Datasheet

L-5RA4

Ultraband 5G Panel Antenna

CELLULAR WIFI

The L-5RA4 is an ultraband antenna for 5G, LTE, and WCDMA that can also cover Wi-Fi frequencies. With a frequency range spanning from 699MHz to 960MHz and extending up to 5000MHz from 1710MHz, it's a versatile solution for all your connectivity needs.
The L-5RA4 offer wide frequency coverage, high gain, directional performance, compact design, enhanced connectivity, reliability, and scalability, making them an excellent choice for optimizing wireless communication networksallows the antenna to be positioned for optimum performance compared to a fixed whip design.

297 x 210 x 65 mm

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Document Information

Product	L-5RA4
Part Number	L-5RA4
Description	Ultraband 5G Panel Antenna
Version	2.0 (current)
Date	7-Sep-2023
Status	Released

Revision History

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

Product Overview

Product Description

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Key Features

- Support 5G
- Small and exquisite
- High Reliability/Sensitivity
- Compact Size, Easy to install

Applications

- 5G / 2.4G WIFI radios
- Gateways
- Set-Top Boxes
- Security
- Transportation
- Smart agriculture

Electrical Specifications

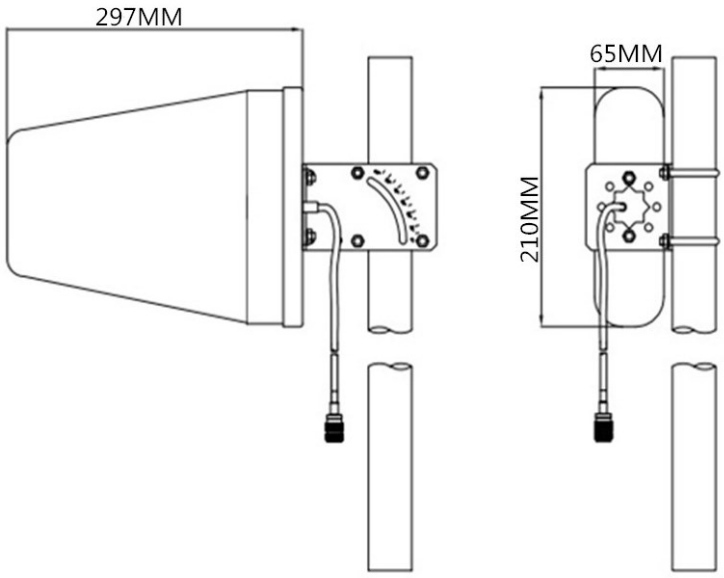
Frequency			VSWR	Peak Gain	Efficiency
5G/LTE	699 - 960	MHz	1.6	7.8 d Bi	78%
5G/LTE	1700 5000	MHz	2.3	7.8 d Bi	63%

Frequency Range	699~5000 MHz	Radiation	Omnidirectional
Impedance	50 Ω	Electrical Type	Monopole
Polarization	Vertical	Lightning protection	DC ground

Mechanical Specifications

Type	Panel Antenna	Casing	Yes
Dimensions	297 x 210 x 65 mm	Color	White
Connector (Termination)	N male	Material	PC + ABS
Mounting Type	Hold In The Pole	Weight	0.75kg

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.

