

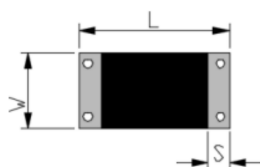
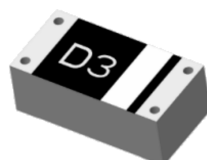
Antenna data sheet

PRODUCTS:	D3 chip antenna
Peak Gain:	3.54dBi
Spec.:	E.6.041
Data:	2023.08.16

Manufacturer: ShenZhen FeiMin Technology CO.,LTD.
Add: Room 303, Factory Building C, Hengnan 1st Road, Gushu Community, Xixiang
Sub-district, Bao 'an District, Shenzhen City, China

1. Project Information

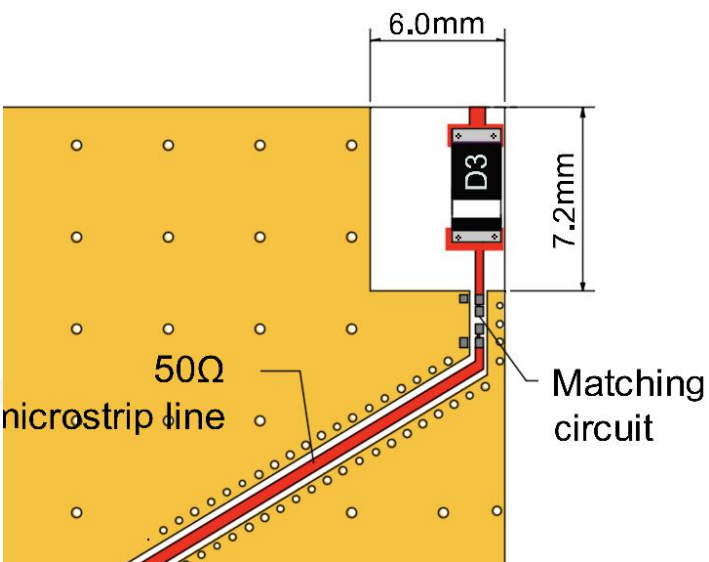
1.1. Appearance and Dimensions



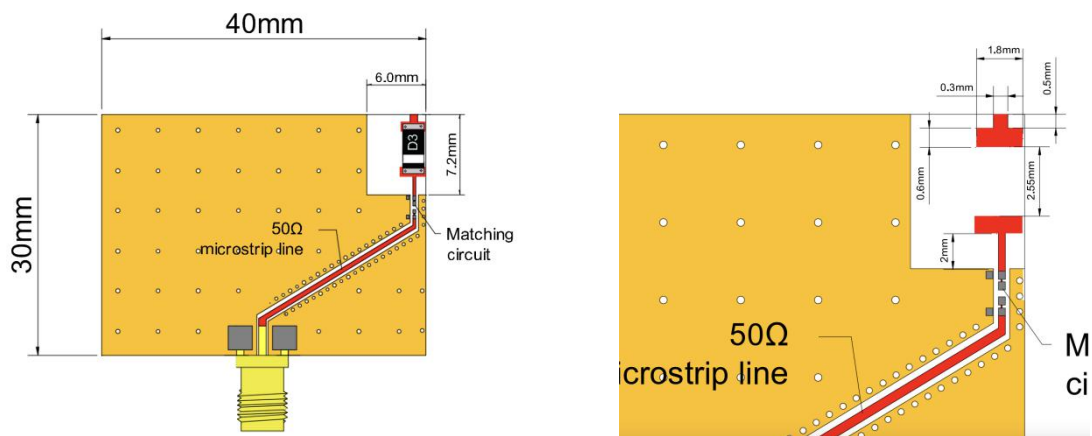
Symbol	Dimension (mm)
L	3.4 ± 0.20
W	1.7 ± 0.20
T	1.2 ± 0.20
S	0.4 ± 0.20

