Antenna

YE0031AA Datasheet

Antenna Services

Version: 2.1

Date: 2021-07-25

Status: Released

Our aim is to provide customers with timely and comprehensive service. For any assistance, please contact our company headquarters:

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About the Document

Revision History

Version	Date	Author	Note
-	2020-12-21	Kenny YIN	Creation of the document
1.0	2020-12-21	Kenny YIN	First official release
1.1	2021-01-15	Kenny YIN	Updated the image in Chapter 2.
1.2	2021-01-27	Kenny YIN	Added IP rating description.
2.0	2021-04-27	Aria CHU	Updated all test data in the datasheets.
2.1	2021-07-25	Aria CHU	Updated the working temperature (Chapter 3).

Contents

1 Product Description

The antenna is designed for superior performance, and can be widely used for wireless applications.

We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

2 Product Features

- 2.4&5.8 GHz Wi-Fi dual-band
- High efficiency
- Excellent performance

3 Product Specifications

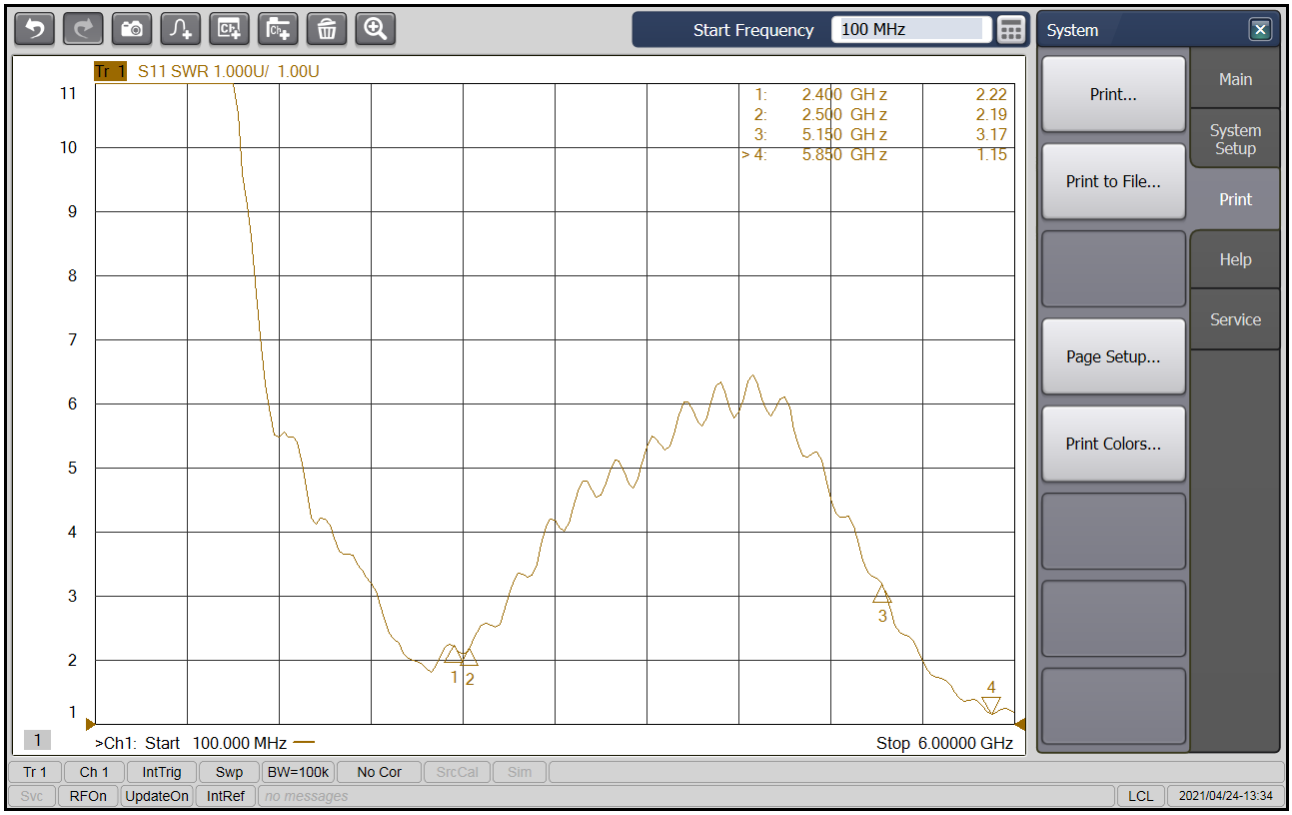
Passive Electrical Specifications	
Frequency Range	2.4–2.5 GHz, 5.15–5.85 GHz
Input Impendence	50 Ω
VSWR	2.4 GHz: ≤ 3.0, 5.8 GHz: ≤ 4.0
Gain	≤ 3.0 dBi
Polarization Type	Linear
Mechanical Specifications	
Antenna Size	52 mm × Φ 10 mm
Casing	ABS
Connector Type	SMA Male (center pin)
Working Temperature	-40 °C to +85 °C
Radome Color	Black
IP Rating	IP65

