

HUGEROCK G80 Version:2023

RUGGED GNSS RTK TABLET PC

8 Inch High Precision GNSS /RTK/GIS Mobile Platform

The whole series of HUGEROCK G80 use 8-core 2.0G Hz A73 processor, 7.9inch 1000nit ultra-bright high-definition fullview display, 18900mAh built-in large-capacity battery, IP67/MIL810G/IK05 high standard industrial protection level, built-in multiple communication methods and 8+128G large-capacity storage Unit, convenient for fast transmission and storage of various data. G80 is equipped with multi-model high-precision GNSS/RTK positioning boards, support BDS, GPS, GALILEO, GLONASS, NAVIC*, QZSS* systems and SBAS*. IMU* combined navigation and positioning. The high number of visible satellites enables the receiver to select the best signals. This maximizes the position accuracy, in particular under challenging conditions such as in deep urban canyons. Instantaneous RTK initialization*, support long-baseline RTK solution*, differential data RTCM format adaptive recognition*, can achieve milli-level *solution accuracy, support multi-path suppression technology, widely used in high-precision surveying and mapping, GIS information Acquisition, intelligent driving and drone control systems.

(with * for specific model support)



Shenzhen SOTEN Technology Co., LTD
 ADD: 10F, B#2, Pivon Research Building, No. 5158 Shahe West Road, Nanshan, Shenzhen, China 518055
 Phone: +86(0755)-61885156 61827963 Fax: +86(0755)-61827963
 Web: www.soten.com.cn FAE: fae@soten.com.cn Skype: sales.soten

APPEARANCE



- 1. Type-A (Sealed Cover)
- 2. Front camera
- 3. Light sensor
- 4. Charging light
- 5. Home button
- 6. Back button
- 7. Volume up
- 8. Volume Down
- 9. Scan button
- 10. Custom button
- 11. Speaker
- 12. Power button
- 13. SIM/TF (Sealed Cover)
- 14. Type-c (Sealed Cover)
- 15. Antenna
- 16. MIC
- 17. 4pin pogo pin (magnetic)
- 18. Main camera
- 19. Nameplate



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SPECIFICATION

Model: G80

Hardware	Communications & Networking
CPU: ARM Cortex A73 octa-core(2.0GHz)	Phone Call: GSM/WCDMA/CDMA 1X/VoLTE
GPU: ARM Mali-G72 MP3	2G: GSM/CDMA 1X/EDGE/GPRS/WAP
RAM: 8G	2G Band: GSM (B2/3/5/8)
Internal Memory: 128G	3G: WCDMA 3.75G (HSDPA+42.2Mbps, HSUPA+11.5Mbps), EVDO
External Memory: Micro SD card (T-FLASH card), max 256GB	3G Band: WCDMA(B1/2/5/8), Evdo: BC0/BC1 CDMA: BC0/BC1
Main Camera: 13.0MP(AF)with flash led	4G: FDD: 150Mbps down, 50Mbps UP TDD: 150Mbps downlink, 50Mbps uplink
Sub Camera: 5.0MP	4G Band: TD-LTE(B38/39/40/41); FDD LTE(B1/2/3/4/5/7/8/12/17/20/28)
Battery: 18900mAh	WI-FI: Dual-band WIFI (2.4GHz/5GHz) single stream 802.11 a/b/g/n/ac
Display: 8 inch IPS/AFSS FHD 1920*1200 industrial 1000nit-Sunlight-Readable	Bluetooth: 5.0 Low Energy (LE)
Touch Panel: Capacitive/affosted tempered film supports glove touch/spray/active capacitive pen	Industrial & Reliability Design
IO/Sensor/Navigation	Shake-proof: 1-19Hz/1.0mm; 19-200Hz/1.0g
SIM Card: Nano sim card*2	Dropproof /IK: MIL-STD-810G/Method516.6/Procedure IV & Touch Panel IK05
TF Card: Micro SD card(T-FLASH card) ; max 256GB	Waterproof: Class 7 (IEC 60529)
Charging interface: Type-C & 4pin pogo pin (magnetic)	Dustproof: Class 6 (IEC 60529)
Data interface: USB Type-A(Host)*1, Type-C*1	Reliability: MTBF>5000h ; MITTR<0.5h
Gravity sensor: support	Operating temperature: -20°C to 55°C
Magnetic Field Sensor: support	Storage Temperature: -40°C to 70°C
Motion sensor: support	RH: 5% to 95%
Rotation vector sensor: support	Operating Altitude: Max: 4500 m(15,000 feet)
Acceleration sensor: support	Certification/OS/Software
Gyro sensor: support	Certification: 3C /FCC/CE/ROHS/IP67 (IEC 60529)
Light-sensor: support	Language: English, Spanish, Portuguese (Brazil), Portuguese (Portugal), Italian, German, Dutch, French, Polish, Romanian, Turkish, Russian, Arabic, Indonesian, Malay, Thai, Vietnamese, Hindi, Hebrew, Simplified, Chinese,Chinese Traditional,etc
Proximity sensor: support	OS: Android 11
Temperature pressure sensor: Optional	Package/Warranty terms
Charger: 5.0V 2A-10W	Warranty: 24 months
Navigation: GPS+Beidou+Glonass+AGPS+SBAS (EPO 2.5m)	Package: USB cable / Charger 5V 2A / Introduction manual / Screen protector / Aircraft box / Toolkit / SIM Card Ejector x 1
Appearance	
Size: 256*159*23mm (L*W*H)	
Weight: 1015g	
Color & Material: Blue(PC+ABS)+black(TPU)	

**According to the actual model, GNSS receivers receive different types of signals. Please check the performance list of GNSS receivers of the model.



