Antenna Datasheet

Product OC: YB0014AA
Version: 4.0
Date: 2023-06-20
Status: Released
Product Name: 4G & GNSS 3IN1 Combo Antenna
Key Features:
Frequency Band: 4G × 2: 698–960 MHz, 1710–2690 MHz
GNSS: 1558–1581 MHz
Dimensions: Φ 81 × 14.5 mm
Efficiency: Up to 22.5 % (4G FS)
GNSS LNA Gain: 22 ±3 dB
RoHS Compliant
IP66

Overview

To meet customers’ requirements for the high performance, high integration, and integrated appearance of their products, Quectel provides a combined antenna box series. The antenna box can integrate a variety of antennas, such as 5G, 4G, GNSS, Wi-Fi antennas, to achieve communication functions of 5G MIMO, 4G, GNSS, and Wi-Fi. These antenna boxes can be mounted on the surface of devices via screw, adhesive or other methods, supports multiple connector types and cable lengths. It is a more flexible and reliable high-performance antenna solution for outdoor applications.

Contents

1 Specification

- **Test Condition: In Free Space / On 300 × 300 mm Metal Plane**

1.1. Electrical

Electrical Specifications		
Frequency Range	**4G**	698–960 MHz, 1710–2690 MHz
	4G DIV	698–960 MHz, 1710–2690 MHz
	GNSS	1559–1586 MHz
Radiation Pattern	**4G**	Omni-directional
	4G DIV	Omni-directional
	GNSS	Directional
Polarization	**4G**	Linear
	4G DIV	Linear
	GNSS	RHCP
Impedance		50 Ω
Isolation	**FS**	≤ -17.5 dB
	MP	≤ -14.4 dB

1.1.1. 4G

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	-	1.9	2.5	-	1.9	1.6	1.8	1.7	-	-	-
	MP	-	2.3	2.8	-	2.2	1.8	2.0	2.0	-	-	-
Max Return Loss (dB)	FS	-	-10.1	-7.4	-	-10.0	-12.7	-10.9	-11.8	-	-	-
	MP	-	-8.1	-6.6	-	-8.6	-10.9	-9.6	-9.4	-	-	-
AVG Eff. (%)	FS	-	19.7	16.0	-	14.5	12.2	13.3	13.2	-	-	-
	MP	-	15.1	6.0	-	5.8	5.2	4.6	5.1	-	-	-
AVG Gain (dB)	FS	-	-7.1	-8.0	-	-8.4	-9.1	-8.8	-8.8	-	-	-
	MP	-	-8.3	-12.8	-	-12.4	-12.9	-13.4	-13.0	-	-	-
Max Peak Gain (dBi)	FS	-	-2.3	-2.3	-	-2.5	-4.5	-3.9	-1.9	-	-	-
	MP	-	-2.9	-4.3	-	-3.9	-6.9	-6.3	-4.3	-	-	-
VSWR	FS	≤ 2.5										
	MP	≤ 2.8										
Return Loss	FS	≤ -7.4 dB										
	MP	≤ -6.6 dB										
Peak Gain	FS	≤ -1.9 dBi										
	MP	≤ -2.9 dBi										

1.1.2. 4G DIV

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	-	2.4	2.4	-	2.0	1.5	1.6	1.6	-	-	-
	MP	-	2.4	2.1	-	2.5	1.8	2.0	1.9	-	-	-
Max Return Loss (dB)	FS	-	-7.6	-7.7	-	-9.4	-14.7	-12.6	-12.8	-	-	-
	MP	-	-7.7	-9.0	-	-7.2	-11.3	-9.4	-10.3	-	-	-

AVG Eff. (%)	**FS**	-	6.1	12.3	-	17.6	15.1	14.5	12.5	-	-	-
	MP	-	9.3	18.2	-	5.2	5.7	5.7	4.5	-	-	-
AVG Gain (dB)	**FS**	-	-12.4	-9.2	-	-12.4	-9.2	-12.4	-9.2	-	-	-
	MP	-	-10.5	-7.5	-	-10.5	-7.5	-10.5	-7.5	-	-	-
Max Peak Gain (dBi)	**FS**	-	-7.6	-2.2	-	-7.6	-8.2	-8.4	-9.0	-	-	-
	MP	-	-5.4	0.1	-	-12.9	-12.4	-12.5	-13.5	-	-	-
VSWR	**FS**	≤ 2.4										
	MP	≤ 2.5										
Return Loss	**FS**	≤ -7.6 dB										
	MP	≤ -7.2 dB										
Peak Gain	**FS**	≤ -2.2 dBi										
	MP	≤ 0.1 dBi										

1.1.3. GNSS

SPEC \ Band	Band	GPS L5 GALILEO E5a BEIDOU B2a-B2I QZSS L5 IRNSS L5	GALILEO E5b BEIDOU B2b	GPS L2 QZSS L2C	GLONASS G2	BEIDOU B3	BEIDOU B1I	GPS L1 GALILEO E1 BEIDOU B1C QZSS L1	GLONASS G1
	Freq. (MHz)	**1176**	**1207**	**1227**	**1248**	**1268**	**1561**	**1575**	**1602**
VSWR	**FS**	-	-	-	-	-	2.0	1.9	-
	MP	-	-	-	-	-	2.1	1.6	-
Return Loss (dB)	**FS**	-	-	-	-	-	-9.5	-10.1	-
	MP	-	-	-	-	-	-9.9	-19.6	-
Efficiency (%)	**FS**	-	-	-	-	-	41.7	39.2	-
	MP	-	-	-	-	-	44.0	36.6	-
AVG Gain (dB)	**FS**	-	-	-	-	-	-3.8	-4.1	-

	MP	-	-	-	-	-	-3.6	-4.4	-
Peak Gain (dBi)	FS	-	-	-	-	-	1.1	-1.1	-
	MP	-	-	-	-	-	1.75	1.1	-
Axial Ratio (dB) Theta = 0 (deg)	FS	-	-	-	-	-	2.48	9.19	-
	MP	-	-	-	-	-	7.54	14.40	-

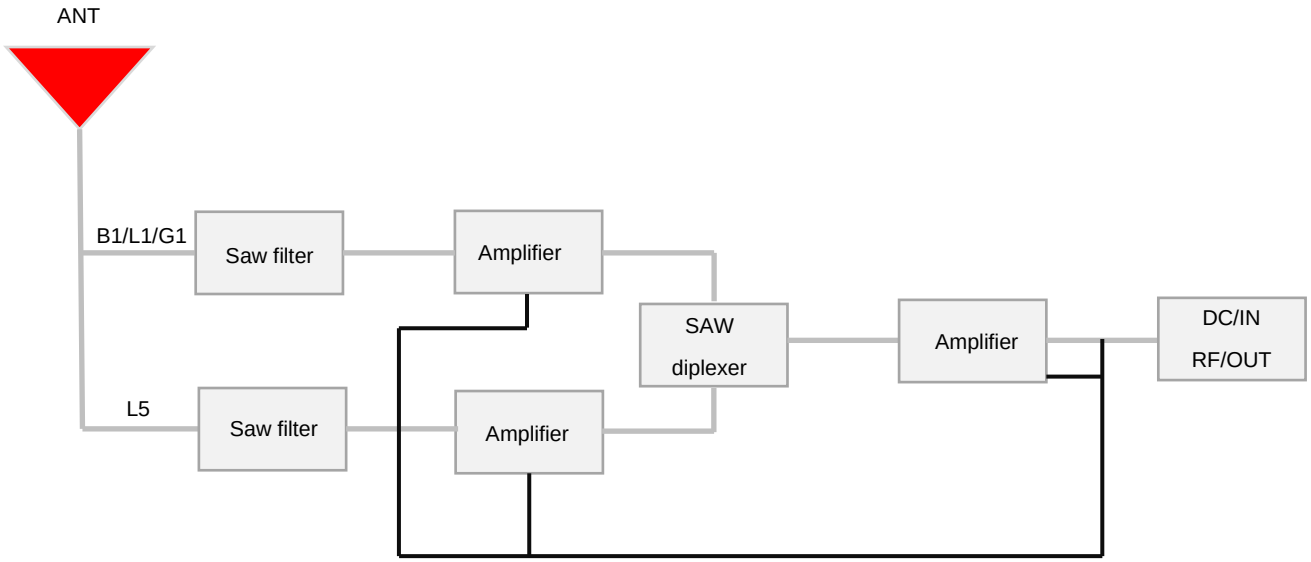
LNA Electrical	
LNA Gain	22 ±3 dB
Noise Figure	≤ 1.5 dB
Output VSWR	< 2.0
Input VSWR	< 2.0
Filter Out-of-Band Attenuation	52 dB f0 ±100 MHz f0 (1475-1575 MHz)
Working Voltage	2.7 V–3.3 V
Working Current	10 mA
Impedance	50 Ω

- FS: In Free Space
- MP: On 300 × 400 mm Metal Plane

1.2. Mechanical, Environmental & Storage

Mechanical		
Antenna Dimensions		Φ 81 × 14.5 mm
Casing Material & Color		ABS + PC
Cable Type & Color & Length	**4G**	RG174 & Black & 3000 mm
	4G DIV	RG174 & Black & 3000 mm
	GNSS	RG174 & Black & 3000 mm
Connector Type		SMA Male
Mounting Type		Screw
Weight		Typ. 156 g
Environmental		
Operation Temperature		-40 °C to +85 °C
Storage Temperature		-40 °C to +85 °C
Ingress Protection (IP) Rating		IP66
RoHS Compliant		Yes

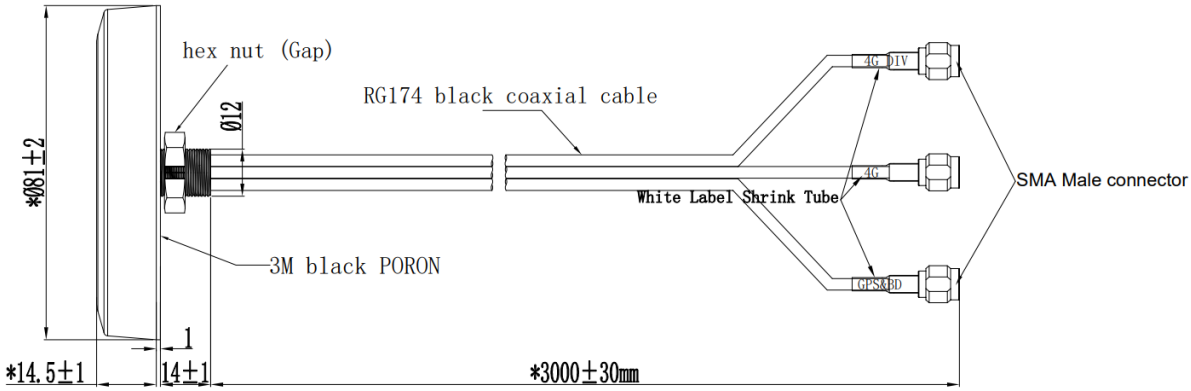
1.3. Block Diagram (Active Antenna)



1.4. 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)	
	√	-	-	-	
BEIDOU	**B1I** Centre 1561.098 (1559–1564)	**B1C (BeiDou-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)				
	-				

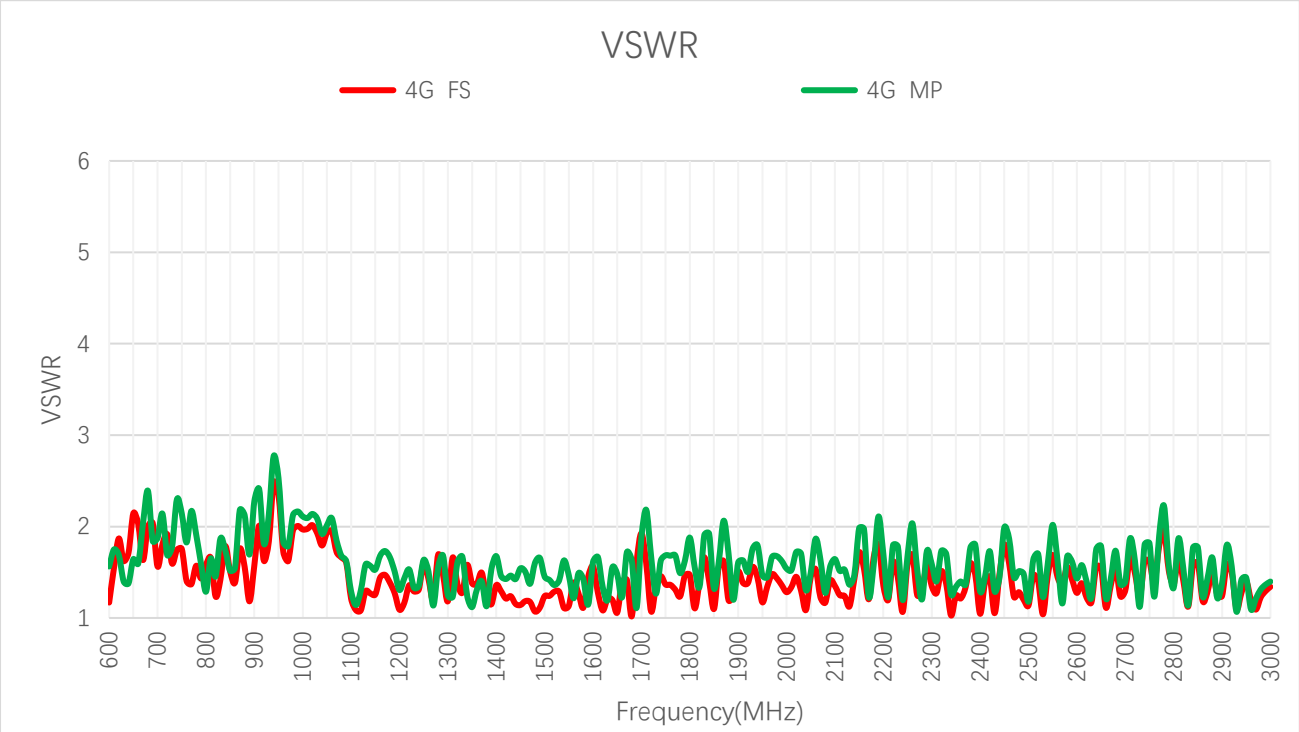
2 Drawing


hex nut (Gap)
RG174 black coaxial cable
Ø12
*Ø81±2
4G DIV
4G
GPS&BD
White Label Shrink Tube
SMA Male connector
3M black PORON
1
*14.5±1
14±1
*3000±30mm

3 Detailed Performance

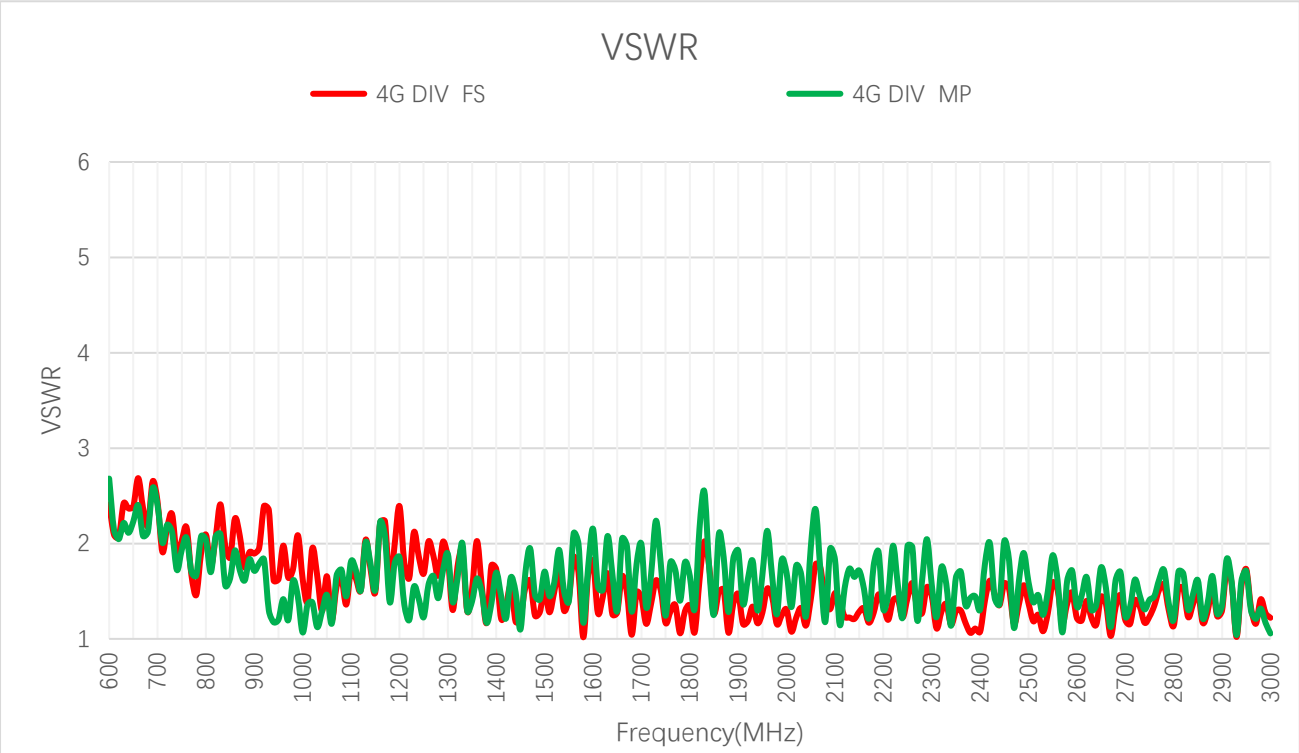
3.1. S-Parameter Test

3.1.1. VSWR



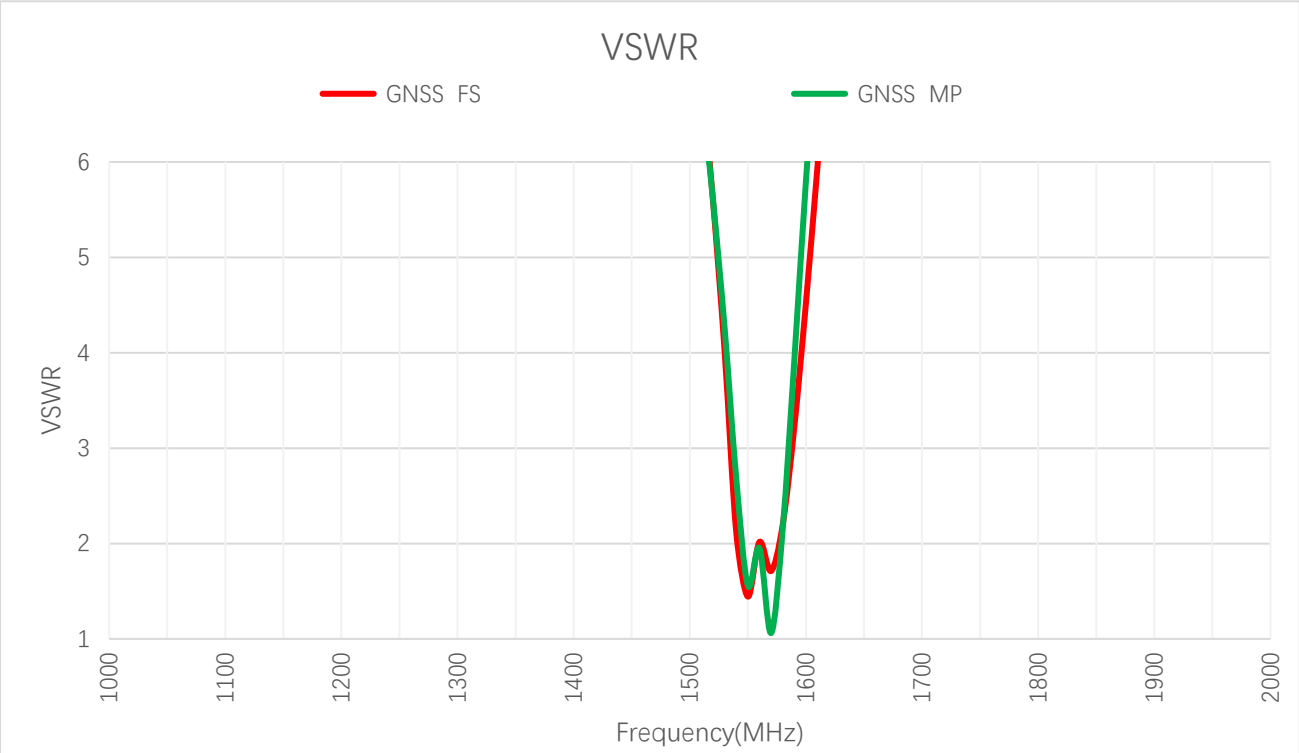
VSWR - 4G

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	1.8	1.4	1.6	1.7	-	1.6	1.5	1.2
MP	-	-	2.1	1.9	2.3	1.8	-	2.2	1.6	1.7
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	1.2	1.4	1.2	1.8	1.3	1.2	-	-	-	-
MP	1.5	1.5	1.3	2.0	1.4	1.4	-	-	-	-



