Antenna Datasheet

Product OC: YEMN303J1AM
Version: 1.0
Date: 2025-08-04
Status: Released

Product Name: 5G & Wi-Fi & GNSS 3in1 Screw Mount Combo Antenna
Key Features:
Frequency Band: 5G: 600–960 MHz, 1700–2690 MHz, 3300–6000 MHz;
Wi-Fi: 2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz;
GNSS: 1559–1606 MHz
Dimensions: Φ 50 mm × 48 mm
Efficiency: Up to 65 % (5G FS) & 45 % (GNSS FS)
GNSS LNA Gain: 16 ±3 dB
RoHS Compliant
IP67

Overview

YEMN303J1AM is a 5G & Wi-Fi & GNSS 3in1 measuring Φ 50 mm × 48 mm. This ultra-wide-band 5G & Wi-Fi & GNSS antenna provides broad coverage from 1559–1606 MHz, 600–960 MHz, 1700–2690 MHz, 3300–6000 MHz, 2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz, 1559–1606 MHz whilst offering backward-compatibility to support 3G and 2G networks as well as LTE Cat-M and narrowband IoT (NB-IoT). The antenna is available screw mount omni-directional antenna, ideal for applications where the antenna is required to be discrete, is easy to install with maximum durability assured and suitable for use in harsh outdoor environments thanks to its IP67 rated, UV-resistant and UL 94 HB Flame Rating enclosure. It is compatible with Quectel's RM520x Series modules.

YEMN303J1AM has 1 × 5G antenna, 1 × WIFI antenna and 1 × GNSS L1 antenna. It allows high efficiency, stable signal transmission and reception for active GNSS from 1559–1606 MHz, and 5G bands from 600–960 MHz,1700–2690 MHz, 3300–6000 MHz, WIFI bands from 2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz. In the meantime, this product also offers high isolation between antennas to avoid self-interference. All in all, this unique product is designed to provide stable and high-speed data connection to 5G & WIFI & GNSS applications. YEMN303J1AM can be used in harsh environments thanks to its robust Impact Protection Rating (IK08) and flame resistant (UL 94 HB) enclosure.

Typical applications include:

- Public safety
- HD Video Streaming
- Utilities and Smart Cities
- Fleet Management
- Automotive vehicle tracking

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

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1 Specification

Test Condition: Free Space & On 300 mm × 300 mm metal plane

1.1. Electrical

Electrical Specifications			
Frequency Range	**5G**	600–960 MHz, 1700–2690 MHz, 3300–6000 MHz	
	Wi-Fi	2400–2500 MHz, 5150–5850 MHz, 5925–7125 MHz	
	GNSS	1559–1606 MHz	
Radiation Pattern	**5G**	Omni-directional	
	Wi-Fi	Omni-directional	
	GNSS	Directional	
Polarization	**5G**	Linear	
	Wi-Fi	Linear	
	GNSS	RHCP	
Impedance		50 Ω	
Isolation	**5G - Wi-Fi**	FS	≤ -6.6 dB
		MP	≤ -6.8 dB
	5G - GNSS	FS	≤ -13.1 dB
		MP	≤ -11.6 dB
	Wi-Fi - GNSS	FS	≤ -23.0 dB
		MP	≤ -22.1 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	FS	4.1	4.1	2.2	-	3.0	1.8	1.9	2.0	2.9	2.1	2.5
	MP	6.6	5.8	3.2	-	2.9	3.8	3.6	3.8	2.4	3.0	2.1
Max. Return Loss (dB)	FS	-4.3	-4.4	-8.7	-	-6.1	-10.6	-10.2	-9.7	-6.2	-8.8	-7.5
	MP	-2.7	-3.0	-5.6	-	-6.3	-4.7	-5.0	-4.7	-7.7	-6.0	-9.0
AVG Eff. (%)	FS	23.8	26.8	39.4	-	51.1	62.0	62.0	63.1	50.7	48.2	53.9
	MP	23.8	29.6	21.5	-	52.7	46.4	44.1	41.0	54.4	51.7	47.9
AVG AVG Gain (dB)	FS	-6.2	-5.8	-4.1	-	-2.9	-2.1	-2.1	-2.0	-3.0	-3.2	-2.7
	MP	-6.2	-5.3	-6.7	-	-2.8	-3.3	-3.6	-3.9	-2.7	-2.9	-3.2
Max. Peak Gain (dBi)	FS	-0.5 (600)	-0.2 (810)	1.0 (870)	-	2.9 (1870)	2.8 (2400)	3.2 (2430)	3.1 (2600)	2.7 (3940)	2.3 (4640)	3.1 (5500)
	MP	0.9 (670)	0.5 (700)	-0.6 (820)	-	4.1 (2170)	3.8 (2320)	3.9 (2440)	3.1 (2540)	5.3 (4080)	3.7 (4530)	3.0 (5180)
VSWR	FS	≤ 4.1										
	MP	≤ 6.6										
Return Loss	FS	≤ -4.3 dB										
	MP	≤ -2.7 dB										
Gain	FS	≤ 3.2 dBi										
	MP	≤ 5.3 dBi										

- FS: In Free Space
- MP: On 300 mm × 300 mm Metal Plane

1.1.2. Wi-Fi

Electrical – Detail				
Band / Specification	Band	Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 6G
	Freq. (MHz)	2400–2500	5150–5850	5925–7125
Max. VSWR	FS	3.0	2.1	2.4
	MP	2.4	2.2	2.6
Max. Return Loss (dB)	FS	-6.0	-9.1	-7.8
	MP	-7.9	-8.6	-7.2
AVG Eff. (%)	FS	46.5	48.4	44.3
	MP	48.0	46.3	42.0
AVG AVG Gain (dB)	FS	-3.3	-3.2	-3.6
	MP	-3.2	-3.4	-3.8
Max. Peak Gain (dBi)	FS	2.0 (2410)	2.3 (5610)	4.4 (6585)
	MP	4.3 (2430)	3.3 (5150)	3.7 (6185)
VSWR	FS	≤ 3.0		
	MP	≤ 2.6		
Return Loss	FS	≤ -6.0 dB		
	MP	≤ -7.2 dB		
Peak Gain	FS	≤ 4.4 dBi		
	MP	≤ 4.3 dBi		

- FS: In Free Space
- MP: On 300 mm × 300 mm Metal Plane

1.1.3. GNSS

Band / Frequency (MHz)		GPS L5 GALILEO E5a BDS B2a-B2I QZSS L5 IRNSS L5	GALILEO E5b BDS B2b	GPS L2 QZSS L2C	GLONASS G2	BDS B3	BDS B1I	GPS L1 GALILEO E1 BDS B1C QZSS L1	GLONASS G1
		1176	1207	1227	1248	1268	1561	1575	1602
VSWR	FS	-	-	-	-	-	6.8	1.1	1.1
	MP	-	-	-	-	-	8.2	1.3	1.5
Return Loss (dB)	FS	-	-	-	-	-	-2.6	-30.9	-30.8
	MP	-	-	-	-	-	-2.1	-18.5	-14.3
Efficiency (%)	FS	-	-	-	-	-	11.7	40.6	45.3
	MP	-	-	-	-	-	8.6	35.4	31.6
AVG Gain (dB)	FS	-	-	-	-	-	-6.4	-5.8	-2.9
	MP	-	-	-	-	-	-8.1	-6.0	-4.1
Peak Gain (dBi)	FS	-	-	-	-	-	-4.5	0.7	1.5
	MP	-	-	-	-	-	-4.6	1.8	1.1

LNA Electrical	
LNA Gain	16 ±3 dB
Noise Figure	≤ 2.5 dB
Output VSWR	< 2.0
Filter Out-of-Band Attenuation	≥ 45 dB f0 ±100 MHz f0 (1568 MHz)
Working Voltage	2.7–3.3 V
Working Current	4.3 ±1.5 mA @ 3 V
Impedance	50 Ω

1.2. Supported Bands

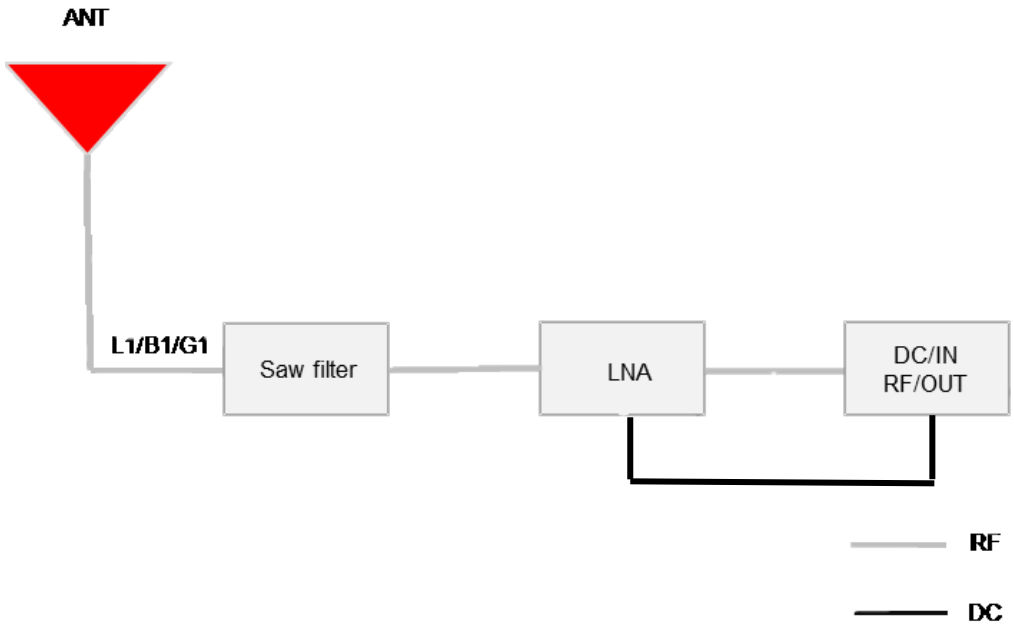
5G NR / LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / GPRS / GSM / NB-IoT				
Band	**Frequency (MHz)**	**Uplink (MHz)**	**Downlink (MHz)**	**5G**
1	2100	1920–1980	2110–2170	√
2	1900	1850–1910	1930–1990	√
3	1800	1710–1785	1805–1880	√
4	1700	1710–1755	2110–2155	√
5	850	824–849	869–894	√
7	2600	2500–2570	2620–2690	√
8	900	880–915	925–960	√
9	1800	1749.9-1784.9	1844.9-1879.9	√
11	1500	1427.9–1447.9	1475.9–1495.9	-
12	700	699–716	729–746	√
13	700	777–787	746–756	√
14	700	788–798	758–768	√
17	700	704–716	734–746	√
18	850	815–830	860–875	√
19	850	830–845	875–890	√
20	800	832–862	791–821	√
21	1500	1447.9–1462.9	1495.9–1510.9	-
22	3500	3410–3490	3510–3590	√
23	2100	2000–2020	2180–2200	√
24	1600	1626.5–1660.5	1525–1559	-
25	1900	1850–1915	1930–1995	√
26	850	814–849	859–894	√

5G NR / LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / GPRS / GSM / NB-IoT				
Band	**Frequency (MHz)**	**Uplink (MHz)**	**Downlink (MHz)**	**5G**
28	700	703–748	758–803	√
31	450	452.5–457.5	462.5–467.5	-
34	2100	2010–2025		√
38	2600	2570–2620		√
39	1900	1880–1920		√
40	2300	2300–2400		√
41	2500	2496–2690		√
42	3500	3400–3600		√
48	3500	3550–3700		√
66	1700	1710–1780	2110–2200	√
71	600	663–698	617–652	√
74	1500	1427–1470	1475–1518	-
77	3500	3300–4200		√
78	3500	3300–3800		√
79	4500	4400–5000		√

1.3. Mechanical & Environmental

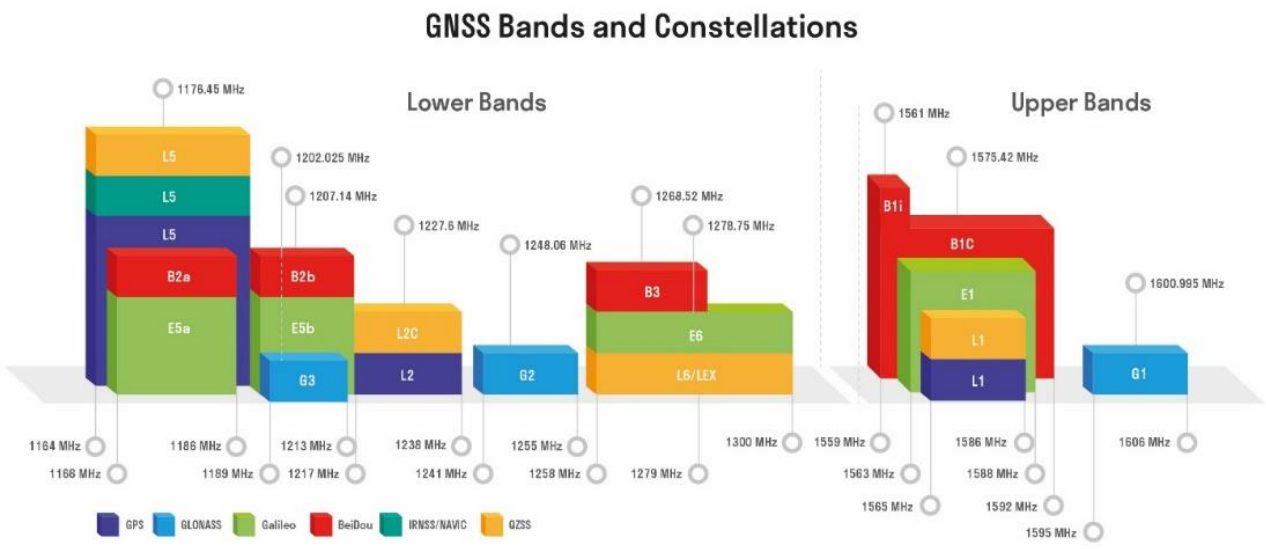
Mechanical	
Antenna Dimensions	Φ 50 mm × 48 mm
Antenna Material & Color	PC+ABS & Black
Cable Type & Color & Length	RG174 & Black & 300 mm
Connector Type	SMA Male (The current state of the SMA connector is not waterproof. If a waterproof connector is required, it can be customized.)
Weight	Typ. 77 g
Mounting Type	Screw
Environmental	
Operation Temperature	-40 °C to +85 °C
Storage Temperature	-40 °C to +85 °C
Ingress Protection (IP) Rating	IP67
Impact Protection (IK) Rating	IK08
RoHS Compliant	Yes
Housing Flame Rating	UL 94 HB

1.4. Block Diagram (Active Antenna)

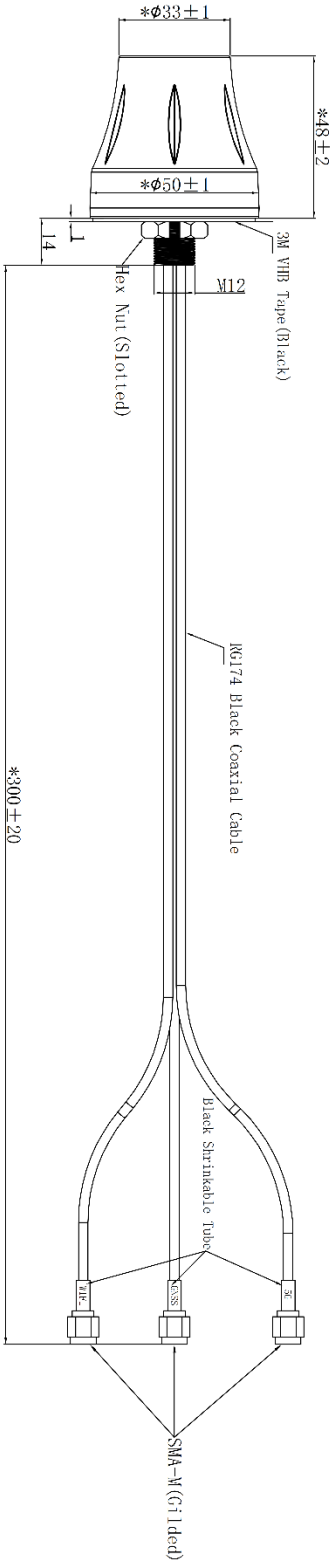


1.5. Supported GNSS Frequency Bands

GNSS Frequency Bands (MHz)					
GPS	**L1** Centre 1575.42 (1565–1586)	**L2** Centre 1227.6 (1217–1238)	**L5** Centre 1176.45 (1164–1189)		
	√	-	-		
GLONASS	**G1-L1OC-L1OF** Centre 1601 (1595–1606)	**G2-L2OC-L2OF** Centre 1248.06 (1241–1255)	**G3-L3OC** Centre 1202.025 (1189–1213)		
	√	-	-		
GALILEO	**E1** Centre 1575.42 (1563–1588)	**E5a** Centre 1176.45 (1166–1187)	**E5b** Centre 1207.14 (1197–1218)	**E6** Centre 1278.75 (1258–1300)	
	√	-	-	-	
BDS	**B1I** Centre 1561.098 (1559–1564)	**B1C (BDS-3)** Centre 1575.42 (1559–1592)	**B2a-B2I** Centre 1176.45 (1166–1187)	**B2b** Centre 1207.14 (1197–1217)	**B3** Centre 1268.52 (1258–1279)
	√	√	-	-	-
QZSS	**L1** Centre 1575.42 (1573–1578)	**L2C** Centre 1227.6 (1226–1229)	**L5** Centre 1176.45 (1166–1187)	**L6** Centre 1278.75 (1257–1300)	
	√	-	-	-	
IRNSS	**L5** Centre 1176.45 (1164–1189)				
	-				


GNSS Bands and Constellations
Lower Bands
Upper Bands
1176.45 MHz
1202.025 MHz
1207.14 MHz
1227.6 MHz
1248.06 MHz
1268.52 MHz
1278.75 MHz
L5
L5
L5
B2a
E5a
B2b
E5b
G3
L2C
L2
G2
B3
E6
L6/LEX
1561 MHz
1575.42 MHz
B1i
B1C
E1
L1
L1
1600.995 MHz
G1
1164 MHz
1168 MHz
1186 MHz
1189 MHz
1213 MHz
1217 MHz
1238 MHz
1241 MHz
1255 MHz
1258 MHz
1279 MHz
1300 MHz
1559 MHz
1563 MHz
1565 MHz
1586 MHz
1588 MHz
1592 MHz
1595 MHz
1606 MHz
GPS
GLONASS
Galileo
BeiDou
IRNSS/NAVIC
QZSS

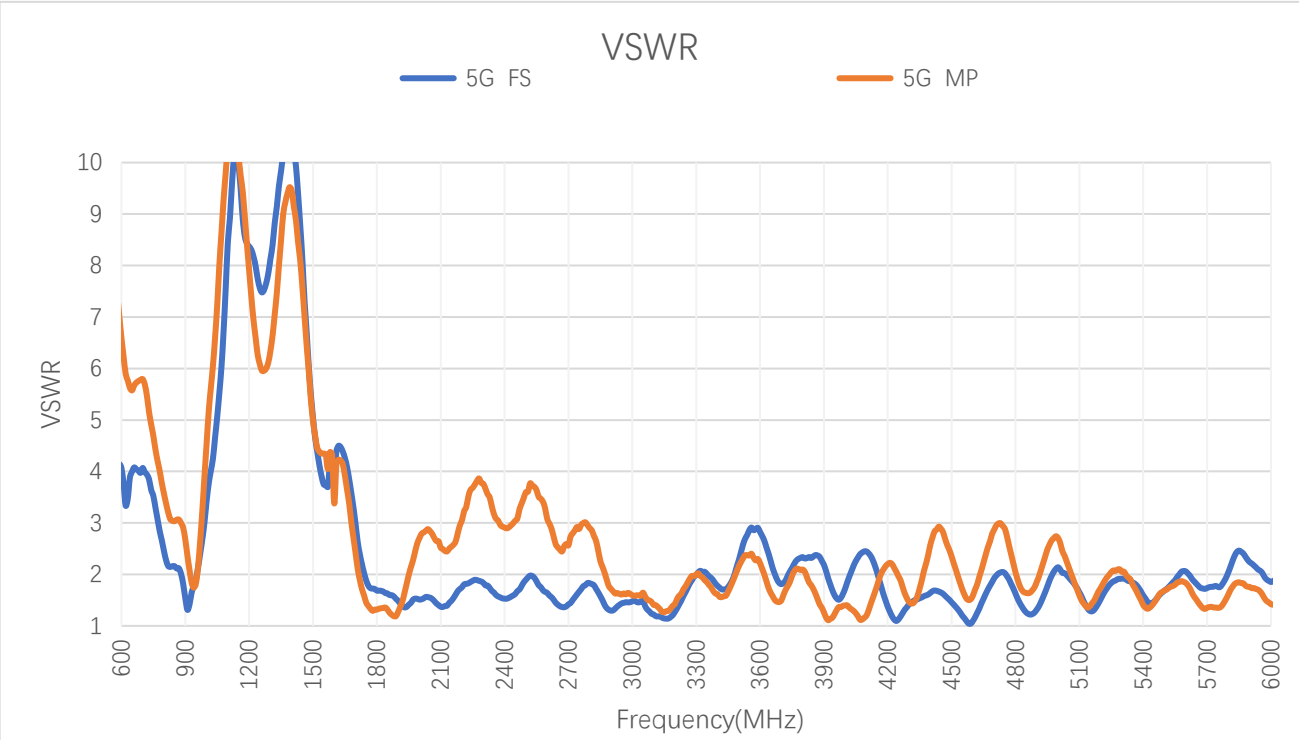
2 Drawing


*ϕ33±1
*48±2
*ϕ50±1
1
14
3M VHB Tape (Black)
Hex Nut (Slotted)
M12
RG174 Black Coaxial Cable
*300±20
Black Shrinkable Tube
GNSS
SMA-M (Gilded)

