

# Antenna

# **YQU012AA** Datasheet

## Antenna Services

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Status: Preliminary



At Quectel, our aim is to provide timely and comprehensive services to our customers. If you require any assistance, please contact our headquarters:

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# About the Document

## Revision History

Version	Date	Author	Note
-	2022-06-23		Creation of the document
1.0	2022-06-23		First official release

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## 1 Product Description

The antenna is designed for superior performance, and can be widely used for wireless applications.

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

- Cellular 5G & LTE
- High efficiency
- Excellent performance



### 3 Product Specifications

#### Passive Electrical Specifications

Frequency Range	1710-2690 MHz; 3300-4400 MHz; 5000-5800 MHz
Input Impedence	50 $\Omega$
VSWR	$\leq 5.0$
Gain	$\leq 3$ dBi
Polarization Type	Linear

#### Detailed Passive Electrical Specifications

Frequency Range (MHz)	698–960	1176–1280	1400–1610	1710–2170	2170–2690	3300–4400	4400–5000	5000–5800
VSWR (Max.)	-	-	-	2.2	4.4	3.0	-	1.91
Average Efficiency (%)	-	-	-	44	37	31.47	-	44.31
Max. Peak Gain (dBi)	-	-	-	2.4	2.4	1.9	-	2.9

#### Mechanical Specifications

Antenna Size(mm)	37.09 × 9.8 × 9.15
Material	ABS
Working Temperature	-20 °C to +85 °C
Weight	Typical 1.73 g
Antenna Color	Black
Mounting Type	Adhesive

