

Product Brief



HE Series 868 MHz Helical Antenna

Linx 868 MHz HE series compact printed circuit board (PCB) mount helical monopole antennas support low-power, wide-area (LPWA) applications including LoRaWAN® and Sigfox®, remote controls, and ISM band applications in the 862 MHz to 876 MHz range.

The HE series antennas are made from 1.3 mm diameter beryllium copper for use in PCB-mount installations requiring a rugged antenna design.

Designed for reflow-solder mounting directly to a printed circuit board for high-volume applications, the 868-HESM offers a surface-mount design and the 868-HETH is for use in a through-hole installation.



Features

- Performance at 868 MHz
 - VSWR: ≤ 2.2
 - Peak Gain: 5.6 dBi
 - Efficiency: 79%
- Direct PCB attachment
- Reflow- or hand-solder assembly
- Omnidirectional radiation pattern
- Compact size
 - 25.4 mm x 15.3 mm x 8.9 mm

Applications

- Low-power, wide-area (LPWA) applications
 - LoRaWAN®
 - Sigfox®
- Remote sensing, monitoring and control
 - Security systems
 - Industrial machinery
 - Automated equipment
 - AMR (automated meter reading)
- Internet of Things (IoT) devices
- Smart Home networking
- Hand-held devices

Ordering Information

Part Number	Description
ANT-868-HESM	868 MHz helical surface-mount antenna
ANT-868-HETH	868 MHz helical through-hole antenna

Available from Linx Technologies and select distributors and representatives.

Table 1. Electrical Specifications

ANT-868-HExx	868 MHz
Frequency Range	862 MHz to 876 MHz
VSWR (max)	2.2
Peak Gain (dBi)	5.6
Average Gain (dBi)	-1.1
Efficiency (%)	79
Polarization	Linear
Radiation	Omnidirectional
Max Power	15 W
Wavelength	1/4-wave
Electrical Type	Monopole
Impedance	50 Ω
ESD Sensitivity	NOT ESD sensitive. As a best practice, Linx may use ESD packaging.

Electrical specifications and plots measured with a 84.0 mm x 38.0 mm (3.31 in x 1.50 in) reference ground plane.

Table 2. Mechanical Specifications

ANT-868-HExx	
Connection	ANT-868-HESM = surface-mount, ANT-868-HETH = through-hole
Operating Temperature Range	-40 °C to +85 °C
Weight	1.0 g (0.04 oz)
Dimensions	25.4 mm x 15.3 mm x 8.9 (1.00 in x 0.60 in x 0.35 in)

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.

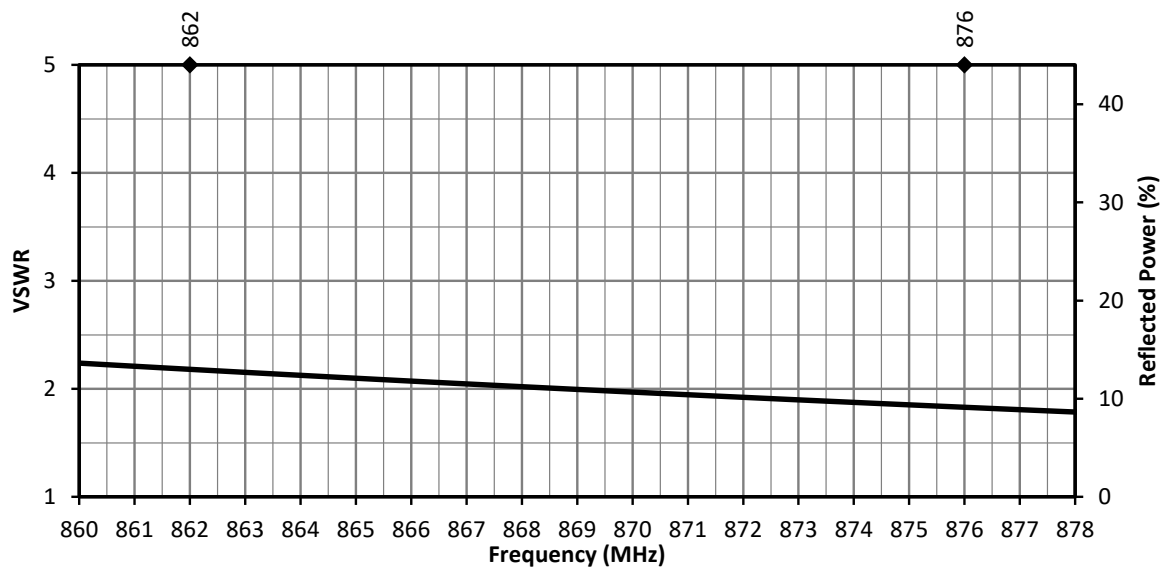


Figure 1. ANT-868-HE Series VSWR

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