



ShenZhen City FeiMin Technology CO., LTD.

SPECIFICATION FOR APPROVED

CUSTOMER: Shenzhen sheng Tianlong audio-visual technology co., ltd

PRODUCTS: Patch antenna

PART NO:

Spec. : FM-S2254-YF01

Data: 2023.06.01

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目录

1. Project Information.....	3
1.1. Appearance and Dimensions.....	3
1.2. Test Board with Antenna(Unit:mm)	4
1.3. Clearance area	5
1.4. Matching Circuit	6
2. Electrical Characteristics(40*40mm ² ground plane).....	6
1.5. Electrical Table	6
1.6. Return Loss & VSWR.....	7
2. Radiation Pattern(40*40mm ² ground plane).....	8
2.1. Efficiency and Gain	8
2.1.1. Test system.....	8
2.1.2. Efficiency and Gain.....	8
2.1.3. 3D	9
2.1.4. Antenna polarization direction.....	9
3. Packaging Information	11
3.1. Tape specification	11
3.2. Reel specification.....	11
4. Notes	12
5. Storage Conditions	12

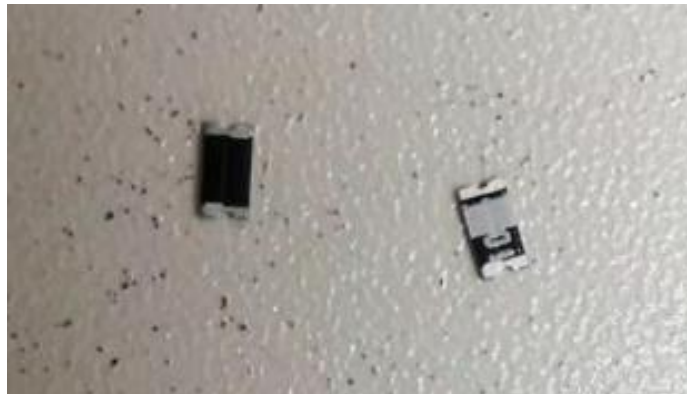
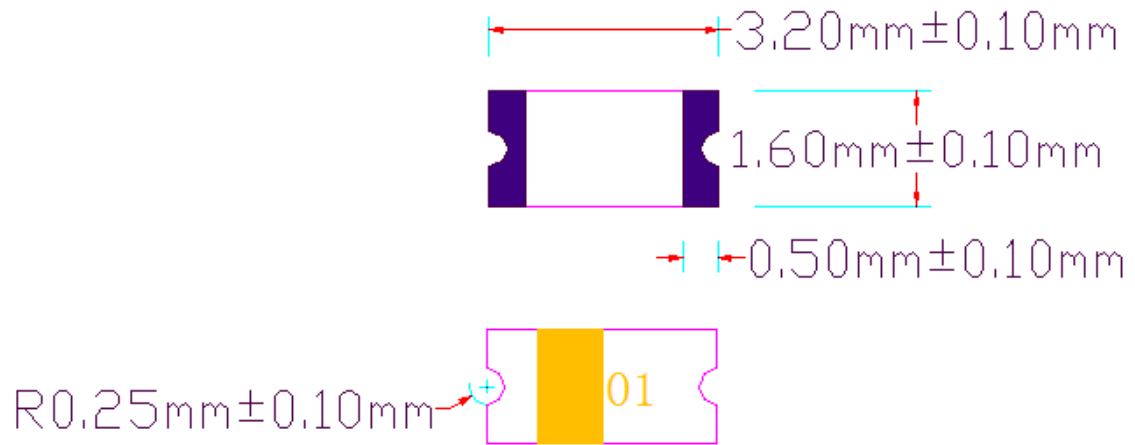
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Revision history