VSWR - 4G DIV

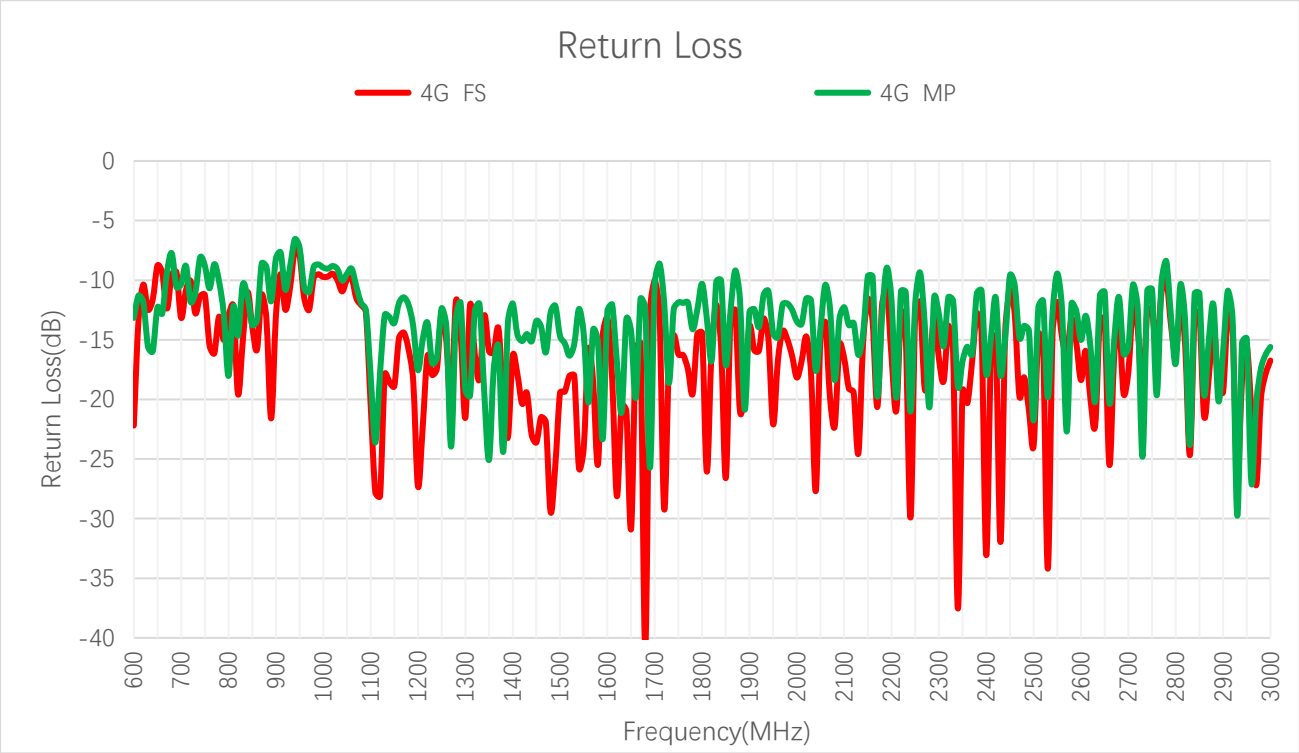
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	1.9	2.4	1.9	2.0	-	1.2	1.5	1.1
MP	-	-	2.0	2.1	1.7	1.4	-	1.3	1.8	1.3
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	1.3	1.2	1.3	1.6	1.2	1.5	-	-	-	-
MP	1.7	1.6	1.6	2.0	1.3	1.7	-	-	-	-



VSWR – GNSS

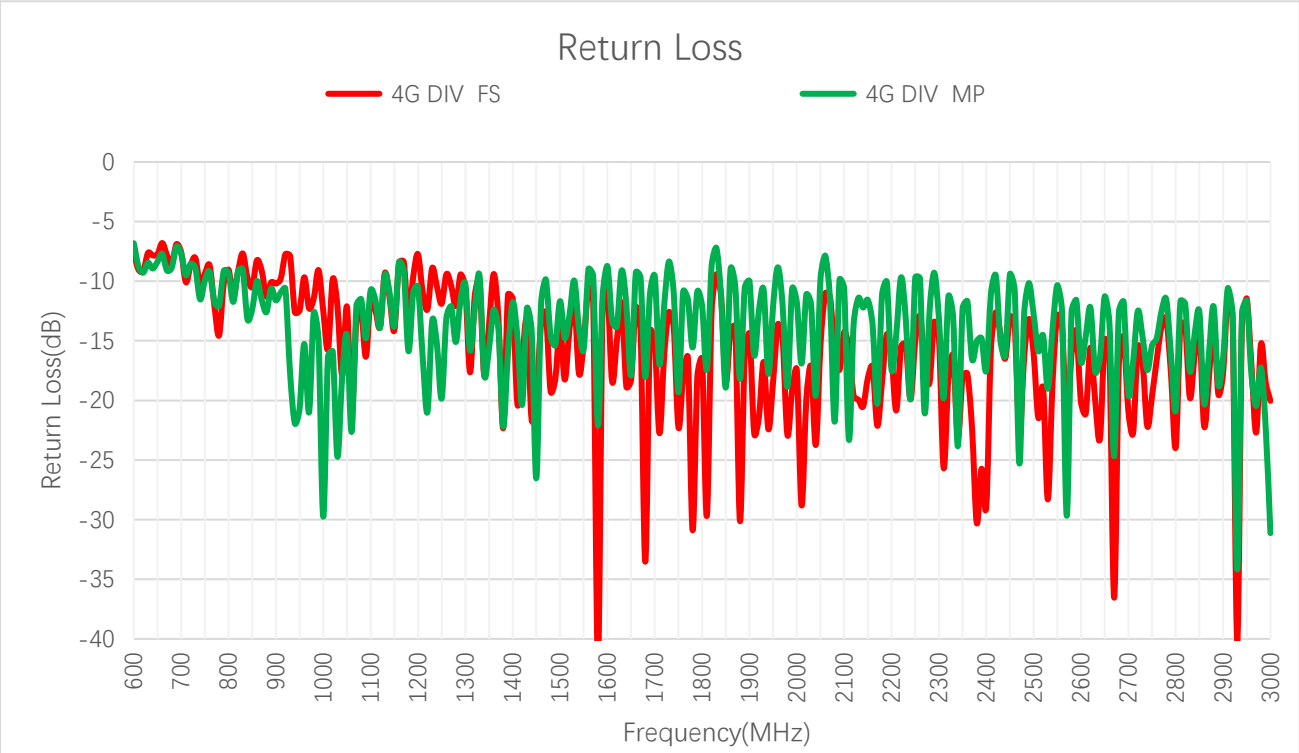
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
FS	-	-	-	-	-	2.0	1.9	-
MP	-	-	-	-	-	2.1	1.6	-

3.1.2. Return Loss



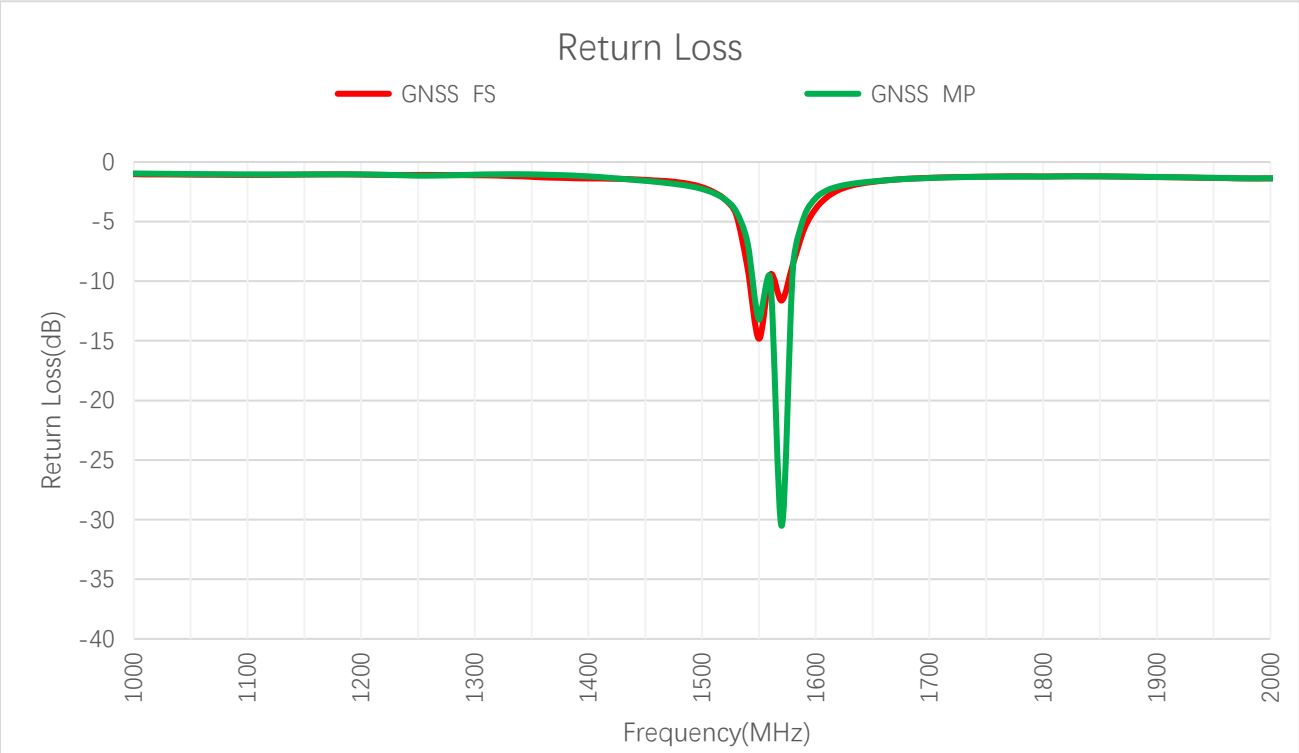
Return Loss (dB) - 4G

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-10.9	-15.2	-13.0	-11.5	-	-25.2	-14.5	-19.6
MP	-	-	-8.8	-10.4	-8.2	-10.7	-	-13.3	-25.0	-17.7
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	-22.1	-15.2	-19.3	-10.9	-18.4	-19.5	-	-	-	-
MP	-14.5	-14.5	-16.8	-9.6	-15.0	-16.2	-	-	-	-



Return Loss (dB) - 4G DIV

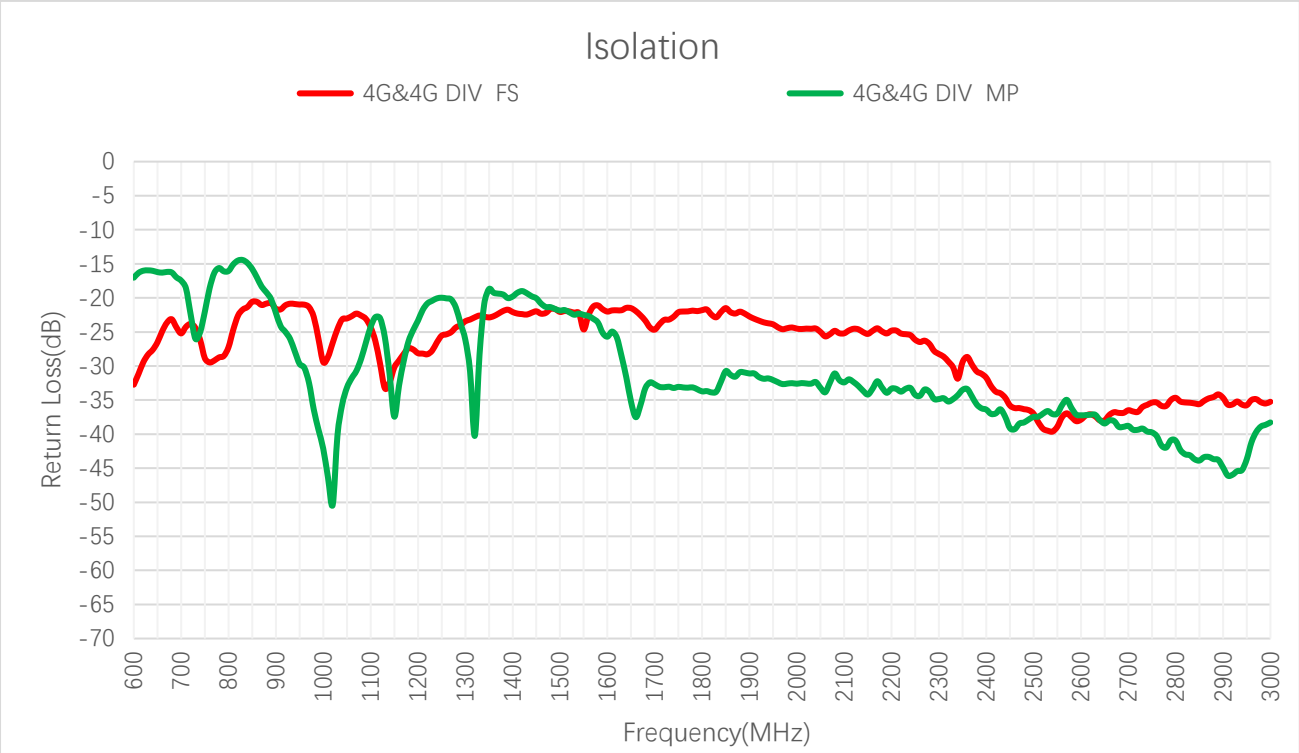
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-10.1	-7.7	-10.2	-9.7	-	-22.7	-13.8	-30.1
MP	-	-	-9.5	-9.0	-11.6	-15.3	-	-17.0	-10.9	-18.2
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	-18.4	-20.5	-18.0	-12.9	-20.1	-14.6	-	-	-	-
MP	-12.0	-12.2	-12.3	-9.4	-16.8	-11.7	-	-	-	-



Return Loss(dB)– GNSS

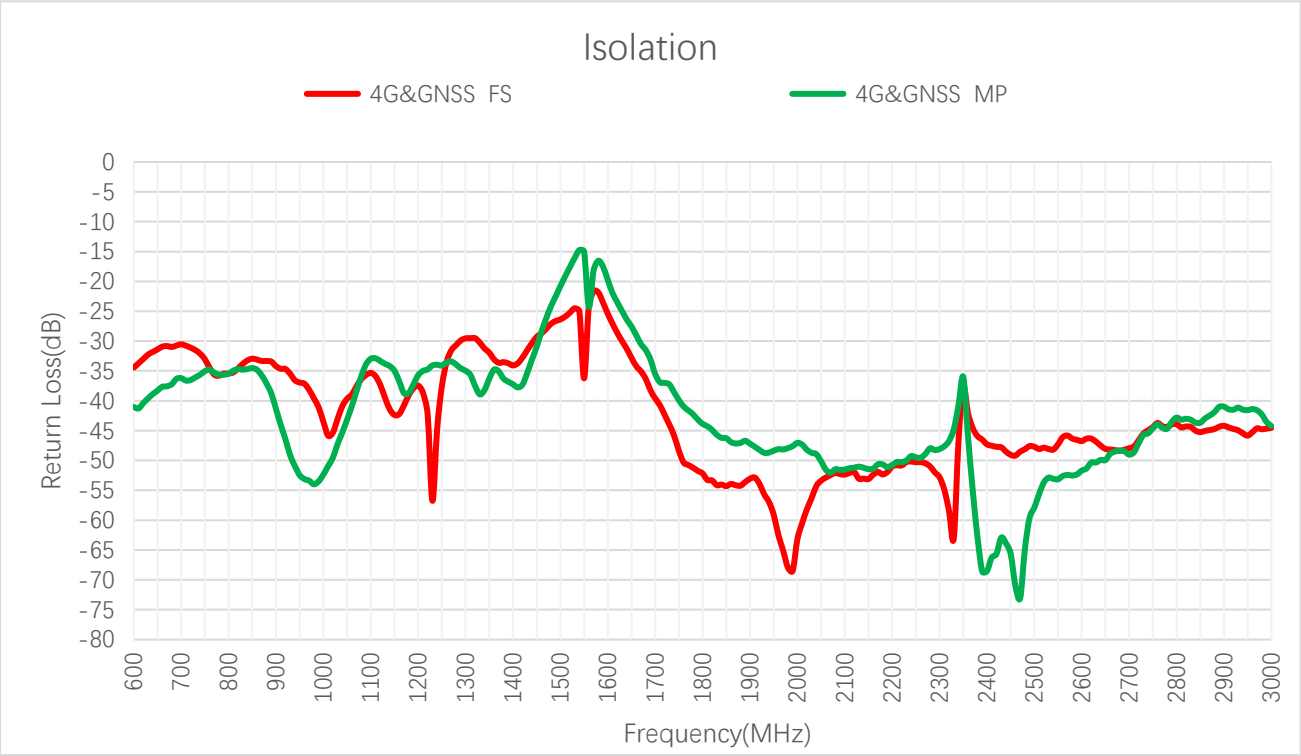
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
FS	-	-	-	-	-	-9.5	-10.1	-
MP	-	-	-	-	-	-9.9	-19.6	-

3.1.3. Isolation



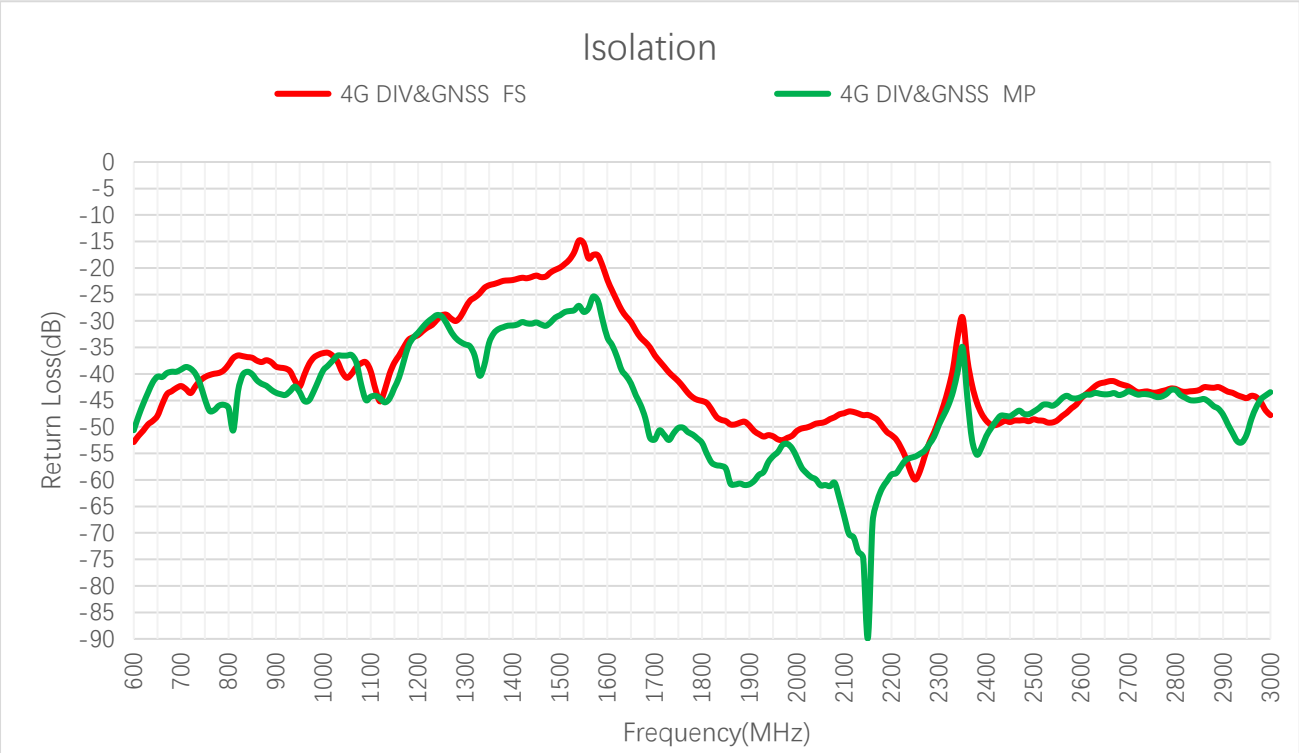
Max Isolation (dB) – 4G & 4G DIV

Band	B71	B12/ B13/ B28	B5/ B8/ B26	N74/ N75/ N76	B1/ B2/ B3	B40	Wi-Fi 2G	B38/ B41	Wi-Fi 5G	BEIDOU B1I	GPS L1
Freq. (MHz)	600–700	700–810	820–960	1420–1520	1700–2170	2300–2400	2400–2500	2500–2690	5150–5850	1559-1564	1565-1586
FS	-	-23.8	-20.6	-	-21.5	-28.2	-31.7	-36.8	-	-21.3	-21.1
MP	-	-15.1	-14.4	-	-30.7	-33.4	-36.4	-35.0	-	-22.7	-22.7



