

Leica Geosystems AG

Heinrich Wild Strasse
CH-9435 Heerbrugg
St. Gallen, Switzerland

Phone: + 41 71 727 3131

Fax: + 41 71 727 4674

- when it has to be **right**



GNSS Processing Report - Summary

Report created: 19/10/2025 16:31:32

Project Details

General		Customer Details		Master Coordinate System	
Project Name:	20250314 S	Customer Name:	-	Coordinate System Name:	MAGNA SIRGAS
Owner:	-	Contact Person:	-	Transformation Type:	-
Lead Surveyor:	-	Number:	-	Residual Distribution:	None
Date Created:	19/10/2025 15:52:03	Email:	-	Ellipsoid:	GRS 1980
Last Accessed:	19/10/2025 15:52:03	Skype:	-	Projection Type:	Transverse Mercator
Application Software:	Infinity 4.2.0	Website:	-	Geoid Model:	-
				CSCS Model:	-
Path:	D:\ADOLFO\TRABAJOS 2025\HIDOLFO ROJAS\07-05-25 GNSS\20251014\PROYECTO LEICA\20250314 S\20250314 S.iprj				
Size:	191.4 MB				
Comments:	-				

Baseline CHVL - HG20

Processing Parameters (14/10/2025 12:31:38 - 14/10/2025 15:54:14)

Data	Selected	Used	Comments
Cut-Off Angle:	10°	10°	
Frequency:	Automatic	L1/L2/L5	
Sampling Rate:	Use All	30.00 sec	
Satellite System:	GPS/GLONASS/Galileo/Beidou	GPS/GLONASS	
Ephemeris Type:	Broadcast	Broadcast	
Antenna Calibration Set:	NGS 20 Absolute	NGS 20 Absolute	

Processing Strategy

Solution Type:	Phase Fixed	Phase Fixed
Solution Optimisation:	Automatic	Iono Minimised
Frequency to use in Iono Minimised:	Automatic	L1/L2/L5
Tropospheric Model:	Automatic	Computed
Ionospheric Model:	Automatic	Computed
Allow Widelane Fix:	Automatic	Automatic

General Settings

Min. Distance for Iono Minimised:	15 km
Possible Ambiguities Fix up to:	300 km
Min. Duration for Float Solution (static):	00:05:00

Time Settings

Time Format: HH:mm:ss
Time System: Local Time
Leap Seconds: 18

Results Baseline: CHVL - HG20

Acquisition

Start Time - End Time: 14/10/2025 12:31:42 - 14/10/2025 15:54:12
Duration: 03:22:30

Antennas

	Reference - CHVL	Rover - HG20
Receiver Name / SN:	LEICA GR50 / 2091640	EFIX eBASE / 3595717
Antenna Name / SN:	LEIAR20 LEIM / 25147012	EFIF7 / -
Carrier Offset:	-	0.0000 m
Height Reading:	0.0350 m	1.6100 m
Antenna Height:	0.0350 m	1.6100 m

Phase Center Offset

GPS	Reference - LEIAR20 LEIM		Rover - EFIF7	
	L1	L2	L1	L2
East	0.0001 m	-0.0002 m	-0.0008 m	-0.0006 m
North	0.0005 m	0.0001 m	0.0029 m	0.0022 m
Up	0.1249 m	0.1335 m	0.0832 m	0.0716 m

GLONASS	L1	L2	L1	L2
East	0.0001 m	-0.0004 m	-	-
North	0.0005 m	0.0001 m	-	-
Up	0.1219 m	0.1295 m	-	-

Coordinates

	Reference - CHVL	Rover - HG20		Reference - CHVL	Rover - HG20
Point Role:	Control	Fixed PP			
WGS84 Latitude:	10° 06' 50.56" N	10° 14' 04.83" N	Easting:	4,833,965.3244 m	4,789,656.7245 m
WGS84 Longitude:	74° 30' 57.41" W	74° 55' 15.93" W	Northing:	2,676,009.7058 m	2,689,582.6507 m
WGS84 Ellip. Height:	107.7687 m	3.7308 m	Ortho. Height:	-	-
WGS84 Cartesian X:	1,676,512.7284 m	1,633,038.1057 m			
WGS84 Cartesian Y:	-6,051,850.3801 m	-6,061,179.1323 m			
WGS84 Cartesian Z:	1,112,687.9714 m	1,125,802.5622 m			

Baseline Vector and Quality - WGS84

ΔLatitude:	0° 07' 14.27"	SD ΔLatitude:	0.0014 m
ΔLongitude:	-0° 24' 18.52"	SD ΔLongitude:	0.0020 m
ΔHeight:	-104.0379 m	SD ΔHeight:	0.0178 m
ΔX:	-43,474.6227 m	SD ΔX:	0.0054 m
ΔY:	-9,328.7522 m	SD ΔY:	0.0168 m
ΔZ:	13,114.5908 m	SD ΔZ:	0.0035 m
Slope Dist.:	46,357.9651 m	SD Slope Dist.:	0.0020 m

M0:	0.8131 m	CQ 1D:	0.0178 m
Q11:	0.00004465	CQ 2D:	0.0024 m
Q12:	-0.00012840	CQ 3D:	0.0180 m

