# RTK Solution based on Android platform LandStar 7

September 2016

# Agenda

Software introduction

Feature and Benefits

RTK operation

# Software introduction

- LandStar 7 is our newest field-proven software solution for Android

- Designed for high precision surveying and mapping tasks for your everyday work

- LandStar7 supports various GNSS instruments, and features seamless work mode management, easy-to-use and easy-to-learn graphical user interface with simple operation

- Extensive data import/export formats and multiple types of measurement and stakeout methods ensure instant productivity

# Agenda

Software introduction
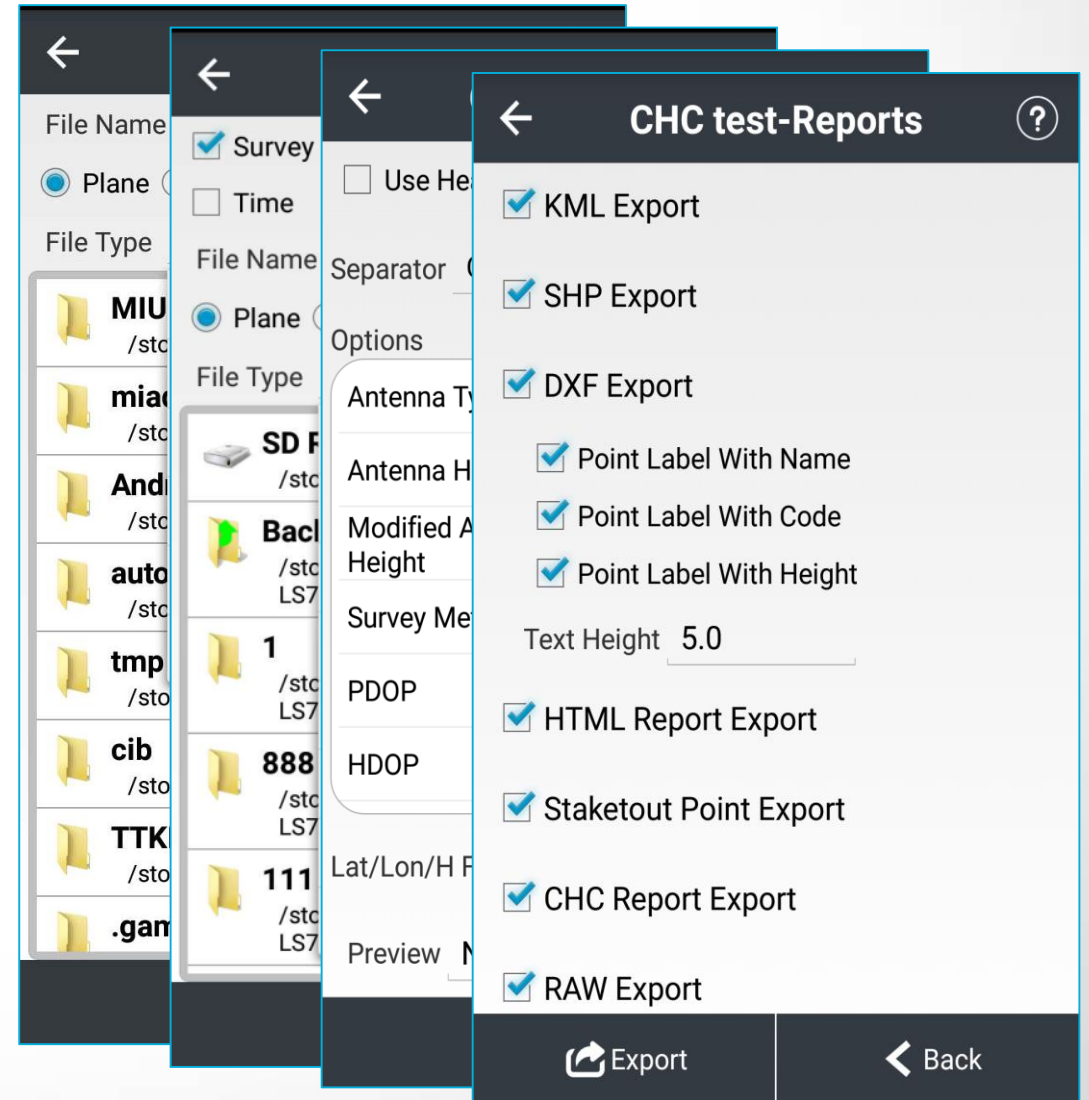
Feature and Benefits

RTK operation

# Feature and Benefits

➢ Powerful graphical surveying

- Support both OSM online map and offline map (DXF and ESRI SHP file formats) as the base map while surveying

- Selected points in a DXF or SHP file can be automatically added to the point's manager for staking out

- Multiple features are allowed to measure simultaneously

# Feature and Benefits

➢ **Extensive data import and export formats**

- Support CSV, DAT, TXT, DXF, SHP and NCN as the import format

- Support CSV, DAT, TXT, KML, DXF, SHP, RAW, HTML as the export format

- Support customize the import and export contents while choosing CSV, DAT, TXT format

# Feature and Benefits

➢ ## Multiple  localization methods

- Support 3 parameters

- Support 7 parameters

- Support 4 parameters

- Support Geoid undulation file and Grid shift file(GGF, BIN, GRD, GSF, GRI, ASC)

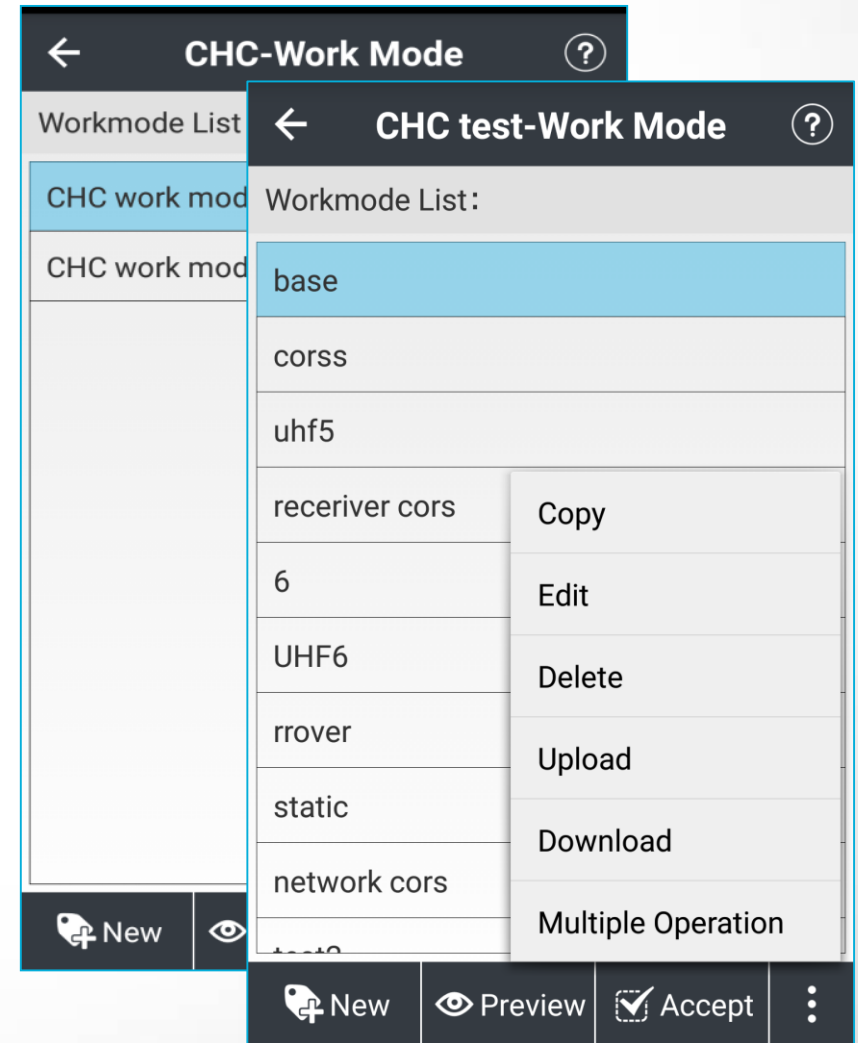- Support  RTCM transformation messages (1021-1027)