1.2. antenna Clearance area

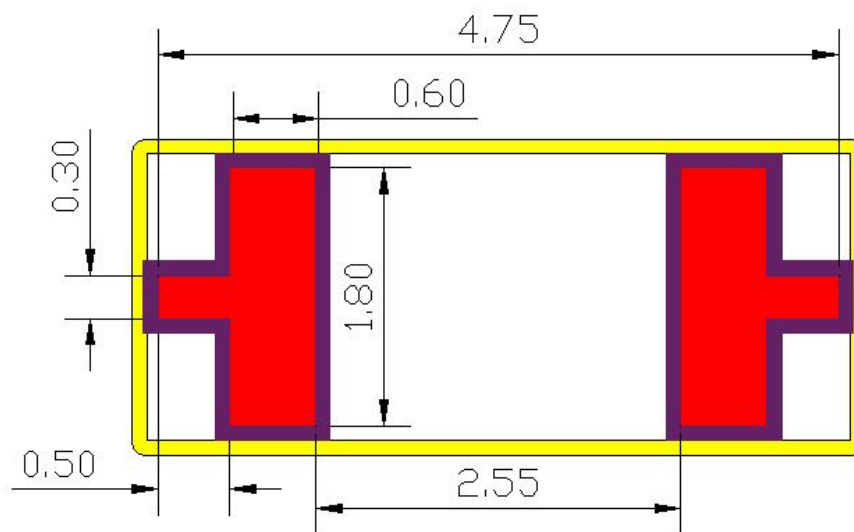
When designing the antenna, it should be far away from metal components and irrelevant components such as batteries, oscillators, shields, cameras, etc. to leave a clean space for the antenna. This interval is called clearance area. The following is the size of clearance area we recommend to reserve.

(Model)	(size)	Clearance area L*W(mm)	
A1 (2.4G)	5.5*1.2*1.2	9.1*5.6	
X5 (2.4G)	5.2*2.2*1.0	8.7*6.5	
X6 (2.4G pifa)	3.2*1.6*1.0	7.0*6.0	
D1 (2.4G)	5.2*2.2*1.0	8.7*6.5	
D2 (2.4G)	5.2*2.2*1.0	8.7*6.5	
D3 (2.4G)	3.4*1.7*1.2	7.2*6.0	
F01 (2.4G pifa)	3.2*1.6*0.4	7.0*6.0	
S2 (2.4/5.8G)	7.0*3.0*2.0	9.0*7.0	
U1 (UHF)	15.0*3.0*1.0	19.0*8.0	
G2 (GPS)	9.5*3.0*1.0	13.5*7.5	

1.3. Demo Test Board with Antenna(Unit:mm)



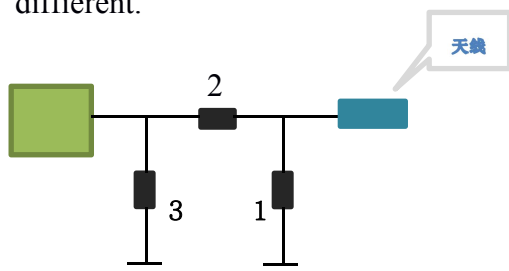
1.4.Suggested PCB board size layout



单位: mm

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 30*40 mm 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	NC	/
2	4.7nH(0402)	± 0.2nH
3	2.0pF (0402)	± 0.1pF

2. Electrical

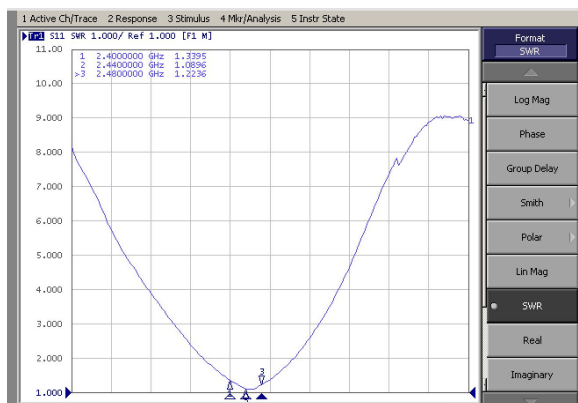
Characteristics(30*40mm ground plane)