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DIFFERENCES BETWEEN PRODUCT TYPES

TOOL KIT The packing list is different according to the specific model configuration, the actual one shall prevail.

Model: G80N
Multi-satellite single frequency meter-level RTD

EXTERNAL HELIX ANTENNA ITEMS

Antenna	Multi-satellite single frequency
Antenna Frequency Band	BDS B1; GPS L1; GLONASS G1; GALILEO E1
Antenna Size	φ18.5mm*50mm
Installation Method	SMA
Horizontal Coverage	360°
Impedance Matching	50 Ω
Polarization Mode	Right-handed circular polarization (RHCP)
Spindle Ratio	≤3dB
Gain	30±2dB
Maximum Gain	±1.5 dBi
Noise Factor	≤1.5 dB

FEATURES OF THE POSITIONING RECEIVER

Module	High-precision multi-mode GNSS positioning module(meter-level RTD)
Signal (tracking Frequency)	BDS: B1; GPS: L1 C/A; GLONASS: L1 OF; Galileo: E1B/C; QZSS: L1 C/A/S; SBAS L1 C/A; WAAS, EGNOS, MSAS, GAGAN
Channel	92-channel
Single-point Positioning Accuracy	1.5 m CEP (with SBAS); 2.0 m CEP (without SBAS)
RTD Accuracy	1.5 m CEP (with RTD)
Nav. Update Rate	1- 25 Hz
Cold Start	24 s
Hot Start	2 s
Aided Start	2 s
Cors Data	RTCM 3.3
Data Format	NMEA-410, UBX binary, RTCM 3.3
Inertial Navigation	none



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DIFFERENCES BETWEEN PRODUCT TYPES

Model: G80F
Multi-satellite dual frequency centimeter level RTK

Model: G80M
Multi-satellite multi-frequency omnidirectional mm-level RTK

EXTERNAL HELIX ANTENNA ITEMS

Antenna	Multi-satellite dual frequency
Antenna Frequency Band	BDS B1/B2/B3; GPS L1/L2; GLONASS G1/G2; GALILEO E1/E5b
Antenna Size	φ27.5mm*55.5mm
Installation Method	SMA
Horizontal Coverage	360°
Impedance Matching	50 Ω
Polarization Mode	Right-handed circular polarization (RHCP)
Spindle Ratio	≤3dB
Gain	30±2dB
Maximum Gain	2.5dBi
Noise Factor	≤1.5 dB

FEATURES OF THE POSITIONING RECEIVER

Module	High-precision multi-mode dual-frequency module (centimeter level RTK)
Signal (tracking Frequency)	BDS: B1/B2; GPS: L1C/A L2C; GLONASS: L1OF L2OF; Galileo: E1B/C E5b; QZSS: L1C/A L1S L2C; SBAS: L1C/A
Channel	184-channel
Single-point Positioning Accuracy	0.8m CEP
RTK Accuracy	≤10mm + 1 ppm CEP
Nav. Update Rate	1- 20 Hz
Cold Start	24 s
Hot Start	2 s
Aided Start	2 s
Cors Data	RTCM v. 3.3, SPARTN v. 2.0
Data Format	NMEA, UBX binary, RTCM v. 3.3, SPARTN v. 2.0
Inertial Navigation	none



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GNSS Measurement Antenna (Optional)

Multi-frequency RTK Antenna HG-BA600

Passive antenna characteristics passive

Support satellite signal	BDS: B1, B2, B3
GPS	L1, L2; GLONASS: G1, G2; Galileo: E1, E5b
Operating frequency band	1197MHz-1278MHz; 1559MHz-1605MHz
Impedance matching	50 Ω
Polarization mode	Right-handed circular polarization (RHCP)
Spindle ratio	≤3dB
Horizontal coverage	360°
Maximum gain	≥5.5dBi

Low noise amplifier characteristics

Low noise amplifier gain	40±2dB
Noise factor	≤2.0dB
Output standing Wave Ratio	<2.0
Intra-band flatness	±2dB
Operating voltage	3.0-16V DC
Operating current	≤45mA

Adaptability of machine & structure & environment

Joint type	TNS negative head
Antenna size	φ132mm*45mm
Operating temperature	-40°C~+80°C
Storage temperature	-45°C~+85°C
Storage humidity	95% no condensation
Color	white
Installation method	TNS screw installation
Weight	≤320g
Phase center error	±2mm
Dual frequency delay difference	≤5ns

Multi-frequency RTK Antenna HG-BA800

Passive antenna characteristics

Support satellite signal	BDS: B1, B2, B3; GPS: L1, L2, L5
GLONASS	G1, G2; GALILEO: E1, E2, E5a, E5b, E6, L-Band
Operating frequency band	1164MHz-1300MHz; 1520MHz-1615MHz
Impedance matching	50 Ω
Polarization mode	right-handed circular polarization (RHCP)
Spindle ratio	≤3dB
Horizontal coverage	360°
Maximum gain	≥5.5dBi

Low noise amplifier characteristics

Low noise amplifier gain	40±2dB
Noise factor	≤2.0dB
Output standing Wave Ratio	≤2.0
Intra-band flatness	±2dB
Operating voltage	3.0-16V DC
Operating current	≤35mA

Adaptability of machine & structure & environment

Joint type	TNS negative head
Antenna size	φ132mm*55.14mm
Operating temperature	-40°C~+80°C
Storage temperature	-45°C~+85°C
Storage humidity	95% no condensation
Color	white
Installation method	TNS screw installation
Weight	≤350g
Phase center error	±2mm
Dual frequency delay difference	≤5ns



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