



Tribhuvan University

Institute of Engineering
Pashchimanchal Campus

Lab Report On

GNSS Data Processing Using RTKLib and RxTools

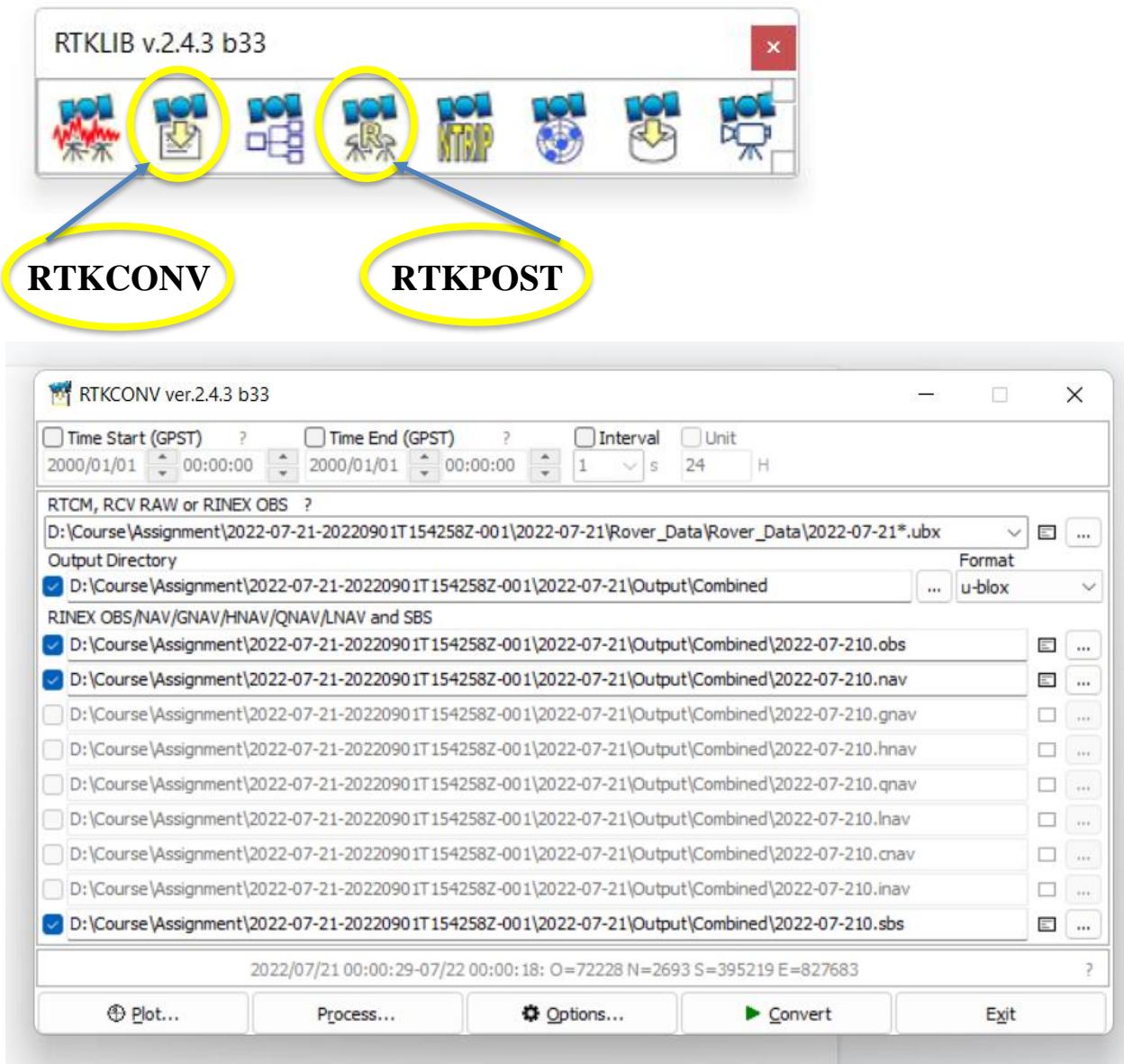
Subject: Satellite Positioning

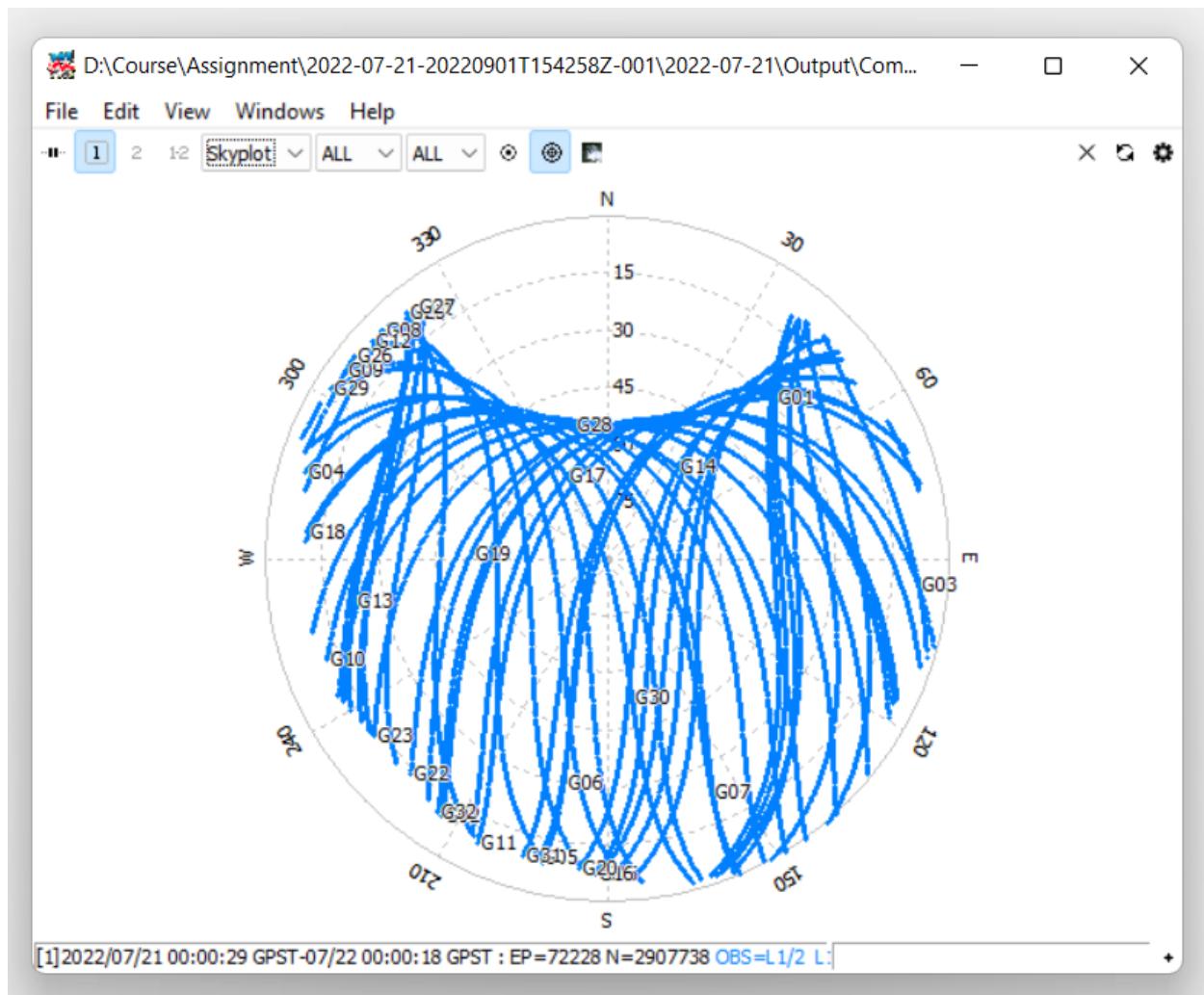
Submitted By
Prakash Gharti Magar
(PAS075BGE029)

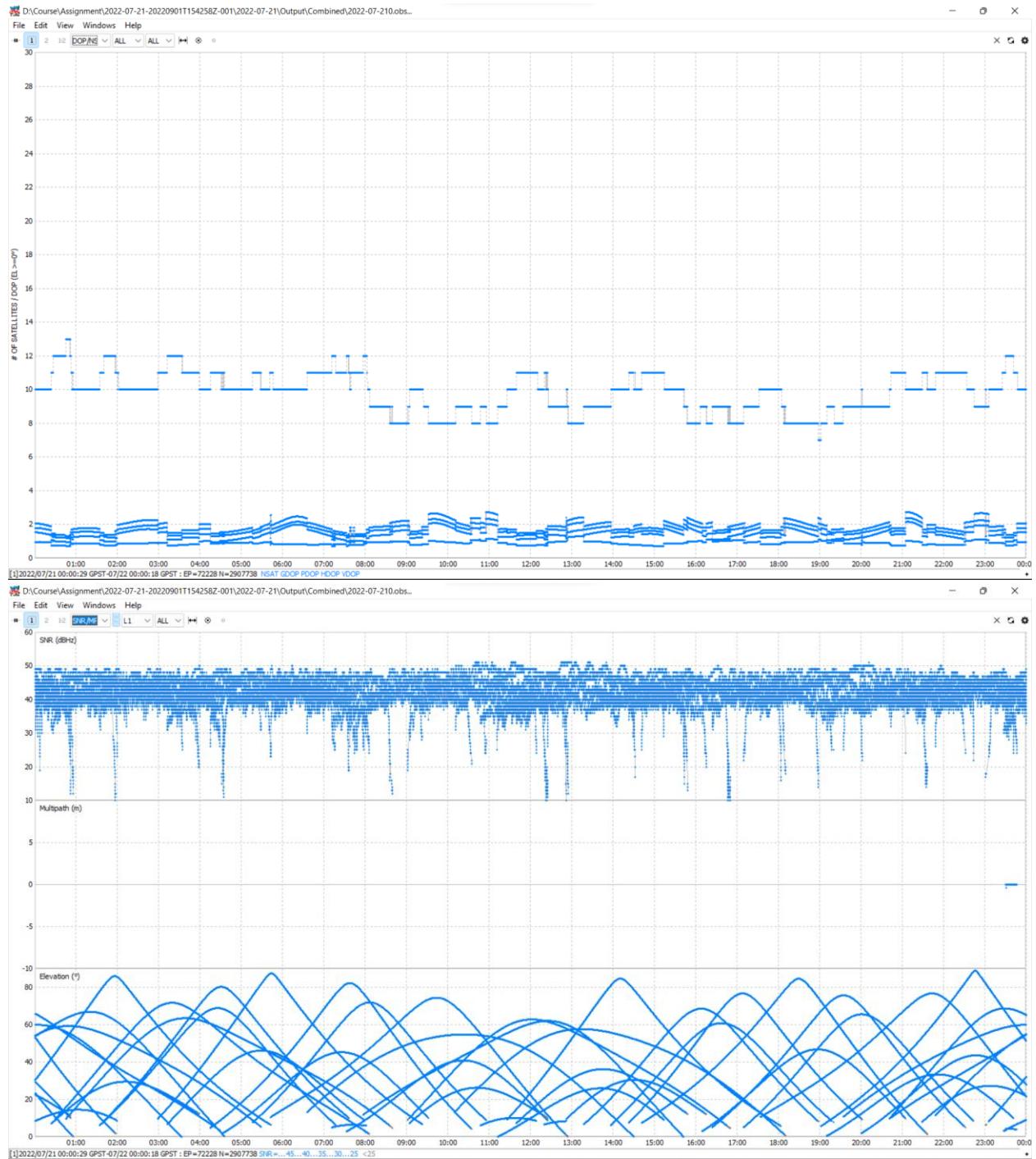
Submitted To
Er. Bikash Sherchan (HOD)
Department of Geomatics Engineering

