

# SKA04C35-30RASJ

## Single-Frequency Antenna

### Document Information

<b>Title</b>	SKA04C35-30RASJ Single-Frequency Antenna
<b>Type</b>	Datasheet
<b>Code</b>	SL-25070571
<b>Version</b>	V1.01 (28-Jun-2024)
<b>Confidentiality Level</b>	Public

## Revision History

Version	Description	Writer	Date
V1.01	Original version	Lena	20240628

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## 1 Overview

SKA04C35-30RASJ Single-Frequency External Positioning Antenna is a high-performance antenna specifically designed for high-precision Real-Time Kinematic (RTK) measurements. It supports reception of single-frequency satellite signals from systems such as BeiDou, GPS, and GLONASS, featuring a stable phase center and the capability to capture low-elevation-angle signals, ensuring centimeter-level positioning accuracy. The antenna integrates a low-noise amplifier to effectively enhance weak signal reception performance and adopts Right-Hand Circular Polarization (RHCP) technology to suppress multipath interference.

## 2 Product Appearance

Dimensions	84*75*25mm	Mounting Method	Adhesive
Weight	210 g	Connector Type	SMA
Shell Color	Black	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)	1555-1610 (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 plane)	6.0dB	±0.2
7	Polarization	Right-Hand Circular Polarization	----
8	Characteristic Impedance ( $\Omega$ )	50	----
9	Frequency Temperature Coefficient (ppm/°C)	0±10	----

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

## 6 GPS/BD Amplifier Specifications

NO.	Item	Specification
1	Frequency Range	1555-1610 (MHz)
2	Antenna Gain	30dB±2dB
3	Output V.S.W.R	< 1.5
4	Noise Figure	≤1.5dB
5	Supply Voltage (DC)	3-5V
6	Operating Current (DC)	≤15mA

## 7 Environmental Tests

1. High Temperature Test: Placed in a dry oven at 80°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°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±2	±2	±2
2	V.S.W.R: <1.5	±0.1	±0.3
3	Noise Figure: ≤1.5dB	±0.1	±0.1

3. Waterproof level: IP67

4. Salt Spray Test

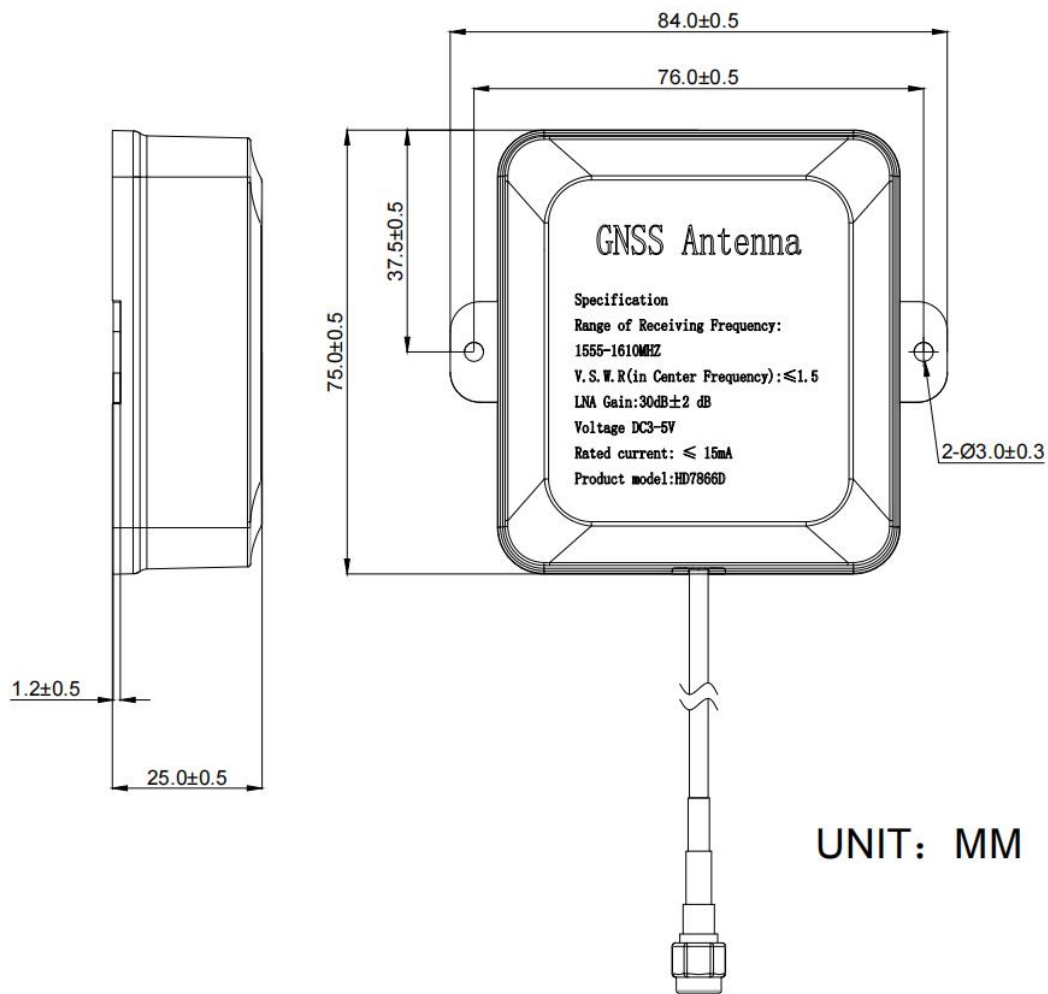
Test	Suspension	Test parameters	Result	Conclusion
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quantity	method			
2	30° hanging, cut edge covered with 3M tape	Dust-free environment, atmospheric pressure 80 Pa Solution pH: 6.9 Salt solution concentration: 42 g sea salt per liter of water at 35℃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

## 8 Product Photos



## 9 Dimensional Drawing



Tolerance:

- X = ±2 mm
- X.X = ±0.3 mm
- X.XX = ±0.05 mm

Units: mm

## 10 Contact Information

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