

# Trimble AV16 Antenna

## Helix based dual-frequency antenna for UAV applications

The Trimble® AV16 antenna is a helix based dual-frequency L-band antenna. This antenna is ideal for UAV applications due to its lightweight, small form factor and low power consumption design.

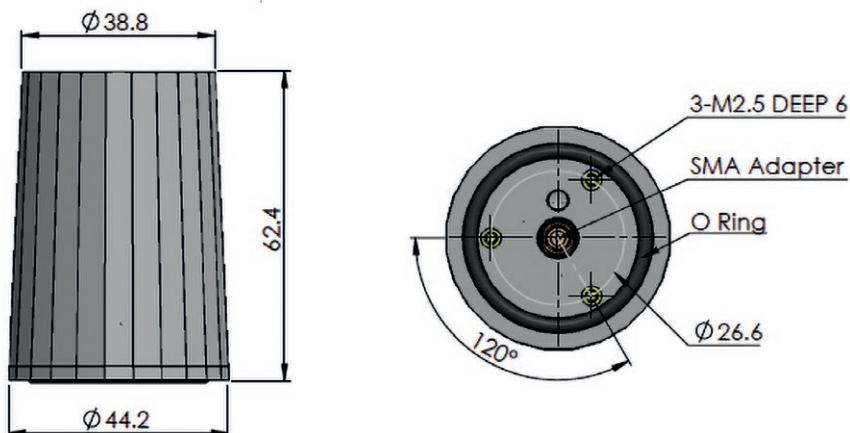
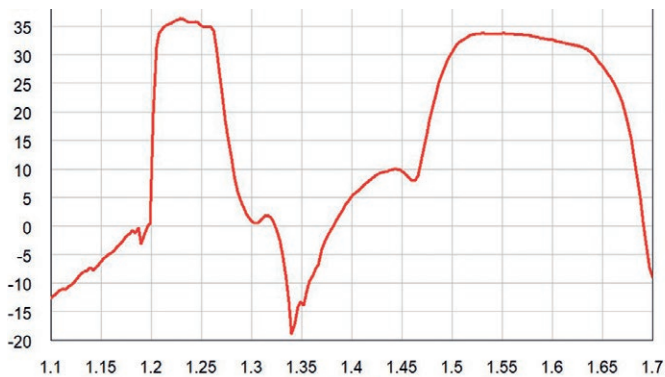
### Comprehensive GNSS support

The Trimble AV16 offers support for GPS L1/L2, GLONASS L1/L2, Galileo E1 and BeiDou B1 as well as Trimble RTX® and OmniSTAR® correction services via L-Band.

### Designed for accuracy

Trimble AV16 features a precision tuned, helix element. It offers excellent axial ratio and does not require a ground plane for optimal performance. In addition, the antenna has an integrated low-loss pre-filter to increase the antenna's immunity to high amplitude interfering signals from LTE and other cellular signals. The antenna also has an integrated SMA connector for easy screw-on mounting as well as an O-ring to comply with IP67 standards.

### AV16 filter curve



### Key features

- Lightweight at 37g
- Small footprint
- Great multipath rejection
- Increased system accuracy
- Excellent signal to noise ratio
- IP67, REACH and RoHS compliant

### Additional key features of the AV16 include:

- Very low noise preamp: 1.7dB
- Axial ratio: <0.5dB max
- LNA Gain: 35dB typ
- Low current: 21mA typ
- ESD circuit protection: 15 KV
- Invariant performance from: +2.2 to 16VDC



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## Technical specifications

@ Vcc = 3V and 25 °C ambient temperature

### Antenna

Element Architecture ..... Dual-Frequency  
 RHCP Quadrifilar Helix  
 Phase Center ..... L1/E1/B1: 0.032m  
 L2/G2: 0.037m

GNSS		Gain (dBic typ at Zenith)	Axial Ratio (dB at Zenith)
GPS / QZSS	L1	3.3	≤ 0.5 max
	L2	1.8	≤ 0.5 max
	L5	-	-
GLONASS	L1	2.8	≤ 0.5 max
	L2	1.5	≤ 0.5 max
	L3	-	-
Galileo	E1	3.3	≤ 0.5 max
	E5a	-	-
	E5b	-	-
	E6	-	-
BeiDou	B1	3.1	≤ 0.5 max
	B2	-	-
	B2a	-	-
	B3	-	-
IRNSS / NavIC	L5	-	-
QZSS	L6	-	-
L-Band Services (1525MHz - 1559MHz)		2.9	≤ 0.5 max

## Electrical specifications

Frequency Bandwidth ..... 1525MHz - 1606MHz  
 1215MHz - 1254MHz  
 Overall LNA Gain ..... 35dB typ  
 LNA Noise Figure ..... 1.7dB typ  
 VSWR ..... <1.5:1 typ  
 1.8:1 max  
 Supply Voltage Range ..... +2.2 to 16VDC  
 Supply Current ..... 21mA typ at 25 °C  
 ESD Circuit protection ..... 15 KV air discharge  
 EMI Immunity ..... 50V/meter, excepting L1 +/- 100MHz  
 and L2 +/- 100 MHz

Out-of-Band Rejection			
L1		L2	
<1400MHz	>36dB	<1100MHz	>35dB
<1450MHz	>32dB	<1190MHz	>47dB
>1700MHz	>45dB	>1350MHz	>48dB

## Physical & environmental specifications

Mechanical Size ..... 62.4 mm (H) x 44.2 mm (D)  
 Weight ..... 37g  
 Connector ..... SMA Male  
 Operating Temperature Range ..... -40 °C to +85 °C  
 Enclosure ..... Radome: EXL9330, Base: EXL9330  
 Environmental ..... IP67, RoHS and REACH compliant  
 Shock ..... Vertical axis: 50 G, Other axes: 30 G  
 Vibration ..... 3 axis, sweep = 15 min, 10 to 200Hz sweep: 3 G  
 Mounting ..... 3 threaded brass inserts. Use M2.5 screws  
 torqued to 0.60-0.66 Nm maximum

## Part number

120982-16 ..... Trimble AV16 GNSS Antenna

Specifications subject to change without notice.

Contact your local Trimble Authorized Distribution Partner for more information

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