

Product Brief



ANT-DB1-WRT-ccc External Panel-Mount WiFi/WLAN Antenna

The ANT-DB1-WRT is a low-profile, panel-mount dipole antenna designed for superior performance in the 2.4 GHz, 5 GHz and 6 GHz bands supporting both WiFi 6 and WiFi 6E.

The ANT-DB1-WRT antenna's compact size allows it to be mounted in applications requiring a low profile and external antenna performance, such as WiFi/WLAN applications indoors and outdoors.

The ANT-DB1-WRT antenna is designed with an integrated counterpoise that eliminates the need for additional ground plane in the product, making it ideal for applications with non-conductive or RF-transparent enclosures.

Connector options for the ANT-DB1-WRT antenna are: SMA plug (male pin), RP-SMA plug (female socket), MHF1/ U.FL-type plug (female socket), MHF3-type plug (female socket) or MHF4-type plug (female socket).



ANT-DB1-WRT-SMA shown

Features

- Performance at 2.4 GHz to 2.485 GHz
 - VSWR: ≤ 1.9
 - Peak Gain: 3.2 dBi
 - Efficiency: 48%
- Performance at 5.150 GHz to 5.850 GHz
 - VSWR: ≤ 3.7
 - Peak Gain: 6.8 dBi
 - Efficiency: 57%
- Low-profile
 - Height: 10.0 mm (0.40 in)
- Mounts permanently with pressure sensitive adhesive ring and provided nut

Applications

- WiFi/WLAN coverage
 - WiFi 6E (802.11ax)
 - WiFi 6 (802.11ax)
 - WiFi 5 (802.11ac)
 - WiFi 4 (802.11n)
 - 802.11b/g
- 2.4 GHz ISM applications
 - Bluetooth®, ZigBee®
- U-NII bands 1-8
- Internet of Things (IoT) devices
- Smart Home networking
 - Sensing and remote monitoring
 - Wireless vending

Ordering Information

Part Number	Description
ANT-DB1-WRT-UFL-100	Antenna, 100 mm (3.94 in) of 1.32 mm coaxial cable, MHF1/U.FL-type plug (female socket)
ANT-DB1-WRT-UFL-150	Antenna, 150 mm (5.91 in) of 1.32 mm coaxial cable, MHF1/U.FL-type plug (female socket)
ANT-DB1-WRT-UFL	Antenna, 216 mm (8.50 in) of 1.32 mm coaxial cable, MHF1/U.FL-type plug (female socket)
ANT-DB1-WRT-MHF3	Antenna, 216 mm (8.50 in) of 0.81 mm coaxial cable, MHF3-type plug (female socket)
ANT-DB1-WRT-MHF4-100	Antenna, 100 mm (3.94 in) of 1.13 mm coaxial cable, MHF4-type plug (female socket)
ANT-DB1-WRT-MHF4	Antenna, 216 mm (8.50 in) of 1.13 mm coaxial cable, MHF4-type plug (female socket)
ANT-DB1-WRT-RPS	Antenna, 216 mm (8.50 in) of RG-174 coaxial cable, RP-SMA plug (female socket)
ANT-DB1-WRT-SMA-150	Antenna, 150 mm (5.91 in) of RG-174 coaxial cable, SMA plug (male pin)
ANT-DB1-WRT-SMA	Antenna, 216 mm (8.50 in) of RG-174 coaxial cable, SMA plug (male pin)

Available from LinX Technologies and select distributors and representatives.

Table 1. Electrical Specifications

ANT-DB1-WRT	ISM/WiFi	WiFi/U-NII 1-3	WiFi 6E/U-NII 5-8
Frequency Range	2.4 GHz to 2.485 GHz	5.15 GHz to 5.85 GHz	5925 MHz to 7125 MHz
VSWR (max)	1.9	3.7	4.0
Peak Gain (dBi)	3.2	6.8	7.0
Average Gain (dBi)	-3.3	-3.2	-3.4
Efficiency (%)	48	57	50
Polarization	Linear	Radiation	Omnidirectional
Impedance	50 Ω	Max Power	5 W
Wavelength	1/2-wave	Electrical Type	Dipole

Electrical specifications and plots measured in free space.

Table 2. Mechanical Specifications

Part Number	Connection	Coaxial Cable, minimum inside bend radius	Weight
ANT-DB1-WRT-UFL	MHF1/U.FL-type plug	1.32 mm: 6.0 mm (0.24 in)	100 mm = 5.1 g (0.18 oz) 150 mm = 5.4 g (0.19 oz) 216 mm = 5.7 g (0.20 oz)
ANT-DB1-WRT-MHF3	MHF3-type plug	0.81 mm: 4.0 mm (0.16 in)	216 mm = 5.4 g (0.19 oz)
ANT-DB1-WRT-MHF4	MHF4-type plug	1.13 mm: 5.0 mm (0.20 in)	100 mm = 4.2 g (0.15 oz) 216 mm = 5.0 g (0.18 oz)
ANT-DB1-WRT-RPS	RP-SMA plug	RG-174: 10.2 mm (0.40 in)	216 mm = 10.1 g (0.36 oz)
ANT-DB1-WRT-SMA	SMA plug	RG-174: 10.2 mm (0.40 in)	150 mm = 9.2 g (0.32 oz) 216 mm = 10.1 g (0.36 oz)
Operating Temp. Range	-40 °C to +90 °C		
Dimensions	Height: 10.0 mm (0.40 in), Diameter: 19.0 mm (0.75 in)		

Product Dimensions

Figure 1 provides dimensions for the ANT-DB1-WRT series antennas.

