



A Tallysman *Accutenna*™ TW1600 Dual Feed Embedded 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

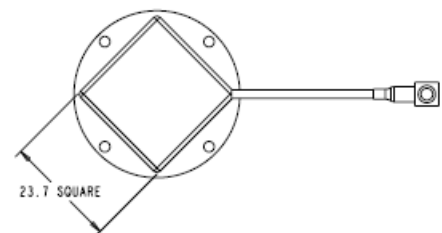
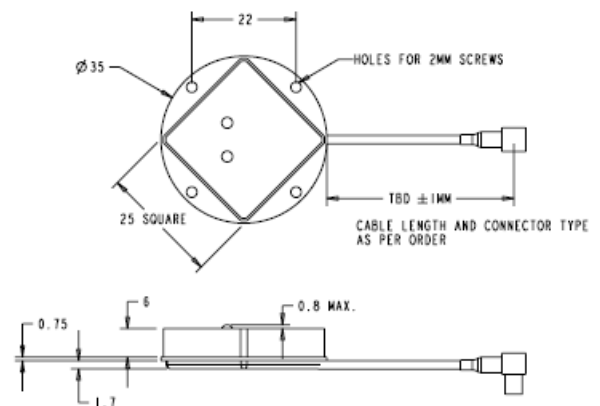
- Higher C/No values for Iridium™ communications
- Sea & Land Container Tracking
- Military & Security
- Fleet Management & Asset Tracking
- Marine & Avionics Systems
- Law Enforcement & Public Safety

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



TW1600 Dimensions (mm)



Benefits

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



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Specifications Over full bandwidth, T=25°C

Antenna

Architecture	Dual, quadrature feeds
Antenna Gain (100mm ground plane)	4.5dBic
Axial Ratio (over full bandwidth)	≤3dB
1.0 dB Bandwidth	1605MHz to 1635MHz

Electrical

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

Mechanicals & Environmental

Mechanical Size	35mm dia. x 7.25mm
Cable	1.38mm OD, 15cm. Custom lengths optional
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

TW1600 – OEM Dual Feed Iridium antenna 33-1600-xx-yyyy-zz

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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