

Antenna

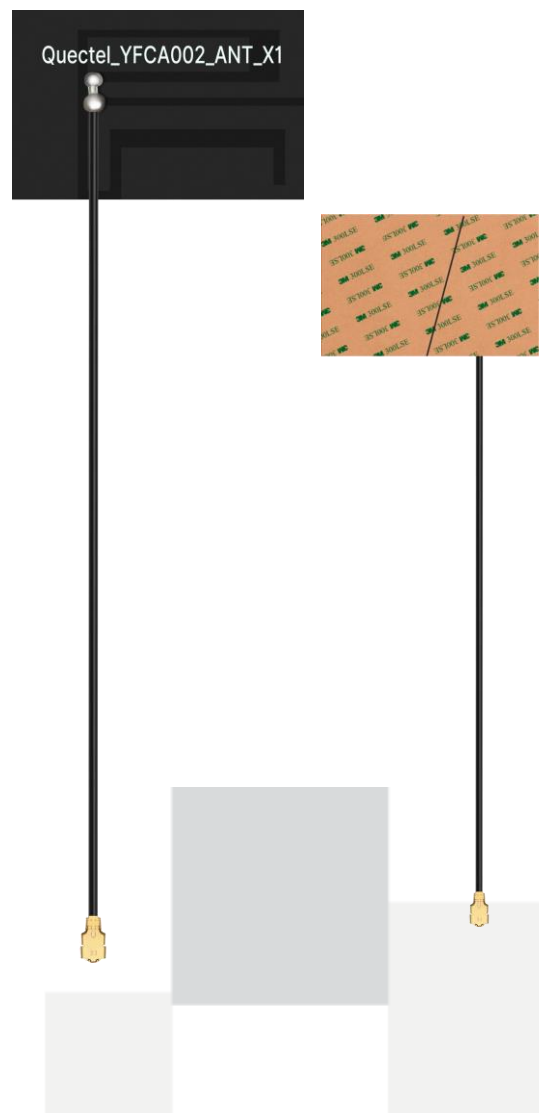
YFCA002HA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
-	2022-07-25	Andy MIAO/ Joye WANG	Creation of the document
1.0	2022-07-25	Andy MIAO/ Joye WANG	First official release
1.1	2023-06-12	David LIU/ Vinnie LIU	Added the packaging information (Chapter 6).

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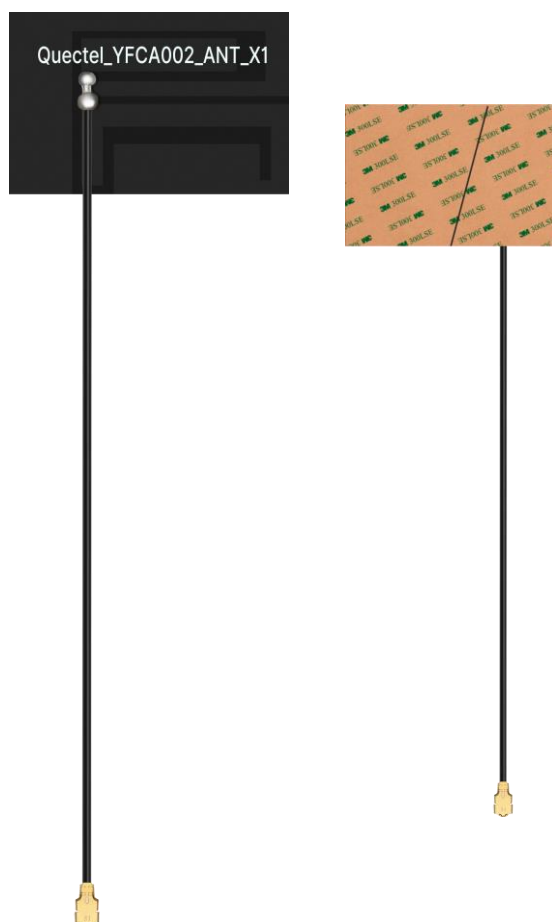
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1 Product Description

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.

