



Antenna Datasheet

Product OC: YEMD301L1B

Version: 1.0

Date: 2024-11-07

Status: Released

Product Name: 4G & GNSS 3in1 Magnet & Adhesive & Screw Mount
Combo Antenna

Key Features:

Frequency Band: 4G: 700–960 MHz, 1710–2690 MHz;

GNSS: 1559–1606 MHz

Dimensions: 109.28 mm × 89 mm × 25.8 mm

Efficiency: Up to 74 %

GNSS LNA Gain: 28 ±3 dB

RoHS & REACH & POPS Compliant

IP67

Overview

YEMD301L1B is a 4G & GNSS 3in1 combo antenna measuring 109.28 × 89 × 25.8 mm. This ultra-wide-band 4G & GNSS antenna provides broad coverage from 1559–1606 MHz, 700–960 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). Ideal for applications where the antenna is required to be discrete, the antenna is available magnet & adhesive & screw mount omni-directional antenna. It is easy to install with maximum durability assured and suitable for use in harsh outdoor environments thanks to its IP67 rated, UV-resistant and UL 94 V-0 Flame Rating enclosure. It is compatible with Quectel's RM520x Series modules.

YEMD301L1B has 2 × 4G LMH antennas and 1 × GNSS L1 antenna. It allows high efficiency, stable signal transmission and reception for active GNSS from 1559–1606 MHz, and 4G bands from 700–960 MHz, 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. YEMD301L1B 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:

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

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

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1 Specification

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

1.1. Electrical

Electrical Specifications			
Frequency Range	LTE-1	700–960 MHz, 1710–2690 MHz	
	LTE-2	700–960 MHz, 1710–2690 MHz	
	GNSS	1559–1606 MHz	
Radiation Pattern	LTE-1	Omni-directional	
	LTE-2	Omni-directional	
	GNSS	Directional	
Polarization	LTE-1	Linear	
	LTE-2	Linear	
	GNSS	RHCP	
Impedance		50 Ω	
Isolation	LTE-1-LTE-2	FS	≤ -13.5 dB
		MP	≤ -15.5 dB
	LTE-1-GNSS	FS	≤ -46.7 dB
		MP	≤ -45.2 dB
	LTE-2-GNSS	FS	≤ -47.9 dB
		MP	≤ -50.1 dB

1.1.1. LTE-1

Electrical – Detail													
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	2.3	2.3	3.7	-	1.4	2.1	2.5	3.1	-	-	-	
	MP	2.1	2.2	5.6	-	1.8	2.1	2.2	2.5	-	-	-	
Max. Return Loss (dB)	FS	-8.1	-8.1	-4.9	-	-14.8	-9.2	-7.3	-5.9	-	-	-	
	MP	-8.9	-8.4	-3.1	-	-10.9	-9.1	-8.6	-7.4	-	-	-	
AVG Eff. (%)	FS	56.1	65.3	54.7	-	65.2	49.6	38.9	35.1	-	-	-	
	MP	69.8	50.0	51.8	-	51.9	39.9	39.2	45.4	-	-	-	
AVG AVG Gain (dB)	FS	-2.5	-1.9	-2.6	-	-1.9	-3.0	-4.1	-4.5	-	-	-	
	MP	-1.6	-3.0	-2.9	-	-2.8	-4.0	-4.1	-3.4	-	-	-	
Max. Peak Gain (dBi)	FS	1.8	3.1	3.1	-	5.5	3.7	2.7	1.6	-	-	-	
	MP	3.4	3.4	3.0	-	3.3	1.9	3.1	3.3	-	-	-	
VSWR			FS			≤3.7							
			MP			≤5.6							
Return Loss			FS			≤-4.9 dB							
			MP			≤-3.1 dB							
Gain			FS			≤5.5 dBi							
			MP			≤3.4 dBi							

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

1.1.2. LTE-2

Electrical – Detail												
SPEC	Band	B71	B12 /B13 /B28	B5 /B8 /B26	n74 /n75 /n76	B1 /B2 /B3	B40	Wi-Fi 2G	B38 /B41	B42 /B48 /n77	n79	Wi-Fi 5G
	Freq. (MHz)	600– 700	700– 810	820– 960	1420– 1520	1700– 2170	2300– 2400	2400– 2500	2500– 2690	3300– 4200	4400– 5000	5150– 5850
Max. VSWR	FS	2.4	2.4	4.7	-	1.4	2.1	2.7	3.0	-	-	-
	MP	2.3	2.4	6.0	-	2.1	1.9	2.0	2.4	-	-	-
Max. Return Loss (dB)	FS	-7.6	-7.6	-3.8	-	-15.3	-8.8	-6.8	-6.1	-	-	-
	MP	-8.0	-7.6	-2.9	-	-9.2	-10.2	-9.3	-7.6	-	-	-
AVG Eff. (%)	FS	52.6	67.2	56.6	-	63.8	49.5	35.8	31.4	-	-	-
	MP	54.1	54.5	36.0	-	53.0	41.5	35.8	38.1	-	-	-
AVG AVG Gain (dB)	FS	-2.8	-1.7	-2.5	-	-2.0	-3.1	-4.5	-5.0	-	-	-
	MP	-2.7	-2.6	-4.4	-	-2.8	-3.8	-4.5	-4.2	-	-	-
Max. Peak Gain (dBi)	FS	0.4	3.0	2.2	-	4.3	1.6	0.7	0.2	-	-	-
	MP	2.7	2.7	2.0	-	6.0	2.0	4.3	4.8	-	-	-
VSWR			FS			≤4.7						
			MP			≤6.0						
Return Loss			FS			≤-3.8 dB						
			MP			≤-2.9 dB						
Gain			FS			≤4.3 dBi						
			MP			≤6.0 dBi						

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

1.1.3. GNSS

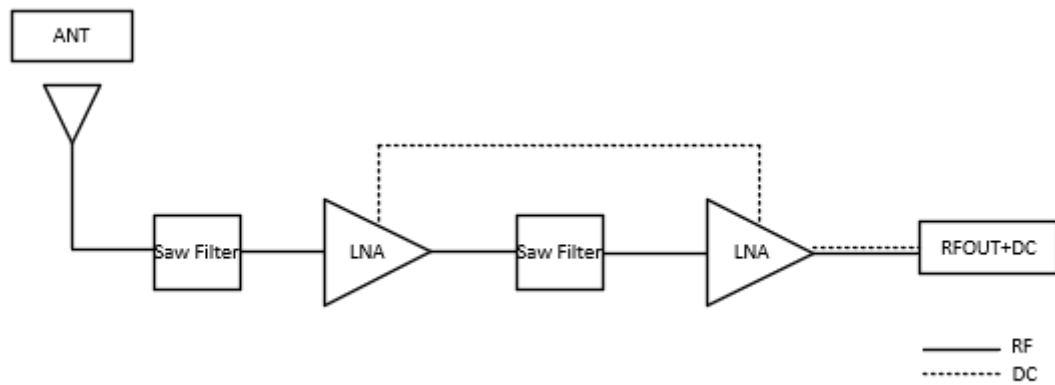
Band Frequency (MHz)	GPS L5 GALILEO E5a BDS B2a- B2I QZSS L5 IRNSS L5	GALILEO E5b BDS B2b	GPS L2 QZSS L2C	GLONASS G2	BDS B3	BDS B1I	GPS L1 GALILEO E1 BDS B1C QZSS L1	GLONASS G1
	1176	1207	1227	1248	1268	1561	1575	1602
VSWR	-	-	-	-	-	4.73	1.63	1.54
Return Loss (dB)	-	-	-	-	-	-3.7	-12.3	-13.2
Efficiency (%)	-	-	-	-	-	42	79	76
Peak Gain (dBi)	-	-	-	-	-	-0.91	1.95	2.18

LNA Electrical	
LNA Gain	28 ±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 (1580 MHz)
Working Voltage	2.7–3.3 V
Working Current	8.3 ±1.5 mA @ 3 V
Impedance	50 Ω

1.2. Mechanical & Environmental

Mechanical		
Antenna Dimensions		109.28 mm × 89 mm × 25.8 mm
Antenna Material & Color		PC & Black
Cable Type & Color & Length	LTE-1	ALS302 & Black & 1025 ±25 mm
	LTE-2	ALS302 & Black & 1025 ±25 mm
	GNSS	RG174 & Black & 1025 ±25 mm
Connector Type	LTE-1	SMA Male (The current state of the SMA connector is not waterproof. If a waterproof connector is required, it can be customized.)
	LTE-2	SMA Male (The current state of the SMA connector is not waterproof. If a waterproof connector is required, it can be customized.)
	GNSS	SMA Male (The current state of the SMA connector is not waterproof. If a waterproof connector is required, it can be customized.)
Weight		Typ. 145 g
Mounting Type		Magnet & Adhesive & Screw
Environmental		
Storage Temperature		-40 °C to +85 °C
Operation Temperature		-40 °C to +85 °C
Ingress Protection (IP) Rating		IP67
RoHS & REACH & POPS Compliant		Yes
Housing Flame Rating		UL 94 V-0
Housing UV Resistant		UL 746c f1

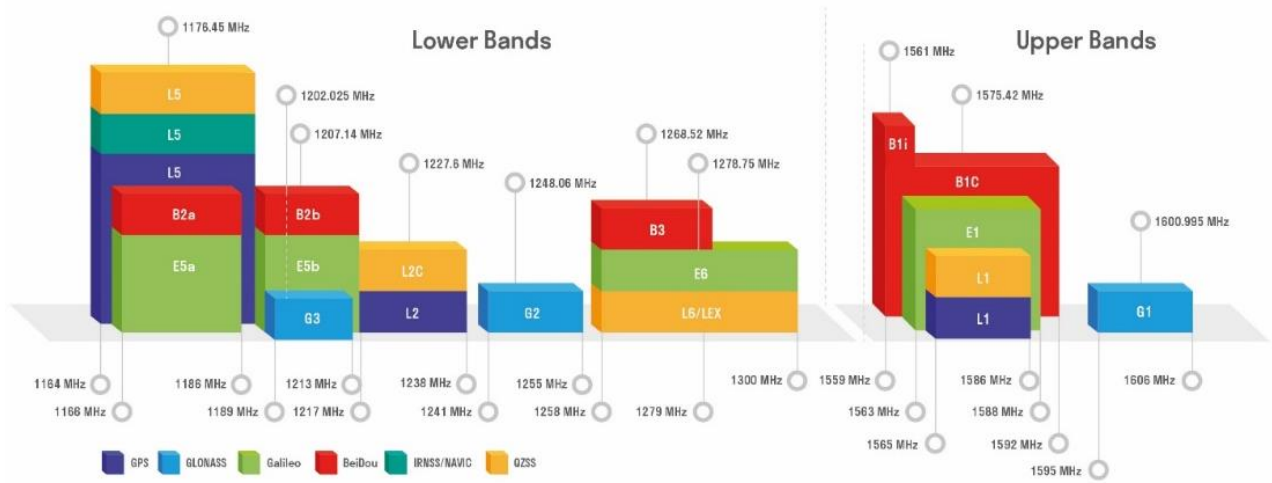
1.3. Block Diagram (Active Antenna)



