AK628

Dalang Communication Technology Co., Ltd
Product Specification

Product Name:	GNSS ANTENNA
Product Model:	AK628
Version Number:	V 1.0
Revision Date:	2024.07.05

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1 Product Application Scenarios

The AK628 is a high-performance GNSS surveying antenna that receives signals from Bei Dou, GPS, GLONASS, and GALILEO systems. It is designed for multi-system compatibility and high-precision measurements, suitable for geodetic surveying, marine surveying, precision agriculture, and deformation monitoring. Its multi-feed point design enhances signal stability and accuracy, while powerful signal processing ensures efficient performance even in obstructed environments. See Figure 1for 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 AK628, detailing how it plays a pivotal role in various applications as follows:

1. **Multi-System Compatibility:** Supports Bei Dou, GPS, GLONASS, and GALILEO systems, meeting diverse navigation needs.
2. **High-Precision Design:** Multi-feed point design optimizes RHCP and phase center performance, significantly reducing measurement errors**.**
3. **Enhanced Reception Performance:** Antenna unit features high gain and low gain roll-off, ideal for receiving low-elevation satellite signals.
4. **Good Blocking Match:** Reactance network suppression technology effectively reduces multipath signal interference, improving measurement accuracy.
5. **Suitable for Complex Environments:** Superior design ensures reliable signal reception even in heavily obstructed environments.

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.

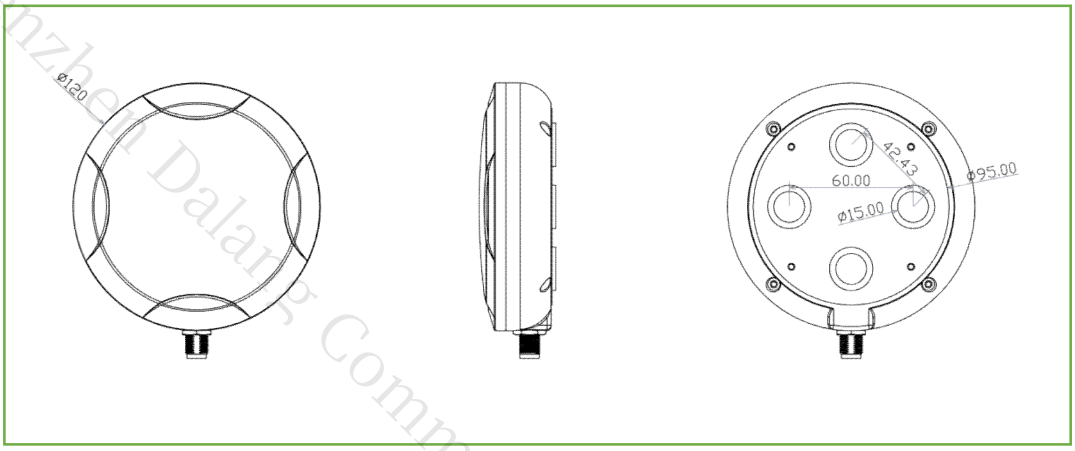


Figure 2 Product structure diagram

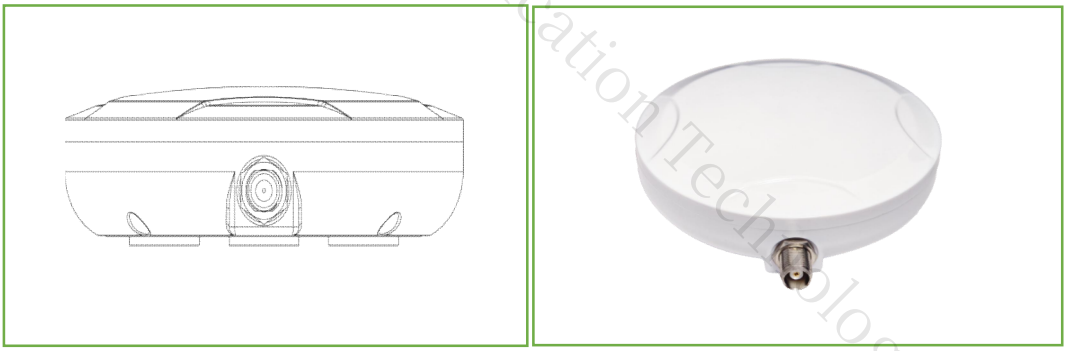
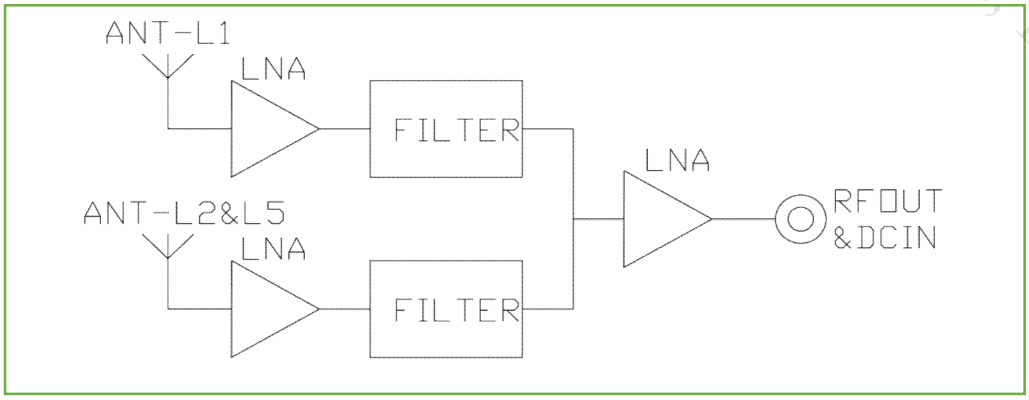


Figure 3 Product correlation chart



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			
Antenna Characteristics	1	Operating Frequency	GPS: L1C/A, L1C, L2P, L2C, L5 BDS-2: B1I, B21, B31 BDS-3: B1I, B31, B1C, B2a, B2b GLONASS: G1, G2, G3 Galileo: E1, E5b, E5a, E5AltBoC, E6c QZSS: L1C/A, L2C, L5, L1C SBAS: L1C/A IRNSS: L5
	2	Antenna Specifications	GPS, Bei Dou，GLONASS,GALILEO
	3	Frequency Range	1165-1278/1559-1612MHz
	4	V.S.W. R	≤2.0
	5	Axial Ratio	Elevation angle 90 degrees: ≤3 Elevation angle 15 degrees: ≤5
	6	Gain	Elevation angle 90 degrees: ≥6 Elevation angle 20 degrees: ≥0 (plane)
	7	Front to back power	±60 degrees: ≥15dB
	8	Phase Center (mm)	<2
	9	Impendence	50Ω
	10	Polarization	RHCP
LNA	1	LNA GAIN	38±2dB
	2	V.S.W. R	＜2
	3	Noise Figure	＜1.5
	4	DC Voltage	3.3~18V
	5	Current	＜35 mA
Mechanical	1	Component Name	SPEC

Structure	2	Antenna Connector	TNC
	3	Antenna Dimensions	Φ120*38mm
	4	weight	313.8g
	5	PCB board	FR4
Environmental Characteristics	1	Operating Temperature	-40℃~+85℃, 10%~95% RH
	2	Storage Temperature	-55℃~+100℃, 10%~95% RH
	3	Vibration	Sine sweep @1.5mmAM 10~55Hz each 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