

L-1RA8

Multiband 2G 3G 4G LTE /2.4G WIFI Antenna

CELLULAR

WIFI

The L-1RA8 is an Multiband 2G 3G 4G LTE /2.4G WIFI Antenna . It's a compact and durable external antenna with a wide band and high efficiency.

The L-1RA8 allows the antenna to be positioned for optimum performance compared to a fixed whip design. The antenna attaches with an SMA connector.



154 x 13 mm

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Document Information

Product	L-1RA8
Part Number	L-1RA8
Description	Multiband 2G 3G 4G LTE /2.4G WIFI Antenna
Version	2.0 (current)
Date	6-JUL-2023
Status	Released

Revision History

Version	Date	Author	Changes
1.0	16-Dec-2020	Amy Li	Initial Release
2.0	6-JUL-2023	Ivy Liao	New layout and design

Product Overview

Product Description

The L-1RA8 is an Multiband 2G 3G 4G LTE /2.4G WIFI Antenna. It's a compact and durable external antenna with an ultra-wide range and high efficiency. It's an ideal solution for cellular IoT applications requiring a durable and cost-effective external antenna.

The hinged swivel design allows the antenna to be positioned for optimum performance and reduces the potential for damage from impact compared to a fixed blade design. The antenna attaches with an SMA plug (male pin) connector.

Key Features

- Operates in 698-960/1710-2170 MHz and 2500-2700MHz
- VSWR 1.5
- Vertical polarization
- High gain of 5 dBi

Applications

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

Electrical Specifications

Frequency			VSWR	Peak Gain	Efficiency
5G/LTE	698 - 960	MHz	3.2	0.2 d Bi	56%
5G/LTE	1710 - 2170	MHz	1.5	2.3 d Bi	65%
2.4G WiFi	2500 - 2700	MHz	1.6	5.0 d Bi	73%

