深圳市飞敏科技有限公司

ShenZhen City FeiMin Technology CO.,LTD.

产品承认书

SPECIFICATION FOR APPROVED

客户

CUSTOMER:_____

产品名称

PRODUCTS: 内置 2.4G 天线

客户料号

PART NO:_____

产品型号

Spec.: 522210（D2）

日期

Data:_____

客户确认 CUSTOMER APPROVED BY		
确认 CONFIRM	审核 CHECK	批准 APPROVE
供应商确认 APPROVED BY VENDOR		
工程部 ENGINEER	业务部 OPERATION STOCK DEPT.	日期 DATE

备注：承认盖章后请回复一份承认书（或复印件）给我司，其余由贵公司存档

REMARK:Please send us one(or copy)of this approval with stamp after accepting,other copies filed by the customer.

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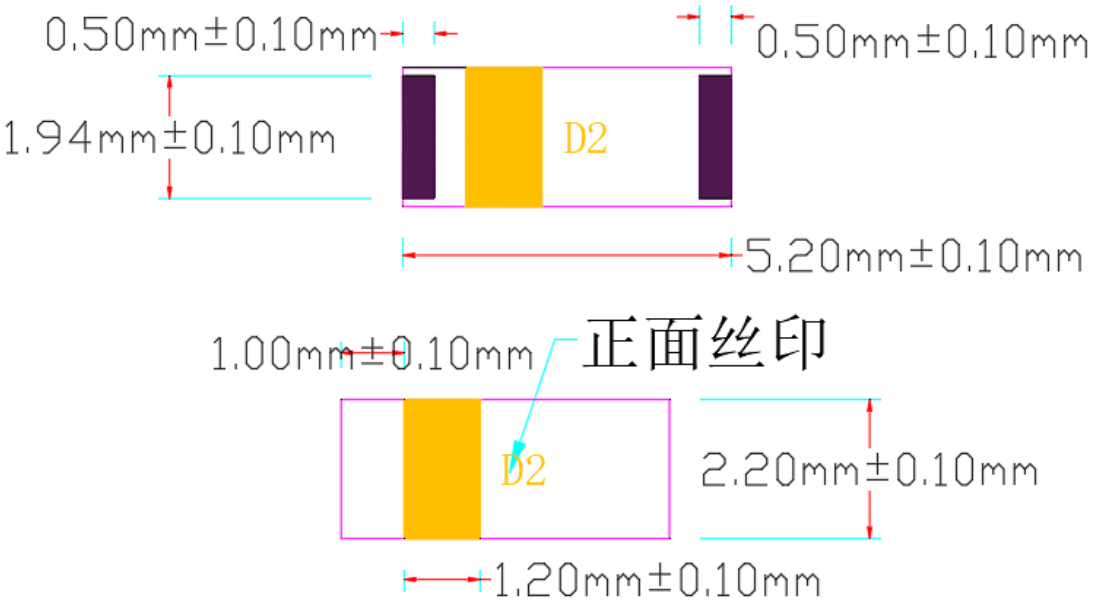
目录

