



When precision matters...™

TW3042 GPS Brickwall Pre-Filtered Antenna

The TW3042 by Tallysman Wireless is a professional grade, high gain, pre-filtered permanent mount, GPS L1, Galileo E1 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.

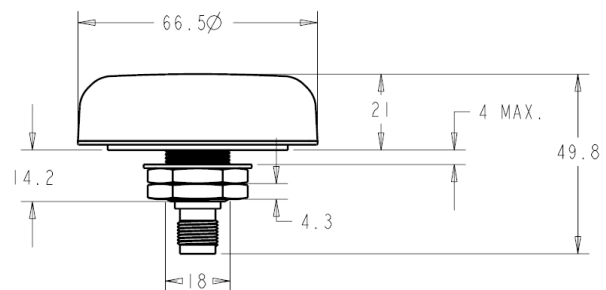
The TW3042 is housed in a permanent mount industrial-grade weather-proof enclosure that is available in dark gray or white. Two options for pole mounting are available an L-bracket (P/N#23-0040-0) or a pipe mount (P/N#23-0065-0)

Applications

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



TW3042 Dimensions (mm)
Flat Radome shown. Conical Radome also available.



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: +2.5V to 16V 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



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Specifications

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

Antenna

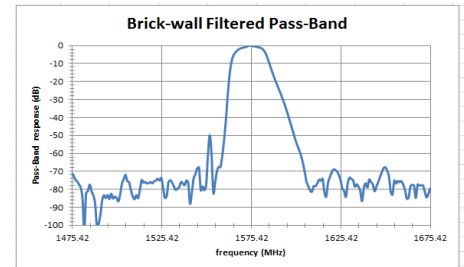
Architecture
Antenna Gain (100mm ground plane)
Axial Ratio at 1575.42MHz

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 graph below
<1.5:1
3.3 dB typ.
+2.5 to 16 VDC nominal
25 mA Max.
15 KV air discharge



Mechanicals & Environmental

Mechanical Size
Operating Temp. Range
Enclosure
Weight
Attachment Method
Environmental
Shock
Vibration
Warranty

57 mm dia. x 15 mm H
-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

Legacy Part Number:

TW3042 – Pre-Filtered GPS L1 antenna, 32-3042-xx-yy
Connector: xx = 00 TNC xx = 01 N Type (premium applies)
Radome Colour yy = 10 Dark grey low profile yy = 11 White low profile

* As a result of a growing product portfolio, Tallysman has rationalized its part number system. No changes have been made to the mechanical or electrical properties of these products. Where administratively possible, please use the following new Part Numbers.

TW3042 – Pre-Filtered GPS L1 antenna 33-3042-xx-yy-zzzz

Where xx = connector type, yy = type and colour of radome and zzzz = cable length in mm (where applicable)

Please refer to the Ordering Guide (<http://www.tallysman.com/orderingguide.php>) for the current and complete list of available radomes and connectors.

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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