



Trimble AV17 Antenna

HELIX BASED TRIPLE-FREQUENCY ANTENNA FOR UAV APPLICATIONS

The Trimble AV17 antenna is a helix based triple-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 AV17 offers support for GPS L1/L2/L5, GLONASS L1/L2/L5, Galileo E1/E5a/E5b and BeiDou B1/B2/B2a as well as Trimble RTX and OmniSTAR correction services via L-Band.

DESIGNED FOR ACCURACY

Trimble AV17 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.

Additional key features of the AV17 include:

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

Key Benefits

- ▶ Lightweight at 42g
- ▶ Small footprint
- ▶ Great multipath rejection
- ▶ Increased system accuracy
- ▶ Excellent signal to noise ratio
- ▶ IP67, REACH and RoHS compliant



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TECHNICAL SPECIFICATIONS

@ Vcc = 3V and 25 °C ambient temperature

Antenna

Element Architecture Triple-Frequency, RHCP Quadrifilar Helix

GNSS		Gain (dBic typ at Zenith)	Axial Ratio (dB at Zenith)
GPS / QZSS	L1	2.5	≤ 0.5 max
	L2	2.0	≤ 0.5 max
	L5	0.25	≤ 0.5 max
GLONASS	L1	1.4	≤ 0.5 max
	L2	0.5	≤ 0.5 max
	L3	2.1	≤ 0.5 max
Galileo	E1	2.5	≤ 0.5 max
	E5a	0.25	≤ 0.5 max
	E5b	2.2	≤ 0.5 max
	E6	-	-
BeiDou	B1	2.5	≤ 0.5 max
	B2	2.2	≤ 0.5 max
	B2a	0.25	≤ 0.5 max
	B3	-	-
IRNSS / NavIC	L5	0.25	≤ 0.5 max
QZSS	L6	-	-
L-Band Services (1525MHz - 1559MHz)		1.5	≤ 0.5 max

ELECTRICAL SPECIFICATIONS

Frequency Bandwidth 1525MHz - 1606MHz
1164MHz - 1245MHz

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

Out-of-Band Rejection

Upper Band		Lower Band	
<1400MHz	>33dB	<1000MHz	>63dB
<1450MHz	>31dB	<1100MHz	>42dB
>1700MHz	>30dB	<1325MHz	>46dB

PHYSICAL & ENVIRONMENTAL SPECIFICATIONS

Mechanical Size 62.4 mm (H) x 44.2 mm (D)
Weight 42g
Connector SMA Male
Operating Temperature Range -40 °C to +85 °C
Enclosure Radome and Base: EXL9330
Environmental IP67, RoHS and REACH compliant
Shock Vertical axis: 50 G, Other axes: 30 G
Vibration MIL STD 810D - 2hr per axis (X, Y, Z)

PART NUMBER

120982-17 Trimble AV17 GNSS Antenna

Specifications subject to change without notice.



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