Antenna Datasheet

Product OC: YEMN302Q1A
Version: 1.6
Date: 2025-10-15
Status: Released

Product Name: 4G & GNSS 3in1 Screw Mount Combo External Antenna
Key Features:
Frequency Band: 4G × 2: 698–960 MHz, 1710–2690 MHz
GNSS: 1565–1606 MHz
Dimensions: Φ 81.4 mm × 17.6 mm
Efficiency: Up to 65.3 % (4G FS)
GNSS LNA Gain: 18 ±3 dB
RoHS and REACH Compliant
IP67
IK09

Overview

YEMN302Q1A is a 4G & GNSS 3-in-1 combo antenna measuring Φ 81.4 mm × 17.6 mm. This ultra-wide-band 4G & GNSS antenna provides broad coverage from 698–960 MHz, 1710–2690 MHz whilst offering backward-compatibility to support 3G and 2G networks as well as LTE Cat-M and narrowband IoT (NB-IoT). The antenna is available with connection via 3 cable lengths from 300–5,000 mm (Compatible with ECE-R118 cables), terminated with SMA connectors. Ideal for applications where the antenna is required to be discrete, this low profile, screw mount omni-directional antenna is easy to install with maximum durability assured thanks to its IP67 rated enclosure. It is compatible with Quectel's RM520x Series modules.

YEMN302Q1A has 2 × 4G antennas, and 1 × GNSS L1 antenna. It allows high efficiency, stable signal transmission and reception for active GNSS from 1565–1606 MHz, and 4G bands from 698–960 MHz and 1710–2690 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 4G & GNSS applications. YEMN302Q1A can be used in harsh environments thanks to its robust UV resistant (UL 746c f1) and flame resistant (UL 94 V-0) enclosure.

Typical Applications Include:

- Telematics
- Transportation
- remote monitoring applications.

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.

Below are the variants based on the YEMN302Q1A.

Combo variants overview

OC	4G LMH	4G MH/Wi-Fi	GNSS L1 (28dB)	GNSS L1 (17dB)	Total	Mounting Type	Screw Nut
YEMN302Q1A	2	-	-	1	3in1	Screw	M18
YEMN208L1AH	2	-	-	-	2in1	Screw	M18

Contents

1 Specification

Test Condition: In Free Space & On 300 mm × 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	1565–1606 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**	≤ -12.4 dB
	MP	≤ -13.2 dB

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

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	-	2.8	3.8	-	2.0	1.9	1.9	2.1	-	-	-
	MP	-	2.9	4.0	-	2.9	1.6	1.4	2.8	-	-	-
Max Return Loss (dB)	FS	-	-6.6	-4.7	-	-9.4	-10.5	-10.4	-9.0	-	-	-
	MP	-	-6.2	-4.4	-	-6.3	-12.8	-15.3	-6.4	-	-	-
AVG Eff. (%)	FS	-	42.5	35.1	-	46.8	53.4	49.8	47.7	-	-	-
	MP	-	27.6	22.7	-	34.8	42.9	42.4	33.1	-	-	-
AVG.AVG Gain (dB)	FS	-	-3.7	-4.5	-	-3.3	-2.7	-3.0	-3.2	-	-	-
	MP	-	-5.6	-6.4	-	-4.6	-3.7	-3.7	-4.8	-	-	-
Max Peak Gain (dBi)	FS	-	3.0	1.6	-	3.1	3.3	3.2	2.3	-	-	-
	MP	-	-0.3	-0.6	-	2.7	3.6	4.4	4.1	-	-	-
VSWR	FS	≤ 3.8										
	MP	≤ 4.0										
Return Loss	FS	≤ -4.7 dB										
	MP	≤ -4.4 dB										
Peak Gain	FS	≤ 3.3 dBi										
	MP	≤ 4.4 dBi										

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

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	-	2.2	3.1	-	2.6	2.6	2.8	2.6	-	-	-
	MP	-	2.3	3.4	-	3.4	2.1	1.7	1.6	-	-	-
Max Return Loss (dB)	FS	-	-8.7	-5.9	-	-7.1	-6.9	-6.6	-6.9	-	-	-
	MP	-	-8.1	-5.3	-	-5.3	-8.9	-11.8	-13.1	-	-	-
AVG Eff. (%)	FS	-	51.5	37.7	-	49.3	41.1	39.1	43.7	-	-	-
	MP	-	44.1	32.9	-	27.7	27.9	29.8	47.2	-	-	-
AVG.AVG Gain (dB)	FS	-	-2.9	-4.2	-	-3.1	-3.9	-4.1	-3.6	-	-	-
	MP	-	-3.6	-4.8	-	-5.6	-5.5	-5.3	-3.3	-	-	-
Max Peak Gain (dBi)	FS	-	3.5	3.2	-	3.3	1.2	0.8	0.4	-	-	-
	MP	-	2.9	3.1	-	2.0	2.0	3.2	5.9	-	-	-
VSWR	FS	≤ 3.1										
	MP	≤ 3.4										
Return Loss	FS	≤ -5.9 dB										
	MP	≤ -5.3 dB										
Peak Gain	FS	≤ 3.5 dBi										
	MP	≤ 5.9 dBi										

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

1.1.3. GNSS

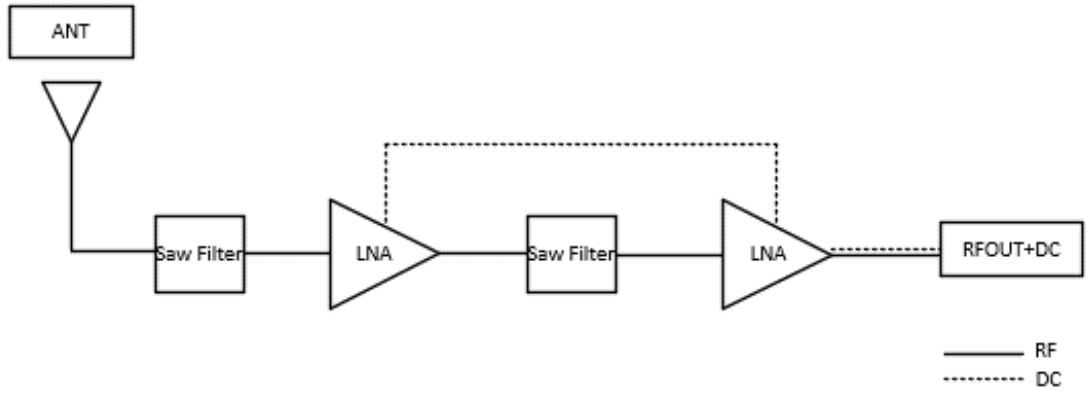
Band / Frequency (MHz)	GPS L5 GALILEO E5a BDS B2a-B2I QZSS L5 IRNSS L5	GALILEO E5b BDS B2b	GPS L2 QZSS L2C	GLONASS G2	BDS B3	BDS B1I	GPS L1 GALILEO E1 BDS B1C QZSS L1	GLONASS G1
	1176	1207	1227	1248	1268	1561	1575	1602
VSWR	-	-	-	-	-	-	1.29	1.2
Return Loss (dB)	-	-	-	-	-	-	-17.9	-20.4
Efficiency (%)	-	-	-	-	-	-	68	66
Peak Gain (dBi)	-	-	-	-	-	-	1.94	2.57

LNA Electrical	
LNA Gain	18 ±3 dB @ 3V 17 ±3 dB @ 1.8V
Noise Figure	≤ 2.5 dB
Output VSWR	≤ 2.0
Input VSWR	≤ 2.0
Filter Out-of-Band Attenuation	60 dB f0 ±100 MHz f0 (1588 MHz)
Working Voltage	1.8–3.3 V
Working Current	8.7 ±2 mA
Impedance	50 Ω

1.2. Mechanical & Environmental

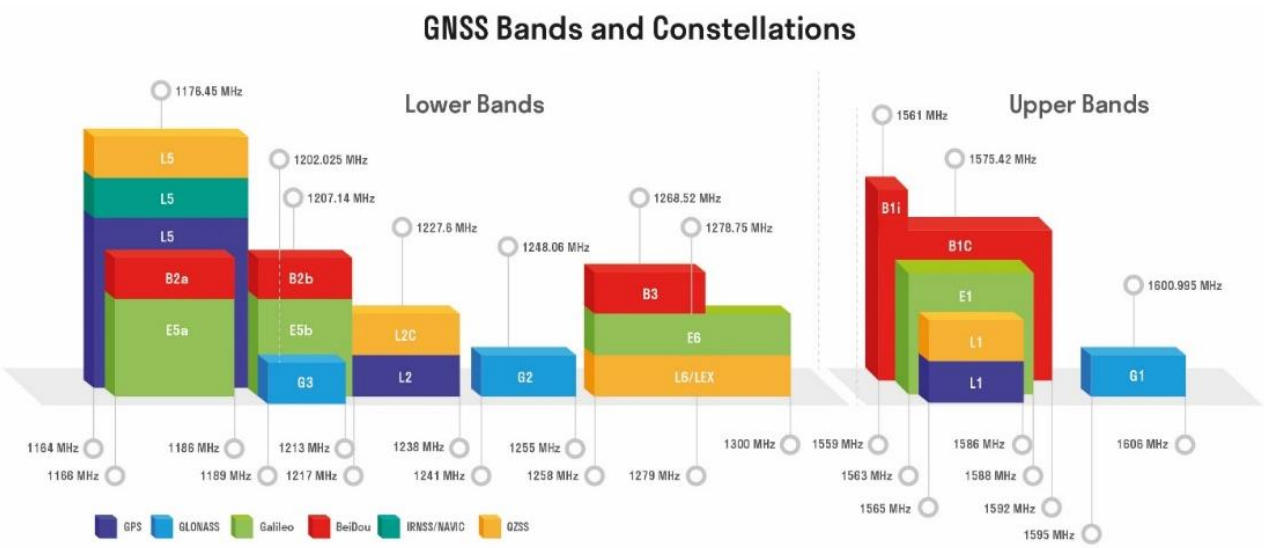
Mechanical		
Antenna Dimensions		Φ 81.4 mm × 17.6 mm
Casing Material & Color		PC & Black
Cable Type & Color & Length	**4G**	ALSR100 & Black & 1000 mm
	4G DIV	ALSR100 & Black & 1000 mm
	GNSS	RG174 & Black & 1000 mm
Connector Type		SMA Male
Mounting Type		Screw
Weight		Typ. 188 g
Environmental		
Operation Temperature		-40 °C to +85 °C
Storage Temperature		-40 °C to +85 °C
Ingress Protection (IP) Rating		IP67
Impact Protection (IK) Rating		IK09
RoHS & REACH Compliant		Yes
Housing Flame Rating		UL 94 V-0
Housing UV Resistant		UL 746c f1

1.3. Block Diagram (Active Antenna)

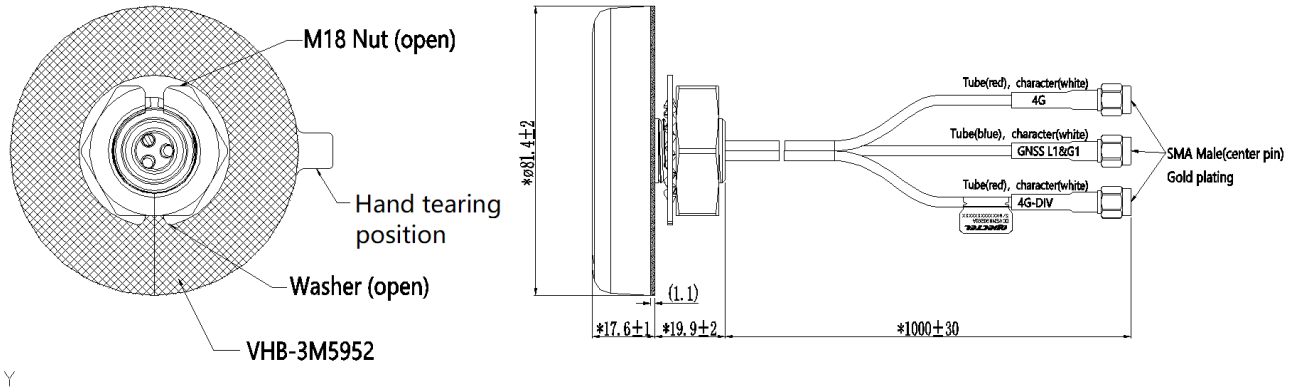


1.4. Supported GNSS Frequency Bands

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

2 Drawing

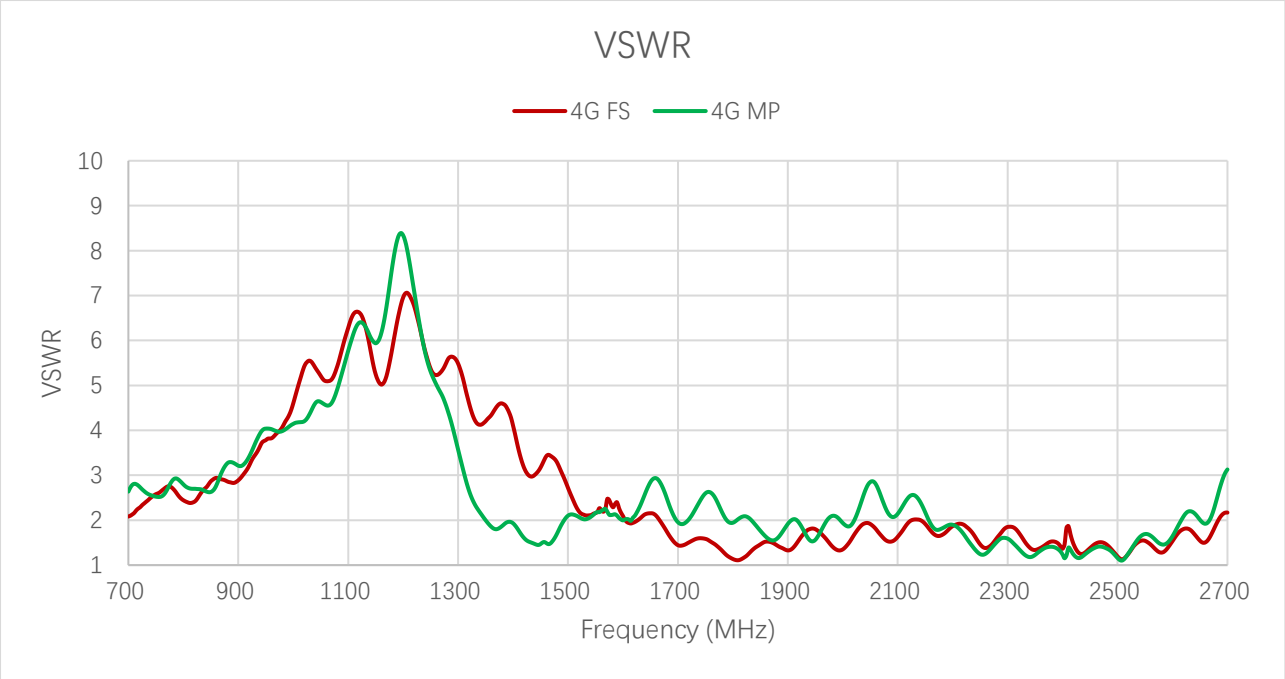


The current state of the SMA connector is not waterproof. If a waterproof connector is required, it can be customized, such as a waterproof FAKRA connector.

