A Tallysman *Accutenna*®
TW4721/TW4722 Wideband Dual Feed GPS/GLONASS/BeiDou/Galileo Antenna

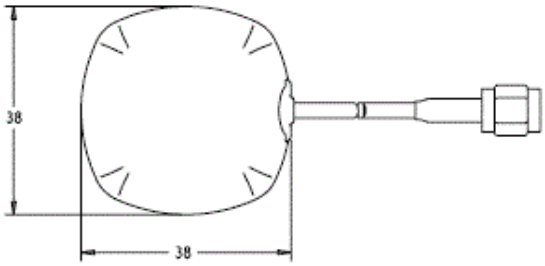
The TW4721/TW4722 is a compact, wideband GNSS antenna that provides accurate reception for all upper L- band GPS, GLONASS, Beidou, and Galileo signals (L1, G1, B1, B1 BOC, B1-2, E1) and associated augmentation signals (WAAS, EGNOS and MSAS SBAS). This antenna employs Tallysman's patented *Accutenna* technology.

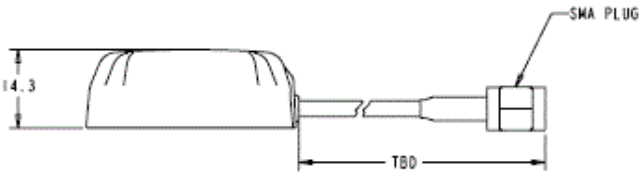
The TW4721/TW4722 features a novel 25mm dual feed wideband patch element that, in sharp contrast with its competitors, provides a truly circularly polarized response, with a typical axial ratio of less than 2dB over the full bandwidth. This provides a more linear carrier phase response and substantially improved multipath rejection for higher precision applications.

The TW4722 is the pre-filtered version of the TW1721. The pre-filter provides protection from near frequency or strong harmonic interfering signals.

The TW4721/TW4722 is the smallest, lightest, wideband GNSS antenna available. It is housing in a compact IP67 magnetic or adhesive mount enclosure and is available with a wide range of connector options and custom coax cable lengths.

The antenna can be ordered without the magnet. In such cases, the magnet is replaced with a plastic plug to provide a smooth under surface, with the option of ordering it with or without 1.1 mm double-sided VHB tape on the bottom.





Applications

- Cost Sensitive Mission Critical Positioning
- UAV / UAS
- Covert surveillance
- Fleet Management & Asset Tracking

Features

- Dual feed patch element
- Axial ratio: 2 dB typ.
- Low noise LNA: 1 dB
- High rejection mid-section SAW filter
- High gain: 26 dB typ.
- Wide voltage input range: 1.8 to 16 VDC
- IP67 weather proof housing
- Low Power: 10mA typ. over supply range.

Benefits

- Greatly enhanced multipath rejection
- improved GNSS reliability
- Excellent signal to noise ratio
- RoHS compliant
- Ideal for harsh environments
- Excellent out of band signal rejection

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

Antenna

Architecture	Wideband Dual Feed Patch Element
2 dB radiated power bandwidth (RHCP)	47 MHz
Antenna Gain (with 100mm ground plane)	4.5 dBic @ 1582.5MHz
Axial Ratio 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	1559 to 1606 MHz		
Gain (1559 MHz to 1606MHz)	TW4721: 25dB min, 29dB max TW4722: 23dB min, 27dB max		
Gain flatness	+/- 2dB, 1559 MHz to 1606MHz		
Out-of-Band Rejection		**TW4721**	**TW4722**
	<1500MHz	>40dB	>57dB
	<1525MHz	>45dB	>62dB
	>1630MHz	>45dB	>50dB
VSWR (at LNA output)	<1.5:1 typ. 1.8:1 max		
Noise Figure	TW4721: 1.0dB typ. TW4722: 3.0dB typ.		
Supply Voltage Range (over coaxial cable)	+1.8VDC to 16VDC nominal (12VDC recommended maximum)		
Supply Current	10mA typ.		
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: EXL9330
Weight	50gm (Enclosure + SMA connector 34gm, cable 0.31gm/cm)
Attachment Method	Magnetic or Adhesive
Environmental	IP67, REACH 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

TW4721 – GPS/GLONASS/BeiDou/Galileo Antenna	33-4721-xx-yyyy
TW4722 - GPS/GLONASS/BeiDou/Galileo Antenna	33-4722-xx-yyyy

xx = connector type yyyy = cable length in mm

Please refer to the Ordering Guide (http://www.tallysman.com/wp-content/uploads/Current-Ordering-Guide.pdf) for the current and complete list of available radomes and connectors.

An ISO 9001:2015 Certified Company

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