3 Detailed Performance

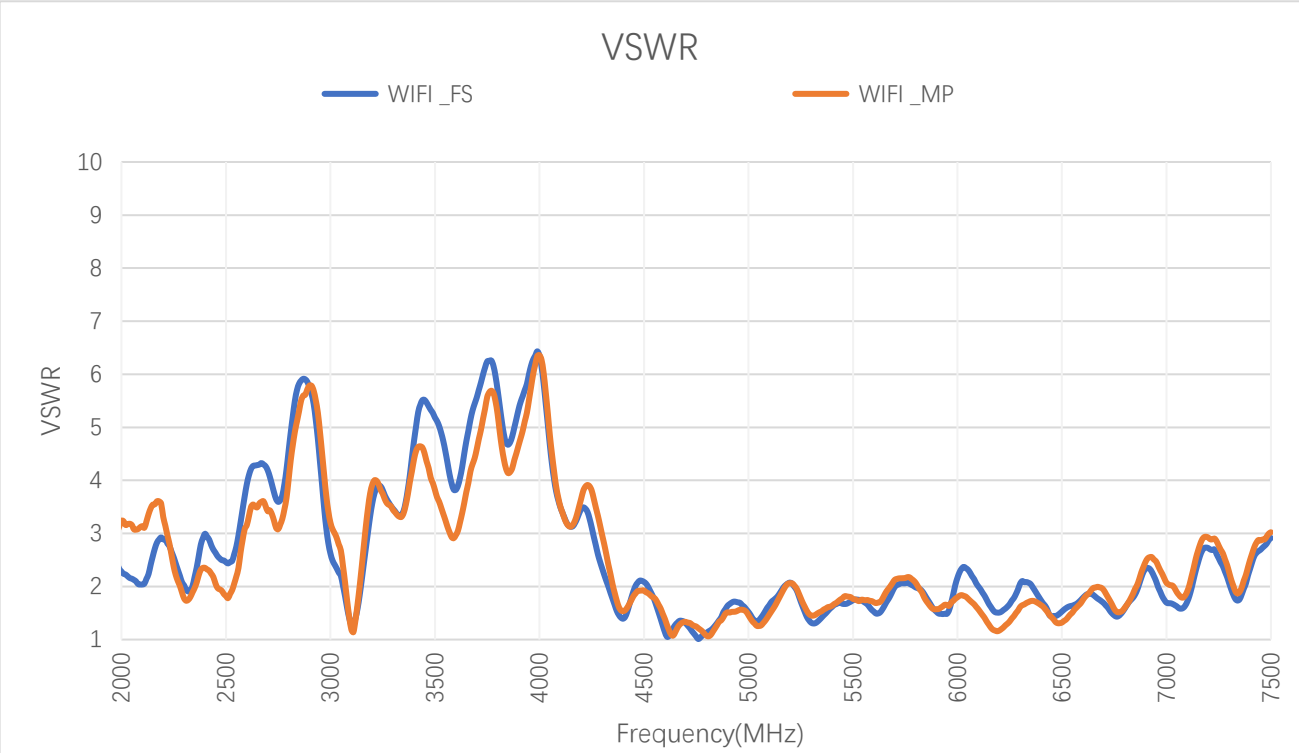
3.1. S-Parameter Test

3.1.1. VSWR



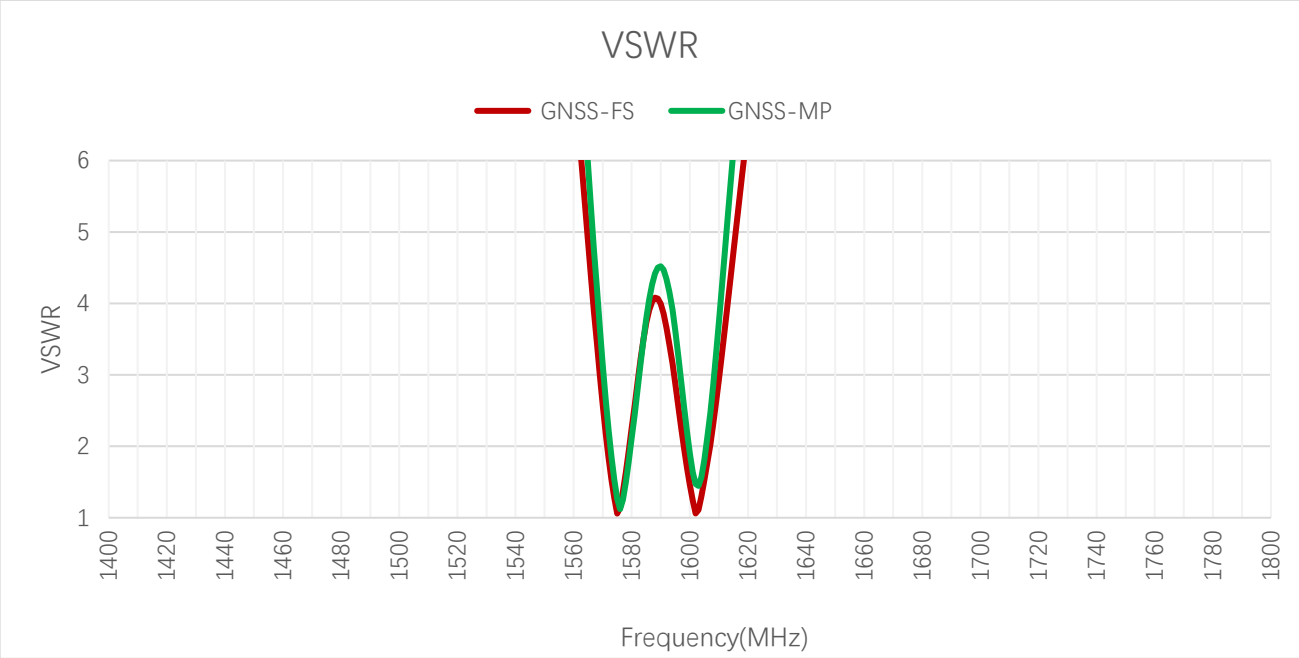
VSWR – 5G

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
5G	FS	4.1	3.5	4.0	2.1	1.5	2.1	-	2.6	2.0	1.6
	MP	6.6	5.8	5.7	3.1	2.7	2.1	-	2.1	1.6	1.2
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
5G	FS	1.4	1.4	1.6	1.6	1.6	1.4	1.9	2.1	1.7	1.9
	MP	2.0	2.5	3.2	3.0	3.1	2.6	2.9	2.7	1.7	1.4



VSWR – Wi-Fi

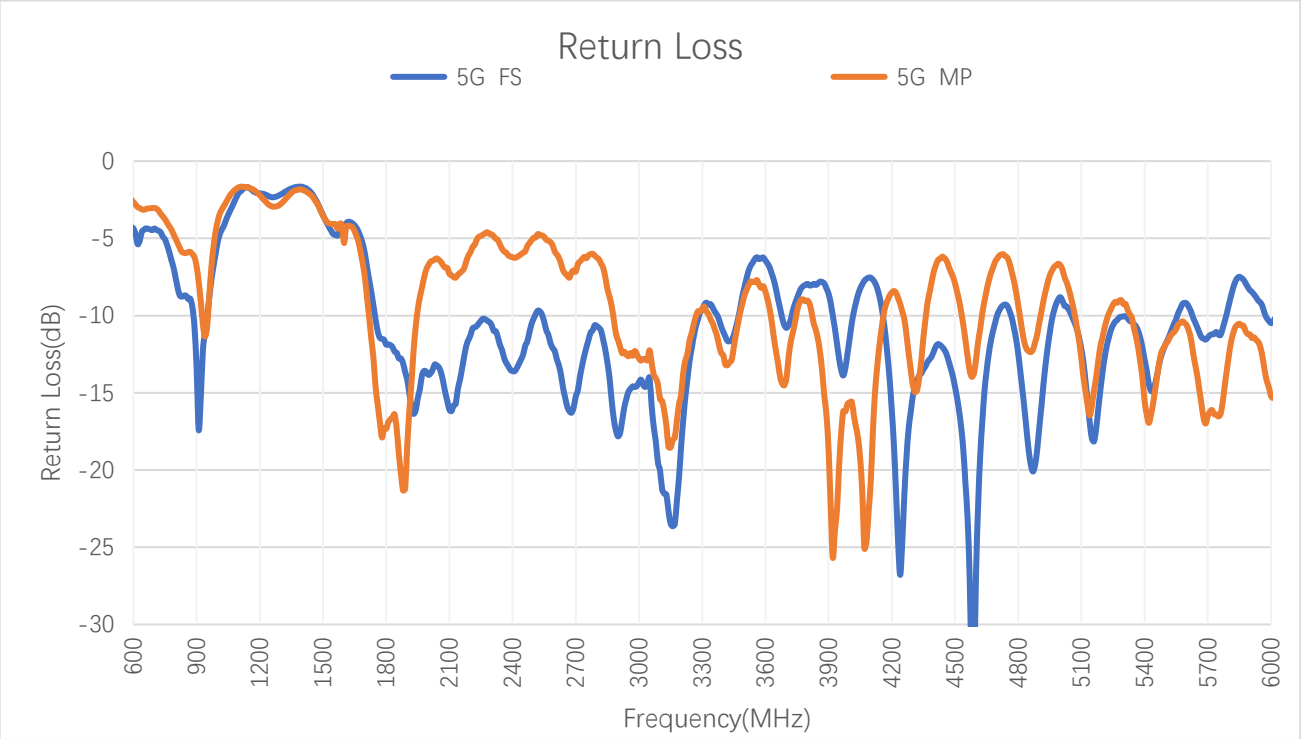
Frequency (MHz)		2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Wi-Fi	FS	3.0	2.6	2.5	1.9	1.7	1.8	1.5	2.1	1.6	2.0
	MP	2.4	2.1	1.8	1.8	1.8	1.7	1.6	1.7	1.8	2.2



VSWR – GNSS

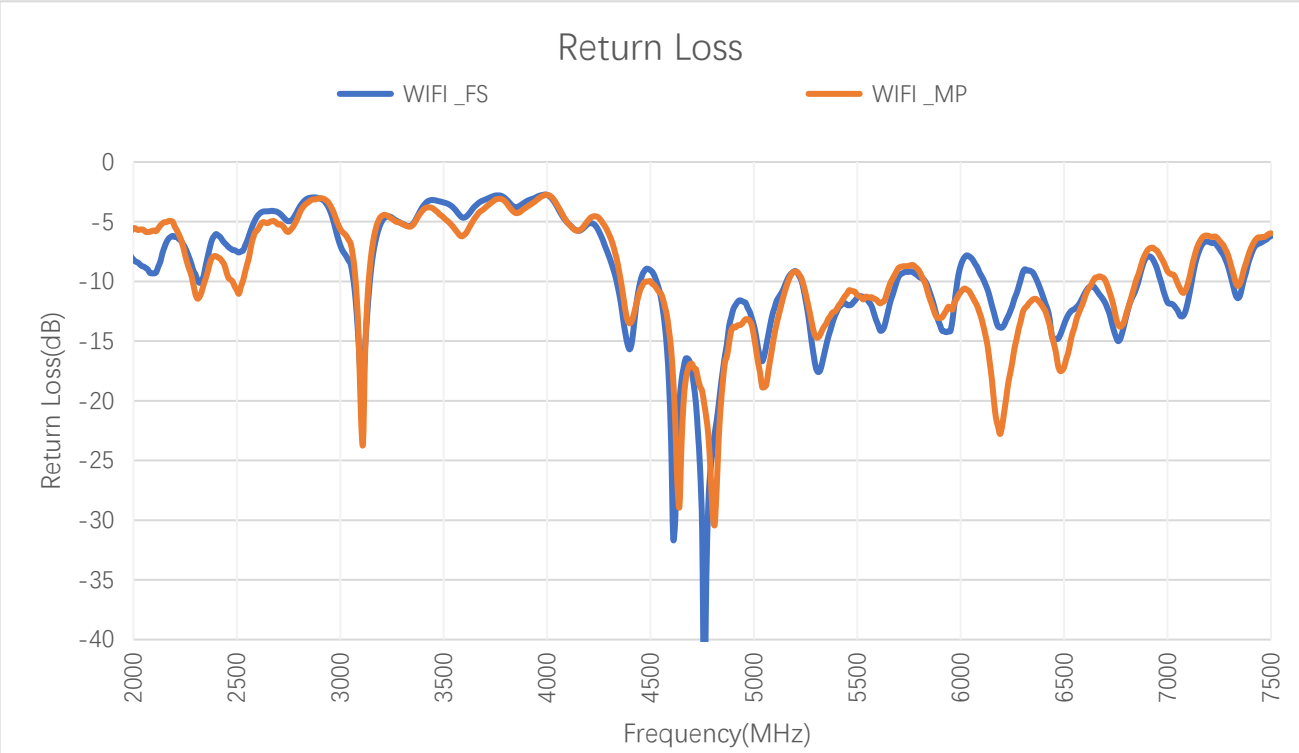
Frequency (MHz)		1176	1207	1227	1248	1268	1561	1575	1602
VSWR	FS	-	-	-	-	-	6.8	1.1	1.1
	MP	-	-	-	-	-	8.2	1.3	1.5

3.1.2. Return Loss



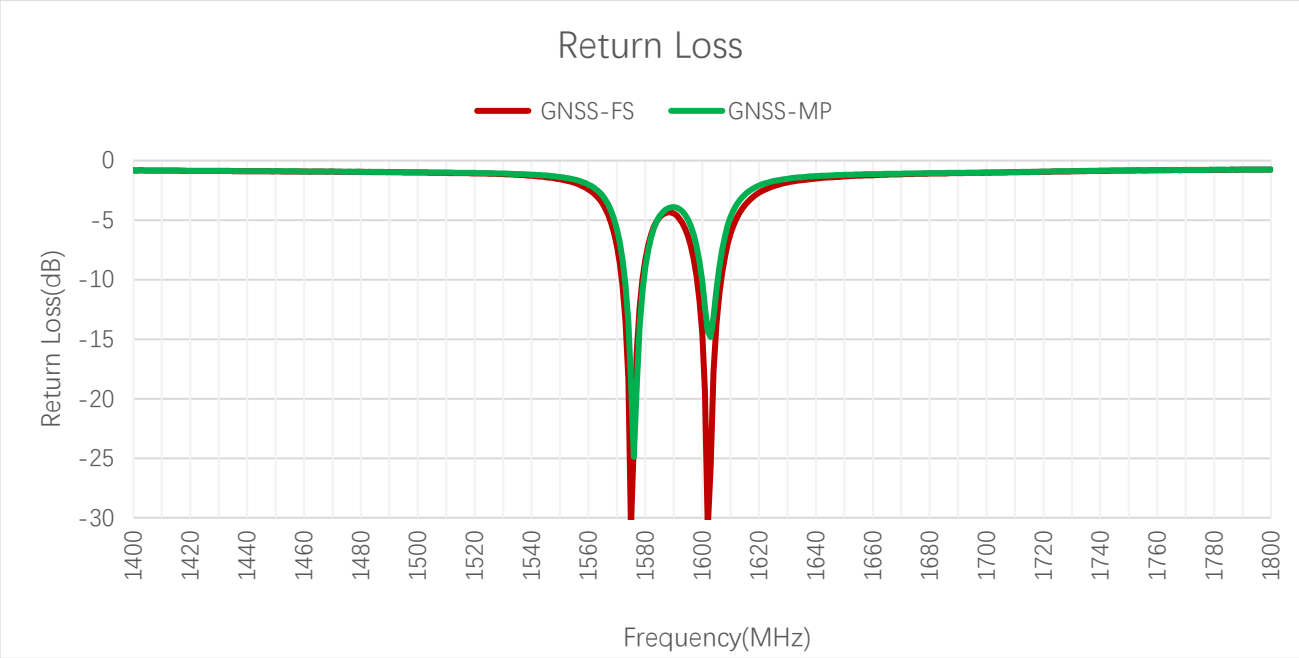
Return Loss (dB) – 5G

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
5G	FS	-4.4	-5.1	-4.5	-8.8	-13.4	-8.8	-	-7.0	-9.4	-13.1
	MP	-2.7	-3.0	-3.1	-5.9	-6.8	-8.8	-	-9.0	-12.9	-21.3
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
5G	FS	-15.3	-14.8	-12.2	-12.5	-12.3	-15.9	-10.0	-8.8	-11.8	-10.5
	MP	-9.6	-7.4	-5.7	-5.9	-5.8	-7.1	-6.3	-6.7	-11.8	-15.2



Return Loss (dB) – Wi-Fi

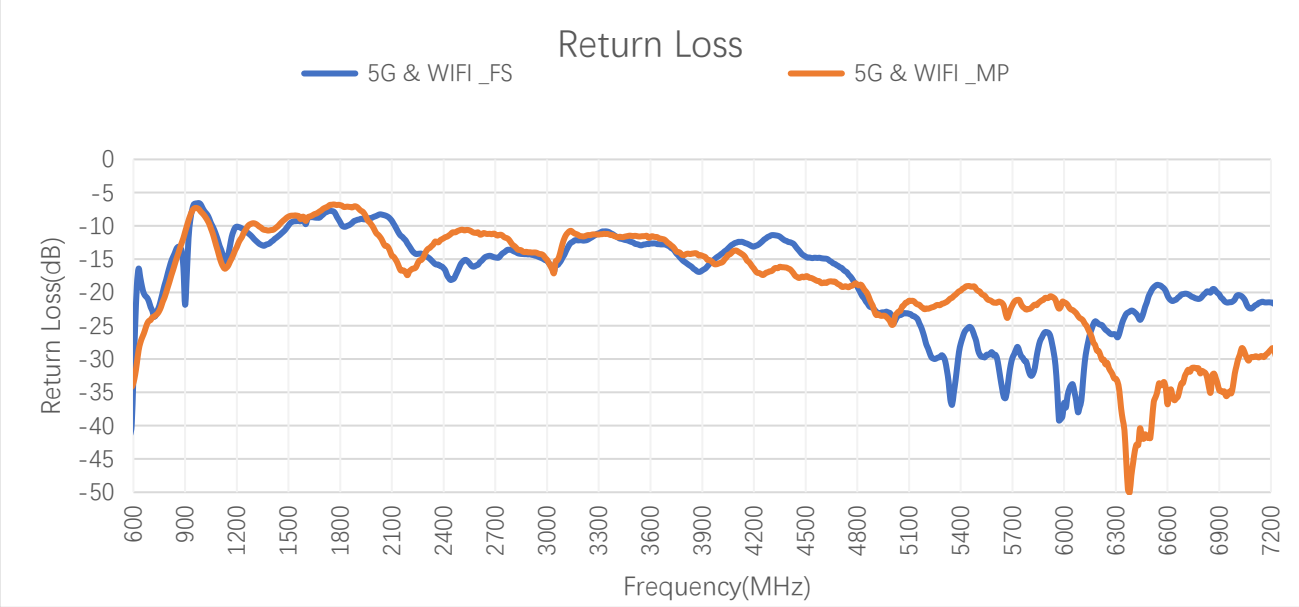
Frequency (MHz)		2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Wi-Fi	FS	-6.0	-6.9	-7.5	-10.3	-11.4	-10.9	-14.2	-9.1	-12.7	-9.7
	MP	-7.9	-9.2	-10.7	-10.8	-11.2	-11.4	-12.7	-12.1	-10.9	-8.6



Return Loss (dB) – GNSS

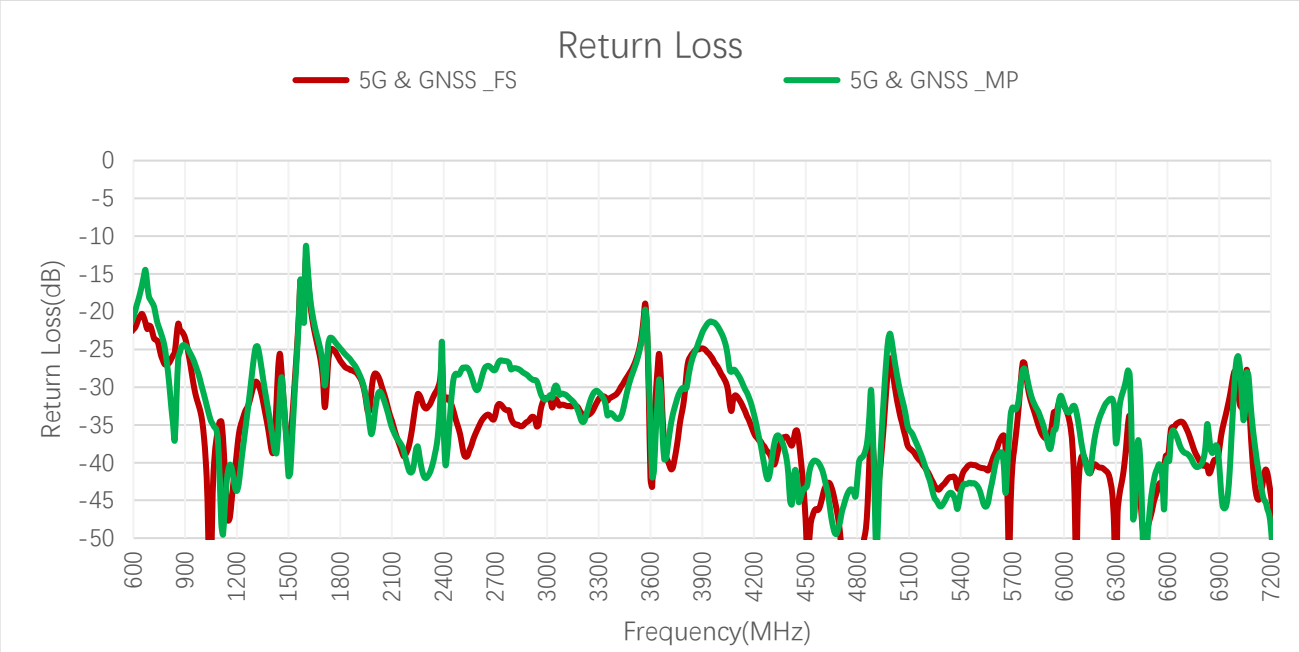
Frequency (MHz)		1176	1207	1227	1248	1268	1561	1575	1602
Return Loss (dB)	FS	-	-	-	-	-	-2.6	-30.9	-30.8
	MP	-	-	-	-	-	-2.1	-18.5	-14.3

3.1.3. Isolation



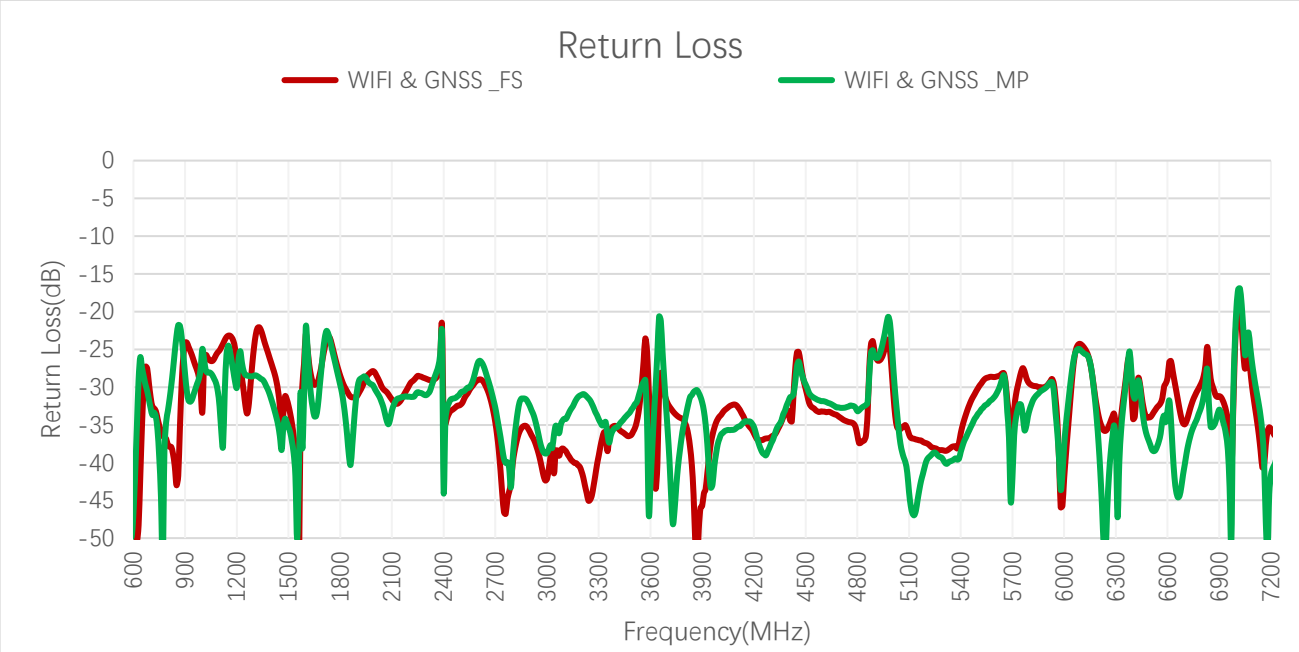
Max Isolation (dB)

Band		B71	B12/ B13/ B28	B5/ B8/ B26	n74/ n75/ n76	B1/ B2/ B3	B40	Wi-Fi 2G	B38/ B41	Wi-Fi 5G	Wi-Fi 7G
Freq. (MHz)		**600–700**	**700–810**	**820–960**	**1420–1520**	**1700–2170**	**2300–2400**	**2400–2500**	**2500–2690**	**5150–5850**	**5925–7125**
5G & Wi-Fi	**FS**	-16.4	-16.1	-6.6	-	-7.7	-14.6	-15.7	-14.5	-24.0	-18.8
	MP	-24.1	-18.3	-7.3	-	-6.8	-11.8	-10.6	-10.6	-19.0	-20.6



Max Isolation (dB)