Revision history

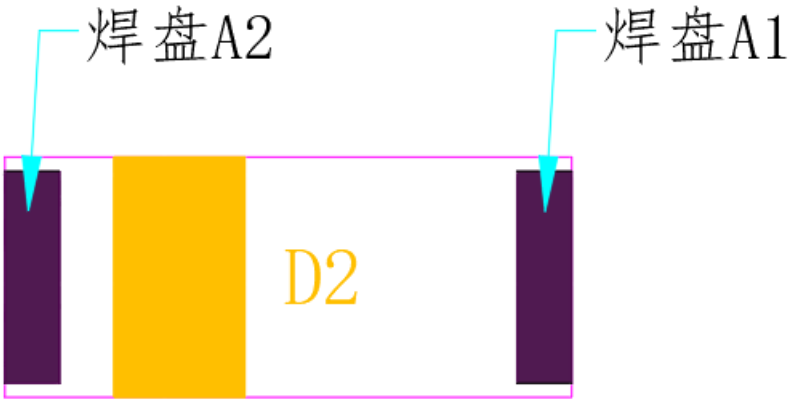
版本	日期	状态
A1	2020-03-06	首版

1. Project Information

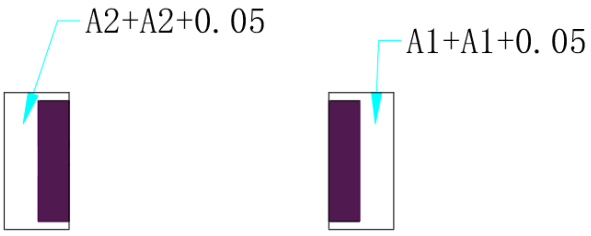
1.1. Appearance and Dimensions



1.2. PCB Pad Design Proposal and Steel Mesh Opening Proposal(Unit:mm)

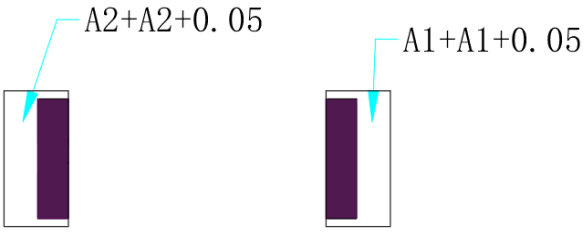


1.2.1. PCB Pad Design Proposal

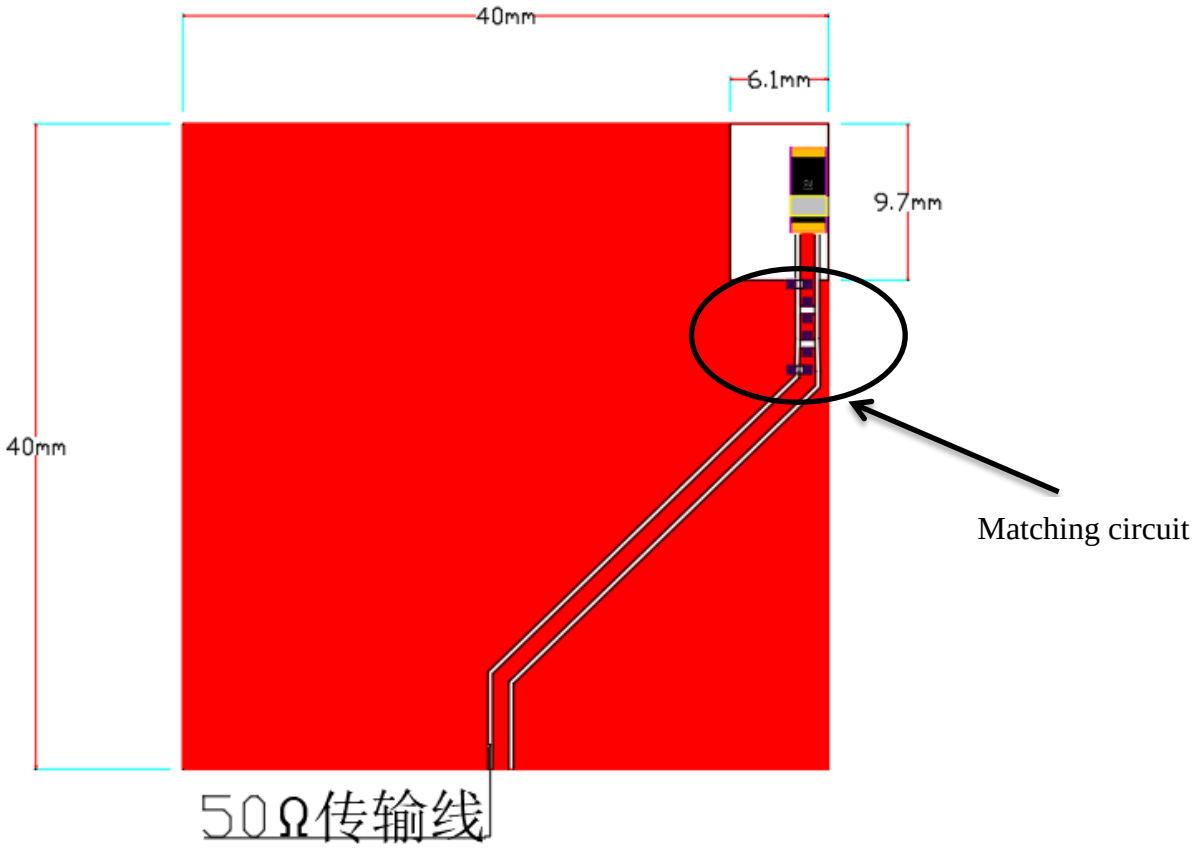


Pad width in mm	
A1	0.5
A2	0.5

1.2.2. Steel Mesh Opening Proposal



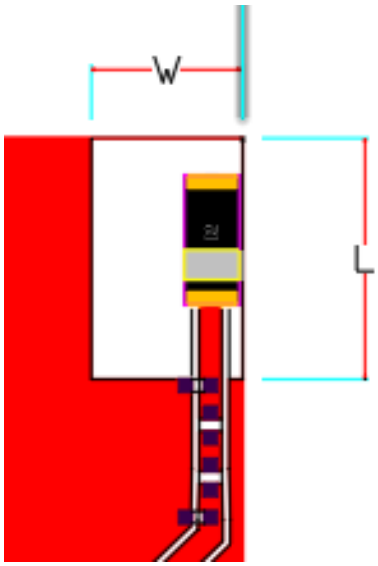
1.3. Test Board with Antenna(Unit:mm)