2 Product Features

- Cellular LTE
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	700–2690 MHz
Input Impedence	50 Ω
VSWR	≤ 5.0
Gain	≤ 4.0 dBi
Polarization Type	Linear

Mechanical Specifications

Antenna Size (mm)	30 × 20
Material	FPC
Cable Type & Length	$\Phi 1.13$ Black & 86.5 mm
Connector	IPEX 1
Color	Black
Weight	Typ. 0.6 g
Mounting Type	Adhesive
Working Temperature	-40 °C to +85 °C

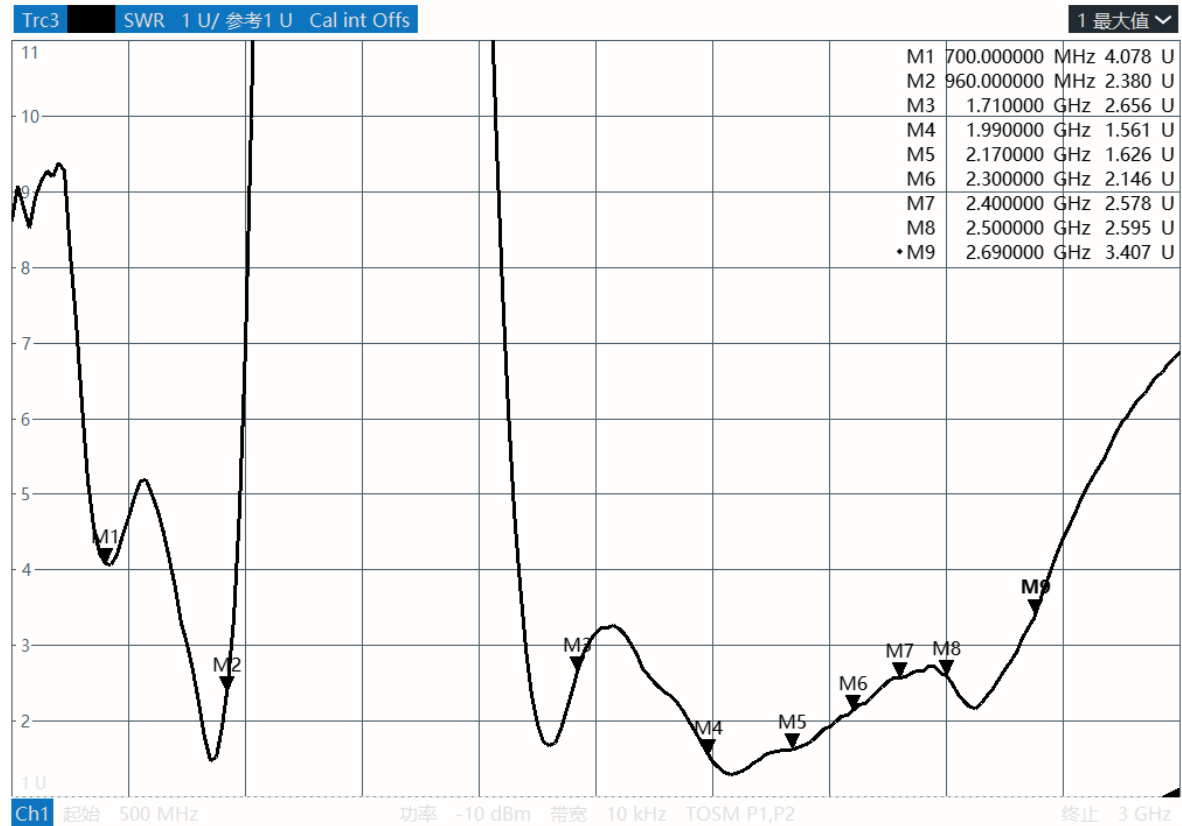
4 Overall Performance

4.1. Test Environment

- KEYSIGHT ENA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 8.5 GHz

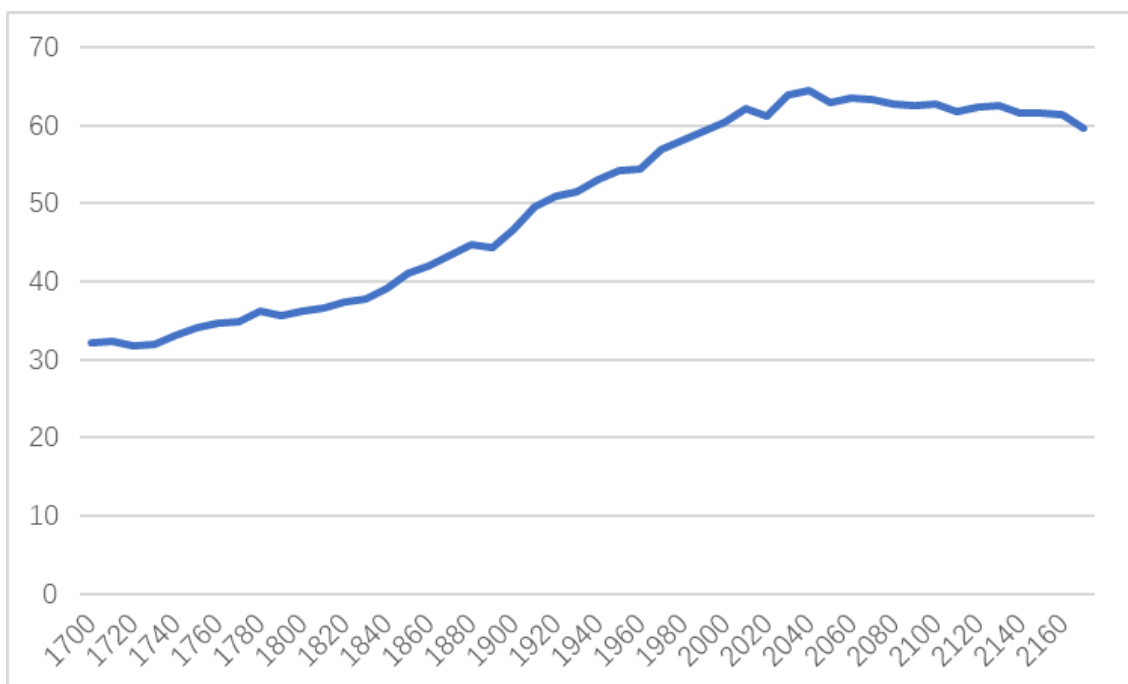
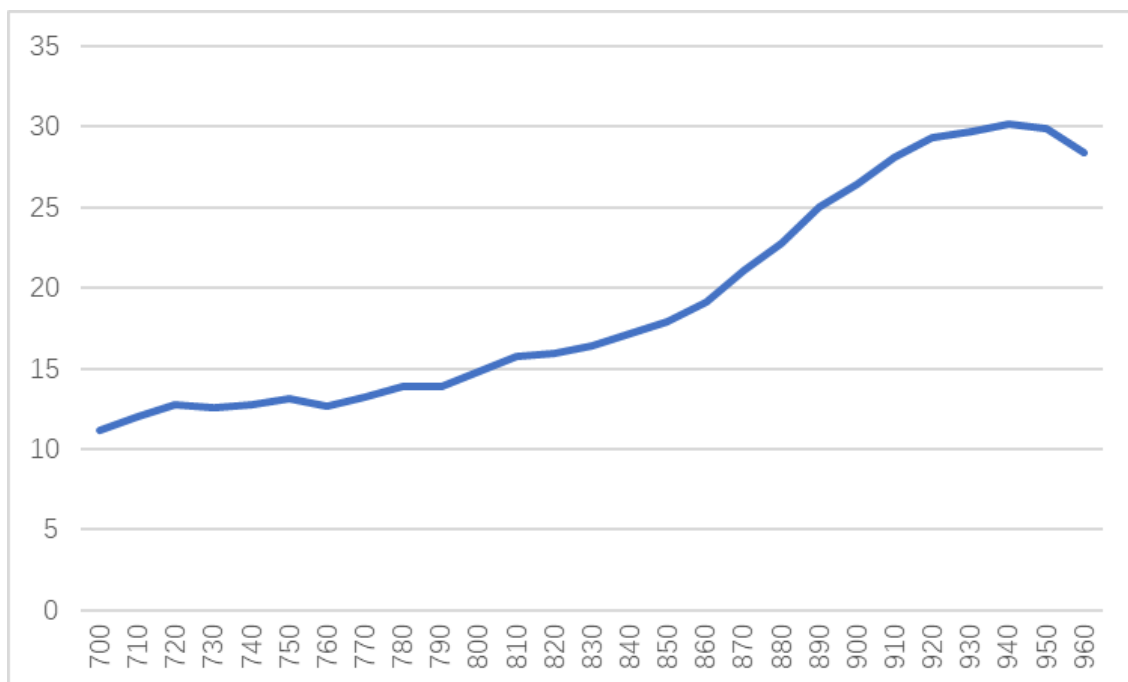


