

L-1RB5

Adhesive Ground Plane Independent 4G Antenna

CELLULAR

WI-FI

The L-1RB5 is a ground-plane independent antenna offered by MIOT. This peel-and-stick antenna is designed to provide reliable wireless connectivity for 4G LTE, 3G, and 2G cellular networks. It offers a compact and convenient solution for various applications.

With its wide frequency range and high-performance capabilities, the L-1RB5 antenna supports reliable wireless connectivity across multiple cellular networks. It enables efficient data transfer, voice communication, and IoT applications.



116 × 22 mm

Document Information

Product	L-1RB5
Part Number	L-1RB5
Description	Adhesive Ground Plane Independent 4G Antenna
Version	2.0 (current)
Date	7-Jul-2023
Status	Released

Revision History

Version	Date	Author	Changes
1.0	16-Dec-2020	Amy li	Initial Release
2.0	7-Jul-2023	Ivy liao	New layout and design

Product Overview

Product Description

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Key Features

- Support GSM / LTE / 2.4G WI-FI
- Small and exquisite
- High Reliability/Sensitivity
- Compact Size, Easy to install
- RoHS Compliant

Applications

- LTE / WI-FI radios
- Gateways
- Set-Top Boxes
- Security
- Transportation
- Smart agriculture

Electrical Specifications

Frequency			VSWR	Peak Gain	Efficiency
LTE	690 - 2170	MHz	1.50	2.9 d Bi	59%
LTE/Wi-Fi	2400 2690	MHz	1.25	3.3 d Bi	59%

Frequency Range 690 – 2690 MHz

Impedance 50 Ω

Radiation Omnidirectional

Polarization Linear

Mechanical Specifications

Type	External	Mounting Type	Connector Mount
Dimensions	116 x 22mm	Casing	YES
Connector	SMA Male	Color	Black
Cable type	RG174	Material	PC + ABS
Cable Length	3m (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 Image and Dimensions



