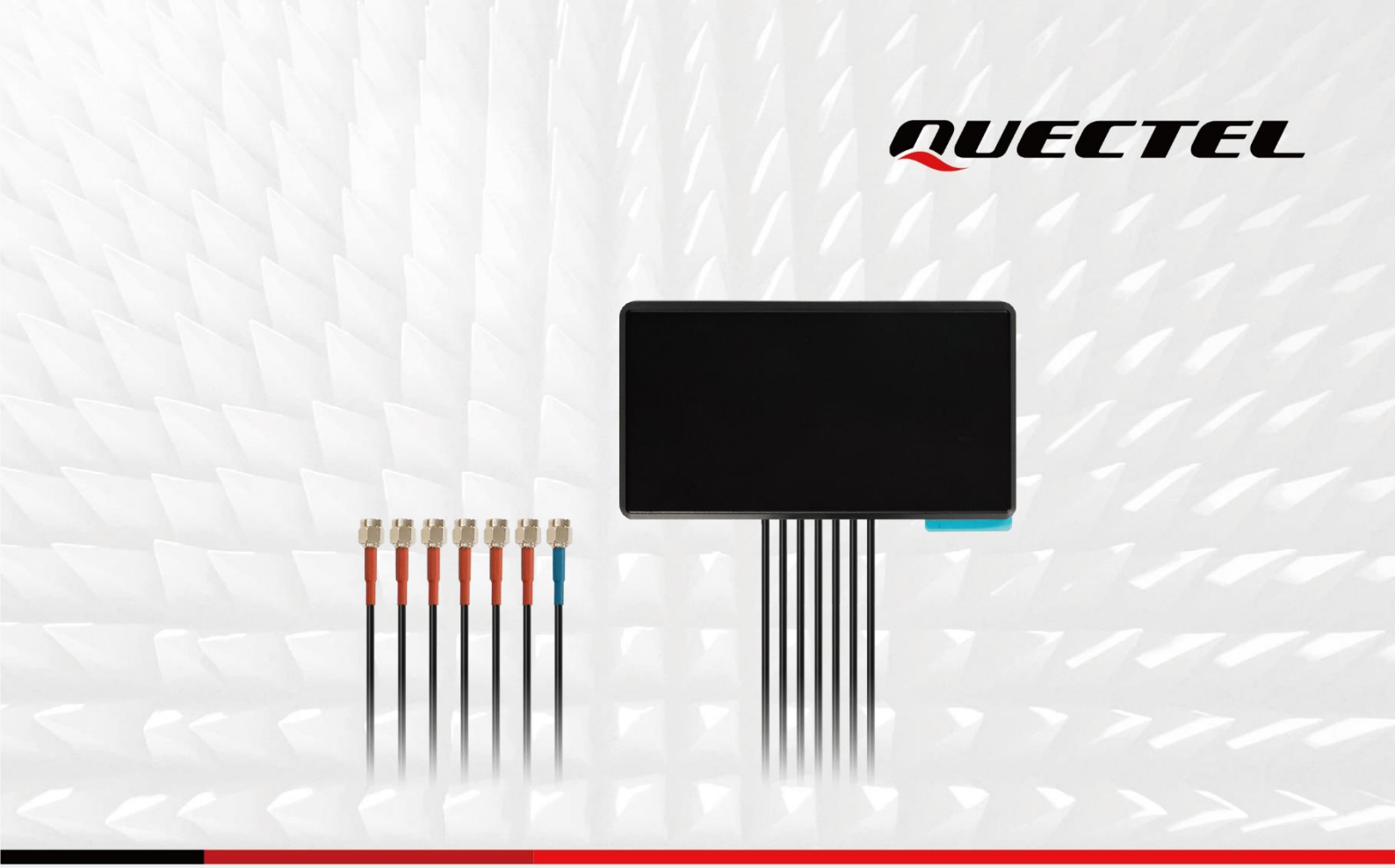


Antenna Datasheet

Product OC: YEMM701K1AH
Version: 1.1
Date: 2025-10-14
Status: Released

Product Name: 5G & GNSS 7in1 Adhesive Mount Combo External Antenna

Key Features:

4 × 5G/4G LMH 600–960 MHz, 1400–6000 MHz
2 × 5G/4G MH 1400–6000 MHz
1 × Active GNSS 1565–1606 MHz
Dimensions: 133 mm × 73 mm × 19.1 mm
Mount: Adhesive
Connectors: SMA Male
IP Rating: IP67
RoHS & REACH

Overview

Quectel YEMM701K1AH is a 5G & GNSS Adhesive mount 7in1 combo antenna optimized for 5G and 4G networks. With dimensions of 133 mm × 73 mm × 19.1 mm, the antenna can integrate a variety of antennas, such as 5G, 4G, GNSS and Wi-Fi antennas. Available with multiple mounting options including wall, adhesive and others, the antenna box supports multiple connector types and cable lengths and is designed to offer a more flexible and reliable high-performance antenna for outdoor applications.

YEMM701K1AH is made up of 7 antennas, with 4 × 5G LMH antennas covering 600–960 MHz, 1400–6000 MHz, 2 × 5G MH/Wi-Fi antennas covering 1400–6000 MHz and 1 × GNSS L1 antenna covering 1565–1606 MHz. Housed in an IP67 waterproof case with adhesive mounting allows for easy assembly either internally or externally for Automotive and Heavy Equipment Vehicle Tracking, Remote Asset and Pipeline Monitoring and other systems.

Typical Applications Include:

- HD Video Streaming over LTE
- Vehicle Tracking and Telematic System
- IoT Applications
- Emergency Service System

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: In Free Space

1.1. Electrical

Electrical Specifications		
Frequency Range	**5G LMHs**	600–960 MHz, 1400–6000 MHz
	5G MHs	1400–6000 MHz
	GNSS	1565–1606 MHz
Radiation Pattern	**5G LMHs & 5G MHs**	Omni-directional
	GNSS	Directional
Polarization	**5G LMHs & 5G MHs**	Linear
	GNSS	RHCP
Impedance		50 Ω
Isolation		≤ -9.1 dB

1.1.1. 5G LMH1

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		3.9	2.7	4.2	3.3	3.2	2.4	1.8	2.6	3.5	3.1	3.1
Max Return Loss (dB)		-4.6	-6.8	-4.2	-5.4	-5.5	-7.6	-10.6	-7.0	-5.2	-5.8	-5.7
AVG Eff. (%)		20.2	31.0	24.3	22.0	26.0	42.4	44.4	39.4	23.7	20.1	16.0
AVG AVG Gain (dB)		-7.2	-5.1	-6.2	-6.6	-5.9	-3.8	-3.5	-4.1	-6.3	-7.1	-8.0
Max Peak Gain (dBi) Frequency (MHz)		-1.4 (690)	-0.4 (750)	-1 (860)	-0.7 (1520)	1.1 (1960)	2.3 (2320)	2.4 (2500)	2.7 (2530)	0.6 (3870)	0.6 (5000)	-0.2 (5170)
VSWR		≤ 4.2										
Return Loss		≤ -4.2 dB										
Peak Gain		≤ 2.7 dBi										

1.1.2. 5G LMH2

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		3.7	2.3	3.7	3.7	2.7	2.0	1.4	2.3	2.9	3.0	2.4
Max Return Loss (dB)		-4.9	-7.9	-4.8	-4.9	-6.8	-9.6	-15.1	-8.2	-6.3	-6.0	-7.9
AVG Eff. (%)		22.2	27.4	19.8	19.9	24.0	37.4	41.1	37.0	28.1	15.1	11.4
AVG AVG Gain (dB)		-6.8	-5.6	-7.1	-7.1	-6.2	-4.3	-3.9	-4.3	-5.5	-8.3	-9.6
Max Peak Gain (dBi) Frequency (MHz)		-0.4 (680)	-0.7 (790)	-2.4 (820)	-0.9 (1500)	-0.1 (1720)	1.1 (2350)	1 (2400)	1 (2550)	0.9 (3830)	-1.6 (4980)	-2.3 (5310)
VSWR		≤ 3.7										
Return Loss		≤ -4.8 dB										
Peak Gain		≤ 1.1 dBi										

1.1.3. 5G LMH3

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		4.2	2.1	4.1	3.8	2.7	1.7	1.8	2.5	3.4	3.0	2.9
Max Return Loss (dB)		-4.2	-8.9	-4.3	-4.7	-6.7	-12.1	-11.1	-7.5	-5.2	-6.0	-6.3
AVG Eff. (%)		20.3	27.4	20.3	20.1	25.8	42.7	40.5	34.4	26.8	20.9	19.1
AVG AVG Gain (dB)		-7.2	-5.6	-7.0	-7.1	-5.9	-3.7	-3.9	-4.6	-5.8	-6.9	-7.3
Max Peak Gain (dBi) Frequency (MHz)		-1.4 (670)	-0.7 (790)	-1.9 (820)	-0.3 (1500)	0 (1970)	1.6 (2350)	1.5 (2440)	1.1 (2520)	2 (3920)	0.5 (4740)	-0.8 (5300)
VSWR		≤ 4.2										
Return Loss		≤ -4.2 dB										
Peak Gain		≤ 2 dBi										

1.1.4. 5G LMH4

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		4.3	2.6	4.1	3.7	3.7	3.0	2.1	3.1	3.3	3.1	2.7
Max Return Loss (dB)		-4.1	-6.9	-4.3	-4.9	-4.8	-5.9	-9.1	-5.7	-5.4	-5.9	-6.9
AVG Eff. (%)		21.2	30.8	24.0	20.0	23.5	30.5	42.3	30.3	24.0	19.6	21.4
AVG AVG Gain (dB)		-7.0	-5.1	-6.3	-7.0	-6.3	-5.2	-3.7	-5.3	-6.4	-7.2	-6.7
Max Peak Gain (dBi) Frequency (MHz)		-0.9 (660)	0.2 (760)	0.3 (860)	-0.1 (1520)	1.4 (2170)	1.2 (2400)	1.2 (2400)	1.9 (2570)	0.4 (4040)	0.2 (4990)	0.1 (5180)
VSWR		≤ 4.3										
Return Loss		≤ -4.1 dB										
Peak Gain		≤ 1.9 dBi										

1.1.5. 5G MH1

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		-	-	-	3.1	3.0	1.8	2.0	1.9	2.5	2.9	2.8
Max Return Loss (dB)		-	-	-	-5.8	-6.0	-10.9	-9.8	-10.1	-7.4	-6.2	-6.5
AVG Eff. (%)		-	-	-	22.6	25.1	29.2	30.0	37.0	32.0	21.6	21.4
AVG AVG Gain (dB)		-	-	-	-6.5	-6.0	-5.4	-5.2	-4.3	-5.0	-6.8	-6.9
Max Peak Gain (dBi) Frequency (MHz)		-	-	-	-0.5 (1490)	-0.1 (2040)	-1.2 (2390)	-1.4 (2400)	-0.5 (2590)	1.6 (3430)	0 (4420)	1.3 (5590)
VSWR		≤ 3.1										
Return Loss		≤ -5.8 dB										
Peak Gain		≤ 1.6 dBi										

1.1.6. 5G MH2

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		-	-	-	3.1	2.8	1.8	2.0	1.9	2.5	2.9	2.8
Max Return Loss (dB)		-	-	-	-5.8	-6.6	-11.0	-9.4	-10.1	-7.5	-6.2	-6.4
AVG Eff. (%)		-	-	-	24.5	26.3	30.2	32.5	40.1	34.1	22.8	21.6
AVG AVG Gain (dB)		-	-	-	-6.1	-5.8	-5.2	-4.9	-4.0	-4.7	-6.5	-6.8
Max Peak Gain (dBi) Frequency (MHz)		-	-	-	-0.4 (1470)	-0.1 (2030)	0 (2370)	-0.6 (2500)	0.7 (2670)	2.1 (3610)	0.5 (4430)	1 (5590)
VSWR		≤ 3.1										
Return Loss		≤ -5.8 dB										
Peak Gain		≤ 2.1 dBi										

1.1.7. 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	-	-	-	-	-	-	1.5	1.7
Return Loss (dB)	-	-	-	-	-	-	-13.0	-11.4
Efficiency (%)	-	-	-	-	-	-	45.44	40.12
Peak Gain (dBi)	-	-	-	-	-	-	1.3	1.94

GNSS LNA Electrical	
LNA Gain	18 ±3 dB @ 3V 17 ±3 dB @ 1.8V
Noise Figure	≤ 2.5 dB
Output VSWR	≤ 2.0
Input VSWR	≤ 2.0
Working Voltage	60 dB f0 ±100 MHz f0 (1588 MHz)
Working Current	1.8–3.3 V
Impedance	8.5 ±2 mA

1.2. Supported Bands

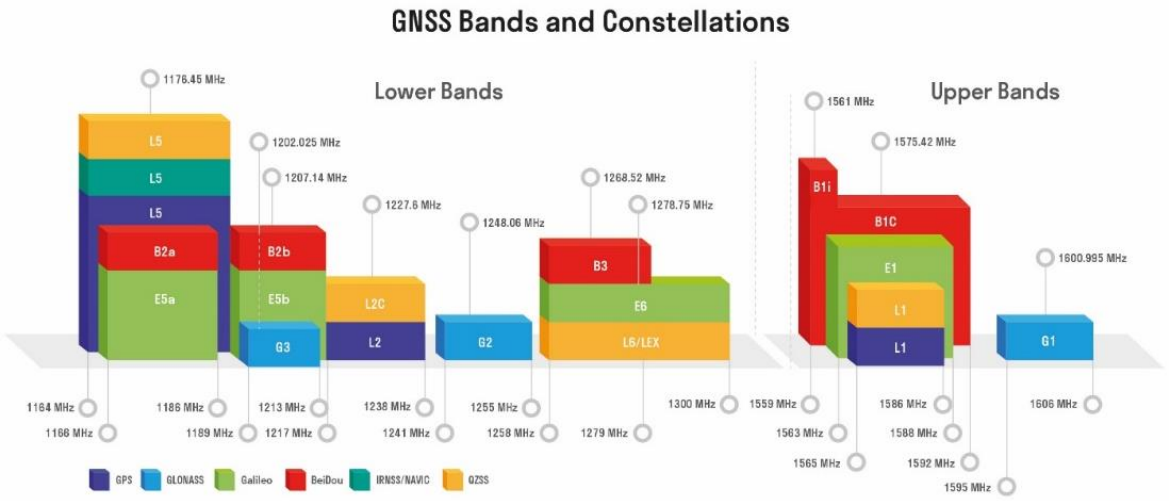
5G NR / LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / GPRS / GSM / NB-IoT					
Band	Frequency (MHz)	Uplink (MHz)	Downlink (MHz)	LMHs	MHs
1	2100	1920–1980	2110–2170	√	√
2	1900	1850–1910	1930–1990	√	√

5G NR / LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / GPRS / GSM / NB-IoT					
Band	**Frequency (MHz)**	**Uplink (MHz)**	**Downlink (MHz)**	**LMHs**	**MHs**
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	√	-
28	700	703–748	758–803	√	-
31	450	452.5–457.5	462.5–467.5	-	-
34	2100	2010–2025		√	√
38	2600	2570–2620		√	√

5G NR / LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / GPRS / GSM / NB-IoT					
Band	**Frequency (MHz)**	**Uplink (MHz)**	**Downlink (MHz)**	**LMHs**	**MHs**
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		√	√

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**	**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)

	Centre 1561.098 (1559–1564)				
	-	√	-	-	-
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)				
	-				

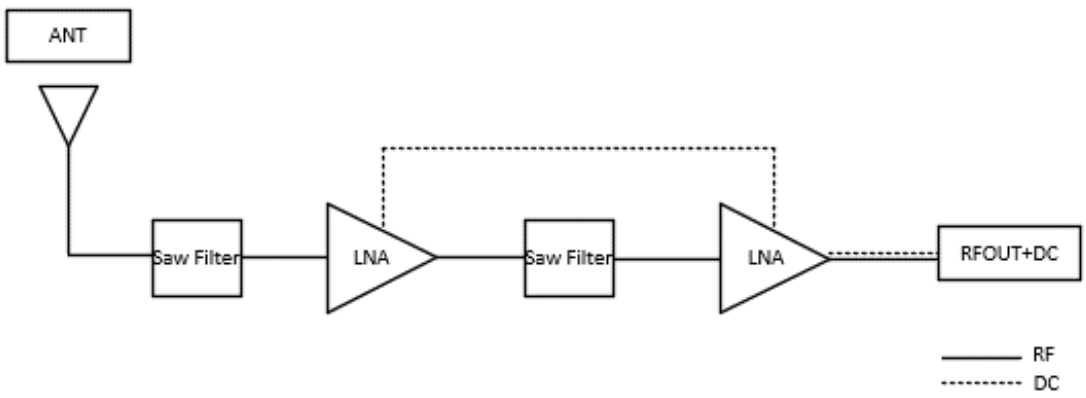


1.3. Mechanical & Environmental

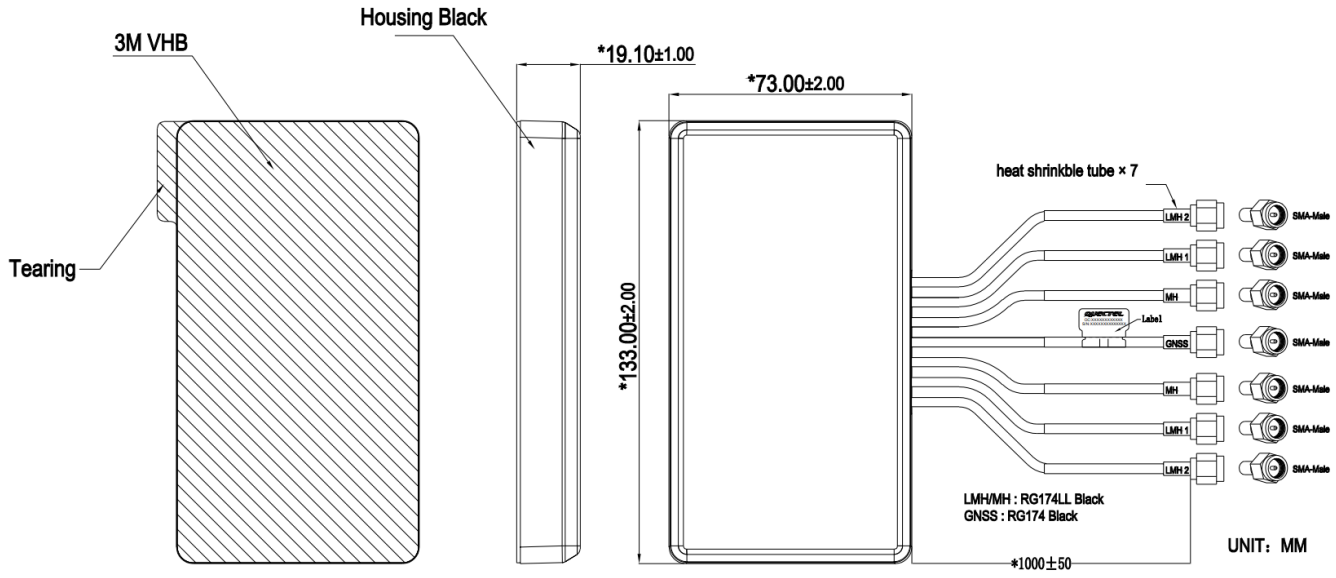
Mechanical		
Antenna Size		133 mm × 73 mm × 19.1 mm
Casing Material & Color		PC+ABS & Black
Cable Type & Length	**5G LMHs & 5G MHs**	RG174LL Black & 1000 mm
	GNSS	RG174 Black & 1000 mm
Weight		Typ. 270 g
Connector Type		SMA Male (The current state of the SMA connector is not waterproof. If a waterproof connector is required, it can be customized, such as a waterproof FAKRA connector.)
Mounting Type		Adhesive
Environmental		
Operation Temperature		-40 °C to +85 °C
Storage Temperature		-40 °C to +85 °C
Ingress Protection (IP) Rating		IP67
RoHS & REACH Compliant		Yes

- 5G LMHs: LMH1, LMH2, LMH3, LMH4 Antennas
- 5G MHs: MH1, MH2 Antennas

1.4. Block Diagram (Active Antenna)



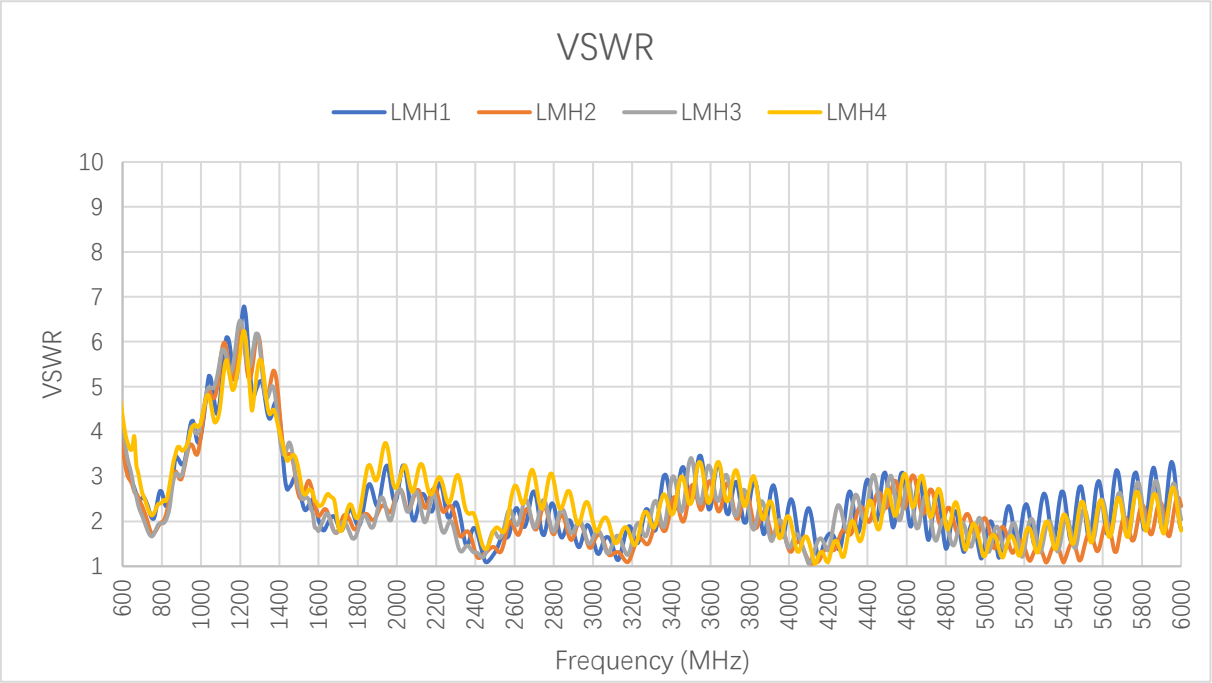
2 Drawing

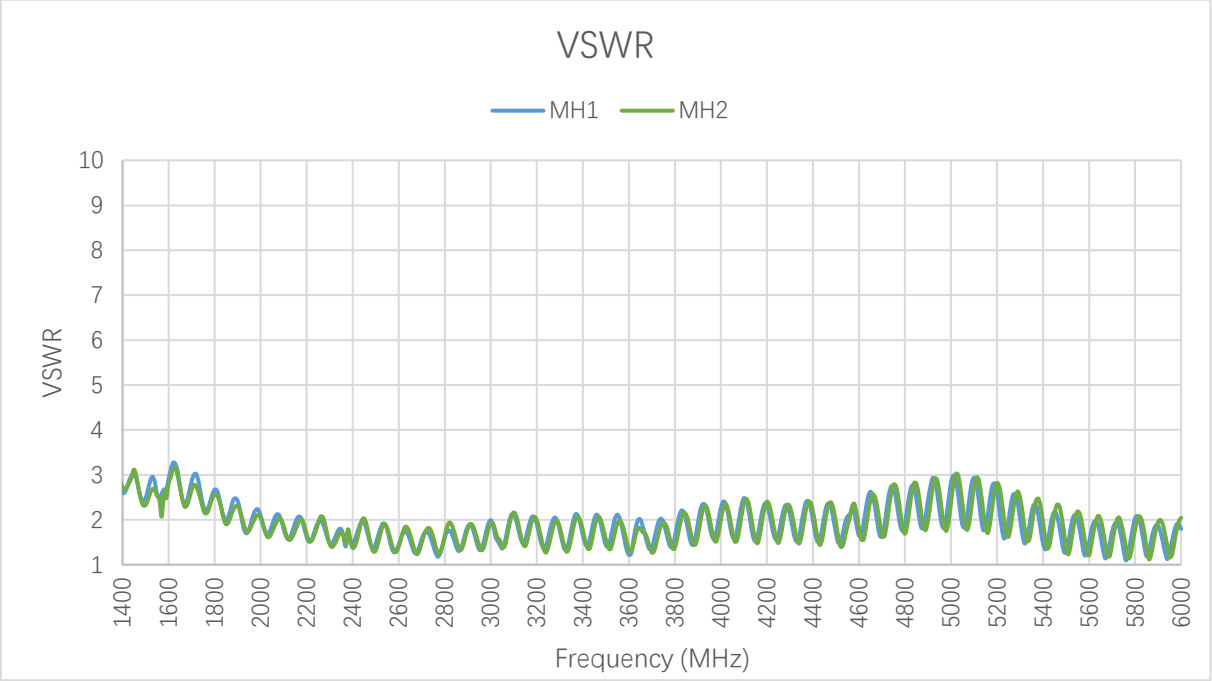

Housing Black
3M VHB
*19.10±1.00
*73.00±2.00
heat shrinkble tube × 7
Tearing
*133.00±2.00
LMH 2
LMH 1
MH
Label
GNSS
MH
LMH 1
LMH 2
SMA-Male
SMA-Male
SMA-Male
SMA-Male
SMA-Male
SMA-Male
SMA-Male
LMH/MH : RG174LL Black
GNSS : RG174 Black
UNIT：MM
*1000±50

3 Detailed Performance

3.1. S-Parameter Test

3.1.1. VSWR




VSWR
MH1
MH2
VSWR
10
9
8
7
6
5
4
3
2
1
1400
1600
1800
2000
2200
2400
2600
2800
3000
3200
3400
3600
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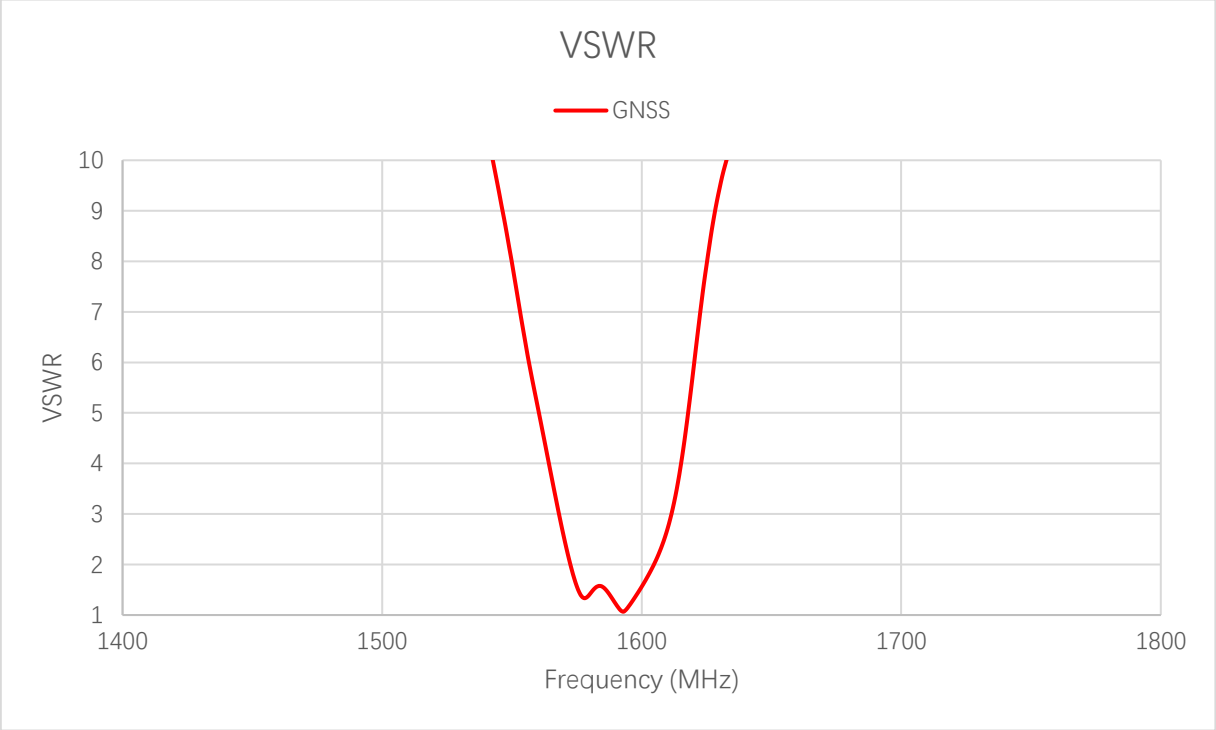
4000
4200
4400
4600
4800
5000
5200
5400
5600
5800
6000
Frequency (MHz)


VSWR
GNSS
VSWR
10
9
8
7
6
5
4
3
2
1
1400
1500
1600
1700
1800
Frequency (MHz)

VSWR – LMH

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
LMH1	3.9	3.2	2.5	2.4	3.3	4.2	2.7	1.8	2.1	2.6
LMH2	3.7	3.0	2.2	2.3	2.9	3.7	3.5	1.9	2.1	2.0
LMH3	4.2	3.3	2.0	2.1	3.0	4.1	3.7	1.9	1.9	1.9
LMH4	4.3	3.7	2.5	2.6	3.6	4.1	3.3	1.8	2.1	3.0
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
LMH1	3.2	2.6	1.5	1.1	2.2	2.3	1.8	1.5	2.6	1.8
LMH2	2.3	2.3	1.8	1.3	1.8	2.9	2.4	2.1	1.3	2.3
LMH3	2.2	2.0	1.4	1.3	2.0	3.2	2.6	1.6	2.3	2.0
LMH4	3.7	3.1	2.3	1.4	2.8	2.5	2.5	1.2	2.4	1.8

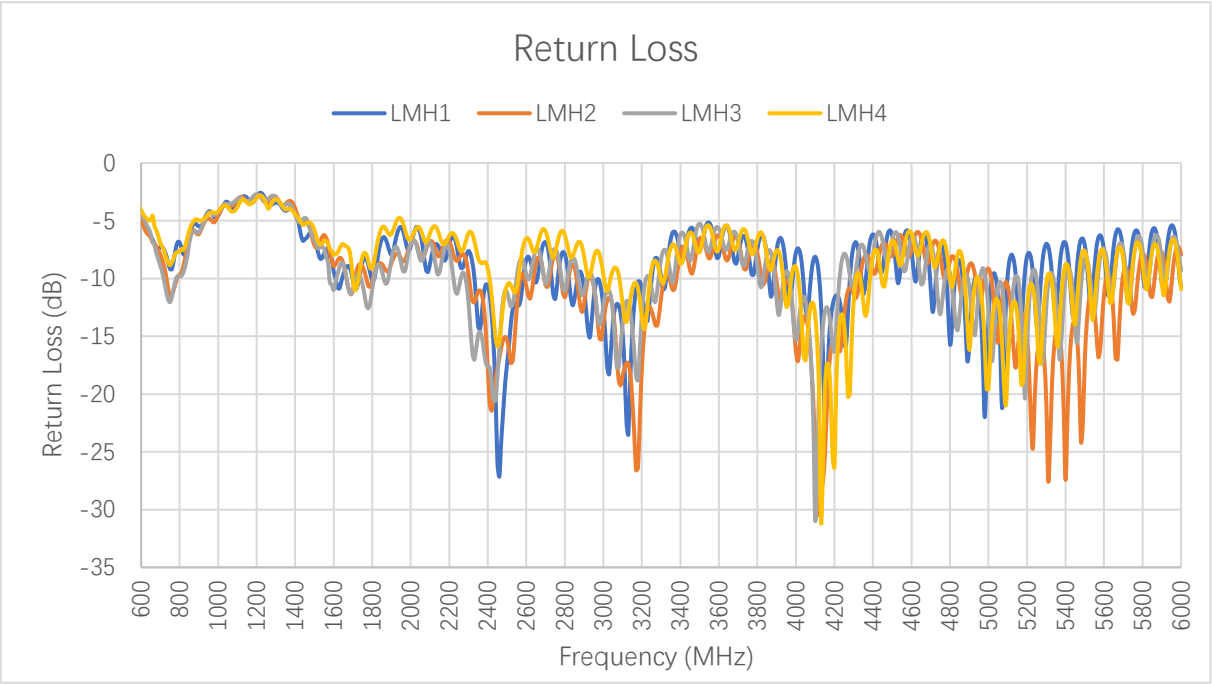
VSWR – MH

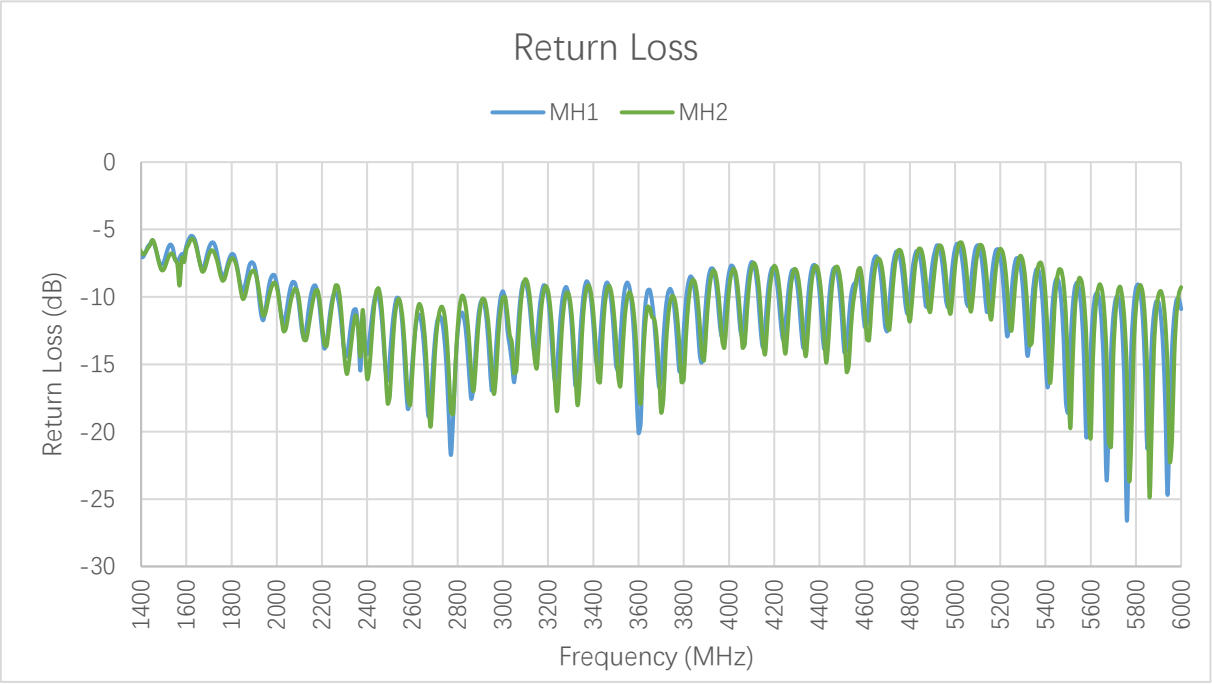
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
MH1	-	-	-	-	-	-	3.0	3.0	2.6	2.4
MH2	-	-	-	-	-	-	2.9	2.8	2.4	2.2
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
MH1	1.8	1.8	1.8	1.9	1.4	1.2	1.6	2.8	1.3	1.8
MH2	1.8	1.6	1.7	2.0	1.4	1.3	1.7	2.4	1.4	2.0

VSWR – GNSS

Frequency (MHz)	1176	1227	1561	1575	1602
GNSS	-	-	-	1.5	1.7

3.1.2. Return Loss





Return Loss (dB) – LMH

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
LMH1	-4.6	-5.7	-7.3	-7.8	-5.5	-4.2	-6.7	-10.9	-9.2	-7.1
LMH2	-4.9	-6.1	-8.4	-8.1	-6.2	-4.9	-5.1	-10.0	-8.8	-9.4
LMH3	-4.2	-5.4	-9.5	-8.8	-6.0	-4.3	-4.9	-10.3	-9.9	-10.3
LMH4	-4.1	-4.8	-7.2	-7.1	-5.0	-4.3	-5.4	-11.0	-8.8	-6.0
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
LMH1	-5.5	-7.1	-14.1	-26.0	-8.4	-8.0	-10.9	-13.4	-7.1	-10.7
LMH2	-8.3	-8.0	-11.1	-17.7	-10.7	-6.3	-7.8	-9.1	-17.0	-7.9
LMH3	-8.7	-9.6	-14.9	-18.5	-9.7	-5.7	-7.1	-13.1	-8.3	-9.3
LMH4	-4.8	-5.8	-8.2	-15.9	-6.5	-7.4	-7.2	-19.5	-7.6	-10.9

Return Loss (dB) – MH

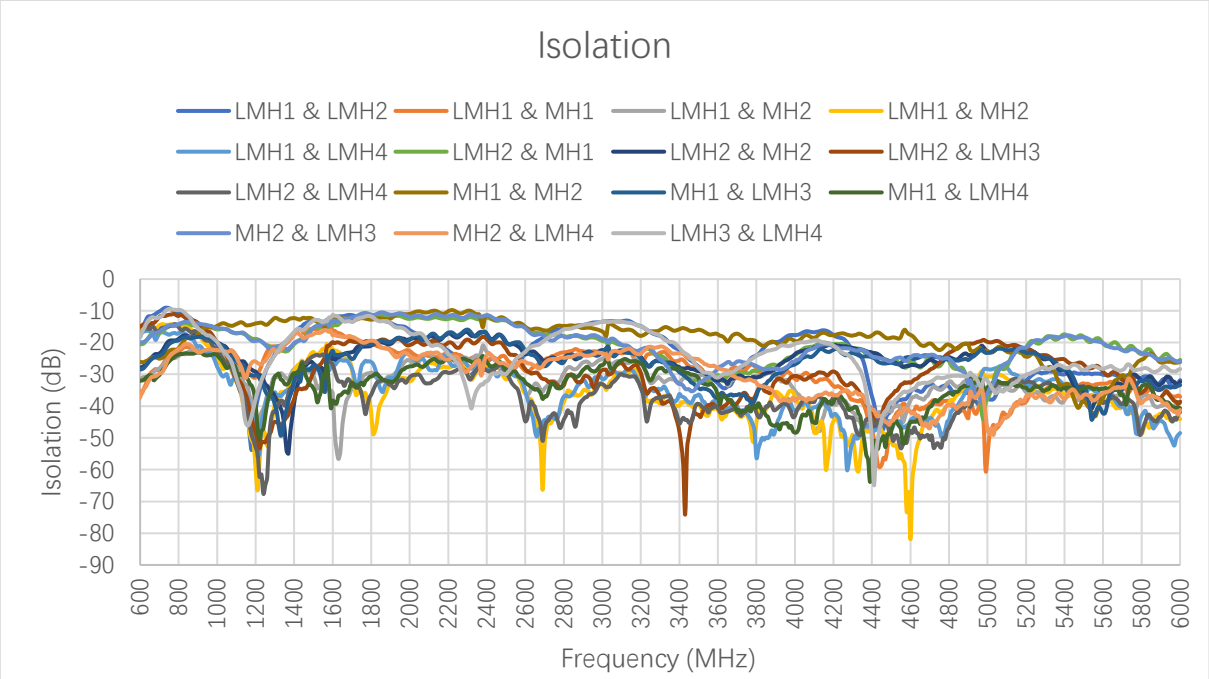
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
MH1	-	-	-	-	-	-	-6.1	-6.0	-7.1	-7.6
MH2	-	-	-	-	-	-	-6.1	-6.6	-7.6	-8.5
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
MH1	-11.0	-11.0	-10.9	-10.0	-14.8	-20.1	-12.5	-6.4	-18.5	-10.9
MH2	-11.2	-12.3	-11.4	-9.4	-15.6	-16.7	-12.0	-7.8	-15.5	-9.3

Return Loss (dB)

