

L-1RA4

Multiband 2G 3G 4G LTE Antenna

CELLULAR

WIFI

The L-1RA4 is an Multiband 2G 3G 4G LTE Antenna. It supports 4G, 3G, and 2G cellular networks and operates within a frequency range of 690 to 2700MHz.

With its wide frequency range, the L-1RA4 antenna is compatible with various cellular networks used for voice and data communication. It can be used in applications such as wireless communication systems, IoT devices, mobile routers, and other wireless devices that require reliable cellular connectivity. The antenna attaches with an SMA connector.



184 x 18 mm

Document Information

Product	L-1RA4
Part Number	L-1RA4
Description	Multiband 2.4G WIFI / 2G 3G 4G LTE Antenna
Version	2.0 (current)
Date	2-Sep-2023
Status	Released

Revision History

Version	Date	Author	Changes
1.0	16-Dec-2020	Amy Li	Initial Release
2.0	2-Sep-2023	Ivy Liao	New layout and design

Product Overview

Product Description

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Key Features

- Operates in 698-960/1710-2170 MHz and 2500-2700MHz
- Wide band antenna
- Vertical polarization
- High gain of 5 dBi
- VSWR 1.5
- Omni-directional pattern

Applications

- 4G/LTE radios
- Gateways
- Set-Top Boxes
- Security
- Transportation
- Smart agriculture

Electrical Specifications

Frequency			VSWR	Peak Gain	Efficiency
4G/LTE	690 - 960	MHz	1.6	0.2 d Bi	58%
4G/LTE	1710 - 2170	MHz	2.0	3.3 d Bi	64%
4G/LTE	2500 - 2700	MHz	2.0	5.0 d Bi	70%

Frequency Range	690 – 2700 MHz	Radiation	Omnidirectional
Impedance	50 Ω	Electrical Type	Monopole
Polarization	Vertical	Power Handling Capacity	50W
Lighting Protection Direct Current earth			

Mechanical Specifications

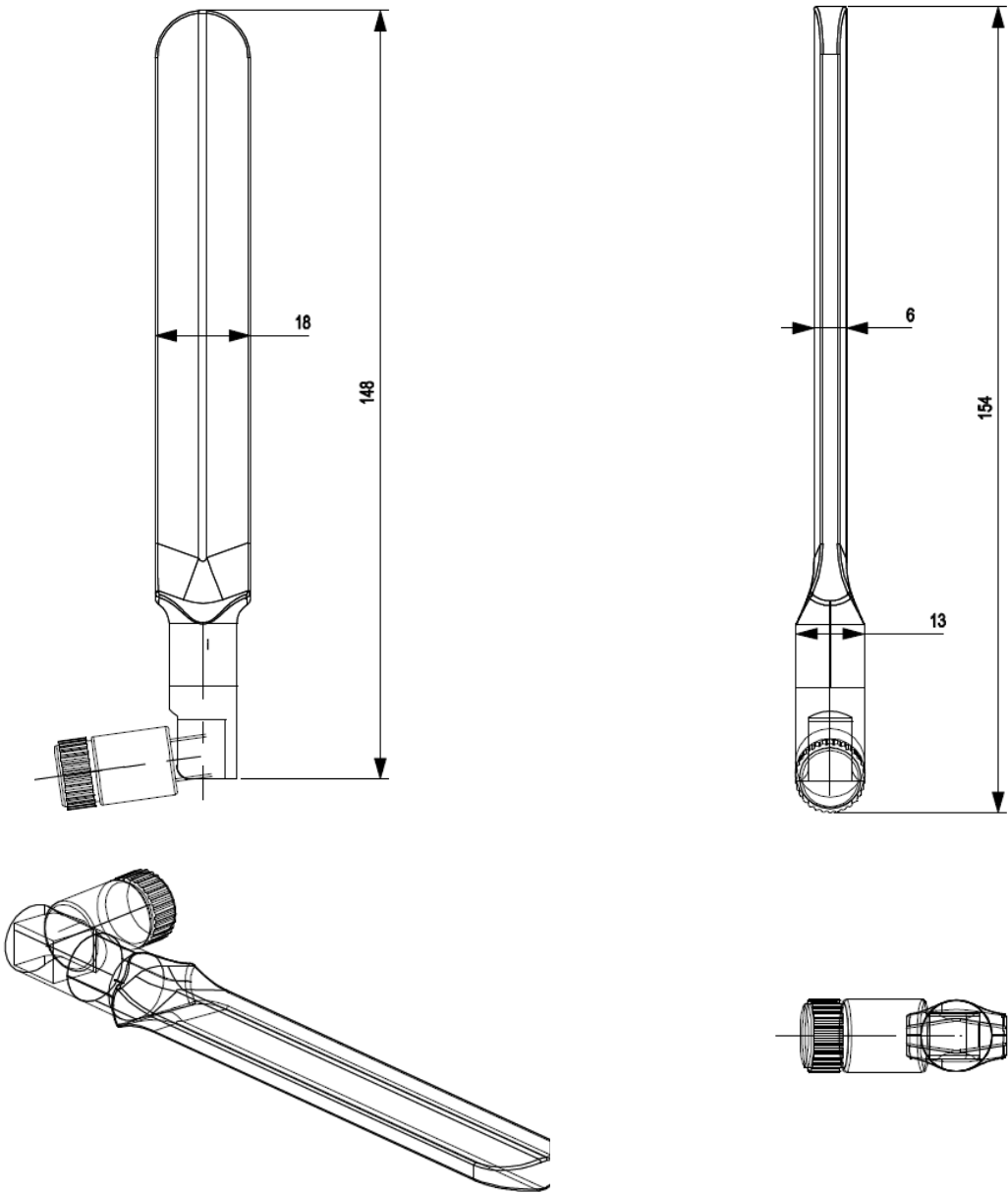
Dimensions	184 x 18 mm	Color	White
Connector (Termination)	SMA Male	Cable Type	RG-178
Enclosure	TPE	Base	PBT + PC

