SPECIFICATION FOR APPROVAL

Product name： WIFI Antenna

Product number： UB01C60F2D3697A

CUST.Material Name： _IPC E96QJ9F_WiFi Antenna_FPC_ UB01C60F2D3697A

CUST.Specifications： Frequency2.4G_Built-in_FPC Black cable L=60mm±3mm+ Connector_ROHS

CUST.Material code： 18600000010022

Changed contents Resume:

No.	Before the change	After	Date	Version	pages	Responsible
0	first edition	first edition	2024-6-3	A0	10	Eddy

Supplier name：Dongguan Youbi Electronics Co.,Ltd		
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Phone：0769-81777126	**Fax：0769-81777126**	**Email：zq@ub-rf.com**
(Signed by the supplier)		
Responsible/Date	**Audit/Date**	**Approve/Date**

This admission book includes the following contents :(none is absent)

1. Cover
2. Parameter Specification
3. Structural dimension drawing
4. BOM
5. Packaging
6. Production process flow chart
7. Certification Test Status

Customer name:			
Customer determines the result： ☐Qualified ☐Unqualified			
Customer acknowledgement (please bookmark the whole acknowledgement back after confirmation)			
Development Design Engineer/Date	**SQE Engineer /Date**	**Head of Purchasing Department/Date**	**Approved by Manager of Development Department/Date**

2.Parameter Specification

2.1. Electrical performance parameter

No.	Project	Parameter specification	Test condition
1	Frequency(MHZ)	2400-2500MHz	Anechoic chamber
2	Gain	≥2dBi ，≤4dBi	
3	Efficiency	≥40%，≤70%	
4	Impedance（Ω）	50	Network analyzer

2.2. Mechanical performance parameters

No.	Project	Parameter specification	Test condition
1	Cable length	60±3(mm)	Use a steel ruler to measure, the length dimension is OK within 60±3 (mm), otherwise it is NG.
2	FPC length	39.8±0.3(mm)	Use a digital caliper to measure, the length dimension is OK within 39.8±0.3 (mm), otherwise it is NG.
3	FPC width	14.4±0.3(mm)	Use a digital caliper to measure, the length dimension is OK within 14.4±0.3 (mm), otherwise it is NG.

2.3. Reliability test

No.	Project	Test conditions	Standard
1	Salt spray test	Test specifications: test temperature: 35 ° C, salt solution concentration: 5% (the standard of pH value after the salt solution is modulated and cooled is between 6.5 and 7.2), the average amount of salt solution collected: 1.0 to 2.0 (ml/hr),Test time: 48 hours (terminal)/8H (wire) Experimental method: pour the prepared brine into the test solution storage bucket, place the tested object on the test sample rack, then close the test cover, and pour the water into the sealing tank until there is no gap. After testing for 48H/8H, If there is no oxidation on the surface of the product, it is OK, otherwise, it is NG.	After 48H/8H, there is no oxidation on the surface of the product, and the electrical test is OK.
2	Terminal pull test	Test method: adjust the height of the upper and lower cross arms to make the clamp spacing appropriate; clamp the upper end of the specimen with the upper clamp, and press the reset button to reset the pointer to zero; Press the dynamometer pointer to lock the switch; clamp the lower end of the specimen with the lower clamp; rotate the handwheel to lower the lower cross arm to stretch the specimen.	If the tension value is ≥ 1.2KG read from the tension meter, it is judged as OK, otherwise it is NG.
3	Terminal pull test	Test method: Buckle the terminal into the terminal seat, shake the handwheel to move the jaws of the pull-out test fixture to a suitable position; open the jaws to hook the back of the terminal. The pointer returns to zero, and the handwheel is shaken to start the test.	If the tension value read on the tension meter is in the range of 0.8-1.5KG, it is judged as OK, otherwise it is NG.

