AK344

Dalang Communication Technology Co., Ltd Product Specification

Product Name:	4G Antenna（RV）
Product Model:	AK344
Version Number:	V 1.0
Revision Date:	2026.01.09

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1 Product Application Scenarios

The AK344 is a high-performance PCB/FPC antenna specifically designed for 4G LTE applications. Utilizing our proprietary manufacturing process, it delivers outstanding reception sensitivity (TIS) in LTE Band 4/13, ensuring reliable communication connections even in weak signal environments. The product complies with RoHS standards.

Designed for equipment demanding high signal reception performance, it is particularly suitable for smart security cameras, vehicle-mounted T-Boxes, industrial IoT terminals, and similar applications. Its unique formable pin design allows flexible adaptation to straight or bent mounting orientations, offering great flexibility for PCB layout. Refer to 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 AK344, detailing how it plays a pivotal role in various applications as follows:

1. **High Reception Sensitivity:** Offers excellent TIS values in LTE Band 4/13 (e.g., Band 4 ⩽ -95.37 dBm), significantly improving communication reliability in weak signal environments.
2. **Flexible Interface:** The feed pin adopts a special formable design, allowing customers to shape it into a straight pin or right-angle pin according to PCB layout space, providing strong adaptability.
3. **Band-Specific Optimization:** Deeply optimized for LTE Band 4 (1710-1750MHz) and Band 13 (782-787MHz/751-756MHz).
4. **Extended Structure:** With a length of 193mm, it delivers superior radiation performance under specific conditions.
5. **High Reliability:** Built on mature PCB & FPC processes, ensuring stable and consistent performance.
6. **Environmental Compliance:** Conforms to RoHS directive requirements.

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.

