Antenna Datasheet

Product OC: YECN001L1AH
Version: 1.1
Date: 2026-01-19
Status: Released

Product Name: 5G Screw Mount Stubby Monopole External Antenna
Key Features:
Frequency Band: 600–960 MHz, 1400–6000 MHz
Dimensions: Φ 40.6 mm × 104 mm
Efficiency: Up to 88.1 % (MP)
RoHS and REACH Compliant
IP67
IP69K
IK10
Compatible with ECE-R118 cables under demand

Overview

The Quectel YECN001L1AH is an external Screw mounting antenna. This ultra-wide-band antenna provides coverage the 5G/4G/3G/2G networks as well at LPWA, Cat-M, NB IoT, ZigBee, ISM, Wi-Fi/BT. Its shape is cylinder, with dimensions of Φ 40.6 mm × 104 mm. YECN001L1AH has a SMA Male connector.

YECN001L1AH is an external antenna with high performance, which can be installed outside the device. It can adopt waterproof, dustproof, and anti-drop design, with IP67 and IP69K waterproof and dustproof ratings, and IK10 impact protection (IK) rating, this design can maximize the protection of the antenna from natural environmental damage such as water droplets, dust and falls. We also provide a housing UV resistant of UL 746c f1, which can allow the YECN001L1AH to be used in outdoor environments for a long time and remain intact even in harsh environments, thereby extending its service life for providing a more flexible and reliable high-performance antenna solution for products in external application environments.

YECN001L1AH allows high efficiency, stable signal transmission and reception for from 600 to 960 MHz, 1400 to 6000 MHz.

- **Typical Applications Include:**

✓ Smart Buildings: Climate control, access control, security, irrigation
✓ Transport (Busses, Utility & Public Safety)
✓ Agricultural machinery
✓ Mining Vehicles & Machinery communications, telemetry and automation
✓ Industrial factory automation
✓ Warehouses & Logistic systems

Quectel provides customized service for optimization of your devices, we have regional R & D centers to offer quick response to meet your requirements. Please contact our sales & FAEs if you have any requests.

Contents

1 Specification

Test Condition: In Free Space & On 300 mm × 300 mm Metal Plane

1.1. Electrical

Electrical Specifications	
Frequency Range	600–960 MHz, 1400–6000 MHz
Radiation Pattern	Omni-directional
Polarization	Linear
Impedance	50 Ω

Electrical – Detail

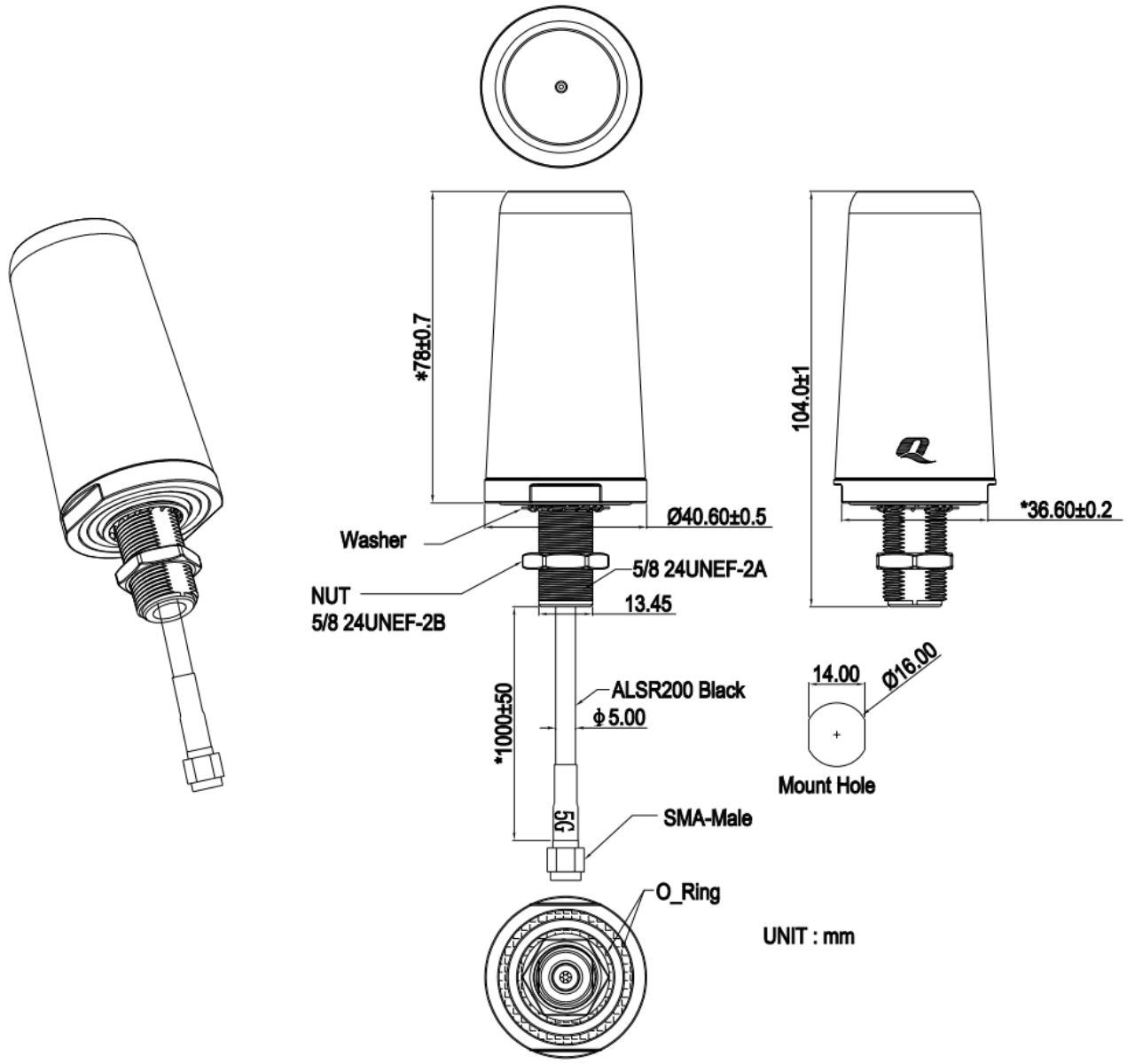
Band / SPEC	Band	B71	B12 /B13 /B28	B5 /B8 /B26	n74 /n75 /n76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /n77	n79	Wi-Fi 5G
	Freq. (MHz)	600–700	700–810	820–960	1420–1520	1700–2170	2300–2400	2400–2500	2500–2690	3300–4200	4400–5000	5150–5850
Max. VSWR	FS	11.9	11.8	3.3	2.2	3.2	1.9	1.8	1.7	2.3	1.9	2.1
	MP	5.6	2.1	1.7	3.2	3.8	1.9	1.8	1.8	2.5	1.9	2.1
Max. Return Loss (dB)	FS	-1.5	-1.5	-5.5	-8.5	-5.5	-10.1	-11.3	-11.3	-8.2	-10.1	-8.9
	MP	-3.2	-8.9	-11.5	-5.6	-4.7	-10.3	-10.9	-11.0	-7.5	-10.0	-9.1
AVG Eff. (%)	FS	9.0	24.8	46.2	60.1	46.6	64.5	65.4	67.8	59.6	54.4	53.1
	MP	42.4	76.0	76.3	58.8	53.2	65.9	68.0	69.0	54.4	55.7	53.2
AVG AVG Gain (dB)	FS	-10.5	-6.8	-3.4	-2.2	-3.3	-1.9	-1.8	-1.7	-2.3	-2.7	-2.8
	MP	-3.9	-1.2	-1.2	-2.3	-2.8	-1.8	-1.7	-1.6	-2.7	-2.6	-2.8
Max. Peak Gain (dBi)	FS	-2.9 (600)	2.1 (810)	4.8 (960)	4.0 (1450)	1.8 (1700)	3.1 (2310)	2.8 (2400)	2.4 (2520)	3.5 (4190)	2.4 (4400)	3.1 (5740)
	MP	0.3 (690)	2.1 (810)	2.7 (940)	1.6 (1450)	2.8 (2070)	4.7 (2310)	4.2 (2450)	4.2 (2530)	5.0 (3340)	5.2 (4580)	5.4 (5600)

VSWR	FS	≤ 11.9
	MP	≤ 5.6
Return Loss	FS	≤ -1.5 dB
	MP	≤ -3.2 dB
Gain	FS	≤ 4.8 dBi
	MP	≤ 5.4 dBi

1.2. Mechanical & Environmental

Mechanical	
Antenna Dimensions	40.6 mm × 104 mm
Material & Color	ASA & Black
Cable Type & Length	ALSR200 Black & 1000 mm
Connector Type	SMA Male (The current state of the SMA connector is not waterproof. If a waterproof connector is required, it can be customized.)
Weight	Typ. 205 g
Mounting Type	Screw
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
Ingress Protection (IP) Rating	IP67 (After Installation) IP69K (After Installation)
Impact Protection (IK) Rating	IK10 (Only top face meets IK10)
RoHS & REACH Compliant	Yes
Housing UV Resistant	UL 746c f1

2 Drawing

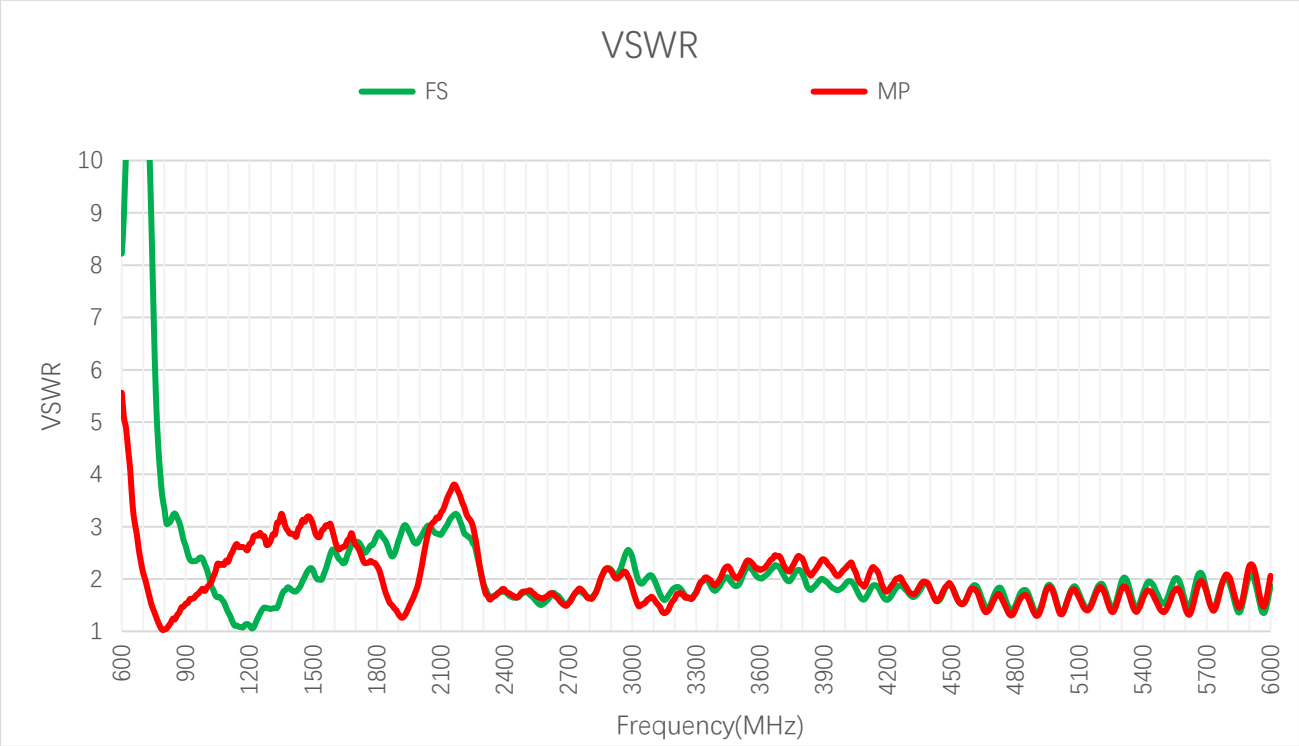


Caution: If you find the silicon seal ring dropping out of the groove when opening the package, it's a normal phenomenon due to its special structure design. Please assemble the silicon seal ring into groove before you assemble antenna on the device, thanks!

