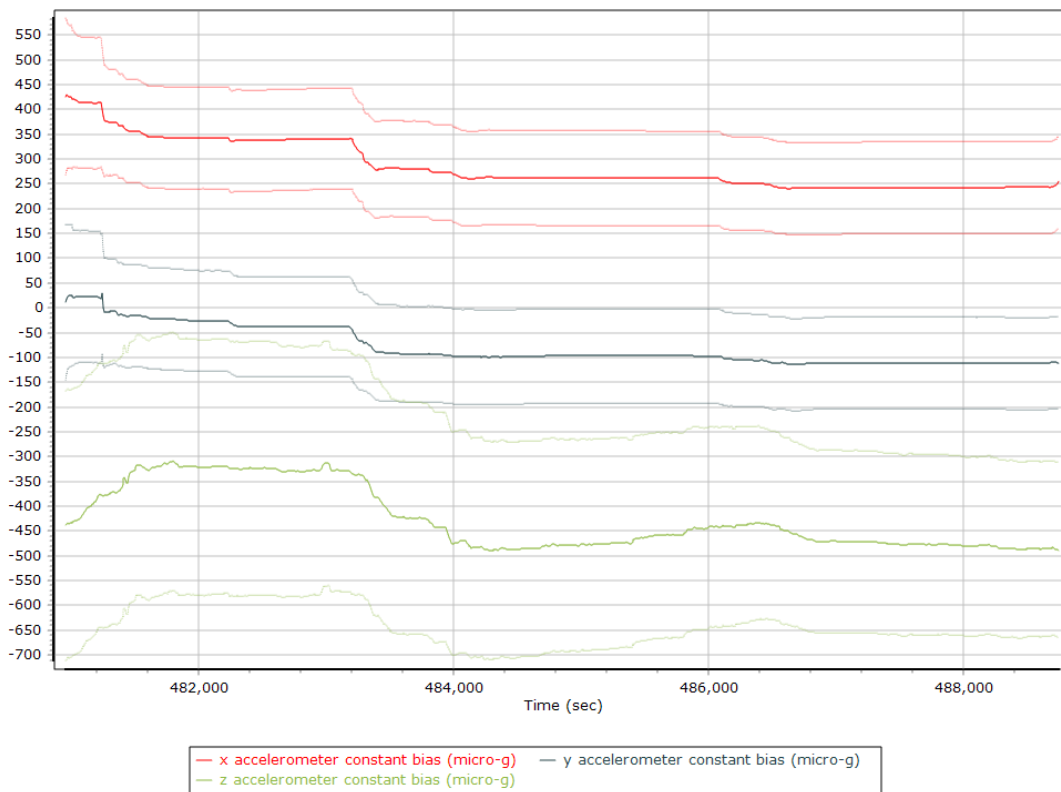
Y Gyro Scale Error (ppm)



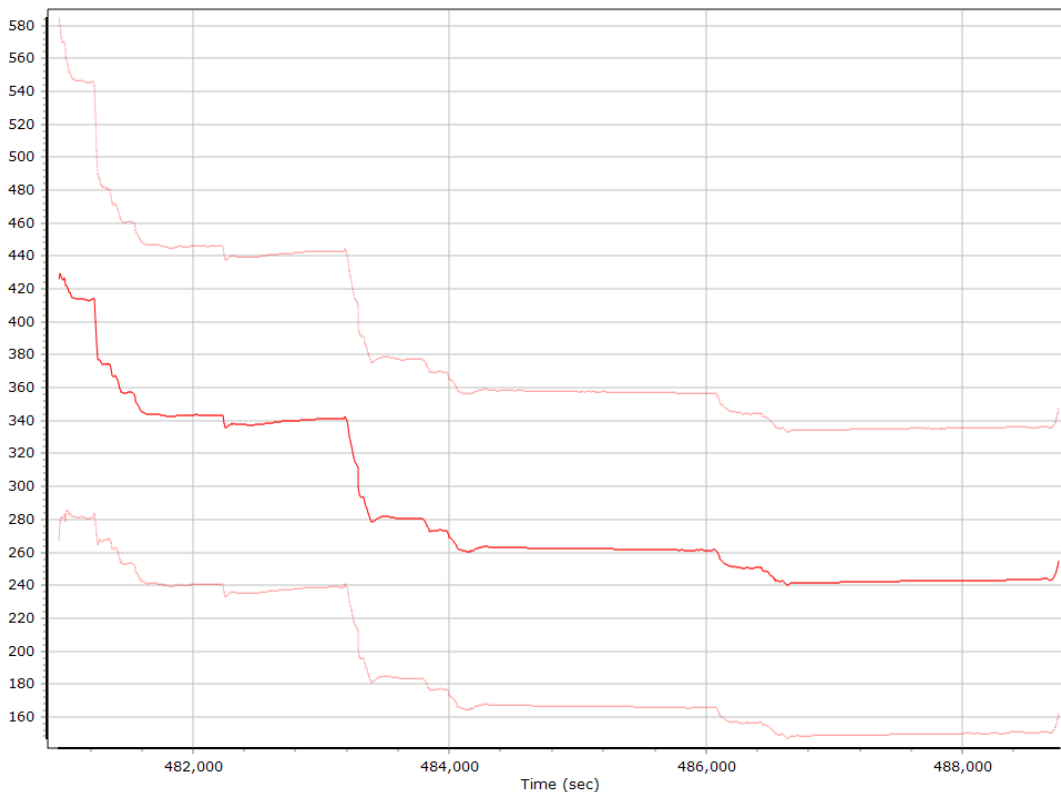
Z Gyro Scale Error (ppm)



