

L-1RB3

4G/LTE/WiFi Multiband Hinged-Whip Antenna

CELLULAR

WIFI

The L-1RB3 is a type of Multiband 2G 3G 4G LTE / 2.4G WIFI Antenna with an IP66 rating. It supports 4G, 3G, and 2G cellular networks and operates within a frequency range of 690 to 2690MHz and it has SMA connectors.

With its wide frequency range, the L-1RB3 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.



115 x Ø11 mm

Document Information

Product	L-1RB3
Part Number	L-1RB3
Description	4G/LTE/WiFi Multiband Hinged-Whip Antenna
Version	2.0 (current)
Date	8-Sep-2023
Status	Released

Revision History

Version	Date	Author	Changes
1.0	16-Dec-2020	Amy Li	Initial Release
1.1	7-JUL-2023	Ivy Liao	New layout and design
2.0	8-Sep-2023	Ivy Liao	New layout and design

Product Overview

Product Description

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Key Features

- Support GSM / LTE / 2.4G WIFI
- Small and exquisite
- High Reliability/Sensitivity
- Compact Size, Easy to install
- IP Rating 66
- RoHS Compliant

Applications

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

Electrical Specifications

Frequency			VSWR	Peak Gain	Efficiency
LTE	690 - 960	MHz	1.9	3.4 d Bi	52%
LTE	1710 - 2700	MHz	2.1	3.5 d Bi	61%
2.4G WiFi	2400 - 2500	MHz	2.4	5.2 d Bi	52%

Frequency Range	690 – 2700 MHz	Radiation	Omnidirectional
Impedance	50 Ω	Electrical Type	Monopole
Polarization	Vertical		

Mechanical Specifications

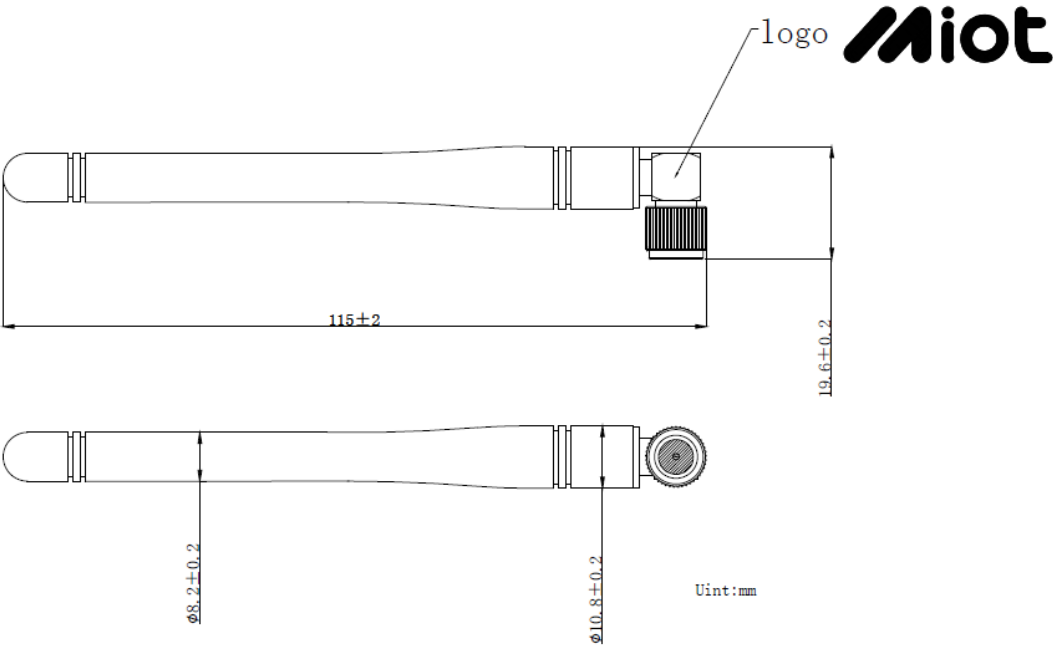
Type	Hinge	Casing	Yes
Dimensions	115 x Ø11 mm	Color	Black
Mounting Type	Connector Mount	Material	PC + ABS
Connector	SMA-RP		

