



司南导航

QinNav  
钦天导航

# PRODUCT SPECIFICATION

## 产品规范

适用于 For

AH323-A2 GNSS + LoRa 二合一天线

AH323-A2 GNSS + LoRa Antenna

## REVISION HISTORY / 修订历史

Revision/版本	Modification/更改	Date/日期
1.0	New Release / 新发	2023/09/06
1.1	Modify LNA gain / 修改LNA增益	2023/11/13

## DIRETORY / 目录

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# 1. Introduction / 简介

AH323-A2 is a full-band, full-system two-in-one (GNSS+LoRa) antenna, the antenna has the characteristics of high gain, mini size, high sensitivity, multi-system compatibility and high reliability, it can effectively meet the needs of users. Used with GNSS high-precision module and LoRa module, it can be widely applied to lawn mowers, surveying and mapping, precision agriculture and some other fields.

AH323-A2是一款内置全系统全频GNSS+LoRa的二合一天线，该天线具有高增益、小型化、高灵敏度、多系统兼容及高可靠性等特点，可有效满足用户的使用需求。配合GNSS高精度模块+LoRa模块使用，可广泛应用于割草机、测量测绘及精准农业等领域。

## 1.1. Product Characteristics / 产品特性

Table 1. Product Characteristics / 产品特性

Characteristics	AH323-A2	
GNSS	BDS	B1/B2/B3
	GPS	L1/L2/L5/L-Band
	Galileo	E1/E5a/E5b/E6
	GLONASS	G1/G2/G3
	QZSS	L1/L2/L5/L6
	IRNSS	L5
	SBAS	L1/L5
LoRa	863 MHz -870 MHz	
Polarization Mode 极化方式	GNSS 天线:右旋圆极化 GNSS antenna: Right-Handed Circular Polarization 电台天线:垂直极化 Radio antenna: Vertical Polarization	
Horizontal Coverage 水平面覆盖范围	0° ~ 360°	
Port Impedance 端口阻抗	50Ω	
Maximum Gain 最大增益	GNSS: 5dBi LoRa: 0.5dBi	

Antenna Axis Ratio 天线轴比		$\leq 3.0$ dB
Voltage Standing Wave Ratios 电压驻波比		$\leq 2.0$
Phase Center Error 相位中心误差		$\pm 2$ mm
LNA Gain LNA增益		25 dB $\pm$ 1 dB
In-band Flatness 带内平坦度		$\pm 2$ dB
Noise Figure 噪声系数		$\leq 2.0$ dB
Differential Transmission Delay 差分传输延迟		$\leq 5$ ns
Electrical 电气特性	Voltage 供电电压	+ 3.3 V ~ + 12 V DC
	Electricity 供电电流	$\leq 45$ mA
Environmental 环境要求	Operating Temperature 工作温度	-40°C ~ +85°C
	Storage Temperature 储存温度	-55°C ~ +85°C
Hardware Interface 硬件接口		GNSS: MMCX-JW LoRa: IPEX
Physical 物理参数	Size 尺寸	$\Phi 122\text{mm} \times 23.8\text{mm}$

## 2. AH323-A2 Product Size / AH323-A2 尺寸

In this section, product photo, three-side views and the dimension of AH323-A2 is provided for customers' further hardware design and installation.

本节提供了AH323-A2的实物图，三视图和对应的物理尺寸，便于用户进一步系统硬件设计和安装。

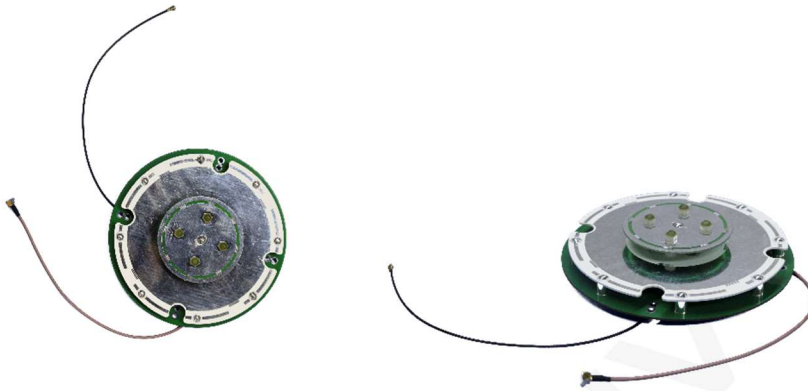


Figure 1. AH323-A2 Product Photo / AH323-A2 实物图

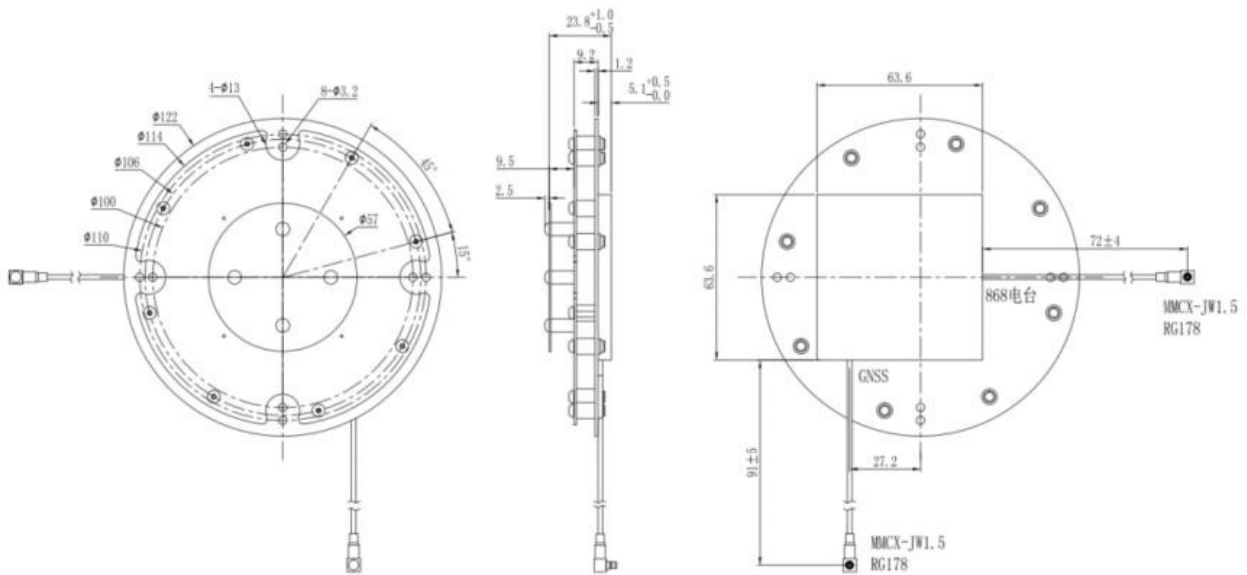


Figure 2. AH323-A2 Dimension View / AH323-A2 三视图

Unmarked dimensional tolerance  $\pm 0.3\text{mm}$  / 未标注尺寸公差 $\pm 0.3\text{mm}$

### 3. Product labels / 产品标签

Label size: 30\*15mm

标签尺寸: 30\*15mm



Figure 3. Label / 标签

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