Datasheet

L-2FA6

4G LTE/3G/2G ultra-thin FPC Adhesive Antenna

CELLULAR | FPC

The L-2FA6 is a flexible printed circuit (FPC) antenna designed to operate at frequencies ranging from 698 MHz to 960 MHz and 1710 MHz to 2700 MHz. With its compact dimensions of 99 mm x 22 mm x 0.2 mm, it offers a space-efficient solution for wireless communication applications.

99 x 22 x 0.2 mm

One of the key advantages of the L-2FA6 is its customizable connector and cable length options, allowing for seamless integration into various devices and configurations. This flexibility enables easy installation and optimal positioning for improved signal reception. Whether you require a specific connector type or a custom cable length, the L-2FA6 FPC antenna can be tailored to meet your unique requirements.

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Document Information

Product	L-2FA6
Part Number	L-2FA6
Description	4G LTE/3G/2G ultra-thin FPC Adhesive Antenna
Version	2.0 (current)
Date	30-April-2023
Status	Released

Revision History

Version	Date	Author	Changes
1.0	16-Dec-2020	Amy Li	Initial Release
2.0	30-April-2023	Amy Li	New layout and design

Product Overview

Product Description

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Key Features

- Supports LTE, LPWA/NB-IoT/Cat-X-Mx-NBx/3G/2G
- Wide band Antenna
- Adhesive Mount Flexible
- Compact Size, Easy to integrate.
- RoHS Compliant

Applications

- Cellular
- Transportation
- Industrial wearable
- Smart city
- Home automation
- Smart agriculture

Electrical Specifications

Frequency			VSWR	Peak Gain	Efficiency
LTE	698 - 960	MHz	1.5	1.9 d Bi	60%
LTE	1710 - 2700	MHz	1.1	4.4 d Bi	70%

Frequency Range	698 – 2700 MHz	Radiation	Omnidirectional
Impedance	50 Ω	Electrical Type	Monopole
Polarization	Linear		

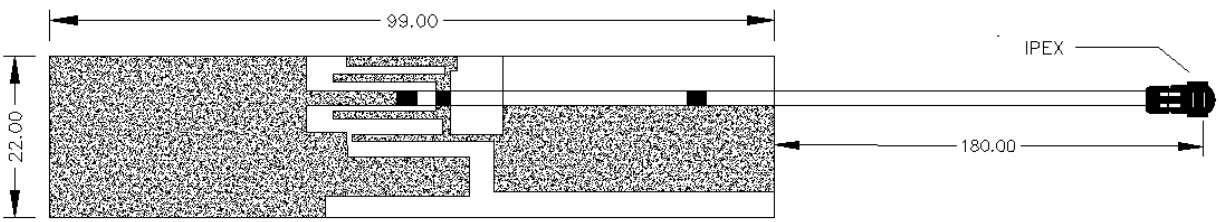
Mechanical Specifications

Type	FPC	Casing	NA
Dimensions	99 x 22 x 0.2 mm	Color	Black
Connector (Termination)	U.FL (standard)	Material	Flexible Polymer
Cable Type	1.13mm (standard)	Cable Length	150mm (standard)
Mounting Type	Adhesive	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.