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





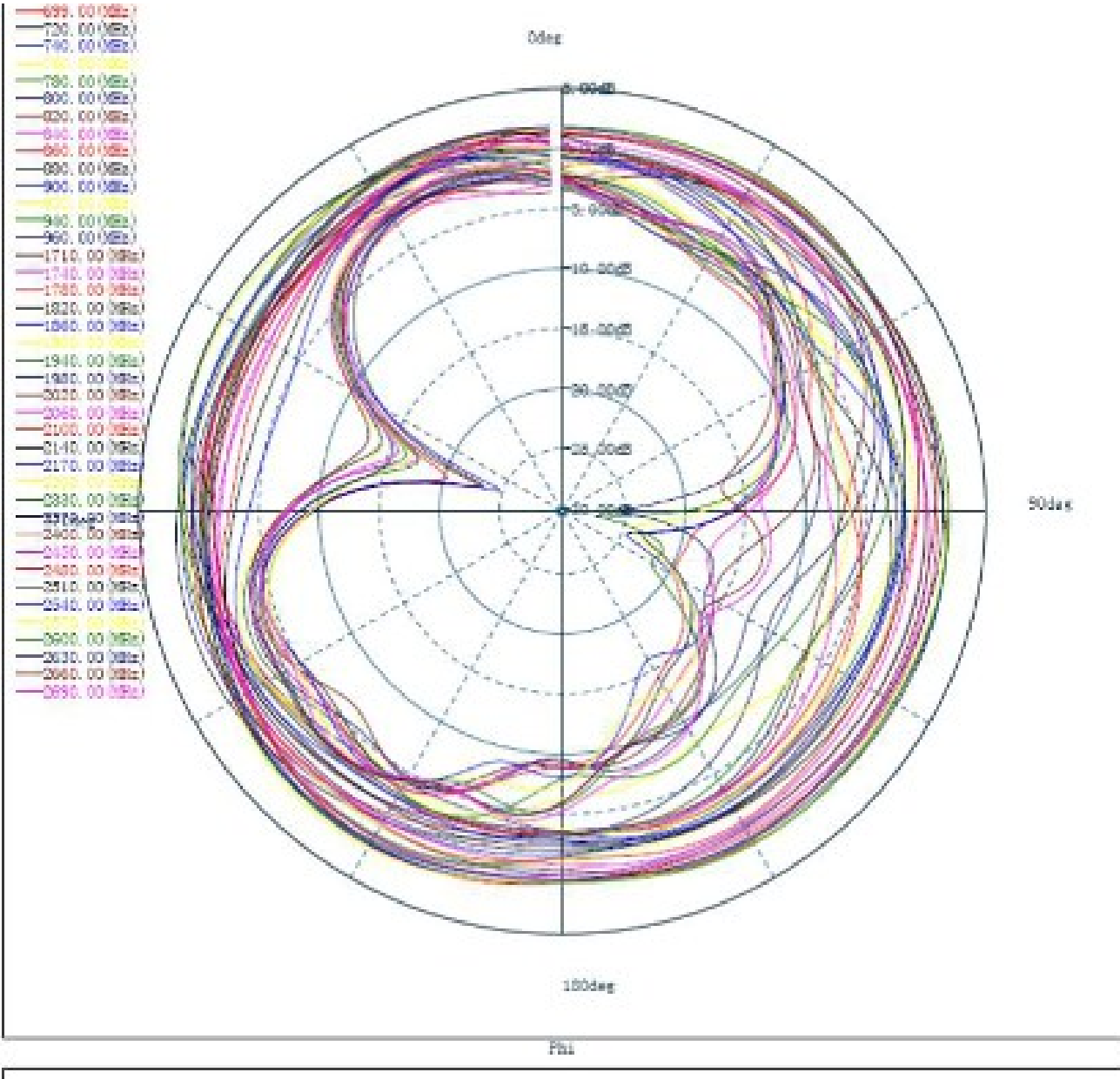
Radiation Pattern

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.

