



## 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.

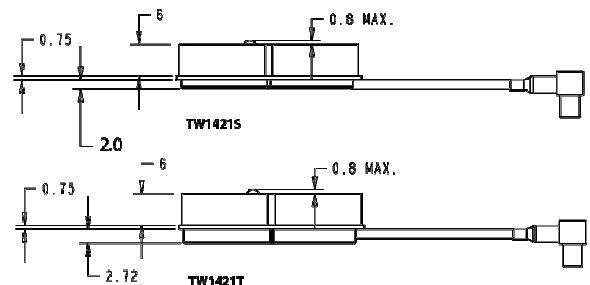
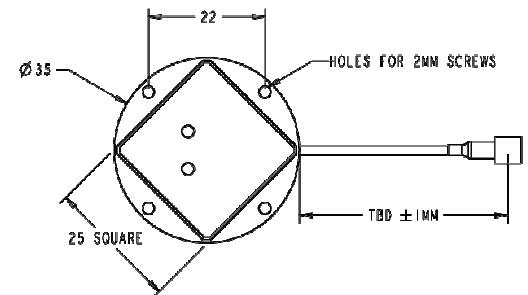
The TW1721 is the smallest, lightest, GNSS antenna for reception of all GNSS constellations.

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



## TW1721 Dual Feed Embedded BeiDou/Galileo/GPS/GLONASS

### 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<br><1525MHz >45dB<br>>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/orderingguide.php>) for the current and complete list of available 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. © 2011 Tallysman Wireless Inc. All rights reserved.

Rev 1.0