Antenna

YF0028AA Datasheet

Antenna Services

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Status: Released

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Quectel Wireless Solutions Co., Ltd.
Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China
Tel: +86 21 5108 6236
Email: info@quectel.com

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About the Document

Revision History

Version	Date	Author	Note
-	2021-04-01	Kenny YIN	Creation of the document
1.0	2021-04-01	Kenny YIN	First official release
1.1	2021-11-27	Kenny YIN	Updated the product description in Chapter 1.

Contents

1 Product Description

This Quectel embedded 4G FPC antenna covers main 4G LTE bands and is compatible with 3G/2G/LPWA bands. Featuring high efficiency and gain, it is an ideal antenna for a smooth and stable connection with high-efficiency data transmission even under the influence of the device's internal structure. Ground plane independent, it's designed to be mounted directly to the underside of either a plastic or non-metallic enclosure. Ease of integration with a cable and connector which can be customized to meet your product design and RF module.

We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

2 Product Features

- NB-IoT 698–960 MHz, 1700–2700 MHz
- High efficiency
- Excellent performance

3 Product Specifications

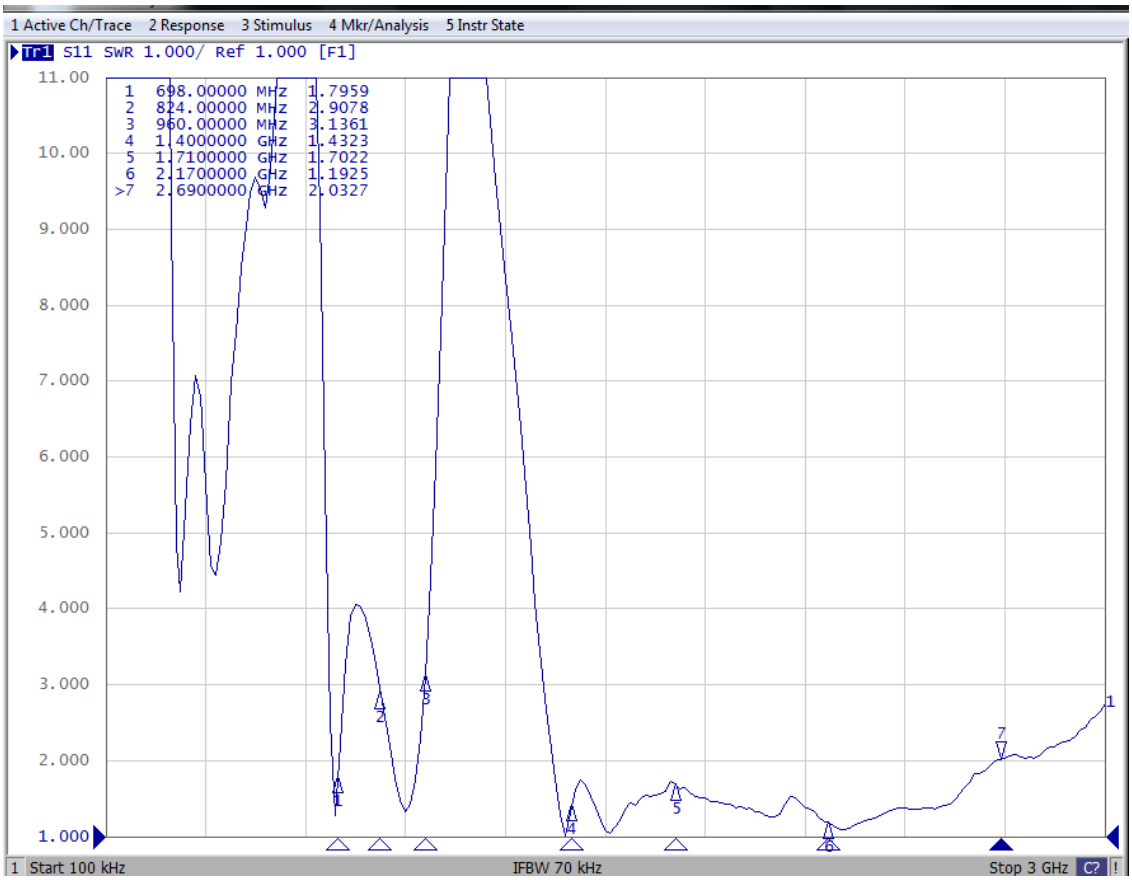
Passive Electrical Specifications	
Frequency Range	698–960 MHz; 1710–2690 MHz
Input Impendence	50 Ω
VSWR	≤ 4.0
Gain	4.54 dBi
Polarization Type	Linear
Mechanical Specifications	
Antenna Size	94 mm × 21 mm
Casing	FPC
Connector Type	IPEX MHF I
Working Temperature	-40 °C to +85 °C
Radome Color	Black

