

TW1829



When precision matters.®

TW1829 Dual Band Antenna GPS/QZSS + GLONASS + Galileo + Bei Dou

Frequency Coverage: L1/L2/G1/G2/E1/B1

Overview

The TW1829 employs Tallysman's unique Accutenna technology providing dual band GPS/QZSS L1/L2, GLONASS G1/G2, Galileo E1, and BeiDou B1 coverage and is especially designed for precision dual frequency positioning where light weight is important.

The TW1829 features a precision tuned, circular dual feed, stacked patch element. The signals from the two orthogonal feeds are combined in a hybrid combiner, amplified in a wide-band LNA, then band-split for narrow filtering in each band and further amplified prior to recombination at the output.

The TW1829 offers excellent axial ratio and a tightly grouped phase center variation.

The TW1829 covers GPS/QZSS L2 (1227.6 MHz), GLONASS G2 (1248 MHz centre), GPS/QZSS L1/WAAS/EGNOS/MSAS (1575.42 MHz), GLONASS G1 (1602 MHz, centre), Galileo E1 (1575.42 MHz centre), and BeiDou B1 (1575.42 MHz centre).

The TW1829 has a pre-filter which increases the antenna's immunity to high amplitude interfering signals, such as LTE and other cellular signals.



Applications

- Airborne Unmanned Autonomous Vehicles
- Precision GPS position
- Dual Frequency RTK receivers
- Mission Critical GPS Timing
- Military & Security
- Network Timing and Synchronization

Features

- Very low Noise Preamp, 2.5 dB
- Axial ratio: < 2 dB typ.
- Tight Phase Center Variation
- LNA Gain 26 dB typ.
- Low current: 12 mA typ.
- ESD circuit protection: 15 KV
- Invariant performance from: +2.5 to 16 VDC

Benefits

- Lightweight (37 g excluding cable and connector)
- Ideal for L1/L2 RTK surveying systems
- Great multipath rejection
- Increased system accuracy
- Excellent signal to noise ratio
- IP67, REACH, and RoHS compliant

About Tallysman: With global headquarters and manufacturing in Ottawa, Canada, Tallysman is a leading manufacturer of high-precision antennas and components for Global Navigation Satellite System (GNSS) applications. Tallysman'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.tallysman.com

Revision: 2.1

Contact us:
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Antenna

Technology Dual-feed Stacked RHCP ceramic Patch

| | | Gain dBic typ. at Zenith | Axial Ratio dB at Zenith |
|---------------------------------------|-----|-----------------------------|-----------------------------|
| GNSS | | | |
| GPS / QZSS | L1 | 4 | ≤ 1.5 |
| | L2 | 3.7 | ≤ 2 |
| | L5 | - | - |
| GLONASS | G1 | 4 | ≤ 1.5 |
| | G2 | 3.7 | ≤ 2 |
| | G3 | - | - |
| Galileo | E1 | 4 | ≤ 2 |
| | E5A | - | - |
| | E5B | - | - |
| | E6 | - | - |
| BeiDou | B1 | 4 | ≤ 1.5 |
| | B2 | - | - |
| | B2a | - | - |
| | B3 | - | - |
| IRNSS / NavIC | L5 | - | - |
| QZSS | L6 | - | - |
| L-Band Services (1525 MHz - 1559 MHz) | | - | - |
| Satellite Communications | | | |
| Iridium | | - | - |
| Globalstar | | - | - |
| Other | | | |
| Axial Ratio at 10° | - | Efficiency | - |
| PC Variation | - | | |

Mechanicals

| | |
|--------|---|
| Size | 48mm(d)x12.2mm(h)100mm ground plane recommended |
| Weight | 37 g |
| Radome | - |
| Mount | - |

Environmental

| | |
|-----------------------|--|
| Operating Temperature | - 40 °C to +85 °C |
| Storage Temperature | - 50 °C to +95 °C |
| Vibration | MIL-STD-810-D |
| Shock | Vertical axis: 50G, other axes: 30G |
| Salt Fog | - |
| IP Rating | Not Applicable |
| Compliance | IPC-A-610, FCC, RED / CE Mark, RoHS, REACH |

Warranty:

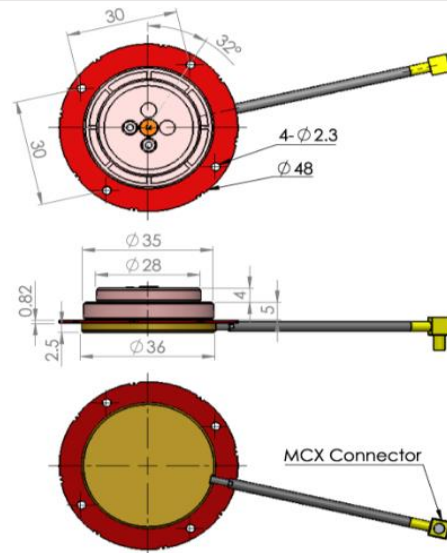
| | |
|------------------|--|
| Parts and Labour | One year (Extended warranty available) |
|------------------|--|

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

| Frequency Bandwith | | Out of Band Rejection | |
|--------------------|---------------|--|--|
| | | Upper Band | Lower Band |
| 1557-1606 MHz | 1215-1261 MHz | <1450 MHz >35 dB <1520 MHz >30 dB >1650 MHz >35 dB | <1170 MHz >40 dB <1190 MHz >30 dB >1290 MHz >32 dB |

| | |
|------------------------|--|
| Architecture | Pre-Filtered |
| Gain | 27dB typ, 26 dB min, each of L1 and L2 Bands |
| Noise Figure | 2.5dB typ @25°C |
| VSWR | <1.5:1 typ. 1.8:1 max. |
| Supply Voltage Range | +2.5 to 16VDC nominal, up to 50mV p-p ripple |
| Supply Current | 12 mA typ. at 25°C |
| ESD Circuit Protection | 15 KV air discharge. |
| P 1dB Output | - |
| Group Delay | - |

Mechanical Diagram



Ordering Information

Part Number **33-1829-xx-yyyy**

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

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

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