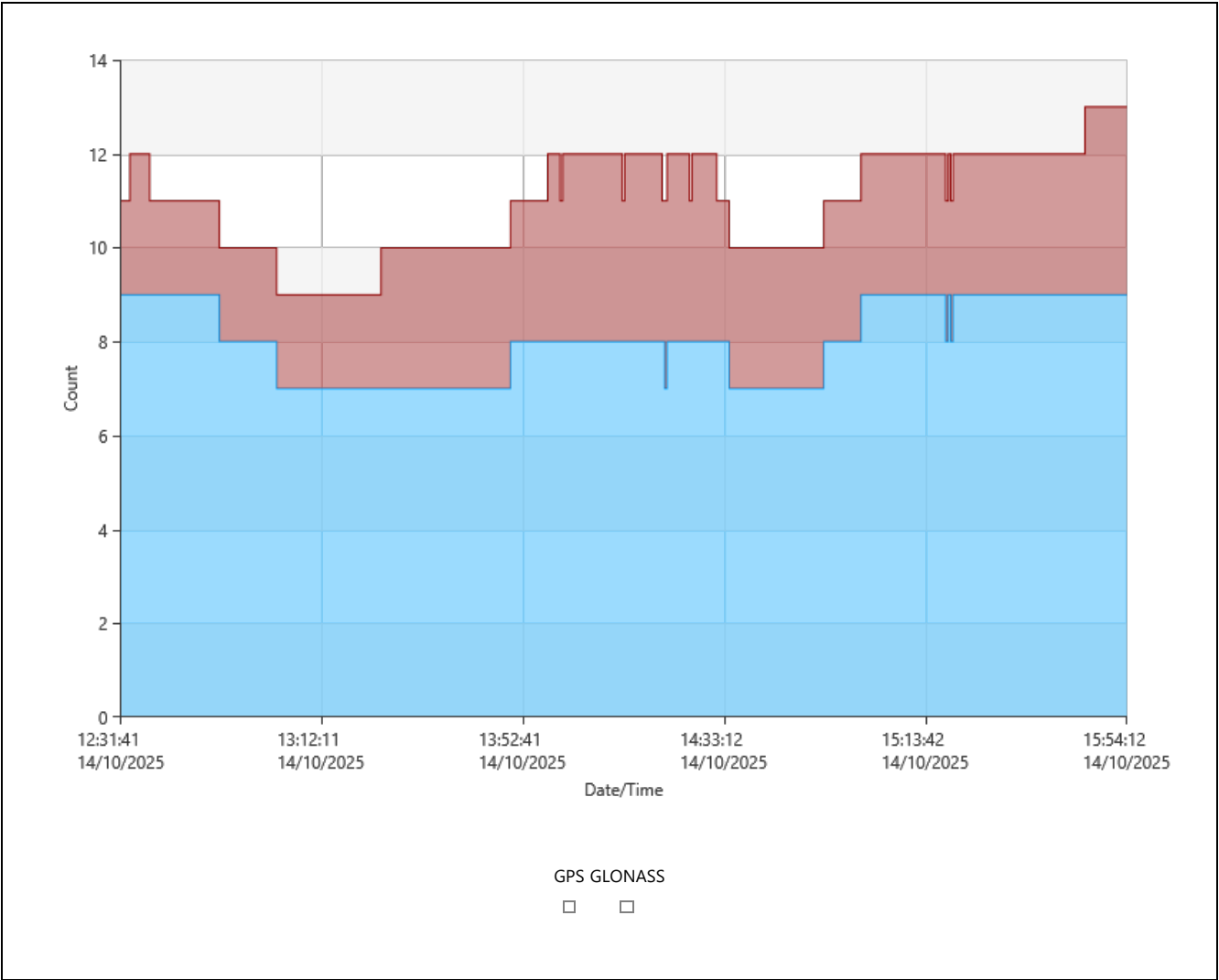
Q22: 0.00042670
Q13: 0.00002452
Q23: -0.00008159
Q33: 0.00001848

Frequency:	L1/L2/L5	GDOP:	2.1 - 15.7	GPS SVs:	9/9
Solution Optimisation:	Iono Minimised	PDOP:	1.6 - 12.3	GLONASS SVs:	4/4
Solution Type:	Phase Fixed	HDOP:	0.8 - 2.9	Beidou SVs:	-
		VDOP:	1.4 - 11.9	Galileo SVs:	-
				QZSS SVs:	-
Ephemeris Type:					
GPS	Broadcast				
GLONASS	Broadcast				

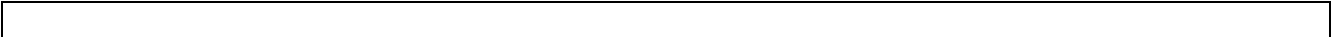
Processing Info (14/10/2025 12:31:38 - 14/10/2025 15:54:14)

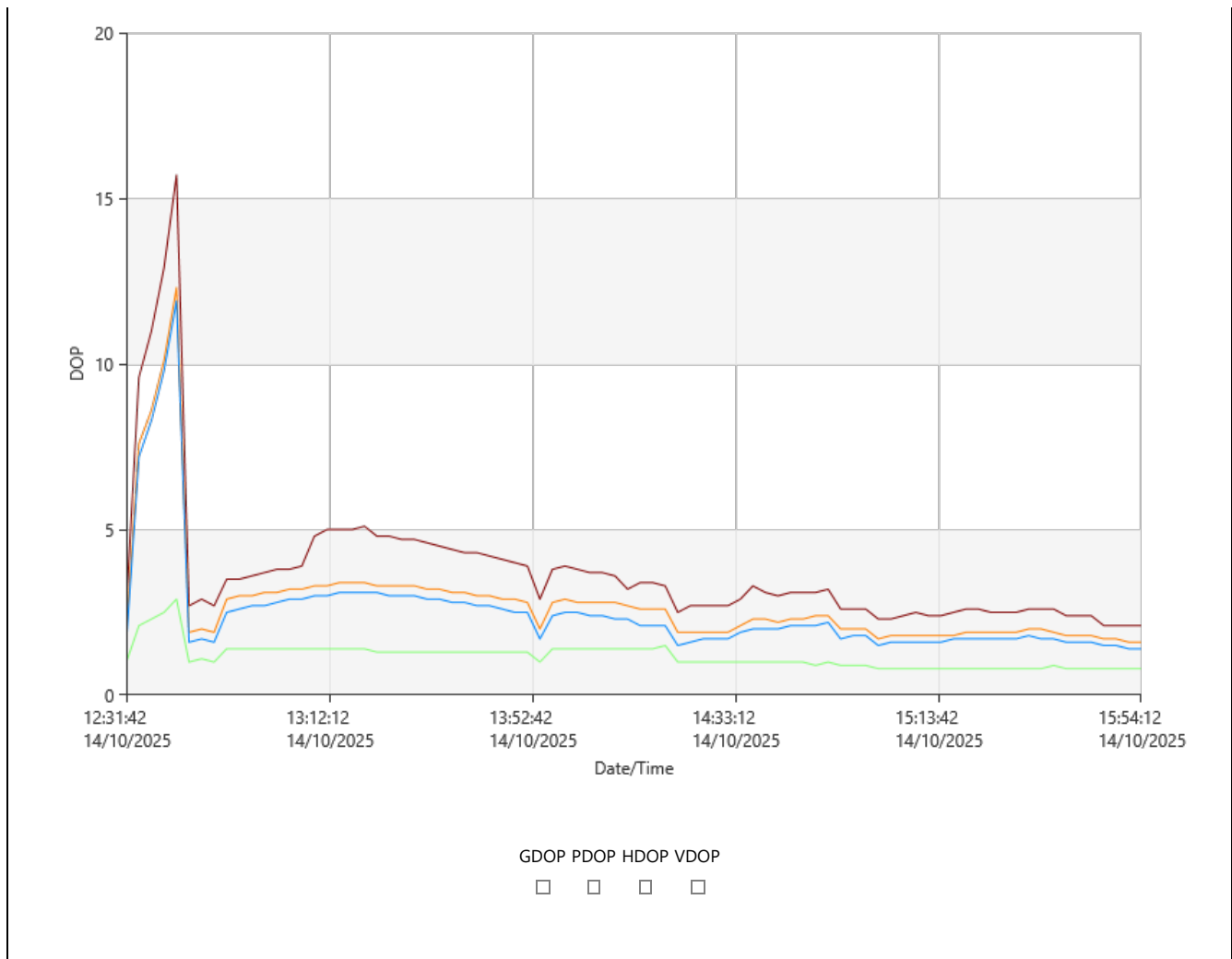
Processed Date/Time: 19/10/2025 16:29:45

