

i80 GNSS



KEY FEATURES

- **4 cores 1.5 GHz CPU**
- **MEMS precise tilt sensor for auto-compensation within 30° slant**
- **HSPA/HSPA+, and 4G (optional) network**
- **Embedded Linux OS and Web interface**
- **Wi-Fi communication with smart phone/PDA**
- **Compatibility with Android/iOS/Windows Mobile/Win7/Win8 OS**
- **Dual battery auto switch for whole-day field work**
- **16/32G internal storage**
- **USB and cloud update**
- **Low multi-path error, reliable low-elevation SV tracking, excellent anti-interference**

With bold evolution and rugged design, i80 is one the top level GNSS receivers. Powered by quicker core engine, advanced industry technologies and more user-friendly design, i80 offers efficient work, limitless management and convenient operation. It is a perfect choice for various demanding survey applications.

Full Integration

Built-in high-level GNSS engine, satellite antenna, UHF, 3G/4G network module, Bluetooth®, tilt sensor, Wi-Fi, all-in-one design makes your everyday work quick and simple.

Expanded Compatibility

With various protocols, formats and communications support, i80 welcomes and is welcomed by most GNSS devices. What is more, its advanced Bluetooth and Wi-Fi chips enable multiple communications from WM/Android/iOS/Windows devices, which means configuration and data communication could be done even without a professional PDA.

Optimized Human-Device Communications

LCD display tells device status in glances. Configuration is accessible from your smart phone, PDA and PC via both Bluetooth and Wi-Fi. Firmware update is no longer limited to an on-site PC and data cable, since USB and remote web uploading allows more convenient operations.

More Reliable Performance

i80 rugged design keeps it working in harsh environments despite of rains, extreme high/low temperatures. Its anti-shock technology keeps it safe from 3-meter drop, and its vacuum integration keeps it floating on water. All-satellite-system support, enhanced low-elevation satellite tracking enable quick initialization and high accuracy, even in blocked surroundings. Internal precise tilt sensor maintains its accuracy in hard environments like corners.

Technical Specifications

GNSS characteristics

- 220 channels with simultaneously tracked satellite signals
 - GPS: L1C/A, L1C, L2C, L2E, L5
 - GLONASS: L1C/A, L1P, L2C/A, L2P, L3
 - SBAS: WAAS, EGNOS, MSAS
 - Galileo: E1, E5A, E5B (test)
 - BeiDou: B1, B2 (optional)

Performance specifications⁽¹⁾

- Real Time Kinematics (RTK)
 - Horizontal: 8 mm + 1 ppm RMS
 - Vertical: 15 mm + 1 ppm RMS
 - Initialization time: typically < 5 s
 - Initialization reliability: typically > 99.9%
- Rapid Static
 - Horizontal: 5 mm + 1 ppm RMS
 - Vertical: 10 mm + 1 ppm RMS
- Post Processing Static
 - Horizontal: 2.5 mm + 0.5 ppm RMS
 - Vertical: 3.5 mm + 0.5 ppm RMS
 - Baseline Length: ≤ 300 km

Electrical

- Power consumption: 3.2 W
- Li-ion battery capacity: 6600 mAh / 7.4 V
- Battery life: typical 12 hours in RTK mode
- External power: 12 ~ 36 VDC
- Auto switch between battery and external power

Communications

- 1x UHF antenna port
- 1x 7-pin LEMO port, for power supply, data download, and USB update
- 1X 7-pin serial port, for power supply and correction output

- Integrated GSM/GPRS modem, supporting HSPA/HSPA+ and 4G (optional) network
 - WCDMA 850/900/1700/1900/2100
 - EDGE/GPRS/GSM 850/900/1800/1900
- Multimode Bluetooth® completely compatible with Android, Windows Mobile, IOS and Win7/Win8 OS
- Wi-Fi, 802.11 B/G/N, supporting AP, 150 m⁽²⁾ distance, 108 Mbps
- Interface: 1x power button, 1x FN button, 1x LCD display
- CHC radio modem internal Rx: 430-450/450-470 MHz
- Optional radio modem⁽³⁾:
 - Internal Rx/Tx: 403-473 MHz
 - External Tx DL5: 1W - 20W adjustable
- Protocols:
 - RTCM2.1, RTCM2.3, RTCM3.0, RTCM3.1, CMR, CMR+ input and output
 - NMEA0183 output
 - RINEX and HCN outputs for GNSS raw data
 - NTRIP
- Data Storage:
 - 16/32 G, extended up to 64G
 - HCN, RINEX
 - GPS device mounts as a USB external hard drive

Physical

- Size (HxD): 140 x 124 mm (5.5 x 4.9 in)
- Weight: 1.5 kg with battery (53 oz)
- Operating temperature: -45 °C to +75 °C (-49°F to 167°F)
- Storage temperature: -50 °C to +85°C (-58°F to 185°F)
- Humidity: 100% condensation
- Waterproof and dust proof: IP67 - protected from temporary immersion to depth of 1 meter, floats
- Shock: survives a 3-meter drop on to concrete

(1) Accuracy and reliability specifications may be affected by multipath, satellite geometry and atmospheric conditions. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices. (2) Wi-Fi working distance would be affected by obstacles, magnetic field or electric field. (3) UHF type approvals are country specific.