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

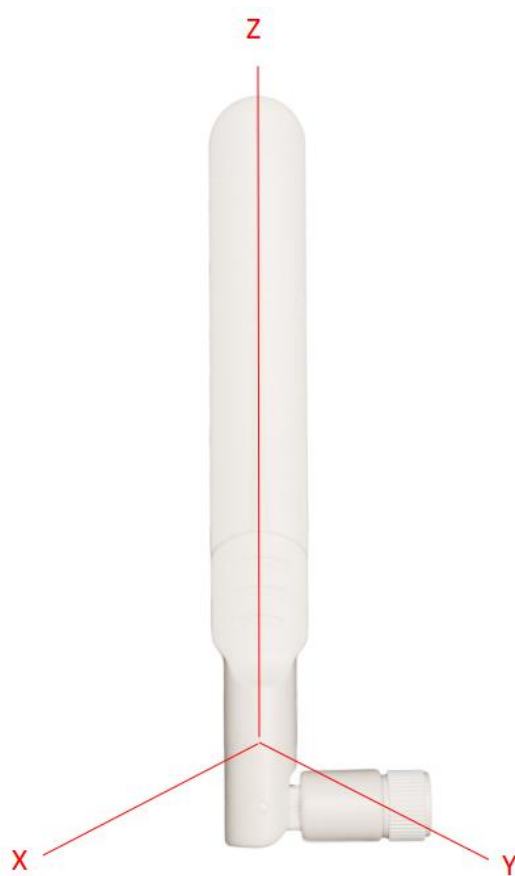


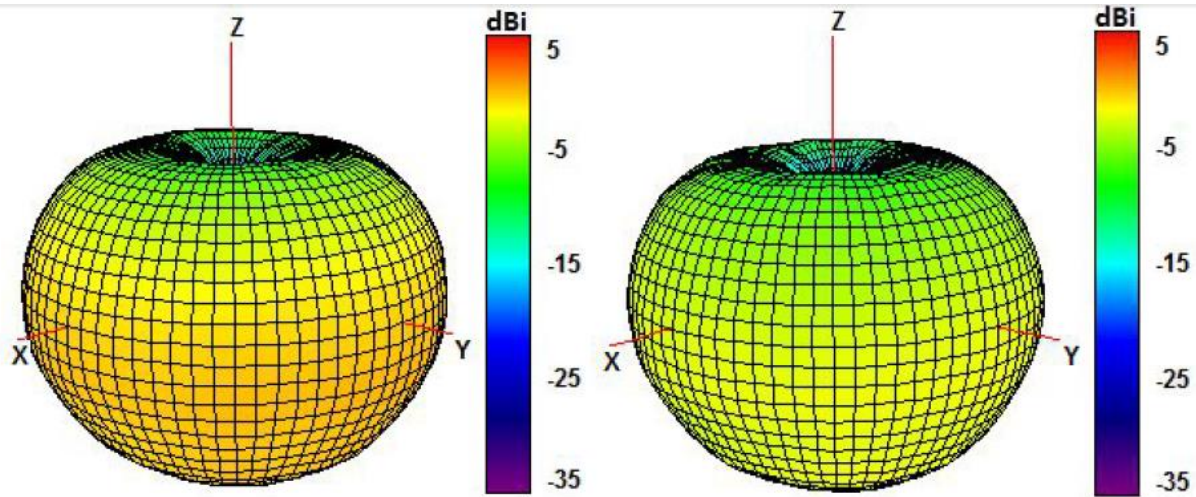


Radiation Pattern

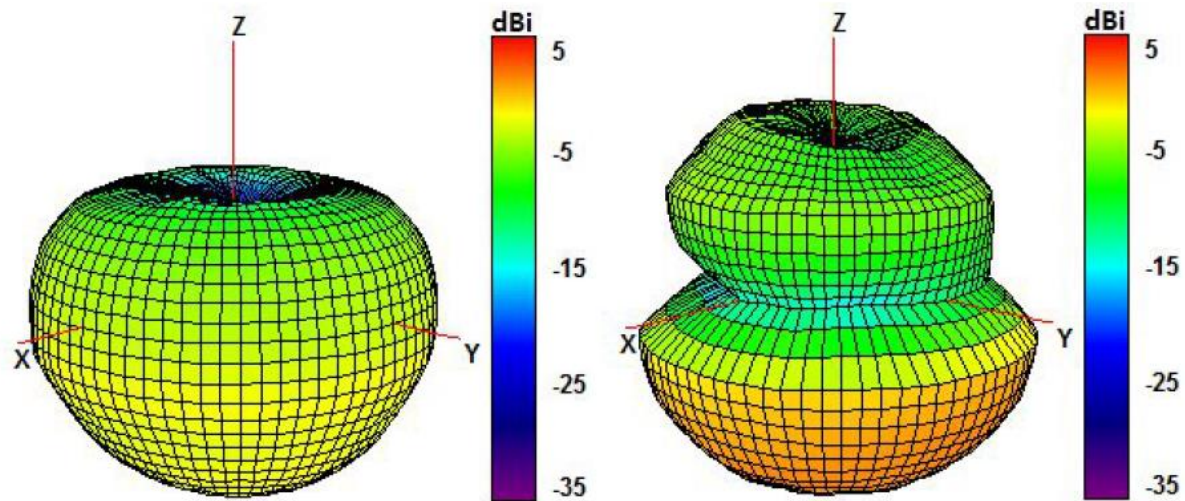
A radiation pattern is a graphical representation of the directional properties of an antenna. It shows how electromagnetic waves are distributed in space in relation to the direction of propagation.

