



Antenna Datasheet

Product OC: YECT010W7AM

Version: 1.1

Date: 2026-01-26

Status: Released

Product Name: 5G Terminal Mount Fiberglass Dipole External Antenna

Key Features:

Frequency Band: 600–5000 MHz

Dimensions: Φ 25.5 mm \times 300 mm

Efficiency: Up to 80 %

RoHS and REACH Compliant

IP Rating: IP67

Overview

The YECT010W7AM is a 5G fiberglass antenna measuring Φ 25.5 mm \times 300 mm. This ultra-wide-band 5G antenna provides broad coverage from 600–960 MHz, 1400–5000 MHz whilst offering backward-compatibility to support 4G/3G and 2G networks as well as LTE Cat-M and narrowband IoT (NB-IoT). The antenna is terminated with N type Male connectors. This low profile, terminal mount omni-directional antenna, ideal for applications where the antenna is required to be discrete, is easy to install with maximum durability assured thanks to its IP65 rated FRP enclosure. It is compatible with Quectel's RM520x Series modules.

The antenna is designed as dipole type to work with various GND plane sizes or in free space. It is a perfect antenna product for customers that desire highest performance. This omni-directional antenna is ideally suited for microwave communication equipment, communication base station, radio and television system, weather radar, offering great performance with its high gain and efficiency.

- **Typical applications include:**
 - ✓ Microwave Communication Equipment
 - ✓ Communication Base Station
 - ✓ Radio and Television System
 - ✓ Weather Radar

Quectel provides comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs. We have regional R & D centers to offer quick response to meet your requirements. Please contact our sales & FAEs if you have any requests.

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1 Specification

Test Condition: Free Space

1.1. Electrical

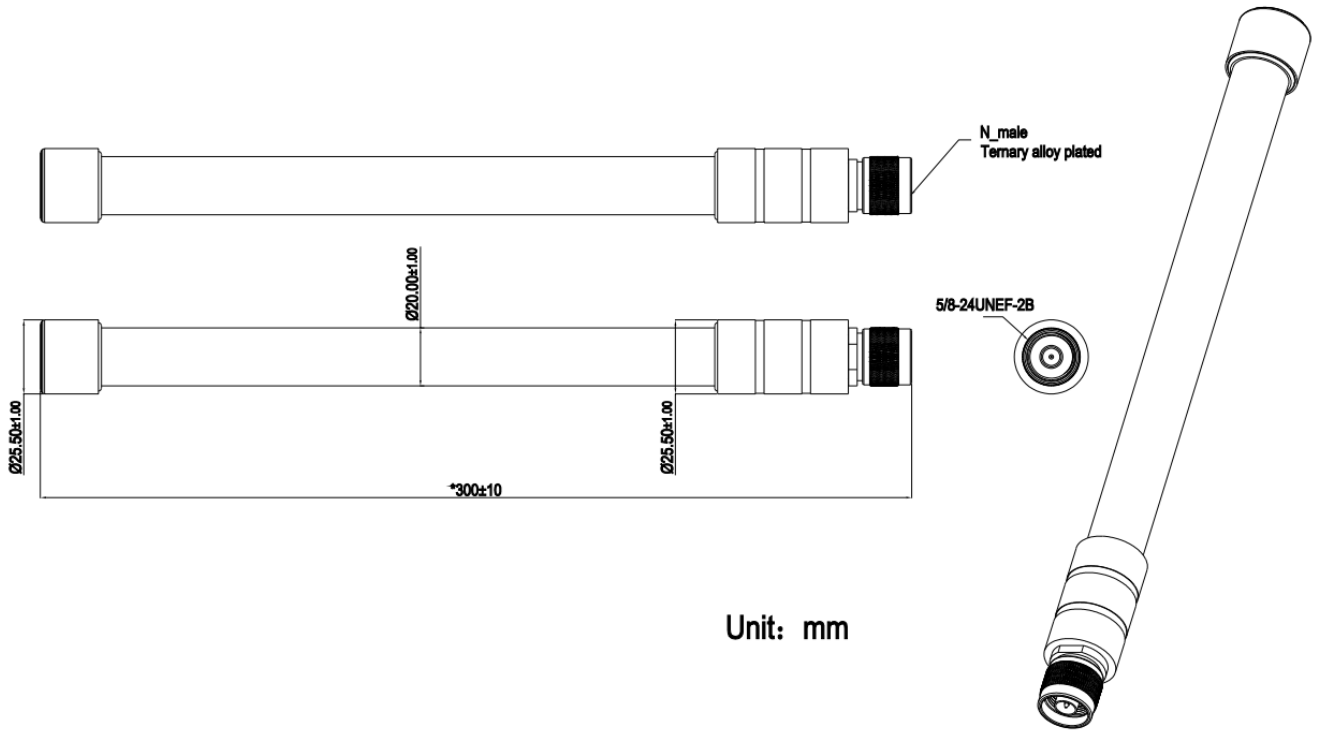
Electrical	
Frequency Range	600–5000 MHz
Impedance	50 Ω
Polarization	Linear
Radiation Pattern	Omni-directional

Electrical – Detail													
SPEC	Band	Band	B71	B12 /B13 /B28	B5 /B8 /B26	n74 /n75 /n76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /n77	n79	n46
	Freq. (MHz)	600– 700	700– 810	820– 960	1420– 1520	1700– 2170	2300– 2400	2400– 2500	2500– 2690	3300– 4200	4400– 5000	5150– 5925	
Max. VSWR		2.5	3.2	3.8	2.3	2.1	1.1	1.3	1.4	2.6	3.3	-	
Max. Return Loss (dB)		-7.4	-5.6	-4.7	-7.9	-8.8	-24.1	-18.7	-16.0	-7.1	-5.4	-	
AVG Eff. (%)		67.4	56.1	50.6	76.0	69.0	75.3	73.7	75.5	70.0	60.5	-	
AVG AVG Gain (dB)		-1.7	-2.5	-3.0	-1.2	-1.6	-1.2	-1.3	-1.2	-1.6	-2.2	-	
Max. Peak Gain (dBi)		1.3 (600)	-0.9 (700)	2.7 (960)	2.0 (1520)	4.2 (2080)	4.3 (2400)	4.3 (2410)	3.8 (2520)	7.2 (3340)	6.1 (4400)	-	
VSWR		≤ 3.8											
Return Loss		≤ -4.7 dB											
Peak Gain		≤ 7.2 dBi											

1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	Φ 25.5 mm × 300 mm
Material & Color	FRP & White
Connector Type	N-Male
Mounting Type	Terminal
Weight	Typ. 180 g
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
Ingress Protection (IP) Rating	IP67 (After Installation)
RoHS and REACH Compliant	Yes