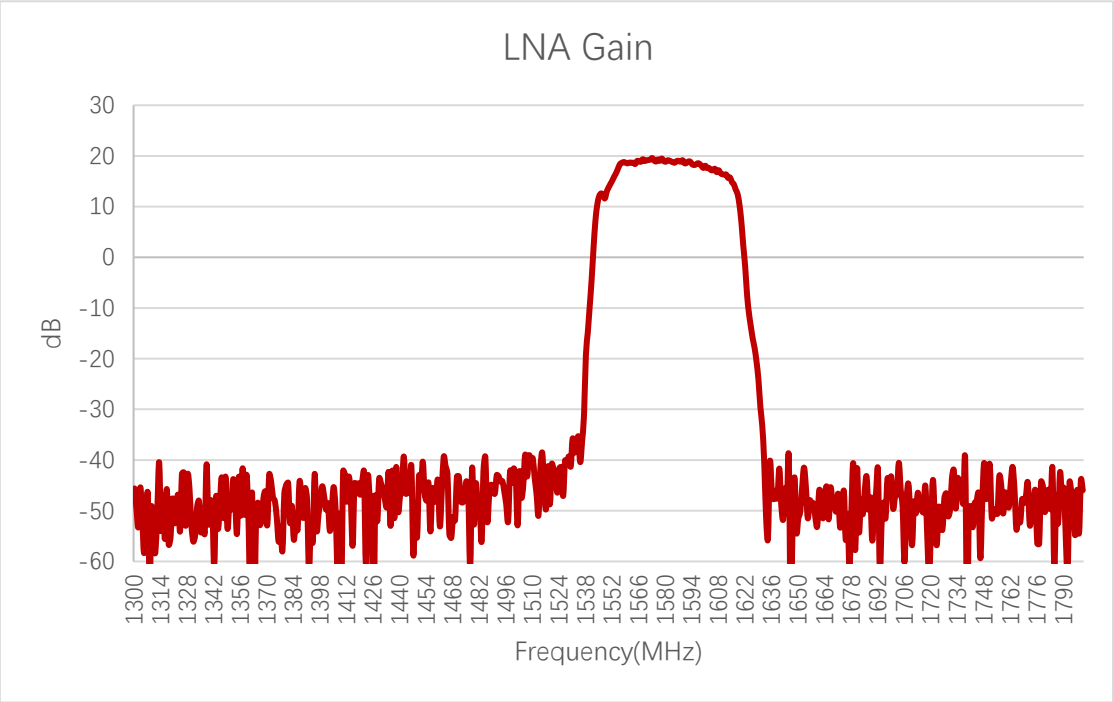
Frequency (MHz)	1176	1227	1561	1575	1602
GNSS	-	-	-	-13.0	-11.4

3.1.3. Isolation

3.1.3.1. Test Status: In Free Space



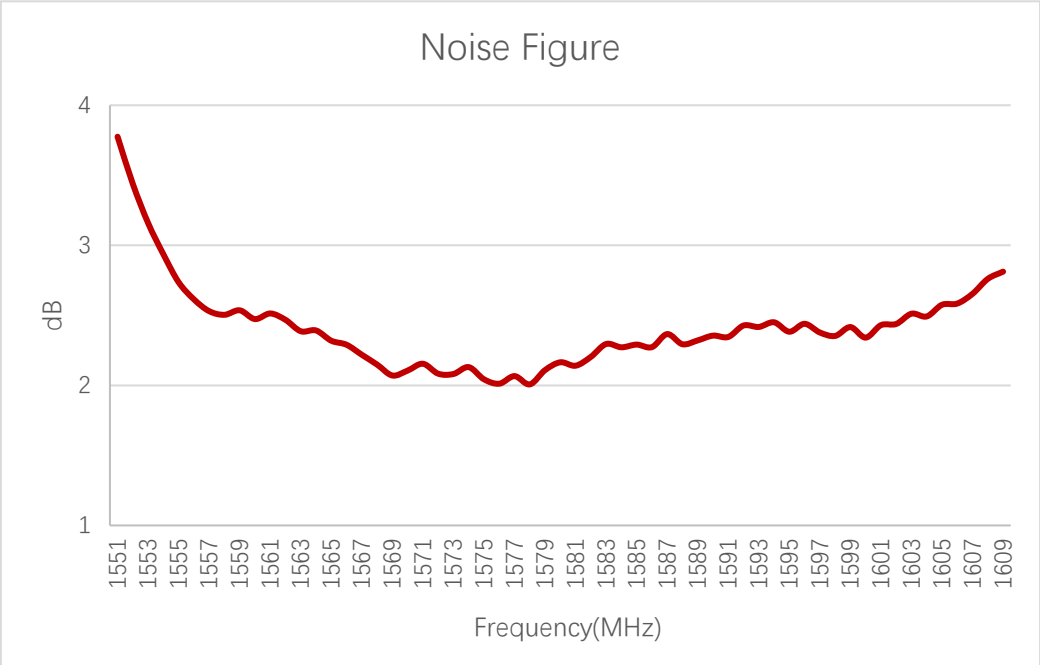
3.1.4. GNSS LNA Gain



LNA Gain (dB)

Frequency (MHz)	1176	1227	1561	1575	1602
GNSS	-	-	-	18.8	17.5

3.1.5. GNSS Noise Figure

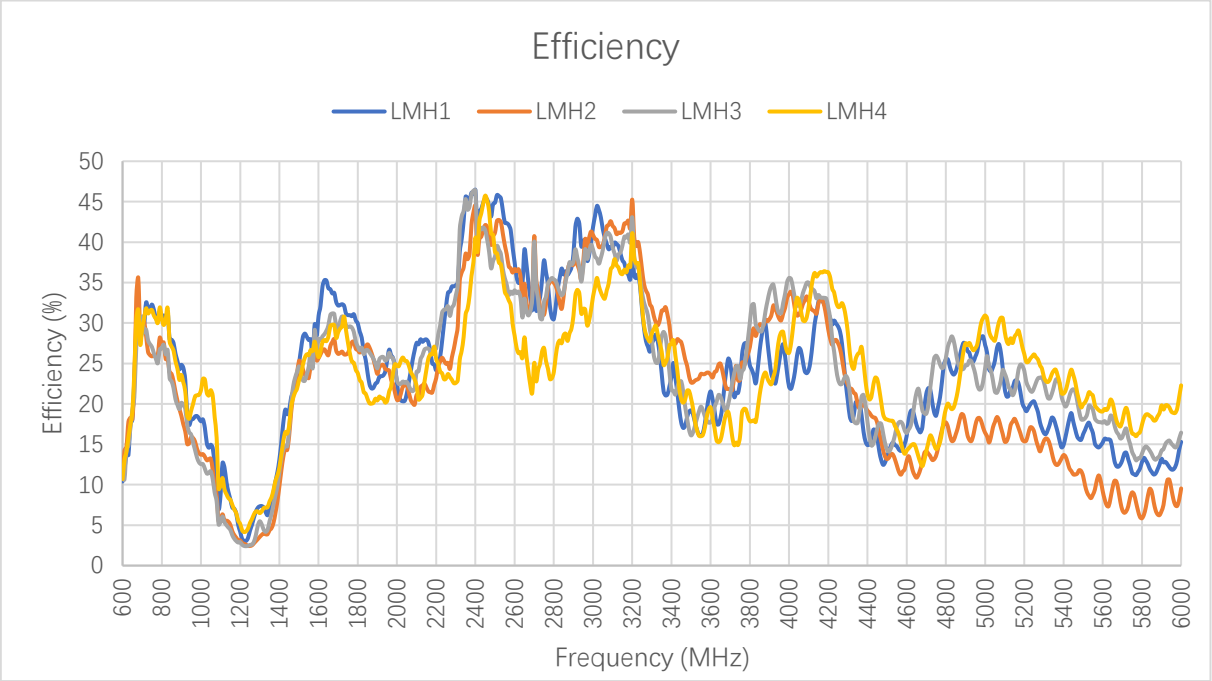


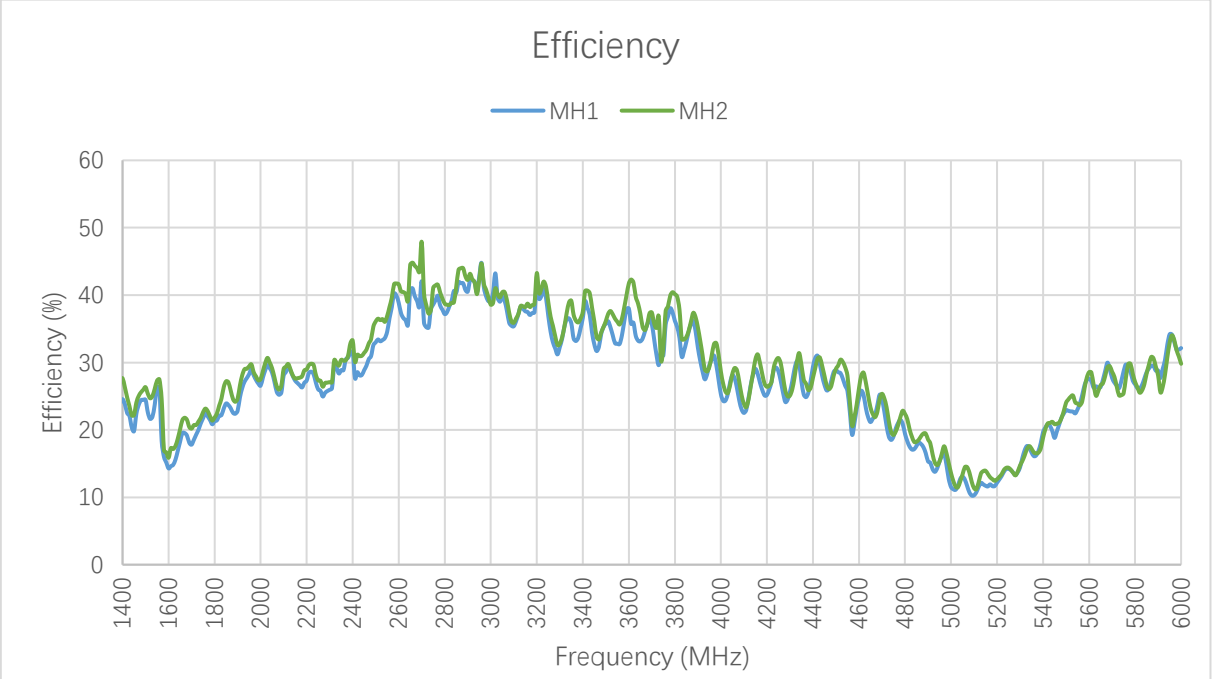
Noise Figure (dB)

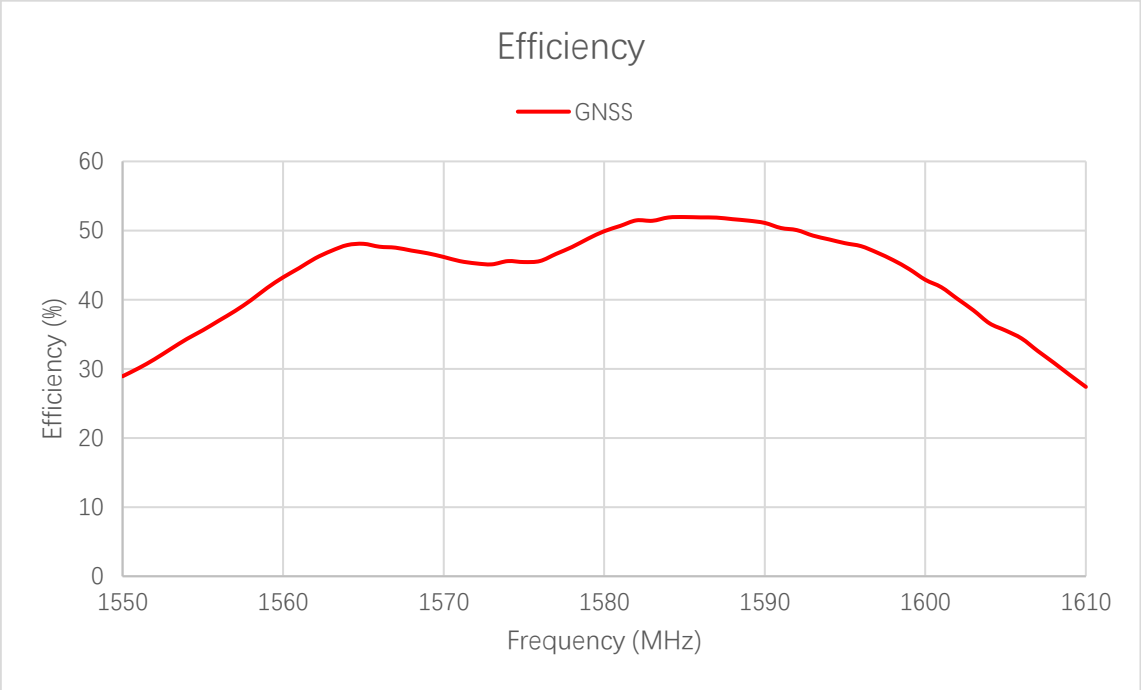
Frequency (MHz)	1176	1227	1561	1575	1602
Noise Figure (dB)	-	-	-	2.04	2.43

3.2. Radiation Performance Test

3.2.1. Efficiency







Efficiency (%) – LMH

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
LMH1	10.4	13.7	29.7	31.4	24.8	18.1	18.7	32.2	31.2	22.0
LMH2	11.1	17.8	30.2	25.6	18.5	15.8	14.3	26.3	26.1	25.5
LMH3	11.4	14.8	28.9	26.7	20.1	15.2	14.8	30.2	29.7	25.6
LMH4	10.7	15.8	30.6	31.9	23.6	20.0	16.3	29.3	29.1	20.1
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
LMH1	25.4	27.9	45.6	45.4	37.5	21.5	21.3	27.3	16.2	15.3
LMH2	24.2	22.5	38.6	42.1	36.7	23.6	14.2	16.4	11.1	9.5
LMH3	25.5	26.7	45.3	41.5	34.0	17.7	18.8	24.4	18.1	16.4
LMH4	20.4	22.7	31.1	45.8	28.4	19.6	14.1	30.9	19.9	22.3

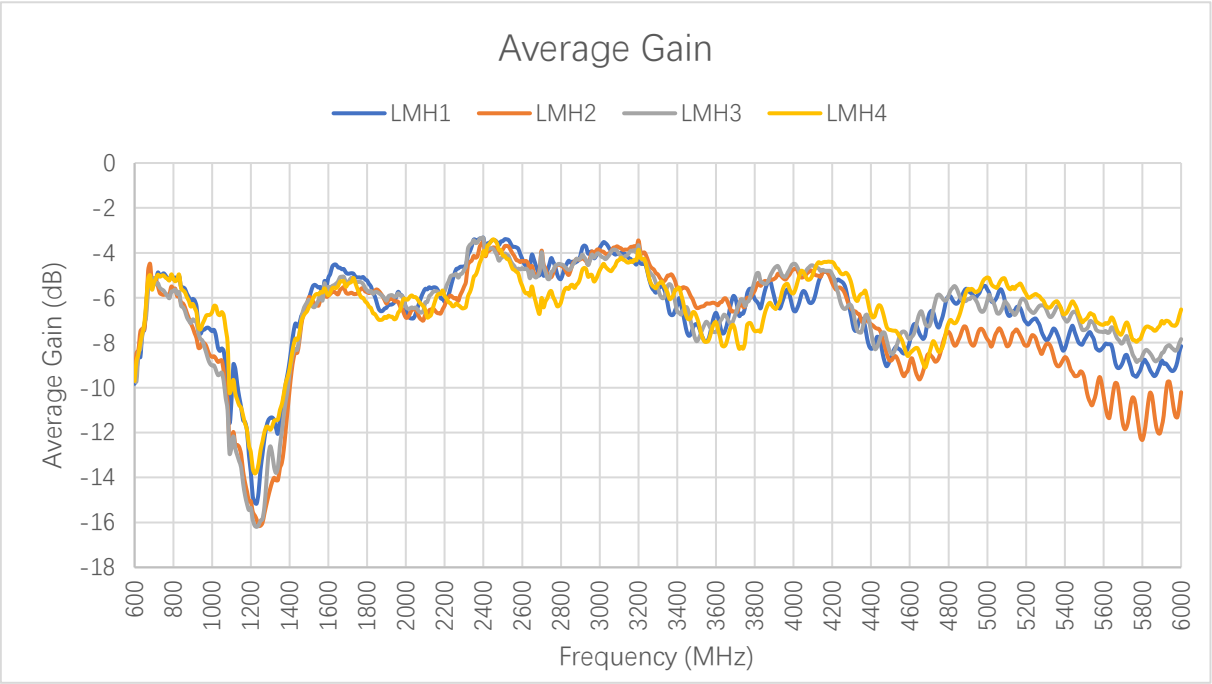
Efficiency (%) – MH

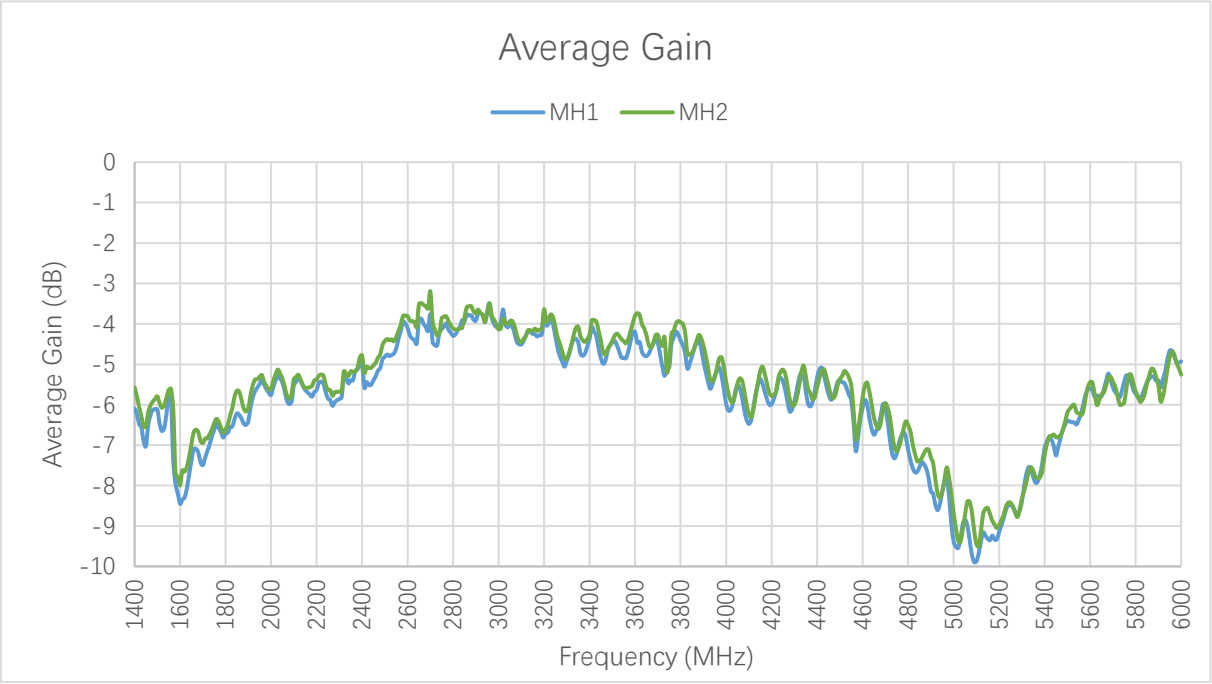
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
MH1	-	-	-	-	-	-	20.4	18.5	21.0	22.5
MH2	-	-	-	-	-	-	22.2	20.7	21.8	24.6
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
MH1	28.3	28.0	28.9	28.9	38.9	38.0	24.5	11.5	22.9	32.1
MH2	29.4	28.1	30.4	31.4	41.6	41.7	25.4	13.6	24.0	29.8

Efficiency (%)

Frequency (MHz)	1176	1227	1561	1575	1602
GNSS	-	-	-	45.44	40.12

3.2.2. Average Gain





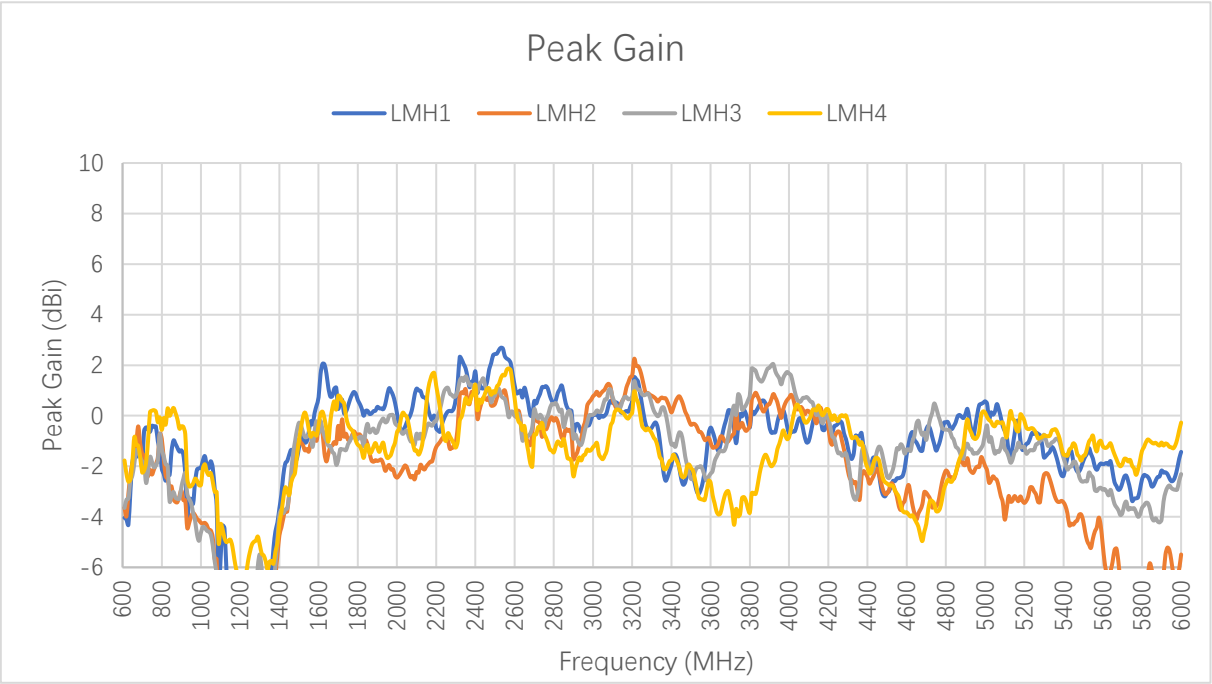
Average Gain (dB) – LMH

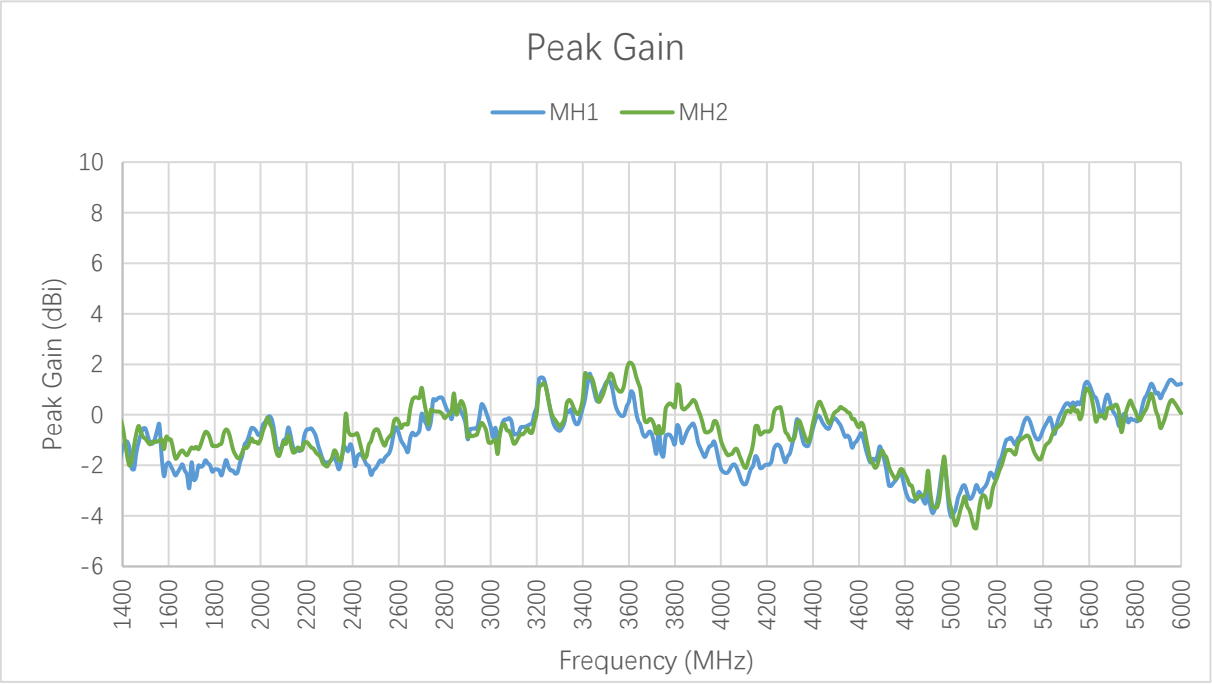
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
LMH1	-9.8	-8.6	-5.3	-5.0	-6.1	-7.4	-7.3	-4.9	-5.1	-6.6
LMH2	-9.6	-7.5	-5.2	-5.9	-7.3	-8.0	-8.4	-5.8	-5.8	-5.9
LMH3	-9.4	-8.3	-5.4	-5.7	-7.0	-8.2	-8.3	-5.2	-5.3	-5.9
LMH4	-9.7	-8.0	-5.1	-5.0	-6.3	-7.0	-7.9	-5.3	-5.4	-7.0
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
LMH1	-5.9	-5.5	-3.4	-3.4	-4.3	-6.7	-6.7	-5.6	-7.9	-8.2
LMH2	-6.2	-6.5	-4.1	-3.8	-4.4	-6.3	-8.5	-7.8	-9.6	-10.2
LMH3	-5.9	-5.7	-3.4	-3.8	-4.7	-7.5	-7.3	-6.1	-7.4	-7.8
LMH4	-6.9	-6.4	-5.1	-3.4	-5.5	-7.1	-8.5	-5.1	-7.0	-6.5

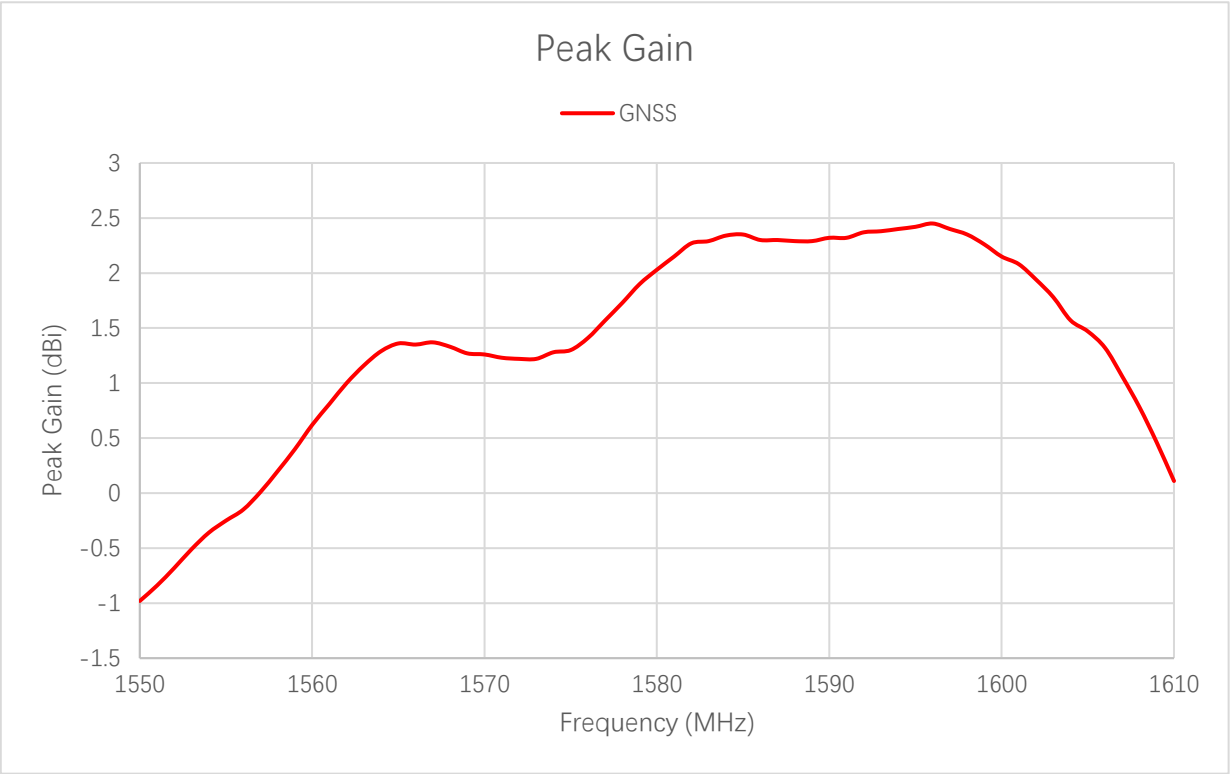
Average Gain (dB) – MH

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
MH1	-	-	-	-	-	-	-6.9	-7.3	-6.8	-6.5
MH2	-	-	-	-	-	-	-6.5	-6.8	-6.6	-6.1
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
MH1	-5.5	-5.5	-5.4	-5.4	-4.1	-4.2	-6.1	-9.4	-6.4	-4.9
MH2	-5.3	-5.5	-5.2	-5.0	-3.8	-3.8	-6.0	-8.7	-6.2	-5.3

3.2.3. Peak Gain







Peak Gain (dBi) – LMH

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
LMH1	-4.0	-4.3	-0.6	-2.2	-1.4	-3.5	-1.8	0.6	0.2	0.2
LMH2	-4.8	-3.1	-1.6	-2.5	-3.0	-3.9	-3.8	-0.9	-0.7	-1.8
LMH3	-5.1	-3.3	-1.9	-2.0	-2.8	-3.9	-3.7	-1.3	-1.4	-0.5
LMH4	-4.1	-2.6	-2.2	0.3	-0.4	-2.7	-3.0	0.8	0.0	-1.2
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
LMH1	0.8	0.7	1.9	1.1	1.2	-0.5	-0.5	0.6	-1.8	-1.4
LMH2	-2.1	-2.1	1.1	0.7	0.0	-1.1	-3.1	-2.0	-4.1	-5.5
LMH3	-0.2	-0.8	1.6	1.2	0.0	-2.3	-1.0	-0.7	-2.6	-2.3
LMH4	-1.7	-0.3	0.7	0.9	0.7	-2.7	-4.3	0.1	-1.6	-0.3

Peak Gain (dBi) – MH

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
MH1	-	-	-	-	-	-	-2.1	-2.6	-2.1	-2.2
MH2	-	-	-	-	-	-	-1.8	-1.3	-1.2	-1.4
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
MH1	-0.8	-1.3	-1.9	-1.8	-0.7	0.5	-1.5	-4.0	0.4	1.2
MH2	-1.1	-1.5	-1.8	-1.7	-0.3	2.0	-1.4	-3.7	0.1	0.1

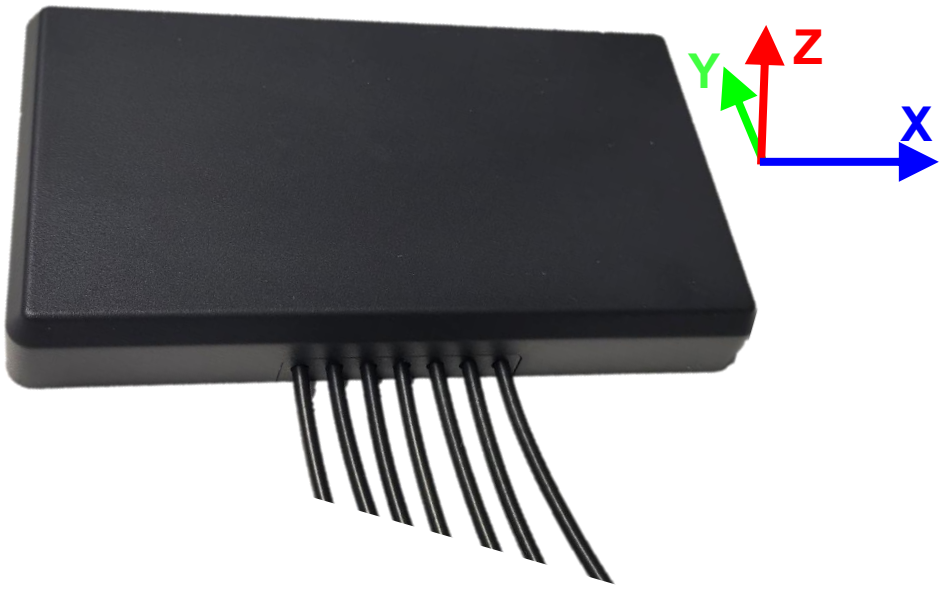
Peak Gain (dBi)

Frequency (MHz)	1176	1227	1561	1575	1602
GNSS	-	-	-	1.3	1.94

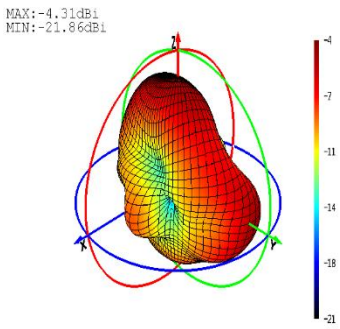
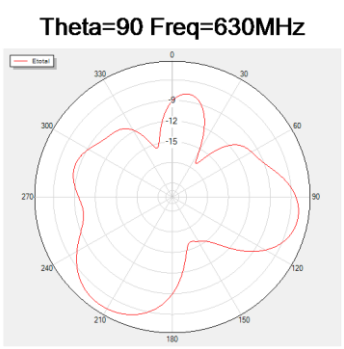
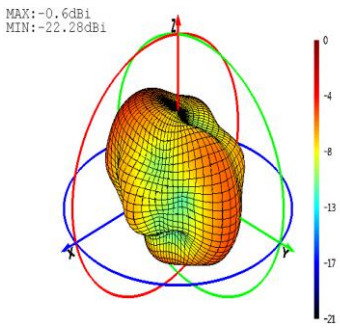
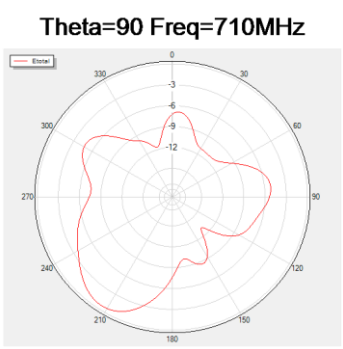
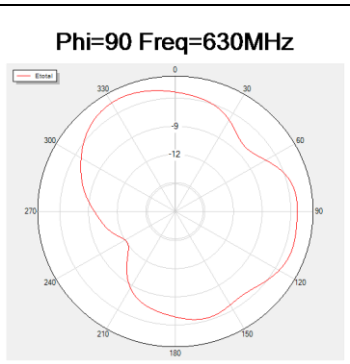
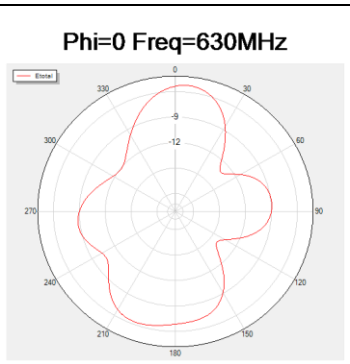
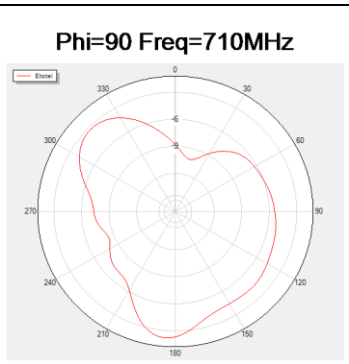
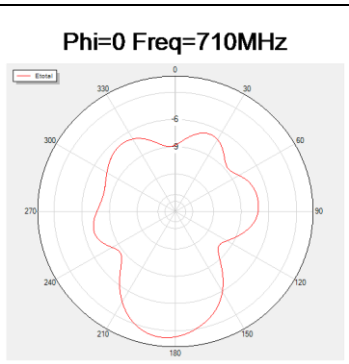
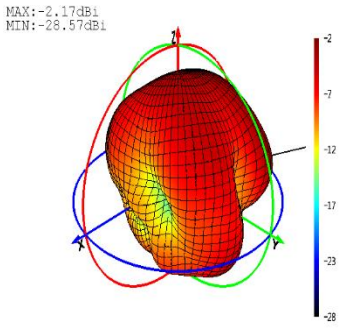
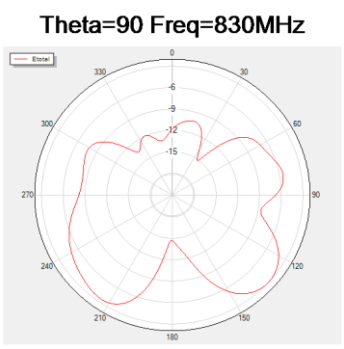
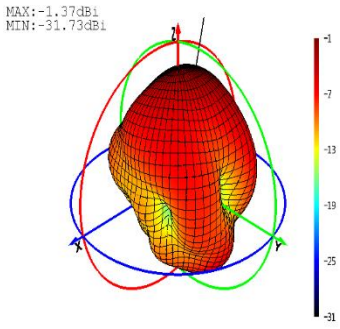
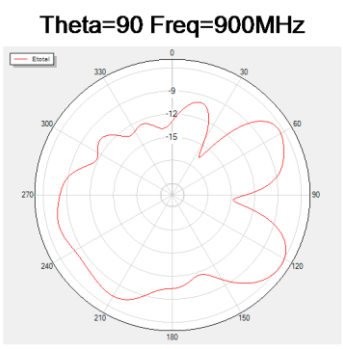
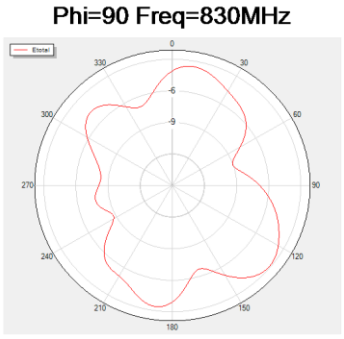
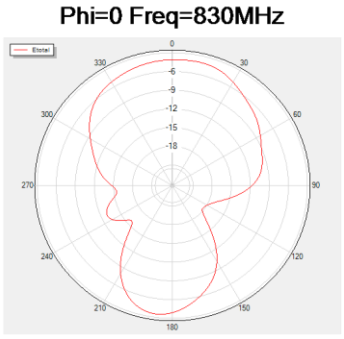
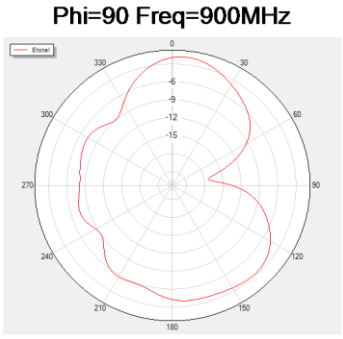
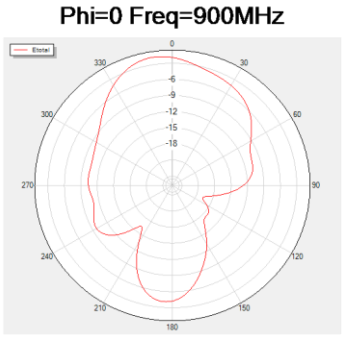
3.2.4. 3D & 2D Radiation Pattern

