

GEO MASTER SURVEY APP USER MANUAL

ANDROID DATA CONTROLLER



COMPATIBLE HARDWARES



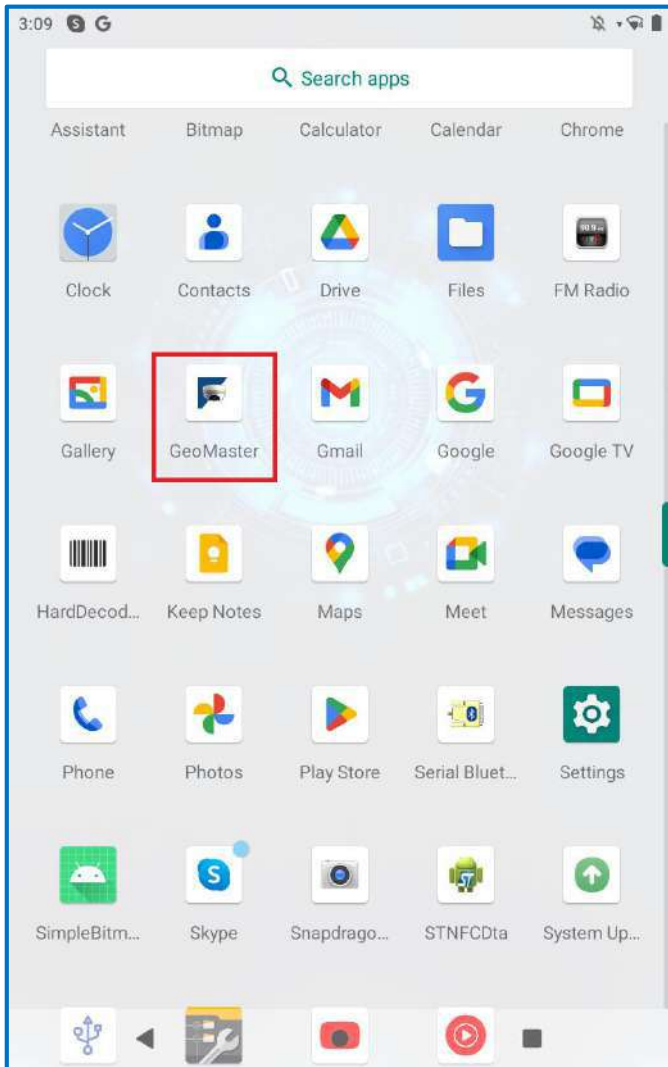
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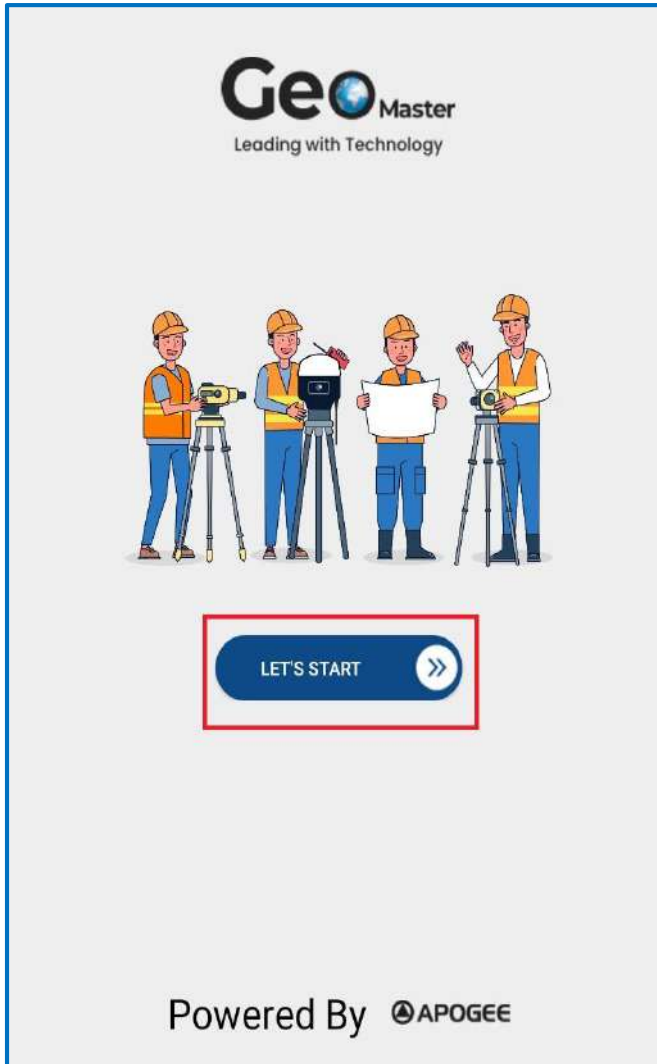
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1 Introduction

Click on the **GeoMaster app** icon to start the application.



Click on **Let's start button** to go inside the app.

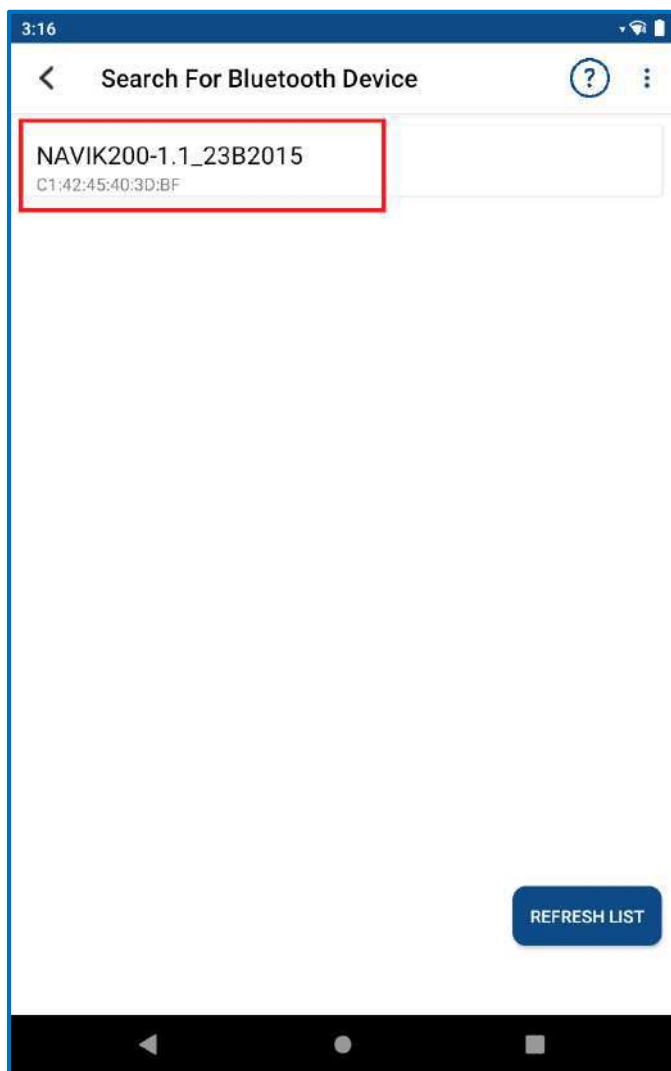


2 Connect Bluetooth to the Device

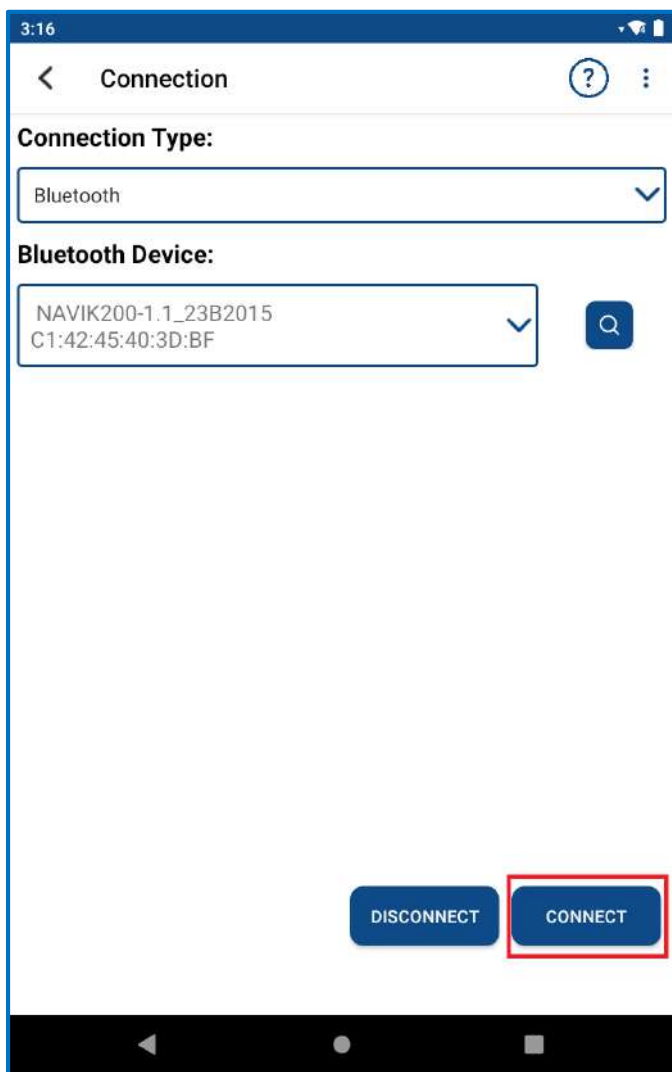
Click on **Connection icon** to Connect Bluetooth to the Device.



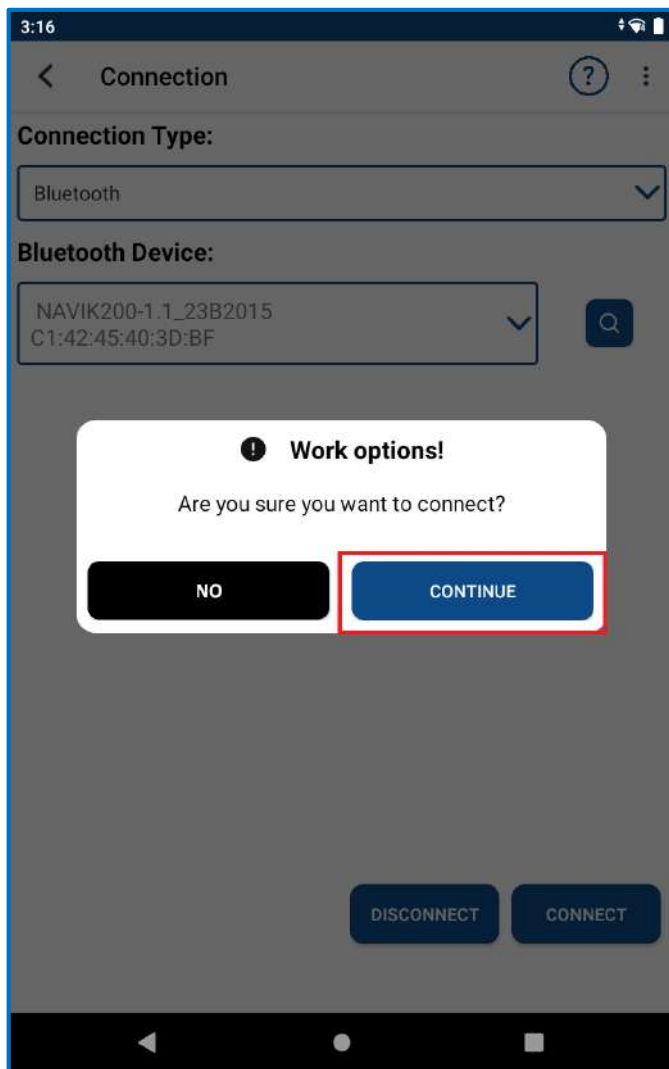
Search for the available devices and select.



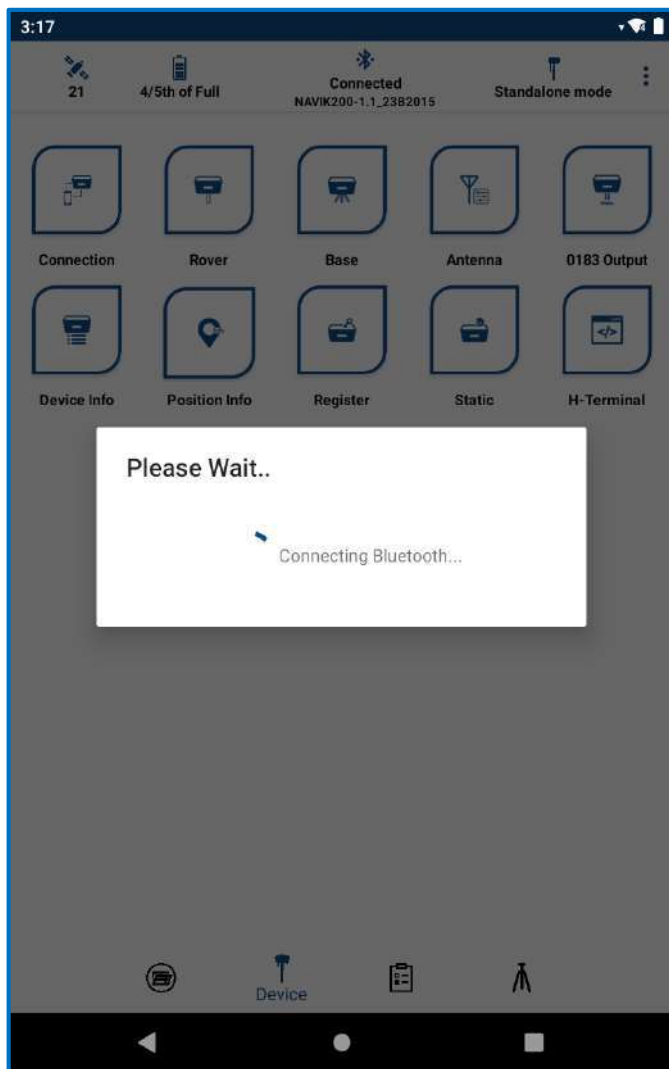
Click on **Connect button** to connect the device with Geo Master Survey app.



Click on **Continue button** to connect device.

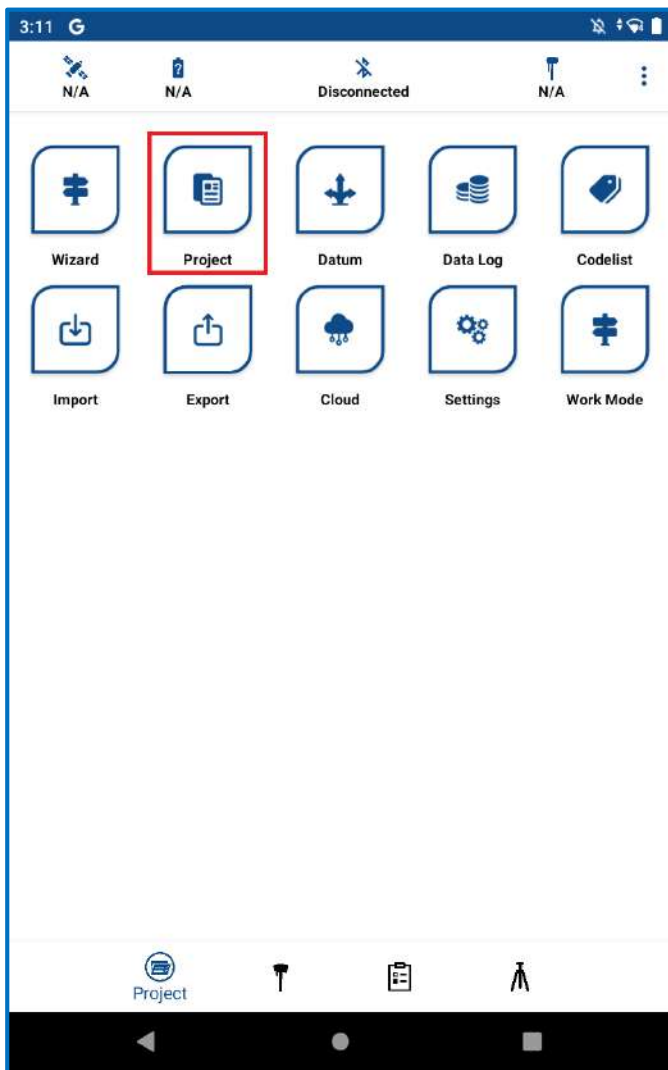


Bluetooth is connecting.



3 Start a New Project

Click on **Project icon** to create project.



Click on + icon to create new project.



Enter details like **project name, datum, code list, etc.**

3:17

< Create

Project

20230324_151735

Datum Existing Datum

Datum [WGS84] >

Code List Click >

Elevation Ellipsoid Height ▾

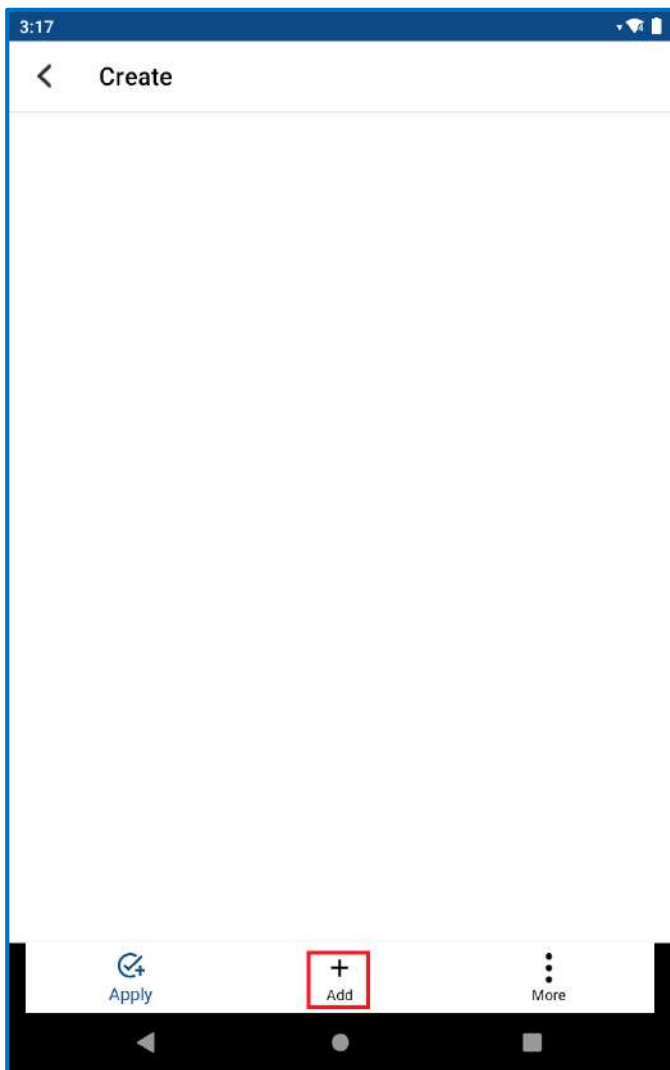
Operator

Enter Operator Name

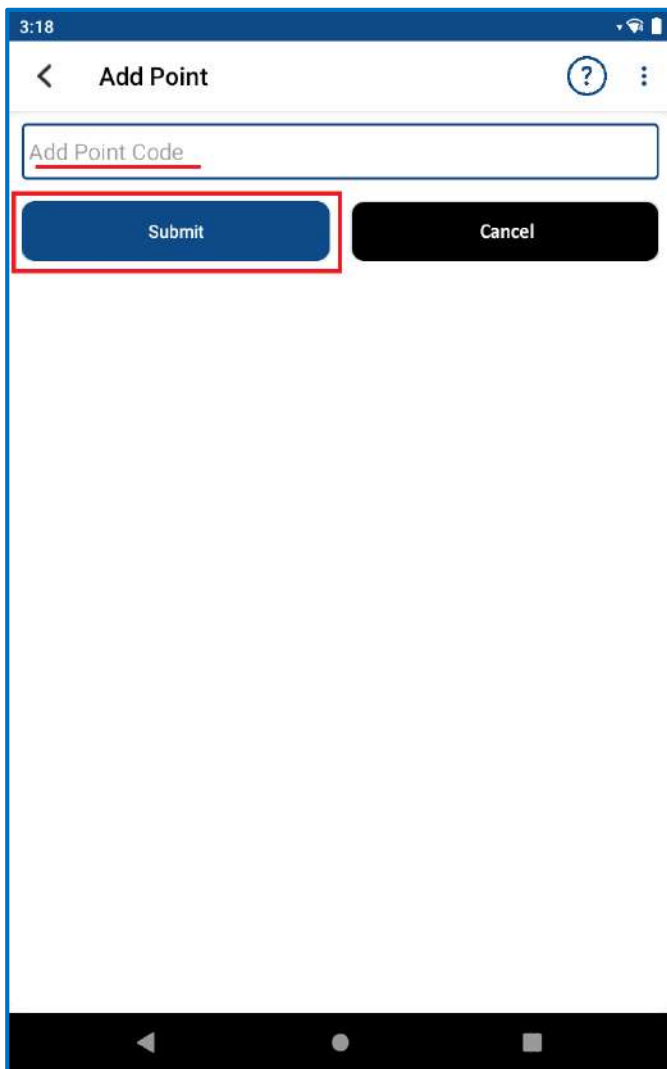
Comment

OK

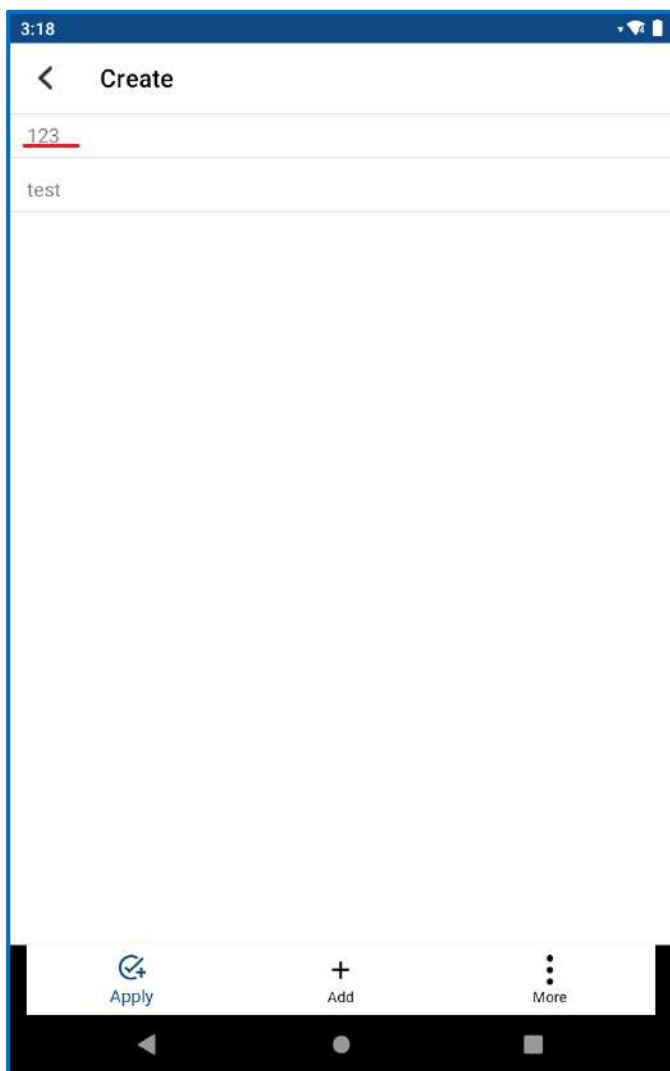
To create **codelist** click on **add icon**.



Write **any no or letter** and click on **submit** button to create the code list.



There are **two code lists**. Select any one of them.



Select **any one of the elevation height**.

3:18

< Create

Project

20230324_151735

Datum Existing Datum

Datum [WGS84] >

Code List 123 >

Elevation

Ellipsoid Height

MSL Height

Operator

Enter Operator Name

Comment

OK

Fill the **rest of details** and click **ok**.

3:19

< Create

Project

20230324_151735

Datum Existing Datum

Datum [WGS84] >

Code List 123 >

Elevation Ellipsoid Height ▾

Operator

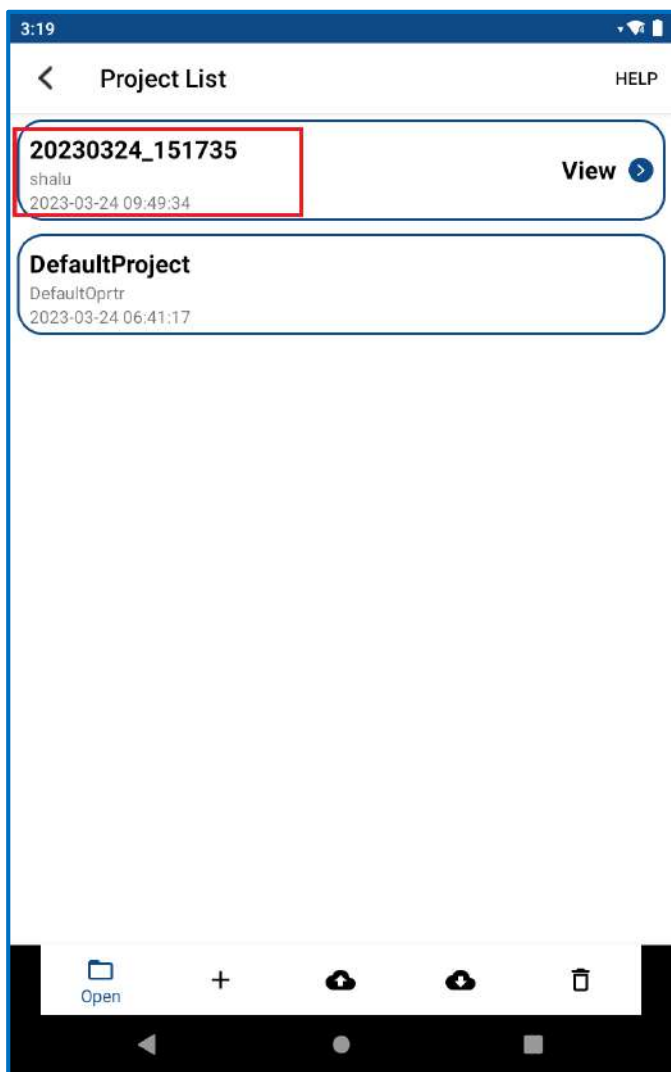
shalu

Comment

not mandatory |

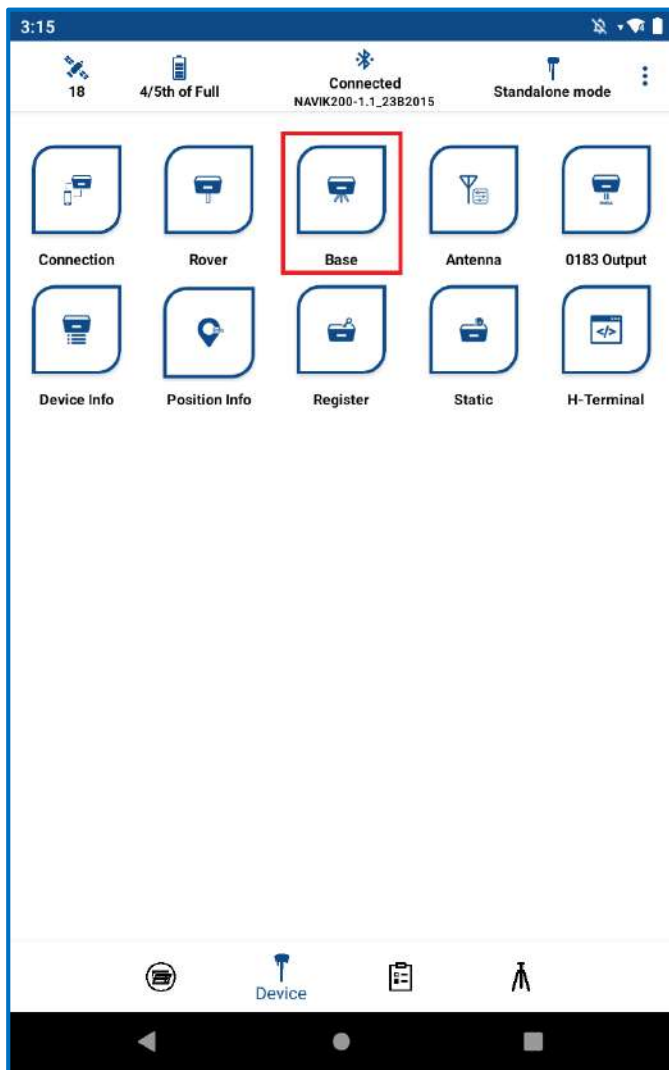
OK

A new project has been created.

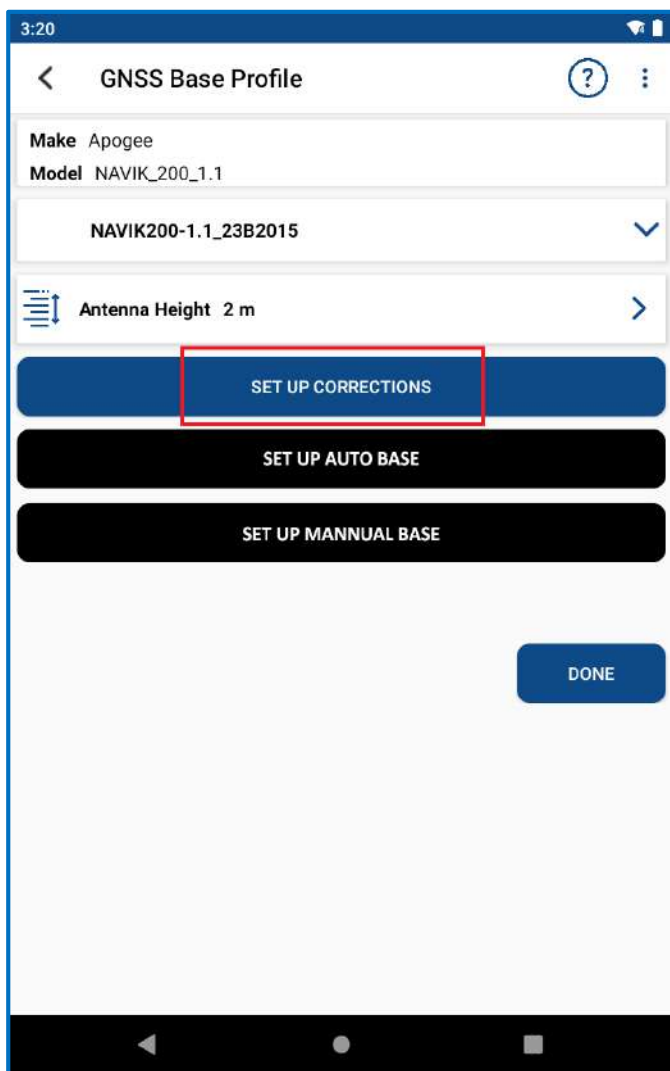


4 Start a Base Station by GeoMaster

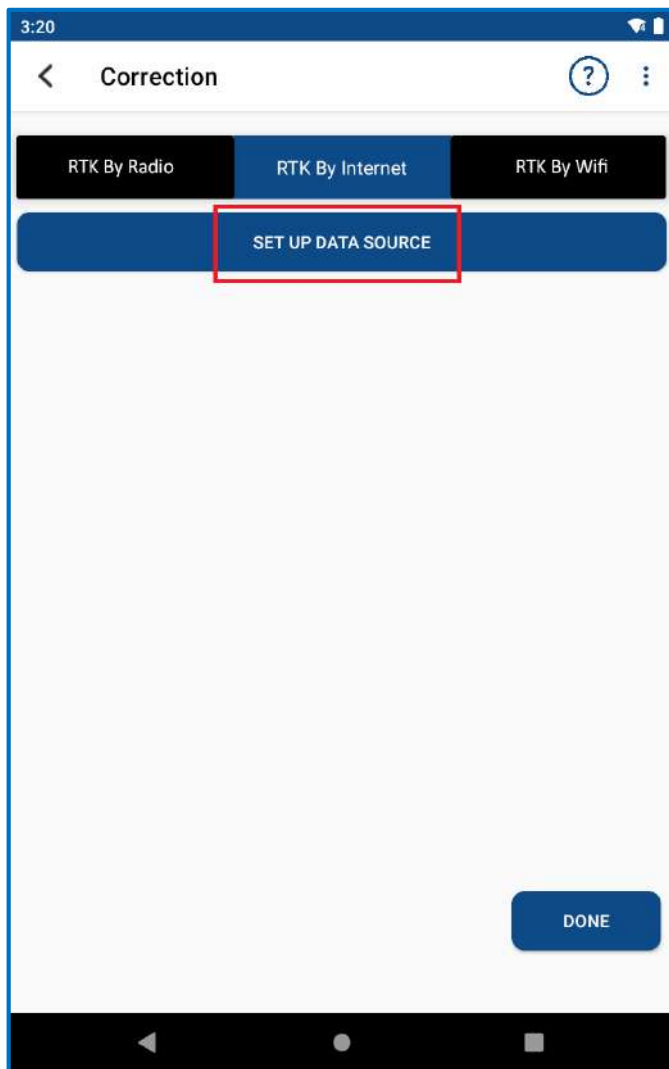
Click on **Base icon** to configure base.



Click on set up correction to connect base.



Click on set up Data source to **connect base by internet**.



Select the **Toggle Previous Configuration**, fill up rest of the details and click on done.