L-1RB5 & L-1RB5D



L-1RB5N



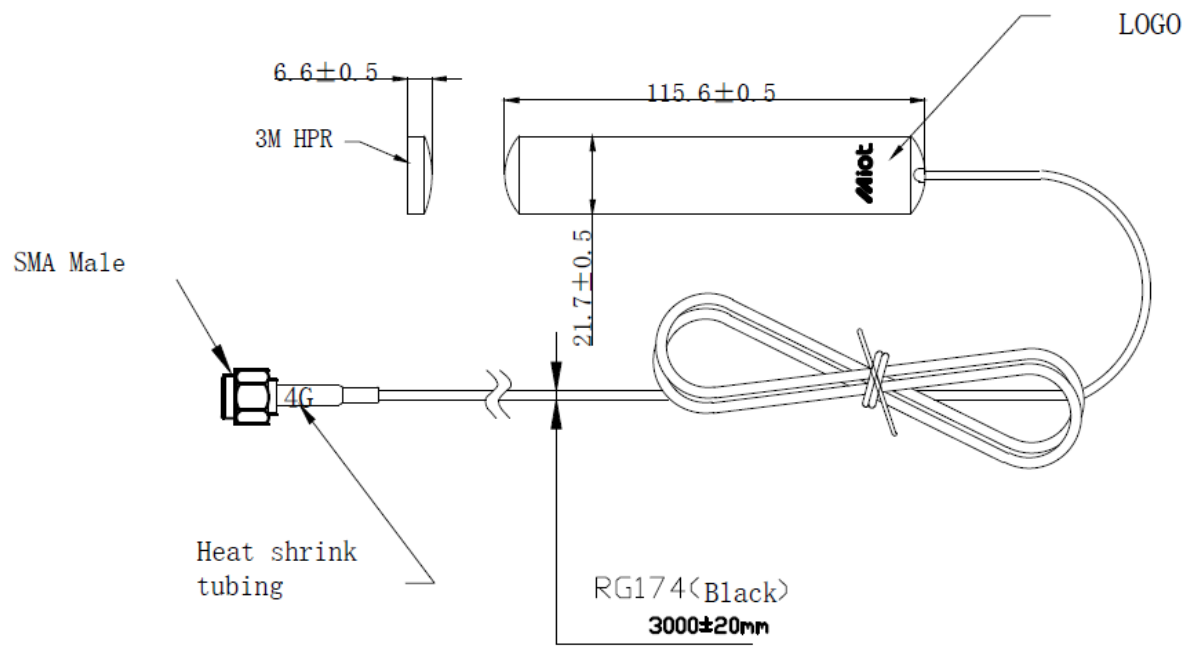
L-1RB5 & L-1RB5D



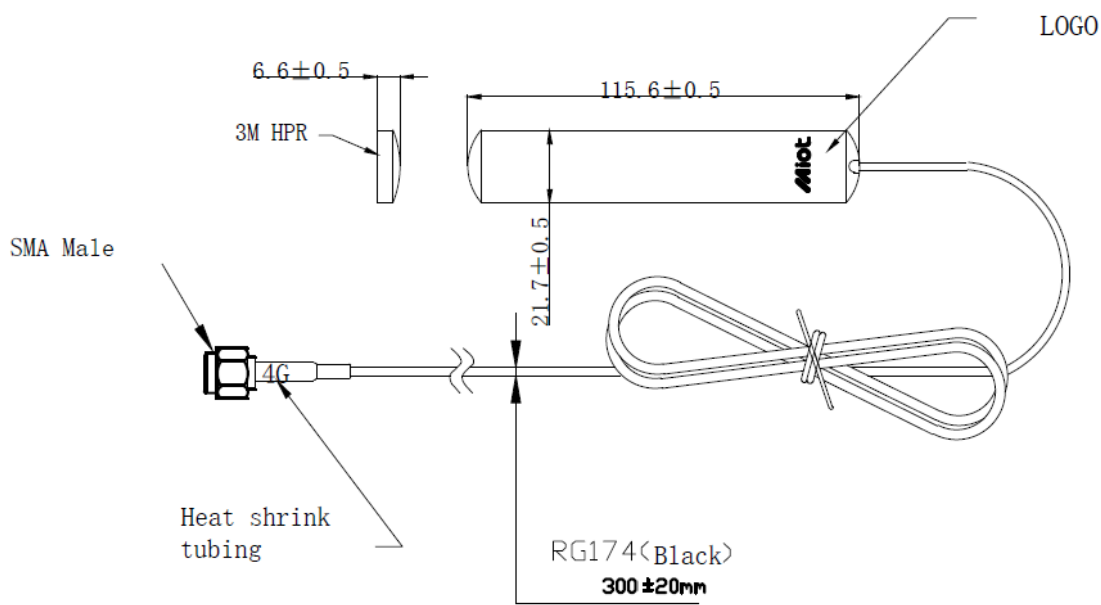
L-1RB5



L-5RB5N



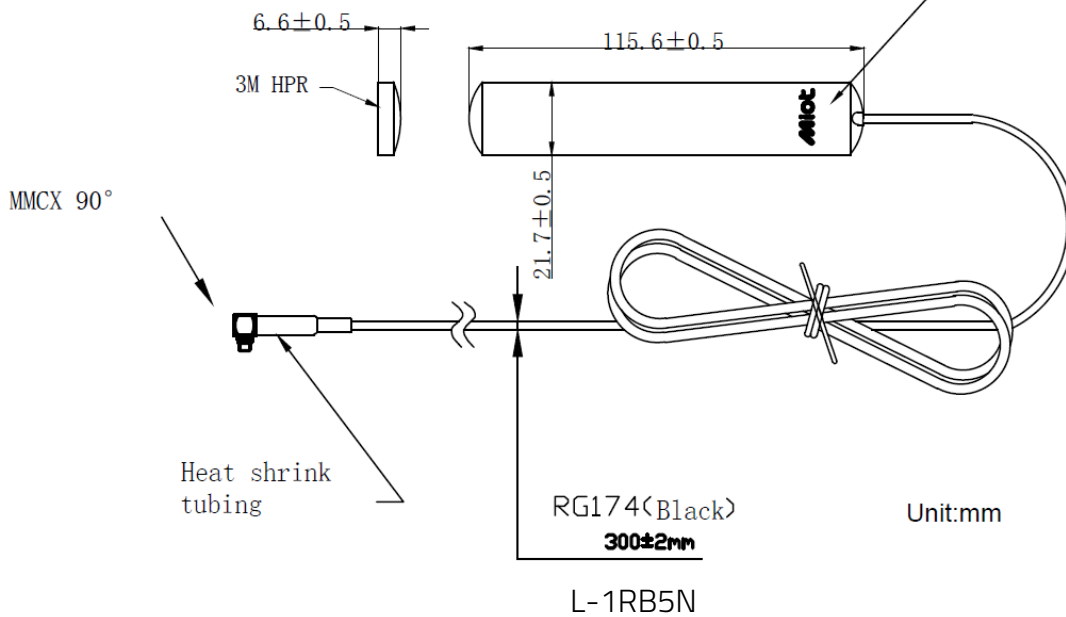
L-1RB5(above)



