

# RAK PCB Antenna for LoRa® 902-928 MHz (RAKARB03)

## Datasheet



# Overview

## Description

RAKARB03 PCB antenna is a small antenna, suitable for all LoRa and LoRaWAN end devices. It comes with an IPEX connector for easy attachment. It is compatible with all WisTrio, WisDuo, and WisBlock products with IPEX interface.

## Features

- Frequency range: 902 ~ 928 MHz
- Peak gain: 0.8 dBi
- VSWR:  $\leq 2$
- Dimensions: 35x7x0.5 mm
- Impedance: 50  $\Omega$
- Connector type: IPEX

# Specifications

## Electrical Specifications

Parameter	Value
Frequency range	902 ~ 928 MHz
Peak gain	0.8 dBi
VSWR	$\leq 2$
Polarization	Linear
Efficiency	41.9%
Feed impedance	50 $\Omega$
Connector type	IPEX

## Mechanical Specifications

Parameters	Value
Product dimensions	35x7x0.5 mm
Operating humidity	10% ~ 95% RH non condensing
Base material	ABS+PC
Installation method	Adhesive strip attached to the base
Use environment	Indoor use / In enclosure for outdoor use
Cable length	100 mm

## Return Loss & Smith Chart

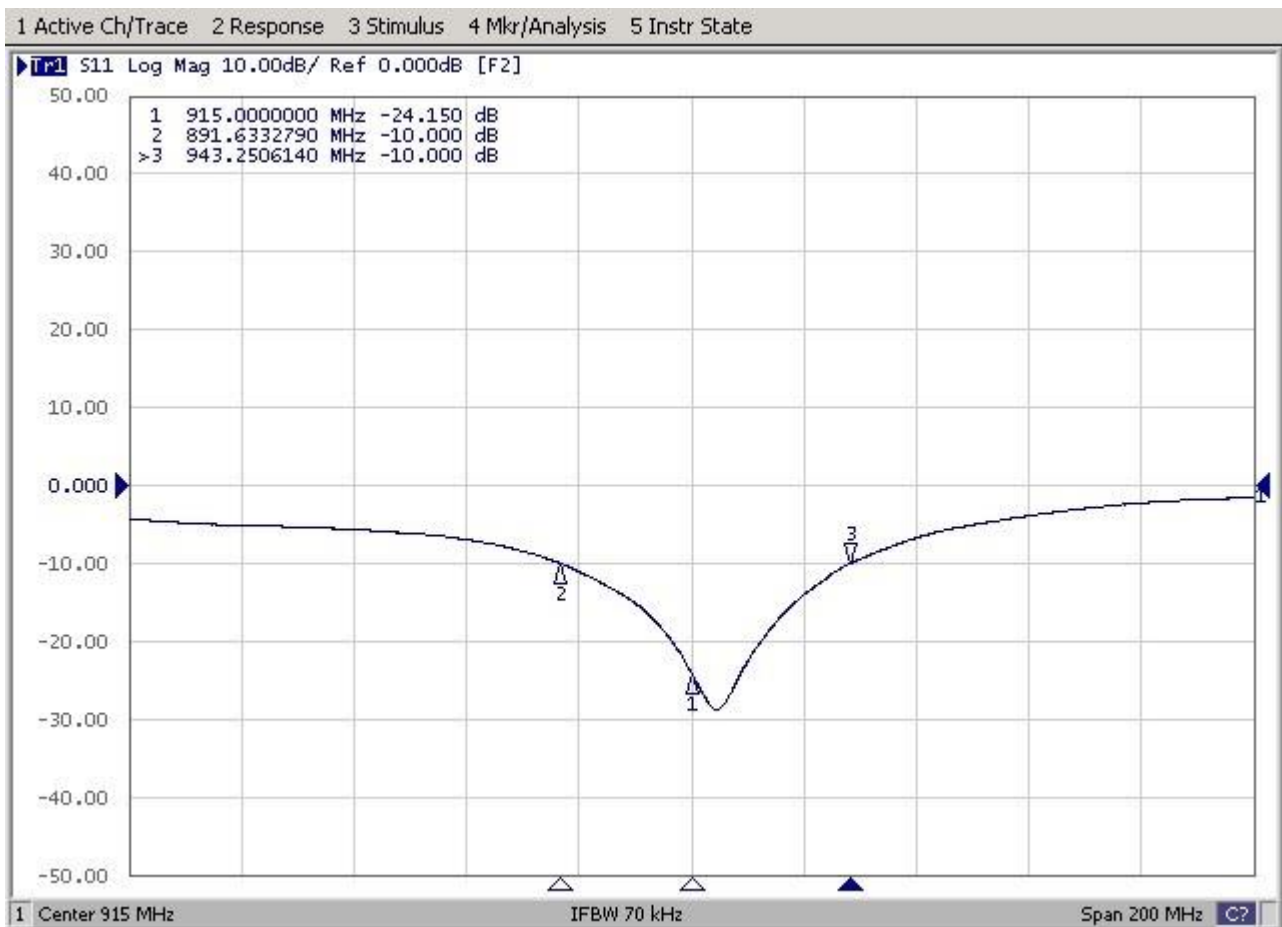
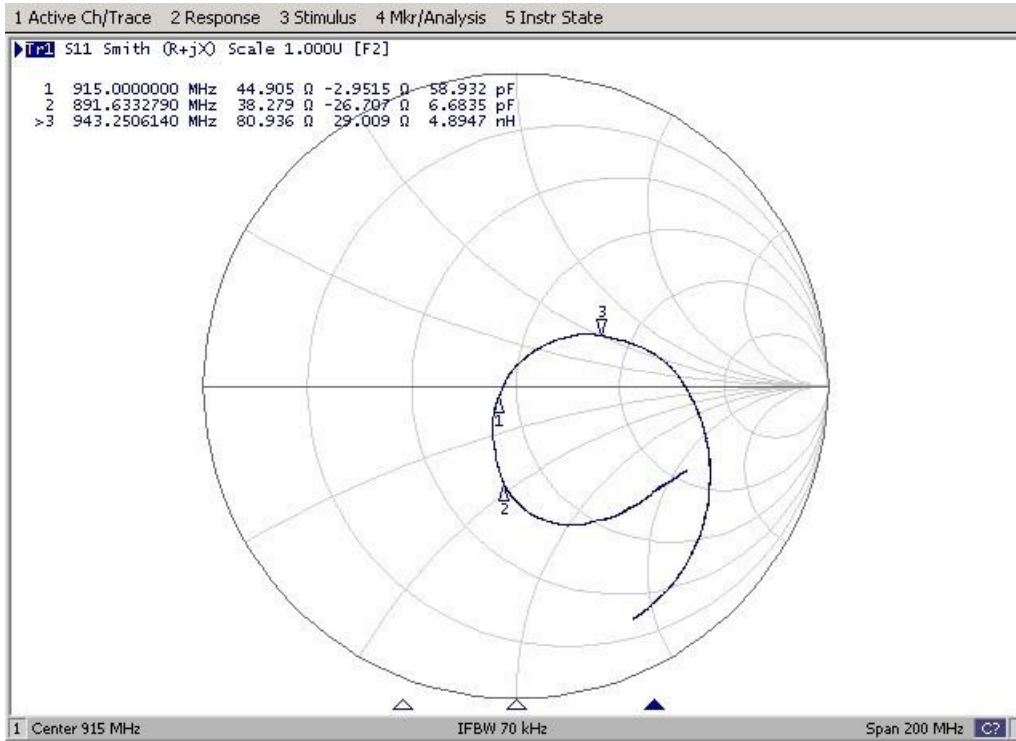