4 Overall Performance

4.1. Test Environment

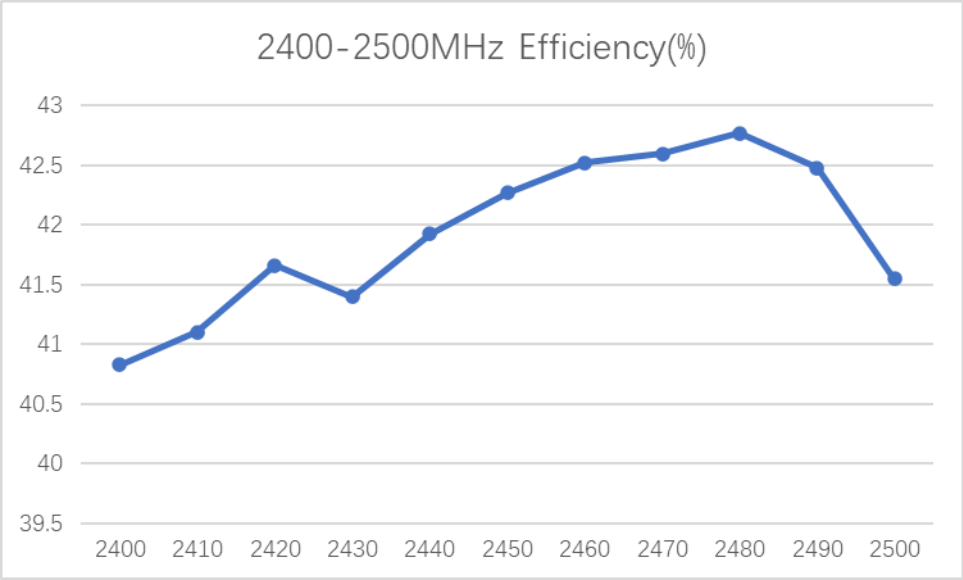
- KEYSIGHT VNA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone®2800 Chamber 5G (FR1) SISO/MIMO, 400 MHz – 8.0 GHz