L-1RB5D(above)



LOGO



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.

Test Setup

Equipment

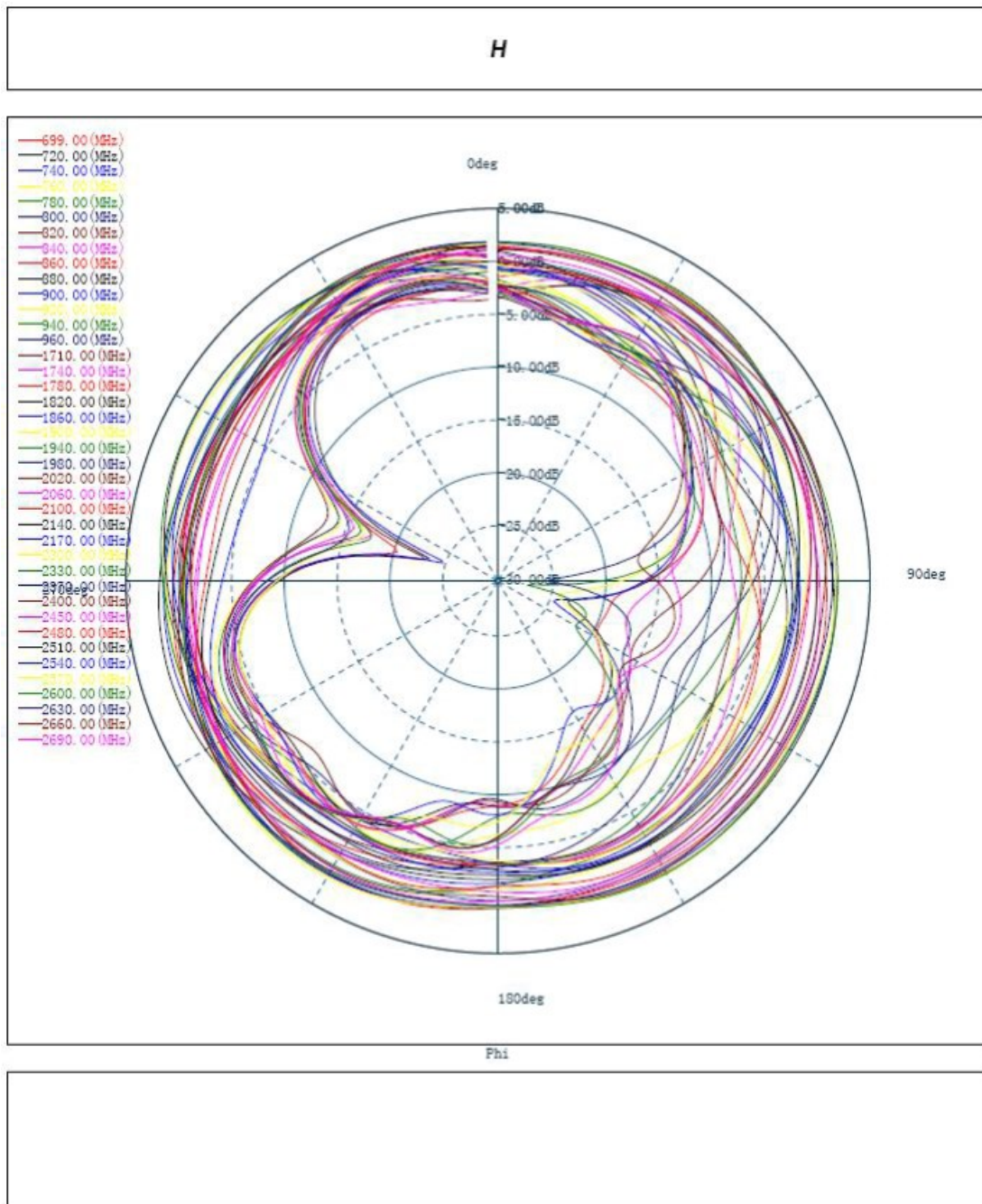
