

# Rubber Duck Antenna

## AL401



Datasheet

V 1.0.0



## Version Note

Version	Details	Contributor(s)	Date	Notes
1.0.0	First edit	Michelle	2026.03.06	

## Part Number

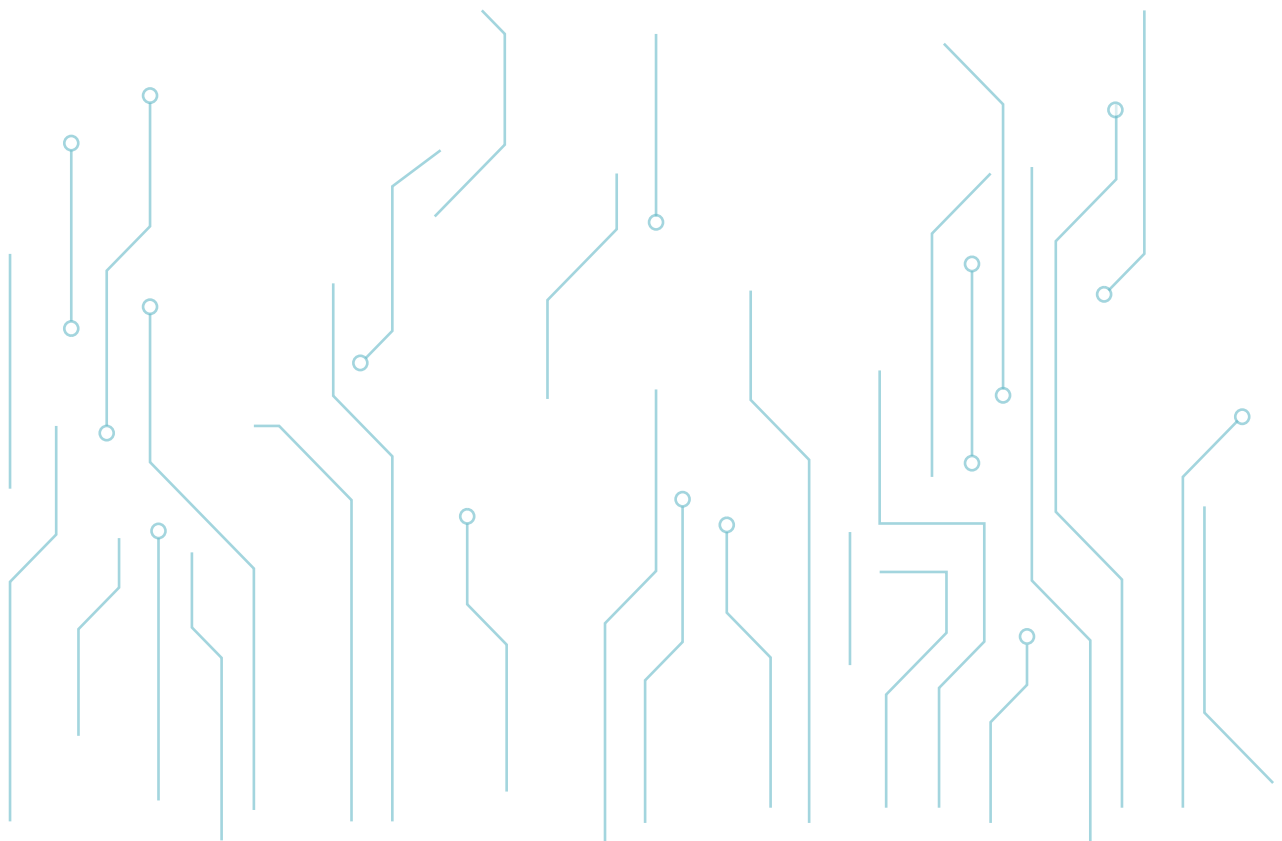
Model	Hardware Code
AL401	-

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[https://en.minewsemi.com/file/AL401\\_Datasheet\\_EN.pdf](https://en.minewsemi.com/file/AL401_Datasheet_EN.pdf)



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# 1 PRODUCT OVERVIEW

## 1.1 Overview

AL401 is a 915±15MHz band rod antenna featuring a foldable design that combines slim portability with installation flexibility. It has passed rigorous testing including vibration, drop, and constant temperature/humidity conditions, and complies with RoHS environmental standards. Its wide-band coverage and low-loss, stable transmission make it ideal for smart agriculture sensing, industrial IoT terminals, smart home control, security alarm systems, remote meter reading systems, and other applications. It delivers stable and reliable signal support for various short-range wireless communication devices.