Figure 1: Return loss

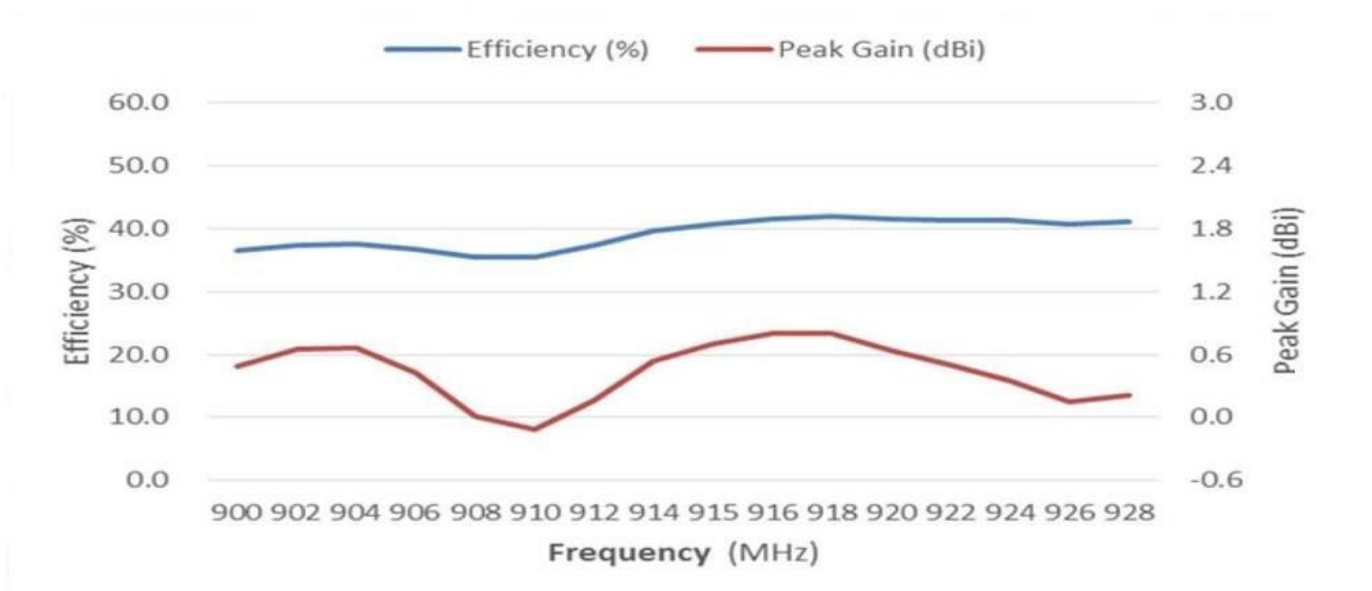


**Figure 2:** Smith chart

## Efficiency

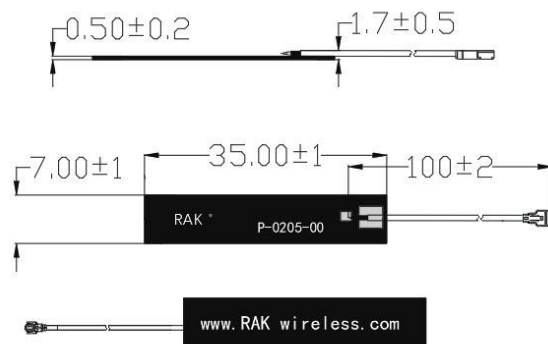
Frequency (MHz)	Efficiency (%)	Peak gain (dBi)
902	36.5	0.5
904	37.3	0.7
906	37.6	0.7
908	36.7	0.4
910	35.4	0.0
912	35.5	-0.1
914	37.4	0.2
915	39.7	0.5
916	40.7	0.7

918	41.5	0.8
920	41.9	0.8
922	41.5	0.6
924	41.3	0.5
926	41.3	0.4
928	40.8	0.1



**Figure 3:** Efficiency vs. Frequency chart

## Antenna dimensions



Unit : mm

**Figure 4:** Antenna dimensions