

# RB3 GNSS

Version	Date	Description	Person
V1.1			

## 1. Product picture



## 2. Specification

### 2.1 GNSS Performance

Product model	RB3	
GNSS Board	Septentrio AsteRx-m3 Pro+	
Channel	544 channels	
Signal Tracking	GPS: L1 C/A, L1C, L2C, L2 P(Y), L5 GLONASS: L1 C/A, L2C/A, L3, L2P	

	BeiDou: B1I, B1C, B2a, B2b, B2I, B3I Galileo: E1, E5a, E5b QZSS: L1 C/A, L1C/B, L1C, L2C, L5 SBAS: EGNOS, WAAS, GAGAN, MSAS, SDCM Integrated L-band receiver	
Update rate	100HZ	
Fist positioning time	Cold start < 45 s Warm start < 20 s	
Signal recapture	avg. 1 s	
RTK Accuracy	Horizontal: 0.6 cm + 0.5 ppm Vertical: 1 cm + 1 ppm	
Single point positioning accuracy		
Direction accuracy	Antenna separation 1m, heading 0.15°, Pitch/Roll 0.25° Antenna separation 5m, heading 0.03°, Pitch/Roll 0.05°	
SBAS accuracy	Horizontal: 0.6m Vertical: 0.8m	
DGPS accuracy	Horizontal: 0.4m Vertical: 0.7m	
Pseudo-range accuracy		
Timing accuracy		

## 2.2 Data Record

Storage	Internal memory 32GB
Format of output data	NMEA0183, RTCMV2. x/V3.2/V3.3, Rinex v3.04/v2.11/etc.
Differential format	ROX, RTCM2. x, RTCM3. x, CMR, CMR+ Support to the own differential format of the optional 3 <sup>rd</sup> -party GNSSOEM board
Network	Support simultaneous network transmission processes up to 2 <sup>4</sup>

## 2.3 Interface

CAN(PWR)	M12
CAN(PWR)	M12
SER	M12
Ethernet	M12
UHF	TNC connector
GPRS	TNC connector
SIM	YES (micro)
TF card	YES (micro)
GNSS	GNSS1: TNC, the main external GNSS antenna GNSS2: TNC, the secondary external GNSS antenna

## 2.4 Indicator

No.	Indicator	Color	Function
1.	Position/Heading	red/green	<b>Satellites (Green)</b> <ul style="list-style-type: none"> <li>● Green: Fixed solution</li> <li>● Flash green: other solution</li> <li>● Green off: without positioning</li> </ul> <b>Heading (Red)</b> <ul style="list-style-type: none"> <li>● Red with heading</li> <li>● Red off: without heading</li> </ul>
2.	4G/Bluetooth	red/green	<b>Bluetooth(green)</b> <ul style="list-style-type: none"> <li>● Green off: Bluetooth is disconnected</li> <li>● Green on: Bluetooth is connected</li> </ul> <b>4G(red)</b> <ul style="list-style-type: none"> <li>● Flash red: Network is abnormal</li> <li>● Red on: Network is normal</li> <li>● Red off: Disable 4G</li> </ul>
3.	Differential data	red/green	<b>Transmitting data (green)</b> <ul style="list-style-type: none"> <li>● Solid green: when there is data transmitting over the 4G interface</li> <li>● Flashing green: when there is data transmitting over the radio</li> </ul>

- |  |  |   |
|--|--|---|
|  |  | module<br><b>Receiving data (red)</b> <ul style="list-style-type: none"> <li>● Solid red: when there is data receiving over the 4G interface</li> <li>● Flashing red: when there is data receiving over the radio module</li> </ul> |
|--|--|---|

## 2.5 System

Operating system	Linux A7
B/T	BT 5.0 EDR downward compatibility, LE
WIFI	802.11b/g
4G LTE	Full Netcom communication module
Ethernet	100M
UHF	TRM101 HDSC
	TX/RX data transmission transceiver
	TX Power: 1 Watt Frequency range: 410MHz - 470MHz

## 2.6 Network

NTRIP	Caster/Server/Client
Onsite management	Support Bluetooth Settings, serial port, WiFi Settings, with Android management APPs
Remote management	Configure via Web page; one dedicated remote management software for device
Network management	Provide network connection functions such as Intranet penetration, VPN, OpenVPN, and dynamic domain name, etc..
Safety	HTTP log in HTTPS/SSL NTRIP IP filtering WEBUI login requires to add the function of filling in the additional information (such as name, etc.), and recording users operation in addition to user name and password. Developer rights, administrator rights, view user, guest user

## 2.7 Other

Environment	Working temperature: -40°C---+80°C
	Storage temperature: -45°C---+85°C
	Humidity: anti-condensing by 100%
	Input: +7V~ +36V DC
	IP67
	In room temperature, 1.5m free drop (concrete ground)
	Weight: *KG
	Bare receiver: L*mm×W*mm×H*mm Complete receiver: L*mm×W*mm×H*mm Cabinet receiver: L*mm×W*mm×H*mm
Electrical specification	Power consumption: 5W Get the input voltage directly