

TW3712



Multi-Constellation Antenna

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

The TW3712 employs Calian's patented Accutenna® technology covering the BeiDou B1, Galileo E1, GPS-L1, GLONASS-G1 and SBAS (WAAS, QZSS, EGNOS & MSAS) frequency band (1559 to 1606 MHz). It provides truly circular response over its entire bandwidth thereby producing superior multipath signal rejection. It is especially suitable for high accuracy applications, and also offers high out-of-band signal rejection.

TW3712 antenna 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 along with a superb phase linear response and tight phase centre variation providing performance normally associated with much higher priced antennas.

The TW3712 has a pre-filter to protect against front end saturation by strong near frequency or harmonic signals.

The antennas are housed in a through-hole mount, weatherproof enclosure for permanent installations. L Bracket or Pipe Mount adapters (part numbers 23-0040-0, 23-0065-0 respectively) are available for non-rooftop installation. A 100 mm ground plane is recommended for optimal performance.



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

- Covers all GNSS Frequencies
- Great axial ratio: 1 dB typ.
- High-rejection SAW filter
- High-gain LNA (26 dB typ.)
- Low current (15 mA typ.)
- Wide voltage input range (2.5 to 16 VDC)

Benefits

- Excellent circular polarisation
- Excellent multipath rejection
- Excellent signal-to-noise ratio
- Great out-of-band signal rejection
- Increased system accuracy
- Ideal for harsh environments
- CE RED, 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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Antenna - Measured with a 100 mm ground plane

Technology Dual-feed RHCP ceramic patch

		Gain	Axial Ratio
		dBic typ. at Zenith	dB at Zenith
GNSS			
GPS / QZSS	L1	4.8	≤ 1
	L2	-	-
	L5	-	-
GLONASS	G1	4.8	≤ 1
	G2	-	-
	G3	-	-
Galileo	E1	4.8	≤ 1
	E5A	-	-
	E5B	-	-
	E6	-	-
BeiDou	B1	4.8	≤ 1
	B2b	-	-
	B2a	-	-
	B3	-	-
IRNSS / NavIC	L5	-	-
QZSS	L6	-	-
L-Band Services (1539 MHz - 1559 MHz)			
Satellite Communications			
Iridium	-	-	-
Globalstar	-	-	-
Other			
Axial Ratio at 10°	-	Efficiency	-
PCV $\Phi > 15^\circ$	-	PCO	-

Mechanicals

Size	66.5 mm (dia.) x 21 mm (h.)
Weight	150 g
Radome	LEXAN™ EXL9330, Base: Zamac Metal
Mount	Through-hole (100 mm ground plane provided)
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
Other Tests	Hail, Humidity, Dust, Rain, Sand, Solar
IP Rating	IP69K
Compliance	IPC-A-610, FCC, CE RED, RoHS, REACH

Warranty

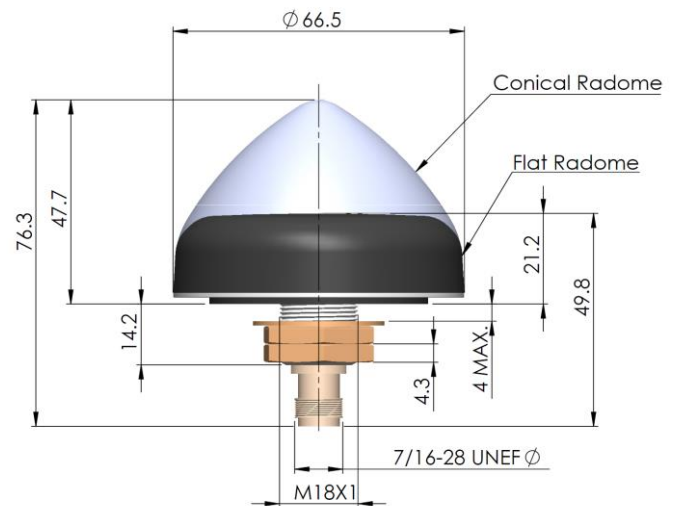
Parts and Labour	3-year standard warranty
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Low Noise Amplifier (LNA) - Measured at 3V and 25°C

Frequency Bandwidth	Out of Band Rejection
Lower Band	-
L-Band Corr.	-
Upper Band	1559-1606 MHz
> 50 dB @ < 1500 MHz > 70 dB @ > 1640 MHz	

Architecture	Pre-filtered
Gain	26 dB typ.
Noise Figure	3 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	15 mA typ.
ESD Circuit Protection	15 kV air discharge
P 1dB Output	-
Group Delay	-

Mechanical Diagram - Units in 'mm' or 'inches' where specified



Ordering Information

Part Number **33-3712-xx-yy-zzzz**

Where xx = connector type, yy = shape and colour of radome and zzzz = 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/>