2 Drawing

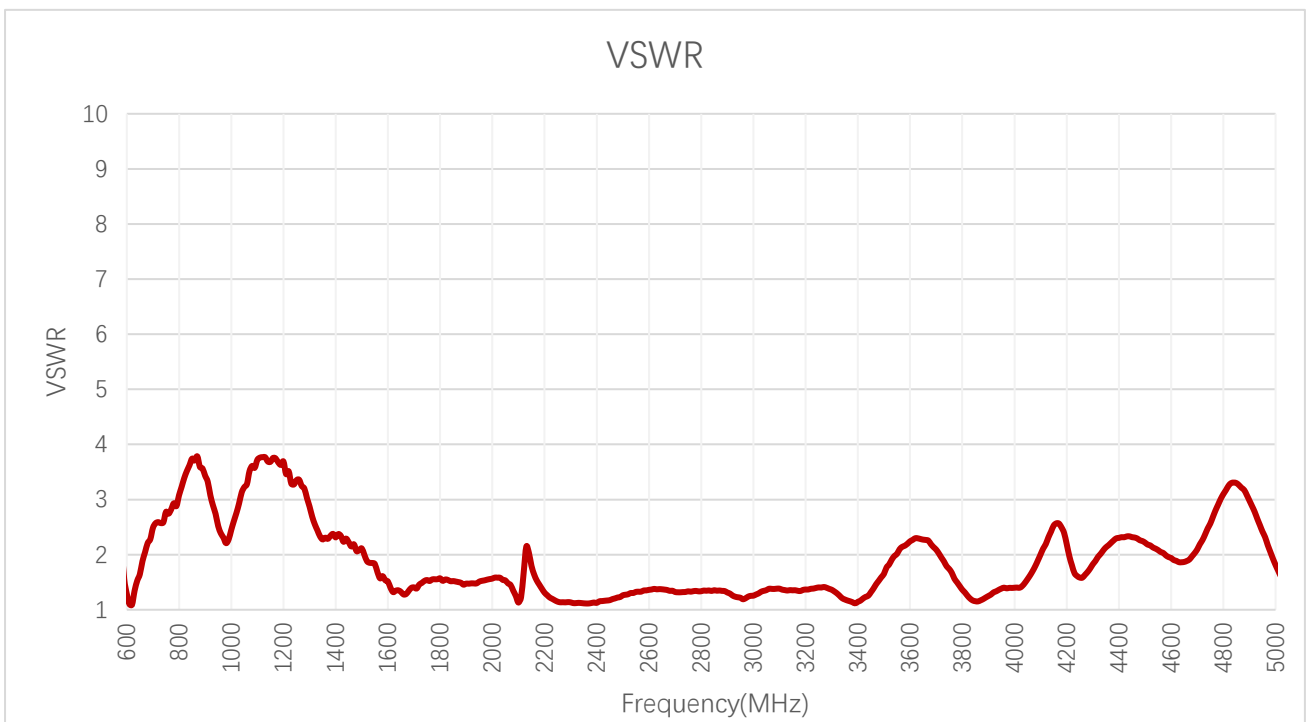


Unit: mm

3 Detailed Performance

3.1. S-Parameter Test

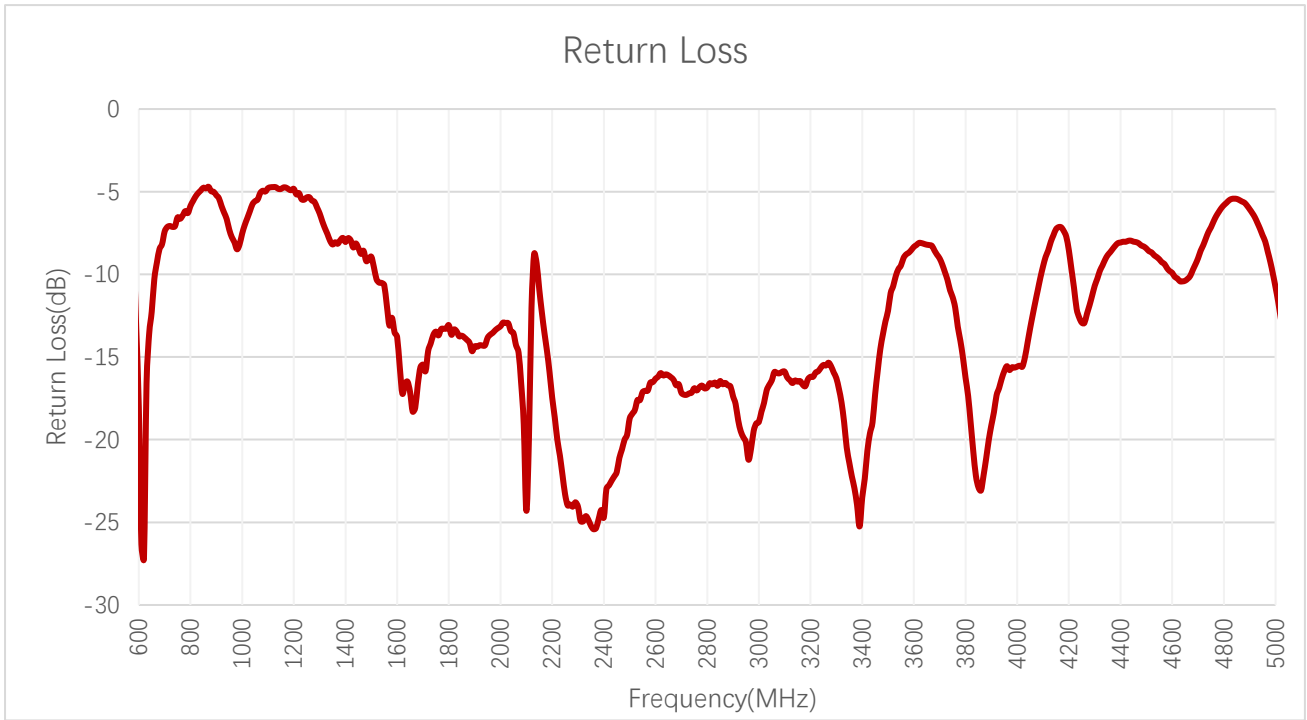
3.1.1. VSWR



VSWR

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
VSWR	1.3	1.3	2.6	3.5	3.4	2.4	2.3	1.4	1.5	1.5
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
VSWR	1.5	2.0	1.1	1.2	1.4	2.2	2.1	1.8	-	-

