



ACTIVE GNSS PATCH

SURTUR2

Active GNSS Patch Antenna

SZA-N-5G39

BAND
1559 to 1610 MHz**LNA GAIN**
28 dB**NOISE FIGURE**
≤2.0 dB**SIZE**
25.0 × 25.0 × 7 mm

GNSS L1

1559 to 1610 MHz

Covers GPS, GLONASS, Galileo, BeiDou

Key Features

- 28 dB high LNA gain
- Full GNSS coverage: GPS, GLONASS, Galileo, BeiDou
- Outstanding out-of-band rejection
- Designed for harsh RF environments

1 Introduction

SURTUR2 (SZA-N-5G39) is a compact 25mm active patch antenna engineered for GPS, GLONASS, GALILEO, and BeiDou. With an integrated LNA delivering a robust 28dB of gain, SURTUR2 ensures reliable performance even in transmitter-dense environments. Dual SAW filters at both the front and back ends provide exceptional out-of-band rejection, safeguarding GNSS receivers from harmful interference and preventing overload from nearby signals.

Despite this high level of rejection, the antenna maintains a noise figure of ≤ 2.0 dB, preserving signal integrity and minimizing losses commonly seen in transmission lines. This balance of strong filtering and low noise makes SURTUR2 an excellent choice for applications where space, reliability, and immunity to interference are critical.

— Features

- ◆ 28 dB high LNA gain
- ◆ Full GNSS coverage: GPS, GLONASS, Galileo, BeiDou
- ◆ Outstanding out-of-band rejection
- ◆ Designed for harsh RF environments

— Applications

- ◆ Wearables
- ◆ Connected Health Devices
- ◆ Transportation and Mobility

2 Mechanical Specifications

Part Number	SZA-N-5G39
Name	SURTUR2
Dimensions (mm)	25.0 × 25.0 × 7
Weight	<15 g
Antenna Type	Active Ceramic Patch + Cable
Cable Length (mm)*	50.0, 0.81 Ø
Connector*	MHF1 (U.FL Compatible)
Adhesive Backing	3M 468

*Alternate cable length and connectors available on request

3 Electrical / RF Specifications

Frequency Range (MHz)	Efficiency (%)	Peak Gain (dBic)	VSWR	Impedance
1575.42	>50	4.01	<2.0:1	50 Ω
1602	>50	4.03	<2.0:1	
1609	>50	2.9	<2.0:1	

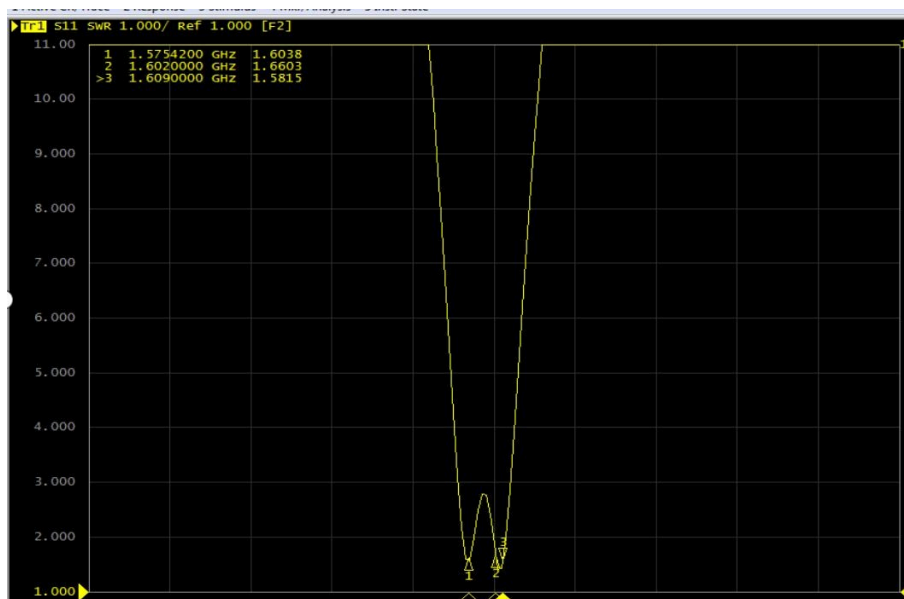
4 LNA

Frequency Range (MHz)	DC Voltage (V)	Current (mA)	Gain (dB)	VSWR	Noise Figure (dB)
1559 to 1610	1.8 to 5	10 ±1	28 ±3	<2.0:1	<2.0

