



Antenna Datasheet

Product OC: YEMN302Q1A

Version: 1.3

Date: 2025-03-11

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 × 16.5 mm

Efficiency: Up to 65.3 % (4G FS)

GNSS LNA Gain: 18 ±3 dB

RoHS and REACH Compliant

IP67

Overview

YEMN302Q1A is a 4G & GNSS 3-in-1 combo antenna measuring $\Phi 81.4 \times 16.5$ 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	3-in-1	Screw	M18
YEMN208L1AH	2	-	-	-	2-in-1	Screw	M18

Contents

Overview.....	1
Contents	2
1 Specification.....	3
1.1. Electrical.....	3
1.1.1. 4G.....	4
1.1.2. 4G DIV.....	5
1.1.3. GNSS	6
1.2. Mechanical & Environmental	7
1.3. Block Diagram (Active Antenna).....	8
1.4. Supported GNSS Frequency Bands.....	9
2 Drawing	11
3 Detailed Performance	12
3.1. S-Parameter Test	12
3.1.1. VSWR.....	12
3.1.2. Return Loss	15
3.1.3. Isolation	18
3.1.4. GNSS LNA Gain.....	19
3.1.5. GNSS Noise Figure.....	20
3.2. Radiation Performance Test.....	21
3.2.1. Efficiency	21
3.2.2. Average Gain	24
3.2.3. Peak Gain.....	26
3.2.4. 3D & 2D Radiation Pattern.....	29
3.2.4.1 Test Status: In Free Space	29
3.2.4.2 Test Status: On 300 mm × 300 mm Metal Plane	36
4 Packaging	42
5 Installation	44
6 Appendix Reference	46
Contact Us.....	48
Legal Notices	49
Revision History	51

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

SPEC \ Band	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 Plan

1.1.2. 4G DIV

SPEC	Band	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

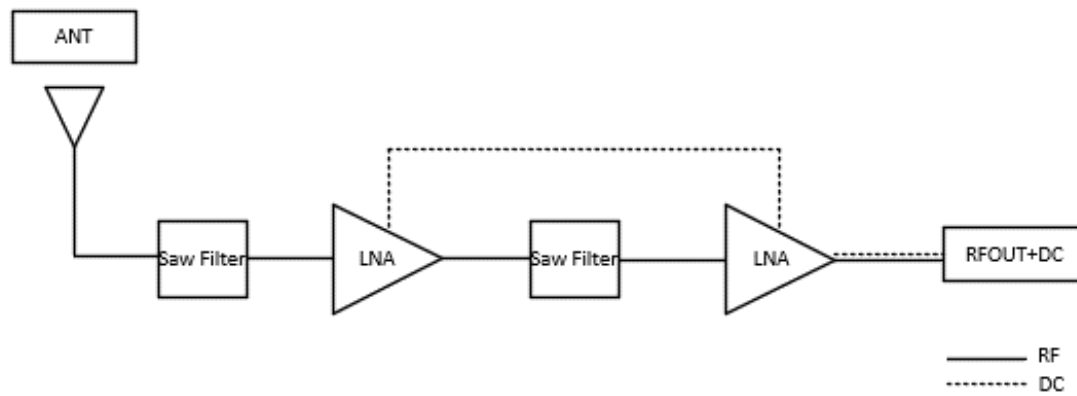
Band Frequency (MHz)	GPS L5 GALILEO E5a BDS B2a- B2I QZSS L5 IRNSS L5	GALILEO E5b BDS B2b	GPS L2 QZSS L2C	GLONASS G2	BDS B3	BDS B1I	GPS L1 GALILEO E1 BDS B1C QZSS L1	GLONASS G1
	1176	1207	1227	1248	1268	1561	1575	1602
VSWR	-	-	-	-	-	-	1.29	1.2
Return Loss (dB)	-	-	-	-	-	-	-17.9	-20.4
Efficiency (%)	-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

LNA Electrical	
LNA Gain	18 ±3 dB
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	2.7–3.6 V
Working Current	8.7 ±2 mA @ 3.3 V
Impedance	50 Ω

1.2. Mechanical & Environmental

Mechanical		
Antenna Dimensions		Φ 81.4 mm × 16.5 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
RoHS & REACH Compliant		Yes
Housing Flame Rating		UL 94 V-0
Housing UV Resistant		UL 746c f1

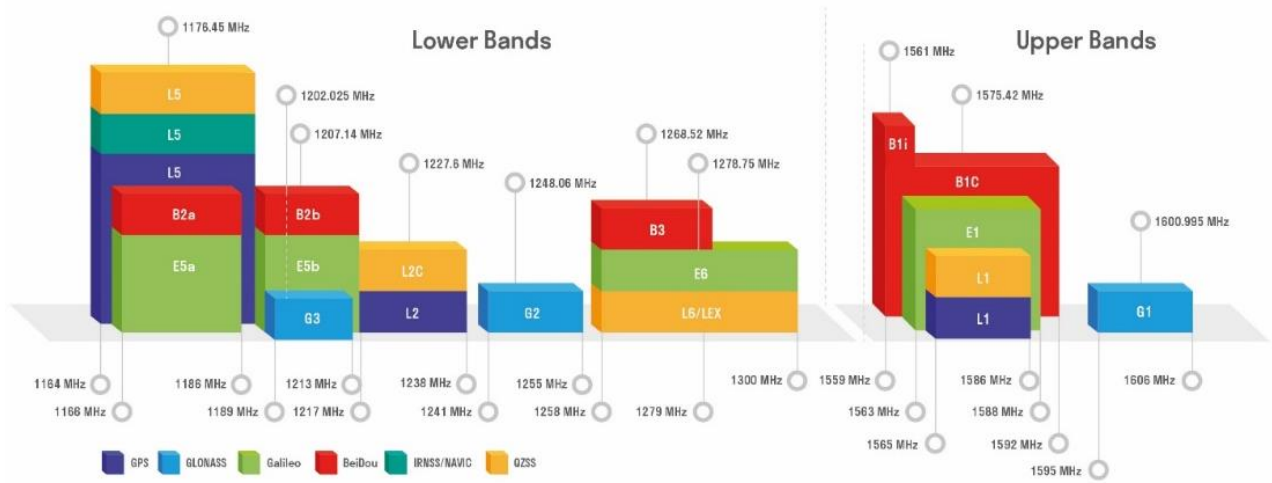
1.3. Block Diagram (Active Antenna)



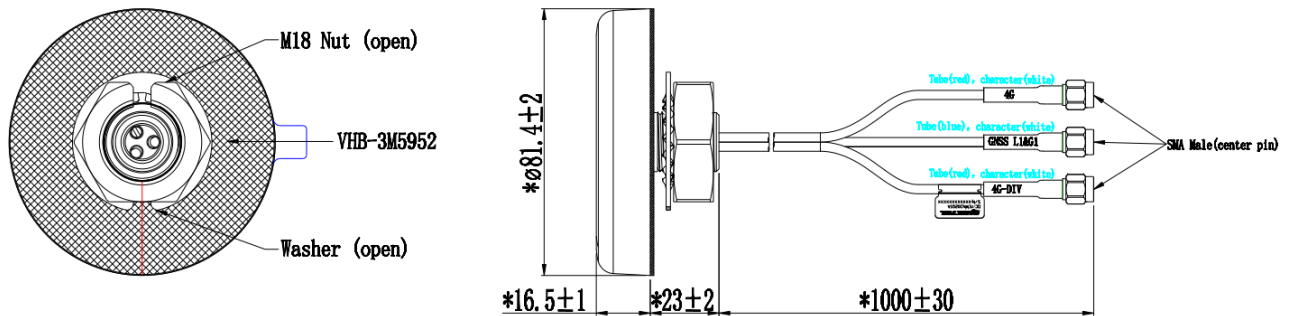
1.4. Supported GNSS Frequency Bands

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-L10C-L10F Centre 1601 (1595–1606)	G2-L20C-L20F Centre 1248.06 (1241–1255)	G3-L30C 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



2 Drawing

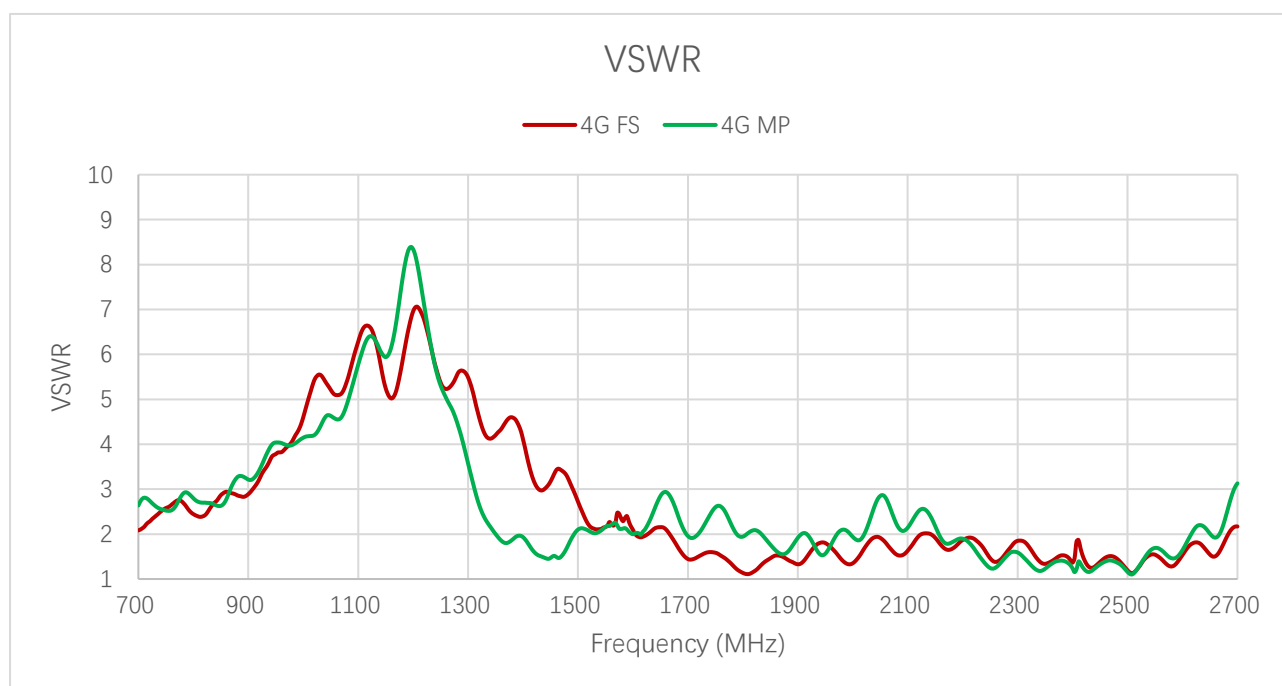


The current state of the SMA connector is not waterproof. If a waterproof connector is required, it can be customized, such as a waterproof FAKRA connector.