3.1.2. Return Loss

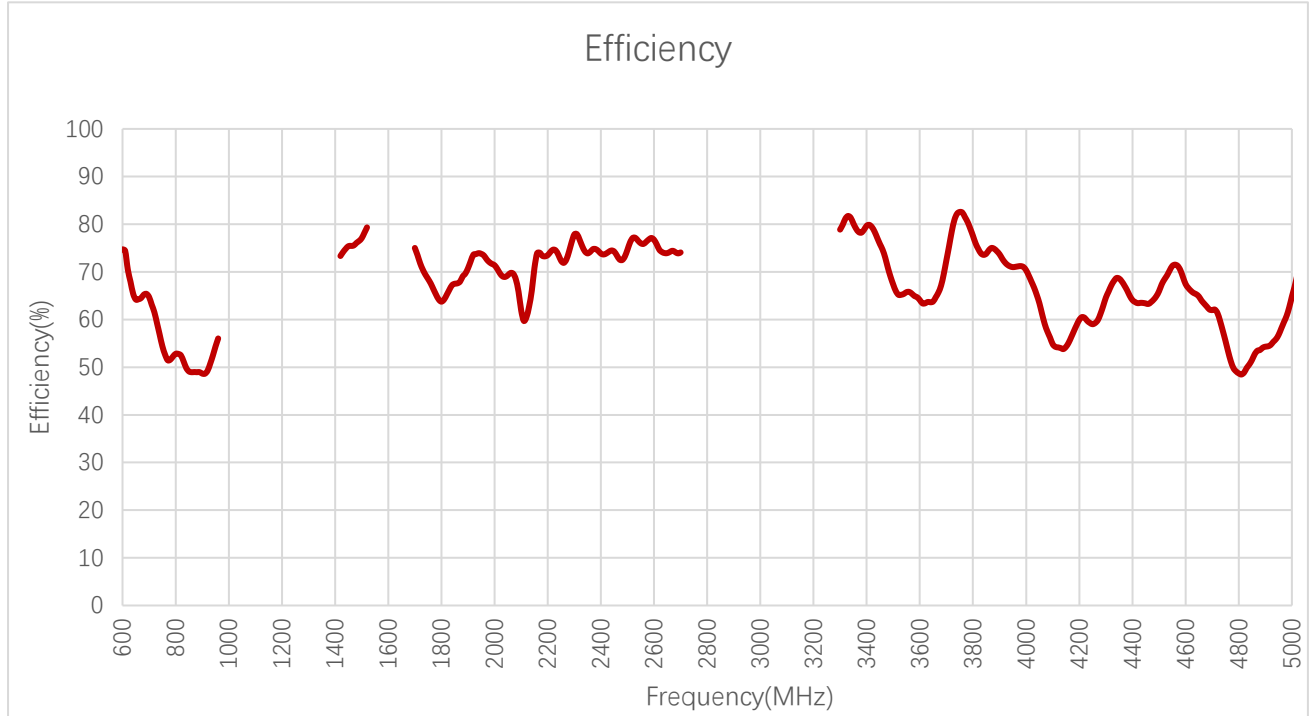


Return Loss (dB)

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Return Loss (dB)	-18.0	-16.6	-7.1	-5.1	-5.2	-7.8	-8.1	-15.9	-13.7	-14.1
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Return Loss (dB)	-13.8	-9.3	-25.2	-22.0	-16.3	-8.3	-9.0	-10.8	-	-

3.2. Radiation Performance Test

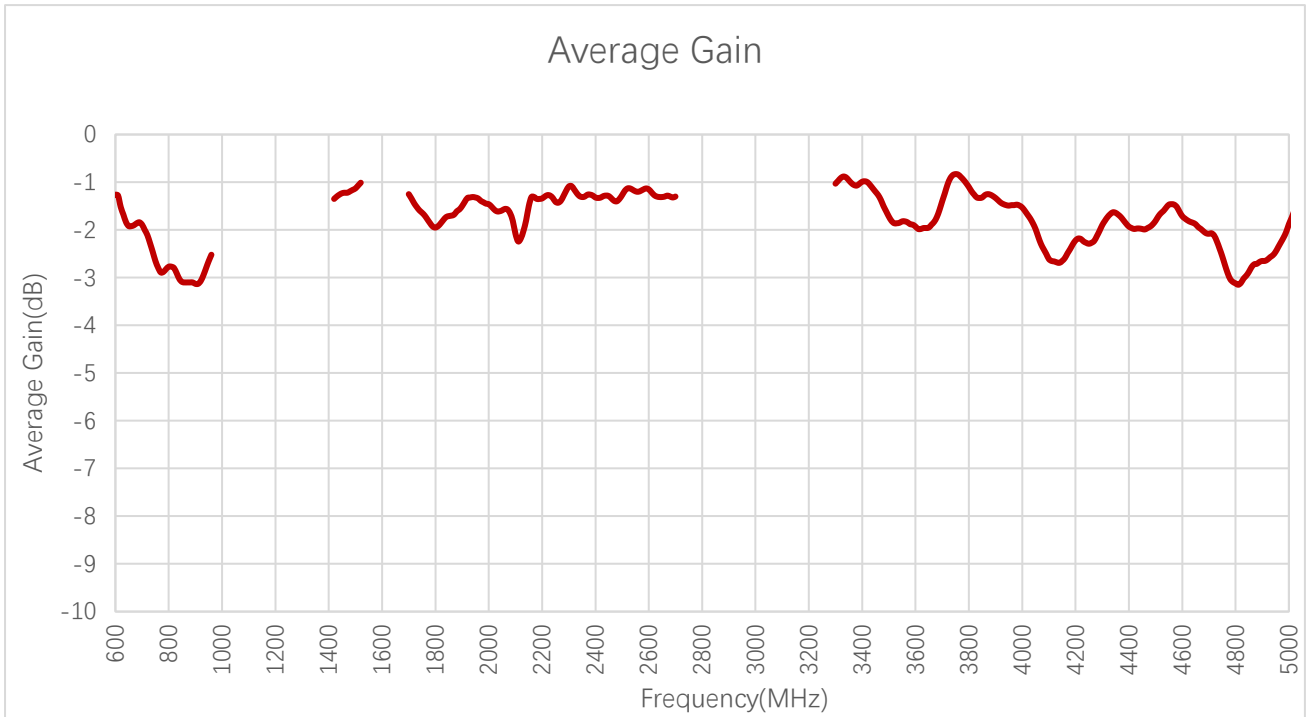
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Efficiency (%)	74.7	68.0	63.1	51.2	48.7	56.0	74.9	73.5	69.4	69.0
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Efficiency (%)	73.8	66.1	73.9	74.3	76.7	64.1	62.0	64.8	-	-

