

WA-F-LE-02-077 Specification

1. Explanation of part number :

WA - E - LB - 02 - 077
(1) (2) (3) (4) (5)

(1) Product Type : Wireless Antenna

(2) Material: FPC+Cable

(3) Frequency : 2400~2483MHz, 5150~7125MHz

(4) Coaxial Cable Type : 02

(5) Suffix :077

2. Storage Condition:

Temperature -40 to +70 °C
Humidity 65±20 % RH

3. Operating Condition:

Temperature -40 to +70 °C
Humidity 65±20 % RH

4. Electrical Specification :

Those specifications were specially defined for 商米-SD15 model, and all characteristics were measured under the model's handset testing.

4-1. Frequency Band:

Frequency Band	MHz
WIFI-1	2400~2483MHz , 5150~7125MHz

4-2. Impedance

50 ohm nominal

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
ANGLES=± HOLEDIA=±



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SCALE : UNIT : mm

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DESIGNED BY : 熊勇 APPROVED BY : 赵付辉

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4-3. Matching circuit

None

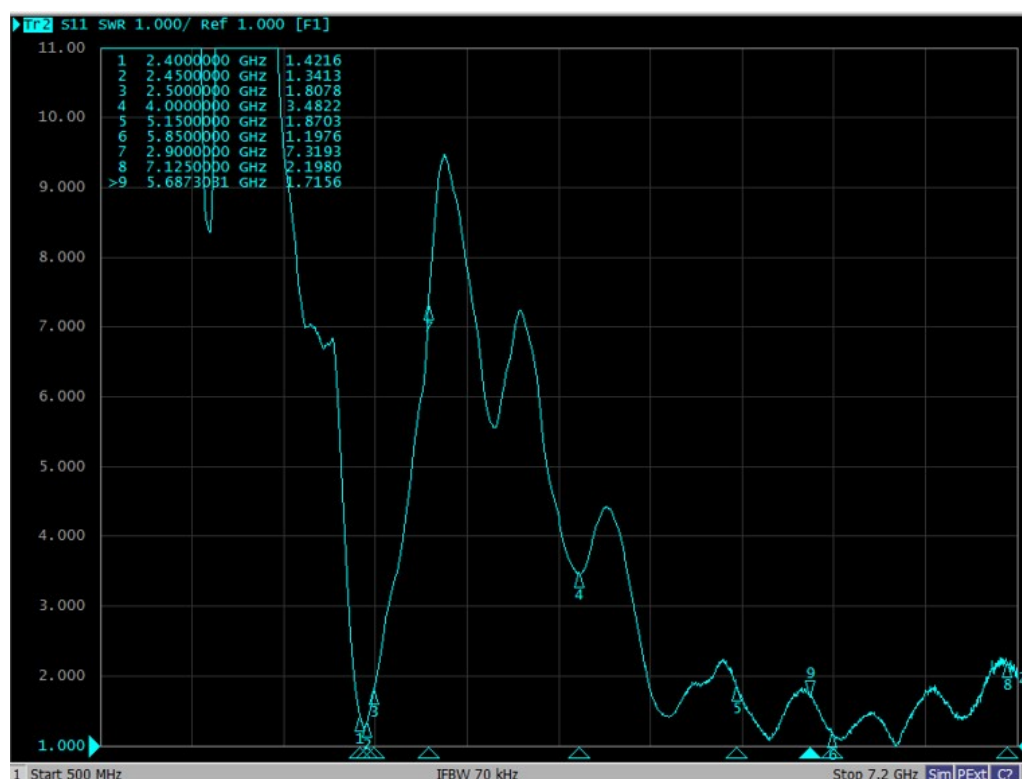
4-4. VSWR

4-4.1 Measuring Method

- 1.A 50 Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR
2. Keeping this jig away from metal at least 20cm

