A Tallysman Accutenna® TW3142 High Gain / High Rejection Antenna

The TW3142 is a high-gain GPS antenna specifically designed for applications in environments where high levels of nearout-of-band interfering signals can be expected. This antenna features a 40dB LNA gain to handle long cable runs.

The TW3142 covers the GPS L1 and SBAS (WAAS, EGNOS & MSAS) frequency band and employs Tallysman's unique *Accutenna*^M technology to provide excellent cross polarization rejection and greatly enhanced multipath rejection.

The TW3142 features a three (3) stage dual filtered LNA plus 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 TW3142 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

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- Timing systems
- Long cable runs

Features

- Dual Feed Patch Antenna
- Low Loss SAW Pre-Filter
- Great axial ratio: 1 dB typ.
- Low noise LNA: 3.5dB typ
- Dual High rejection SAW filter
- High gain LNA: 40 dB typ.
- Low current: 19 mA typ.
- Wide voltage input range: 2.7 to 16 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

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Specifications

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Antenna

Architecture 1 dB Bandwidth Antenna Gain (with 100mm ground plane) Axial Ratio (over full bandwidth)

Electrical

Filtered LNA Frequency Bandwidth Polarization LNA Gain Gain flatness Out-of-Band Rejection <1545 MHz >1610 MHz

VSWR (at LNA output) Noise Figure Supply Voltage Range (over coaxial cable) Supply Current ESD Circuit Protection

Mechanicals & Environmental

Mechanical Size Operating Temp. Range Enclosure Weight Attachment Method Environmental Shock Vibration Salt Spray Dual, Quadrature Feeds 20 MHz 4.5 dBic @ 90° <1 dB @zenith typ., 3 dB max.

1575 MHz ± 10 MHz RHCP 40 dB min., 1575.42 ±10 MHz +/- 1.5dB, 1565.42 MHz to 1585.42 MHz >80 dB >60dB <1.5:1, 2.0 max 3.5 dB typ 2.7 to 16 VDC nominal 19 mA typ. 15 KV air discharge

66.5 mm dia. x 21 mm H -40 to +85 °C Radome: EXL9330, Base: Zamak White Metal (M18x1thread) 150 g Permanent ¾" (19mm) through hole mount IP67, REACH, RED, and RoHS compliant Vertical axis: 50 G, other axes: 30 G 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G MIL-STD-810F Section 509.4

Ordering Information

TW3142 - High Gain / High Rejection Antenna

33-3142-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 <u>(http://www.tallysman.com/wp-content/uploads/Current-Ordering-Guide.pdf)</u> for the current and complete list of available radomes and connectors.



An ISO 9001:2015 Certified Company

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