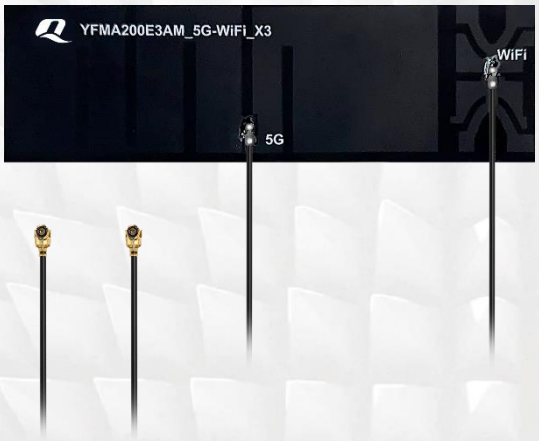
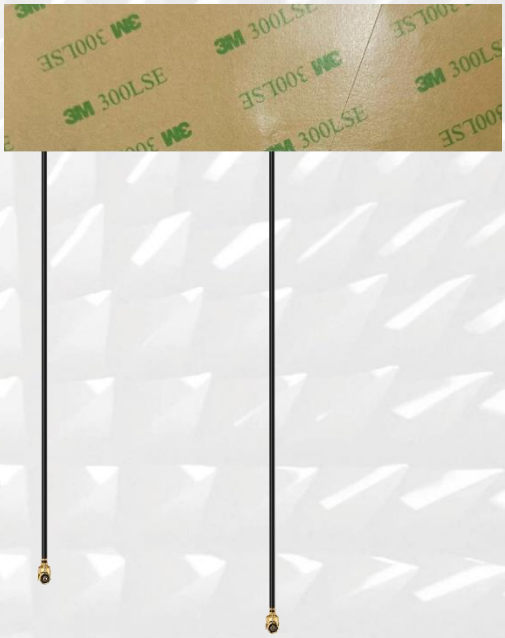




Antenna Datasheet

Product OC: YFMA200E3AM
Version: 1.1
Date: 2025-04-09
Status: Released

Product Name: 5G & Wi-Fi 2in1 Adhesive Mount Combo Embedded Antenna

Key Features:

Frequency Band: 5G: 600–960 MHz, 1420–2690 MHz, 3300–6000 MHz
WIFI: 2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz
Dimensions: 124.2 mm × 36.4 mm
Efficiency: Up to 77.2 %
RoHS and REACH Compliant

Overview

YFMA200E3AM is a 5G & Wi-Fi 2in1 combo antenna measuring 124.2 mm × 36.4 mm This antenna provides coverage from 600–960 MHz, 1420–2690 MHz, 3300–6000 MHz & 2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz. The antenna is available with connection via 2 cable lengths from 125 mm, terminated with IPEX MHF 1 connectors, and is available with customized cable lengths and connectors. Ideal for applications where the antenna is required to be mounted inside, this adhesive mount omni-directional antenna is easy to install thanks to its flexible material. It is compatible with Quectel's 5G & WIFI Series modules. It has been tested with ABS board.

It allows constant and reliable transmission and reception due to its omni-directional gain across all frequency bands. YFMA200E3AM is designed to offer high efficiency in many different mounting scenarios. It is a perfect antenna product for customers that desire highest performance. This high-efficiency, high-gain omni-directional antenna is ideally suited for smart metering, remote monitoring, vehicle tracking and telematics, and many other IoT devices.

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.

Contents

1 Specification

Test Condition: Stick On 3 mm Thick ABS Board

1.1. Electrical

Electrical Specifications		
Frequency Range	**5G**	600–960 MHz, 1420–2690 MHz, 3300–6000 MHz
	Wi-Fi	2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz
Radiation Pattern		Omni-directional
Polarization		Linear
Impedance		50 Ω
Isolation		≤ -16.5 dB

1.1.1. 5G

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		2.8	2.7	5.2	2.9	2.6	1.7	1.8	1.9	2.4	1.6	1.8
Max. Return Loss (dB)		-6.6	-6.7	-3.4	-6.3	-7.1	-11.4	-11.1	-10.1	-7.6	-12.8	-11.0
AVG Eff. (%)		38.0	68.5	52.7	43.5	61.8	70.1	70.4	67.3	61.4	71.0	66.9
AVG AVG Gain (dB)		-4.3	-1.7	-2.8	-3.6	-2.1	-1.5	-1.5	-1.7	-2.1	-1.5	-1.7
Max. Peak Gain (dBi)		1.3 (700)	1.8 (740)	1.1 (820)	1.5 (1470)	4.1 (2060)	2.6 (2300)	1.9 (2500)	1.9 (2510)	5.0 (3790)	4.9 (4660)	3.5 (5150)
VSWR		≤ 5.2										
Return Loss		≤ -3.4 dB										
Peak Gain		≤ 5.0 dBi										

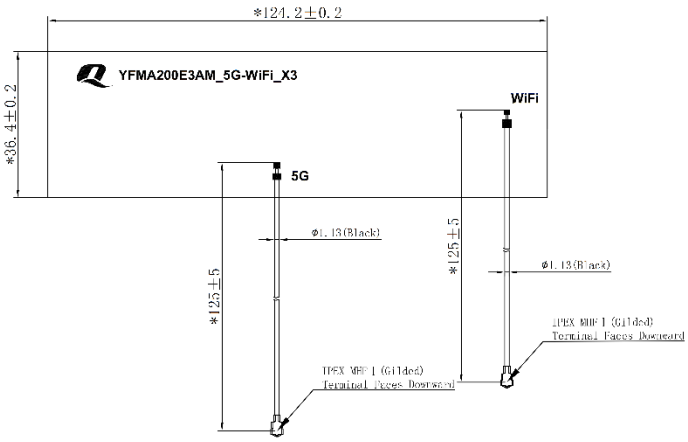
1.1.2. Wi-Fi

Band / Specification	Band	Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 6G
	Freq. (MHz)	2400–2500	5150–5850	5925–7125
Max. VSWR		1.3	2.1	1.5
Max. Return Loss (dB)		-18.8	-8.9	-13.7
AVG Eff. (%)		60.4	62.3	57.2
AVG AVG Gain (dB)		-2.2	-2.1	-2.4
Max. Peak Gain (dBi)		2.4 (2410)	3.7 (5700)	3.7 (6200)
VSWR		≤ 2.1		
Return Loss		≤ -8.9 dB		
Peak Gain		≤ 3.7 dBi		

1.2. Mechanical & Environmental

Mechanical		
Antenna Dimensions		124.2 mm × 36.4 mm
Antenna Material & Color		FPC & Black
Cable Type & Color & Length	**5G**	Φ 1.13 & Black & 125 mm
	Wi-Fi	Φ 1.13 & Black & 125 mm
Connector Type		IPEX MHF 1
Weight		Typ. 2.3 g
Mounting Type		Adhesive
Environmental		
Operation Temperature		-40 °C to +85 °C
Storage Temperature		-40 °C to +85 °C
RoHS & REACH Compliant		Yes

2 Drawing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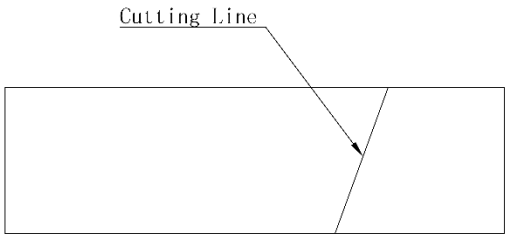
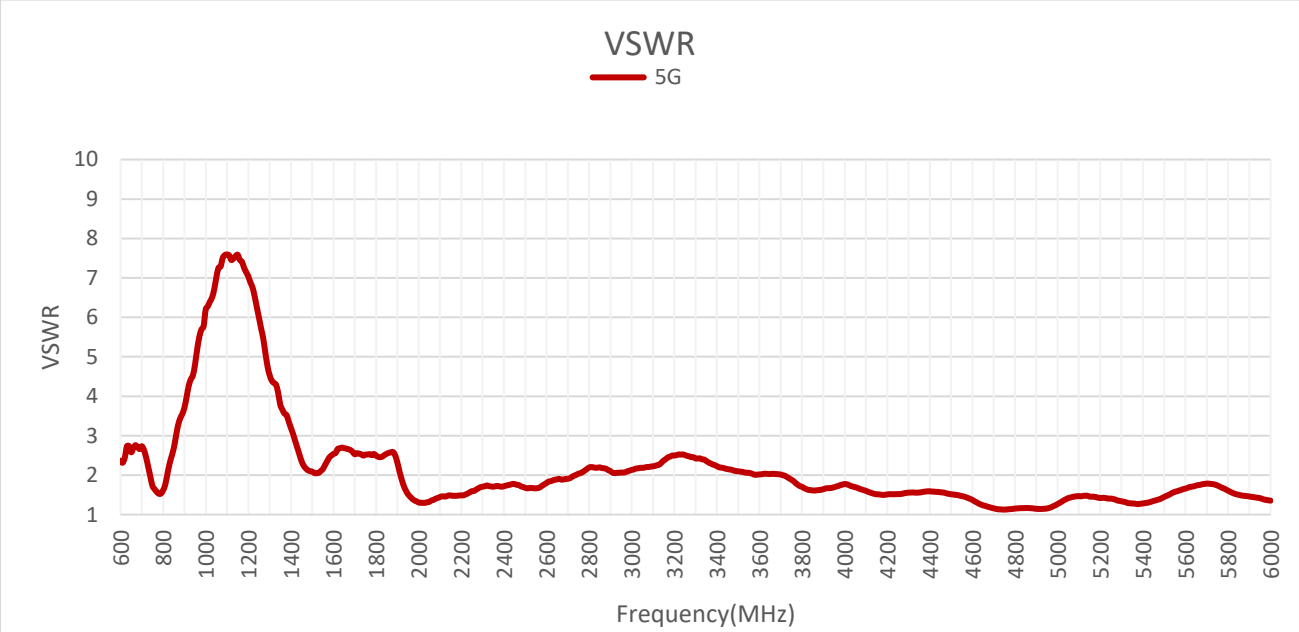
*36.4±0.2
WiFi
5G
Φ1.13(Black)
*125±5
Φ1.13(Black)
*125±5
IPEX MHF I (Gilded)
Terminal Faces Downward
IPEX MHF I (Gilded)
Terminal Faces Downward


