



## TW1015 Compact Embedded GPS L1 Antenna

The TW1015 by Tallysman Wireless is a small, high performance, low profile, embedded GPS L1 antenna, specially designed for industrial, military, precision positioning and timing applications.

The TW1015 features a high performance custom tuned ceramic patch element, a very low noise amplifier (LNA) and a tight bandpass SAW filter. It covers the GPS L1 and SBAS (WAAS /EGNOS/MSAS) frequency band (1572.5 to 1578 MHz), and it offers great circular polarized signal reception, multipath rejection and out of band signal rejection.

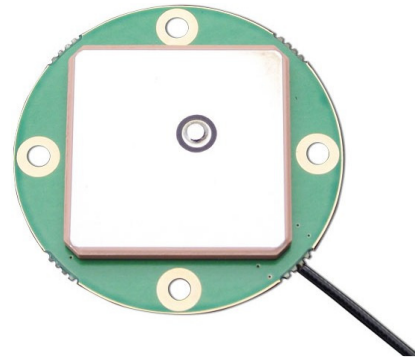
The TW1015 LNA gain is optimised to capture the LNA noise figure for OEM applications.

The built-in 35mm circular ground plane can be augmented with host system ground surfaces

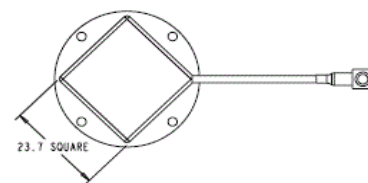
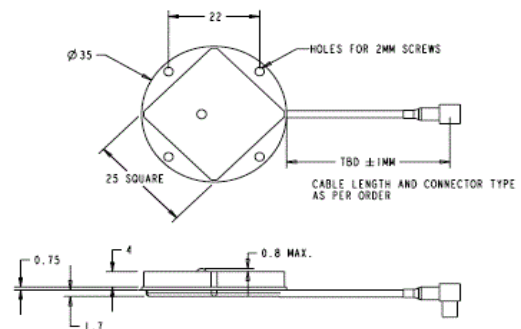
Tallysman offers custom services to assist with integration of the OEM module into end user solution.

### Applications

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



TW1015 Dimensions (mm)



### Features

- Very low noise LNA: 1 dB
- Great axial ratio: <4dB at Zenith
- High rejection SAW filter
- LNA gain: 16 dB typ.
- Low current: 5 mA typ.
- ESD circuit protection: 15 KV
- Wide Supply voltage: fixed 2.7V to 10V

### Benefits

- Low Profile: 7.25mm
- Great multipath rejection
- Increase system accuracy
- Excellent signal to noise ratio
- Great out of band signal rejection
- Compact form factor
- RoHS compliant



# TW1015 Compact Embedded GPS L1 Antenna

## Specifications

At; Vcc = 3V, over full bandwidth, T=25°C

### Antenna

Architecture	Custom single-feed ceramic patch
Antenna Gain (70mm ground plane)	4 dBic at 90°
Axial Ratio	4 dB at 90°, 6dB at 20°

### Electrical

Architecture	LNA ->SAW filter or
Frequency/Bandwidth	1575.42 MHz +/- 10MHz
Polarization	RHCP
Gain	15 dB min. (at 1575.42 MHz)
Out-of-Band Rejection	<1560 MHz >25 dB
	>1600 MHz >30 dB
	>1620 MHz >35 dB
VSWR (at LNA output)	<1.5:1
Noise Figure	1 dB typ.
Supply Voltage Range	2.7VDC to 3.3VDC
Supply Current	5 mA typ.
ESD Circuit protection	15 KV air discharge

### Mechanicals & Environmental

Mechanical Size	35 mm dia. x 7.5mm
Connectors	Optional
Cable	1.48mm OD, 15 cm. Custom lengths optional
Operating Temp. Range	-40 to +85 °C
Weight	50 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

TW1015 – GPS L1 antenna, 32-1015-x -yyyy

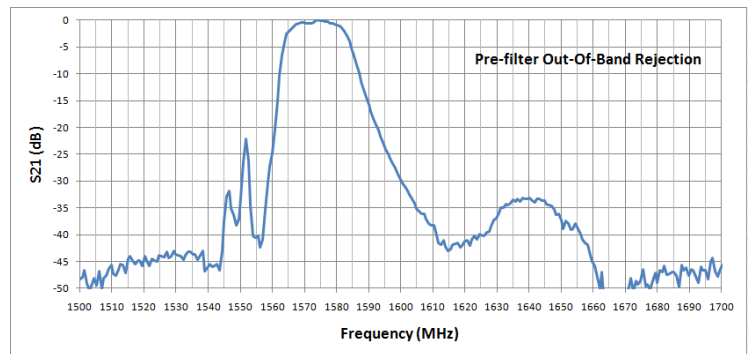
X= Connector type, yyyy = cable length in mm

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](mailto:sales@tallysman.com)



The information provided herein is intended as a guide only and is subject to change without notice. This document is not to be regarded as a guarantee of performance. Tallysman Wireless Inc. hereby disclaims any or all warranties and liabilities of any kind. © 2011 Tallysman Wireless Inc. All rights reserved.