TW3892

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CALIAN
Confidence. Engineered.

Multi-Constellation Dual-Band Antenna

Frequency Coverage: GPS L1, L2 | GALILEO E1 | BEIDOU B1 | GLONASS G1, G2 + L-Band

The TW3892 precision tuned dual-Band, Accutenna® technology antenna for reception of GPS-L1/L2, GLONASS-G1/G2 + BeiDou B1 + Galileo E1+ L-Band coverage and is especially designed for precision dual frequency positioning.

The TW3892 provides superior multipath rejection and axial ratio, a linear phase response, and tight phase centre variation (PCV), while protecting against intermodulation and saturation caused by high-level cellular 700 MHz signals. This antenna is ideal for precision agriculture, autonomous vehicle tracking and guidance, and other applications where precision matters.

Architecturally, the TW3892 features a dual-feed circular stacked patch element. The signals from the two orthogonal feeds are summed in quadrature, pre-filtered in a low loss filter to protect against a wide range of potentially interfering signals, amplified in high linearity, wideband LNA, then band-split, tightly filtered and amplified prior to signal recombination at the output.

The TW3892 covers GPS L2 (1227.6MHz), GLONASS G2 (1248MHz centre), GPS-L1/WAAS/EGNOS/MSAS (1575.42 MHz), GLONASS-G1 (1602 MHz, centre), BeiDou B1, Galileo E1. (1561 and 1589 MHz) and L-band Corrections (1539 to 1559MHz).

The TW3892 is housed in a through-hole mount, weatherproof enclosure for permanent installations. L-Bracket or Pipe Mount (part numbers 23-0040-0, 23-0065-0 respectively) are available for non-rooftop installation. A 100 mm ground plane is provided for optimal performance.

Applications

- Precision GPS position
- Dual-frequency RTK receivers
- Mission Critical GPS Timing
- Law enforcement and public safety

Features

- Very low noise preamp (< 2 dB typ.)
- Low axial ratio (< 2.0 dB typ.)
- Tight phase centre variation
- High-gain LNA (35 dB typ.)
- Low current (24 mA typ.)
- ESD circuit protection (15 kV)
- Invariant performance from 2.5 to 16 VDC

Benefits

- Ideal for L1/L2 RTK 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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Multi-Constellation Dual-Band Antenna

Frequency Coverage: GPS L1, L2 | GALILEO E1 | BEIDOU B1 | GLONASS G1, G2 + L-Band

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	4.0	< 1
	L2	4.0	< 1
	L5	-	-
GLONASS	G1	3.0	< 1.5
	G2	2.5	< 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)		3.5	< 1
Satellite Communications			
Iridium		-	-
Globalstar		-	-
Other			
Axial Ratio at 10°	-	Efficiency	-
PCV Φ > 15°	± 10 mm	PCO	

Mechanicals

Size	66.5 mm (dia.) x 21 mm (h.)
Weight	185 g
Radome	LEXAN™ EXL9330, Base: Zamac Metal
Mount	Through-hole (100 mm ground plane provided)
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
Other Tests	Hail, Humidity, Dust, Rain, Sand, Solar
IP Rating	IP69K
Compliance	IPC-A-610, FCC, CE RED, RoHS, REACH

Warranty

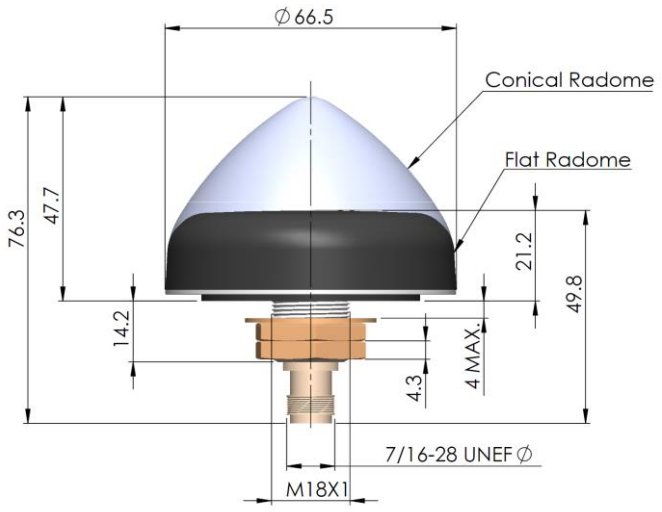
Parts and Labour	3-year standard warranty

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

Frequency Bandwith		Out of Band Rejection
Lower Band	1215 - 1254 MHz	> 40 dB @ < 1130 MHz > 30 dB @ < 1190 MHz > 32 dB @ > 1284 MHz
L-Band Corr.	1539 - 1559 MHz	> 30 dB @ < 1450 MHz > 30 dB @ > 1690 MHz > 40 dB @ > 1730 MHz
Upper Band	1559 - 1606 MHz	

Architecture	Pre-filtered
Gain	35 dB typ., 32 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 50mV 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 **33-3892-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/