



Shenzhen Yundong Chuangxiang Technology Co., Ltd.

Material Acknowledgment Certificate

Acknowledgment number: _____

Material No.: 6111500950

Supplier : Shenzhen Feimin Technology Co., Ltd.

Project : FM-S855-D3 Bluetooth antenna

Material Name: D3 Bluetooth antenna

Material specifications: Bluetooth antenna: 3.4*1.7*1.2

Reasons for Sending Samples: _____

Supplier address: Room 303, Building C, Hengnan one Road, Gushu community, Xixiang Street, Bao' an District, Shenzhen City

Remarks:

Supplier material production confirmation: (must be stamped)

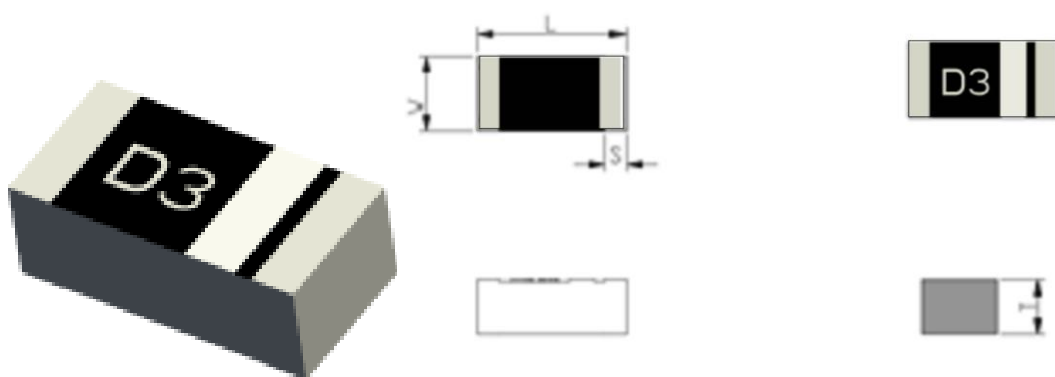
Formulate	To examine	Approval	Seal

Approved by Yundong Creative:

To bear	To examine	approval	quality	Seal

1. Project Information

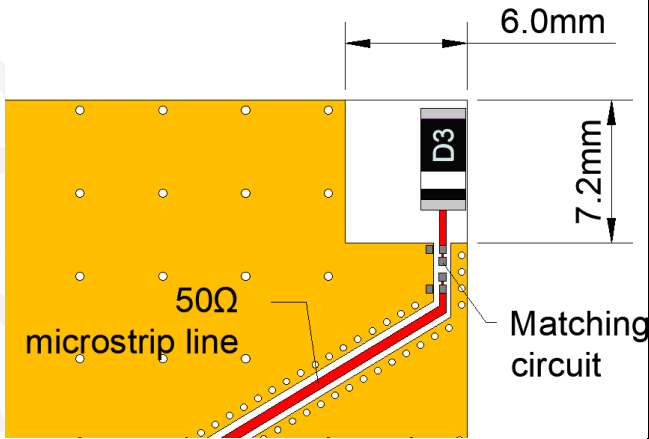
1.1.Appearance and Dimensions

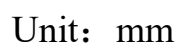


Symbol	Dimension (mm)
L (length)	3.4 ± 0.20
W (width)	1.7 ± 0.20
T (thickness)	1.2 ± 0.20
S (Electrode width)	0.4 ± 0.20

1.2. antenna Clearance area

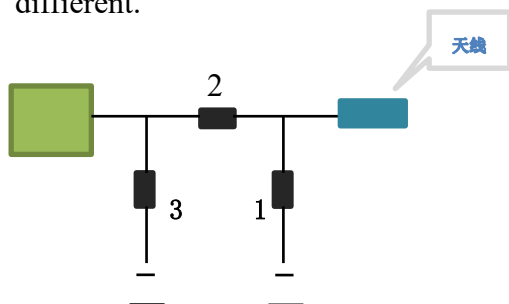
When designing the antenna, it should be far away from metal components and irrelevant components such as batteries, oscillators, shields, cameras, etc. to leave a clean space for the antenna. This interval is called clearance area. The following is the size of clearance area we recommend to reserve.

Model	size	Clearance area L*W(mm)	
A1 (2.4G unipolar)	5.5*1.2*1.2	9.1*5.6	
X5 (2.4G unipolar)	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 unipolar)	5.2*2.2*1.0	8.7*6.5	
D2 (2.4Gunipolar)	5.2*2.2*1.0	8.7*6.5	
D3 (2.4Gunipolar)	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 (2.4/5.8Gdual-frequency)	7.0*3.0*2.0	9.0*7.0	
U1 (UHF unipolar)	15.0*3.0*1.0	19.0*8.0	
G2 (GPS unipolar)	9.5*3.0*1.0	13.5*7.5	



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)	$\pm 0.2\text{nH}$
3	1.0pF (0402)	$\pm 0.1\text{pF}$