4-4.2 Measurement frequency points and VSWR value

Frequency (Unit MHz)	2400	2500	5150	7125
VSWR	1.4	1.8	1.8	2.1



4-5. Efficiency and Gain

4-5.1 Measure method

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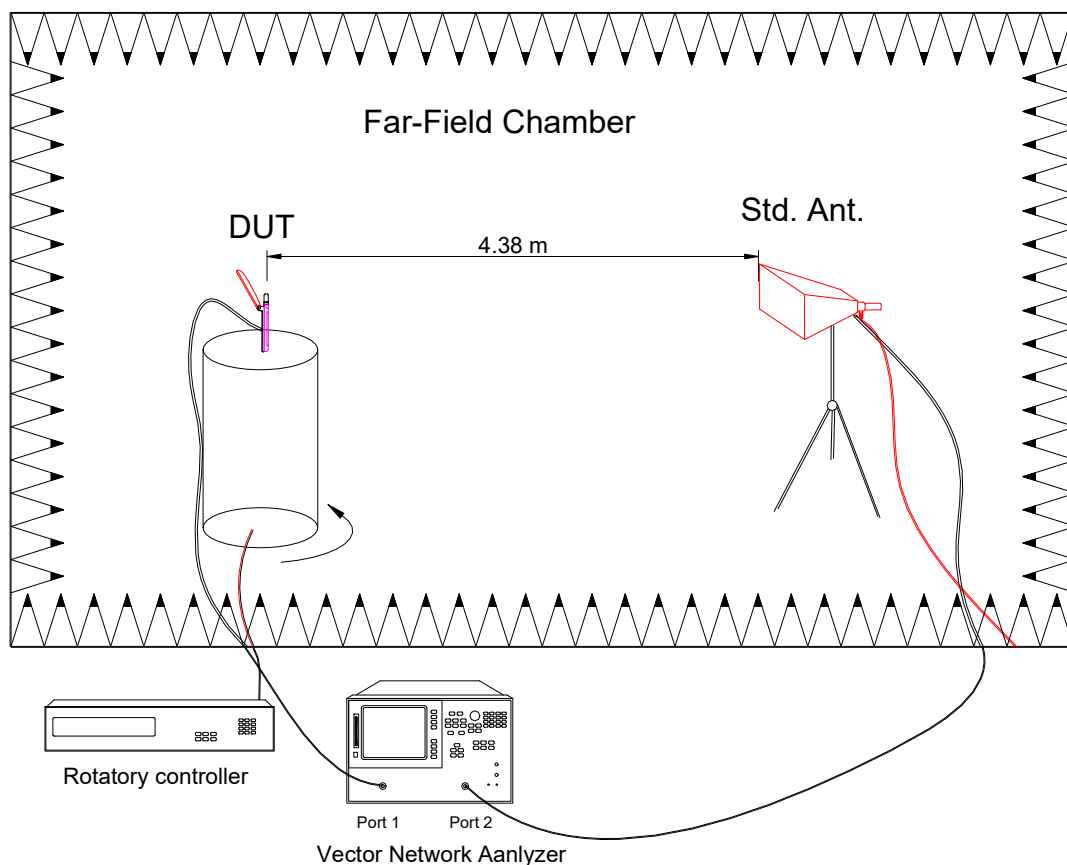
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1. Using a low loss coaxial cable to link a standard handset
2. Fixed this handset jig on chamber's rotator plane
3. Linking jig into network analyzer port and using a probing horn antenna to collect data.
4. Using another standard gain horn antenna to calibrated those data



4-5.2 Chamber definition

1. An anechoic chamber (7mx4mx3m) which satisfied far-field condition was applied to avoid multi-path effect
2. The quiet room region is 40cmx40cmx40cm at the center of rotator
3. The distance between DUT and standard antenna is 4.38 m

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4. Probing antenna (9120D horn antenna) and standard gain horn antenna (BBHA9120 LPF 700MHz ~6GHz)

4-5.3 Efficiency and Gain

Antenna gain is marked (dBi) and is based on STANDARD HORN antenna. The data shows Peak Gain and Average Gain.

