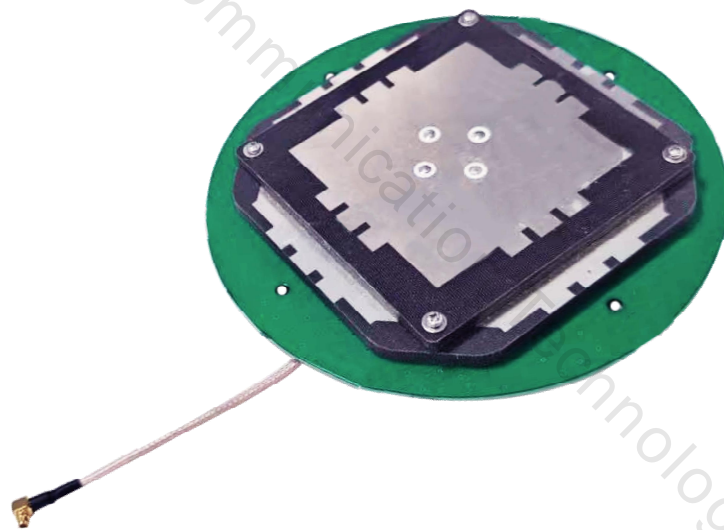


Dalang

AK610





Dalang Communication Technology Co., Ltd Product Specification

Product Name:	GNSS ANTENNA
Product Model:	AK610
Version Number:	V 1.0
Revision Date:	2024.07.03

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Contents

1 Product Application Scenarios	1
Figure 1 Product Application Scenarios	1
2 Features	2
3 Structural Characteristic	3
Figure 2 Product structure diagram	3
Figure 3 Product correlation chart	3
Figure 4 Process flow diagram	3
4 Specifications	4
Table 1 Product Specifications	4
5 Product Photos	6
Figure 5 Product Images	6

Shenzhen Dalang Communication Technology Co., Ltd

1 Product Application Scenarios

The AK610 is a high-performance GNSS antenna that receives signals from Bei Dou, GPS, GLONASS, and GALILEO. Designed for multi-system compatibility and high precision, it is ideal for applications like geodesic surveying, marine measurements, and precision agriculture. It features a multi-feed point design for stable signal reception and reduced measurement errors, ensuring reliable performance even in challenging environments. 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 AK610, detailing how it plays a pivotal role in various applications as follows:

1. **Multi-system compatibility:** Supports Bei Dou, GPS, GLONASS, and GALILEO, catering to diverse navigation needs.
2. **High-precision design:** The multi-feed point design optimizes right-hand circular polarization and phase center performance, significantly reducing measurement errors.
3. **Enhanced reception performance:** The antenna unit features high gain and low gain roll-off, especially suited for receiving signals from satellites at low elevation angles.
4. **Good impedance matching:** Reactance network suppression technology effectively reduces the interference of multipath signals on measurement accuracy.
5. **Suitable for complex environments:** Superior design ensures good signal reception even in environments with significant obstructions.

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.

