

## Product Brief



### ANT-433-SPS1 Series Panel Mount 433 MHz Antennas

The ANT-433-SPS1 antenna is an external panel mount puck-style multiband antenna designed for 433 MHz and low-power, wide-area (LPWA) applications, including LoRaWAN®, and remote control applications. The ANT-433-SPS1 also serves as a 410 MHz LTE antenna.

The ANT-433-SPS1 provides a ground plane independent dipole antenna solution which mounts permanently to metallic and non-metallic surfaces.

The antenna terminates in an SMA plug (male pin) connector on 1 meter, 2 meter and 3 meter lengths of RG-174/U coaxial cable enabling an environmentally sealed enclosure and protection from tampering.



#### Features

- Performance at 430 MHz to 435 MHz
  - VSWR:  $\leq 1.7$
  - Peak Gain: -1.3 dBi
  - Efficiency: 25%
- Ground plane independent dipole antenna
- External mount, includes all hardware for installation including M12x1 hex nut, washer and optional boot
- SMA plug (male pin) gold plated connection
- IP67 rating
- Impact resistant UV stabilized ABS radome material

#### Applications

- Low-power, wide-area (LPWA) applications
  - LoRaWAN®
- Internet of Things (IoT) devices
- Smart Home networking
- Remote sensing, monitoring and control
  - Security systems
  - Garage/gate openers
  - Weather reporting
  - Vending machines
- 410 MHz Cellular LTE

#### Ordering Information

Part Number	Description
ANT-433-SPS1-1	1 meter (39.37 in) 433 MHz panel mount antenna with SMA plug (male pin) on RG-174/U coaxial cable and mounting hardware, including M12x1 hex nut, washer and rubber boot
ANT-433-SPS1-2	2 meters (78.74 in) 433 MHz panel mount antenna with SMA plug (male pin) on RG-174/U coaxial cable and mounting hardware, including M12x1 hex nut, washer and rubber boot
ANT-433-SPS1-3	3 meters (118.11 in) 433 MHz panel mount antenna with SMA plug (male pin) on RG-174/U coaxial cable and mounting hardware, including M12x1 hex nut, washer and rubber boot

Available from Linx Technologies and select distributors and representatives.

Table 1. Electrical Specifications

ANT-433-SPS1	410 MHz	433 MHz
Frequency Range	410 MHz to 430 MHz	430 MHz to 435 MHz
VSWR (max.)	2.3	1.7
Peak Gain (dBi)	-0.1	-1.3
Average Gain (dBi)	-5.2	-6.2
Efficiency (%)	32	25
Polarization	Linear	
Radiation	Omnidirectional	
Max Power	15 W	
Wavelength	1/2-wave	
Electrical Type	Dipole	
Impedance	50 $\Omega$	

Electrical specifications and plots measured with a 300 mm x 300 mm (11.8 in x 11.8 in) ground plane.

Table 2. Mechanical Specifications

ANT-433-SPS1	
Connection	SMA plug (male pin)
Cable	1 meter (39.37 in), 2 meters (78.74 in) and 3 meters (118.11 in) of RG-174/U coaxial cable
Weight	63.4 g (2.24 oz)
Dimensions	23.3 mm x Ø54.7 mm (0.92 in x Ø2.15 in)
IP Rating	IP67
Operating Temp. Range	-40 °C to +70 °C

