TW2108

CALIAN
Confidence. Engineered.

Embedded GPS-L1 Antenna

Frequency Coverage: GPS L1

The TW2108 has a larger PCB with drilled holes for a more secure method of attaching the antenna to your enclosure, printed circuit board, or ground plane.

The TW2108 employs Calian's patented Accutenna® technology in an embedded GPS-L1 antenna, specially designed for industrial, agricultural and military precision positioning and timing applications.

The TW2108 features a custom high performance, dual-feed, wide band patch element. Its LNA configuration provides a LNA for each feed, a mid section high-rejection SAW for the combined signal, followed by a final stage of LNA. It provides ± 10 MHz bandwidth centred on 1575.42 MHz and covers all GPS-L1, and SBAS (WAAS/EGNOS/MSAS) signals.

It features great axial ratio over the entire frequency range (≤ 3 dB), excellent circular polarized signal reception, great multipath rejection and out-of-band signal rejection. The TW2108 has a pre-filter to provide strong protection from near frequencies.

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

- Great axial ratio: ≤ 3 dB over full bandwidth
- High-rejection SAW filter
- High-gain (26 dB typ.)
- Low current (12 mA typ.)
- ESD circuit protection (15 kV)
- Wide voltage input range: 2.5 to 16 VDC
- Small form factor

Benefits

- Excellent multipath rejection
- Increase system accuracy
- Excellent signal reception
- Great out-of-band signal rejection
- 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/gnss

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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	≤ 3
	L2	-	-
	L5	-	-
GLONASS	G1	-	-
	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	56 mm (dia.) x 7.8 mm (h.)
Weight	38 g
Radome	-
Mount	-
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	Vertical axis: 50 G, other axes: 30 G
Salt Fog	-
IP Rating	-
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty:

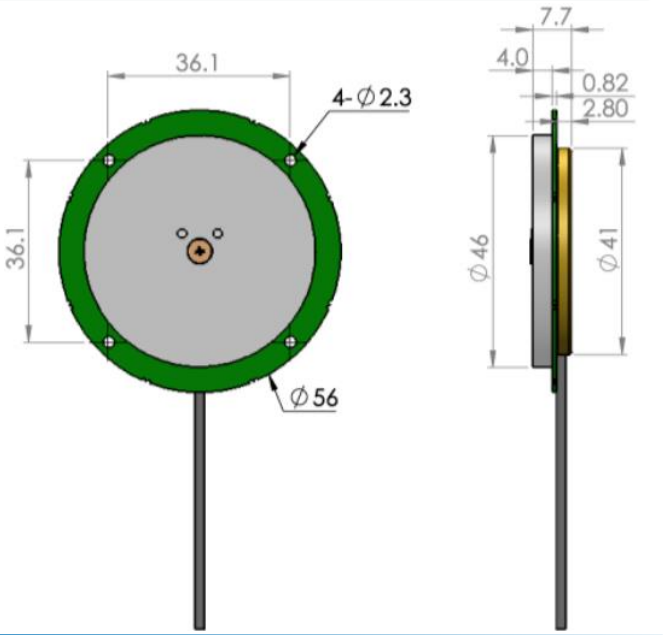
Parts and Labour	1-year standard warranty

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

Upper Band	Lower Band
Frequency Bandwith	
1575.42 MHz ± 10 MHz	-
Out-of-band Rejection	
> 80 dB @ < 1560 MHz > 60 dB @ > 1600 MHz > 82 dB @ > 1620 MHz	-

Architecture	Pre-filtered
Gain	26 dB typ., 24 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	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 **33-2108-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://at.calian.com/gnss/information-support/part-number-ordering-guide/

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