

G-2RF1

GPS/GLONASS/BeiDou/Galileo Flexible ultra-thin PCB Adhesive Antenna

BDS

GPS

The G-2RF1 is an advanced GPS/GLONASS/BeiDou/Galileo flexible ultra-thin PCB adhesive antenna designed for precise and reliable positioning. With its compact dimensions of 38.5 mm x 6 mm x 1 mm, it offers a space-saving solution for applications with limited space. The flexible PCB design allows for easy integration onto various surfaces, ensuring optimal signal reception and performance.

The G-2RF1 antenna supports multiple satellite systems, enabling accurate positioning in diverse environments. Whether it's navigation systems, asset tracking, or other location-based applications, the G-2RF1 delivers excellent performance and reliability in a compact form factor.



38.5 x 6 x 1 mm

Document Information

Product	G-2RF1
Part Number	G-2RF1
Description	GPS/GLONASS/BeiDou/Galileo Flexible ultra-thin PCB Adhesive Antenna
Version	2.0 (current)
Date	30-Apr-2023
Status	Released

Revision History

Version	Date	Author	Changes
1.0	7-Apr-2023	Amy Li	Initial Release
2.0	30-April-2023	Amy Li	New layout and design

Product Description

The G-2RF1 is an advanced GPS/GLONASS/BeiDou/Galileo flexible ultra-thin PCB adhesive antenna designed for precise and reliable positioning. With its compact dimensions of 38.5 mm x 6 mm x 1 mm, it offers a space-saving solution for applications with limited space. The flexible PCB design allows for easy integration onto various surfaces, ensuring optimal signal reception and performance.

Key Features

- Passive GNSS Antenna
- Flexi Internal Antenna
- Ground Plane Dependent
- Self-Adhesive
- Customizable Cable and Connector

Applications

- Navigation
- Automotive / Transportation
- Fleet Management
- Telematics

Electrical Specifications

Frequency			VSWR	Peak Gain	Efficiency
GPS	1575.42	MHz	1.6	4.0 d Bi	60%
GLONASS	1602	MHz	1.5	4.2 d Bi	60%
BeiDou	1561	MHz	1.7	4.4 d Bi	60%

Frequency Range 1575MHz, 1561MHz, 1602MHz

Impedance 50 Ω

Polarization Linear

Radiation Pattern Omni-Directional

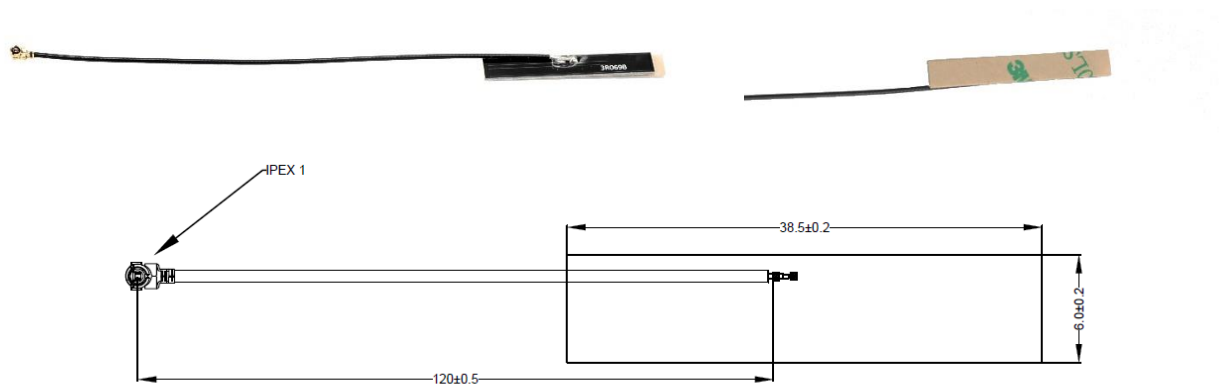
Mechanical Specifications

Type	FPC internal	Casing	NA
Dimensions	38.5 x 6 x 1 mm	Color	Black
Connector (Termination)	IPEX1 (default)	Mounting Type	Adhesive
Cable	RG174	Cable Length	120mm(default)

Caution:

1. Do not apply excess mechanical stress to the component body or terminations. Do not attempt to re-form or bend the components, as this will cause damage to the component.
2. Do not expose the component to an open flame.
3. This specification applies to the functionality of the component as a single unit. Please ensure the component is thoroughly evaluated in the application circuit.

