

Antenna

YCN001AA Datasheet

Antenna Services

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About the Document

Revision History

Version	Date	Author	Note
-	2020-05-26	Kenny YIN	Initial
1.0	2020-05-26	Kenny YIN	First official release
1.1	2020-12-15	Kenny YIN	Updated the antenna image in Chapter 2.
1.2	2021-07-25	Kenny YIN	<ol style="list-style-type: none">1. Updated working temperature. (Chapter 3)2. Added detailed passive electrical specifications. (Chapter 3)
1.3	2021-12-01	Kenny YIN	Updated the product description in Chapter 1.
2.0	2022-05-11	Bunny ZHANG	<ol style="list-style-type: none">1. Updated the product description (Chapter 1).2. Added GNSS L1 Band supported (Chapter 2).3. Added GNSS L1 Band parameters to Passive Electrical Specifications and Detailed Passive Electrical Specifications (Chapter 3).4. Added the passive data (VSWR, Efficiency, Gain, Radiation Pattern) of GNSS L1 Band (Chapter 4).
2.1	2022-09-08	Kenny YIN	Updated the IP rating to IP66.

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1 Product Description

This Quectel external 4G/GNSS antenna covers main 4G LTE bands, 3G/2G/LPWA bands and is compatible with GNSS L1 band as well. The external antenna is barely influenced by the internal environment of devices, giving a much better performance in efficiency, radiation and gain while providing an optimized solution for a customer product. Quectel also offers flexible installation with customized cable length and connector options.

2 Product Features

- Cellular LTE /GNSS L1
- High efficiency
- Excellent performance



3 Product Specifications

Passive Electrical Specifications

Frequency Range	700–960 MHz, 1560–1610 MHz, 1710–2700 MHz
Input Impedance	50 Ω
VSWR	≤ 3.1
Gain	≤ 2.71 dBi
Polarization Type	Linear

Detailed Passive Electrical Specifications

Frequency Range (MHz)	698–960	1176–1280	1560–1610	1710–2170	2170–2690	3300–4000	4000–5000	5000–6000
VSWR (Max.)	3.1	-	2.1	2.9	2.6	-	-	-
Average Efficiency (%)	31.6	-	41	33.5	44.3	-	-	-
Max. Peak Gain (dBi)	-0.7	-	-0.03	1.66	2.71	-	-	-

Mechanical Specifications

Antenna Size	144 mm x Φ 13 mm
Casing	TPEE
Connector Type	SMA Male (Center Pin)
Working Temperature	-40 °C to +85 °C
Weight	Typ. 16.2 g
Radome Color	Black
IP Rating	IP66