# Feature and Benefits

➢ Correction repeater function

• Support repeating correction data from RTK network to other rovers via the internal radio modem
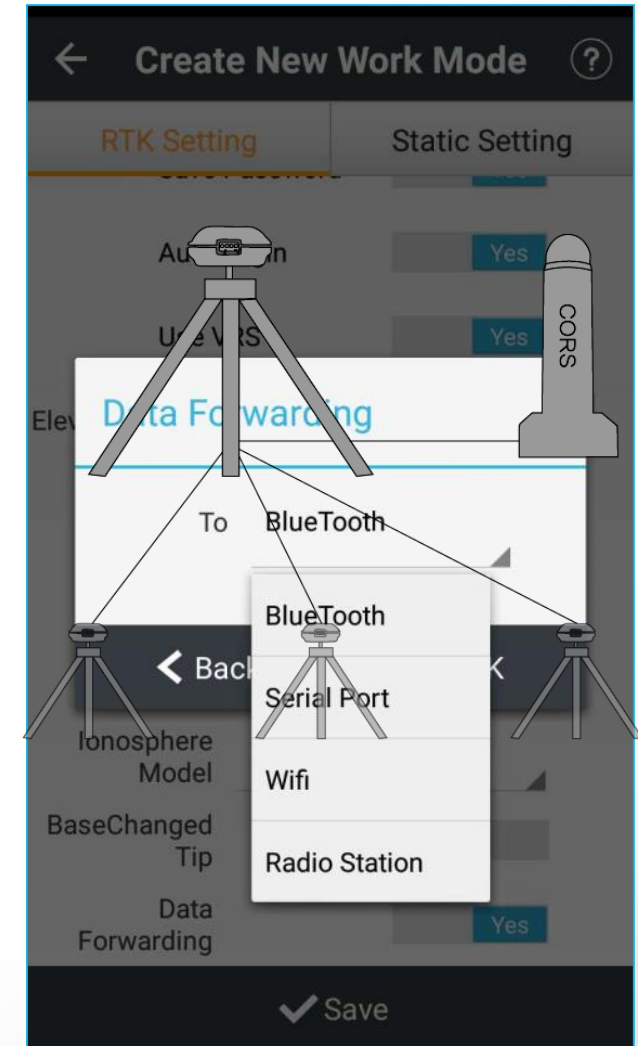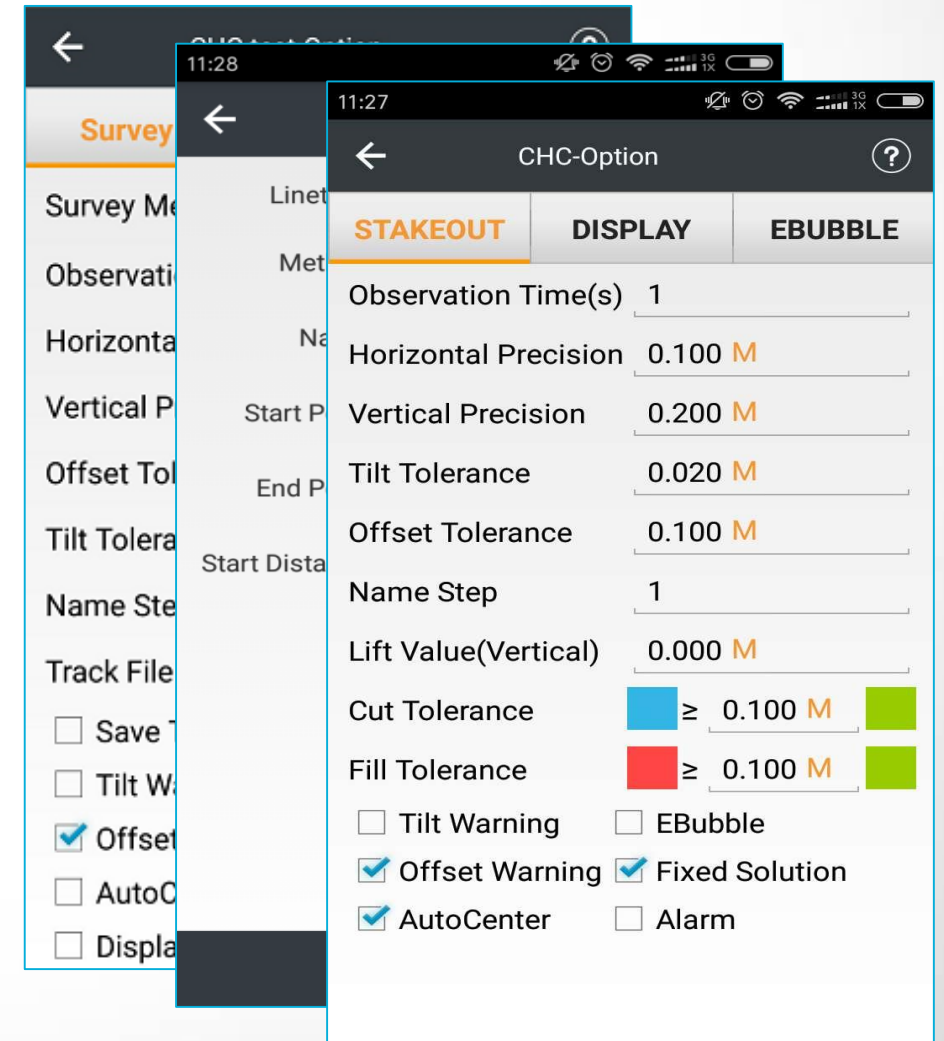
# Feature and Benefits

➢ Convenient work mode management

- Support presetting of common work modes

- Support selecting or switching work modes by one button push

# Feature and Benefits

➢ ## Various types of measurement

- Support points measurement (include topographic point, control point, quick point, continuous point, offset point and compensation point)

- Support lines measurement

- Support features measurement

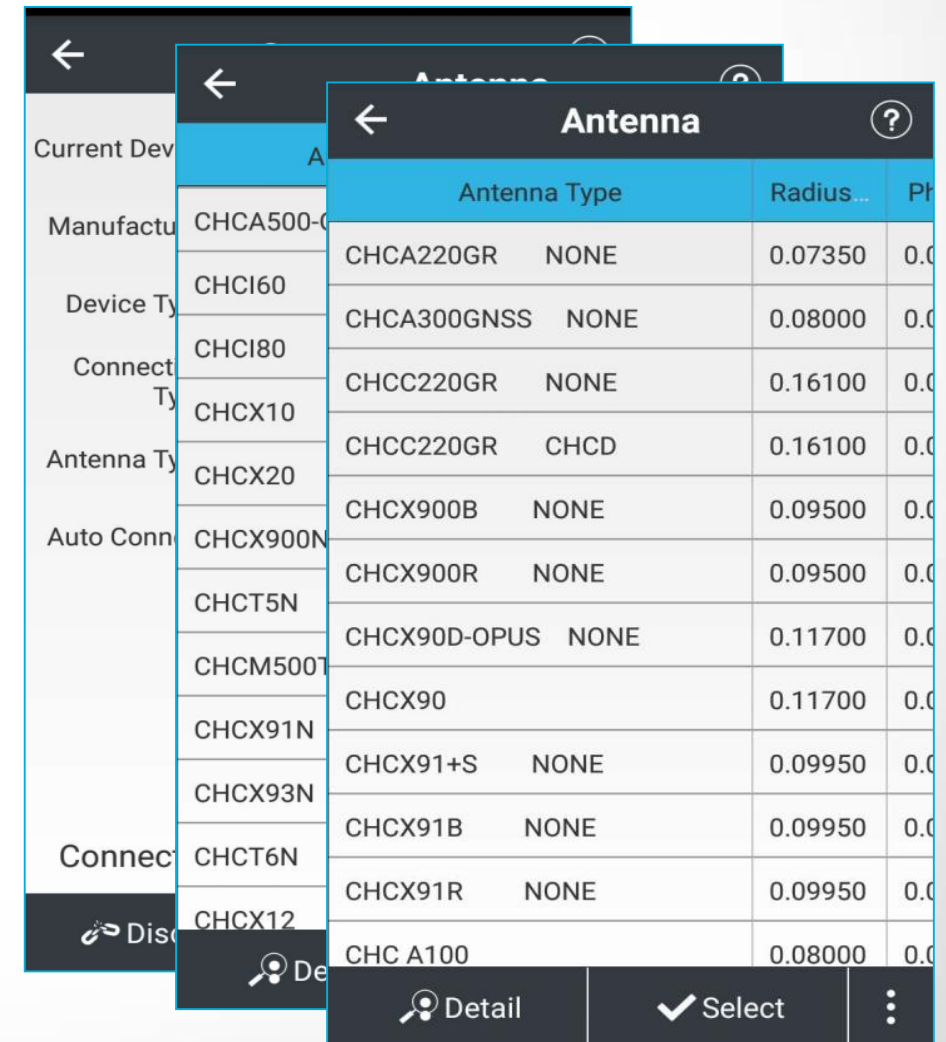- Support PPK(Postprocessed Kinematic) measurement

# Feature and Benefits

➢ **Multiple types of stakeout**

- Support point stakeout

- Support  line stakeout

- Support  surface stakeout

- Support  road stakeout
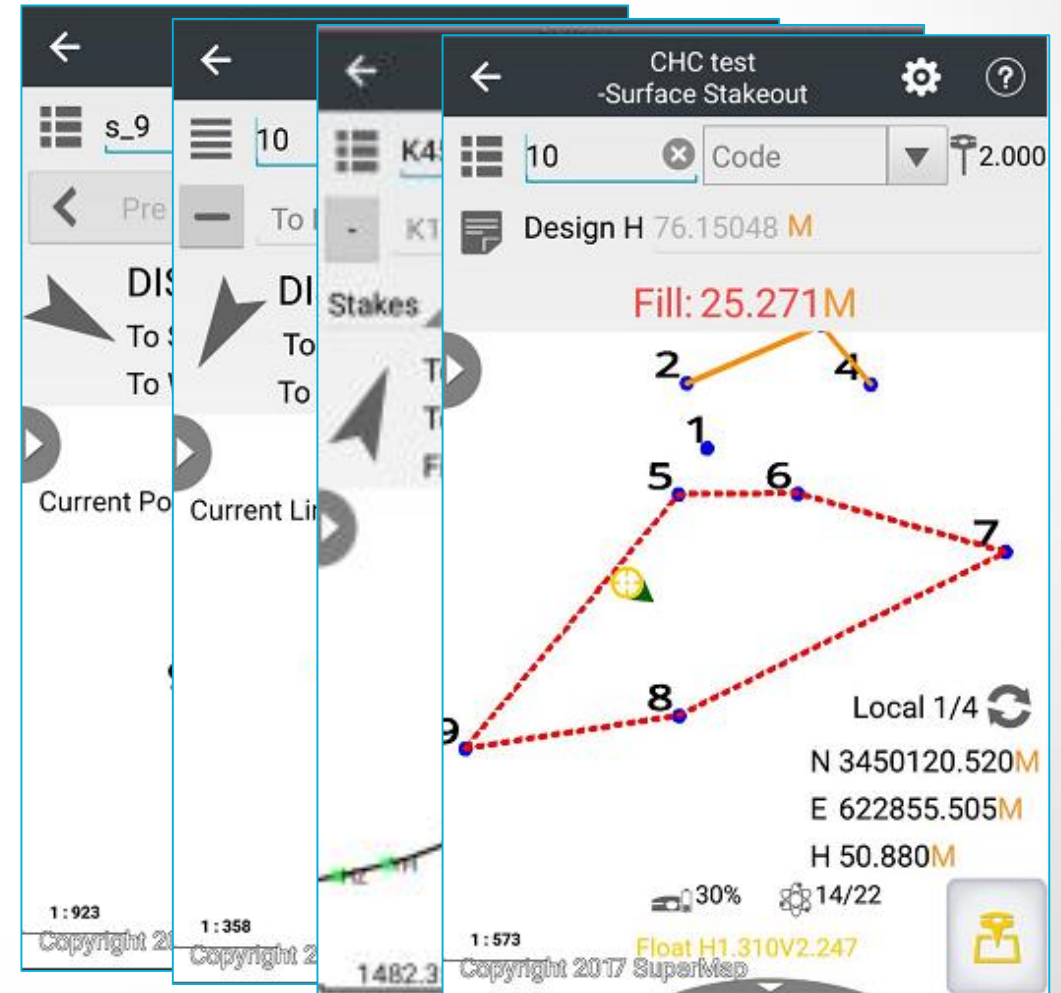
# Feature and Benefits