version	date	condition
A1	2021-07-23	First edition

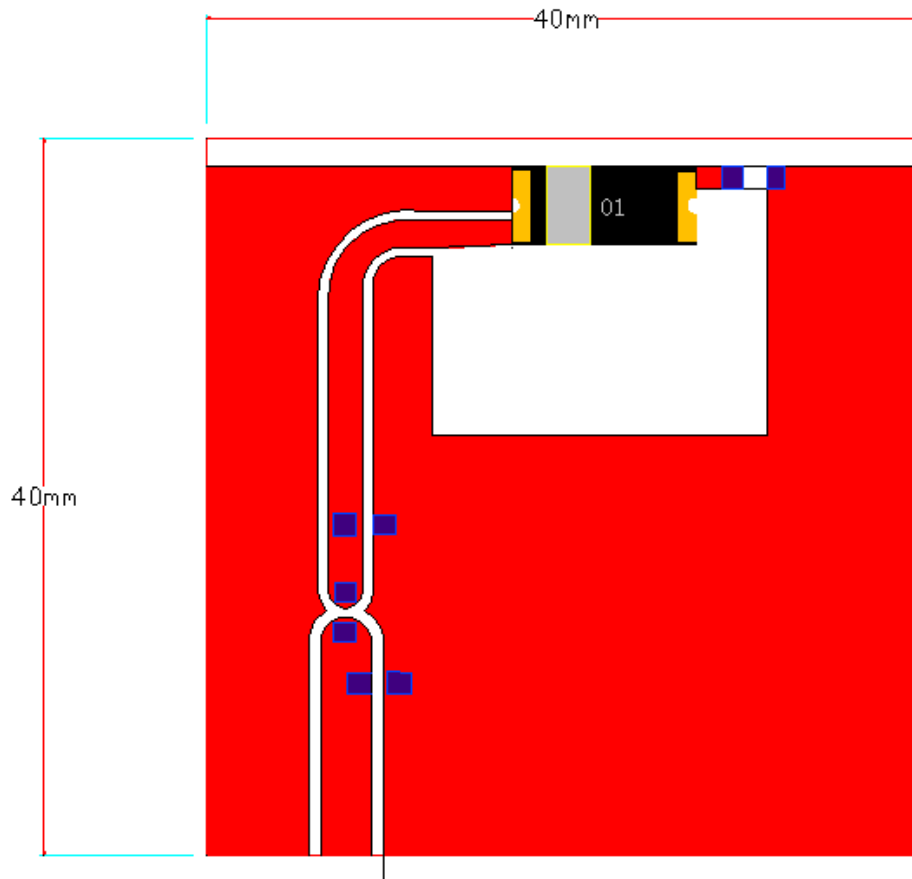
1. Project Information

1.1. Appearance and Dimensions



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1.2. Test Board with Antenna(Unit:mm)

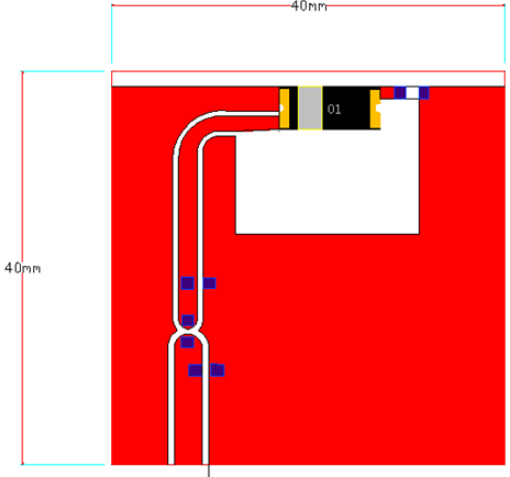


50Ω transmission line

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1.3. Clearance area

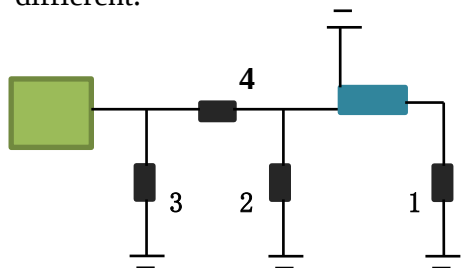
When designing the antenna, it should be far away from metal components and irrelevant components such as batteries, oscillators, shields, cameras, etc. to leave a clean space for the antenna. This interval is called clearance area. The following is the size of clearance area we recommend to reserve.