3 Detailed Performance

3.1. S-Parameter Test

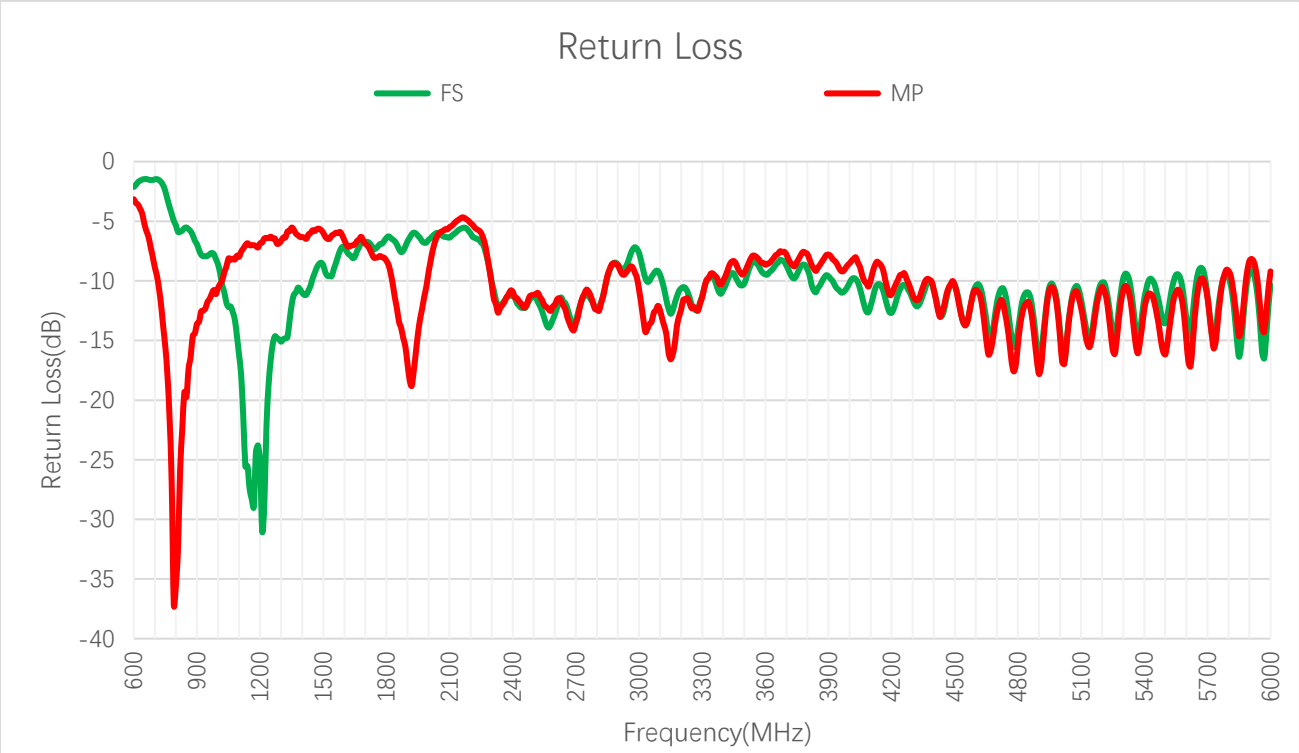
3.1.1. VSWR



VSWR

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
5G	FS	8.2	10.9	11.8	3.1	2.6	2.4	1.9	2.7	2.5	2.5
	MP	5.6	4.5	2.0	1.2	1.5	1.7	3.0	2.6	2.3	1.4
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
5G	FS	2.9	3.1	1.7	1.6	1.6	2.0	1.7	1.5	1.5	1.9
	MP	1.5	3.6	1.7	1.6	1.7	2.2	1.6	1.4	1.4	2.1

3.1.2. Return Loss

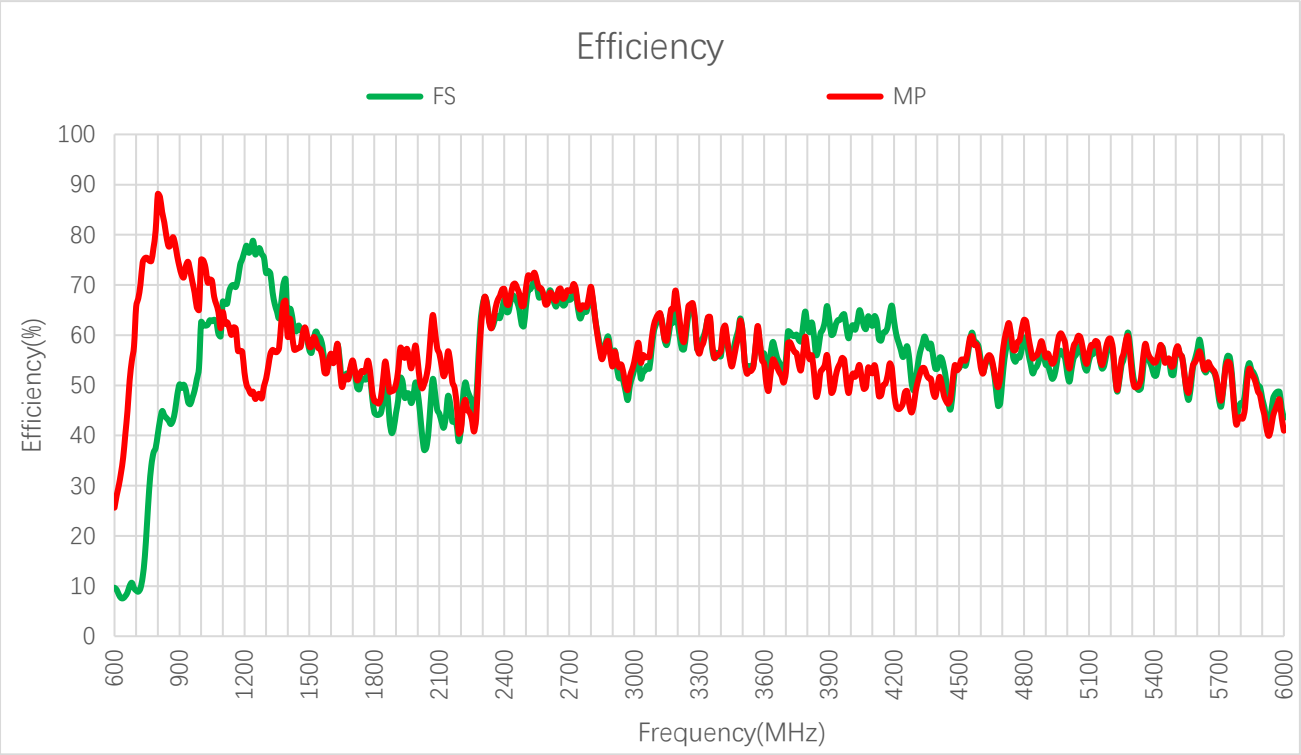


Return Loss (dB)

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
5G	FS	-2.1	-1.6	-1.5	-5.8	-6.9	-7.8	-10.4	-6.7	-7.4	-7.5
	MP	-3.2	-4.0	-9.6	-22.5	-13.6	-11.5	-6.0	-7.0	-8.0	-14.8
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
5G	FS	-6.2	-5.8	-11.9	-12.2	-12.8	-9.5	-11.8	-14.2	-13.5	-10.3
	MP	-14.4	-4.9	-12.0	-12.2	-12.0	-8.7	-12.7	-14.7	-16.2	-9.2

3.2. Radiation Performance Test

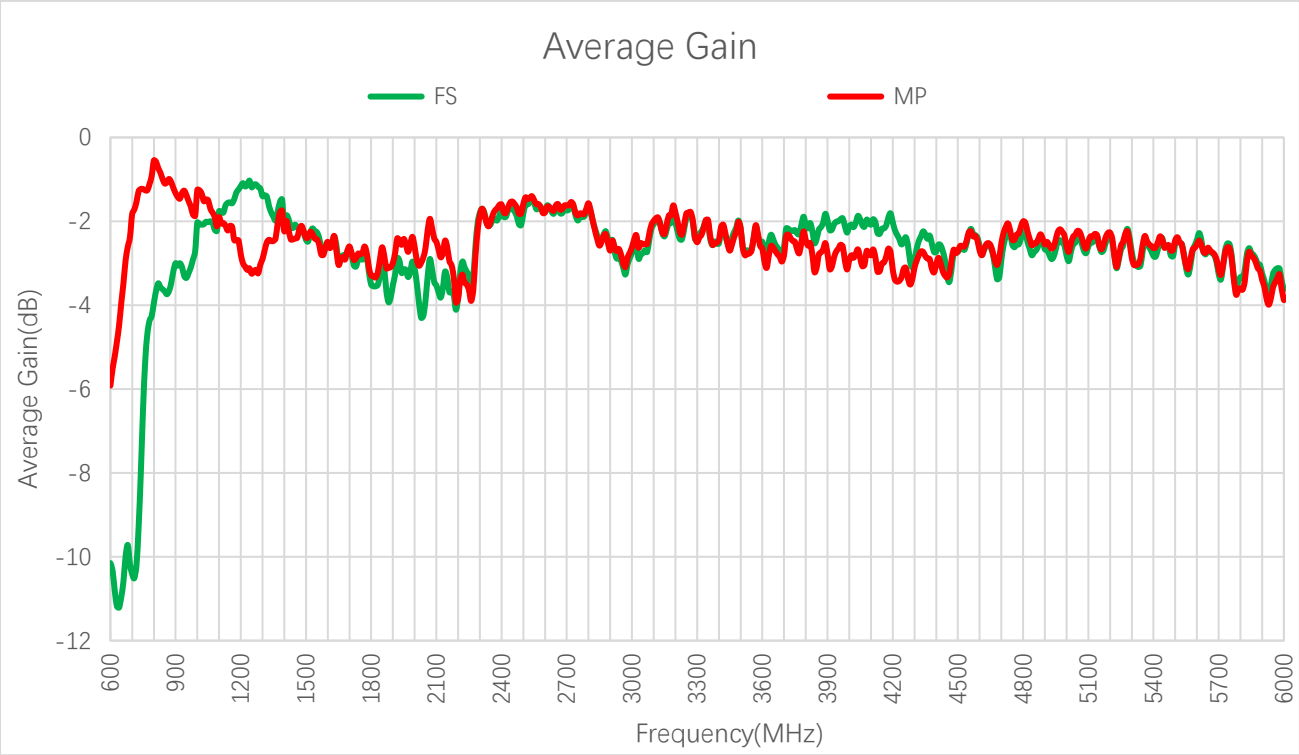
3.2.1. Efficiency



Efficiency (%)

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
5G	FS	9.7	7.6	8.9	44.0	50.2	47.6	60.8	52.5	51.0	40.5
	MP	25.6	32.6	67.4	82.5	73.6	70.5	57.2	53.0	52.8	48.8
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
5G	FS	48.4	47.9	62.1	67.5	67.0	56.3	51.2	52.3	55.7	43.5
	MP	57.3	56.8	63.1	70.3	66.3	54.3	56.0	54.9	56.9	41.0

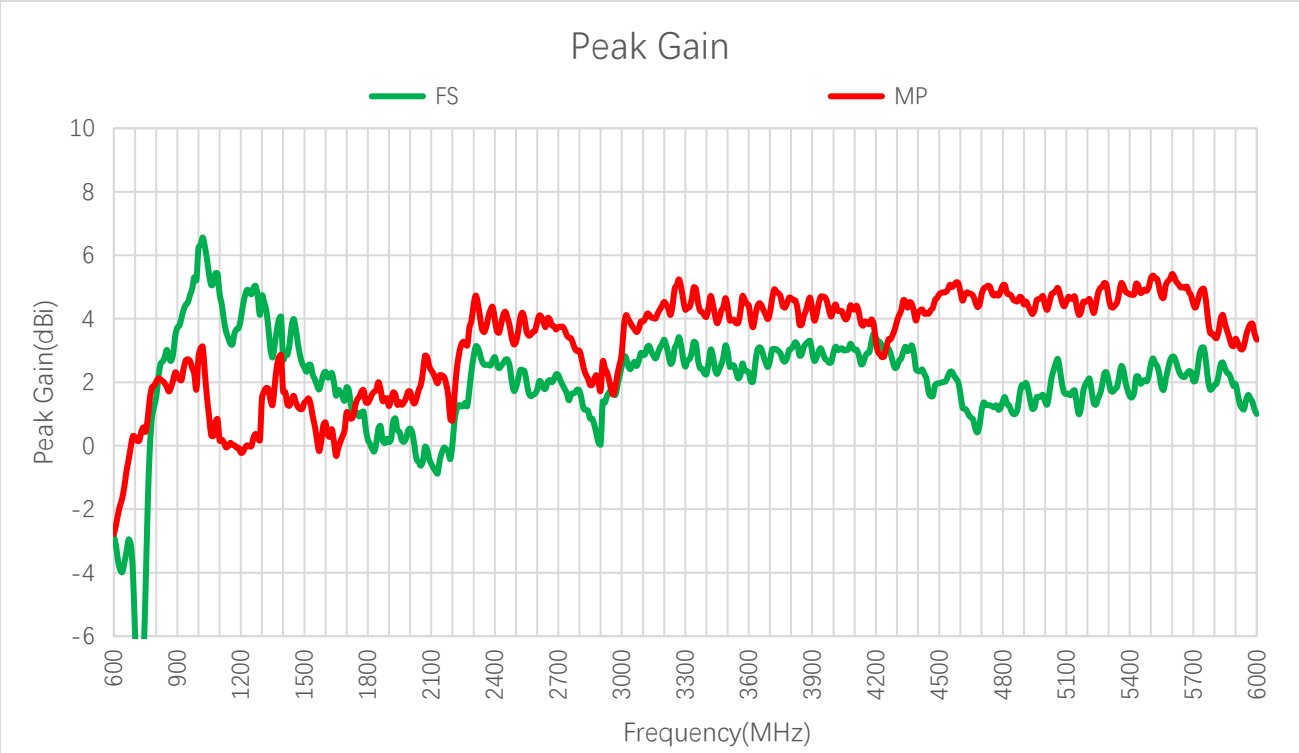
3.2.2. Average Gain



Average Gain (dB)

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
5G	FS	-10.2	-11.2	-10.5	-3.6	-3.0	-3.2	-2.2	-2.8	-2.9	-3.9
	MP	-5.9	-4.9	-1.7	-0.8	-1.3	-1.5	-2.4	-2.8	-2.8	-3.1
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
5G	FS	-3.2	-3.2	-2.1	-1.7	-1.7	-2.5	-2.9	-2.8	-2.5	-3.6
	MP	-2.4	-2.5	-2.0	-1.5	-1.8	-2.7	-2.5	-2.6	-2.5	-3.9

