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A Tallysman *Accutenna*® TW1829 GPS L1/L2 + GLONASS G1/G2

The TW1829 employs Tallysman's unique Accutenna technology providing dual band GPS 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.

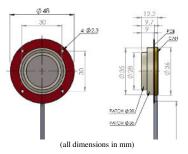
The TW1829 features a precision tuned, circular dual feed, stacked patch element. The signals from the two orthogonal feeds are combined in a hybrid combiner, amplified in a wide-band LNA, then band-split for narrow filtering in each band and further amplified prior to recombination at the output.

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

The TW1829 covers GPS L2 (1227.6MHz), GLONASS G2 (1248MHz centre), GPS L1/WAAS/EGNOS/MSAS (1575.42MHz), GLONASS G1 (1602MHz, centre), Galileo E1 (1575.42MHz centre), and BeiDou B1 (1575.42MHz 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 (37g 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



TW1829 GPS L1/L2 + GLONASS G1/G2

Specifications (Measured a Vcc = 3V, and Temperature=25°C)

Antenna

Patch Architecture L2 Peak Gain (100mm ground plane), 1227.6-1246MHz

L1 Peak Gain (100mm ground plane), 1575.42MH-1606MHz

Axial Ratio, over full bandwidth, both L1 & L2

Polarization

Circular, Dual Feed, Dual Stacked Patch

3.7 dBic peak gain at Zenith

4.0 dBic peak gain at Zenith

≤ 2dB typ, 1 dB max. at Zenith

Electrical

Overall LNA Gain

Bandwidth L2: 1215MHz-1261MHz (Filter bandwidth) L1: 1557 MHz-1606MHz (Filter bandwidth)

27dB typ, 26 dB min, each of L1 and L2 Bands.

Gain Variation with Temperature. 3dB max over operational temperature range

2.5dB tvp @25°C LNA Noise Figure VSWR (at LNA output) <1.5:1 tvp. 1.8:1 max.

Supply Voltage Range +2.5 to 16VDC nominal, up to 50mV p-p ripple

EMI Immunity 50V/Meter, excepting L1+/-100MHz and L2 +/- 100MHz

Supply Current 12 mA typ. at 25°C. 15 KV air discharge. **ESD Circuit protection**

Out-of-Band Rejection L2

<1450 MHz <1170 MHz >40 dB >35 dB <1520 MHz >30 dB <1190 MHz >30 dB >1650 MHz >35 dB >1290 MHz >32 dB

Mechanicals & Environmental

Mechanical Size, Ground Plane 48mm(d)x12.2mm(h)100mm ground plane recommended

1.38mm OD (micro-coax) or 2.6mm OD (RG174) Cable

Operating Temperature Range -40°C to +85°C

Weight 37 g

Environmental

RoHS and REACH compliant Shock Vertical axis: 50 G, other axes: 30 G

3-axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G Vibration

Ordering Information

TW1829 - GPS L1/L2 + GLONASS G1/G2

33-1829-xx-yyyy

Where xx = connector type, yyyy = cable length in mm (all 4 digits required)

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 radomes and connectors.

Tallysman Wireless Inc



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