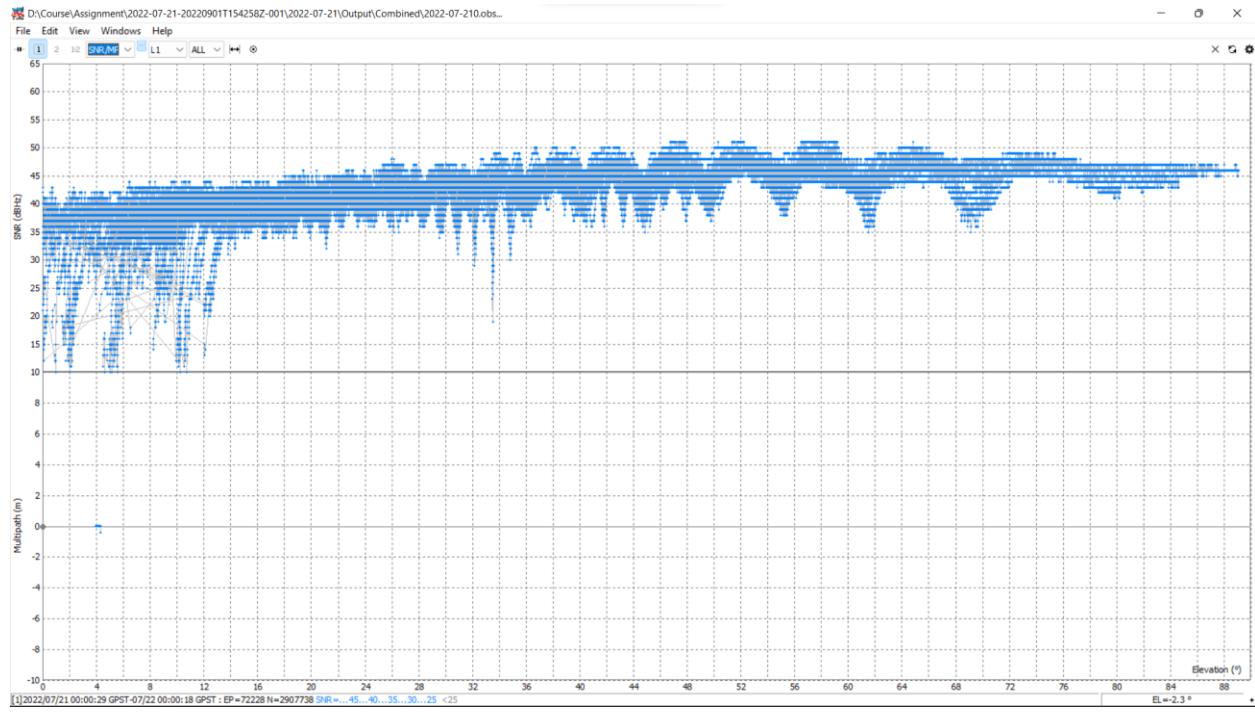
Date: 2079/06/07

Step 1: Combined all u-Blox (rover data) into observation and navigation data using RTKCONV then plotted using RTKPLOT. Here, in the selection of rover data, we should put * for different names so that all data can be selected.



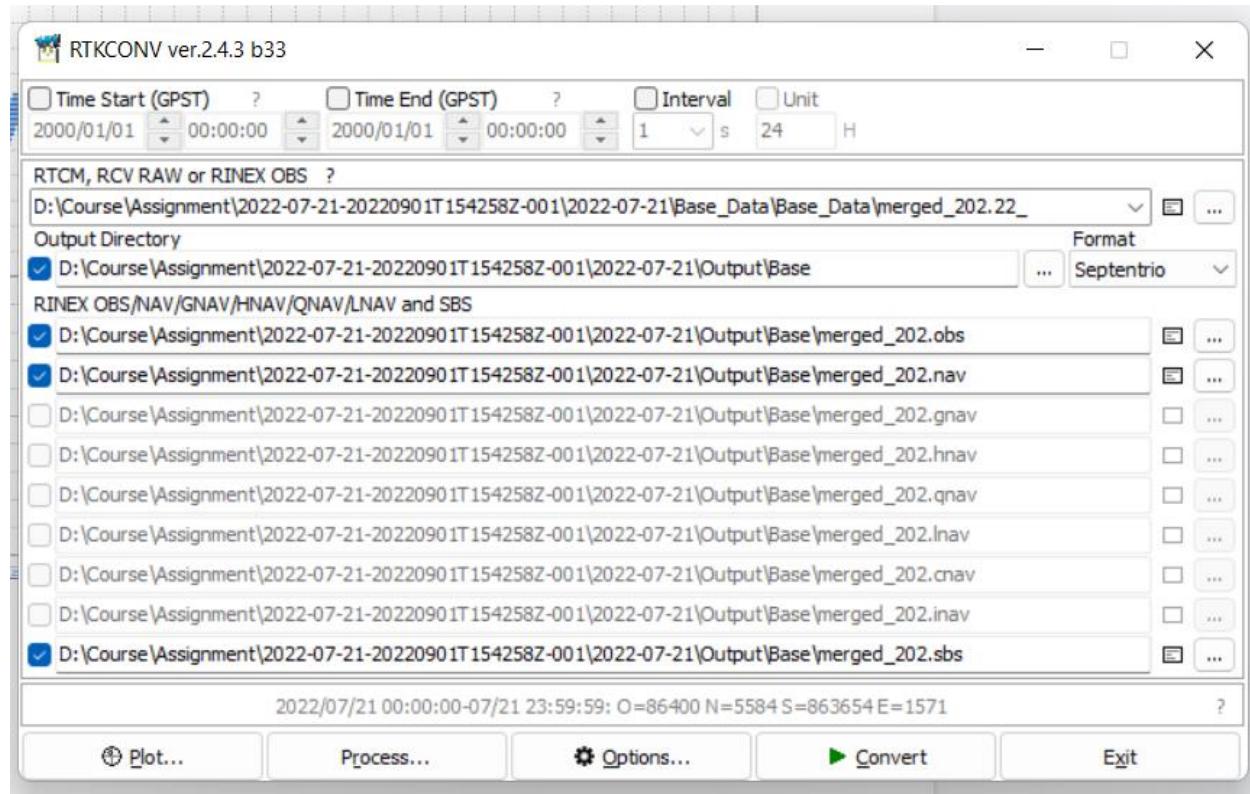


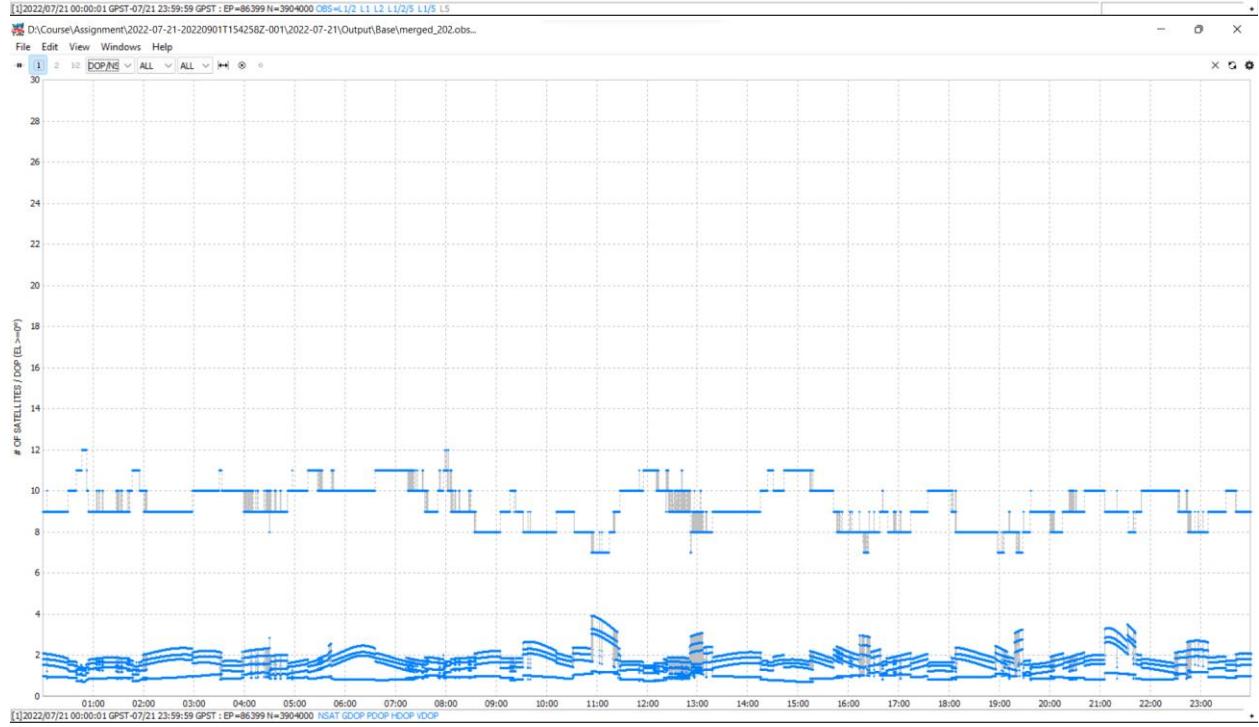
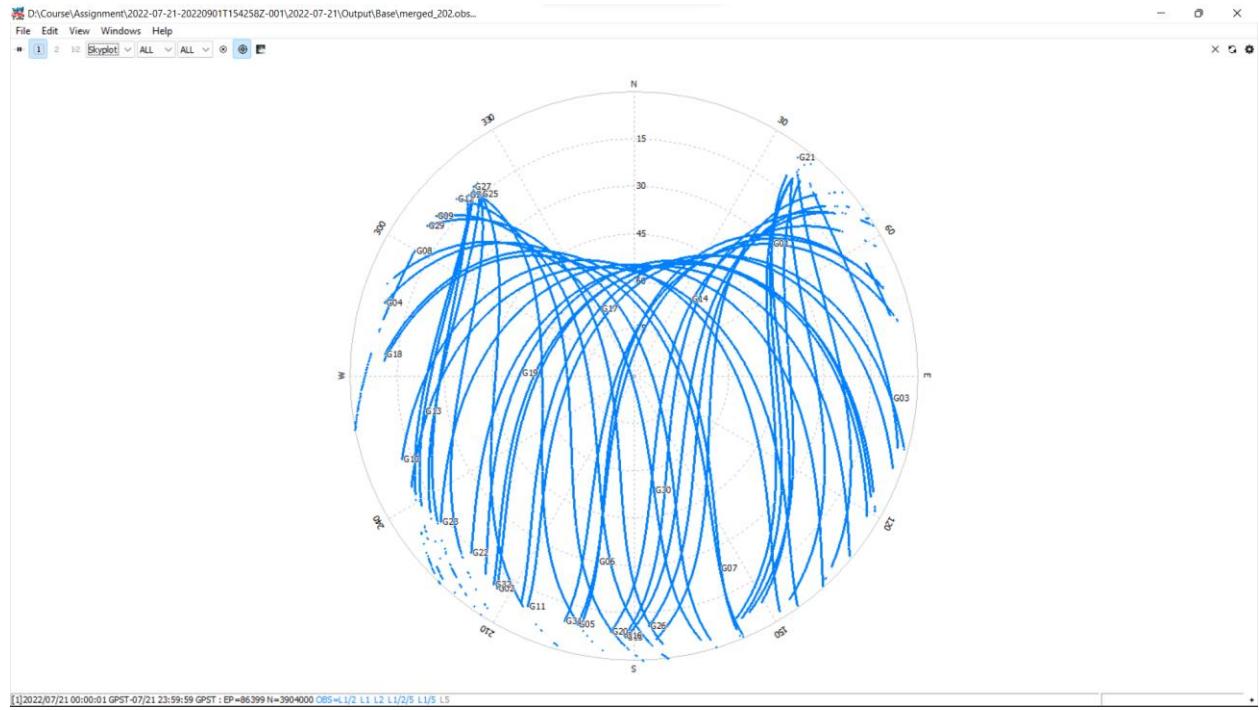