Cutting Line

3 Detailed Performance

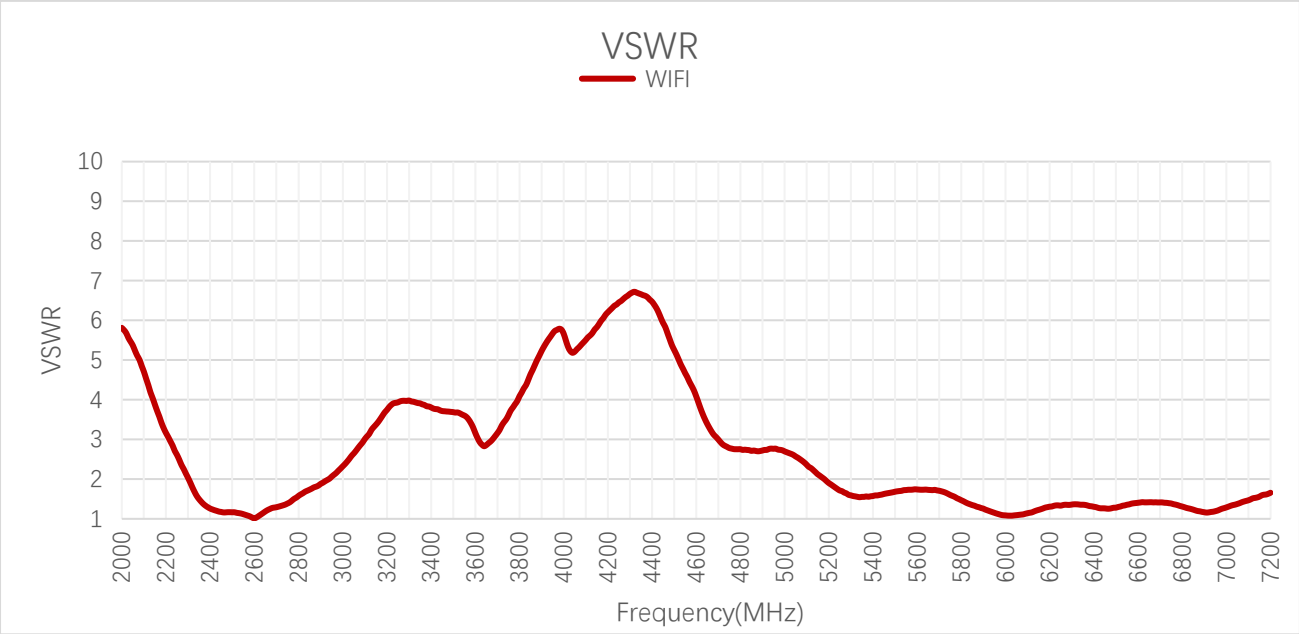
3.1. S-Parameter Test

3.1.1. VSWR



VSWR – 5G

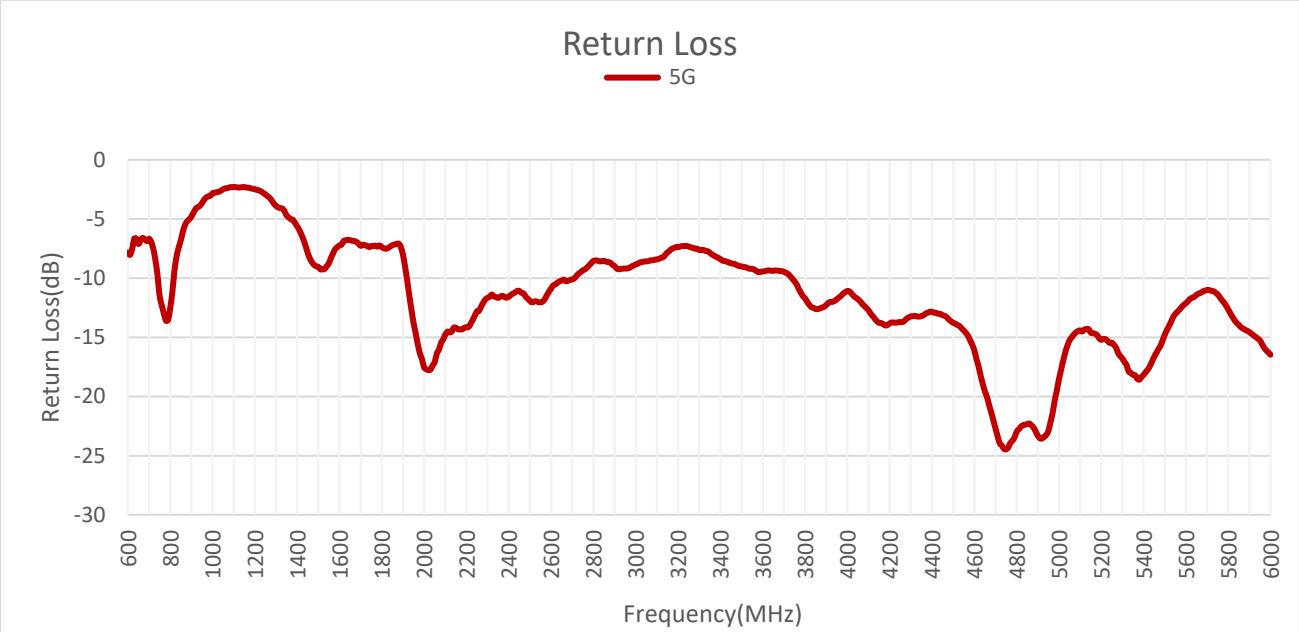
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
VSWR	2.4	2.7	2.6	2.3	3.7	5.2	2.5	2.6	2.5	2.6
Frequency (MHz)	1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
VSWR	1.5	1.5	1.7	1.8	1.8	2.0	1.2	1.3	1.4	1.4



VSWR – Wi-Fi

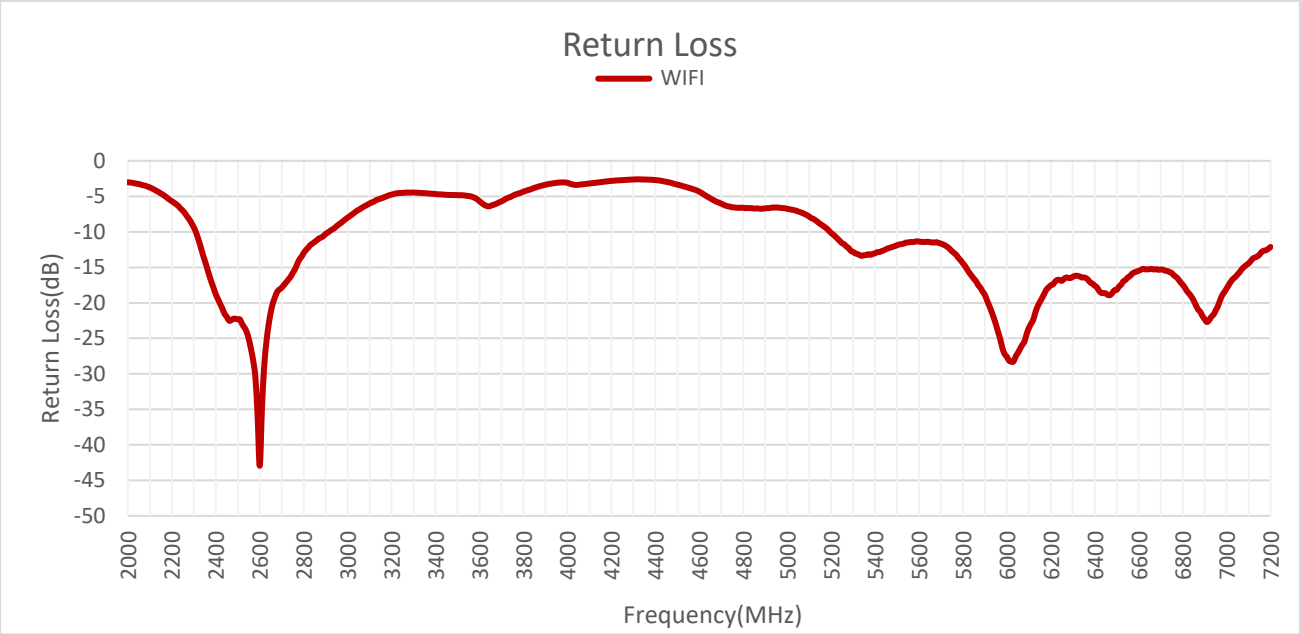
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
VSWR	1.3	1.2	1.2	2.1	1.7	1.3	1.2	1.4	1.4	1.5

3.1.2. Return Loss



Return Loss (dB) – 5G

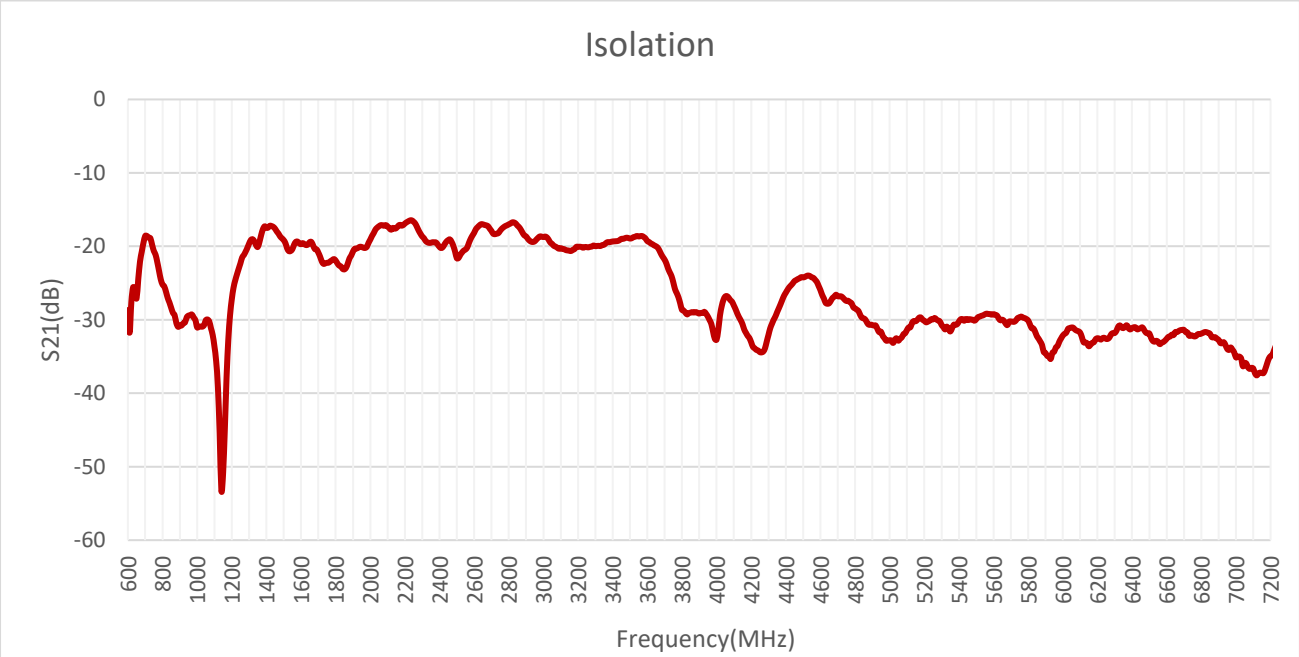
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Return Loss (dB)	-7.8	-6.7	-6.9	-8.2	-4.8	-3.4	-7.3	-7.2	-7.4	-7.1
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
Return Loss (dB)	-13.8	-14.2	-11.7	-11.1	-10.9	-9.4	-22.7	-18.5	-14.8	-16.5



Return Loss – Wi-Fi

Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Return Loss (dB)	-18.8	-21.9	-22.3	-8.9	-11.9	-16.6	-20.4	-16.2	-15.5	-13.7