Max Isolation (dB) – 4G & GNSS

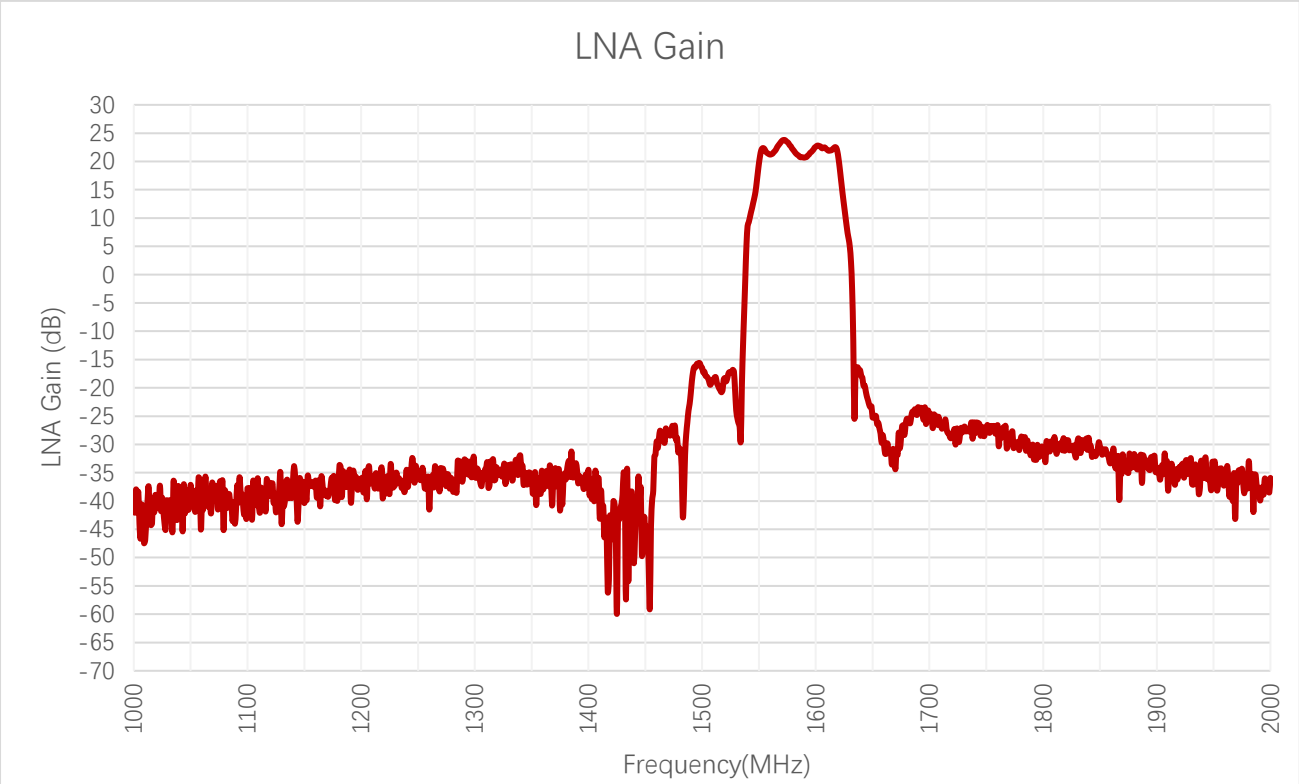
Band	B71	B12/ B13/ B28	B5/ B8/ B26	N74/ N75/ N76	B1/ B2/ B3	B40	Wi-Fi 2G	B38/ B41	Wi-Fi 5G	BEIDOU B1I	GPS L1
Freq. (MHz)	**600–700**	**700–810**	**820–960**	**1420–1520**	**1700–2170**	**2300–2400**	**2400–2500**	**2500–2690**	**5150–5850**	**1559-1564**	**1565-1586**
FS	-	-30.5	-32.9	-	-39.6	-37.7	-47.3	-45.8	-	-21.7	-21.7
MP	-	-34.8	-34.5	-	-35.5	-36.0	-57.9	-48.3	-	-18.2	-16.5



Max Isolation (dB) – 4G DIV & GNSS

Band	B71	B12/ B13/ B28	B5/ B8/ B26	N74/ N75/ N76	B1/ B2/ B3	B40	Wi-Fi 2G	B38/ B41	Wi-Fi 5G	BEID OU B1I	GPS L1
Freq. (MHz)	**600–700**	**700–810**	**820–960**	**1420–1520**	**1700–2170**	**2300–2400**	**2400–2500**	**2500–2690**	**5150–5850**	**1559-1564**	**1565-1586**
FS	-	-37.0	-36.5	-	-36.5	-29.3	-48.6	-41.4	-	-17.5	-17.5
MP	-	-38.7	-39.6	-	-50.2	-35.0	-46.9	-43.6	-	-25.4	-25.4

3.1.4. GNSS LNA Gain

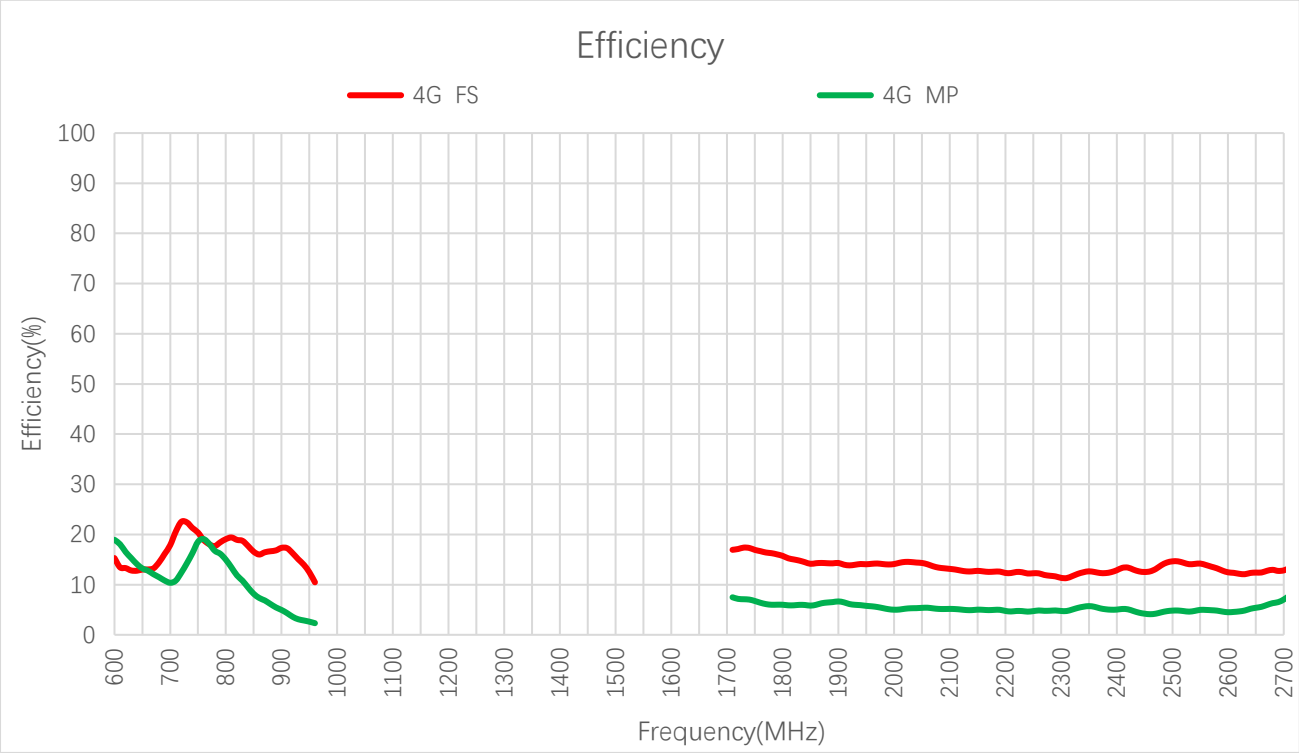


LNA Gain (dB)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
LNA Gain (dB)	-	-	-	-	-	21.3	23.4	-

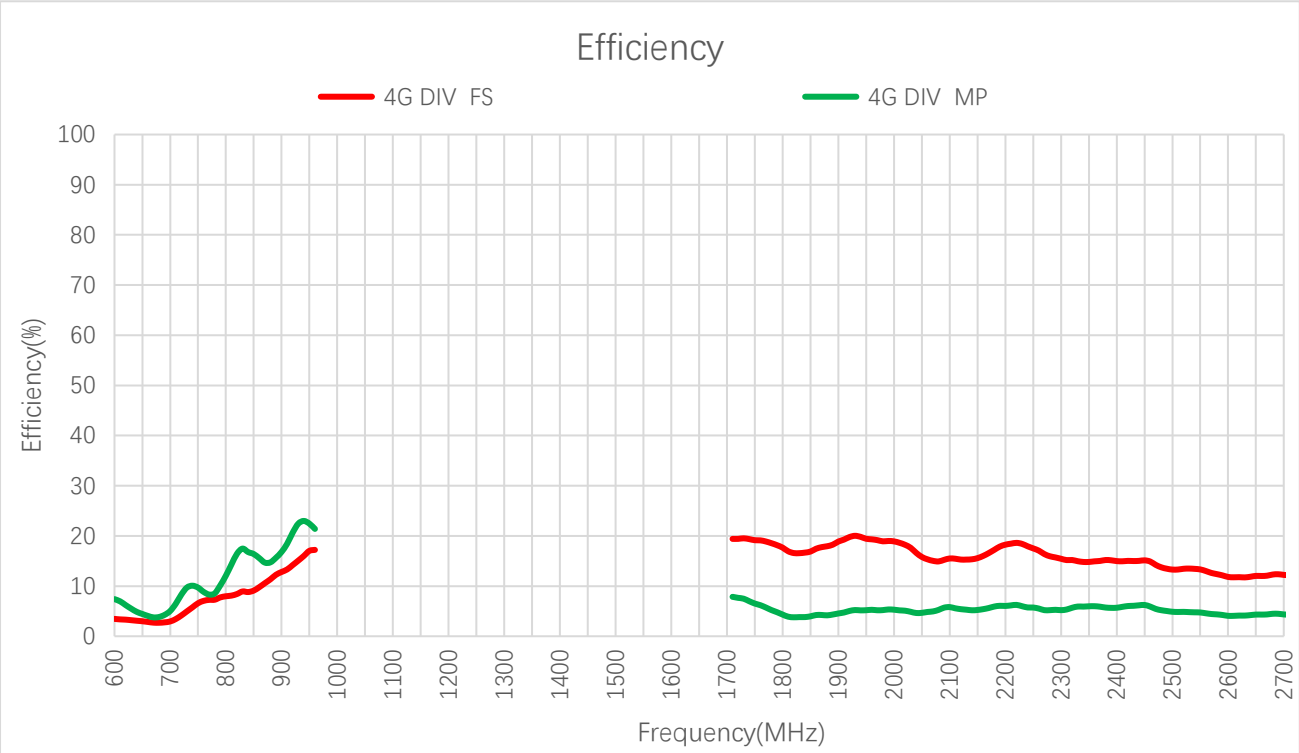
3.2. Radiation Performance Test

3.2.1. Efficiency



Efficiency (%) - 4G

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	20.6	18.7	17.3	10.5	-	16.9	17.3	14.3
MP	-	-	10.8	10.8	5.0	2.3	-	7.5	7.0	6.4
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	14.1	12.6	12.7	12.5	12.5	12.7	-	-	-	-
MP	5.8	4.9	5.7	4.2	4.5	6.5	-	-	-	-



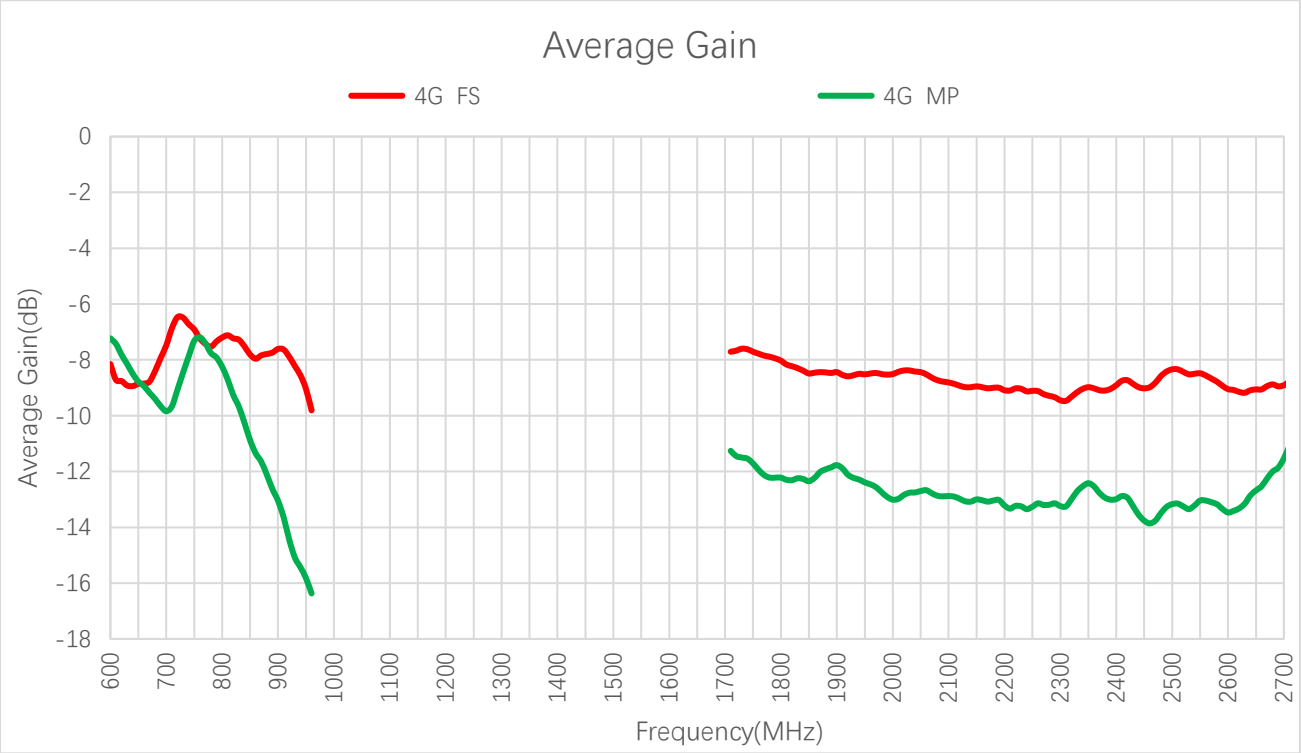
Efficiency (%) - 4G DIV

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	3.4	8.9	12.8	17.2	-	19.4	19.4	17.9
MP	-	-	6.5	17.5	16.8	21.4	-	7.9	7.0	4.2
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	19.4	15.3	14.8	15.1	11.8	12.4	-	-	-	-
MP	5.2	5.2	6.0	6.2	4.1	4.5	-	-	-	-

Efficiency (%) – GNSS

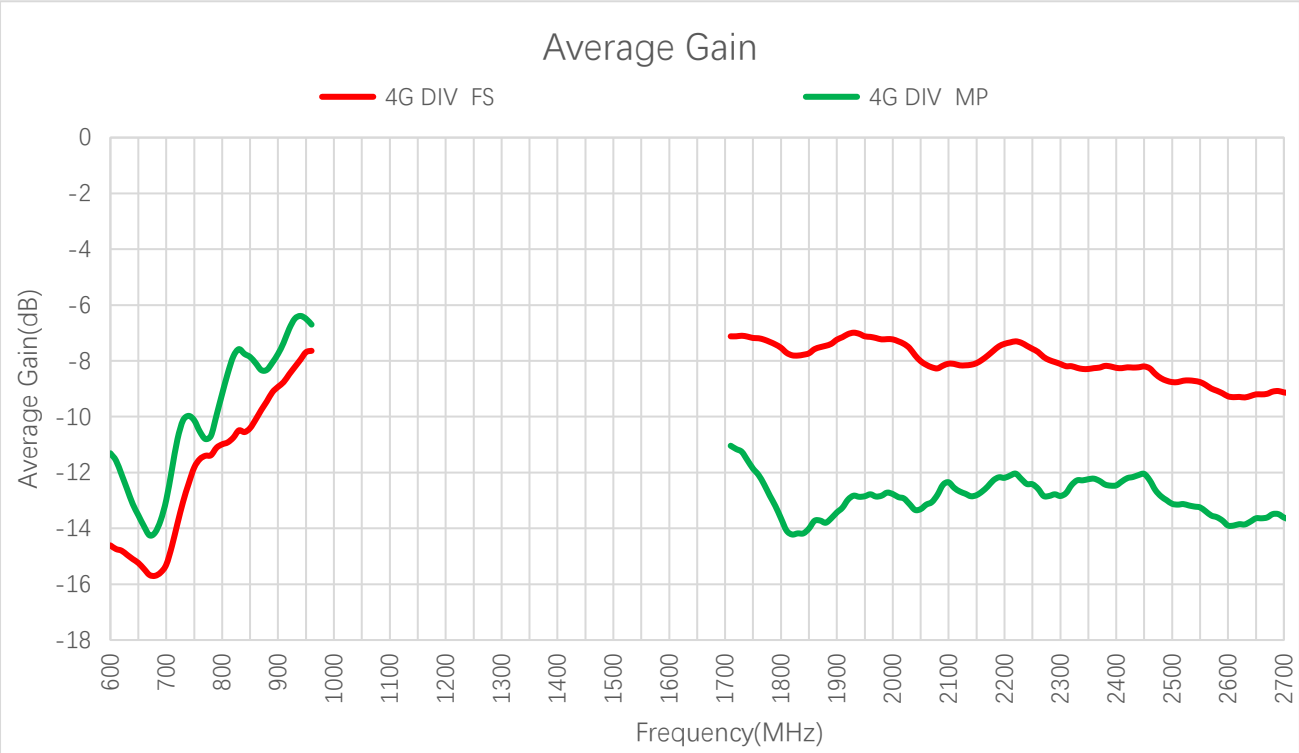
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
FS	-	-	-	-	-	41.7	39.2	-
MP	-	-	-	-	-	44.0	36.6	-