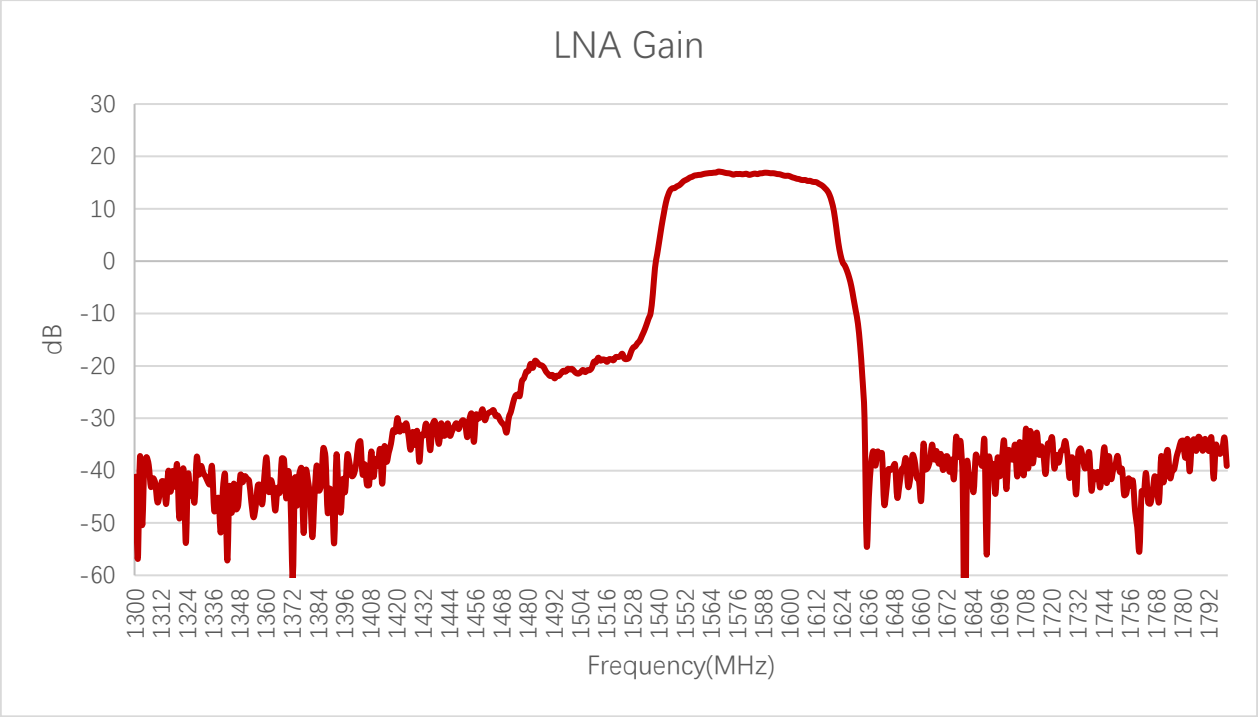
Band		B71	B12/ B13/ B28	B5/ B8/ B26	n74/ n75/ n76	B1/ B2/ B3	B40	BDS B1I	GPS L1	GLONASS L1
Freq. (MHz)		600–700	700–810	820–960	1420–1520	1700–2170	2300–2400	1559–1564	1565–1586	1595–1606
5G & GNSS	FS	-20.3	-22.0	-21.6	-25.6	-24.9	-26.7	-20.4	-15.8	-13.1
	MP	-14.5	-18.5	-24.4	-28.7	-23.5	-24.0	-20.8	-15.7	-11.6



Max Isolation (dB)

Band		Wi-Fi 2G	Wi-Fi 5G	Wi-Fi 7G	BDS B1I	GPS L1	GLONASS L1
Freq. (MHz)		2400–2500	5150–5850	5925–7125	1559–1564	1565–1586	1595–1606
Wi-Fi & GNSS	FS	-32.3	-27.5	-18.9	-43.2	-29.8	-23.0
	MP	-30.7	-28.4	-16.9	-41.1	-30.6	-22.1

3.1.4. GNSS LNA Gain

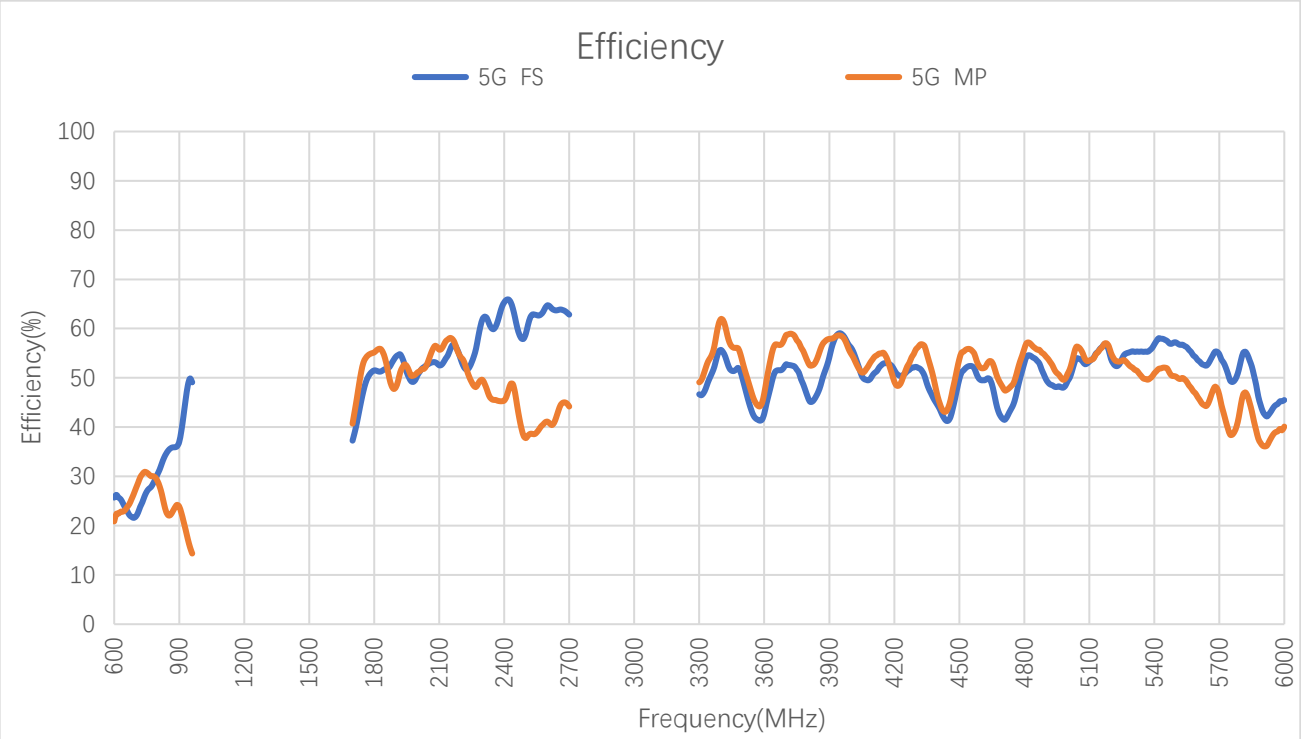


LNA Gain (dB)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
LNA Gain (dB)	-	-	-	-	-	16.7	16.6	15.8

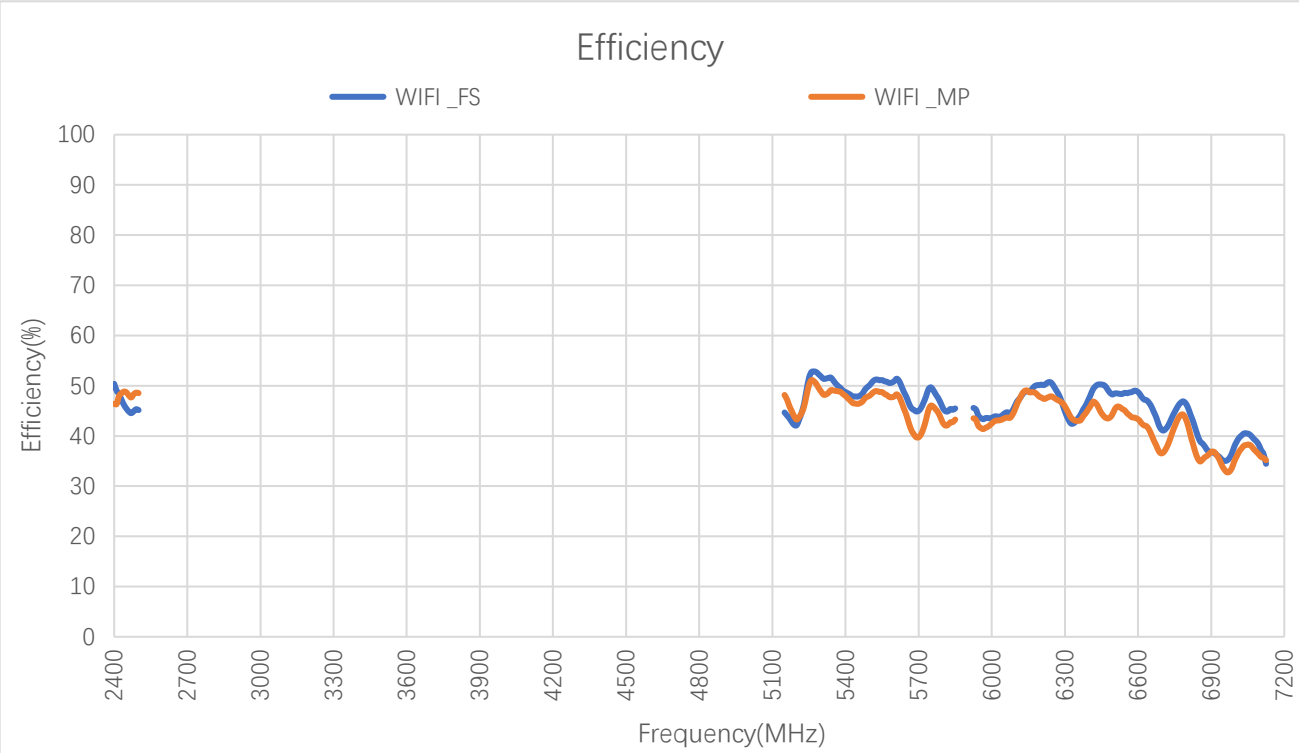
3.2. Radiation Performance Test

3.2.1. Efficiency



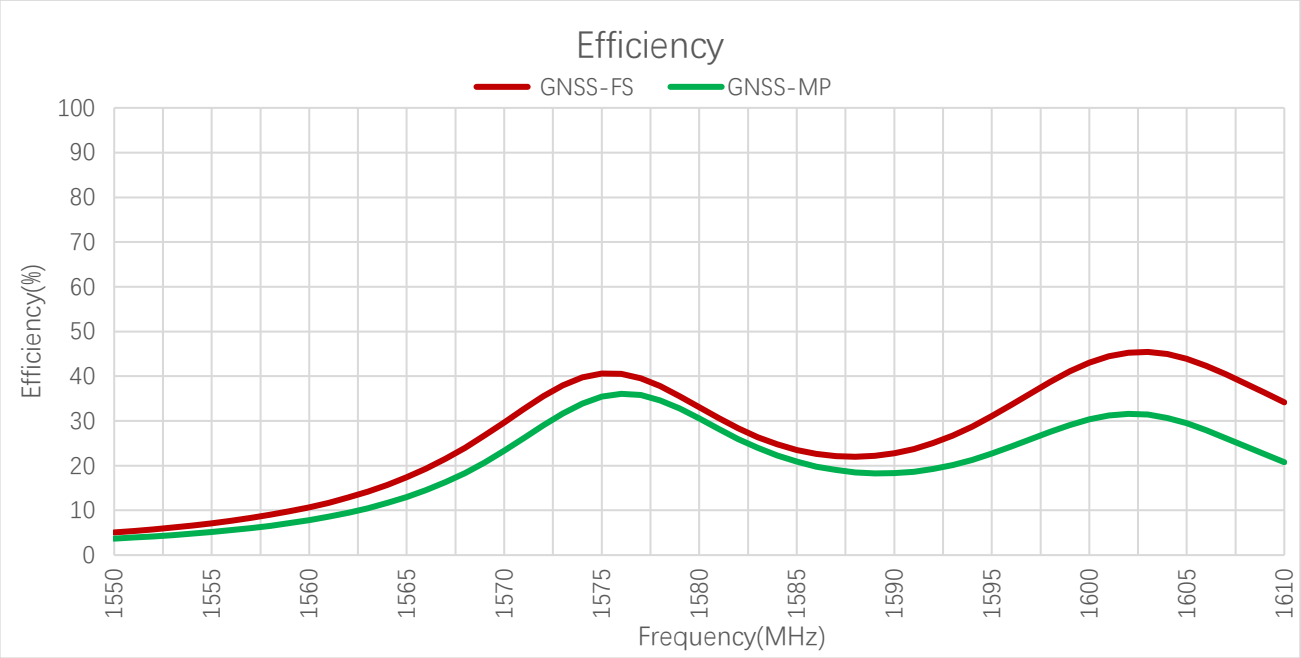
Efficiency (%) – 5G

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
5G	FS	25.7	25.4	22.6	33.8	37.0	49.1	-	38.9	45.3	52.9
	MP	20.9	22.8	28.6	24.4	23.9	14.3	-	43.2	51.2	48.4
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
5G	FS	51.2	54.6	59.9	62.2	64.7	63.2	41.7	49.3	57.2	45.5
	MP	52.4	57.8	45.5	47.0	41.1	44.8	48.1	50.8	50.3	40.1



Efficiency (%) – Wi-Fi

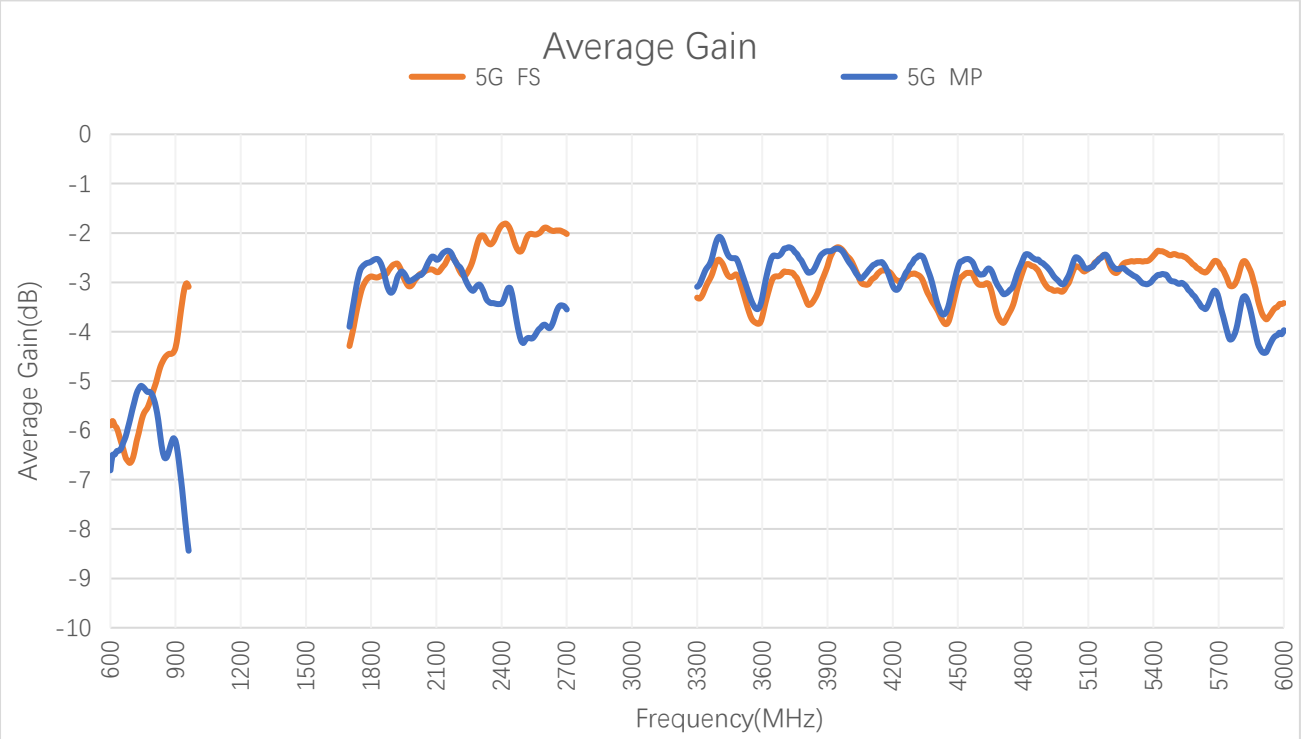
Frequency (MHz)		2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Wi-Fi	FS	50.4	45.5	45.1	44.7	50.2	45.5	45.6	42.5	42.2	34.5
	MP	46.4	48.7	48.5	48.2	48.0	43.3	43.5	43.7	38.6	35.2



Efficiency (%) – GNSS

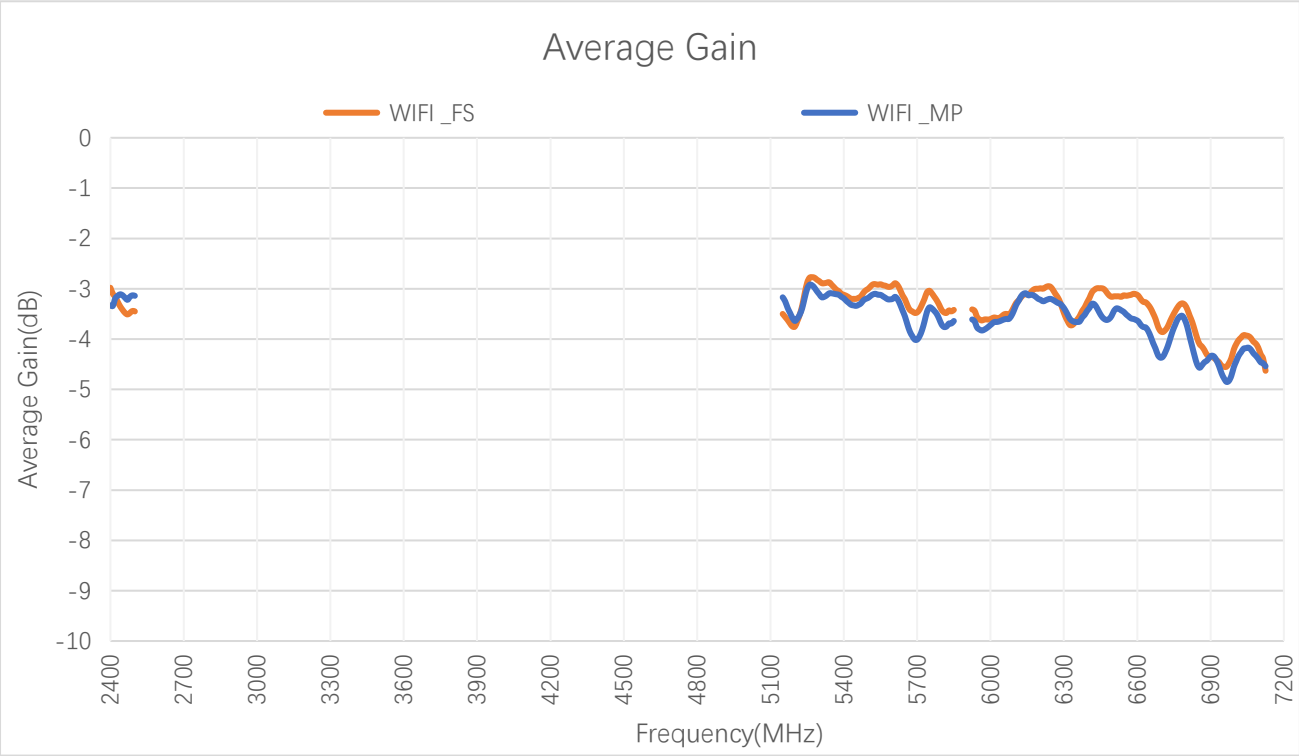
Frequency (MHz)		1176	1207	1227	1248	1268	1561	1575	1602
Efficiency (%)	FS	-	-	-	-	-	11.7	40.6	45.3
	MP	-	-	-	-	-	8.6	35.4	31.6

3.2.2. Average Gain



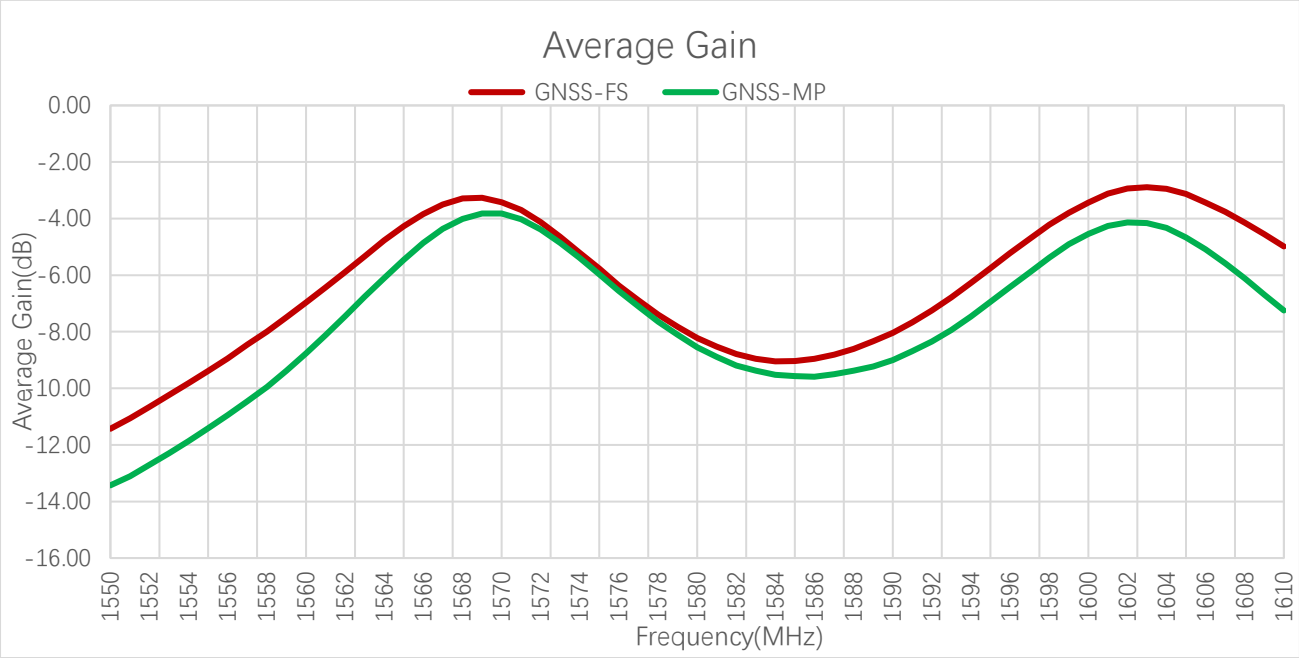
Average Gain (dB) – 5G

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
5G	FS	-5.9	-6.0	-6.5	-4.7	-4.3	-3.1	-	-4.1	-3.4	-2.8
	MP	-6.8	-6.4	-5.4	-6.1	-6.2	-8.4	-	-3.6	-2.9	-3.2
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
5G	FS	-2.9	-2.6	-2.2	-2.1	-1.9	-2.0	-3.8	-3.1	-2.4	-3.4
	MP	-2.8	-2.4	-3.4	-3.3	-3.9	-3.5	-3.2	-2.9	-3.0	-4.0