SVs Tracked



DOP





Ambiguity Statistics

Number of Ambiguities	GPS	GLONASS	Beidou	Galileo
Fixed	41	18	0	0
Total	73	64	0	0
Independently fixed	167	141	0	0
Possible independently fixed	304	304	304	304

Average time between independent fixes: 00:03:00

% of Epochs	GPS			GLONASS	
	L1 [%]	L2 [%]	L5 [%]	L1 [%]	L2 [%]
Fixed	71.49	68.14	59.41	51.66	32.53
Not fixed	21.58	20.74	23.97	25.06	36.55
Not fixed - contradiction	6.90	11.05	16.63	23.28	30.92
Not fixed - missing phase	0.03	0.07	0.00	0.00	0.00

Status	From Epoch	To Epoch	Duration
Not fixed	14/10/2025 12:31:42	14/10/2025 12:32:12	00:00:30
Fixed	14/10/2025 12:32:12	14/10/2025 12:44:12	00:12:00
Not fixed	14/10/2025 12:44:12	14/10/2025 12:49:42	00:05:30
Fixed	14/10/2025 12:49:42	14/10/2025 14:37:12	01:47:30
Not fixed	14/10/2025 14:37:12	14/10/2025 15:54:12	01:17:00

Baseline VCTG - HG20

Processing Parameters (14/10/2025 12:31:38 - 14/10/2025 15:54:14)

Data	Selected	Used	Comments
Cut-Off Angle:	10°	10°	
Frequency:	Automatic	L1/L2/L5	
Sampling Rate:	Use All	30.00 sec	
Satellite System:	GPS/GLONASS/Galileo/Beidou	GPS/GLONASS	
Ephemeris Type:	Broadcast	Broadcast	
Antenna Calibration Set:	NGS 20 Absolute	NGS 20 Absolute	

Processing Strategy

Solution Type:	Phase Fixed	Phase Fixed
Solution Optimisation:	Automatic	Iono Minimised
Frequency to use in Iono Minimised:	Automatic	L1/L2/L5
Tropospheric Model:	Automatic	Computed
Ionospheric Model:	Automatic	Computed
Allow Widelane Fix:	Automatic	Automatic

General Settings

Min. Distance for Iono Minimised:	15 km
Possible Ambiguities Fix up to:	300 km
Min. Duration for Float Solution (static):	00:05:00

Time Settings

Time Format:	HH:mm:ss
Time System:	Local Time
Leap Seconds:	18

Results Baseline: VCTG - HG20

Acquisition

Start Time - End Time:	14/10/2025 12:31:42 - 14/10/2025 15:54:12
Duration:	03:22:30

Antennas

	Reference - VCTG	Rover - HG20
Receiver Name / SN:	TRIMBLE NETR9 / 5250K40413	EFIX eBASE / 3595717
Antenna Name / SN:	TRM57971.00 / 5000119487	EFIF7 / -
Carrier Offset:	-	0.0000 m
Height Reading:	0.0350 m	1.6100 m
Antenna Height:	0.0350 m	1.6100 m

Phase Center Offset

	Reference - TRM57971.00		Rover - EFIF7	
GPS	L1	L2	L1	L2
East	0.0003 m	0.0011 m	-0.0008 m	-0.0006 m

North	0.0008 m	-0.0001 m	0.0029 m	0.0022 m
Up	0.0642 m	0.0583 m	0.0832 m	0.0716 m

GLONASS	L1	L2	L1	L2
East	0.0004 m	0.0012 m	-	-
North	0.0007 m	-0.0004 m	-	-
Up	0.0630 m	0.0579 m	-	-

Coordinates

	Reference - VCTG	Rover - HG20		Reference - VCTG	Rover - HG20
Point Role:	Control	Fixed PP			
WGS84 Latitude:	10° 12' 31.14" N	10° 14' 04.83" N	Easting:	4,725,616.2452 m	4,789,656.6902 m
WGS84 Longitude:	75° 30' 19.68" W	74° 55' 15.93" W	Northing:	2,687,143.3806 m	2,689,582.6610 m
WGS84 Ellip. Height:	23.9849 m	3.8330 m	Ortho. Height:	-	-
WGS84 Cartesian X:	1,571,267.4540 m	1,633,038.0982 m			
WGS84 Cartesian Y:	-6,078,033.2603 m	-6,061,179.2365 m			
WGS84 Cartesian Z:	1,122,973.2345 m	1,125,802.5903 m			

Baseline Vector and Quality - WGS84

ΔLatitude:	0° 01' 33.69"	SD ΔLatitude:	0.0011 m
ΔLongitude:	0° 35' 03.75"	SD ΔLongitude:	0.0015 m
ΔHeight:	-20.1519 m	SD ΔHeight:	0.0119 m
ΔX:	61,770.6441 m	SD ΔX:	0.0037 m
ΔY:	16,854.0238 m	SD ΔY:	0.0112 m
ΔZ:	2,829.3558 m	SD ΔZ:	0.0025 m
Slope Dist.:	64,091.1527 m	SD Slope Dist.:	0.0016 m

M0:	0.8337 m	CQ 1D:	0.0119 m
Q11:	0.00001962	CQ 2D:	0.0019 m
Q12:	-0.00005374	CQ 3D:	0.0120 m
Q22:	0.00017901		
Q13:	0.00001121		
Q23:	-0.00003669		
Q33:	0.00000917		

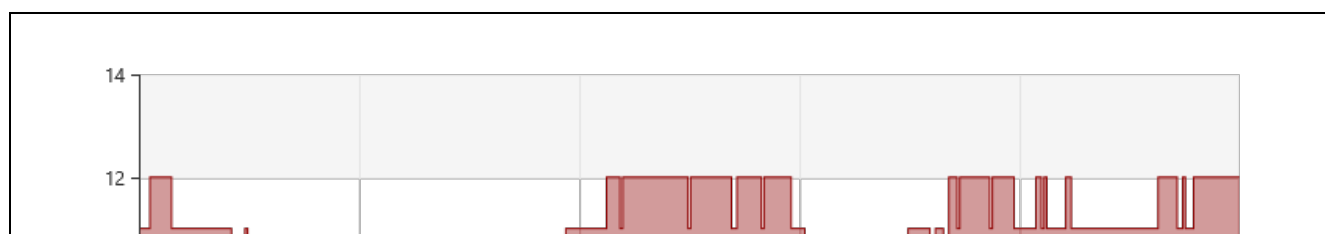
Frequency:	L1/L2/L5	GDOP:	2.2 - 5.1	GPS SVs:	9/9
Solution Optimisation:	Iono Minimised	PDOP:	1.7 - 3.4	GLONASS SVs:	4/4
Solution Type:	Phase Fixed	HDOP:	0.8 - 1.4	Beidou SVs:	-
		VDOP:	1.4 - 3.1	Galileo SVs:	-
				QZSS SVs:	-