Results Summary-Peak Gain & Efficiency WIFI 1

Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Peak Gain (dBi)
2400	-2.9	51.29	3.08
2410	-2.86	51.76	3.17
2420	-2.76	52.97	3.35
2430	-2.66	54.2	3.37
2440	-2.78	52.72	3.47
2450	-2.53	55.85	3.49
2460	-2.82	52.24	3.45
2470	-2.48	56.49	3.35
2480	-2.88	51.52	2.63
2490	-2.53	55.85	2.59
2500	-2.97	50.47	2.06

Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Peak Gain (dBi)
5150	-3.86	41.11	4.04
5250	-3.97	40.1	4.4
5350	-3.70	42.62	4.53
5450	-3.55	44.17	4.67
5550	-3.55	44.17	4.4
5650	-3.72	42.43	3.52
5750	-3.65	43.15	3.29
5850	-3.80	41.72	4.55

Frequency (MHz)	Efficiency (dB)	Efficiency (%)	Peak Gain (dBi)
5950	-3.72	42.48	4.57
6050	-3.55	44.2	4.06
6150	-3.22	47.68	4.38
6250	-3.37	45.98	3.93
6350	-3.82	41.52	3.21
6450	-3.78	41.88	3.59
6550	-3.55	44.2	3.98
6650	-3.41	45.59	4.62
6750	-3.80	41.64	4.51
6850	-3.05	49.55	4.35
6950	-3.65	43.15	3.17
7050	-3.73	42.36	4.9
7150	-3.34	46.34	4.28

PASSIVE SYSTEM ALLIANCE

➤ 2D Radiation Pattern Results

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
 ANGLES=± HOLEDIA=±

SCALE : UNIT : mm

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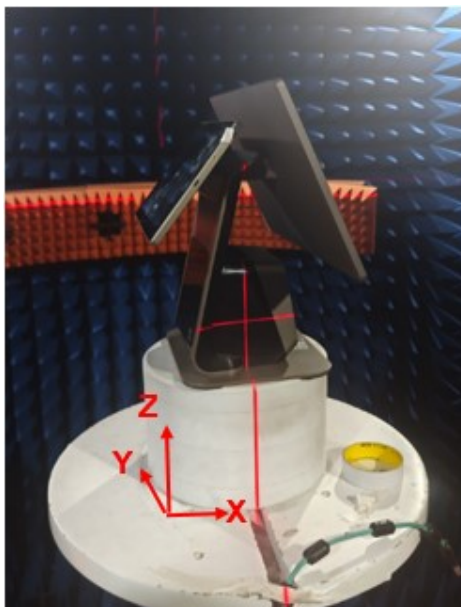
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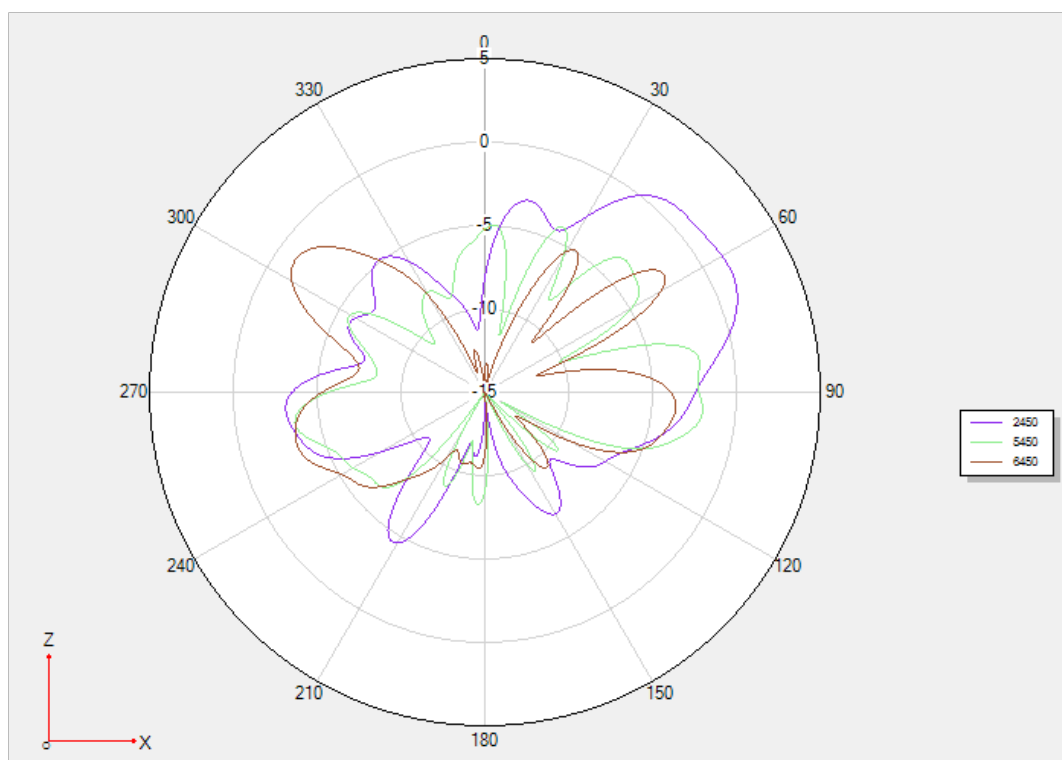
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XZ-E1-plane



