

DATASHEET

SZA-N-5G45 | Active GPS Antenna | GNSS



Features:

GPS L1 / GALILEO / GLONASS G1 / BEIDOU:1164-1189; 1559-1610 MHz

>2.60dBic Peak Gain, >50% Efficiency

Dimensions: 25.0 x 25.0 x 6.8 mm

Cable Length: 100mm

Connector: MHF1 (U.FL Compatible)

RoHS compliant

Contents

Introduction	2
Mechanical Specifications.....	3
Electrical / RF Specifications	3
LNA.....	3
Environmental	3
Mechanical Drawing.....	4
Packaging.....	5
Material Regulation	5

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Introduction

RHEA3 is a precision GNSS antenna built for modern dual-band navigation systems. Its low-profile double stack design combines two 2 mm ceramic patches in a tightly coupled configuration, creating a total height of only 6.8 mm.

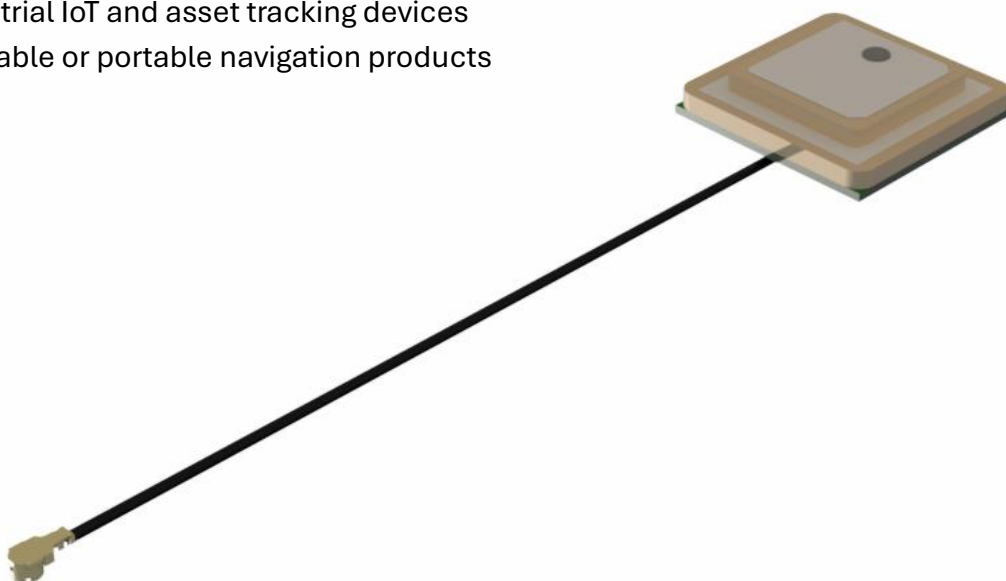
This compact form factor is ideal for space-critical applications while preserving superior performance. An integrated 28 dB low-noise amplifier ensures strong signal reception and a low noise figure across the L1 (1575 MHz) and L5 (1176 MHz) bands, delivering exceptional accuracy even in challenging RF environments.

Features

- Ultra-low profile double stack patch, total height only 6.8 mm
- Dual-band GNSS support: L1 (1575 MHz) and L5 (1176 MHz)
- Integrated 28 dB low-noise amplifier with low current draw
- Right-hand circular polarization for optimal satellite reception
- 25 mm × 25 mm footprint with FR4 base and tinplate shielding
- 1.13 mm RF cable with IPEX connector for easy integration
- Wide operating temperature range: -45 °C to +85 °C

Typical Applications

- High-precision GNSS receivers and timing modules
- Automotive navigation and advanced driver assistance systems
- UAV and drone positioning systems
- Surveying and mapping equipment
- Industrial IoT and asset tracking devices
- Wearable or portable navigation products



Mechanical Specifications

Parameter	
Part Number	SZA-N-5G45
Name	RHEA3
Dimensions (mm)	25.0 x 25.0 x 6.8
Weight	<10g
Antenna Type	Active Ceramic Patch + Cable
Cable Length (mm)*	100.0, 0.81 \emptyset
Connector*	MHF1 (U.FL Compatible)
Adhesive backing	3M

***Alternate cable length and connectors available on request**

Electrical / RF Specifications

Frequency Range (MHz)	Efficiency (%)	Peak Gain (dBic)	VSWR	Impedance
1575.42	>50	2.60	<2.0:1	50 Ω
1176.0	>45	1.90	<2.0:1	50 Ω