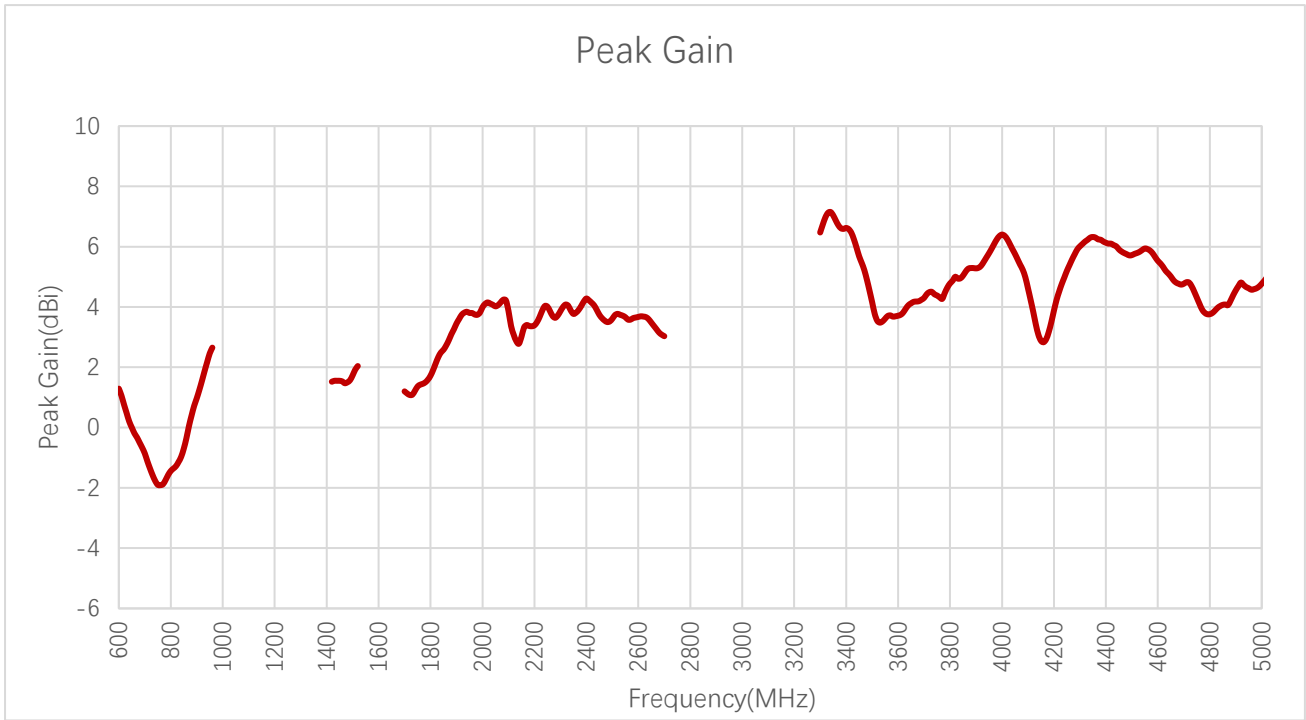
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Average Gain (dB)	-1.3	-1.7	-2.0	-2.9	-3.1	-2.5	-1.3	-1.3	-1.6	-1.6
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Average Gain (dB)	-1.3	-1.8	-1.3	-1.3	-1.2	-1.9	-2.1	-1.9	-	-

3.2.3. Peak Gain

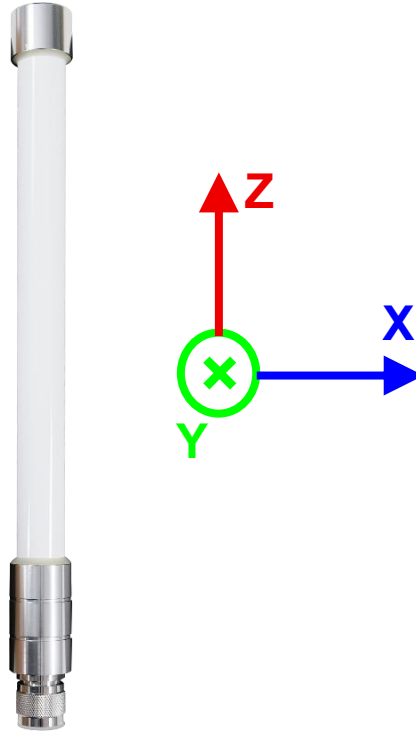


Peak Gain (dBi)

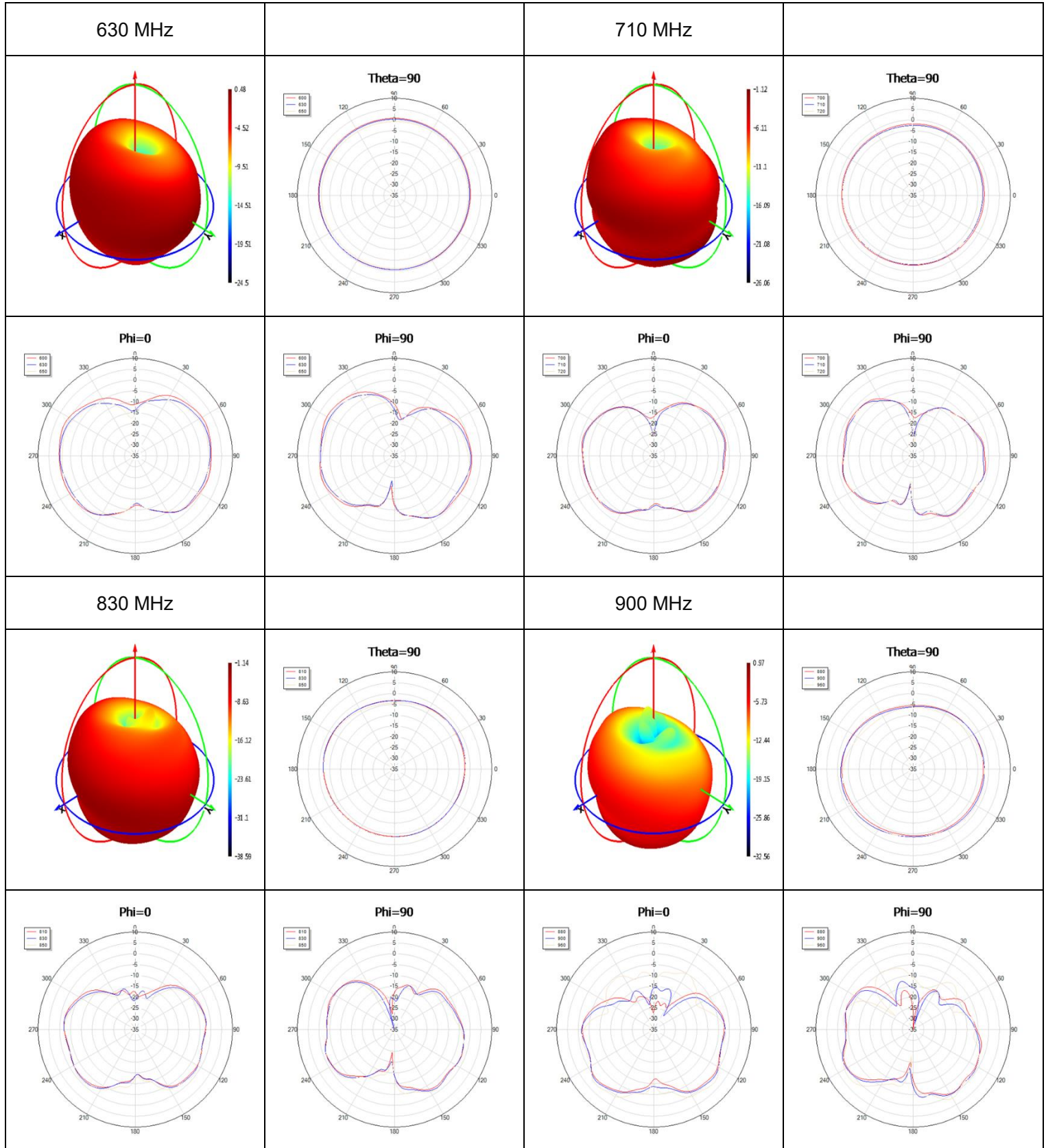
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Peak Gain (dBi)	1.3	0.5	-1.1	-1.1	1.0	2.7	1.6	1.1	1.2	3.1
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
Peak Gain (dBi)	3.8	2.8	3.8	3.7	3.7	3.7	4.8	4.8	-	-