XYZ Testing Machine

Conditions

Free space Bend

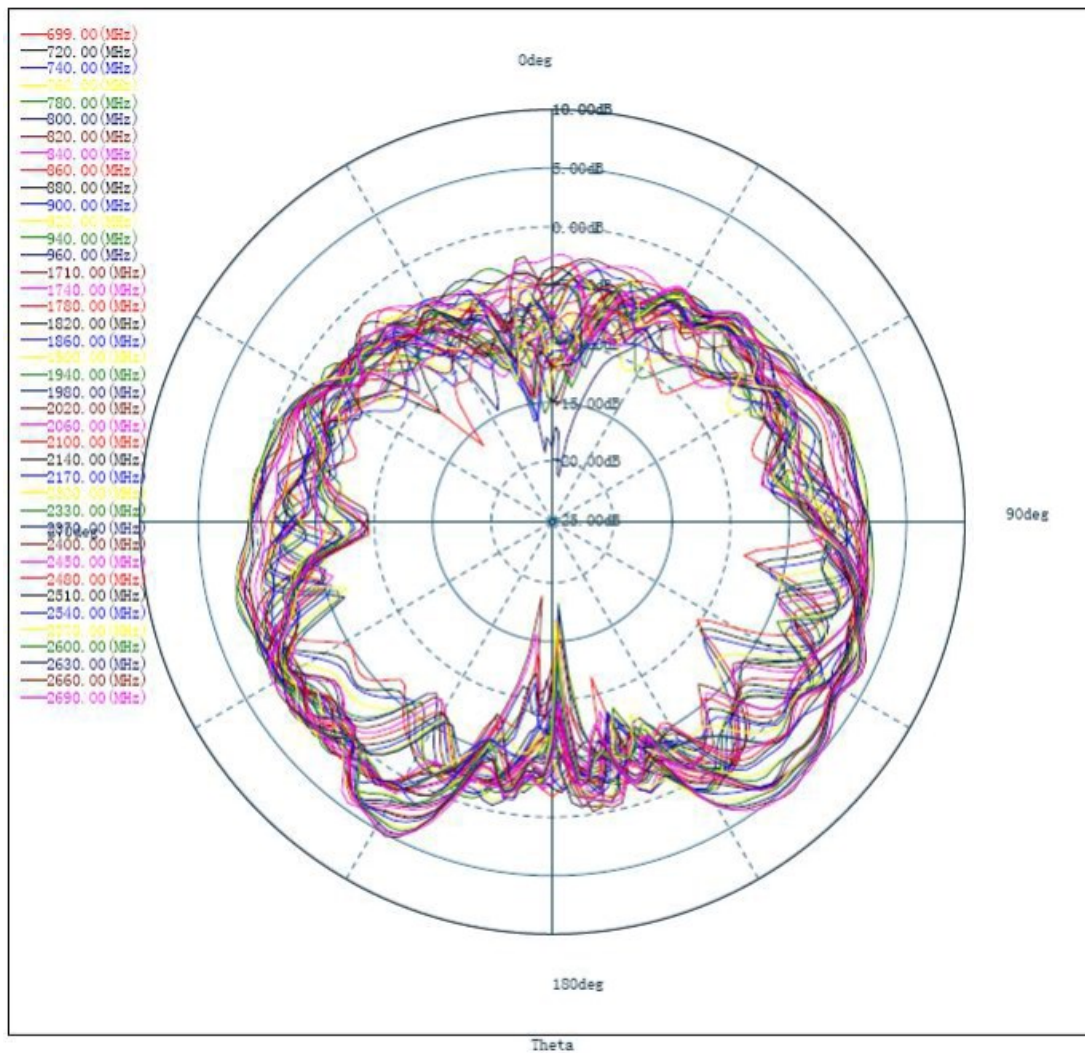
XY Plane (H)