4 Overall Performance

4.1. Test Environment

- KEYSIGHT VNA Network Analyzer E5063A 100 KHz – 8.5 GHz
- RayZone®2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 8.0 GHz

4.2. VSWR

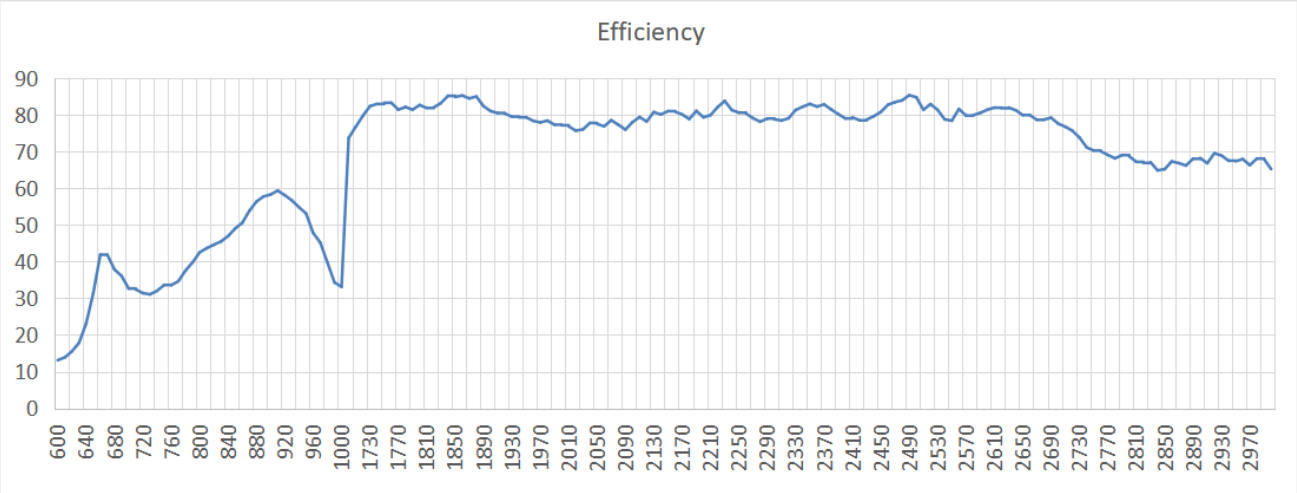


Frequency (MHz)	698	824	960	1400	1710	2170	2690
VSWR	1.79	2.90	3.13	1.43	1.70	1.19	2.09

Note: test on 3mm ABS.

