

GNSS FPC

MIMOSA

GNSS FPC Antenna

SZK-C-2G19

FREQUENCY

1559 to 1609 MHz

PEAK GAIN

2.79 dBi

CONNECTOR

MHF1, 100 mm

SIZE

30.0 × 10.0 × 0.2 mm

GNSS

1559 to 1609 MHz

Covers GPS, GLONASS, Galileo, BeiDou

Key Features

- Wideband GNSS coverage for GPS, GLONASS, Galileo, and BeiDou
- High radiation efficiency and stable peak gain across 1559 to 1609 MHz
- Ultra thin, lightweight FPC construction for space constrained designs
- Self adhesive backing for quick and secure installation
- Integrated micro coax cable with compact U.FL compatible connector
- No custom PCB antenna design required, reducing development time and risk
- Custom cable lengths and connector options available

1 Introduction

MIMOSA is a high performance GNSS flexible printed circuit antenna engineered for compact, integrated positioning devices where space is limited but reliability is non-negotiable. Designed for stable efficiency, controlled impedance, and consistent gain across the primary GNSS bands, it delivers dependable satellite reception without the need for complex onboard antenna design or extensive tuning.

Its ultra-thin, low profile FPC structure allows easy placement within plastic enclosures and tight mechanical layouts, while the integrated coaxial cable and miniature connector enable fast, plug and operate assembly. The result is a practical, production ready antenna that reduces development risk, shortens time to market, and provides repeatable RF performance from prototype to volume manufacturing.

— Features

- ◆ Wideband GNSS coverage for GPS, GLONASS, Galileo, and BeiDou
- ◆ High radiation efficiency and stable peak gain across 1559 to 1609 MHz
- ◆ Ultra thin, lightweight FPC construction for space constrained designs
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— Applications

- | | |
|---|--|
| ◆ Asset and fleet tracking devices | ◆ M2M and IoT terminals |
| ◆ UAV and drone navigation systems | ◆ Industrial monitoring and smart infrastructure |
| ◆ Portable and handheld positioning equipment | ◆ Embedded GNSS modules in compact electronics |

2 Mechanical Specifications

Part Number	SZK-C-2G19
Name	MIMOSA
Dimensions (mm)	30.0 × 10.0 × 0.2
Weight	<0.5 g
Antenna Type	Linear
Cable Length (mm)*	100.0, 1.13 Ø
Connector Type*	MHF1 (U.FL Compatible)
Part Number with Cable and Connector	SZK-C-2G19-100-01
Adhesive Backing	3M 868

*Alternate cable length and connectors available on request

3 Electrical / RF Specifications

Band	Frequency Range (MHz)	Average Efficiency (%)	Peak Gain (dBi)	VSWR (worst case)	Impedance
GPS / GLONASS / Galileo / BeiDou	1559 to 1609	>70	2.79	<2.00:1	50 Ω

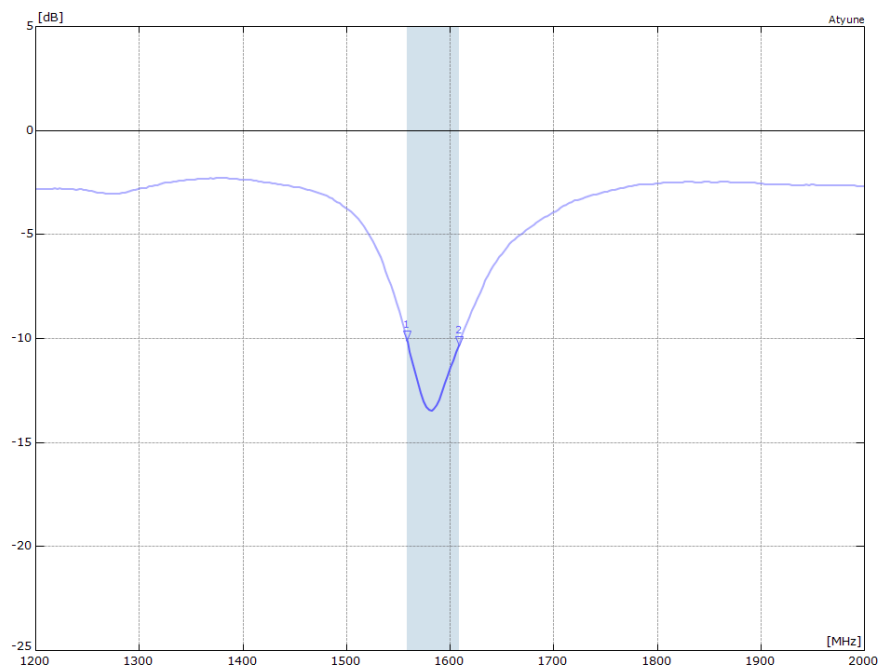
Note: The antenna performance was measured on a 2 mm thick ABS plastic sheet.

