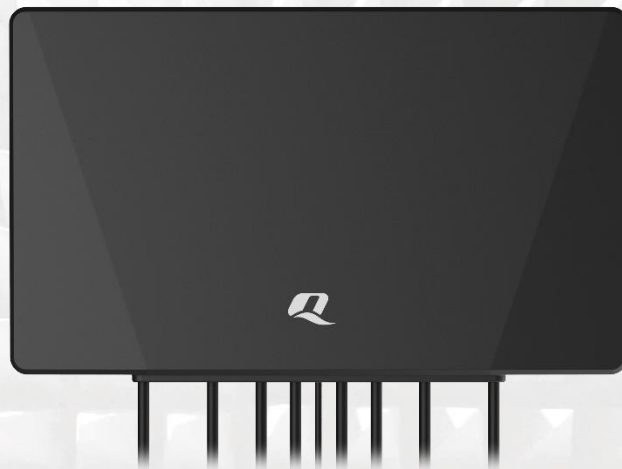




Antenna Datasheet

Product OC: YEMA013BA

Version: 1.0

Date: 2024-08-01

Status: Released

Product Name: 5G & GNSS 9-in-1 Adhesive Mount Combo Antenna

Key Features:

4 × 5G/4G LMH 600–6000 MHz

4 × 5G/4G MH 1400–6000 MHz

1 × Active GNSS L1L5

Dimensions: 264.6 × 157.6 × 30.6 mm

Mount: Adhesive/Wall/Suction

Connectors: SMA Male

IP Rating: IP67 & IP69K

Compatible with ECE-R118 cables under demand

Overview

Quectel YEMA013BA is a 5G & GNSS Adhesive mount 9in1 combo antenna optimized for 5G and 4G networks. With dimensions of 264.6 × 157.6 × 30.6 mm, the antenna can integrate a variety of antennas, such as 5G, 4G, GNSS and Wi-Fi antennas. Available with multiple mounting options including wall, adhesive and others, the antenna box supports multiple connector types and cable lengths (Compatible with ECE-R118 cables) and is designed to offer a more flexible and reliable high-performance antenna for outdoor applications.

YEMA013BA is made up of 9 antennas, with 4 × 5G LMH antennas covering 600–6000 MHz, 4 × 5G MH/Wi-Fi antennas covering 1400–6000 MHz and 1 × GNSS L1 & L5 antenna covering 1164–1189 MHz & 1559–1606 MHz. Housed in an IP67 & IP69K waterproof and IK09 impact rated case with adhesive mounting allows for easy assembly either internally or externally for Automotive and Heavy Equipment Vehicle Tracking, Remote Asset and Pipeline Monitoring and other systems. YEMA013BA can be used in harsh environments thanks to its robust UV resistant (UL 746c f1) and flame resistant (UL 94 V-0) PC enclosure.

Typical Applications Include:

- Passenger Bus / Rail / Air Applications.
- Automotive and Heavy Equipment Vehicle Tracking and Telematics
- Remote Asset and Pipeline Monitoring
- HD Video over LTE
- First Responder and Emergency Services
- M2M Applications/IoT

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

Contents

Overview.....	1
Contents	2
1 Specification.....	3
1.1. Electrical.....	3
1.1.1. 5G LMHs	3
1.1.2. 5G MHs	4
1.1.3. GNSS	5
1.2. Supported Bands	6
1.3. Mechanical & Environmental	10
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
3.1.3.1. Test Status: In Free Space	18
3.1.3.2. Test Status: On 500 mm × 500 mm Metal Plane	22
3.1.4. GNSS Axial Ratio	26
3.1.5. GNSS LNA Gain.....	27
3.1.6. GNSS Noise Figure.....	28
3.2. Radiation Performance Test.....	29
3.2.1. Efficiency	29
3.2.2. Average Gain	32
3.2.3. Peak Gain.....	35
3.2.4. ECC.....	38
3.2.4.1. Test Status: In Free Space	38
3.2.4.2. Test Status: On 500 mm × 500 mm Metal Plane	42
3.2.5. 3D & 2D Radiation Pattern.....	46
3.2.5.1. Test Condition: In Free Space	46
3.2.5.2. Test Condition: On 500 mm × 500 mm Metal Plane	76
4 Packaging	106
5 Installation	108
Contact Us.....	110
Legal Notices	111
Revision History	113

1 Specification

Test Condition: In free space and on 500 × 500 mm metal plane

1.1. Electrical

Electrical Specifications		
Frequency Range	5G LMHs	600–960 MHz, 1400–6000 MHz
	5G MHs	1400–6000 MHz
	GNSS	1164–1189 MHz, 1559–1606 MHz
Radiation Pattern	5G LMHs & 5G MHs	Omni-directional
	GNSS	Directional
Polarization	5G LMHs & 5G MHs	Linear
	GNSS	RHCP
Impedance		50 Ω
Isolation		≤ -7.0 dB
Axial Ratio (GNSS)		< 3 dB

1.1.1. 5G LMHs

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	3.3	3.1	5.0	3.5	3.4	3.0	2.8	4.2	2.9	2.4	2.1	
	MP	3.5	4.2	6.7	3.8	4.0	3.3	3.7	4.5	2.9	2.8	2.2	
Max Return Loss (dB)	FS	-5.4	-5.8	-3.5	-5.1	-5.3	-6.0	-6.4	-4.2	-6.2	-7.7	-8.8	
	MP	-5.1	-4.2	-2.6	-4.6	-4.5	-5.5	-4.8	-4.0	-6.4	-6.5	-8.5	

AVG Eff. (%)	FS	39.7	46.3	37.9	55.4	56.9	59.5	63.1	58.3	62.7	55.3	54.8
	MP	36.7	33.9	31.4	54.5	59.8	61.3	56.5	54.0	56.6	48.6	41.0
AVG AVG Gain (dB)	FS	-4.0	-3.4	-4.2	-2.6	-2.5	-2.3	-2.0	-2.4	-2.1	-2.6	-2.6
	MP	-4.5	-4.8	-5.1	-2.7	-2.3	-2.2	-2.6	-2.7	-2.5	-3.2	-3.9
Max Peak Gain (dBi)	FS	1.6	1.6	3.0	4.1	5.6	4.3	4.4	5.0	4.8	4.2	4.7
	MP	1.6	2.0	2.4	7.4	7.2	7.7	6.0	4.4	6.4	5.6	5.7
VSWR	FS	≤ 5.0										
	MP	≤ 6.7										
Return Loss	FS	≤ -3.5 dB										
	MP	≤ -2.6 dB										
Peak Gain	FS	≤ 5.6 dBi										
	MP	≤ 7.7 dBi										

- 5G LMHs: LMH1, LMH2, LMH3, LMH4 Antennas
- 5G MHs: MH1, MH2, MH3, MH4 Antennas
- FS: In Free Space
- MP: On 500 × 500 mm Metal Plane

1.1.2. 5G MHs

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	-	-	-	3.8	2.7	2.3	3.4	3.7	2.3	2.1	2.5	
	MP	-	-	-	4.1	2.8	2.3	3.3	3.5	2.2	2.0	2.7	
Max Return Loss (dB)	FS	-	-	-	-4.6	-6.7	-8.3	-5.2	-4.8	-7.9	-9.2	-7.3	
	MP	-	-	-	-4.4	-6.5	-8.0	-5.4	-5.0	-8.6	-9.5	-6.9	
AVG Eff. (%)	FS	-	-	-	45.3	51.9	57.0	52.5	52.9	63.8	62.1	59.1	
	MP	-	-	-	43.6	54.0	52.3	52.5	53.1	57.0	56.2	50.4	
AVG AVG Gain (dB)	FS	-	-	-	-3.5	-2.9	-2.5	-2.8	-2.8	-2.0	-2.1	-2.3	
	MP	-	-	-	-3.6	-2.7	-2.8	-2.8	-2.8	-2.5	-2.5	-3.0	
Max Peak Gain (dBi)	FS	-	-	-	3.8	4.0	3.1	3.2	3.9	5.8	6.3	6.0	
	MP	-	-	-	5.6	6.2	6.1	6.5	6.2	8.2	7.4	7.4	

VSWR	FS	≤ 3.8
	MP	≤ 4.1
Return Loss	FS	≤ -4.6 dB
	MP	≤ -4.4 dB
Peak Gain	FS	≤ 6.3 dBi
	MP	≤ 8.2 dBi

- 5G LMHs: LMH1, LMH2, LMH3, LMH4 Antennas
- 5G MHs: MH1, MH2, MH3, MH4 Antennas
- FS: In Free Space
- MP: On 500 × 500 mm Metal Plane

1.1.3. GNSS

Specification	Band	Band	GNSS L5	GNSS L2	GNSS L1
		Freq. (MHz)	1164 - 1189	1217 - 1238	1559 - 1606
Max VSWR	FS		1.42	-	1.68
	MP		1.54	-	1.45
Max Return Loss (dB)	FS		-15.2	-	-14.3
	MP		-13.3	-	-13.6
AVG Eff. (%)	FS		58.9	-	52.5
	MP		57.7	-	52.1
AVG Gain (dB)	FS		-2.3	-	-2.8
	MP		-2.4	-	-2.8
Max Peak Gain (dBi)	FS		2.8	-	4.5
	MP		4.0	-	6.3
VSWR	FS		≤ 2		
	MP		≤ 2		
Return Loss	FS		≤ -10 dB		
	MP		≤ -10 dB		
Peak Gain	FS		≤ 4.5 dBi		
	MP		≤ 6.3 dBi		

- 5G LMHs: LMH1, LMH2, LMH3, LMH4 Antennas
- 5G MHs: MH1, MH2, MH3, MH4 Antennas
- FS: In Free Space
- MP: On 500 × 500 mm Metal Plane

GNSS LNA Electrical	
LNA Gain	17 ±3 dB
Noise Figure	≤ 2.5 dB
Output VSWR	< 2.0
Input VSWR	< 2.0
Working Voltage	DC 3–5 V
Working Current	15.4 ±4 mA
Impedance	50 Ω

- 5G LMHs: LMH1, LMH2, LMH3, LMH4 Antennas
- 5G MHs: MH1, MH2, MH3, MH4 Antennas
- FS: In Free Space
- MP: On 500 mm × 500 mm Metal Plane

1.2. Supported Bands

5G NR/ LTE/ LTE-Advanced/ WCDMA/ HSPA/ HSPA+/ GPRS/ GSM/ NB-IoT					
Band	Frequency (MHz)	Uplink (MHz)	Downlink (MHz)	LMHs	MHs
1	2100	1920–1980	2110–2170	√	√
2	1900	1850–1910	1930–1990	√	√
3	1800	1710–1785	1805–1880	√	√
4	1700	1710–1755	2110–2155	√	√
5	850	824–849	869–894	√	-
7	2600	2500–2570	2620–2690	√	√
8	900	880–915	925–960	√	-

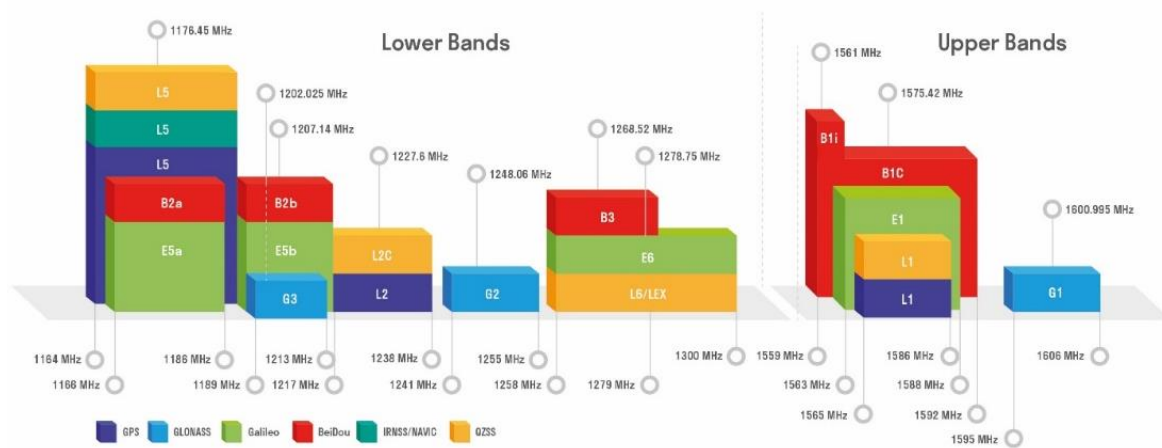
5G NR/ LTE/ LTE-Advanced/ WCDMA/ HSPA/ HSPA+/ GPRS/ GSM/ NB-IoT					
Band	Frequency (MHz)	Uplink (MHz)	Downlink (MHz)	LMHs	MHs
9	1800	1749.9–1784.9	1844.9–1879.9	√	√
11	1500	1427.9–1447.9	1475.9–1495.9	√	√
12	700	699–716	729–746	√	-
13	700	777–787	746–756	√	-
14	700	788–798	758–768	√	-
17	700	704–716	734–746	√	-
18	850	815–830	860–875	√	-
19	850	830–845	875–890	√	-
20	800	832–862	791–821	√	-
21	1500	1447.9–1462.9	1495.9–1510.9	√	√
22	3500	3410–3490	3510–3590	√	√
23	2100	2000–2020	2180–2200	√	√
24	1600	1626.5–1660.5	1525–1559	√	√
25	1900	1850–1915	1930–1995	√	√
26	850	814–849	859–894	√	-
28	700	703–748	758–803	√	-
31	450	452.5–457.5	462.5 - 467.5	-	-
34	2100	2010–2025		√	√
38	2600	2570–2620		√	√
39	1900	1880–1920		√	√
40	2300	2300–2400		√	√
41	2500	2496–2690		√	√
42	3500	3400–3600		√	√
48	3500	3550–3700		√	√

5G NR/ LTE/ LTE-Advanced/ WCDMA/ HSPA/ HSPA+/ GPRS/ GSM/ NB-IoT					
Band	Frequency (MHz)	Uplink (MHz)	Downlink (MHz)	LMHs	MHs
66	1700	1710–1780	2110–2200	√	√
71	600	663–698	617–652	√	-
74	1500	1427–1470	1475–1518	√	√
77	3500	3300–4200		√	√
78	3500	3300–3800		√	√
79	4500	4400–5000		√	√
Note: Covered √ means efficiency > 20%					

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

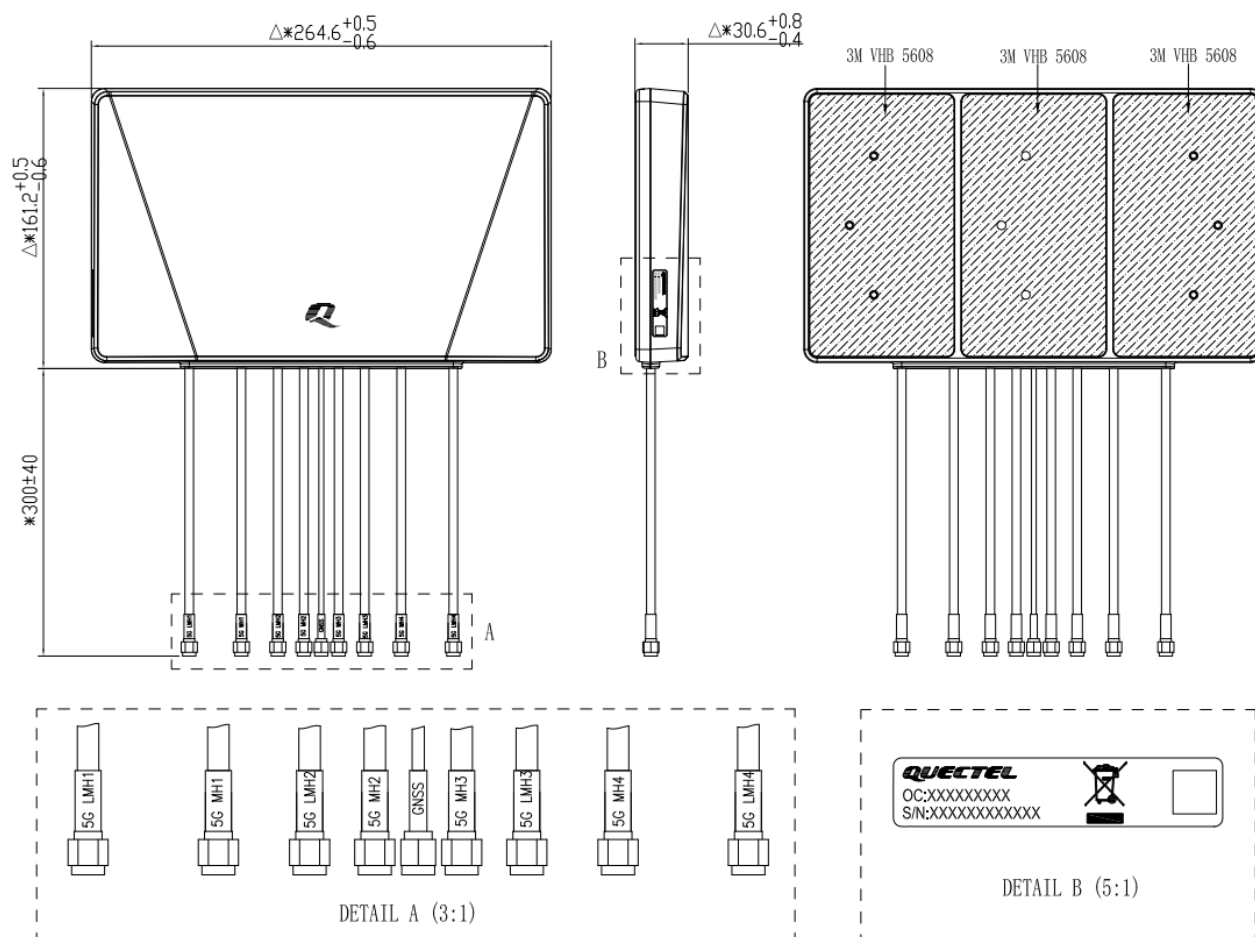


1.3. Mechanical & Environmental

Mechanical		
Antenna Size		264.6 × 161.2 × 30.6 mm
Casing Material & Color		PC & Black
Cable Type & Length	5G LMHs & 5G MHs	ALSR200 Black & 300 mm
	GNSS	RG174 Black & 300 mm
Weight		837 g
Connector Type		SMA Male (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.)
Mounting Type		Adhesive
Environmental		
Operation Temperature		-40 °C to +85 °C
Storage Temperature		-40 °C to +85 °C
Ingress Protection (IP) Rating		IP67 (After Installation) IP69K (After Installation)
Impact Protection (IK) Rating		IK09
RoHS & REACH Compliant		Yes

- 5G LMHs: LMH1, LMH2, LMH3, LMH4 Antennas
- 5G MHs: MH1, MH2, MH3, MH4 Antennas
- FS: In Free Space
- MP: On 500 mm × 500 mm Metal Plane

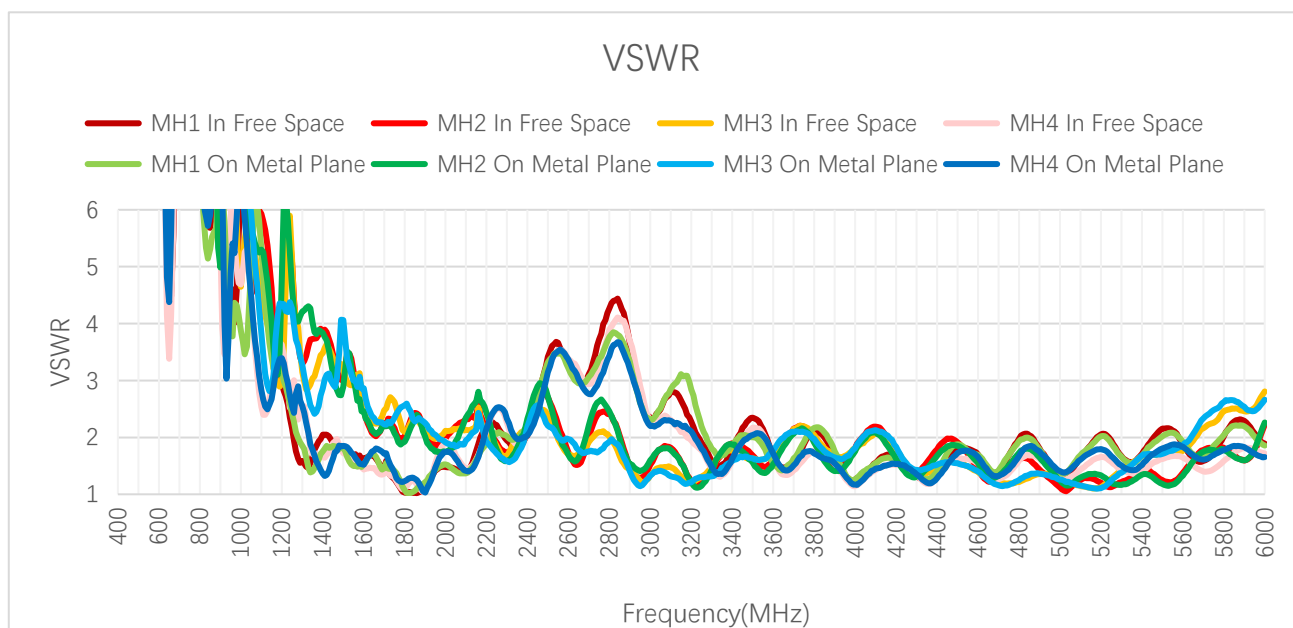
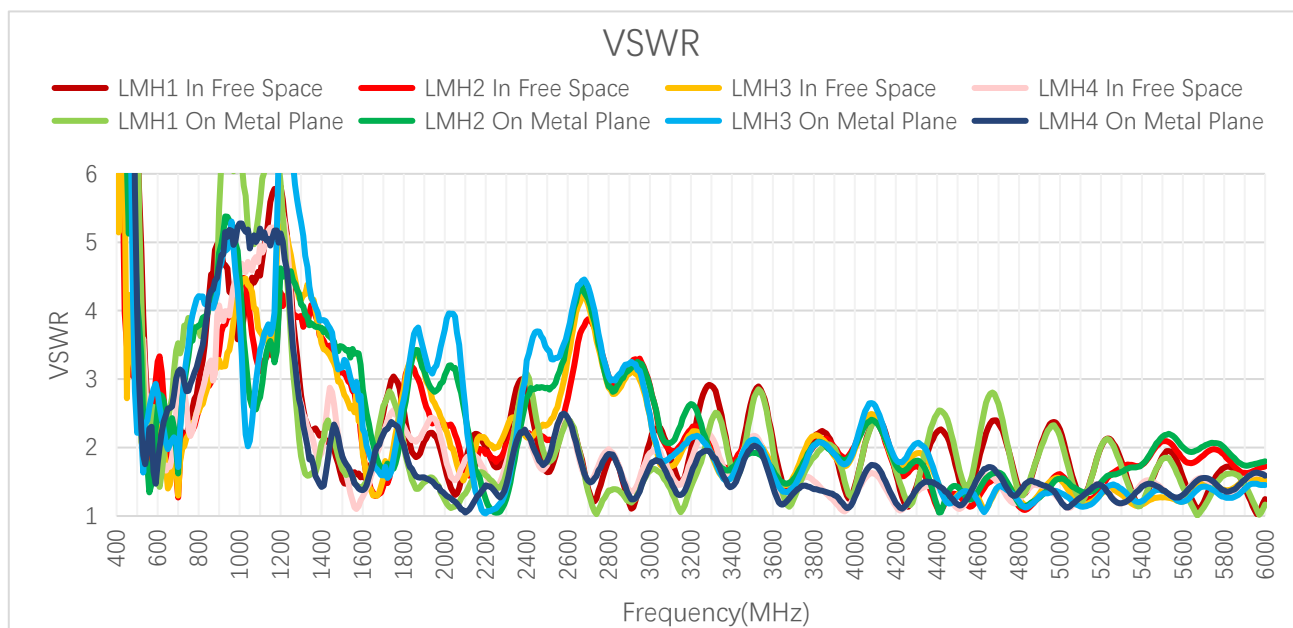
2 Drawing

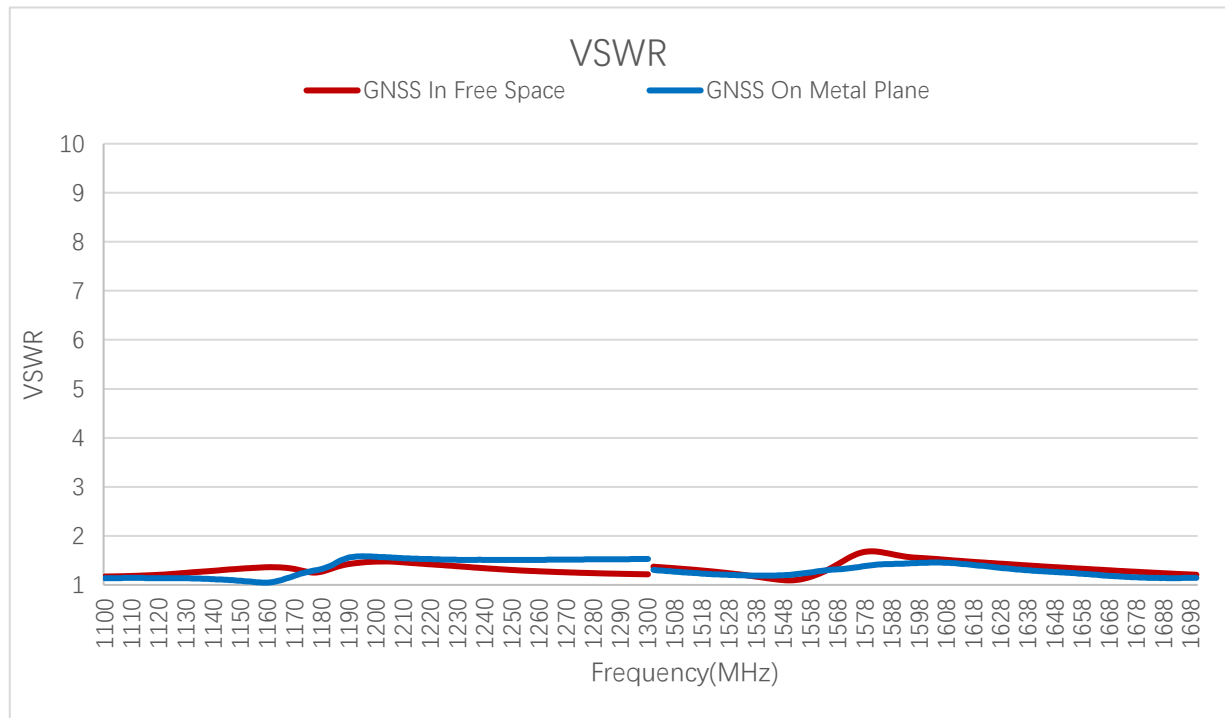


3 Detailed Performance

3.1. S-Parameter Test

3.1.1. VSWR





VSWR - LMH

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
LMH1	FS	3.0	2.2	2.3	3.5	4.8	4.2	2.1	2.7	3.0	1.9
	MP	1.5	1.9	3.4	3.8	5.5	6.4	2.3	2.7	2.8	1.4
LMH2	FS	3.3	2.7	1.8	2.8	3.4	4.1	3.5	1.6	1.7	2.9
	MP	2.6	2.7	2.3	3.9	4.8	5.2	3.6	1.7	1.7	3.3
LMH3	FS	2.3	2.0	1.8	2.7	3.3	3.6	3.4	1.8	1.8	3.3
	MP	2.8	2.3	2.2	4.1	4.6	5.3	3.7	1.7	1.7	3.6
LMH4	FS	2.0	1.8	3.0	3.0	4.1	4.2	2.9	2.3	2.5	2.1
	MP	1.8	2.4	3.1	3.7	4.6	5.2	2.0	2.3	2.4	1.6
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
LMH1	FS	2.2	2.2	2.9	2.1	2.4	2.1	2.4	2.3	1.9	1.2
	MP	1.5	1.5	2.4	2.4	2.4	2.0	2.6	2.2	1.8	1.2
LMH2	FS	2.4	1.7	2.2	2.2	2.7	1.6	1.5	1.6	2.1	1.7
	MP	2.8	1.8	2.0	2.9	3.6	1.7	1.6	1.5	2.2	1.8
LMH3	FS	2.6	1.9	2.4	2.2	3.3	1.7	1.4	1.5	1.3	1.5
	MP	3.2	1.5	2.2	3.7	3.7	1.6	1.4	1.3	1.4	1.5

LMH4	FS	2.4	1.9	2.2	1.8	2.4	1.5	1.5	1.2	1.4	1.6
	MP	1.5	1.2	2.1	1.9	2.4	1.4	1.6	1.2	1.4	1.6

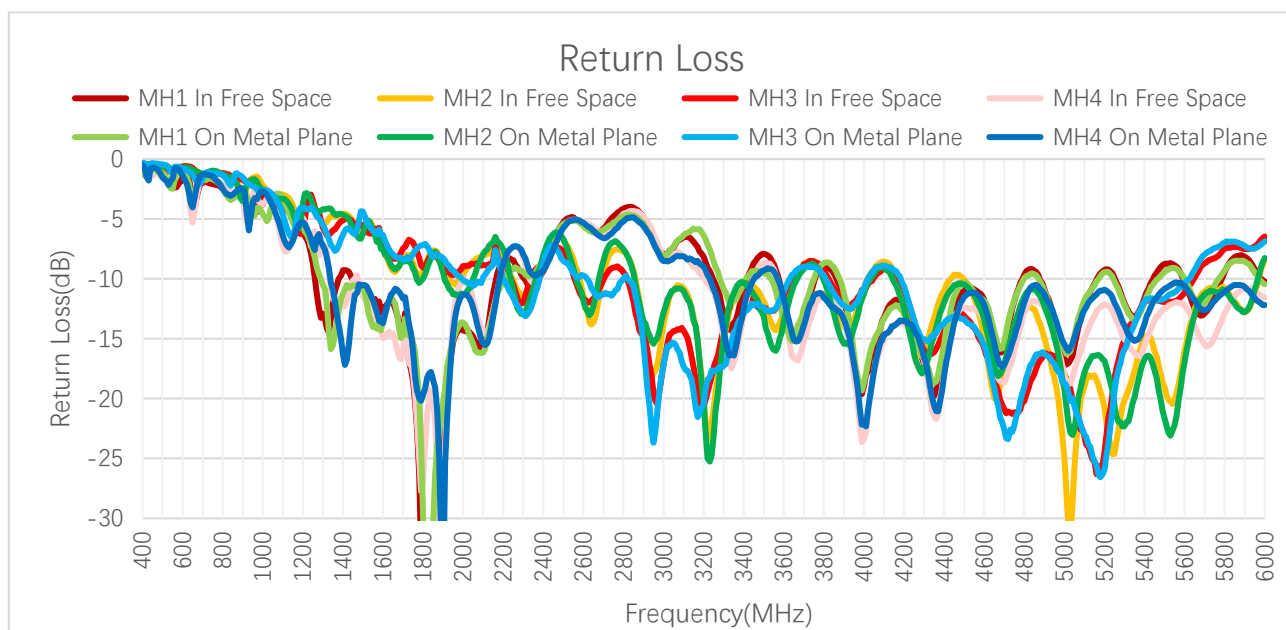
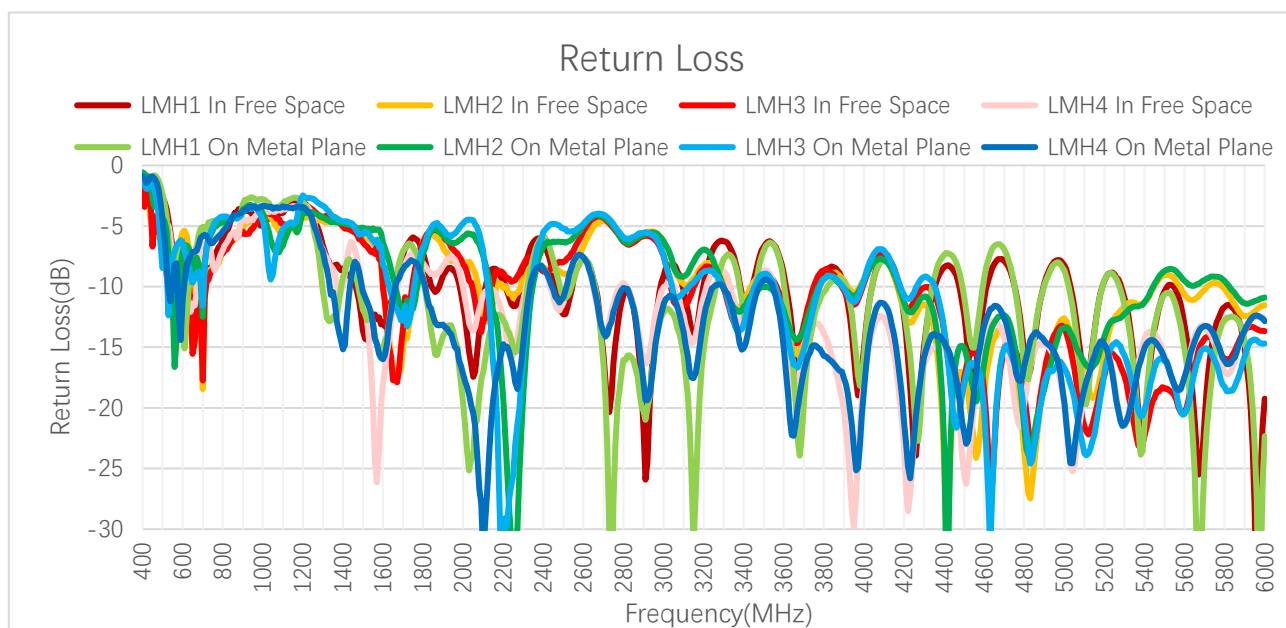
VSWR - MH

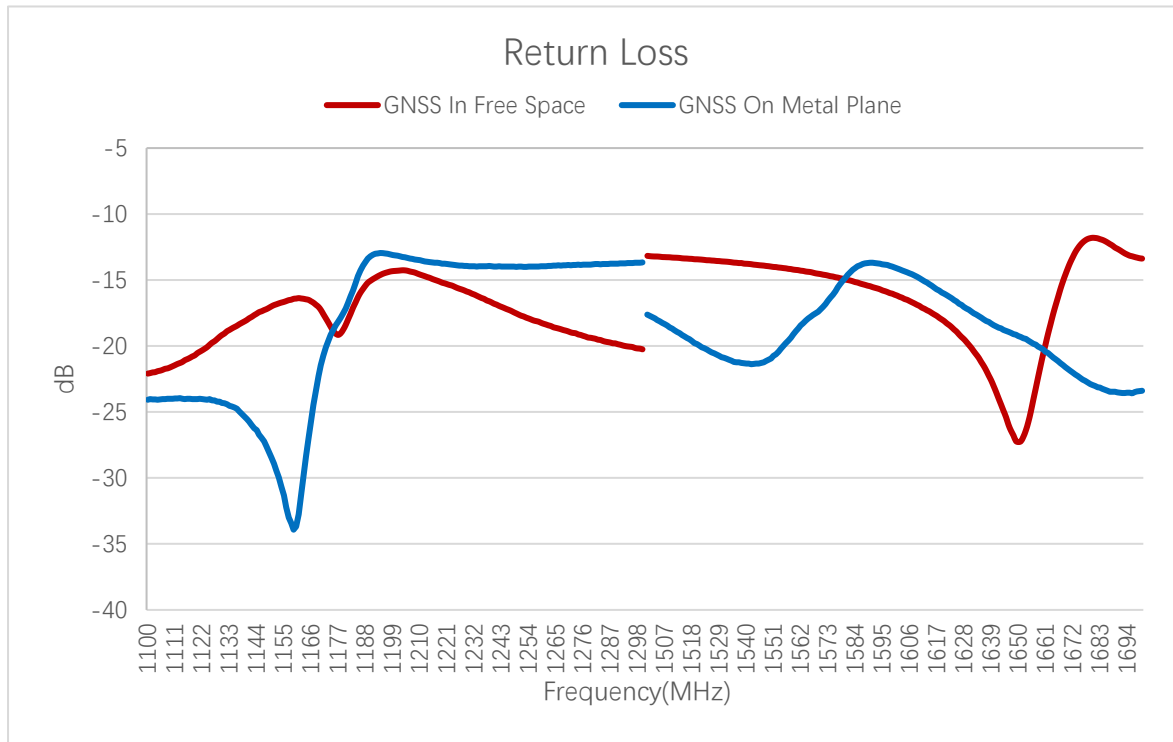
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
MH1	FS	-	-	-	-	-	-	2.0	1.6	1.3	1.0
	MP	-	-	-	-	-	-	1.8	1.6	1.4	1.2
MH2	FS	-	-	-	-	-	-	3.6	2.2	2.2	2.3
	MP	-	-	-	-	-	-	3.3	2.2	2.2	2.2
MH3	FS	-	-	-	-	-	-	3.5	2.5	2.7	2.2
	MP	-	-	-	-	-	-	3.0	2.2	2.3	2.3
MH4	FS	-	-	-	-	-	-	1.8	1.5	1.3	1.1
	MP	-	-	-	-	-	-	1.5	1.7	1.5	1.1
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
MH1	FS	1.4	1.7	1.8	2.7	3.3	1.7	1.4	1.3	2.2	1.9
	MP	1.4	1.5	2.0	2.7	3.2	1.5	1.4	1.4	2.0	1.9
MH2	FS	1.9	2.3	1.9	2.7	1.7	1.6	1.3	1.1	1.3	2.2
	MP	1.7	2.6	1.8	2.9	1.7	1.5	1.3	1.2	1.2	2.3
MH3	FS	2.0	2.2	2.0	2.5	1.7	1.7	1.2	1.3	1.7	2.8
	MP	2.1	2.1	1.7	2.6	2.0	1.8	1.2	1.3	1.7	2.7
MH4	FS	1.5	1.6	1.9	2.6	3.4	1.6	1.3	1.3	1.6	1.7
	MP	1.5	1.5	2.0	2.4	3.4	1.7	1.3	1.4	1.8	1.7

VSWR

Frequency (MHz)		1176	1227	1561	1575	1602
GNSS	FS	1.25	-	1.22	1.63	1.53
	MP	1.28	-	1.27	1.35	1.45

3.1.2. Return Loss





Return Loss (dB)

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
LMH1	FS	-5.9	-8.7	-8.2	-5.1	-3.7	-4.2	-9.1	-6.9	-6.1	-10.1
	MP	-13.4	-10.2	-5.3	-4.7	-3.2	-2.7	-8.1	-6.9	-6.5	-15.1
LMH2	FS	-5.5	-6.7	-10.6	-6.5	-5.2	-4.3	-5.1	-12.2	-11.5	-6.2
	MP	-7.2	-6.8	-8.0	-4.5	-3.6	-3.4	-4.9	-11.9	-11.9	-5.4
LMH3	FS	-8.1	-9.4	-11.0	-6.6	-5.5	-4.9	-5.3	-10.9	-10.6	-5.5
	MP	-6.5	-8.2	-8.4	-4.3	-3.8	-3.3	-4.8	-11.6	-12.2	-4.9
LMH4	FS	-9.3	-11.2	-6.1	-6.1	-4.3	-4.2	-6.3	-8.1	-7.3	-8.8
	MP	-11.2	-7.8	-5.7	-4.8	-3.8	-3.4	-9.3	-8.3	-7.8	-13.2
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
LMH1	FS	-8.6	-8.6	-6.3	-8.9	-7.7	-8.9	-7.9	-8.3	-10.4	-19.2
	MP	-13.6	-13.5	-7.6	-7.8	-7.7	-9.7	-6.9	-8.7	-10.6	-22.3
LMH2	FS	-7.7	-11.7	-8.4	-8.6	-6.7	-12.3	-13.9	-12.6	-9.0	-11.5
	MP	-6.5	-10.7	-9.6	-6.3	-4.9	-12.0	-12.3	-13.4	-8.7	-10.9
LMH3	FS	-6.9	-10.1	-7.6	-8.3	-5.4	-11.8	-15.2	-13.5	-18.4	-13.7
	MP	-5.7	-13.7	-8.7	-4.8	-4.8	-12.6	-15.1	-16.7	-16.1	-14.7

LMH4	FS	-7.7	-10.2	-8.5	-10.8	-7.7	-14.4	-14.3	-19.8	-15.7	-12.8
	MP	-14.5	-21.1	-9.1	-10.2	-7.6	-15.0	-12.6	-19.6	-16.0	-12.8

Return Loss (dB)

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
MH1	FS	-	-	-	-	-	-	-9.8	-12.9	-17.6	-32.7
	MP	-	-	-	-	-	-	-10.7	-13.3	-14.8	-23.0
MH2	FS	-	-	-	-	-	-	-4.9	-8.5	-8.4	-8.1
	MP	-	-	-	-	-	-	-5.4	-8.5	-8.7	-8.4
MH3	FS	-	-	-	-	-	-	-5.1	-7.4	-6.8	-8.5
	MP	-	-	-	-	-	-	-6.0	-8.4	-8.2	-8.1
MH4	FS	-	-	-	-	-	-	-10.7	-13.5	-17.2	-29.8
	MP	-	-	-	-	-	-	-13.7	-11.5	-14.6	-24.5
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
MH1	FS	-15.3	-12.1	-10.8	-6.8	-5.4	-11.8	-15.6	-16.6	-8.7	-10.2
	MP	-15.2	-13.5	-9.7	-6.6	-5.6	-13.5	-15.2	-15.9	-9.4	-10.4
MH2	FS	-10.3	-7.9	-9.9	-6.8	-11.4	-12.6	-17.2	-25.0	-19.1	-8.4
	MP	-11.3	-7.1	-10.8	-6.2	-11.8	-13.5	-17.1	-19.2	-21.7	-8.3
MH3	FS	-9.7	-8.7	-9.4	-7.5	-11.7	-11.4	-20.9	-18.0	-11.9	-6.5
	MP	-9.3	-9.0	-11.8	-7.1	-9.7	-11.1	-22.6	-18.7	-11.6	-6.9
MH4	FS	-13.4	-13.3	-10.4	-7.1	-5.3	-12.4	-18.7	-17.9	-12.5	-11.6
	MP	-14.5	-14.1	-9.7	-7.6	-5.3	-11.6	-17.2	-15.5	-10.8	-12.2

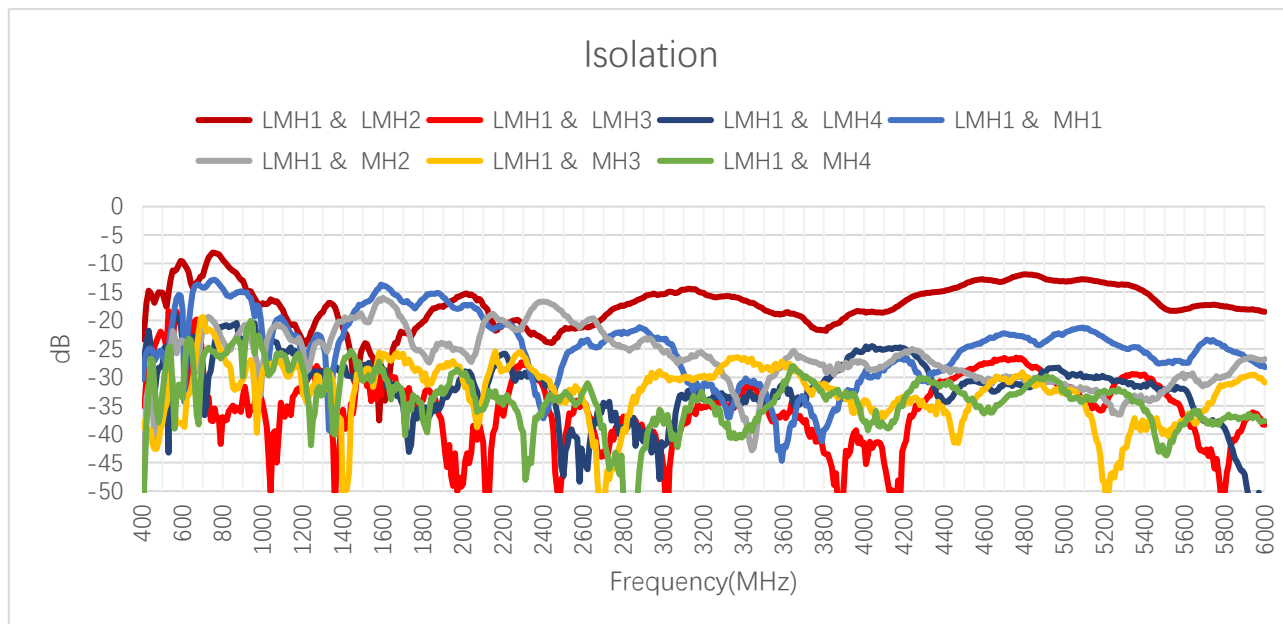
Return Loss (dB)

Frequency (MHz)		1176	1227	1561	1575	1602
GNSS	FS	-19	-	-14.2	-14.7	-16.2
	MP	-18.4	-	-18.6	-16.1	-14.2