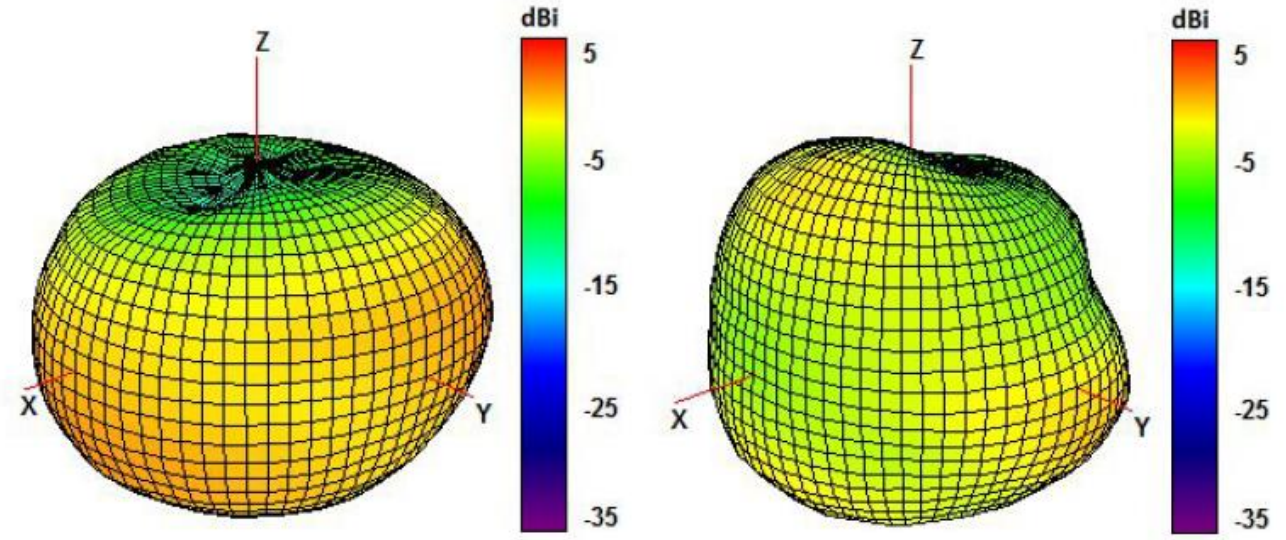
Product Image and Dimensions



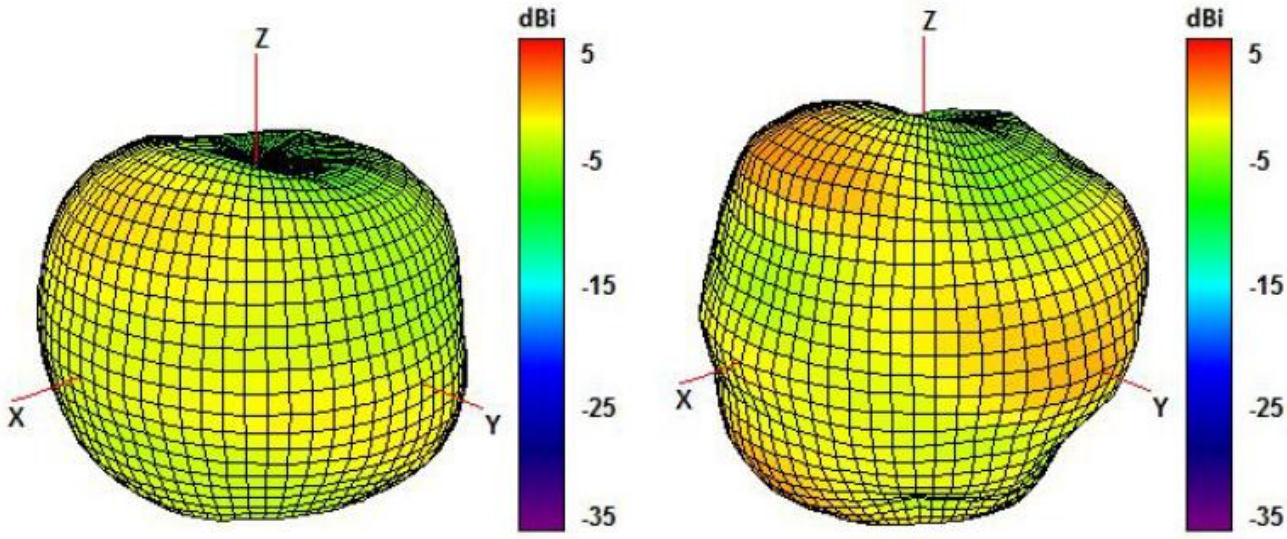
Radiation Pattern

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.

