



When precision matters...™

TW2015 Embedded GPS L1 Antenna

The TW2015 by Tallysman Wireless is a professional grade, embedded GPS L1 antenna, specially designed for industrial, agricultural and military precision positioning and timing applications.

The TW2015 features a high performance custom tuned ceramic patch element, 15 KV ESD circuit protection, a high gain two-stage low noise amplifier (LNA) with a mid section high rejection 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.

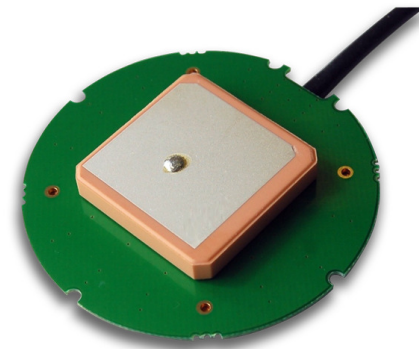
The TW2015 comes in a compact circular form factor with a built-in 50 mm diameter ground plane, and with a 15 cm RG174 cable.

Applications

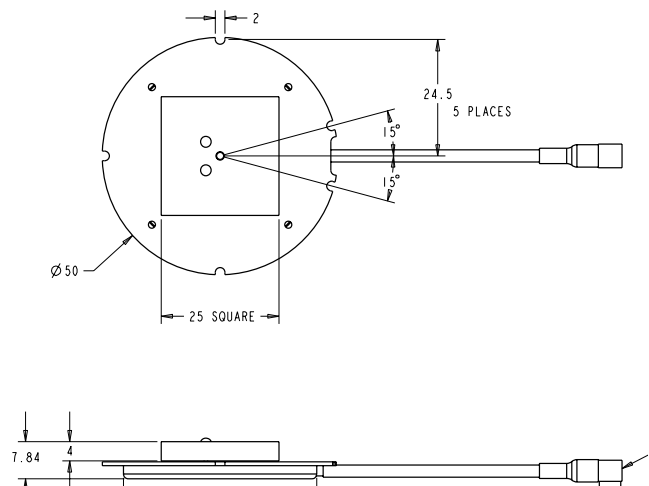
- High Accuracy & Mission Critical GPS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

Features

- Very low noise LNA: 1 dB
- Great axial ratio: <4dB at Zenith
- High rejection SAW filter
- High gain: 28 dB typ.
- Low current: 10 mA typ.
- ESD circuit protection: 15 KV
- Wide voltage input range: +2.5 to 16 VDC



TW2015 Dimensions (mm)



Benefits

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



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Specifications V_{cc} = 3V, over full bandwidth, T=25°C

Antenna

Architecture	Custom single-feed ceramic patch
Antenna Gain (100mm ground plane)	3 dBic at 90°
Axial Ratio (over full bandwidth)	4 dB at 90°, 6dB at 20°

Electrical

Architecture	Input LNA, mid section SAW filter, output LNA
Frequency Bandwidth	1572.5 to 1578 MHz
Polarization	RHCP
Gain	28 dB min. at 90° (at 1575.42 MHz)
Out-of-Band Rejection	<1560 MHz >42 dB >1600 MHz >31 dB >1620 MHz >45 dB
VSWR (at LNA input)	<1.5:1
Noise Figure	1 dB typ.
Supply Voltage Range	+2.5 to 16 VDC nominal (12VDC recommended max)
Supply Current	10 mA typ. at 25°C.
ESD Circuit protection	15 KV air discharge

Mechanicals & Environmental

Mechanical Size	50 mm dia. x 7.8 mm H
Cable	RG174
Operating Temp. Range	-40 to +85 °C
Weight	20 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

Legacy Part Number:

TW2015 – GPS L1 antenna 32-2015-xx-yyyy-zz

Where xx = connector type, yyyy = cable length in mm and zz = Assigned by Tallysman for tuning reference

* 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 Part Numbers.

TW2015 – GPS L1 antenna 33-2015-xx-yyyy-zz

Where xx = connector type, yyyy = cable length in mm and zz = Assigned by Tallysman for tuning reference

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

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