3 Detailed Performance

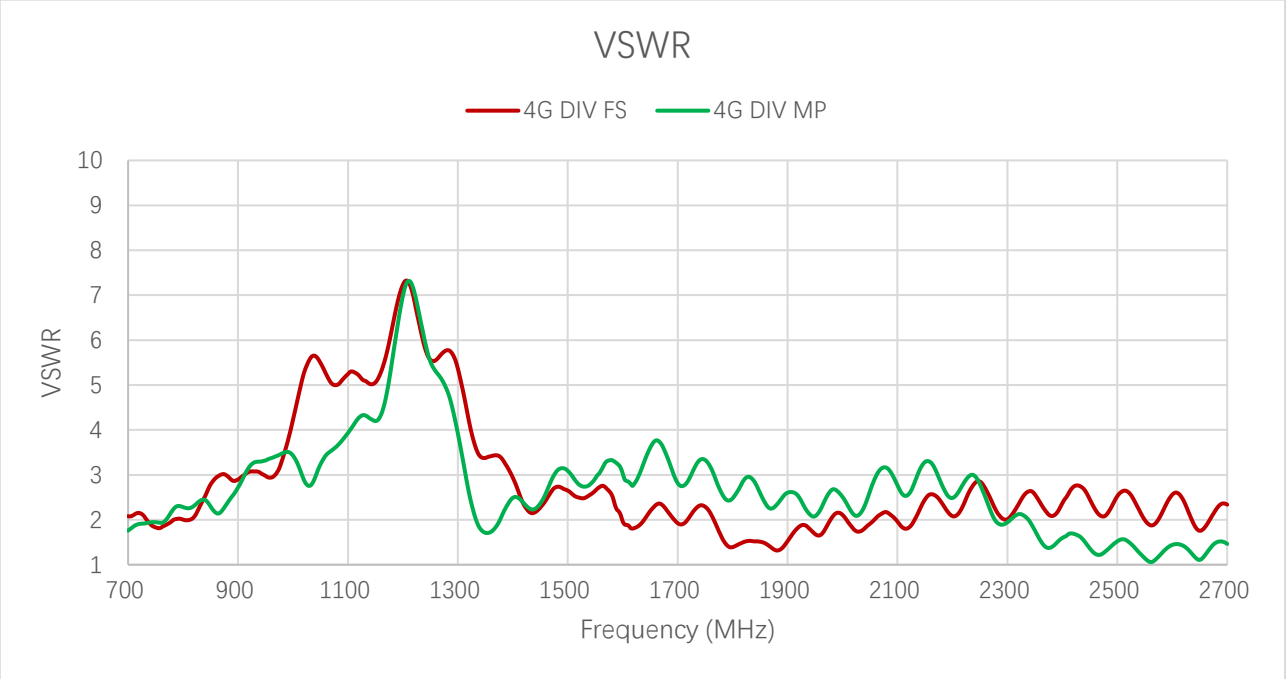
3.1. S-Parameter Test

3.1.1. VSWR



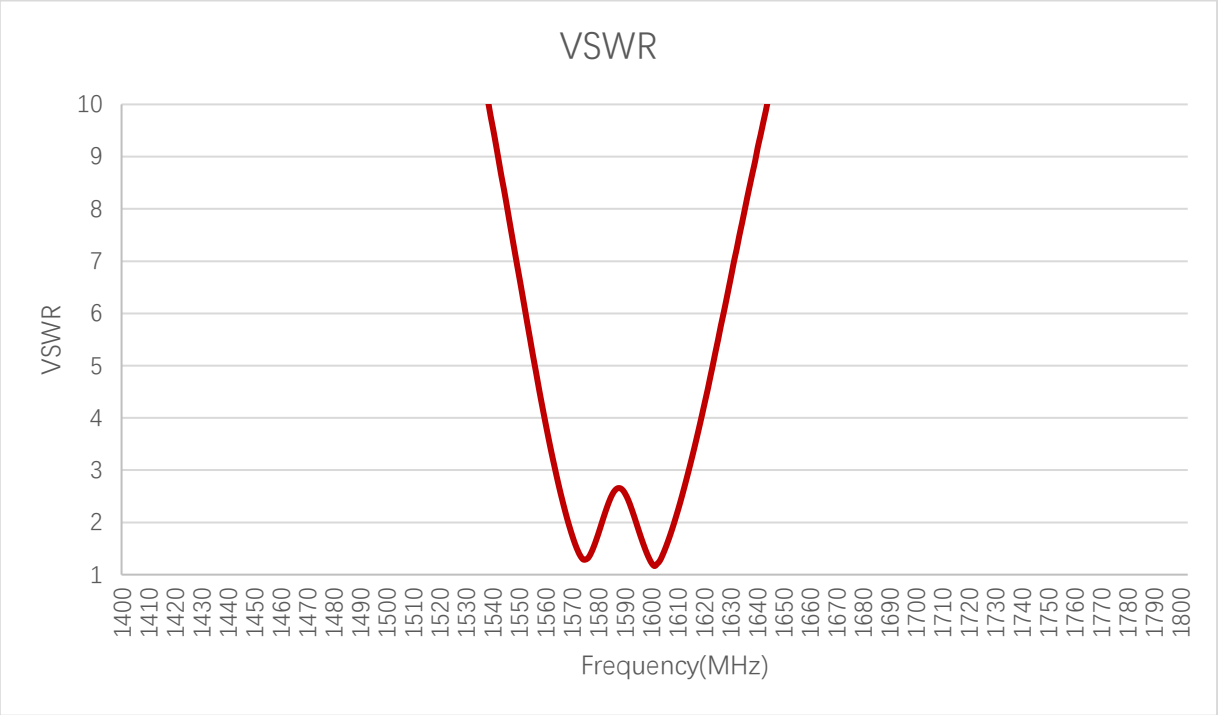
VSWR – 4G

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	2.2	2.5	2.9	3.8	-	1.5	1.6	1.5
MP	-	-	2.8	2.7	3.2	4.0	-	1.9	2.4	1.6
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	1.8	2.0	1.9	1.3	1.5	2.1	-	-	-	-
MP	1.6	2.4	1.2	1.3	1.6	2.8	-	-	-	-



VSWR – 4G DIV

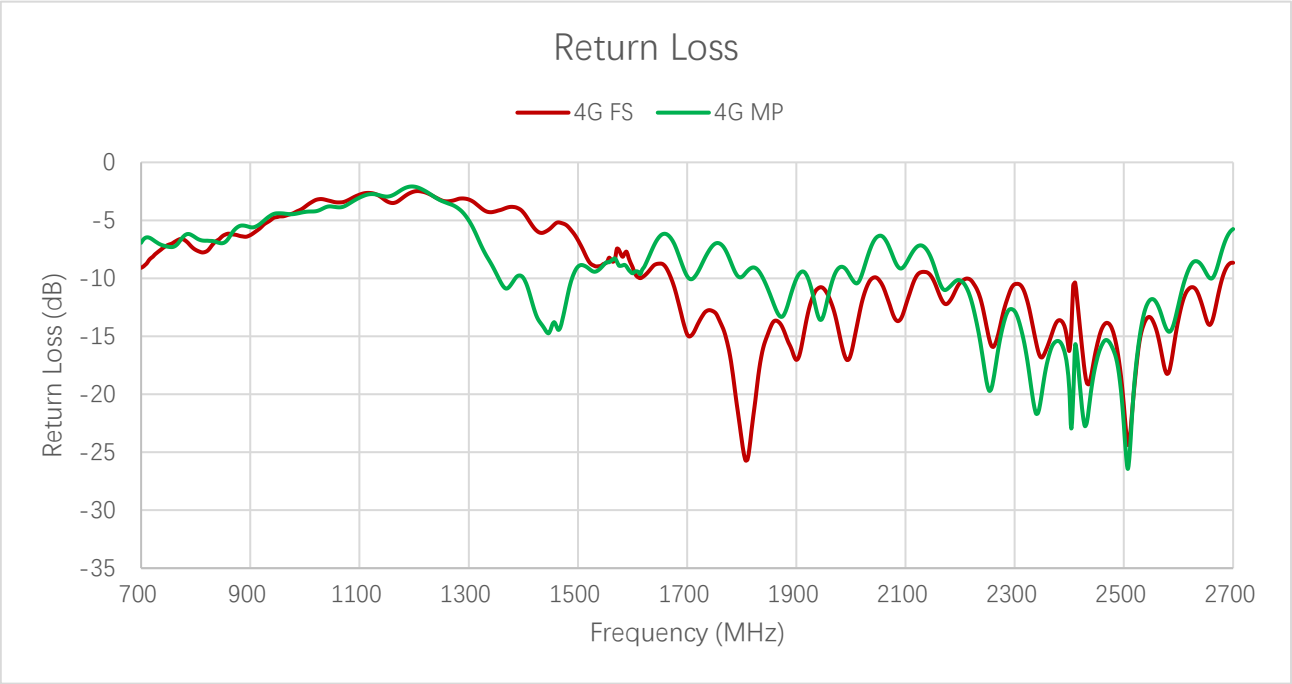
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	2.1	2.3	2.9	2.9	-	1.9	2.3	1.3
MP	-	-	1.9	2.4	2.7	3.4	-	2.8	3.3	2.3
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	1.7	2.2	2.0	2.6	2.6	2.4	-	-	-	-
MP	2.1	3.1	1.8	1.4	1.4	1.5	-	-	-	-



VSWR – GNSS

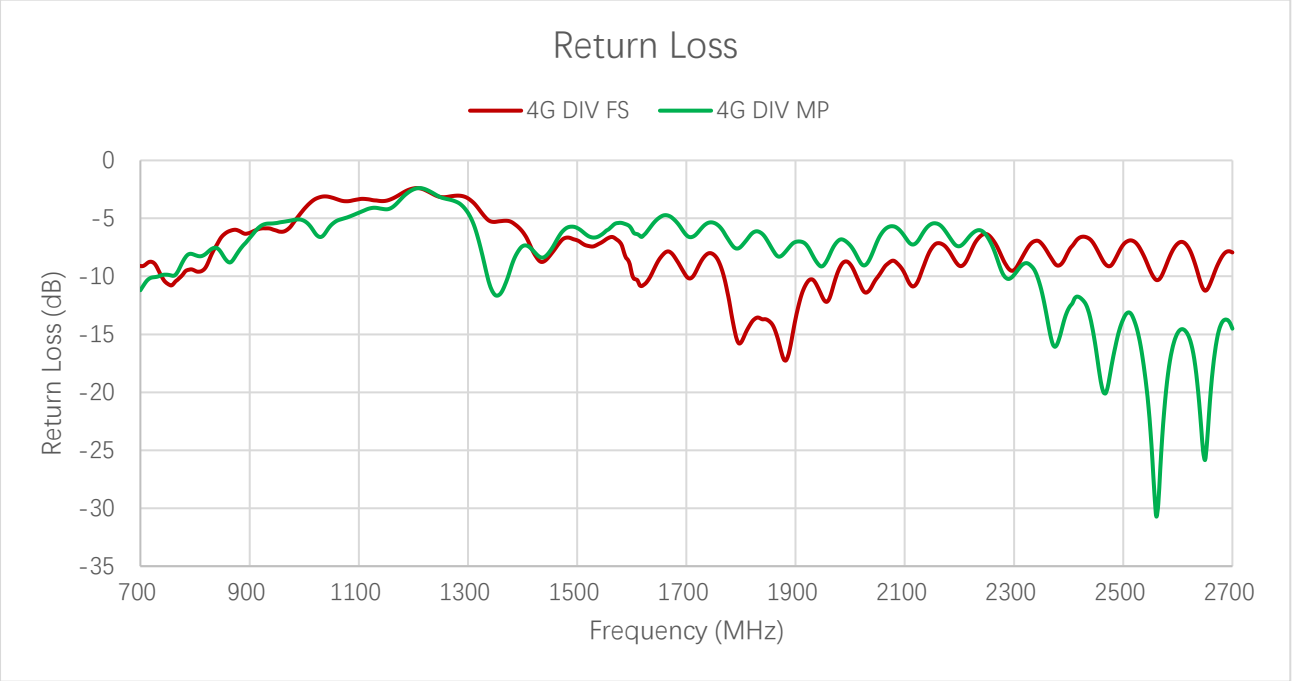
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
VSWR	-	-	-	-	-	-	1.29	1.2

3.1.2. Return Loss



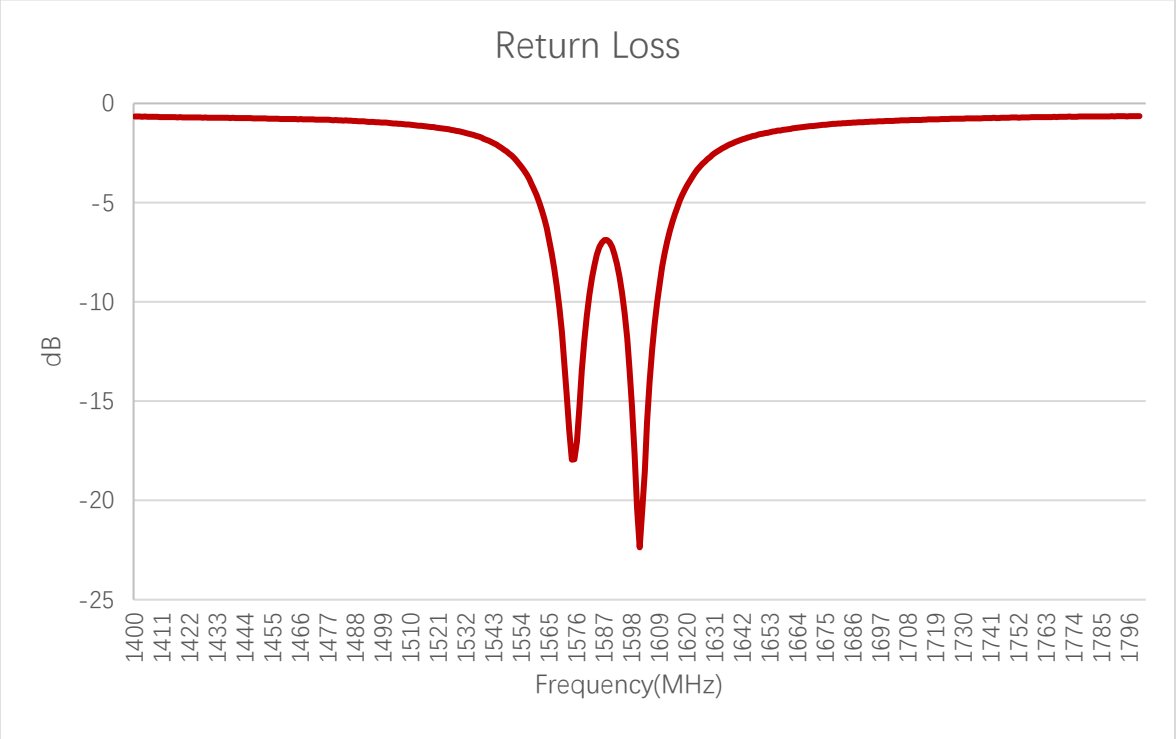
Return Loss (dB) – 4G

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-8.7	-7.2	-6.3	-4.7	-	-14.8	-12.8	-14.7
MP	-	-	-6.5	-6.8	-5.6	-4.4	-	-10.0	-7.7	-13.0
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	-10.9	-9.5	-16.8	-15.9	-13.5	-9.0	-	-	-	-
MP	-13.2	-7.6	-19.8	-17.1	-12.3	-6.4	-	-	-	-



Return Loss (dB) – 4G DIV

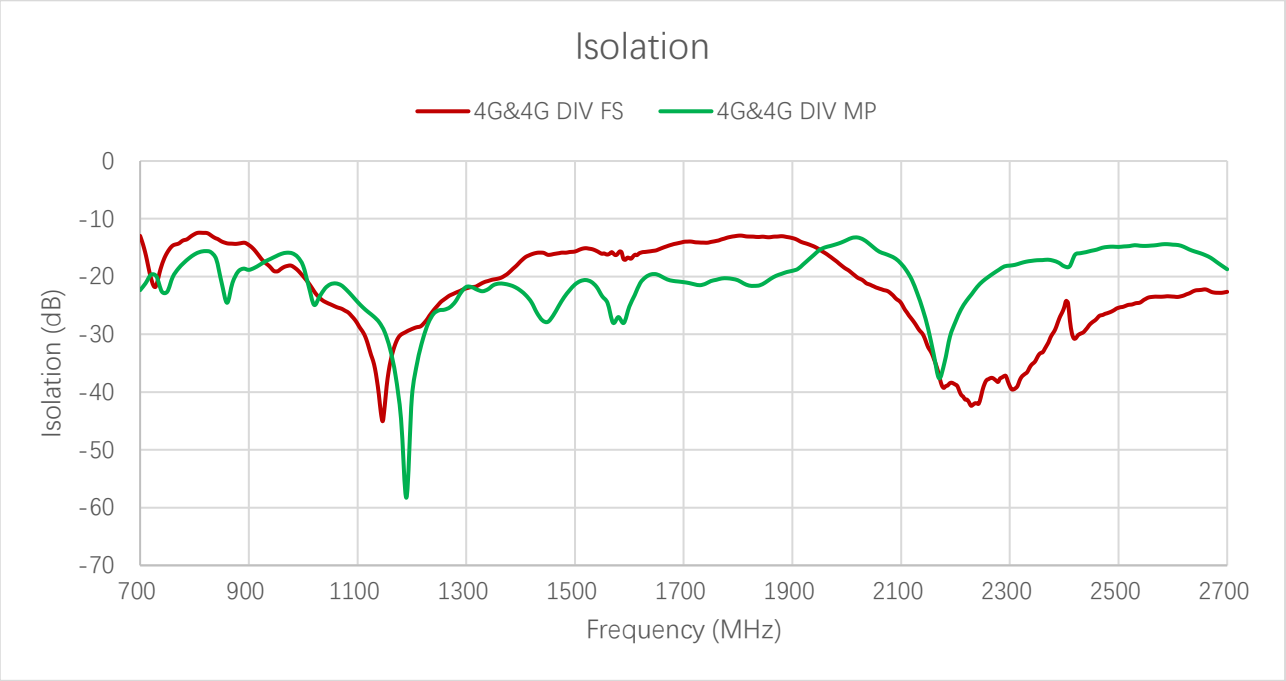
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-8.9	-8.3	-6.3	-6.2	-	-10.1	-8.0	-17.2
MP	-	-	-10.4	-7.7	-6.7	-5.3	-	-6.6	-5.4	-8.0
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	-11.9	-8.5	-7.1	-7.5	-7.2	-7.9	-	-	-	-
MP	-9.1	-5.9	-11.2	-16.2	-14.9	-13.7	-	-	-	-



Return Loss (dB) – GNSS

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Return Loss (dB)	-	-	-	-	-	-	-17.9	-20.4

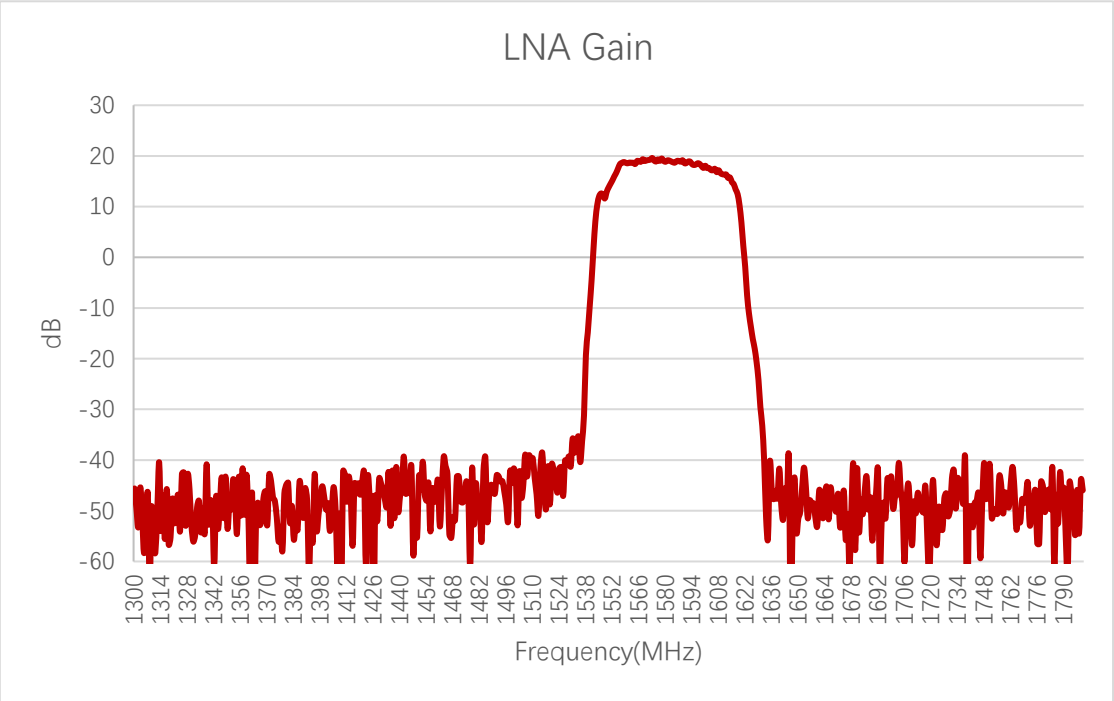
3.1.3. Isolation



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	BDS 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	-	-12.4	-12.4	-	-12.9	-25.4	-24.2	-22.2	-	-	-
MP	-	-15.7	-15.6	-	-13.2	-17.1	-14.8	-14.4	-	-	-