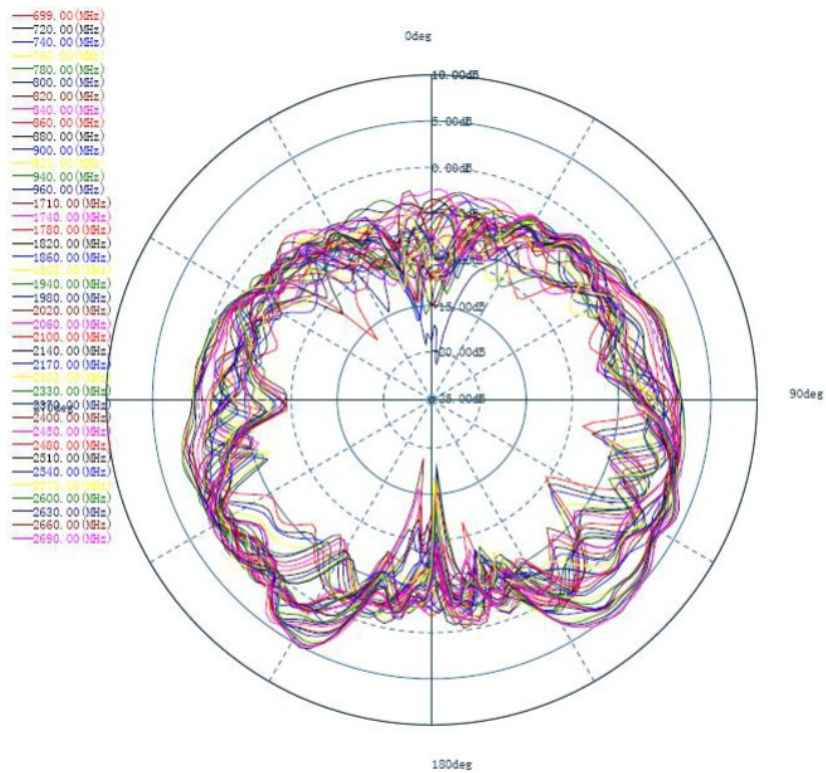
XY Plane (H)

690 – 2700 MHz



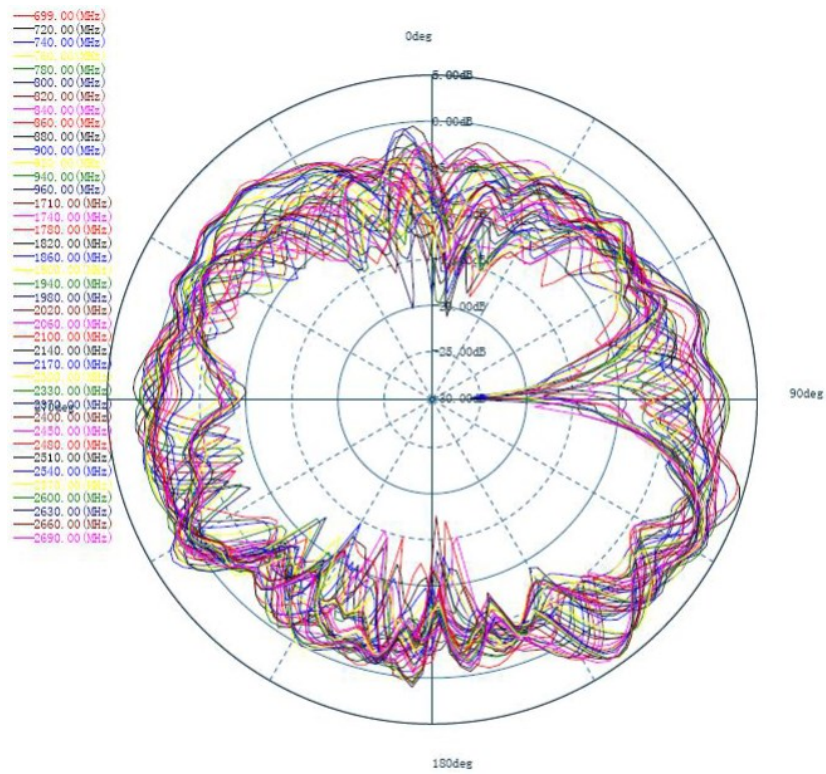
YZ Plane (E1)

690 – 2700 MHz



YZ Plane (E2)