3.1.3. Isolation

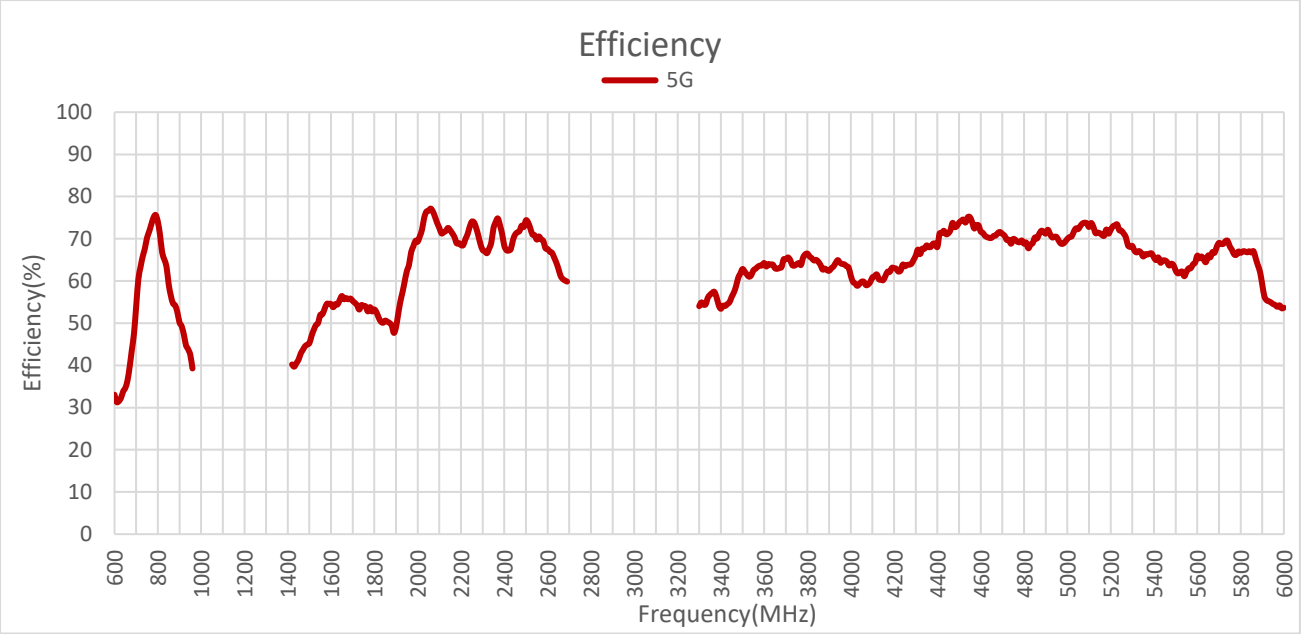


Max Isolation (dB)

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	Wi-Fi 6G
Freq. (MHz)	600–700	700–810	820–960	1420–1520	1700–2170	2300–2400	2400–2500	2500–2690	3300–4200	4400–5000	5150–5850	5925–7125
Isolation (dB)	-18.6	-18.6	-26.2	-17.2	-17.1	-18.7	-19.1	-17.0	-18.6	-24.0	-29.2	-30.8

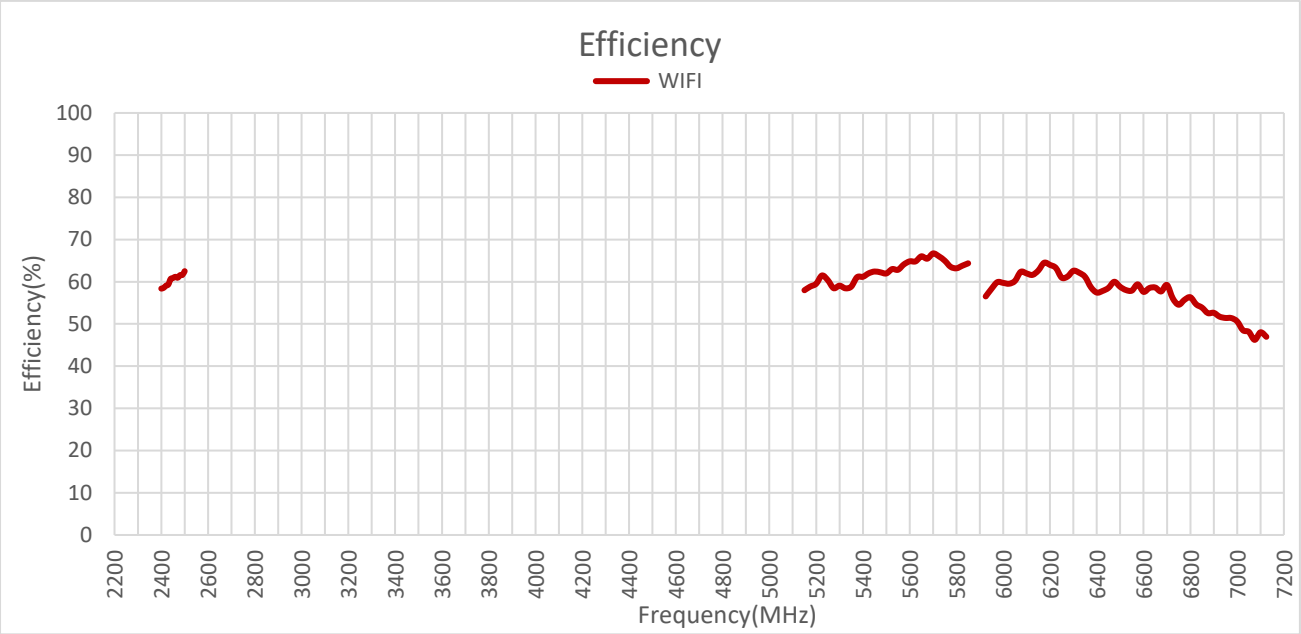
3.2. Radiation Performance Test

3.2.1. Efficiency



Efficiency (%) – 5G

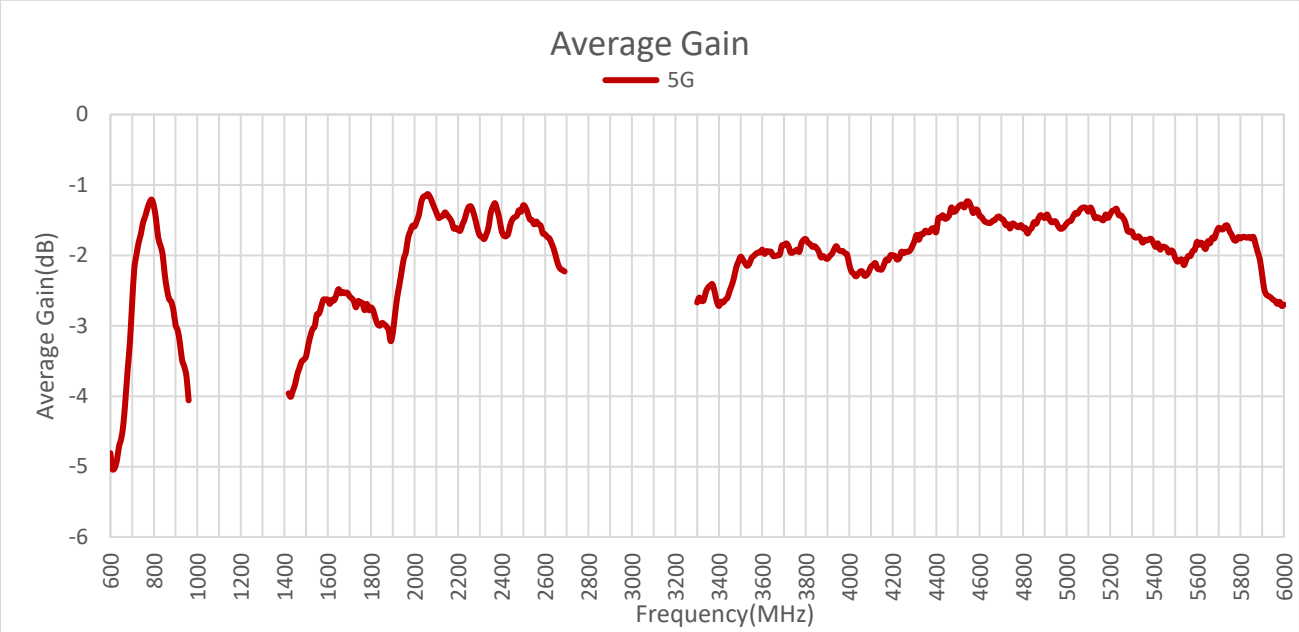
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Efficiency (%)	33.0	32.3	60.4	65.1	50.2	39.3	40.5	54.8	54.3	49.5
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
Efficiency (%)	62.3	72.6	72.5	71.0	67.6	64.3	71.1	70.0	62.5	53.7



Efficiency (%) – Wi-Fi

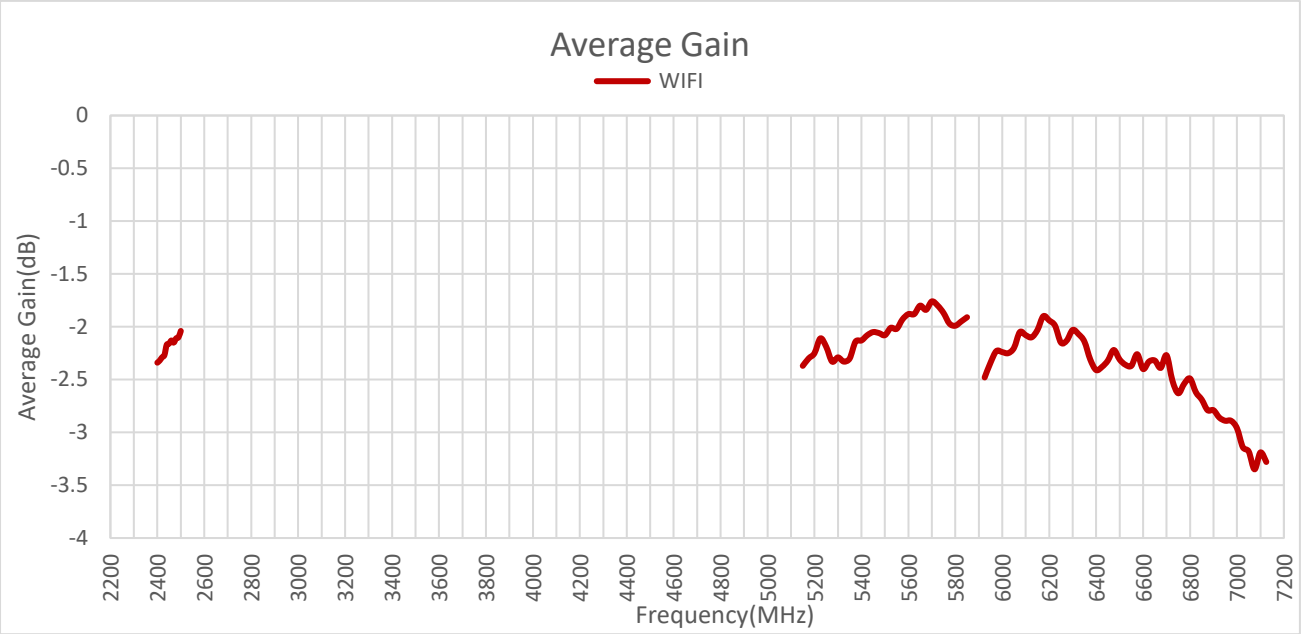
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Efficiency (%)	58.4	60.9	62.5	58.0	62.0	64.4	56.5	62.1	56.1	47.0

