



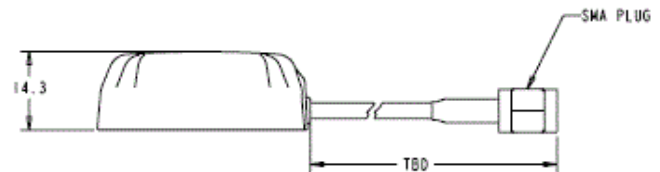
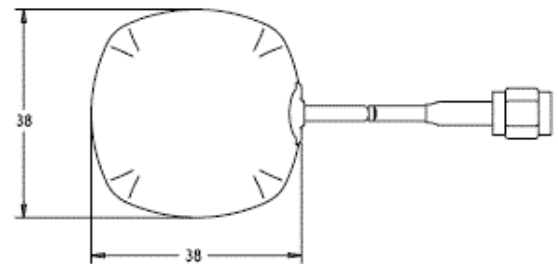
When precision matters...™

## TW4421 Wideband Dual Feed GPS/GLONASS Antenna

The TW4421 by Tallysman Wireless is a low cost dual feed GPS & GLONASS magnetic mount antenna covering the GPS L1, GLONASS G1, and SBAS (WAAS, EGNOS & MSAS) frequency band (1574 to 1606 MHz). The TW4421 features a novel 25mm dual feed wideband patch element that provides excellent multipath rejection and a more linear carrier phase response by virtue of the axial ratio that is greatly improved across the full frequency bandwidth. It is especially suitable for high accuracy applications, and also offers high out of band signal rejection.

The two feeds from the patch element are summed in a 90° Hybrid then input to a first stage Low Noise Amplifier (LNA), followed by a mid-section SAW and a second low noise gain stage.

The TW4421 is the smallest dual feed, high performance antenna available. It is housed in a compact IP67 magnetic mount enclosure. It is available with a wide range of connector options.



### Applications

- Cost Sensitive Mission Critical Positioning
- Military & Security
- Covert surveillance
- Fleet Management & Asset Tracking

### Features

- Dual feed patch element
- 40% wider bandwidth, small footprint
- Axial ratio: 3 dB Max. (GPS & GLONASS)
- Low noise LNA: 1 dB
- High rejection mid-section SAW filter
- High gain: 28 dB typ.
- Wide voltage input range: 2.5 to 16 VDC
- IP67 weather proof housing
- Low Power: 9mA typ. at 2.3Vcc min.

### Benefits

- 1dB Bandwidth Includes GPS-L1 & GLONASS
- Greatly enhanced multipath rejection
- improved GNSS reliability
- Excellent signal to noise ratio
- RoHS compliant
- Ideal for harsh environments
- Excellent out of band signal rejection



When precision matters...™

# TW4421 Wideband Dual Feed GPS/GLONASS Antenna Specifications

## Antenna

Architecture	Wideband Dual Feed Patch Element
1 dB radiated power bandwidth (RHCP)	32 MHz
Antenna Gain (with 100mm ground plane)	4.5 dBic
Axial Ratio over Bandwidth (over full bandwidth)	<2dB typ. 3dB max.
Polarization	RHCP

## Electrical

Architecture	Dual Feed Patch -> Hybrid->LNA stage 1 -> SAW filter-> LNA stage 2
Filtered LNA Frequency Bandwidth	1575 to 1606 MHz
Gain	28dB min, 1575 MHz to 1606MHz
Gain flatness	+/- 2dB, 1575 MHz to 1606MHz
Out-of-Band Rejection	<1500MHz >32dB <1550MHz >25dB >1640MHz >35dB
VSWR (at LNA output)	<1.5:1
Noise Figure	1.0dB typ.
Supply Voltage Range (over coaxial cable)	+2.5VDC to 16VDC nominal (12VDC recommended maximum)
Supply Current	10mA typ. 15mA max. (@ 85°C)
ESD Circuit Protection	15KV air discharge

## Mechanicals & Environmental

Mechanical Size	38mm x 38mm dia. x 14.3mm High
Cable	RG174
Operating Temp. Range	-40°C to +85°C
Enclosure	Radome and base: ASA plastic
Weight	50gm (Enclosure + SMA connector 34gm, cable 0.31gm/cm)
Attachment Method	Magnetic,
Environmental	IP67 and RoHS compliant
Shock	Vertical axis: 50G, other axes: 30G
Vibration	3 axis, sweep = 15 min, 10 to 200Hz sweep: 3G
Warranty	One year, parts and labour

## Ordering Information

Legacy Part Numbers:

TW4421 - GPS/GLONASS Antenna	32-4421-xx-yyyy			
Connector: xx = 00 SMA male,	01 = TNC male	02 = MCX male	03 = MMCX male	04 = SMB male
05 = MCX right angle male	06 = MMCX right angle male	07 = SMA female	08 = H.FL**	09 = U.FL
10 = SMA R/A**	11 = Reverse polarity SMA**	** Premiums apply. Please contact your Distributor		

Cable length: yyyy = cable length in mm

\* 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.

TW4421 - Wideband GPS Antenna 33-4421-xx-yyyy

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](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. © 2010 Tallysman Wireless Inc. All rights reserved.

Rev 2.1