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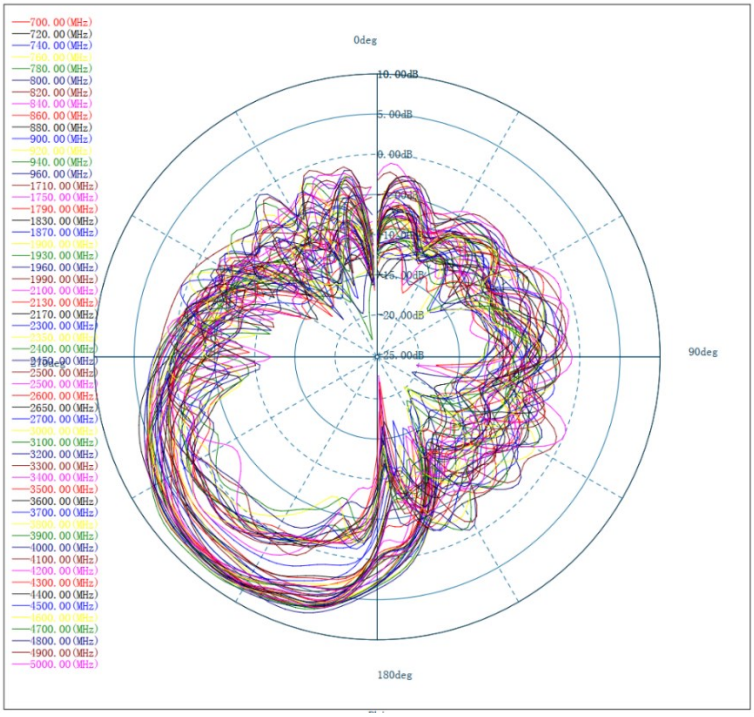
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90deg
180deg
10.00dB
5.00dB
0.00dB
-5.00dB
-10.00dB
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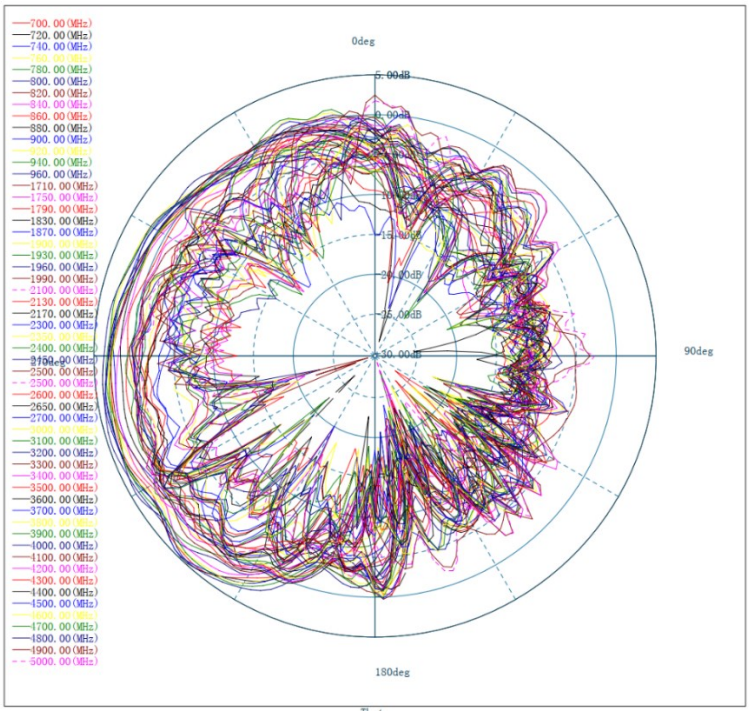