3.2.3. Peak Gain



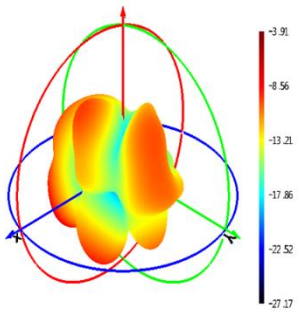
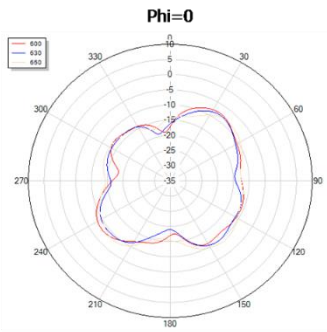
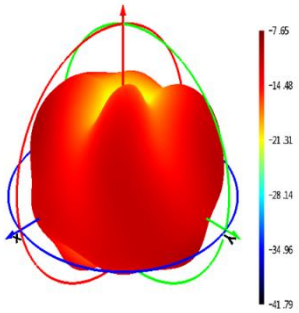
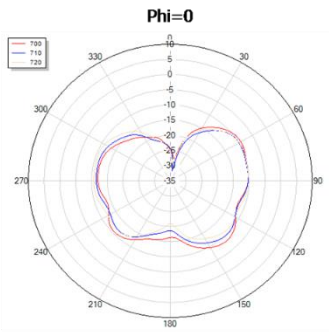
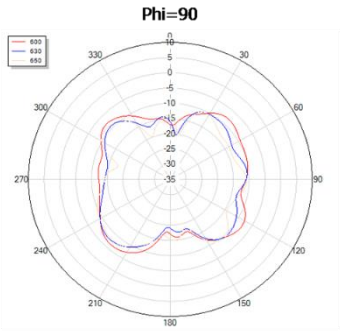
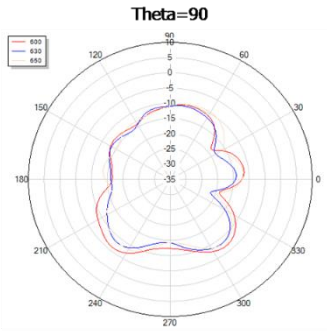
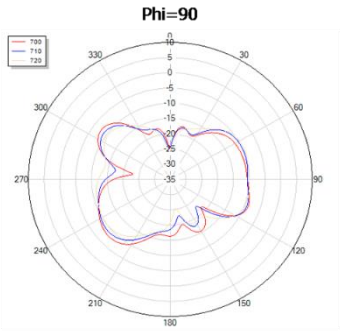
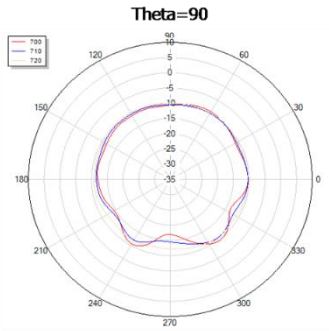
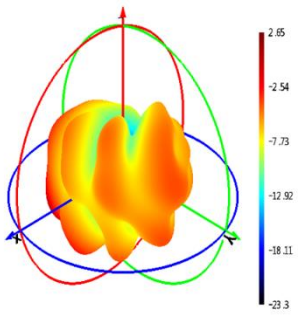
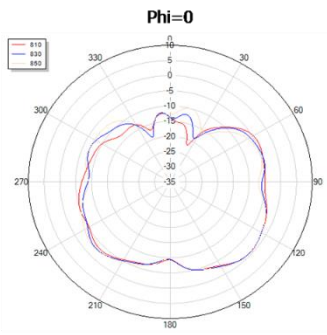
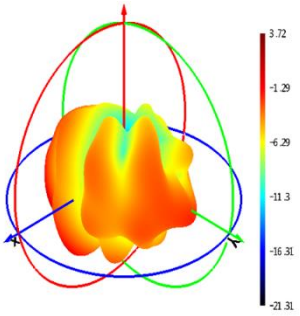
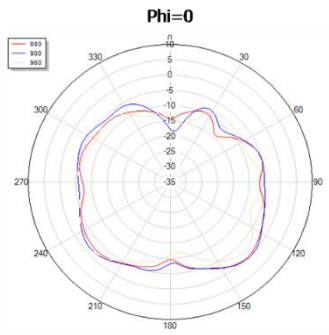
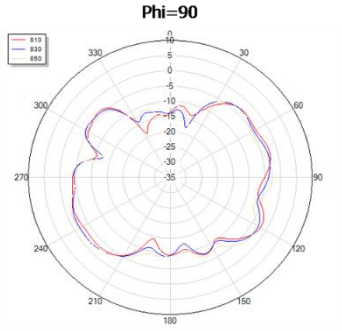
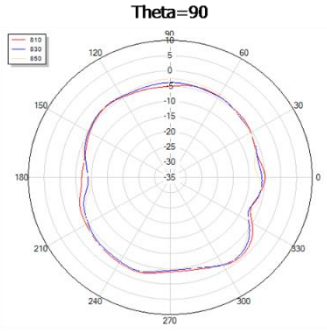
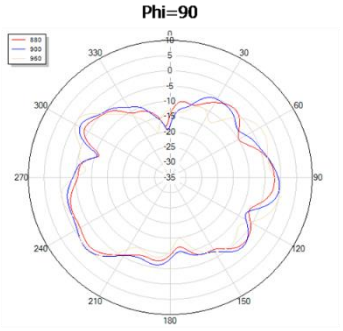
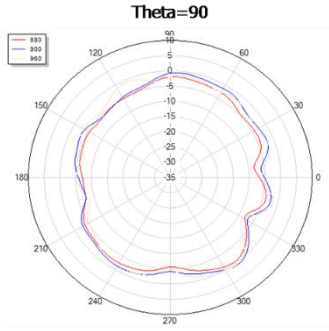
Peak Gain (dBi)

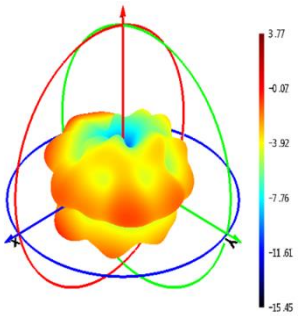
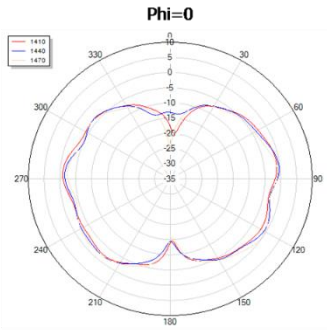
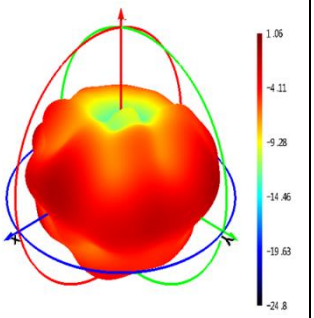
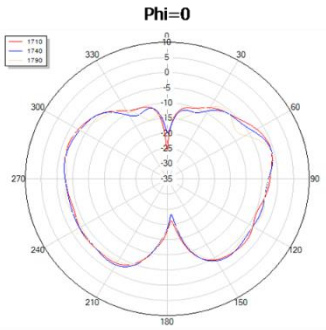
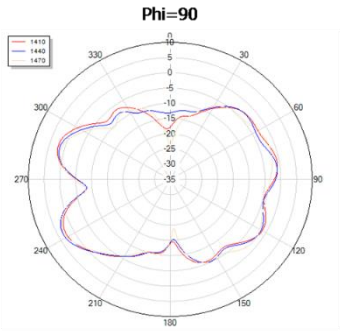
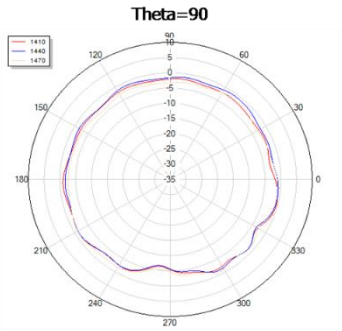
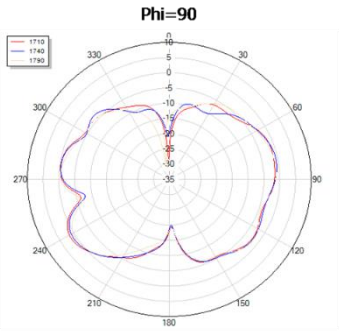
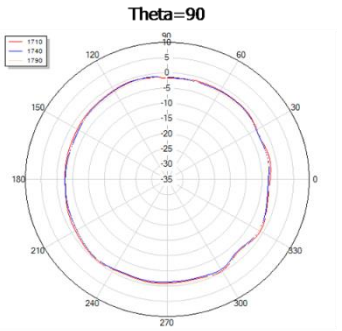
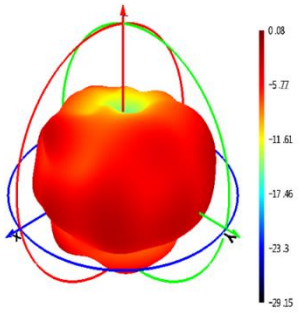
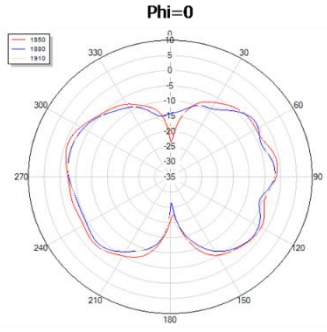
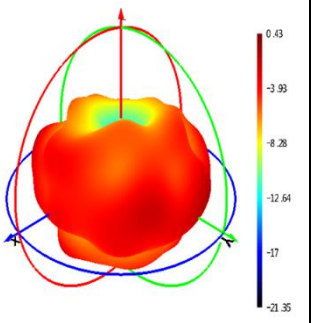
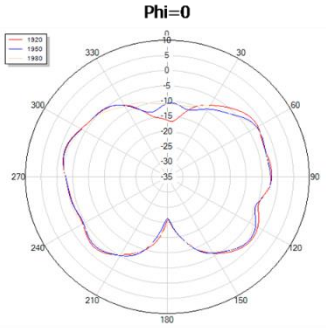
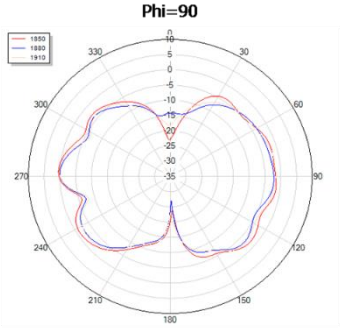
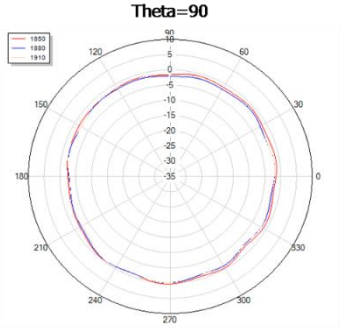
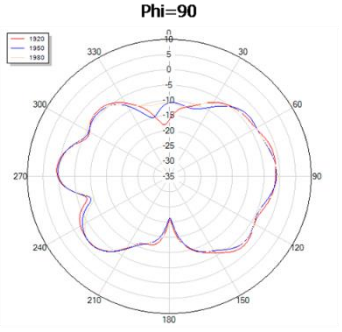
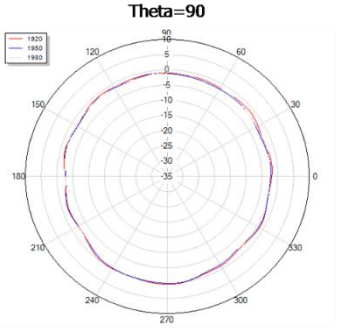
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
5G	FS	-2.9	-3.9	-7.7	2.7	3.7	4.8	3.8	1.8	1.1	0.1
	MP	-2.8	-1.9	0.2	2.0	2.2	2.7	1.5	1.0	1.2	1.5
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
5G	FS	0.4	-0.5	2.6	2.7	1.8	2.3	1.1	1.4	2.6	1.0
	MP	1.4	2.2	3.6	4.2	3.9	4.4	4.8	4.4	5.3	3.3

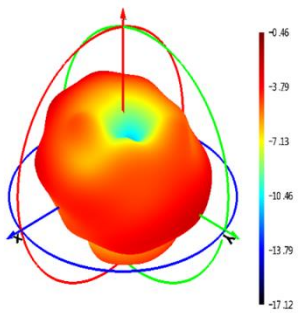
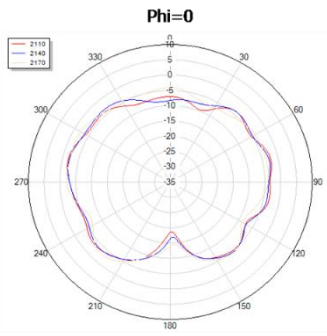
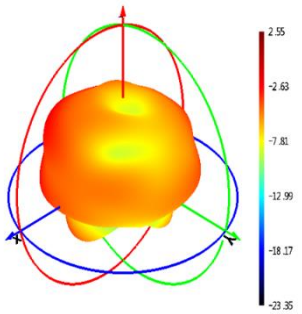
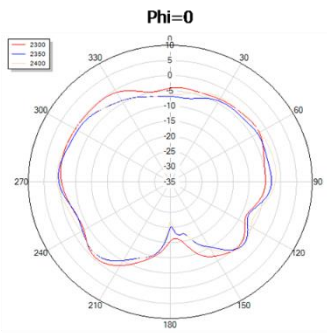
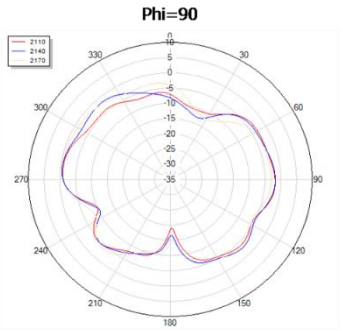
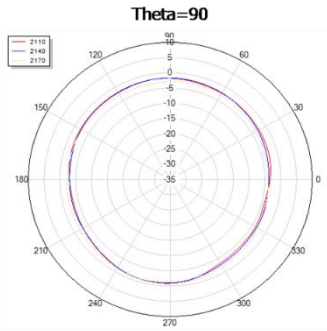
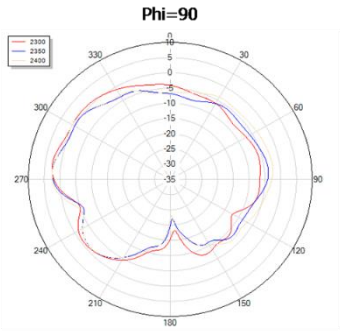
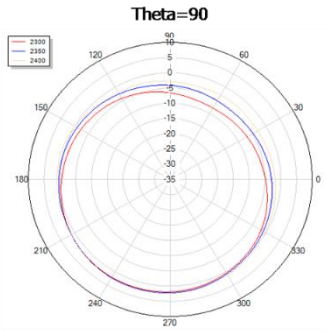
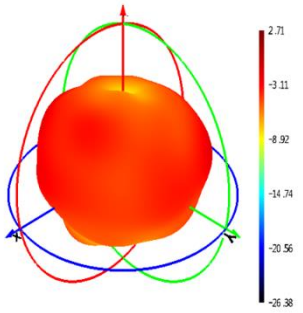
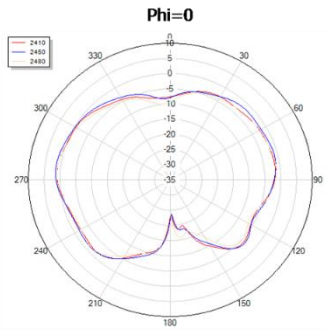
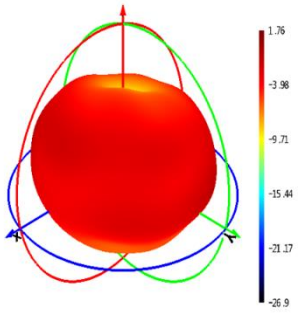
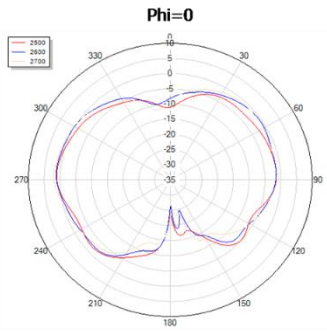
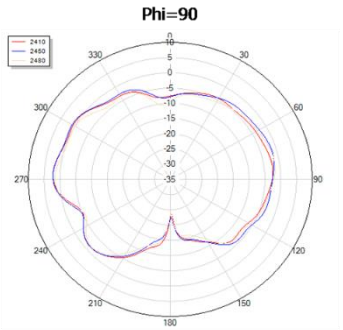
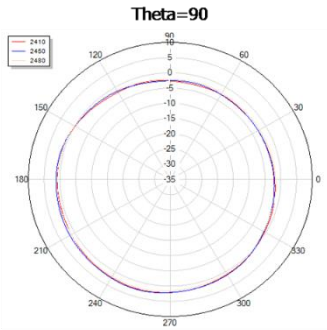
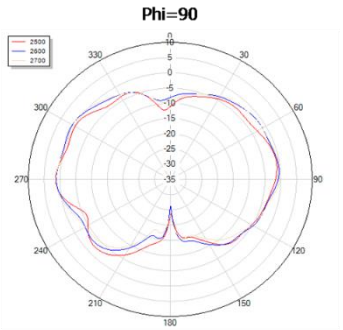
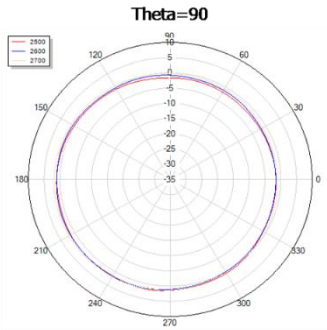
3.2.4. 3D & 2D Radiation Pattern