3:20

< New Correction Source

Toggle Previous Configuration

Change

IP

120.138.10.197

Port

6089

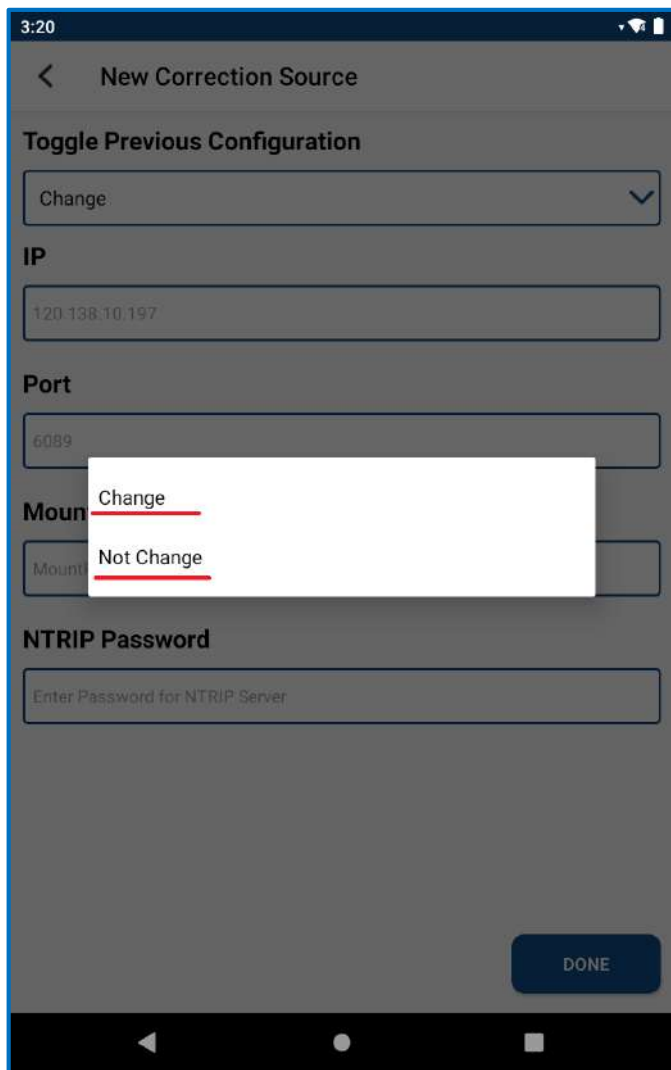
Mount-Point

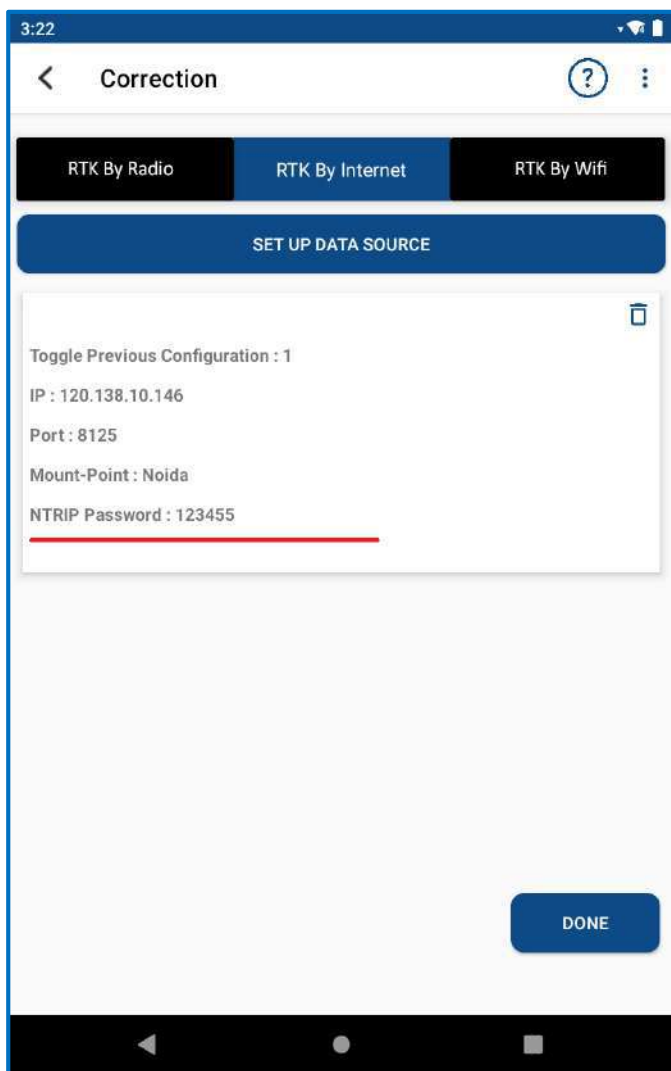
MountPoint

NTRIP Password

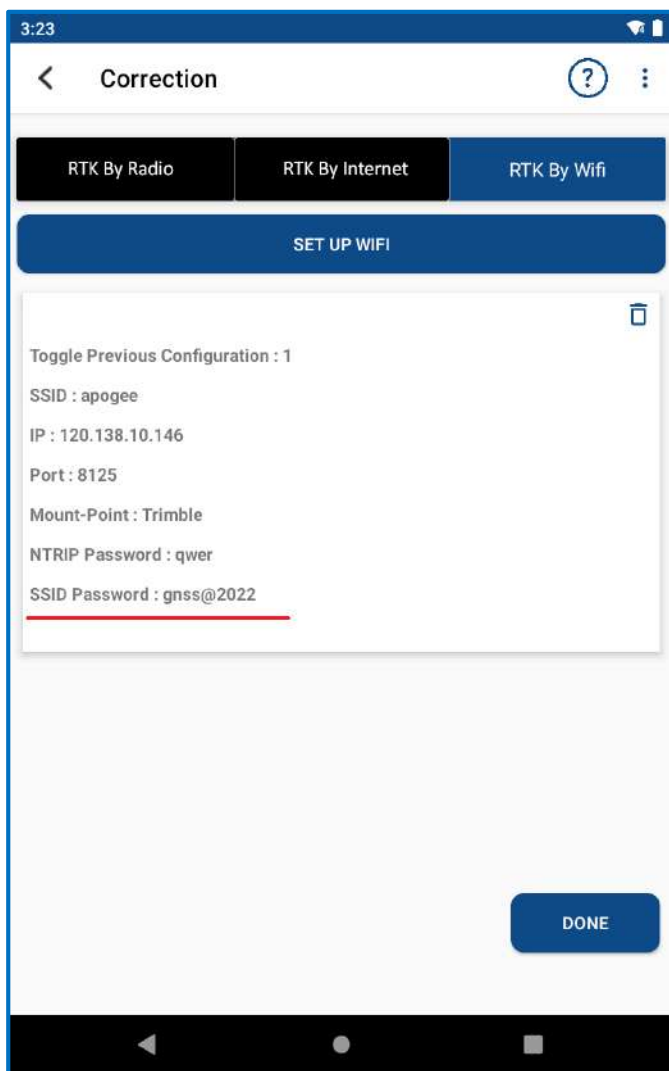
Enter Password for NTRIP Server

DONE





Click on set up Wi-Fi to **connect by Wi-Fi**.

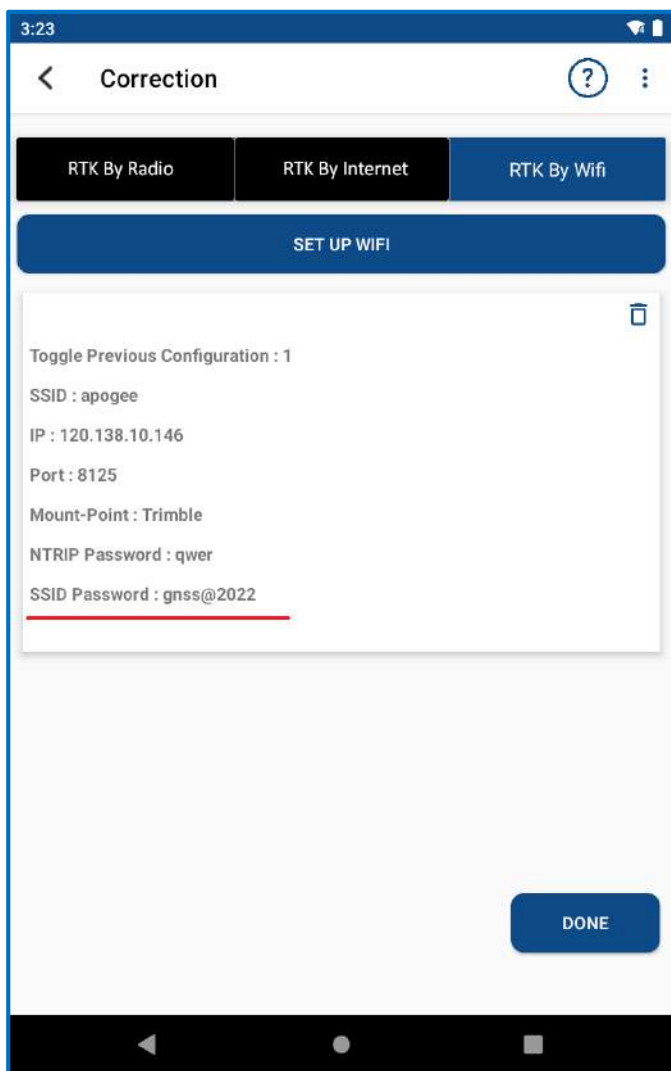


Select the **Toggle Previous Configuration**, fill up rest of the details and click on done.

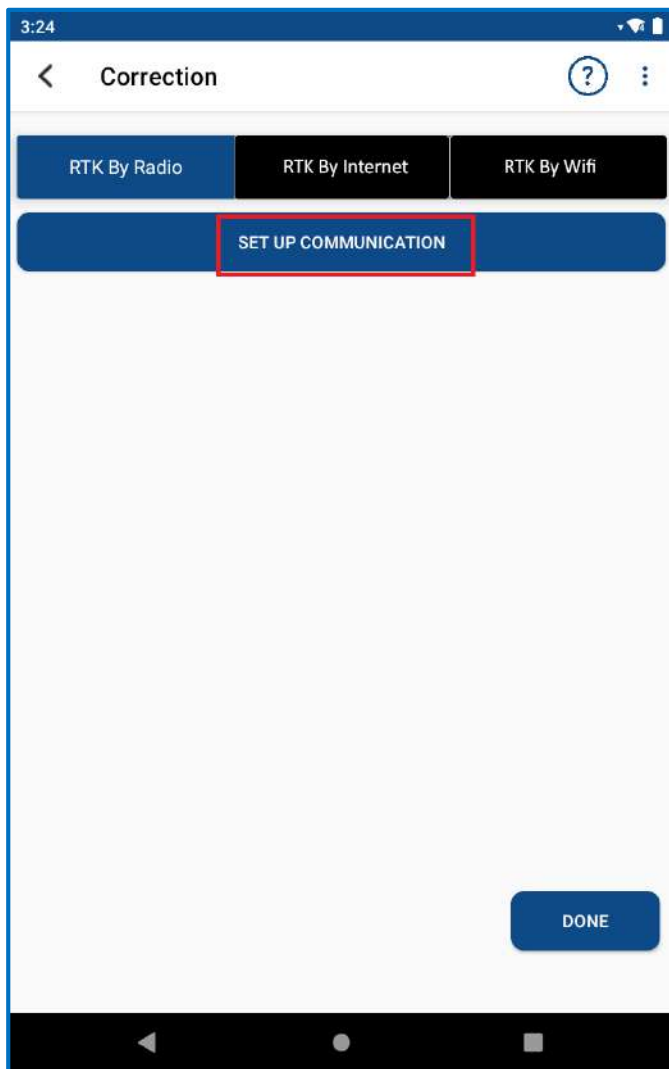
The screenshot displays the 'Wifi Setup' interface. At the top, there is a back arrow and the title 'Wifi Setup'. A 'DROPDOWN' button is located in the top right corner. Below this is the 'Toggle Previous Configuration' section, which includes a dropdown menu currently set to 'Change'. The 'SSID' section has a text input field containing 'Enter SSID'. The 'IP' section has a text input field with '120.138.10.146'. The 'Port' section has a text input field with '8125'. The 'Mount-Point' section has a text input field with 'Trimble'. The 'NTRIP Password' section has a text input field with 'qwer'. At the bottom right, there are two buttons: 'SSID REFRESH' and 'DONE'.

Select the **Toggle Previous Configuration**, fill up rest of the details and click on done.

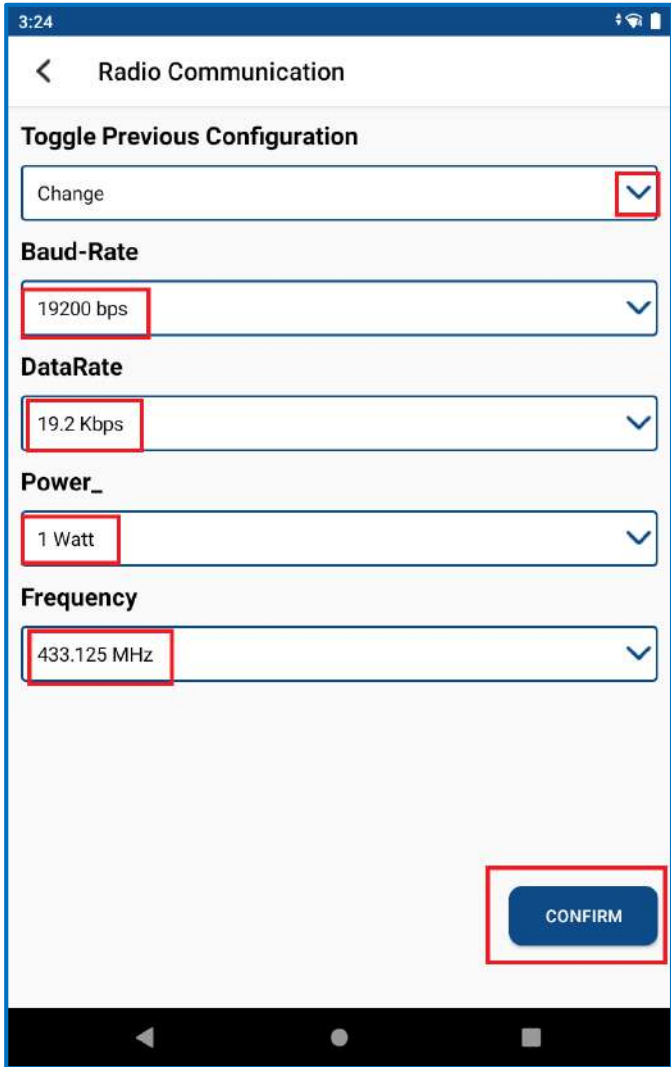
The screenshot displays the 'Wifi Setup' interface. At the top right, there is a 'MANUALLY' button. Below it is the 'Toggle Previous Configuration' section with a dropdown menu currently set to 'Change'. The 'SSID' section has a dropdown menu set to 'PIE_5G'. The 'IP' section contains a text field with the value '120.138.10.146'. The 'Port' section has a text field with the value '8125'. The 'Mount-Point' section has a text field with the value 'Trimble'. The 'NTRIP Password' section has a text field with the value 'qwer'. At the bottom of the screen, there are two buttons: 'SSID REFRESH' and 'DONE'.

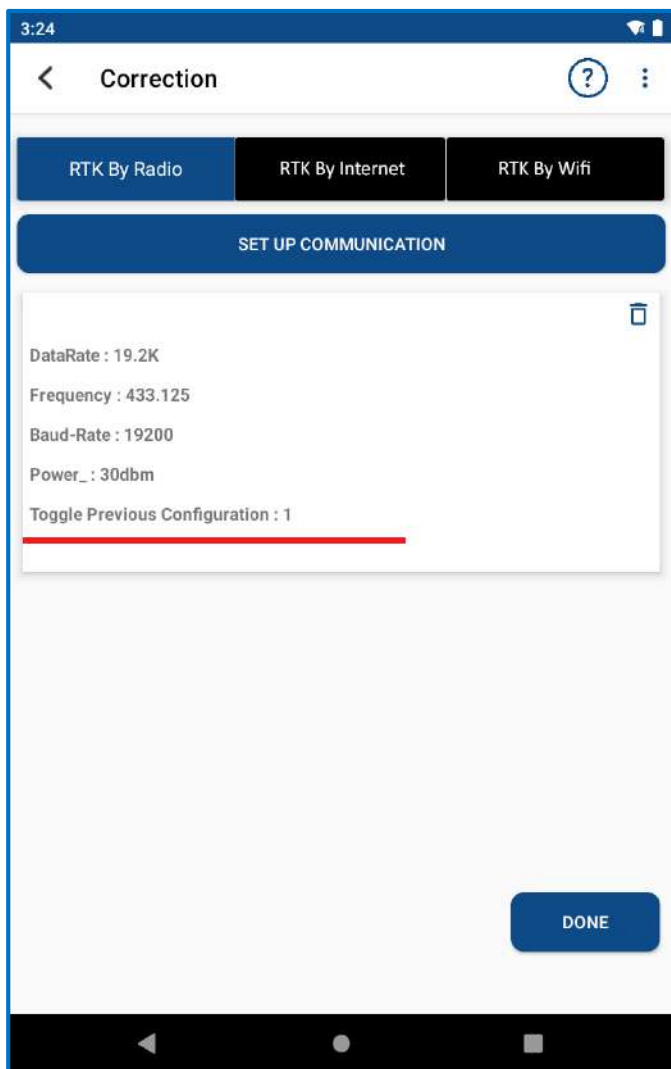


Click on set up communication to **connect by Radio**.

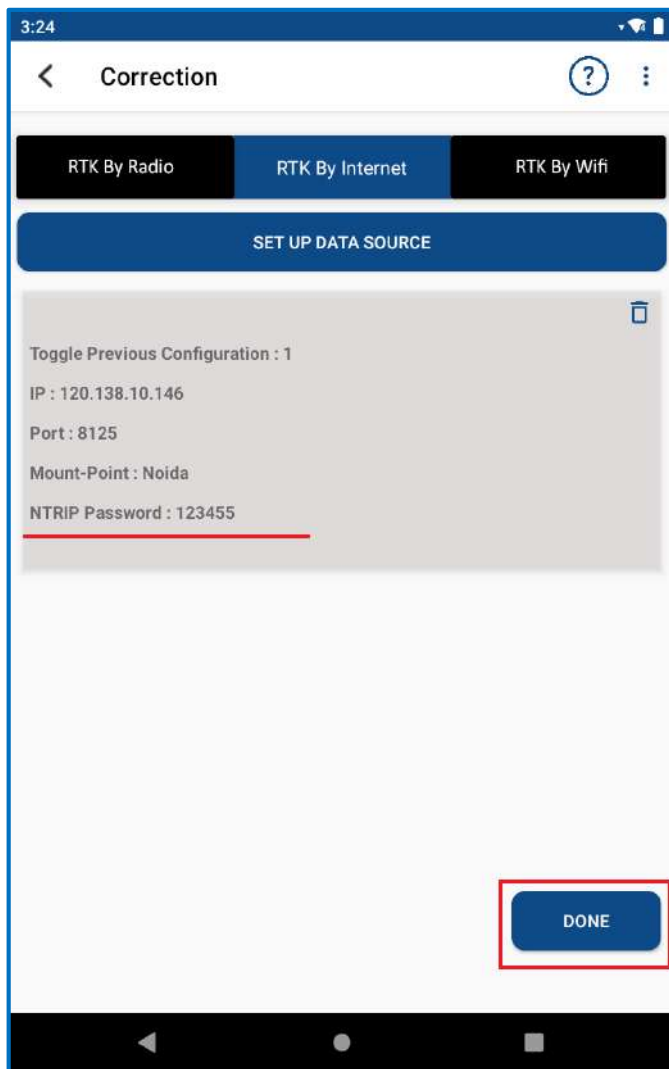


Select the **Toggle Previous Configuration**, fill up rest of the details and click on confirm tab.



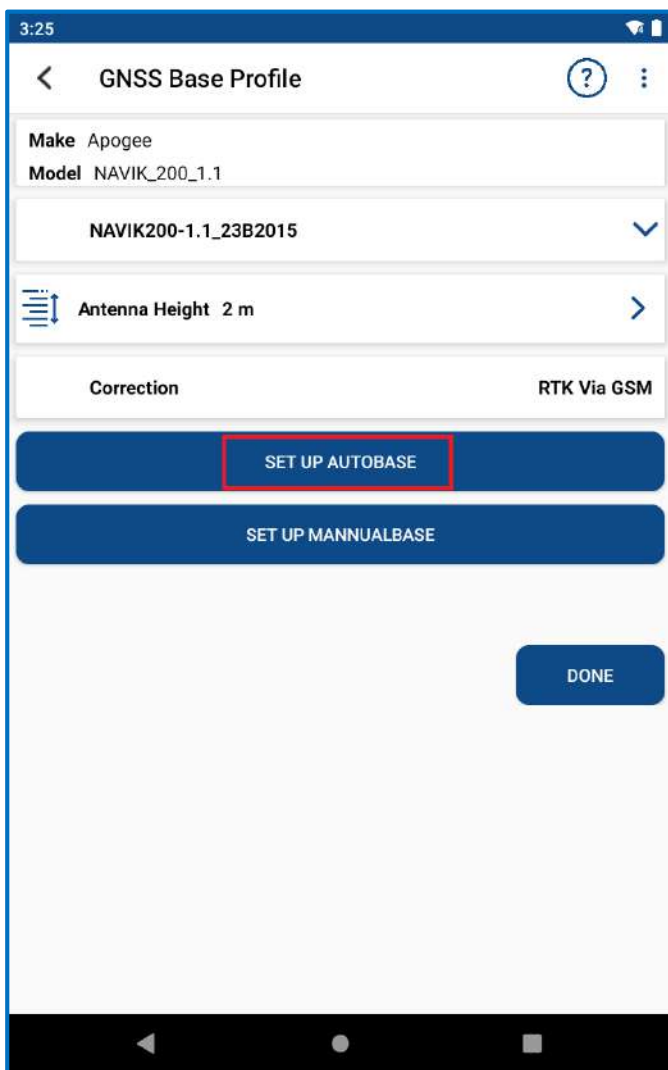


Select the given information and click on Done to **connect base by internet**.

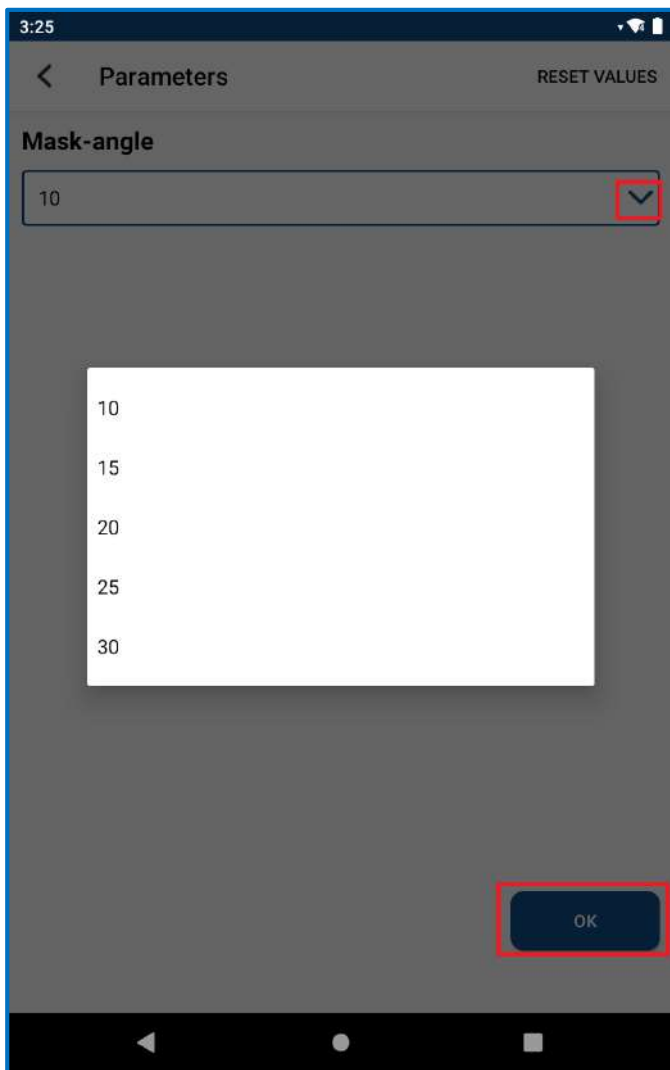


4.1 Auto Base Setup

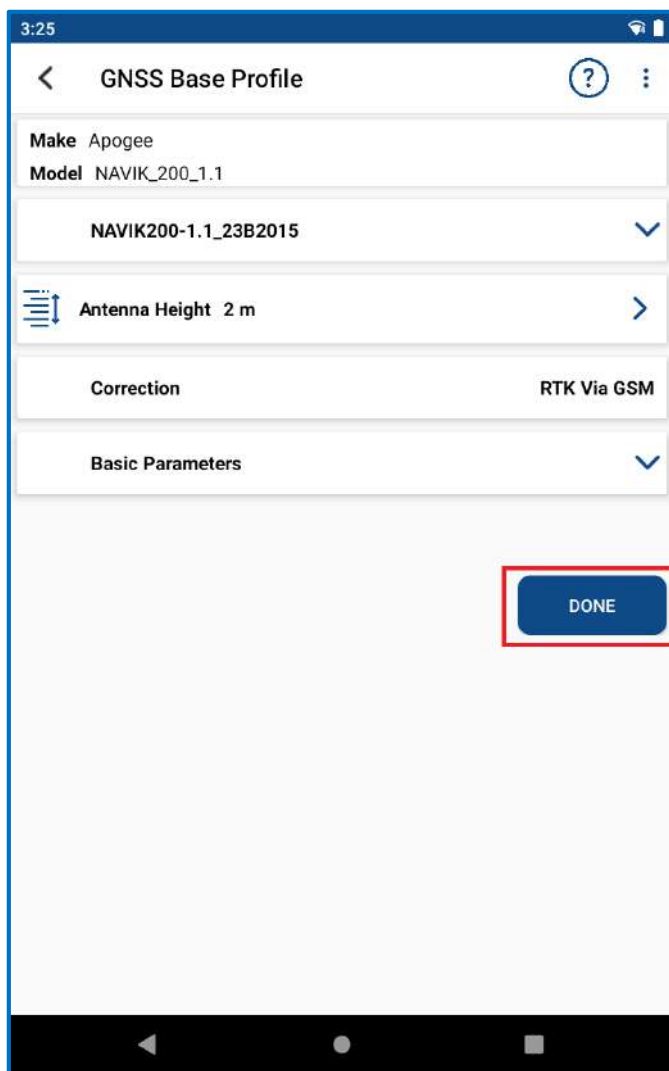
Now, **Set up Auto Base.**



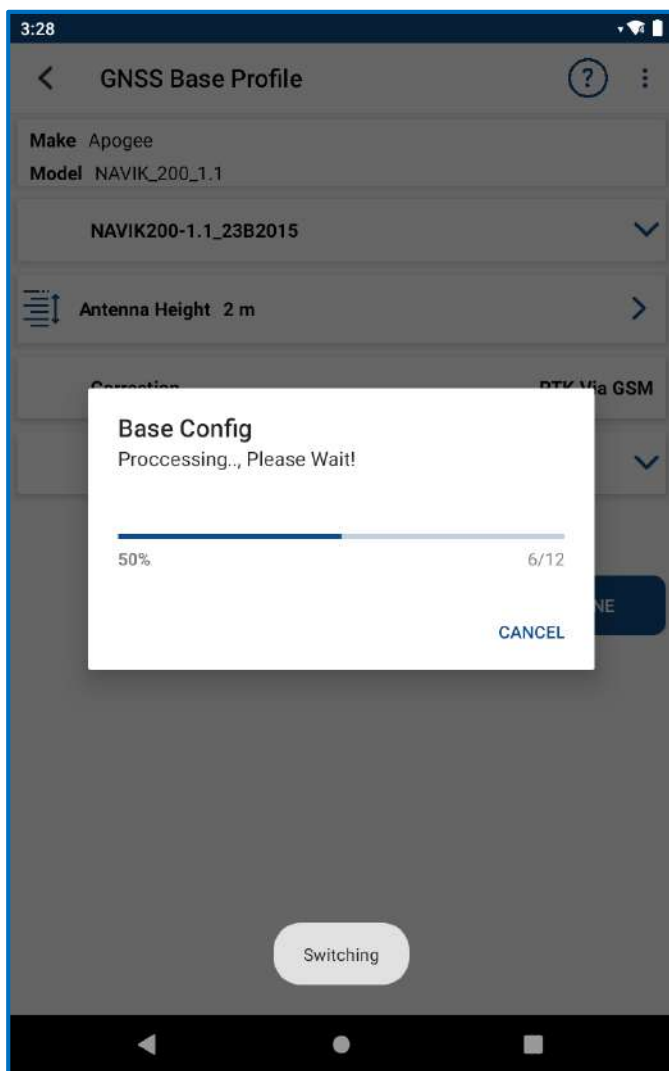
Select Mask Angle from the given options.



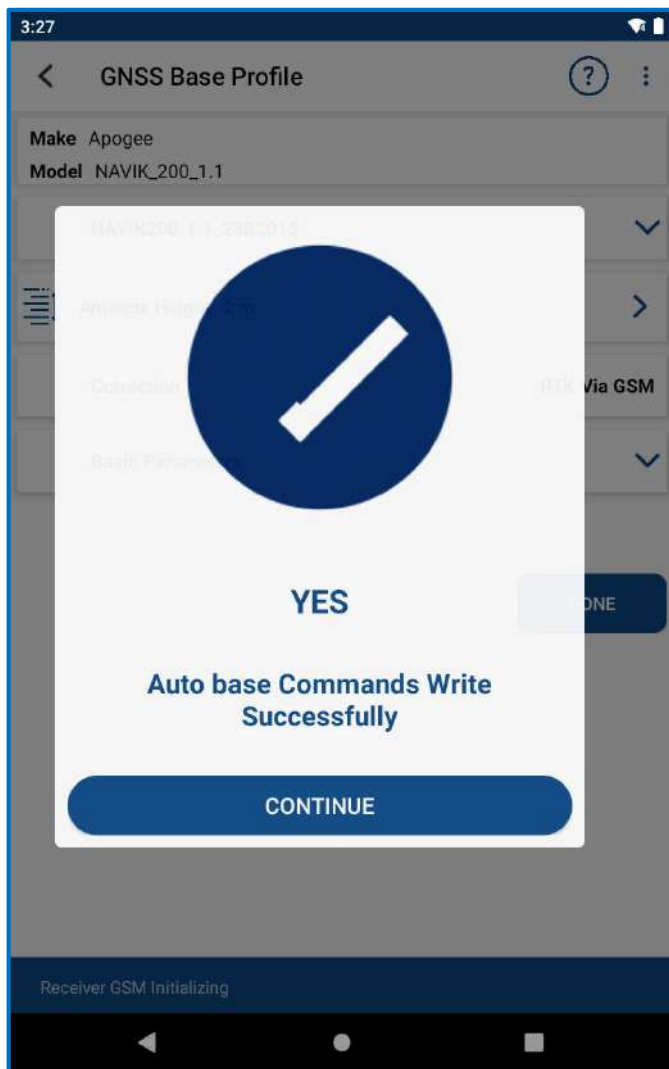
Click on **Done** to set up auto base.



Base is Configuring.

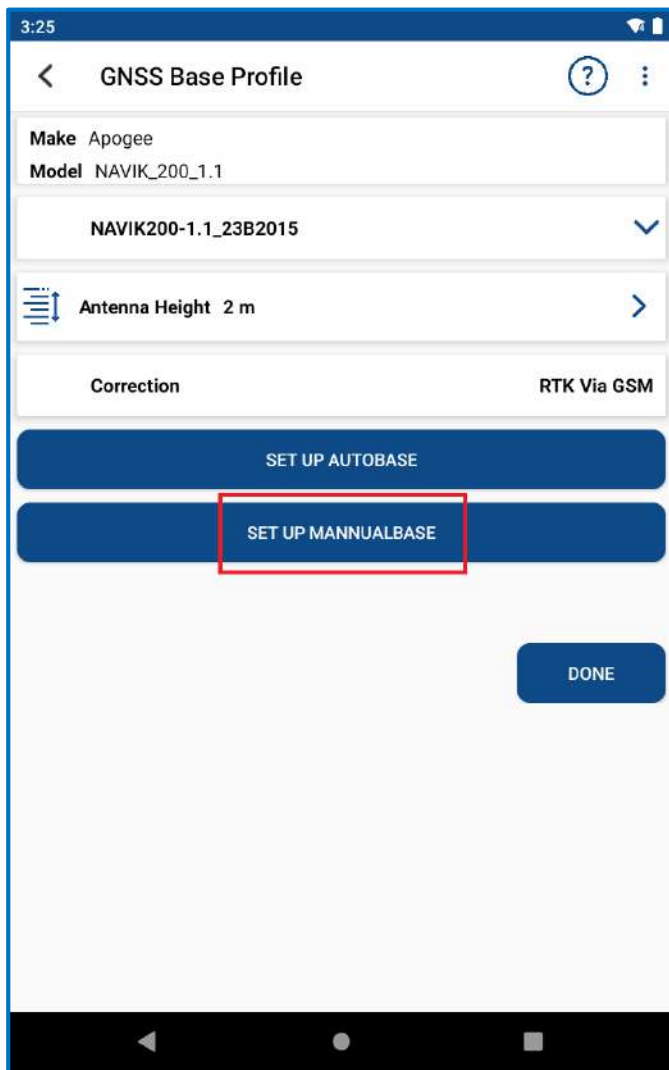


Auto Base has **connected successfully**.



4.2 Manual Base Setup

Now, Connect Manual Base.



The screenshot displays the 'Parameters' configuration screen. At the top, there is a back arrow, the title 'Parameters', and a 'RESET VALUES' button. A menu icon is visible on the right side. A red box highlights the 'DEGREE' unit selector. Below this, the 'Mask angle' is set to 5, with a dropdown arrow icon highlighted in red. The 'Easting' field contains the value 254156.58, the 'Northing' field contains 586478.98, the 'Elevation(Ellipsoid Height)' field contains 205, and the 'Zone' field contains 43. Each of these input fields has a red box around its value. At the bottom right, an 'OK' button is highlighted with a red box. The status bar at the top shows system icons, 100% battery, and the time 12:10 PM.

