

1.6X0.8X0.8 (mm) WiFi/Bluetooth Ceramic Chip Antenna (YF1608B2) Engineering Specification

1. Product Number

YF	1608	B2	P	2G45
1	2	3	4	5



2. Features

(1)Product Type	YINGFENG ANTENNA
(2)Size Code	1.6x0.8x0.8mm
(3)Type Code	P
(4) Frequency	2.45GHz
(5)Serial number	B2

- *Stable and reliable in performances
- *Low temperature coefficient of frequency
- *Low profile, compact size
- *RoHS compliance
- *SMT processes compatible



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGYCO.,LTD

Prepared by : **Andy**

Designed by : **Jason**

Checked by : **Jason**

Approved by : **MR.FANG**

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3. Applications

- *Bluetooth earphone systems
- *Hand-held devices when WiFi /Bluetooth functions are needed, e.g., Smart phone.
- *IEEE802.11 b/g/n
- *ZigBee
- *Wireless PCMCIA cards or USB dongle

4. Description

Yingfeng chip antenna series are specially designed for WiFi/Bluetooth applications. Based on yingfeng proprietary design and processes, this chip antenna has excellent stability and sensitivity to consistently provide high signal reception efficiency.

5. Electrical Specifications (80 x 40 mm² ground plane)

5-1. Electrical Table

Characteristics		Specifications	Unit
Outline Dimensions		1.6x0.8x0.8	mm
Working Frequency		2400~2500	MHz
VSWR		2 Max.	
Impedance		50	Ω
Polarization		Linear Polarization	
Gain	Peak	2.5 (typical)	dBi
	Efficiency	58 (typical)	%



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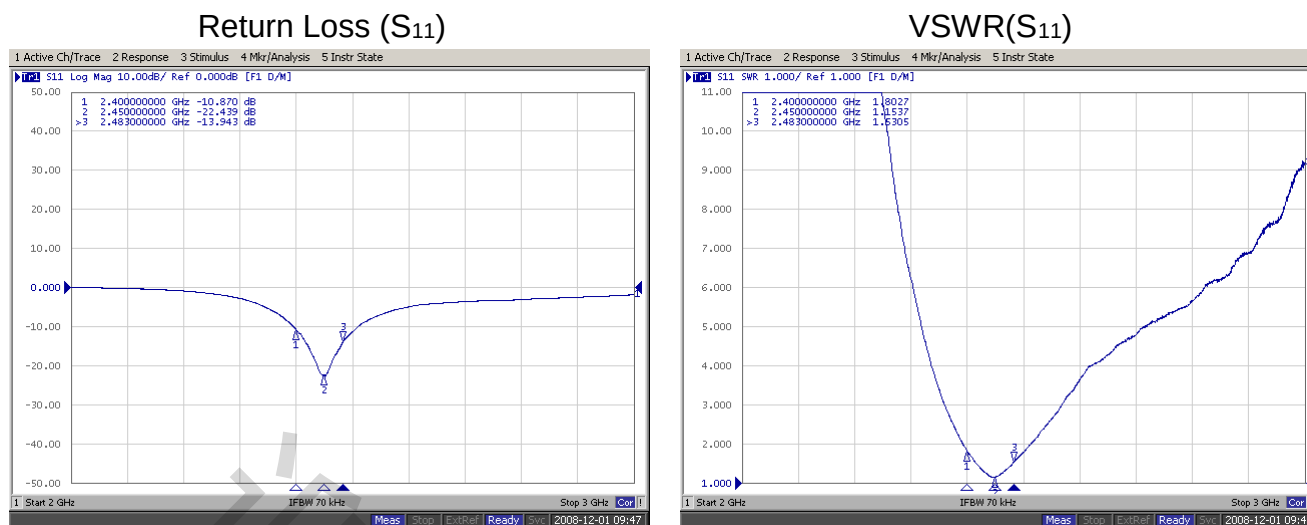
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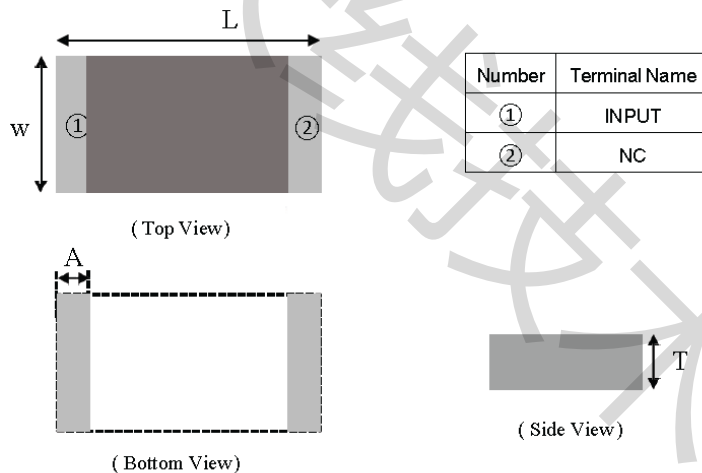
5-2. Return Loss & VSWR