## 1.2 Product Features

- Low-power, stable transmission with high efficiency: Gain  $\leq 2.0\text{dBi}$ , omnidirectional radiation + linear polarization design, low signal loss, meeting the long-term communication needs of low-power devices.
- Wider frequency band for greater flexibility: Covers the 900-930MHz band with a VSWR  $\leq 1.8$ , accommodating multiple devices within the same frequency range for enhanced compatibility.

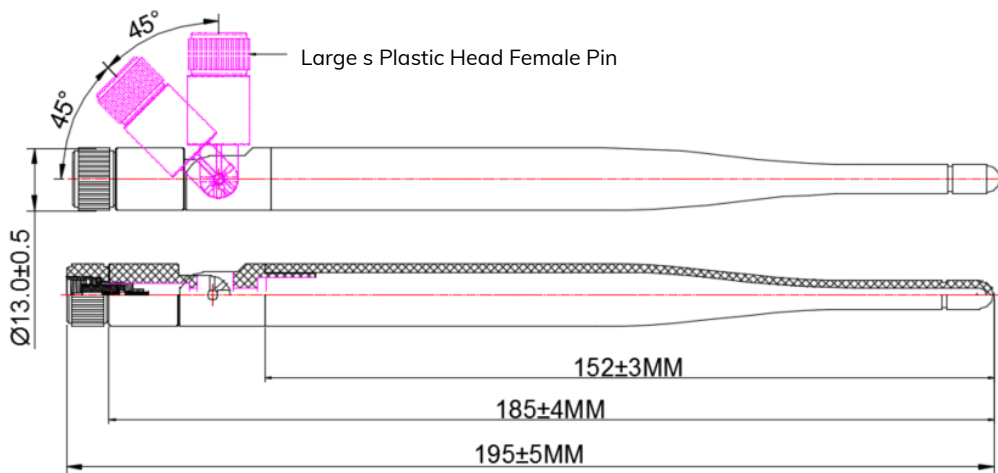
## 1.3 Electrical Properties and Mechanical Properties

Electrical Specifications	
Frequency Range	915±15MHz
VSWR	$\leq 1.8$
GAIN	$\leq 2.0\text{dBi}$
Radiation	OMNI
Polarization	LINEAR
Input Impedance	50 $\Omega$

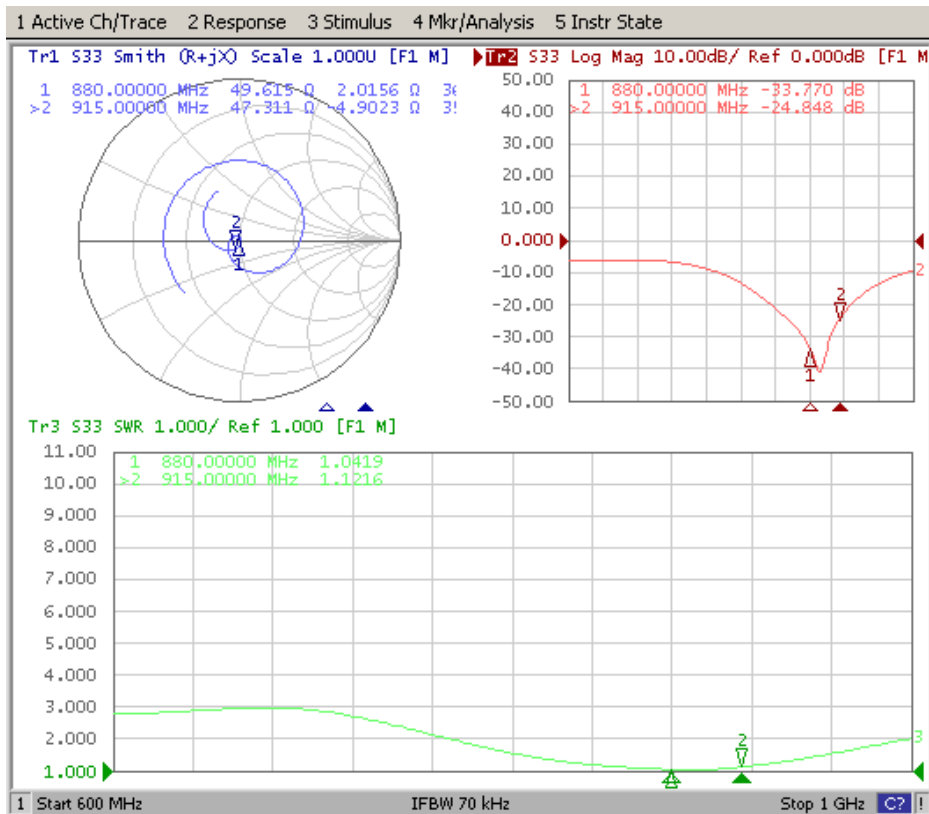
## Mechanical Specifications

Input connector	SMAJ
Antenna material	ABS & COPPER
Working Temperature	-30°C ~ +80°C
Working Humidity	40~85%
Weight	17g±1g