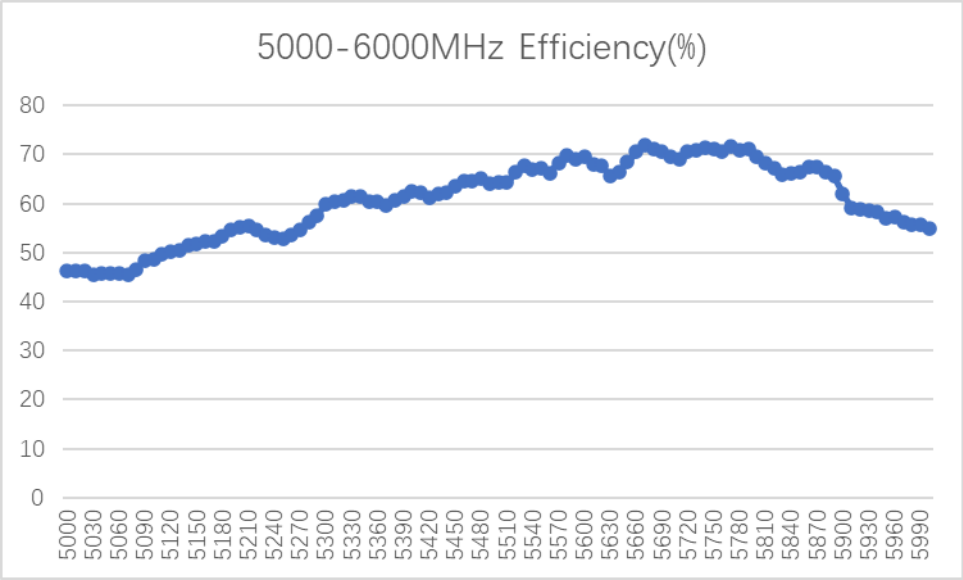
4.2. VSWR



Frequency (MHz)	2400	2500	5150	5850
VSWR	2.22	2.19.	3.17	1.15

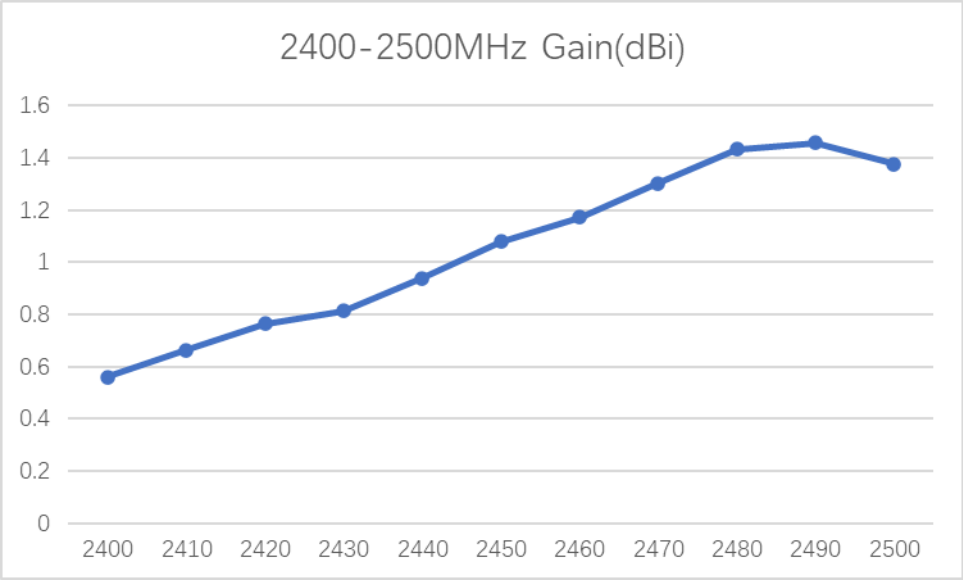
4.3. Efficiency

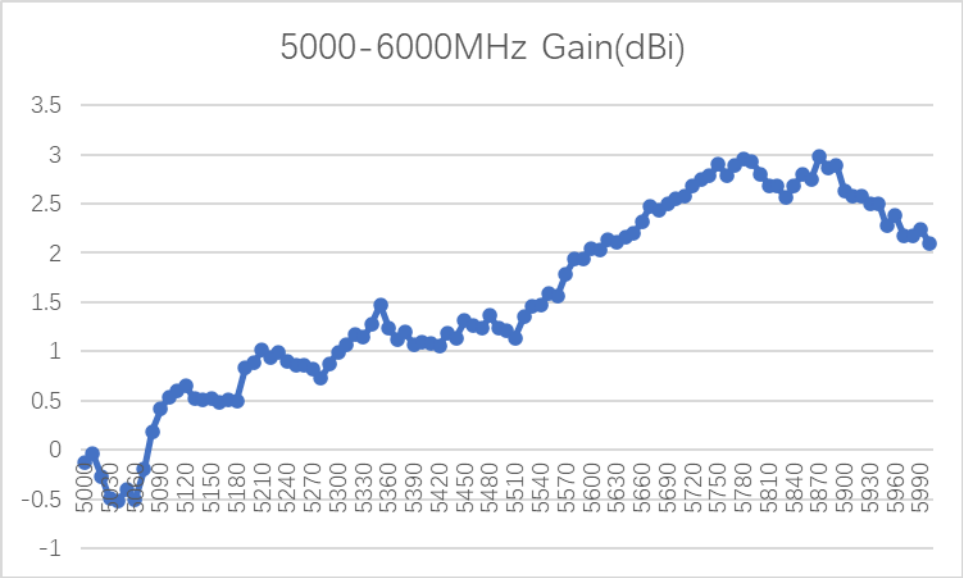




Frequency (MHz)	2400	2450	2500	5150	5550	5850
Efficiency (%)	40.83	42.27	41.55	51.76	67.34	66.37

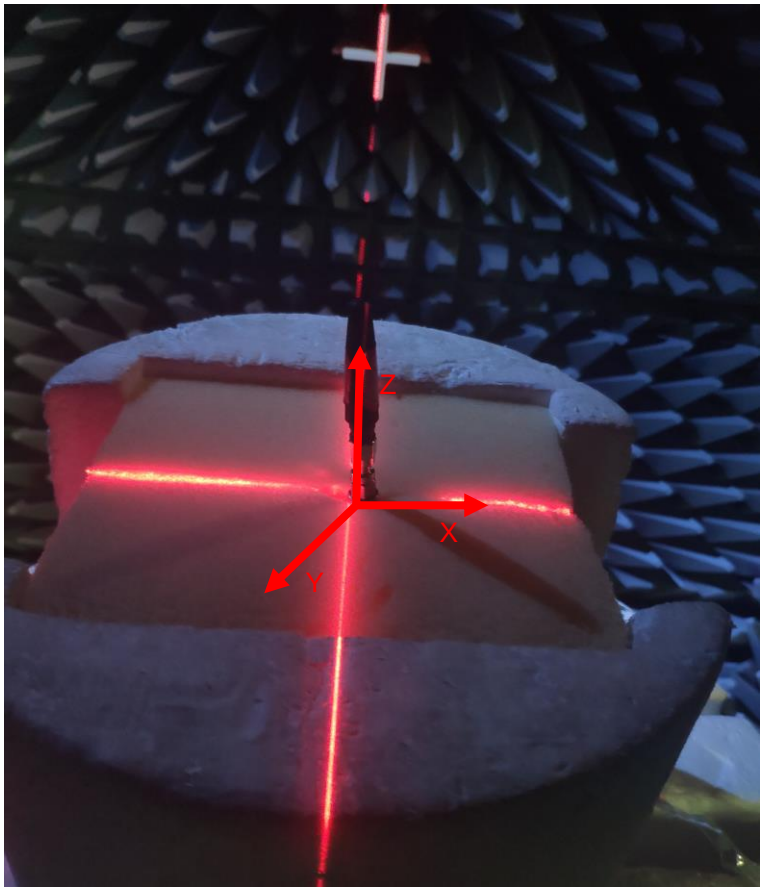
4.4. Gain





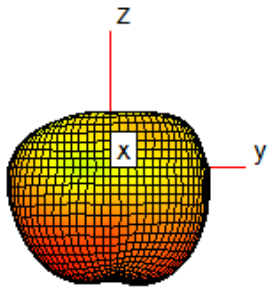
Frequency (MHz)	2400	2450	2500	5150	5550	5850
Gain (dBi)	0.56	1.08	1.38	0.52	1.59	2.80