4.3. Efficiency

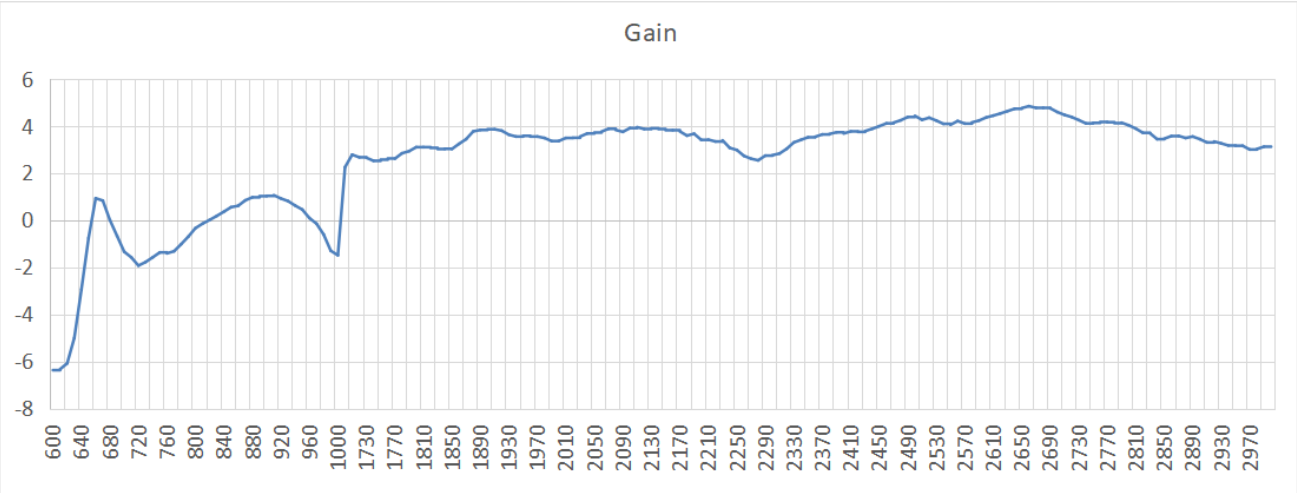
700–960 MHz; 1710–2690 MHz



Frequency (MHz)	700	850	950	1700	2100	2300	2700
Efficiency (%)	32.48	48.99	53.05	73.69	77.47	78.56	77.22