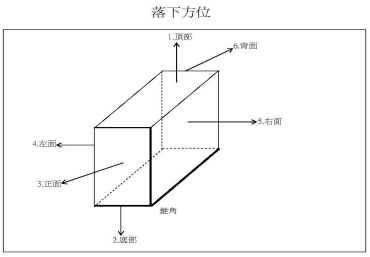
<table>
<tr>
<td>4</td>
<td>Drop test</td>
<td>Test conditions:
1. Drop the 6 sides of the carton (Figure 1)
 

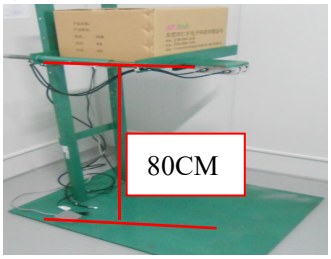
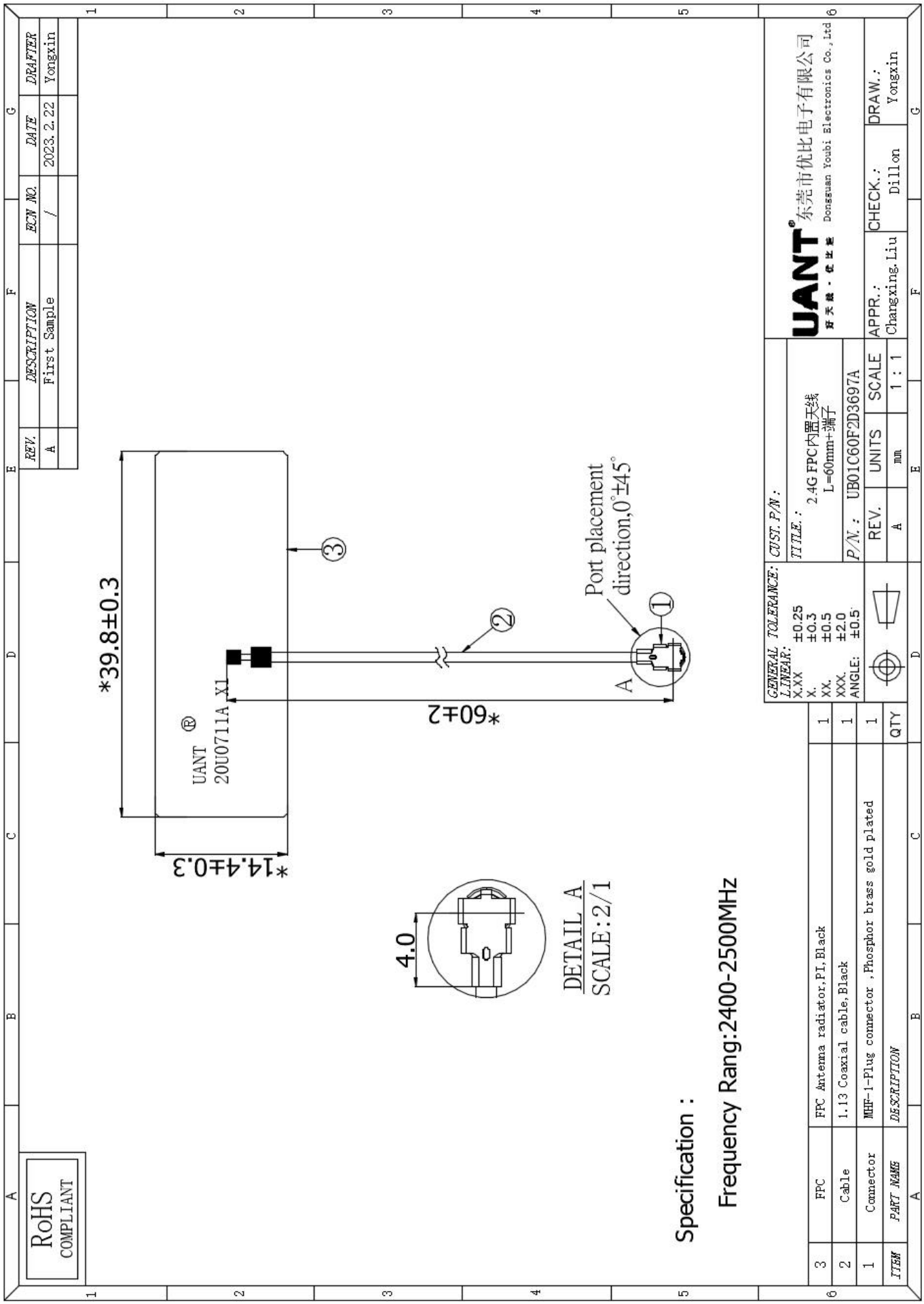
Figure 1
2. The distance between the product and the floor steel plate is 80 CM(Figure 2)
 