Frequency Range 698 – 2700 MHz

Impedance 50 Ω

Polarization Vertical

Radiation Omnidirectional

Electrical Type Monopole

Mechanical Specifications

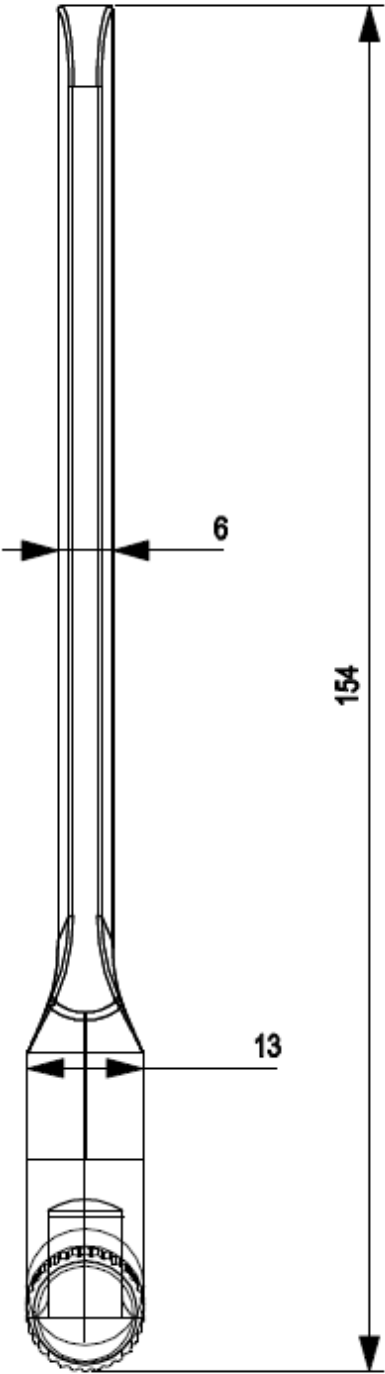
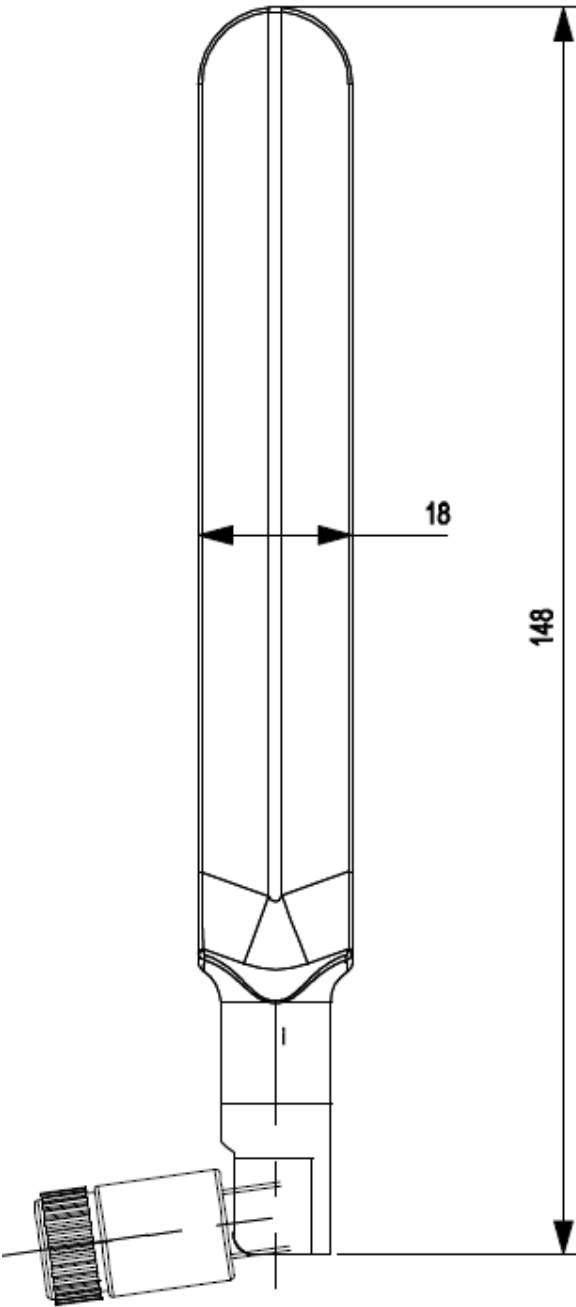
Type	Hinge / Swivel Blade Type	Casing	Yes
Dimensions	154 x 13 mm	Color	Black
Connector (Termination)	SMA Male	Material	PC + PBT
Mounting Type	Connector Mount	Weight	TBC (to be confirmed)

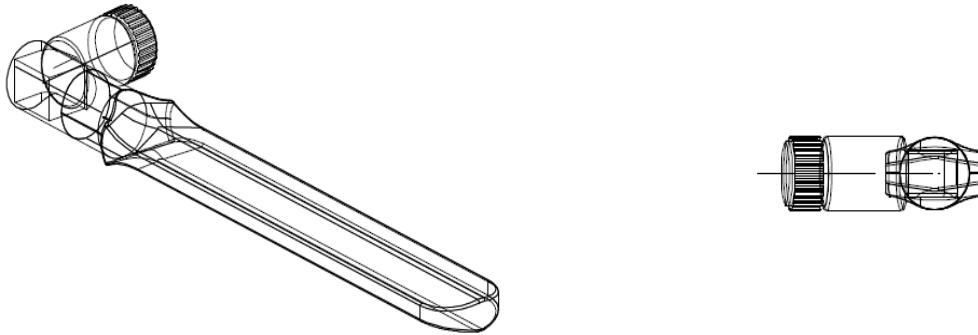
Caution:

