

TW3882E



Embedded Multi-Constellation Dual-Band Antenna

Frequency Coverage: GPS L1, L2 | GALILEO E1, E5b | BEIDOU B1, B2b | GLONASS G1, G2, G3

The TW3882E is a precision-tuned dual-band Accutenna® technology antenna and is especially designed for precision dual-frequency positioning, providing dual-band GPS/QZSS-L1/L2, GLONASS-G1/G2/G3, Galileo-E1/E5b, and BeiDou-B1/B2b coverage, including the satellite-based augmentation system (SBAS) available in the region of operation [WAAS (North America), EGNOS (Europe), MSAS (Japan), or GAGAN (India)].

The TW3882E features 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 TW3882E offers excellent axial ratio, a tightly grouped phase centre variation, in addition to a pre-filter that increases the antenna's immunity to high amplitude signals, such as LTE and other cellular signals.

The antenna is supplied with a standard 60 mm diameter 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 GNSS position
- Dual-frequency RTK and PPP receivers
- Network timing & synchronization
- Law enforcement and public safety

Features

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

Benefits

- Excellent multipath rejection
- Increased system accuracy
- Excellent 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	Axial Ratio
		dBic typ. at Zenith	dB at Zenith
GNSS			
GPS / QZSS	L1	4.5	≤ 1.0
	L2	4.0	≤ 1.5
	L5	-	-
GLONASS	G1	4.0	≤ 1.0
	G2	3.0	≤ 1.5
	G3	2.8	≤ 1.5
Galileo	E1	4.0	≤ 1.0
	E5A	-	-
	E5B	2.8	≤ 1.5
	E6	-	-
BeiDou	B1	4.0	≤ 1.0
	B2b	2.8	≤ 1.5
	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 $\Phi > 15^\circ$		± 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

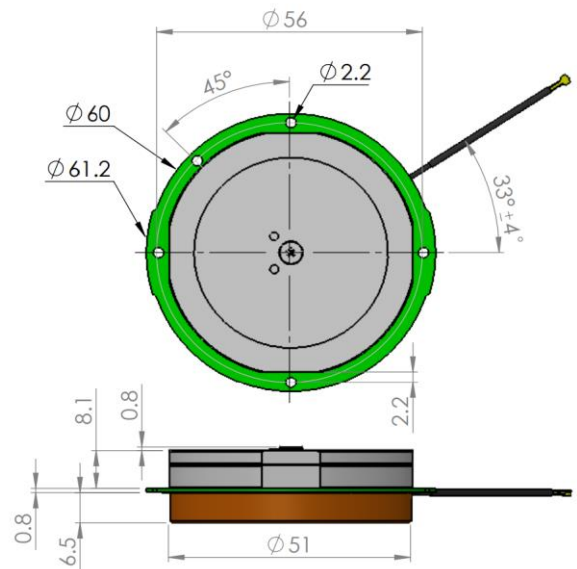
Parts and Labour	1-year standard warranty
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Low Noise Amplifier (LNA) - Measured at 3V and 25°C

Frequency Bandwidth		Out of Band Rejection
Lower Band	1191 - 1255 MHz	≥ 40 dB @ ≤ 1150 MHz ≥ 20 dB @ ≤ 1130 MHz ≥ 50 dB @ ≥ 1350 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	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 33-3882E-xx-zzzz
where xx = connector type, and zzzz = 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/>