690 – 2690 MHz



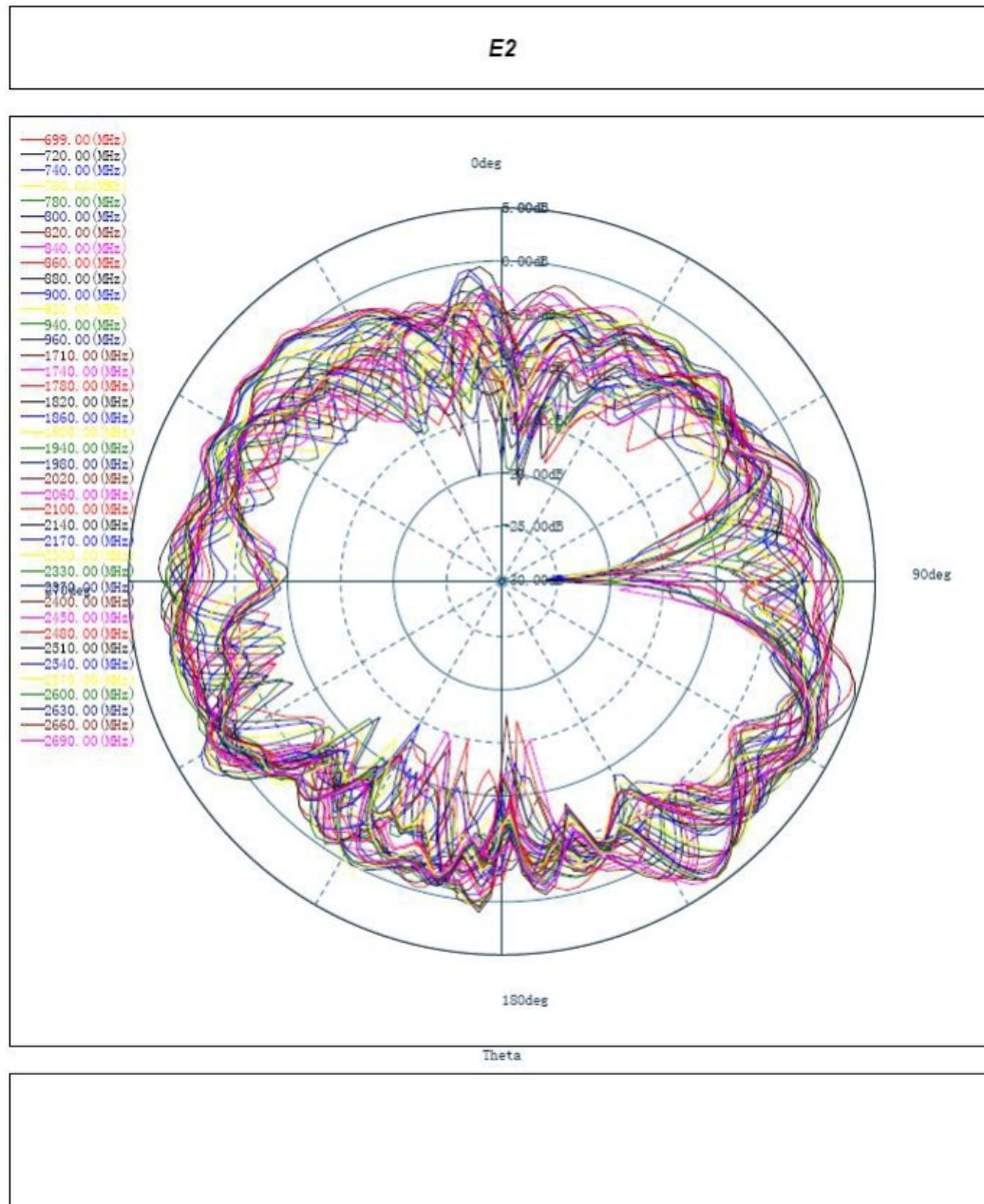
XZ Plane (E1)