Product Dimensions



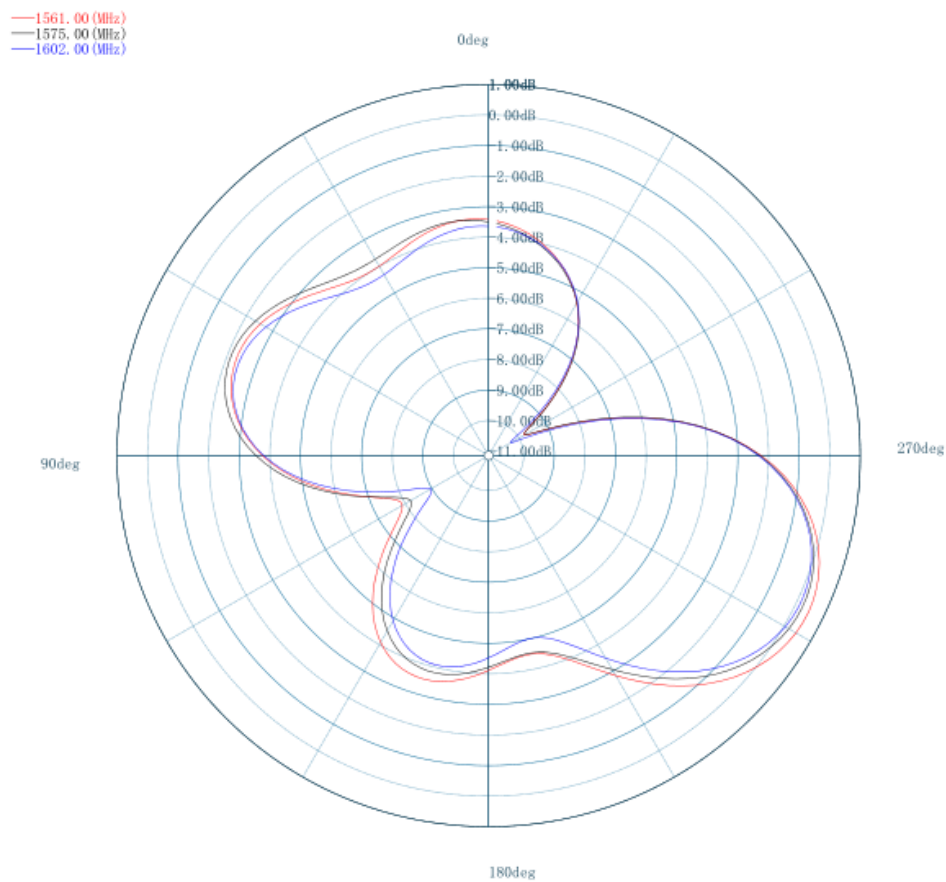
Radiation Pattern

A radiation pattern is a graphical representation of the directional properties of an antenna. It shows how electromagnetic waves are distributed in space in relation to the direction of propagation.

By understanding the information provided by a radiation pattern, it is possible to optimize the design and performance of an antenna for specific applications.

