

# 2020 GNSS Training Course T151-40

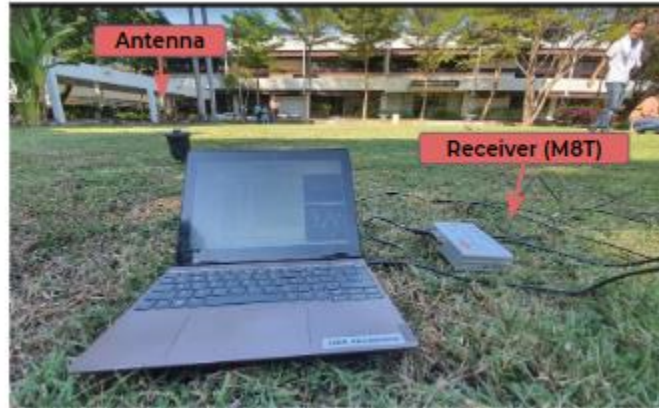
## GNSS Training, Team No: 10

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|----------------------|---------------------------|
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**DAY 2: FIELDWORK #1 [DATA LOGGING USING UBLOX]**

**DAY 3: FIELDWORK #2 [DATA LOGGING AND DATA PROCESSING]**

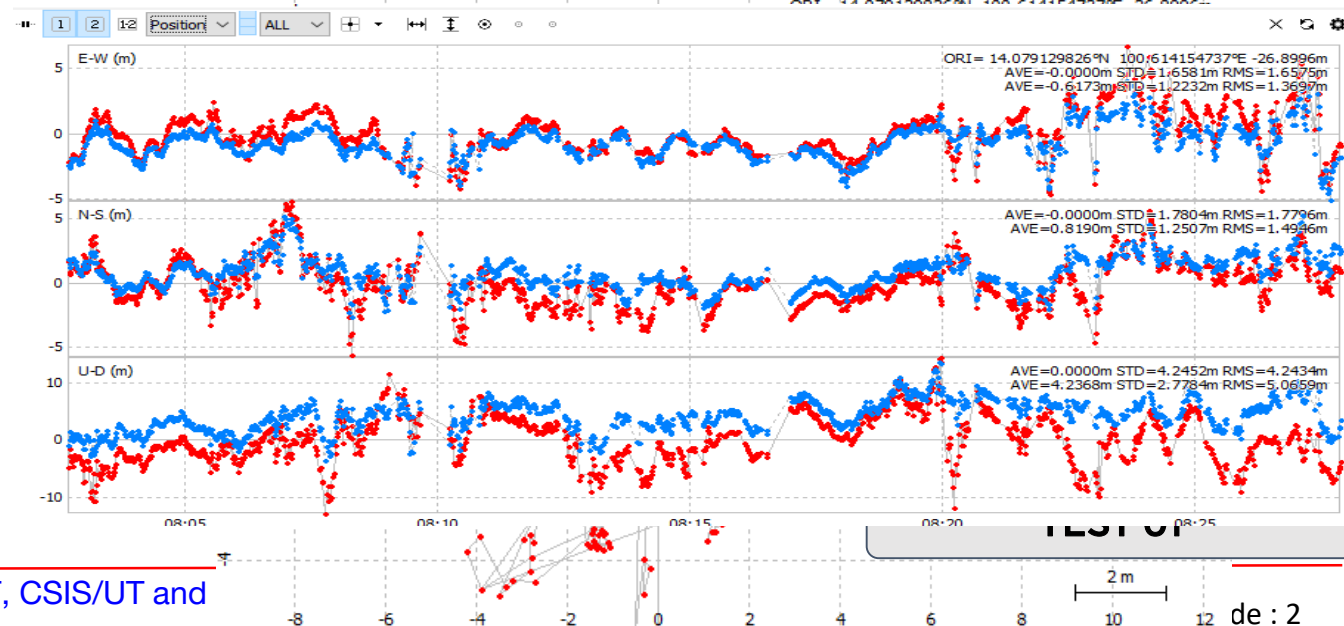
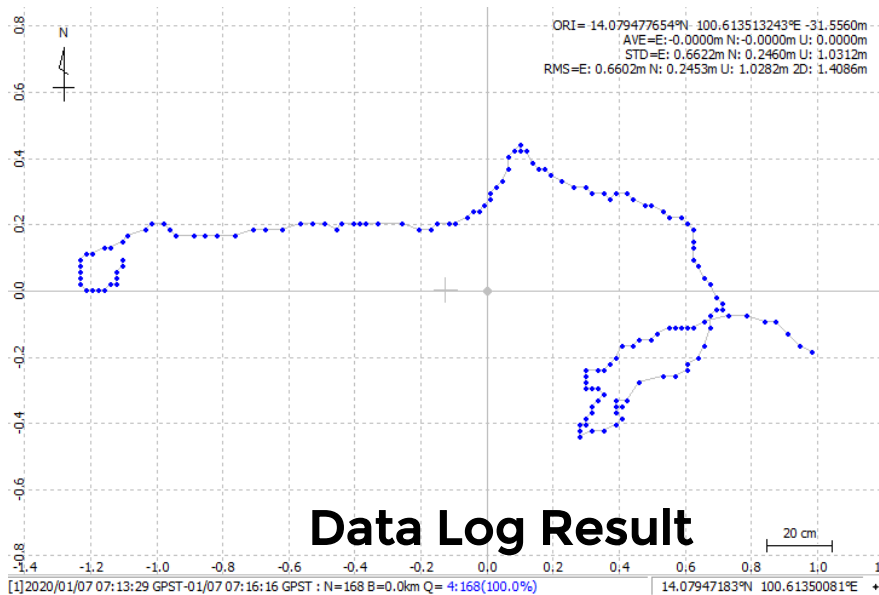
Fieldwork Set-up

