A Tallysman Accutenna®
TW1721 / TW1722 Dual Feed Embedded BeiDou/Galileo/GPS/GLONASS Antenna

The TW1721/TW1722 is a compact, wideband GNSS antenna employing patented Accutenna® technology. This antenna 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/TW1722 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 built-in 35mm circular ground plane should ideally be augmented with a local system ground plane or reflecting surface (DC connection not required).

The TW1722 is the pre-filtered version of the TW1721. The pre-filter provides protection from strong near frequency or harmonic signals, such as LTE.

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 (TW1721)
- 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

www.tallysman.com
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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

Filtered LNA Frequency Bandwidth
1559 MHz to 1606MHz

Polarization
RHCP

LNA Gain
TW1721 28dB typ., 25dB Min
TW1722 27dB typ., 24dB Min

Gain flatness
TW1721 +/- 2dB
TW1722 <1500MHz >40dB
<1525MHz >45dB
>1630MHz >45dB
<1500MHz >50dB
<1525MHz >50dB
>1640MHz >50dB
<1.5:1 typ. 1.8:1 max.

Out-of-Band Rejection
TW1721 1.0dB typ.
TW1722 3.0dB typ.

Supply Voltage Range (over coaxial cable)
+1.8 VDC min to +16 VDC max (+12 VDC recommended max)

Supply Current
TW1721 10mA typ. 15mA max ( @ 85°C)
TW1722 15KV air discharge

VSWR (at LNA output)
Noise Figure

Mechanicals & Environmental

Mechanical Size
35mm dia. x 7.25mm

Cable
micro-coax or RG174 coax

Operating Temp. Range
-40°C to +85°C

Weight
18g

Attachment Method
Adhesive or M2 screw mount

Environmental
RoHS and REACH 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 – GNSS L1 antenna, 33-1721-xx-yyyy-zz
TW1722 – Pre-filtered GNSS L1 antenna 33-1722-xx-yyyy-zz

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


Tallysman

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