➢ Various GNSS instruments

- Support all CHC GNSS receivers

- Support internal GPS receiver in Android smartphone and handheld controller

- Support many types of peripheral instruments such as generic NMEA0183 receivers
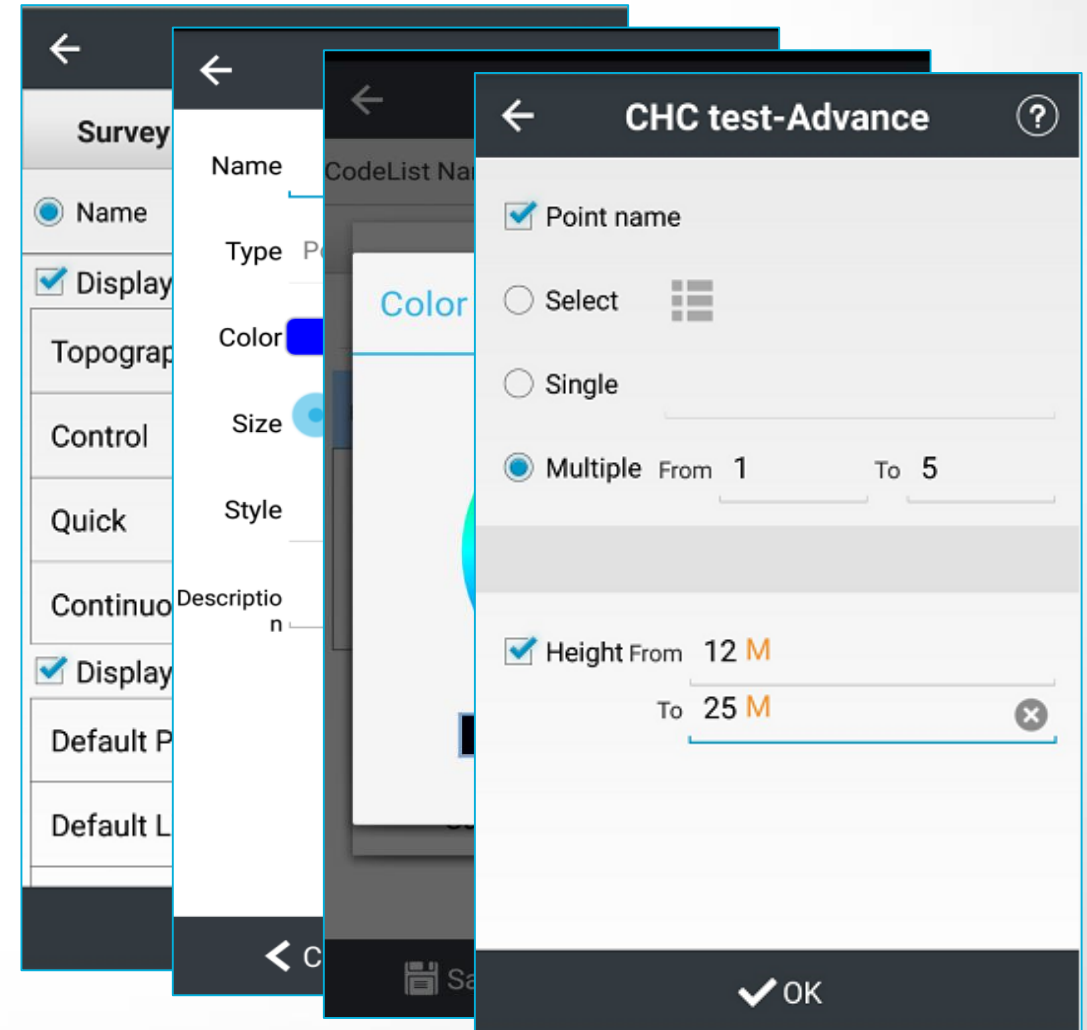
# Feature and Benefits

➢ ## Three connection types

- Support Bluetooth, WIFI and demonstration connection

- The WiFi connection features fast connection speed, stable performance and longer distance

- Demonstration module allows user to input the coordinates and simulate it as the current position
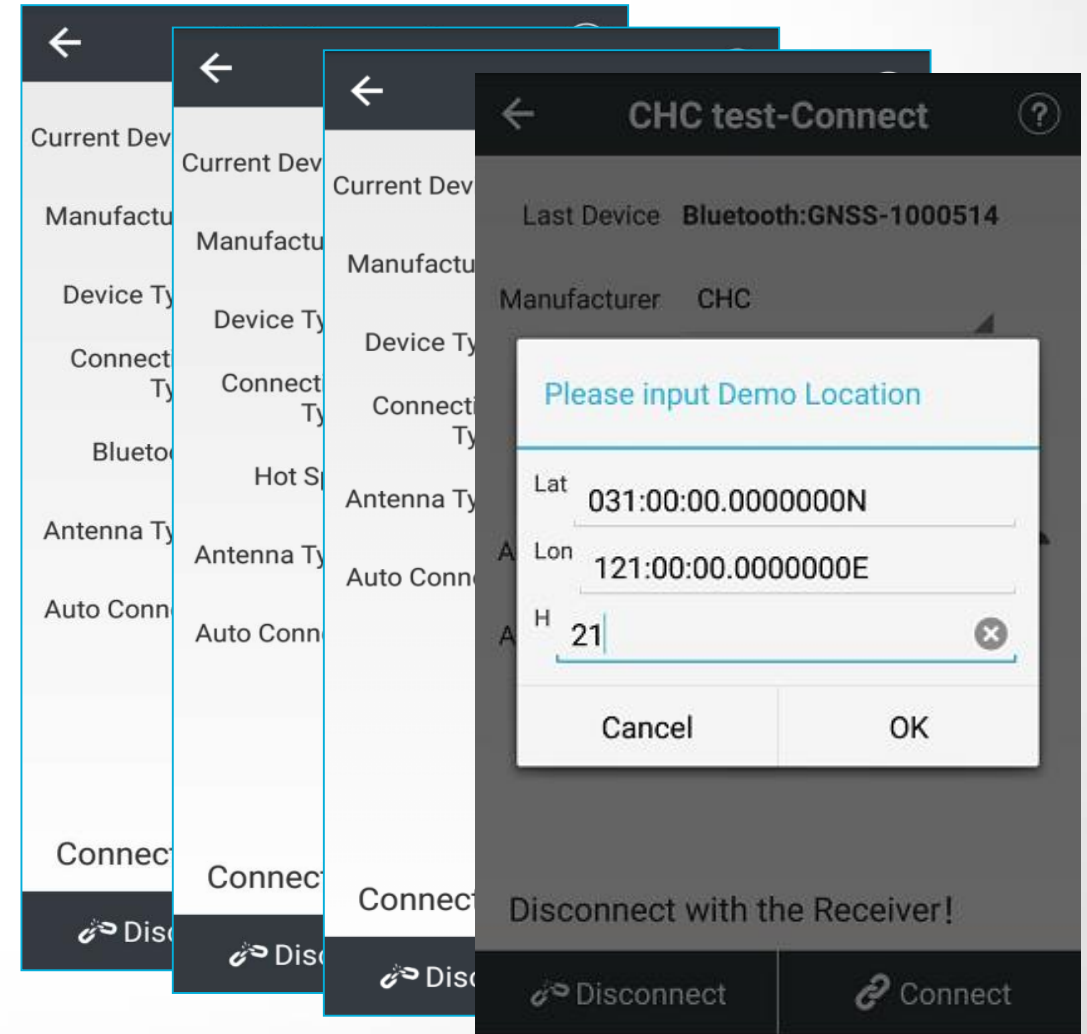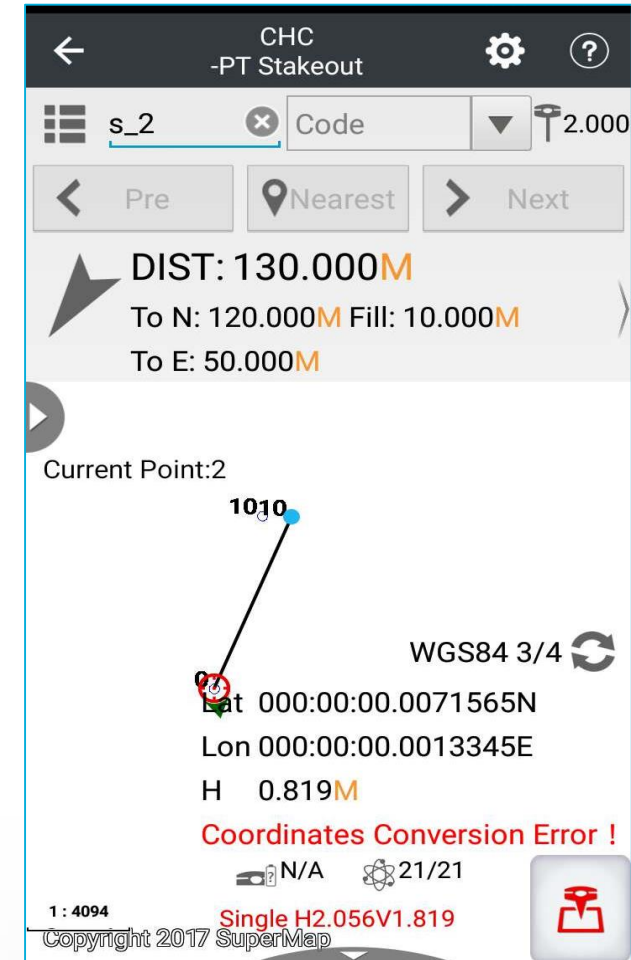
# Feature and Benefits