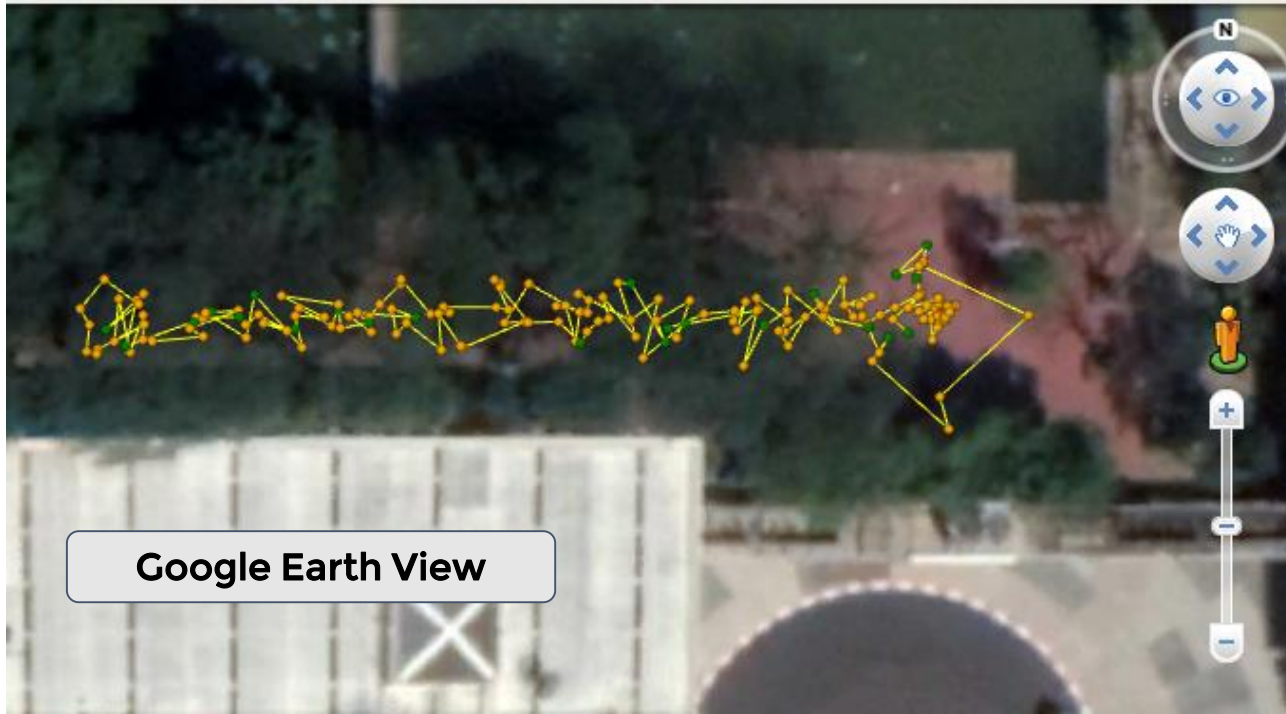


Fieldwork Set-up



Observation Time:  
25 min





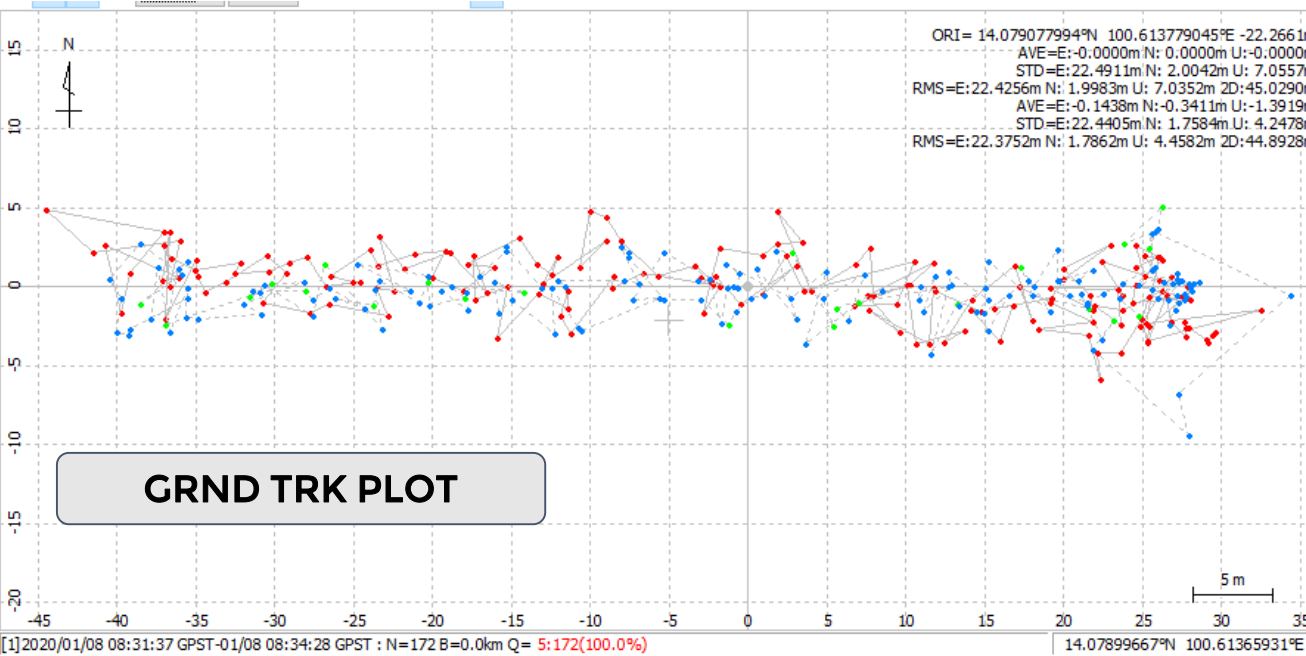
Observation Time:  
3 min, 7 seconds

