A Tallysman Accutenna™
TW1430 High Gain Compact Embedded GPS/GLONASS Antenna

The TW1430 is a higher gain version of the TW1421 designed to meet the specifications of receivers requiring the higher gain, such as the Trimble BD9xx family of receivers.

The TW1430 employs Tallysman’s unique Accutenna™ technology covering the GPS L1, GLONASS G1, and SBAS (WAAS, EGNOS & MSAS) frequency band (1574 to 1606 MHz). It provides truly circular response over its entire bandwidth thereby producing superior multipath signal rejection. It also offers high out of band signal rejection.

The TW1430 features a novel 25mm wideband patch element with dual-feeds that are summed in a 90° Hybrid and input to a two stage Low Noise Amplifier (LNA), with a mid-section SAW a second low noise gain stage. This configuration provides excellent axial ratio and cross-polarization rejection across the full frequency band.

The built-in 35mm circular ground plane should ideally be augmented with a local system ground plane or reflecting surface (DC connection not required).

There are two options: TW1430S which has a lower profile can, micro-coax cable, and a U.FL. connector; or TW1430T which has a taller can, RG174, and a choice of connectors.

Applications
- High Accuracy GPS & GLONASS
- Precision Agriculture, Mining & Construction
- Military & Security
- Avionics
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

Features
- Compact Dual Feed Patch Element
- 1dB bandwidth 1575-1606MHz
- Very low noise LNA: <1.25 dB
- <1.5 dB Axial Ratio @ zenith over bandwidth
- LNA gain: 32 dB min.
- Wide Supply voltage: fixed 2.5V to 16V
- ESD circuit protection: 15KV
- Temperature Compensated Gain

Benefits
- Great multipath rejection
- Increase system accuracy
- Improved carrier phase linearity
- Excellent signal to noise ratio
- Great out of band signal rejection
- Compact form factor
- RoHS and REACH compliant
- Reliable performance
**TW1430 High Gain Dual Feed Embedded GPS/GLONASS Antenna**

**Specifications**  At: Vcc = 3V, over full bandwidth, T=25°C

### Antenna
- **Architecture**: Dual, Quadrature Feeds
- **1 dB Bandwidth**: 31MHz
- **Antenna Gain (with 100mm ground plane)**: 4.5dBic
- **Axial Ratio over full bandwidth, <1.5 dB @zenith, ≤3.0 dB max**

### Electrical
- **Architecture**: One LNA per feed line, mid-section SAW filter
- **Filtered LNA Frequency Bandwidth**: 1574MHz to 1606MHz
- **Polarization**: RHCP
- **LNA Gain**: 32dB Min, 1575.42MHz to 1606MHz
- **Gain flatness**: +/- 2dB, 1575MHz to 1606MHz
- **Out-of-Band Rejection**:
  - <1500MHz: >32dB
  - <1550MHz: >25dB
  - >1640MHz: >60dB
- **VSWR (at LNA output)**: <1.5:1
- **Noise Figure**: ≤1.25dB typ.
- **Supply Voltage Range (over coaxial cable)**: +2.5 VDC to 16 VDC nominal
- **Supply Current**: 10mA typ. 15mA max. (@ 85°C)
- **ESD Circuit Protection**: 15KV air discharge

### Mechanicals & Environmental
- **Mechanical Size**: 35mm dia x 7.25mm
- **Cable**: 1.38mm OD (micro-coax) or 2.6mm OD (RG174)
- **Operating Temp. Range**: -40°C to +85°C
- **Weight**: 18g
- **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
- **Part Numbers**: TW1430T – GPS/GLONASS L1 antenna with tall can  33-1430-xx-yyyy-zz


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