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180deg
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-5.00dB
-10.00dB
-15.00dB
-20.00dB
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720.00(MHz)
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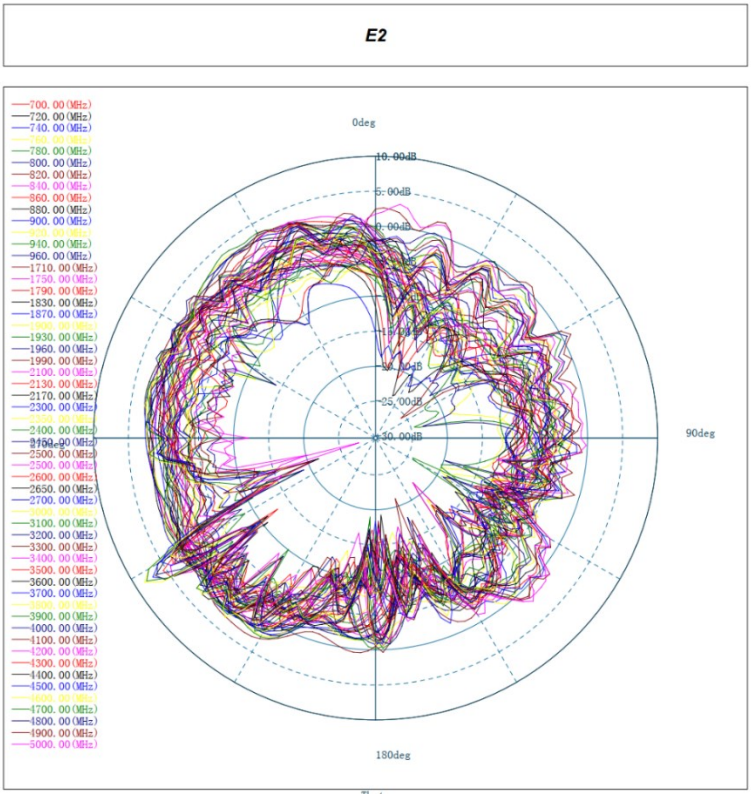
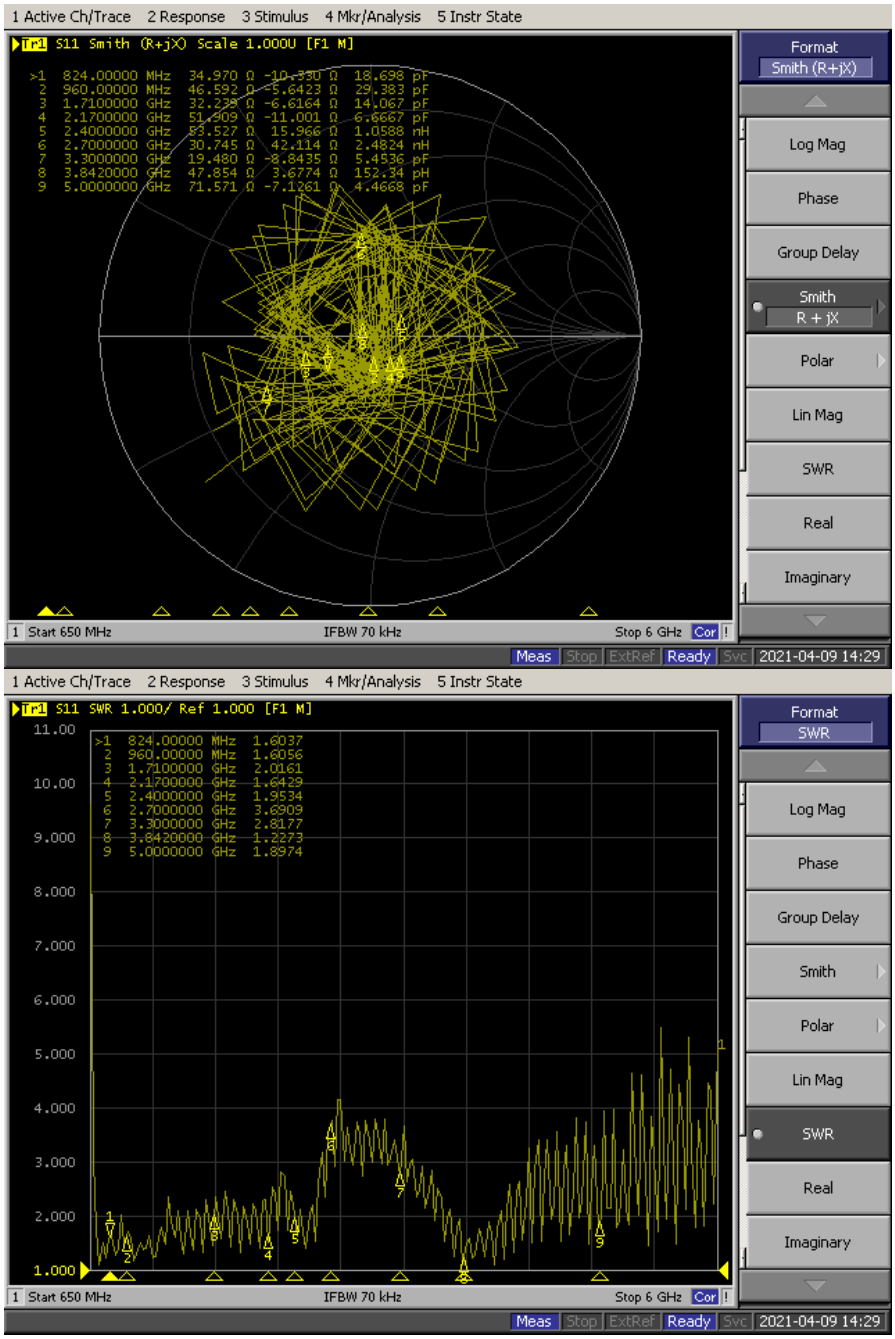