➢ Customizable layer display

- Support separate display of points name, code and height

- Customize color, size and types of points, lines and polygons

- Configuration of single or multiple points with height
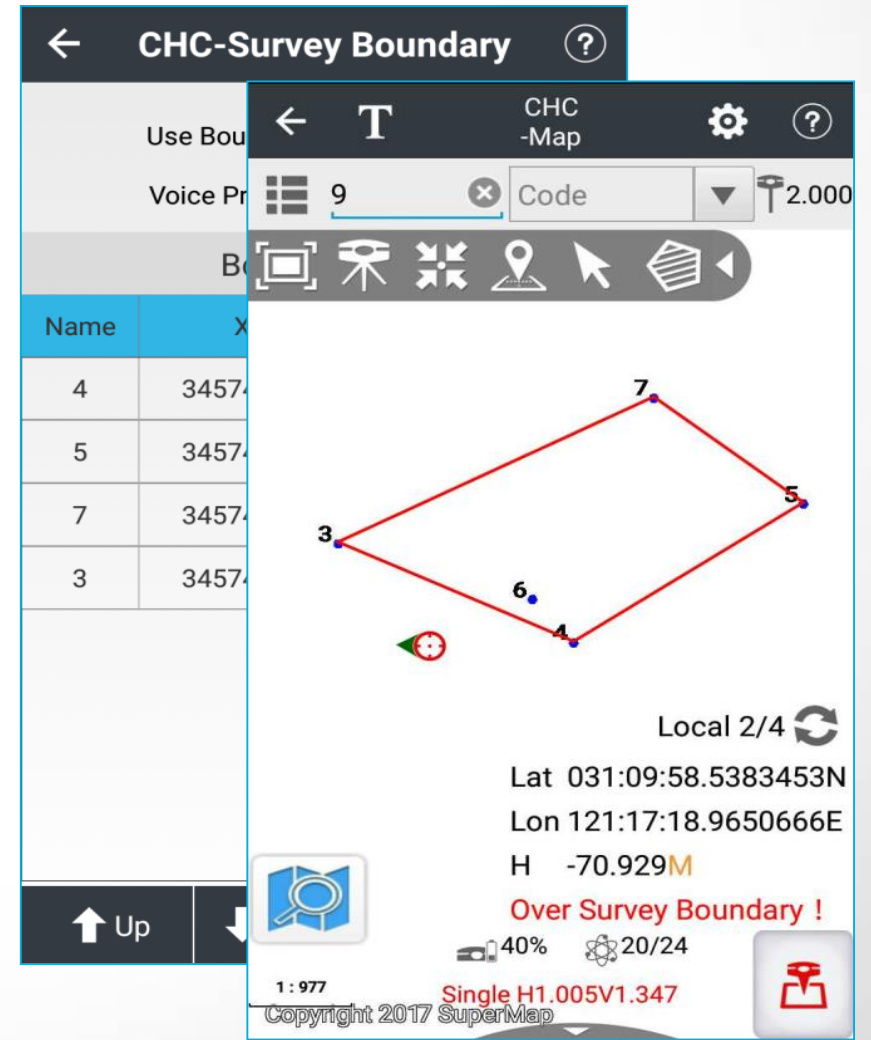
# Feature and Benefits

➢ ## Navigation stakeout

- Support real-time display of direction, distance and elevation difference

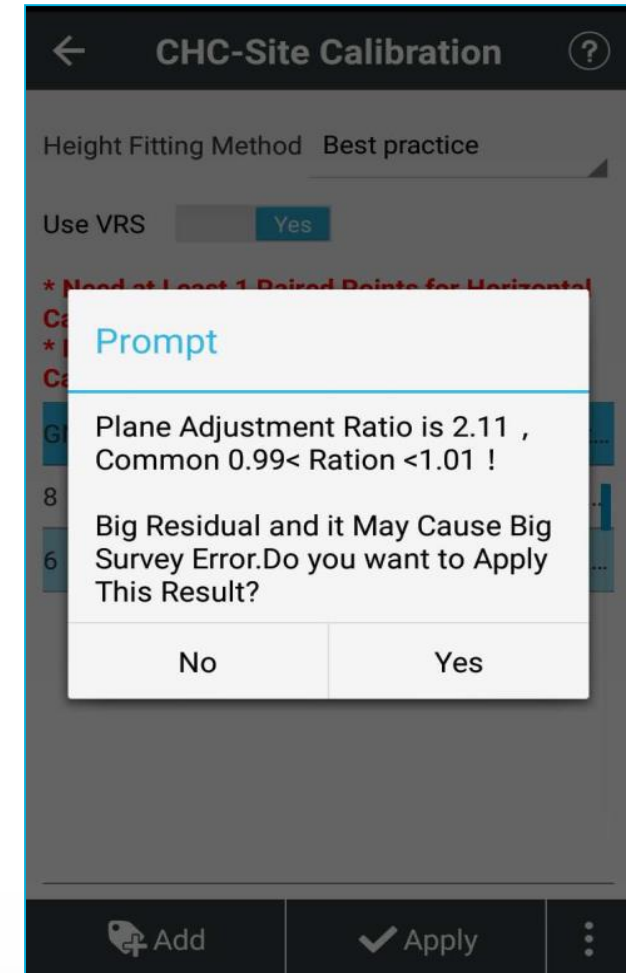- An arrow pointing to the target in real time

# Features and Benefits

➢ **Measurement geofencing**

- Support series of points as the measurement geofencing

- It will remind you once your position goes out of the geofencing

# Feature and Benefits

- ➢ Site calibration Quality Control

- • Support automatic reminders when the error of site calibration results is too large

# Feature and Benefits

➢ Powerful COGO tools

- Support calculation of perimeters, areas, transformation parameters, etc

- Support conversion from different units of angle

- It also has a build-in RPN calculator so that you can do common calculations conveniently in the field

# Feature and Benefits

➢ Real-time global TEC map

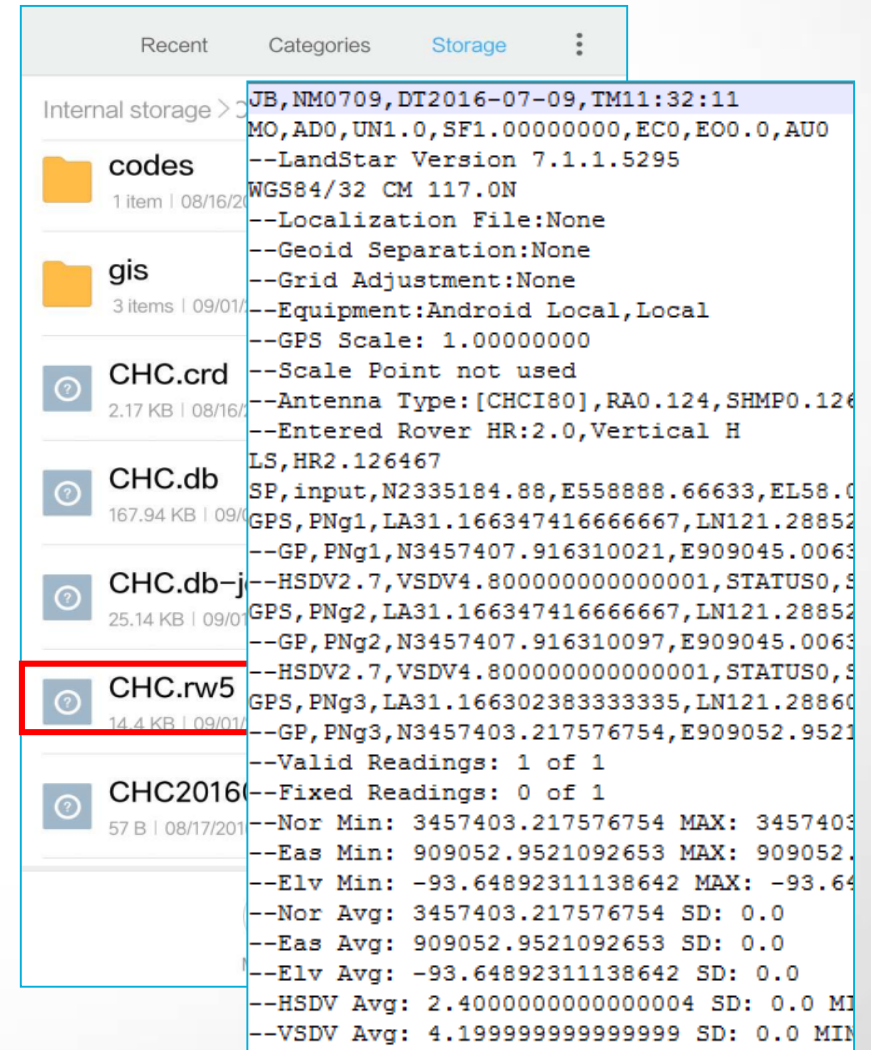• Support a built-in global TEC map with updating
every 10 minutes
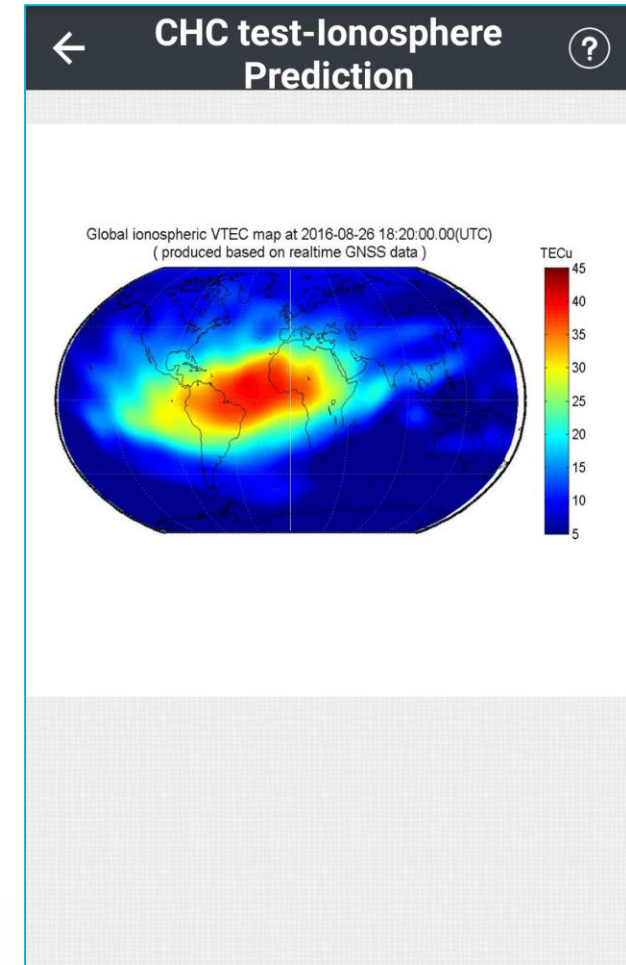
# Feature and Benefits