690 – 2690 MHz

E1

YZ Plane (E2)

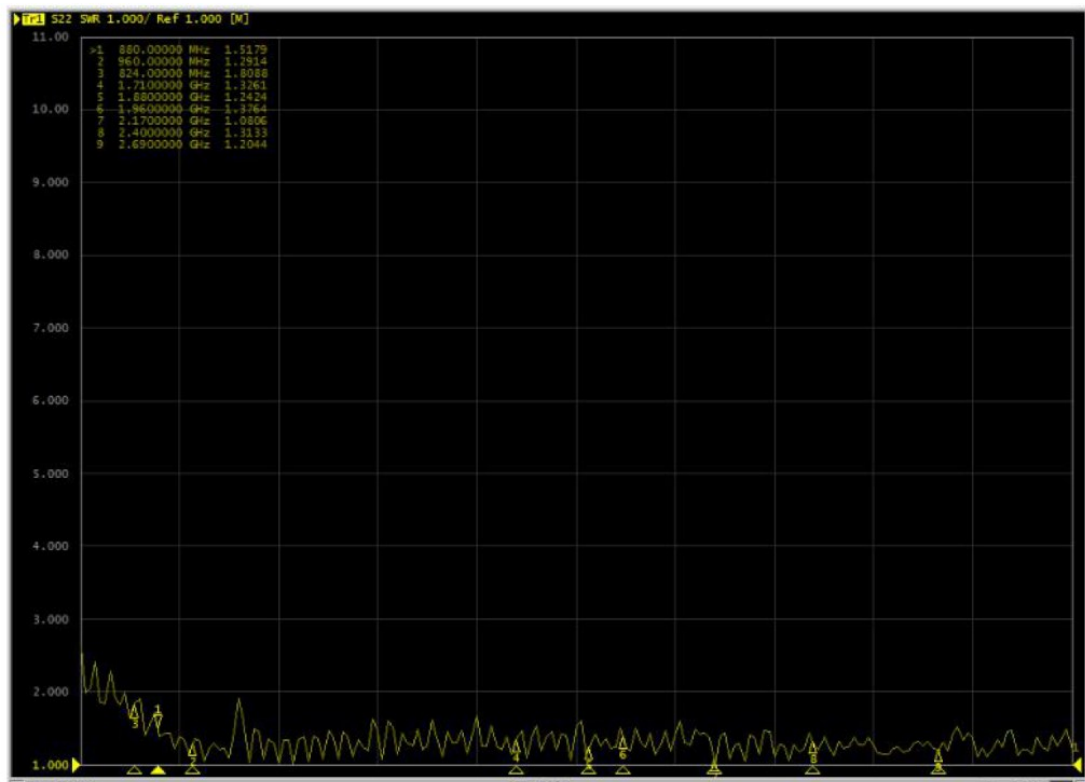
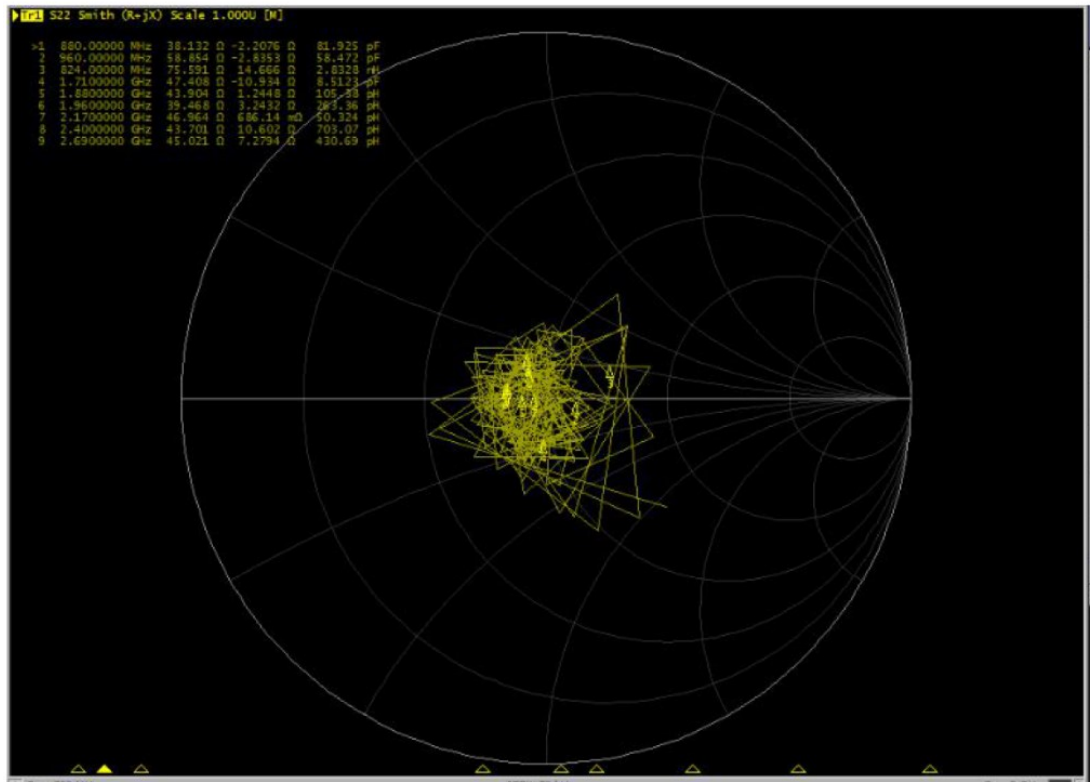
690 – 2690 MHz