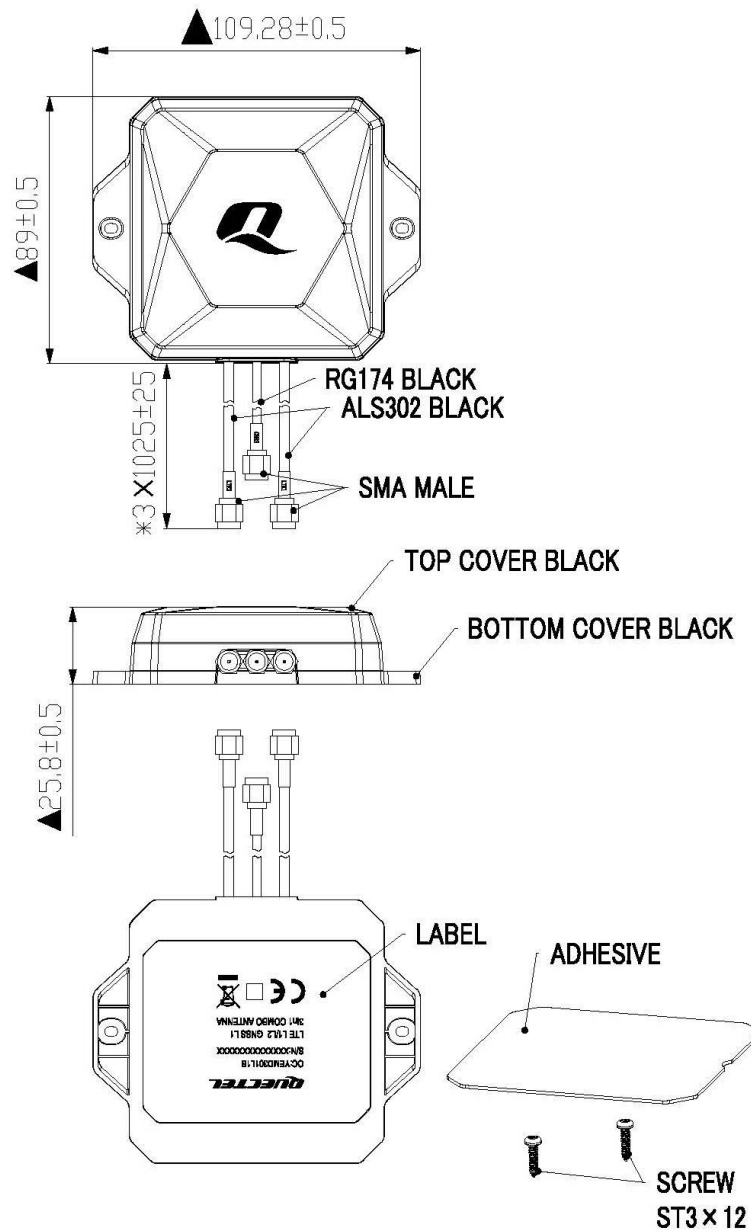
1.4. Supported GNSS Frequency Bands

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



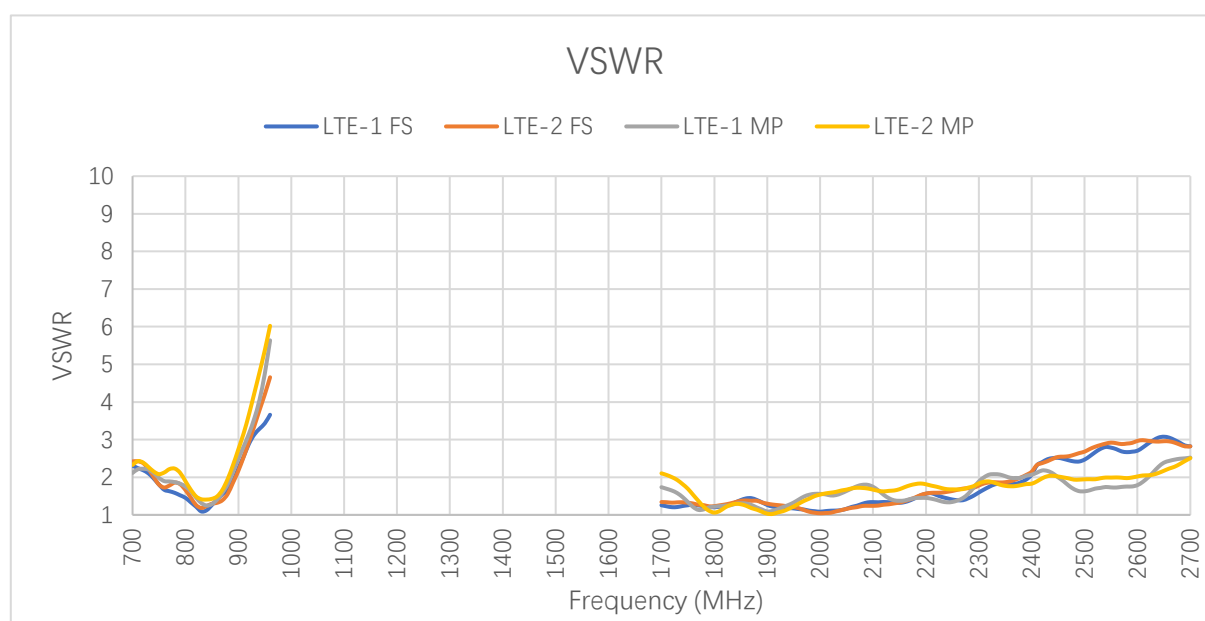
2 Drawing



3 Detailed Performance

3.1. S-Parameter Test

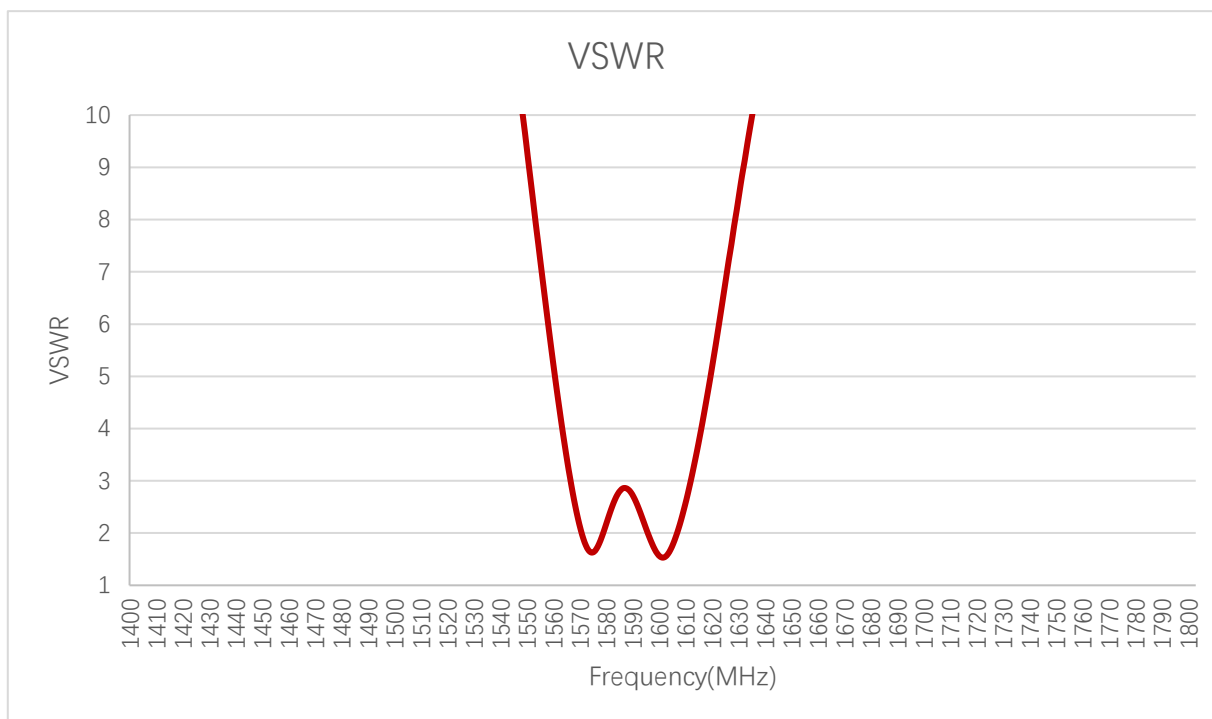
3.1.1. VSWR



VSWR – LTE

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
LTE-1	FS	-	-	2.2	1.1	2.2	3.7	-	1.2	1.2	1.4
	MP	-	-	2.2	1.3	2.5	5.6	-	1.7	1.5	1.2
LTE-2	FS	-	-	2.4	1.2	2.2	4.7	-	1.3	1.3	1.4
	MP	-	-	2.4	1.4	2.7	6.0	-	2.1	1.8	1.1
Frequency (MHz)		1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
LTE-1	FS	1.2	1.3	1.8	2.5	2.7	2.8	-	-	-	-
	MP	1.3	1.4	2.0	2.0	1.8	2.5	-	-	-	-

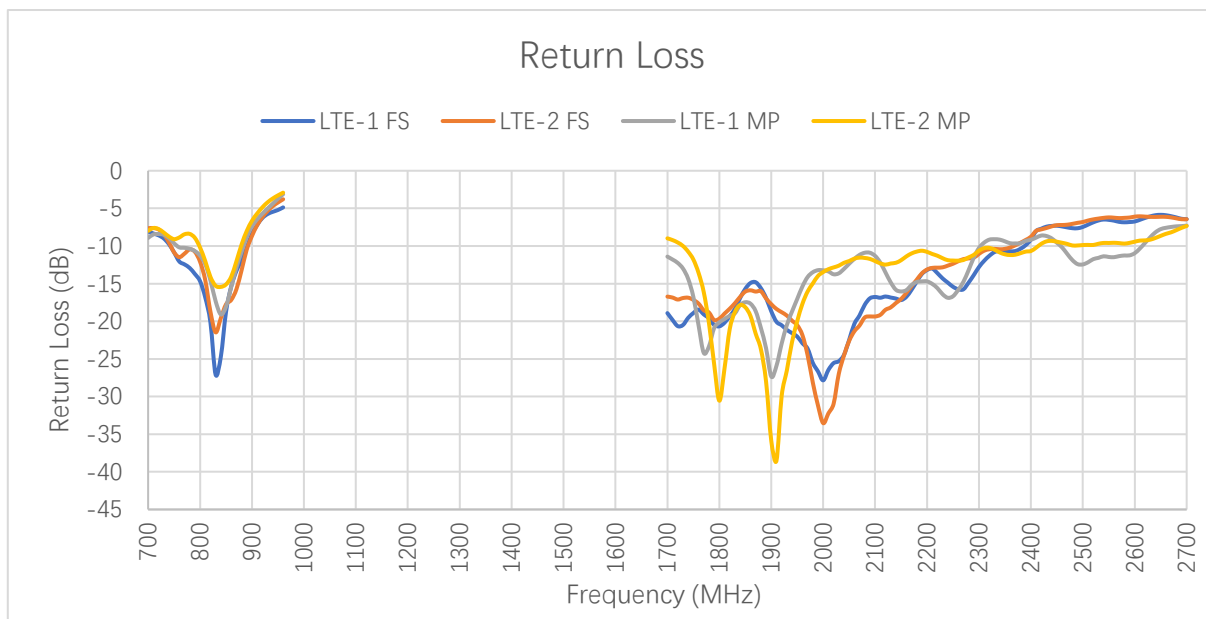
LTE-2	FS	1.2	1.3	1.9	2.5	3.0	2.8	-	-	-	-
	MP	1.2	1.6	1.8	2.0	2.0	2.4	-	-	-	-



VSWR – GNSS

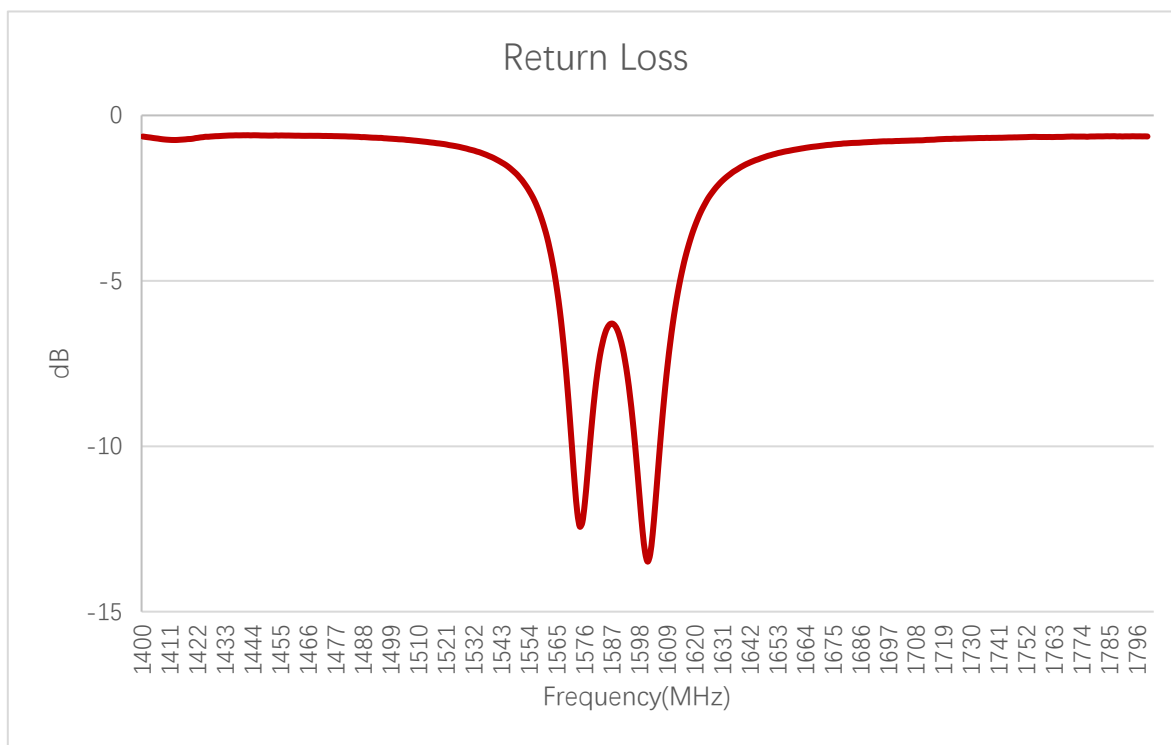
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
VSWR	-	-	-	-	-	4.73	1.63	1.54

3.1.2. Return Loss



Return Loss (dB) – LTE

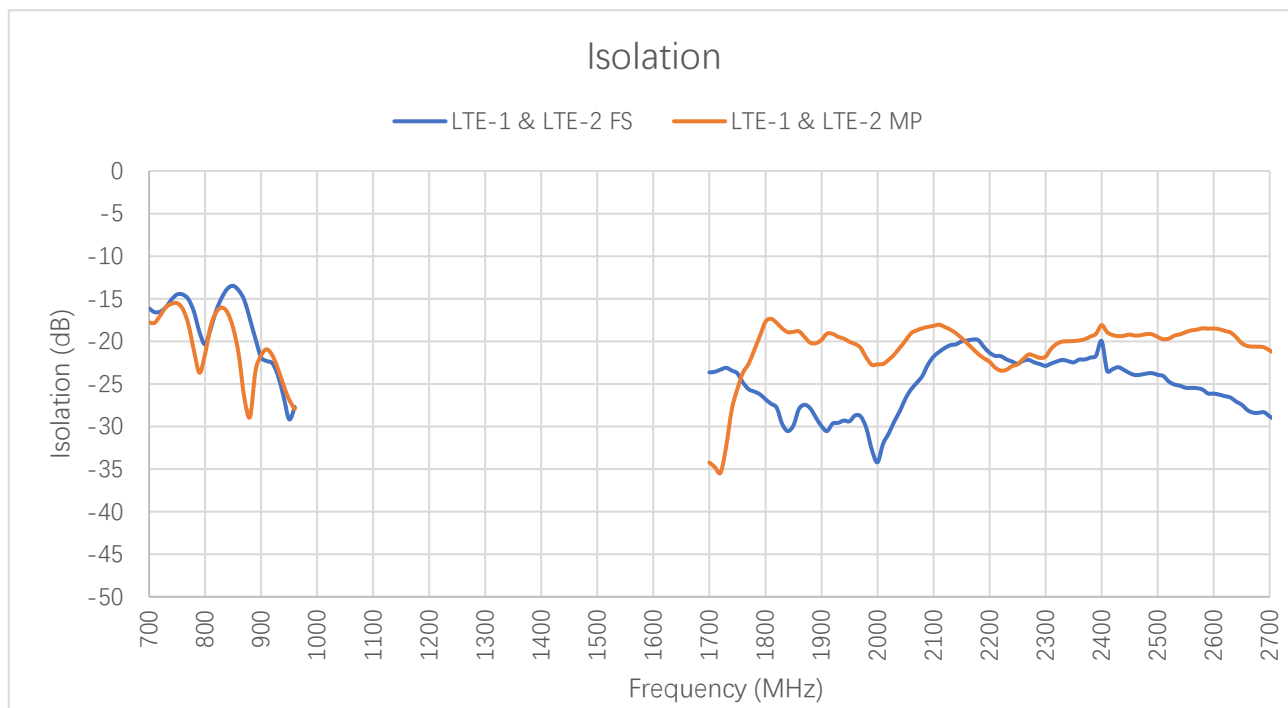
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
LTE-1	FS	-	-	-8.3	-27.1	-8.4	-4.9	-	-19.8	-19.5	-15.6
	MP	-	-	-8.5	-17.3	-7.4	-3.1	-	-11.8	-14.4	-20.9
LTE-2	FS	-	-	-7.6	-21.5	-8.7	-3.8	-	-16.9	-16.9	-16.0
	MP	-	-	-7.6	-15.3	-6.7	-2.9	-	-9.2	-10.8	-23.7
Frequency (MHz)		1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
LTE-1	FS	-22.0	-17.0	-10.6	-7.3	-6.7	-6.4	-	-	-	-
	MP	-17.0	-15.8	-9.4	-9.6	-11.0	-7.4	-	-	-	-
LTE-2	FS	-20.5	-17.6	-10.4	-7.2	-6.1	-6.4	-	-	-	-
	MP	-20.0	-12.2	-11.1	-9.4	-9.4	-7.6	-	-	-	-



Return Loss(dB) – GNSS

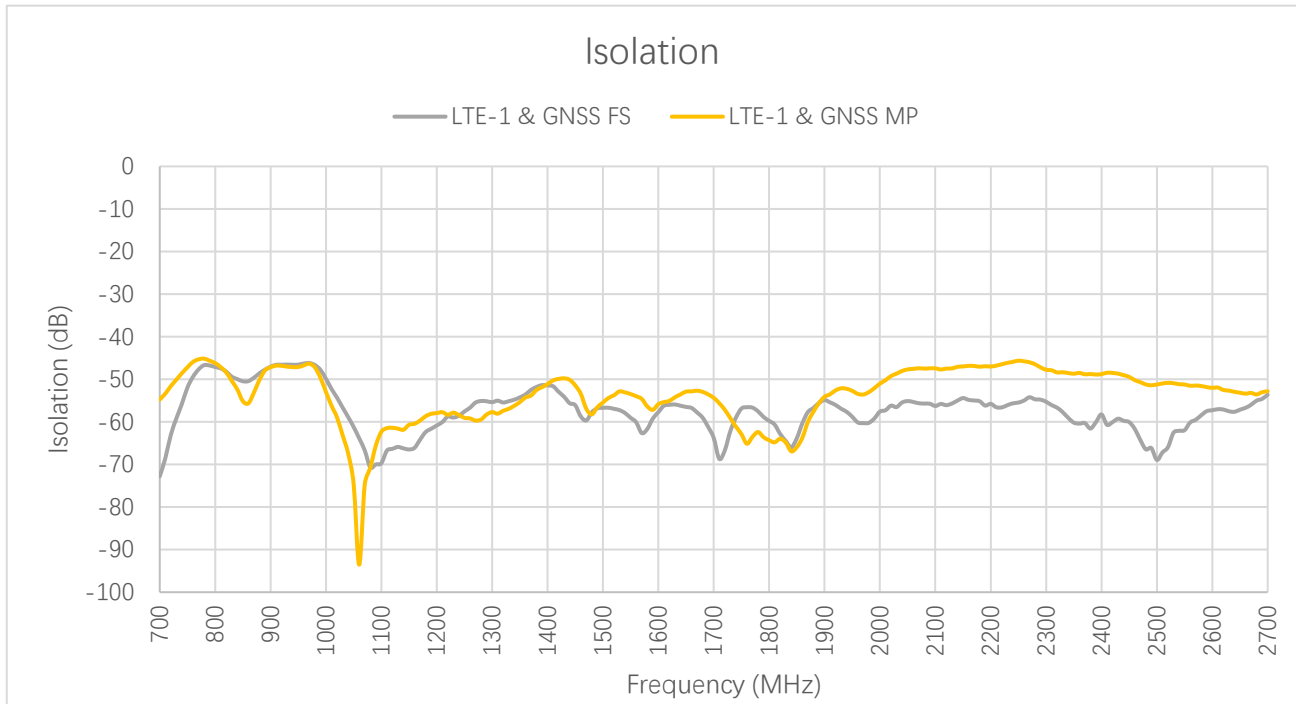
Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Return Loss (dB)	-	-	-	-	-	-3.7	-12.3	-13.2