**SPP (Q:5 = 100%)**

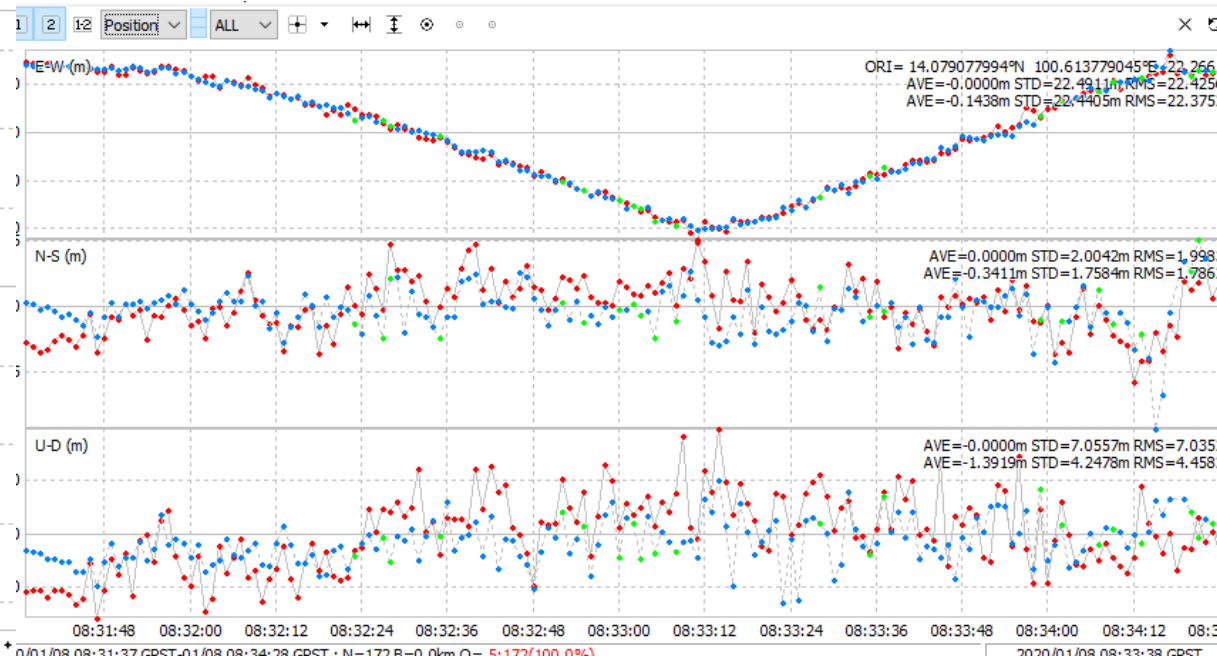
**RTK (Q:1 = 13.5%, Q:2 = 86.5%)**

Google Earth View

POSITION PLOT



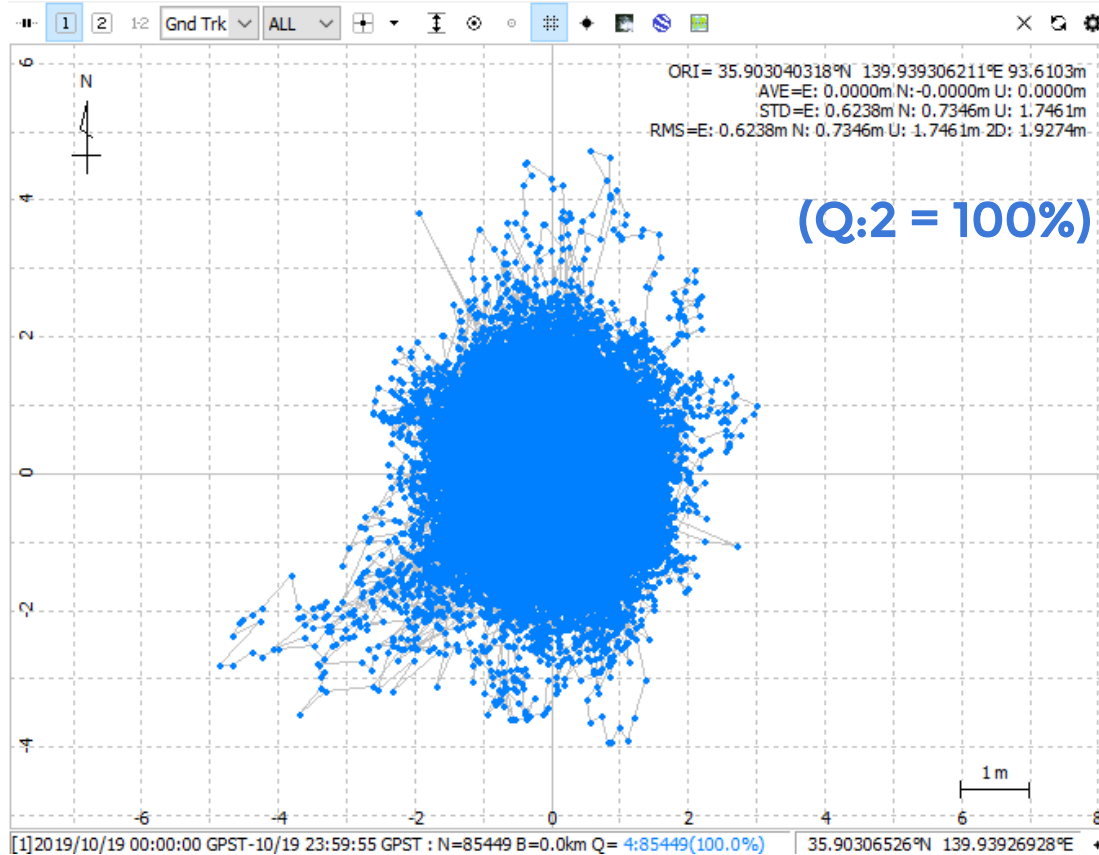
GRND TRK PLOT