Antenna Smith and VSWR

Frequency		VSWR
880	MHz	1.52
960	MHz	1.29
824	MHz	1.81
1710	MHz	1.33
1800	MHz	1.24

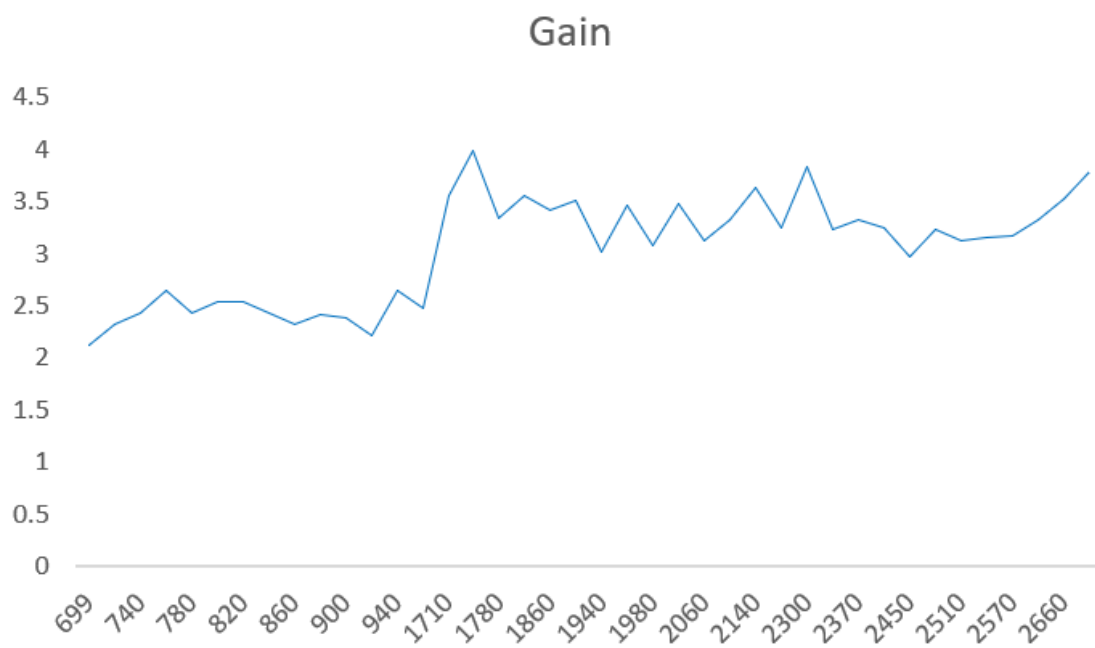
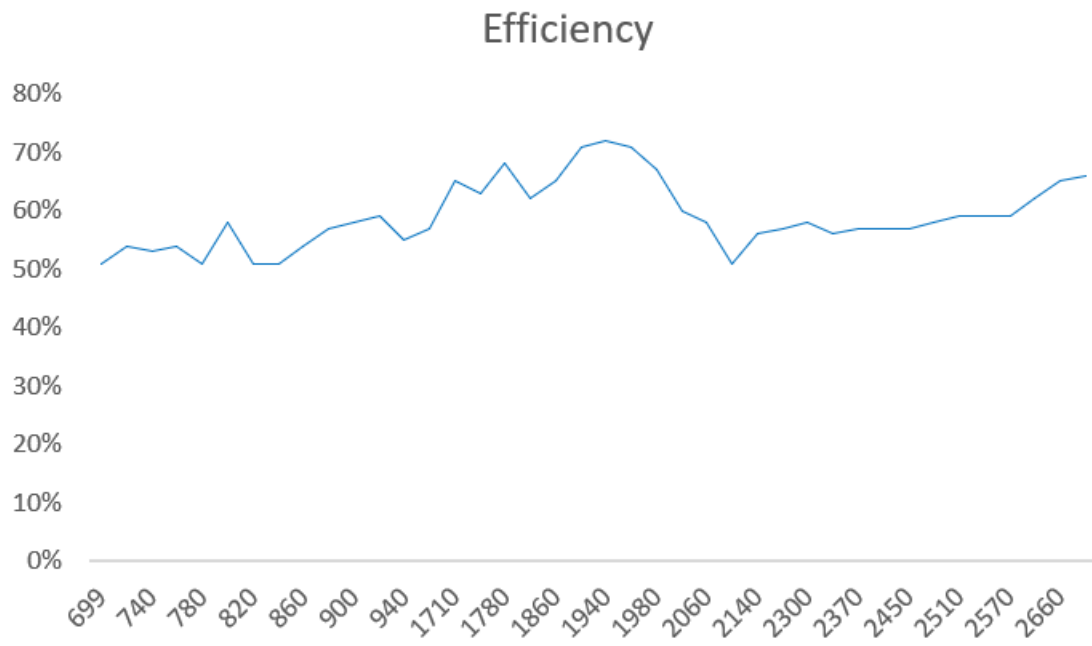
Frequency		VSWR
1960	MHz	1.38
2170	MHz	1.08
2400	MHz	1.31
2690	MHz	1.20