Average Gain (dB) – Wi-Fi

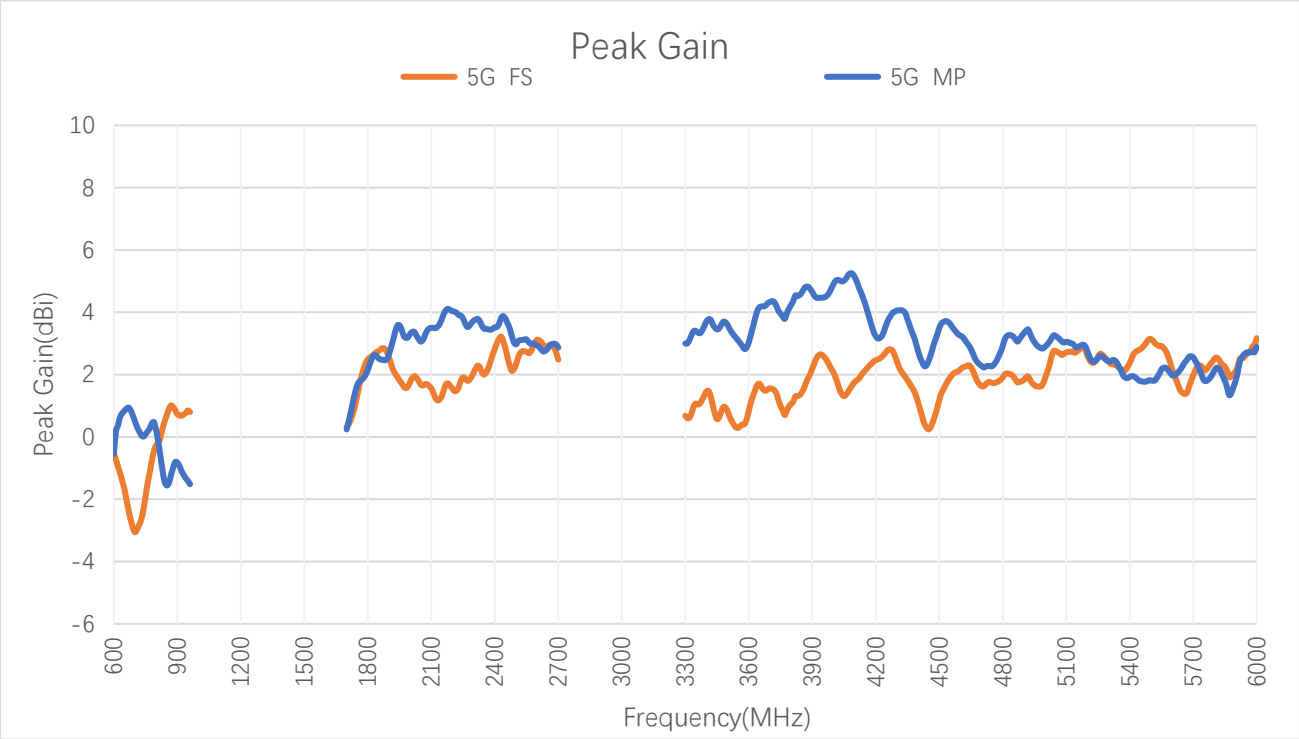
Frequency (MHz)		2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Wi-Fi	FS	-3.0	-3.4	-3.5	-3.5	-3.0	-3.4	-3.4	-3.7	-3.8	-4.6
	MP	-3.3	-3.1	-3.1	-3.2	-3.2	-3.6	-3.6	-3.6	-4.1	-4.5



Average Gain (dB) – GNSS

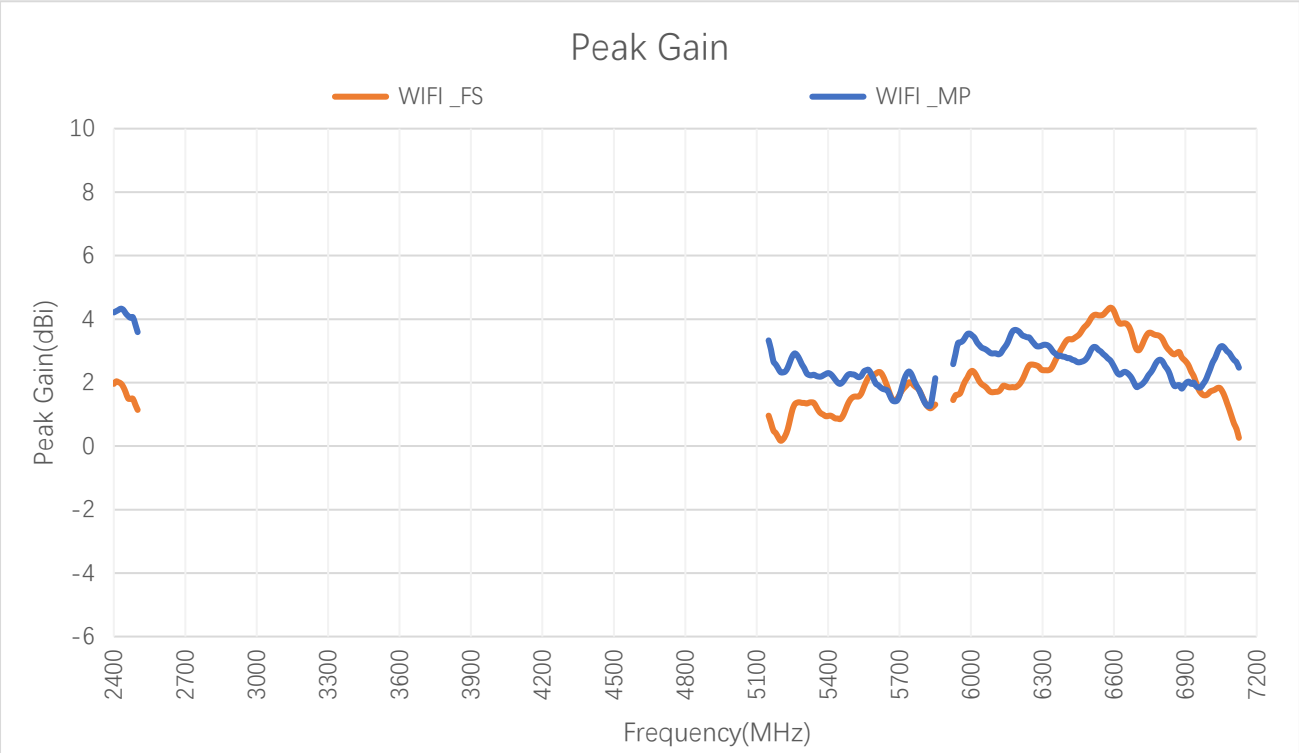
Frequency (MHz)		1176	1207	1227	1248	1268	1561	1575	1602
Average Gain (dB)	FS	-	-	-	-	-	-6.4	-5.8	-2.9
	MP	-	-	-	-	-	-8.1	-6.0	-4.1

3.2.3. Peak Gain



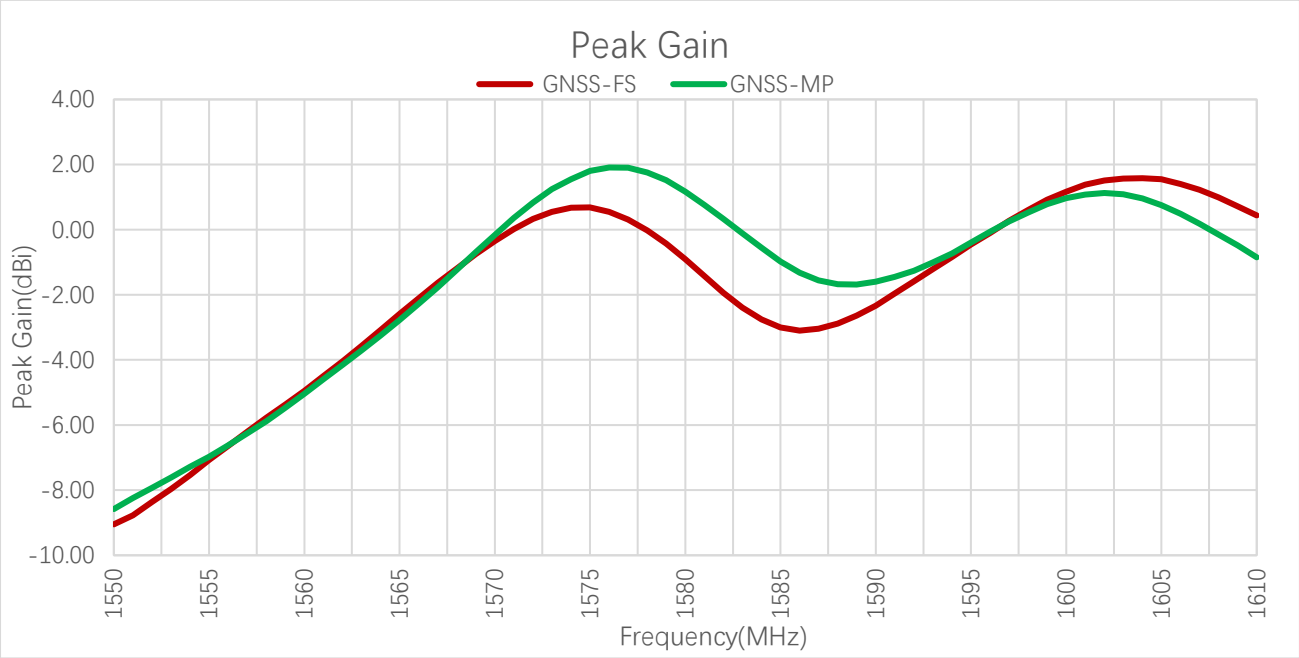
Peak Gain (dBi) – 5G

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
5G	FS	-0.5	-1.2	-3.0	0.3	0.7	0.8	-	0.4	1.0	2.8
	MP	-0.6	0.7	0.3	-1.1	-0.8	-1.5	-	0.5	1.4	2.5
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
5G	FS	1.8	1.2	2.0	2.9	3.1	2.7	1.6	1.9	3.1	3.2
	MP	3.6	3.6	3.5	3.8	2.9	3.0	2.3	2.9	1.8	2.9



Peak Gain (dBi) – Wi-Fi

Frequency (MHz)		2400	2450	2500	5150	5500	5850	5925	6325	6725	7125
Wi-Fi	FS	2.0	1.7	1.1	1.0	1.5	1.3	1.5	2.4	3.3	0.3
	MP	4.2	4.2	3.6	3.3	2.3	2.1	2.6	3.2	2.0	2.5

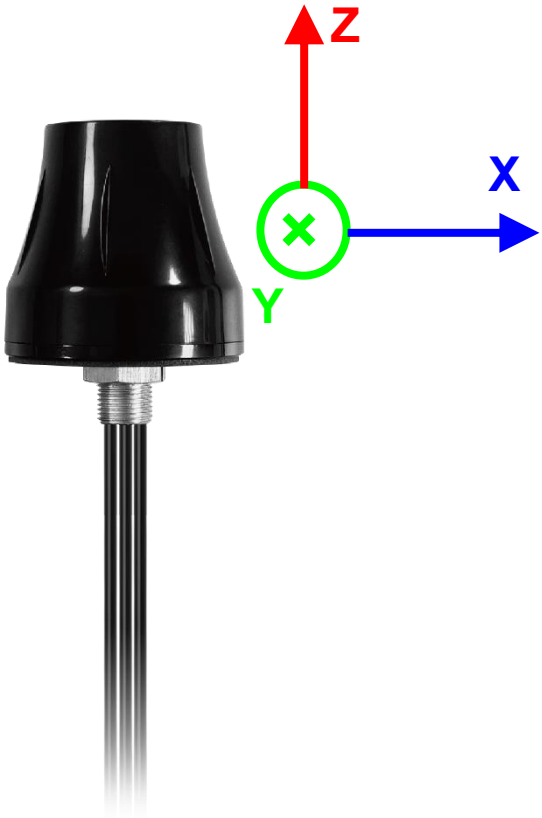


Peak Gain (dBi) – GNSS

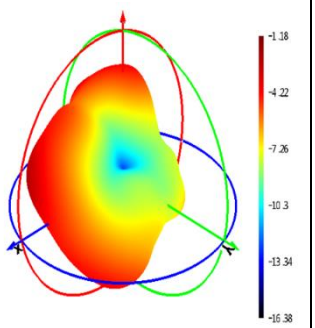
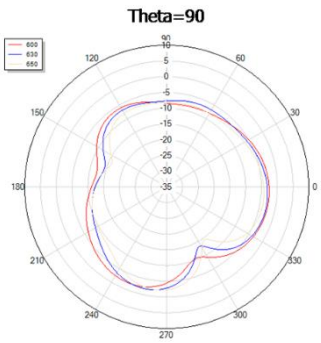
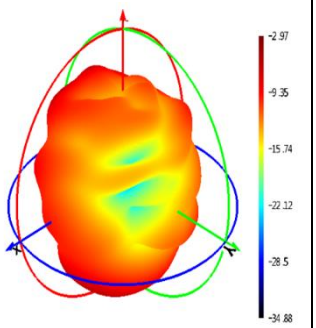
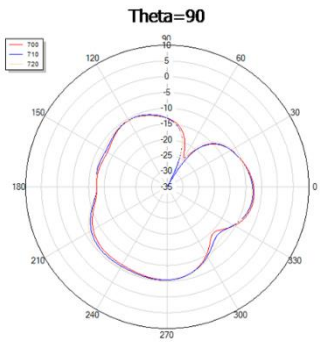
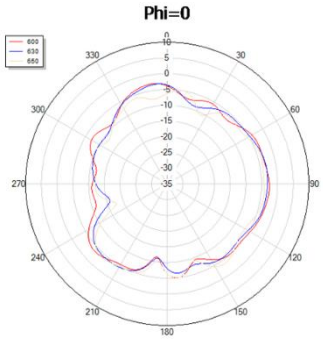
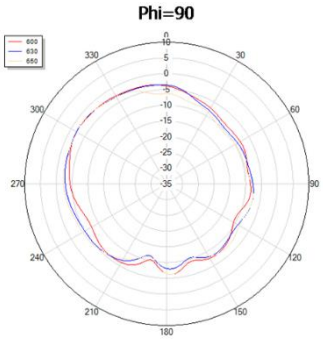
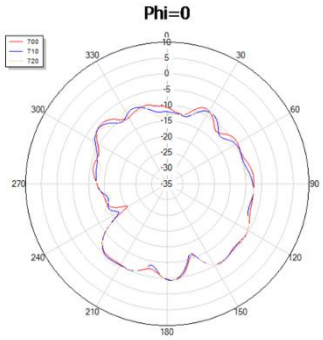
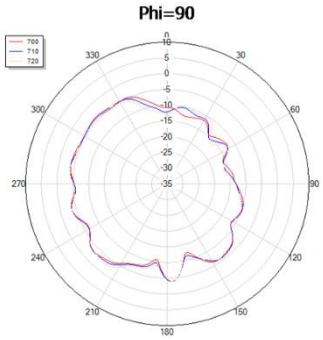
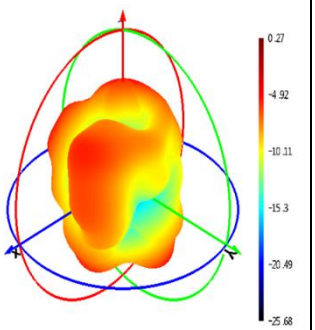
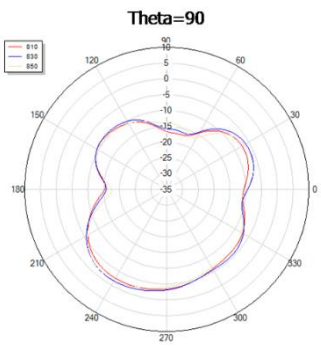
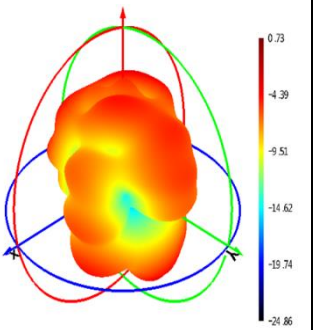
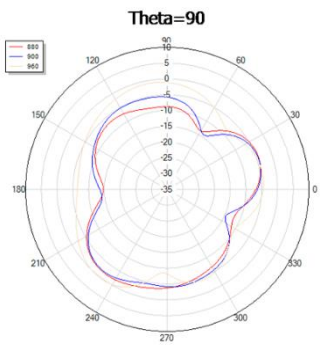
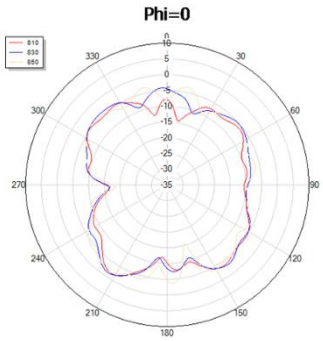
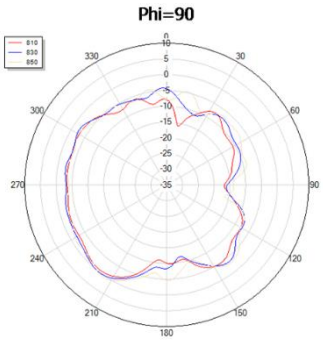
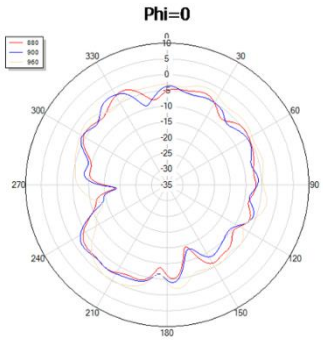
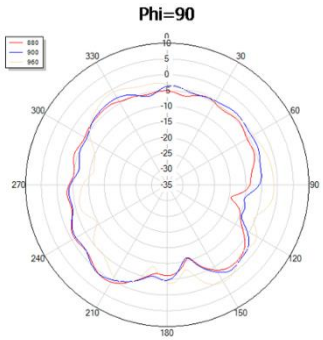
Frequency (MHz)		1176	1207	1227	1248	1268	1561	1575	1602
Peak Gain (dBi)	FS	-	-	-	-	-	-4.5	0.7	1.5
	MP	-	-	-	-	-	-4.6	1.8	1.1

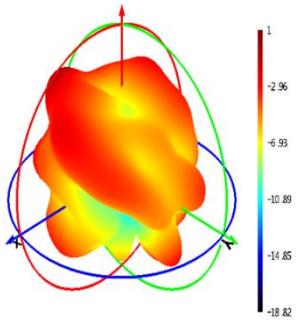
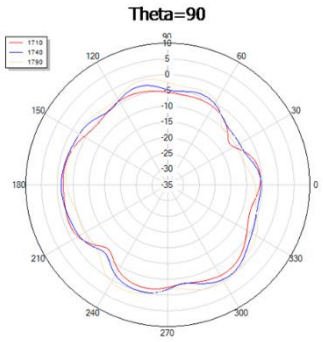
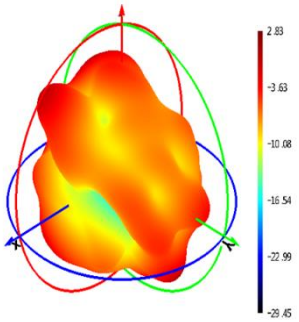
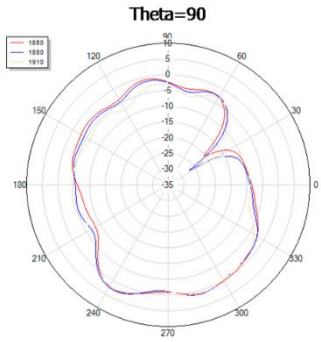
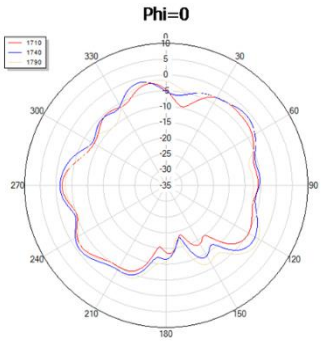
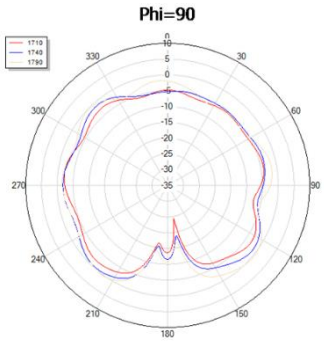
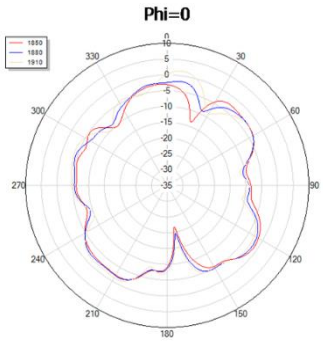
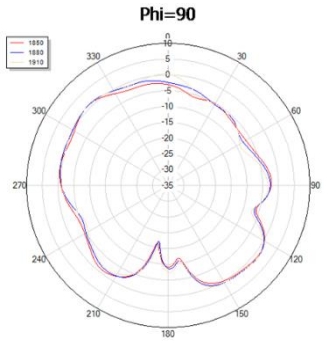
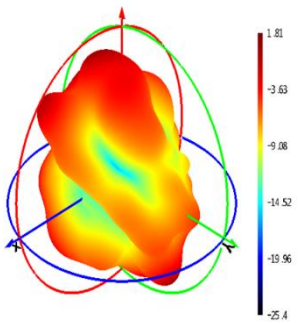
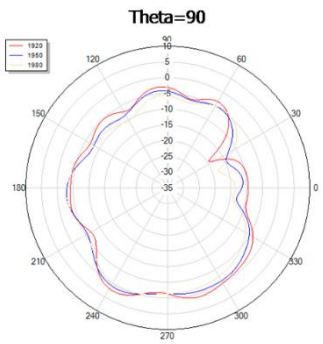
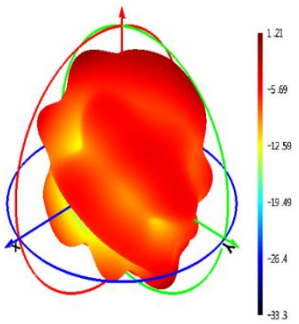
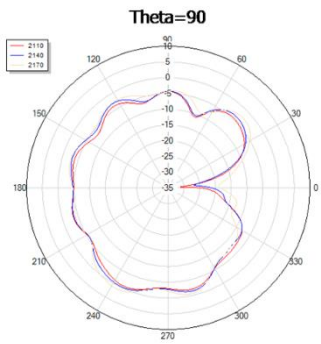
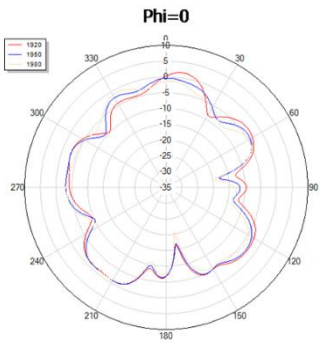
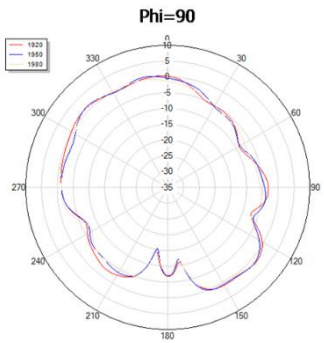
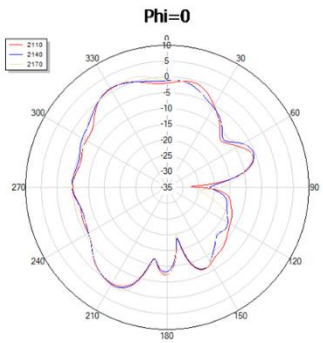
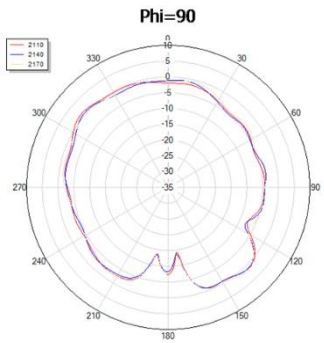
3.2.4. 3D & 2D Radiation Pattern