3.2.2. Average Gain



Average Gain (dB) - 4G

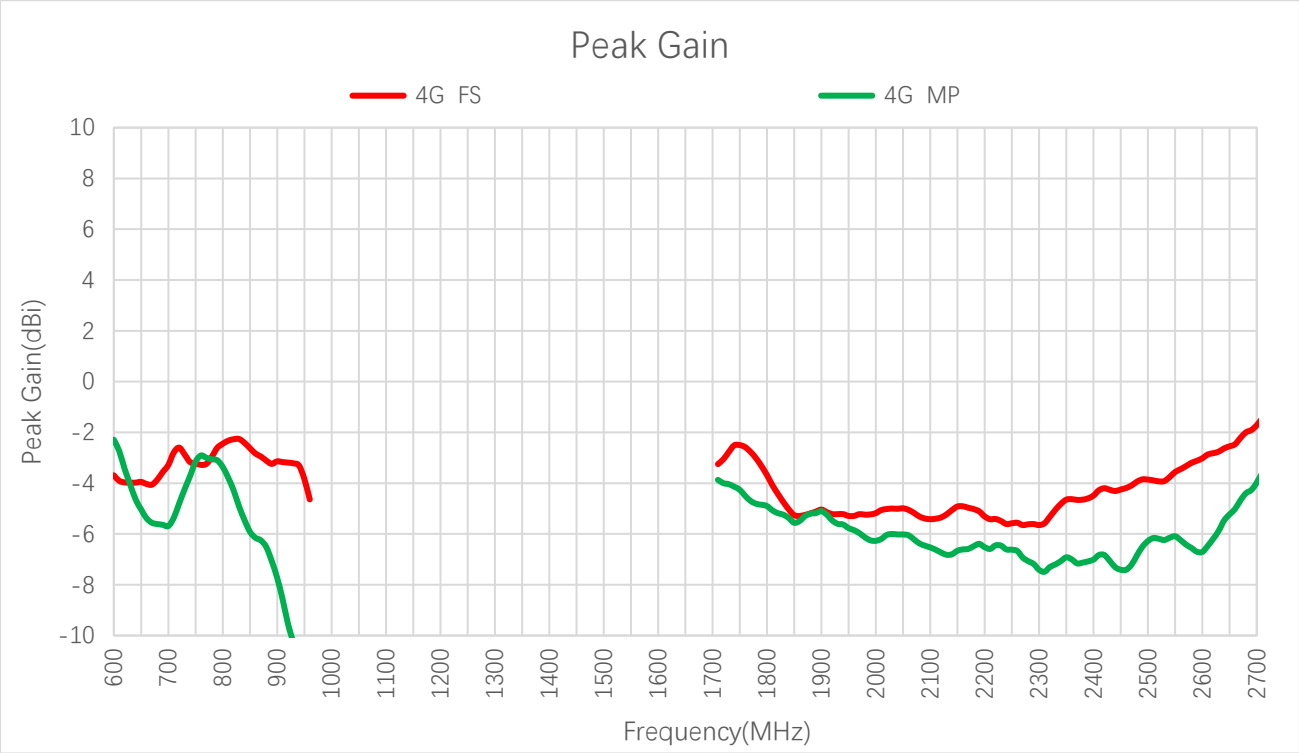
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-6.9	-7.3	-7.6	-9.8	-	-7.7	-7.6	-8.5
MP	-	-	-9.7	-9.7	-13.1	-16.4	-	-11.3	-11.5	-11.9
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	-8.5	-9.0	-9.0	-9.0	-9.1	-9.0	-	-	-	-
MP	-12.4	-13.1	-12.4	-13.8	-13.5	-11.9	-	-	-	-



Average Gain (dB) - 4G DIV

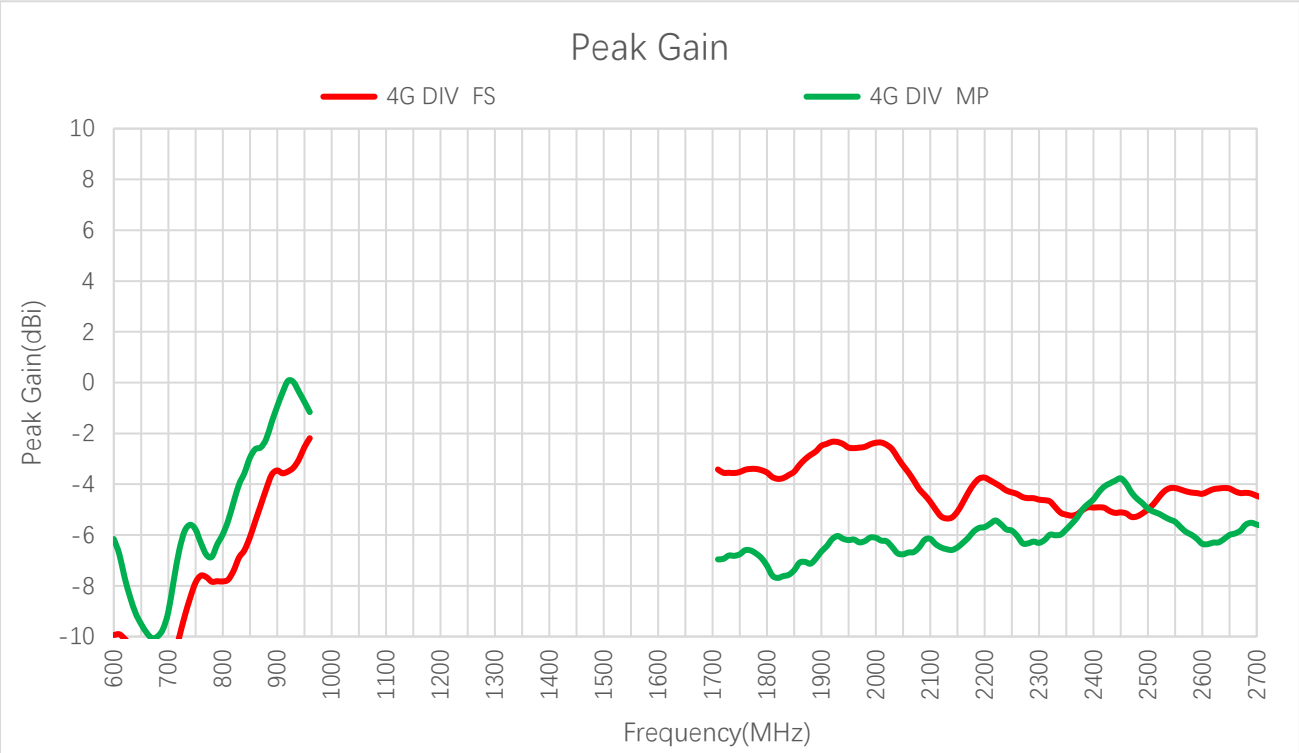
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-14.6	-10.5	-8.9	-7.6	-	-7.1	-7.1	-7.5
MP	-	-	-11.9	-7.6	-7.8	-6.7	-	-11.0	-11.6	-13.8
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	-7.1	-8.1	-8.3	-8.2	-9.3	-9.1	-	-	-	-
MP	-12.9	-12.9	-12.2	-12.1	-13.9	-13.5	-	-	-	-

3.2.3. Peak Gain



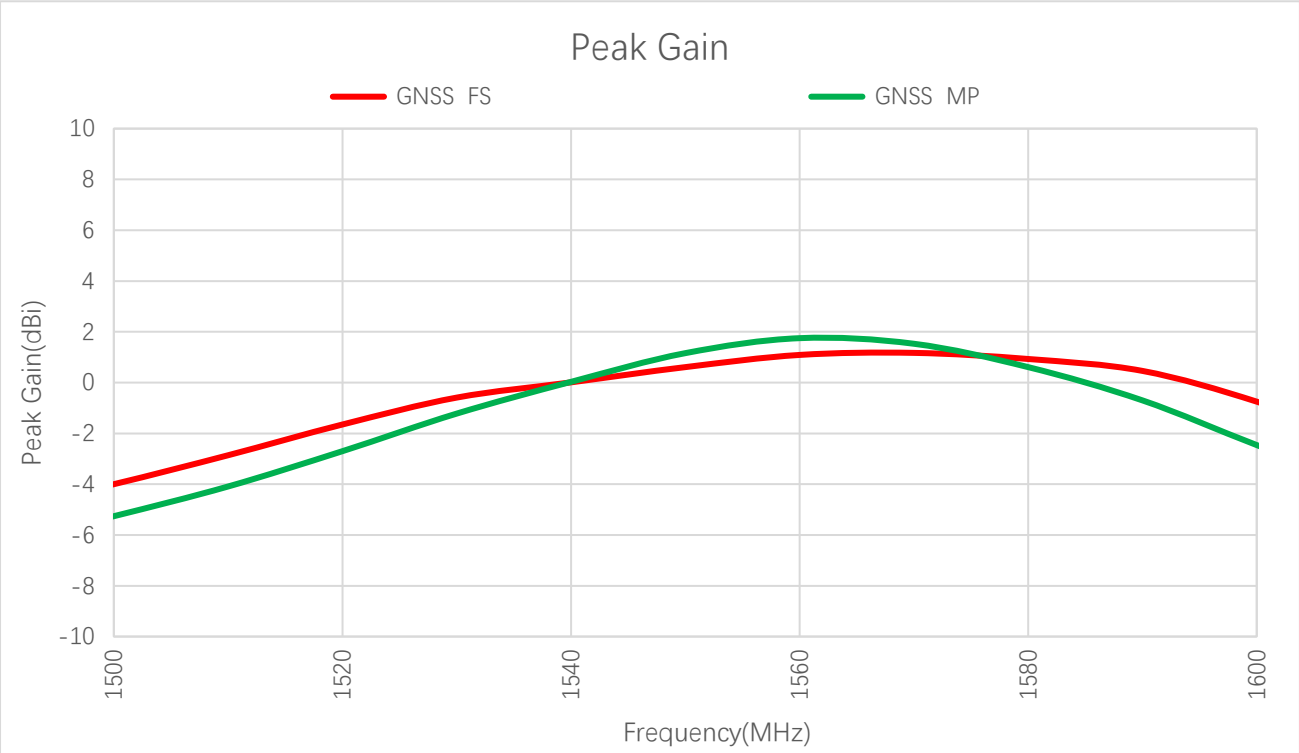
Peak Gain (dBi) - 4G

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-2.8	-2.3	-3.1	-4.6	-	-3.3	-2.5	-5.2
MP			-5.4	-4.9	-7.7	-11.0		-3.9	-4.1	-5.2
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	-5.3	-5.1	-4.7	-4.3	-3.0	-1.9	-	-	-	-
MP	-5.8	-6.8	-6.9	-7.4	-6.7	-4.3				



Peak Gain (dBi) - 4G DIV

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-10.9	-6.9	-3.5	-2.2	-	-3.4	-3.6	-2.9
MP			-7.8	-4.0	-1.0	-1.2	-	-7.0	-6.8	-7.1
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	-2.6	-5.3	-5.2	-5.1	-4.4	-4.4	-	-	-	-
MP	-6.2	-6.6	-5.8	-3.8	-6.4	-5.5				

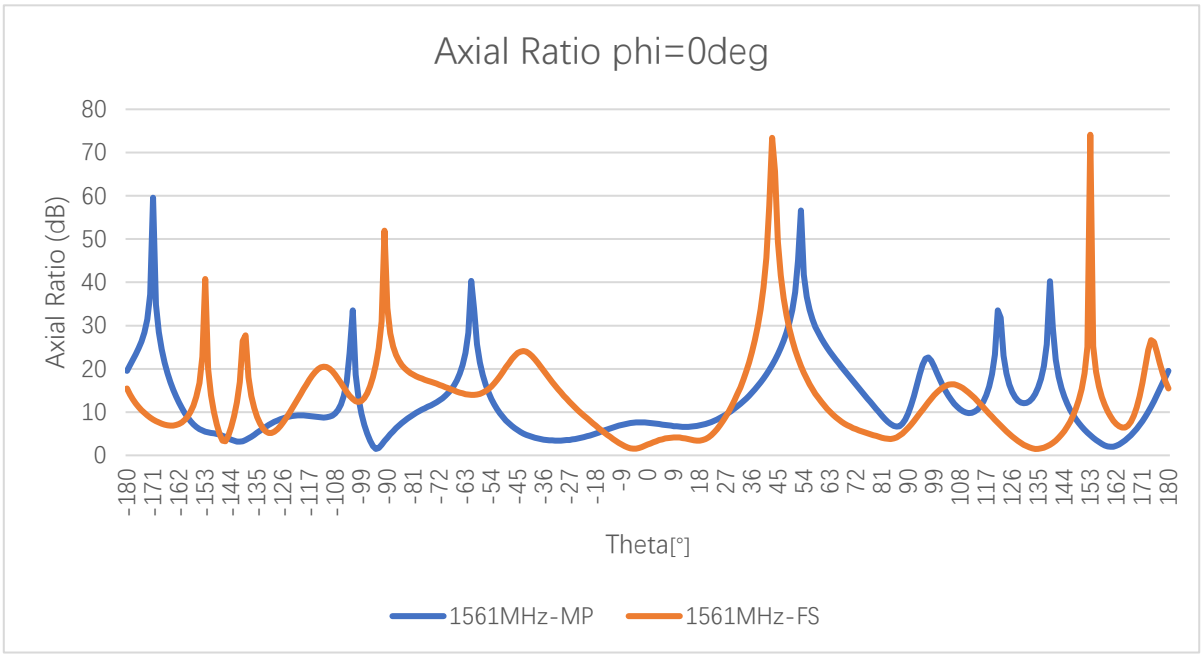


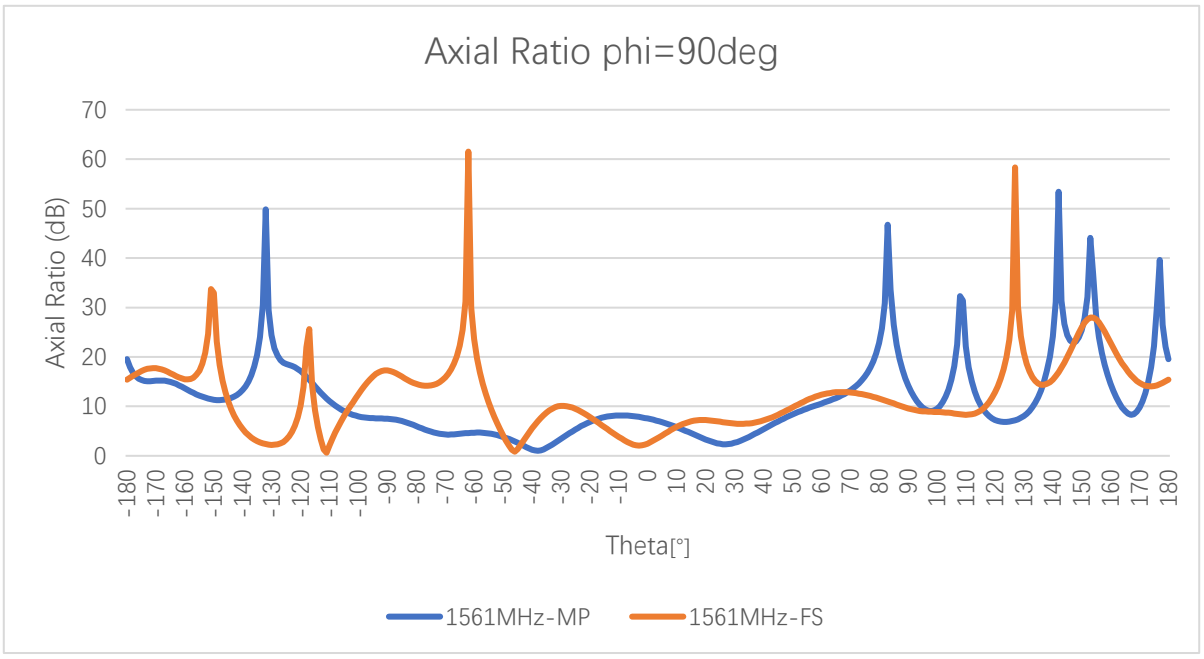
Peak Gain (dBi) – GNSS

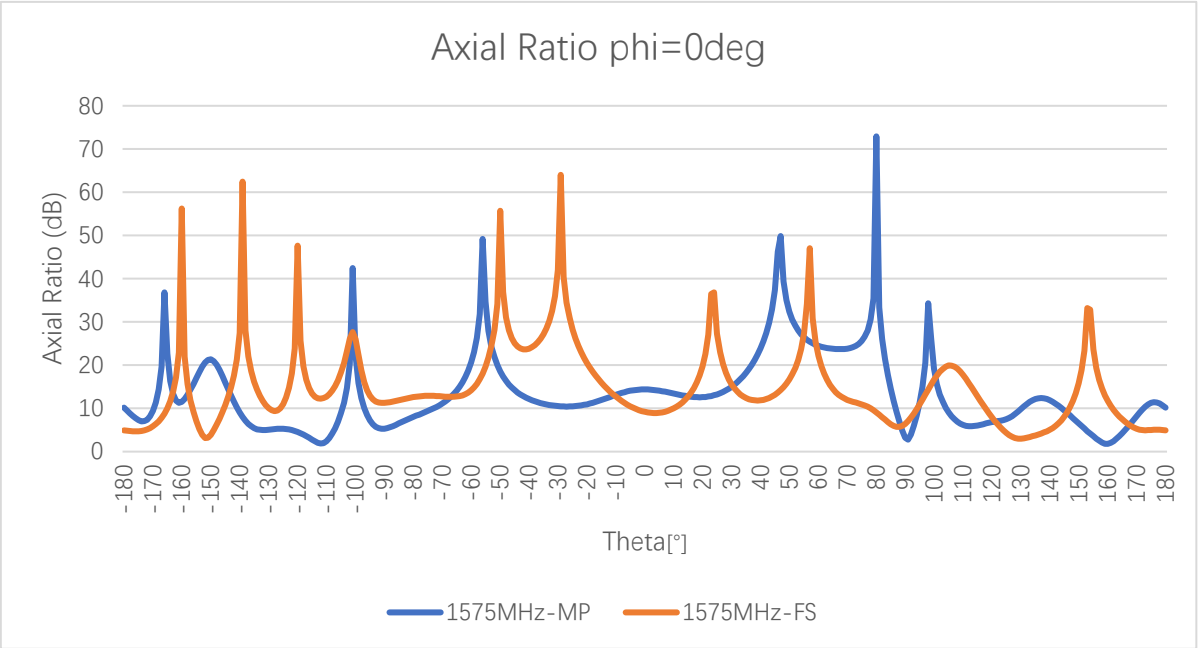
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
FS	-	-	-	-	-	1.1	-1.1	-
MP	-	-	-	-	-	1.75	1.1	-

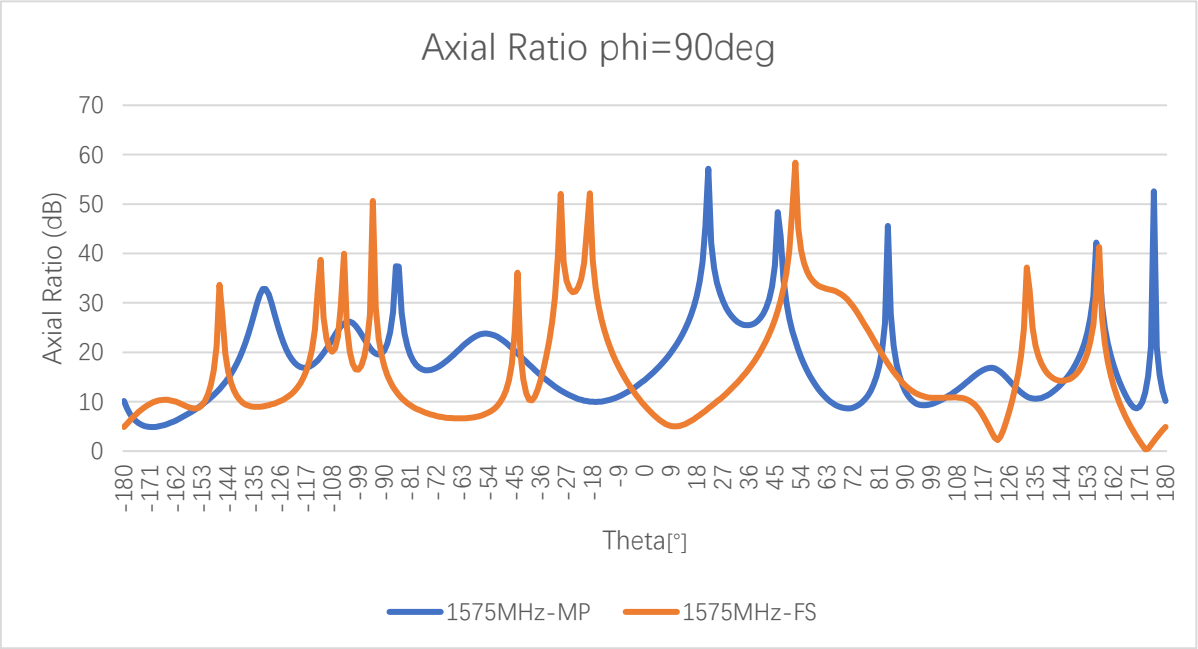
3.2.4. Axial Ratio

- **Test Condition: Free Space**
- **Test Condition: On 300 × 300 mm Metal Plane**