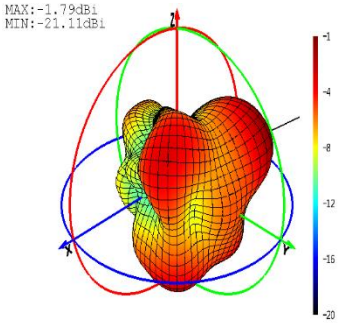
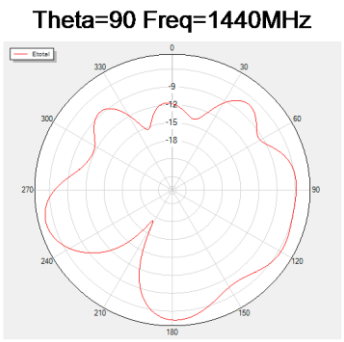
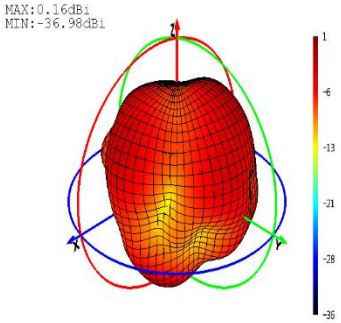
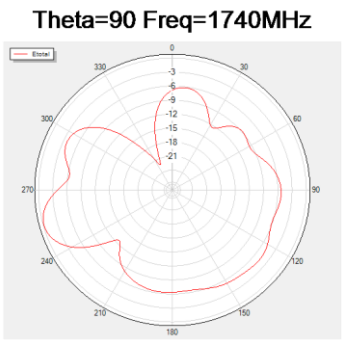
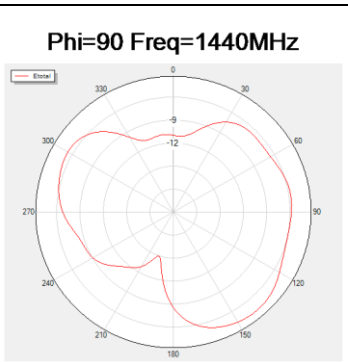
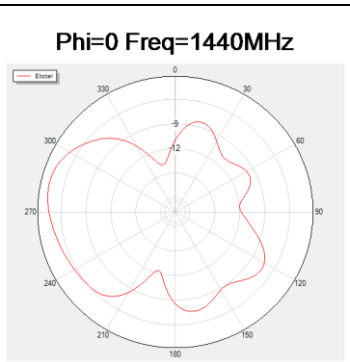
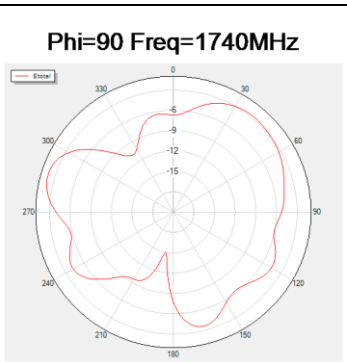
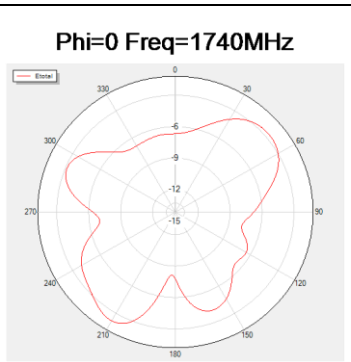
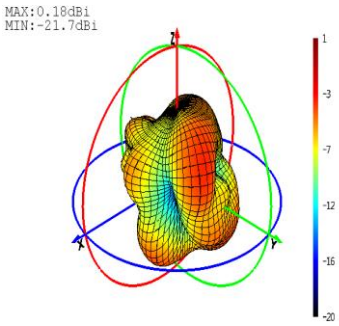
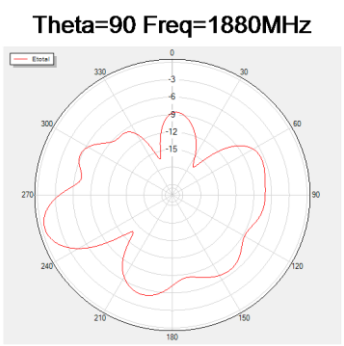
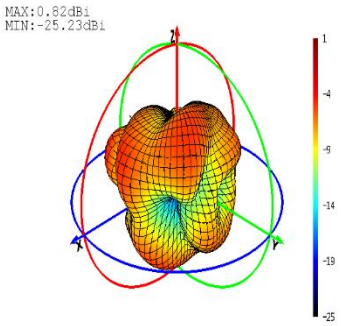
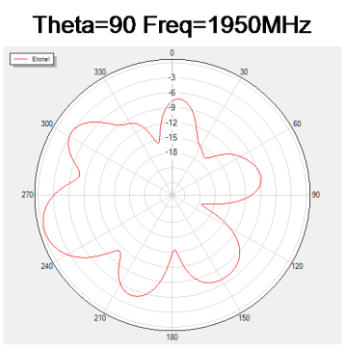
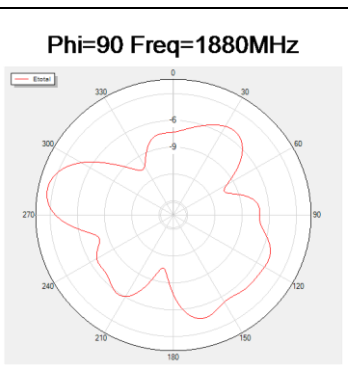
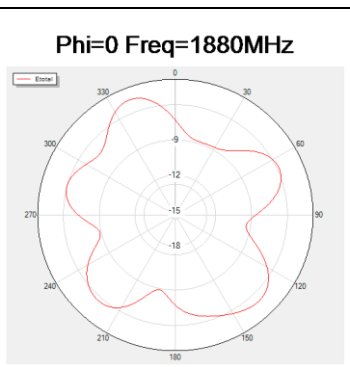
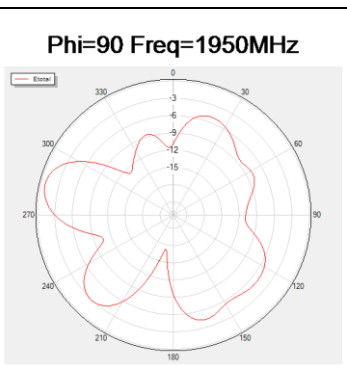
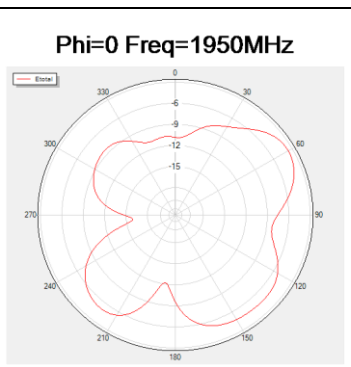
3.2.4.1. Test Condition: In Free Space

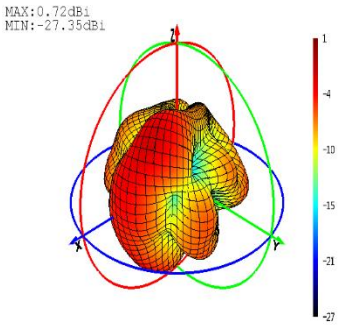
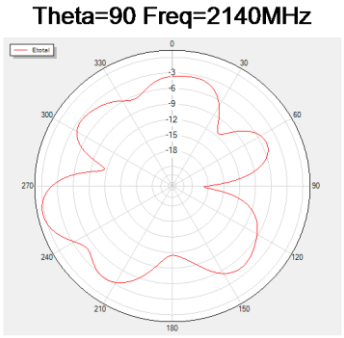
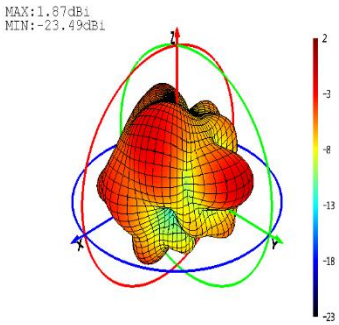
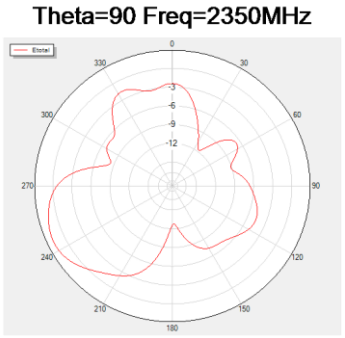
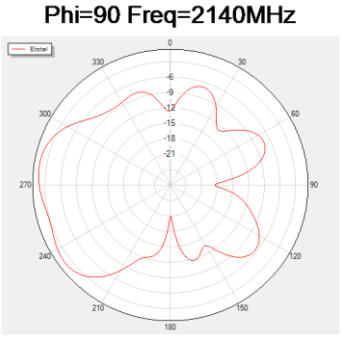
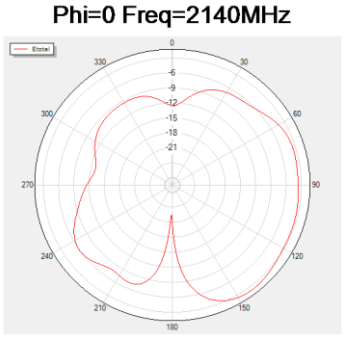
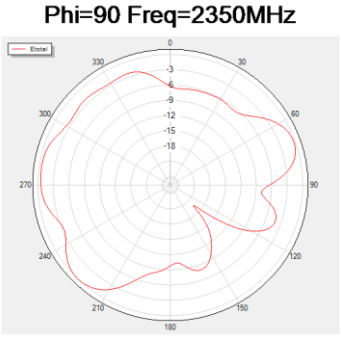
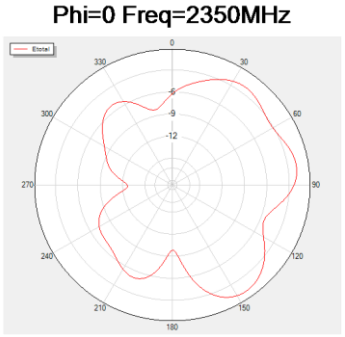
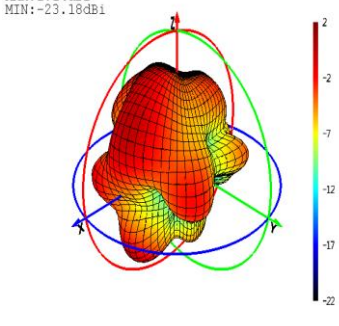
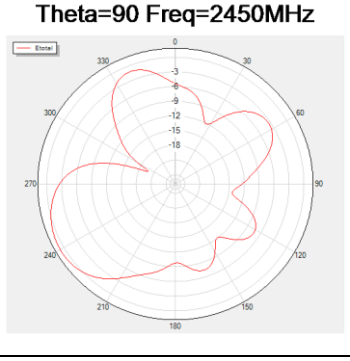
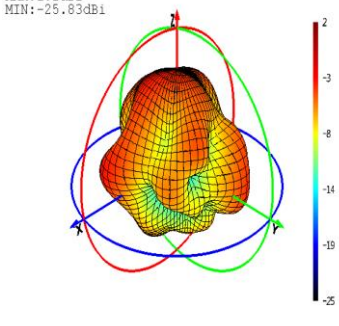
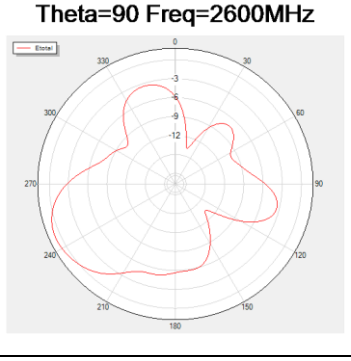
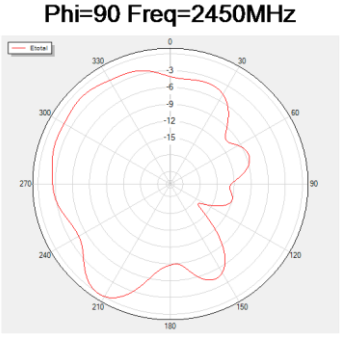
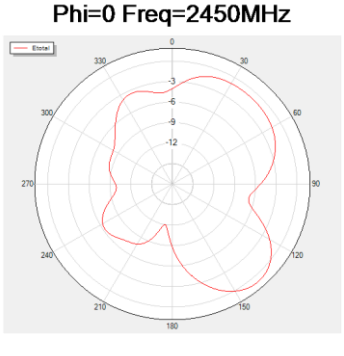
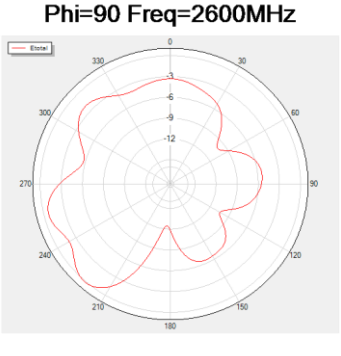
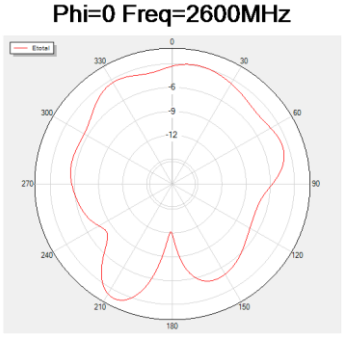
- Test Chamber: FS-S-1

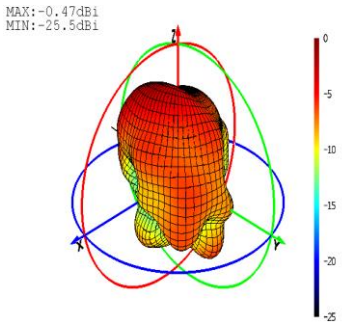
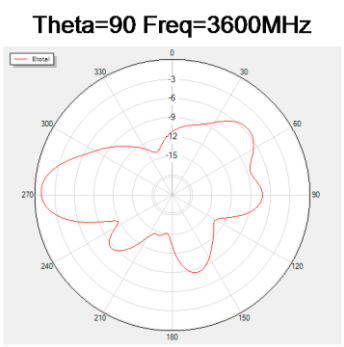
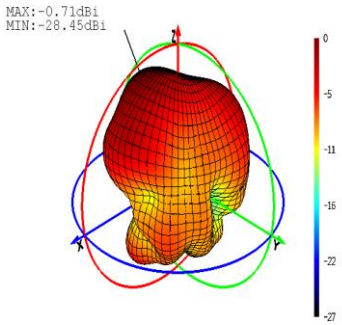
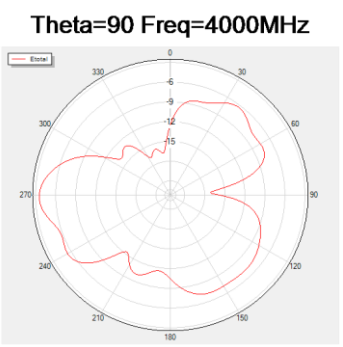
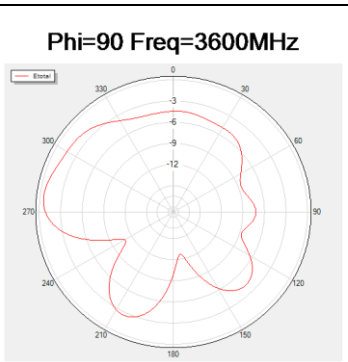
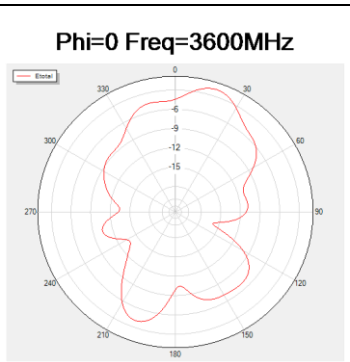
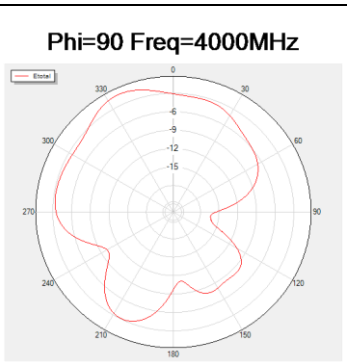
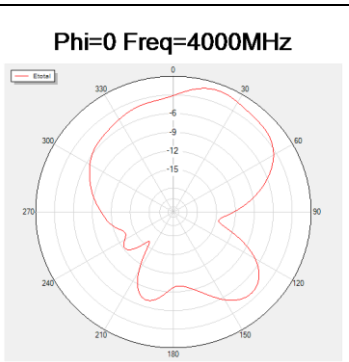
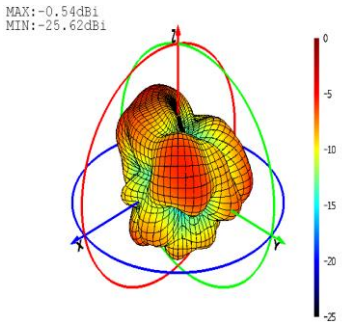
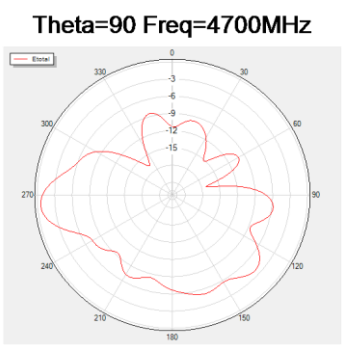
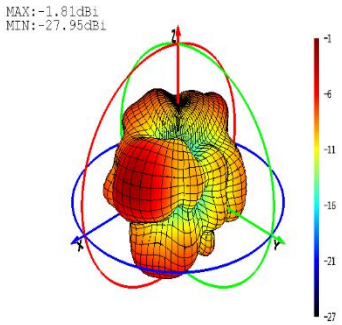
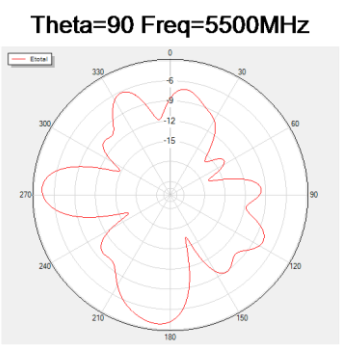
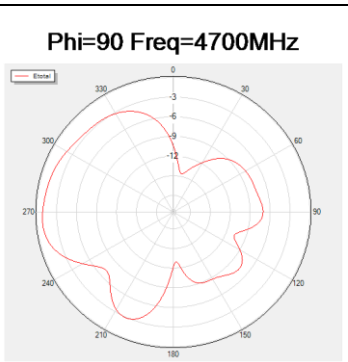
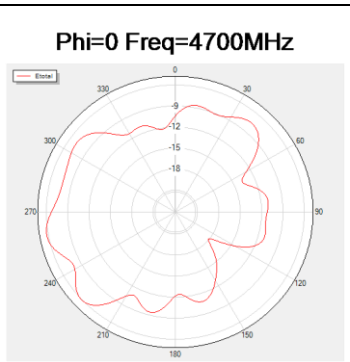
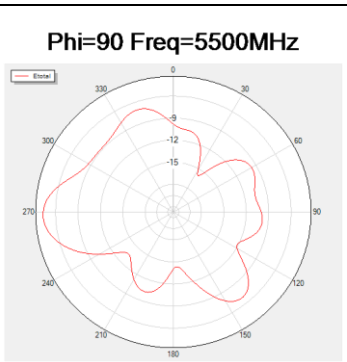
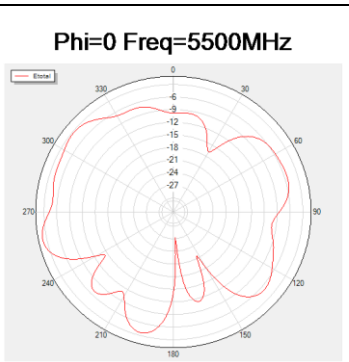


- **LMH1**

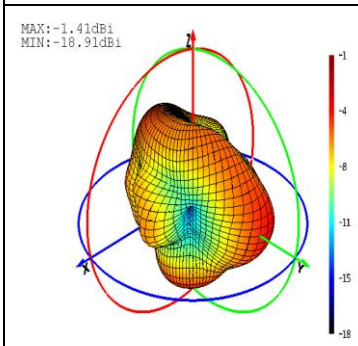
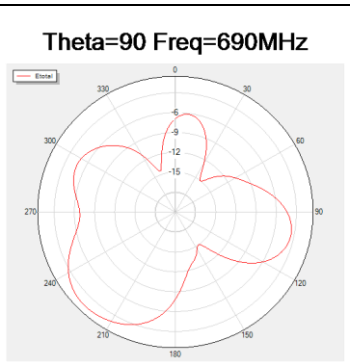
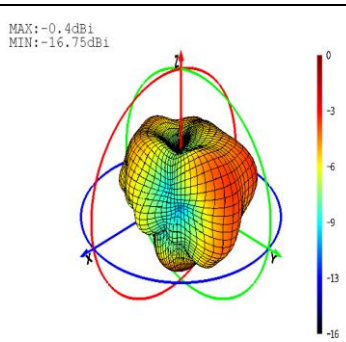
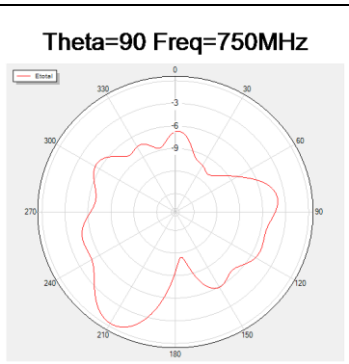
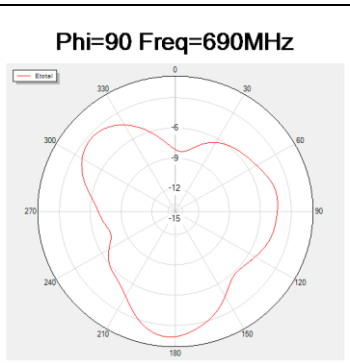
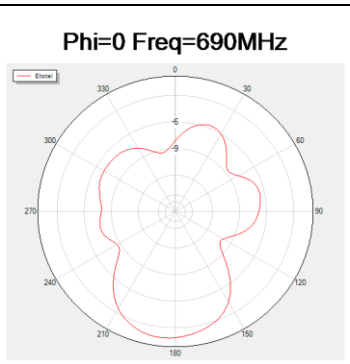
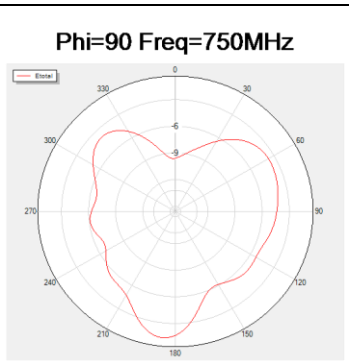
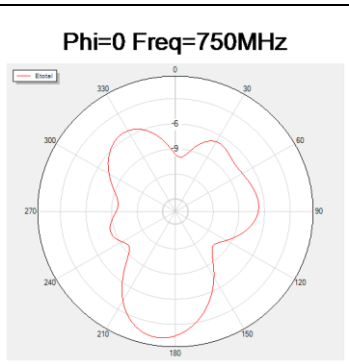
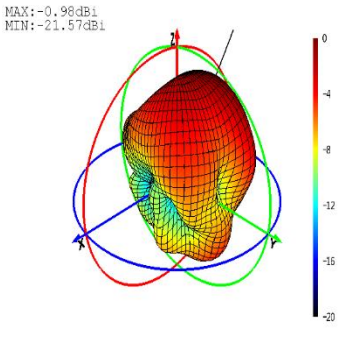
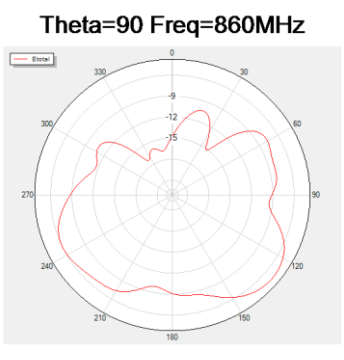
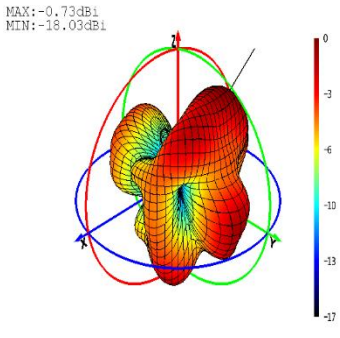
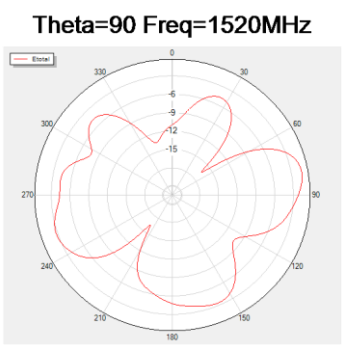
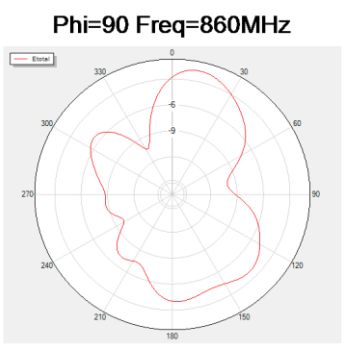
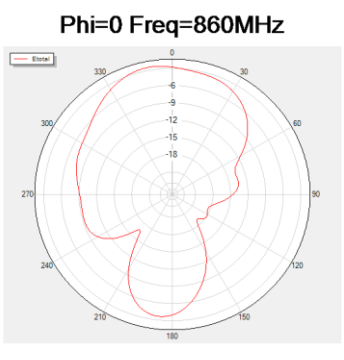
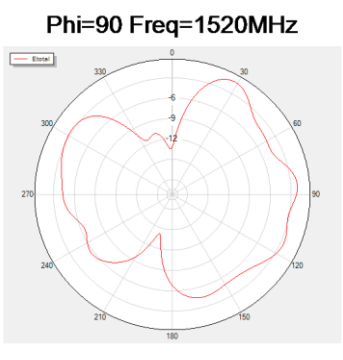
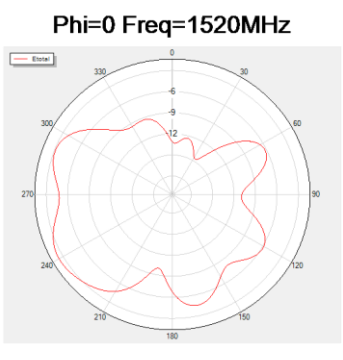
630 MHz		710 MHz	
			
			
830 MHz		900 MHz	
			
			

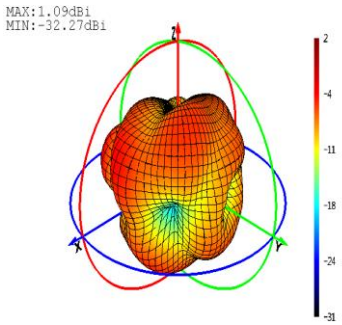
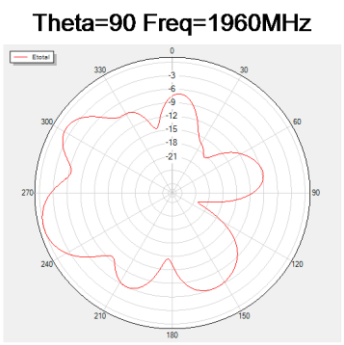
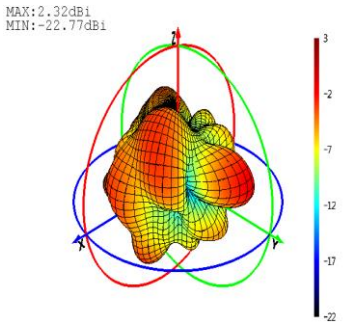
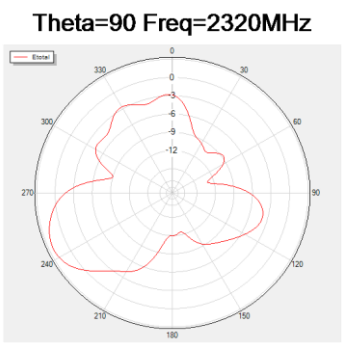
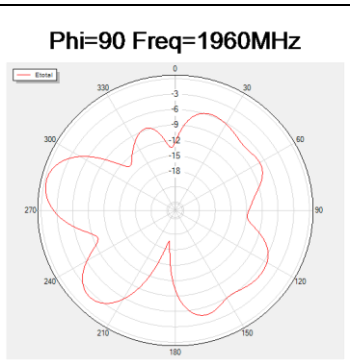
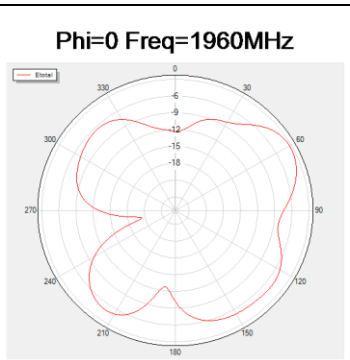
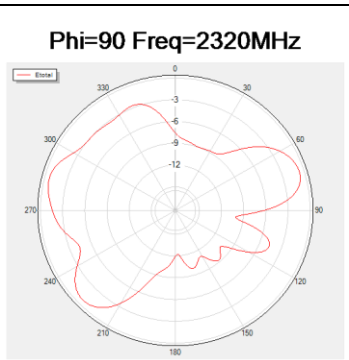
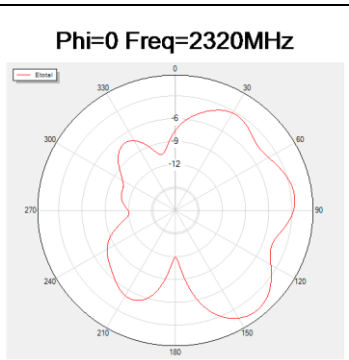
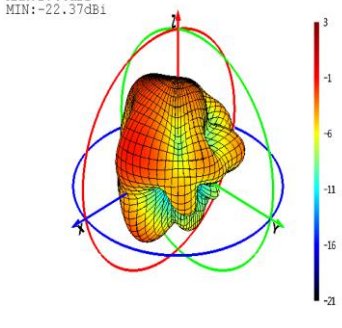
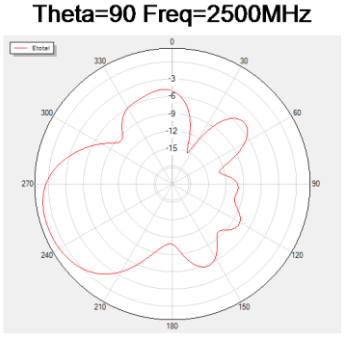
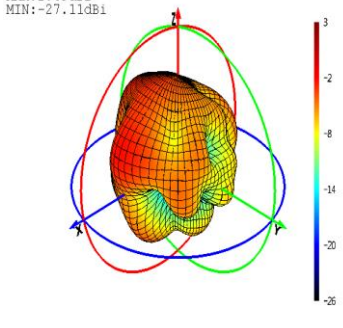
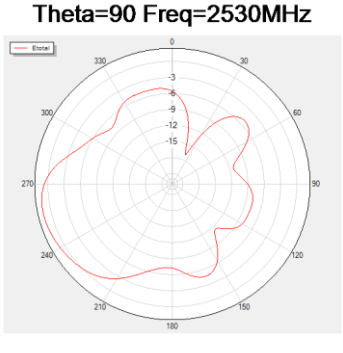
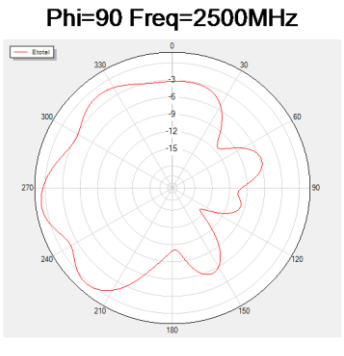
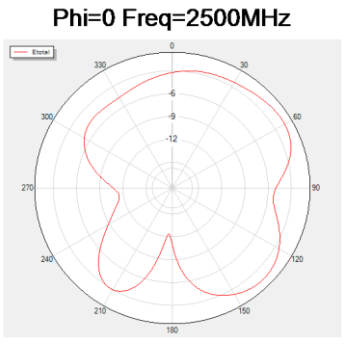
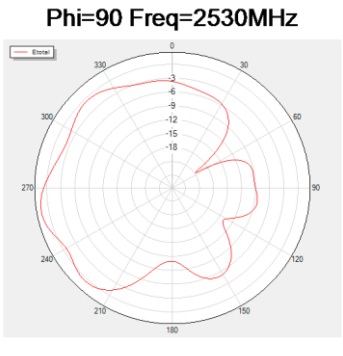
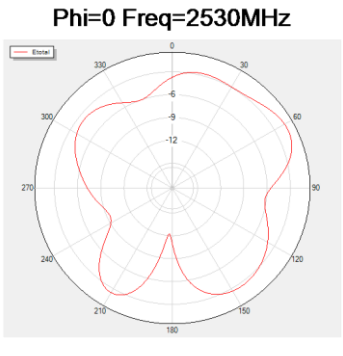
1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

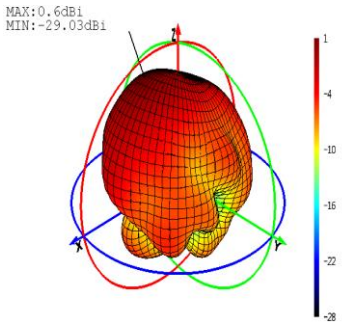
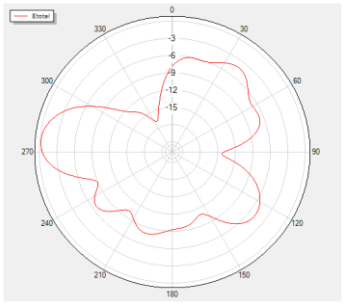
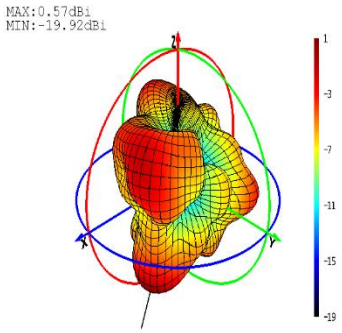
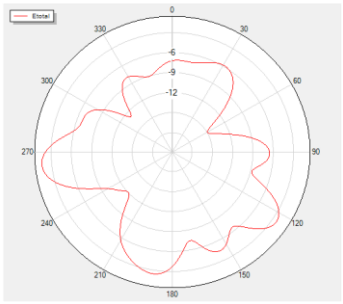
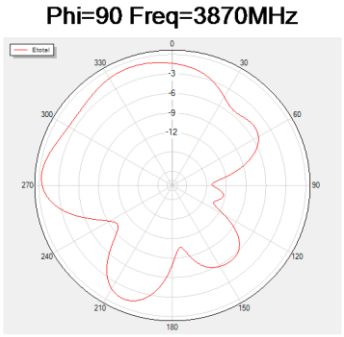
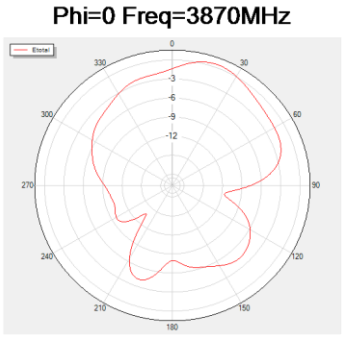
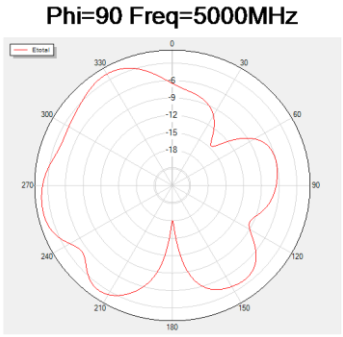
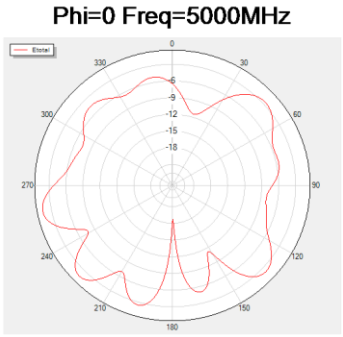
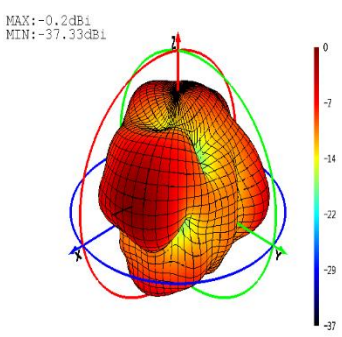
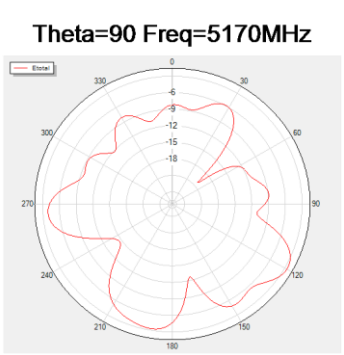
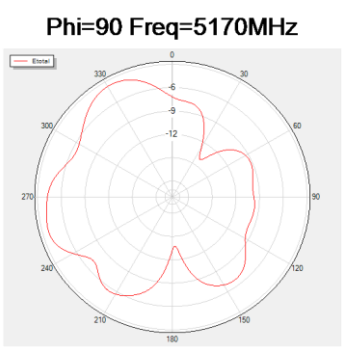
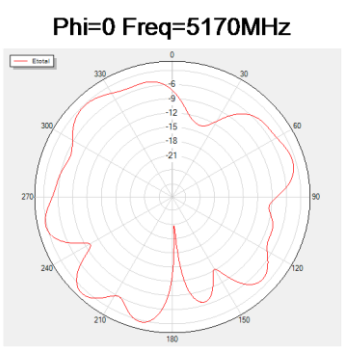
2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

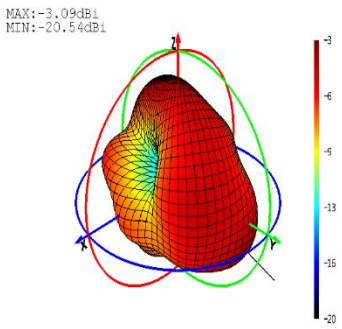
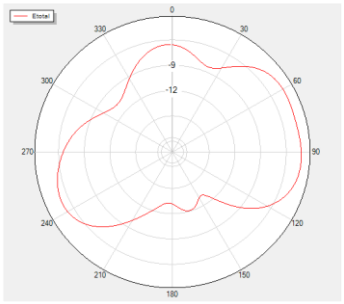
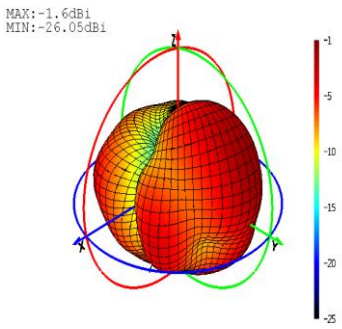
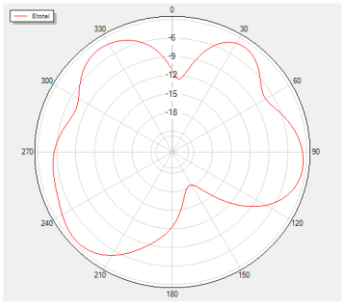
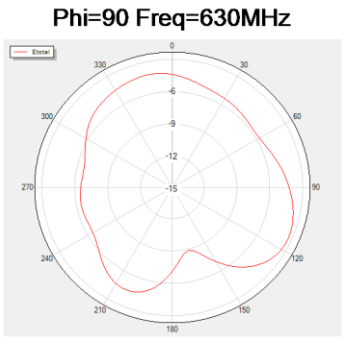
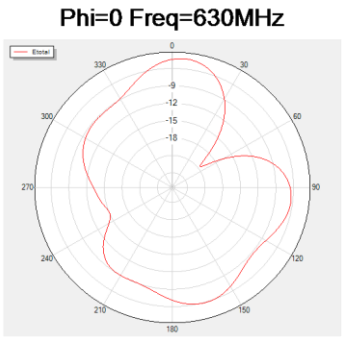
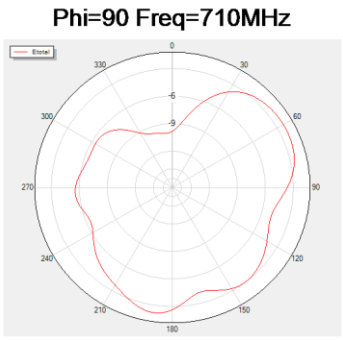
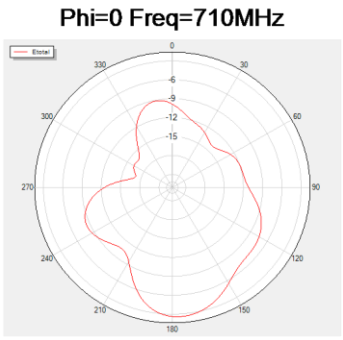
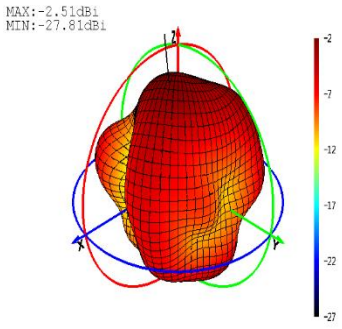
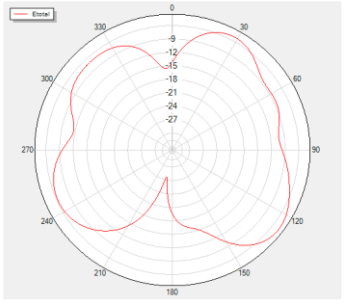
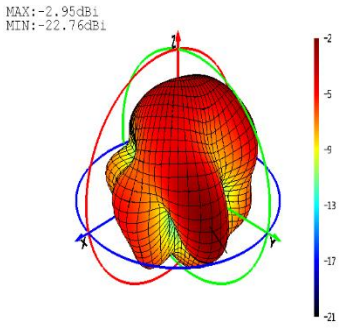
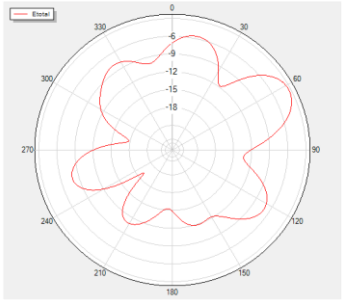
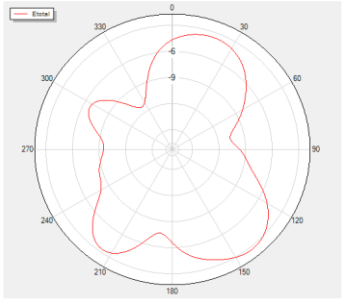
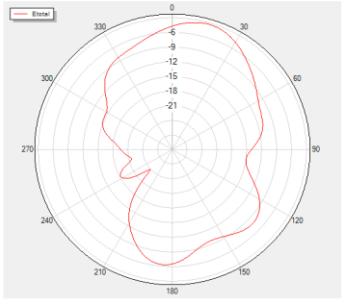
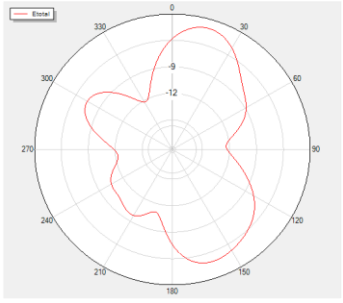
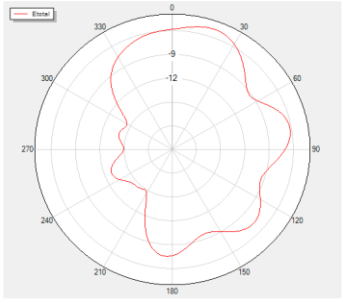
- **LMH1 Max Peak Gain**