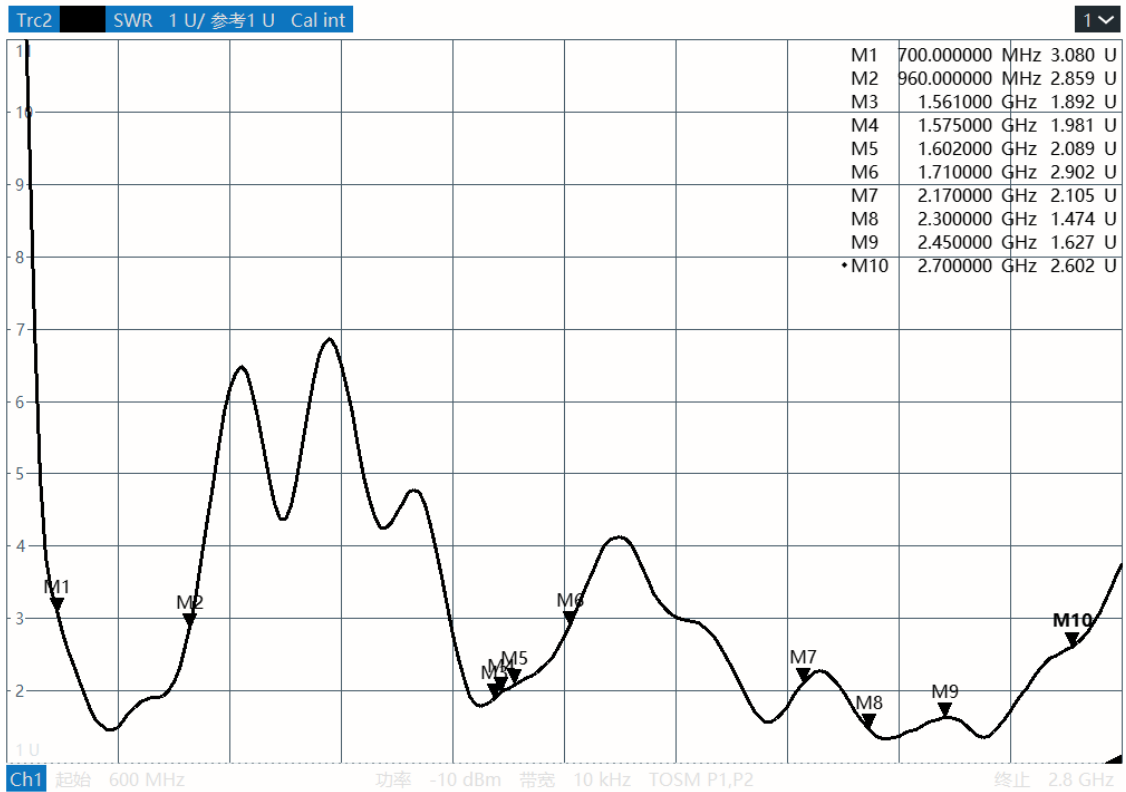
4 Overall Performance

4.1. Test Environment

- KEYSIGHT ENA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 8.5 GHz

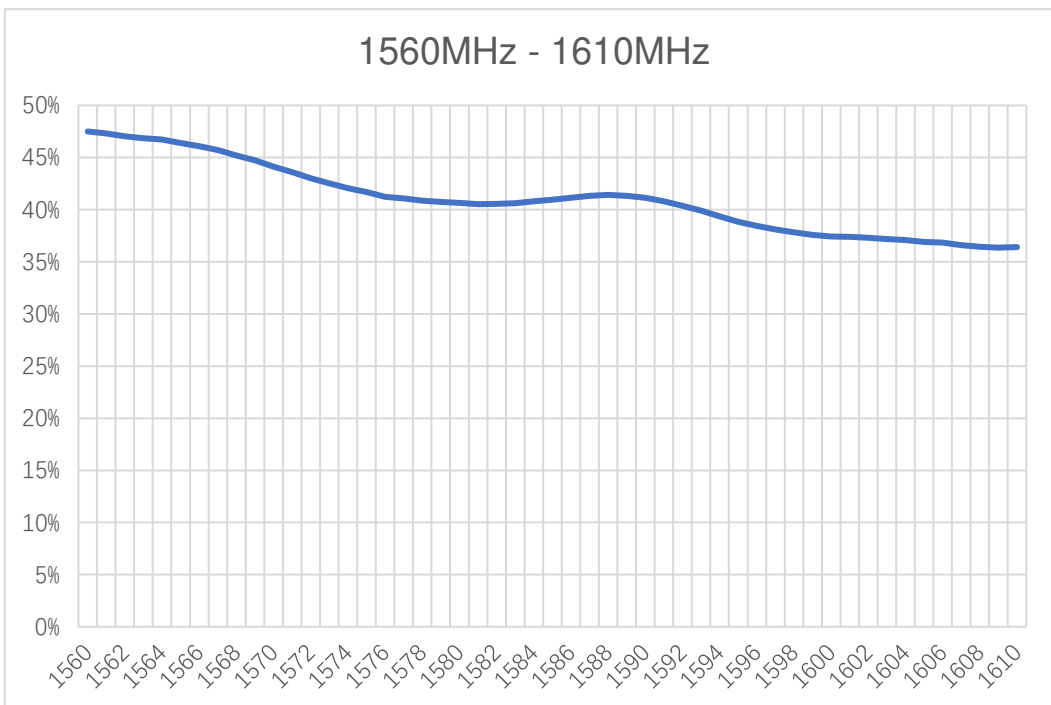
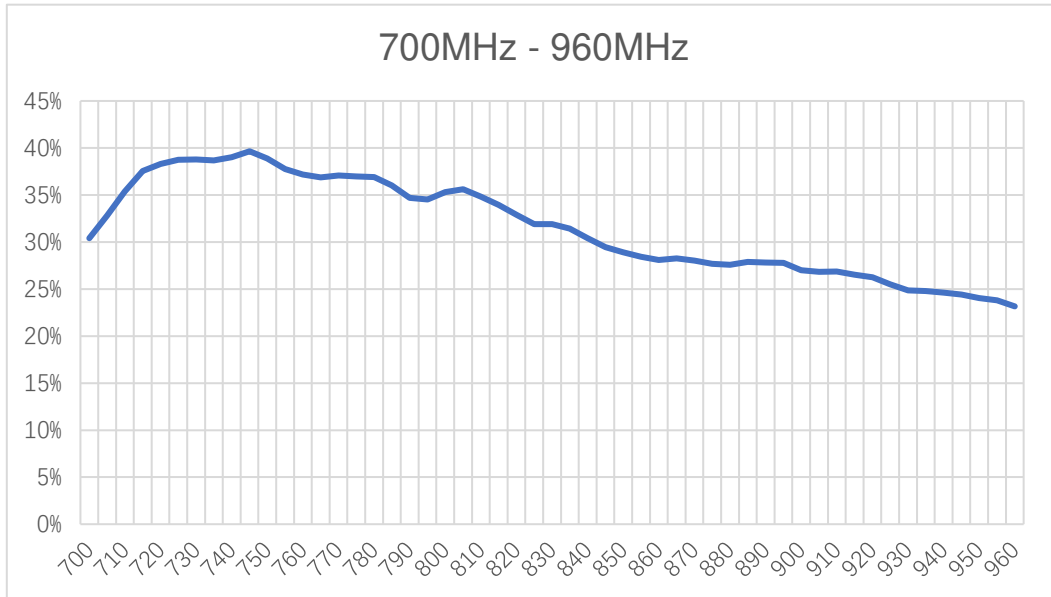


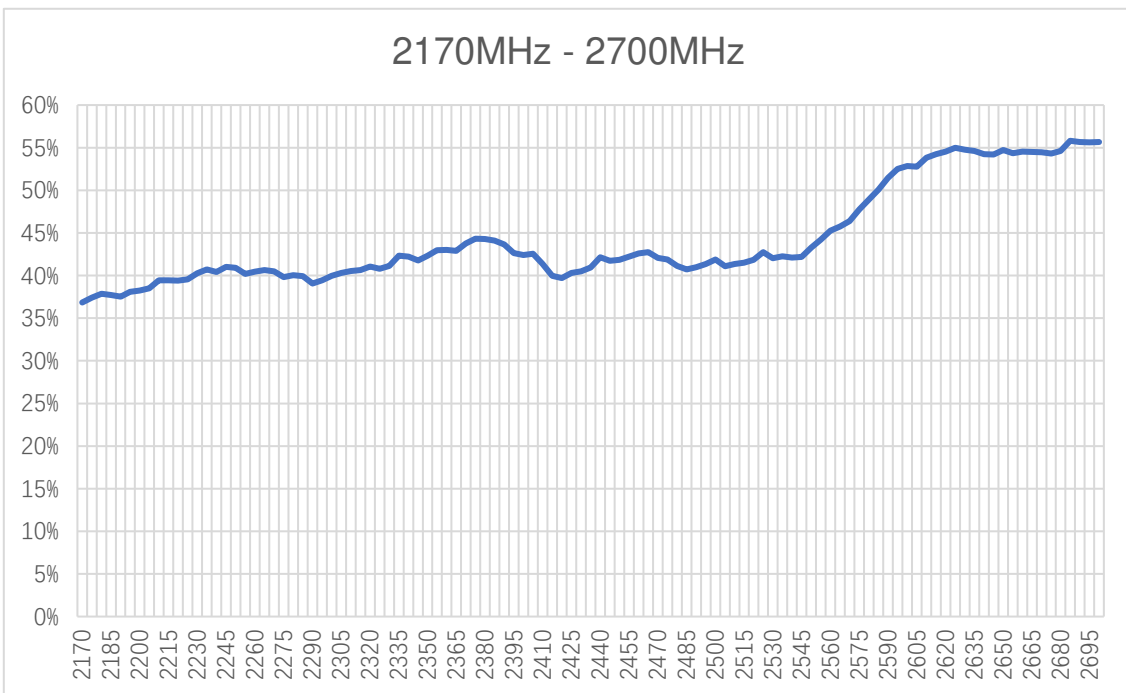
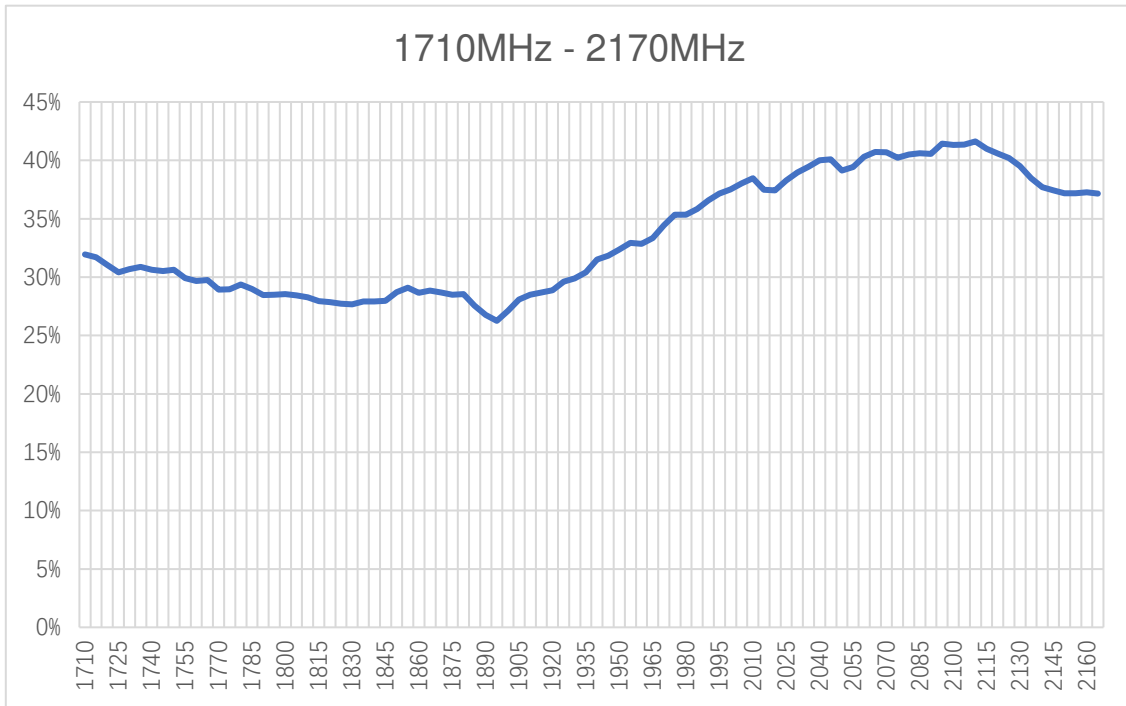
4.2. VSWR