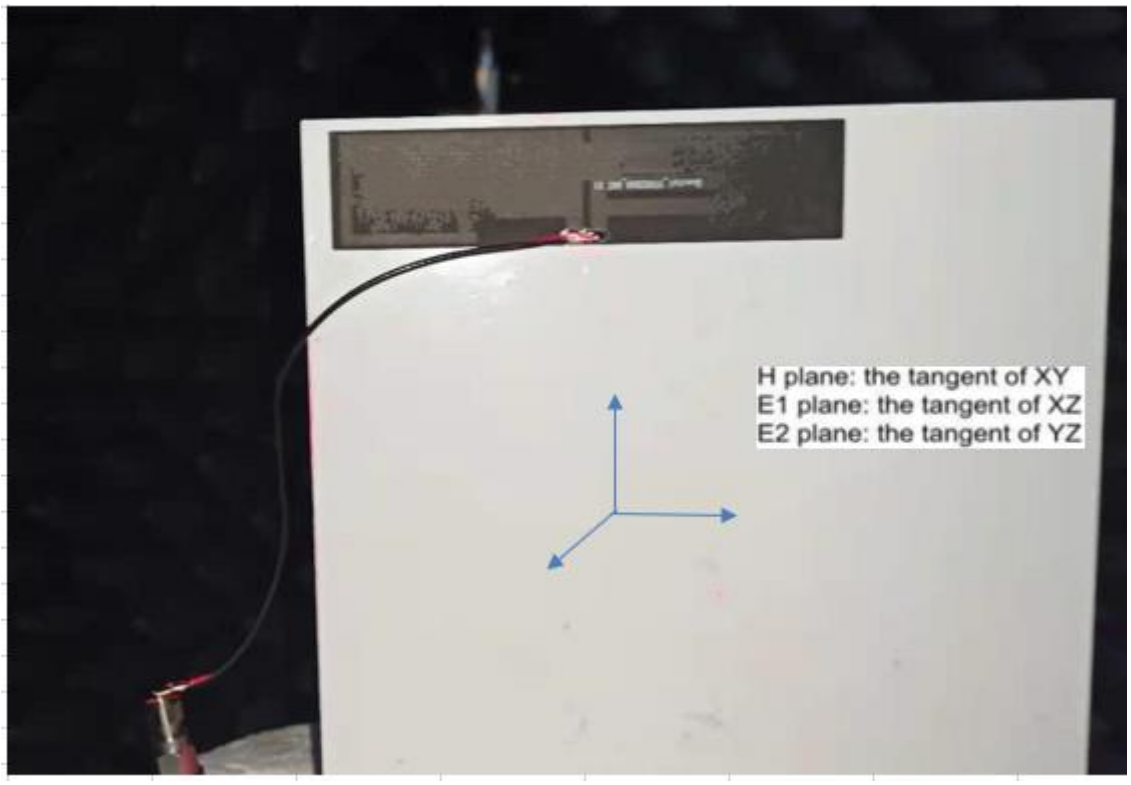
4.4. Gain

700–960 MHz; 1710–2690 MHz

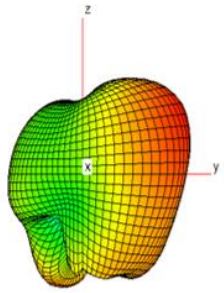


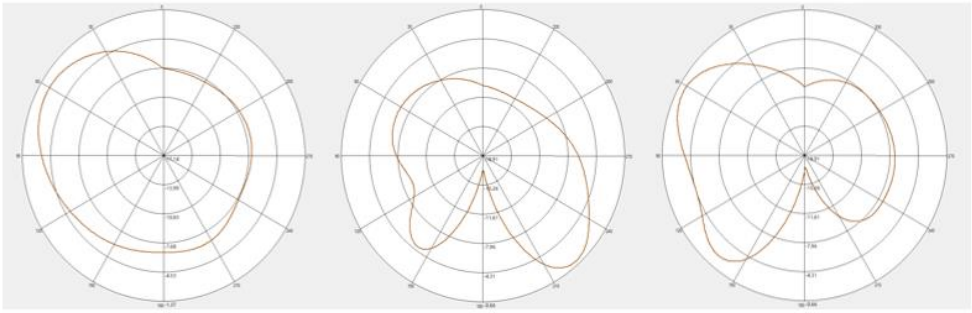
Frequency (MHz)	700	850	950	1700	2100	2300	2700
Gain (dBi)	-1.34	0.55	0.45	2.25	3.91	2.76	4.54

