Antenna Datasheet

Product OC: YEMN311J1AH
Version: 1.0
Date: 2025-11-04
Status: Preliminary

Product Name: 5G & GNSS 3in1 Multiple Mount Combo Antenna
Key Features:
Frequency Band: 5G: 600–960 MHz, 1710–2690 MHz, 3300–6000 MHz;
GNSS: 1565–1606 MHz
Dimensions: Φ 54 mm × 91.8 mm
Efficiency: Up to 67 %
GNSS LNA Gain: 17 ±3 dB
RoHS Compliant
IP66

Overview

YEMN311J1AH is a 5G & GNSS 3in1 combo antenna measuring Φ 54 mm × 91.8 mm. This ultra-wide-band 5G & GNSS antenna provides broad coverage from 1565–1606 MHz, 600–960 MHz, 1710–2690 MHz, 3300–6000 MHz whilst offering backward-compatibility to support 4G/3G and 2G networks as well as LTE Cat-M and narrowband IoT (NB-IoT). Ideal for applications where the antenna is required to be discrete, the antenna is available magnet & adhesive & screw mount omni-directional antenna. It is easy to install with maximum durability assured and suitable for use in harsh outdoor environments thanks to its IP66 rated enclosure. It is compatible with Quectel's RM520x Series modules.

YEMN311J1AH has 2 × 5G LMH antennas and 1 × GNSS L1 antenna. It allows high efficiency, stable signal transmission and reception for active GNSS from 1565–1606 MHz, and 5G bands from 600–960 MHz, 1710–2690 MHz, 3300–6000 MHz. In the meantime, this product also offers high isolation between antennas to avoid self-interference. All in all, this unique product is designed to provide stable and high-speed data connection to 5G & GNSS applications.

Typical applications include:

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

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

Contents

1 Specification

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

1.1. Electrical

Electrical Specifications			
Frequency Range	**MAIN**	600–960 MHz, 1710–2690 MHz, 3300–6000 MHz	
	DIV	600–960 MHz, 1710–2690 MHz, 3300–6000 MHz	
	GNSS	1565–1606 MHz	
Radiation Pattern	**MAIN**	Omni-directional	
	DIV	Omni-directional	
	GNSS	Directional	
Polarization	**MAIN**	Linear	
	DIV	Linear	
	GNSS	RHCP	
Impedance		50 Ω	
Isolation	**MAIN & DIV**	FS	≤ -5.4 dB
		MP	≤ -6.1 dB

1.1.1. MAIN

Electrical – Detail												
Band / SPEC	Band	B71	B12 /B13 /B28	B5 /B8 /B26	n74 /n75 /n76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /n77	n79	Wi-Fi 5G
	Freq. (MHz)	600–700	700–810	820–960	1420–1520	1700–2170	2300–2400	2400–2500	2500–2690	3300–4200	4400–5000	5150–5850
Max. VSWR	FS	2.7	2.9	4.4	2.6	2.3	1.4	1.4	1.9	2.9	2.7	3.3
	MP	3.5	2.9	3.6	2.8	2.3	1.5	1.3	1.9	2.9	2.6	3.4
Max. Return Loss (dB)	FS	-6.7	-6.3	-4.0	-7.1	-7.9	-15.1	-16.2	-9.9	-6.2	-6.8	-5.5
	MP	-5.1	-6.3	-4.9	-6.4	-8.1	-13.8	-17.6	-10.0	-6.2	-7.2	-5.3
AVG Eff. (%)	FS	23.8	34.1	31.1	51.5	50.6	59.1	57.3	54.1	53.2	48.9	45.5
	MP	22.9	34.8	38.2	51.6	53.0	57.2	53.3	48.1	55.2	55.0	44.4
AVG AVG Gain (dB)	FS	-6.3	-4.8	-5.1	-2.9	-3.0	-2.3	-2.4	-2.7	-2.8	-3.1	-3.5
	MP	-6.4	-4.7	-4.2	-2.9	-2.8	-2.4	-2.7	-3.2	-2.6	-2.6	-3.6
Max. Peak Gain (dBi)	FS	-0.9	-1.4	-1.0	2.3	3.3	2.9	2.9	2.4	3.0	3.5	2.3
	MP	0.1	0.1	1.1	3.8	4.6	4.0	3.5	2.8	5.8	5.3	3.7

VSWR	FS	≤ 4.4
	MP	≤ 3.6
Return Loss	FS	≤ -4.0 dB
	MP	≤ -4.9 dB
Gain	FS	≤ 3.5 dBi
	MP	≤ 5.8 dBi

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

1.1.2. DIV

Electrical – Detail												
Band / SPEC	Band	B71	B12 /B13 /B28	B5 /B8 /B26	n74 /n75 /n76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /n77	n79	Wi-Fi 5G
	Freq. (MHz)	600–700	700–810	820–960	1420–1520	1700–2170	2300–2400	2400–2500	2500–2690	3300–4200	4400–5000	5150–5850
Max. VSWR	FS	2.9	3.0	4.2	2.9	2.8	1.5	1.6	1.6	2.1	2.7	3.2
	MP	3.6	3.7	4.2	2.9	3.1	1.8	1.7	1.5	2.0	2.6	3.5
Max. Return Loss (dB)	FS	-6.3	-6.1	-4.2	-6.3	-6.4	-13.6	-12.9	-12.5	-9.1	-6.8	-5.7
	MP	-4.9	-4.8	-4.2	-6.2	-5.9	-11.0	-11.5	-14.2	-9.4	-7.1	-5.1
AVG Eff. (%)	FS	33.0	33.9	30.2	45.8	43.9	54.8	51.4	53.0	53.2	52.3	45.8
	MP	25.7	31.5	29.3	48.6	45.8	50.9	45.3	45.0	56.5	55.8	40.5
AVG AVG Gain (dB)	FS	-4.9	-4.7	-5.3	-3.4	-3.6	-2.6	-2.9	-2.8	-2.8	-2.8	-3.4
	MP	-5.9	-5.0	-5.4	-3.1	-3.4	-2.9	-3.4	-3.5	-2.5	-2.6	-3.9
Max. Peak Gain (dBi)	FS	3.0	0.4	-0.8	3.3	3.2	2.7	2.3	2.0	3.2	2.3	2.2
	MP	0.7	-0.3	-0.6	3.0	4.0	3.2	2.6	2.8	5.3	4.7	4.9

VSWR	FS	≤ 4.2
	MP	≤ 4.2
Return Loss	FS	≤ -4.2 dB
	MP	≤ -4.2 dB
Gain	FS	≤ 3.3 dBi
	MP	≤ 5.3 dBi

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

1.1.3. GNSS

Band / Frequency (MHz)	Band	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
	Freq. (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
VSWR	FS	-	-	-	-	-	-	1.1	1.4
	MP	-	-	-	-	-	-	1.3	1.1
Return Loss (dB)	FS	-	-	-	-	-	-	-26	-16
	MP	-	-	-	-	-	-	-17.3	-24.2
Efficiency (%)	FS	-	-	-	-	-	-	52.4	51.8
	MP	-	-	-	-	-	-	51.5	59.2
Peak Gain (dBi)	FS	-	-	-	-	-	-	-1.07	-1.19
	MP	-	-	-	-	-	-	2.62	-0.18

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

LNA Electrical	
LNA Gain	17 ±3 dB
Output VSWR	< 2.0
Filter Out-of-Band Attenuation	39 dB f0 ±100 MHz f0 (1588 MHz)
Working Voltage	2.7–3.3 V
Working Current	7 ±1.5 mA @ 3 V
Impedance	50 Ω

1.2. Supported Bands

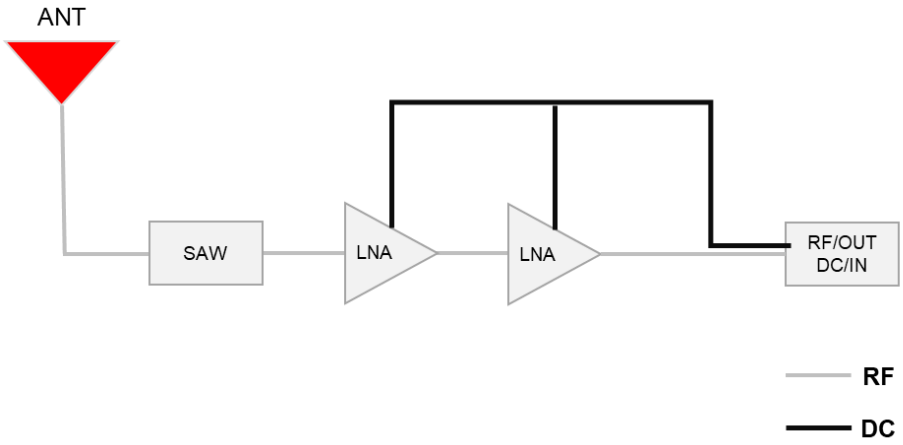
5G NR/ LTE/ LTE-Advanced/ WCDMA/ HSPA/ HSPA+/ GPRS/ GSM/ NB-IoT					
Band	**Frequency (MHz)**	**Uplink (MHz)**	**Downlink (MHz)**	**MAIN**	**DIV**
1	2100	1920–1980	2110–2170	√	√
2	1900	1850–1910	1930–1990	√	√
3	1800	1710–1785	1805–1880	√	√
4	1700	1710–1755	2110–2155	√	√
5	850	824–849	869–894	√	√
7	2600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

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

1.3. Mechanical & Environmental

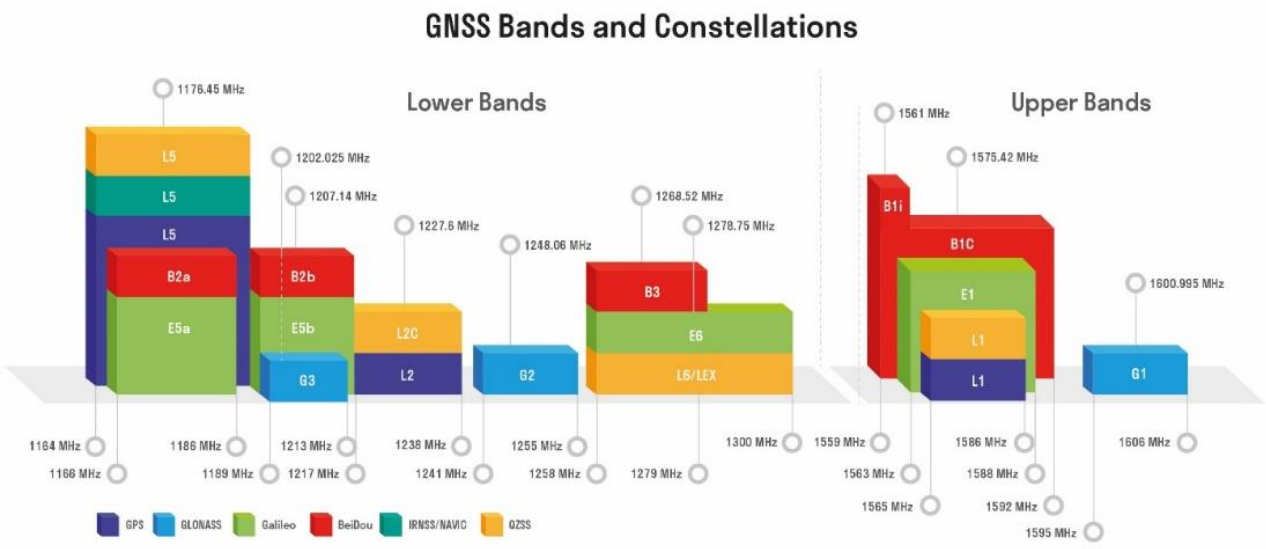
Mechanical		
Antenna Dimensions		Φ 54 mm × 91.8 mm
Antenna Material & Color		ABS (UV Resistant) & Black
Cable Type & Color & Length	**MAIN**	RG174 & Black & 300 ±10 mm
	DIV	RG174 & Black & 300 ±10 mm
	GNSS	RG174 & Black & 300 ±10 mm
Connector Type	**MAIN**	SMA Male (Center pin)
	DIV	SMA Male (Center pin)
	GNSS	SMA Male (Center pin)
Mounting Type		Screw + Adhesive
Environmental		
Storage Temperature		-40 °C to +85 °C
Operation Temperature		-40 °C to +85 °C
Ingress Protection (IP) Rating		IP66
RoHS Compliant		Yes

1.4. Block Diagram (Active Antenna)

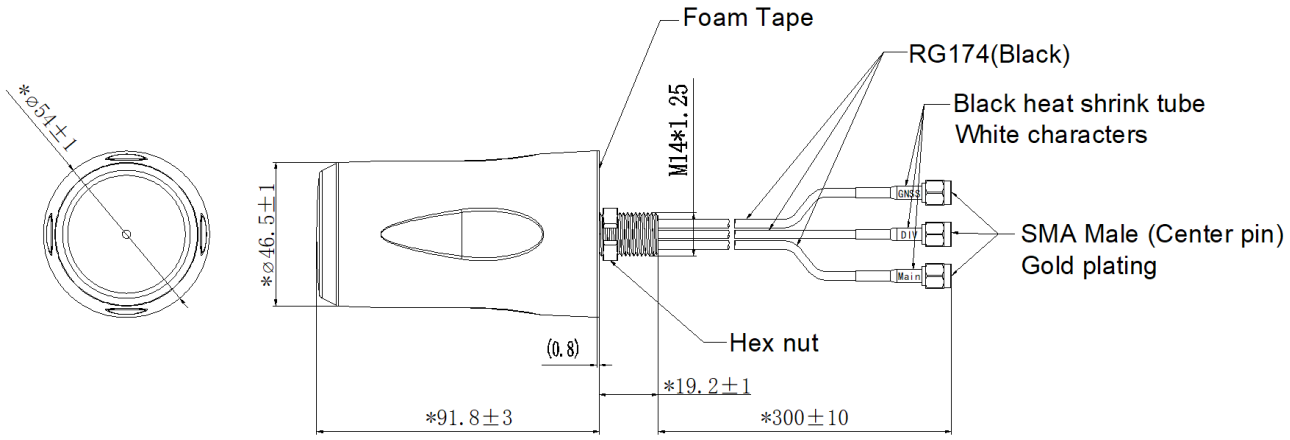


1.5. Supported GNSS Frequency Bands

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


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

2 Drawing

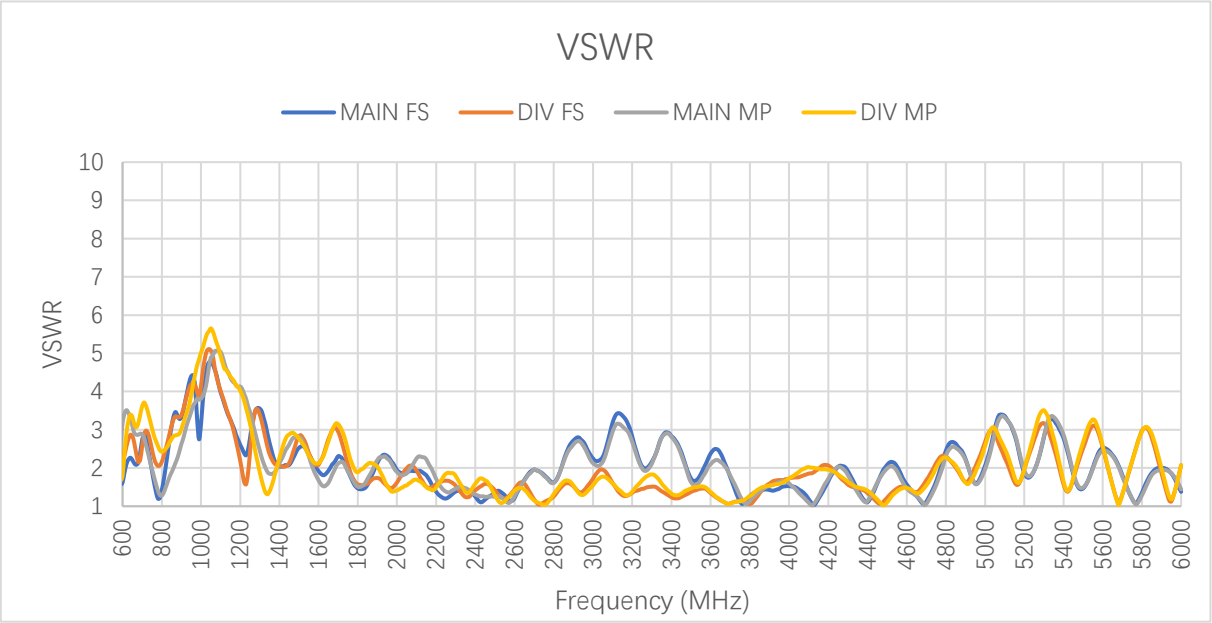


Unit: mm

3 Detailed Performance

3.1. S-Parameter Test

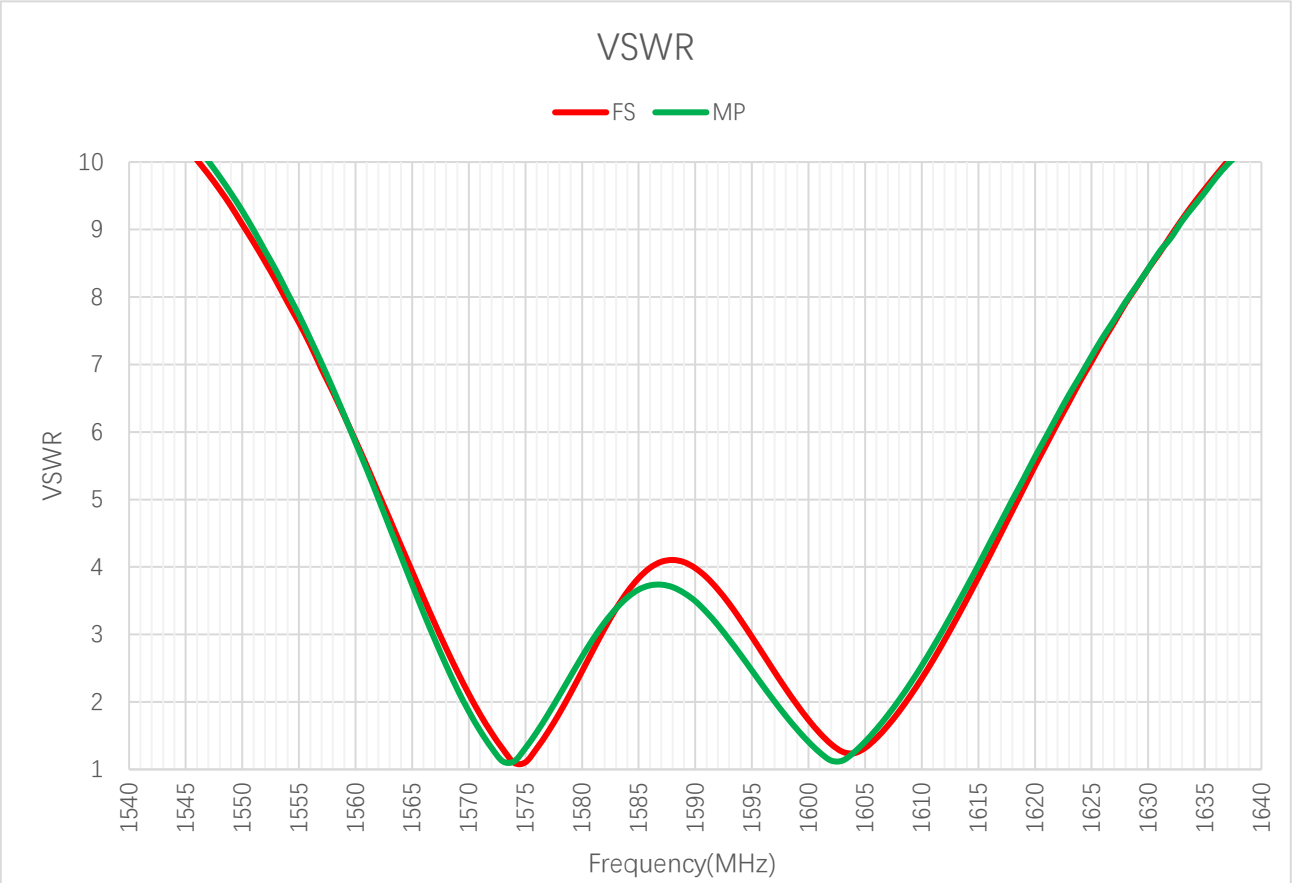
3.1.1. VSWR



VSWR

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
MAIN	FS	1.6	2.2	2.9	2.4	3.3	4.4	2.1	2.3	2.0	1.9
	MP	3.2	3.4	2.8	1.6	2.6	3.6	2.5	2.1	2.0	2.0
DIV	FS	2.2	2.8	2.9	2.7	3.4	4.2	2.1	2.8	2.3	1.7
	MP	1.8	3.2	3.7	2.6	3.0	4.2	2.8	3.1	2.7	2.1
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
MAIN	FS	2.3	1.8	1.4	1.2	1.2	2.4	1.1	2.1	1.5	1.4
	MP	2.2	2.3	1.5	1.2	1.3	2.1	1.1	2.0	1.5	1.4

