



AK156





Dalang Communication Technology Co., Ltd Product Specification

Product Name:	Ceramic Antenna
Product Model:	AK156
Version Number:	V 1.0
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1 Product Application Scenarios

This AK156 GPS+BD active ceramic antenna is a high-performance dual band antenna that supports GPS L1 frequency band (1575.42MHz) and Beidou B1 frequency band (1561MHz). The product is made of high-quality ceramic materials and has the characteristics of high gain, low noise, and strong anti-interference ability. It is widely used in fields such as car navigation, drones, precision agriculture, and intelligent transportation. 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 AK156, detailing how it plays a pivotal role in various applications as follows:

1. **Dual mode positioning:** synchronously receiving GPS and Beidou signals to improve positioning reliability and coverage range
2. **Ceramic media:** High stability materials ensure consistent signal reception and strong environmental adaptability
3. **Anti interference design:** Optimize the antenna radiation pattern to effectively suppress multipath and electromagnetic interference
4. **Industrial grade protection:** wide temperature working design to meet the requirements of harsh environmental use
5. **Flexible configuration:** Multiple line lengths and interfaces to choose from, supporting personalized customization solutions
6. **Low power optimization:** high-performance design to extend the battery life of mobile devices

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 Product structure diagram



Figure 3 Product correlation chart



Figure 4 Process flow 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

Specification parameters			
Antenna characteristics	1	Antenna model	GPS+BDS antenna
	2	Ceramic size	25*25*4
	3	Usage frequency	GPS: L1: 1575.42±1.023MHz, GLONASS: L1:1602+0.5625*K(MHz) BDS: B1 1561±1.023MHz GALILEO: E1: 1575
	4	Gain (peak gain of 70 * 70mm ground facing the zenith plane)	3dBic
	5	V.S.W.R	≤1.5
	6	-10dB bandwidth MHz minimum	8 min
	7	impedance	50 Ω
	8	Polarization mode	RHCP
	9	Frequency Temperature Coefficient	20ppm/deg. °C max
LAN	1	gain	18 ± 2dB
	2	figure	<1.5dB
	3	VSWR	<2.0
	4	output vswr	<2.0
	5	voltage	DC 2.7~3.3V
	6	electric current	3~6mA
	7	impedance	50 Ω
Physical parameters	1	Product size	25*25*7.5mm
	2	Product weight	12.8g
	3	Line length	L=15cm(Customizable)
	4	Line type	RG1.13(Customizable)
	5	Linear interface	IPEX(Customizable)
	6	pcb	FR4
Environmental	1	work environment	-40°C ~ +85°C, 10%~95% RH
	2	Environment	-55°C ~ +100°C, 10%~95% RH
	3	vibrate	Sine scan @ 1.5mm AM, 10~55Hz per axis

5 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.

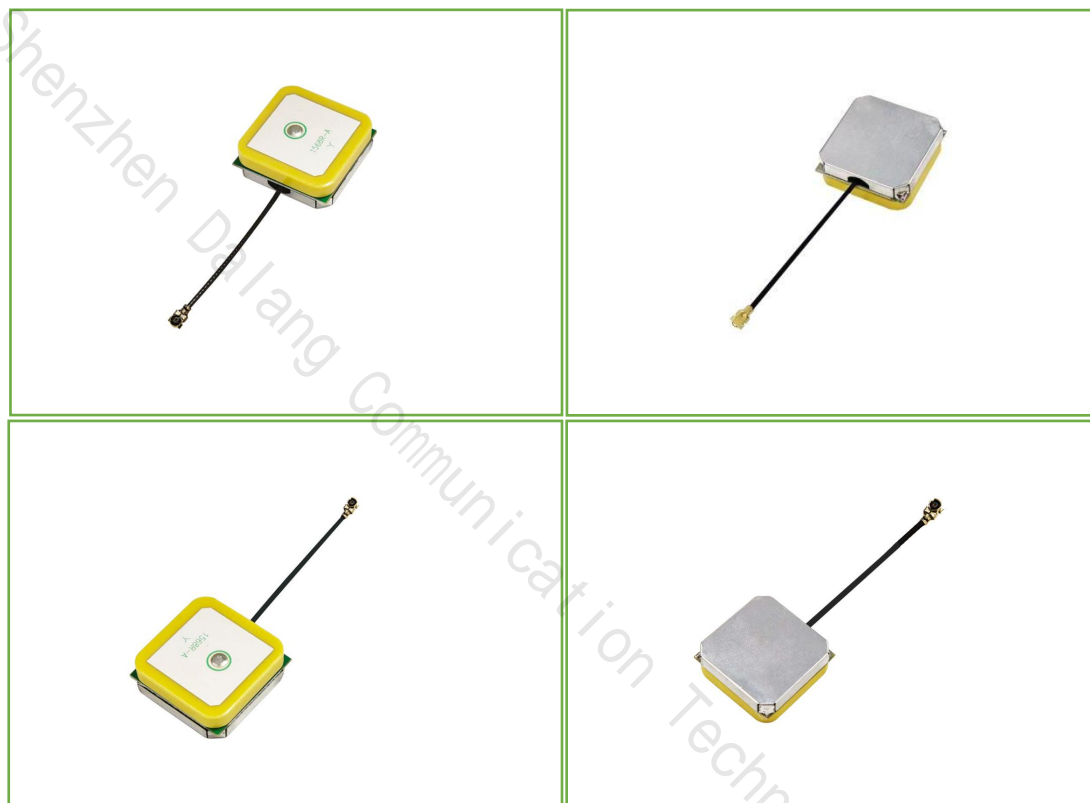


Figure 5 Product Images