Figure 2
Experiment method：
1. First, fix the packing box to be tested on the product bracket to fix and clamp the test sample. The clamping force should be appropriate to avoid pinching the tested sample.
2. Adjust the drop height 80CM.
3. First turn on the main power switch and connect the trachea.
4. After the work is completed, disconnect the trachea and the power switch, and remove the sample.</td>
<td>1. After the test, the packing box should not have obvious damage.
2. After the test, inspect the product, and there must be no defects after the electrical & external inspection.</td>
</tr>
<tr>
<td>7</td>
<td colspan="3">Coaxial Wire Material Addendum
<table>
<tr><td colspan="2">RG、细微射频同轴电缆</td><td>RF-1.13/50Ω</td><td colspan="2"></td></tr>
<tr><td colspan="3">结构图 Structure drawing</td><td colspan="2"> 
</td></tr>
<tr><td colspan="5">结构特性 Structure characteristics</td></tr>
<tr><td>结构 Structure</td><td colspan="2">项目 Item</td><td colspan="2">标准值 Standard value</td></tr>
<tr><td rowspan="2">①内导体 Inner conductor</td><td>材料 Material</td><td colspan="2">镀银铜线 Silverplated copper wire /镀锡铜线 Tinned copper wire</td></tr>
<tr><td>(绞合)标称外径(mm)
(Intertwist)NOM.O.D.(mm)</td><td colspan="2">0.24±0.02</td></tr>
<tr><td rowspan="2">②绝缘层 Insulation</td><td>材料 Material</td><td colspan="2">聚全氟乙丙烯 FEP /聚乙烯 PE</td></tr>
<tr><td>标称外径(mm)
NOM.O.D.(mm)</td><td colspan="2">0.7±0.03</td></tr>
<tr><td rowspan="3">③外导体 Outer conductor</td><td>材料 Material</td><td colspan="2">镀银铜线 Silverplated copper wire /镀锡铜线 Tinned copper wire</td></tr>
<tr><td>标称外径(mm)
NOM.O.D.(mm)</td><td colspan="2">0.92±0.05</td></tr>
<tr><td>覆盖率(%)
Coverage ratio(%)</td><td colspan="2">90±5</td></tr>
<tr><td rowspan="3">④护套层 Jacket</td><td>材料 Material</td><td colspan="2">聚全氟乙丙烯 FEP /聚乙烯 PE</td></tr>
<tr><td>颜色 Color</td><td colspan="2">黑 Black</td></tr>
<tr><td>标称外径(mm)
NOM.O.D.(mm)</td><td colspan="2">1.13±0.05</td></tr>
</table>
</td>
</tr>
</table>

3. Structural dimension drawing (CAD drawing file)

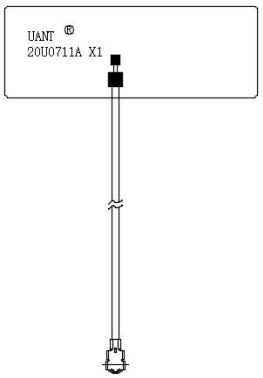
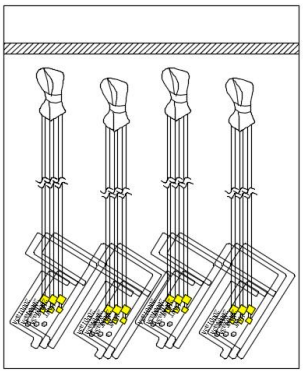


4. BOM (Bill of Materials)

No.	Part material	Material	Specifications/Models	Brand	Supplier	Dosage
1	FPC	PI	39.8*14.4*0.2mm	\	XG	1PCS
2	Connector	Phosphor copper plating	1.13 MHF-1-Plug	\	CM	1PCS
3	Cable	FEP/Tin plated copper	RF-1.13	\	SY	1PCS
4	PE Bag	PE	150*150*0.06mm	\	TL	1/200PCS
5	Carton	\	325*325*200*6mm	\	JLD	/

5. Packaging

5.1. Packaging pictures：

1. Photos or pictures of single material packaging	2. Photos or pictures of the single layer of the inner packaging
 Remark：	 Remark：50pcs / sheaf,200PCS / PE Bag
3. Photos or pictures of the outer packaging	
 Remark：	

【Supplier BOM code rules】:

General process coding rules for finished products:

UB + 01 + C + 60 + F + 2D + 3697 + A

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

1.UB stands for antenna product.