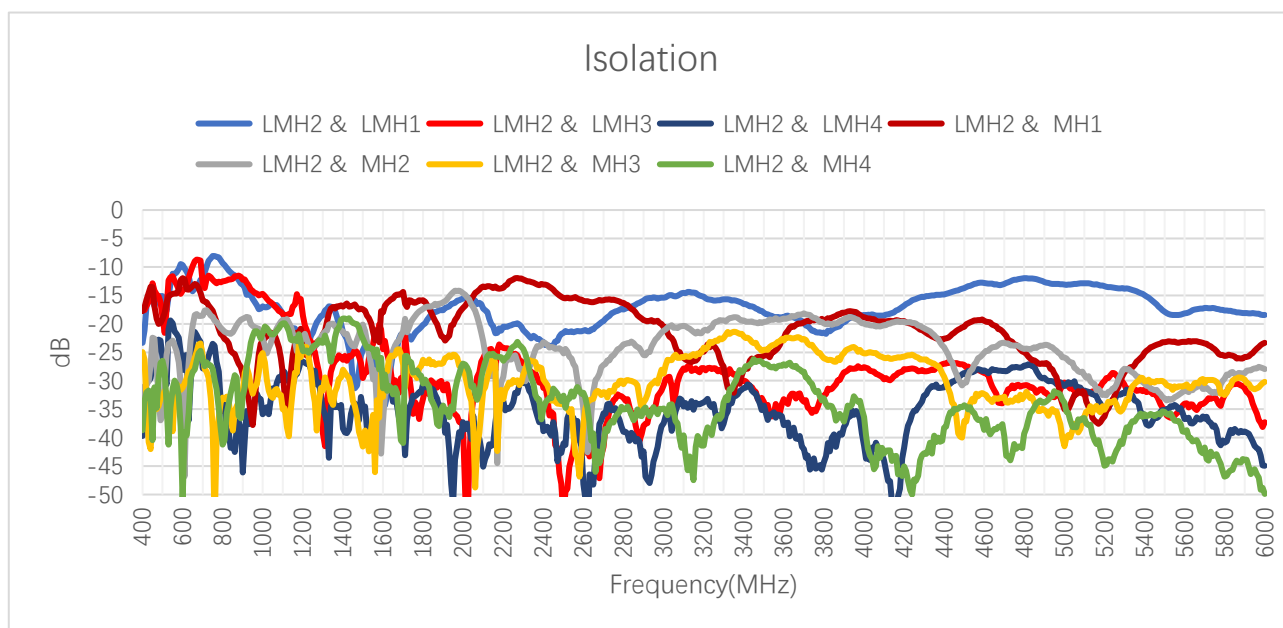
3.1.3. Isolation

3.1.3.1. Test Status: In Free Space

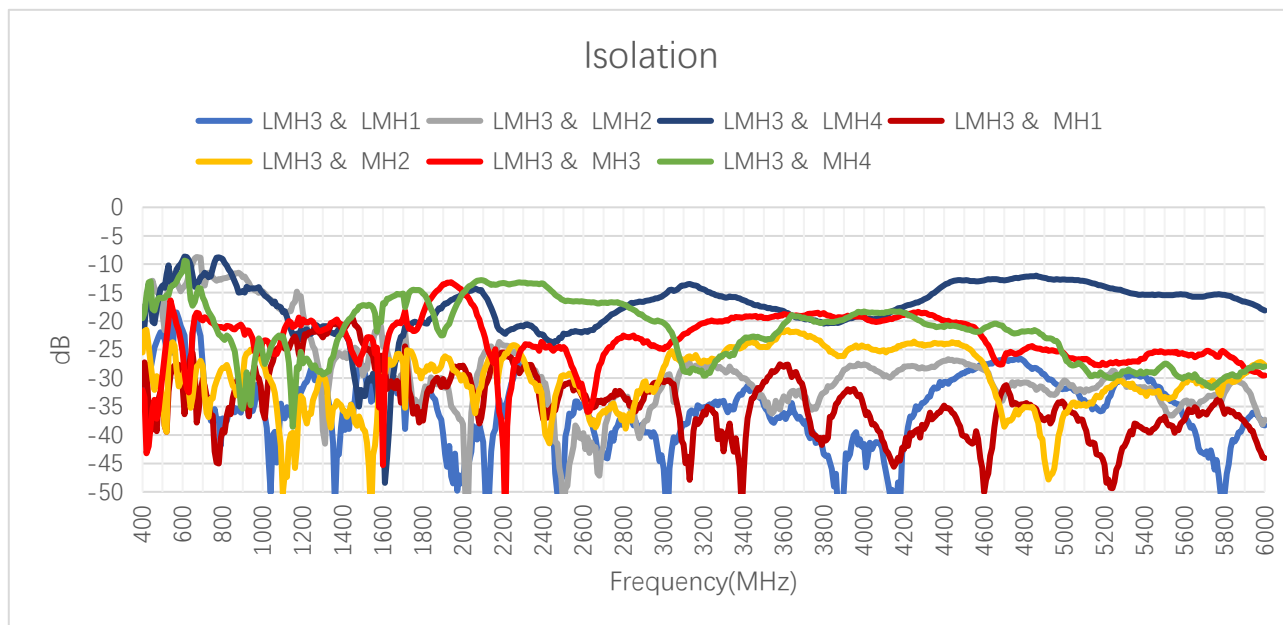
3.1.3.1.1. LMH1



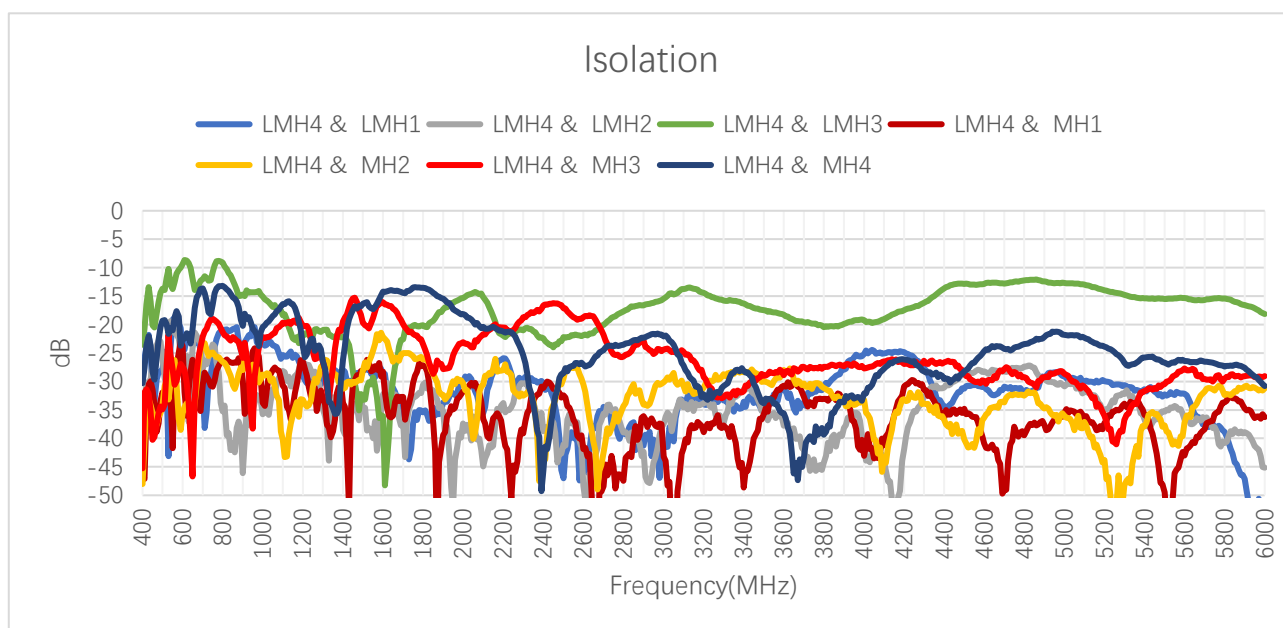
3.1.3.1.2. LMH2



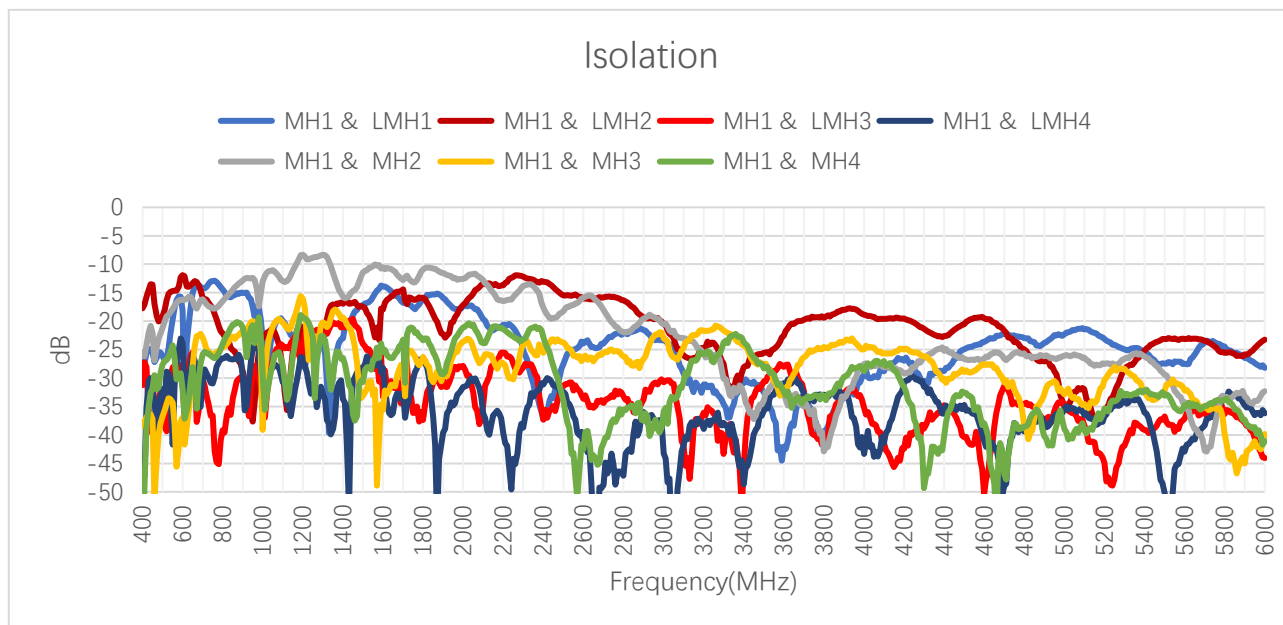
3.1.3.1.3. LMH3



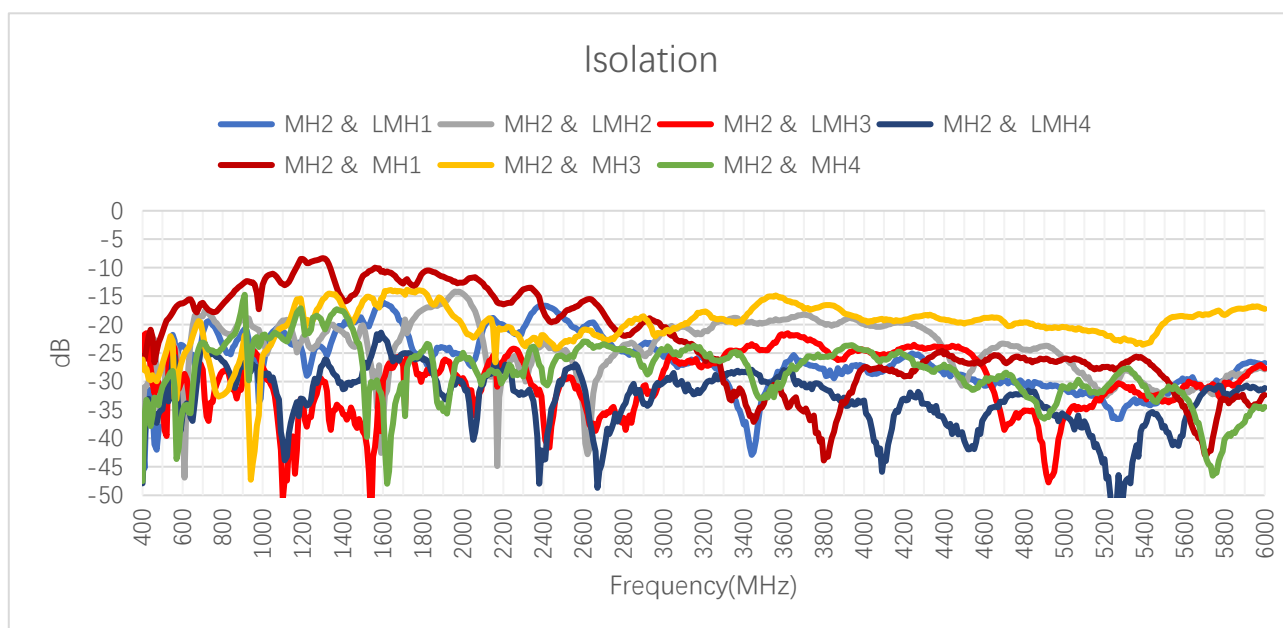
3.1.3.1.4. LMH4



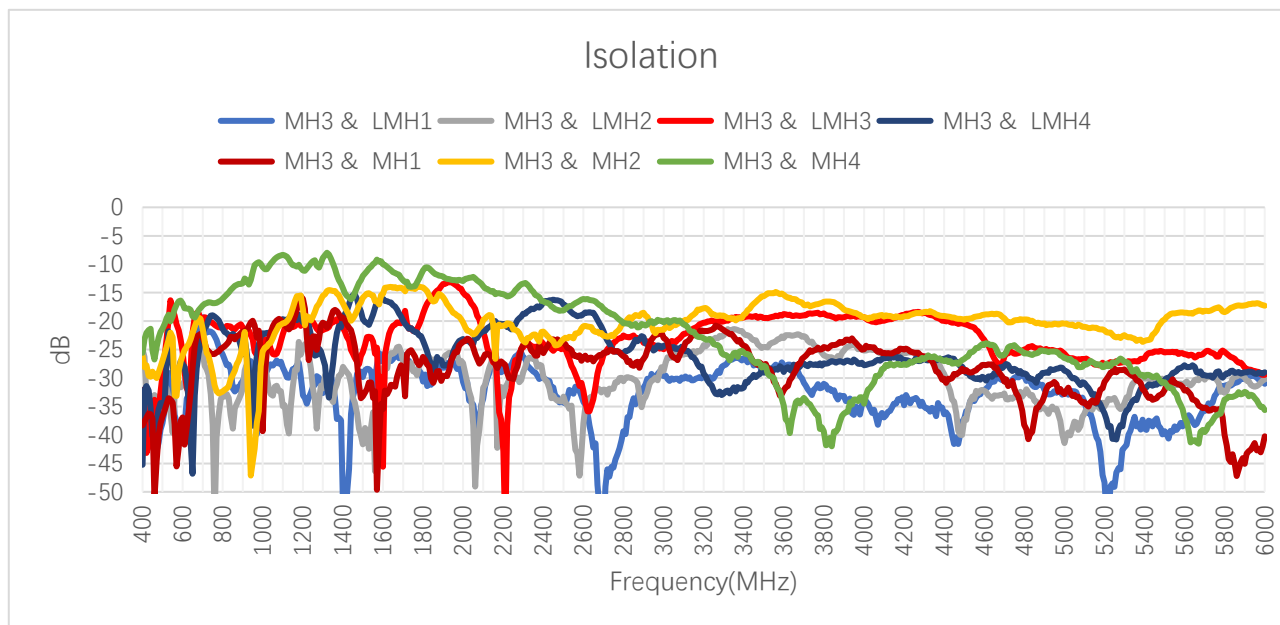
3.1.3.1.5. MH1



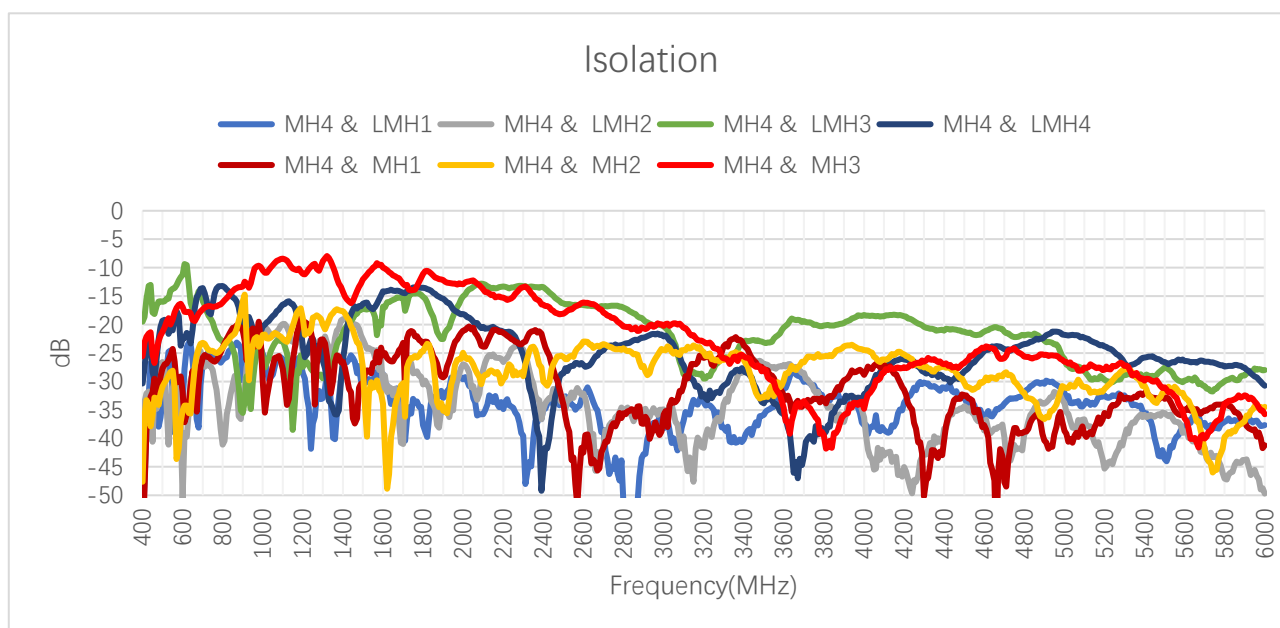
3.1.3.1.6. MH2



3.1.3.1.7. MH3

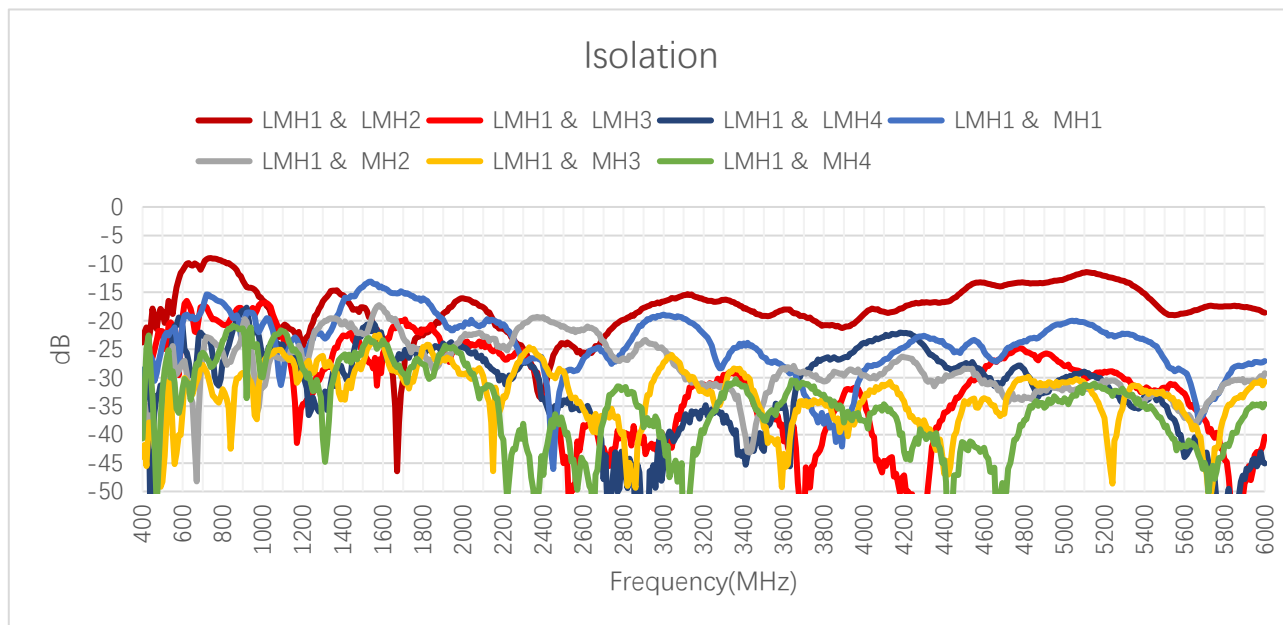


3.1.3.1.8. MH4

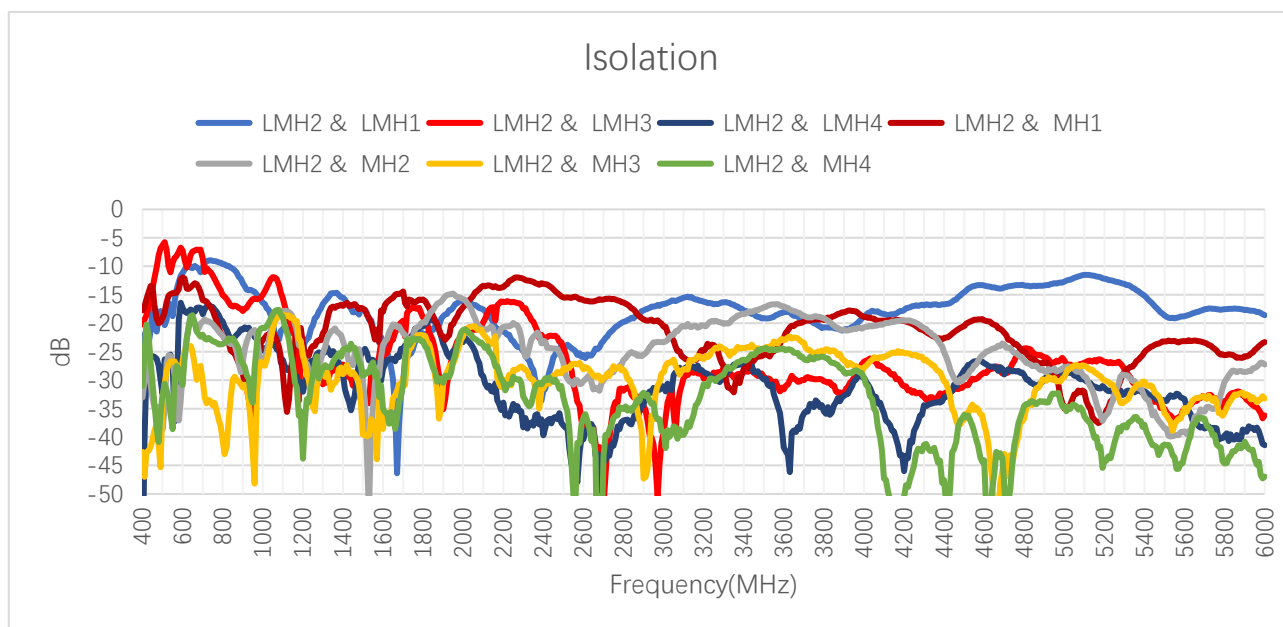


3.1.3.2. Test Status: On 500 mm × 500 mm Metal Plane

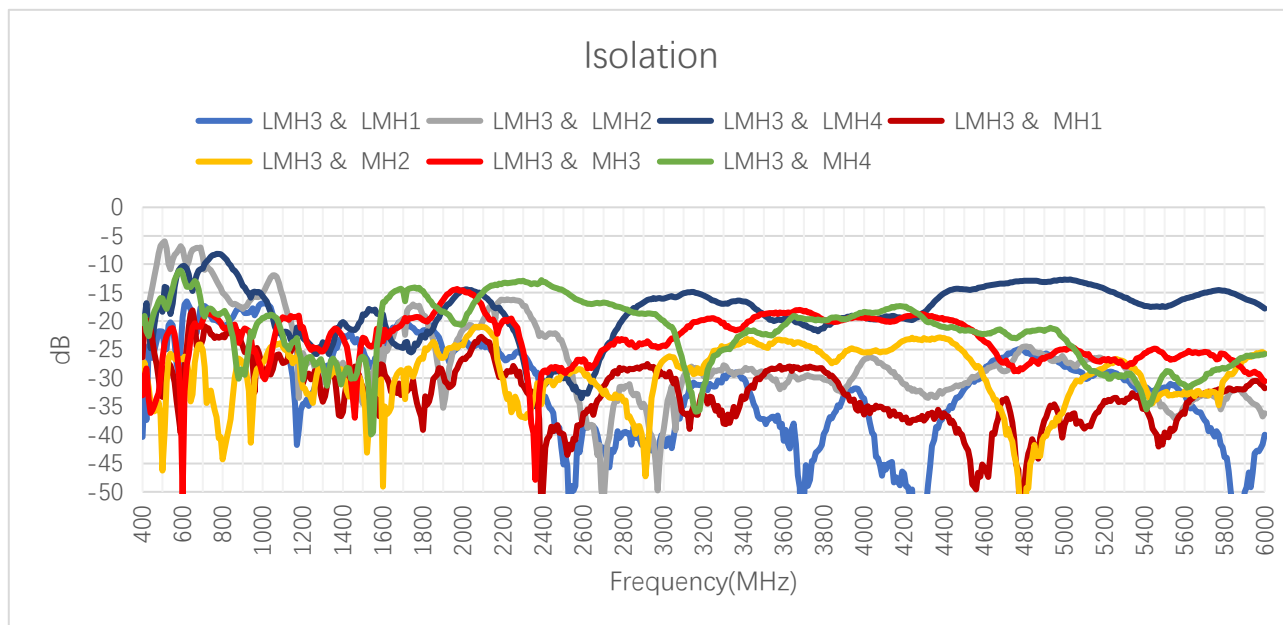
3.1.3.2.1. LMH1



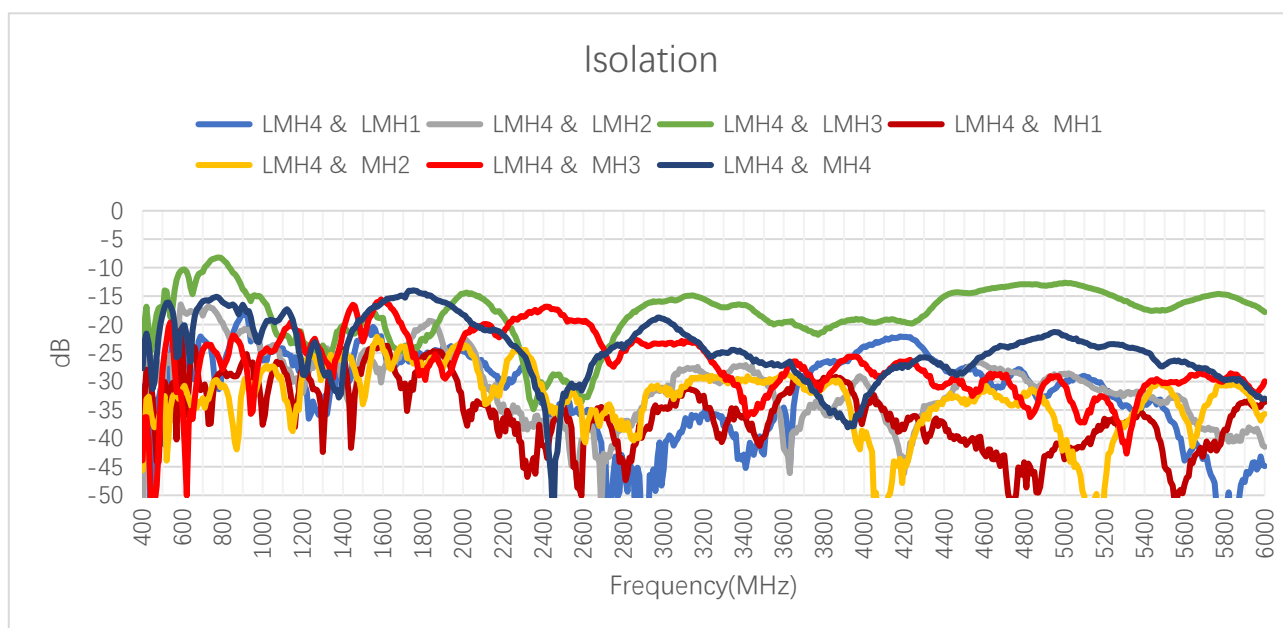
3.1.3.2.2. LMH2



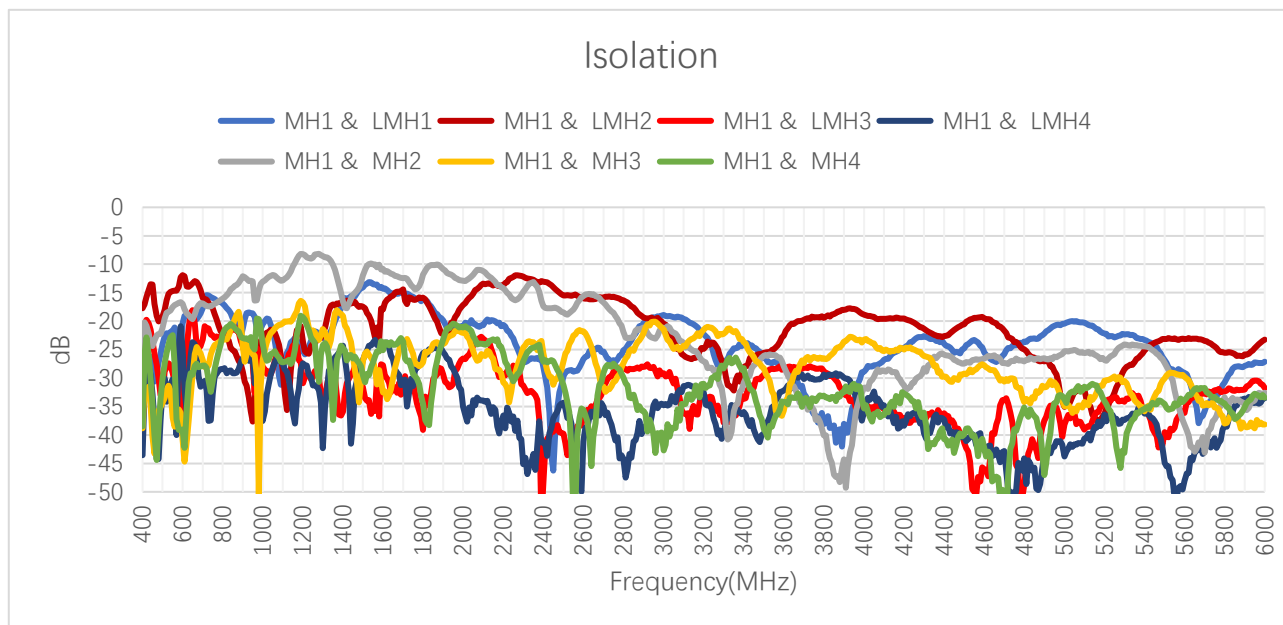
3.1.3.2.3. LMH3



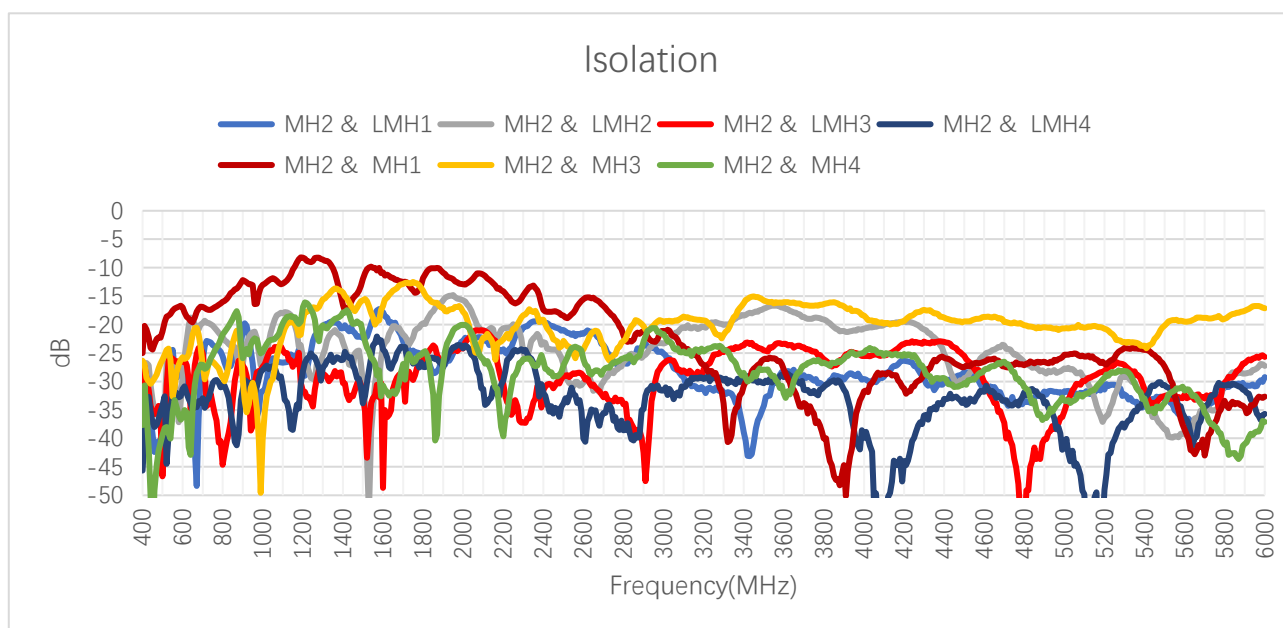
3.1.3.2.4. LMH4



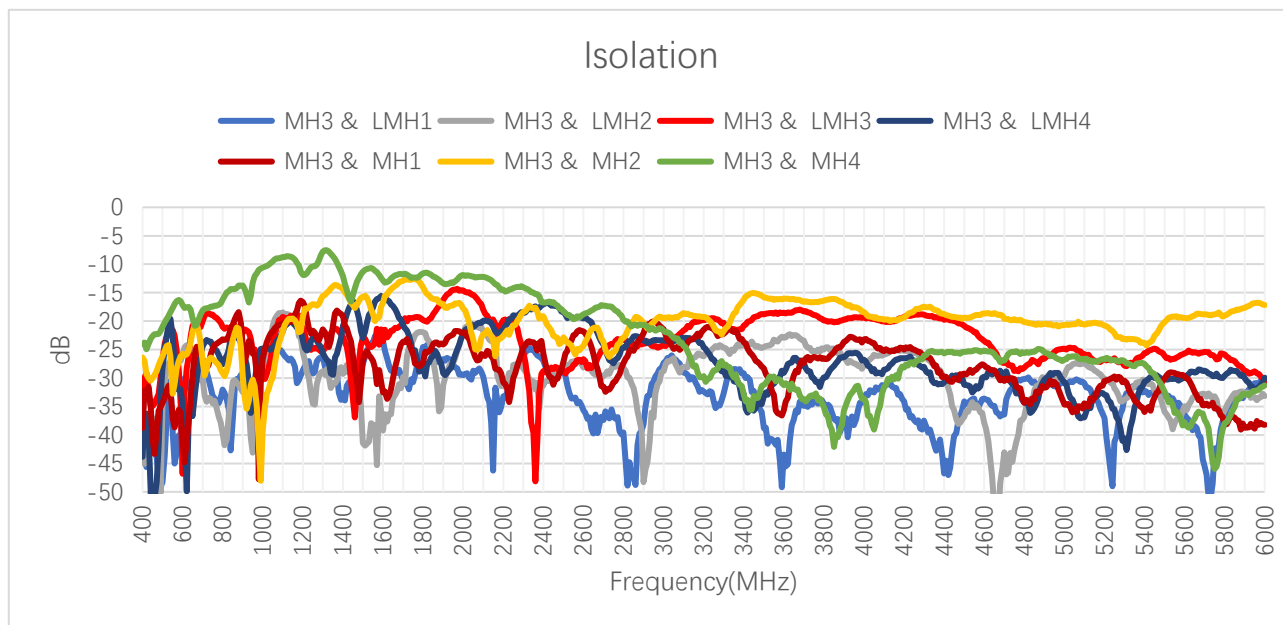
3.1.3.2.5. MH1



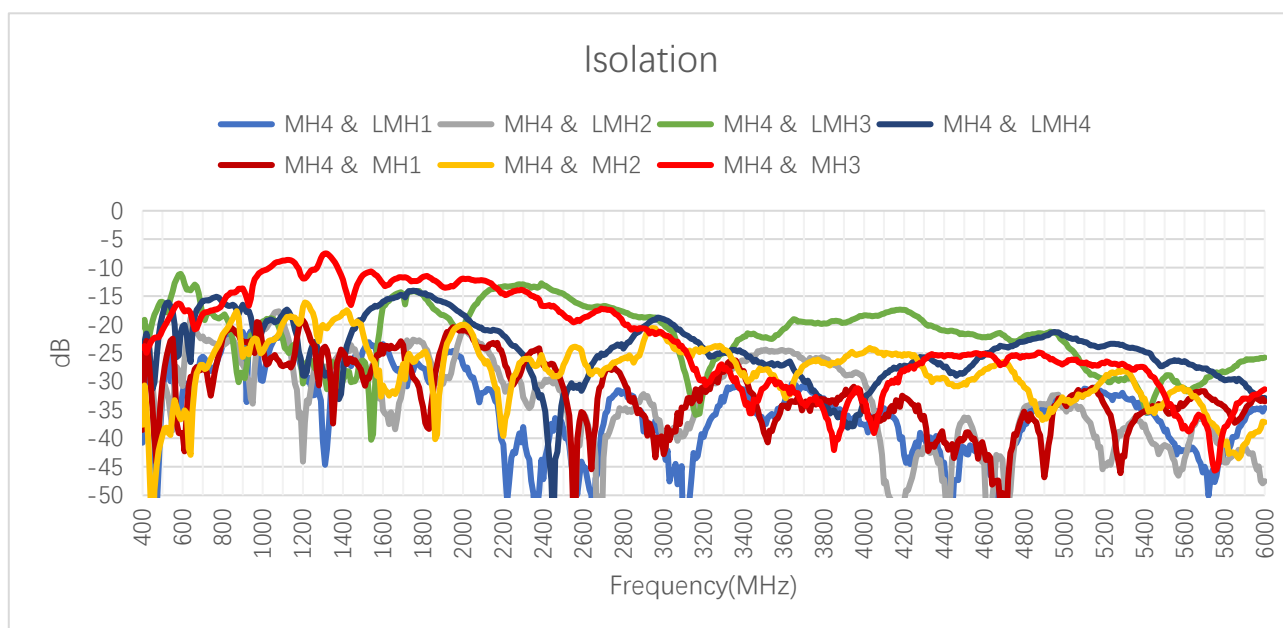
3.1.3.2.6. MH2



3.1.3.2.7. MH3

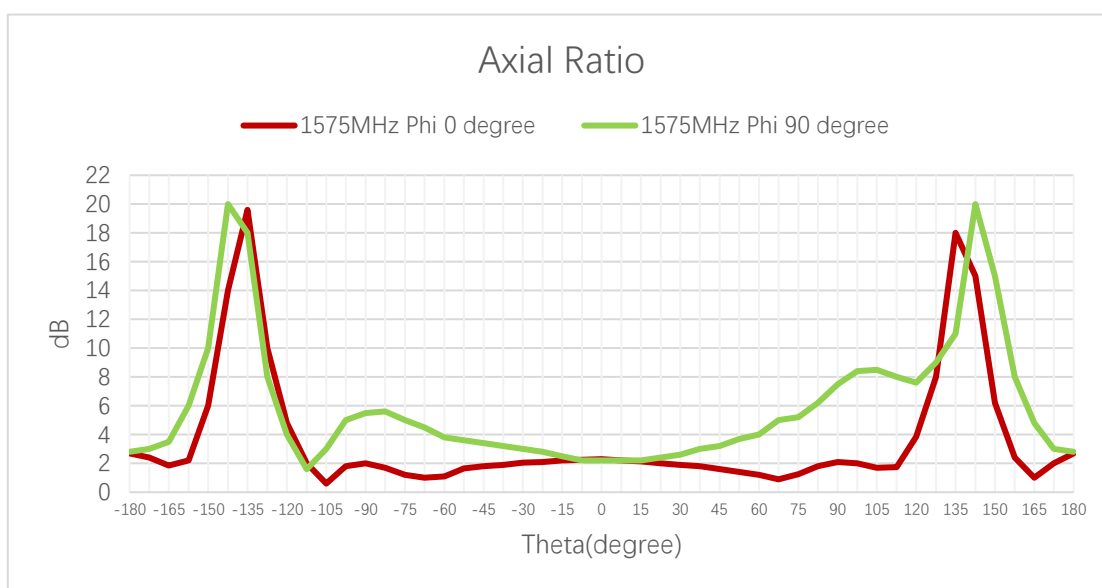
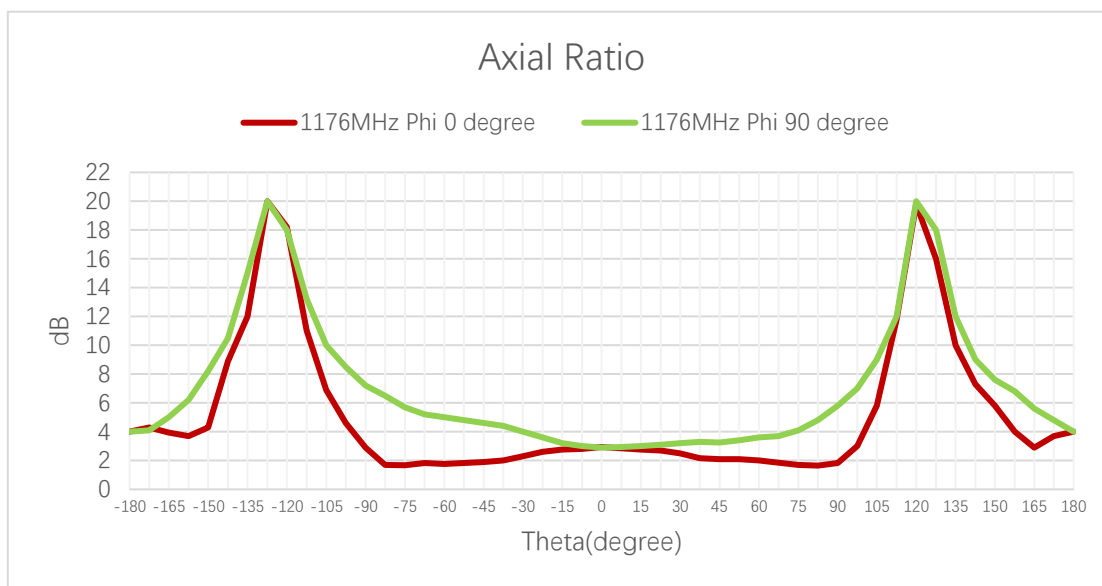


3.1.3.2.8. MH4



- FS: In Free Space
- MP: On 500 mm × 500 mm Metal Plane

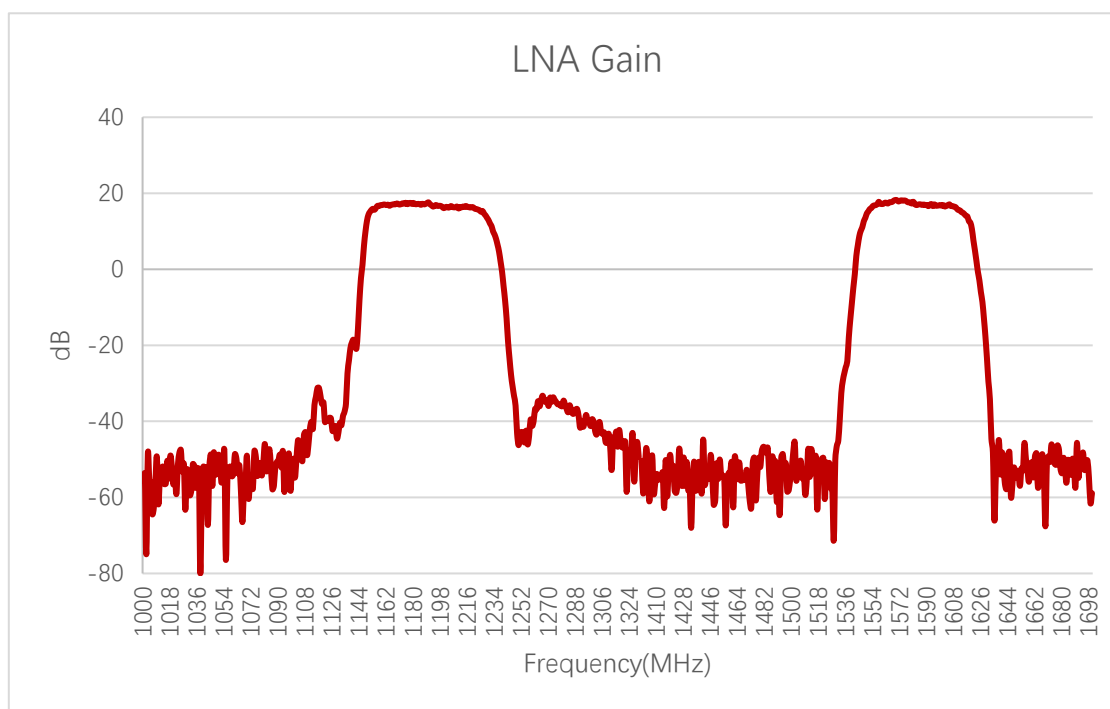
3.1.4. GNSS Axial Ratio



Axial Ratio (dB)

Frequency (MHz)		1176	1227	1575
GNSS	Phi = 0 (deg) Theta = 0 (deg)	2.8	-	2.2
	Phi = 90 (deg) Theta = 0 (deg)	2.8	-	2.2

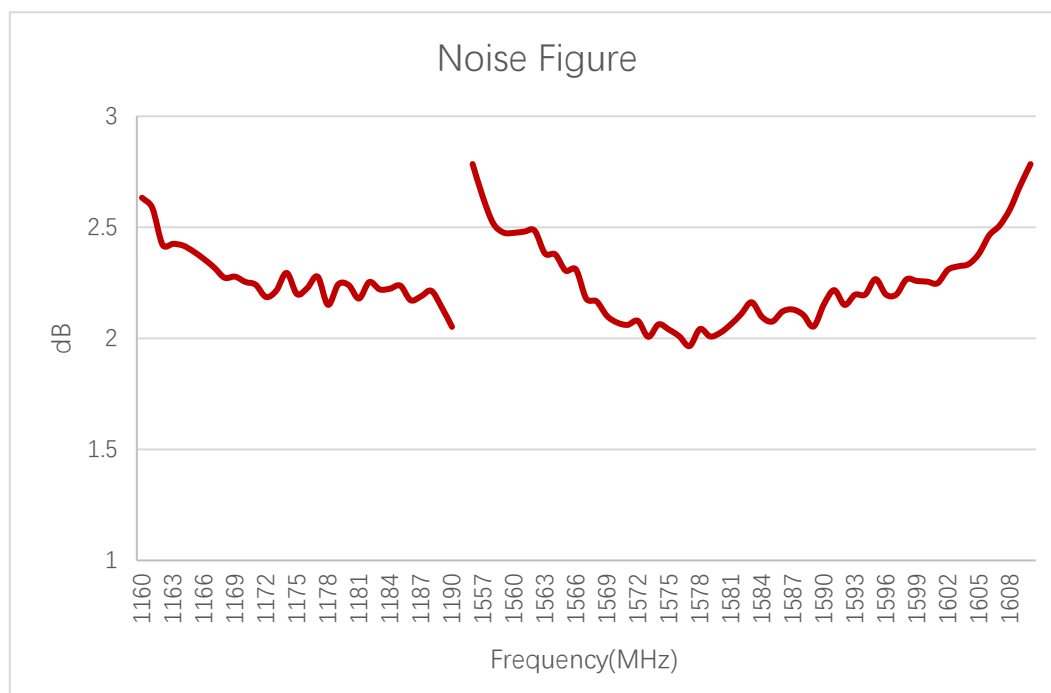
3.1.5. GNSS LNA Gain



LNA Gain (dB)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
LNA Gain (dB)	17.1	-	-	-	-	17.2	18.1	16.5

3.1.6. GNSS Noise Figure

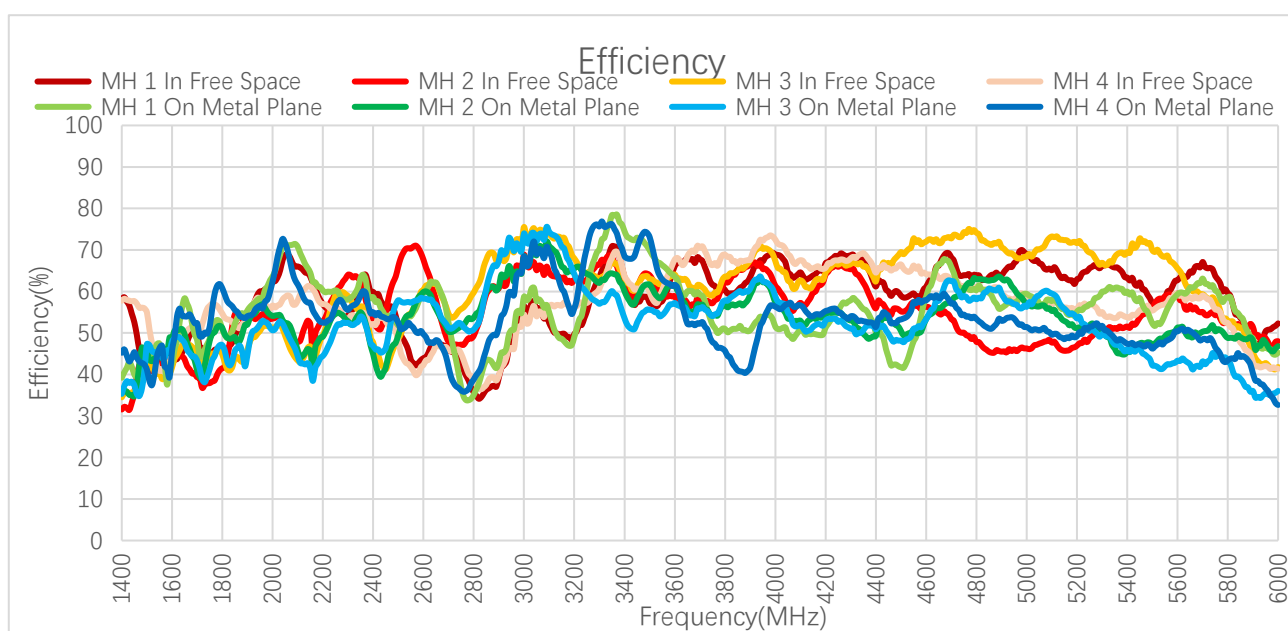
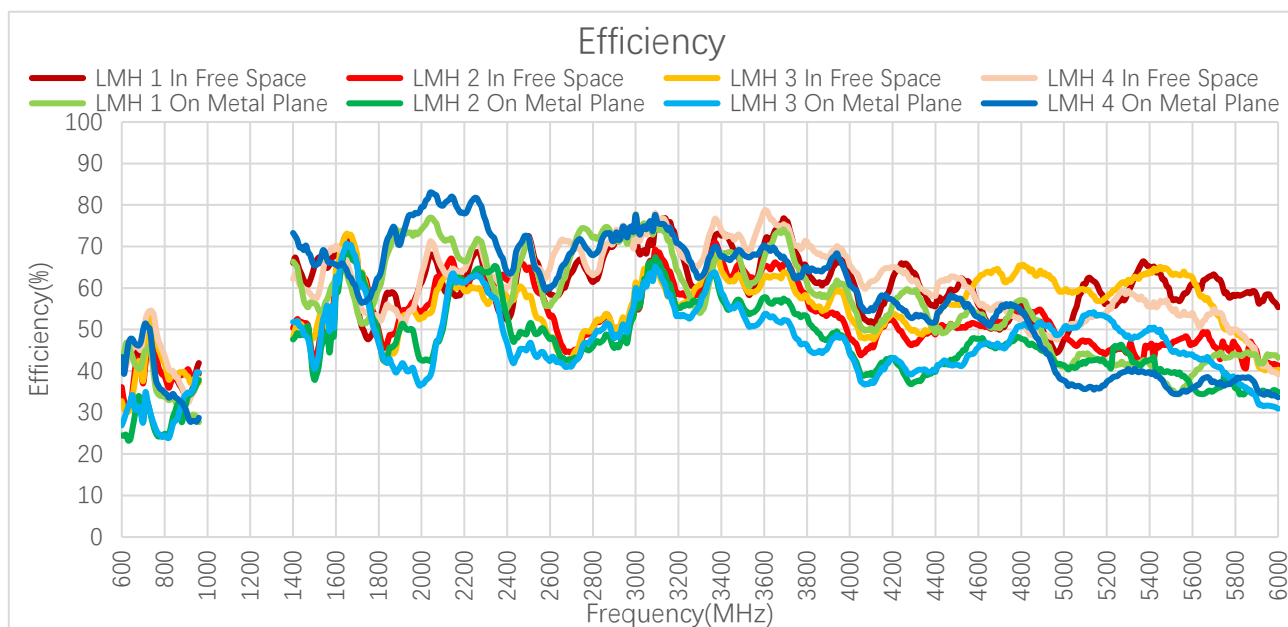


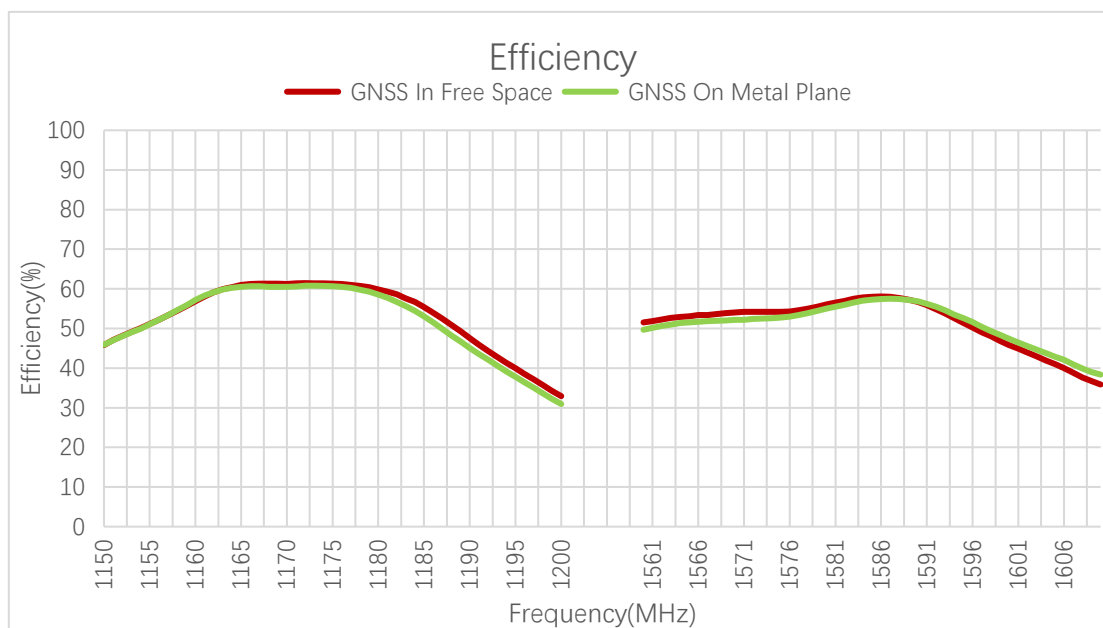
Noise Figure (dB)

Frequency (MHz)	1176	1207	1227	1248	1268	1561	1575	1602
Noise Figure (dB)	2.2	-	-	-	-	2.48	2	2.3

3.2. Radiation Performance Test

3.2.1. Efficiency





Efficiency (%)

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
LMH1	FS	42.9	42.9	48.5	39.7	34.3	41.9	63.2	53.1	48.3	57.8
	MP	42.2	46.8	44.9	33.4	28.9	27.7	59.9	52.6	51.5	74.1
LMH2	FS	36.1	31.0	41.4	37.3	39.8	39.3	51.8	60.6	62.0	49.2
	MP	24.5	23.2	33.6	26.7	32.1	37.8	48.9	62.0	60.3	46.8
LMH3	FS	32.8	30.1	43.7	38.8	39.0	37.2	51.2	60.2	60.7	45.2
	MP	26.9	31.4	34.8	25.4	34.4	39.7	50.5	60.4	58.9	39.6
LMH4	FS	39.9	42.7	52.2	40.1	33.4	38.0	60.4	56.4	53.9	54.7
	MP	43.4	46.4	51.5	34.1	30.6	28.7	69.9	57.4	56.7	73.3
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
LMH1	FS	55.2	59.5	56.1	64.5	58.5	70.6	49.9	47.6	57.7	55.4
	MP	73.4	72.0	57.2	65.1	55.7	67.2	50.3	41.4	35.2	43.2
LMH2	FS	56.0	67.1	61.5	65.3	53.1	65.2	51.3	48.8	46.3	41.4
	MP	50.2	61.4	65.1	48.1	47.7	57.8	45.8	41.4	39.5	35.0
LMH3	FS	54.6	63.9	59.1	59.6	47.8	62.6	63.7	59.3	63.4	40.4
	MP	40.4	63.2	56.8	43.9	42.4	53.6	45.7	50.4	45.0	30.9