1.4. Clearance area

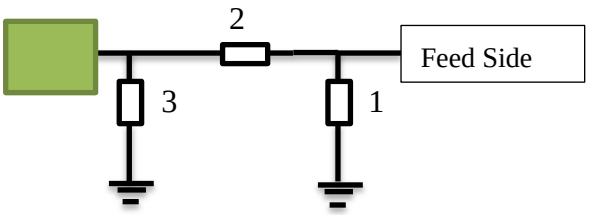
When designing the antenna, it should be far away from metal components and irrelevant components such as batteries, oscillators, shields, cameras, etc. to leave a clean space for the antenna. This interval is called clearance area. The following is the size of clearance area we recommend to reserve.

Model	size	Clearance area size **L*W(mm)**
A1	5.5*1.2*1.2	9.1*5.6
A2	5.2*2.2*1.0	8.7*6.1
A4	5.5*1.5*1.2	9.1*5.8
D1	5.2*2.2*1.0	8.7*6.1
D2	5.2*2.2*1.0	8.7*6.1



1.5. Matching Circuit

With the following recommended values of matching and tuning components,the center frequencies will be about 2440 MHz at our standard 40*40 mm^2 evaluation board.However,these are typical reference values which may need to be changed when circuit boards or part vendors are diffierent.



System Matching Circuit Component（Murata）		
Location	Desciption	Tolerance
1	0.5-0.62PF(0402)	±5%
2	1-3NH(0402)	±5%
3	0.5-0.62PF(0402)	±5%

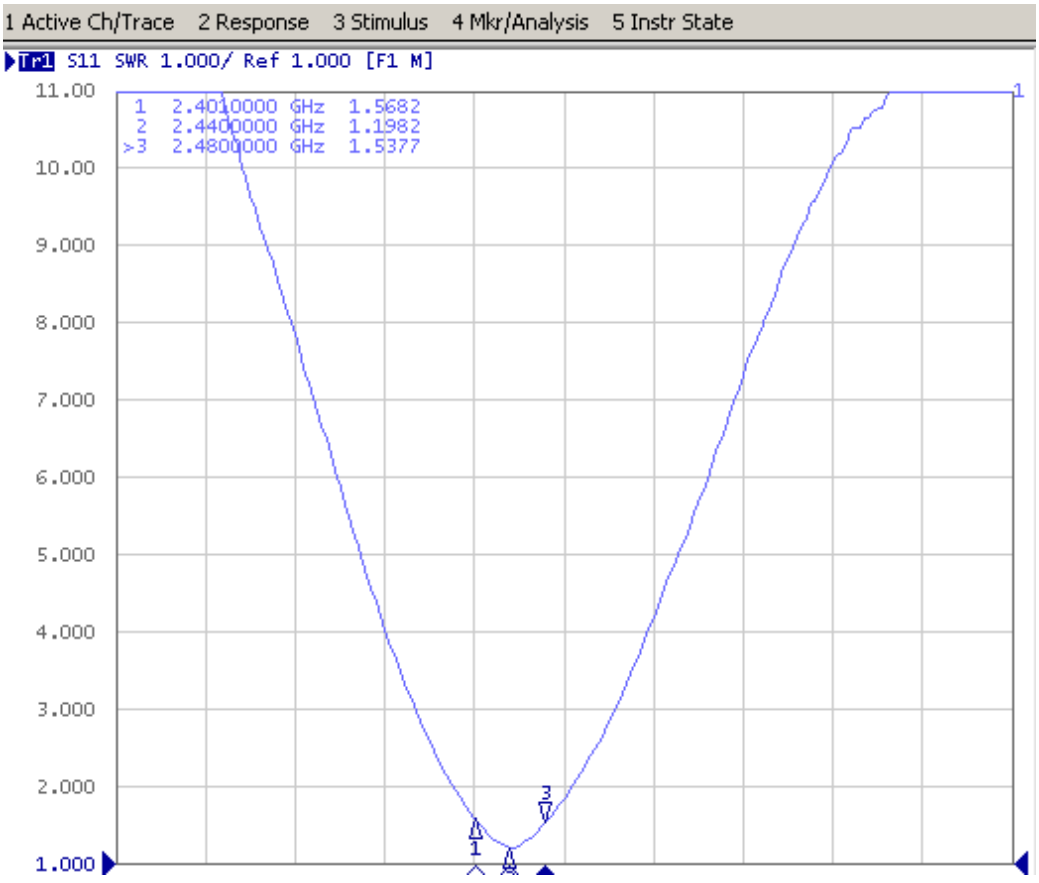
2. Electrical Characteristics(40*40mm² ground plane)