2.1 Electrical Table

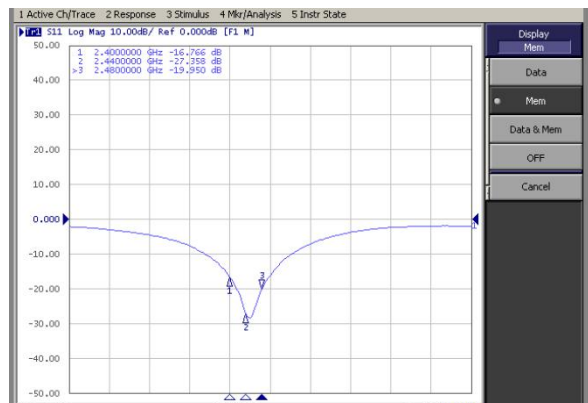
Characteristics		Specifications	Unit
Outline Dimensions		3.4*1.7*1.2	mm
Working Frequency		2400-2500	MHz
VSWR		<2	/
Impedance		50	Ω
Polarization		linearly polarized	/
Gain	Peak	3.54	dB _i
	Efficiency	50	%

2.2.VSWR & return loss

VSWR

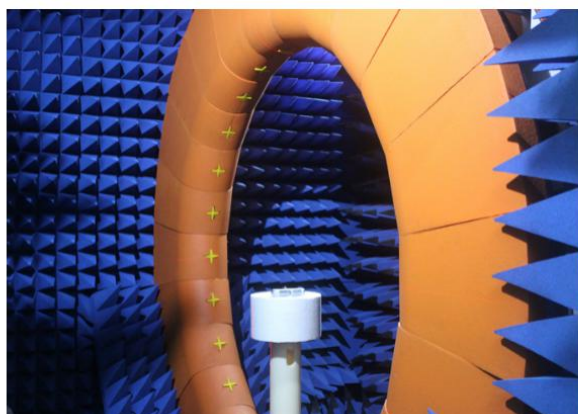


return loss



2.3.Gain and Efficiency

Test system



24 探头微波暗室

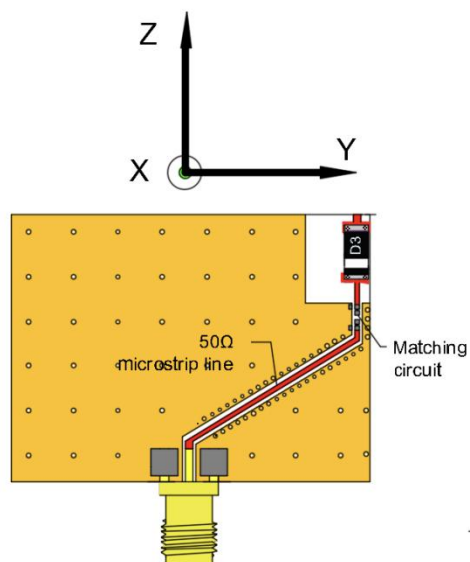
➤ 频率：0.4GHz至6GHz

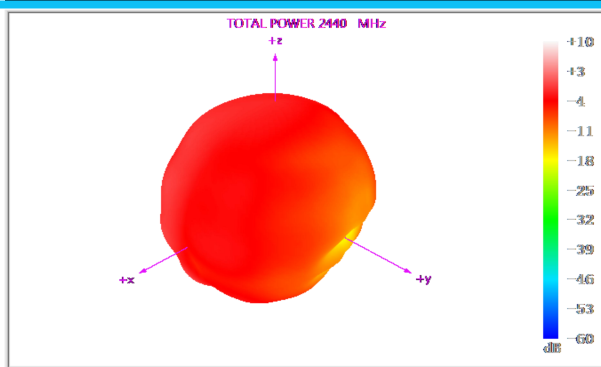
主要测试指标

- ◆ 无源指标
- ◆ 增益
- ◆ 效率
- ◆ 3D方向图
- 有源指标
- TRP总辐射功率
- TIS总接收灵敏度

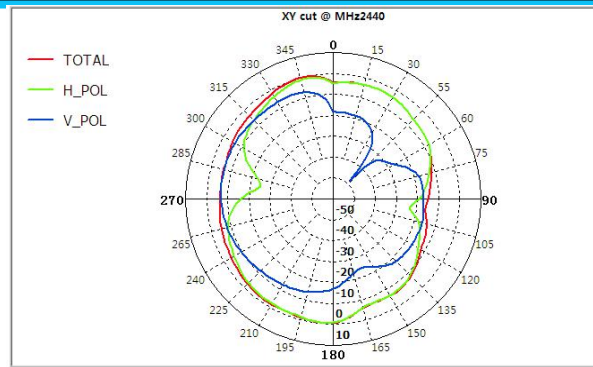
Frequency (MHz)	Gain (dBi)	Efficiency (%)
2400 MHz	2.53	48.07
2410 MHz	2.42	46.87
2420 MHz	2.62	45.74
2430 MHz	2.60	47.41
2440 MHz	2.83	49.21
2450 MHz	3.04	49.87
2460 MHz	3.37	50.91
2470 MHz	3.51	51.95
2480 MHz	3.54	52.81
2490 MHz	3.39	51.34
2500 MHz	3.31	49.99