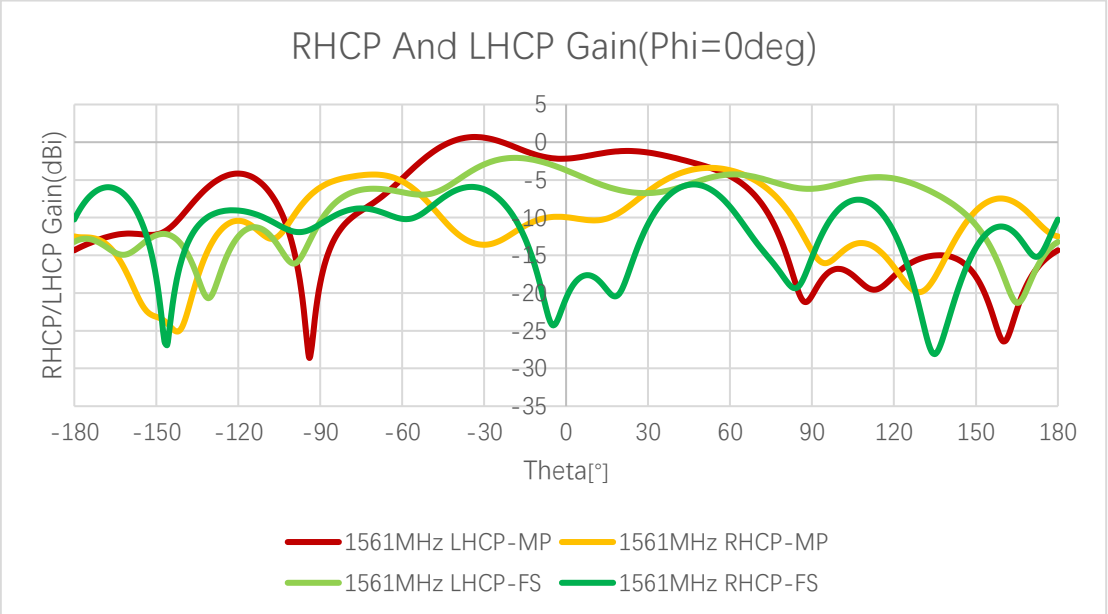


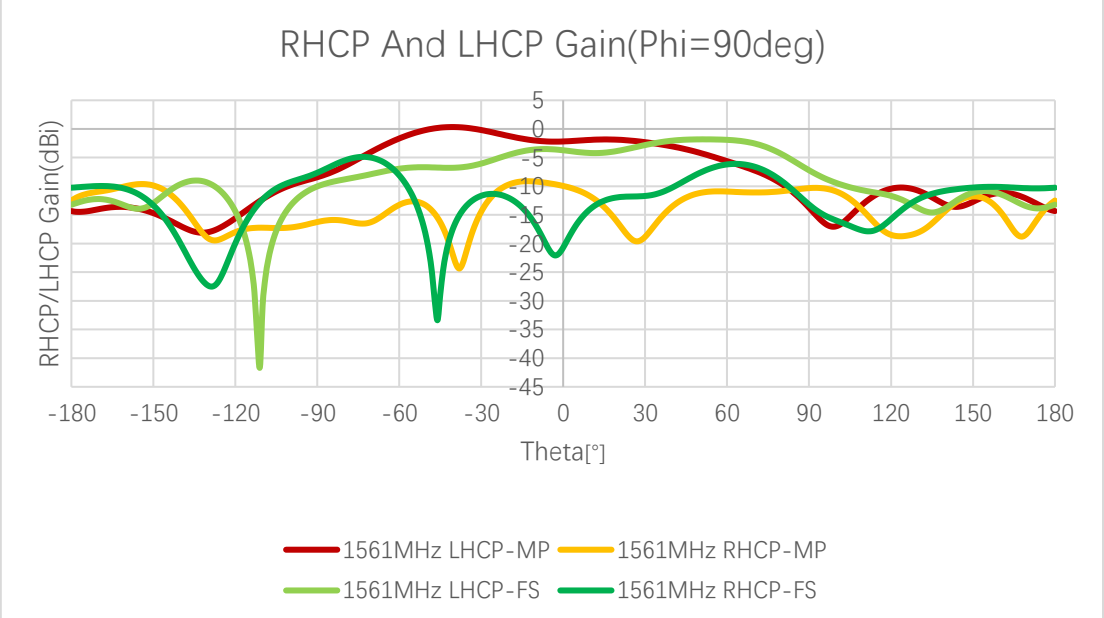
Axial Ratio (dB)

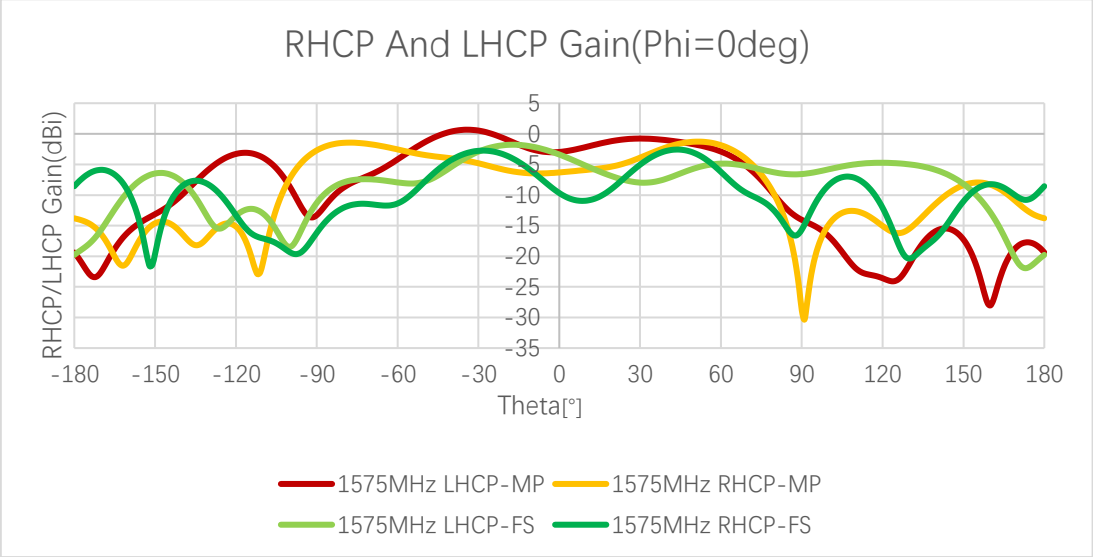
Frequency (MHz)			1176	1207	1227	1248	1268	1561	1575	1602
Axial Ratio (dB)	Phi = 0 (deg) Theta = 0 (deg)	FS						2.48	9.19	
		MP						7.54	14.40	
	Phi = 90 (deg) Theta = 0 (deg)	FS						2.48	9.19	
		MP						7.54	14.40	

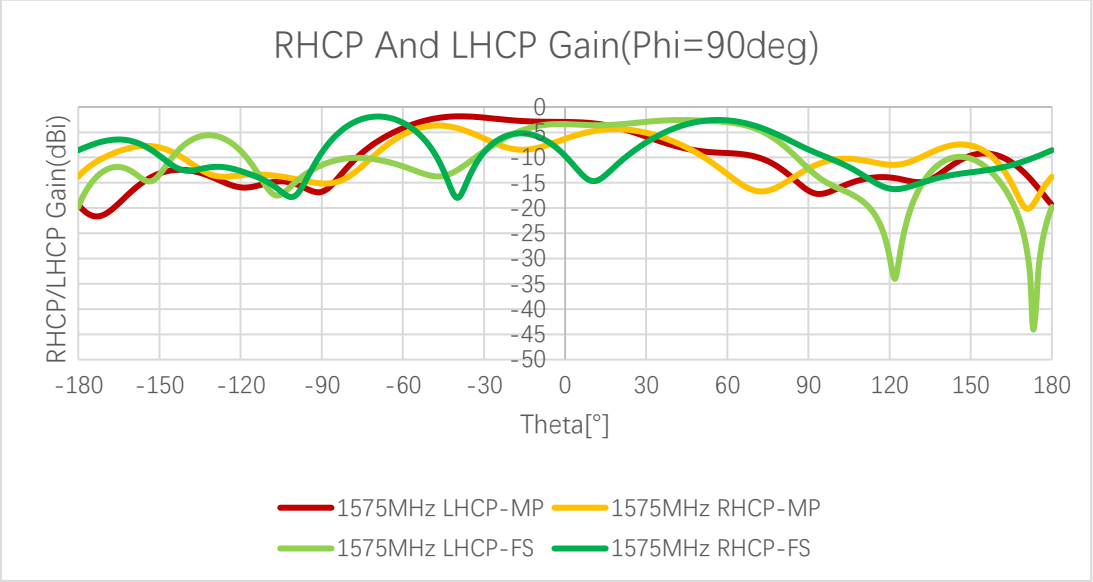
3.2.5. 2D RHCP and LHCP Gain

- **Test Condition: Free Space**
- **Test Condition: On 300 × 3000 mm Metal Plane**









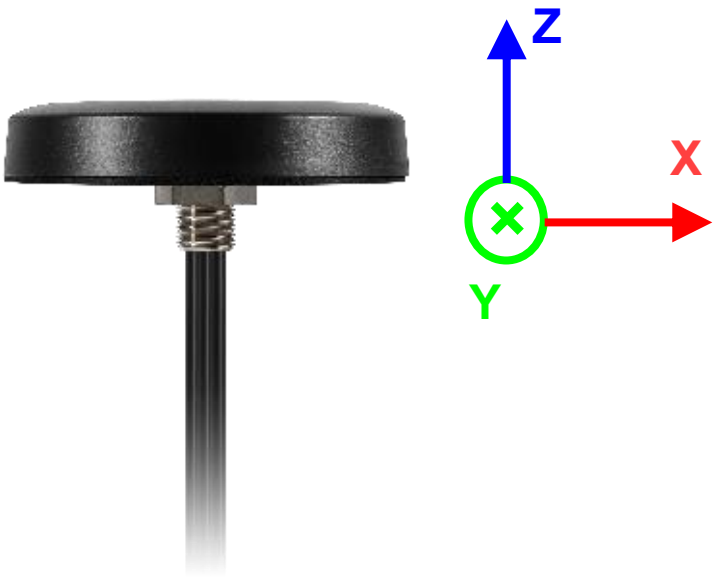
2D RHCP and LHCP Gain (dB)

Frequency (MHz)			1176	1207	1227	1248	1268	1561	1575	1602
RHCP Gain (dBi)	Phi = 0 (deg) Theta = 0 (deg)	FS						-20.7	-9.67	
		MP						-9.95	-6.31	
	Phi = 90 (deg) Theta = 0 (deg)	FS						-20.7	-9.67	
		MP						-9.95	-6.31	
LHCP Gain (dBi)	Phi = 0 (deg) Theta = 0 (deg)	FS						-3.72	-3.38	
		MP						-2.18	-2.96	
	Phi = 90 (deg) Theta = 0 (deg)	FS						-3.72	-3.38	
		MP						-2.18	-2.96	

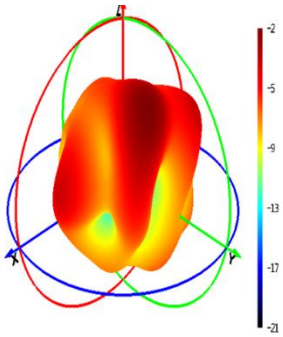
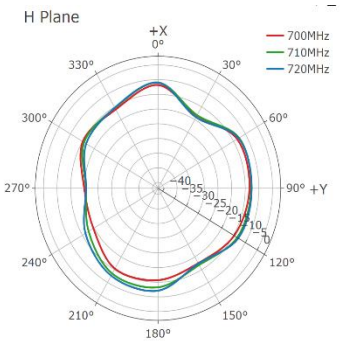
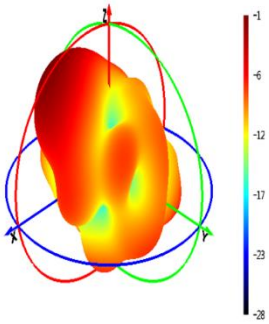
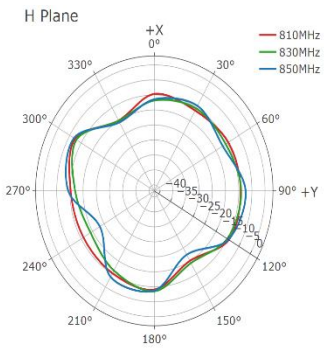
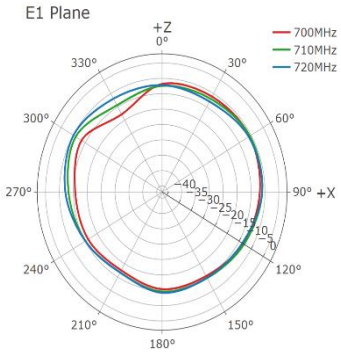
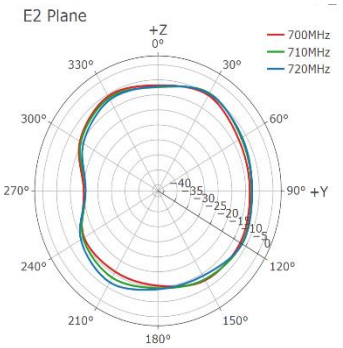
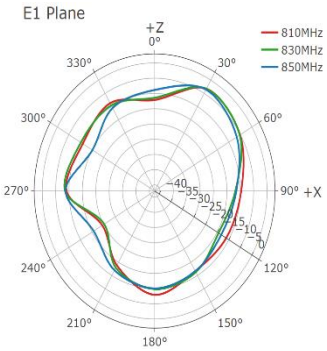
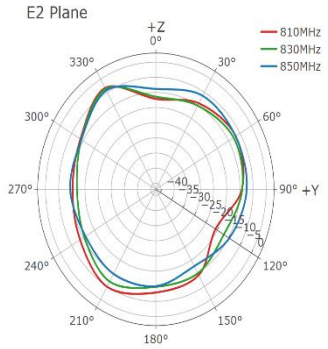
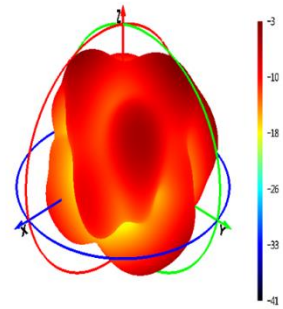
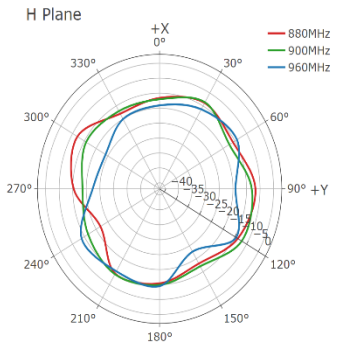
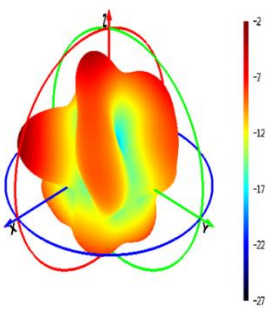
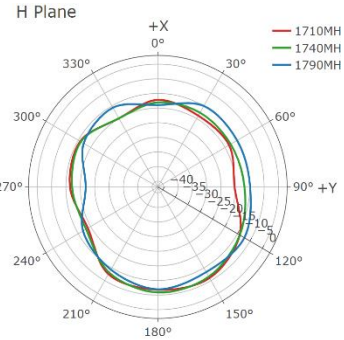
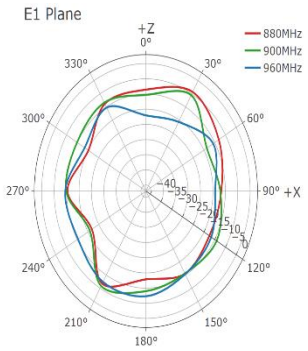
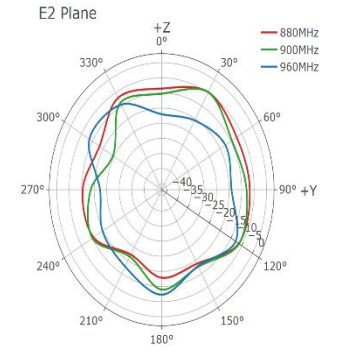
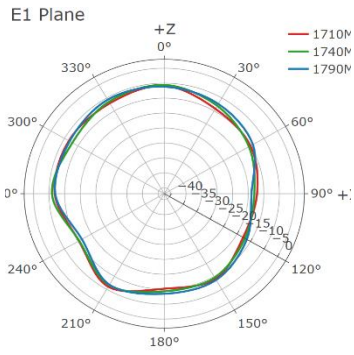
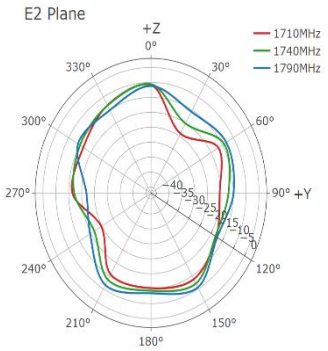
3.2.6. 3D & 2D Radiation Pattern

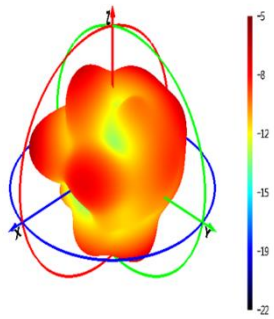
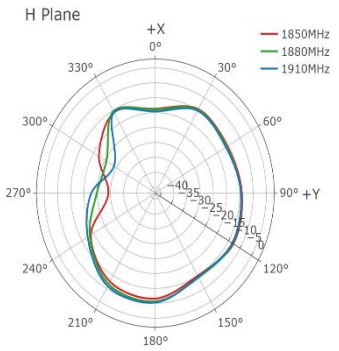
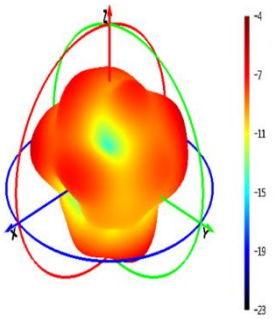
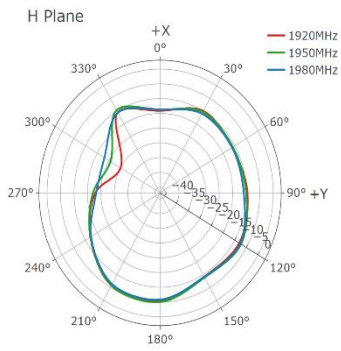
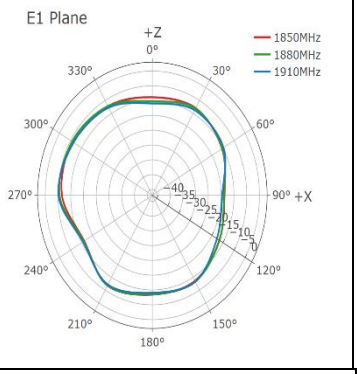
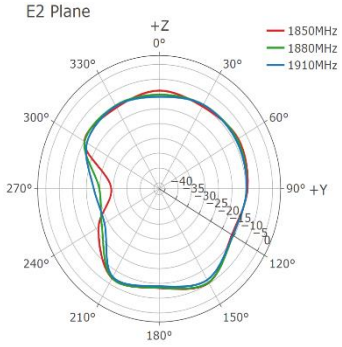
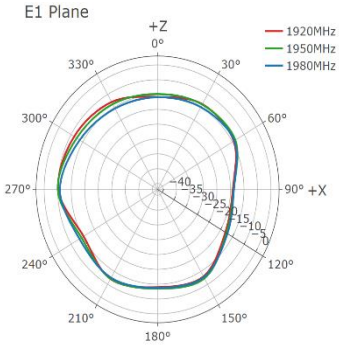
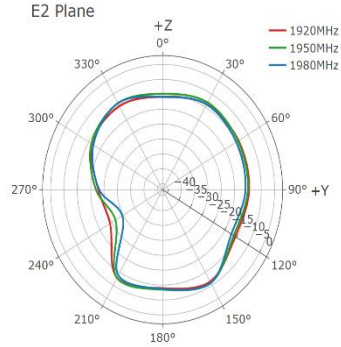
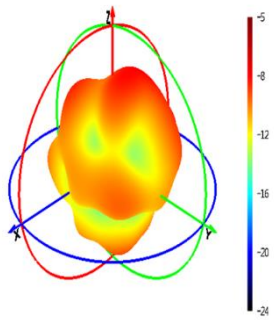
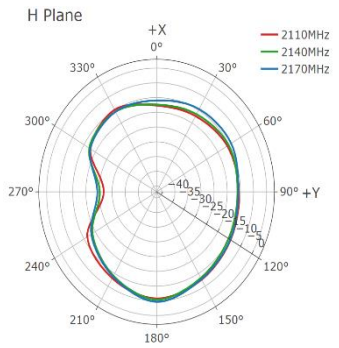
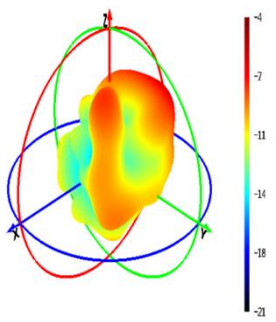
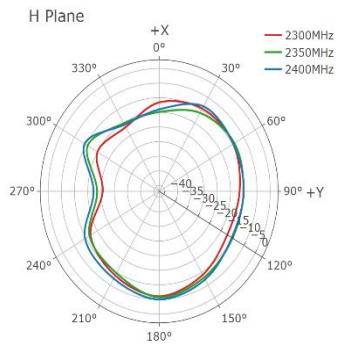
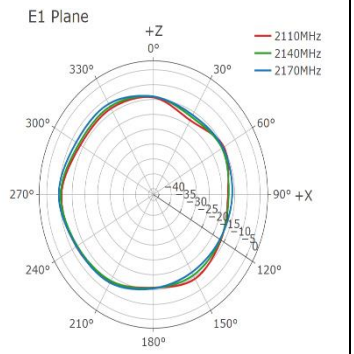
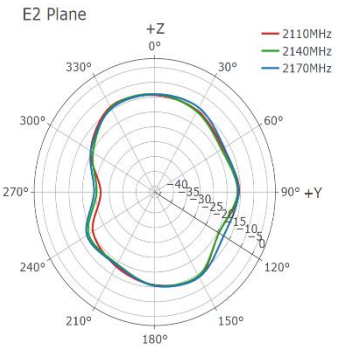
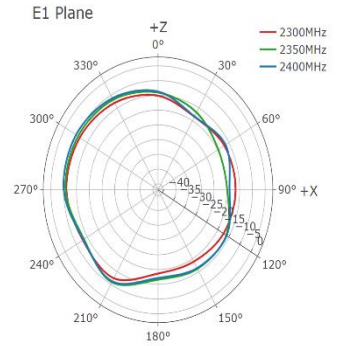
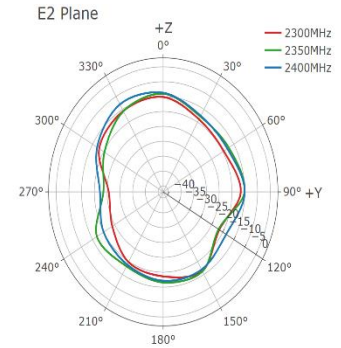
3.2.6.1. Test Status: In Free Space

