

PERFORMANCE SPECIFICATIONS

Satellite Signals Tracked Simultaneously

Channels.....	336
GPS.....	L1C/A,L2E,L2C,L5
BeiDou.....	B1, B2, B3 ¹
GLONASS.....	L1C/A, L1P, L2C/A, L3 CDMA ²
Galileo ³	E1, E5A, E5B, E5AltBOC, E6 ²
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.....	25 cm RMS
Vertical.....	50 cm RMS
SBAS.....	0.5 m(H), 0.85 m(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-Fix⁵

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

Tilt Survey Performance

Additional horizontal pole-tilt uncertainty typically less than 10 mm +0.7 mm / °tilt (2cm accuracy in the inclination of 30° under good condition)

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

7.4 V, 6800 mAh 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 3.0 port , 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

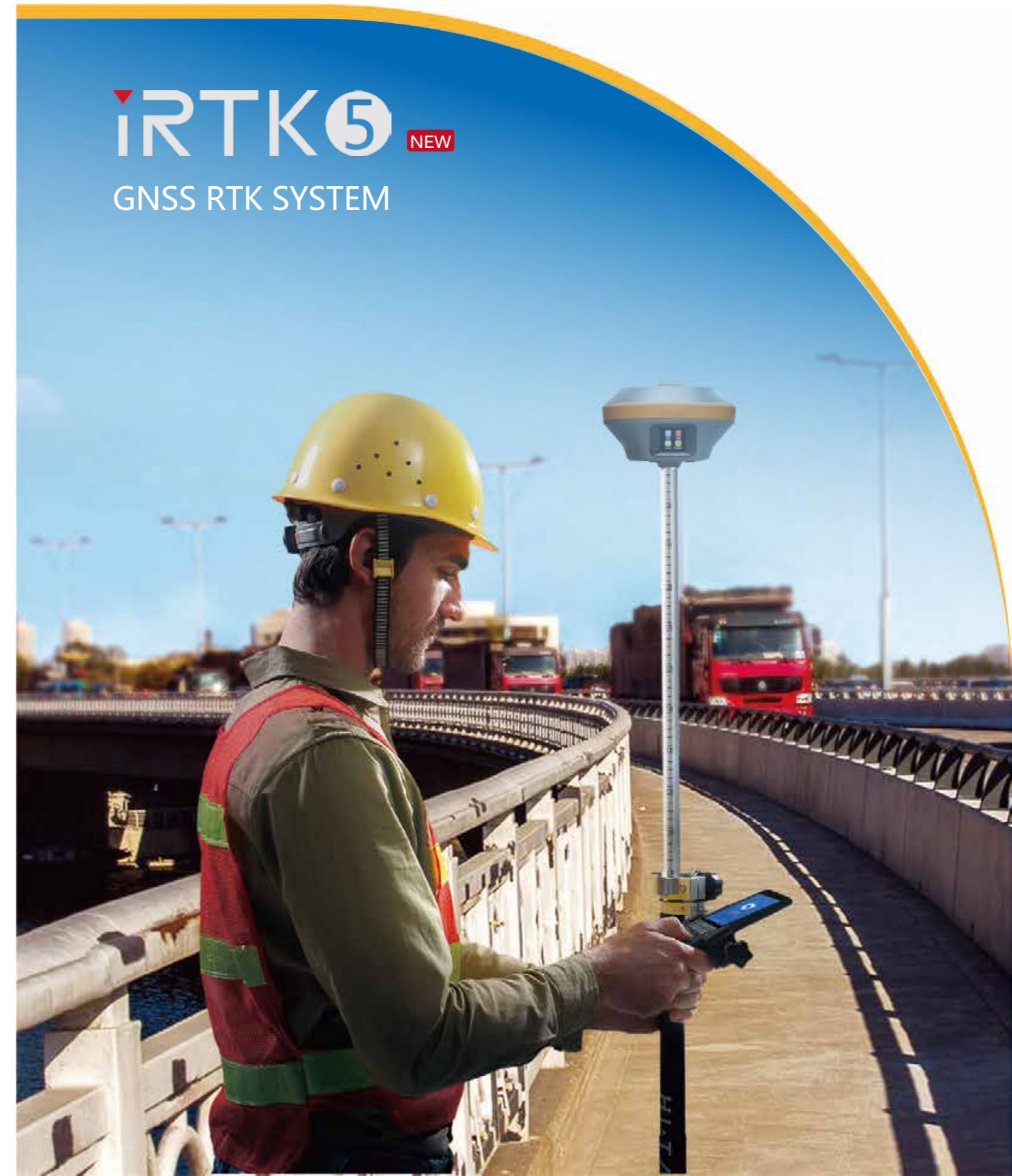
SYSTEM CONFIGURATION

System

Data storage.....	Circulating 16GB Internal storage Record GNS and RINEX format simultaneously
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Data Formats

1Hz positioning output, up to 50Hz. CMR, CMR+, RTCM2.X, RTCM3.0, RTCM3.1, 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 GSOE, NMEA2000



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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

iHand55

- Android 10
- Type C USB port
- 2G RAM, 16G Internal Storage
- WiFi & Cellular simultaneous working
- IP 68



Hardware Configuration	Communication Interface	Physical Features
OS: Android 10 Processor: CPU: 8 core; 2.0 GHZ Storage: 2 GB RAM+16 GB ROM; T-Flash memory card, up to 128GB Display: 720*1280, 5.5" , bright Outdoor Colorcapacitive touch screen (with touch pen, can be operated with gloves) Input Configuration:Physical full keyboard,number / letter separate, professional custom smart input method	Cellular mobile:4G, Dual SIM WiFi:IEEE 802.11 b/g/n, Wapi, AP Bluetooth: Built-in Bluetooth (2.1+4.0) NFC USB:USB, TypeC interface, OTG	Weight: 480g(within battery) Size: 236 mm*85 mm*25 mm Operating temperature: -20°C ~ +60°C Storage temperature: -30°C ~ +70°C Free fall:1.2 m Shock and vibration: MIL-STD-810H