AK449

Dalang Communication Technology Co., Ltd Product Specification

Product Name:	4G Antenna（VZ）
Product Model:	AK449
Version Number:	V 1.0
Revision Date:	2026.01.08

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1 Product Application Scenarios

AK449 4G Dedicated Antenna, crafted with exclusive design and technology, delivers excellent stability, high sensitivity, and superior signal reception efficiency. It is suitable for electronic devices requiring 4G signal transmission, including but not limited to wireless communication modules, industrial control terminals, portable electronic devices, and other communication products, meeting various 4G communication needs under different operating conditions. See Figure 1 for details.

Figure 1 Product Application Scenarios

2 Features

In this chapter, we will delve into and comprehensively elaborate on the functionalities and operating principles of the AK449, detailing how it plays a pivotal role in various applications as follows:

1. **Stable and reliable performance:** Exclusive design and advanced production processes ensure stable signal transmission and reception in complex environments, meeting long-term operational requirements.
2. **High-efficiency signal reception:** Excellent sensitivity and sufficient bandwidth enable efficient capture of 4G signals, ensuring communication quality.
3. **Compact size:** The compact structure of main and auxiliary antennas occupies minimal installation space, adapting to various device internal layouts.
4. **Environmentally compliant:** Strictly follows RoHS standards, free from hazardous substances, meeting environmental requirements.
5. **Superior craftsmanship:** The auxiliary antenna is made of copper with gold-plated surface treatment, enhancing signal transmission stability and product durability.

3 Structural Characteristic

In this section, we will conduct an in-depth analysis of the product's design details, presenting its aesthetic features and precise interface specifications through detailed structural diagrams. This perspective aims to provide a comprehensive framework, thereby enhancing the understanding and perception of the product's architecture. Refer to Figure 2,Figure 3 , Figure 4.

