

TW1320

GPS-L1/GLONASS-G1 Antenna

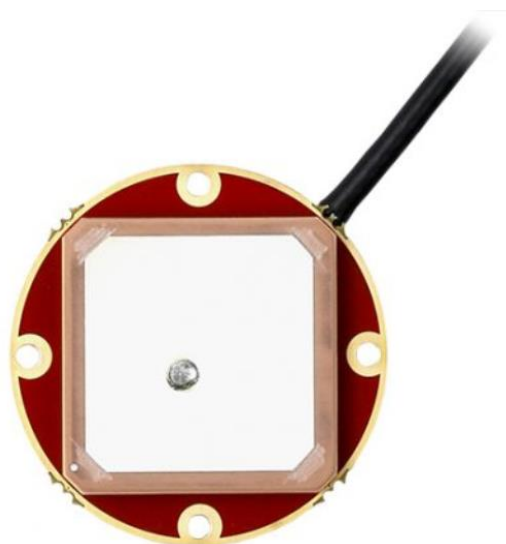
Frequency Coverage: GPS L1 | GLONASS G1

Overview

The TW1320 is a high performance OEM GNSS antenna covering the GPS-L1, GLONASS-G1 and SBAS (WAAS, EGNOS & MSAS) frequency band (1575 to 1606 MHz). It features a patch element with 40% wider bandwidth than previously available in this format. Unlike its competitors, both GPS-L1 and GLONASS signals are included in the 1 dB RHCP received power bandwidth.

The TW1320 has a two stage low-noise amplifier (LNA) with a mid-section SAW. The built-in 35 mm circular ground plane should ideally be augmented with a local system ground plane or reflecting surface (DC connection not required).

OEM antennas are easily detuned by the local environment. Calian offers custom tuning services for optimized integration into OEM end-user modules.



Applications

- Embedded OEM applications
- Precision agriculture, mining, and construction
- Law enforcement and public safety
- Avionics
- Fleet management and asset tracking

Features

- 1 dB bandwidth 1575 MHz - 1606 MHz
- Low noise figure, 1 dB typ.
- 4 dB Axial Ratio @ 1590 MHz, 8 db over B/W
- High-rejection SAW filter
- LNA gain: 28 dB typ.
- Low current (9 mA typ.)
- ESD circuit protection (15 kV)
- Wide Supply voltage: fixed 2.5V to 16V

Benefits

- Great multipath rejection
- Increase system accuracy
- Excellent signal-to-noise ratio
- Great out-of-band signal rejection
- Compact form factor
- RoHS 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

Revision:

34

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GPS-L1/GLONASS-G1 Antenna

Frequency Coverage: GPS L1 | GLONASS G1

Antenna - Measured with a 100 mm ground plane

Technology Wideband Single-feed RHCP ceramic patch

		Gain dBic typ. at Zenith	Axial Ratio dB at Zenith
GNSS			
GPS / QZSS	L1	4.5	≤ 8
	L2	-	-
	L5	-	-
GLONASS	G1	4.5	≤ 8
	G2	-	-
	G3	-	-
Galileo	E1	-	-
	E5A	-	-
	E5B	-	-
	E6	-	-
BeiDou	B1	-	-
	B2	-	-
	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	35 mm (dia.) x 7.7 mm
Weight	17.5 g
Radome	-
Mount	Adhesive 4 · M2 screws
Available Connectors	Refer to Ordering Guide

Environmental

Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +95 °C
Vibration	MIL-STD-810D
Shock	Vertical axis: 50 G, other axes: 30 G
Salt Fog	-
IP Rating	-
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty

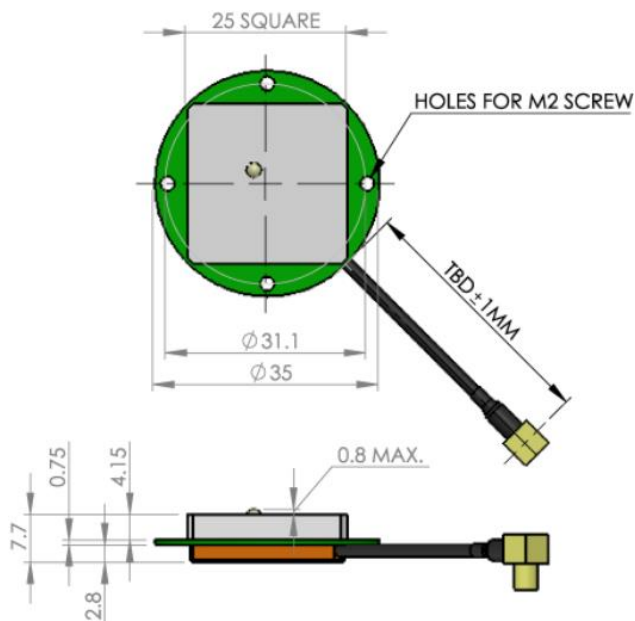
Parts and Labour	1-year standard warranty
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Low Noise Amplifier (LNA) - Measured at 3 V and 25°C

Upper Band	Lower Band
Frequency Bandwidth	
1575 - 1606 MHz	-
Out-of-band Rejection	
> 35 dB @ < 1500 MHz > 25 dB @ < 1550 MHz > 35 dB @ > 1650 MHz	-

Architecture	Non pre-filtered
Gain	28 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, up to 50mV p-p ripple
Supply Current	9 mA typ.
ESD Circuit Protection	15 kV air discharge
P 1dB Output	-
Group Delay	-
PCO	-

Mechanical Diagram



Ordering Information

Part Number 33-1320-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/>