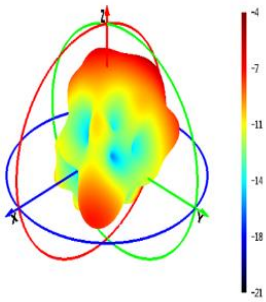
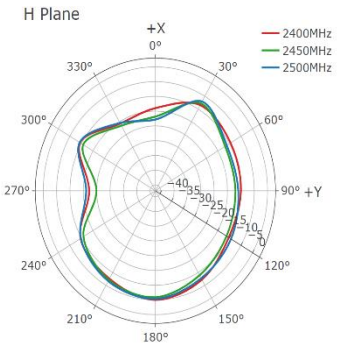
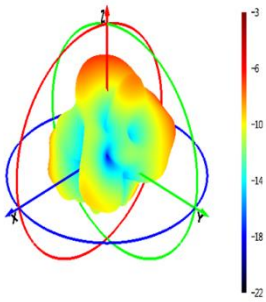
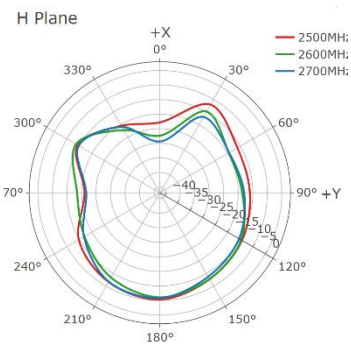
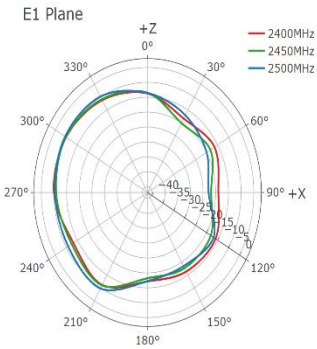
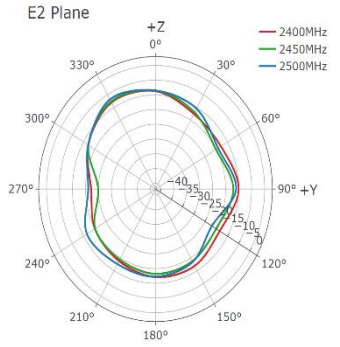
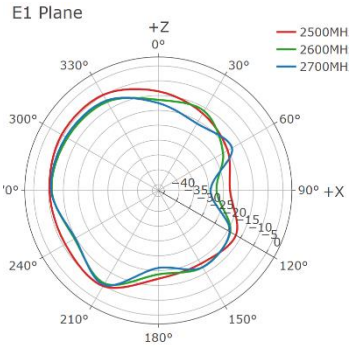
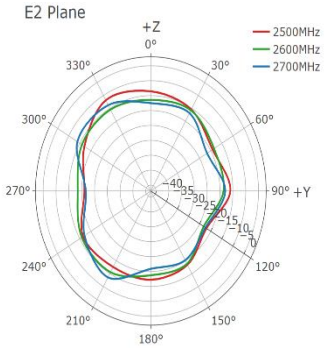
- Test Chamber: GL-S-1



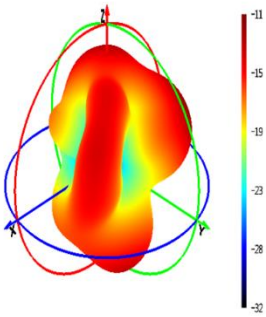
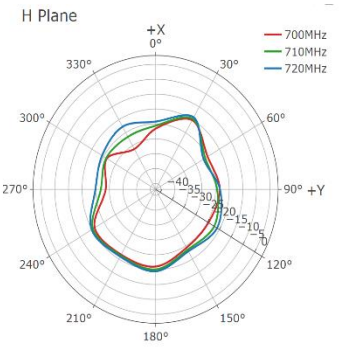
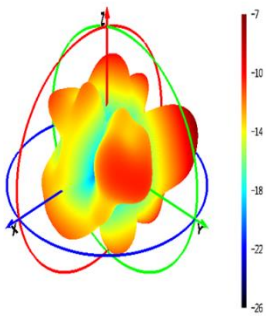
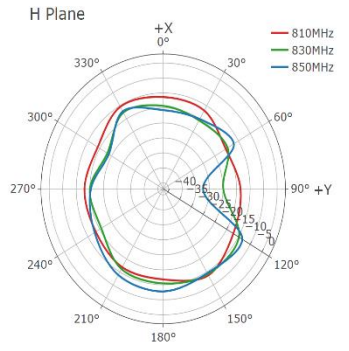
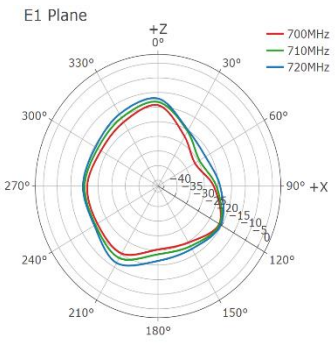
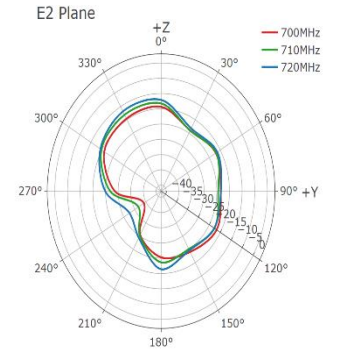
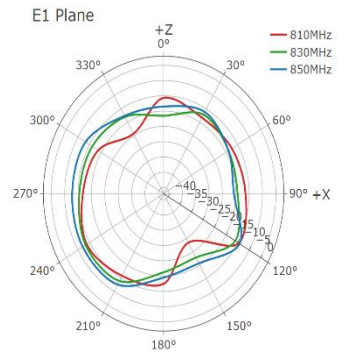
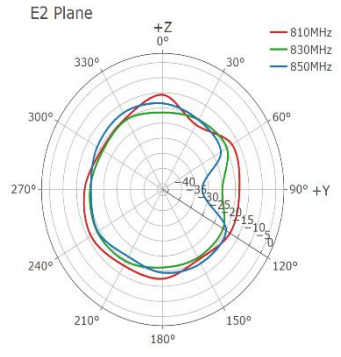
- **4G**

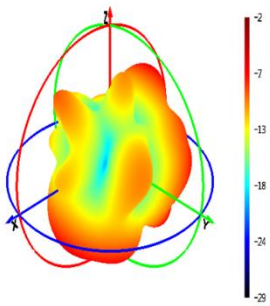
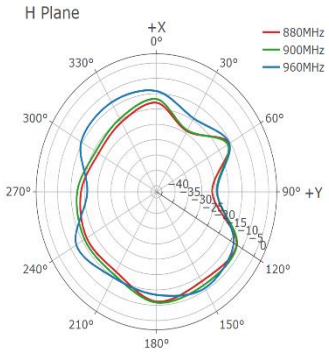
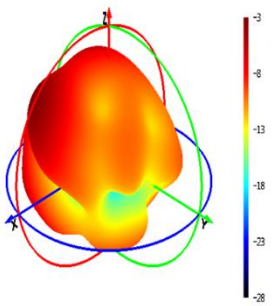
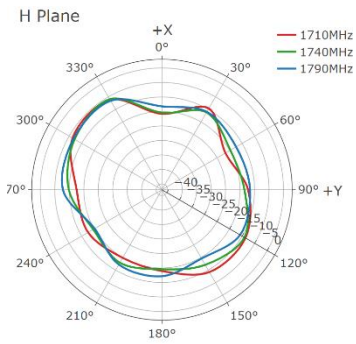
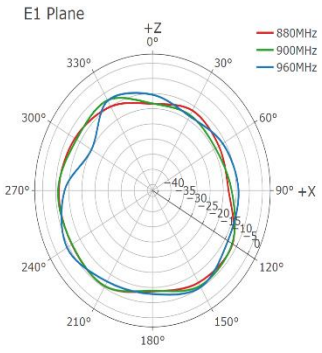
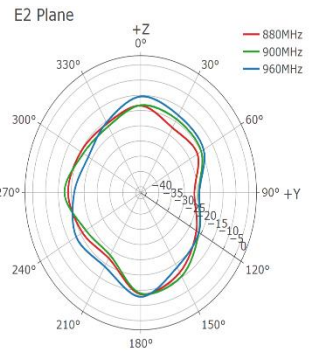
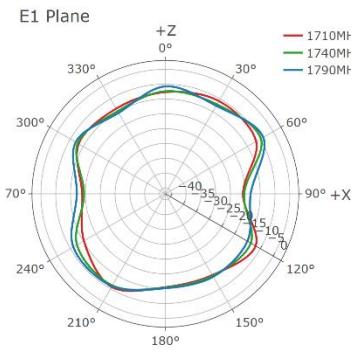
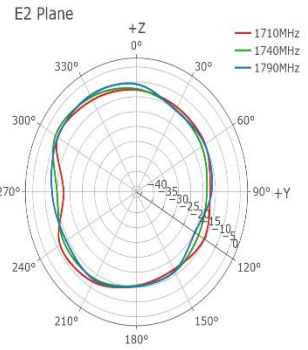
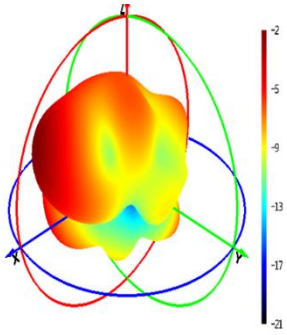
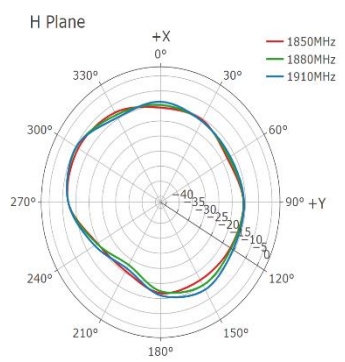
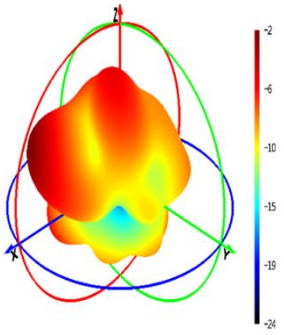
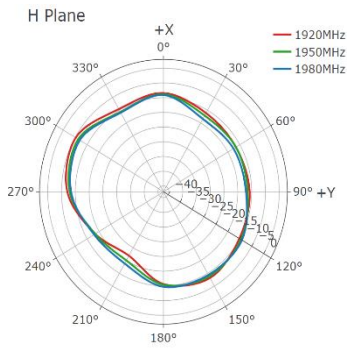
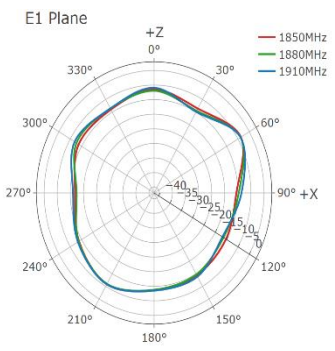
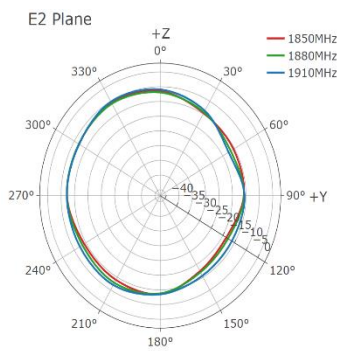
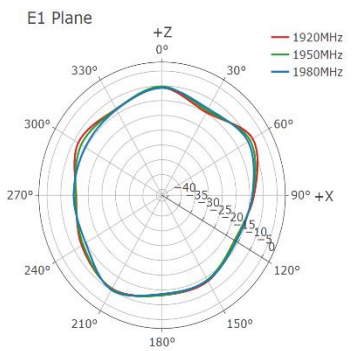
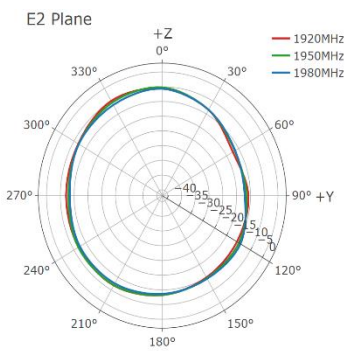
710 MHz		830 MHz	
			
			
900 MHz		1740 MHz	
			
			

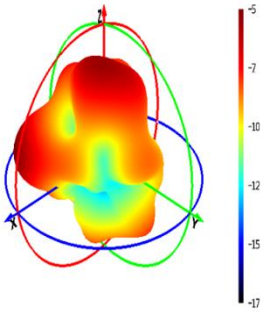
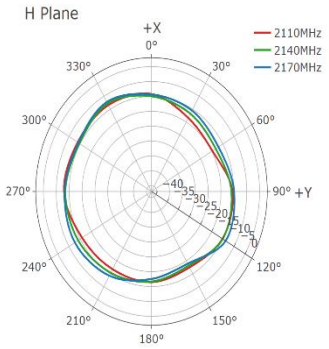
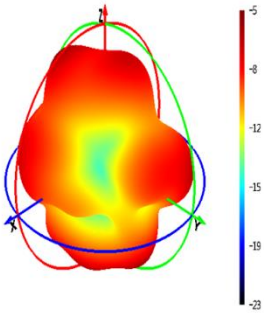
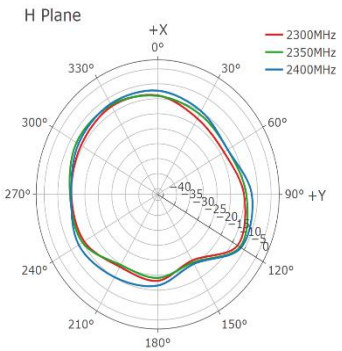
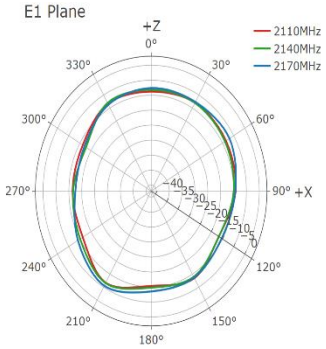
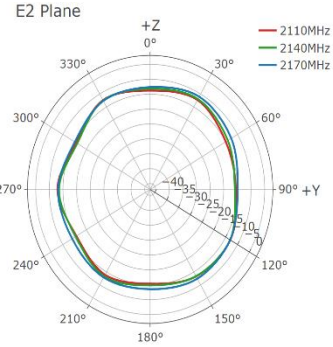
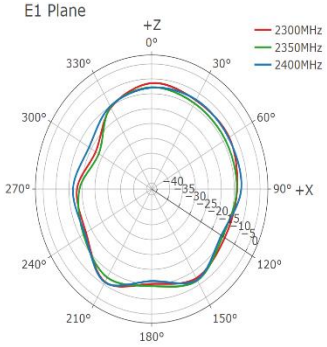
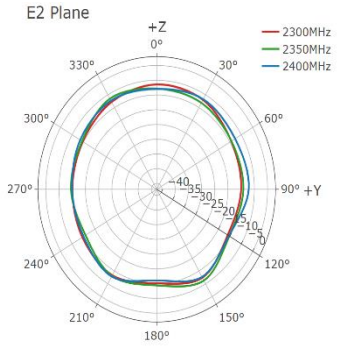
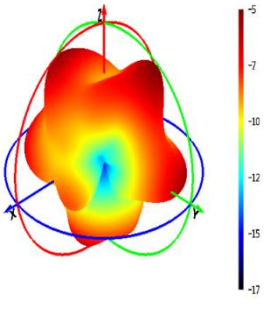
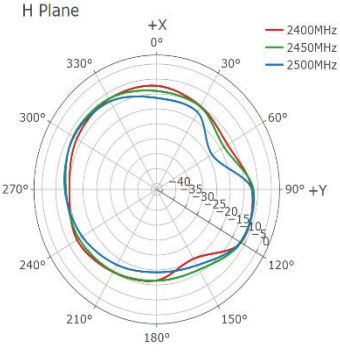
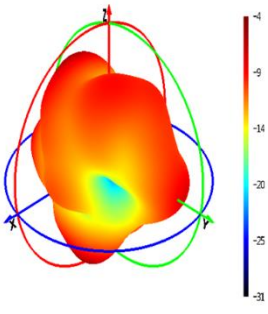
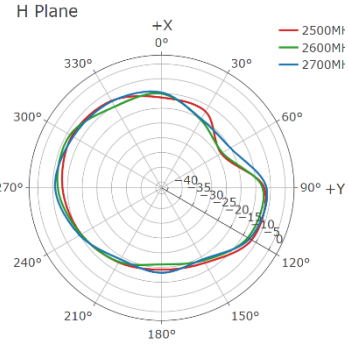
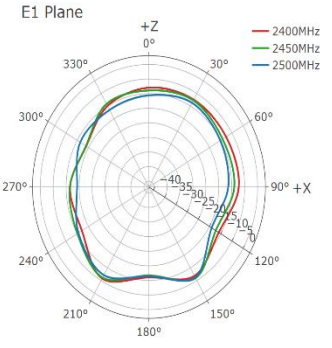
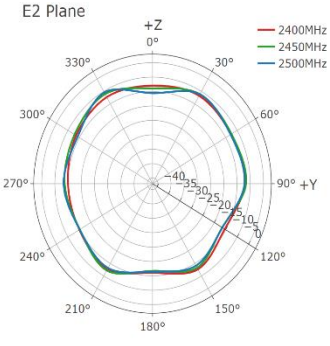
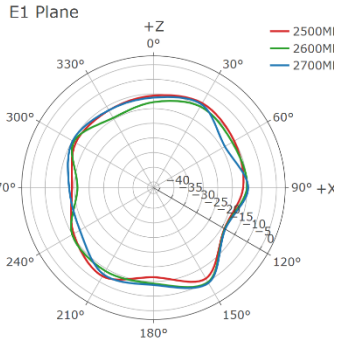
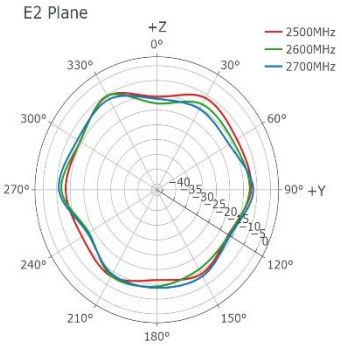
1880 MHz		1950 MHz	
			