3.1.3. Isolation



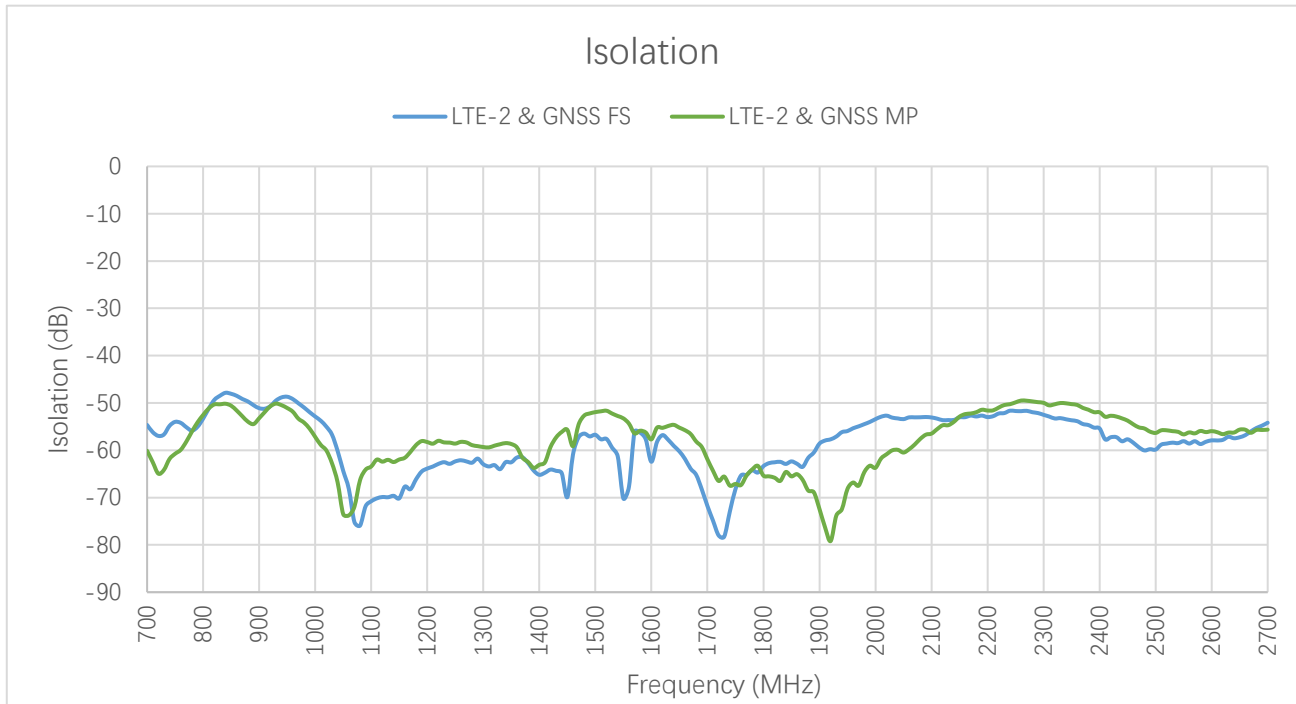
Max Isolation (dB)

Band		B71	B12/ B13/ B28	B5/ B8/ B26	n74/ n75/ n76	B1/ B2/ B3	B40	Wi-Fi 2G	B38/ B41	B42/ B48/ n77	BDS B1I	GPS L1
Freq. (MHz)		600– 700	700– 810	820– 960	1420– 1520	1700– 2170	2300– 2400	2400– 2500	2500– 2690	3300– 4200	1559– 1564	1565– 1586
LTE-1 & LTE-2	FS	-16.1	-14.5	-13.5	-	-19.8	-20.0	-20.0	-23.9	-	-	-
	MP	-17.8	-15.5	-16.0	-	-17.4	-18.1	-18.1	-18.5	-	-	-



Max Isolation (dB)

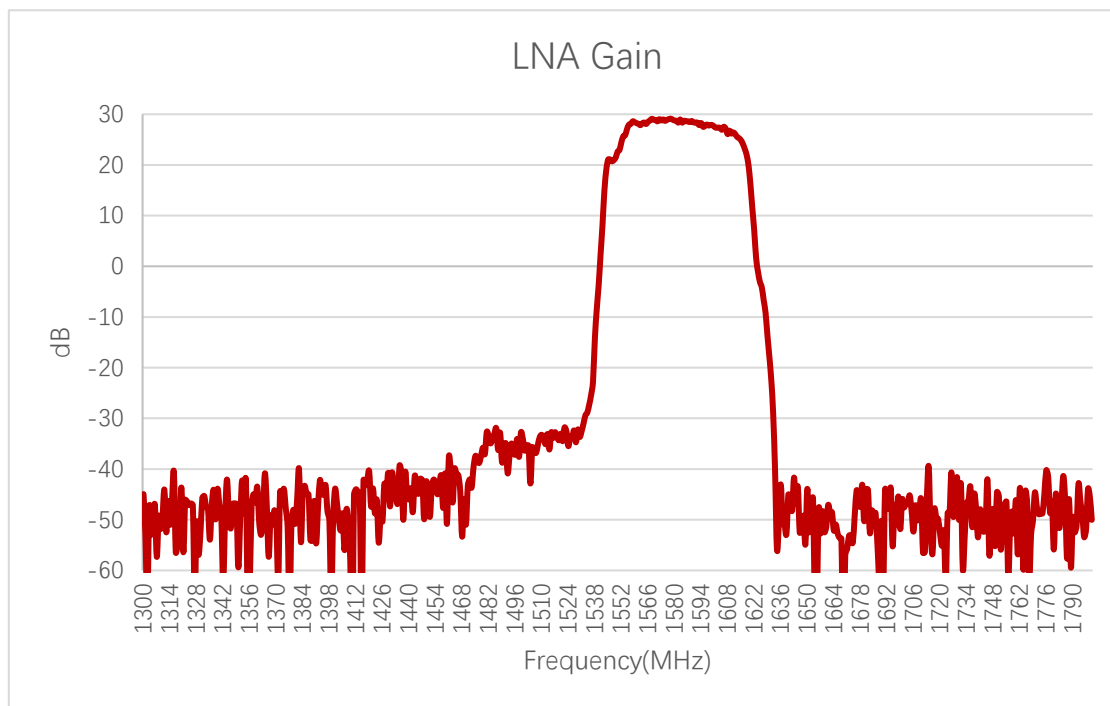
Band		B71	B12/ B13/ B28	B5/ B8/ B26	n74/ n75/ n76	B1/ B2/ B3	B40	Wi-Fi 2G	B38/ B41	B42/ B48/ n77	BDS B1I	GPS L1
Freq. (MHz)		600– 700	700– 810	820– 960	1420– 1520	1700– 2170	2300– 2400	2400– 2500	2500– 2690	3300– 4200	1559– 1564	1565– 1586
LTE-1 & GNSS	FS	-72.8	-46.7	-46.3	-	-54.4	-55.3	-58.3	-54.6	-	-60.1	-59.2
	MP	-54.8	-45.2	-46.7	-	-46.8	-47.8	-48.5	-50.8	-	-54.0	-54.0



Max Isolation (dB)

Band		B71	B12/ B13/ B28	B5/ B8/ B26	n74/ n75/ n76	B1/ B2/ B3	B40	Wi-Fi 2G	B38/ B41	B42/ B48/ n77	BDS B1I	GPS L1
Freq. (MHz)		600– 700	700– 810	820– 960	1420– 1520	1700– 2170	2300– 2400	2400– 2500	2500– 2690	3300– 4200	1559– 1564	1565– 1586
LTE-2 & GNSS	FS	-54.6	-51.2	-47.9	-	-52.7	-52.5	-55.4	-54.8	-	-56.1	-56.1
	MP	-60.1	-51.1	-50.1	-	-52.2	-50.0	-52.0	-55.6	-	-54.4	-54.4

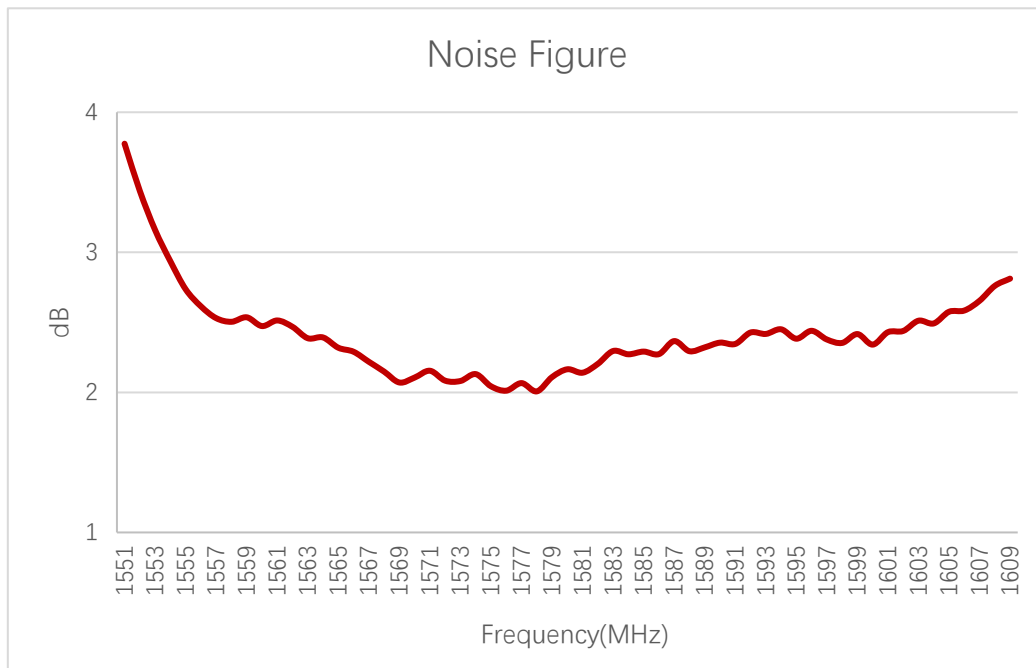
3.1.4. GNSS LNA Gain



LNA Gain(dB)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
LNA Gain(dB)	-	-	-	-	-	28.6	28.6	27.3

3.1.5. GNSS Noise Figure

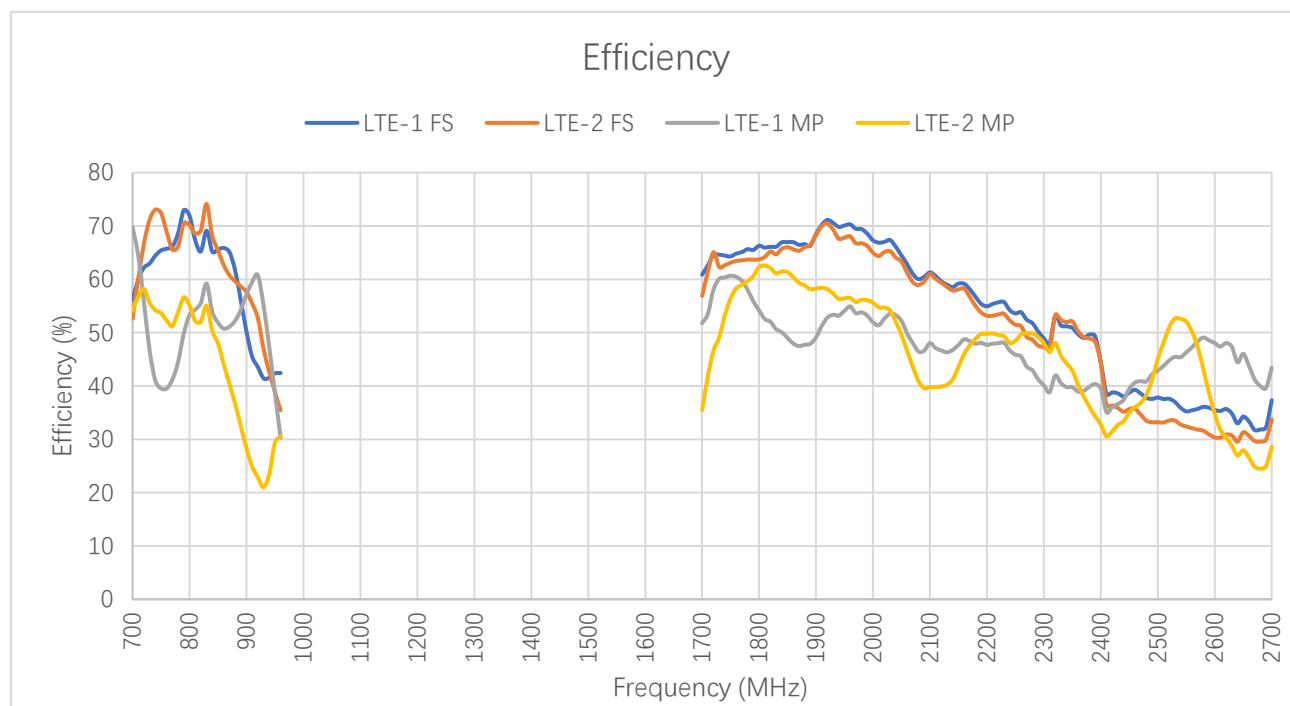


Noise Figure (dB)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Noise Figure (dB)	-	-	-	-	-	2.5	2.04	2.43

