Datasheet

L-1RC3

Adhesive Ground Plane Independent 4G Antenna

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The L-1RC3 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-1RC3 antenna supports reliable wireless connectivity across multiple cellular networks. It enables efficient data transfer, voice communication, and IoT applications.

88 × 30 mm

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Document Information

Product	L-1RC3
Part Number	L-1RC3
Description	Adhesive Ground Plane Independent 4G Antenna
Version	2.0 (current)
Date	3-JUL-2023
Status	Released

Revision History

Version	Date	Author	Changes
1.0	16-Dec-2020	Amy li	Initial Release
2.0	3-JUL-2023	Ivy liao	New layout and design

Product Overview

Product Description

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Key Features

- Operates in 824-2690 MHz
- Multiband band antenna
- Vertical polarization
- High gain of 5 dBi
- VSWR 1.4
- Omni-directional pattern

Applications

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

Electrical Specifications

Frequency				VSWR	Peak Gain	Efficiency
LTE	824 - 2170		MHz	1.4	3.6 d Bi	60%
LTE/WiFi	2400	2690	MHz	1.1	3.3 d Bi	60%

Frequency Range	824– 2690 MHz	Radiation	Omnidirectional
Impedance	50 Ω	Polarization	Vertical

Mechanical Specifications

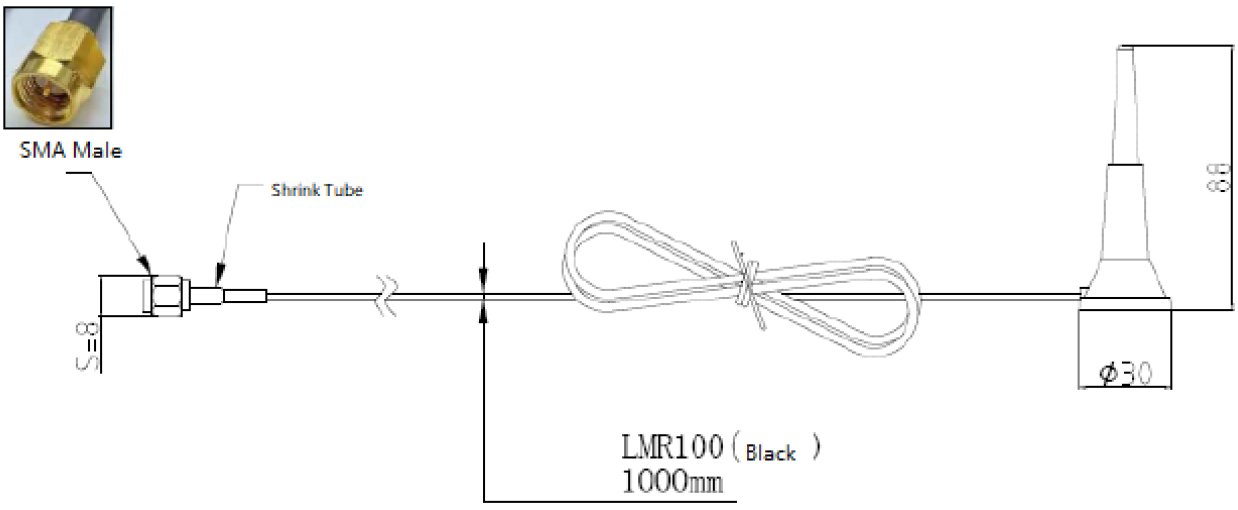
Type	Magnetic	Mounting Type	Magnetic
Dimensions	88 × 30 mm	Casing	YES
Connector	SMA Male	Color	Black

Cable type	LMR100	Material	PC + ABS
Cable Length	1000mm		

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.