Parameters RESET VALUES

UTM

Mask-angle

10

Latitude

28.6898266

Longitude

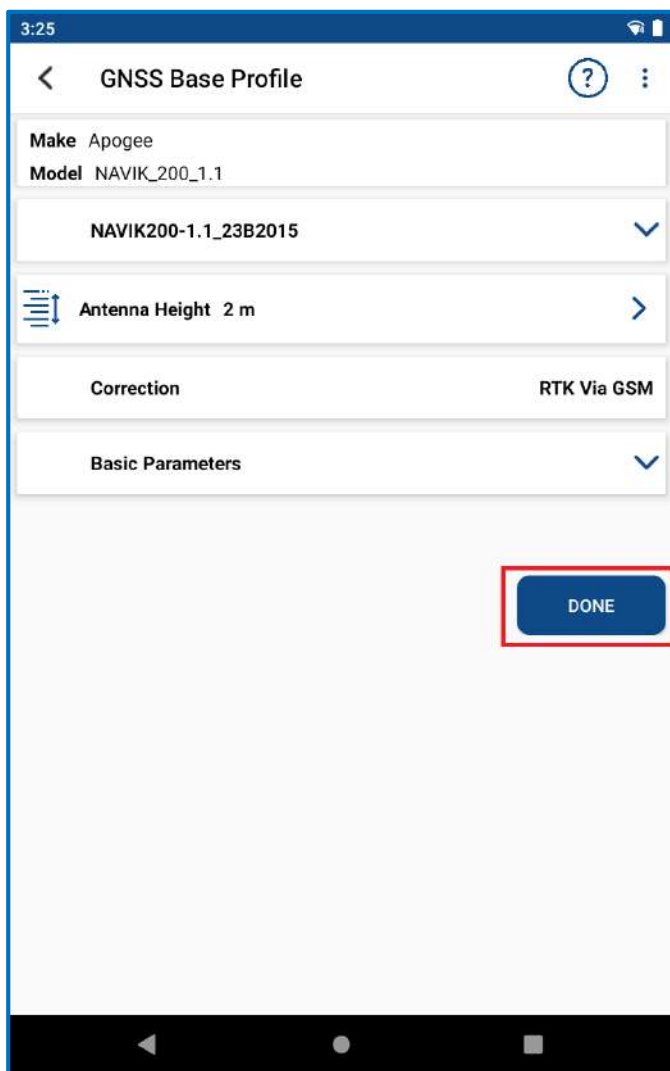
57.5454558

Altitude(Ellipsoid Height)

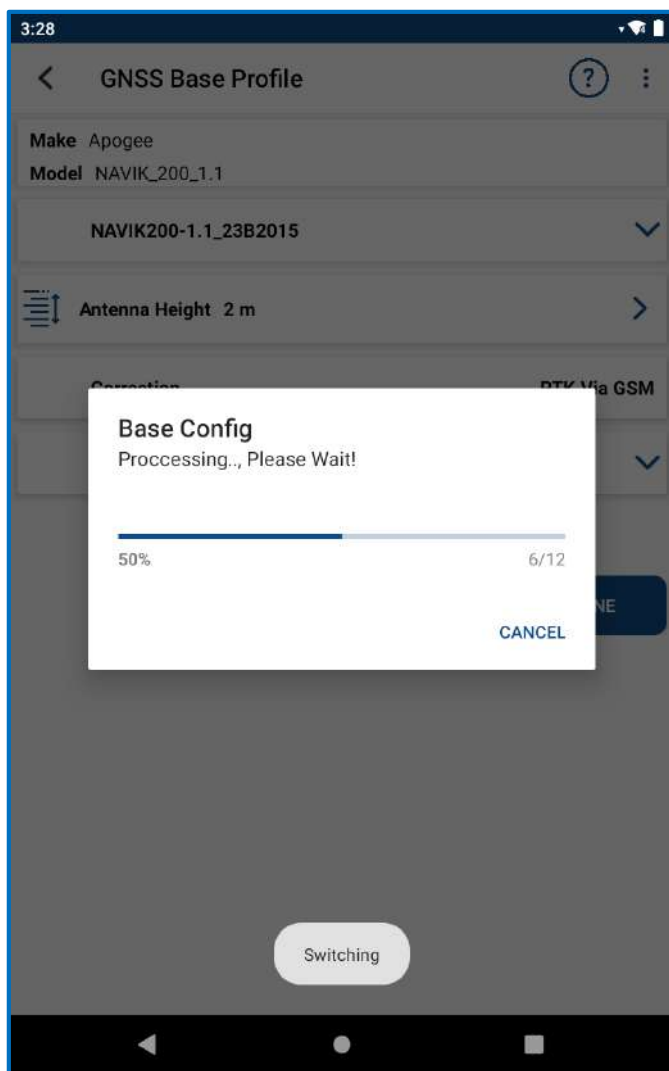
205

OK

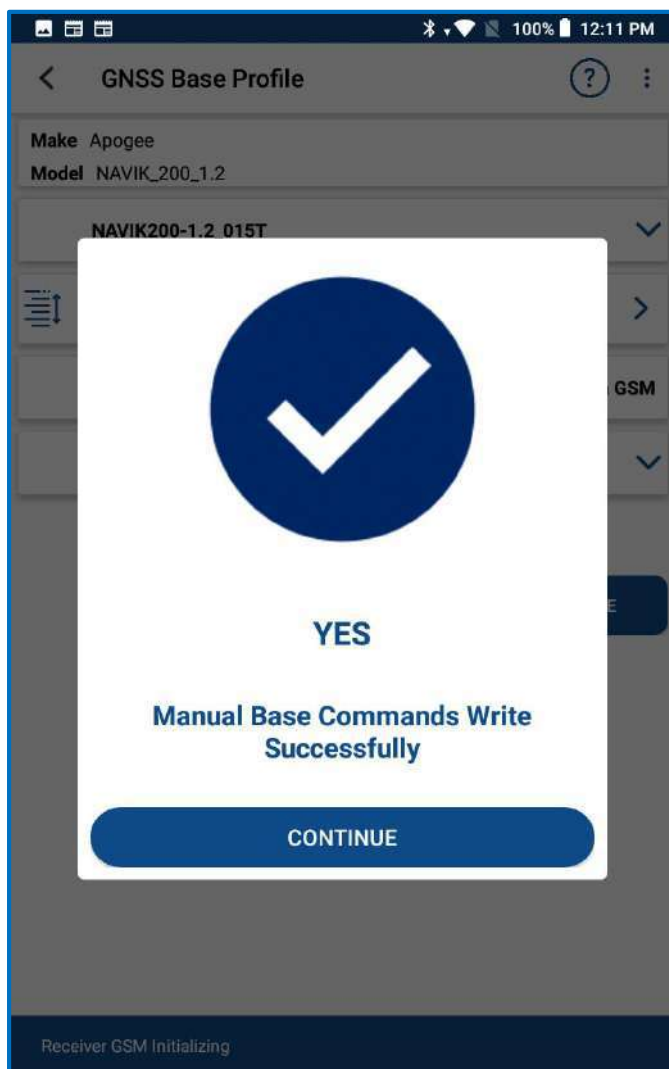
Click on **Done** to set up manual base.



Base is Configuring.



Manual Base has **connected successfully**.

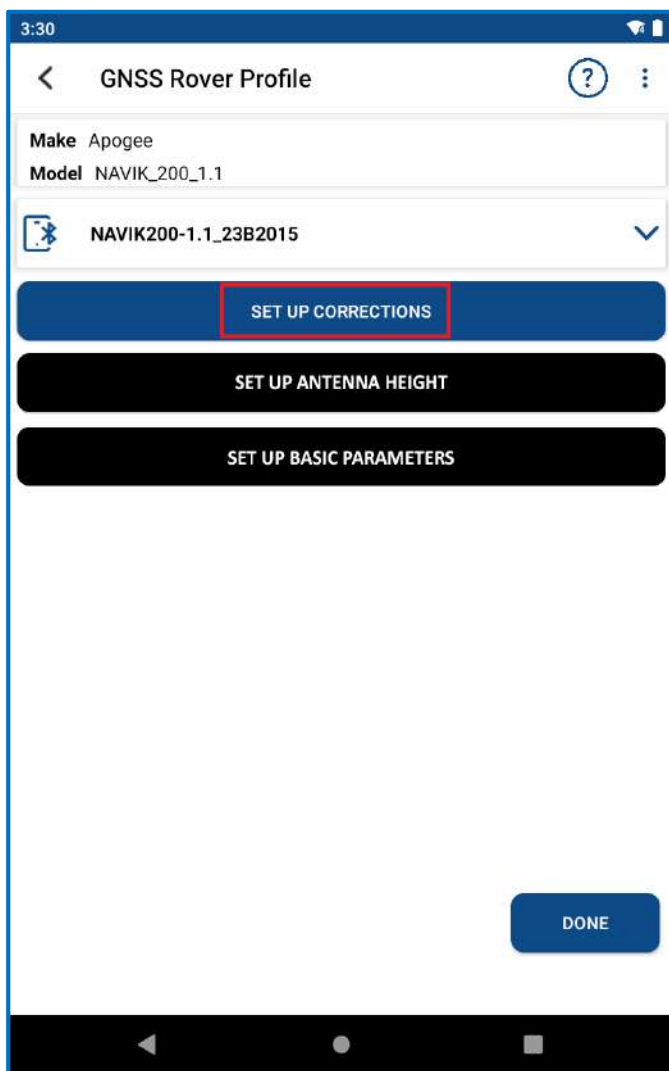


5 Start Rover Station by GeoMaster

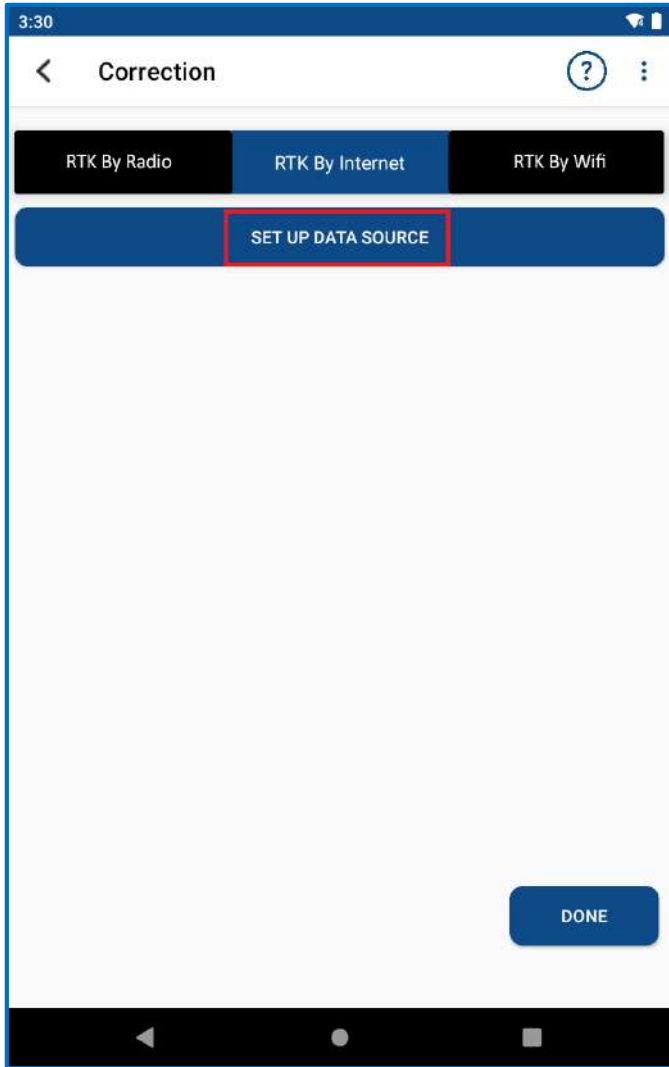
Click on **Rover icon** to configure Rover.



Click on set up correction to connect Rover.



Click on set up Data source to **connect rover by internet**.



Enter **IP** address and **Port** of the CORS server which are provided by the Network RTK Service Provider. Enter your **Username** and **Password**. Click on **Get Mountpoints**.

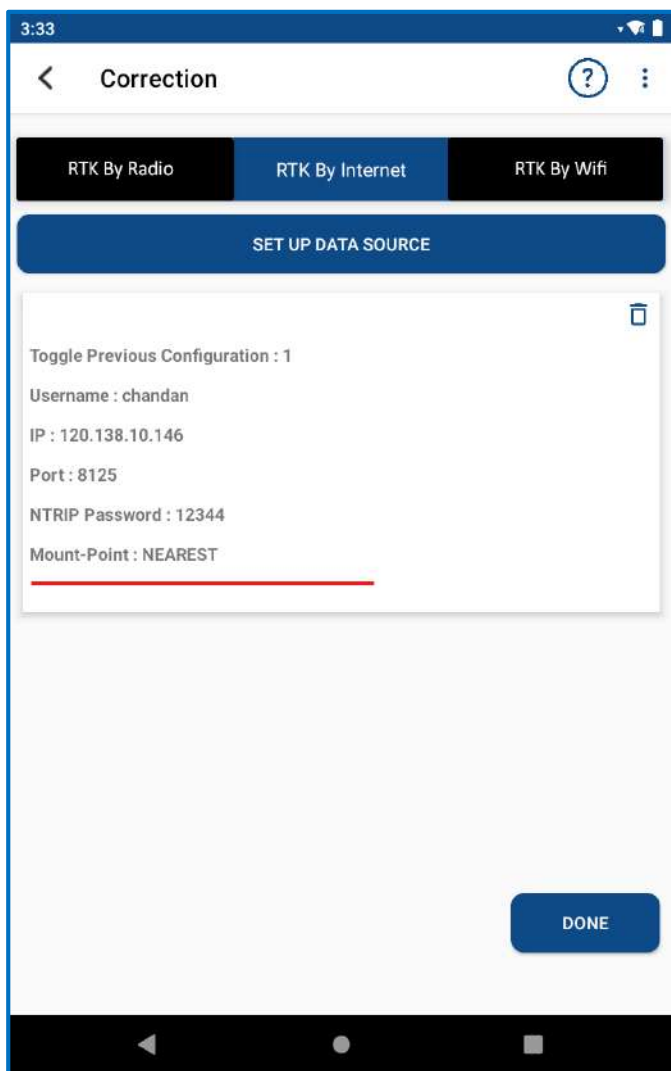
The screenshot shows a mobile application interface for configuring a new correction source. The title bar at the top indicates the time is 3:31 and shows standard mobile status icons. The main heading is "New Correction Source". Below this, there is a section titled "Toggle Previous Configuration" with a dropdown menu currently set to "Change". The form contains several input fields: "Username" with the value "user", "IP" with the value "120.130.10.146", "Port" with the value "8125", and "NTRIP Password" with the value "123455". At the bottom right of the form is a blue button labeled "GET MOUNT POINT". Red rectangular boxes are drawn around the dropdown arrow, each of the five input fields, and the "GET MOUNT POINT" button to highlight them.

Click on **Done** to connect by internet.

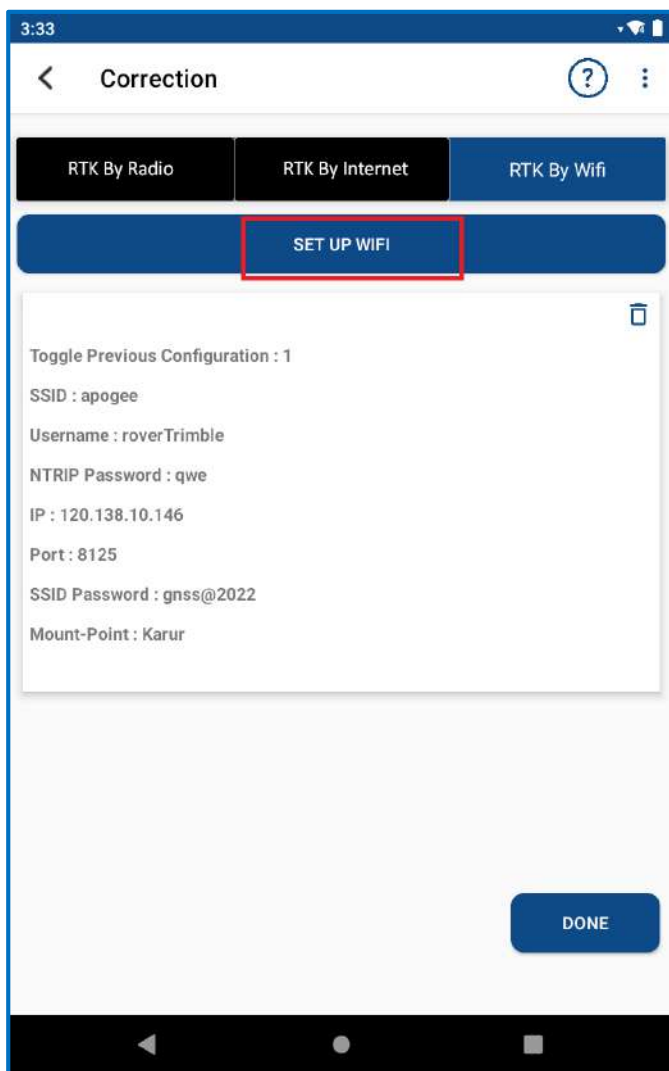
The screenshot shows a mobile application interface for configuring a correction source. The title bar at the top indicates the time is 3:32 and shows standard mobile status icons. The main heading is 'New Correction Source'. Below this, there are several sections, each with a title and an input field:

- Toggle Previous Configuration:** A dropdown menu currently showing 'Change'.
- Username:** A text input field containing 'chandan'.
- IP:** A text input field containing '120.138.10.146'.
- Port:** A text input field containing '8125'.
- NTRIP Password:** A text input field containing '12344'.
- Mount-Point:** A dropdown menu currently showing 'NEAREST'.

At the bottom right of the form, there is a blue button labeled 'DONE'. The entire form is set against a light gray background with a white header and footer area.



Click on set up Wi-Fi to **connect by Wi-Fi**.



Select the **Toggle Previous Configuration**, Enter **IP**, **Port**, **Username**, **Password**, **SSID** and click on **done**.

3:33

< Wifi Setup

Toggle Previous Configuration DROPDOWN

Change

Username

roverTrimble

SSID

apogee

NTRIP Password

qwe

IP

120.138.10.146

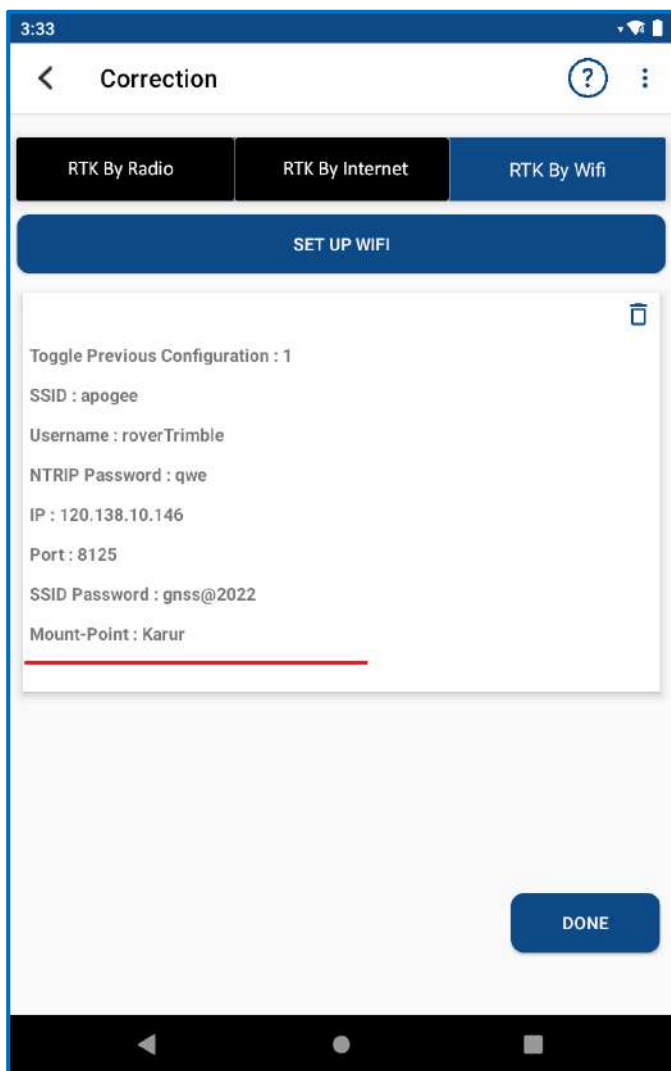
Port

8125

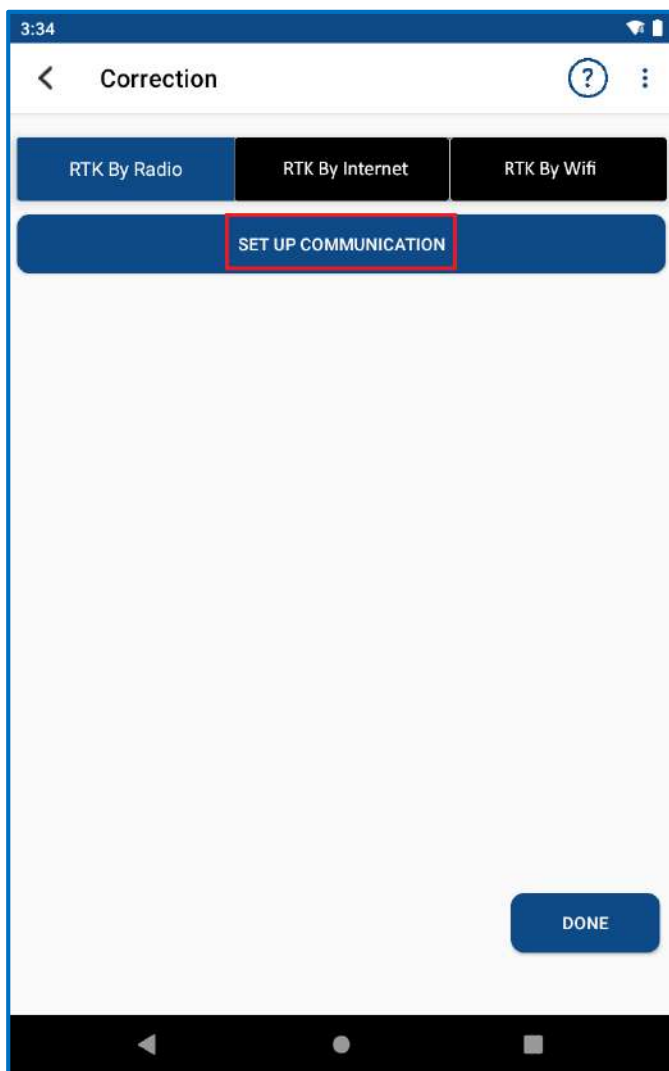
SSID REFRESH **GET MOUNT POINT**

Select the **Toggle Previous Configuration**, fill up rest of the details and click on done.

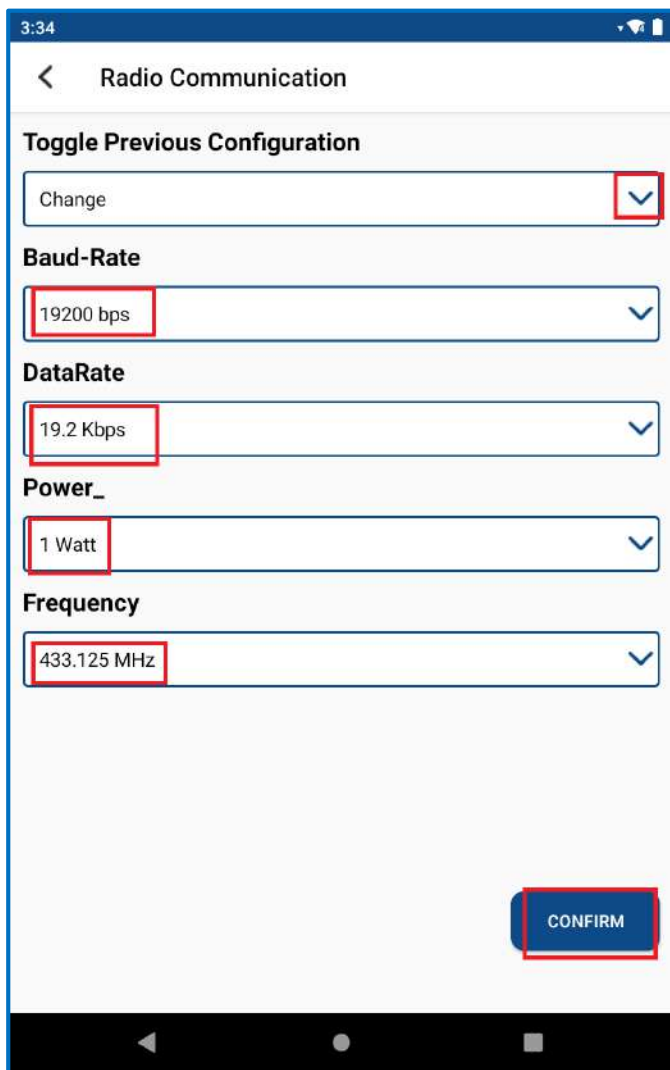
The screenshot displays the 'Wifi Setup' interface. At the top, the time is 3:33 and there are icons for signal strength, Wi-Fi, and battery. Below the title 'Wifi Setup' is a 'MANUALLY' button. The main section is titled 'Toggle Previous Configuration' and contains a dropdown menu currently set to 'Change'. Below this are several input fields: 'Username' with the text 'roverTrimble', 'SSID' with a dropdown menu showing 'HP-Print-D7-LaserJet Pro MFP', 'NTRIP Password' with the text 'qwe', 'IP' with the text '120.138.10.146', and 'Port' with the text '8125'. At the bottom right, there are two buttons: 'SSID REFRESH' and 'GET MOUNT POINT'. The Android navigation bar is visible at the very bottom.

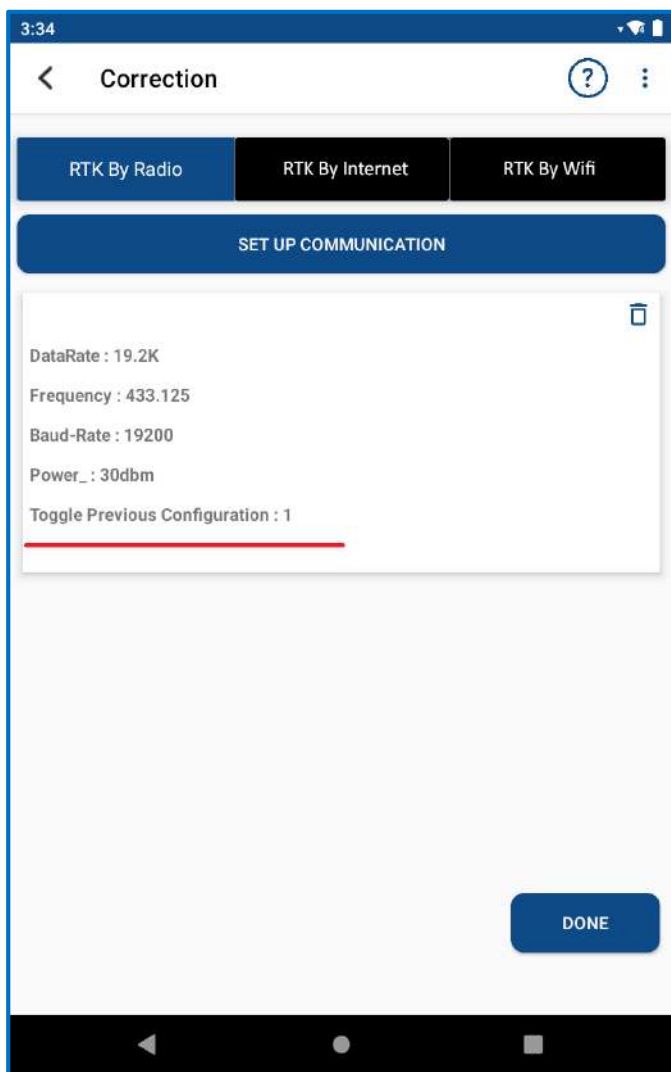


Click on set up communication to **connect by Radio**.

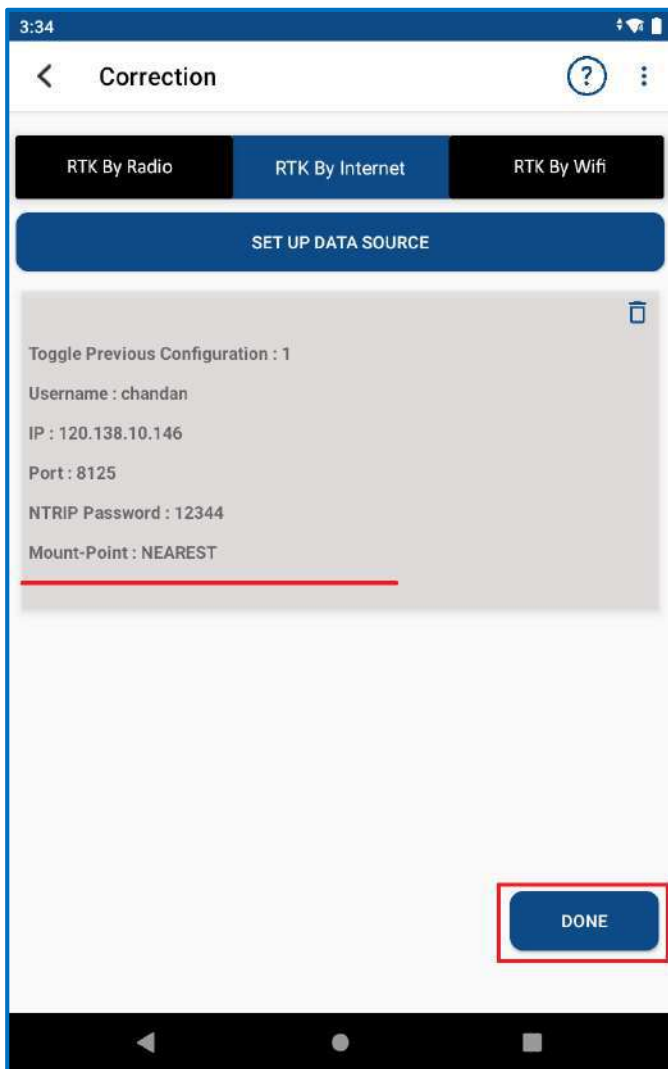


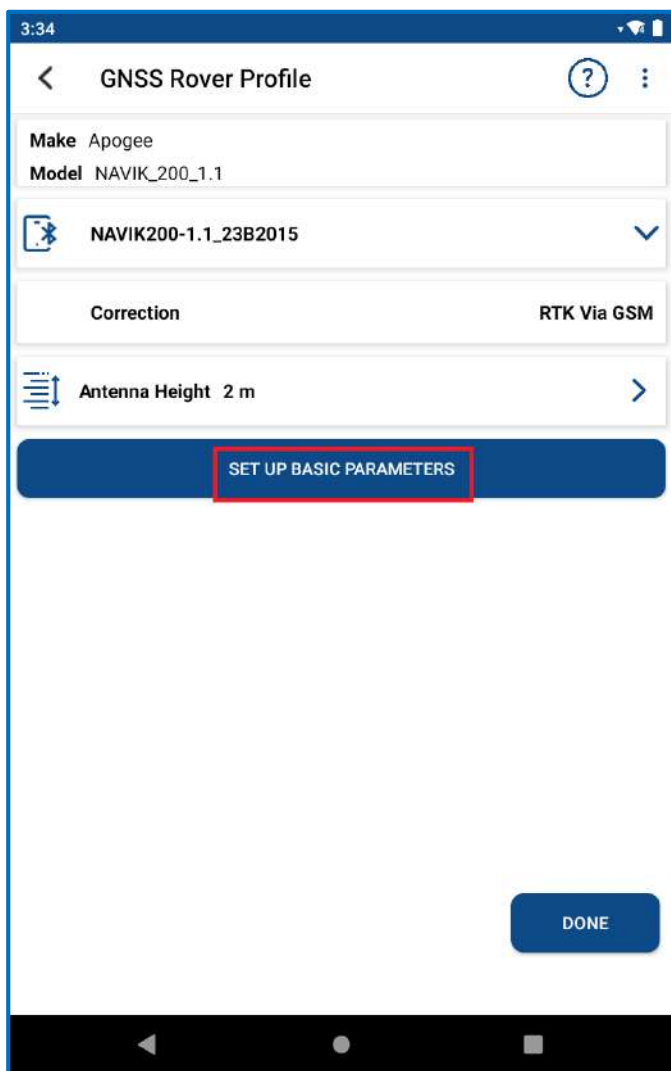
Select the **Toggle Previous Configuration**, fill up rest of the details and click on confirm tab.



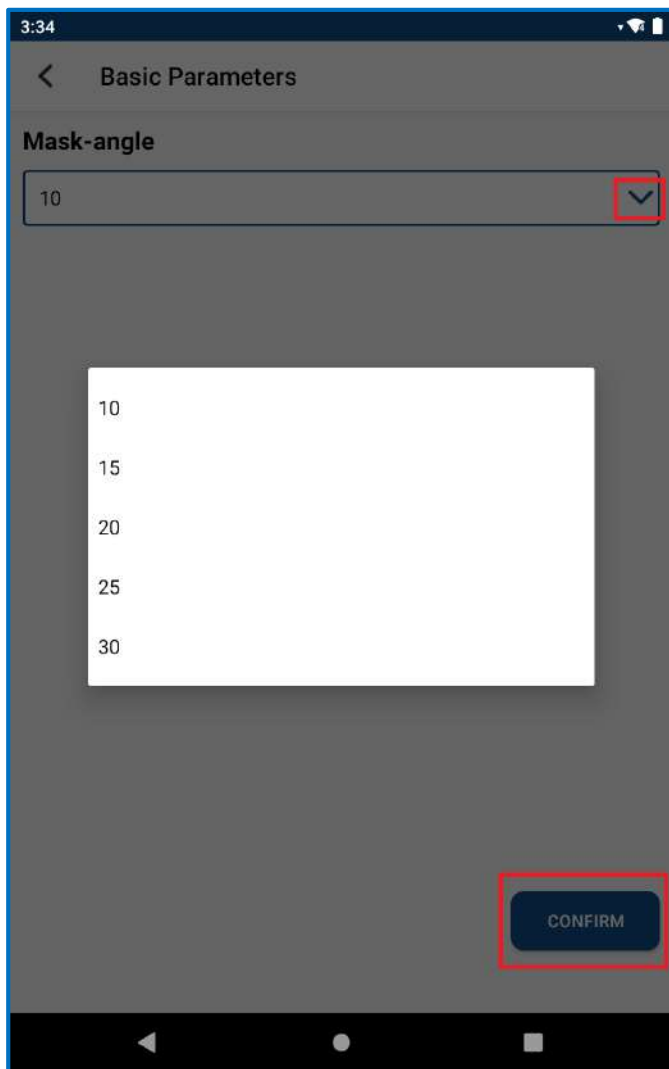


Select the given information and click on Done to **connect base by internet**.

