TW2012

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CALIAN
Confidence. Engineered.

GPS-L1 Antenna

Frequency Coverage: GPS L1

The TW2012 by Tallysman Wireless is a professional-grade, magnet mount, GPS-L1 antenna, specially designed for industrial, agricultural and military precision positioning and timing applications.

The TW2012 features a high performance custom tuned ceramic patch element, 15 kV ESD circuit protection, a high-gain two-stage low-noise amplifier (LNA) with a mid section high-rejection SAW filter.

The TW2012 also has a tight SAW pre-filter to provide unparalleled out-of-band signal rejection. It covers the GPS-L1 and SBAS (WAAS/EGNOS/MSAS) frequency band (1572.5 to 1578 MHz), and it offers great circular polarized signal reception, multipath rejection and out-of-band signal rejection.

The TW2012 is housed in a compact, industrial grade weatherproof, magnet mount enclosure.

Applications

- High-accuracy & mission-critical global positioning
- Precision agriculture, mining, and construction
- Law enforcement and public safety
- Avionics
- Law enforcement and public safety
- Fleet management and asset tracking

Features

- Great axial ratio: ≤ 1 dB at Zenith
- High-rejection SAW filter
- High-gain (26 dB typ.)
- Low current (12 mA typ.)
- ESD circuit protection (15 kV)
- Wide voltage input range: 2.5 to 16 VDC
- Weather proof housing: IP67

Benefits

- Great multipath rejection
- Increase system accuracy
- Excellent signal-to-noise ratio
- Great out-of-band signal rejection
- Ideal for harsh environments
- 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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Revision: 202407

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Antenna - Measured with a 100 mm ground plane

Technology: single-feed ceramic patch

		Gain (dBic typ. at Zenith)	Axial Ratio (dB at Zenith)
GNSS			
GPS / QZSS	L1	4.0	≤ 1
	L2	-	-
	L5	-	-
GLONASS	G1	-	-
	G2	-	-
	G3	-	-
Galileo	E1	-	-
	E5A	-	-
	E5B	-	-
	E6	-	-
BeiDou	B1	-	-
	B2b	-	-
	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	57 mm (dia.) x 16 mm (h.)
Weight	100 g
Radome	LEXAN™ EXL9330, Base: Zamac Metal
Mount	Magnetic, adhesive, or permanent
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
IP Rating	IP67
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty:

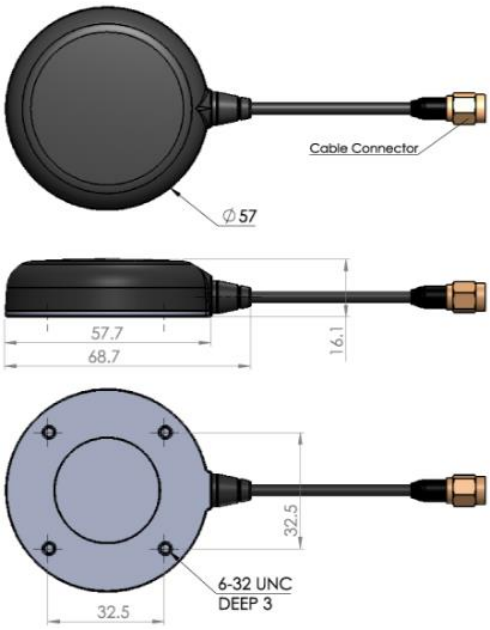
Parts and Labour	1-year standard warranty

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

Upper Band	Lower Band
Frequency Bandwith	
1575.42 MHz ± 2.5 MHz	-
Out-of-band Rejection	
> 50 dB @ < 1560 MHz > 55 dB @ > 1600 MHz > 70 dB @ > 1620 MHz	-

Architecture	Pre-filtered
Gain	26 dB typ., 24 dB min.
Noise Figure	3.5 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	12 mA typ.
ESD Circuit Protection	15 kV air discharge
P 1dB Output	-
Group Delay	-
PCO	-

Mechanical Diagram - Units in 'mm'



Ordering Information

Part Number **33-2012-xx-yyyy**

Where xx = connector type and yyyy = 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/

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