



TW2405 Embedded GPS/GLONASS Antenna

The TW2405 by Tallysman Wireless is a professional grade embedded GNSS antenna 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 and offers excellent circular polarized signal reception, multipath rejection and out of band signal ejection.

The TW2405 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.

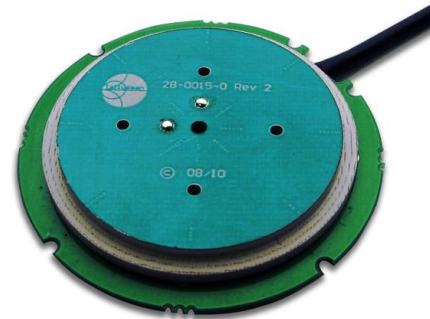
The TW2405 comes in a compact circular form factor with a built-in 50 mm diameter ground plane, and a 15 cm RG174 cable.

Applications

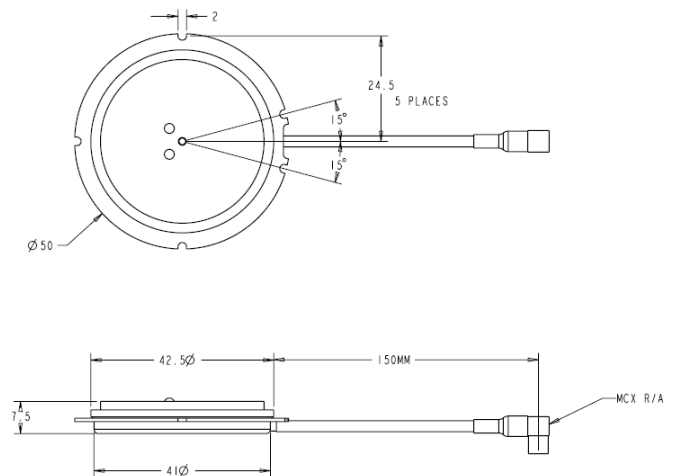
- High Accuracy & Mission Critical GPS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

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: 3.0 to 10 VDC



TW2405 Dimensions (mm)



Benefits

- Excellent multipath 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
1 dB Bandwidth	30 MHz
Antenna Gain (with 100mm ground plane)	4.25 dBic
Axial Ratio over Bandwidth (over full bandwidth)	≤3 dB

Electrical

Architecture	One LNA per feed line, mid section SAW filter
Filtered LNA Frequency Bandwidth	1574 to 1606 MHz
Polarization	RHCP
Gain	28 dB min., 1575.42 to 1606 MHz
Gain flatness	+/- 2 dB, 1575 to 1605 MHz
Out-of-Band Rejection	<1500 MHz >32 dB
	<1550 MHz >25 dB
	>1640 MHz >35 dB
VSWR (at LNA output)	<1.5:1
Noise Figure	1 dB typ.
Supply Voltage Range (over coaxial cable)	+3.0 to 10 VDC nominal
Supply Current	10 mA typ.
ESD Circuit protection	15 KV air discharge

Mechanicals & Environmental

Mechanical Size	50 mm dia. x 7.8 mm H
Connectors	Male, SMA straight, MCX right angle or MMCX right angle, other connectors optional
Cable	RG174 / 15 cm, other lengths optional
Operating Temp. Range	-40 to +85 °C
Weight	100 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
Warranty	One year, parts and labour

Ordering Information

TW2405 – Embedded GPS/Glonass Antenna, 15cm cable, SMA Male	32-2405-0
TW2405 – Embedded GPS/Glonass Antenna, 15cm cable, MCX R/A Male	32-2405-5
TW2405 – Embedded GPS/Glonass Antenna, 15cm cable, MMCX R/A Male	32-2405-6

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