LMH4	FS	54.6	64.3	62.1	68.5	64.9	78.5	56.0	50.6	55.0	39.2
	MP	77.7	82.0	70.3	69.8	59.9	70.3	54.6	37.7	34.9	33.7

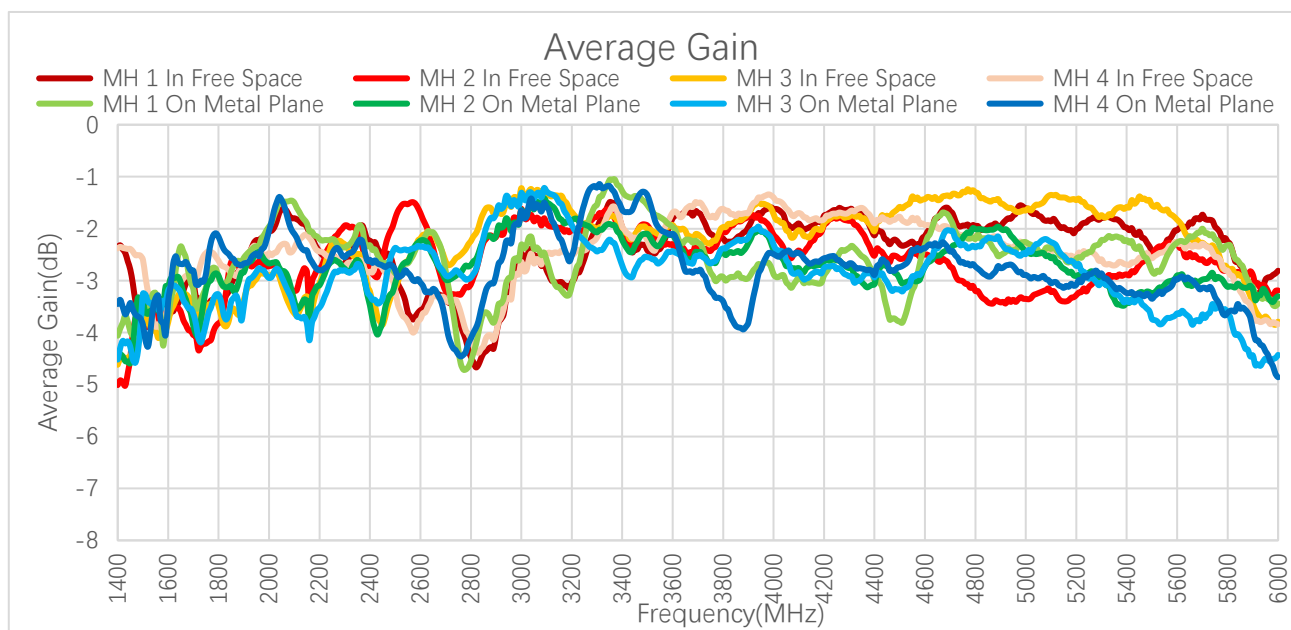
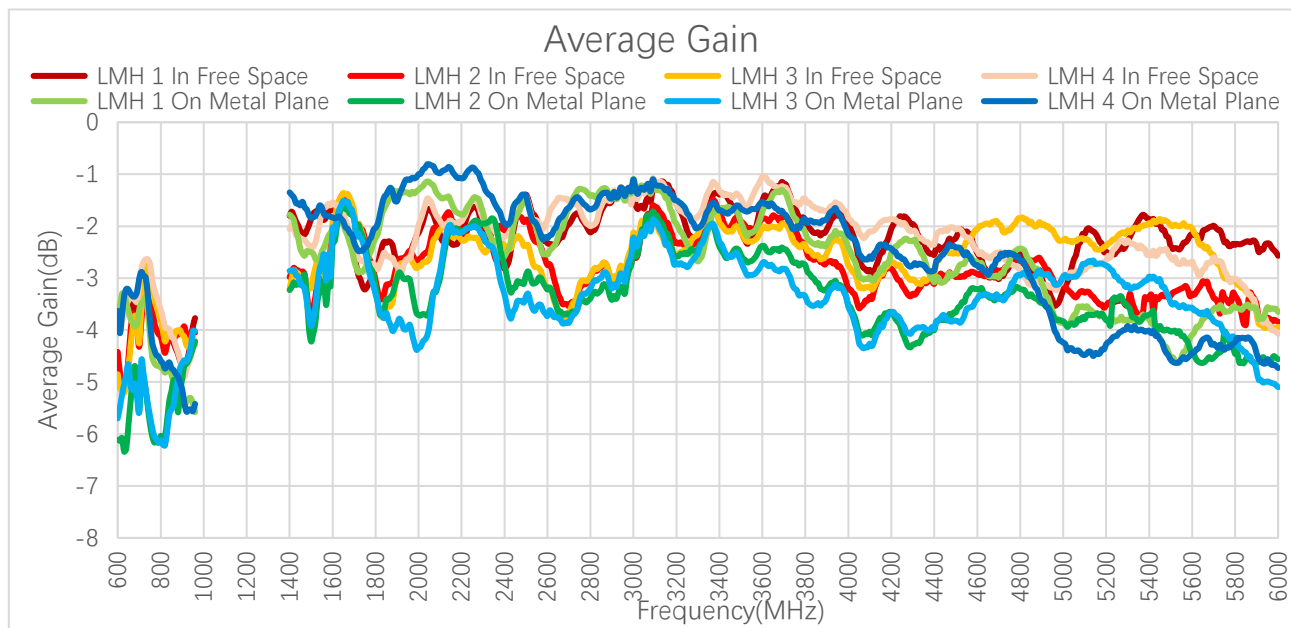
Efficiency (%)

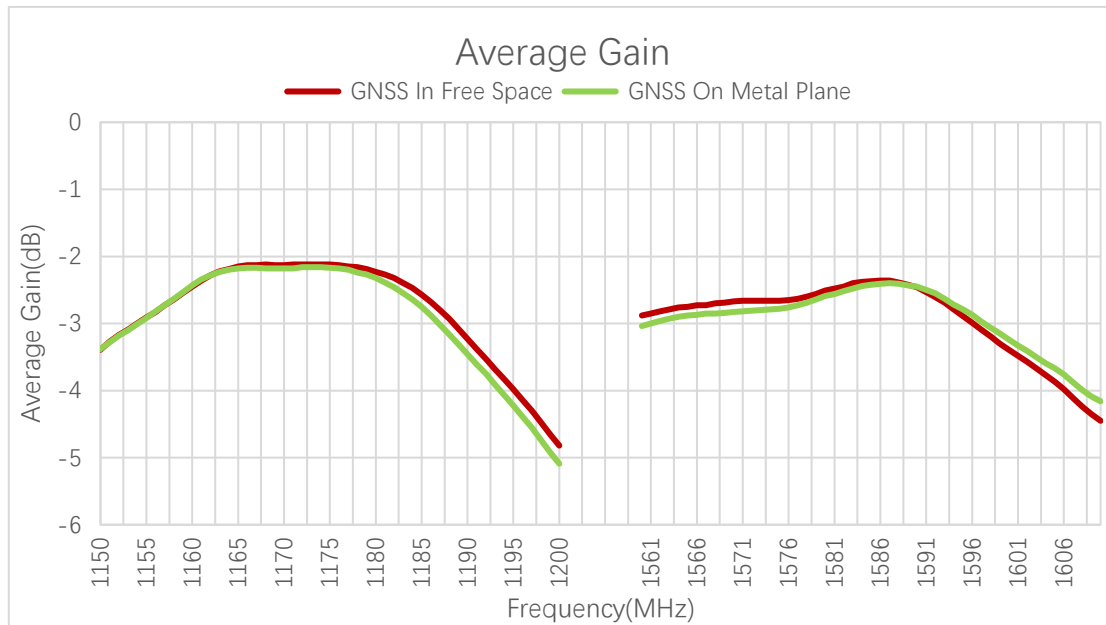
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
MH1	FS	-	-	-	-	-	-	54.6	46.7	45.2	52.3
	MP	-	-	-	-	-	-	43.6	50.9	52.7	57.4
MH2	FS	-	-	-	-	-	-	33.2	39.1	37.9	53.3
	MP	-	-	-	-	-	-	45.8	49.8	51.7	54.7
MH3	FS	-	-	-	-	-	-	35.7	44.4	43.5	43.0
	MP	-	-	-	-	-	-	40.8	43.5	47.1	50.7
MH4	FS	-	-	-	-	-	-	57.7	50.2	55.9	52.2
	MP	-	-	-	-	-	-	42.4	56.0	61.8	55.6
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
MH1	FS	60.0	64.4	62.0	55.8	43.9	66.1	68.2	69.0	57.2	52.3
	MP	63.6	61.0	58.6	51.8	62.2	60.0	60.9	57.1	54.5	45.3
MH2	FS	54.1	53.0	62.9	54.6	67.7	58.9	53.4	46.3	55.9	48.0
	MP	54.1	48.9	44.9	49.5	55.8	55.6	60.5	56.4	49.2	46.8
MH3	FS	50.5	46.5	56.4	41.2	60.4	64.1	72.8	68.4	69.9	41.8
	MP	50.6	44.0	46.9	57.9	56.7	55.1	58.9	59.1	42.0	36.0
MH4	FS	58.4	61.3	54.4	52.8	42.3	67.7	62.9	57.9	55.4	41.4
	MP	62.5	52.7	55.0	52.4	48.3	52.2	54.4	50.6	47.9	32.7

Efficiency (%)

Frequency (MHz)		1176	1227	1561	1575	1602
GNSS	FS	61.2	-	51.9	54.2	43.9
	MP	60.5	-	50.1	52.8	45.6

3.2.2. Average Gain





Average Gain (dB)

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
LMH1	FS	-3.7	-3.7	-3.1	-4.0	-4.7	-3.8	-2.0	-2.8	-3.2	-2.4
	MP	-3.7	-3.3	-3.5	-4.8	-5.4	-5.6	-2.2	-2.8	-2.9	-1.3
LMH2	FS	-4.4	-5.1	-3.8	-4.3	-4.0	-4.1	-2.9	-2.2	-2.1	-3.1
	MP	-6.1	-6.3	-4.7	-5.7	-4.9	-4.2	-3.1	-2.1	-2.2	-3.3
LMH3	FS	-4.9	-5.2	-3.6	-4.1	-4.1	-4.3	-2.9	-2.2	-2.2	-3.5
	MP	-5.7	-5.0	-4.6	-6.0	-4.6	-4.0	-3.0	-2.2	-2.3	-4.0
LMH4	FS	-4.0	-3.7	-2.8	-4.0	-4.8	-4.2	-2.2	-2.5	-2.7	-2.6
	MP	-3.6	-3.3	-2.9	-4.7	-5.1	-5.4	-1.6	-2.4	-2.5	-1.4
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
LMH1	FS	-2.6	-2.3	-2.5	-1.9	-2.3	-1.5	-3.0	-3.2	-2.4	-2.6
	MP	-1.4	-1.4	-2.4	-1.9	-2.6	-1.7	-3.0	-3.8	-4.5	-3.7
LMH2	FS	-2.5	-1.7	-2.1	-1.9	-2.8	-1.9	-2.9	-3.1	-3.3	-3.8
	MP	-3.0	-2.1	-1.9	-3.2	-3.2	-2.4	-3.4	-3.8	-4.0	-4.6
LMH3	FS	-2.6	-2.0	-2.3	-2.3	-3.2	-2.0	-2.0	-2.3	-2.0	-3.9
	MP	-3.9	-2.0	-2.5	-3.6	-3.7	-2.7	-3.4	-3.0	-3.5	-5.1

LMH4	FS	-2.6	-1.9	-2.1	-1.6	-1.9	-1.1	-2.5	-3.0	-2.6	-4.1
	MP	-1.1	-0.9	-1.5	-1.6	-2.2	-1.5	-2.6	-4.2	-4.6	-4.7

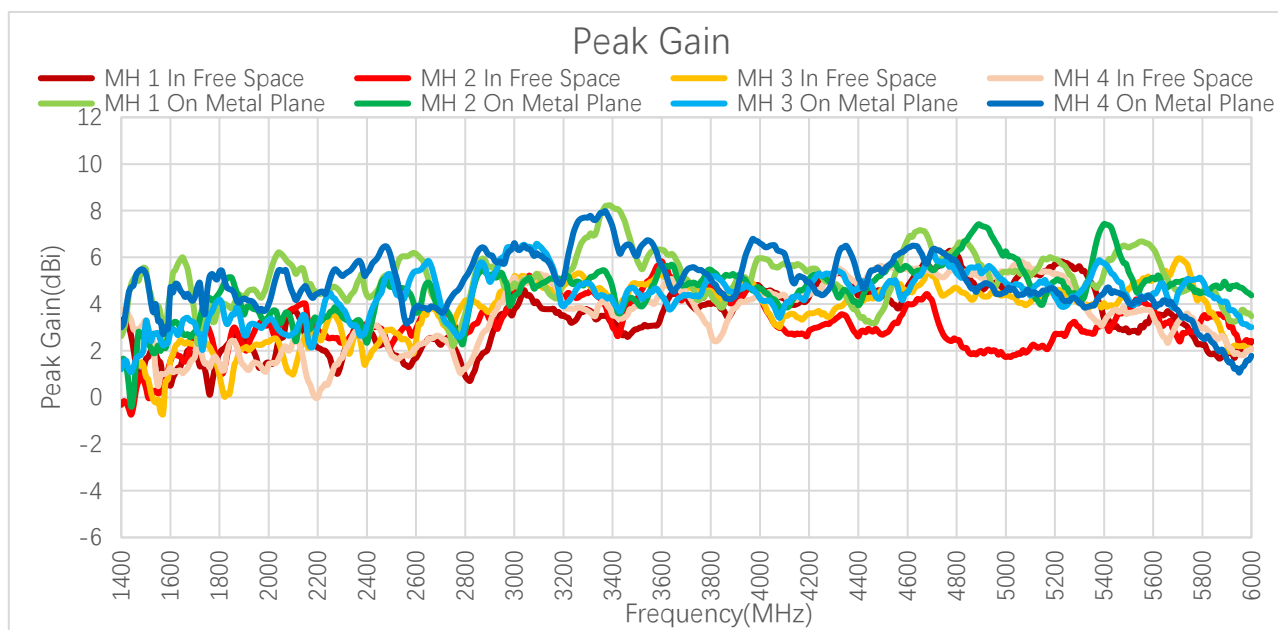
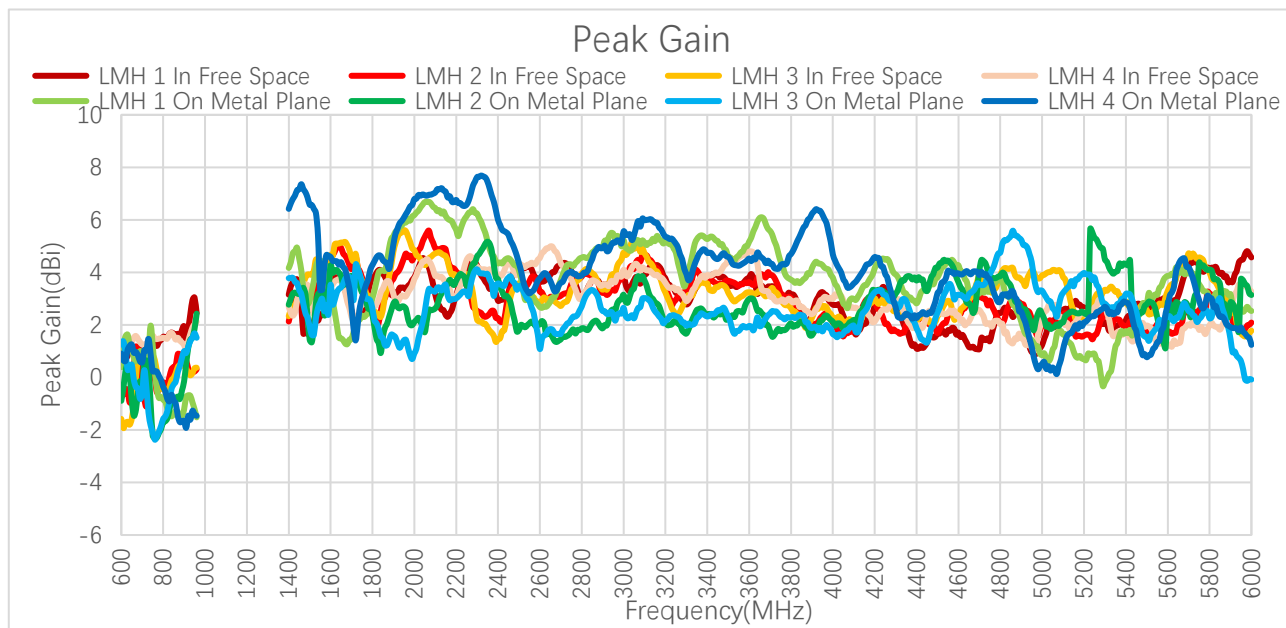
Average Gain (dB)

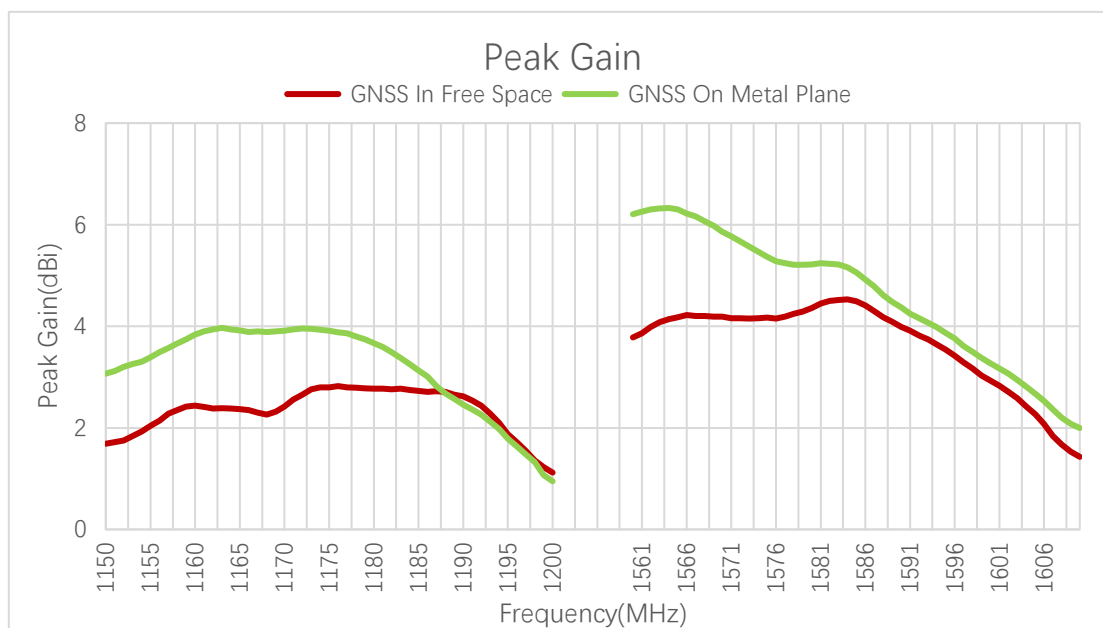
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
MH1	FS	-	-	-	-	-	-	-2.6	-3.3	-3.5	-2.8
	MP	-	-	-	-	-	-	-3.6	-2.9	-2.8	-2.4
MH2	FS	-	-	-	-	-	-	-4.8	-4.1	-4.2	-2.7
	MP	-	-	-	-	-	-	-3.4	-3.0	-2.9	-2.6
MH3	FS	-	-	-	-	-	-	-4.5	-3.5	-3.6	-3.7
	MP	-	-	-	-	-	-	-3.9	-3.6	-3.3	-3.0
MH4	FS	-	-	-	-	-	-	-2.4	-3.0	-2.5	-2.8
	MP	-	-	-	-	-	-	-3.7	-2.5	-2.1	-2.6
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
MH1	FS	-2.2	-1.9	-2.1	-2.5	-3.6	-1.8	-1.7	-1.6	-2.4	-2.8
	MP	-2.0	-2.2	-2.3	-2.9	-2.1	-2.2	-2.2	-2.4	-2.6	-3.4
MH2	FS	-2.7	-2.8	-2.0	-2.6	-1.7	-2.3	-2.7	-3.4	-2.5	-3.2
	MP	-2.7	-3.1	-3.5	-3.1	-2.5	-2.6	-2.2	-2.5	-3.1	-3.3
MH3	FS	-3.0	-3.3	-2.5	-3.9	-2.2	-1.9	-1.4	-1.7	-1.6	-3.8
	MP	-3.0	-3.6	-3.3	-2.4	-2.5	-2.6	-2.3	-2.3	-3.8	-4.4
MH4	FS	-2.3	-2.1	-2.6	-2.8	-3.7	-1.7	-2.0	-2.4	-2.6	-3.8
	MP	-2.0	-2.8	-2.6	-2.8	-3.2	-2.8	-2.6	-3.0	-3.2	-4.9

Average Gain (dB)

Frequency (MHz)		1176	1227	1561	1575	1602
GNSS	FS	-2.1	-	-2.9	-2.7	-3.6
	MP	-2.2	-	-3.0	-2.8	-3.4

3.2.3. Peak Gain





Peak Gain (dBi)

Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
LMH1	FS	0.9	0.8	1.2	1.7	1.9	2.5	3.7	2.3	2.3	3.4
	MP	0.4	1.6	0.7	-1.4	-1.2	-1.5	4.9	1.7	2.2	4.9
LMH2	FS	-0.7	-0.5	-0.9	0.0	0.7	0.3	3.2	4.6	4.0	3.3
	MP	-0.9	0.5	0.6	-1.2	-0.2	2.4	3.2	3.7	3.5	2.3
LMH3	FS	-1.6	-1.7	0.9	-0.4	0.4	0.4	3.0	4.4	3.9	3.9
	MP	1.3	0.3	0.3	-0.9	1.0	1.5	3.6	2.9	3.9	1.4
LMH4	FS	1.1	1.1	1.2	1.7	1.2	2.1	3.0	2.2	2.6	3.7
	MP	0.9	1.0	1.0	-0.9	-1.7	-1.5	7.1	1.9	2.7	4.1
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
LMH1	FS	3.4	2.6	3.5	3.2	3.6	3.8	1.1	1.2	2.6	4.6
	MP	5.9	6.3	5.2	4.5	2.7	5.2	3.2	0.9	2.8	2.5
LMH2	FS	4.5	4.9	2.4	3.1	3.3	3.6	3.1	2.0	1.7	2.1
	MP	2.7	3.4	5.2	3.0	2.0	3.0	4.1	2.4	2.8	3.1
LMH3	FS	5.6	4.7	1.9	2.7	2.8	3.2	3.9	3.9	2.6	1.8
	MP	1.4	3.5	3.9	3.8	1.1	2.0	3.5	3.3	1.5	-0.1

LMH4	FS	3.1	3.7	4.1	4.4	4.6	4.8	2.6	2.2	2.0	3.3
	MP	6.1	7.1	7.5	5.4	3.8	4.5	3.9	0.5	0.8	1.2

Peak Gain (dBi)

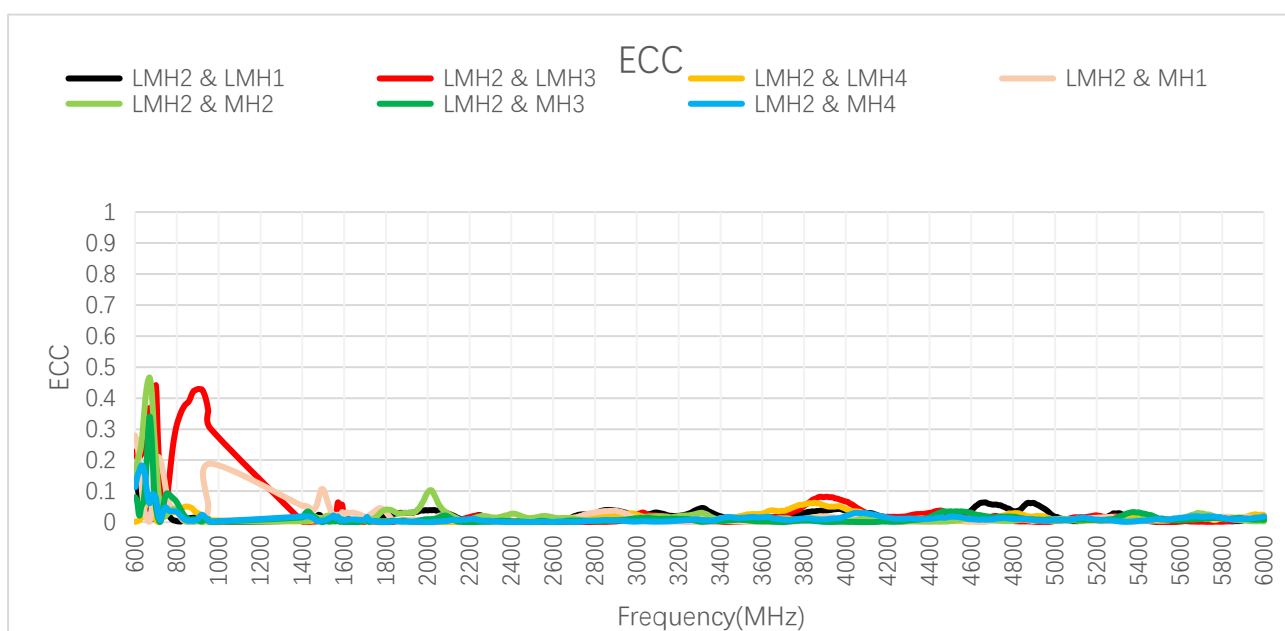
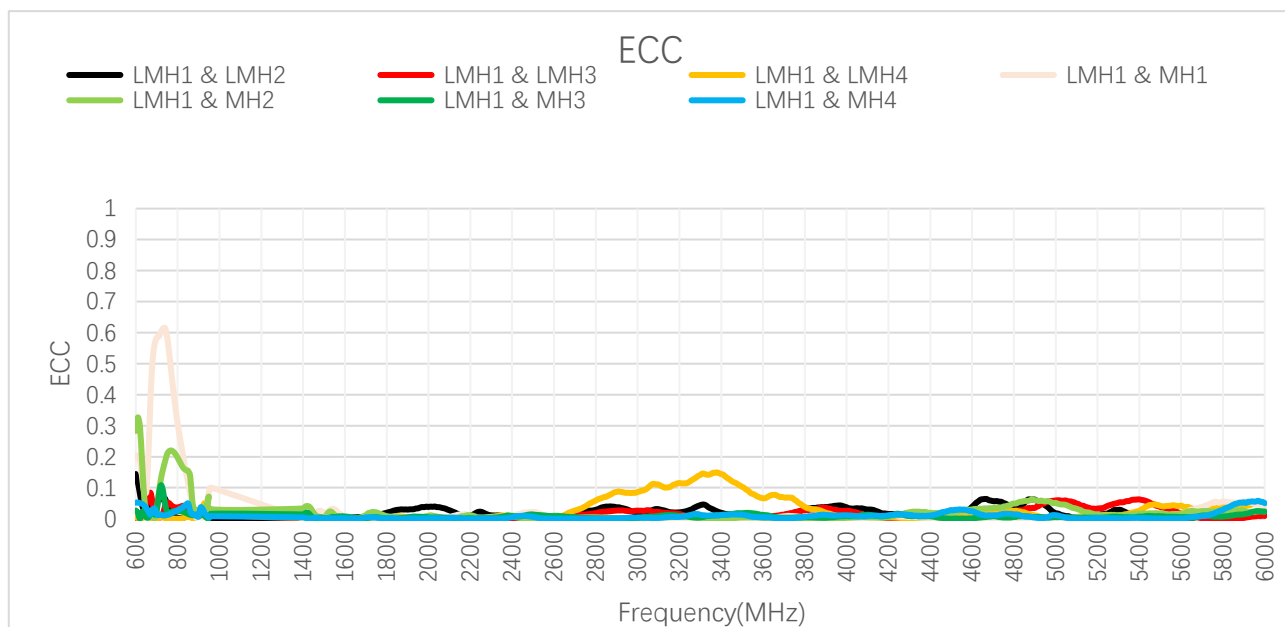
Frequency (MHz)		600	630	710	830	900	960	1440	1710	1740	1880
MH1	FS	-	-	-	-	-	-	2.6	1.7	1.2	2.6
	MP	-	-	-	-	-	-	5.6	3.9	3.7	4.6
MH2	FS	-	-	-	-	-	-	-0.7	2.7	3.0	2.6
	MP	-	-	-	-	-	-	2.6	4.3	4.4	3.8
MH3	FS	-	-	-	-	-	-	1.2	2.2	2.4	2.0
	MP	-	-	-	-	-	-	2.0	3.5	4.1	3.2
MH4	FS	-	-	-	-	-	-	3.3	2.5	1.5	1.8
	MP	-	-	-	-	-	-	5.5	5.2	5.1	4.1
Frequency (MHz)		1950	2140	2350	2450	2600	3600	4700	5000	5500	6000
MH1	FS	1.7	3.0	3.0	2.2	1.7	3.6	5.5	4.5	2.8	2.4
	MP	5.1	4.6	4.4	5.2	5.1	6.1	6.0	5.4	6.7	3.5
MH2	FS	3.0	4.0	2.8	3.0	3.0	5.8	4.2	1.7	3.7	2.4
	MP	3.5	3.4	2.3	4.7	4.9	5.6	5.8	5.9	4.7	4.4
MH3	FS	2.3	2.4	2.7	2.4	2.4	5.3	5.2	4.4	4.7	2.1
	MP	3.3	2.6	3.1	5.2	5.9	4.0	5.8	4.8	4.3	3.0
MH4	FS	1.5	1.7	2.8	3.0	2.1	4.7	5.4	5.4	3.6	2.1
	MP	4.0	4.4	5.4	5.9	3.8	4.5	6.2	4.4	4.3	1.8

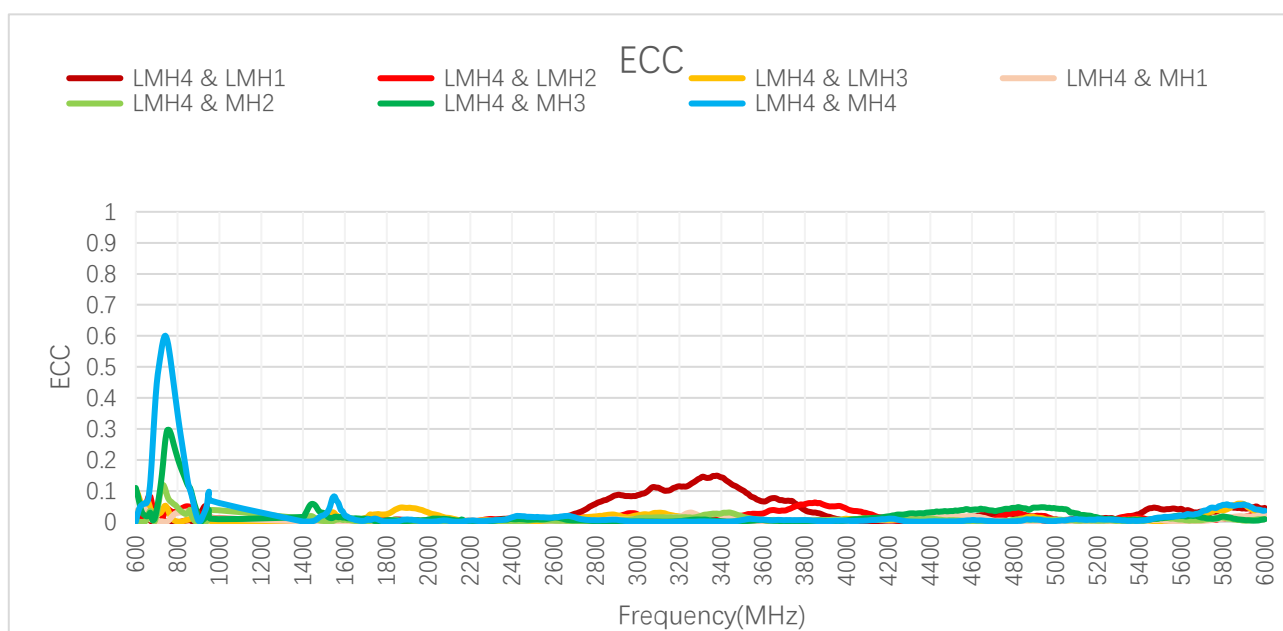
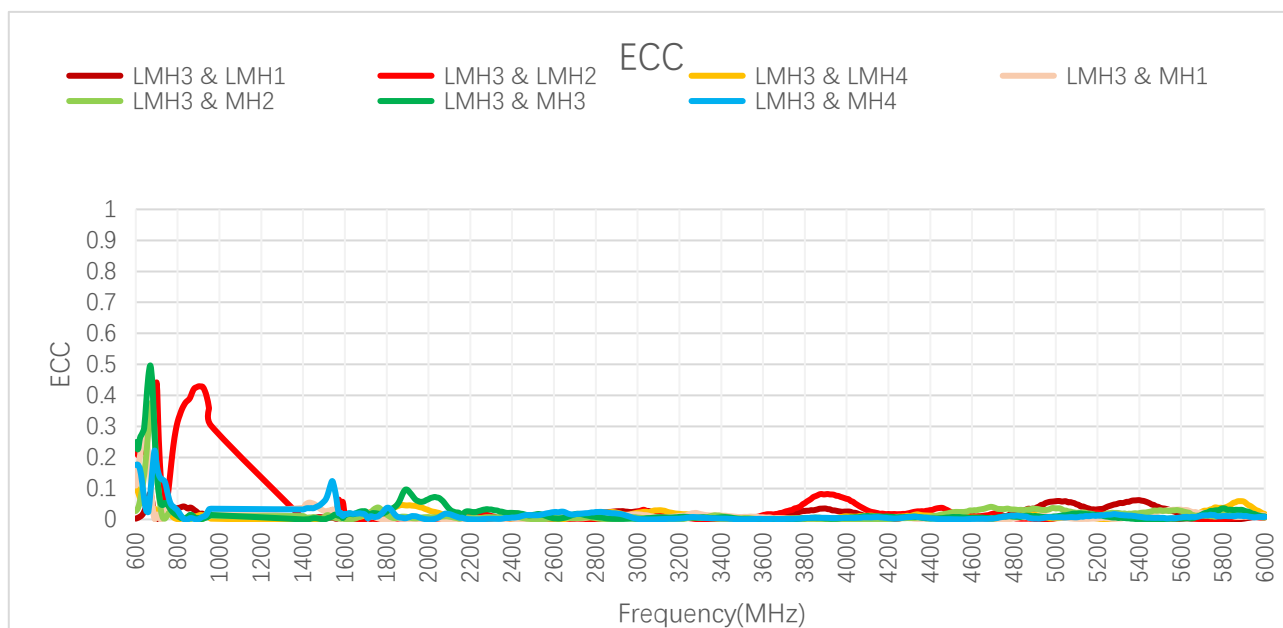
Peak Gain (dBi)

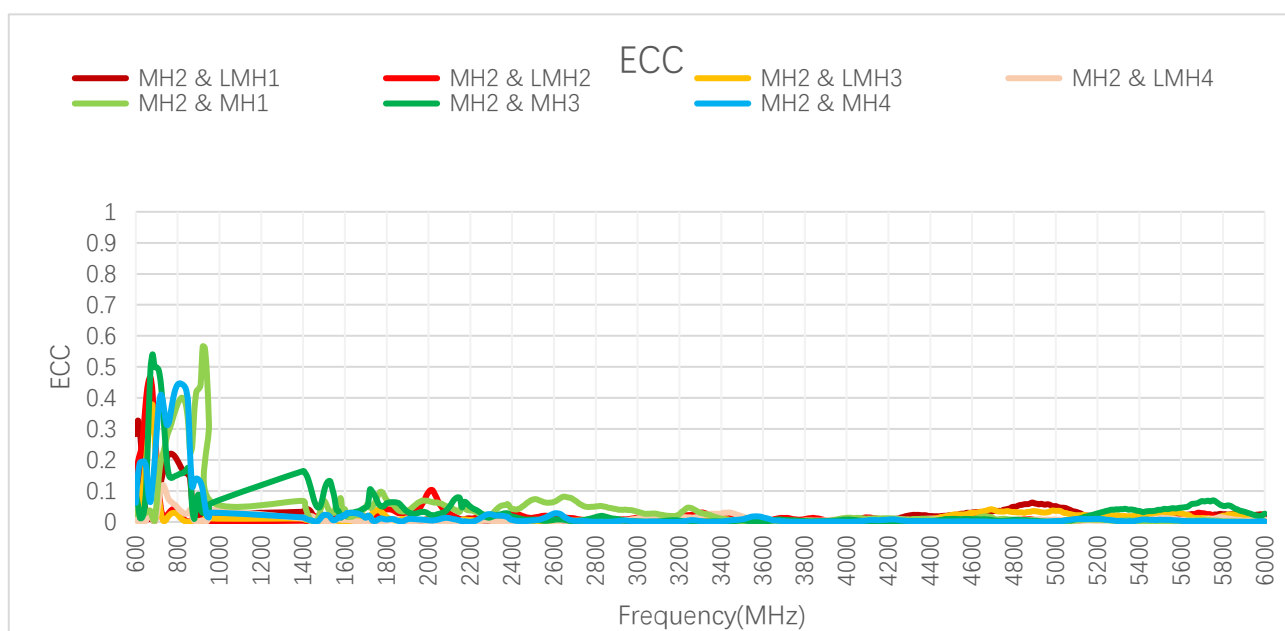
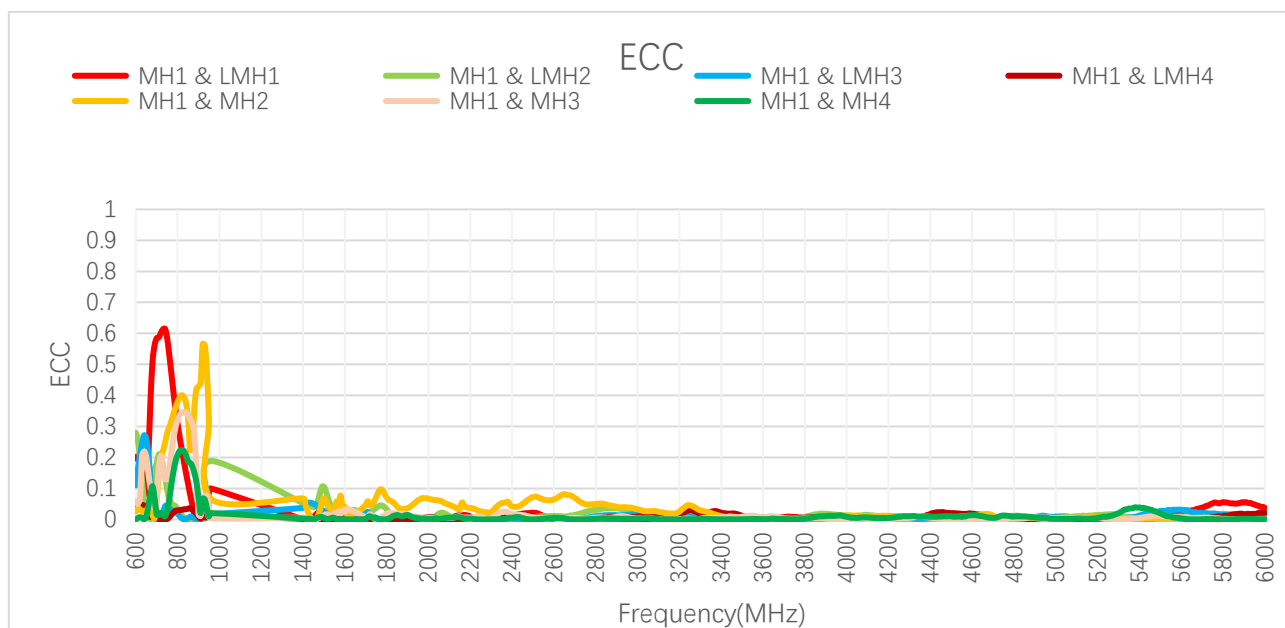
Frequency (MHz)		1176	1227	1561	1575	1602
GNSS	FS	2.8	-	3.9	4.2	2.7
	MP	3.9	-	6.3	5.4	3.1

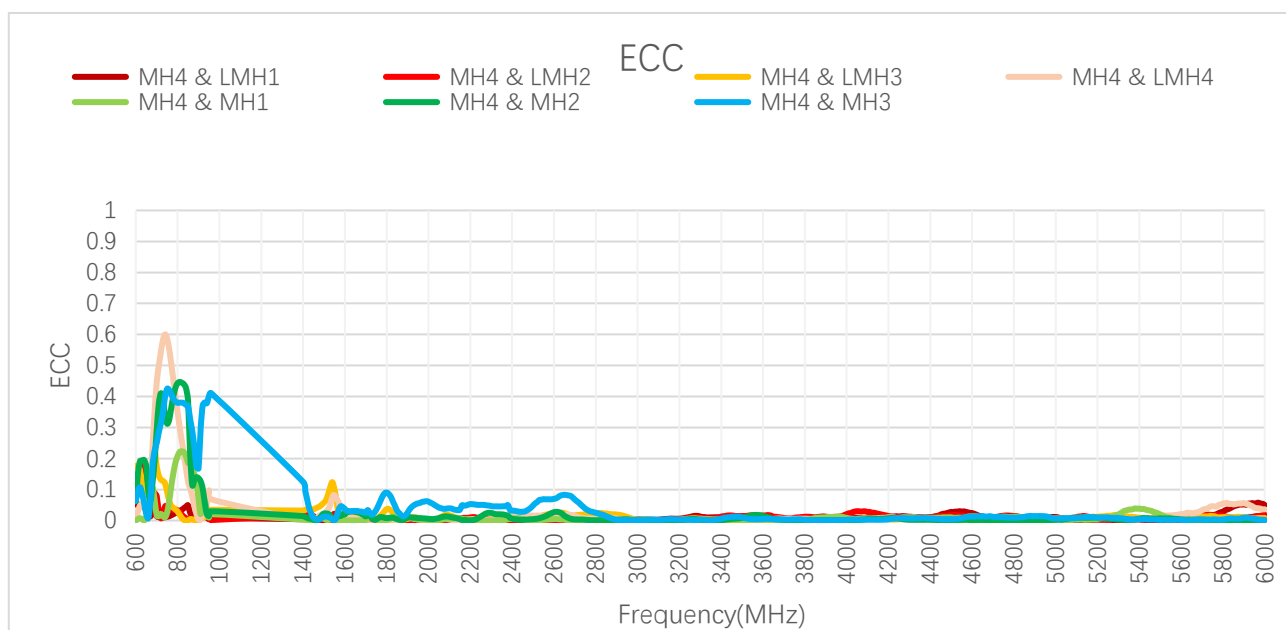
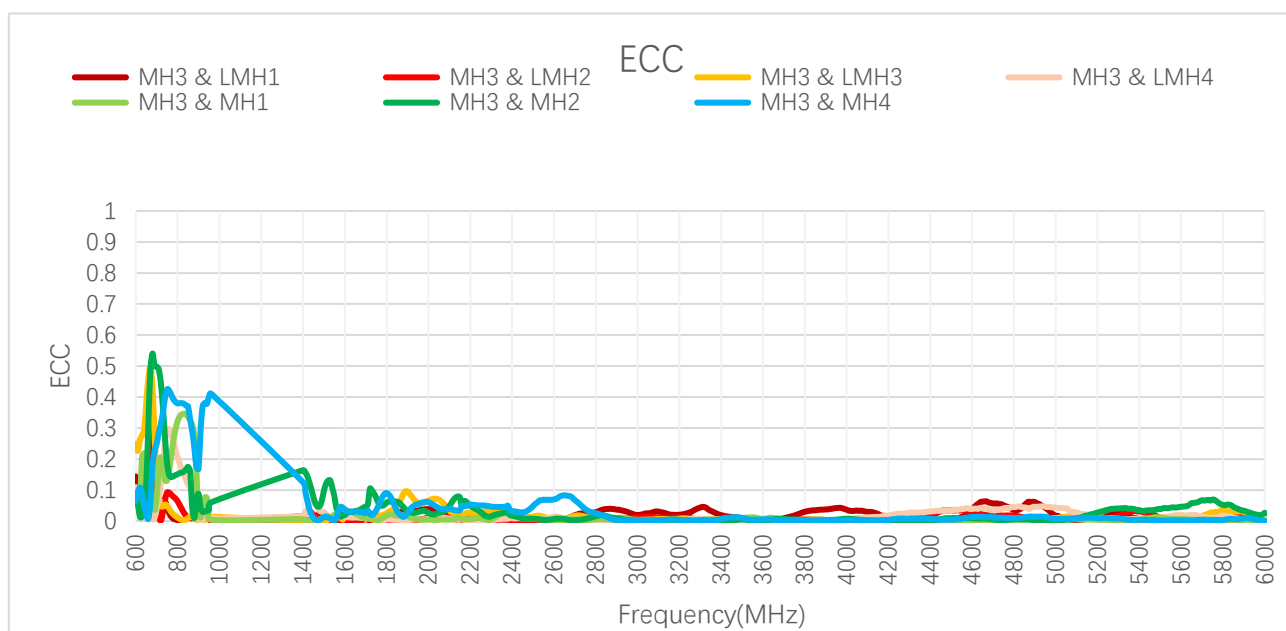
3.2.4. ECC

3.2.4.1. Test Status: In Free Space

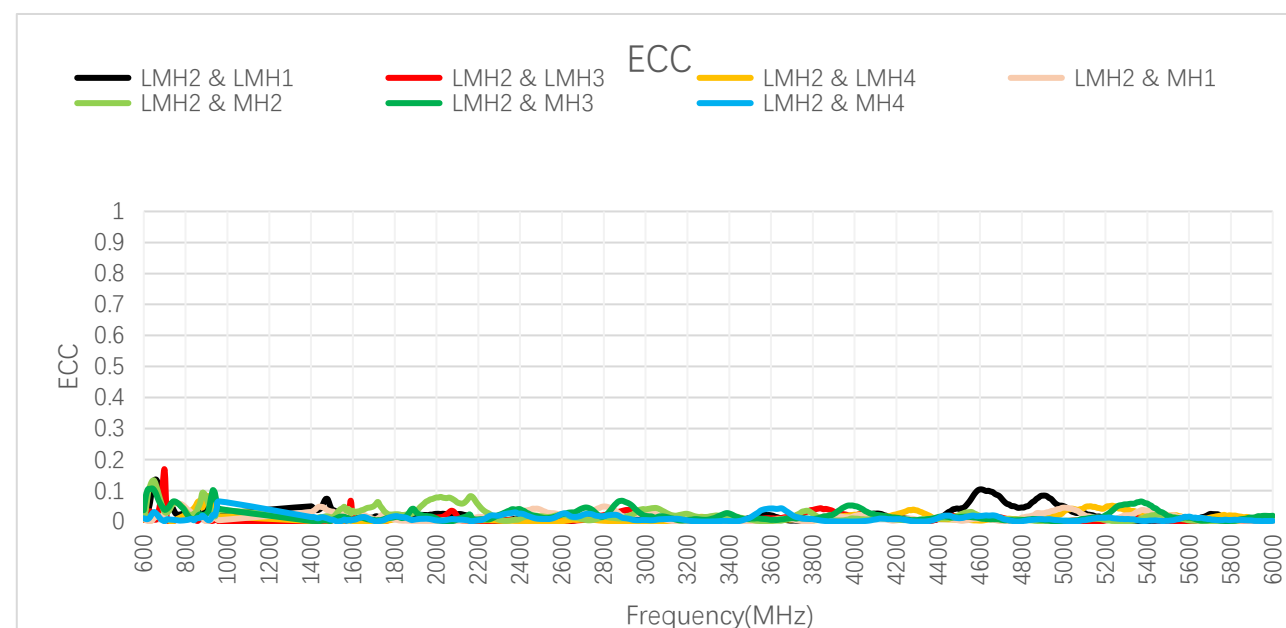
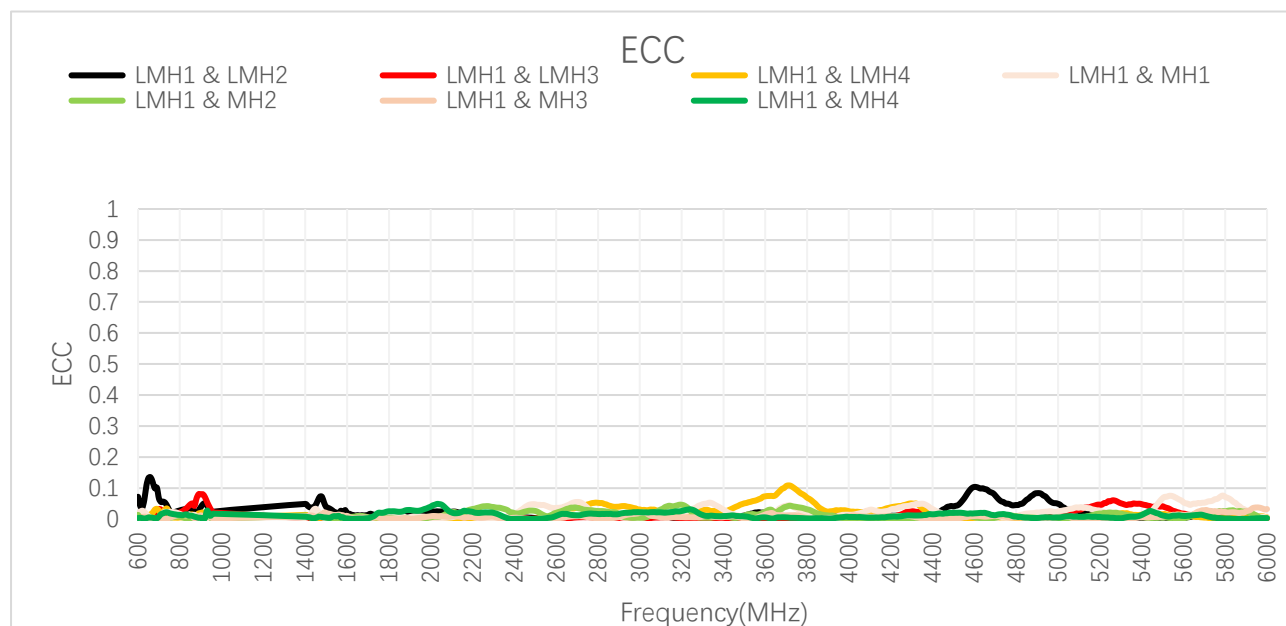


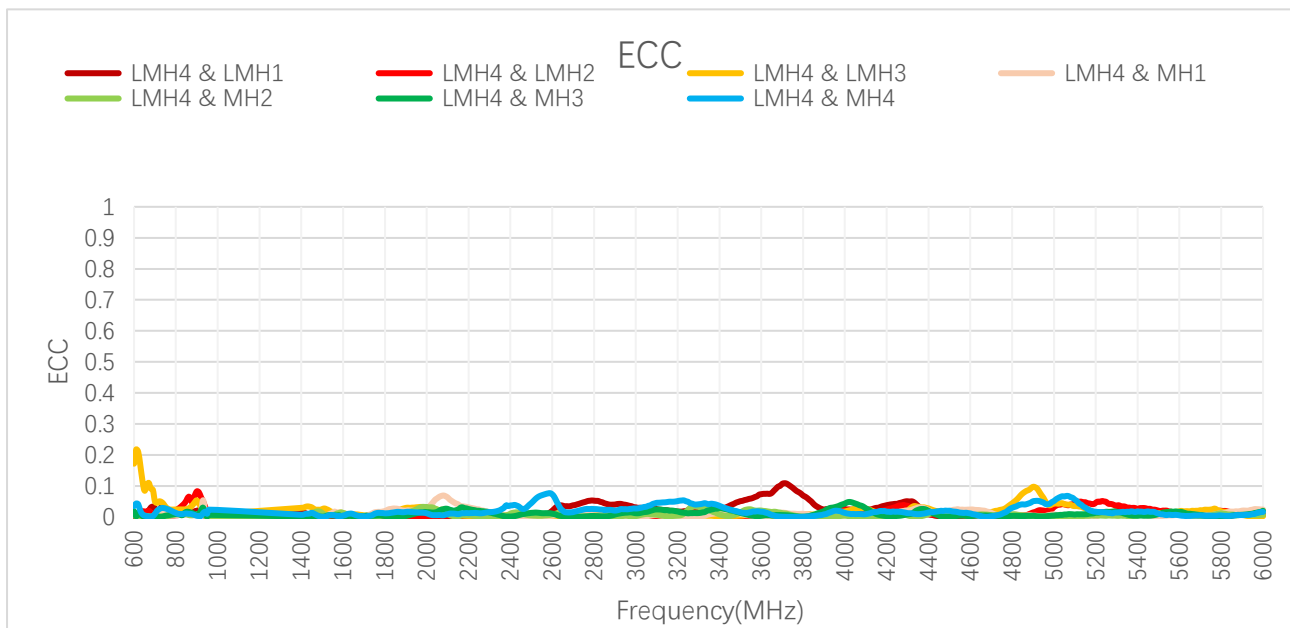
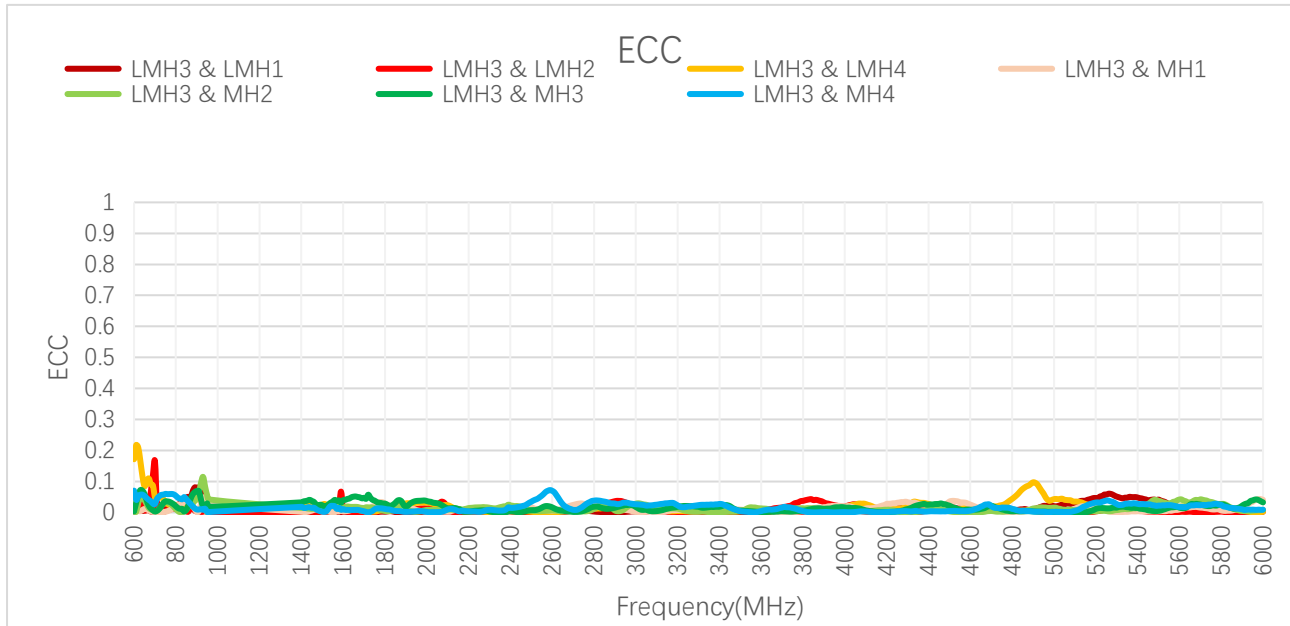


