Datasheet

M-2FA4

GSM 800 Mhz Antenna

CELLULAR | FPC

The M-2FA4 is a Single band Flexible Printed Antenna with a wide band and high efficiency. It's an ideal solution for cellular IoT applications requiring a durable and cost-effective external antenna.

M-2FA4 has the advantages of high wiring density, light weight, thin thickness, folding and bending, three-dimensional wiring and other types of circuit boards, which are widely used. The antenna attaches with an IPEX connector.

49 x 15 x 0.2mm

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Document Information

Product	M-2FA4
Part Number	M-2FA4
Description	GSM 800 Mhz Antenna
Version	2.0 (current)
Date	18-Sep-2023
Status	Released

Revision History

Version	Date	Author	Changes
1.0	16-Dec-2020	Amy Li	Initial Release
2.0	18-Sep-2023	Ivy Liao	New layout and design

Product Overview

Product Description

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Key Features

- Operates in 746-798 MHz
- Linear polarization
- Low VSWR
- FPC flexible or PCB material (Optional)
- Omni-directional pattern
- IPEX connector with cable, or solder directly

Applications

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

Electrical Specifications

Frequency			VSWR	Peak Gain	Efficiency
LORA	746 - 798	MHz	2.0-2.6	1.5d Bi	38%

Frequency Range	746 – 798 MHz	Radiation	Omnidirectional
Impedance	50 Ω	Polarization	Linear

Mechanical Specifications

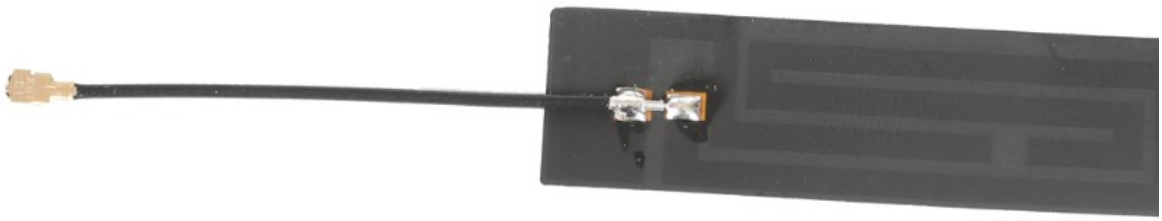
Cable Type	RF1.13	Casing	Yes
Dimensions	49 x 15 x 0.2mm	Color	Black

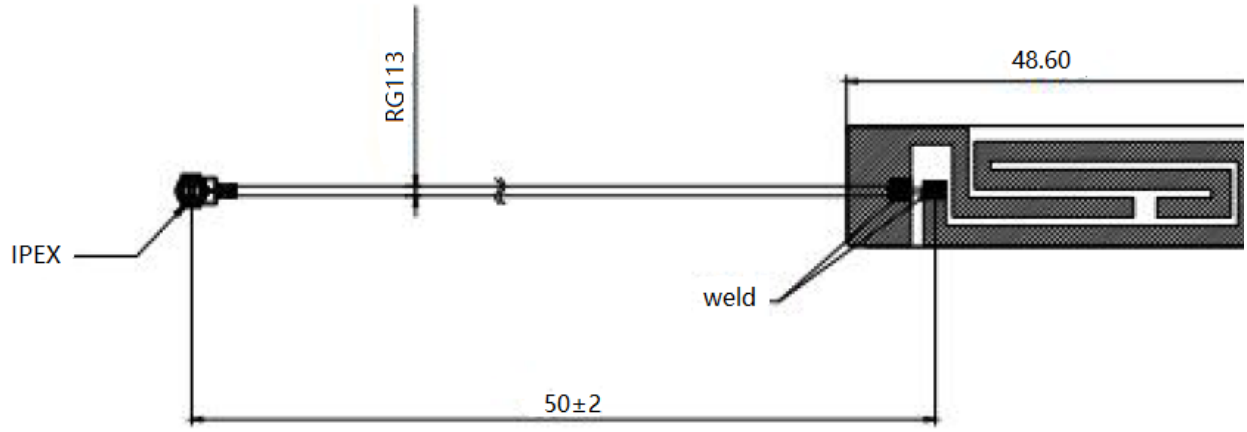
Connector (Termination)	IPEX	Mounting Type	Embedded

