

# 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 phased 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 nreamp < 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

## Electrical specifications

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

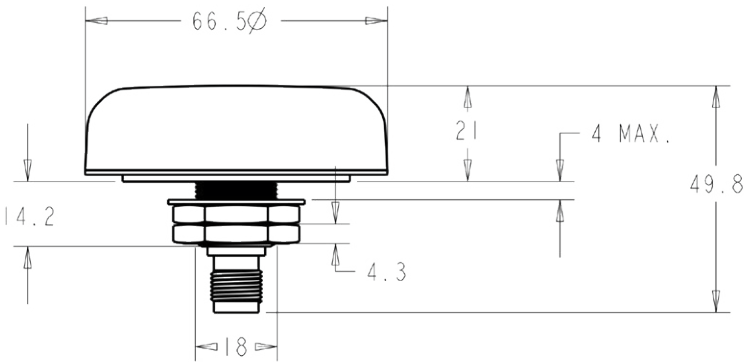
## Physical & environmental specifications

Mechanical Size, Ground Plane . . . . .66 mm x 21 mm  
120 mm stainless steel removable ground plane included  
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.



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