3.2.1. Average Gain



Average Gain (dB) – 5G

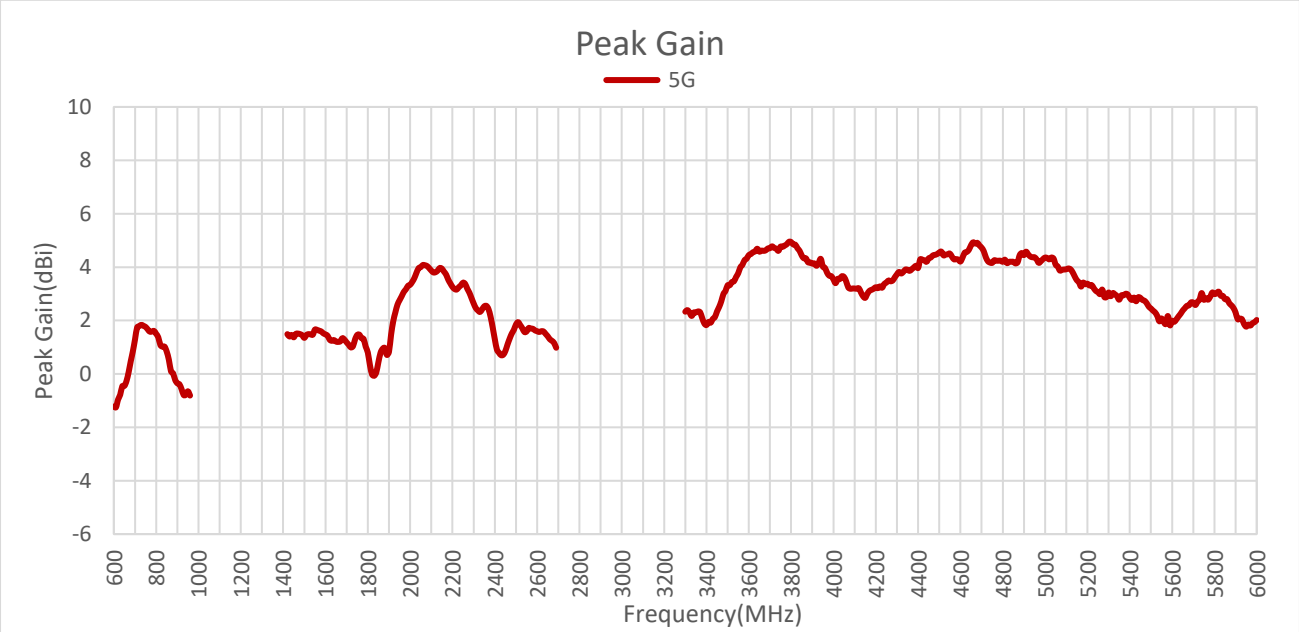
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Average Gain (dB)	-4.8	-4.9	-2.2	-1.9	-3.0	-4.1	-3.9	-2.6	-2.7	-3.1
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
Average Gain (dB)	-2.1	-1.4	-1.4	-1.5	-1.7	-1.9	-1.5	-1.6	-2.0	-2.7



Average Gain (dB) – Wi-Fi

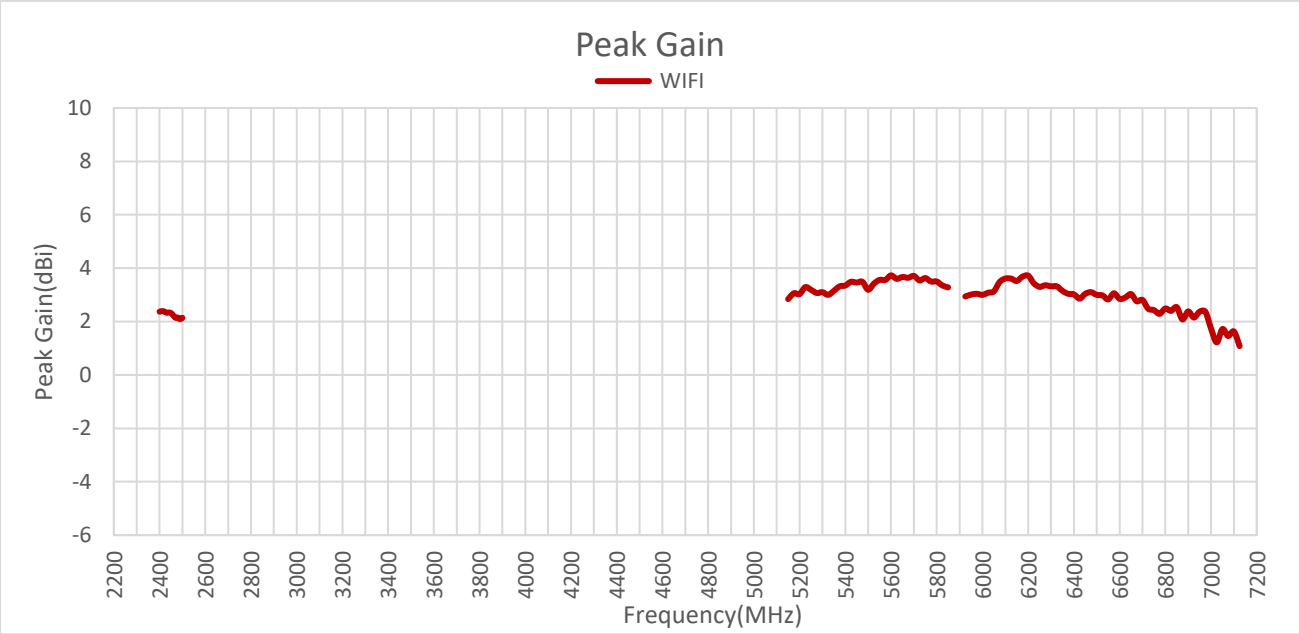
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Average Gain (dB)	-2.3	-2.2	-2.0	-2.4	-2.1	-1.9	-2.5	-2.1	-2.5	-3.3

3.2.2. Peak Gain



Peak Gain (dBi) – 5G

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
Peak Gain (dBi)	-1.2	-0.8	1.7	1.0	-0.4	-0.8	1.5	1.1	1.3	1.0
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
Peak Gain (dBi)	2.8	4.0	2.5	0.9	1.6	4.5	4.7	4.4	2.5	2.0