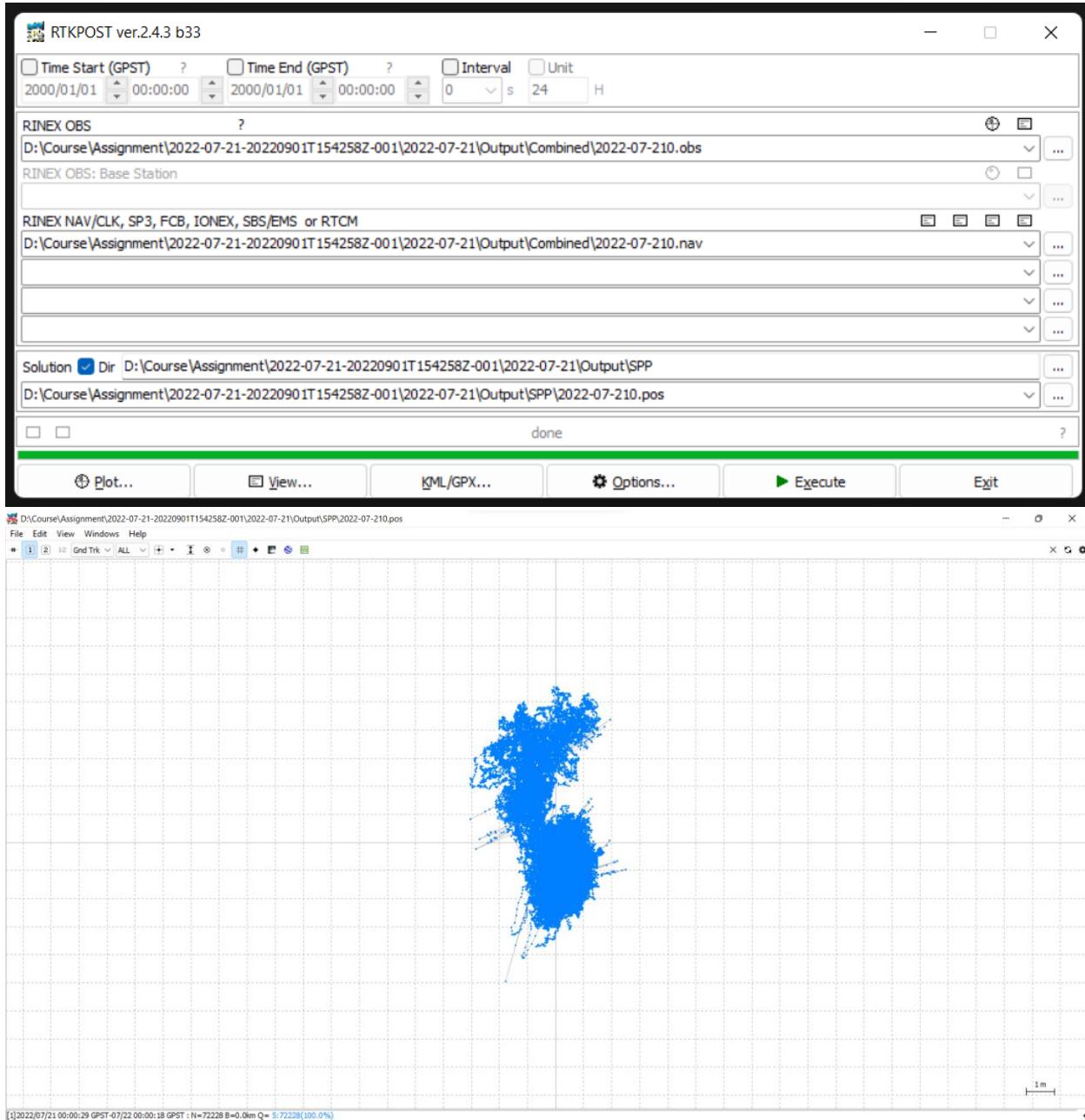
Step 2: Converted septentrio data (base data) into observation and navigation data using RTKCONV then plotted using RTKPLOT.

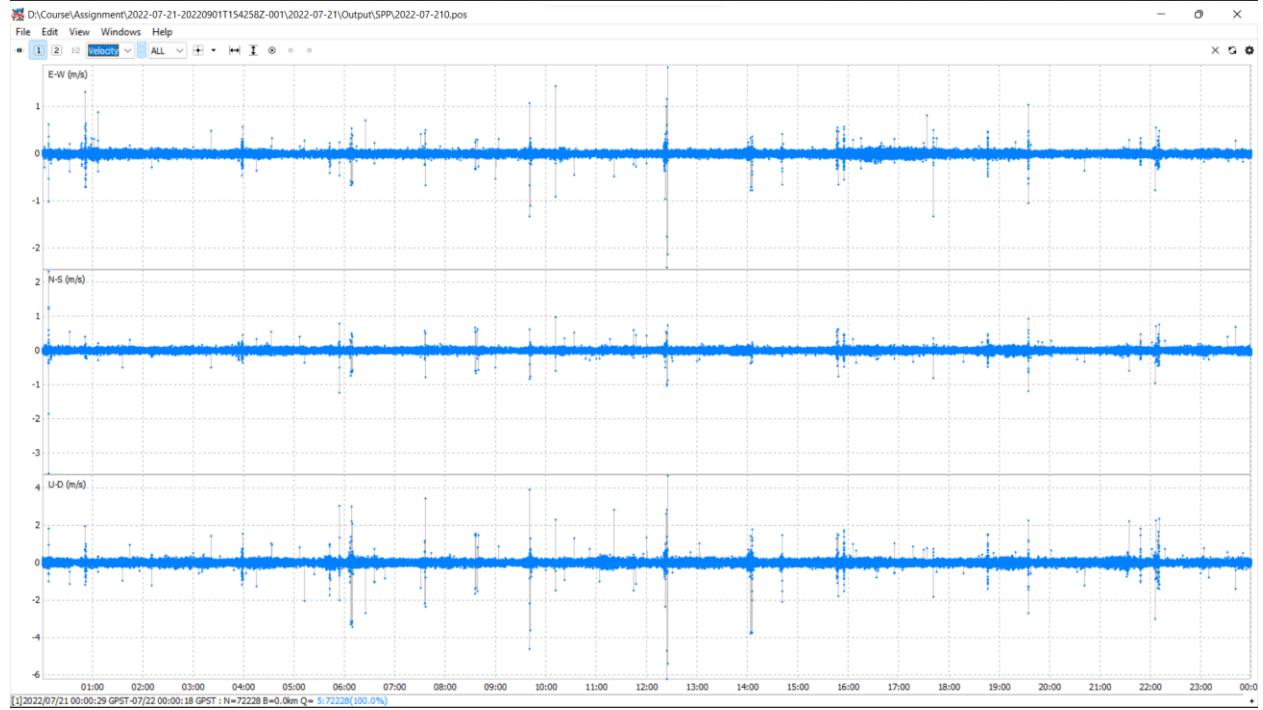
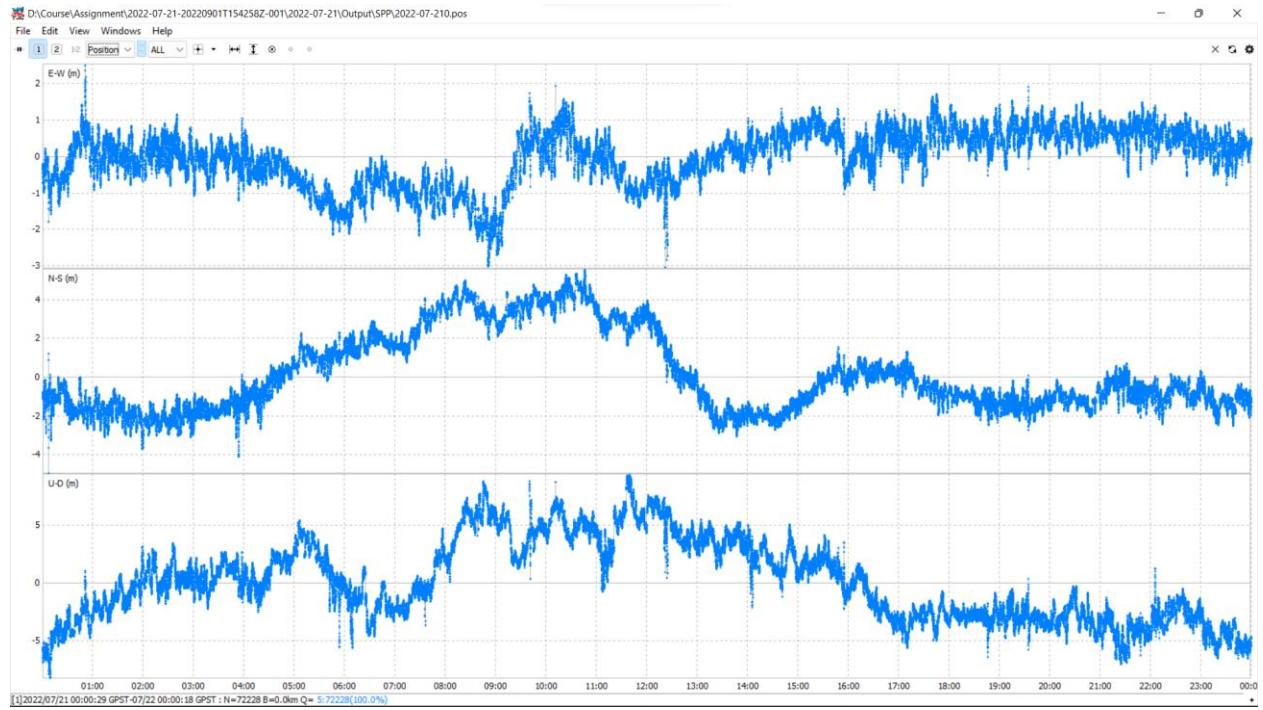
Base Station Coordinate: $28^{\circ}15'18.4''\text{N}$, $83^{\circ}58'35.1''\text{E}$, 933.515 m

