

# TW2920



## Multi-Constellation Antenna

Frequency Coverage: GPS L1 | GALILEO E1 | BEIDOU B1 | GLONASS G1

The TW2920 is an Accutenna® technology antenna that covers GPS-L1, GLONASS-G1, BeiDou B1, Galileo E1, SBAS (WAAS, EGNOS, GAGAN, & MSAS) and the downlink L-Band (1525 – 1559MHz). The TW2920 provides superior multipath 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 °C to +120C, excellent chemical resistance, stable bending, high cold impact strength, and UL94HB flammability standard compliant.



### Applications

- High-accuracy & mission-critical global positioning
- Precision agriculture, mining, and construction
- Law enforcement and public safety

### Features

- Low loss Great axial ratio: 1 typ., 3 dB max
- Low noise LNA:  $\leq 2.5$  dB typ.
- High-rejection SAW filter
- Wide voltage input range: 2.5 to 16 VDC
- IP67 weather proof housing

### 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

**About Calian:** With global headquarters and manufacturing in Ottawa, Canada, Calian is a leading manufacturer of high-precision antennas and components for Global Navigation Satellite System (GNSS) applications. Calian'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.calian.com](http://www.calian.com)

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# Multi-Constellation Antenna

Frequency Coverage: GPS L1 | GALILEO E1 | BEIDOU B1 | GLONASS G1

Antenna - Measured with a 100 mm ground plane

Technology Dual-feed Patch, Quadrature Feeds

|                                       |     | Gain<br>dBic typ. at Zenith | Axial Ratio<br>dB at Zenith |
|---------------------------------------|-----|-----------------------------|-----------------------------|
| GNSS                                  |     |                             |                             |
| GPS / QZSS                            | L1  | 4.25                        | ≤ 1                         |
|                                       | L2  | -                           | -                           |
|                                       | L5  | -                           | -                           |
| GLONASS                               | G1  | 4.25                        | ≤ 1                         |
|                                       | G2  | -                           | -                           |
|                                       | G3  | -                           | -                           |
| Galileo                               | E1  | 4.25                        | ≤ 1                         |
|                                       | E5A | -                           | -                           |
|                                       | E5B | -                           | -                           |
|                                       | E6  | -                           | -                           |
| BeiDou                                | B1  | 4.25                        | ≤ 1                         |
|                                       | B2b | -                           | -                           |
|                                       | B2a | -                           | -                           |
|                                       | B3  | -                           | -                           |
| IRNSS / NavIC                         | L5  | -                           | -                           |
| QZSS                                  | L6  | -                           | -                           |
| L-Band Services (1525 MHz - 1559 MHz) |     | 4.00                        | ≤ 1                         |
| Satellite Communications              |     |                             |                             |
| Iridium                               |     | -                           | -                           |
| Globalstar                            |     | -                           | -                           |
| Other                                 |     |                             |                             |
| Axial Ratio at 10°                    | -   | Efficiency                  | -                           |
| PC Variation                          | -   |                             |                             |

## Mechanicals

|                      |                                   |
|----------------------|-----------------------------------|
| Size                 | 57 mm (dia.) x 16 mm (h.)         |
| Weight               | 160 g                             |
| Radome               | LEXAN™ EXL9330, Base: Zamac Metal |
| Mount                | Magnetic, adhesive, or permanent  |
| Available Connectors | Please refer to ordering guide    |

## Environmental

|                       |                                            |
|-----------------------|--------------------------------------------|
| Operating Temperature | -40 °C to +85 °C                           |
| Storage Temperature   | -55 °C to 95 °C                            |
| Vibration             | MIL-STD-810-E - Test Method 514.5          |
| Shock                 | MIL-STD-810-G - Test Method 516.6          |
| Salt Fog              | MIL-STD-810-F - Test Method 509.5          |
| IP Rating             | IP67                                       |
| Compliance            | IPC-A-610, FCC, RED / CE Mark, RoHS, REACH |

## Warranty:

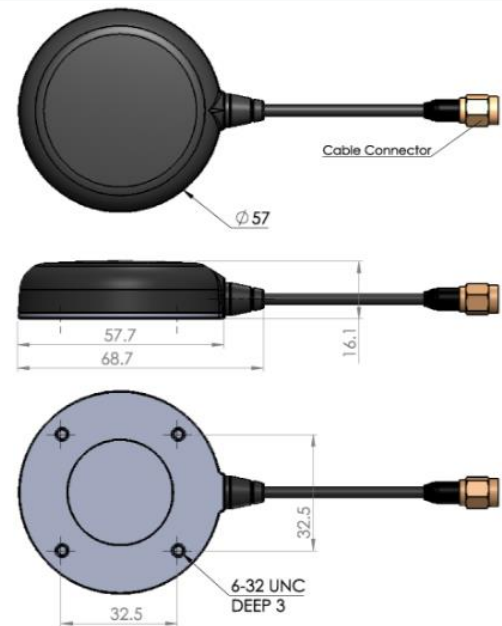
|                  |                          |
|------------------|--------------------------|
| Parts and Labour | 3-year standard warranty |
|------------------|--------------------------|

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

| Upper Band                                   | Lower Band |
|----------------------------------------------|------------|
| Frequency Bandwidth                          |            |
| 1540 - 1606 MHz                              | -          |
| Out-of-band Rejection                        |            |
| > 30 dB @ < 1465 MHz<br>> 55 dB @ > 1700 MHz | -          |

|                        |                                              |
|------------------------|----------------------------------------------|
| Architecture           | Pre-filtered                                 |
| Gain                   | 32 dB typ., 30 dB min.                       |
| Noise Figure           | 2.8 dB typ.                                  |
| VSWR                   | < 1.5:1 typ., 1.8:1 max                      |
| Supply Voltage Range   | 2.5 to 16 VDC nominal, up to 50mV p-p ripple |
| Supply Current         | 18 mA typ.                                   |
| ESD Circuit Protection | 15 kV air discharge                          |
| P 1dB Output           | -                                            |
| Group Delay            | -                                            |
| PCO                    | -                                            |

## Mechanical Diagram - Units in 'mm'



## Ordering Information

Part Number 33-2920-xx-yyy

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

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