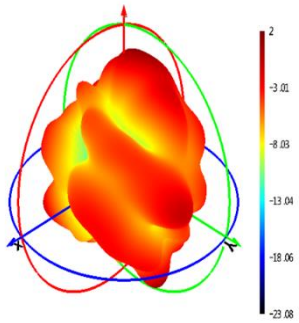
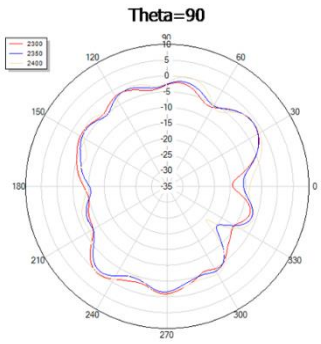
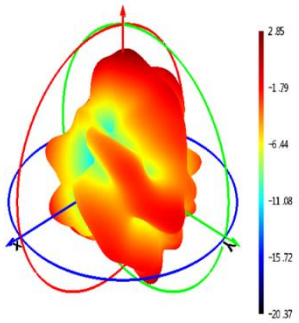
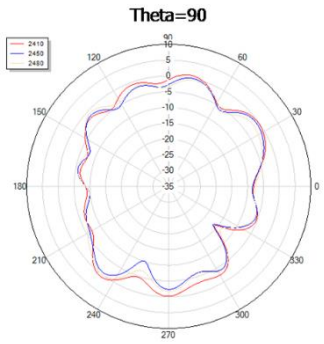
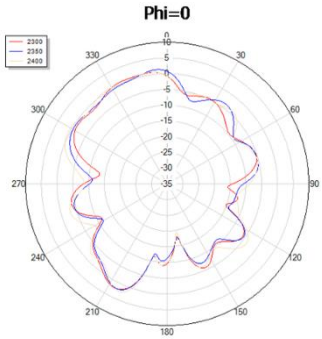
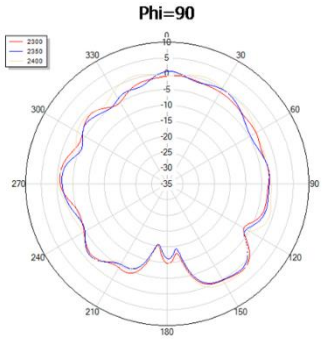
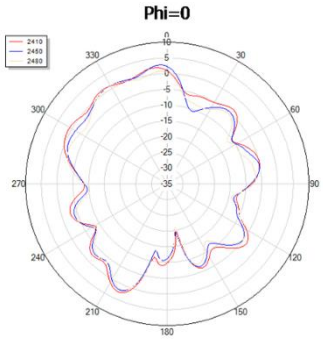
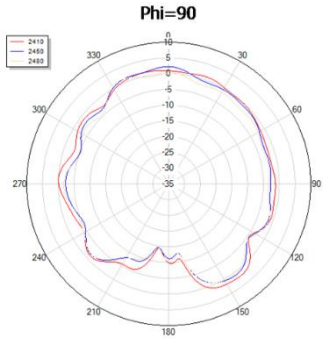
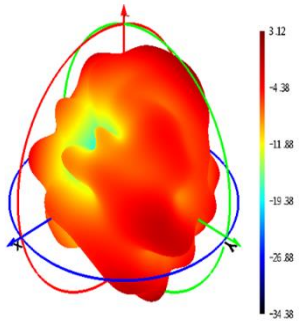
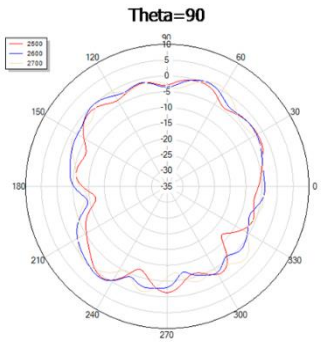
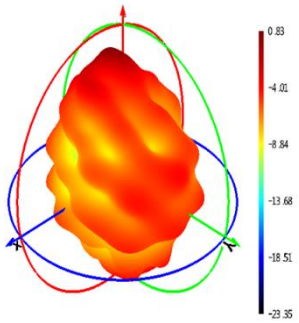
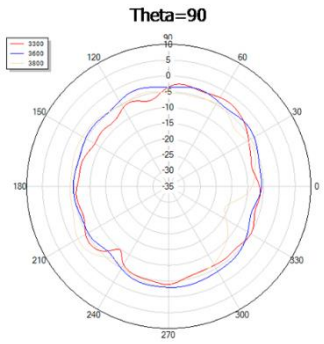
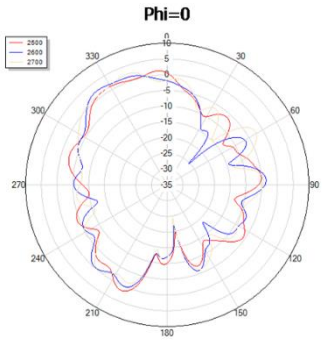
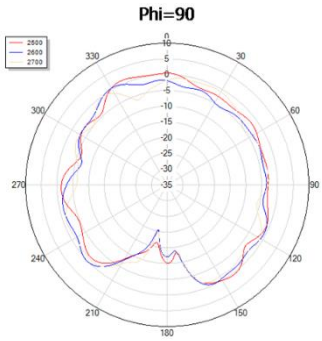
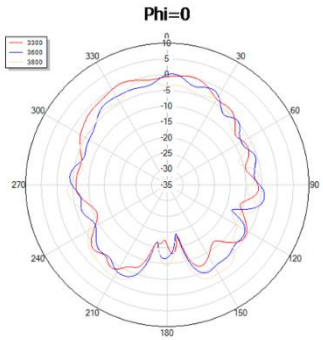
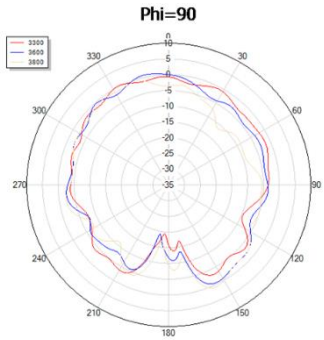
- Test Condition: Free space
- Test Chamber: HF-S-1

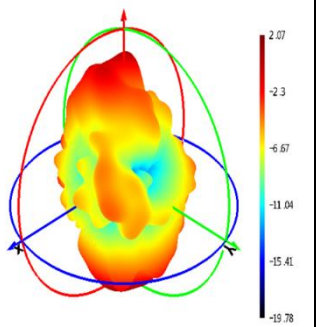
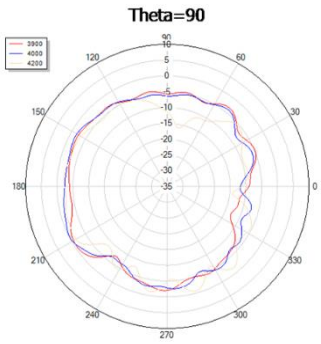
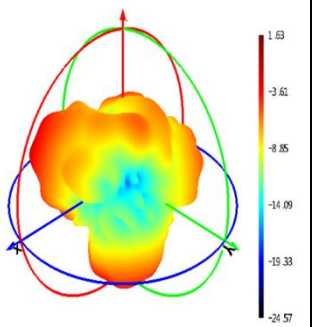
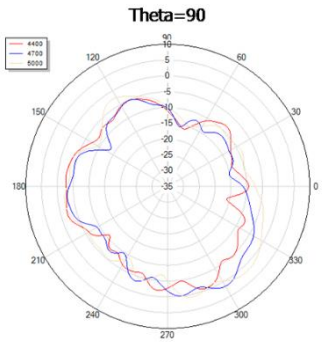
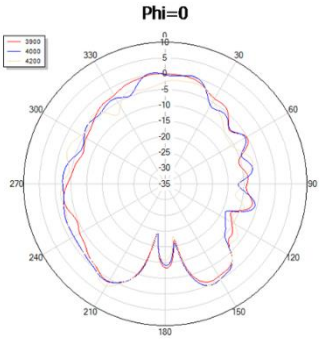
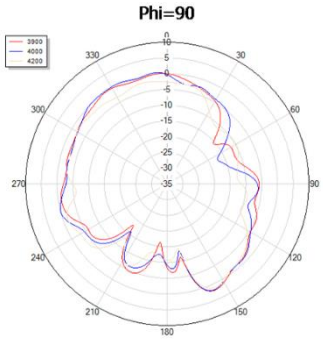
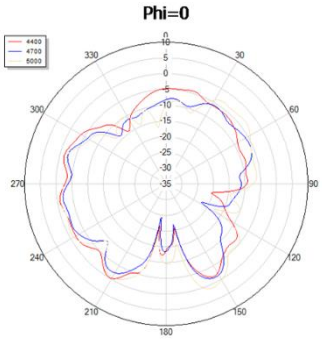
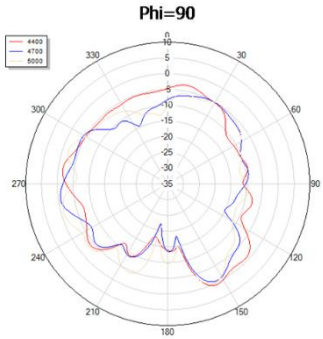
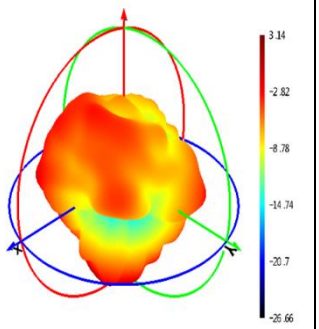
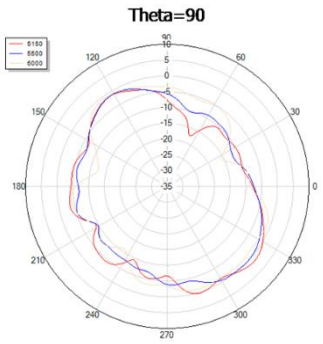
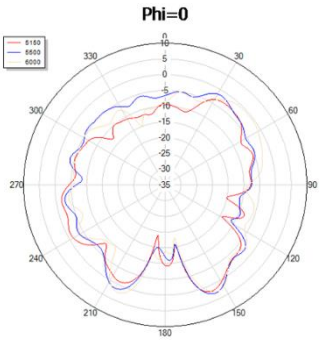
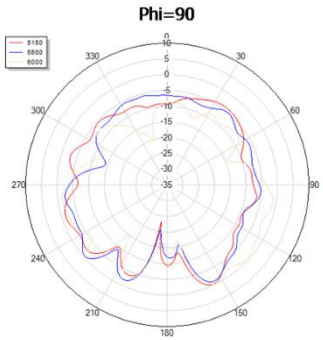


- **5G**

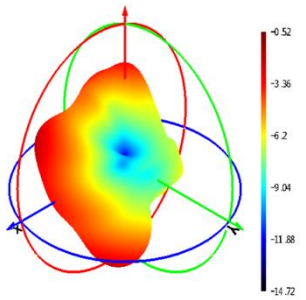
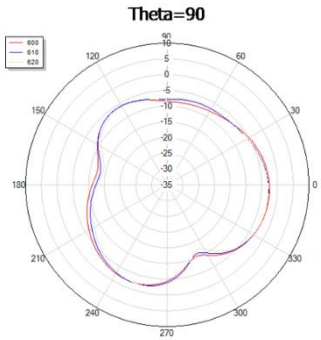
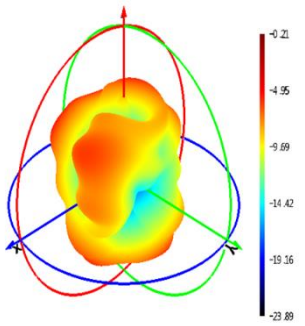
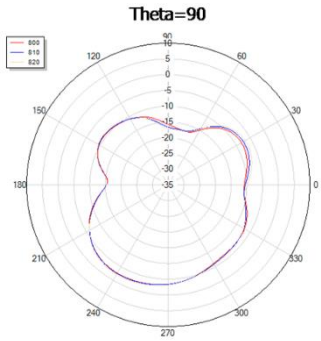
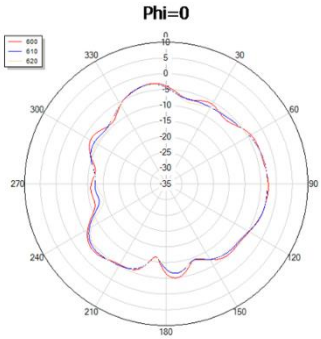
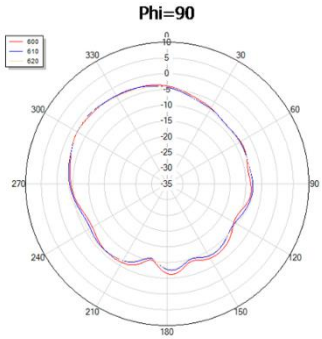
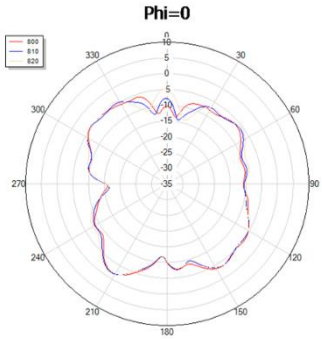
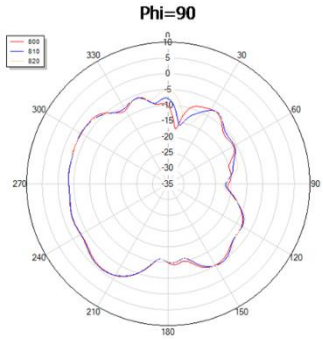
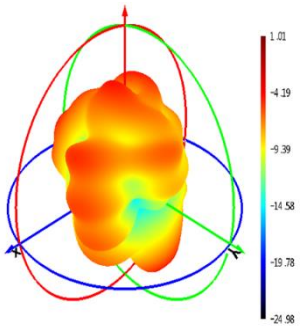
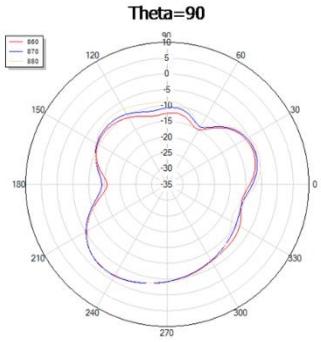
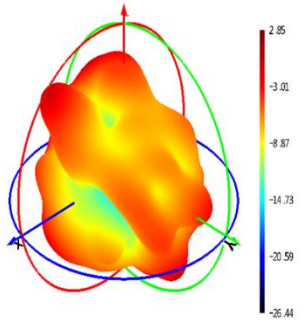
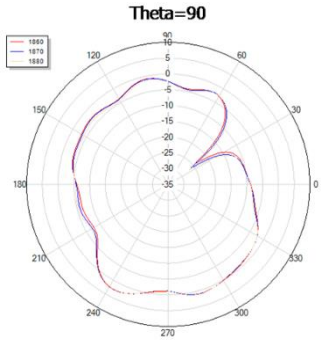
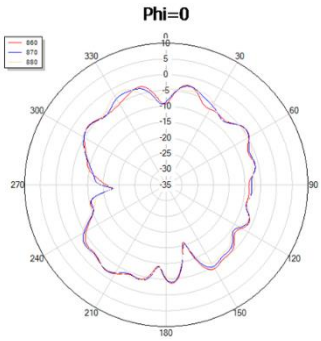
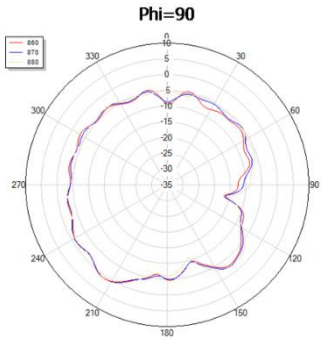
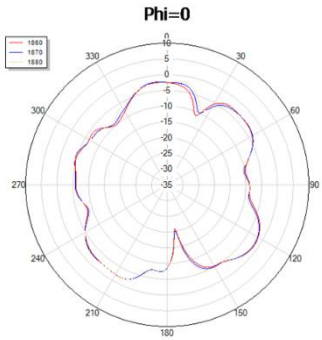
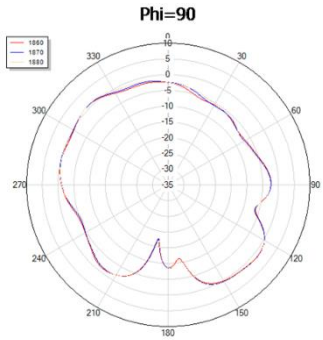
630 MHz		710 MHz	
			
			
830 MHz		**900 MHz**	
			
			

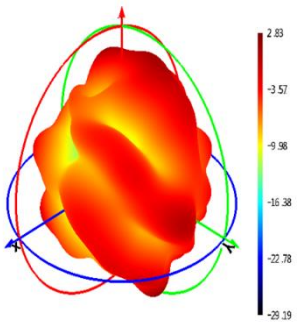
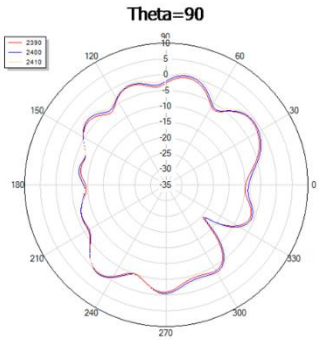
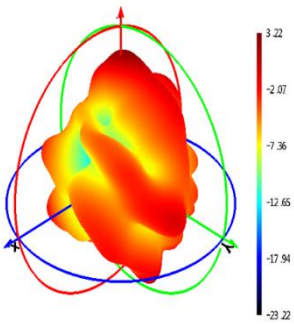
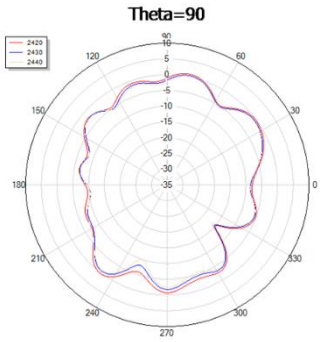
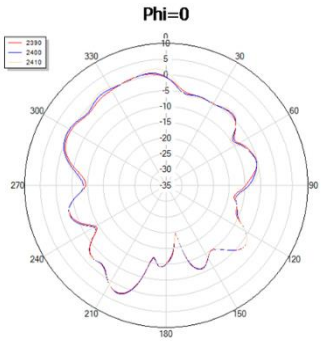
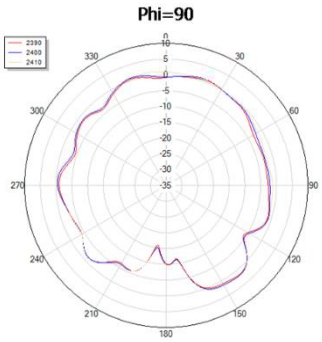
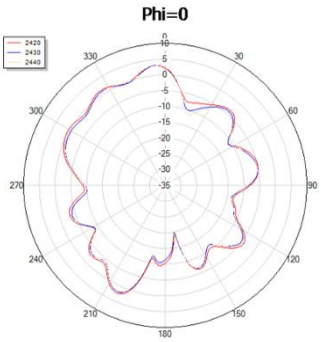
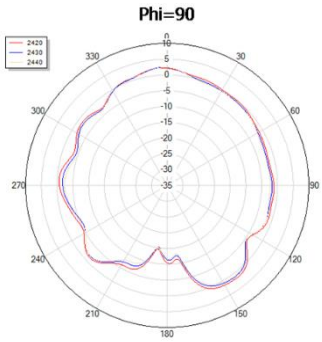
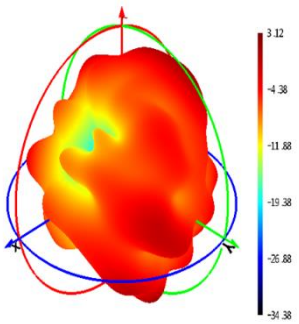
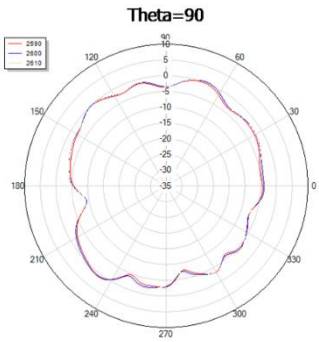
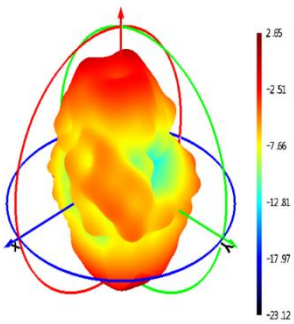
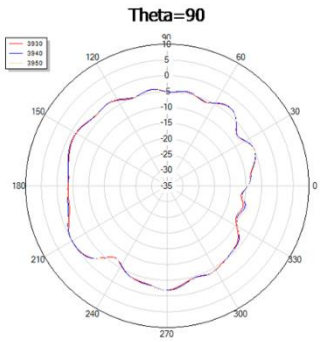
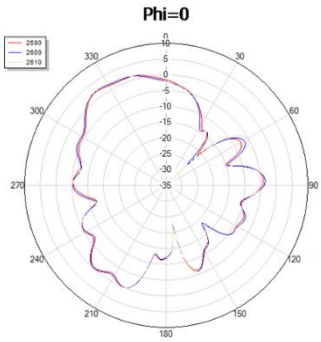
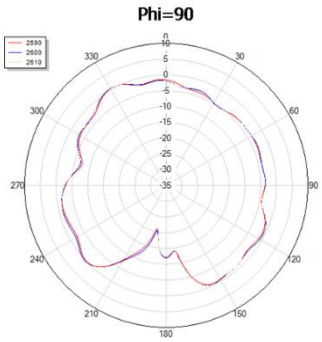
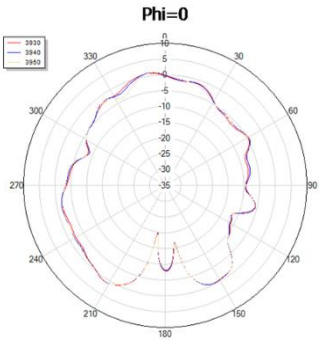
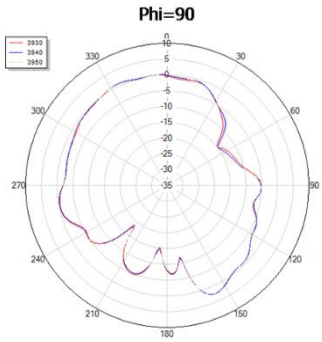
1740 MHz		1880 MHz	
			
			
1950 MHz		2140 MHz	
			
			

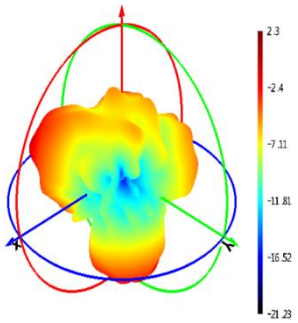
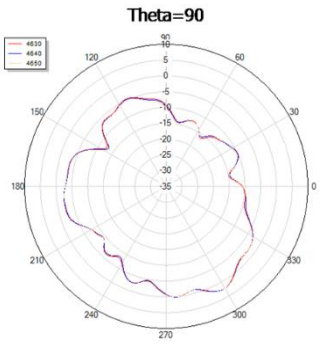
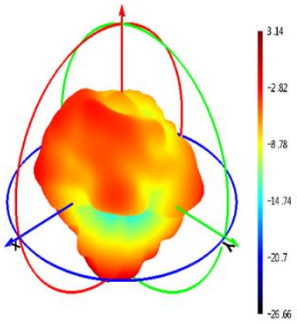
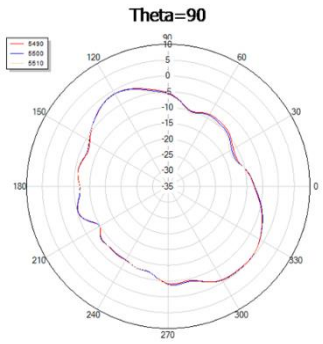
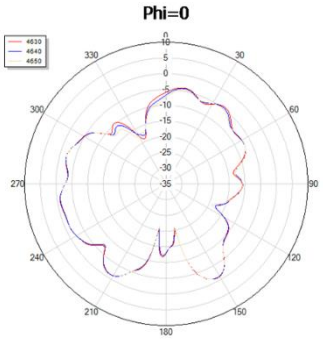
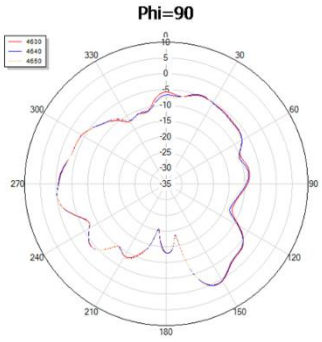
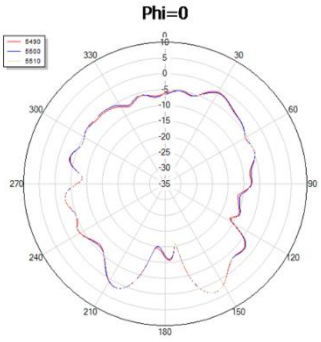
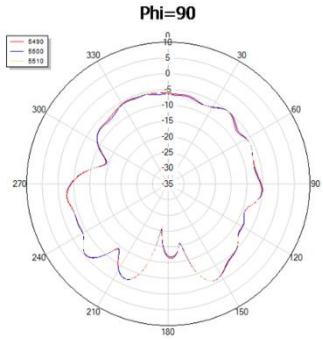
2350 MHz		2450 MHz	
			