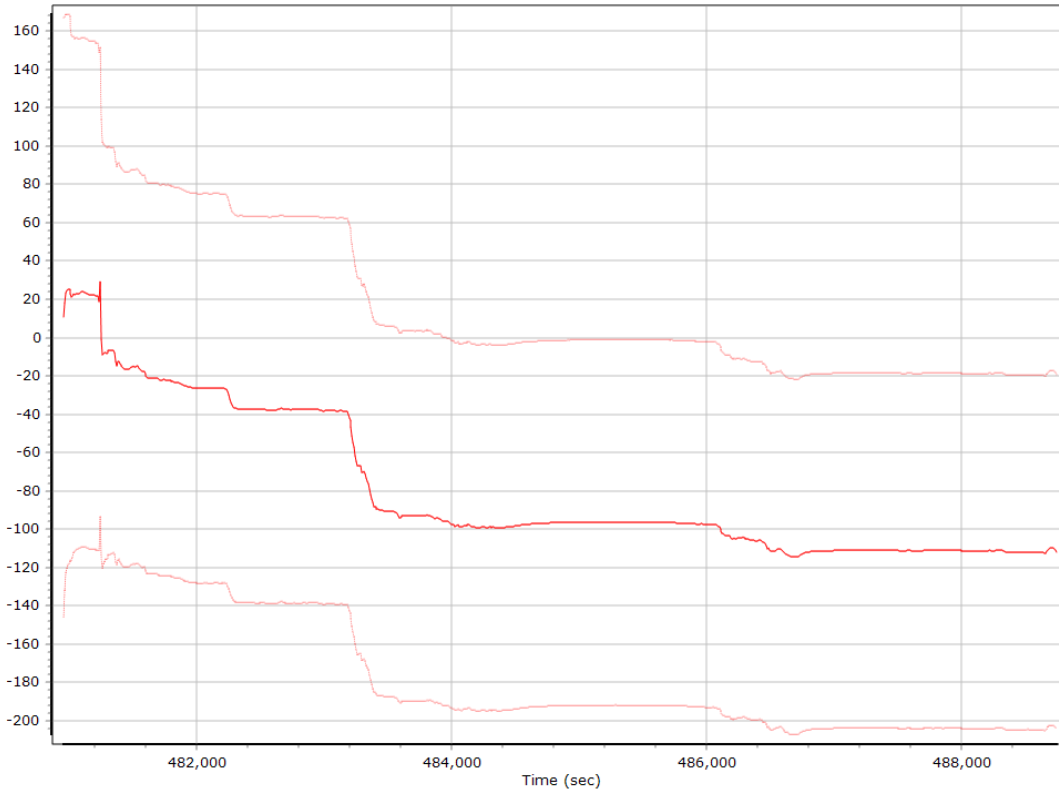
Forward Processed Estimated Constant Errors, Reference Frame Accelerometer Bias (micro-g)



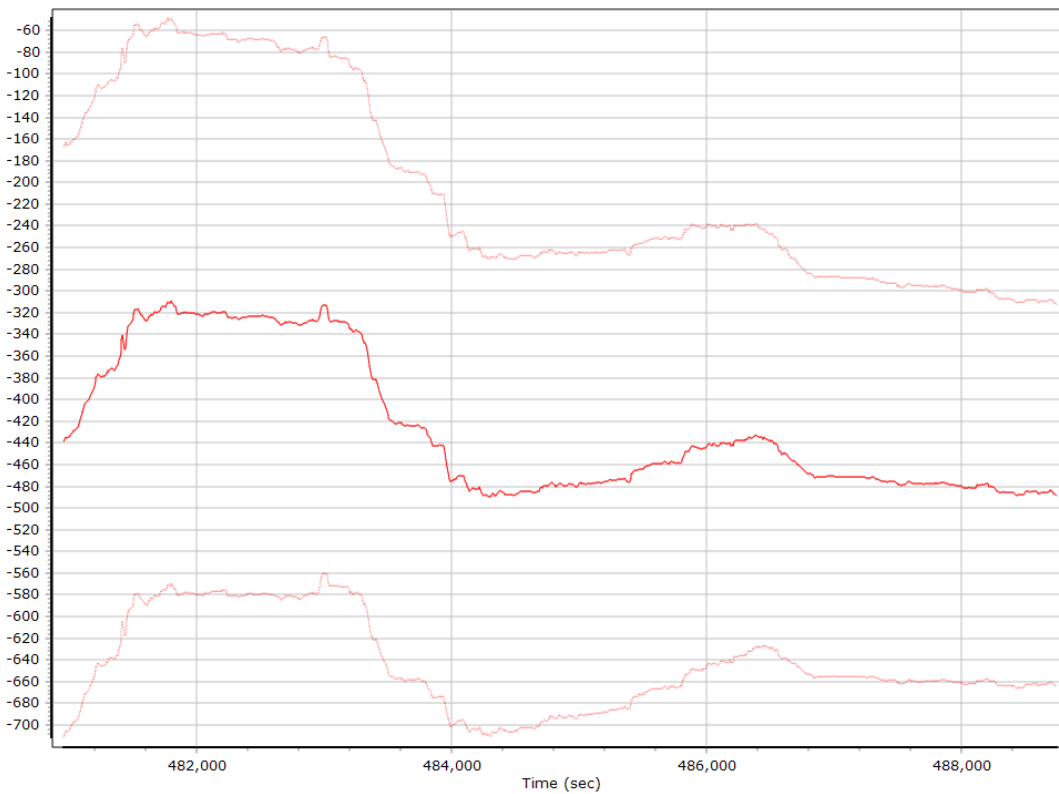
X Accelerometer Bias (micro-g)



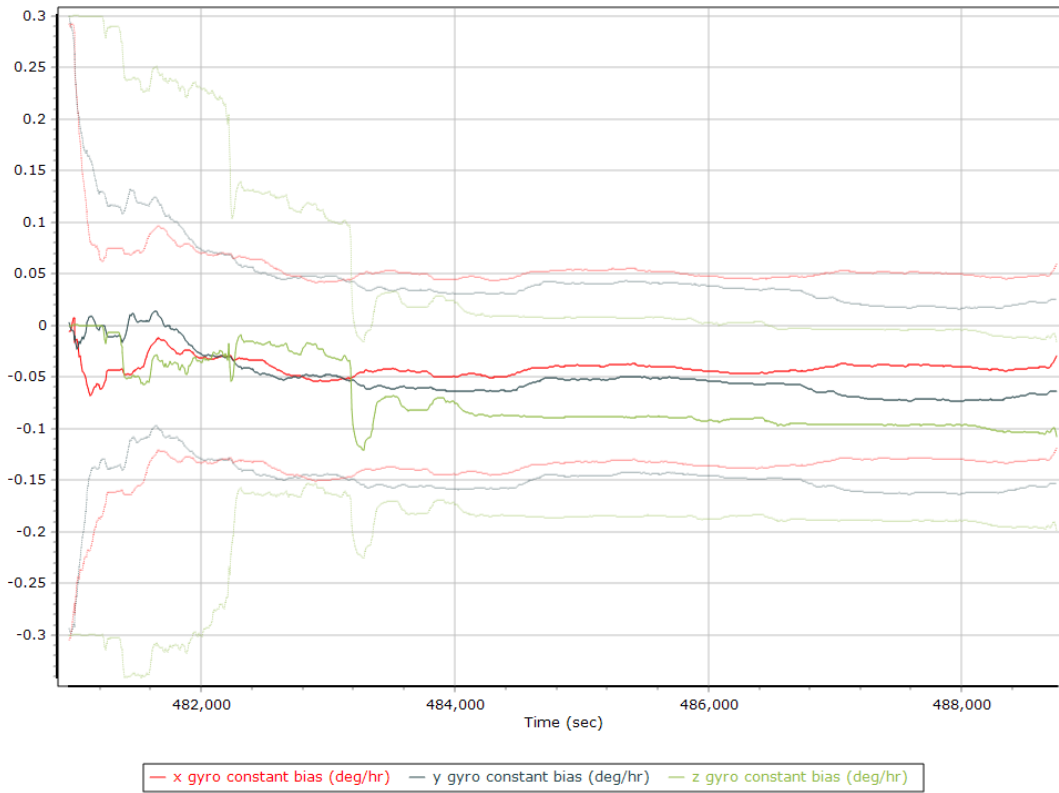
Y Accelerometer Bias (micro-g)