6. Antenna Dimensions & Test Board (unit: mm)

a. Antenna Dimensions

Dimensions (Unit: mm)



Symbols	L	W	T	A
Dimensions	1.60±0.20	0.80±0.20	0.80±0.20	0.30±0.10



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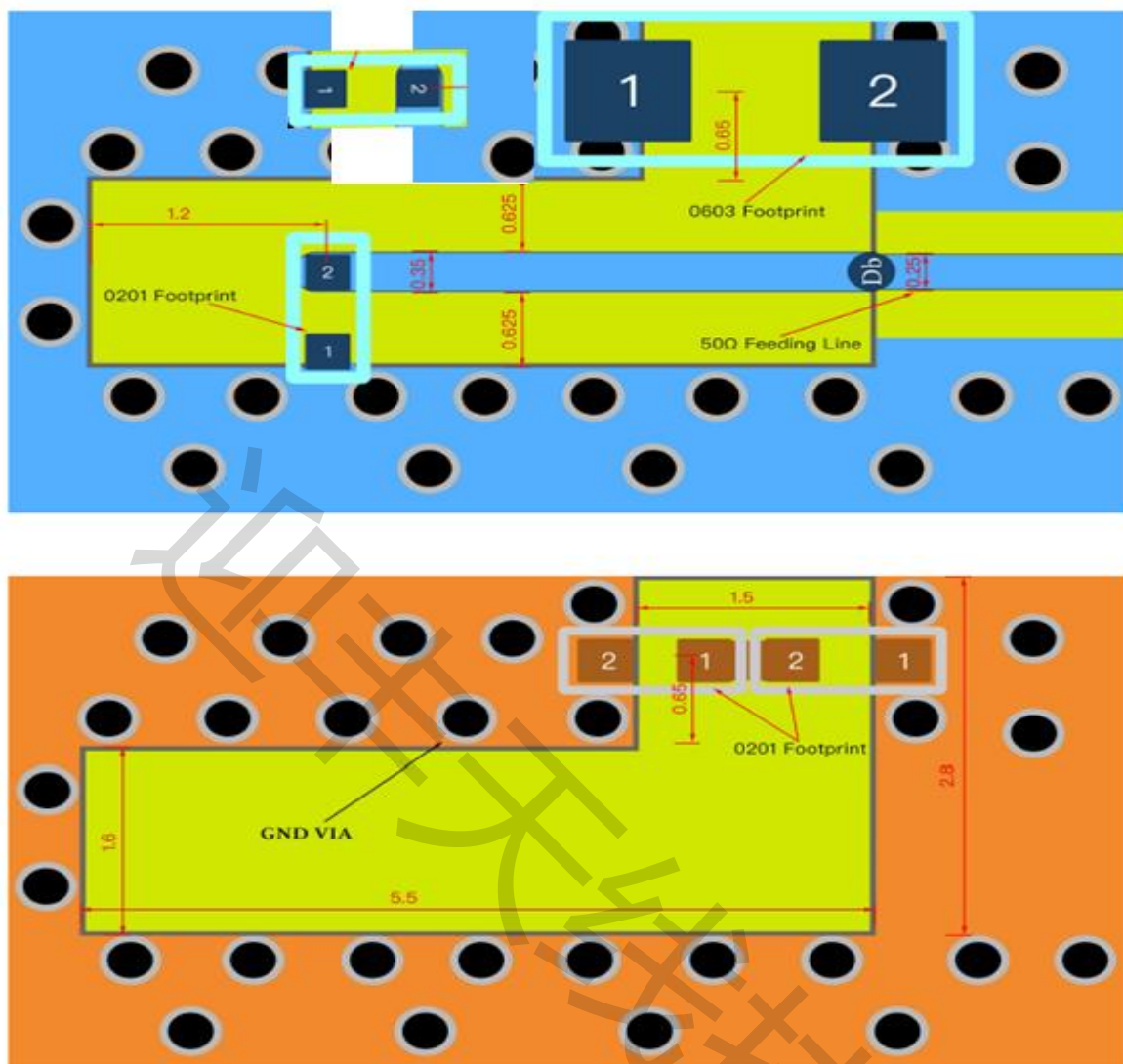
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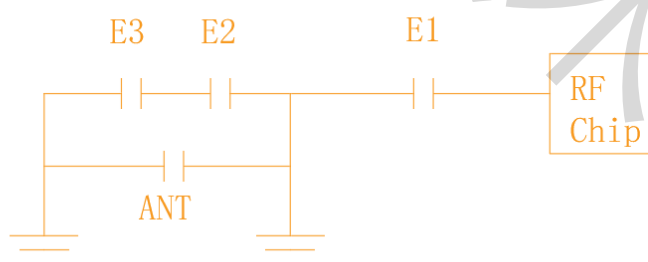
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b. Test Board with Antenna