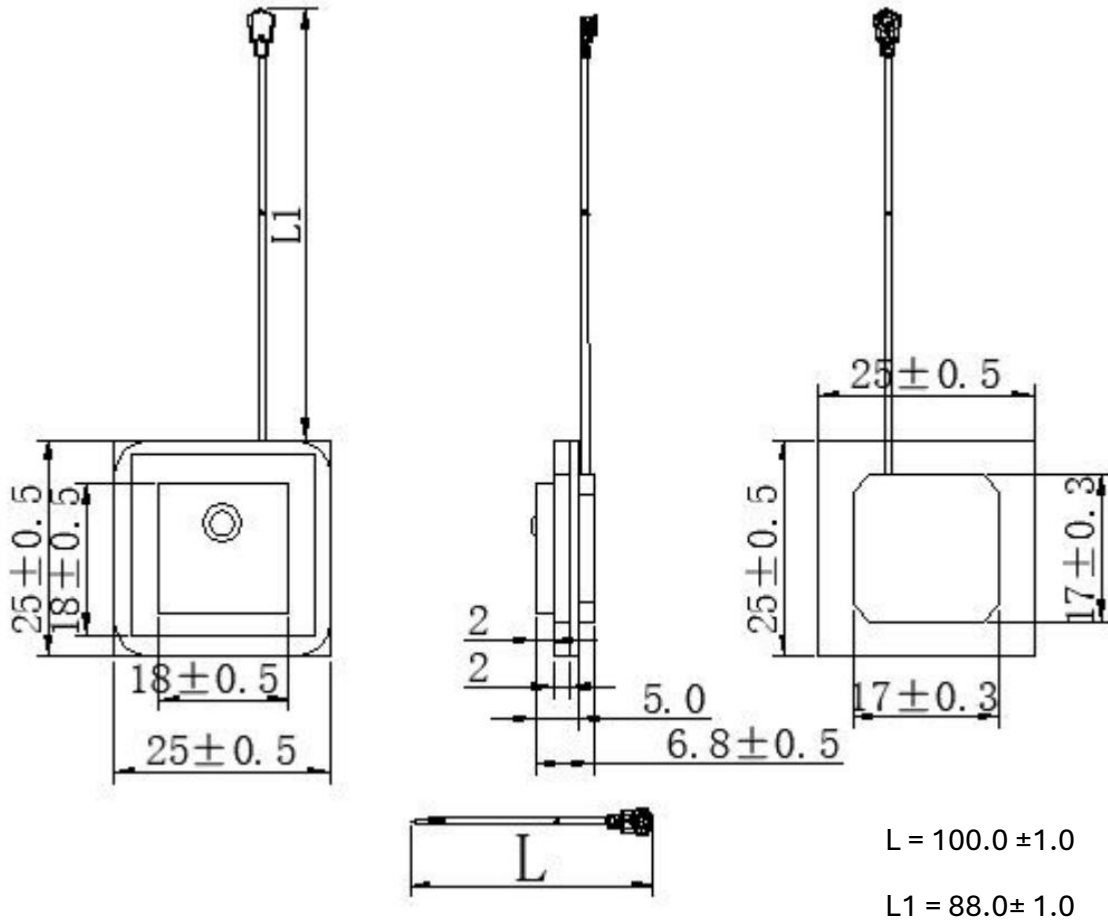
LNA

Frequency Range (MHz)	DC Voltage (V)	Current consumption (mA)	Gain (dB)	VSWR	Noise Figure (dB)
1575.42 MHz 1176 MHz	3.0 – 5V	20 \pm 3mA	28 \pm 3dB	<2.0:1	<2.0

Environmental

Parameter	
Operational Temperature	-40 to +85
Storage Temperature	-40 to +85
Relative Humidity (Storage)	65 \pm 20% RH
Moisture Sensitivity	1
RoHs and REACH compliant	Yes

Mechanical Drawing



All dimensions in mm

Packaging

Antennas packed in tray (50pcs)

5 trays are packed per bag.

4 vacuum bags per carton

Total 1000pcs per carton (390 x 370 x 180mmm)



Material Regulation

The antenna has been assessed to conform to RoHS requirements. A certificate of conformance is available upon request.

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