

TW2920

Multi-Constellation Antenna

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

The TW2920 is an Accutenna® technology antenna that covers GPS-L1, GLONASS-G1, BeiDou B1, Galileo E1, SBAS (WAAS, EGNOS, GAGAN, & MSAS) and the downlink L-Band (1525 – 1559MHz). The TW2920 provides superior multipath signal rejection, a linear phase response, and tight phase centre variation (PCV). This antenna is ideal for precision agriculture, autonomous vehicle tracking and guidance, and other applications where precision matters.

The TW2920 features a dual-feed wideband patch element, plus a low-loss pre-filter followed by a three stage low-noise amplifier (LNA) including an additional mid-section SAW. This configuration provides excellent axial ratio across the full frequency band and strong protection against high-level sub-harmonic signals like LTE and near frequency signals such as WiFi.

The TW2920 has a compact, robust, magnetic mount housing with a metal base and a UV resistant, tough wide temperature range plastic radome, and is available with a variety of connectors. The housing includes a screw down option, and is available with an adhesive attachment, without a magnet.

The TW2920 is also available with an “armoured” cable option, with the cable encased in tough corrugated conduit having a temperature range of -40 °C to +120C, excellent chemical resistance, stable bending, high cold impact strength, and UL94HB flammability standard compliant.



Applications

- High-accuracy & mission-critical global positioning
- Precision agriculture, mining, and construction
- Law enforcement and public safety

Features

- Low loss Great axial ratio: 1 typ., 3 dB max
- Low noise LNA: ≤ 2.5 dB typ.
- High-rejection SAW filter
- Wide voltage input range: 2.5 to 16 VDC
- IP67 weather proof housing

Benefits

- Excellent multipath rejection
- Increased system accuracy
- Excellent signal-to-noise ratio
- Great out-of-band signal rejection
- Ideal for harsh environments
- 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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Contact us:
info@tallysman.com
T: +1 613 591-3131

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Antenna - Measured with a 100 mm ground plane

Technology Dual-feed Patch, Quadrature Feeds

		Gain dBic typ. at Zenith	Axial Ratio dB at Zenith
GNSS			
GPS / QZSS	L1	4.25	≤ 1
	L2	-	-
	L5	-	-
GLONASS	G1	4.25	≤ 1
	G2	-	-
	G3	-	-
Galileo	E1	4.25	≤ 1
	E5A	-	-
	E5B	-	-
	E6	-	-
BeiDou	B1	4.25	≤ 1
	B2b	-	-
	B2a	-	-
	B3	-	-
IRNSS / NavIC	L5	-	-
QZSS	L6	-	-
L-Band Services (1525 MHz - 1559 MHz)		4.00	≤ 1
Satellite Communications			
Iridium		-	-
Globalstar		-	-
Other			
Axial Ratio at 10°	-	Efficiency	-
PC Variation	-		

Mechanicals

Size	57 mm (dia.) x 16 mm (h.)
Weight	160 g
Radome	LEXAN™ EXL9330, Base: Zamac Metal
Mount	Magnetic, adhesive, or permanent
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
IP Rating	IP67
Compliance	IPC-A-610, FCC, RED / CE Mark, RoHS, REACH

Warranty:

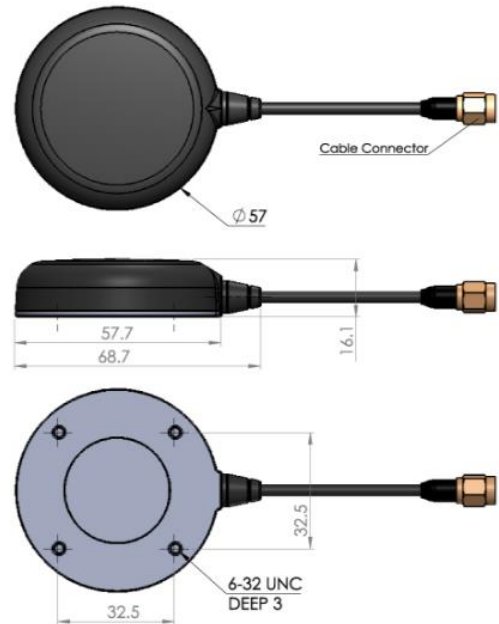
Parts and Labour	3-year standard warranty
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Low Noise Amplifier (LNA) - Measured at 3V and 25°C

Upper Band	Lower Band
Frequency Bandwidth	
1540 - 1606 MHz	-
Out-of-band Rejection	
> 30 dB @ < 1465 MHz > 55 dB @ > 1700 MHz	-

Architecture	Pre-filtered
Gain	32 dB typ., 30 dB min.
Noise Figure	2.8 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	18 mA typ.
ESD Circuit Protection	15 kV air discharge
P 1dB Output	-
Group Delay	-
PCO	-

Mechanical Diagram - Units in 'mm'



Ordering Information

Part Number **33-2920-xx-yyy**

Where xx = connector type and yyy = 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/>