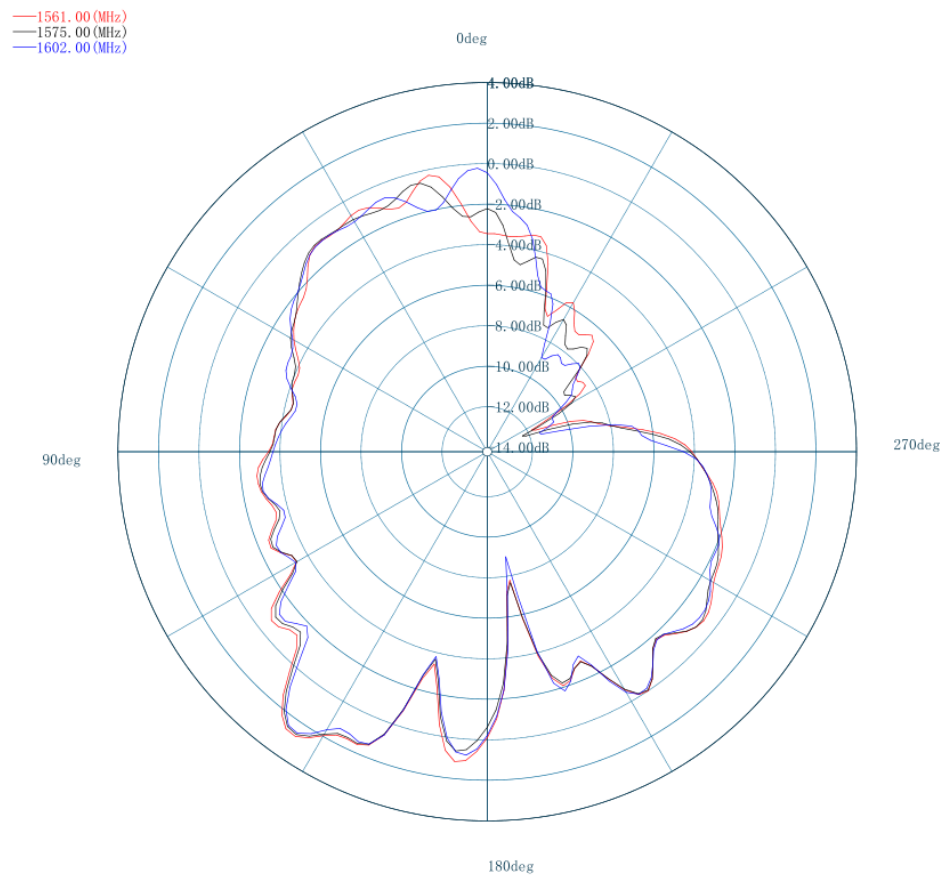
XY Plane (H)

1575 MHz, 1602MHz, 1561Mhz



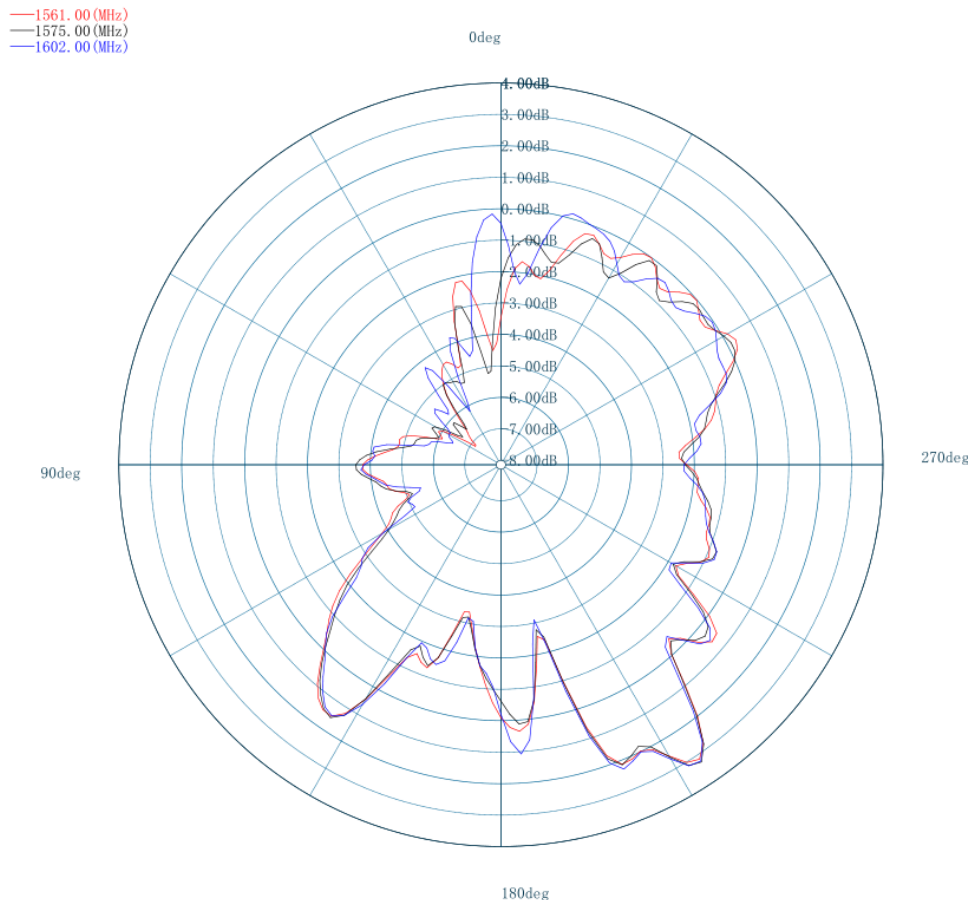
XZ Plane (E1)