## 4 Overall Performance

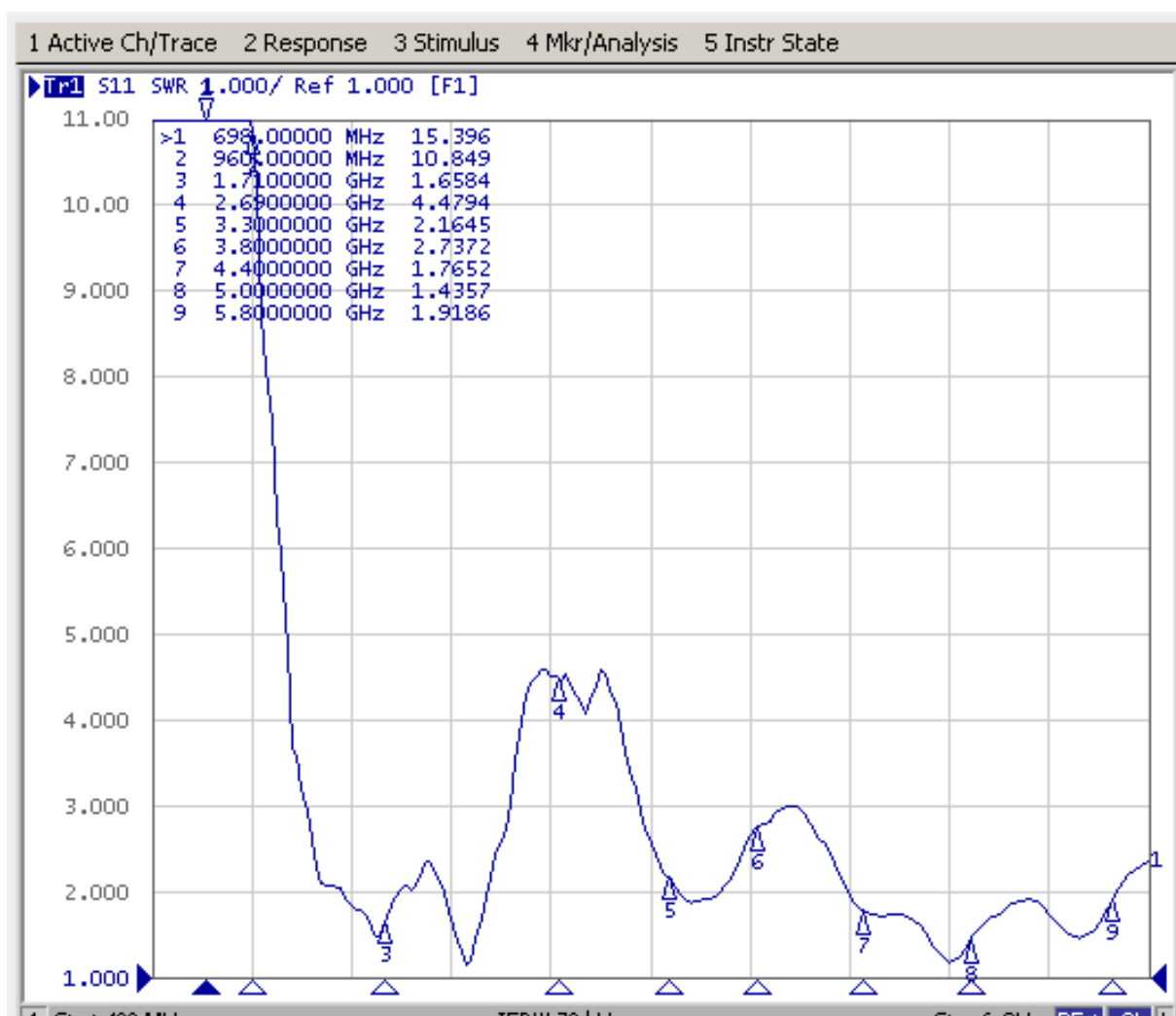
### 4.1. Test Environment

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



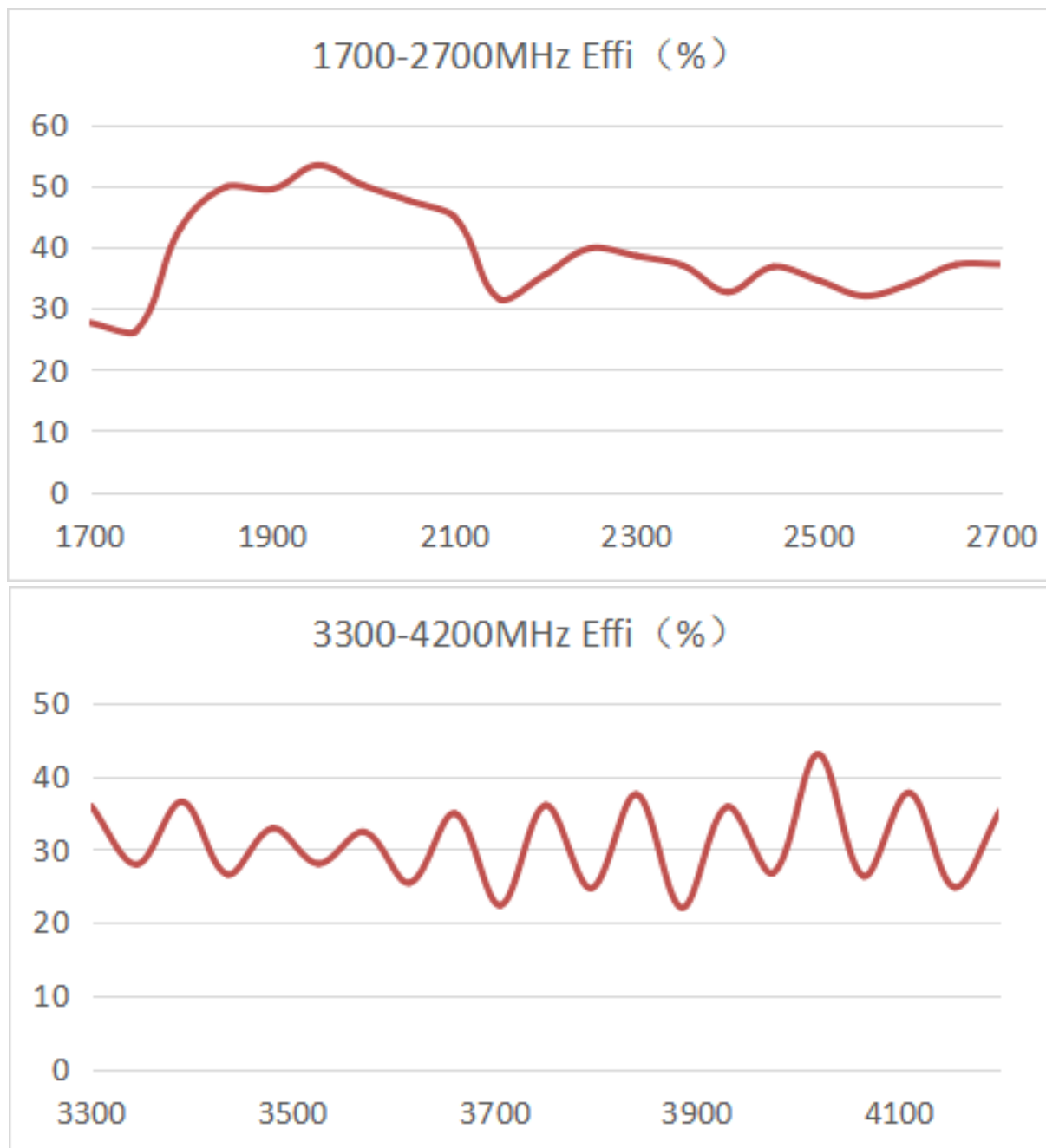