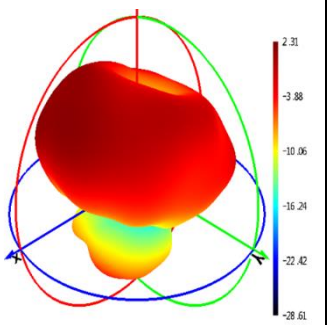
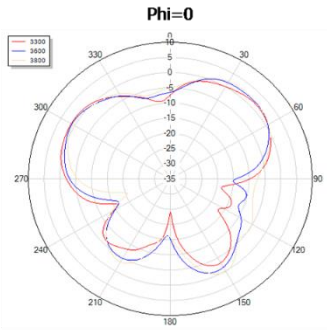
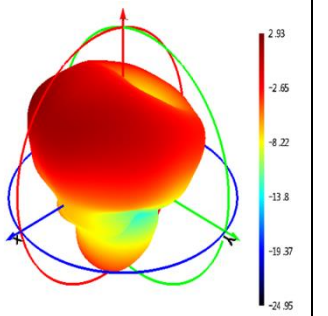
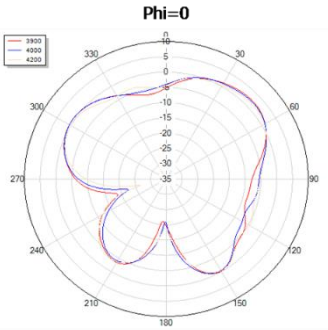
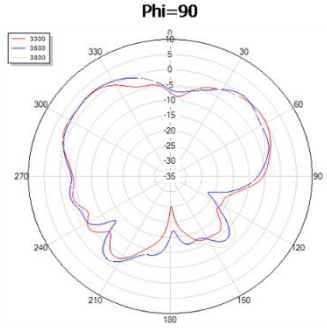
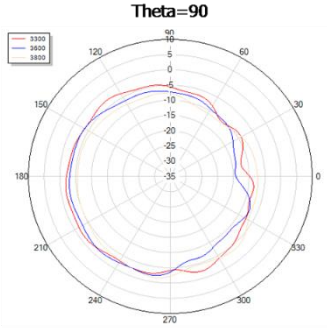
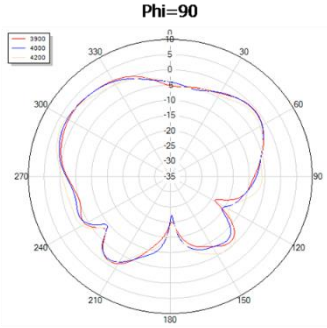
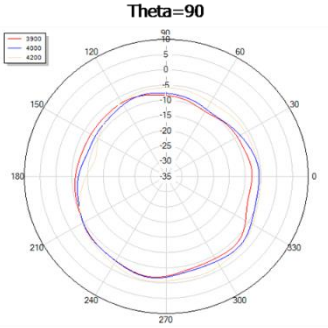
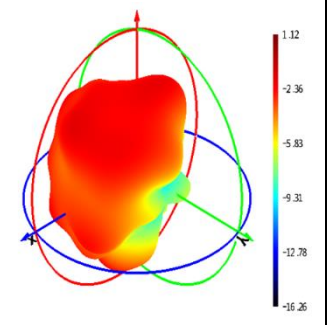
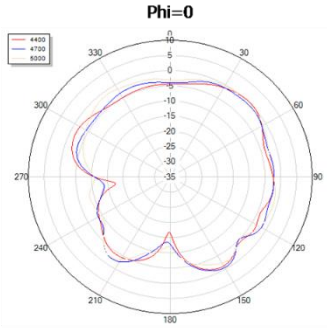
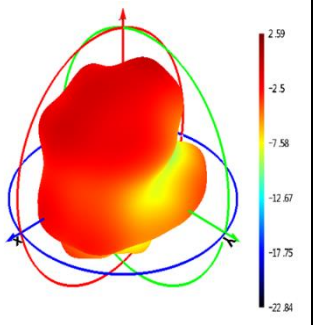
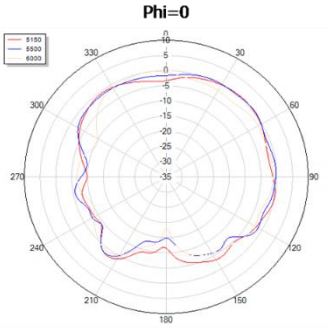
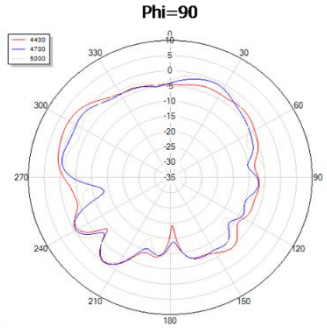
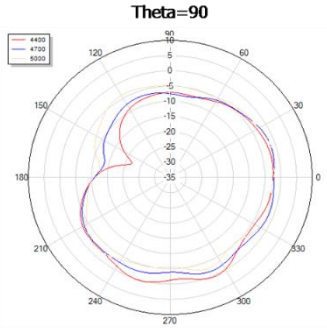
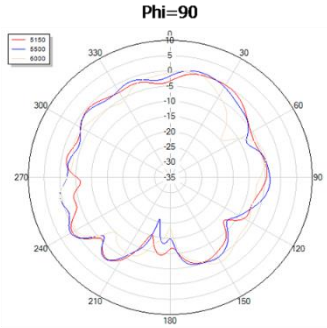
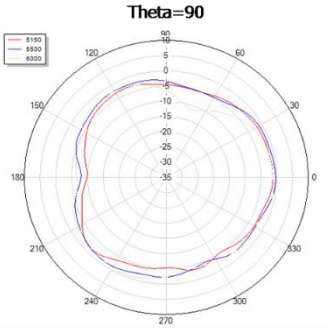
- Test Condition: Free space
- Test Chamber: HF-S-1

- **5G**

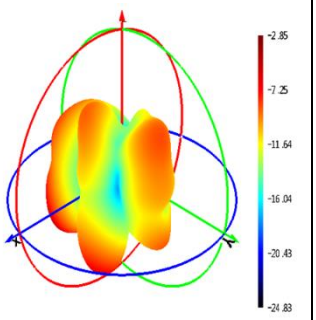
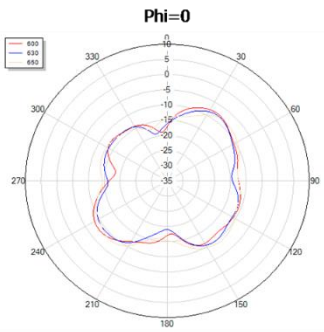
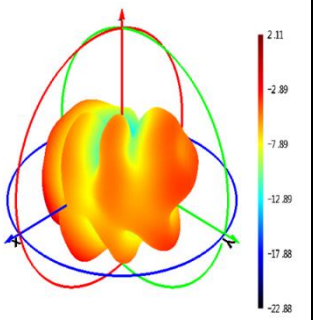
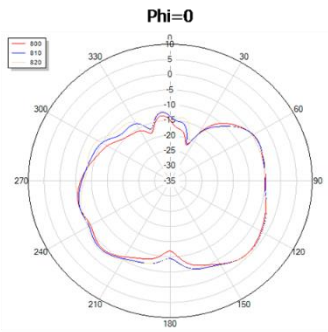
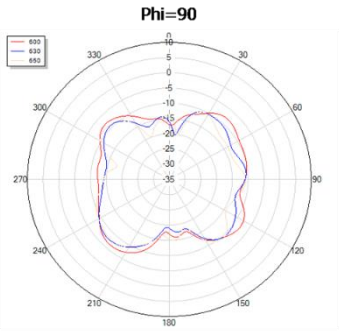
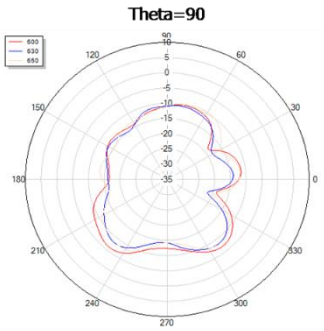
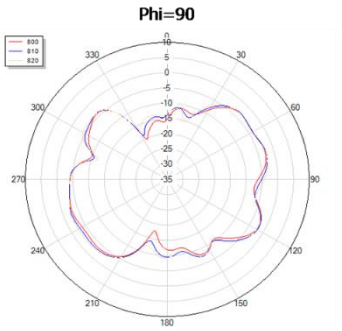
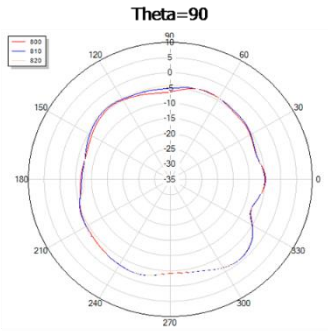
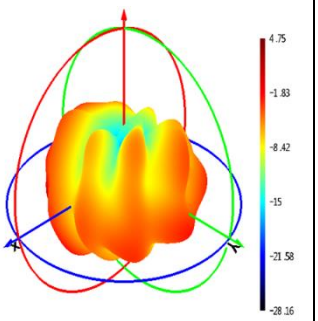
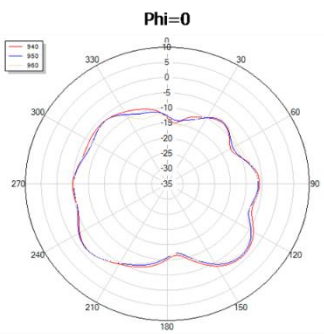
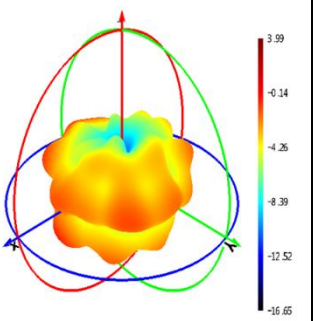
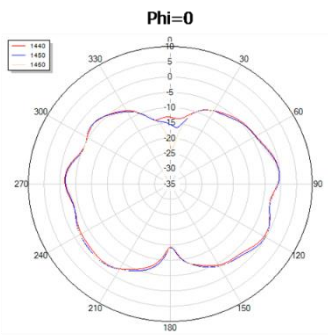
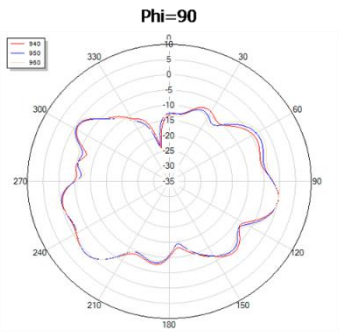
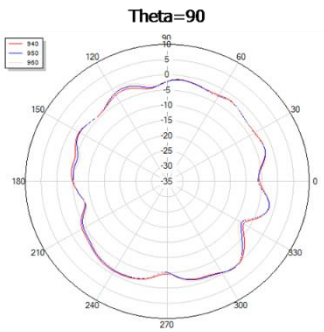
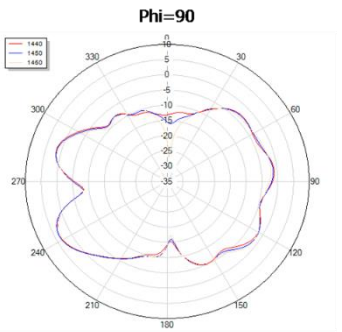
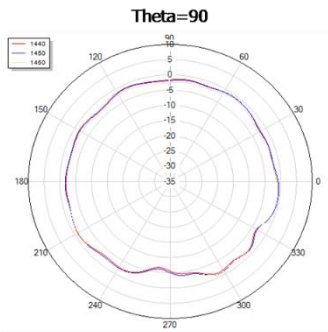
630 MHz		710 MHz	
			