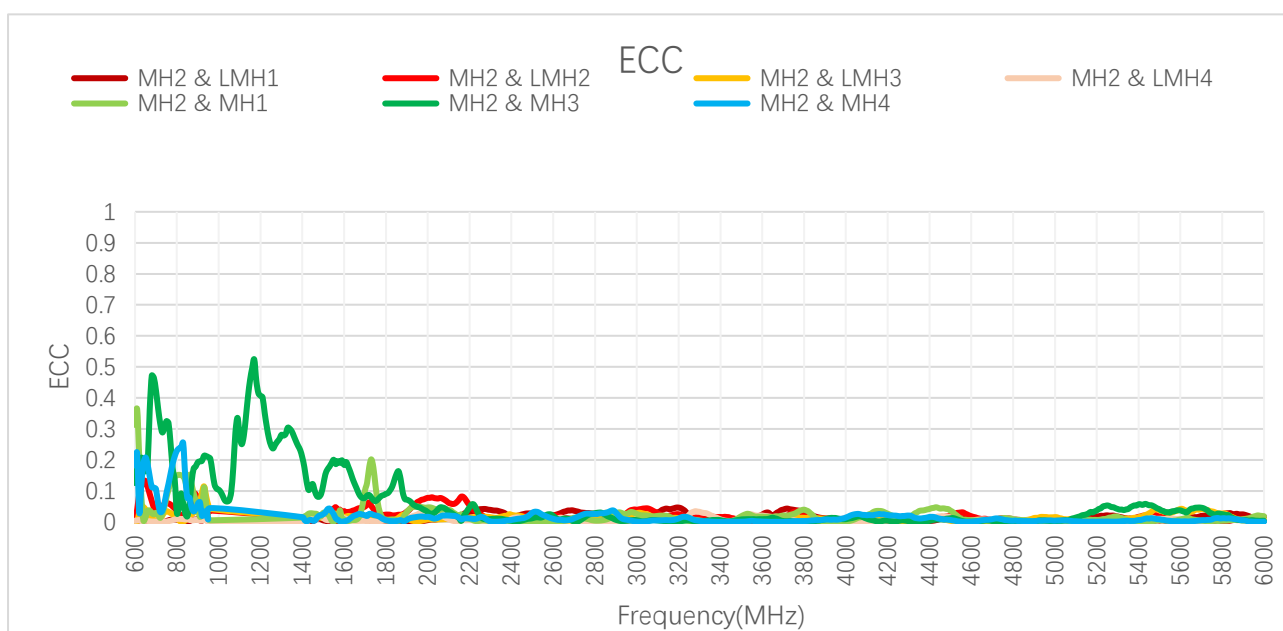
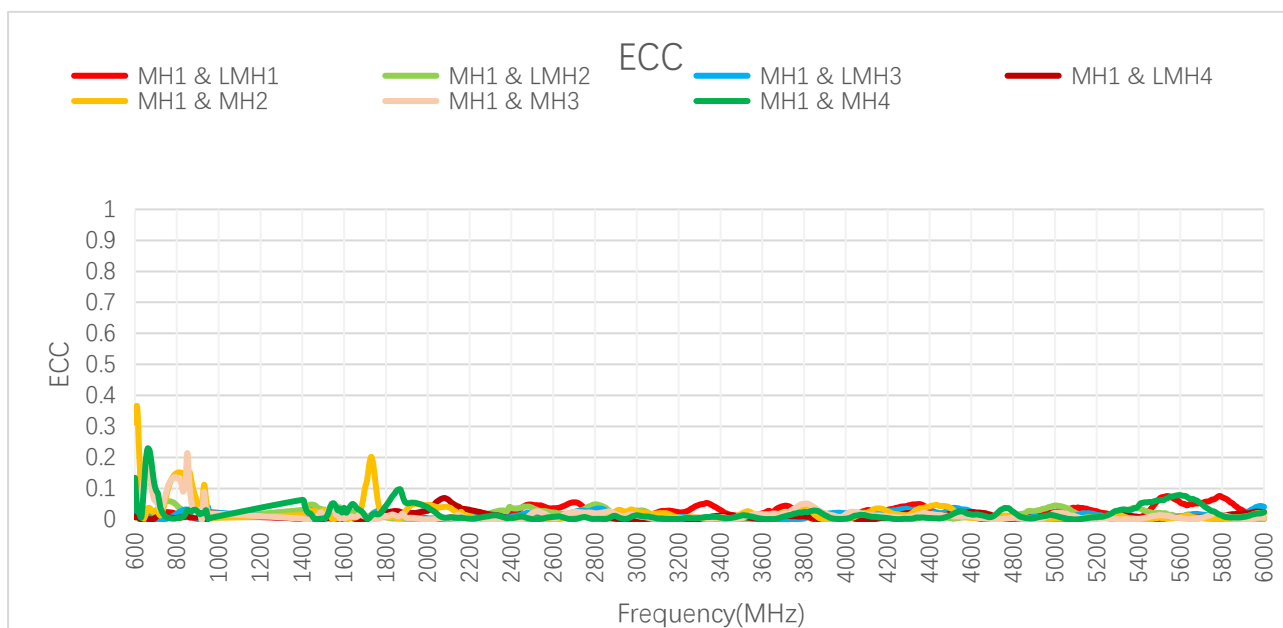


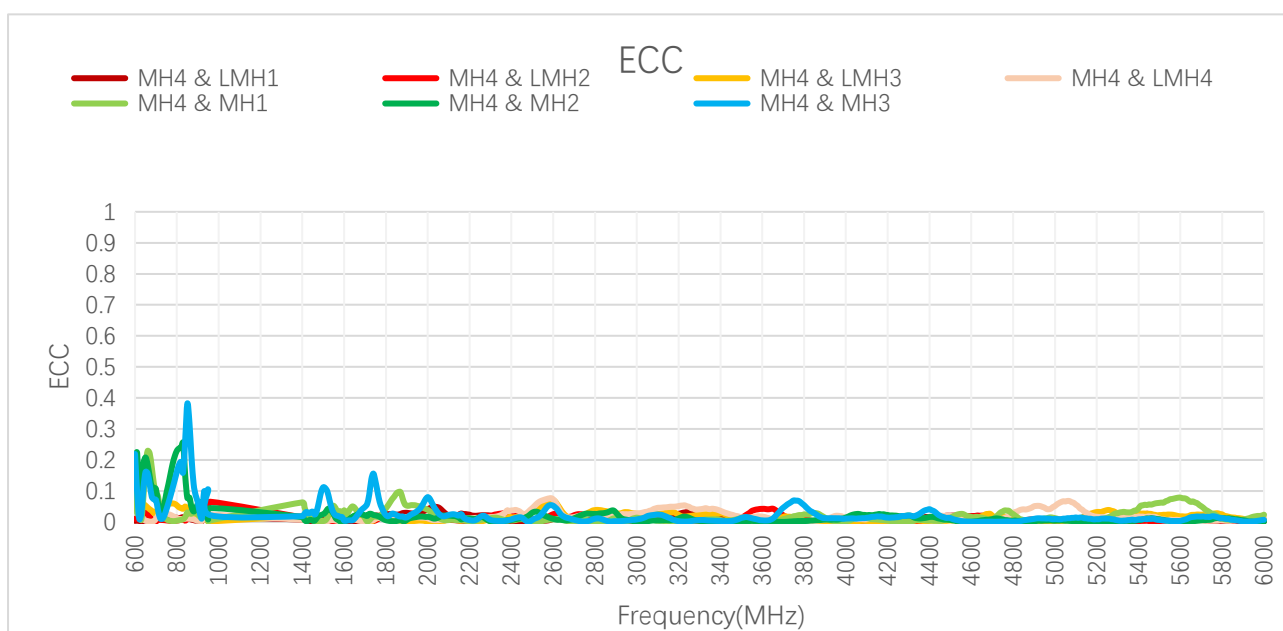
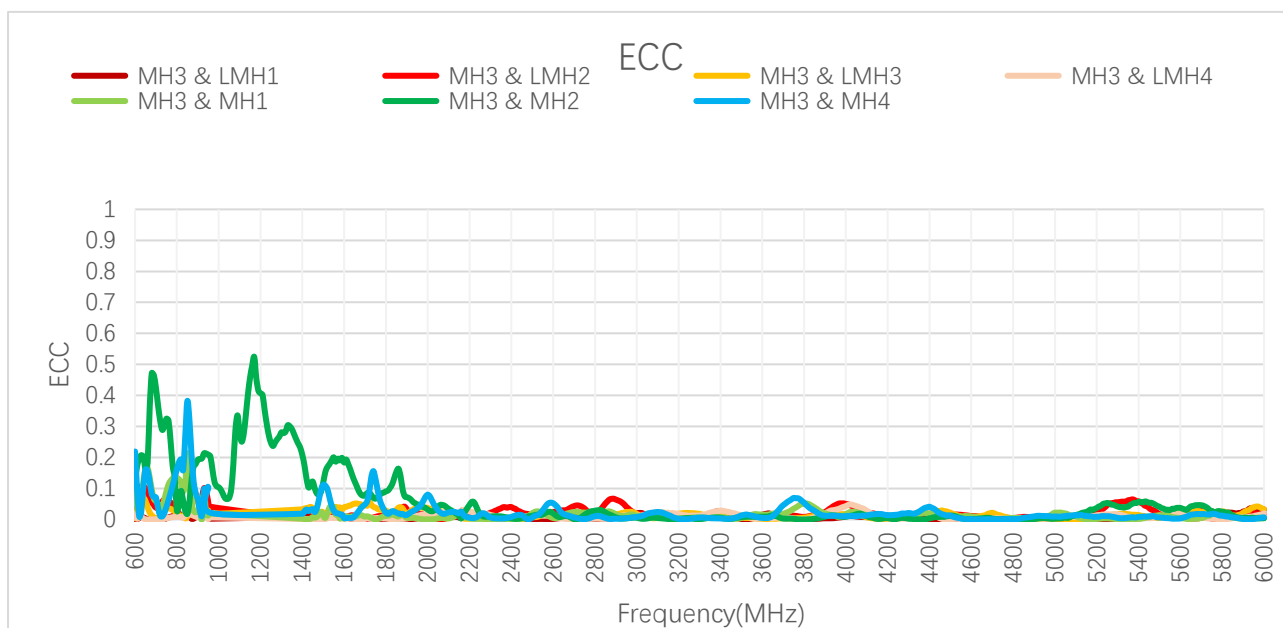


3.2.4.2. Test Status: On 500 mm × 500 mm Metal Plane





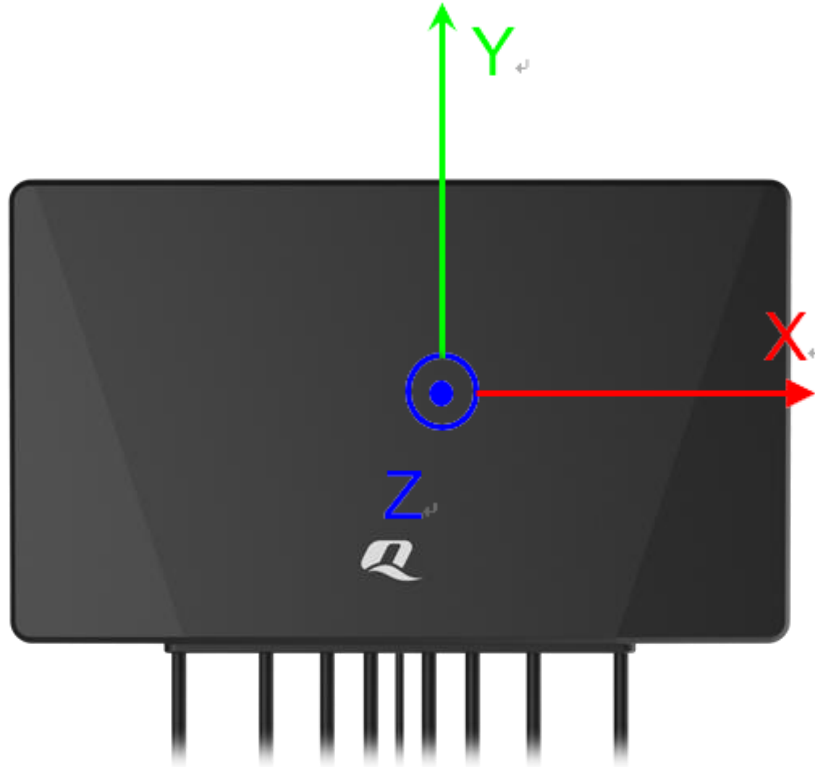




3.2.5. 3D & 2D Radiation Pattern

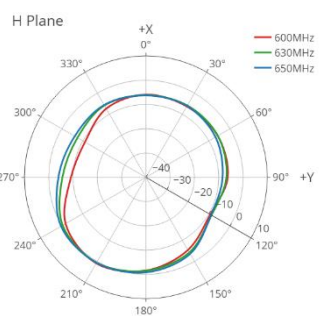
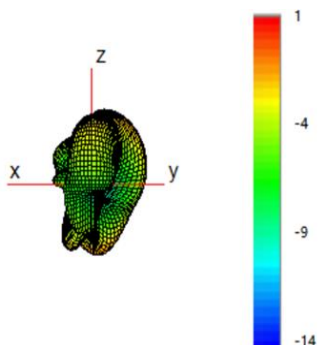
3.2.5.1. Test Condition: In Free Space

- Test Chamber: HF-G-1

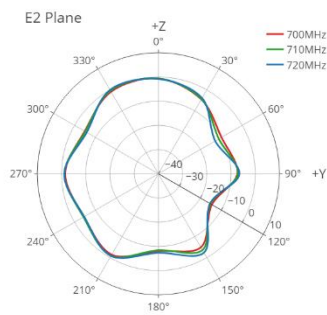
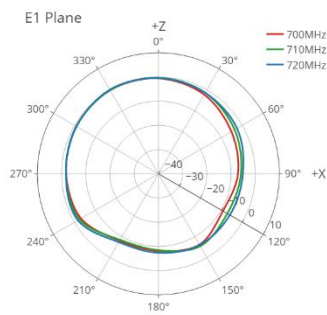
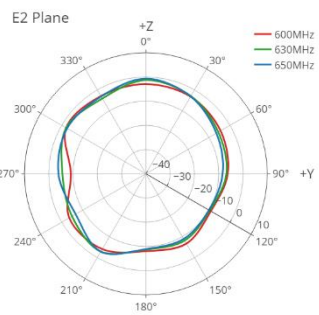
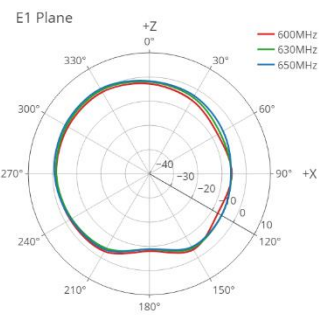
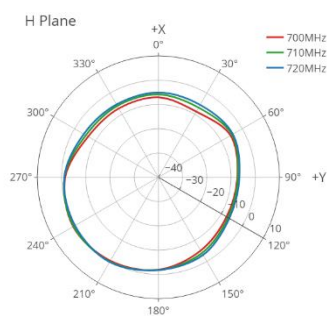
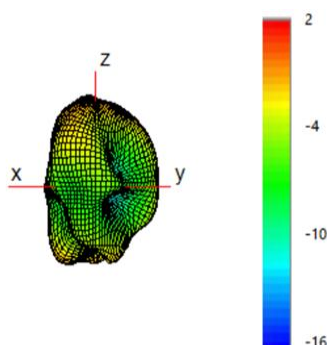


● **LMH1**

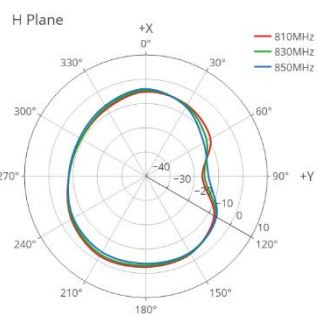
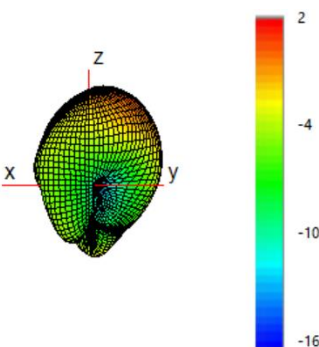
630 MHz



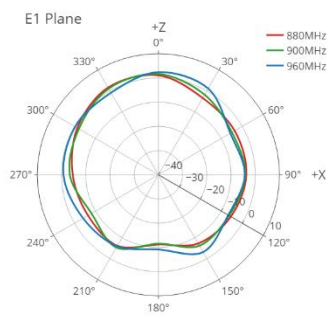
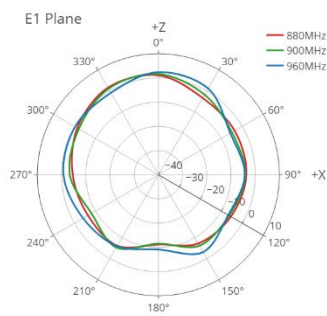
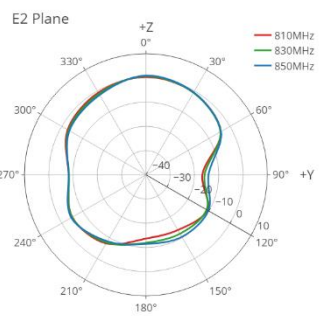
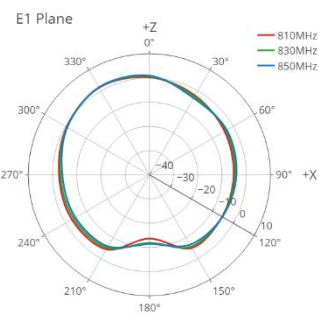
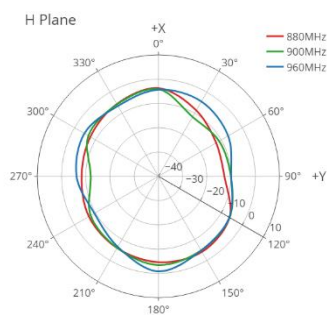
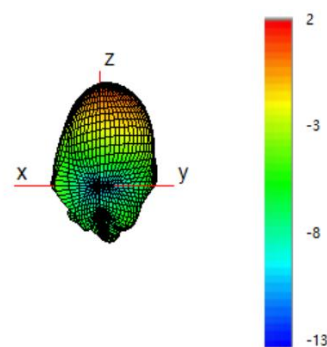
710 MHz



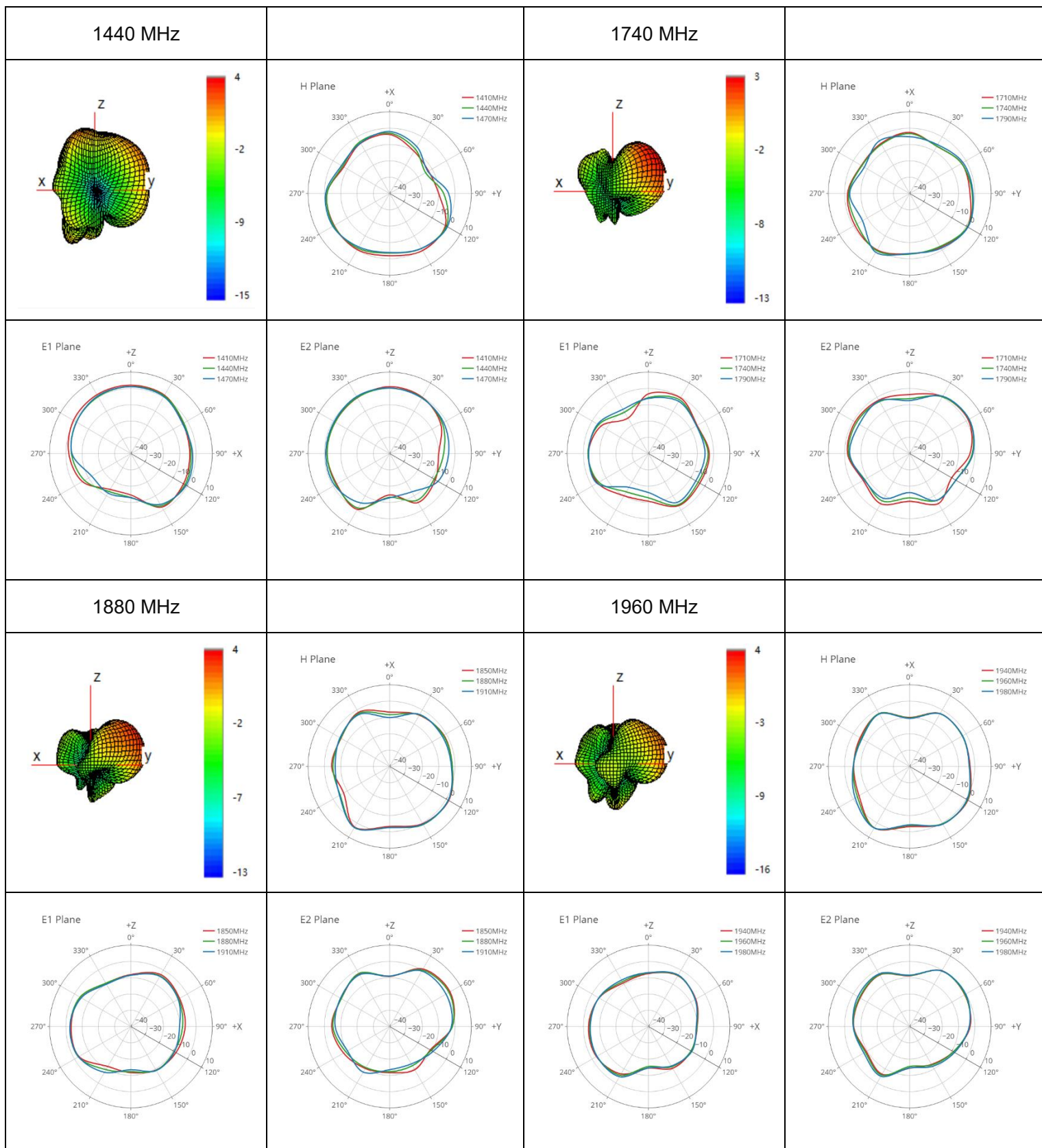
830 MHz



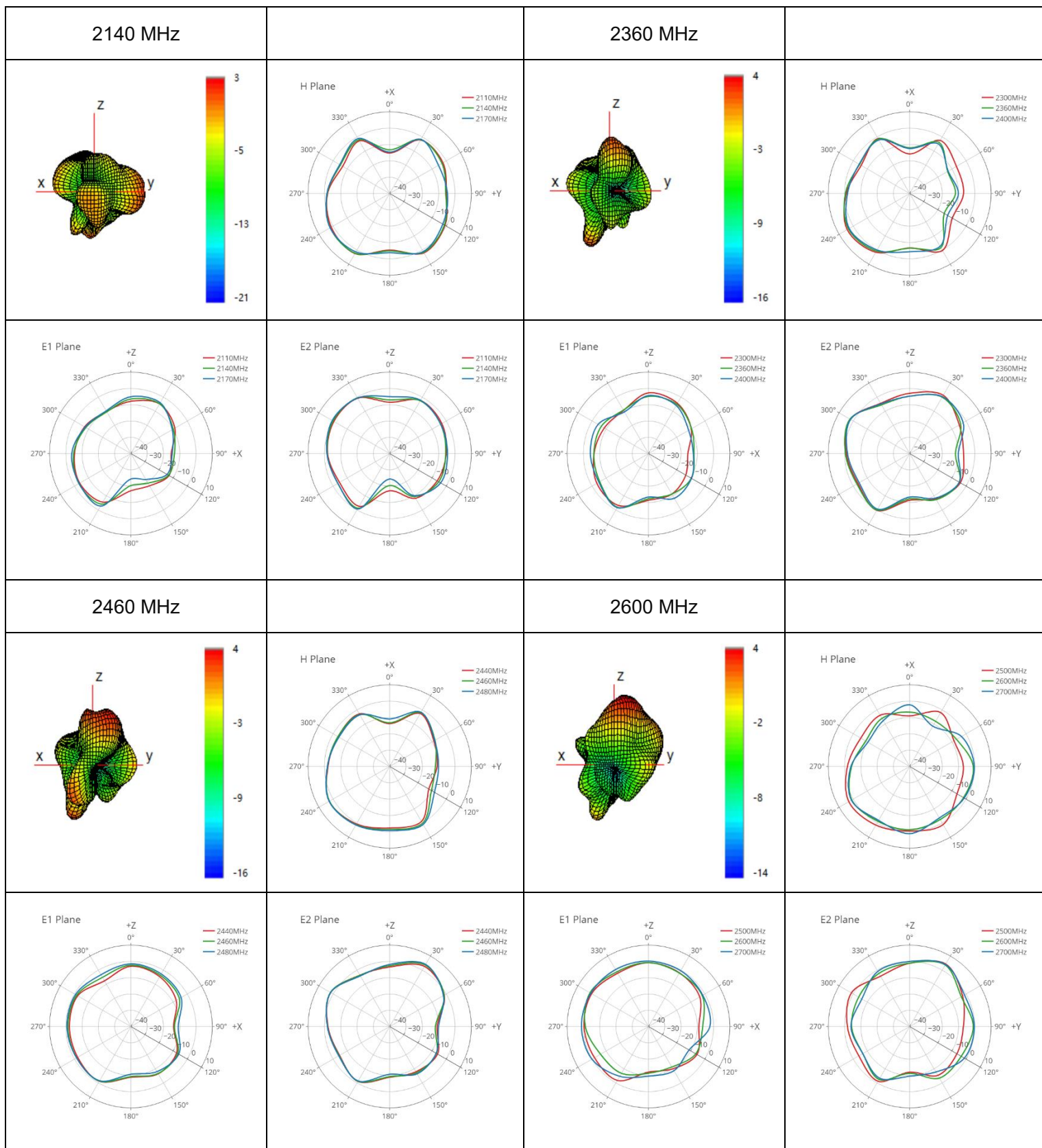
900 MHz



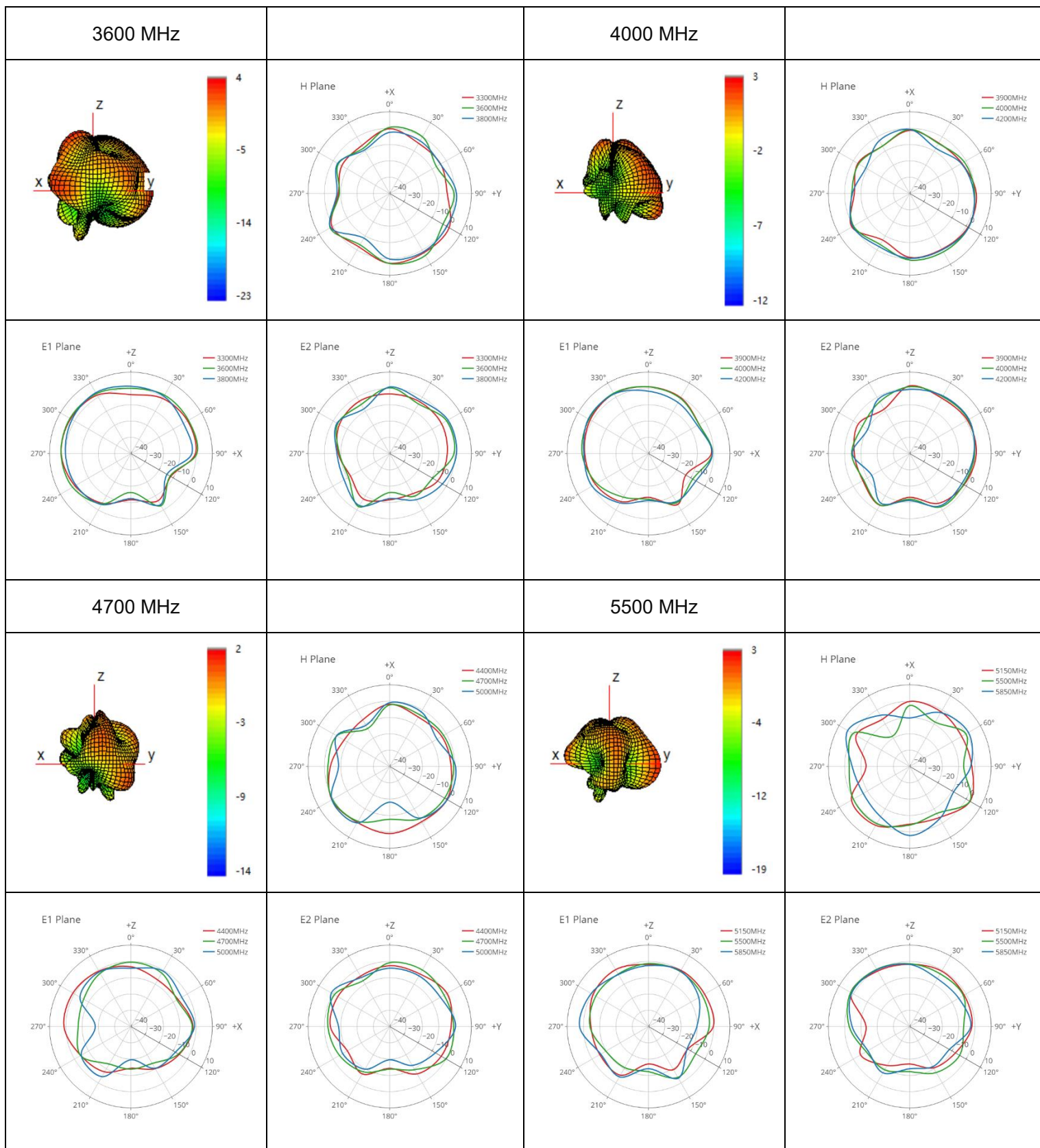
● **LMH1**



● **LMH1**

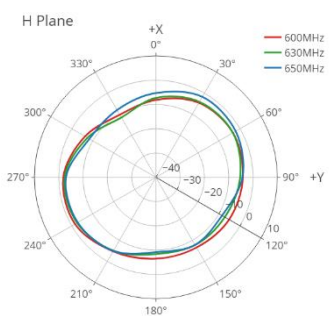
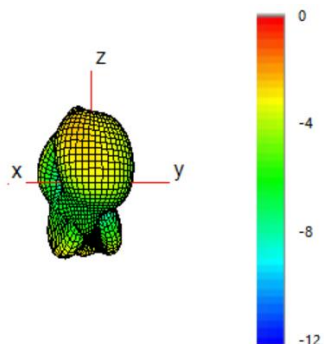


● **LMH1**

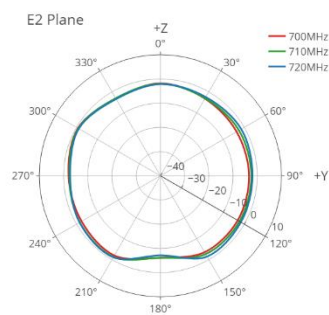
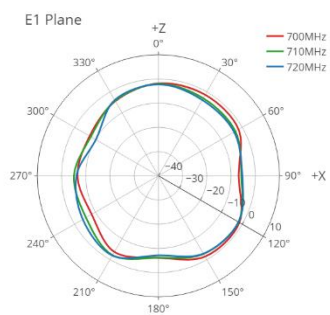
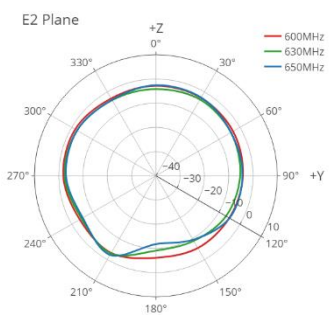
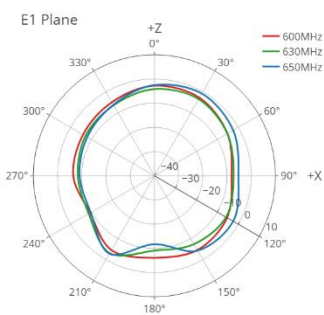
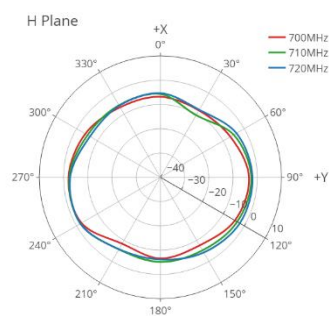
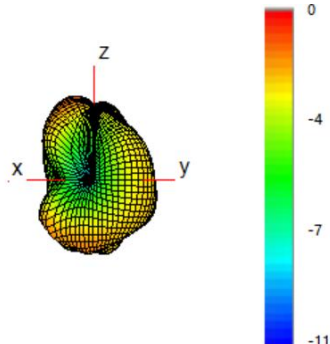


● **LMH2**

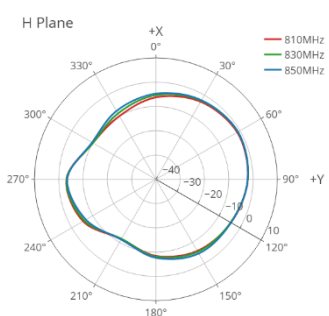
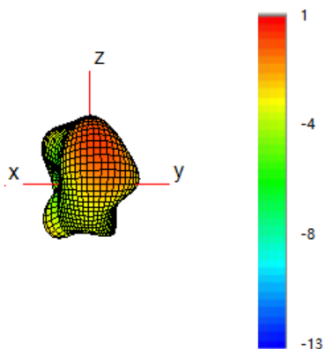
630 MHz



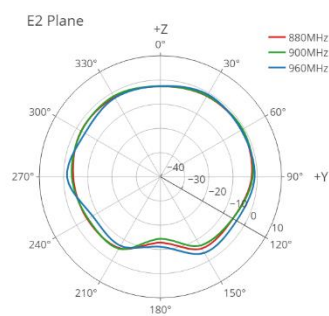
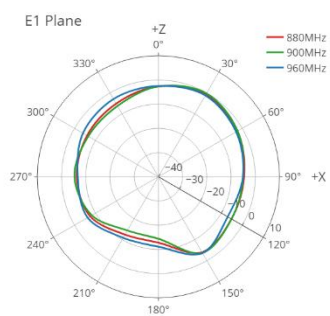
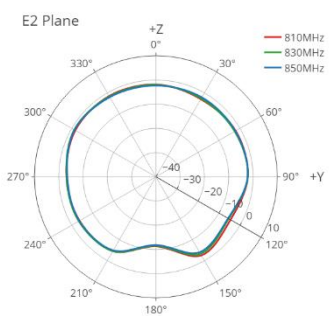
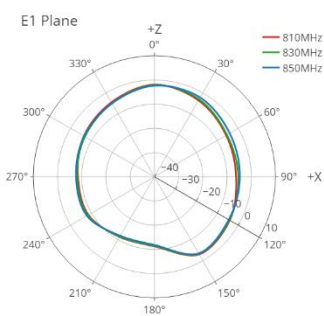
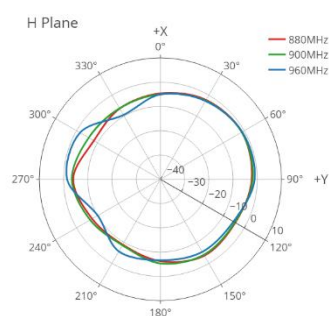
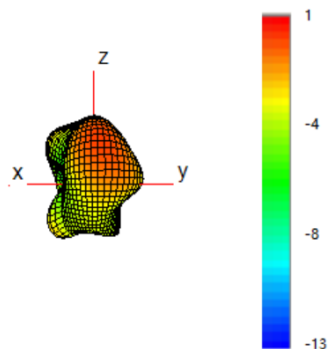
710 MHz



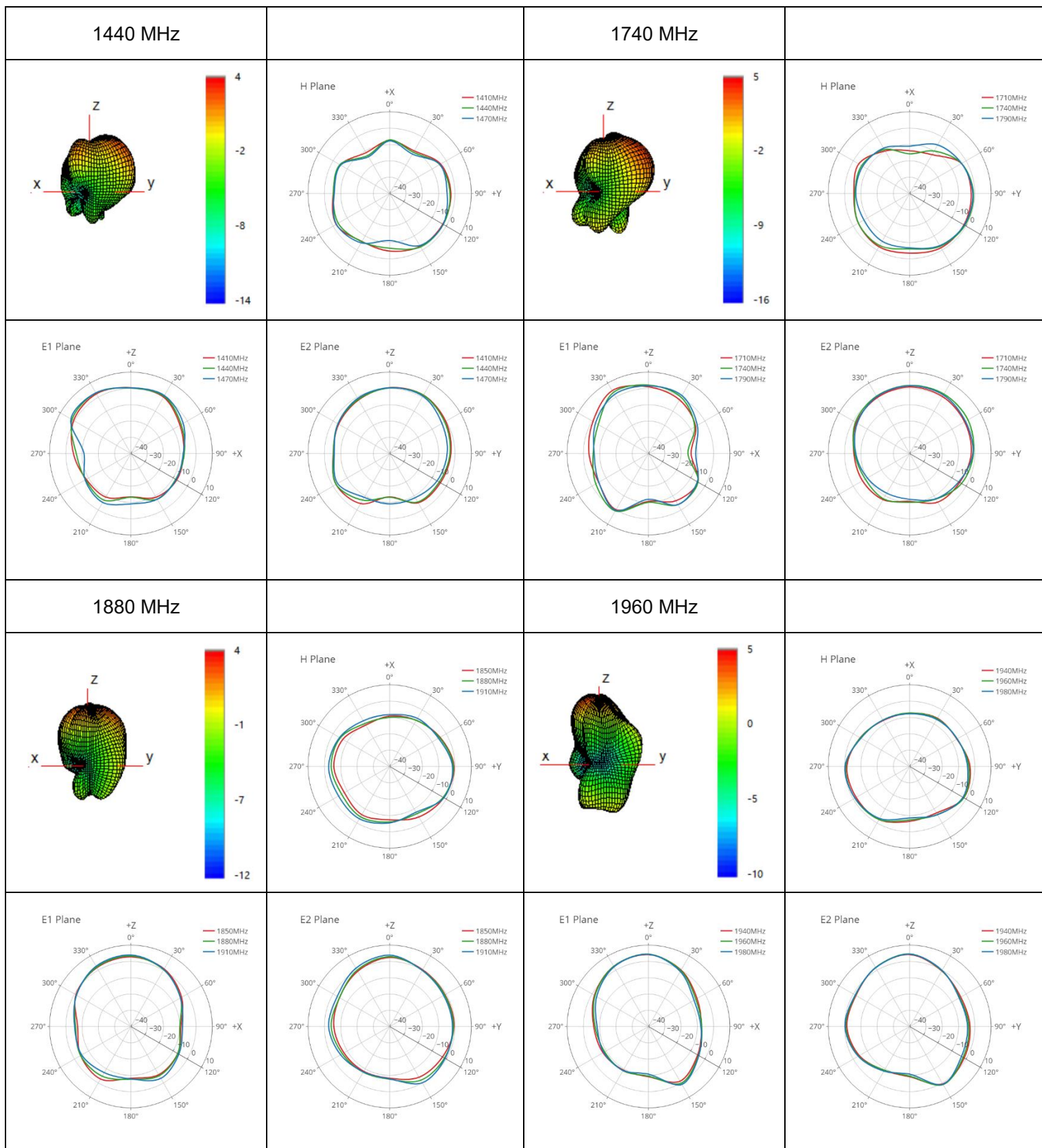
830 MHz



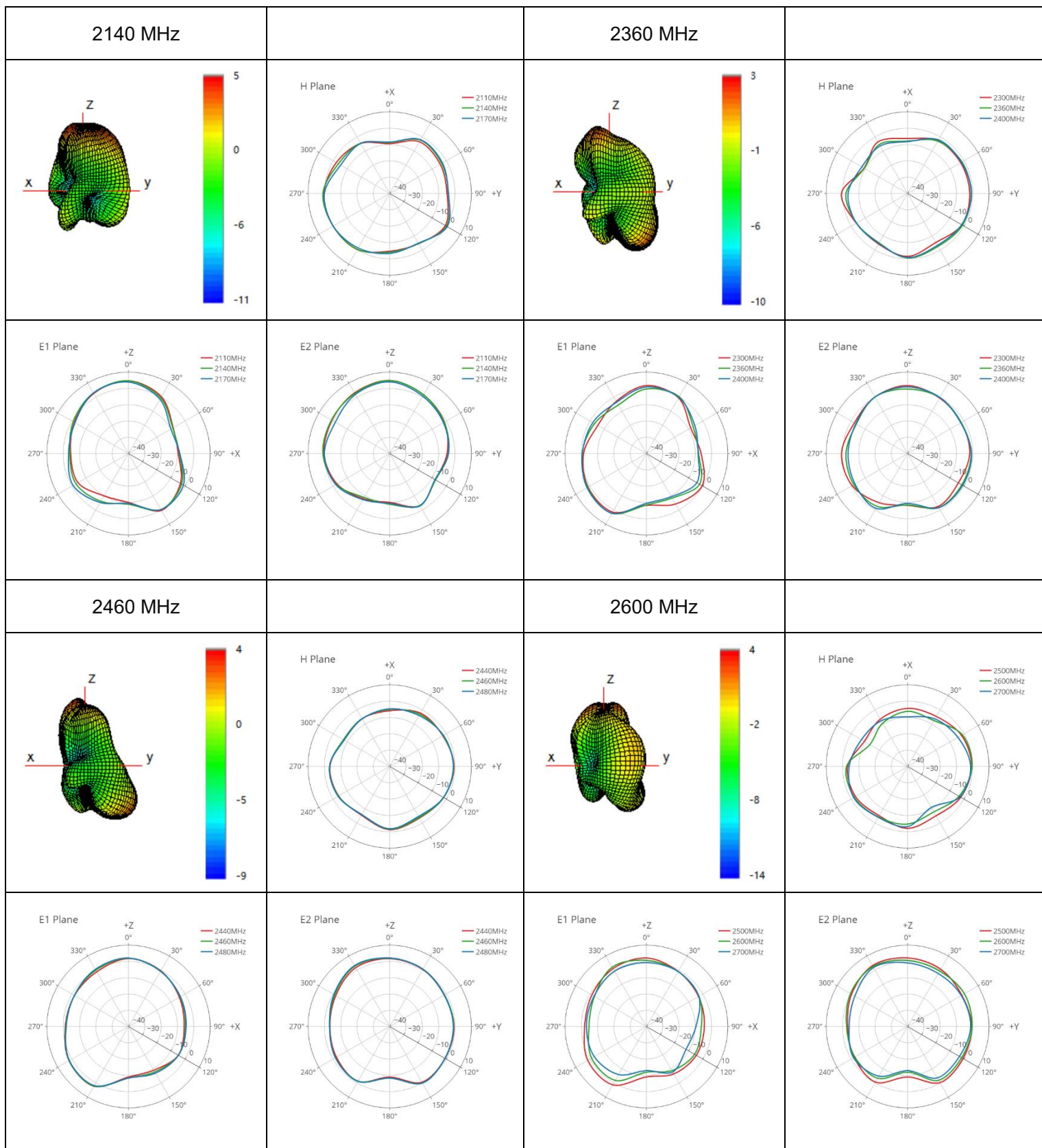
900 MHz



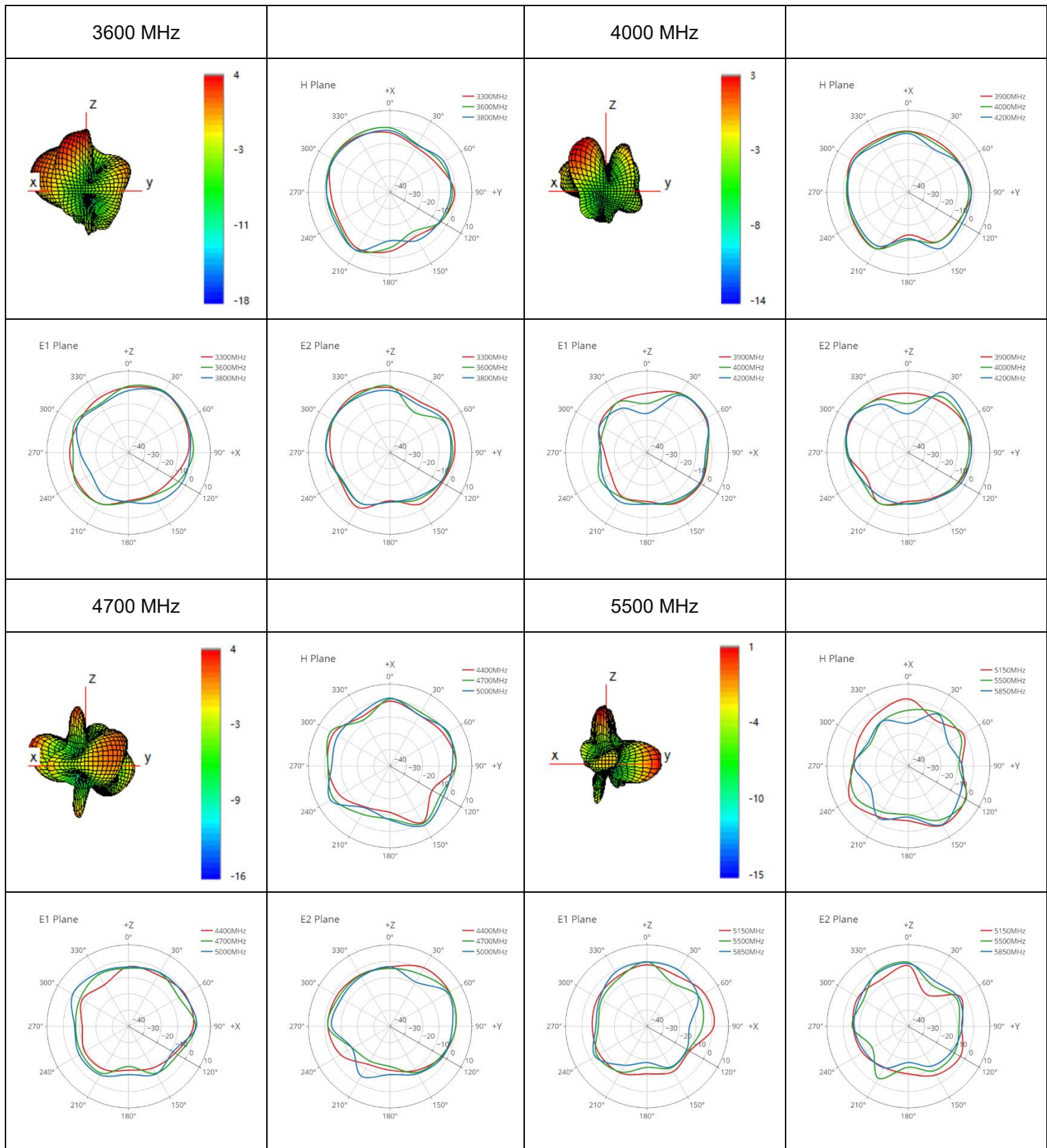
● **LMH2**



● **LMH2**

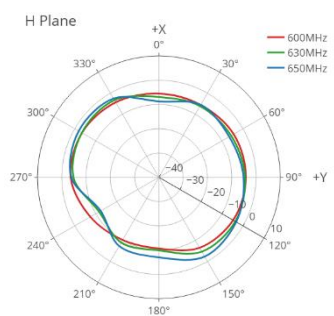
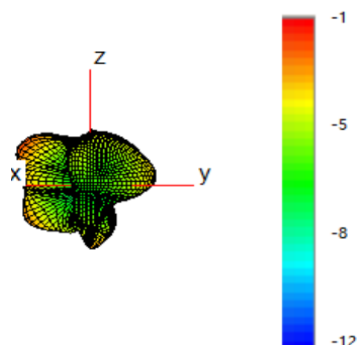


● **LMH2**

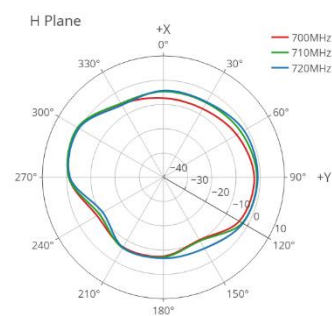
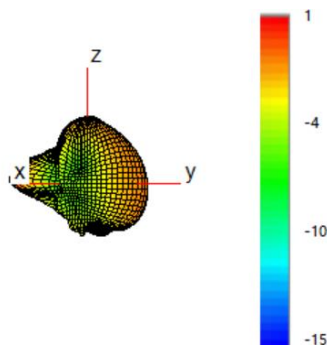


● **LMH3**

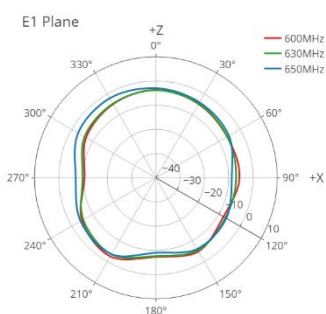
630 MHz



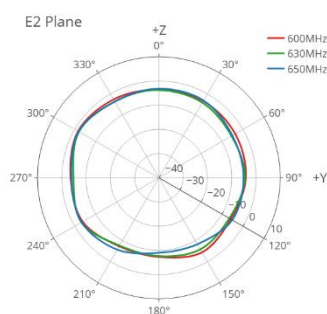
710 MHz



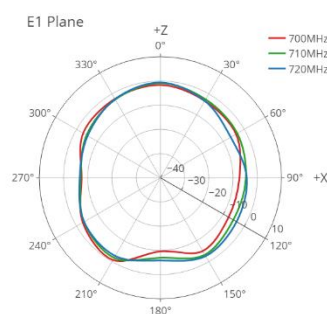
E1 Plane



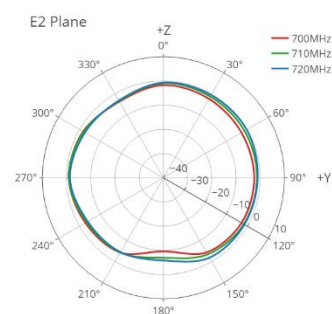
E2 Plane



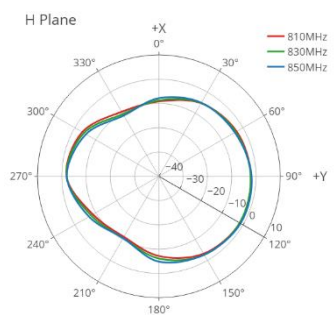
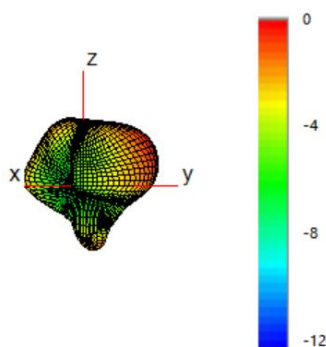
E1 Plane



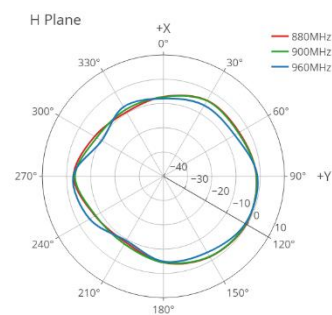
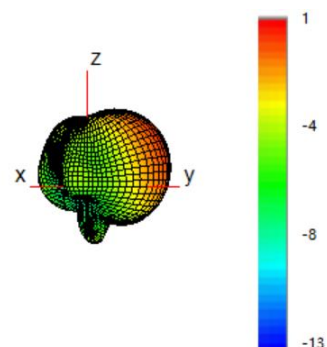
E2 Plane