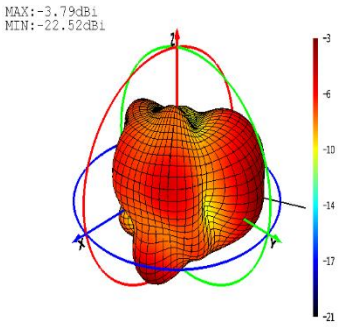
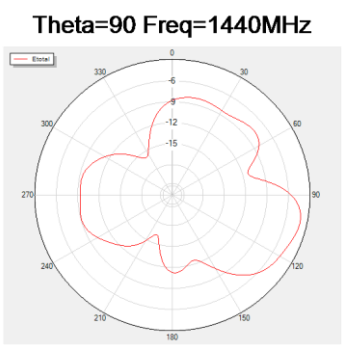
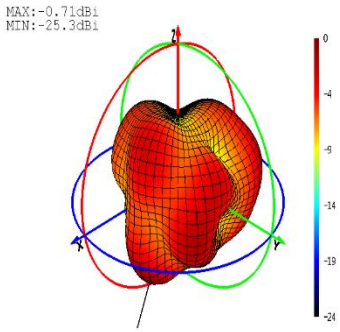
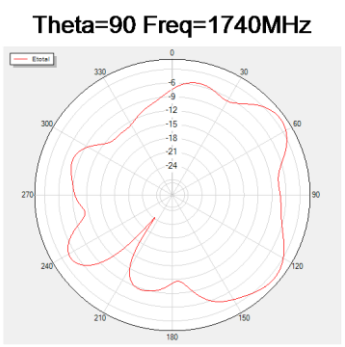
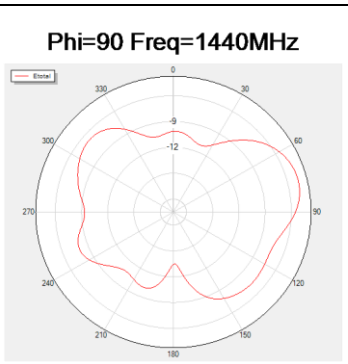
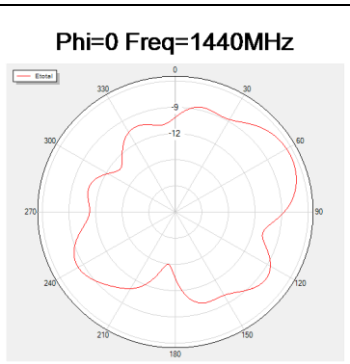
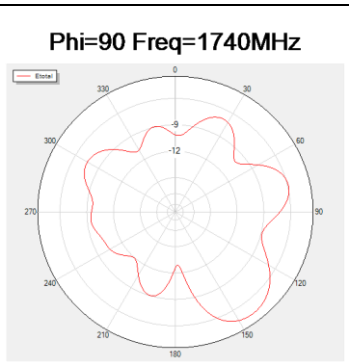
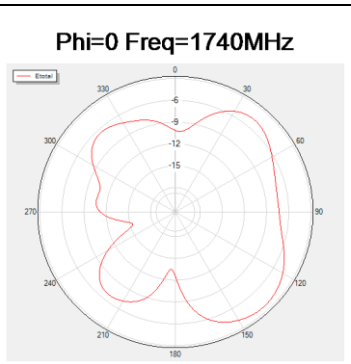
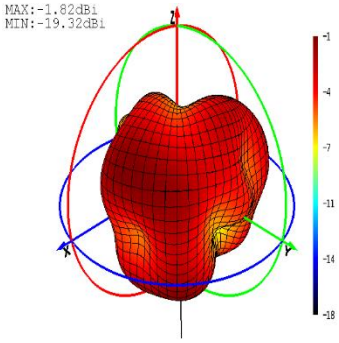
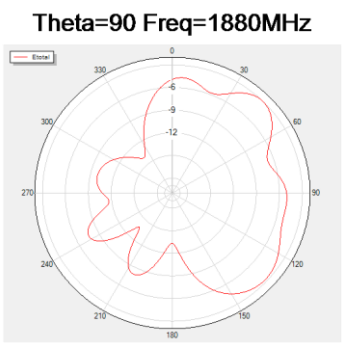
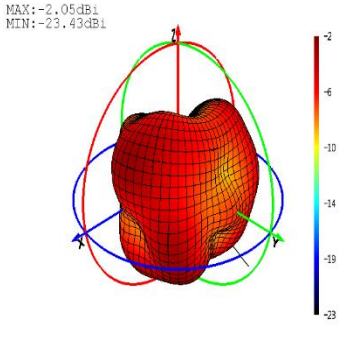
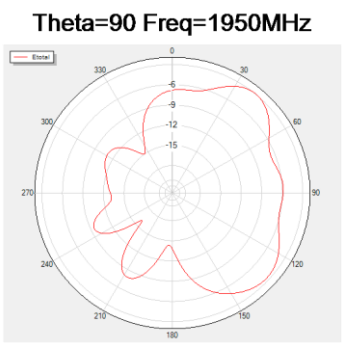
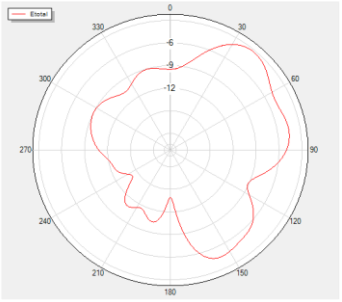
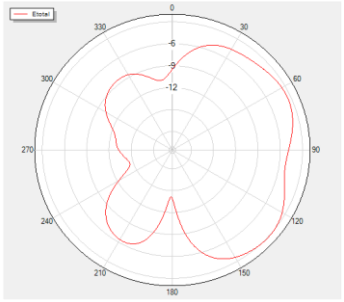
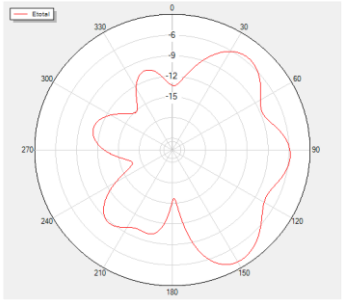
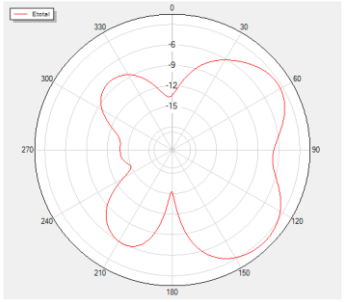
690 MHz		750 MHz	
			
			
860 MHz		1520 MHz	
			
			

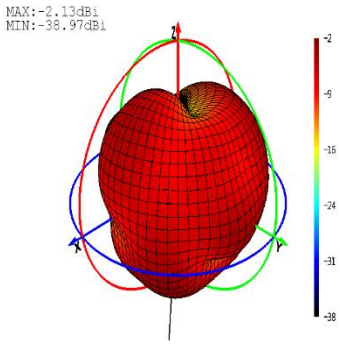
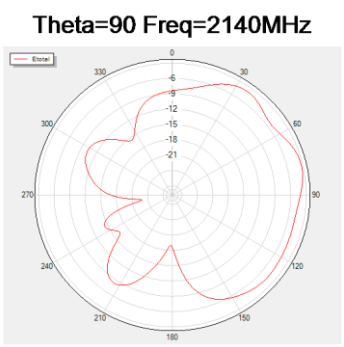
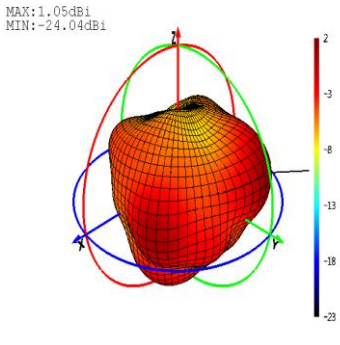
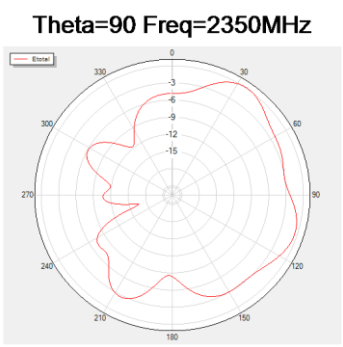
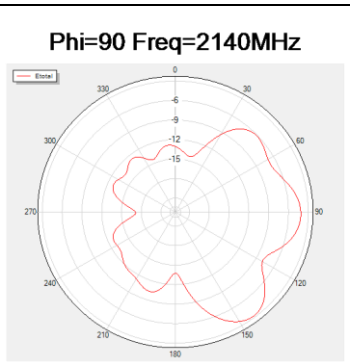
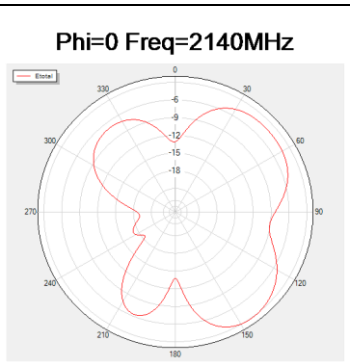
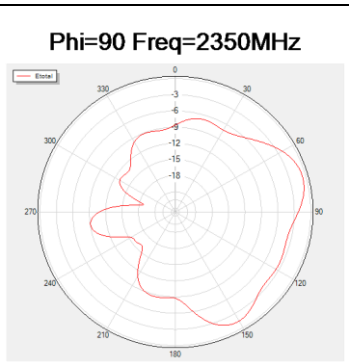
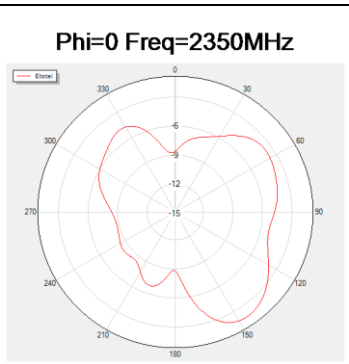
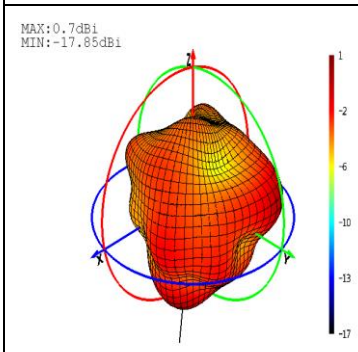
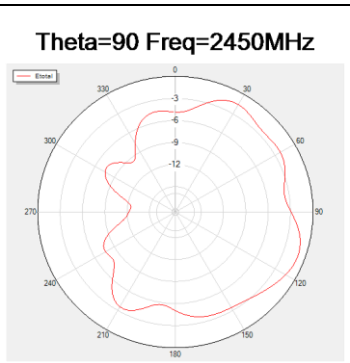
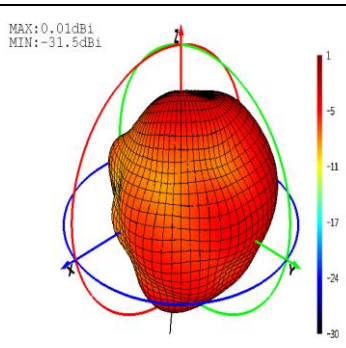
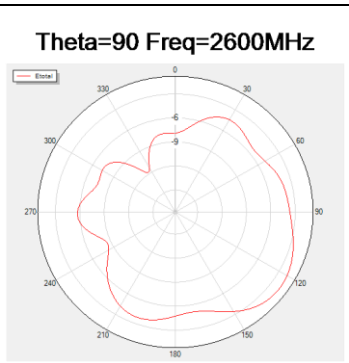
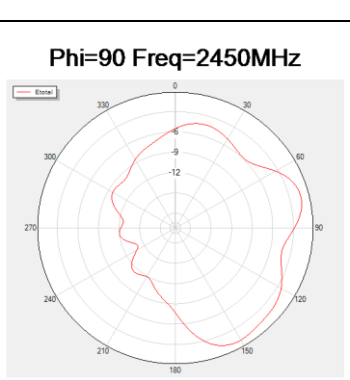
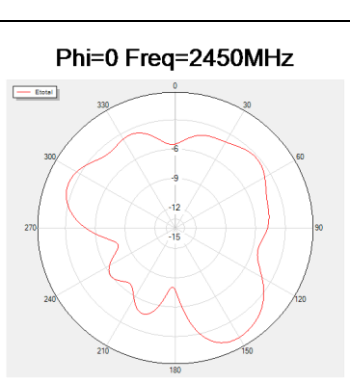
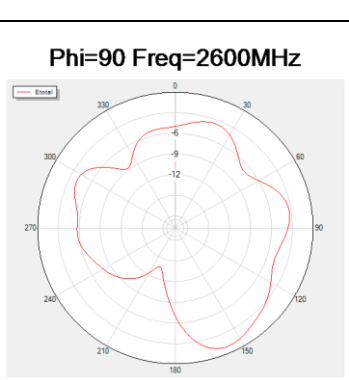
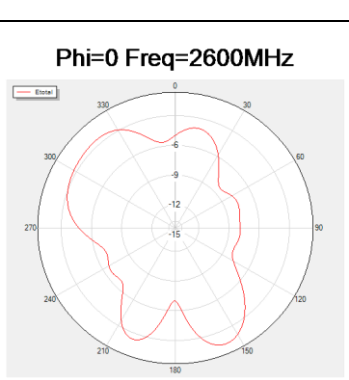
1960 MHz		2320 MHz	
			
			
2500 MHz		2530 MHz	
			
			

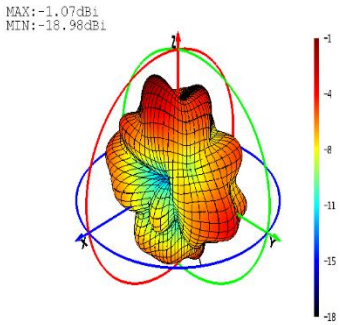
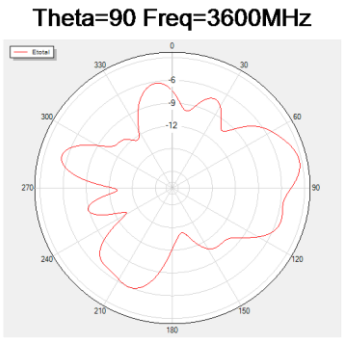
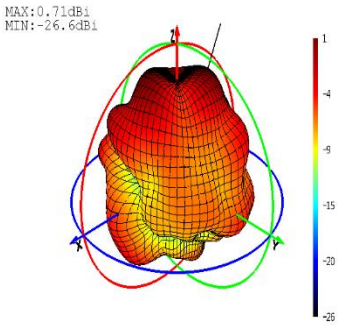
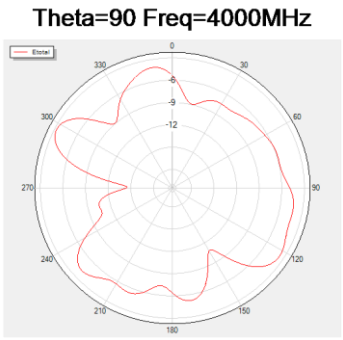
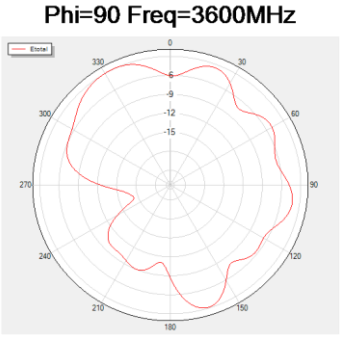
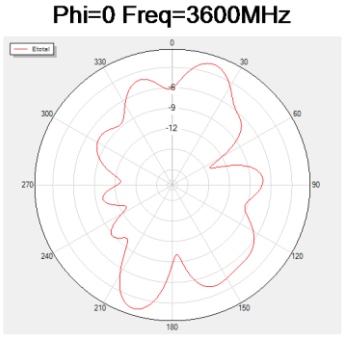
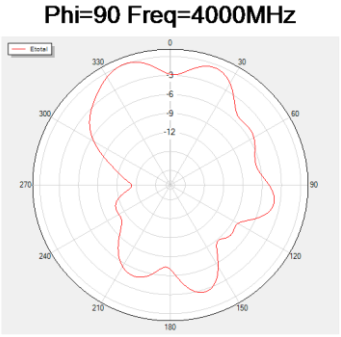
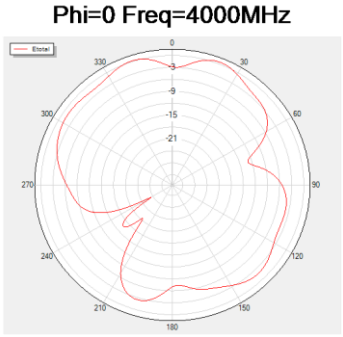
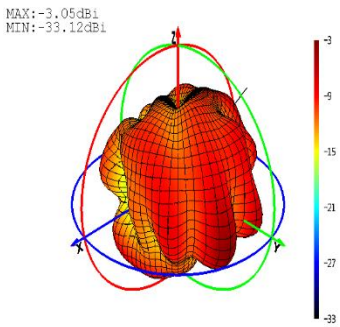
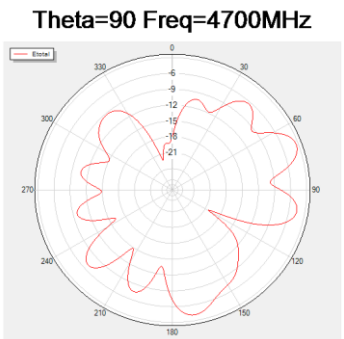
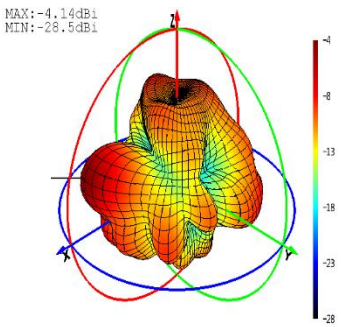
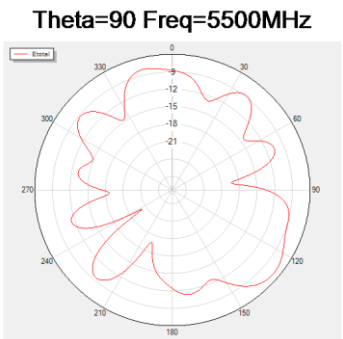
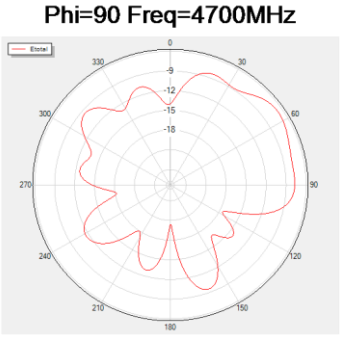
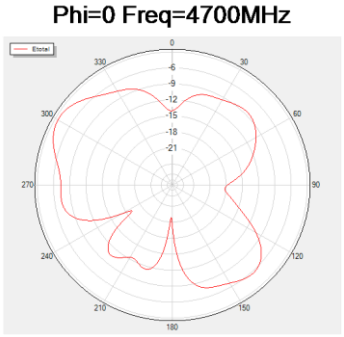
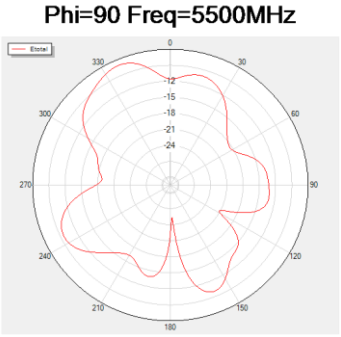
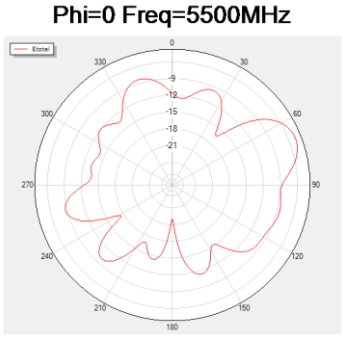
3870 MHz		5000 MHz	
			
			
5170 MHz			
			
			

- **LMH2**

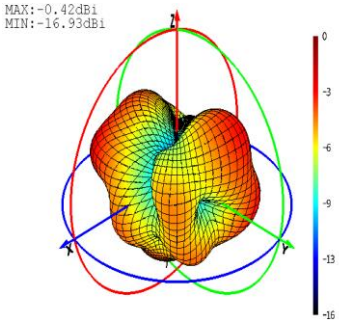
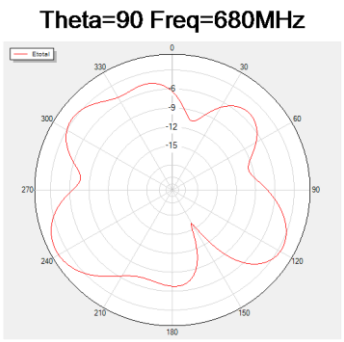
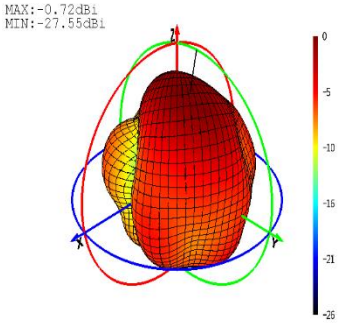
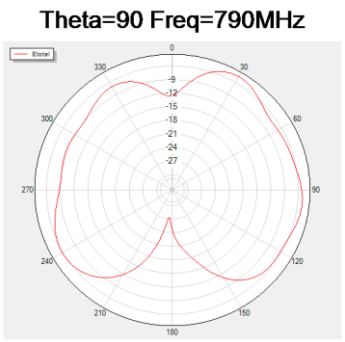
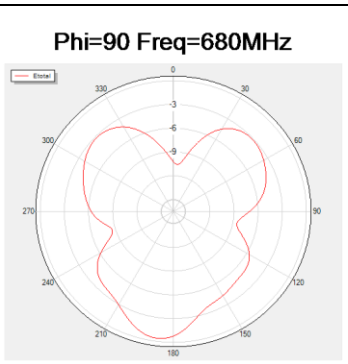
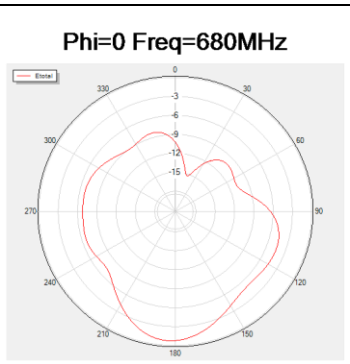
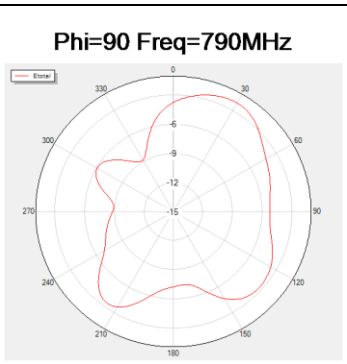
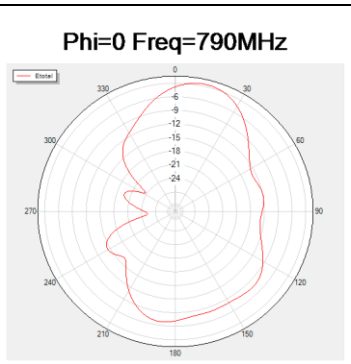
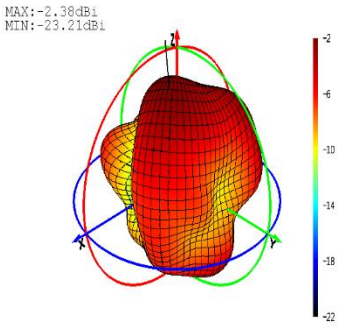
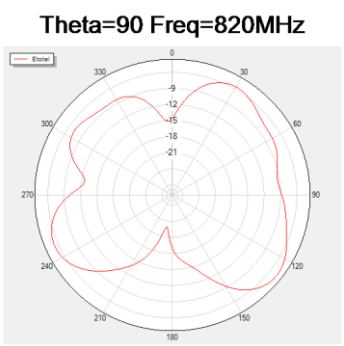
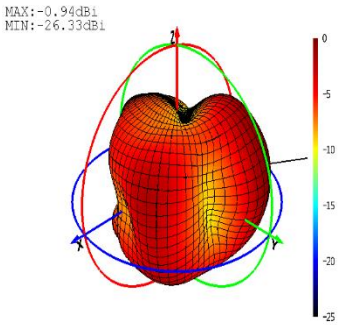
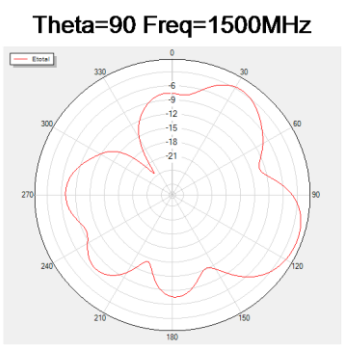
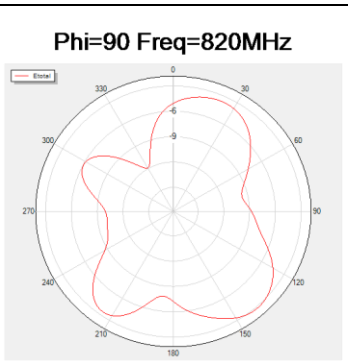
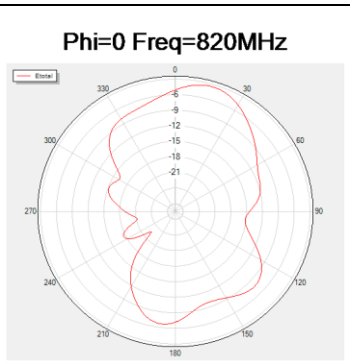
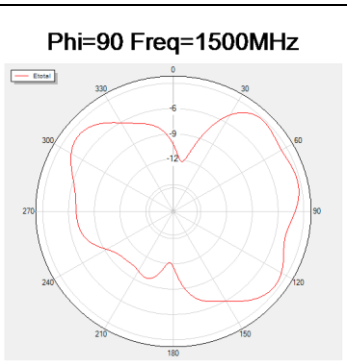
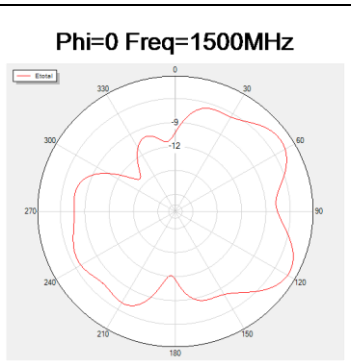
630 MHz		710 MHz	
			
			
830 MHz		900 MHz	
			
			

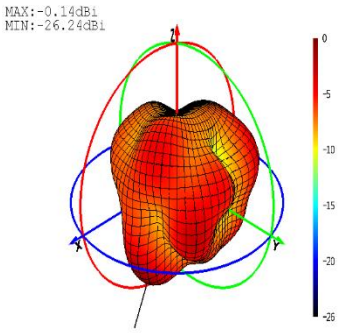
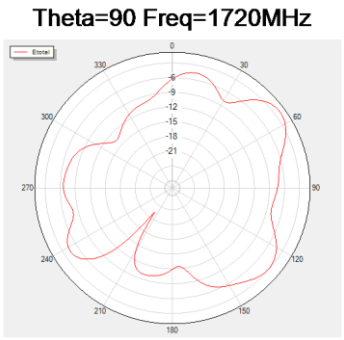
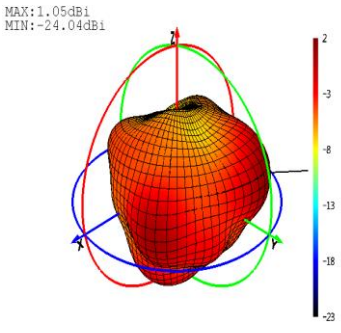
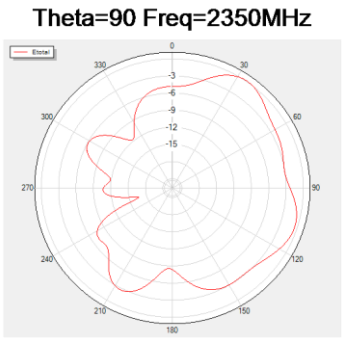
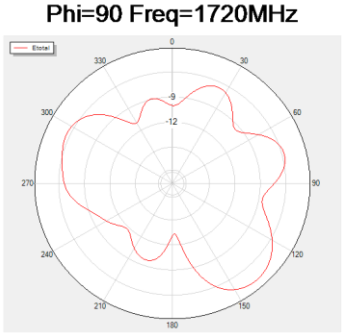
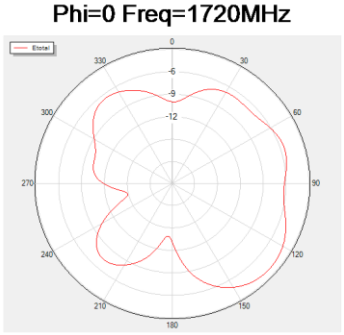
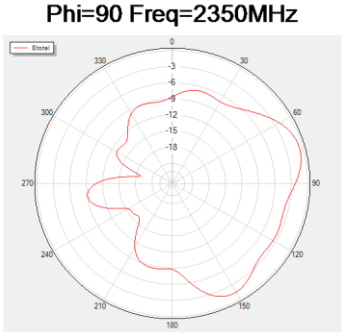
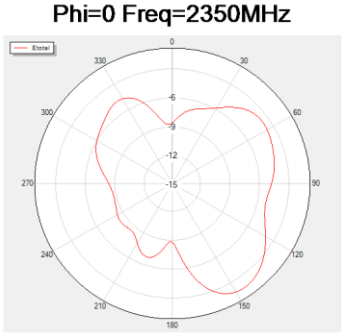
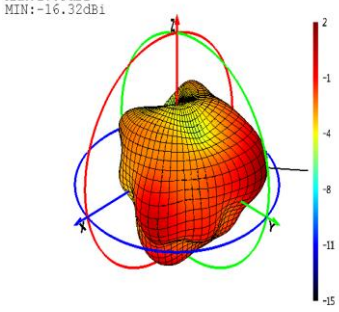
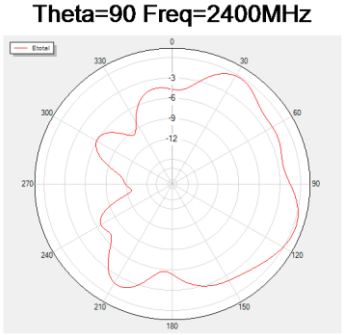
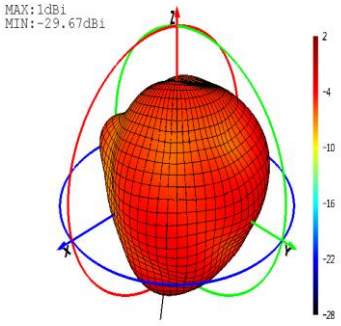
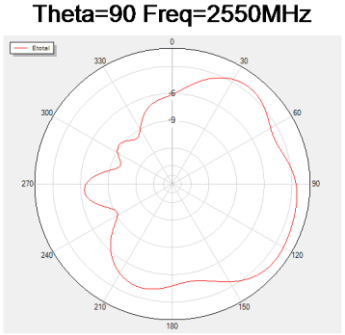
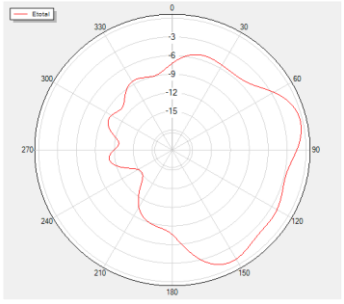
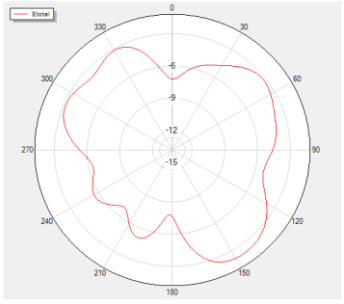
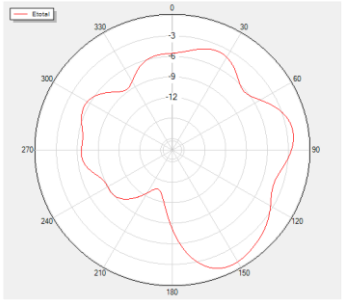
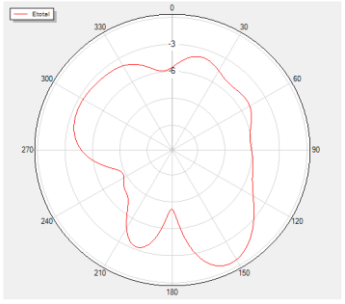
1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

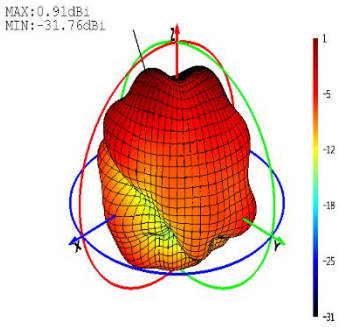
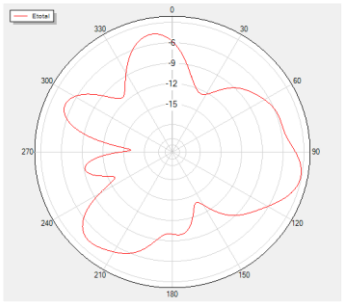
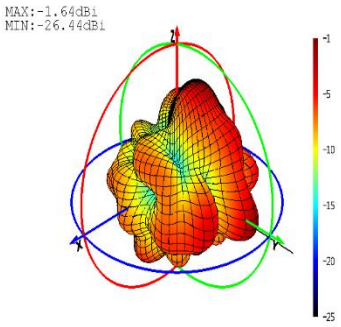
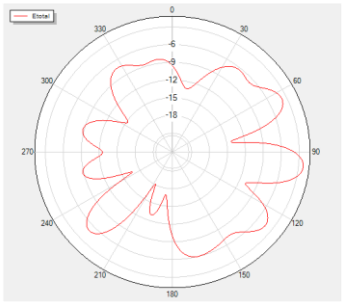
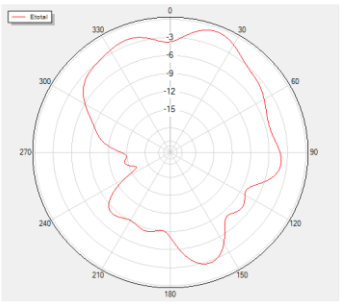
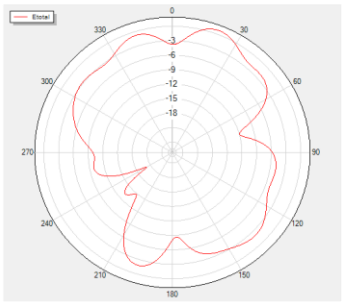
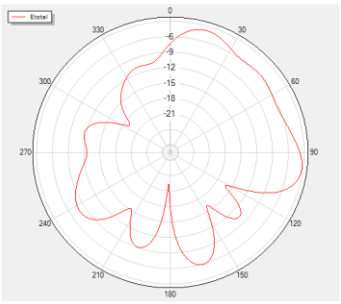
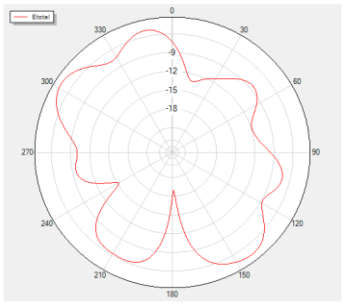
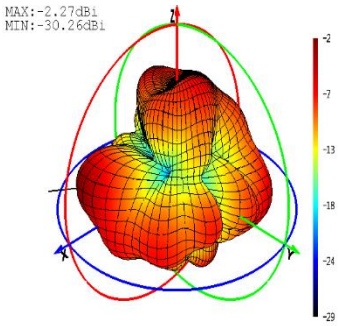
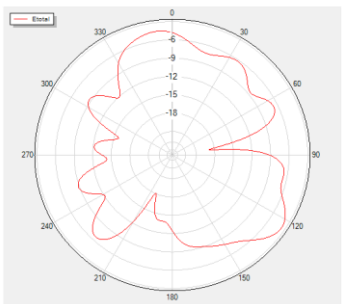
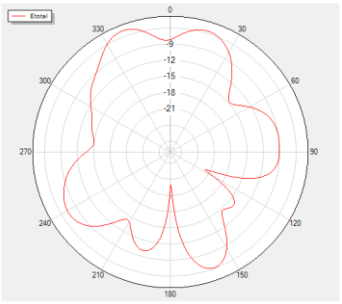
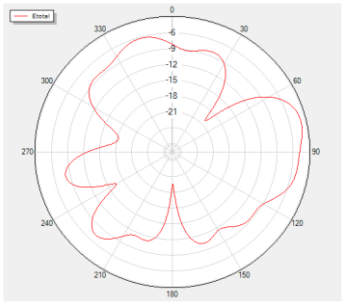
2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