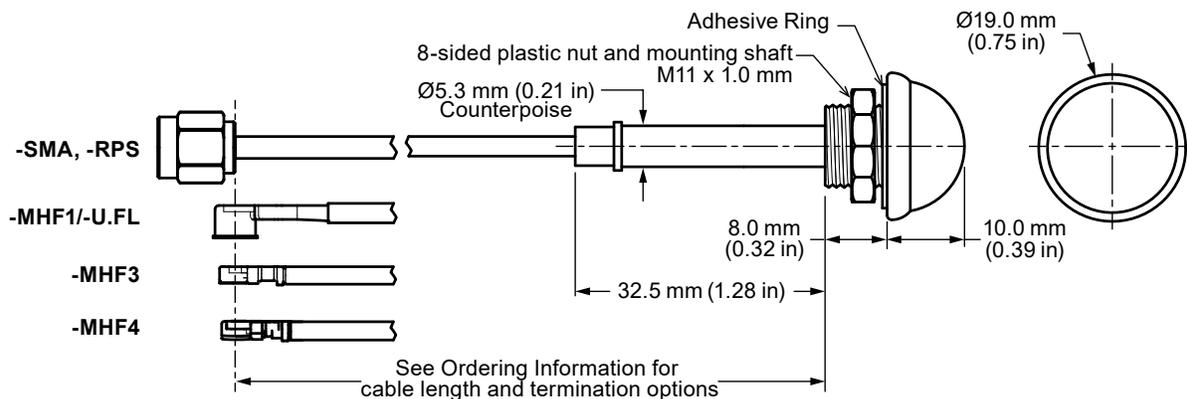


Figure 1. ANT-DB1-WRT Antenna Dimensions

Packaging Information

The ANT-DB1-WRT-ccc antenna is placed in a clear plastic sleeve and sealed in clear plastic bags in quantities of 50 pcs. Bags are packaged in cartons of 250 (5 bags). Distribution channels may offer alternative packaging options.

Recommended Mounting

The recommended enclosure mounting dimensions are shown in Figure 2. The ANT-DB1-WRT series antenna is supplied with an integrated closed-cell pressure sensitive adhesive ring which helps seal enclosures against external elements. The adhesive ring has a protective plastic backing that must be removed prior to installation. A pull tab has been provided for easy removal of the protective backing. The antenna can be permanently mounted using the provided nut which should be tightened to 4.0 kgf/cm (5 in/lbs) max. The recommended maximum enclosure wall thickness is 4.70 mm (0.188 in).

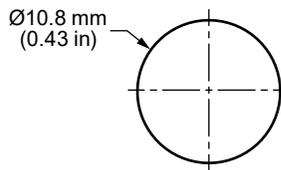


Figure 2. ANT-DB1-WRT Series Antenna Recommended Enclosure Mounting Dimensions

VSWR

Figure 3 provides the voltage standing wave ratio (VSWR) across the antenna bandwidth. VSWR describes the power reflected from the antenna back to the radio. A lower VSWR value indicates better antenna performance at a given frequency. Reflected power is also shown on the right-side vertical axis as a gauge of the percentage of transmitter power reflected back from the antenna.

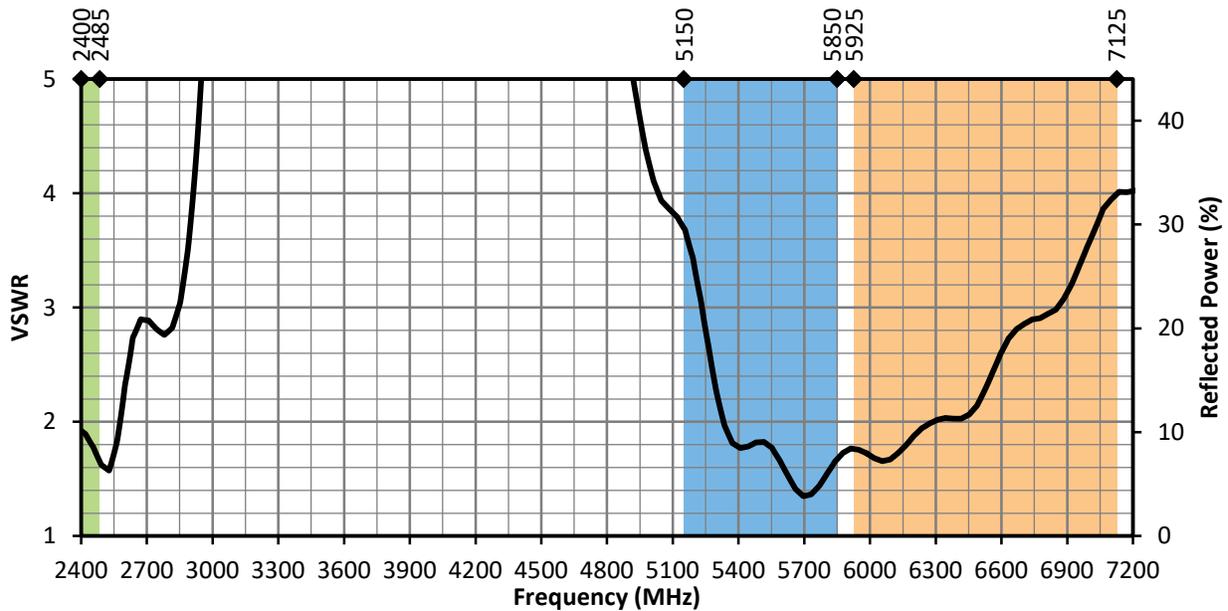


Figure 3. DB1-WRT Series Antenna VSWR

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