➢ Smart e-manual

- Embedded e-manual is available on the field

- You can check the help documentation in the top right corner of the software
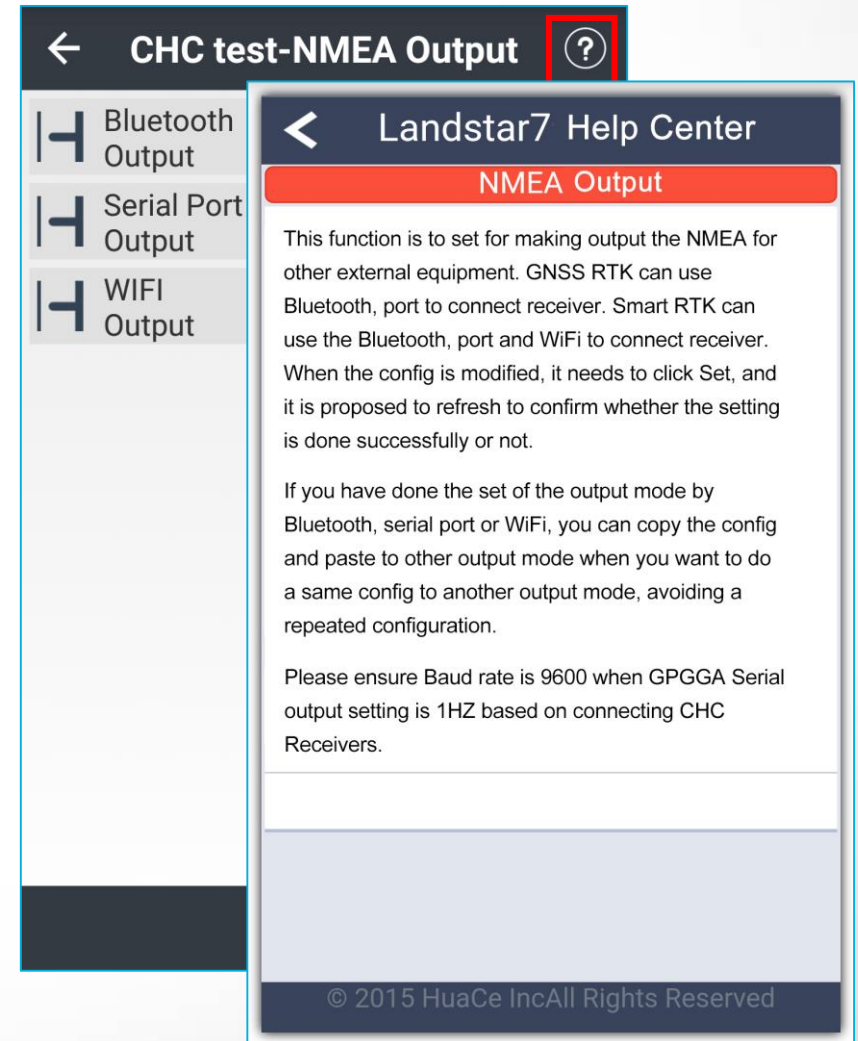
# Feature and Benefits

➢ RAW file recording

- Support raw data

- You can review the operation procedures, configuration parameters and measurement results

- Path: CHCNAV/LS7_Projects/project name.rw5

## Feature and Benefits

Download link( From Google play store)

- LandStar7:https://play.google.com/store/apps/det
  ails?id=com.huace.landstar&hl=zh-CN

- LandStar7help:https://play.google.com/store/app
  s/details?id=com.huace.landstarhelp&hl=zh-CN