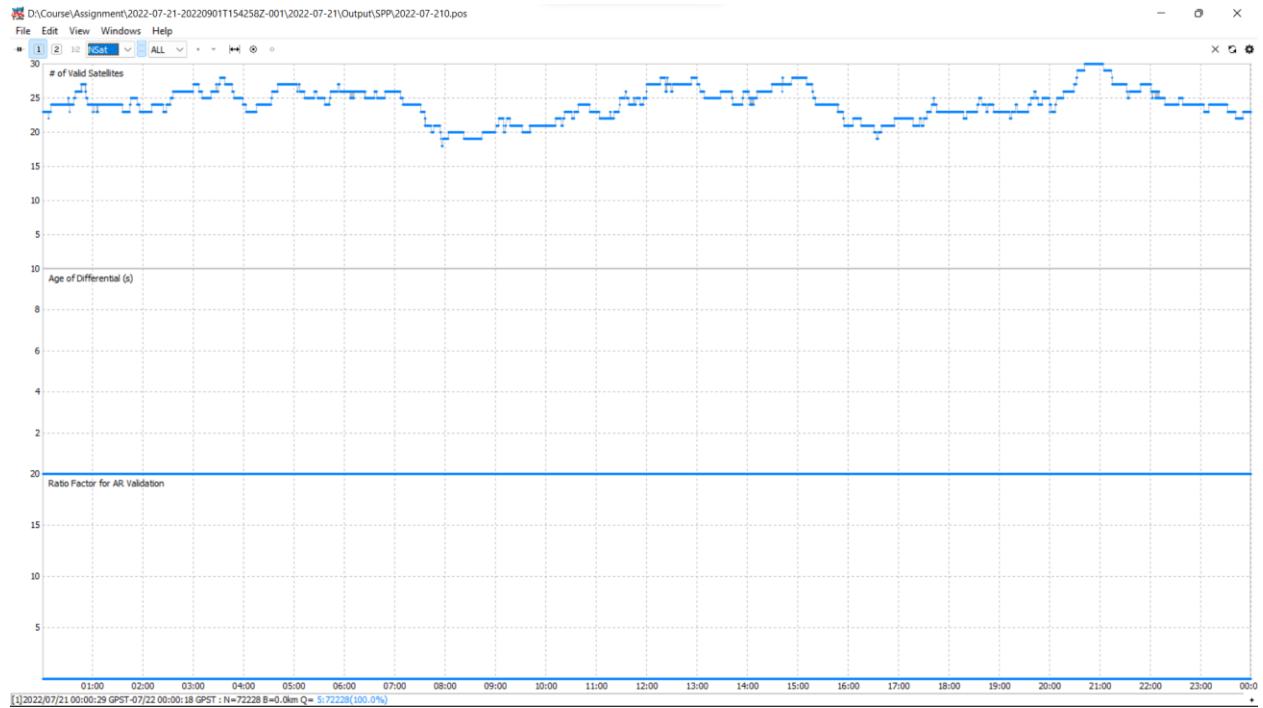




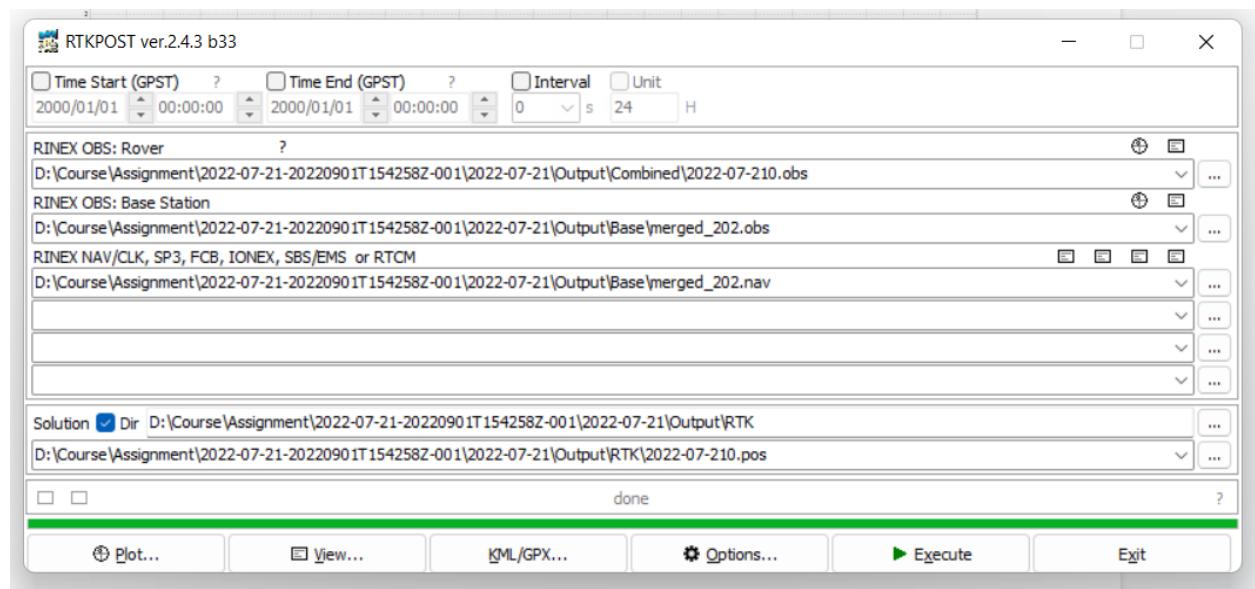
Step 3: Post-Processed the obtained data using Single Point Positioning (SPP) Technique and Plotted.

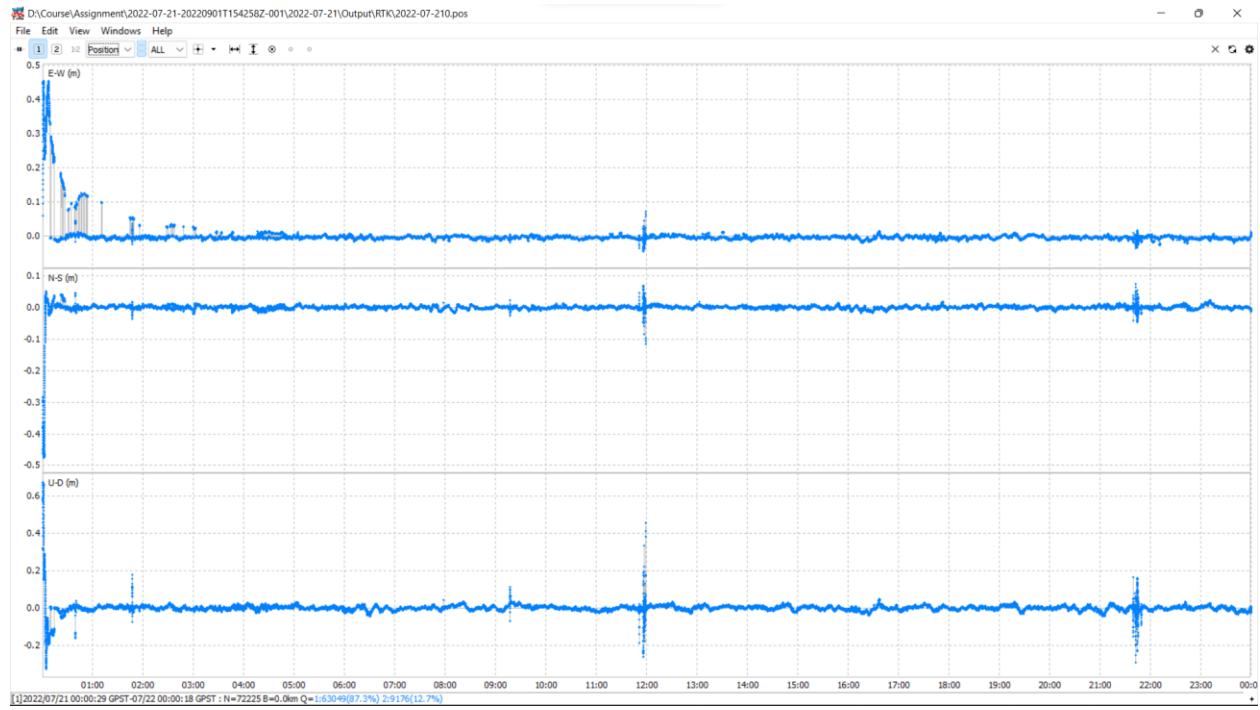
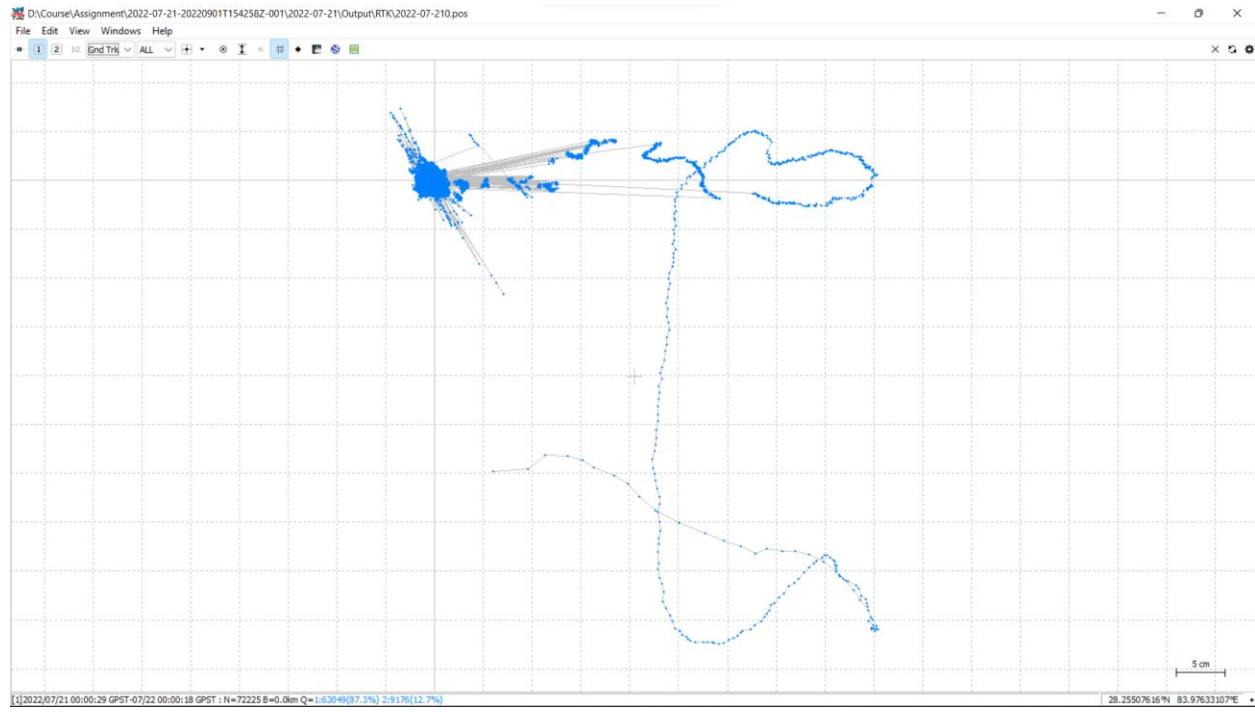