Frequency (MHz)	700	960	1561	1575	1602	1710	2170	2300	2450	2700
VSWR	3.08	2.86	1.89	1.98	2.09	2.9	2.11	1.47	1.63	2.6

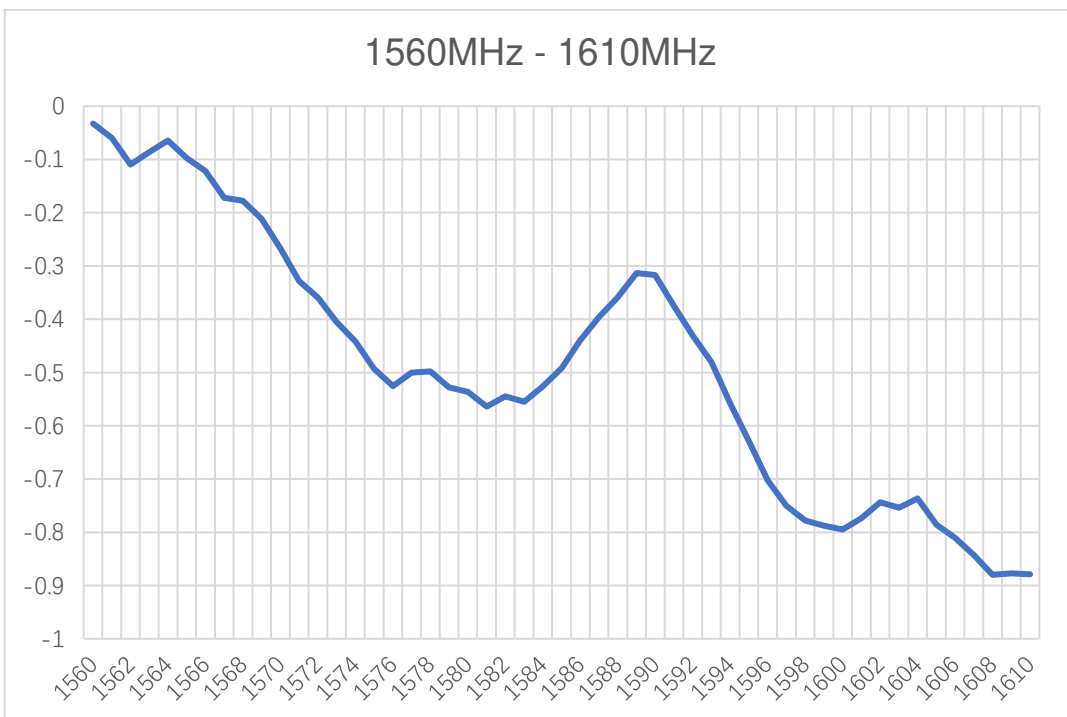
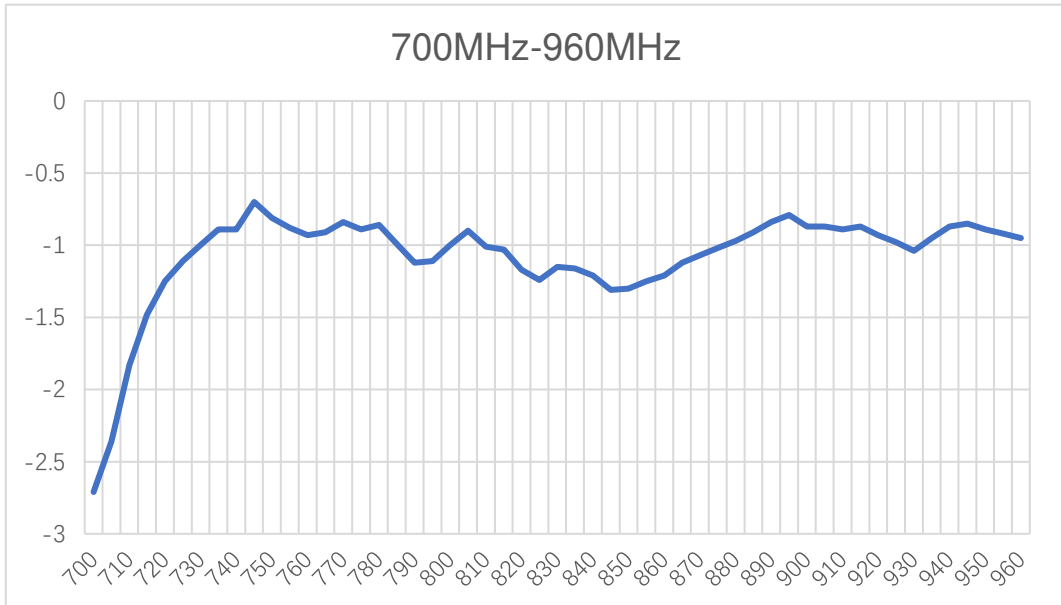
4.3. Efficiency