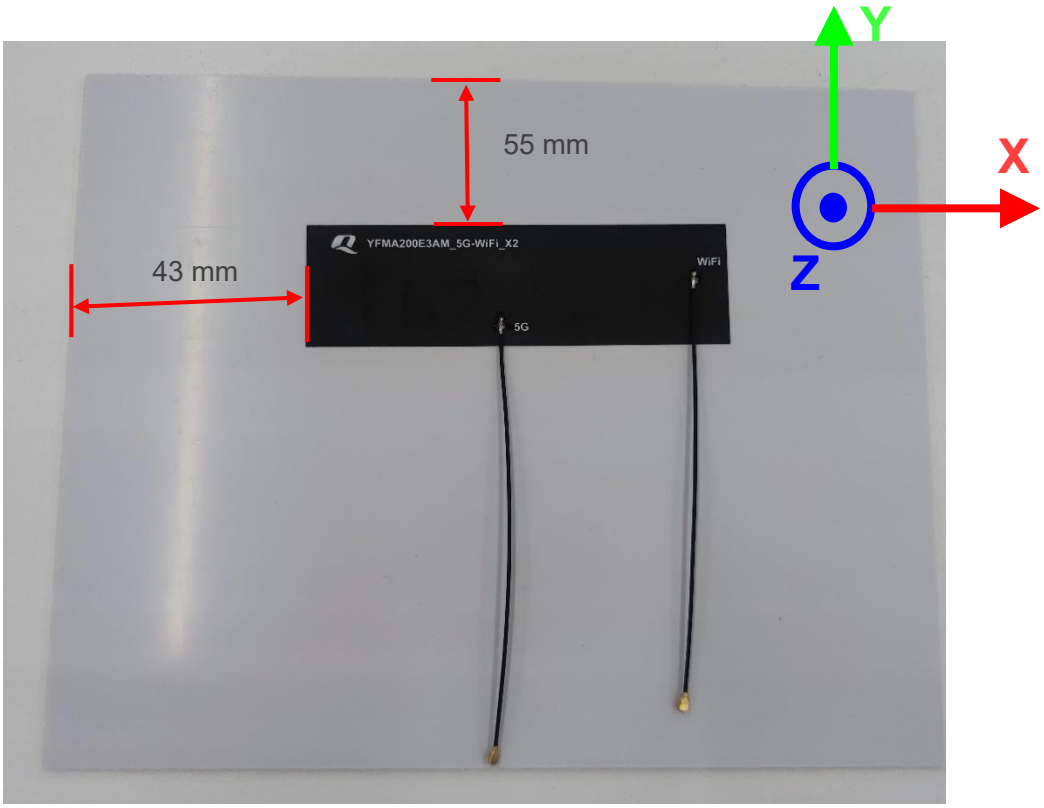


Peak Gain (dBi) – Wi-Fi

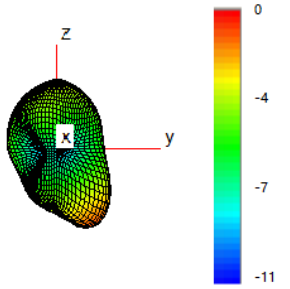
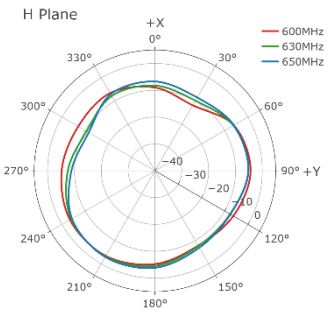
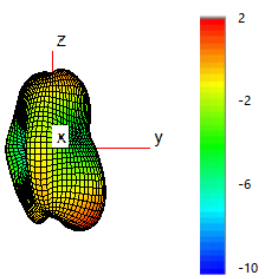
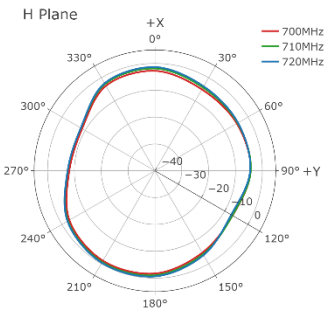
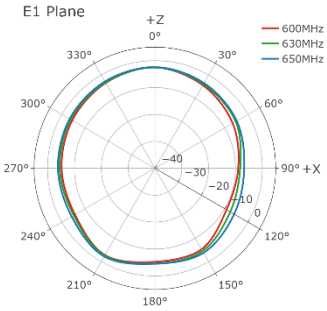
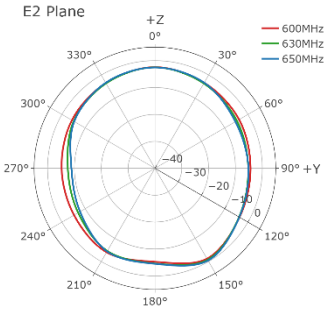
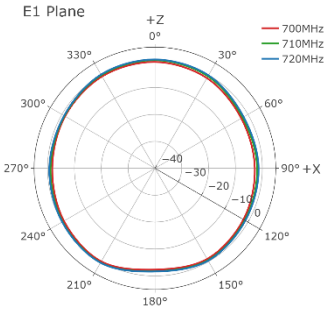
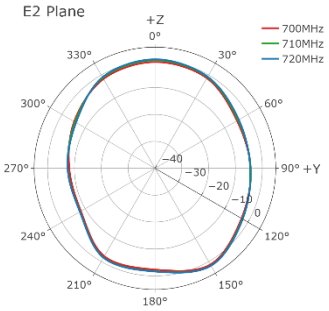
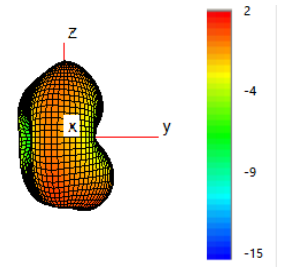
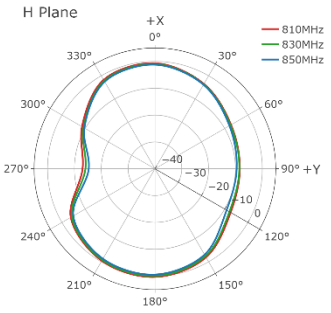
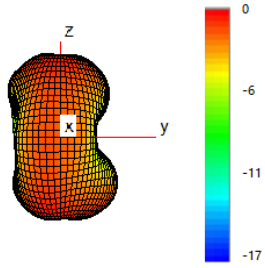
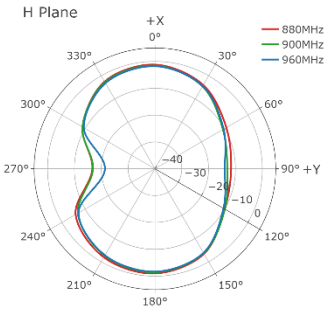
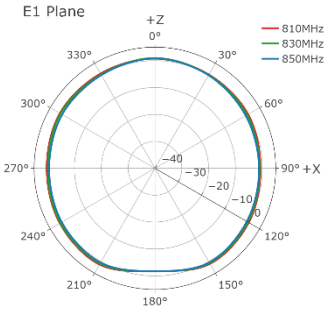
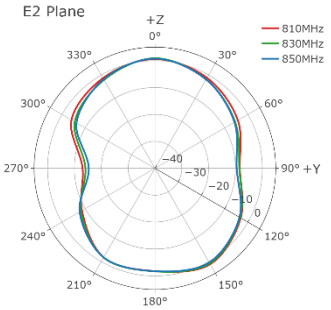
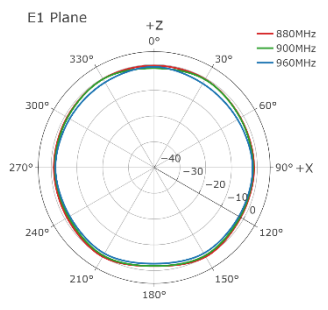
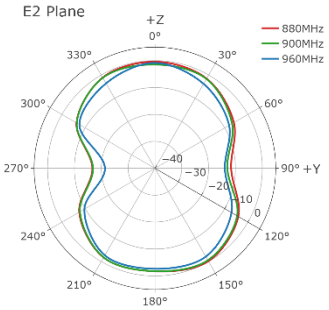
Frequency (MHz)	2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Peak Gain (dBi)	2.4	2.3	2.1	2.8	3.2	3.3	2.9	3.3	2.5	1.1

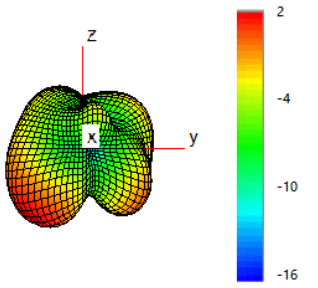
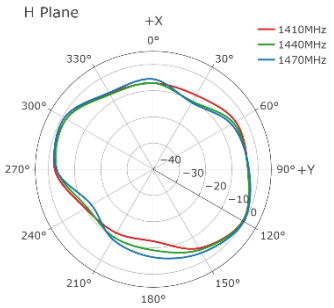
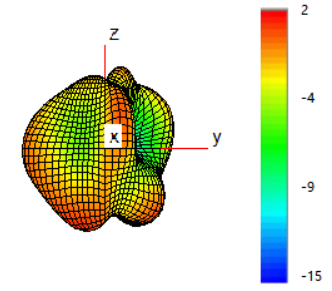
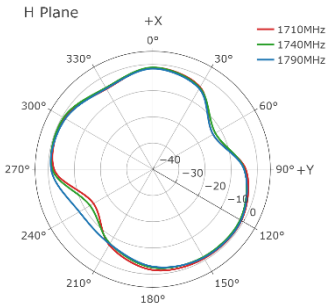
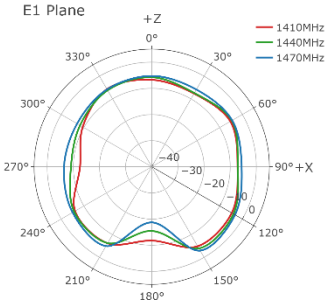
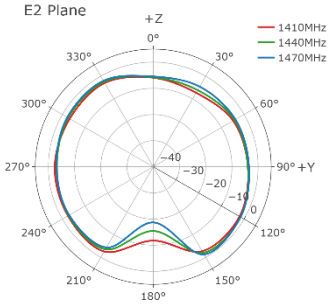
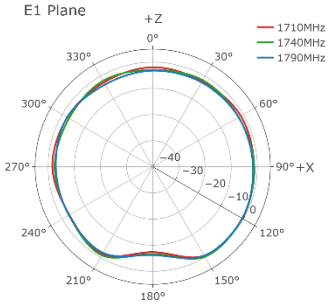
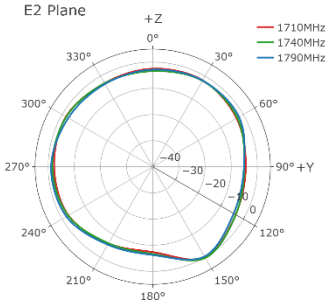
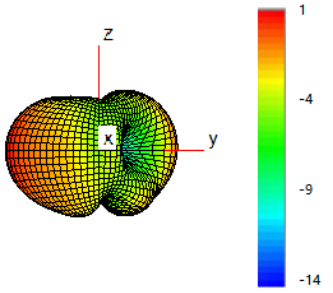
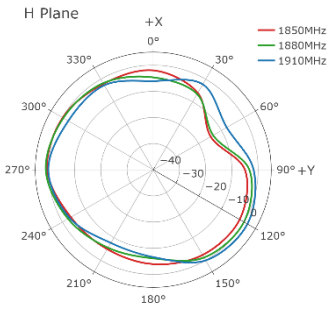
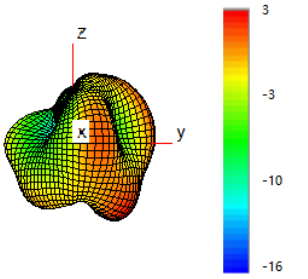
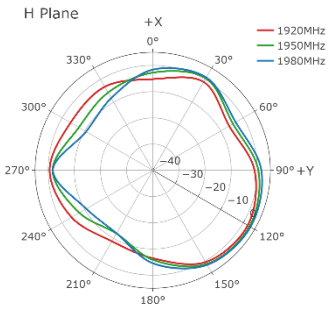
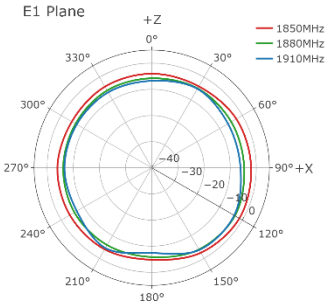
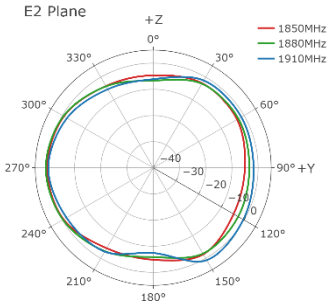
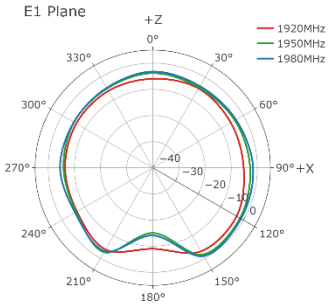
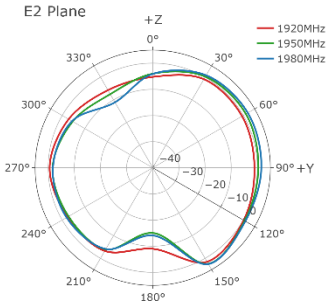
3.2.3. 3D & 2D Radiation Pattern

