PERFORMANCE SPECIFICATIONS

Satellite Signals Tracked Simultaneously

Channels...1408
GPS... L1C/A, L1C, L2P(Y), L2C, L5
BeiDou...B1I, B2I, B3I, B1C, B2a, B2b
GLONASS.. L1, L2, L3[1]
Galileo[2] .... E1, E5A, E5, AltBOC, E5B, E6[1]
IRNSS.. L5
SBAS.. L1, L2, L5
Lband[3] B2b-PPP

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)
PPP .... 0.1m(H), 0.2m(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[5]
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℃~+75℃ (-40℉~+167℉)
Storage temperature.................... -50℃~+85℃ (-58℉~+185℉)
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)
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

Data Formats
Output rate.. 1Hz-20Hz
Static data format.................................. GNS, Rinex Dual Format Static Data
Network model.................................. VRS, FKP, MAC; supports NTRIP protocol
CMR & RTCM.. RTCM 2.x, RTCM 3.x
Navigation outputs ASCI.. NMEA-0183

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

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

3.L-Band can be provided by firmware upgrade.

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.

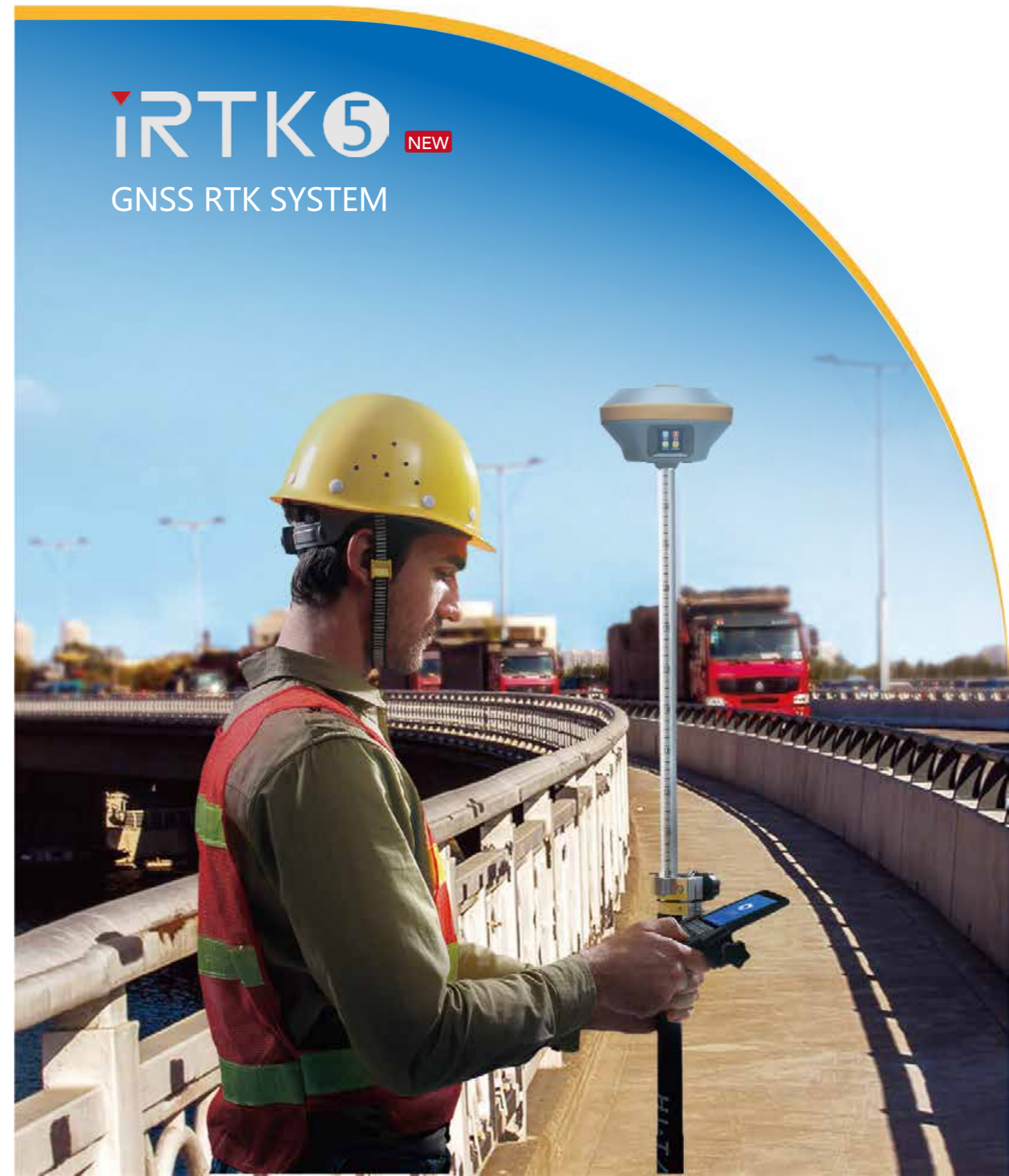Descriptions and Specifications are subject to change without notice

Hi-Target
Surveying the World, Mapping the Future

iRTK5 NEW
GNSS RTK SYSTEM

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 1408 tracking channels, enhanced initialization speed and anti-noise performance.

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.

L-Band

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%.

2 cm accuracy within 30° inclination, and 2.5 cm accuracy within 60 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 Processer: 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℃ ~ +60℃ Storage temperature: -30℃ ~ +70℃ Free fall:1.2 m Shock and vibration: MIL-STD-810H