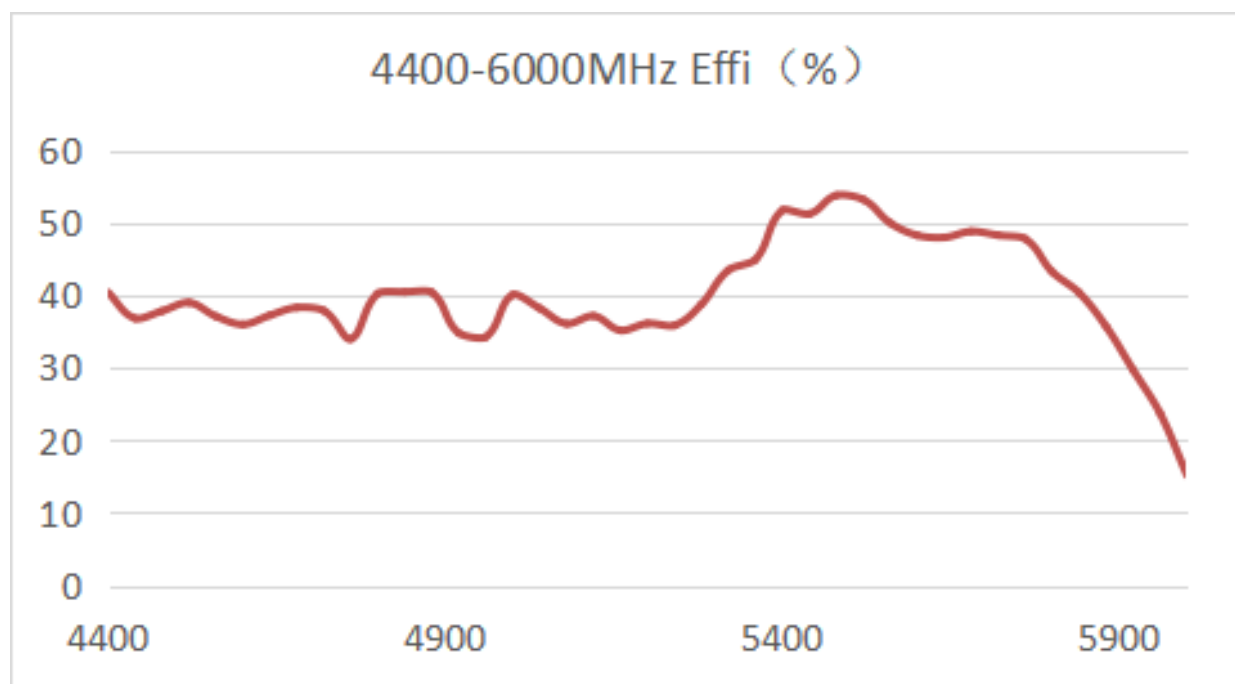
## 4.2. VSWR



Frequency (MHz)	698	960	1710	2690	3300	3800	4400	5000	5800
VSWR	15.39	10.84	1.65	4.47	2.16	2.73	1.76	1.43	1.91