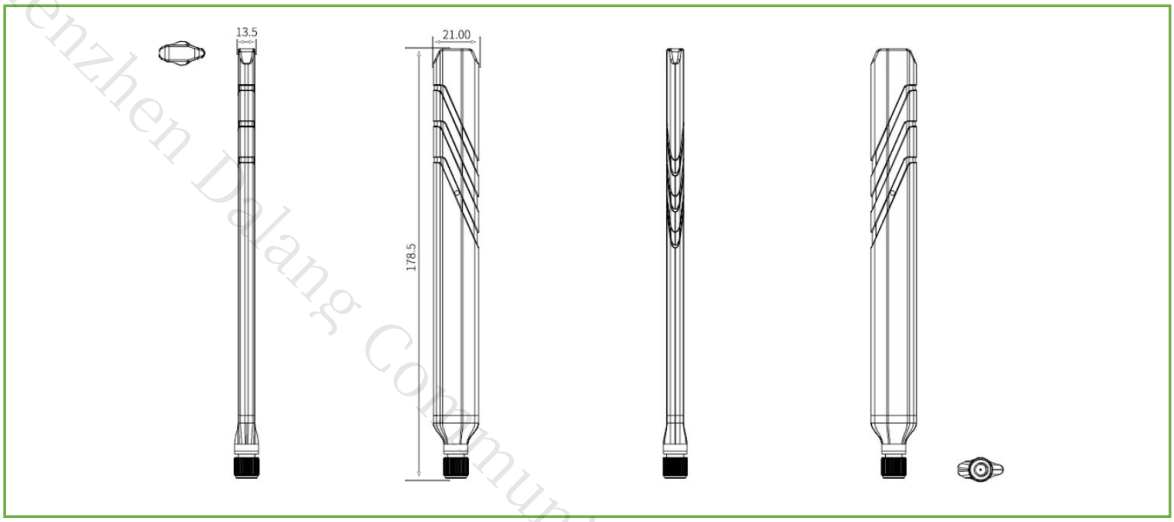


Figure 2 Main Antenna Structure Diagram

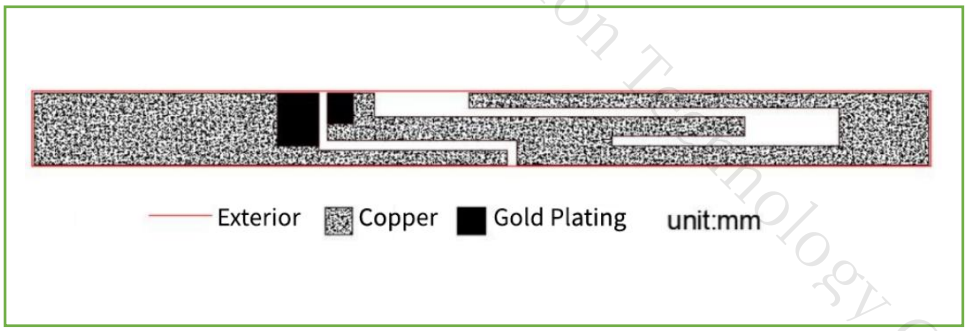


Figure 3 Auxiliary Antenna Structure Diagram

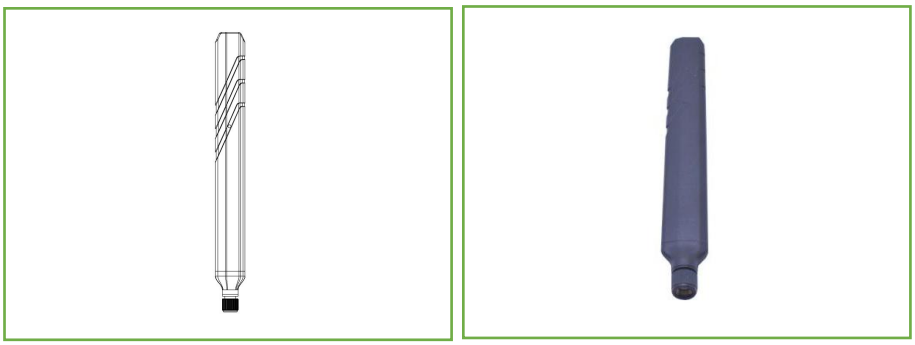


Figure 4 Product Comparison Diagram

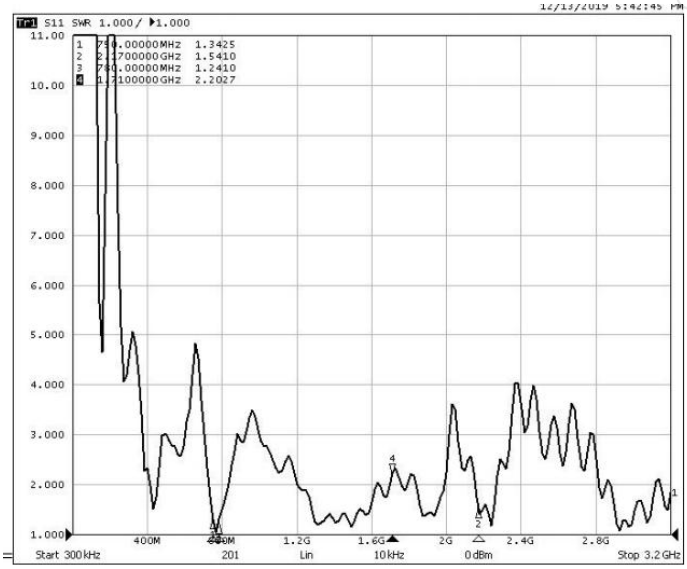
4 Specifications

In this section, we will provide a detailed list and explanation of the product's chip features, sensitivity, accuracy, operating principles, and other technical details, as detailed in Table 1.

Table 1 Product Specifications

Electrical specifications		
Main Antenna	operating frequency band	LTE Band 4/13
	impedance	50 Ω
	polarization mode	linear polarization
	Bandwidth (return loss ≤ -10dB)	130Min MHZ
	VSWR (Voltage Standing Wave Ratio)	4Max
	Dimensions (L x W x H)	178.5 x 13.5 x 21.0mm
Sub Antenna	operating frequency band	LTE Band 4/13
	impedance	50 Ω
	polarization mode	linear polarization
	Bandwidth (return loss ≤ -10dB)	130Min MHZ
	VSWR (Voltage Standing Wave Ratio)	4Max
	Dimensions (L x W x H)	95*10*0.12mm
	connecting wire	IPEX interface, length 110mm

Main Antenna VSWR:



5 Antenna TRP&TIS

Test conditions: Installed on the designated grounding plate in a standard microwave anechoi c chamber for testing

LTE Band 4:

Test	LTE4 TRP		
Result	20000	20175	20350
Frequency (MHz)	1715	1732.5	1750
TRP(dBm)	20.06	20.42	19.88
NHPRP(dBm)	19.42	19.83	19.36
MAX(dBm)	22.09	23.04	22.67
Min(dBm)	10.24	10.97	8.9
Attenuation Horiz	38.42	39.53	39.11
Attenuation Verti	38.43	39.45	39.12

Test	LTE4 TIS		
Result	2000	2175	2350
Frequency (MHz)	2115	2132.5	2150
TIS(dBm)	-95.11	-95.24	-94.83
NHPIS(dBm)	-93.98	-94.14	-93.72
MAX(dBm)	-98.84	-99.03	-98.71
Min(dBm)	-84.36	-84.69	-85.24
Attenuation Horiz	40.04	40.53	40.65
Attenuation Verti	40.12	40.4	40.56

LTE Band 13:

Test	LTE13 TRP
Result	23230
Frequency (MHz)	782
TRP(dBm)	21.56
NHPRP(dBm)	20.98
MAX(dBm)	24.26
Min(dBm)	5.24
Attenuation Horiz	33.35
Attenuation Verti	33.35

Test	LTE13 TIS
Result	5230
Frequency (MHz)	751
TIS(dBm)	-90.49
NHPIS(dBm)	-89.86
MAX(dBm)	-92.61
Min(dBm)	-78.15
Attenuation Horiz	33.5
Attenuation Verti	33.53

6 Product Photos

In this chapter, we will showcase real-life images of the product, as shown in Figure 5. These images provide a detailed view of our product from various angles and perspectives. We believe that through authentic representation, we can better convey the value and concept of the product, thereby enhancing your trust and satisfaction.

Figure 5 Product Images