The TW3042 by Tallysman Wireless is a professional grade, high gain, pre-filtered permanent mount, GPS L1 antenna, specially designed for precision positioning and timing applications in environments characterized by high L-Band RF fields.

The TW3042 features a precisely tuned ceramic patch element, a tight band-pass SAW pre-filter, a first LNA gain stage, an in line SAW filter, followed by a two stage amplifier. 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 TW3042 is housed in a permanent mount industrial-grade weather-proof enclosure that is available in dark gray or white and comes with a TNC Jack (female) connector. An L-bracket for pole mount is available.

**Applications**
- Anti-Jamming Mission Critical GPS
- Military & Security
- Precision Agriculture, Mining & Construction
- Long cable run installations
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

**Features**
- Narrow pass-band SAW pre-filter
- 3.3 dB Noise Figure (including pre-filter)
- Axial ratio: <4dB at Zenith
- High LNA gain: 42 dB typ.
- Low current: 20 mA typ.
- ESD circuit protection: 15 KV
- Wide voltage input range: +2.7V to 10V DC

**Benefits**
- Great out-of-band signal rejection
- Ideal for high level RF environments
- Great multipath rejection
- Long cable runs
- Great signal to noise ratio
- Weather proof IP67 housing
- RoHS compliant

www.tallysman.com
TW3042 GPS Brickwall Pre-Filtered Antenna

Specifications
Measurement conditions: Vcc = 3V, over full bandwidth, T=25°C

Antenna
Architecture
Antenna Gain (100mm ground plane)
Axial Ratio at 1575.42MHz
Custom single-feed ceramic patch
5 dBi at 90° on 100mm Ground Plane
4 dB at 90°, 6dB at 20°

Electrical
Architecture
Frequency Bandwidth
Polarization
LNA Gain (including SAW pre-filter)
Out-of-Band Rejection
VSWR (at LNA output)
Noise Figure
Supply Voltage Range
Supply Current
ESD Circuit protection
SAW Pre-Filter, 1st LNA, in-line SAW filter, two stage LNA
1572.5 to 1578 MHz
RHCP
40 dB min. at 90° (at 1575.42 MHz)
*Refer to table below
<1.5:1
3.3 dB typ.
+2.7 to 10 VDC nominal
25 mA Max.
15 KV air discharge

Mechanicals & Environmental
Mechanical Size
Connectors
Cable
Operating Temp. Range
Enclosure
Weight
Attachment Method
Environmental
Shock
Vibration
Warranty
57 mm dia. x 15 mm H
Bulkhead SMA female, or SMA male on flying lead
- other connectors optional
RG174 / 5 metres, custom lengths optional
-40 to +85 °C
Radome: ASA Plastic, Base: Zamak white metal
150 g
Magnet or permanent (pre-tapped 4 x 6-32UNC)
IP67 and RoHS compliant
Vertical axis: 50 G, other axes: 30 G
3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G
One year – parts and labour

Ordering Information
TW3042 GPS L1 Antenna,
Connector: x=1 TNC, x=2 N type
Color: y=0 Dark Grey, y=1 White

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