# DAY 4: DATA POST-PROCESSING USING RTKLIB

## 2. DGPS



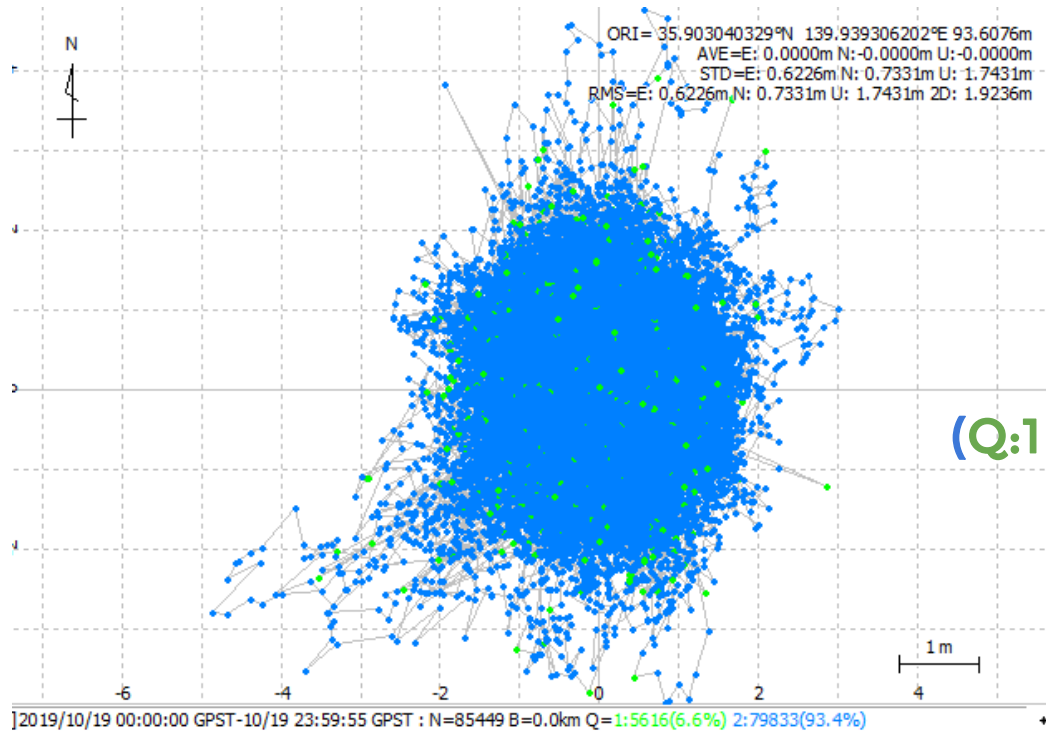
GRND TRK PLOT



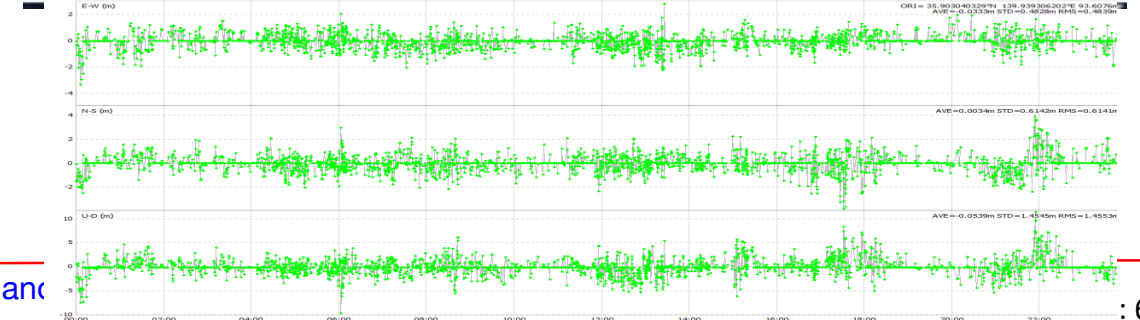
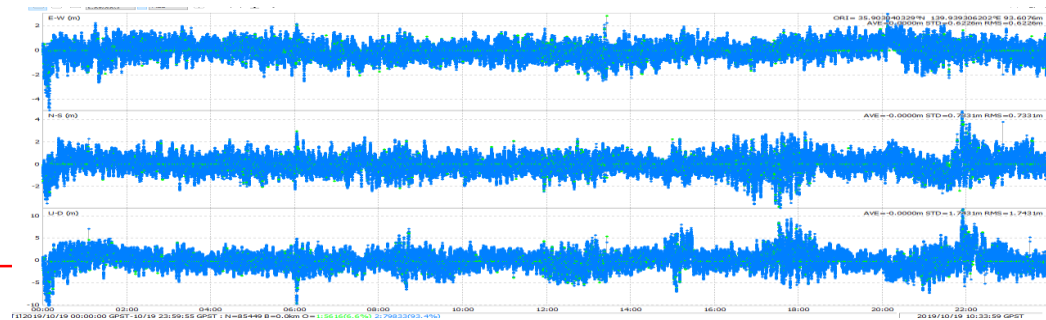