4 Environmental

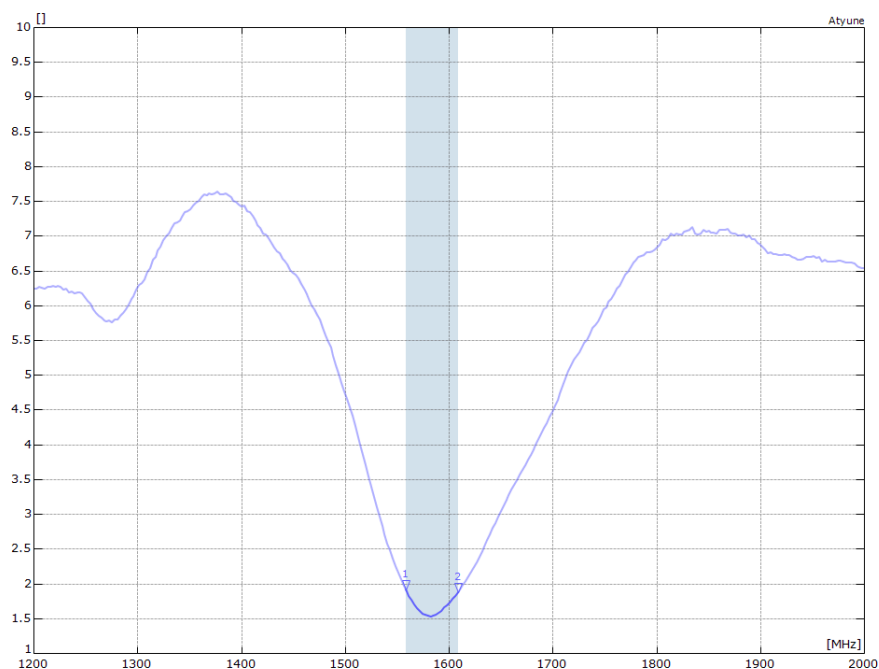
Operational Temperature	-40 to +85°C
Storage Temperature	-10 to +40°C
Relative Humidity (Storage)	65 ±20% RH
Moisture Sensitivity Level (MSL)	1
RoHS and REACH compliant	Yes

