



# 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

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.

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## 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



# Trimble AV28 GNSS ANTENNA

## 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			
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  
 Out-of-Band Rejection

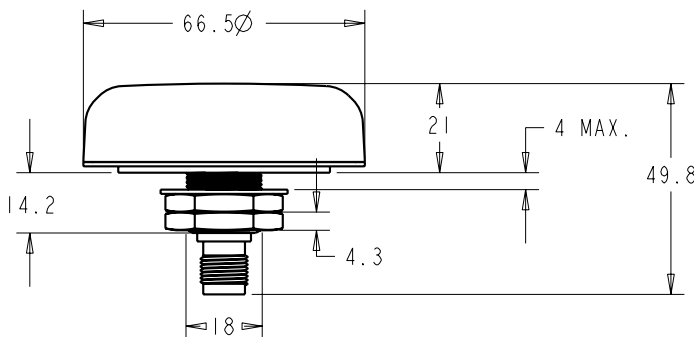
L5/E5/L2/G2		L1/E1/B1/G1	
<1050 MHz	>45 dB	<1450 MHz	>30 dB
<1125 MHz	>30 dB	>1690 MHz	>30 dB
>1350 MHz	>45 dB	>1730 MHz	>40 dB

## 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
Connector Type	TNC Female
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
Impedance	50 Ω
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.

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