			
2600 MHz		**3600 MHz**	
			
			

4000 MHz		4700 MHz	
			
			
5500 MHz			
			
			

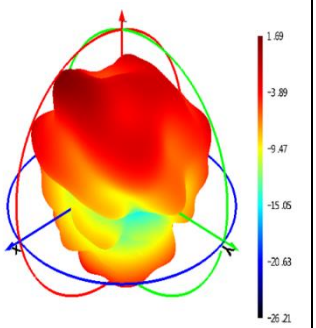
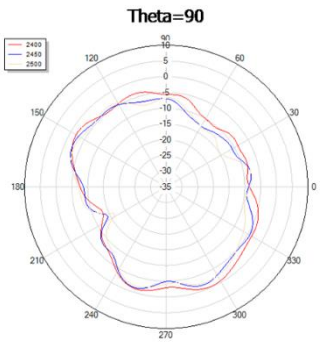
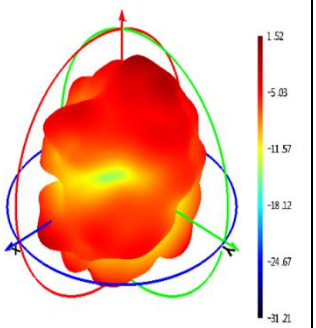
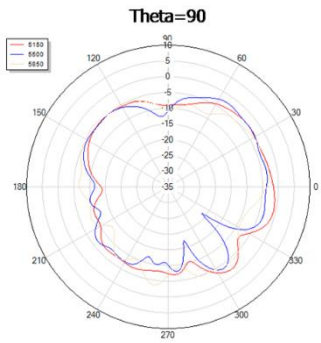
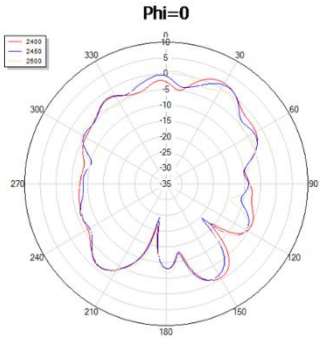
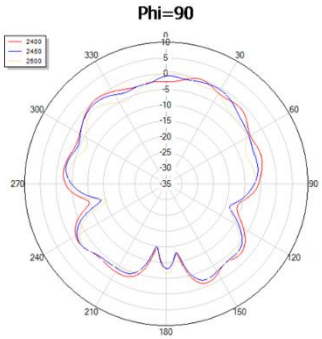
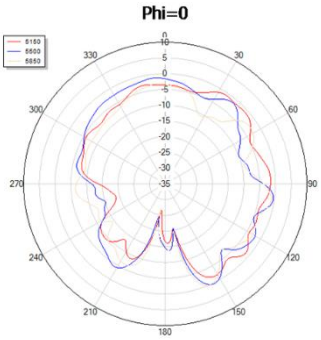
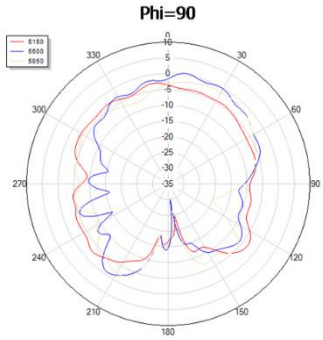
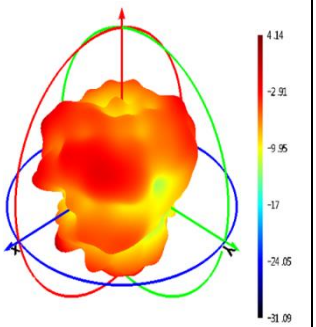
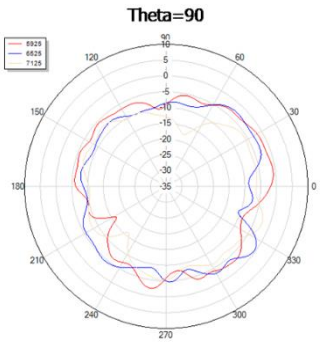
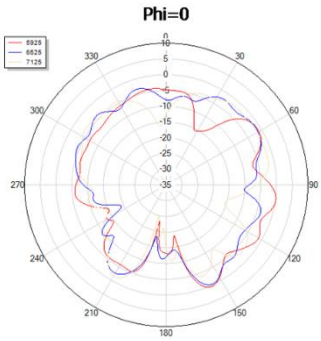
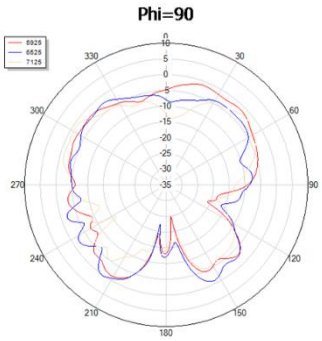
- **5G Max Peak Gain**

600 MHz		810 MHz	
			
			
870 MHz		**1870 MHz**	
			
			

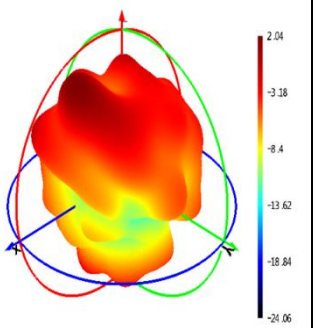
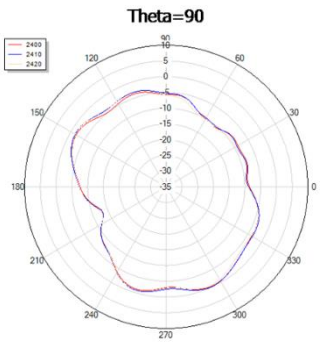
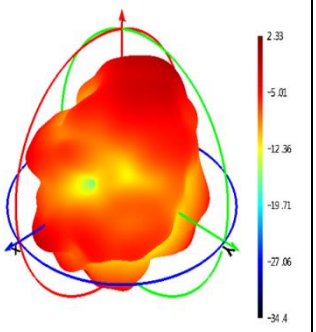
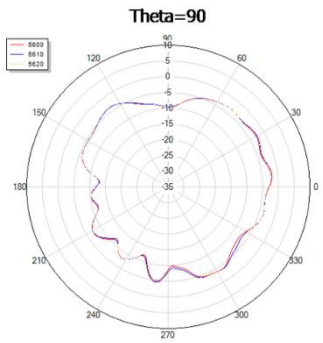
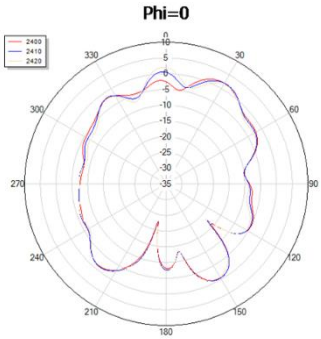
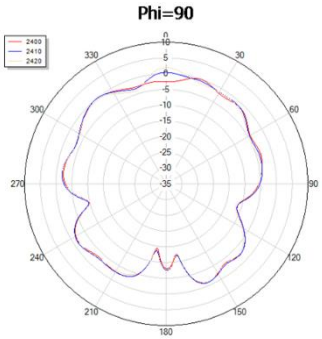
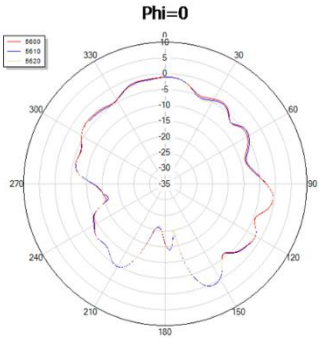
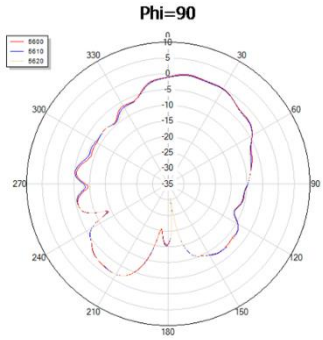
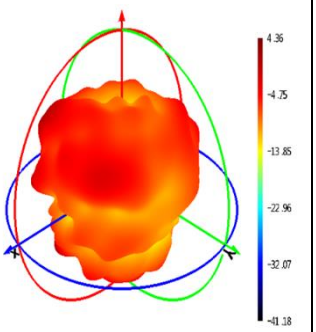
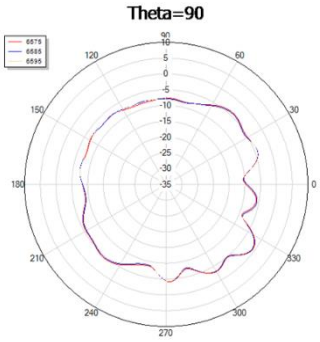
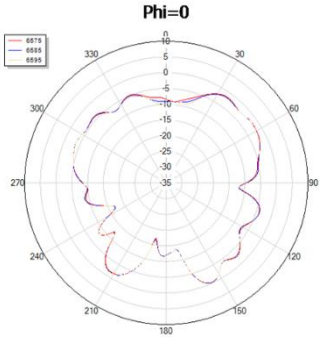
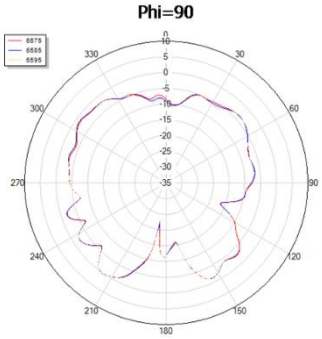
2400 MHz		2430 MHz	
			
			
2600 MHz		3940 MHz	
			
			

4640 MHz		5500 MHz	
			
			

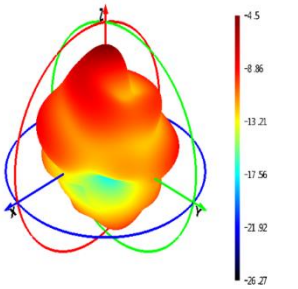
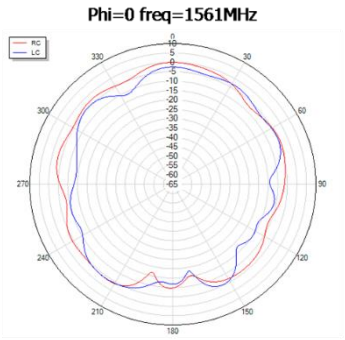
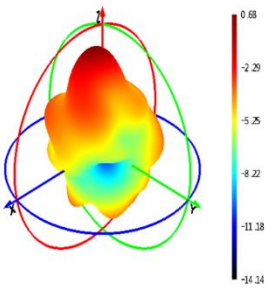
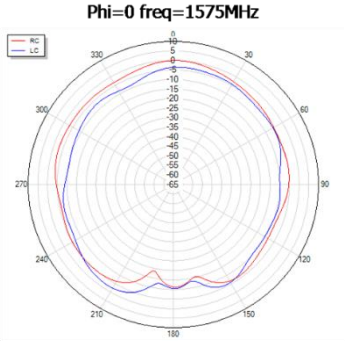
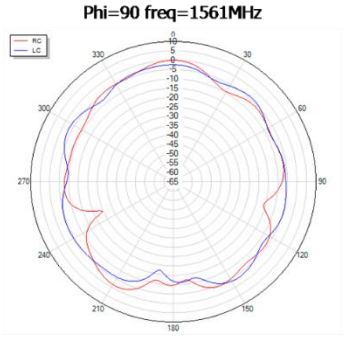
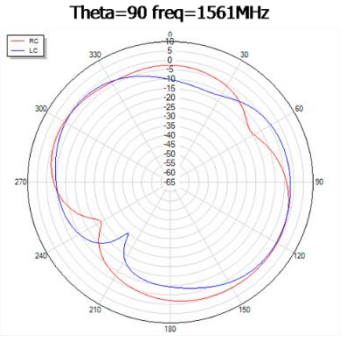
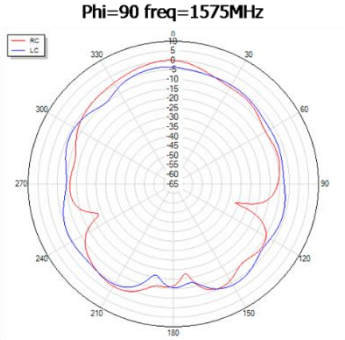
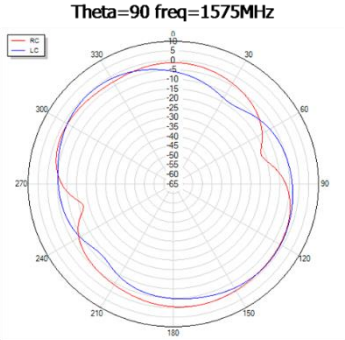
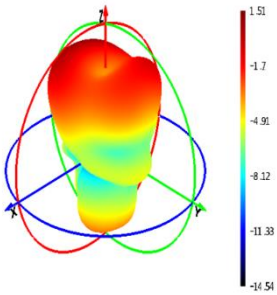
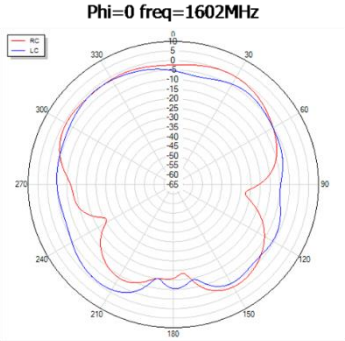
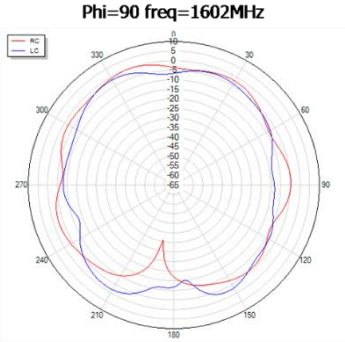
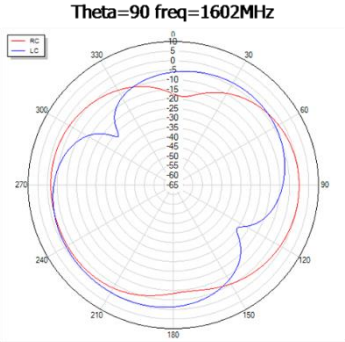
- **Wi-Fi**

2450 MHz		5500 MHz	
			
			
6525 MHz			
			
			

- **Wi-Fi Max Peak Gain**

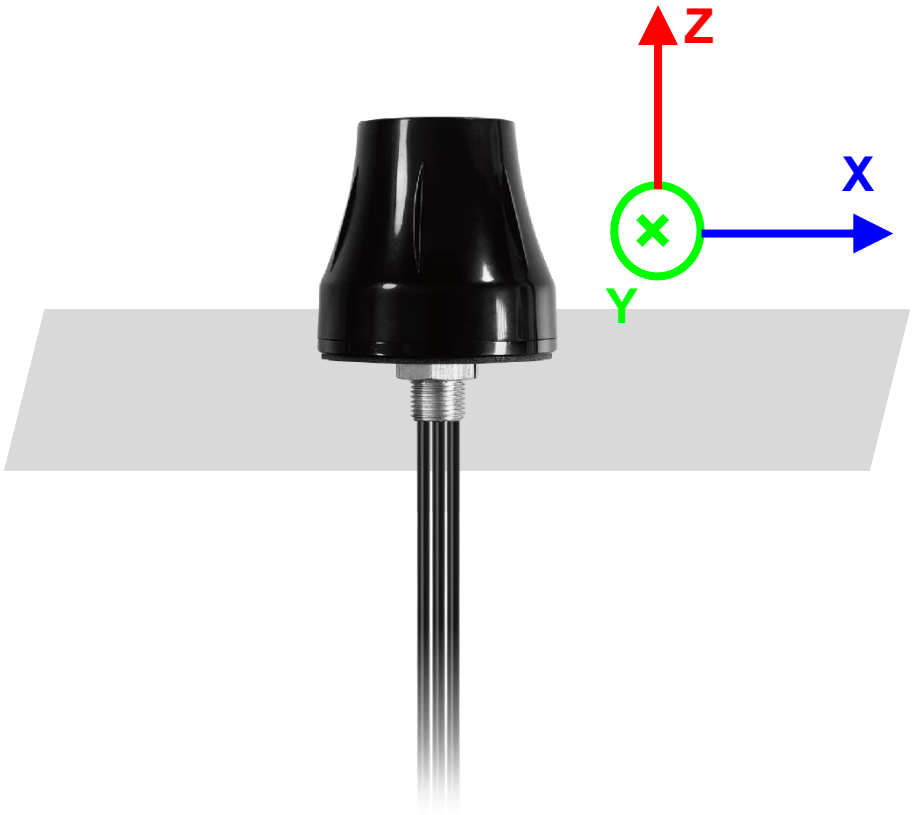
2410 MHz		5610 MHz	
			
			
6585 MHz			
			
			

- **GNSS**

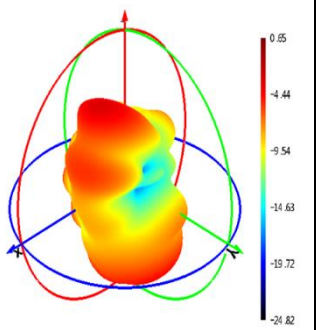
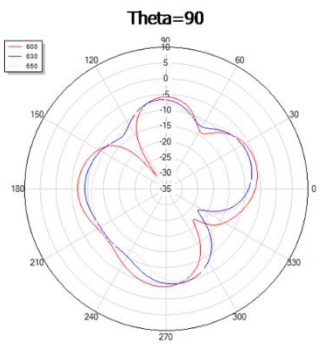
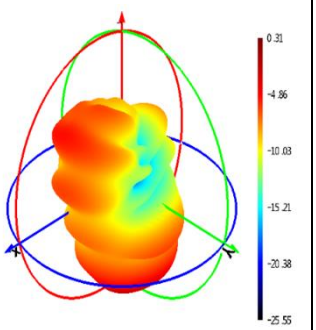
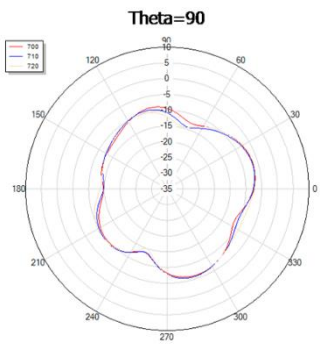
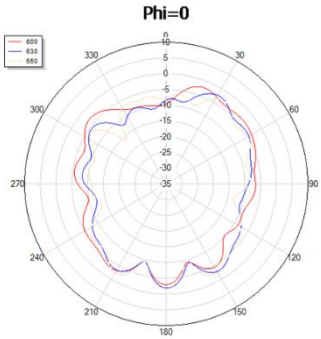
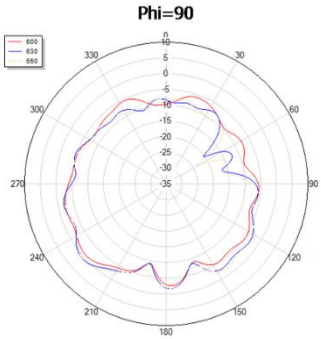
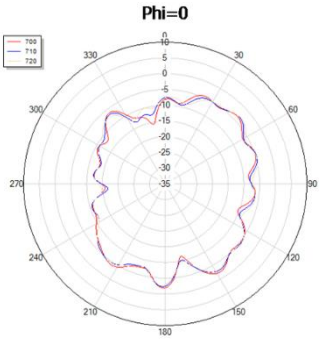
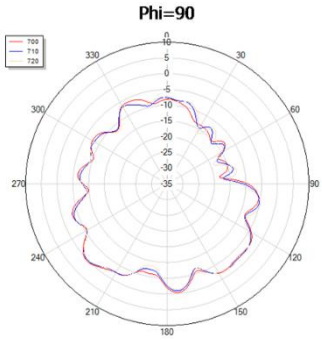
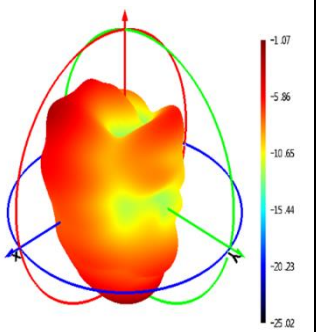
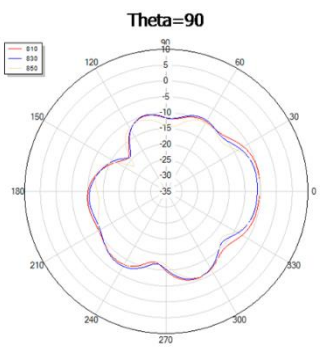
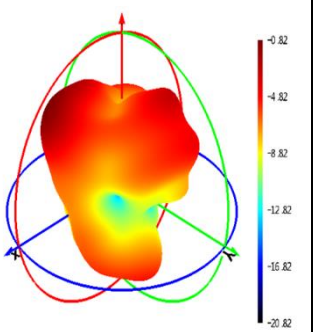
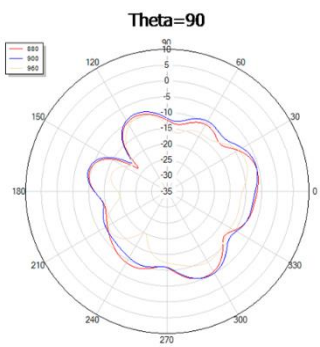
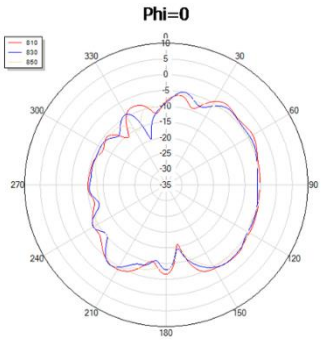
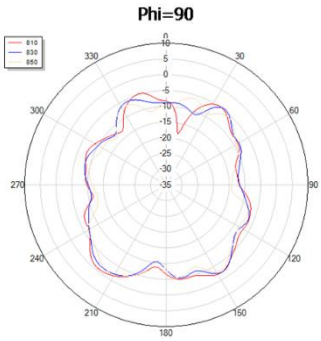
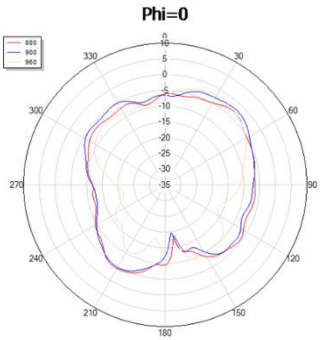
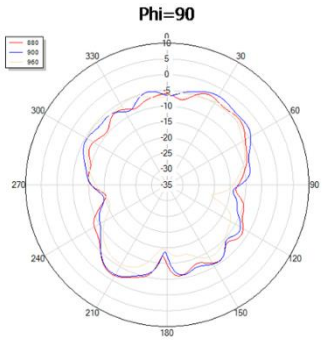
1561 MHz		1575 MHz	
			
			
1602 MHz			
			
			