1575 MHz, 1602MHz, 1561Mhz



YZ Plane (E2)

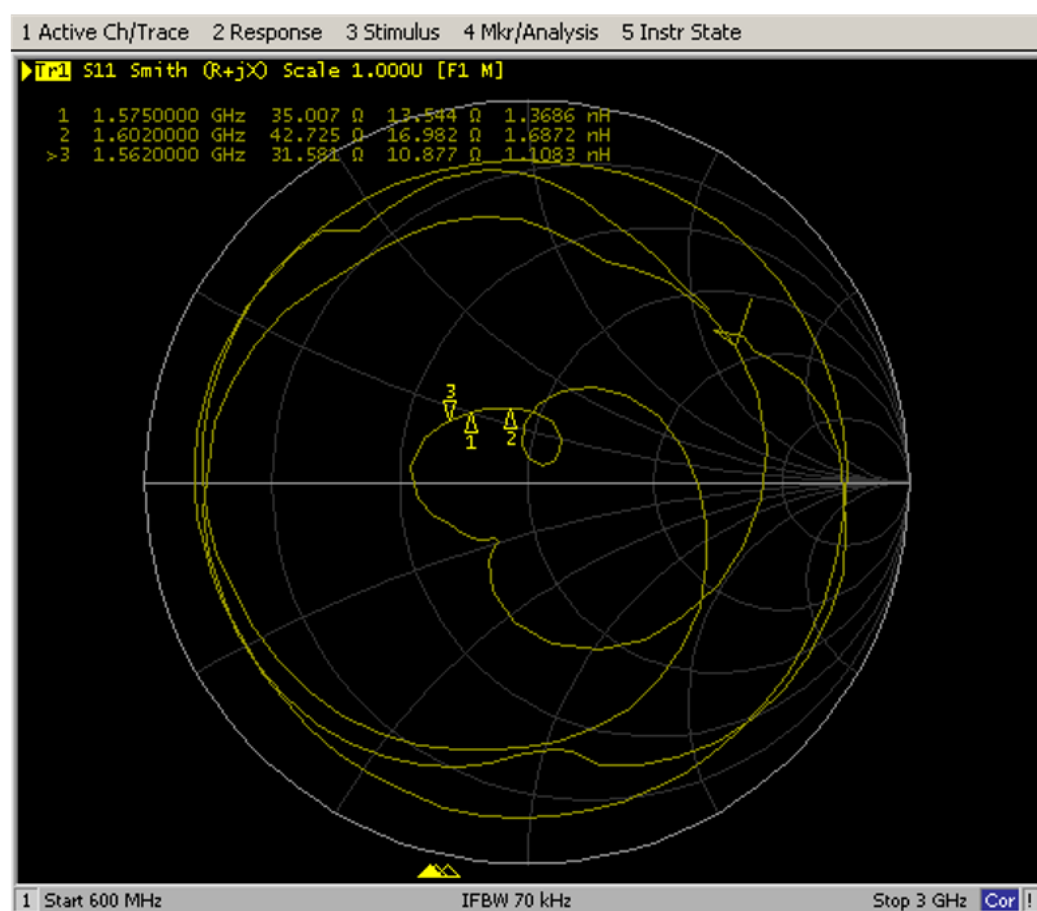
