A Tallysman Accutenna®

TW2710 / TW2712 Magnet Mount Multi-Constellation Antenna

The TW2710 / TW2712 employs Tallysman's unique Accutenna technology covering the BeiDou B1, Galileo E1, GPS L1, GLONASS L1 and SBAS (WAAS, QZSS, EGNOS & MSAS) frequency band (1557 to 1606 MHz). It is especially designed for precision industrial, agricultural and military applications. It provides truly circular response over its entire bandwidth thereby producing superior multipath signal rejection.

The TW2710 / TW2712 has a low axial ratio, excellent phase linear response and a tight phase centre variation, providing the performance normally associated with higher priced antennas.

The TW2710 /TW2712 features a dual-feed wideband patch element, with one LNA per feed, a mid section combiner and SAW filter, and a final output gain stage.

The TW2712 has a pre-filter to provide extra protection against saturation by strong near frequency or harmonic signals, such as LTE.

The TW2710 / TW2712 is housed in a compact, industrial-grade weather-proof, magnet mount enclosure, and is available with a variety of connectors and cable lengths.

The antenna can be ordered without the magnet. In such cases, the magnet is replaced with a plastic plug to provide a smooth under surface.

Applications

- High Accuracy & Mission Critical GNSS
- Precision Agriculture, Mining & Construction
- Military & Security
- Law Enforcement & Public Safety
- Fleet Management & Asset Tracking

Features

- Covers B1 / E1 / L1 / G1 Frequencies
- Great axial ratio: 1 typ., 3 dB max
- Low noise LNA: ≤1 dB
- High rejection SAW filter
- LNA gain: 28 dB typ.
- Low current: 15 mA typ.
- Wide voltage input range: 2.5 to 16 VDC

Benefits

- Excellent multipath rejection
- Increased system accuracy
- Excellent signal to noise ratio
- Great out of band signal rejection
- Ideal for harsh environments
- RoHS compliant
## TW2710 / TW2712 Magnet Mount Multi-Constellation Antenna Specifications

Vcc = 3V, over full bandwidth, T=25°C

### Antenna
- **Architecture**: Dual, Quadrature Feeds
- **2 dB Bandwidth**: 49 MHz
- **Antenna Gain (with 100mm ground plane)**: 4.75 dBiC
- **Axial Ratio at Zenith over full bandwidth**: <2 dB typ, ≤3 dB max

### Electrical
- **Architecture**: One LNA per feed line, mid section SAW filter
- **Filtered LNA Frequency Bandwidth**: 1557 to 1606 MHz
- **Polarization**: RHCP
- **LNA Gain**: TW2710: 2.8 dBm, TW2712: 26dB
- **Gain flatness**: +/−2 dB, 1557 to 1606 MHz
- **Out-of-Band Rejection (TW2710)**
  - <1500 MHz: TW2710 >40 dB, TW2712 >45 dB
  - <1540 MHz: TW2710 >20 dB, TW2712 >45 dB
  - >1640 MHz: TW2710 >45 dB, TW2712 >45 dB
- **VSWR (at LNA output)**
  - <1.5:1 typ. 1.8:1 max.
- **Supply Voltage Range (over coaxial cable)**
  - +2.5 to 16 VDC nominal (12VDC recommended maximum)
  - 15 mA typ., 22mA max (@85°C)
- **Supply Current**: 15 KV air discharge

### Mechanicals & Environmental
- **Mechanical Size**: 57 mm dia. x 15 mm H
- **Connectors**: Please refer to Ordering Information, below
- **Cable**: RG174
- **Operating Temp. Range**: -40°C to +85°C
- **Enclosure**: Radome: ASA Plastic, Base: Zamak white metal
- **Weight**: 110g
- **Attachment Method**: Magnet or permanent (pre-tapped 4 x 6-32 UNC)
- **Environmental**: IP67, RoHS and RED compliant
- **Shock**: Vertical axis: 50G, other axes: 30G
- **Vibration**: 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3G

### Ordering Information
- TW2710 – Multi-Constellation antenna, 33-2710-xx-yyy
- TW2712 – Pre-filtered Multi-constellation antenna, 33-2712-xx-yyy
  - Where xx = connector type and yyy = cable length in mm