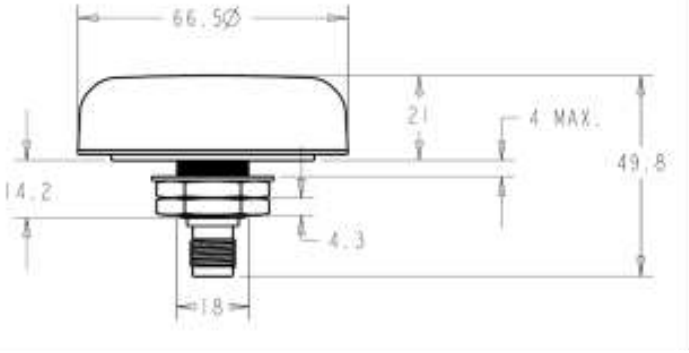
A Tallysman *Accutenna*®
TW3440/TW3442 GPS/GLONASS 40dB Timing Antenna

The TW3440/TW3442 employs Tallysman's unique *Accutenna* technology, covering the GPS L1, GLONASS L1, and SBAS (WAAS, EGNOS & MSAS) frequency bands (1574 to 1606 MHz). They are especially designed for timing, mobile, precision and military applications. They provide truly circular response over the antenna's entire bandwidth thereby producing superior multipath signal rejection.

The TW3440/TW3442 each feature a highly circular dual-feed wideband patch element, with a three stage Low Noise Amplifier. This configuration provides excellent axial ratio that is constant across the full frequency band. An optional tight pre-filter is available with part number TW3442 to protect against saturation by high level sub-harmonics and L-Band signals.



The TW3440/TW3442 is housed in a permanent mount industrial-grade weather-proof enclosure, and is available with a wide variety of connectors. The antenna is available with either a flat or a conical radome. Conical radomes are recommended for permanent locations to ward off birds and shed ice / snow.

Shown with low profile radome, conical radome also available

Applications

- GPS / GLONASS Long cable Mobile/fixed Installations
- High Accuracy & Mission Critical Global Positioning
- Precision Agriculture, Mining & Construction
- Military & Security
- Law Enforcement & Public Safety

Features

- Great axial ratio: 1 dB typ.
- High gain LNA: 40 dB min.
- Low noise LNA: 1dB/3.5dB typ TW3440/TW3442
- Available sharp pre-filter (TW3442)
- Low current: 19 mA typ.
- Wide supply voltage: 2.5 to 16 VDC
- IP67 weather proof housing
- Available conical radome (Timing Apps)

Benefits

- Excellent circular polarisation
- Long Cable Runs
- Excellent signal to noise ratio
- Excellent multipath rejection
- Exceptional out-of-band rejection (TW3442)
- Increased system accuracy
- Ideal for harsh environments
- RoHS and REACH compliant

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Specifications Vcc = 3V, over full bandwidth, T=25°C

Antenna

Architecture	Dual, Quadrature Feeds
1 dB Bandwidth	32 MHz
Antenna Gain (with 100mm ground plane)	4.25 dBic
Axial Ratio (over full bandwidth)	1 dB typ., 3 dB max.

Electrical

Architecture	TW3440: One LNA per feed ->Combiner ->SAW -> 2-Stage LNA TW3442: (SAW-> LNA) per feed ->Combiner -> SAW -> 2 Stage LNA,		
Filtered LNA Frequency Bandwidth	1574 to 1606 MHz		
Polarization	RHCP		
LNA Gain1575.42 to 1606 MHz	TW3440: 39 dB min., TW3442: 37dB min		
Gain flatness	+/- 2 dB, 1575 to 1606 MHz		
Group Delay (TW3442 w/o cable)	33.5nS @ 1575.42MHz	31.4nS @ 1590MHz	44.7nS @ 1606MHz
Out-of-Band Rejection <1500 MHz	>32 dB (TW3440)	>50dB (TW3442)	
<1550 MHz	>25 dB	>50dB	
>1640 MHz	>35 dB	>70dB	
VSWR (at LNA output)	<1.5:1 typ. 1.8:1 max.		
Noise Figure	1 dB typ. TW3440	3.5dB typ. TW3442	
Supply Voltage Range (over coaxial cable)	2.5 to 16 VDC (12VDC recommended maximum)		
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	-55 to +85 °C
Enclosure	Radome: EXL9330 , Base: Zamak White Metal
Weight	135 g
Attachment Method	Permanent ¾" (19mm) through hole mount
Environmental	IP67, RoHS, REACH and RED 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-801F Section 509.4

Ordering Information

TW3440 – GPS/GLONASS Antenna 33-3440-xx-yy-zzzz TW3442 – 33-3442-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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