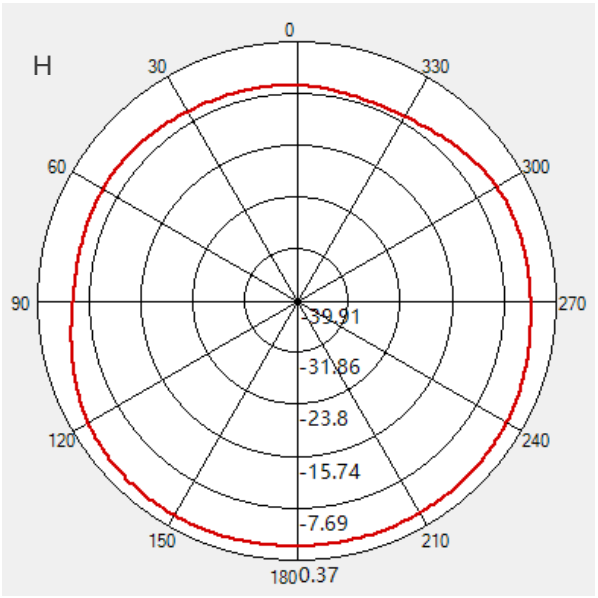
4.5. Radiation Pattern



H plane: the tangent of XY
E1 plane: the tangent of XZ
E2 plane: the tangent of YZ

4.5.1. 2400 MHz


z
x
y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60
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150
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180
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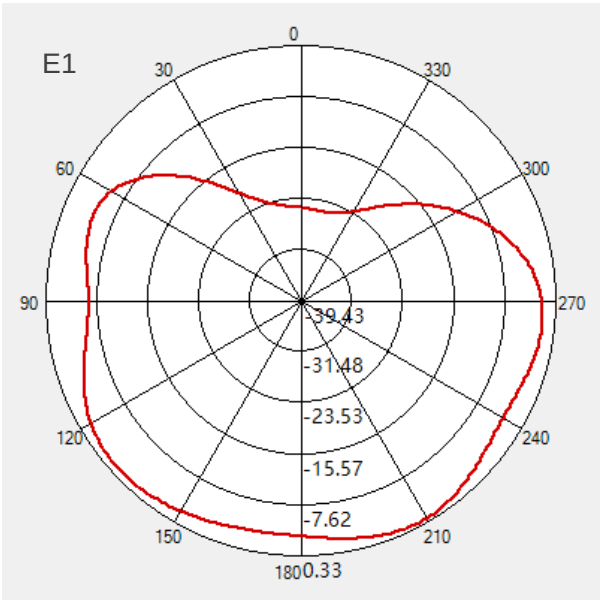
-7.69
0.37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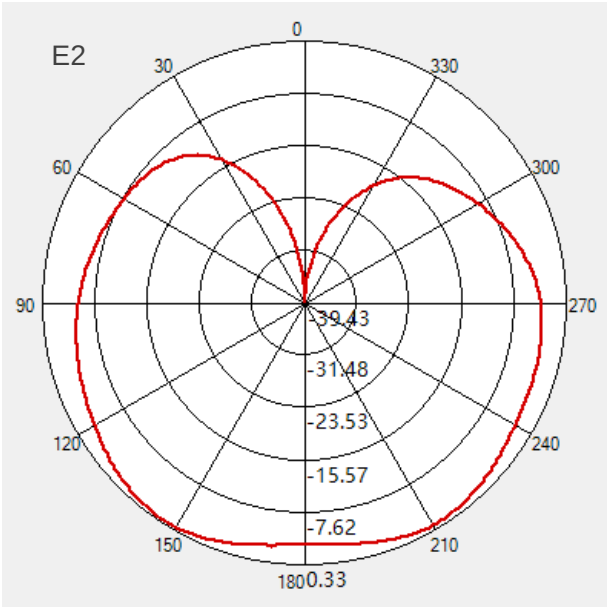
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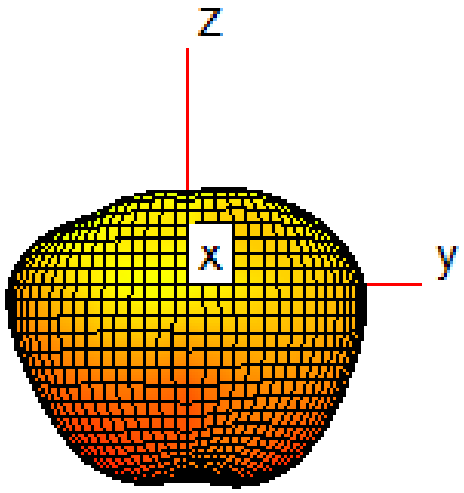
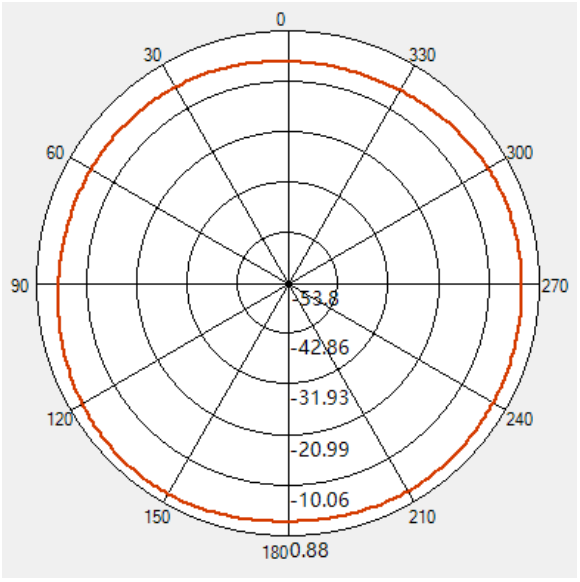
0.33

