Product Brief

W63RPC1 Series
Rigid Embedded Dipole WiFi 6 Antenna

The ANT-W63RPC1 antenna delivers excellent WiFi/WLAN performance in the 2.4 GHz, 5 GHz and 6 GHz bands supporting both WiFi 6 and WiFi 6E.

The rigid W63RPC1 provides a ground plane independent dipole embedded antenna solution comparable in performance to an external antenna. The W63RPC1 antenna's adhesive backing makes it easy to mount in plastic enclosures, while allowing an environmentally sealed enclosure and protection from tampering or accidental antenna damage.

Connection is made to the radio via 1.13 mm coaxial cable terminated in a U.FL-type, MHF4-type or cut-cable, available in several lengths.

Features

- Rigid internal mounting
- 3M 9888T permanent adhesive backing
- Compact, low-profile
  - 42.0 mm x 11.0 mm x 1.3 mm
- Cable length options
  - 50 mm, 100 mm, 200 mm
- Termination options
  - U.FL-type (MHF1, AMC, UMCC)
  - MHF4-type
  - Cut cable for direct solder

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

Ordering Information

Part Number	Description
ANT-W63RPC1-UFL-50	WiFi 6 antenna with 50 mm (1.97 in) of 1.13 mm coaxial cable and U.FL-type plug (female socket)
ANT-W63RPC1-UFL-100	WiFi 6 antenna with 100 mm (3.94 in) of 1.13 mm coaxial cable and U.FL-type plug (female socket)
ANT-W63RPC1-UFL-200	WiFi 6 antenna with 200 mm (7.87 in) of 1.13 mm coaxial cable and U.FL-type plug (female socket)
ANT-W63RPC1-MHF4-50	WiFi 6 antenna with 50 mm (1.97 in) of 1.13 mm coaxial cable and MHF4-type plug (female socket)
ANT-W63RPC1-MHF4-100	WiFi 6 antenna with 100 mm (3.94 in) of 1.13 mm coaxial cable and MHF4-type plug (female socket)
ANT-W63RPC1-MHF4-200	WiFi 6 antenna with 200 mm (7.87 in) of 1.13 mm coaxial cable and MHF4-type plug (female socket)
ANT-W63RPC1-50	WiFi 6 antenna with 50 mm (1.97 in) of unterminated 1.13 mm coaxial cable
ANT-W63RPC1-100	WiFi 6 antenna with 100 mm (3.94 in) of unterminated 1.13 mm coaxial cable
ANT-W63RPC1-200	WiFi 6 antenna with 200 mm (7.87 in) of unterminated 1.13 mm coaxial cable

Available from Linx Technologies and select distributors and representatives.

Table 1. Electrical Specifications

W63RPC1	ISM/WiFi	WiFi/U-NII 1-4	WiFi 6E/U-NII 5-8
Frequency Range	2400 MHz to 2485 MHz	5150 MHz to 5850 MHz	5925 MHz to 7125 MHz
VSWR (max)	1.8	2.1	1.6
Peak Gain (dBi)	3.7	6.1	5.9
Average Gain (dBi)	-1.9	-1.9	-2.1
Efficiency (%)	69	69	66
Cross-Polar Discrimination Limit @ 360° beamwidth (dB)	> 22.5	> 6.0	> 6.0
Beamwidth for XPD > 15 dB	360°	300°	340°
Polarization	Linear	Impedance	50 Ω
Radiation	Omnidirectional	Max Power	5 W
Wavelength	1/2-wave	Electrical Type	Dipole
Operating Temp. Range	-40 °C to +85 °C		
Cable Type and Lengths	50 mm (1.97 in), 100 mm (3.94 in) or 200 mm (7.87 in) of 1.13 mm OD coaxial cable		
Connection Options	U.FL-type plug (female socket), MHF4-type plug (female socket) or cut-cable		
Dimensions	Antenna element only, 43.0 mm x 11.0 mm x 1.3 mm (1.69 in x 0.43 in x 0.05 in)		
Weight	1.3 g to 1.9 g (0.05 oz to 0.07 oz) depending on cable length and connector type		
ESD Sensitivity	NOT ESD sensitive. As a best practice, Linx may use ESD packaging.		

VSWR

Figure 1 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.

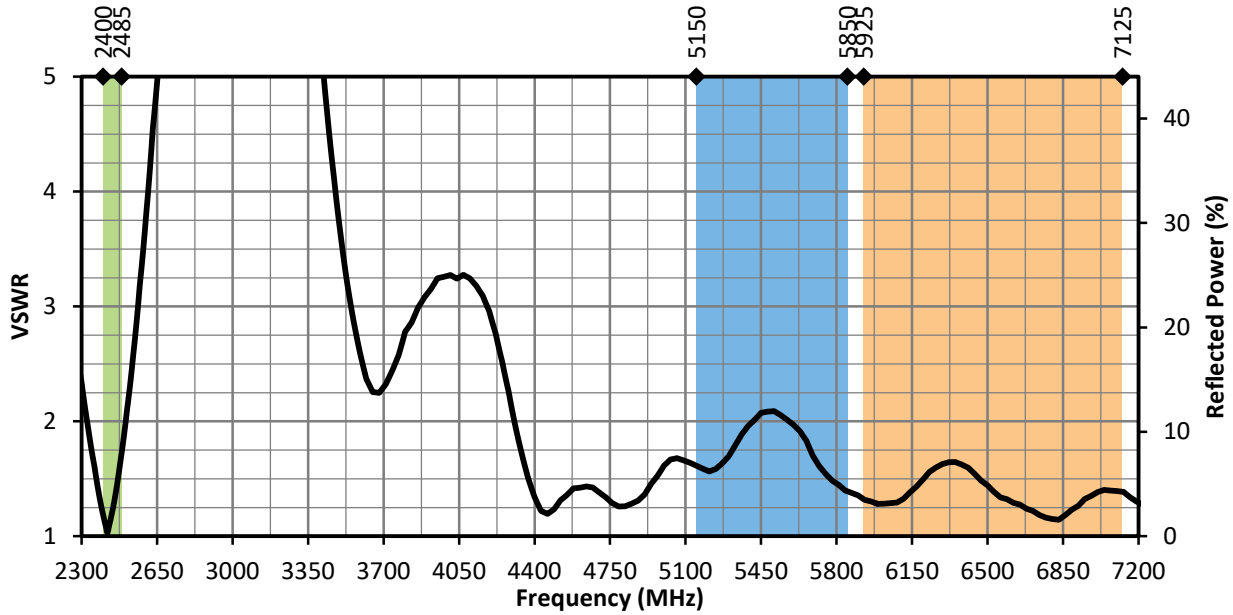

Figure 1. WF6RPC1 Antenna VSWR with Frequency Band Highlights