



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.

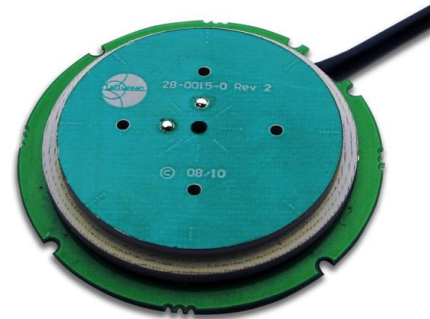
The TW2405 comes in a compact circular form factor with a built-in 50 mm diameter ground plane, and a 15 cm RG174 cable.

Applications

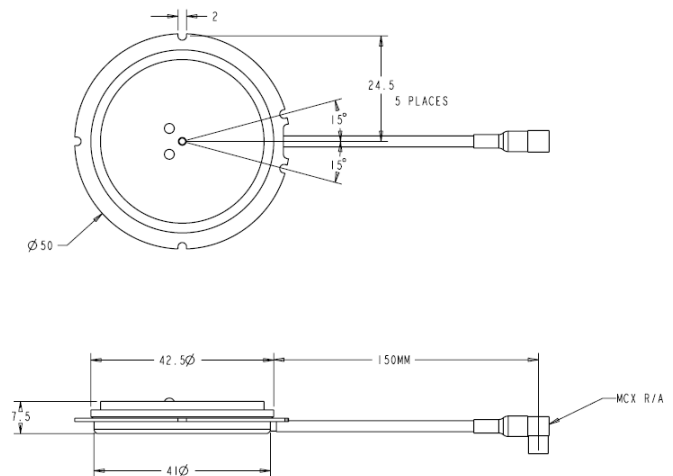
- High Accuracy & Mission Critical GPS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

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 |

Please contact Tallysman Wireless for additional information

Tallysman Wireless Inc

106 Schneider Road, Unit 3
Ottawa ON K2K 1Y2 Canada

Tel 613 591 3131

Fax 613 591 3121

sales@tallysman.com

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