

TW2412

TW2412 Magnetic-Mount Single-Band GPS/GLONASS Antenna

Frequency Coverage: GPS-L1, GLONASS-G1

The TW2412 employs Tallysman'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 (1.5 dB typ.)
- High-rejection SAW filter
- LNA gain (28 dB typ.)
- Low current (10 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 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: 4.5

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Antenna

Technology: Dual-feed RHCP ceramic patch

		Gain	Axial Ratio
		dBic typ. at Zenith	dB at Zenith
GNSS			
GPS / QZSS	L1	4.3	≤ 1
	L2	-	-
	L5	-	-
GLONASS	G1	4.3	≤ 1
	G2	-	-
	G3	-	-
Galileo	E1	-	-
	E5a	-	-
	E5b	-	-
	E6	-	-
BeiDou	B1	-	-
	B2	-	-
	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: 57 mm (dia.) x 15 mm (h.)
 Weight: 110 g
 Available Connectors: See Ordering Guide
 Radome / Enclosure: Radome: EXL9330, Base: Zamak white metal
 Mount: Magnetic, adhesive, or permanent

Environmental

Operating Temperature: -45 °C to +85 °C
 Storage Temperature: -45 °C to +85 °C
 Mechanical Vibration: MIL-STD-810D
 Shock and Drop: Vertical axis: 50 G, other axes: 30 G
 Salt Fog: -
 Low Pressure - Altitude: -
 IP Rating (housing): IP67
 Compliance: IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty:

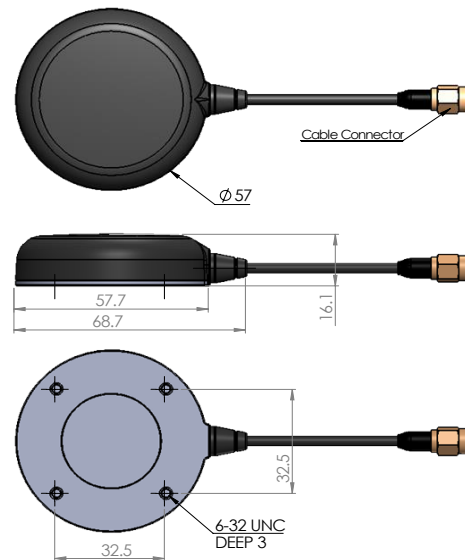
Parts and Labour: 3-year standard warranty

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

Frequency Bandwidth	Out-of-Band Rejection
Lower Band	-
Upper Band	1574 - 1606 MHz > 50 dB @ < 1500 MHz > 50 dB @ < 1550 MHz > 70 dB @ > 1640 MHz

Architecture: Pre-filter → LNA stage 1 → filter → LNA stage 2
 Gain: 28 dB min.
 Noise Figure: 1.5 dB typ.
 VSWR: < 1.5:1 typ. | 1.8:1 max.
 Supply Voltage Range: 2.5 to 16 VDC nominal (12 VDC rec. max..)
 Supply Current: 10 mA typ | 12 mA max. (85 °C)
 ESD Circuit Protection: 15 kV air discharge
 P 1dB Output: -
 Group Delay Variation: -

Mechanical Diagram



Ordering Information

Part Number: 33-2412-xx-yyyy

where xx = connector type, yyyy = cable length in mm

Please refer to our [Ordering Guide](https://www.tallysman.com/resource/tallysman-ordering-guide/) to review available radomes and connectors at: <https://www.tallysman.com/resource/tallysman-ordering-guide/>