3 Detailed Performance

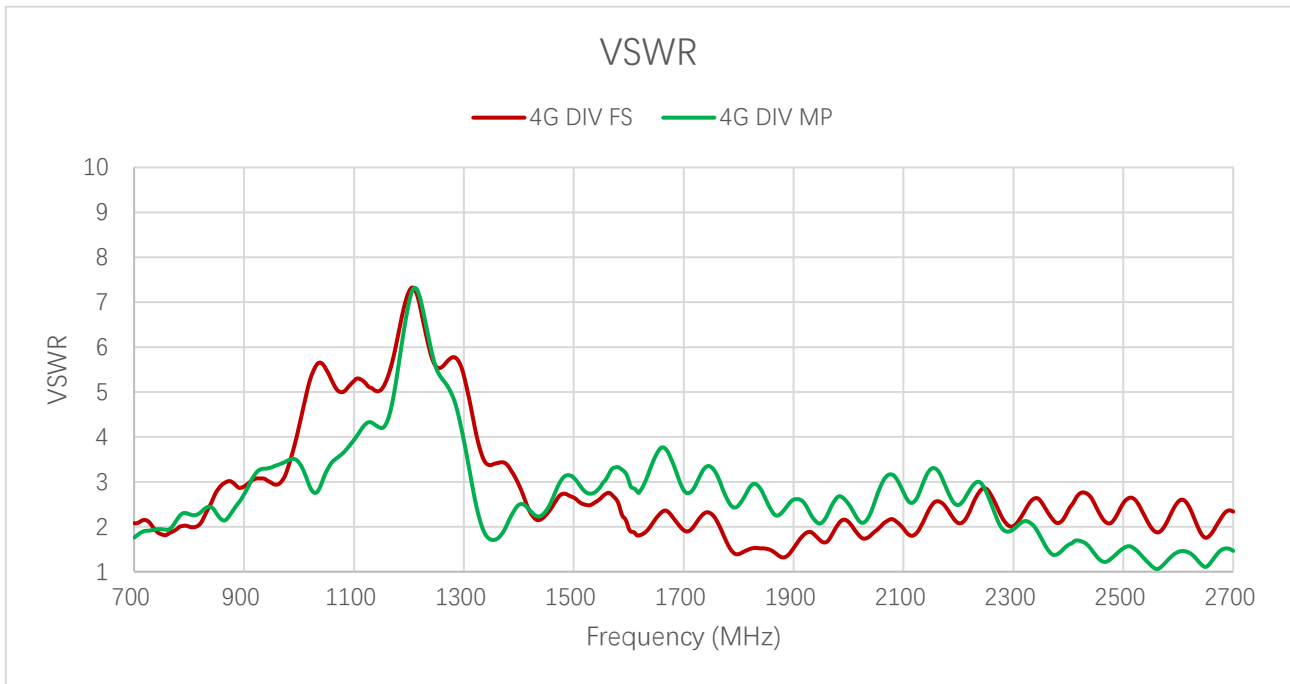
3.1. S-Parameter Test

3.1.1. VSWR



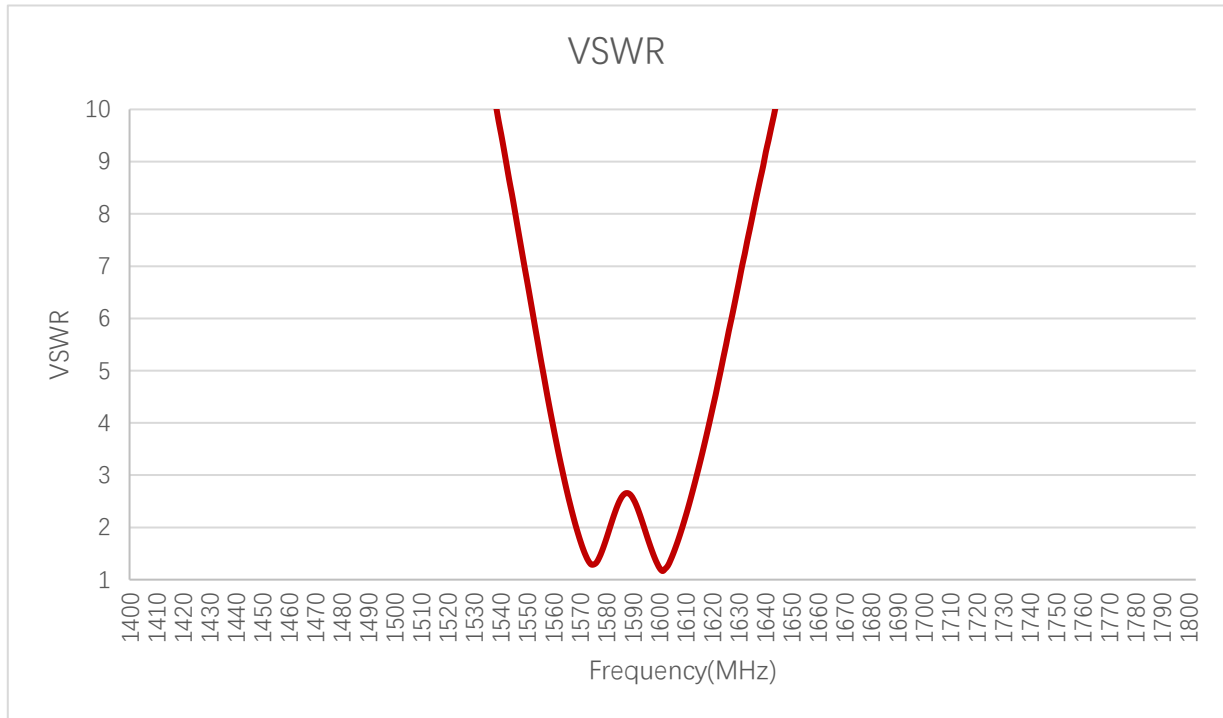
VSWR – 4G

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

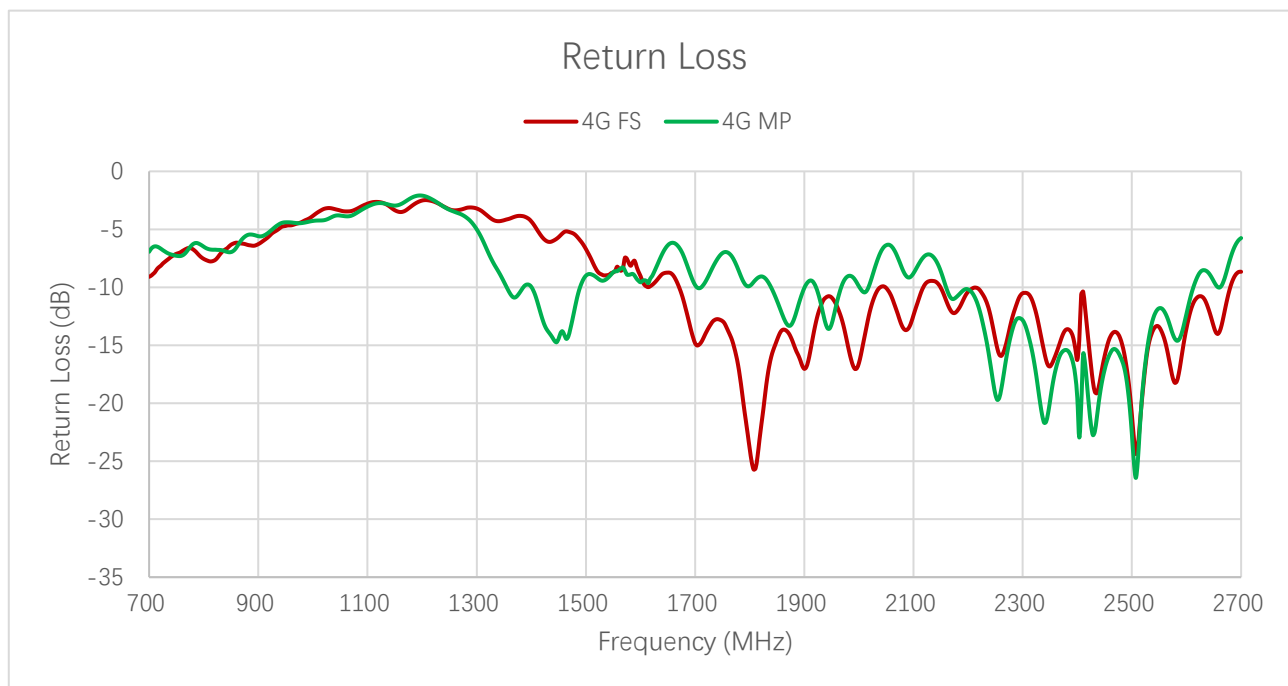
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	2.1	2.3	2.9	2.9	-	1.9	2.3	1.3
MP	-	-	1.9	2.4	2.7	3.4	-	2.8	3.3	2.3
Frequency (MHz)	1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
FS	1.7	2.2	2.0	2.6	2.6	2.4	-	-	-	-
MP	2.1	3.1	1.8	1.4	1.4	1.5	-	-	-	-



VSWR – GNSS

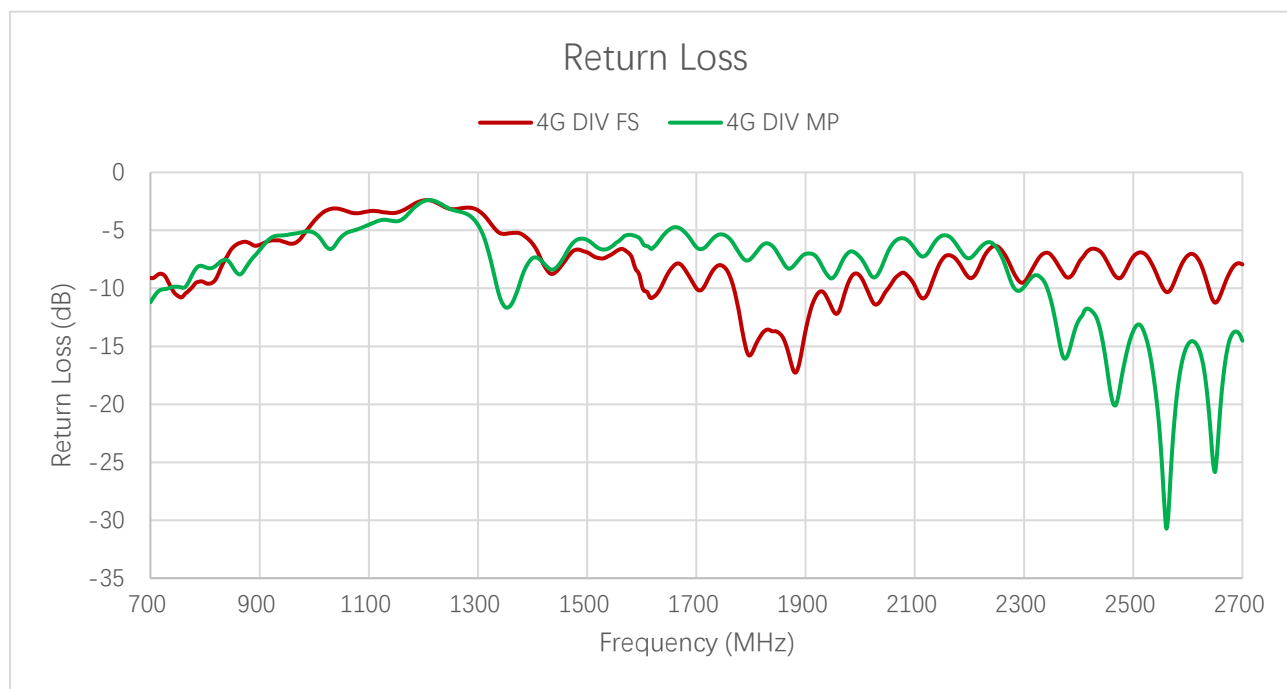
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
VSWR	-	-	-	-	-	-	1.29	1.2

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

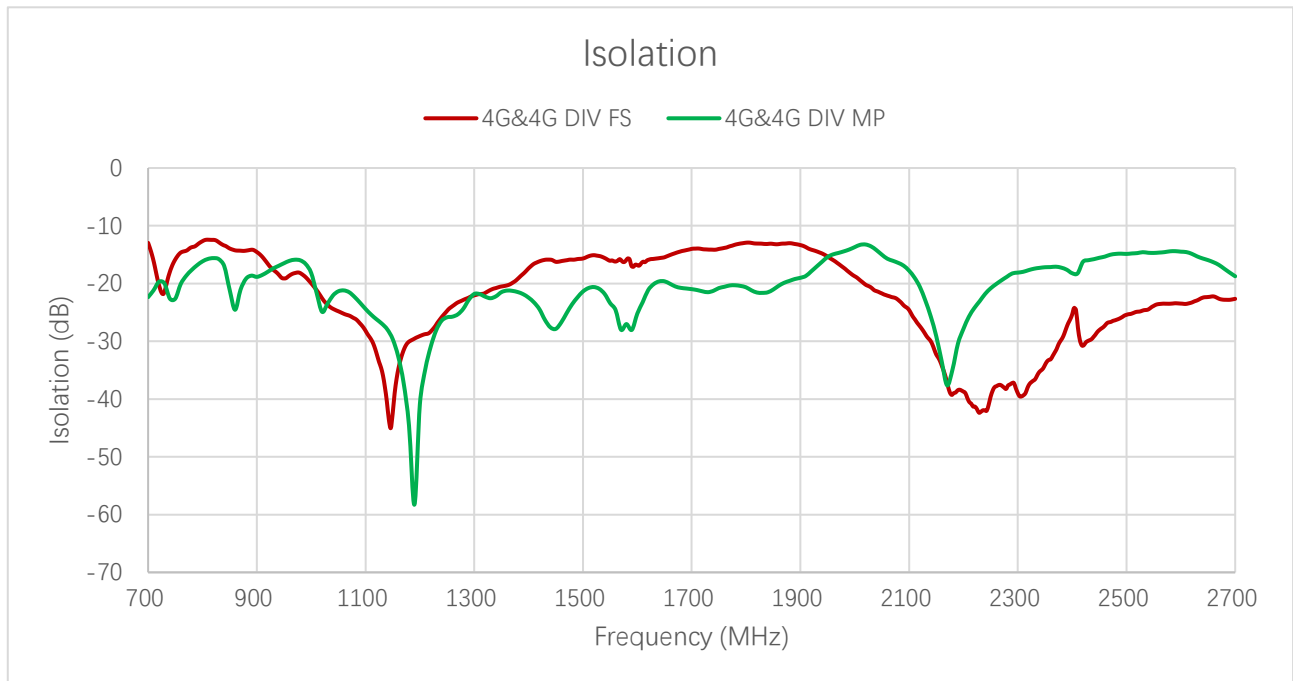
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-8.9	-8.3	-6.3	-6.2	-	-10.1	-8.0	-17.2
MP	-	-	-10.4	-7.7	-6.7	-5.3	-	-6.6	-5.4	-8.0
Frequency (MHz)	1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
FS	-11.9	-8.5	-7.1	-7.5	-7.2	-7.9	-	-	-	-
MP	-9.1	-5.9	-11.2	-16.2	-14.9	-13.7	-	-	-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