Model	size	Clearance area size L*W(mm)	 50Ω transmission line.
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	
F01	3.2*1.6*0.4	7.0*4.3	

ANTENNA SPECIFICATION

1.4. 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 mm² evaluation board. However, these are typical reference values which may need to be changed when circuit boards or part vendors are different.



System Matching Circuit Component (Murata)		
Location	Description	Tolerance
1	0.5-6.2pF(0402)	± 5%
2	0.5-3pF(0402)	± 5%
3	0.5-3pF(0402)	± 5%
4	1-6.2nH (0402)	± 5%

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

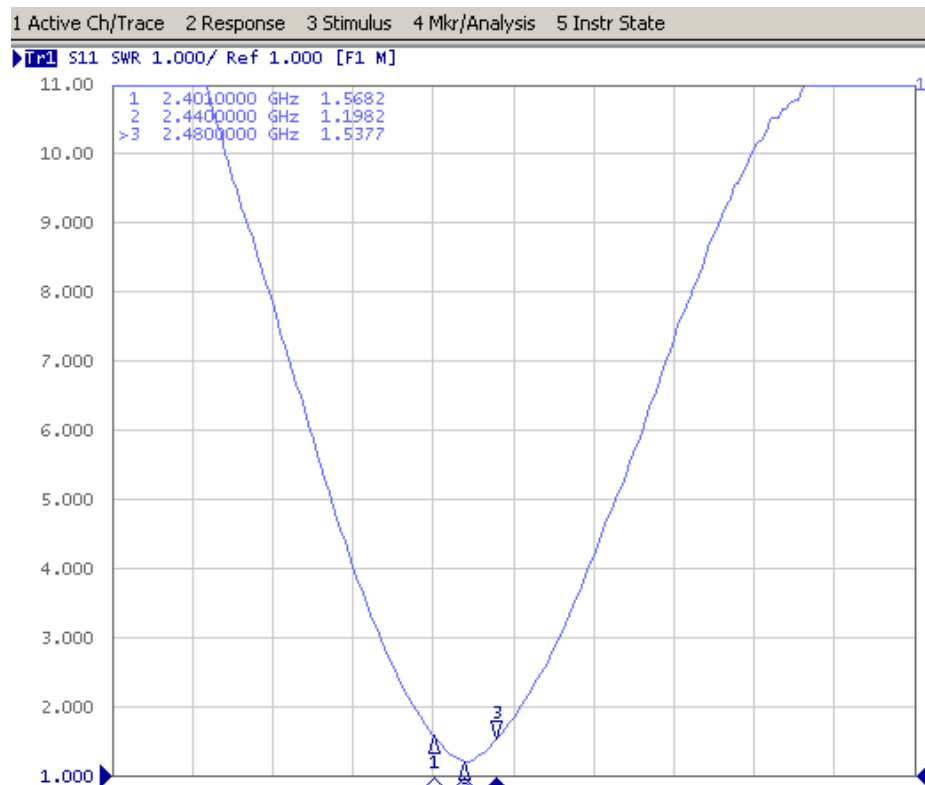
1.5. Electrical Table

Characteristics		Specifications	Unit
Outline Dimensions		3.2*1.6*0.4	mm
Working Frequency		2400-2500	MHz
VSWR		<2	/
Impedance		50	Ω
Polarization		circular polarization	/
Gain	Peak	<2	dBi
	Efficiency	50	%