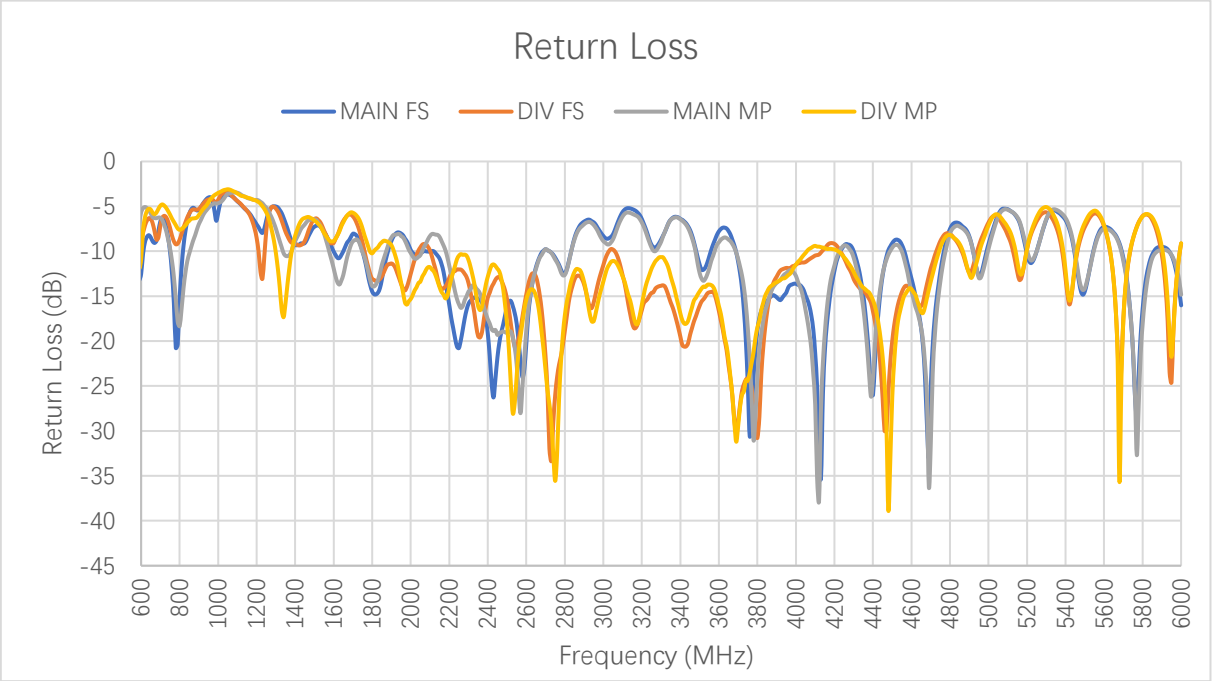
DIV	**FS**	1.5	1.6	1.2	1.6	1.4	1.3	1.7	2.7	2.5	2.1
	MP	1.5	1.5	1.4	1.7	1.4	1.4	1.5	2.6	2.7	2.1



VSWR – GNSS

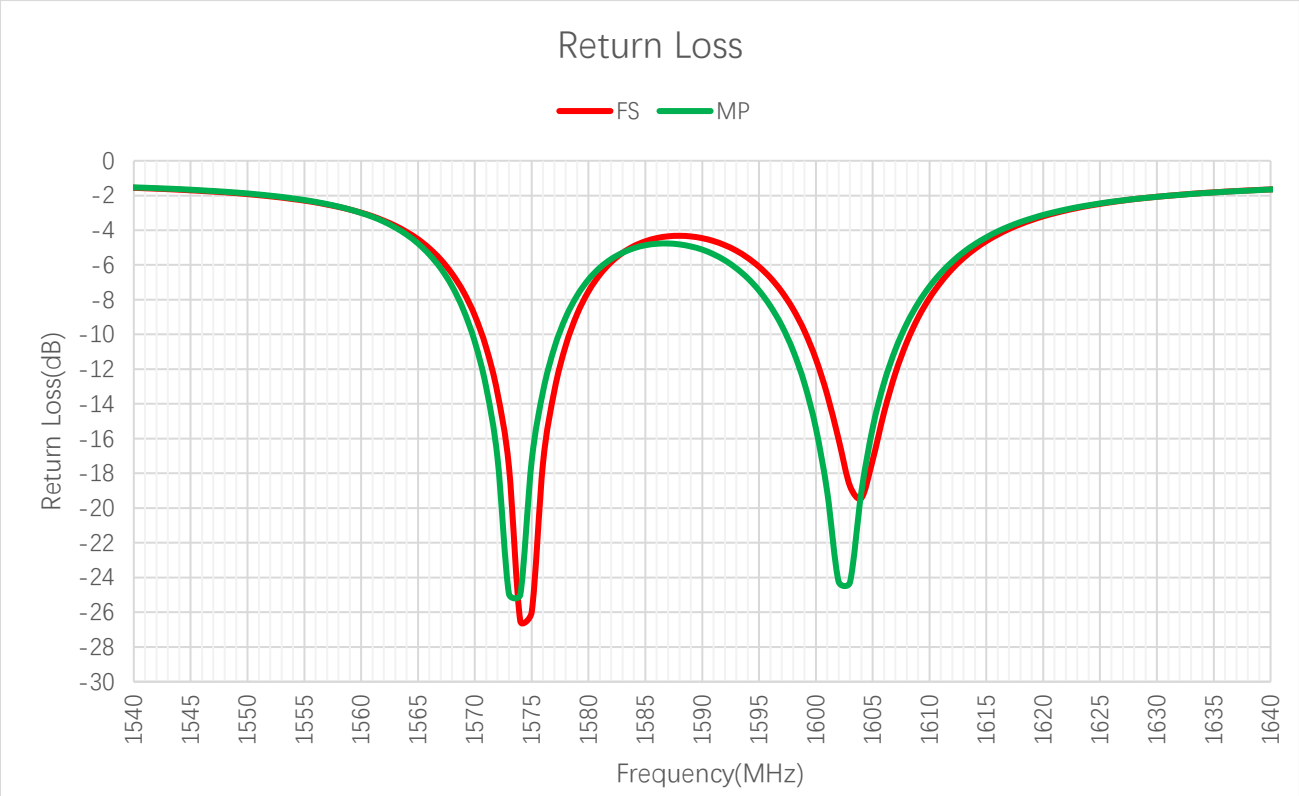
Frequency (MHz)	**1176**	**1207**	**1227**	**1248**	**1268**	**1561**	**1575**	**1602**
FS	-	-	-	-	-	-	1.1	1.4
MP	-	-	-	-	-	-	1.3	1.1

3.1.2. Return Loss



Return Loss (dB)

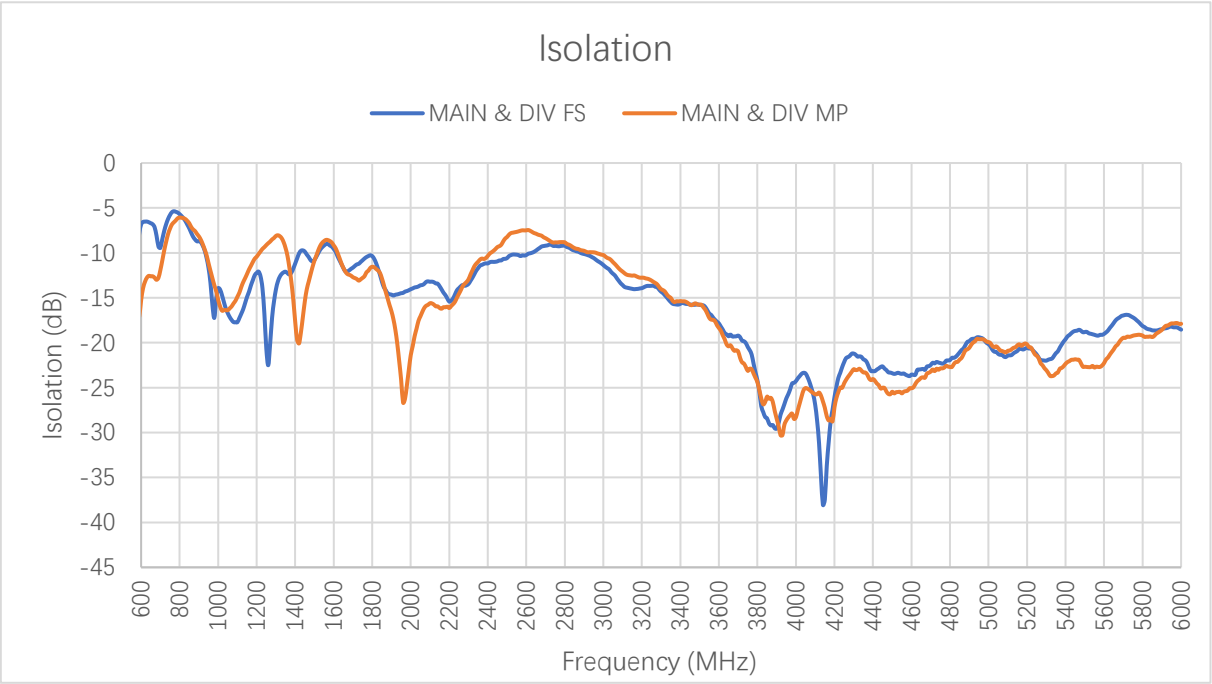
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
MAIN	FS	-12.5	-8.4	-6.3	-7.8	-5.4	-4.0	-9.2	-8.1	-9.3	-10.1
	MP	-5.7	-5.2	-6.5	-12.4	-7.0	-4.9	-7.3	-8.8	-9.5	-9.5
DIV	FS	-8.7	-6.6	-6.3	-6.8	-5.3	-4.2	-9.2	-6.4	-8.2	-11.5
	MP	-10.9	-5.5	-4.8	-7.1	-6.0	-4.2	-6.4	-5.9	-6.9	-8.9
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
MAIN	FS	-8.0	-10.5	-15.4	-21.8	-20.2	-7.8	-25.2	-9.2	-14.5	-16.0
	MP	-8.3	-8.2	-14.4	-19.3	-18.8	-9.0	-31.4	-9.7	-14.1	-14.8
DIV	FS	-13.7	-13.1	-19.5	-12.9	-14.8	-16.7	-11.9	-6.8	-7.3	-9.1
	MP	-13.5	-13.4	-16.1	-12.0	-15.4	-16.1	-13.4	-7.1	-6.8	-9.1



Return Loss(dB) – GNSS

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
FS	-	-	-	-	-	-	-26	-16
MP	-	-	-	-	-	-	-17.3	-24.2

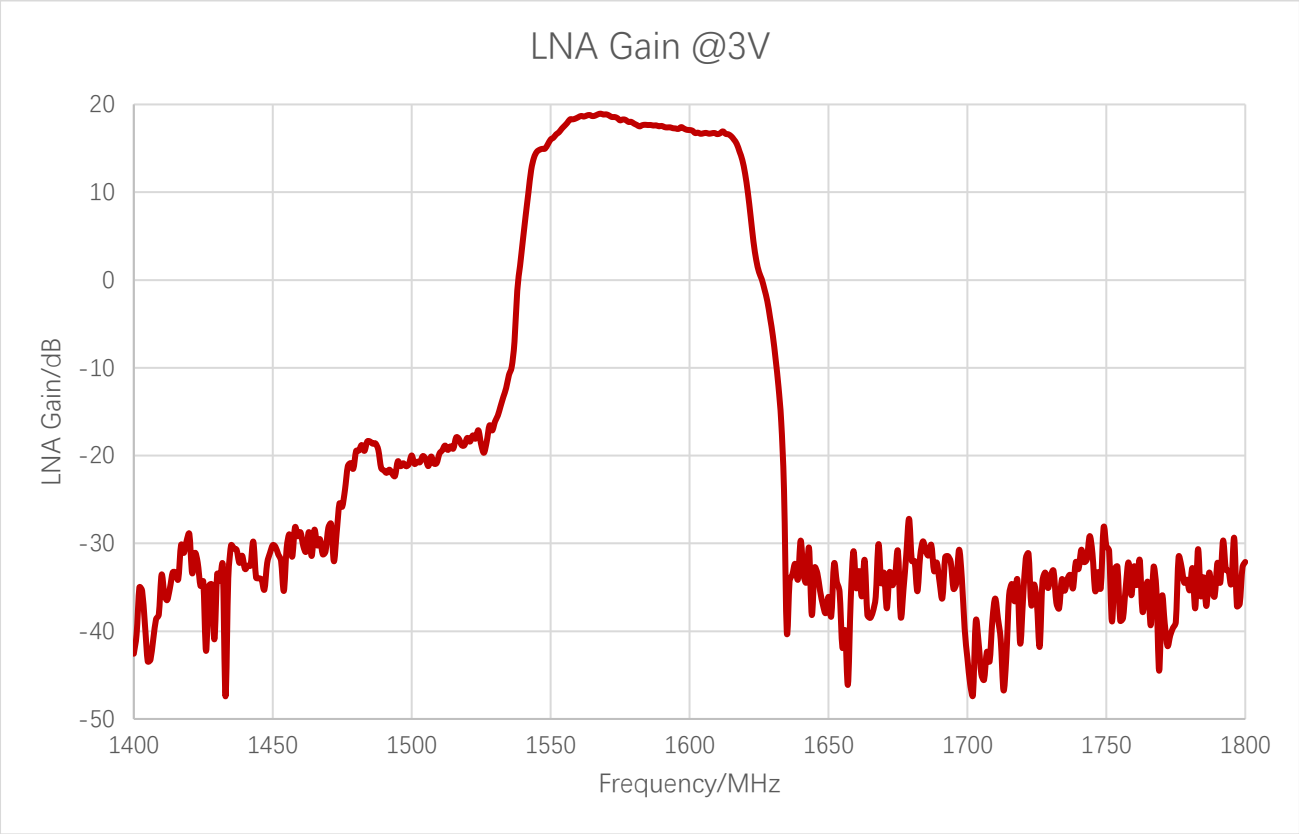
3.1.3. Isolation



Max Isolation (dB)

Band		B71	B12/ B13/ B28	B5/ B8/ B26	n74/ n75/ n76	B1/ B2/ B3	B40	Wi-Fi 2G	B38/ B41	B42 /B48 /n77	n79	Wi-Fi 5G
Freq. (MHz)		600–700	700–810	820–960	1420–1520	1700–2170	2300–2400	2400–2500	2500–2690	3300–4200	4400–5000	5150–5850
MAIN & DIV	FS	-6.5	-5.4	-6.2	-9.7	-10.3	-11.2	-10.6	-9.2	-14.3	-19.4	-16.9
	MP	-11.9	-6.1	-6.1	-9.7	-11.5	-10.3	-8.2	-7.5	-14.0	-19.6	-19.1

3.1.4. GNSS LNA Gain

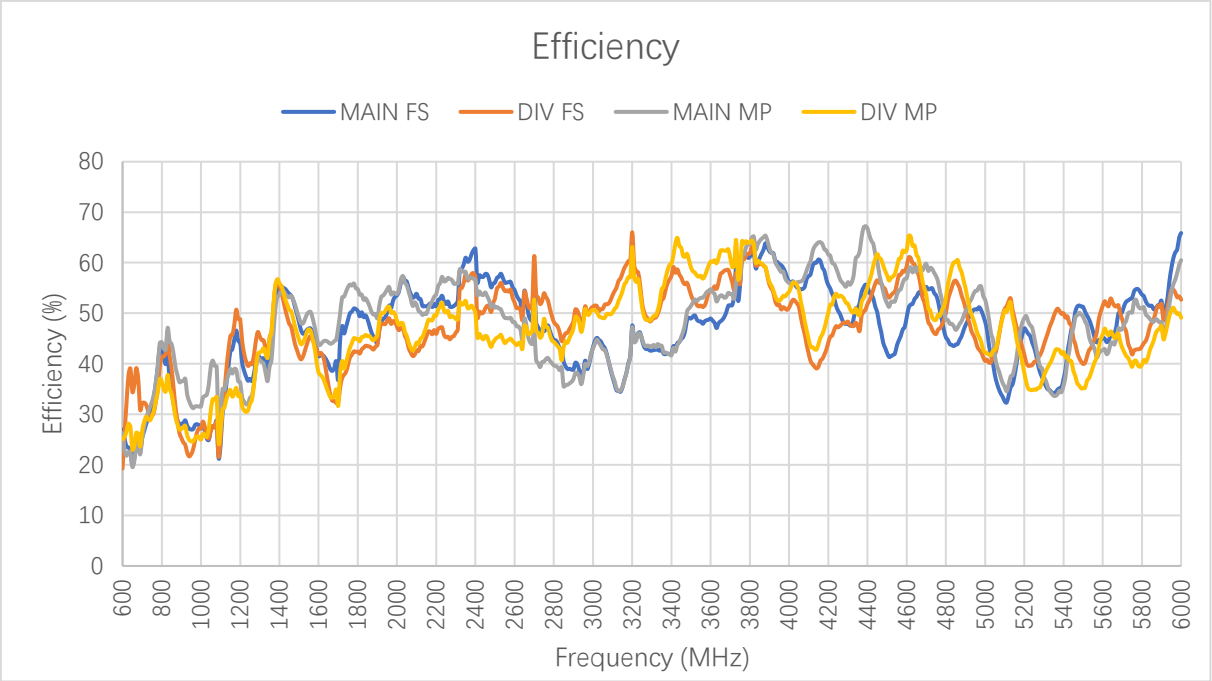


LNA Gain (dB)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
LNA Gain (dB)	-	-	-	-	-	-	18.2	16.7

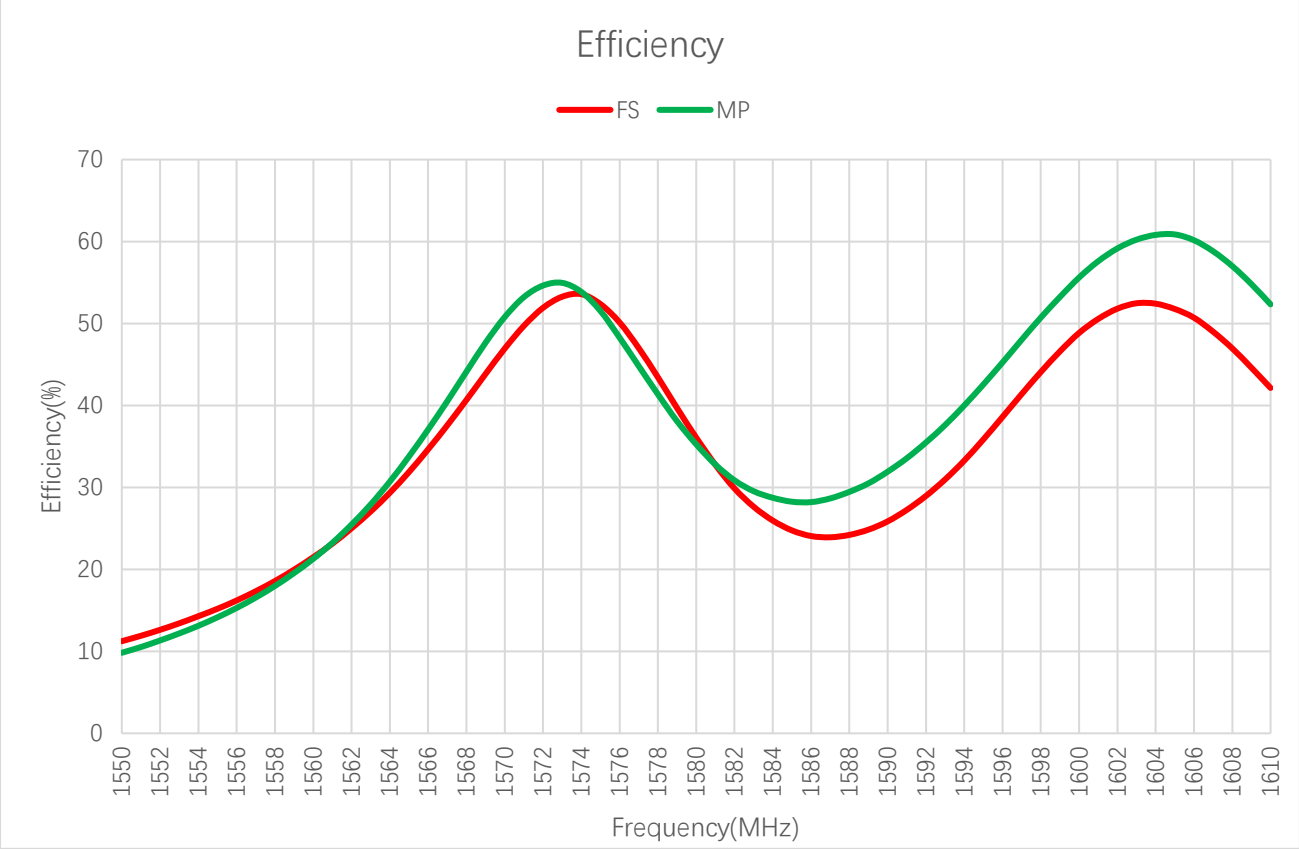
3.2. Radiation Performance Test

3.2.1. Efficiency



Efficiency (%)

