

TW4721



Multi-Constellation Single-Band Antenna

Frequency Coverage: GPS L1 | GALILEO E1 | BEIDOU B1 | GLONASS G1

Overview

The TW4721 is a compact, wideband GNSS antenna that provides accurate reception for all upper L- band GPS, GLONASS, Beidou, and Galileo signals (L1, G1, B1, B1 BOC, B1-2, E1) and associated augmentation signals (WAAS, EGNOS and MSAS SBAS). This antenna employs Calian's patented Accutenna® technology.

The TW4721 features a novel 25 mm diameter dual-feed wideband patch element that, in sharp contrast with its competitors, provides a truly circularly polarized response, with a typical axial ratio of less than 2 dB over the full bandwidth. This provides a more linear carrier phase response and substantially improved multipath rejection for higher precision applications.

The TW4721 is the smallest, lightest, wideband GNSS antenna available. It is housing in a compact IP68 magnetic or adhesive mount enclosure and is available with a wide range of connector options and custom coax 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, with the option of ordering it with or without 1.1 mm thick doublesided VHB tape on the bottom.



Applications

- Cost Sensitive Mission Critical Positioning
- UAV / UAS
- Covert surveillance
- Fleet management and asset tracking

Features

- Dual-feed patch element
- Axial ratio: 2 dB typ.
- Low noise LNA: 1 dB
- High-rejection mid-section SAW filter
- High-gain: 26 dB typ.
- Wide voltage input range: 2.5 to 16 VDC
- IP68 weather proof housing
- Low Power: 12 mA typ. over supply range

Benefits

- Greatly enhanced multipath rejection
- improved GNSS reliability
- Excellent signal-to-noise ratio
- CE RED, REACH, and RoHS compliant
- Ideal for harsh environments
- Excellent out-of-band signal rejection

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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Antenna

Technology Dual-feed RHCP ceramic patch

		Gain	Axial Ratio
		dBic typ. at Zenith	dB at Zenith
GNSS			
GPS / QZSS	L1	4.5	≤ 2
	L2	-	-
	L5	-	-
GLONASS	G1	4.0	≤ 2
	G2	-	-
	G3	-	-
Galileo	E1	4.0	≤ 2
	E5A	-	-
	E5B	-	-
	E6	-	-
BeiDou	B1	4.0	≤ 2
	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	38.6 mm (sq.) x 14.7 mm (h.)
Weight	34 g (without cable)
Radome	LEXAN™ EXL9330
Mount	Adhesive, magnetic
Available Connectors	Please see ordering guide

Environmental

Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +95 °C
Vibration	MIL-STD-810-G - Test Method 514.6
Shock	MIL-STD-810-G - Test Method 516.6
Salt Fog	MIL-STD-810-F - Test Method 509.5
IP Rating	IP68
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty

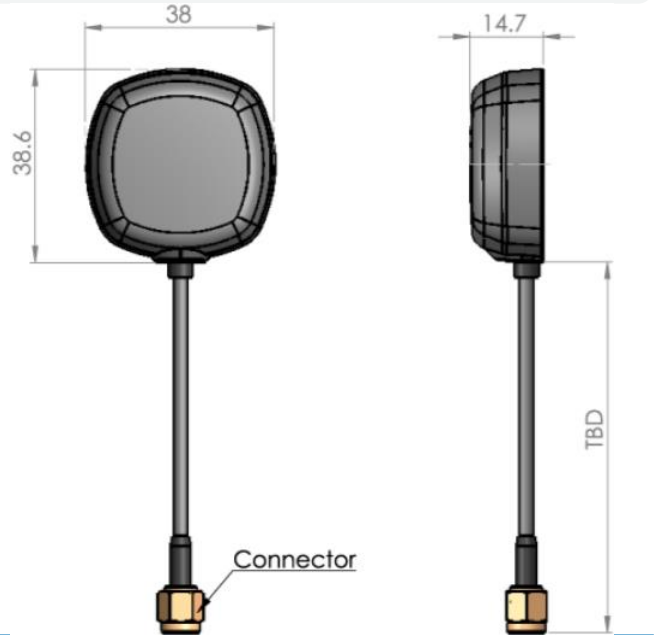
Parts and Labour	3-year standard warranty
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Low Noise Amplifier (LNA) - Measured at 3V and 25°C

Frequency Bandwidth	Out of Band Rejection
1559 - 1606 MHz	> 40 dB @ < 1500 MHz > 45 dB @ < 1525 MHz > 45 dB @ > 1630 MHz

Architecture	Non pre-filtered
Gain	28 dB typ., 26 dB min.
Noise Figure	1 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	12 mA typ.
ESD Circuit Protection	15 kV air discharge
P 1dB Output	-
Group Delay	-
PCO	-

Mechanical Diagram



Ordering Information

Part Number **33-4721-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/>