2. Large classification of finished products: 01 is terminal built-in type;

3. Connection code: C is outgoing wire connection;

4. 60 stands for wire length

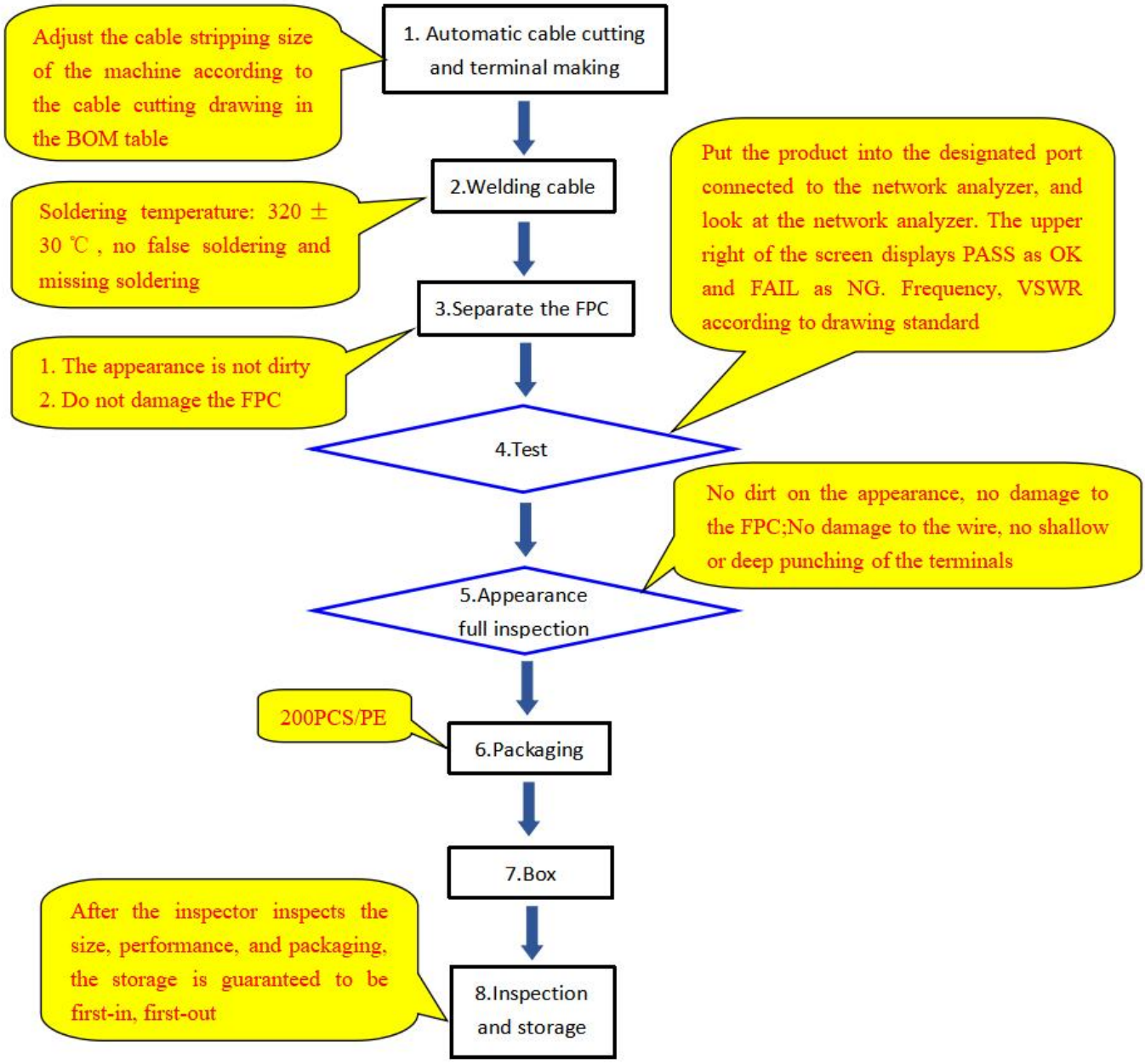
5. Material and color description: F stands for FPC;

