

D-1RC3

External Dual Band GNSS/LTE Combo Antenna

GNSS

CELLULAR

LTE

The D-1RC3 is a high-performance combo antenna that supports dual band GNSS and LTE frequencies. With its black TPE enclosure, it is designed to withstand harsh environmental conditions, making it ideal for outdoor use. The SMA connector ensures easy connectivity to various devices.

The D-1RC3 is compact and easy to install. It is a reliable and versatile option for IoT applications that require high-performance wireless connectivity, such as smart agriculture, smart cities, and fleet management.



Ø75 x 14.1 mm

Document Information

Product	D-1RC3
Part Number	D-1RC3
Description	External Dual Band GNSS/LTE Combo Antenna
Version	2.0 (current)
Date	25-Sep-2023
Status	Released

Revision History

Version	Date	Author	Changes
1.0	16-Dec-2020	Amy Li	Initial Release
2.0	25-Sep-2023	Ivy Liao	New layout and design

Product Overview

Product Description

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Key Features

- GNSS Dual Band
- LTE Wide Band
- High Reliability/Sensitivity
- Compact Size, Easy to install
- RoHS Compliant

Applications

- GPS Navigation
- Vehicle tracking
- Emergency call systems
- Telemetry Applications
- Asset tracking

Electrical Specifications

Frequency		VSWR	Peak Gain	Efficiency
GNSS/LTE	1574.4 - 1576.44 MHz	1.5	5 d Bi	50%

Frequency Range	1575.4– 1576.44 MHz	Bandwidth	10.0MHz
Impedance	50 Ω	Electrical Type	Monopole
Polarization	RHCP(Right Hand Circular Polarization)	Gain	5 dB(Based on 70× 70mm ground plane)
Operating Temperature	-40 °C~ + 80 °C	Storage Temperature	-45 °C~ + 85 °C

LNA Specifications

Frequency Range	1575.4– 1576.44 MHz	DC Voltage	2.5~3.5V
Output VSWR	2.0	Noise Figure	1.5(+25°C ± 10°C)
Polarization	RHCP(Right Hand Circular Polarization)	Gain	25~28 dB(Without cable +25°C± 10°C)
DC Current	10.5mA		

Mechanical Specifications

Type	Hinge	Mounting Type	Connector Mount
Dimensions	Ø135 x 38 mm	Casing	YES
Connector (Termination)	SMA	Color	Black
Cable type	LMR100(1m)	Material	PC + ABS
Cable Length	0.5m in default		

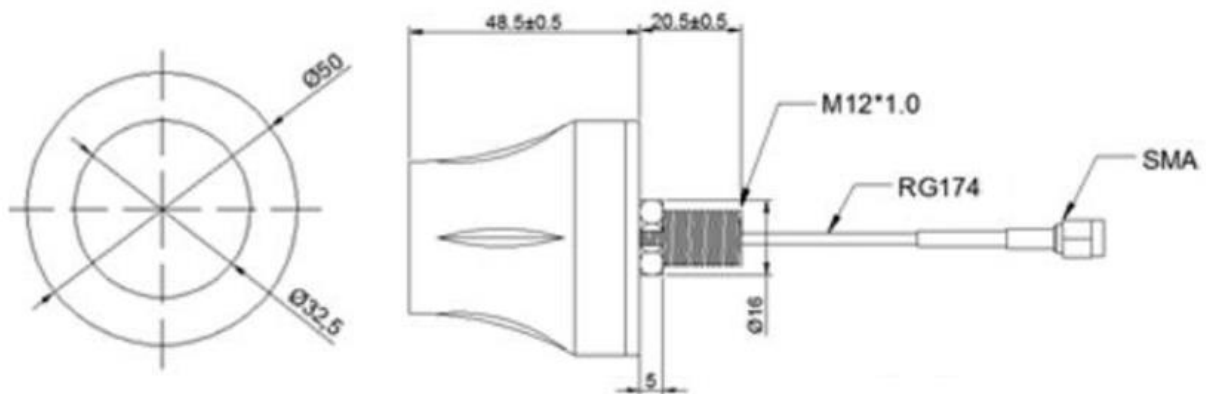
LTE Specifications

Frequency Range	698~960,1710~2170,2500~2700 MHz	VSWR	1.5~2.1V
Impedance	50 Ω	Noise Figure	1.5(+25°C ± 10°C)
Polarization	Vertical	Gain	4 dBi
DC Current	10.5mA	Lighting Protection	Direct Current earth
Azimuth	Omni-directional	Power Handling Capacity	50W
Connector (Termination)	SMA	Color	Black
Cable type	RG174(1.5m by default)	Material	PC + PBT
Enclosure	TPE	Radiator	Cuprum