## Product Dimensions

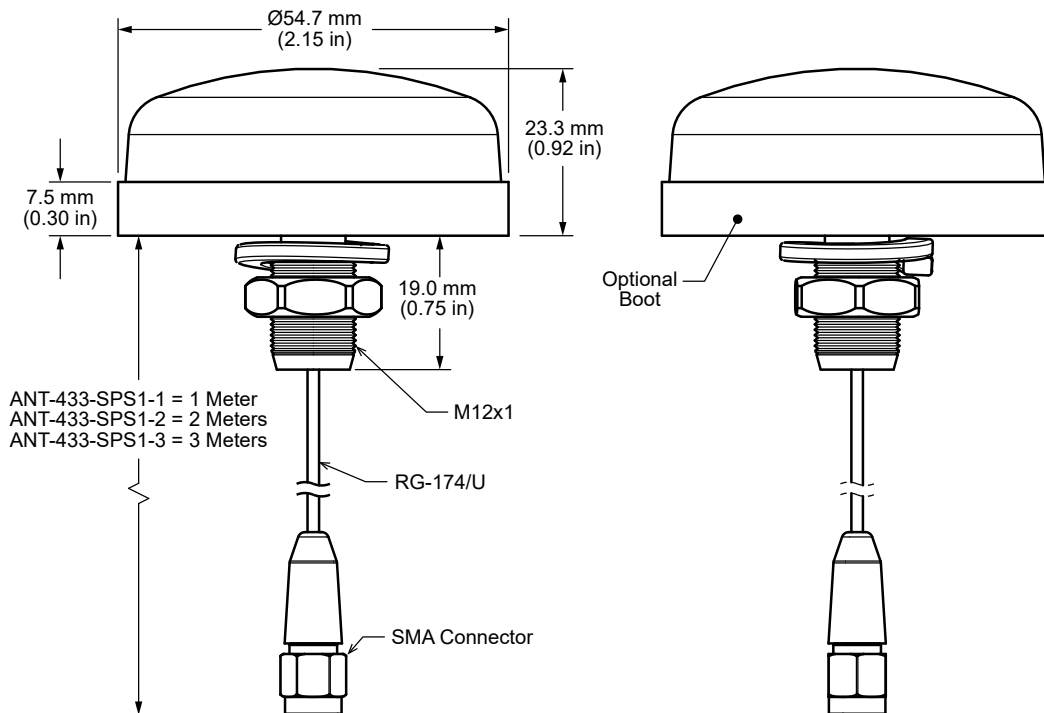


Figure 1. ANT-433-SPS1 Dimensions

## VSWR

Figure 2 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.

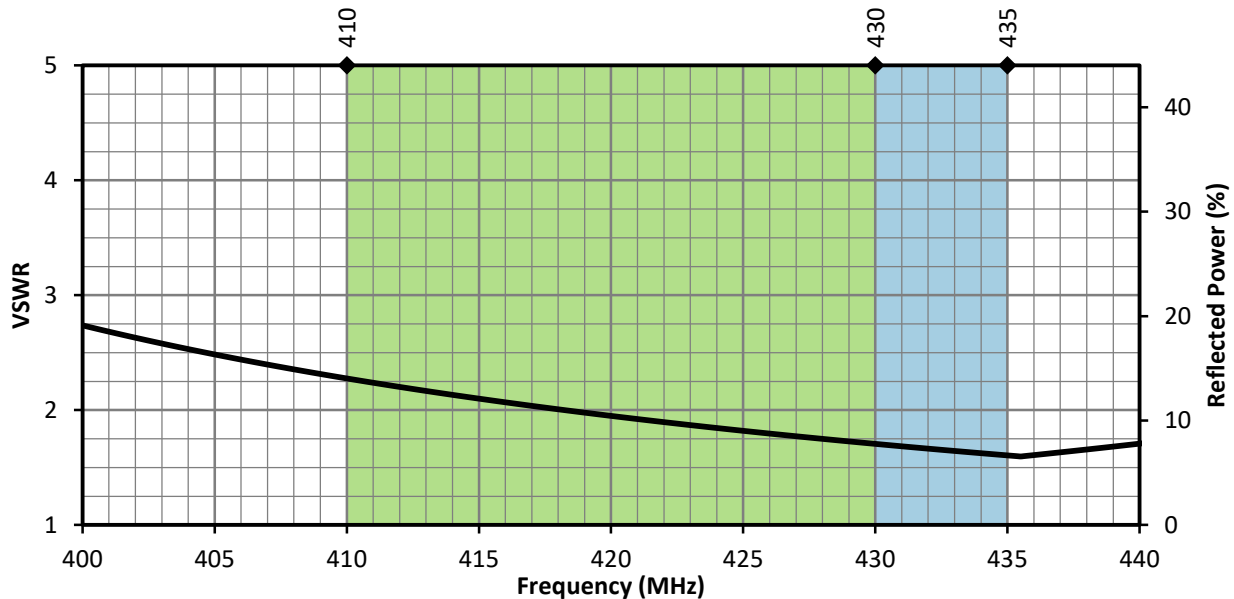


Figure 2. ANT-433-SPS1 Antenna VSWR with Frequency Band Highlights

## Packaging Information

The ANT-433-SPS1 series antenna is individually placed in a polyethylene bag. 50 pcs. are sealed in larger polyethylene bags. Larger quantities are shipped in cartons of 100 pcs. Carton size = 320 mm x 250 mm x 230 mm (12.60 in x 9.84 in x 9.10 in). Distribution channels may offer alternative packaging options..

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