

# TW1600

## Iridium® Antenna

Frequency Coverage: Iridium

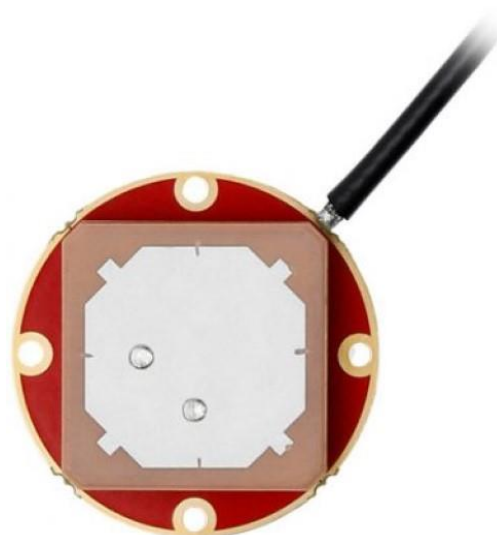
### Overview

The TW1600 employs Calian's patented Accutenna® technology in a low cost OEM dual-feed, passive Right Hand Circularly Polarized antenna (RHCP) for the 1616 MHz to 1626 MHz 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 35 mm circular ground plane but best performance is obtained with this augmented with a local system ground plane or reflecting surface equivalent to 100 mm diameter (DC connection not required).

OEM antennas are easily detuned by the local environment. Calian offers custom tuning services for optimized integration into OEM end-user modules.



### Applications

- Higher C/No values for Iridium® communications
- Sea & Land Container Tracking
- Law enforcement and public safety
- Fleet management and asset tracking
- Marine & Avionics Systems
- Law enforcement and public safety

### Features

- Compact Dual-feed Patch Element
- Axial ratio,  $\leq 3$  dB over full bandwidth
- High-gain (4.5 dBic)
- Robust design
- Small form factor

### Benefits

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

**About Calian:** With global headquarters and manufacturing in Ottawa, Canada, Calian is a leading manufacturer of high-precision antennas and components for Global Navigation Satellite System (GNSS) applications. Calian's mission is to support the needs of a new generation of positioning systems by delivering unprecedented antenna precision at competitive prices. Learn more at [www.calian.com](http://www.calian.com)

Contact us:  
[info@tallysman.com](mailto:info@tallysman.com)  
T: +1 613 591-3131

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Antenna - Measured with a 100 mm ground plane

Technology Dual-feed RHCP ceramic patch

|                                       |     | Gain<br>dBic typ. at Zenith | Axial Ratio<br>dB at Zenith |
|---------------------------------------|-----|-----------------------------|-----------------------------|
| GNSS                                  |     |                             |                             |
| GPS / QZSS                            | L1  | -                           | -                           |
|                                       | L2  | -                           | -                           |
|                                       | L5  | -                           | -                           |
| GLONASS                               | G1  | -                           | -                           |
|                                       | G2  | -                           | -                           |
|                                       | G3  | -                           | -                           |
| Galileo                               | E1  | -                           | -                           |
|                                       | E5A | -                           | -                           |
|                                       | E5B | -                           | -                           |
|                                       | E6  | -                           | -                           |
| BeiDou                                | B1  | -                           | -                           |
|                                       | B2  | -                           | -                           |
|                                       | B2a | -                           | -                           |
|                                       | B3  | -                           | -                           |
| IRNSS / NavIC                         | L5  | -                           | -                           |
| QZSS                                  | L6  | -                           | -                           |
| L-Band Services (1525 MHz - 1559 MHz) |     | -                           | -                           |
| Satellite Communications              |     |                             |                             |
| Iridium                               |     | 4.5                         | ≤ 3                         |
| Globalstar                            |     | -                           | -                           |
| Other                                 |     |                             |                             |
| Axial Ratio at 10°                    | -   | Efficiency                  | -                           |
| PC Variation                          | -   |                             |                             |

## Mechanicals

|                      |                          |
|----------------------|--------------------------|
| Size                 | 35 mm (dia.) x 8.8 mm    |
| Weight               | 18 g                     |
| Radome               | -                        |
| Mount                | Adhesive   4 · M2 screws |
| Available Connectors | Refer to Ordering Guide  |

## Environmental

|                       |  |
|-----------------------|--|
| Operating Temperature | -40 °C to +85 °C                           |
| Storage Temperature   | -55 °C to +95 °C                           |
| Vibration             | MIL-STD-810D                               |
| Shock                 | Vertical axis: 50 G, other axes: 30 G      |
| Salt Fog              | -  |
| IP Rating             | -  |
| Compliance            | IPC-A-610, FCC, RED / CE Mark, RoHS, REACH |

## Warranty

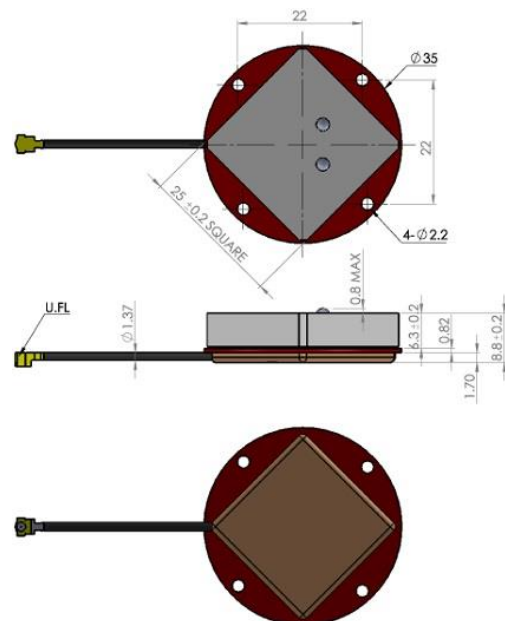
|                  |                          |
|------------------|--------------------------|
| Parts and Labour | 1-year standard warranty |
|------------------|--------------------------|

Low Noise Amplifier (LNA) - Measured at 3 V and 25°C

| Upper Band            | Lower Band |
|-----------------------|------------|
| Frequency Bandwidth   |            |
| 1616 - 1626 MHz       | -          |
| Out-of-band Rejection |            |
| -                     | -          |

|                        |                          |
|------------------------|--------------------------|
| Architecture           | Passive                  |
| Gain                   | -                        |
| Noise Figure           | -                        |
| VSWR                   | < 1.5:1 typ., 1.8:1 max. |
| Supply Voltage Range   | -                        |
| Supply Current         | -                        |
| ESD Circuit Protection | -                        |
| P 1dB Output           | -                        |
| Group Delay            | -                        |
| PCO                    | -                        |

## Mechanical Diagram



## Ordering Information

Part Number 33-1600-xx-yyyy

Where xx = connector type yyyy = cable length (in mm) and zz = reserved for Calian's use

Please refer to our **Ordering Guide** to review available radomes and connectors at:  
<https://www.tallysman.com/resource/tallysman-ordering-guide/>