4.5.2. 2450 MHz


Z
x
y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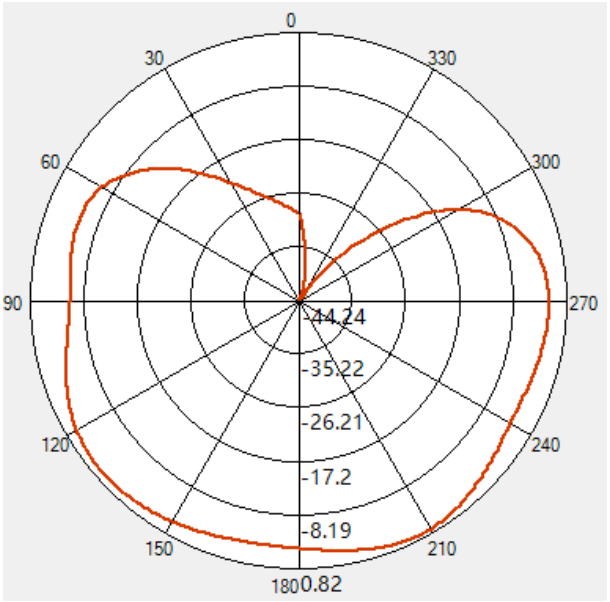
-10.06
0.88


0
30
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60
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150
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180
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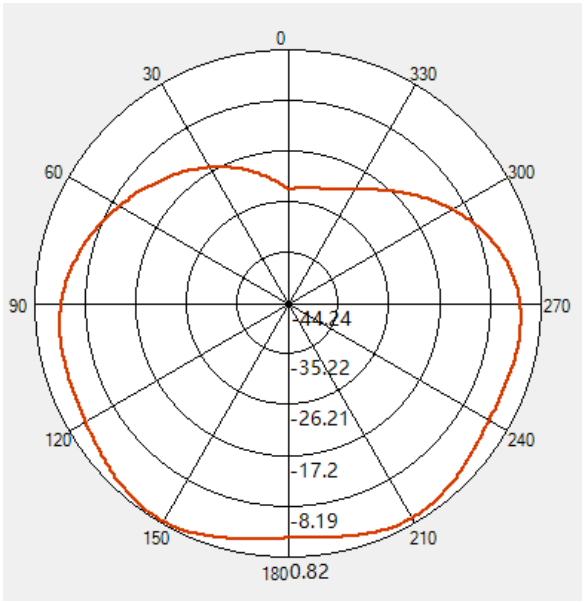
-26.21
-17.2
-8.19
0.82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60
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180
-44.24
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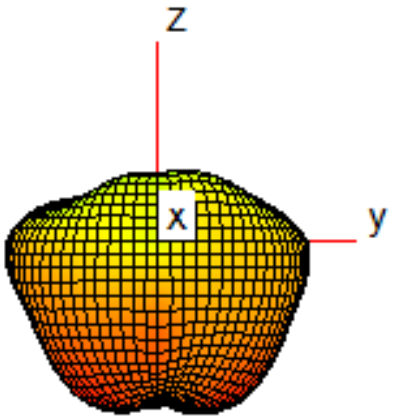
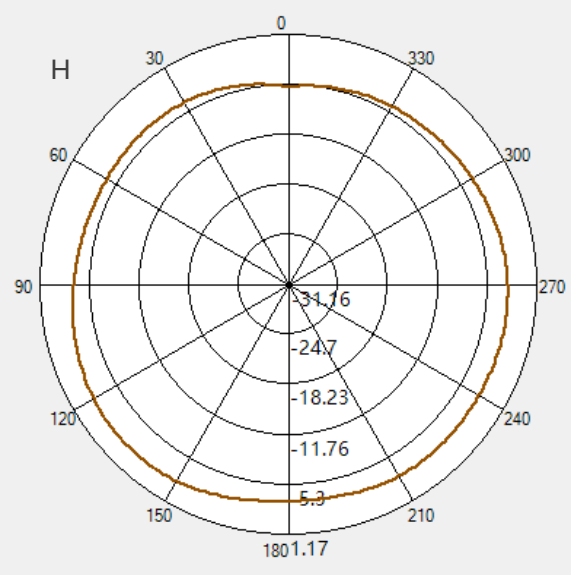
0.82