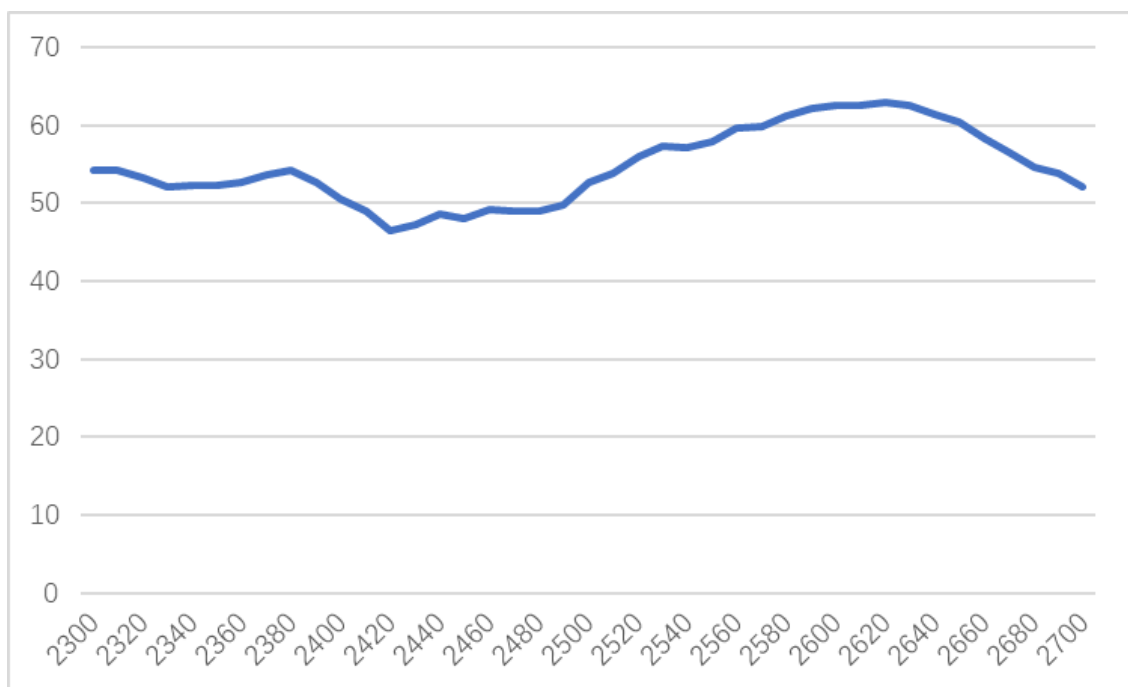
4.2. VSWR



Frequency (MHz)	700	960	1710	1990	2170	2300	2400	2500	2690
VSWR	4.08	2.38	2.66	1.56	1.63	2.15	2.58	2.60	3.41

