# TW3967P

CALIAN®
Confidence. Engineered.

## Embedded Multi-Constellation Triple-Band Passive Antenna

**Frequency Coverage:** GPS L1, L2, L5 | GALILEO E1, E5a, E5b | BEIDOU B1, B2a, B2b | GLONASS G1, G2, G3 | NavIC L5 + L-Band

The TW3967P is an Accutenna® technology antenna providing triple-band GPS-L1/L2/L5, GLONASS-G1/G2/G3, BeiDou B1/B2, Galileo E1/E5 plus L-band Corrections coverage and is especially designed for precision triple frequency positioning. The TW3967 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 TW3967P features a precision tuned, twin circular dual-feed, stacked patch element. The signals from the two orthogonal feeds are combined in a hybrid combiner, amplified in a wideband LNA, then band-split for narrow filtering in each band and further amplified prior to recombination at the output.

The TW3967 offers excellent axial ratio and a tightly grouped phase centre variation. The TW3967 covers from 1164 MHz to 1254 MHz and 1539 MHz to 1606 MHz.

### Applications

- Precision GNSS positioning
- Triple-frequency RTK and PPP receivers

### Features

- Low axial ratio (< 2.0 dB typ.)
- Tight phase centre variation
- ESD circuit protection (15 kV)

### Benefits

- Ideal for triple-band RTK surveying systems
- Great multipath rejection
- 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

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## Antenna - Measured with a 100 mm ground plane

| | |
|---|---|
| Technology | Dual-feed Stacked RHCP ceramic patch |

| | | Gain<br>dBic typ. at Zenith | Axial Ratio<br>dB at Zenith |
|---|---|---|---|
| **GNSS** | | | |
| GPS / QZSS | L1 | 4.0 | < 1 |
| | L2 | 4.0 | < 1 |
| | L5 | -1.5 | < 1.5 |
| GLONASS | G1 | 2.5 | < 1.5 |
| | G2 | 2.5 | < 1.5 |
| | G3 | 2.5 | < 1.5 |
| Galileo | E1 | 4.0 | < 1 |
| | E5A | -1.5 | < 1.5 |
| | E5B | 2.5 | < 1.5 |
| | E6 | - | - |
| BeiDou | B1 | 4.0 | < 1 |
| | B2b | 2.5 | < 1.5 |
| | B2a | -1.5 | < 1.5 |
| | B3 | - | - |
| IRNSS / NavIC | L5 | -1.5 | < 1.5 |
| QZSS | L6 | - | - |
| L-Band Services (1539 MHz - 1559 MHz) | | 3.5 | < 1 |
| **Satellite Communications** | | | |
| Iridium | | - | - |
| Globalstar | | - | - |
| **Other** | | | |
| Axial Ratio at 10° | - | Efficiency | - |
| PCV Φ > 15° | ± 10 mm | PCO | |

## Mechanicals

| | |
|---|---|
| Size | 62 mm (dia.) x 17 mm (h.) (see diagram) |
| Weight | 70 g |
| Radome | - |
| Mount | 5 x M2 screws |
| 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-810D Method 514.3-1 |
| Shock | Vertical axis: 50 G, other axes: 30 G |
| Salt Fog | MIL-STD-810F Section 509.4 |
| Other Tests | - |
| IP Rating | - |
| Compliance | IPC-A-610, FCC, CE RED, RoHS, REACH |

## Warranty

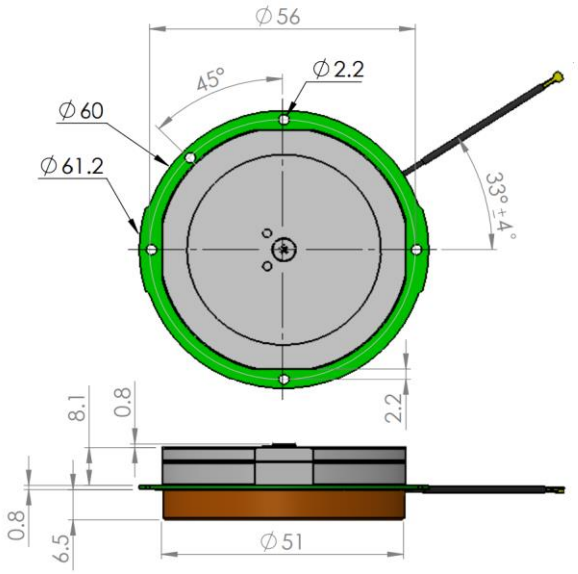
| | |
|---|---|
| Parts and Labour | 1-year standard warranty |

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

| Frequency Bandwith | | Out of Band Rejection |
|---|---|---|
| Lower Band | 1164 - 1254 MHz | - |
| L-Band Corr. | 1539 - 1559 MHz | - |
| Upper Band | 1559 - 1606 MHz | |

| | |
|---|---|
| Architecture | Passive |
| Gain | - |
| Noise Figure | - |
| VSWR | < 1.5:1 typ., 1.8:1 max. |
| Supply Voltage Range | - |
| Supply Current | - |
| ESD Circuit Protection | - |
| P 1dB Output | - |
| Group Delay | - |

## Mechanical Diagram - Units in 'mm' or 'inches' where specified




## Ordering Information

**Part Number** **33-3967P-xx-yy-zzzz**

Where xx = connector type, yy = shape and colour of radome and zzzz = cable length in mm (where applicable)

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

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