6. Gain description: gain digital +D (DBi);

7. Serial number :1 to 9999999999;

8. Version number: The code of version A is A.

6. Production process flow chart



7.Certification Test Status

（）**UL** Certification or report number:_____

（）**VDE** Certification or report number:_____

（）**CE** Certification or report number:_____

（）**FCC** Certification or report number:_____

（√）**ROHS** Certification or report number: A2220006213101E

（）**REACH** Certification or report number:_____

（）**EMC** Certification or report number:_____

（）**CCC** Certification or report number:_____

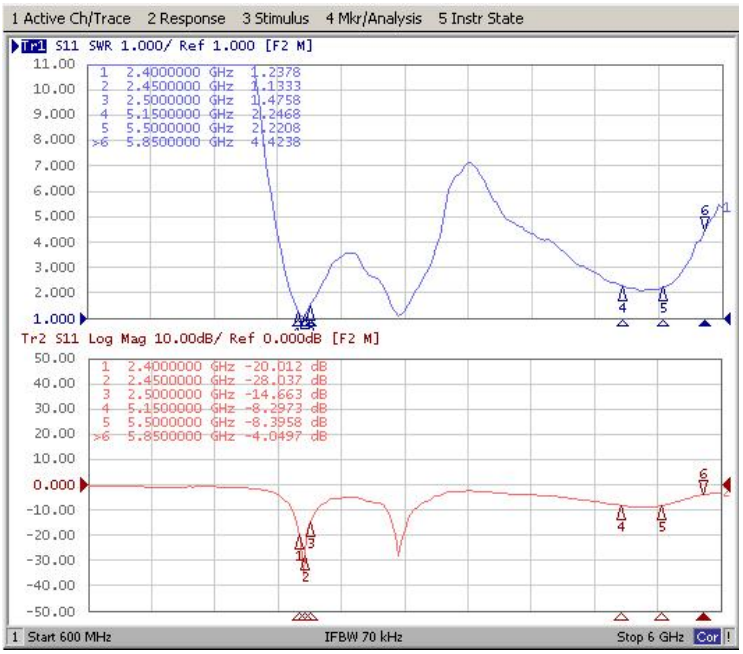
（）**SRRC** Certification or report number:_____

（）**Other** Certification or report number:_____

（）**No product certification**

1.S Parameter

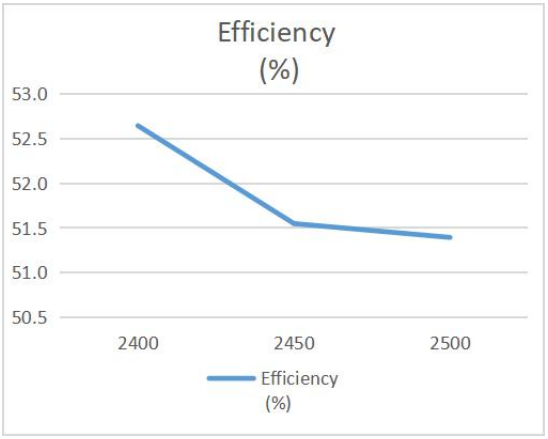
Frequency (MHz)	Return Loss (dB)	VSWR
2400	-20.01	1.23
2450	-28.03	1.13
2500	-14.66	1.47

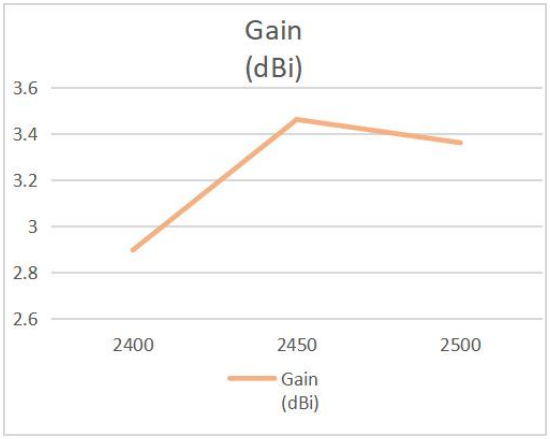


* Voltage Standing Wave Ratio(VSWR)
Return Loss(RL)
RL=20*log10[(VSWR+1)/(VSWR-1)