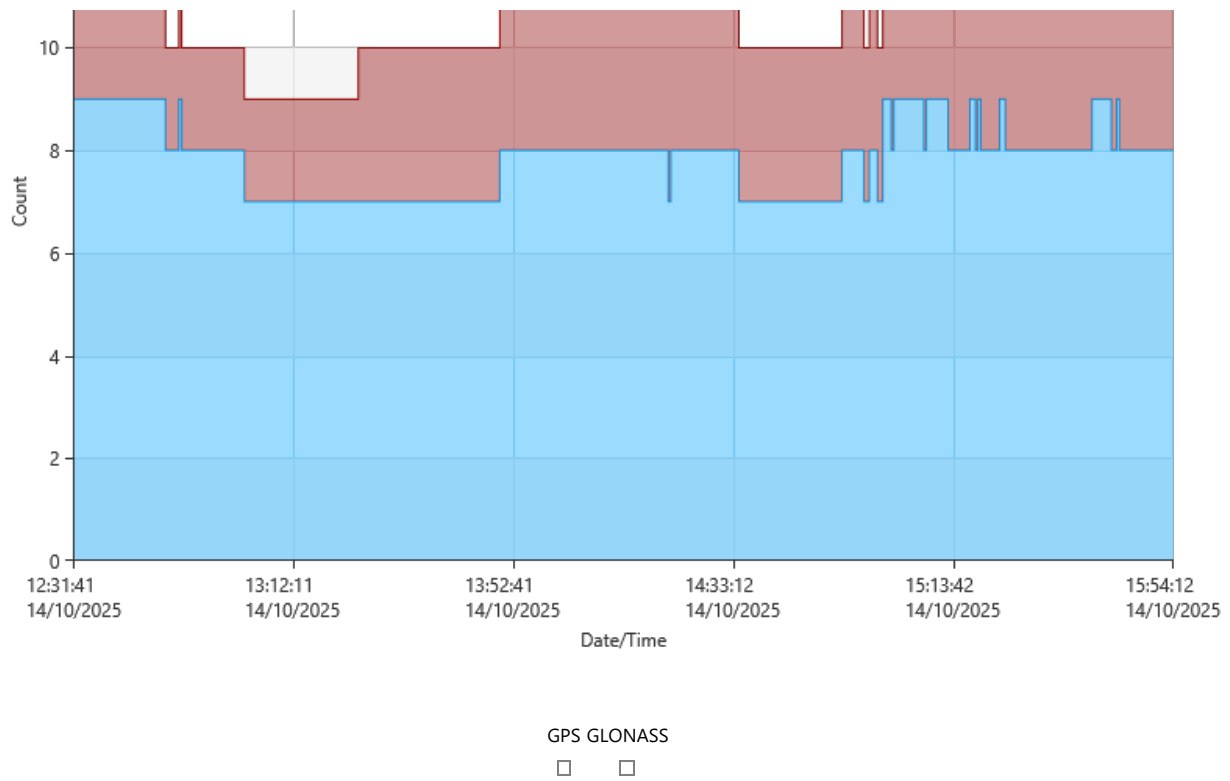
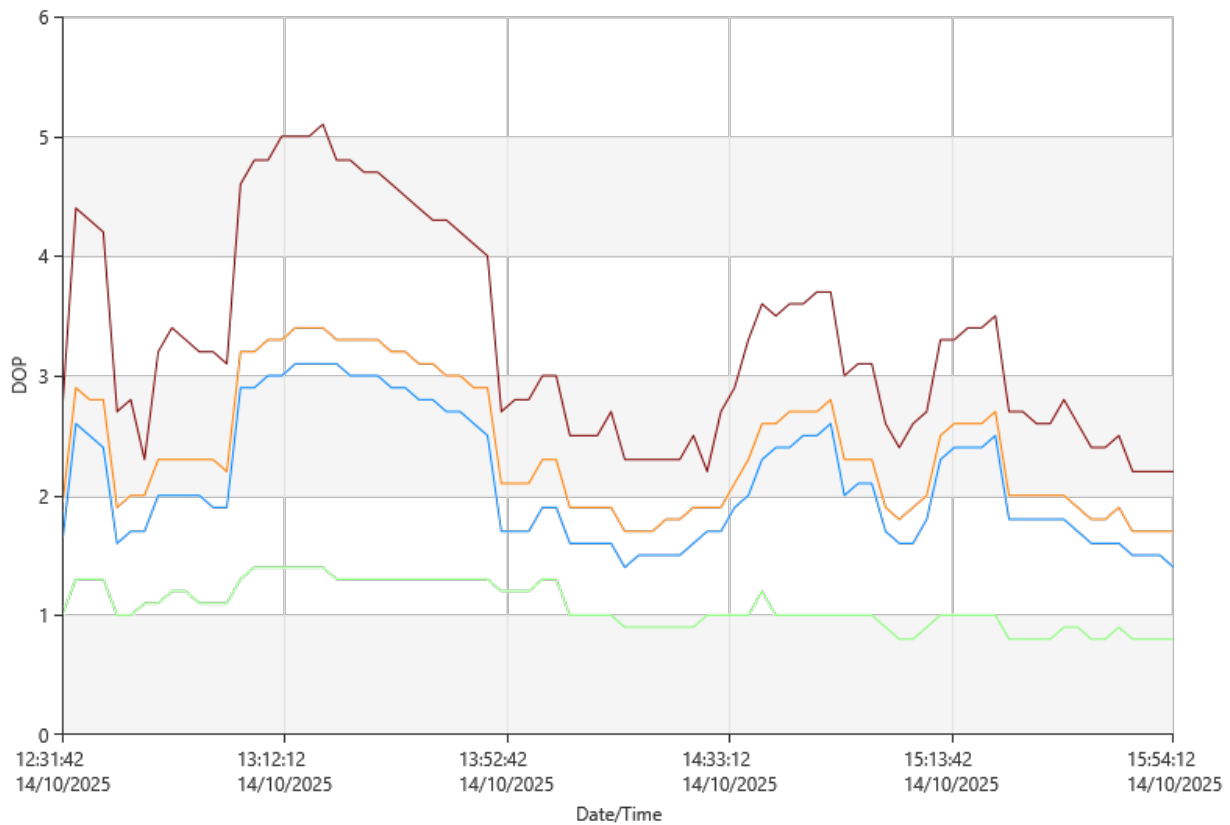
Ephemeris Type:	
GPS	Broadcast
GLONASS	Broadcast

Processing Info (14/10/2025 12:31:38 - 14/10/2025 15:54:14)

Processed Date/Time: 19/10/2025 16:29:45

SVs Tracked



**DOP**

GDOP PDOP HDOP VDOP			
☐	☐	☐	☐

Ambiguity Statistics

Number of Ambiguities	GPS	GLONASS	Beidou	Galileo
Fixed	72	29	0	0
Total	109	71	0	0
Independently fixed	187	170	0	0
Possible independently fixed	295	295	295	295