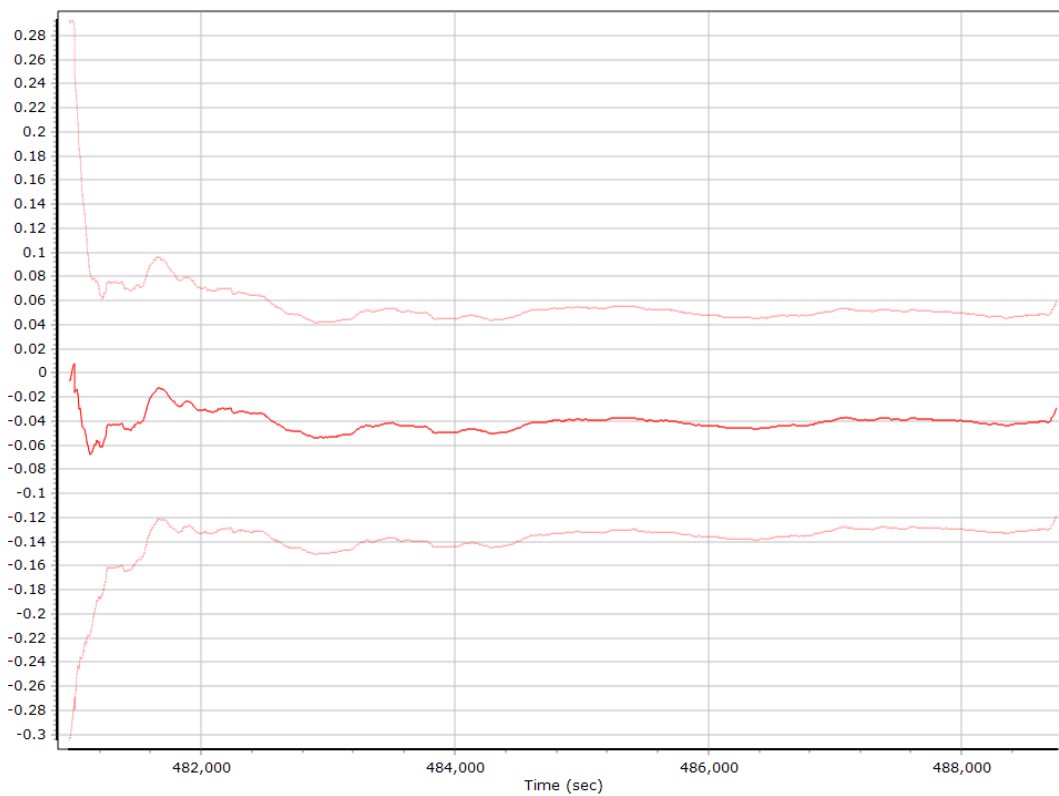
Z Accelerometer Bias (micro-g)



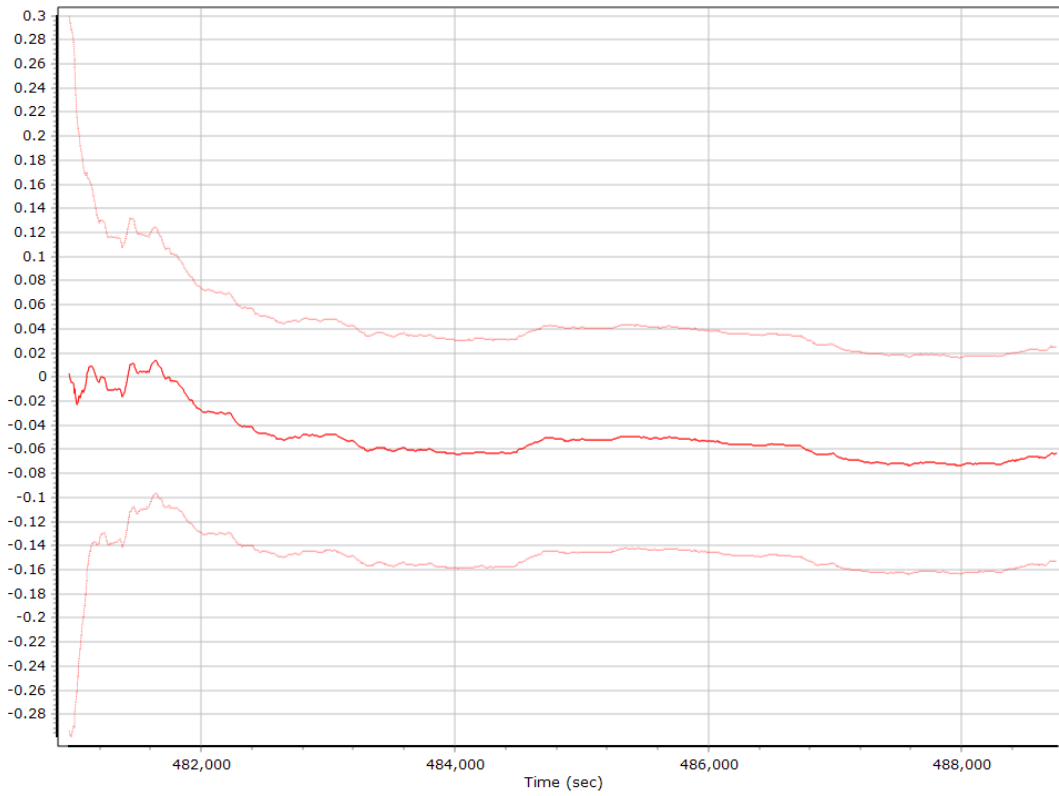
Gyro Bias (deg/h)