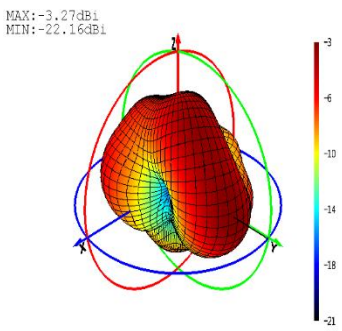
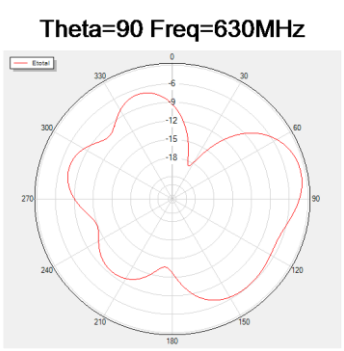
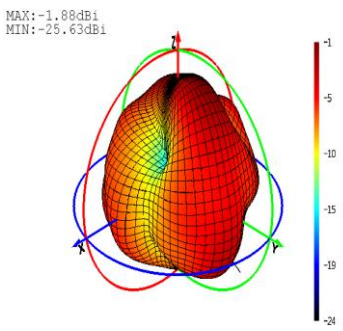
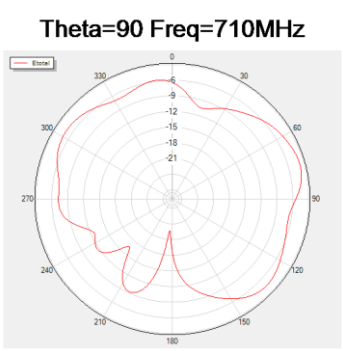
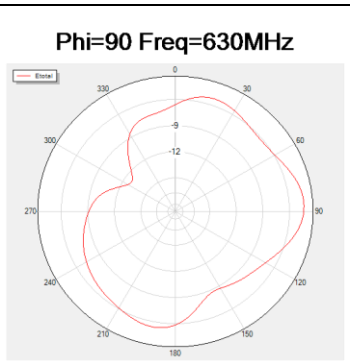
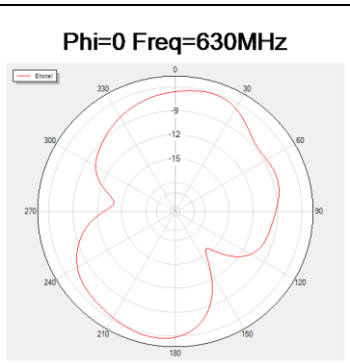
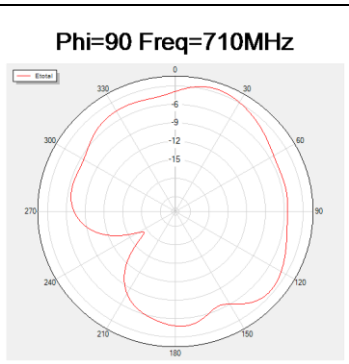
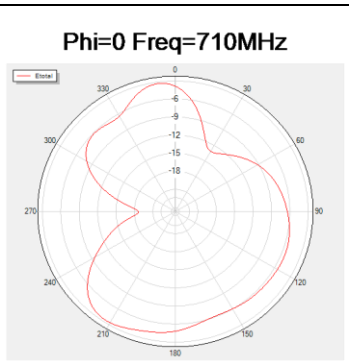
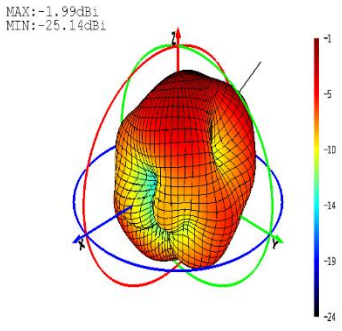
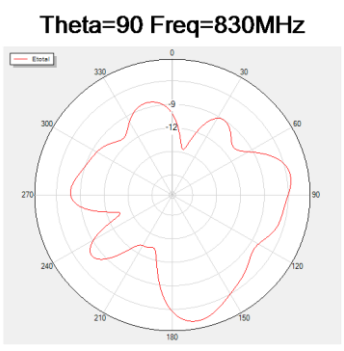
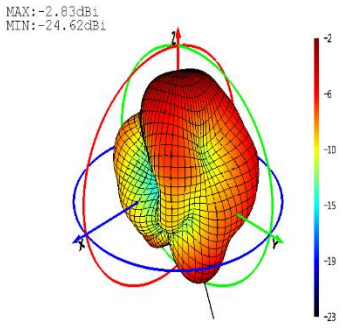
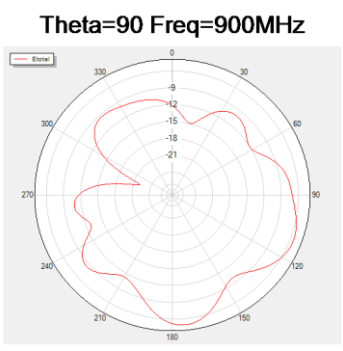
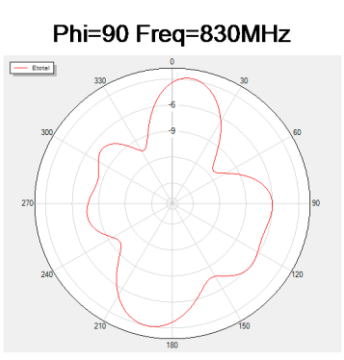
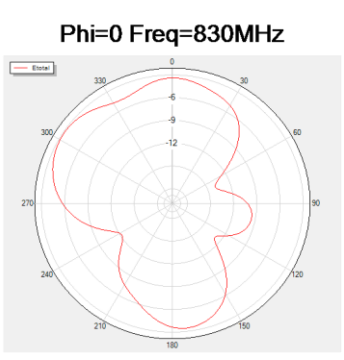
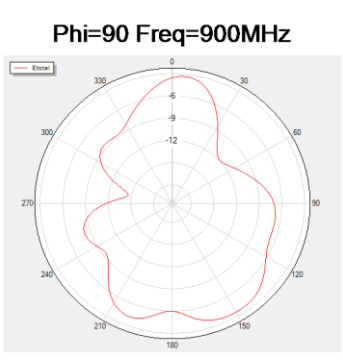
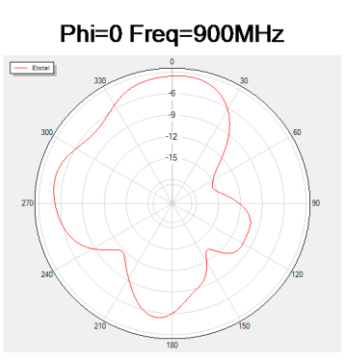
- **LMH2 Max Peak Gain**

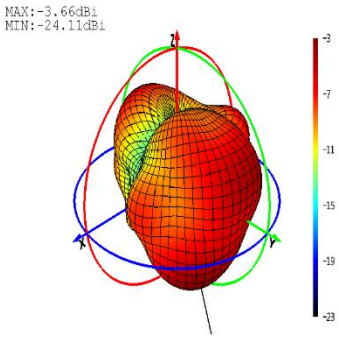
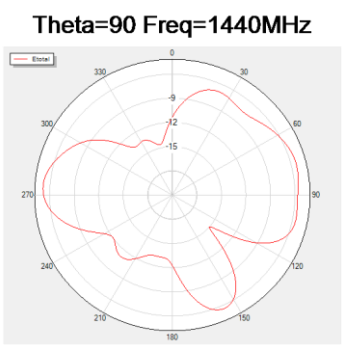
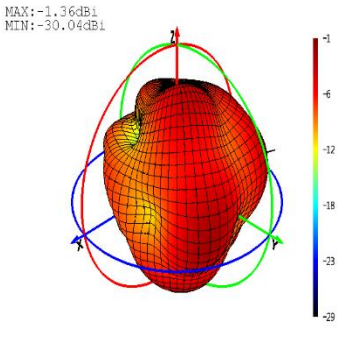
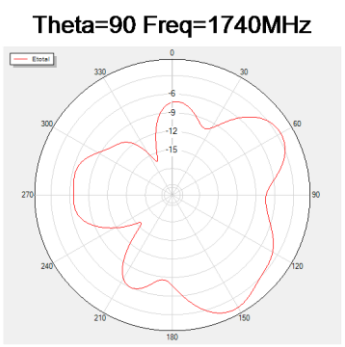
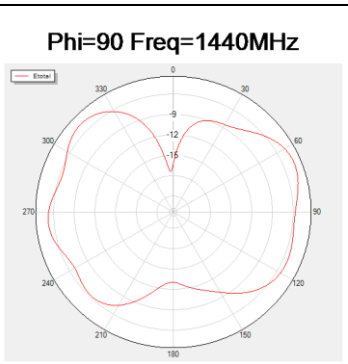
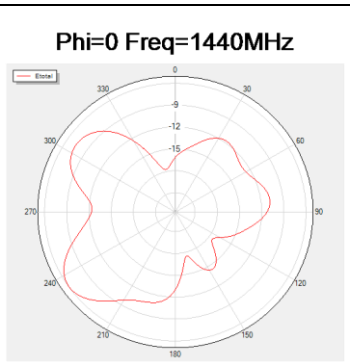
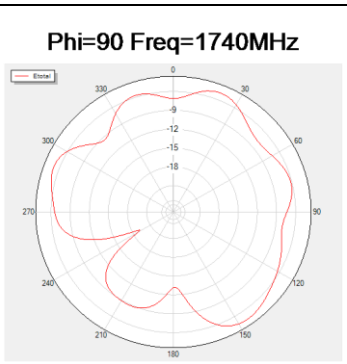
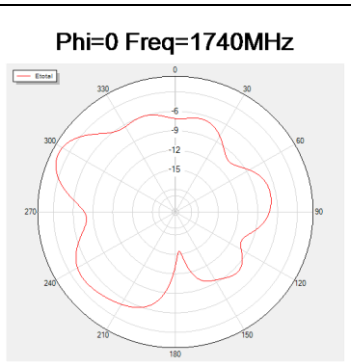
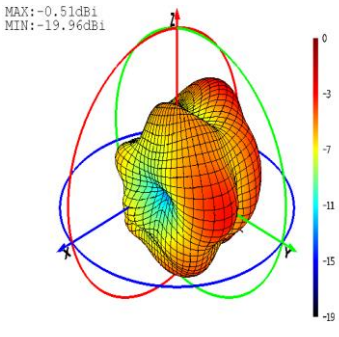
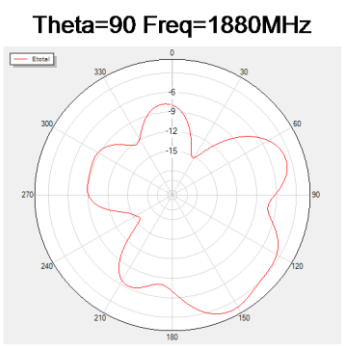
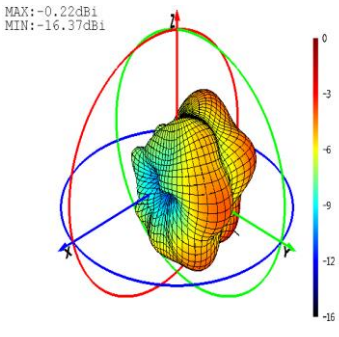
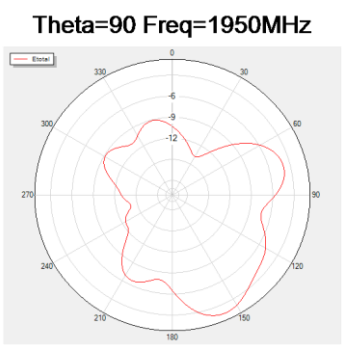
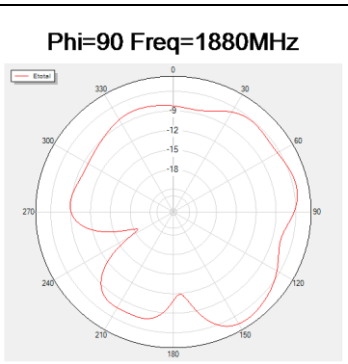
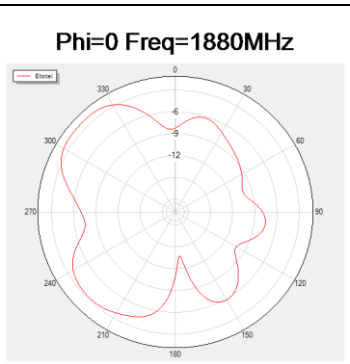
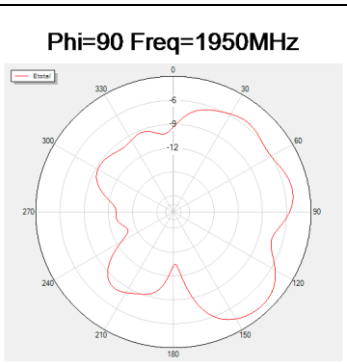
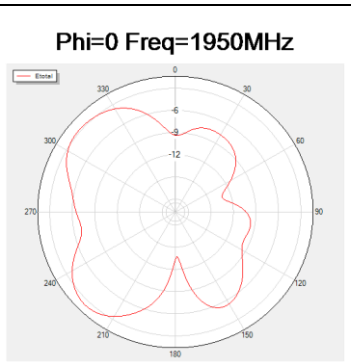
680 MHz		790 MHz	
			
			
820 MHz		1500 MHz	
			
			

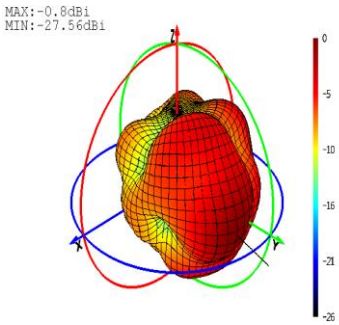
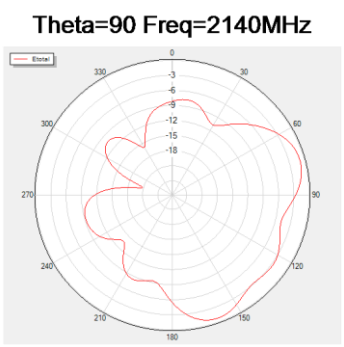
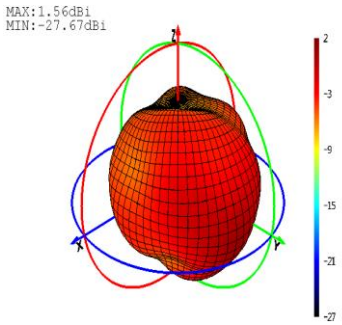
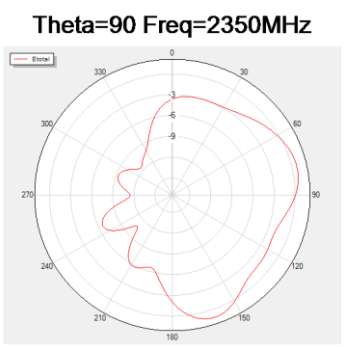
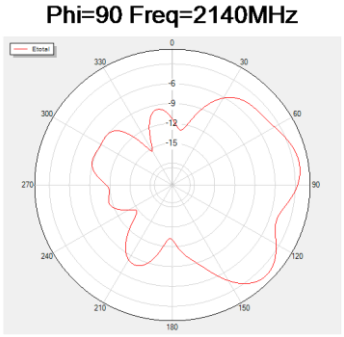
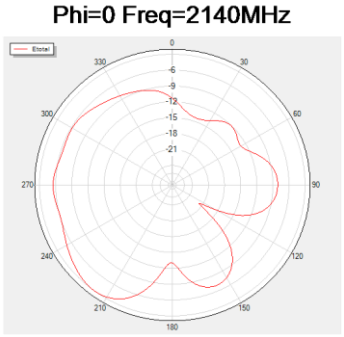
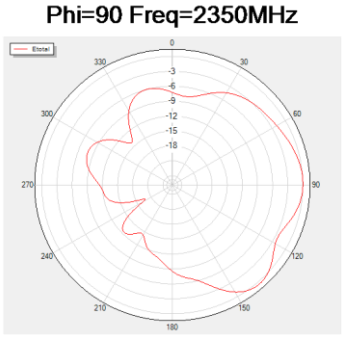
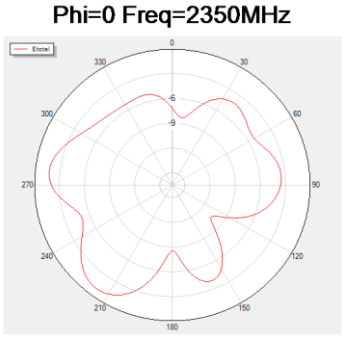
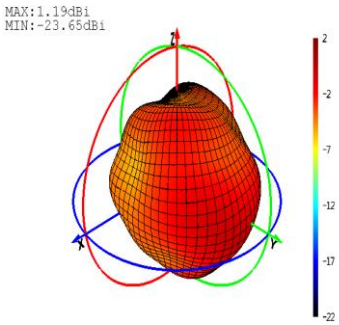
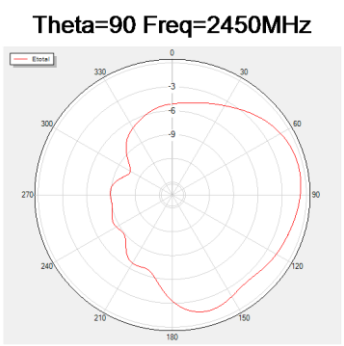
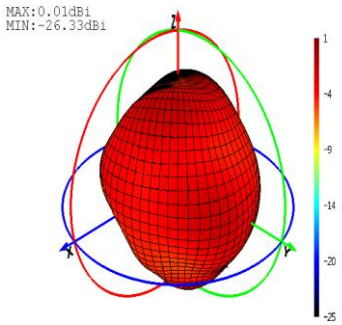
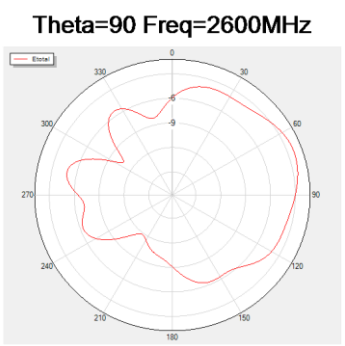
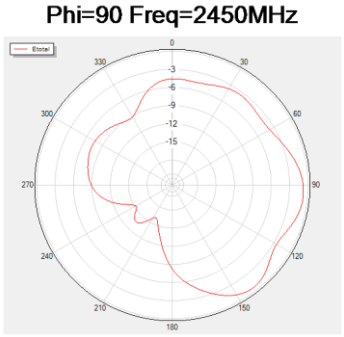
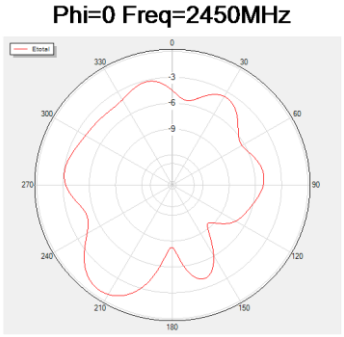
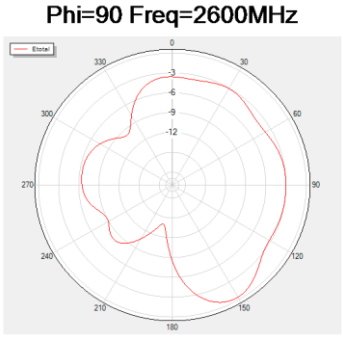
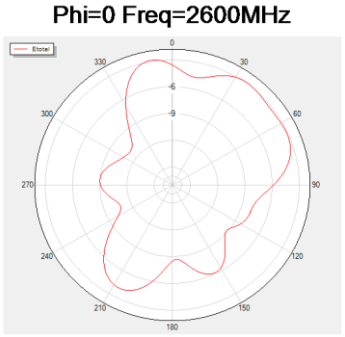
1720 MHz		2350 MHz	
			
			
2400 MHz		2550 MHz	
			
			

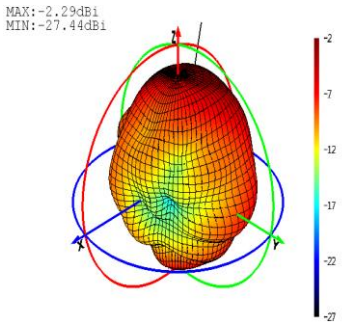
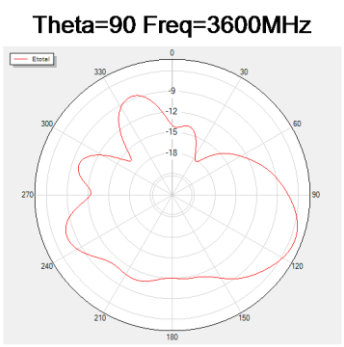
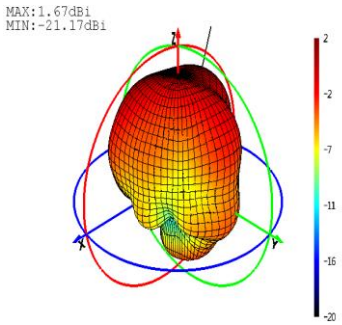
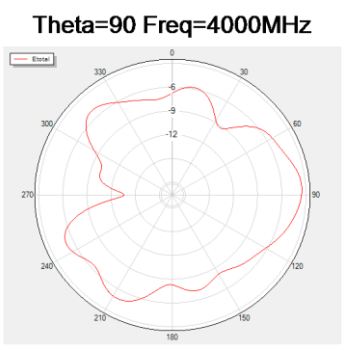
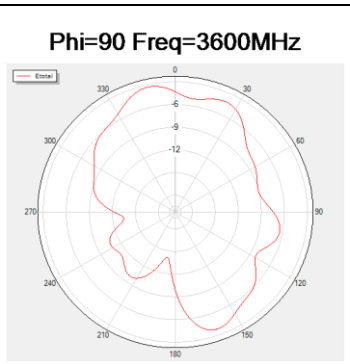
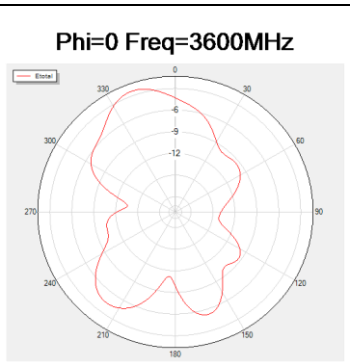
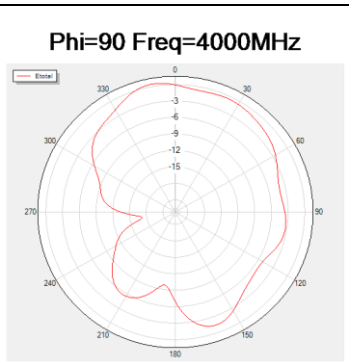
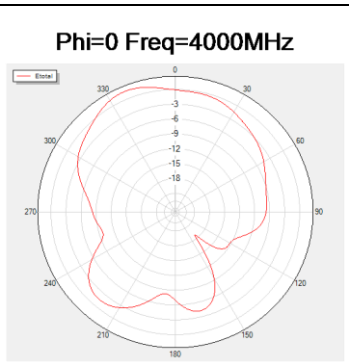
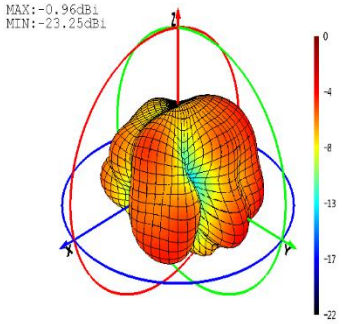
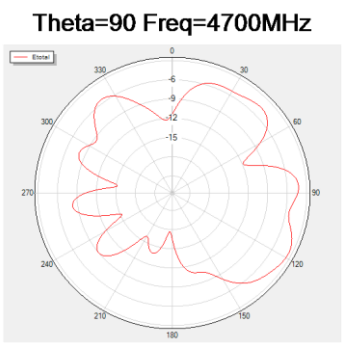
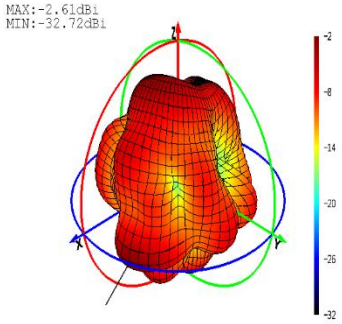
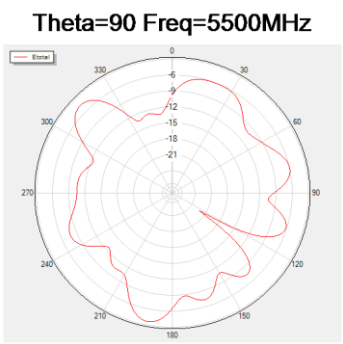
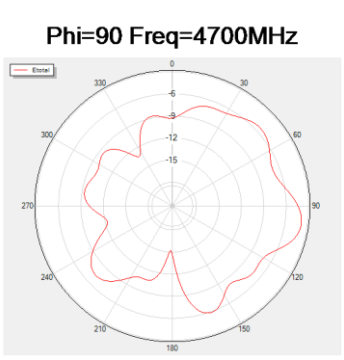
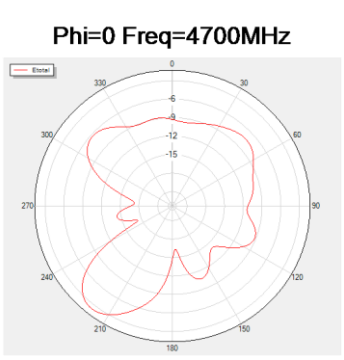
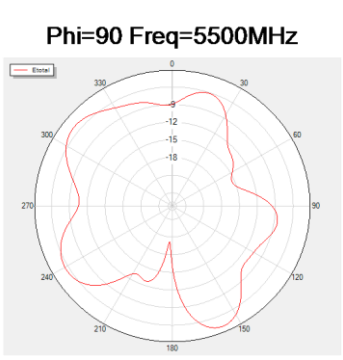
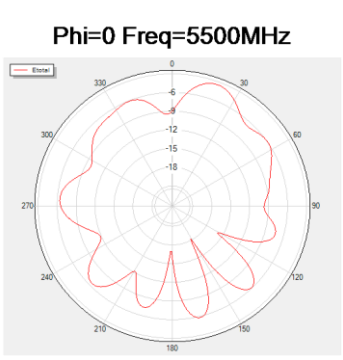
3830 MHz		4980 MHz	
			
			
5310 MHz			
			
			

- **LMH3**

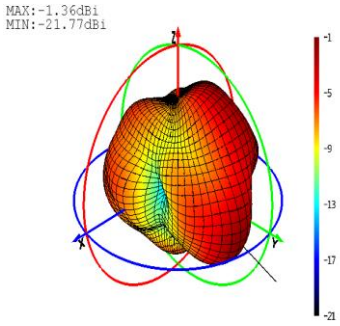
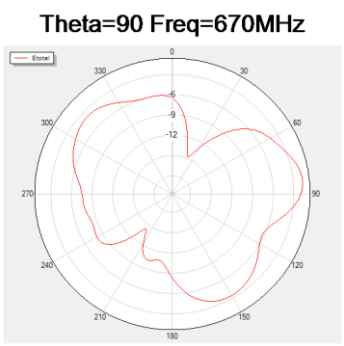
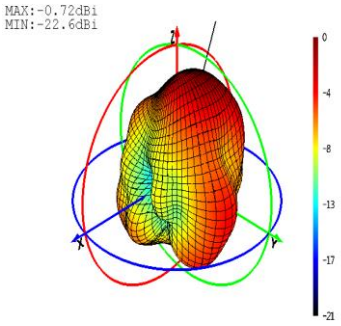
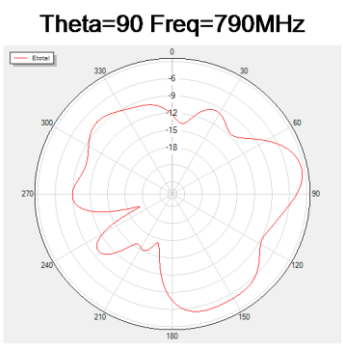
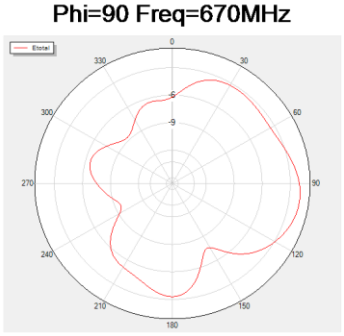
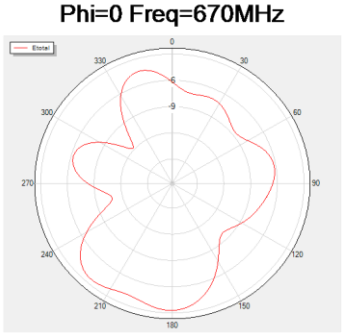
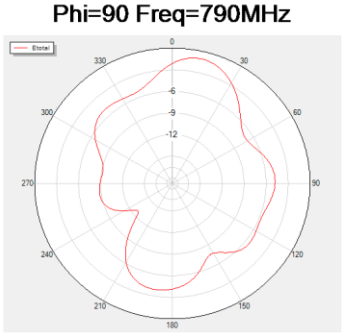
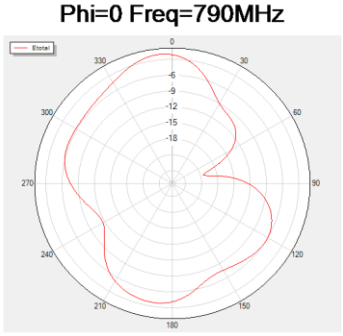
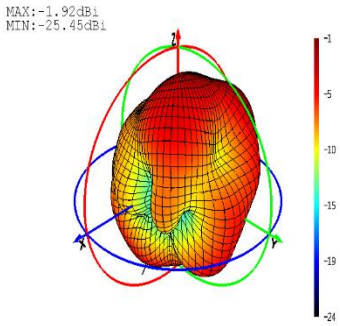
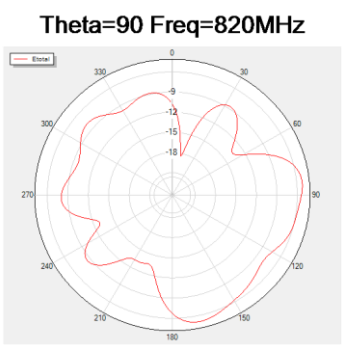
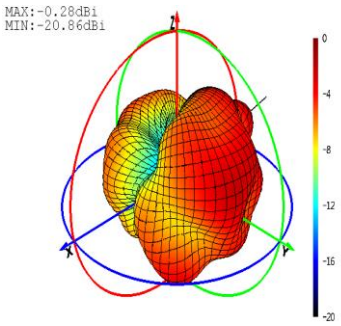
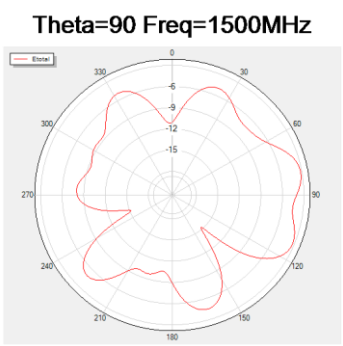
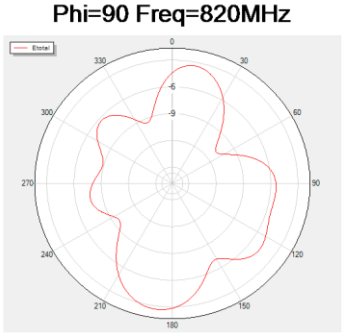
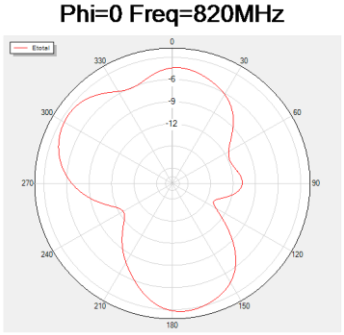
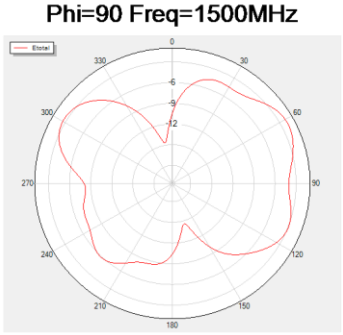
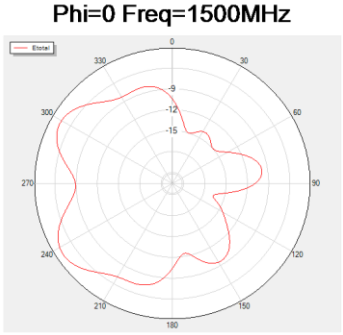
630 MHz		710 MHz	
			
			
830 MHz		900 MHz	
			
			

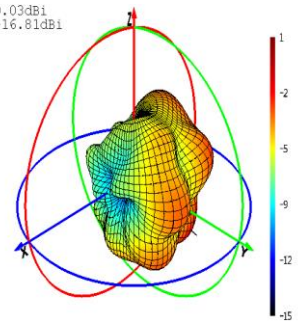
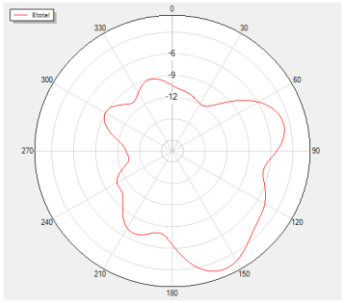
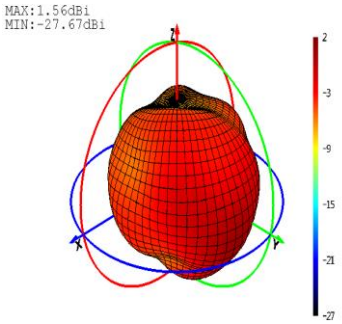
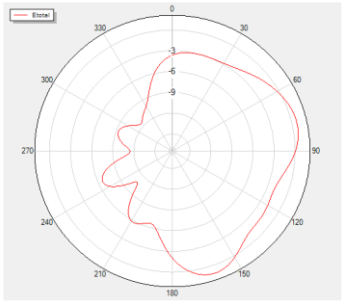
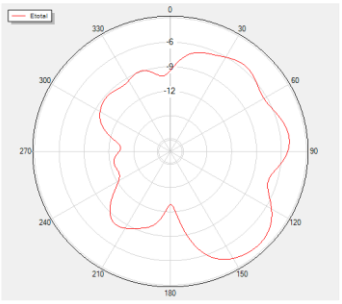
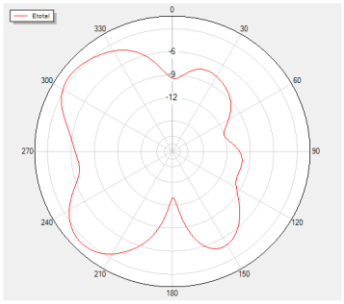
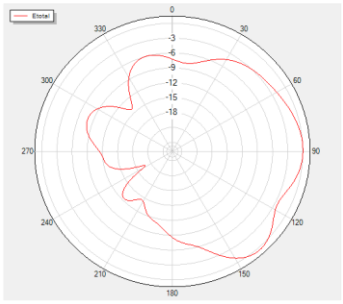
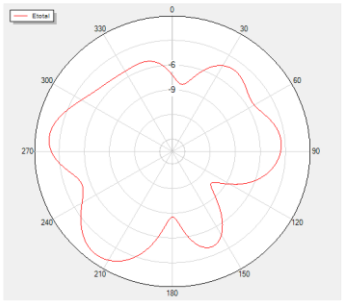
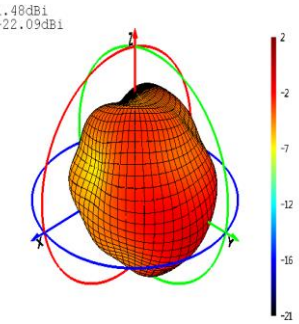
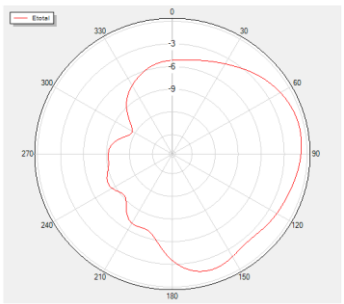
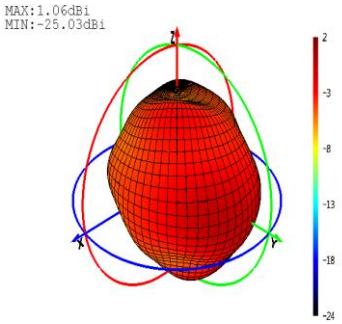
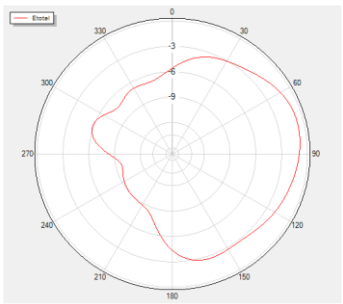
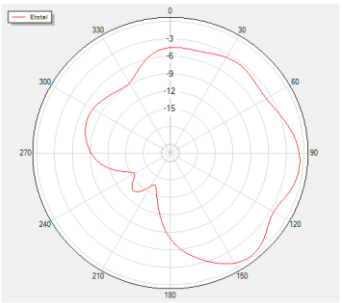
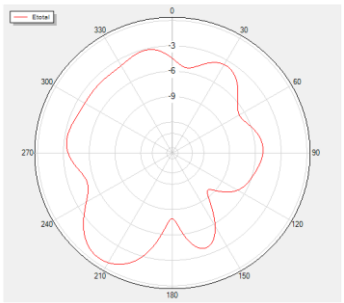
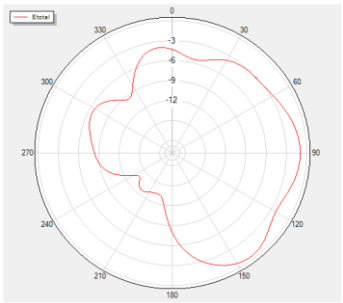
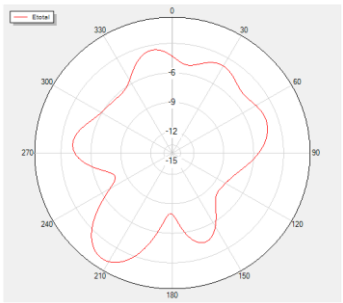
1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

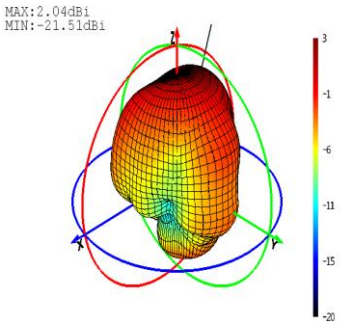
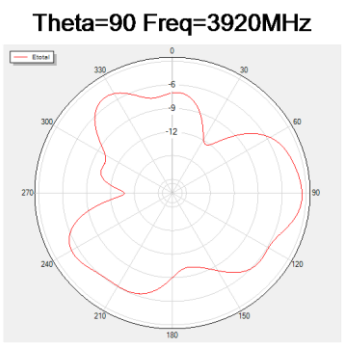
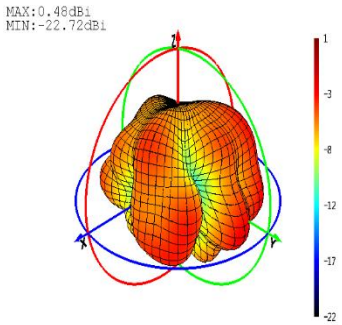
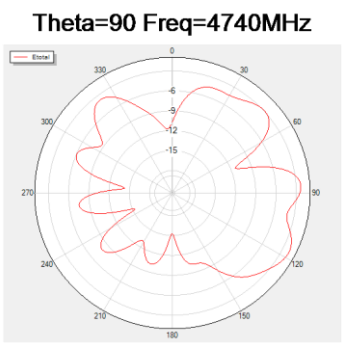
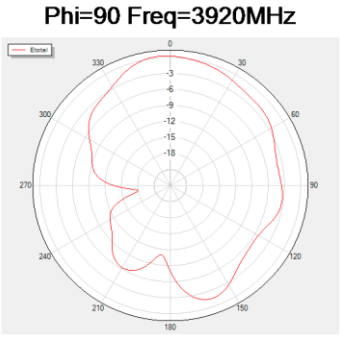
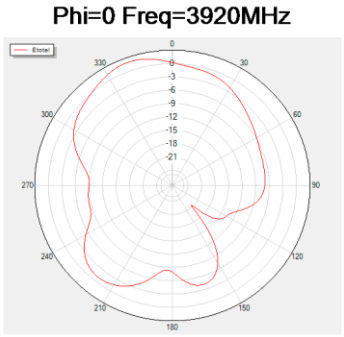
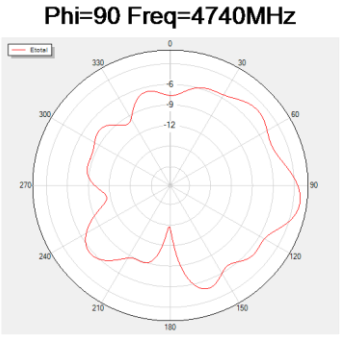
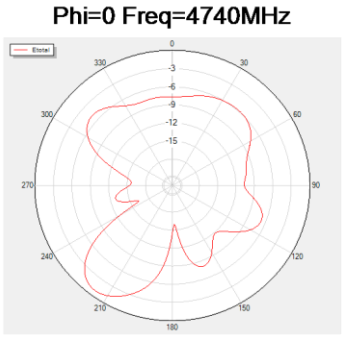
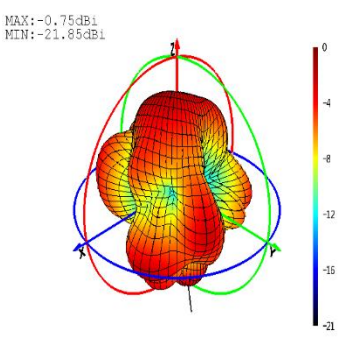
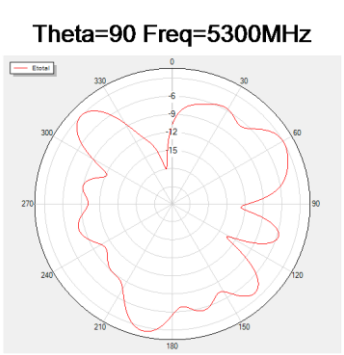
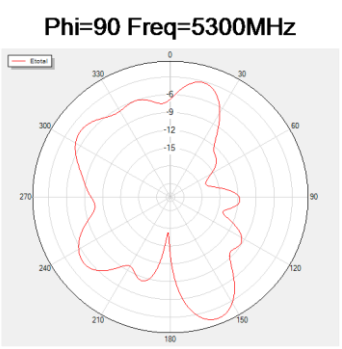
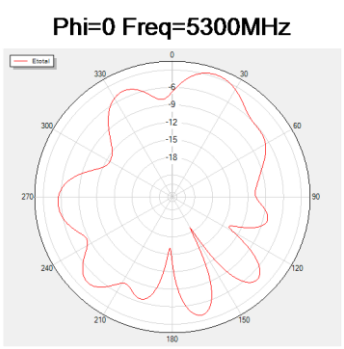
2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