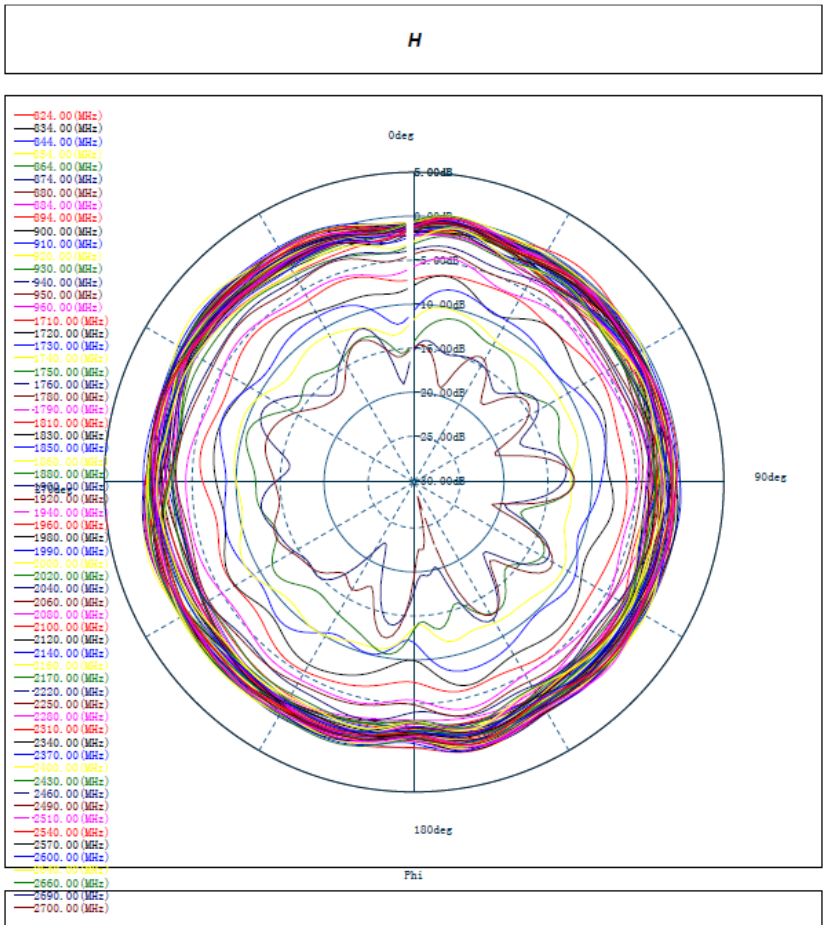
By understanding the information provided by a radiation pattern, it is possible to optimize the design and performance of an antenna for specific applications.

Test Setup

Equipment	XYZ Testing Machine	Conditions	Free space Bend

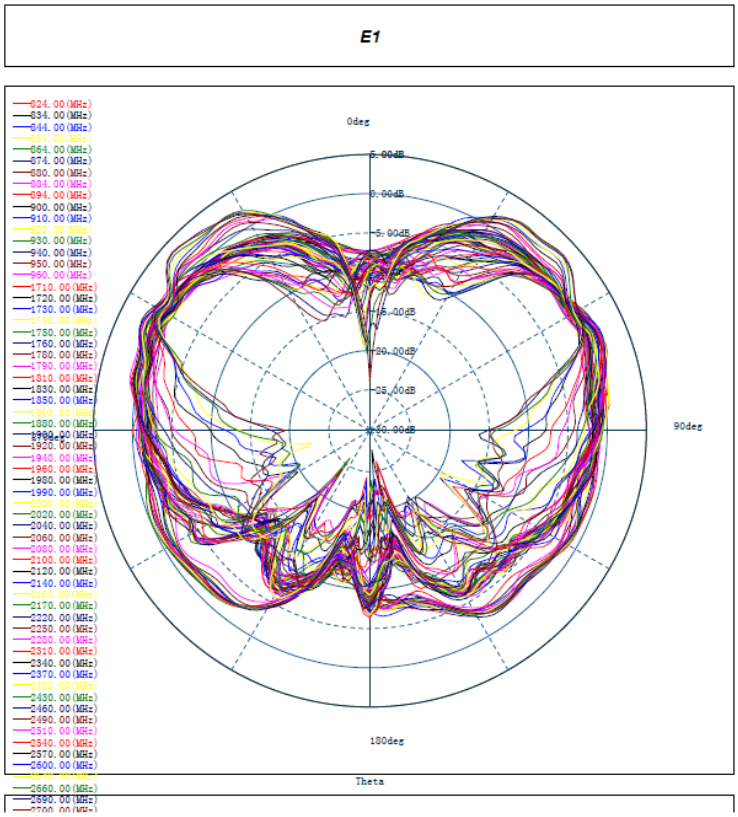
XY Plane (H)