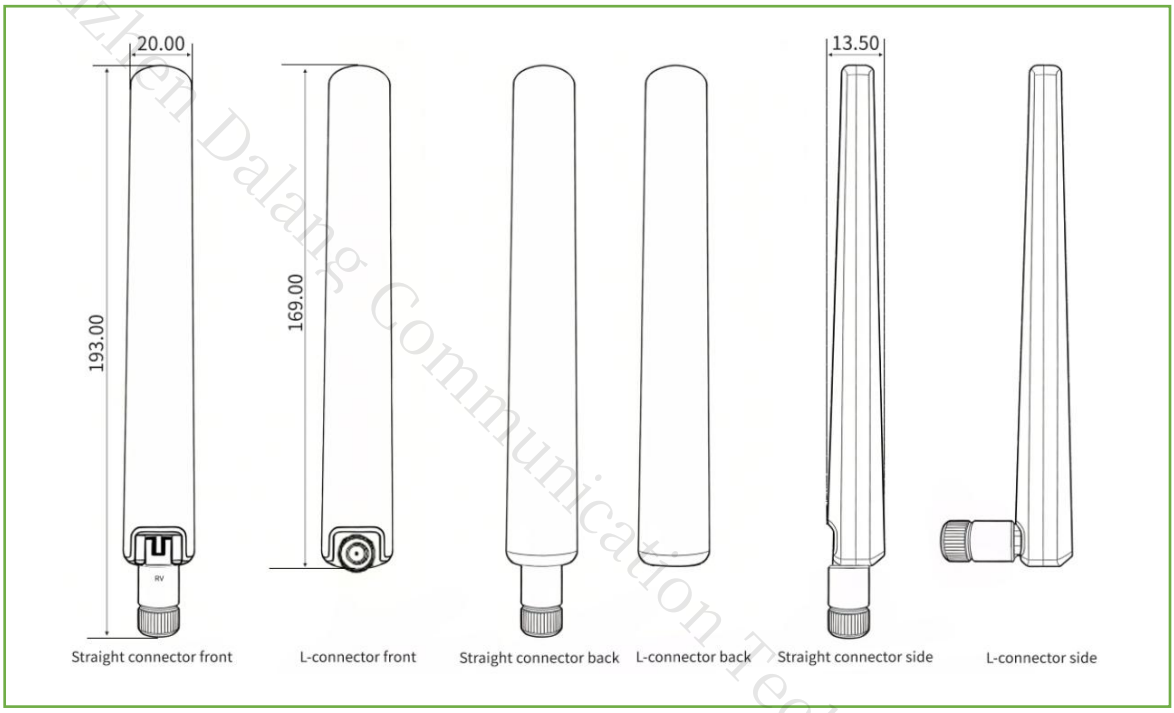


Figure 2 Main Antenna Structure Diagram

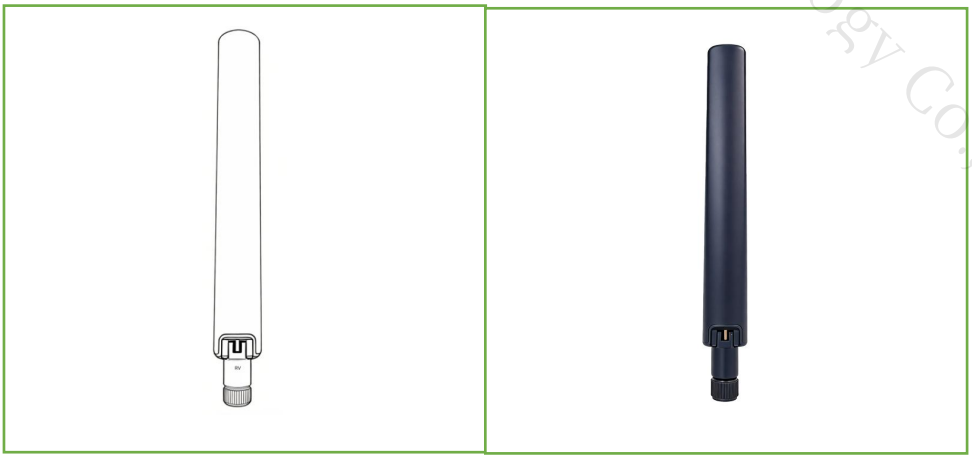


Figure 3 Product Comparison Diagram

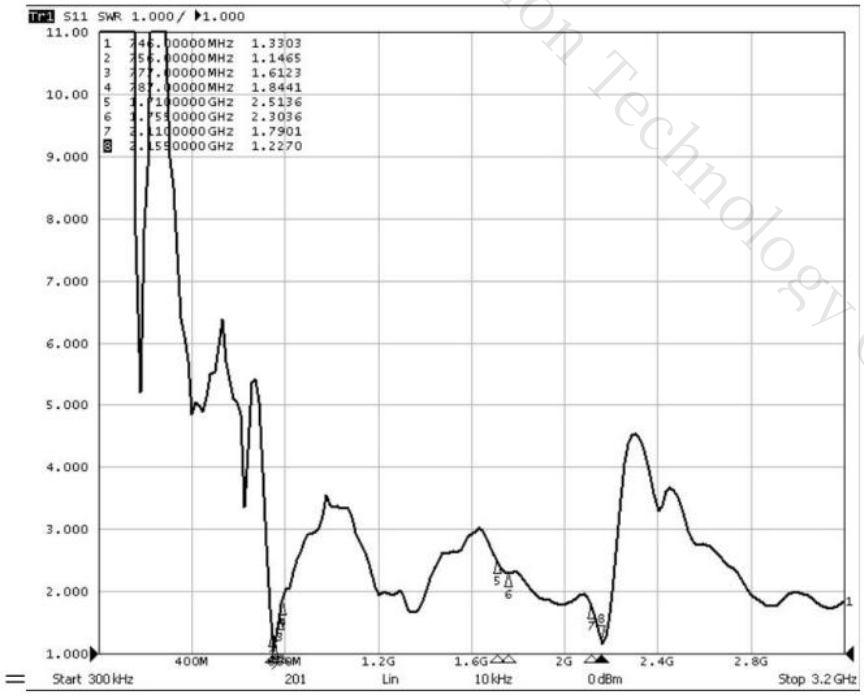
4 Specifications

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		
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)	Straight Pin：193 x 13.5 x 21.0mm Right-Angle Pin：169 x 13.5 x 21.0mm

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)	19.95	20.44	20.39
NHPRP(dBm)	19.5	19.99	19.97
MAX(dBm)	23.4	23.53	23.83
Min(dBm)	8.73	9.79	10.14
Attenuation Horiz	38.42	39.53	39.11
Attenuation Verti	38.43	39.45	39.12

Test	LTE4 TIS
Result	2175
Frequency (MHz)	2132.5
TIS(dBm)	-95.37
NHPIS(dBm)	-93.43
MAX(dBm)	-100.62
Min(dBm)	-86.97
Attenuation Horiz	40.53
Attenuation Verti	40.4

LTE Band 13:

Test	LTE13 TRP
Result	23230
Frequency (MHz)	782
TRP(dBm)	21.44
NHPRP(dBm)	20.65
MAX(dBm)	23.72
Min(dBm)	8.4
Attenuation Horiz	33.35
Attenuation Verti	33.35

Test	LTE13 TIS
Result	5230
Frequency (MHz)	751
TIS(dBm)	-94.24
NHPIS(dBm)	-93.09
MAX(dBm)	-98.41
Min(dBm)	-85.03
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 4 Product Images