4.5.3. 2500 MHz


Z
x
y


H
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330
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150
210
180
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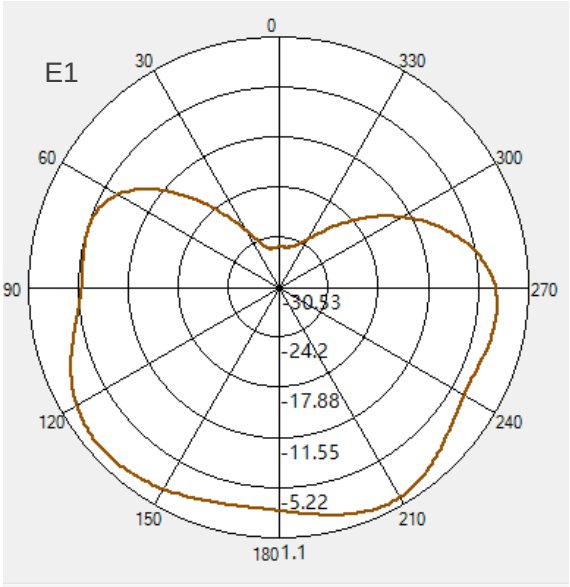
1.17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330
60
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150
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180
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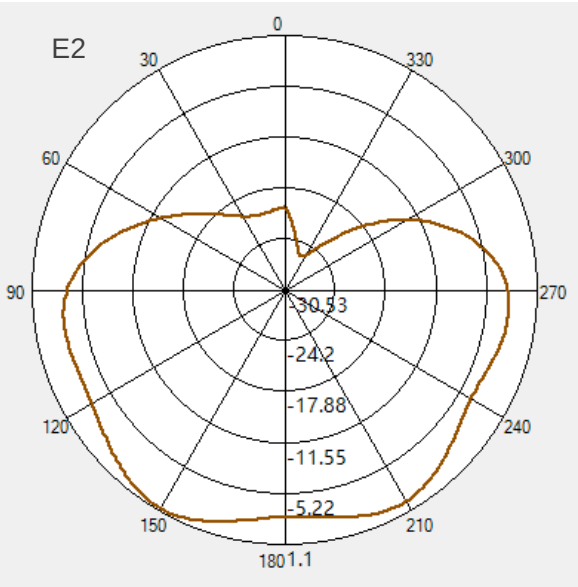
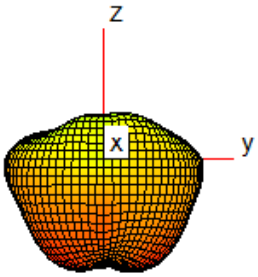
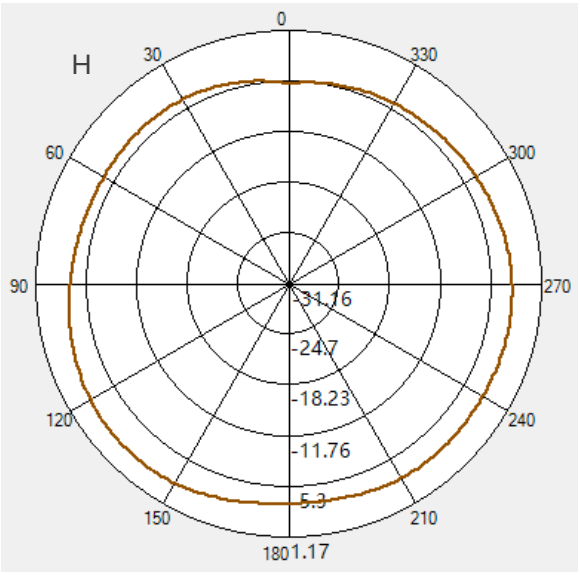
-11.55
-5.22
1.1


E2
0
30
330
60
300
90
270
120
240
150
210
180
-30.53
-24.2
-17.88
-11.55
-5.22
1.1

4.5.4. 5150 MHz


z
x
y


H
0
30
330
60
300
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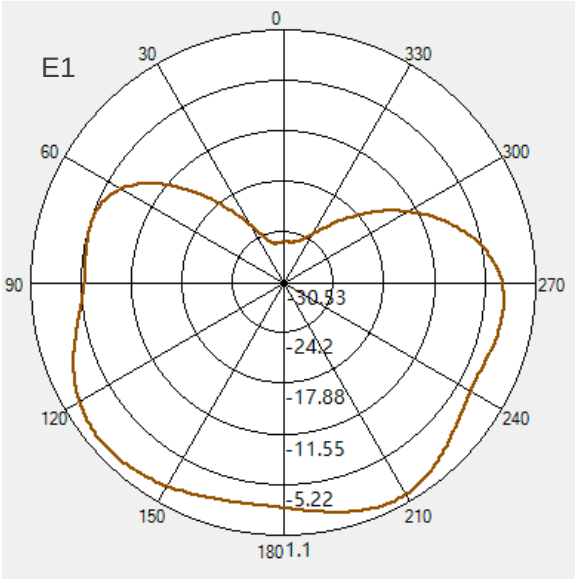
270
120
240
150
210
180
-31.16
-24.7
-18.23
-11.76
-5.3
1.17