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







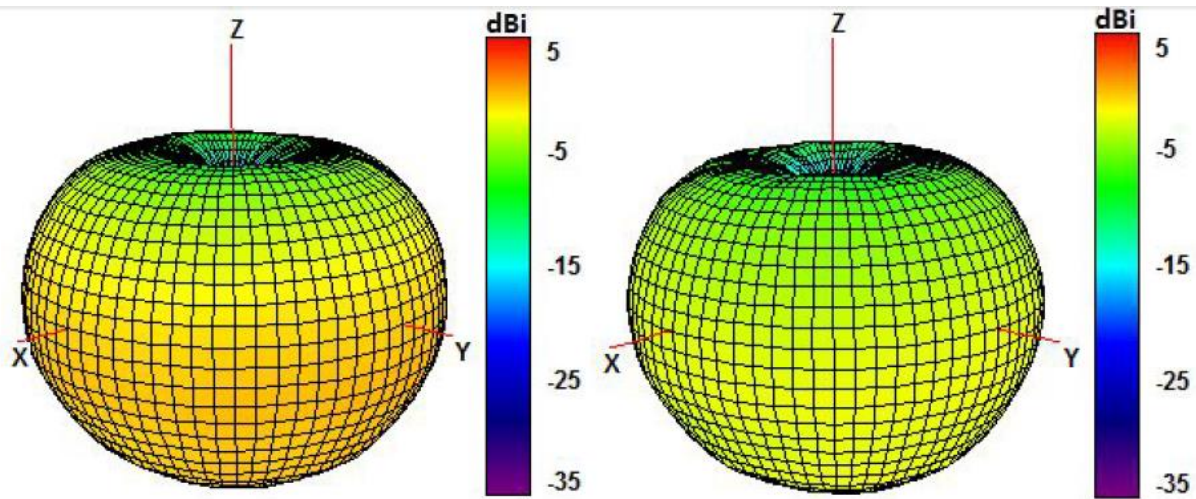
Radiation Pattern

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.

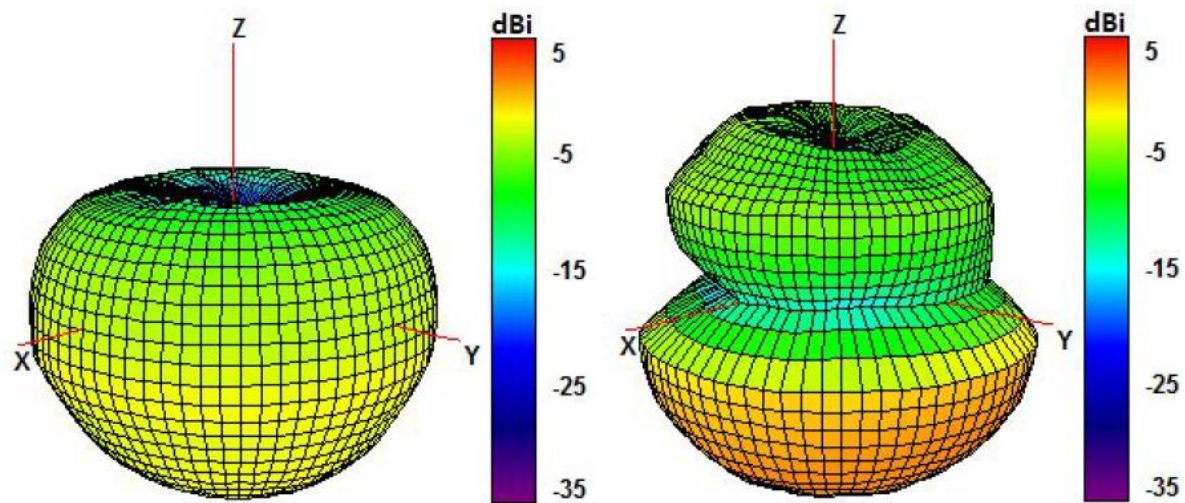
By understanding the information provided by a radiation pattern, it is possible to optimize the design and performance of an antenna for specific applications.