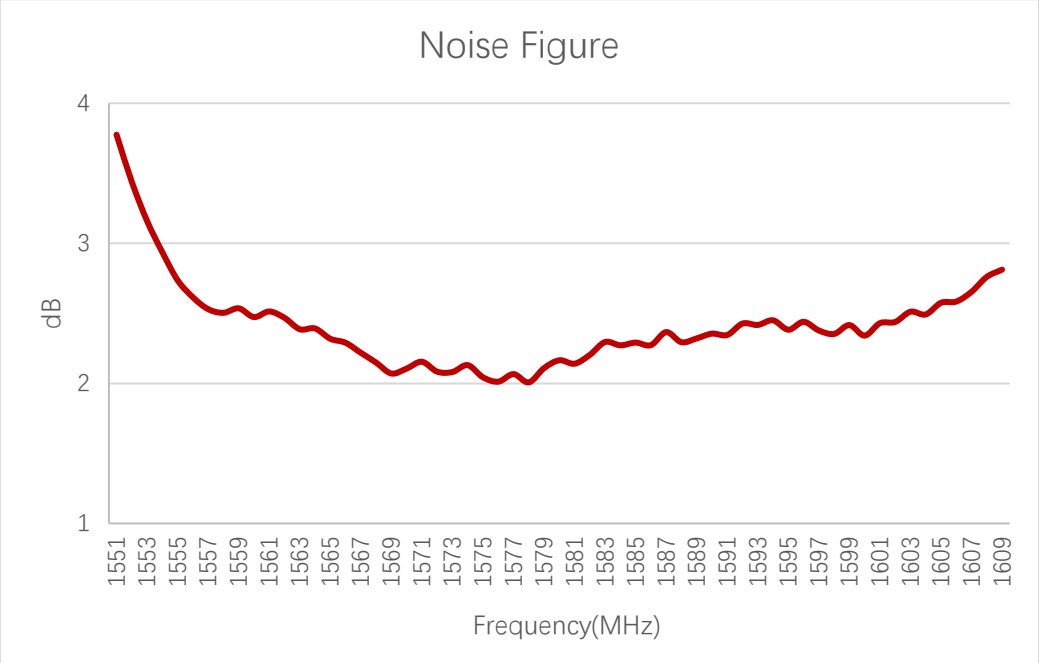
3.1.4. GNSS LNA Gain



LNA Gain (dB) – GNSS

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
LNA Gain (dB)	-	-	-	-	-	-	18.8	17.5

3.1.5. GNSS Noise Figure

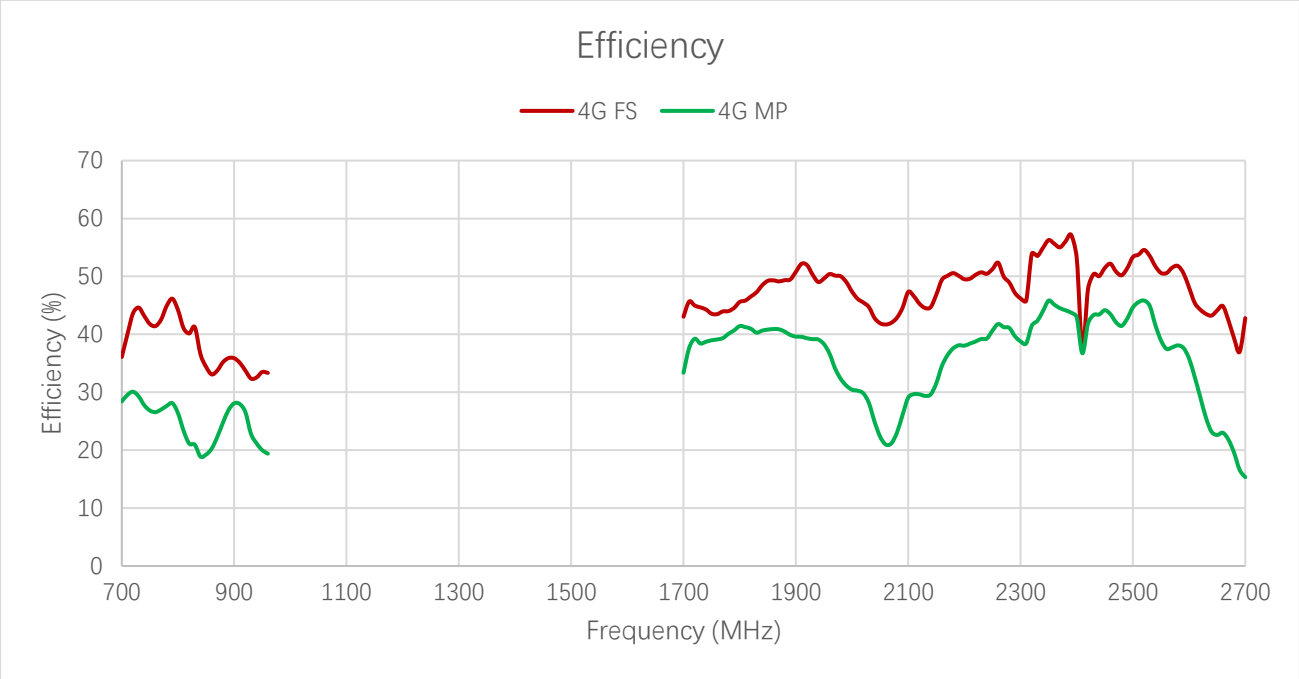


Noise Figure (dB) – GNSS

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Noise Figure (dB)	-	-	-	-	-	-	2.04	2.43

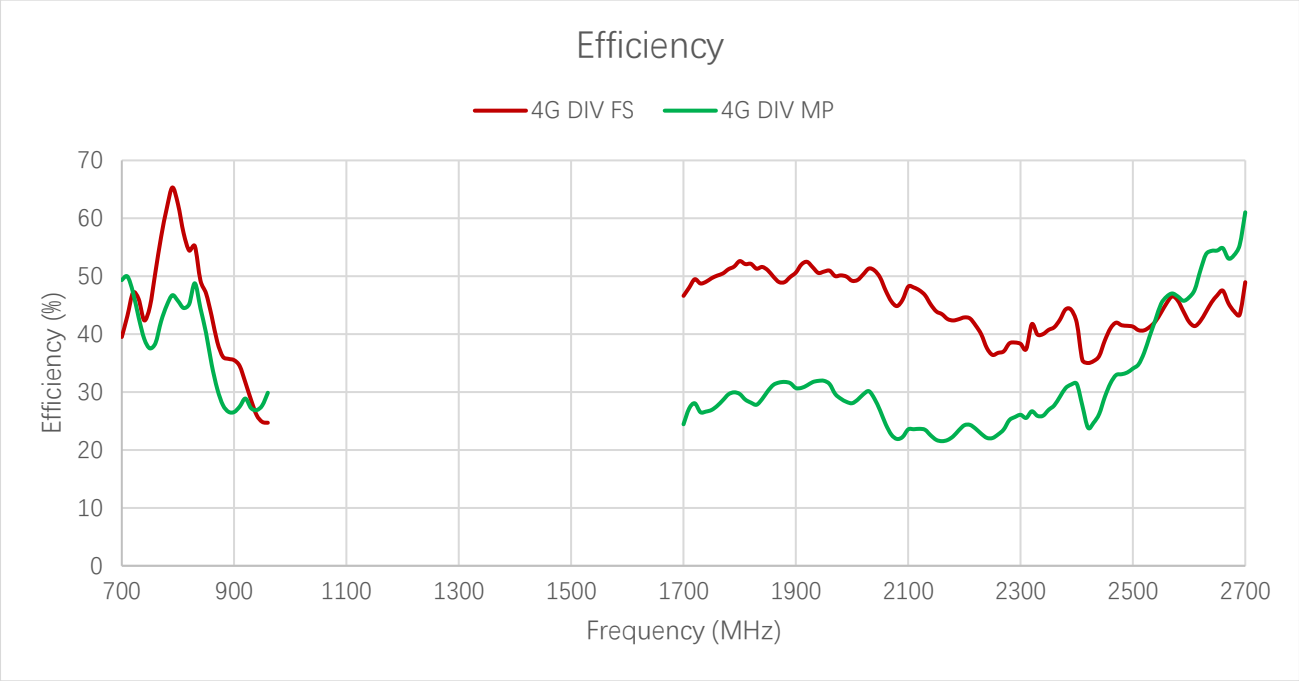
3.2. Radiation Performance Test

3.2.1. Efficiency



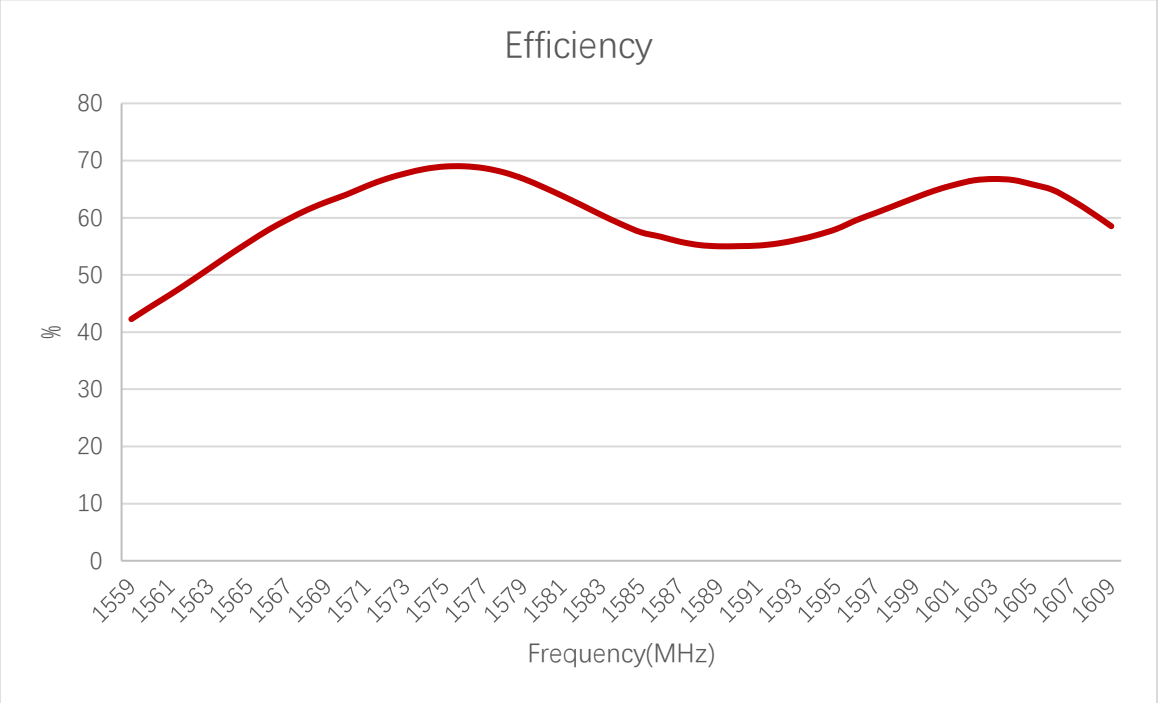
Efficiency (%) – 4G

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	40.0	41.2	35.9	33.3	-	45.7	44.3	49.4
MP	-	-	29.5	20.9	28.1	19.4	-	37.7	38.7	40.5
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	49.6	44.7	56.3	51.5	48.1	37.0	-	-	-	-
MP	38.3	29.6	45.8	44.2	35.8	16.6	-	-	-	-



Efficiency (%) – 4G DIV

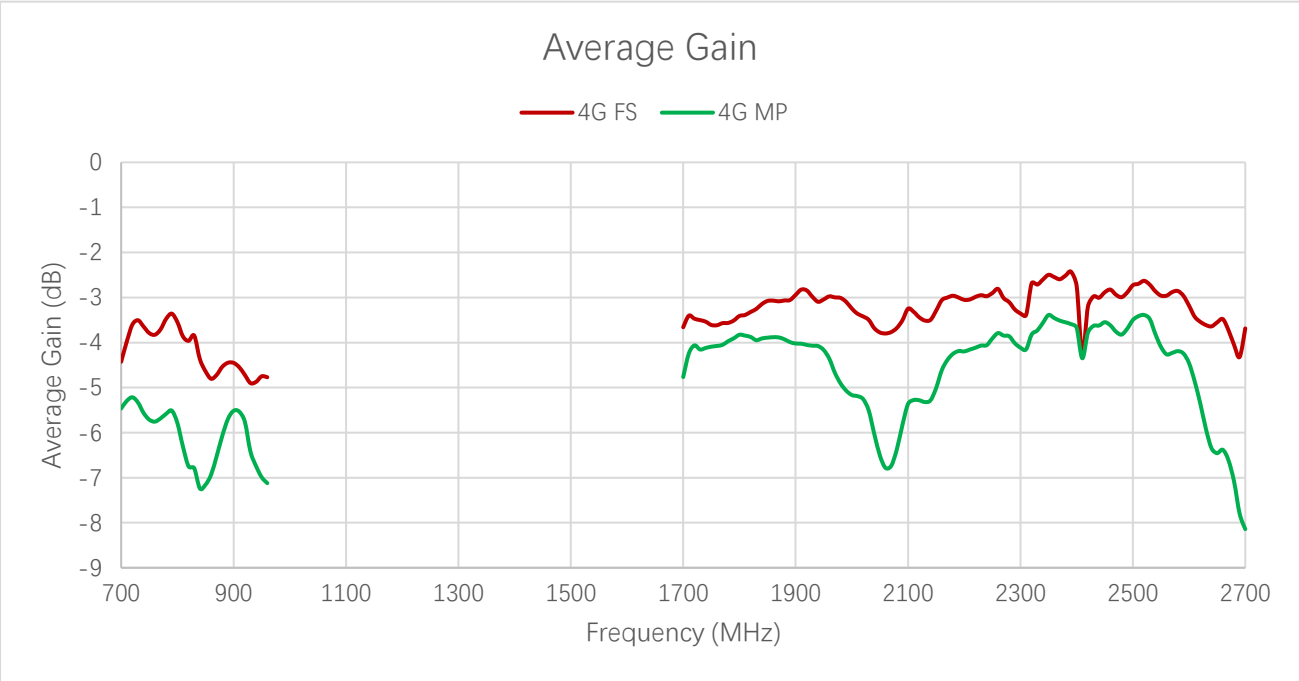
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	43.2	55.2	35.5	24.7	-	48.0	49.0	49.0
MP	-	-	50.0	48.8	26.6	29.9	-	27.2	26.6	31.8
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	50.8	45.1	40.7	38.9	42.1	43.4	-	-	-	-
MP	31.9	22.5	26.9	29.2	46.4	55.4	-	-	-	-



Efficiency (%) – GNSS

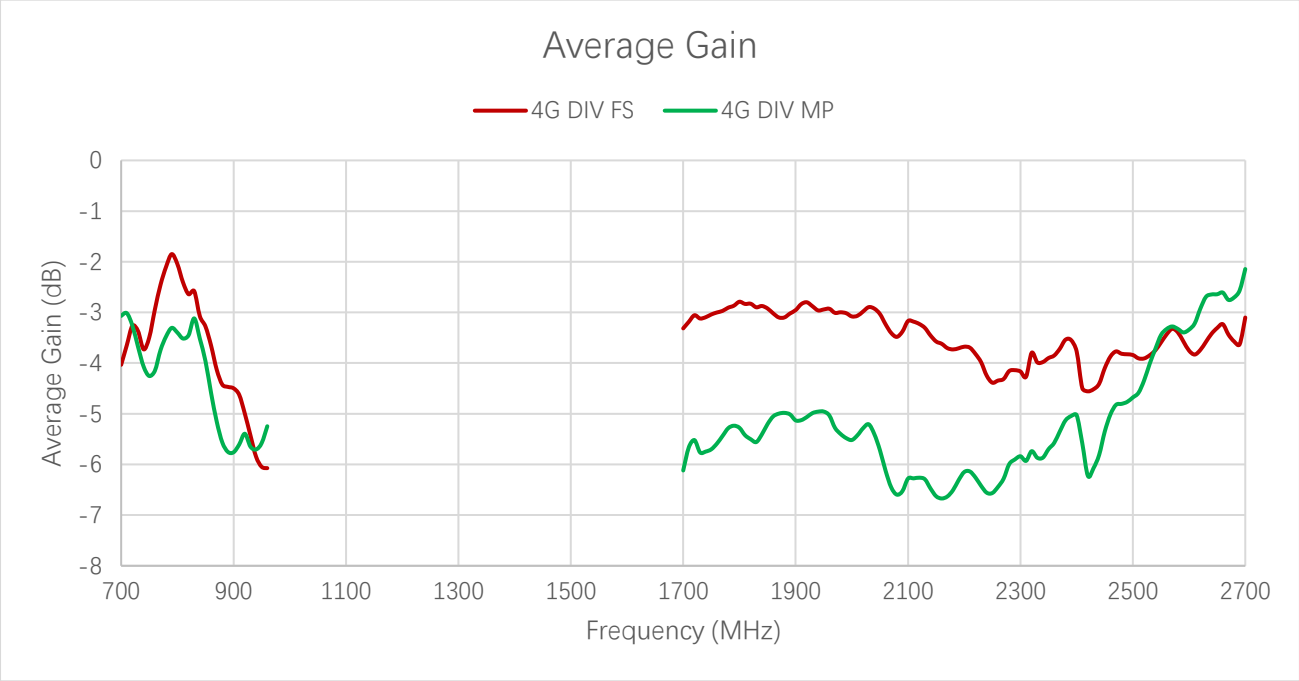
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Efficiency (%)	-	-	-	-	-	-	68	66