### 4.3. Efficiency

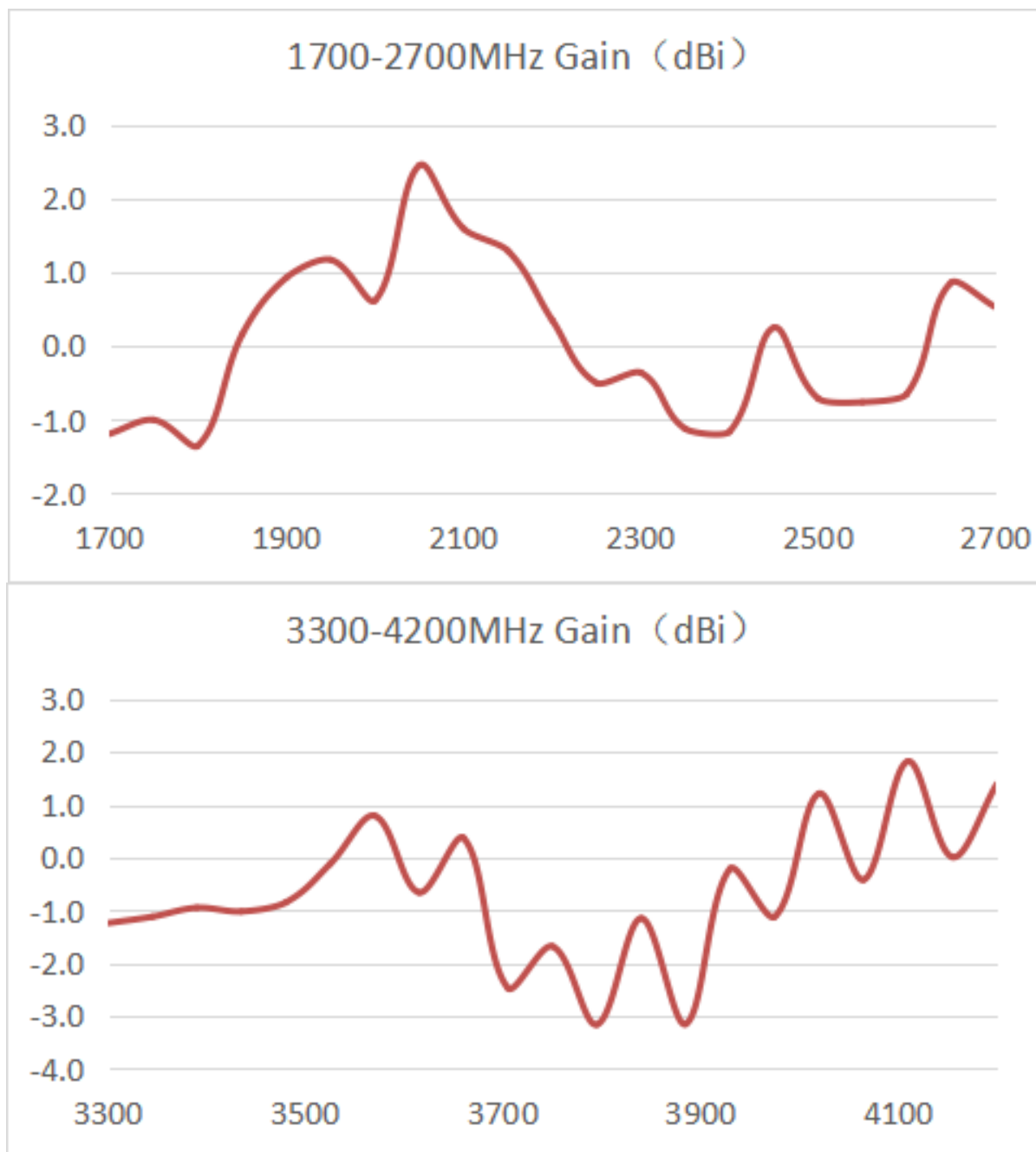


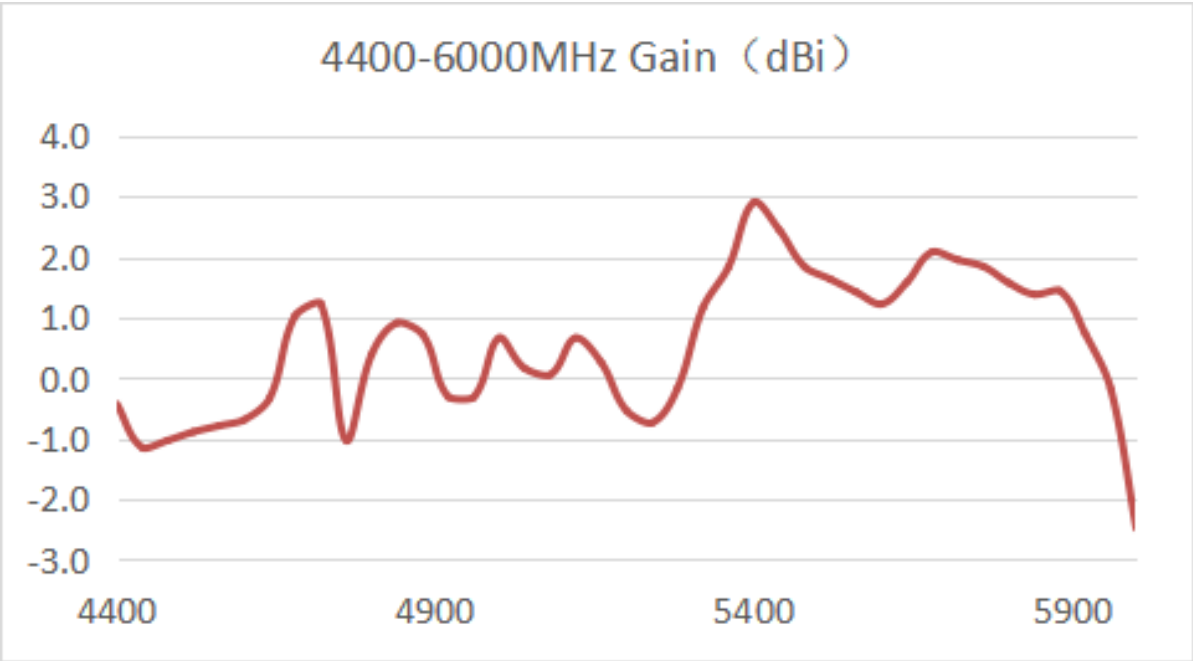


Frequency (MHz)	1700	1950	2150	2450	2700
Efficiency (%)	27.63	53.37	31.44	36.77	37.2

Frequency (MHz)	3300	3500	3800	4000	4200	4400	4800	5400	5800
Efficiency (%)	35.87	28.01	24.65	42.96	35.21	40.42	40.27	51.76	43.26

