TW2412

CALIAN
Confidence. Engineered.

GPS-L1/GLONASS-G1 Antenna

Frequency Coverage: GPS L1 | GLONASS G1

The TW2412 employs Calian's patented Accutenna® technology covering the GPS-L1 and GLONASS-G1 GNSS bands, including the satellite-based augmentation system (SBAS) available in the region of operation [WAAS (North America), EGNOS (Europe), MSAS (Japan), or GAGAN (India)]. It is especially designed for precision industrial, agricultural, safety and security OEM applications. It provides truly circular response over its entire bandwidth thereby producing superior multipath signal rejection.

The TW2412 features a dual-feed wideband patch element, with a two stage low-noise amplifier, comprised of one input LNA per feed, a mid section SAW to filter the combined output, and a final output gain stage. This configuration provides excellent axial ratio that is constant across the full frequency band. A tight pre-filter on the TW2412 protects against saturation by high-level sub-harmonics and L-Band signals.

The TW2412 is housed in a compact, industrial-grade weatherproof, magnet mount enclosure, and is available with a variety of connectors and cable lengths. The antenna can be ordered without the magnet. In such cases, the magnet is replaced with a plastic plug to provide a smooth under surface.

Applications

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

Features

- Great axial ratio (< 1.0 dB) at zenith
- Low noise LNA (2.5 dB typ.)
- High-rejection SAW filter
- LNA gain (26 dB typ.)
- Low current (12 mA typ.)
- Wide voltage input range (2.5 to 16 VDC)
- IP67 weatherproof housing
- Reach and RoHS compliant

Benefits

- Excellent multipath rejection
- Excellent signal-to-noise ratio
- Great out-of-band signal rejection
- Increased system accuracy
- Ideal for harsh environments

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

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

Revision: 202407

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Antenna - Measured with a 100 mm ground plane

Technology: Dual-feed RHCP ceramic patch

		Gain dBic typ. at Zenith	Axial Ratio dB at Zenith
GNSS			
GPS / QZSS	L1	4.25	≤ 1
	L2	-	-
	L5	-	-
GLONASS	G1	4.25	≤ 1
	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	110 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:

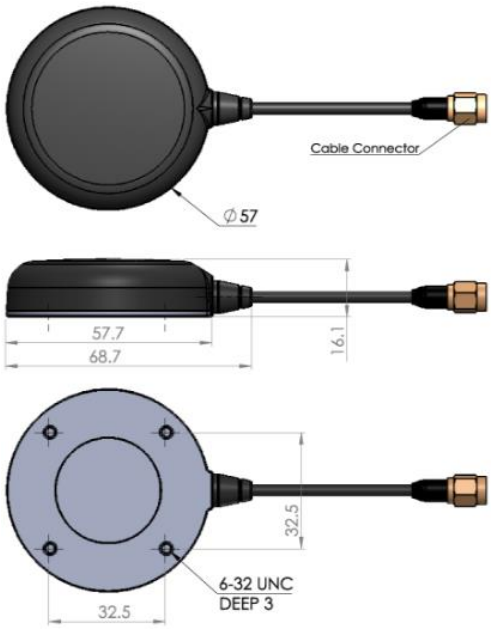
Parts and Labour	3-year standard warranty

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

Upper Band	Lower Band
Frequency Bandwith	
1575 - 1606 MHz	-
Out-of-band Rejection	
> 50 dB @ < 1500 MHz > 50 dB @ < 1550 MHz > 70 dB @ > 1640 MHz	-

Architecture	Pre-filtered
Gain	26 dB typ.
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	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 **33-2412-xx-yyyy**

where xx = connector type, 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/

Revision: 202407