3.2.2. Average Gain



Average Gain (dB) – 4G

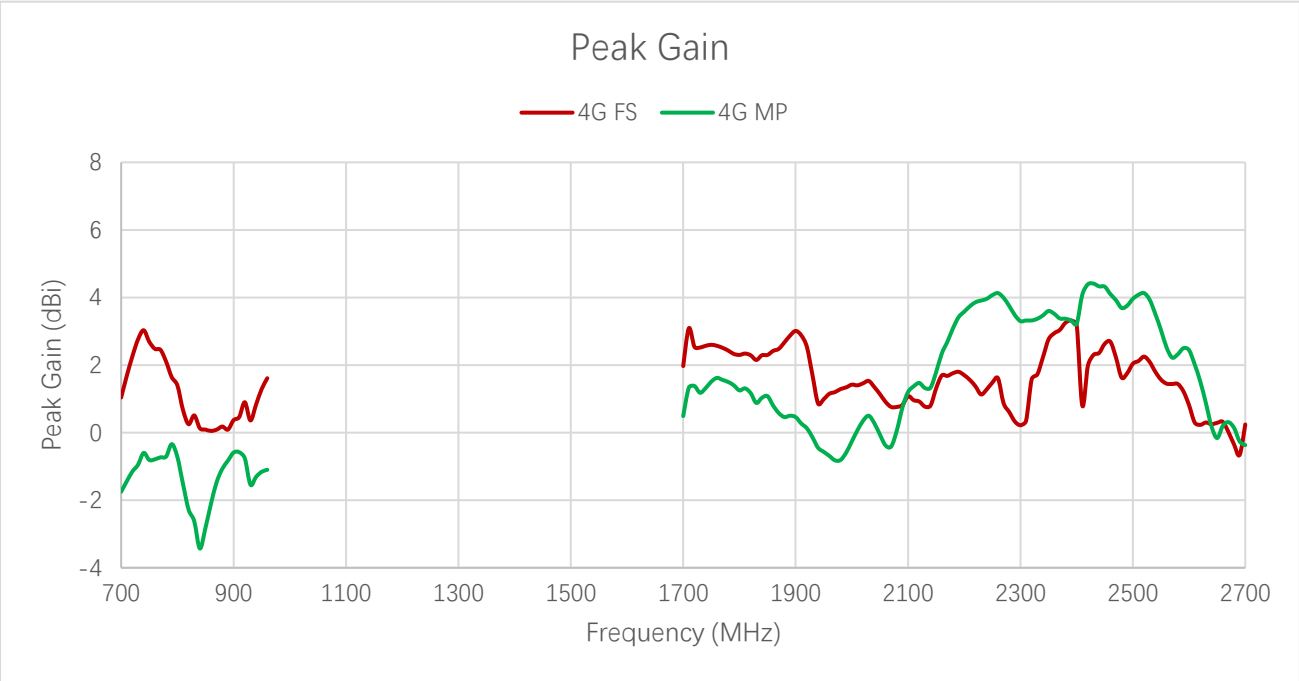
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-4.0	-3.8	-4.5	-4.8	-	-3.4	-3.5	-3.1
MP	-	-	-5.3	-6.8	-5.5	-7.1	-	-4.2	-4.1	-3.9
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	-3.0	-3.5	-2.5	-2.9	-3.2	-4.3	-	-	-	-
MP	-4.2	-5.3	-3.4	-3.5	-4.5	-7.8	-	-	-	-



Average Gain (dB) – 4G DIV

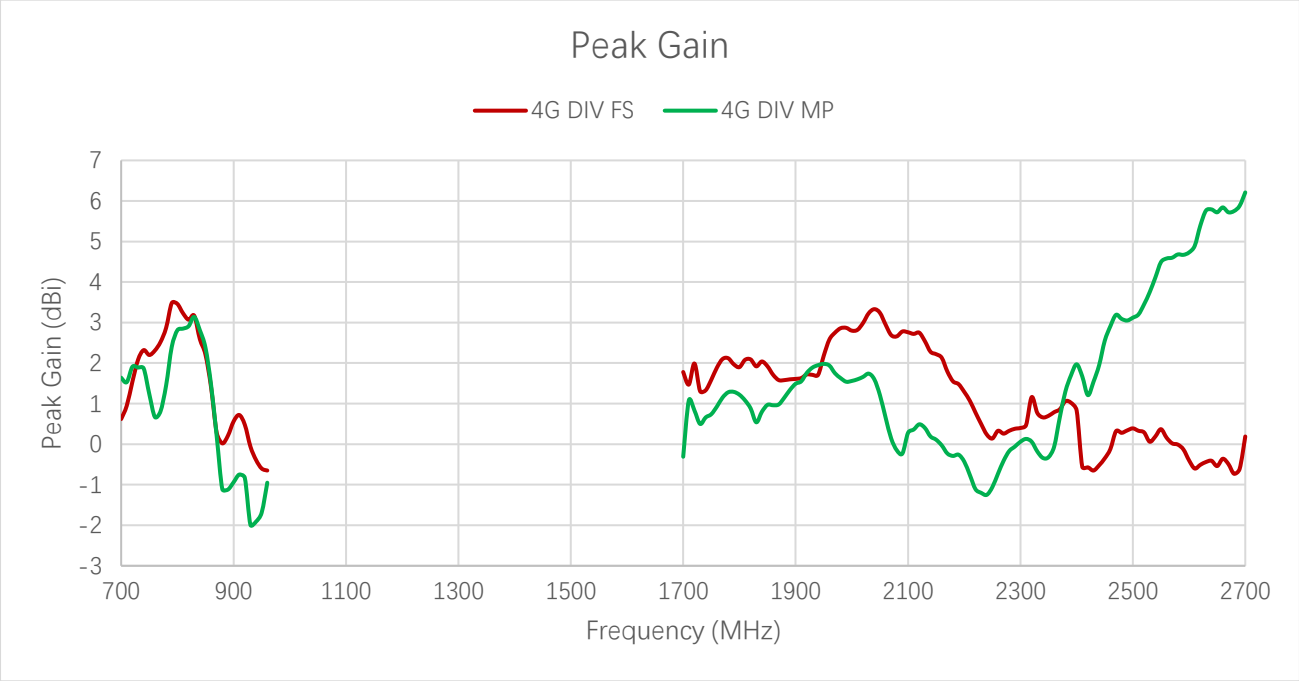
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-3.6	-2.6	-4.5	-6.1	-	-3.2	-3.1	-3.1
MP	-	-	-3.0	-3.1	-5.8	-5.2	-	-5.7	-5.7	-5.0
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	-2.9	-3.5	-3.9	-4.1	-3.8	-3.6	-	-	-	-
MP	-5.0	-6.5	-5.7	-5.4	-3.3	-2.6	-	-	-	-

3.2.3. Peak Gain



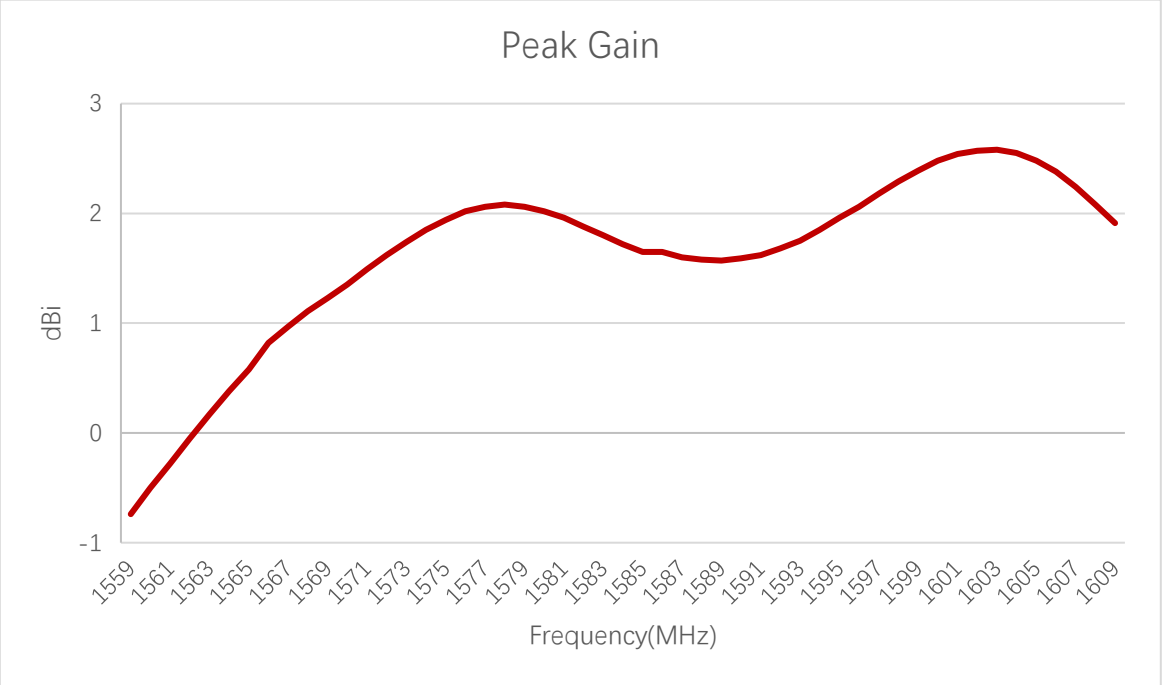
Peak Gain (dBi) – 4G

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	1.7	0.5	0.4	1.6	-	3.1	2.6	2.7
MP			-1.4	-2.6	-0.6	-1.1		1.3	1.3	0.5
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	1.0	0.8	2.8	2.6	0.8	-0.7	-	-	-	-
MP	-0.6	1.3	3.6	4.3	2.4	-0.3				



Peak Gain (dBi) – 4G DIV

Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	1.0	3.2	0.6	-0.7	-	1.5	1.3	1.6
MP			1.5	3.1	-0.9	-1.0		1.1	0.7	1.2
Frequency (MHz)	**1950**	**2140**	**2350**	**2450**	**2600**	**2690**	**4700**	**5000**	**5500**	**6000**
FS	2.2	2.3	0.7	-0.4	-0.4	-0.6	-	-	-	-
MP	2.0	0.2	-0.3	2.6	4.7	5.9				



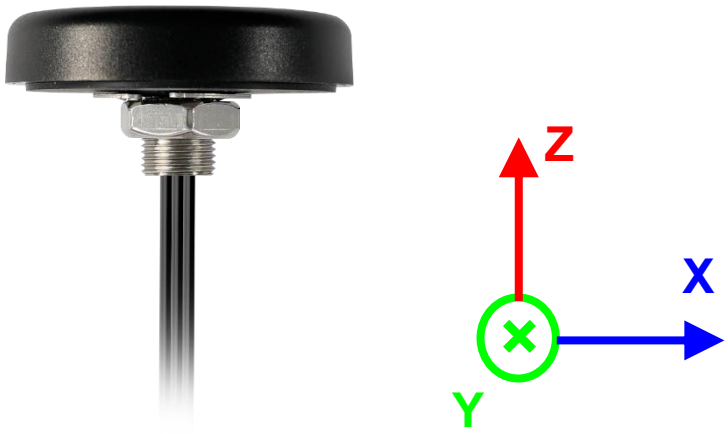
Peak Gain (dBi) – GNSS

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Peak Gain (dBi)	-	-	-	-	-	-	1.94	2.57

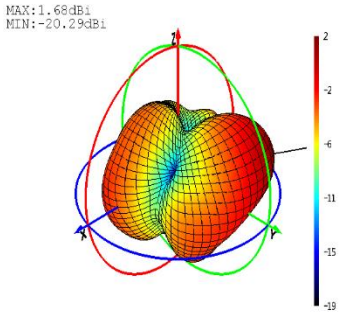
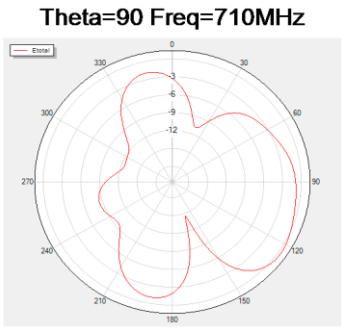
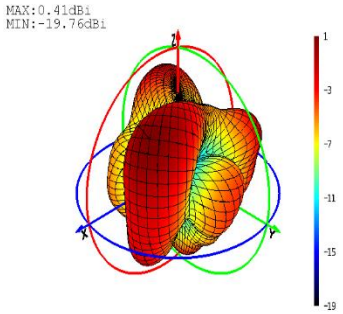
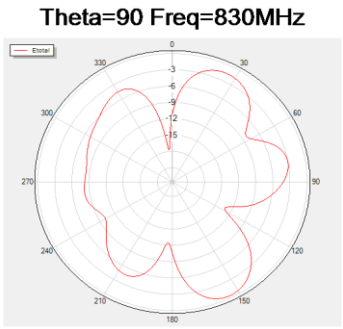
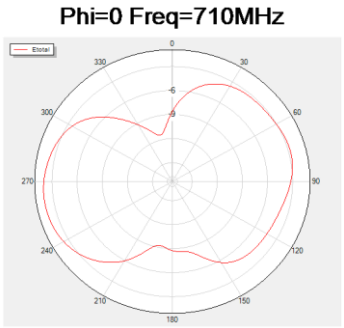
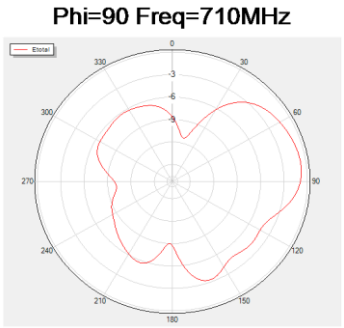
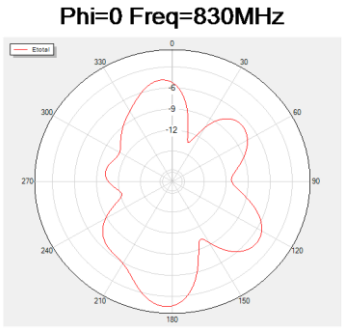
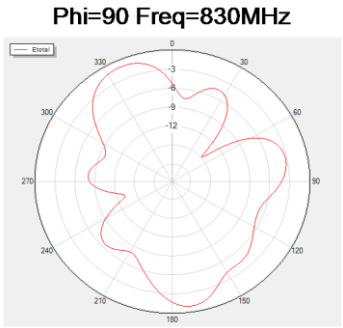
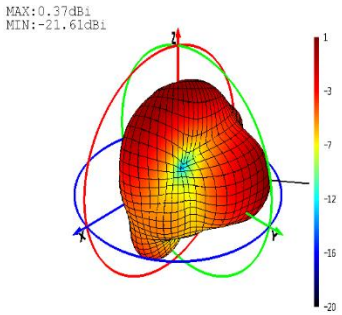
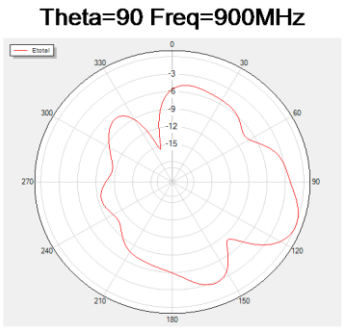
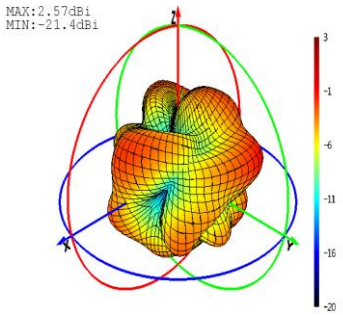
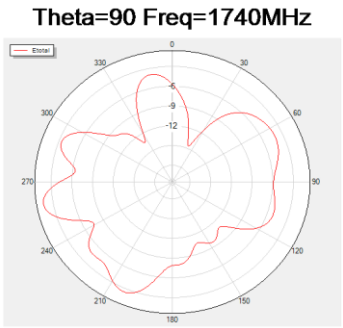
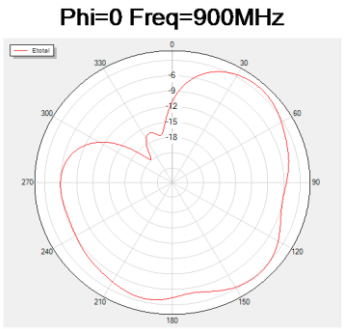
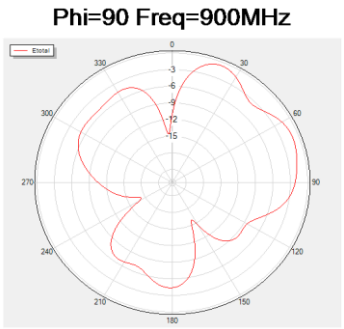
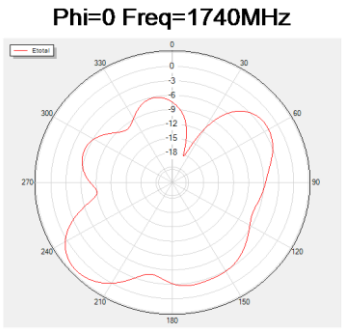
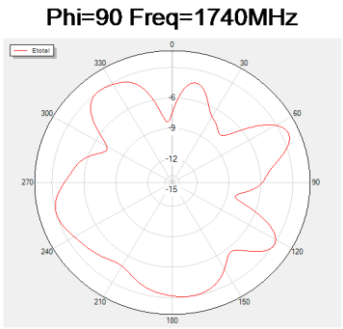
3.2.4. 3D & 2D Radiation Pattern

