AK715

Dalang Communication Technology Co., Ltd Product Specification

Product Name:	GNSS Antenna
Product Model:	AK715
Version Number:	V 1.0
Revision Date:	2025.05.26

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Contents

1 Product Application Scenarios

AK715 supports multiple frequency bands of multiple satellite systems such as GPS, GLONASS, Galileo, and Beidou. It has the characteristics of multi band reception, high gain, low noise, strong anti-interference, miniaturization, and good weather resistance. It is widely used in fields such as surveying and mapping, construction, autonomous driving, unmanned aerial vehicles, and ocean exploration, providing centimeter level and even millimeter level high-precision positioning services for these industries. 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 AK715, detailing how it plays a pivotal role in various applications as follows:

1. High precision: Based on the principle of carrier phase observation difference, it can achieve centimeter or even millimeter level positioning accuracy, meeting the extremely high requirements for position accuracy in application scenarios.

2. Multi band compatibility: It can support signal reception in multiple frequency bands of multiple satellite systems such as GPS, GLONASS, Galileo, and Beidou, enhancing signal acquisition capabilities and improving positioning reliability and stability.

3. Strong anti-interference ability: It has good anti-interference ability and can still stably receive signals in complex electromagnetic environments, such as high-rise areas in cities, industrial plants, etc., ensuring the normal operation of positioning functions.

4. High gain: can effectively enhance signal strength, even in weak signal environments, clear satellite signals can be obtained, ensuring the accuracy and timeliness of positioning.

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.

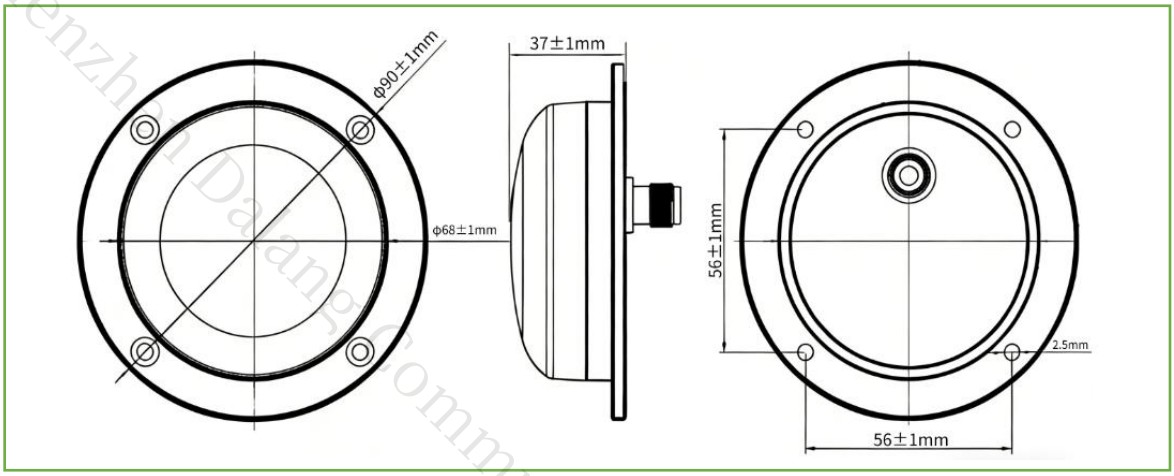

Figure 2 Product structure diagram

Figure 3 Product correlation chart

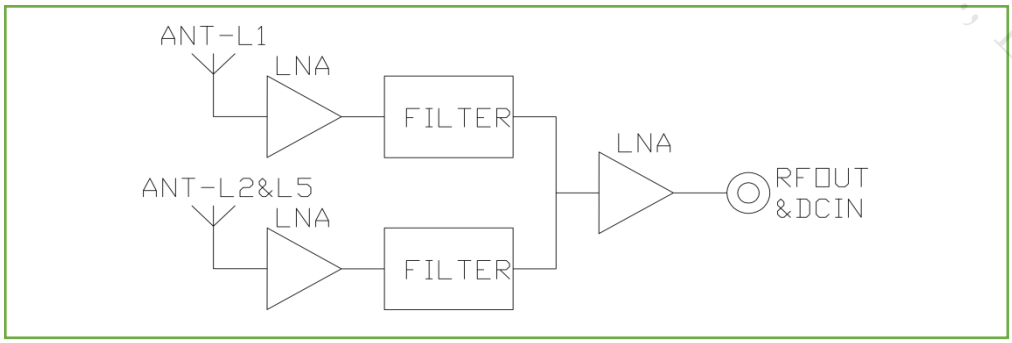

Figure 4 Process flow diagram

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	Usage frequency	GPS: L1, L2, L5 BDS: B1I, B2I, B3I, B2a, B2b GLONASS: L1, L2, L3 Galileo: E1, E5b, E5a, E6 QZSS: L1, L2, L5, L6 IRNSS: L5
	2	Antenna specifications	GPS,BDS，GLONASS,GALILEO，QZSS
	3	V. S.W.R (standing wave ratio)	≤2.0
	4	Axial ratio	Elevation angle of 90 degrees: ⩽ 3, elevation angle of 15 degrees: ⩽ five
	5	Gain	Elevation angle of 90 degrees: ⩾ 6, elevation angle of 20 degrees: ⩾ 0 plane)
	6	Front to back ratio	± 60 degrees ⩾ 15dB
	7	Phase center (mm)	<2
	8	impedance	50Ω
	9	Polarization mode	RHCP
LNA	1	LNA gain	36±2dB
	2	V. S.W.R	＜2
	3	figure	＜2.0
	4	dc power	3.3~12V
	5	Working current	25~40mA
Mechanical structure	1	Radome material	ABS
	2	Antenna size	ϕ90*37mm(Excluding connectors)
	3	Product weight	186g
	4	joint	TNC-K
Environmental	1	operation temperature	-40℃~+85℃, 10%~95% RH
	2	storage temperature	-55℃~+100℃, 10%~95% RH
	3	vibrate	Sine sweep frequency @ 1.5mmAM, 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