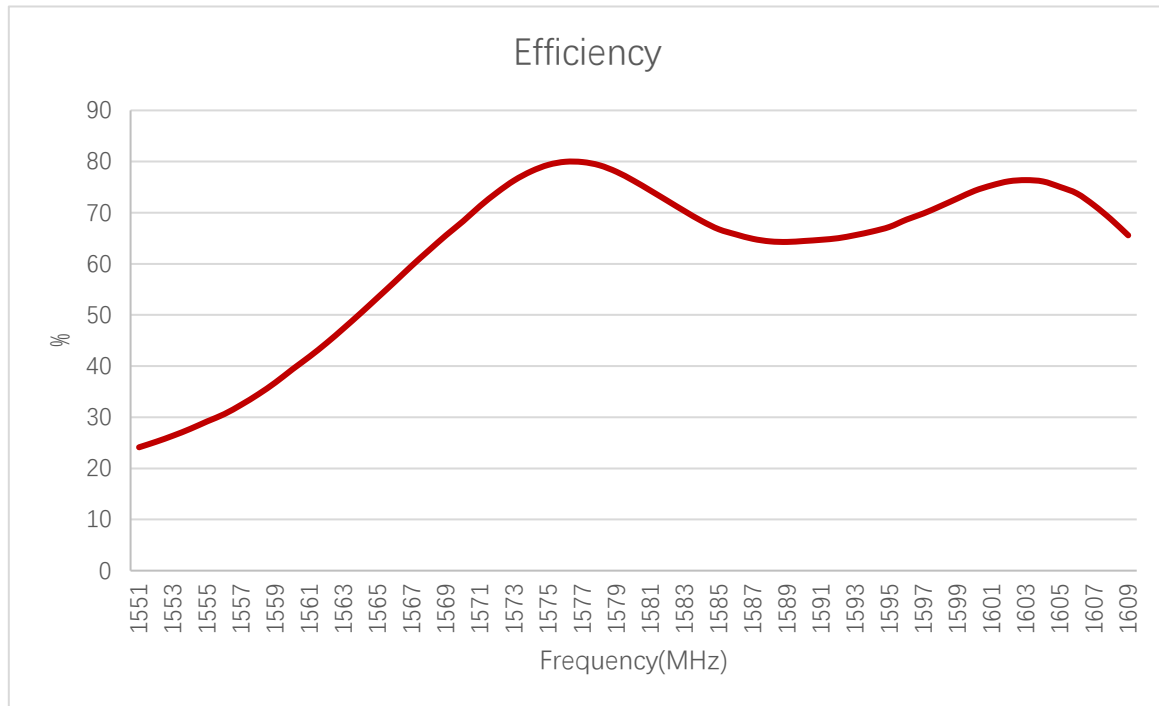
3.2. Radiation Performance Test

3.2.1. Efficiency



Efficiency (%) – LTE

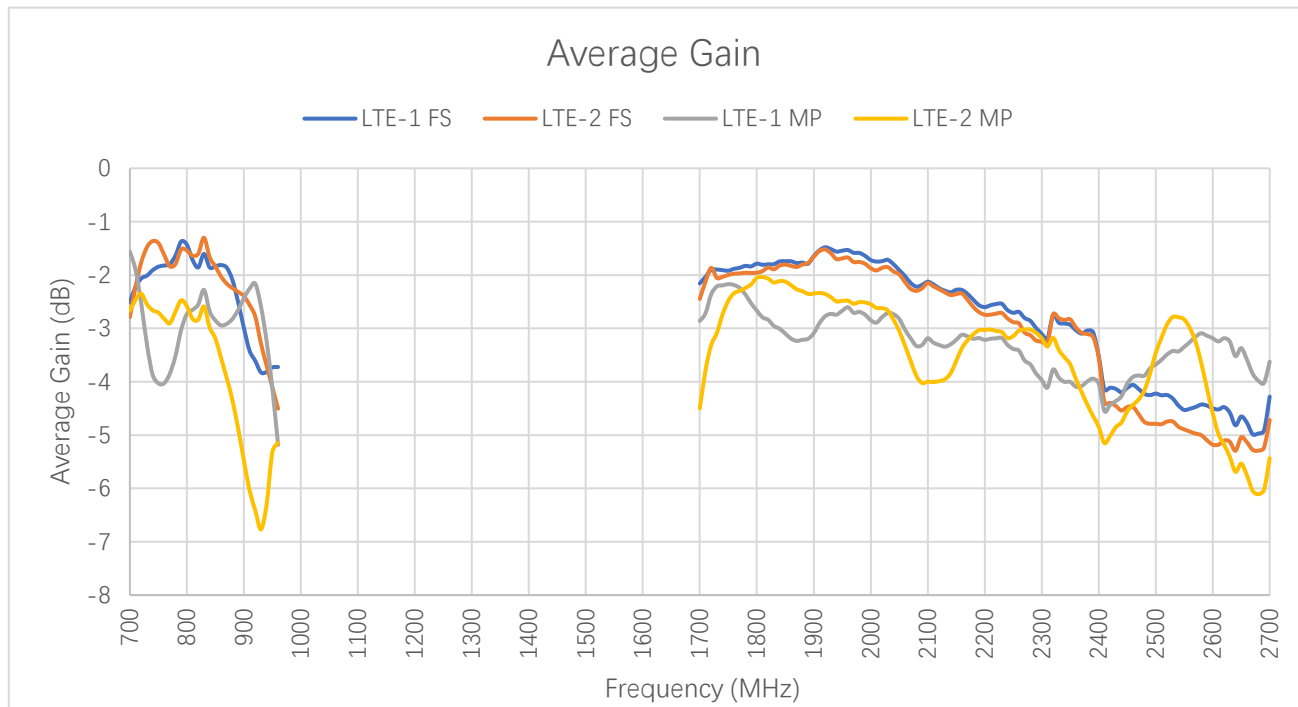
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
LTE-1	FS	-	-	60.0	69.1	50.2	42.4	-	62.6	64.4	66.6
	MP	-	-	64.5	59.2	57.1	30.3	-	53.5	60.3	47.7
LTE-2	FS	-	-	60.1	74.1	57.6	35.4	-	61.3	62.6	66.0
	MP	-	-	56.7	55.1	28.3	30.6	-	41.8	53.2	58.9
Frequency (MHz)		1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
LTE-1	FS	70.1	58.6	50.9	38.8	35.5	32.2	-	-	-	-
	MP	54.1	46.8	39.8	39.5	48.0	39.6	-	-	-	-
LTE-2	FS	67.8	57.9	52.1	35.7	30.3	29.9	-	-	-	-
	MP	56.4	41.3	42.9	35.0	34.8	25.0	-	-	-	-



Efficiency (%) – GNSS

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Efficiency (%)	-	-	-	-	-	42	79	76

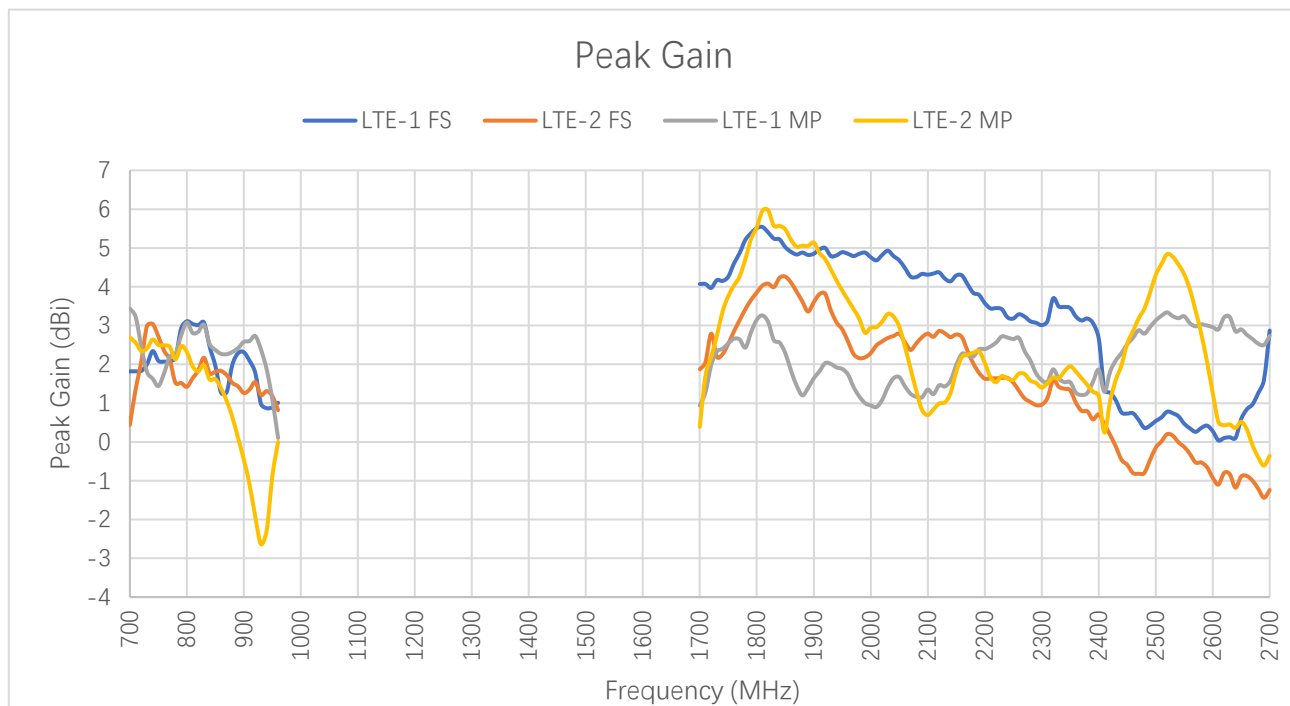
3.2.2. Average Gain



Average Gain (dB) – LTE

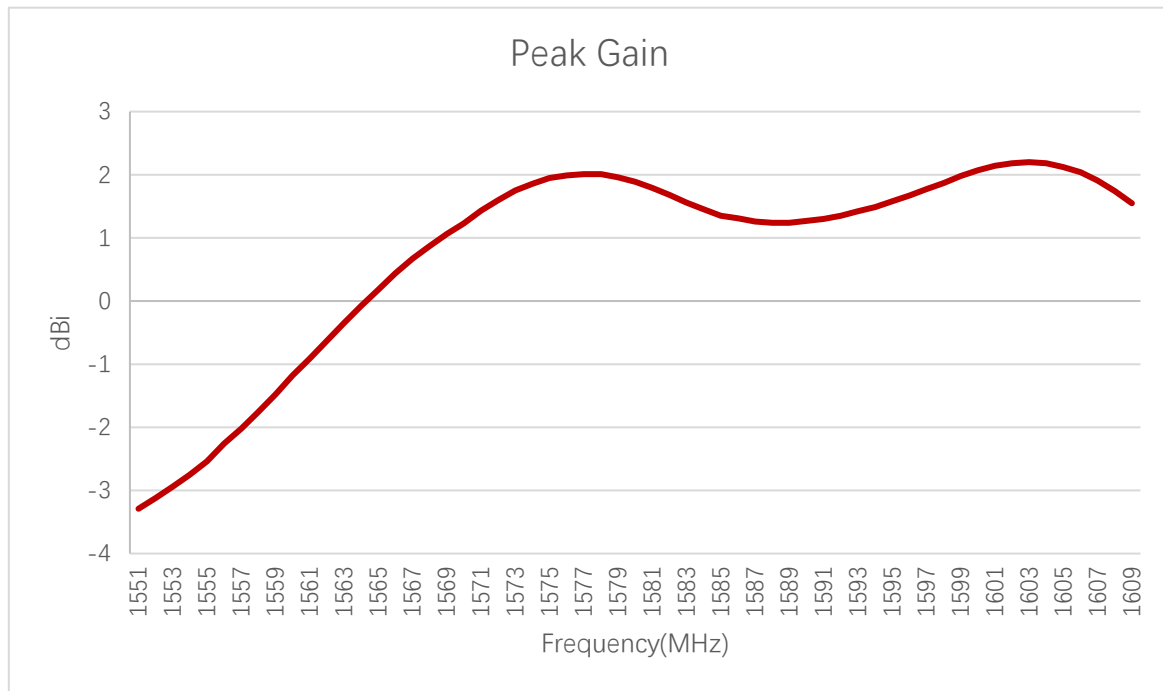
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
LTE-1	FS	-	-	-2.2	-1.6	-3.0	-3.7	-	-2.0	-1.9	-1.8
	MP	-	-	-1.9	-2.3	-2.4	-5.2	-	-2.7	-2.2	-3.2
LTE-2	FS	-	-	-2.2	-1.3	-2.4	-4.5	-	-2.1	-2.0	-1.8
	MP	-	-	-2.5	-2.6	-5.5	-5.1	-	-3.8	-2.7	-2.3
Frequency (MHz)		1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
LTE-1	FS	-1.5	-2.3	-2.9	-4.1	-4.5	-4.9	-	-	-	-
	MP	-2.7	-3.3	-4.0	-4.0	-3.2	-4.0	-	-	-	-
LTE-2	FS	-1.7	-2.4	-2.8	-4.5	-5.2	-5.2	-	-	-	-
	MP	-2.5	-3.8	-3.7	-4.6	-4.6	-6.0	-	-	-	-

3.2.3. Peak Gain



Peak Gain (dBi) – LTE

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
LTE-1	FS	-	-	1.8	3.1	2.3	1.0	-	4.1	4.2	4.9
	MP	-	-	3.2	3.0	2.6	0.1	-	1.3	2.4	1.2
LTE-2	FS	-	-	1.4	2.2	1.3	0.8	-	2.1	2.3	3.6
	MP	-	-	2.6	2.0	-0.5	0.0	-	1.7	3.4	5.1
Frequency (MHz)		1950	2140	2350	2450	2600	2690	4700	5000	5500	6000
LTE-1	FS	4.9	4.1	3.5	0.7	0.3	1.6	-	-	-	-
	MP	1.9	1.6	1.5	2.5	3.0	2.5	-	-	-	-
LTE-2	FS	2.9	2.7	1.3	-0.6	-0.9	-1.4	-	-	-	-
	MP	3.9	1.3	2.0	2.5	1.3	-0.6	-	-	-	-

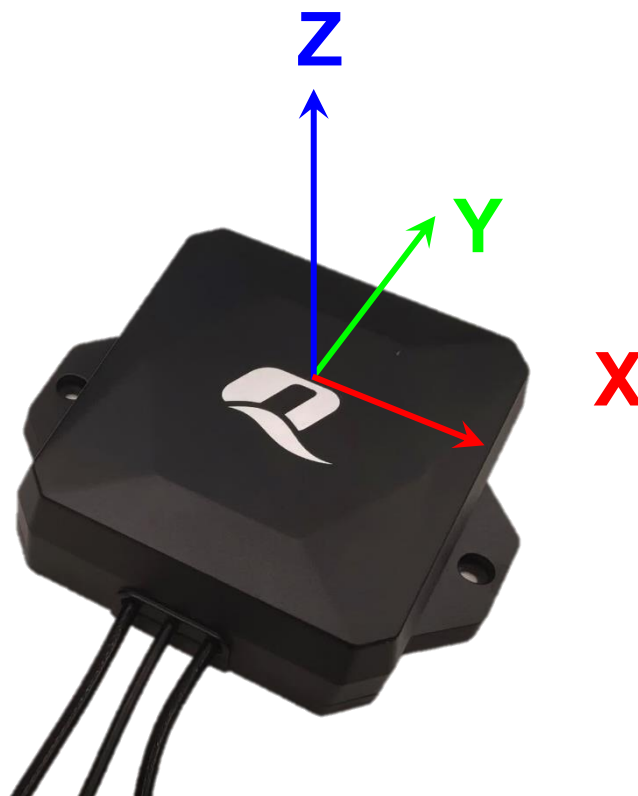


Peak Gain (dBi) – GNSS

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Peak Gain (dBi)	-	-	-	-	-	-0.91	1.95	2.18

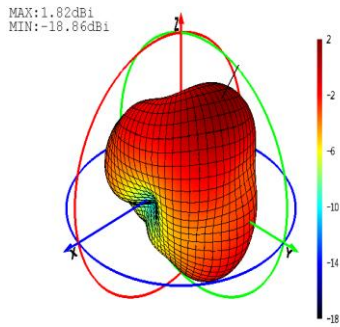
3.2.4. 3D & 2D Radiation Pattern

- Test Condition: Free space
- Test Chamber: FS-S-1(LTE); SH-SY-16(GNSS)