2.1. Electrical Table

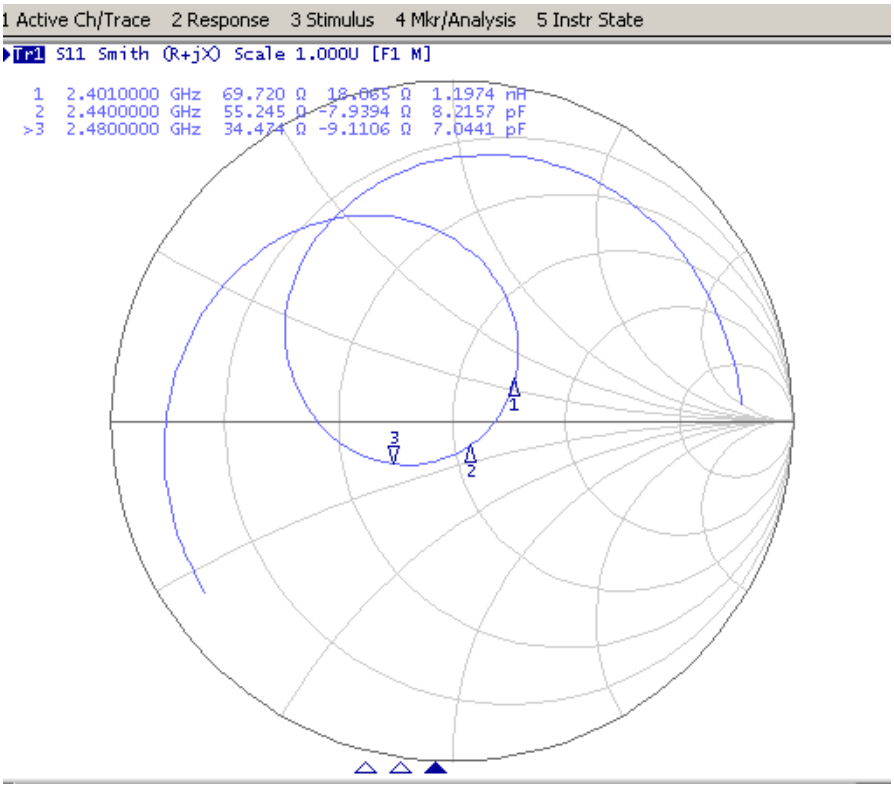
Characteristics		Specifications	Unit
Outline Dimensions		5.2*2.2*1.0	mm
Working Frequency		2400-2500	MHz
VSWR		<2	/
Impedance		50	Ω
Polarization		圆极化	/
Gain	Peak	<2	dBi
	Efficiency	50	%

2.2. Return Loss & VSWR

VSWR(S11)