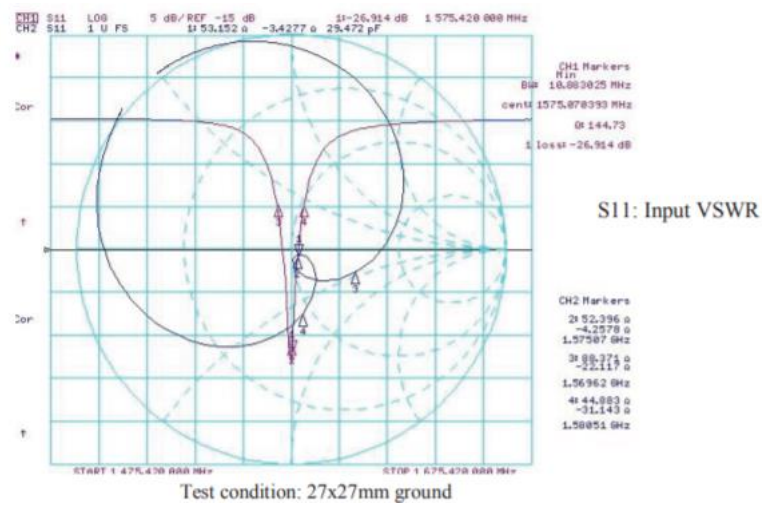
Caution:

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.

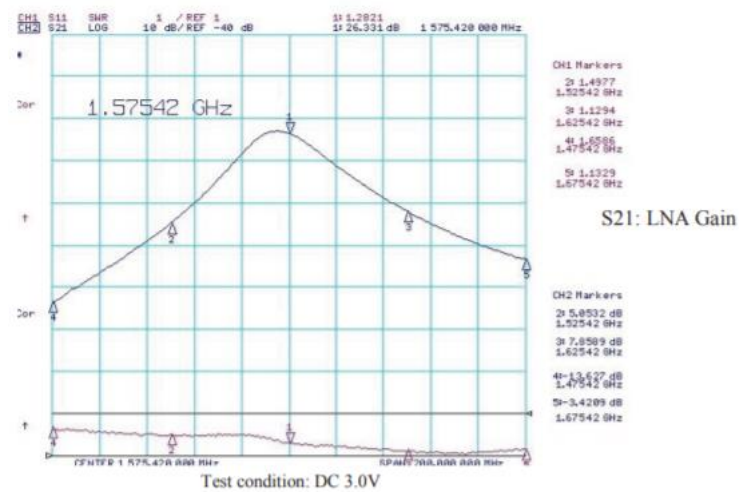
Product Image and Dimensions



Antenna's Impedance And Return-Loss Characteristics



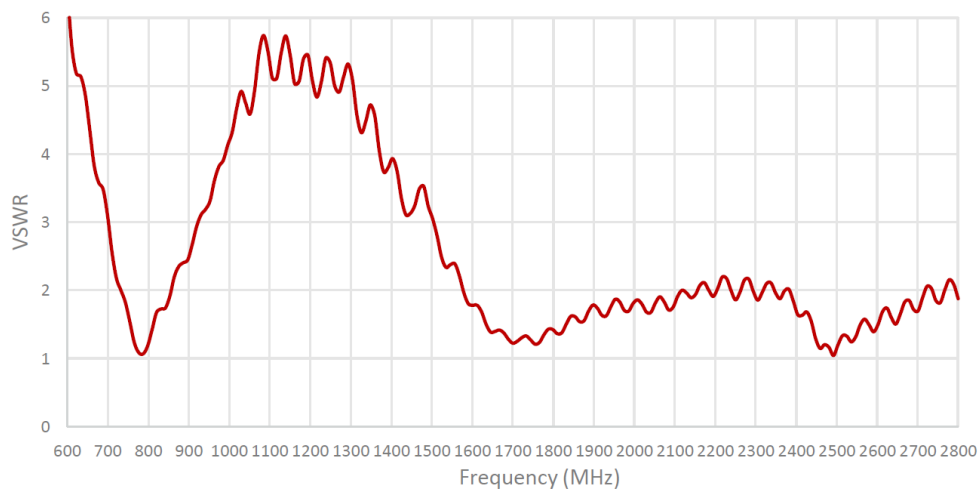
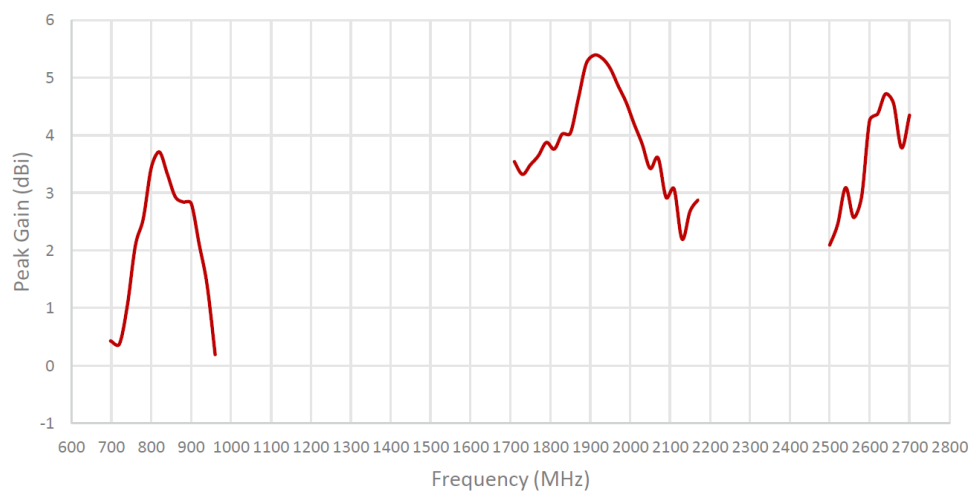
LNA Reflection Profile