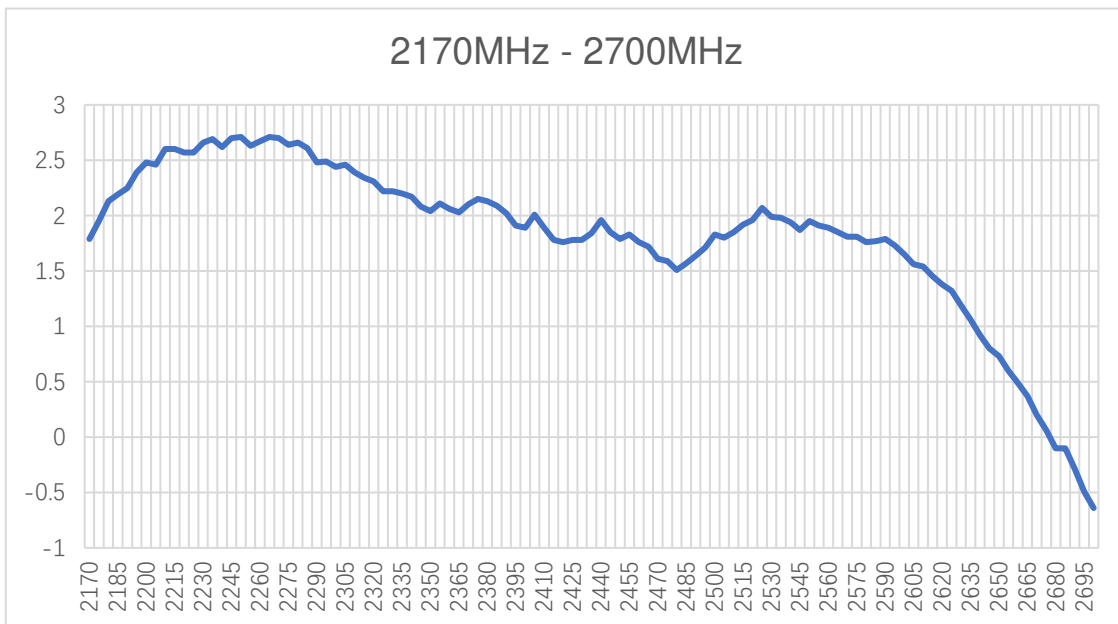
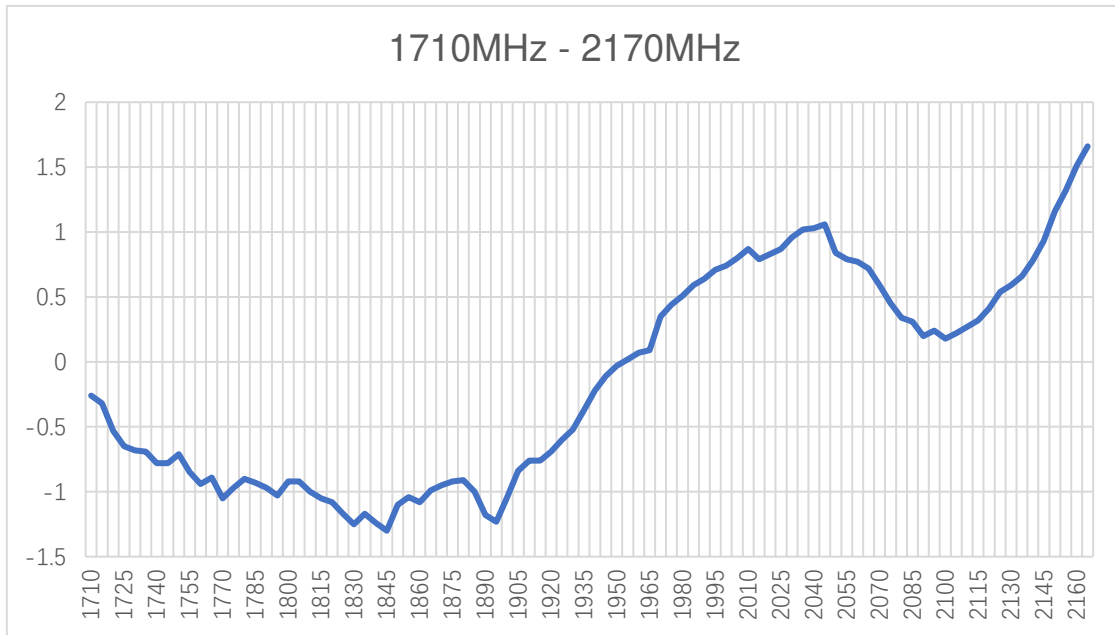




Frequency (MHz)	700	960	1561	1575	1602	1710	2170	2300	2450	2700
Efficiency (%)	30.4	23.2	47.3	41.7	37.3	1.95	36.8	40.1	41.8	55.7