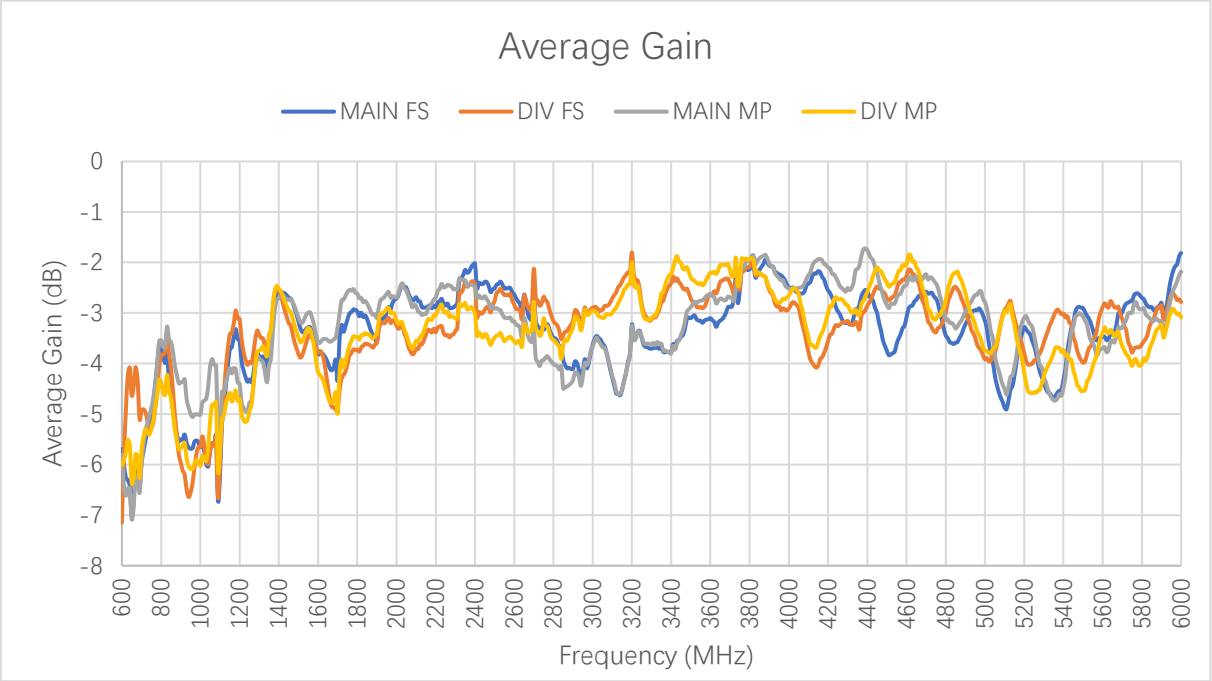
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
MAIN	FS	27.0	23.4	26.7	41.6	28.2	27.1	54.3	44.8	47.3	45.4
	MP	26.3	22.5	27.5	47.1	36.5	31.2	53.4	50.0	54.3	49.7
DIV	FS	19.3	37.6	32.3	45.6	25.4	23.1	49.3	35.3	38.4	42.8
	MP	25.1	28.1	28.5	37.8	27.1	24.7	51.7	38.3	40.2	44.6
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
MAIN	FS	50.2	51.4	61.0	57.8	54.6	49.0	55.2	48.3	51.2	65.9
	MP	54.7	50.0	58.2	54.1	48.2	54.7	59.8	52.7	49.3	60.5
DIV	FS	48.5	44.4	57.7	50.9	52.1	54.6	50.3	40.6	40.0	52.7
	MP	51.2	46.3	52.5	45.5	44.1	60.2	53.6	42.2	35.2	49.1



Efficiency (%) – GNSS

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
FS	-	-	-	-	-	-	52.4	51.8
MP	-	-	-	-	-	-	51.5	59.2

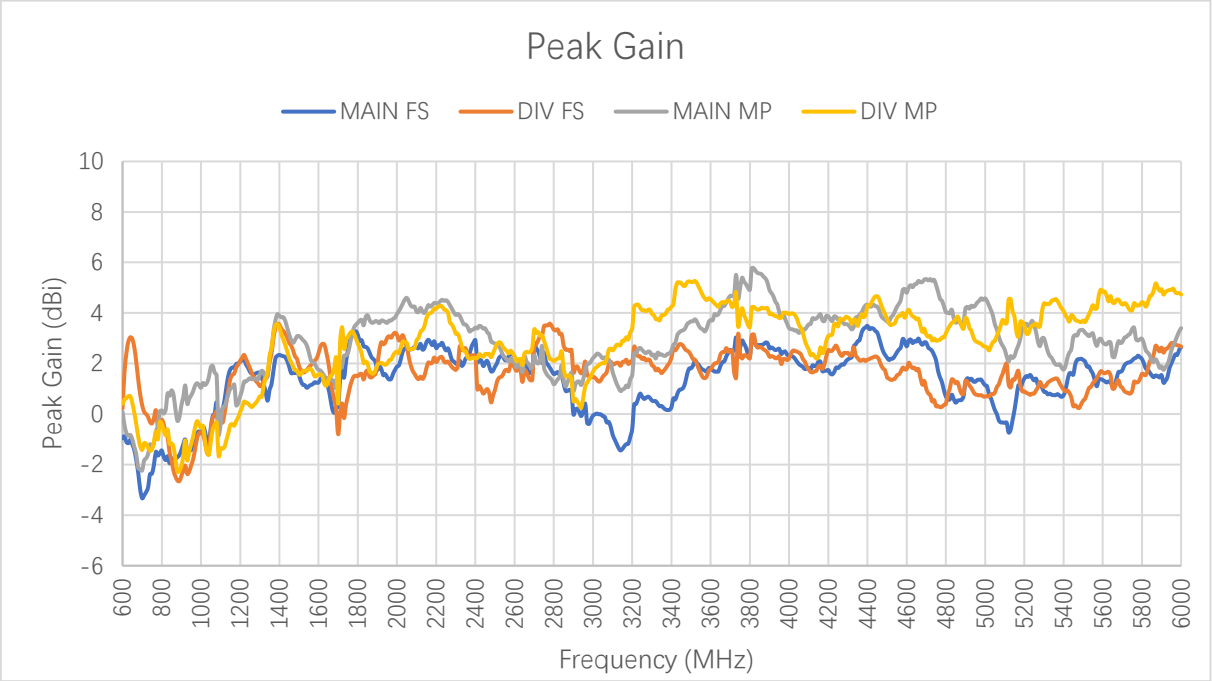
3.2.2. Average Gain



Average Gain (dB)

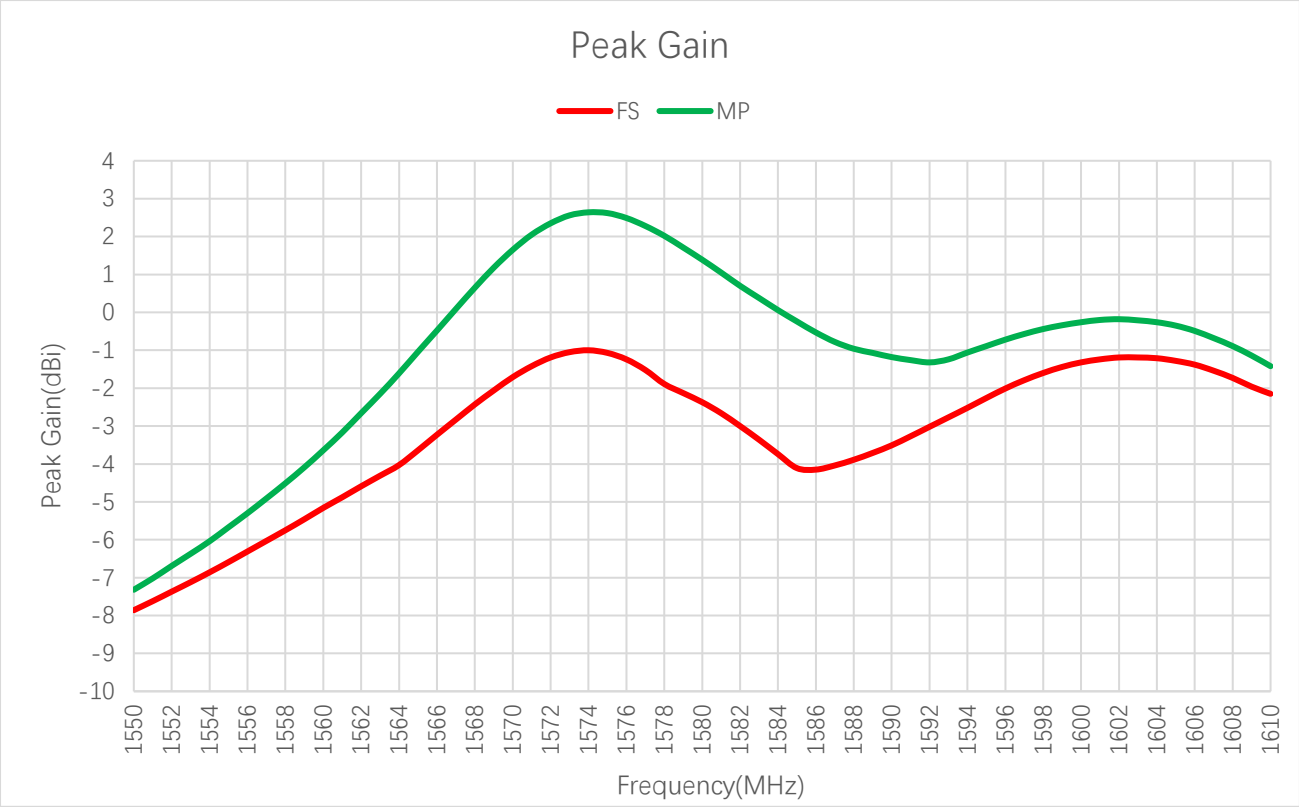
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
MAIN	FS	-5.7	-6.3	-5.7	-3.8	-5.5	-5.7	-2.7	-3.5	-3.3	-3.4
	MP	-5.8	-6.5	-5.6	-3.3	-4.4	-5.1	-2.7	-3.0	-2.7	-3.0
DIV	FS	-7.2	-4.2	-4.9	-3.4	-6.0	-6.4	-3.1	-4.5	-4.2	-3.7
	MP	-6.0	-5.5	-5.5	-4.2	-5.7	-6.1	-2.9	-4.2	-4.0	-3.5
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
MAIN	FS	-3.0	-2.9	-2.1	-2.4	-2.6	-3.1	-2.6	-3.2	-2.9	-1.8
	MP	-2.6	-3.0	-2.4	-2.7	-3.2	-2.6	-2.2	-2.8	-3.1	-2.2
DIV	FS	-3.1	-3.5	-2.4	-2.9	-2.8	-2.6	-3.0	-3.9	-4.0	-2.8
	MP	-2.9	-3.3	-2.8	-3.4	-3.6	-2.2	-2.7	-3.7	-4.5	-3.1

3.2.3. Peak Gain



Peak Gain (dBi)

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
MAIN	FS	-1.0	-1.2	-3.2	-1.7	-1.4	-1.2	2.1	1.4	2.1	2.2
	MP	0.1	-0.9	-1.8	0.8	0.3	0.9	3.4	1.8	2.3	3.6
DIV	FS	0.2	2.9	0.1	-0.9	-2.5	-1.8	3.0	0.0	0.4	1.5
	MP	0.4	0.7	-1.2	-0.6	-2.1	-0.9	2.5	2.9	2.9	1.6
Frequency (MHz)		**1950**	**2140**	**2350**	**2450**	**2600**	**3600**	**4700**	**5000**	**5500**	**6000**
MAIN	FS	1.5	2.6	2.2	2.0	2.3	1.8	2.8	1.1	2.1	2.7
	MP	3.6	4.0	3.5	3.4	2.1	3.7	5.3	4.6	3.3	3.4
DIV	FS	3.0	1.5	2.6	0.9	1.8	1.8	1.0	0.7	0.5	2.7
	MP	2.0	3.5	2.5	2.4	2.3	4.6	3.1	2.7	3.7	4.7

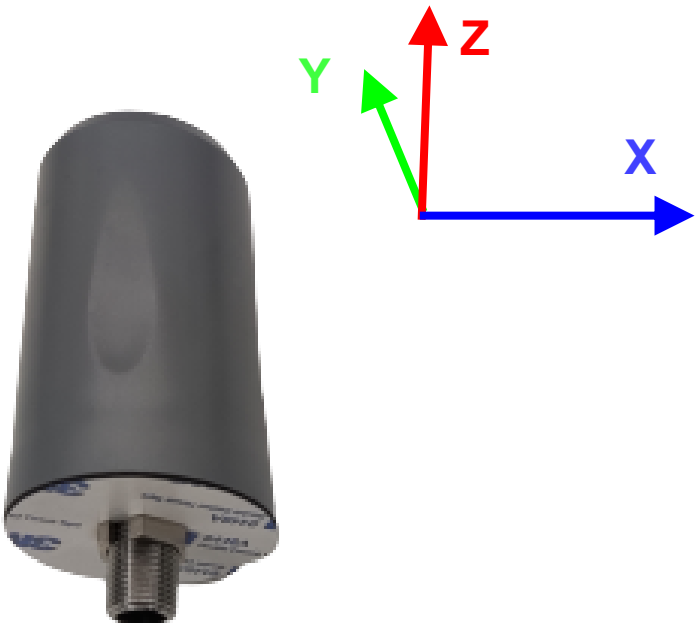


Peak Gain (dBi) – GNSS

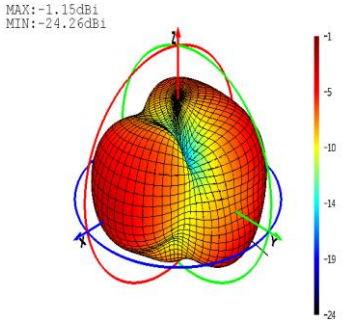
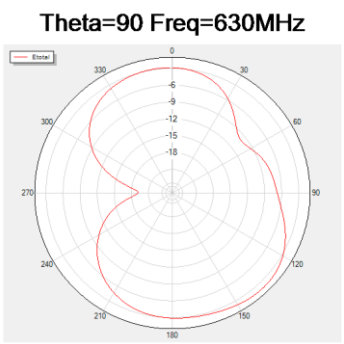
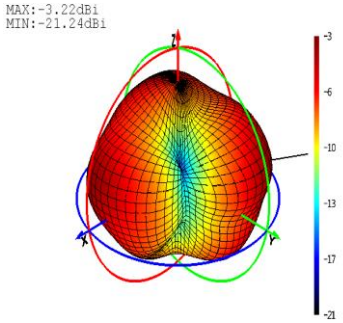
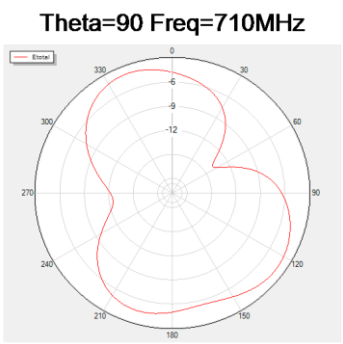
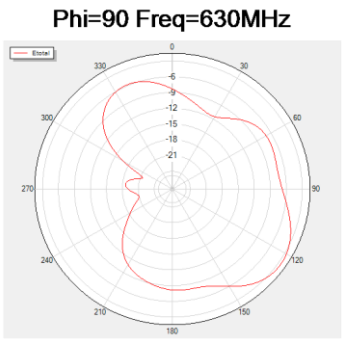
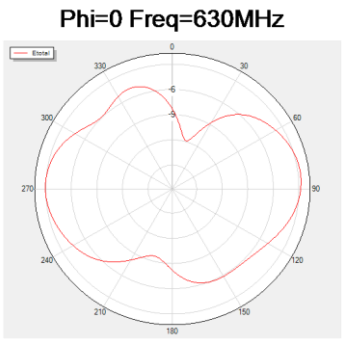
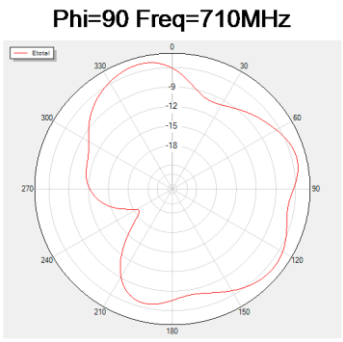
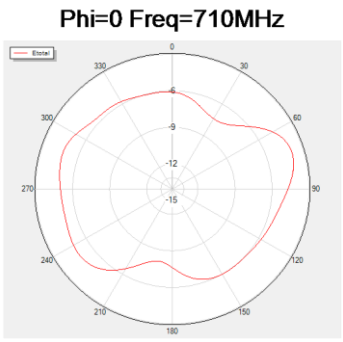
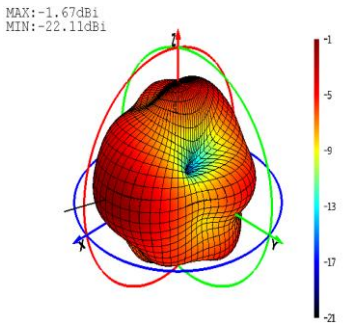
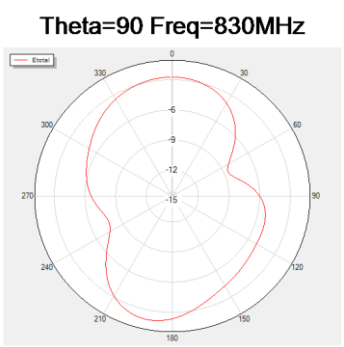
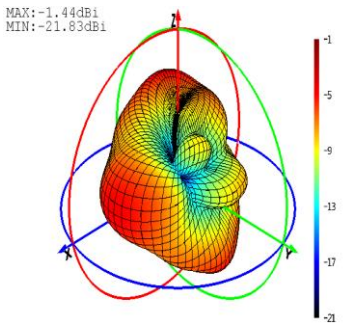
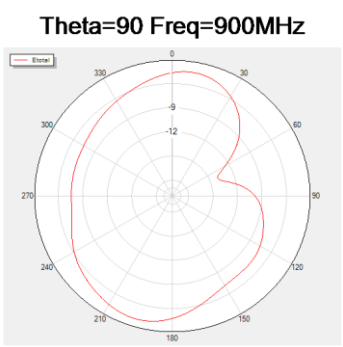
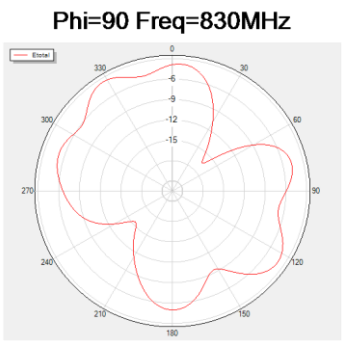
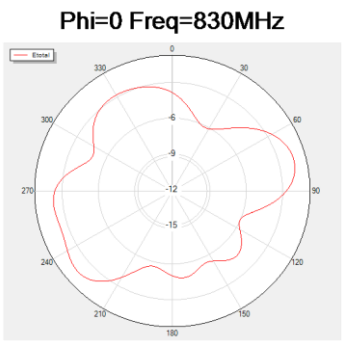
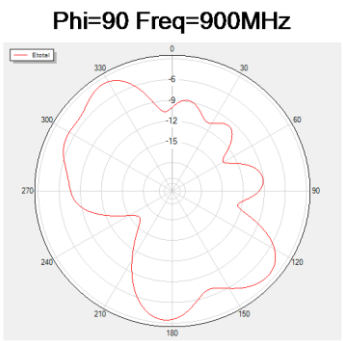
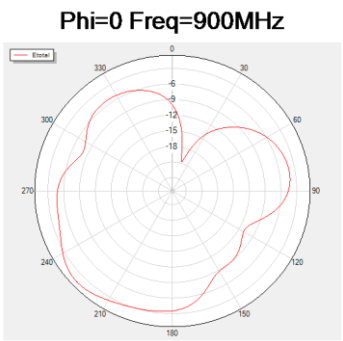
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
FS	-	-	-	-	-	-	-1.07	-1.19
MP	-	-	-	-	-	-	2.62	-0.18