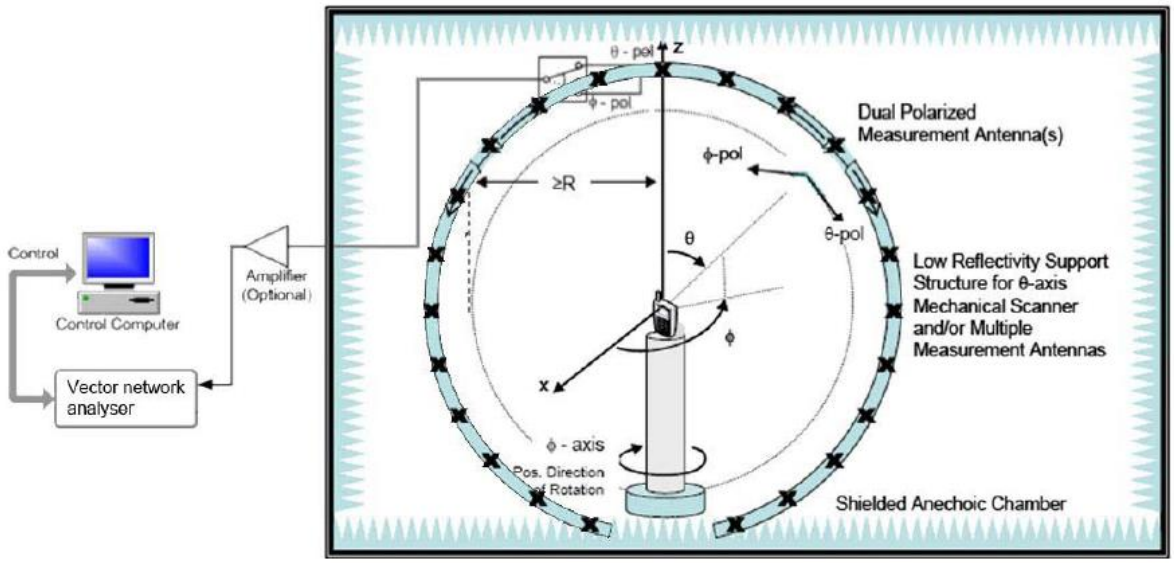
Smith Chart(S11)