XZ-E2-plane

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ANGLES=± HOLEDIA=±

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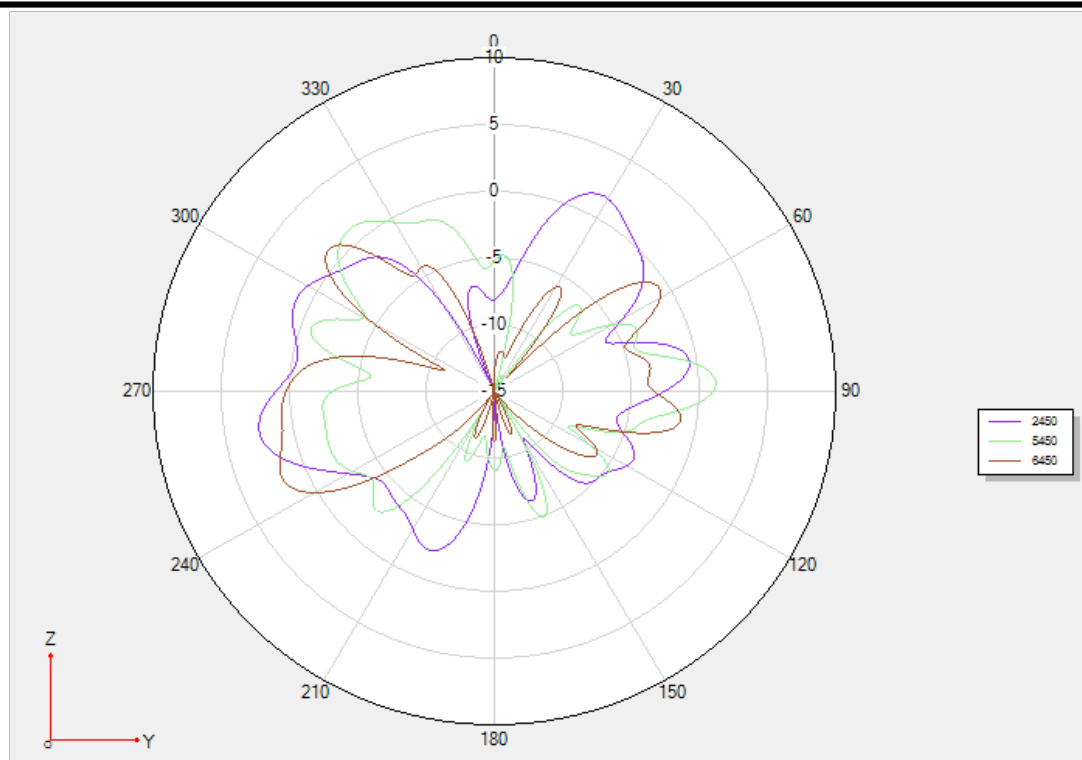
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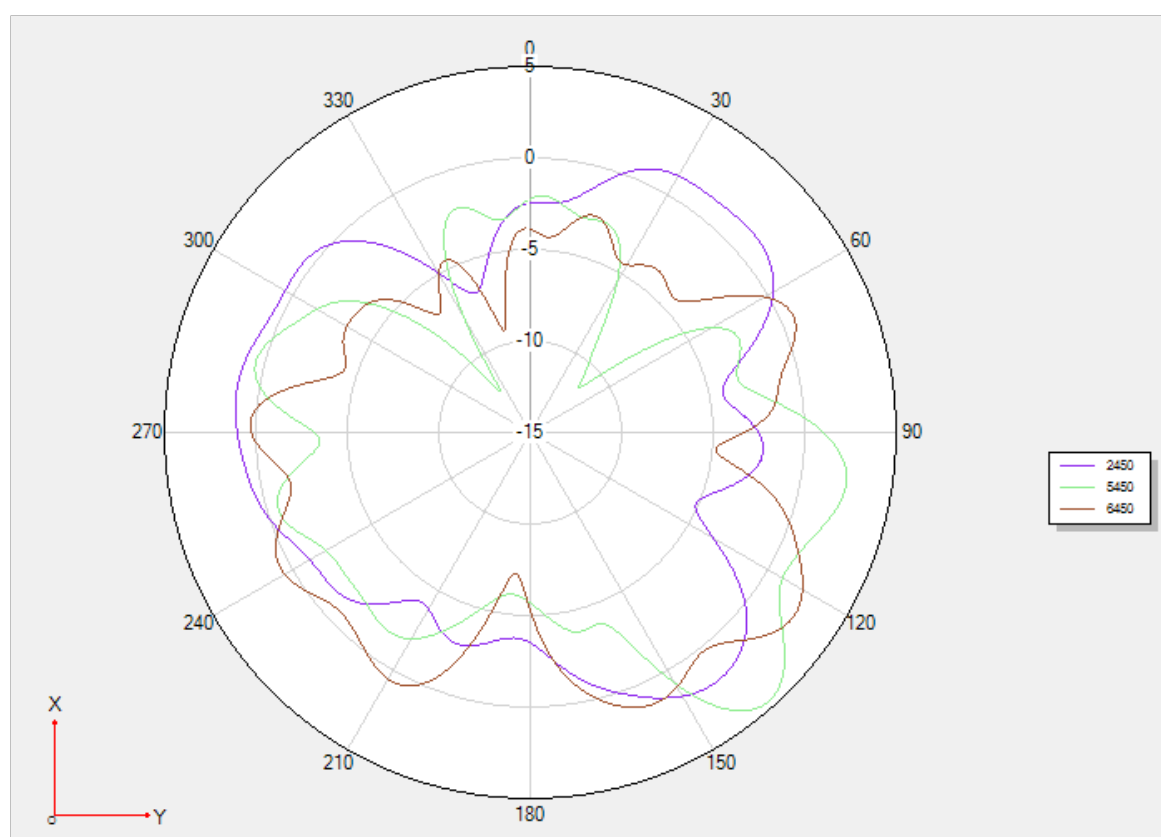
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XY-H-plane