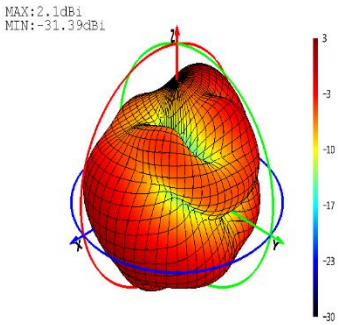
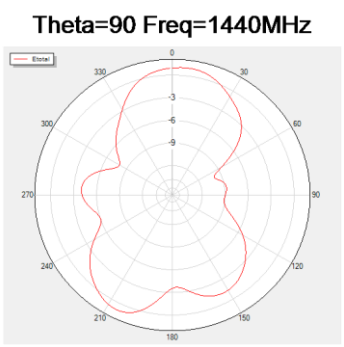
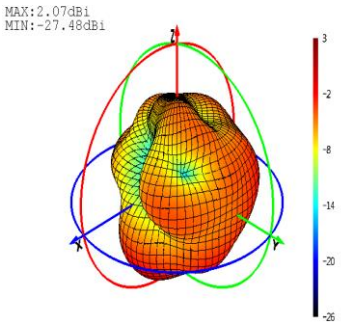
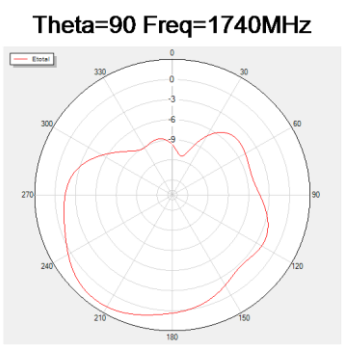
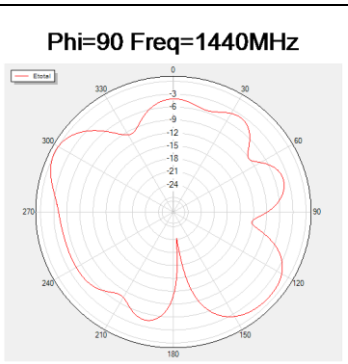
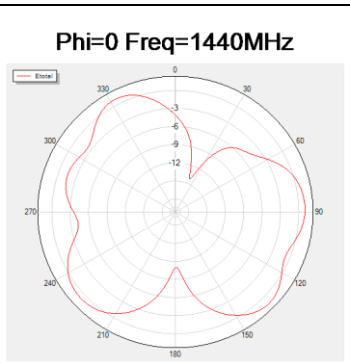
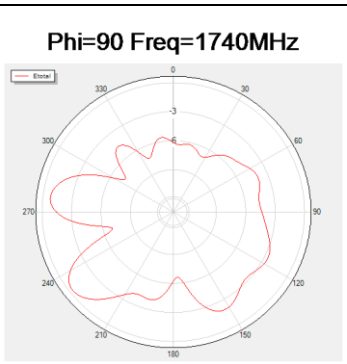
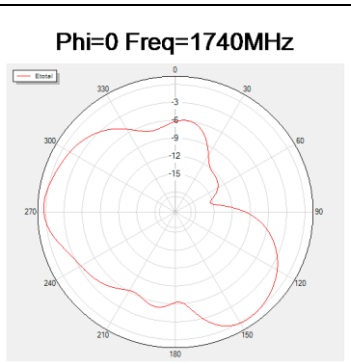
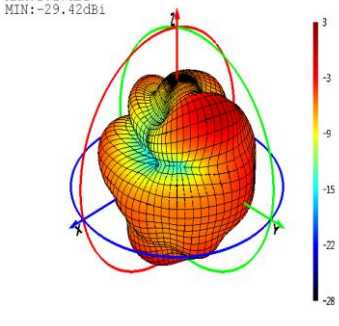
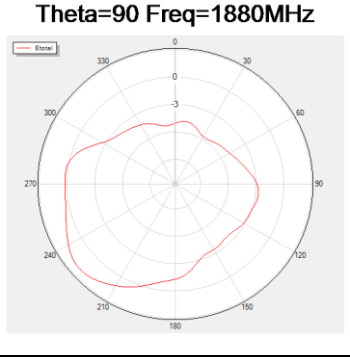
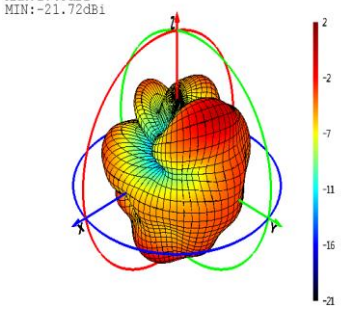
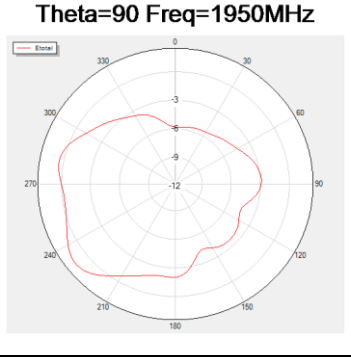
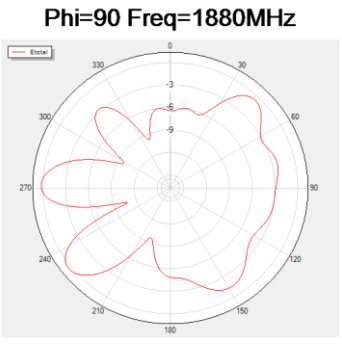
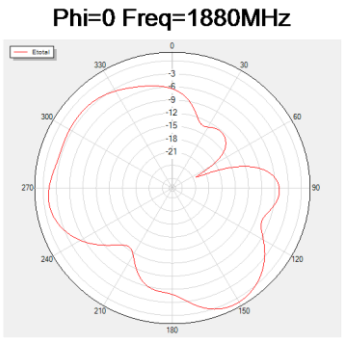
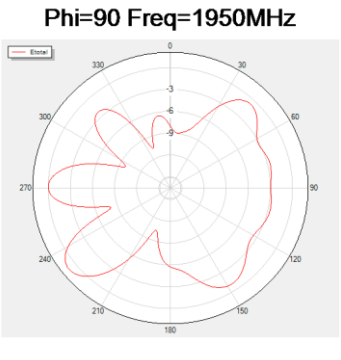
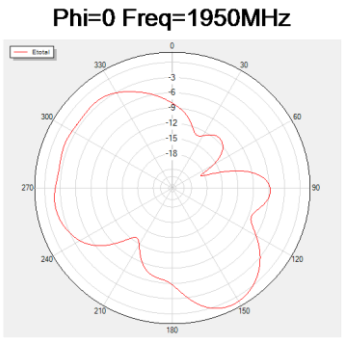
3.2.4. 3D & 2D Radiation Pattern

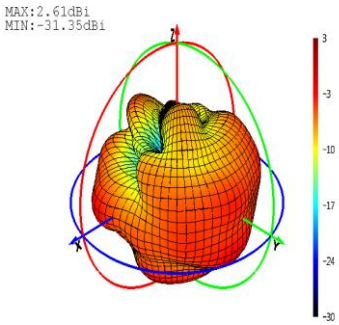
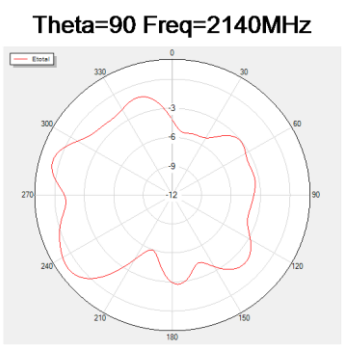
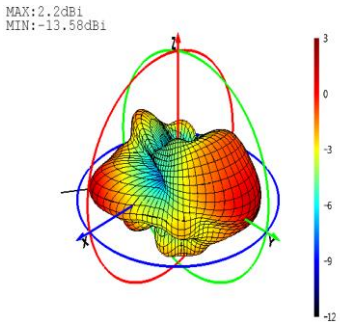
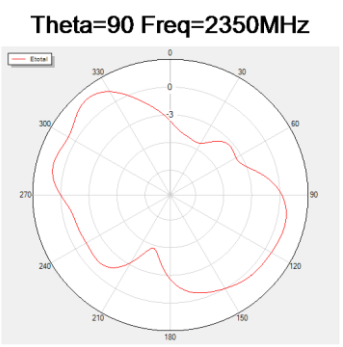
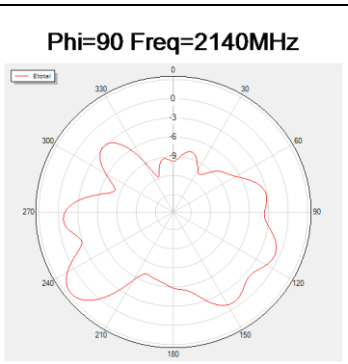
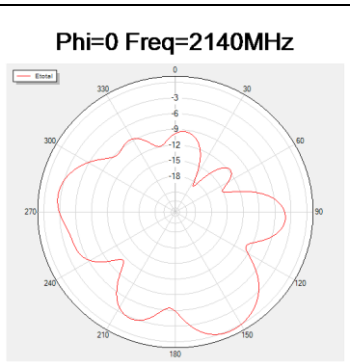
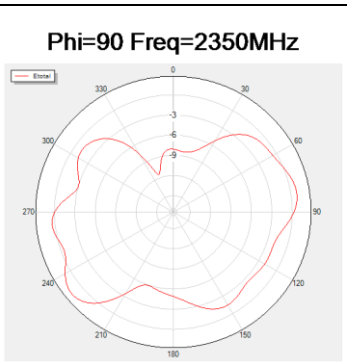
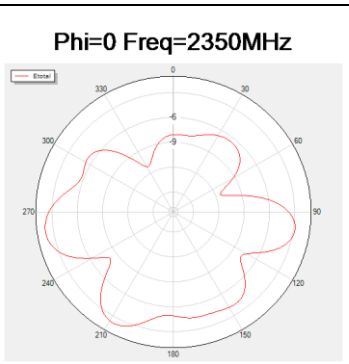
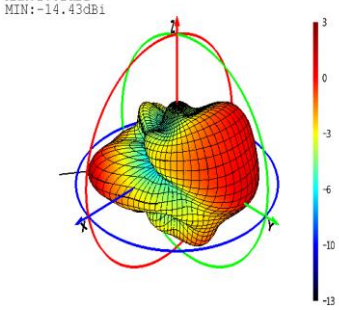
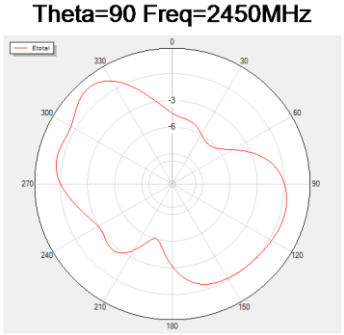
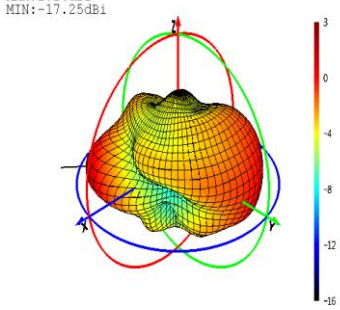
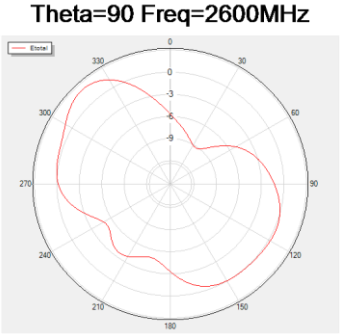
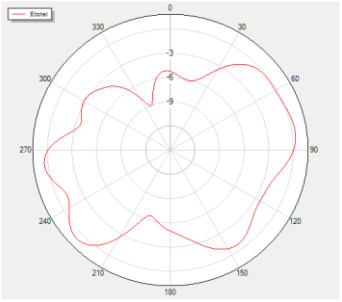
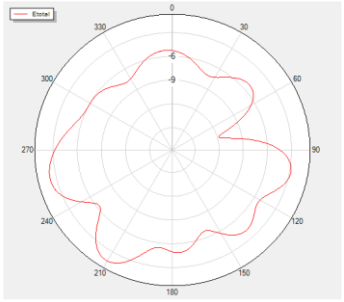
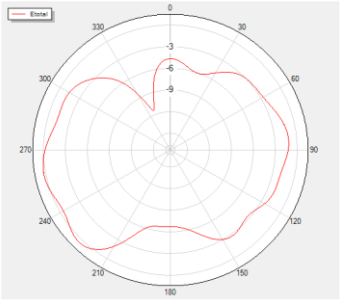
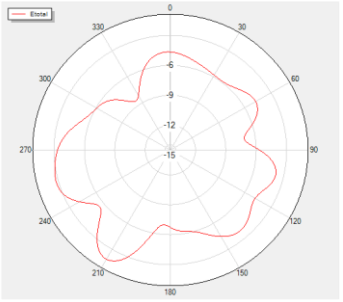
- Test Condition: Free space
- Test Chamber: FS-S-1 (MAIN & DIV)

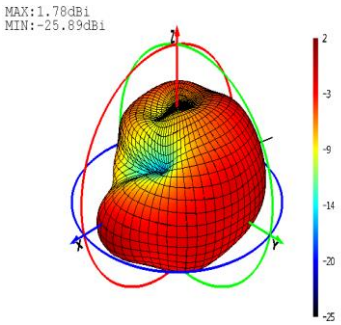
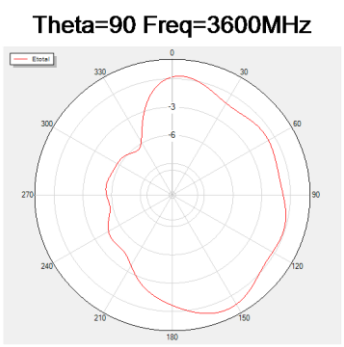
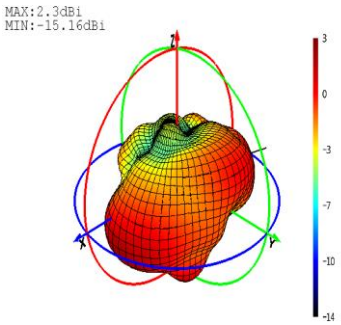
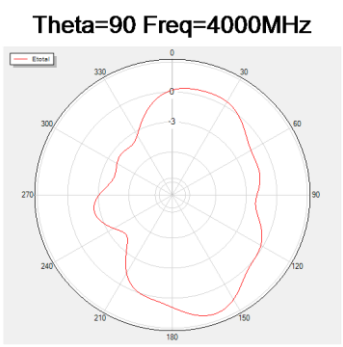
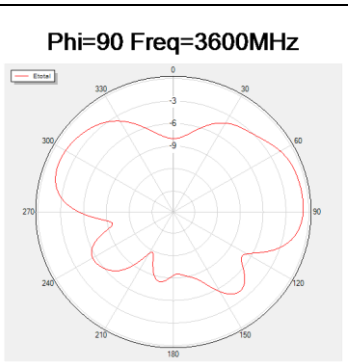
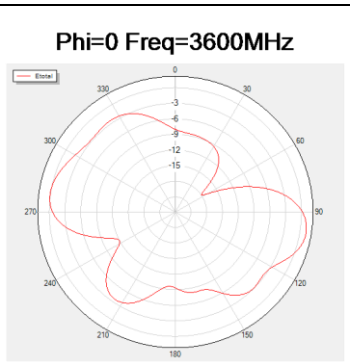
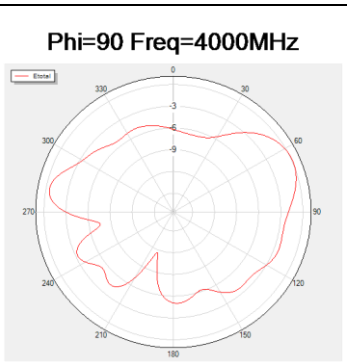
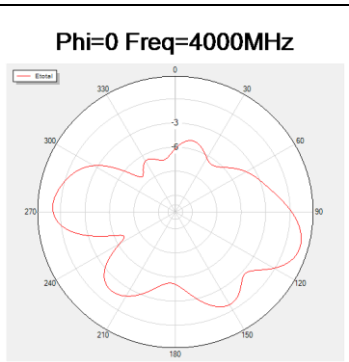
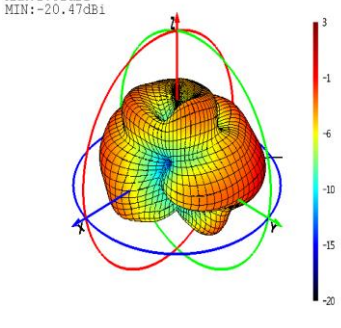
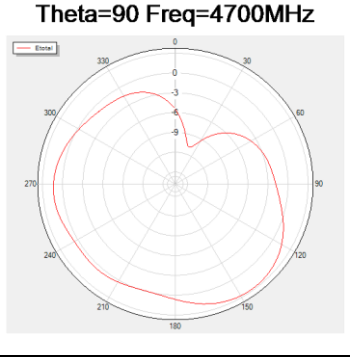
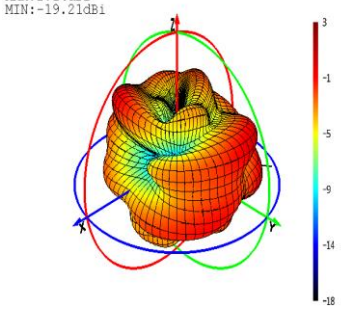
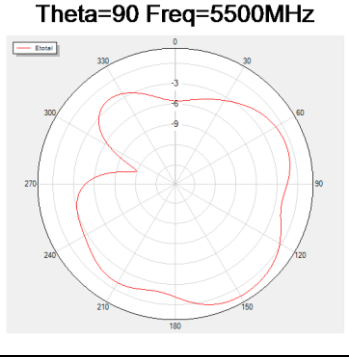
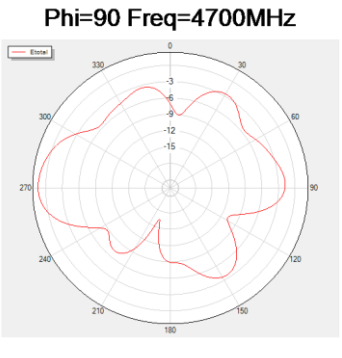
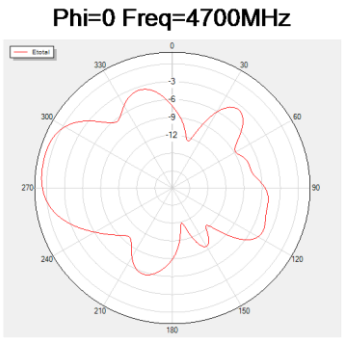
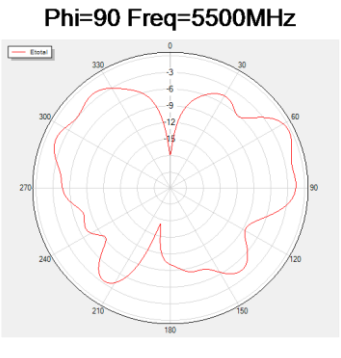
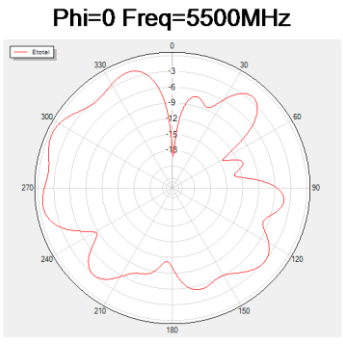