Antenna Smith and VSWR

Frequency		VSWR
824	MHz	1.6
960	MHz	1.6
1710	MHz	2.0
2170	MHz	1.6
2400	MHz	1.9

Frequency		VSWR
2700	MHz	3.7
3300	MHz	2.8
3800	MHz	1.2
5000	MHz	1.9



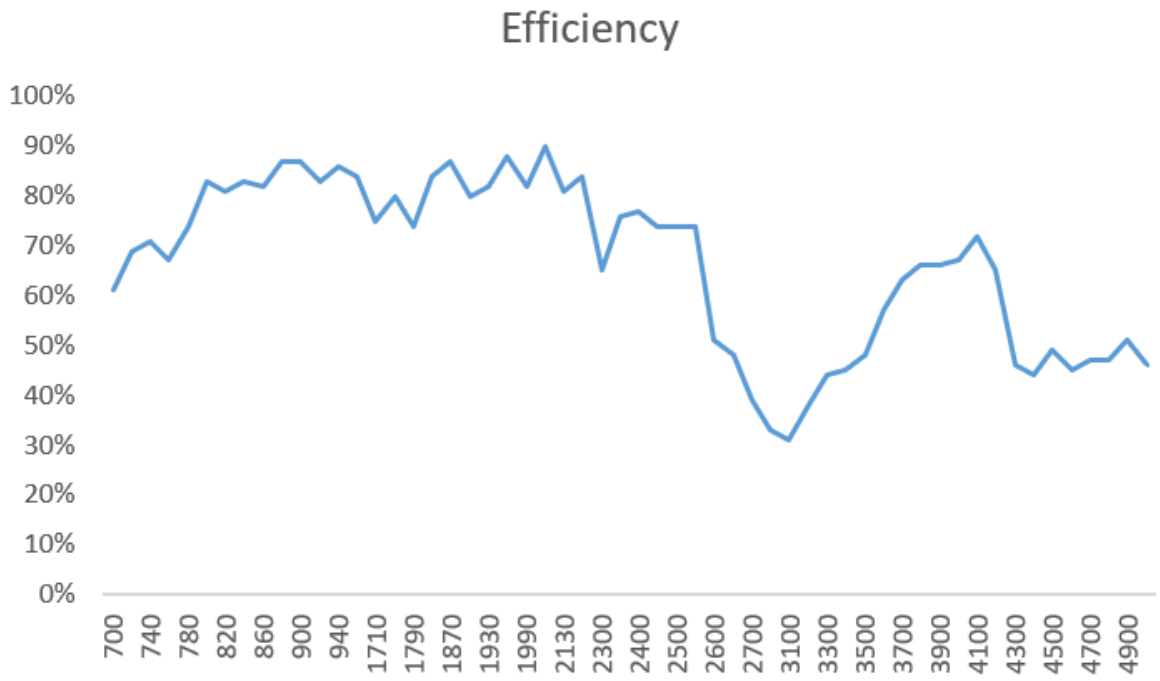
Antenna Efficiency and Gain

Frequency		Efficiency	Gain
700	MHz	61%	5.652747
720	MHz	69%	6.511093
740	MHz	71%	6.78837
760	MHz	67%	7.120494
780	MHz	74%	7.899922
800	MHz	83%	9.124371

Frequency		Efficiency	Gain
2400	MHz	77%	9.41976
2450	MHz	74%	9.051413
2500	MHz	74%	9.082079
2500	MHz	74%	9.094513
2600	MHz	51%	7.006162
2650	MHz	48%	7.102896

820	MHz	81%	7.732131
840	MHz	83%	7.655691
860	MHz	82%	8.256417
880	MHz	87%	8.295916
900	MHz	87%	8.187174
920	MHz	83%	8.282787
940	MHz	86%	8.266302
960	MHz	84%	9.009329
1710	MHz	75%	7.485374
1750	MHz	80%	7.789189
1790	MHz	74%	7.450263
1830	MHz	84%	8.016655
1870	MHz	87%	8.418168
1900	MHz	80%	8.591285
1930	MHz	82%	9.146744
1960	MHz	88%	8.34252
1990	MHz	82%	8.478168
2100	MHz	90%	8.435222
2130	MHz	81%	8.060436
2170	MHz	84%	9.139596
2300	MHz	65%	8.215548
2350	MHz	76%	9.150869