			
830 MHz		**900 MHz**	
			
			

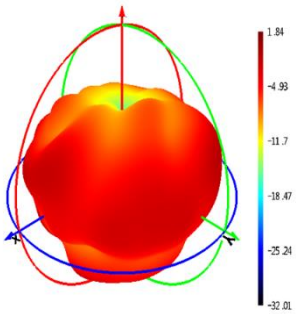
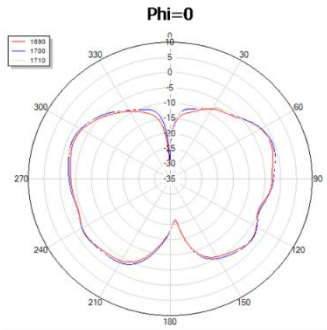
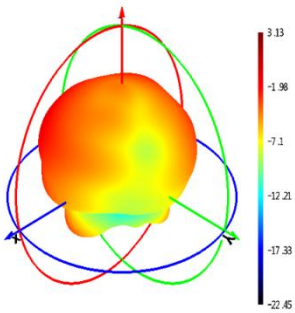
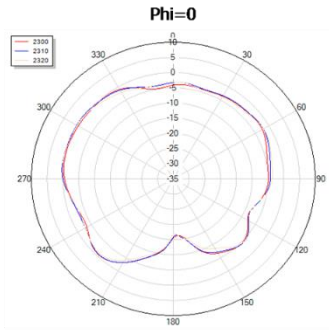
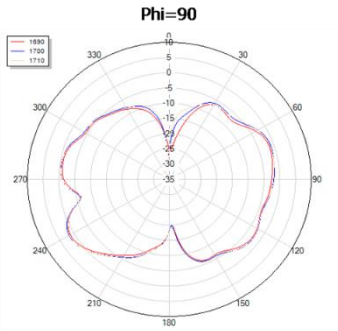
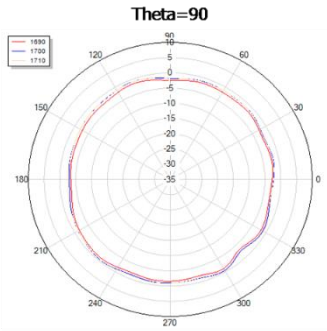
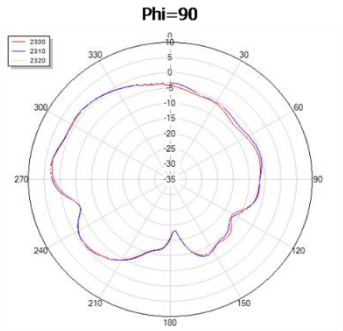
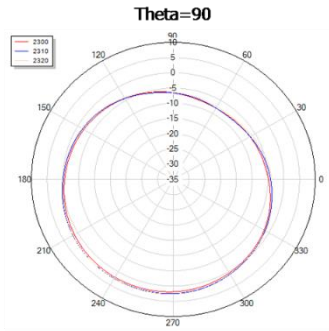
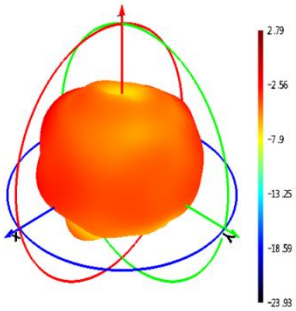
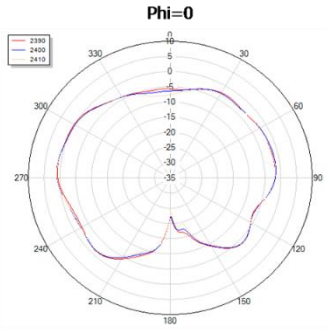
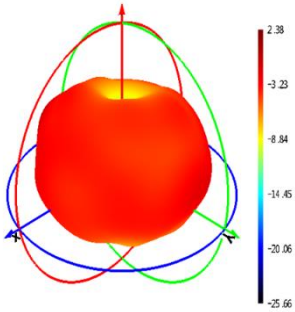
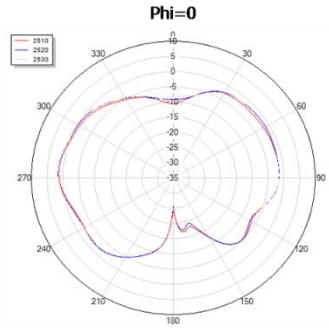
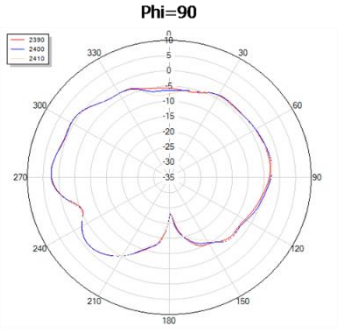
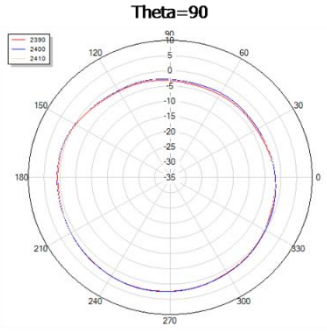
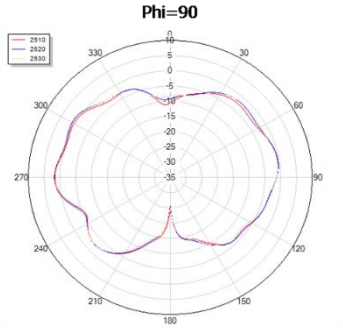
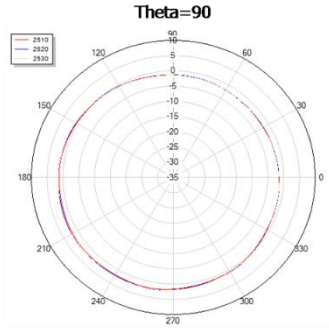
1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

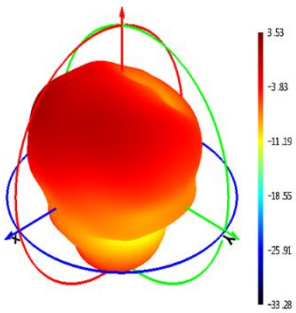
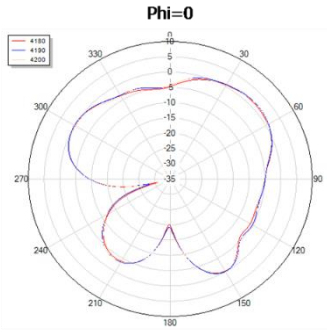
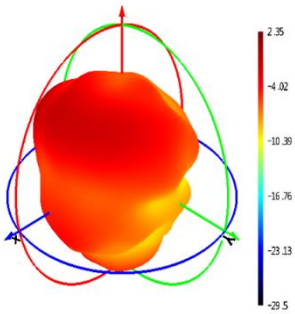
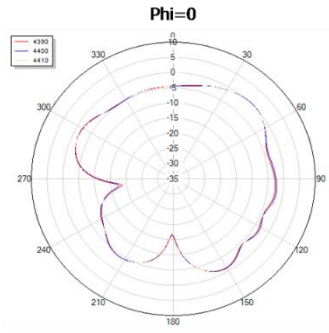
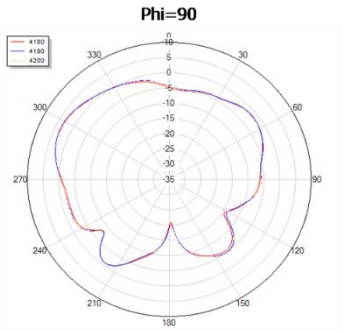
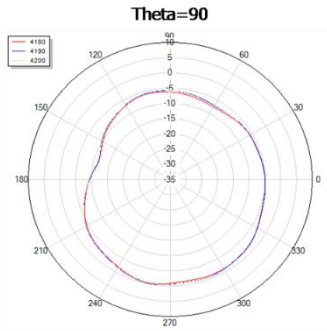
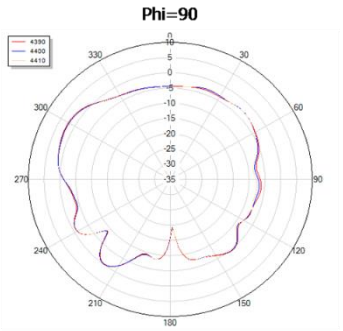
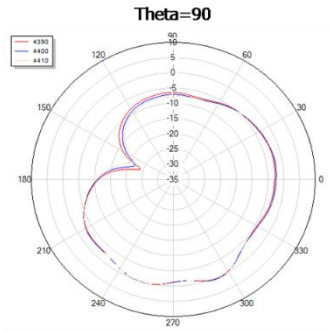
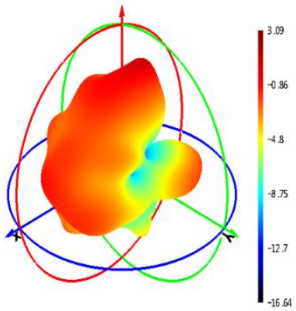
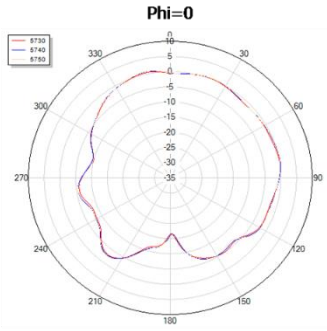
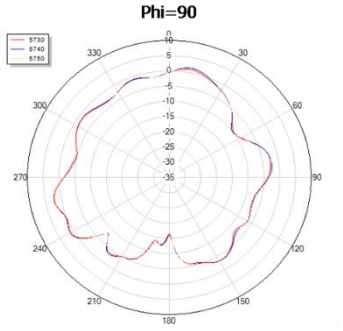
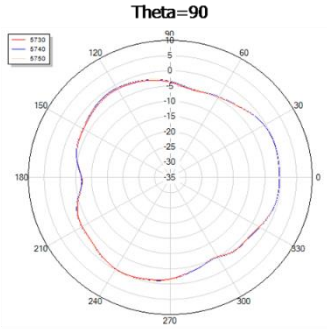
2140 MHz		2350 MHz	
			
			
2450 MHz		**2600 MHz**	
			
			

3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

- **Max Peak Gain**

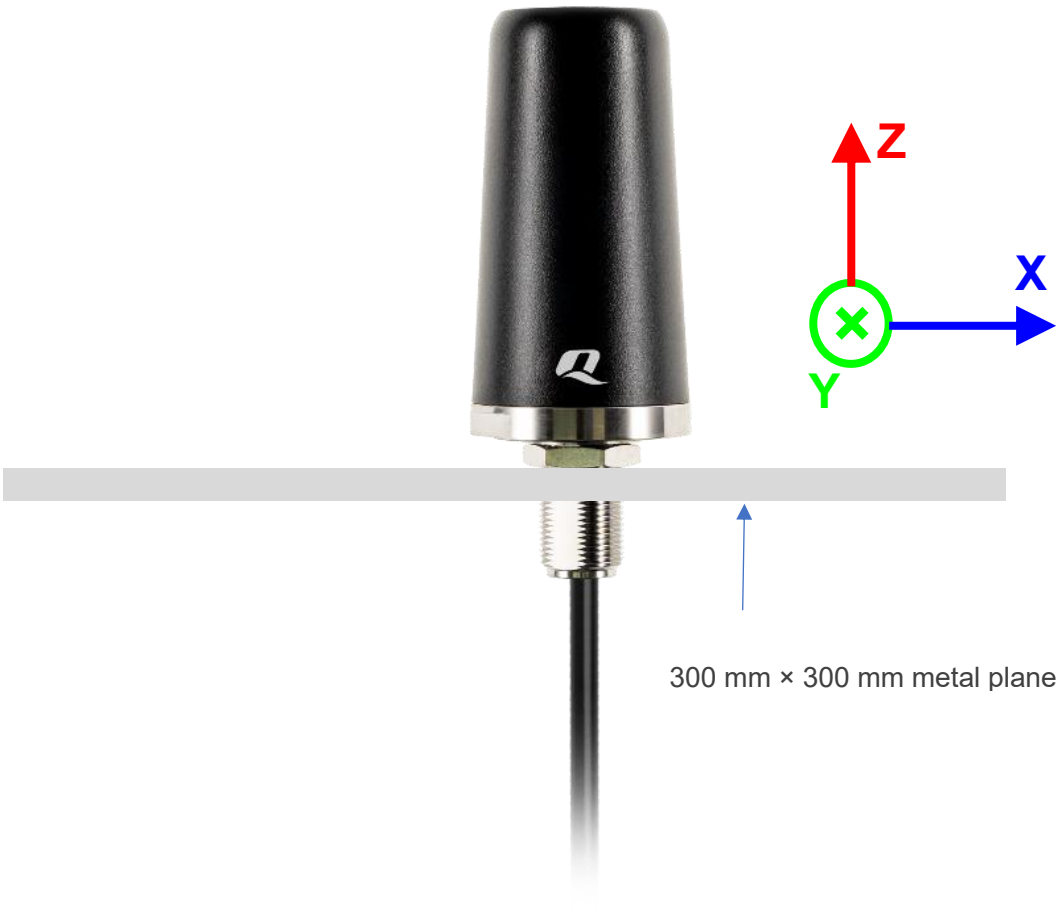
600 MHz		810 MHz	
			
			
960 MHz		**1450 MHz**	
			
			

1700 MHz		2310 MHz	
			
			
2400 MHz		**2520 MHz**	
			
			