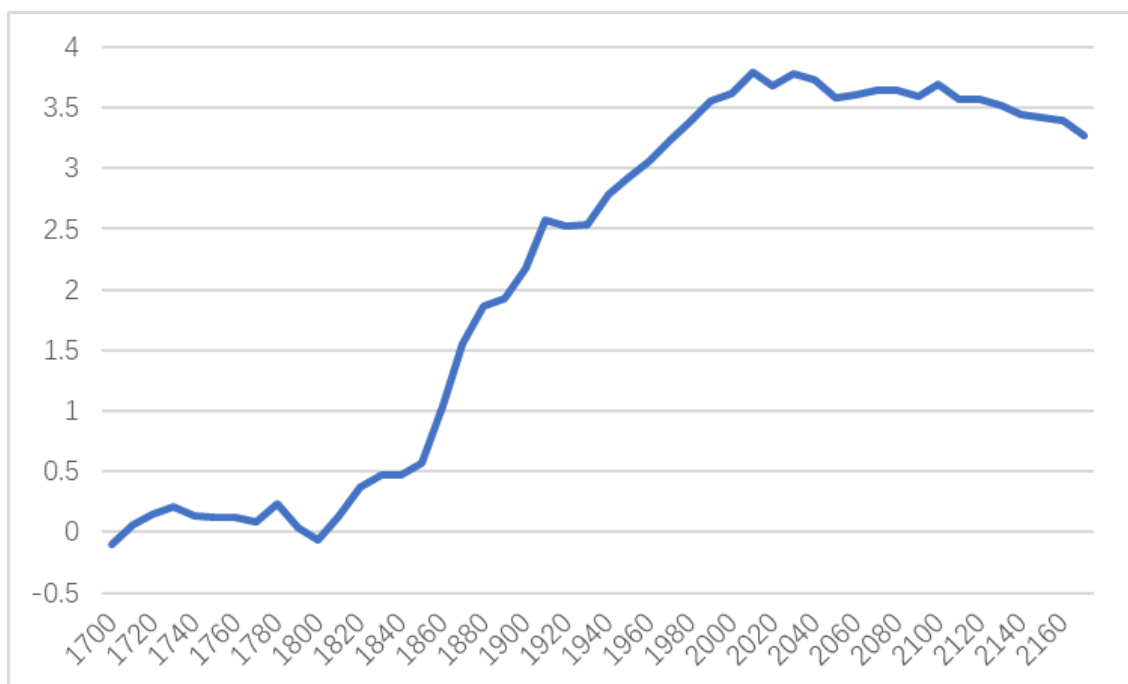
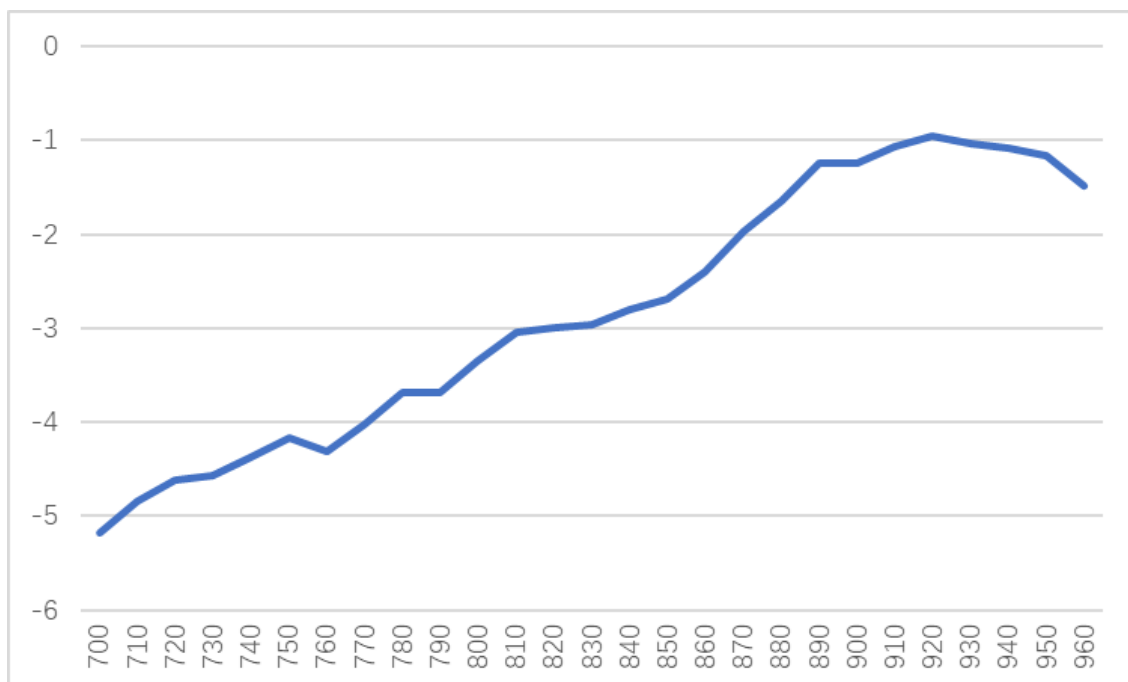
4.3. Efficiency