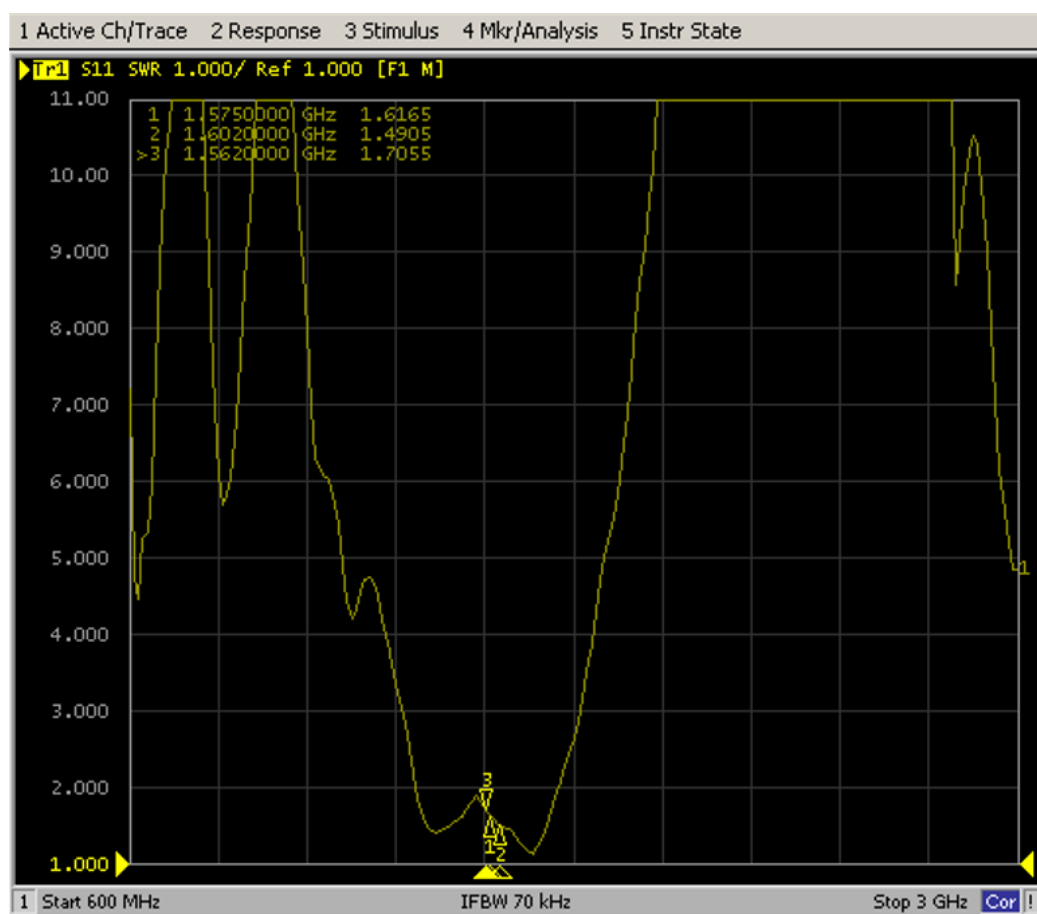
1575 MHz, 1602MHz, 1561Mhz