4.4. Gain

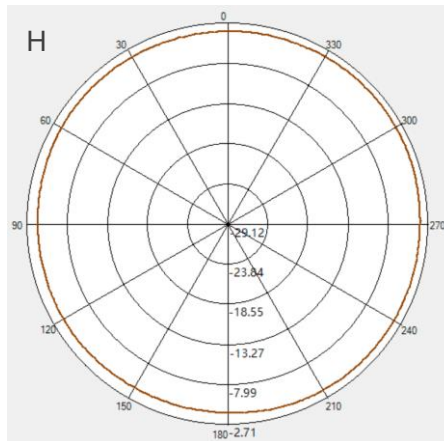
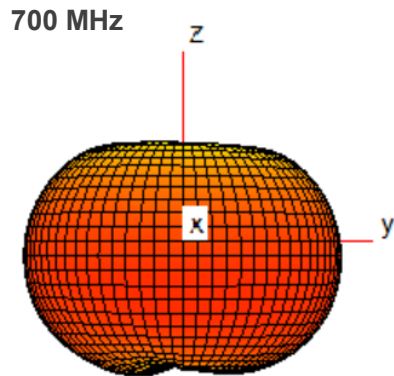
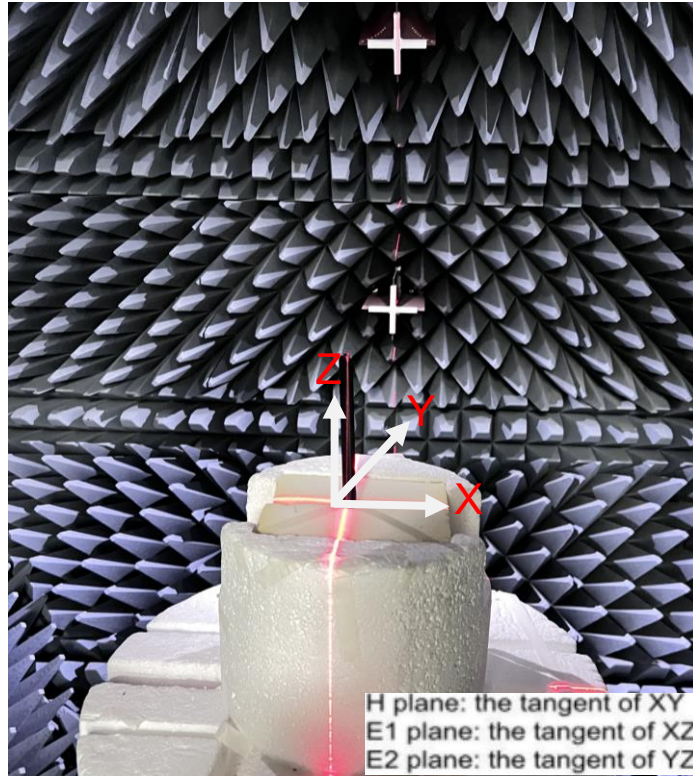


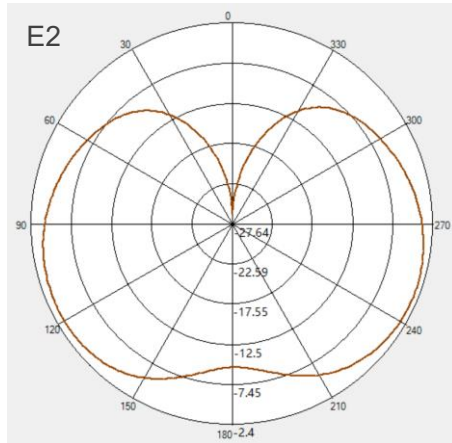
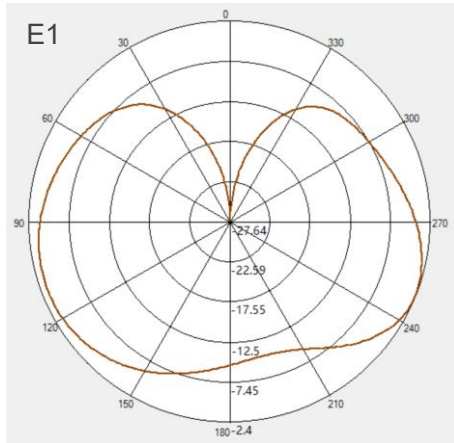


Frequency (MHz)	700	960	1561	1575	1602	1710	2170	2300	2450	2700
Gain (dBi)	-2.71	-0.95	-0.06	-0.49	-0.74	-0.26	1.79	2.44	1.79	-0.64

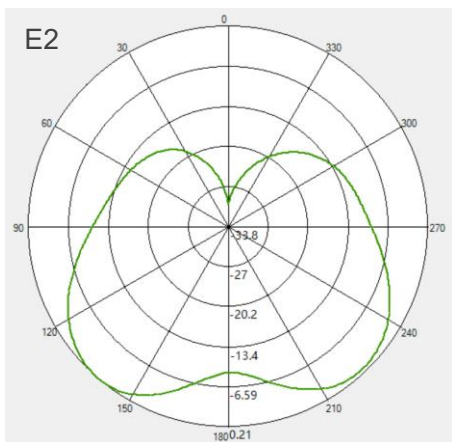
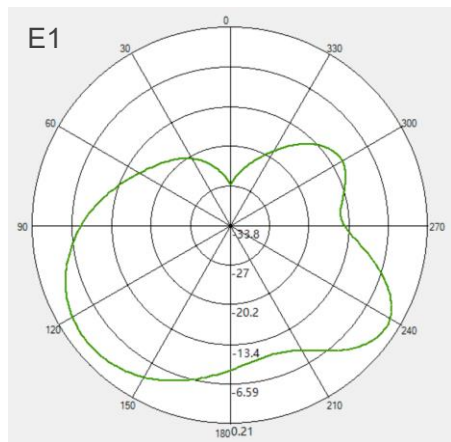
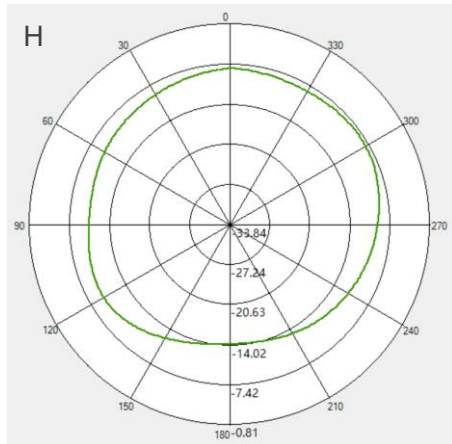
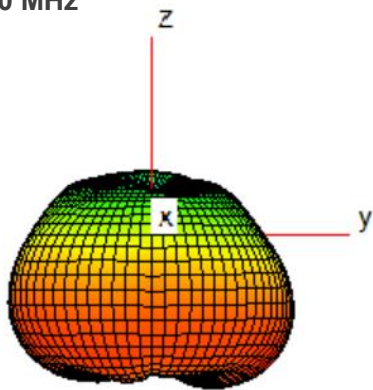
4.5. Radiation Pattern

- Test condition: free space

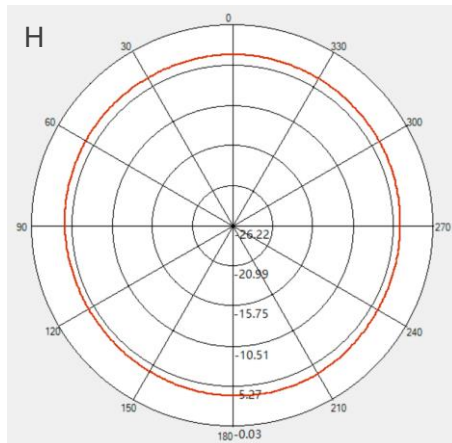
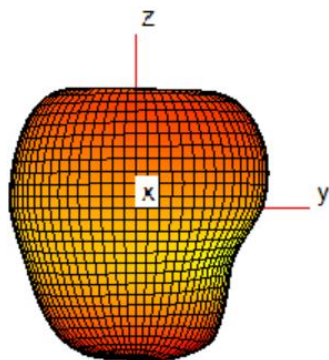