Return Loss (dB) – GNSS

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

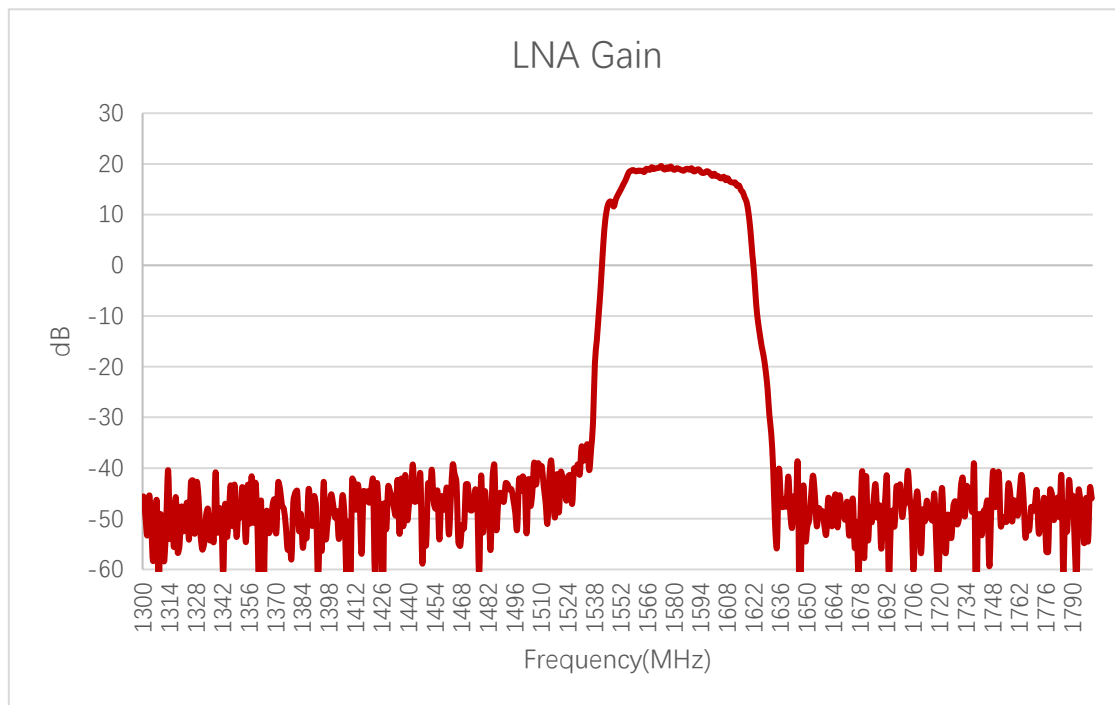
3.1.3. Isolation



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	-	-	-

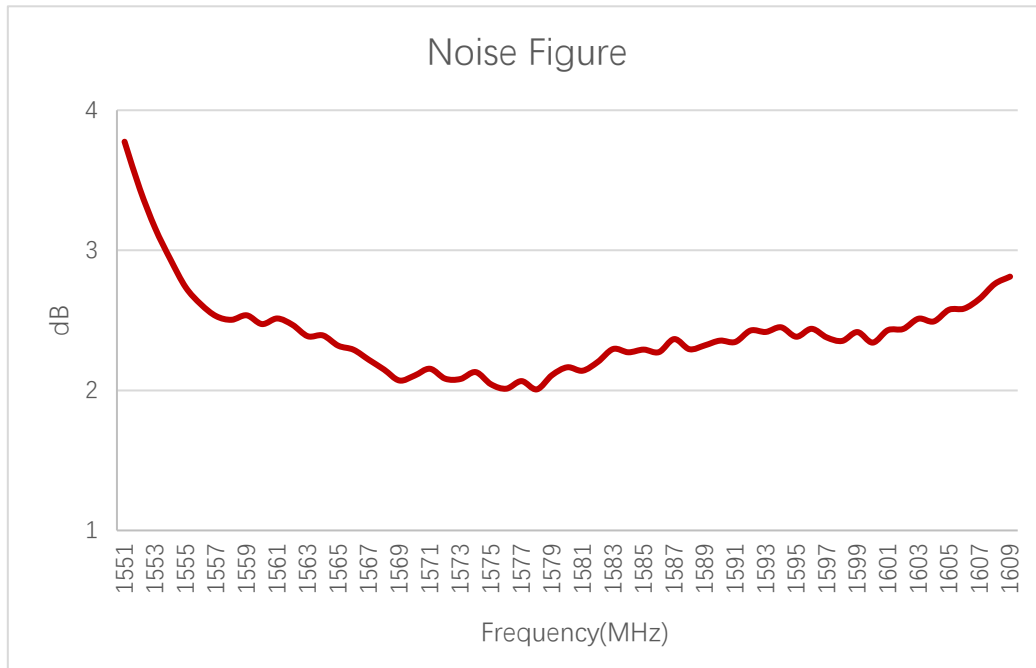
3.1.4. GNSS LNA Gain



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

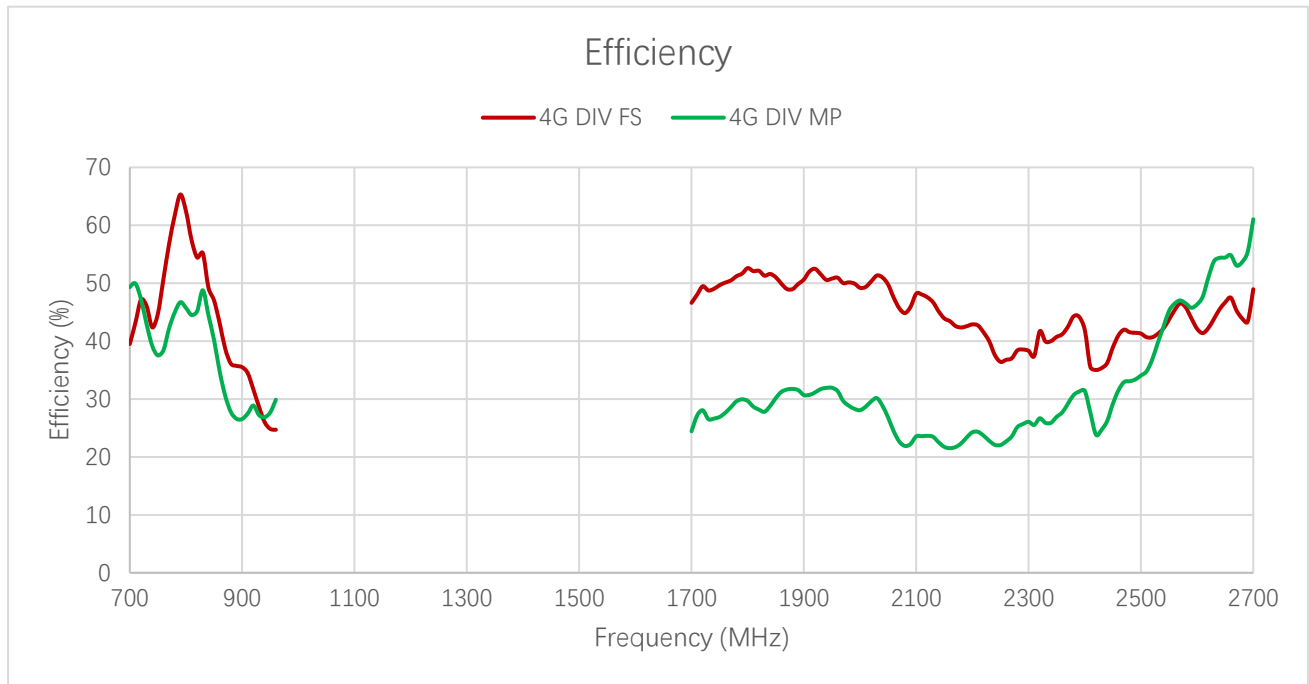
3.2. Radiation Performance Test

3.2.1. Efficiency



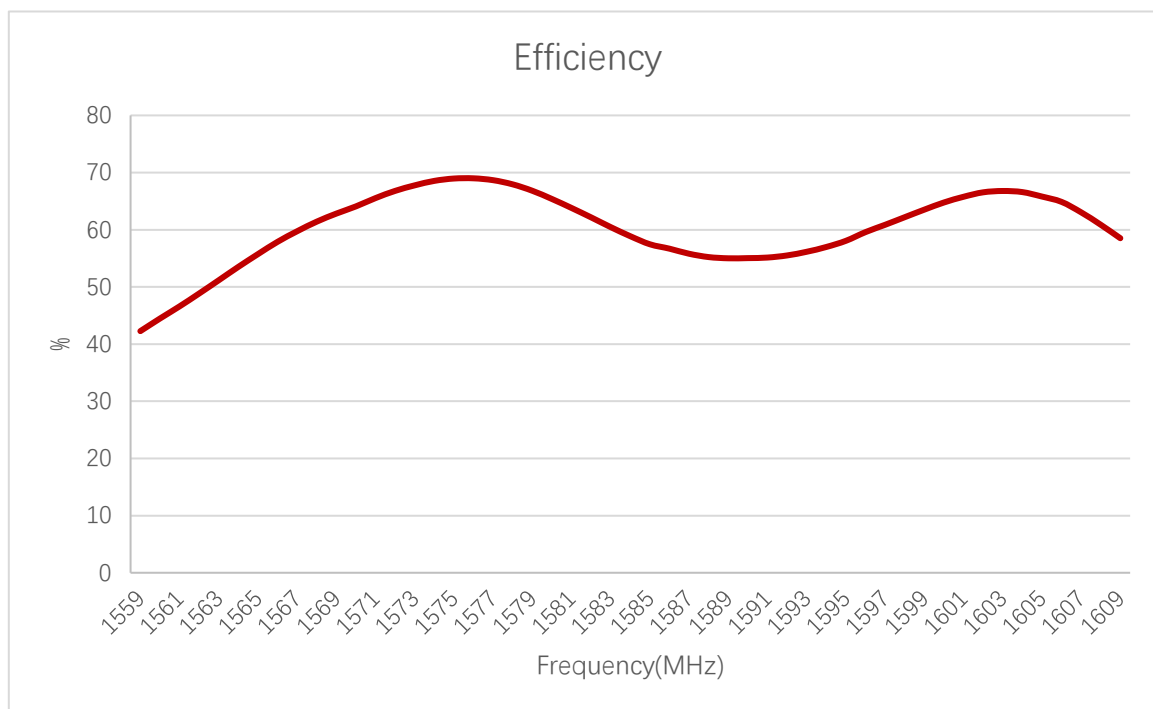
Efficiency (%) – 4G

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

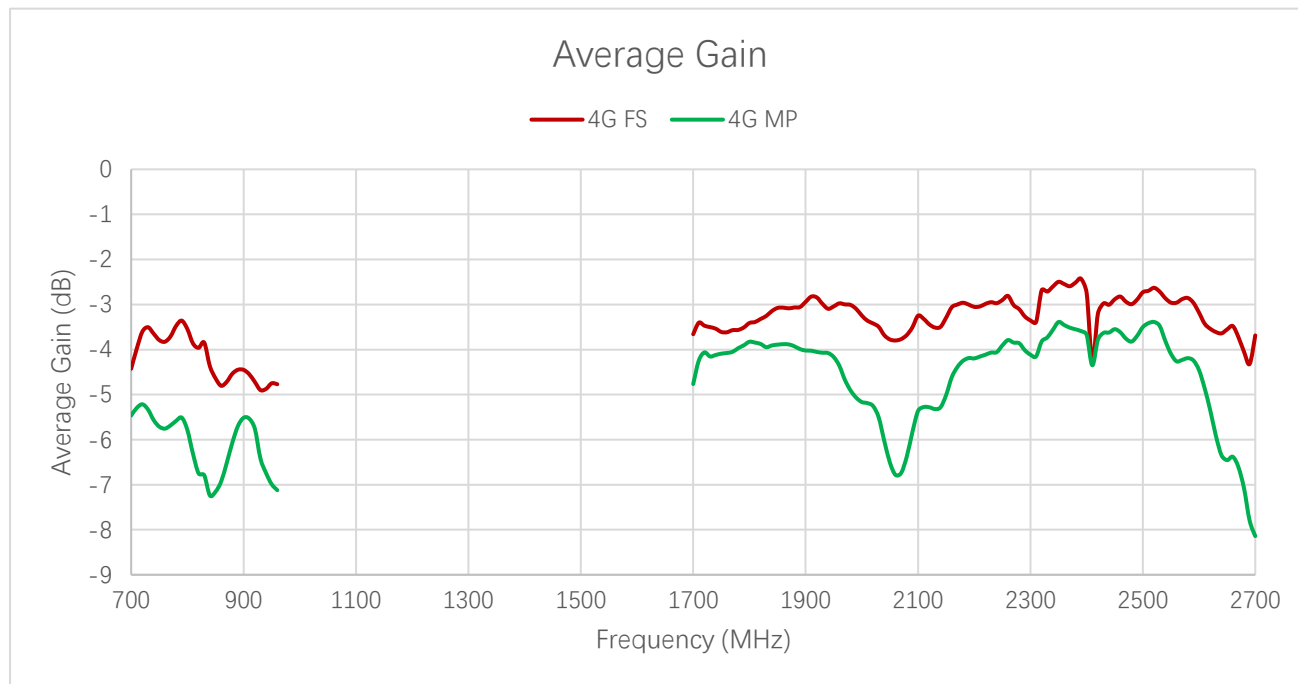
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	43.2	55.2	35.5	24.7	-	48.0	49.0	49.0
MP	-	-	50.0	48.8	26.6	29.9	-	27.2	26.6	31.8
Frequency (MHz)	1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
FS	50.8	45.1	40.7	38.9	42.1	43.4	-	-	-	-
MP	31.9	22.5	26.9	29.2	46.4	55.4	-	-	-	-



Efficiency (%) – GNSS

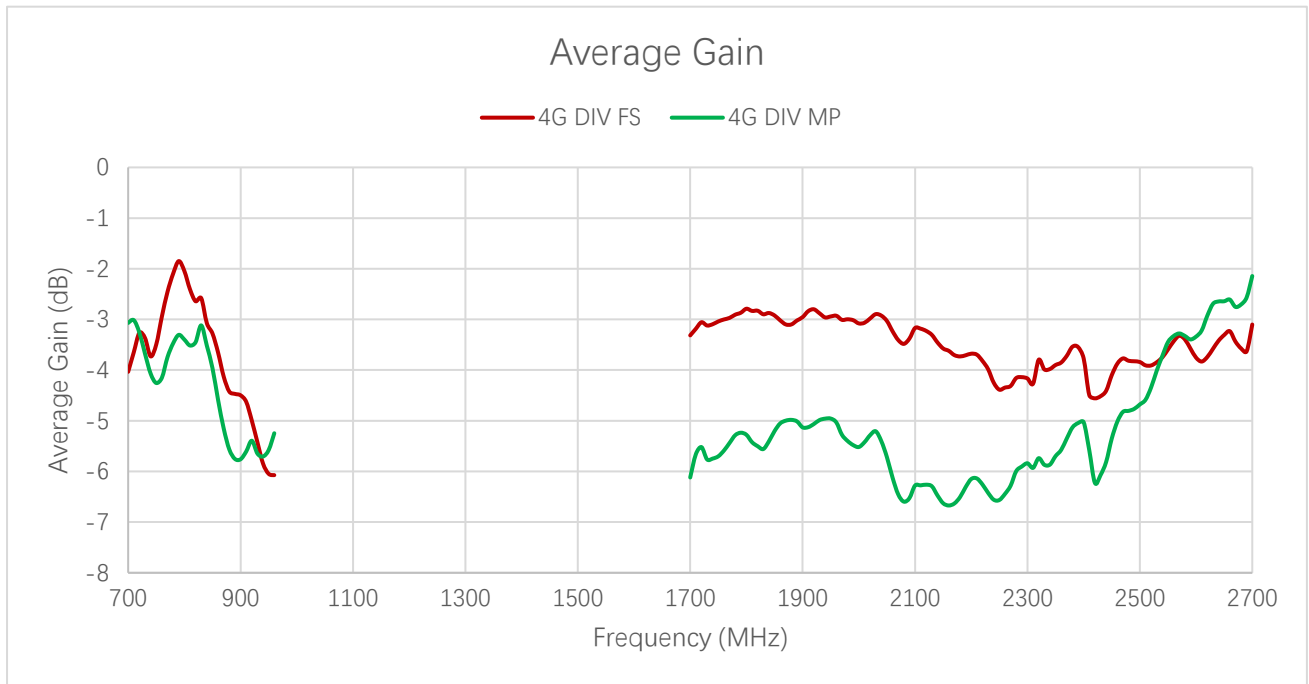
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Efficiency (%)	-	-	-	-	-	-	68	66

3.2.2. Average Gain



Average Gain (dB) – 4G

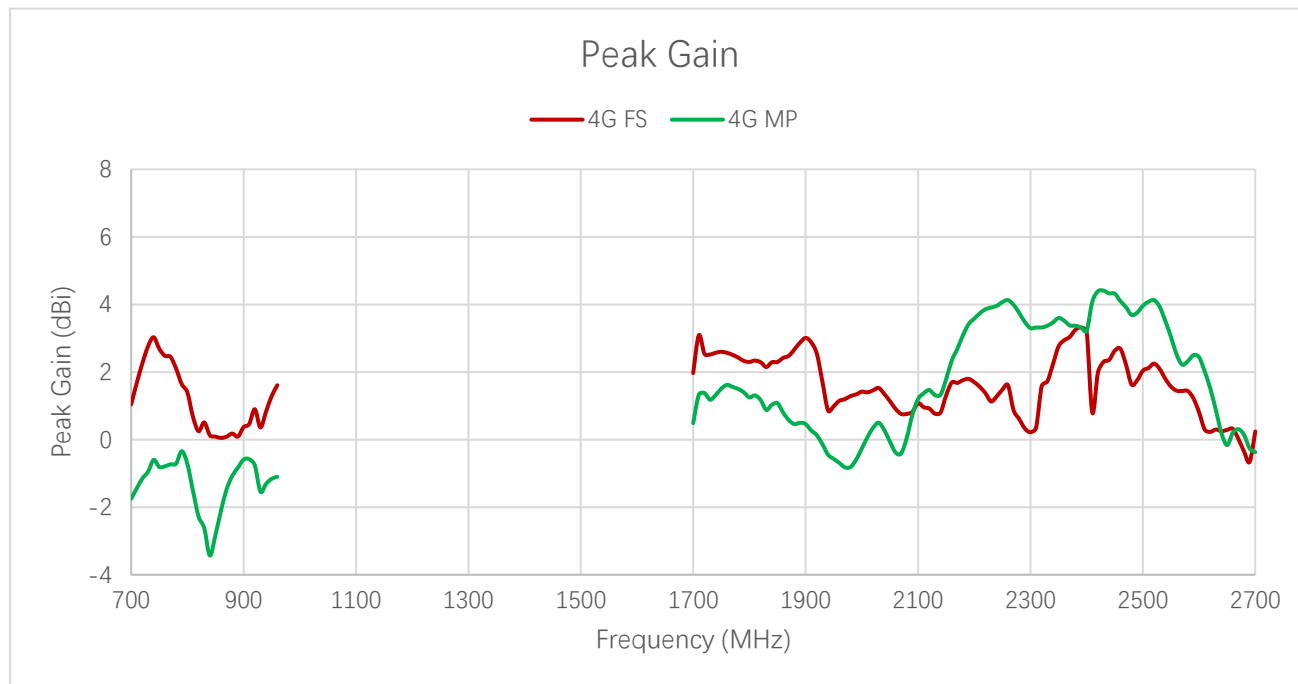
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-4.0	-3.8	-4.5	-4.8	-	-3.4	-3.5	-3.1
MP	-	-	-5.3	-6.8	-5.5	-7.1	-	-4.2	-4.1	-3.9
Frequency (MHz)	1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
FS	-3.0	-3.5	-2.5	-2.9	-3.2	-4.3	-	-	-	-
MP	-4.2	-5.3	-3.4	-3.5	-4.5	-7.8	-	-	-	-