- **MAIN**

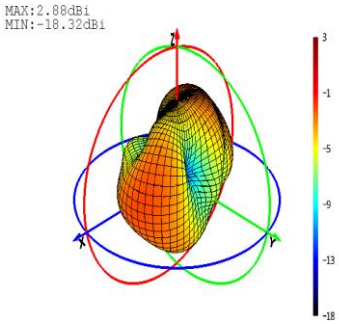
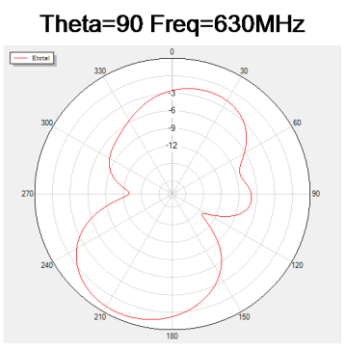
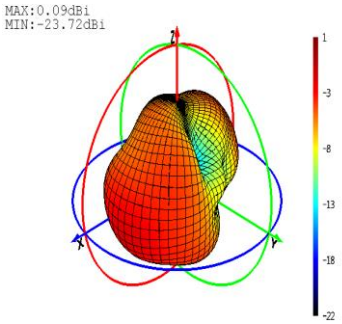
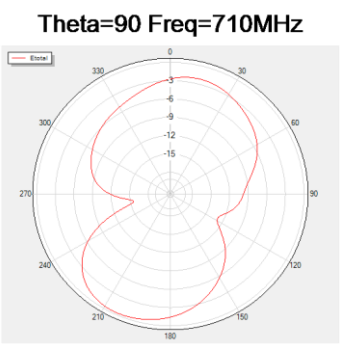
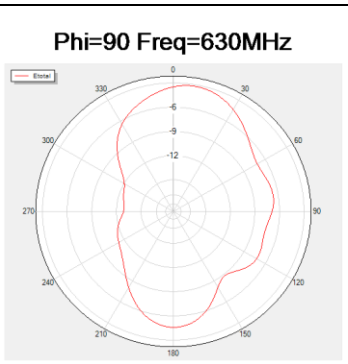
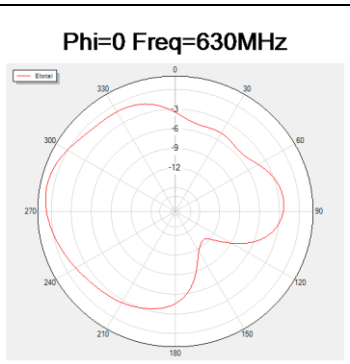
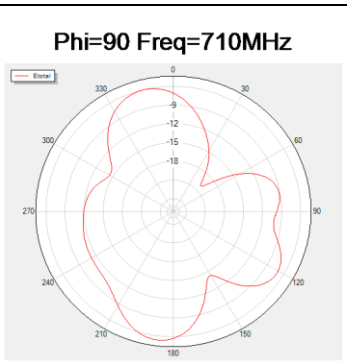
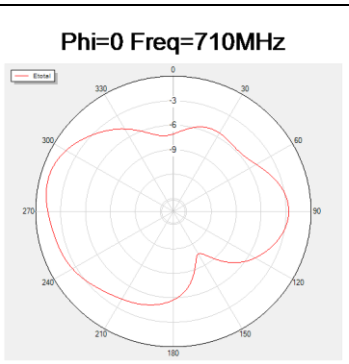
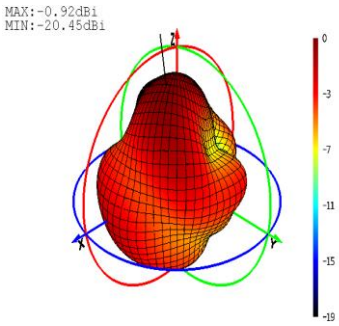
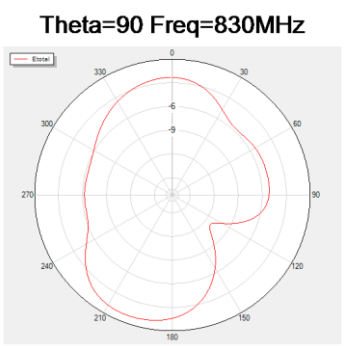
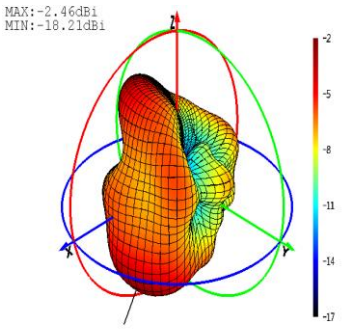
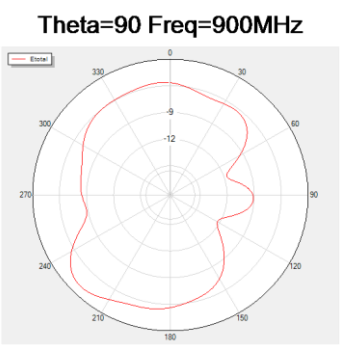
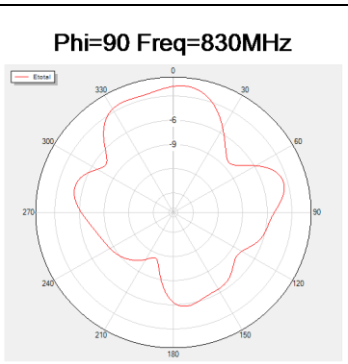
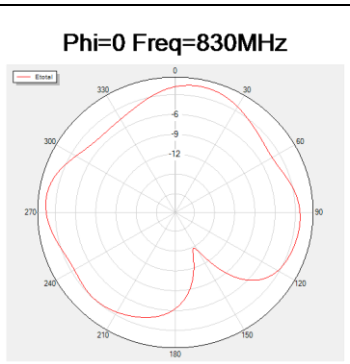
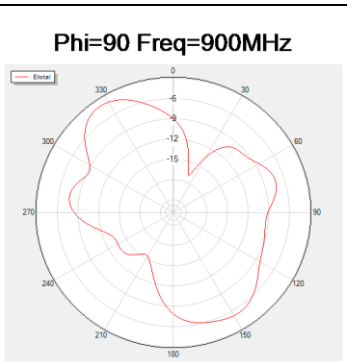
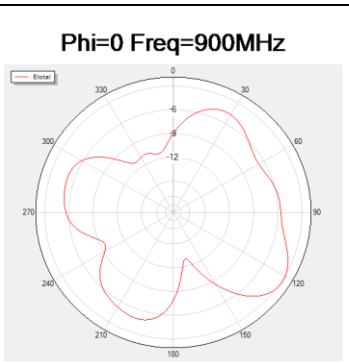
630 MHz		710 MHz	
			
			
830 MHz		900 MHz	
			
			

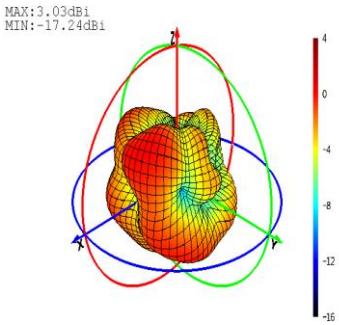
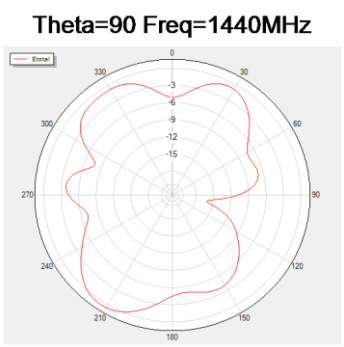
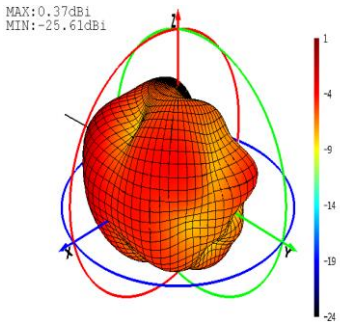
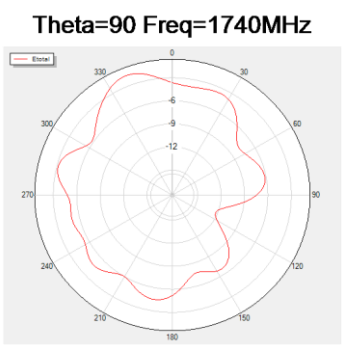
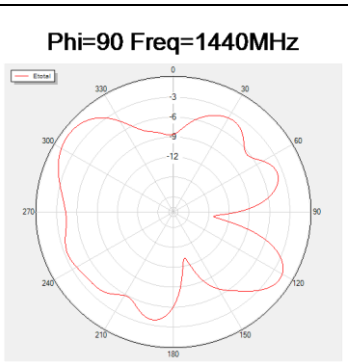
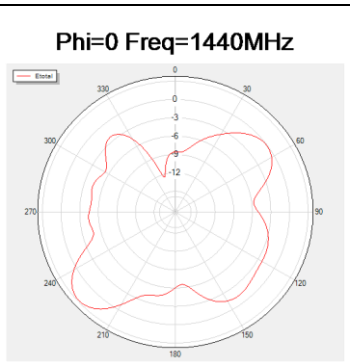
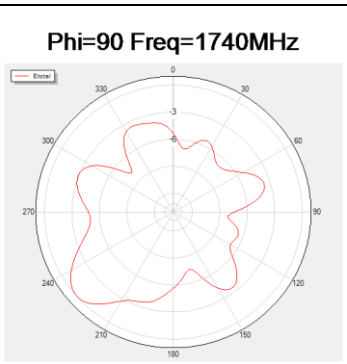
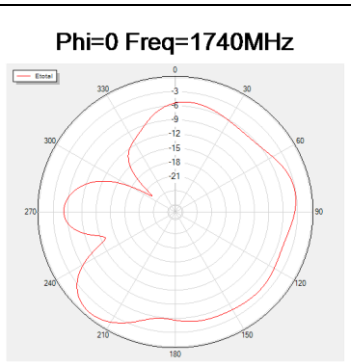
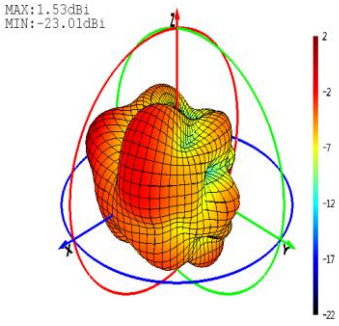
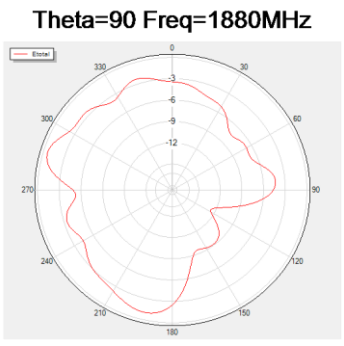
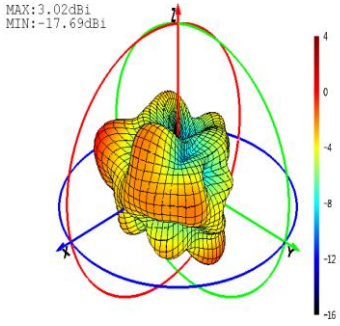
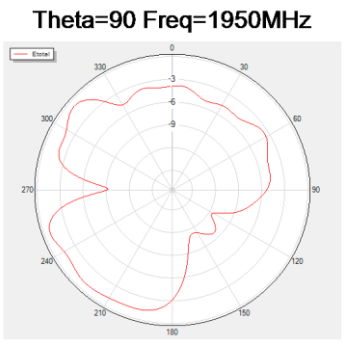
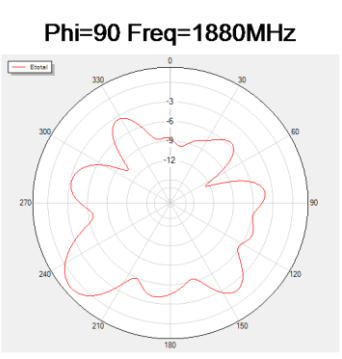
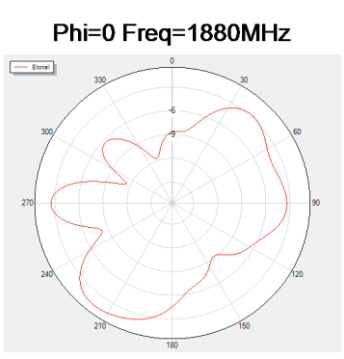
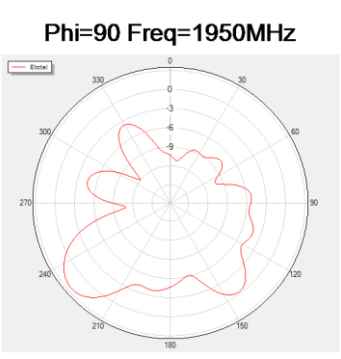
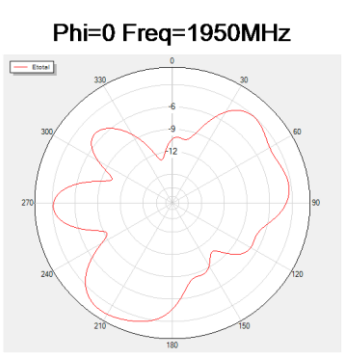
1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

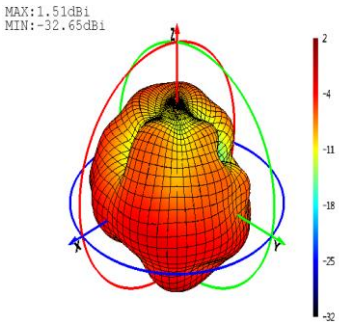
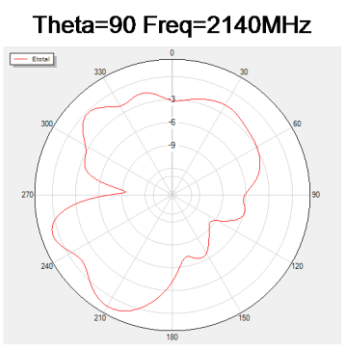
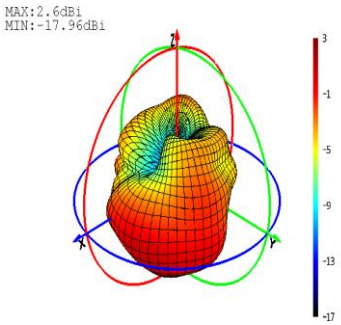
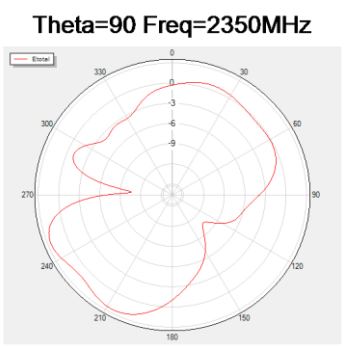
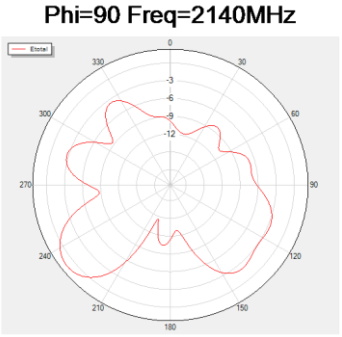
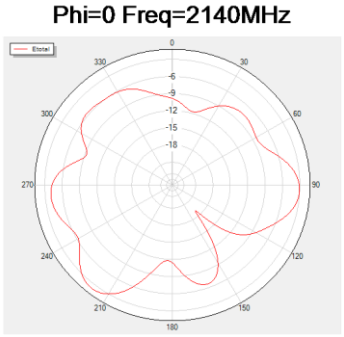
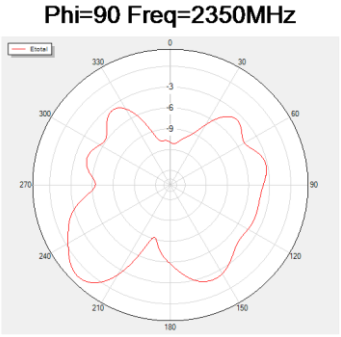
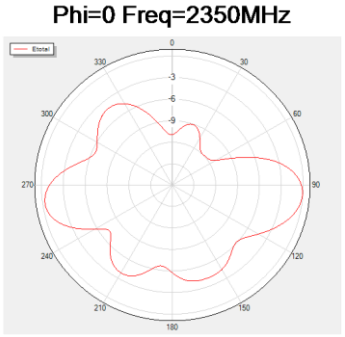
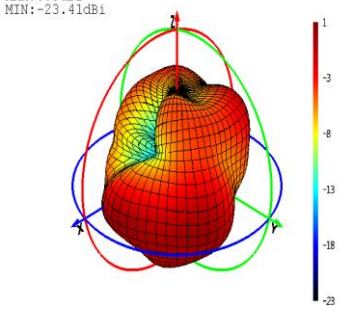
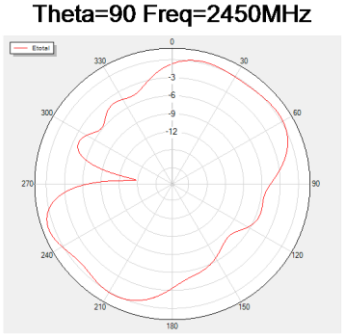
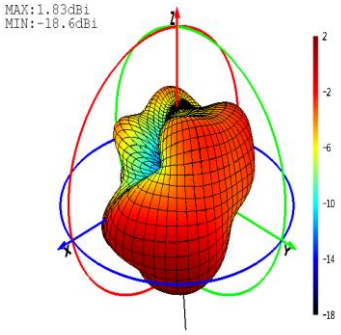
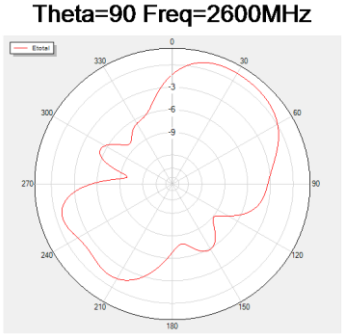
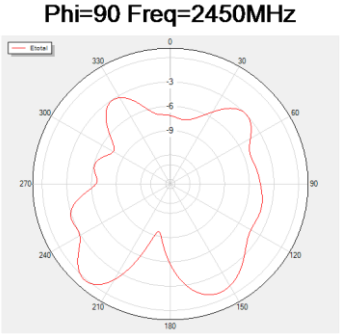
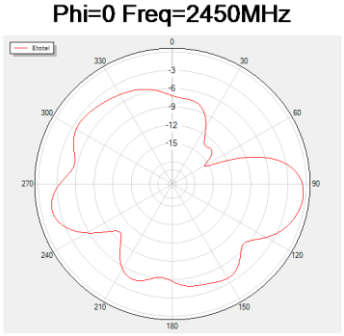
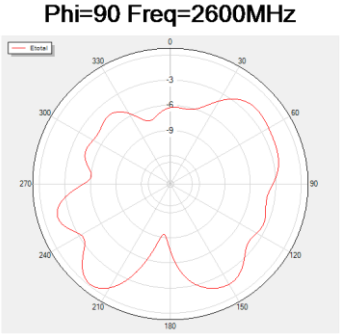
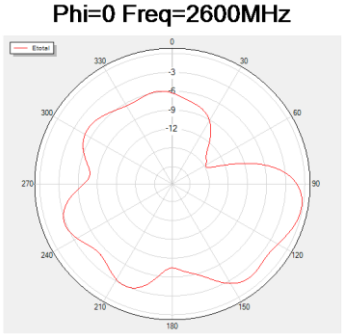
2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

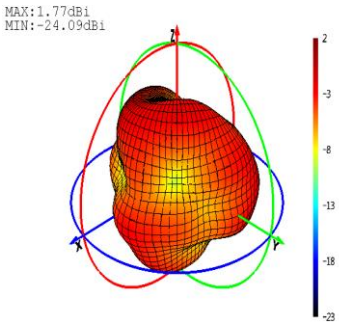
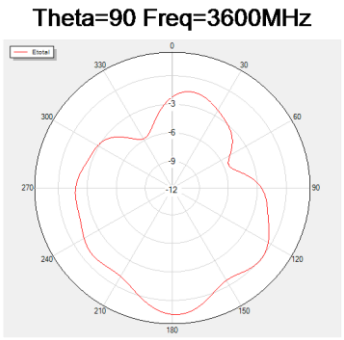
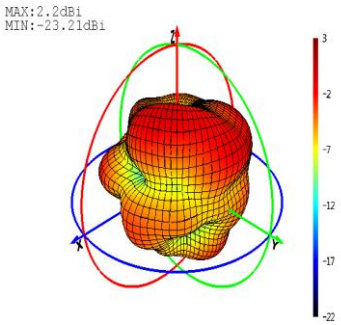
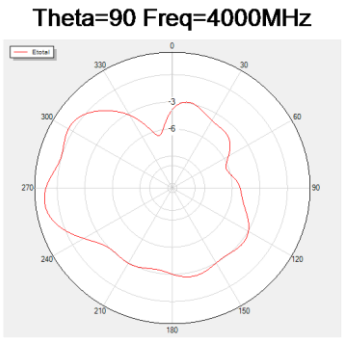
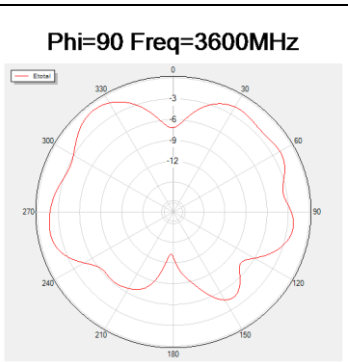
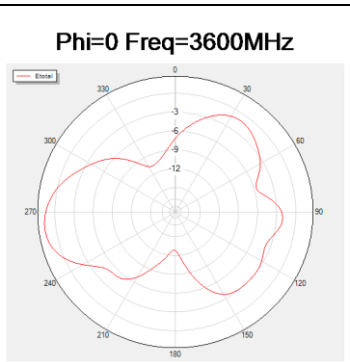
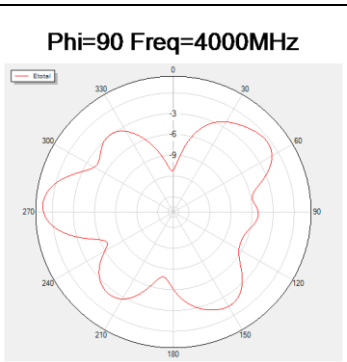
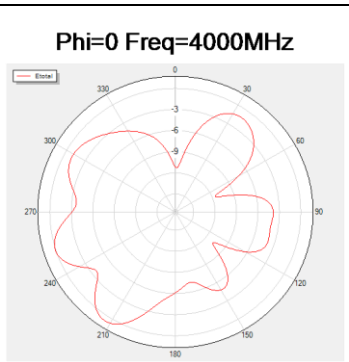
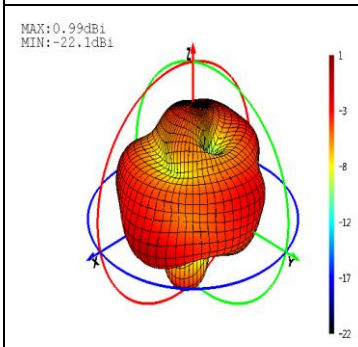
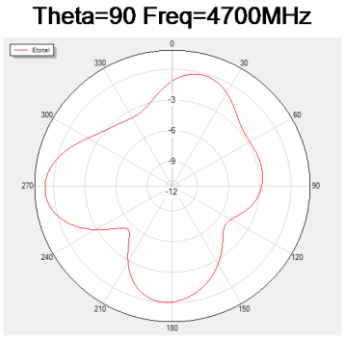
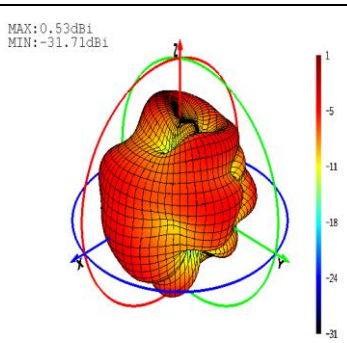
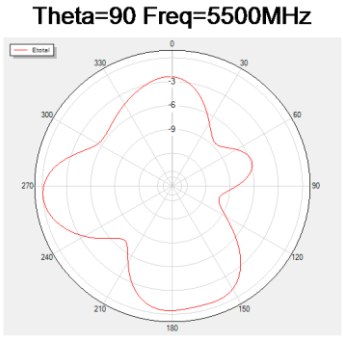
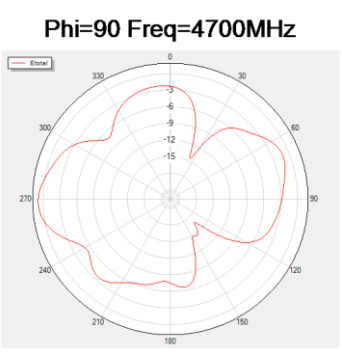
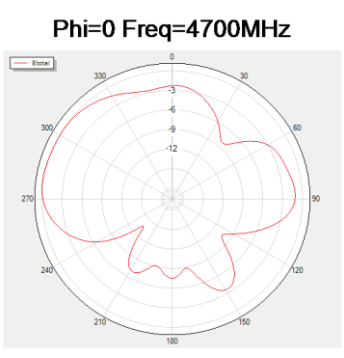
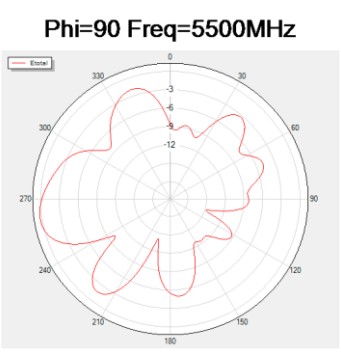
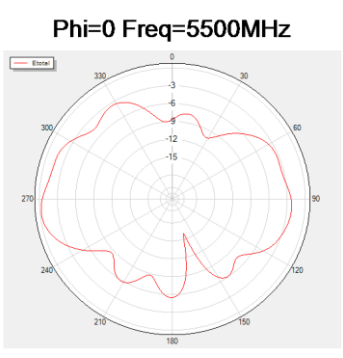
3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

