TW3882E

TALLYSMAN®

When **precision** matters.®

TW3882E Embedded Dual-band GNSS Antenna

Frequency Coverage: **GPS/QZSS-L1/L2, GLONASS-G1/G2/G3, Galileo-E1/E5b, BeiDou-B1/B2**

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/E5a, and BeiDou-B1/B2 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
- Safety & security

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
- REACH and RoHS compliant

Benefits

- Excellent multipath rejection
- Increased system accuracy
- Excellent signal-to-noise ratio

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

Contact us:
info@tallysman.com
T: +1 613 591-3131

Revision: 1.4

TW3882E Embedded Dual-band GNSS Antenna

Frequency Coverage: GPS/QZSS-L1/L2, GLONASS-G1/G2/G3, Galileo-E1/E5b, BeiDou-B1/B2

Antenna

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
	B2	2.8	≤ 1.5
	B2a	-	-
	B3	-	-
IRNSS / NavIC	L5	-	-
QZSS	L6	-	-
L-band correction services		-	-
Satellite Communications			
Iridium		-	-
Globalstar		-	-
Other			
Axial Ratio at 10°	-	Efficiency	-
Phase Centre Variation	-		

Mechanicals

Mechanical Size	60 mm (dia.) x 16.2 mm (h.)
Weight	70 g (excluding cable)
Available Connectors	see Ordering Guide
Radome / Enclosure	-
Mount	4 x M2 screws

Environmental

Operating Temperature	-40 °C to + 85 °C
Storage Temperature	-50 °C to + 95 °C
Mechanical Vibration	MIL-STD-810D Method 514.4 and 514.5
Shock and Drop	Vertical axis: 50 G, other axes: 30 G
Salt Fog	-
Low Pressure - Altitude	-
IP Rating (housing)	Not Applicable
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty:

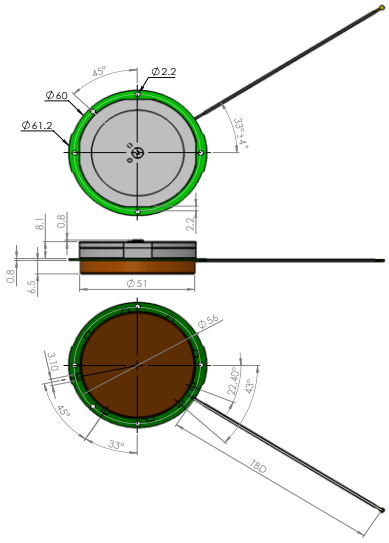
Parts and Labour	**1-year standard warranty**

Low Noise Amplifier (LNA) - Measured at 3.0 VDC and 25°C

Frequency Bandwith		Out-of-Band Rejection
Lower Band	**1191 - 1255 MHz**	**≥ 40 dB @ ≤ 1150 MHz** **≥ 20 dB @ ≤ 1130 MHz** **≥ 50 dB @ ≥ 1350 MHz**
Upper Band	**1559 - 1606 MHz**	**≥ 40 dB @ ≤ 1450 MHz** **≥ 30 dB @ ≥ 1520 MHz** **≥ 35 dB @ ≥ 1650 MHz**

Architecture	Pre-filter → LNA stage 1 → filter → LNA stage 2
Gain	35 dB typ. | 32 dB min.
Noise Figure	2.5 dB typ. at 25 °C
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. at 25 °C, 25 mA max. at 75 °C.
ESD Circuit Protection	15 kV air discharge
P 1dB Output	-
Group Delay Variation	-

Mechanical Diagram



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/

© 2019 Tallysman Inc. All rights reserved. Tallysman, the "When Precision Matters" tag line and the Tallysman logo are trademarks or registered trademarks of Tallysman Inc. and/or its affiliates in Canada and certain other countries. All other trademarks mentioned in this document are the property of their respective owners. The information presented is subject to change without notice. Tallysman assumes no responsibility for any errors or omissions in this document. Tallysman Wireless Inc. hereby disclaims any or all warranties and liabilities of any kind.