824– 2690 MHz



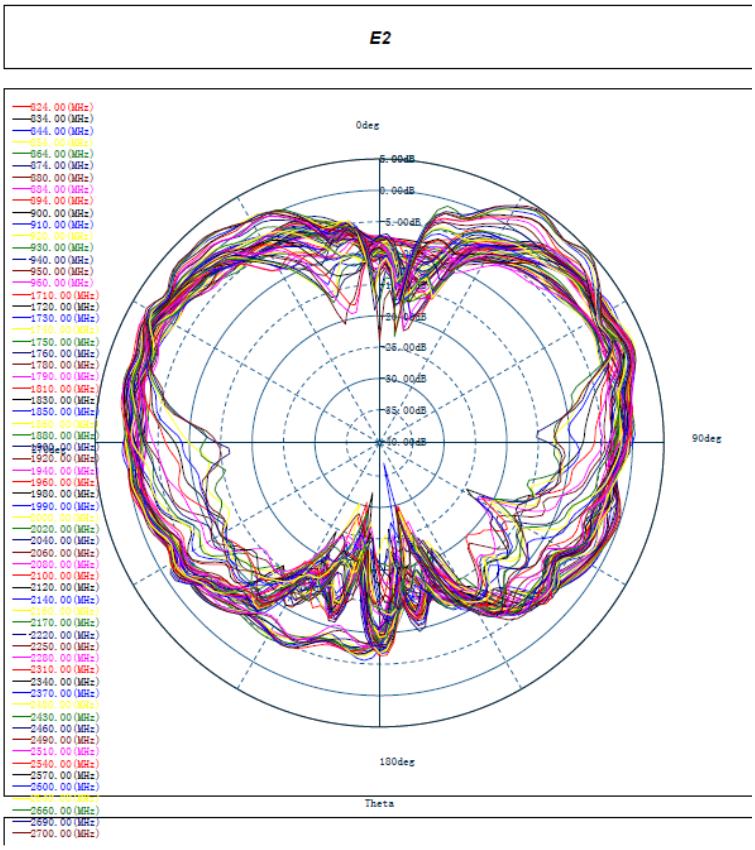
XZ Plane (E1)

824– 2690 MHz



YZ Plane (E2)

