TW3867

CALIAN
Confidence. Engineered.

Embedded Multi-Constellation Dual-Band Antenna

Frequency Coverage: GPS L1, L2 | GALILEO E1 | BEIDOU B1 | GLONASS G1, G2

TW3867 employs Calian's patented Accutenna® technology providing dual-band GPS/QZSS L1 & L2, GLONASS-G1 & G2, BeiDou B1, and Galileo E1 coverage and is especially designed for precision dual frequency positioning.

The antennas feature a precision tuned, 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 TW3867 has a strong pre-filter to mitigate inter-modulated signal interference from LTE and other cellular bands.

The TW3867 antenna offers excellent axial ratio and a tightly grouped phase centre.

The TW3867 covers GPS/QZSS L2 (1227.6 MHz), GLONASS G2 (1248 MHz centre), GPS/QZSS L1/WAAS/EGNOS/MSAS (1575.42 MHz), GLONASS-G1 (1602 MHz, centre), BeiDou B1 (1575.42 MHz), and Galileo E1 (1575.42 MHz).

This OEM antenna is supplied with a standard 60 mm (dia.)iameter circular ground plane, with a coaxial cable terminated with your choice of connector (right angle MCX is shown in the drawing).

Mounting holes are provided for attachment to larger ground planes. Custom tuning and ground plane options may be available, depending on purchase level commitment.

Applications

- Precision GPS position
- Dual-frequency RTK receivers
- Law enforcement and public safety
- Network timing & synchronization

Features

- Very low noise preamp
- Low axial ratio (< 2.0 dB typ.)
- Tight phase centre variation
- High-gain LNA (28 dB typ.)
- Low current (24 mA typ.)
- ESD circuit protection (15 kV)
- Invariant performance from 2.5 to 16 VDC

Benefits

- Ideal for dual frequency RTK and PPP surveying systems
- Great multipath rejection
- Increased system accuracy
- Great signal-to-noise ratio
- CE RED, 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 (dBic typ. at Zenith)	Axial Ratio (dB at Zenith)
GNSS			
GPS / QZSS	L1	4.5	≤ 1
	L2	3.8	< 1.5
	L5	-	-
GLONASS	G1	4.0	≤ 1
	G2	4.0	< 1.5
	G3	-	-
Galileo	E1	4.0	≤ 1
	E5A	-	-
	E5B	-	-
	E6	-	-
BeiDou	B1	4.0	≤ 1
	B2b	-	-
	B2a	-	-
	B3	-	-
IRNSS / NavIC	L5	-	-
QZSS	L6	-	-
L-Band Services (1539 MHz - 1559 MHz)		-	-
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

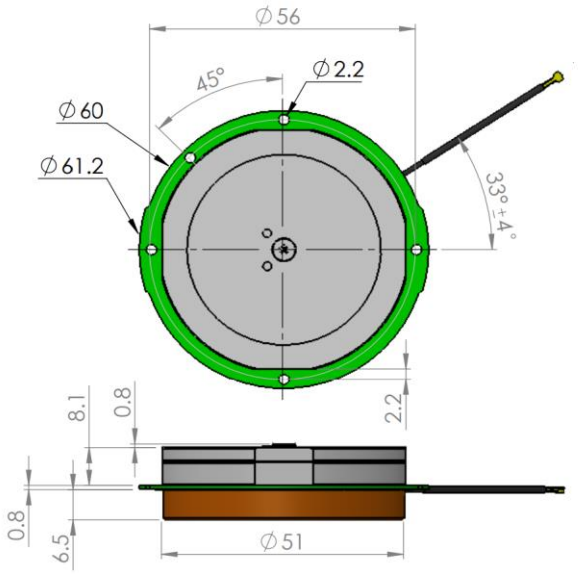
Parts and Labour	1-year standard warranty

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

Frequency Bandwith		Out of Band Rejection
Lower Band	1215 - 1254 MHz	> 40 dB @ < 1180 MHz > 30 dB @ < 1190 MHz > 32 dB @ > 1284 MHz
L-Band Corr.	-	> 40 dB @ < 1450 MHz > 30 dB @ > 1520 MHz > 35 dB @ > 1650 MHz
Upper Band	1559 - 1606 MHz	

Architecture	Pre-filtered
Gain	28 dB typ., 25 dB min.
Noise Figure	2.5 dB typ.
VSWR	< 1.5:1 typ., 1.8:1 max.
Supply Voltage Range	2.5 to 16 VDC nominal, up to 50 mV p-p ripple
Supply Current	24 mA typ., 25 mA max. at 75 °C.
ESD Circuit Protection	15 kV air discharge
P 1dB Output	-
Group Delay	-

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



Ordering Information

Part Number 33-3867-xx-yyyy-zz

Where xx = connector type, yyyy = cable length in mm and zz = assigned by Tallysman for custom tuning

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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