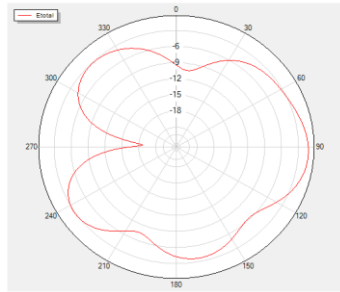


● **LTE-1**

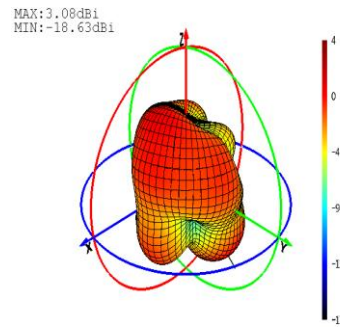
710 MHz



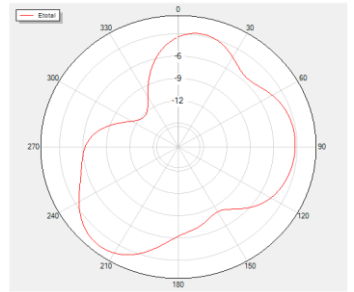
Theta=90 Freq=710MHz



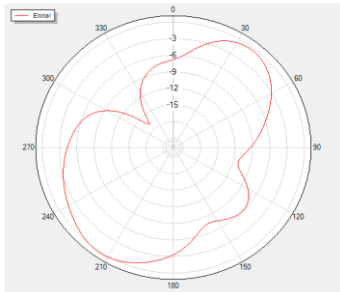
830 MHz



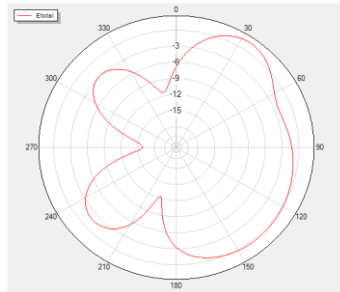
Theta=90 Freq=830MHz



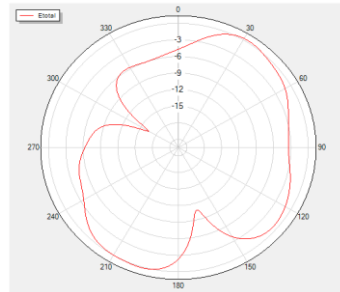
Phi=0 Freq=710MHz



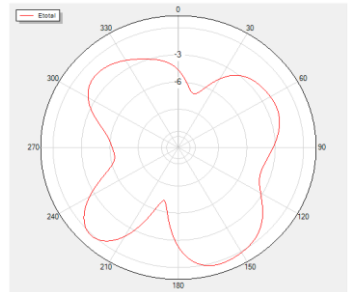
Phi=90 Freq=710MHz



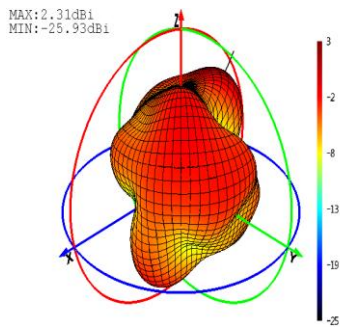
Phi=0 Freq=830MHz



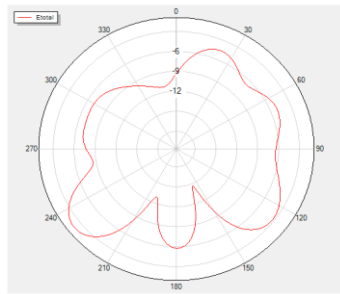
Phi=90 Freq=830MHz



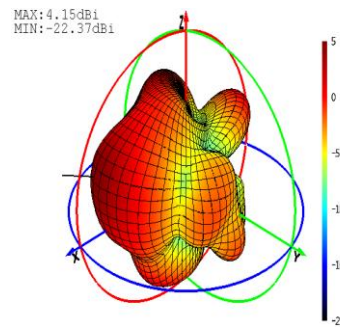
900 MHz



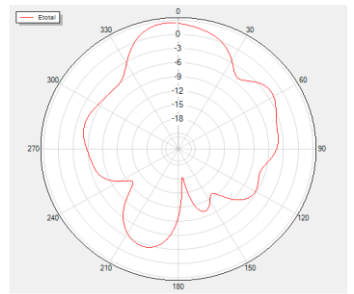
Theta=90 Freq=900MHz



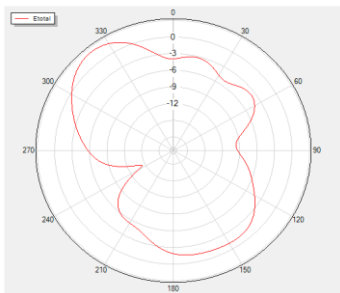
1740 MHz



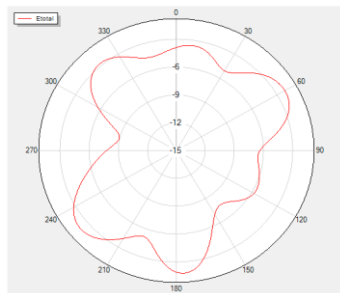
Theta=90 Freq=1740MHz



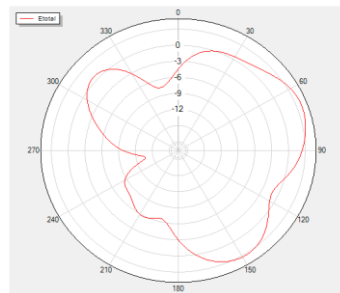
Phi=0 Freq=900MHz



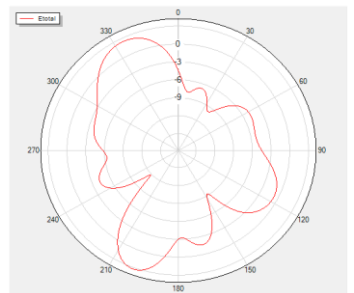
Phi=90 Freq=900MHz



Phi=0 Freq=1740MHz

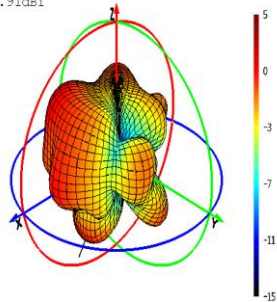


Phi=90 Freq=1740MHz

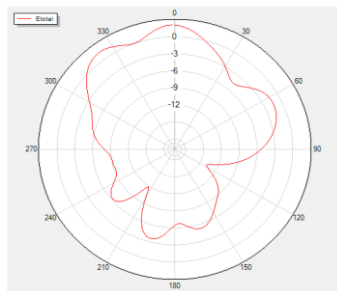


1880 MHz

MAX: 4.88dBi
MIN: -15.91dBi

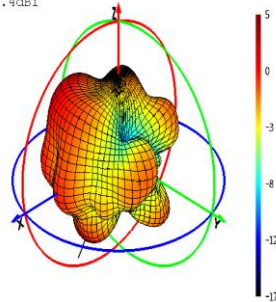


Theta=90 Freq=1880MHz

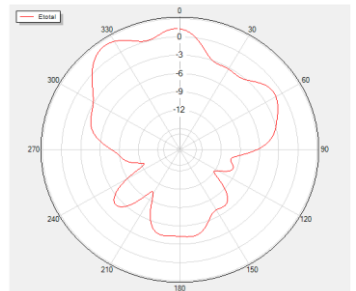


1950 MHz

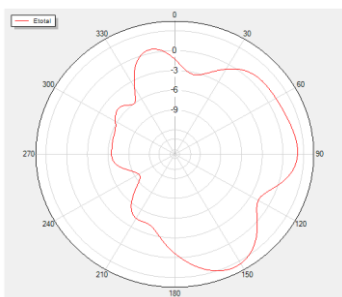
MAX: 4.89dBi
MIN: -17.4dBi



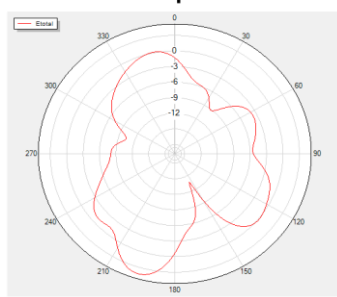
Theta=90 Freq=1950MHz



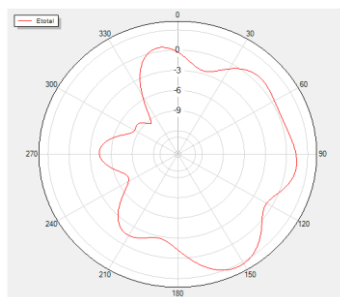
Phi=0 Freq=1880MHz



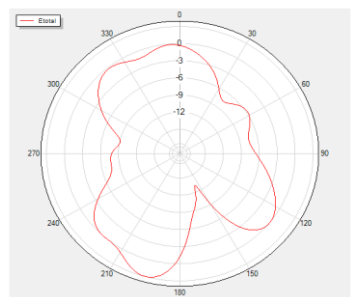
Phi=90 Freq=1880MHz



Phi=0 Freq=1950MHz

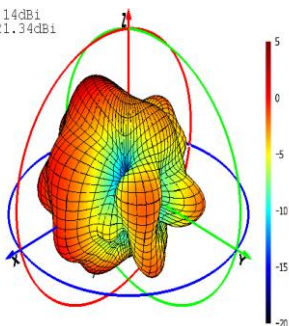


Phi=90 Freq=1950MHz

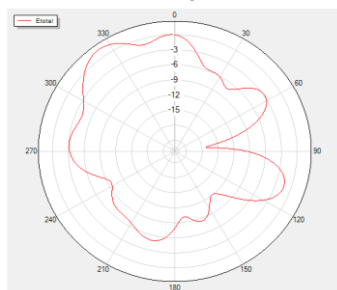


2140 MHz

MAX: 4.14dBi
MIN: -21.34dBi

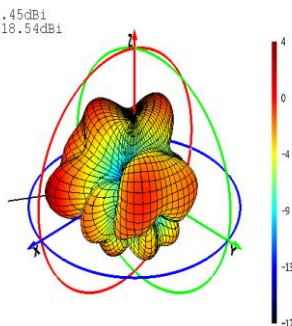


Theta=90 Freq=2140MHz

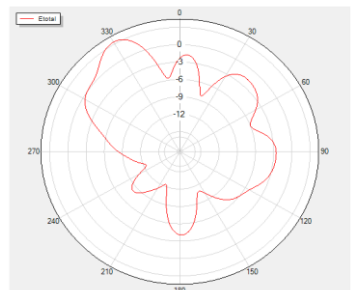


2350 MHz

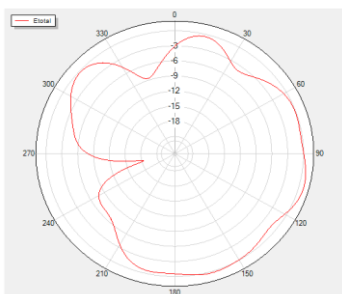
MAX: 3.45dBi
MIN: -18.54dBi



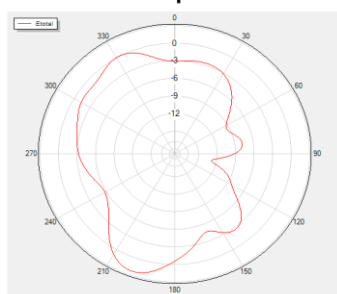
Theta=90 Freq=2350MHz



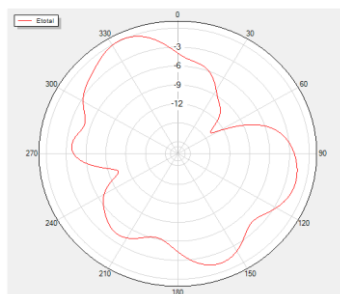
Phi=0 Freq=2140MHz