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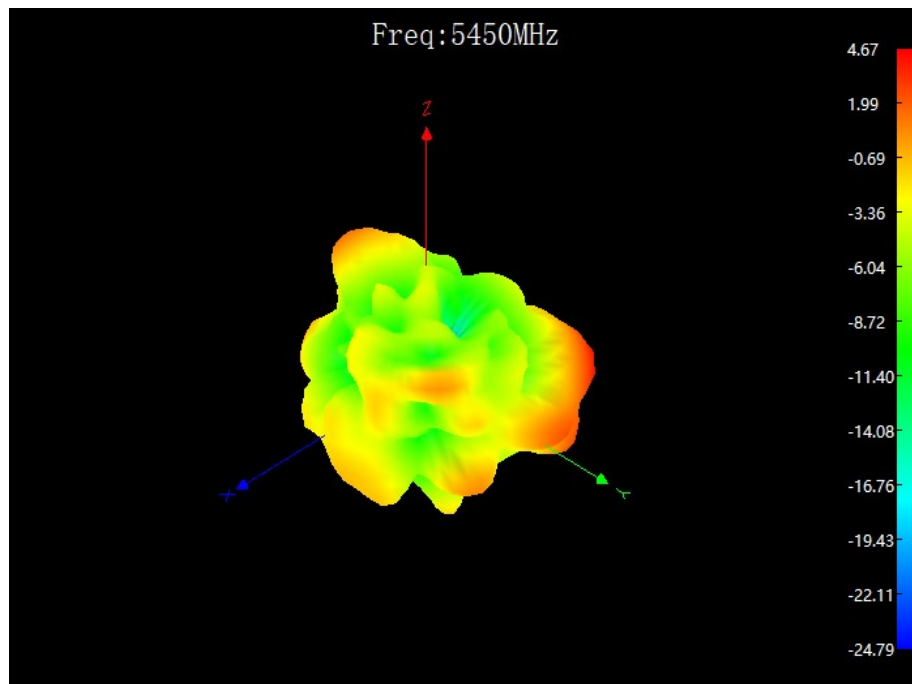
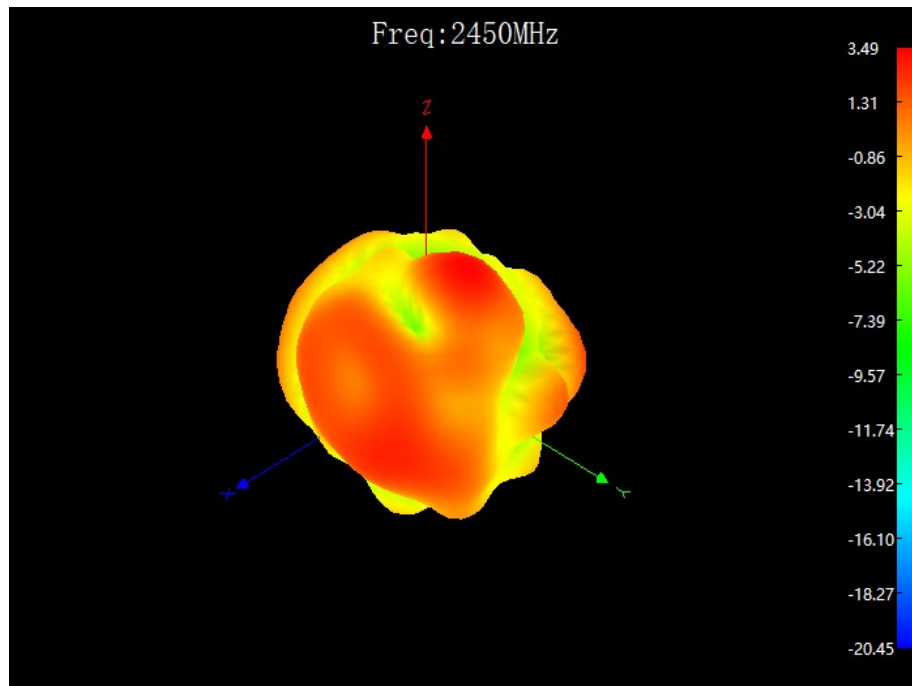
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➤ 3D Radiation Pattern Results