4.5. Radiation Patterns

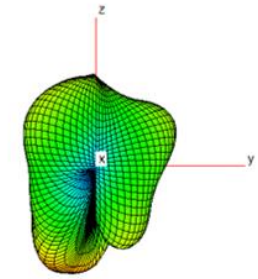


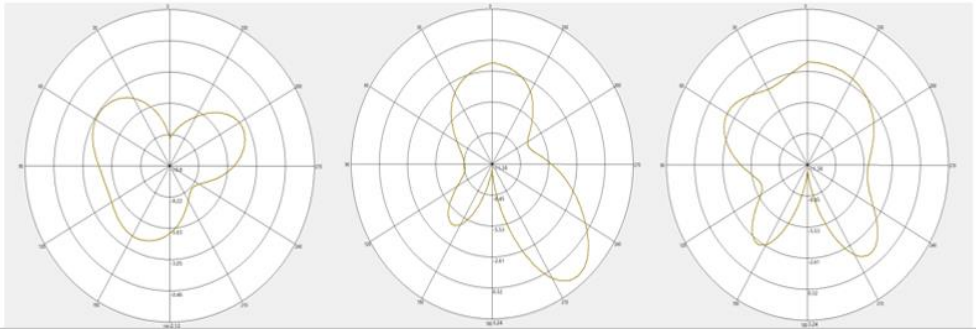
750MHz



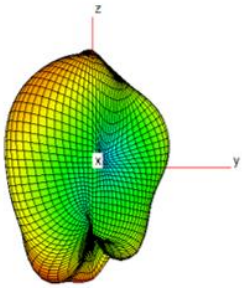


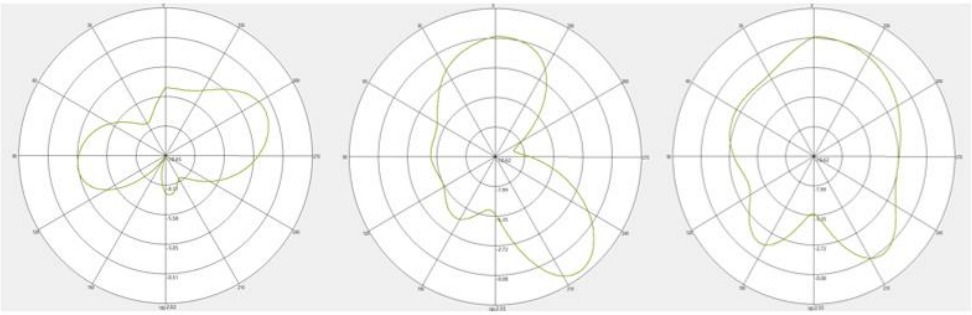
850MHz



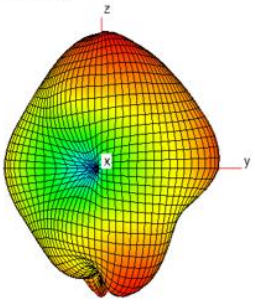


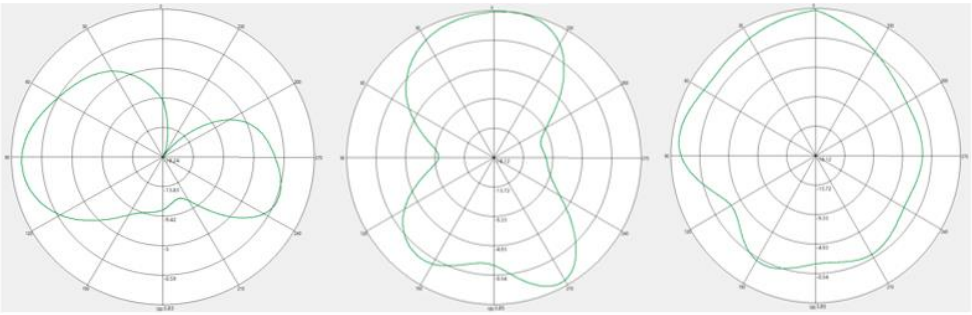
950MHz



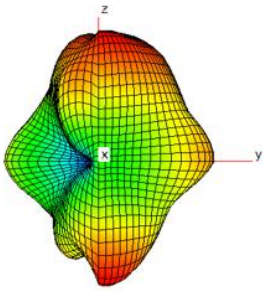


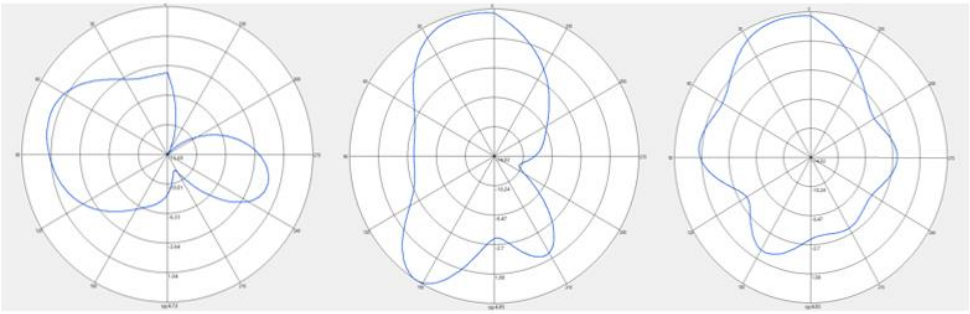
1750MHz



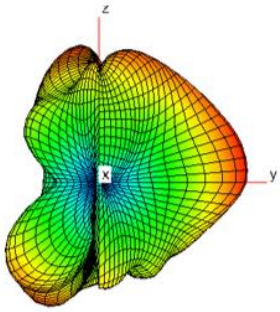


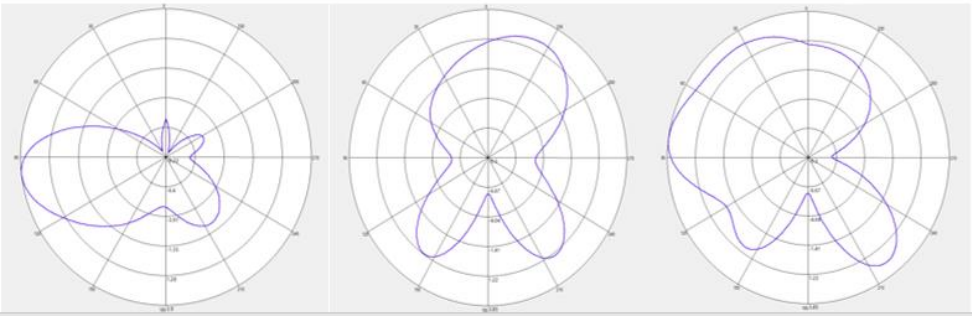
2150MHz



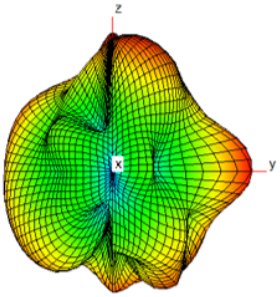


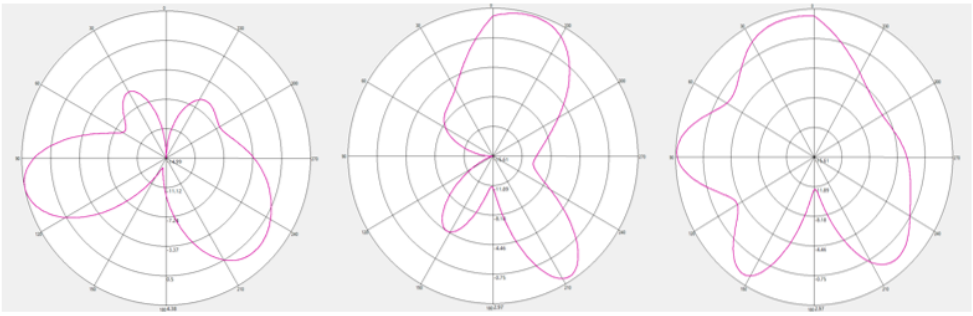
2350MHz





2650MHz





5 Product Size