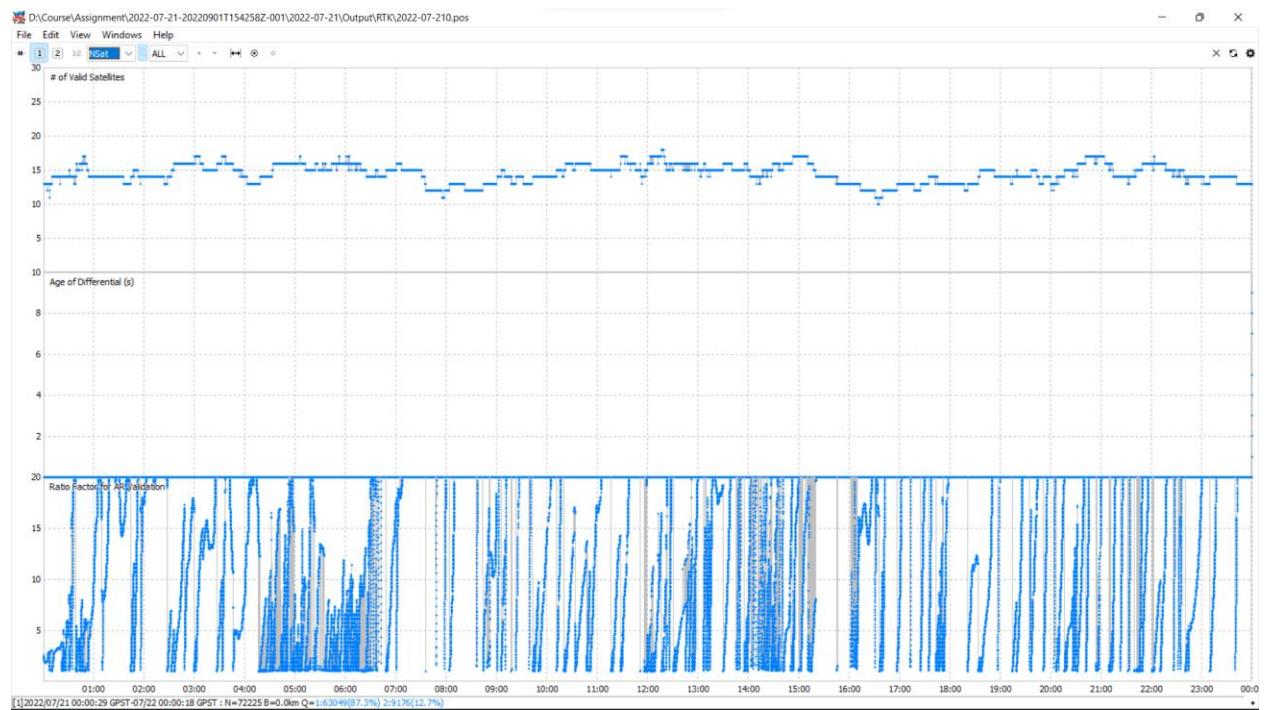
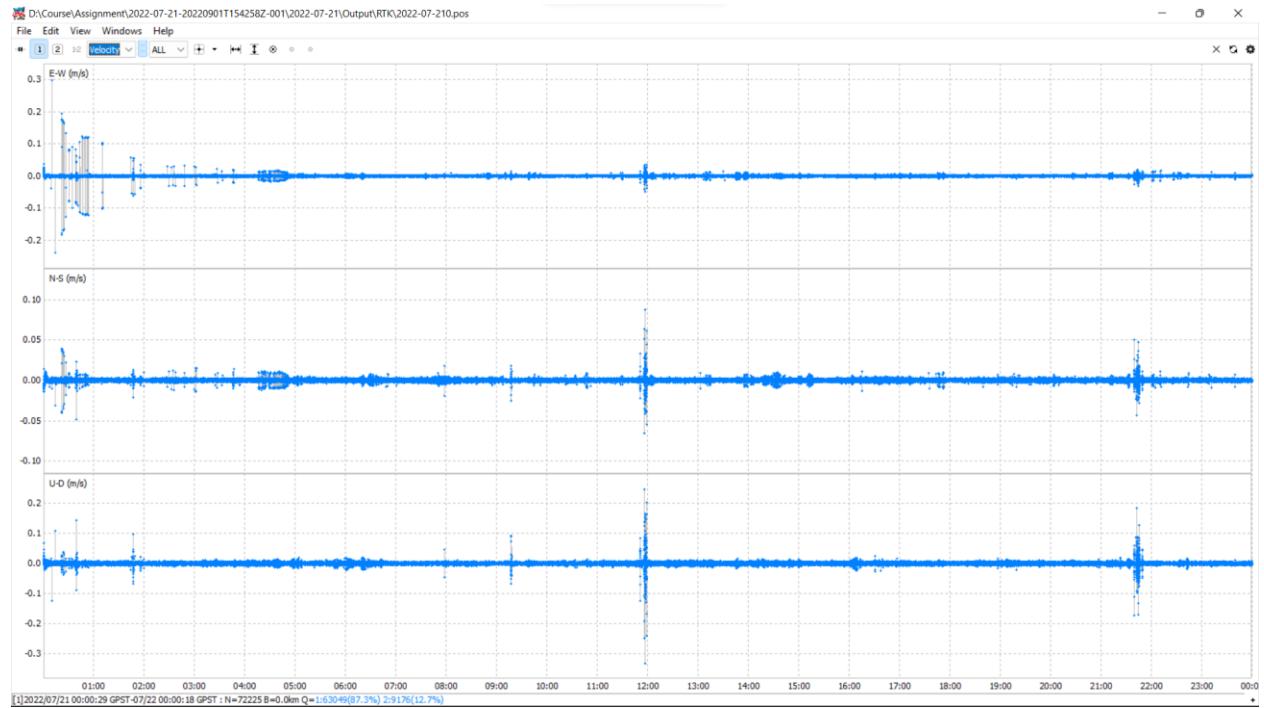




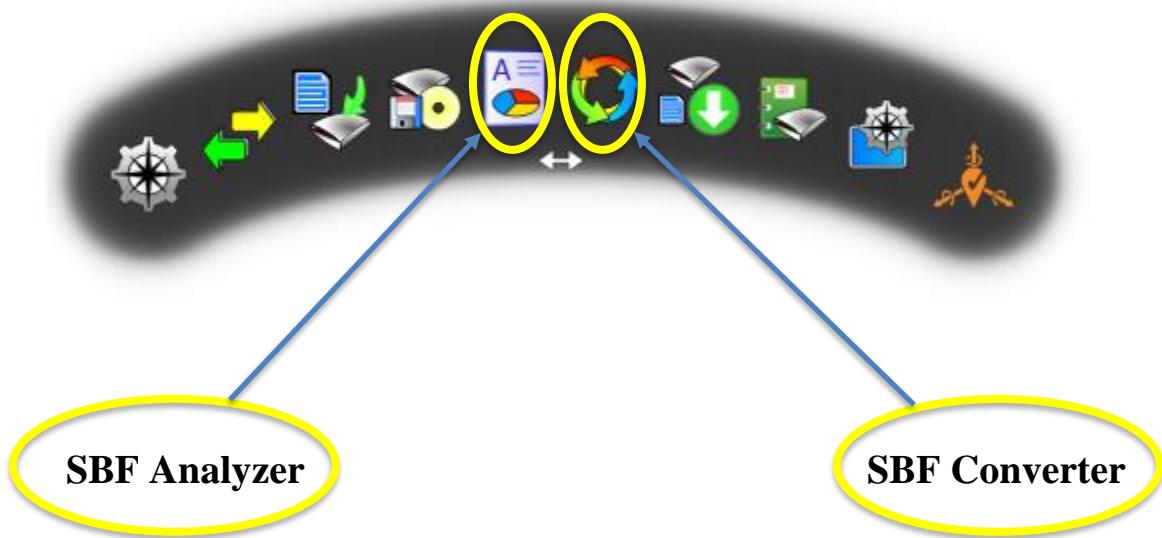
Step 4: Post-Processed the obtained data using Real Time Kinematic (RTK) Technique and Plotted.



