

## PERFORMANCE SPECIFICATIONS

### Satellite Signals Tracked Simultaneously

Channels..... 336  
GPS..... L1C/A, L2E, L2C, L5  
BeiDou..... B1, B2, B3<sup>1</sup>  
GLONASS..... L1C/A, L1P, L2C/A, L3 CDMA<sup>2</sup>  
Galileo<sup>3</sup>..... E1, E5A, E5B, E5AltBOC, E6<sup>2</sup>  
IRNSS..... L5  
SBAS..... L1C/A, L5(QZSS, WAAS, MSAS, GAGAN)  
Global correction service..... Hi-RTP/RTX (optional)

### POSITIONING PERFORMANCE

#### High-Precision Static

Horizontal..... 2.5 mm + 0.1 ppm RMS  
Vertical..... 3.5 mm + 0.4 ppm RMS

#### Static and Fast Static

Horizontal..... 2.5 mm + 0.5 ppm RMS  
Vertical..... 5 mm + 0.5 ppm RMS

#### Post Processing Kinematic (PPK / Stop & Go)

Horizontal..... 8mm+1ppm RMS  
Vertical..... 15mm+1ppm RMS  
Initialization time..... Typically 10 min for base and 5 min for rover  
Initialization reliability..... Typically > 99.9%

#### Code Differential GNSS Positioning

Horizontal..... 25cm+1ppm RMS  
Vertical..... 50cm+1ppm RMS  
SBAS..... 0.5m(H), 0.85m(V)

#### Real Time Kinematic (RTK)

##### Single Baseline

Horizontal..... 8mm+1ppm RMS  
Vertical..... 15mm+1ppm RMS

##### Network RTK(VRS, FKP, MAC)

Horizontal..... 8mm+0.5ppm RMS  
Vertical..... 15mm+0.5ppm RMS  
Initialization time..... Typically 2-10s  
Initialization reliability..... Typically > 99.99%

##### Hi-Fix<sup>5</sup>

Horizontal..... RTK<sup>6</sup>+ 10 mm/minute RMS  
Vertical..... RTK<sup>6</sup>+ 20 mm/minute RMS

#### Tilt Survey Performance

2cm accuracy in the inclination of 30 degree  
3cm accuracy in the inclination of 45 degree

## HARDWARE

### Physical

Dimensions (W x H)..... 158mm x 98mm (6.22inch x 3.86inch)  
Weight..... lighter than 1.3kg (2.65lb) within internal battery  
Operation temperature..... -40°C ~ +75°C (-40°F ~ +167°F)  
Storage temperature..... -50°C ~ +85°C (-58°F ~ +185°F)  
Temperature control..... Auto-adjust the working power to maintain the temperature

Humidity..... 100%, condensing  
Water/dustproof..... IP67 dustproof, protected from temporary immersion to depth of 1m (3.28ft)

1.The hardware of this product is designed for Beidou B3 compatibility (trial version) and its firmware will be enhanced to fully support such new signals as soon as the officially published signal interface control documentation (ICD) becomes available.

2.There is no public GLONASS L3 CDMA or Galileo E6 ICD. The current capability in the receivers is based on publicly available information.

3.Developed under a License of the European Union and the European Space Agency.

4.Input only network correction.

5.Accuracies are dependent on GNSS satellite availability. Hi-Fix positioning ends after 5 minutes of radio downtime. Hi-Fix is not available in all regions, check with your local sales representative for more information.

6.RTK refers to the last reported precision before the correction source was lost and Hi-Fix started.

Descriptions and Specifications are subject to change without notice

Shock and vibration..... MIL-STD-810G, 514.6  
Anti-salt spray..... MIL-STD-810G, 509.4, 96h  
Free fall..... MIL-STD-810G, 516.6, designed to survive a 2m(6.56ft) natural fall onto concrete

### Electrical

6V to 28V DC external power input(5-pin port), with over-discharge protection power consumption 4.4W Automatic switching between internal power and external power

### Control Panel

Physical button..... 1  
Display..... 240 x 240 pixel, 261ppi  
Touchscreen..... Support glove mode and wet-finger mode

### Internal Battery

7.4V, 6800mAh lithium-ion rechargeable and removable battery.

RTK rover(UHF/Cellular) for 10 hours.

Power indicator embedded.

Quick charge within 3.5 hours.

### I/O Interface

Bluetooth 4.0/2.1+ EDR, 2.4 GHz. USB 2.0 port with OTG function. 1 SMA antenna connector. 1

DC power input(5-pin). 1 SIM card slot.

Near Field Communication(NFC)

### Communication

#### Network Communication

Full band support for cellular mobile network(LTE, WCDMA, EDGE, GPRS, GSM).