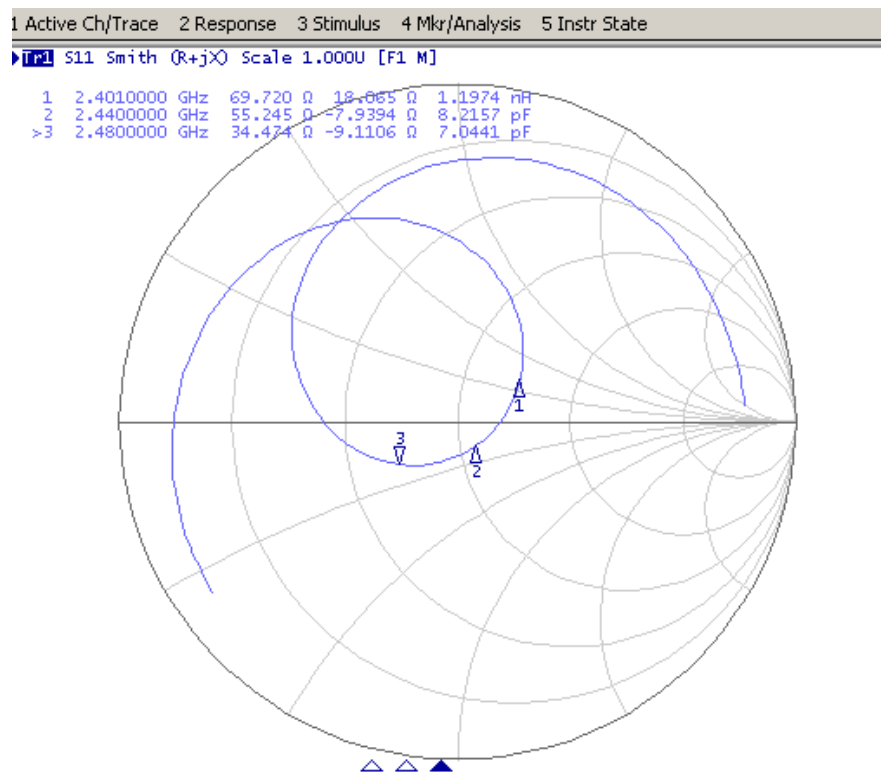
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1.6. Return Loss & VSWR

VSWR(S11)



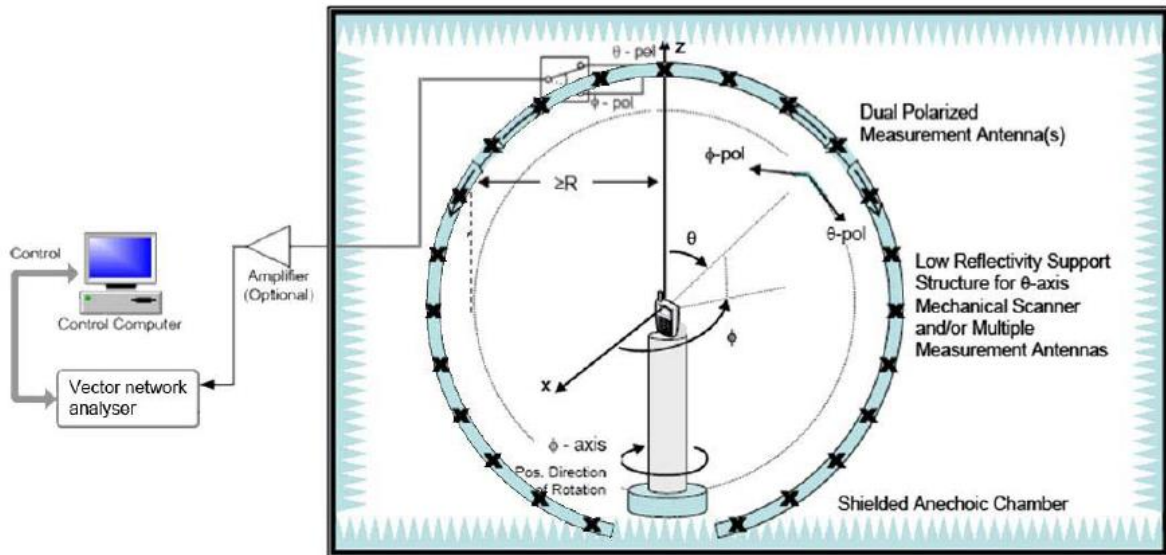
Smith Chart(S11)