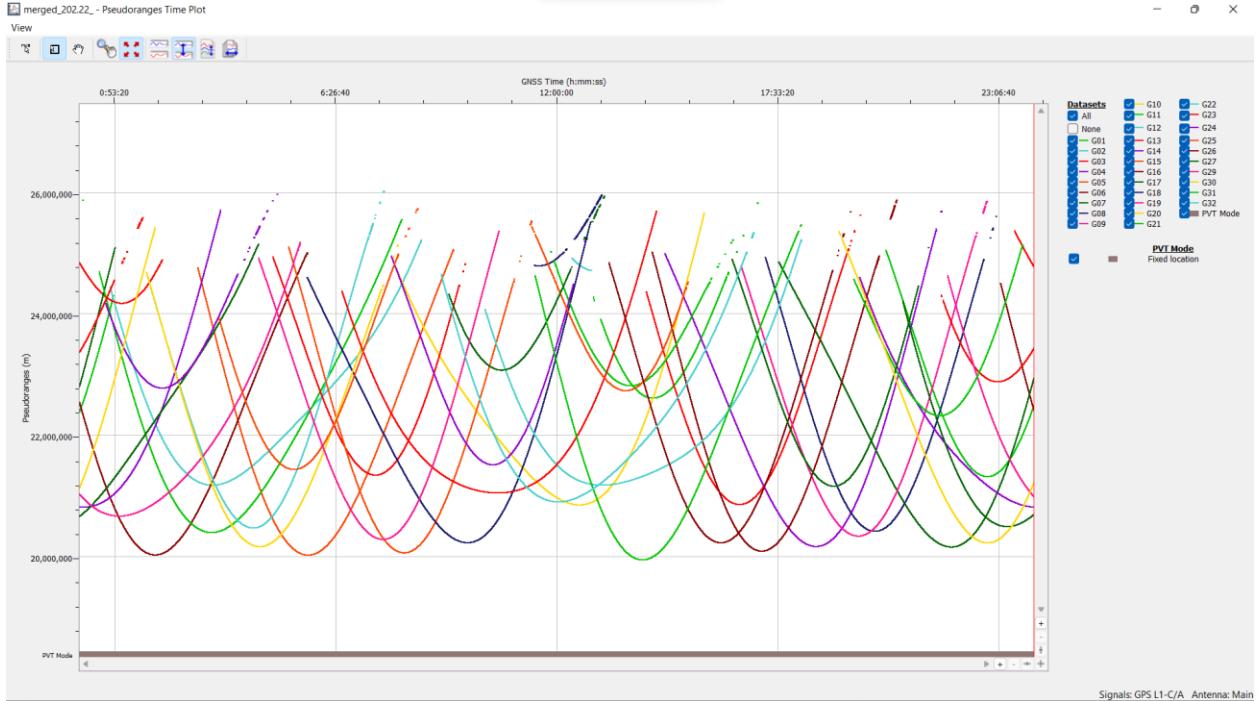


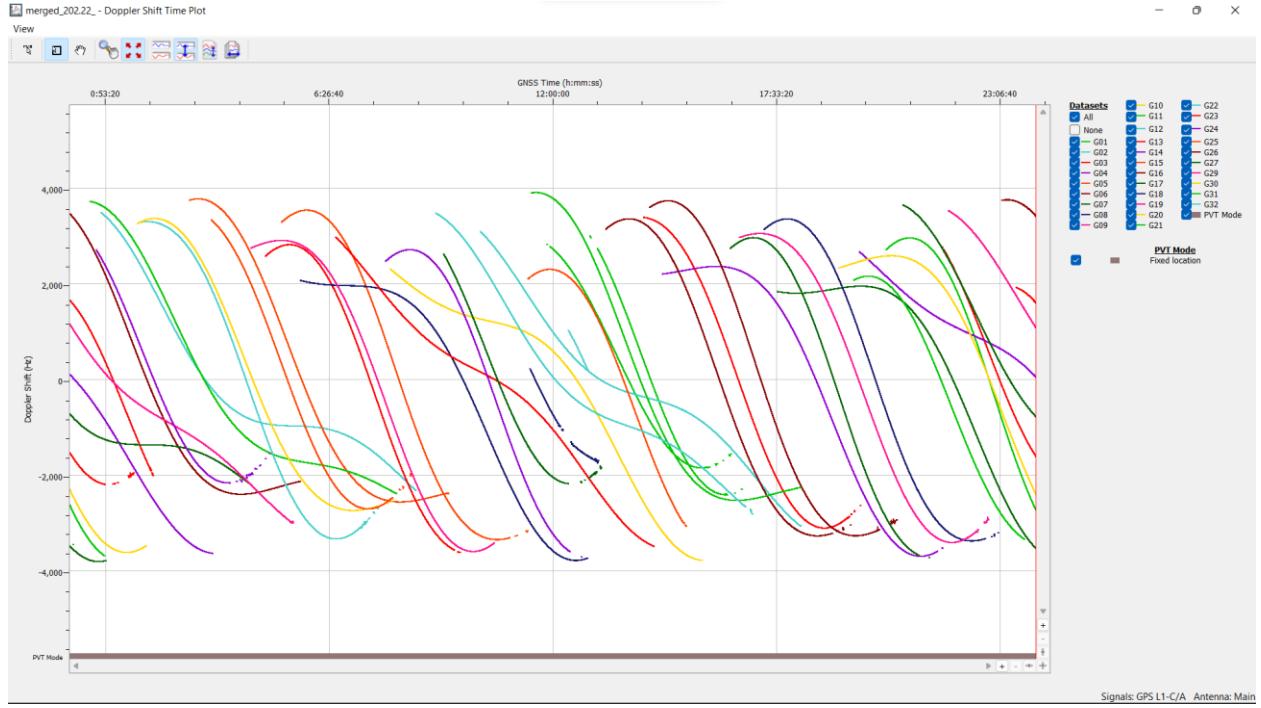
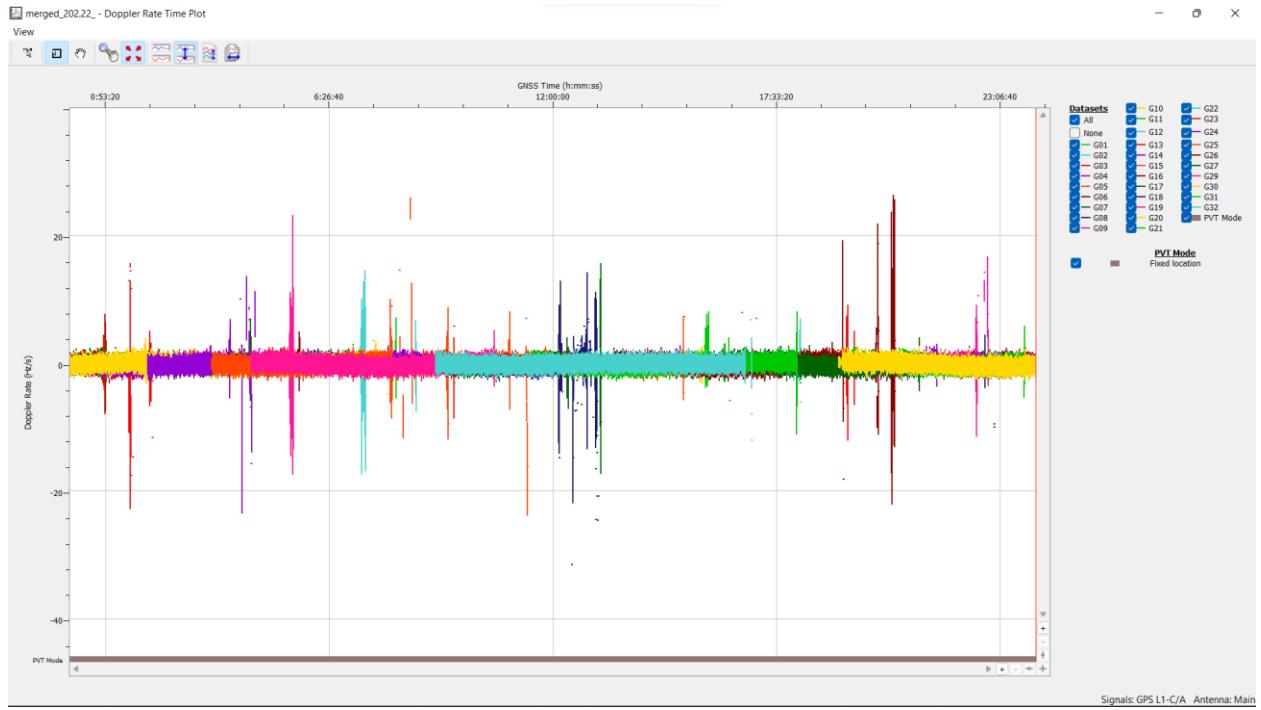


Step 4: Analyzed the base station data using RxTools (SBF Analyzer) to get a different kind of data.

