

TW5384



TW5384 Smart GNSS Antenna for High Accuracy Positioning

Overview

The TW5384 is a multi-band (L1/L2), multi-constellation integrated GNSS receiver/antenna with RTK for Precise Point Positioning. The TW5384 is capable of providing sub 1 meter accuracy stand alone, sub 6 cm accuracy with PPP-RTK corrections, and sub 1 cm with RTK corrections to support the most demanding positioning applications.

Interference Resilience

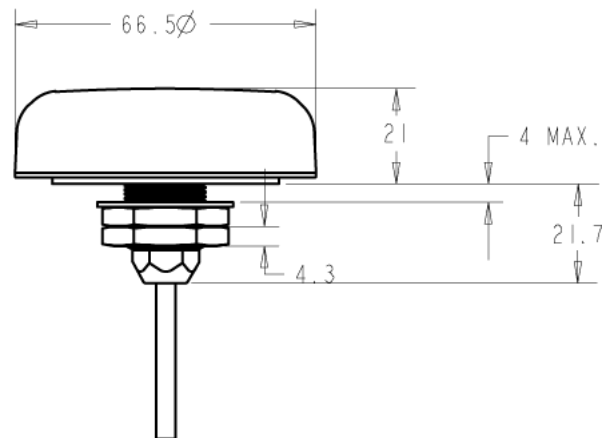
The TW5384 incorporates a latest generation multi-band (L1/L2) GNSS receiver with a Tallysman Accutenna® multi-band (L1/L2) dual feed patch. The state of the art GNSS receiver supports concurrent tracking of all four major constellations (GPS, BeiDou, Galileo and GLONASS) in multiple frequency bands. The multi-band (L1/L2) architecture is highly effective method for the removal of ionospheric error. The TW5384 employs multi-stage filtering with low noise figure LNAs, combined with the dual feed Accutenna®, which greatly improves the rejection of multi-path signal interference, to offer exceptional performance to meet the most stringent precise positioning applications.

Precise Point Positioning

The TW5384 is designed to meet the most demanding of positioning applications. The receiver offers support for a broad range of corrections services (RTK base/rover or network) allowing performance optimization according to each application's unique requirements. The concurrent multi-band (L1/L2) access to all four satellite constellations improves the receiver's convergence capability to deliver a quick, precise and reliable position solution which is unaffected by ionospheric errors, and improved resilience to jamming.

The TW5384 accepts RTCM RTK messaged from a base station, Virtual Reference Station or SPARTN SSR message type via the PointPerfect subscription service. TW5384 may also be configured as an RTK base station or moving RTK base for Precise Heading.

The TW5384 provides sub 6 cm positioning accuracy in conjunction with PPP-RTK applied corrections and sub 1 cm with RTK.



Mechanical Dimensions (mm)

Features

- Improved noise immunity with multi-band ublox ZED-F9P GNSS receiver
- PointPerfect PPP-RTK, RTK Base/Rover, Moving Baseline Precise Heading
- Improved multi-path rejection with Dual feed Accutenna®
- Multi-band GNSS receiver is resilient to ionospheric errors
- High reliability timing with expansive constellation array
- Exceptional position performance standalone without correction services
- Broad 5V-36V operation
- RS-422 differential (or RS-232) signalling
- Industrial grade IP69K enclosure
- Rugged fixed mount
- Multiple cable lengths (5m, 15m and 25m)
- Available with conical radome

TW5384 Smart GNSS Antenna

Specifications

Antenna	Environmental
Architecture..... Multi-band (L1/L2), Dual Feed	Operating Temperature..... -40°C to +85°C
Axial Ratio..... L1: < 1 dB typical.	Storage Temperature..... -40°C to +85°C
Frequencies..... GPS L1C/A L2C, GLO L1OF L2OF, GAL E1B/C E5b, BDS B1I B2I, QZSS L1C/A L2C	Weatherproof IP69K
SBAS L1 C/A..... WAAS, EGNOS, MSAS, GAGAN	Shock..... Vertical axis 50G, other axis 30G 3 axis sweep – 15 min
Channels..... 184-channel u-blox F9 engine	Vibration..... 10-200 Hz log sweep 3G
Anti-jamming Active CW detection	
Interface	Sensitivity
Pwr, Gnd	Tracking & Nav -167 dBm
33-5384-07-yy-zz..... Data, Timerpulse: RS-422 levels	Reacquisition -160 dBm
33-5384-27-yy-zz..... Data: RS-232; Timepulse: RS-422	Hot starts -157 dBm
	Cold starts -148 dBm
Serial Protocol	Acquisition
Output..... NMEA 0183, UBX Binary, RTCM v3.3, SPARTN v2.0	Cold start 25 sec
Baud Rate..... Configurable	Aided start 2 sec
Update Rate (PVT) 9 Hz (4); 10 Hz (GPS+GAL+BDS); 20 Hz (GPS+GAL); 20 Hz (GPS+GLO); 16 Hz (GP+BDS); 25 Hz (GPS)	Reacquisition 2 sec
Mechanical	Horizontal Position Accuracy (4 Constellations)
Dimensions 66.5 mm dia. x 21 mm H	Standard PVT 1.5m CEP
Weight 135 g	Standard SBAS 1.0m CEP
Mounting Method Industrial grade fixed Mount	Corrected RTK 0.01m + 1ppm CEP
Cable Length..... 5, 15, 25m with RJ45 termination	Augmented SPARTN (PPP-RTK)..... <0.06m CEP
	SPARTN Convergence..... <45 sec*
Electrical	Heading
Voltages 5 V to 36 VDC	Dynamic Heading Accuracy 0.3° (30 m/sec)
Current 0.5 Watts (nominal operating) Measured @ 5VDC supply	Precise Heading Accuracy (static) 0.4°(min 1m baseline)
	Timing
	Timing Accuracy..... 30 ns RMS

Ordering Information:

33-5384-07-yy-zz-PC0 (RJ45; Data and Timepulse: RS-422; PC0 = NMEA out, no adaptor cable.)
33-5384-27-yy-zz-PC0 (RJ45; Data: RS-232, Timepulse: RS422; PC0 = NMEA out, no adaptor cable.)

yy = Radome (00=grey conical, 10=grey low profile, 01=white conical, 11=white low profile)
zz = Cable length in meters. Standard is 5m. (15m and 25m are special order only)

33-5384-07-yy-zz-PC0 SDK Test Adaptor required for programming 33-0095-10
33-5384-27-yy-zz-PC0 SDK Test Adaptor required for programming 33-0095-13

About Calian GNSS: With global headquarters and manufacturing in Ottawa, Canada, Calian GNSS is a leading manufacturer of high-precision antennas and components for Global Navigation Satellite System (GNSS) applications. Calian GNSS' mission is to support the needs of a new generation of positioning systems by delivering unprecedented antenna precision at competitive prices. Learn more at www.calian.com/GNSS

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