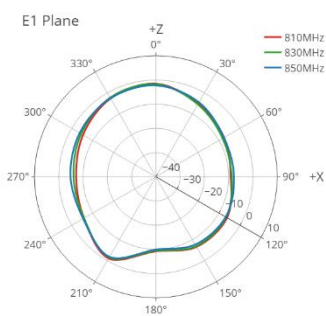
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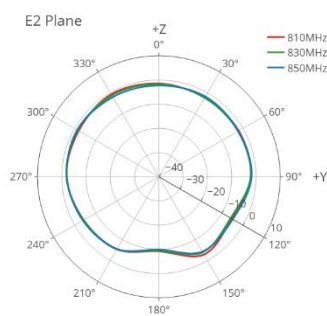
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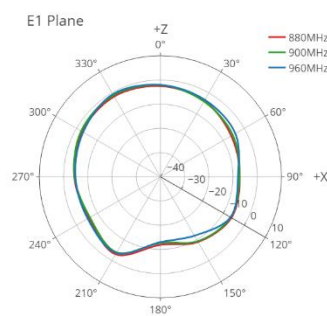
E1 Plane



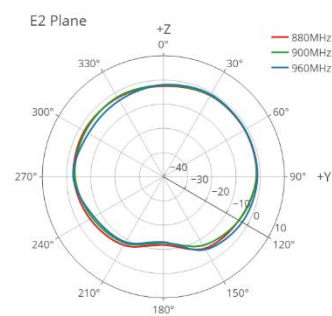
E2 Plane



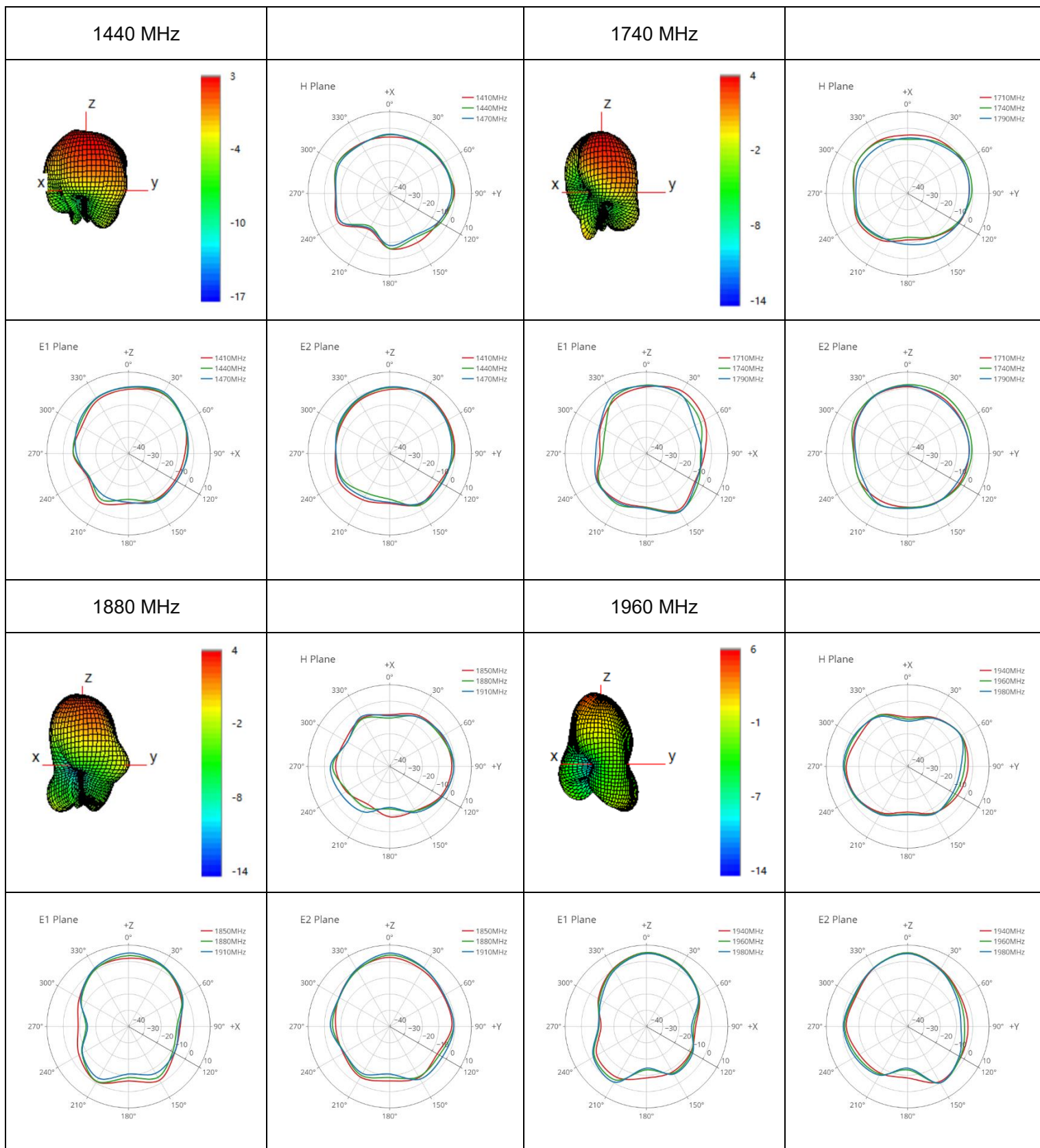
E1 Plane



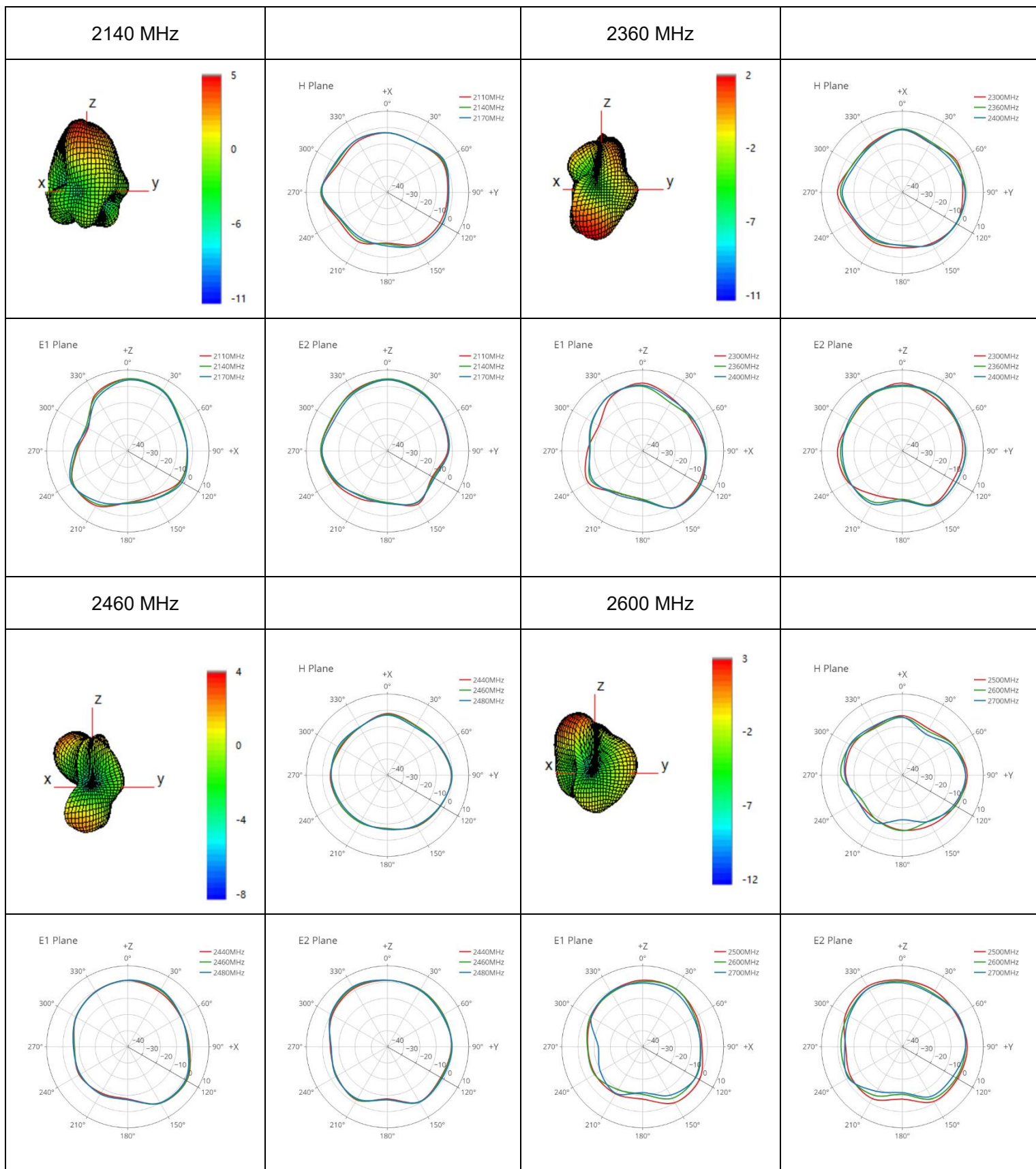
E2 Plane



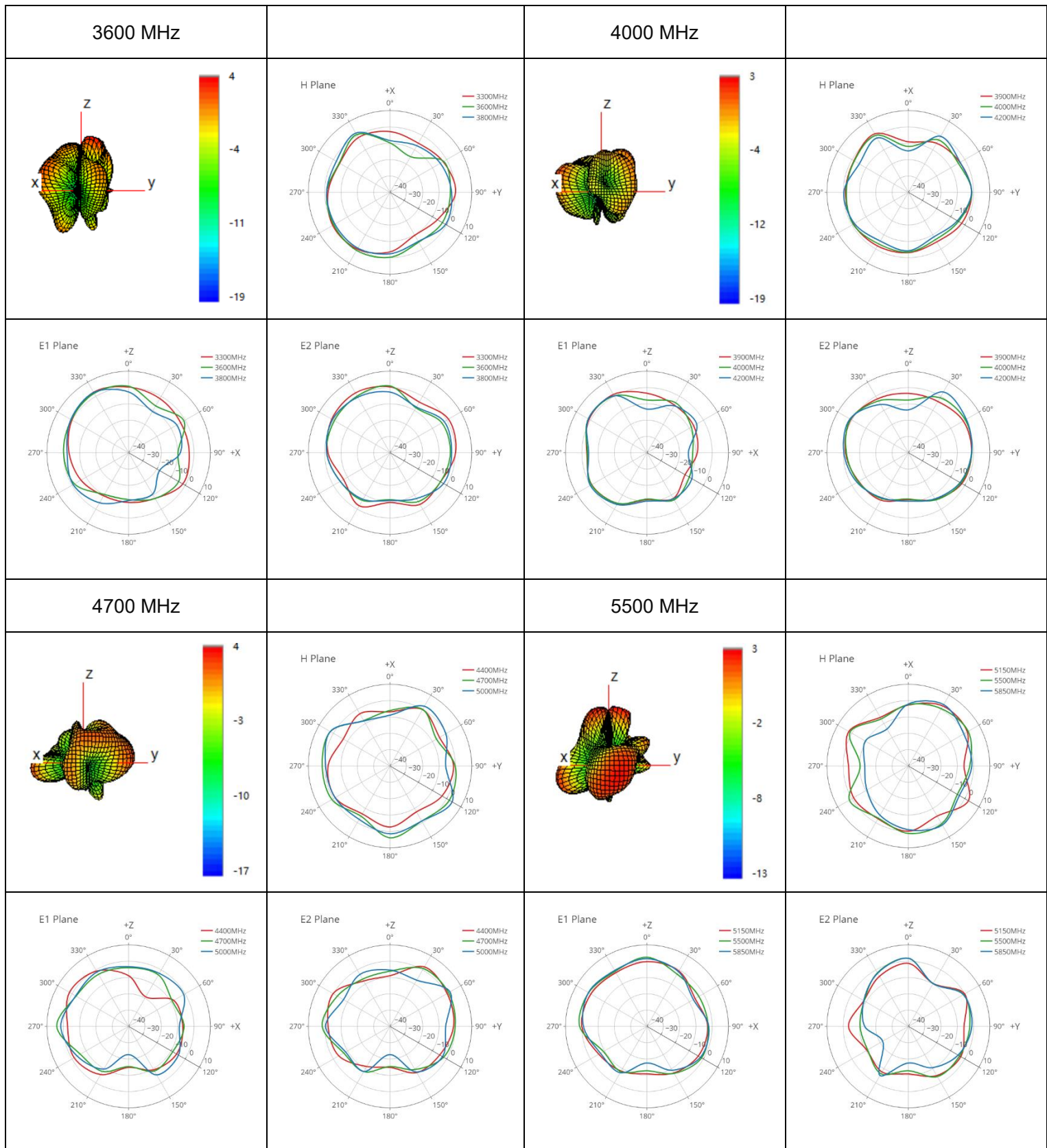
● **LMH3**



● **LMH3**

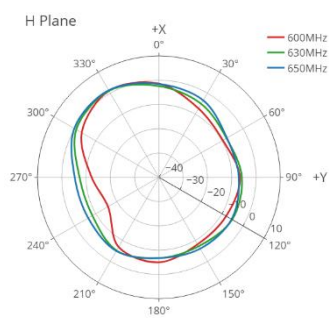
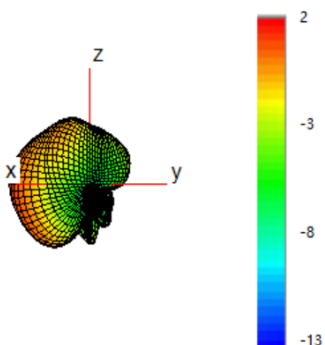


● **LMH3**

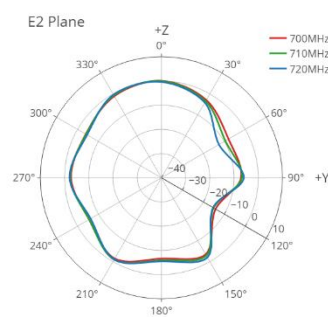
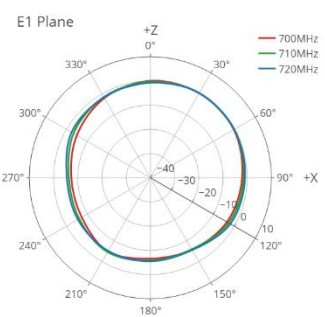
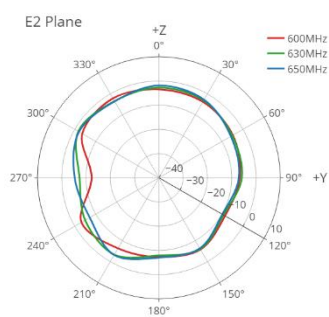
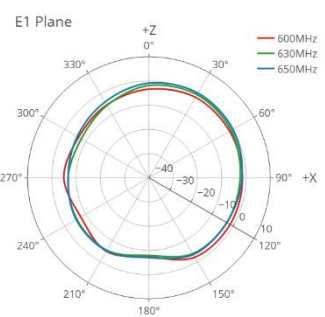
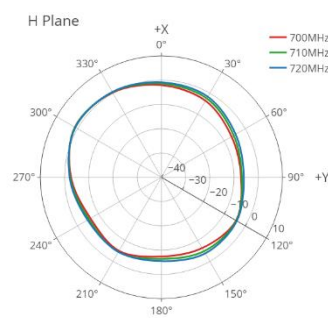
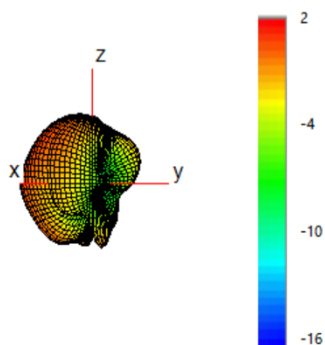


● **LMH4**

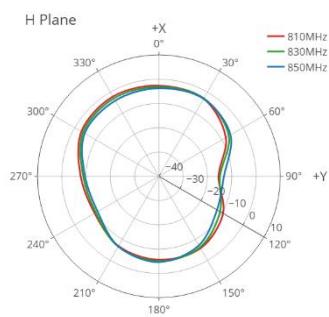
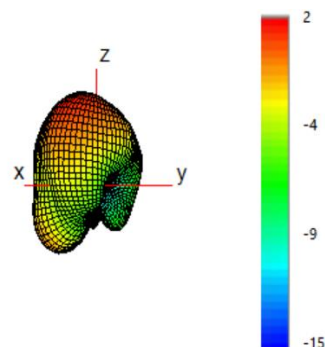
630 MHz



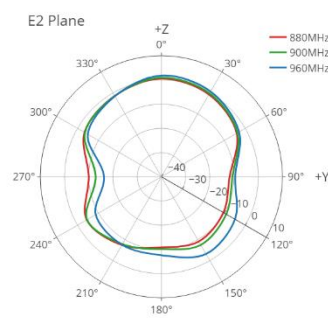
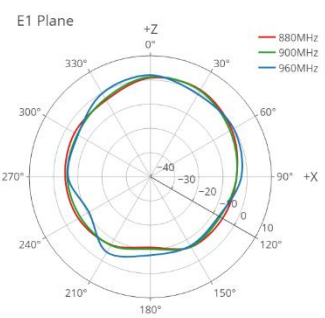
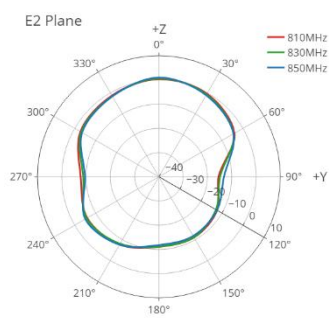
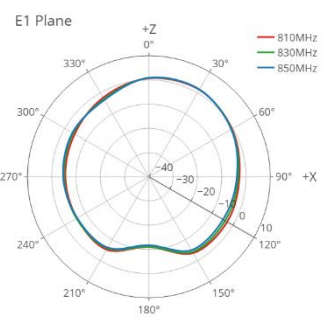
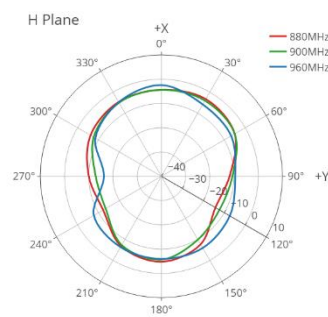
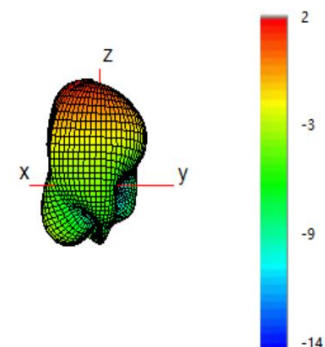
710 MHz