3. Radiation Pattern(40*40mm² ground plane)

3.1. **Efficiency** and Gain

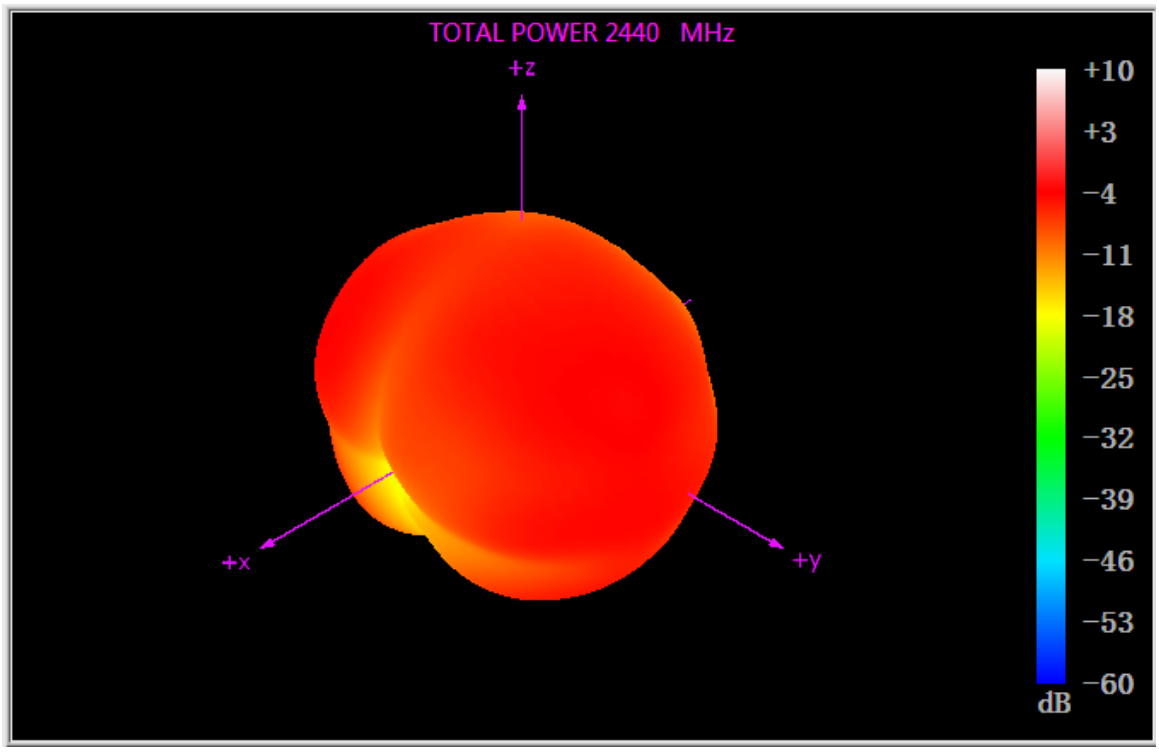
3.1.1. Test system



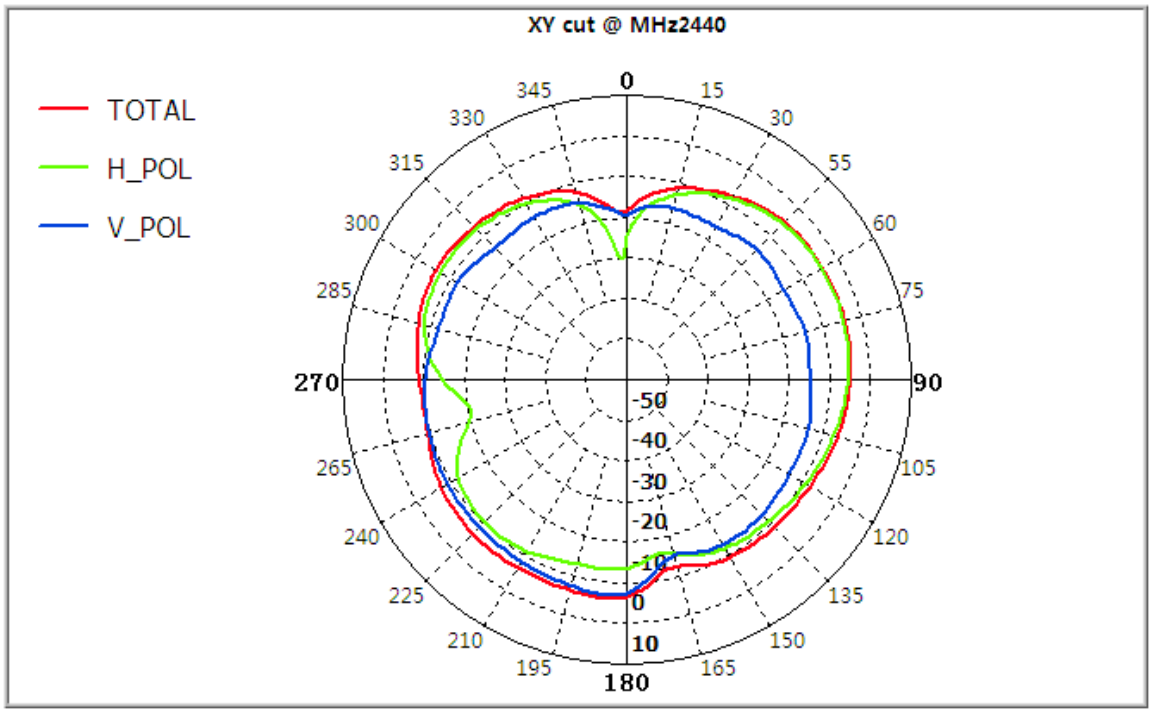
3.1.2. Efficiency and Gain

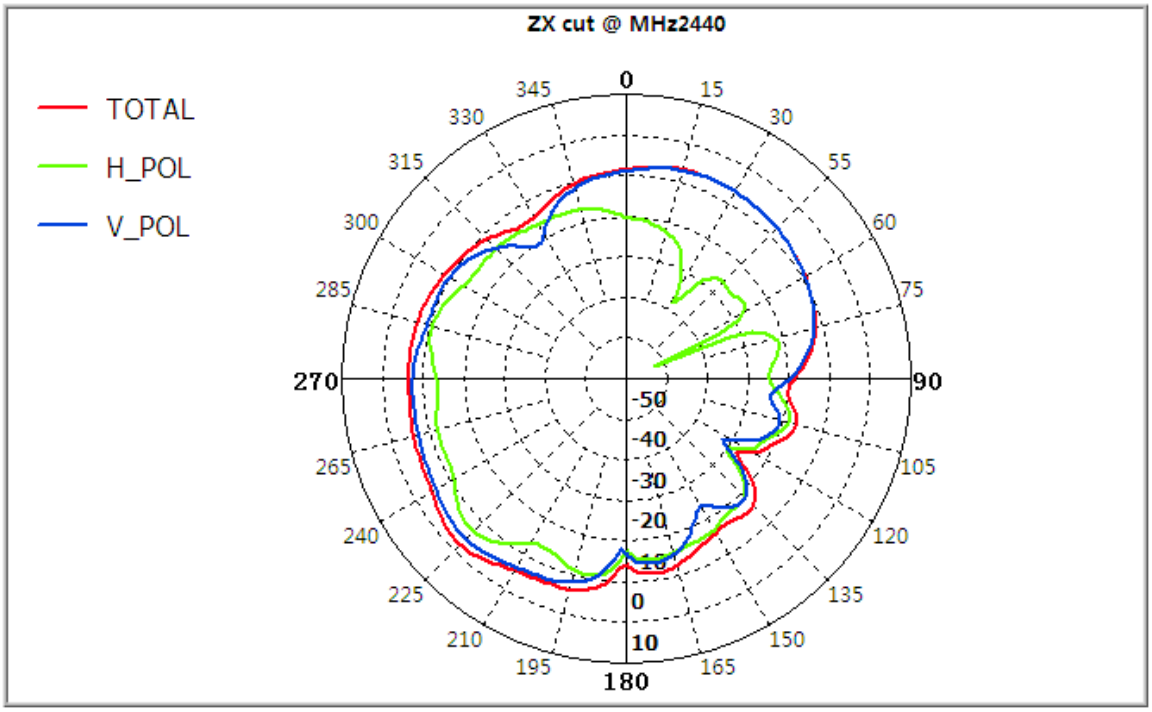
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400 MHz	0.6	46.56
2410 MHz	0.57	48.48
2420 MHz	1.08	49.98
2430 MHz	1.34	43.31
2440 MHz	1.22	47.74
2450 MHz	1.88	46.05
2460 MHz	1.55	44.77
2470 MHz	1.71	45.7
2480 MHz	1.55	49.76
2490 MHz	0.72	48.96
2500 MHz	0.58	46.81