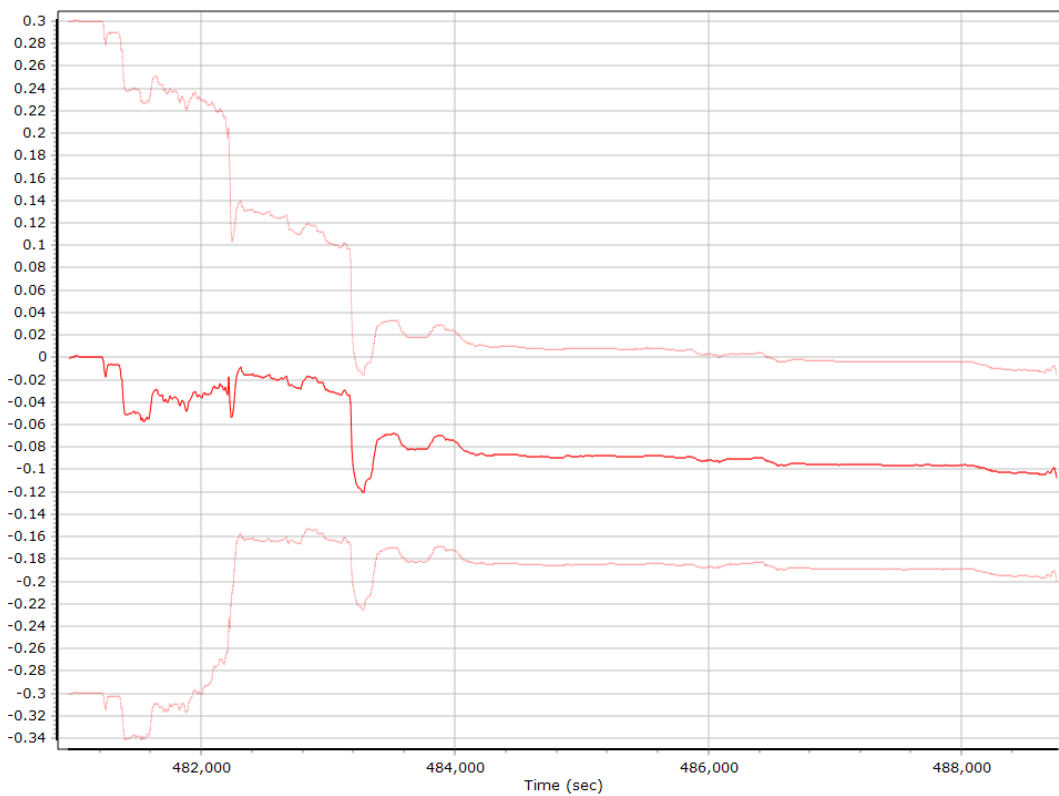
X Gyro Bias (deg/h)



Y Gyro Bias (deg/h)

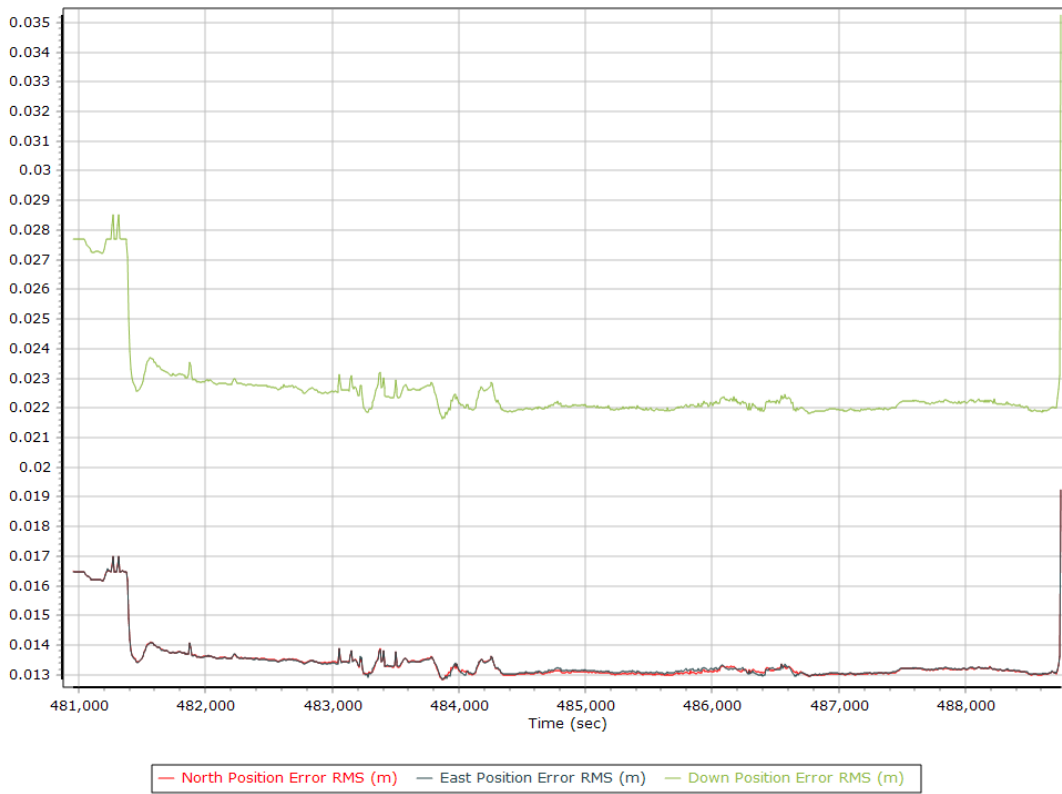


Z Gyro Bias (deg/h)