#### 4.4. Gain



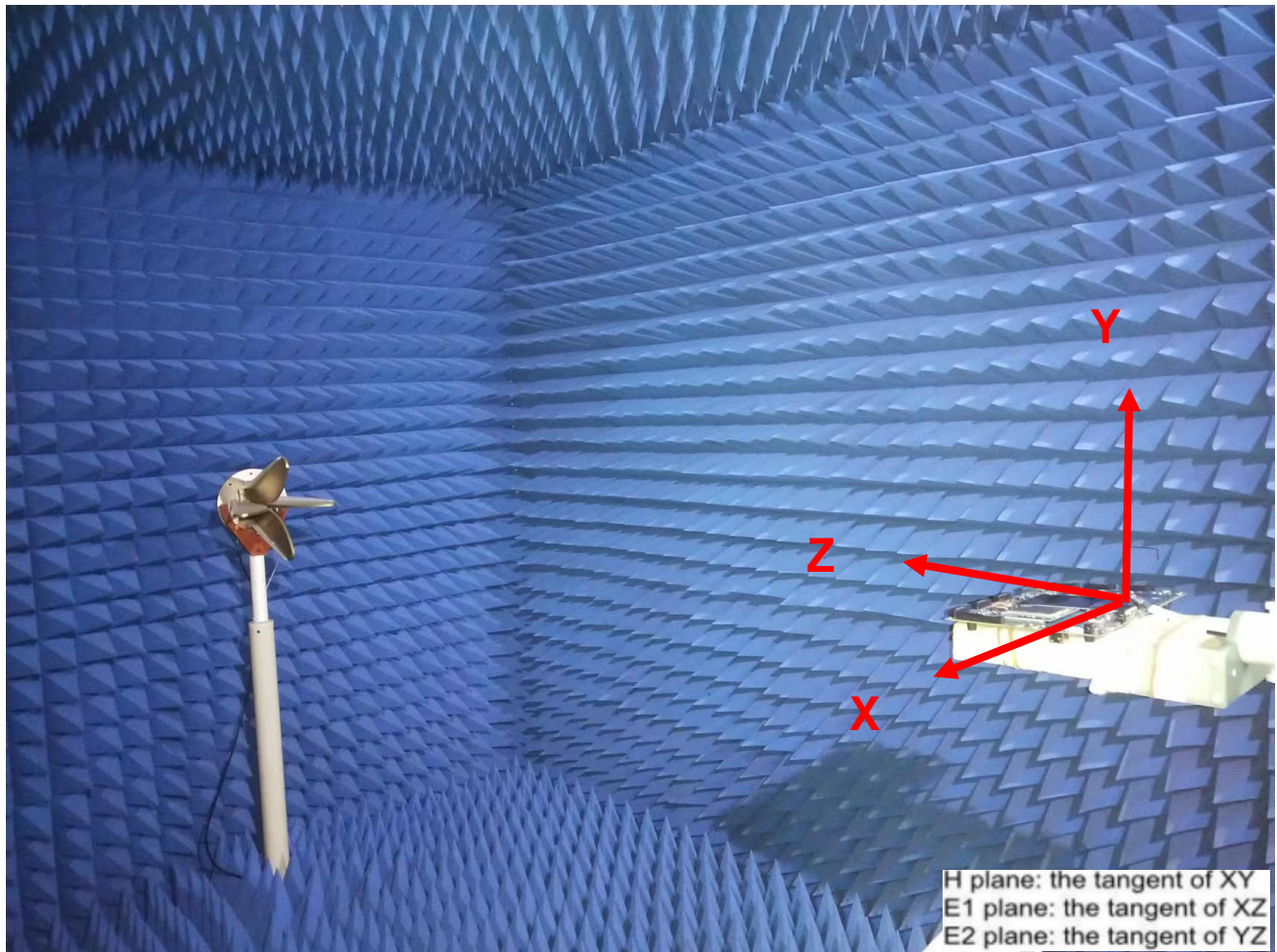


Frequency (MHz)	1700	1950	2150	2450	2700
Gain (dBi)	-1.19	1.17	1.29	0.25	0.53

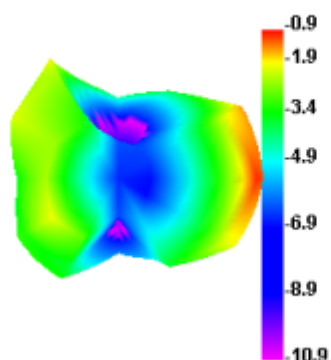
Frequency (MHz)	3300	3500	3800	4000	4200	4400	4800	5400	5800
Gain (dBi)	-1.24	-0.12	-3.16	1.21	1.39	-0.43	0.39	2.9	1.57