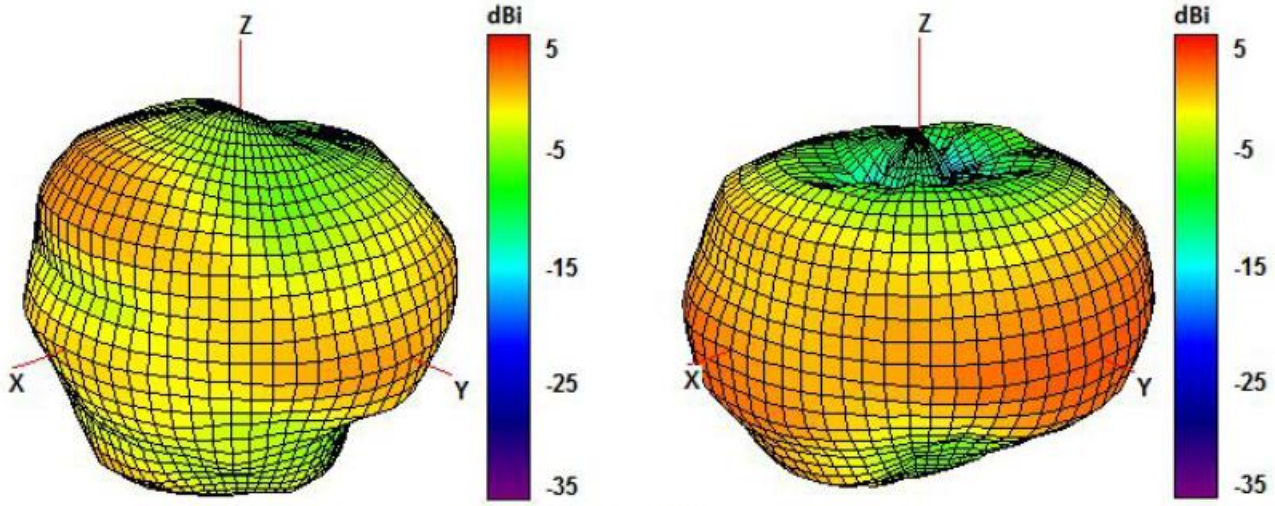
By understanding the information provided by a radiation pattern, it is possible to optimize the design and performance of an antenna for specific applications.