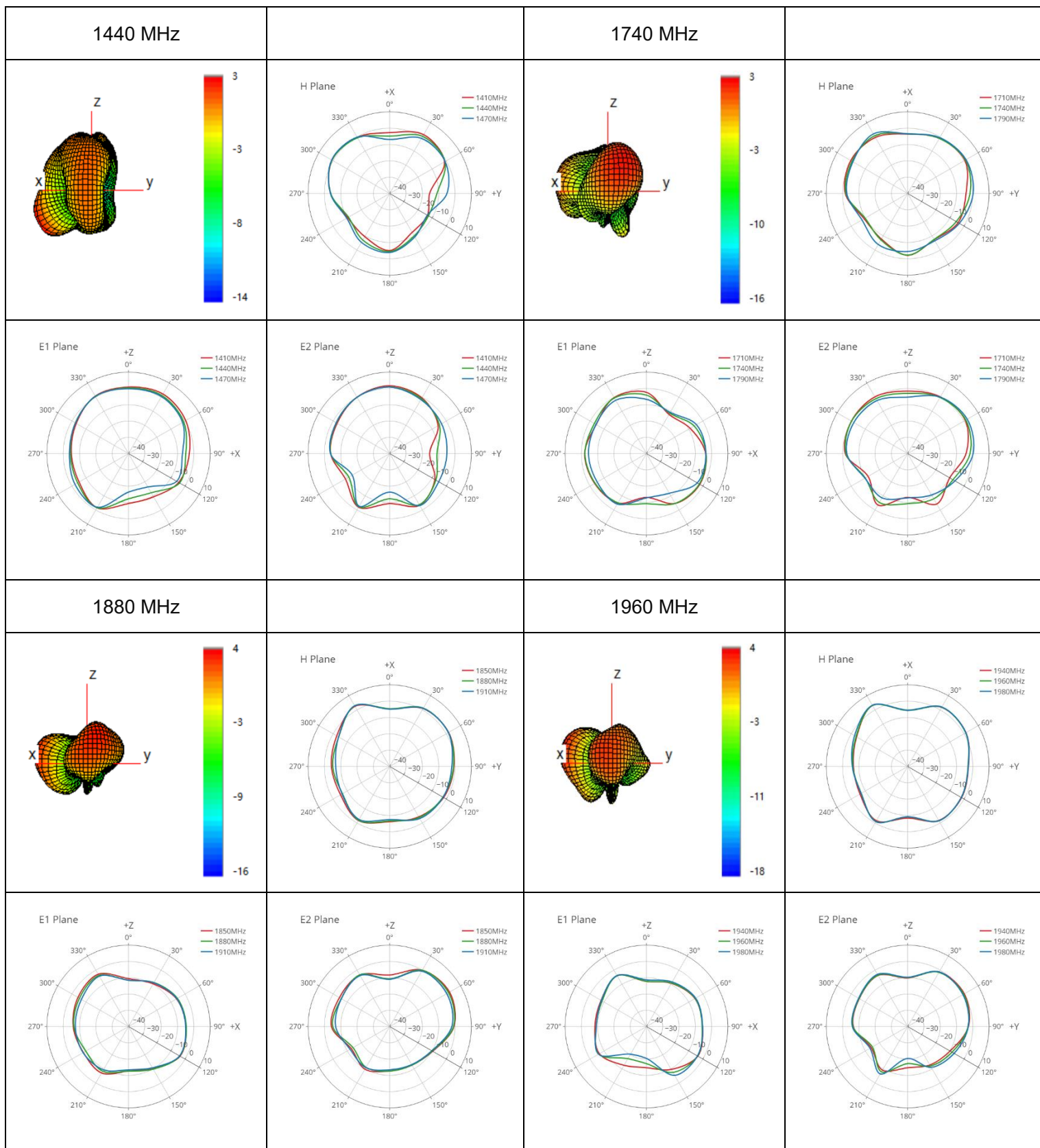
830 MHz



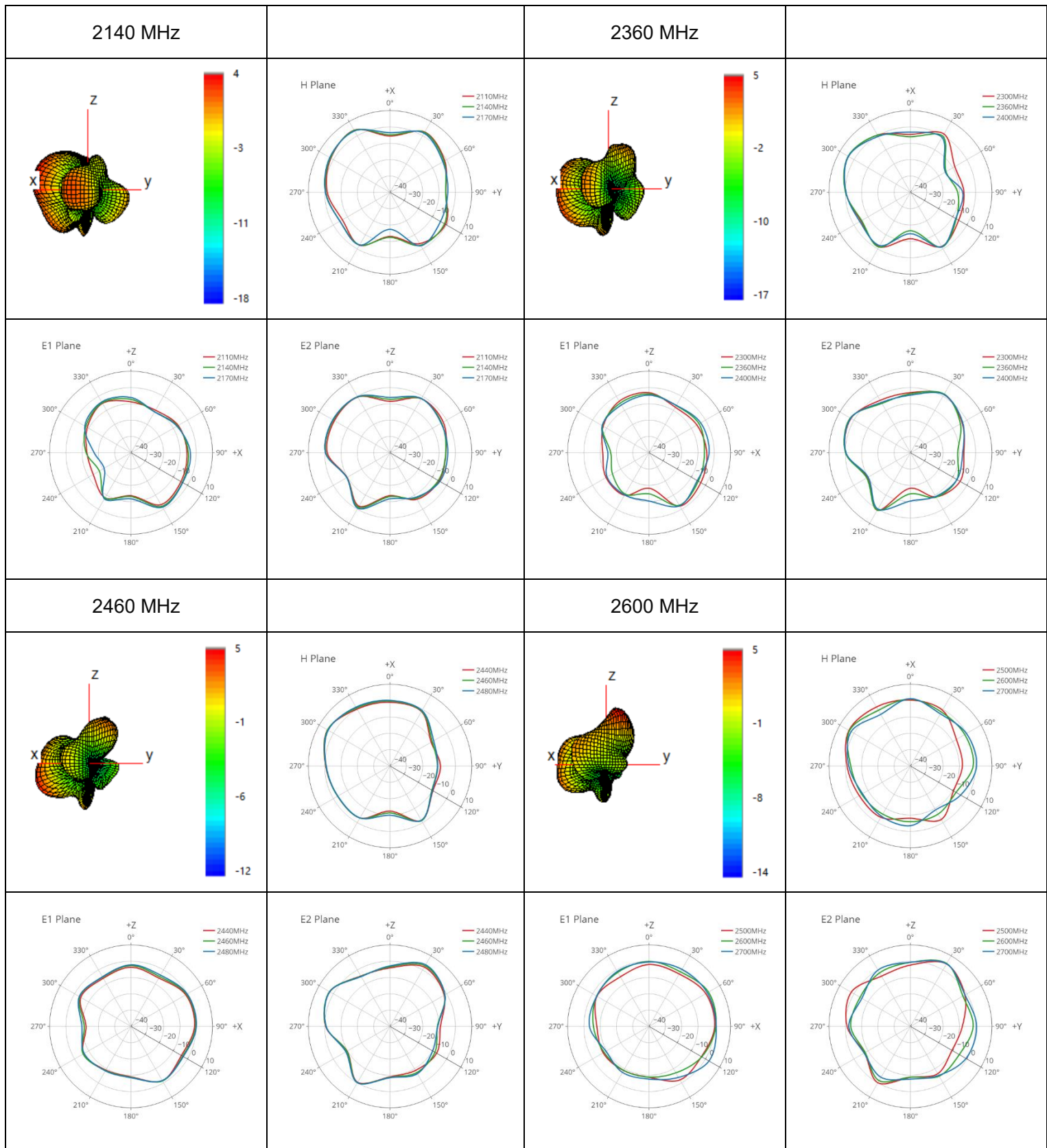
900 MHz



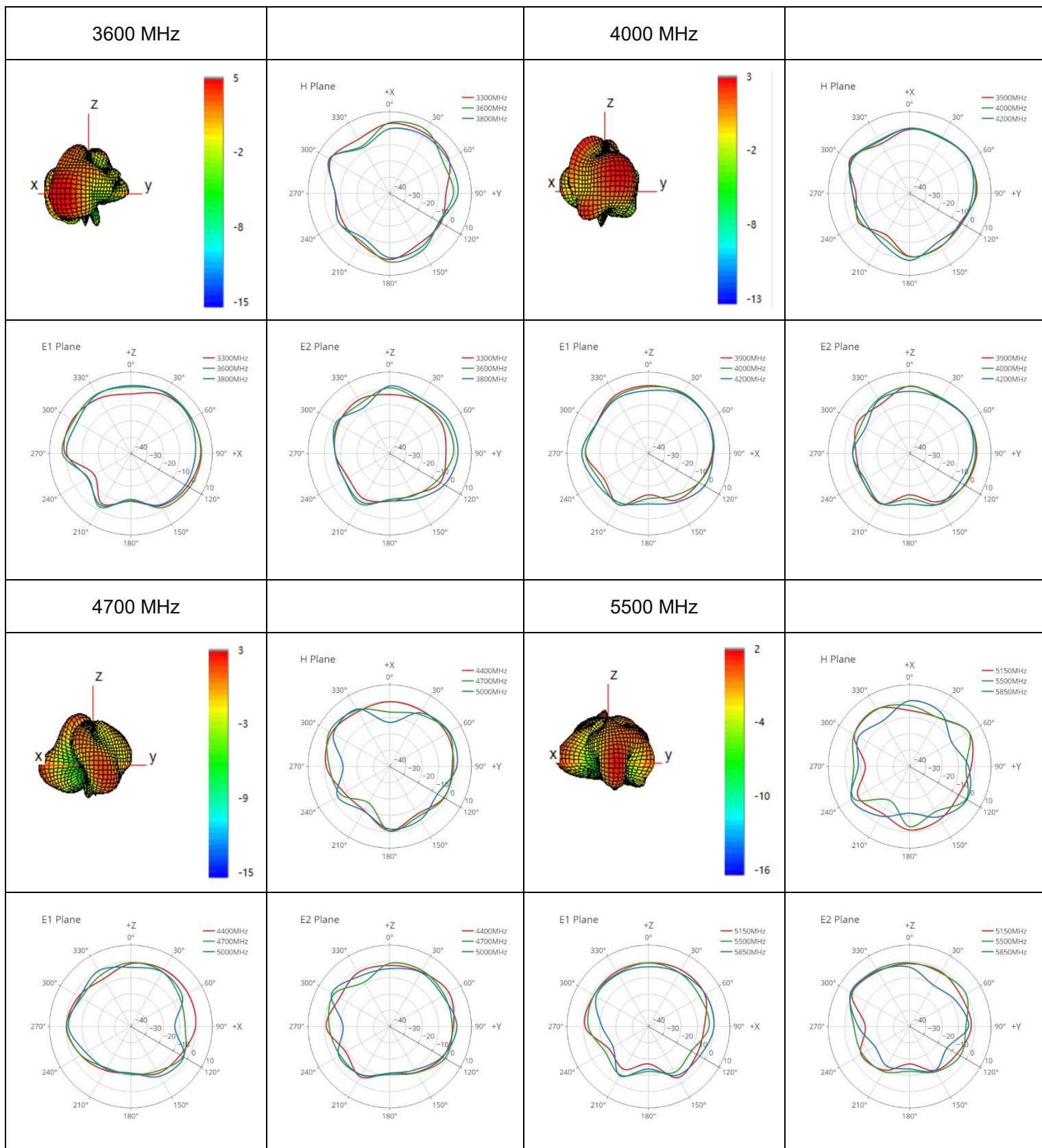
● **LMH4**



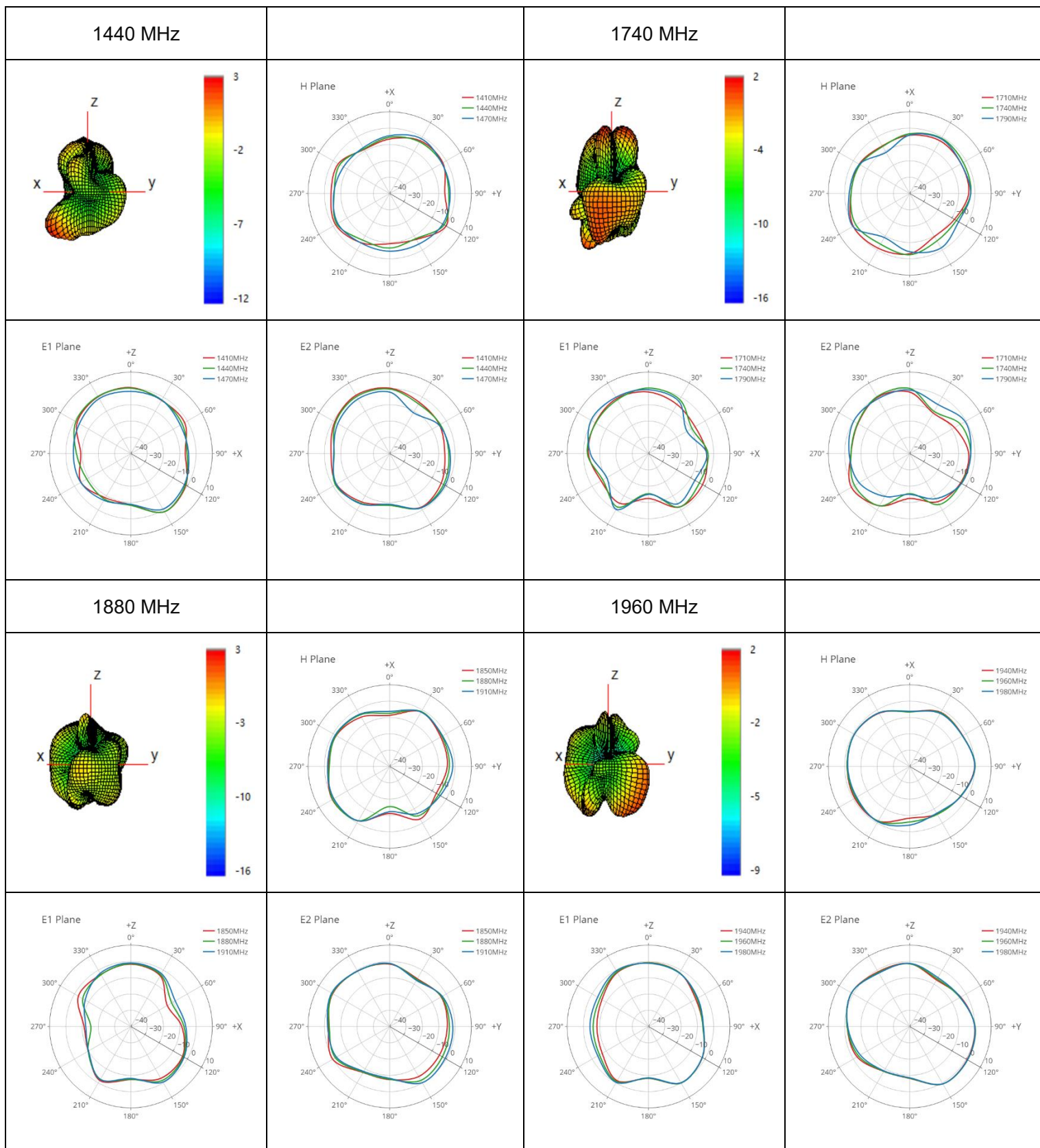
● **LMH4**



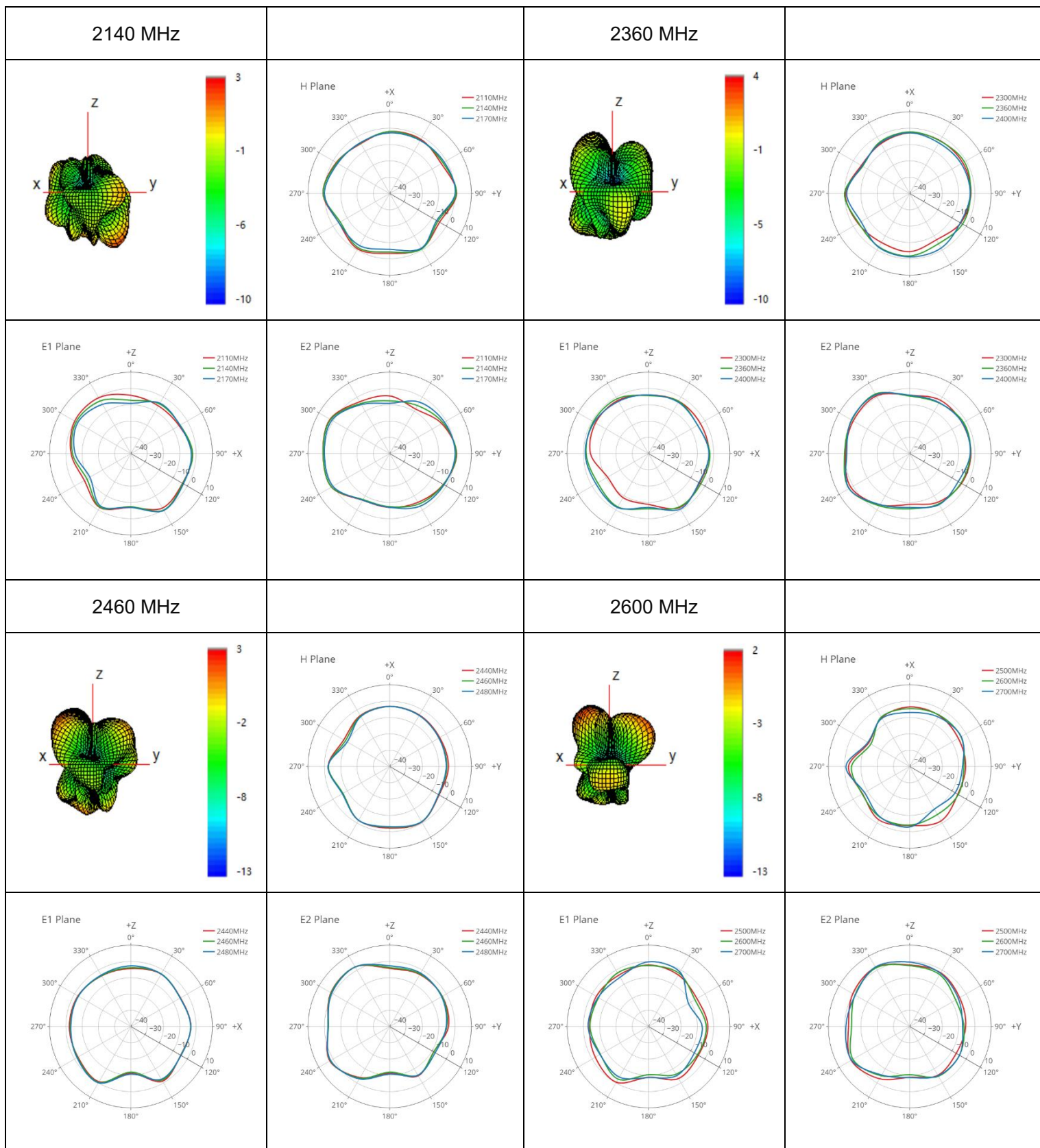
● **LMH4**



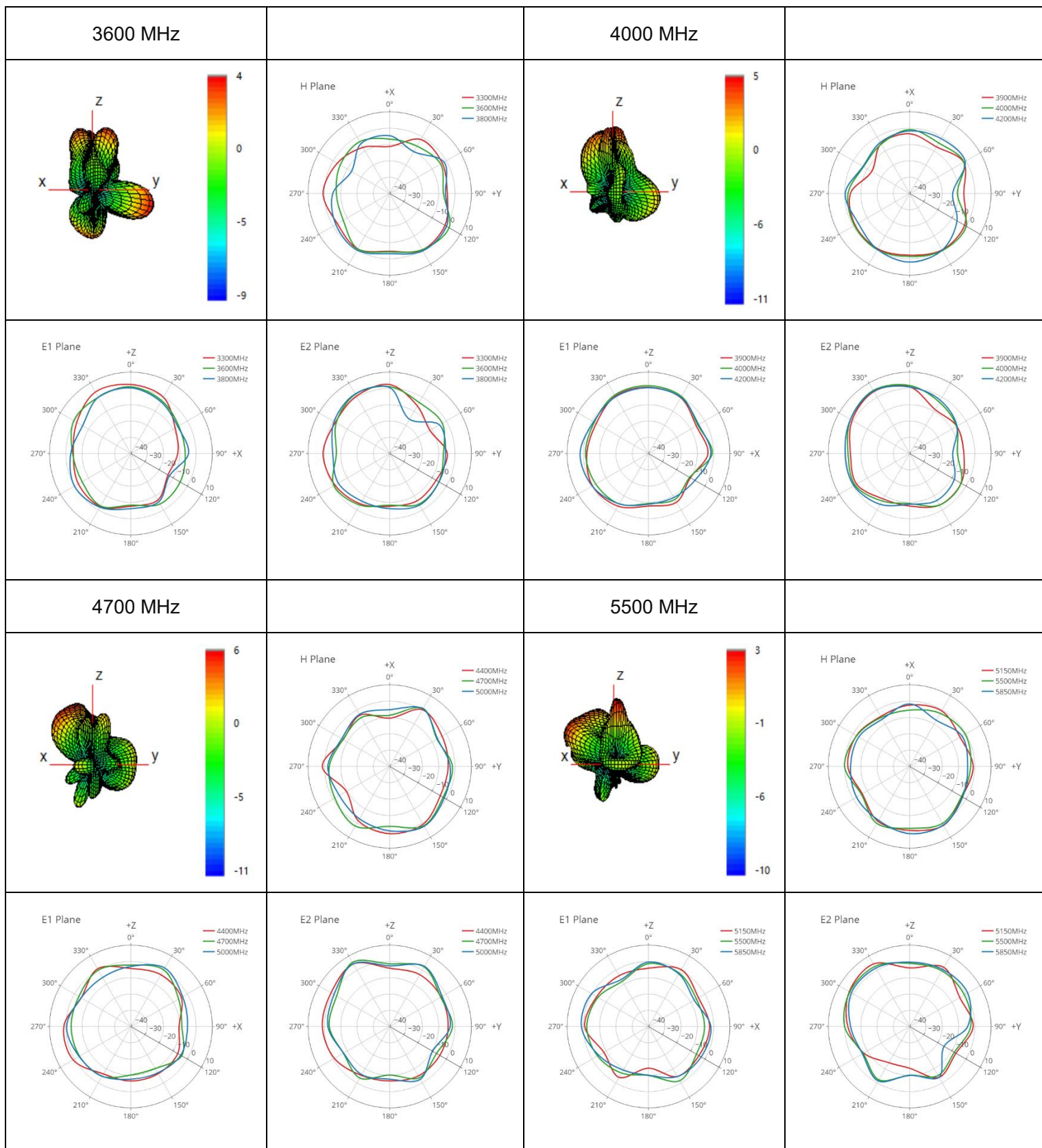
● **MH1**



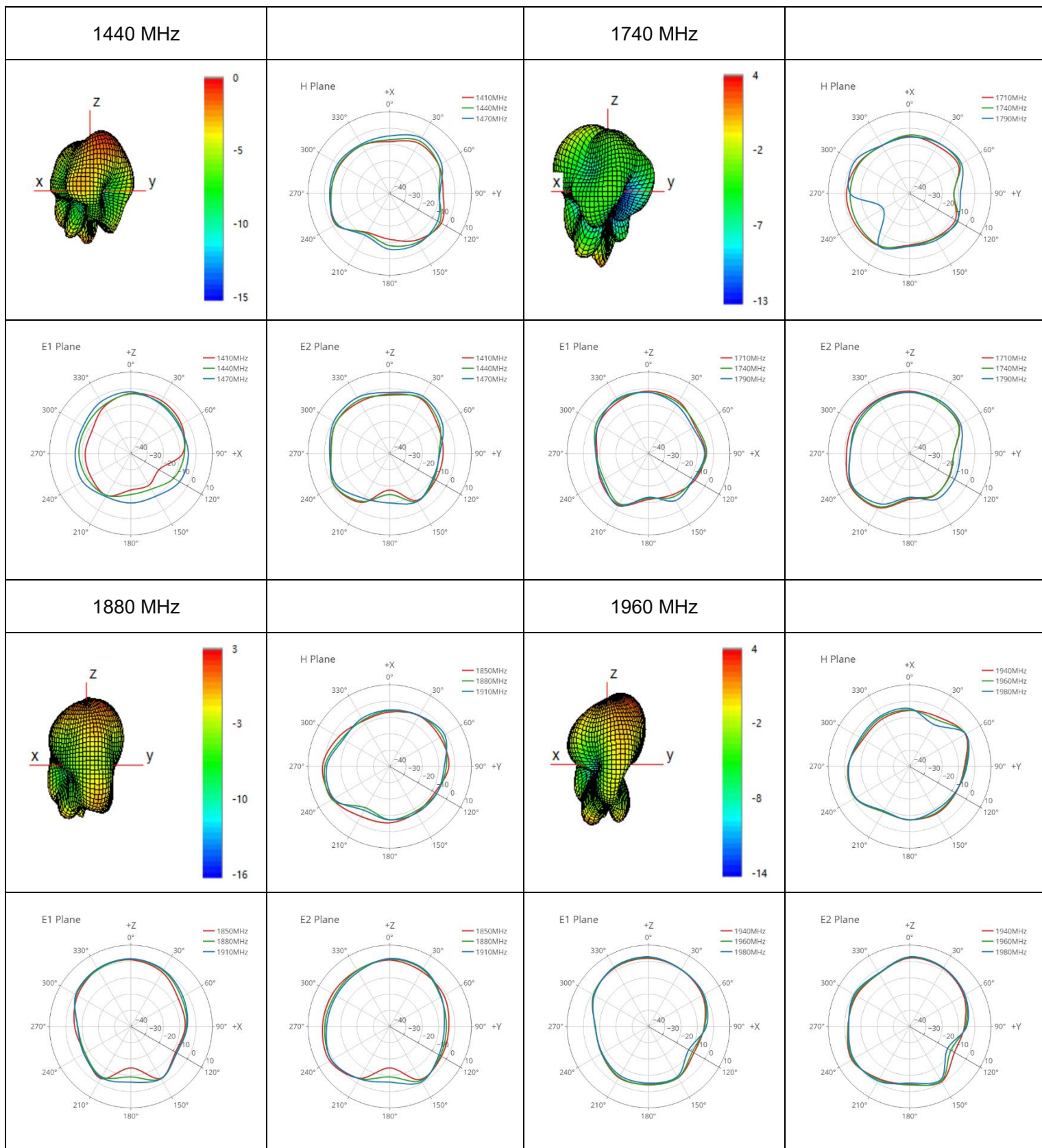
● **MH1**



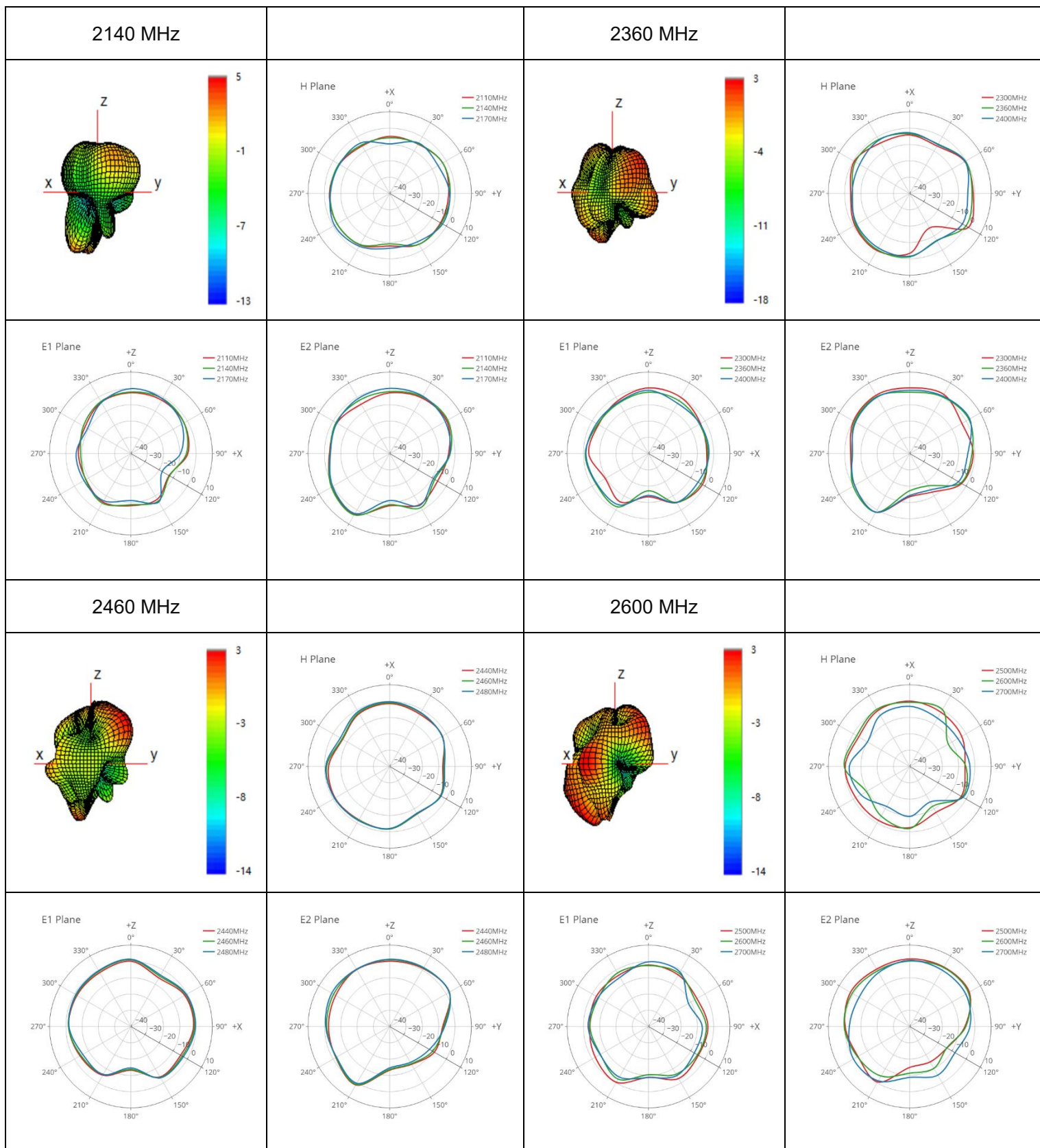
● **MH1**



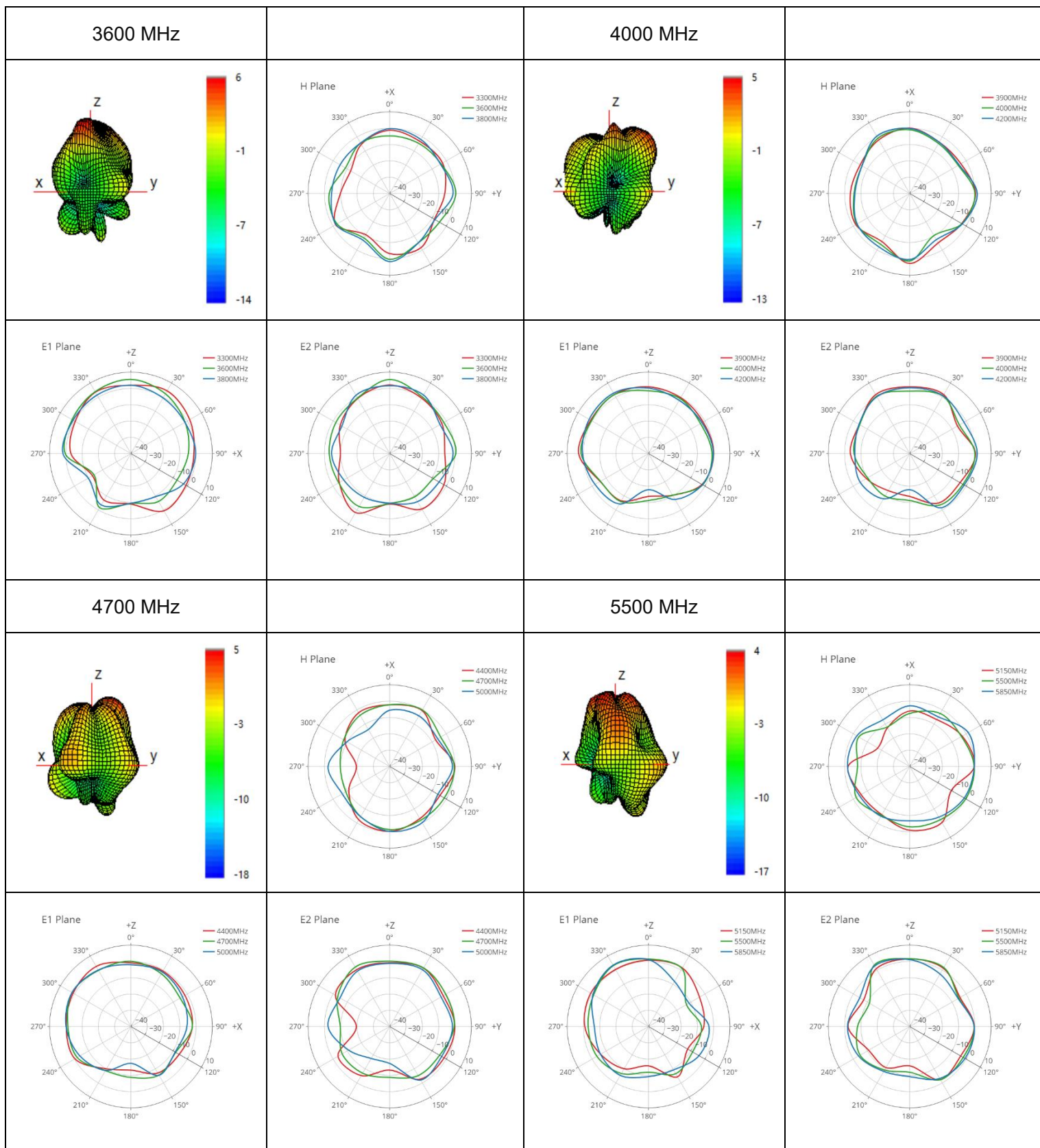
● **MH2**



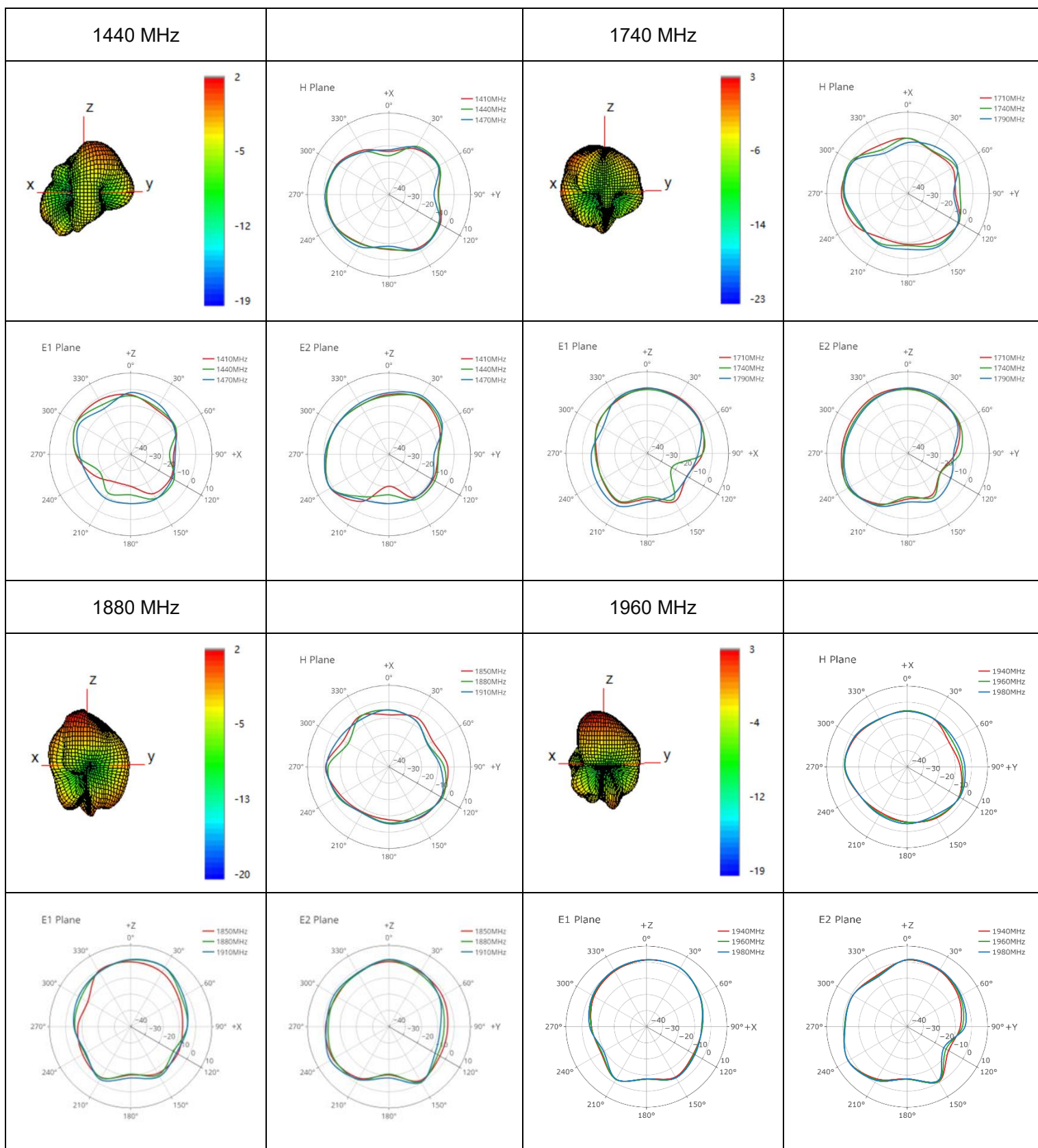
● **MH2**



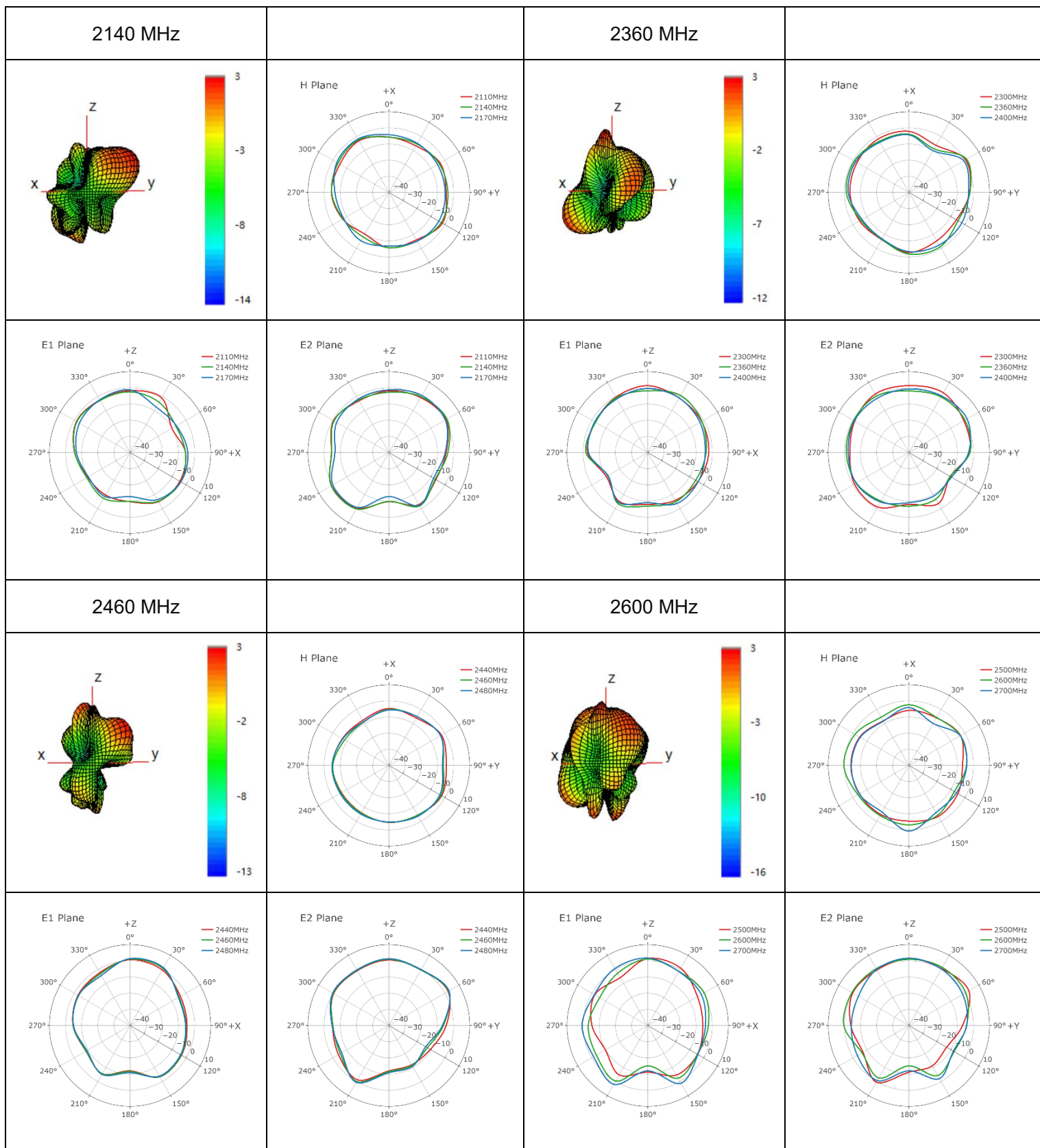
● **MH2**



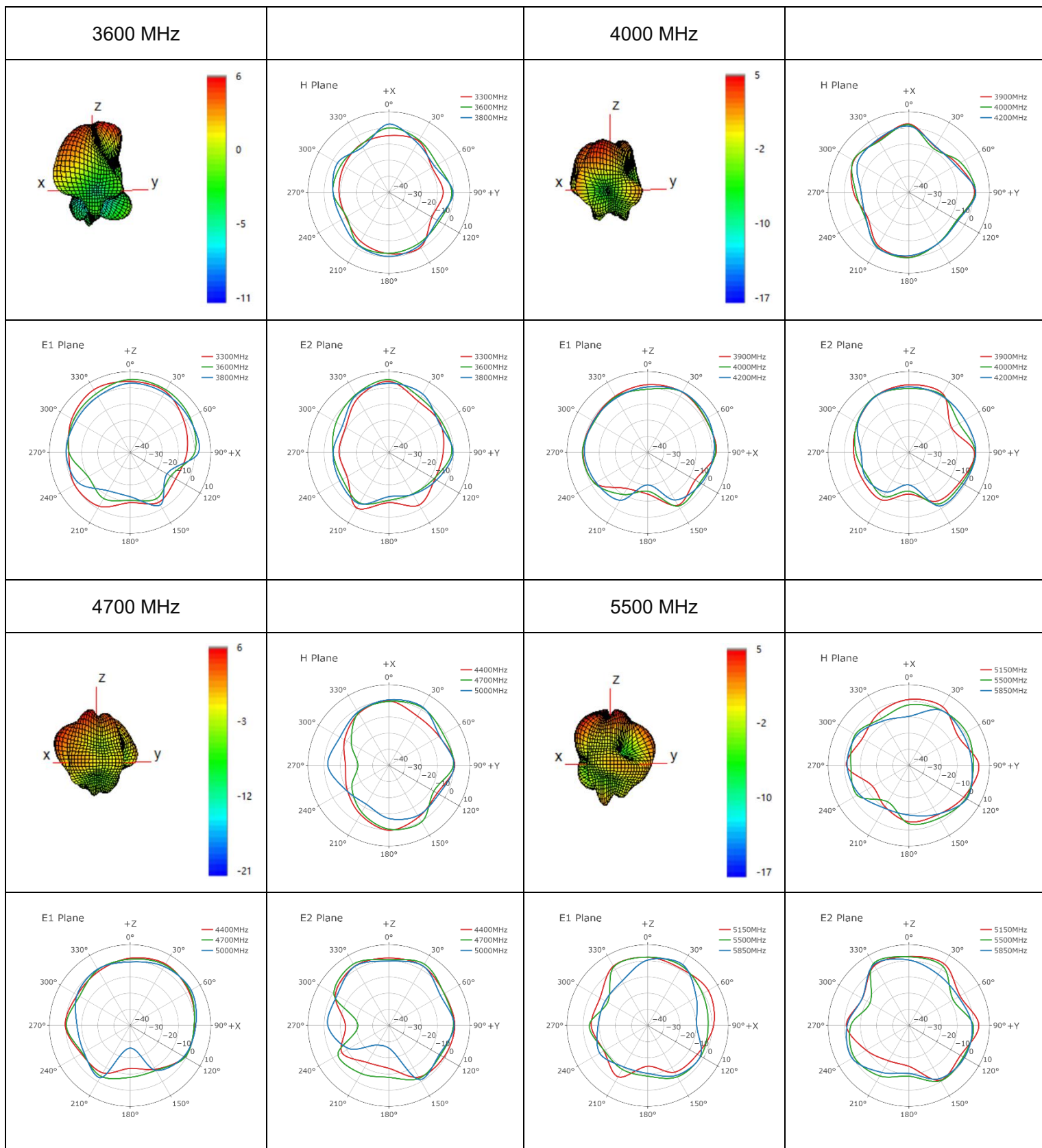
● **MH3**



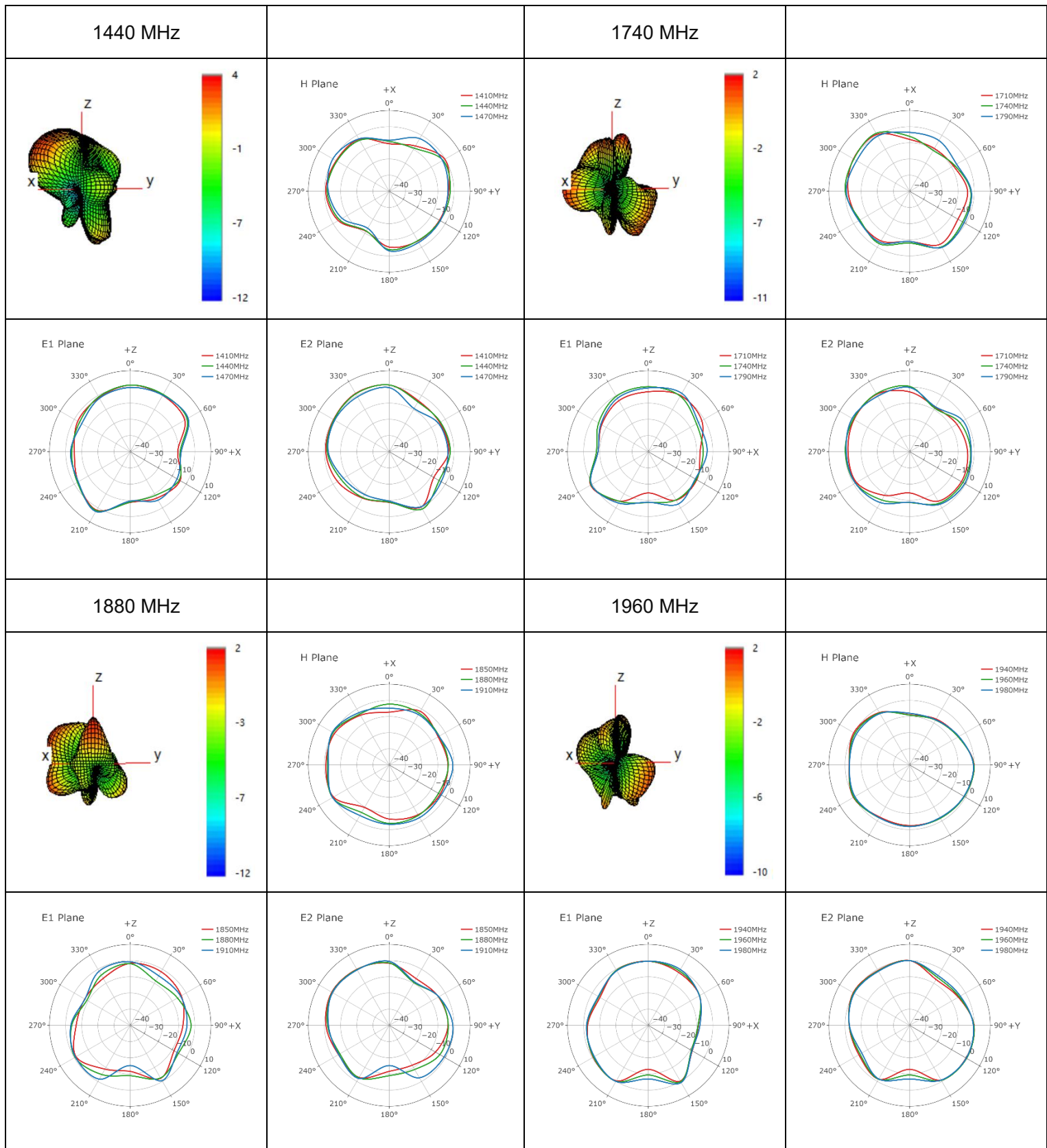
● **MH3**



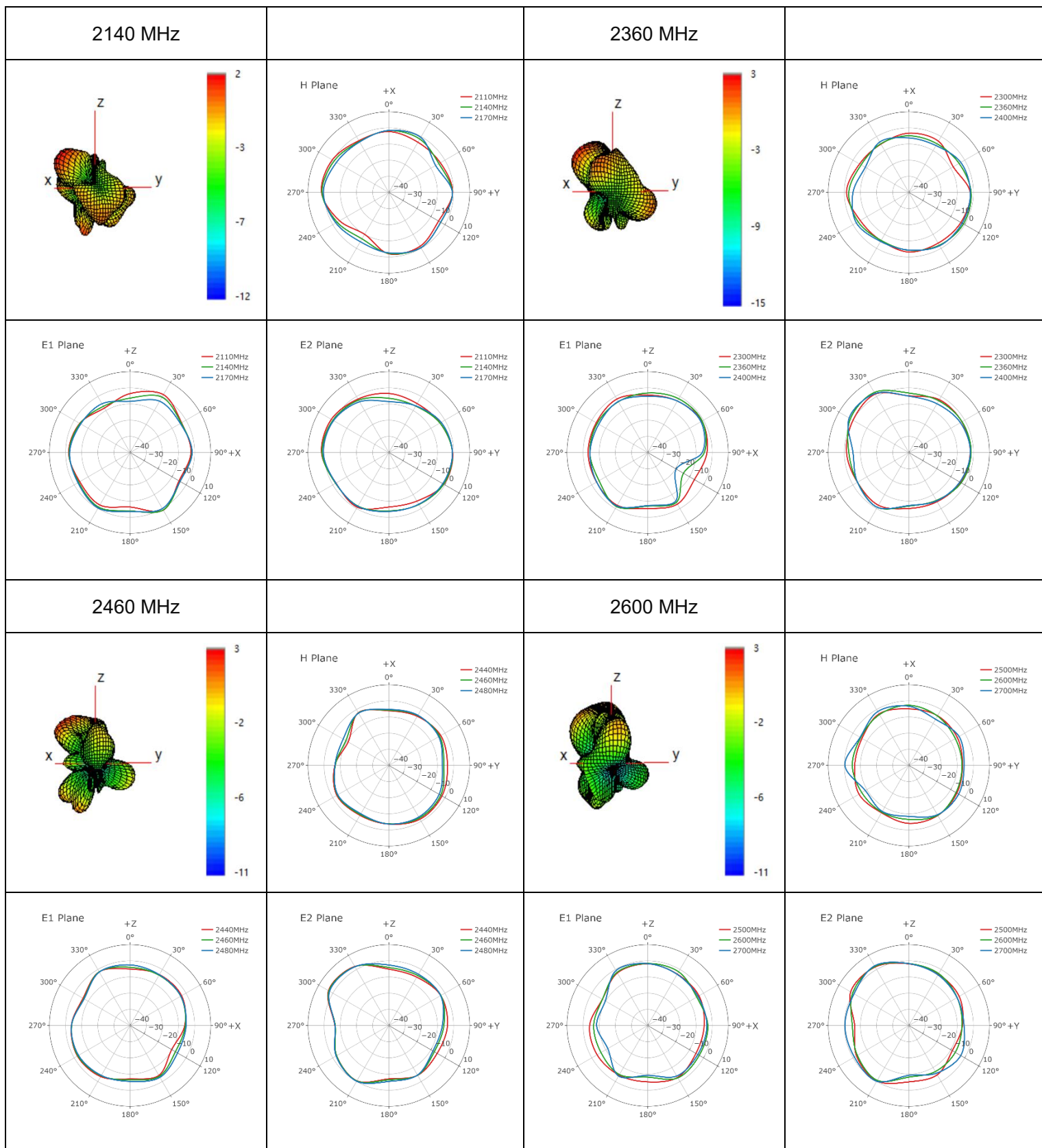
● **MH3**



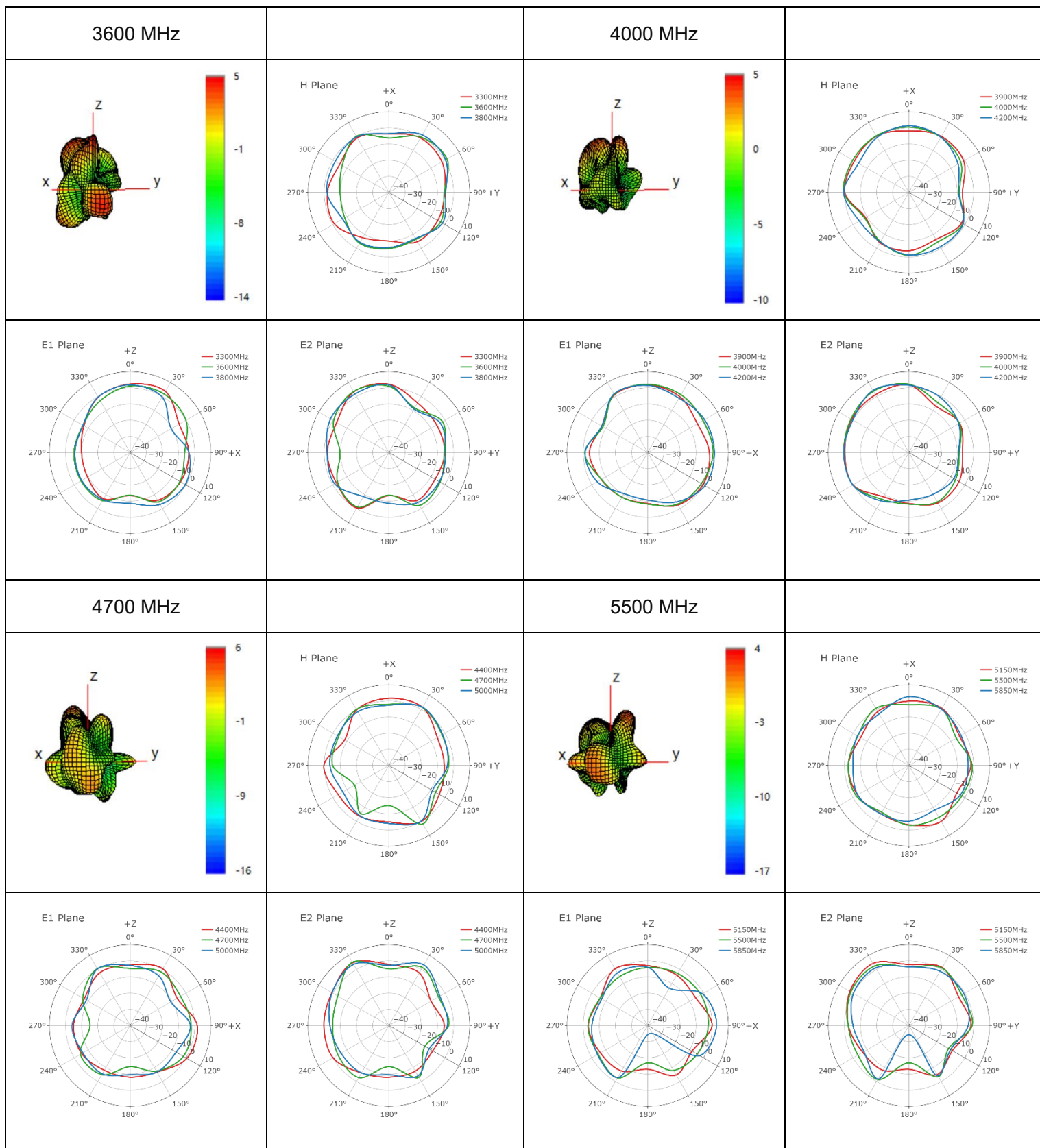
● **MH4**



● **MH4**

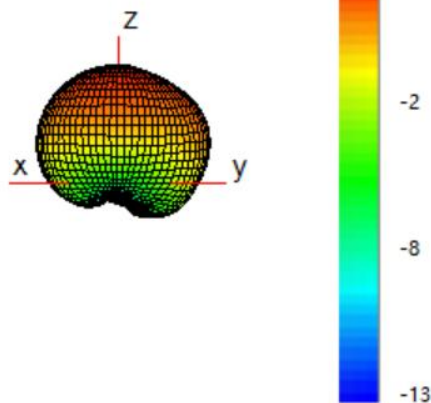


● **MH4**

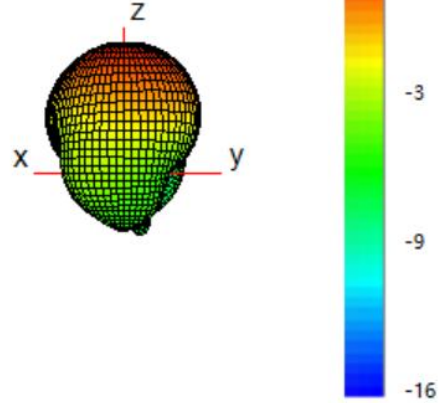


● GNSS

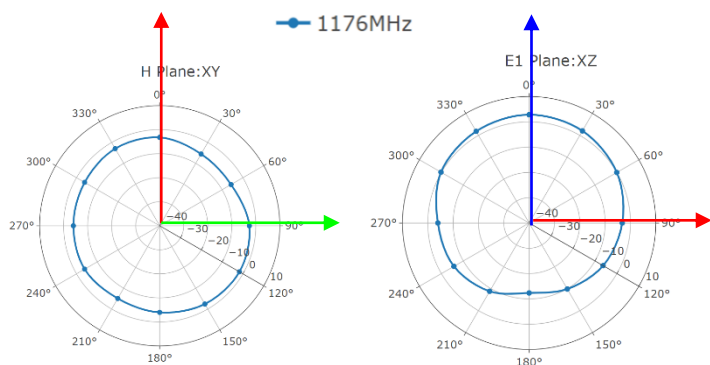
1176 MHz



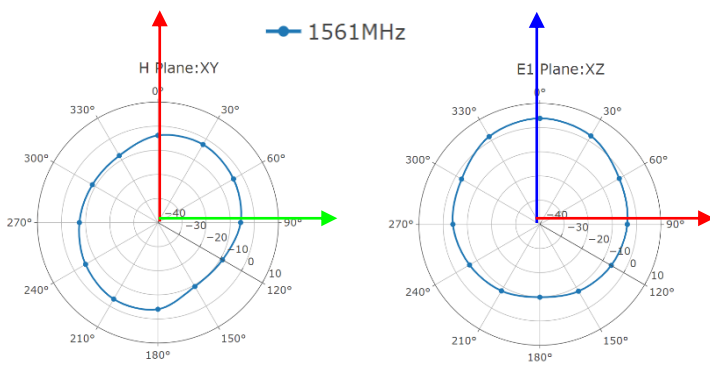
1561 MHz



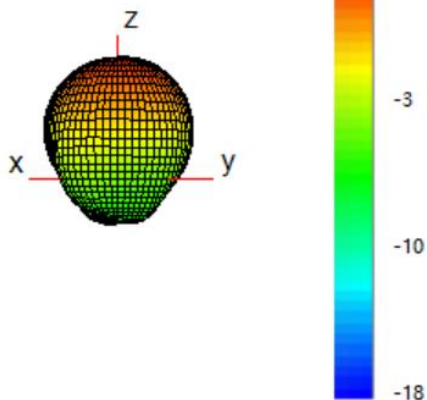
— 1176MHz



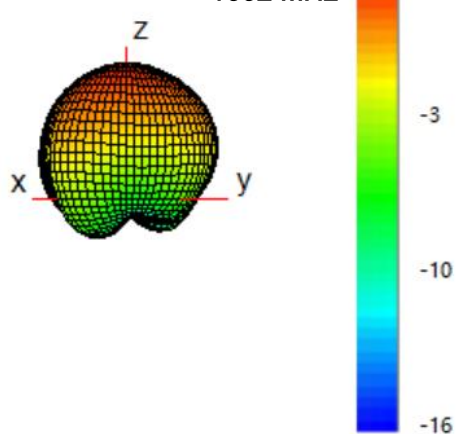
— 1561MHz



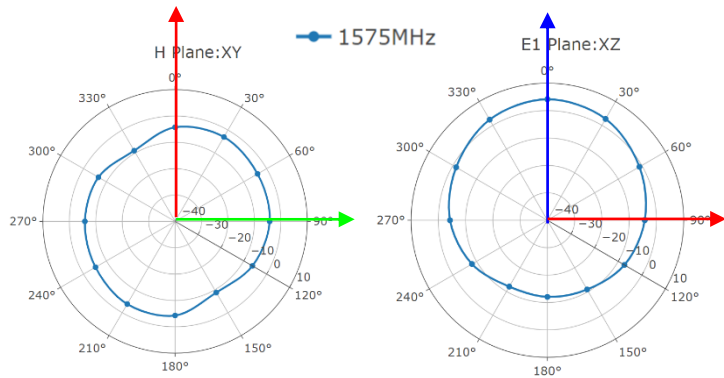
1575 MHz



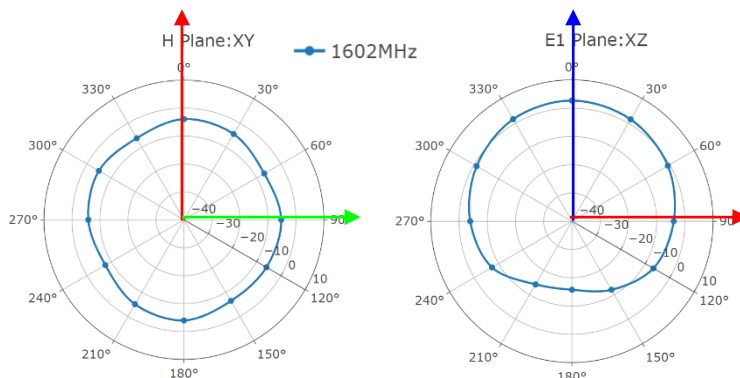
1602 MHz



— 1575MHz

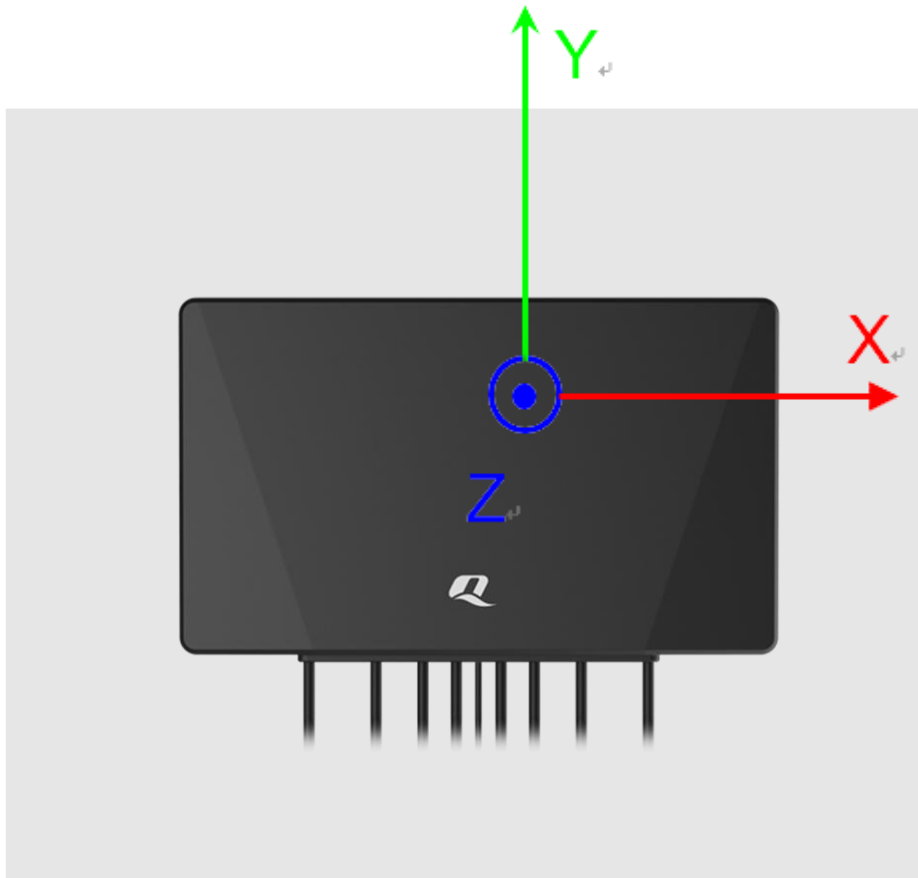


— 1602MHz



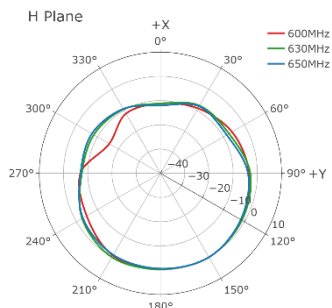
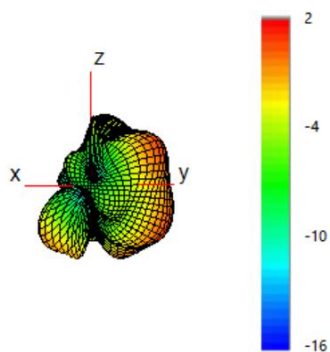
3.2.5.2. Test Condition: On 500 mm × 500 mm Metal Plane

- Test Chamber: HF-G-1

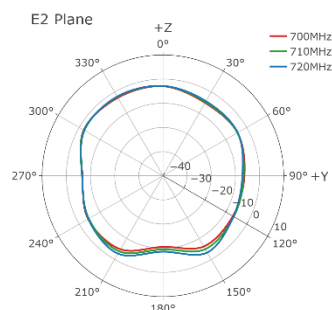
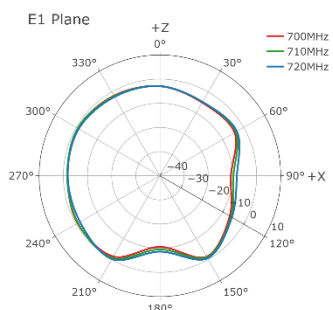
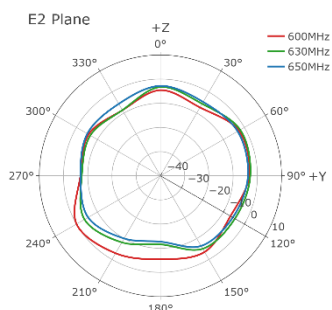
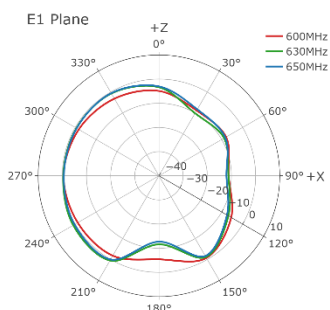
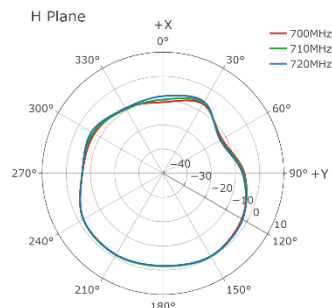
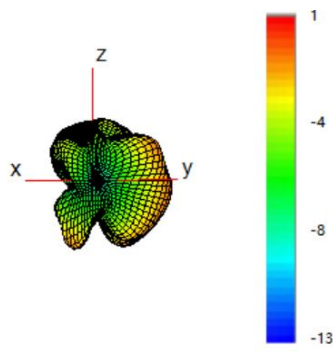


● **LMH1**

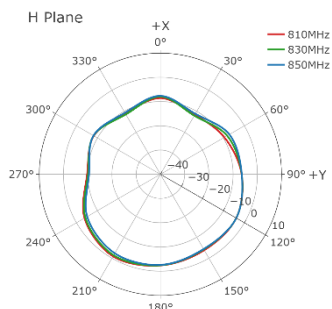
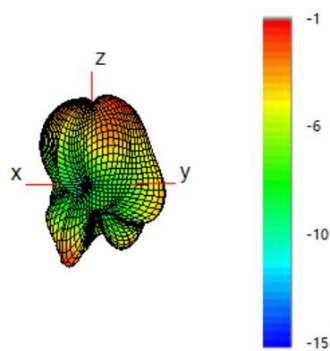
630 MHz



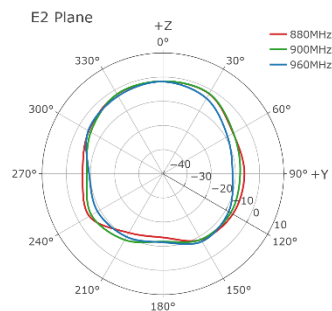
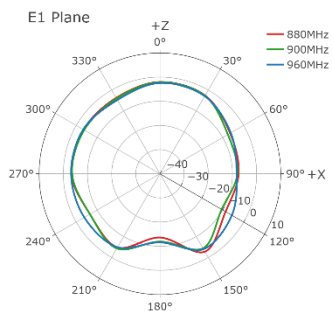
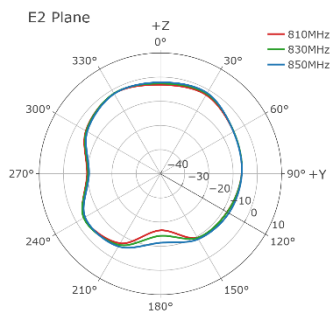
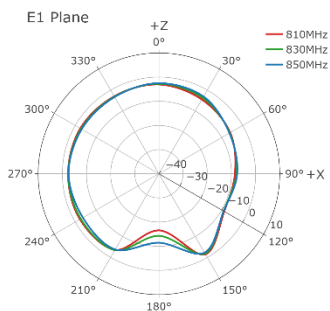
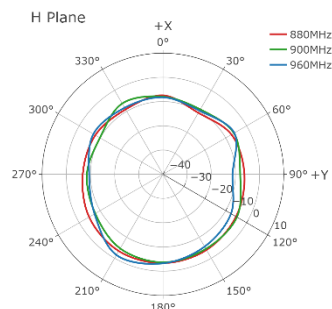
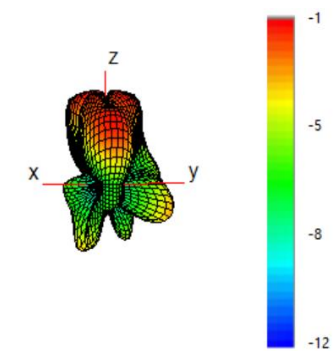
710 MHz



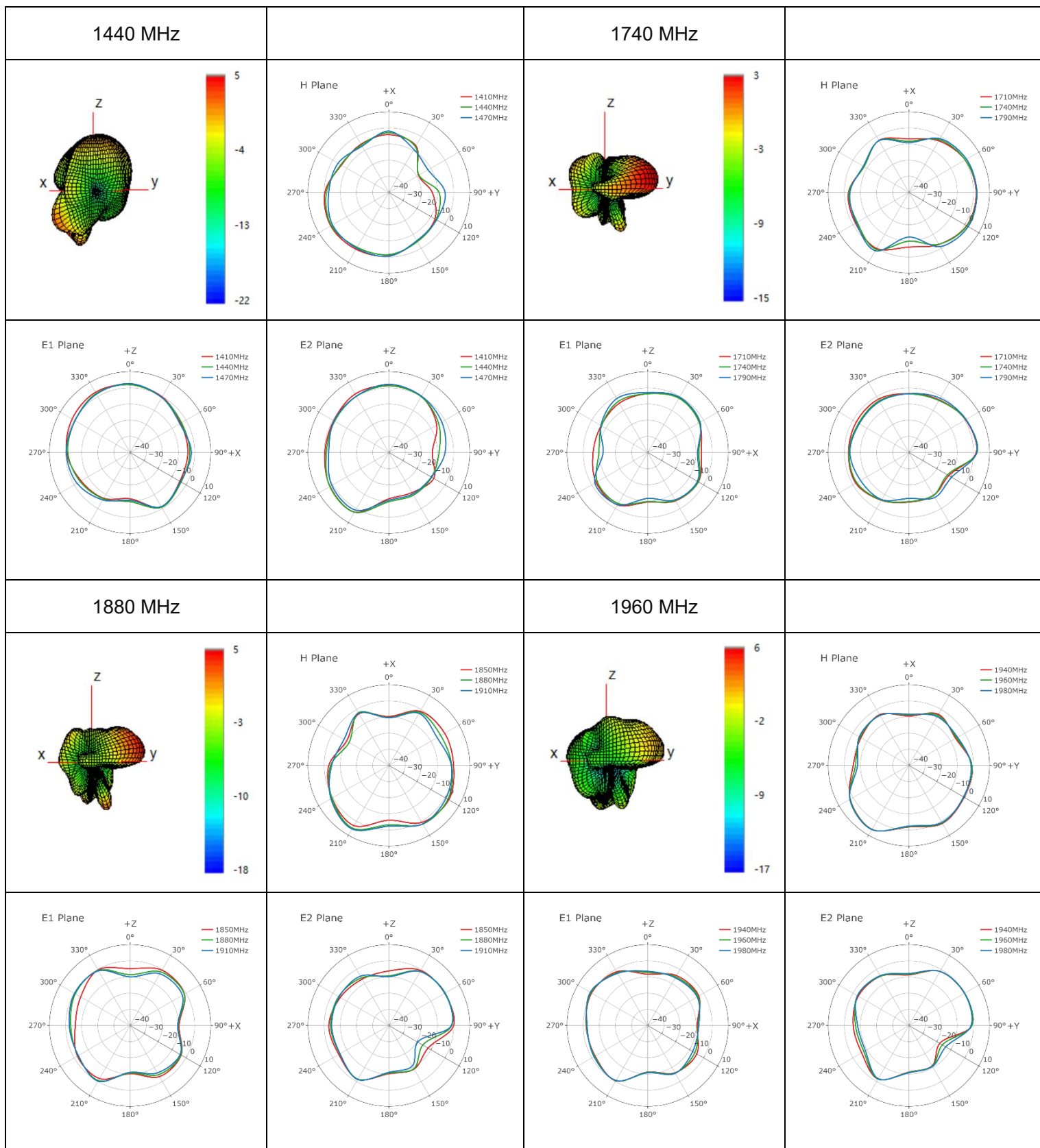
830 MHz



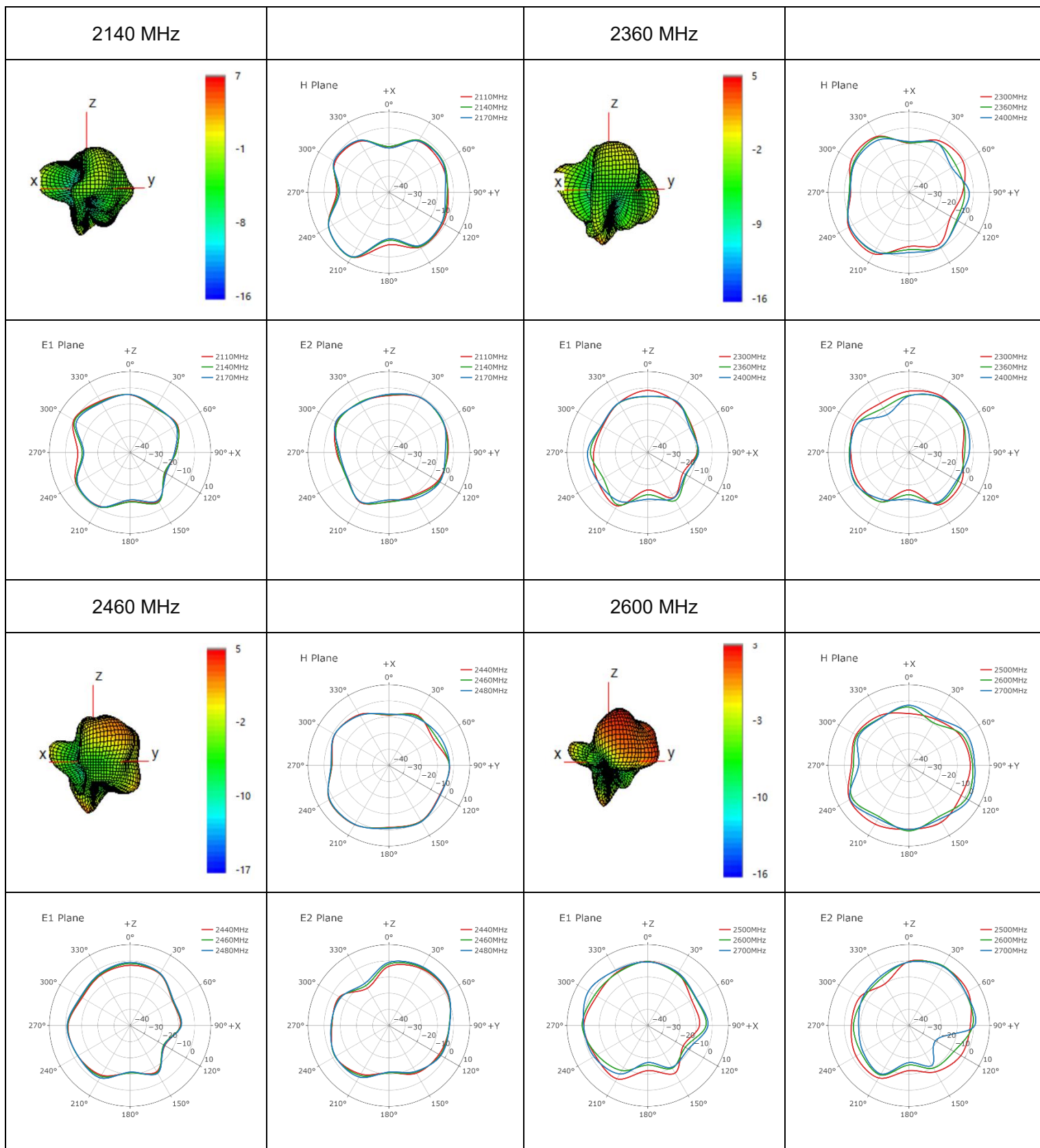
900 MHz



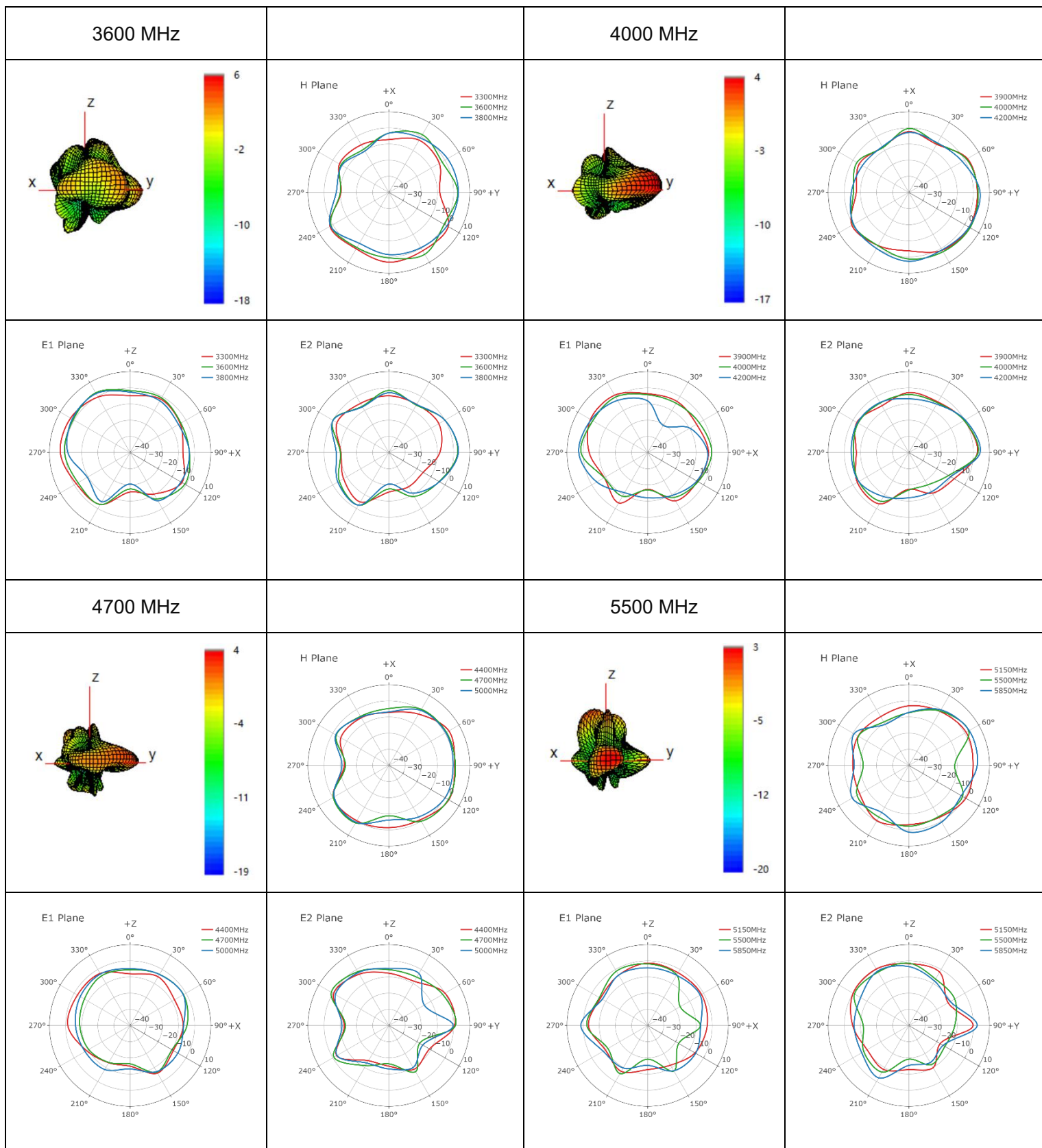
● **LMH1**



● **LMH1**

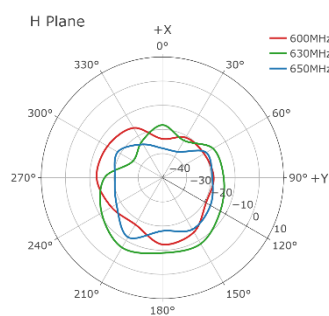
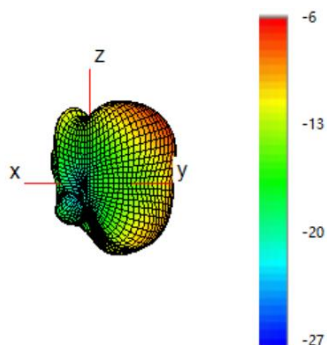


● **LMH1**

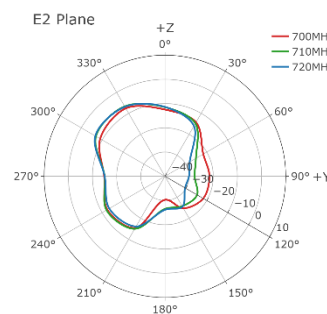
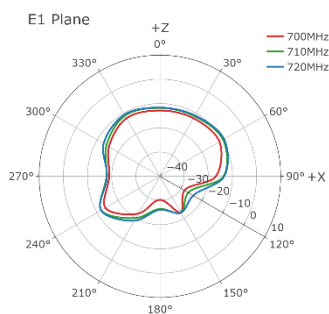
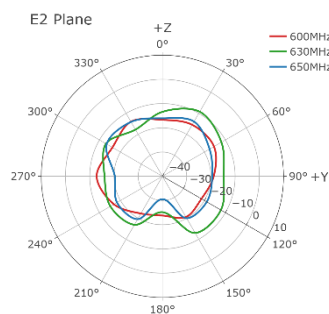
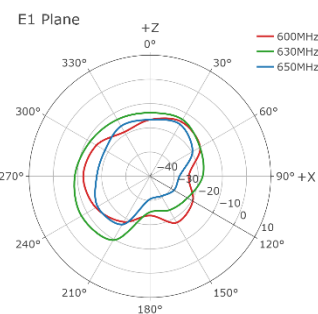
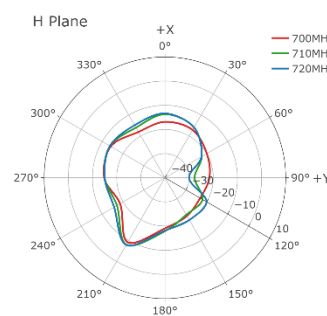
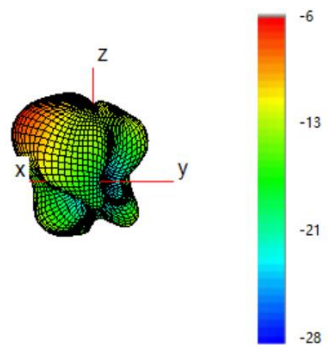


● **LMH2**

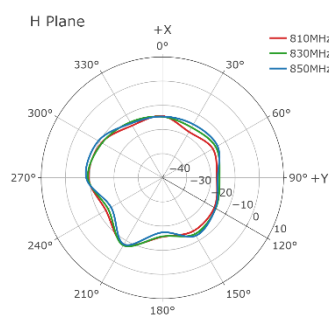
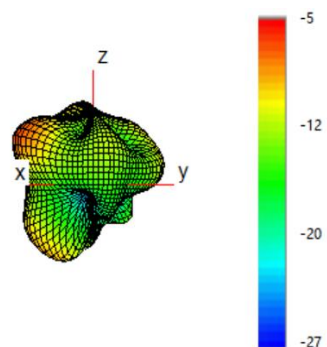
630 MHz