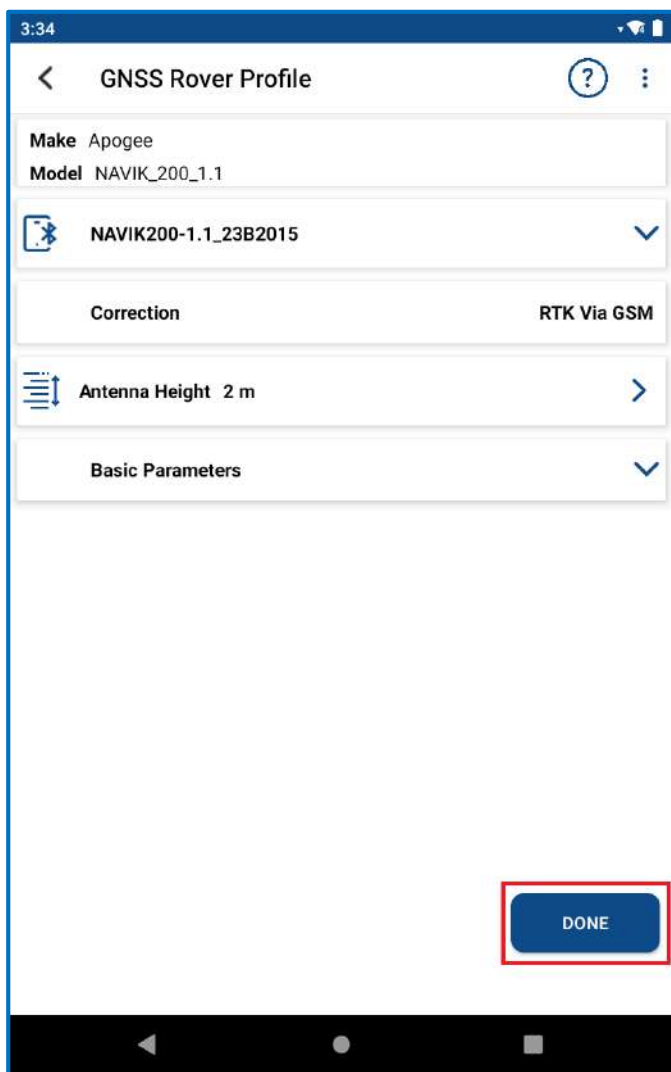




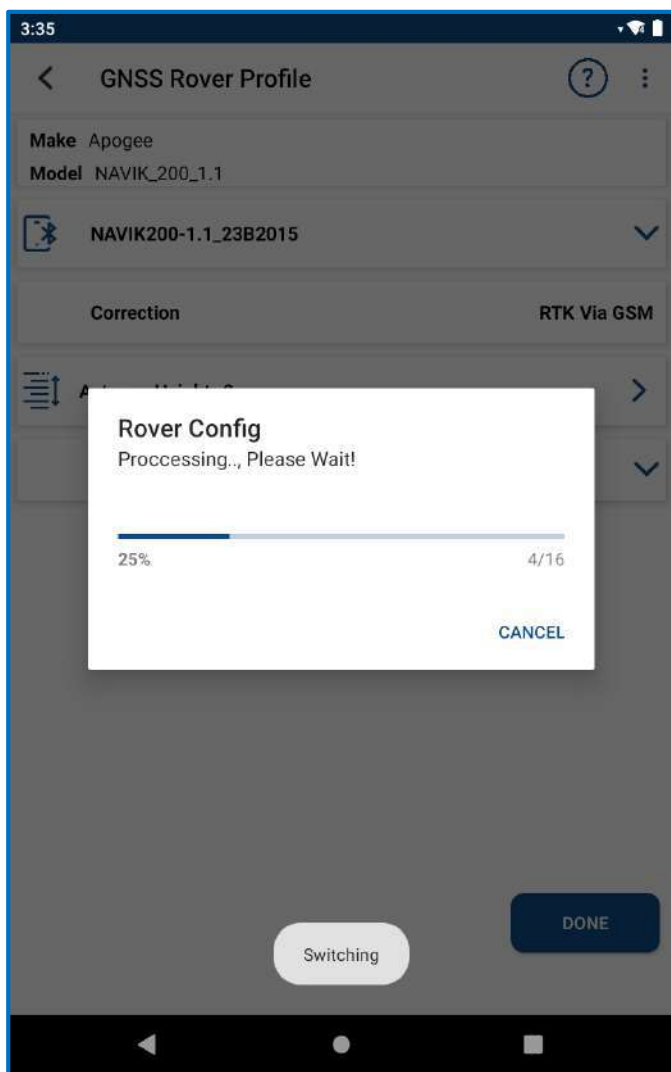
Select Mask Angle from the given options.



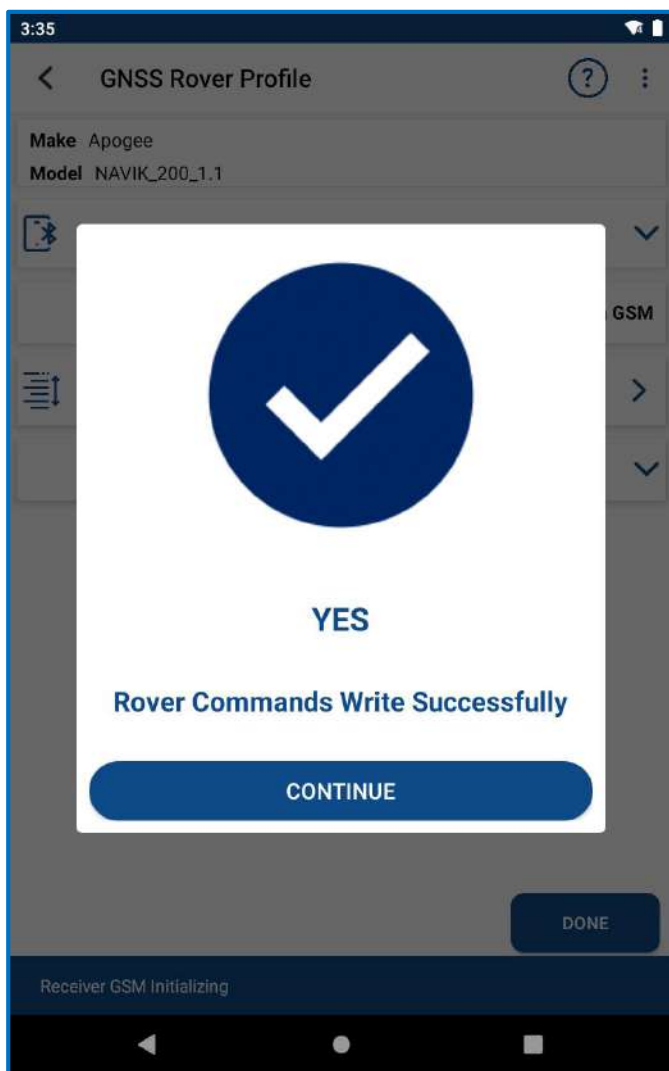
Click on **Done to set up rover.**



Rover is configuring.

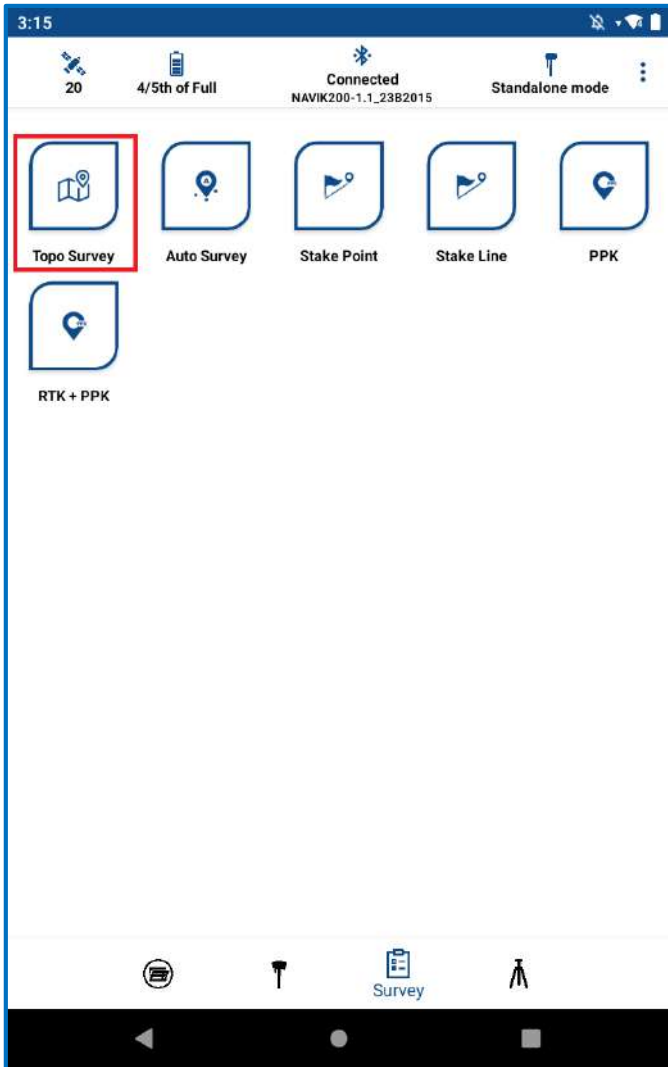


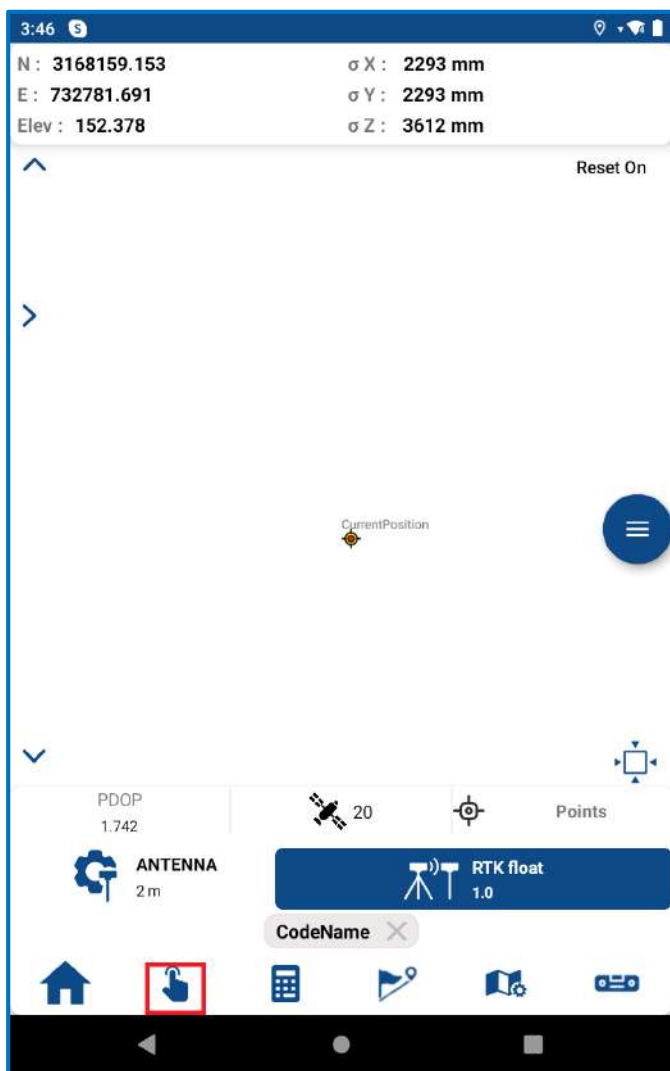
Rover has **configured successfully**.

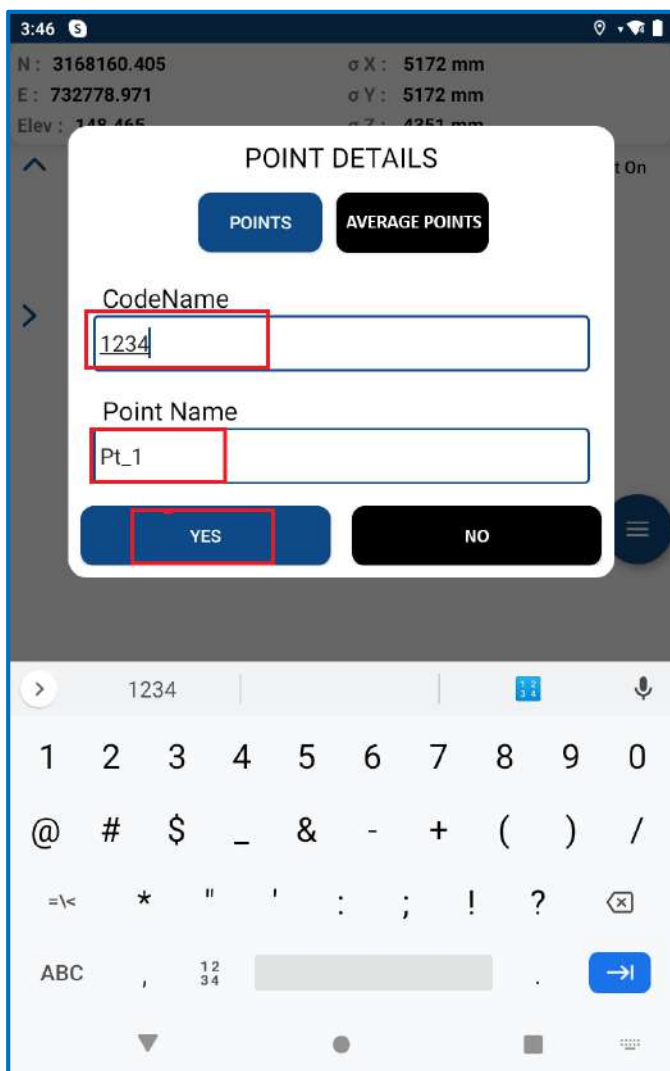


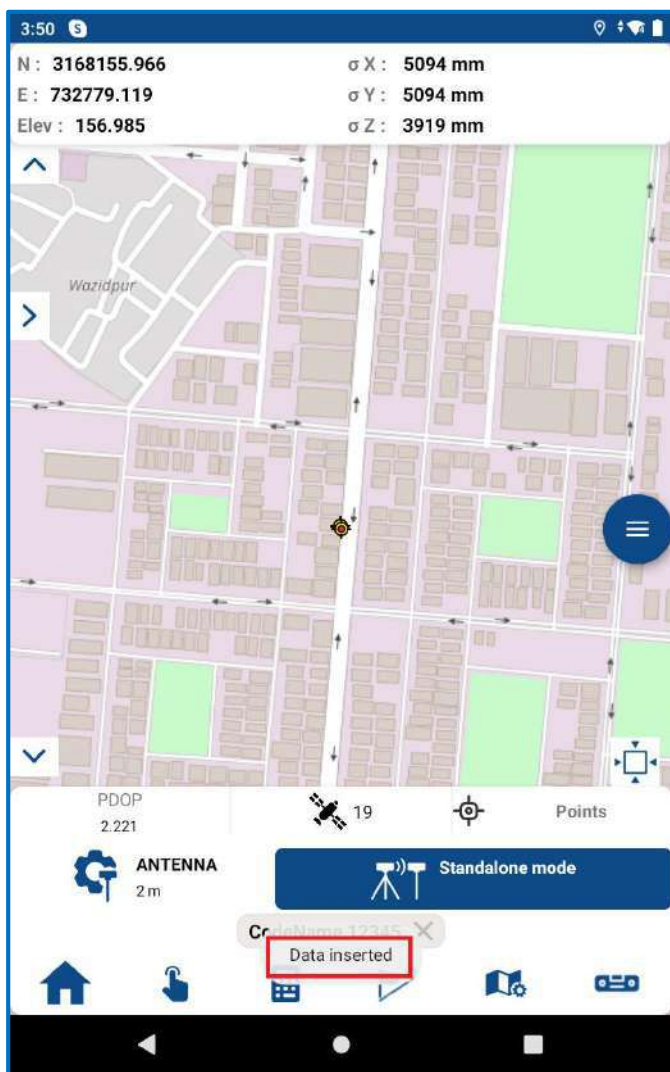
6 Basic Survey Functions :

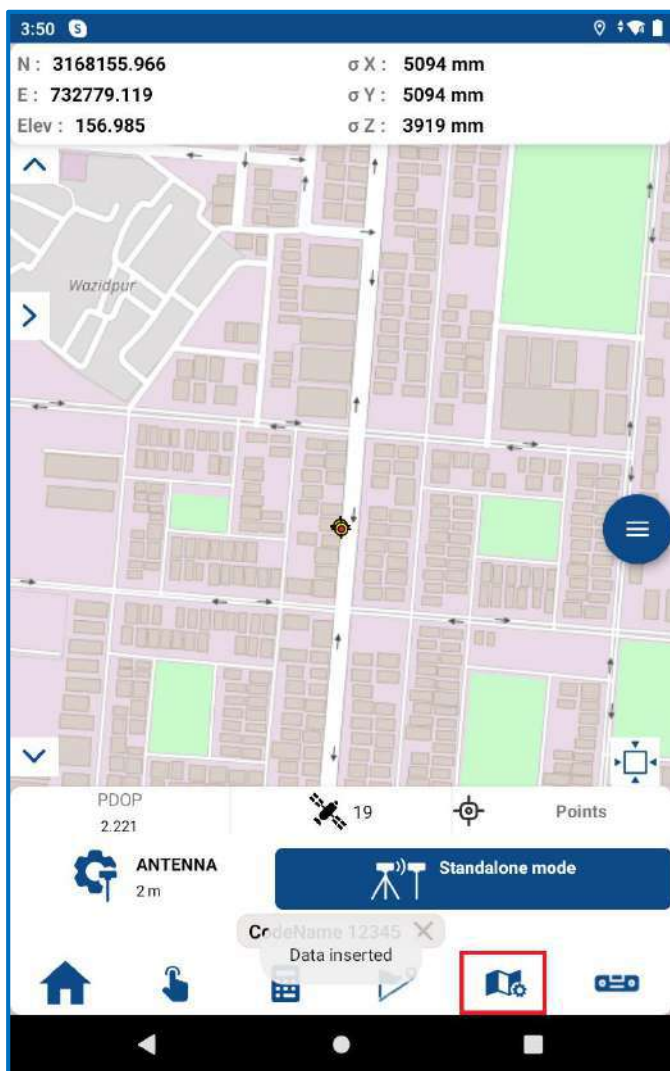
6.1 Topo Survey : Now for Topo Survey click on Topo Survey icon.