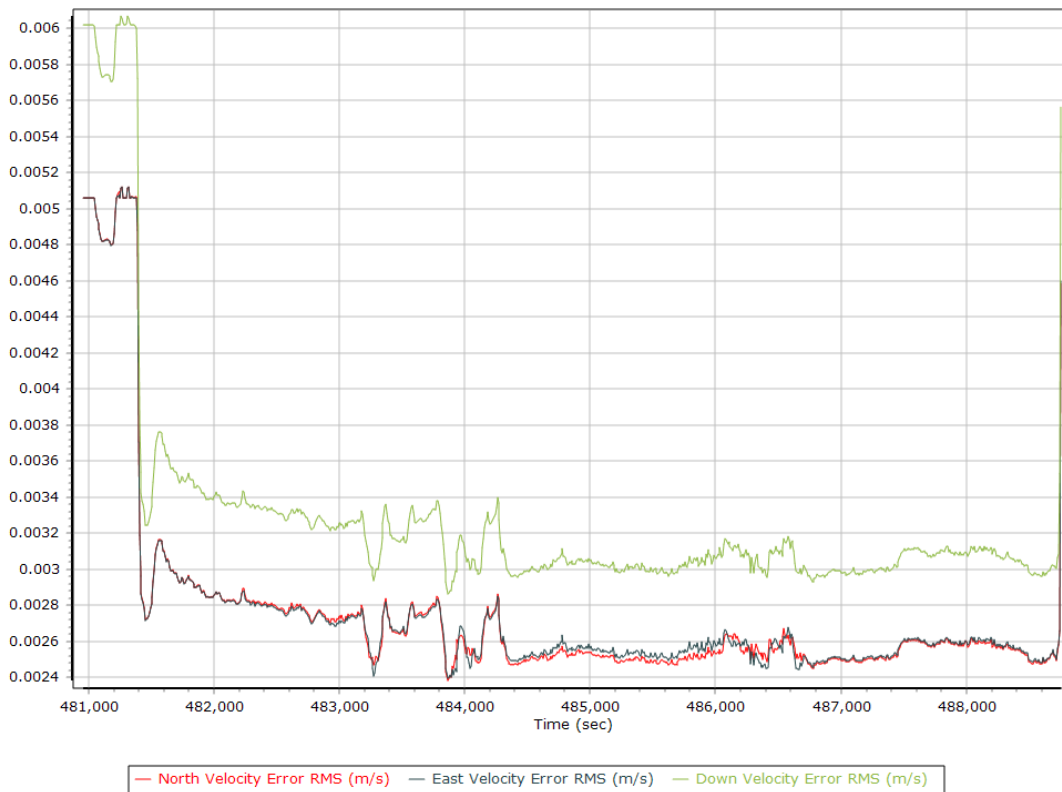


Smoothed Performance Metrics

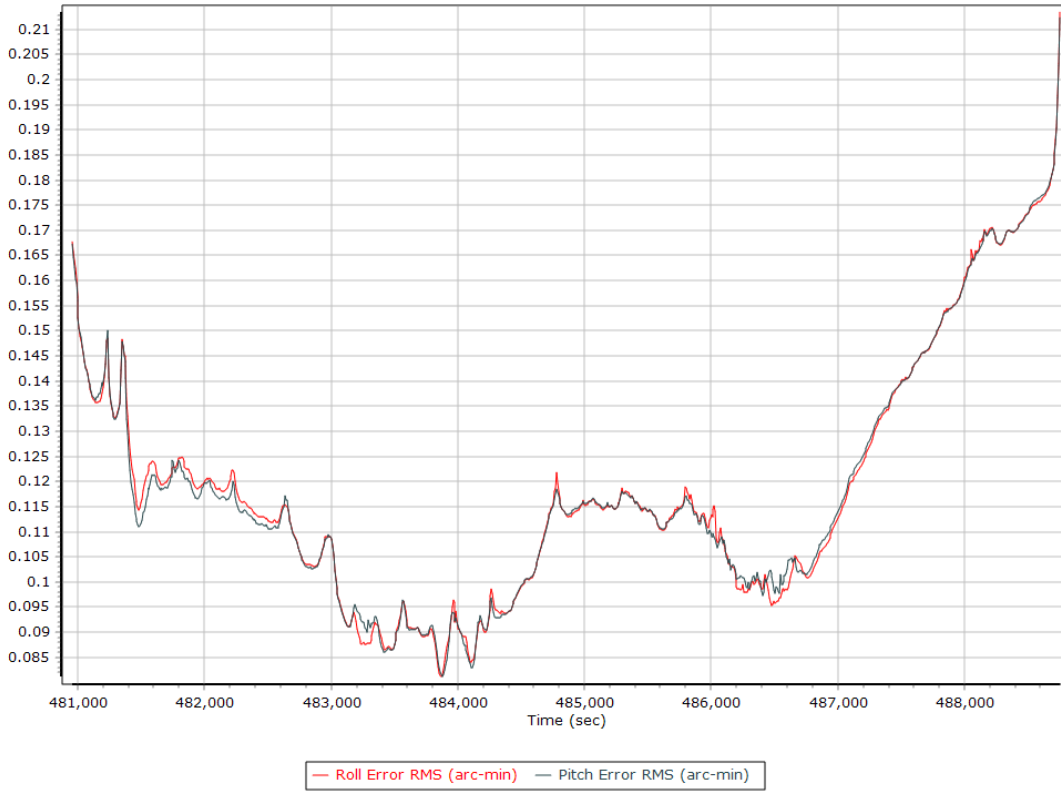
Position Error RMS (m)



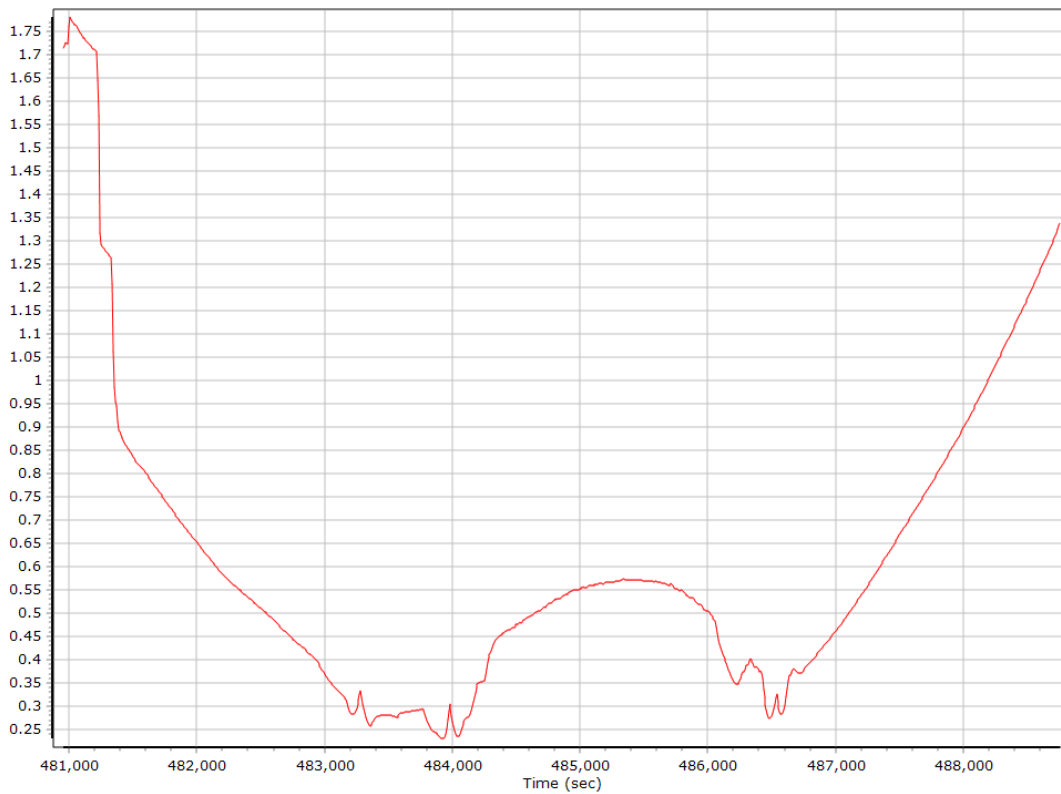
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

