



The compatibility between equipment and different software becomes the key to efficiency. Does it still bother you?  
Qmini A10(CM) is an user-friendly tool to solve it.



## Qmini A10(CM) Works with Third-Party Field Survey Software

George Gump  
Hi-Target International Group Limited  
www.hi-target.com.cn  
sales@hi-target.com.cn

***This article will introduce how to use GNSS Tools to enable third-party software to obtain the high-precision coordinates of Qmini A10(CM).***

Qmini A10(CM) GIS Handheld is a new type of rugged centimeter-level precision intelligent terminal product developed by Hi-Target, which is small with complete functions and a high level of protection. It provides a combination of Beidou high-precision positioning, 4G smartphone, with background multi-network interconnection and other functions.

This device can be widely used in industries, such as land and water resources inspection, land survey and electricity power inspection, etc. It can also provide data collection and processing and be applied in key areas of the national economy, such as **planning, construction, forestry, agriculture, etc.**



More details of Qmini A10(CM):

<https://en.hi-target.com.cn/qmini-a10-gis-handheld>

### Key Words:

GIS Handheld, GPS, GNSS

### Solutions

Hardware: Qmini A10(CM)

- Software:
1. GNSS Tools
  2. Esri ArcGIS Collector
  3. MicroSurvey FieldGenius
  4. X-PAD Ultimate Survey
  5. Trimble TerraFlex

## 1.GNSS Tools

*Most of the functions on the third-party professional software are based on high precision positioning.* Due to lacking Ntrip connection function or the Ntrip connection's compatibility problems with Qmini A10(CM), it only can provide a low-precision position of autonomous or SBAS solution.

Developed by Hi-Target, GNSS Tools is a simple receiver configuration tool. It can set all kinds of working modes and NMEA output for Hi-Target GIS devices, like Qmini, Qpad, Qbox and smart helmet Qbox S30, making it convenient for the third-party software to work with Hi-Target GIS devices.

GNSS Tools can work on all devices of Android 4.0 and higher from different manufacturers. It supports Bluetooth to connect the external receiver, or directly connect the internal GPS of Qmini A10(CM).

*Connecting to Ntrip on GNSS Tools is very easy to achieve.* After entering the Rover page of GNSS Tools, you can input your Ntrip parameters to get corrections for the centimeter-level position and just make GNSS Tools run in the background. Then open the third-party software and it can get the high precision coordinates of Qmini A10(CM).



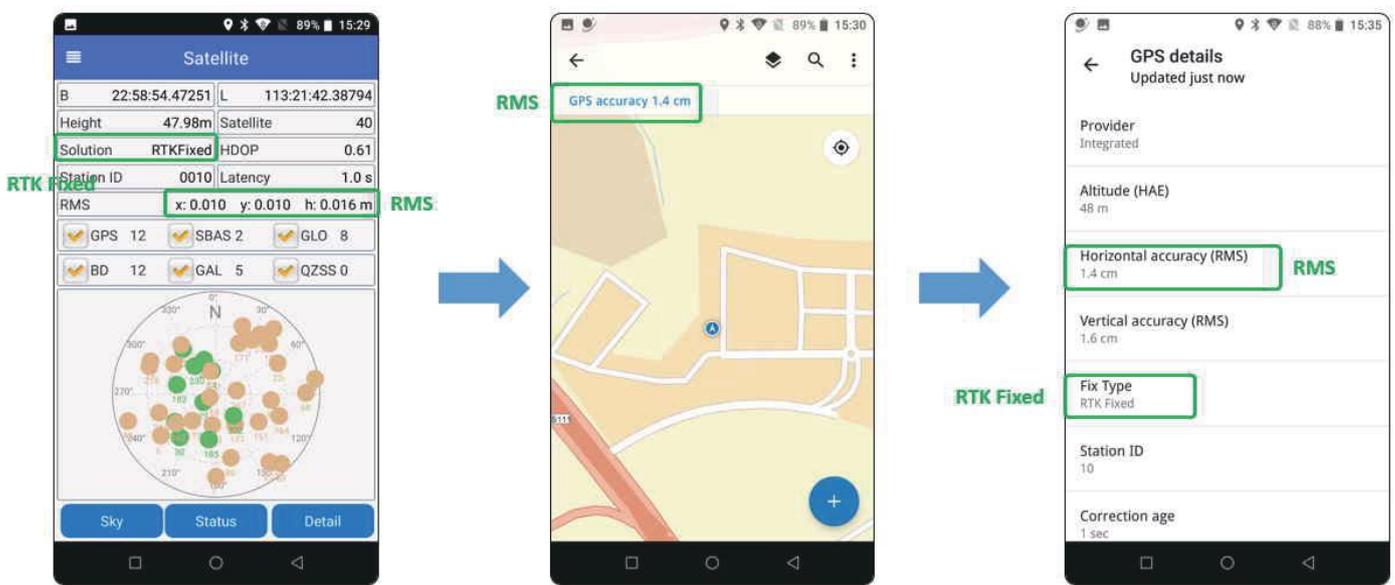
Next part, we will take some famous field survey software as examples.