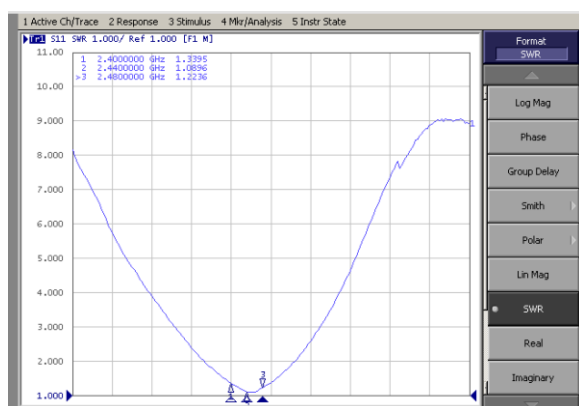
2. Electrical Characteristics(30*40mm ground plane)

2.1. Electrical Table

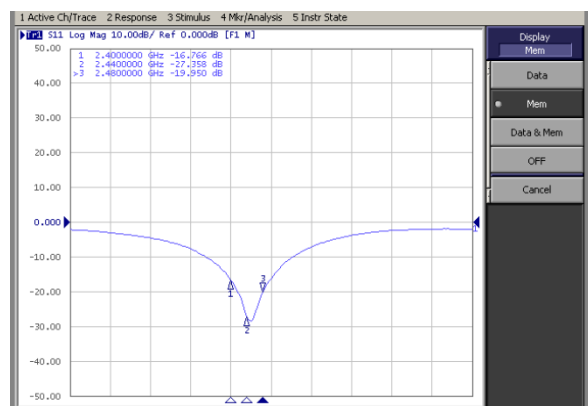
Characteristics		Specifications	Unit
Outline Dimensions		3.4*1.7*1.2	mm
Working Frequency		2400-2500	MHz
VSWR		<2	/
Impedance		50	Ω
Polarization		线极化	/
Gain	Peak	3.54	dBi
	Efficiency	50	%

2.2. VSWR & return loss

VSWR

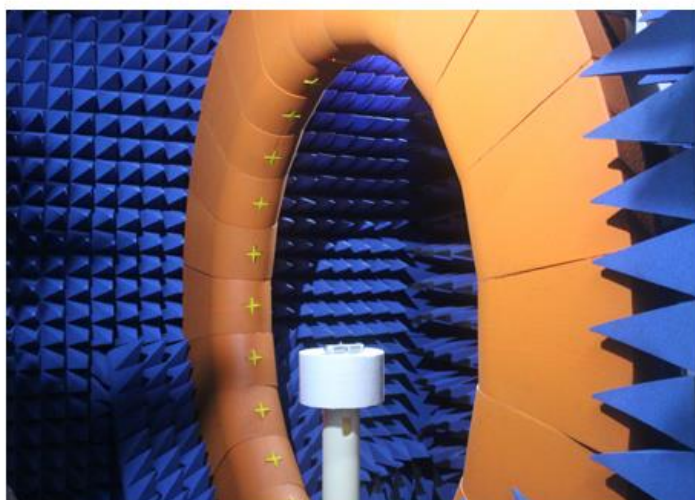


return loss



2.3. Gain and Efficiency

Test system



Probe microwave dark room

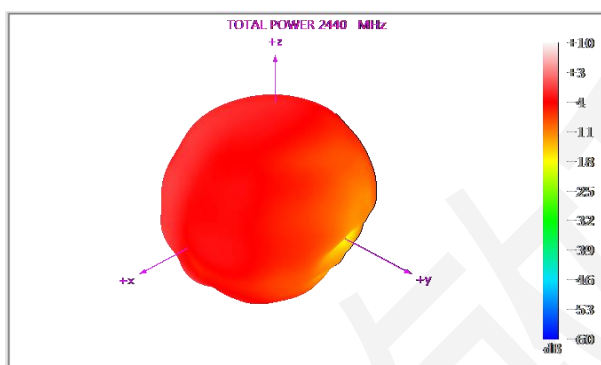
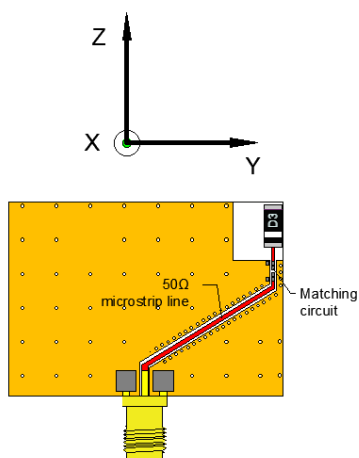
➤ Frequency : 0.4GHz~6GHz

Main test indicators

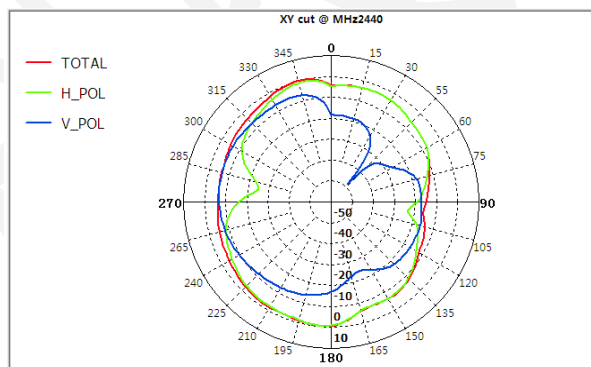
- ◆ Passive indicators
 - ◆ gain
 - ◆ efficiency
 - ◆ 3D direction map
- Active indicators
 - TRP total radiated power
 - Total reception sensitivity of TIS