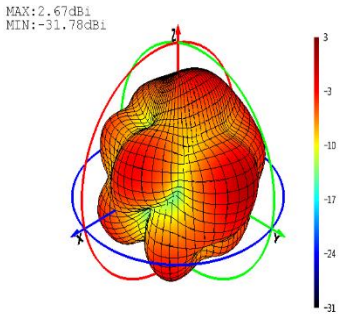
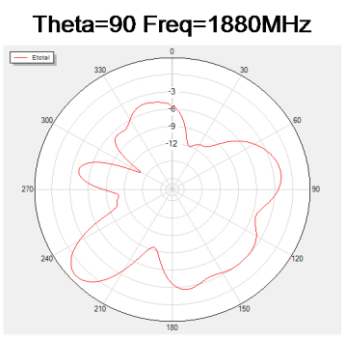
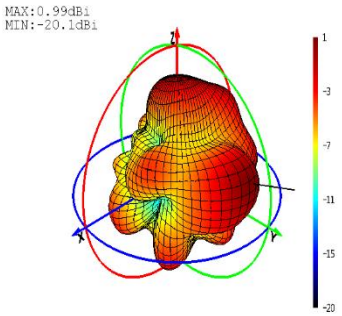
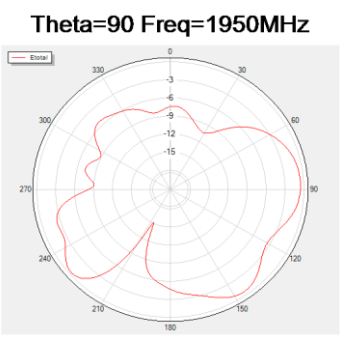
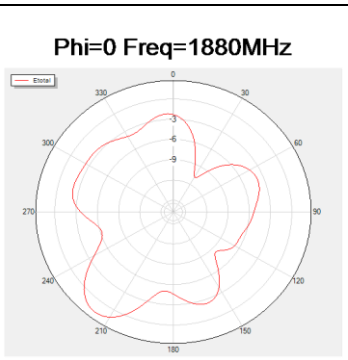
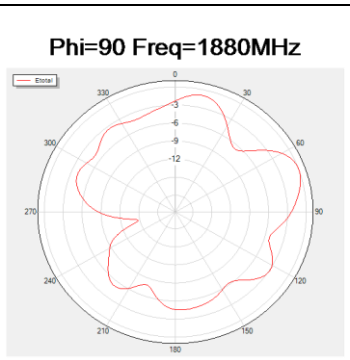
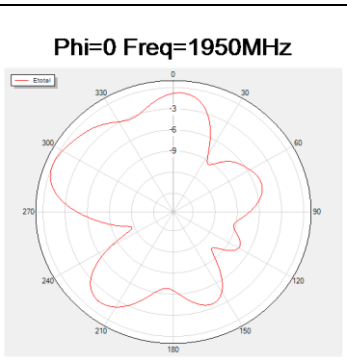
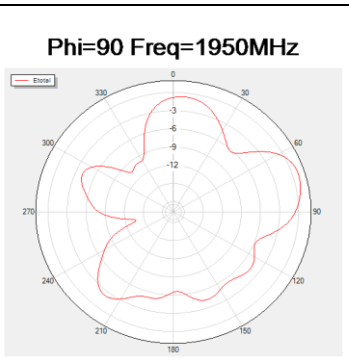
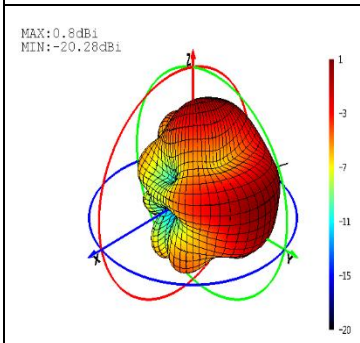
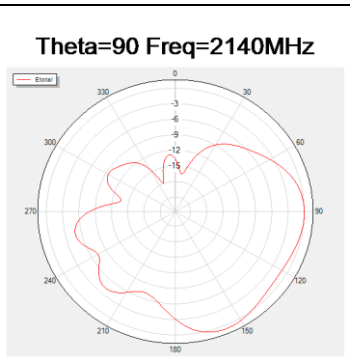
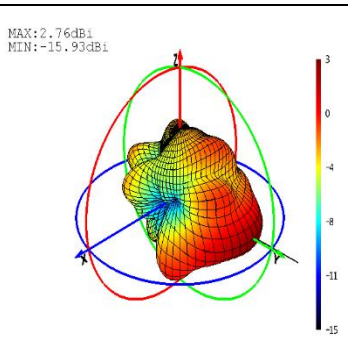
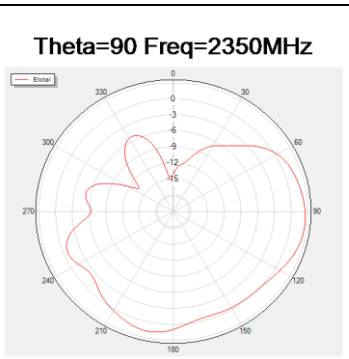
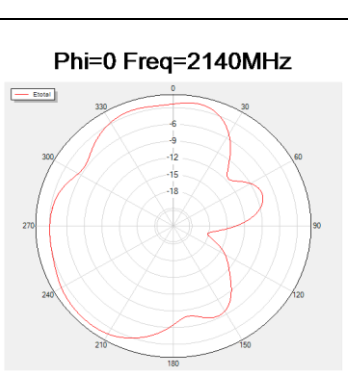
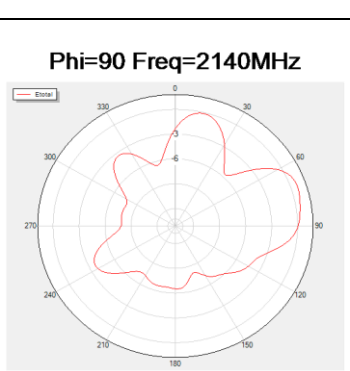
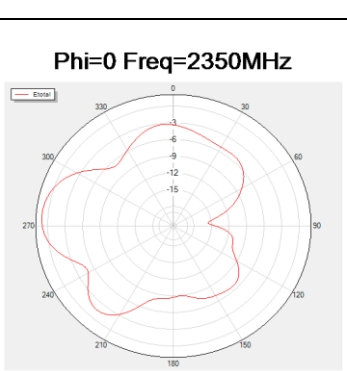
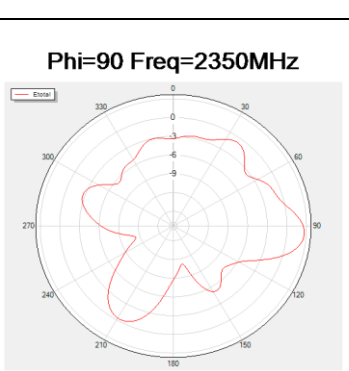
3.2.4.1 Test Status: In Free Space

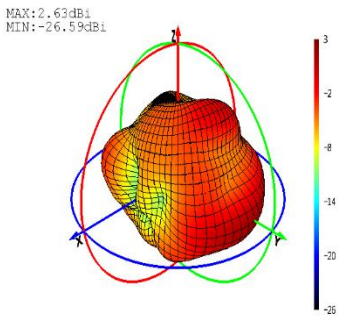
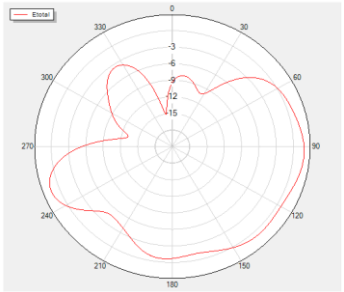
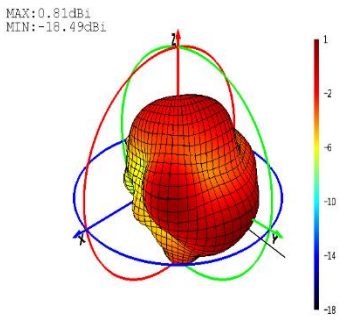
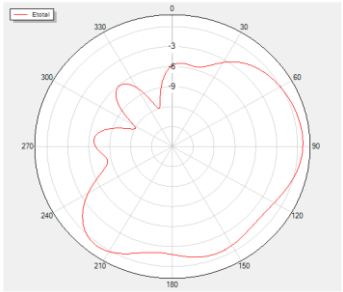
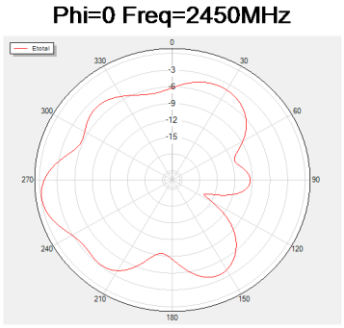
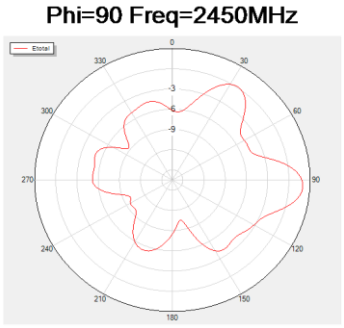
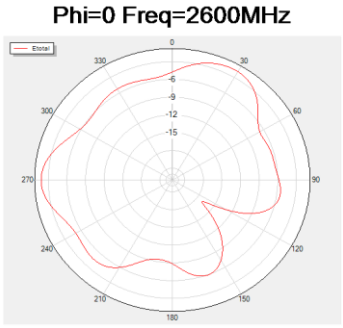
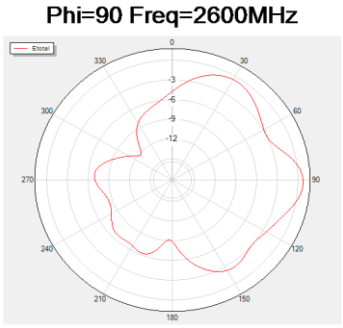
- Test Chamber: FS-S-1



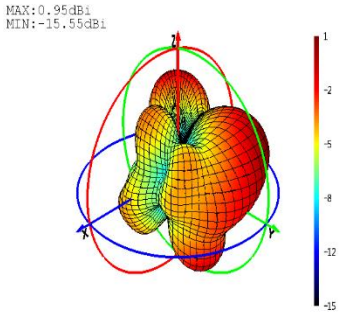
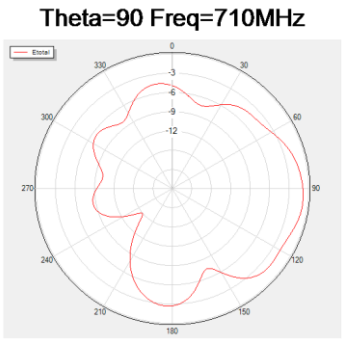
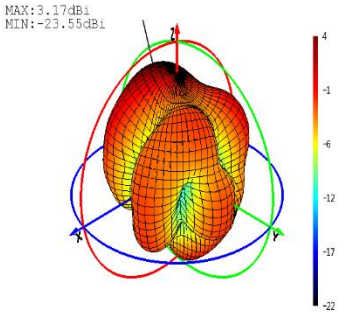
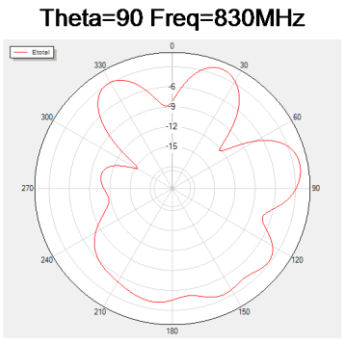
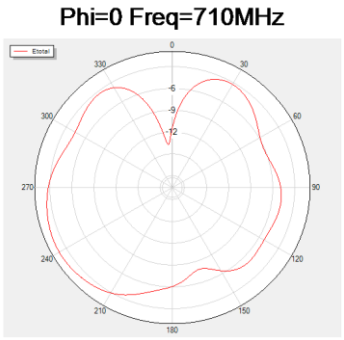
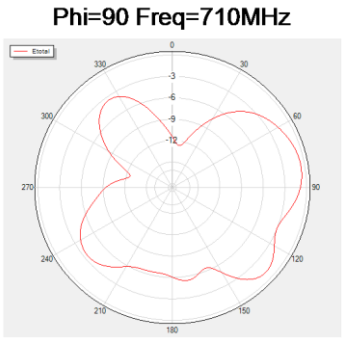
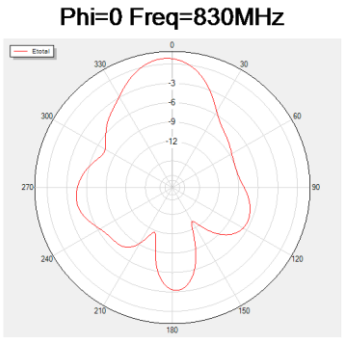
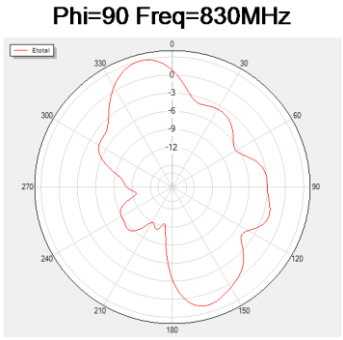
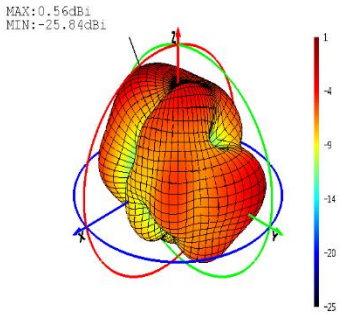
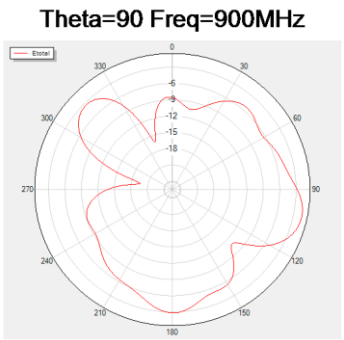
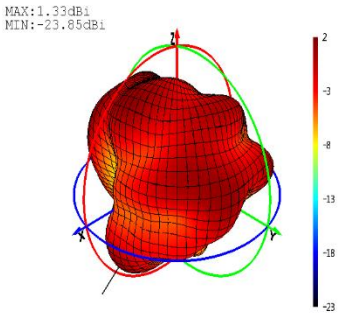
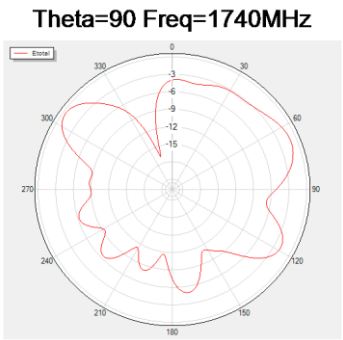
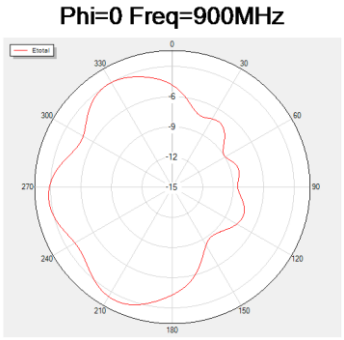
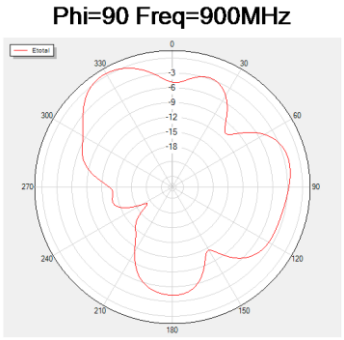
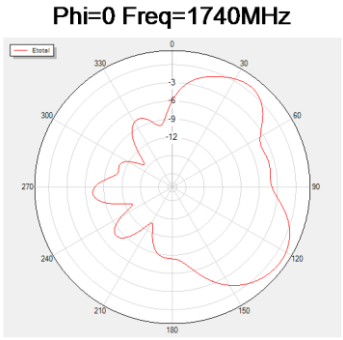
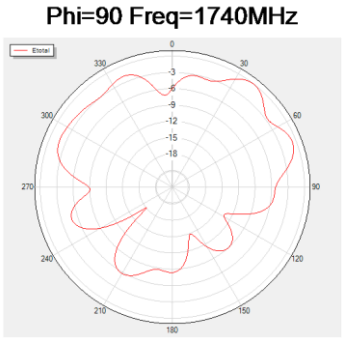
- **4G**