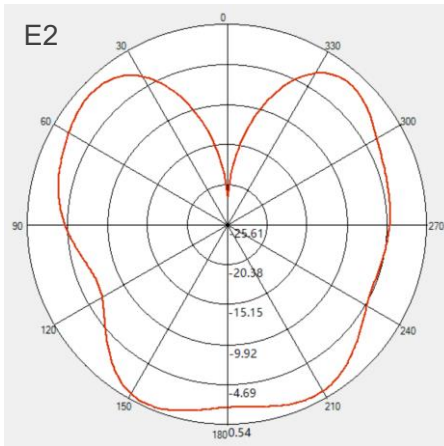
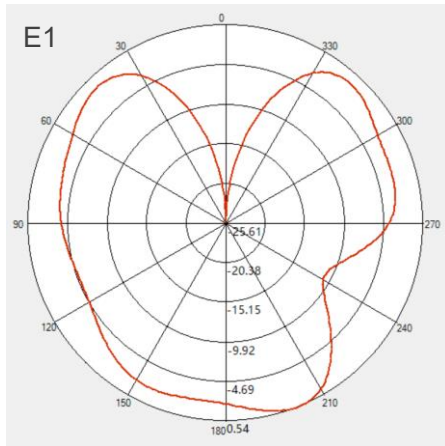


960 MHz

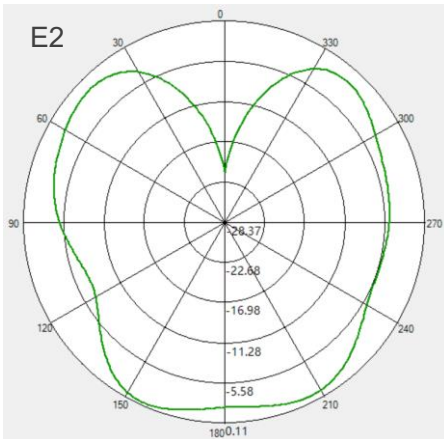
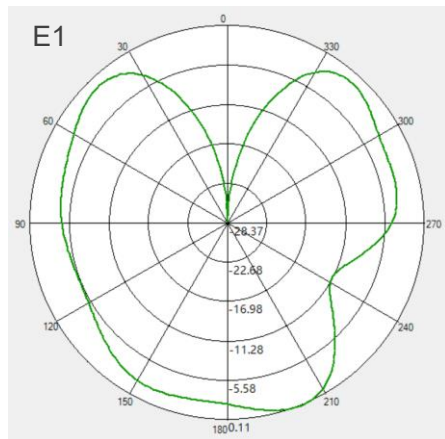
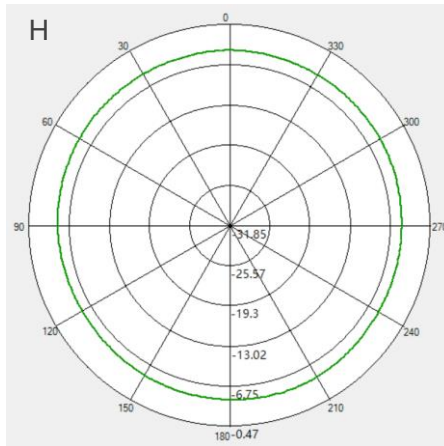
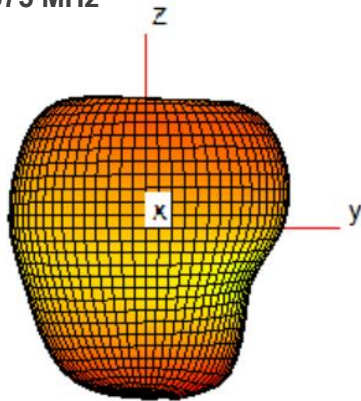


1561 MHz

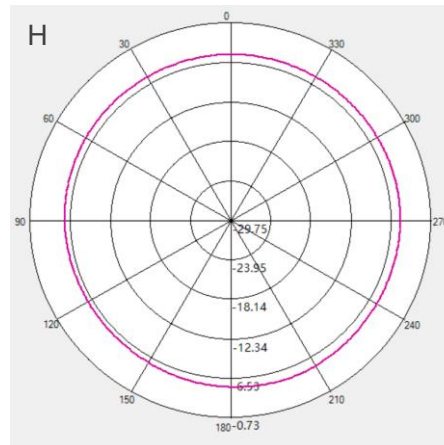
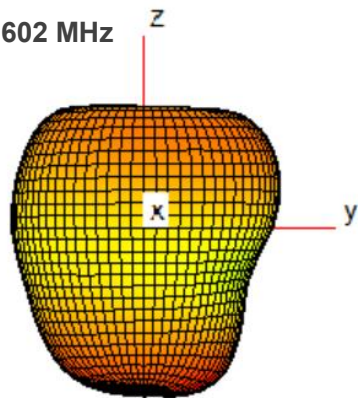