# RTK operation

- ➤ DCI Mode

- ➤ Internal GSM Rover

- ➤ UHF Rover

- ➤ Internal UHF Base

- ➤ External Radio Base

- ➤ Check RTK status and map

# DCI Mode

- Create new project
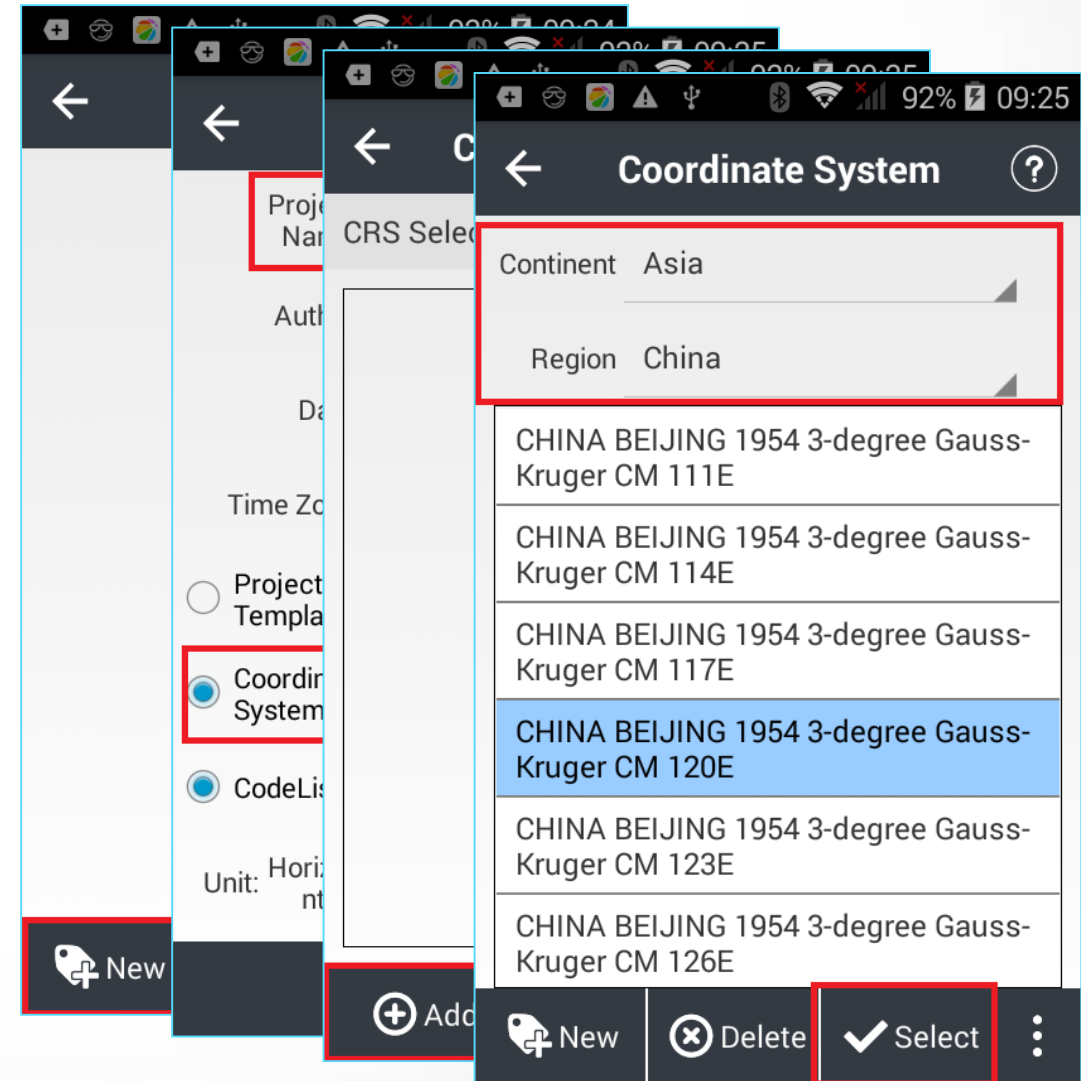
# DCI Mode

- Create new project

# DCI Mode

- Connect Data collector via Wifi
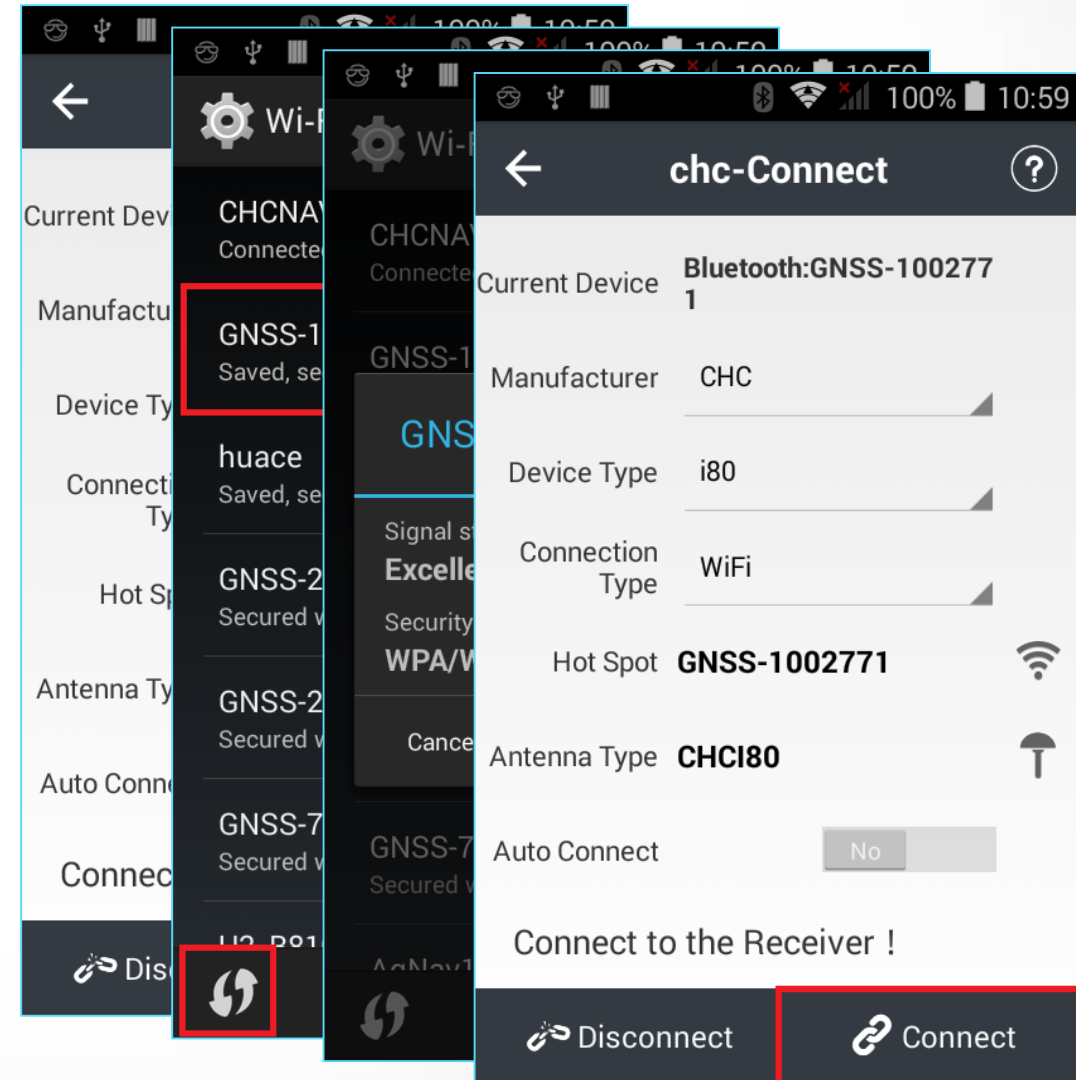
# DCI Mode

- Connect Data collector via Bluetooth
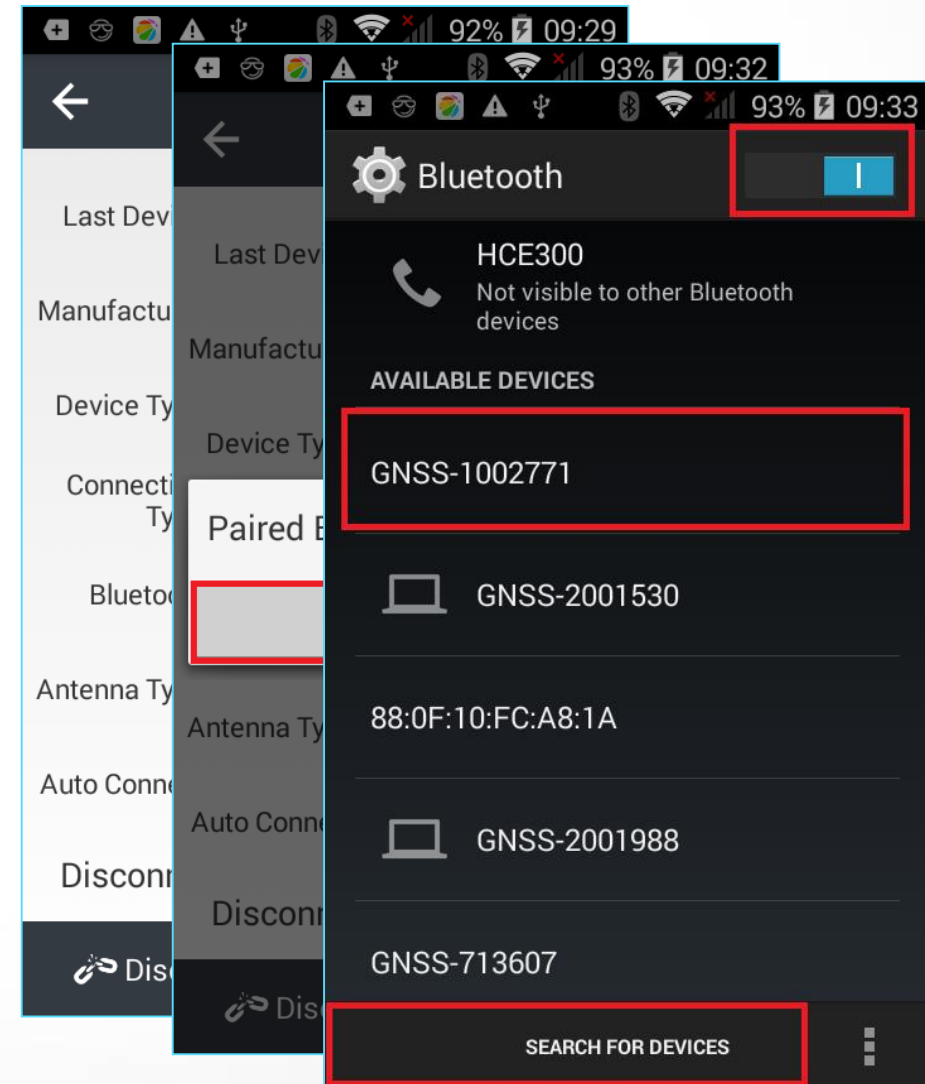
# DCI Mode

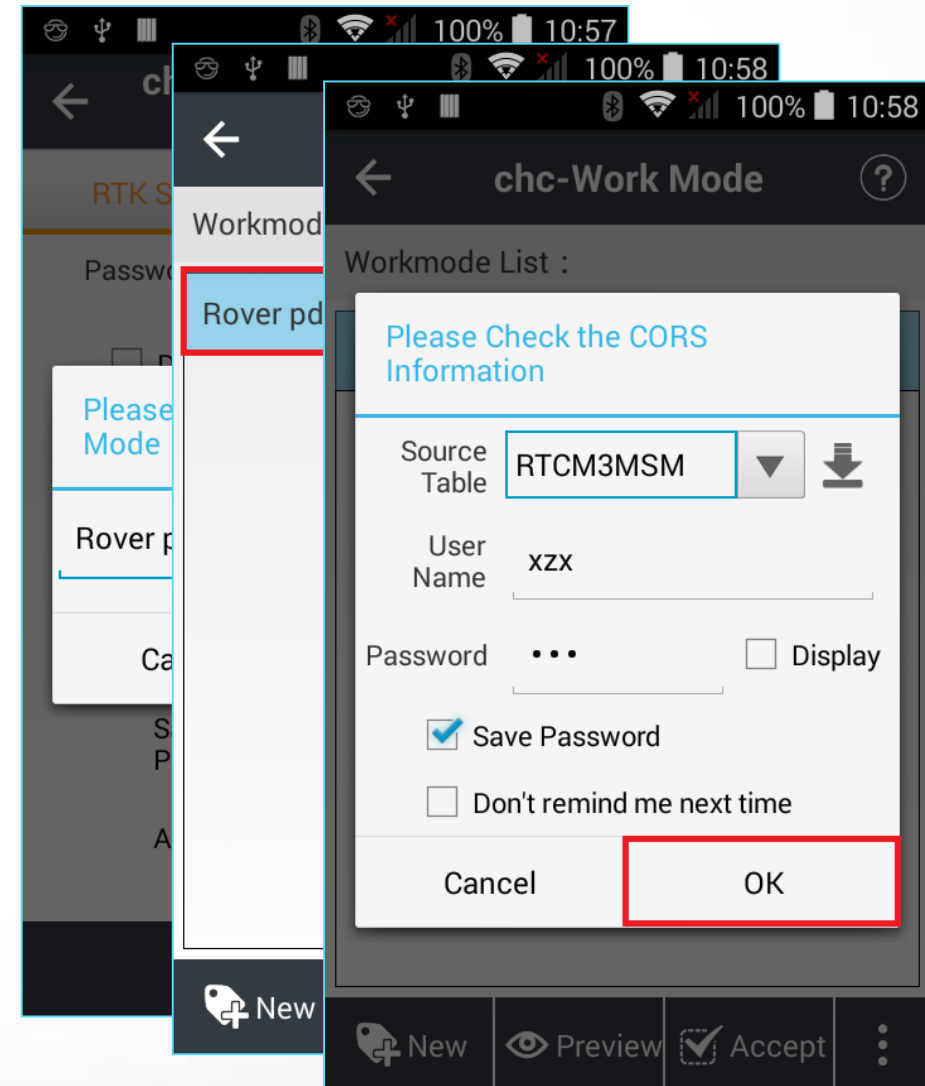- Connect Data collector via Bluetooth
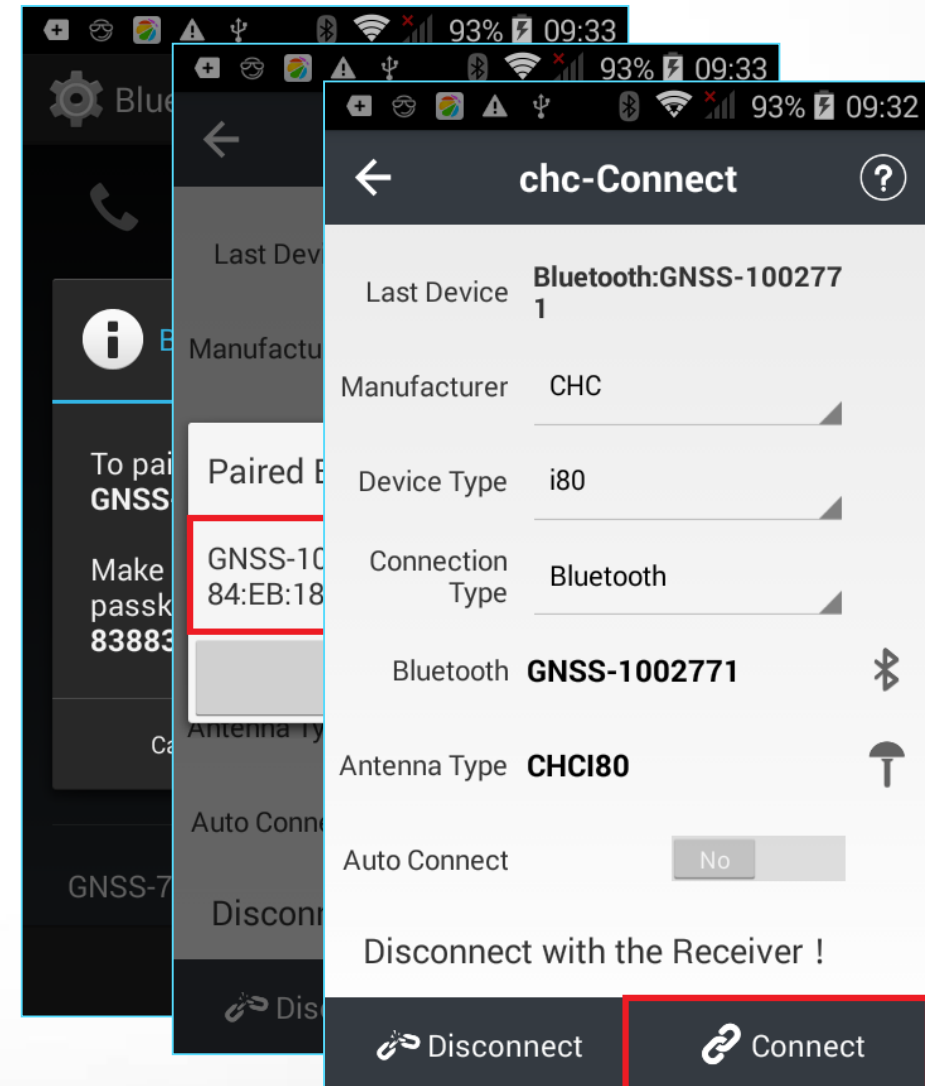
# DCI Mode