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

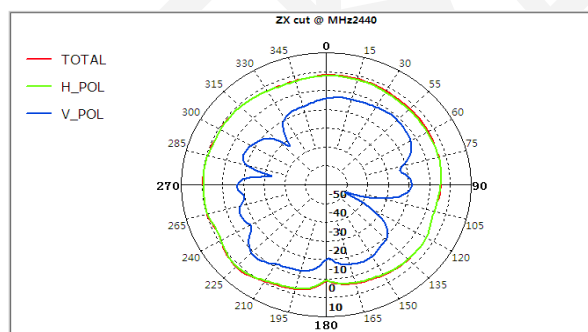
2.4. Antenna radiation pattern



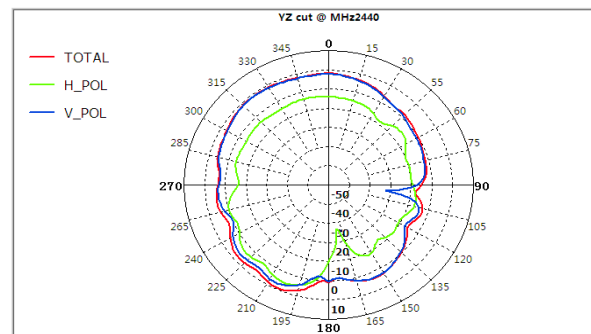
3D-plane@2.44GHz



2D-plane XOY @2.44GHz



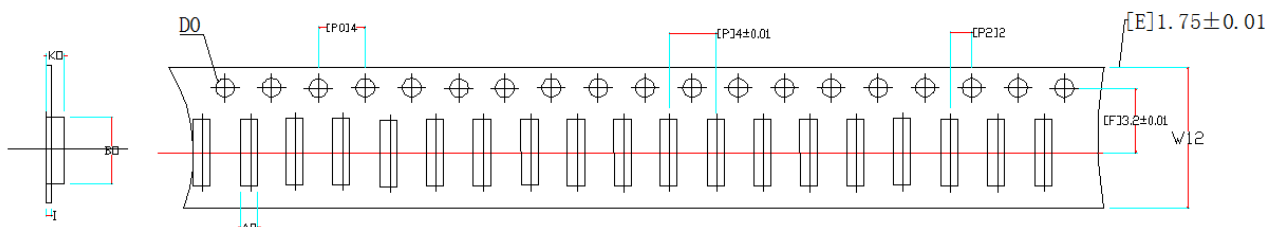
2D-plane XOZ@2.44GHz



2D-plane YOZ @2.44GHz

3. Packaging Information

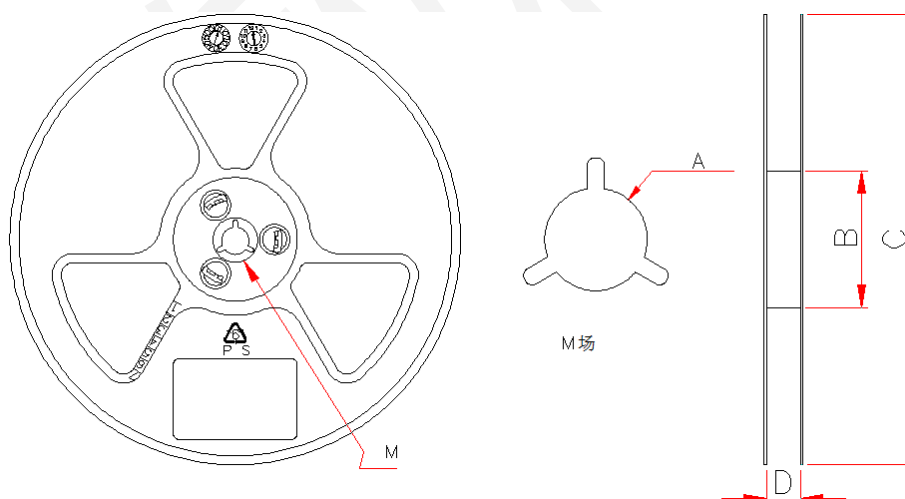
3.1. Tape specification



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	12.0 ±0.3	1.75 ±0.1	3.7 ± 0.1	0.3 ± 0.05

- 10 sprocket hole pitch cumulative tolerance ± 0.20 .
- Carrier camber is within 1 mm in 250 mm.
- All dimensions meet EIA-481-C requirements.
- Material :Transparent PS.
- Packing length per 7" reel :12.5Meters.
- Component load per 7" reel : 3000 pcs.(A total of 120pcs has been reserved.)

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 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 the warehouse without heat shock,vibration,direct sunlight and so on.