3D – Pattern

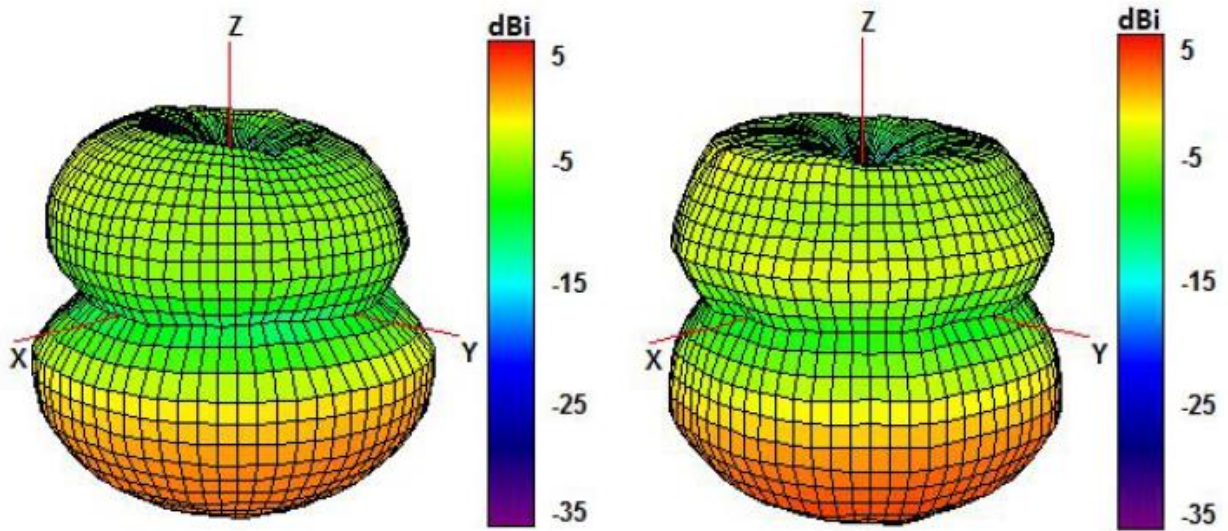




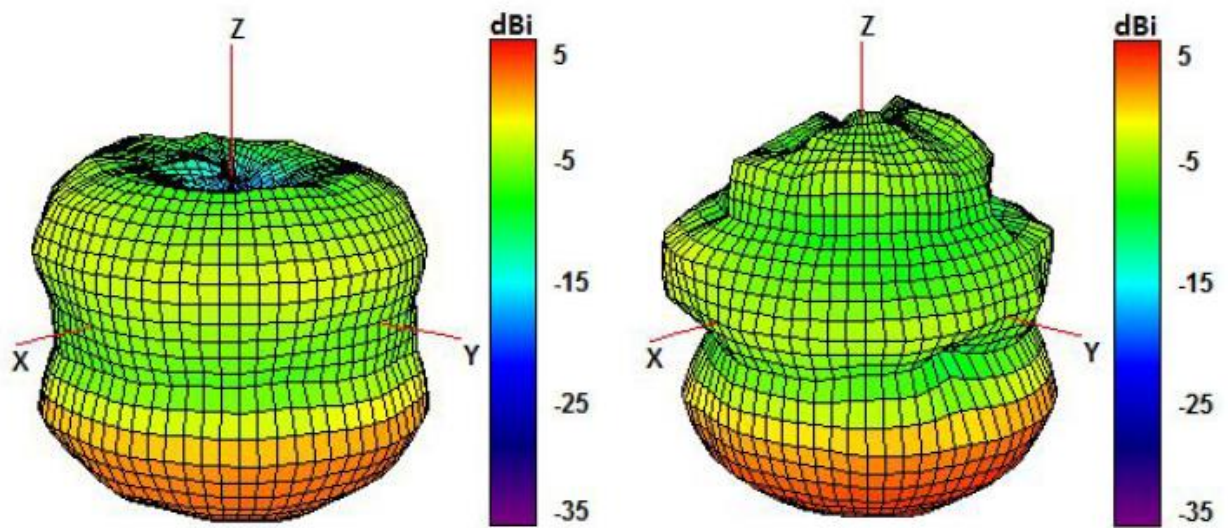
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern



