



# Trimble AV28

## 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

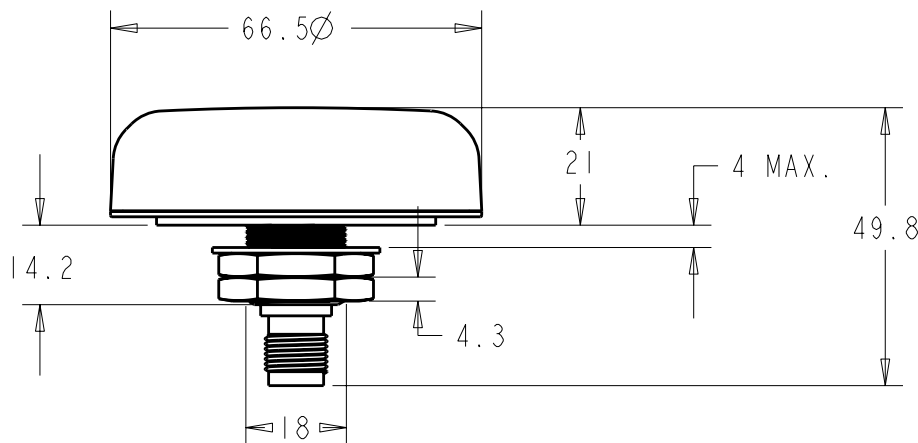
## PHYSICAL AND ELECTRICAL SPECIFICATIONS

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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