

860-930MHz 12dBi Directional Antenna Datasheet

Overview

Description

RAKARP01 is a high-gain directional antenna is the latest in the RAKwireless LPWAN accessories portfolio. It is specifically useful in scenarios where directional signal reception is necessary, allowing for precise pointing to the field of your main signals, reducing the SNR. The high gain allows for a better reception from high-distance devices. Easy to mount with the included mounting kit.

Features

- Frequency range: 860 MHz ~ 930 MHz
- Peak gain: 12 dBi
- VSWR: ≤ 1.5
- Dimensions: 750x280x125 mm
- Impedance: 50 Ω

Package Inclusion

- 1x 12 dBi Directional Antenna
- 1x Mounting Kit

Specifications

Hardware

Electrical Characteristics

Parameter	Value
Model	12 dBi Directional Antenna
Frequency range	860 MHz ~ 930 MHz
Peak gain	12 dBi (± 0.5 dBi)
VSWR	≤ 1.5
Polarization	Vertical
Horizontal beam width	$65^\circ (\pm 10^\circ)$
Vertical beam width	$35^\circ (\pm 10^\circ)$
Front-to-back ratio	≥ 22 dB
Feed impedance	50 Ω
Maximum input power	100 W
Connector type	N-type female

Parameter	Value
Lightning protection	DC ground

Mechanical Specifications

Parameters	Value
Product dimensions	750×280×125 mm
Package dimensions	825×345×200 mm
Weight	4.3 kg (clamps included)
Rated max wind velocity	60 m/s
Operating humidity	10% ~ 95% RH
Radome color	Grayish white
Radome material	UPVC
Operating temperature	-40 ~ 55 °C
Installation method	Pole installation
Mounting pole diameter	Ø 30 ~ 75 mm
Mechanical adjustable tilt	0°~10°