2.4GHz Wi-Fi, supports the standard protocol 802.11 b/g/n. Network RTK(in CORS)

range is 20-50km.

#### Internal UHF Transceiver Radio

Frequency..... 403~473MHz

Transmitting power..... 1~4W Hi-Target Advanced Radio

Supports protocols: HI-TARGET, TRIMTALK450S, TRIMMARK III, SATEL-3AS, TRANSEOT, etc.

Working Range..... Typically 3~5km, optimal 5~8km

#### External UHF Radio

Frequency..... 410~470MHz

Transmitting power..... 5W / 25W

Compatible with third party radio

Working Range..... Typically 8~10km, optimal 15~20km

## SYSTEM CONFIGURATION

### System

Data storage..... Circulating 16GB Internal storage

Record GNS and RINEX format simultaneously

### Data Formats

1Hz positioning output, up to 50Hz. CMR, RTCM2.X, RTCM3.0, RTCM3.1<sup>4</sup>, RTCM3.2.

Navigation outputs ASCII: NMEA-0183 GSV, AVR, RMC, HDT, VGK, VHD, ROT, GKG,

GGA, GSA, ZDA, VTG, GST, PJT, PJK, BPQ, GLL, GRS, GBS. Binary: Trimble GSOF, NMEA2000

# iRTK5<sup>New</sup>

## GNSS RTK SYSTEM



Website



Facebook

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CE IP67 MIL-STD 810G

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# iRTK5 GNSS RTK SYSTEM

Benefiting from the next-generation GNSS engine, unlimited communication technology and innovative designs, iRTK5, the high quality scalable GNSS receiver, provides an industry-leading GNSS RTK surveying solution.



### Next-Generation GNSS Engine

With the full-wave GNSS antenna and the next-generation GNSS engine, it supports full constellation by 336 tracking channels, enhanced initialization speed and anti-noise performance.

#### ProPoint (optional)

Brand-New ProPoint GNSS engine allows you to expand the boundaries of GNSS performance, with at least 30 per cent improved performance in challenging GNSS environments.



### Hi-RTP™ Global PPP Service

The Hi-Target Hi-RTP™ global correction service extends the correction source, enabling users to work in rural or remote areas in the world without a base station, getting rid of range restrictions. It can harness all constellation signals from BDS, GLONASS, GPS, GALILEO with global distribution of 220+ stations, providing centimeter-level positioning accuracy.

#### RTX (optional)

Connected to 3rd-party L-Band corrections services, the iRTK5 GNSS receiver provides accurate, sub-decimeter positioning in all regions where RTK Network, GSM coverage or traditional GNSS base station are not available.



### Hi-Fix Technology

It can reduce downtime in the field with continuous RTK coverage during correction outages from an RTK base station or VRS network.



### Unlimited Communication

#### 360° Omni-directional Antenna and Multi-protocol Radio

The top-mounted radio antenna extends the radio working range and enables full omni-directional communication, making the distance of data transmitting and receiving extend to 20% longer. Multi-protocol radio, support Hi-Target, TRIMTALK450S, TRIMMARK III, TRANSEOT, SATEL-3AS, etc.

## Revolutionary Tilt Survey with Built-in IMU

Customer benefit from calibration free for tilt survey without centering. Once you reach the surveying points, immediately start the operation. Compared with bubble leveling, boost working efficiency by 20%.



Error less than 2 cm  
within 30° inclination



Resistance to the interference  
of magnetic disturbances, ensure  
high accuracy.

## Innovative Design



Reddot design award



Waterproof Touchscreen



Power Indicator



3rd Party Software



Web UI

## Hi-Survey Software



Brand new UI, easier to understand and use



Professional programs in road application such  
as side slop settingout, DTM stakingout etc



Basemap from online maps, DXF and SHP data



## iHand30

- Android 10
- Type C USB port
- 2G RAM, 16G Internal Storage
- WiFi & Cellular simultaneous working
- IP 67

Hardware Configuration	Communication Interface	Physical Features
OS: Android 10 Processor: MTK6762; CPU: 8 core; 4*A53 2.0GHZ, 4*A53 1.5GHZ; 2GBRAM+16GB ROM Display: 3.7" , 640 x 480, sunlight readable Camera: 8MP, tag available Sensors: G-sensor, E-compass, barometer, light-field sensor, gyro	Cellular mode: Dual SIM card, dual stand-by Cellular network: 4G TDD-LTE, FDD-LTE, WCDMA, GPRS Wi-Fi: IEEE 802.11b/g/n, 2.4GHz/5GHz Bluetooth: V2.0/4.0 USB: Type-C, supports OTG NFC	Weight: 440g(within battery) Size: 208mm*83mm*24mm Operating temperature: -20°C~+60°C Storage temperature: -30°C ~+70°C Free fall: 1.2m IP67