

Title	GNSS Timing Antenna	Code	KH-GPS/BD-SS04
-------	---------------------	------	----------------

Antenna Technical Specifications



1. Introduction

✧ The antenna is a dual-frequency receiving antenna of Beidou / GPS satellite signal, which is mainly used for satellite positioning of mobile communication base station, timing of system and other fields that need to acquire Beidou / GPS satellite signal, it can be used with many kinds of receivers at home and abroad. It is widely used in navigation and positioning, tracking and monitoring, security measurement and control, military and other fields.



- ✧ The antenna has good gain-to-axis ratio, wide beam width, good receiving effect of low elevation signal, and can work well in all kinds of harsh environments. The low noise amplifier part of the antenna is designed with low noise amplifier circuit to ensure high gain and low noise, thus improving the accuracy and success rate of positioning and communication.
- ✧ The antenna adopts the whole sealed design, beautiful appearance, good waterproof, corrosion resistance and high temperature resistance, the Radome uses anti-ultraviolet anti-aging engineering plastics, to provide long-term protection for the antenna in outdoor harsh environment.

2. Technical Requirements

2.1 Antenna Technical Requirements

	Technical Requirements	Technical Index
1	Operating Frequency	Beidou B1:1561.098±2.046MHz GPS L1:1575.42±10MHz
2	Gain	≥4.0 dBi
3	Axis Ratio	≤3.0dB @ Center Frequency
4	Front To Back Power	≥10dB
5	Output V.S.W.R	≤1.5
6	Polarization	RHCP
7	Impedance	50Ω

2.2 LNA Technical Requirements

	Technical Requirements	Technical Index
1	LNA Gain	28±2dBi
2	Noise Figure	≤2.0dB Typical Value (≤2.5dB Full Temperature Range)
3	Output V.S.W.R	≤2.0
4	Output Impedance	50Ω
5	Out of band rejection	f ₀ =1568MHz±30MHz: ≥10dBc f ₀ =1568MHz±50MHz: ≥30dBc f ₀ =1568MHz±100MHz: ≥65dBc
6	Passband Ripple	1575.42MHz±1.023MHz: ≤1dB 1561.098MHz±2.046MHz: ≤1dB
7	LNA 1dB Compression Point Output	≥0dBm (Only LNA)
8	Jam Rejection f Large Signal In These Cases The Receiver Functions Normally	The variation of in-band gain of GPS antenna is less than 2 dB when the frequency deviates from the center frequency 100 MHz and the frequency deviates from the center frequency 60 MHz and the frequency deviates from the center frequency when the frequency deviates from the center frequency and the frequency deviates from the center frequency In-band gain variation of GPS antenna is less than 2 dB when a large signal of ~ 20 dBm is added to the frequency of 50 MHz off-center.
9	Operating Voltage	3.5V~12V
10	Operating Current	≤ 20mA Under All Environmental Conditions

2.3 Environmental Reliability Requirements

1	Relative Humidity	90%
2	Operating Temperature	-40°C~ +80°C
3	Storage Temperature	-45°C~ +85°C
4	Operating Environment	Outdoor, meet IP67 requirements PS: 1.After fixing the base, waterproof treatment with mud tape; 2.The cable connector must be waterproof after connecting the cable.

5	Surge Resistance	According to IEC61000-4-5 standard, CWG Combination wave, Can withstand 1.2/50uS impact 6 KV voltage, or 8/20US Impact 3 KA current, plus or minus 5 times.
6	ESD protection	IEC6100-4-2 Lv.3
7	MTBF	≥ 80000 Hours

2.4 Structural Characteristics

1	Dimension	Φ 97X127 mm, See Figure 1
2	Cable	8m RG174 Cable
3	Connector	SMA-J
4	Radome	Engineering Plastics ASA Add anti-aging agent and ultraviolet absorbent
5	Weigh	<400g (No mounting kit is included)
6	Wind Resistance	140 Km/h

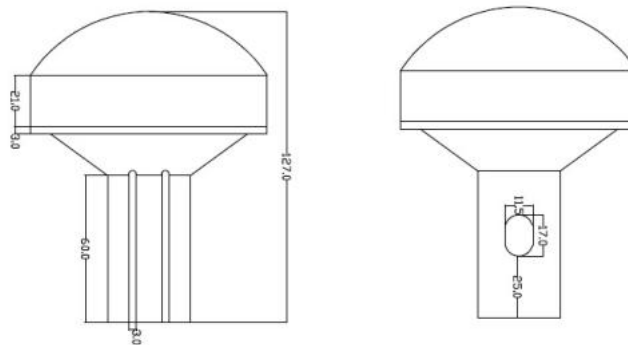


Figure 1 Antenna Dimensions

2.5 Antenna Packaging

Packaging Standard:

1. Standard Pack Container: 230*300*550 MM
2. Quantity In Standard Packing Box: 24 sets per box
3. Gross Weight: 21KG

Installation Instructions:

1. Sectional Fixture*2sets: U-type fixture for holding rod outside diameter φ 30~60mm, Single M6 thread length: 50mm.

2.Requirements For Installing a Pole: Holding pole outside diameter range ϕ 30~60mm.

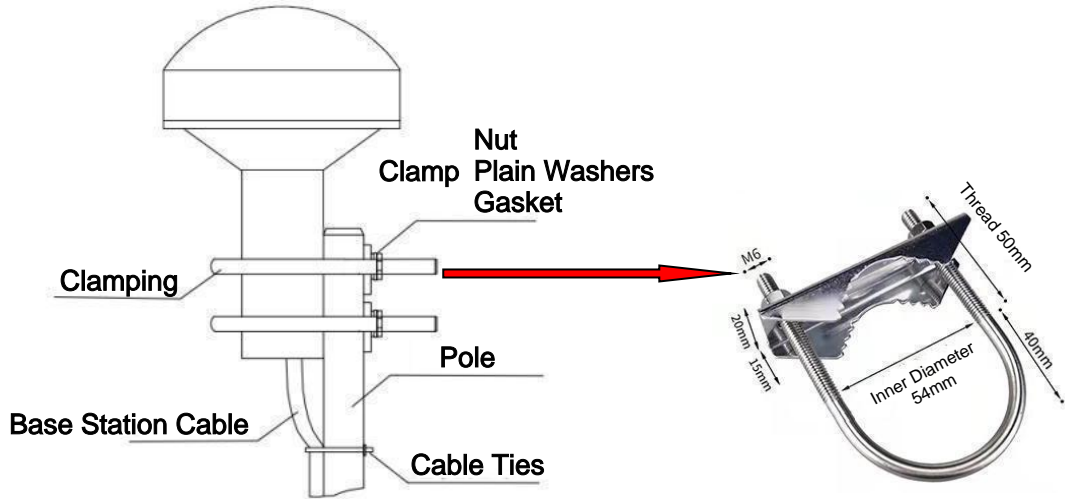


Figure 2 Antenna Installation Diagram