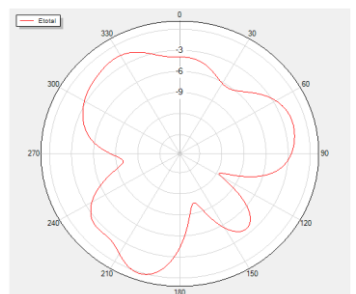
Phi=90 Freq=2140MHz

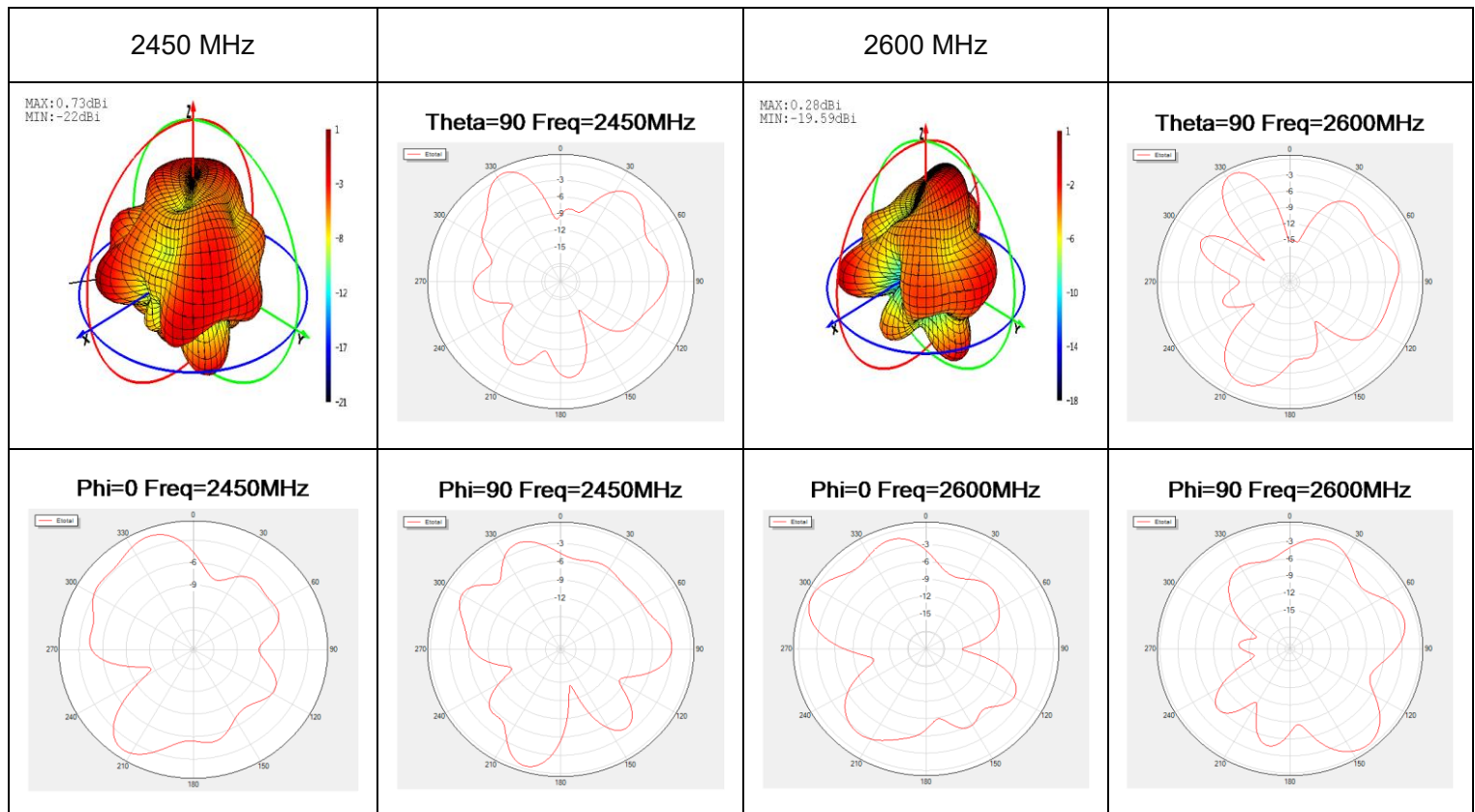


Phi=0 Freq=2350MHz

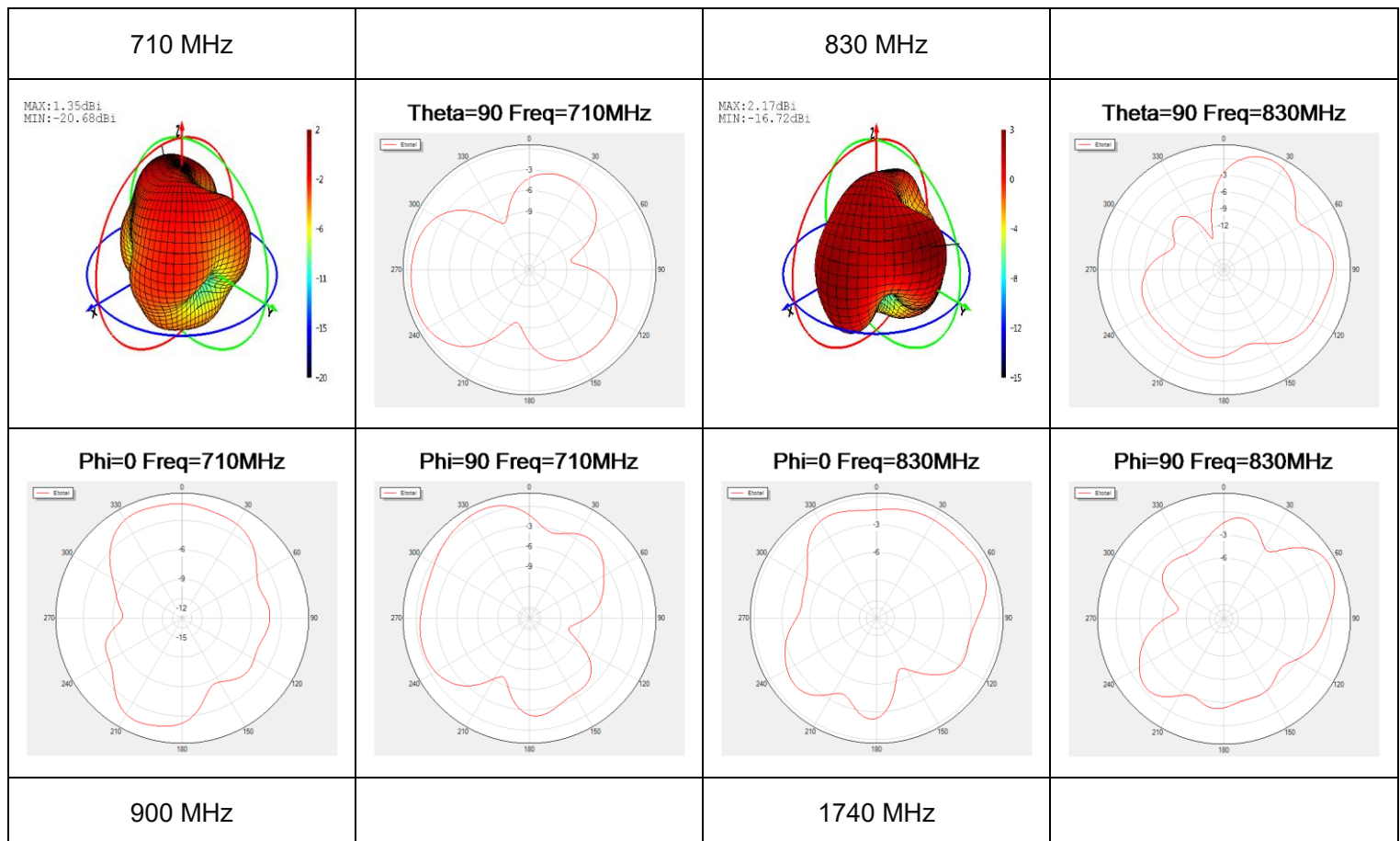


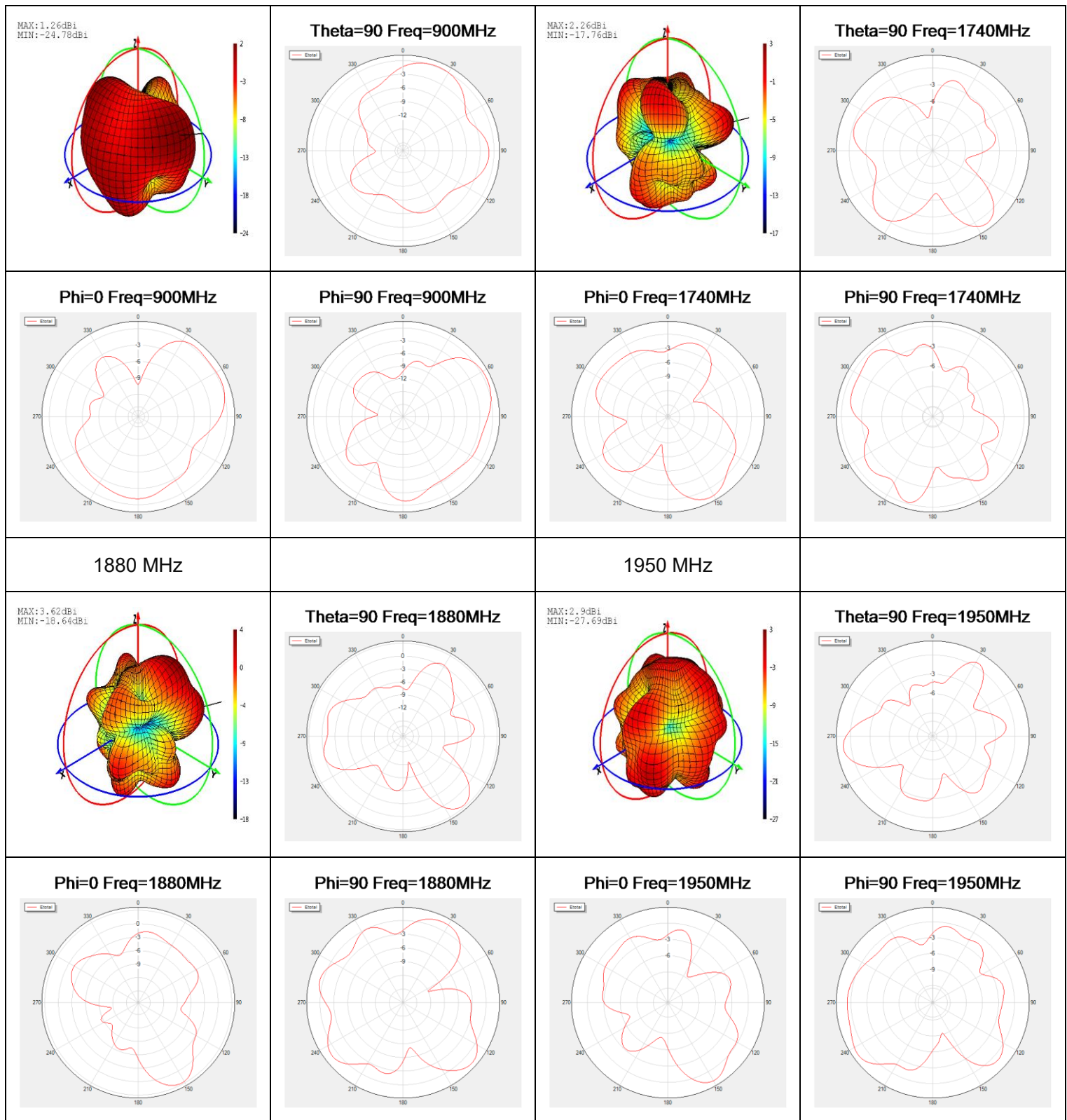
Phi=90 Freq=2350MHz





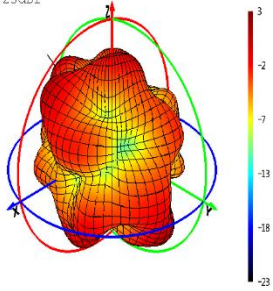
● **LTE-2**



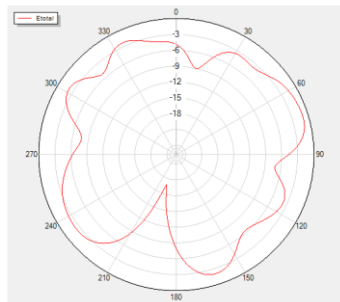


2140 MHz

MAX: 2.7dBi
MIN: -24.23dBi

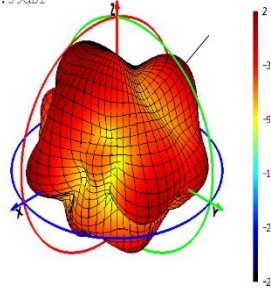


Theta=90 Freq=2140MHz

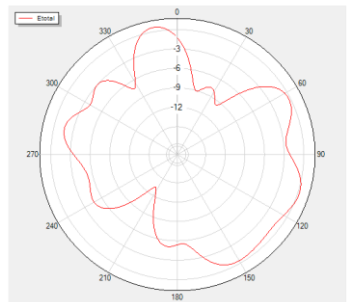


2350 MHz

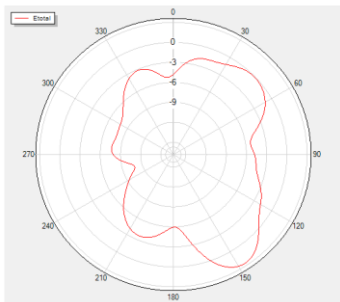
MAX: 1.33dBi
MIN: -26.39dBi



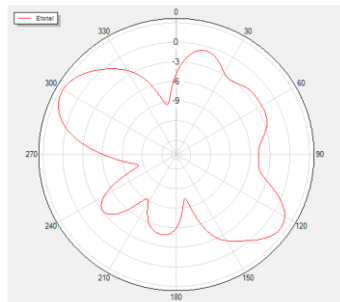
Theta=90 Freq=2350MHz



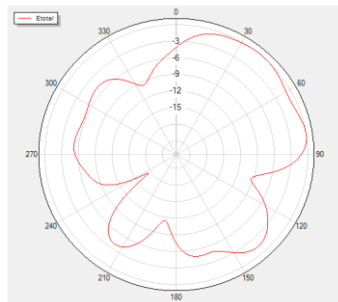
Phi=0 Freq=2140MHz



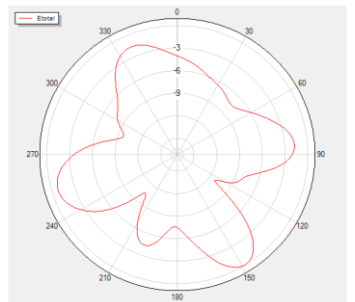
Phi=90 Freq=2140MHz



Phi=0 Freq=2350MHz

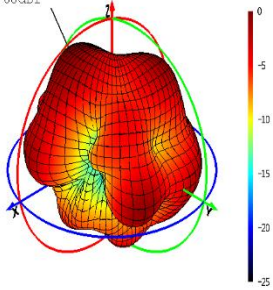


Phi=90 Freq=2350MHz

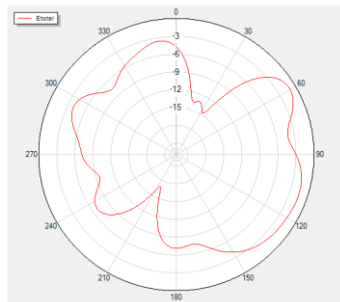


2450 MHz

MAX: -0.59dBi
MIN: -25.68dBi

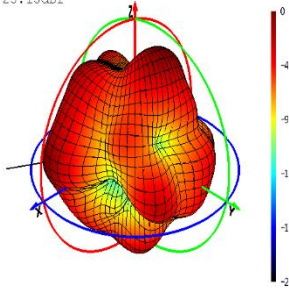


Theta=90 Freq=2450MHz

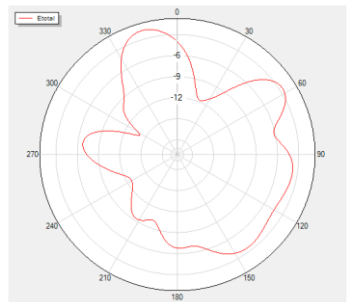


2600 MHz

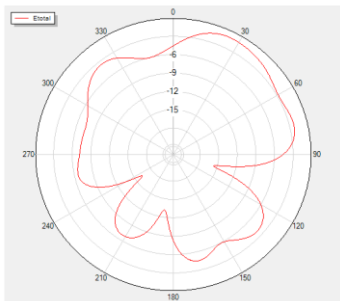
MAX: -0.92dBi
MIN: -25.15dBi



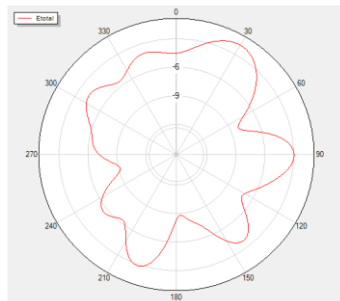
Theta=90 Freq=2600MHz



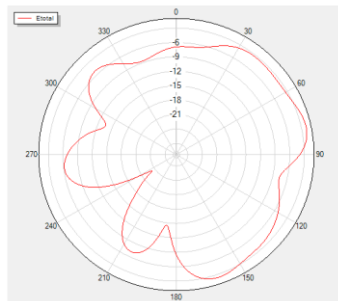
Phi=0 Freq=2450MHz



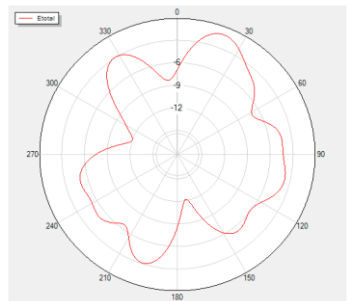
Phi=90 Freq=2450MHz



Phi=0 Freq=2600MHz

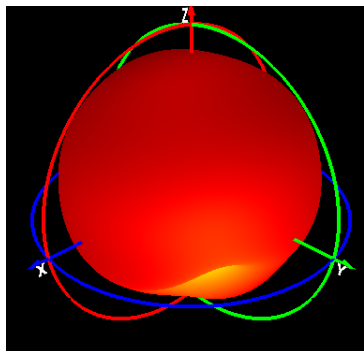


Phi=90 Freq=2600MHz

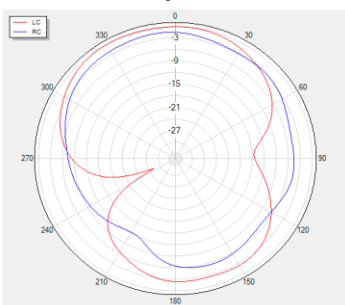


● **GNSS**

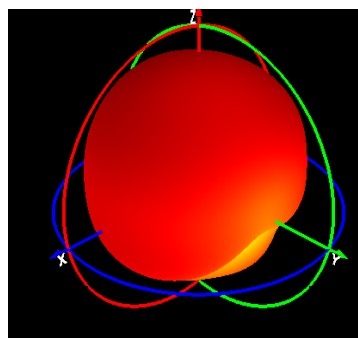
1561 MHz



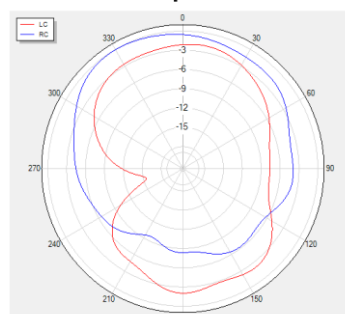
Phi=0 freq=1561MHz



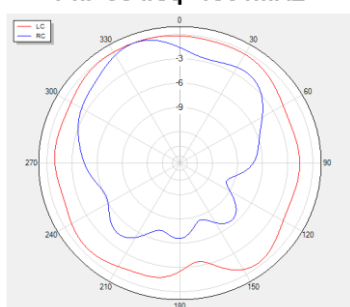
1575 MHz



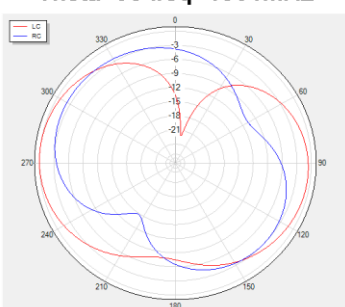
Phi=0 freq=1575MHz



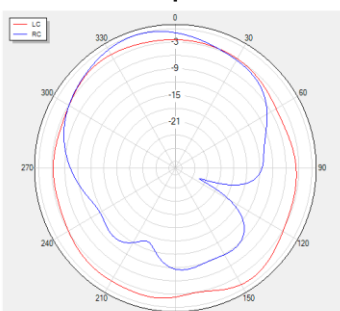
Phi=90 freq=1561MHz



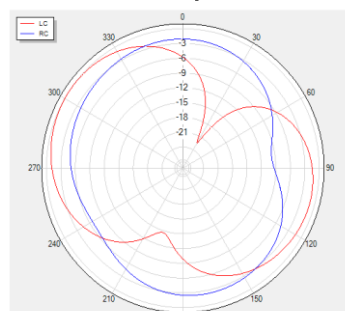
Theta=90 freq=1561MHz



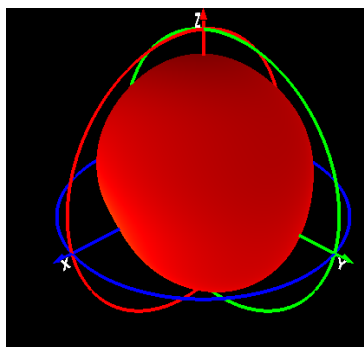
Phi=90 freq=1575MHz



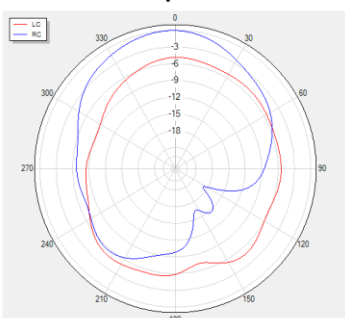
