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When precision matters...™

A Tallysman Accutenna® TW3142 High Gain / High Rejection Antenna

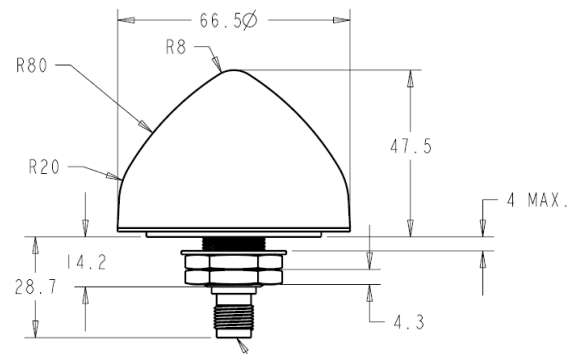
The TW3142 is a high-gain GPS antenna specifically designed for applications in environments where high levels of near-out-of-band interfering signals can be expected. This antenna features a 40dB LNA gain to handle long cable runs.

The TW3142 covers the GPS L1 and SBAS (WAAS, EGNOS & MSAS) frequency band and employs Tallysman's unique *Accutenna™* 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

- 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



TW3142 High Gain / High Rejection 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	40 dB min., 1575.42 ±10 MHz
Gain flatness	+/- 1.5dB, 1565.42 MHz to 1585.42 MHz
Out-of-Band Rejection	<1545 MHz >80 dB
	>1610 MHz >60dB
VSWR (at LNA output)	<1.5:1, 2.0 max
Noise Figure	3.5 dB typ
Supply Voltage Range (over coaxial cable)	2.7 to 16 VDC nominal
Supply Current	19 mA typ.
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 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

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 (<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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