Average Gain (dB) – 4G DIV

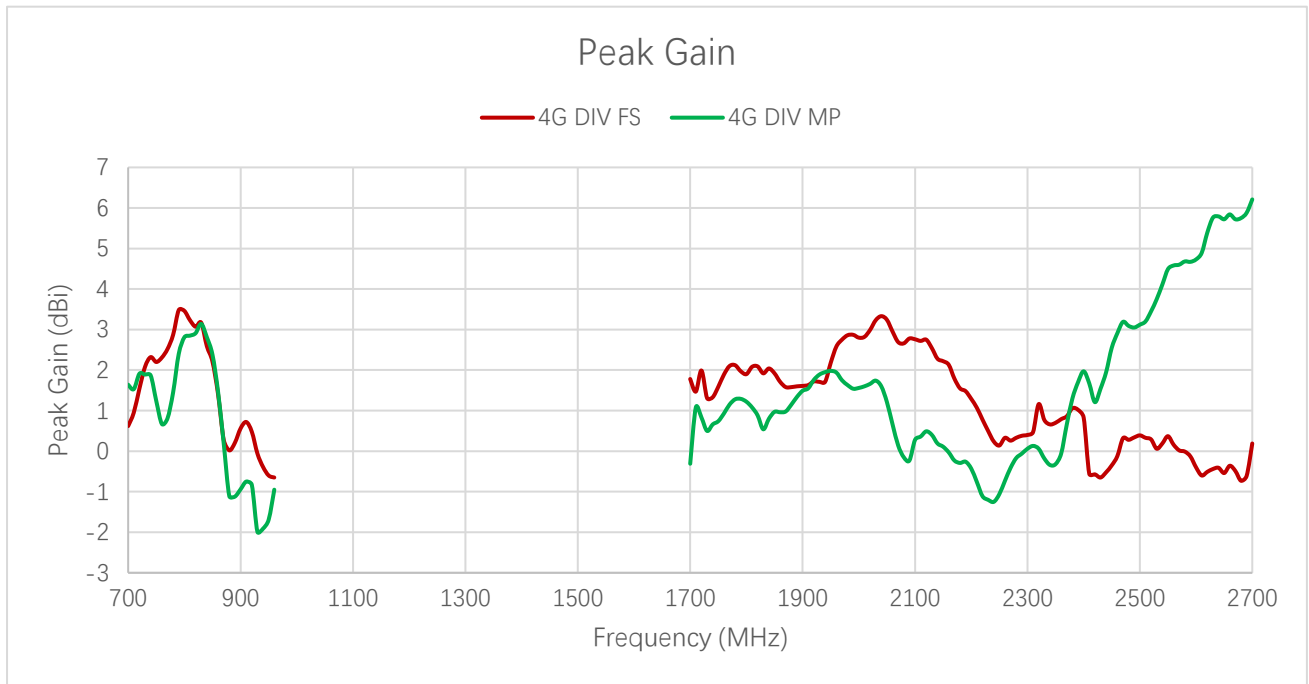
Frequency (MHz)	600	630	710	830	900	960	1440	1710	1740	1880
FS	-	-	-3.6	-2.6	-4.5	-6.1	-	-3.2	-3.1	-3.1
MP	-	-	-3.0	-3.1	-5.8	-5.2	-	-5.7	-5.7	-5.0
Frequency (MHz)	1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
FS	-2.9	-3.5	-3.9	-4.1	-3.8	-3.6	-	-	-	-
MP	-5.0	-6.5	-5.7	-5.4	-3.3	-2.6	-	-	-	-