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

2.1. Efficiency and Gain

2.1.1. Test system

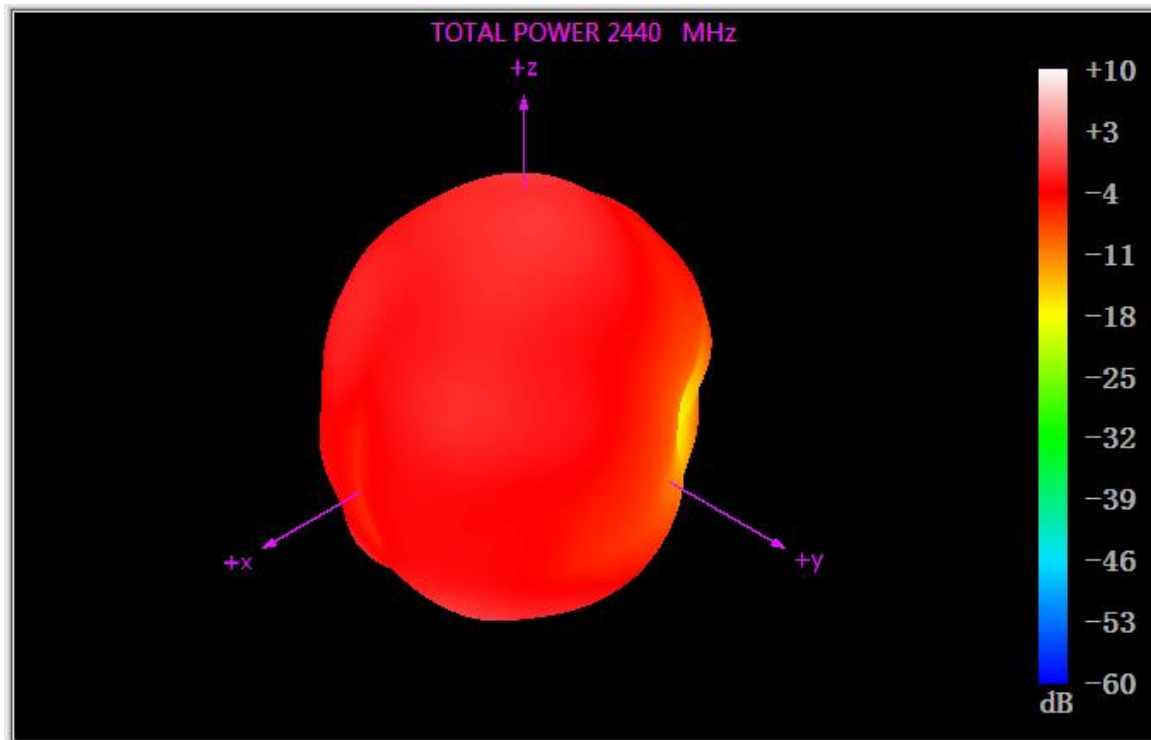


2.1.2. Efficiency and Gain

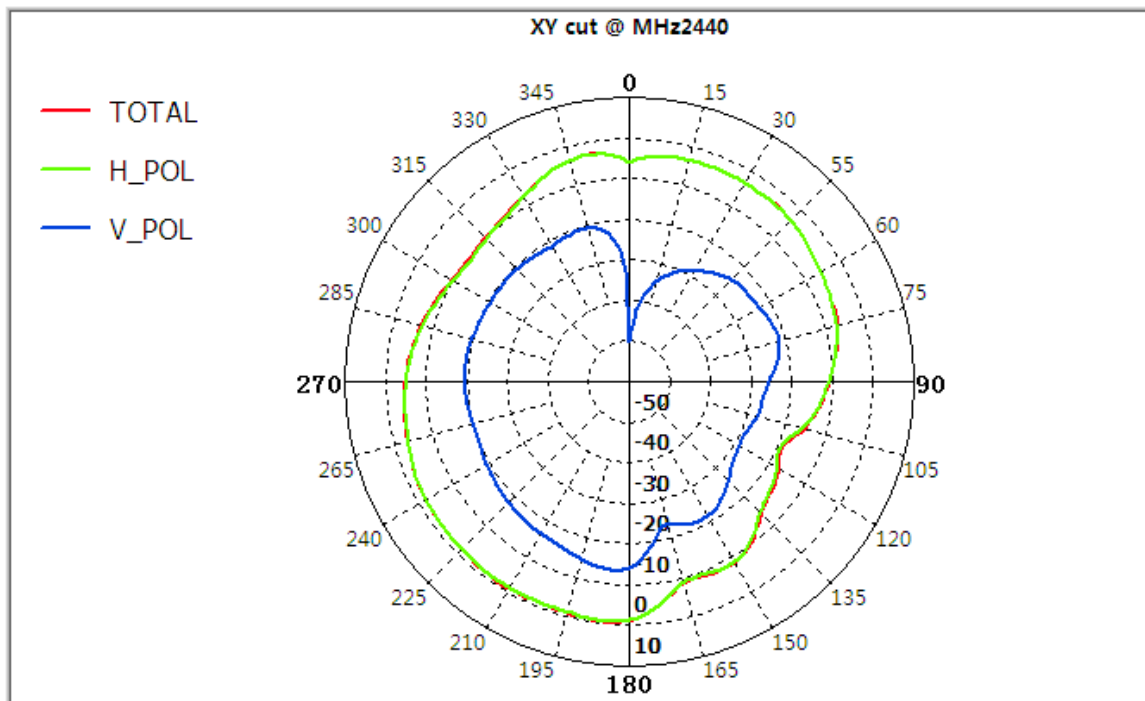
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400 MHz	1.08	46.56
2410 MHz	1.01	48.48
2420 MHz	1.13	49.98
2430 MHz	1.03	50.31
2440 MHz	1.17	50.74
2450 MHz	1.14	51.05
2460 MHz	1.29	51.77
2470 MHz	1.34	51.7
2480 MHz	1.28	51.76
2490 MHz	1.18	51.96
2500 MHz	1.24	52.81