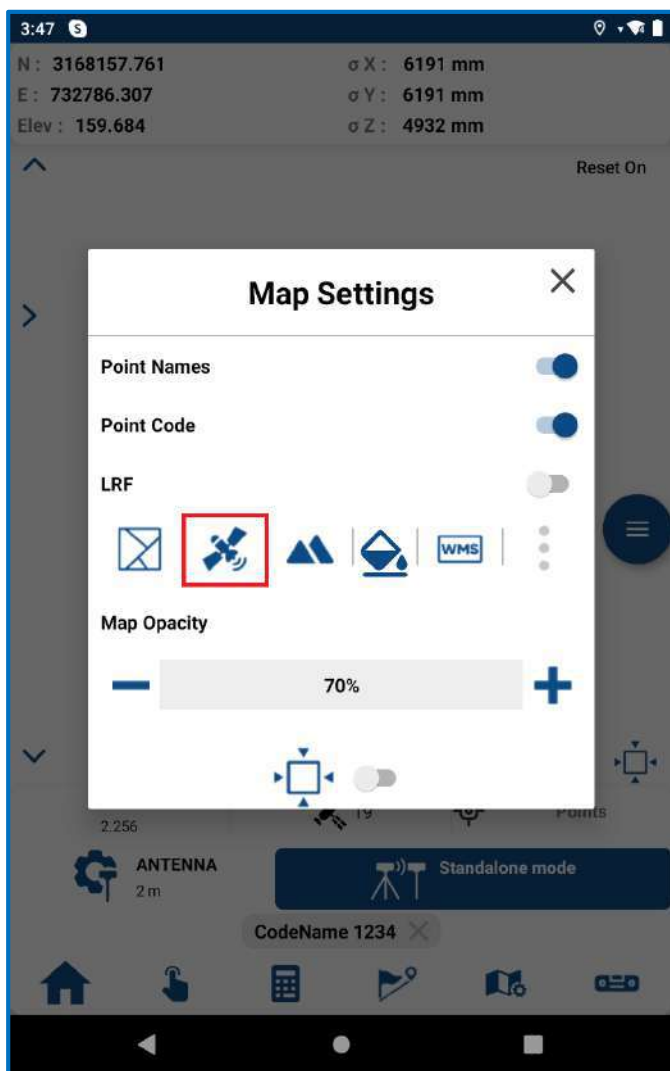


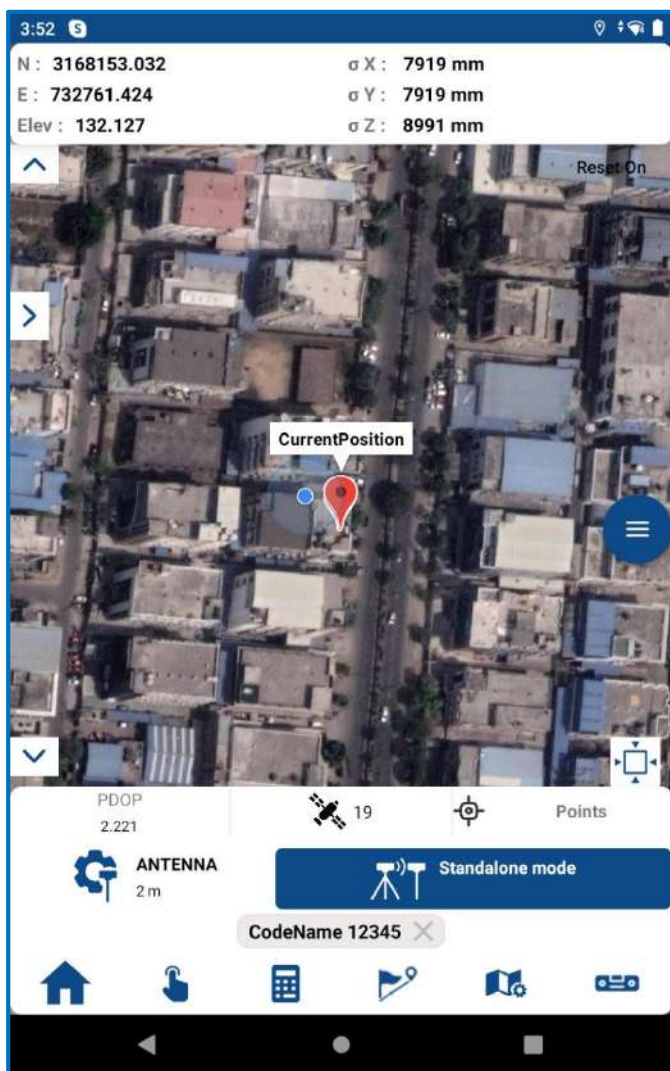


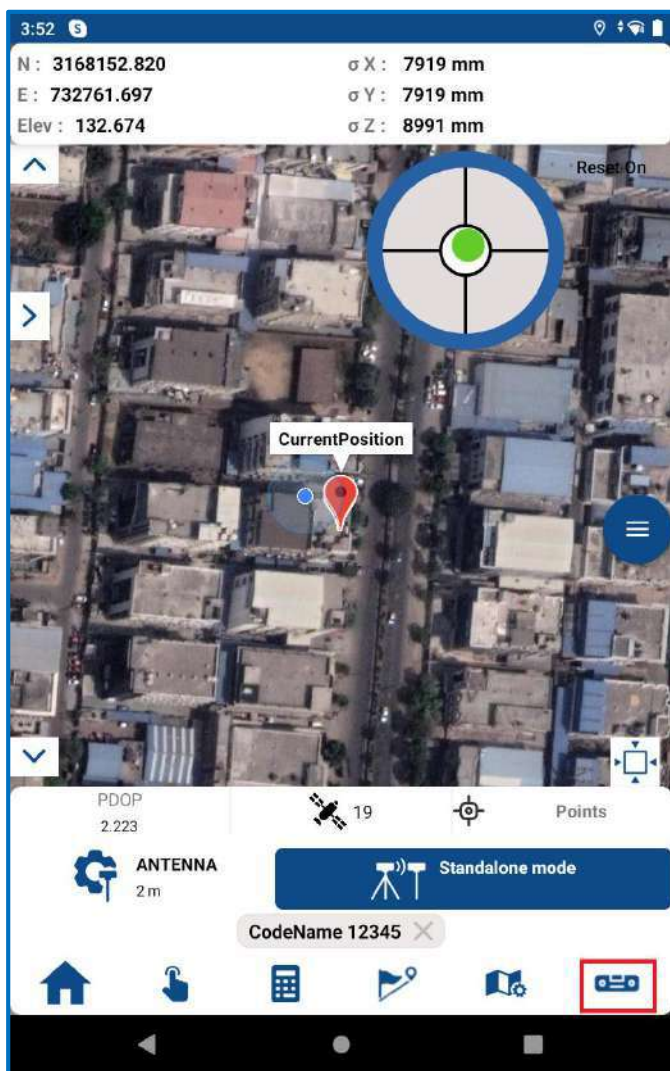




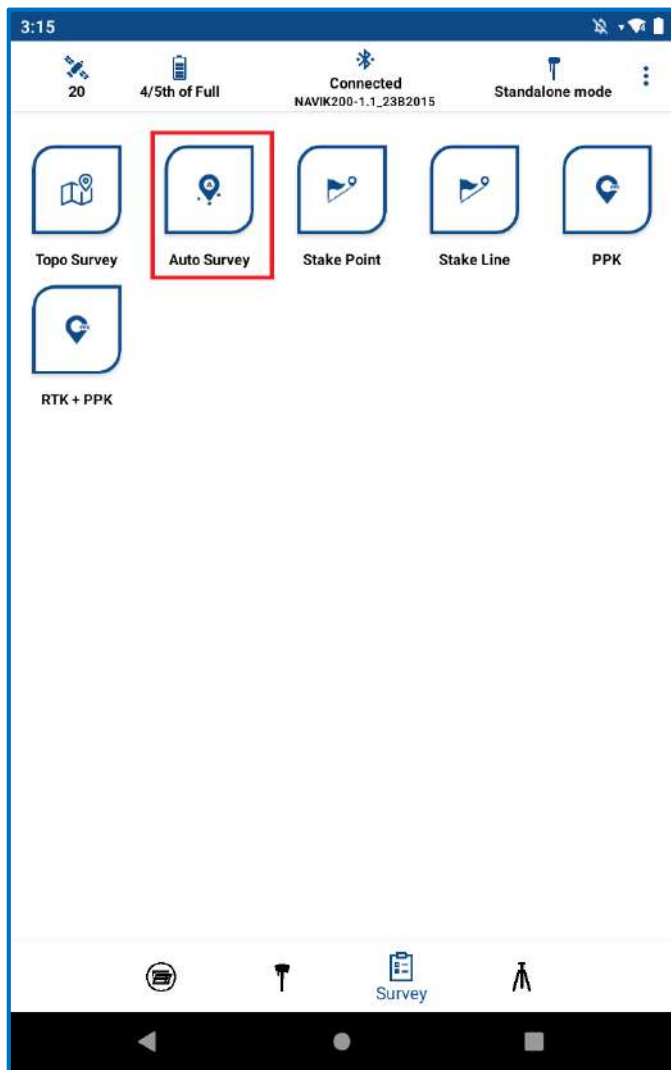


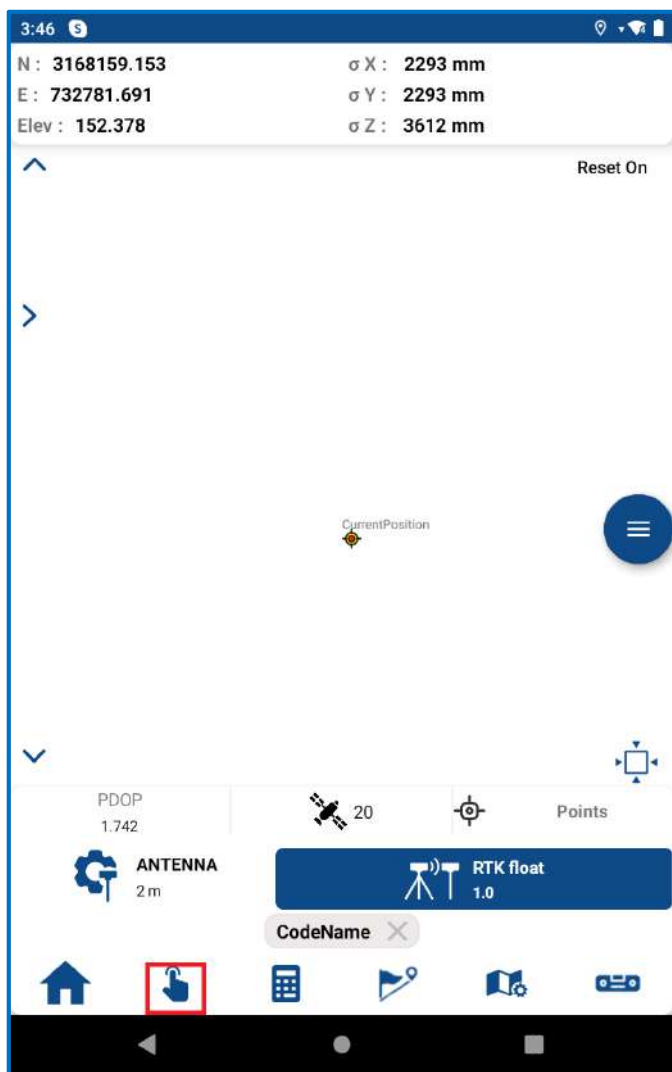


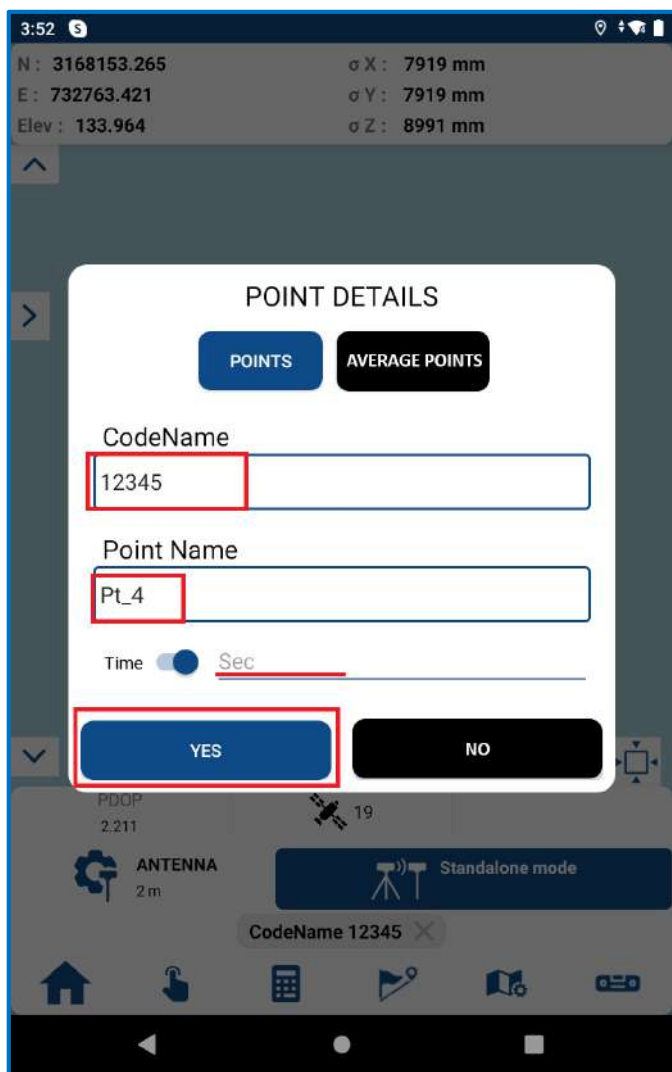


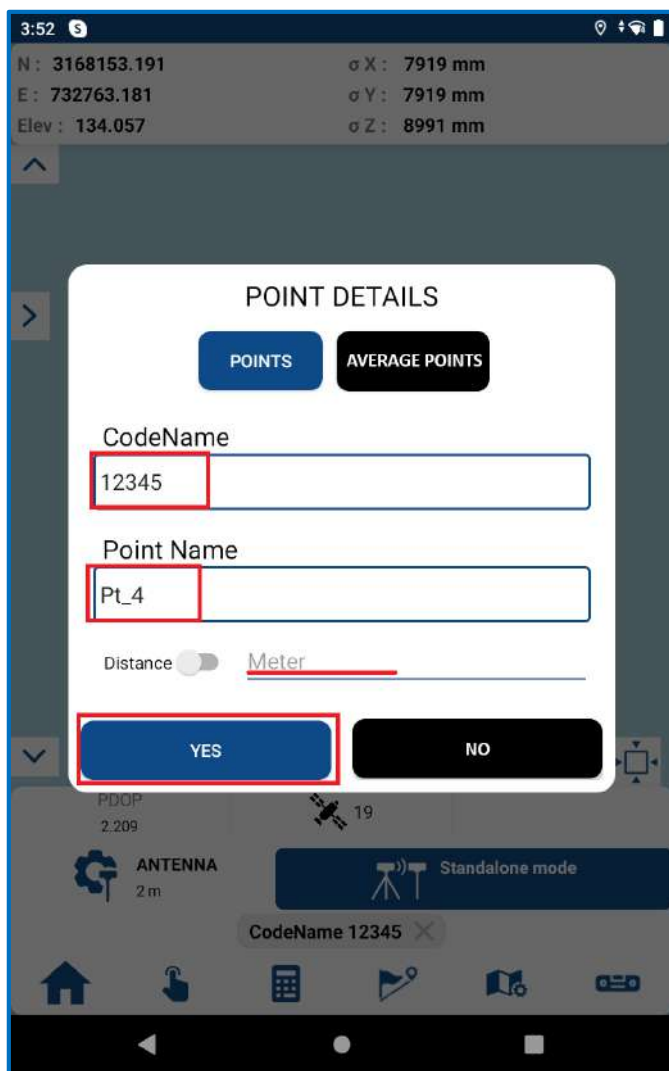


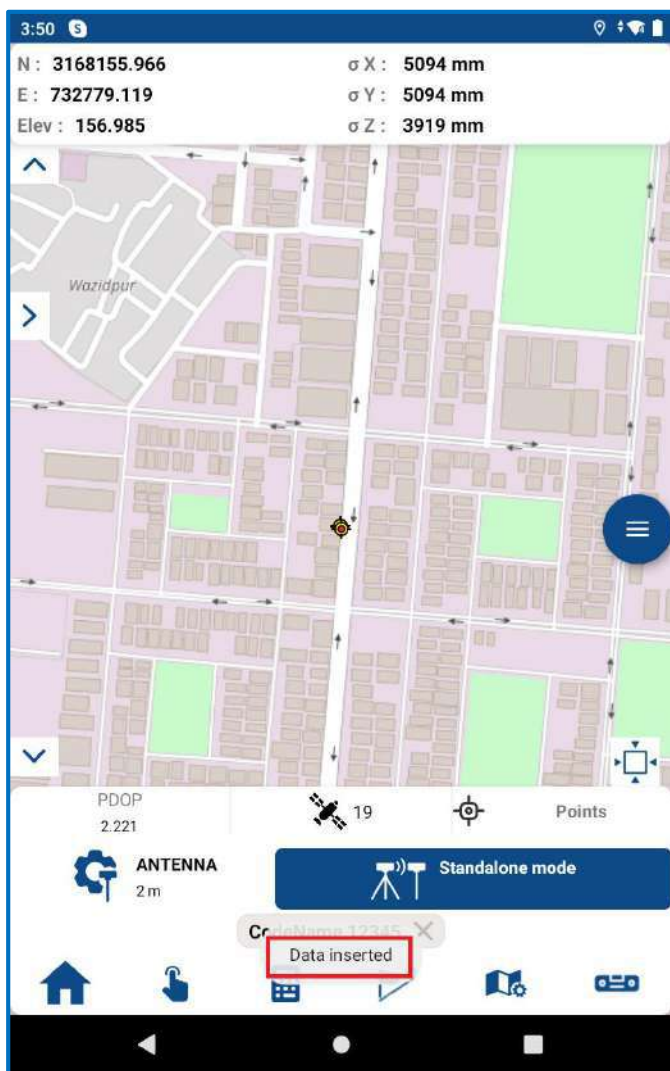
6.2 Auto Survey

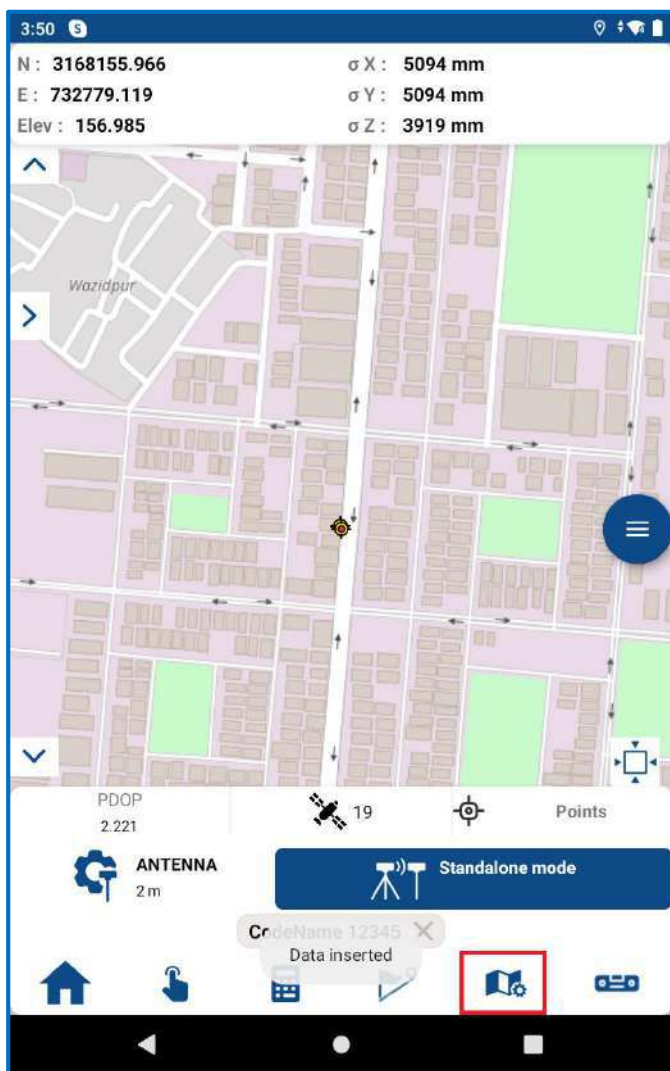


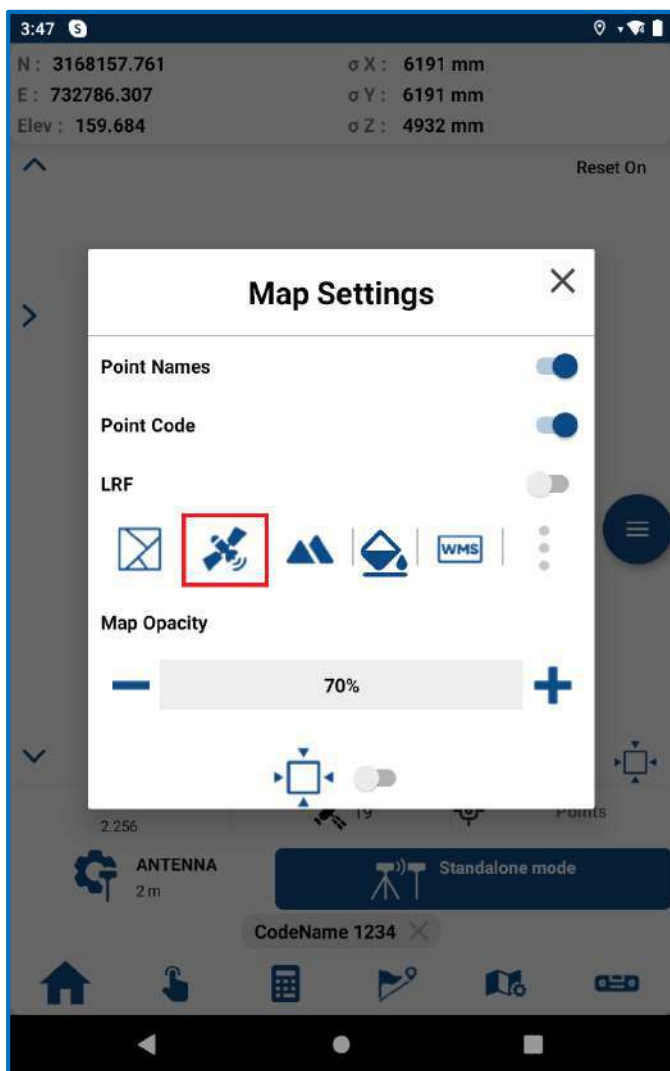


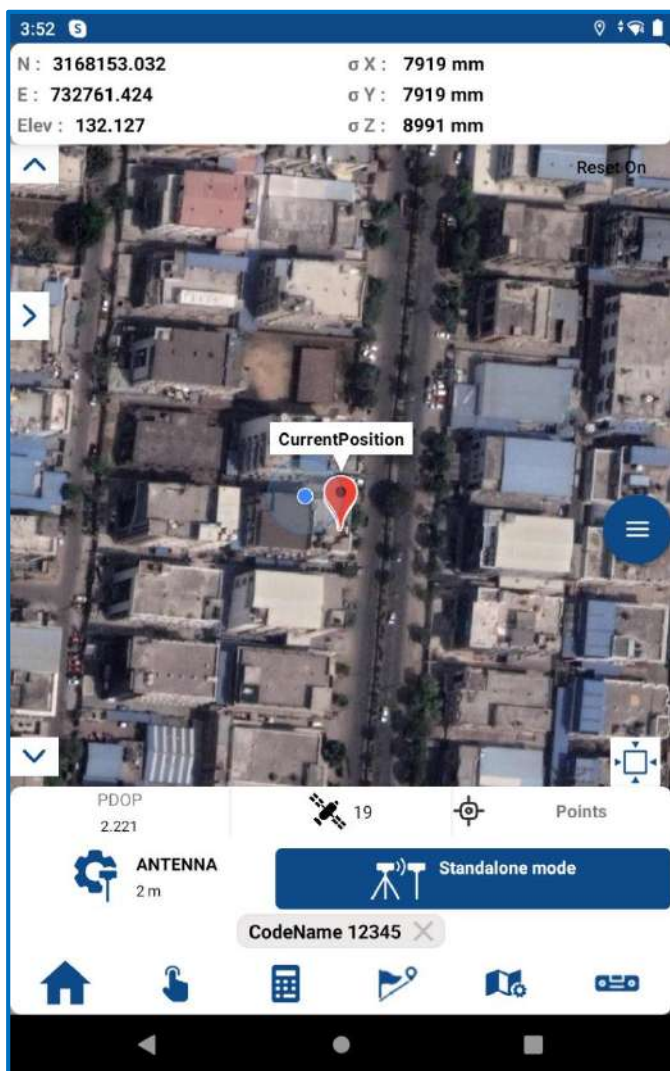


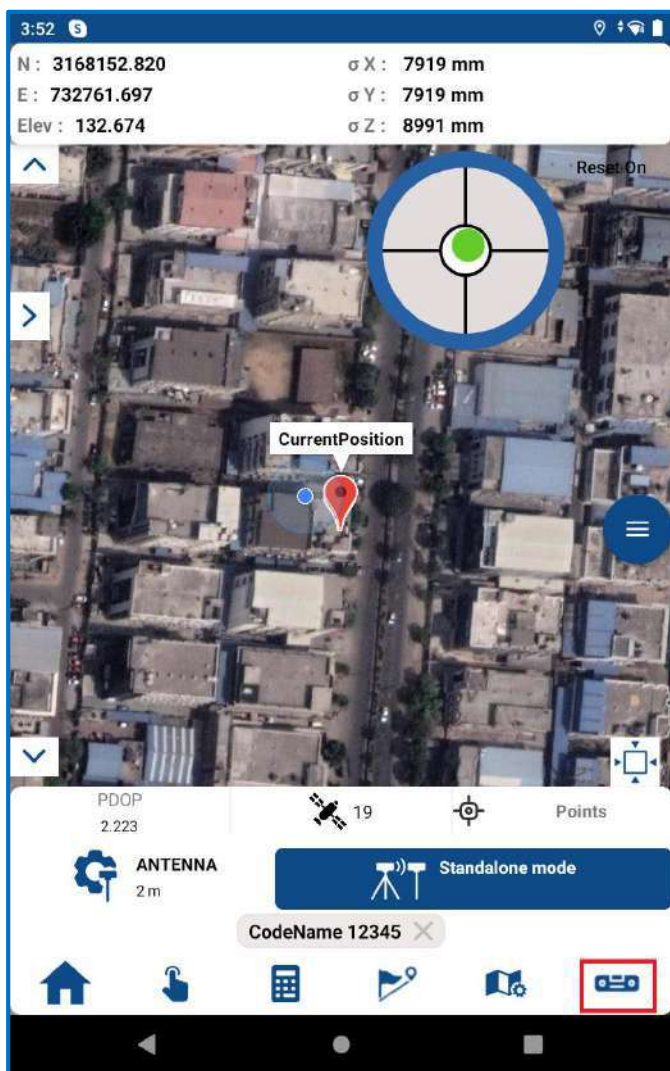




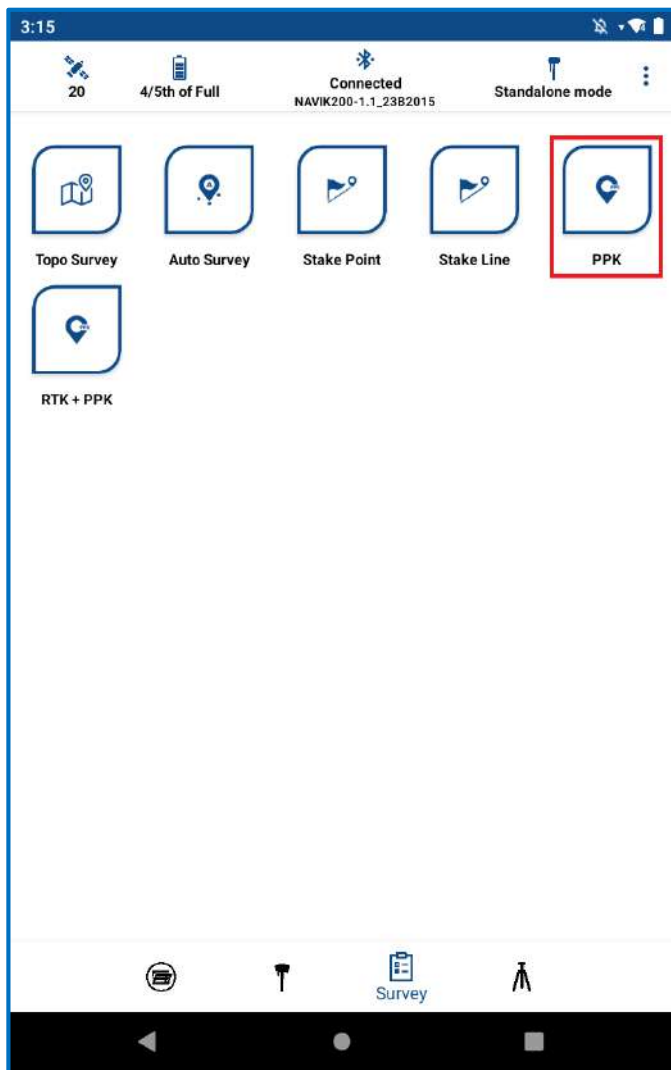


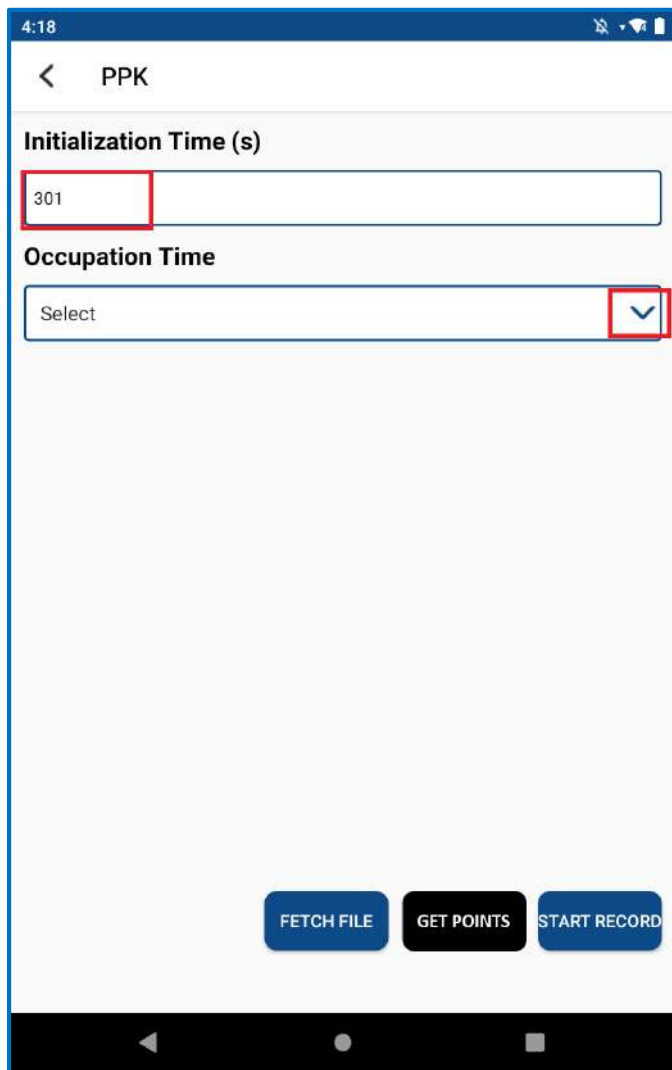


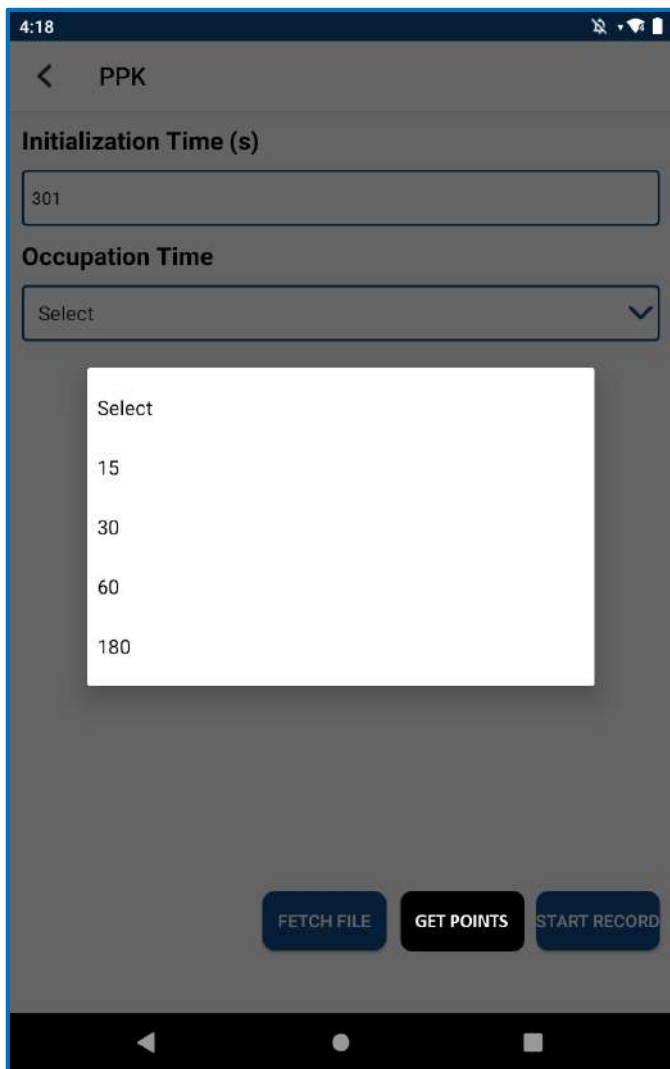


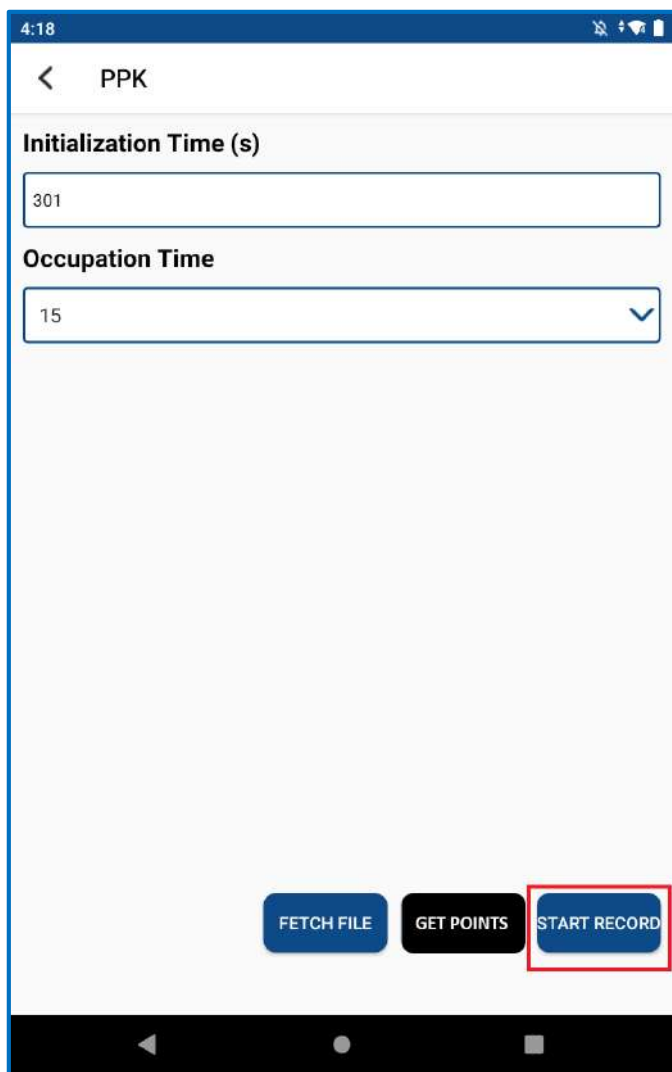


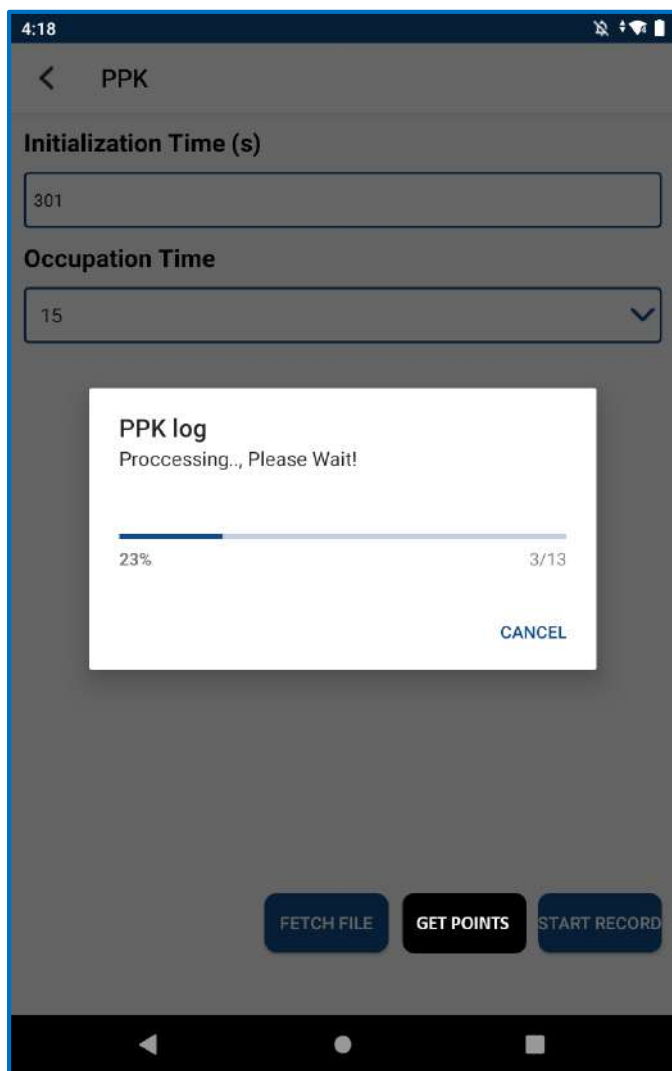
6.3 PPK

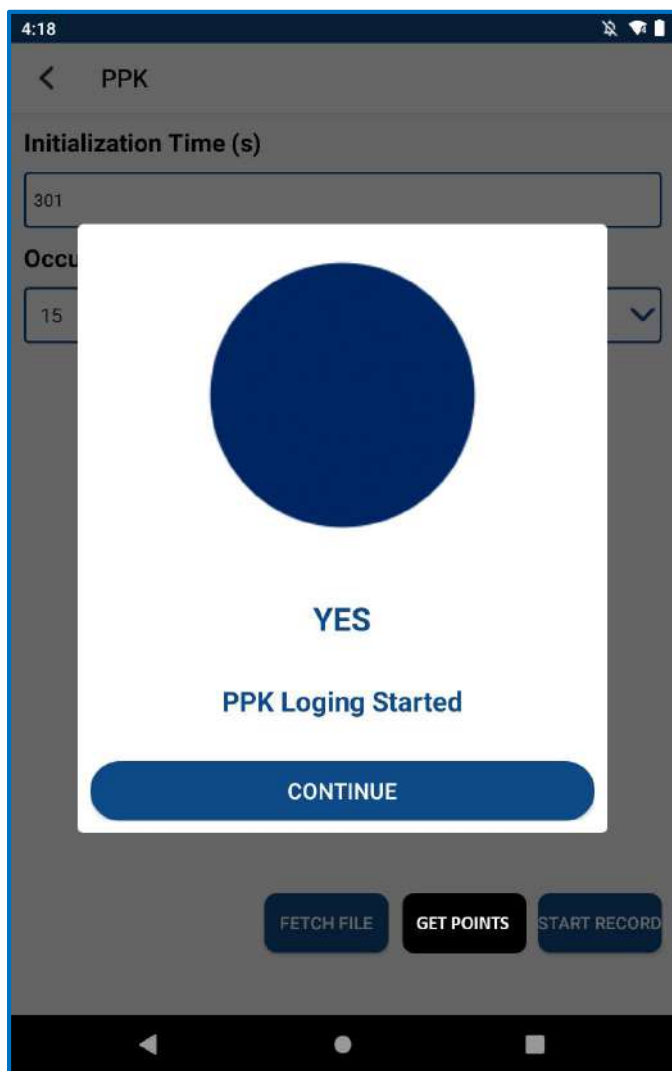




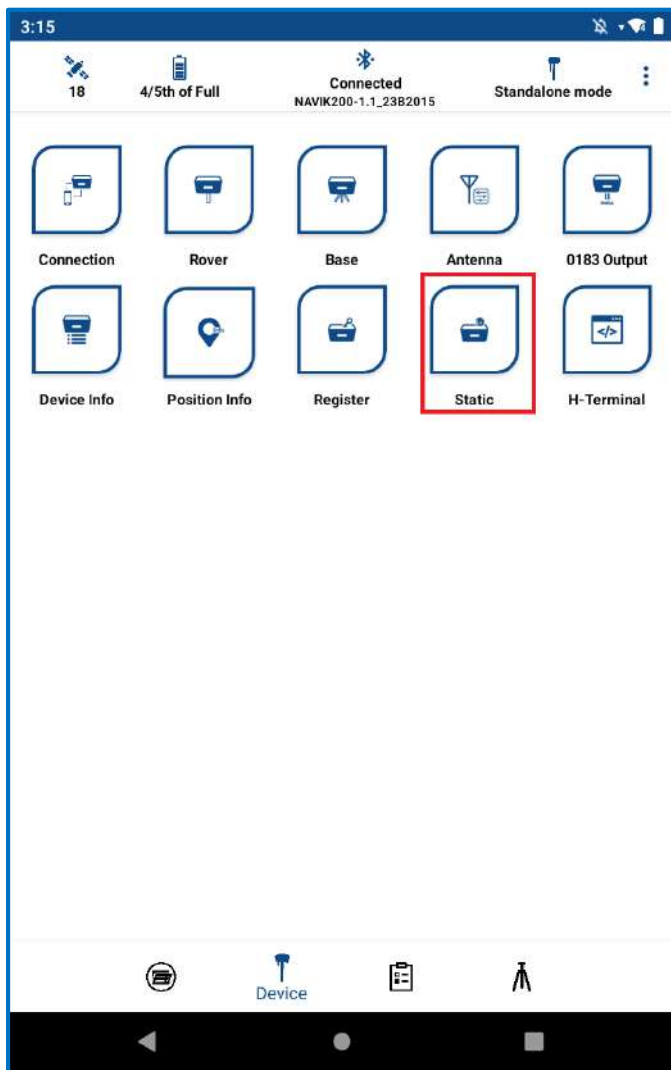








6.4 Static



4:14

< Static ? ⋮

File Name

Enter file name without extension

Time

In minutes

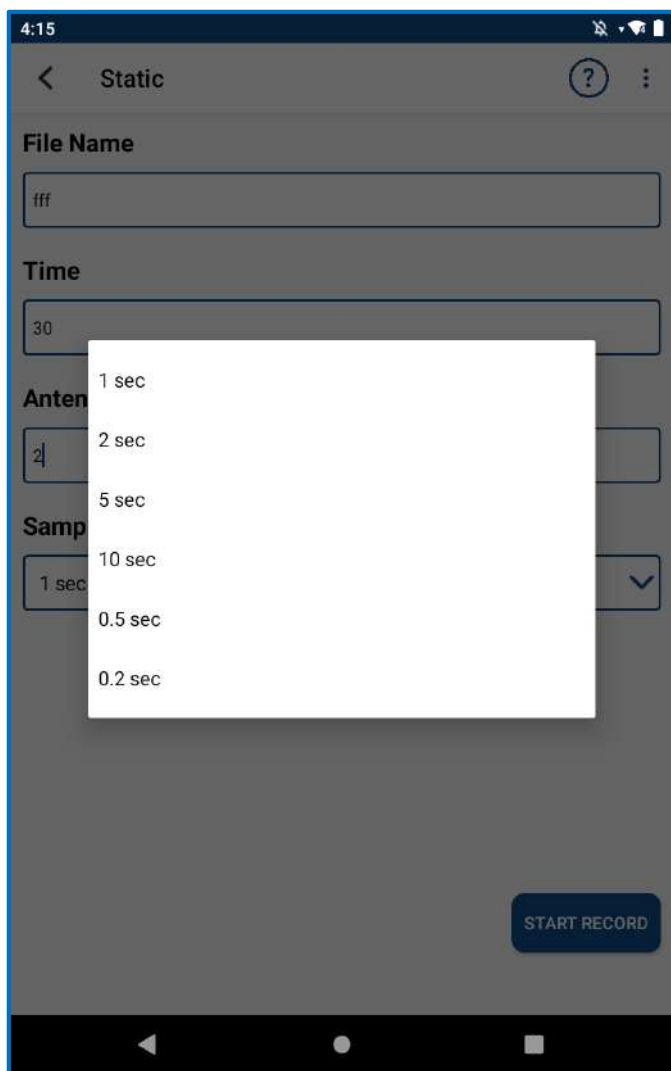
Antenna Height

In meters.

Sampling Interval (s)

1 sec

START RECORD



4:15

< Static ? ⋮

File Name

fff

Time

30

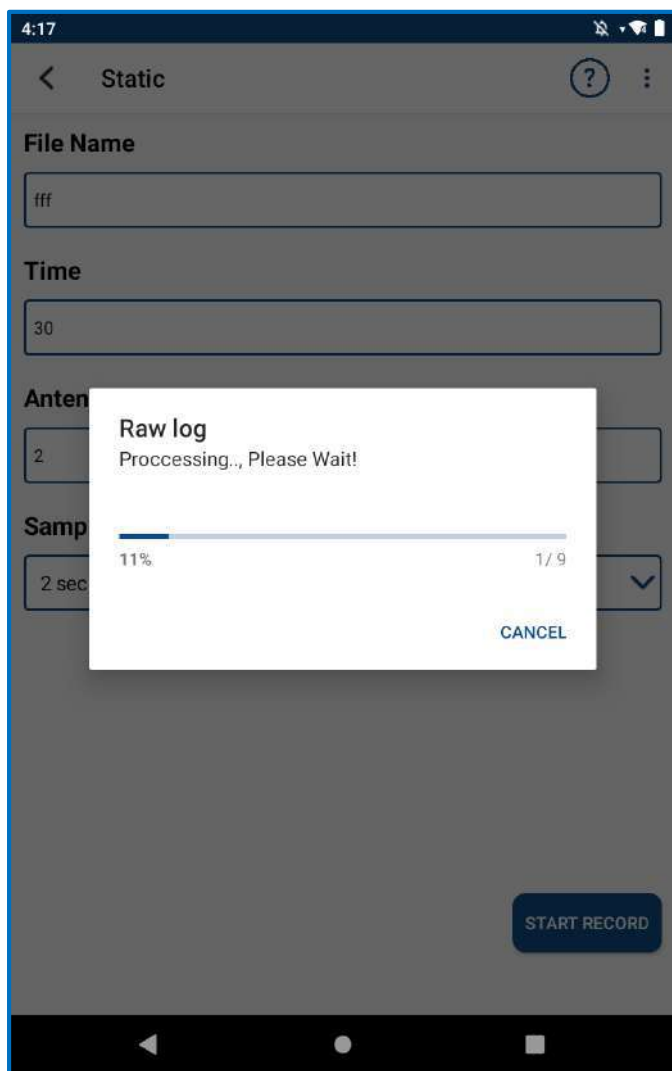
Antenna Height

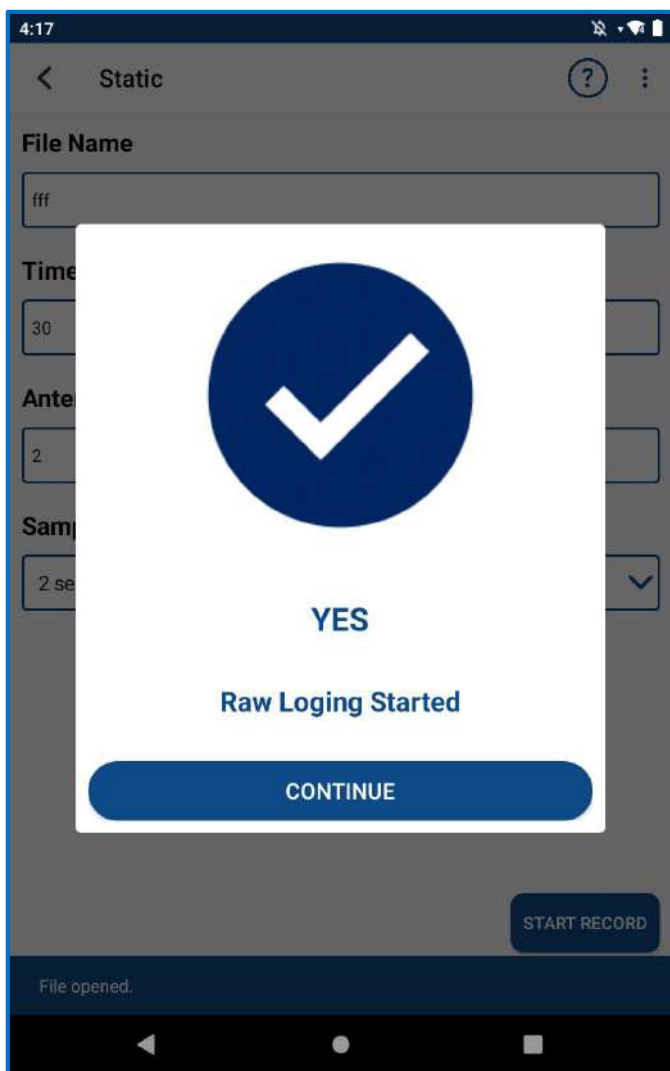
2

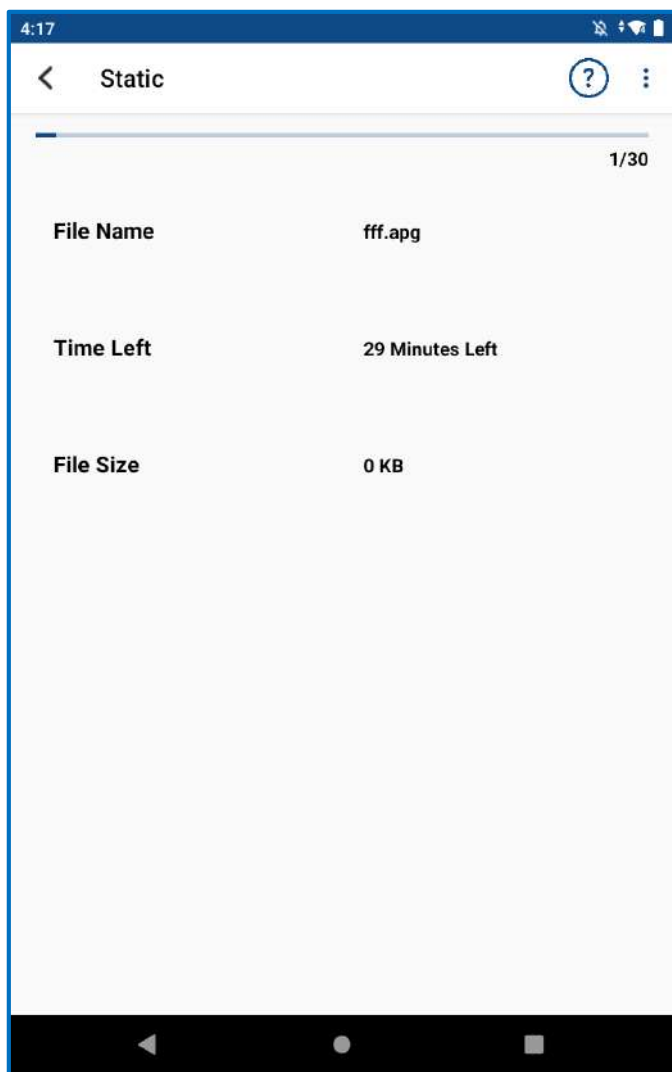
Sampling Interval (s)