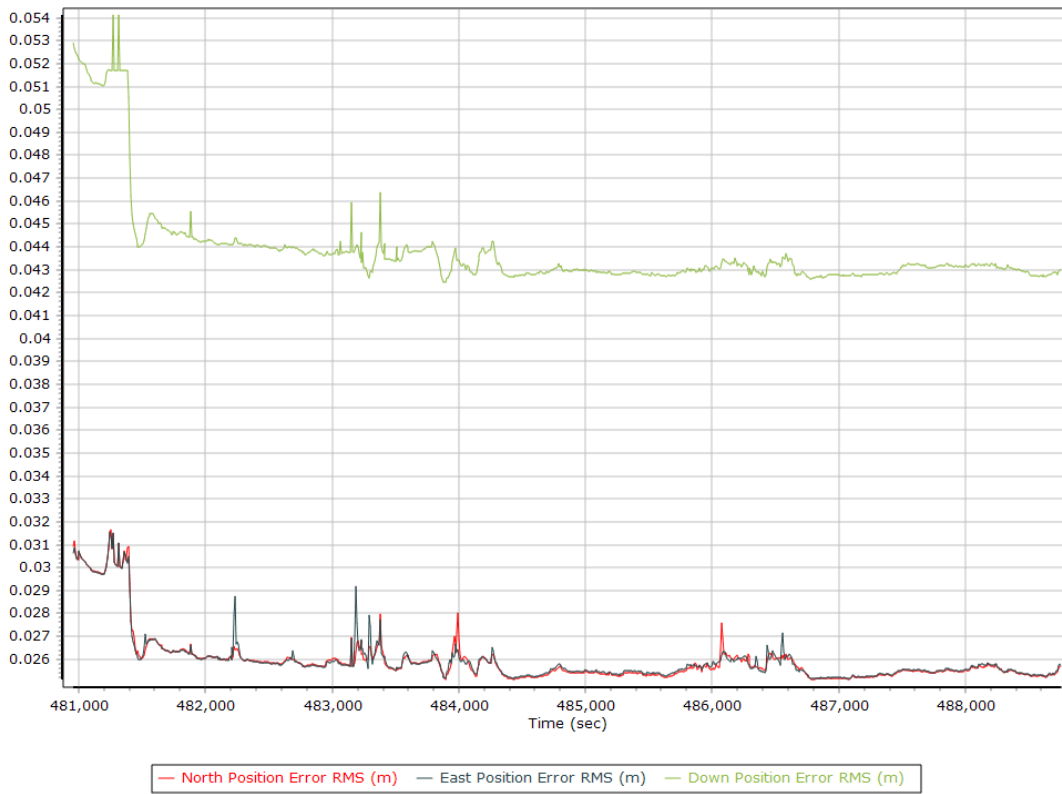


Heading Error RMS (arc-min)

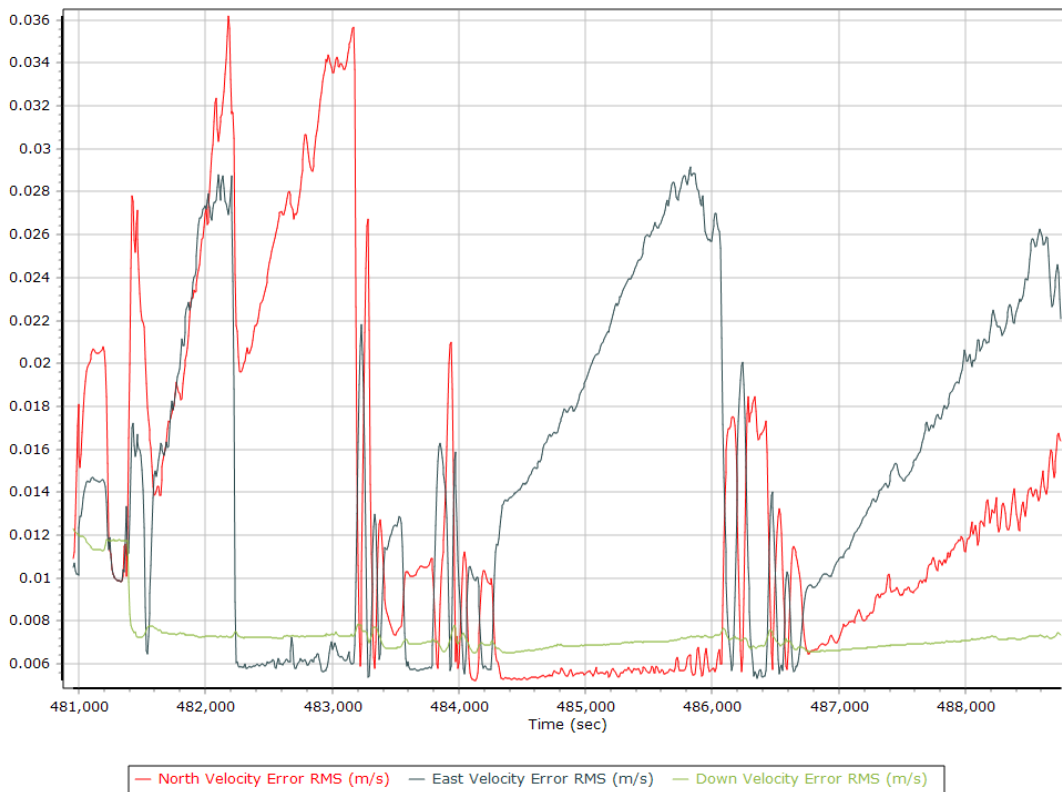


Forward Processed Performance Metrics

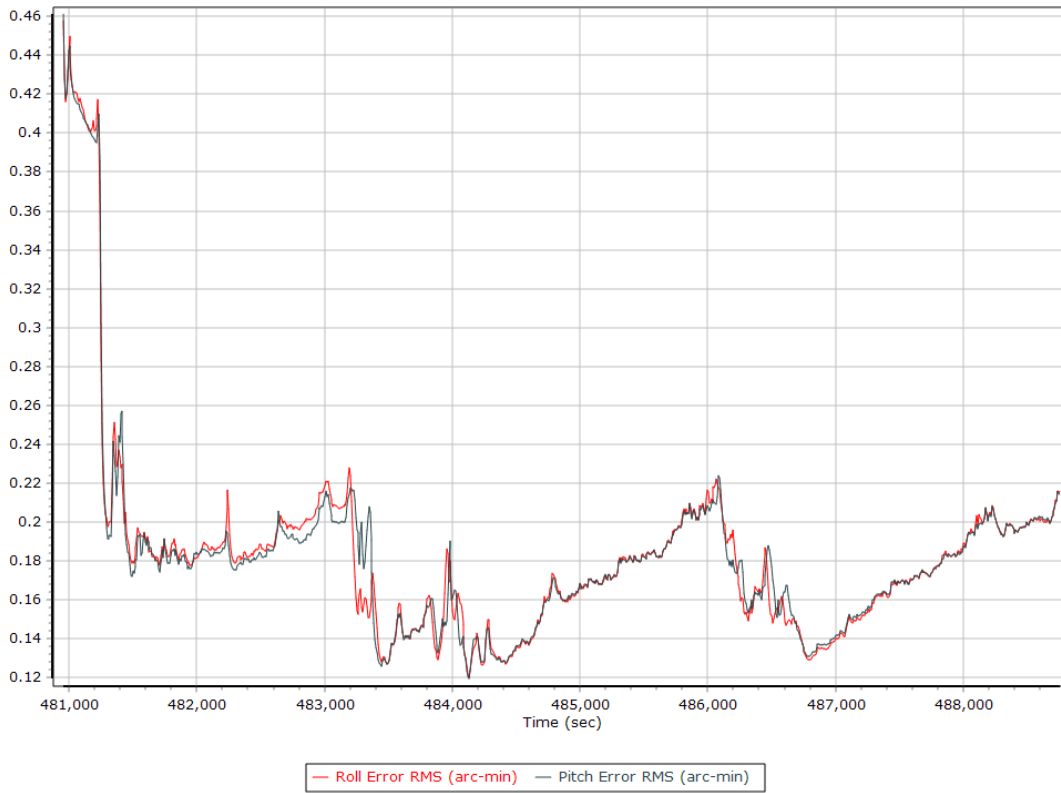
Position Error RMS (m)