- **DIV**

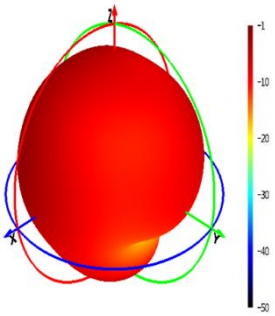
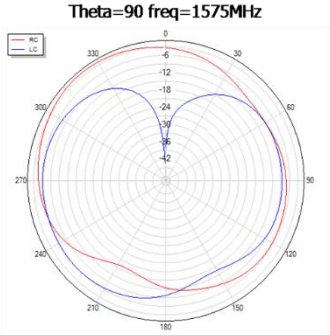
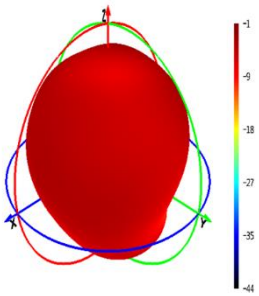
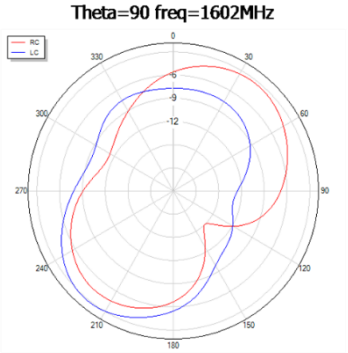
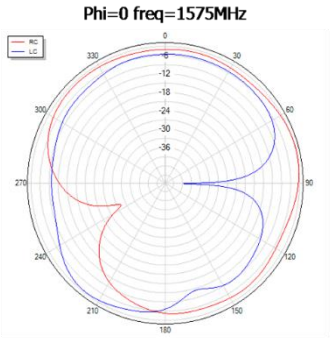
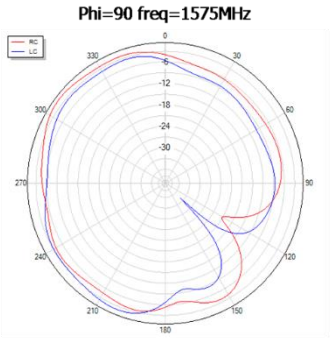
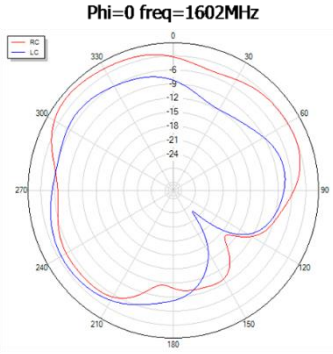
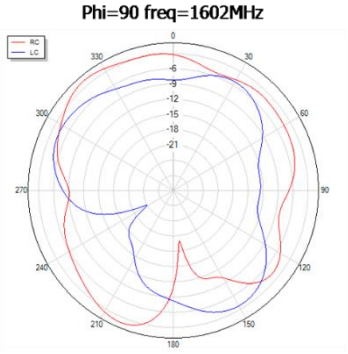
630 MHz		710 MHz	
			
			
830 MHz		900 MHz	
			
			

1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

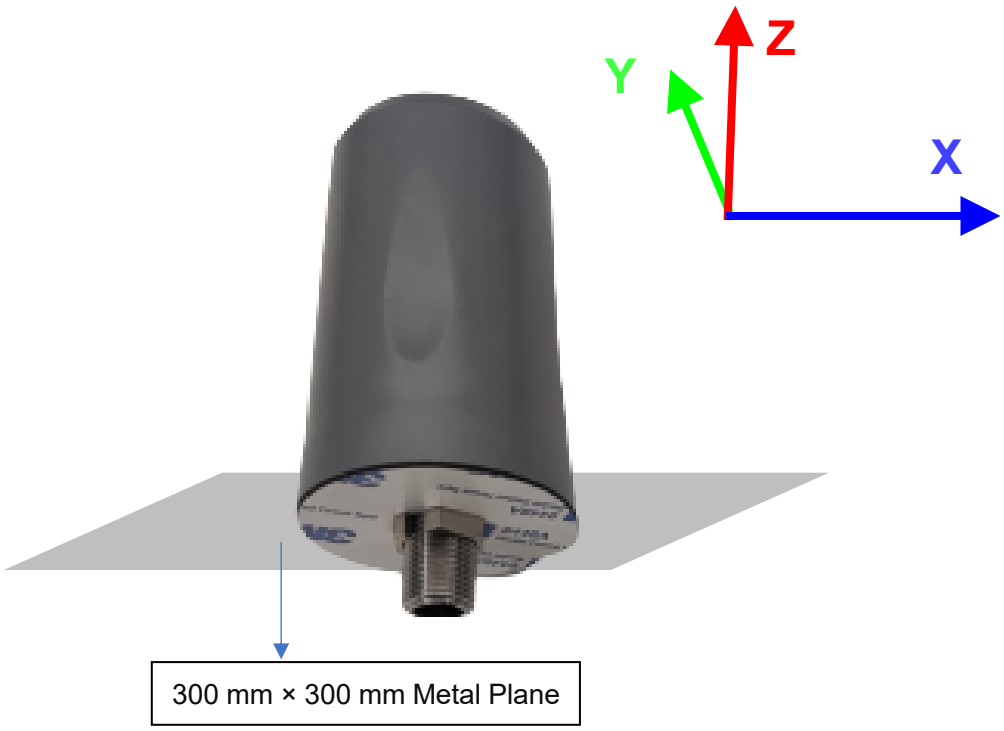
3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

- **GNSS**

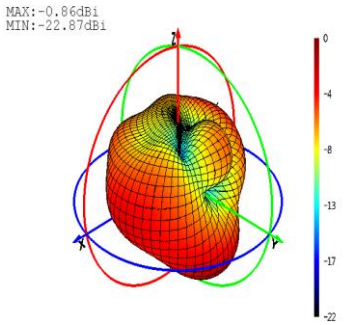
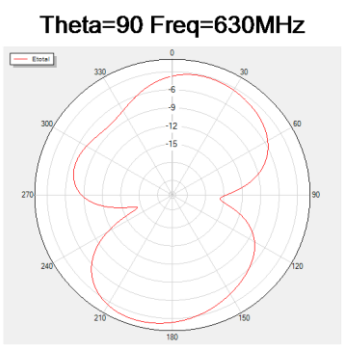
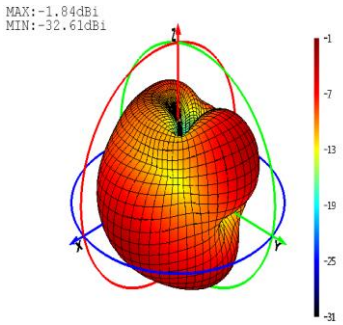
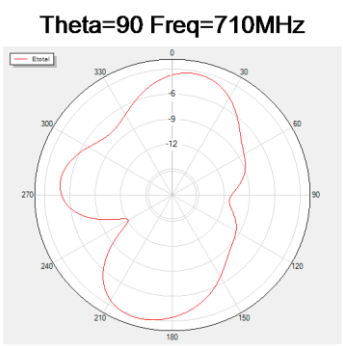
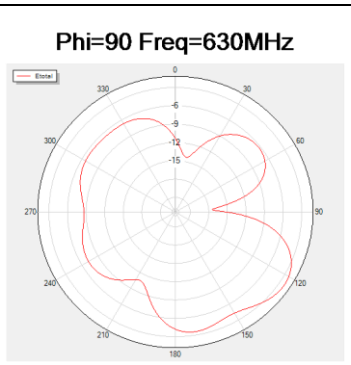
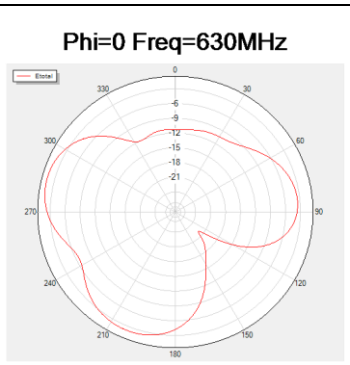
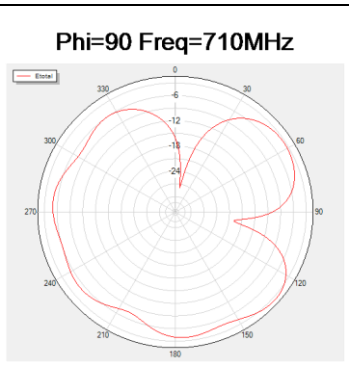
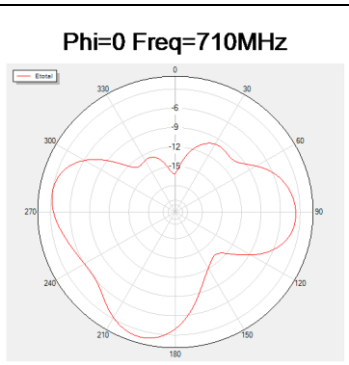
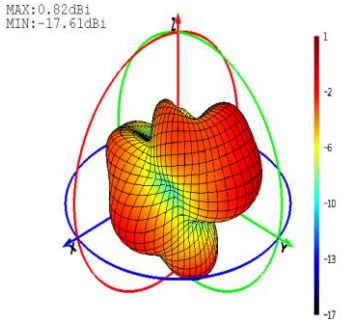
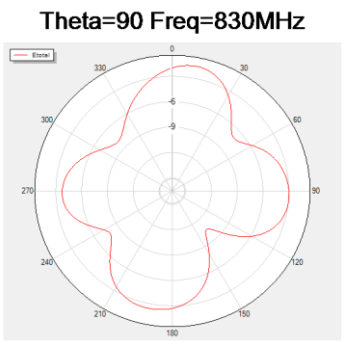
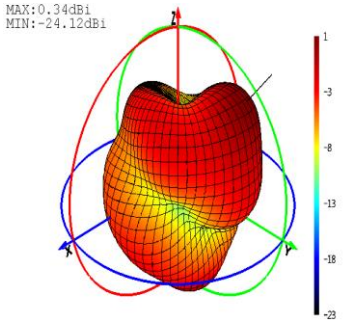
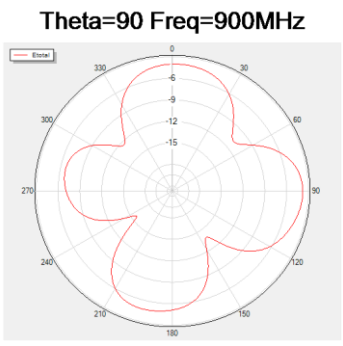
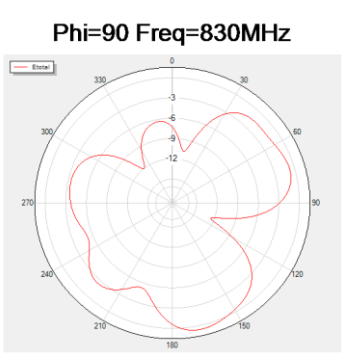
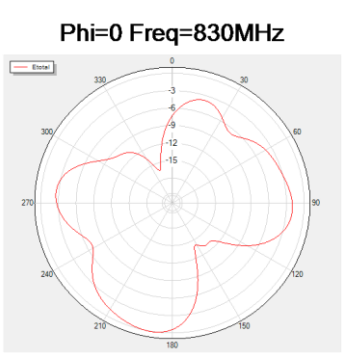
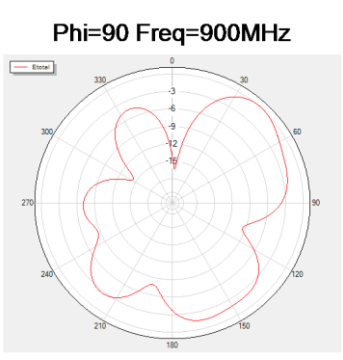
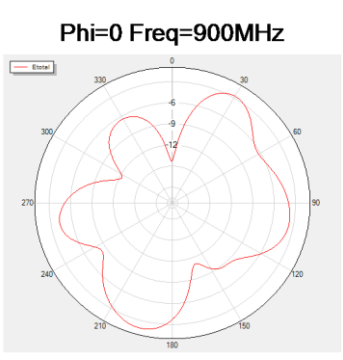
1575 MHz		1602 MHz	
			
			

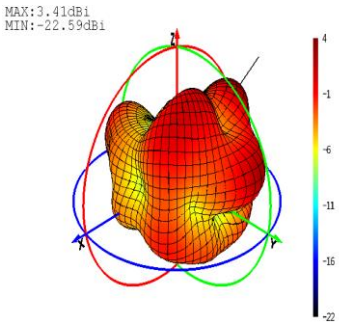
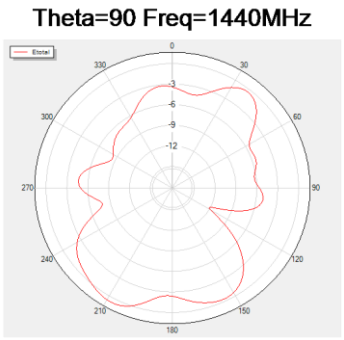
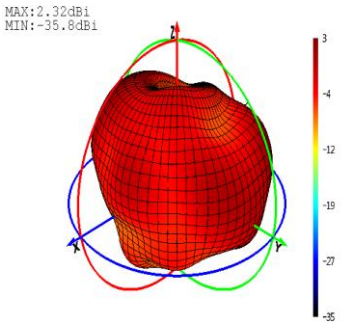
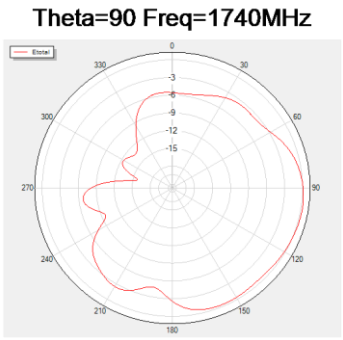
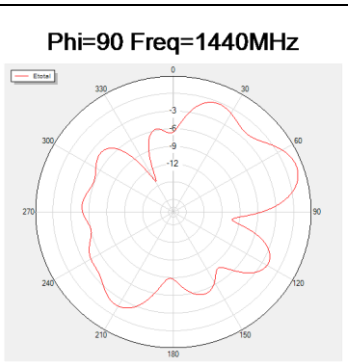
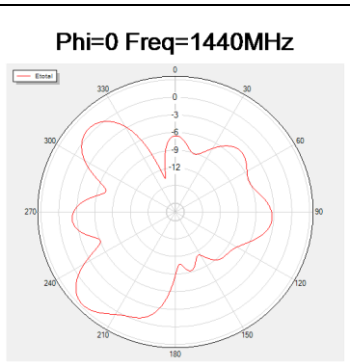
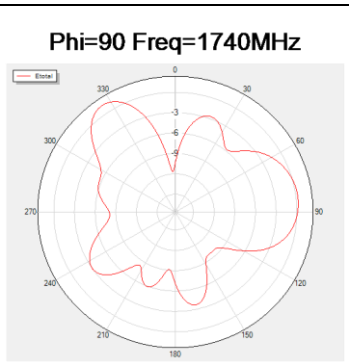
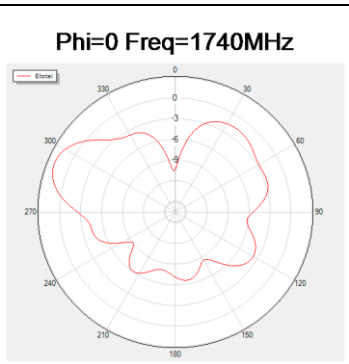
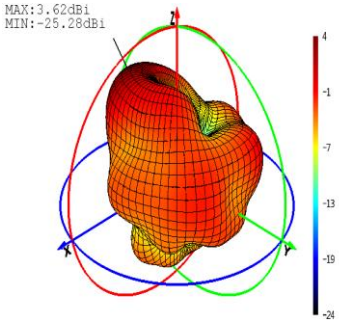
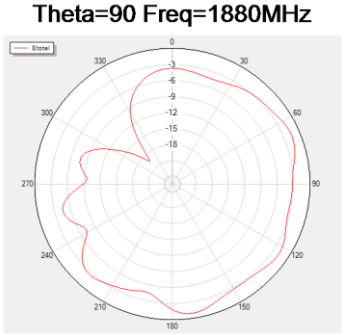
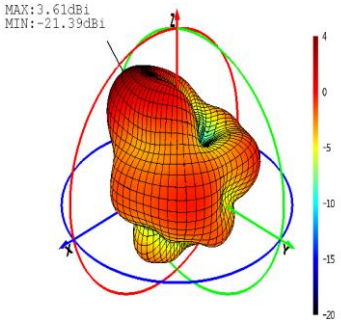
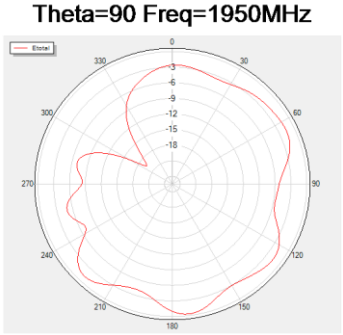
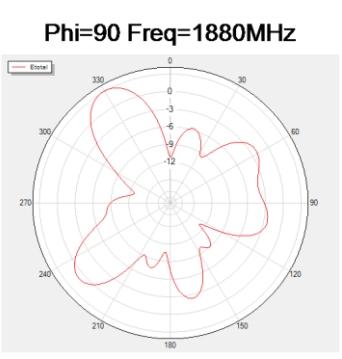
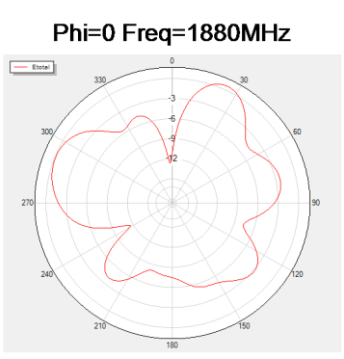
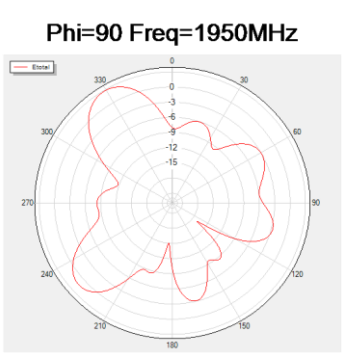
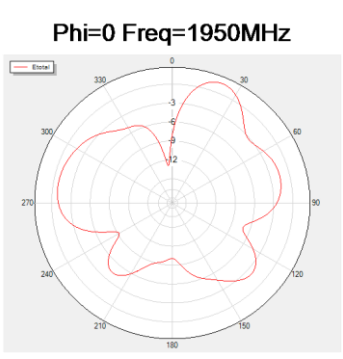
3.2.5. 3D & 2D Radiation Pattern