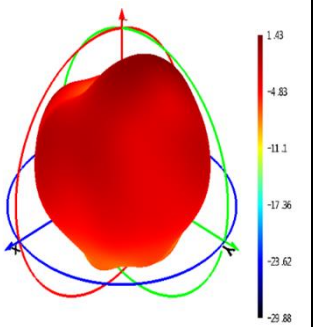
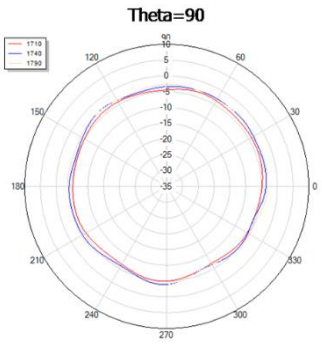
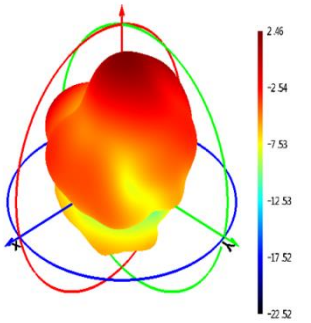
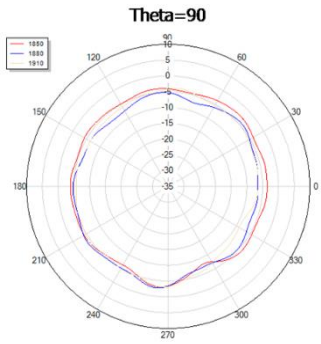
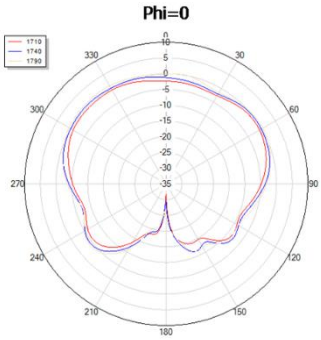
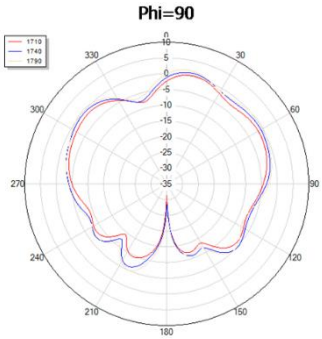
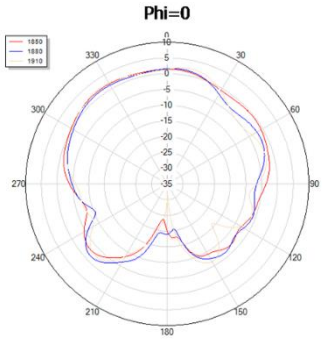
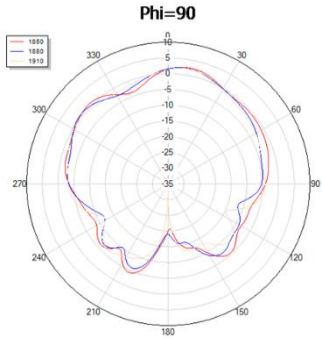
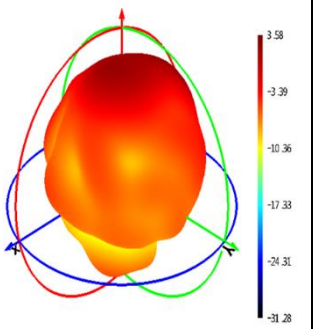
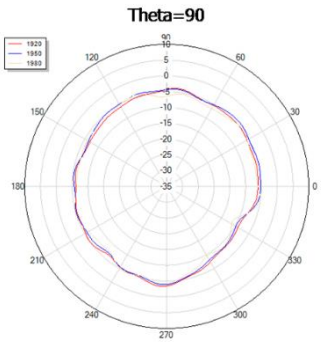
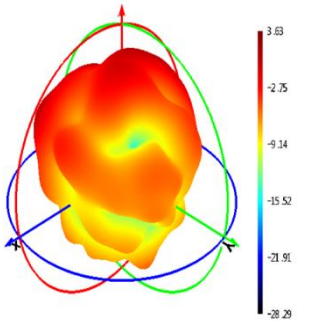
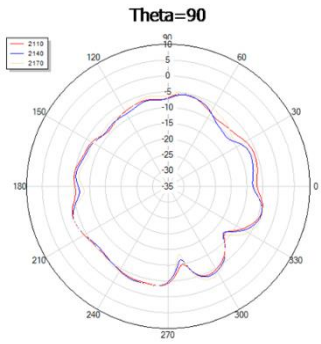
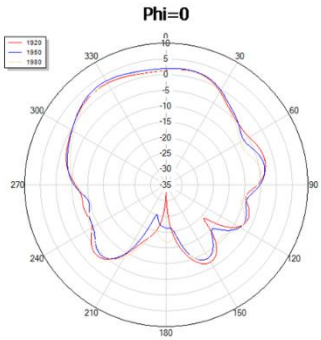
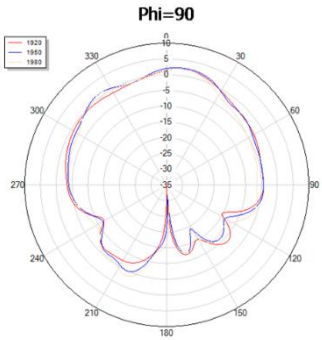
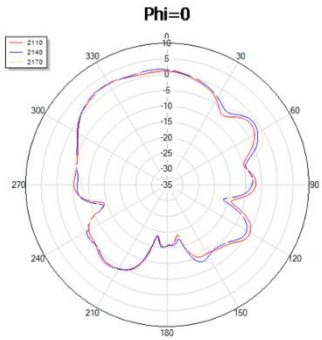
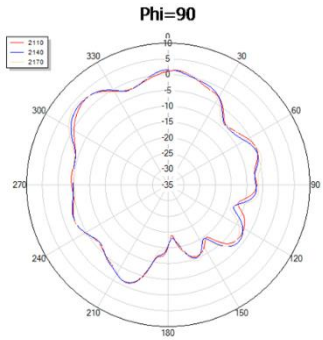
3.2.5. 3D & 2D Radiation Pattern

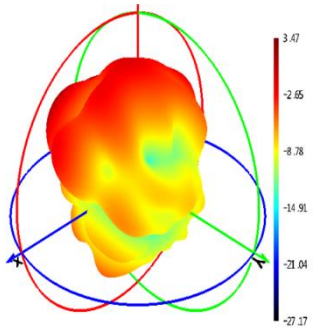
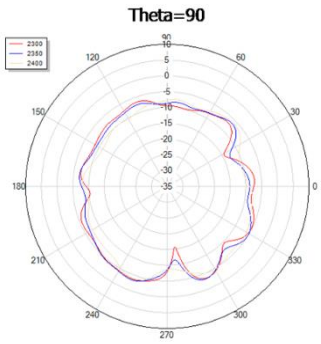
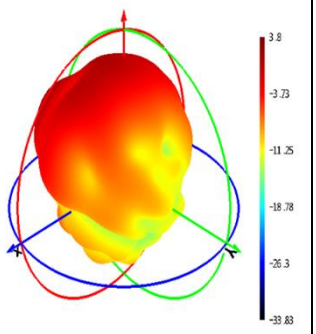
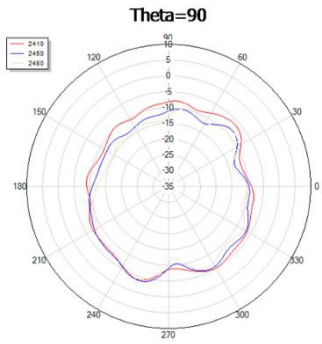
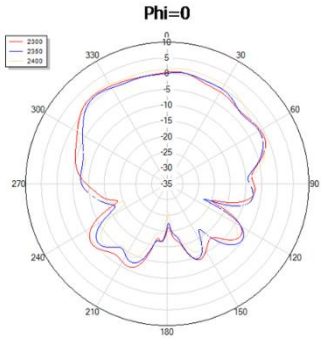
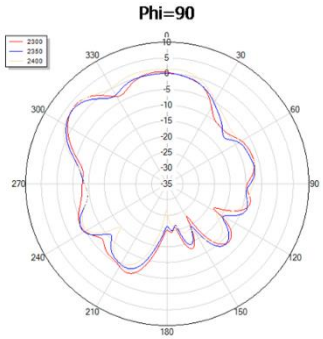
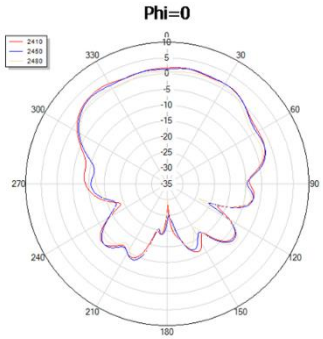
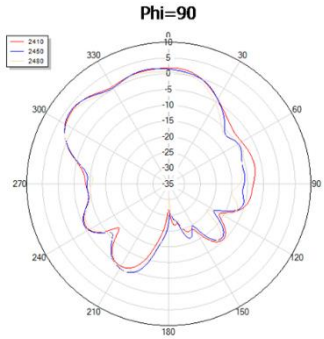
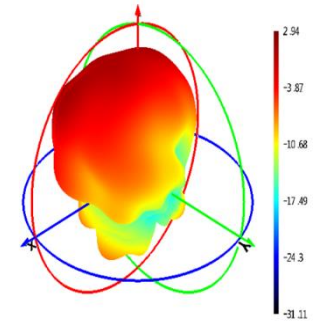
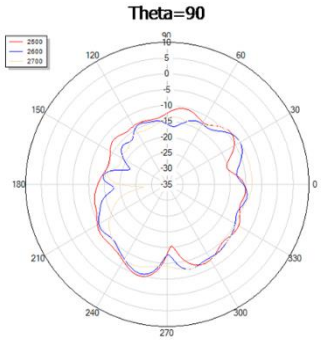
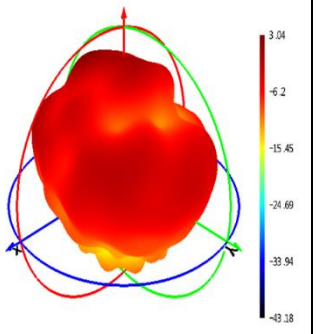
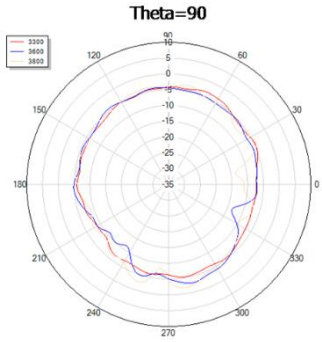
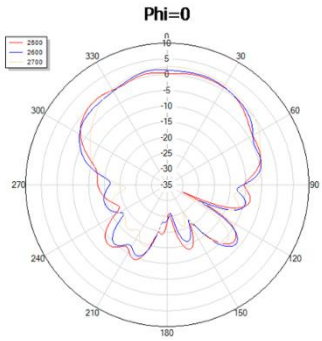
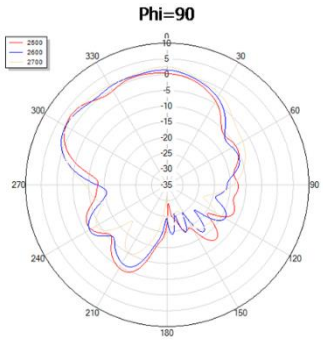
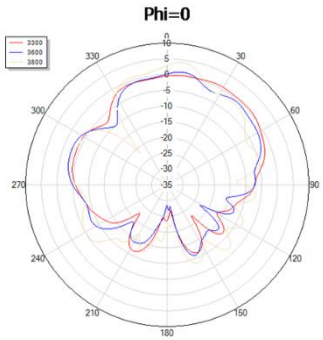
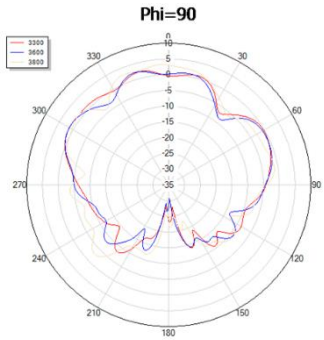
- Test Condition: On 300 mm × 300 mm Metal Plane
- Test Chamber: HF-S-1

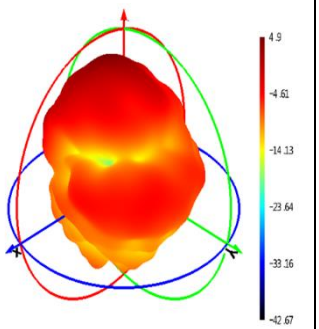
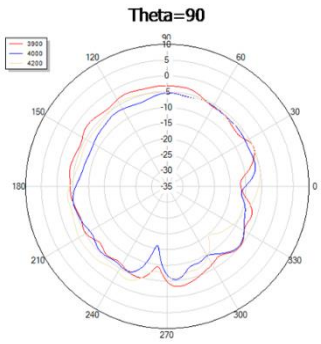
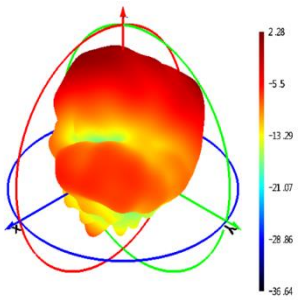
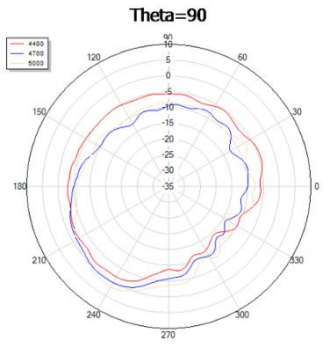
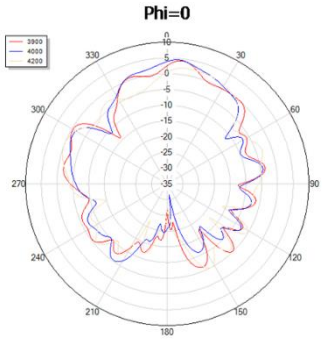
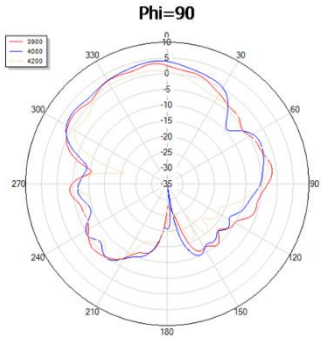
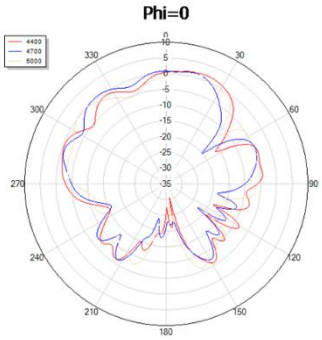
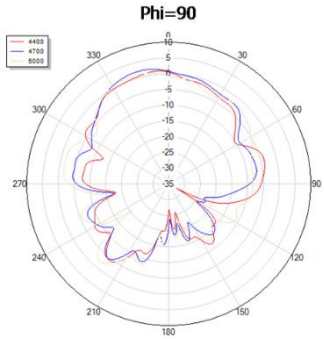
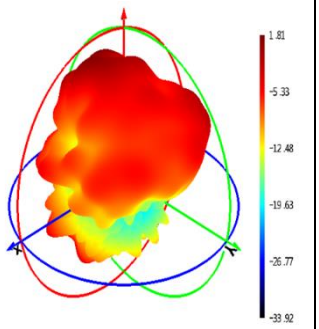
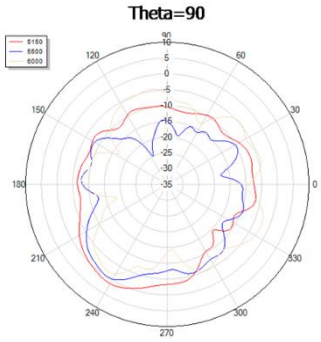
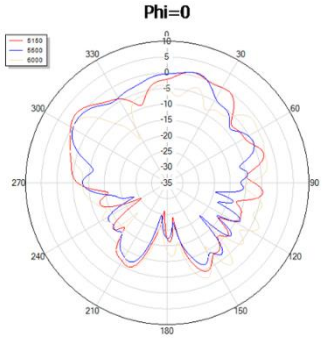
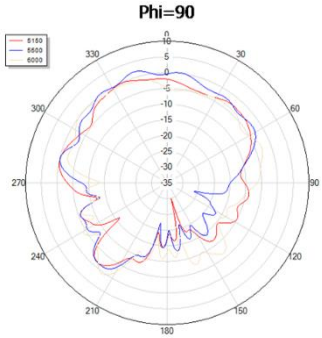


- **5G**

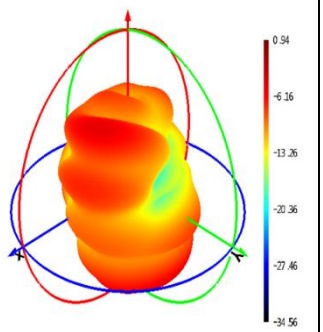
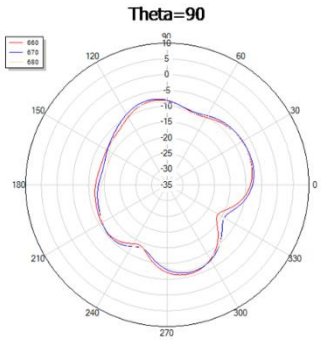
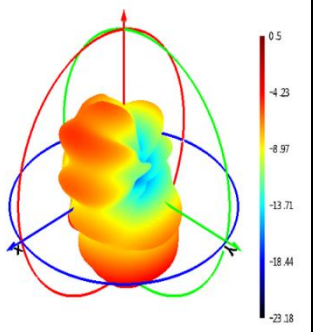
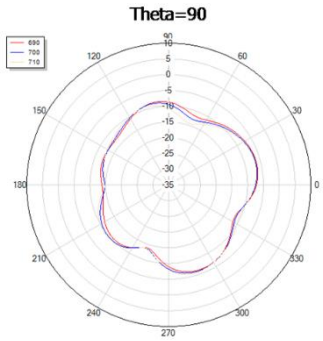
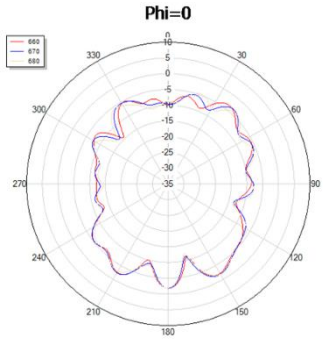
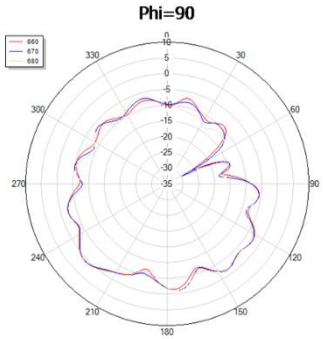
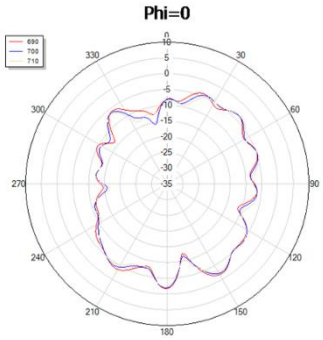
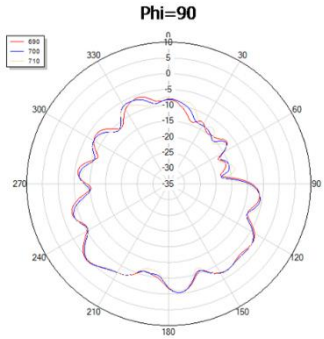
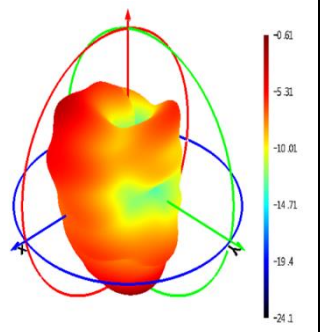
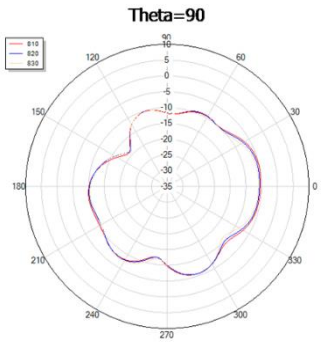
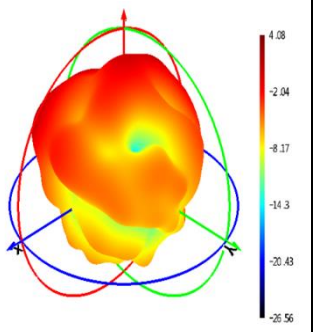
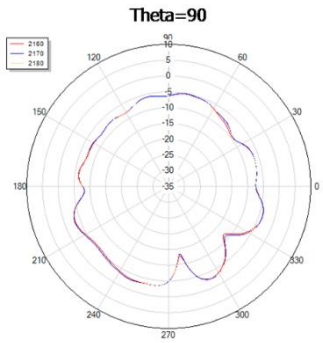
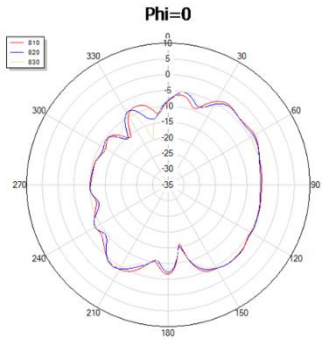
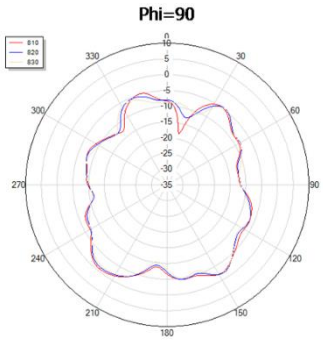
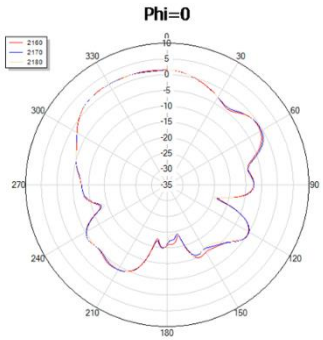
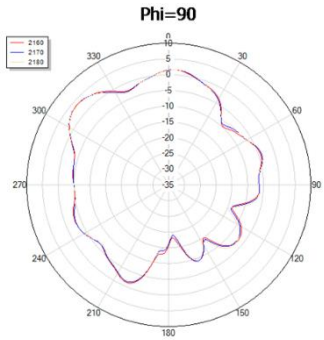
630 MHz		710 MHz	
			
			
830 MHz		900 MHz	
			
			