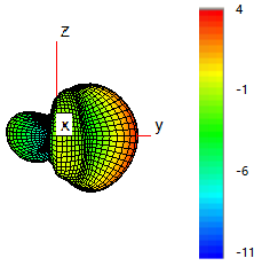
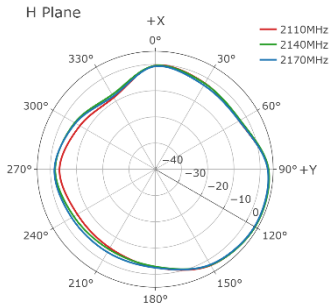
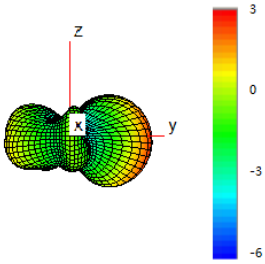
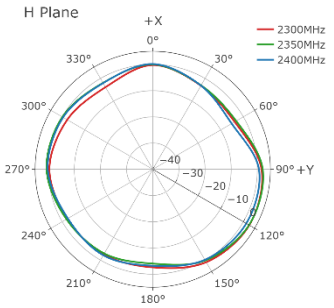
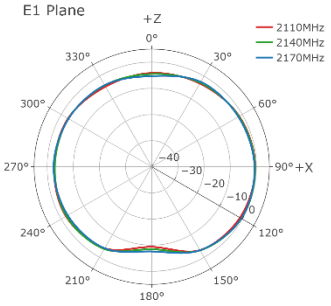
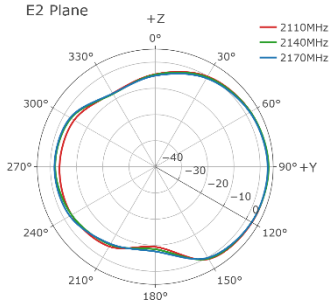
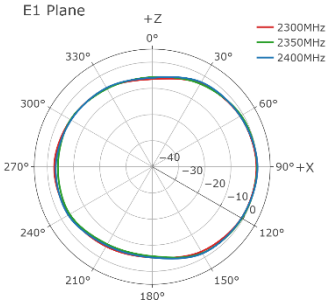
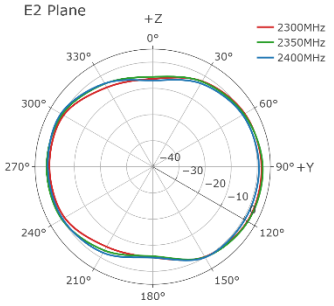
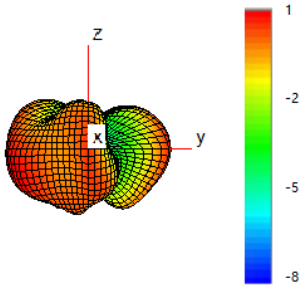
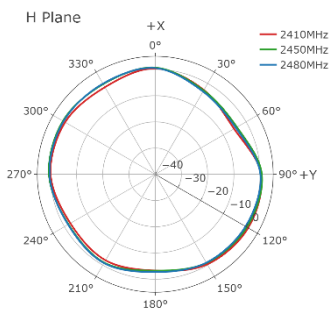
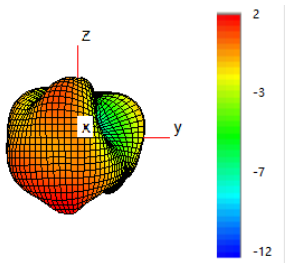
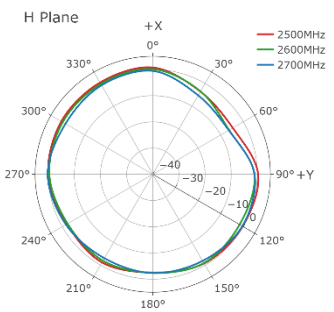
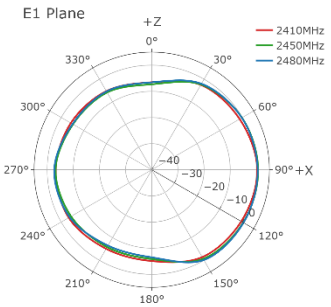
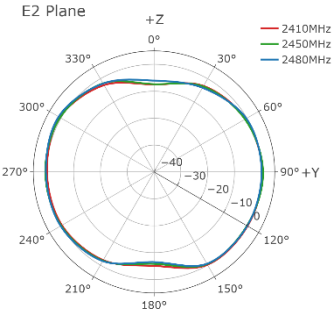
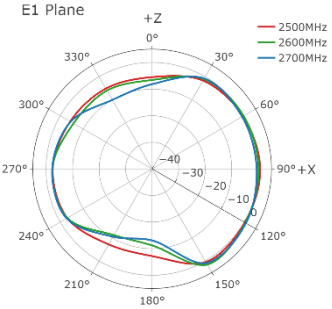
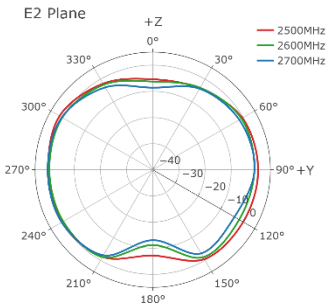
- Test Status: Stick On 3 mm Thick ABS Board
- Test Chamber: HF-G-1

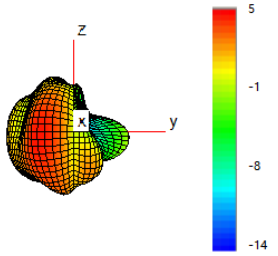
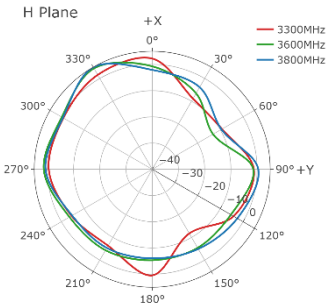
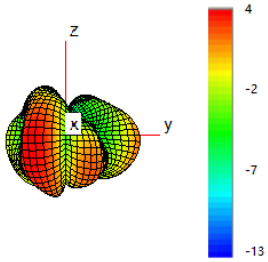
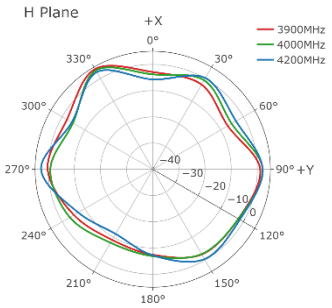
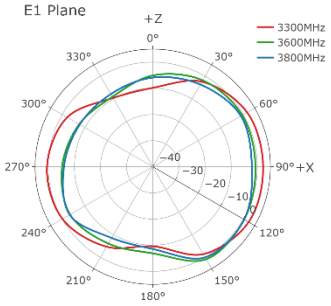
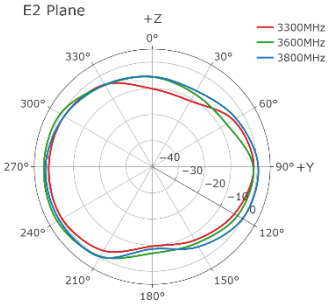
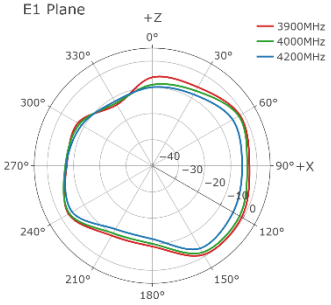
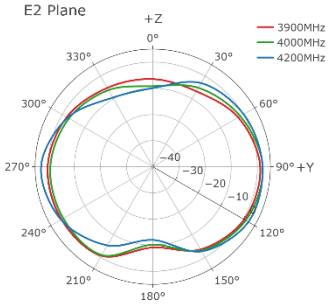
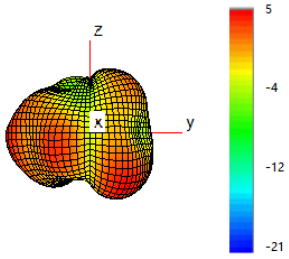
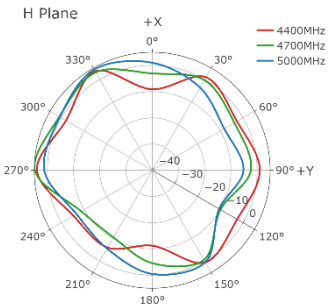
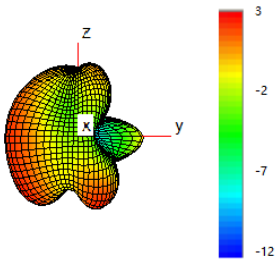
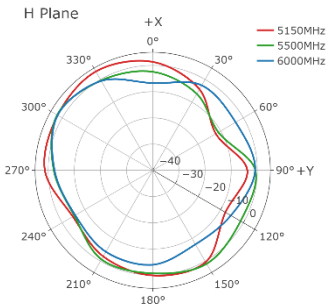
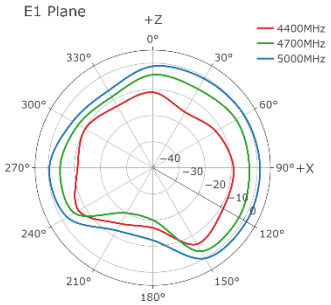
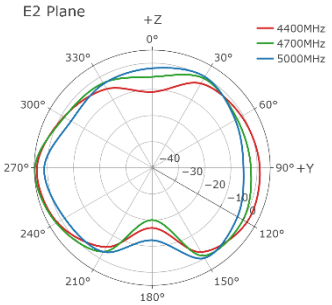
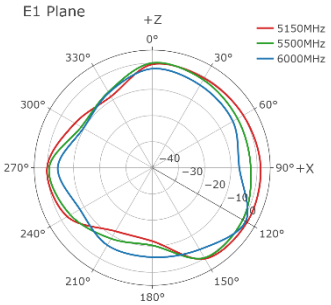
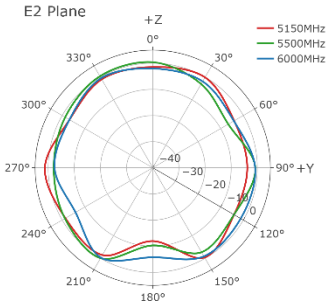


- **5G**

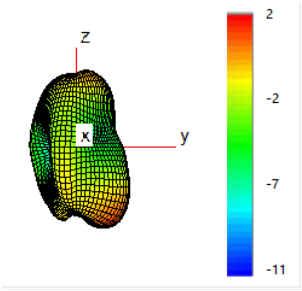
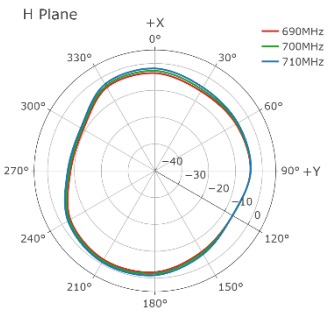
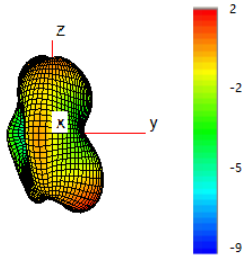
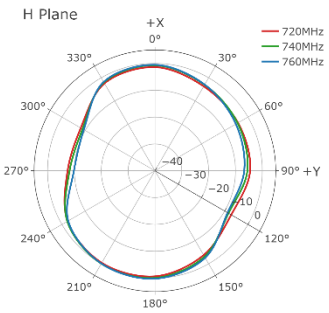
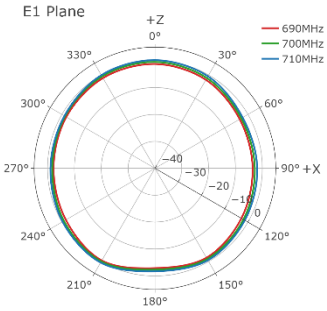
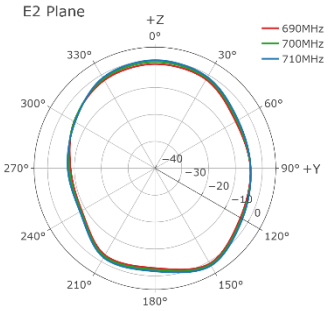
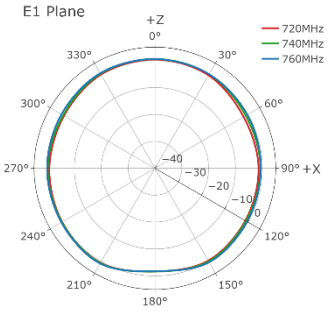
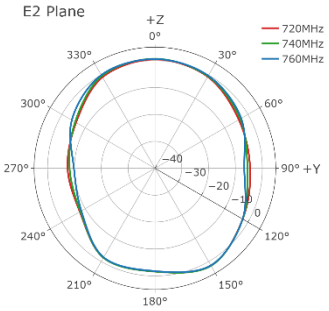
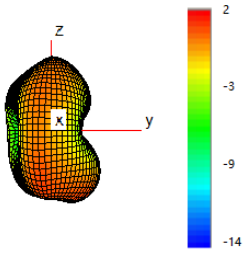
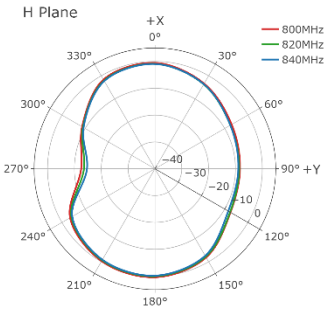
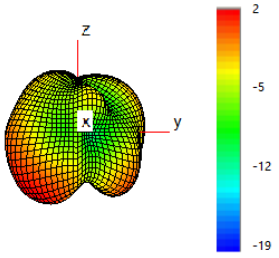
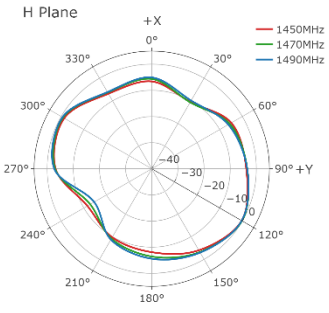
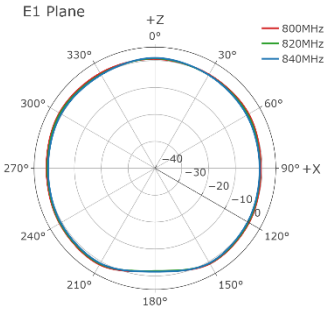
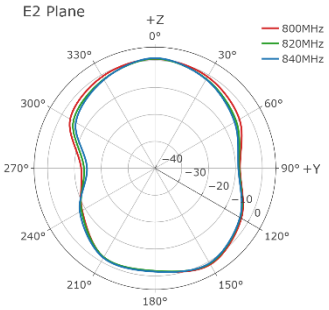
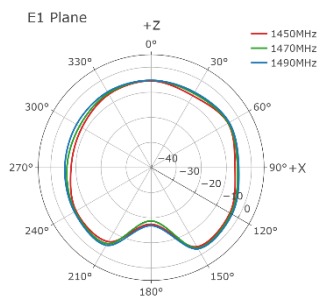
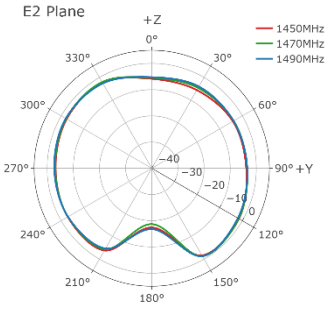
630 MHz		710 MHz	
			