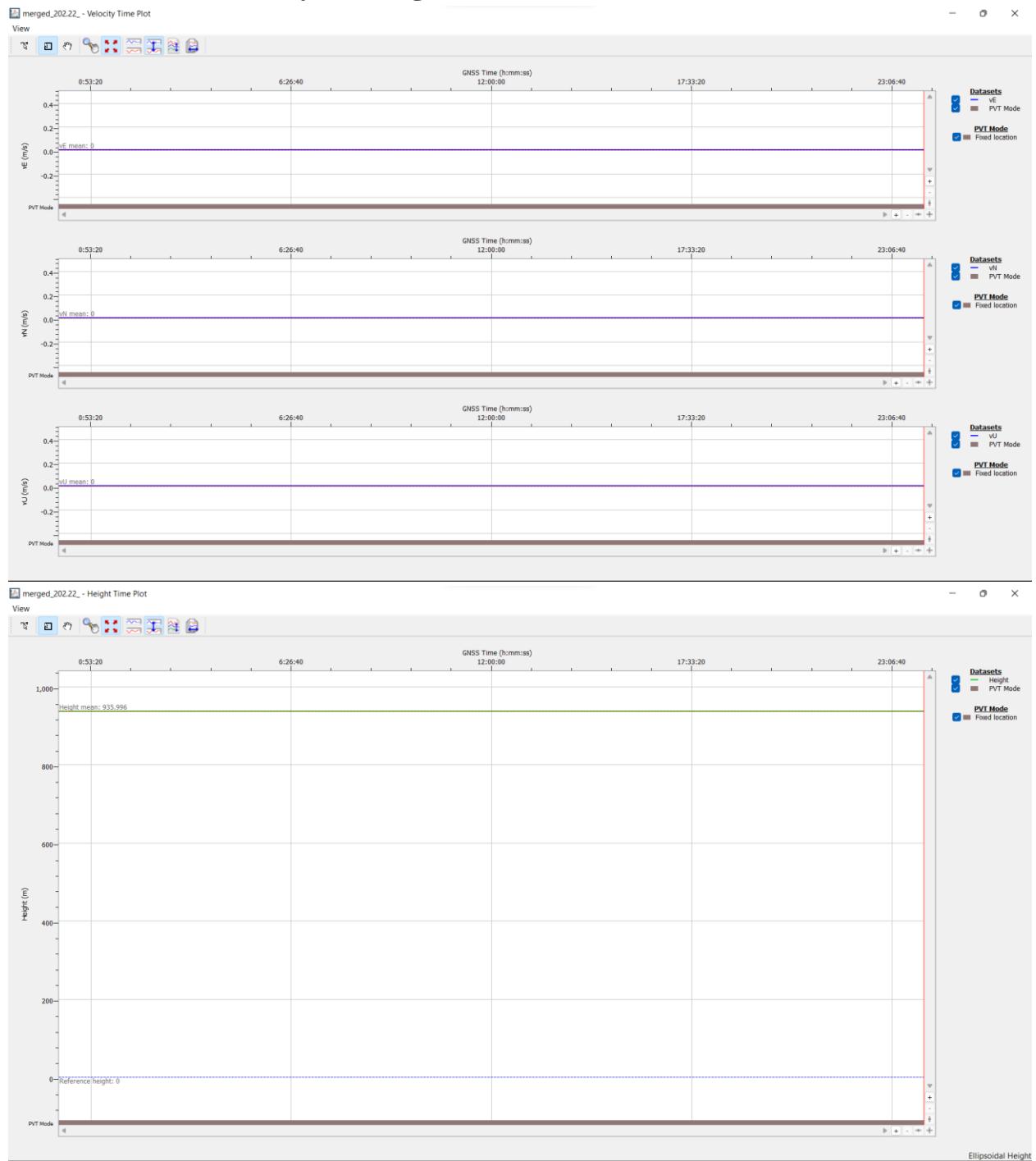


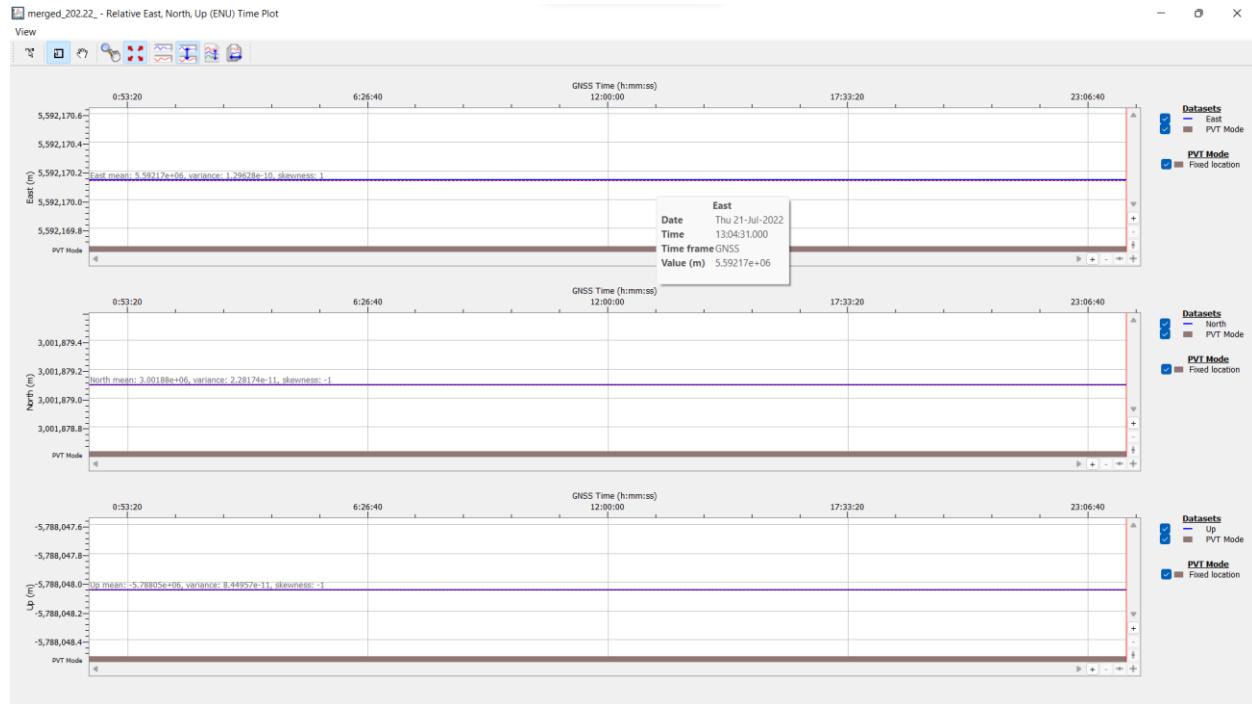
● Satellites Information



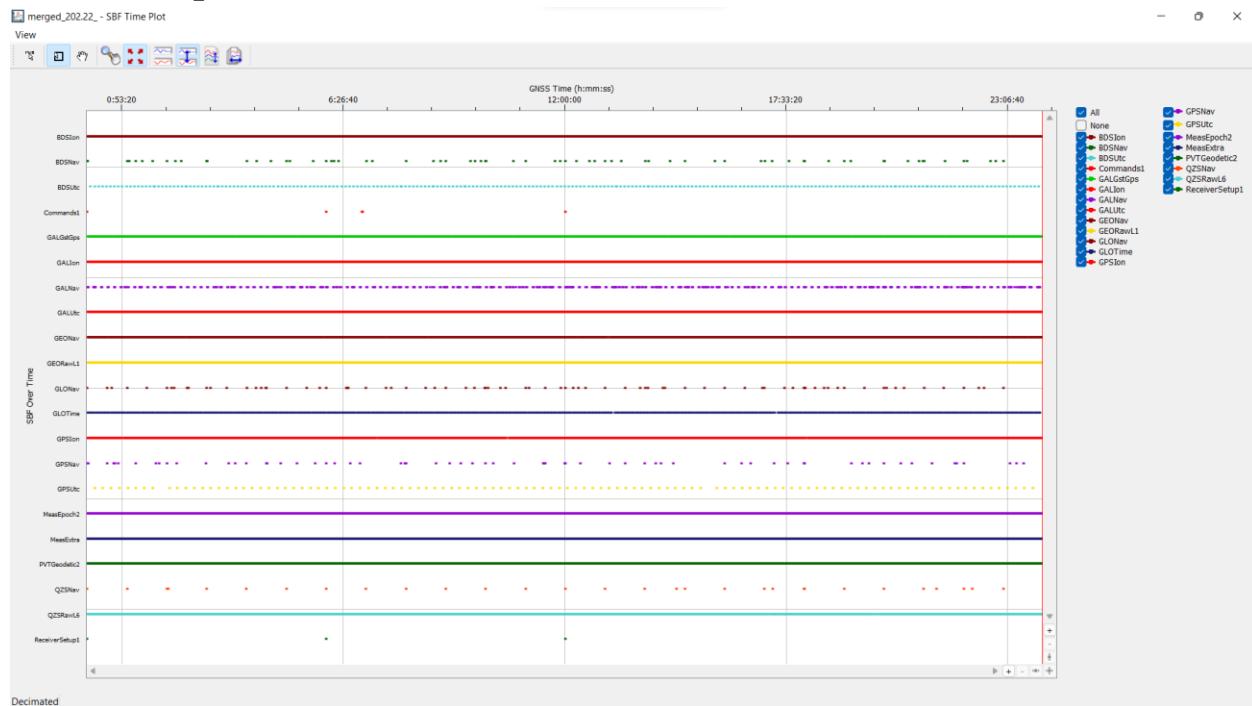


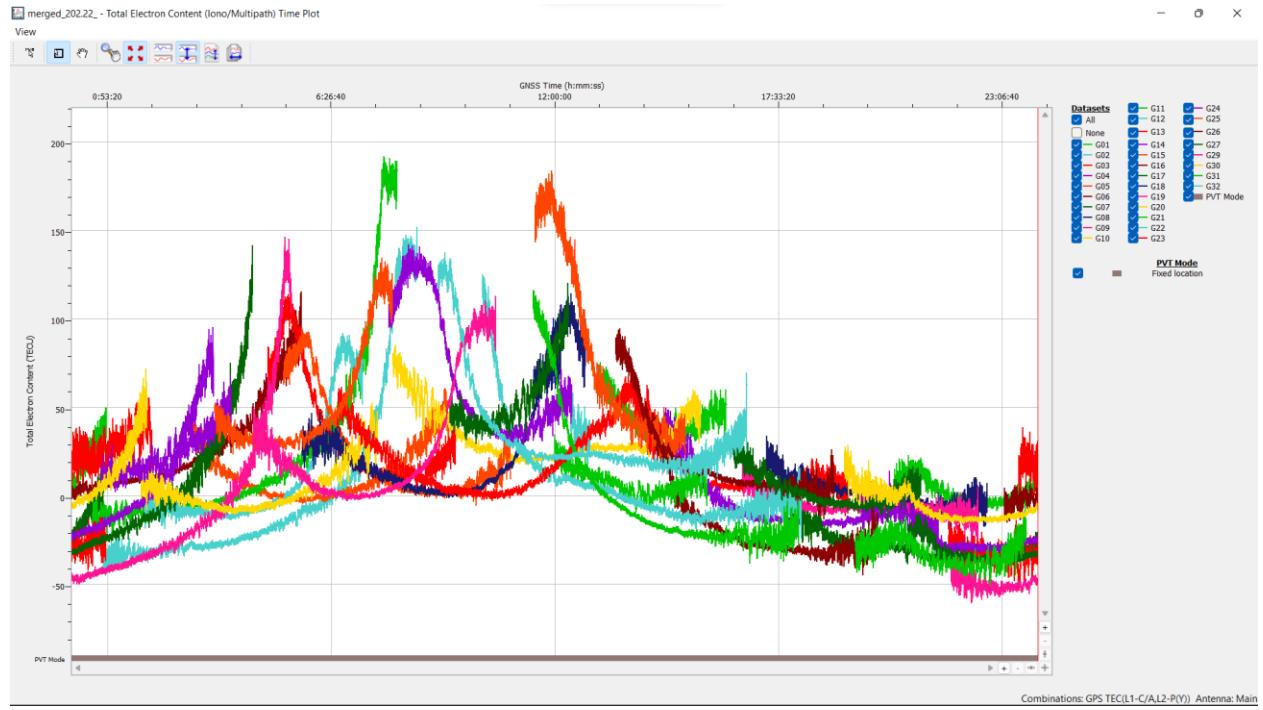
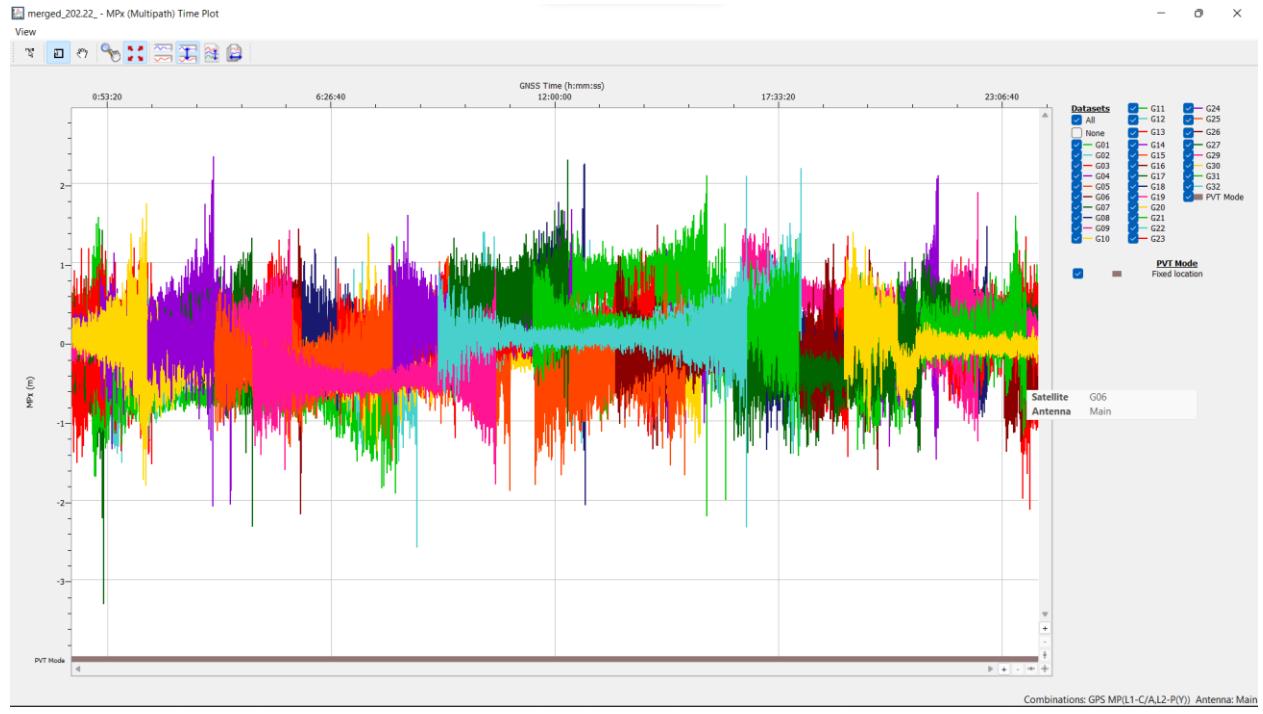
● Position, Velocity, Timing (PVT) Plot

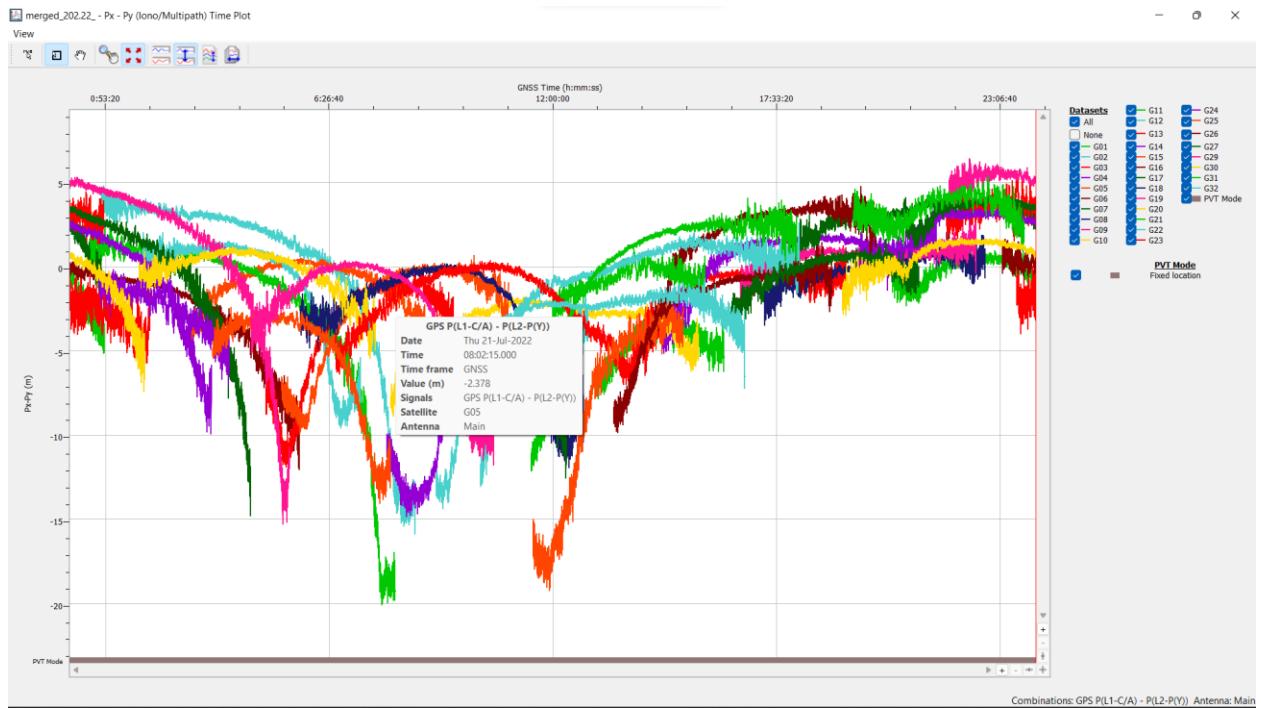
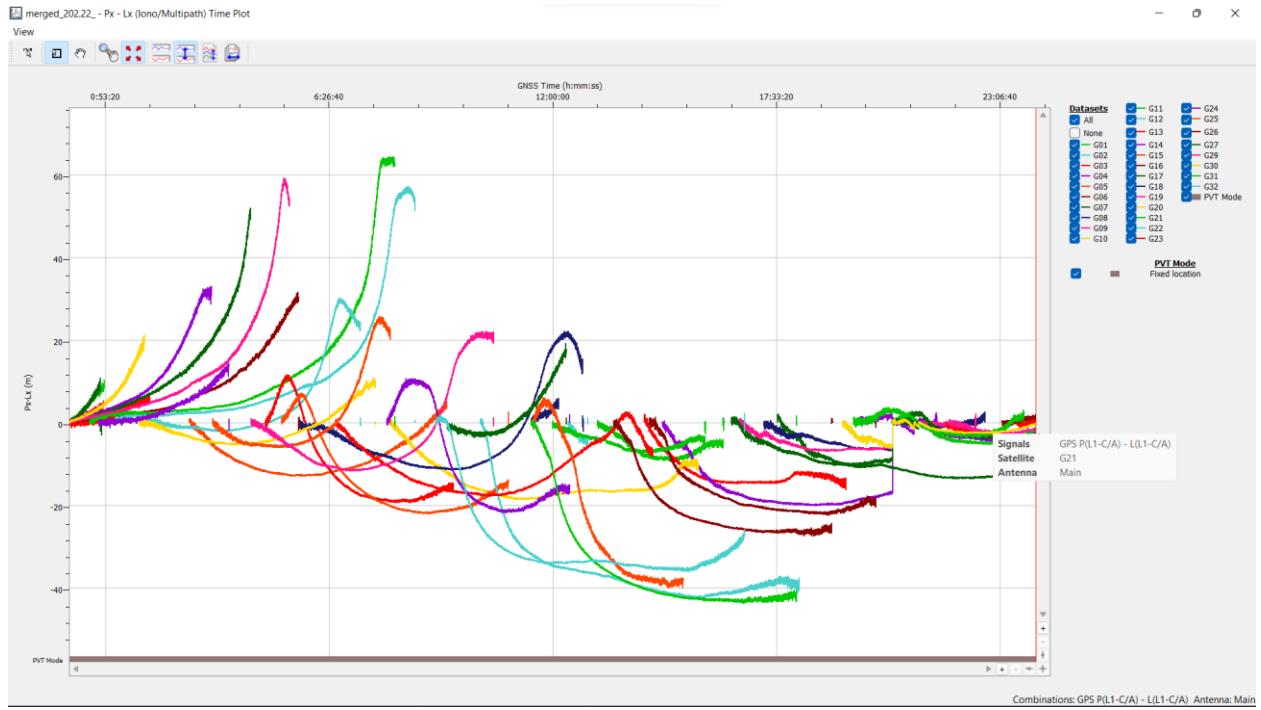