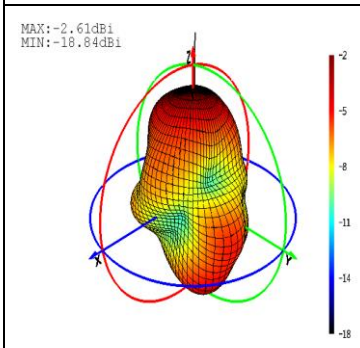
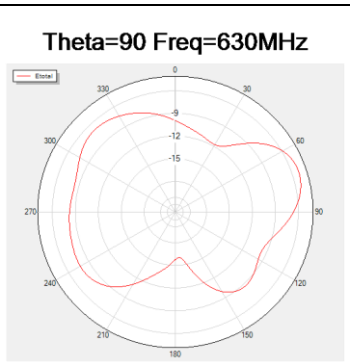
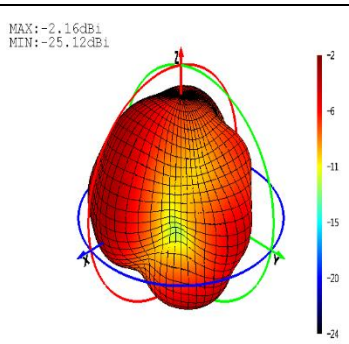
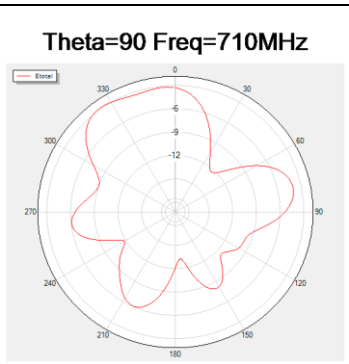
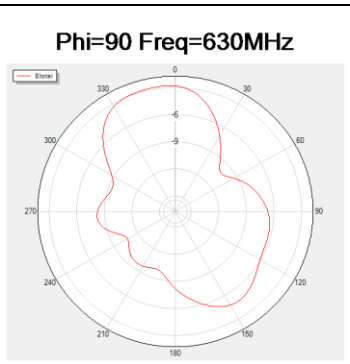
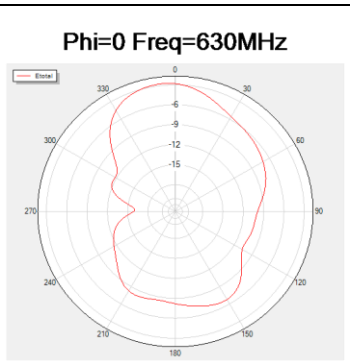
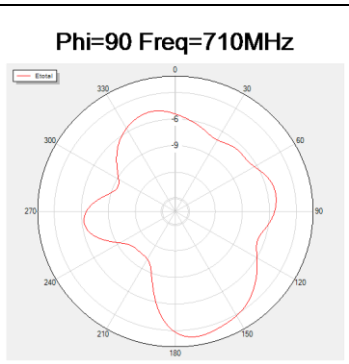
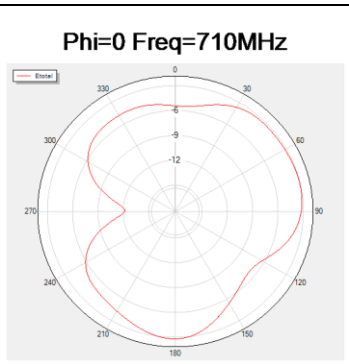
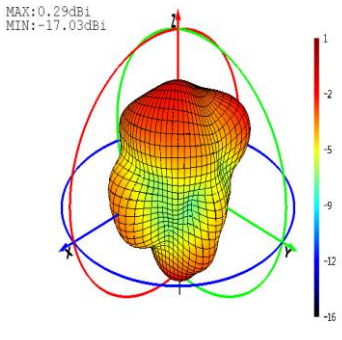
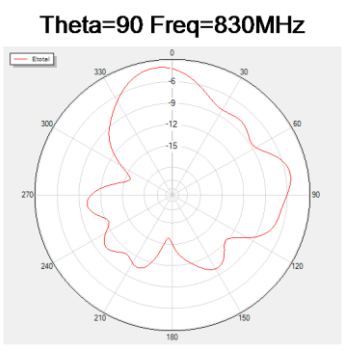
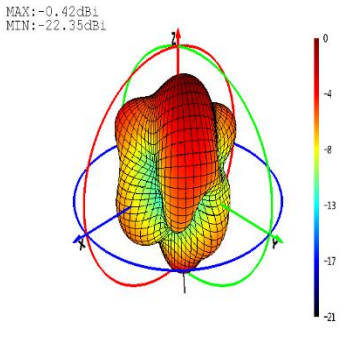
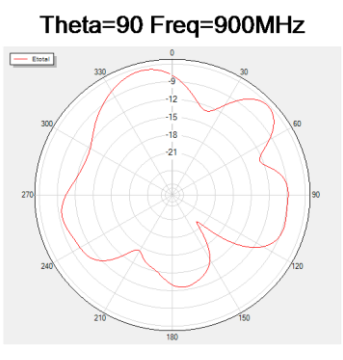
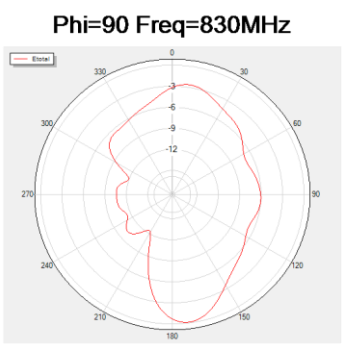
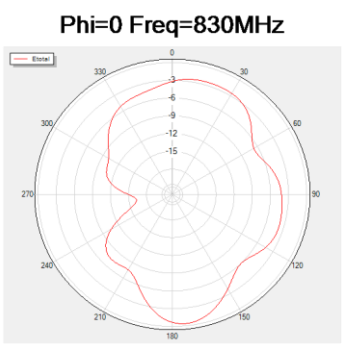
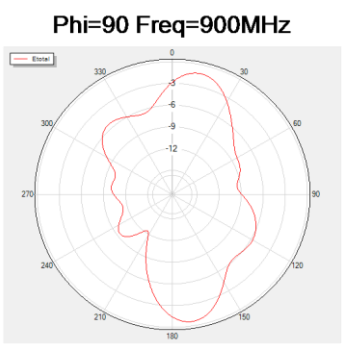
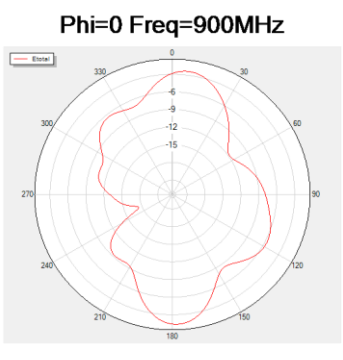
- **LMH3 Max Peak Gain**

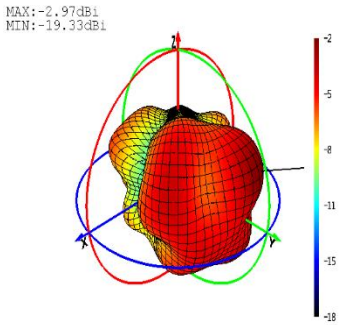
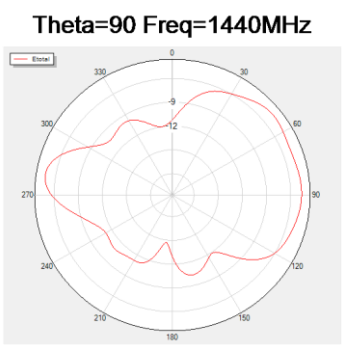
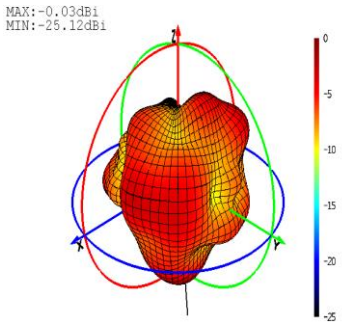
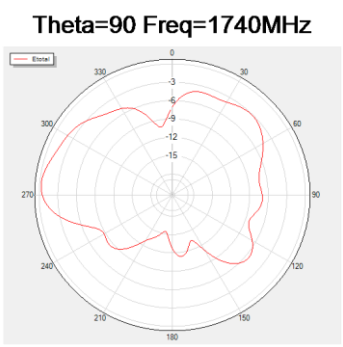
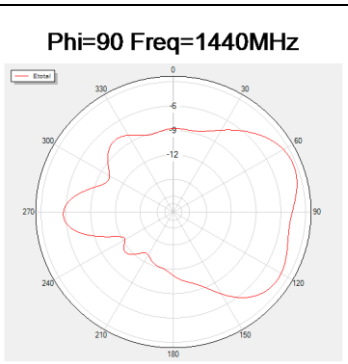
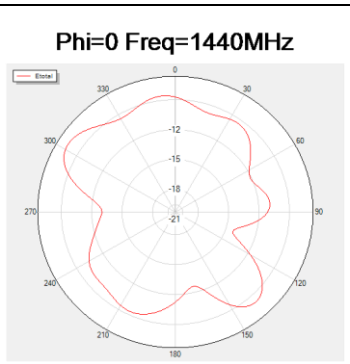
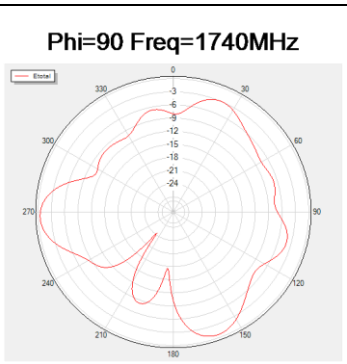
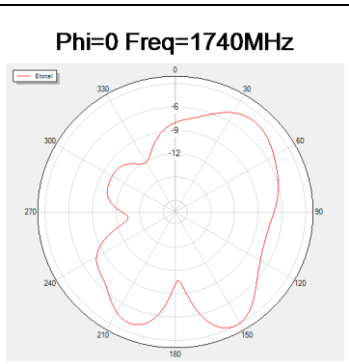
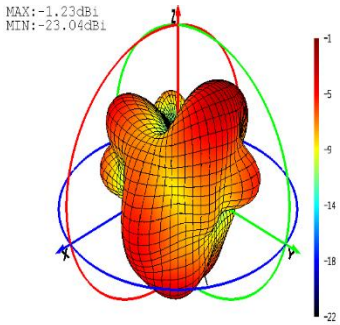
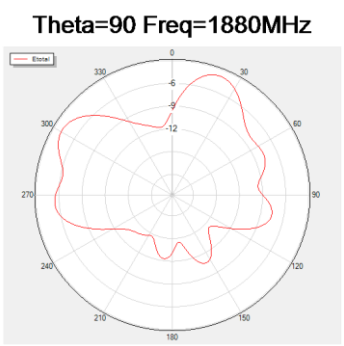
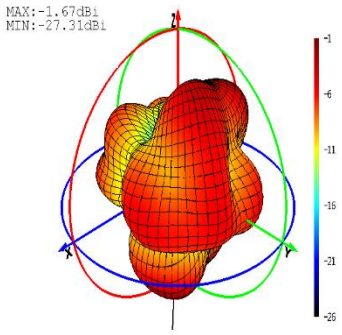
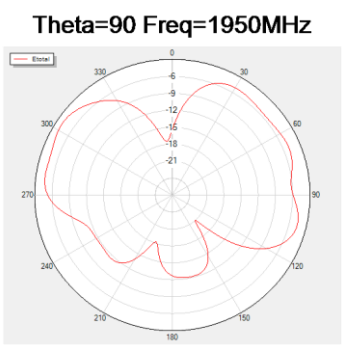
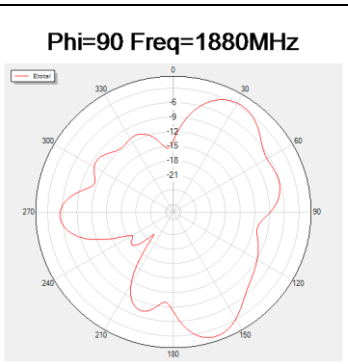
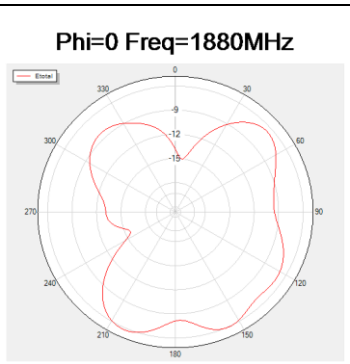
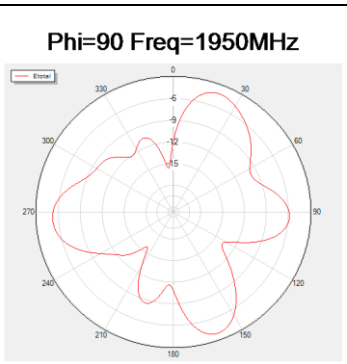
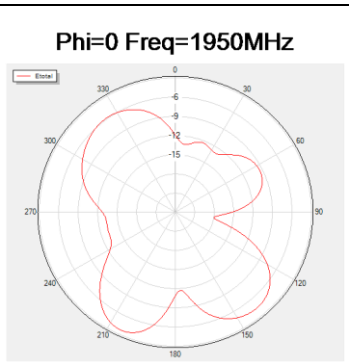
670 MHz		790 MHz	
			
			
820 MHz		1500 MHz	
			
			
1970 MHz		2350 MHz	

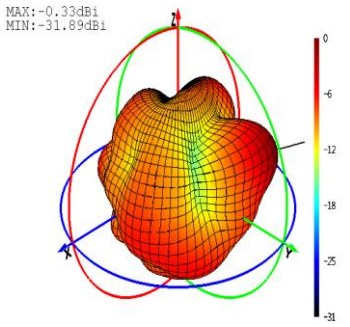
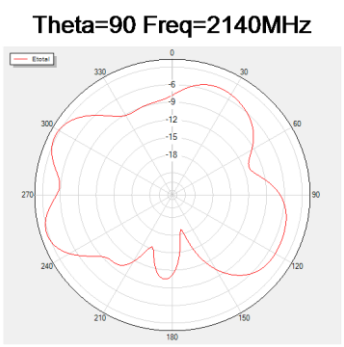
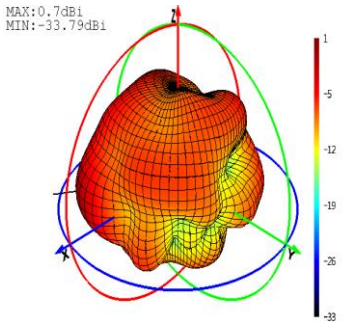
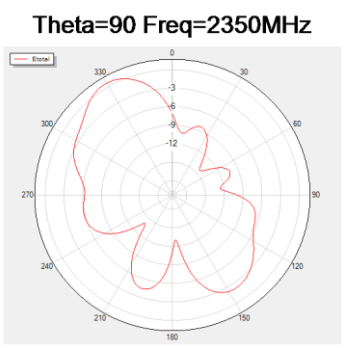
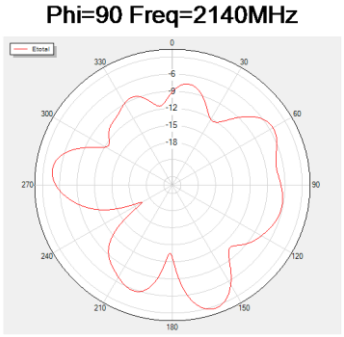
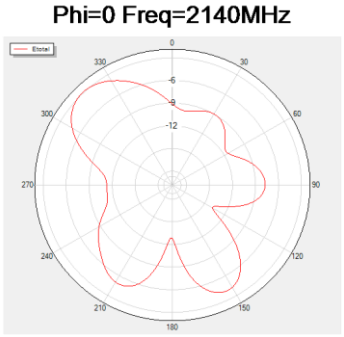
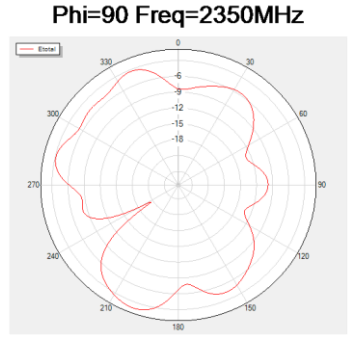
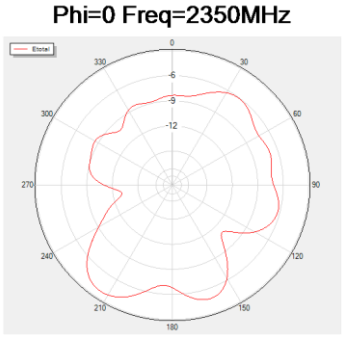
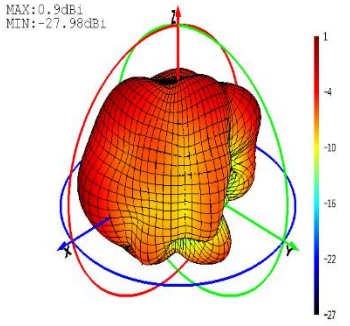
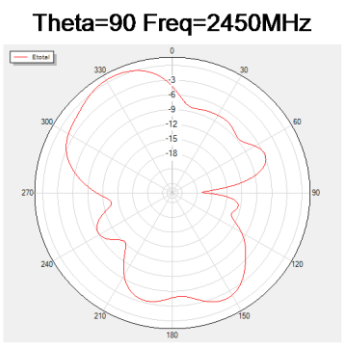
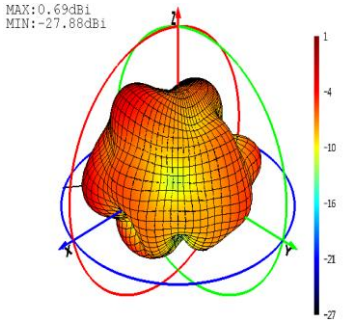
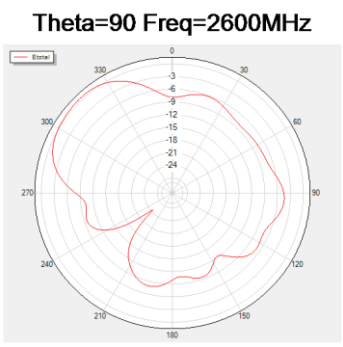
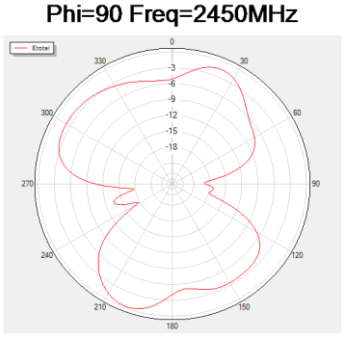
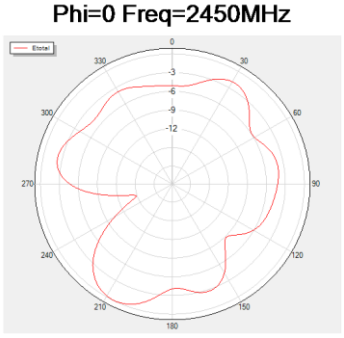
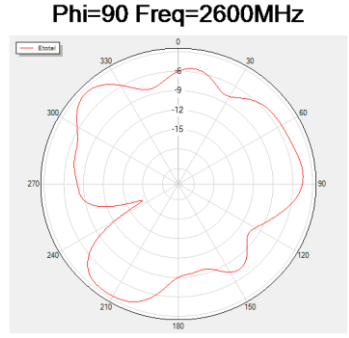
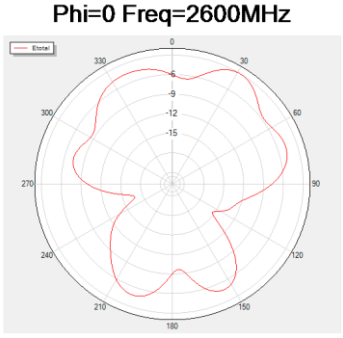
	Theta=90 Freq=1970MHz 		Theta=90 Freq=2350MHz 
Phi=90 Freq=1970MHz 	Phi=0 Freq=1970MHz 	Phi=90 Freq=2350MHz 	Phi=0 Freq=2350MHz 
2440 MHz		2520 MHz	
	Theta=90 Freq=2440MHz 		Theta=90 Freq=2520MHz 
Phi=90 Freq=2440MHz 	Phi=0 Freq=2440MHz 	Phi=90 Freq=2520MHz 	Phi=0 Freq=2520MHz 

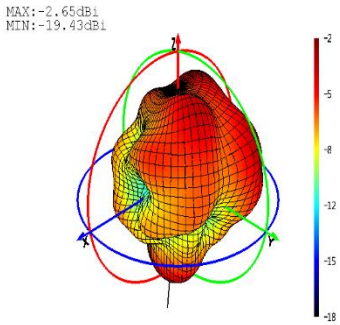
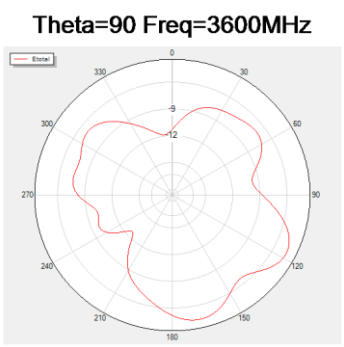
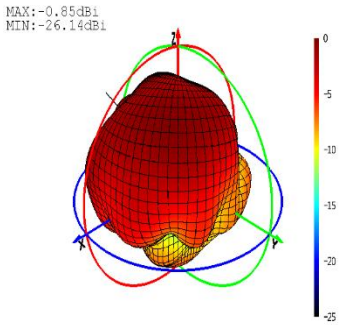
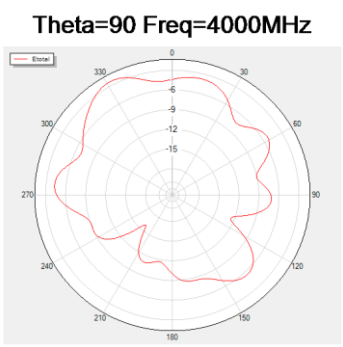
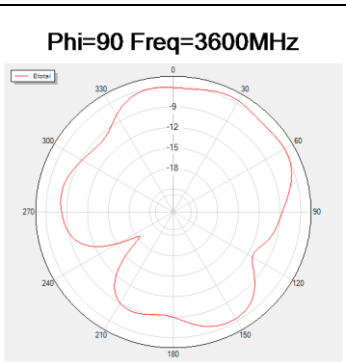
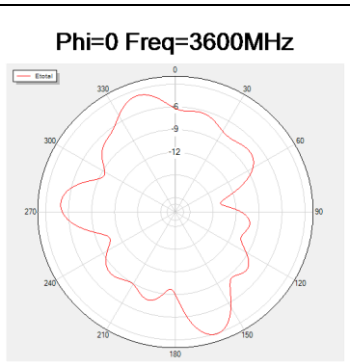
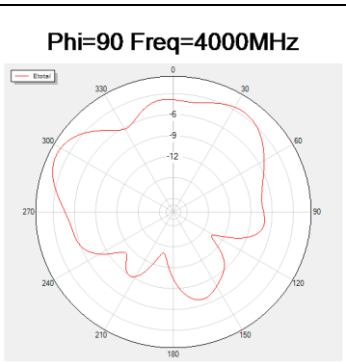
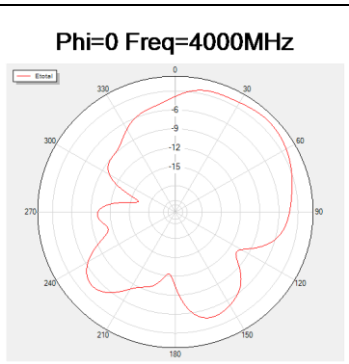
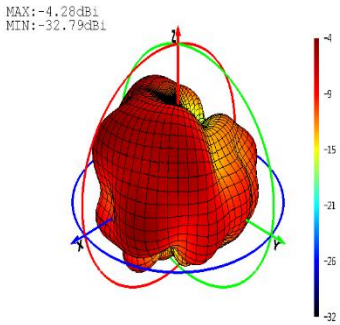
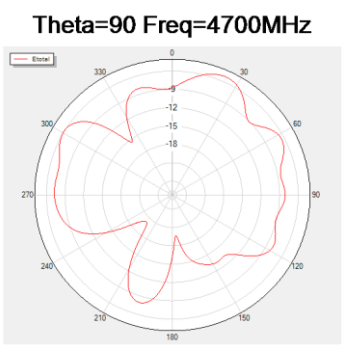
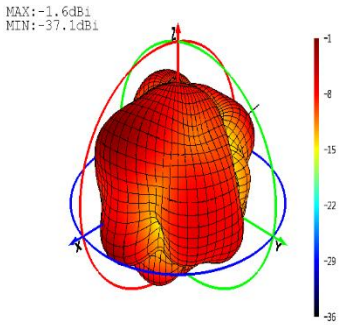
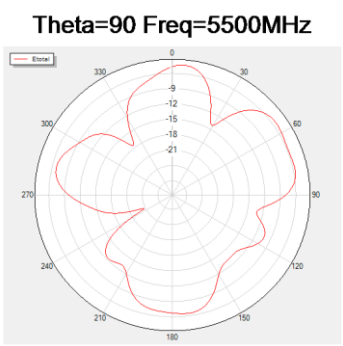
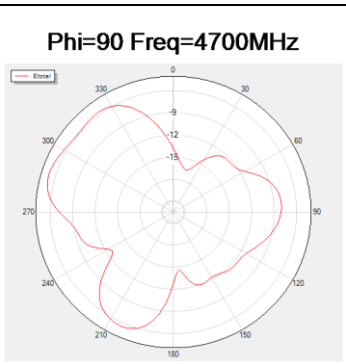
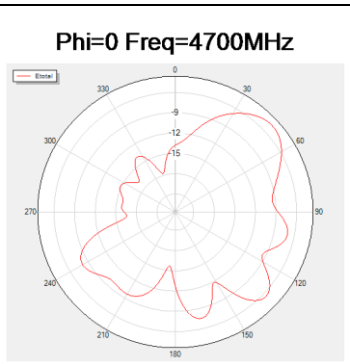
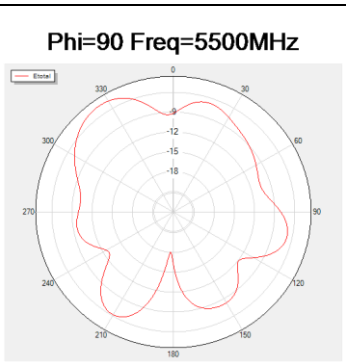
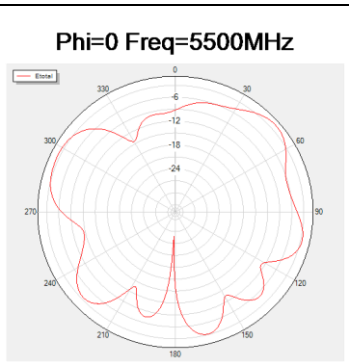
3920 MHz		4740 MHz	
			
			
5300 MHz			
			
			

- **LMH4**

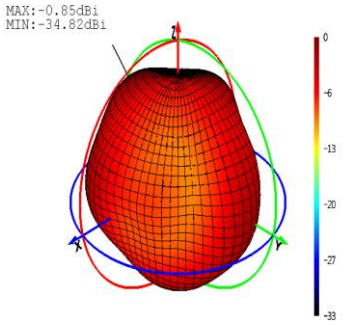
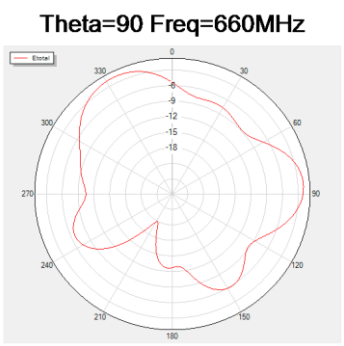
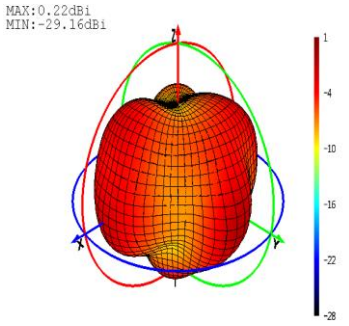
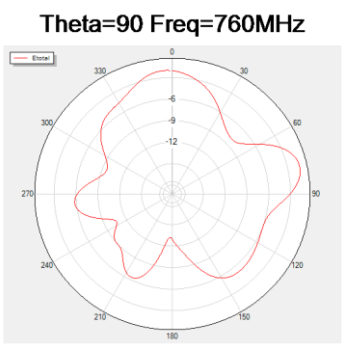
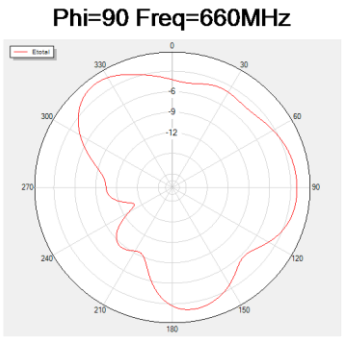
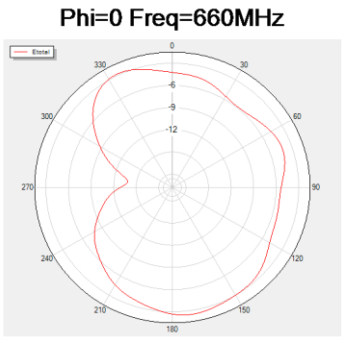
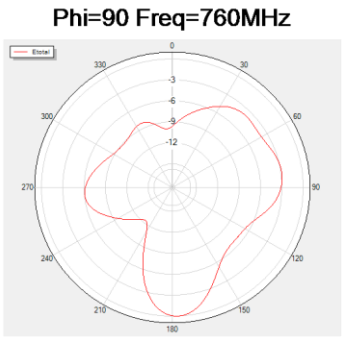
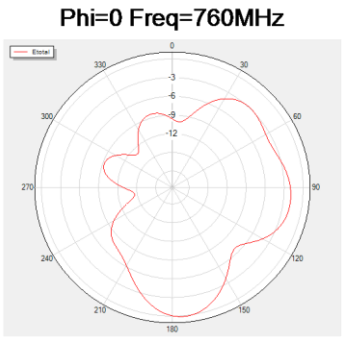
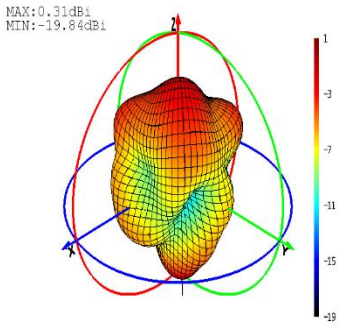
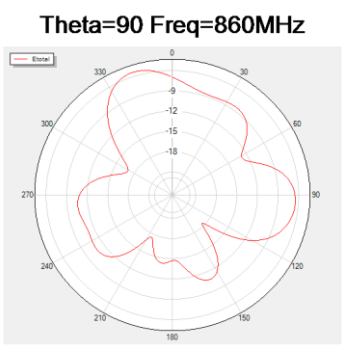
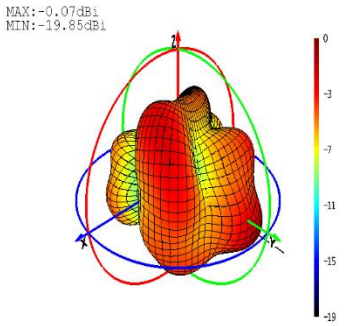
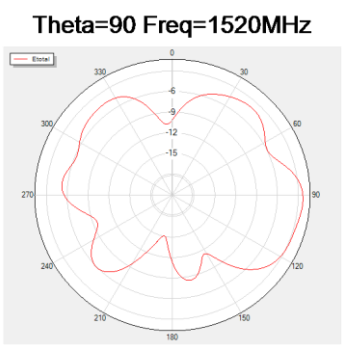
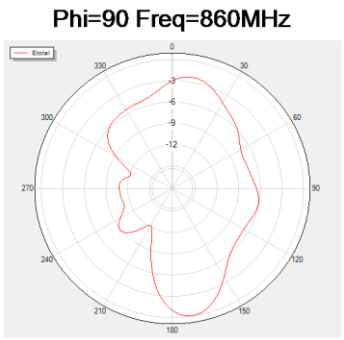
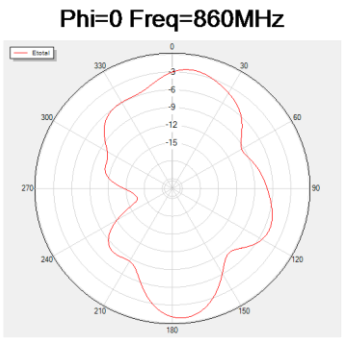
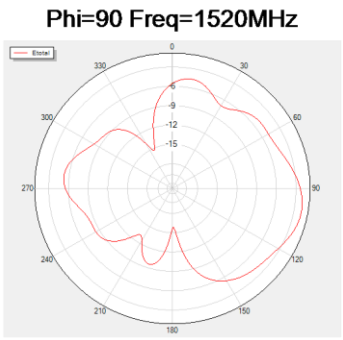
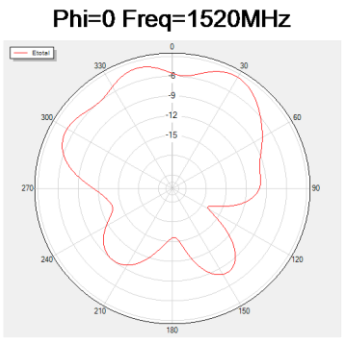
630 MHz		710 MHz	
			
			
830 MHz		900 MHz	
			
			

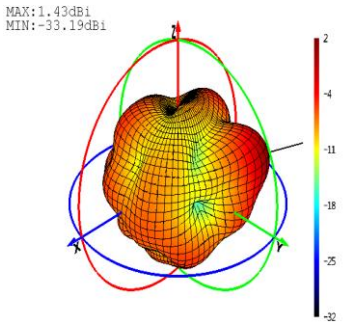
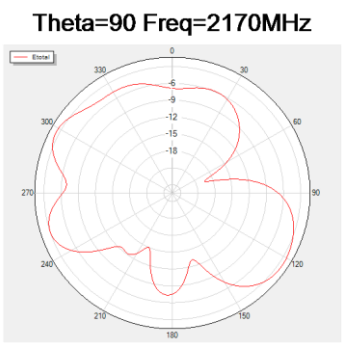
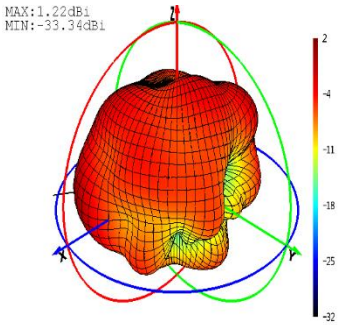
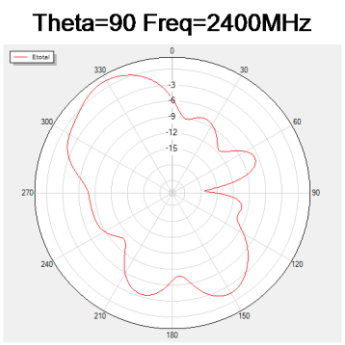
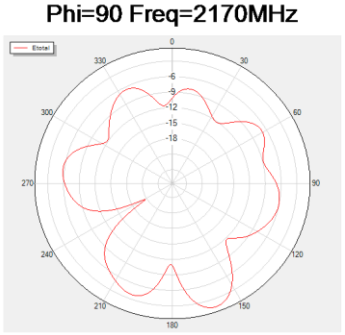
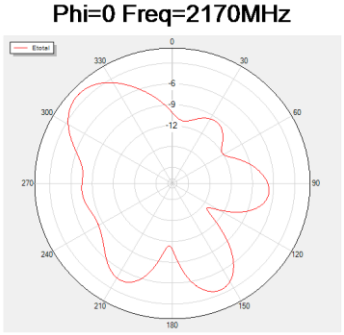
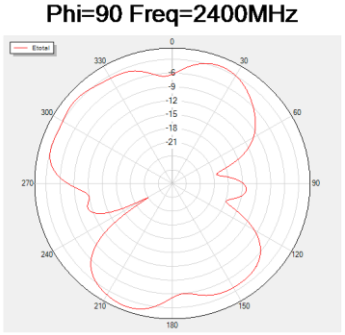
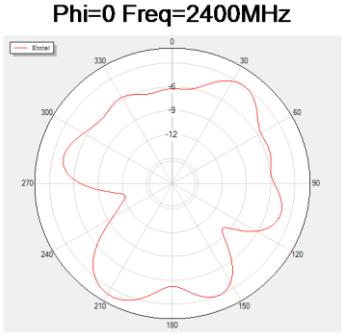
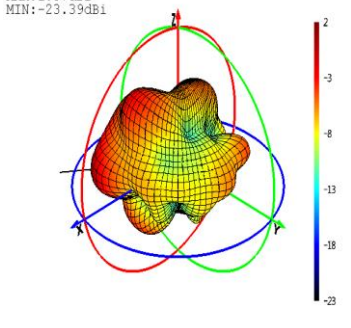
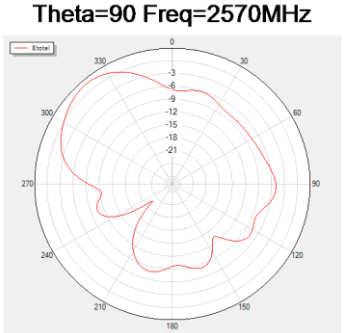
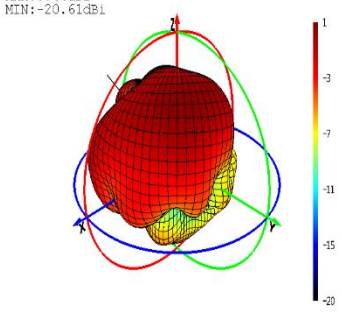
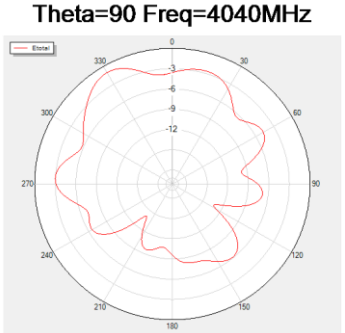
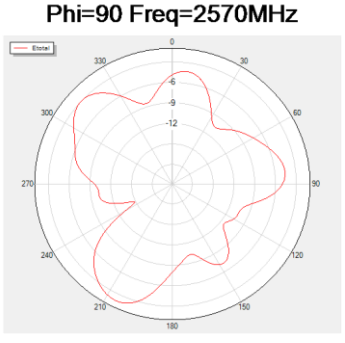
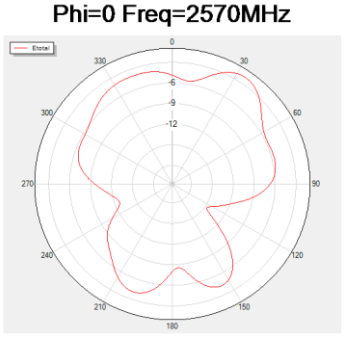
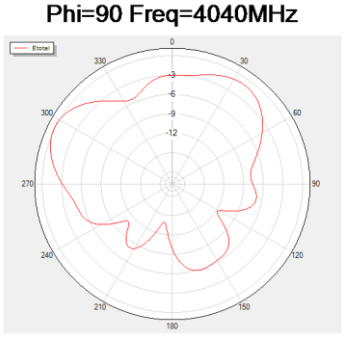
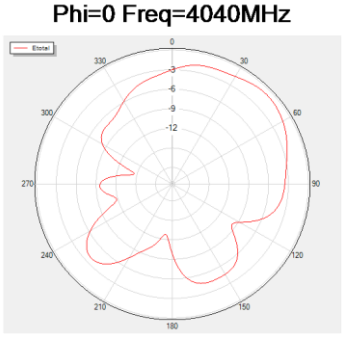
1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

