



A Tallysman Accutenna® TW2920 Wideband GPS/GLONASS/BeiDou/Galileo + L-Band Antenna

The TW2920 is an Accutenna technology antenna that covers GPS L1, GLONASS G1, BeiDou B1, Galileo E1, SBAS (WAAS, EGNOS, GAGAN, & MSAS) and the down-link L-Band (1525 – 1559MHz). The TW2920 provides superior multi-path signal rejection, a linear phase response, and tight Phase Centre Variation (PCV). This antenna is ideal for precision agriculture, autonomous vehicle tracking and guidance, and other applications where precision matters.

The TW2920 features a dual-feed wideband patch element, plus a low-loss pre-filter followed by a three stage Low Noise Amplifier (LNA) including an additional mid-section SAW. This configuration provides excellent axial ratio across the full frequency band and strong protection against high level sub-harmonic signals like LTE and near frequency signals such as WiFi.

The TW2920 has a compact, robust, magnetic mount housing with a metal base and a UV resistant, tough wide temperature range plastic radome, and is available with a variety of connectors. The housing includes a screw down option, and is available with an adhesive attachment, without a magnet,

The TW2920 is also available with an “armoured” cable option, with the cable encased in tough corrugated conduit having a temperature range of -40 to +120C, excellent chemical resistance, stable bending, high cold impact strength, and UL94HB flammability standard compliant.

Applications

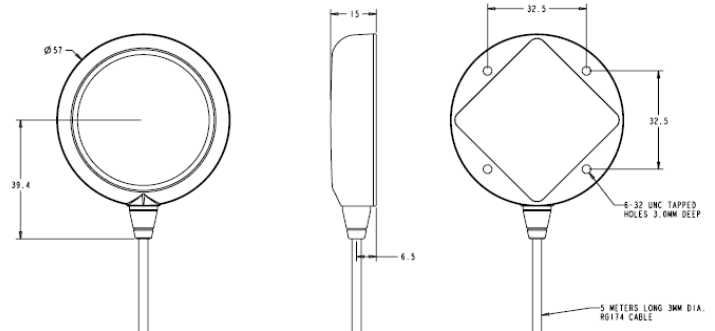
- High Accuracy & Mission Critical GNSS
- Precision Agriculture, Mining & Construction
- Military & Security

Features

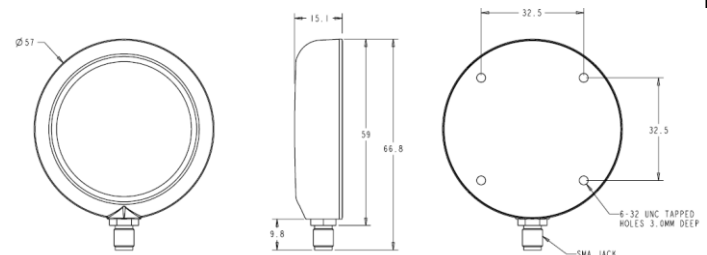
- Low loss Great axial ratio: ≤ 1 typ., 2 dB max
- Low noise LNA: ≤ 2.5 dB (including pre-filter)
- High rejection SAW filter
- Wide voltage input range: 2.5 to 16 VDC
- IP67 weather proof housing
- Economical price



Dimensions (mm)



Dimensions (mm)



Benefits

- Excellent multipath rejection
- Increased system accuracy
- Excellent signal to noise ratio
- Great out of band signal rejection
- Ideal for harsh environments
- RoHS and REACH compliant



TW2920 Pre-filtered GPS/GLONASS/BeiDou/Galileo + L-Band Antenna Specifications $V_{cc} = 3V$, over full bandwidth, $T=25^{\circ}C$

Antenna

| | |
|---|-----------------------------------|
| Architecture | Dual Feed Patch, Quadrature Feeds |
| 1 dB Bandwidth | 85 MHz |
| Antenna Zenith Gain (with 100mm ground plane) | 4.25 dBic |
| Axial Ratio | ≤ 1 dB typ, 2 dB max. |

Electrical

| | |
|---|--|
| Architecture | Pre-filter ->LNA ->SAW filter-> 2 stage LNA |
| Filtered LNA Frequency Bandwidth | 1510 to 1610 MHz |
| Polarization | RHCP |
| LNA Gain | 32 dB min., 1510 to 1610 MHz |
| Gain flatness | +/- 2 dB, 1510 to 1610 MHz |
| Out-of-Band Rejection | <1465 MHz >1700 MHz |
| | >30 dB >55 dB |
| VSWR (at LNA output) | <1.5:1 typ. 1.8:1 max. |
| Noise Figure | ≤ 2.5 dB typ. |
| Supply Voltage Range (over coaxial cable) | +2.5 to 16 VDC nominal (12VDC recommended maximum) |
| Supply Current | 18 mA typ, 25mA Q max (85°C). |
| ESD Circuit Protection | 15 KV air discharge |

Mechanicals & Environmental

| | |
|-----------------------|---|
| Mechanical Size | 57 mm dia. x 15 mm H |
| Cable | RG174 |
| Operating Temp. Range | -40 to +85 °C |
| Enclosure | Radome: EXL9330, Base: Zamak white metal |
| Weight | 100 g (+13g /m of cable) |
| Attachment Method | Magnet or permanent (pre-tapped 4 x 6-32 UNC) |
| Environmental | IP67, REACH, RED, and RoHS compliant |
| Shock | Vertical axis: 50 G, other axes: 30 G |
| Vibration | 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G |

Ordering Information

TW2920 – Pre-filtered Single Band GNSS antenna: 33-2920-xx-yyy

Where xx = connector type and yyyy = cable length in mm

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 connectors.



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