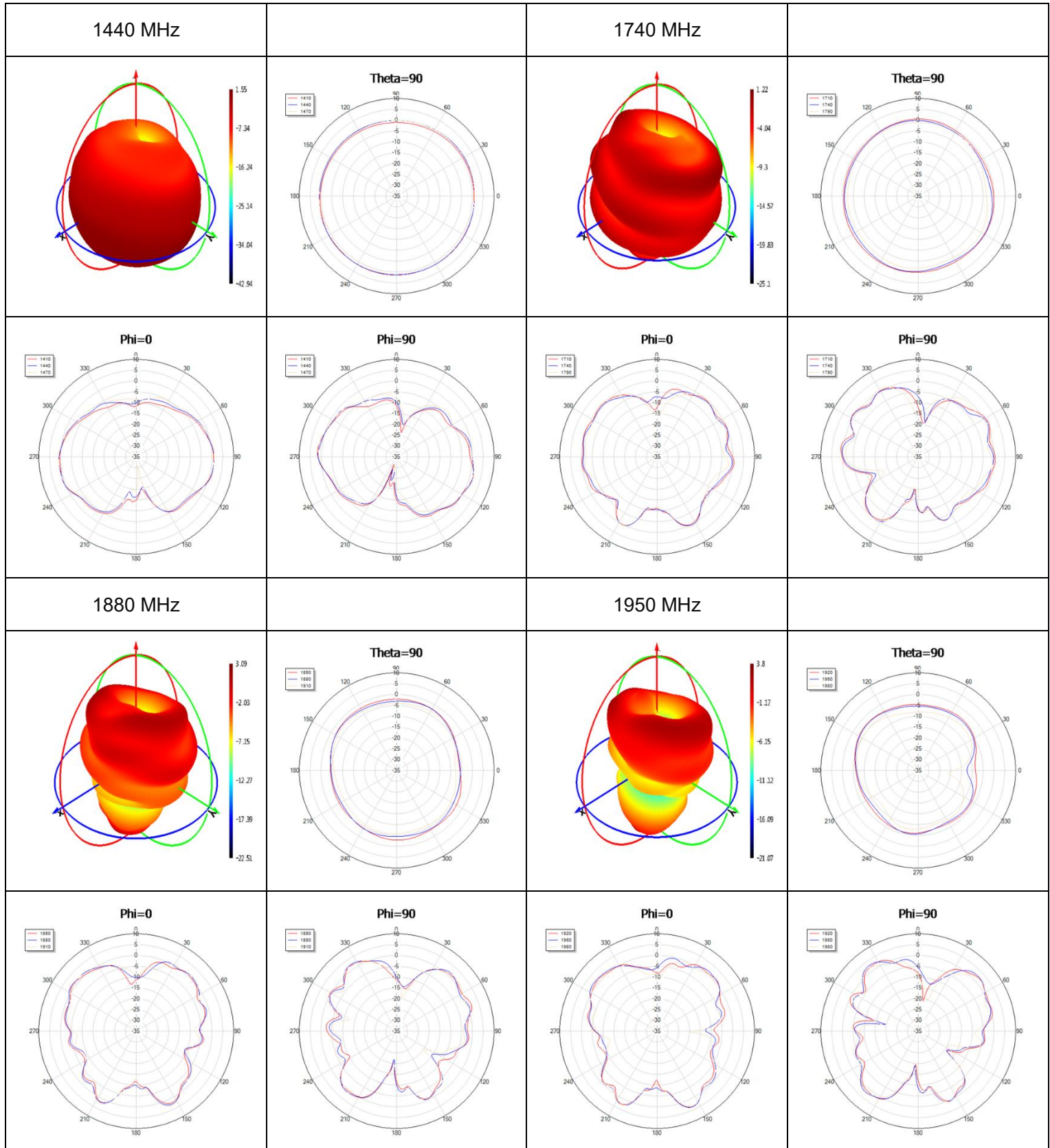
3.2.4. 3D & 2D Radiation Pattern

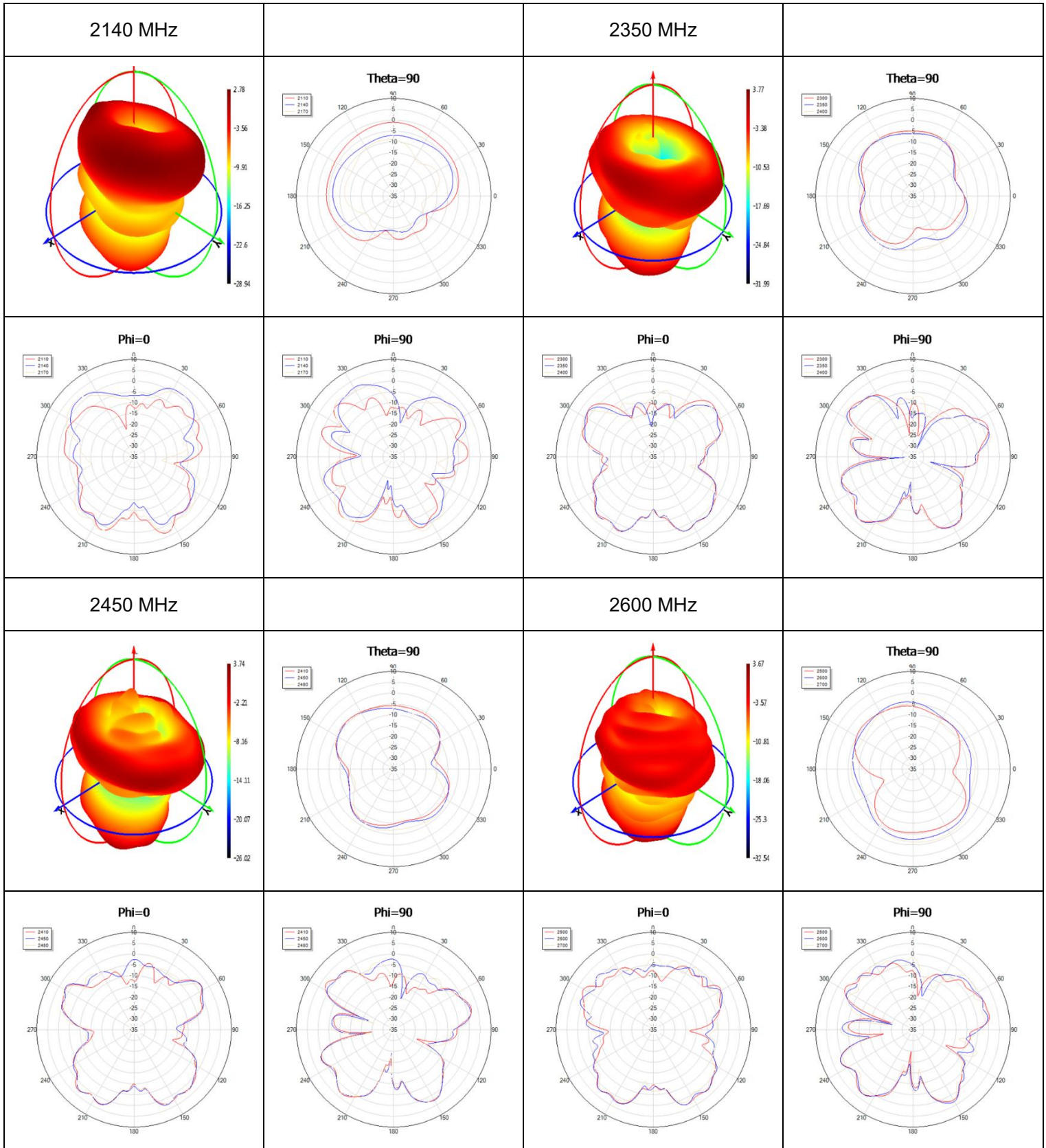
- Test Condition: Free Space
- Test Chamber: HF-S-1