## 4.5. Radiation Pattern

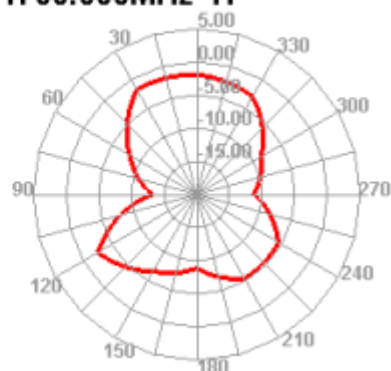
- Test condition: whole machine test



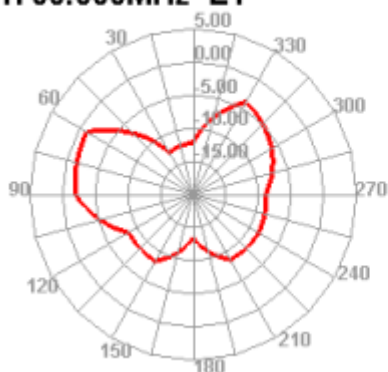
**1700.000MHz**



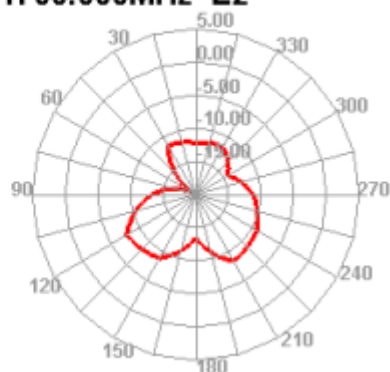
**1700.000MHz H**



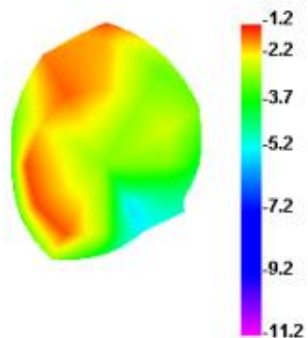
**1700.000MHz E1**



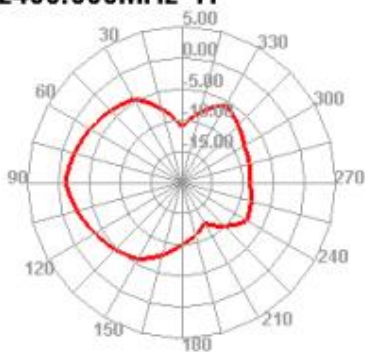
**1700.000MHz E2**



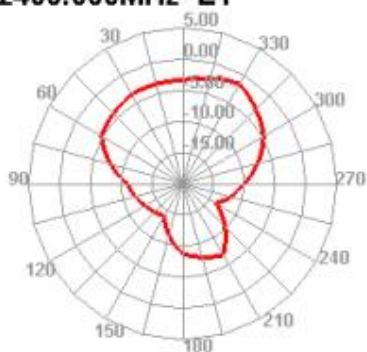
**2400.000MHz**



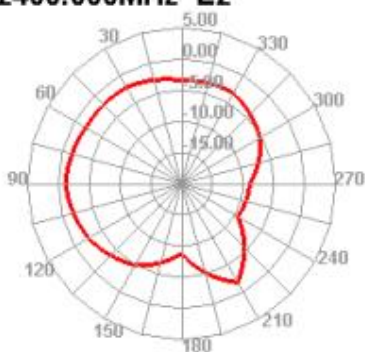
**2400.000MHz H**



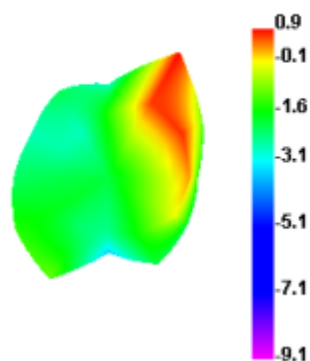
**2400.000MHz E1**



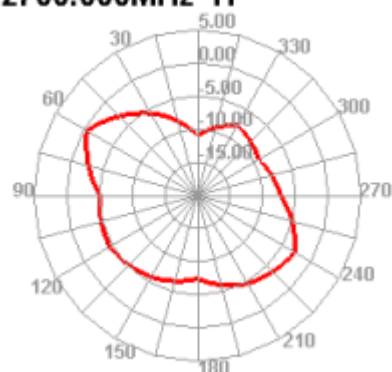
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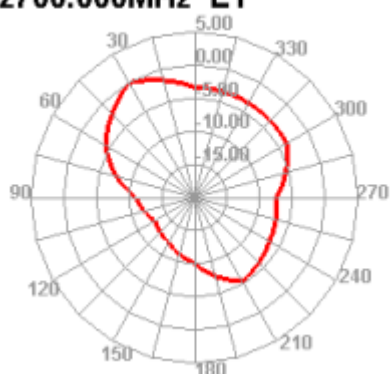
**2700.000MHz**



**2700.000MHz H**



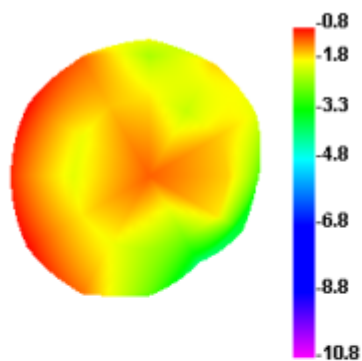
**2700.000MHz E1**



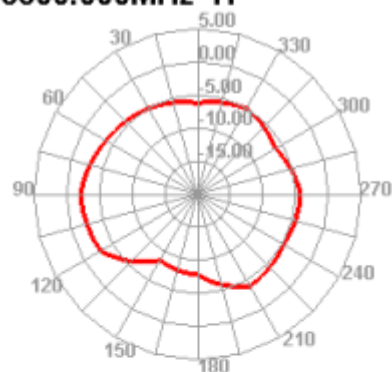
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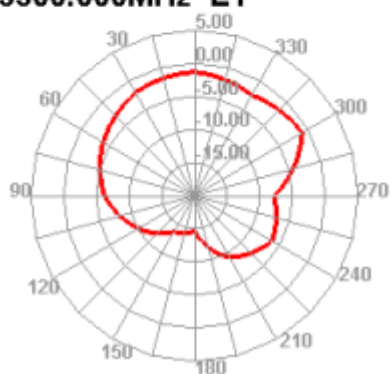
**3300.000MHz**