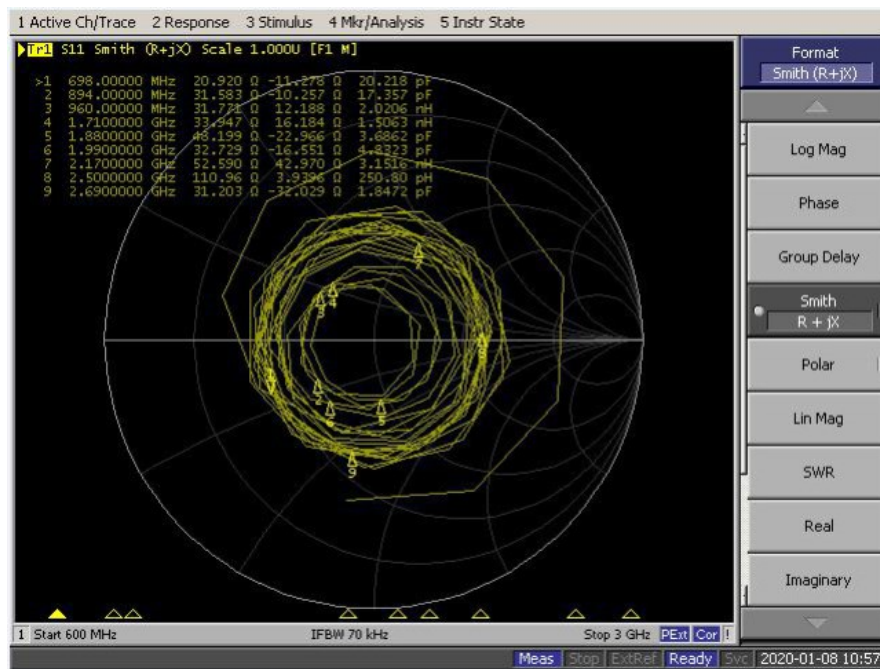
690 – 2700 MHz



Antenna Smith and VSWR

Frequency		VSWR
698	MHz	2.7
894	MHz	1.7
960	MHz	1.7
1710	MHz	1.8

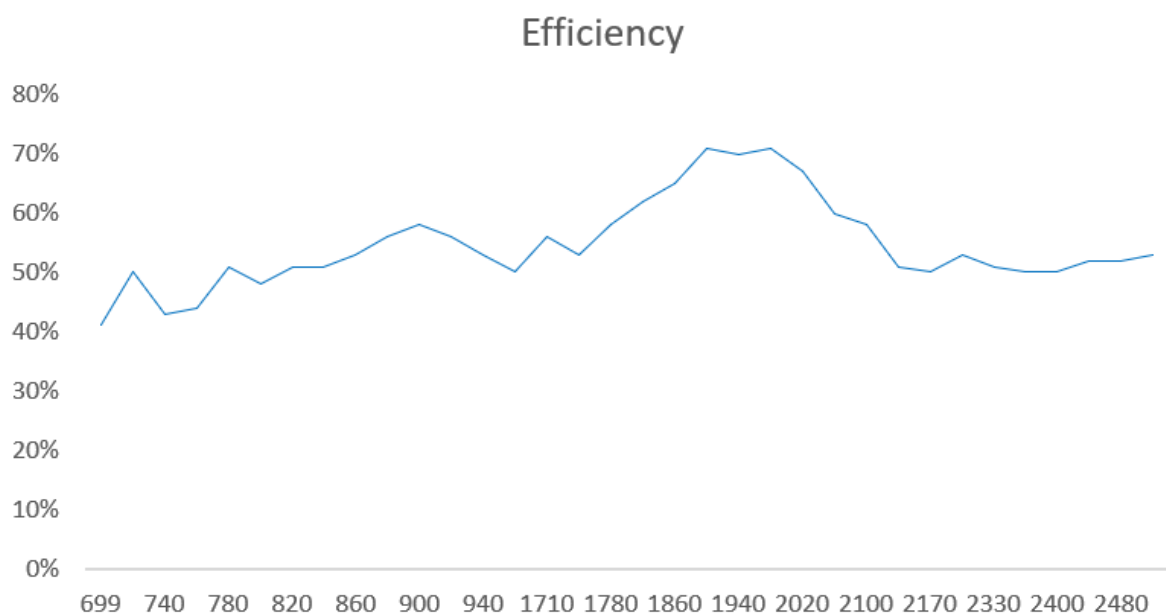
Frequency		VSWR
1880	MHz	1.6
1990	MHz	1.8
2170	MHz	2.4
2500	MHz	2.5