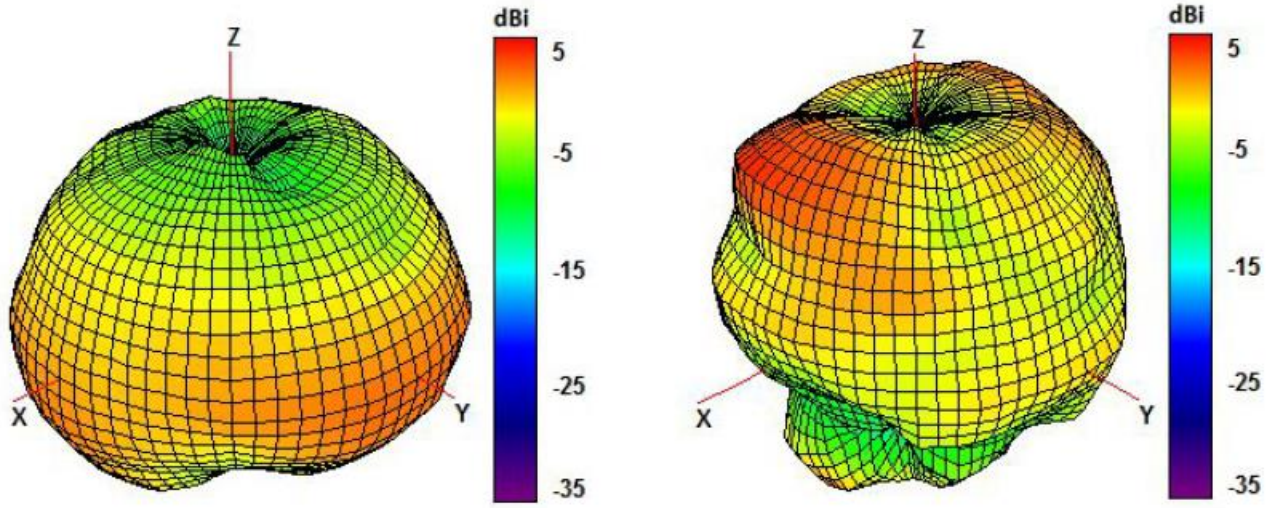
750 and 850 MHz Radiation pattern



940 and 1750 MHz Radiation pattern



1850 and 1950 MHz Radiation pattern

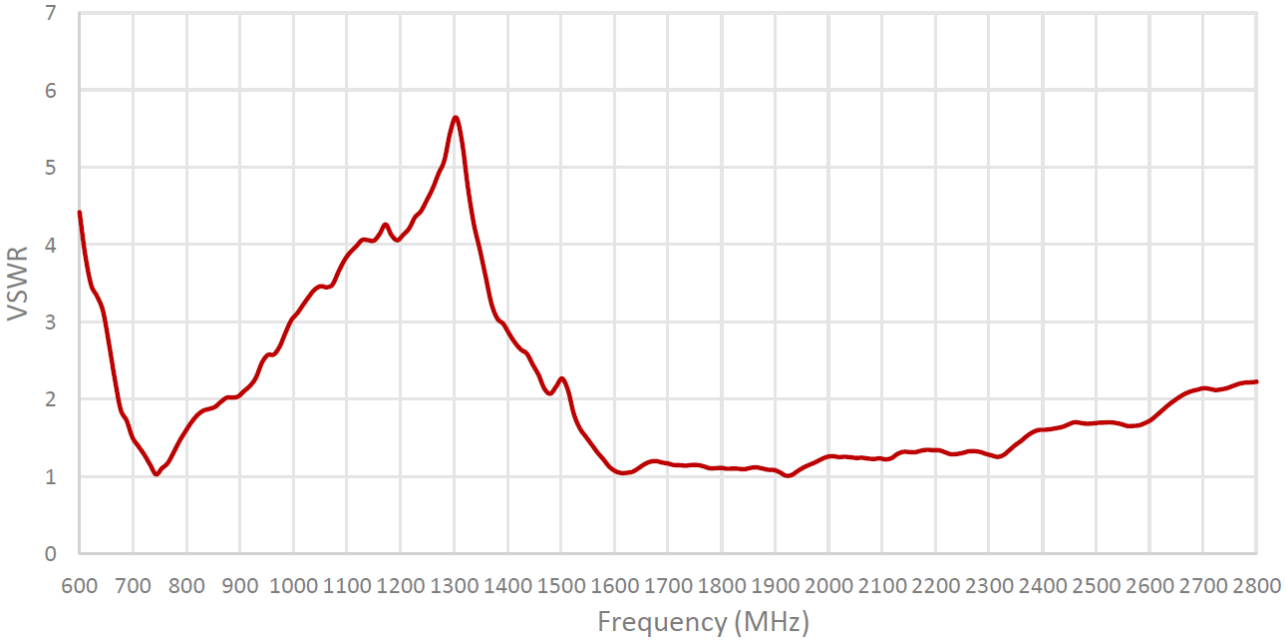


2100 and 2600 MHz Radiation pattern