3.2.3. Peak Gain



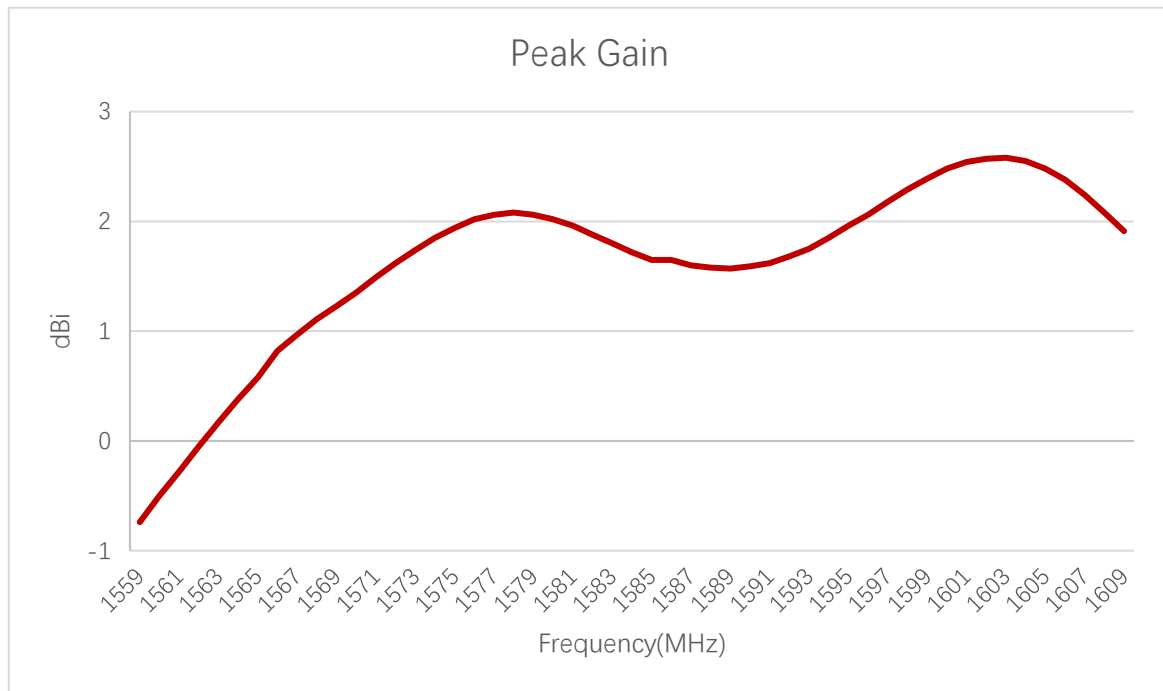
Peak Gain (dBi) – 4G

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				



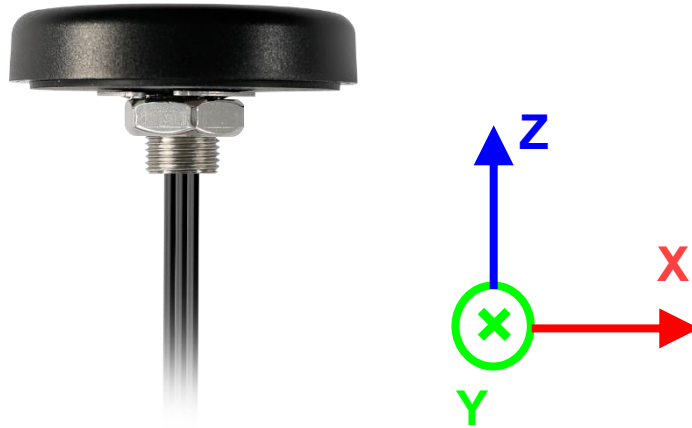
Peak Gain (dBi) – GNSS

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

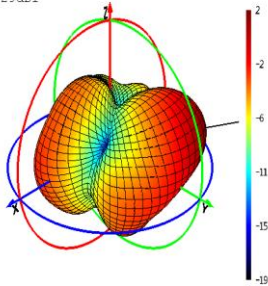
- Test Chamber: FS-S-1



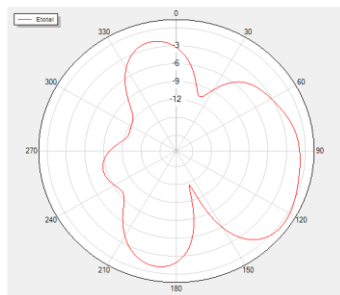
● **4G**

710 MHz

MAX:1.68dBi
MIN:-20.29dBi

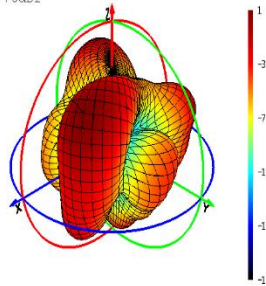


Theta=90 Freq=710MHz

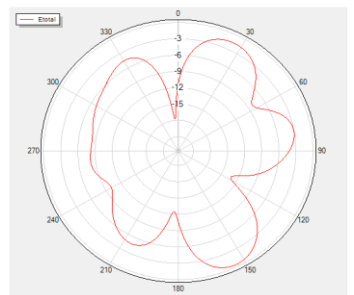


830 MHz

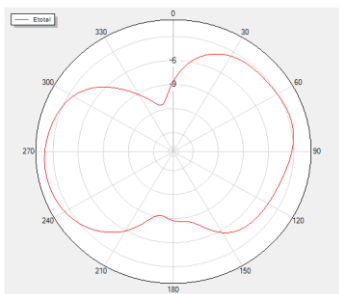
MAX:0.41dBi
MIN:-19.76dBi



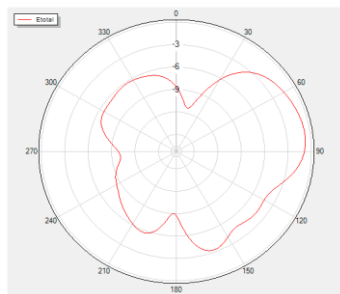
Theta=90 Freq=830MHz



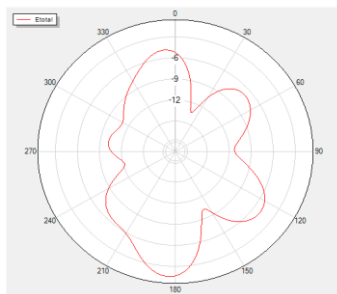
Phi=0 Freq=710MHz



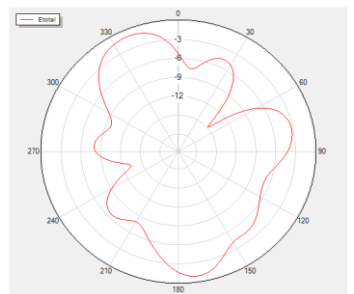
Phi=90 Freq=710MHz



Phi=0 Freq=830MHz

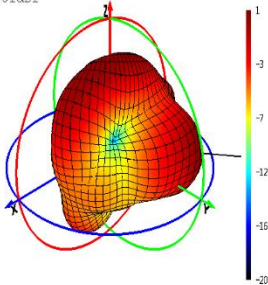


Phi=90 Freq=830MHz

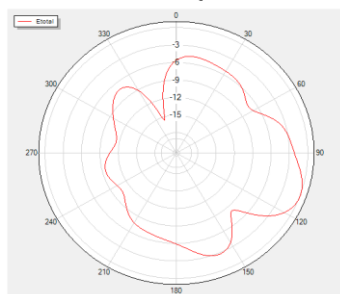


900 MHz

MAX:0.37dBi
MIN:-21.61dBi

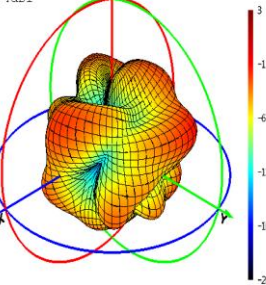


Theta=90 Freq=900MHz

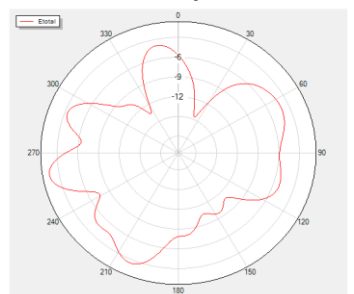


1740 MHz

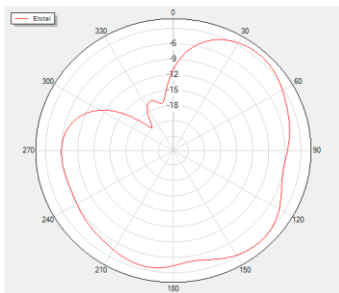
MAX:2.57dBi
MIN:-21.4dBi



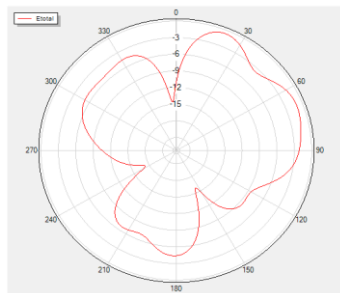
Theta=90 Freq=1740MHz



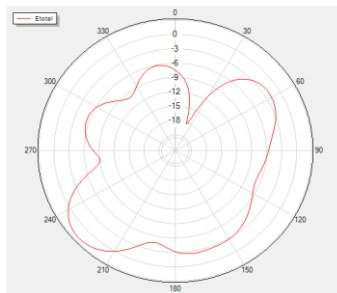
Phi=0 Freq=900MHz



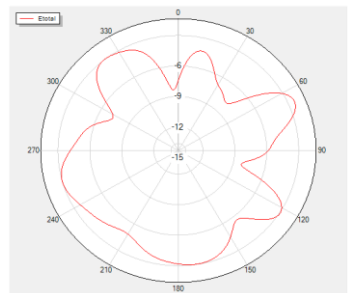
Phi=90 Freq=900MHz



Phi=0 Freq=1740MHz

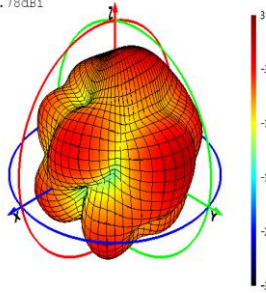


Phi=90 Freq=1740MHz

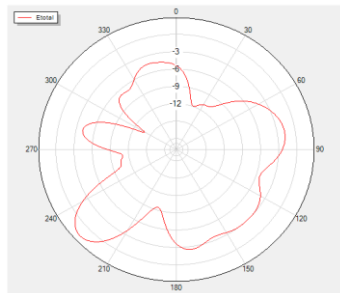


1880 MHz

MAX: 2.67dBi
MIN: -31.78dBi

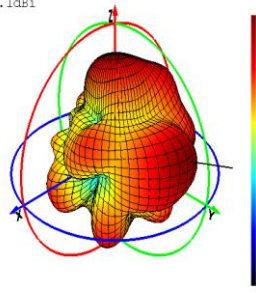


Theta=90 Freq=1880MHz

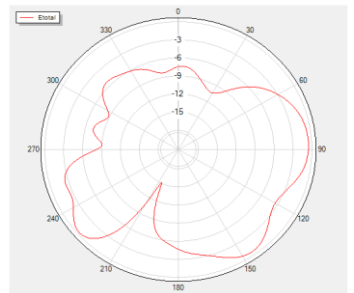


1950 MHz

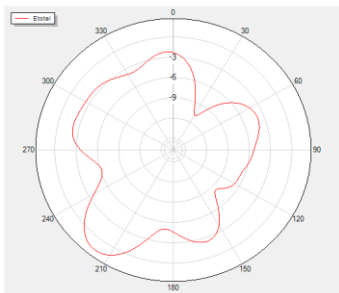
MAX: 0.99dBi
MIN: -20.1dBi



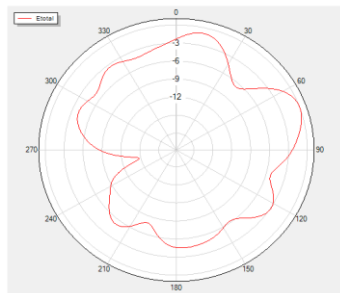
Theta=90 Freq=1950MHz



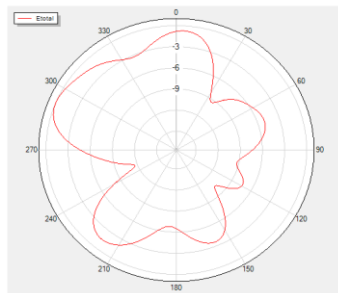
Phi=0 Freq=1880MHz



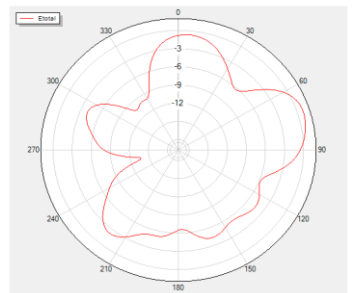
Phi=90 Freq=1880MHz



Phi=0 Freq=1950MHz

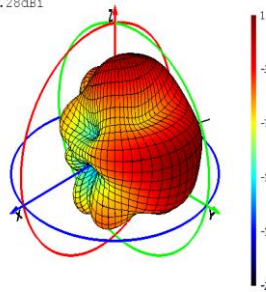


Phi=90 Freq=1950MHz

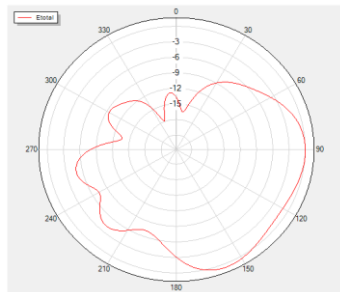


2140 MHz

MAX: 0.8dBi
MIN: -20.28dBi

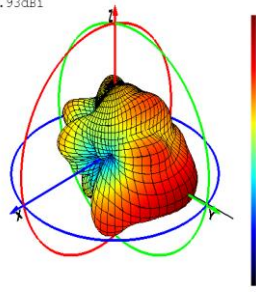


Theta=90 Freq=2140MHz

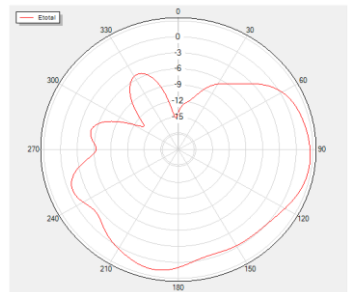


2350 MHz

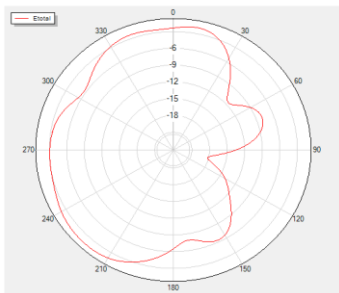
