

# Dalang

## AK256





# Dalang Communication Technology Co., Ltd Product Specification

Product Name:	4G+GPS 2-in-1 antenna
Product Model:	AK256
Version Number:	V 1.0
Revision Date:	2025.04.30

# Confidentiality Statement

This document and the information contained within are the property of **"Dalang Communication Technology Co., Ltd"**, and are for use only by authorized individuals for specific purposes. This document contains confidential information. Without explicit written permission from **"Dalang Communication Technology Co., Ltd"**, no person or group may copy, distribute, disseminate, display, or disclose this document or any part of it to a third party in any form. Recipients must strictly adhere to confidentiality obligations, protect the information in the document from being disclosed or misused, and ensure that all relevant personnel follow the same confidentiality rules. Individuals or organizations violating this statement will face legal prosecution and/or contractual penalties.

Thank you for your support and cooperation in protecting the confidential information of **"Dalang Communication Technology Co., Ltd"**.

# 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

# 1 Product Application Scenarios

Our company's product AK256 efficiently integrates 4G communication and GPS dual band positioning functions, greatly saving cabinet space and installation complexity. The product has high gain and strong anti-interference characteristics, and is fully compatible with mainstream communication standards in the 4G frequency band. The L1L5 dual band GPS achieves high-precision positioning and fast signal acquisition. Strictly following industry standards for manufacturing, it has excellent waterproof, dustproof, and corrosion-resistant performance, adapts to complex environments, and is widely used in various fields such as intelligent transportation and industrial Internet of Things. With stable and reliable performance, it provides customers with excellent wireless communication and positioning solutions. 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 AK256, detailing how it plays a pivotal role in various applications as follows:

- 1. Dual mode communication:** The antenna integrates both 4G and GPS functions, which can simultaneously meet various needs such as 4G network communication and GPS positioning and navigation, providing stable network connection and accurate positioning services for devices.
- 2. Dual frequency reception:** Supports L1+L5 dual frequency, which can receive more satellite signals compared to single frequency antennas, with higher positioning accuracy and less possibility of interference. It can quickly and accurately lock onto satellite signals in complex environments, achieving precise positioning.
- 3. Compact size:** The antenna size is 80 \* 77, compact in size, easy to install in equipment with limited space such as cabinets, will not occupy too much space, has high space utilization, and is suitable for scenarios with strict requirements for installation space.
- 4. Good compatibility:** This antenna is compatible with various devices that support 4G and GPS functions. Whether it is industrial equipment, vehicle terminals, or other devices that require network communication and positioning functions, it can be easily integrated and used, with a wide range of application scenarios and strong versatility.