Antenna Smith and VSWR

Frequency		VSWR
700	MHz	1.5
880	MHz	2
960	MHz	2.8
1710	MHz	1.1
1880	MHz	1.1

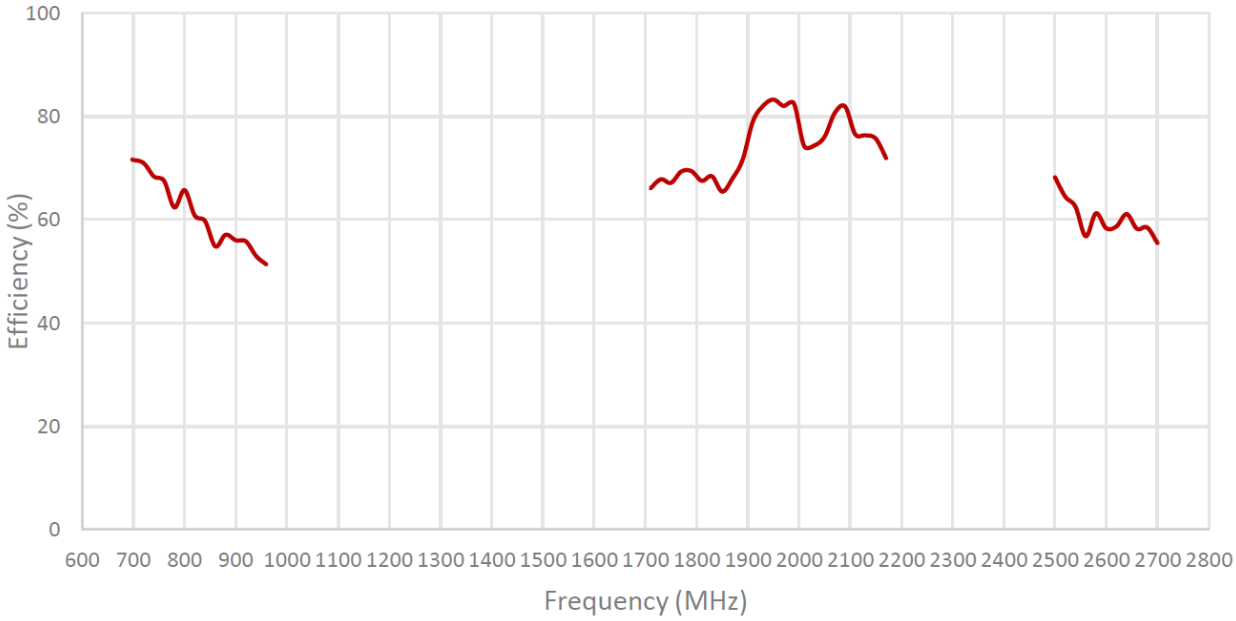
Frequency		VSWR
2170	MHz	1.3
2400	MHz	1.6
2500	MHz	1.7
2690	MHz	2.1