Theta=90 freq=1575MHz



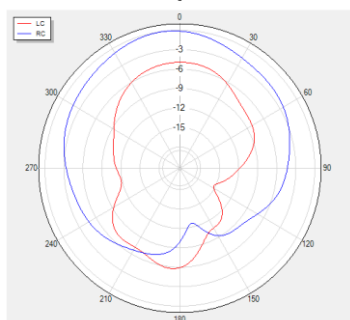
1602 MHz



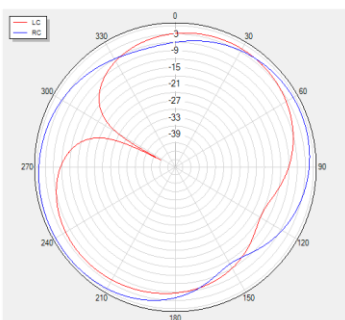
Phi=0 freq=1602MHz



Phi=90 freq=1602MHz

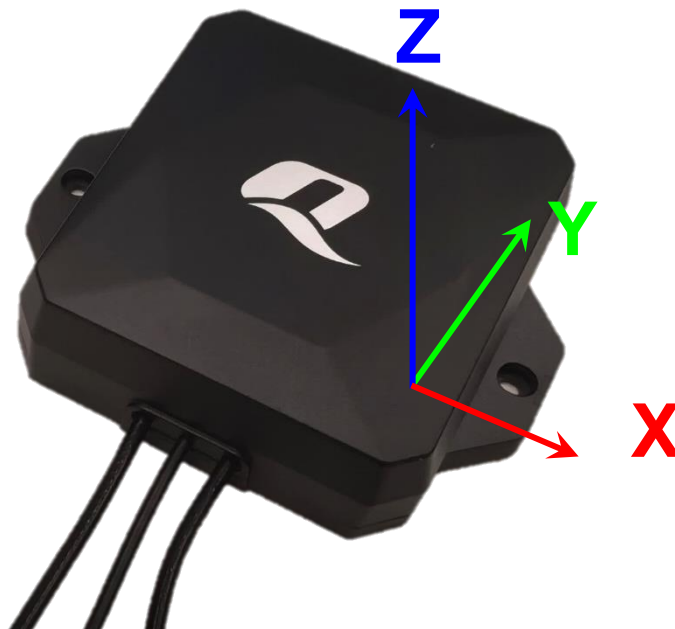


Theta=90 freq=1602MHz



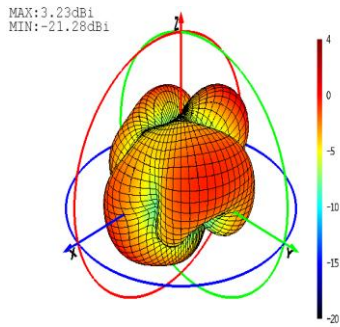
3.2.5. 3D & 2D Radiation Pattern

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

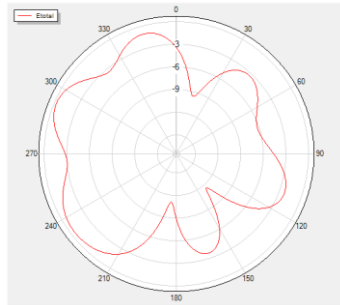


● **LTE-1**

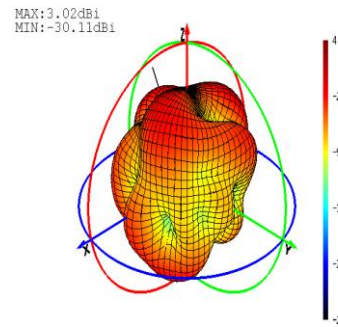
710 MHz



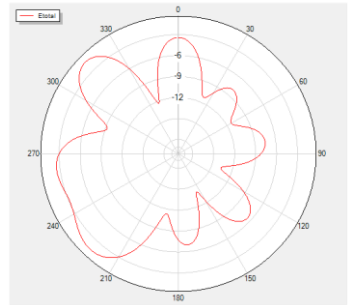
Theta=90 Freq=710MHz



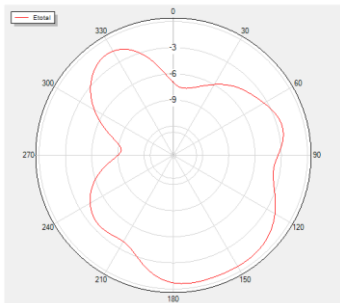
830 MHz



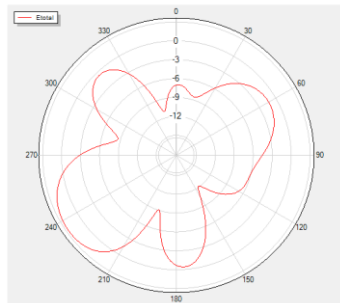
Theta=90 Freq=830MHz



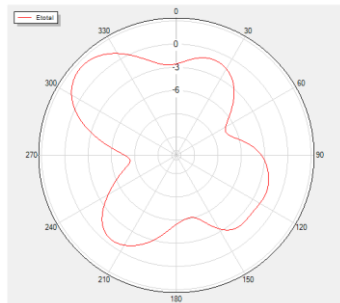
Phi=0 Freq=710MHz



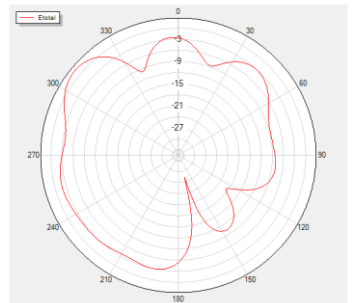
Phi=90 Freq=710MHz



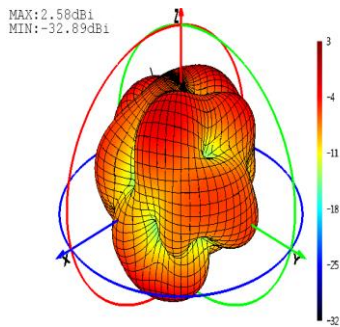
Phi=0 Freq=830MHz



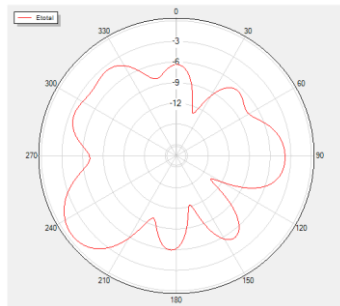
Phi=90 Freq=830MHz



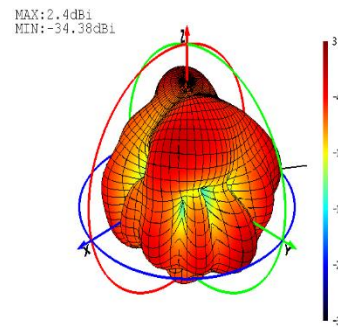
900 MHz



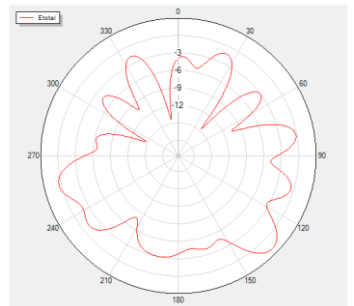
Theta=90 Freq=900MHz



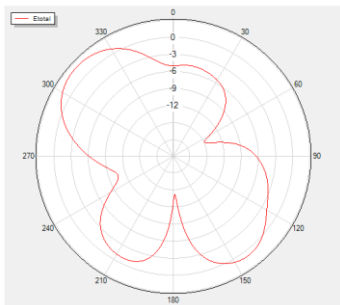
1740 MHz



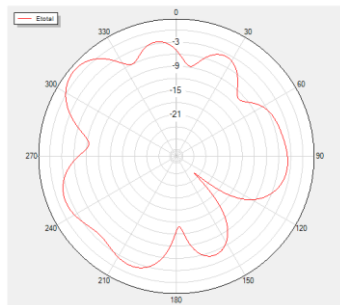
Theta=90 Freq=1740MHz



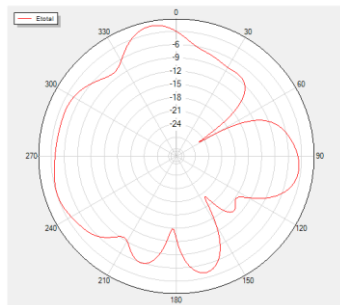
Phi=0 Freq=900MHz



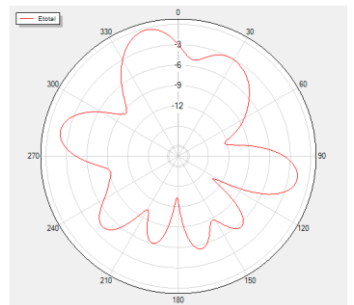
Phi=90 Freq=900MHz

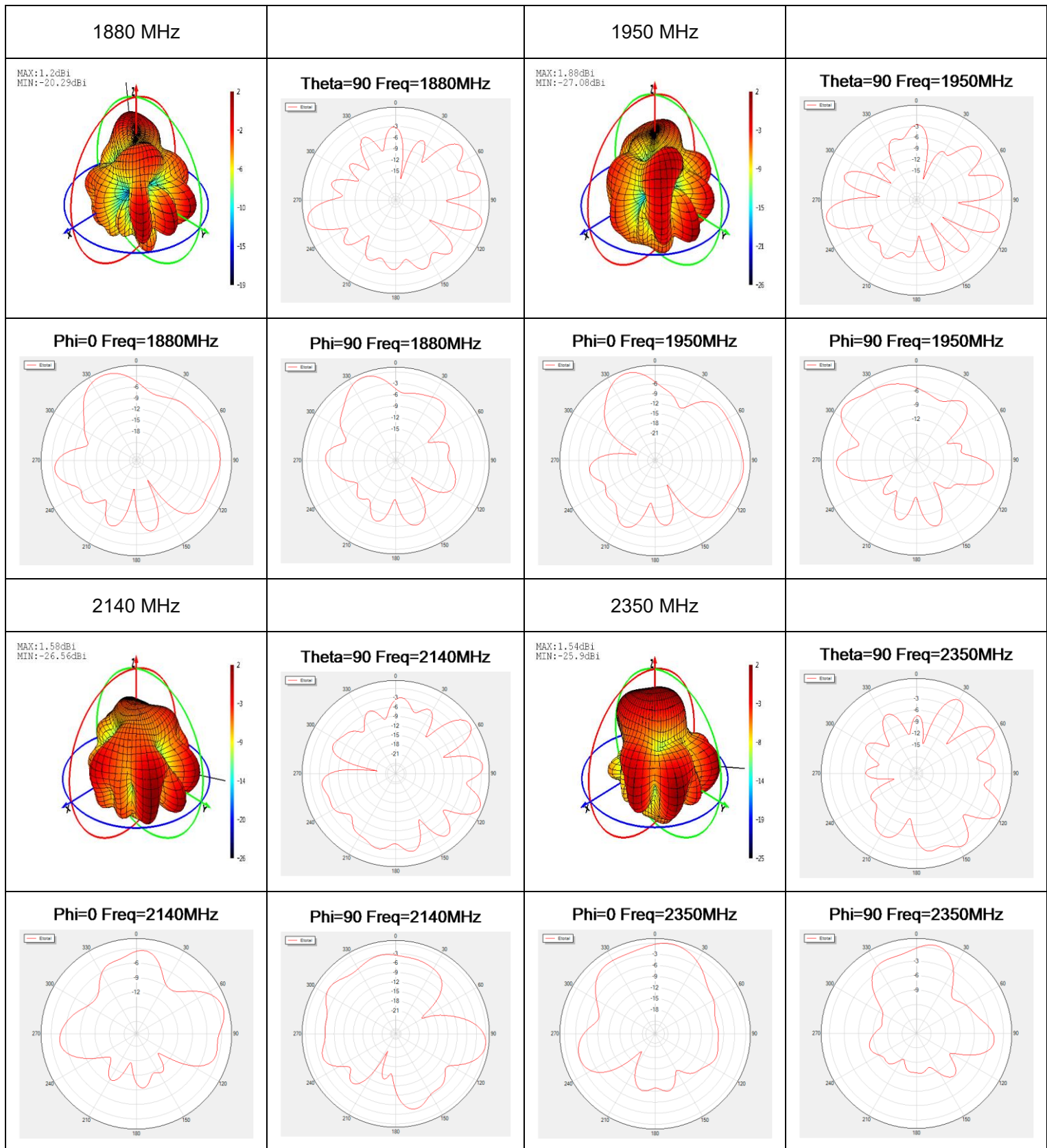


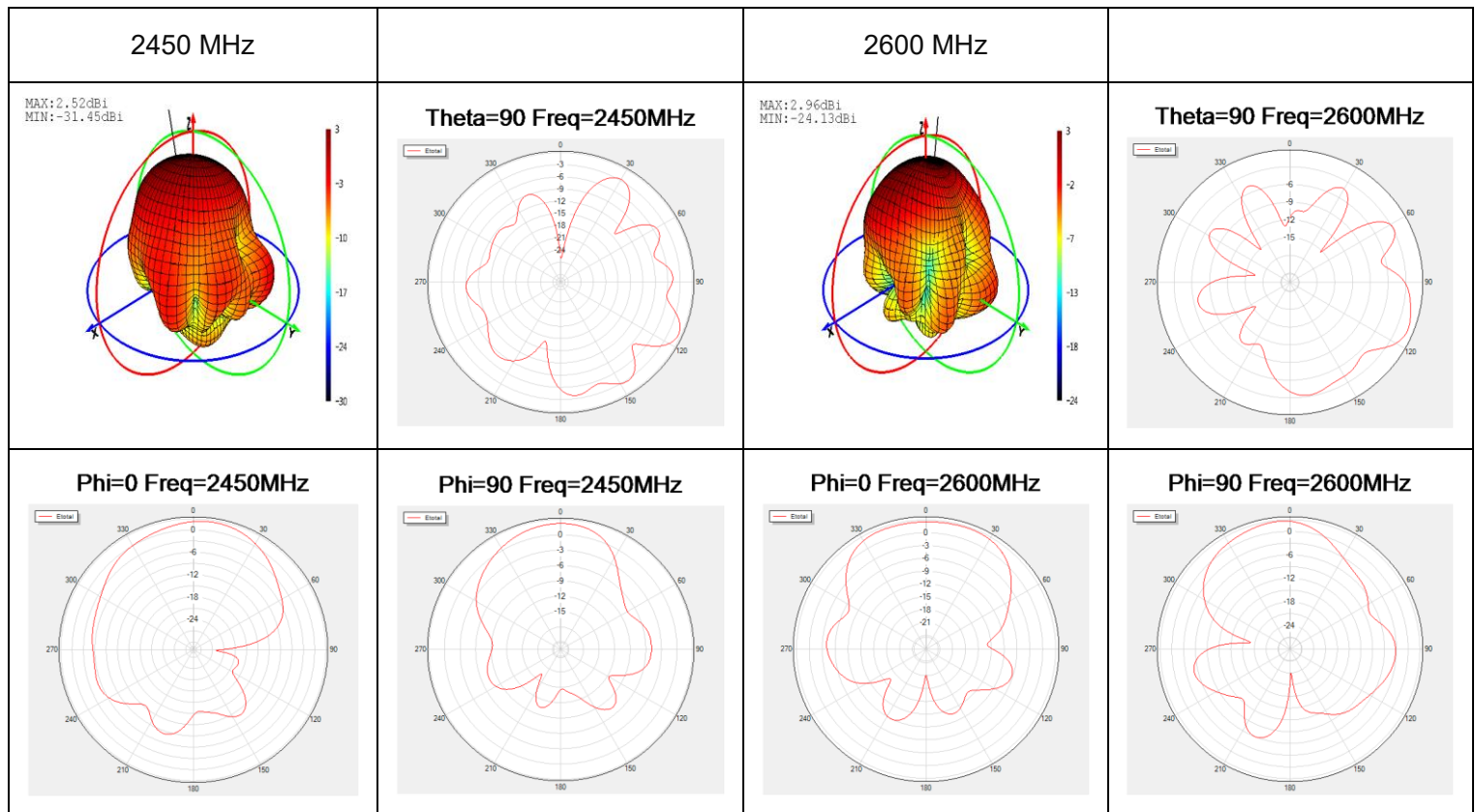
Phi=0 Freq=1740MHz



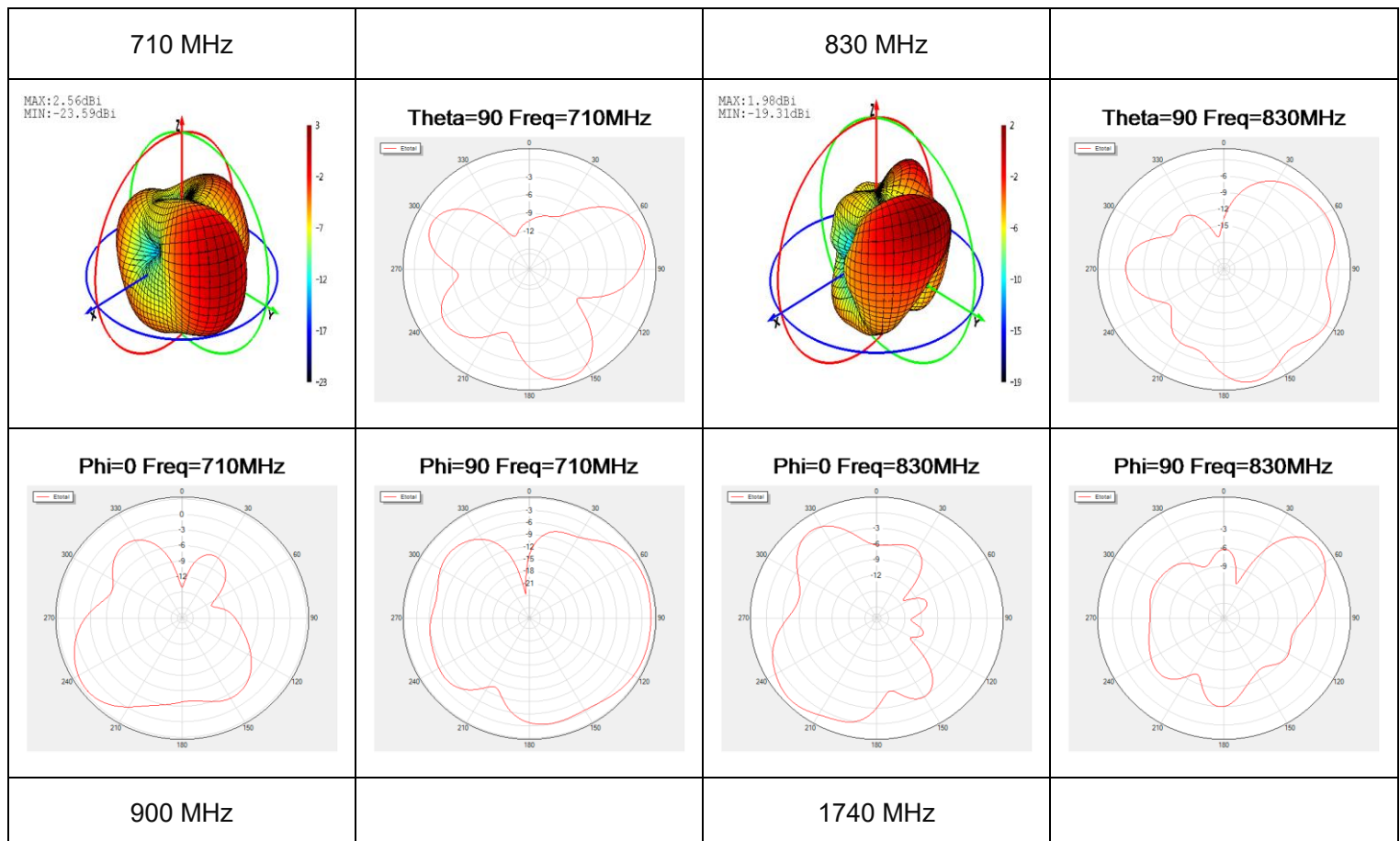
Phi=90 Freq=1740MHz

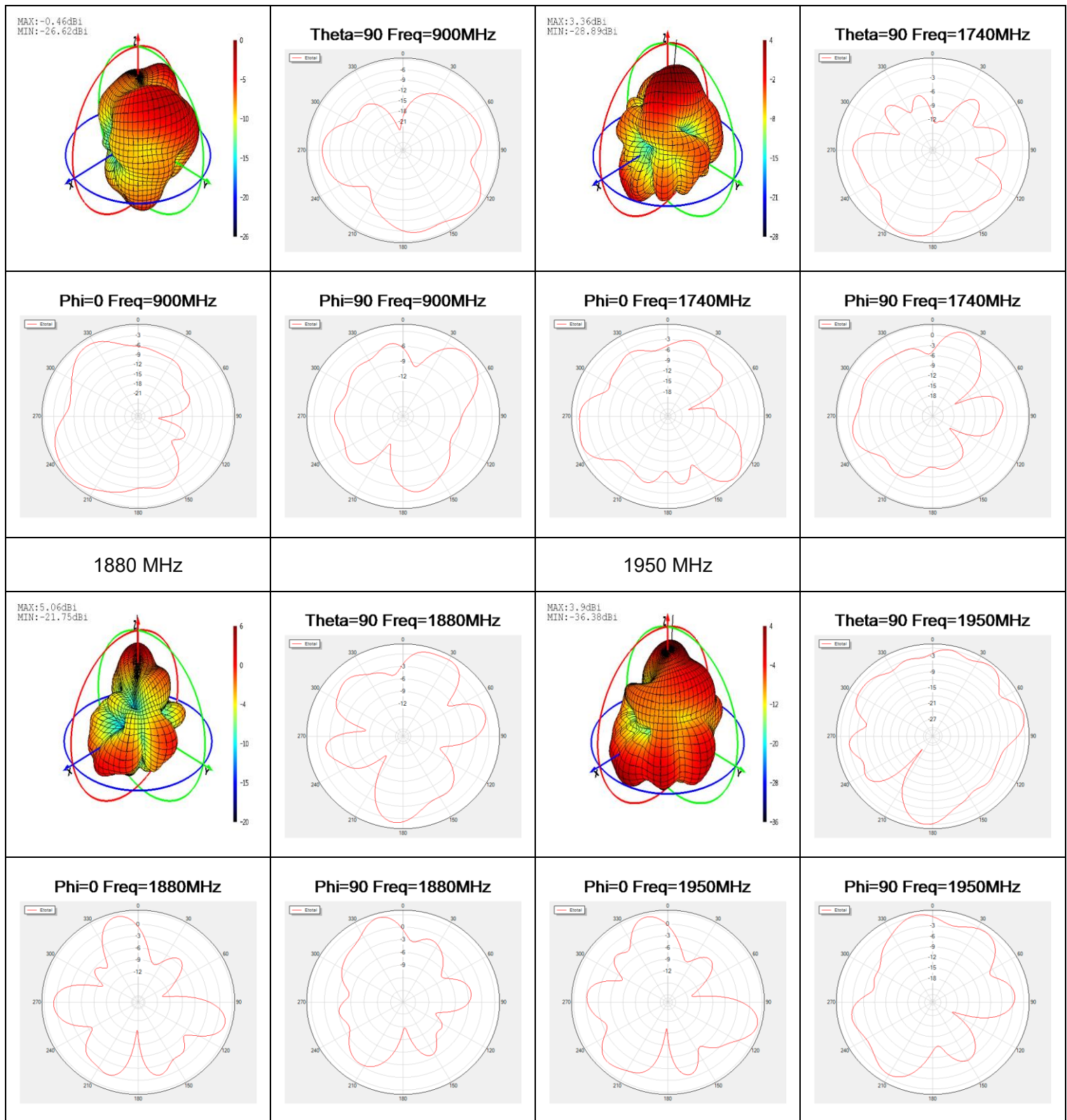






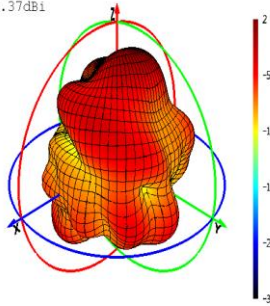
● **LTE-2**



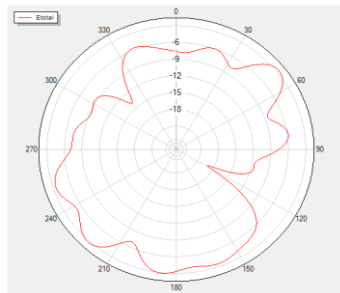


2140 MHz

MAX:1.26dBi
MIN:-34.37dBi

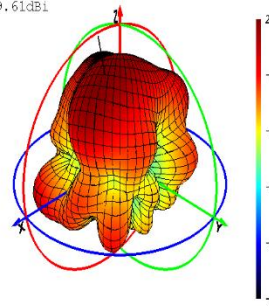


Theta=90 Freq=2140MHz

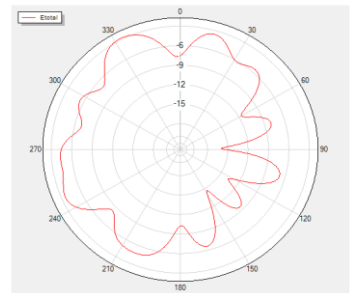


2350 MHz

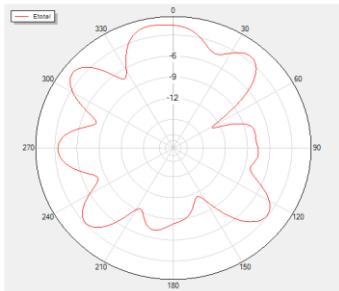
MAX:1.95dBi
MIN:-29.61dBi



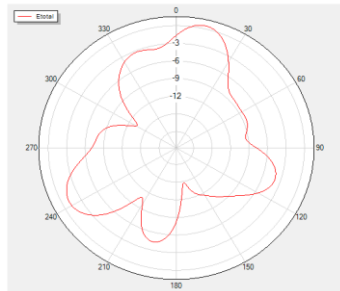
Theta=90 Freq=2350MHz



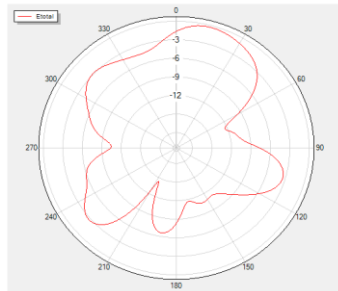
Phi=0 Freq=2140MHz