2 sec ▾

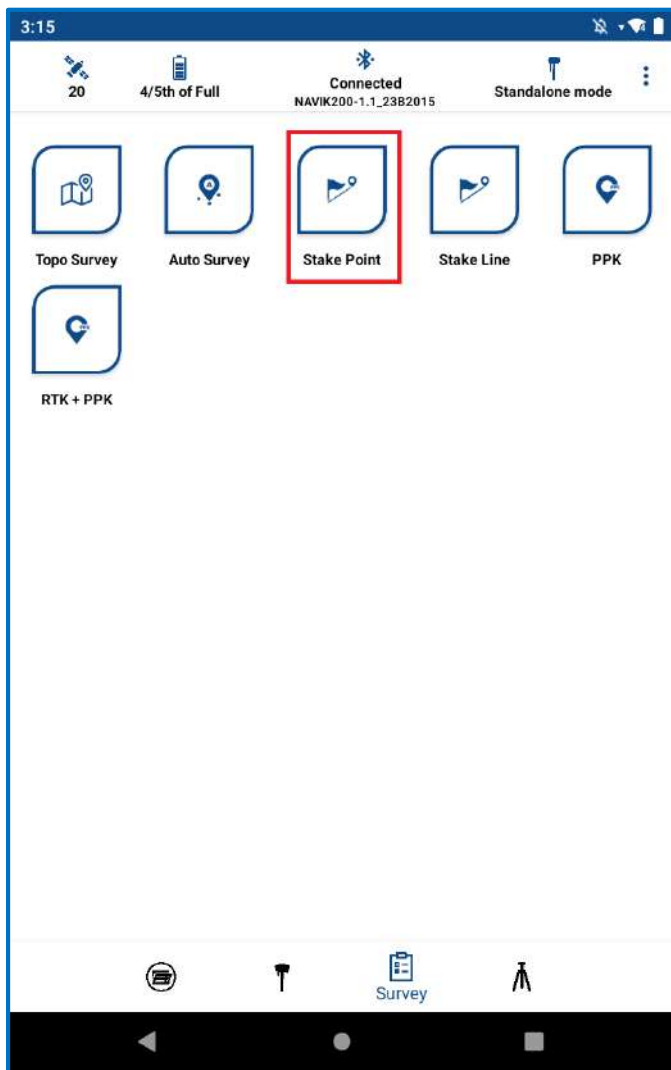
START RECORD

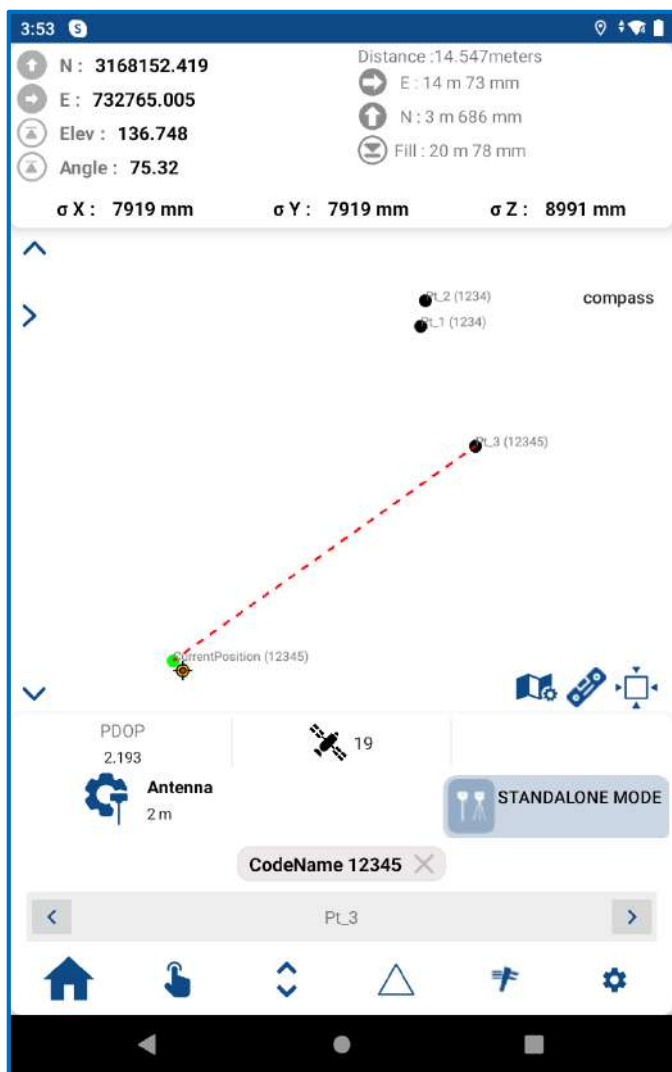


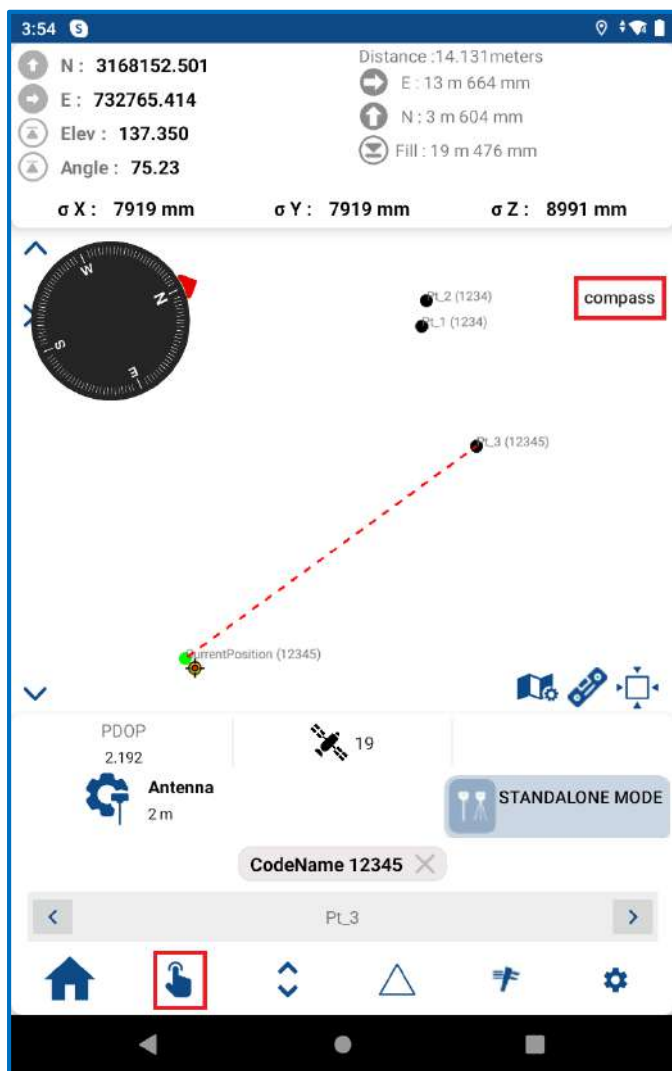


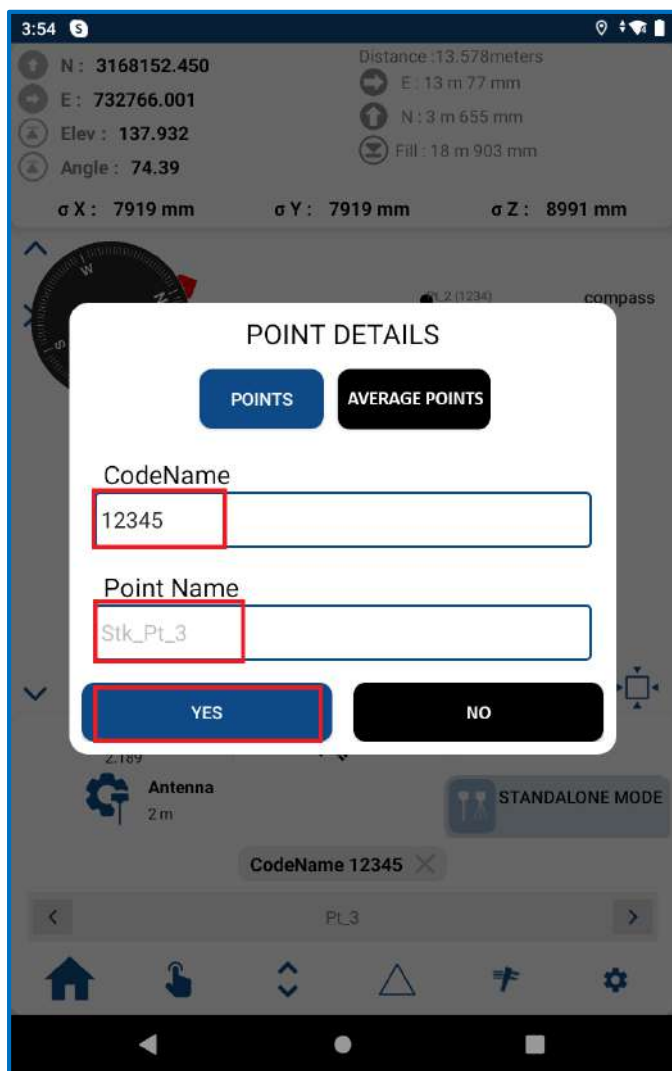


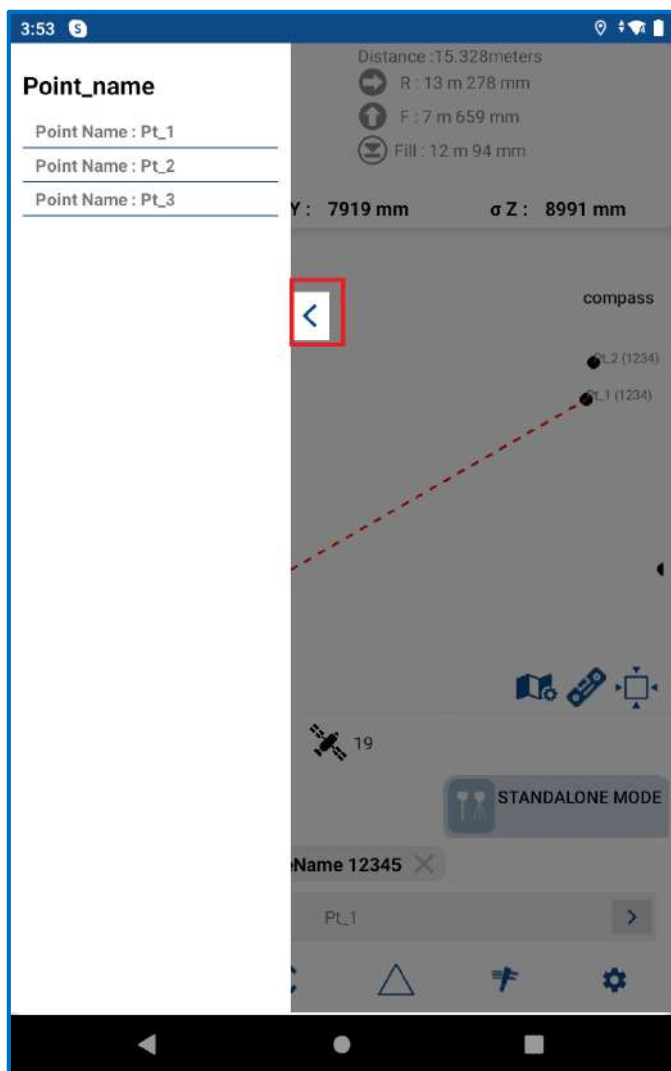
6.5 Stake Point





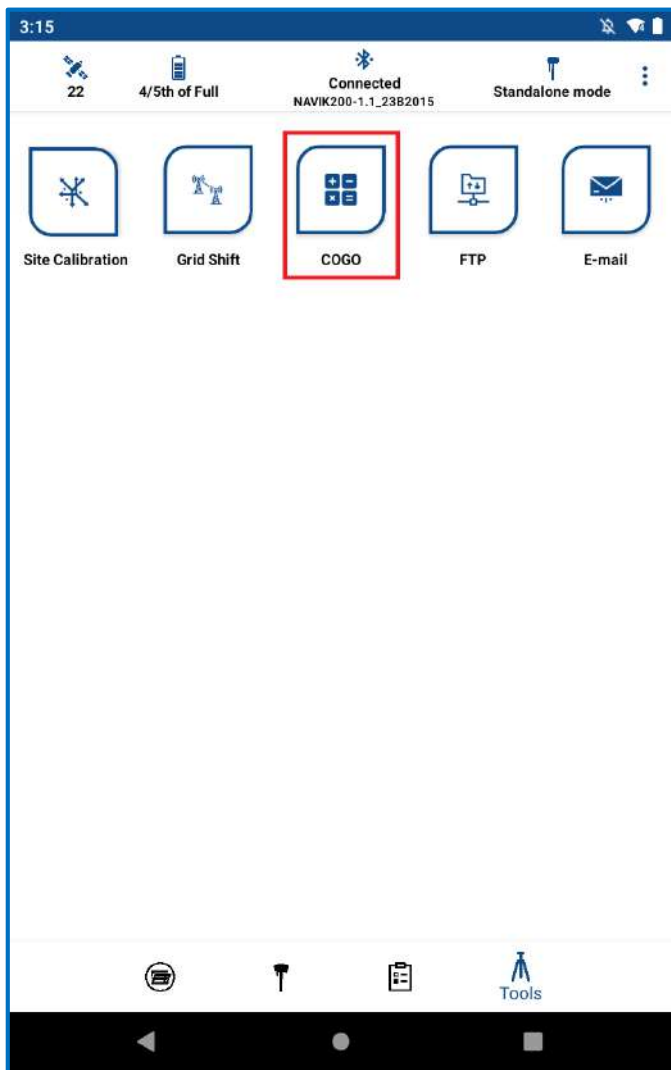




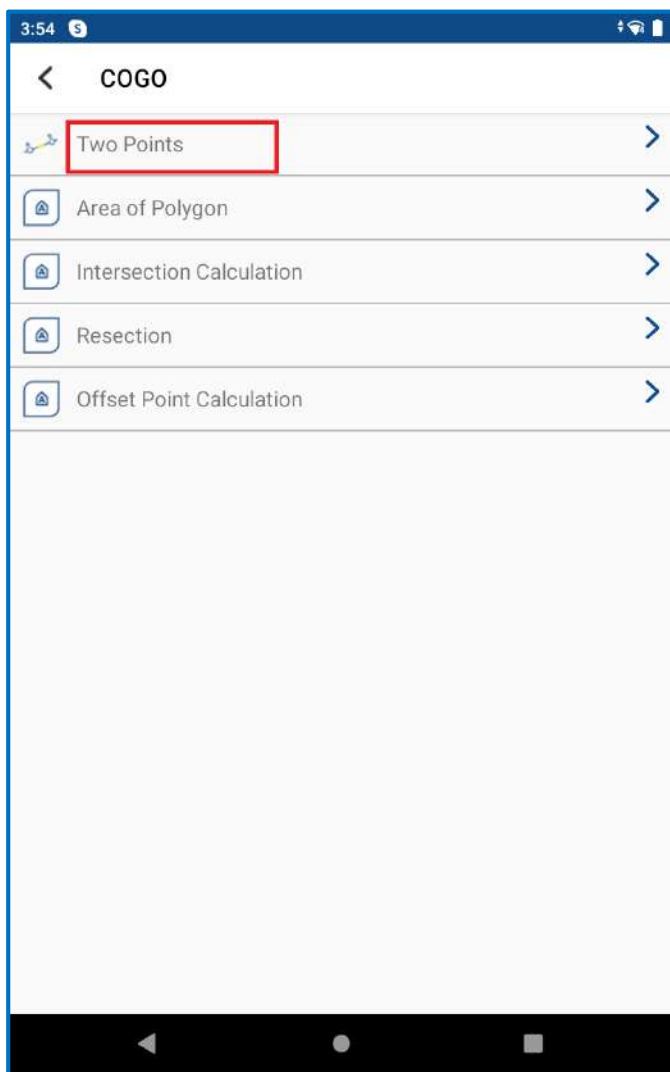


7 Cogo

Click on Cogo icon



7.1 Two Points



3:36

< Two Points

Start Point

Pt Name

N

E

Z

End Point

Pt Name

N

E

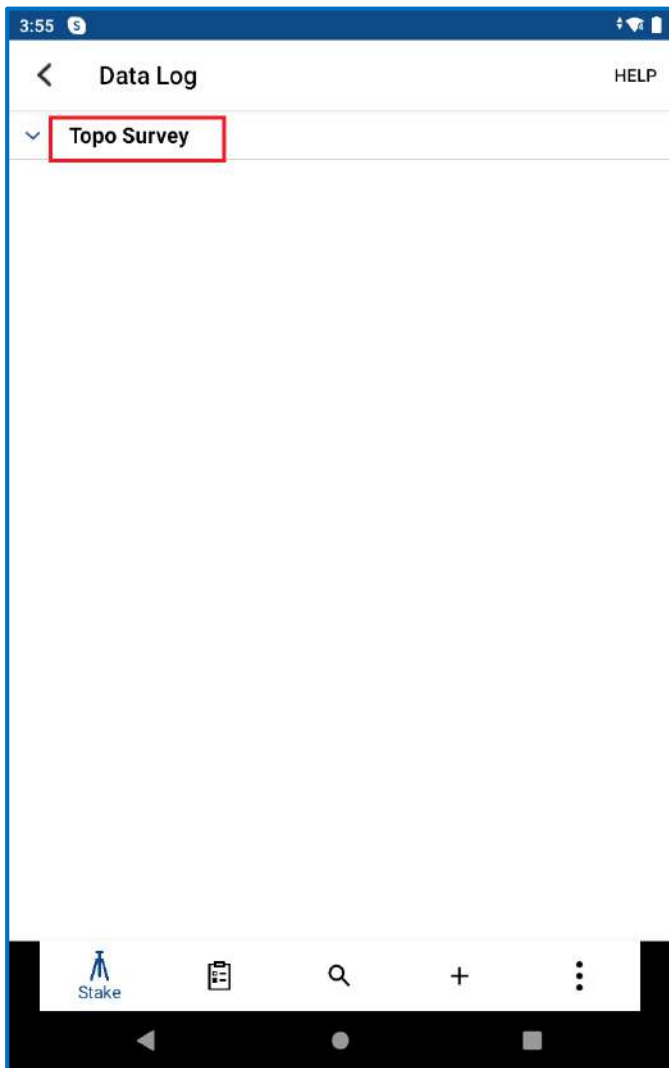
Z

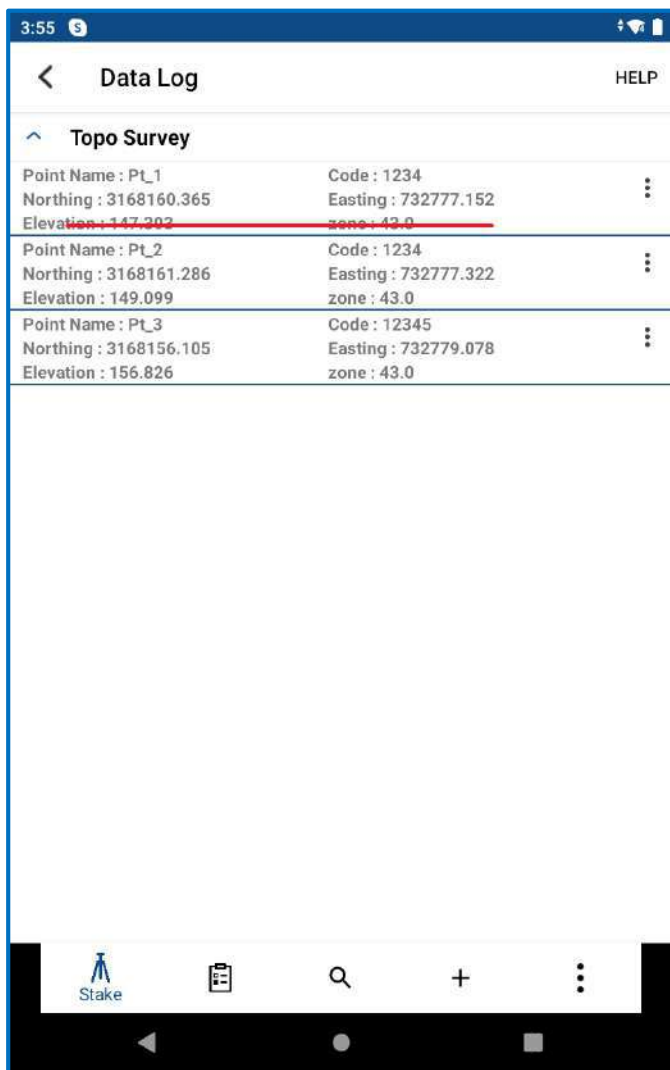
Azimuth :

H. Dist :

Distance :

COMPUTE





The screenshot shows a mobile application interface titled "Two Points". At the top, the status bar displays the time 3:55 and various icons. Below the title bar, there are navigation icons: a back arrow, a circular icon with a crosshair, a list icon, and a location pin icon. The interface is divided into two main sections: "Start Point" and "End Point".

Start Point Section:

- Pt Name:
- N:
- E:
- Z:

End Point Section:

- Pt Name:
- N:
- E:
- Z:

Below the input fields, there are three labels for calculated values:

- Azimuth :
- H. Dist :
- Distance :

At the bottom of the form is a large blue button labeled "COMPUTE". The bottom of the screen shows the standard Android navigation bar with back, home, and recent apps buttons.

3:55

Two Points

Start Point

Pt Name: Pt_1

N: 3168160.364714961

E: 732777.151878072

Z: 147.3027

End Point

Pt Name: Pt_2

N: 3168161.286200676

E: 732777.3220295404

Z: 149.0994

Azimuth :
H. Dist :
Distance :

COMPUTE

3:55

Two Points

N: 3168160.364714961

E: 732777.151878072

Z: 147.3027

End Point

Pt Name: Pt_2

N: 3168161.286200676

E: 732777.3220295404

Z: 149.0994

Azimuth :

H.Distance :

Distance : 0.937 m

V.Distance :

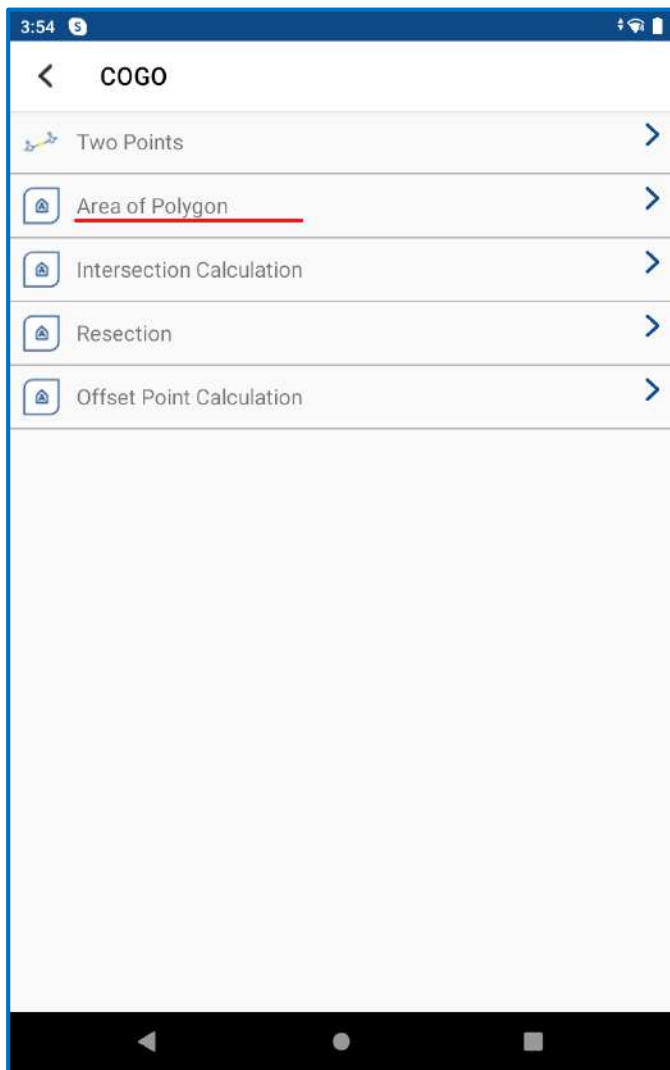
h : 1.797 m

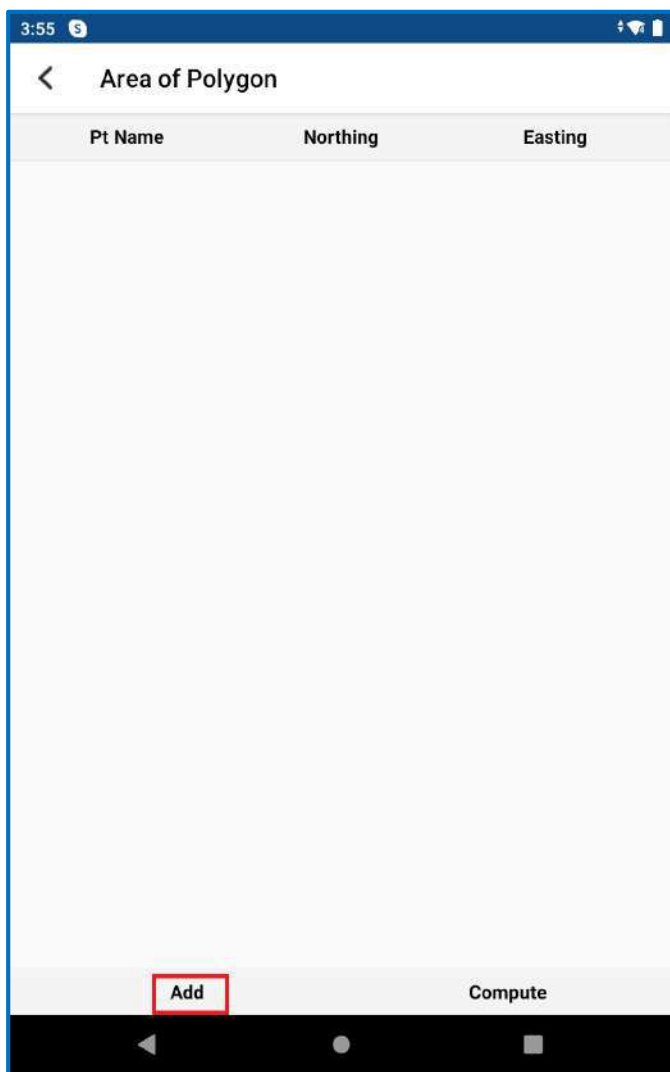
X : 0.921 m

Y : 0.17 m

COMPUTE

7.2 Area of Polygon





3:55

< Add Polygon Points

Pt Name:

N:

E:

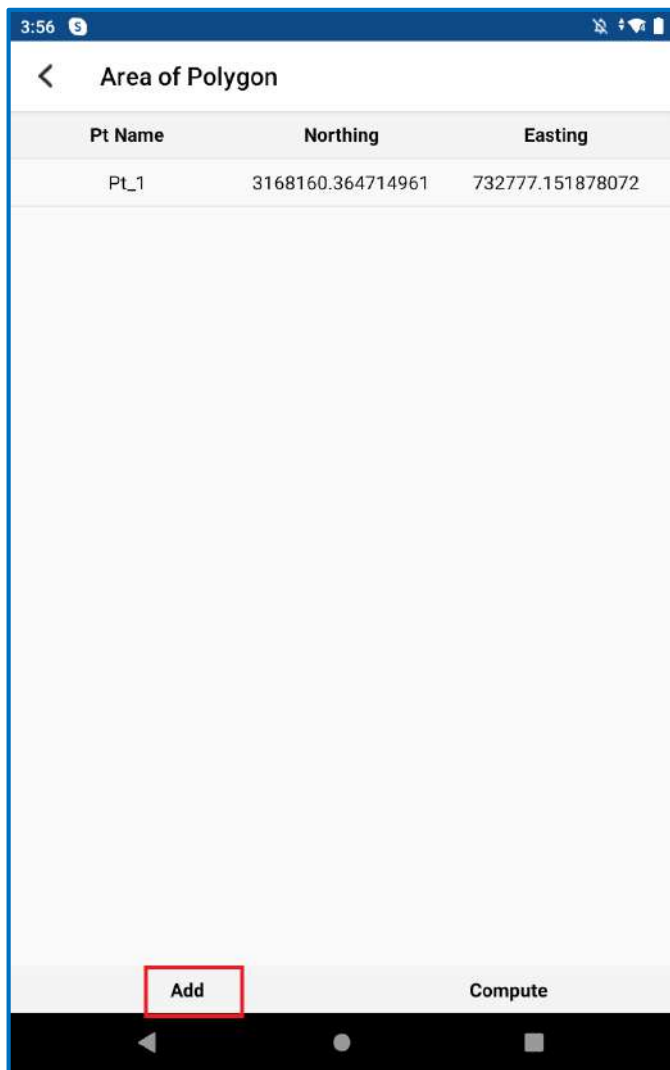
Z:

SAVE

The screenshot displays the 'Add Polygon Points' interface. At the top, the status bar shows the time 3:56 and various system icons. Below the title bar, there are navigation icons for back, home, and location. The main form contains the following fields:

Field	Value
Pt Name	Pt_1
N	3168160.364714961
E	732777.151878072
Z	147.3027

A blue 'SAVE' button is located below the coordinate fields.



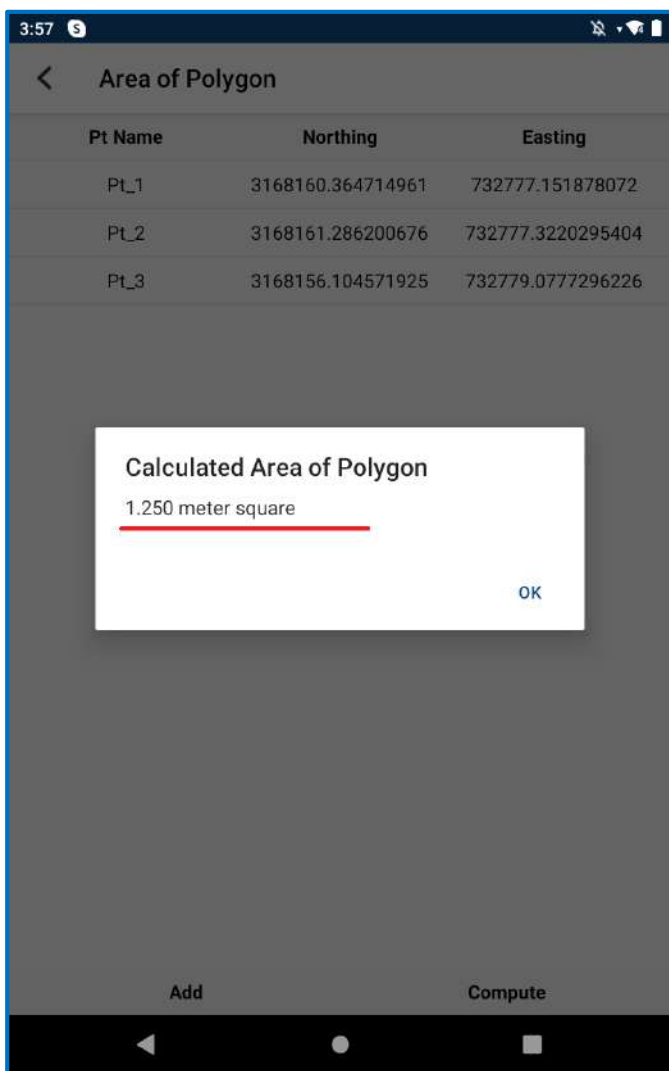


3:56

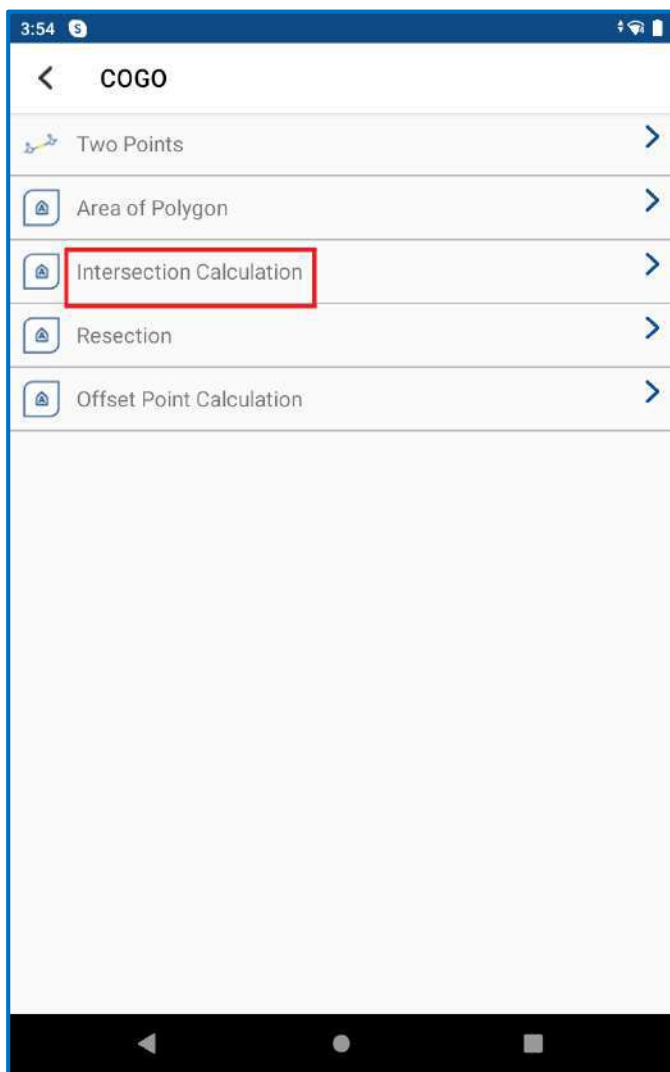
< Area of Polygon

Pt Name	Northing	Easting
Pt_1	3168160.364714961	732777.151878072
Pt_2	3168161.286200676	732777.3220295404
Pt_3	3168156.104571925	732779.0777296226

Add Compute



7.3 Intersection Calculation



3:57

Intersection Calculation

Note : Known Point A,B(on the first straight line) and C,D(on the second straight line). Calculate the coordinate of intersectional Point P.