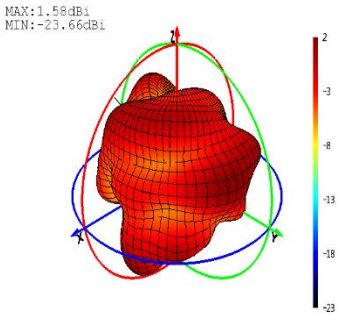
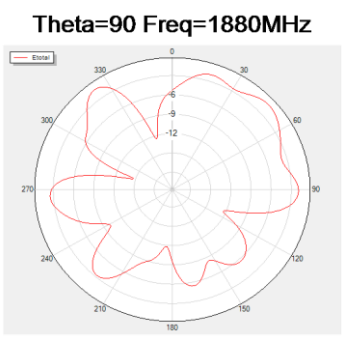
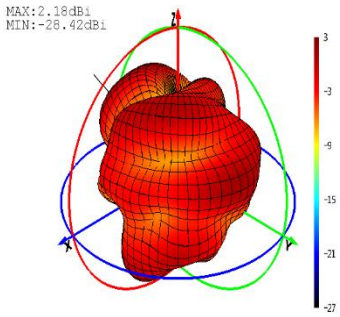
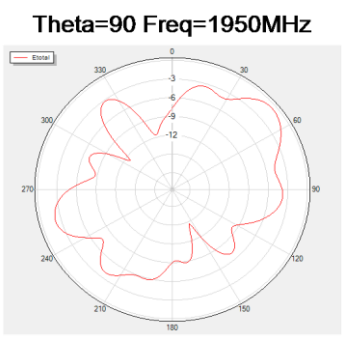
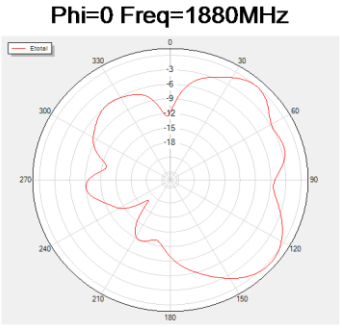
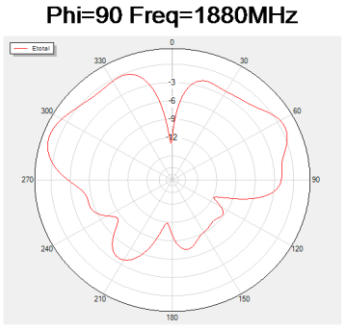
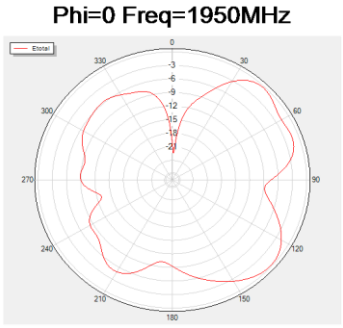
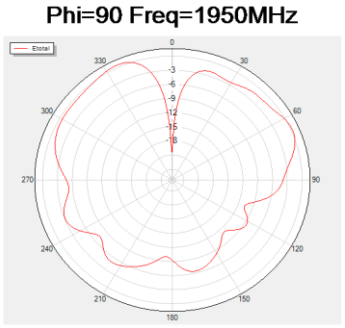
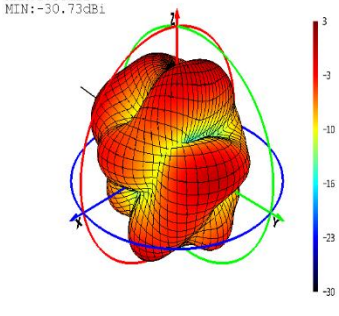
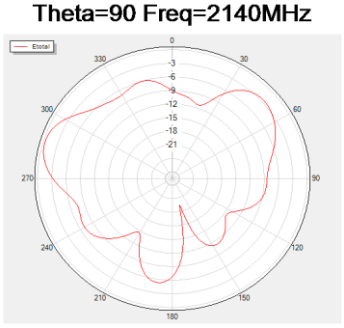
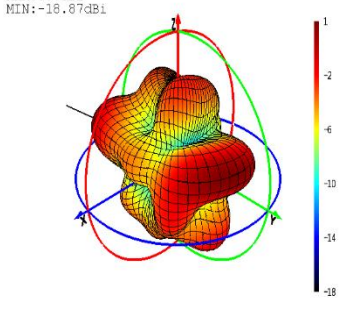
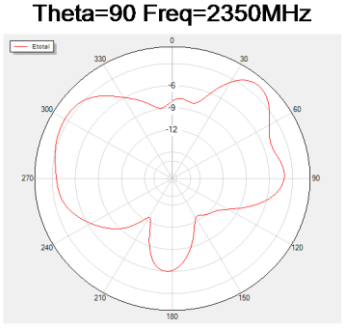
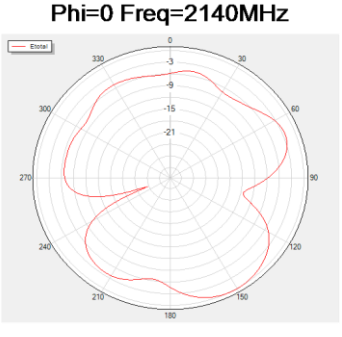
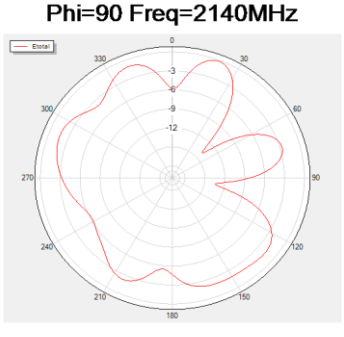
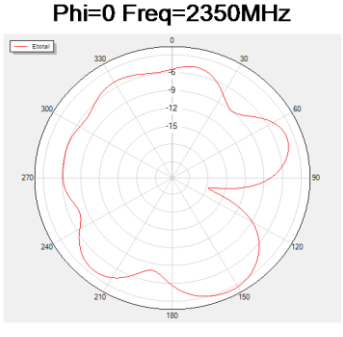
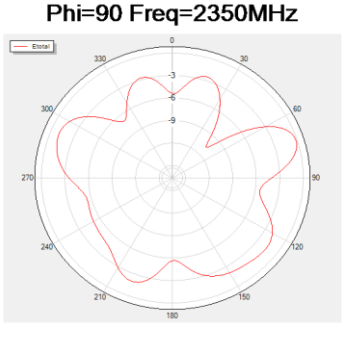
710 MHz		830 MHz	
			
			
900 MHz		1740 MHz	
			
			

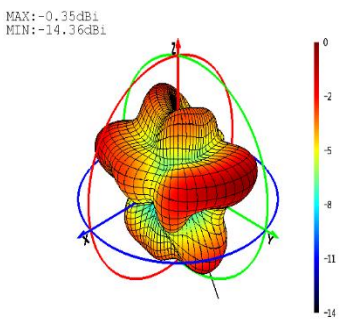
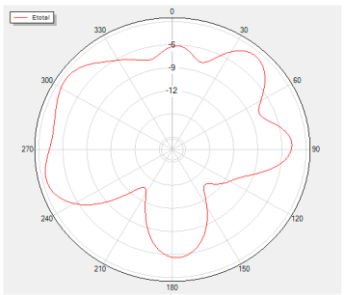
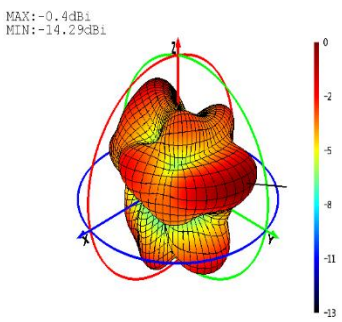
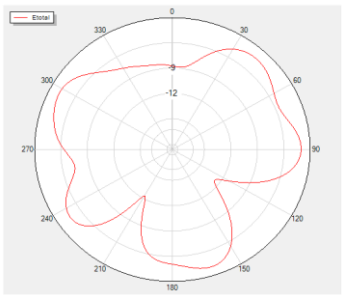
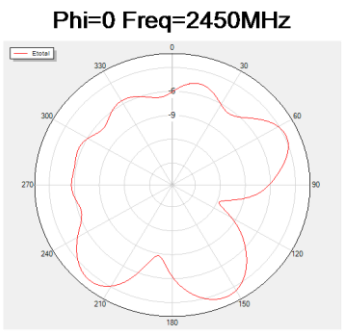
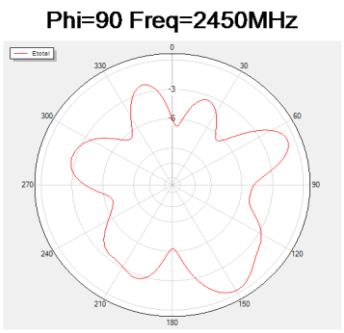
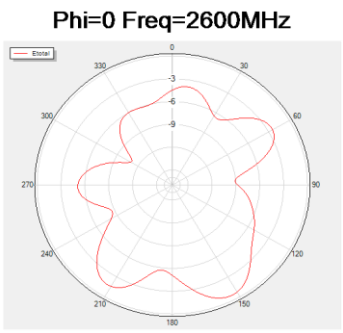
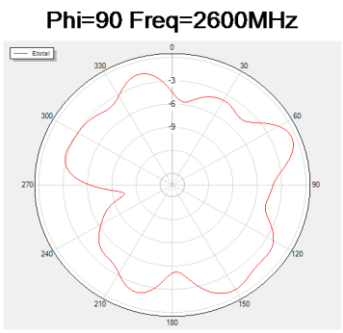
1880 MHz		1950 MHz	
			
			
2140 MHz		2350 MHz	
			
			

2450 MHz		2600 MHz	
			
			

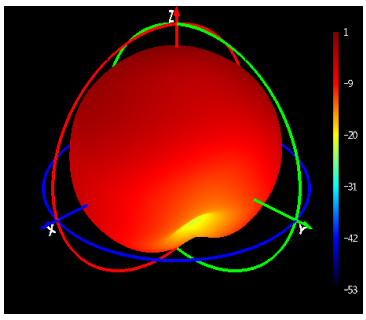
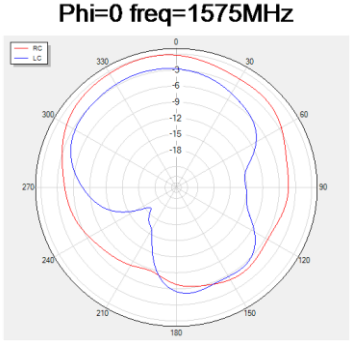
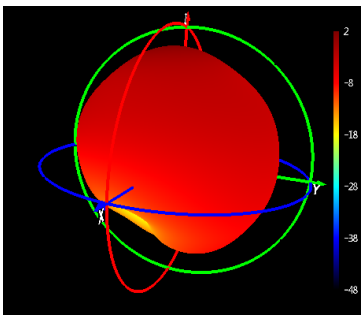
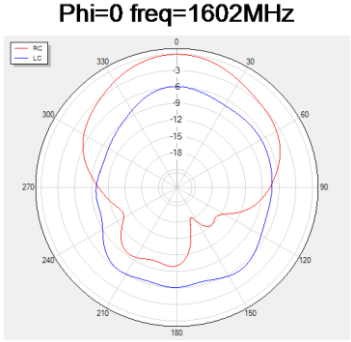
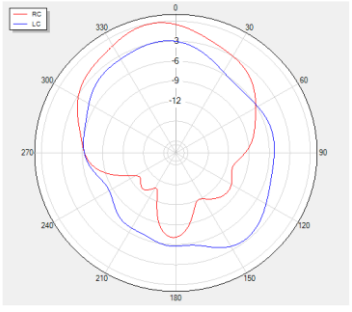
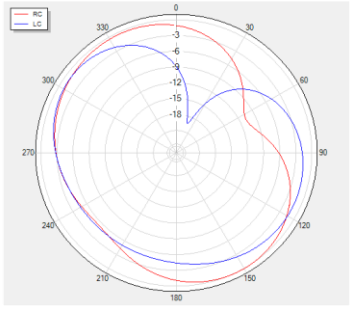
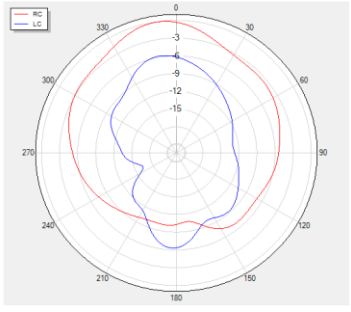
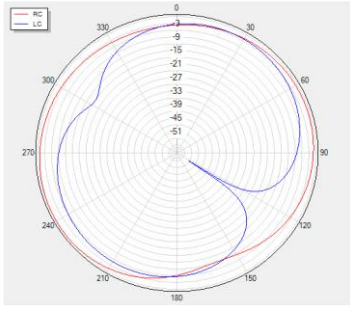
- **4G DIV**

710 MHz		830 MHz	
			
			
900 MHz		1740 MHz	
			
			

1880 MHz		1950 MHz	
			
			
2140 MHz		2350 MHz	
			
			

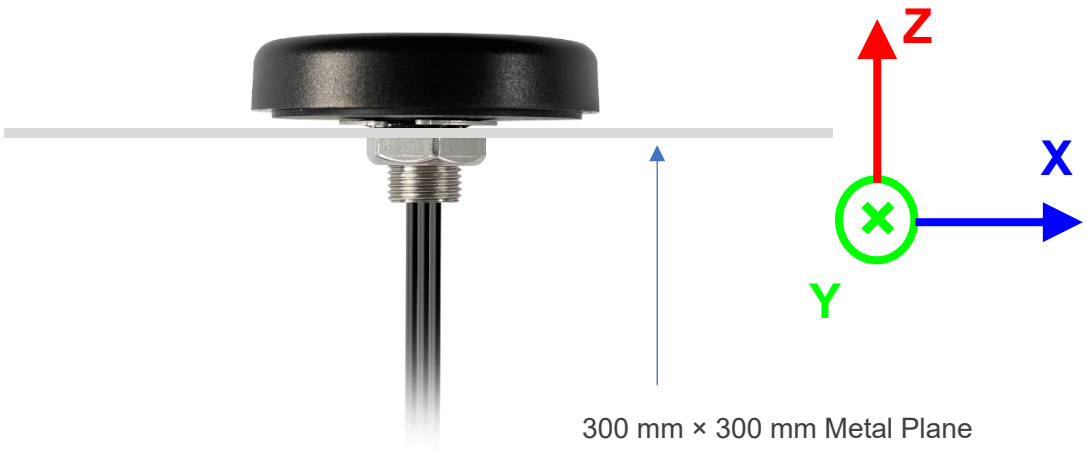
2450 MHz		2600 MHz	
			
			

- **GNSS**

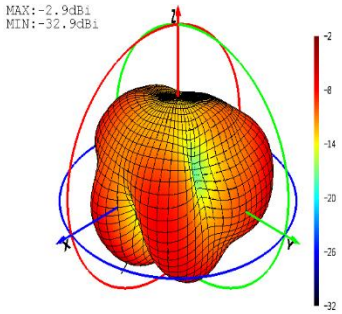
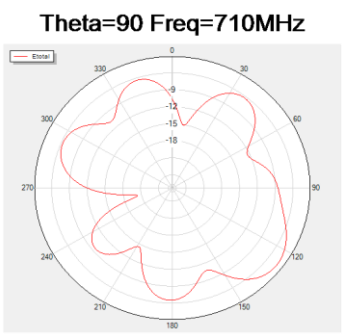
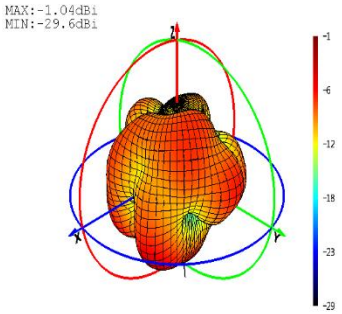
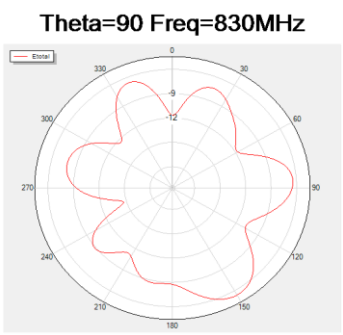
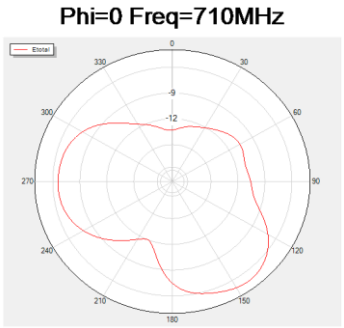
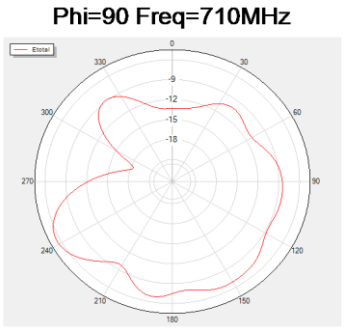
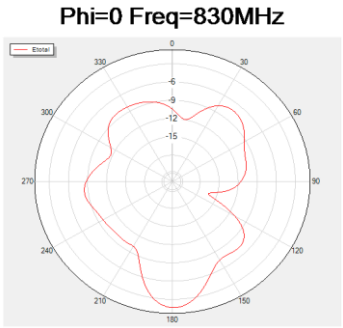
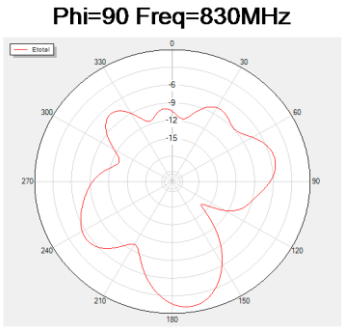
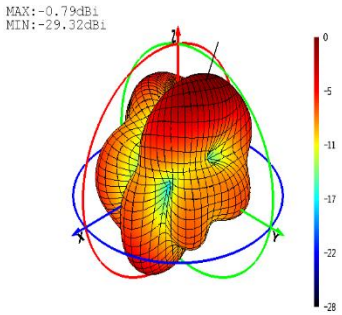
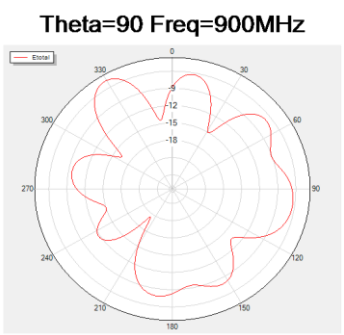
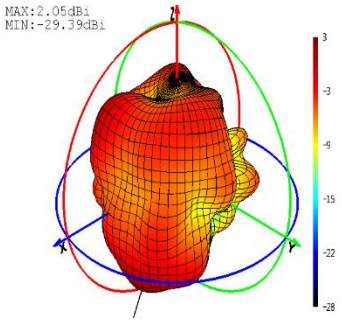
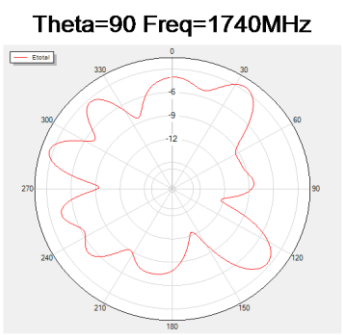
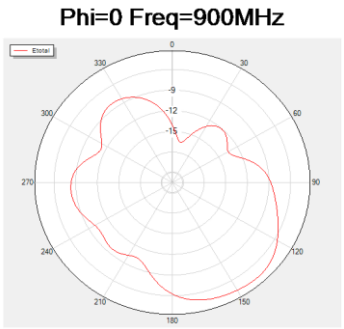
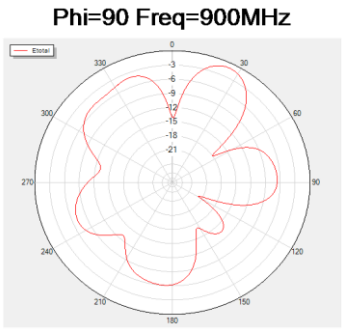
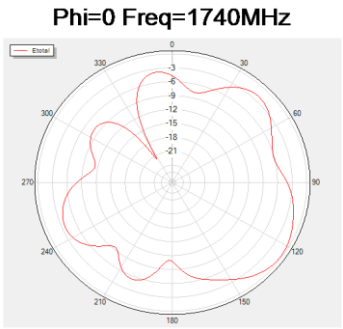
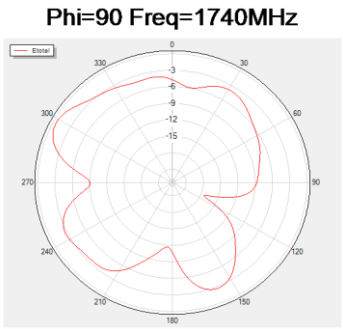
1575 MHz		1602 MHz	
			