			
2140 MHz		2350 MHz	
			
			

2450 MHz		2600 MHz	
			
			

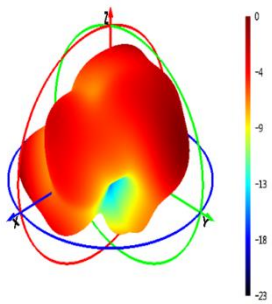
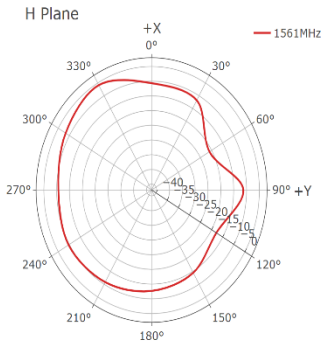
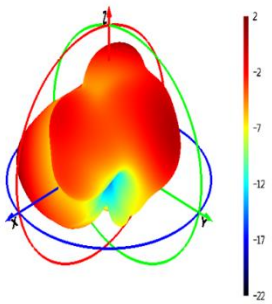
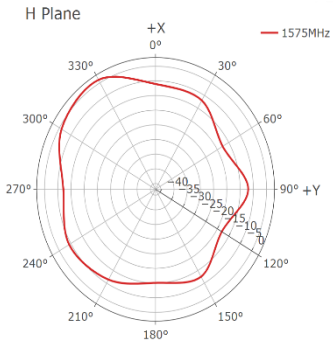
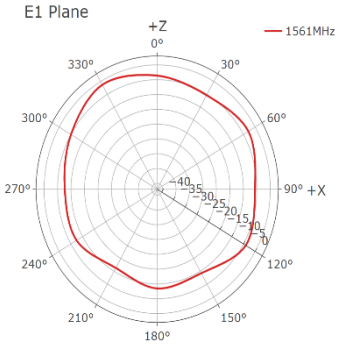
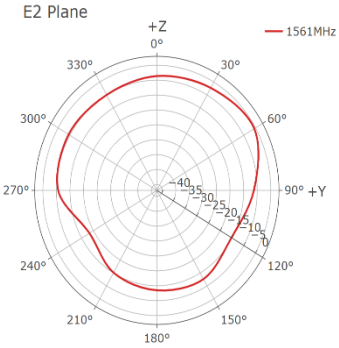
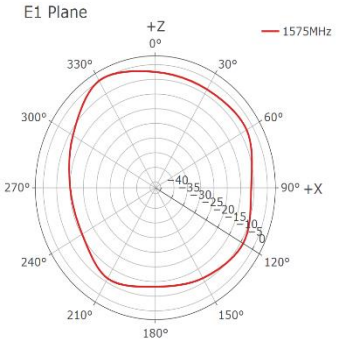
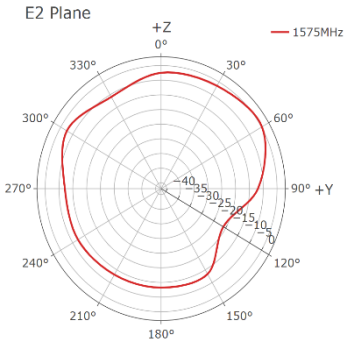
- **4G DIV**

710 MHz		830 MHz	
			
			

900 MHz		1740 MHz	
			
			
1880 MHz		**1950 MHz**	
			
			

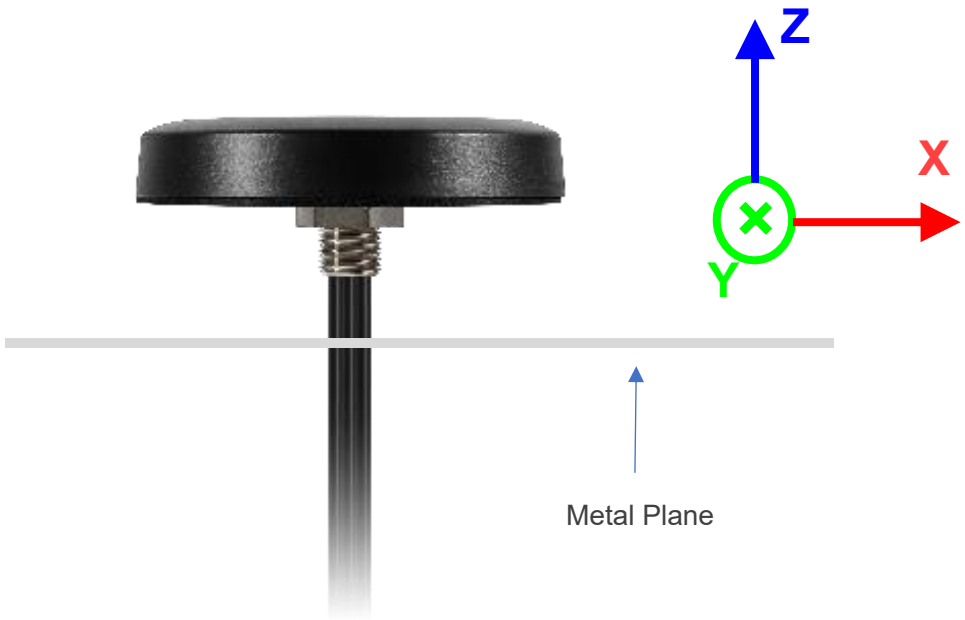
2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

- **GNSS**

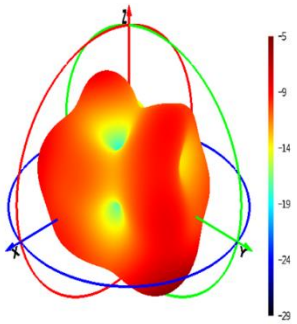
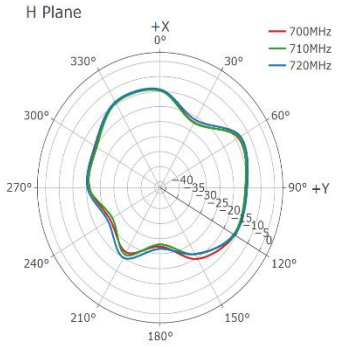
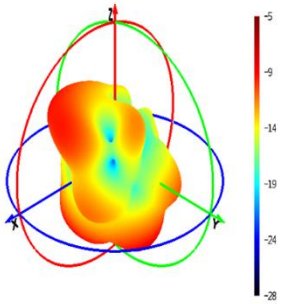
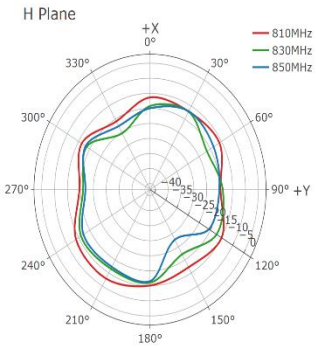
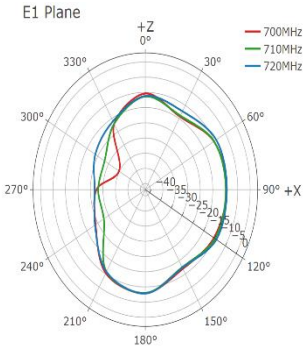
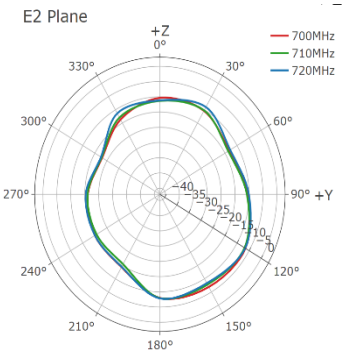
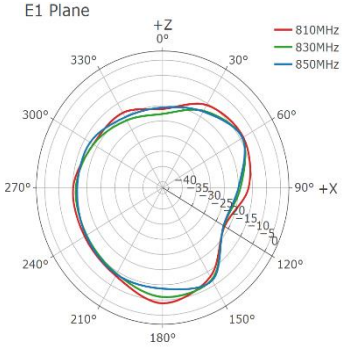
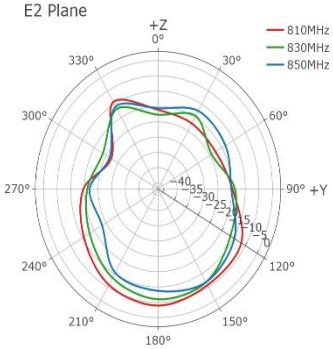
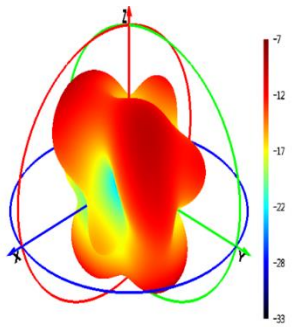
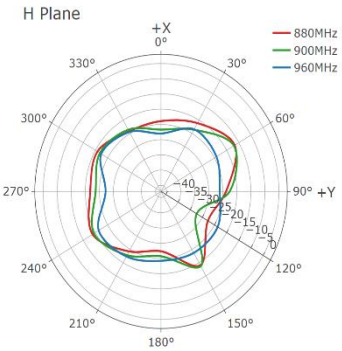
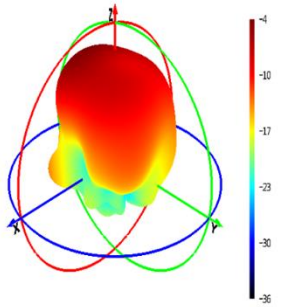
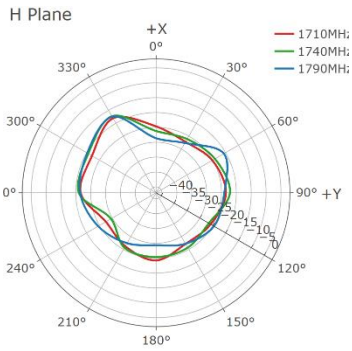
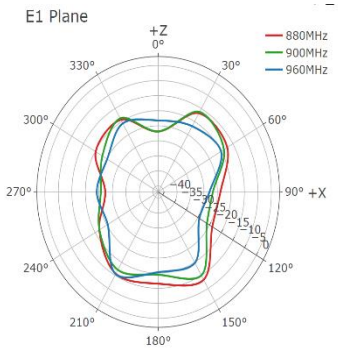
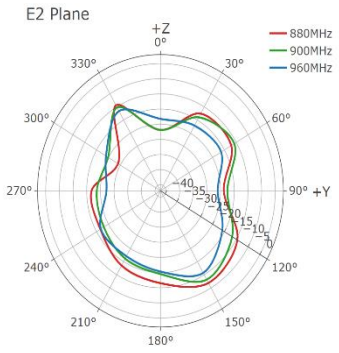
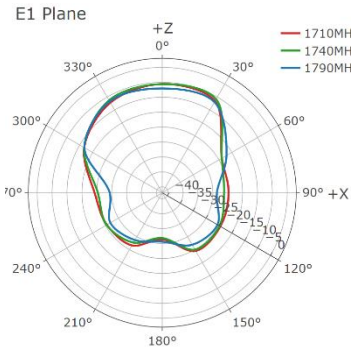
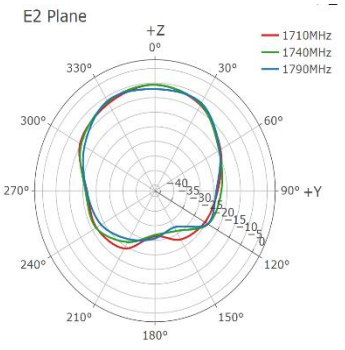
1561 MHz		1575 MHz	
			
			

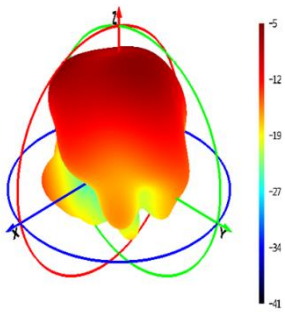
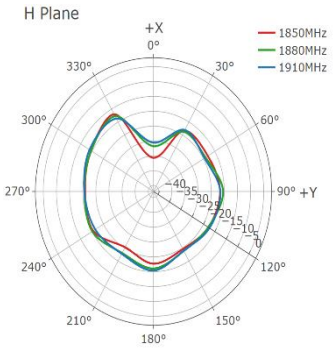
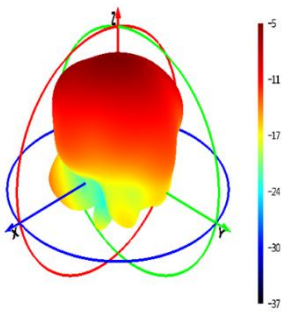
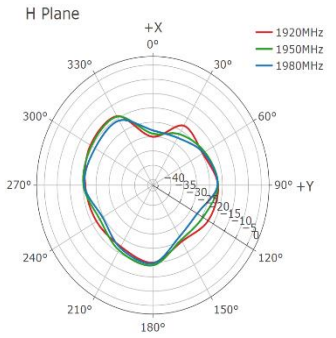
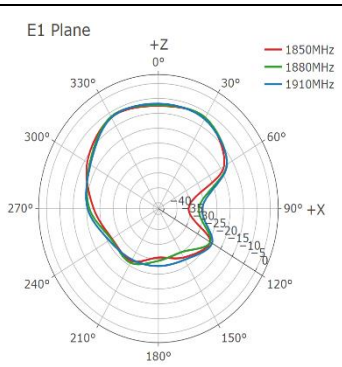
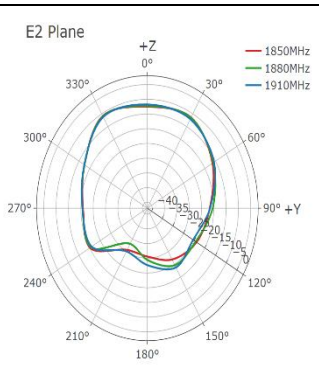
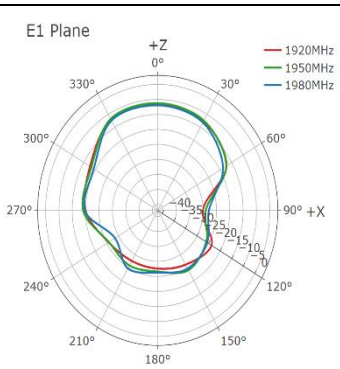
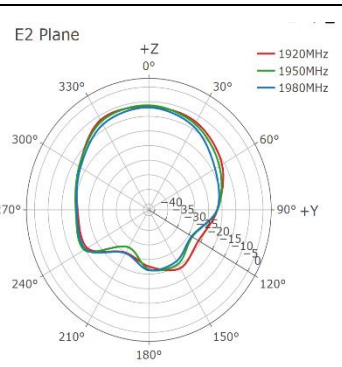
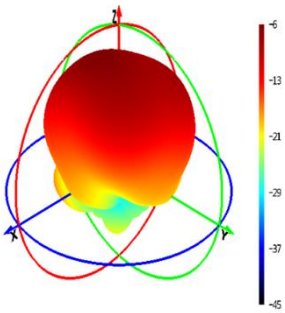
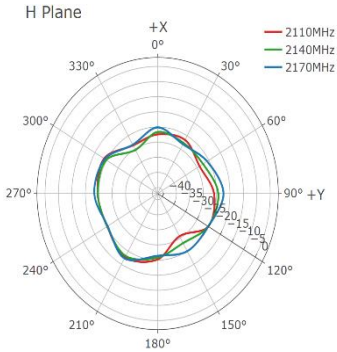
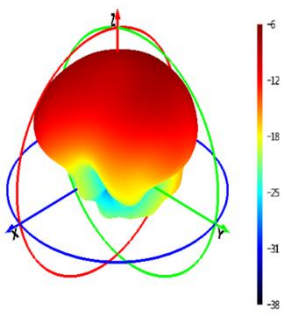
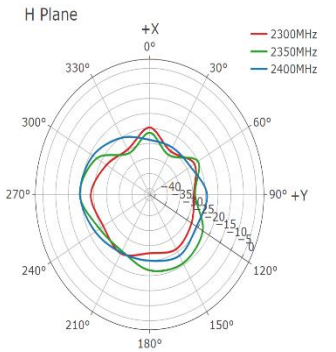
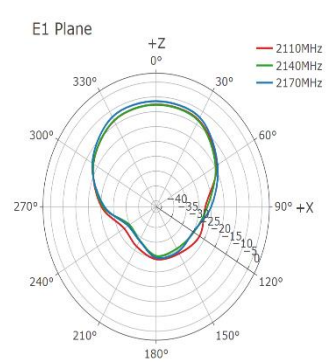
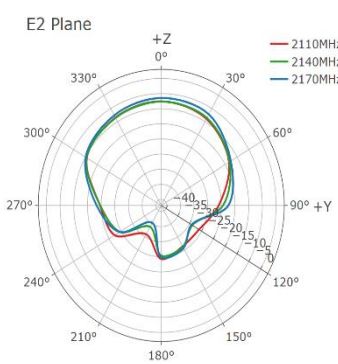
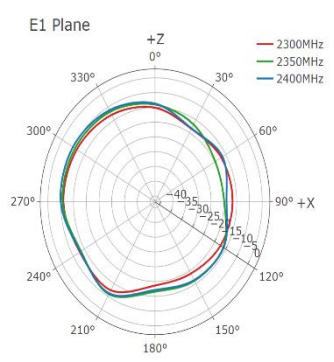
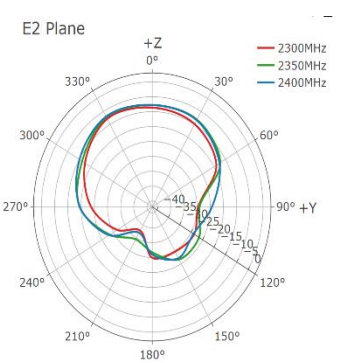
3.2.6.2. Test Status: On 300 × 300 mm Metal Plane

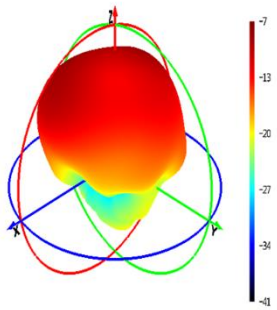
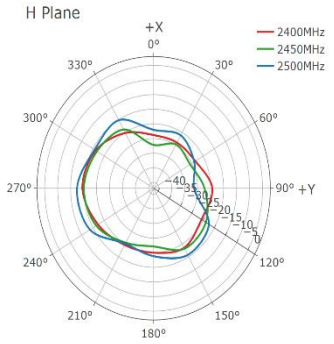
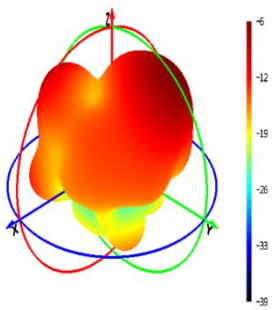
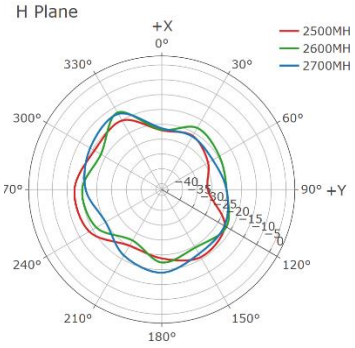
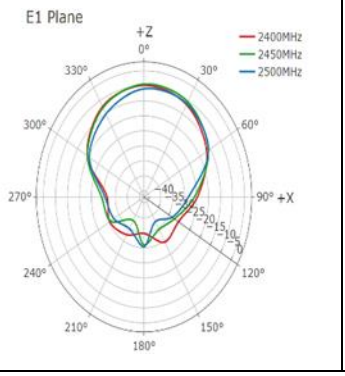
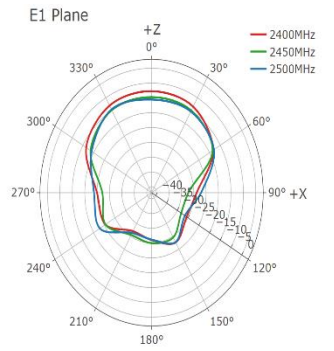
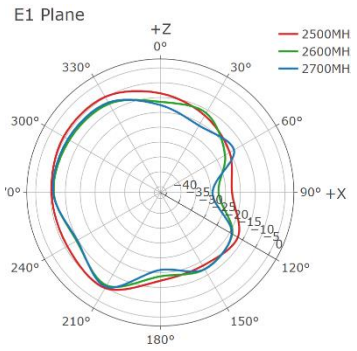
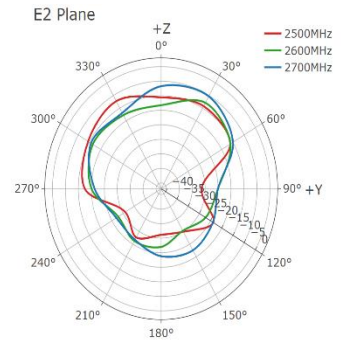
- Test Chamber: GL-S-1