Average time between independent fixes: 00:03:00

% of Epochs	GPS			GLONASS	
	L1 [%]	L2 [%]	L5 [%]	L1 [%]	L2 [%]
Fixed	83.98	86.37	92.64	77.50	57.19
Not fixed	3.74	2.66	4.09	7.13	23.50
Not fixed - contradiction	12.22	10.96	3.27	15.37	19.31
Not fixed - missing phase	0.07	0.00	0.00	0.00	0.00

Status	From Epoch	To Epoch	Duration
Not fixed	14/10/2025 12:31:42	14/10/2025 12:32:12	00:00:30
Fixed	14/10/2025 12:32:12	14/10/2025 15:23:42	02:51:30
Not fixed	14/10/2025 15:23:42	14/10/2025 15:54:12	00:30:30

Baseline CHVL - HG21

Processing Parameters (14/10/2025 12:47:50 - 14/10/2025 15:46:53)

Data	Selected	Used	Comments
Cut-Off Angle:	10°	10°	
Frequency:	Automatic	L1/L2/L5	
Sampling Rate:	Use All	15.00 sec	
Satellite System:	GPS/GLONASS/Galileo/Beidou	GPS/GLONASS	
Ephemeris Type:	Broadcast	Broadcast	
Antenna Calibration Set:	NGS 20 Absolute	NGS 20 Absolute	

Processing Strategy

Solution Type:	Phase Fixed	Phase Fixed
Solution Optimisation:	Automatic	Iono Minimised
Frequency to use in Iono Minimised:	Automatic	L1/L2/L5
Tropospheric Model:	Automatic	Computed
Ionospheric Model:	Automatic	Computed
Allow Widelane Fix:	Automatic	Automatic

General Settings

Min. Distance for Iono Minimised:	15 km
Possible Ambiguities Fix up to:	300 km
Min. Duration for Float Solution (static):	00:05:00

Time Settings

Time Format: HH:mm:ss
Time System: Local Time
Leap Seconds: 18

Results Baseline: CHVL - HG21

Acquisition

Start Time - End Time: 14/10/2025 12:47:57 - 14/10/2025 15:46:42
Duration: 02:58:45

Antennas

	Reference - CHVL	Rover - HG21
Receiver Name / SN:	LEICA GR50 / 2091640	EFIX F7 / 3496834
Antenna Name / SN:	LEIAR20 LEIM / 25147012	EFIF7+ / -
Carrier Offset:	-	0.0000 m
Height Reading:	0.0350 m	2.0000 m
Antenna Height:	0.0350 m	2.0000 m

Phase Center Offset

GPS	Reference - LEIAR20 LEIM		Rover - EFIF7+	
	L1	L2	L1	L2
East	0.0001 m	-0.0002 m	0.0002 m	0.0010 m
North	0.0005 m	0.0001 m	0.0016 m	0.0001 m
Up	0.1249 m	0.1335 m	0.0836 m	0.0718 m

GLONASS	L1	L2	L1	L2
East	0.0001 m	-0.0004 m	-	-
North	0.0005 m	0.0001 m	-	-
Up	0.1219 m	0.1295 m	-	-

Coordinates

	Reference - CHVL	Rover - HG21		Reference - CHVL	Rover - HG21
Point Role:	Control	Fixed PP			
WGS84 Latitude:	10° 06' 50.56" N	10° 14' 11.64" N	Easting:	4,833,965.3244 m	4,789,800.8553 m
WGS84 Longitude:	74° 30' 57.41" W	74° 55' 11.24" W	Northing:	2,676,009.7058 m	2,689,790.9050 m
WGS84 Ellip. Height:	107.7687 m	3.7081 m	Ortho. Height:	-	-
WGS84 Cartesian X:	1,676,512.7284 m	1,633,166.4325 m			
WGS84 Cartesian Y:	-6,051,850.3801 m	-6,061,106.0400 m			
WGS84 Cartesian Z:	1,112,687.9714 m	1,126,008.3918 m			

Baseline Vector and Quality - WGS84

ΔLatitude:	0° 07' 21.07"	SD ΔLatitude:	0.0007 m
ΔLongitude:	-0° 24' 13.82"	SD ΔLongitude:	0.0008 m
ΔHeight:	-104.0607 m	SD ΔHeight:	0.0067 m
ΔX:	-43,346.2959 m	SD ΔX:	0.0019 m
ΔY:	-9,255.6600 m	SD ΔY:	0.0064 m
ΔZ:	13,320.4204 m	SD ΔZ:	0.0014 m
Slope Dist.:	46,281.7697 m	SD Slope Dist.:	0.0008 m

M0:	0.6748 m	CQ 1D:	0.0067 m
Q11:	0.00000799	CQ 2D:	0.0011 m
Q12:	-0.00002390	CQ 3D:	0.0068 m

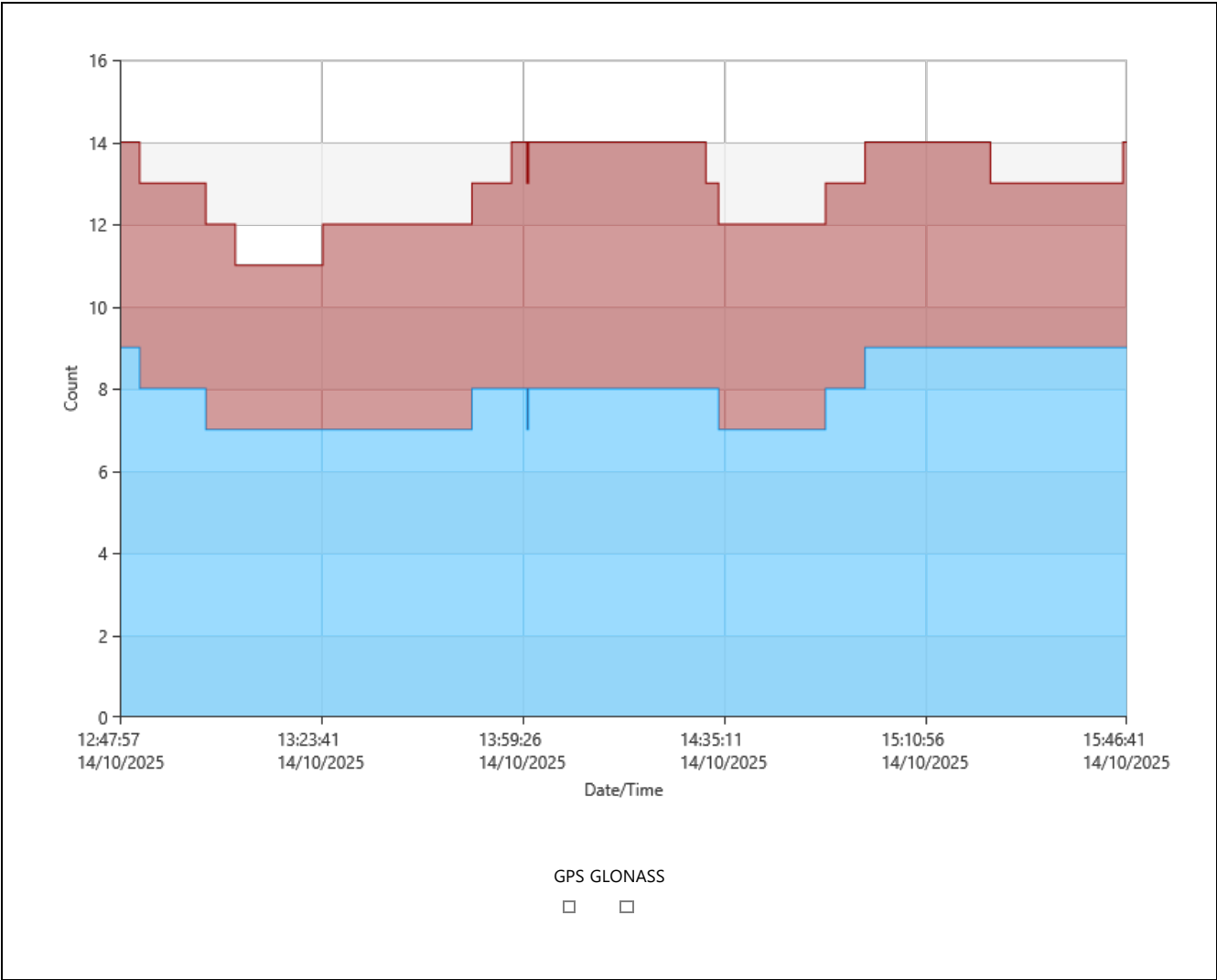
Q22: 0.00008949
Q13: 0.00000468
Q23: -0.00001651
Q33: 0.00000425