			

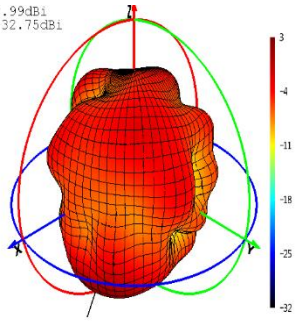
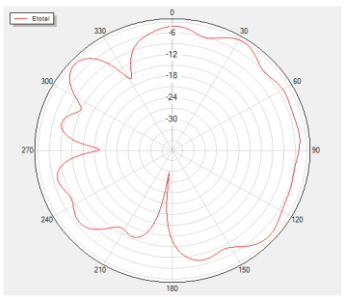
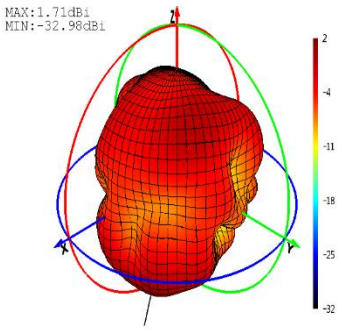
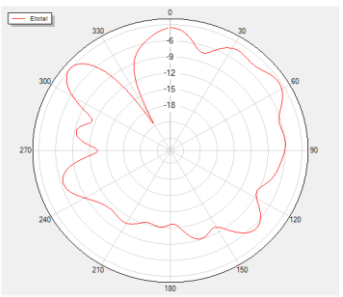
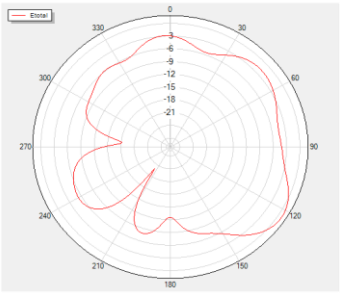
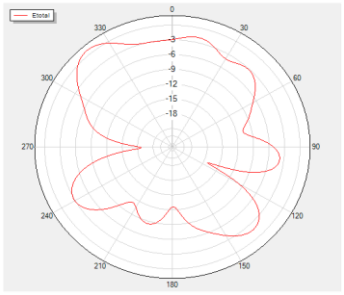
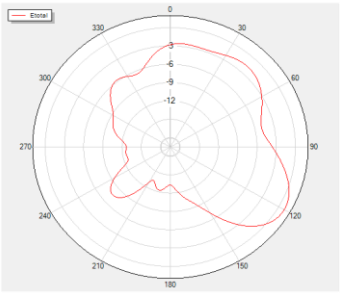
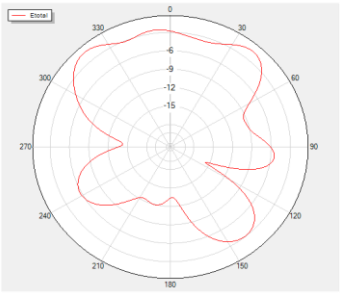
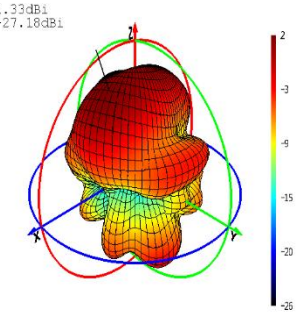
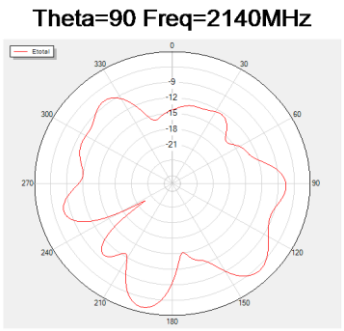
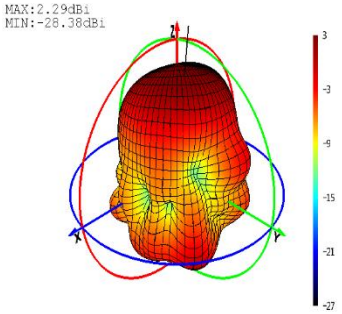
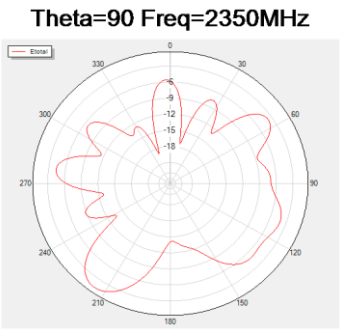
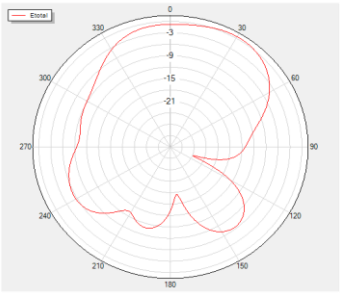
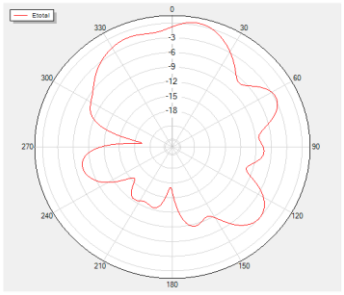
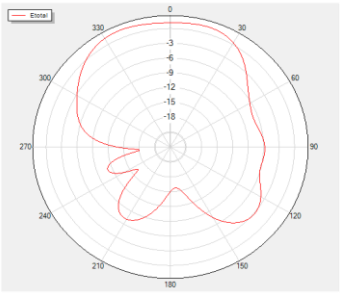
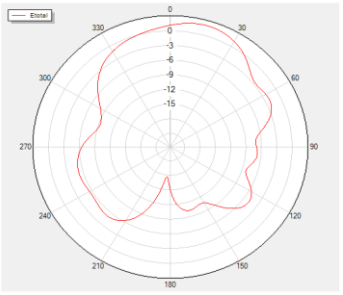
3.2.4.2 Test Status: On 300 mm × 300 mm Metal Plane

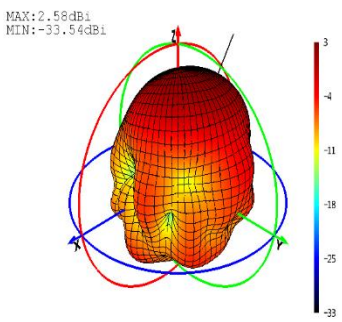
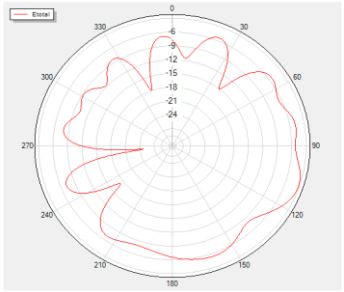
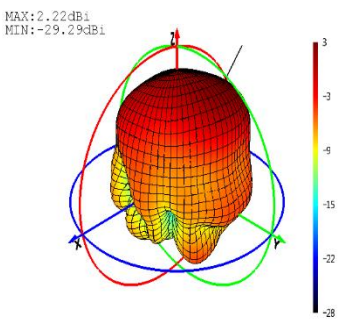
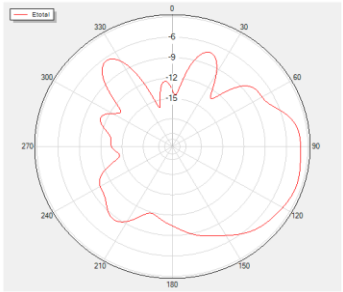
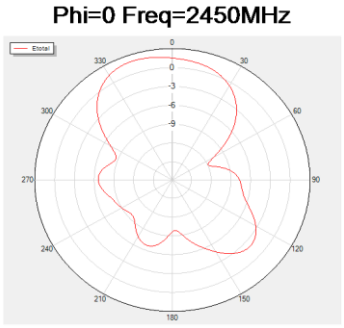
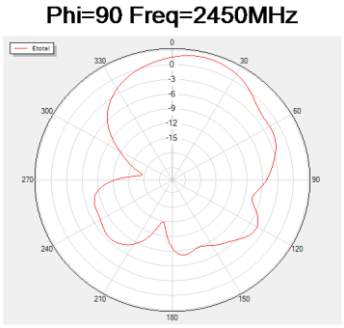
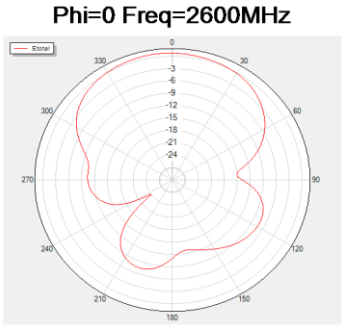
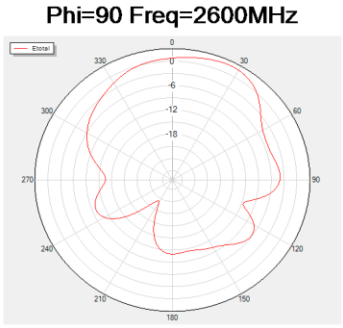
- Test Chamber: FS-S-1



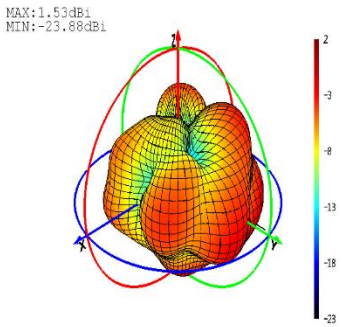
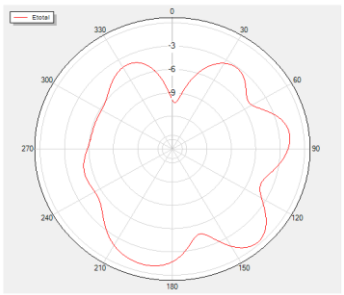
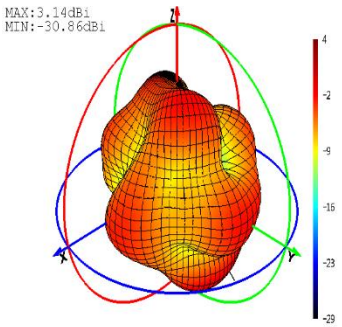
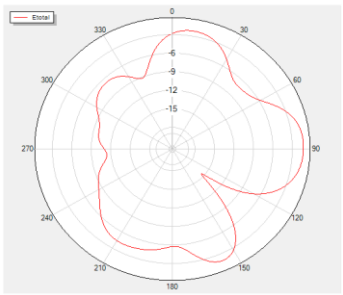
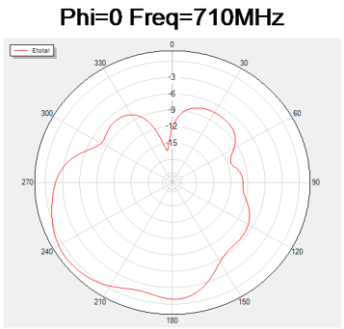
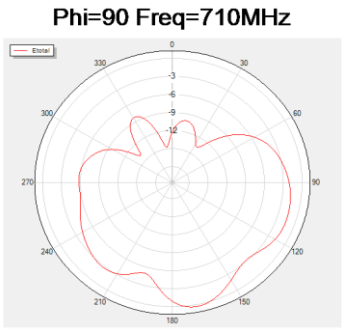
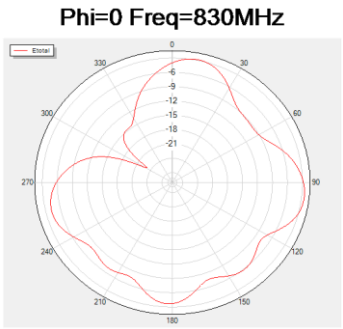
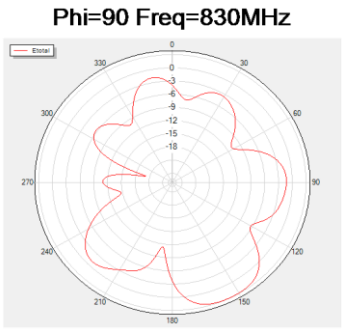
- **4G**

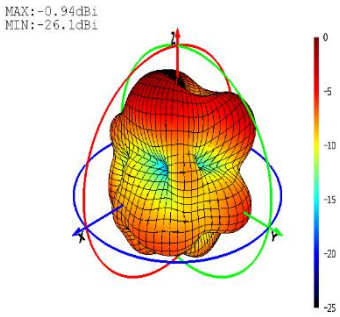
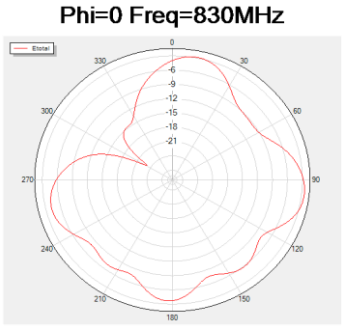
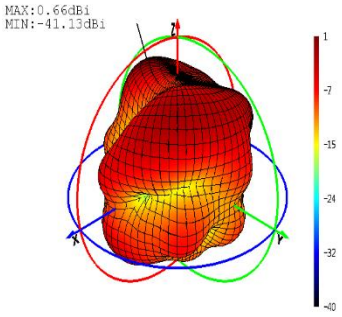
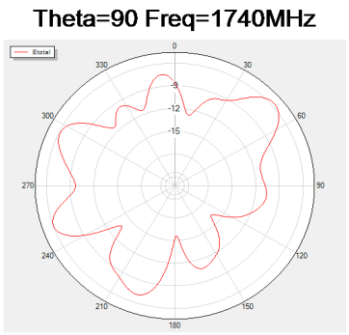
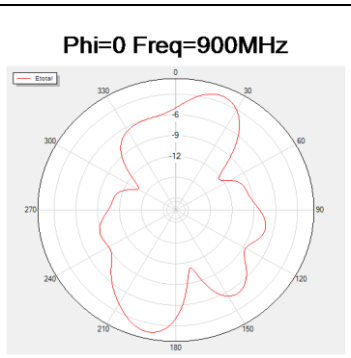
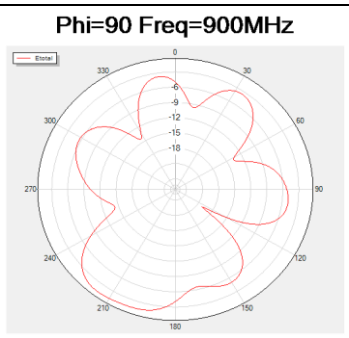
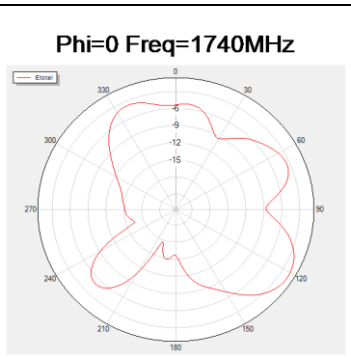
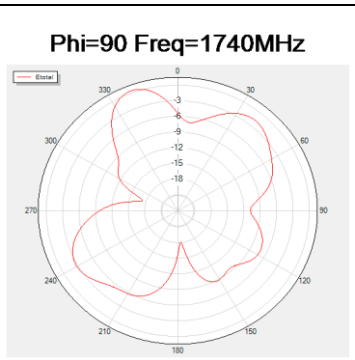
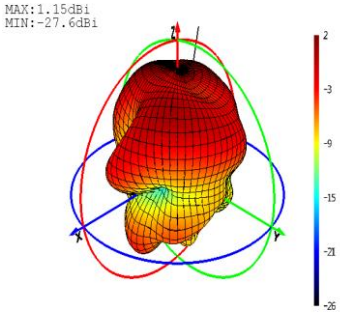
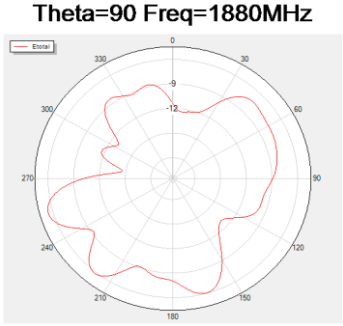
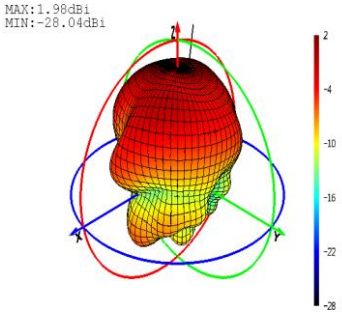
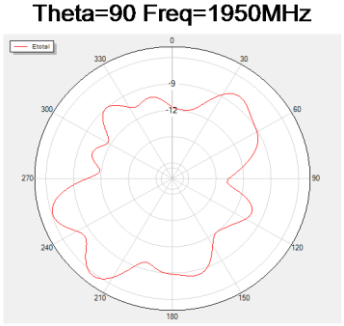
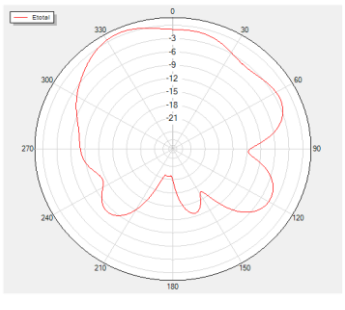
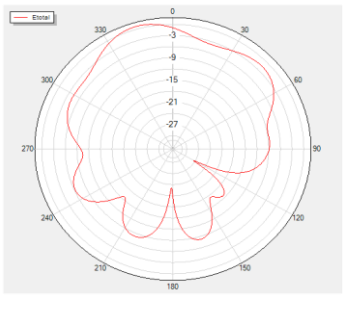
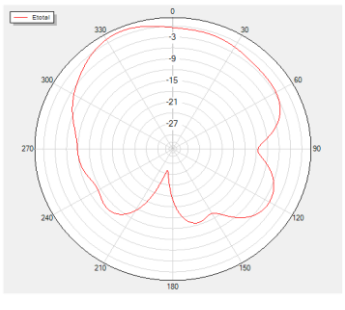
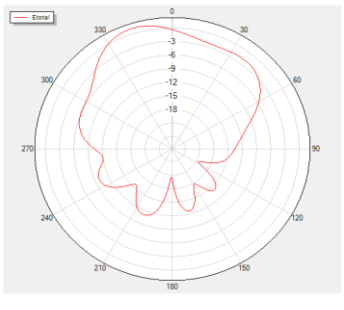
710 MHz		830 MHz	
			