2. Efficiency and Gain

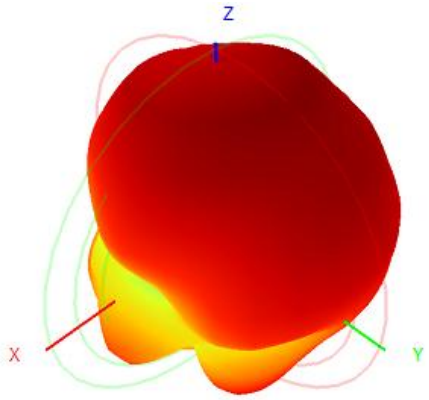
Frequency (MHz)	2400	2450	2500
Efficiency (%)	52.64	51.55	51.39
Gain (dBi)	2.90	3.46	3.36



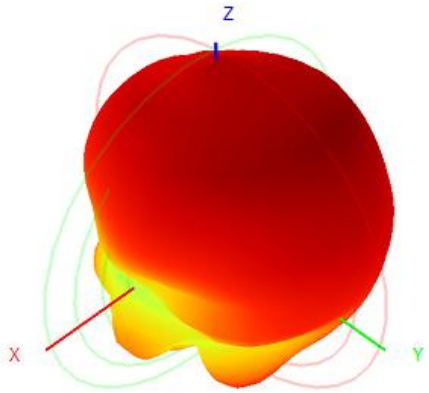


3. Radiation Pattern

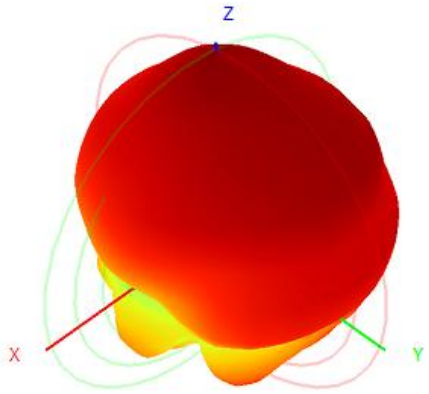
3-1 Antenna 3D Radiation Pattern



2400MHz

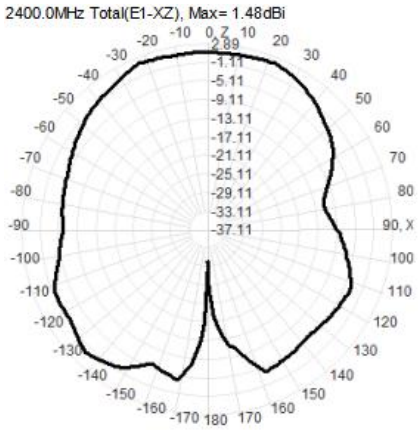


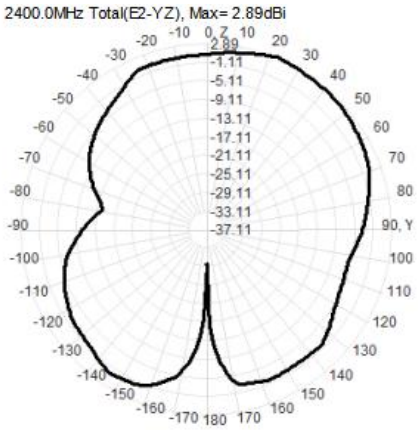
2450MHz

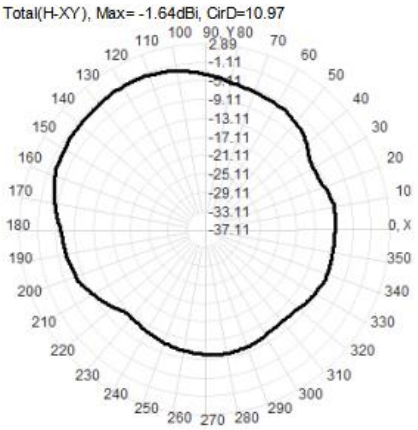


2500MHz

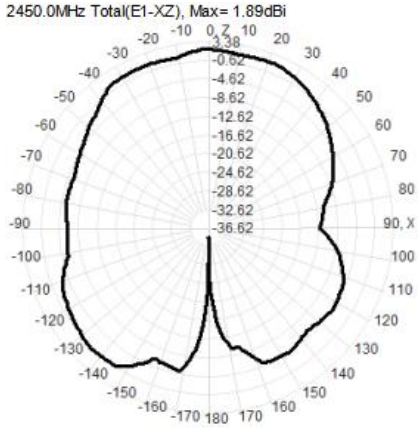
3-2 Antenna 2D Radiation Pattern

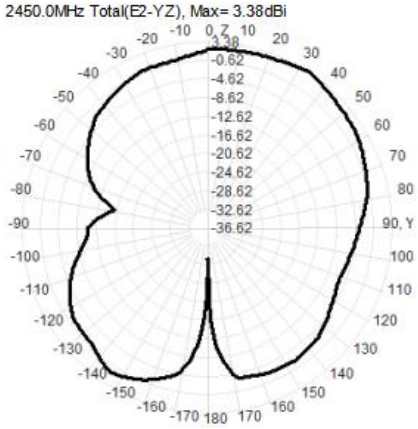


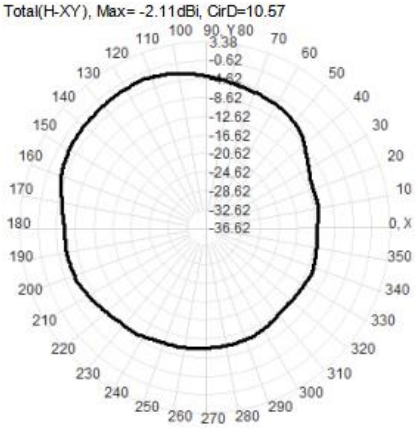




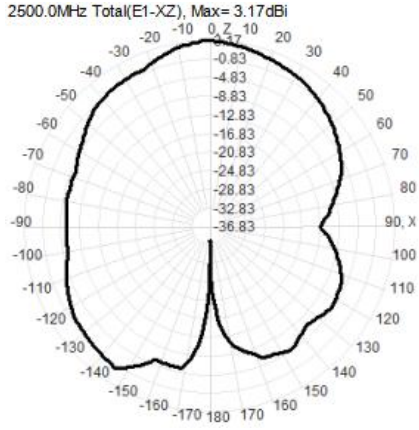
2400MHz

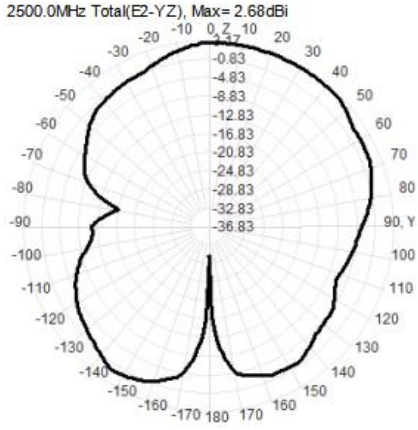