MAX: 2.76dBi
MIN: -15.93dBi



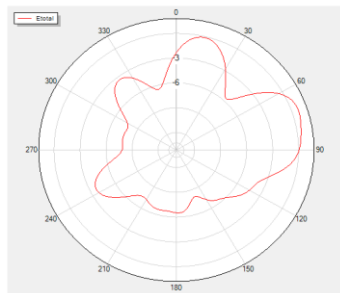
Theta=90 Freq=2350MHz



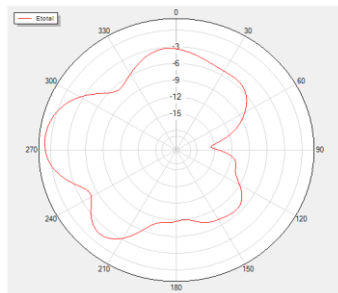
Phi=0 Freq=2140MHz



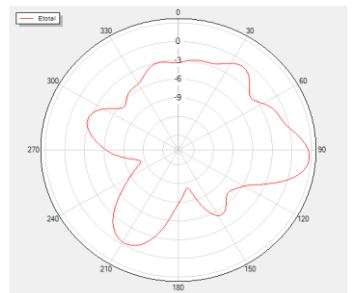
Phi=90 Freq=2140MHz



Phi=0 Freq=2350MHz

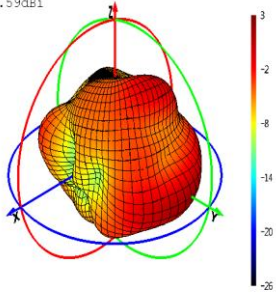


Phi=90 Freq=2350MHz

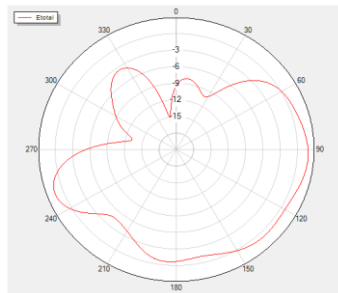


2450 MHz

MAX: 2.63dBi
MIN: -26.59dBi

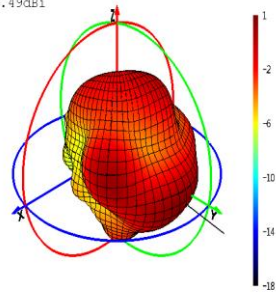


Theta=90 Freq=2450MHz

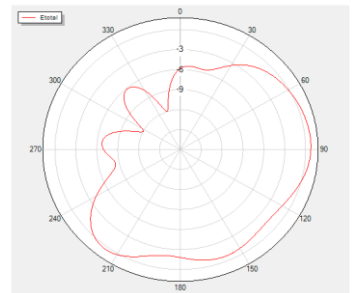


2600 MHz

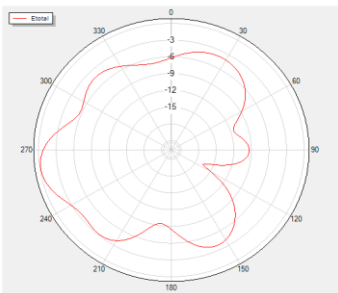
MAX: 0.81dBi
MIN: -18.49dBi



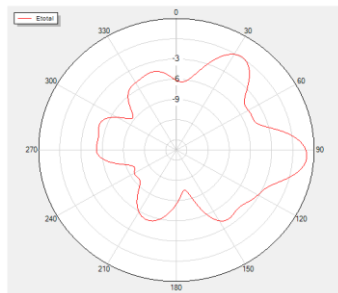
Theta=90 Freq=2600MHz



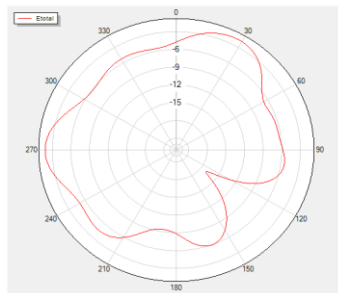
Phi=0 Freq=2450MHz



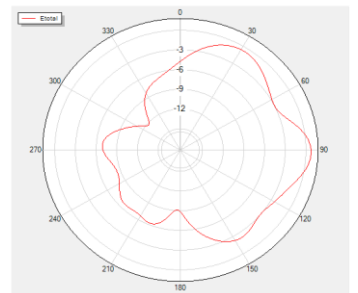
Phi=90 Freq=2450MHz



Phi=0 Freq=2600MHz



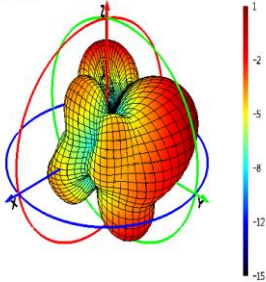
Phi=90 Freq=2600MHz



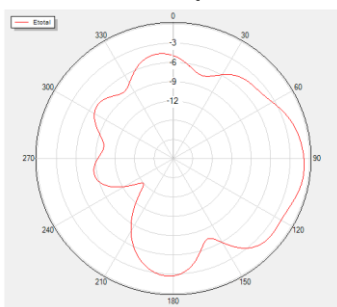
● **4G DIV**

710 MHz

MAX:0.95dBi
MIN:-15.55dBi

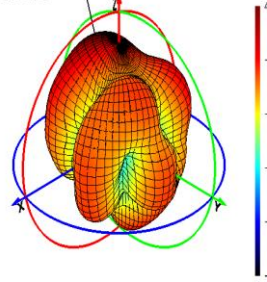


Theta=90 Freq=710MHz

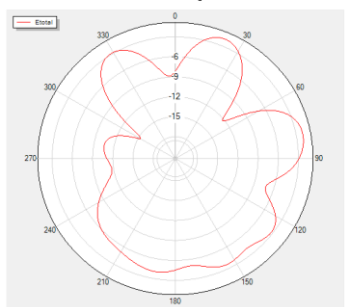


830 MHz

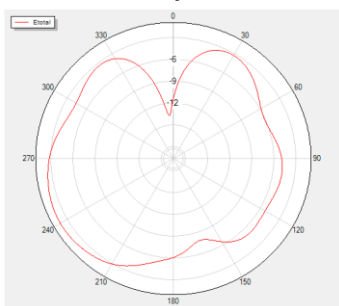
MAX:3.17dBi
MIN:-23.55dBi



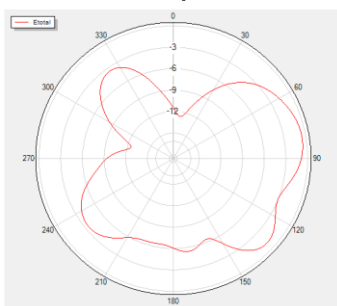
Theta=90 Freq=830MHz



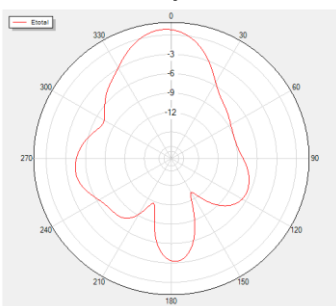
Phi=0 Freq=710MHz



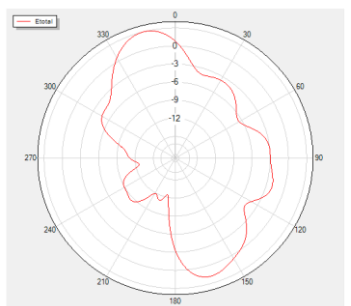
Phi=90 Freq=710MHz



Phi=0 Freq=830MHz

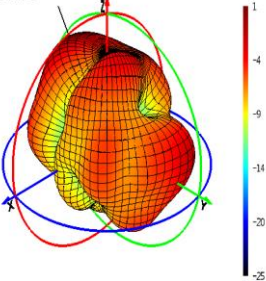


Phi=90 Freq=830MHz

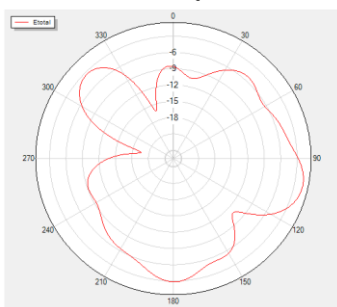


900 MHz

MAX:0.56dBi
MIN:-25.84dBi

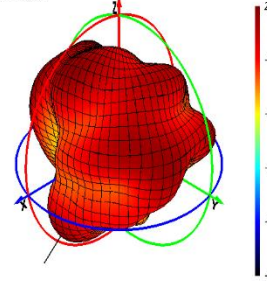


Theta=90 Freq=900MHz

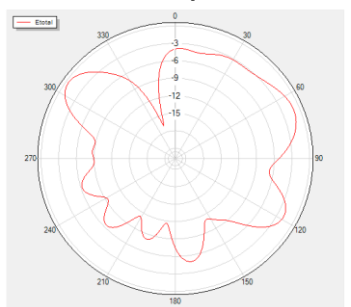


1740 MHz

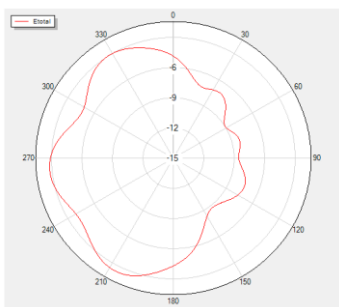
MAX:1.33dBi
MIN:-23.65dBi



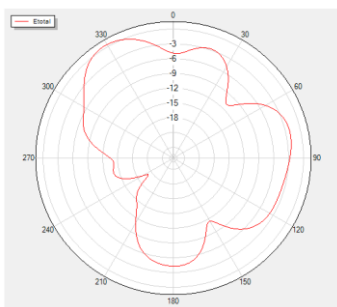
Theta=90 Freq=1740MHz



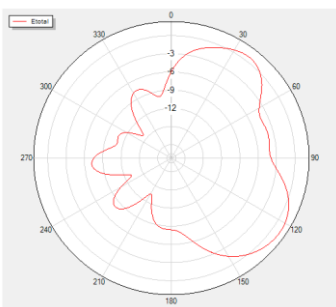
Phi=0 Freq=900MHz



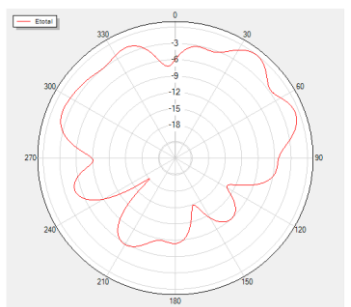
Phi=90 Freq=900MHz

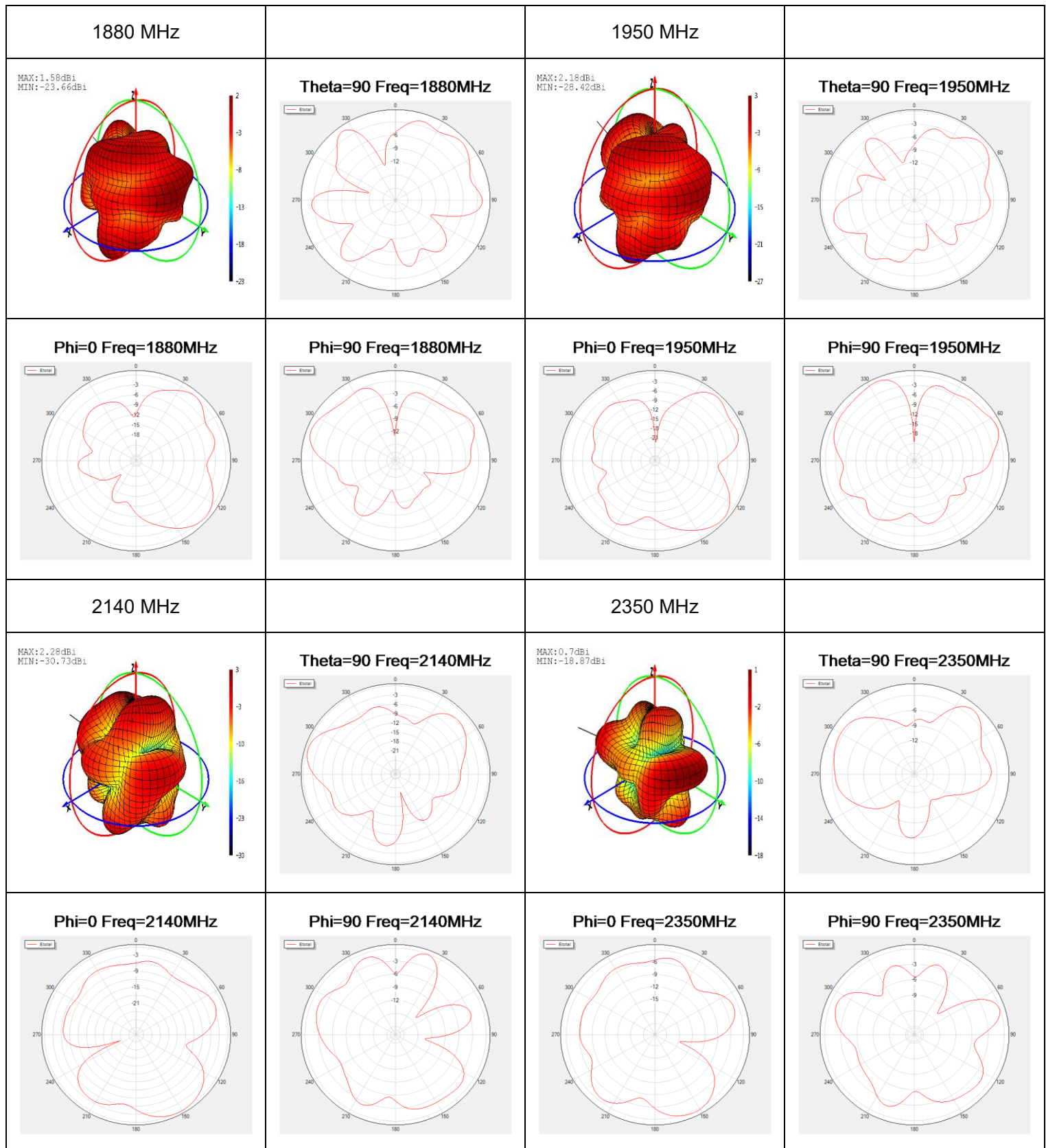


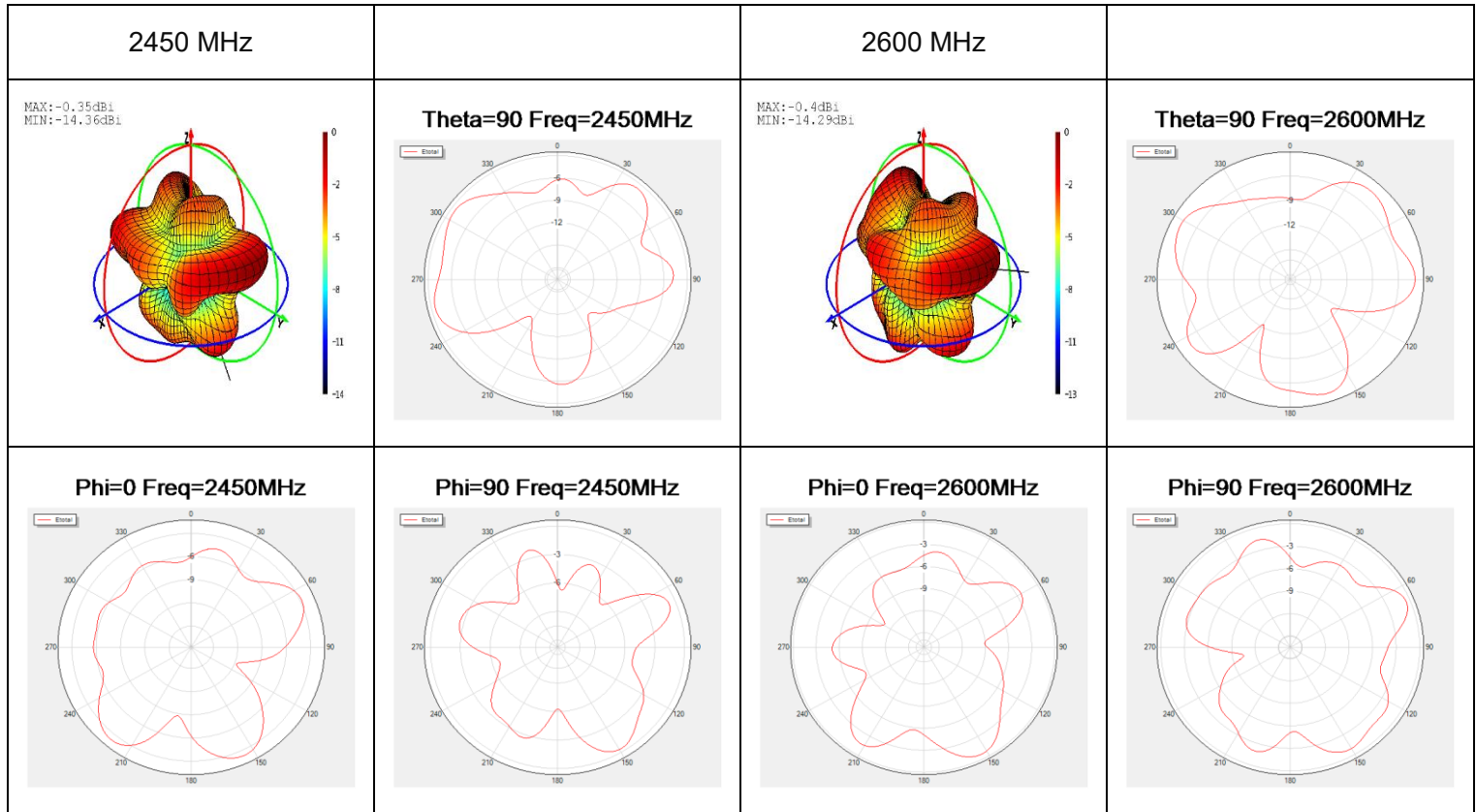
Phi=0 Freq=1740MHz



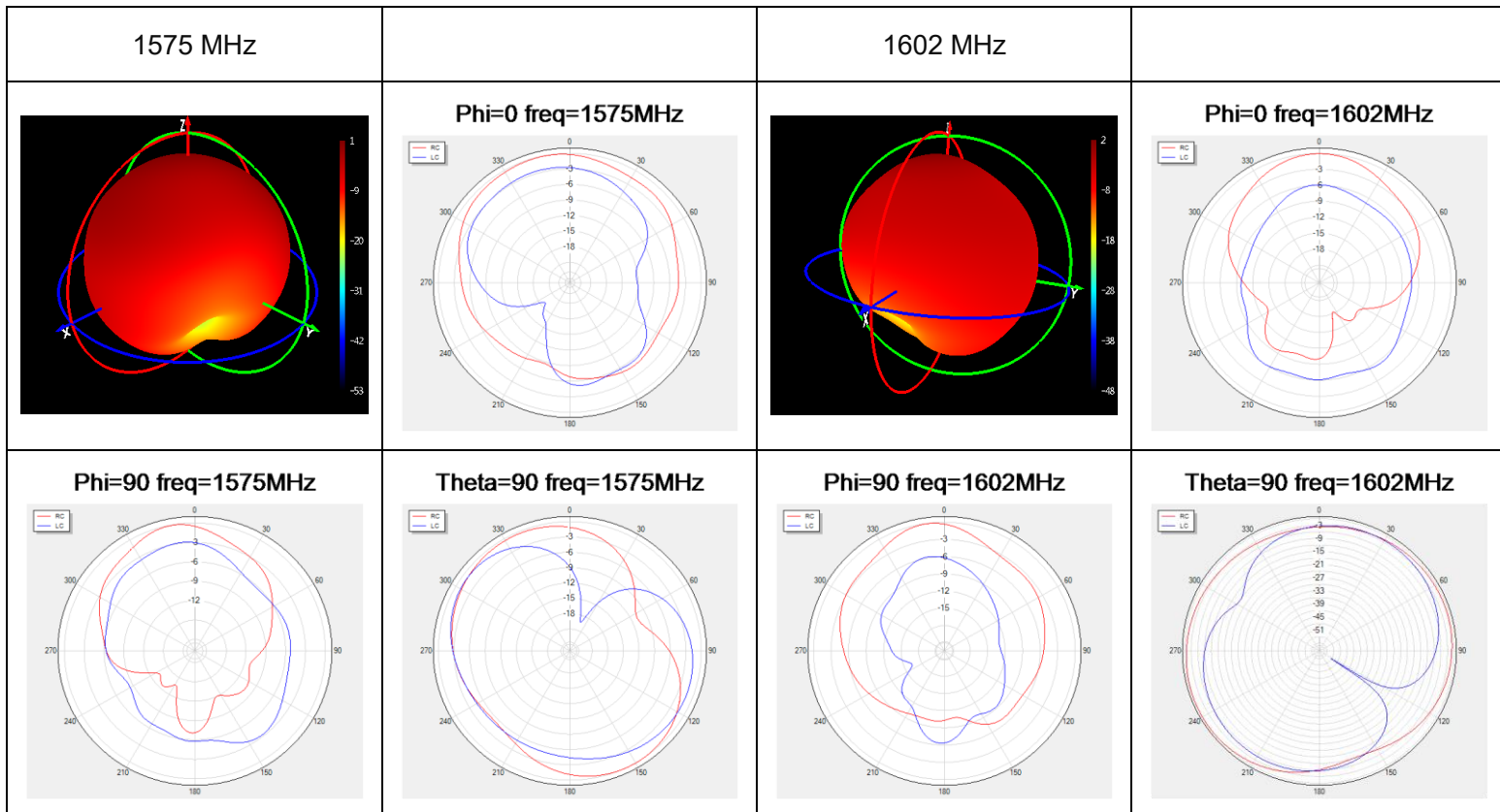
Phi=90 Freq=1740MHz





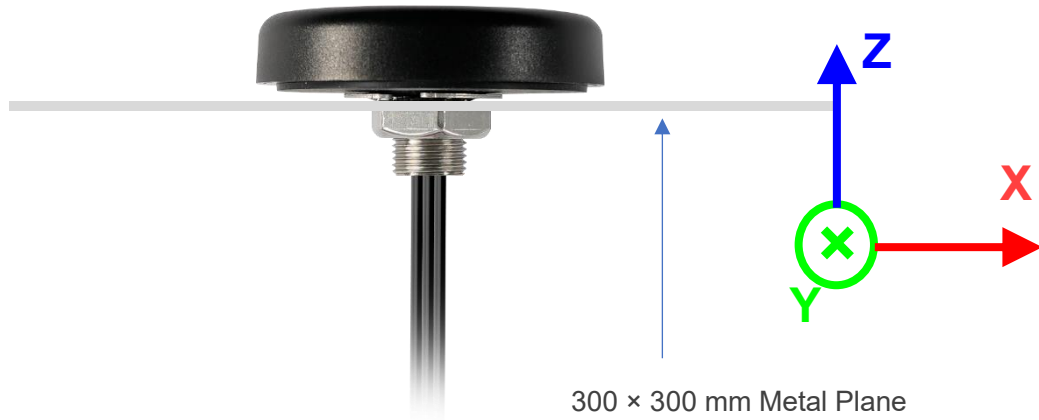


● **GNSS**



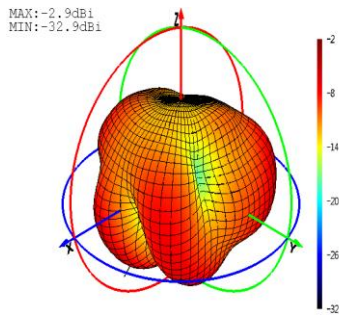
3.2.4.2 Test Status: On 300 mm × 300 mm Metal Plane