1850 and 1950 MHz Radiation pattern

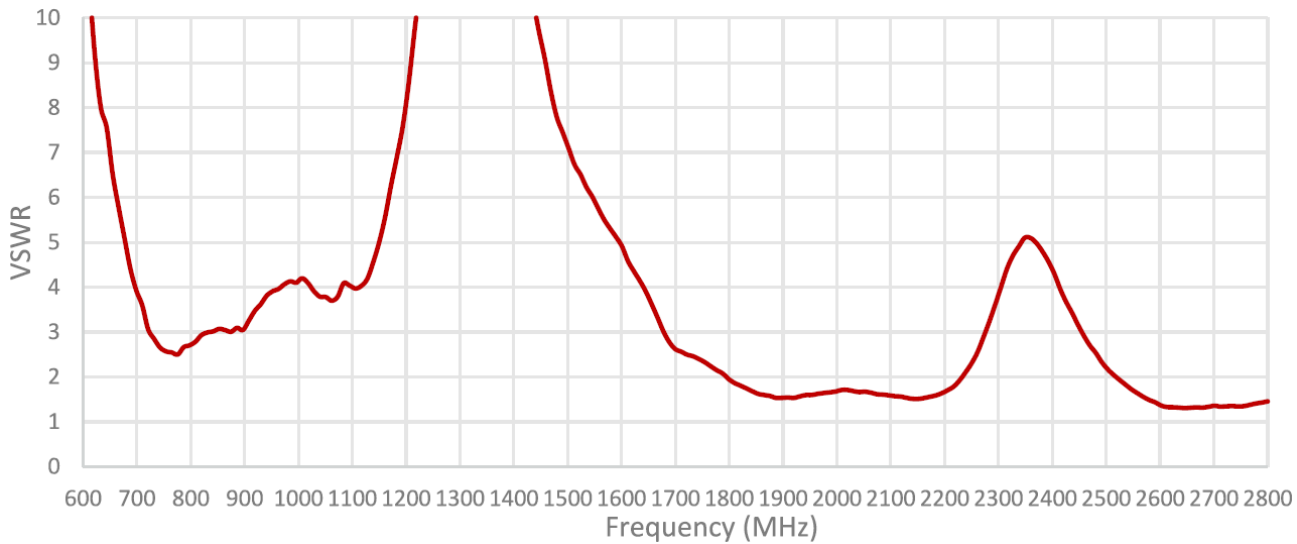
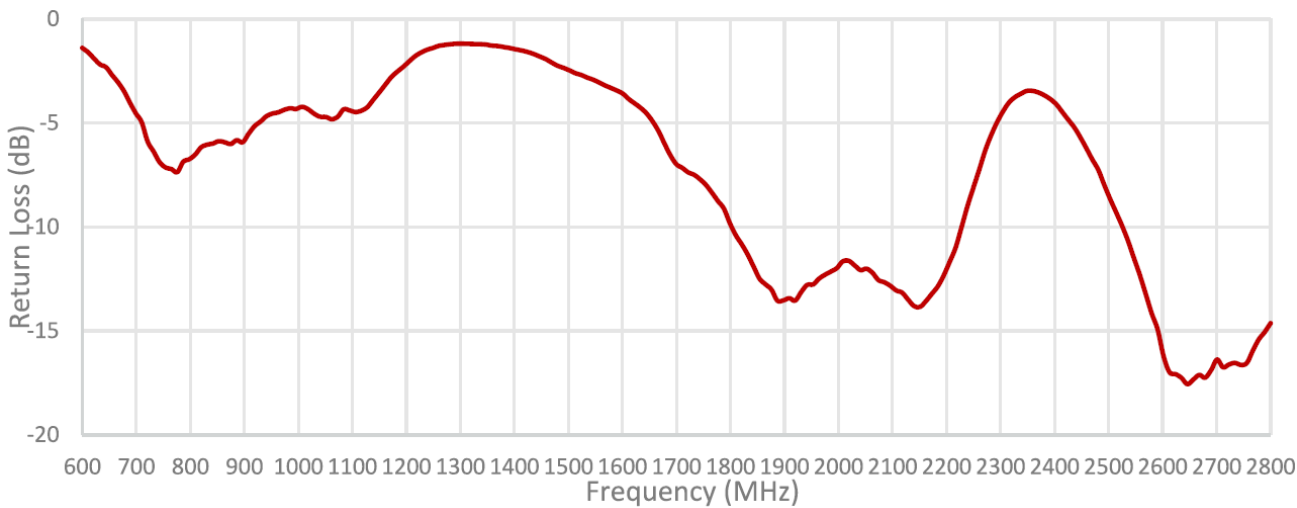