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

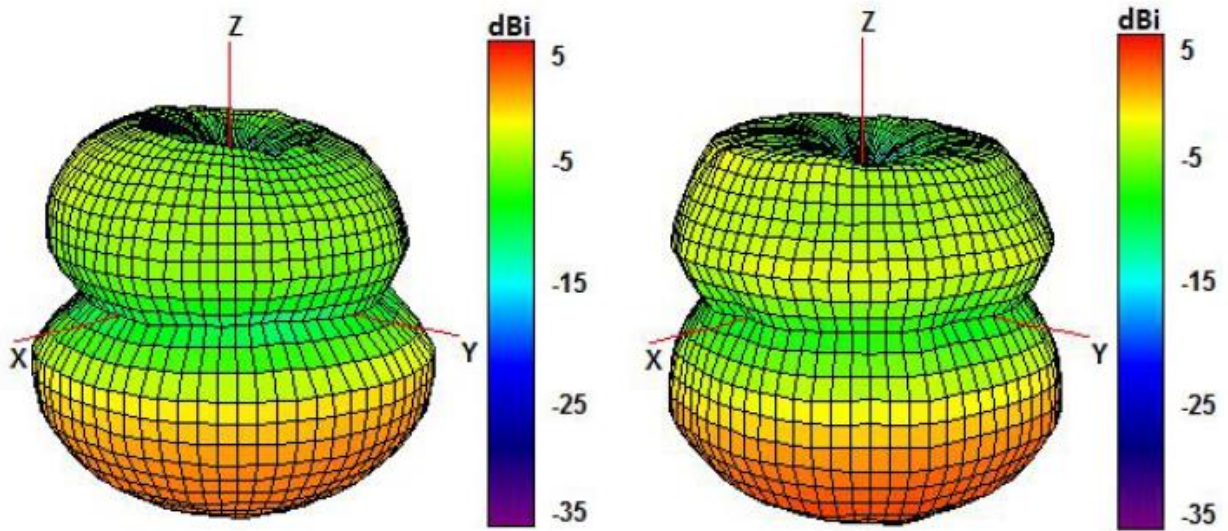




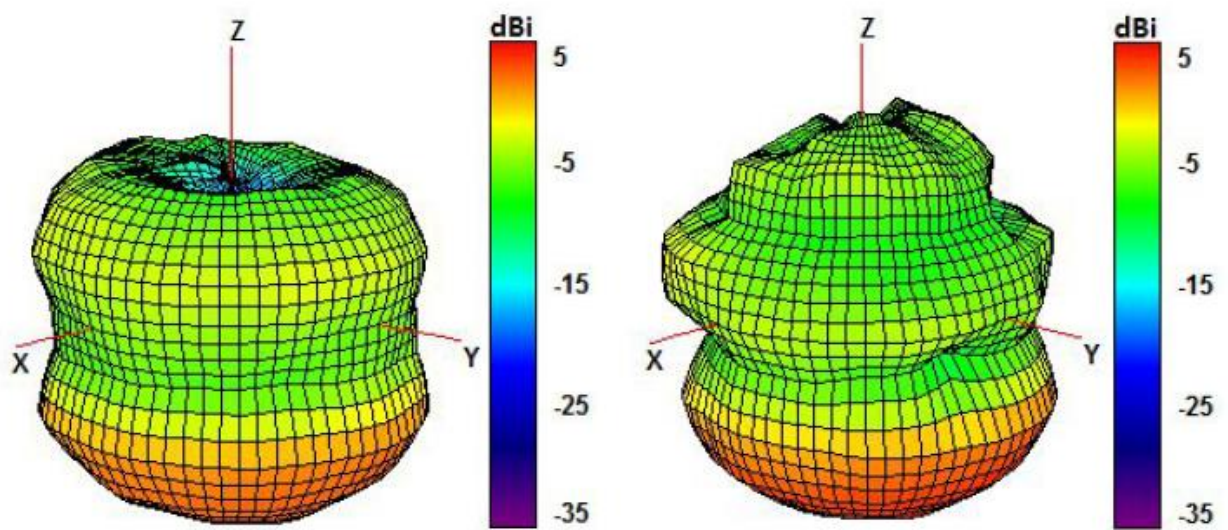
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern