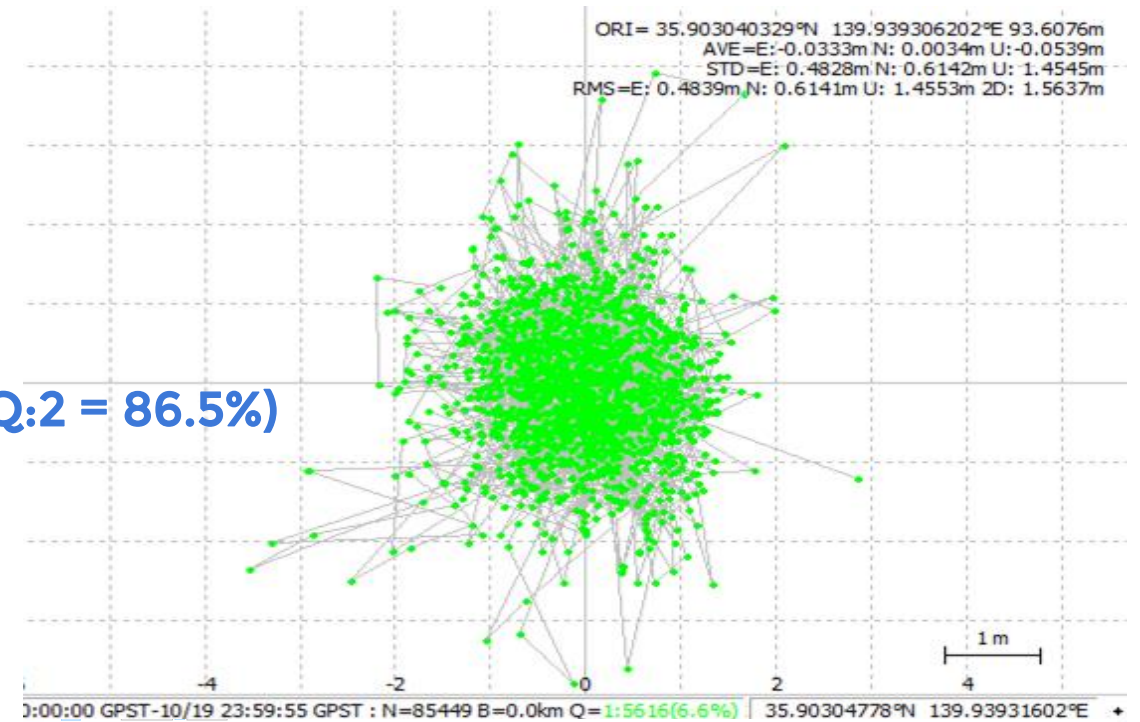
POSITION PLOT

# DAY 4: DATA POST-PROCESSING USING RTKLIB

## 3. RTK



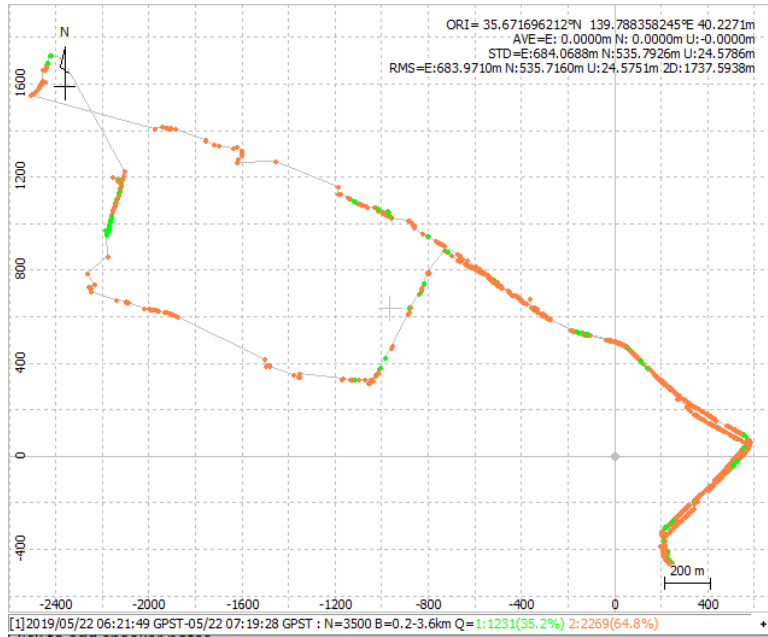
(Q:1 = 13.5%, Q:2 = 86.5%)