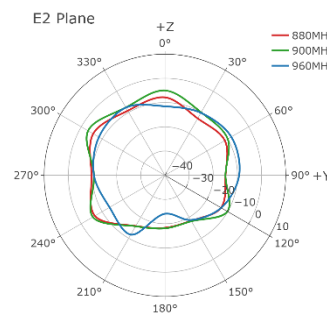
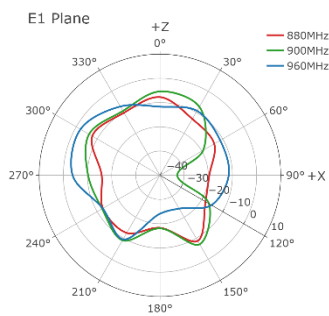
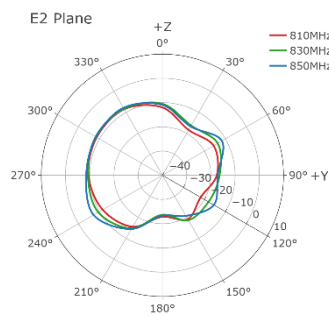
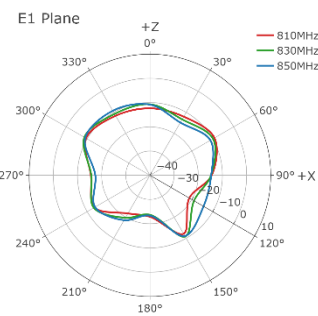
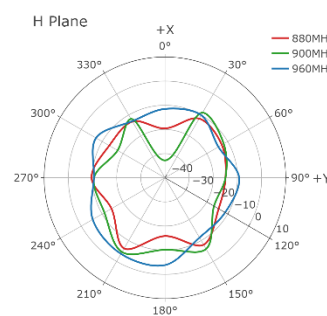
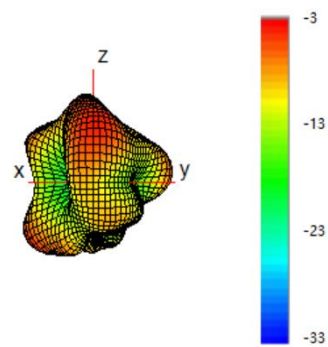
710 MHz



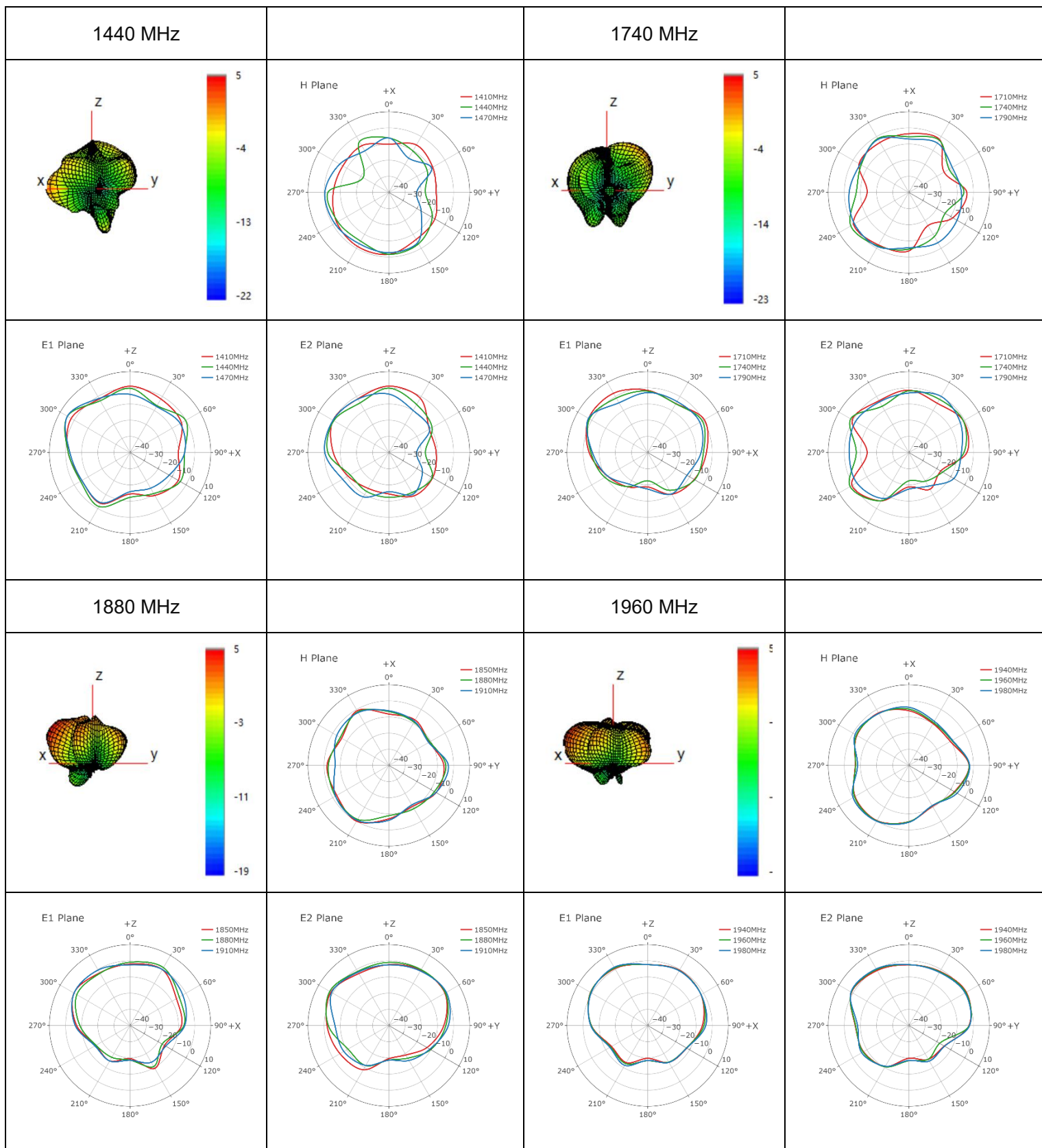
830 MHz



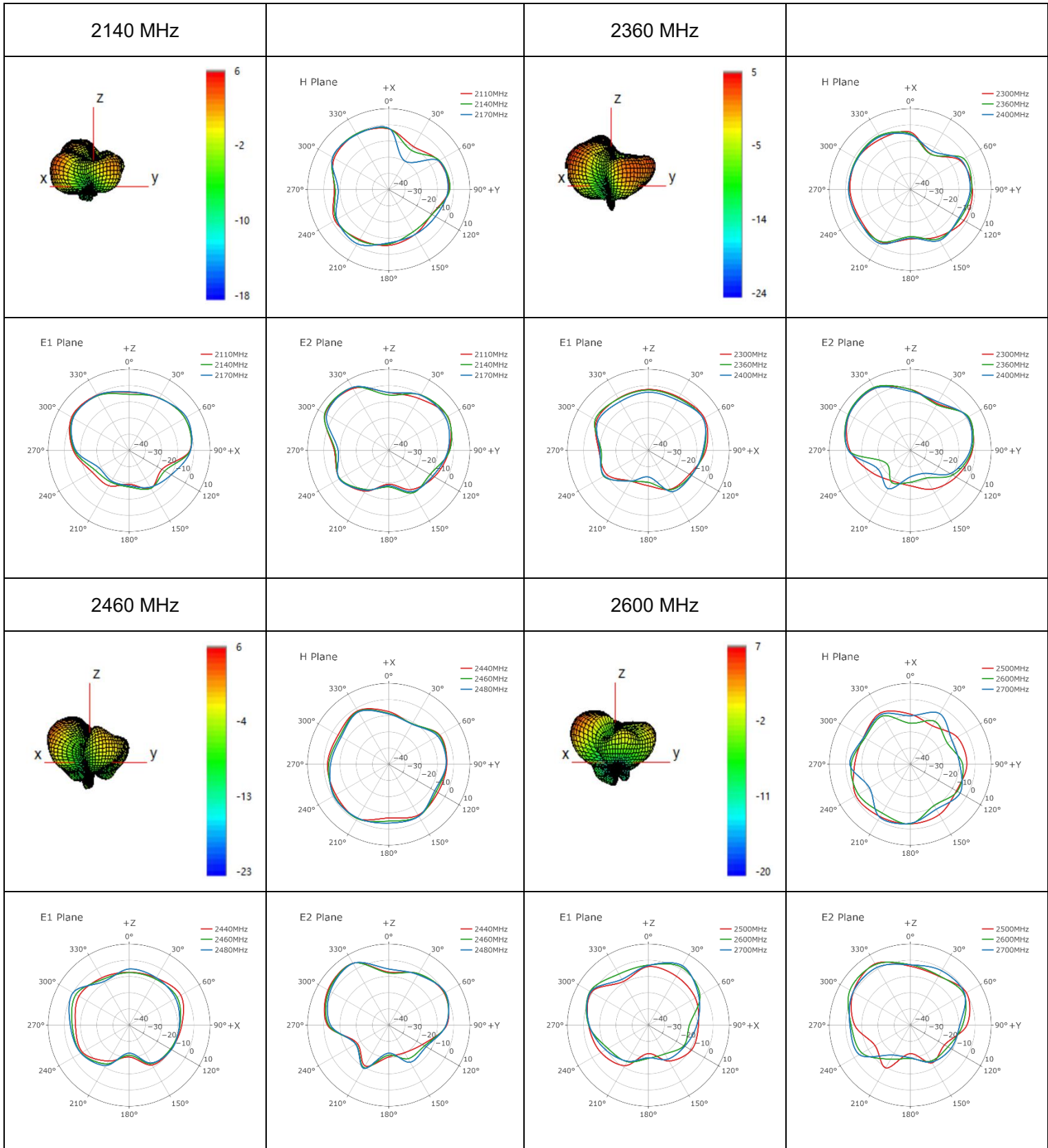
900 MHz



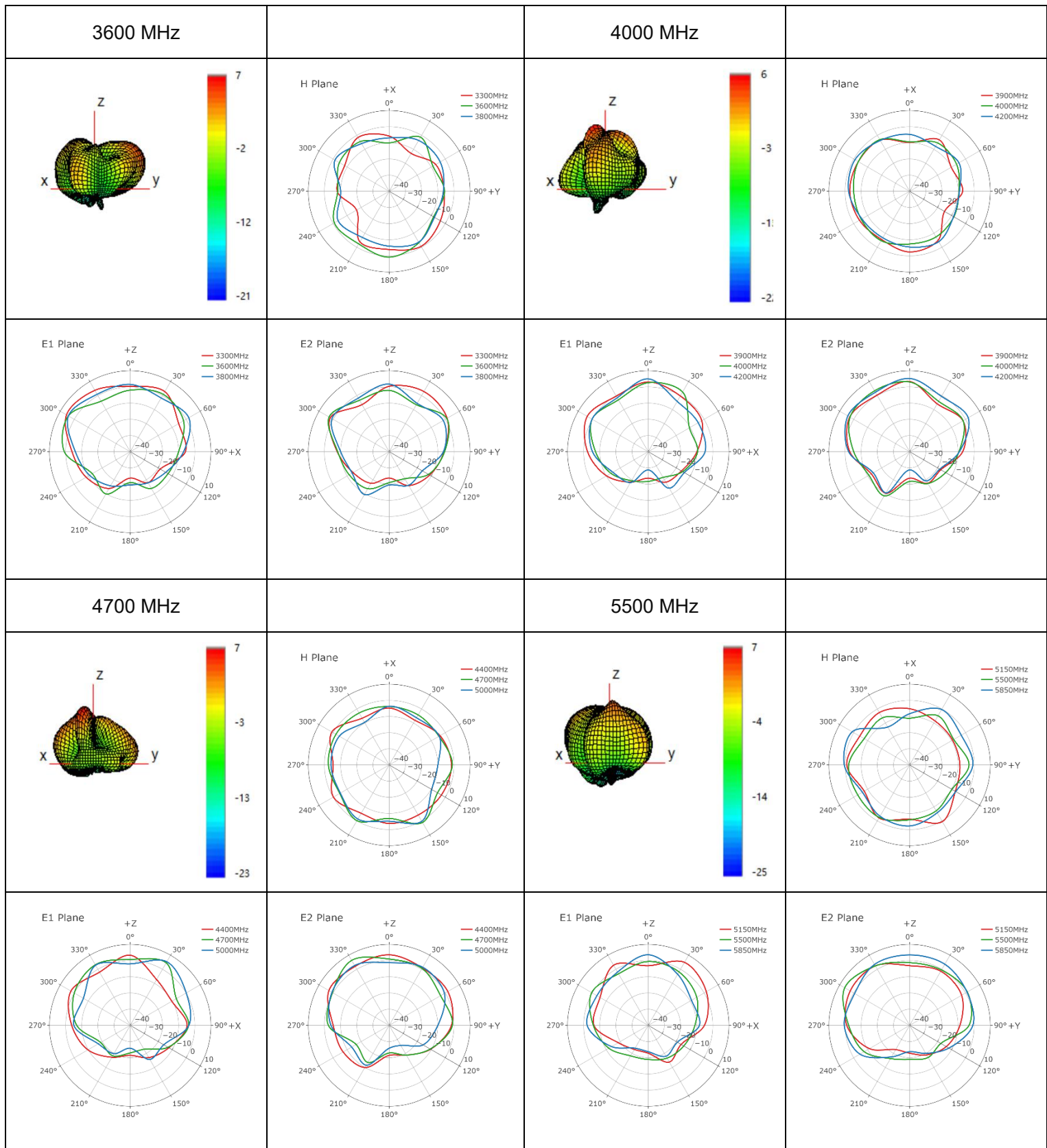
● **LMH2**



● **LMH2**

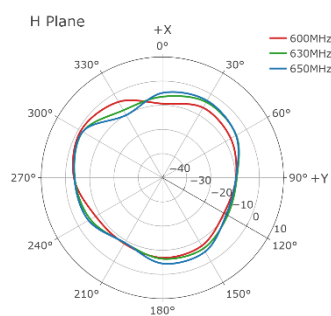
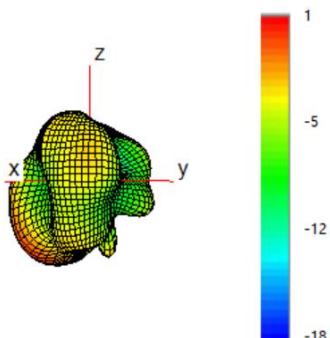


● **LMH2**

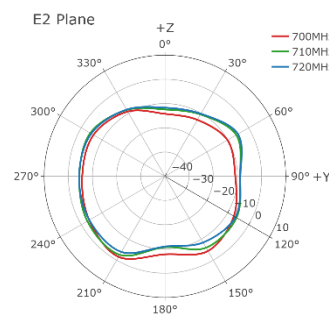
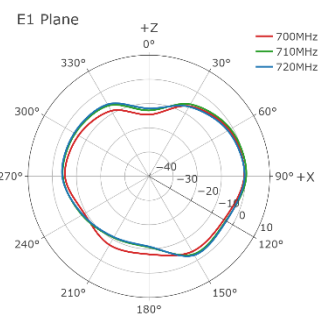
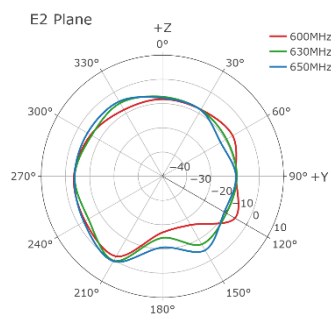
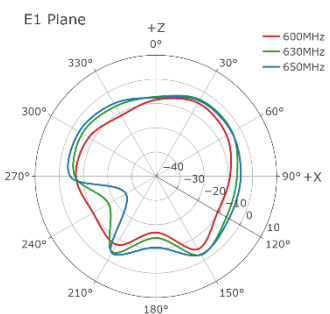
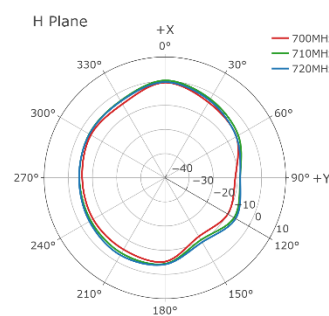
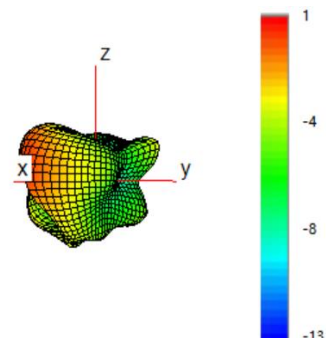


● **LMH3**

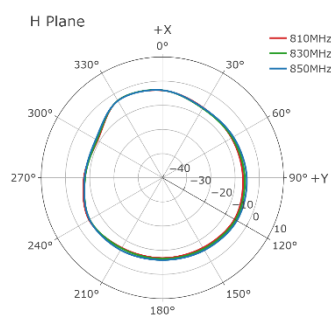
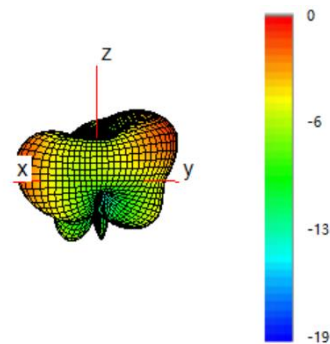
630 MHz



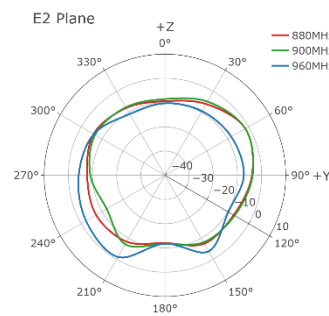
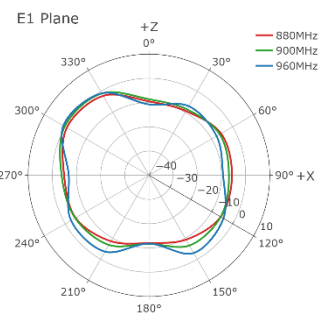
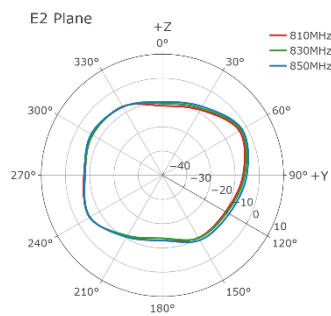
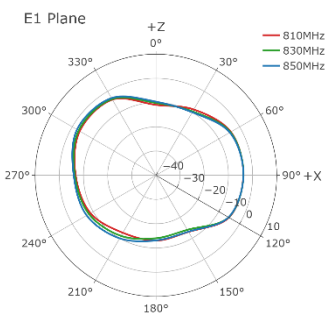
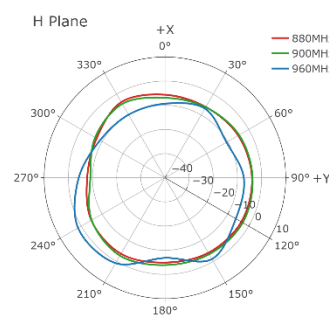
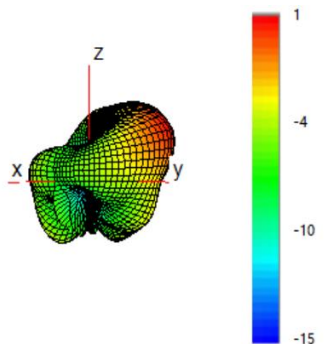
710 MHz



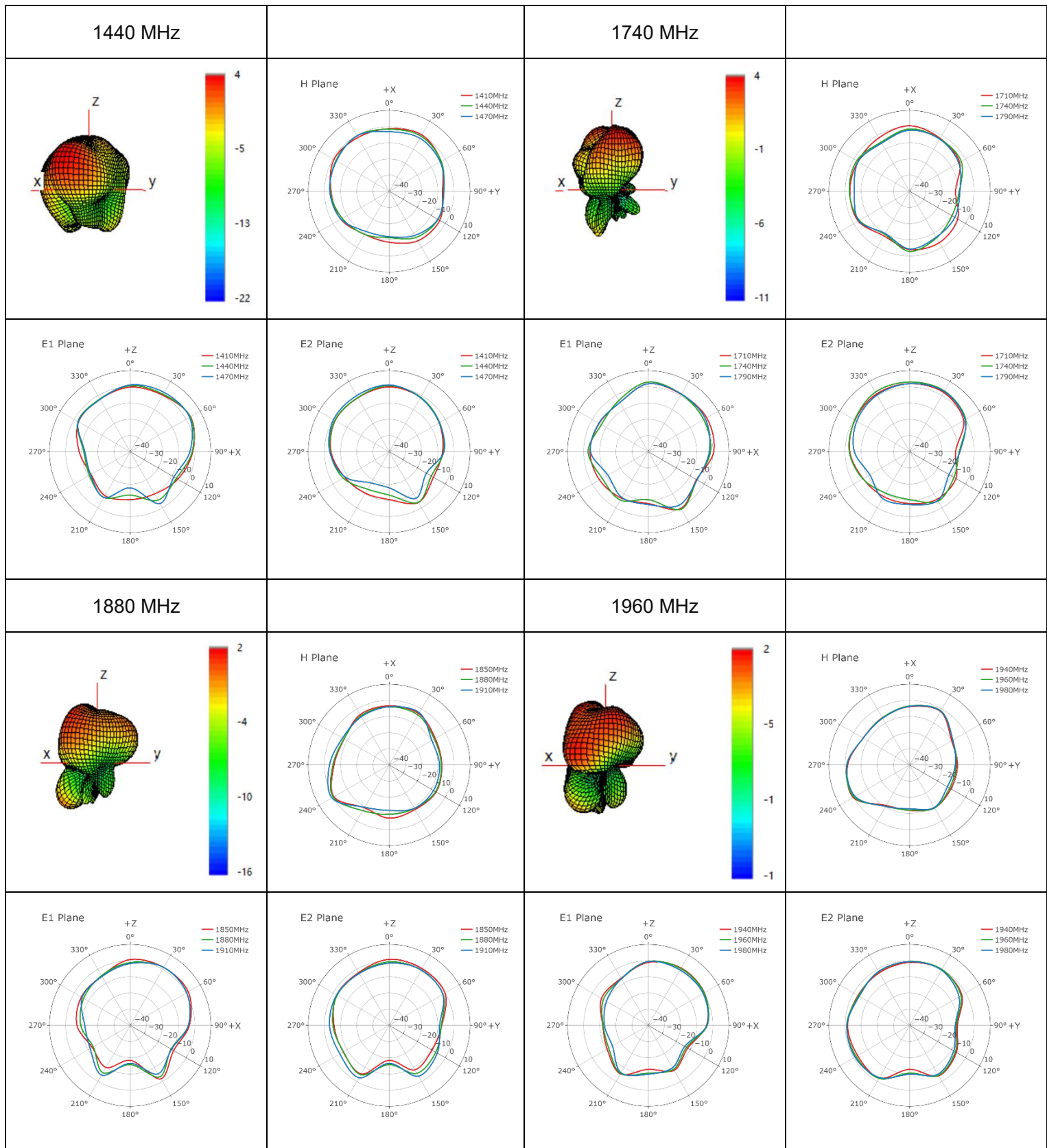
830 MHz



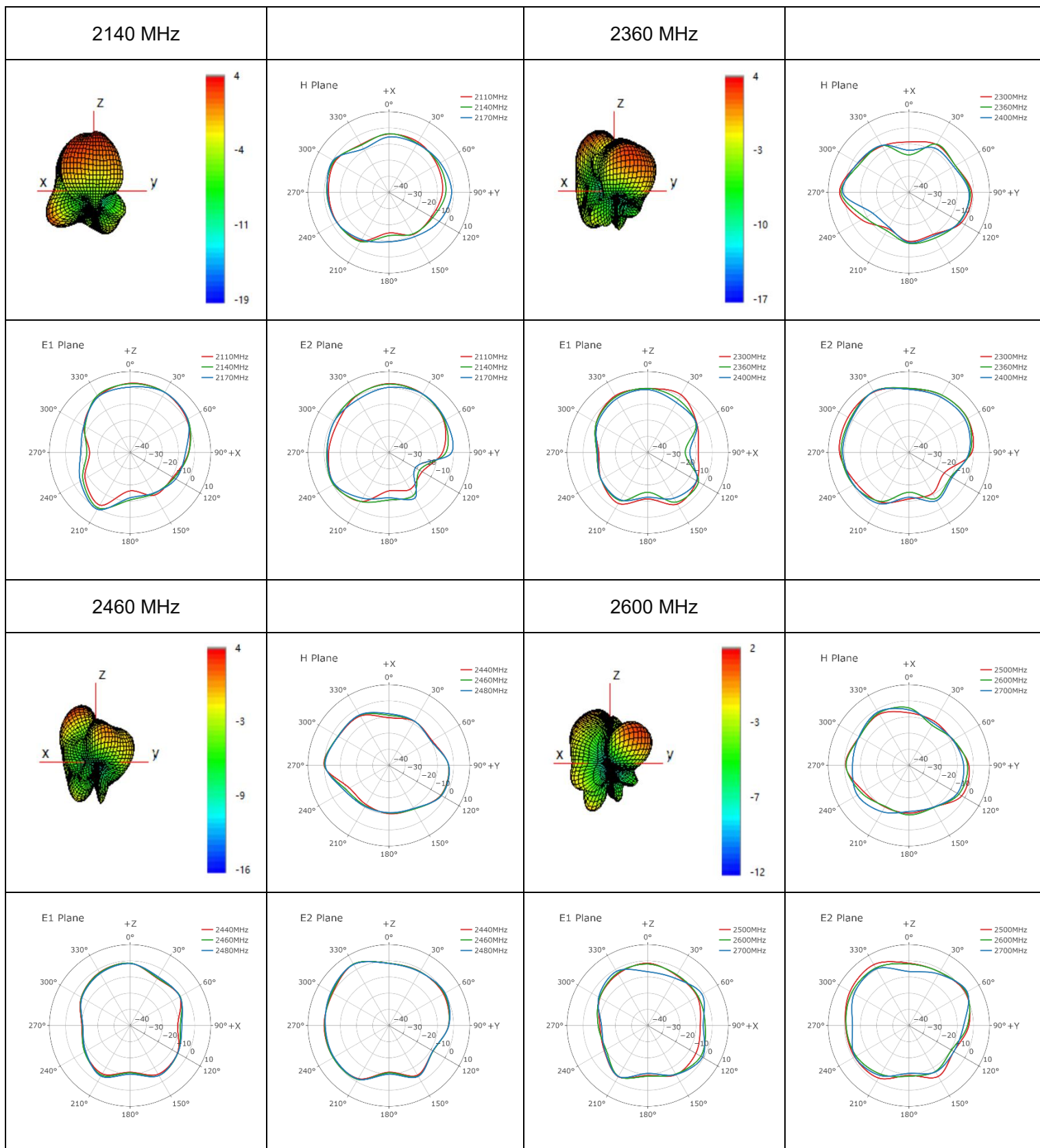
900 MHz



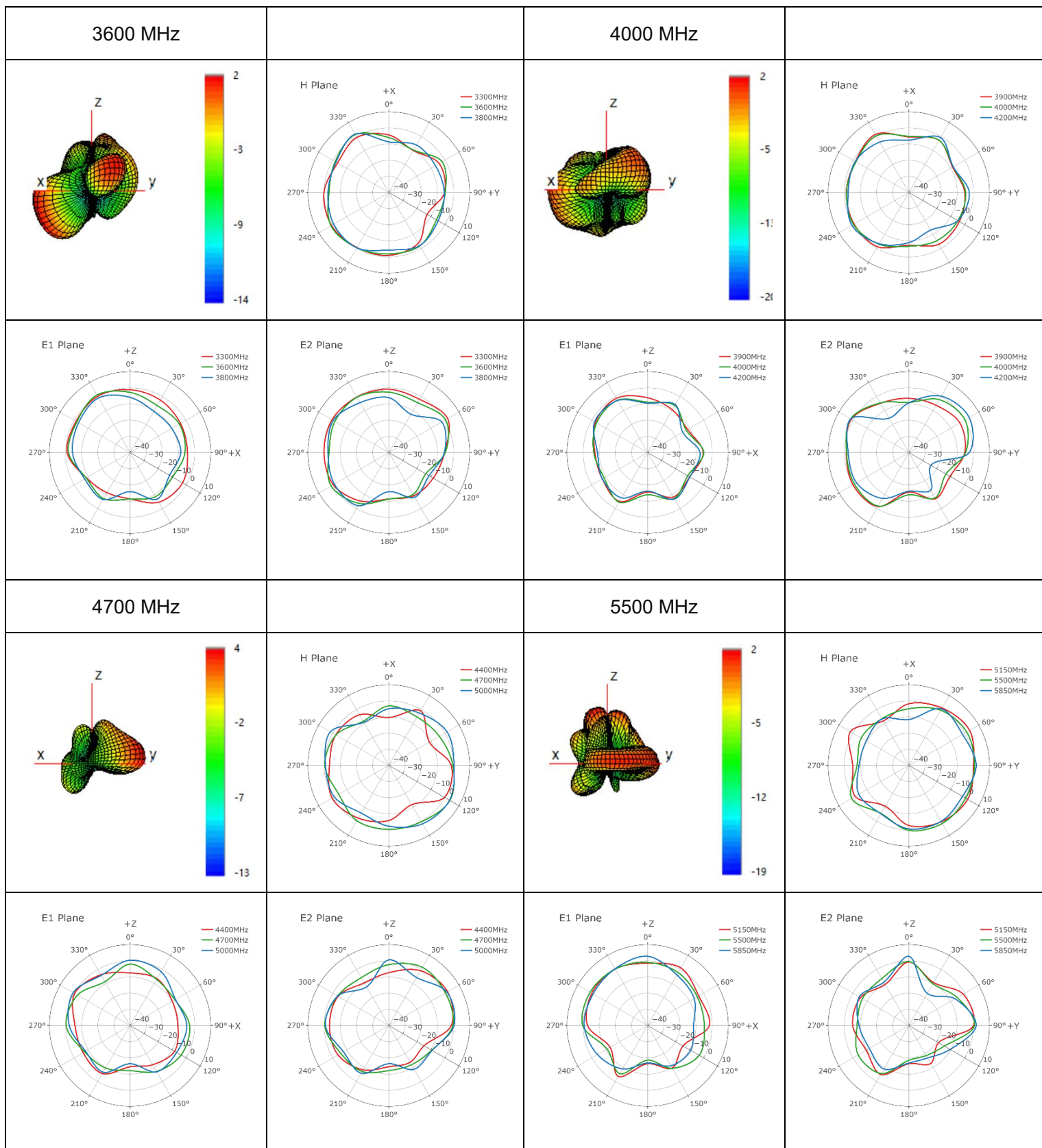
● **LMH3**



● **LMH3**

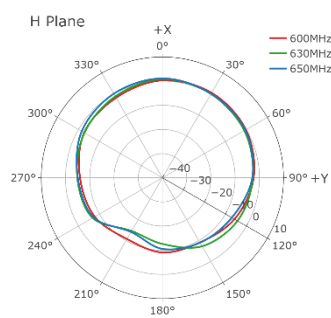
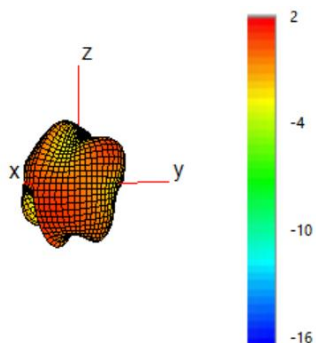


● **LMH3**

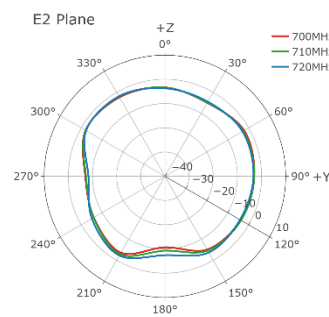
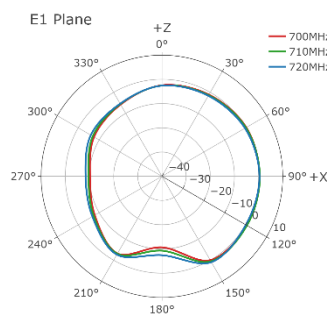
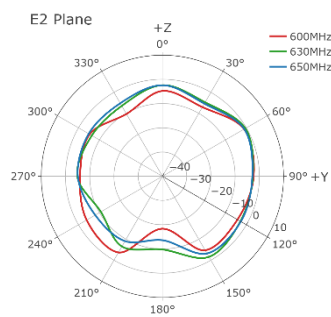
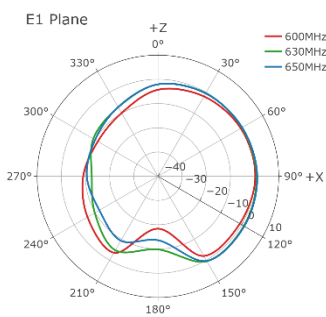
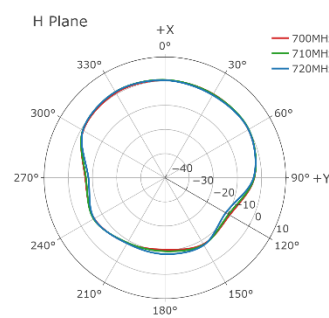
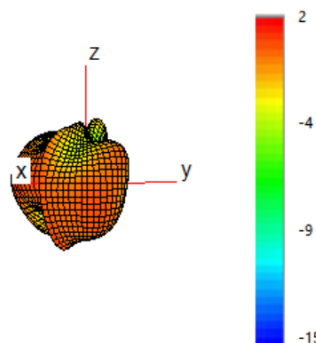


● **LMH4**

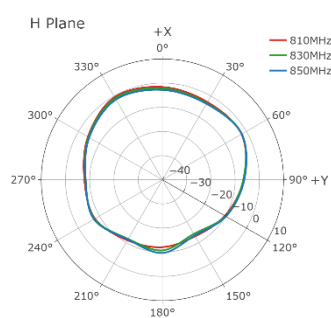
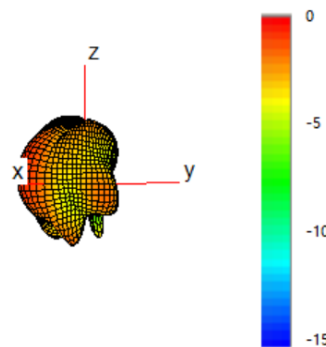
630 MHz



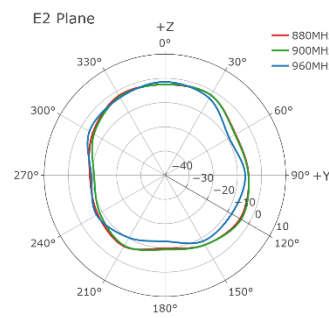
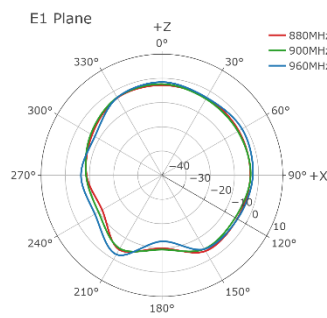
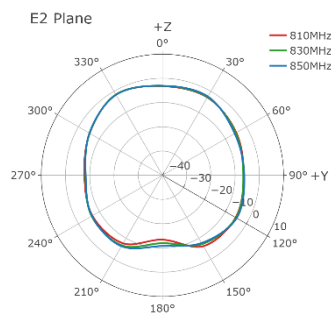
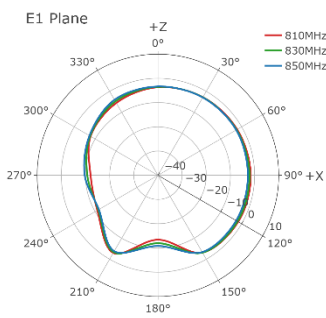
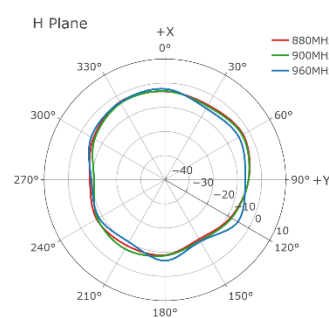
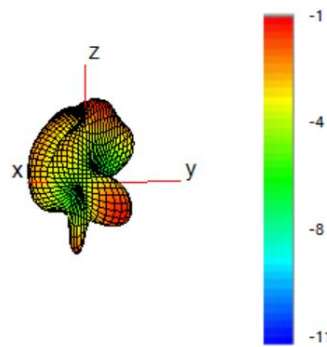
710 MHz