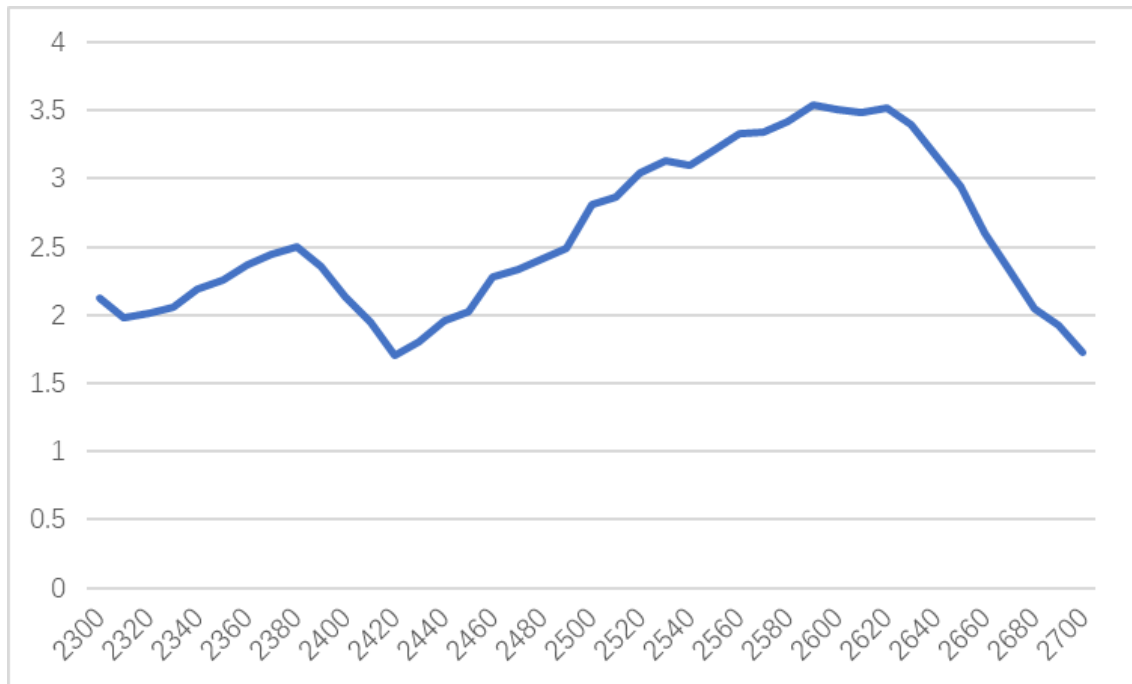




Frequency (MHz)	700	960	1710	1990	2170	2300	2400	2500	2690
Efficiency (%)	11.2	28.4	32.2	59.3	59.6	54.3	50.5	52.6	53.9