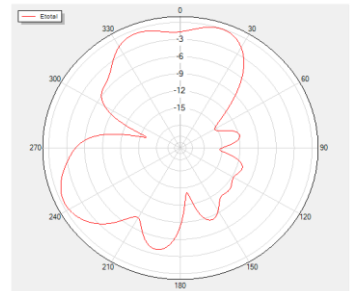
Phi=90 Freq=2140MHz



Phi=0 Freq=2350MHz

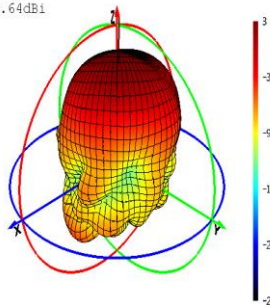


Phi=90 Freq=2350MHz

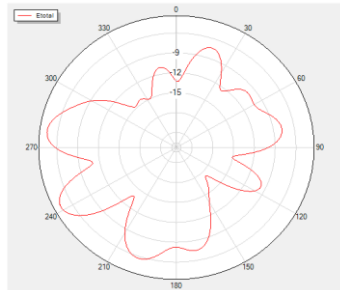


2450 MHz

MAX:2.53dBi
MIN:-29.64dBi

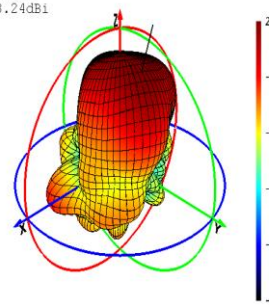


Theta=90 Freq=2450MHz

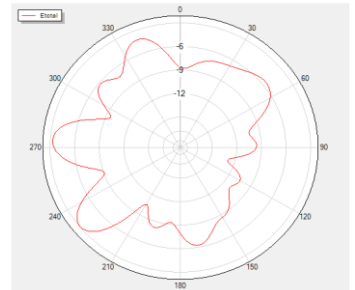


2600 MHz

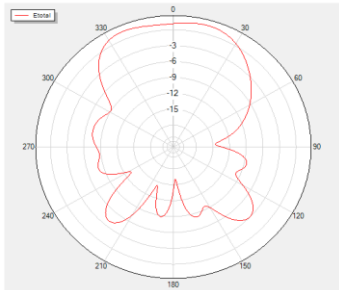
MAX:1.27dBi
MIN:-23.24dBi



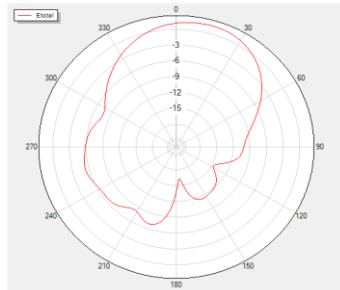
Theta=90 Freq=2600MHz



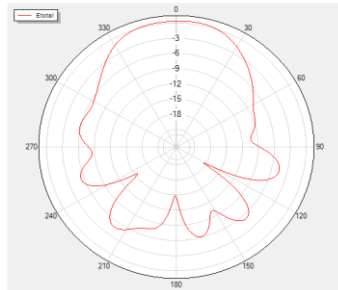
Phi=0 Freq=2450MHz



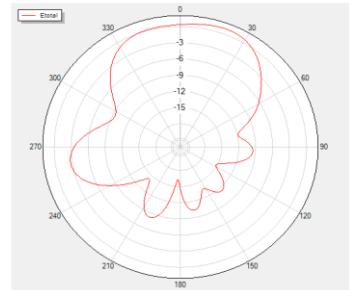
Phi=90 Freq=2450MHz



Phi=0 Freq=2600MHz

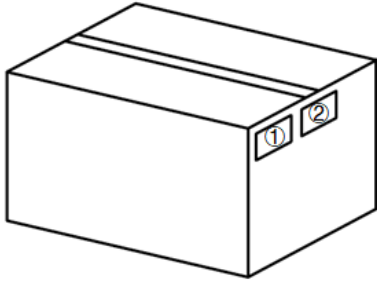
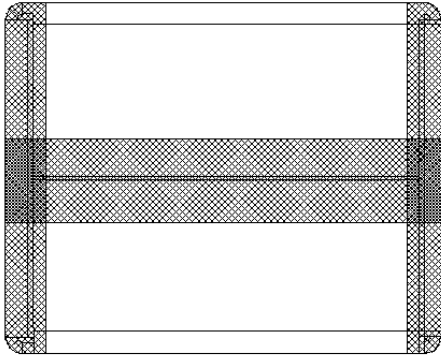


Phi=90 Freq=2600MHz



4 Packaging

Step	Packaging Picture / 2D Picture	Description
1		1 pc antenna product in a small PE bag. (1 PC Antenna / Small PE Bag)
2		5 pcs antenna products in a small carton box. (5 PCS Antennas / Small Carton Box)
3		(6 Small Carton Boxes / Big Carton Box) (30 PCS Antennas / Big Carton Box) Estimated quantity Products that cannot fill the entire carton box are packed in a suitable size carton box. <u>Carton Size:</u> <u>L × W × H = 600 × 404 × 164 mm</u>

4		Position for Attaching Labels ① Carton Label ② Quality Label
5		Sealing Cartons H-shaped sealing cartons
Note	The initial packaging method described above is for reference only, and the final actual packaging method shall be subject to the actual shipping packaging.	

Contact Us

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

<http://www.quectel.com/support/sales.htm>.

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Revision History

Version	Date	Author	Note
-	2024-11-07	Mordecai LIU/ Junsen LI/ Rojin LUO/ David LIU/ Rainey LIAO	Creation of the document
1.0	2024-11-07	Mordecai LIU/ Junsen LI/ Rojin LUO/ David LIU/ Rainey LIAO	First official release



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