



# GNSS Specification Overview

## GNSS Sensor

Receiver Type :	L1/G1, GPS + GLONASS (Galileo, BeiDou, QZSS optional) with carrier smoothing
Channels:	372 channels
SBAS Support:	3-channel, parallel tracking WAAS, EGNOS, MSAS, GAGAN SBAS ranging
GPS Sensivity	-142 dBm
Update Rate :	1 Hz (optional 10 or 20 Hz)
DGNSS Horizontal Accuracy :	< 60 cm 2dRMS, 95% confidence <sup>1</sup> (< 30 cm HRMS, < 25cm CEP)
Horizontal Accuracy :	< 2.5 m 2dRMS, 95% confidence (autonomous, no SA) <sup>2</sup>
Optional Proprietary RTCM :	< 20 cm 2dRMS, 95% confidence <sup>3</sup>
Optional RTK :	1cm + 1ppm
Cold Start :	< 60 sec typical (no almanac or time)
Reacquisition :	< 1sec
Maximum Speed :	1 850 kph / 1 150 mph / 999 knots
Maximum Altitude :	18 288m (60 000 ft)
<b>Post-processing:</b>	
Horizontal Accuracy1:	5 mm + 0.5 ppm (Static) or better 10 mm + 1 ppm (Kinematic) or better
Vertical Accuracy1:	5 mm + 1.0 ppm (Static) or better 20 mm + 1 ppm (Kinematic) or better

## Communication

Port:	Bluetooth, RS-232C, USB 2.0
Bluetooth Transmission:	Class 1 Typical range <sup>4</sup>
Bluetooth Frequency:	2.400 - 2.485 GHz
Fully Bluetooth pre-qualified:	Bluetooth 2.0
Baud Rates:	4,800 to 115 200
Data I/O Protocol:	NMEA 183, RTCM 104, Binary
Timing Output:	1 PPS (HCMOS, active high, rising edge sync, 10 kOhms, 10 pF load)
Event Marker Input:	HCMOS, active low, falling edge sync, 10 kOhms, 10 pF load
Raw Measurement Data:	Binary (Free RINEX utility)
Correction I/O Protocol:	ROX Format, RTCM V2-3, RTCM V3-2, CMR, CMR+
LED mode indicators:	Power, GNSS lock, DGPS position DIFF lock, Bluetooth connection
Battery Status LED:	5 LED's bar graph

## Power

Battery Type:	Field replaceable Lithium-Ion pack (Rechargeable inside unit or separately)
Battery Capacity:	3,900 mAh. 7.2V
Battery Life:	8 + hours
Power Consumption:	< 3.5W
Charging Time:	4 to 5 hours using supplied charger
Antenna Voltage Output:	5 VDC
Antenna Input Impedance:	50 Ohms

## Environmental

Operating Temperature:	-40°C to +85°C (-40°F to +185°F) <sup>5</sup>
Storage Temperature:	-40°C to +85°C (-40°F to +185°F)
Humidity:	95% non-condensing
Compliance:	FCC, CE, RoHS and Lead-free

## Mechanical

Enclosure Material:	Re-enforced Nylon
Battery Case Material:	ABS
Enclosure Rating:	Waterproof, IP-67
Enclosure Dimensions:	14.1 x 8.0 x 4.7 cm (5.57 x 3.15 x 1.85 in.)
Weight:	487g (1.07 lb)
Data Connectors:	DB-9 Female USB Type B Female
Antenna Connector:	SMA Female

## Antenna

Frequency Range:	L1, G1, L-Band (1,525 MHz - 1,607 MHz)
Gain (without cable):	26 dB (+/- 2 dB), 35 mA
Voltage:	+ 4.5 to 15 VDC
Impedance:	50 Ohms
Dimensions:	6.6 diam. x 2.7 cm (2.61 x 1.05 in.)
Weight (without cable):	114g (0.25 lbs) (with removable magnet mount)
Antenna Connector:	SMA Female
Temperature:	-55°C to +70°C (-67°F to +158°F)
Humidity:	Immersion 1 meter

## Standard Accessories

- SXBlue II+ GNSS Receiver
- Li-Ion Battery Pack (Field replaceable)
- Li-Ion Charger
- Belt/Shoulder Carrying Case
- Precision Antenna with 1.5m cable
- Soft Hat for antenna
- RS-232 Cable (6 ft.)
- USB Type A/B Cable (6 ft.)

## Field Activated Options

- 10-20 Hz Output Rate
- RTK Base / Rover