- Test Chamber: FS-S-1

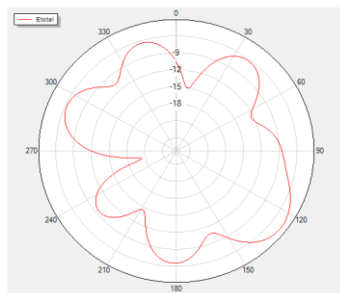


● **4G**

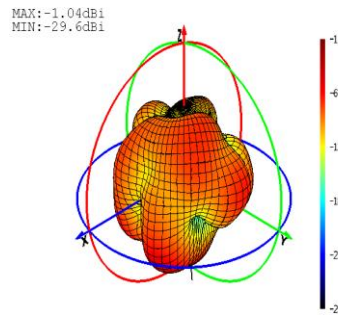
710 MHz



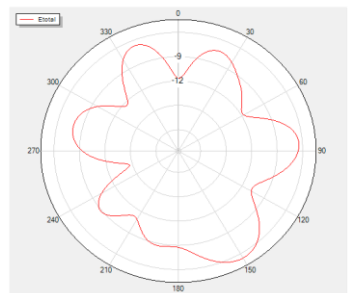
Theta=90 Freq=710MHz



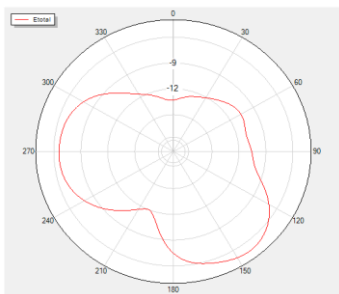
830 MHz



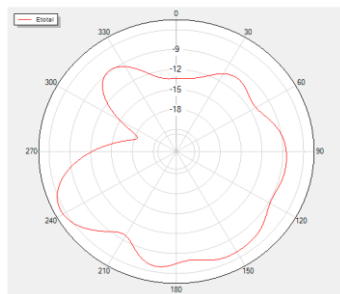
Theta=90 Freq=830MHz



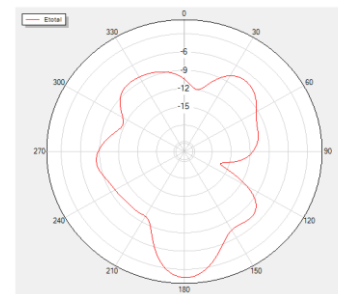
Phi=0 Freq=710MHz



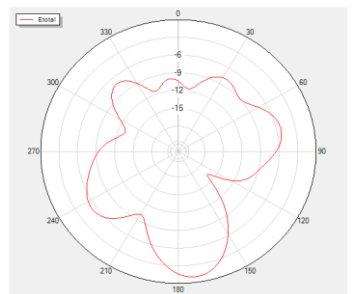
Phi=90 Freq=710MHz



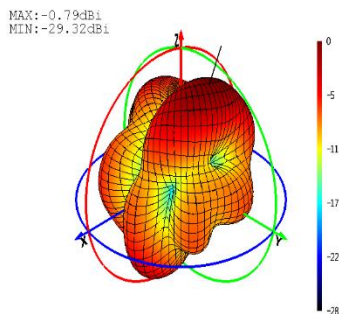
Phi=0 Freq=830MHz



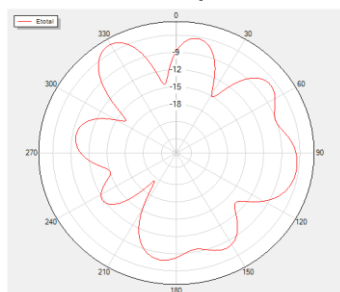
Phi=90 Freq=830MHz



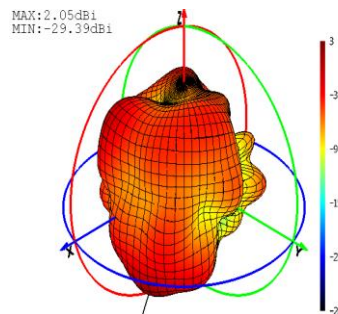
900 MHz



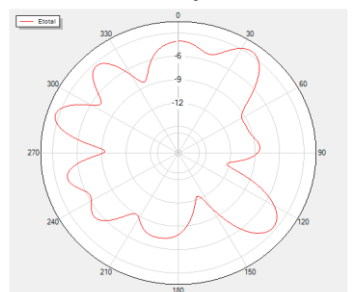
Theta=90 Freq=900MHz



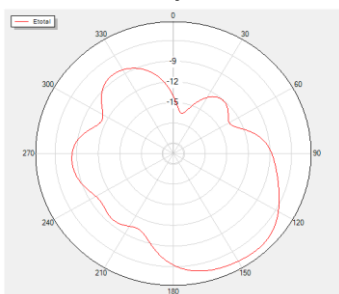
1740 MHz



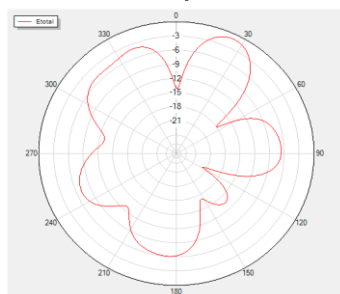
Theta=90 Freq=1740MHz



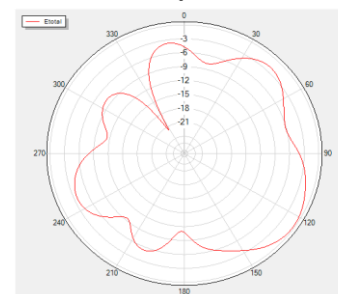
Phi=0 Freq=900MHz



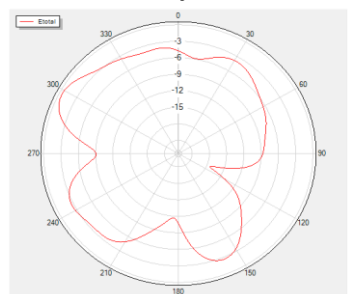
Phi=90 Freq=900MHz



Phi=0 Freq=1740MHz

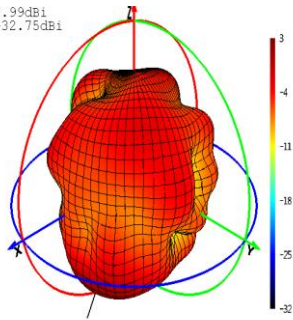


Phi=90 Freq=1740MHz

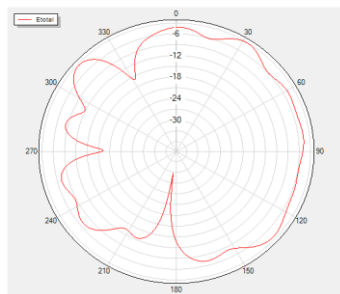


1880 MHz

MAX:2.99dBi
MIN:-32.75dBi

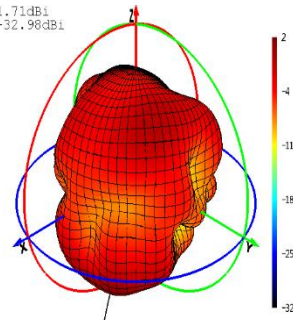


Theta=90 Freq=1880MHz

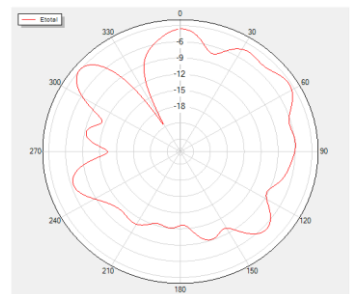


1950 MHz

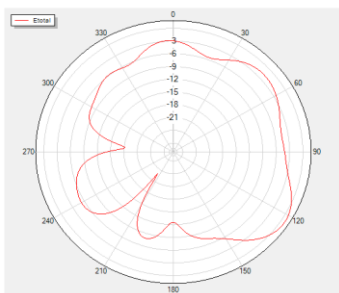
MAX:1.71dBi
MIN:-32.98dBi



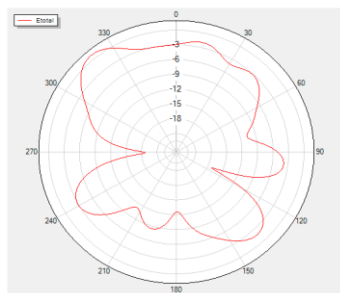
Theta=90 Freq=1950MHz



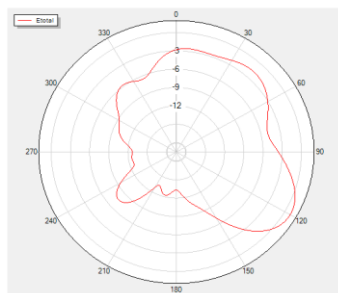
Phi=0 Freq=1880MHz



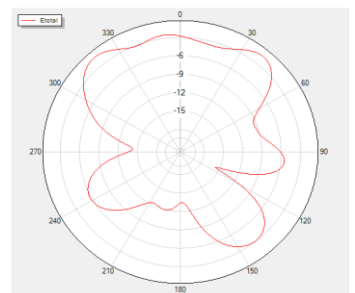
Phi=90 Freq=1880MHz



Phi=0 Freq=1950MHz

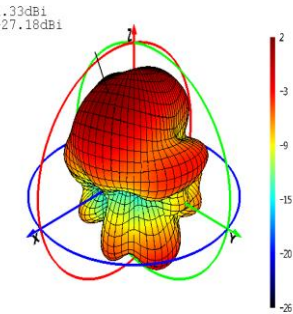


Phi=90 Freq=1950MHz

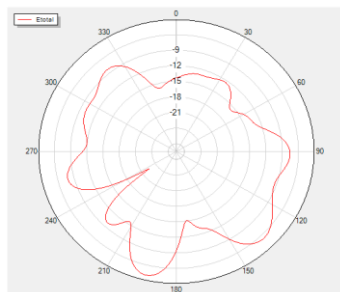


2140 MHz

MAX:1.33dBi
MIN:-27.18dBi

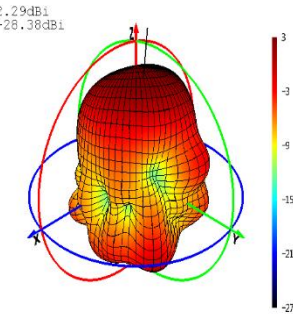


Theta=90 Freq=2140MHz

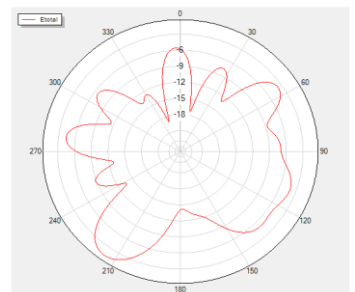


2350 MHz

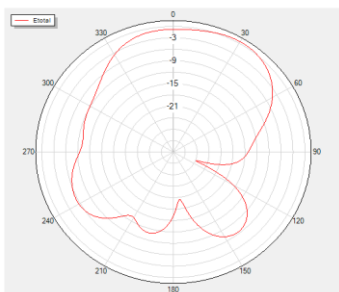
MAX:2.29dBi
MIN:-26.38dBi



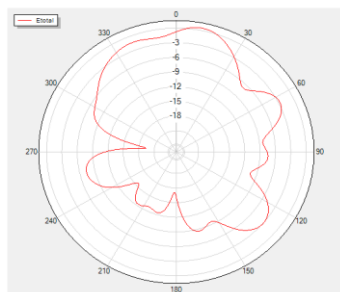
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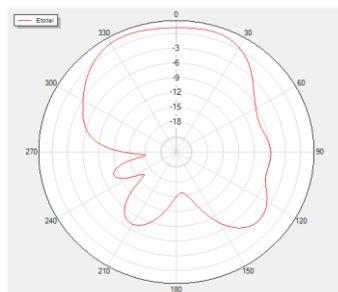
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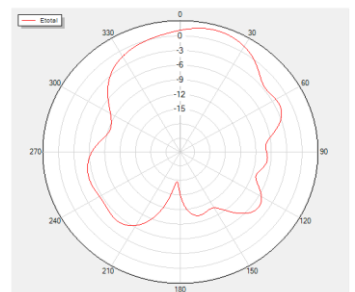
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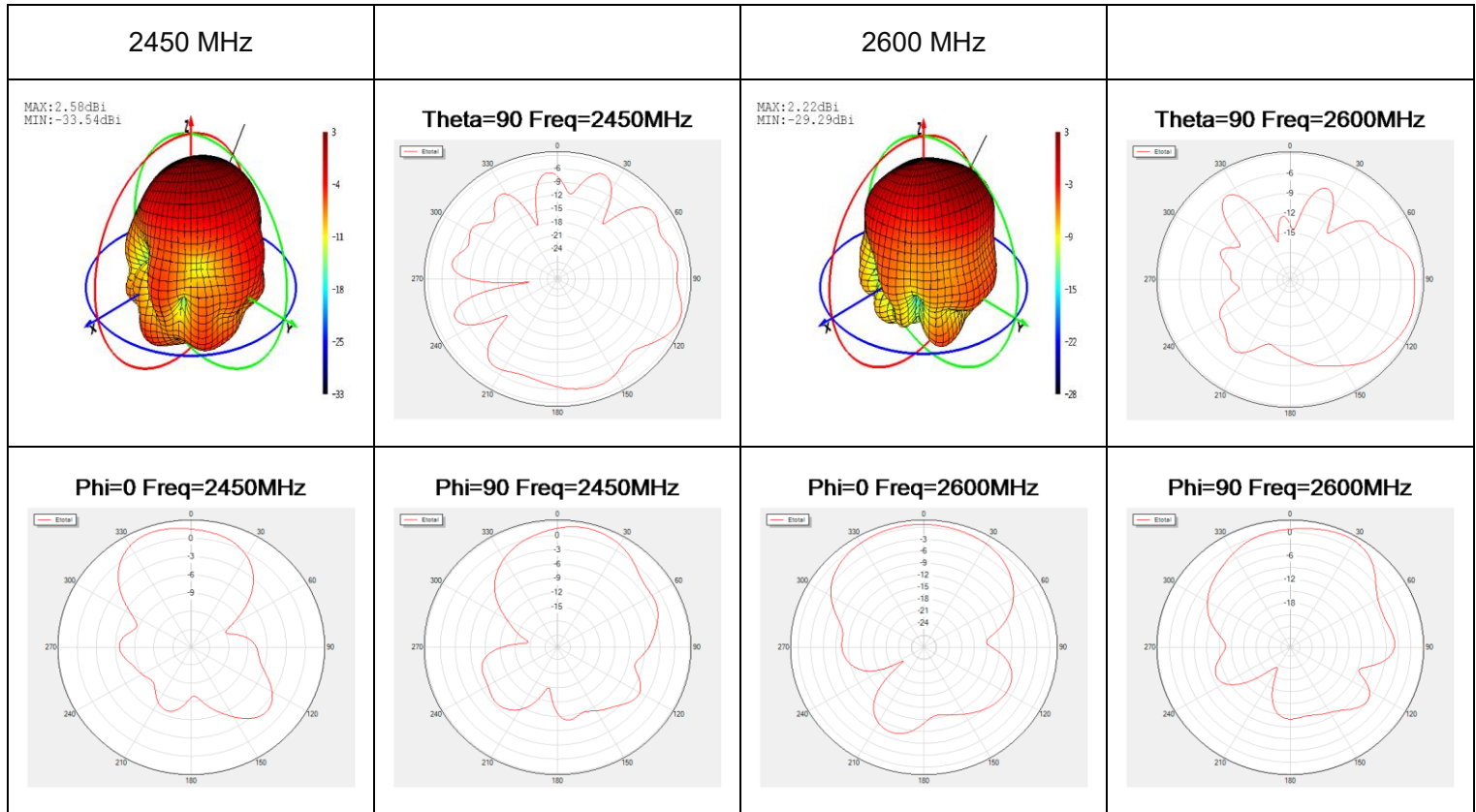


Phi=0 Freq=2350MHz

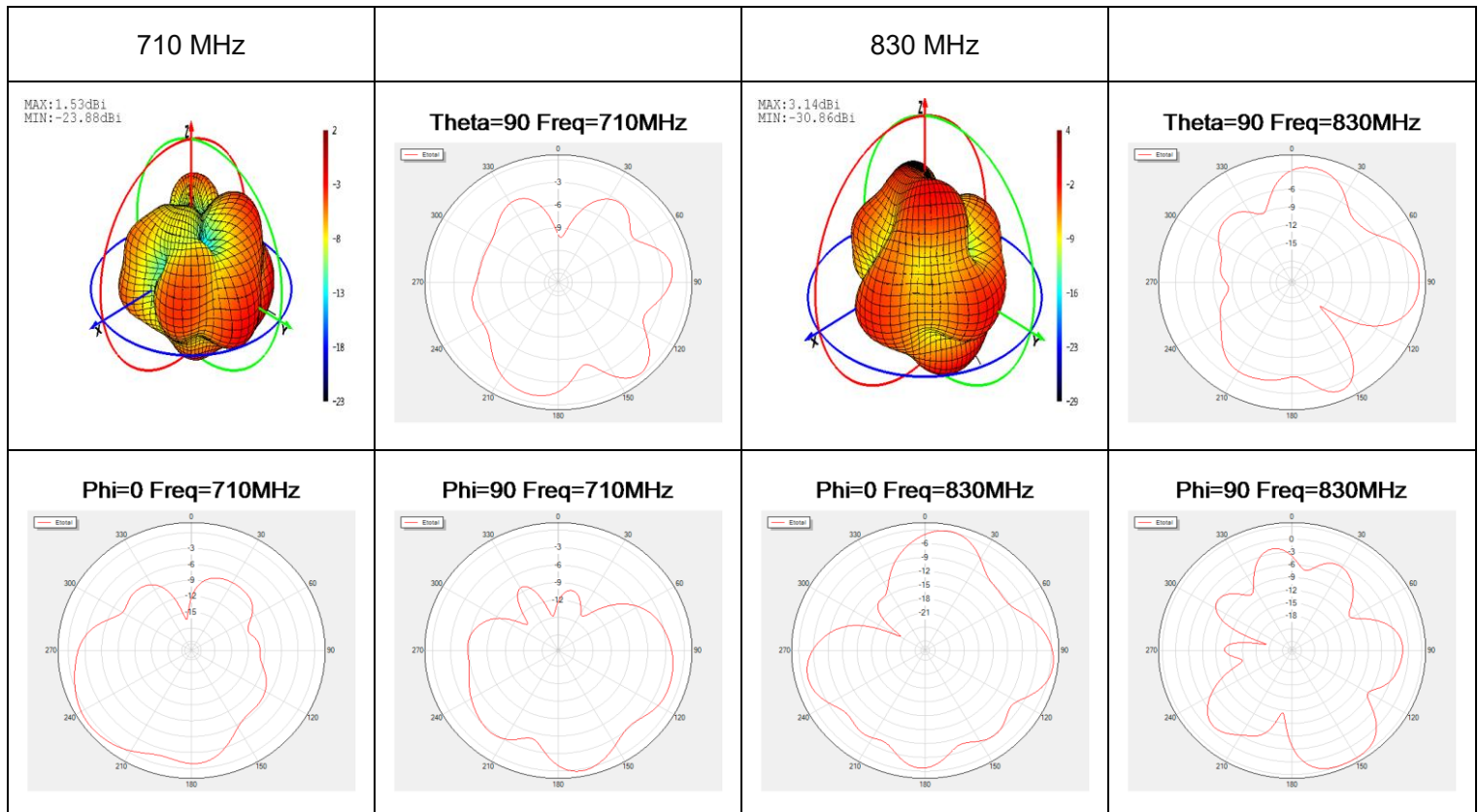


Phi=90 Freq=2350MHz



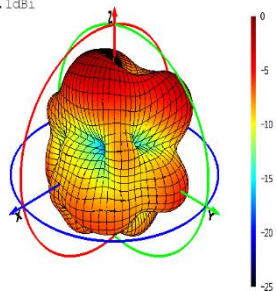


● **4G DIV**

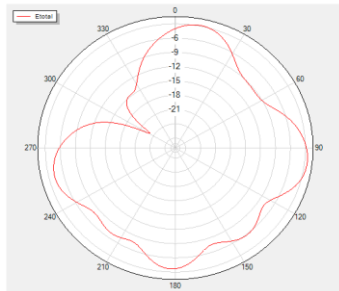


900 MHz

MAX:-0.94dBi
MIN:-26.1dBi

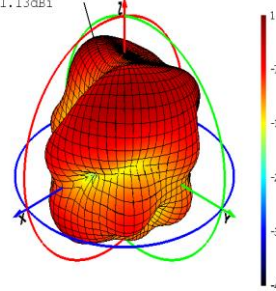


Phi=0 Freq=830MHz

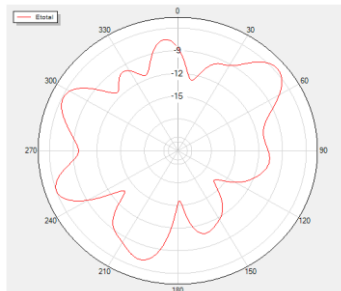


1740 MHz

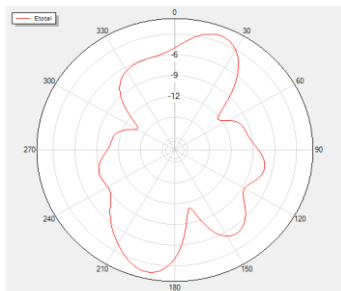
MAX:0.66dBi
MIN:-41.13dBi



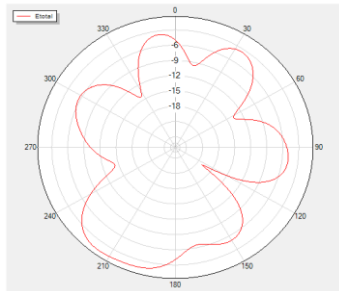
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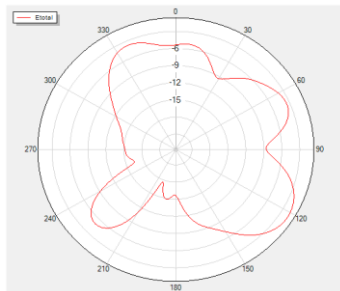
Phi=0 Freq=900MHz