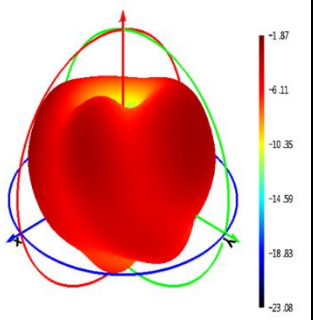
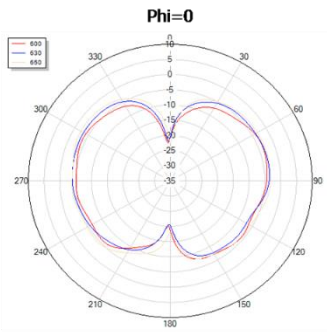
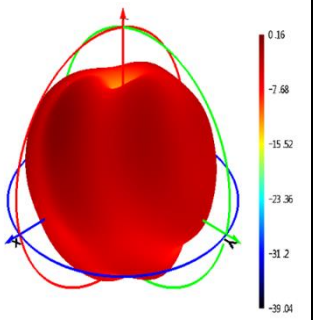
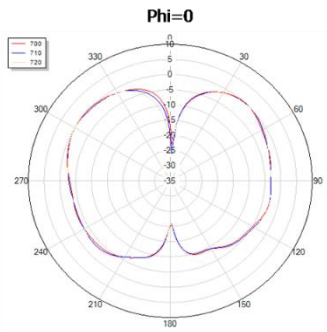
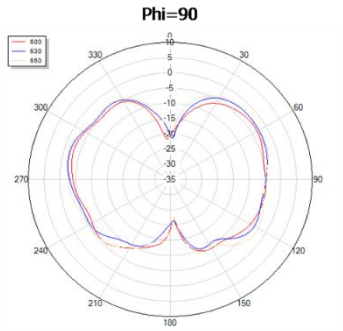
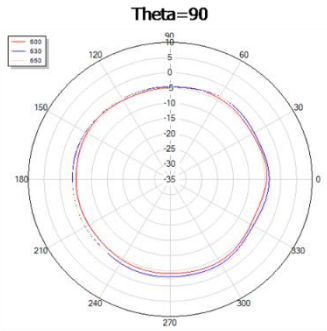
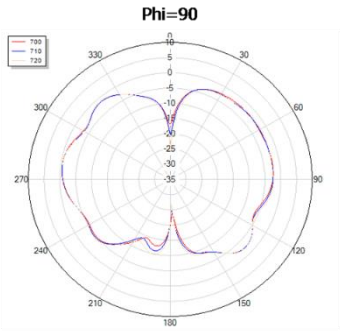
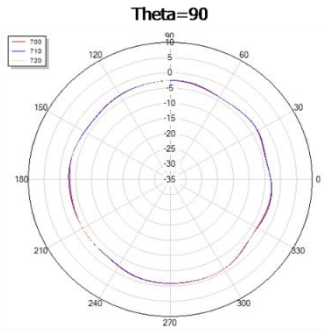
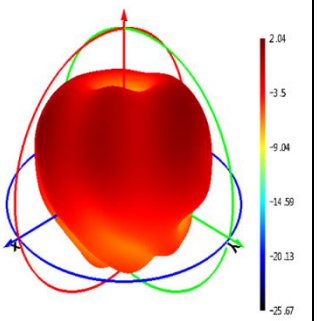
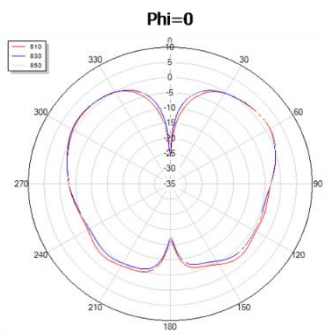
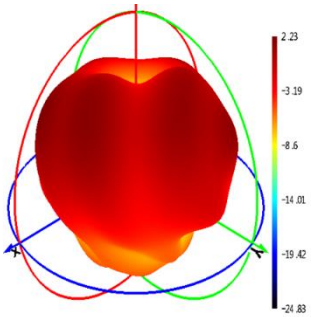
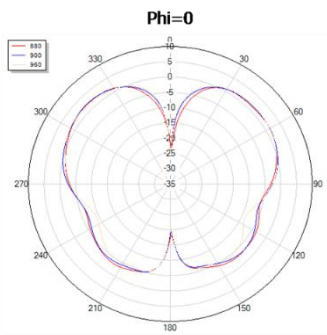
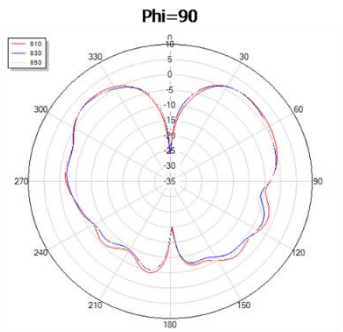
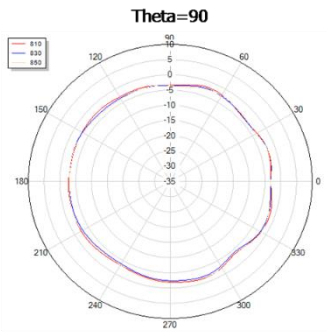
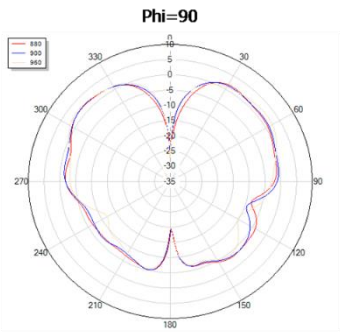
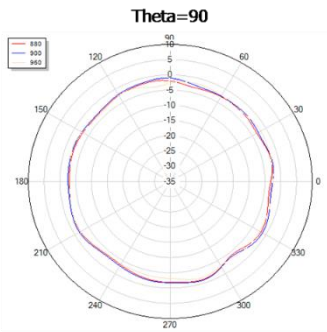
4190 MHz		4400 MHz	
			
			
5740 MHz			
			
			

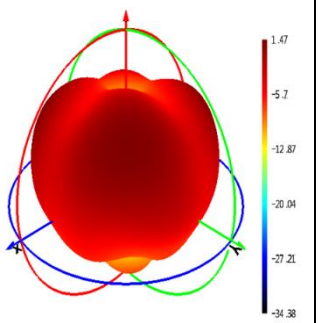
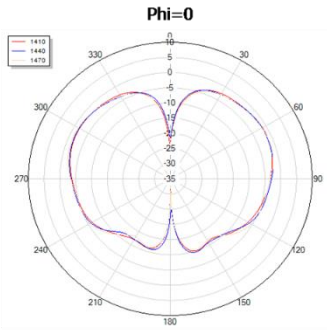
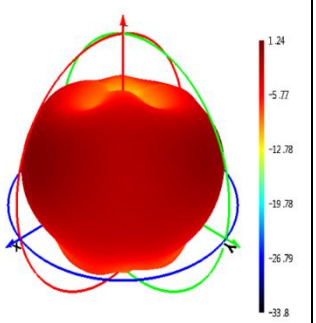
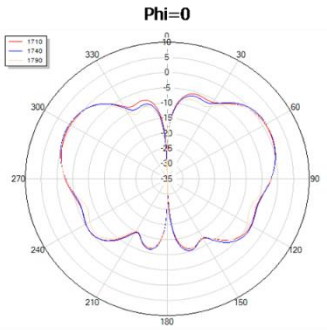
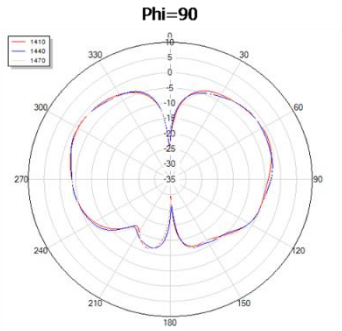
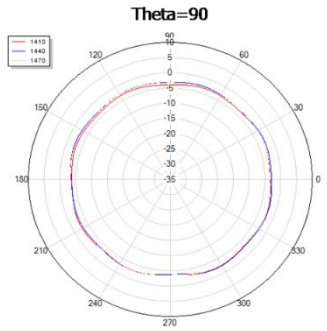
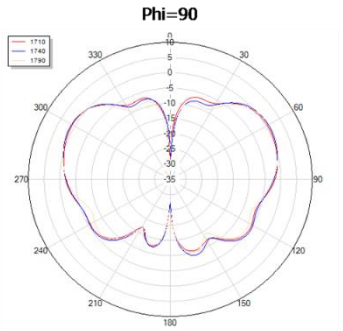
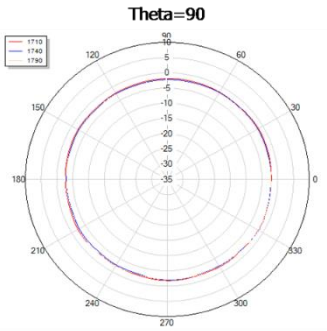
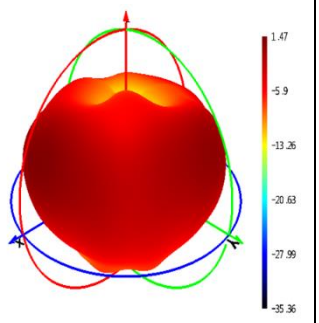
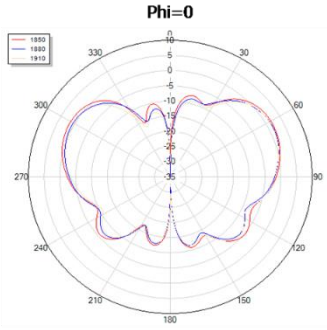
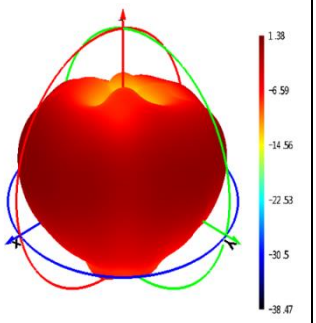
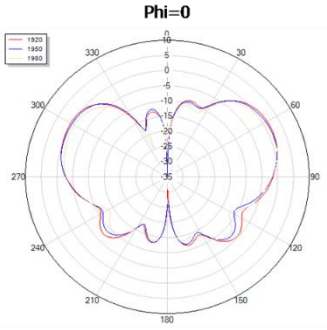
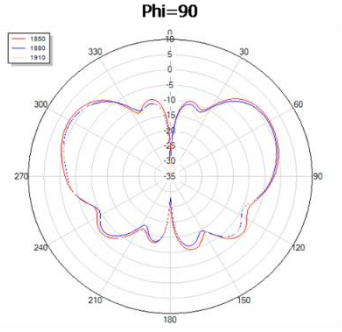
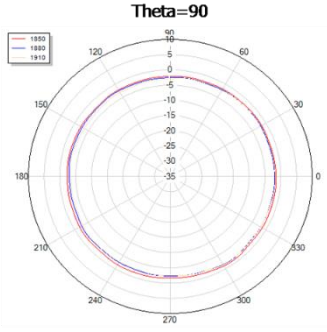
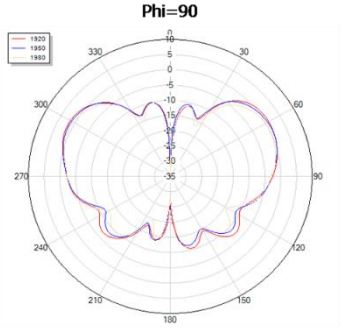
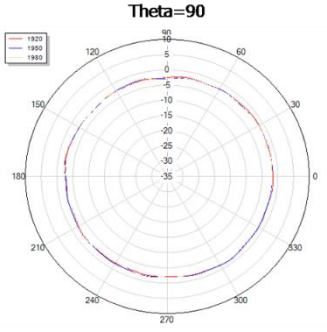
3.2.5. 3D & 2D Radiation Pattern