Antenna Efficiency and Gain

Frequency		Efficiency	Gain
699	MHz	51%	2.12
720	MHz	54%	2.32
740	MHz	53%	2.43
760	MHz	54%	2.65
780	MHz	51%	2.43
800	MHz	58%	2.54
820	MHz	51%	2.54
840	MHz	51%	2.43
860	MHz	54%	2.33
880	MHz	57%	2.42
900	MHz	58%	2.39
920	MHz	59%	2.21
940	MHz	55%	2.65
960	MHz	57%	2.47
1710	MHz	65%	3.55
1740	MHz	63%	3.99
1780	MHz	68%	3.34
1820	MHz	62%	3.55
1860	MHz	65%	3.42
1900	MHz	71%	3.51
1940	MHz	72%	3.02

Frequency		Efficiency	Gain
1940	MHz	71%	3.46
1980	MHz	67%	3.07
2020	MHz	60%	3.48
2060	MHz	58%	3.12
2100	MHz	51%	3.32
2140	MHz	56%	3.63
2170	MHz	57%	3.24
2300	MHz	58%	3.84
2330	MHz	56%	3.23
2370	MHz	57%	3.32
2400	MHz	57%	3.24
2450	MHz	57%	2.97
2480	MHz	58%	3.23
2510	MHz	59%	3.13
2540	MHz	59%	3.15
2570	MHz	59%	3.17
2600	MHz	62%	3.33
2660	MHz	65%	3.52
2690	MHz	66%	3.78



Environmental Data

Operating Temperature	-20°C to +80°C
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Vibration	N/A
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Ordering Information

Product Variants

Part Number	Description
L-1RB5	4G Antenna, SMA Male, RG174 3m Cable
L-1RB5D	4G Antenna, SMA Male, RG174 30cm Cable
L-1RB5N	4G Antenna, MMCX 90°, RG174 30cm Cable

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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