## Comparison of Error Values

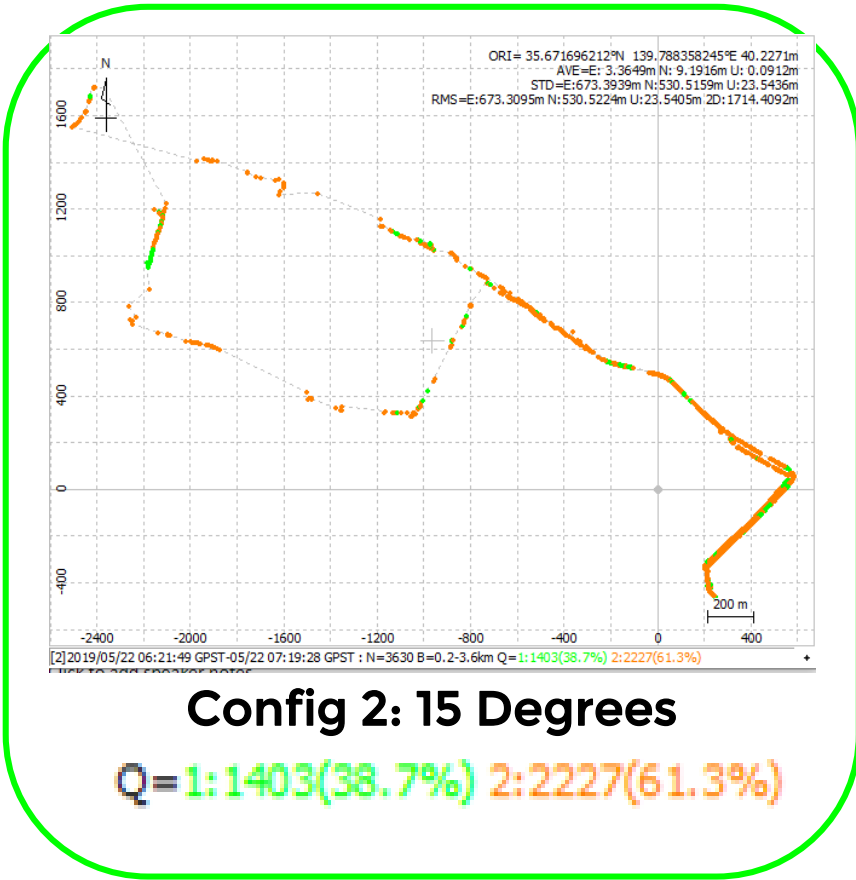
|   | SPP (M8T) | SPP (NetR9) | DGPS     | RTK      |
|---|-----------|-------------|----------|----------|
| <b><math>\sigma_X</math></b>                    | 0.647898  | 0.570189    | 0.392341 | 0.367857 |
| <b><math>\sigma_Y</math></b>                    | 0.505637  | 0.378705    | 0.284688 | 0.266757 |
| <b><math>\sigma_Z</math></b>                    | 0.516354  | 0.382769    | 0.295145 | 0.275601 |
| <b><math>\sigma_Y/\sigma_X &gt; 0.3?</math></b> | 0.780427  | 0.664175    | 0.725614 | 0.725166 |
| <b>CEP<br/>(<math>0.62*Y+0.56*X</math>)</b>     | 0.676318  | 0.554103    | 0.396217 | 0.371389 |