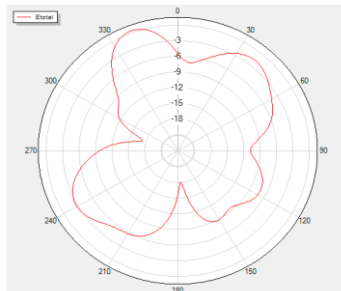
Phi=90 Freq=900MHz



Phi=0 Freq=1740MHz

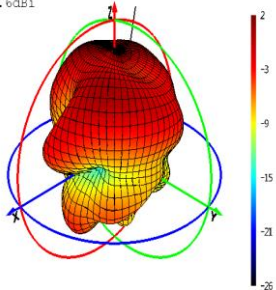


Phi=90 Freq=1740MHz

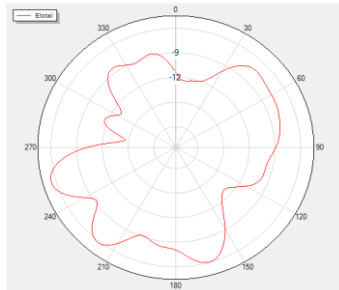


1880 MHz

MAX:1.15dBi
MIN:-27.6dBi

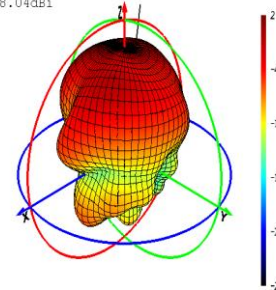


Theta=90 Freq=1880MHz

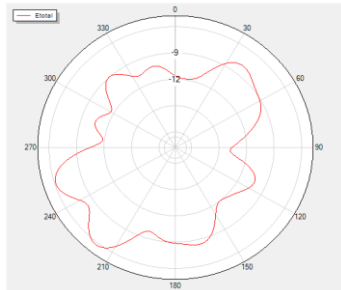


1950 MHz

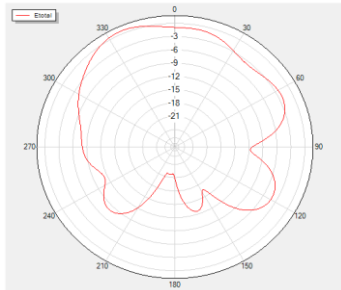
MAX:1.98dBi
MIN:-28.04dBi



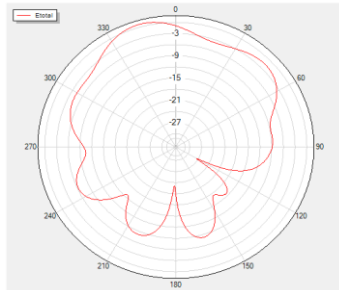
Theta=90 Freq=1950MHz



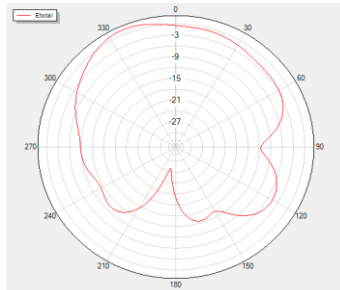
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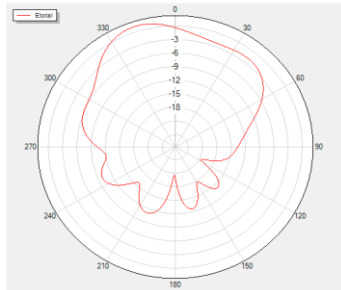
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Phi=0 Freq=1950MHz

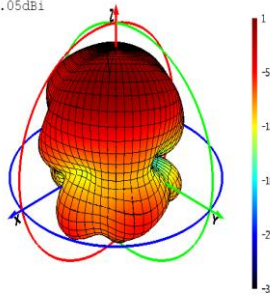


Phi=90 Freq=1950MHz

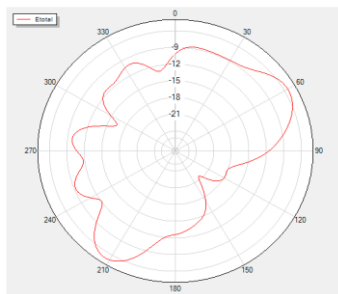


2140 MHz

MAX: 0.19dBi
MIN: -33.05dBi

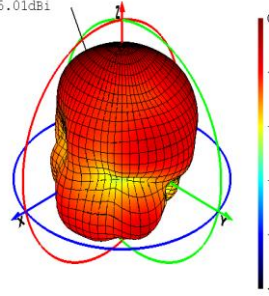


Theta=90 Freq=2140MHz

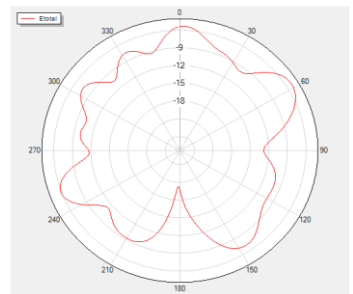


2350 MHz

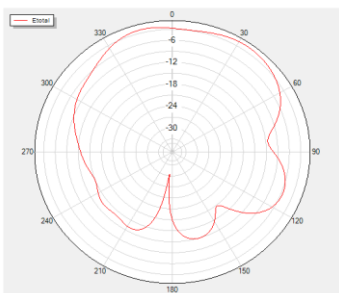
MAX: -0.32dBi
MIN: -35.01dBi



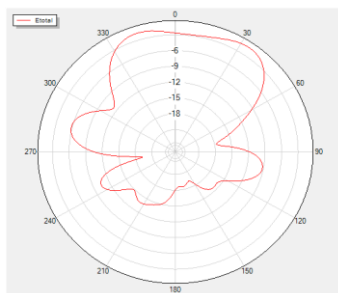
Theta=90 Freq=2350MHz



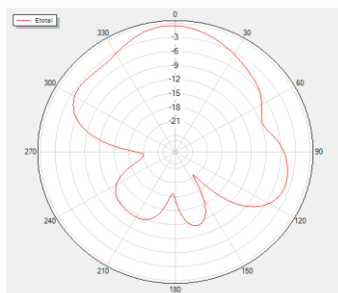
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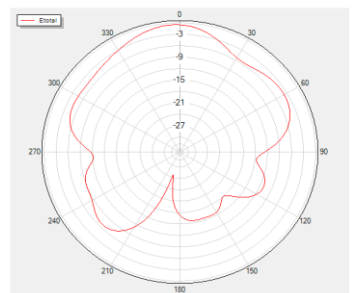
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Phi=0 Freq=2350MHz

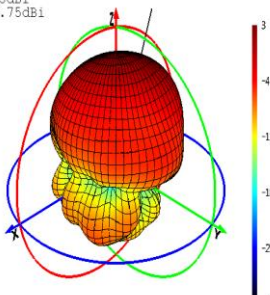


Phi=90 Freq=2350MHz

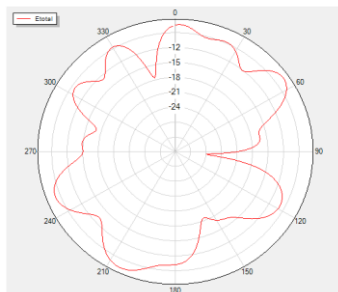


2450 MHz

MAX: 2.55dBi
MIN: -32.75dBi

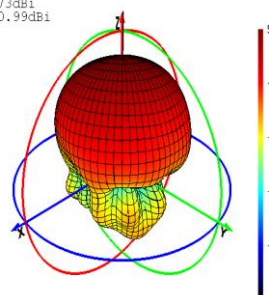


Theta=90 Freq=2450MHz

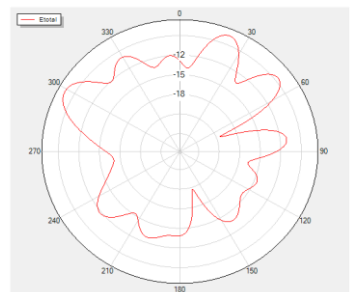


2600 MHz

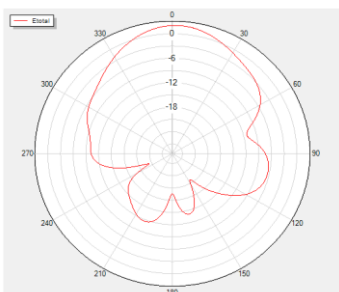
MAX: 4.73dBi
MIN: -30.99dBi



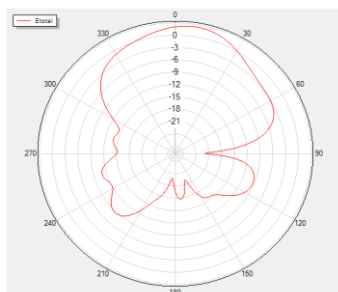
Theta=90 Freq=2600MHz



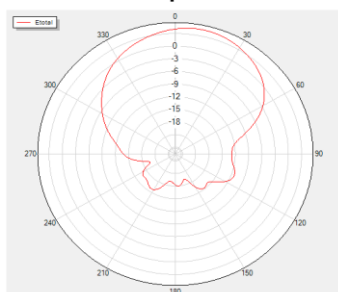
Phi=0 Freq=2450MHz



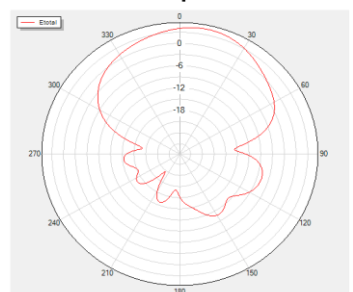
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Phi=0 Freq=2600MHz

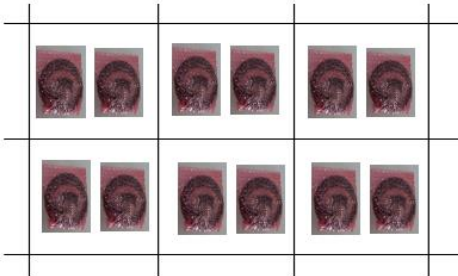
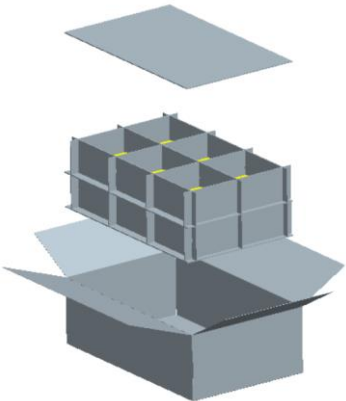


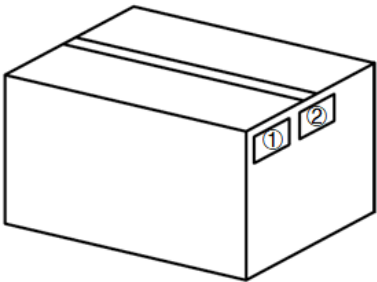
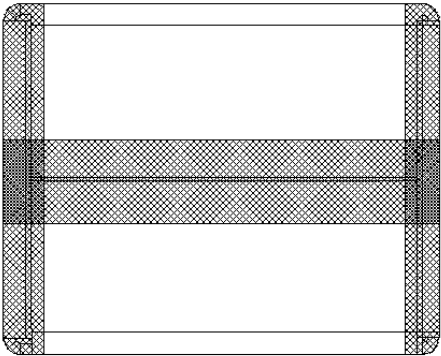
Phi=90 Freq=2600MHz



4 Packaging

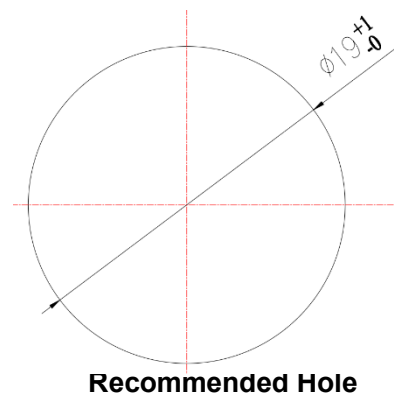
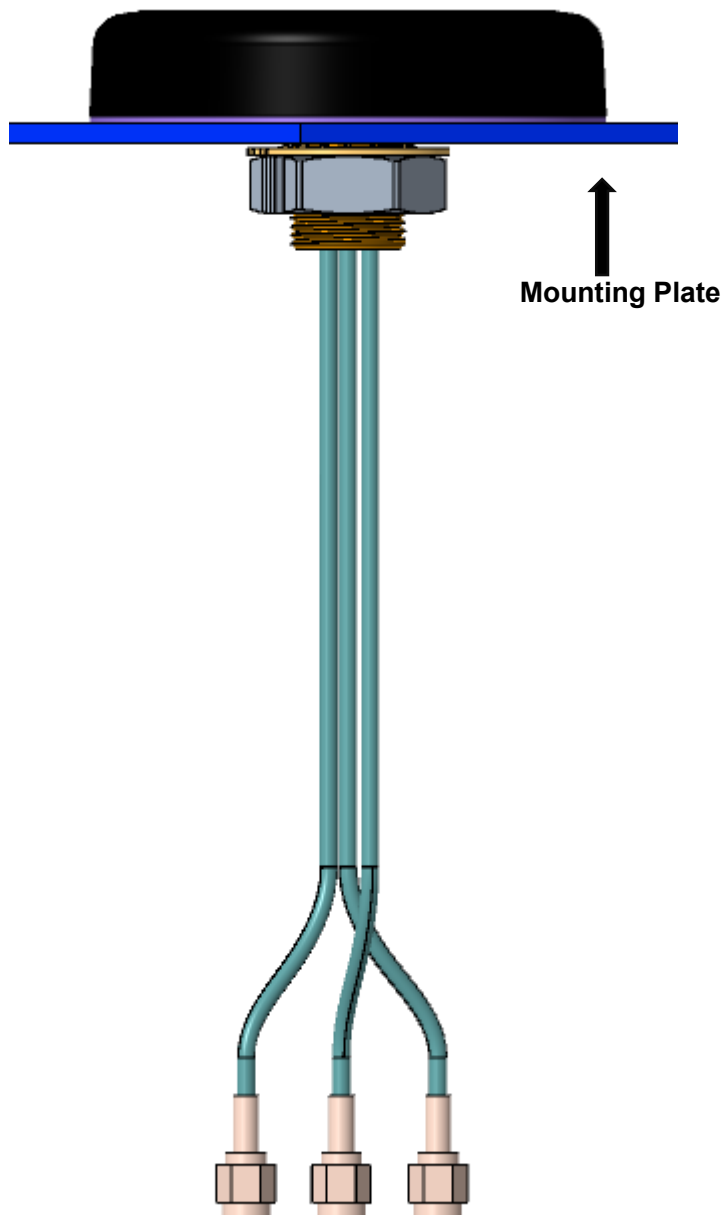
- YEMN302Q1A
- YEMN202Q1A

Step	Packaging Picture / 2D Picture	Description
1		1 pc antenna product in anti-static bubble bag. (1 PC 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 PCS Antennas / Carton Box) <u>Carton Size:</u> <u>L × W × H = 550 × 350 × 210 mm</u>

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: $\geq \Phi 85\text{mm}$



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	- Updated the overview. - Updated the drawing (Chapter 2). - Added related products OC (Chapter 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).



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