Point A

N: 3168160.364714961

E: 732777.151878072

Point B

N: 3168161.286200676

E: 732777.3220295404

Point C

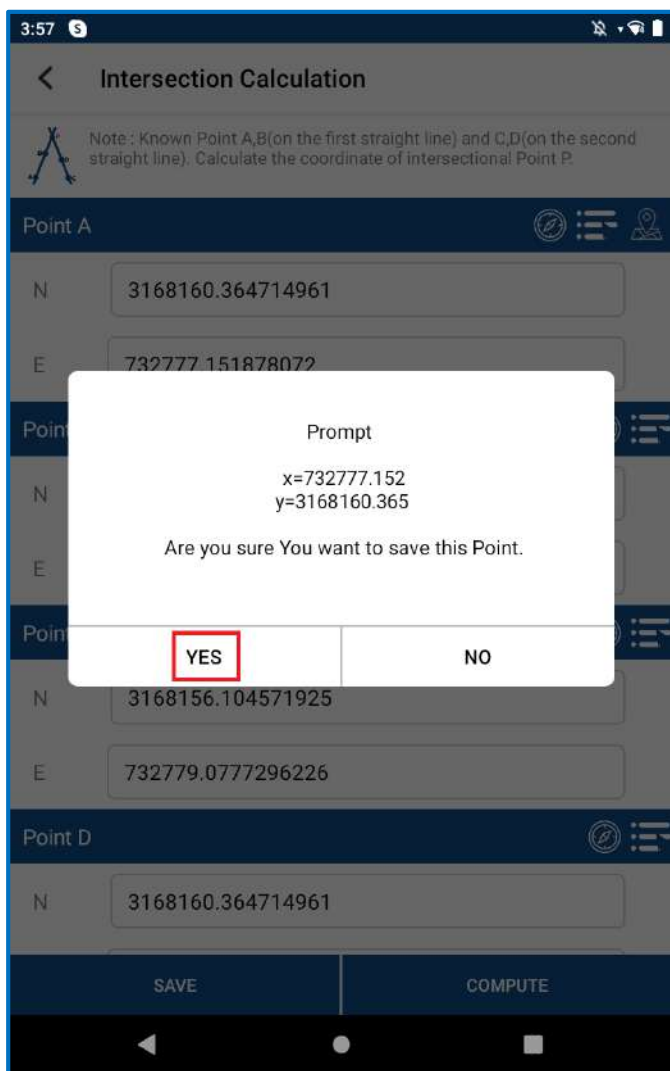
N: 3168156.104571925

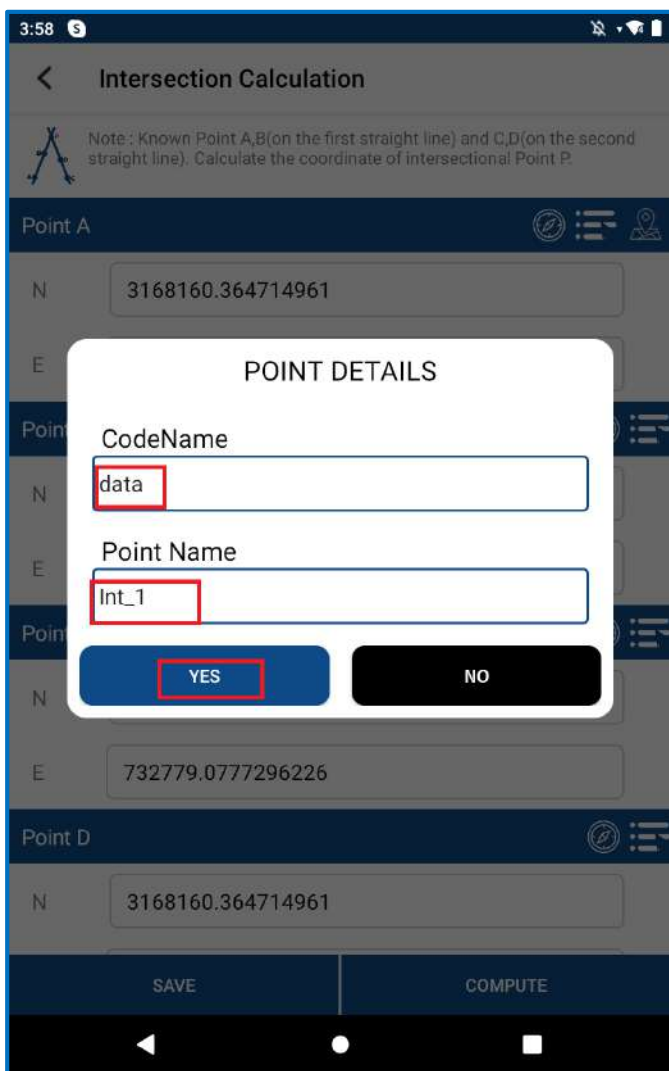
E: 732779.0777296226

Point D

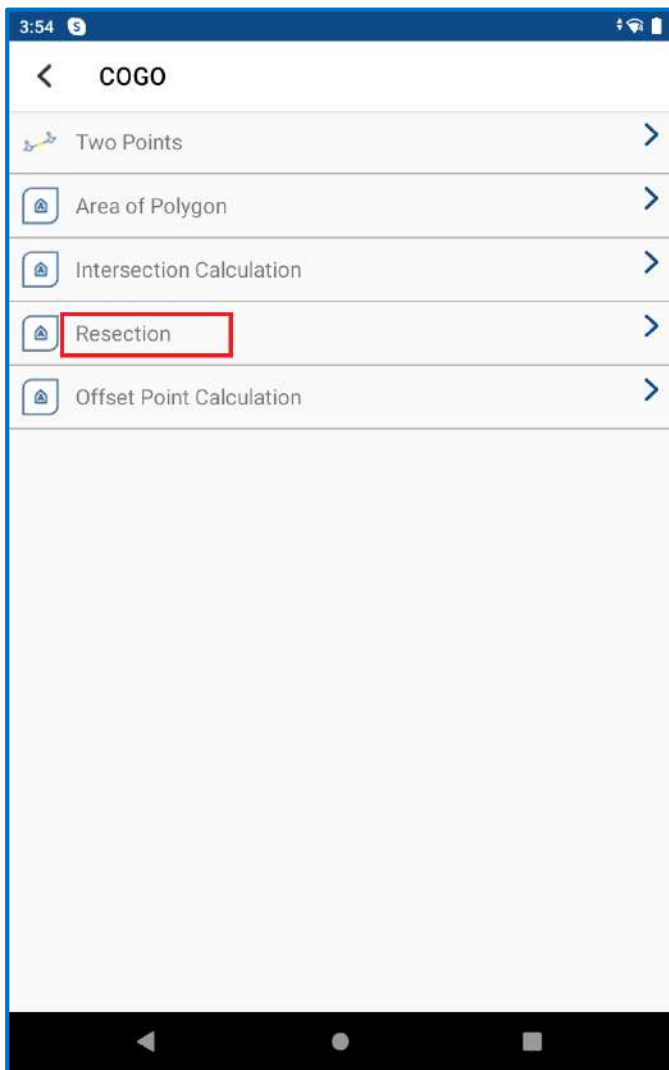
N: 3168160.364714961

SAVE COMPUTE





7.4 Resection



4:00


Resection

 Note: Known Point A and B, know distance L1,L2. Calculate the Point P.

Line L1,L2


L1 In Meters.

L2 In Meters.

Point A  

N

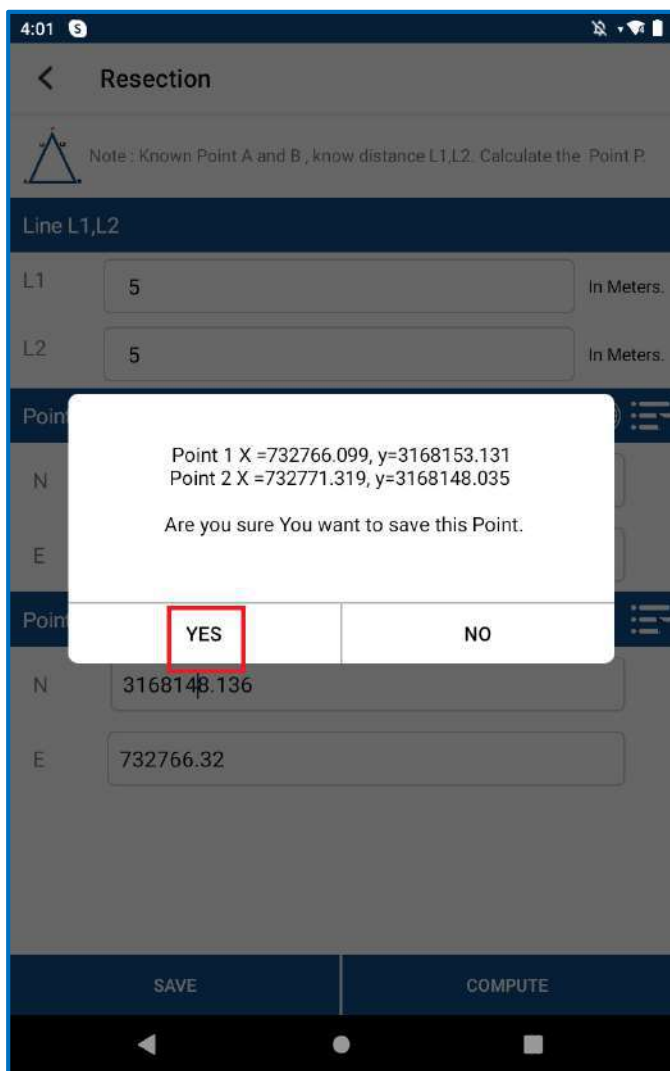
E

Point B  

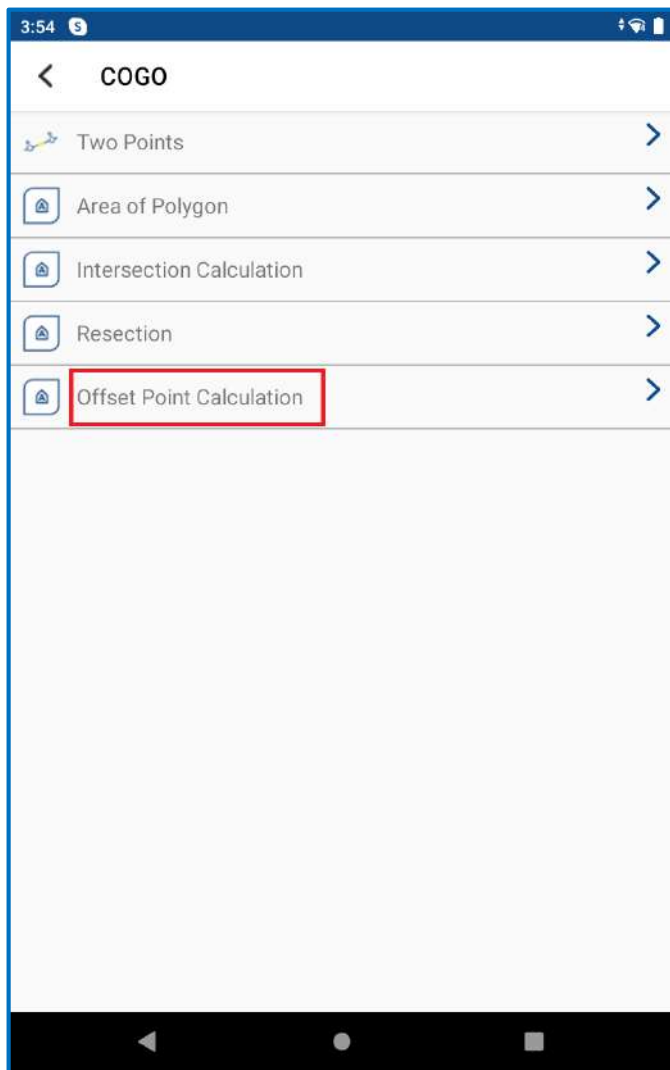
N

E

SAVE COMPUTE



7.5 Offset Point Calculation



4:03

Offset Point Calculation

Note: Known Point A and B, known distance AP(L1), known perpendicular offset distance L2. Calculate Point C.

Set Start Point

N: 3168160.364714961

E: 732777.151878072

Set End Point

N: 3168156.104571925

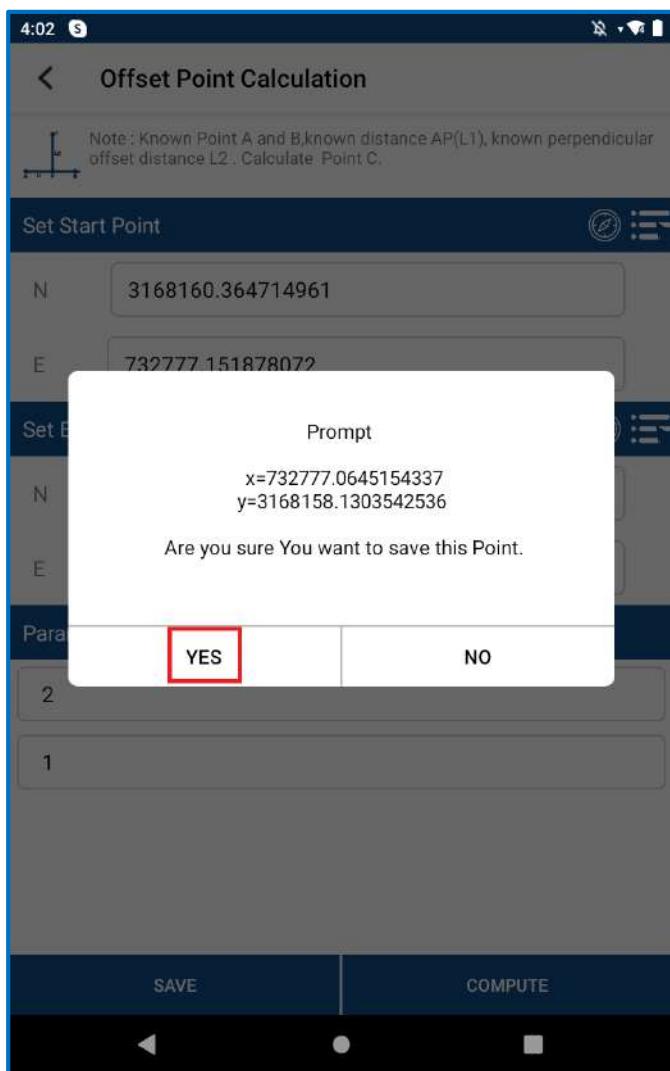
E: 732779.0777296226

Parameter Settings

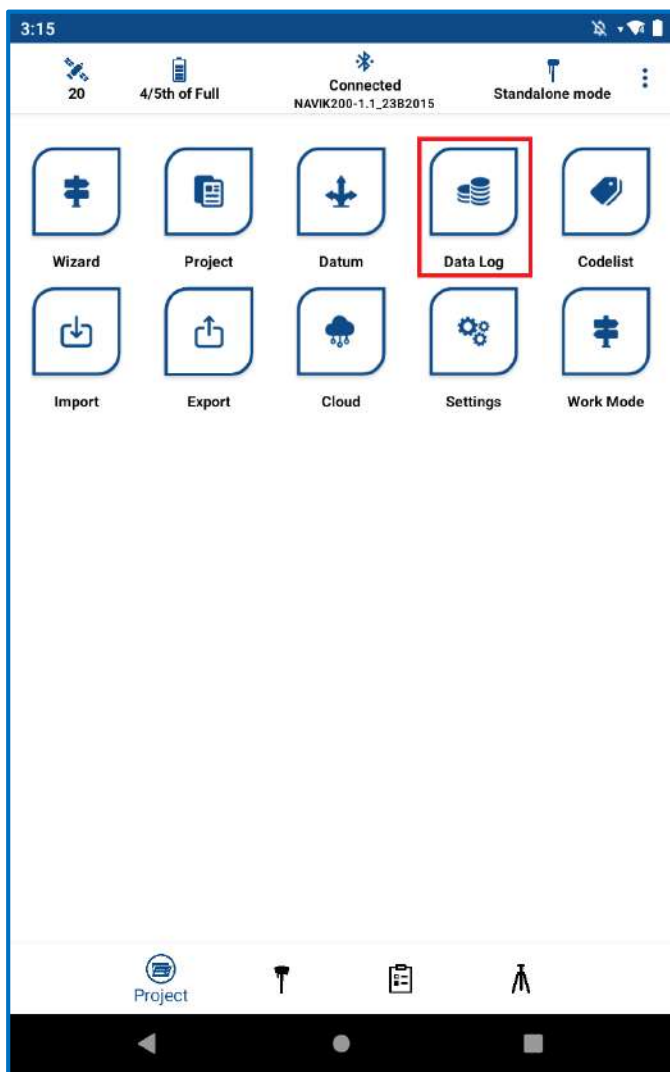
2

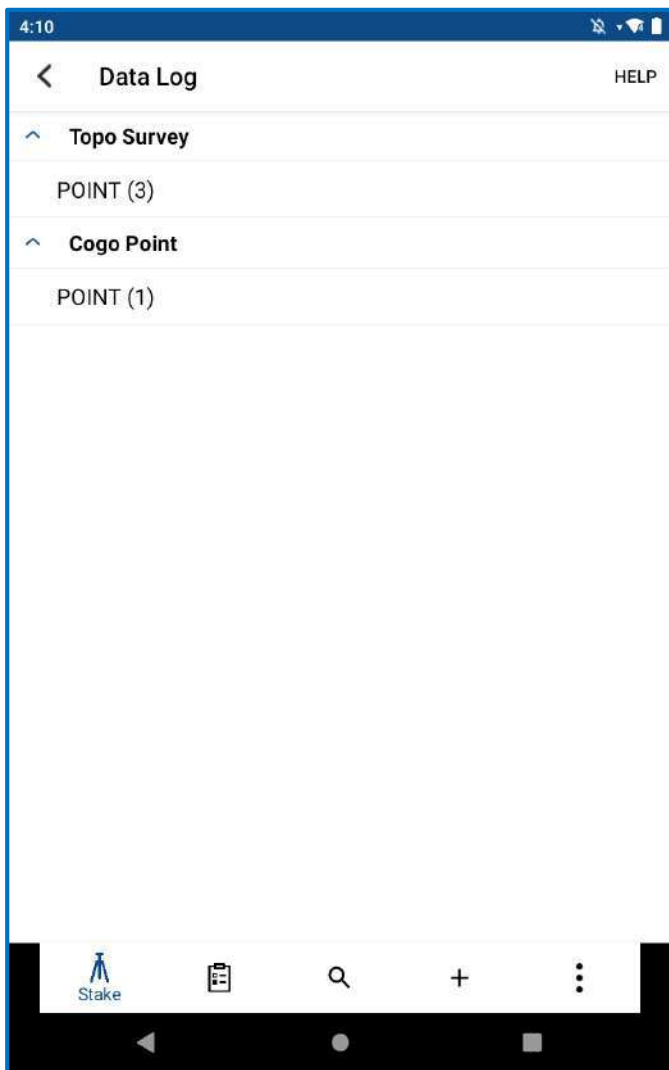
1

SAVE | COMPUTE

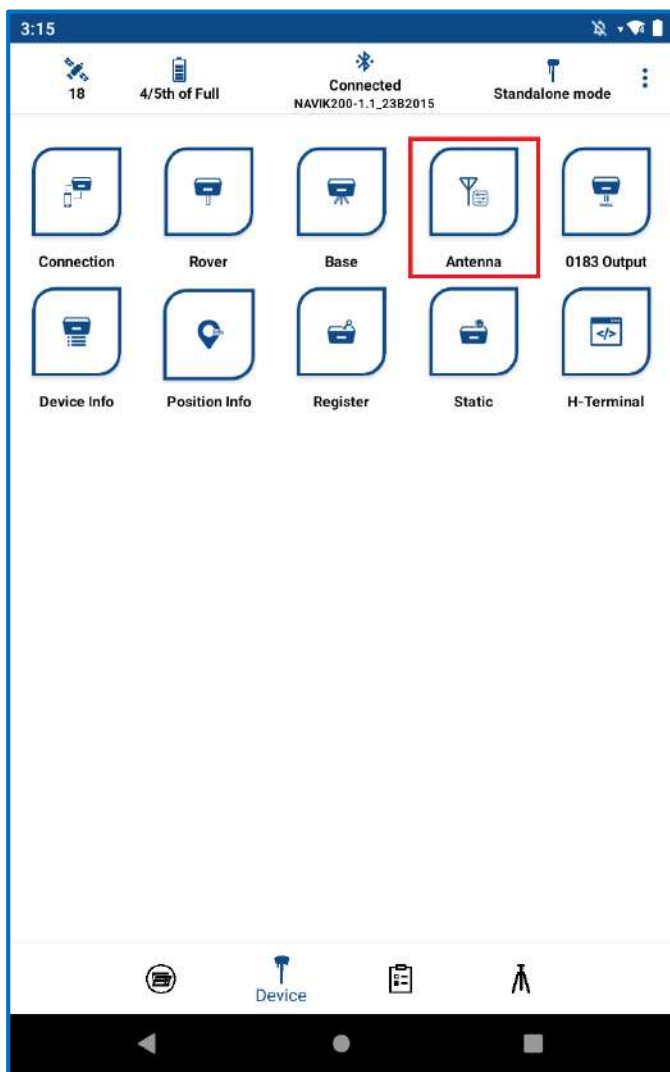


8 Data Log





9 Antenna



3:35

< Antenna Height ?

Measured Height

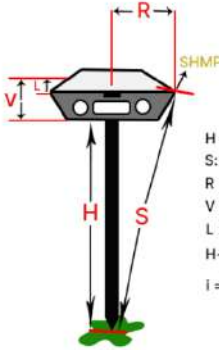
2

Model

NAVIK_200_1.1

Measure Point

Vertical

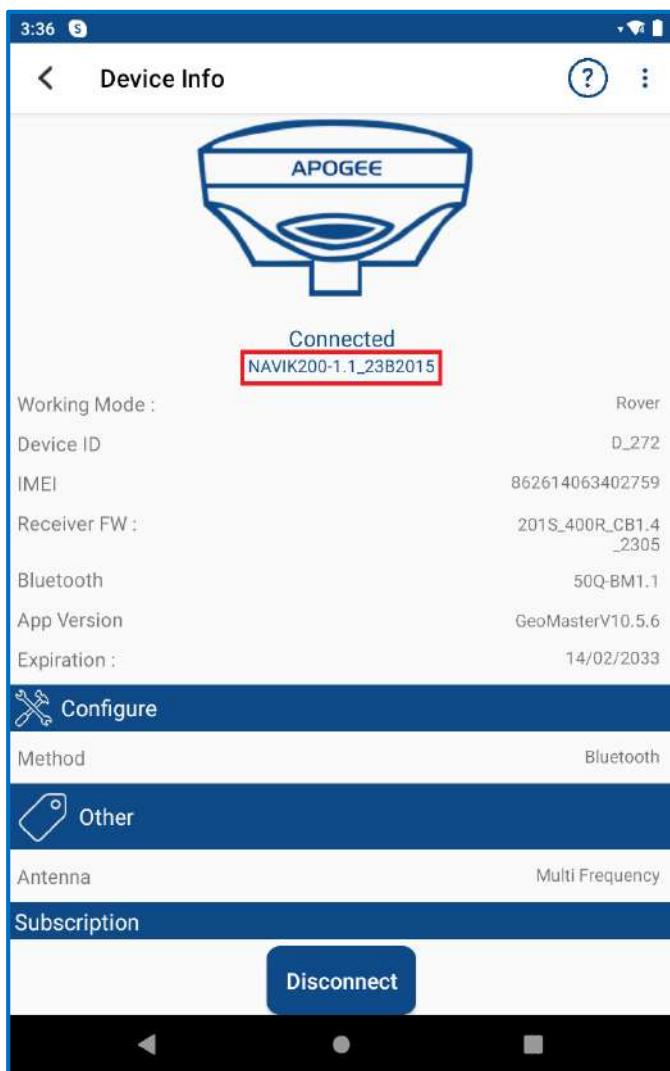


H : Bottom of receiver
 S : Slant
 R : Radius
 V : Distance from bottom to phase center
 L : Receiver mark to phase center
 H+V-L : Ground point to phase center
 $i = \sqrt{S^2 - R^2} + L$

OK

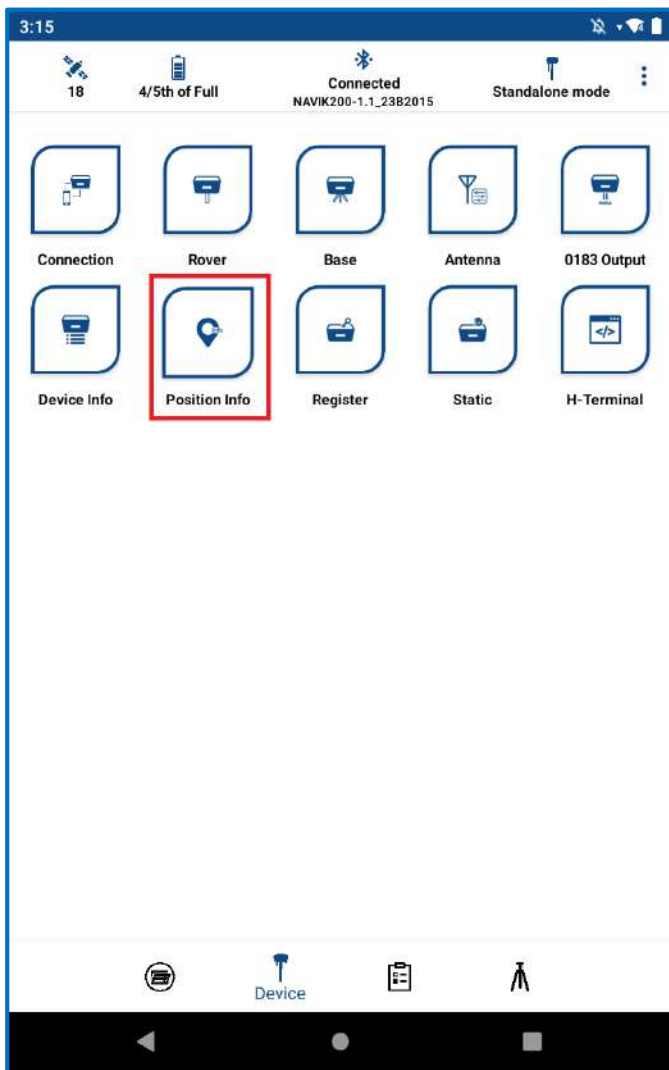
10 Device Info



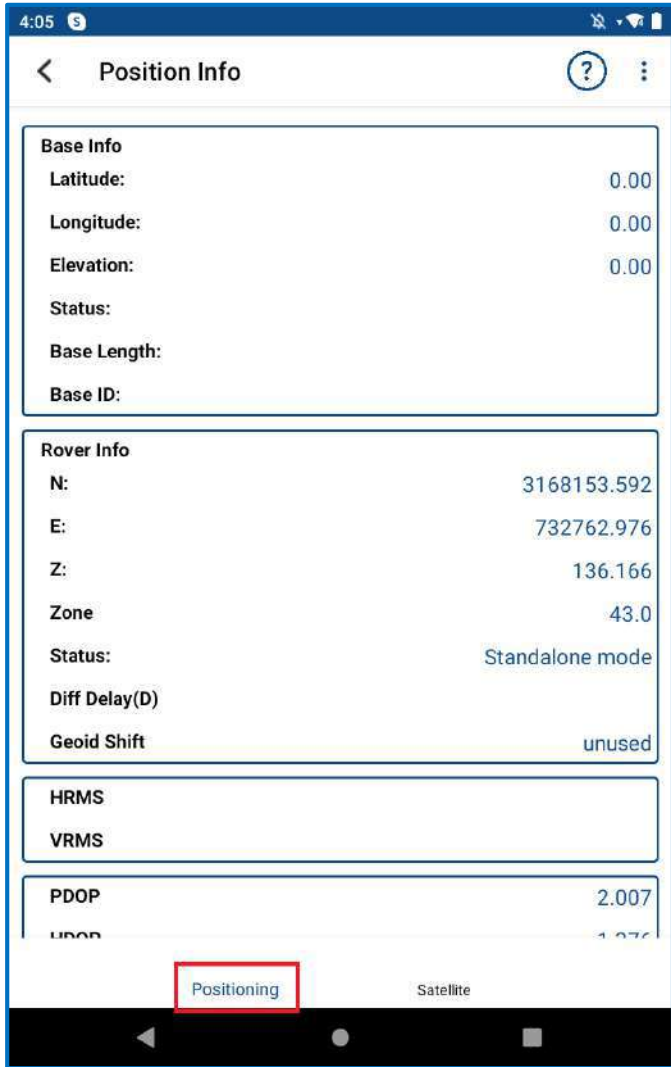


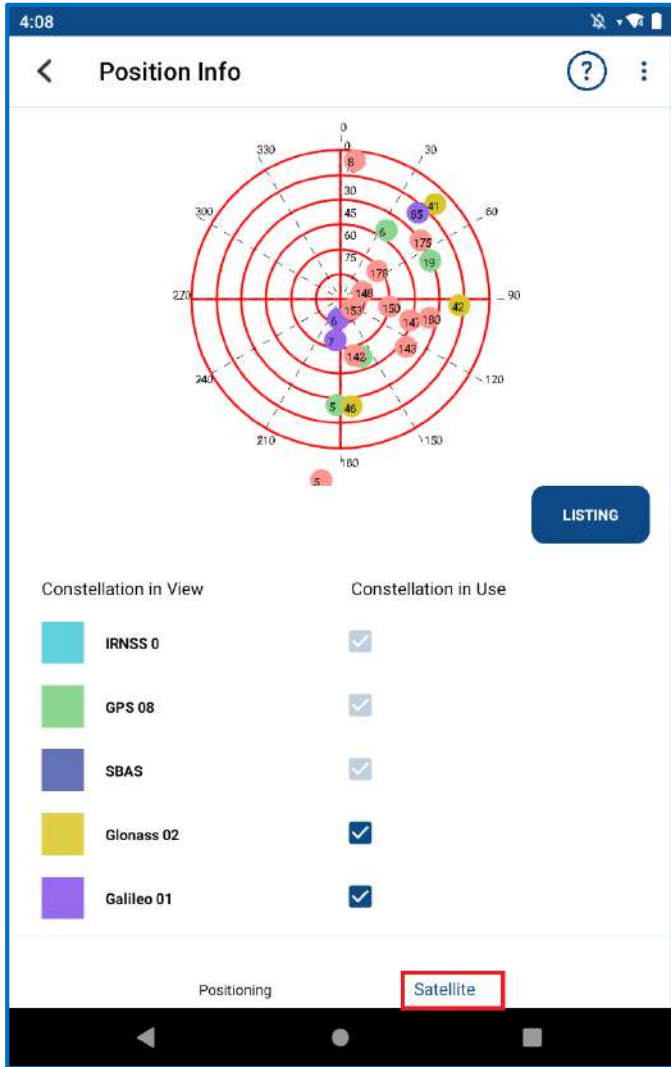
11 Position Info

Click on **Position Info** to know about the location of your device.