# 2. DYNAMIC DATA (Comparison of varying elevation mask )



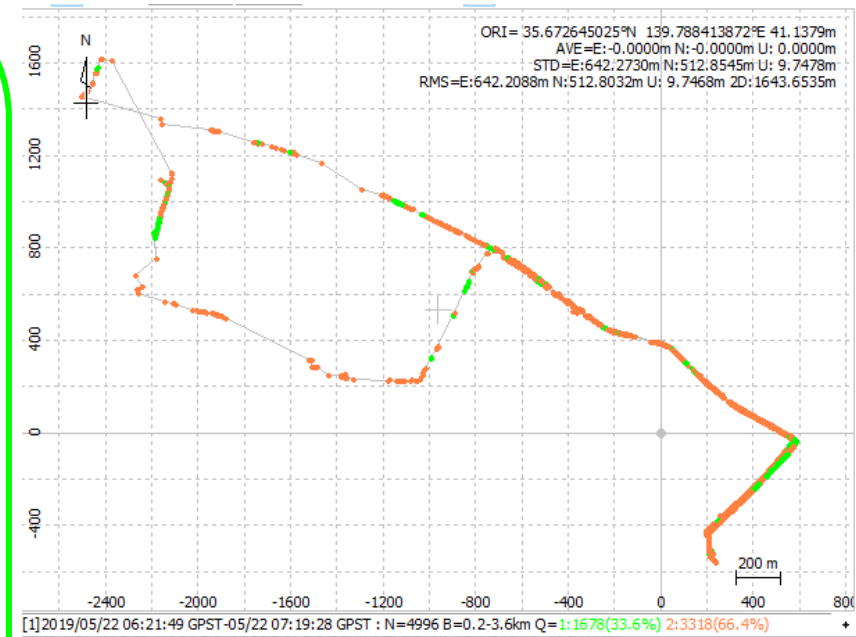
**Config 1: 10 Degrees**

**Q= 1:1231(35.2%) 2:2269(64.8%)**



**Config 2: 15 Degrees**

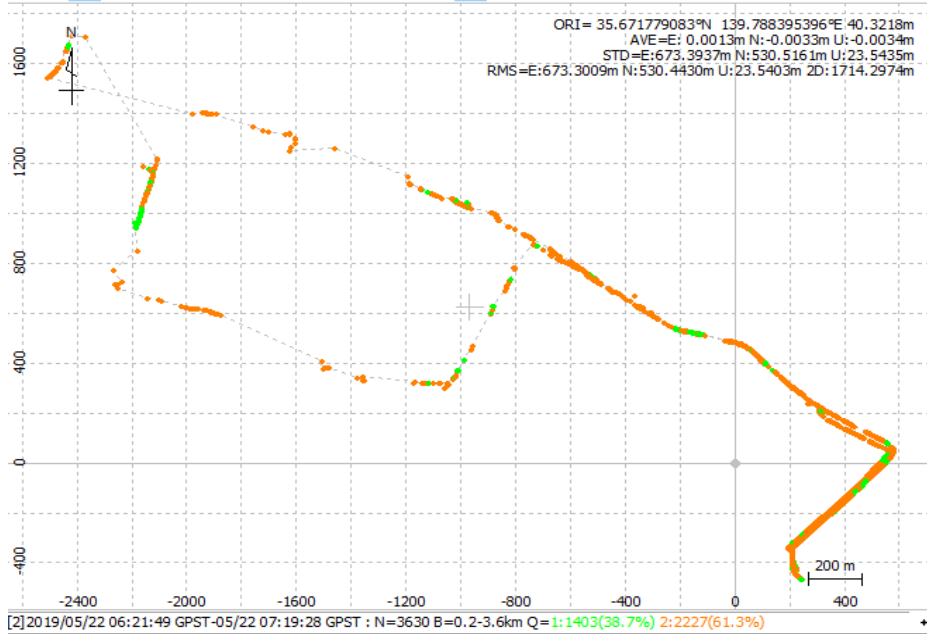
**Q= 1:1403(38.7%) 2:2227(61.3%)**



**Config 3: 20 Degrees**

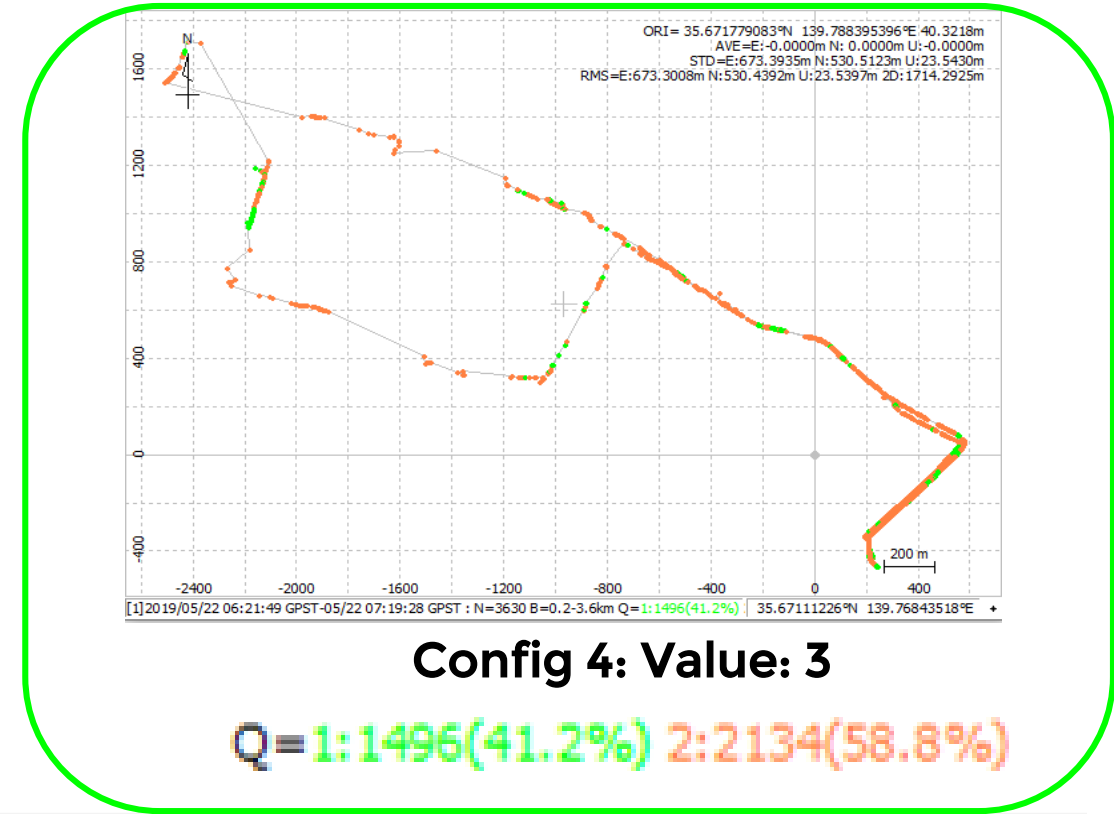