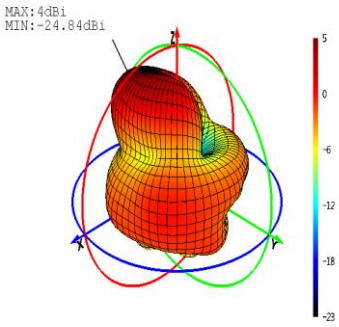
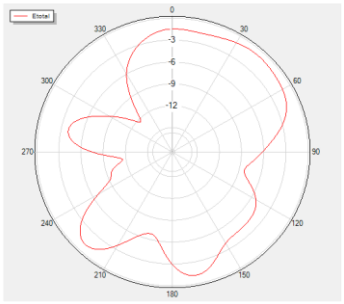
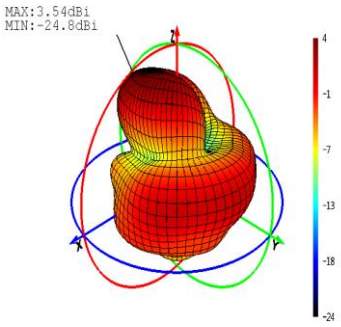
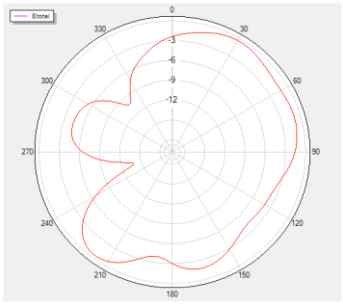
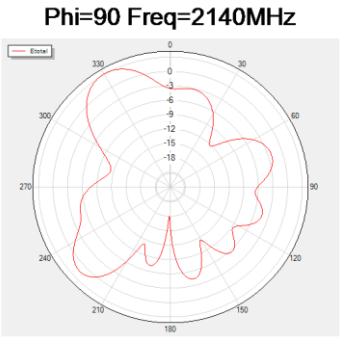
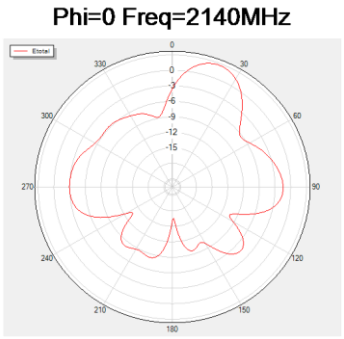
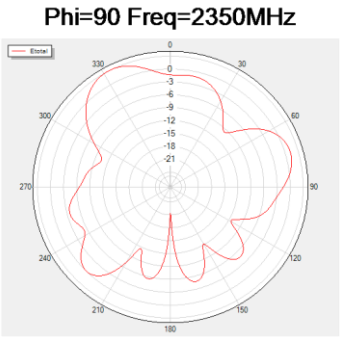
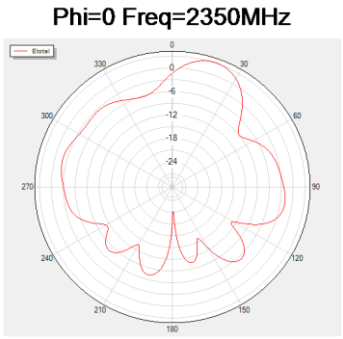
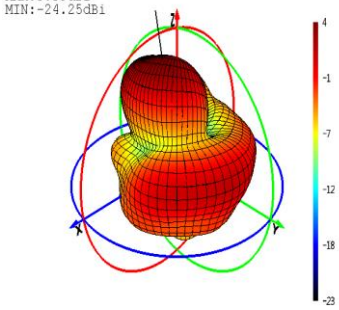
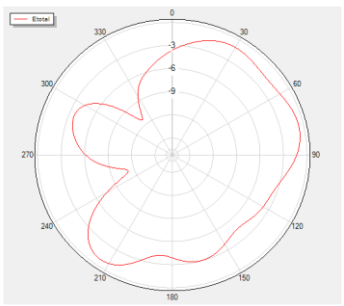
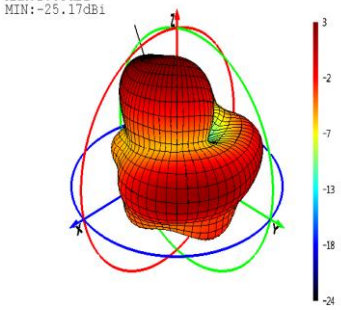
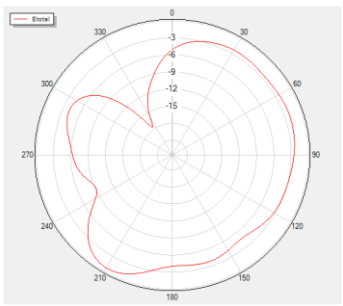
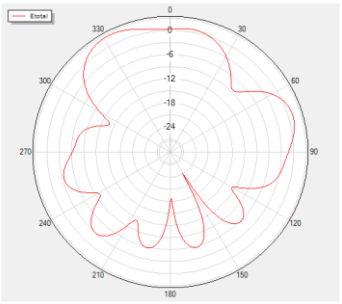
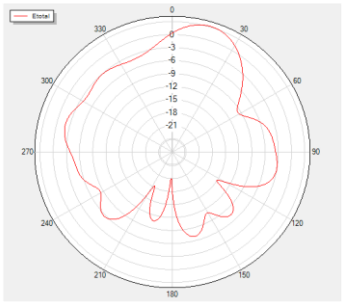
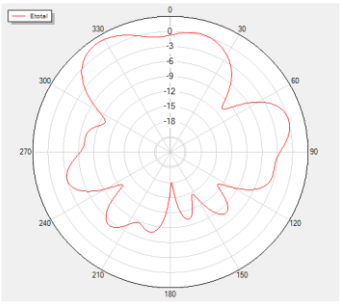
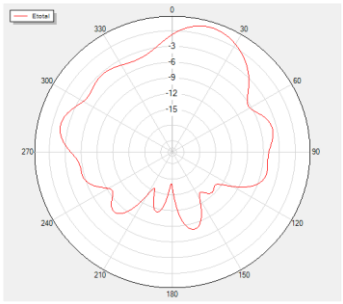
- Test Condition: On 300 mm × 300 mm Metal Plane
- Test Chamber: FS-S-1(MAIN & DIV)

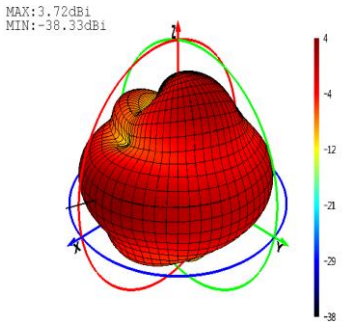
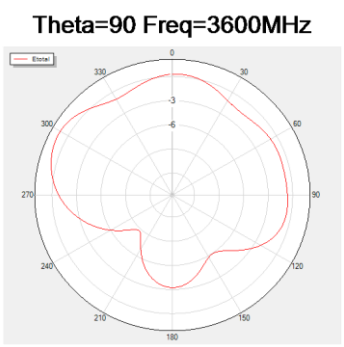
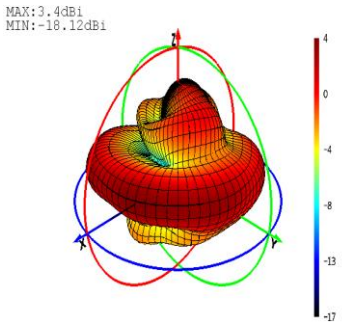
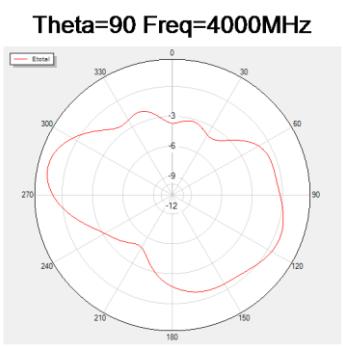
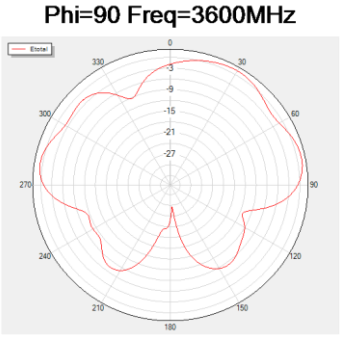
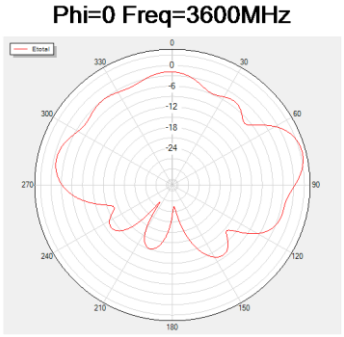
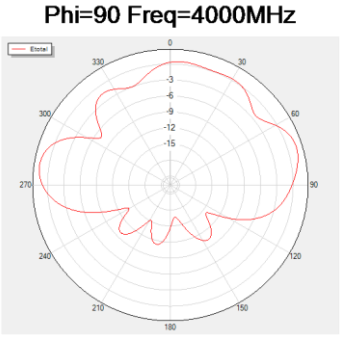
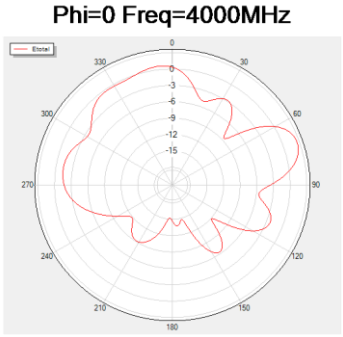
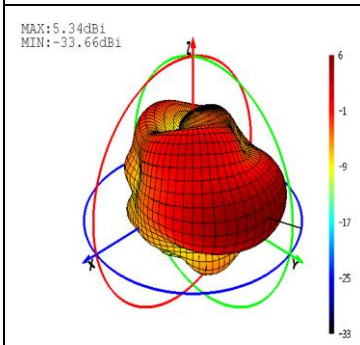
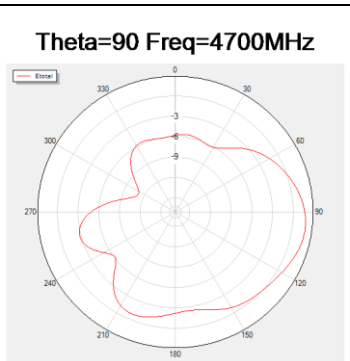
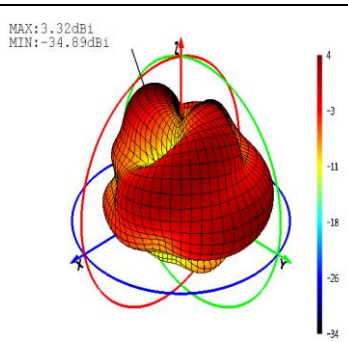
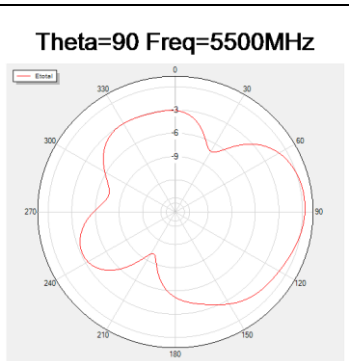
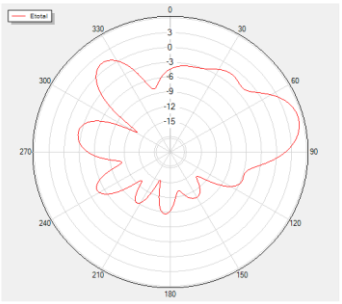
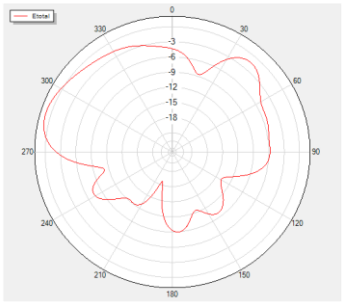
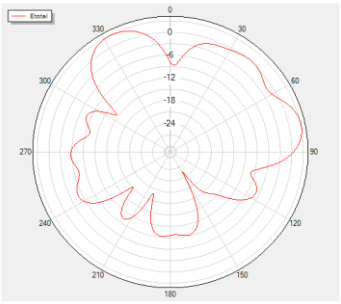
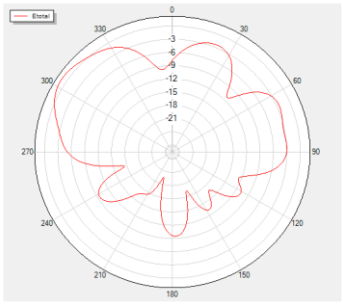


- **MAIN**

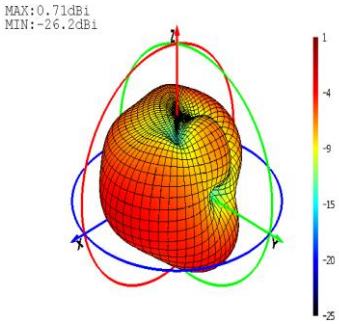
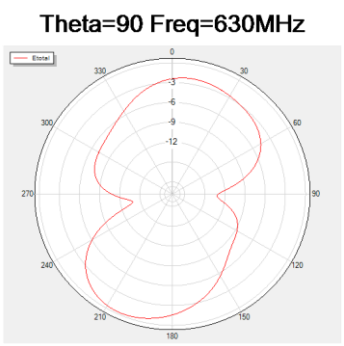
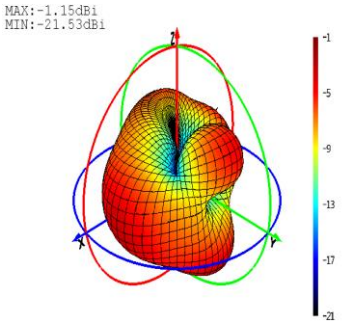
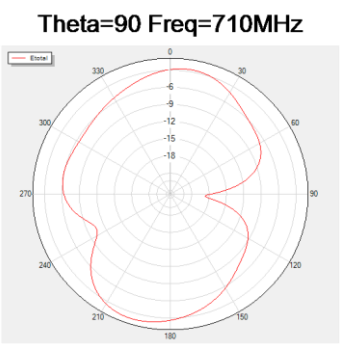
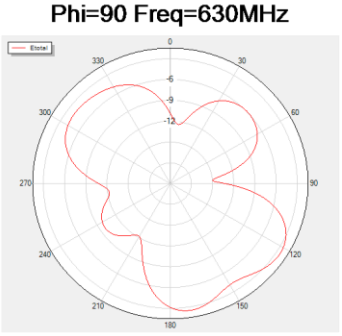
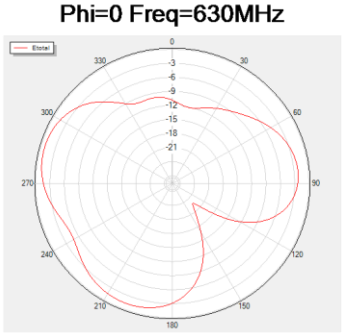
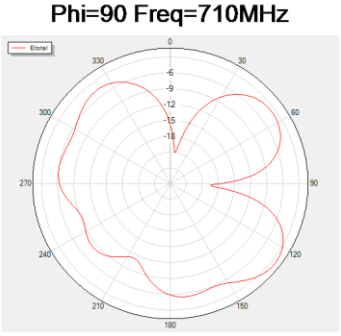
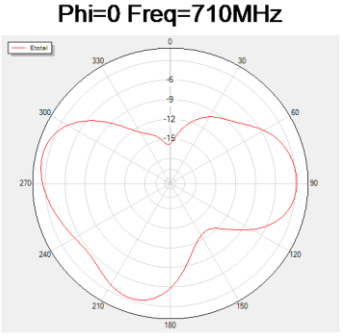
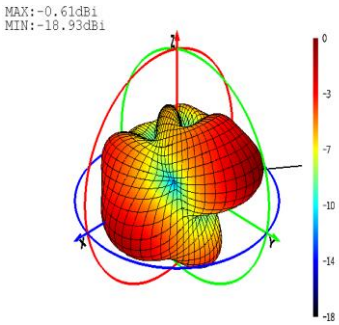
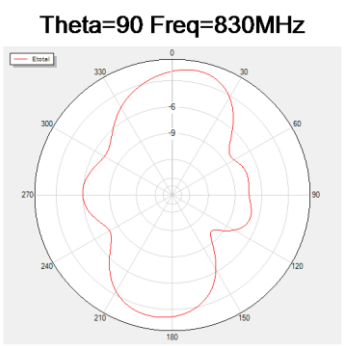
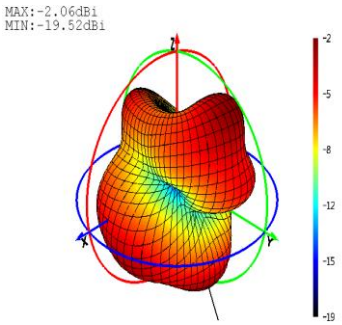
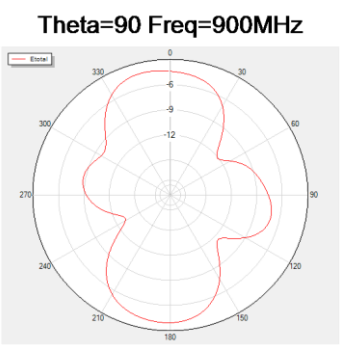
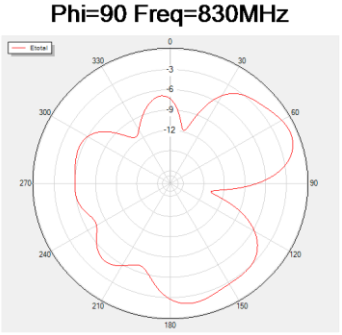
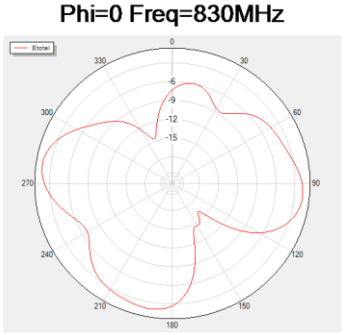
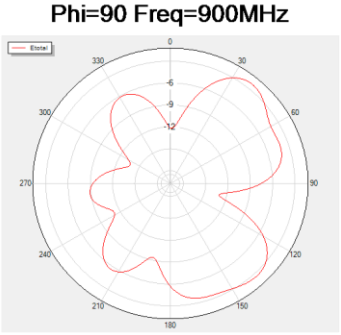
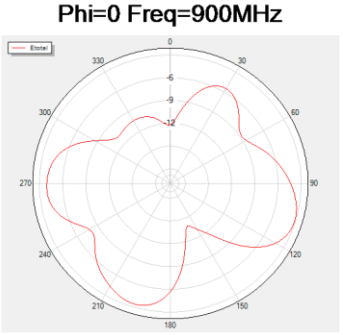
630 MHz		710 MHz	
			
			
830 MHz		900 MHz	
			
			

