



# TW2012 GPS Brickwall Filtered Antenna

The TW2012 by Tallysman Wireless is a professional grade, dual-filtered magnet mount, GPS L1 antenna, specially designed for precision positioning and timing applications in environments characterized by high L-Band RF fields.

The TW2012 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.

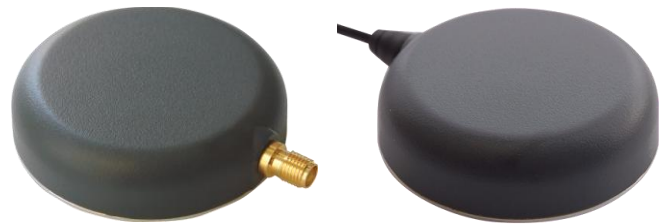
The TW2012 is housed in a compact, industrial-grade weather-proof, magnet mount enclosure, and comes with a bulkhead SMA female connector or with 5 metres of cable and a wide range of connector.

## Applications

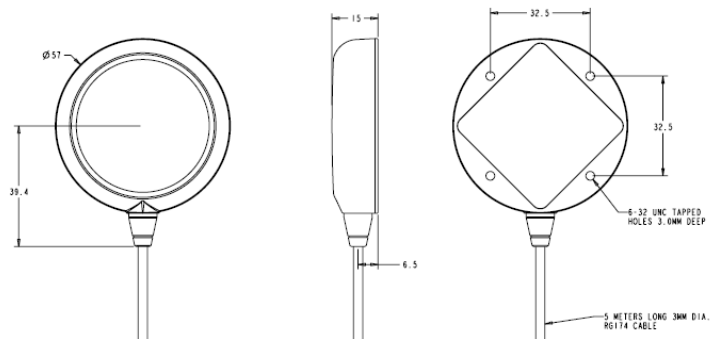
- Anti-Jamming & Mission Critical GPS
- Military & Security
- Precision Agriculture, Mining & Construction
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

## Features

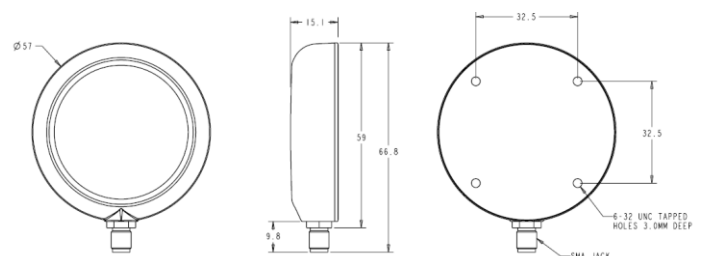
- Narrow pass-band SAW pre-filter
- 3 dB Noise Figure (including pre-filter)
- Axial ratio: <4dB at Zenith
- High LNA gain: 27 dB typ.
- Low current: 10 mA typ.
- ESD circuit protection: 15 KV
- Wide voltage input range: +3.0 to 10 VDC



Dimensions (mm) p/n 32-2012-0



Dimensions (mm) p/n 32-2012-7



## 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 <sup>st</sup> LNA, mid section SAW filter, output LNA
Frequency Bandwidth	1572.5 to 1578 MHz
Polarization	RHCP
LNA Gain (including SAW pre-filter)	27 dB typ. 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

TW2012 – 5 metre cable, SMA Male	32-2012-0
TW2012 – Bulkhead SMA Female	32-2012-7

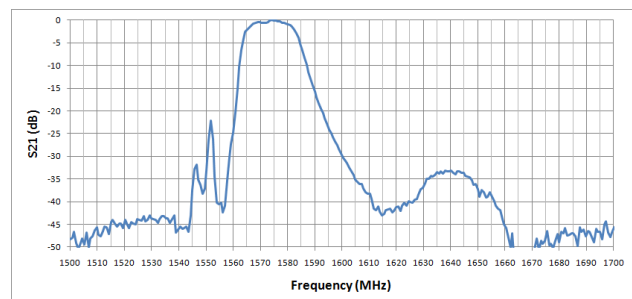
Please contact Tallysman Wireless for additional information

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Pre-Filter Out-of-Band Rejection



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