



Trimble AV28 Antenna

ACCURATE, LIGHTWEIGHT ANTENNA

The Trimble AV28 GNSS antenna is a precise triple-frequency and L-band antenna. Light and small, this antenna supports a wide range of applications such as robotics and autonomous vehicle guidance. It is also an ideal solution for UAV and aerial applications where the weight and size of the antenna really matter.

COMPREHENSIVE GNSS SUPPORT

The Trimble AV28 offers full support for GPS L1/L2/L5, GLONASS L1/L2/L3, Galileo E1/E5a+b and BeiDou B1/B2 as well as Trimble RTX and OmniSTAR correction services via L-Band. It is especially designed for precise triple frequency positioning.

DESIGNED FOR ACCURACY

Trimble AV28 features a precision tuned, twin circular dual feed, stacked patch element and offers excellent axial ratio and a tightly grouped phase center variation. This unique design ensures superior multi-path signal rejection. The AV28 also has a strong pre-filter to mitigate inter-modulated signal interference from LTE and other cellular bands.

Key Features

- ▶ Low Noise Preamp < 2 dB
- ▶ Axial Ratio: < 2 dB typ.
- ▶ Tight Phase Center Variation
- ▶ LNA Gain: 37 dB typ.
- ▶ Invariant Performance from: +2.5 to 16 VDC
- ▶ Low Current: 20 mA typ.
- ▶ ESD Circuit Protection: 15 KV

Key Benefits

- ▶ Ideal for triple frequency RTK systems
- ▶ Advanced multipath rejection
- ▶ Increased system accuracy
- ▶ Good signal to noise ratio



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TECHNICAL SPECIFICATIONS

@ Vcc = 3 V and 25 °C ambient temperature with 100 mm ground plane

Antenna

Patch Architecture Circular, Dual Feed, Dual Stacked Patch
 E5a/L5 Gain..... -1.5 dBic typ. at Zenith
 B2/E5b/G3 Gain 3.0 dBic typ. at Zenith
 L2 Gain 4.0 dBic typ. at Zenith
 G2 Gain 1.5 dBic typ. at Zenith
 E1 Gain..... 4.0 dBic typ. at Zenith
 L1 Gain..... 4.0 dBic typ. at Zenith
 G1 Gain 2.5 dBic typ. at Zenith
 Axial Ratio @ zenith

L5/E5ab	<1.5 dB	B2	<1.5 dB
L2	<1 dB	G2	<1.5 dB
L-Band	<1 dB		
L1/E1	<1 dB	G1	<1.5 dB

Filter Bandwidth L2/L5: 1164 MHz-1254 MHz
 L-Band/L1: 1525 MHz-1606 MHz
 Overall LNA Gain..... 37 dB typ, 35 dB min
 Gain Variation with Temperature 3 dB max over operational temperature range
 LNA Noise Figure 2.5 dB max at 25 °C
 VSWR (at LNA output) <1.5:1 <1050 MHz

L5/E5/L2/G2		L1/E1/B1/G1	
<1050 MHz	>45 dB	<1450 MHz	>30 dB
<1125 MHz	>30 dB	>1690 MHz	>30 dB
>1350 MHz	>45 dB	>1730 MHz	>40 dB

ENVIRONMENTAL QUALIFICATIONS

Requirements, Standards and Regulations

IPC-A-610 Class II
 FCC Part 15 Subpart B - Class A
 ICES-003 Issue 5 Class A
 RoHS Directive (EU) 2015/863
 REACH Regulation (EC) No 1907/2006
 EN 45545-2 Fire Protection on Railway Vehicle

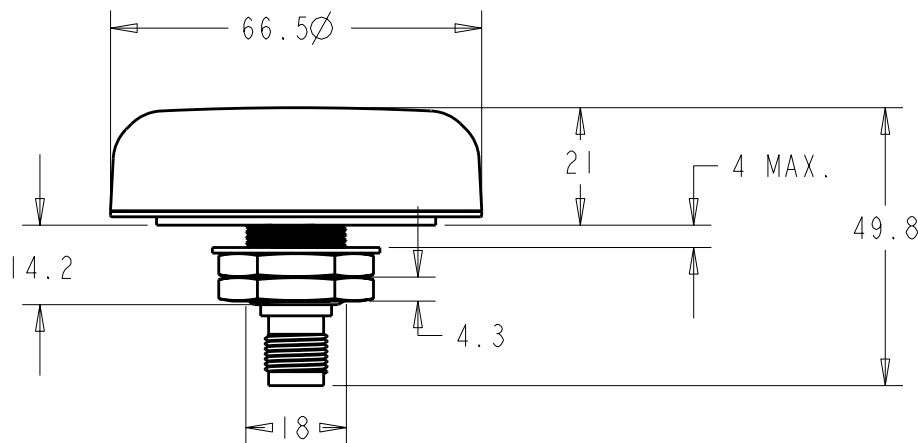
PHYSICAL AND ELECTRICAL SPECIFICATIONS

Mechanical Size, Ground Plane 66 mm x 21 mm
 (see drawing below)
 100 mm ground plane recommended
 Operating Temperature Range -40 °C to +85 °C
 Enclosure Radome: EXL9330, Base: Zamak White Metal
 Weight 185 g
 Attachment Method Permanent 3/4" (19 mm) through hole mount
 Environmental IP67, RoHS and REACH compliant
 Shock Vertical axis: 50 G, other axes: 30 G
 Vibration 3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G
 Salt fog / spray MIL-STD-810F Section 509.4
 Supply Voltage Range +2.5 to 16 VDC nominal, up to 50 mV p-p ripple
 EMI Immunity 50 V/Meter, excepting L1 ± 100 MHz and L2 ± 100 MHz
 Supply Current 20 mA typ. at 25 °C, 25 mA max at 75 °C
 ESD Circuit protection 15 KV air discharge

PART NUMBER

112735 Trimble AV28 GNSS Antenna

Specifications subject to change without notice.



Contact your local Trimble Authorized Distribution Partner for more information

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