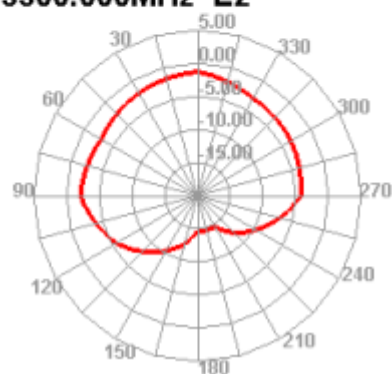
**3300.000MHz H**



**3300.000MHz E1**

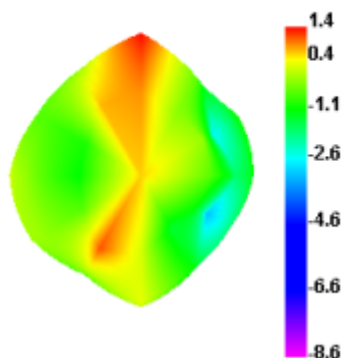


**3300.000MHz E2**

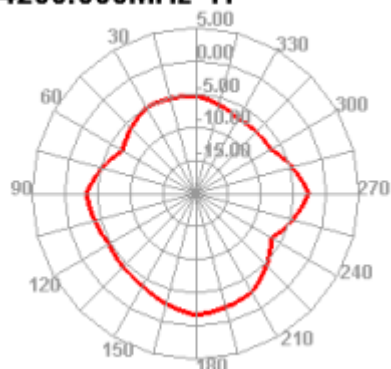




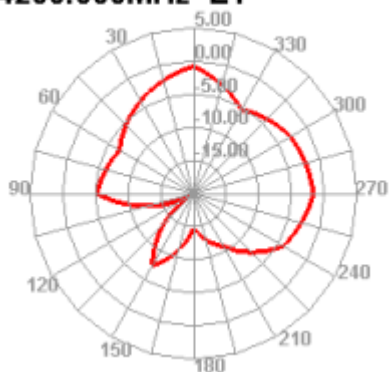
**4200.000MHz**



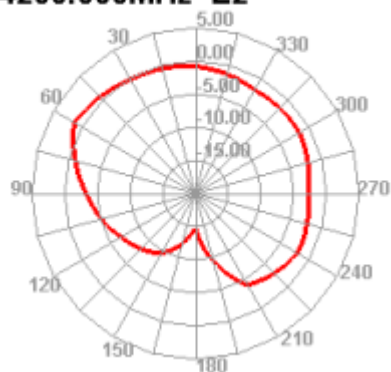
**4200.000MHz H**



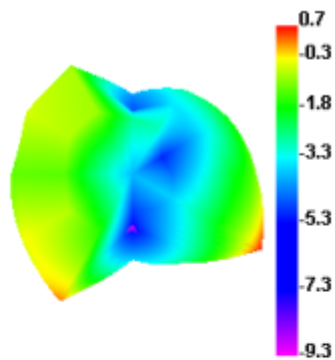
**4200.000MHz E1**



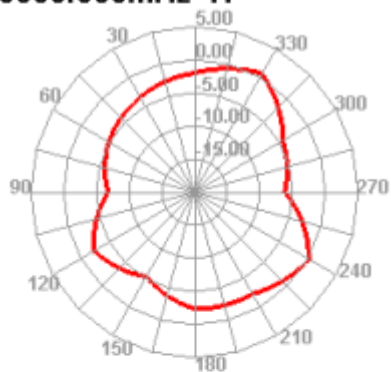
**4200.000MHz E2**



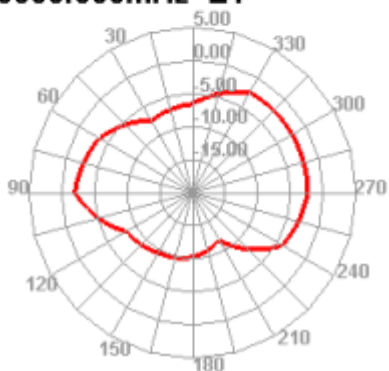
**5000.000MHz**



**5000.000MHz H**



**5000.000MHz E1**



**5000.000MHz E2**