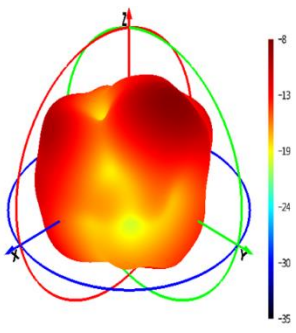
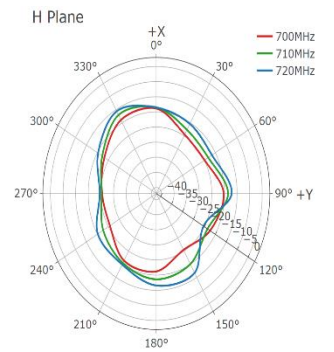
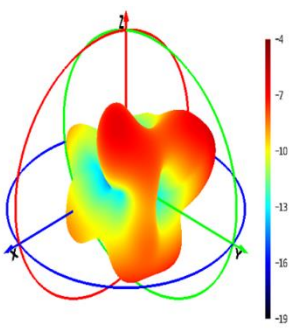
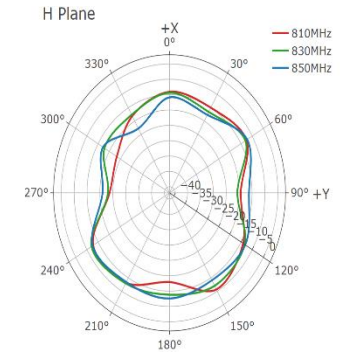
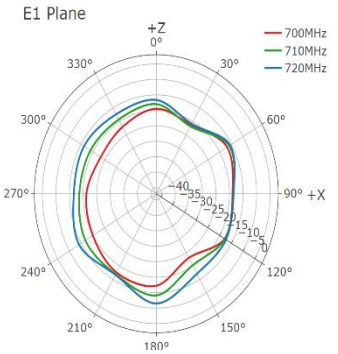
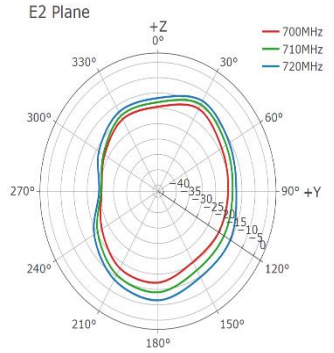
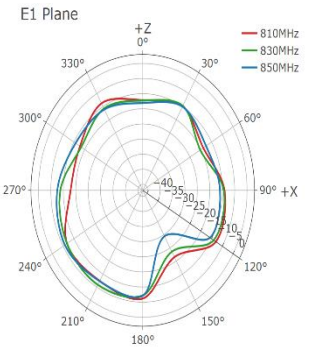
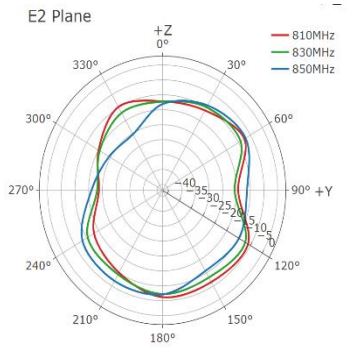
- **4G**

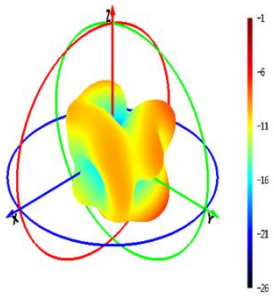
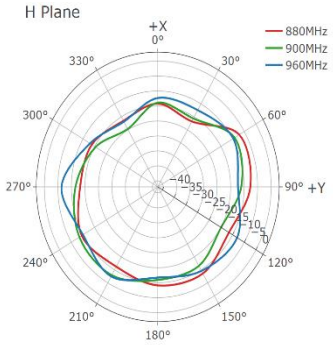
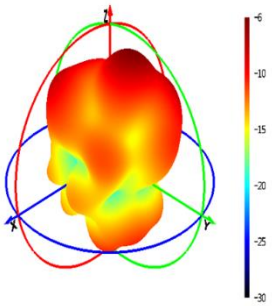
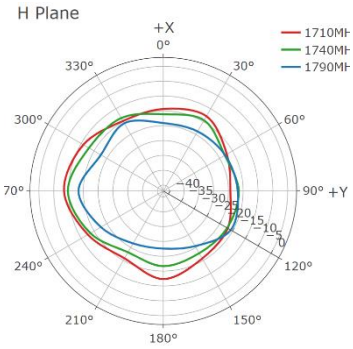
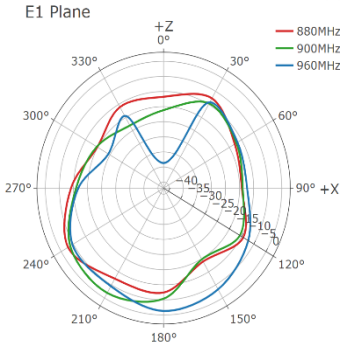
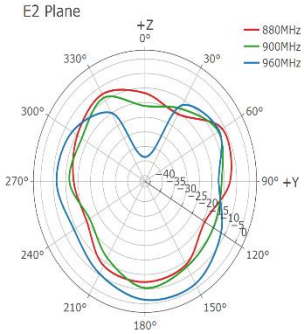
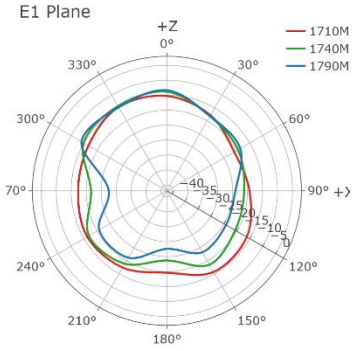
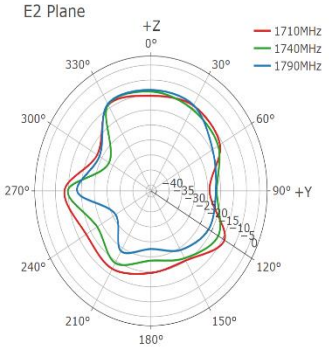
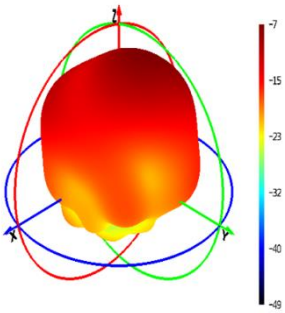
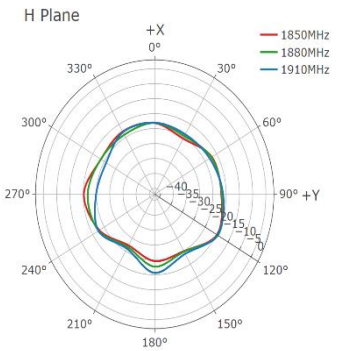
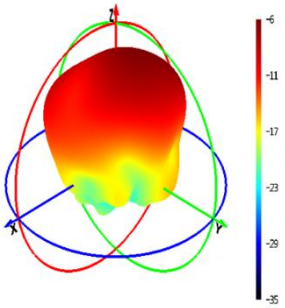
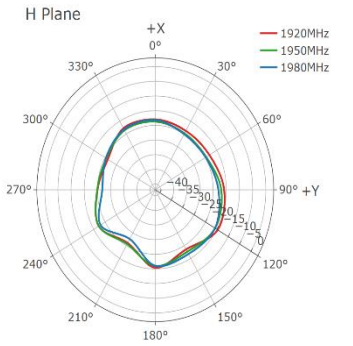
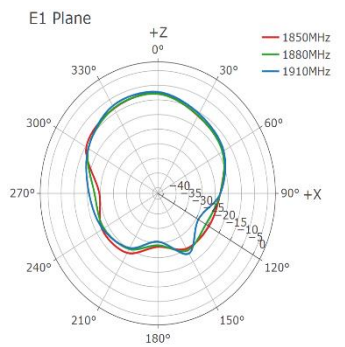
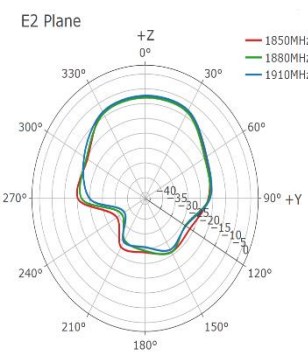
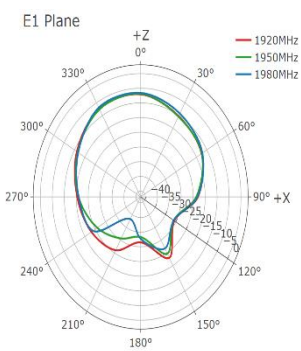
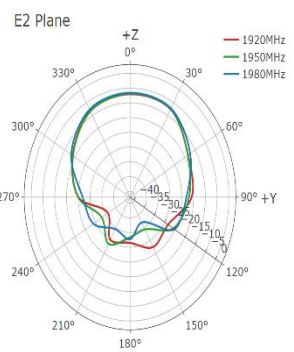
710 MHz		830 MHz	
			
			
900 MHz		1740 MHz	
			
			

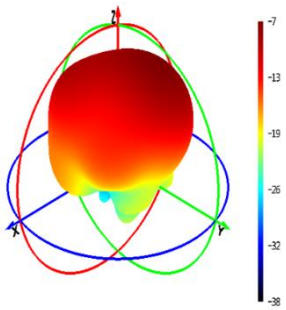
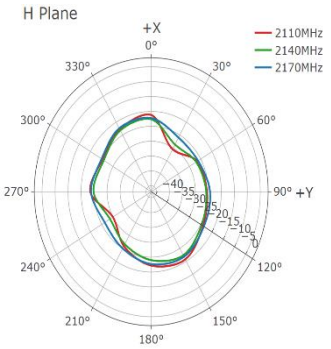
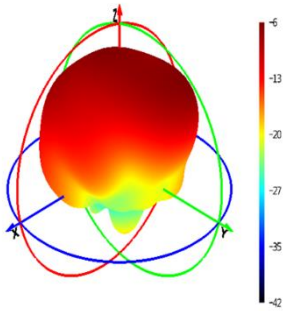
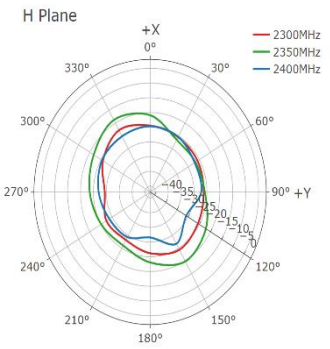
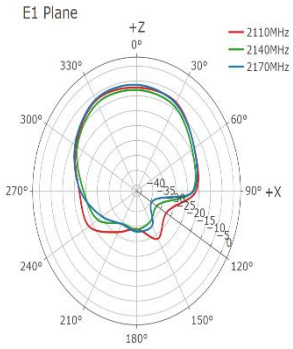
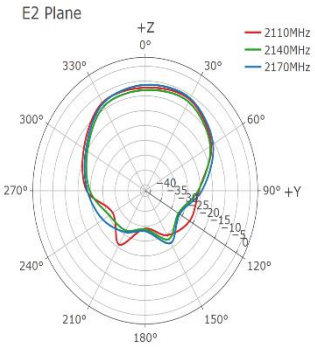
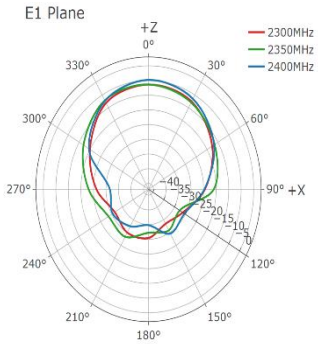
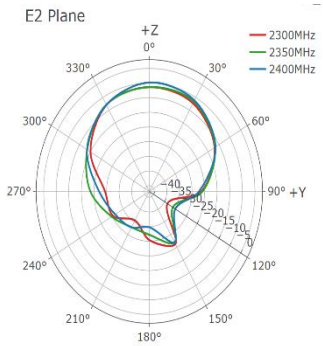
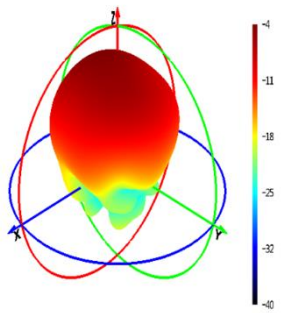
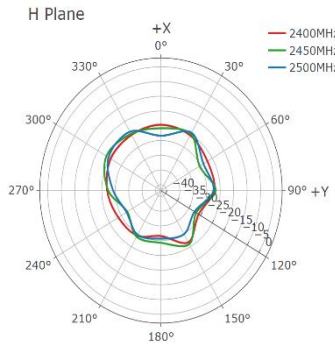
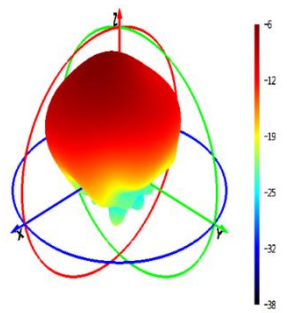
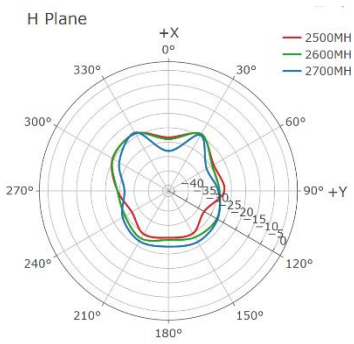
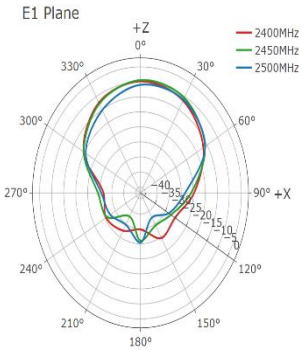
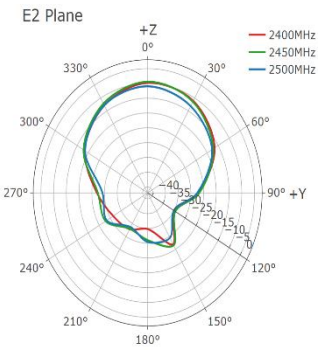
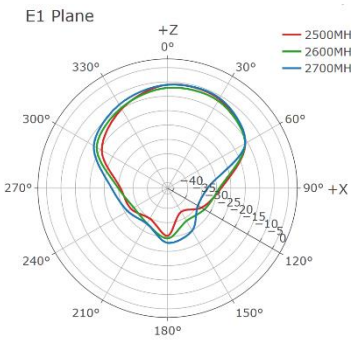
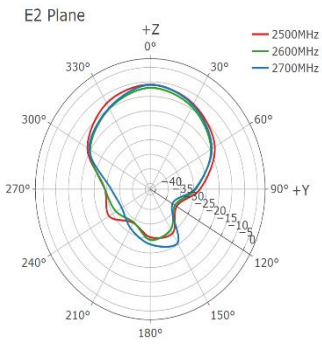
1880 MHz		1950 MHz	
			
			
2140 MHz		**2350 MHz**	
			
			

2450 MHz		2600 MHz	
			
			

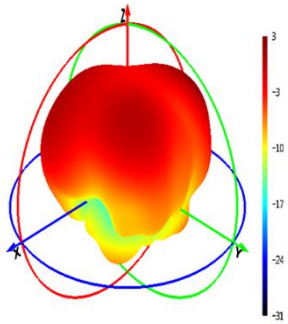
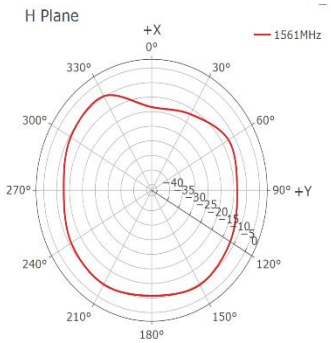
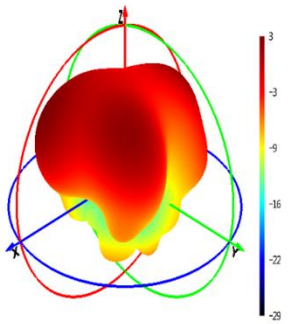
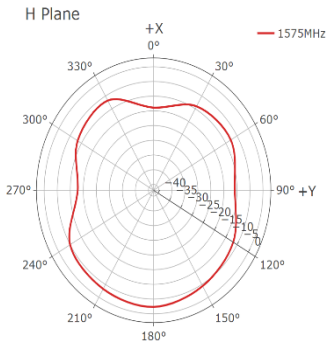
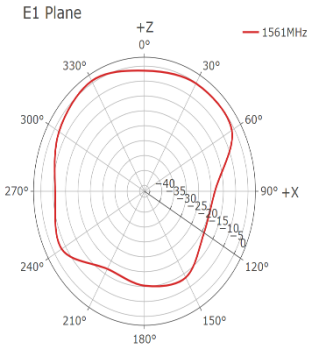
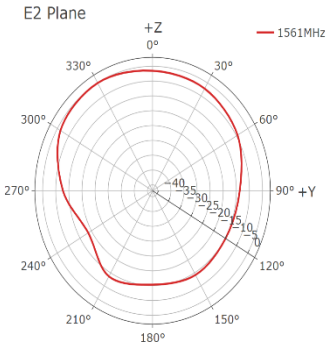
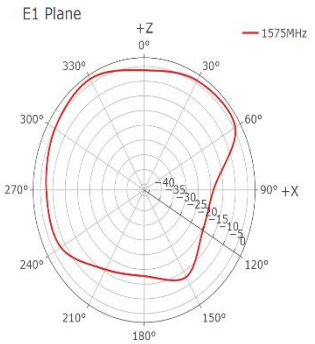
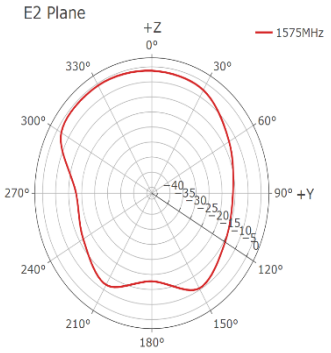
- **4G DIV**

710 MHz		830 MHz	
			
			

900 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

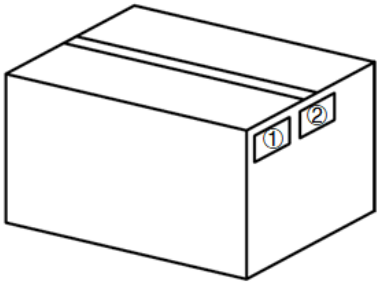
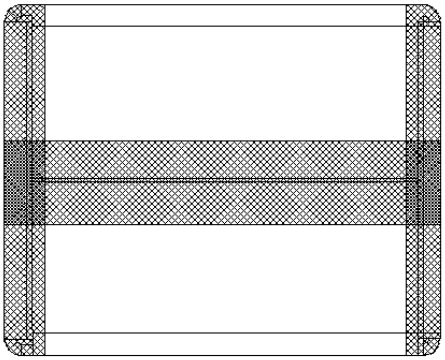
2140 MHz		2350 MHz	
			
			
2450 MHz		**2600 MHz**	
			
			

- **GNSS**

1561 MHz		1575 MHz	
			
			

4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		1 pc antenna product in a small PE bag; (1 pc antenna per small PE bag)
2		12 pcs antenna products in a big PE bag; (12 pcs antennas per big PE bag)
3		(8 big PE bags per carton box) (96 pcs antennas per 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** "工" type sealing cartons

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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Email: info@quectel.com

Or our local offices. For more information, please visit:
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Revision History

Version	Date	Author	Note
-	2020-09-11	Kenny YIN	Creation of the document
1.0	2020-09-11	Kenny YIN	First official release
1.1	2021-01-18	Kenny YIN	Updated the antenna image (Chapter 2).
2.0	2021-04-02	Kenny YIN	Updated the data in Product Specifications and the test data in the datasheet.
3.0	2021-07-25	Kenny YIN	Updated all test data in this datasheet.
3.1	2021-12-03	Kenny YIN	Updated the product description (Chapter 1).
3.2	2021-12-08	Aria CHU	Updated the data for product specifications (Chapter 3).
4.0	2023-06-20	Mikael ZHONG/ Lucky FENG/ David LIU/ Bunny ZHANG	Updated new template and all test data.

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