## 2.Esri ArcGIS Collector

ArcGIS Collector is a data collection Android app which is developed by Esri.

The latest version is V20.2.2 and can be downloaded from Google Play Store. It runs well on Qmini A10(CM), but ArcGIS Collector has no function for Ntrip connection so that it can't make itself get high-precision corrected position data. Only autonomous or SBAS solution is reachable.

***With the help of GNSS Tools, RTK Fixed solution can be reached for ArcGIS Collector, and other important information like coordinates, RMS, accuracy, are also showing correctly.***



Connect CORS and get RTK Fix solution on **GNSS Tools**, then let it be running on background.

Open ArcGIS Collector, GPS accuracy is 1.4cm

Check info on ArcGIS Collector:

- Coordinates: **Same**
- HRMS: **Same**
- Fix type: **Same**

Esri ArcGIS Collector Website:

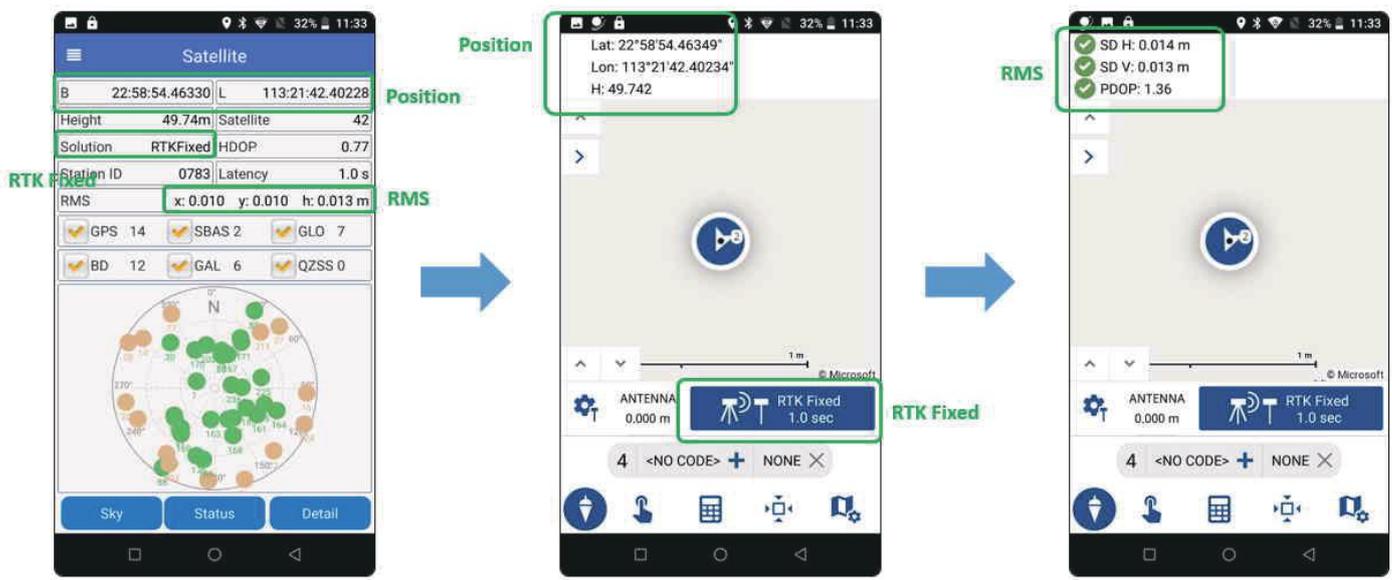
<https://www.esri.com/en-us/arcgis/products/arcgis-collector/overview>

### 3. MicroSurvey FieldGenius

FieldGenius is a mature, professional and full-featured field survey software, which is developed by MicroSurvey from Canada.

FieldGenius has already owned complete functional adaptation to Hi-Target RTK GNSS receivers, like V60 and V90 Plus, but Qmini A10(CM) is not on the list yet.

Here, the FieldGenius V1.8.25720 downloaded from MicroSurvey website is installed on Qmini A10(CM) and runs well, but making Ntrip connection on FieldGenius was not working. So we made it on GNSS Tools and let it run in the background. **Then RTK Fixed solution can be reached for FieldGenius, and other important information like coordinates, RMS, accuracy, was also showing correctly.**



The image shows three sequential screenshots of the MicroSurvey FieldGenius app interface, illustrating the process of achieving an RTK Fixed solution. Blue arrows indicate the flow from left to right.

- First Screenshot (Left):** Shows the 'Satellite' status screen. The 'Solution' is 'RTKFixed' and 'RMS' is 'x: 0.010 y: 0.010 h: 0.013 m'. A green box highlights the 'RTK Fixed' status.
- Second Screenshot (Middle):** Shows the main interface with a map. A green box highlights the coordinates: 'Lat: 22°58'54.46349"', 'Lon: 113°21'42.40234"', and 'H: 49.742'. Another green box highlights the 'ANTENNA' status: 'RTK Fixed 1.0 sec'.
- Third Screenshot (Right):** Shows the main interface with a map. A green box highlights the RMS values: 'SD H: 0.014 m', 'SD V: 0.013 m', and 'PDOP: 1.36'. Another green box highlights the 'ANTENNA' status: 'RTK Fixed 1.0 sec'.