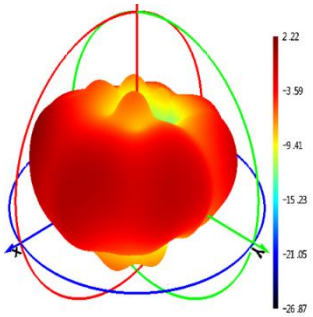
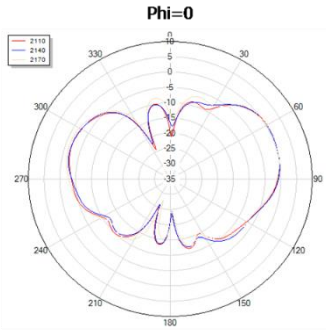
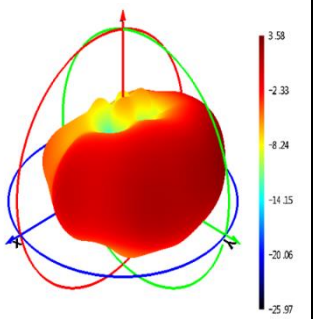
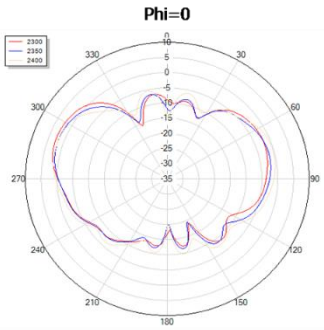
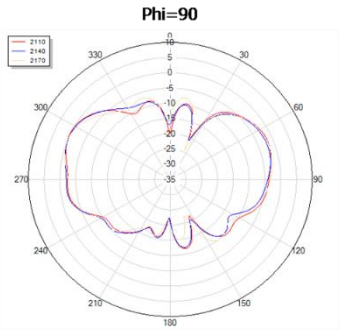
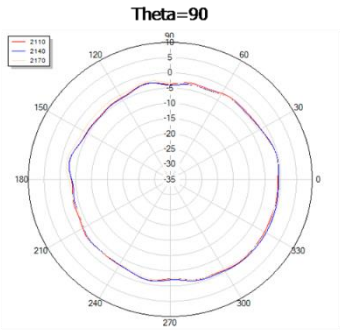
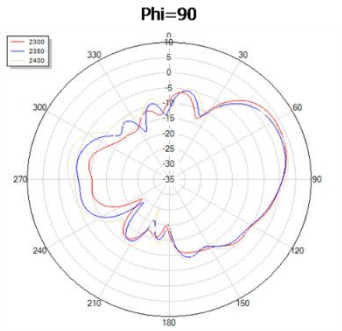
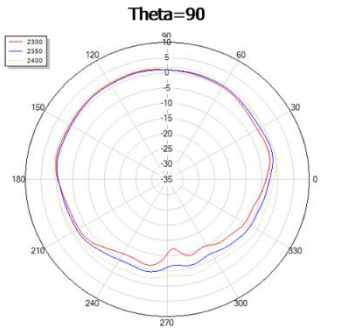
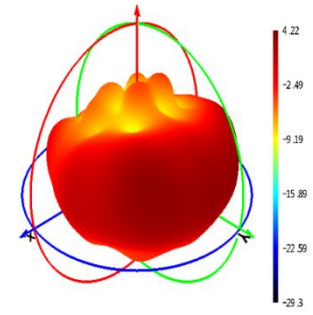
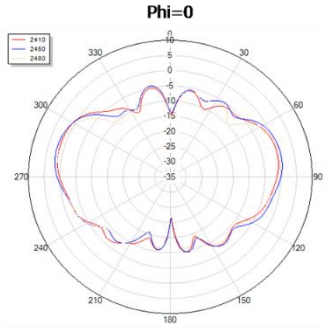
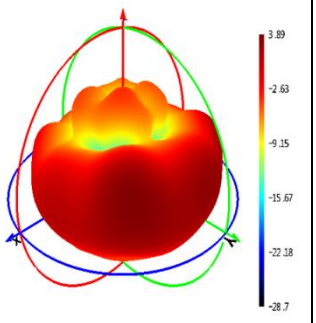
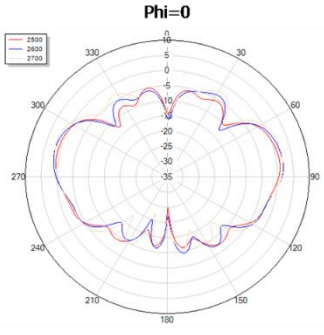
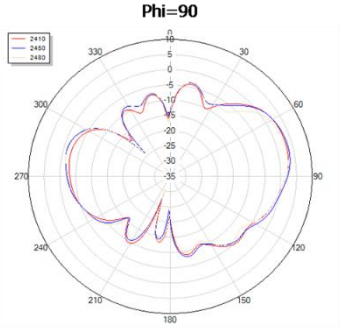
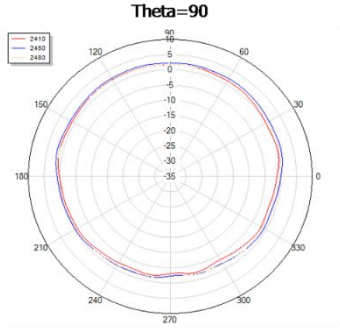
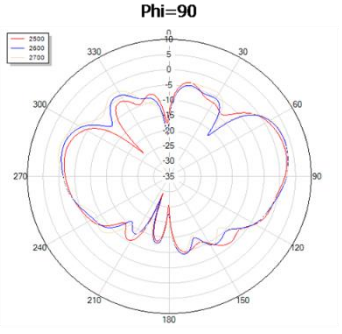
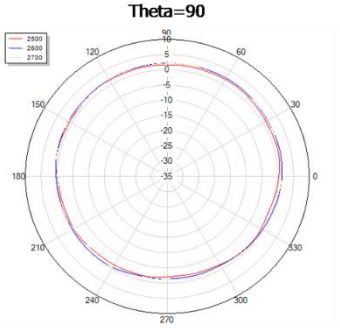
- Test Condition: On 300 mm × 300 mm metal plane
- Test Chamber: HF-S-1

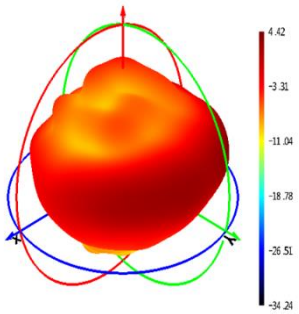
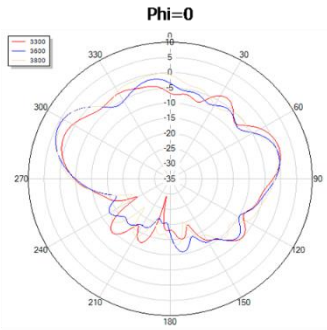
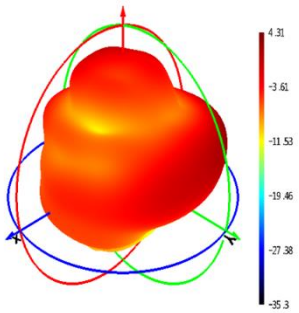
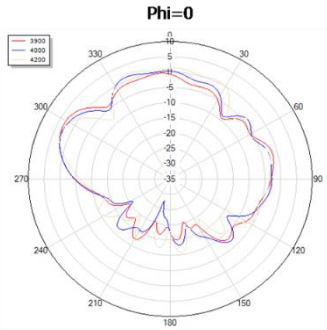
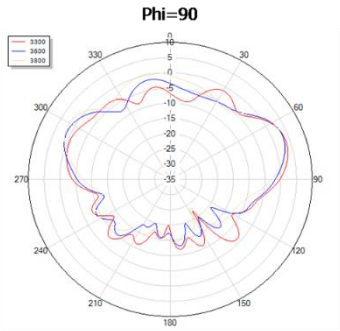
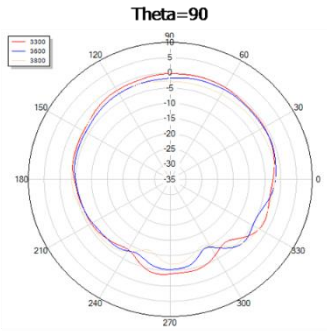
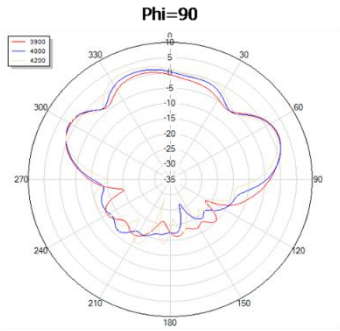
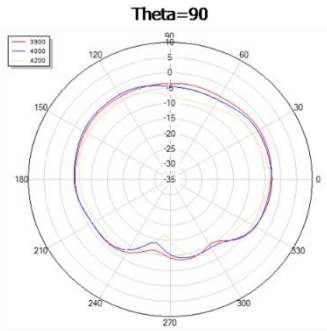
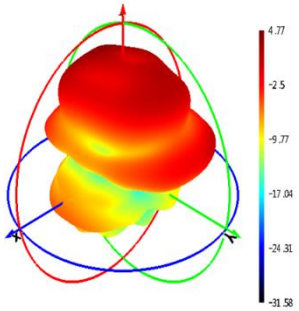
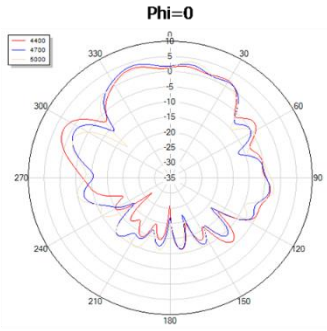
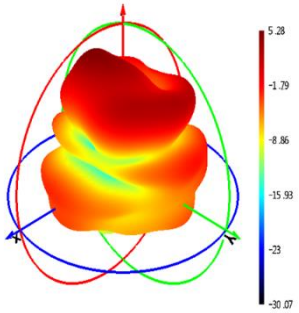
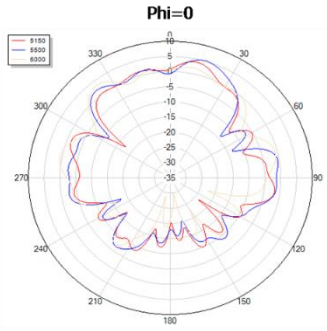
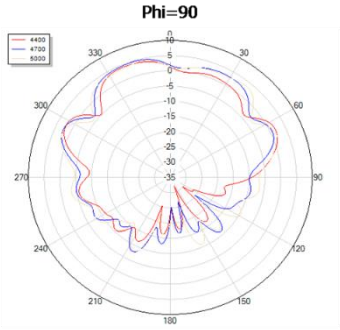
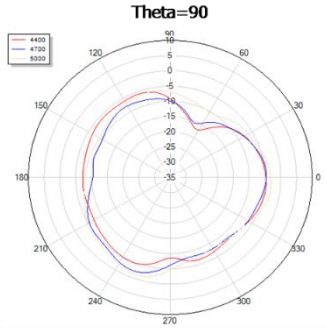
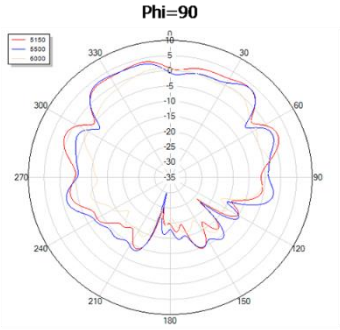
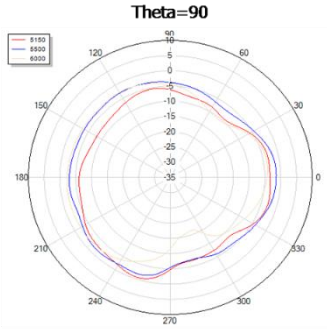


- **5G**

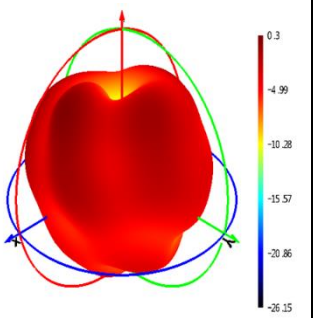
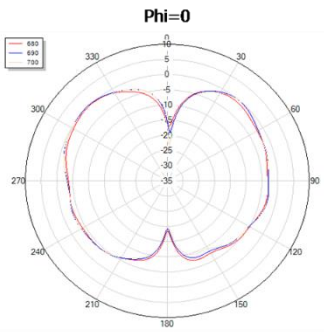
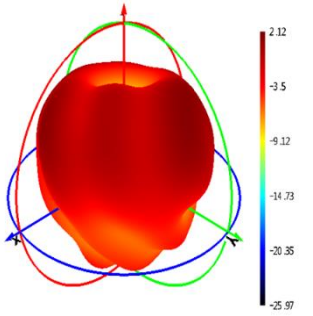
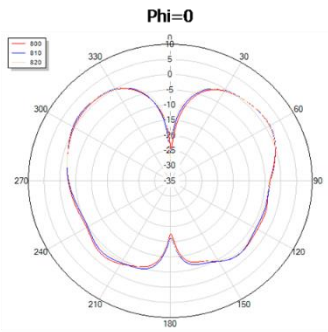
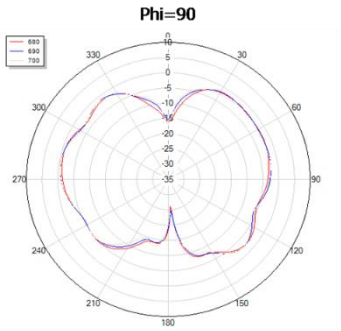
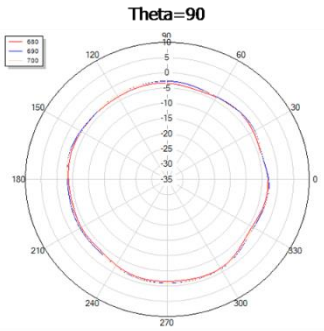
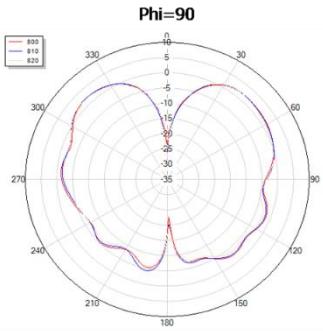
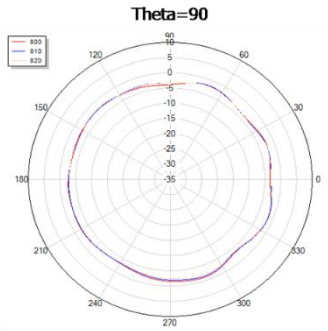
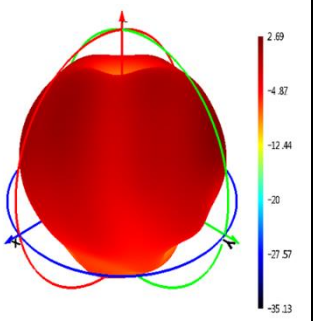
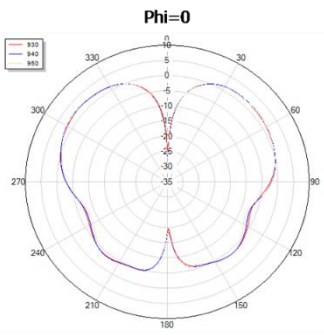
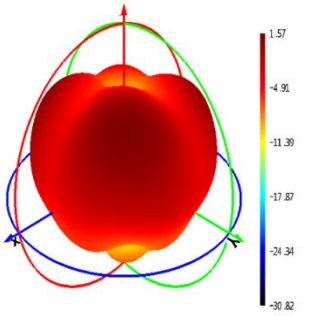
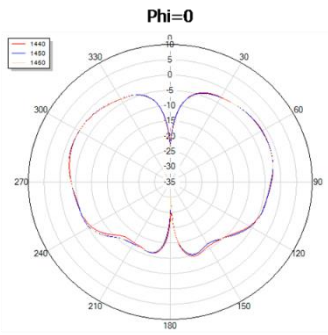
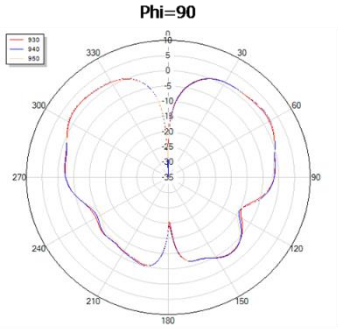
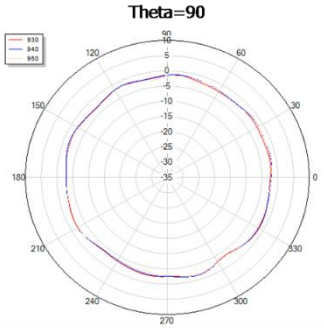
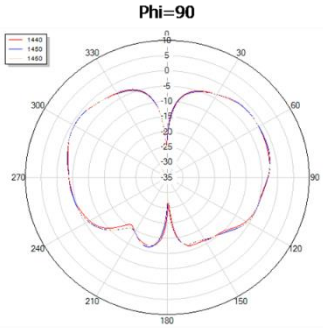
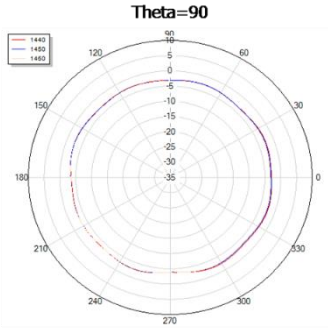
630 MHz		710 MHz	
			