E1
0
30
330
60
300
90
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240
150
210
180
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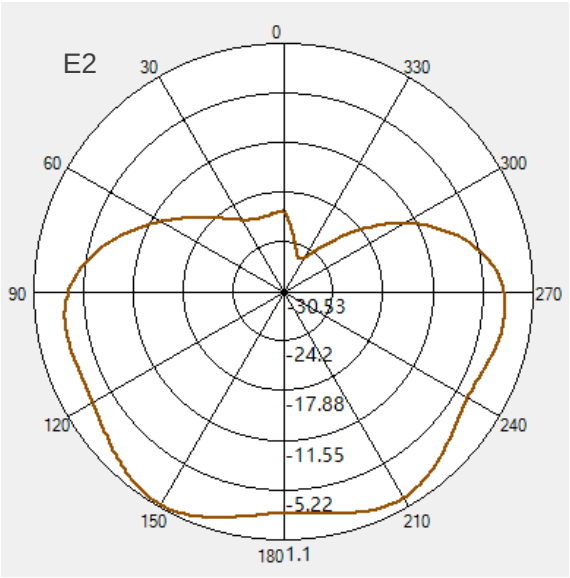
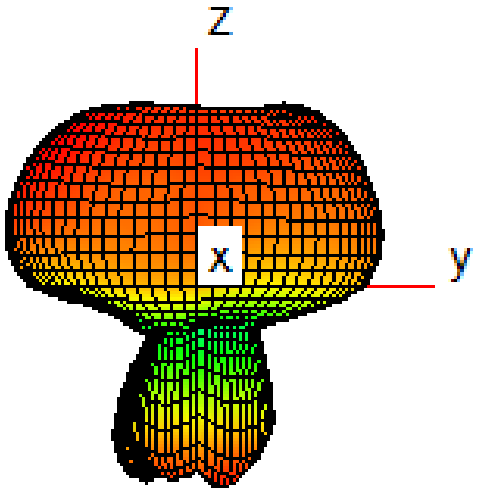
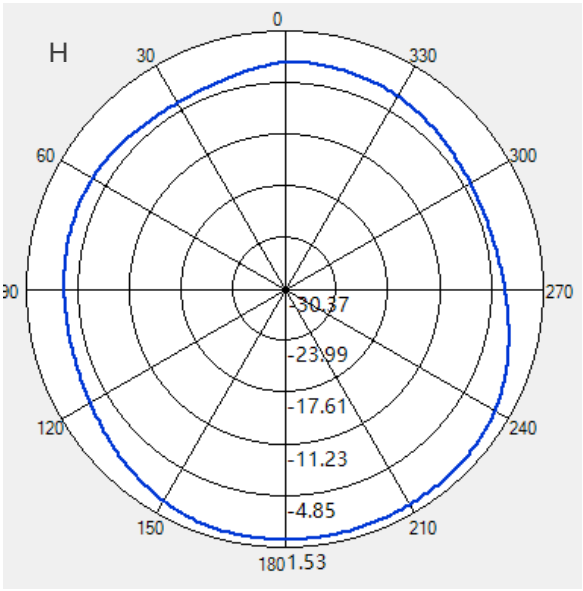
-24.2
-17.88
-11.55
-5.22
1.1