Below the screenshots, there are three text blocks:

- Connect CORS and get RTK Fix solution on GNSS Tools, then let it be running on background.**
- Open MicroSurvey FieldGenius**
- Check info on MicroSurvey FieldGenius**
  - Coordinates: **Same**
  - HRMS: **Same**
  - VRMS: **Same**
  - Fix type: **Same**

MicroSurvey FieldGenius Website:

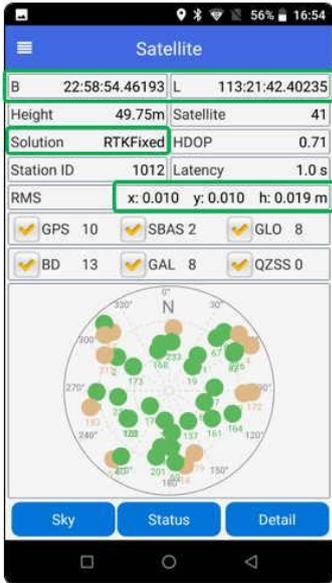
<https://www.microsurvey.com/products/fieldgenius-for-android/>

## 4.X-PAD Ultimate Survey

X-PAD Ultimate Survey is a tailored, flexible, modular, ideal, customised software for high-end topographic tasks, such as measuring, stake-out, cadastral, BIM check and control, roading, mapping, bathymetry and GIS.

Here, the latest version X-PAD V20.2.2 downloaded from Google Play Store is installed on Qmini A10(CM) and also runs well. Because Qmini A10(CM) is not in the adaption list of X-PAD yet, making Ntrip connection is not working.

*Same way, by GNSS Tools, getting good correct results likewise.*



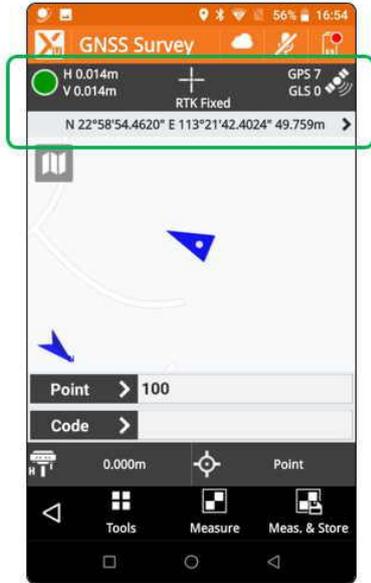
**Position**  
B 22:58:54.46193 L 113:21:42.40235  
Height 49.75m Satellite 41  
Solution RTKFixed HDOP 0.71  
Station ID 1012 Latency 1.0 s  
RMS x: 0.010 y: 0.010 h: 0.019 m

**RTK Fixed**

RMS

Connect CORS and get RTK Fix solution on GNSS Tools, then let it be running on background.

➔



**Position**  
H 0.014m V 0.014m RTK Fixed  
N 22°58'54.4620" E 113°21'42.4024" 49.759m

**RMS**  
RTK Fixed

Point > 100  
Code >

Check info on X-Pad

- Coordinates: same
- HRMS: same
- VRMS: same
- Fix type: same

X-PAD Ultimate Survey Website:

<https://geomax-positioning.com/products/software/x-pad-suite/x-pad-ultimate-survey>

## 5. Trimble TerraFlex

Trimble TerraFlex is an easy-to-use cloud-based solution for field data collection.

Here, the latest version TerraFlex V5.4.0.536, downloaded from Google Play Store is installed on Qmini A10(CM) and also runs well.

*Same way, by GNSS Tools, getting good correct results likewise.*

The image shows three sequential screenshots of the Trimble TerraFlex mobile application interface, connected by blue arrows indicating a workflow.

- First Screenshot (Satellite):** Displays RTK Fix status. Key data points include:
  - Position: B 22:58:54.46400, L 113:21:42.40172
  - Height: 49.74m
  - Solution: RTKFixed
  - Station ID: 0131
  - RMS: x: 0.010, y: 0.010, h: 0.022 m
- Second Screenshot (Map):** Shows a map view with a green box highlighting the accuracy indicator "1 cm".
- Third Screenshot (Location Status):** Shows detailed location information:
  - Internal: 1 cm, 2 cm, 32
  - POSITION: Degrees (D°M'S")
  - Latitude: 22°58'54.464"N
  - Longitude: 113°21'42.402"E
  - Height (HAE): 49.74 m

Text annotations in green highlight "RTK Fix", "Position", "RMS", and "Position" across the screenshots.

Connect CORS and get RTK Fix solution on GNSS Tools, then let it be running on background.

Open Trimble TerraFlex, GPS accuracy is 1cm

Check info on Trimble TerraFlex

- Coordinates: Same
- HRMS: Same
- VRMS: Same
- Fix type: Same

Trimble TerraFlex Website:

<https://geospatial.trimble.com/terraflex>