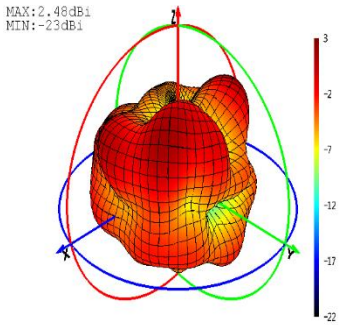
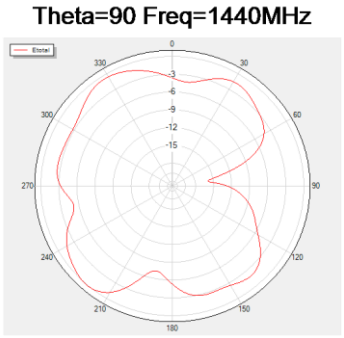
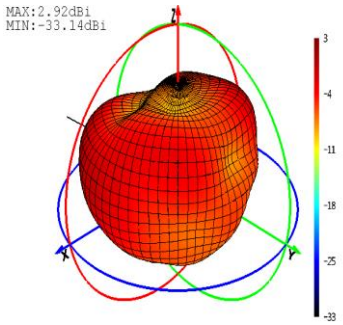
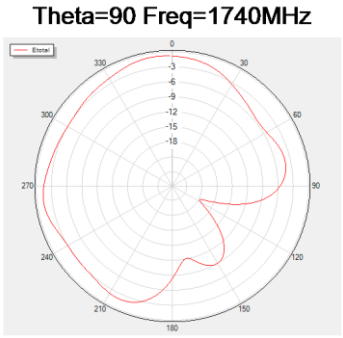
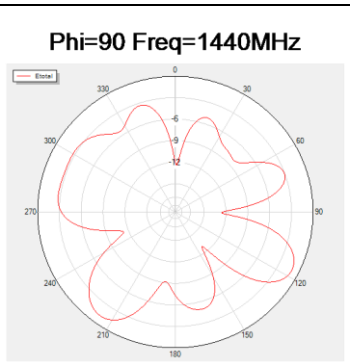
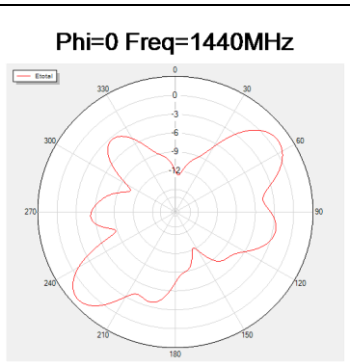
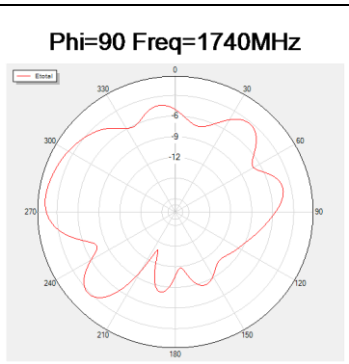
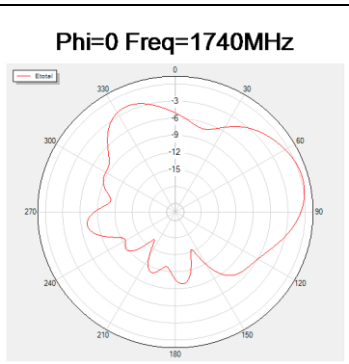
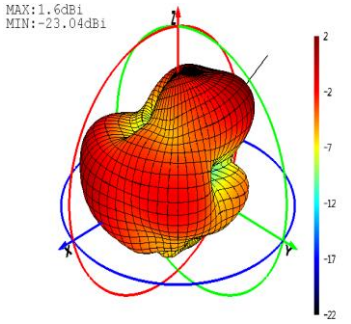
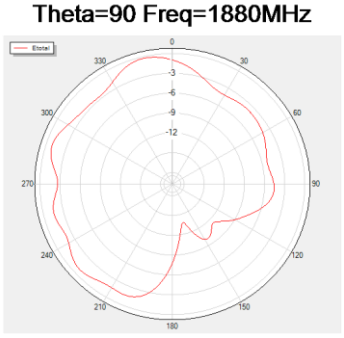
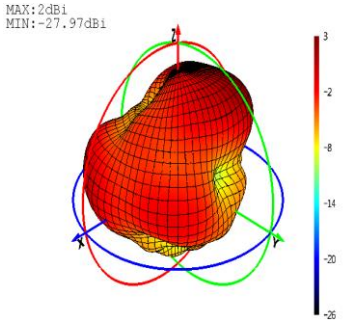
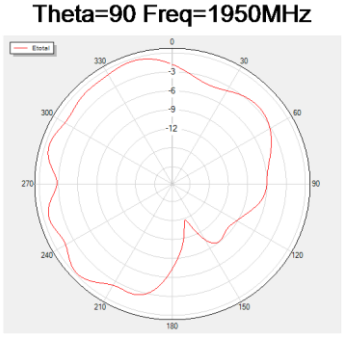
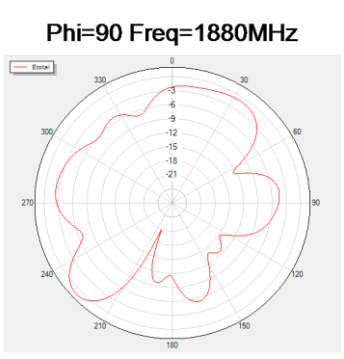
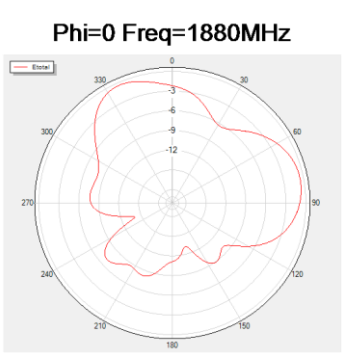
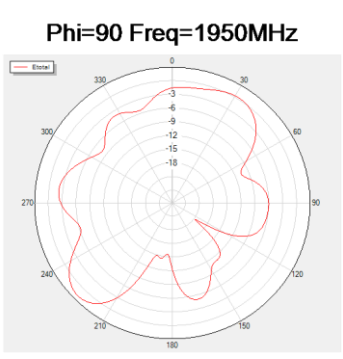
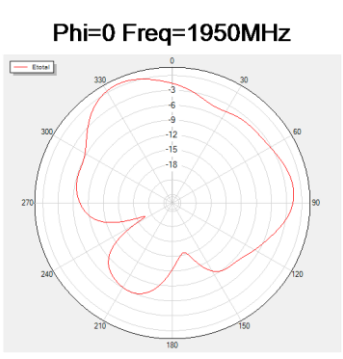
1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

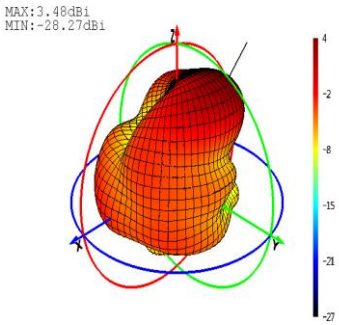
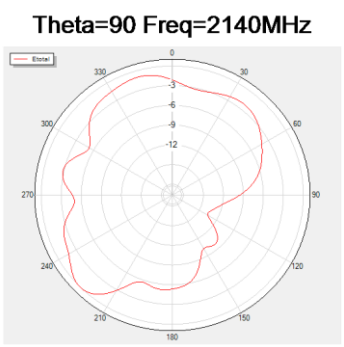
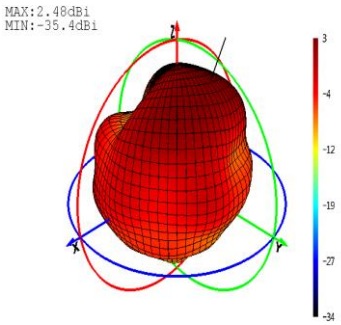
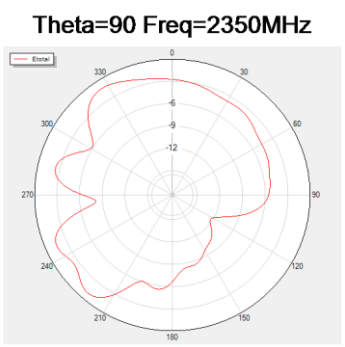
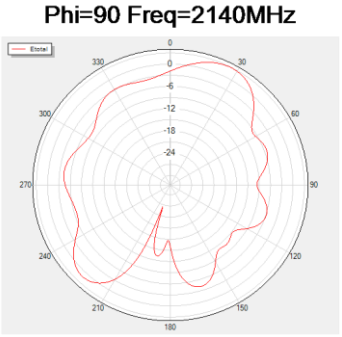
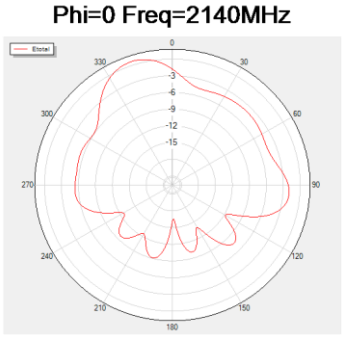
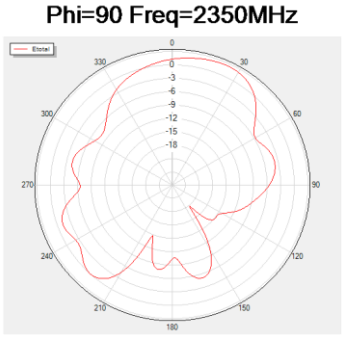
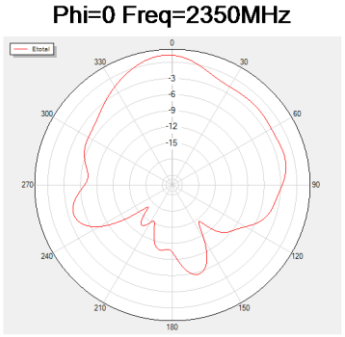
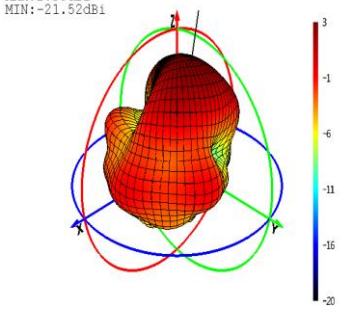
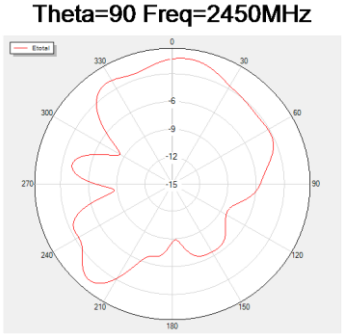
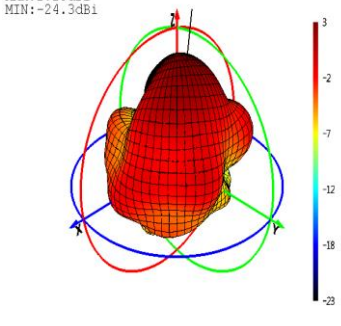
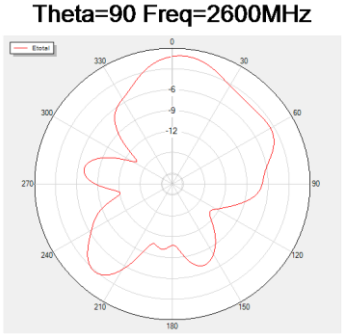
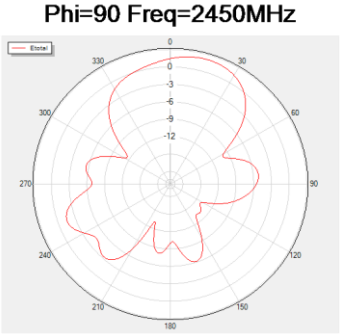
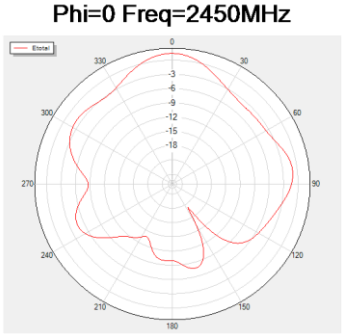
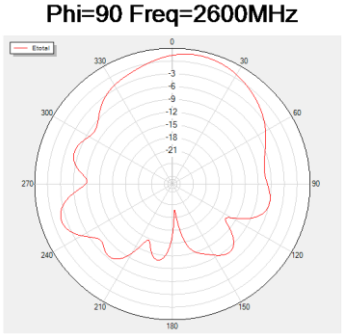
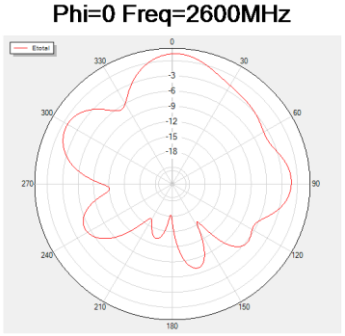
2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

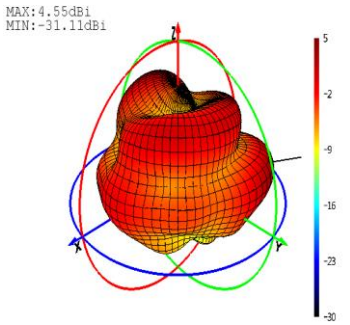
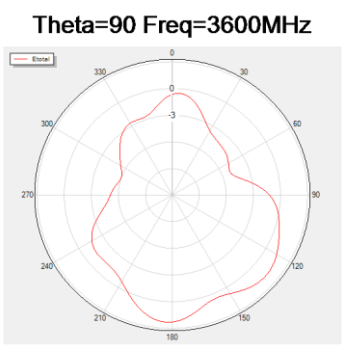
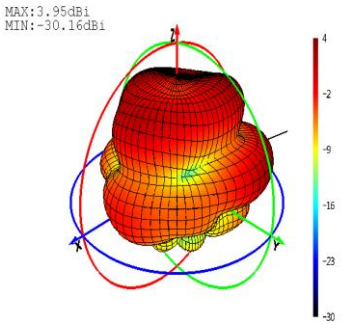
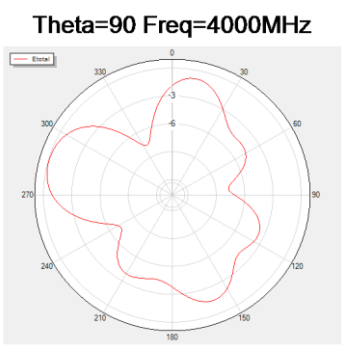
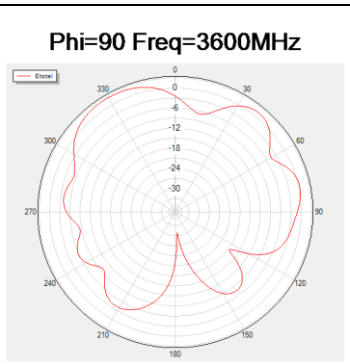
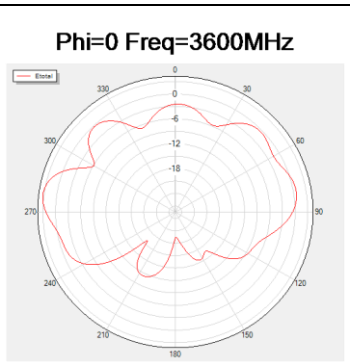
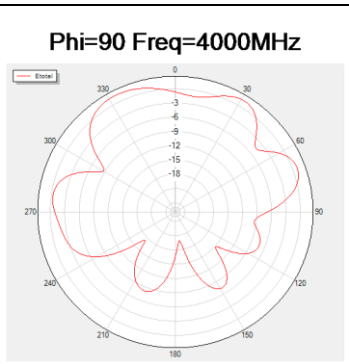
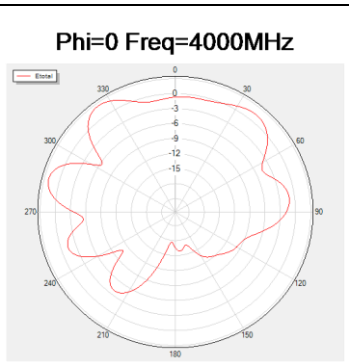
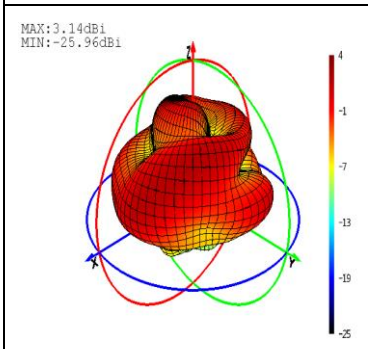
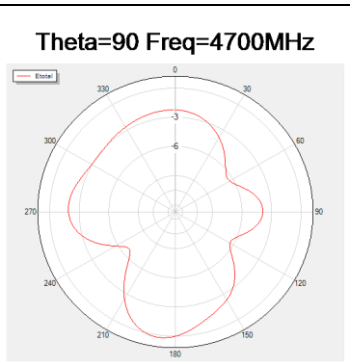
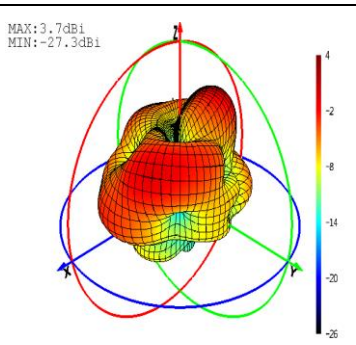
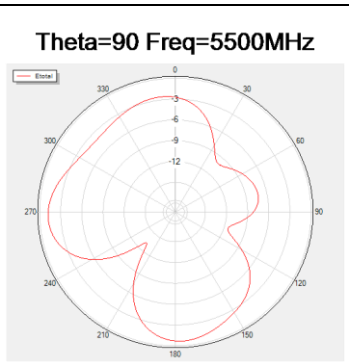
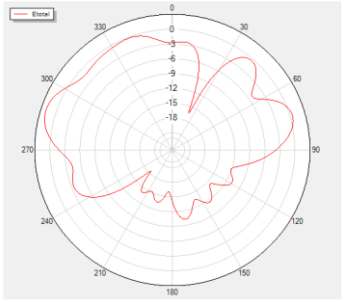
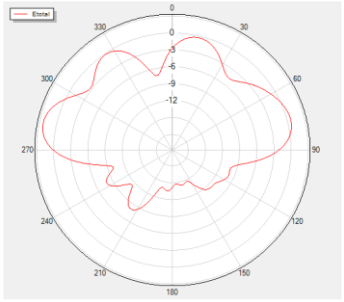
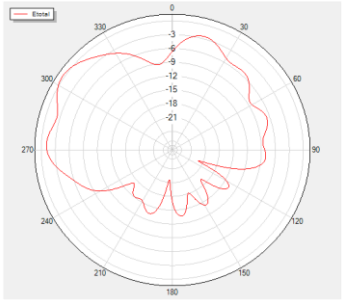
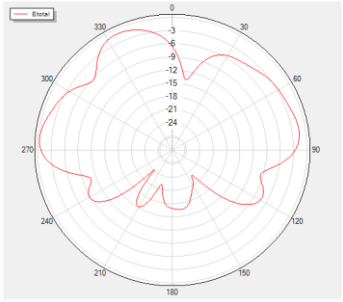
3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

- **DIV**

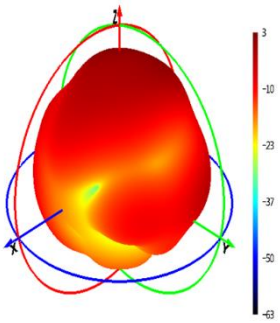
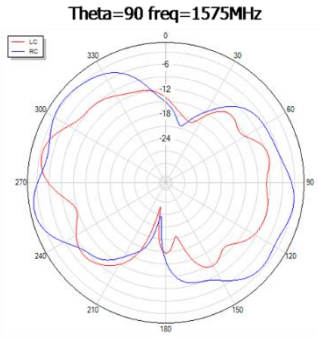
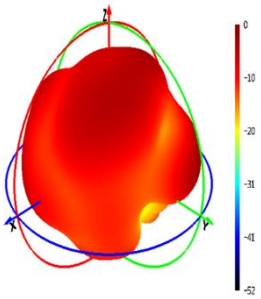
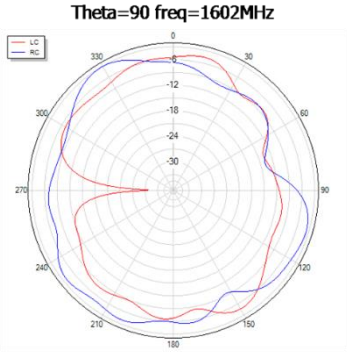
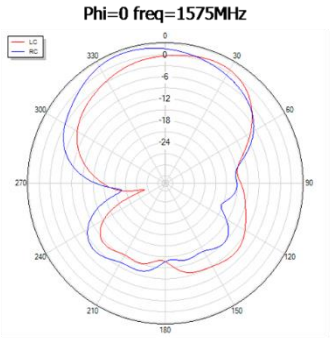
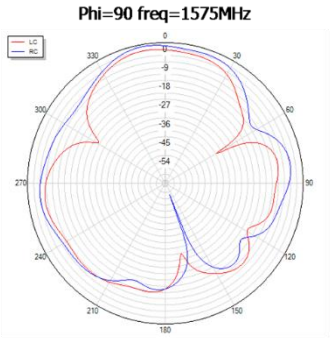
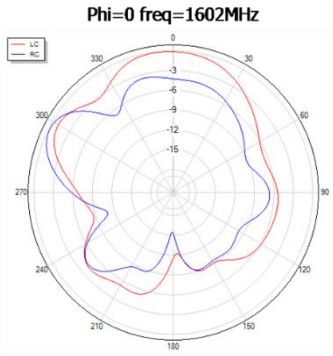
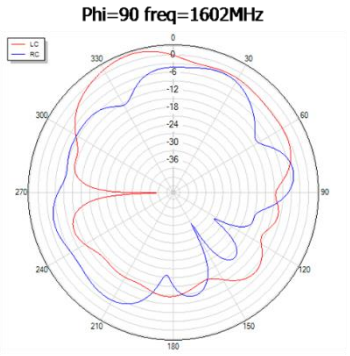
630 MHz		710 MHz	
			
			
830 MHz		900 MHz	
			
			

1440 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

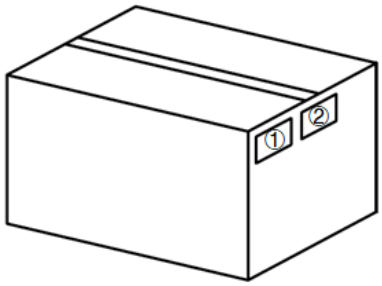
2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

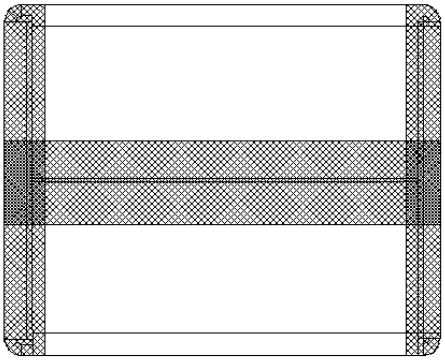
3600 MHz		4000 MHz	
			
			
4700 MHz		5500 MHz	
			
			

- **GNSS**

1575 MHz		1602 MHz	
			
			

4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		1 antenna product in a PE bag. (1 Antenna / PE Bag)
2		Then put it into the bubble bag. 1 antenna product in a bubble bag. (1 Antenna / bubble Bag)
3		Put the product in the knife card slot, 2 products in each card slot 12 antenna products on a layer. (36 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 = 500 × 340 × 250 mm
4		**Position for Attaching Labels** ① Carton Label ② Quality Label

5		**Sealing Cartons** H-shaped sealing cartons
Note	The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.	

Contact Us

At Quectel, our aim is to provide timely and comprehensive services to our customers. If you require any assistance, please contact our headquarters:

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Revision History

Version	Date	Author	Note
-	2025-11-04	Mordecai Liu/ Rhone Wei/ Jason Long/ Riva Ren/ Rainey Liao	Creation of the document
1.0	2025-11-04	Mordecai Liu/ Rhone Wei/ Jason Long/ Riva Ren/ Rainey Liao	First official release

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