TW3442

CALIAN
Confidence. Engineered.

High Gain GPS-L1/GLONASS-G1 Antenna

Frequency Coverage: GPS L1 | GLONASS G1

The TW3442 employs Calian's patented Accutenna® technology, covering the GPS-L1, GLONASS-G1, and SBAS (WAAS, EGNOS & MSAS) frequency bands (1575 to 1606 MHz). They are especially designed for timing, mobile, precision, safety and security applications. They provide truly circular response over the antenna's entire bandwidth thereby producing superior multipath signal rejection.

The TW3442 each feature a highly circular dual-feed wideband patch element, with a three stage low-noise amplifier. This configuration provides excellent axial ratio that is constant across the full frequency band. TW3442 is a tight pre-filter protects against saturation by high-level sub-harmonics and L-Band signals.

The TW3442 is housed in a permanent-mount industrial-grade weatherproof enclosure, and is available with a wide variety of connectors.

The antenna is available with either a flat or a conical radome. Conical radomes are recommended for permanent locations to ward off birds and shed ice/snow.

Applications

- GPS / GLONASS Gong cable Mobile/fixed Installations
- High-accuracy & mission-critical global positioning
- Precision agriculture, mining, and construction
- Law enforcement and public safety
- Law enforcement and public safety

Features

- Great axial ratio: 1 dB typ.
- High-gain LNA: 40 dB
- Low noise LNA: 3.5 dB typ.
- Tight pre-filtering
- Low current: 20 mA typ.
- Wide supply voltage: 2.5 to 16 VDC
- IP69K weatherproof housing

Benefits

- Excellent circular polarisation
- Long Cable Runs
- Excellent signal-to-noise ratio
- Excellent multipath rejection
- Exceptional out-of-band 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 dBic typ. at Zenith	Axial Ratio 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	-	-
	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 Φ > 15°	-	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

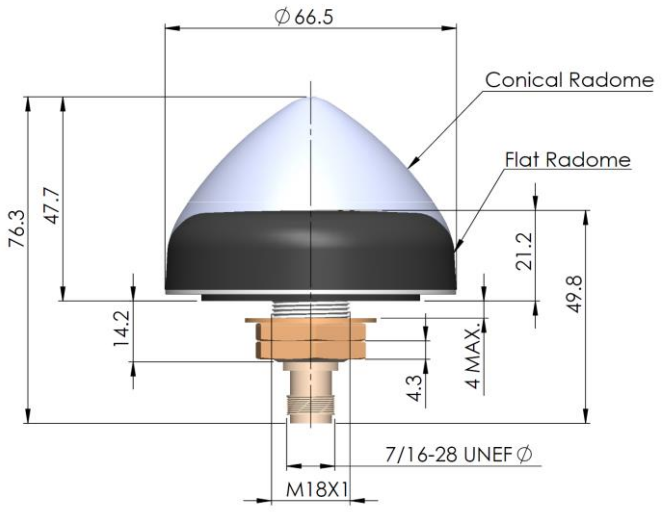
Parts and Labour	3-year standard warranty

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

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

Architecture	Pre-filtered
Gain	39 dB typ., 37 dB min.
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	20 mA typ.
ESD Circuit Protection	15 kV air discharge
P 1dB Output	-
Group Delay	33.5 ns (L1), 44.7 ns (G1)

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



Ordering Information

Part Number **33-3442-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/

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