Frequency:	L1/L2/L5	GDOP:	2.1 - 5.2	GPS SVs:	8/9
Solution Optimisation:	Iono Minimised	PDOP:	1.6 - 3.5	GLONASS SVs:	5/6
Solution Type:	Phase Fixed	HDOP:	0.8 - 1.4	Beidou SVs:	-
		VDOP:	1.3 - 3.3	Galileo SVs:	-
				QZSS SVs:	-
Ephemeris Type:					
GPS	Broadcast				
GLONASS	Broadcast				

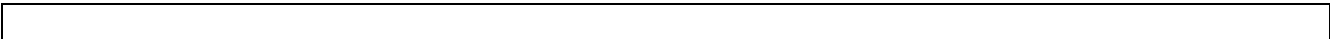
Processing Info (14/10/2025 12:47:50 - 14/10/2025 15:46:53)

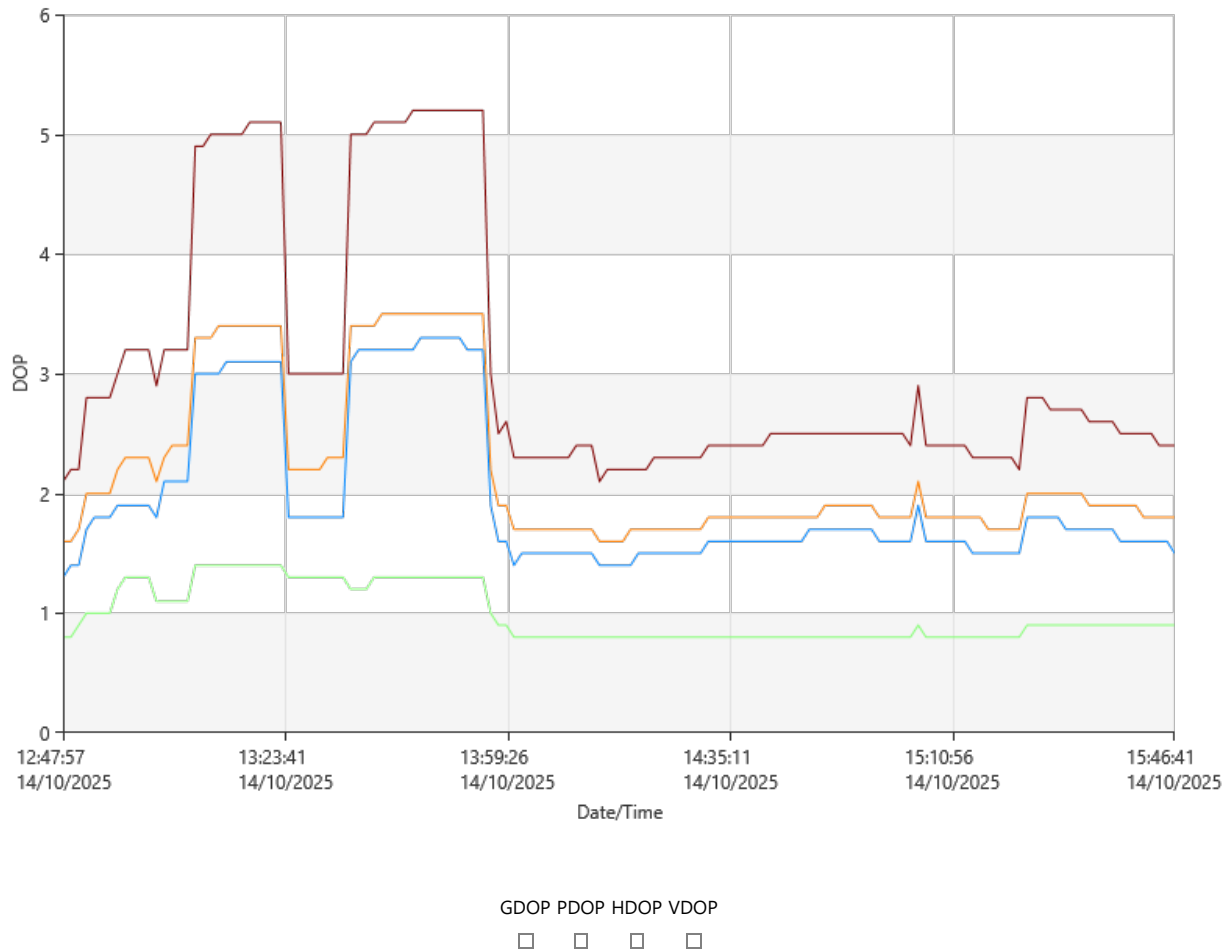
Processed Date/Time: 19/10/2025 16:29:45

SVs Tracked



DOP





Ambiguity Statistics

Number of Ambiguities	GPS	GLONASS	Beidou	Galileo
Fixed	28	14	0	0
Total	38	18	0	0
Independently fixed	108	90	0	0
Possible independently fixed	190	190	190	190

Average time between independent fixes: 00:03:00

% of Epochs	GPS			GLONASS	
	L1 [%]	L2 [%]	L5 [%]	L1 [%]	L2 [%]
Fixed	87.98	67.50	65.46	88.87	67.92
Not fixed	7.63	7.77	10.40	4.56	4.56
Not fixed - contradiction	4.40	24.72	24.14	6.57	27.52
Not fixed - missing phase	0.00	0.00	0.00	0.00	0.00