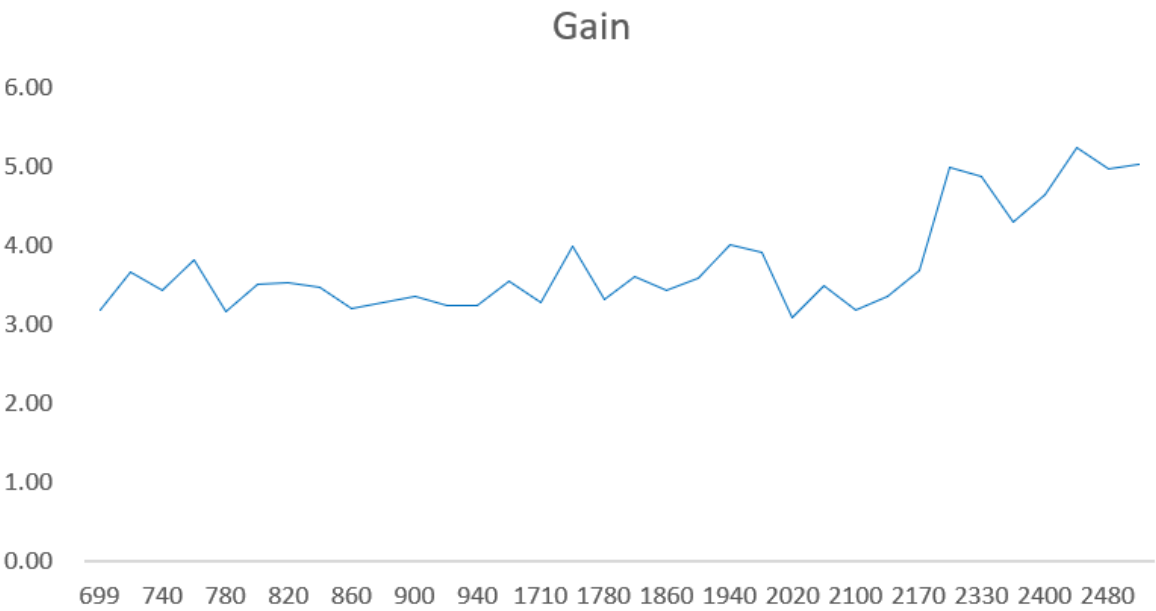


Antenna Efficiency and Gain

Frequency		Efficiency	Gain
699	MHz	41%	3.187268
720	MHz	50%	3.653499
740	MHz	43%	3.428539
760	MHz	44%	3.807145
780	MHz	51%	3.156396
800	MHz	48%	3.500001
820	MHz	51%	3.524059
840	MHz	51%	3.473653
860	MHz	53%	3.200639
880	MHz	56%	3.277643
900	MHz	58%	3.353002
920	MHz	56%	3.233816
940	MHz	53%	3.246641
960	MHz	50%	3.542606
1710	MHz	56%	3.281347
1740	MHz	53%	3.998074
1780	MHz	58%	3.316948

Frequency		Efficiency	Gain
1820	MHz	62%	3.598512
1860	MHz	65%	3.426071
1900	MHz	71%	3.577335
1940	MHz	70%	4.016176
1980	MHz	71%	3.906667
2020	MHz	67%	3.091654
2060	MHz	60%	3.483115
2100	MHz	58%	3.177725
2140	MHz	51%	3.360463
2170	MHz	50%	3.688802
2300	MHz	53%	4.992819
2330	MHz	51%	4.871623
2370	MHz	50%	4.291939
2400	MHz	50%	4.639098
2450	MHz	52%	5.242113
2480	MHz	52%	4.980145
2510	MHz	53%	5.025075





Environmental Data

Operating Temperature	-20 °C to +80 °C
IP Rating	IP66
Compliance	RoHS

Ordering Information

Product Variants

Part Number	Description
L-1RB1	4G/LTE Multiband Whip Antenna (115 x 10 mm)
L-1RB3	4G/LTE/WiFi Multiband Hinged-Whip Antenna (115 x 11 mm)
L-1RB7	4G/LTE/WiFi Blade Antenna (175 x 20 mm)
L-1RB8	4G/LTE Multi-band Hinged-Blade Antenna (163 x 22 mm)
L-1RB9	4G/LTE/WiFi Multiband Whip Antenna (53.5 x 8 mm)

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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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