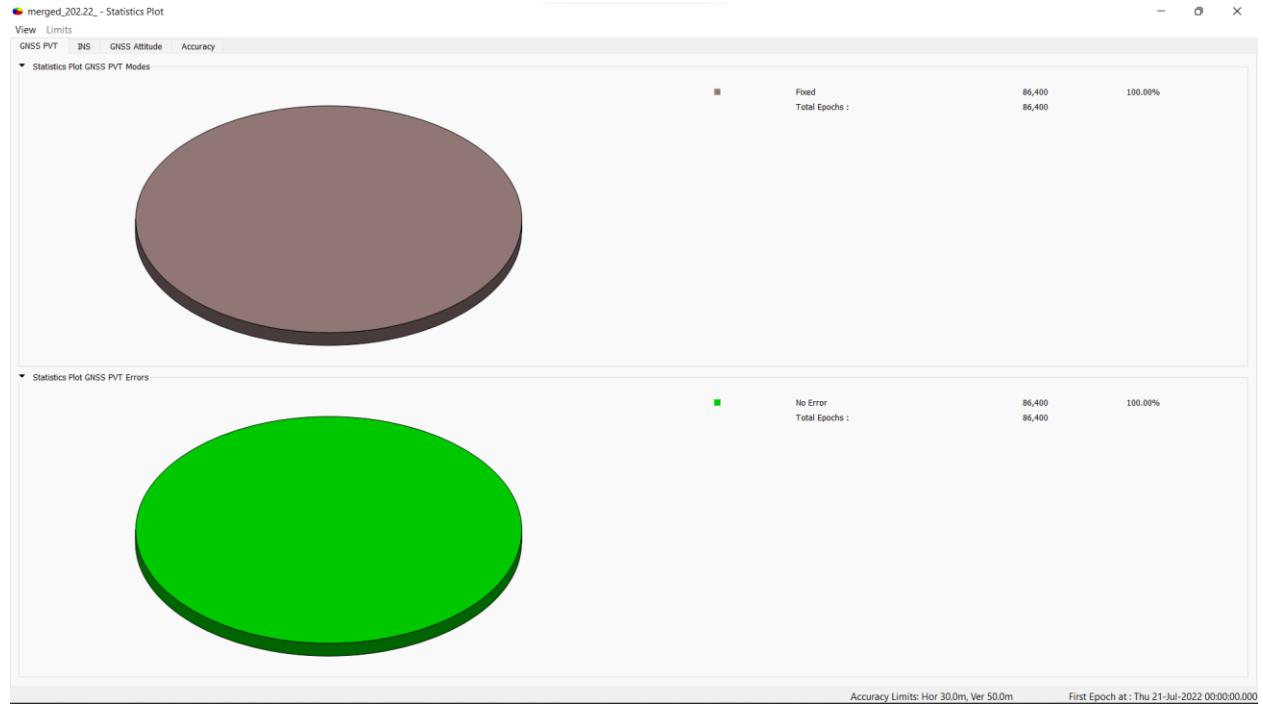
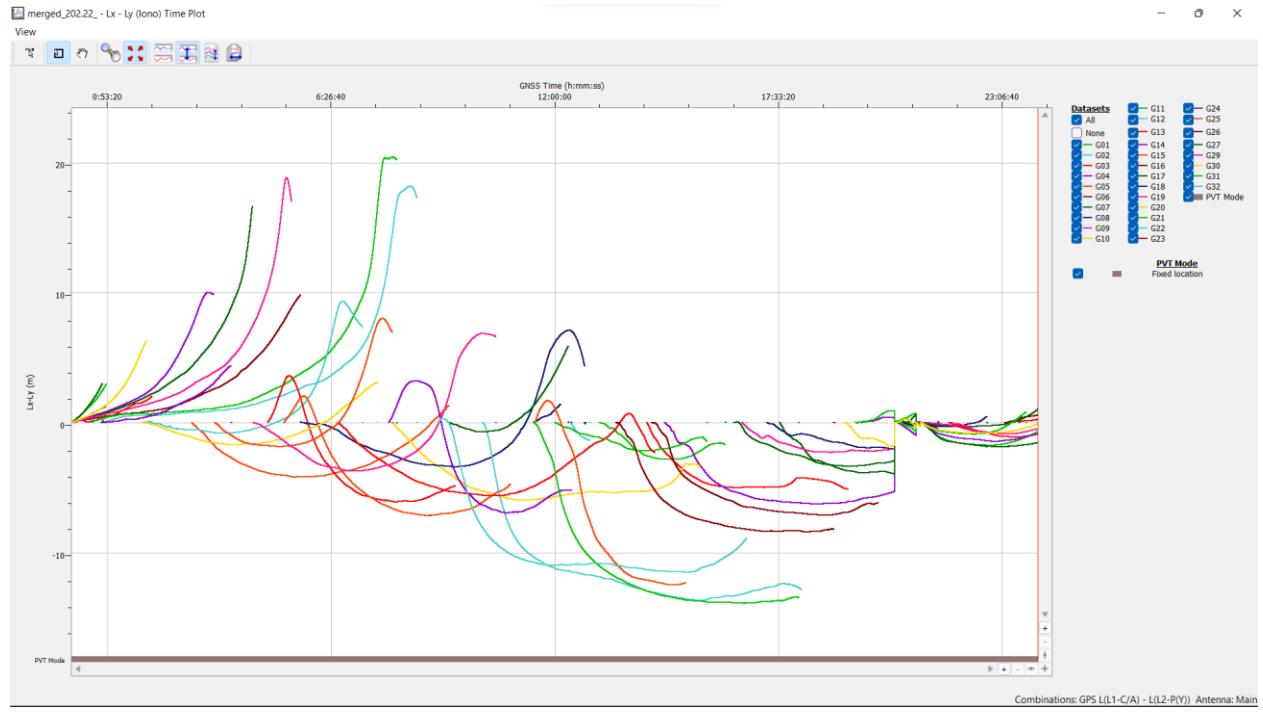


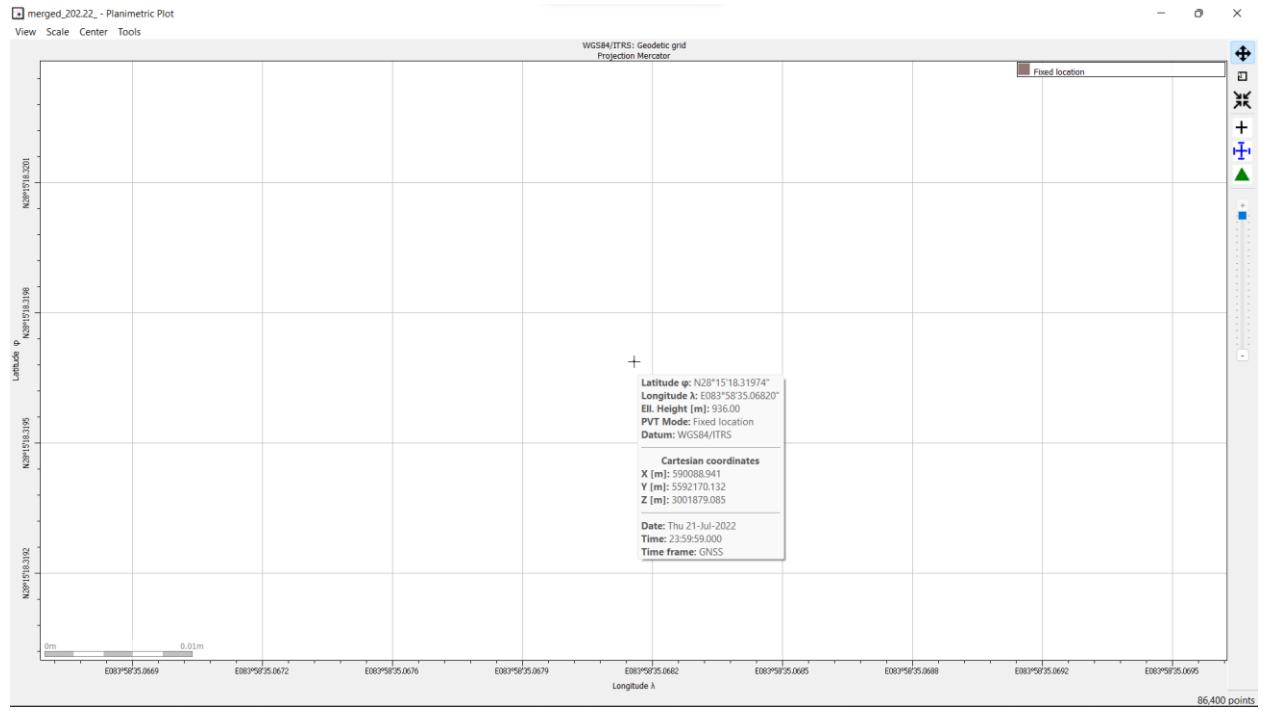
● Ionospheric Data











Conclusion:

As a result of this practical, we have gained a deeper understanding of the theory we have learned. We gain a better understanding of how RTKLIB and RxTools work as we read about the accuracy levels of different positioning methods.

END!!!