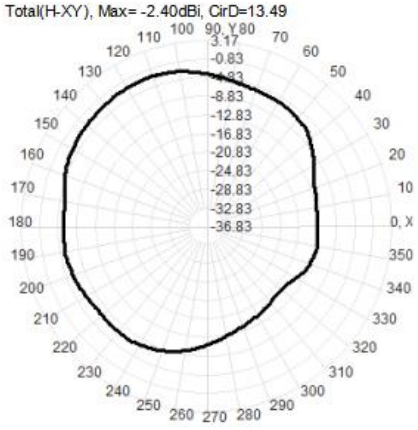




2450MHz







2500MHz

4. Active test data

Mode	Test Case	Channel	Date Rate (Mbps)	Test Results (dBm)	Max (dbm)
IEEE 802.11b	TRP	1	11	17.42	24.13
		6		17.91	24.41
		11		19.53	26.50
	TIS	1	11	-85.61	-92.32
		6		-87.63	-94.13
		11		-88.64	-95.61

Mode	Test Case	Channel	Date Rate (Mbps)	Test Results (dBm)	Max (dbm)
IEEE 802.11G	TRP	1	54	15.58	22.26
		6		16.16	22.57
		11		17.08	24.42
	TIS	1	54	-71.39	-78.77
		6		-75.37	-82.28
		11		-75.12	-82.26

Mode	Test Case	Channel	Date Rate (Mbps)	Test Results (dBm)	Max (dbm)
IEEE 802.11N	TRP	1	MCS7	15.51	22.97
		6		15.87	23.01
		11		17.19	24.62
	TIS	1	MCS7	-70.34	-77.60
		6		-73.43	-80.97
		11		-73.92	-81.36

5. Antenna installation diagram