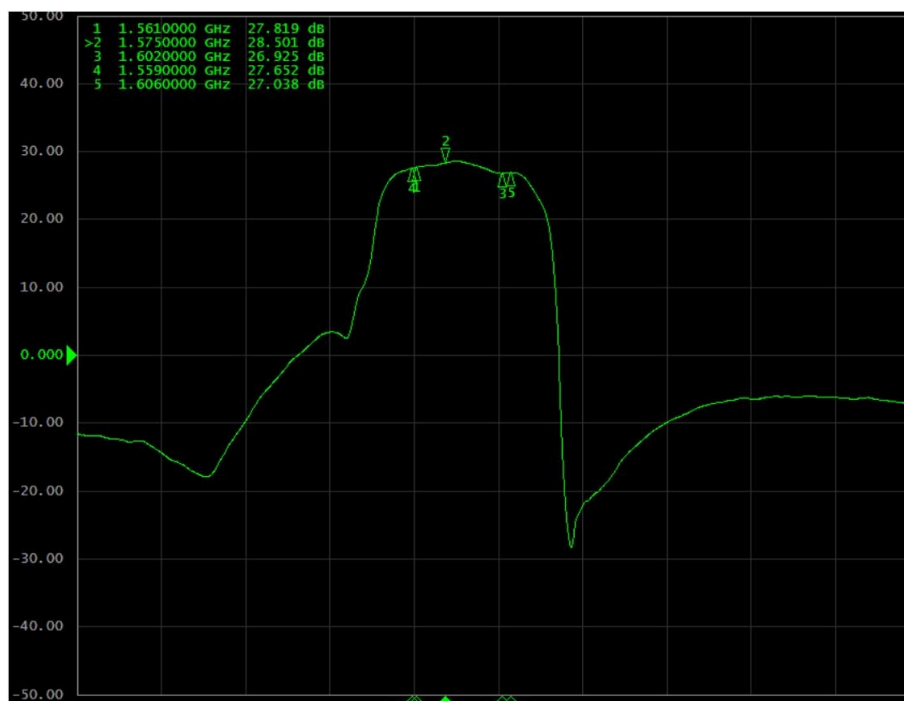
5 Environmental

Operational Temperature	-40 to +85°C
Storage Temperature	-40 to +85°C
Relative Humidity (Storage)	65 ±20% RH
Moisture Sensitivity Level (MSL)	1
RoHS and REACH compliant	Yes

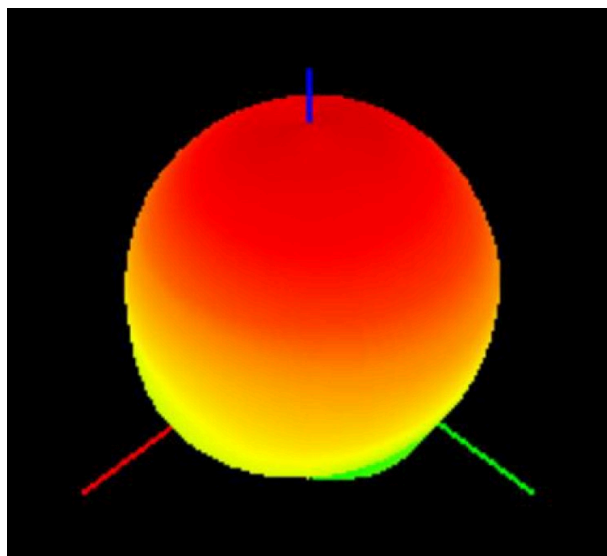
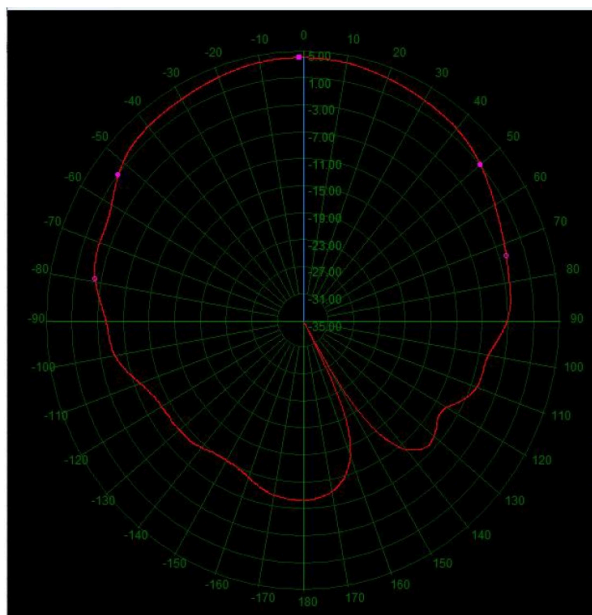
6 Return Loss / Smith Chart