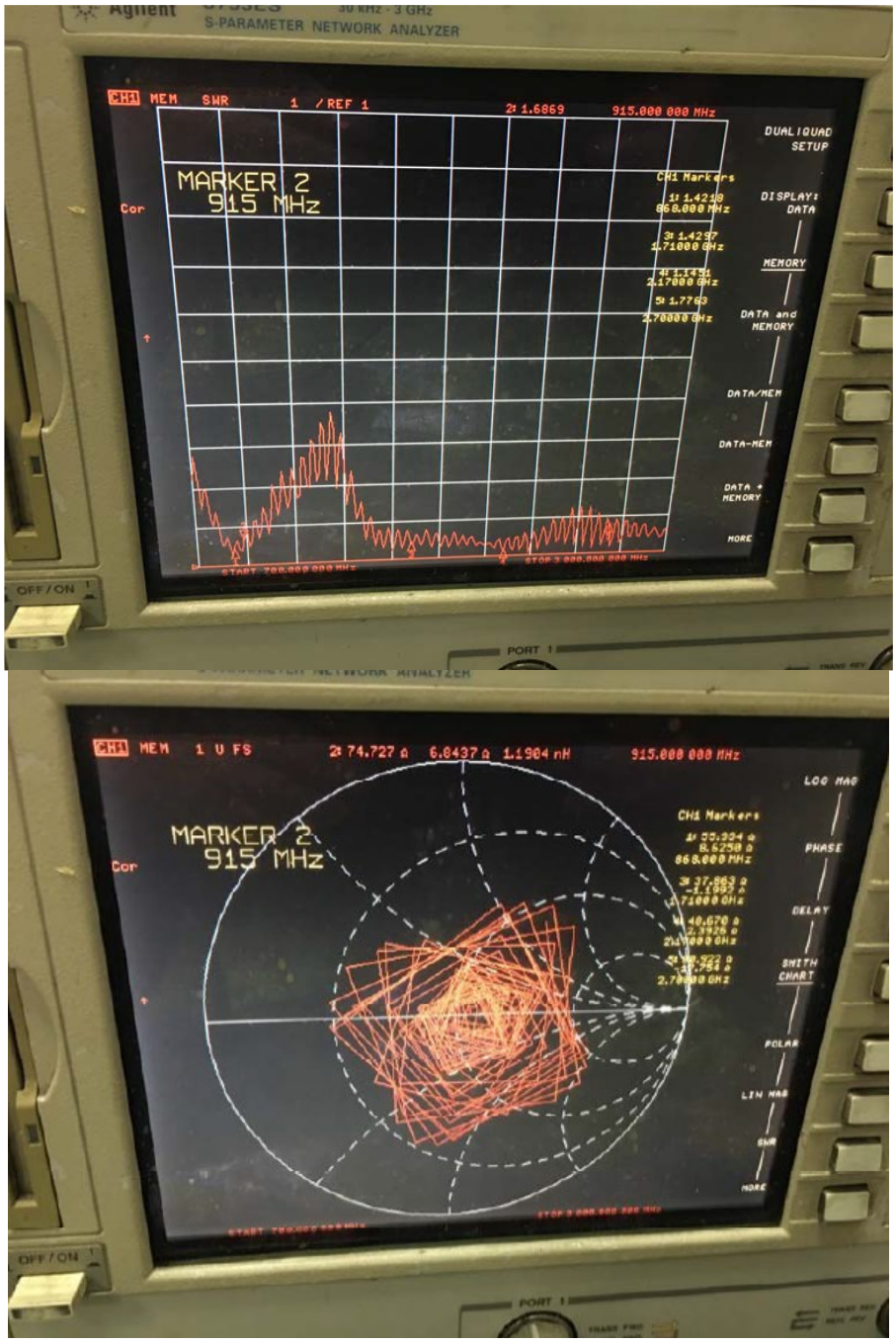
824 – 2690 MHz



Antenna Smith and VSWR

Frequency		VSWR
868	MHz	1.4
915	MHz	1.6
1710	MHz	1.4

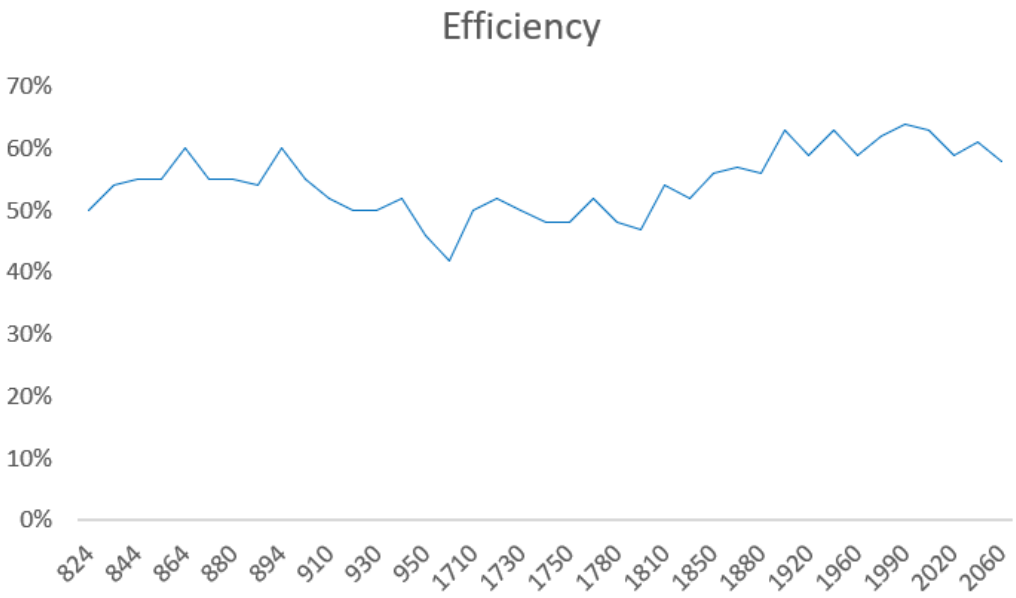
Frequency		VSWR
2170	MHz	1.1
2700	MHz	1.7

