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A Tallysman Accutenna® TW3150/52 High Gain / High Rejection Timing Antenna

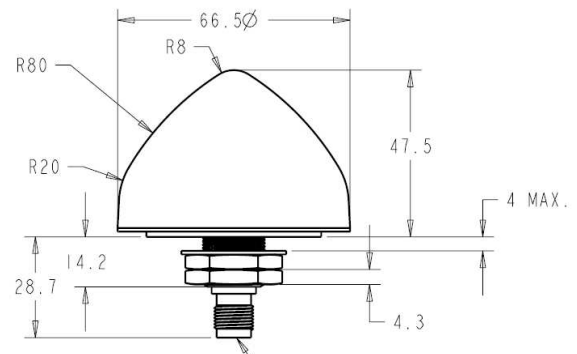
The TW3150/52 is a high-gain GPS antenna specifically designed for timing applications in high density cell / telecommunications tower applications where high levels of near-out-of-band interfering signals can be expected. This antenna features a 50dB LNA gain to handle long cable runs often associated with installation on telecommunications towers.

The TW3150/52 covers the GPS L1 and SBAS (WAAS, EGNOS & MSAS) frequency band and employs Tallysman's unique Accutenna™ technology to provide excellent cross polarization rejection and greatly enhanced multipath rejection.

The TW3150 features a four (4) stage dual filtered LNA, while the TW3152 includes an additional SAW pre-filter to provide exceptional rejection of close out-of-band signals and additional protection against saturation by high level sub-harmonic and L-Band signals..

The TW3150/522 housing has a permanent mount, IP67 compliant metal base, and an extended temperature range plastic radome, and is specifically designed to withstand the most challenging environmental conditions.

Two options for pole mounting are available an L-bracket (P/N#23-0040-0) or a pipe mount (P/N#23-0065-0).



Applications

- Timing systems
- Long cable runs

Features

- Dual Feed Patch Antenna
- Low Loss SAW Pre-Filter
- Great axial ratio: 1 dB typ.
- Low noise LNA: 1.5dB typ (TW3150).
- Triple High rejection SAW filter (TW3152)
- High gain LNA: 50 dB typ.
- Low current: 25 mA typ.
- Wide voltage input range: 2.7 to 26 VDC
- IP67 weather proof housing

Benefits

- Great out of band rejection
- Excellent multipath rejection
- Excellent circular polarisation
- Excellent signal to noise ratio
- Increased system accuracy
- Ideal for harsh environments
- RoHS and REACH compliant



TW3150/52 High Gain / High Rejection Timing Antenna Specifications

Antenna

| | |
|--|-------------------------------|
| Architecture | Dual, Quadrature Feeds |
| 1 dB Bandwidth | 20 MHz |
| Antenna Gain (with 100mm ground plane) | 4.5 dBic @ 90° |
| Axial Ratio (over full bandwidth) | <1 dB @zenith typ., 3 dB max. |

Electrical

| | |
|---|--|
| Filtered LNA Frequency Bandwidth | 1575 MHz ± 10 MHz |
| Polarization | RHCP |
| LNA Gain 1575.42 ±10 MHz | TW3150: 49 dB min., TW3152: 47dB min |
| Gain flatness | +/- 1.5dB, 1565.42 MHz to 1585.42 MHz |
| Group Delay (TW3150 w/o cable) | 92nS @ 1573.42MHz |
| Group Delay (TW3152 w/o cable) | 137nS @ 1573.42MHz |
| Out-of-Band Rejection | <1545 MHz >80 dB |
| | >1610 MHz >60dB |
| VSWR (at LNA output) | <1.5:1, 2.0 max |
| Noise Figure | TW3150: 1.5dB typ.; TW3152: 3.8 dB typ |
| Supply Voltage Range (over coaxial cable) | 2.7 to 26 VDC nominal |
| Supply Current | 25 mA typ., 30mA max |
| ESD Circuit Protection | 15 KV air discharge |

Mechanicals & Environmental

| | |
|-----------------------|--|
| Mechanical Size | 66.5 mm dia. x 21 mm H |
| Operating Temp. Range | -40 to +85 °C |
| Enclosure | Radome: EXL9330, Base: Zamak White Metal (M18x1thread) |
| Weight | 150 g |
| Attachment Method | Permanent 3/4" (19mm) through hole mount |
| Environmental | IP67, REACH, RED, and RoHS compliant |
| Shock | Vertical axis: 50 G, other axes: 30 G |
| Vibration | 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G |
| Salt Spray | MIL-STD-810F Section 509.4 |

Ordering Information

| | |
|--|--------------------|
| TW3152 – High Gain / High Rejection Timing Antenna | 33-3152-xx-yy-zzzz |
| TW3150 – High Gain / High Rejection Timing Antenna | 33-3150-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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