



TW3012 GPS Brickwall Filtered Antenna

The TW3012 by Tallysman Wireless is a professional grade, highly filtered permanent mount, GPS L1 antenna, specially designed for precision positioning and timing applications in environments characterized by high L-Band RF fields.

The TW3012 features a precisely tuned ceramic patch element, a tight SAW pre-filter, a first LNA gain stage, a mid-section SAW filter and a final gain stage. It covers the GPS L1 and SBAS (WAAS/EGNOS/MSAS) frequency band (1572.5 to 1578 MHz), and it offers unparalleled out-of-band signal rejection and excellent axial ratio for improved signal reception and multipath rejection.

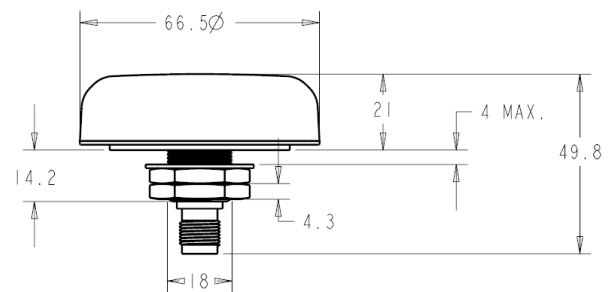
The TW3012 is housed in a permanent mount industrial-grade weather-proof enclosure, and comes with a TNC Jack (female) connector.

Applications

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



TW3012 Dimensions (mm)



Features

- Narrow pass-band SAW pre-filter
- 3 dB Noise Figure (including pre-filter)
- Axial ratio: <4dB at Zenith
- High LNA gain: 26 dB typ.
- Low current: 10 mA typ.
- ESD circuit protection: 15 KV
- Wide voltage input range: +3.0 to 10 VDC

Benefits

- Great out-of-band signal rejection
- Ideal for high level RF environments
- Great multipath rejection
- Increase system accuracy
- Great signal to noise ratio
- Weather proof IP67 housing
- RoHS compliant



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Specifications

Vcc = 3V, over full bandwidth, T=25°C

Antenna

| | |
|-----------------------------------|-------------------------------------|
| Architecture | Custom single-feed ceramic patch |
| Antenna Gain (100mm ground plane) | 5 dBic at 90° on 100mm Ground Plane |
| Axial Ratio | 4 dB at 90°, 6dB at 20° |

Electrical

| | |
|-------------------------------------|---|
| Architecture | SAW Pre-Filter, 1 st LNA, mid section SAW filter, output LNA |
| Frequency Bandwidth | 1572.5 to 1578 MHz |
| Polarization | RHCP |
| LNA Gain (including SAW pre-filter) | 26 dB min. at 90° (at 1575.42 MHz) |
| Out-of-Band Rejection | *Refer to table below |
| VSWR (at LNA output) | <1.5:1 |
| Noise Figure | 3 dB typ. |
| Supply Voltage Range | +3.0 to 10 VDC nominal |
| Supply Current | 10 mA typ. |
| ESD Circuit protection | 15 KV air discharge |

Mechanicals & Environmental

| | |
|-----------------------|--|
| Mechanical Size | 57 mm dia. x 15 mm H |
| Connectors | Bulkhead SMA female, or SMA male on flying lead - other connectors optional |
| Cable | RG174 / 5 metres, custom lengths optional |
| Operating Temp. Range | -40 to +85 °C |
| Enclosure | Radome: ASA Plastic, Base: Zamak white metal |
| Weight | 150 g |
| Attachment Method | Magnet or permanent (pre-tapped 4 x 6-32UNC) |
| Environmental | IP67 and 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 |

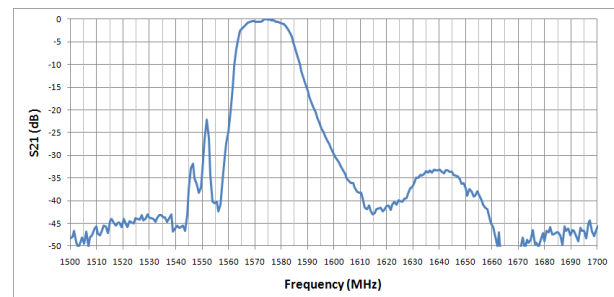
Ordering Information

TW3012 – GPS L1 antenna, TNC Female 32-3012-0
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

Pre-Filter Out-of-Band Rejection



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