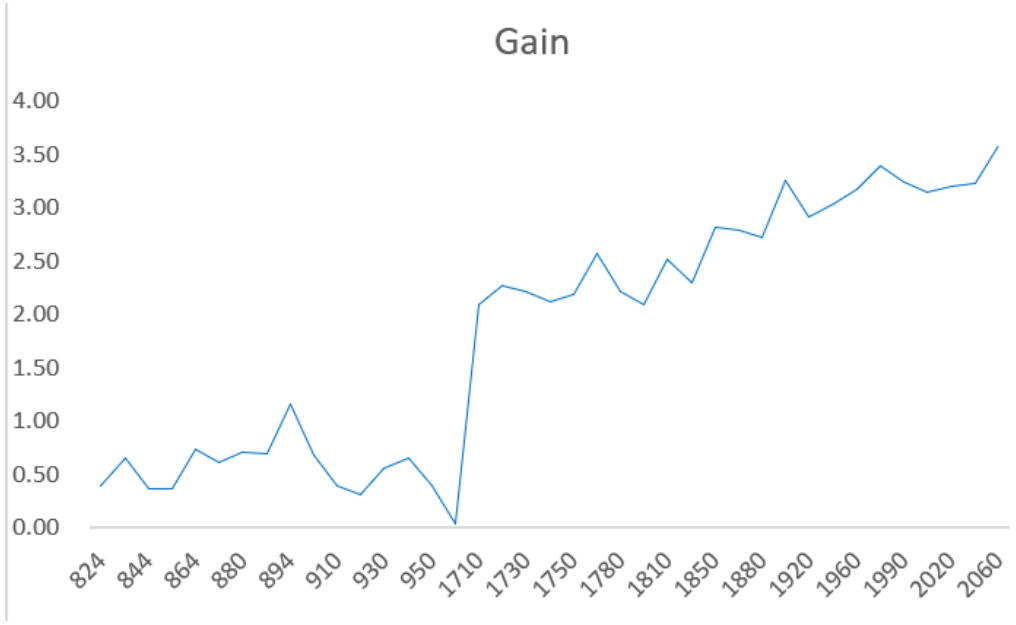


Antenna Efficiency and Gain

Frequency		Efficiency	Gain
824	MHz	50%	0.39676
834	MHz	54%	0.652699
844	MHz	55%	0.365122
854	MHz	55%	0.363259
864	MHz	60%	0.738526
874	MHz	55%	0.605942
880	MHz	55%	0.710534
884	MHz	54%	0.688639
894	MHz	60%	1.156066
900	MHz	55%	0.681385
910	MHz	52%	0.397439
920	MHz	50%	0.316429
930	MHz	50%	0.557884
940	MHz	52%	0.652894
950	MHz	46%	0.393599
960	MHz	42%	0.035898
1710	MHz	50%	2.089099
1720	MHz	52%	2.269809
1730	MHz	50%	2.214842
1740	MHz	48%	2.120625
1750	MHz	48%	2.184805

Frequency		Efficiency	Gain
1760	MHz	52%	2.574266
1780	MHz	48%	2.214663
1790	MHz	47%	2.09233
1810	MHz	54%	2.522246
1830	MHz	52%	2.297114
1850	MHz	56%	2.823039
1860	MHz	57%	2.790439
1880	MHz	56%	2.719962
1900	MHz	63%	3.254147
1920	MHz	59%	2.906823
1940	MHz	63%	3.038509
1960	MHz	59%	3.174803
1980	MHz	62%	3.388856
1990	MHz	64%	3.242076
2000	MHz	63%	3.148119
2020	MHz	59%	3.194956
2040	MHz	61%	3.232137
2060	MHz	58%	3.585777





Environmental Data

Operating Temperature	-20°C to +80°C
Vibration	N/A
IP Rating	IP66

Ordering Information

Product Variants

Part Number	Description
L-1RC3	Adhesive Ground Plane Independent 4G 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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