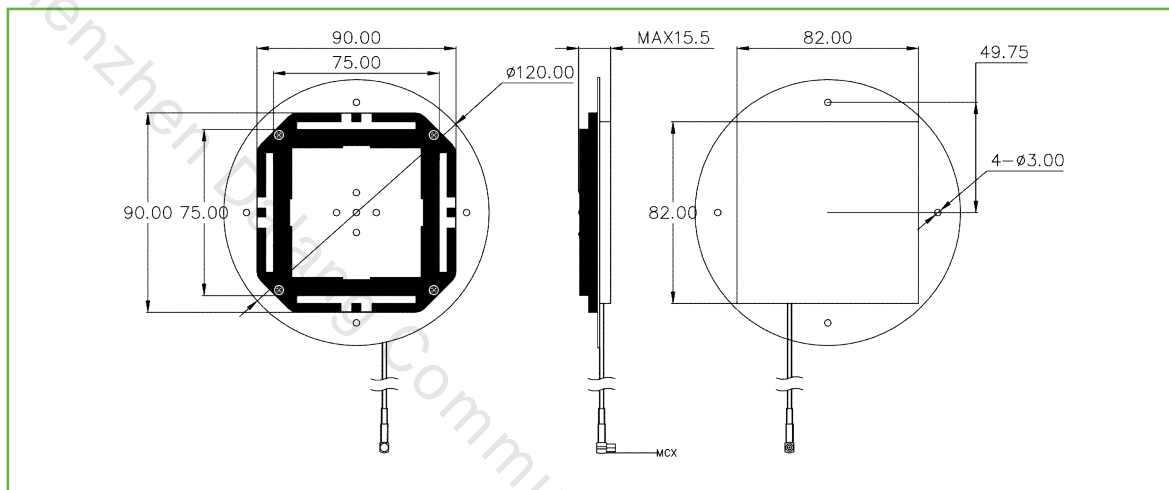


Figure 2 Product structure diagram

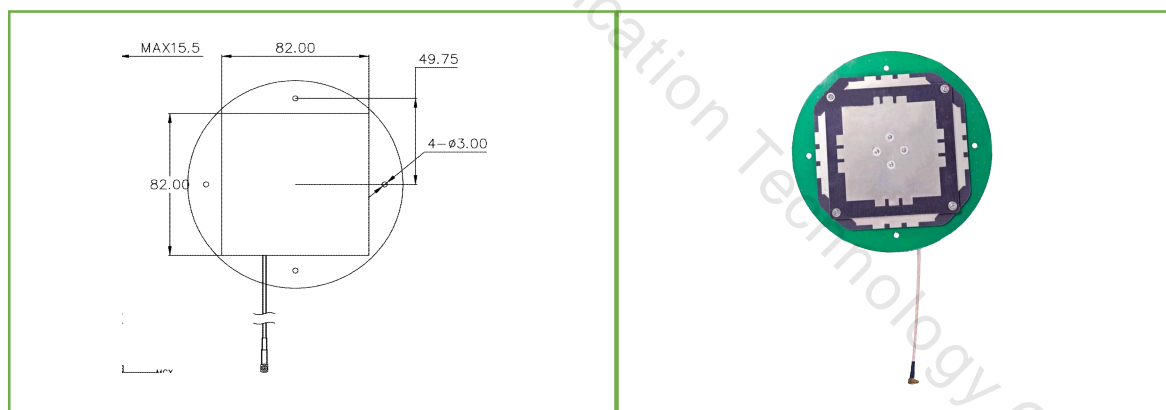


Figure 3 Product correlation chart

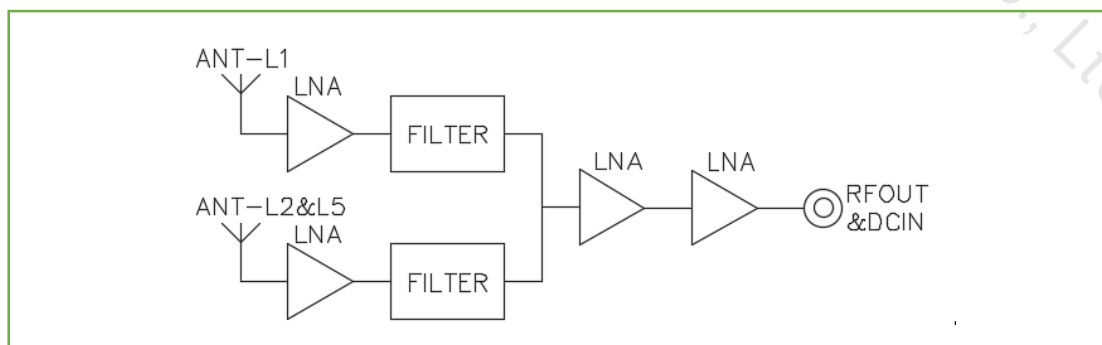


Figure 4 Process flow diagram

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

Specifications			
Antenna Characteristics	1	Operating Frequency	GPS: L1C/A, L1C, L2P, L2C, L5 BDS-2: B1I, B2I, B3I BDS-3: B1I, B3I, 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 90 degrees: ≤ 3 , Elevation 15 degrees: ≤ 5
	6	Gain	Elevation 90 degrees: ≥ 6 , Elevation 20 degrees: ≥ 0
	7	Front to back Power	± 60 degrees: ≥ 15 dB
	8	Phase Center (mm)	< 2
	9	Impedence	50 Ω