### 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.

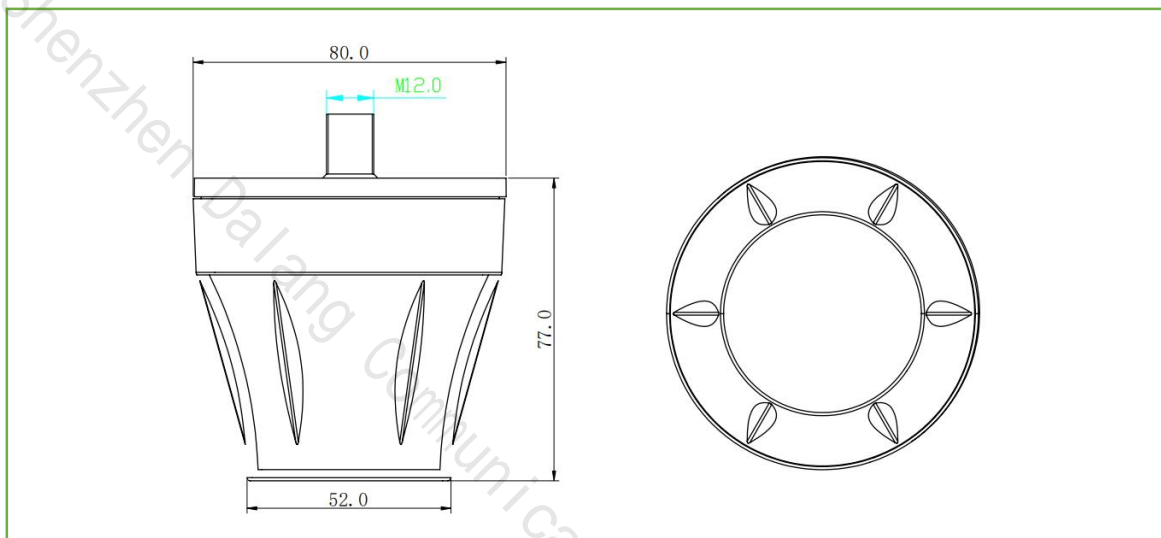


Figure 2 Product structure diagram

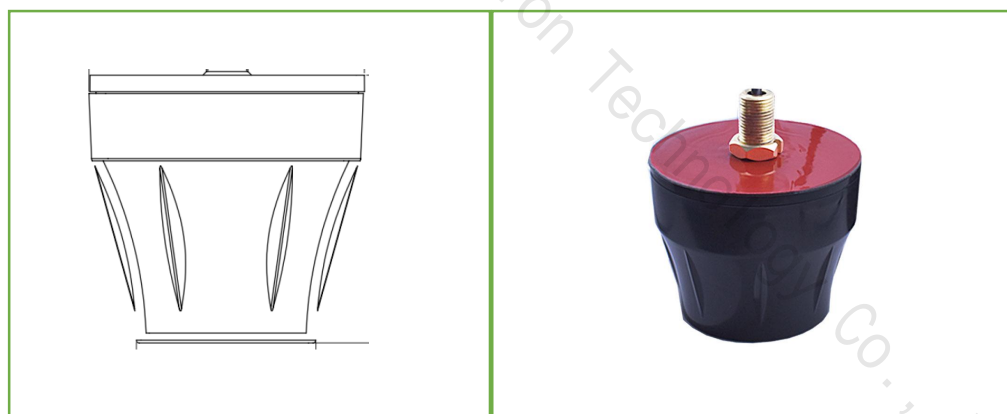


Figure 3 Product correlation chart

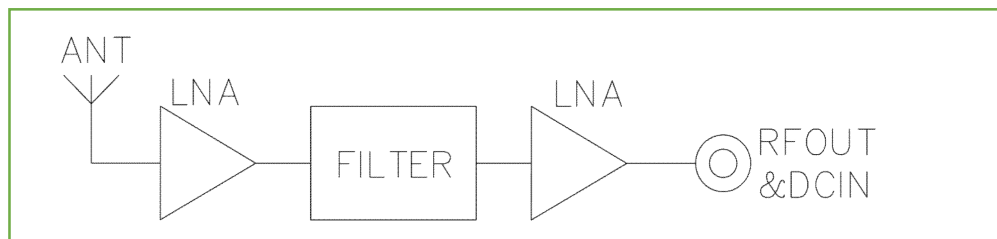


Figure 4 Process flow diagram

## 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

<b>Antenna characteristics</b>	1	Antenna model	4G+GPS 2-in-1 antenna
	2	Ceramic size	35*35*4/25*25*4
	3	Usage frequency	GPS: L1: 1575.42±1.023MHz, L5: 1176.45±1.023MHz GLONASS: L1:1602+0.5625*K(MHz) BDS: B1 1561±1.023MHz GALILEO: E1: 1575
	4	Gain	L1:5±1dBi L5:3±1dBi
	5	(Peak gain of 70 * 70mm ground plane facing zenith)	≤2
	6	V.S.W.R	10min
	7	-10dB bandwidth MHz minimum	50Ω
	8	impedance	RHCP
	9	Polarization mode	20ppm/deg.°C max
<b>(LAN) performance indicators</b>	1	Gain	L1:32±3dBi L5:28±3dBi
	2	figure	<1dB
	3	VSWR	<2.0
	4	output vswr	<2.0
	5	voltage	DC 3~5V
	6	electric current	15~25mA
	7	impedance	50Ω
<b>component</b>	1	Antenna antenna	ceramics
	2	pcb	FR4
	3	Overall size	φ 80*77mm
	4	weight	164.2

	5	joint	SMA-J
	6	wire rod	RG316
	7	Line length	L=1.5m
<b>Environmental</b>	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

Shenzhen Dalang Communication Technology Co., Ltd

## 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