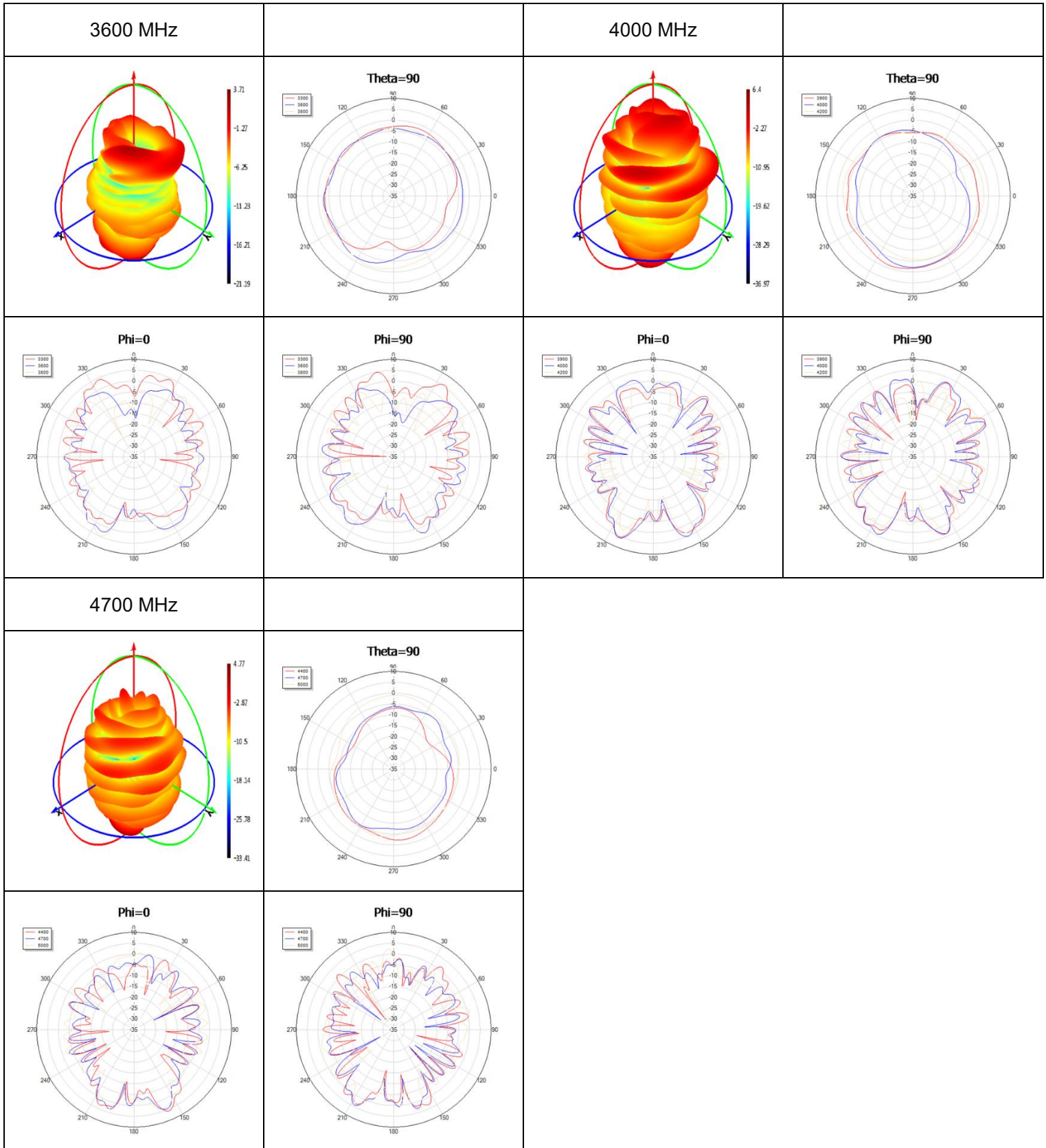


● 5G

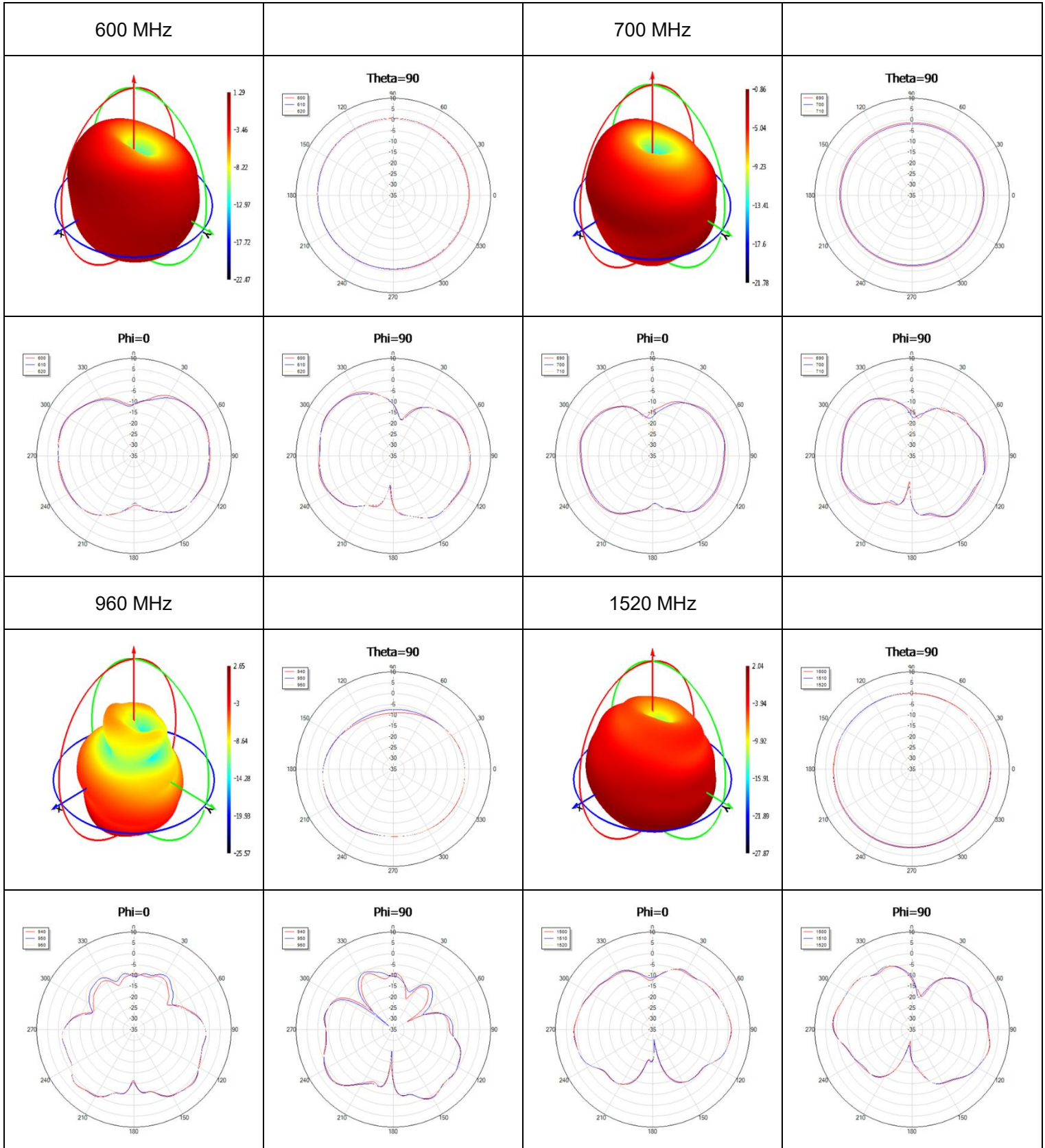


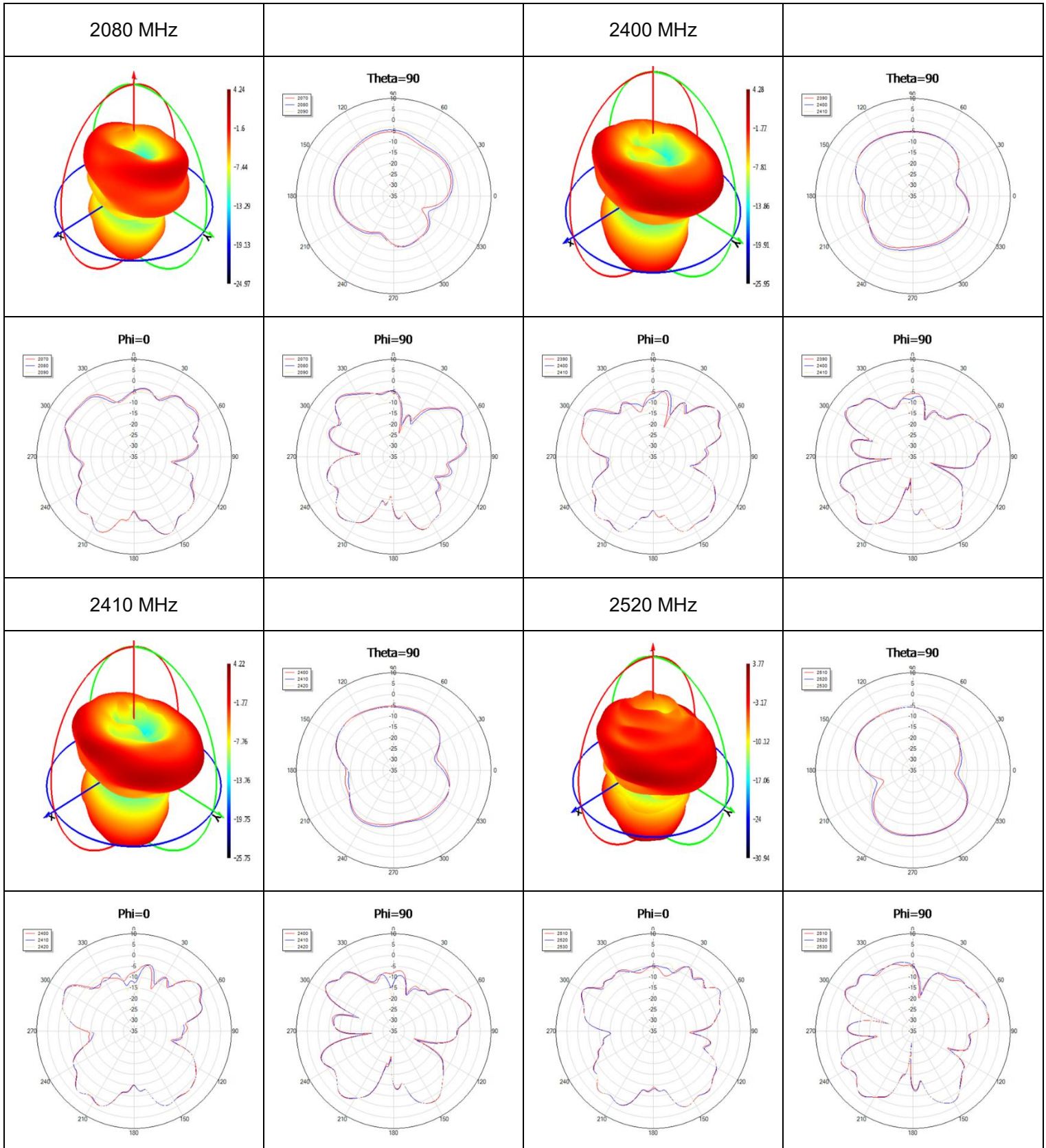


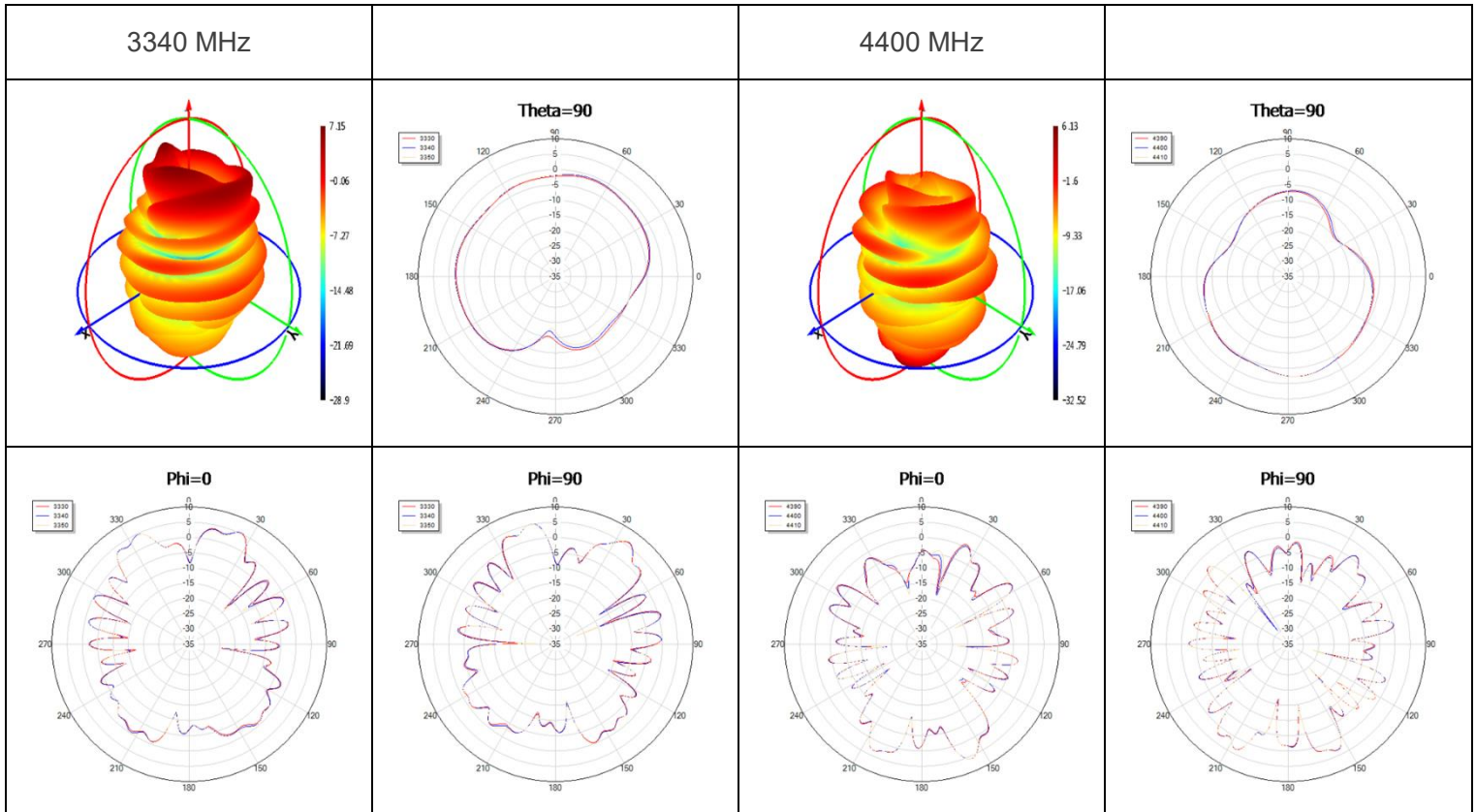




● **Max Peak Gain**

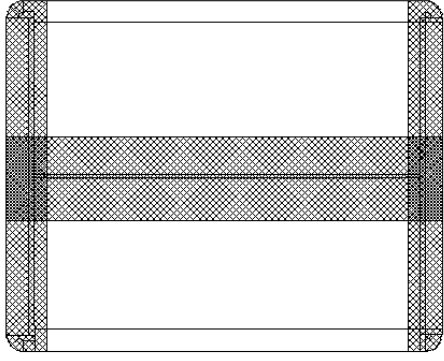






4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		<p>1 antenna product in a bubble bag. (1 Antenna / Bubble Bag)</p>
2		<p>1 antenna product in an inner box. (1 Antenna / Inner Box)</p>
3		<p>Place the inner box into the outer box, place 7 inner boxes on each layer, stack 7 layers, and a total of 49 inner boxes. (49 Inner Boxes / Carton Box) (49 Antennas / Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. <u>Carton Size:</u> <u>L × W × H = 390 × 275 × 300 mm</u></p>
4		<p>Position for Attaching Labels</p> <ul style="list-style-type: none"> ① Carton Label ② Quality Label

5	 A technical drawing of an H-shaped sealing carton. It consists of two vertical rectangular sections connected by two horizontal rectangular sections, forming an 'H' shape. The entire structure is filled with a cross-hatched pattern, indicating it is a solid or reinforced material. The corners of the vertical sections are rounded.	Sealing Cartons H-shaped sealing cartons
Note	The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.	

Contact Us

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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Or our local offices. For more information, please visit:

<https://www.quectel.com/contact/>.

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Revision History

Version	Date	Author	Note
-	2025-05-19	Christopher Yao/ Lance Sun/ Riva Ren/ Rainey Liao	Creation of the document
1.0	2025-05-19	Christopher Yao/ Lance Sun/ Riva Ren/ Rainey Liao	First official release
1.1	2026-01-26	Strong Qiang	Updated the packaging (Chapter 4).

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