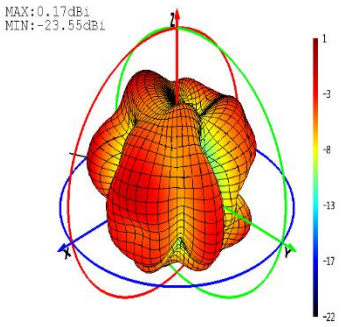
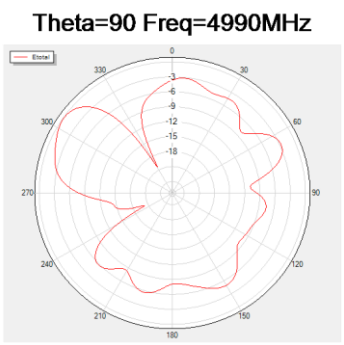
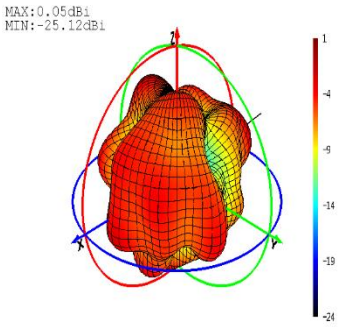
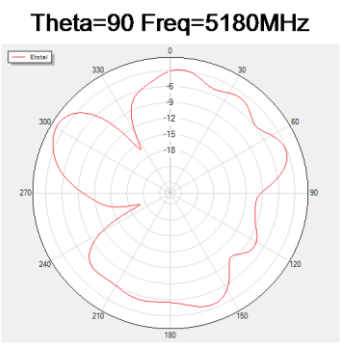
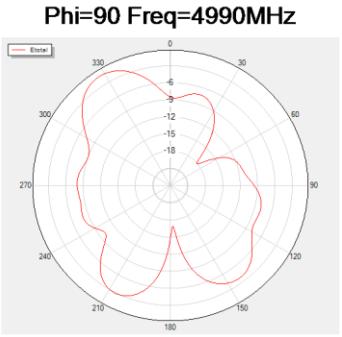
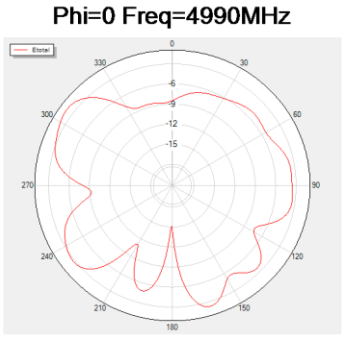
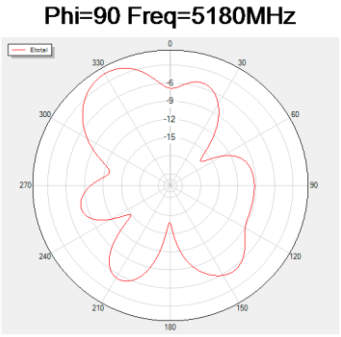
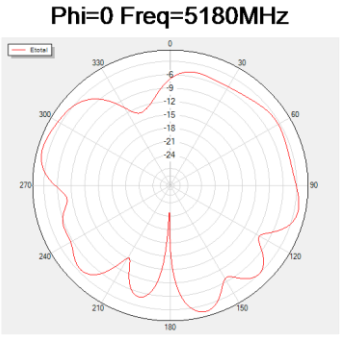
2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

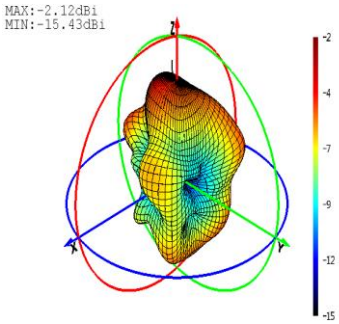
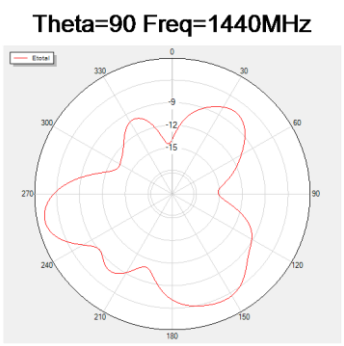
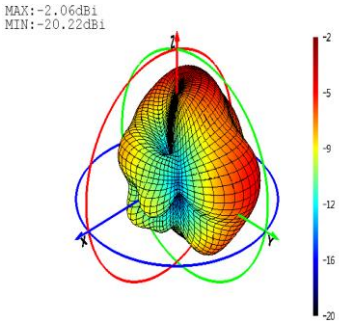
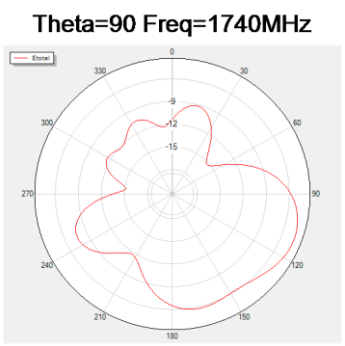
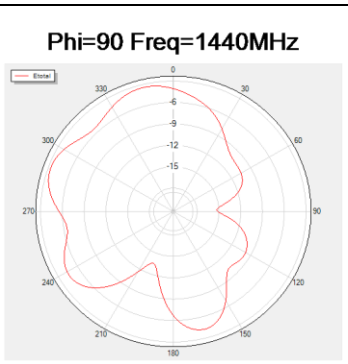
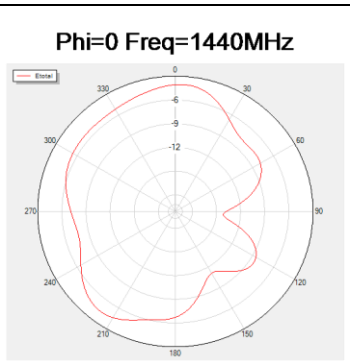
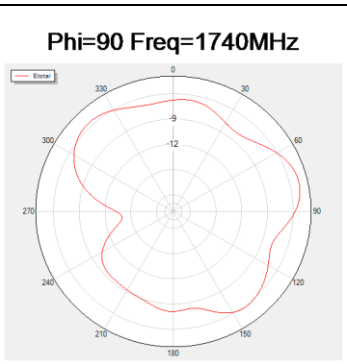
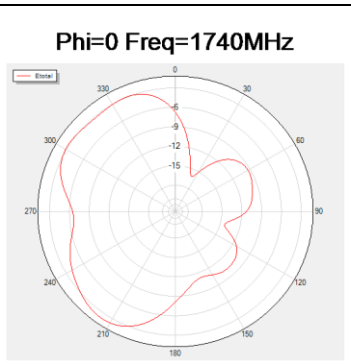
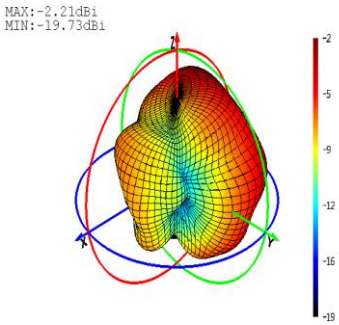
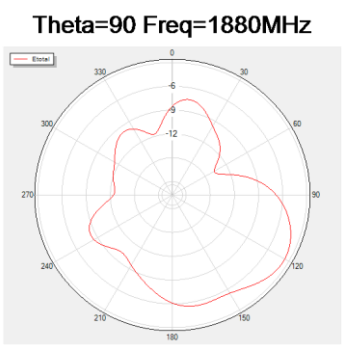
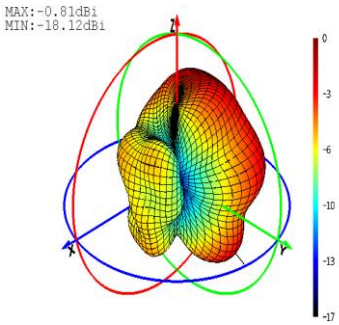
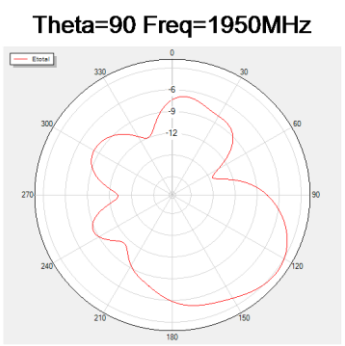
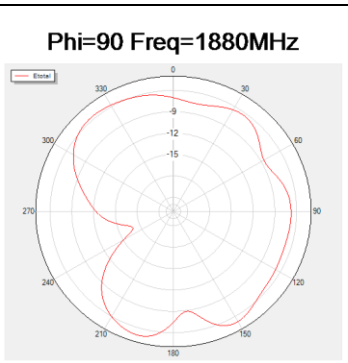
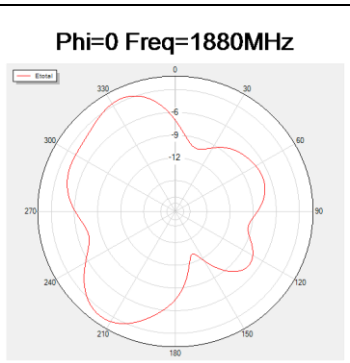
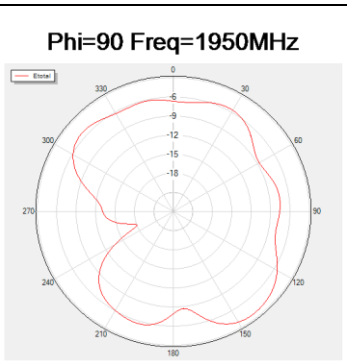
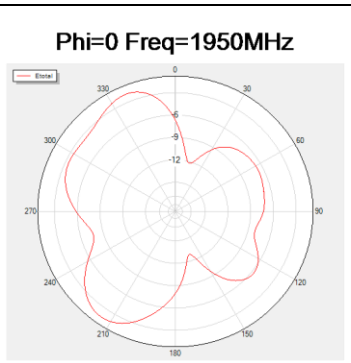
- **LMH4 Max Peak Gain**

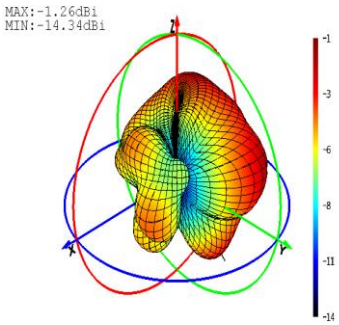
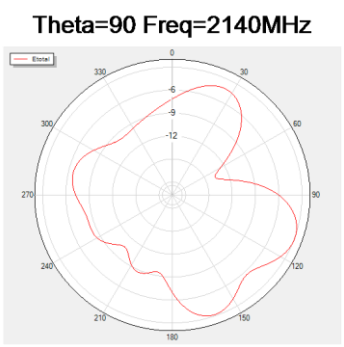
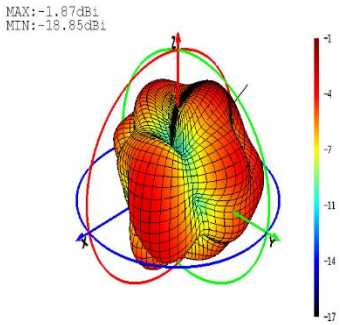
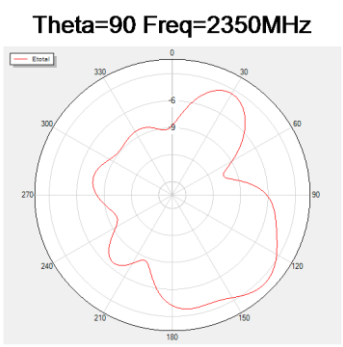
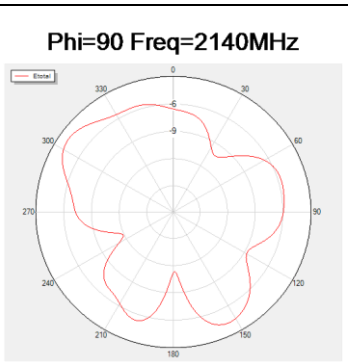
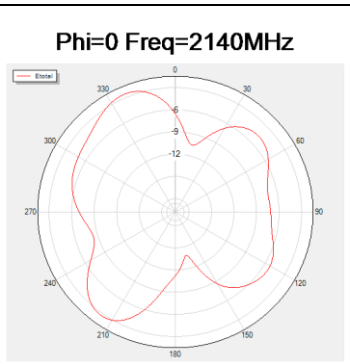
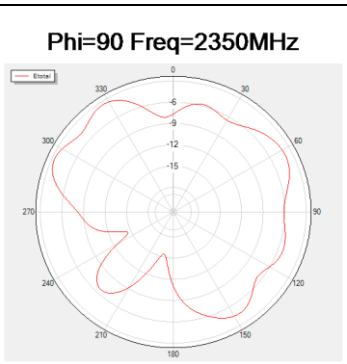
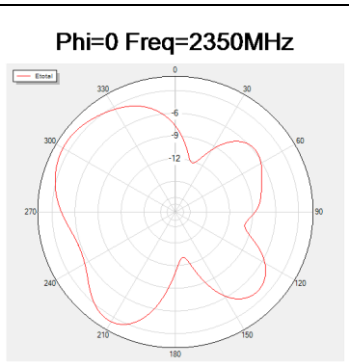
660 MHz		760 MHz	
			
			
860 MHz		1520 MHz	
			
			

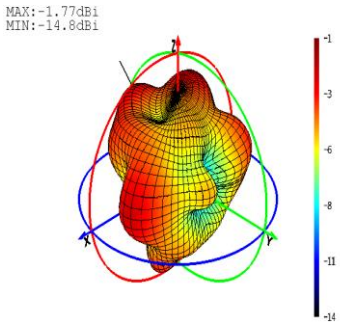
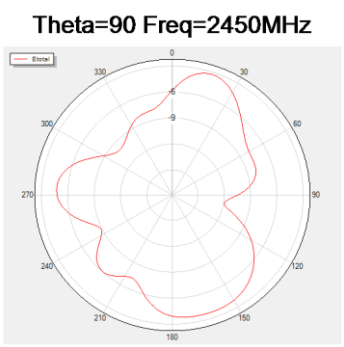
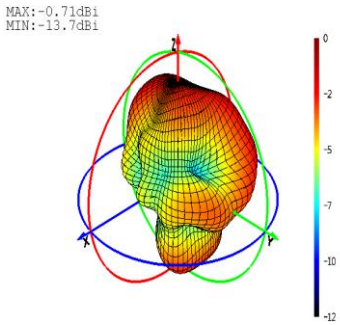
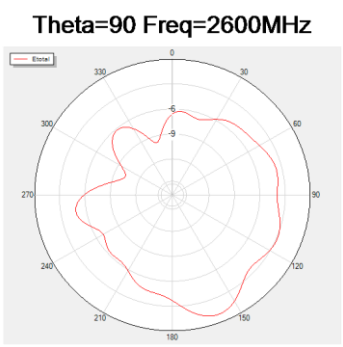
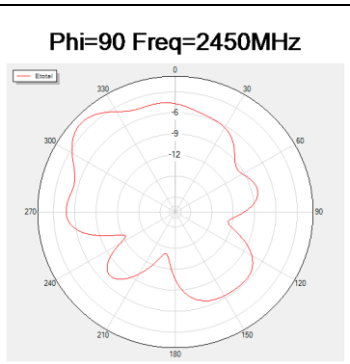
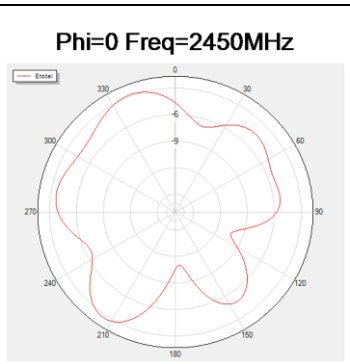
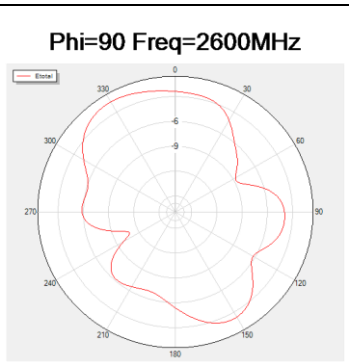
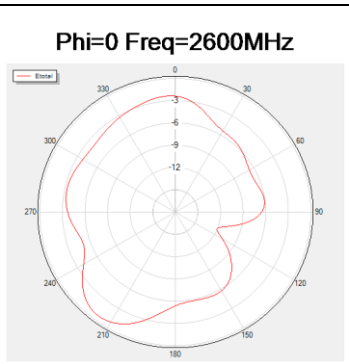
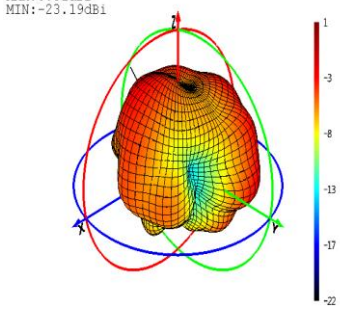
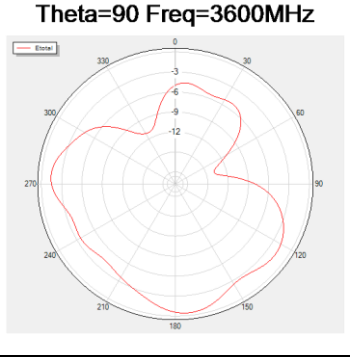
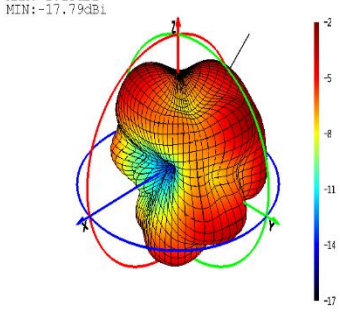
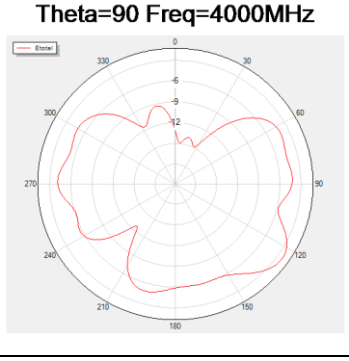
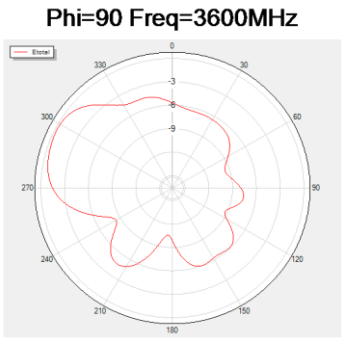
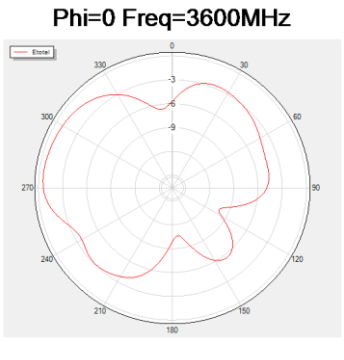
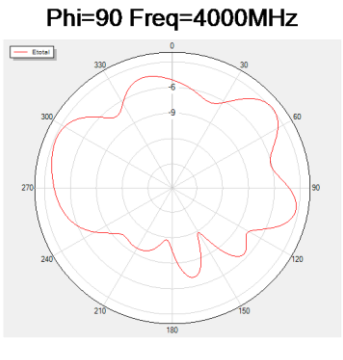
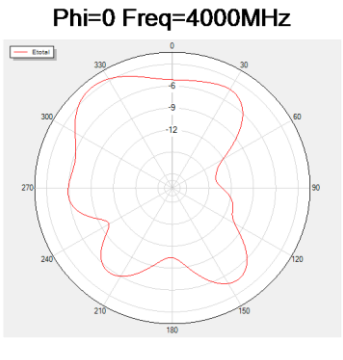
2170 MHz		2400 MHz	
			
			
2570 MHz		4040 MHz	
			
			

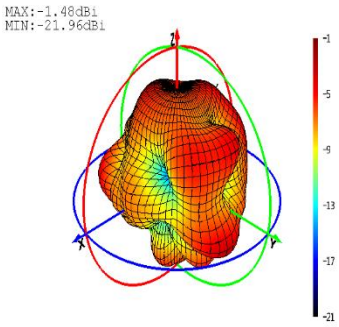
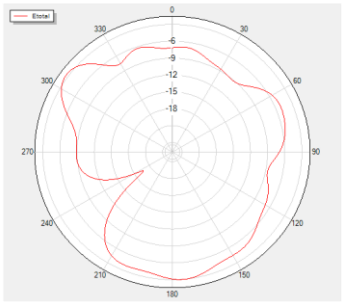
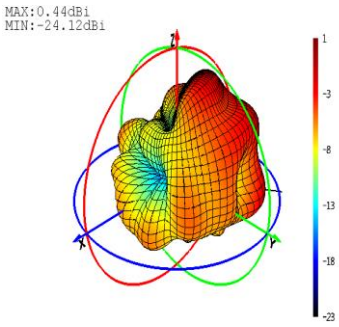
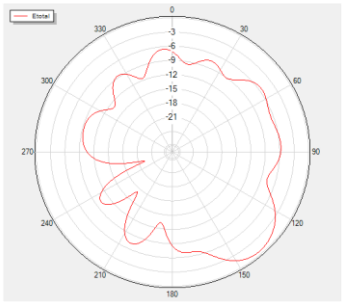
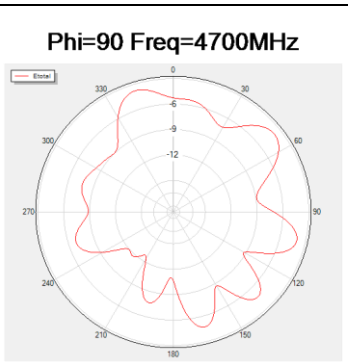
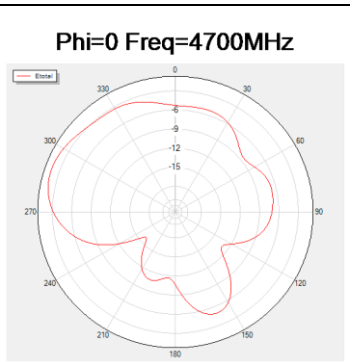
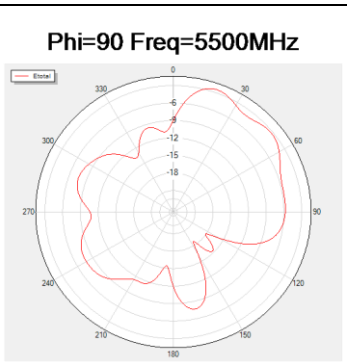
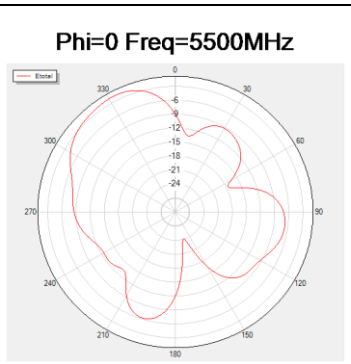
4990 MHz		5180 MHz	
			
			

- **MH1**

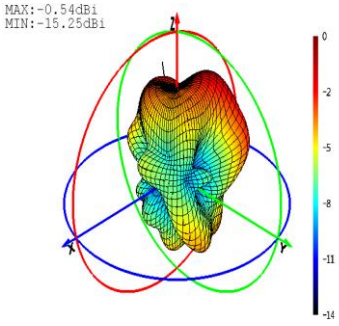
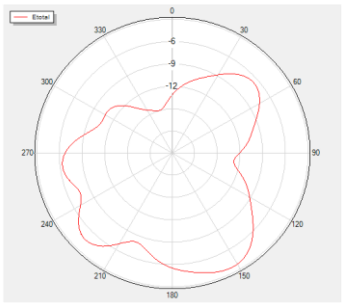
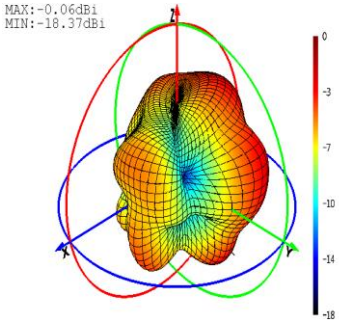
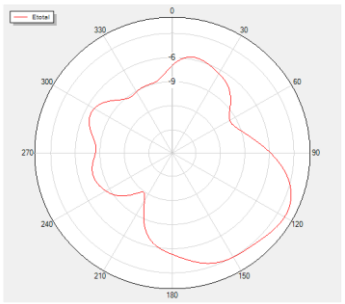
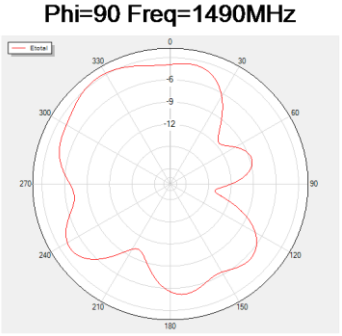
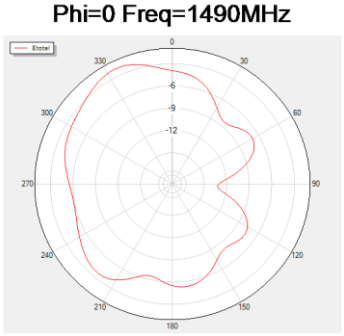
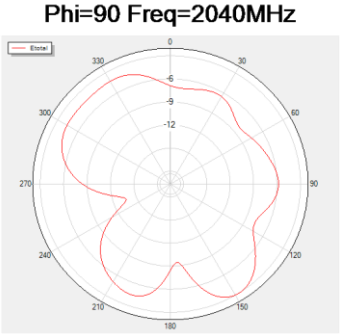
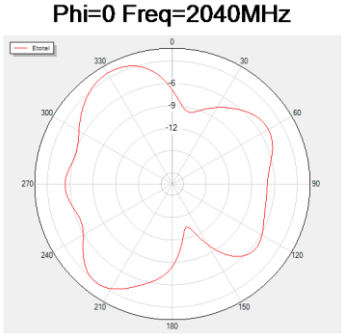
1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

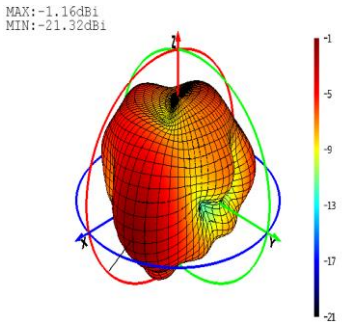
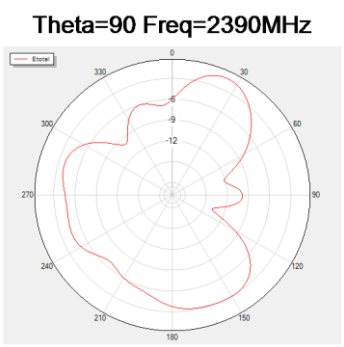
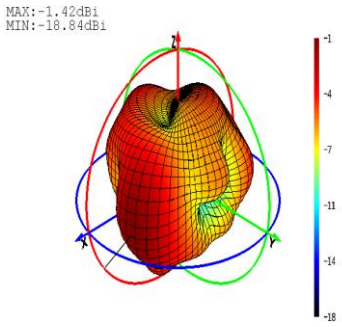
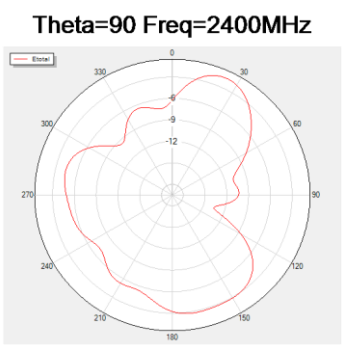
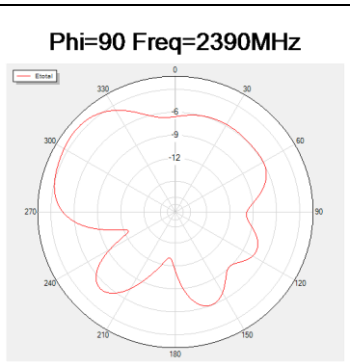
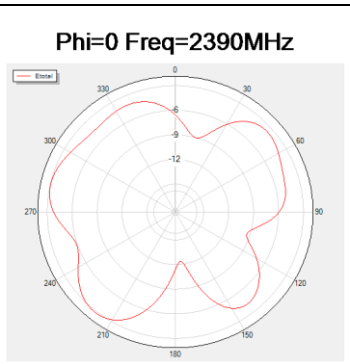
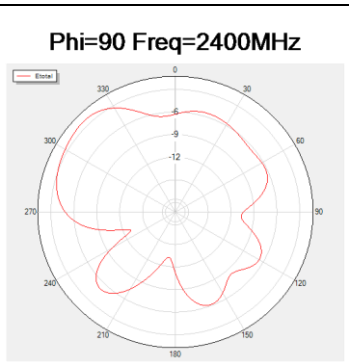
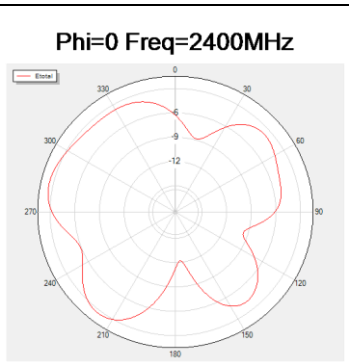
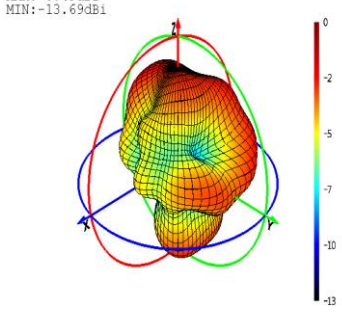
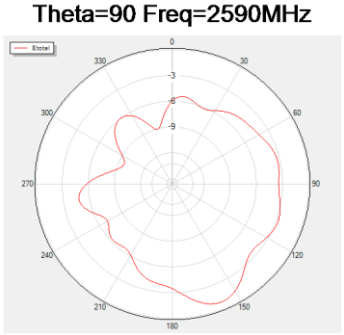
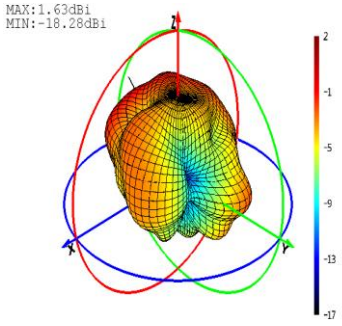
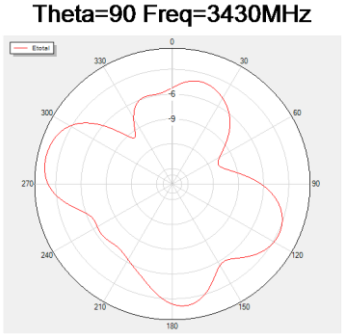
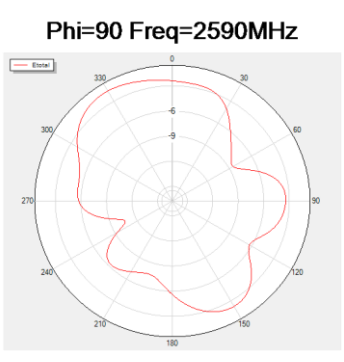
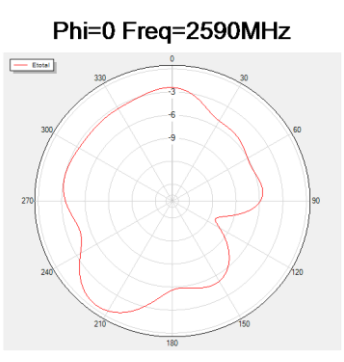
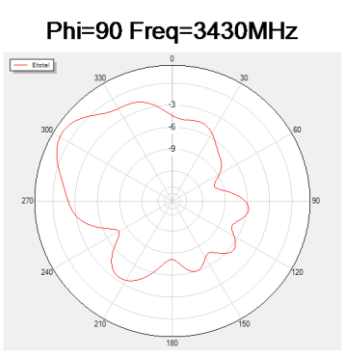
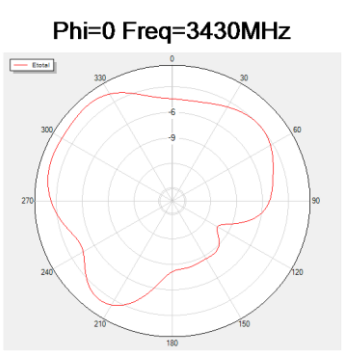
2140 MHz		2350 MHz	
			
			

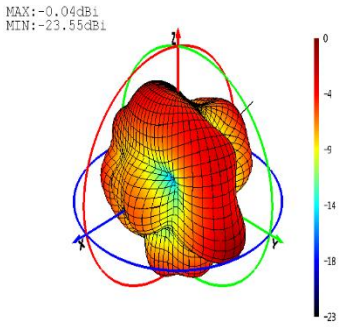
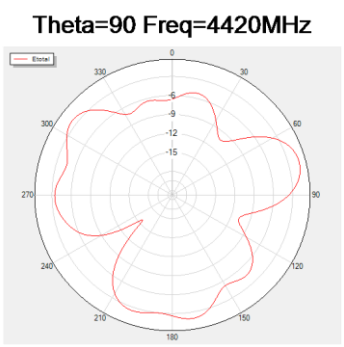
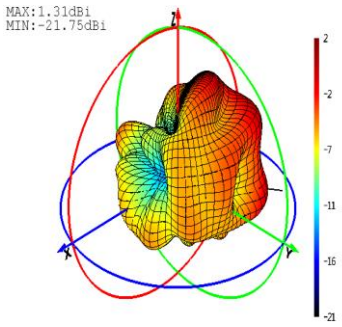
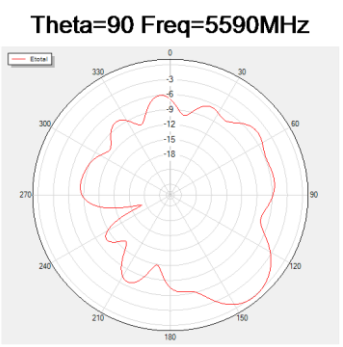
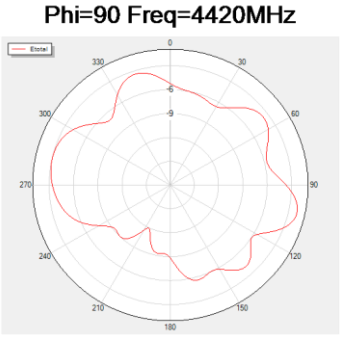
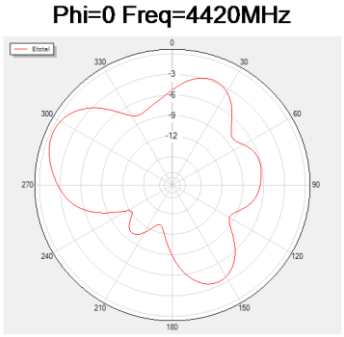
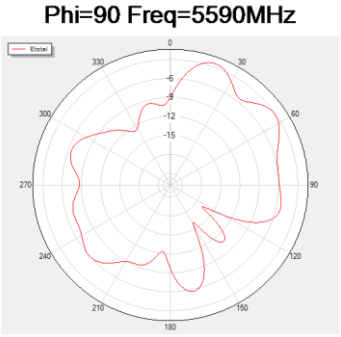
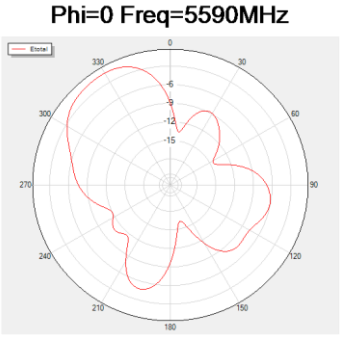
2450 MHz		2600 MHz	
			
			
3600 MHz		4000 MHz	
			
			

4700 MHz		5500 MHz	
			
			

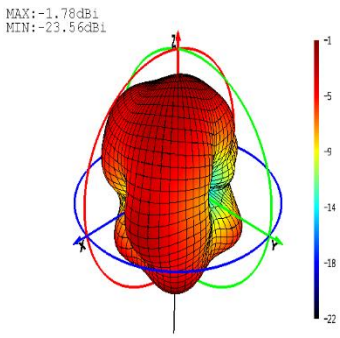
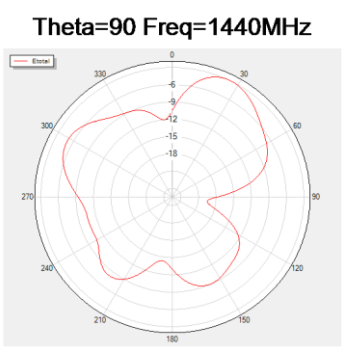
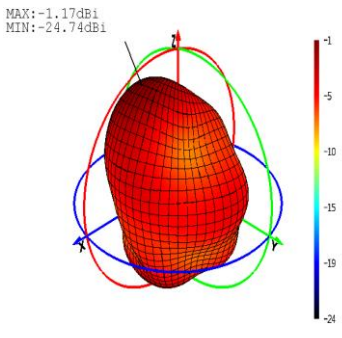
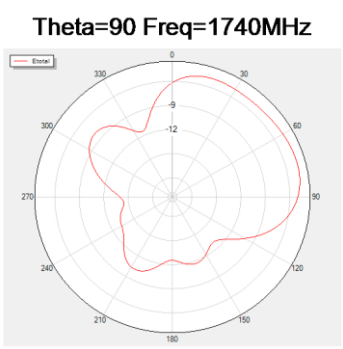
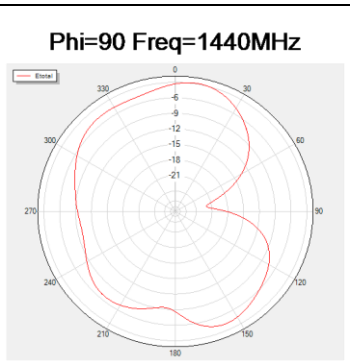
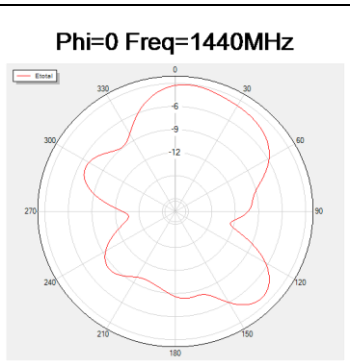
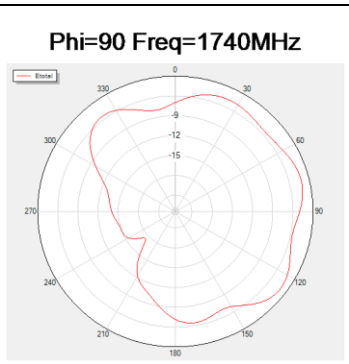
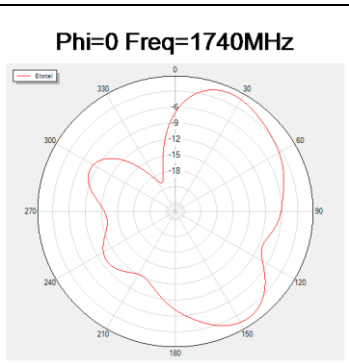
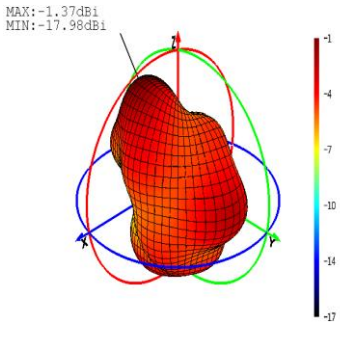
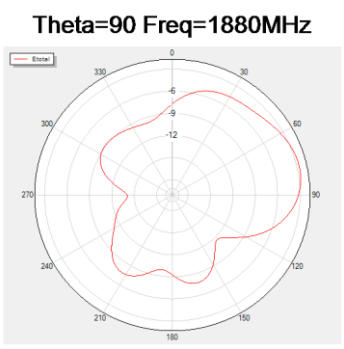
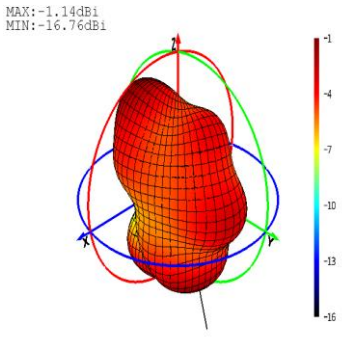
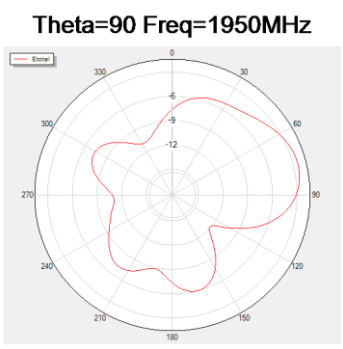
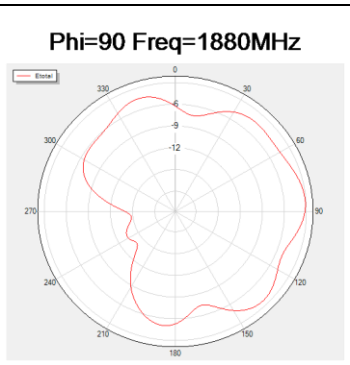
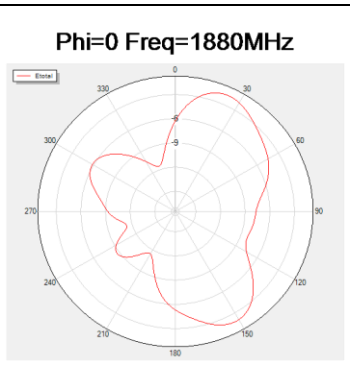
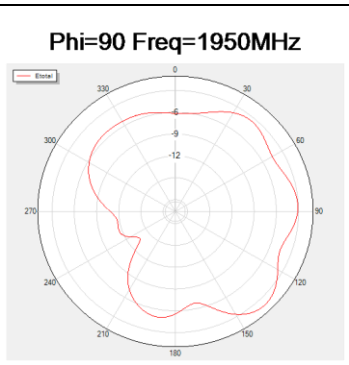
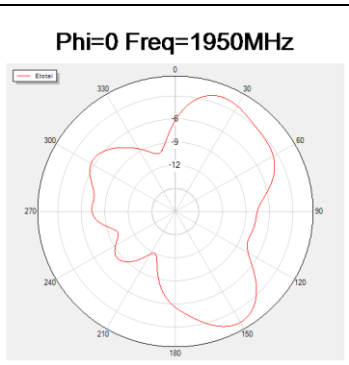
- **MH1 Max Peak Gain**