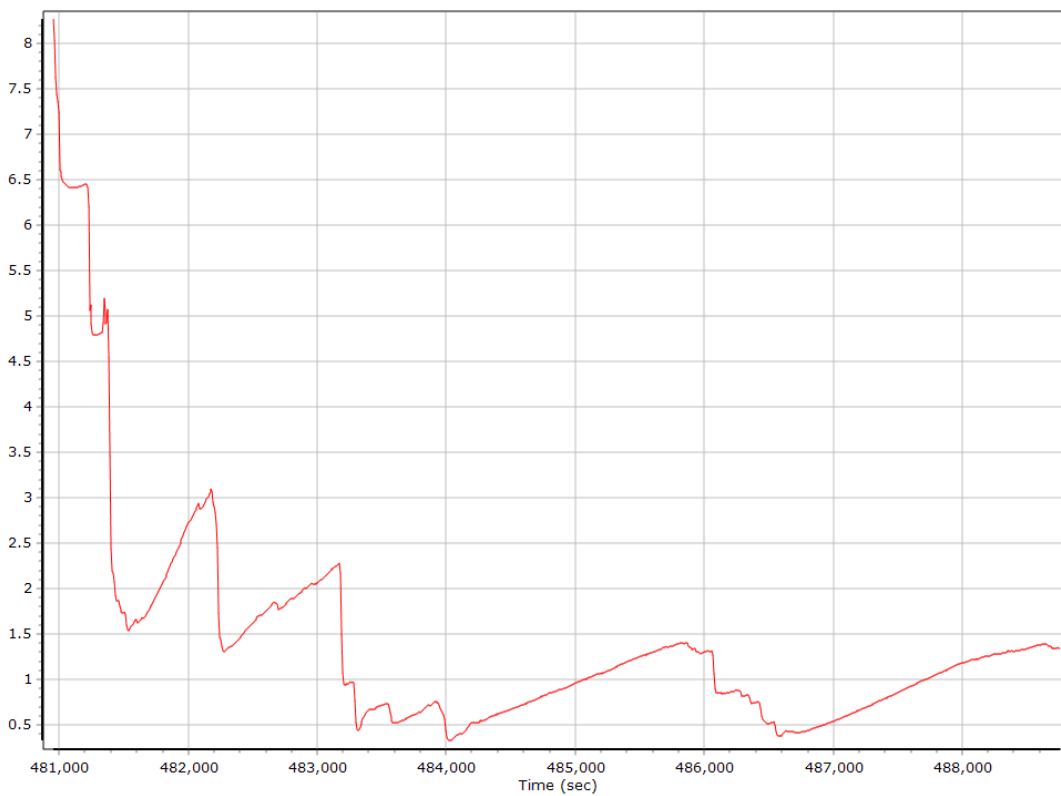
Velocity Error RMS (m/s)



Roll/Pitch Error RMS (arc-min)

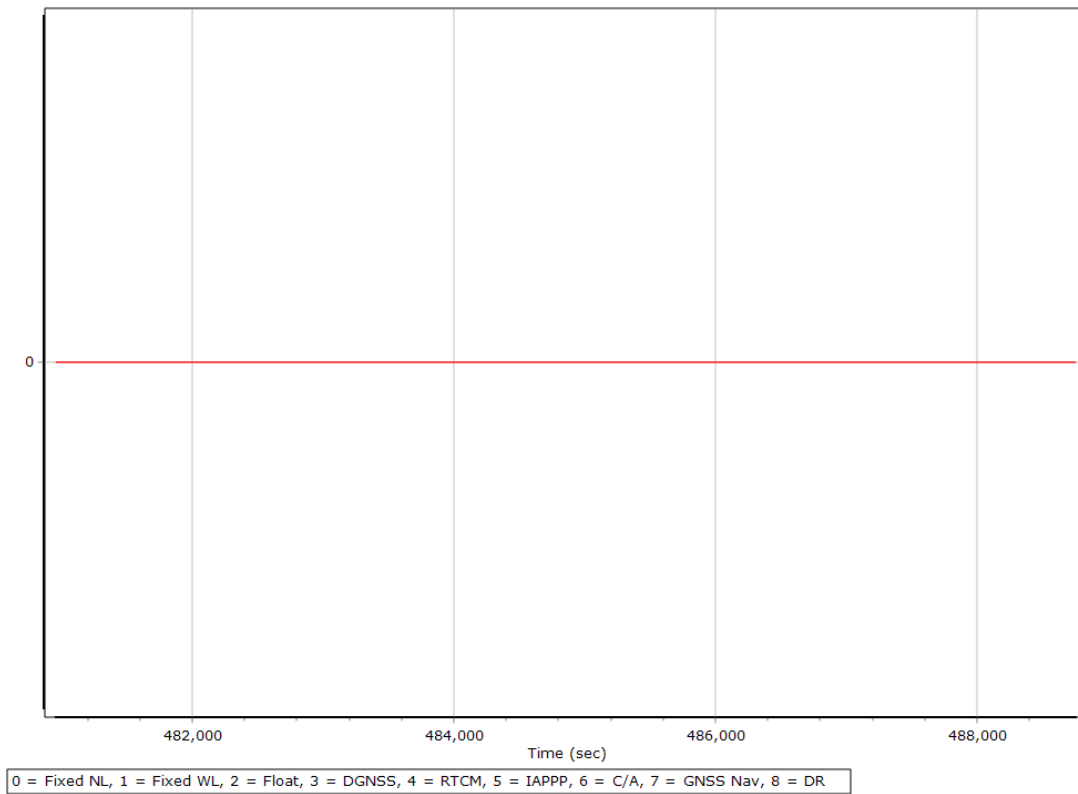


Heading Error RMS (arc-min)

