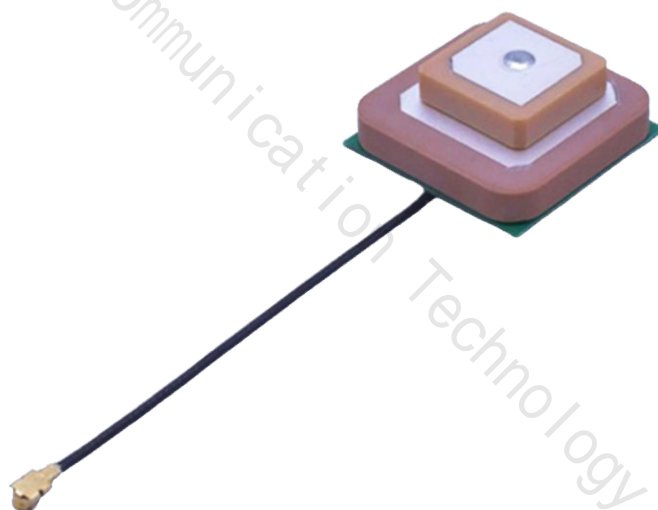


Dalang

AK520-P



Shenzhen Dalang Communication Technology Co., Ltd



Dalang Communication Technology Co., Ltd Product Specification

Product Name: GNSS ANTENNA

Product Model: AK520-P

Version Number: V 1.0

Revision Date: 2024.06.06

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1 Product Application Scenarios

Our AK520-P multilayer ceramic active antenna is designed for high-precision positioning with Beidou and GPS satellite navigation, supporting GPS L1, L2, L5 and Beidou B1, B2, B3 bands. With advanced ceramic multilayer technology, it ensures extensive coverage, high signal stability, and durability in harsh environments. Ideal for vehicle navigation, drone positioning, and precision agriculture, the AK520-P guarantees precise location data. 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 AK520-P, detailing how it plays a pivotal role in various applications as follows:

1. **Dual-Frequency High-Precision Positioning:** Meets the needs for high-accuracy GNSS (Global Navigation Satellite System) antenna positioning, providing more precise location information.
2. **Multilayer Antenna Design:** Combines two single-feed antennas into one multilayer antenna, enhancing signal reception and stability.
3. **High Gain and Wide Bandwidth:** Features high gain and a broad frequency range, effectively improving signal reception quality and coverage.
4. **Environmental Compliance:** Meets RoHS (Restriction of Hazardous Substances) standards, ensuring environmental performance suitable for global markets.

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.

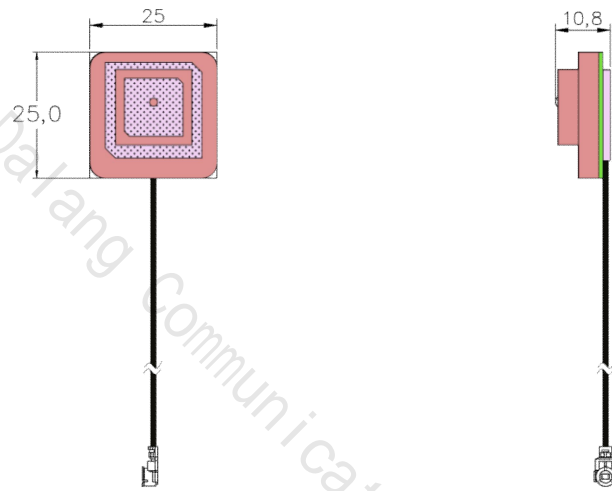


Figure 2 Product structure diagram



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

II. Specification			
Electrical Characteristics	1	Operating Frequency	GPS: L1, L2 BDS: B1I, B2I GLONASS: L1, L2 Galileo: E1, E5a
	2	Impedence	50Ω
	3	Polarization	RHCP
	4	LNA GAIN @90°	1.L1:25DB 2.L2:26DB
	5	LNA Noise Figure @+25°C ± 5° TYP	<2.0
	6	LNA VSWR	2.0 MAX
	7	DC Voltage	3~5V
	8	Current	15~22Ma
Bill of Materials	1	Dimensions	25*25*10.8
	2	Connector	IPEX(Customizable)
	3	Product Weight	18.2g
	4	Cable Material	RG1.13 Cable(Customizable)
	5	Cable Length	65mm(Customizable)
Environmental Characteristics	1	Operating Temperature	-40°C~+85°C, 10%~95% RH
	2	Storage Temperature	-55°C~+100°C, 10%~95% RH
	3	Humidity	40%~95%

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.

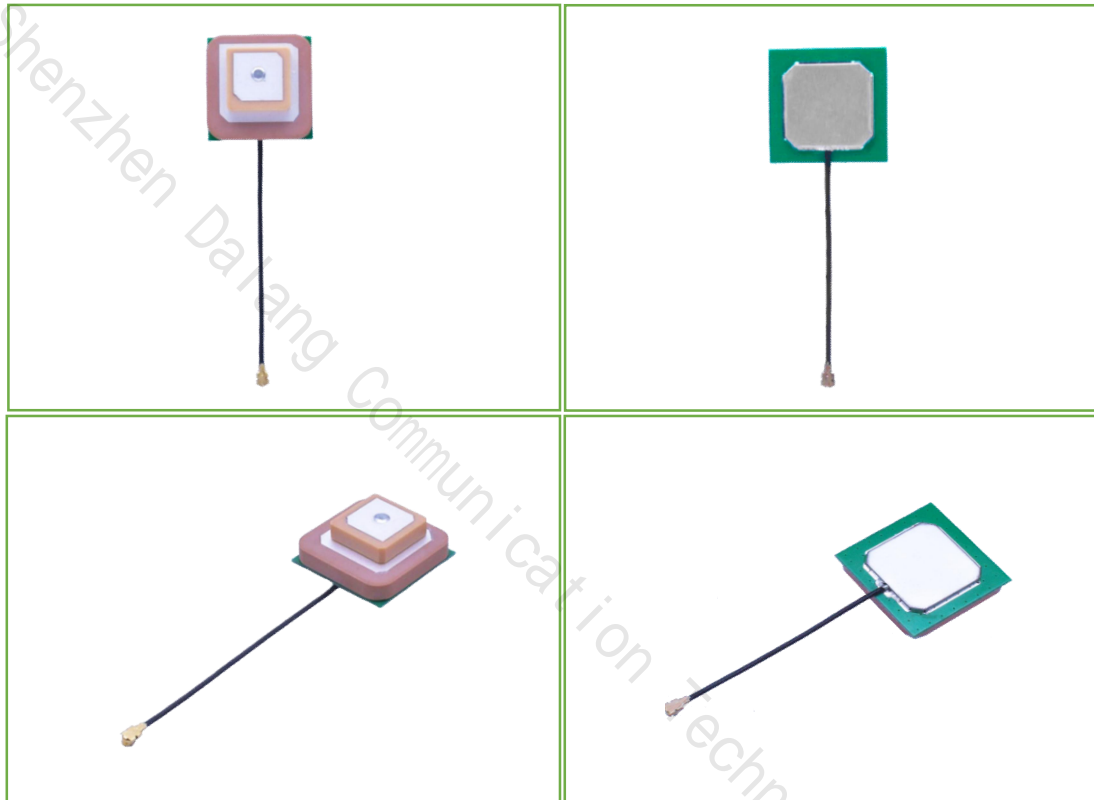


Figure 5 Product Images