	10	Polarization	RHCP
LNA	1	LNA GAIN	38 \pm 2dB
	2	V.S.W. R	< 2
	3	Noise Figure	< 1.5
	4	DC Voltage	3.3~18V
	5	Current	25~40 mA
Mechanical Structure	1	Antenna size	$\Phi 120 * 14$ mm
	2	Product weight	174.6g
	3	joint	MMCX (Customizable)

	4	Line type	RG178 (Customizable)
	5	Line length	150mm (Customizable)
Environmental Characteristics	1	Operating Temperature	-40°C~+85°C, 10%~95% RH
	2	Storage Temperature	-55°C~+100°C, 10%~95% RH
	3	Vibration	Sine sweep @1.5mmAM 10~55Hz each Axis

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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.

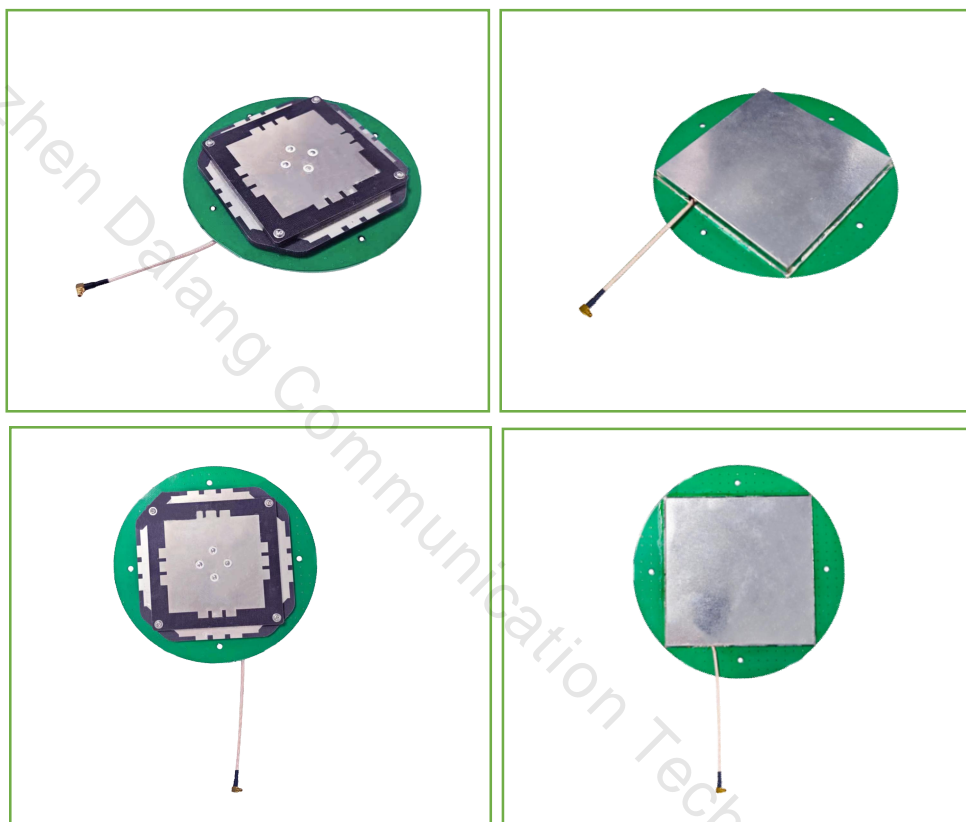


Figure 5 Product Images