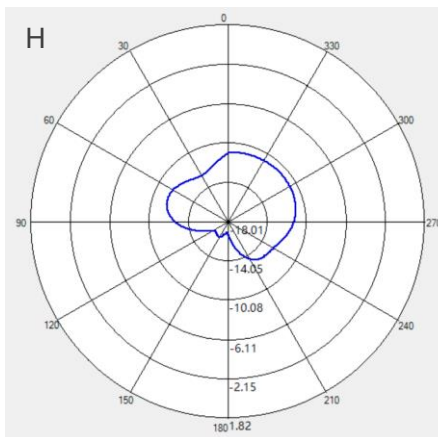
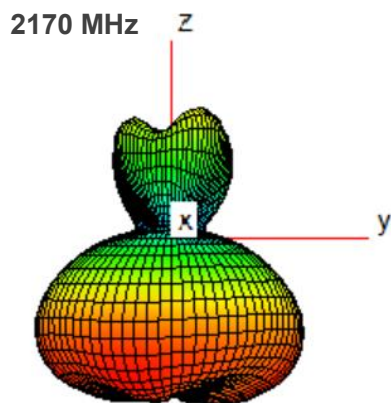
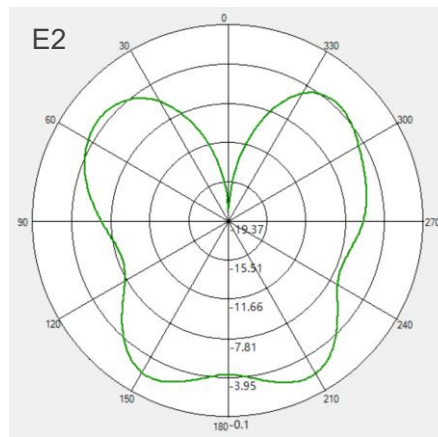
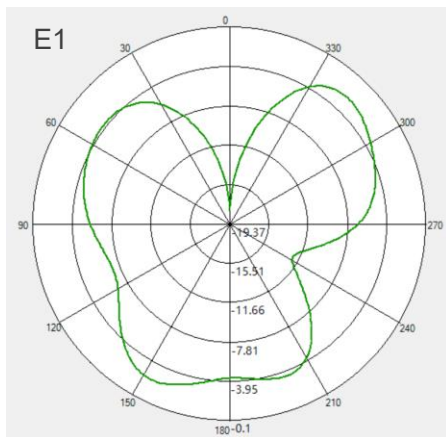
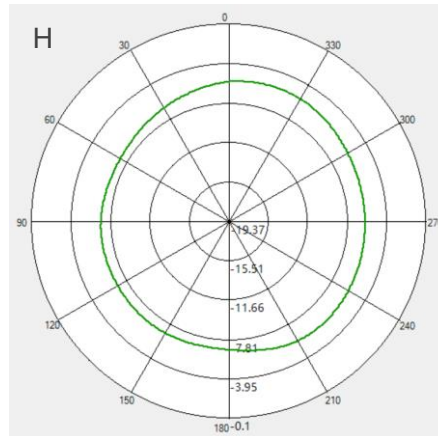
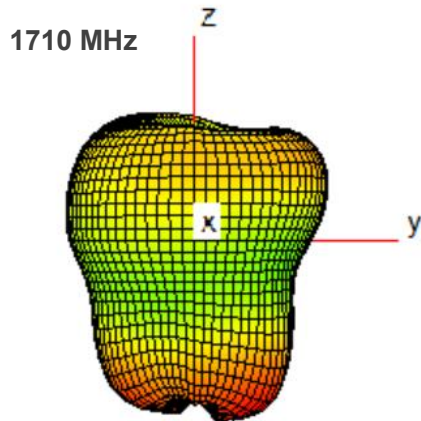
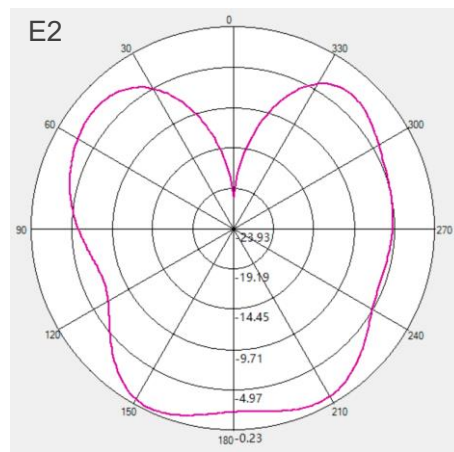
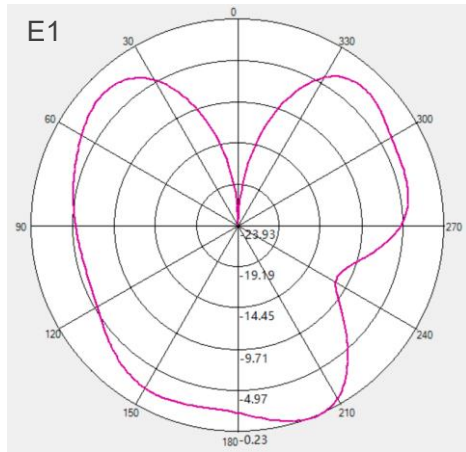