5 RF Characteristics

S11 Parameter



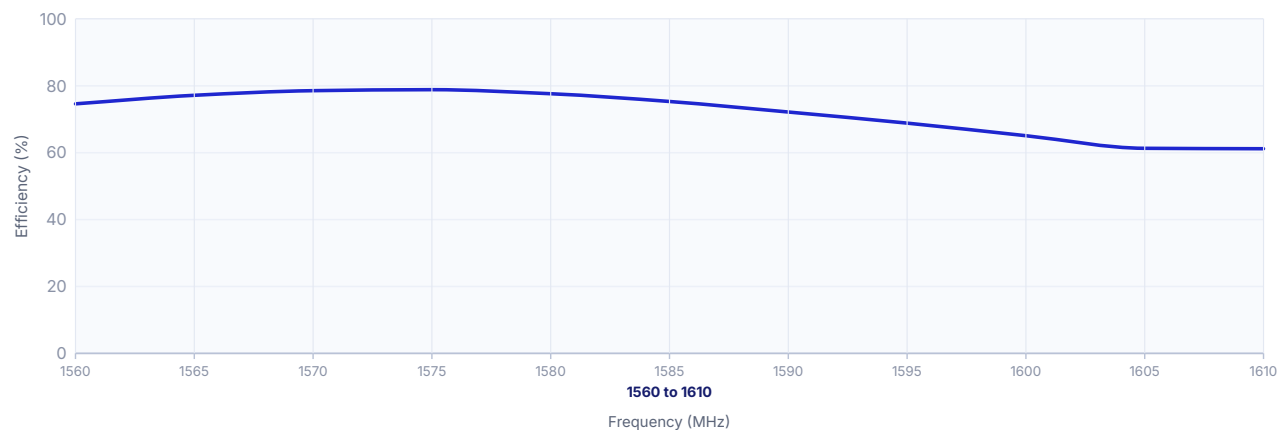
VSWR



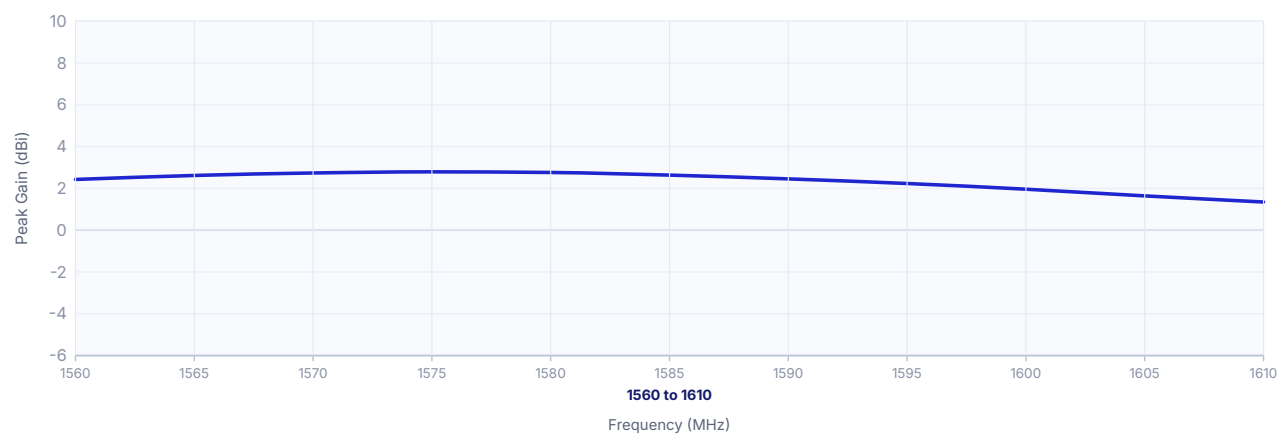
6

Antenna Performance

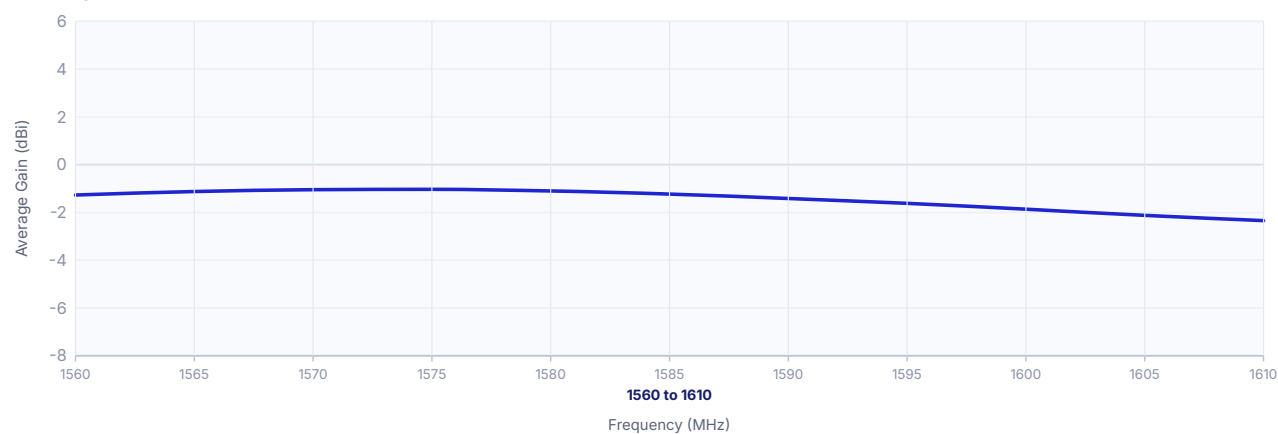
Efficiency



Peak Gain

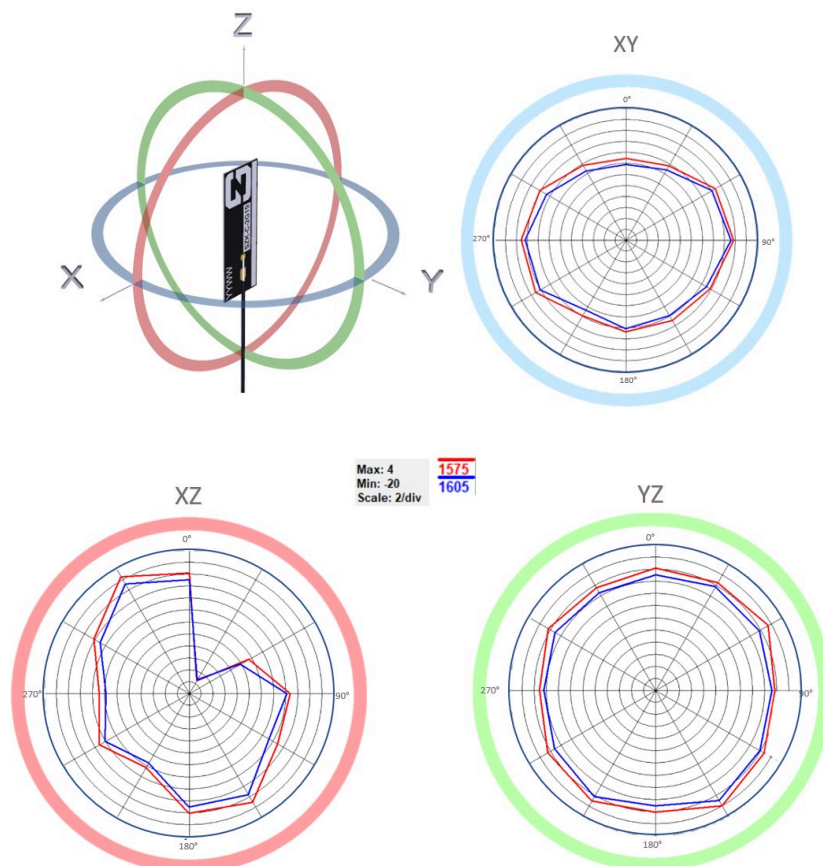


Average Gain



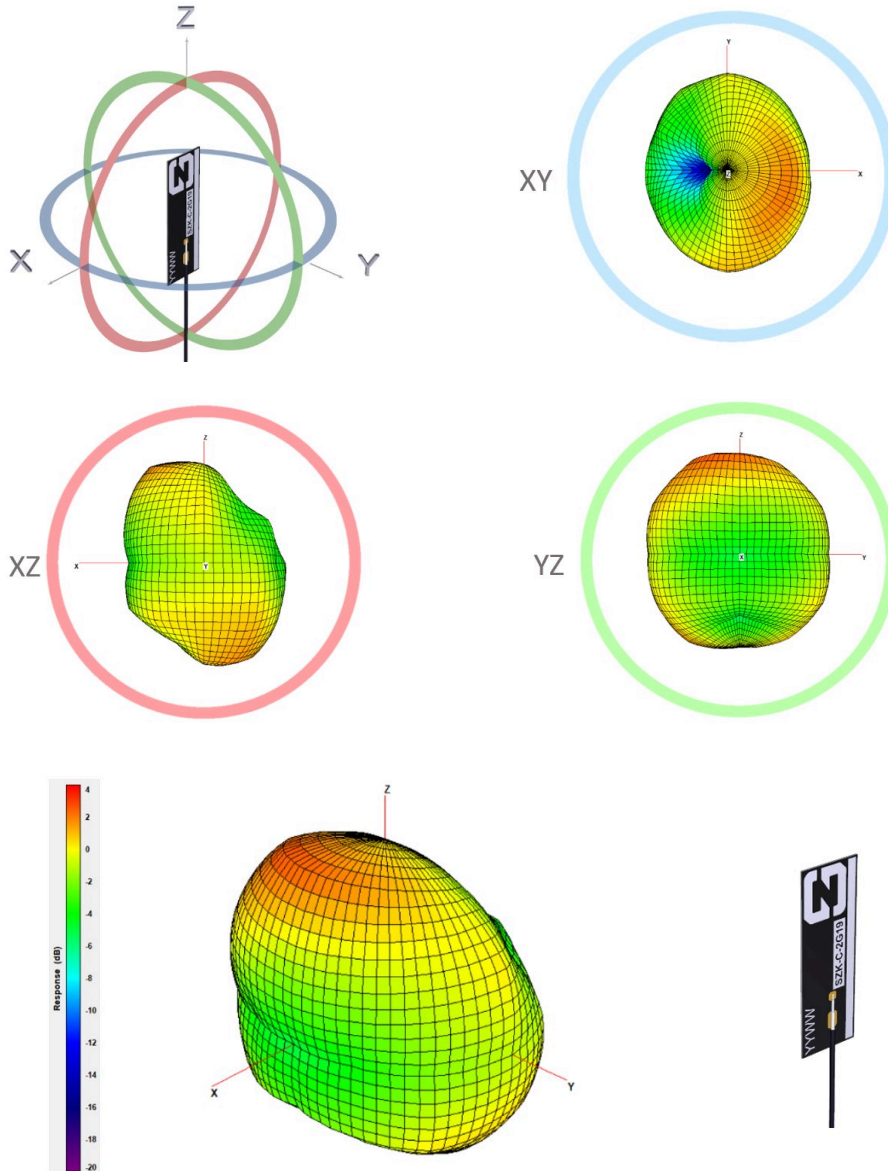