2.4. Antenna radiation pattern

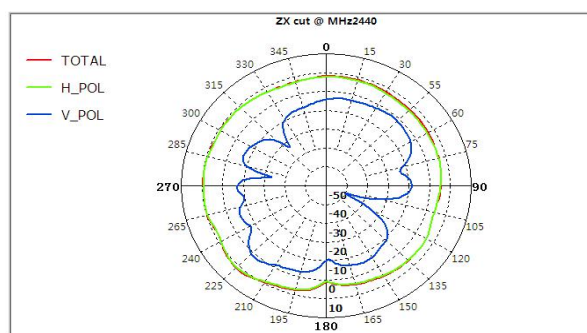




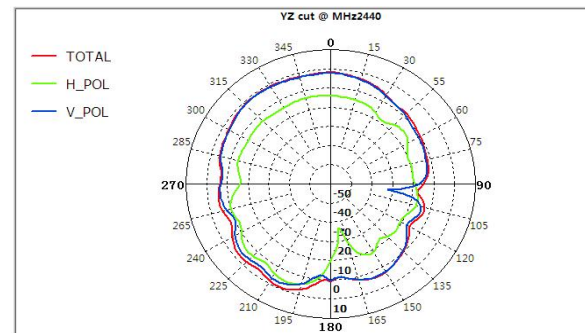
3D-plane@2.44GHz



2D-plane XOY @2.44GHz

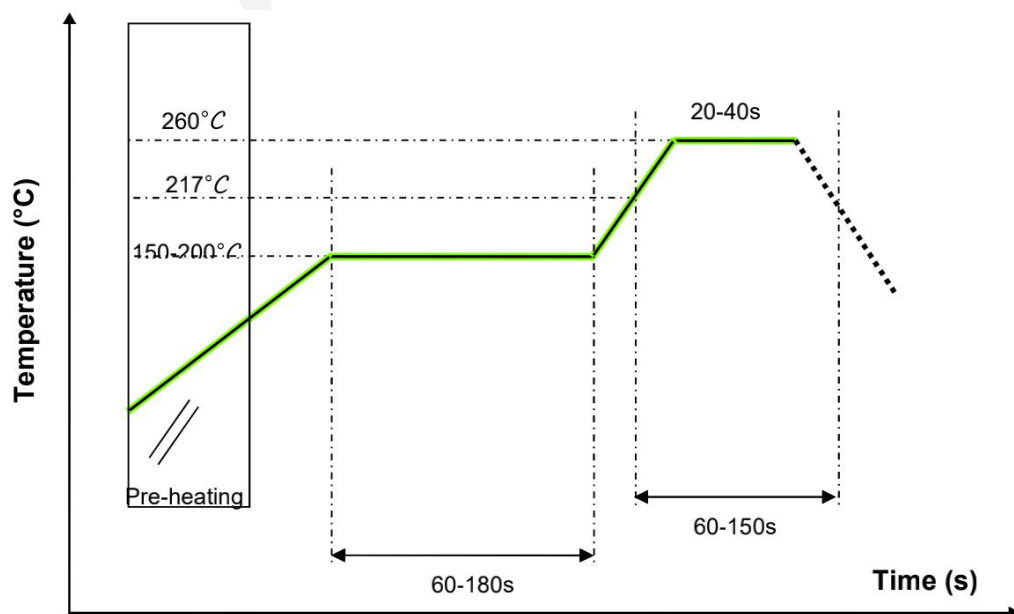


2D-plane XOZ@2.44GHz



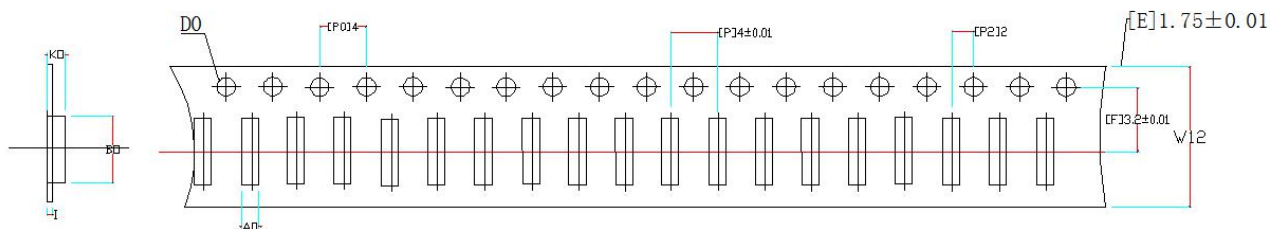
2D-plane YOZ @2.44GHz

3.Soldering and Mo untng



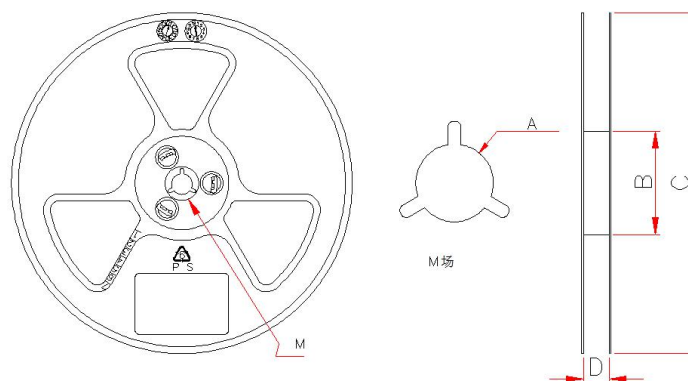
4. Packaging Information

4.1. Tape specification



Index	A0	B0	K0	P0	P	P2	ϕ D0	W	E	F	T
Dimension(mm)	2.0 ± 0.1	3.7 ± 0.1	1.5 ± 0.1	4.0 ± 0.1	4.0 ± 0.1	2.0 ± 0.1	$1.5^{+0.1}_{-1}$	12.0 ± 0.3	1.75 ± 0.1	3.7 ± 0.1	0.3 ± 0.05

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

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

- 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.