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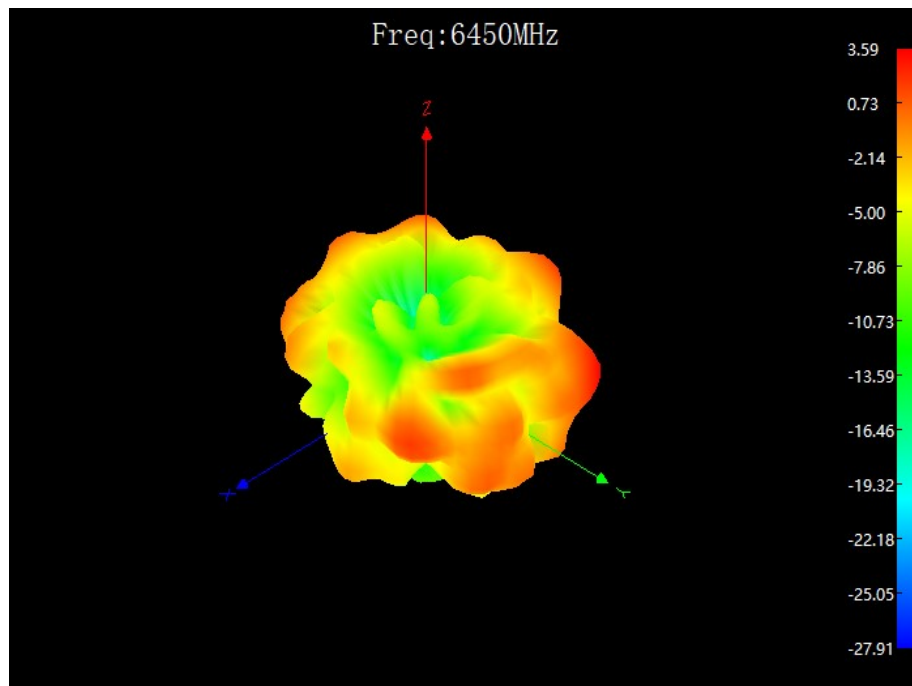


