



A Tallysman Accutenna®

TW3882 GPS L1/L2 + GLONASS G1/G2/G3 + BeiDou B1/B2 + Galileo E1/E5b

The TW3882 employs Tallysman's unique *Accutenna* technology providing dual band GPS L1/L2, GLONASS G1/G2/G3 + BeiDou B1/B2 + Galileo E1/E5b coverage and is especially designed for precision dual frequency positioning.

The TW3882 features a precision tuned, circular dual feed, stacked patch element. The signals from the two orthogonal feeds are combined in a hybrid combiner, amplified in a wide-band LNA, then band-split for narrow filtering in each band and further amplified prior to recombination at the output.

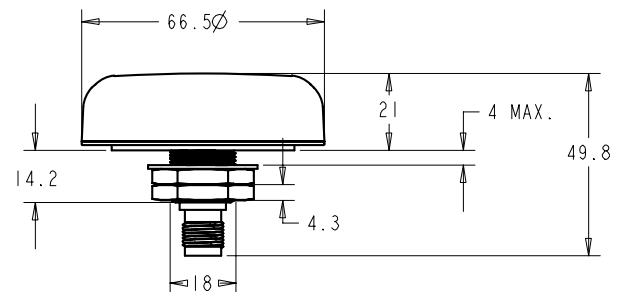
The TW3882 has a pre-filter which increases the antenna's immunity to high amplitude signals, such as LTW and other cellular signals. The TW3882 offers excellent axial ratio and a tightly grouped phase center variation.

The TW3882 is housed in a through-hole mount, weather-proof enclosure for permanent installations. L Bracket or Pipe Mount (part numbers 23-0040-0, 23-0065-0 respectively) are available for non-rooftop installation. A 100mm ground plane is recommended for non-roof-top installations.

This product is also available in an OEM format (TW3887)



TW3870 Dimensions (mm)



Applications

- Precision GPS position
- Dual Frequency RTK receivers
- Mission Critical GPS Timing
- Military & Security
- Network Timing and Synchronization

Features

- Very low Noise Preamp, < 2.5dB
- Axial ratio L1: ≤1.0 dB typ. 1.5 dB max.
- Tight Phase Center Variation
- LNA Gain 35 dB typ.
- Low current: 24 mA typ.
- ESD circuit protection: 15 KV
- Invariant performance from: +2.5 to 16VDC

Benefits

- Ideal for L1/L2 RTK surveying systems
- Great multipath rejection
- Increased system accuracy
- Great signal to noise ratio
- IP67, REACH, and RoHS compliant



TW3882 GPS L1/L2 + GLONASS G1/G2/G3 + BeiDou B1/B2 + Galileo E1/E5b

Specifications (Measured a Vcc = 3V, and Temperature=25°C)

Antenna

| | |
|---|--|
| Patch Architecture | Circular, Dual Feed, Dual Stacked Patch |
| L2 Gain (100mm ground plane), 1207.14-1246MHz | 3 dBic Min at Zenith on 100mm Ground Plane |
| L1 Gain (100mm ground plane), 1575.42MH-1606MHz | 4.5 dBic Min at Zenith on 100mm Ground Plane |
| Axial Ratio, L1/G1/E1/B1, L2/G2/B2/E5b | ≤1.0 dB typ. 1.5 dB max., ≤1.5 dB typ. 2.0 dB max. |
| 1dB Bandwidth, | L2: 1195MHz-1250MHz L1: 1557MHz-1606MHz |
| Polarization | RHCP, |

Electrical

| | | | | |
|----------------------------------|--|--------|-----------|--------|
| Bandwidth | L2: 1189MHz-1261MHz (Filter bandwidth) L1: 1557 MHz-1606MHz (Filter bandwidth) | | | |
| Overall LNA Gain | 35dB typ, 32 dB min, each of L1 and L2 Bands, | | | |
| Gain Variation with Temperature. | 3dB max over operational temperature range | | | |
| LNA Noise Figure | 2.5dB typ at 25°C | | | |
| VSWR (at LNA output) | <1.5:1 typ. <1.8:1 max. | | | |
| Supply Voltage Range | +2.5 to 16VDC nominal, up to 50mV p-p ripple | | | |
| EMI Immunity | 50V/Meter, excepting L1 +/-100MHz and L2 +/- 100MHz | | | |
| Supply Current | 24 mA typ. at 25°C, 25mA max at 75°C. | | | |
| ESD Circuit protection | 15 KV air discharge. | | | |
| Out-of-Band Rejection | L1 | | L2 | |
| | <1450 MHz | >40 dB | <1050 MHz | >50 dB |
| | <1520 MHz | >30 dB | <1100 MHz | >40 dB |
| | >1650 MHz | >35 dB | >1350 MHz | >50 dB |

Mechanicals & Environmental

| | |
|-------------------------------|---|
| Mechanical Size, Ground Plane | 66mm x 21mm (see drawing on other page), 100mm ground plane recommended |
| Operating Temperature Range | -40°C to +85°C |
| Enclosure | Radome: EXL9330, Base: Zamak White Metal |
| Weight | 185 g |
| Attachment Method | Permanent 3/4" (19mm) through hole mount |
| Environmental | IP67, RoHS, RED, and REACH compliant |
| Shock | Vertical axis: 50 G, other axes: 30 G |
| Vibration | 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G |
| Salt fog / spray | MIL-STD-810F Section 509.4 |

Ordering Information

TW3882 – GPS L1/L2 + GLONASS G1/G2 + BeiDou B1/B2 + Galileo E1 33-3882-xx-yy-zzzz
 Where xx = connector type, yy = shape and colour of radome and zzzz = cable length in mm (where applicable)

Please refer to the Ordering Guide (<http://www.tallysman.com/wp-content/uploads/Current-Ordering-Guide.pdf>) for the current and complete list of available radomes and connectors.



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