E2
0
30
330
60
300
90
270
120
240
150
210
180
-30.53
-24.2
-17.88
-11.55
-5.22
1.1

4.5.5. 5550 MHz


Z
x
y


H
0
30
330
60
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120
240
150
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180
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-17.61
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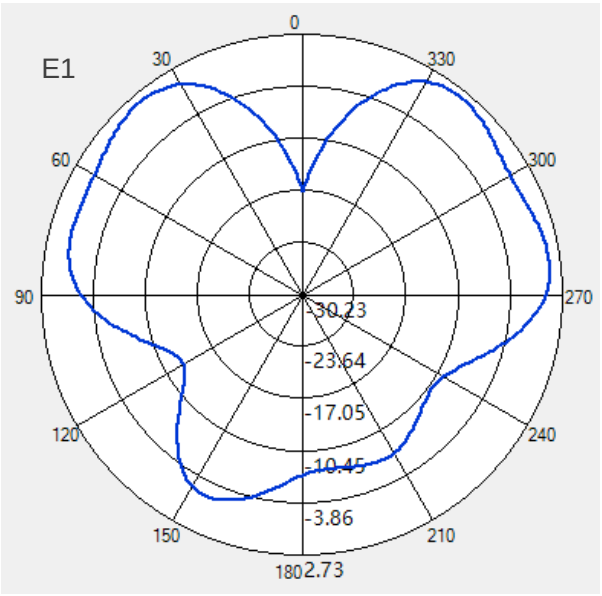
-4.85
1.53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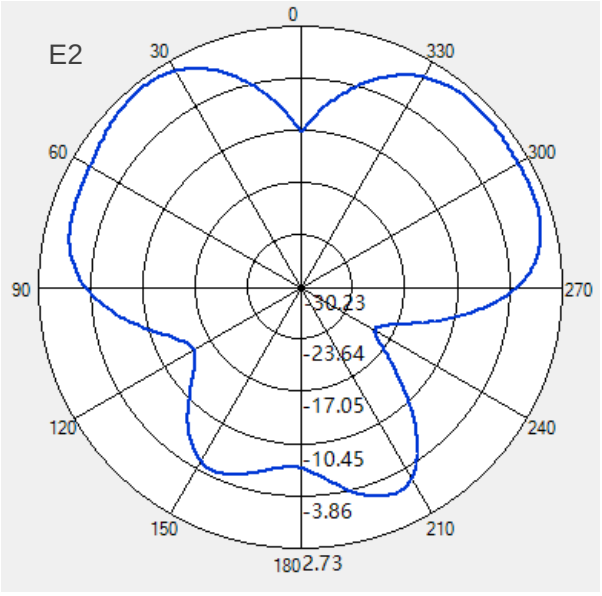
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330
60
300
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270
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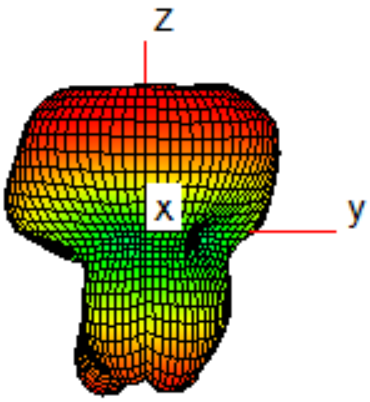
4.5.6. 5850 MHz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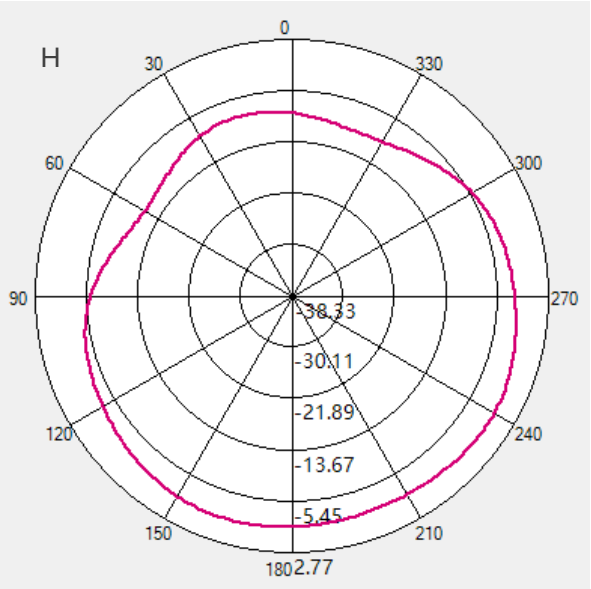
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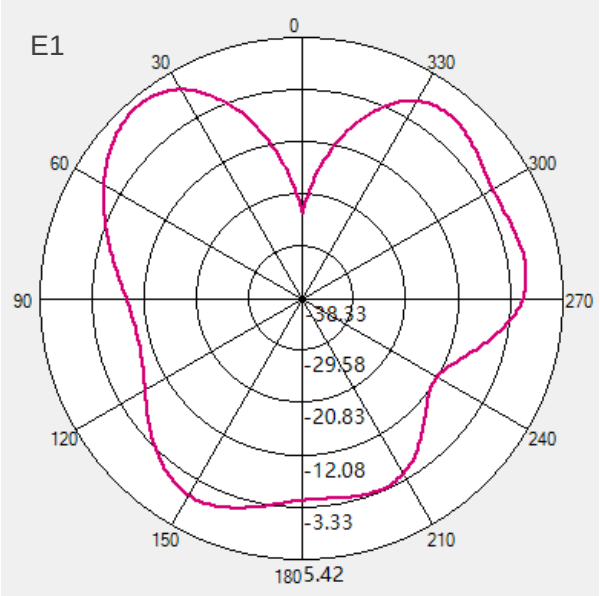
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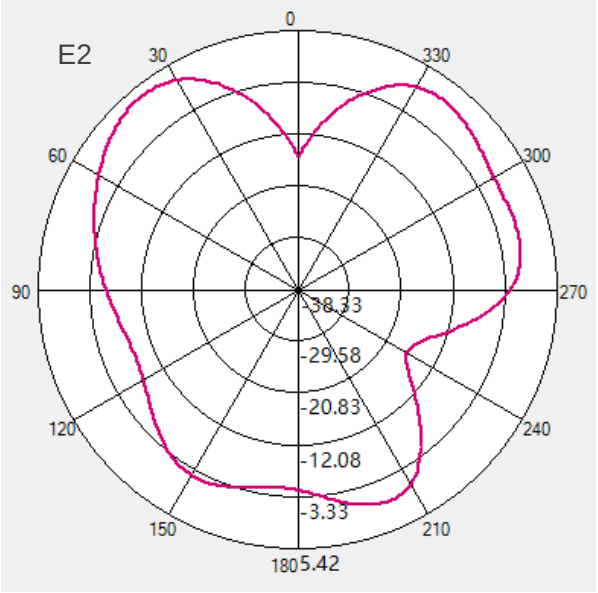
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150
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180
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-12.08
-3.33
5.42

5 Product Size