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



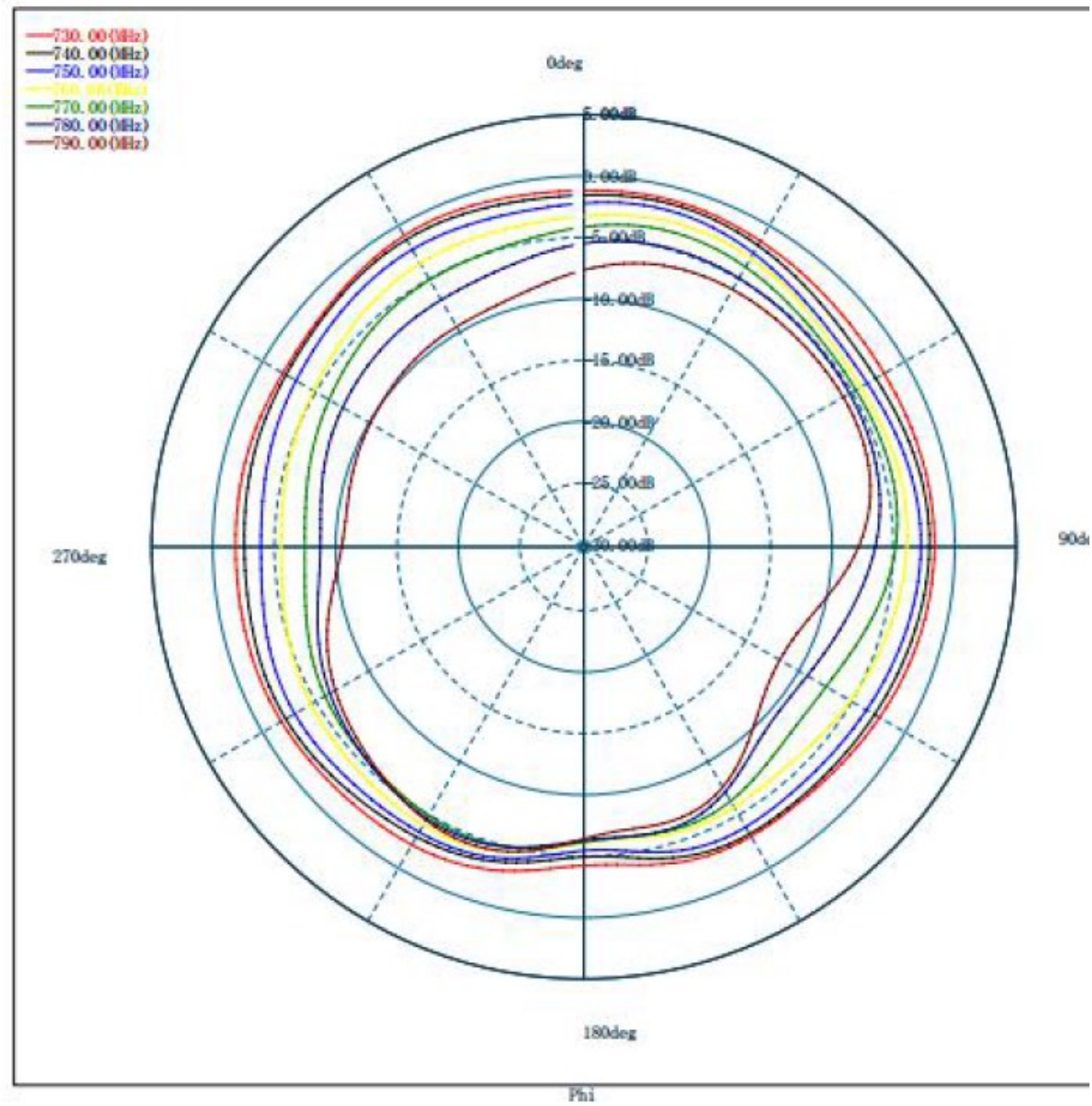


Radiation Pattern

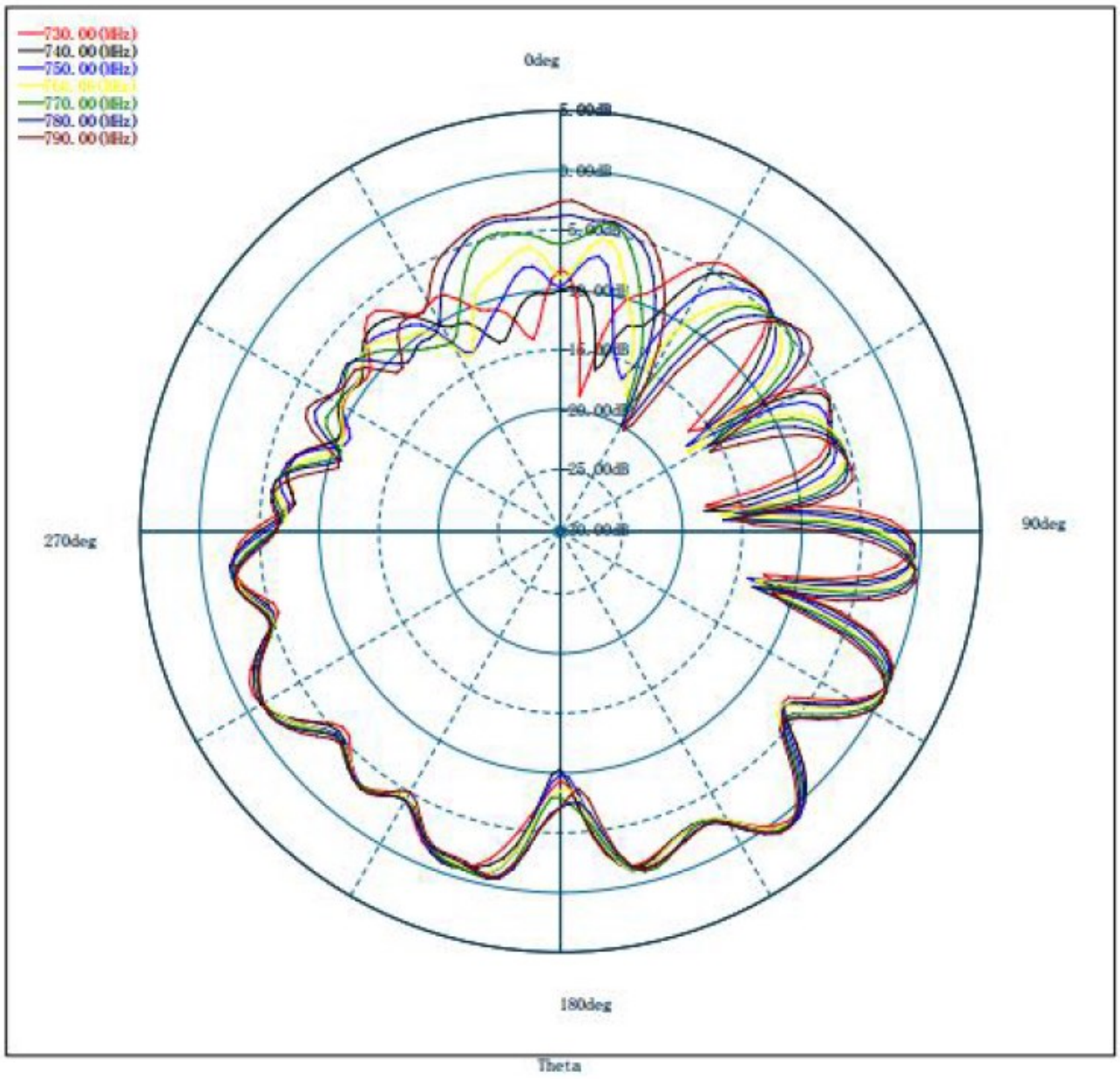
A radiation pattern is a graphical representation of the directional properties of an antenna. It shows how electromagnetic waves are distributed in space in relation to the direction of propagation.

