



## A Tallysman *Accutenna*® TW2706 / TW2708 Embedded Multi-Constellation Antenna

The TW2706 / TW2708 employs Tallysman's unique *Accutenna* technology covering the BeiDou B1, Galileo E1, GPS L1, GLONASS L1 and SBAS (WAAS, QZSS, EGNOS & MSAS) frequency band (1557 to 1606 MHz). It is especially designed for precision industrial, agricultural and military OEM applications. It provides truly circular response over its entire bandwidth thereby producing superior multipath signal rejection.

The TW2706 / TW2708 features a dual-feed wideband patch element, with one LNA per feed, a mid section Combiner and SAW filter, and a final output gain stage. A tight pre-filter is available with part number TW2708 to protect against saturation by high level sub-harmonics and L-Band signals

The TW2706 / TW2708 is available with a variety of connectors and custom cable lengths.

It is highly recommended to take advantage of Tallysman's custom tuning service to ensure optimal performance of this antenna in your housing and with your ground plane.

Note: This antenna is electronically identical to the TW2705/TW2707

### Applications

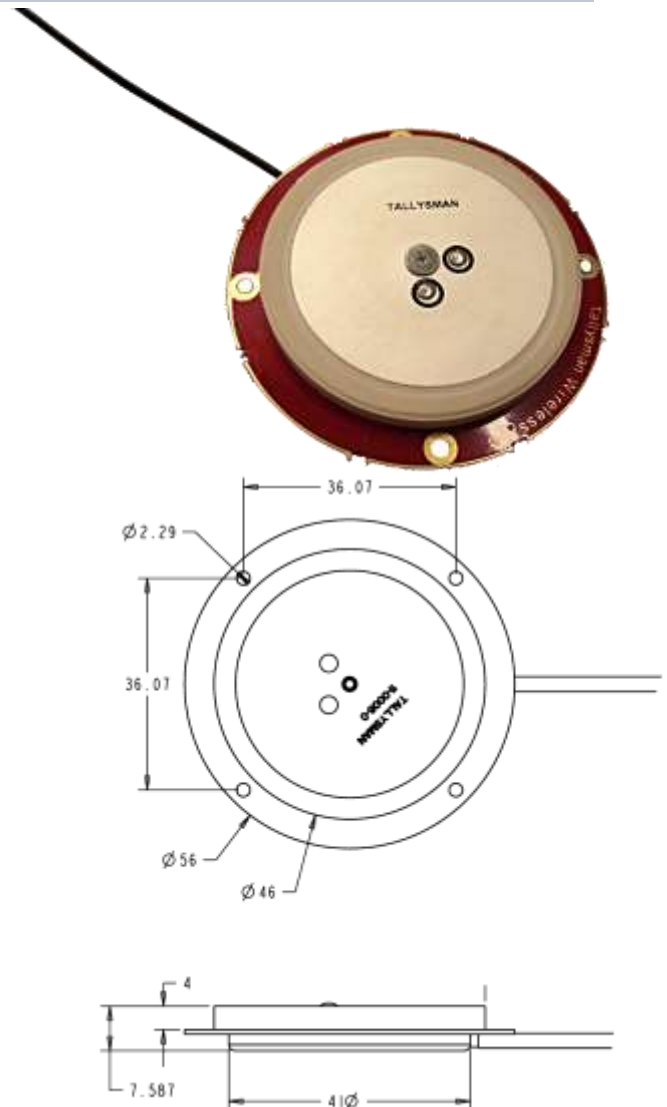
- High Accuracy & Mission Critical GNSS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

### Features

- Covers B1 / E1 / L1 / G1 Frequencies
- Great axial ratio: 1 typ., 3 dB max
- Low noise LNA:  $\leq 1$  dB
- High rejection SAW filter
- LNA gain: 28 dB typ.
- Low current: 15 mA typ.
- Wide voltage input range: 2.5 to 16 VDC

### Benefits

- Excellent multipath rejection
- Increased system accuracy
- Excellent signal to noise ratio
- Great out of band signal rejection
- Ideal for harsh environments
- RoHS compliant





## TW2706 / TW2708 Embedded Multi-Constellation Antenna

### Specifications $V_{cc} = 3V$ , over full bandwidth, $T=25^{\circ}C$

#### Antenna

|   |                            |
|---|----------------------------|
| Architecture                              | Dual, Quadrature Feeds     |
| 2 dB Bandwidth                            | 49 MHz                     |
| Antenna Gain (with 100mm ground plane)    | 4.75 dBic                  |
| Axial Ratio at Zenith over full bandwidth | <2 dB typ, $\leq 3$ dB max |

#### Electrical

|   |  |
|---|--|
| Architecture                              | One LNA per feed line, mid section SAW filter            |
| Filtered LNA Frequency Bandwidth          | 1557 to 1606 MHz   |
| Polarization                              | RHCP   |
| LNA Gain                                  | 28 dB min.   |
| Gain flatness                             | +/- 2 dB, 1557 to 1606 MHz                               |
| Out-of-Band Rejection                     | <1500 MHz >40 dB<br><1540 MHz >20 dB<br>>1640 MHz >45 dB |
| VSWR (at LNA output)                      | <1.5:1 typ. 1.8:1 max                                    |
| Noise Figure                              | $\leq 1$ dB typ.   |
| Supply Voltage Range (over coaxial cable) | +2.5 to 16 VDC nominal (12VDC recommended maximum)       |
| Supply Current                            | 15 mA typ., 22mA max. (@85°C)                            |
| ESD Circuit Protection                    | 15 KV air discharge                                      |

#### Mechanicals & Environmental

|                       |   |
|-----------------------|---|
| Mechanical Size       | 56 mm dia. x 7.8 mm H                           |
| Cable                 | RG174   |
| Operating Temp. Range | -40 to +85°C                                    |
| Weight                | 35 g  |
| Attachment Method     | Adhesive or screw mount                         |
| Environmental         | RoHS compliant                                  |
| Shock                 | Vertical axis: 50 G, other axes: 30 G           |
| Vibration             | 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G |

#### Ordering Information

|  |                 |
|--|-----------------|
| TW2706 – Multi-Constellation antenna,                      | 33-2706-xx-yyyy |
| TW2708 – Multi-Constellation antenna with tight pre-filter | 33-2708-xx-yyyy |

Where xx = connector type and 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 connectors.



Contact NavtechGPS for product details. [www.NavtechGPS.com](http://www.NavtechGPS.com)  
+1-703-256-8900 • 800-628-0885 • [info@navtechgps.com](mailto:info@navtechgps.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 1.3