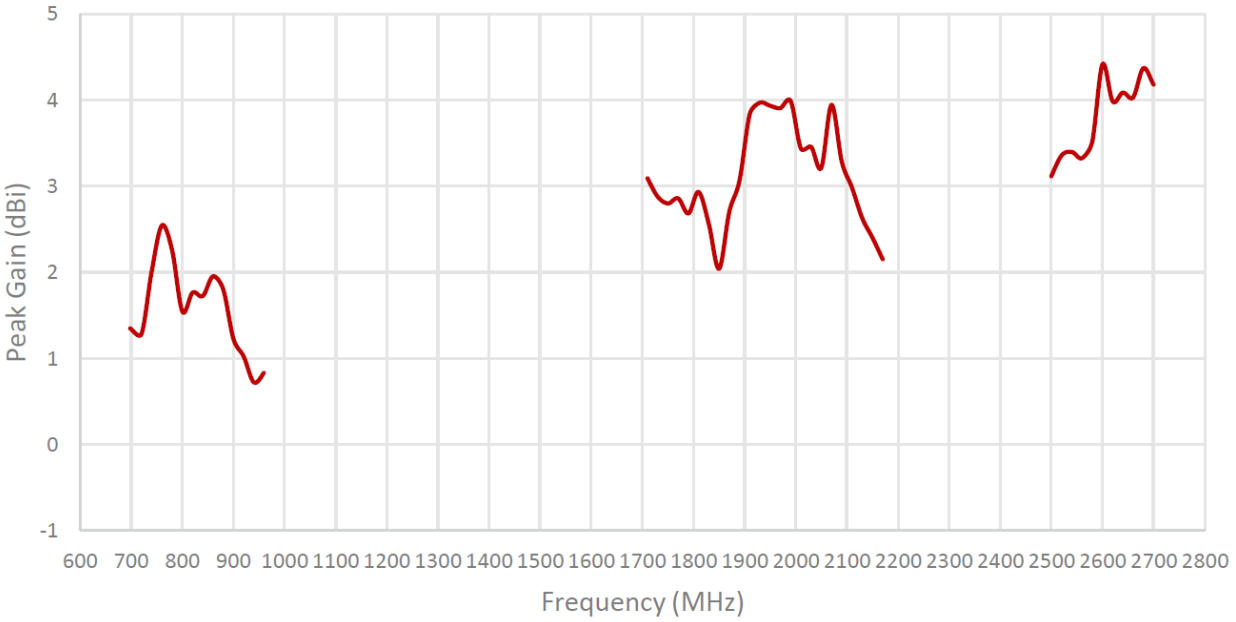


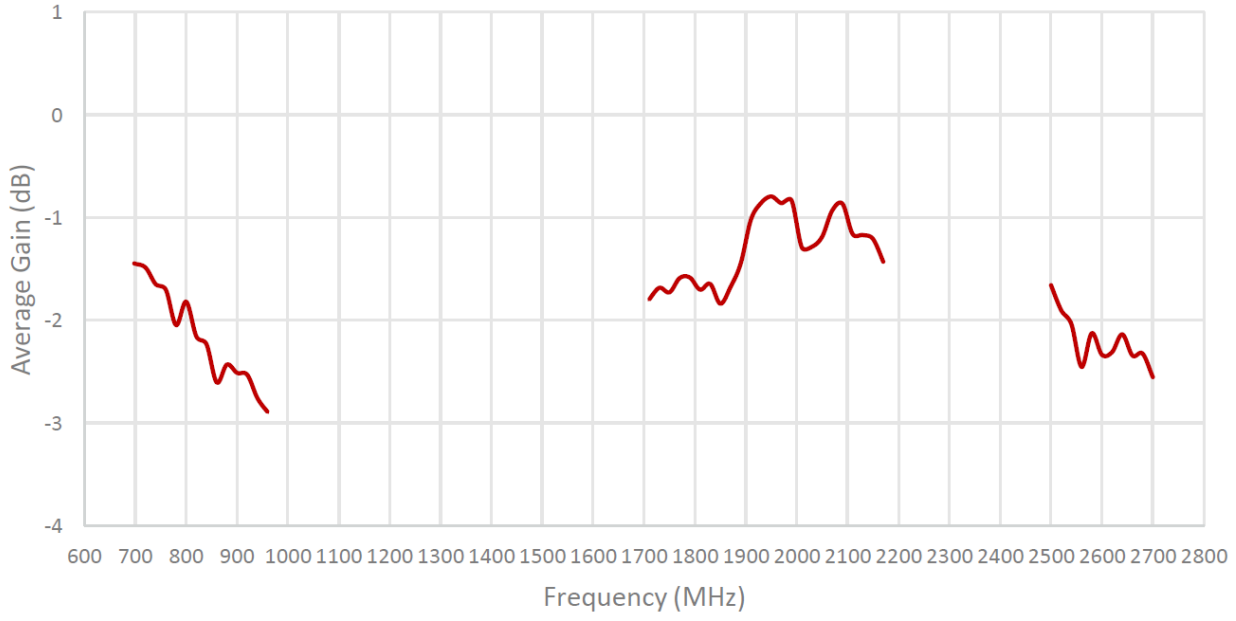
Antenna Efficiency and Gain

Frequency		Efficiency	Gain
698	MHz	70%	1.3
824	MHz	61%	1.6
868	MHz	57%	1
960	MHz	56%	1.9
1710	MHz	68%	3.1

Frequency		Efficiency	Gain
1850	MHz	67%	2.0
1990	MHz	81%	3.9
2170	MHz	72%	2.2
2690	MHz	55%	4.4


100
80
60
40
20
0
Efficiency (%)
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)


5
4
3
2
1
0
-1
Peak Gain (dBi)
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)


1
0
-1
-2
-3
-4
Average Gain (dB)
600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800
Frequency (MHz)

Environmental Data

Operating Temperature	-40 °C to +85 °C
IP Rating	NA
Compliance	RoHS

Ordering Information

Product Variants

Part Number	Description
L-2FA6	4G LTE/3G/2G ultra-thin FPC Adhesive 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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