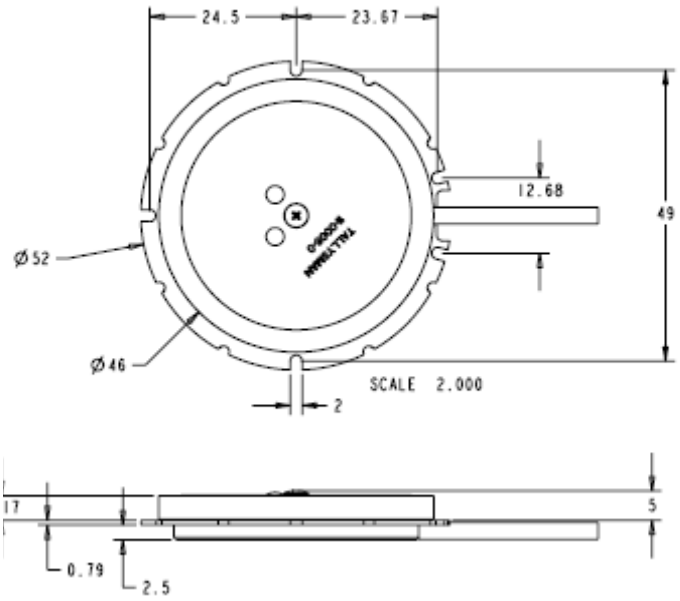
A Tallysman *Accutenna*™ Antenna
TW2405/TW2407 Embedded GPS/GLONASS Antenna

The TW2405/TW2407 employs Tallysman's unique *Accutenna™* technology covering the GPS L1, GLONASS L1 and SBAS (WAAS, EGNOS & MSAS) frequency bands (1574 to 1606 MHz). It is especially designed for precision industrial, agricultural and military OEM applications. It provides truly circular response over its entire bandwidth thereby producing superior multipath signal rejection.

The TW2405/TW2407 features a dual-feed wideband patch element, with a two stage Low Noise Amplifier, comprised of one input LNA per feed, a mid section SAW to filter the combined output, and a final output gain stage. This configuration provides excellent axial ratio that is constant across the full frequency band. An optional tight pre-filter is available with part number TW2407 to protect against saturation by high level sub-harmonics and L-Band signals.

The TW2405 /TW2407 comes in a compact circular form factor with a built-in 50 mm diameter ground plane.



Applications

- High Accuracy & Mission Critical GPS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

Features

- Great axial ratio: <3 dB over full bandwidth
- Low noise LNA: 1 dB
- High rejection SAW filter
- High gain: 28 dB typ.
- Low current: 10 mA typ.
- ESD circuit protection: 15 KV
- Wide voltage input range: 2.5 to 16 VDC

Benefits

- Excellent multipath signal rejection
- Increased system accuracy
- Excellent signal reception
- Great out of band signal rejection
- Compact form factor
- RoHS compliant

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

Antenna

Architecture	Dual, Quadrature Feeds
0.5 dB Bandwidth	31 MHz
Antenna Gain (with 100mm ground plane)	4.25 dBic
Axial Ratio over Bandwidth (over full bandwidth)	1dB typ. ≤3 dB max.

Electrical

Architecture		One LNA per feed line, mid section SAW filter (TW2405) One SAW Filter & LNA per feed line, mid-section SAW filter (TW2407)	
Filtered LNA Frequency Bandwidth		1574 to 1606 MHz	
Polarization		RHCP	
Gain		28 dB min., 1575.42 to 1606 MHz (TW2405) 25 dB min, 1575.42 to 1606 MHz (TW2407)	
Gain flatness		+/- 2 dB, 1575 to 1605 MHz	
Out-of-Band Rejection	<1500 MHz	>32 dB (TW2405)	>50dB (TW2407)
	<1550 MHz	>25 dB (TW2405)	>50 dB (TW2407)
	>1640 MHz	>35 dB (TW2405)	>70 dB (TW2407)
VSWR (at LNA output)		<1.5:1	
Noise Figure		1 dB typ.(TW2405)	<3.5 dB typ. (TW2407)
Supply Voltage Range (over coaxial cable)		+2.5 to 16 VDC nominal (12 VDC recommended maximum)	
Supply Current		15 mA typ, 25mA Q max (85°C).	
ESD Circuit protection		15 KV air discharge	

Mechanicals & Environmental

Mechanical Size	50 mm dia. x 7.8 mm H
Cable	RG174
Operating Temp. Range	-40 to +85°C
Weight	35 g
Attachment Method	Adhesive or screw mount
Environmental	RoHS compliant
Shock	Vertical axis: 50 G, other axes: 30 G
Vibration	3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G

Ordering Information

Legacy Part Numbers:

TW2405 32-2405-xx-yyyy-zz TW2407 32-2407-xx-yyyy-zz

Where xx = connector type, yyyy = cable length in mm and zz = custom tuning number assigned by Tallysman

* As a result of a growing product portfolio, Tallysman has rationalized its part number system. No changes have been made to the mechanical or electrical properties of these products. Where administratively possible, please use the following Part Numbers.

TW2405: 33-2405-xx-yyyy-zz TW2407: 33-2407-xx-yyyy-zz

Please refer to the Ordering Guide (http://www.tallysman.com/orderingguide.php) for the current and complete list of available connectors.

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