TW5384

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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 and sub 10 cm accuracy with RTK corrections to support the most demanding positioning applications.

Interference Resilience

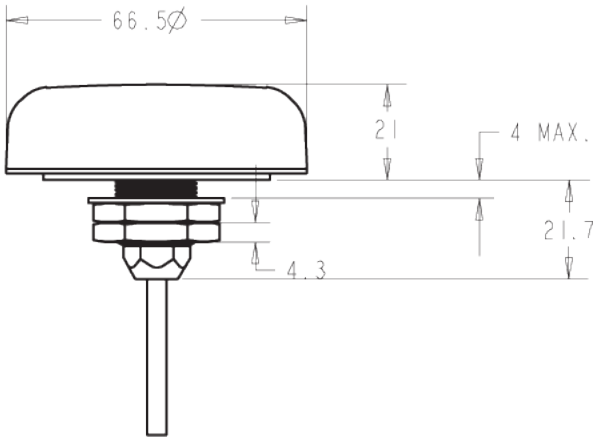
The TW5384 incorporates a latest generation multi-band (L1/L2) GNSS receiver with a Tallysman Accutenna™ multi-band (L1/L2) dual feed patch. The state of the art GNSS receiver supports concurrent tracking of all four major constellations (GPS, BeiDou, Galileo and GLONASS) in multiple frequency bands. The multi-band (L1/L2) architecture is the most 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 Point Perfect subscription service. TW5384 may also be configured as a RTK base station or moving base.

The TW5384 provides sub 10 cm positioning accuracy in conjunction with RTK applied corrections.



Mechanical Dimensions (mm)

Features

- Improved noise immunity with multi-band GNSS receiver
- Improved multi-path rejection with Dual feed Accutenna™
- Multi-band GNSS receiver is unaffected by ionospheric errors
- High reliability timing with expansive constellation array
- Exceptional position performance without correction services
- Broad 5V-36V operation
- RS-485 differential 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

Architecture	Multi-band (L1/L2), Dual Feed
Axial Ratio	L1: < 1 dB typical.
Frequencies	GPS L1C/A L2C, GLO L1OF L2OF, GAL E1B/C E5b, BDS B1I B2I, QZSS L1C/A L2C
SBAS L1 C/A	WAAS, EGNOS, MSAS, GAGAN
Channels	184-channel u-blox F9 engine
Anti-jamming	Active CW detection

Interface

Pwr, Gnd	
Tx, RX, Timepulse	RS-485 levels

Serial Protocol

Output	NMEA 0183, UBX Binary, RTCM v3.3, SPARTN v2.0
Baud Rate	Configurable
Update Rate	Configurable up to 10Hz*

Mechanical

Dimensions	66.5 mm dia. x 21 mm H
Weight	135 g
Mounting Method	Industrial grade fixed Mount
Cable Length	5, 15, 25m with RJ45 termination

Electrical

Voltages	5 V to 36 VDC
Current	0.5 Watts (nominal operating) Measured @ 5VDC supply

Environmental

Operating Temperature	-40℃ to +85℃
Storage Temperature	-40℃ to +85℃
Weatherproof	IP69K
Shock	Vertical axis 50G,other axis 30G 3 axis sweep – 15 min
Vibration	10-200 Hz log sweep 3G

Sensitivity

Tracking & Nav	-167 dBm
Reacquisition	-160 dBm
Hot starts	-157 dBm
Cold starts	-148 dBm

Acquisition

Cold start	25 sec
Aided start	2 sec
Reacquisition	2 sec

Position Accuracy

Horizontal PVT	1.5m CEP
Horizontal SBAS	1.0m CEP
Horizontal RTK	0.01 + 1ppm R50*
Horizontal PPP-RTK (SPARTN)	<0.06m CEP
Typical Convergence	<45 sec*

Timing

Timing Accuracy	30 ns RMS

Ordering Information:

33-5384-7-yy-zz-PC0 (PCO = 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)

TW5384 SDK Test Adaptor required for programming **33-0095-1**

Please refer to the Ordering Guide for the current and complete list of available product options.

About Tallysman: With global headquarters and manufacturing in Ottawa, Canada, Tallysman is a leading manufacturer of high-precision antennas and components for Global Navigation Satellite System (GNSS) applications. Tallysman's 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.tallysman.com**

Contact us:
info@tallyman.com
T: +1 613 591-3131

Tallysman Wireless Inc.
36 Steacie Drive,
Ottawa ON
K2K 2A9 Canada

www.tallysman.com

Mouser Electronics

Authorized Distributor

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33-5384-7-10-05-PCO 33-5384-07-10-05-PCO 33-5384-07-10-05-PC0 33-5384-27-10-05-PC0 33-TP5384SDK-2