## 2 ANTENNA STRUCTURE DIMENSIONS



## 3 PASSIVE TEST DATA



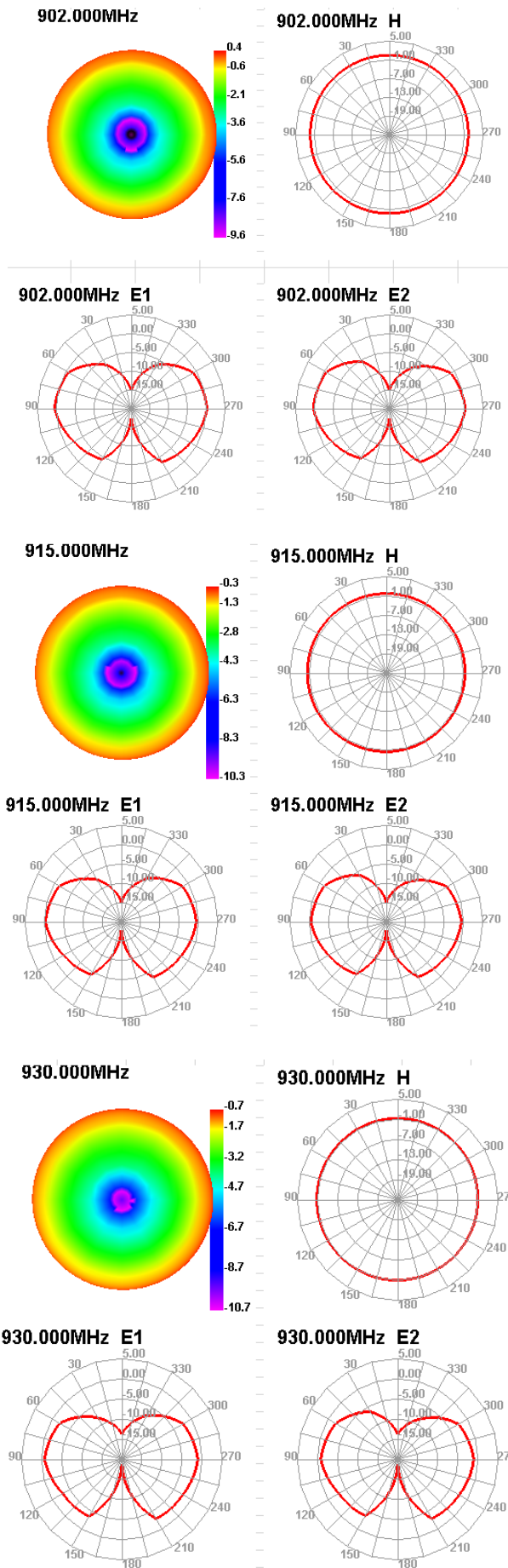


## 4 GAIN EFFICIENCY TEST DATA



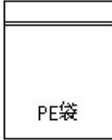
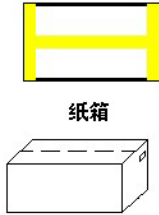
Frequency/MHz	Efficiency / %	MaxGain/dBi
910	64.25	0.07
911	62.94	1.97
912	61.70	1.87
913	60.69	1.80
914	60.19	1.75
915	60.08	1.73
916	60.25	1.74
917	60.68	1.76
918	61.23	1.80
919	61.69	1.83
920	61.72	1.84
921	61.09	1.76
922	60.18	1.70
923	59.02	1.62
924	57.80	1.51
925	56.72	1.41
926	56.09	1.36
927	55.65	1.33
928	55.35	1.30
929	55.14	1.29
930	54.84	1.26



# 5 DIRECTION DIAGRAM



## 6 PACKAGING INFORMATION

Products	Packaging 1	Packaging 2	Shipping cartons
	 PE袋	 PE袋	 纸箱
Rubber Duck Antenna	1PCS/bag	50PCS/bag	20 bags / carton

## 7 QUALITY

Cognizant of our commitment to quality, we operate our own factory equipped with state-of-the-art production facilities and a meticulous quality management system. We hold certifications for ISO9001, ISO14001, ISO27001, OHSAS18001, BSCI.

Every product undergoes stringent testing, including transmit power, sensitivity, power consumption, stability, and aging tests. Our fully automated module production line is now in full operation, boasting a production capacity in the millions, capable of meeting high-volume production demands.

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