4.4. Gain

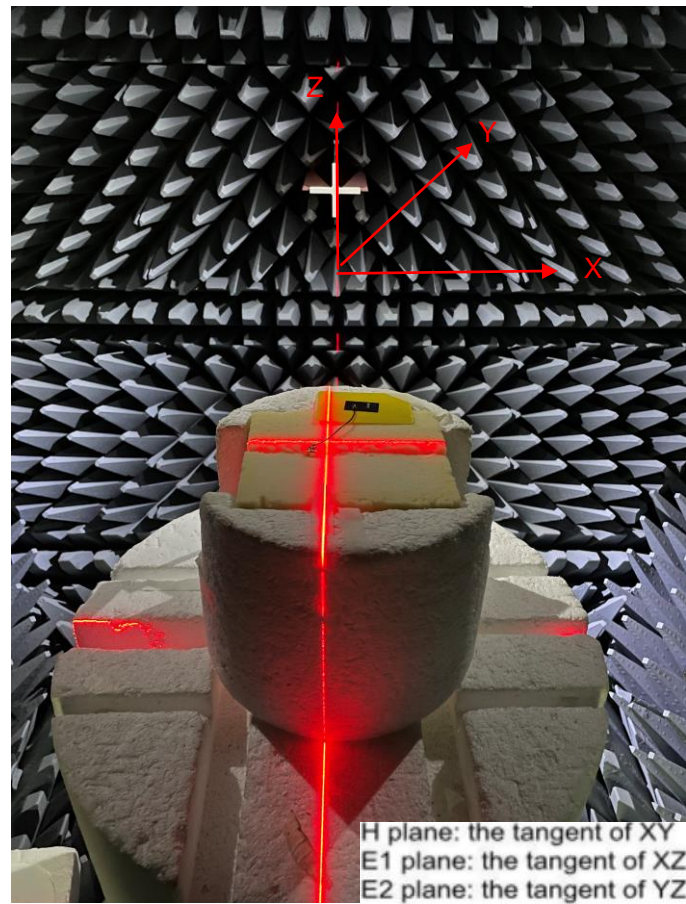




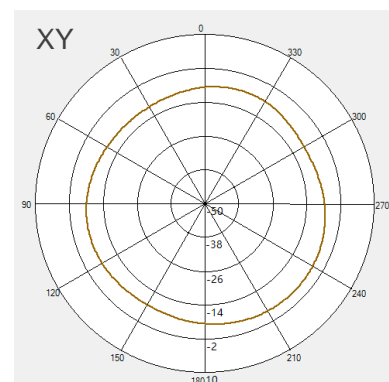
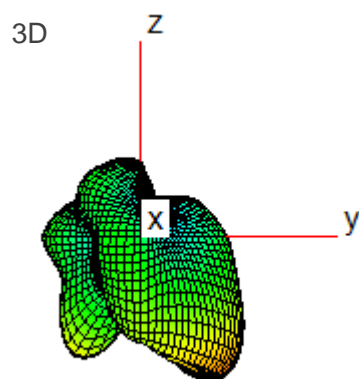
Frequency (MHz)	700	960	1710	1990	2170	2300	2400	2500	2690
Gain (dBi)	-5.17	-1.48	-0.1	3.56	3.27	2.12	2.14	2.81	1.92

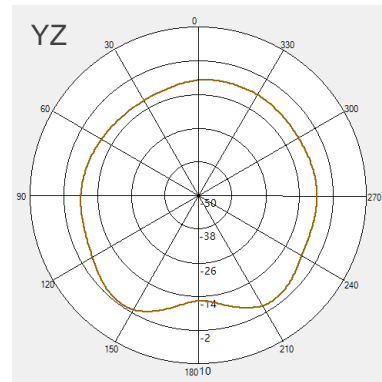
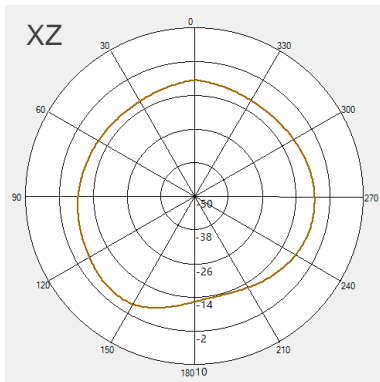
4.5. Radiation Pattern

- Test condition: free space.

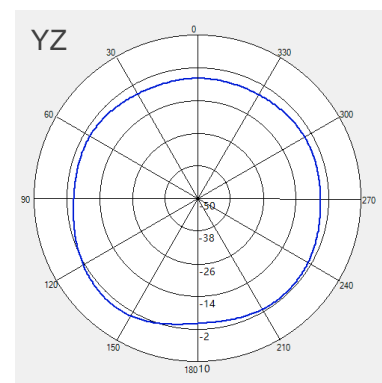
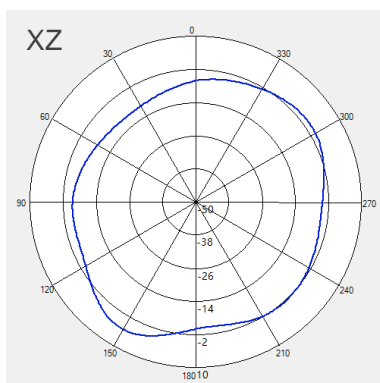
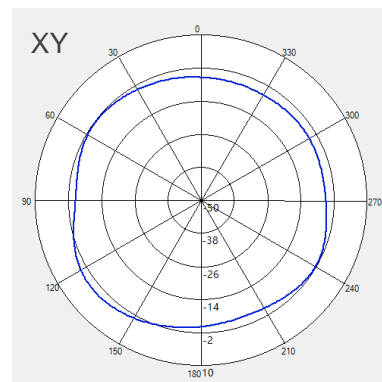
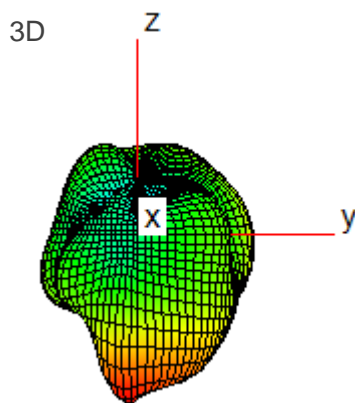