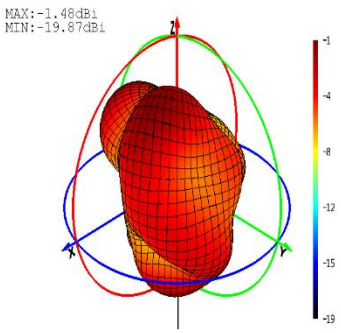
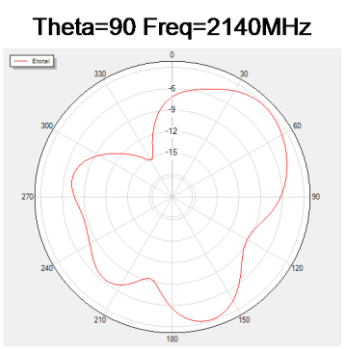
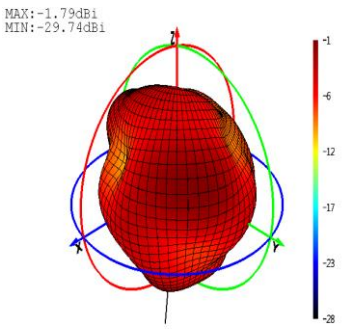
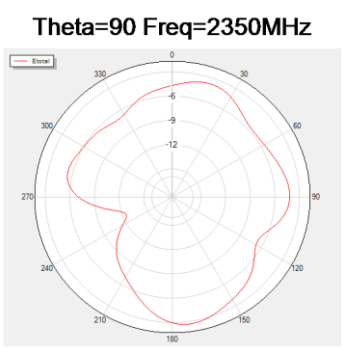
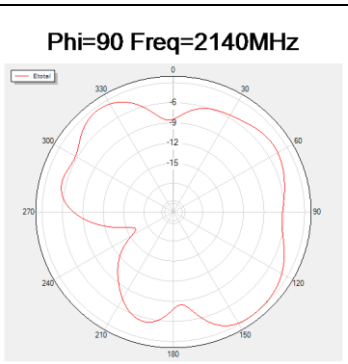
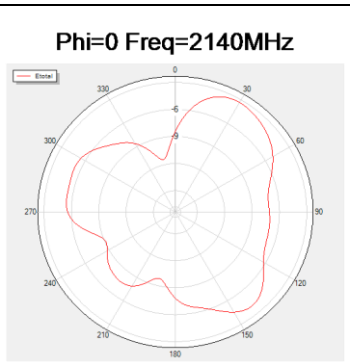
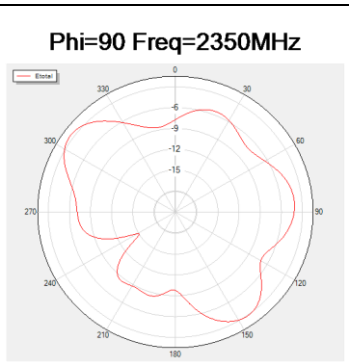
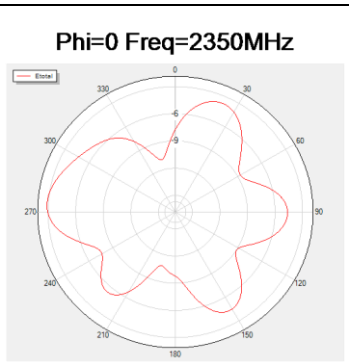
1490 MHz		2040 MHz	
			
			

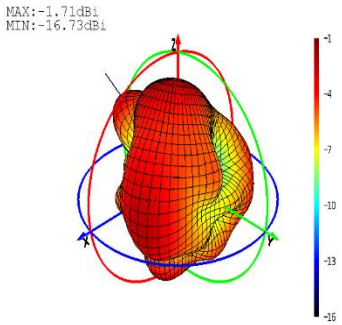
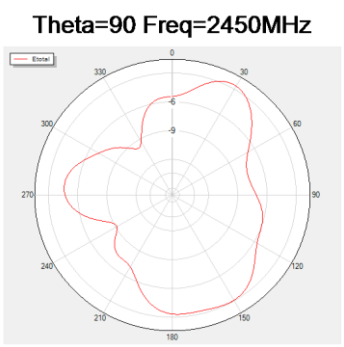
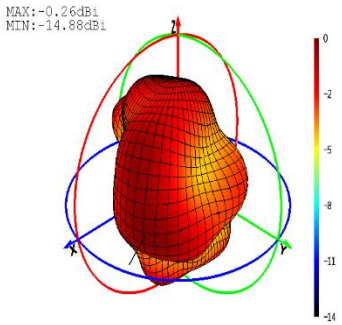
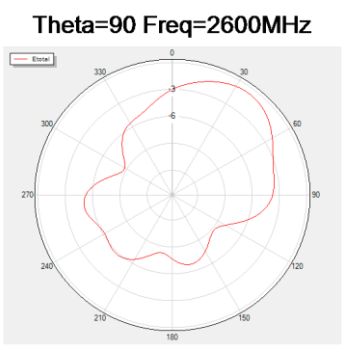
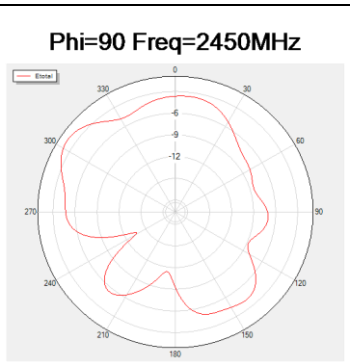
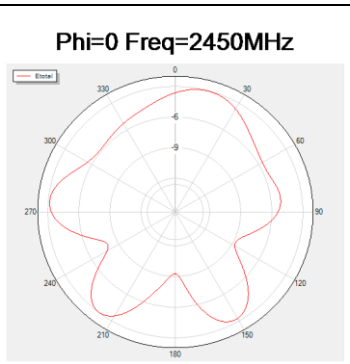
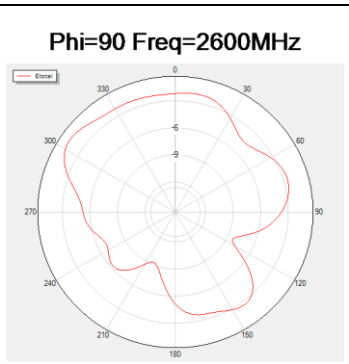
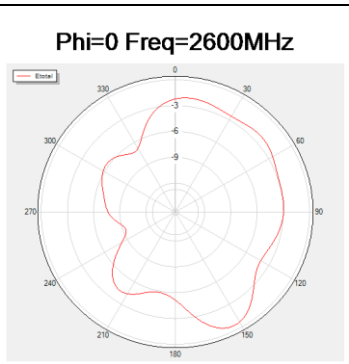
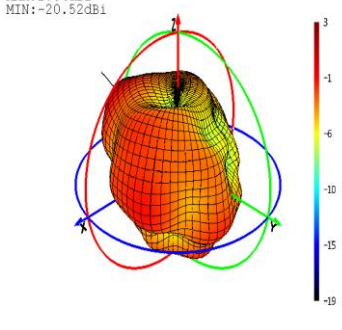
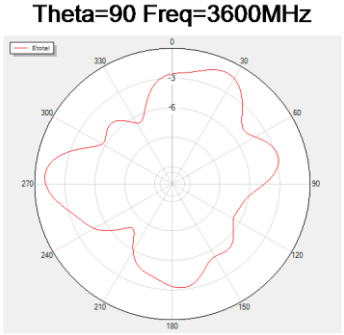
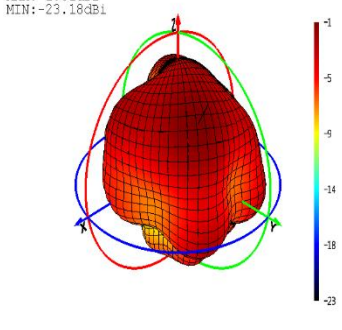
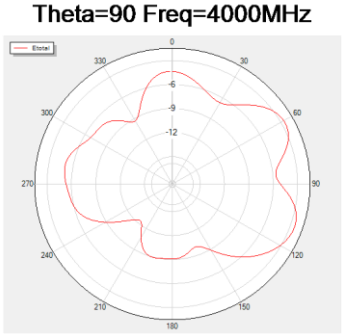
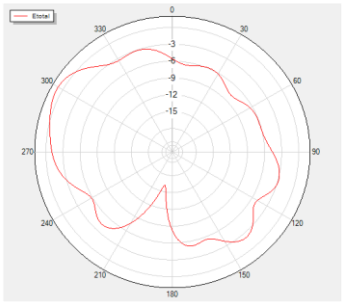
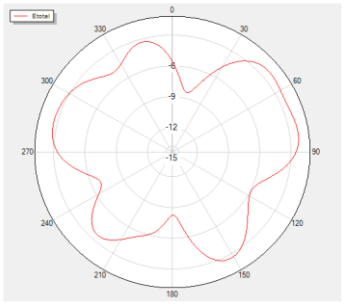
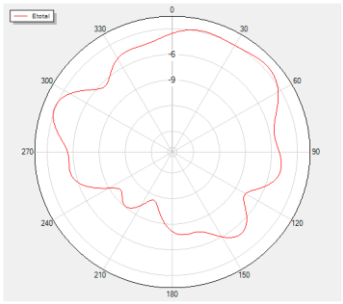
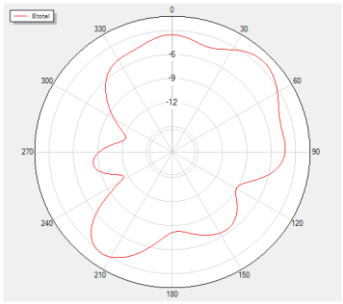
2390 MHz		2400 MHz	
			
			
2590 MHz		3430 MHz	
			
			

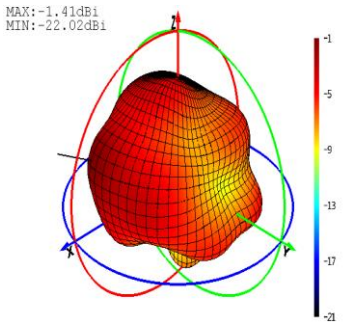
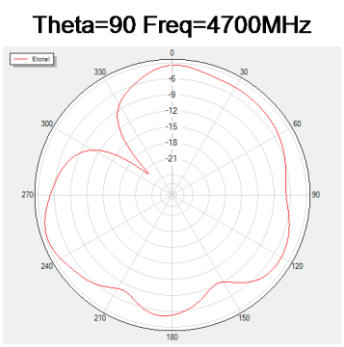
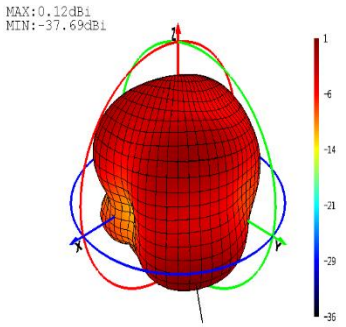
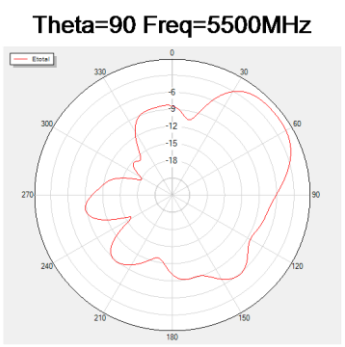
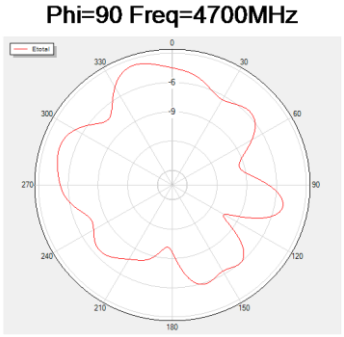
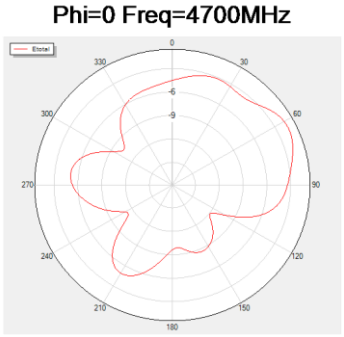
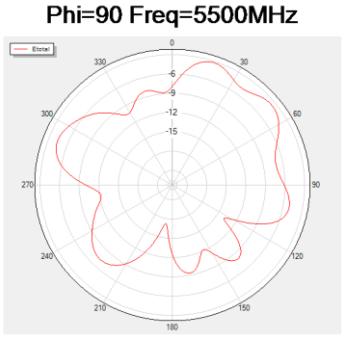
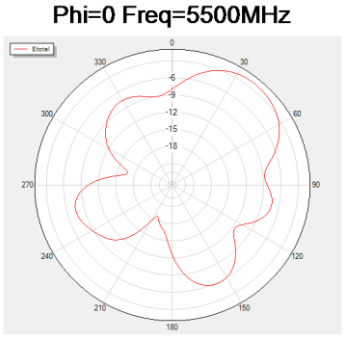
4420 MHz		5590 MHz	
			
			

- **MH2**

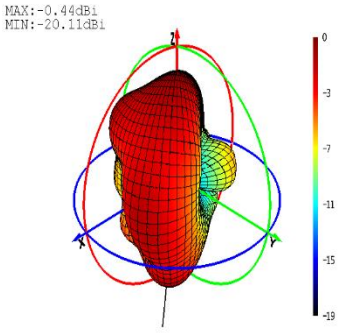
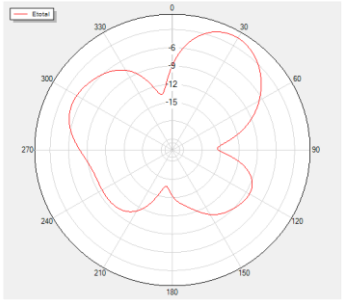
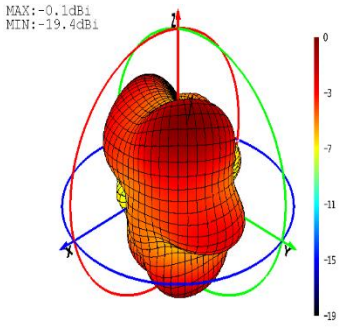
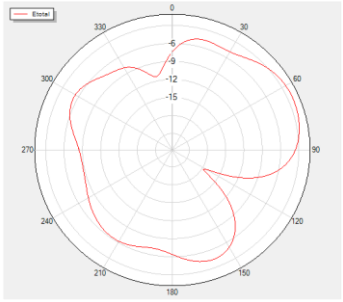
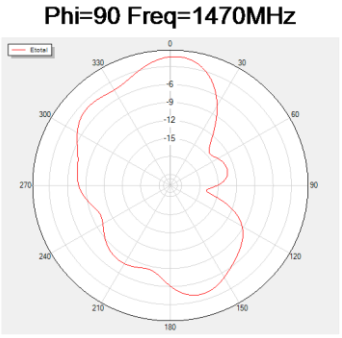
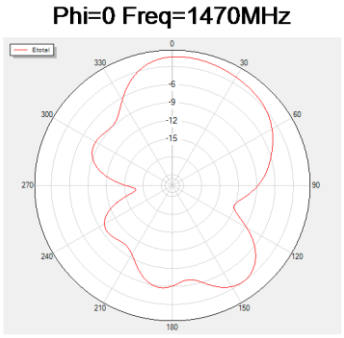
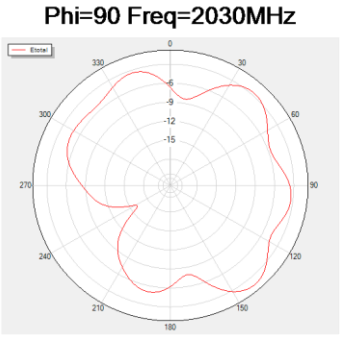
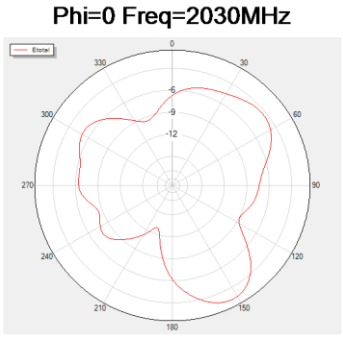
1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

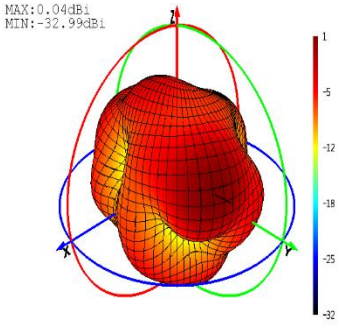
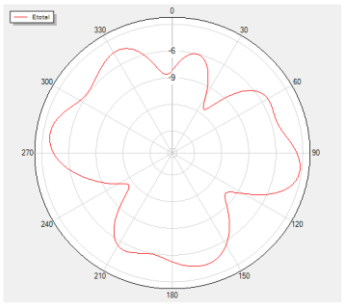
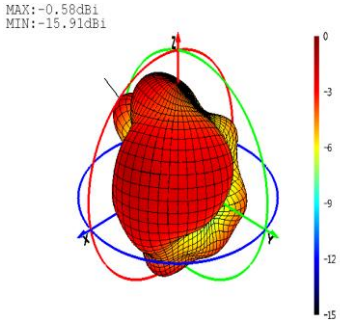
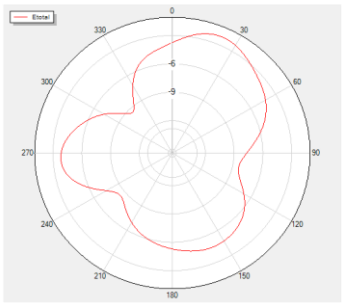
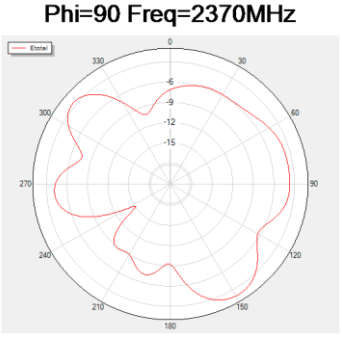
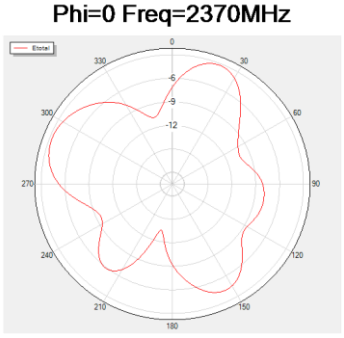
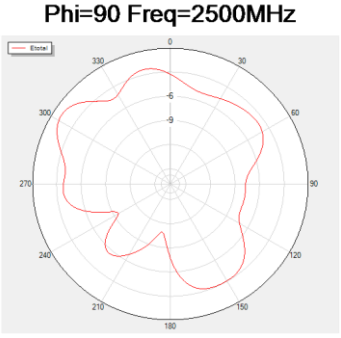
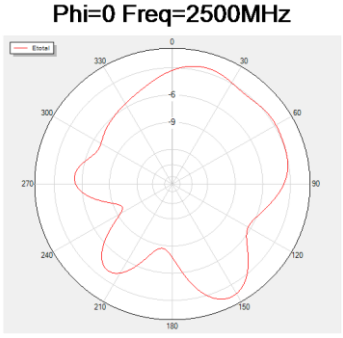
2140 MHz		2350 MHz	
			
			

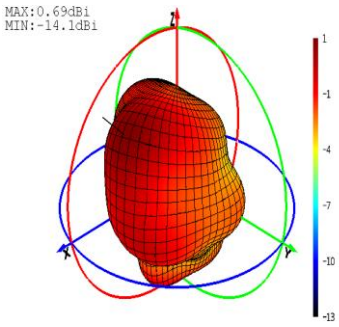
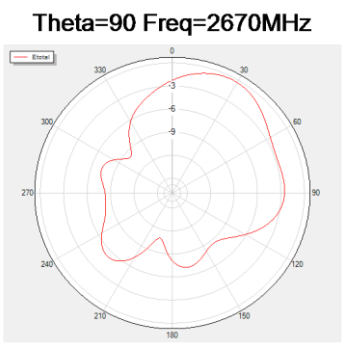
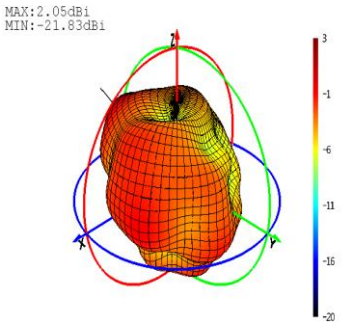
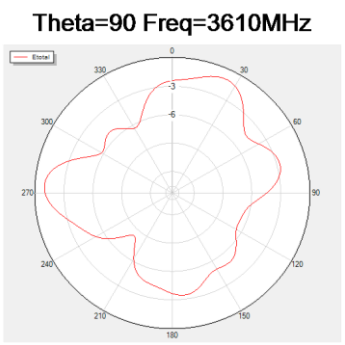
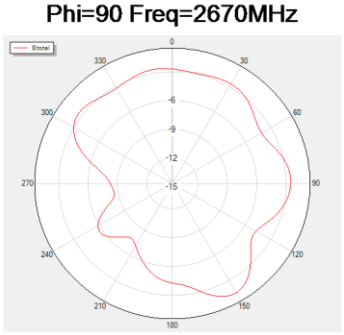
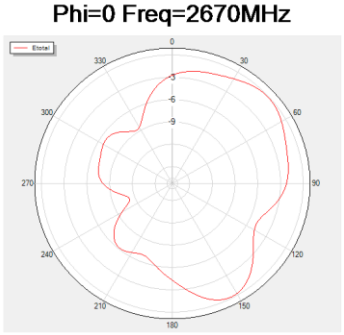
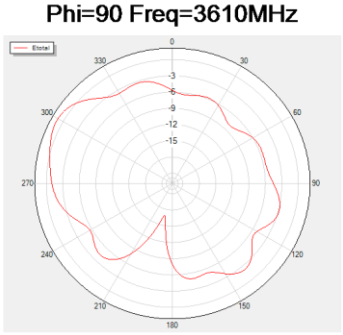
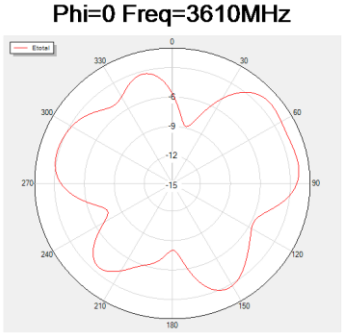
2450 MHz		2600 MHz	
			
			
3600 MHz		4000 MHz	
			
			

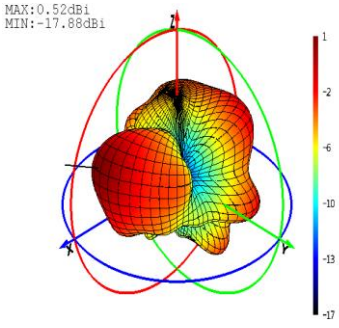
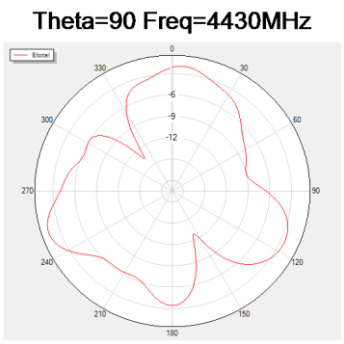
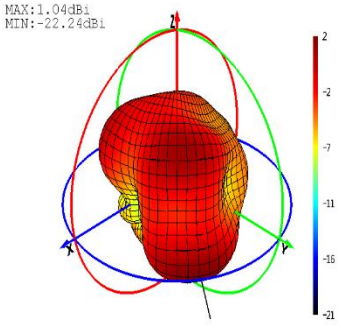
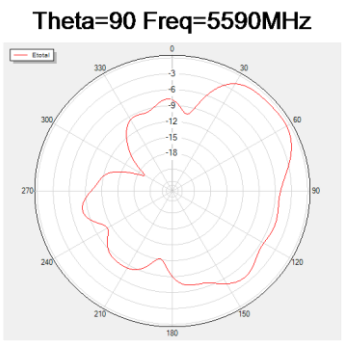
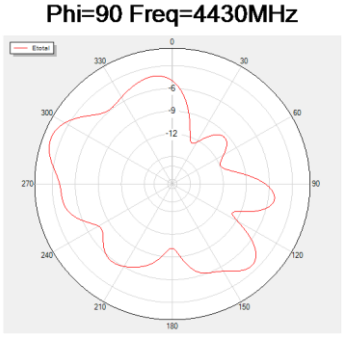
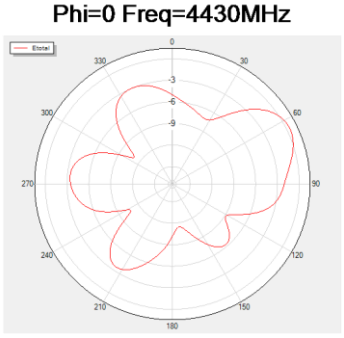
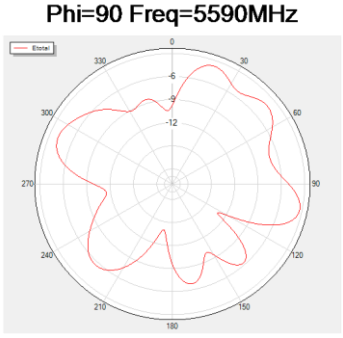
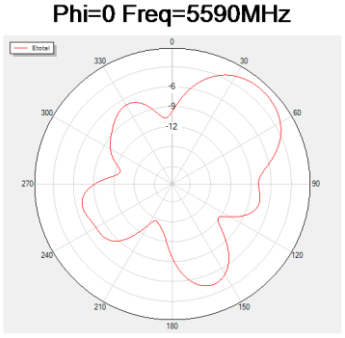
4700 MHz		5500 MHz	
			
			

- **MH2 Max Peak Gain**

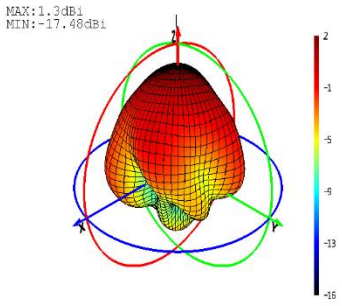
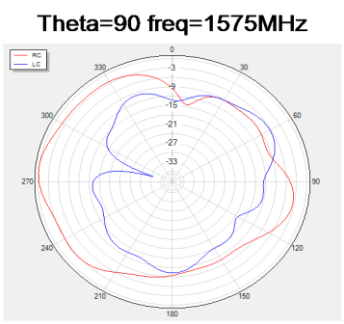
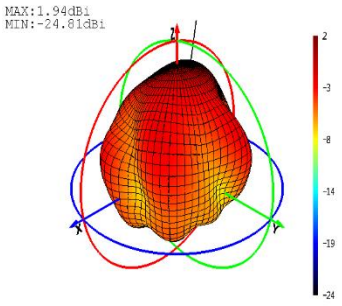
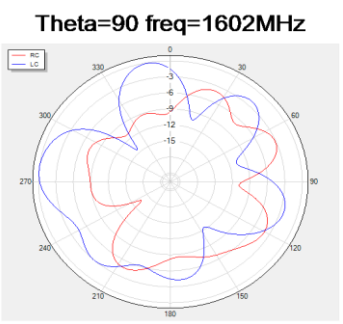
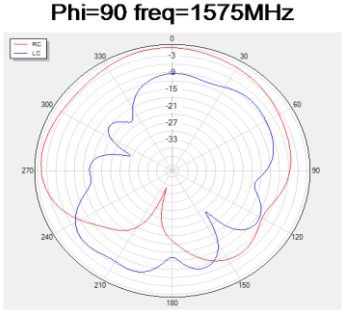
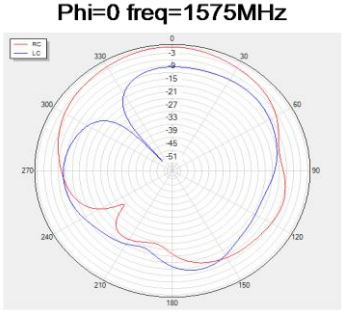
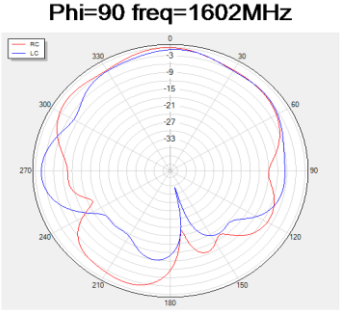
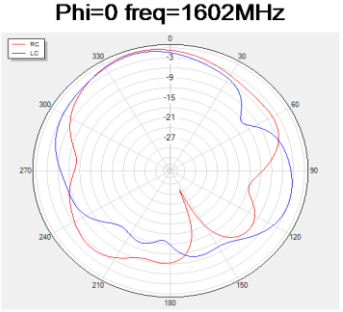
1470 MHz		2030 MHz	
			
			

2370 MHz		2500 MHz	
			
			

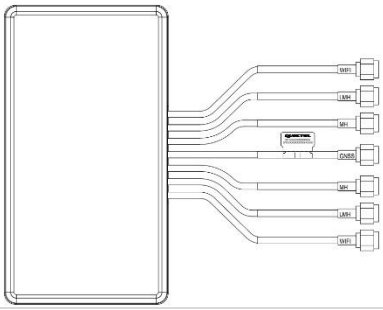
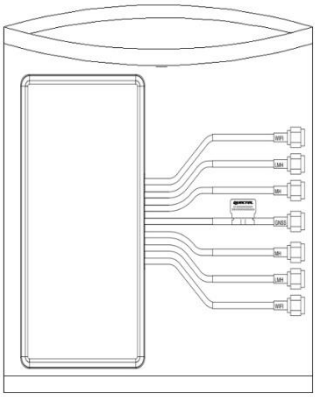
2670 MHz		3610 MHz	
			
			

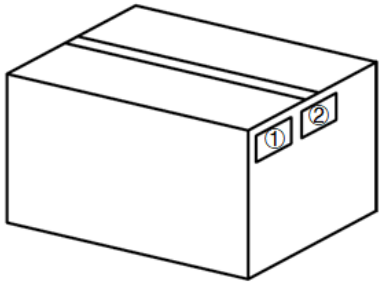
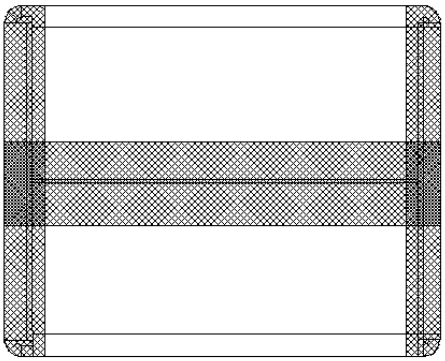
4430 MHz		5590 MHz	
			
			

- **GNSS**

1575 MHz		1602 MHz	
			
			

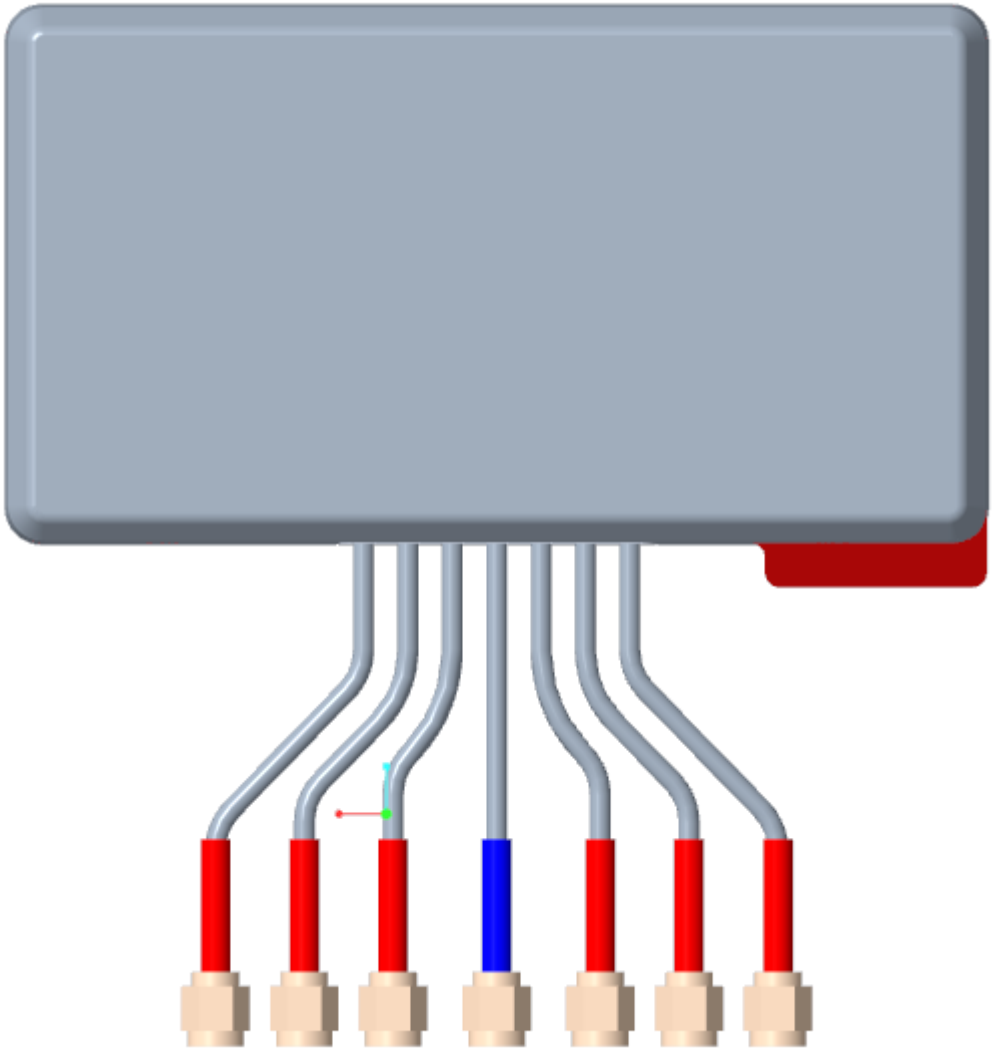
4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		Product drawing
2		1 antenna product in a bubble bag. (1 Antenna / Bubble Bag)
3		Each knife card slot holds 1 product, and one layer of knife cards holds 14 products. (14 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 = 550 × 350 × 210 mm

4		**Position for Attaching Labels** ① Carton Label ② Quality Label
5		**Sealing Cartons** H-shaped sealing cartons

5 Installation

- LMHs and MHs can be connected arbitrarily.
- Adhesive: Remove the centrifugal paper and attach the antenna to a clean and smooth surface (no oil stains on the attached surface).



Installation Instructions					
Tube Mark	**Tube Color**	**Cable**	**Connector**	**Frequency (MHz)**	**Technology**
5G LMH1	Red	RG174LL	SMA Male	600–960 MHz, 1400–6000 MHz	5G/4G/3G/2G
5G LMH2	Red	RG174LL	SMA Male	600–960 MHz, 1400–6000 MHz	5G/4G/3G/2G
5G MH	Red	RG174LL	SMA Male	1400–6000 MHz	5G MIMO/Wi-Fi
GNSS	Blue	RG174	SMA Male	1565–1606 MHz	GPS/GLONASS/GALILEO/BDS/ QZSS

6 Appendix Reference

Abbreviation	Description
5G	5th-Generation Mobile Communication Technology
4G	4th-Generation Mobile Communication Technology
3G	3rd-Generation Mobile Communication Technology
2G	2nd-Generation Mobile Communication Technology
GNSS	Global Navigation Satellite System
GLONASS	Global Navigation Satellite System (Russia)
GPS	Global Positioning System
QZSS	Quasi-Zenith Satellite System
IRNSS	Indian Regional Navigation Satellite System
LTE	Long Term Evolution
LTE-A	LTE-Advanced
NB-IoT	Narrow Band Internet of Things
LPWA	Low Power Wide Area
WCDMA	Wideband Code Division Multiple Access
GSM	Global System for Mobile Communications
Wi-Fi	Wireless Fidelity
GND	Ground
LMH	Low-Middle-High Bands
LMHs	LMH antennas
MH	Middle-High Envelope Bands
MHs	MH antennas

FS	In Free Space
MP	On Metal Plane
VSWR	Voltage Standing Wave Ratio
S-Parameter	Scatter Parameter
LNA	Low Noise Amplifier
GPRS	General Packet Radio Service
WLAN	Wireless Local Area Network
HSPA	High-Speed Packet Access
RHCP	Right Hand Circularly Polarized
RoHS	Restriction of Hazardous Substances
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
IP	Ingress Protection
IK	Impact Protection
ECC	Envelope Correlation Coefficient
ECE R118	UN Regulation No.118 (ECE R118-approved cables are flame-resistant cables)

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Revision History

Version	Date	Author	Note
-	2025-08-04	Mordecai Liu/ Charming Yang/ Lance Sun/ Strong Qiang/ Rainey Liao	Creation of the document
1.0	2025-08-04	Mordecai Liu/ Charming Yang/ Lance Sun/ Strong Qiang/ Rainey Liao	First official release
1.1	2025-10-14	Junsen Li	1. Updated the Overview chapter. 2. Added LNA gains according to different supply voltages (Chapter 1.1.7).

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