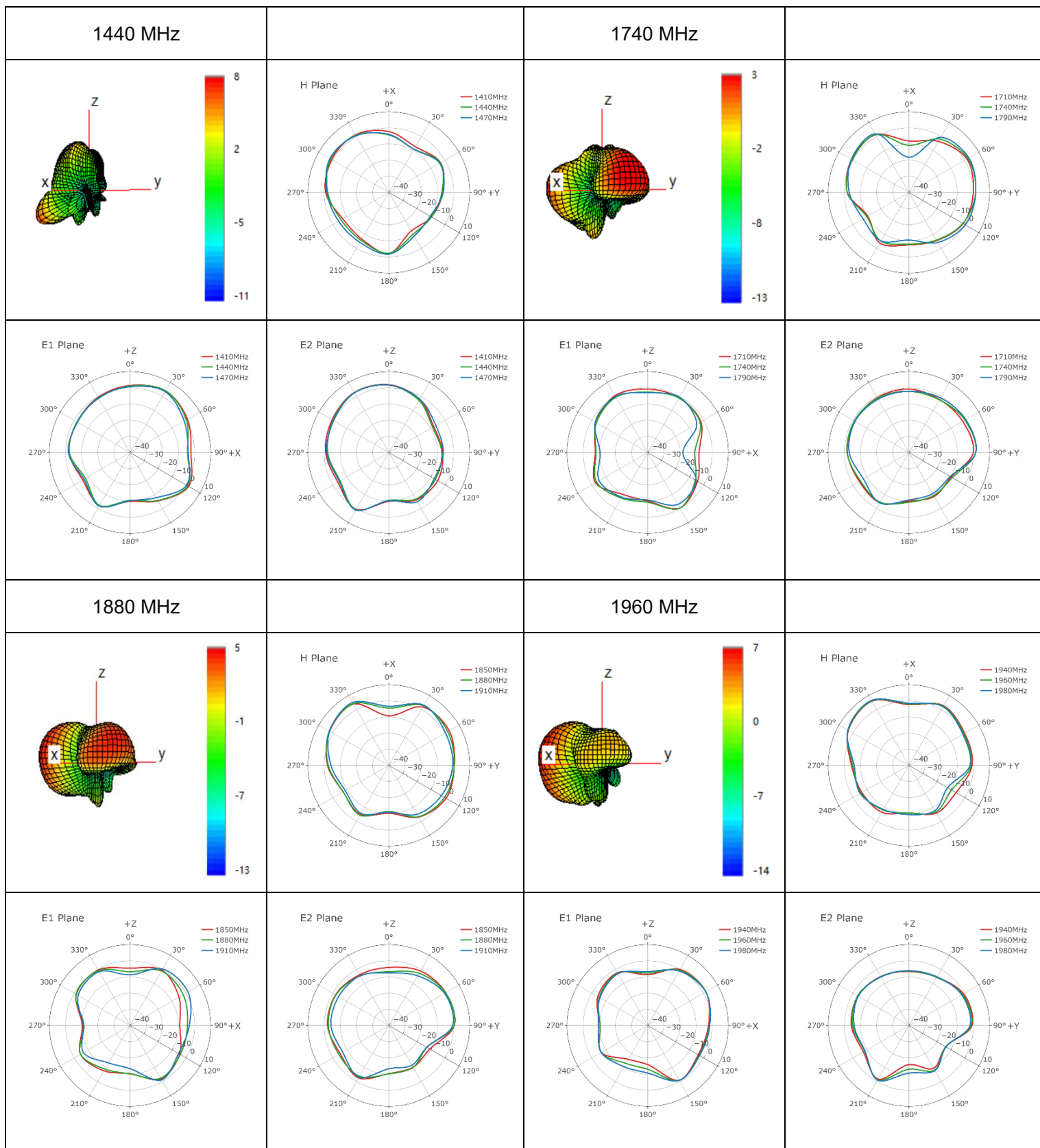
830 MHz



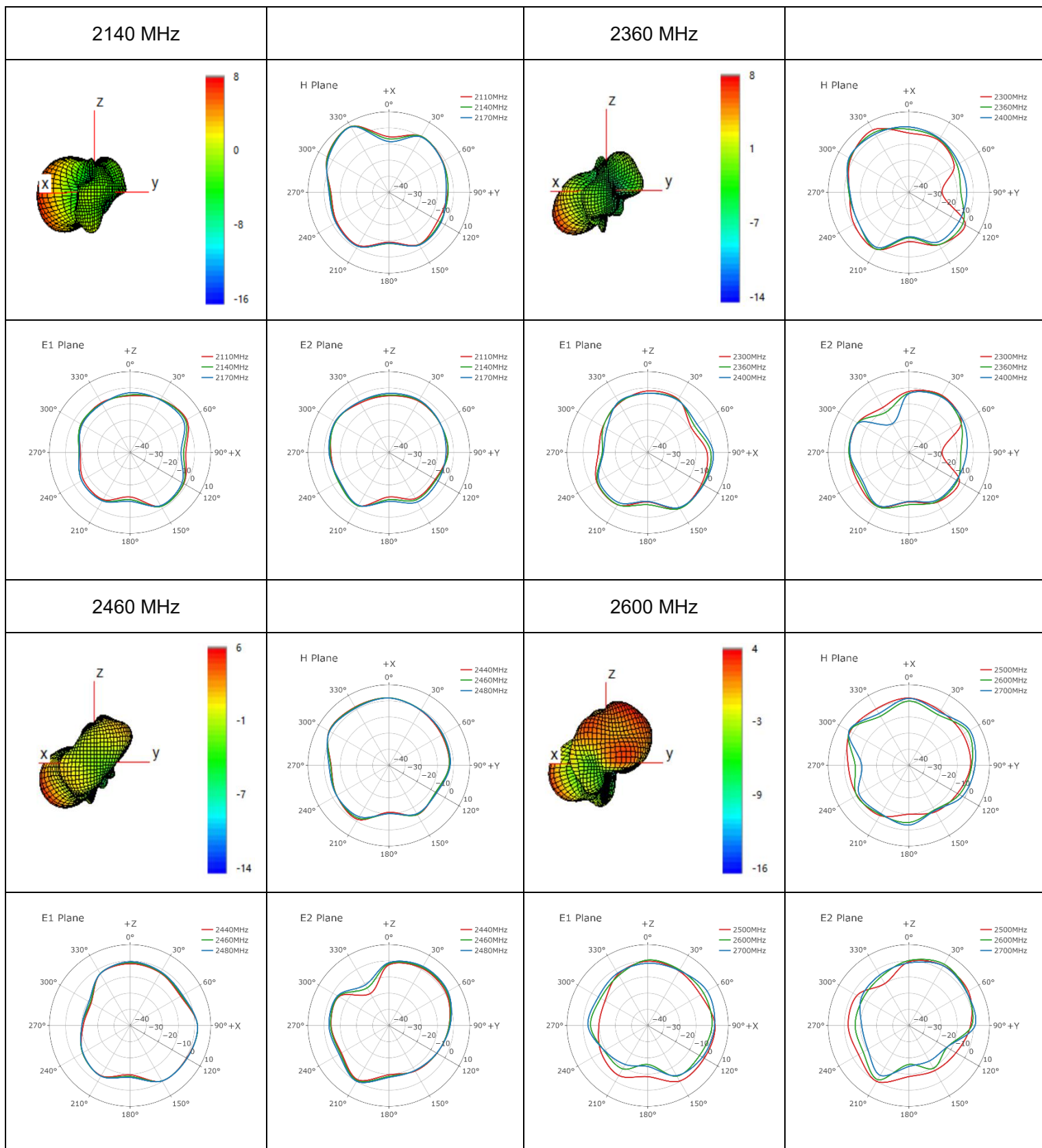
900 MHz



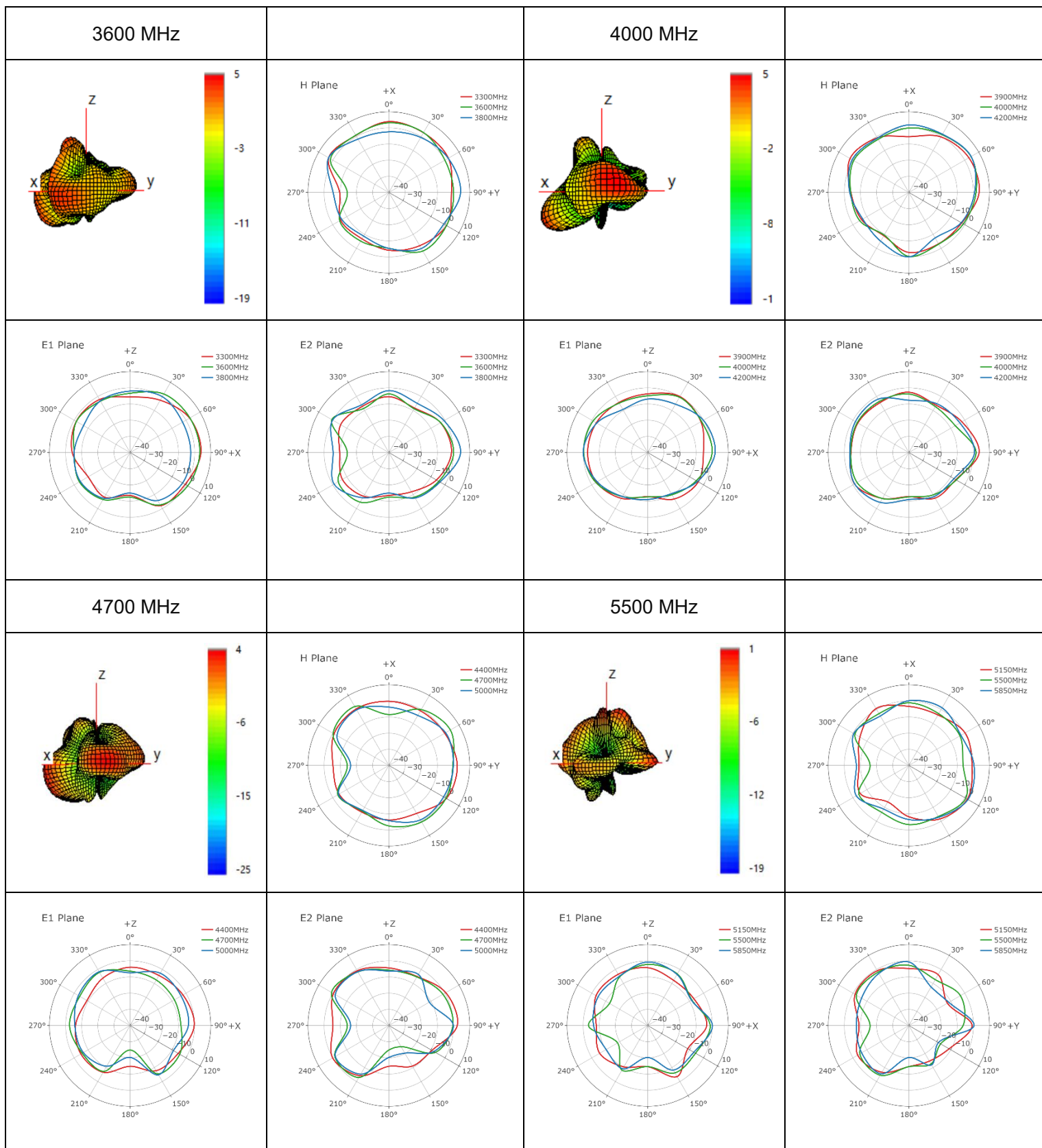
● **LMH4**



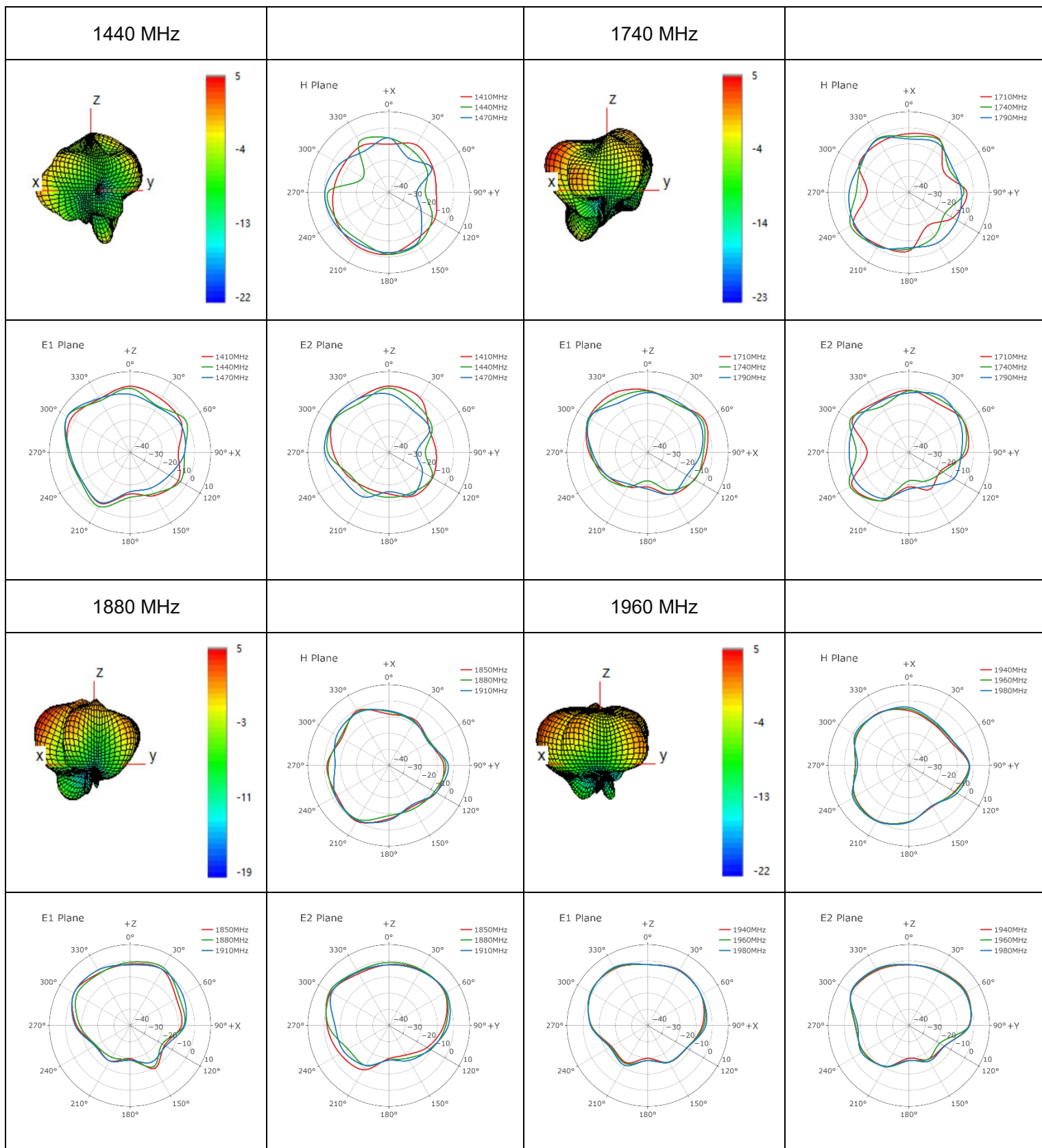
● **LMH4**



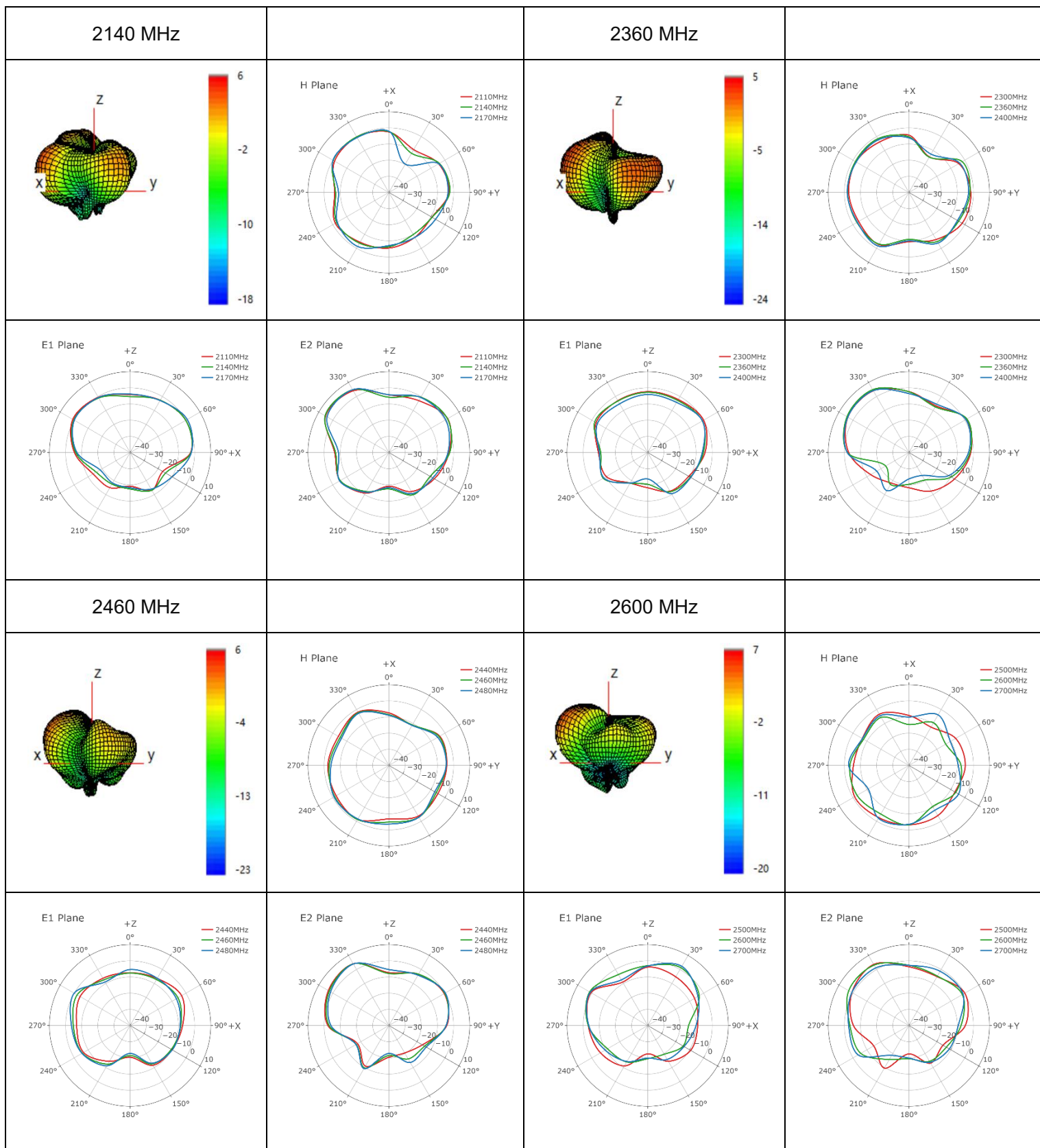
● **LMH4**



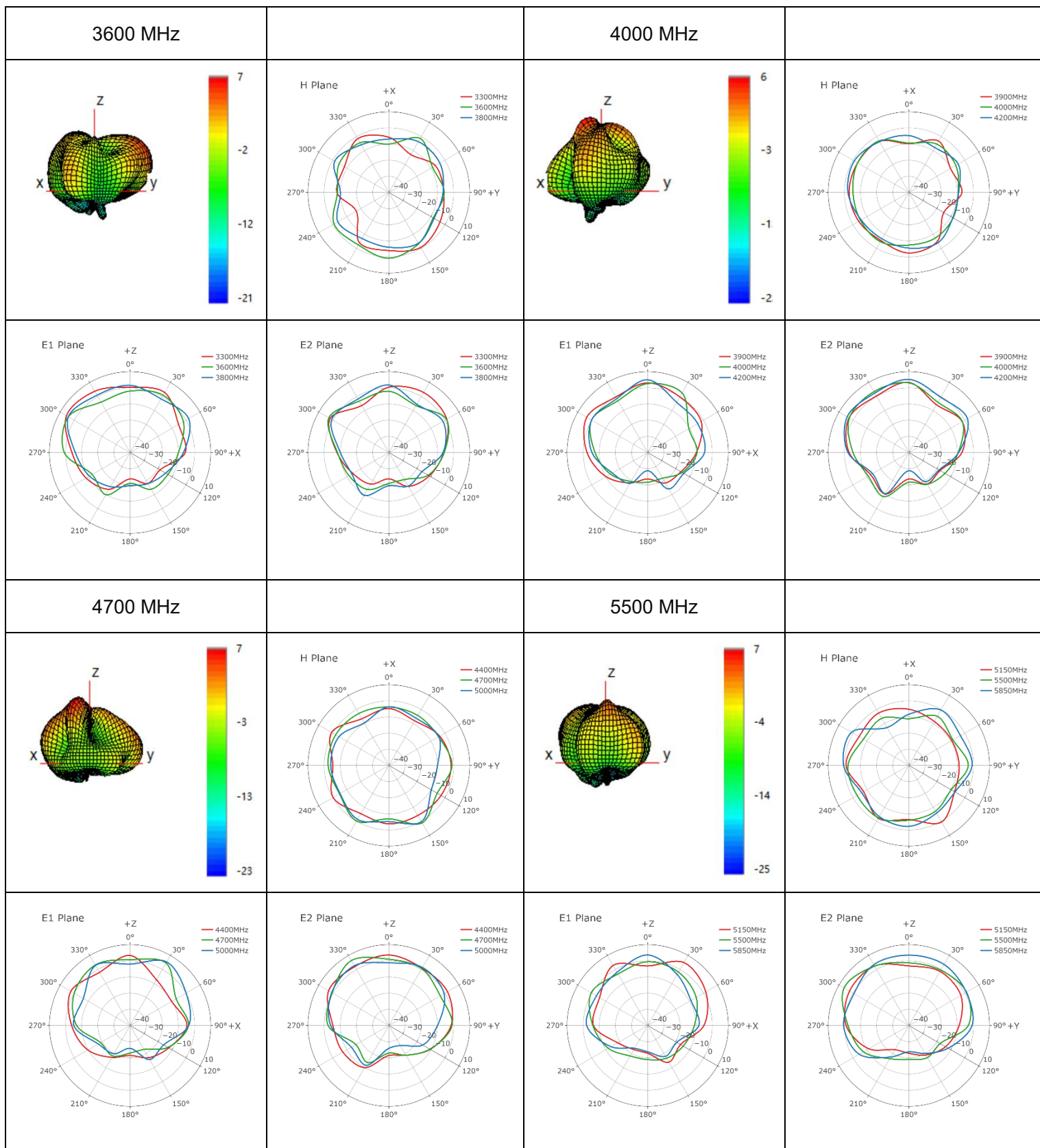
● **MH1**



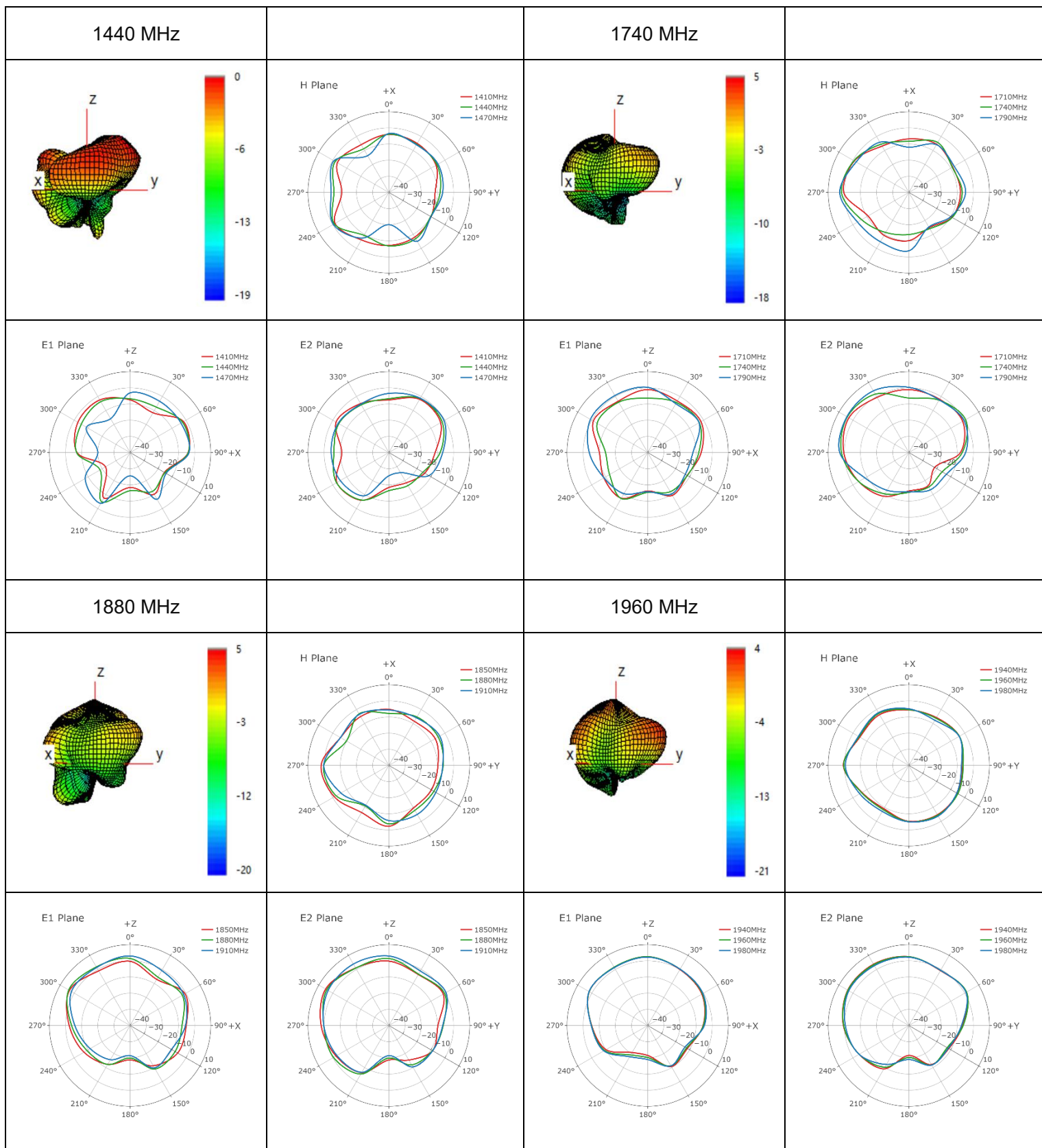
● **MH1**



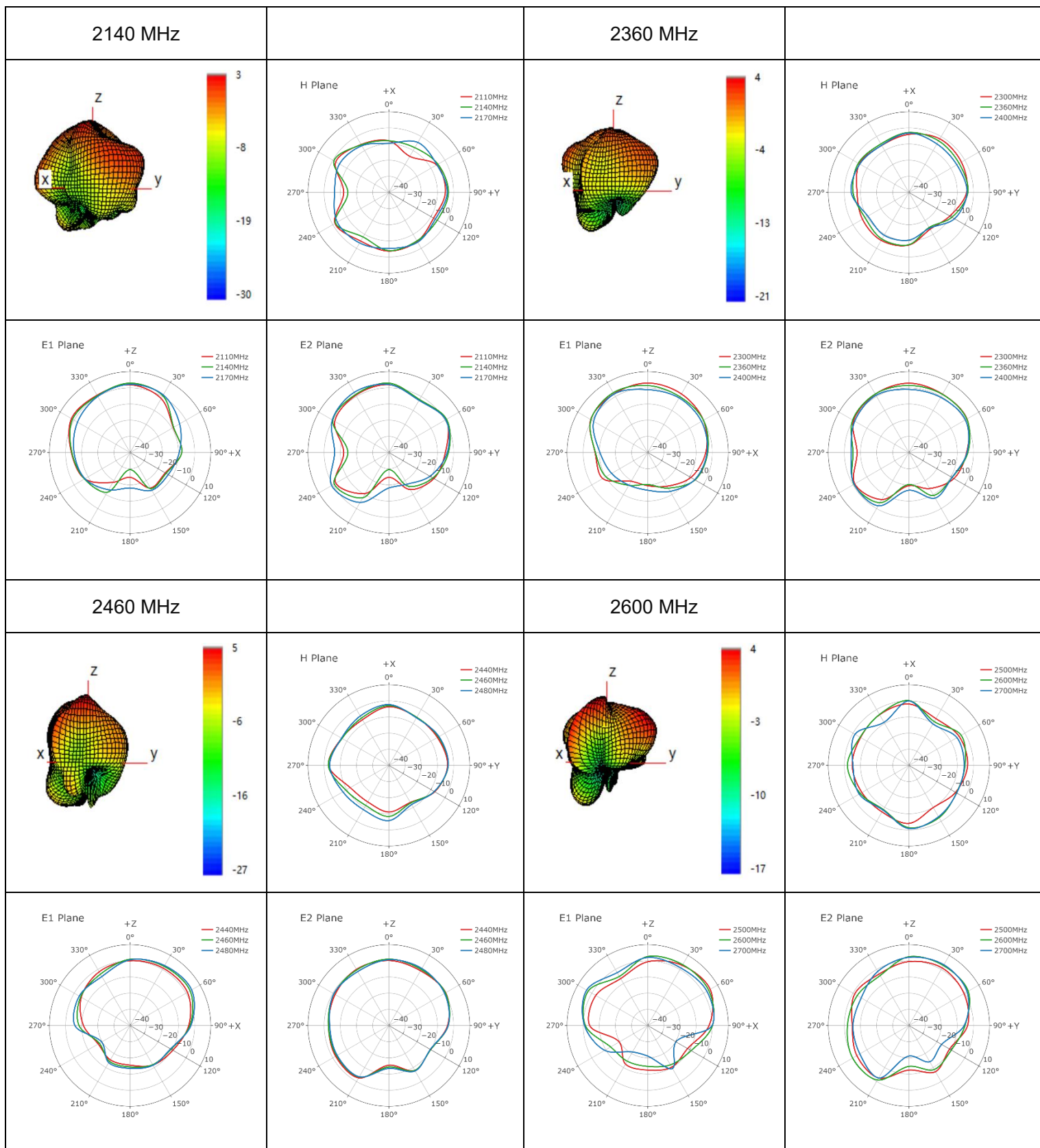
● **MH1**



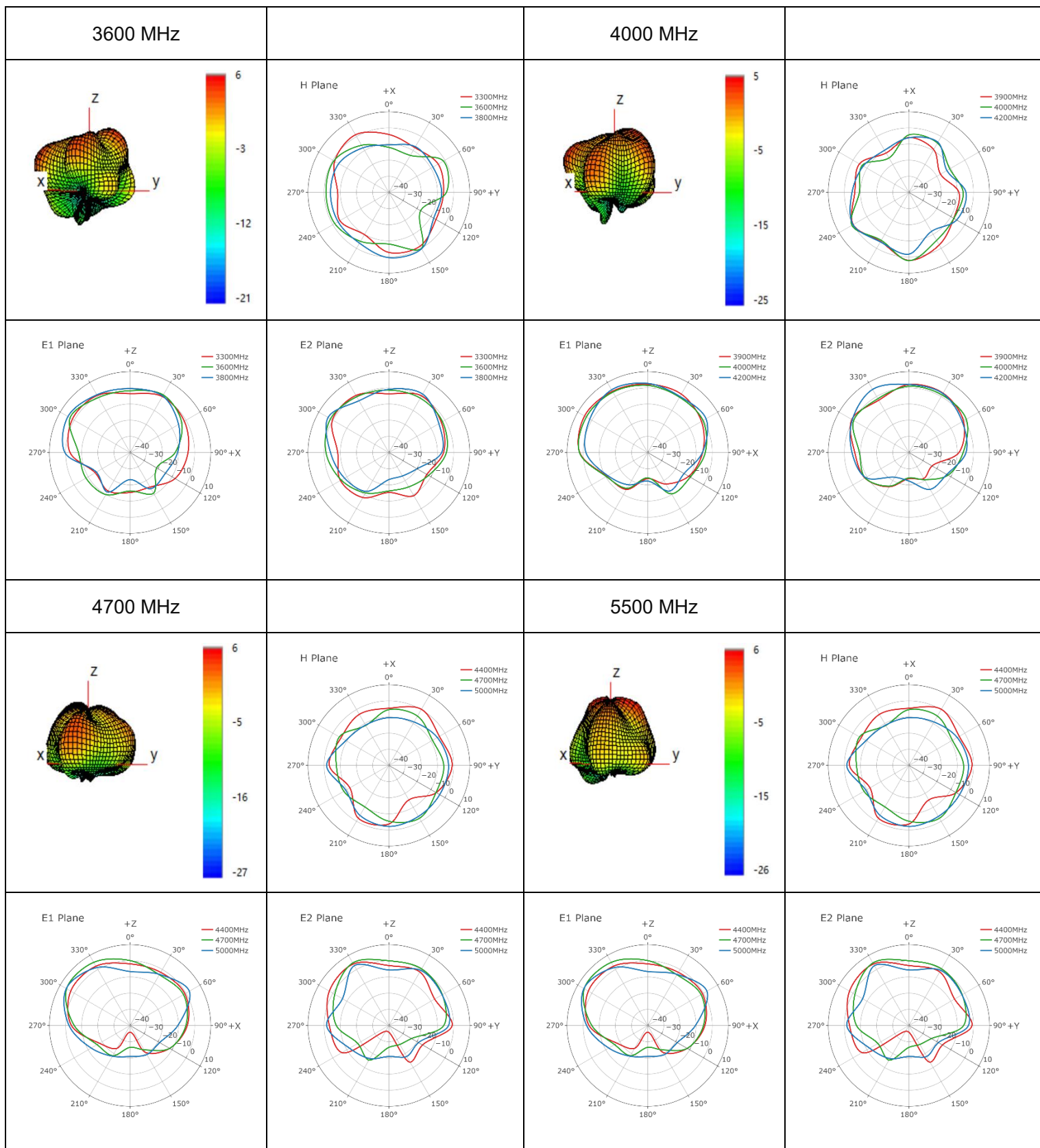
● **MH2**



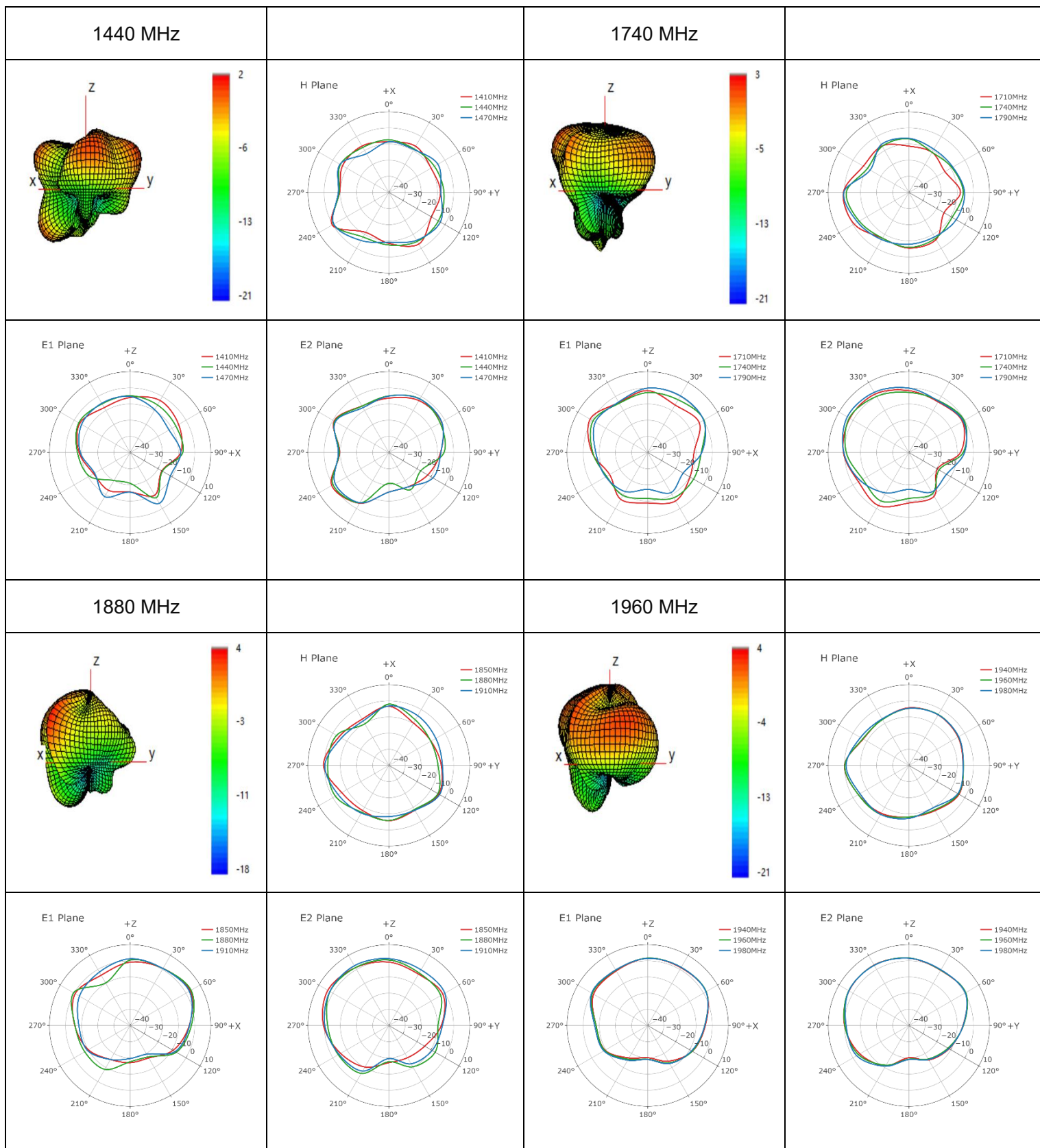
● **MH2**



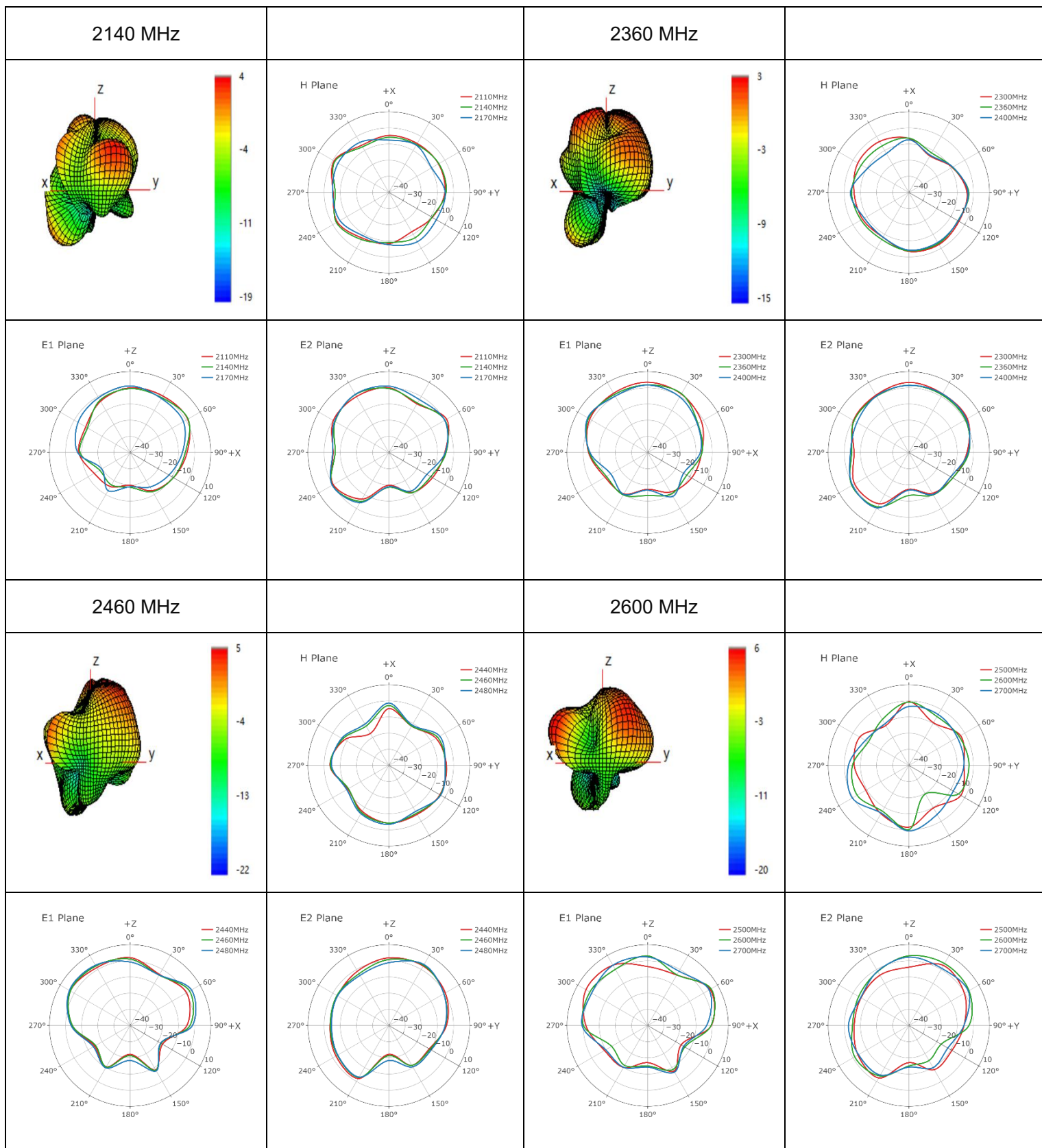
● **MH2**



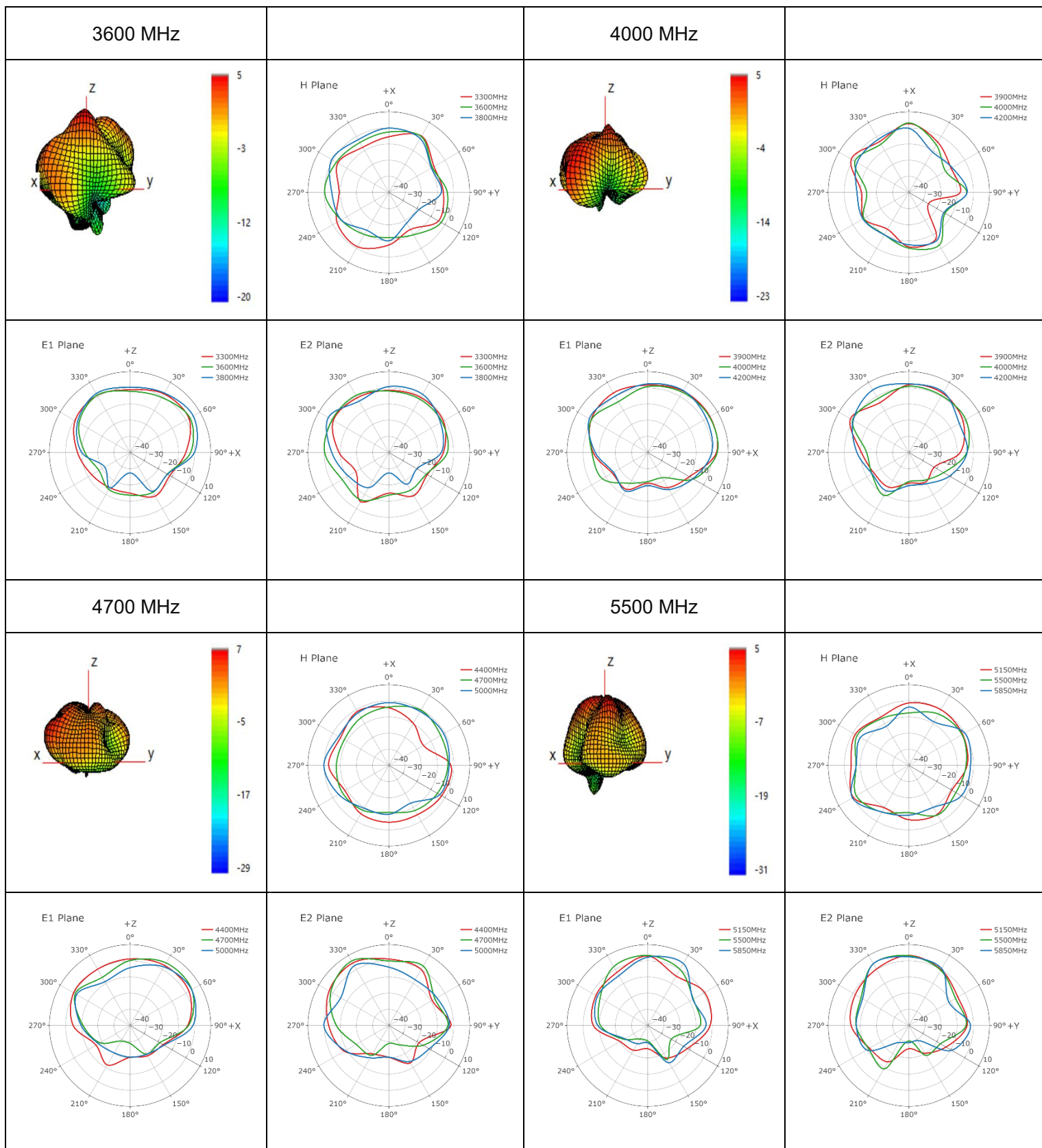
● **MH3**



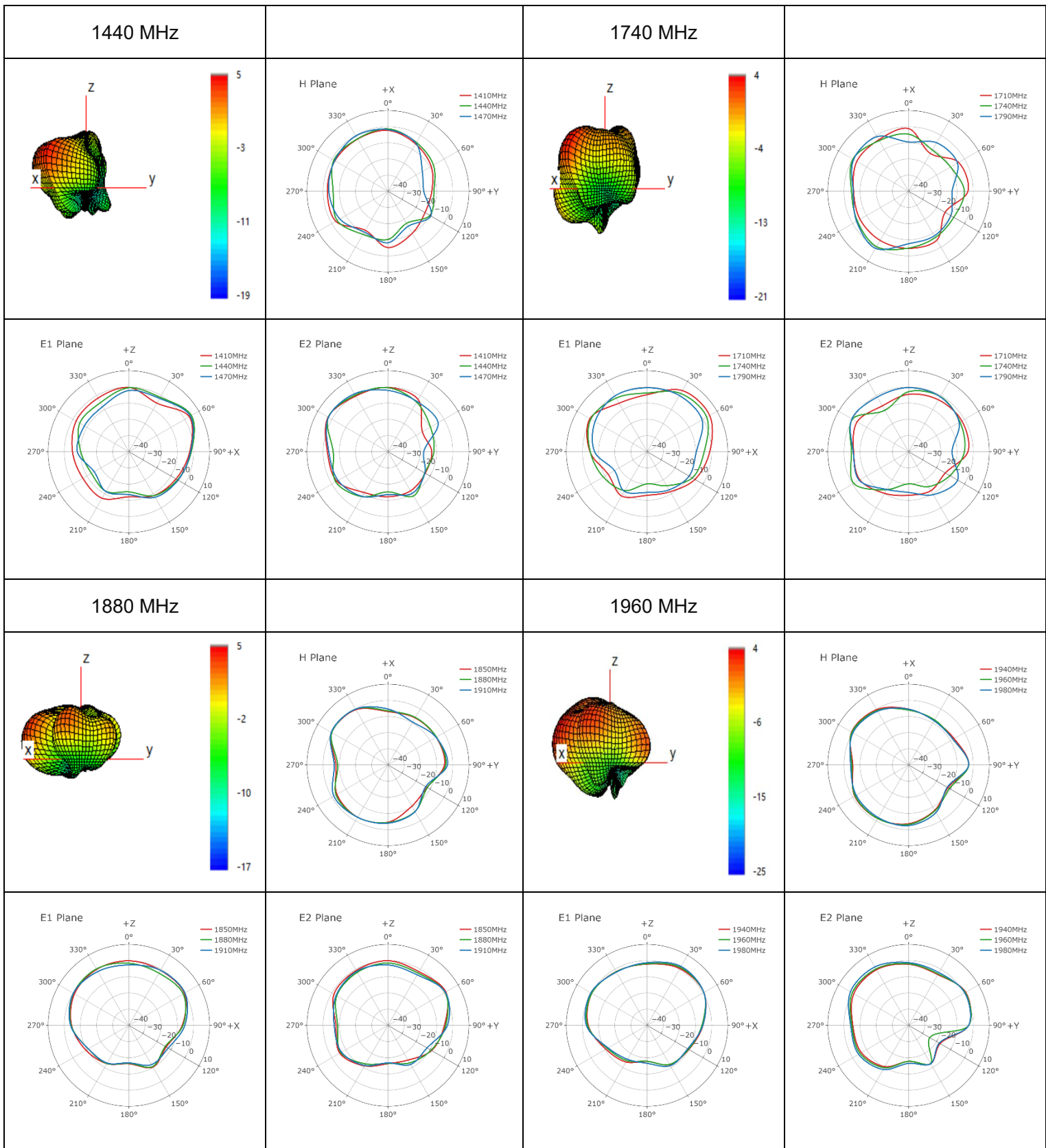
● **MH3**



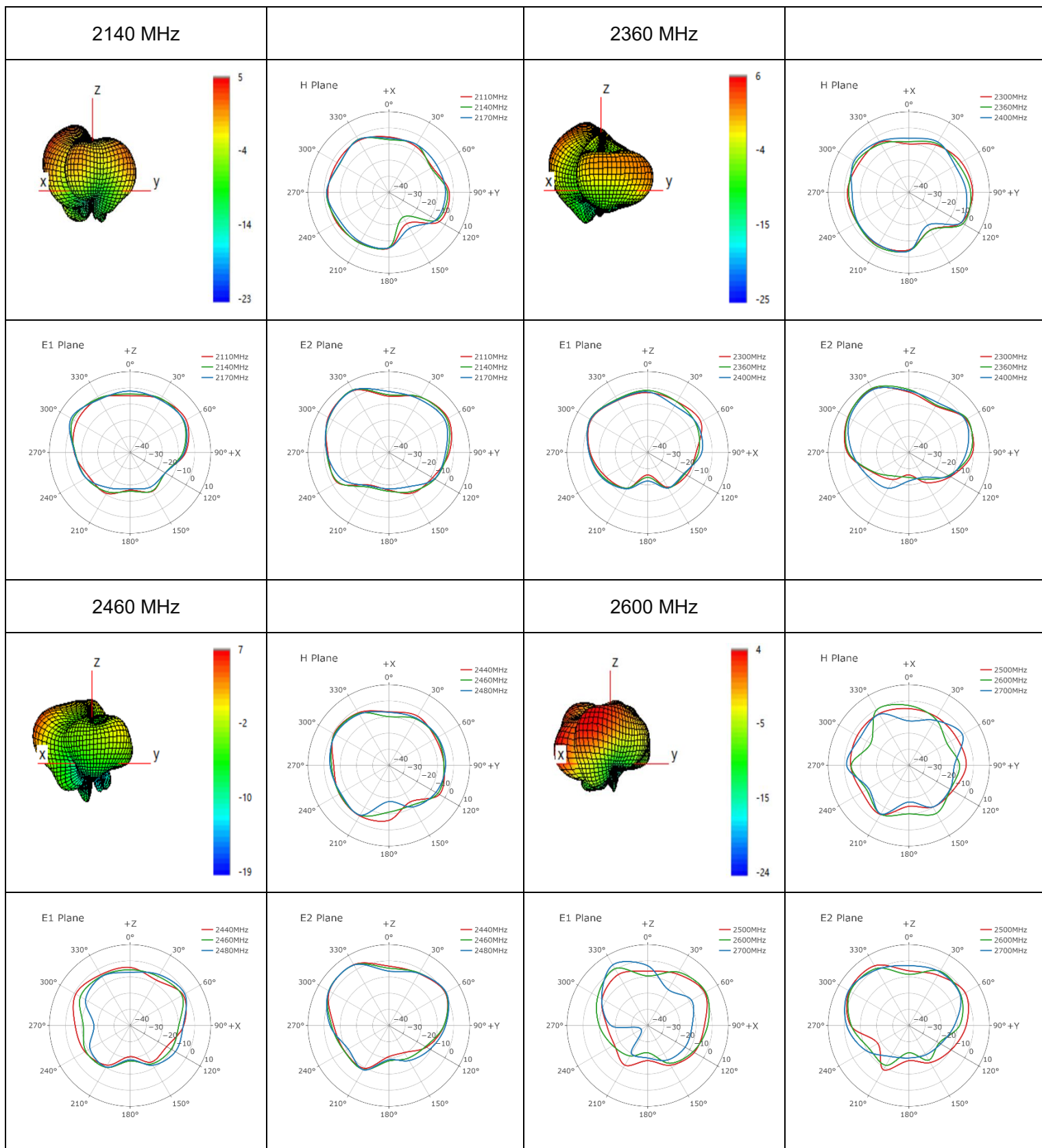
● **MH3**



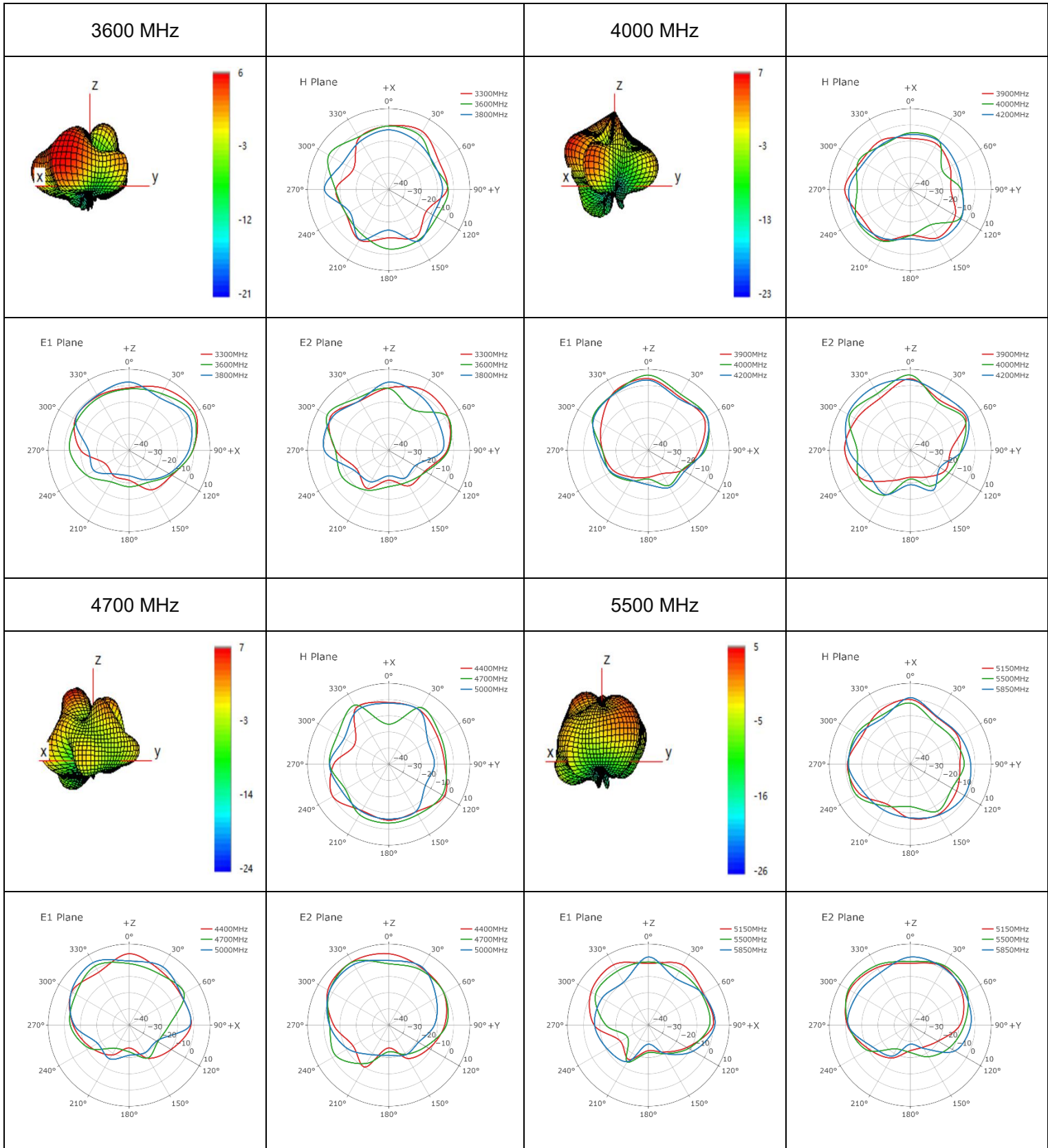
● **MH4**



● **MH4**

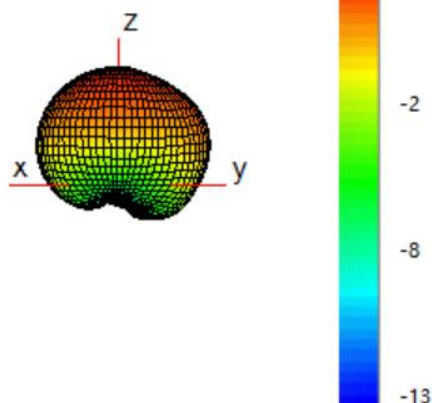


● **MH4**

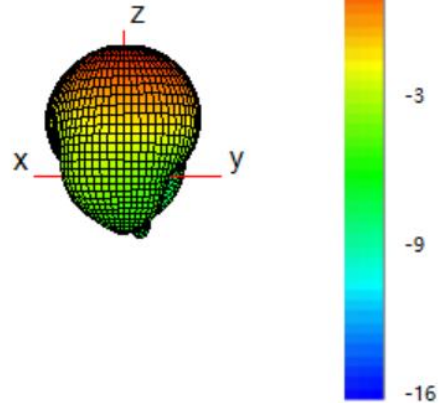


● **GNSS**

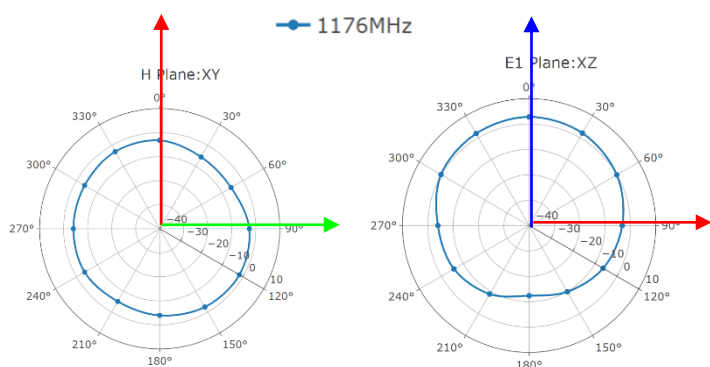
1176 MHz



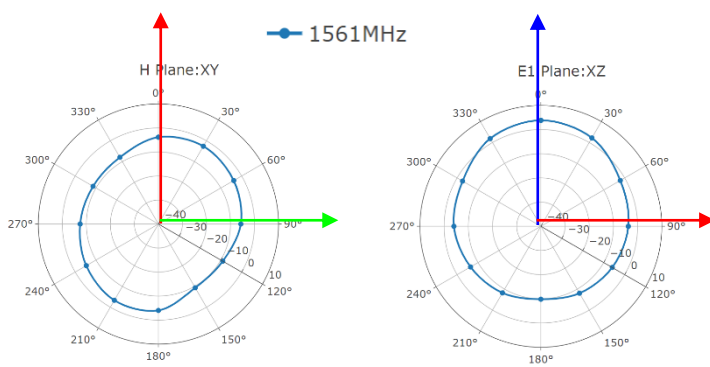
1561 MHz



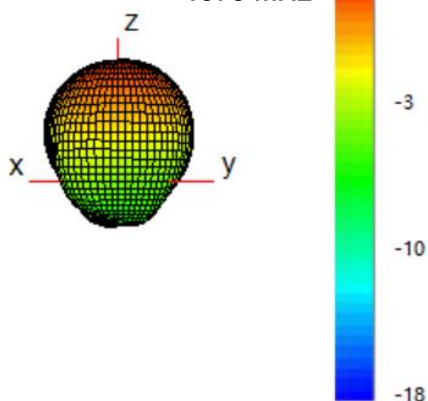
— 1176MHz



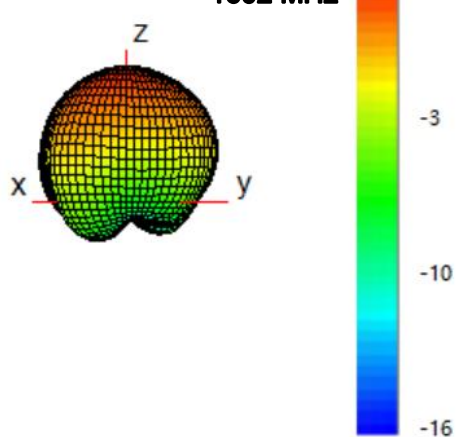
— 1561MHz



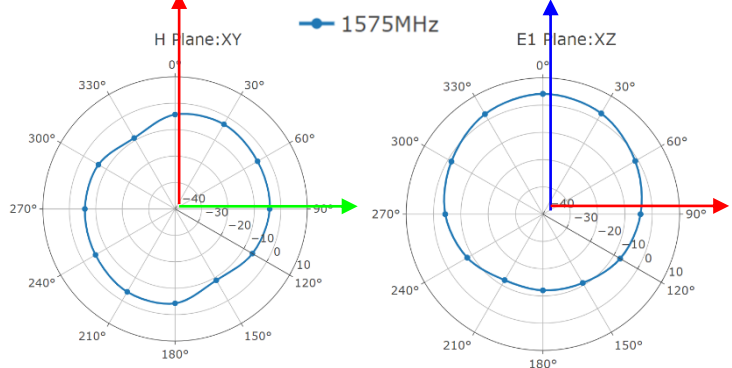
1575 MHz



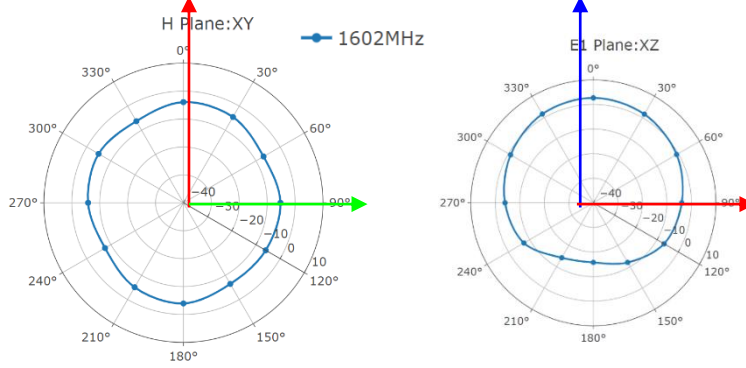
1602 MHz



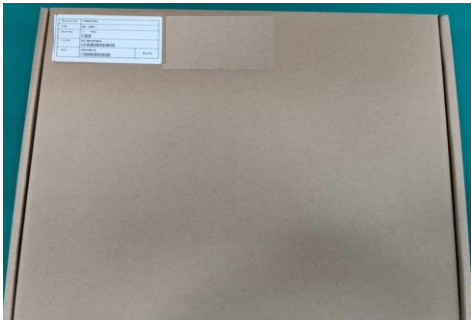
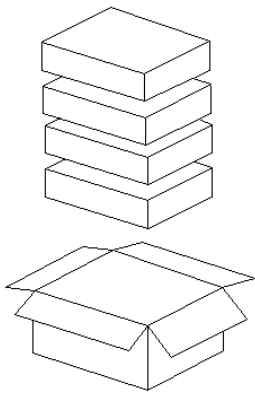
— 1575MHz

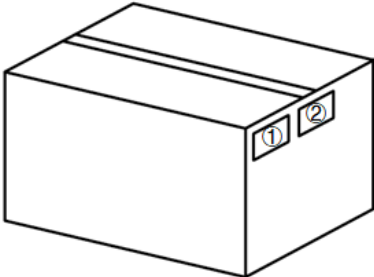
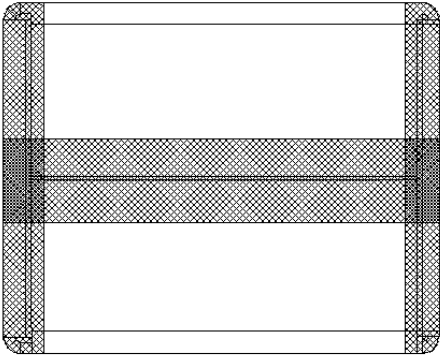


— 1602MHz



4 Packaging

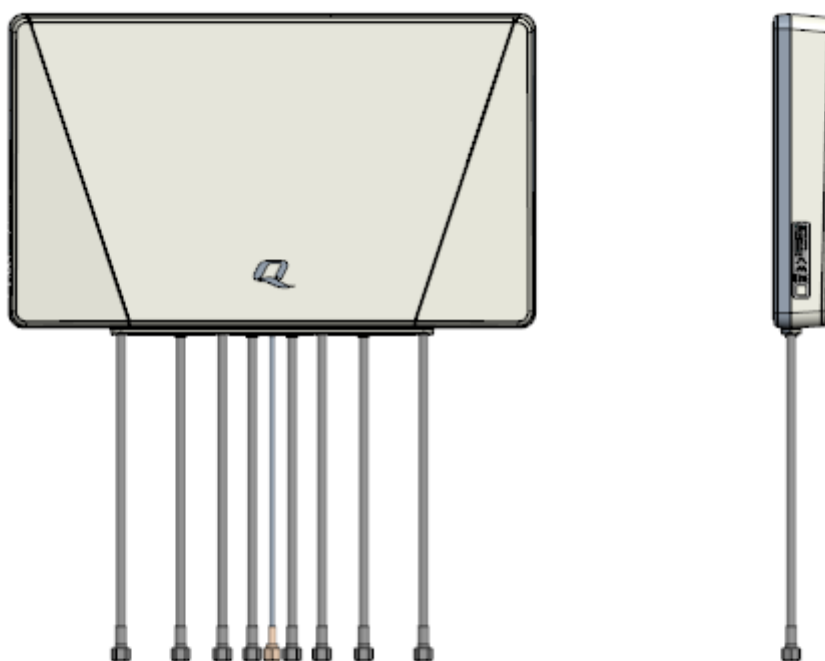
Step	Packaging Picture / 2D Picture	Description
1		The product wrapped with a bubble bag is put into the inner box.
2		Label the inner box
3		(4 Inner Boxes / Carton Box) (4 PCS Antennas / Carton Box) <u>Carton Size:</u> <u>L × W × H = 370 × 370 × 295 mm</u>

4		Position for Attaching Labels ① Carton Label ② Quality Label
5		Sealing Cartons “I” type sealing cartons

5 Installation

YEMA013BA

- LMHs and MHs can be connected arbitrarily.
- Adhesive: Remove the centrifugal paper and attach the antenna to a clean and smooth surface (no oil stains on the attached surface).



Installation Instructions					
Tube Mark	Tube Color	Cable	Connector	Frequency (MHz)	Technology
5G LMH1	Red	ALSR200	SMA Male	600–960 MHz, 1400–6000 MHz	5G/4G/3G/2G
5G LMH2	Red	ALSR200	SMA Male	600–960 MHz, 1400–6000 MHz	5G/4G/3G/2G
5G LMH3	Red	ALSR200	SMA Male	600–960 MHz, 1400–6000 MHz	5G/4G/3G/2G
5G LMH4	Red	ALSR200	SMA Male	600–960 MHz, 1400–6000 MHz	5G/4G/3G/2G

5G MH1	Black	ALSR200	SMA Male	1400–6000 MHz	5G MIMO/WIFI
5G MH2	Black	ALSR200	SMA-M	1400–6000 MHz	5G MIMO/WIFI
5G MH3	Black	ALSR200	SMA-M	1400–6000 MHz	5G MIMO/WIFI
5G MH4	Black	ALSR200	SMA-M	1400–6000 MHz	5G MIMO/WIFI
GNSS	Blue	RG174	SMA-M	1164–1189 MHz, 1559–1606 MHz	GPS/GLONASS/GALILEO /BDS/QZSS/IRNSS

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Revision History

Version	Date	Author	Note
-	2024-04-16	Kane LIU/ Junsen LI/ Steven MO/ David LIU/ Aria CHU	Creation of the document
1.0	2024-04-16	Kane LIU/ Junsen LI/ Steven MO/ David LIU/ Aria CHU	First official release



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