4.5.1. 830 MHz



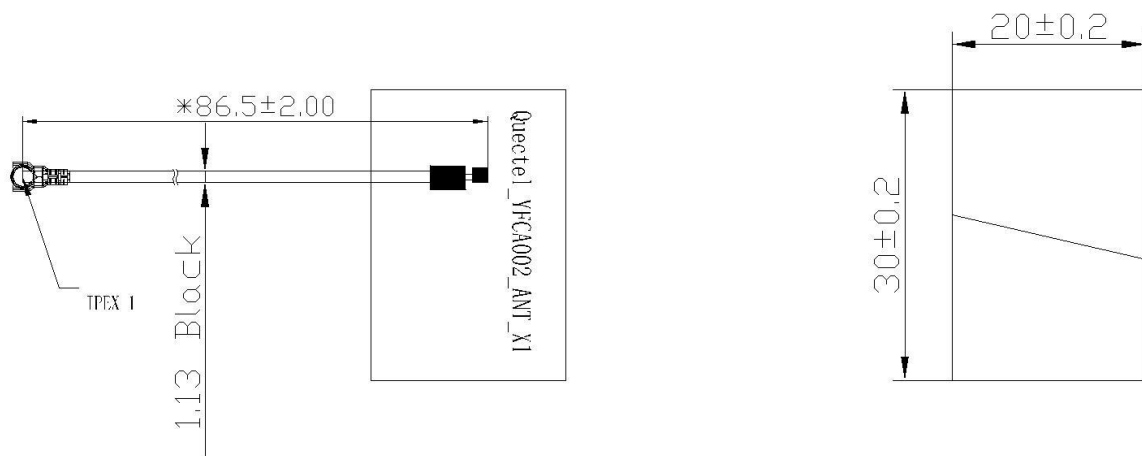


4.5.2. 2200 MHz


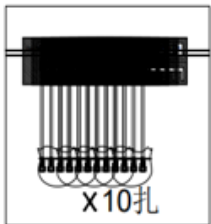
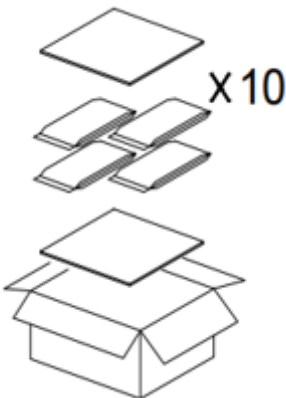


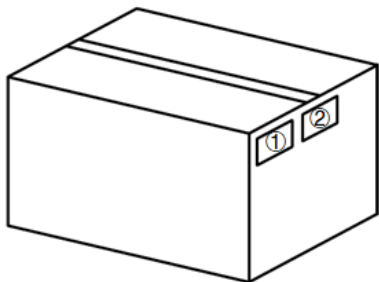
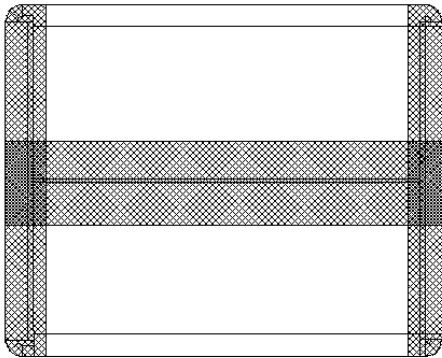
5 Product Size

ROHS



6 Packaging

Step	Packaging Picture / 2D Picture	Description
1	 <p>20pcs/tie</p>	<p>The product terminal is wrapped with EPE foam.</p> <p>20 PCS/Tie</p>
2	 <p>200pcs/bag</p>	<p>200 antenna products in a PE bag.</p> <p>(200 PCS / PE Bag)</p>
3	 <p>X10</p>	<p>10 PE Bags / Carton Box</p> <p>(2000 PCS / Carton Box)</p> <p><u>Carton Size:</u></p> <p><u>L × W × H = 340 × 260 × 140 mm</u></p>

4		<p>Position for Attaching Labels</p> <p>① Carton Label</p> <p>② Quality Label</p>
5		<p>Sealing Cartons</p> <p>“I” type sealing cartons</p>