Radiation Patterns

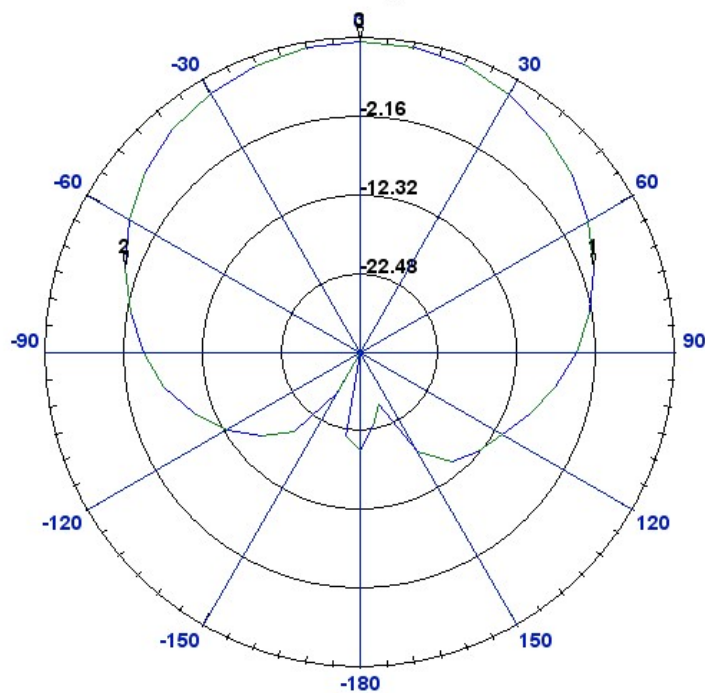


Figure 1: Horizontal Pattern H

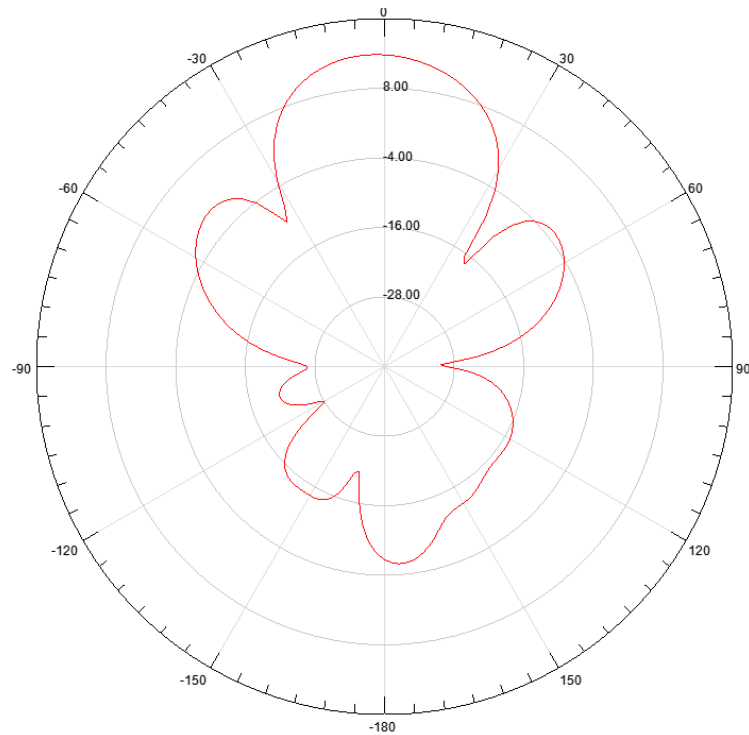


Figure 2: Connectors Types

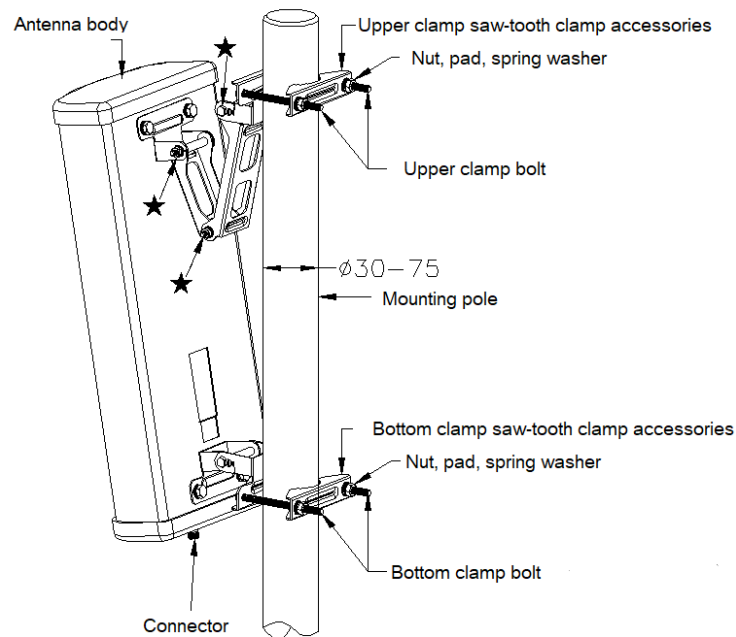


Figure 3: Antenna installation diagram

1. Determine the placement of the antenna, take it and the accessories out of the package, and prepare your tools (a wrench).
2. Install the antenna to a $\varnothing 30 \sim 75$ mm mounting pole using the clamps, screw bolts, and saw-tooth clamps as shown in Figure 3.
3. Position the antenna and the pole in parallel, adjust the height, then fully tighten the upper and lower clamps' nuts.
4. Adjust the tilt of the antenna, then tighten the nuts of the screw bolts indicated by ★.
5. Connect the feeder cable to the antenna connector and wrap the waterproof tape. After that, the installation finished.

 NOTE

The positioning and height of the antenna should be pursuant to the installation environment. Make sure that there are no tall buildings or large bodies of metal nearby, there should be no obstructions around it.