			
830 MHz		900 MHz	
			
			

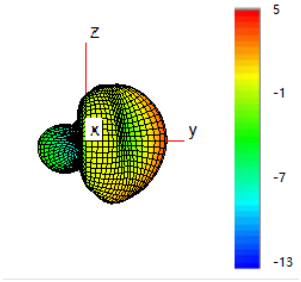
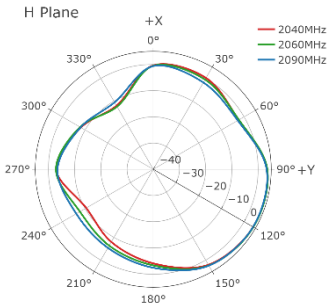
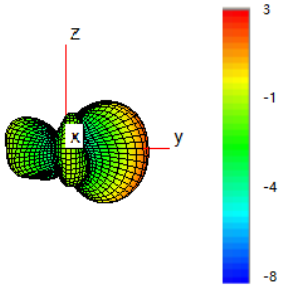
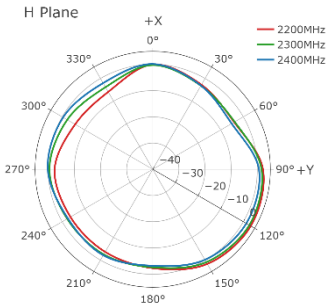
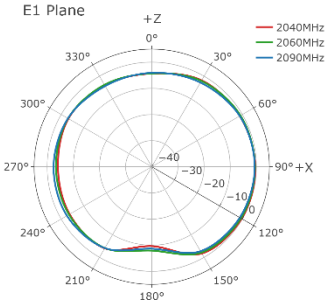
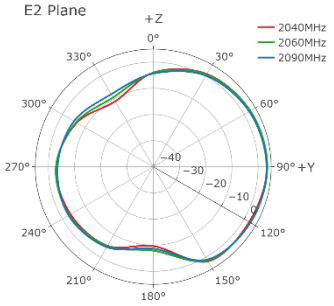
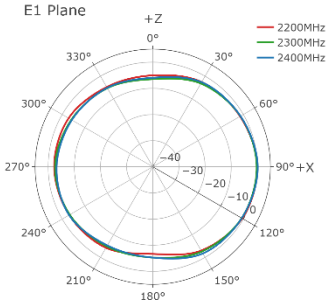
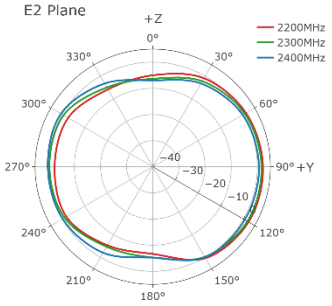
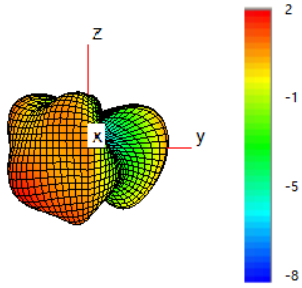
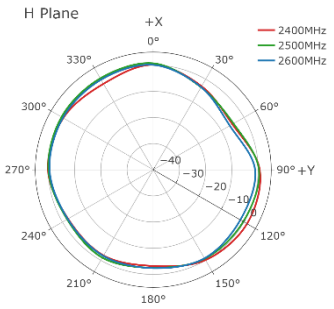
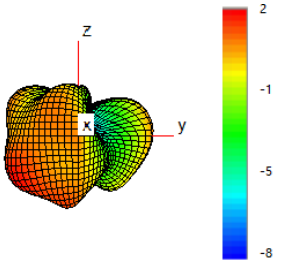
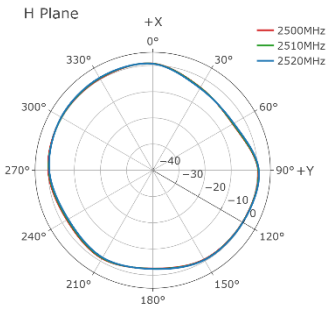
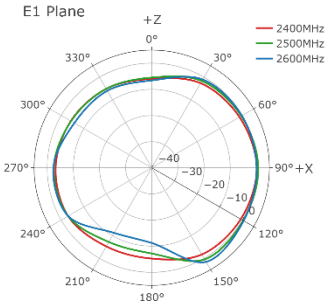
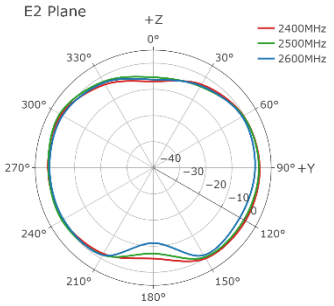
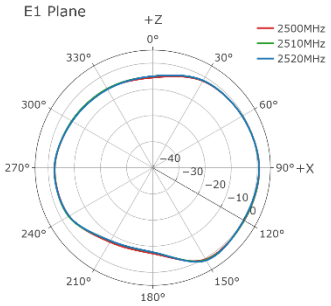
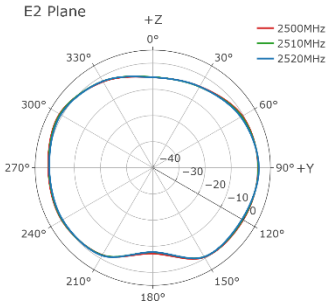
1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

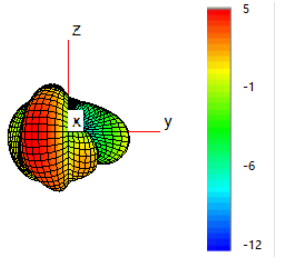
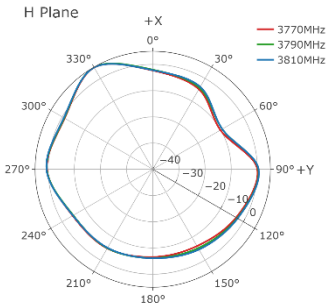
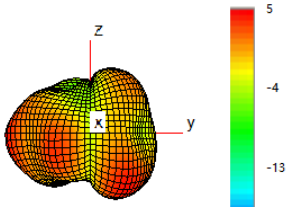
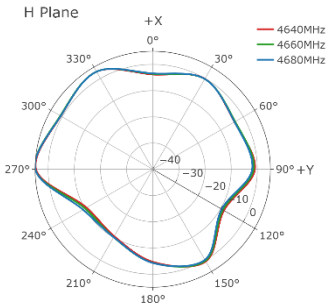
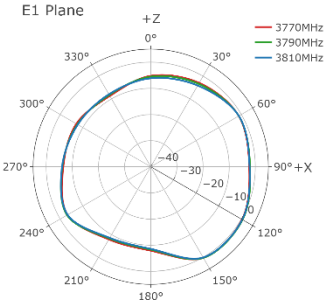
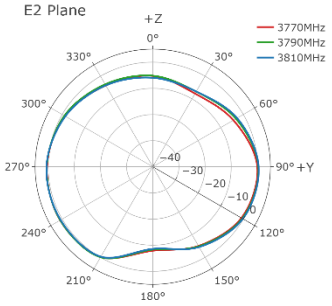
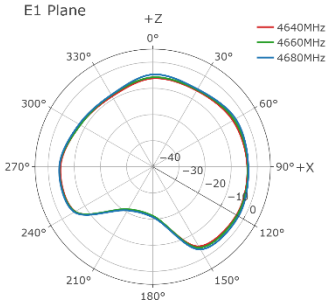
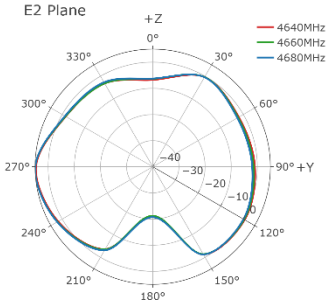
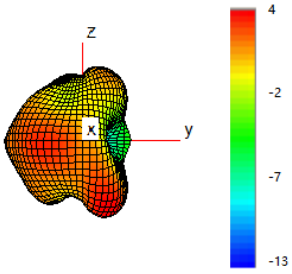
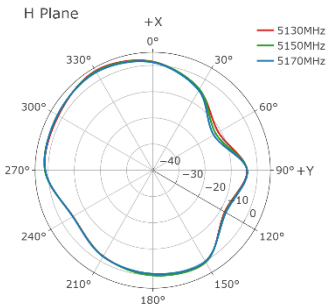
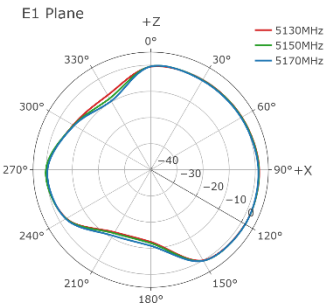
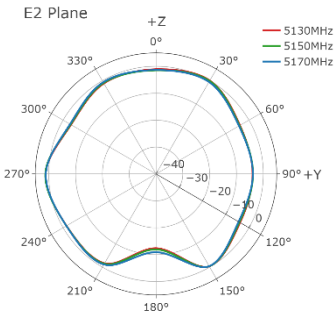
2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

