



# SIGMA

## Multi-Purpose GNSS Receiver



### Key Features

- All GNSS Constellations
- Cell & Radio
- NTRIP Caster / Server
- GNSS Heading & IMU
- Ethernet, USB, Serial
- Wi-Fi, Bluetooth
- CAN, Event, 1PPS
- External Frequency I/O

The SIGMA is a versatile receiver designed for multiple applications that require RTK, with options for GNSS Heading and roll / pitch from a MEMS IMU. With an internal battery, 2 power inputs, and all typical I/O, the SIGMA readily serves multiple GNSS configurations. Featuring integrated cell and radio communications, the SIGMA may be a Reference Station, with NTRIP Caster and Server functions to transmit RTCM corrections via TCP or NTRIP.

<b>Number of Channels</b>	874	
<b>GNSS Constellations</b>	GPS GLONASS GALILEO BeiDou QZSS SBAS IRNSS L-Band	L1 C/A, L1C (P+D), P1, P2, L2C (L+M), L5 (I+Q) L1 C/A, P1, P2, L2C, L3 (I+Q) E1 (B+C), E5A (I+Q), E5B (I+Q), AltBoc, E6 (B+C) B1, B1-2, B1C (P+D), B5A (I+Q), B2, B5B (I+Q), B3 L1 C/A, L1C(P+D), TMSB, L2C(L+M), L5(I+Q), L6, L1S, L1Sb, L5S L1, L5 L5, S-Band 1525-1560 MHz
<b>Position Accuracy</b>	Autonomous (Stand alone) SBAS DGPS PPP RTK Static/Fast Static Roll / Pitch / Heading <sup>1</sup>	< 2 m < 1 m < 0.5 m Horizontal: 0.025 m Vertical: 0.050 m Horizontal: 0.008 m + 1 ppm Vertical: 0.015 m + 1 ppm Horizontal: 0.003 m + 0.1 ppm Vertical: 0.004 m + 0.4 ppm Roll / Pitch: 0.10 deg, Heading: 0.09 deg (2 m baseline)
<b>Network</b>	NTRIP Caster TCP / TCPO / UDP Server NTRIP / TCP Client NTRIP Server HTTP(S) Server FTP Server / Push /SFTP	Up to 256 NTRIP Clients 5 / 256 / Unlimited Clients 2 / 2 Connections 2 NTRIP Caster Connections 1 Client 1 Client / 1 / 1 Connection
<b>Cell</b>	4G LTE	LTE-FDD, LTE-TDD, DC-HSPA+, HSPA+, HSPA, UMTS (SMA)
<b>Radio</b>	UHF Radio Modem UHF FH915 (optional)	1W TPO / 2 W EIRP, 406-470MHz UHF transceiver (SMA) 1W TPO / 2 W EIRP 902-928/ 868-870 MHz ISM transceiver (RP-SMA)
<b>Memory</b>	Non-removable	Up to 64 GB
<b>Status/Interface</b>	LEDs / Keys	2 Buttons: Power & Function 7 LEDs: Power, Status, Recording, Radio, Cellular, Wi-Fi, Bluetooth
<b>Communication</b>	Ethernet Wi-Fi, Bluetooth USB Serial Serial/CAN 1PPS Event Marker External Frequency I/O GNSS Antenna <sup>2</sup>	Full-duplex 10BASE-T/100Base-TX (7-pin ODU) 5 GHz and 2.4GHz, 802.11 a, b, g, n, ac v5.1, Dual-Mode High-speed USB 2.0 (480 Mbps) dual-role port (7-pin ODU) 2 x RS232 up to 460.8 kbps (7-pin ODU) 1x RS232 / 422 / CAN 2.0 with +12 V DC, 250 mA max (M12, 8 pin) 2 x 1PPS 2 x Event Marker 5/10/20MHz +5 VDC (0.2A max)
<b>Power</b>	External Input Input Voltage Internal Battery Operation Time	2 inputs, 5-pin ODU +10 to +30 VDC Rechargeable Li-Ion Battery, 42500 mWh (nom.) 18 hours
<b>Physical &amp; Environmental</b>	Operating Temperature Storage Temperature Humidity Ingress Protection Shock Vibration Dimensions Weight	-40°C – +65°C -40°C – +85°C 100% IP67 MIL-STD- 810H (method 514.8) MIL-STD- 810H (method 516.8) 212 X 132 X 62 mm 1.4 kg

The SIGMA-3S is a single antenna model. The SIGMA-DMI is dual antenna model with an integrated MEMS IMU.

1. Roll / Pitch / Heading on the SIGMA-DMI model
2. 2 x +5 VDC ports on the SIGMA-DMI model



## SIGMA Models & Options

	Standard	Option A	Option B	Option C
<b>SIGMA-3S</b>	PWR1, PWR2, USB, Serial, Serial, Ethernet, Wi-Fi Ant., RS232/CAN, BT Ant., ANT		Event A, 1PPS B, 1PPS A, FREQ I/O	Event A, 1PPS B, 1PPS A, FREQ I/O, Cell, UHF, SIM Door
<b>SIGMA-DMI</b>	PWR1, PWR2, USB, Serial, Serial, Ethernet, Wi-Fi Ant., RS232/CAN, BT Ant.	ANT2, ANT1	ANT2, Event A, 1PPS A, ANT1	ANT2, Event A, 1PPS A, ANT1, Cell, UHF, Sim Door