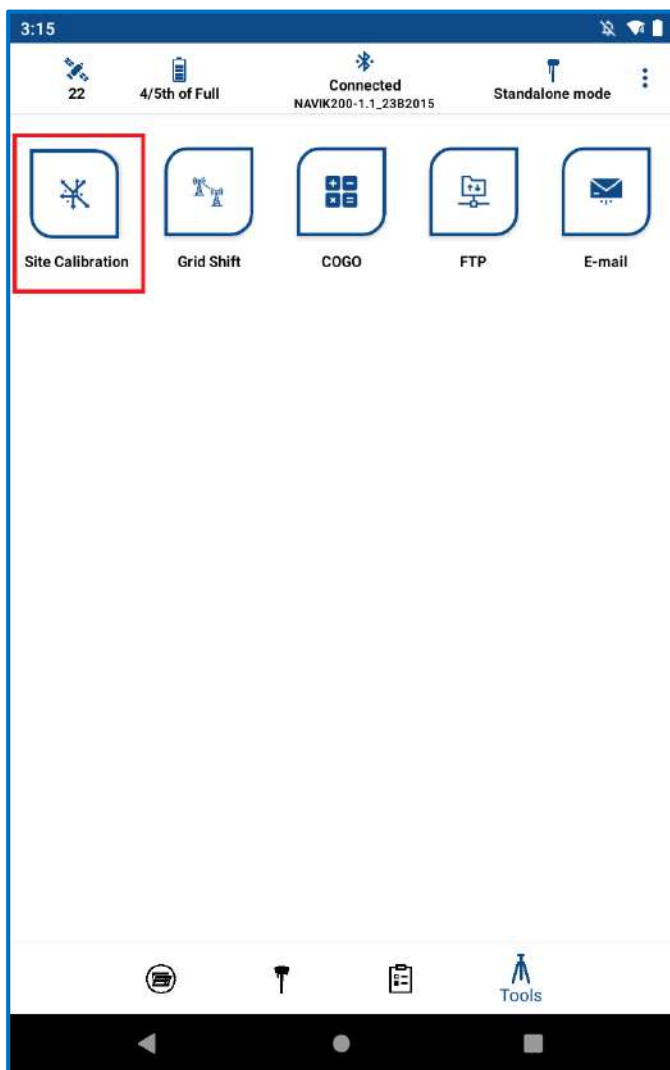


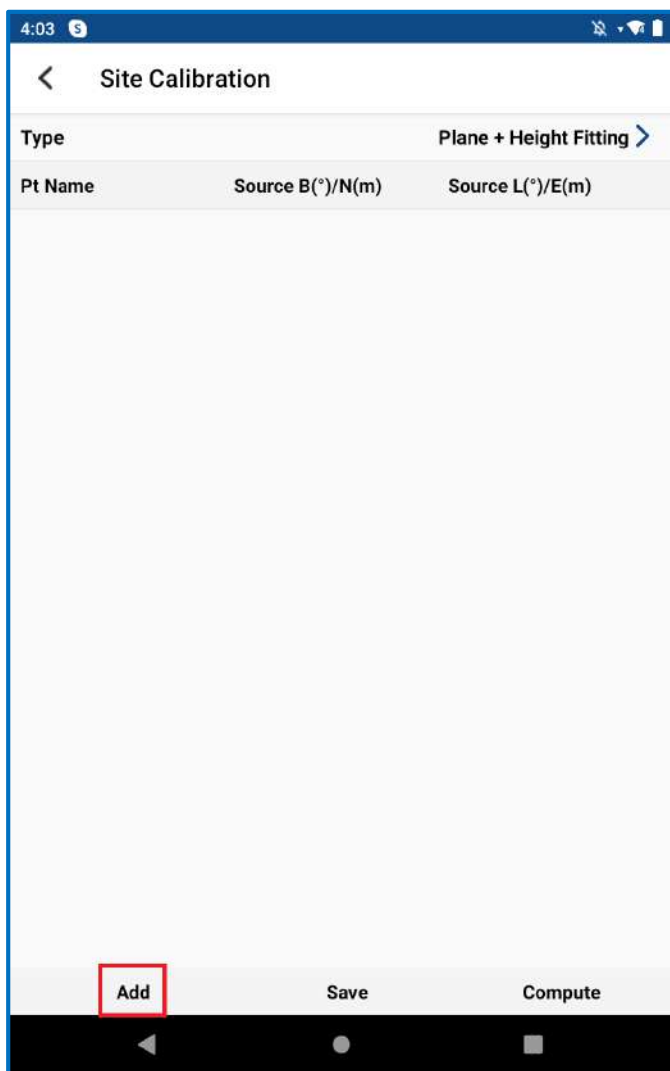
Click on positioning to know Northing, Easting, Latitude, Longitude etc.





12 Site Calibration





4:03

< Add Site Calibraion

Source(Store Point)

Pt Name Pt_1

N 3168160.364714961

E 732777.151878072

Z 147.3027

NEZ BLH

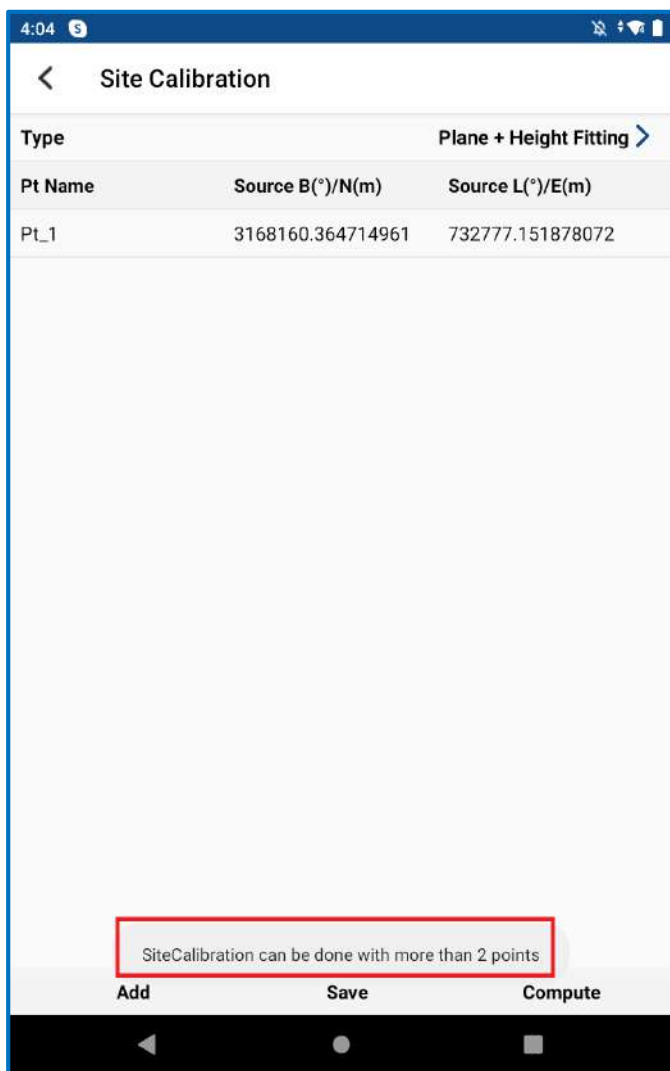
Local(Control Point)

N 3168156.104571925

E 732779.0777296226

Z 156.8257

SAVE

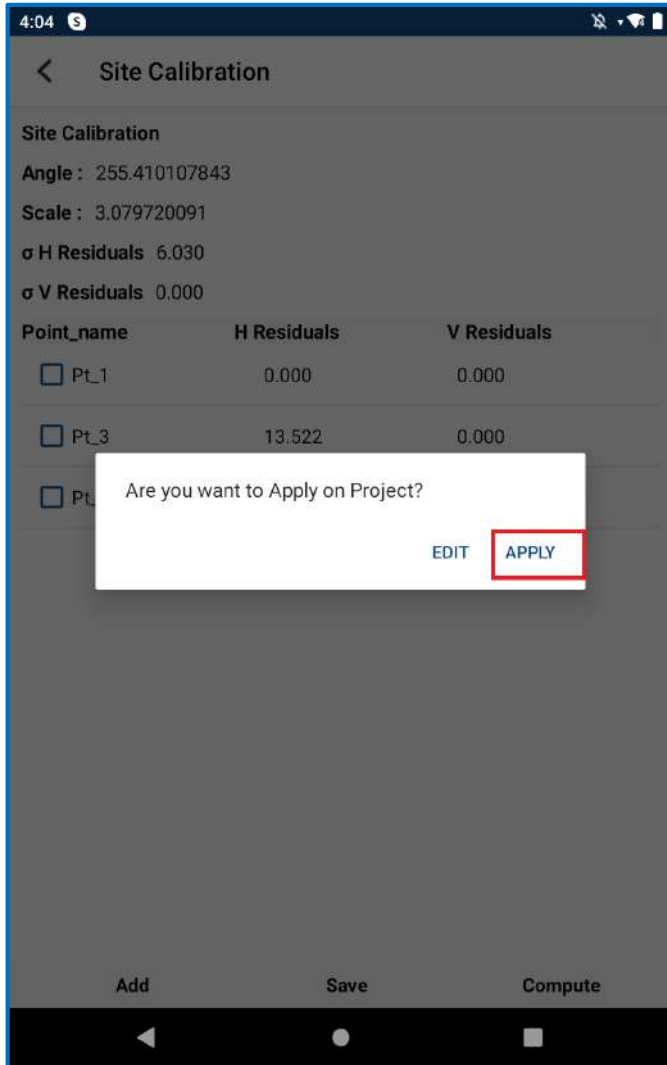


4:04

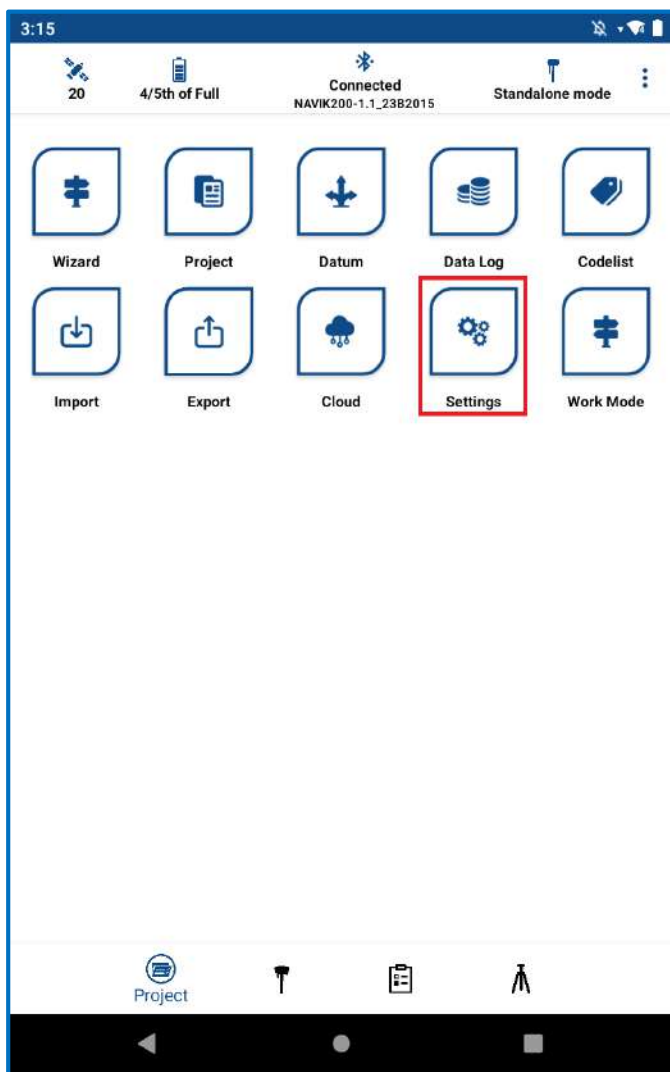
< Site Calibration

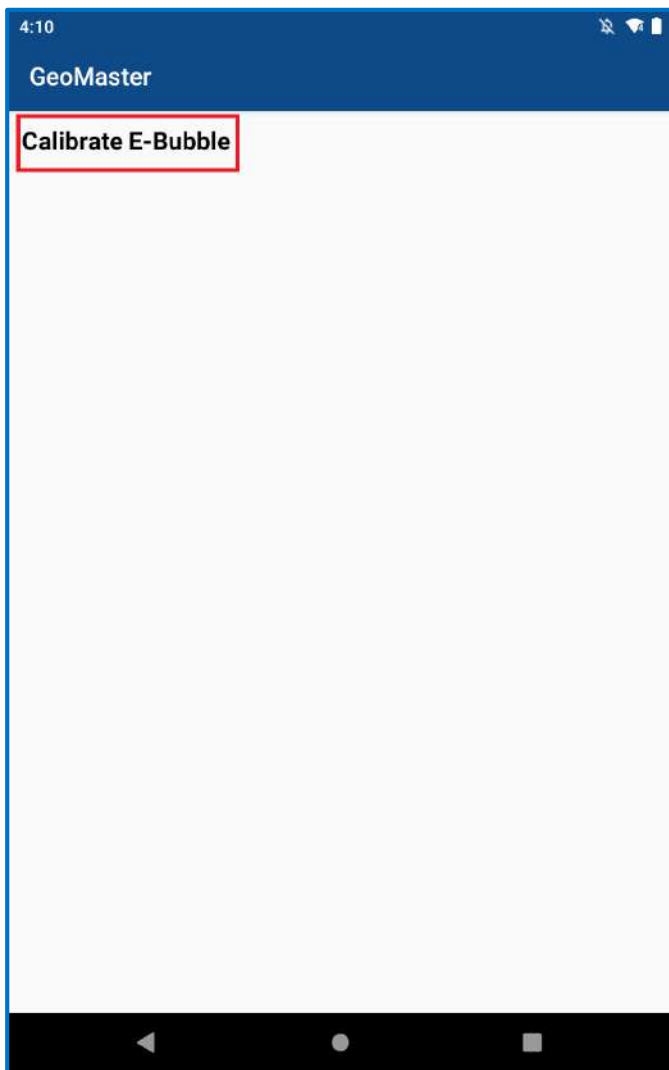
Type	Plane + Height Fitting >	
Pt Name	Source B(°)/N(m)	Source L(°)/E(m)
Pt_1	3168160.364714961	732777.151878072
Pt_3	3168156.104571925	732779.0777296226
Pt_2	3168161.286200676	732777.3220295404

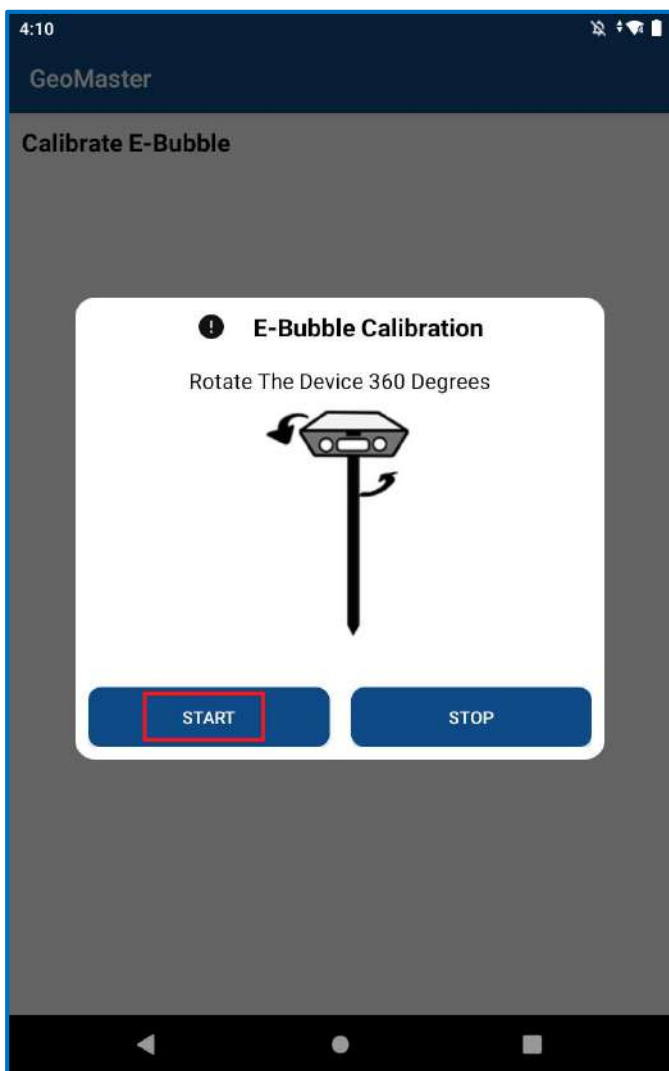
Add Save **Compute**

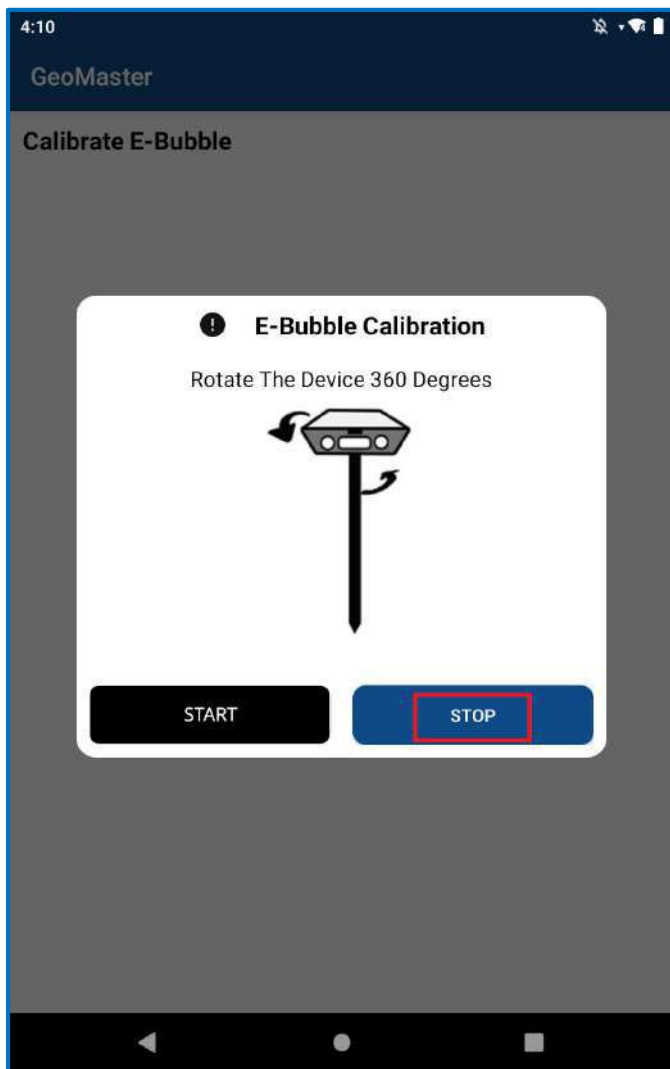


13 Settings



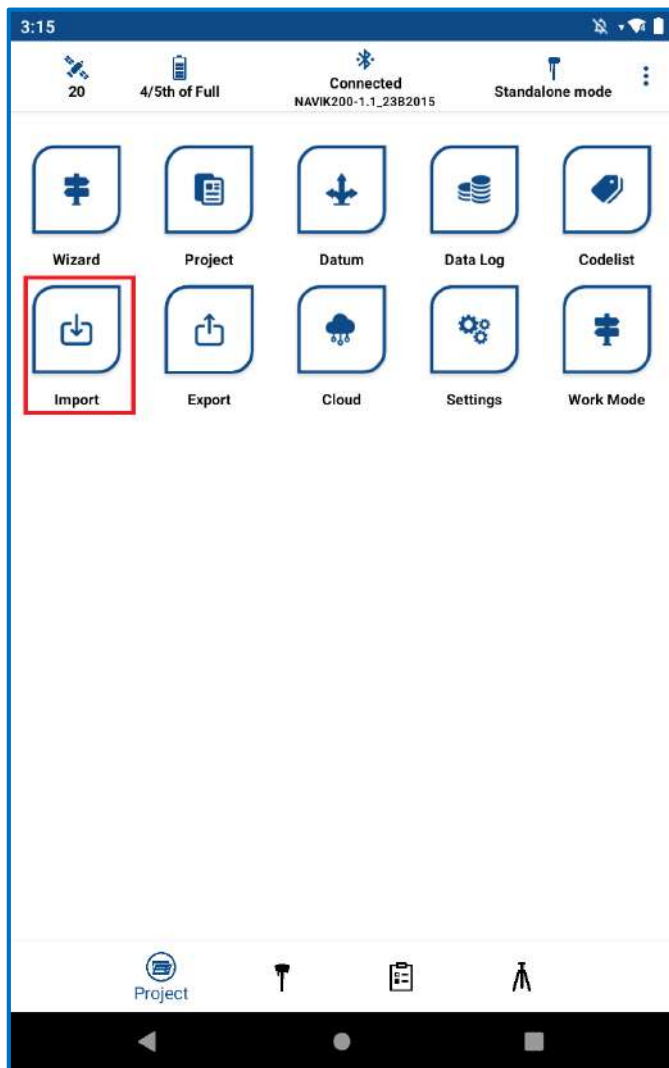






14 Data Import

To import file click on **Import** icon



Enter input type of file, Select file from the internal folder of controller and enter name of the file.

4:11

< Import

Input Type

Select Input Type

Select File

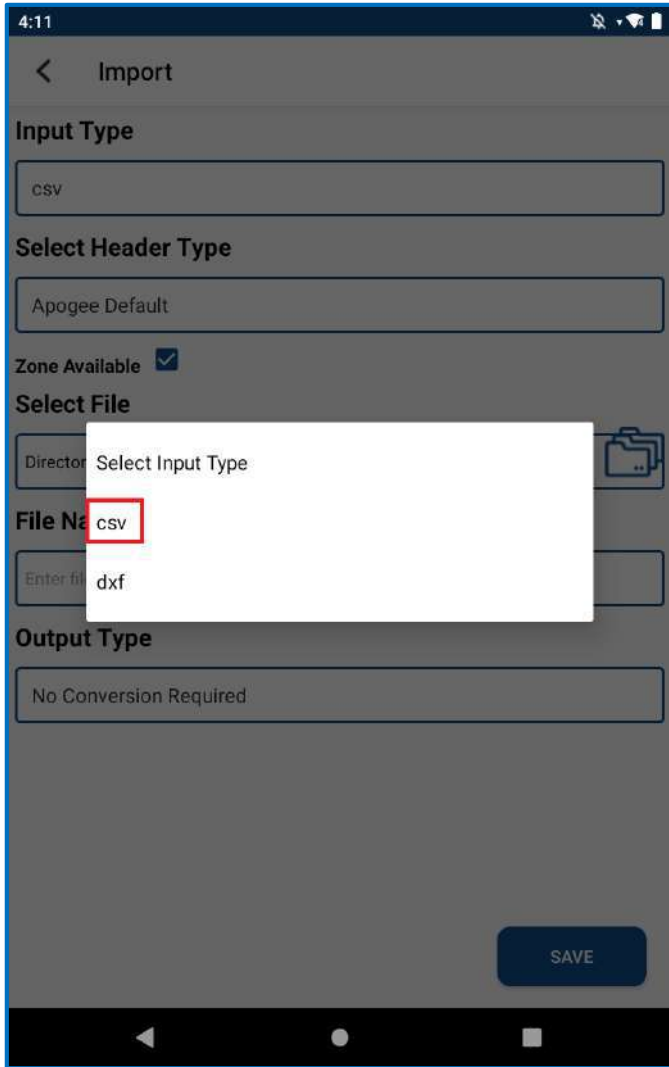
Directory

File Name

Enter file name

SAVE

You can import file in custom formats.



4:12

< Import

Input Type

CSV

Select Header Type

Apogee Default

Zone Available

Select File

Directory

File Name

fff

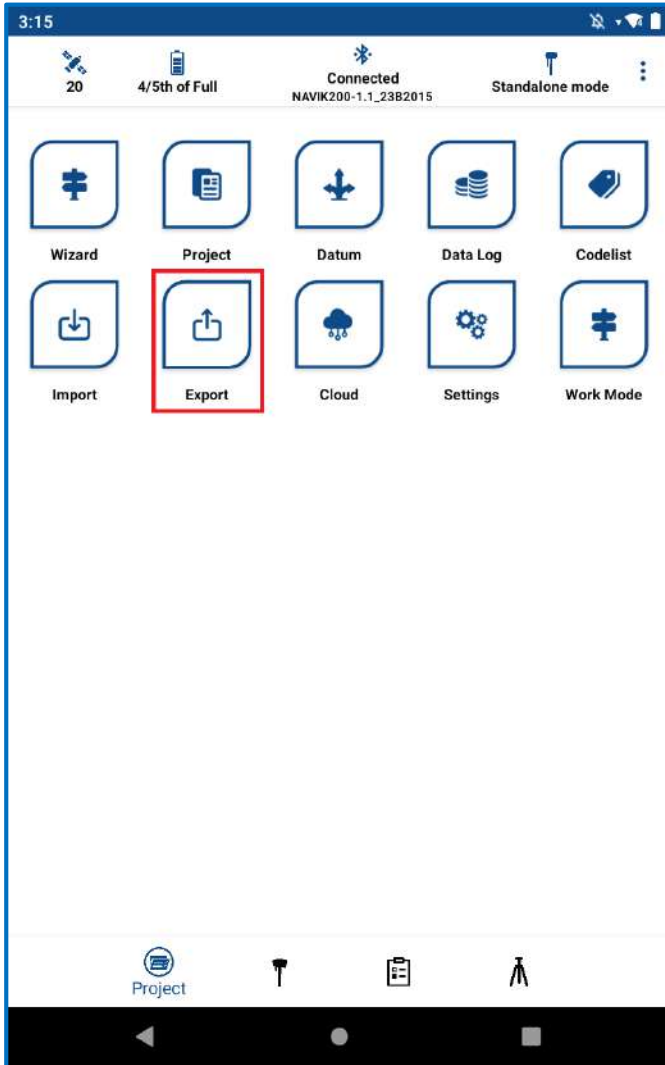
Output Type

No Conversion Required

SAVE

15 Data Export

After completing survey work to export data click on **Export** icon.

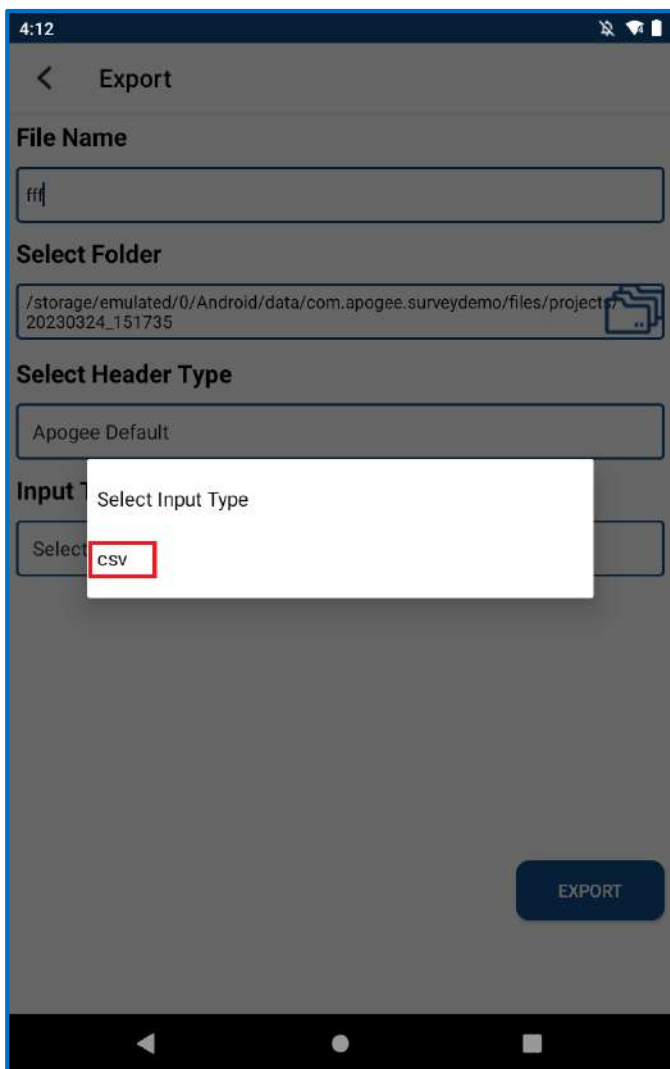


Enter file name what you want to give your file and select input type of the file from given options. Folder and header type are default.

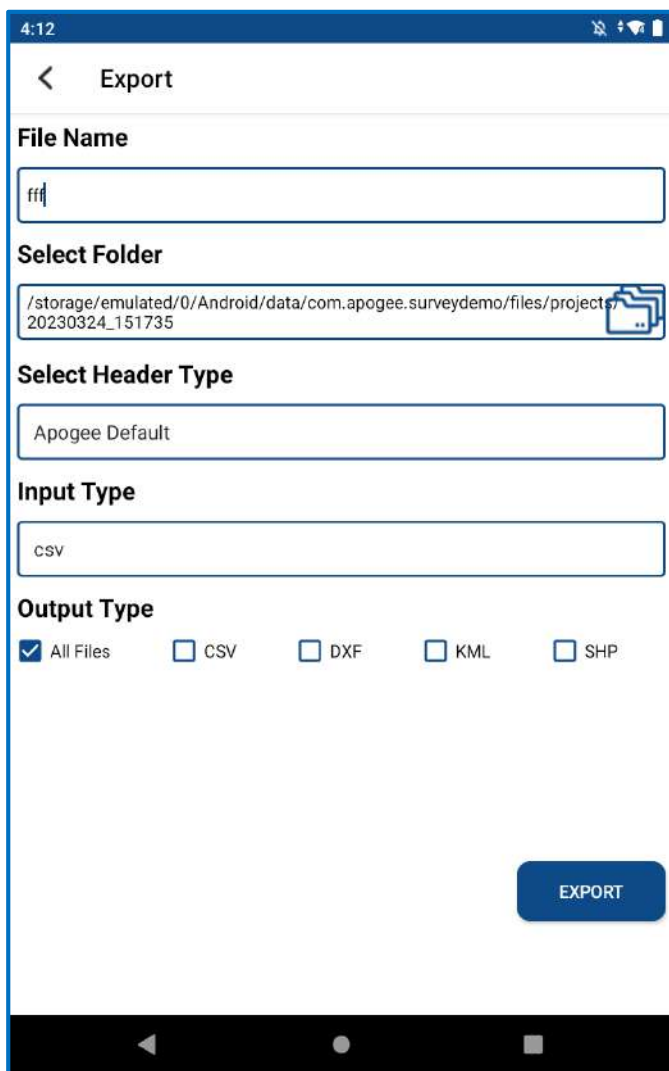
The screenshot displays the 'Export' interface of the Apogee GeoMaster Survey App. At the top, the time is 4:12. The title bar shows a back arrow and the word 'Export'. Below this, there are four main sections:

- File Name:** A text input field containing the placeholder text 'Enter file name'. This field is highlighted with a red border.
- Select Folder:** A text input field containing the path '/storage/emulated/0/Android/data/com.apogee.surveydemo/files/projects/20230324_151735'. To the right of the text is a folder icon.
- Select Header Type:** A text input field containing the text 'Apogee Default'.
- Input Type:** A text input field containing the placeholder text 'Select Input Type'. This field is highlighted with a red border.

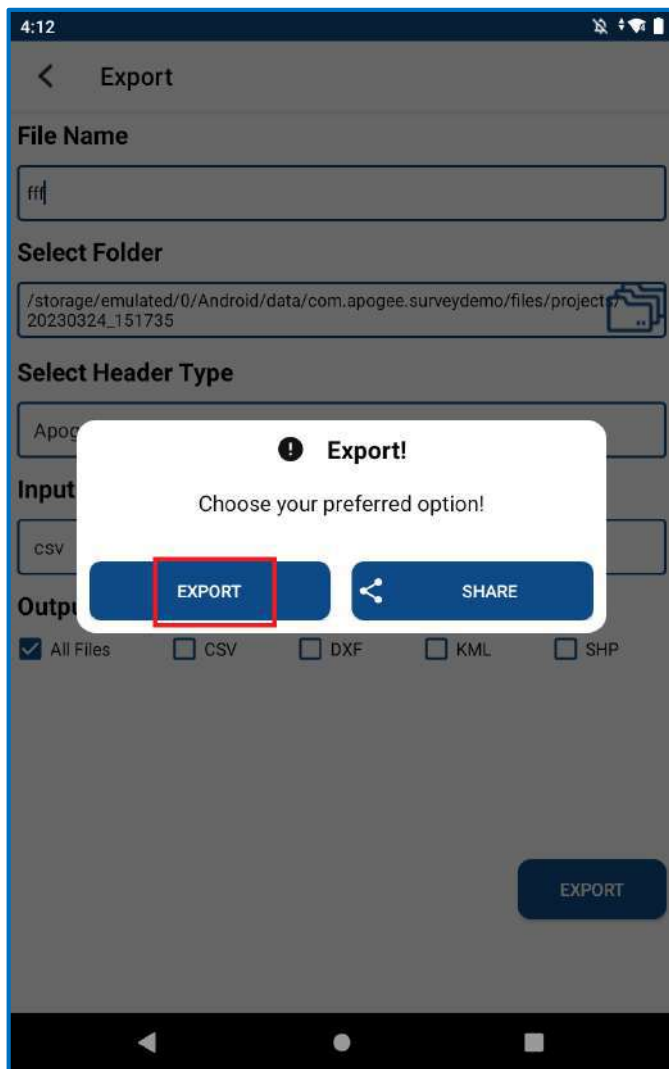
At the bottom right of the screen, there is a blue button labeled 'EXPORT'. The bottom of the screen shows the standard Android navigation bar.

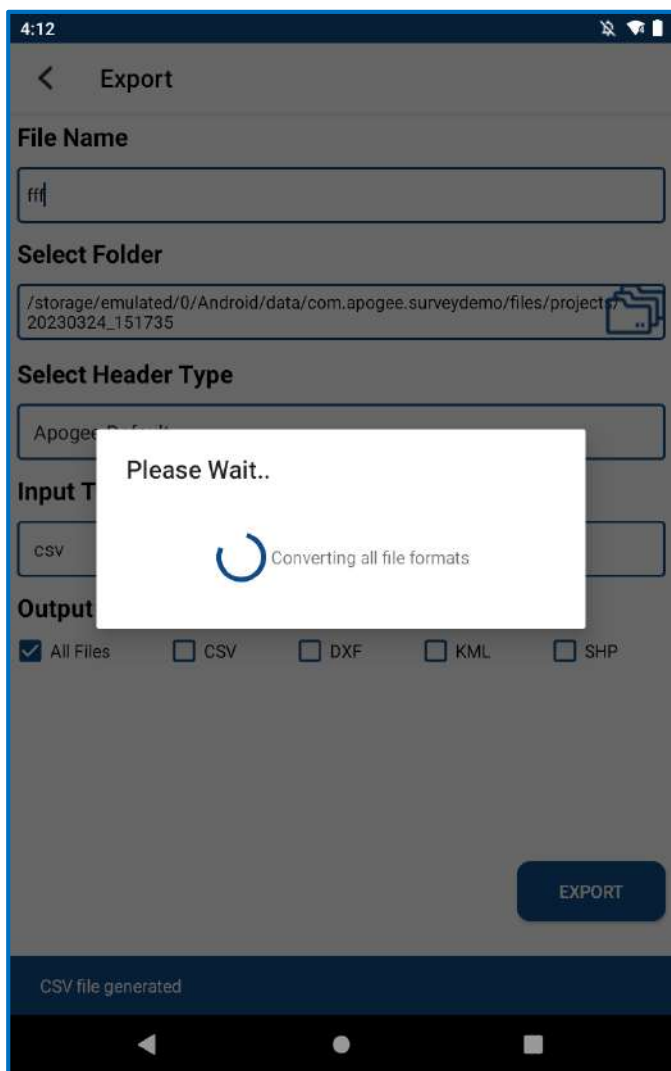


After selecting input type csv, select desired file format among given options.



Click on Export button to export the data.





Data will store on internal memory of controller. To open it visit path of the folder.