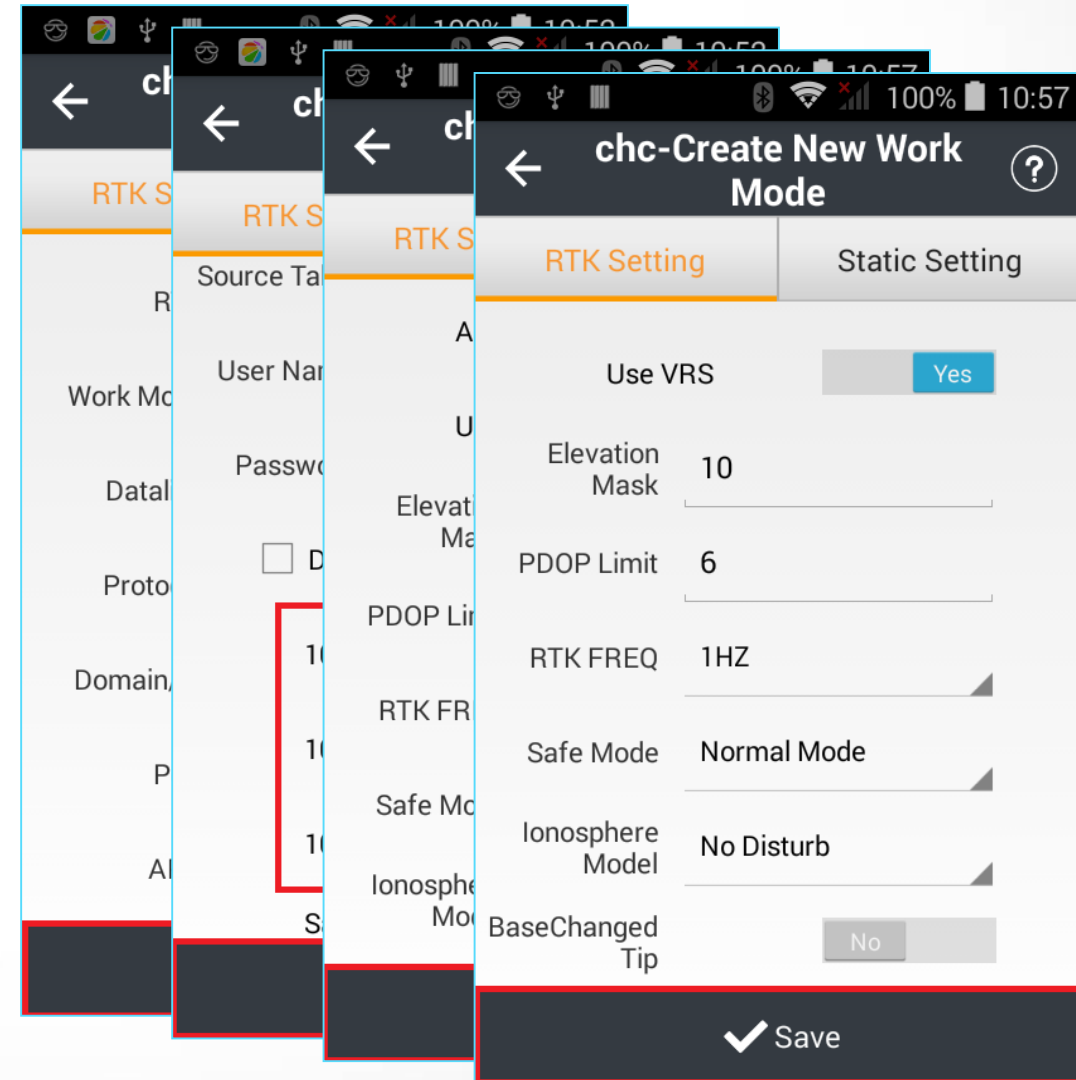- Configure RTK PDA Network (DCI) mode
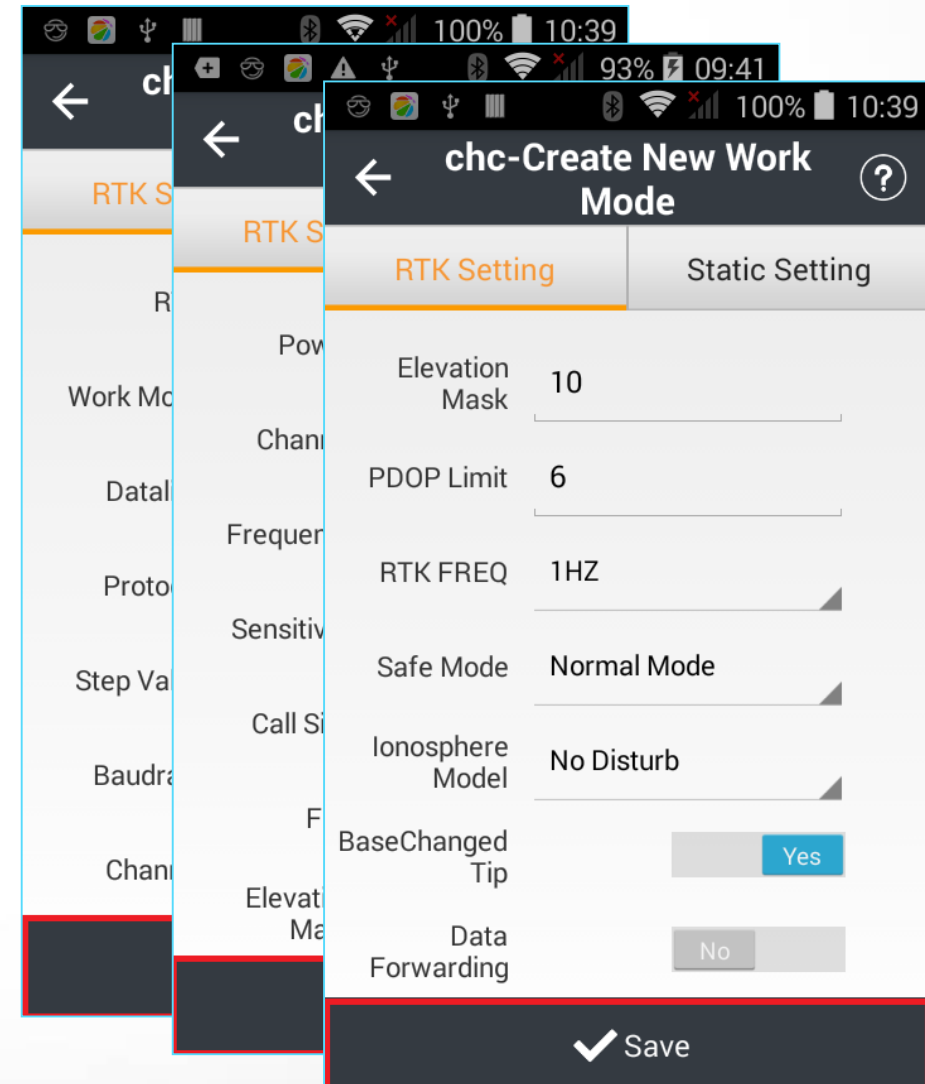
# DCI Mode

