



A Tallysman Accutenna® TW1600 Dual Feed Iridium® Antenna

The TW1600 employs Tallysman's unique Accutenna™ technology in a low cost OEM dual feed, passive Right Hand Circularly Polarized antenna (RHCP) for the 1616MHz to 1626MHz frequency band, specifically designed to enhance the signal to noise ratio of communications over the Iridium™ satellite communications network.

The wideband dual feed patch element in the TW1600 has an excellent axial ratio across the entire Iridium™ bandwidth. Unlike single feed antennas, the TW1600 provides excellent multipath rejection and a truly circular transmission response across the Iridium™ band.

The TW1600 includes a built-in 35mm circular ground plane but best performance is obtained with this augmented with a local system ground plane or reflecting surface equivalent to 100mm diameter (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

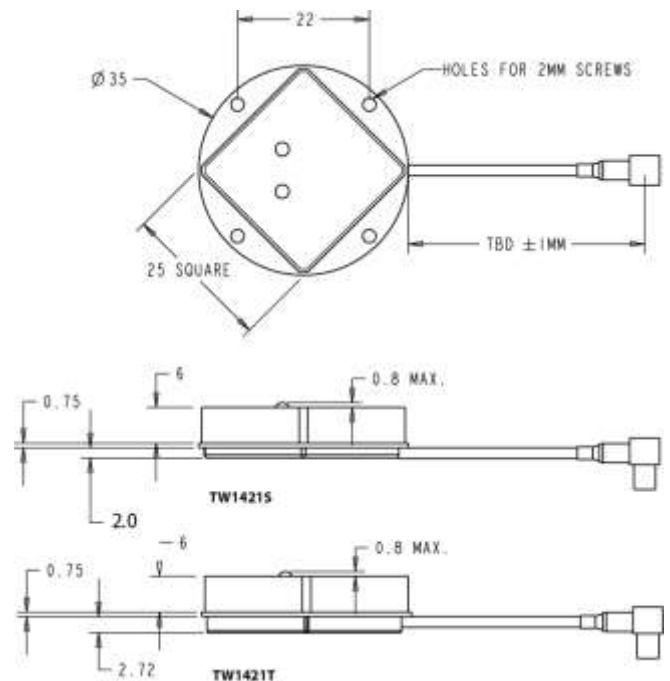
- Higher C/No values for Iridium™ communications
- Sea & Land Container Tracking
- Military & Security
- Fleet Management & Asset Tracking
- Marine & Avionics Systems
- Law Enforcement & Public Safety

Features

- **dual-feed, wide band** patch
- Axial ratio, <3 dB over full bandwidth
- High gain 4.5 dBic
- Robust design
- Small form factor
- -40°C to +85 °C Operation



Dimensions (mm)



Benefits

- Better axial ratio at lower elevation angles
- Higher Rx and Tx success rates
- Compact form factor
- RoHS compliant



TW1600 Dual Feed Iridium® Antenna

Specifications Over full bandwidth, T=25°C

Antenna

| | |
|-----------------------------------|------------------------|
| Architecture | Dual, quadrature feeds |
| Antenna Gain (100mm ground plane) | 4.5dBic |
| Axial Ratio (over full bandwidth) | <1dB |
| 1dB Bandwidth | 1605 to 1635MHz |

Electrical

| | |
|--------------------------------|--|
| Architecture | Dual Feed Patch -> Hybrid 90° Combiner |
| Polarization | RHCP |
| VSWR (at antenna PCB) | <1.5:1 typ. 1.8:1 max. |
| Return Loss Bandwidth (-10 dB) | >20MHz |

Mechanicals & Environmental

| | |
|-----------------------|---|
| Mechanical Size | 57 mm dia. x 15 mm |
| Cable | RG174 |
| Operating Temp. Range | -40°C to +85°C |
| Weight | 30g |
| Attachment Method | Magnet, Adhesive or M2 screw mount |
| Environmental | RoHS compliant, IP67 |
| 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

TW1600 – Dual Feed GPS Iridium antenna 33-1600-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.

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