			
830 MHz		**900 MHz**	
			
			

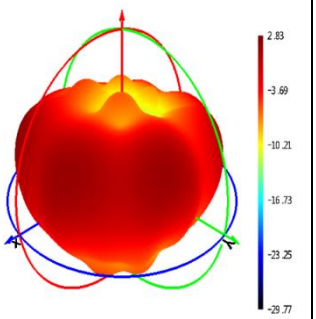
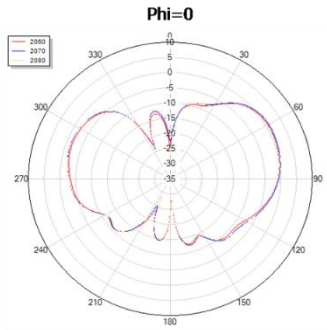
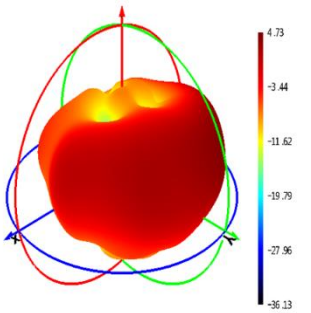
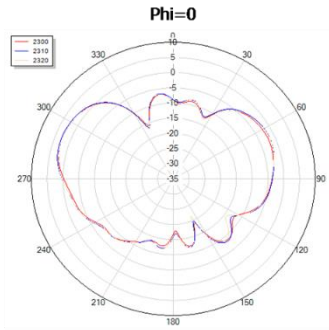
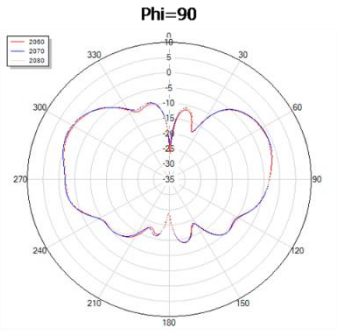
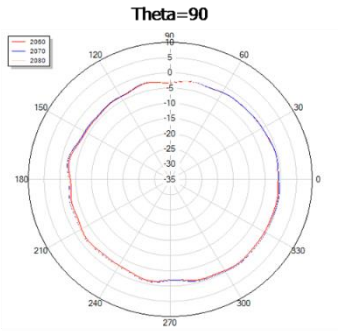
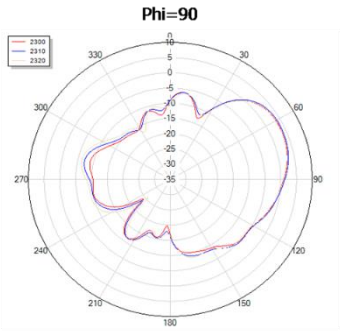
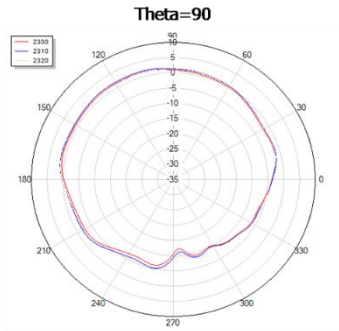
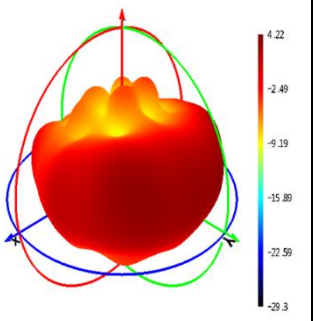
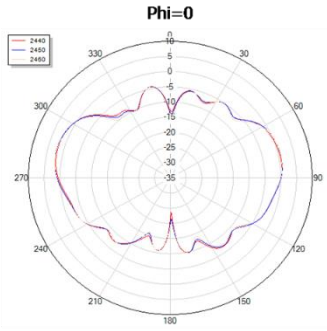
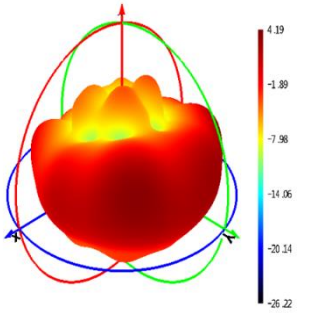
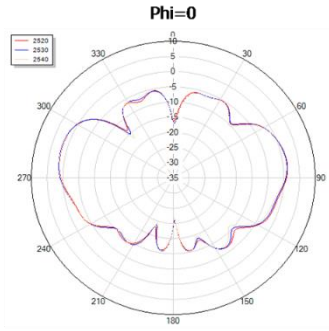
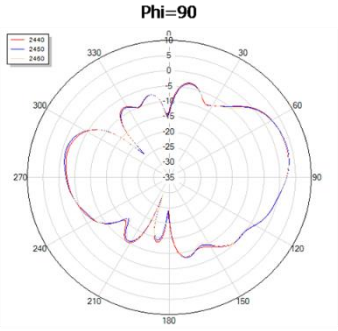
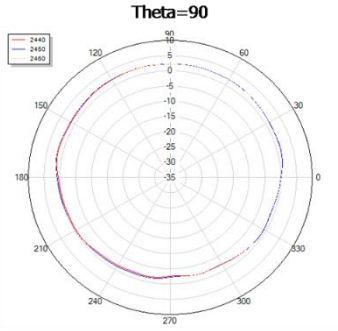
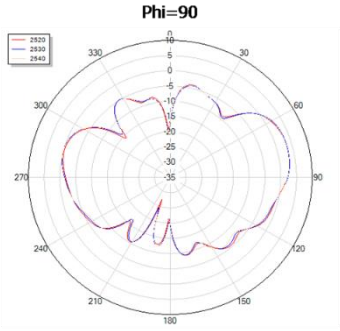
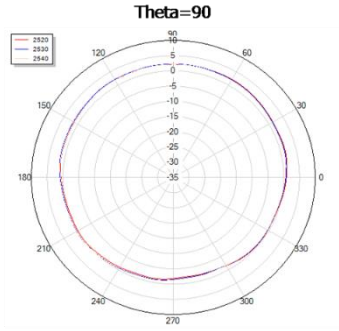
1440 MHz		1740 MHz	
			
			
1880 MHz		**1950 MHz**	
			
			

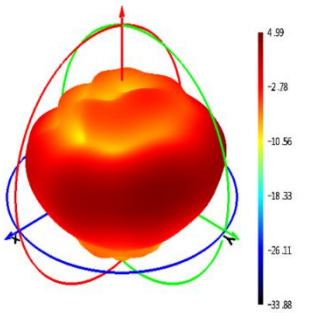
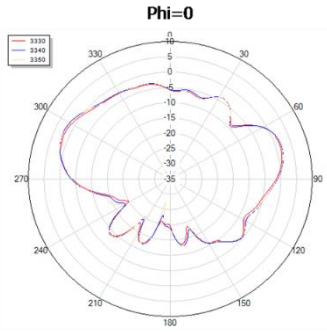
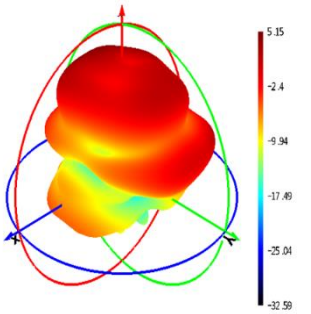
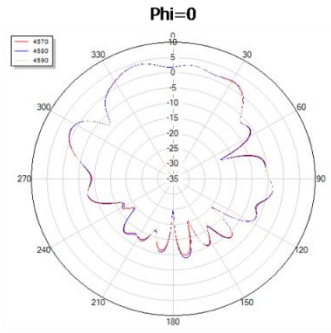
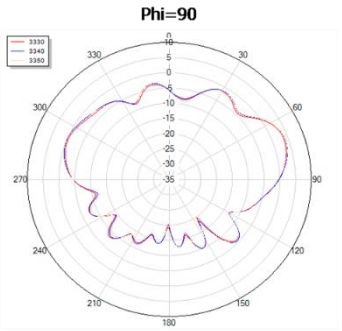
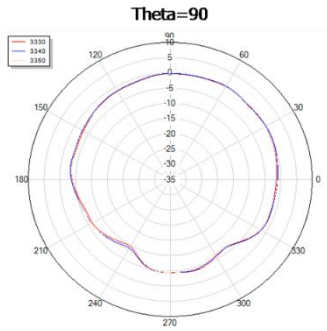
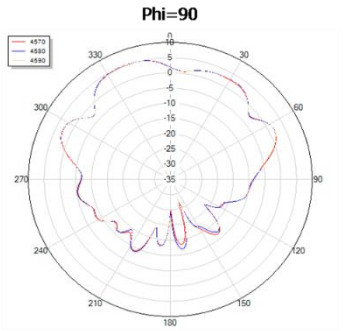
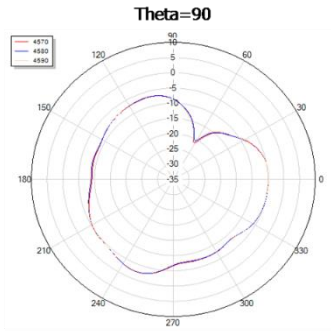
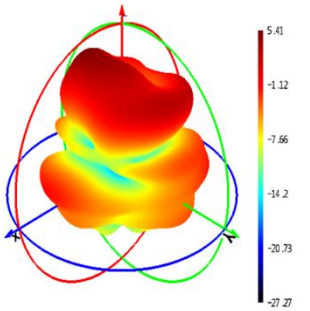
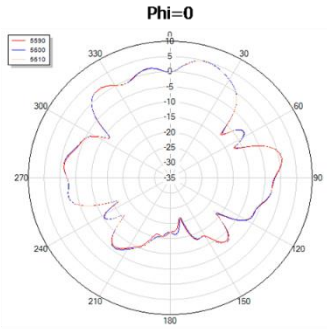
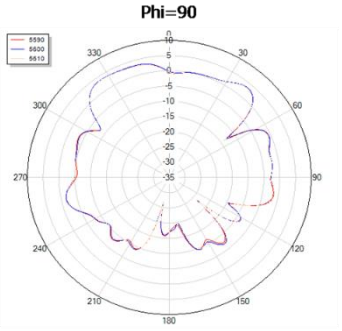
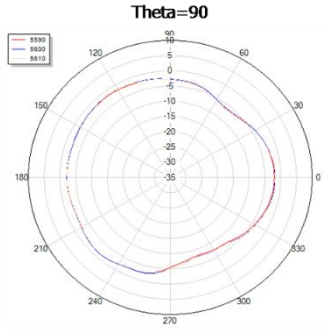
2140 MHz		2350 MHz	
			
			
2450 MHz		**2600 MHz**	
			
			

3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

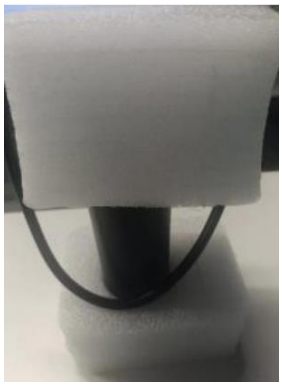
- **Max Peak Gain**

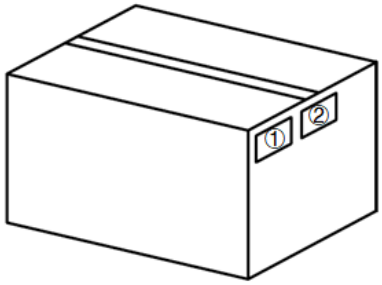
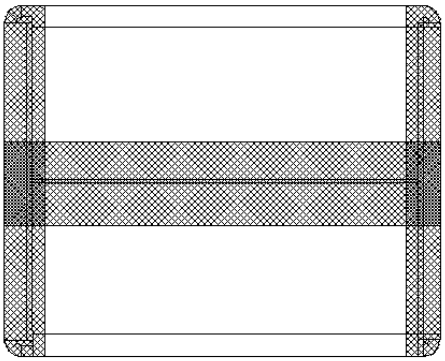
690 MHz		810 MHz	
			
			
940 MHz		1450 MHz	
			
			

2070 MHz		2310 MHz	
			
			
2450 MHz		2530 MHz	
			
			

3340 MHz		4580 MHz	
			
			
5600 MHz			
			
			

4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		The product is fully enclosed in pearl cotton liners at both the top and bottom. The wiring harness is secured in the pearl cotton slot above.
2		1 antenna product in an inner box. (1 Antenna / Inner Box)
3		(16 Inner Boxes / Carton Box) (16 Antennas / Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. Carton Size: L × W × H = 370 × 370 × 400 mm

4		**Position for Attaching Labels** ① Carton Label ② Quality Label
5		**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:
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Revision History

Version	Date	Author	Note
-	2025-12-22	Simon Sheng/ Blake Xiang/ Strong Qiang/ Rainey Liao	Creation of the document
1.0	2025-12-22	Simon Sheng/ Blake Xiang/ Strong Qiang/ Rainey Liao	First official release
1.1	2026-01-19	Strong Qiang	Updated the packaging (Chapter 4).

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