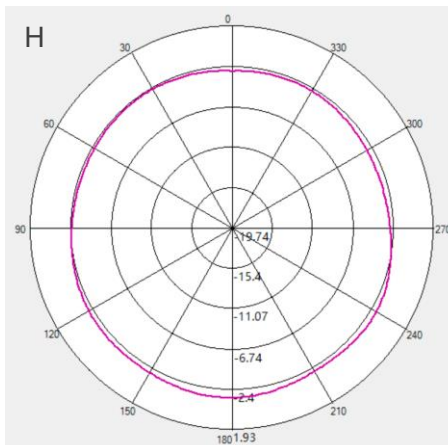
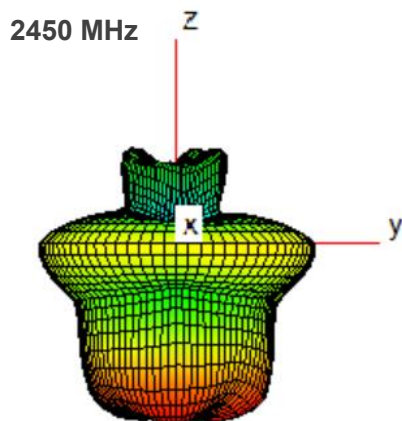
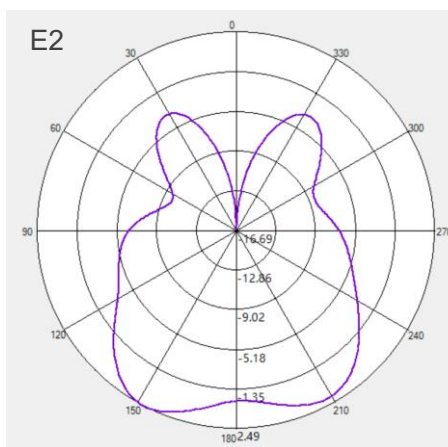
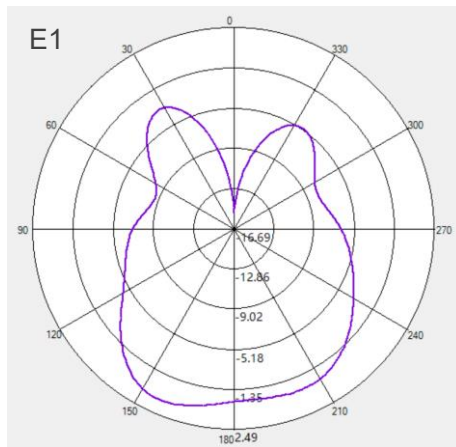
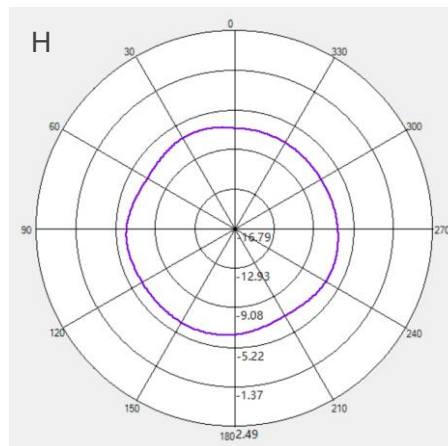
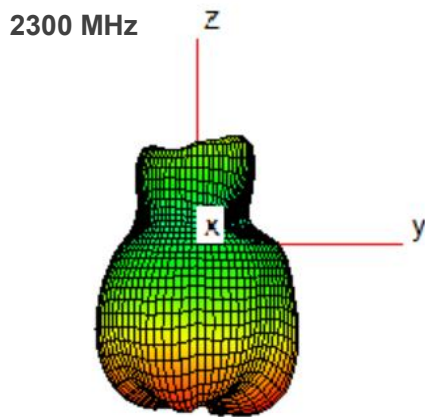
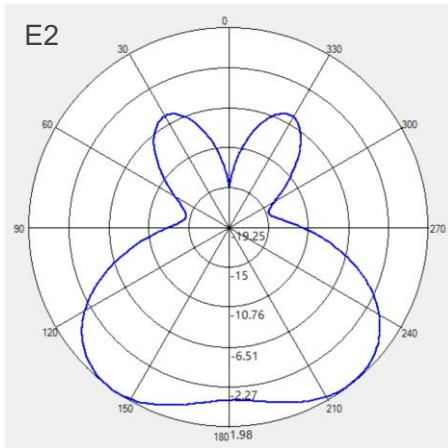
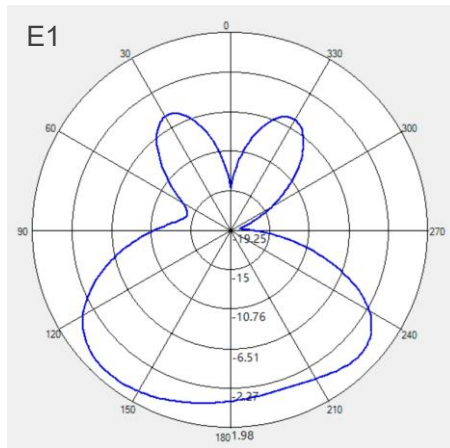
1575 MHz

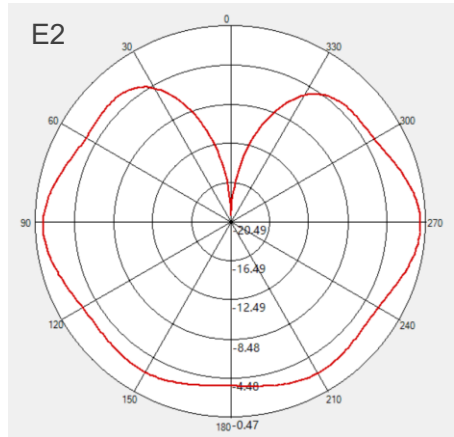
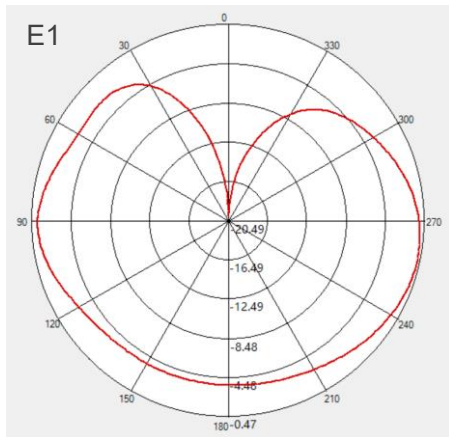
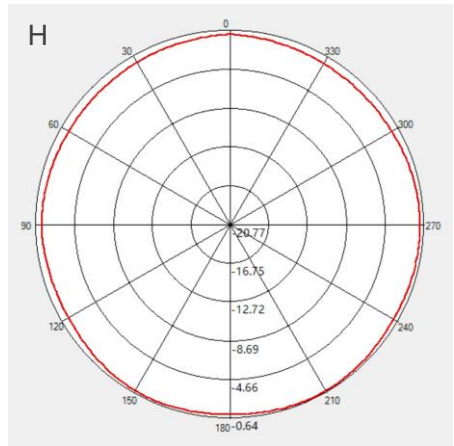
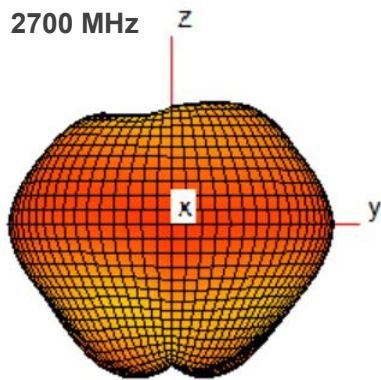
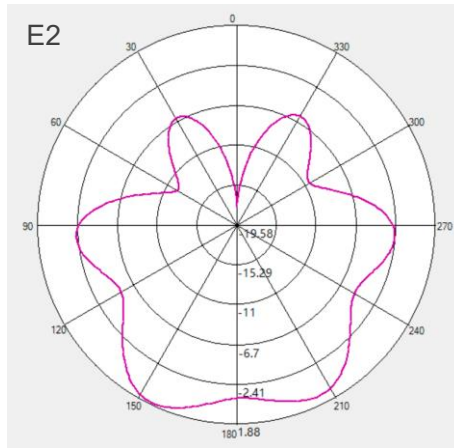
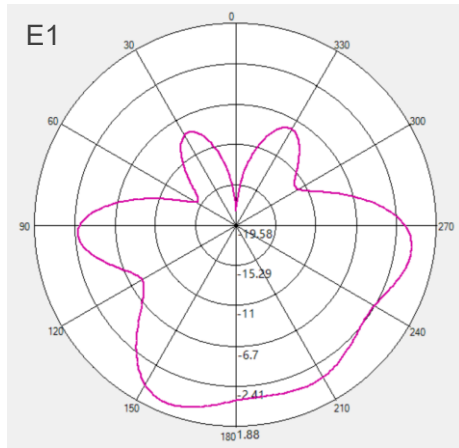


1602 MHz









5 Product Size



RoHS

