

# Rubber Duck Antenna

## AL301



Datasheet

V 1.0.0



## Version Note

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

## Part Number

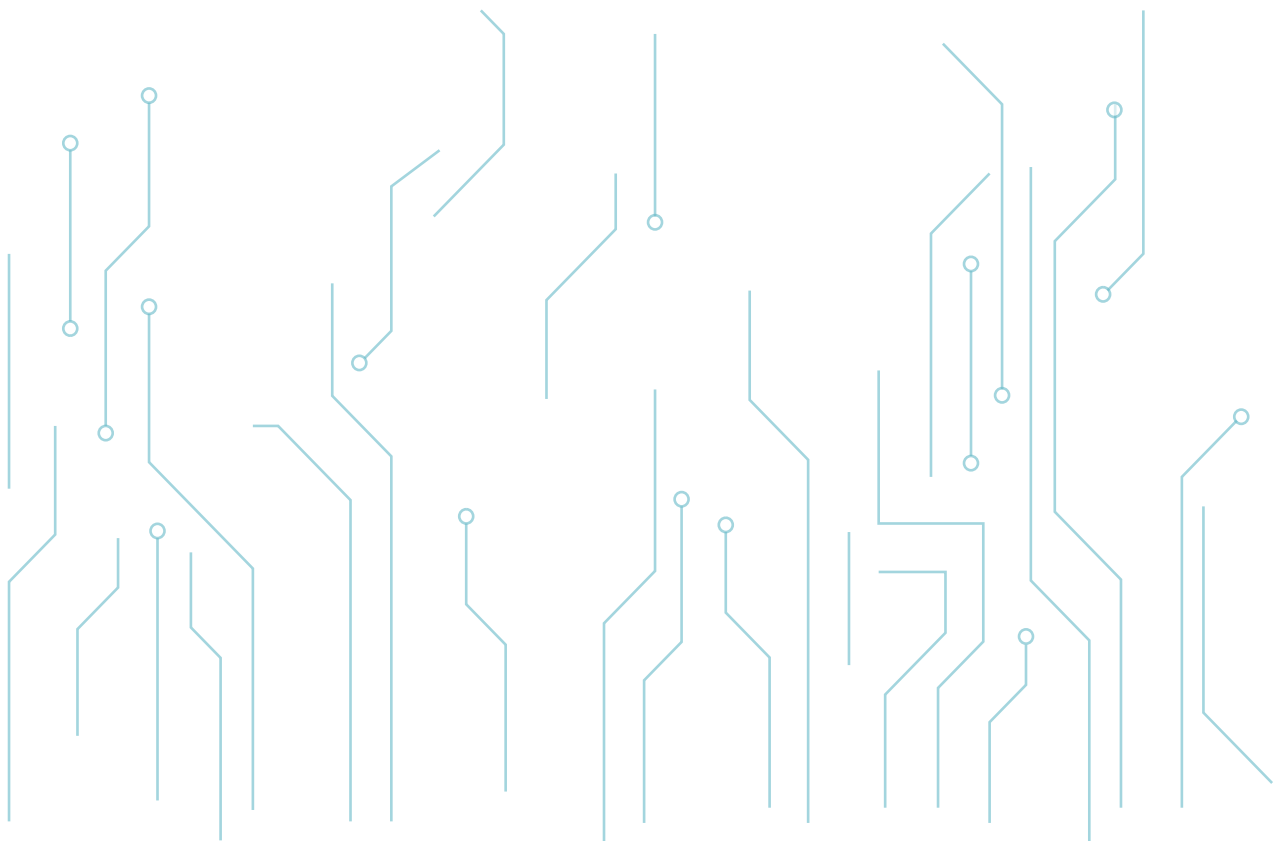
Model	Hardware Code
AL301	-

Click the icon to view and download the latest product documents electronically.  
[https://en.minewsemi.com/file/AL301\\_Datasheet\\_EN.pdf](https://en.minewsemi.com/file/AL301_Datasheet_EN.pdf)



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# 1 PRODUCT OVERVIEW

## 1.1 Overview

AL301 is a highly adaptable folding rubber-dipped antenna specifically designed for the 868MHz frequency band. Its foldable structure balances portability with installation flexibility, having passed comprehensive reliability testing and RoHS environmental certification. With its stable signal transmission performance, it is widely applicable in scenarios such as IoT terminals, smart home systems, industrial wireless control, security surveillance equipment, and environmental monitoring instruments, efficiently meeting the demand for stable short-range wireless communication.



## 1.2 Product Features

- Stable Transmission:  $VSWR \leq 2.0$ , omnidirectional radiation + linear polarization design, uniform signal coverage, low transmission loss.
- Durable and Eco-Friendly: Meets stringent testing standards for vibration, drop resistance, and aging, featuring a robust structure compliant with RoHS environmental standards.

