



A Tallysman *Accutenna*™ TW1721 Dual Feed Embedded BeiDou/Galileo/GPS/GLONASS

The TW1721 is a compact, wideband *Accutenna*™ technology GNSS antenna from Tallysman 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).

The TW1721 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.

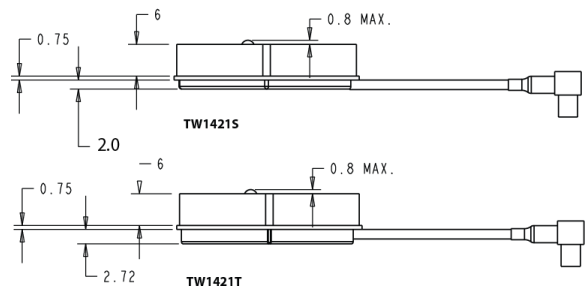
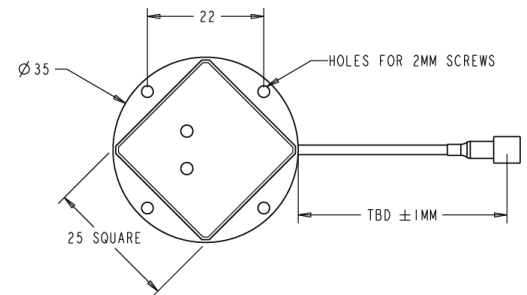
The TW1721 is the smallest, lightest, GNSS antenna for reception of all GNSS constellations.

The built-in 35mm circular ground plane should ideally be augmented with a local system ground plane or reflecting surface (DC connection not required).

OEM antennas are easily detuned by the local environment. Tallysman offers custom tuning services for optimized integration into OEM end-user modules.

Applications

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



Features

- Compact Dual Feed Patch Element
- 2 dB bandwidth 1559-1606MHz
- Very low noise LNA: <1 dB
- Axial ratio: 2 dB typ
- LNA gain: 28 dB typ.
- Wide voltage input range: 1.8 to 16 VDC
- ESD circuit protection: 15KV
- Temperature Compensated Gain

Benefits

- Great multipath rejection
- Increase system accuracy
- Improved carrier phase linearity
- Excellent signal to noise ratio
- Great out of band signal rejection
- Compact form factor
- RoHS compliant
- Reliable performance



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

Antenna

Architecture	Dual, Quadrature Feeds
2 dB Bandwidth	47 MHz
Antenna Gain (with 100mm ground plane)	4.5dBic
Axial Ratio over full bandwidth	<2dB typ. 3dB max

Electrical

Architecture	Dual Feed Patch -> Hybrid->LNA stage 1 -> SAW filter-> LNA stage 2
Filtered LNA Frequency Bandwidth	1559 MHz to 1606MHz
Polarization	RHCP
LNA Gain	28dB typ., 26dB Min, 1559 MHz to 1606MHz
Gain flatness	+/- 2dB, 1559 MHz to 1606MHz
Out-of-Band Rejection	<1500MHz >40dB <1525MHz >45dB >1630MHz >45dB
VSWR (at LNA output)	<1.5:1
Noise Figure	1.0dB typ.
Supply Voltage Range (over coaxial cable)	+1.8 VDC to 16 VDC nominal
Supply Current	10mA typ. 15mA max. (@ 85°C)
ESD Circuit Protection	15KV air discharge

Mechanicals & Environmental

Mechanical Size	35mm dia. x 7.25mm
Cable	micro-coax or RG174 coax
Operating Temp. Range	-40°C to +85°C
Weight	30g
Attachment Method	Adhesive or M2 screw mount
Environmental	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

Part Numbers:

TW1721 – GPS L1 antenna, 33-1721-xx-yyyy-zz

Where xx = connector type; yyyy = cable length in mm; and zz = assigned by Tallysman

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 connectors.

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