

Product Brief



ANT-433-FPC-UFL-100 Flexible Embedded 433 MHz Antenna

The Linx ANT-433-FPC antenna is a flexible embedded 433 MHz antenna for Sub-1 GHz and low-power, wide-area (LPWA) applications including LoRaWAN® and remote control applications. The 433-FPC also performs well in LTE cellular bands 87 and 88 at 410 MHz and LTE cellular bands 31, 72 and 73 at 450 MHz.

The ANT-433-FPC provides a ground plane independent dipole embedded antenna solution comparable in performance to an external antenna. The flexibility and adhesive backing makes the ANT-433-FPC antenna easy to mount in unique and custom enclosures, while enabling an environmentally sealed enclosure and protection from tampering or accidental antenna damage.

Connection is made to the radio via a 100 mm (3.94 in) long, 1.13 mm coaxial cable terminated in a U.FL-type plug (female socket).



Features

- Performance at 433 MHz
 - VSWR: ≤ 2.5
 - Peak Gain: -6.0 dBi
 - Efficiency: 9%
- Ground plane independent dipole antenna
- Compact, low-profile
 - 47 mm x 17 mm x 0.2 mm
- U.FL-type plug (female socket) Compatible with MHF1, AMC, UMCC
- Adhesive backing permanently adheres to non-metal enclosures using 3M 467MP™/200MP adhesive
- Flexible to fit in challenging enclosures

Applications

- Low-power, wide-area (LPWA) applications
 - LoRaWAN®, ITU-T Y.4480
- Internet of Things (IoT) devices
- Smart Home networking
- Remote control, monitoring and sensing
- 410 MHz LTE cellular bands 87 and 88
- 450 MHz LTE cellular bands 31, 72 and 73

Ordering Information

Part Number	Description
ANT-433-FPC-UFL-100	433 MHz antenna with 100 mm of 1.13 mm coaxial cable and U.FL-type plug (female socket)

Available from Linx Technologies and select distributors and representatives.

Table 1. Electrical Specifications

ANT-433-FPC-UFL	410 MHz	433 MHz	450 MHz
Frequency Range	410 MHz to 430 MHz	430 MHz to 435 MHz	450 MHz to 470 MHz
VSWR (max.)	4.1	2.5	3.4
Peak Gain (dBi)	-5.4	-6.0	-2.4
Average Gain (dBi)	-10.5	-10.8	-10.8
Efficiency (%)	10	9	15
Polarization	Linear	Radiation	Omnidirectional
Impedance	50 Ω	Max Power	2 W
Wavelength	1/2-wave	Electrical Type	Dipole

Electrical specifications and plots measured on a 2.0 mm (0.08 in) thick acrylic sheet

Table 2. Electrical Specifications

Parameter	Value
Operating Temp. Range	-40 °C to +75 °C
Weight	0.6 g (0.02 oz)
Connection	U.FL-type plug (female socket) on 100 mm (3.94 in) of 1.13 mm coaxial cable.
Coaxial Cable, minimum inside bend radius	1.13 mm: 5.0 mm (0.20 in)
Dimensions	47.0 mm x 17.0 mm x 0.2 mm (1.85 in x 0.67 in x 0.01 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.

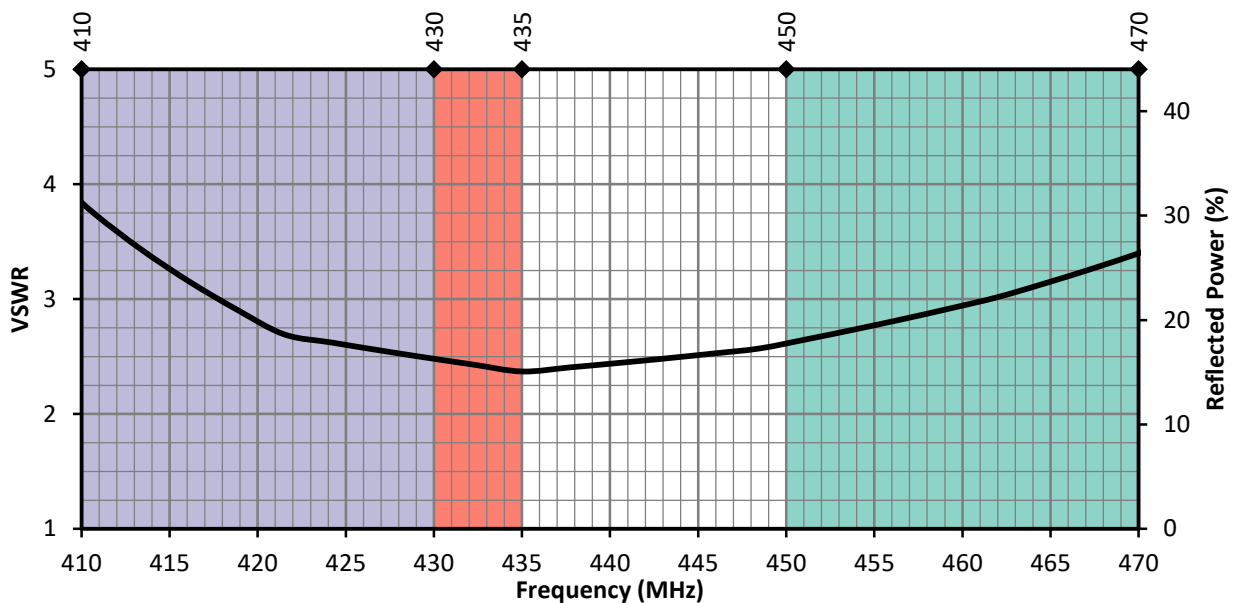


Figure 1. ANT-433-FPC-UFL VSWR with Frequency Band Highlights

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