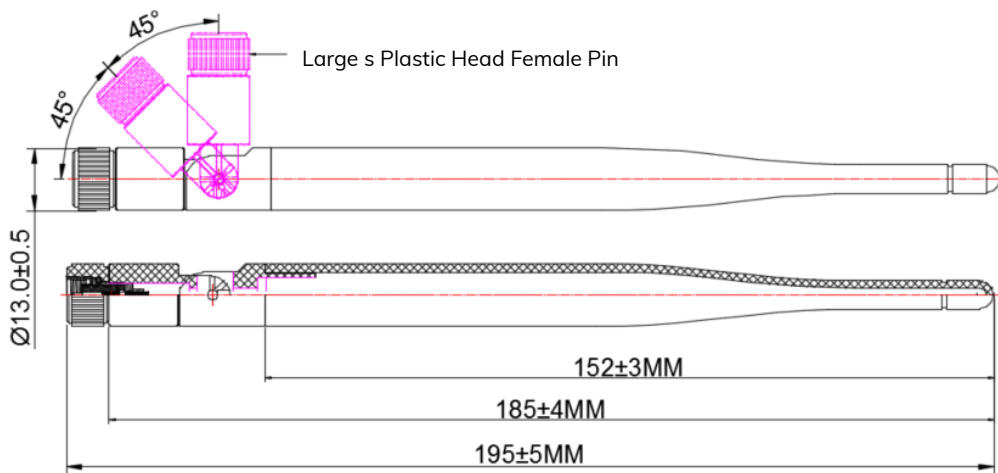
## 1.3 Electrical Properties and Mechanical Properties

Electrical Specifications	
Frequency Range	868MHZ
VSWR	$\leq 2.0$
GAIN	$\leq 1.4\text{dBi}$
Radiation	OMNI
Polarization	LINEAR
Input Impedance	50 $\Omega$