- Configure RTK PDA Network (DCI) mode

# Internal GSM Rover

- Create new project

- Bluetooth/WIFI connection

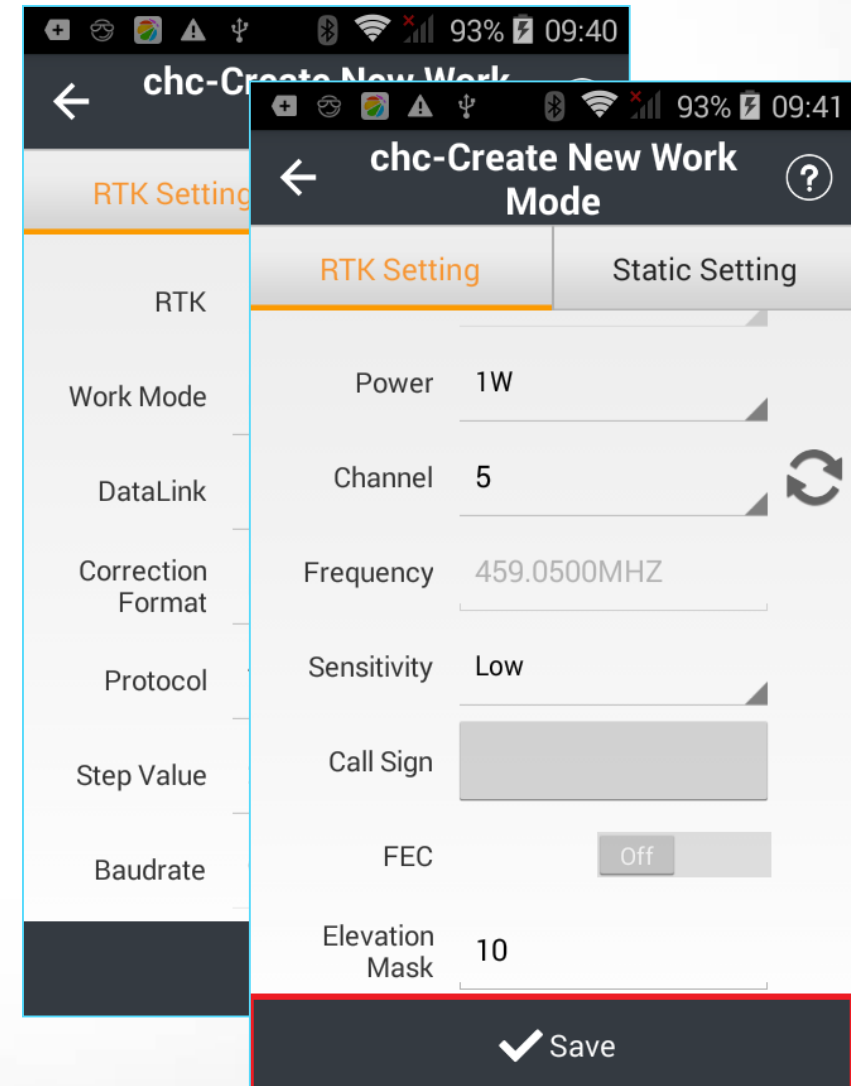- Configure RTK Receiver Network (Internal GSM Rover) mode

# UHF Rover

- Create new project

- Bluetooth/WIFI connection

- Configure RTK SATEL Radio (UHF Rover) mode
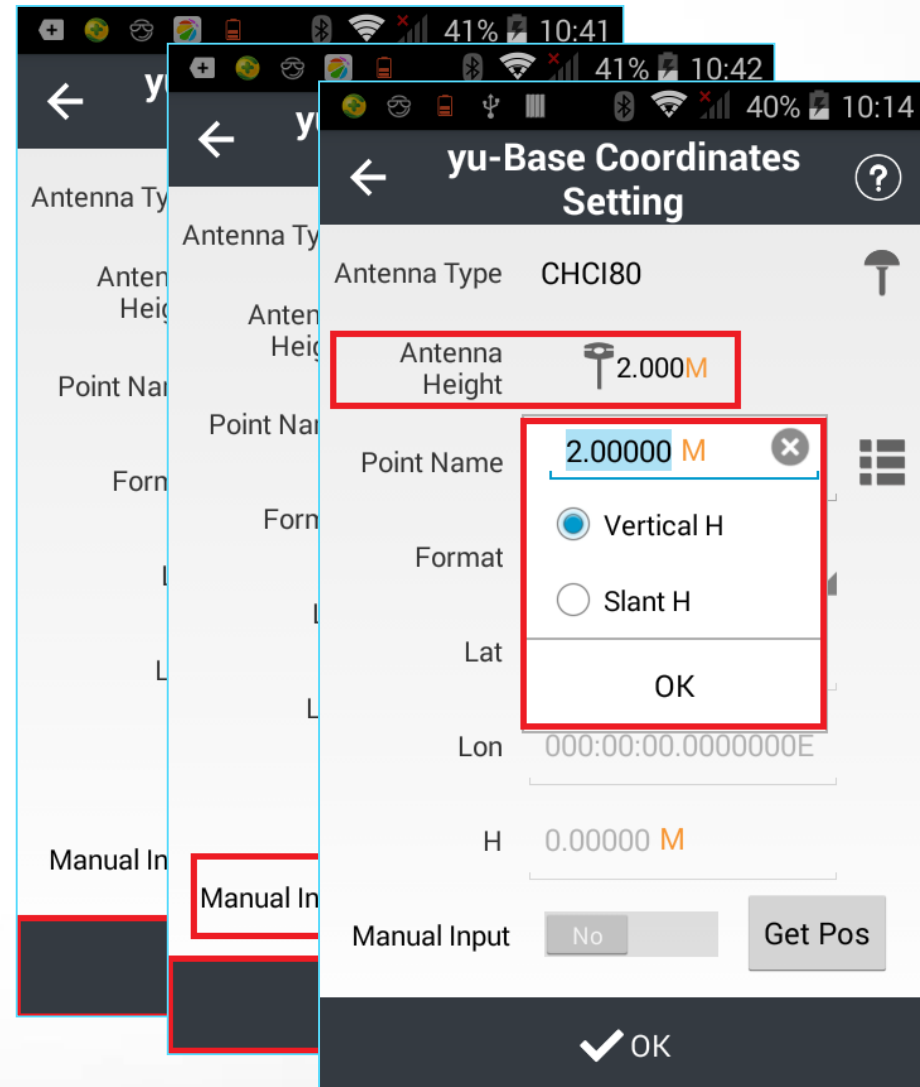


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# Internal UHF Base

- Create new project

- Bluetooth/WIFI connection

- Configure RTK Internal SATEL Radio (Internal UHF Base) mode

# Internal UHF Base

- Create new project

- Bluetooth/WIFI connection

- Configure RTK Internal SATEL Radio (Internal UHF Base) mode

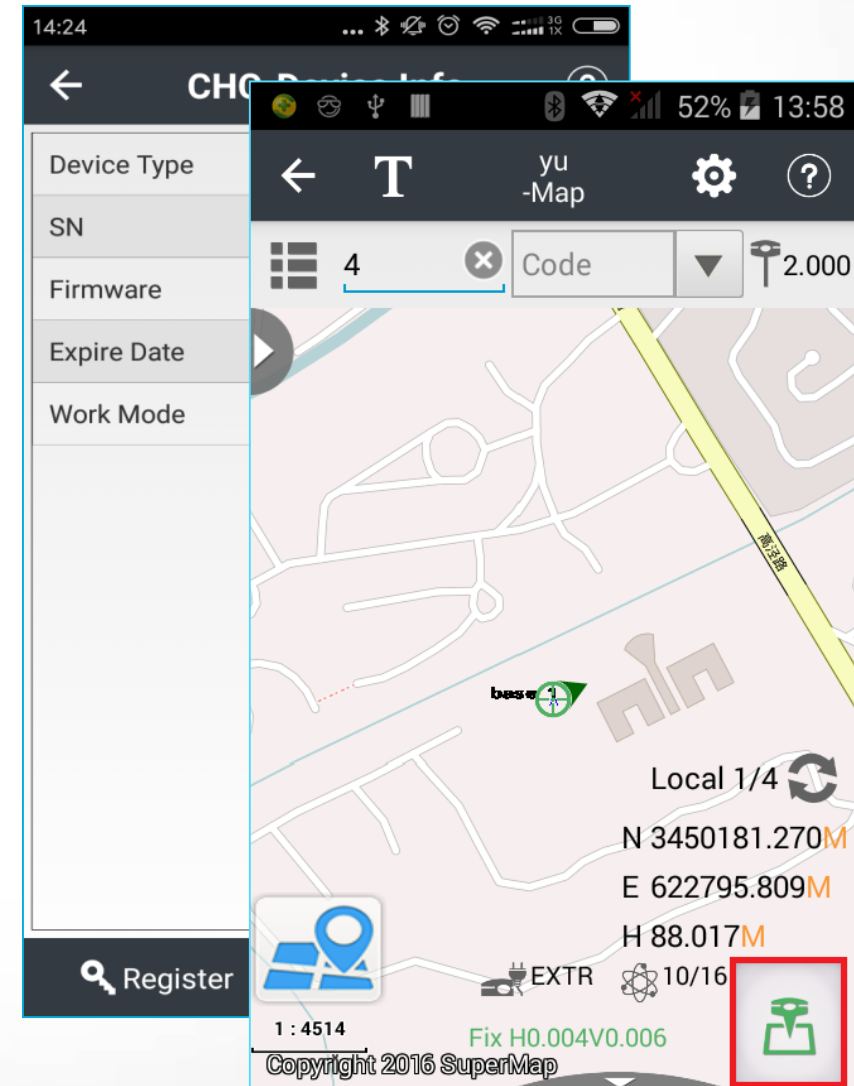- Configure base coordinates

# External Radio Base

- Create new project

- Bluetooth/WIFI connection

- Configure RTK External Radio (External Radio Base) mode

- Configure base coordinates

# Check RTK status and map

- Create new project

- Bluetooth connection

- Configure RTK mode

- Configure base coordinates

- Check RTK status and map

# MMS⊙DESIGN

## Survey & Engineering Solutions