A Tallysman *Accutenna*® Antenna
TW2406/TW2408 Embedded GPS/GLONASS Antenna

The TW2406 / TW2408 is electronically identical to the TW2405 / TW2407. The TW2406 / TW2408 has a larger PCB with drilled holes for more secure mounting.

The TW2406/TW2408 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 TW2406/TW2408 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. A tight pre-filter is available with part number TW2408 to protect against saturation by high level sub-harmonics and L-Band signals.

The TW2406 /TW2408 comes in a compact circular form factor with a built-in 56 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: ≤1dB typ. 2 dB max.
- 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
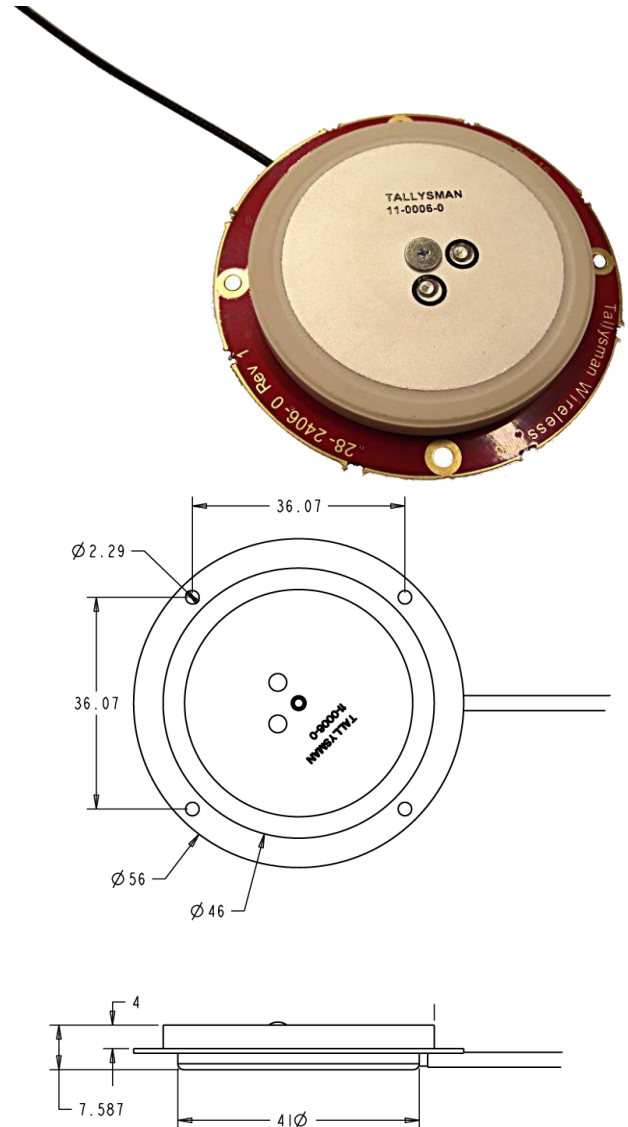
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Specifications   Vcc = 3V, over full bandwidth, T=25℃

Antenna

Architecture	Dual, Quadrature Feeds
0.5 dB Bandwidth	31 MHz
Antenna Gain (with 100mm ground plane)	4.25 dBic
Axial Ratio	≤1dB typ. 2 dB max.

Electrical

Architecture	One LNA per feed line, mid section SAW filter (TW2406)
	One SAW Filter & LNA per feed line, mid-section SAW filter (TW2408)
Filtered LNA Frequency Bandwidth	1574 to 1606 MHz
Polarization	RHCP
Gain	28 dB min., 1575.42 to 1606 MHz (TW2406)
	25 dB min, 1575.42 to 1606 MHz (TW2408)
Gain flatness	+/- 2 dB, 1575 to 1605 MHz

Out-of-Band Rejection	<1500 MHz	>32 dB (TW2406)	>50dB (TW2408)
	<1550 MHz	>25 dB (TW2406)	>50 dB (TW2408)
	>1640 MHz	>35 dB (TW2406)	>70 dB (TW2408)

VSWR (at LNA output)	<1.5:1 typ. 1.8:1 max.
Noise Figure	1 dB typ.(TW2406) <3.5 dB typ. (TW2408)
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℃).
ESD Circuit protection	15 KV air discharge

Mechanicals & Environmental

Mechanical Size	56 mm dia. x 7.8 mm H
Cable	RG174
Operating Temp. Range	-40 to +85℃
Weight	38 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

TW2406: 33-2406-xx-yyyy-zz   TW2408: 33-2408-xx-yyyy-zz

Where xx = type of connector yyyy = cable length in mm and zz = reserved for Tallysman's use

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 connectors.

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