

SKA06C35

Timing Antenna

Document Information

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1 Overview

The dual-system single-frequency mushroom-head timing antenna is an outdoor antenna specifically designed for high-precision time synchronization. It supports BeiDou (B1) and GPS (L1) dual-system single-frequency signal reception, ensuring timing stability and reliability. Featuring a mushroom-shaped radome, it incorporates a high-gain ceramic radiating element and a low-noise amplifier (LNA) to effectively enhance signal reception sensitivity and suppress multipath interference. With right-hand circular polarization (RHCP) and a stable phase center, it is well-suited for harsh environments.

2 Product Appearance

Dimensions	Φ95.5×124mm	Mounting Method	Threaded fastening
Weight	<110 g	Connector Type	SMA
Shell Color	White	Cable	RG174, 3meters

3 Operating Conditions

Temperature: -40℃～+85℃

Humidity: 95 % ～100 %

4 Storage Conditions

Temperature: -40℃～+85℃

Humidity: 95 % ～100 %

5 GPS/BD Antenna Specifications

NO.	Item	Specification	Post-Environmental Tolerance*
1	Receiving Frequency Range (MHz)	1555-1585 (MHz)	±2.5 (MHz)
2	Center Frequency (with 30 mm × 30 mm ground plane)	1568 (MHz)	±25 (MHz)
3	Bandwidth (MHz) (Return Loss ≤ - 10 dB)	≥20 (MHz)	±25 (MHz)
4	V.S.W.R (at Center Frequency)	≤2.0	±0.5
5	Gain (Zenith, dBi typ, with 70 mm square GND plane)	5.0	±0.5
6	Axial Ratio (with 70 mm square GND)	6.0dB	±0.2

	plane)		
7	Polarization	Right-Hand Circular Polarization	----
8	Characteristic Impedance (Ω)	50	----
9	Frequency Temperature Coefficient (ppm/ $^{\circ}\text{C}$)	0 \pm 10	----

* Post-Environmental Tolerance refers to allowable deviation after environmental tests.

6 GPS/BD Amplifier Specifications

NO.	Item	Specification
1	Frequency Range	1176-1610 (MHz)
2	Antenna Gain	36dB \pm 2dB
3	Output V.S.W.R	<2.0
4	Noise Figure	\leq 2.0dB
5	Supply Voltage (DC)	3-15V
6	Operating Current (DC)	\leq 15mA

7 Environmental Tests

1. High Temperature Test: Placed in a dry oven at 80 $^{\circ}\text{C}$ for 48 hours. No deformation observed. After drying and placing at room temperature for 24 hours, no oxidation was found.

2. Low Temperature Test: Placed in a freezer at -40 $^{\circ}\text{C}$ for 48 hours. No deformation observed, no oxidation or rust after returning to room temperature.

NO.	Performance (Normal)	Performance (High Temp.)	Performance (Low Temp.)
1	Amplifier Gain: 30dB \pm 2	\pm 2	\pm 2
2	V.S.W.R: <2.0	\pm 0.1	\pm 0.3
3	Noise Figure: \leq 2.0dB	\pm 0.1	\pm 0.1

3. Rainfall Test: Place the product under a faucet for 4 hours, allowing water to flow directly onto the casing. After four hours, if no water ingredients are observed at the bottom of the product, it indicates that the product has excellent waterproof performance.

4. Salt Spray Test:

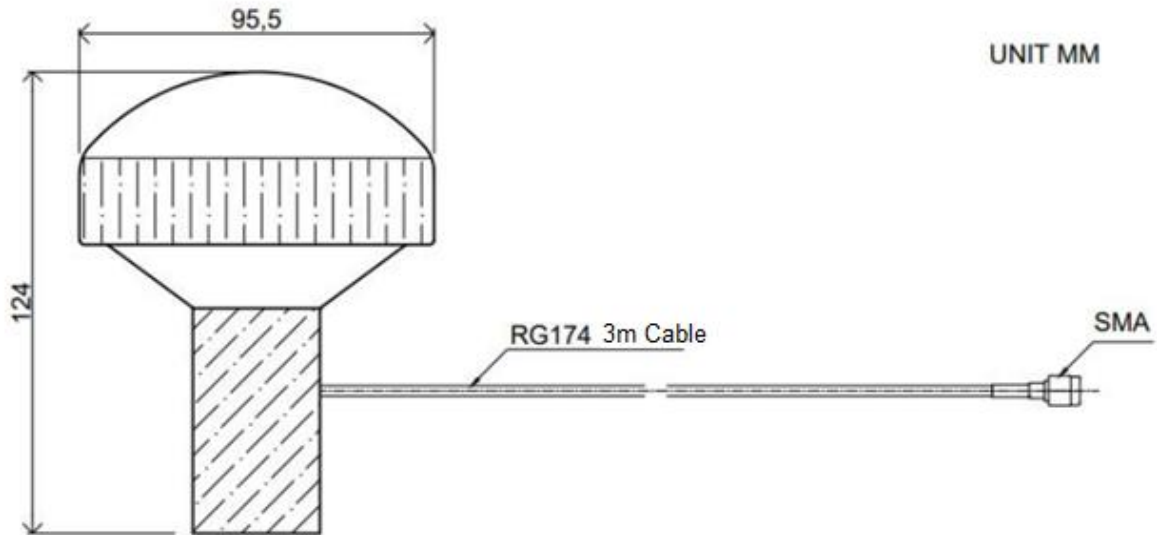
Test quantity	Suspension method	Test parameters	Result	Conclusion
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2	30° hanging, cut edge covered with 3M tape	Dust-free environment, atmospheric pressure 80 Pa Solution pH: 6.9 Salt solution concentration: 42 g sea salt per liter of water at 35°C Density: 1.0366 After testing, rinse with 32°C flowing pure water and blow dry.	No oxidation or corrosion observed.	The product demonstrates excellent anti- oxidation and corrosion resistance.
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8 Product Photos



9 Dimensional Drawing



Tolerance:

- $X = \pm 2 \text{ mm}$
- $X.X = \pm 0.3 \text{ mm}$
- $X.XX = \pm 0.05 \text{ mm}$

Units: mm

10 Contact Information

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