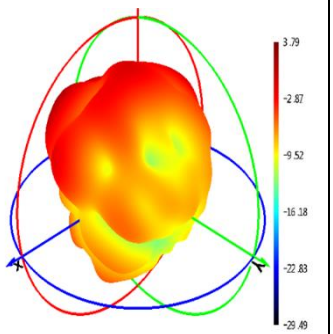
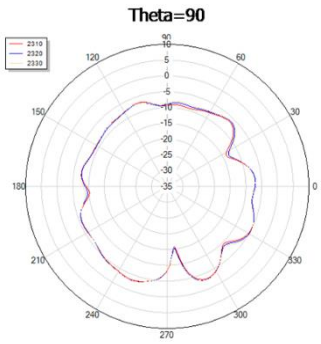
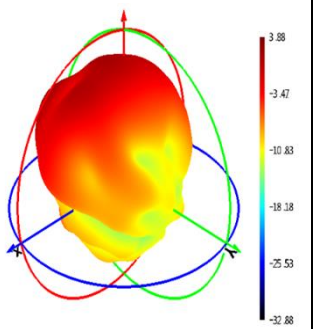
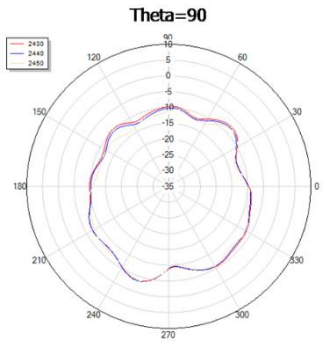
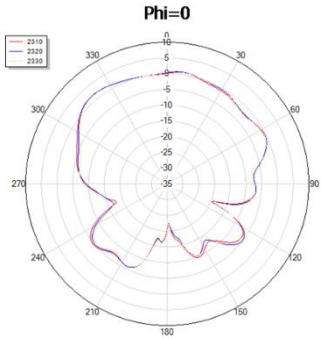
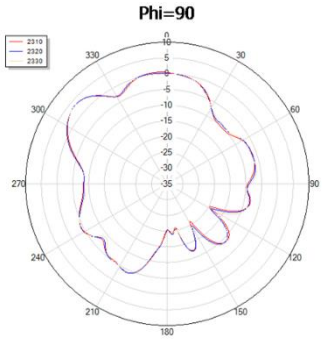
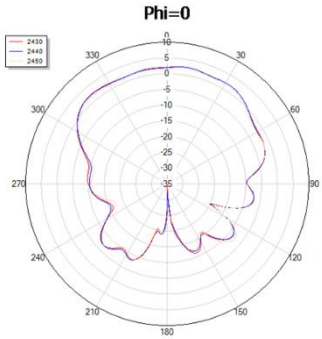
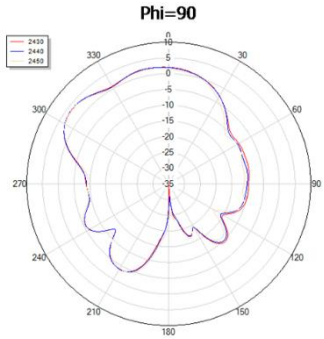
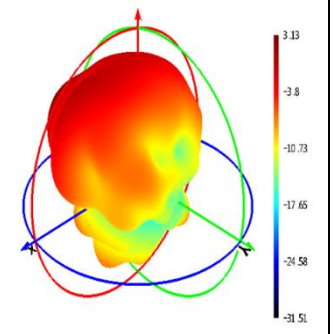
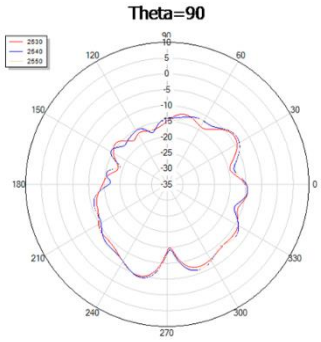
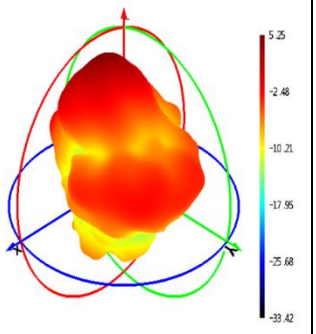
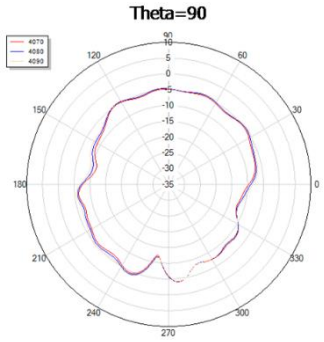
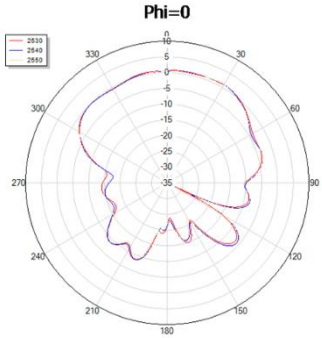
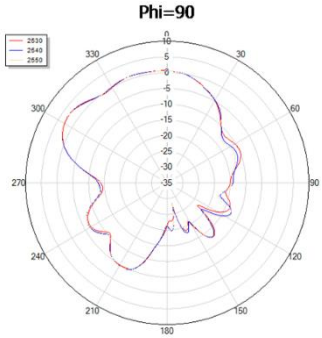
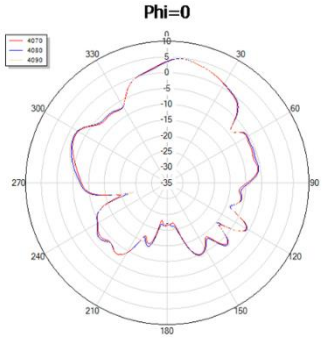
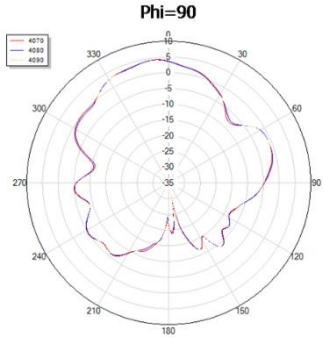
1740 MHz		1880 MHz	
			
			
1950 MHz		**2140 MHz**	
			
			

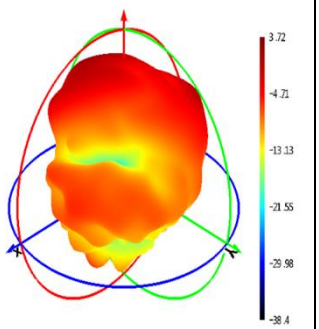
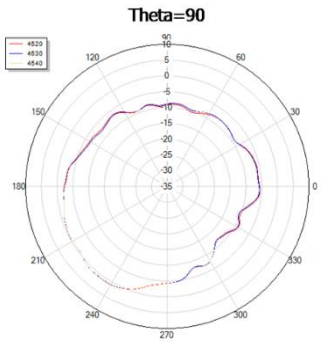
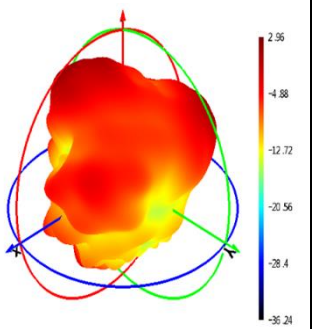
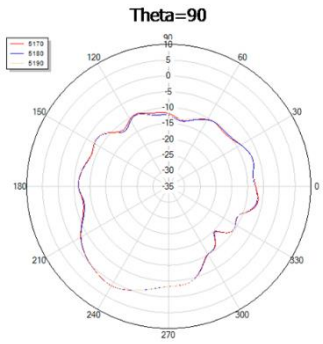
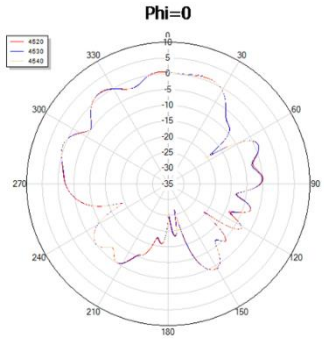
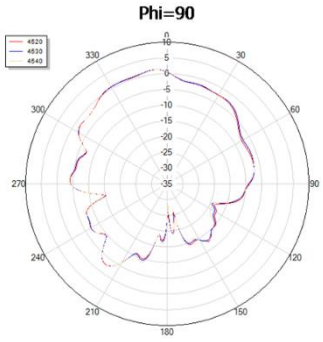
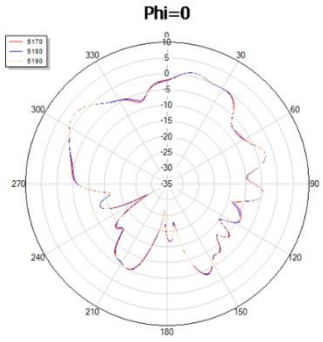
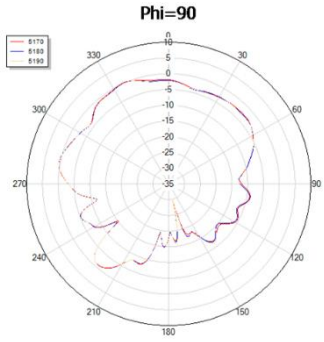
2350 MHz		2450 MHz	
			
			
2600 MHz		**3600 MHz**	
			
			

4000 MHz		4700 MHz	
			
			
5500 MHz			
			
			

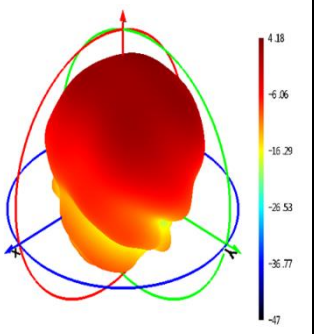
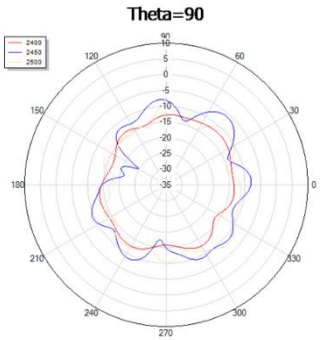
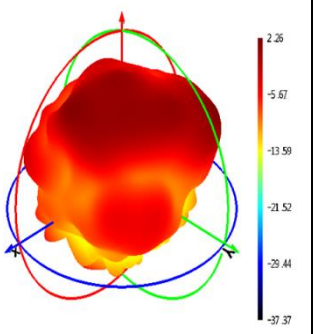
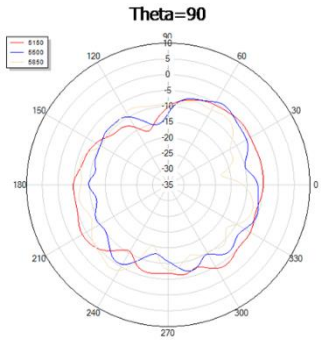
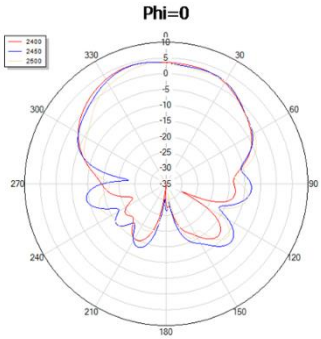
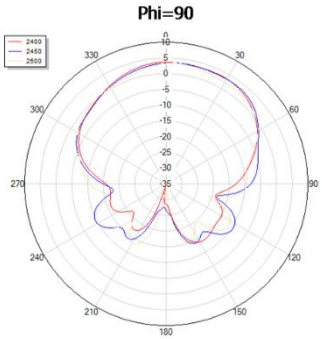
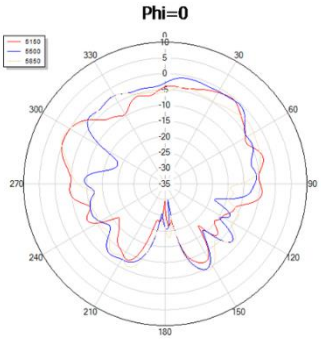
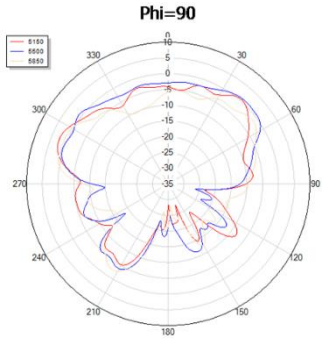
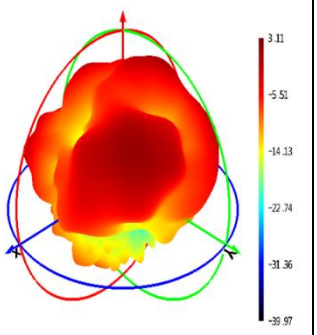
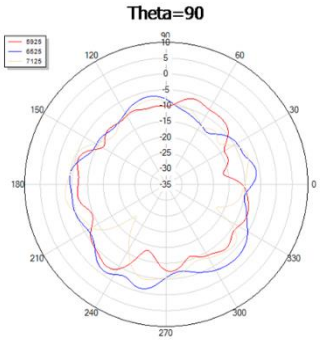
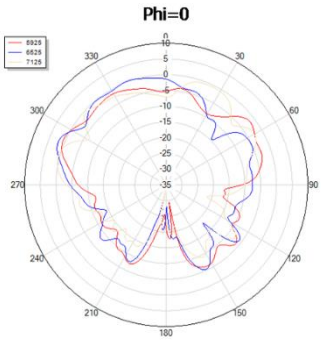
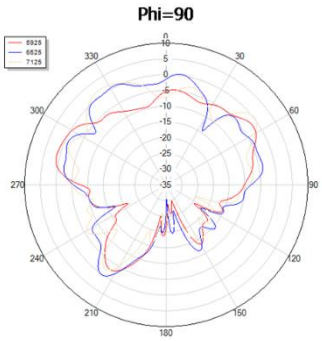
- **5G Max Peak Gain**

670 MHz		700 MHz	
			
			
820 MHz		2170 MHz	
			
			

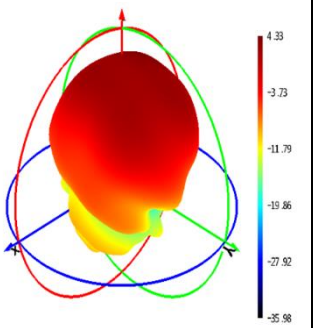
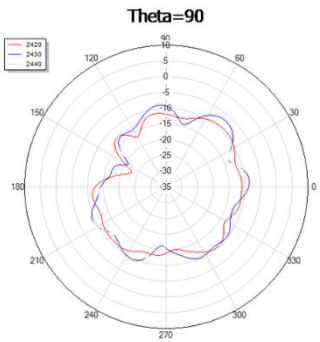
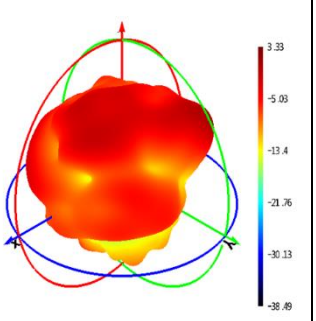
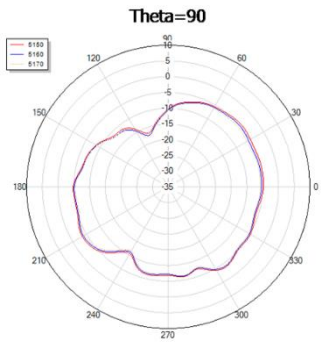
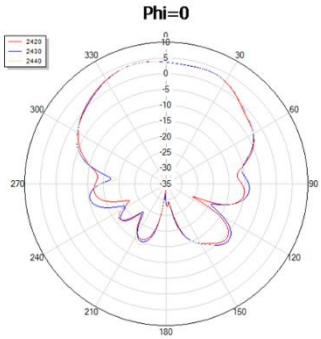
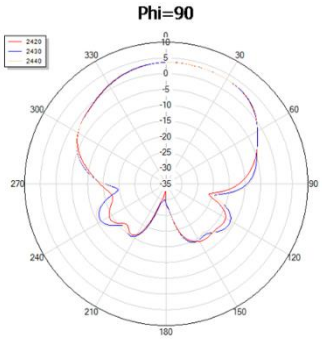
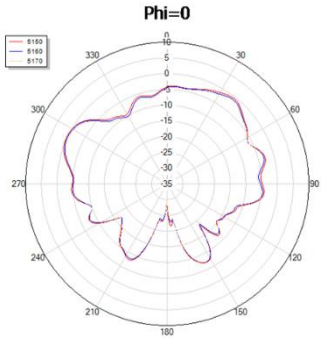
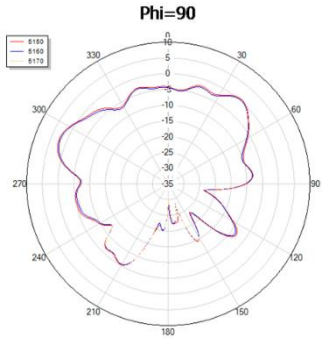
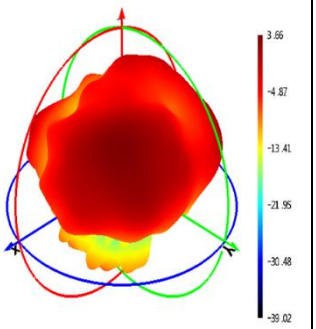
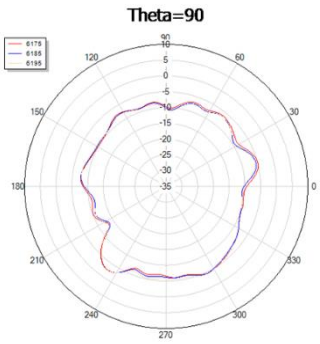
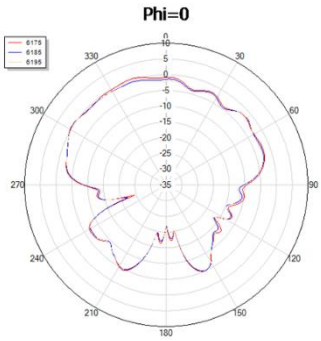
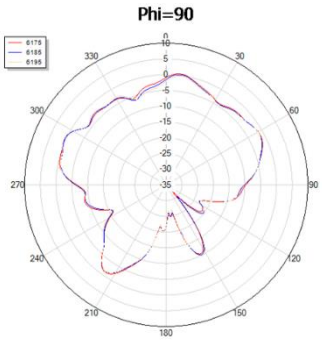
2320 MHz		2440 MHz	
			
			
2540 MHz		**4080 MHz**	
			
			

4530 MHz		5180 MHz	
			
			

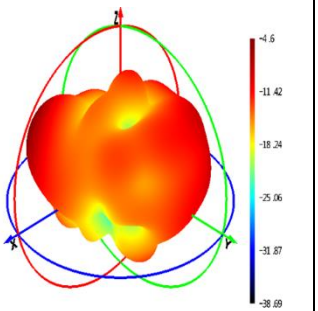
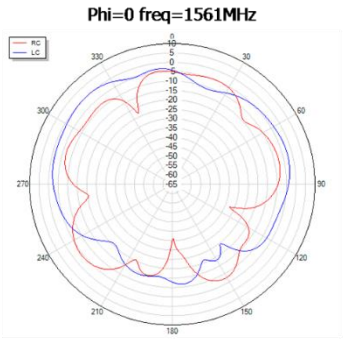
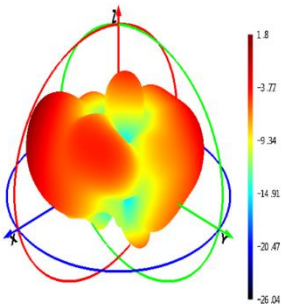
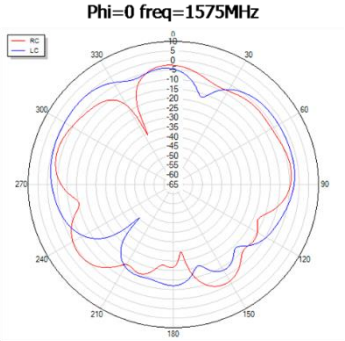
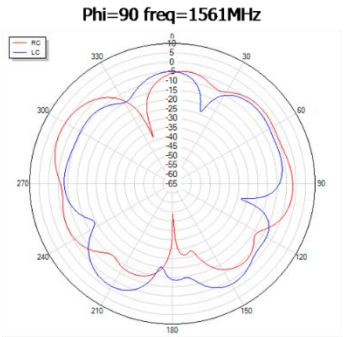
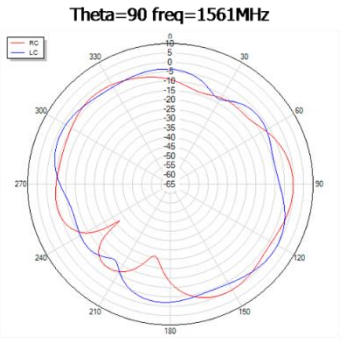
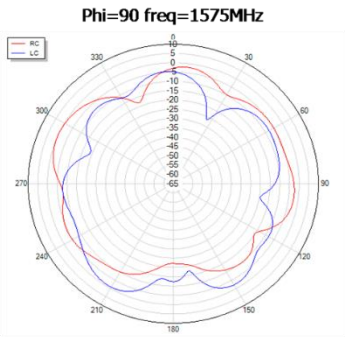
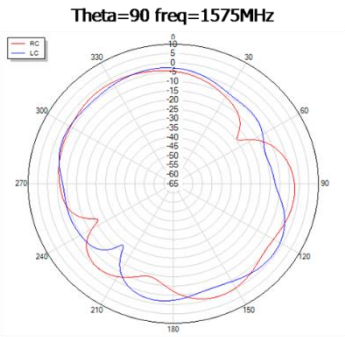
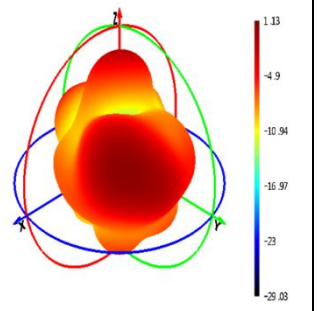
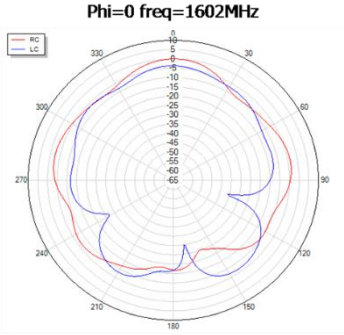
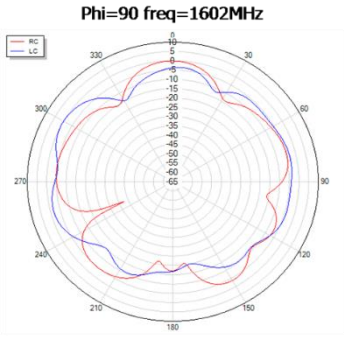
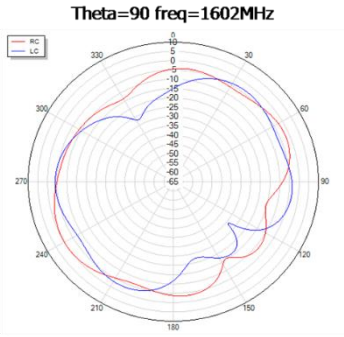
- **Wi-Fi**

2450 MHz		5500 MHz	
			
			
6525 MHz			
			
			

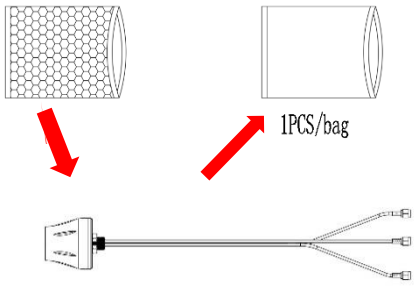
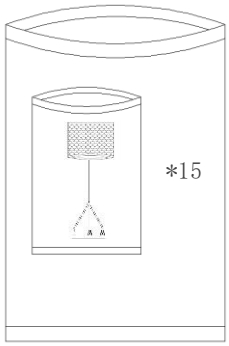
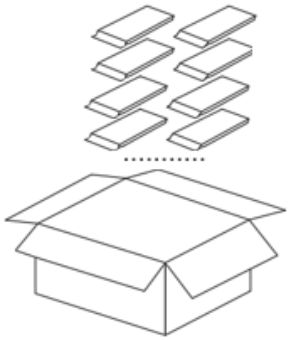
- **Wi-Fi Max Peak Gain**

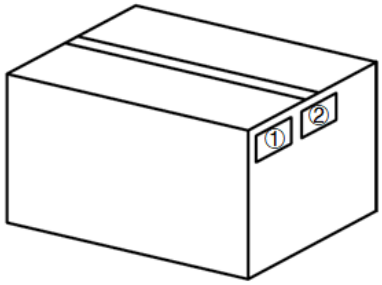
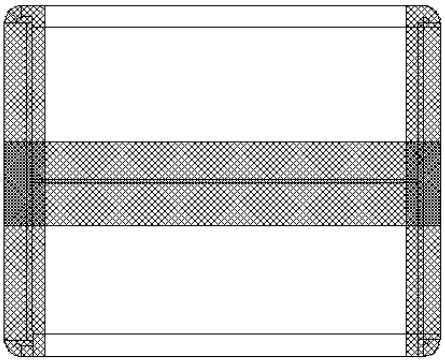
2430 MHz		5150 MHz	
			
			
6185 MHz			
			
			

- **GNSS**

1561 MHz		1575 MHz	
			
			
1602 MHz			
			
			

4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		1 antenna product head is wrapped with bubble bag. (1 Antenna / Bubble Bag) Put the antenna product in a PE bag. (1 Antenna / PE Bag)
2		15 antenna products in a PE bag. (15 Antennas / PE Bag)
3		(6 PE Bags / Carton Box) (90 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 = 470 × 310 × 310 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
-	2025-08-04	Christopher Yao/ Faber Shen/ Singh Wang/ Strong Qiang/ Rainey Liao	Creation of the document
1.0	2025-08-04	Christopher Yao/ Faber Shen/ Singh Wang/ Strong Qiang/ Rainey Liao	First official release

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