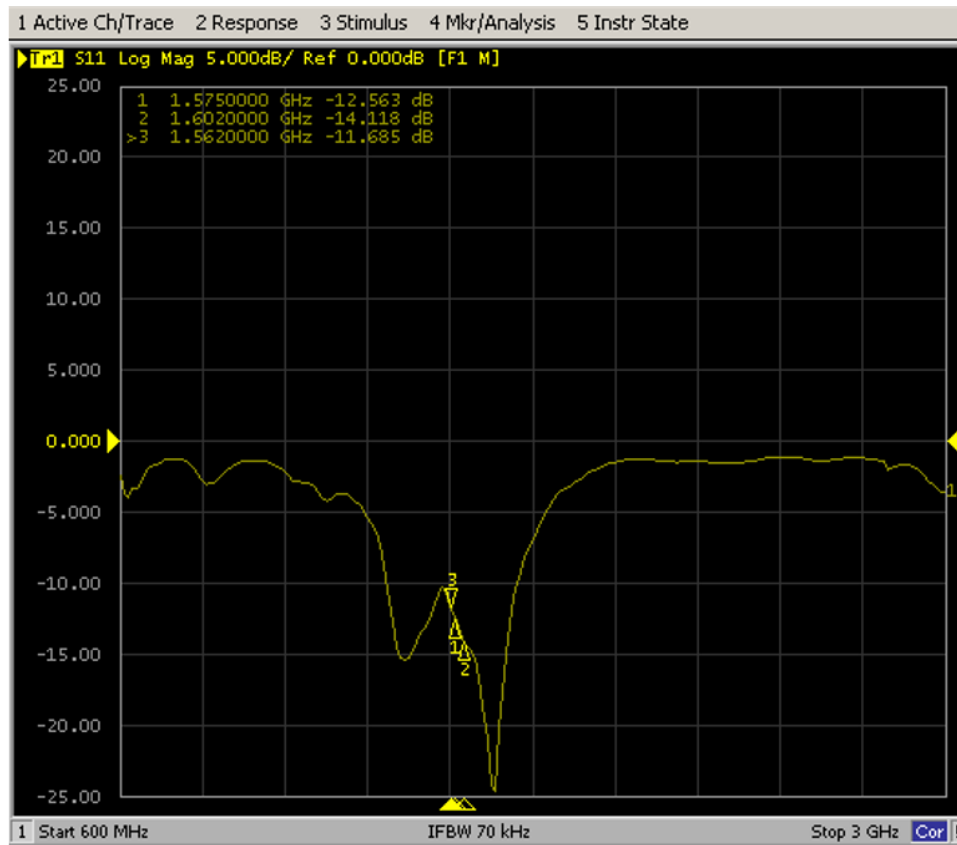


Antenna Smith and VSWR

Frequency		VSWR
1575	MHz	1.62
1561	MHz	1.71

Frequency		VSWR
1602	MHz	1.49





Antenna Efficiency and Gain

Frequency	Efficiency	Gain
1561 MHz	61%	4.37
1575 MHz	60%	4.04

Frequency	Efficiency	Gain
1602 MHz	62%	4.23

Environmental Data

Operating Temperature -20°C to +80°C

Storage Temperature -20°C to +80°C

Vibration N/A

Ordering Information

Product Variants

Part Number	Description
G-2RF1	GPS/GLONASS/BeiDou/Galileo Flexible ultra-thin PCB Adhesive Antenna

About MIOT

Miot Wireless Solutions, headquartered in Suzhou, China, was established in 2017. It has subsidiaries in Canada, the United States, Brazil, and EMEA. MIOT is a professional designer and manufacturer of Antennas and IoT PCBA products, providing turn-key service to customers worldwide.

Our talented R&D team has experienced antenna, hardware, and software engineers who can participate in your new project, from something simple like antenna/selection and design, to complete turn-key services, which entails taking your concept and ideas through design, prototyping, debugging, certification, and manufacturing. Miot offers reliable products at reasonable prices with fast delivery times to help you get ahead in the market.

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