

TW7882



When precision matters.®

TW7882 GPS L1/L2 + GLONASS G1/G2 + BeiDou B1/B2 + Galileo E1/E5b

Frequency Coverage: L1/L2/G1/G2/E1/E5b/B1/B2

Overview

The TW7882 employs Tallysman's unique Accutenna technology providing dual band GPS L1/L2, GLONASS G1/G2 + BeiDou B1/B2 + Galileo E1/E5b coverage and is especially designed for precision dual frequency positioning.

The TW7882 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 TW7882 has a pre-filter which increases the antenna's immunity to high amplitude signals, such as LTE and other cellular signals. The TW7882 offers excellent axial ratio and a tightly grouped phase center variation.

The TW7882 covers GPS L2 (1227.6MHz), GLONASS G2 (1248MHz centre), GPS L1/WAAS/EGNOS/MSAS (1575.42MHz), GLONASS G1 (1602MHz, centre), BeiDou B1/B2 (1575 and 1207 MHz) and Galileo E1 (1561 and 1589 MHz).

The TW7882 is housed in a through-hole mount, weather-proof 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 100mm ground plane is recommended for non-roof-top installations. This product is also available in an OEM format (TW3887).



Applications

- Precision GPS position
- Dual Frequency RTK receivers
- Mission Critical GPS Timing
- Military & Security
- Network Timing and Synchronization

Features

- Very low Noise Preamp, < 2.5dB
- Axial ratio: < 2dB typ.
- Tight Phase Center Variation
- LNA Gain 35 dB typ.
- Low current: 24 mA typ.
- ESD circuit protection: 15 KV
- Invariant performance from: +2.5 to 16VDC

Benefits

- Ideal for L1/L2 RTK surveying systems
- Great multipath rejection
- Increased system accuracy
- Great signal to noise ratio
- IP67, REACH, and RoHS compliant

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

Revision: 1.5

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TW7882 GPS L1/L2 + GLONASS G1/G2 + BeiDou B1/B2 + Galileo E1/E5b

Frequency Coverage: L1/L2/G1/G2/E1/E5b/B1/B2

Antenna

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
	L5	-	-
GLONASS	G1	4	≤ 1
	G2	3.5	≤ 1
	G3	-	-
Galileo	E1	4	≤ 1
	E5A	-	-
	E5B	3	≤ 1
	E6	-	-
BeiDou	B1	4	≤ 1
	B2	3	≤ 1
	B2a	-	-
	B3	-	-
IRNSS / NavIC	L5	-	-
QZSS	L6	-	-
L-Band Services (1525 MHz - 1559 MHz)		-	-
Satellite Communications			
Iridium		-	-
Globalstar		-	-
Other			
Axial Ratio at 10°	-	Efficiency	-
PC Variation	-		

Mechanicals

Size	69mm (dia) x 22mm (H)
Weight	180 g
Radome	Radome: EXL9330, Base: Zamak White Metal
Mount	-

Environmental

Operating Temperature	-40°C to +85°C
Storage Temperature	-50°C to +95°C
Vibration	MIL-STD-810-D
Shock	Vertical axis: 50G, other axes: 30G
Salt Fog	-
IP Rating	IP67 Housing
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty:

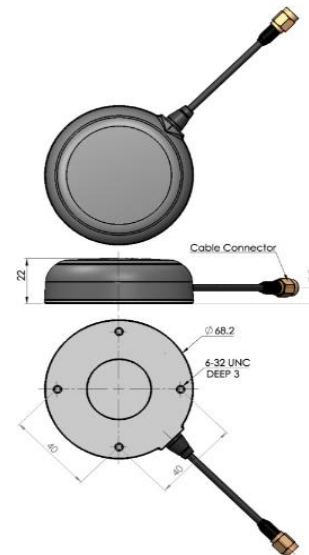
Parts and Labour	Three years (Extended warranty available)
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Low Noise Amplifier (LNA) - Measured at 3V and 25°C

Frequency Bandwith		Out of Band Rejection	
		Upper Band	Lower Band
1559-1606 MHz	1195-1254 MHz	<1450 MHz > 35 dB <1520 MHz > 35 dB >1650 MHz > 45 dB	<1050 MHz > 55 dB <1100 MHz > 30 dB >1350 MHz > 50 dB

Architecture	Pre-filtered
Gain	32 dB typ.
Noise Figure	2.5dB typ at 25°C
VSWR	<1.5:1 typ. 1.8:1 max.
Supply Voltage Range	+2.5 to 16VDC nominal, up to 50mV p-p ripple
Supply Current	24 mA typ. at 25°C, 25mA max at 75°C.
ESD Circuit Protection	15 KV air discharge
P 1dB Output	12 dBm
Group Delay	9.5 ns

Mechanical Diagram



Ordering Information

Part Number **33-7882-xx-yy-zzzz**

Where xx = connector type and yyyy = 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/>