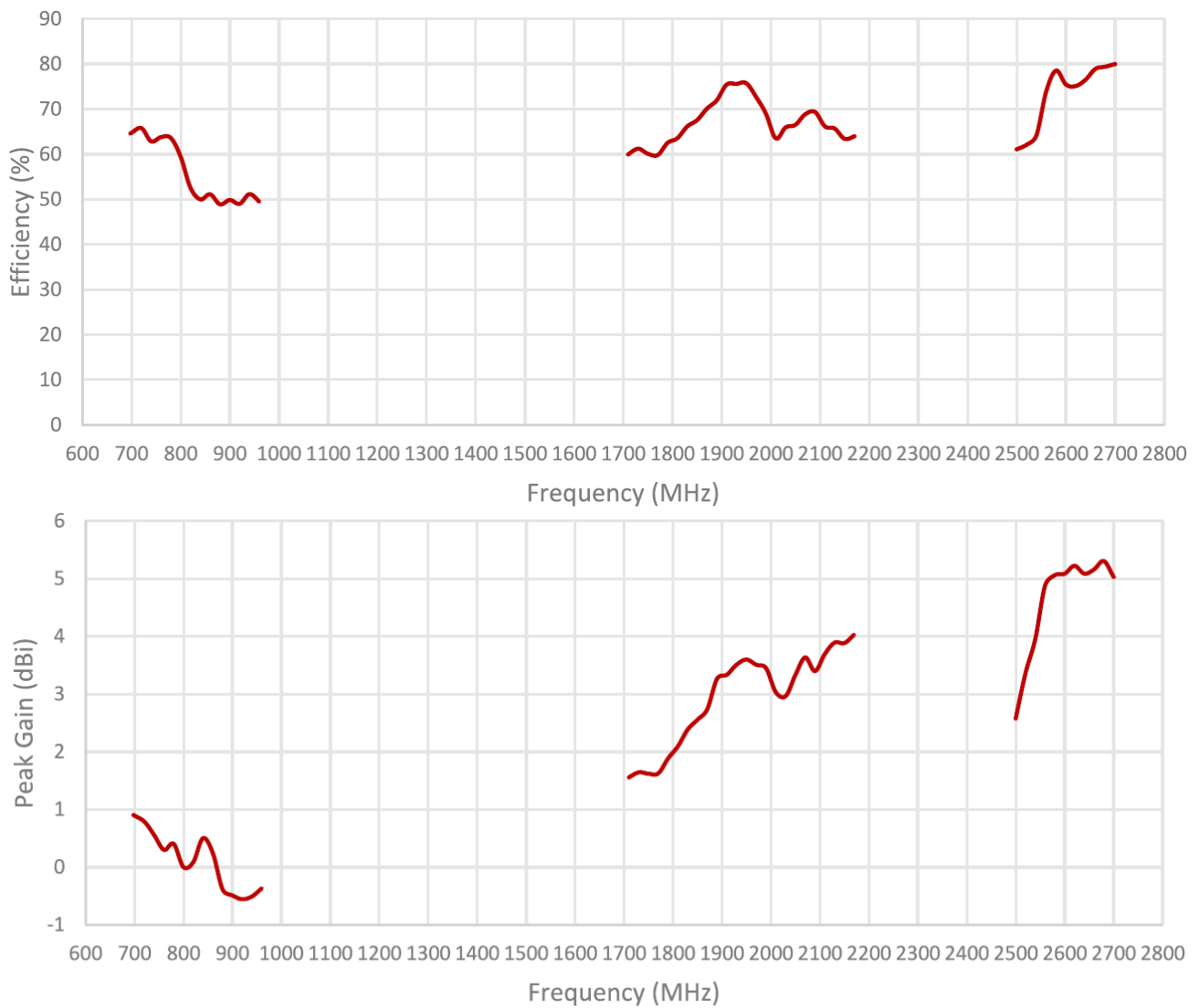
2100 and 2600 MHz Radiation pattern

Antenna 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

Compliance RoHS

Ordering Information

Product Variants

Part Number	Description
L-1RA8	Multiband 2G 3G 4G LTE /2.4G WIFI 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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