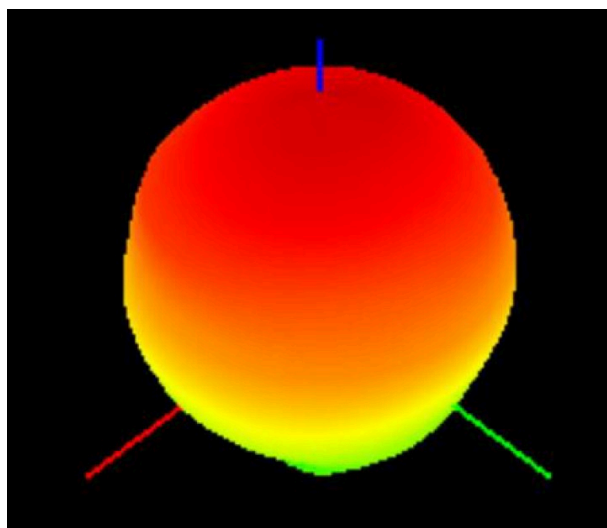
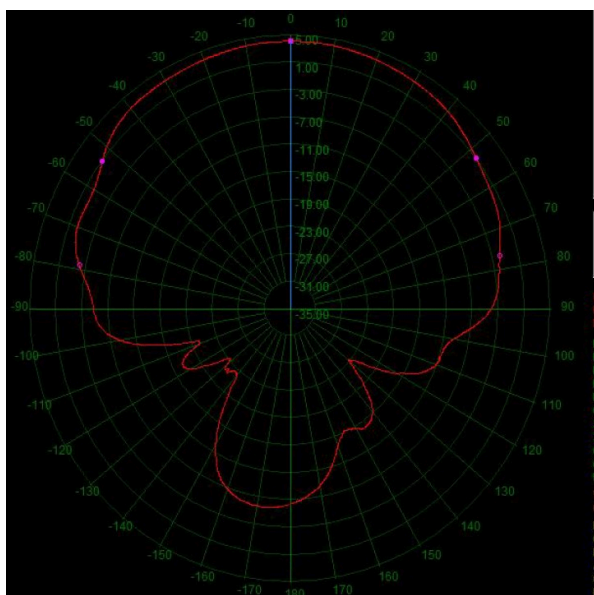
7 LNA Test Curve



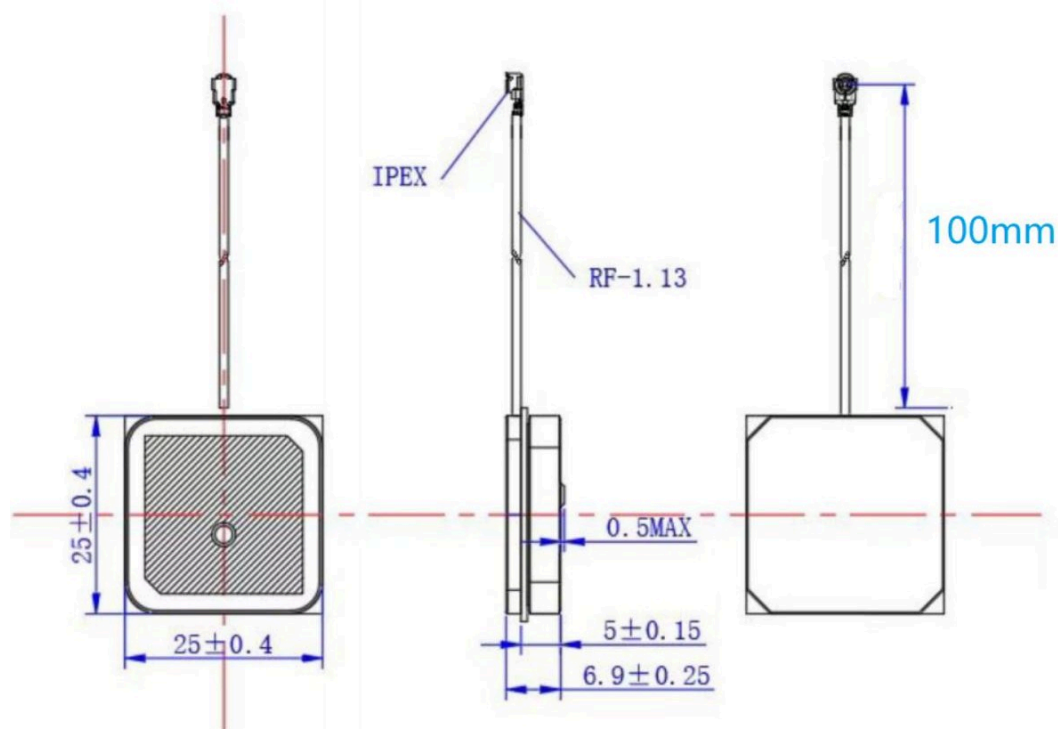
8 Radiation Pattern at 1575 MHz



9 Radiation Pattern at 1602 MHz



10 Mechanical Drawing



All dimensions in mm

11 Packaging



Antennas packed in tray (50 pcs)

5 trays are packed per bag

4 vacuum bags per carton

Total 1000 pcs per carton (390 × 370 × 180 mm)

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Compliance

ROHS

Compliant

Conforms to EU RoHS Directive 2011/65/EU as amended by Delegated Directive (EU) 2015/863.

REACH

Compliant

Conforms to EU REACH Regulation (EC) No 1907/2006.

CERTIFICATE

On request

A certificate of conformance is available upon request from sales@synzen.com.tw.

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