2700	MHz	39%	6.595199
3000	MHz	33%	4.819876
3100	MHz	31%	4.247818
3200	MHz	38%	5.269704
3300	MHz	44%	5.898875
3400	MHz	45%	6.645695
3500	MHz	48%	8.267136
3600	MHz	57%	9.300736
3700	MHz	63%	9.332014
3800	MHz	66%	10.2199
3900	MHz	66%	10.09796
4000	MHz	67%	9.388135
4100	MHz	72%	9.908564
4200	MHz	65%	9.377114
4300	MHz	46%	7.490584
4400	MHz	44%	7.372171
4500	MHz	49%	8.031459
4600	MHz	45%	6.540093
4700	MHz	47%	5.653231
4800	MHz	47%	5.869206
4900	MHz	51%	6.996141
5000	MHz	46%	5.793416


Efficiency
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
700
740
780
820
860
900
940
1710
1790
1870
1930
1990
2130
2300
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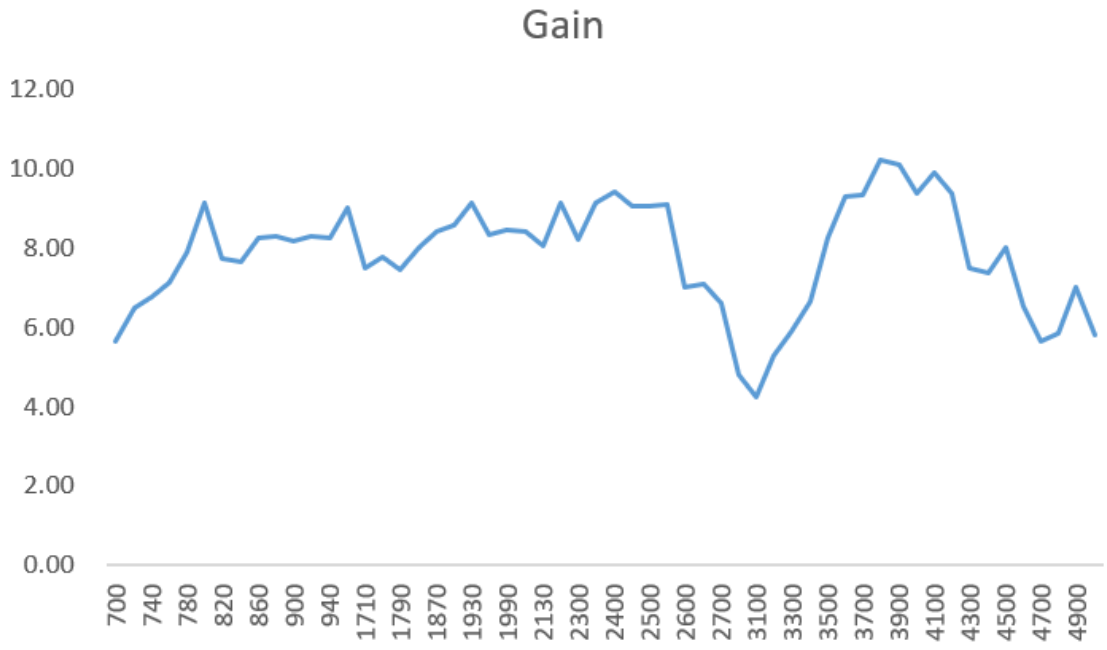
3900
4100
4300
4500
4700
4900


Gain
12.00
10.00
8.00
6.00
4.00
2.00
0.00
700
740
780
820
860
900
940
1710
1790
1870
1930
1990
2130
2300
2400
2500
2600
2700
3100
3300
3500
3700
3900
4100
4300
4500
4700
4900

Environmental Data

Operating Temperature	-40 °C to +60 °C
Compliance	RoHS

Ordering Information

Product Variants

Part Number	Description
L-5RA4	Ultraband 5G Panel Antenna

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.

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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