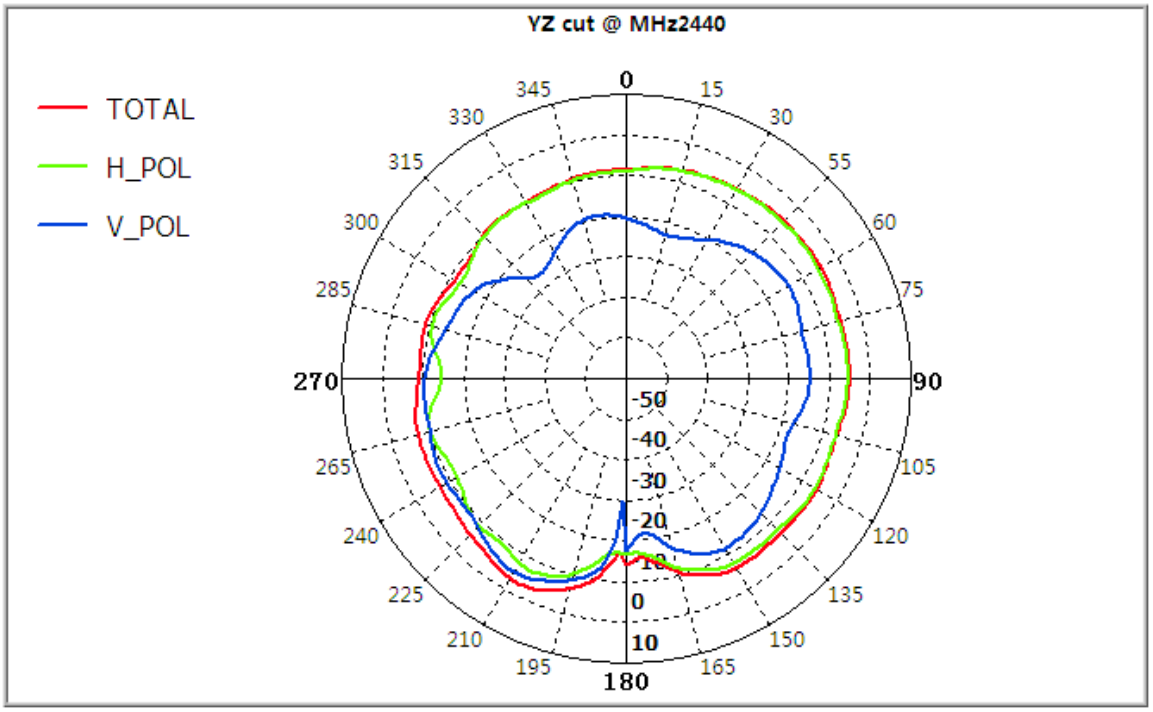
3.1.3. 3D



3.1.4. Antenna polarization direction

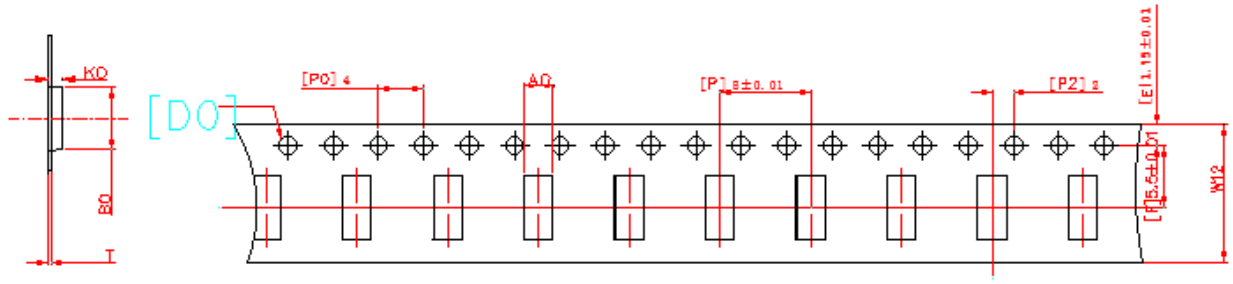






4. Packaging Information

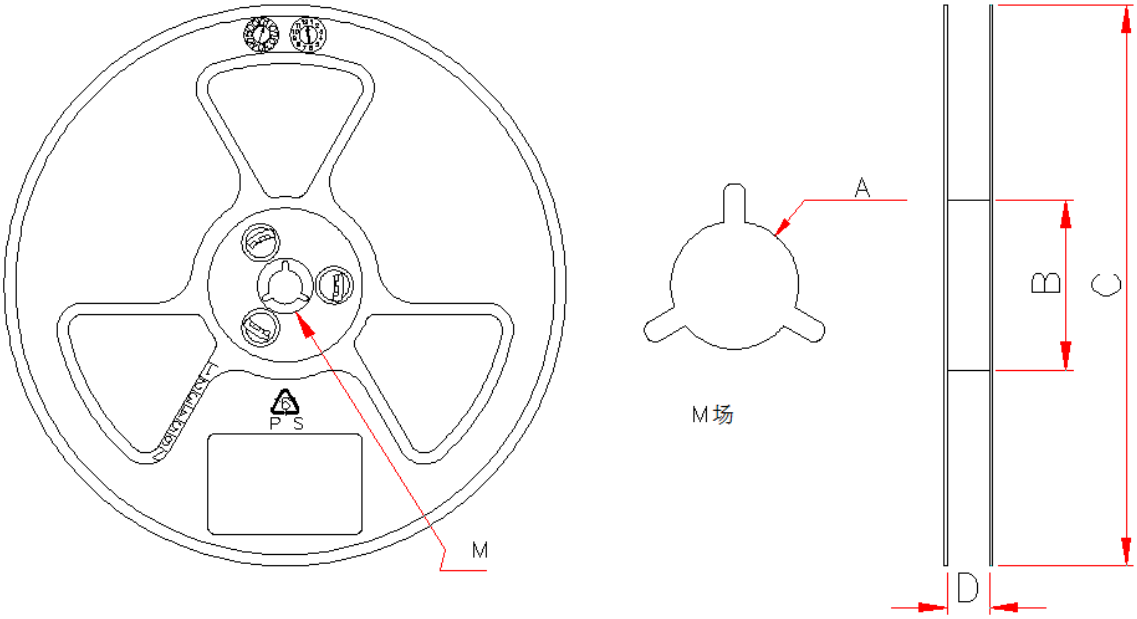
4.1. Tape specification



Index	A0	B0	K0	P0	P	P2	ϕ D0	W	E	F	T
Dimension(mm)	2.5± 0.1	5.5± 0.1	1.3± 0.1	4.0± 0.1	8.0± 0. 1	2.0± 0.1	1.5 +0.1	12.0 ±0.3	1.75 ±0.1	5.5± 0.1	0.3± 0.05

1. 10 sprocket hole pitch cumulative tolerance ±0.20.
2. Carrier camber is within 1 mm in 250 mm.
3. All dimensions meet EIA-481-C requirements.
4. Material :Transparent PS.
5. Thickness:0.3±0.05mm.
6. Packing length per 7" reel :12.5Meters.
7. Component load per 7" reel : 1500 pcs.(前后共预留 60pcs)

4.2. Reel specification



Index	A	B	C	D
Dimension(mm)	13.3±0.3	100±0.3	330±0.3	24.5±0.3

5. Notes

1) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2) The use of tweezers or vacuum pick up is strongly recommended for individual components.

6. Storage Conditions

1) Recommended products should be used within 6 months form the time of delivery.
2) Storage environment condition

- Temperature and humidity conditions:-10~40℃ and 30~70%RH.
- The packaging material should be kept where no chlorine or sulfur exists in the air.
- Products should be storage in thewarehouse without heat shock,vibration,direct sunlight and so on.