Status	From Epoch	To Epoch	Duration
Not fixed	14/10/2025 12:47:57	14/10/2025 13:34:12	00:46:15
Fixed	14/10/2025 13:34:12	14/10/2025 15:46:42	02:12:30

Baseline VCTG - HG21

Processing Parameters (14/10/2025 12:47:50 - 14/10/2025 15:46:53)

Data	Selected	Used	Comments
Cut-Off Angle:	10°	10°	
Frequency:	Automatic	L1/L2/L5	
Sampling Rate:	Use All	15.00 sec	
Satellite System:	GPS/GLONASS/Galileo/Beidou	GPS/GLONASS	
Ephemeris Type:	Broadcast	Broadcast	
Antenna Calibration Set:	NGS 20 Absolute	NGS 20 Absolute	

Processing Strategy

Solution Type:	Phase Fixed	Phase Fixed
Solution Optimisation:	Automatic	Iono Minimised
Frequency to use in Iono Minimised:	Automatic	L1/L2/L5
Tropospheric Model:	Automatic	Computed
Ionospheric Model:	Automatic	Computed
Allow Widelane Fix:	Automatic	Automatic

General Settings

Min. Distance for Iono Minimised:	15 km
Possible Ambiguities Fix up to:	300 km
Min. Duration for Float Solution (static):	00:05:00

Time Settings

Time Format:	HH:mm:ss
Time System:	Local Time
Leap Seconds:	18

Results Baseline: VCTG - HG21

Acquisition

Start Time - End Time:	14/10/2025 12:47:57 - 14/10/2025 15:46:42
Duration:	02:58:45

Antennas

	Reference - VCTG	Rover - HG21
Receiver Name / SN:	TRIMBLE NETR9 / 5250K40413	EFIX F7 / 3496834
Antenna Name / SN:	TRM57971.00 / 5000119487	EFIF7+ / -
Carrier Offset:	-	0.0000 m
Height Reading:	0.0350 m	2.0000 m
Antenna Height:	0.0350 m	2.0000 m

Phase Center Offset

	Reference - TRM57971.00		Rover - EFIF7+	
GPS	L1	L2	L1	L2
East	0.0003 m	0.0011 m	0.0002 m	0.0010 m
North	0.0008 m	-0.0001 m	0.0016 m	0.0001 m
Up	0.0642 m	0.0583 m	0.0836 m	0.0718 m

GLONASS	L1	L2	L1	L2
East	0.0004 m	0.0012 m	-	-
North	0.0007 m	-0.0004 m	-	-
Up	0.0630 m	0.0579 m	-	-

Coordinates

	Reference - VCTG	Rover - HG21		Reference - VCTG	Rover - HG21
Point Role:	Control	Fixed PP			
WGS84 Latitude:	10° 12' 31.14" N	10° 14' 11.64" N	Easting:	4,725,616.2452 m	4,789,800.7599 m
WGS84 Longitude:	75° 30' 19.68" W	74° 55' 11.24" W	Northing:	2,687,143.3806 m	2,689,790.9691 m
WGS84 Ellip. Height:	23.9849 m	3.5058 m	Ortho. Height:	-	-
WGS84 Cartesian X:	1,571,267.4540 m	1,633,166.2852 m			
WGS84 Cartesian Y:	-6,078,033.2603 m	-6,061,105.8619 m			
WGS84 Cartesian Z:	1,122,973.2345 m	1,126,008.4183 m			

Baseline Vector and Quality - WGS84

ΔLatitude:	0° 01' 40.50"	SD ΔLatitude:	0.0008 m
ΔLongitude:	0° 35' 08.44"	SD ΔLongitude:	0.0010 m
ΔHeight:	-20.4790 m	SD ΔHeight:	0.0082 m
ΔX:	61,898.8312 m	SD ΔX:	0.0024 m
ΔY:	16,927.3984 m	SD ΔY:	0.0077 m
ΔZ:	3,035.1838 m	SD ΔZ:	0.0017 m
Slope Dist.:	64,243.4002 m	SD Slope Dist.:	0.0010 m

M0:	0.7894 m	CQ 1D:	0.0082 m
Q11:	0.00000911	CQ 2D:	0.0013 m
Q12:	-0.00002676	CQ 3D:	0.0082 m
Q22:	0.00009557		
Q13:	0.00000530		
Q23:	-0.00001799		
Q33:	0.00000446		

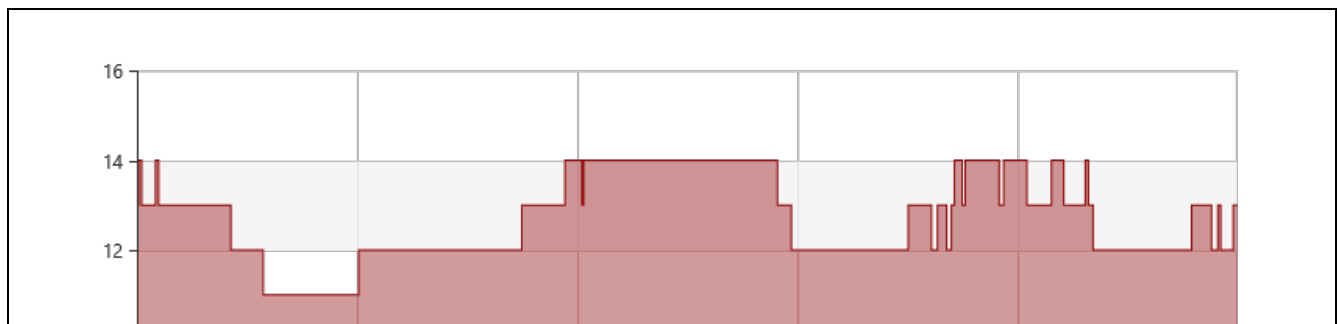
Frequency:	L1/L2/L5	GDOP:	2.0 - 5.2	GPS SVs:	9/9
Solution Optimisation:	Iono Minimised	PDOP:	1.5 - 3.5	GLONASS SVs:	5/6
Solution Type:	Phase Fixed	HDOP:	0.7 - 1.8	Beidou SVs:	-
		VDOP:	1.3 - 3.3	Galileo SVs:	-
				QZSS SVs:	-

