



Accurate
positioning

22°43'59.57617"N 114°03'03.61546"E



JS-YAC155 N

Data sheet



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1 Product Introduction

1.1 Overview

The JS-YAC155N is a high-precision, built-in measurement antenna with integrated conduction and communication capabilities, boasting superior performance. It comprehensively covers the L1+L2 band signals of four systems: GPS, GLONASS, BDS, and GALILEO, and also integrates 4G and Bluetooth antennas, fully meeting the current requirements of measurement equipment for multi-system compatibility. It features excellent low-elevation gain, wide-angle circular polarization, and a stable phase center, maintaining excellent signal reception even in low-elevation environments. Even in complex environments with obstructions, it can quickly lock onto satellites and stably output GNSS navigation signals.

This antenna has a wide range of applications. In aerial surveying, it helps acquire high-precision geographic information data, providing accurate support for flight path planning and terrain analysis; in railway construction, it ensures the accuracy of track laying and improves construction efficiency and quality; in power grid inspection, it helps workers quickly locate fault points through precise positioning, ensuring the stable operation of the power system; in urban underground utility tunnel monitoring, it monitors changes in the location of the tunnel in real time, safeguarding the safety of urban infrastructure; in UAV surveying operations, it enables UAVs to accurately position and fly, acquiring high-quality survey images; and in intelligent logistics warehousing, it enables precise positioning and management of goods, improving warehousing operation efficiency.

1.2 Product Characteristics

- Integrated communication and navigation
- High antenna element gain
- Wide beam pattern , wide operating bandwidth for passive antennas
- Highly stable phase center
- Integrated navigation and communication design
- Its external dimensions are only $\varnothing 155 \times 16.3 \text{mm}$
- Strong anti-interference ability and can withstand harsh working environments
- Stable phase center

1.3 Product Application

- Geodetic mapping
- Marine surveying
- Channel surveying
- Drainage Measurement
- Earthquake monitoring
- Road construction
- Landslide monitoring
- Terminal container operations
- Smart Agriculture
- Driving test and training

2 Performance Parameters

2.1 Performance Indicators

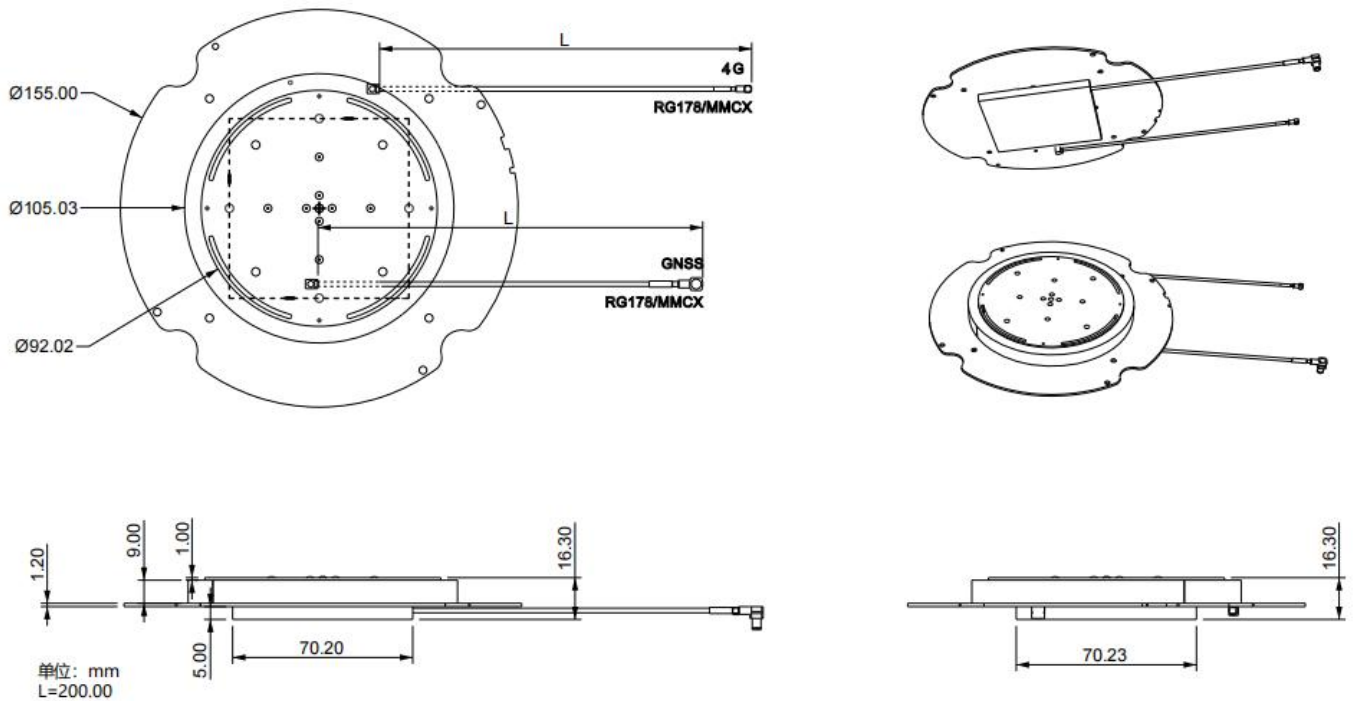
passive antenna characteristics

<p>Receive frequency</p>	<p>GNSS BDS B1 I /B2 I</p> <p>GPS L1/L2</p> <p>GLONASS L1/L2</p> <p>GALILEO E1/E5a/E5b</p> <p>QZSS L1/L2</p> <p>(1165-1268MHz; 1550-1630MHz)</p> <p>4G 824MHz~960MHz, 1710MHz~2690MHz</p> <p>BT 2.4G</p>
<p>Maximum gain</p>	<p>GNSS ≥ 5.5 dB</p> <p>4G ≥ 0.5 dB</p> <p>BT ≥ 0.5 dB</p>
<p>impedance</p>	<p>50 Ω</p>
<p>Horizontal coverage</p>	<p>360°</p>
<p>Output standing wave</p>	<p>≤ 2</p>

Low noise amplifier characteristics

Amplifier gain	35±2dB
Noise figure	≤ 2.0 (per-filter)
Output standing wave	≤ 2.5
Inner flatness	±2dB
Operating voltage	3.3 ~ 12 V (DC)
Operating current	≤ 50 mA (@ 5 V)

2.2 Structure



Note: Tolerance ±0.5mm

L-line length tolerance ±10mm

2.3 Antenna materials

Name	Describe
Antenna	PPO
PCB	FR4
Shielding cover	Tinplate
RF connectors	GNSS: MCX-C-JW1.5 RG178 line 4G: MMCX-C-JW1.5 RG178 cable

3 Environmental conditions

parameter	Specification
Operating temperature	-40 °C ~+ 85 °C
Storage temperature	-40 °C ~+ 85 °C
shock	Sine sweep 1g(0-p)
	10~55~10Hz each axis

4. Explanation

4.1 This product specification guarantees the quality of our products as a whole. When our products are installed on your products, please ensure that your products are evaluated and approved according to your specifications.

4.2 We cannot guarantee against any malfunctions caused by use that deviates from the intended purpose specified in this product specification.

4.3 This product is covered by a three-month free warranty from the date of purchase, provided the user operates it correctly; the user is responsible for the cost of materials and maintenance.