			
900 MHz		1740 MHz	
			
			

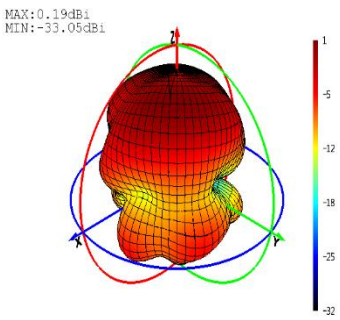
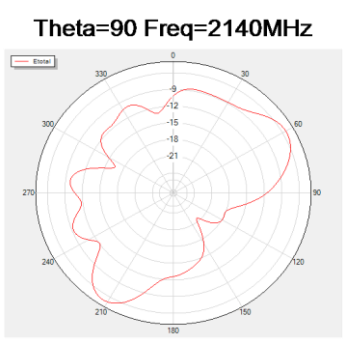
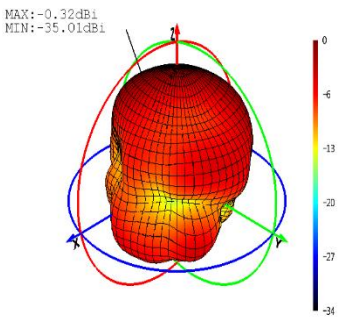
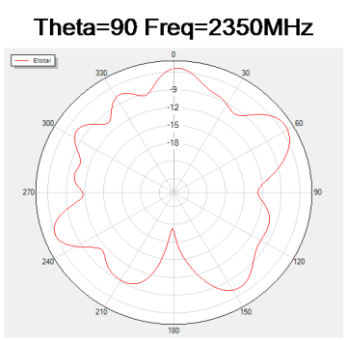
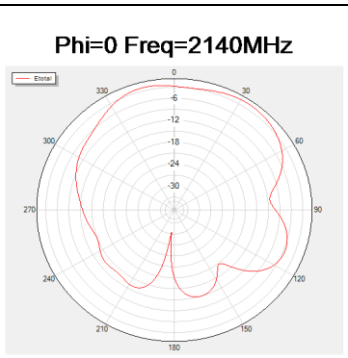
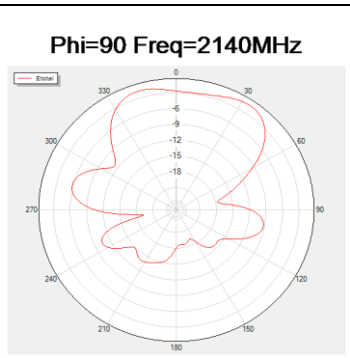
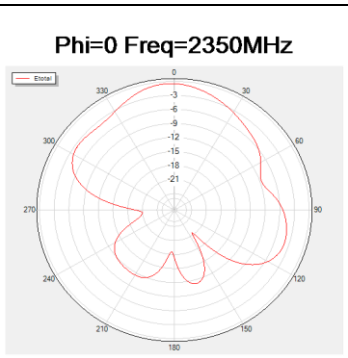
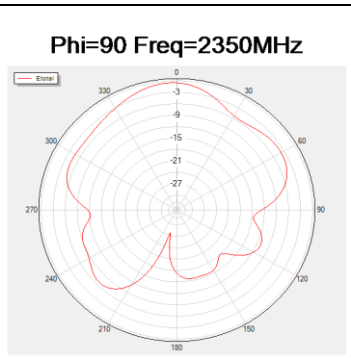
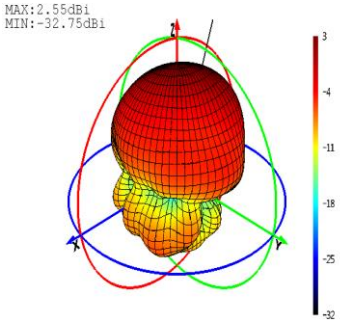
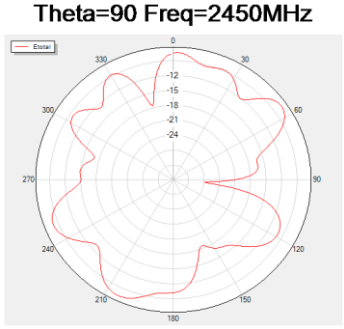
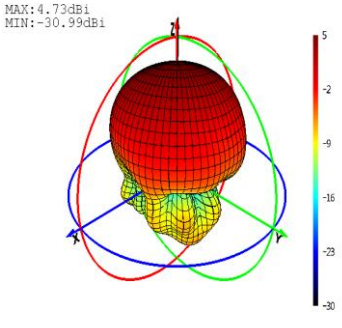
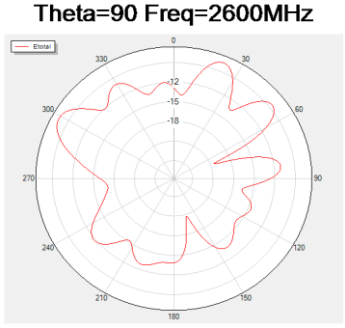
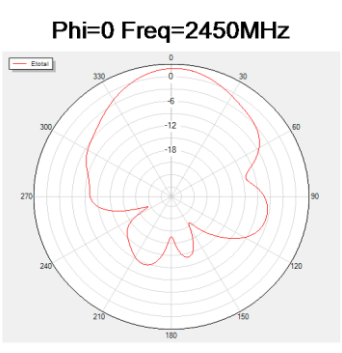
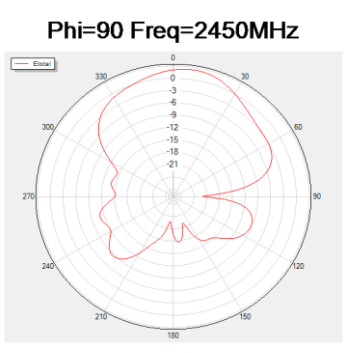
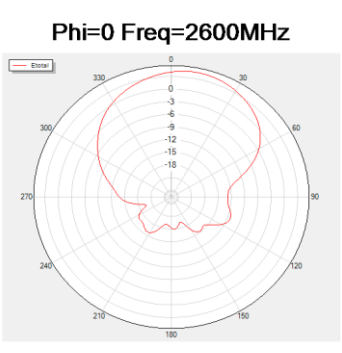
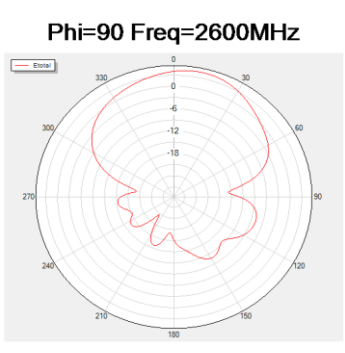
1880 MHz		1950 MHz	
			
			
2140 MHz		2350 MHz	
			
			

2450 MHz		2600 MHz	
			
			

- **4G DIV**

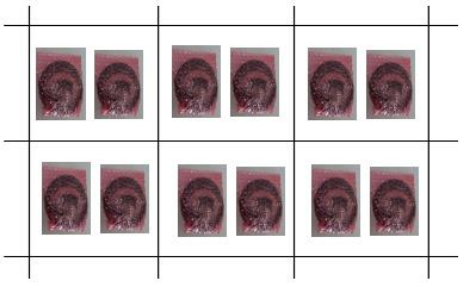
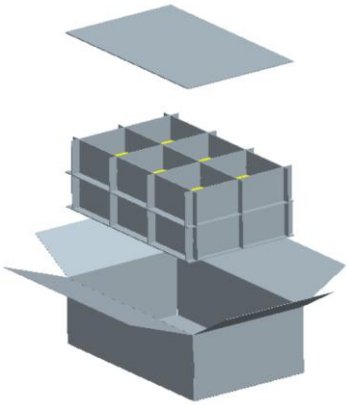
710 MHz		830 MHz	
			
			

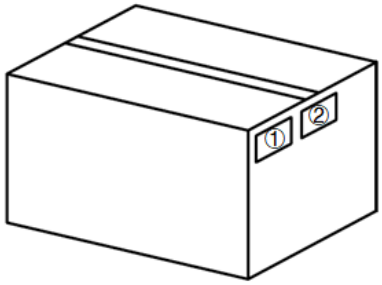
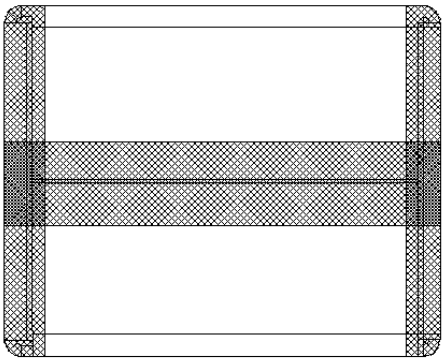
900 MHz		1740 MHz	
			
			
1880 MHz		1950 MHz	
			
			

2140 MHz		2350 MHz	
			
			
2450 MHz		2600 MHz	
			
			

4 Packaging

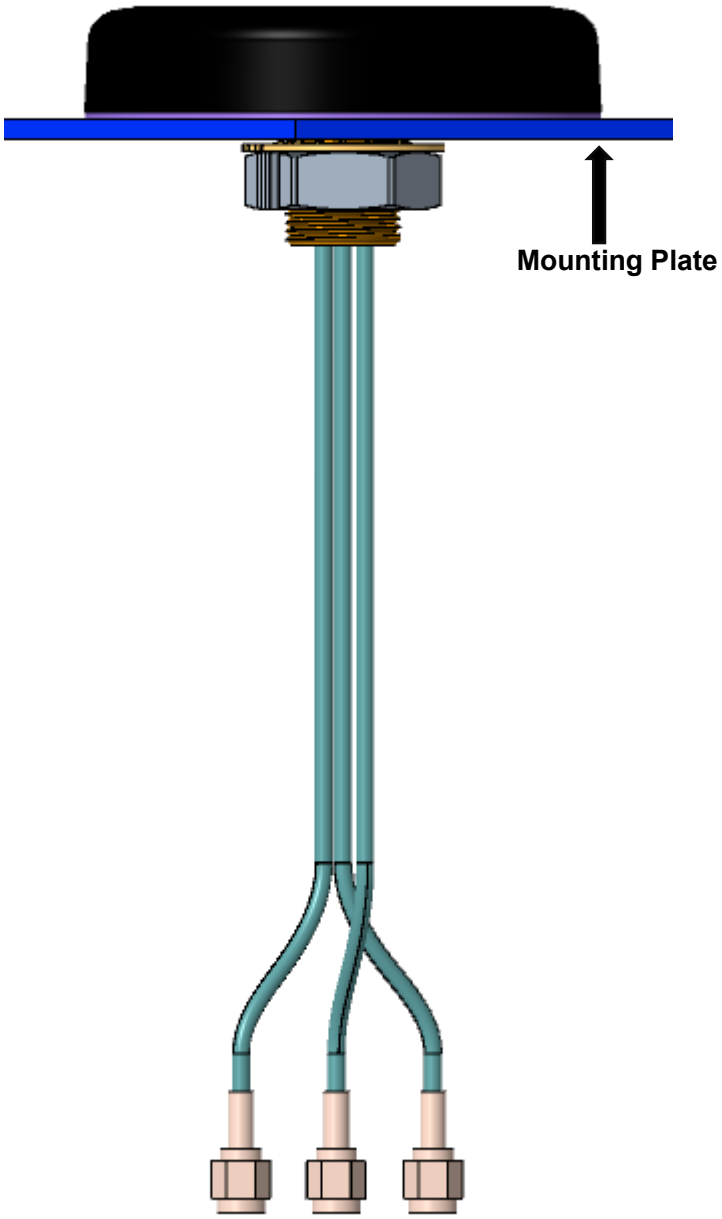
- **YEMN302Q1A**
- **YEMN202Q1A**

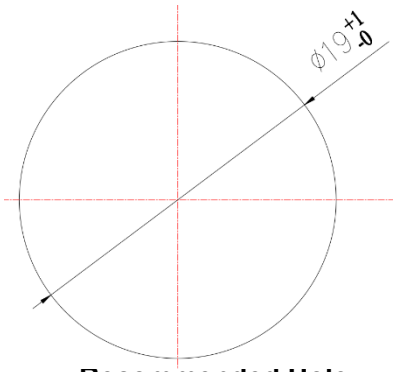
Step	Packaging Picture / 2D Picture	Description
1		1 antenna product in anti-static bubble bag. (1 Antenna / Anti-static Bubble Bag)
2		Put the product in the knife card slot, 2 products in each card slot and 12 products on a layer.
3		Stack 2 layers of knife cards. (24 Antennas / Carton Box) Carton Size: L × W × H = 550 × 350 × 210 mm

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

5 Installation

- Recommended hole dimensions as below view.
- Recommended mounting plate thickness: 2–10 mm.
- Recommended mounting plate size: ≥ Φ 85 mm.





Recommended Hole

Installation Instructions					
Tube Mark	Tube Color	Cable	Connector	Frequency (MHz)	Technology
4G	Red	ALSR100	SMA Male	700–960 MHz, 1710–2690 MHz	4G/3G/2G
4G-DIV	Red	ALSR100	SMA Male	700–960 MHz, 1710–2690 MHz	4G/3G/2G
GNSSL1 & G1	Blue	RG174	SMA Male	1565–1606 MHz	GPS/GLONASS/GALILEO/ BDS/QZSS

6 Appendix Reference

Abbreviation	Description
4G	4th-Generation Mobile Communication Technology
3G	3rd-Generation Mobile Communication Technology
2G	2nd-Generation Mobile Communication Technology
GNSS	Global Navigation Satellite System
GLONASS	Global Navigation Satellite System (Russia)
GPS	Global Positioning System
QZSS	Quasi-Zenith Satellite System
LTE	Long Term Evolution
LTE-A	LTE-Advanced
NB-IoT	Narrow Band Internet of Things
LPWA	Low Power Wide Area
WCDMA	Wideband Code Division Multiple Access
GSM	Global System for Mobile Communications
Wi-Fi	Wireless Fidelity
GND	Ground
LMH	Low-Middle-High Bands
MH	Middle-High Envelope Bands
FS	In Free Space
MP	On Metal Plane
VSWR	Voltage Standing Wave Ratio
S-Parameter	Scatter Parameter

LNA	Low Noise Amplifier
GPRS	General Packet Radio Service
WLAN	Wireless Local Area Network
RHCP	Right Hand Circularly Polarized
RoHS	Restriction of Hazardous Substances
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
IP	Ingress Protection

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Revision History

Version	Date	Author	Note
-	2023-11-29	Mordecai Liu/ Junsen Li/ Hart Hu/ Aria Chu	Creation of the document
1.0	2023-11-29	Mordecai Liu/ Junsen Li/ Hart Hu/ Aria Chu	First official release
1.1	2024-01-30	Hart Hu/ Vinnie Liu	Added Housing Flame Rating and Housing UV Resistant (Chapter 1.2).
1.2	2024-06-24	Hart Hu/ Rainey Liao	1. Updated the overview. 2. Updated the drawing (Chapter 2). 3. Added related products OC (Chapter 4). 4. Added Chapters 5 and 6.
1.3	2025-03-11	Rainey Liao	Updated the starting frequency to 698 MHz. (Homepage, Overview and Chapter 1.1).
1.4	2025-04-24	Aria Chu	Updated the antenna image (Cover page).
1.5	2025-08-11	Jason Long	1. Updated the antenna dimensions. 2. Added IK rating (Cover page and Chapter 1.2).
1.6	2025-10-15	Junsen Li	Added LNA gains according to different supply voltages (Chapter 1.1.3).

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