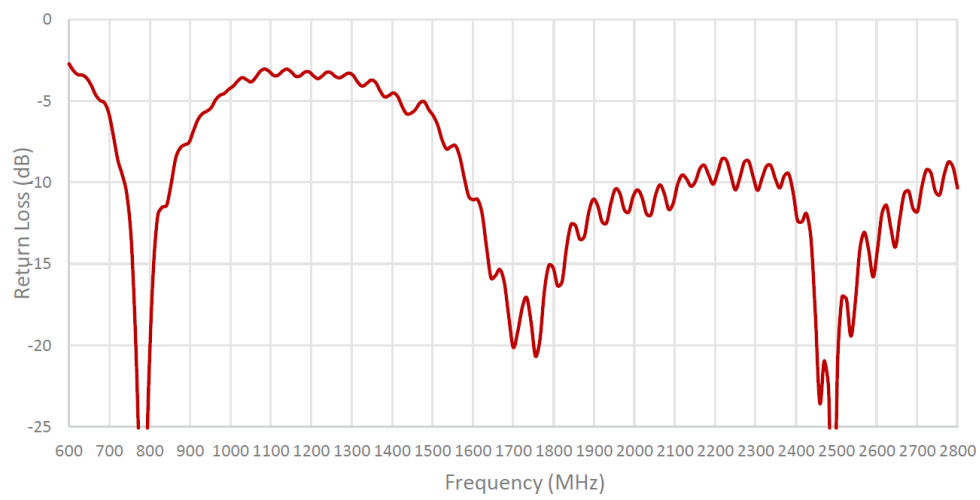
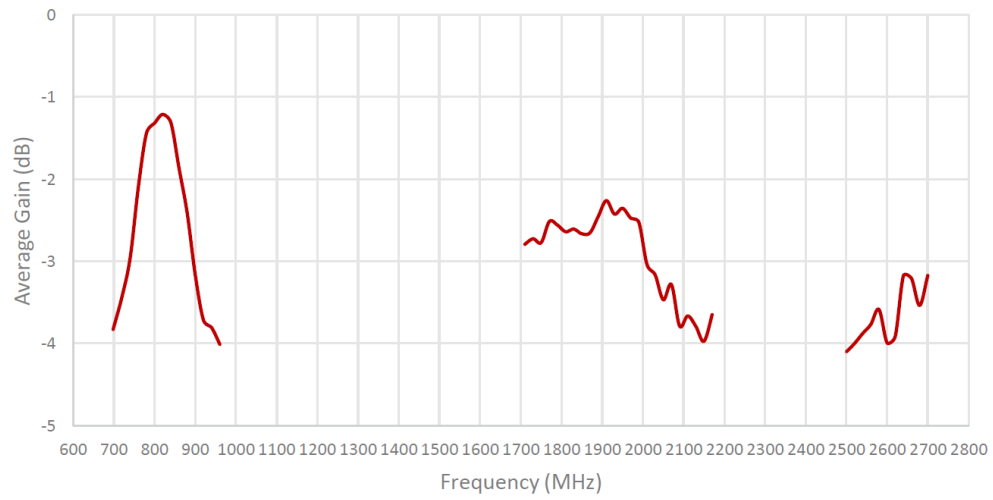


LTE Efficiency and Gain

Frequency		Efficiency	Gain
700	MHz	0.41	0.3
824	MHz	0.73	3.6
868	MHz	0.64	2.8
960	MHz	0.40	0.2
1710	MHz	0.52	3.5

Frequency		Efficiency	Gain
1850	MHz	0.54	4.0
1990	MHz	0.55	4.4
2170	MHz	0.44	2.9
2690	MHz	0.58	4.3





Environmental Data

Operating Temperature	-40 °C to +85 °C
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IP Rating	IP66
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Certifications and Approvals

Type Approvals	N/A
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Standards	N/A
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Health & Safety	N/A
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Compliance	RoHS
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Ordering Information

Product Variants

Part Number	Description
D-1RC3	External Dual Band GNSS/LTE Combo 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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