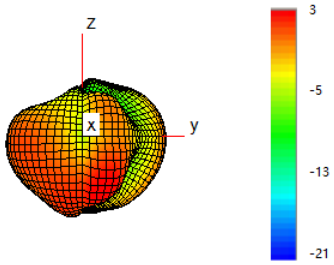
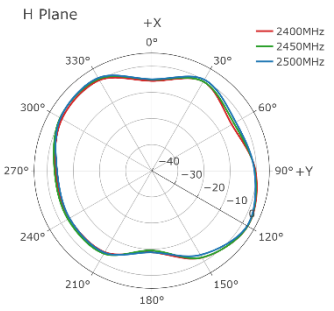
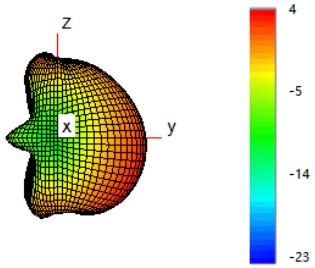
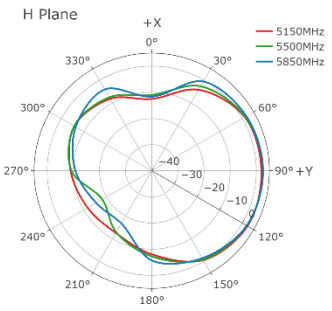
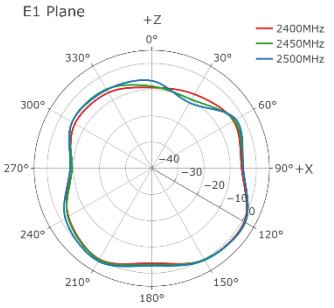
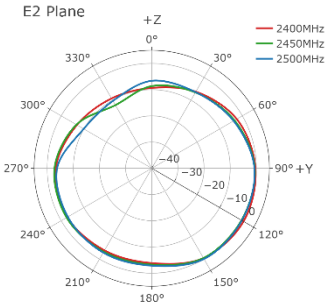
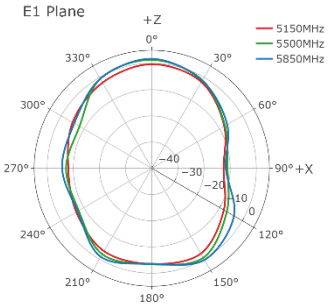
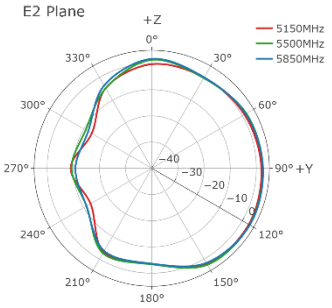
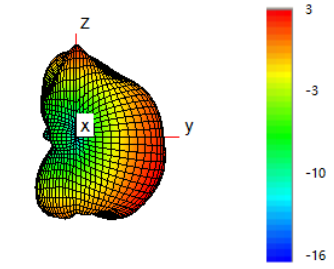
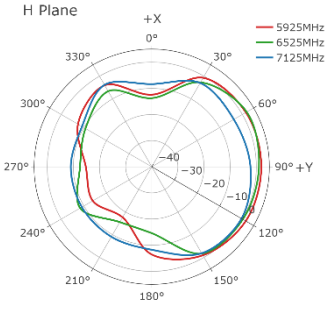
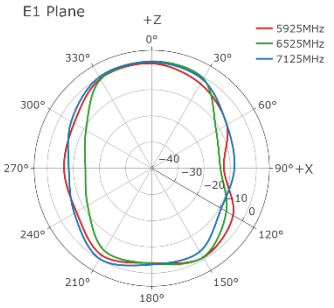
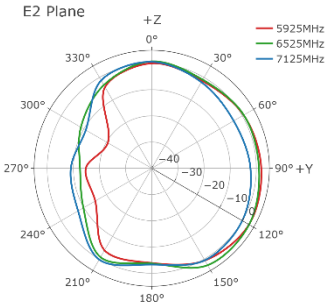
- **Peak Gain – 5G**

700 MHz		740 MHz	
			
			
820 MHz		1470 MHz	
			
			

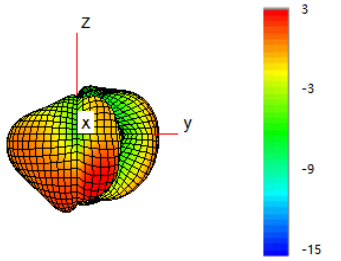
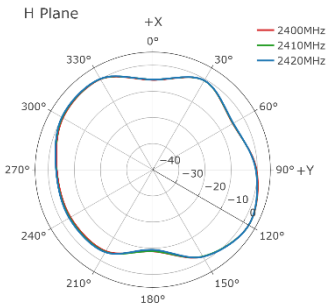
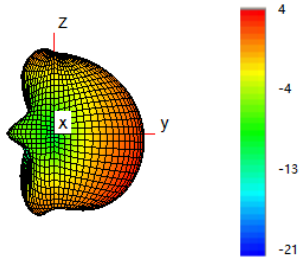
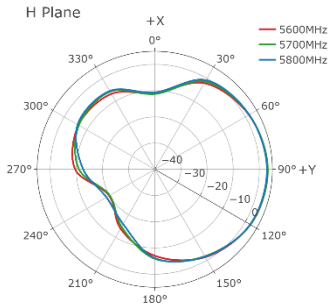
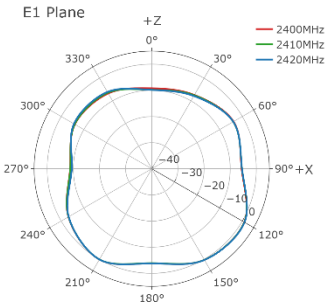
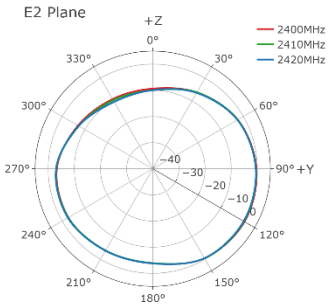
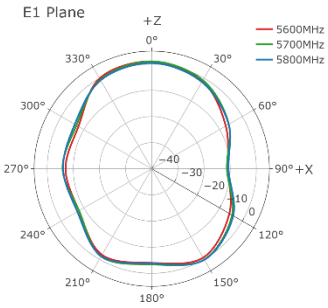
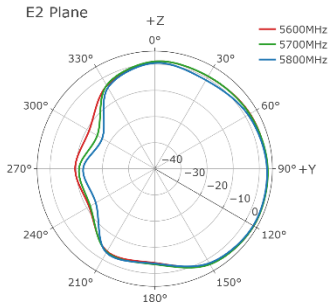
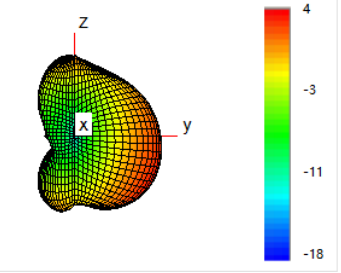
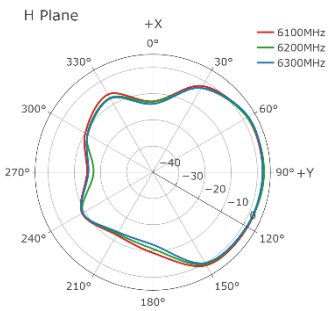
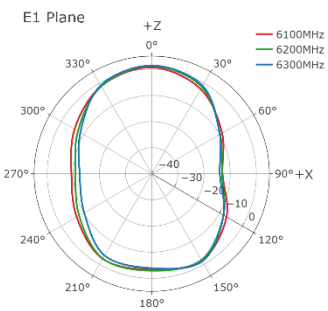
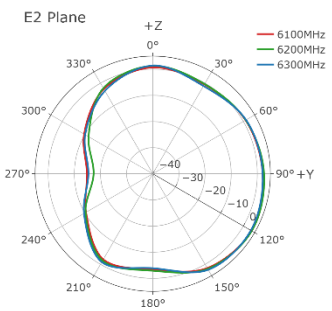
2060 MHz		2300 MHz	
			
			
2500 MHz		2510 MHz	
			
			

3790 MHz		4660 MHz	
			
			
5150 MHz			
			
			

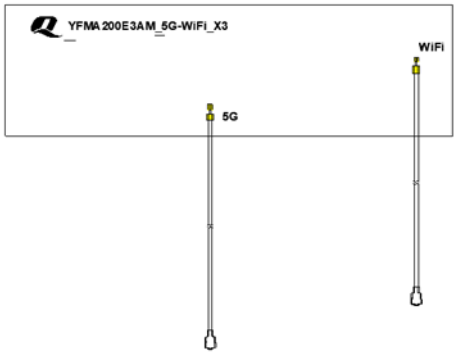
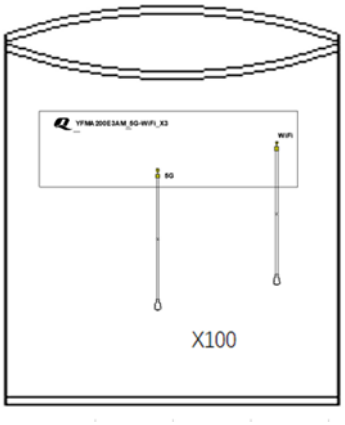
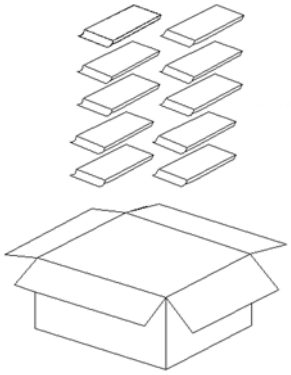
- **Wi-Fi**

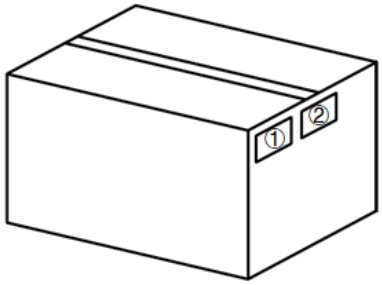
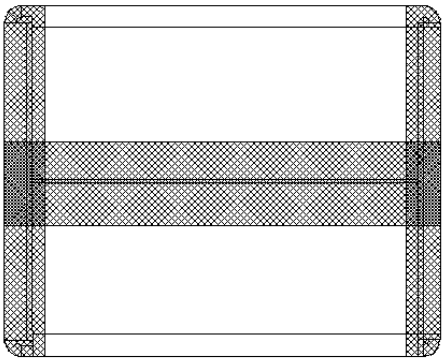
2450 MHz		5500 MHz	
			
			
6525 MHz			
			
			

- **Peak Gain – Wi-Fi**

2410 MHz		5700 MHz	
			
			
6200 MHz			
			
			

4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		Product drawing
2		100 pcs antenna products in a PE bag. (100 PCS Antennas / PE Bag)
3		(25 PE Bags / Carton Box) (2500 PCS 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 = 300 × 250 × 200 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

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Revision History

Version	Date	Author	Note
-	2024-11-02	Morrie DU/ Singh WANG/ Riva REN/ Rainey LIAO	Creation of the document
1.0	2024-11-02	Morrie DU/ Singh WANG/ Riva REN/ Rainey LIAO	First official release
1.1	2025-04-09	Aria CHU	Updated the antenna image (Cover page).

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