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 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 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

DATASHEET

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	<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

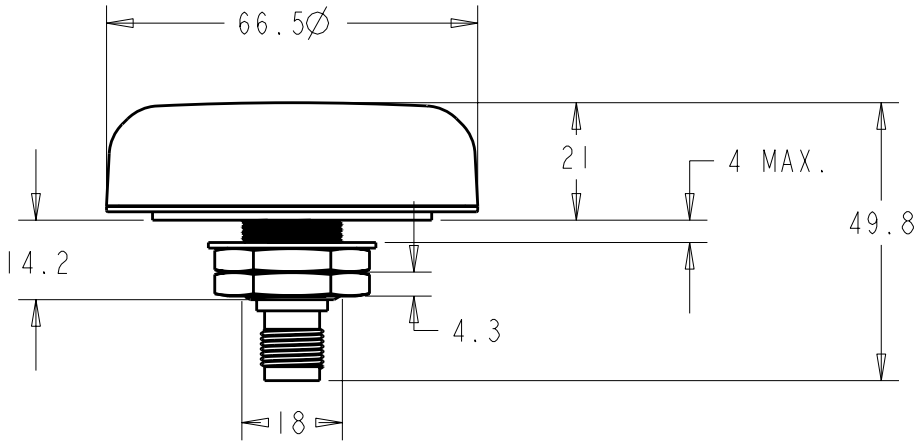
PHYSICAL AND ELECTRICAL SPECIFICATIONS

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 ¾" (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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