ANTENNA SPECIFICATION

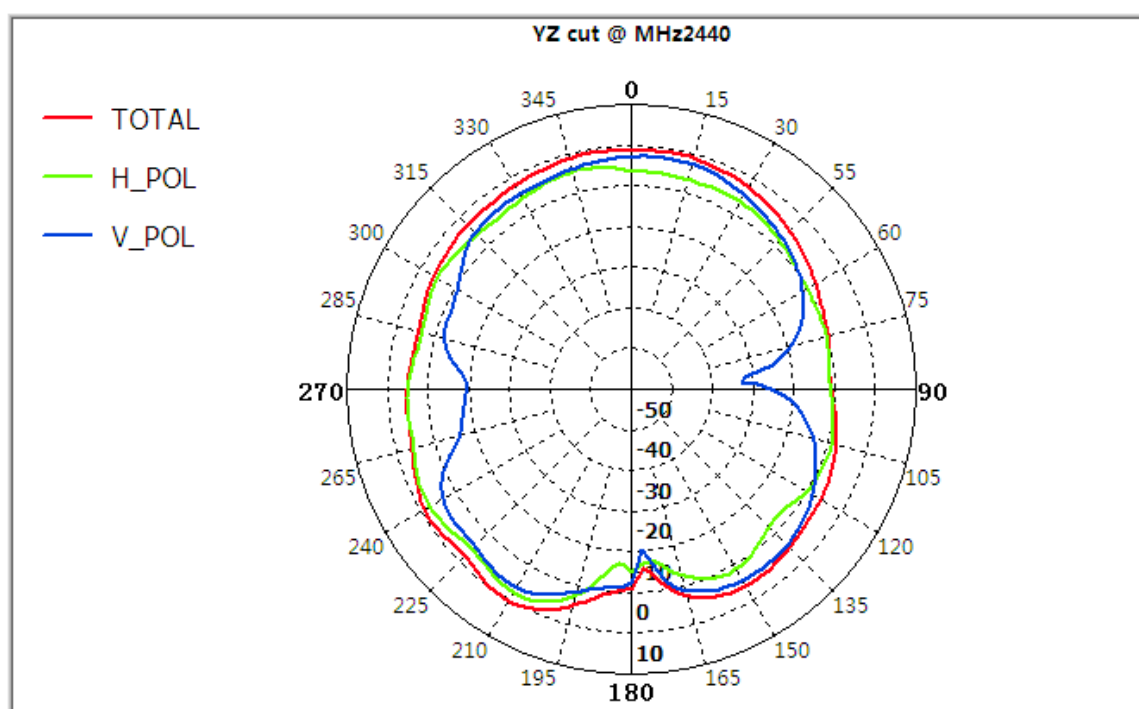
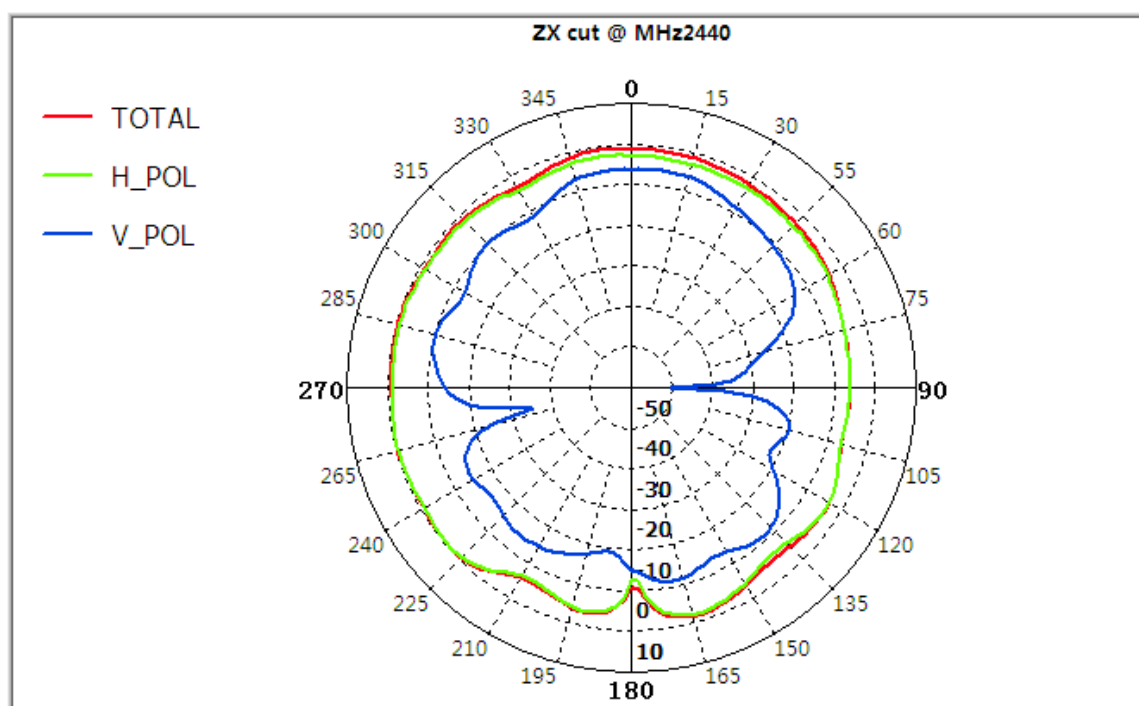
2.1.3. 3D