**Q= 1:1678(33.6%) 2:3318(66.4%)**

# 2. DYNAMIC DATA (Comparison of varying ratio to fix ambiguity)



**Config 2: Value: 3**

Q = 1:1403(38.7%) 2:2227(61.3%)



**Config 4: Value: 3**

Q = 1:1496(41.2%) 2:2134(58.8%)

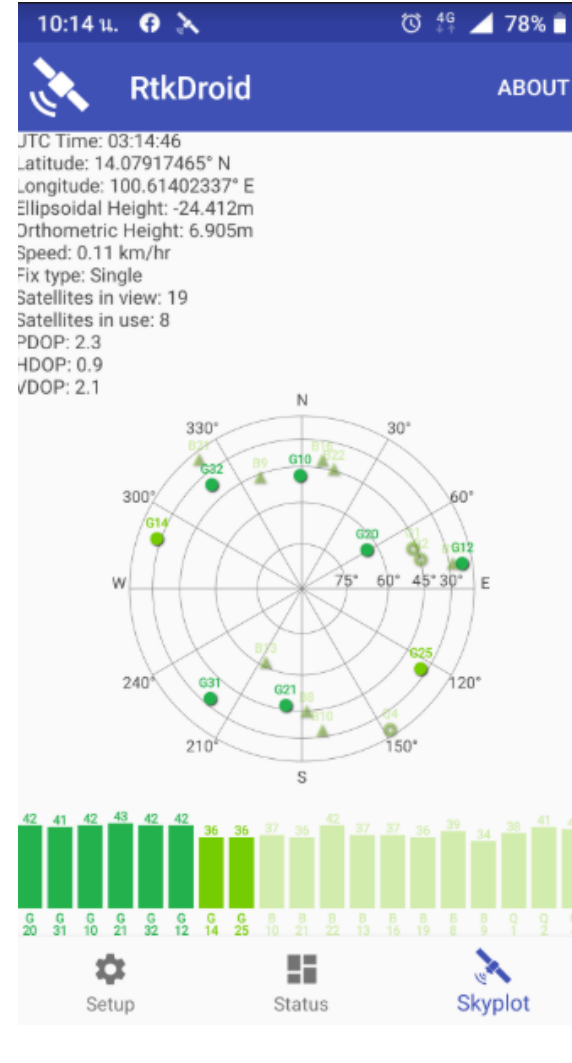
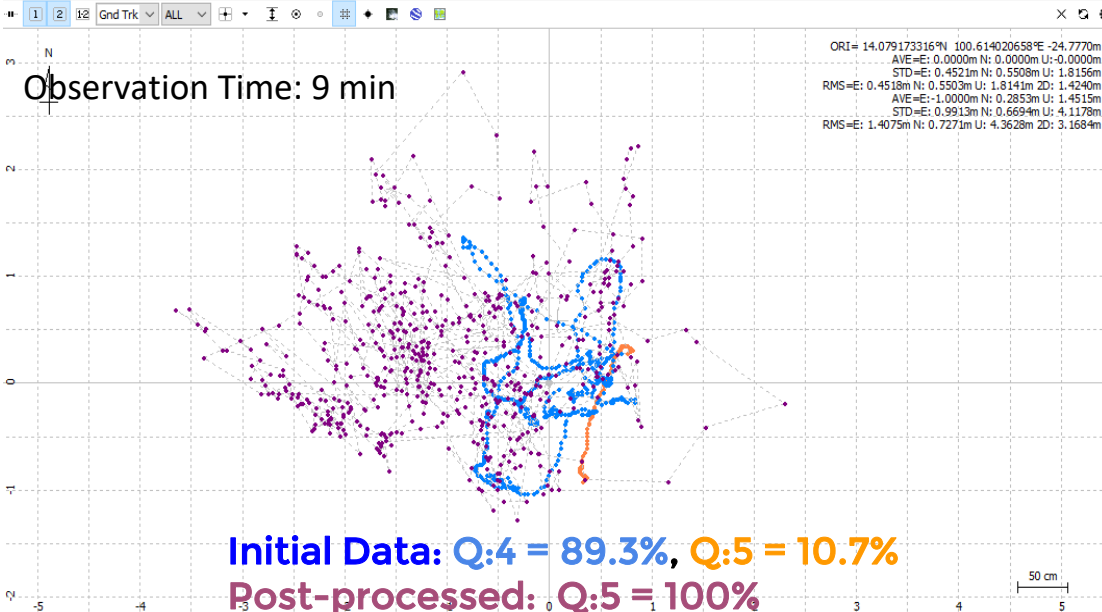


# DAY 5: FIELDWORK #3 [RTK IN ANDROID]

Fieldwork Set-up



Antenna



# END OF PRESENTATION.