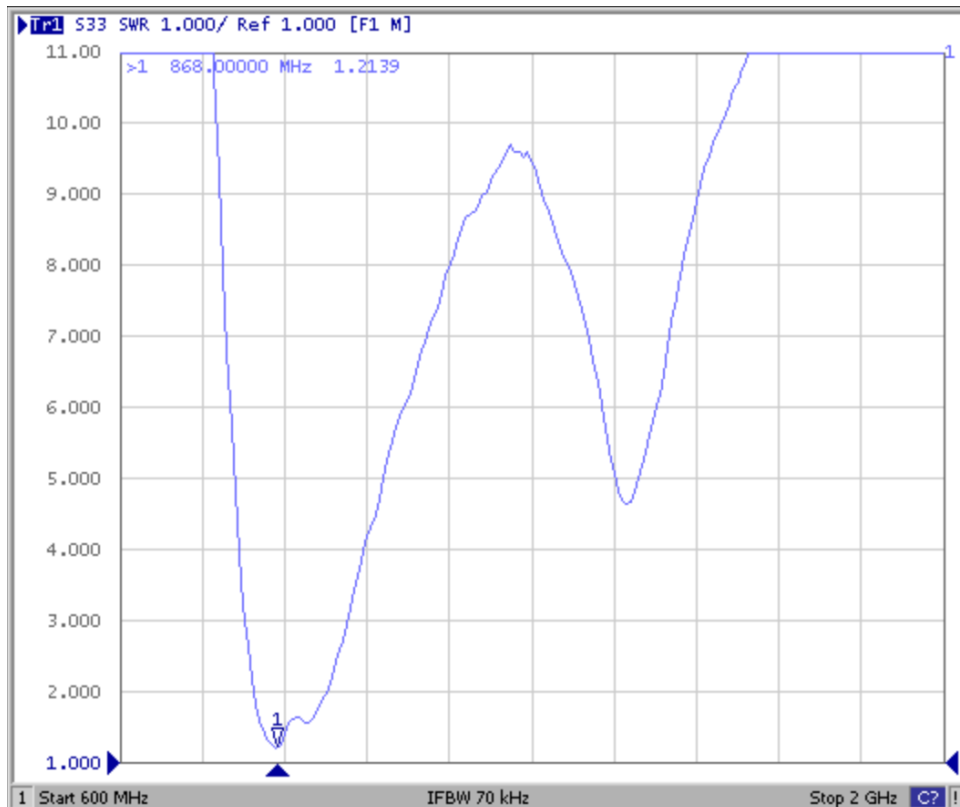
## Mechanical Specifications

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

## 2 ANTENNA STRUCTURE DIMENSIONS



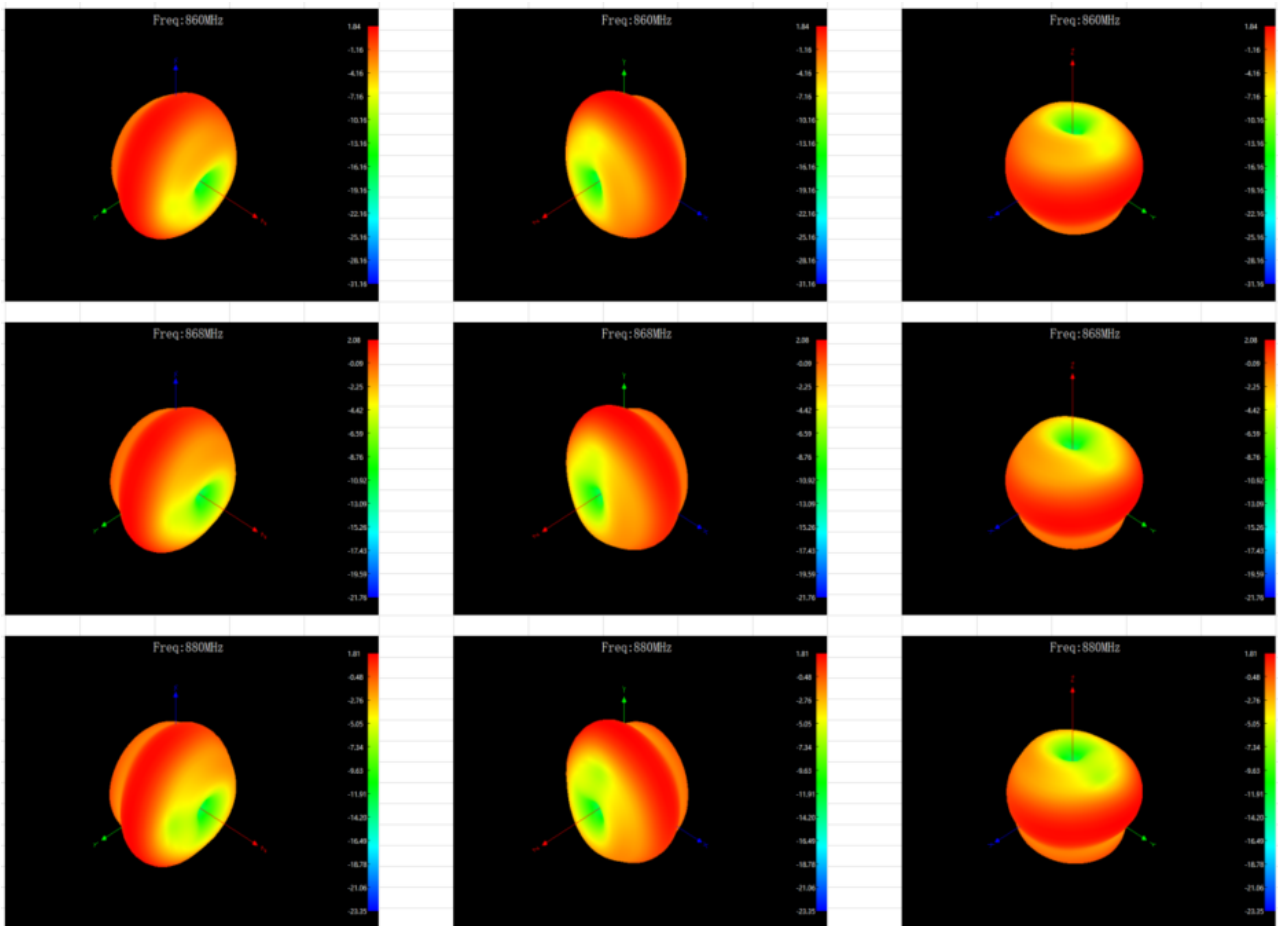
## 3 PASSIVE TEST DATA

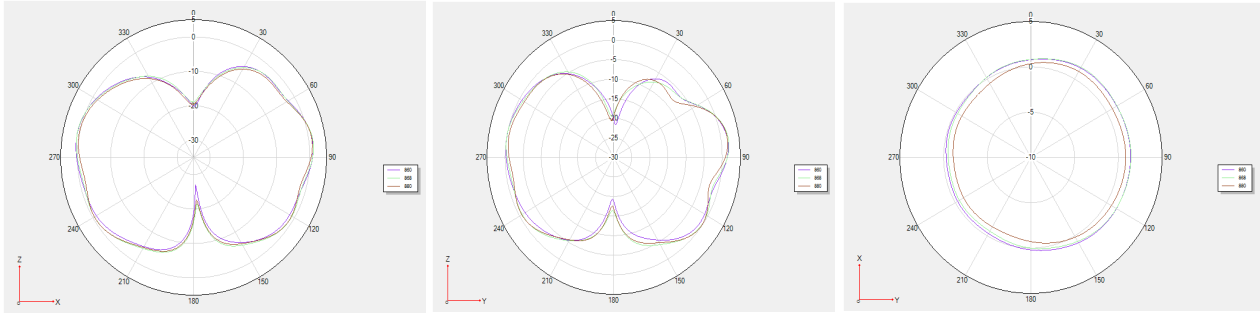


## 4 GAIN EFFICIENCY TEST DATA




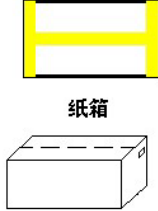
Frequency/MHz	Efficiency / %	MaxGain/dBi
860	59.15	1.68
861	59.53	1.65
862	60.56	1.75
863	61.54	1.77
864	61.92	1.83
865	61.15	1.82
866	59.26	1.73
867	56.83	1.57
868	54.34	1.42
869	52.29	1.26
870	51.14	1.15

## 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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