7 2D Polar Plots 1559 to 1609 MHz

MEASURED ON A 2 MM THICK ABS PLASTIC SHEET

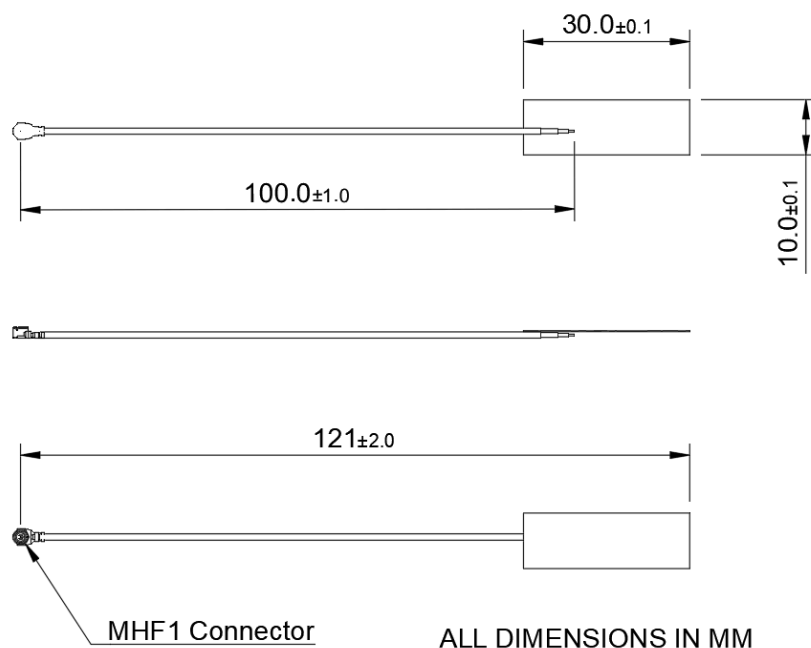


8 3D Radiation Pattern at 1575 MHz

MEASURED ON A 2 MM THICK ABS PLASTIC SHEET



9 Mechanical Drawing



10 MIMOSA with Cable and Connector



11 Packaging

- ◆ Antennas packed in PE bag (20 per bag)
- ◆ Small bag dimensions: 28.5 × 9.5 cm
- ◆ 100 pcs per larger PE bag with product label
- ◆ Bag dimensions: 30 × 19 cm

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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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