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

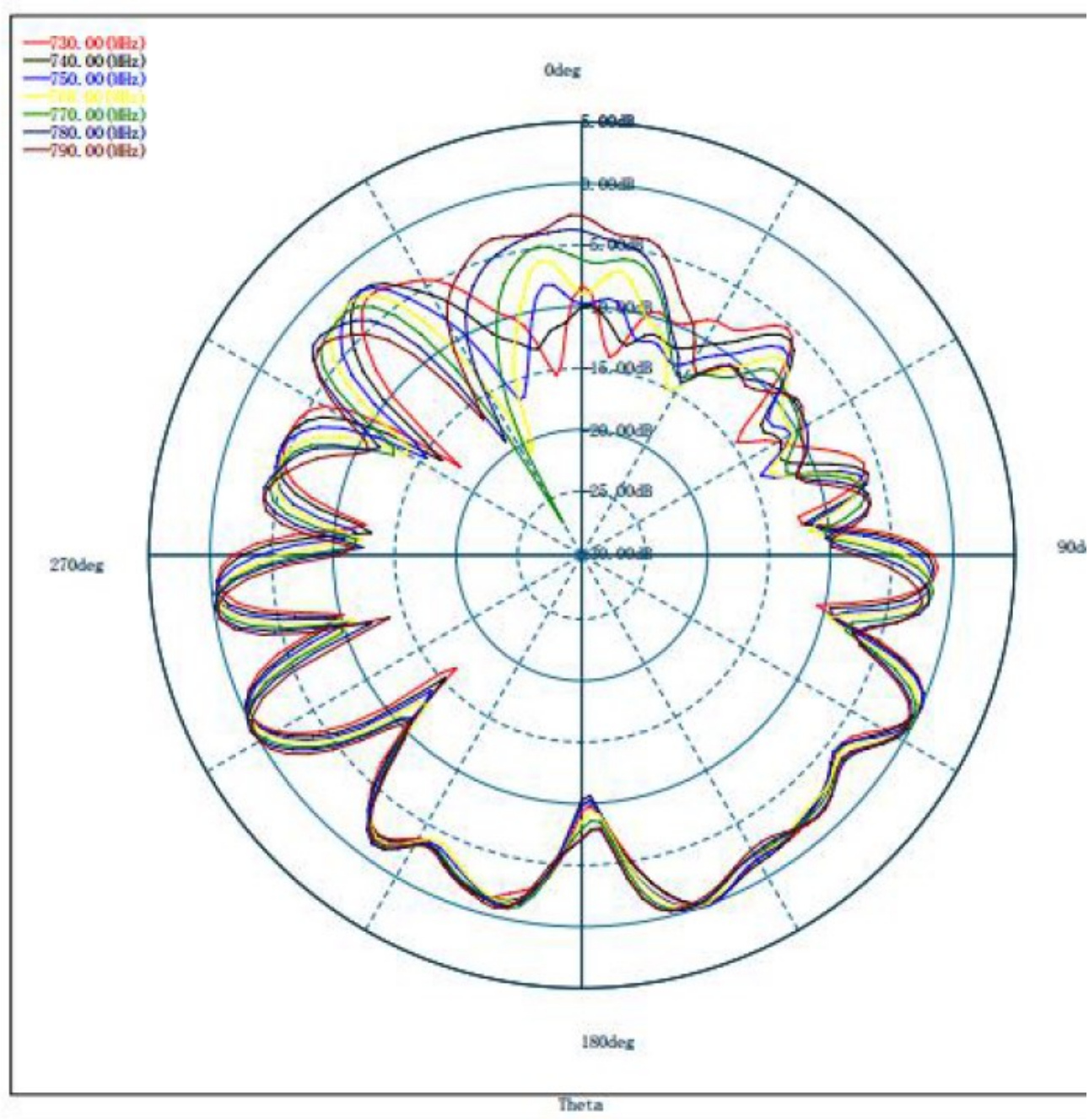
XY Plane (H) 746 – 798 MHz



YZ Plane (E1) 746 – 798 MHz



YZ Plane (E2) 746 – 798 MHz



Antenna Smith and VSWR

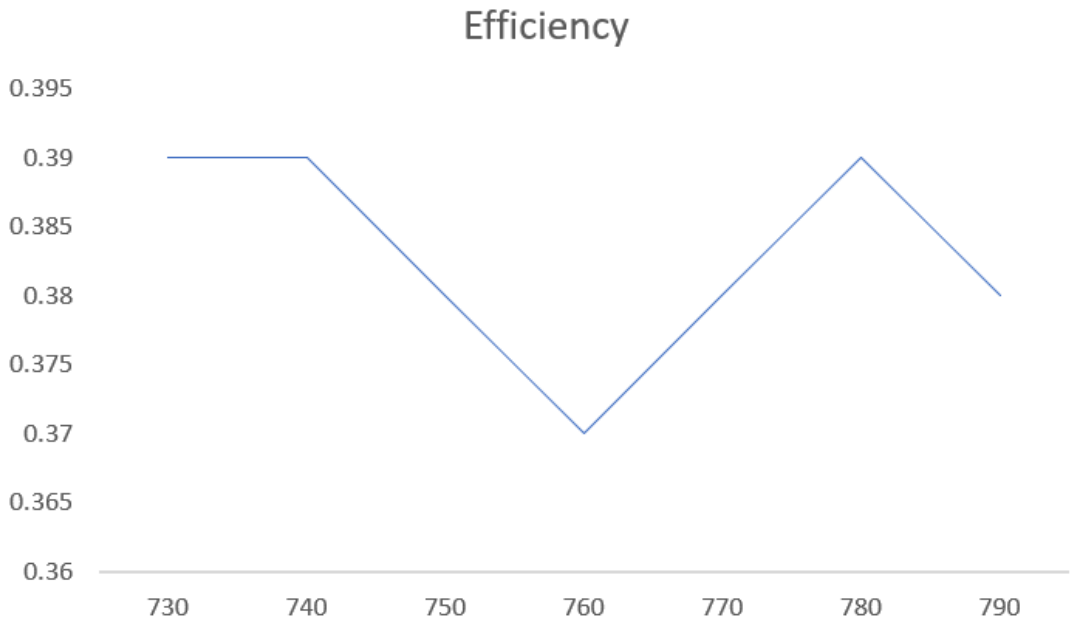
Frequency		VSWR
740	MHz	2.6

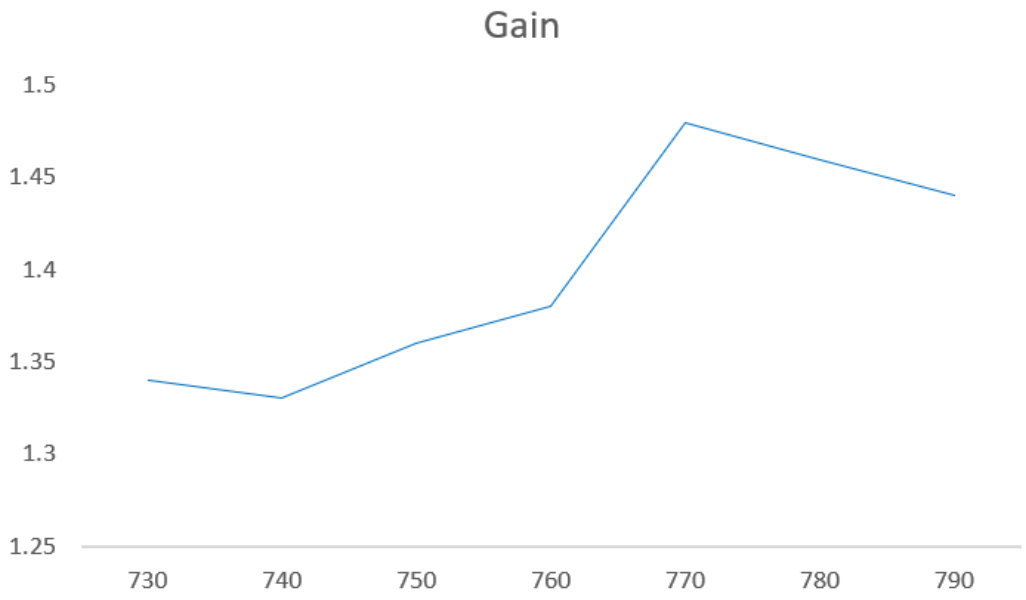
Frequency		VSWR
780	MHz	2.0

Antenna Efficiency and Gain

Frequency		Efficiency	Gain
730	MHz	0.39	1.34
740	MHz	0.39	1.33
750	MHz	0.38	1.36
760	MHz	0.37	1.38

Frequency		Efficiency	Gain
770	MHz	0.38	1.48
780	MHz	0.39	1.46
790	MHz	0.38	1.44





Environmental Data

Operating Temperature	-40 °C to +85 °C
Compliance	RoHS
Vibration	10 to 55Hz with 1.5mm amplitude 2 hours
MSL Level	1

Ordering Information

Product Variants

Part Number	Description
M-2FA4	GSM 800 Mhz 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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