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5. Mechanical Specification:

5-1. Mechanical Configuration (Unit: mm)

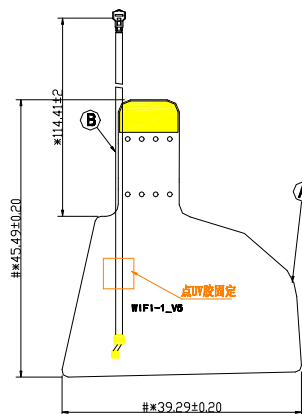
The appearance of the antenna is according to drawing Figure 5-1-1

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ANGLES=±	HOLEDIA=±	
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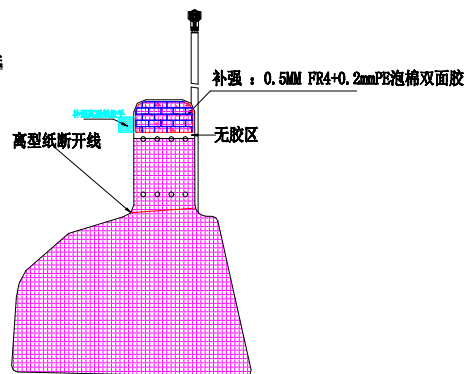
Revision	Engineering Change Description	Date	Owner
P0	首次	2025/07/10	严若林
P1	变更线长：增加UV点胶区；漏铜区增加补强	2025/08/19	严若林
P2	增加折断线，补强处背胶变更为0.2mm PE泡棉双面胶	2025/08/21	严若林

- 铜箔部分
- 漏铜
- 白色丝印
- 背胶



TOP VIEW

- *#0.82±0.45不含高型纸
- *#0.12±0.03不含高型纸
- 点胶高度MAX2.0mm
- 铜制厚度100% MAX2.00mm



BOTTOM VIEW

技术要求:

- 外观标准依照INPAQ SIP :H-S472 <FPC通用检验规范> : Grade 2
- 工程图上“#”为CPK 控制尺寸, “*”号为入料检验尺寸, “O”球标为全尺寸标注指示。
- 产品符合RoHS2.0+HF+TSCA+REACH要求, 符合禾邦《I-WI-21-01 HSF技术标准》的要求。

INDEX	Name	DESCRIPTION	MATERIAL	AMOUNT
B	WIFI同轴	灰色,长度137MM	IPC(型号: 818001376)4代,颜色1.12	1
A	FPC	黑色,PI基材,80铜	45.49X39.29X0.12	1

SELECT	Y	CHD GENERATED DRAWING DO NOT MANUALLY UPDATE				 INPAQ Technology Co., Ltd. 4A #A-12-06-077_P2 天线振振图	
SPCL CLASS	A	B	C	D	DRAWN		产图修
< 1mm	0.05	0.1	0.1	0.2	DESIGNED		原图
0-10mm	0.05	0.15	0.15	0.5			
10-25mm	0.12	0.2	0.2	0.5			
25-50mm	0.25	0.3	0.3	0.5			
50-100mm	0.5	0.5	0.5	0.5			
100-200mm	1.0	1.0	1.0	1.0			
200-500mm	2.0	2.0	2.0	2.0			
500-1000mm	5.0	5.0	5.0	5.0			
1000-2000mm	10.0	10.0	10.0	10.0			
2000-5000mm	20.0	20.0	20.0	20.0			
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