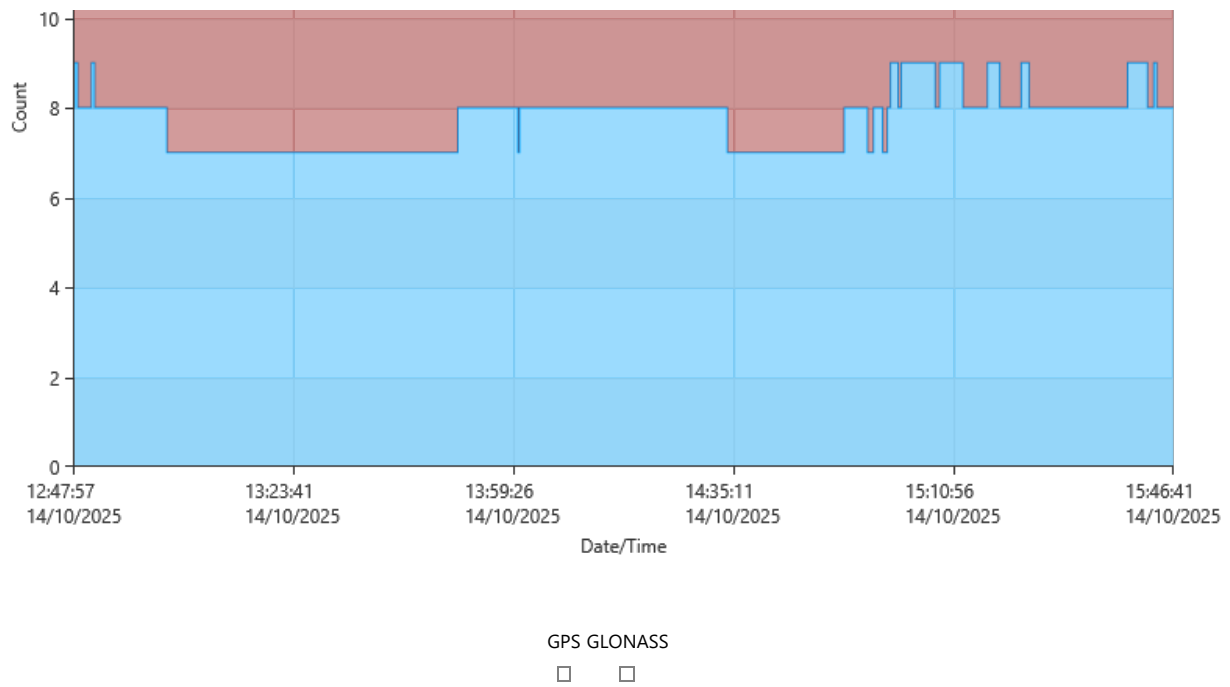
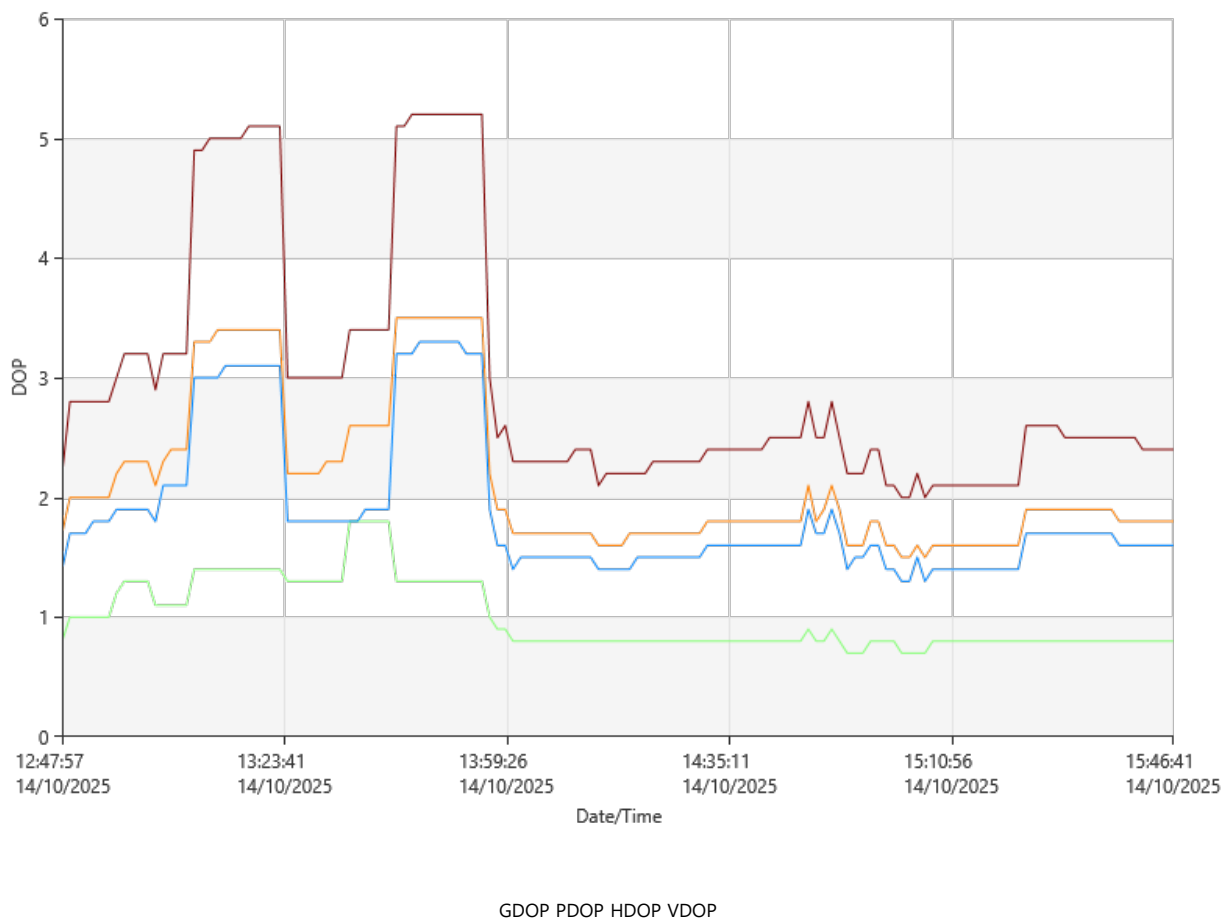
Ephemeris Type:	
GPS	Broadcast
GLONASS	Broadcast

Processing Info (14/10/2025 12:47:50 - 14/10/2025 15:46:53)

Processed Date/Time: 19/10/2025 16:29:45

SVs Tracked



**DOP**

Ambiguity Statistics

Number of Ambiguities	GPS	GLONASS	Beidou	Galileo
Fixed	40	12	0	0
Total	62	20	0	0
Independently fixed	101	93	0	0
Possible independently fixed	167	167	167	167

Average time between independent fixes: 00:03:00

% of Epochs	GPS			GLONASS	
	L1 [%]	L2 [%]	L5 [%]	L1 [%]	L2 [%]
Fixed	76.89	77.26	76.60	64.76	75.79
Not fixed	3.16	4.07	4.90	5.62	8.55
Not fixed - contradiction	19.96	18.67	18.45	29.63	15.66
Not fixed - missing phase	0.00	0.00	0.05	0.00	0.00

Status	From Epoch	To Epoch	Duration
Not fixed	14/10/2025 12:47:57	14/10/2025 13:40:42	00:52:45
Fixed	14/10/2025 13:40:42	14/10/2025 15:46:42	02:06:00