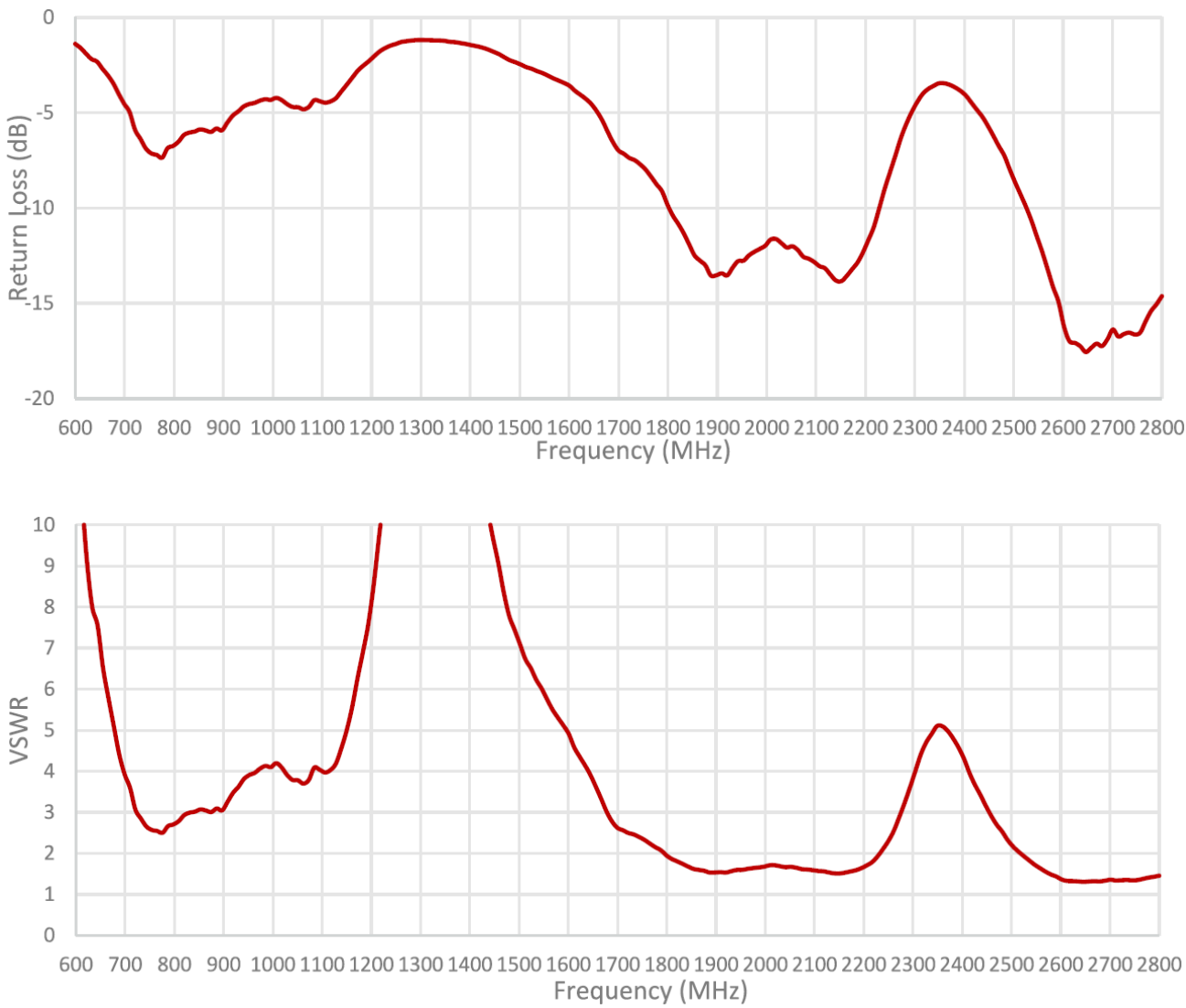


1850 and 1950 MHz Radiation pattern



2100 and 2600 MHz Radiation pattern

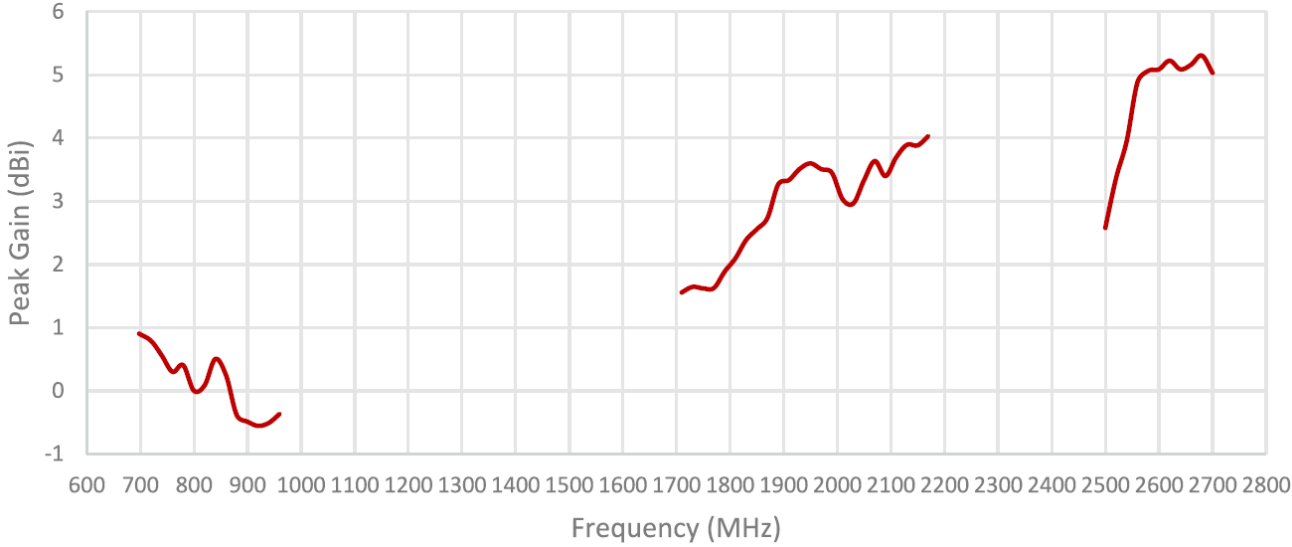
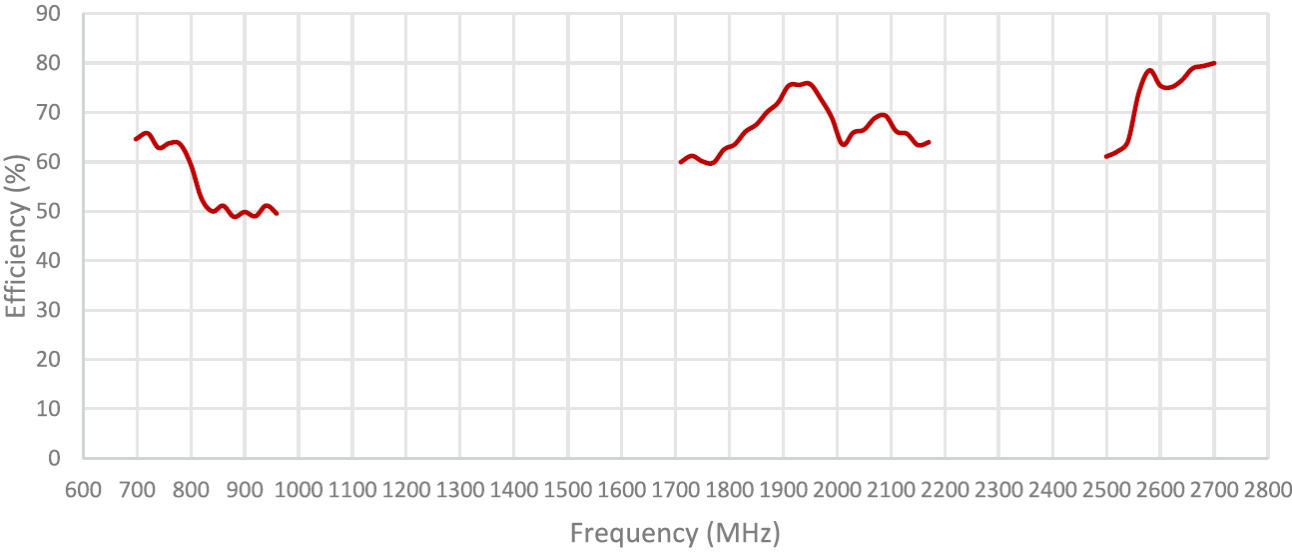
Antenna Smith and VSWR



Antenna Efficiency and Gain

Frequency		Efficiency	Gain
700	MHz	0.65	0.9
824	MHz	0.53	0.1
868	MHz	0.51	0.2
960	MHz	0.50	-0.6
1710	MHz	0.60	1.6

Frequency		Efficiency	Gain
1850	MHz	0.67	2.5
1990	MHz	0.66	3.5
2170	MHz	0.64	4.0
2690	MHz	0.80	5.0



Environmental Data

Operating Temperature	-40 °C to +85 °C
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Compliance	RoHS
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Ordering Information

Product Variants

Part Number	Description
L-1RA4	Multiband 2G 3G 4G LTE 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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