2.1.4. Antenna polarization direction

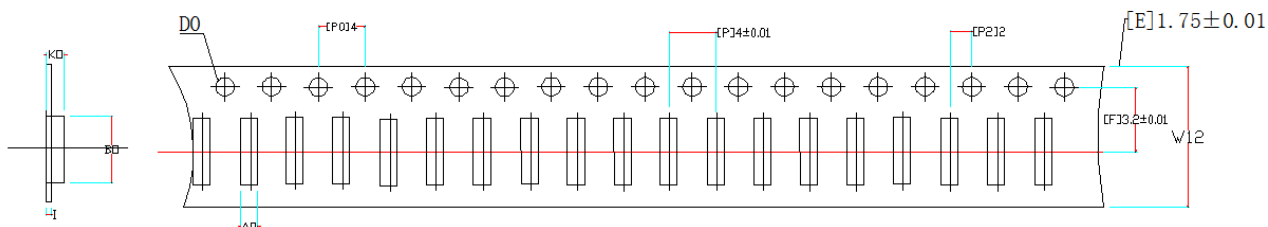


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3. Packaging Information

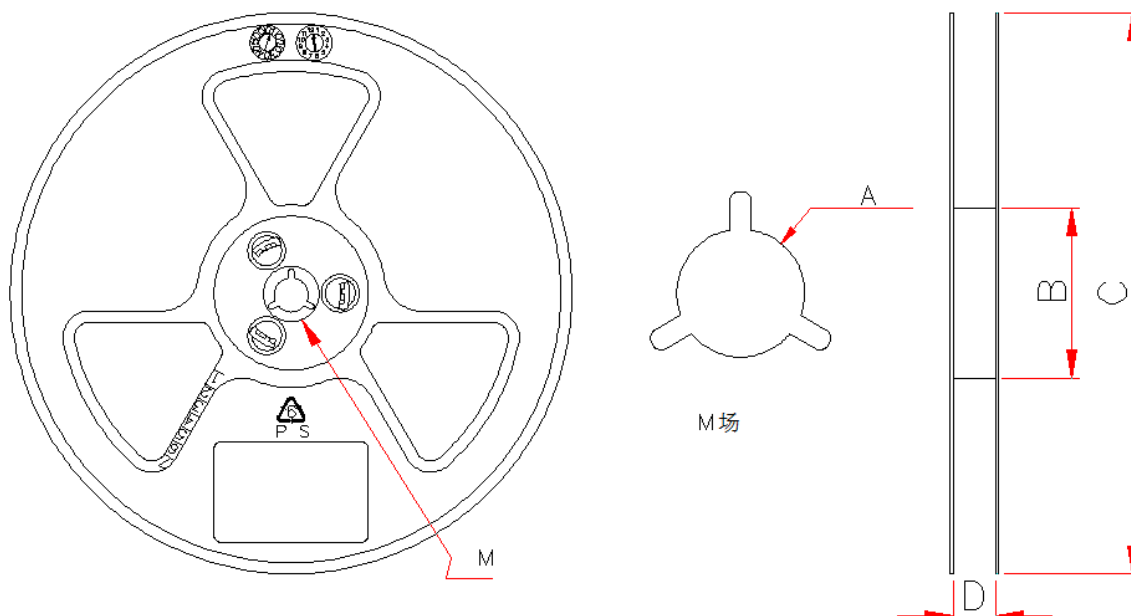
3.1. Tape specification



Index	A0	B0	K0	P0	P	P2	φD0	W	E	F	T
Dimension (mm)	1.85 ±0.1	3.50 ±0.1	0.85 ±0.1	4.00 ±0.1	4.00 ±0.1	2.00 ±0.1	1.50 +0.1	12.00 ±0.3	1.75 ±0.1	3.20 ±0.1	0.30 ± 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. Packing length per 7" reel :12.5Meters.
6. Component load per 7" reel : 3000 pcs. (120pcs are reserved before and after)

3.2. Reel specification



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

4. 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.

5. Storage Conditions

1. Recommended products should be used within 6 months from the time of delivery.

2. Storage environment condition

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