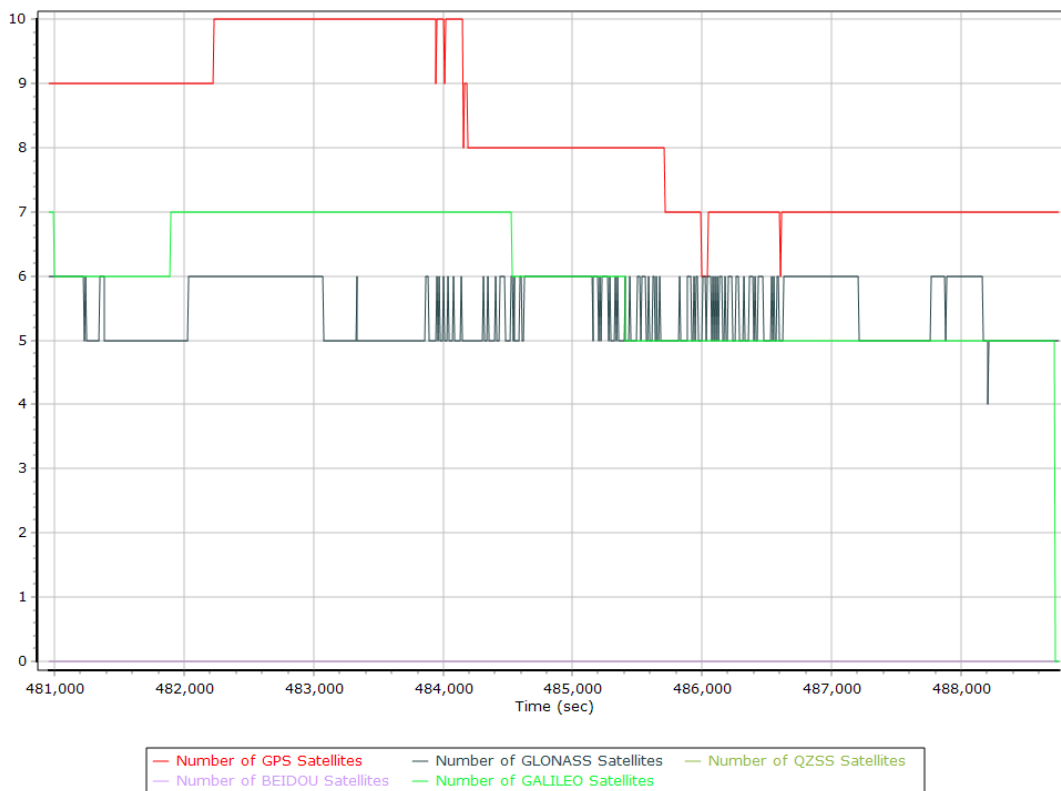


Forward Processed Solution Status

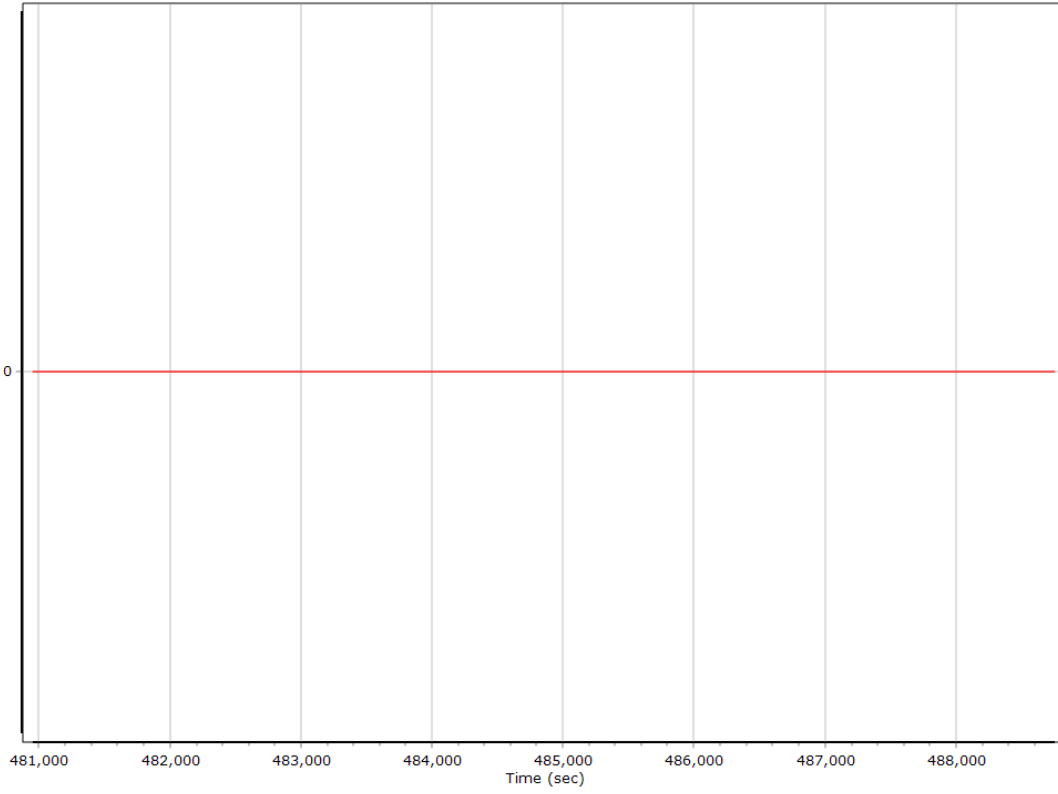
Processing Mode



Number of Satellites



Baseline Length



Export Summary Section 1

| | | | |
|---------------------------------------|----------------------------------|-------|-------|
| Export file | sbet_12070_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 | 480896.001 (02/26/2021 13:34:56) | | |
| Export end time | 488757.003 (02/26/2021 15:45:57) | | |
| 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 | 480896.001 (02/26/2021 13:34:56) | | |
| Export end time | 488757.003 (02/26/2021 15:45:57) | | |
| 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 | 480896.001 (02/26/2021 13:34:56) | | |
| EO end time | 488757.003 (02/26/2021 15:45:57) | | |
| Grid | Universal Transverse Mercator | | |
| Zone | UTM North 14 (102W to 96W) | | |
| Datum | NAD83 (2011) | | |
| Ellipsoid | GRS 1980 | | |
| Local Transformation | NONE | | |
| Target Epoch | 2010 | | |