Unit: mm



原理图



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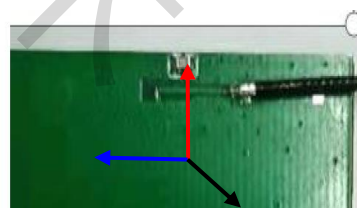
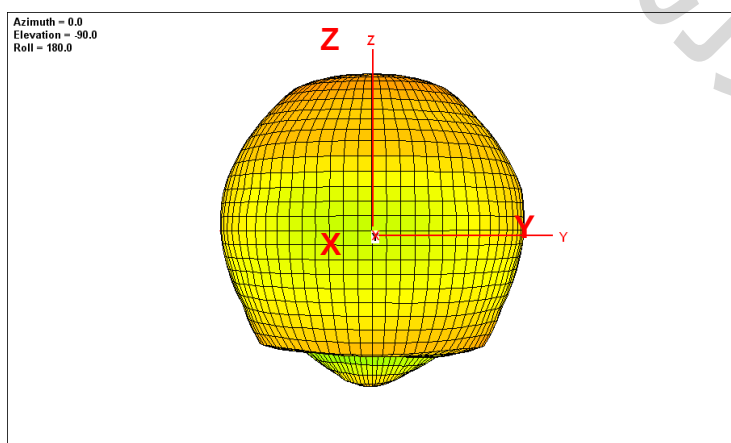
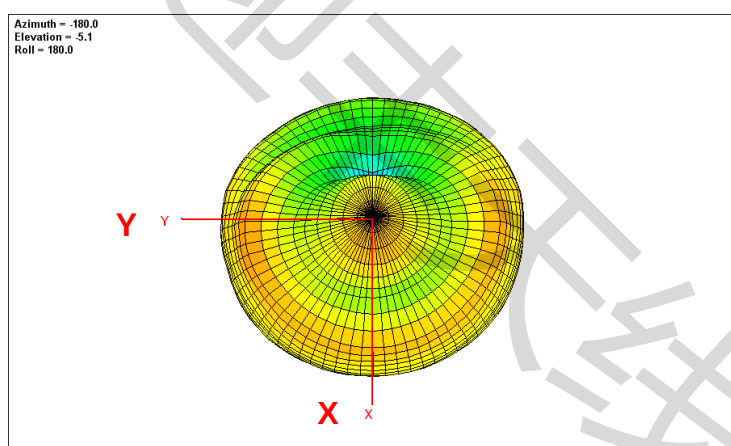
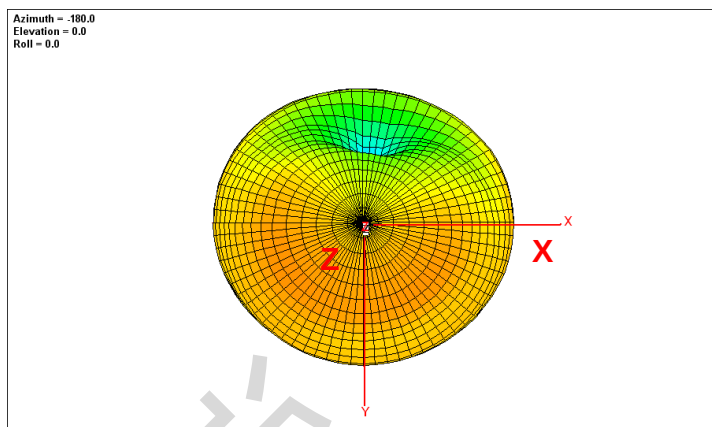
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7. Radiation Pattern (80 x 40 mm² ground plane)

7-1. 3D Gain Pattern @ 2442 MHz



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7-2. 3D Efficiency Table

Frequency(MHz)	2400	2410	2420	2430	2442	2450	2460	2470	2480	2490	2500
Efficiency (dB)	-1.4	-1.0	-0.9	-0.7	-0.7	-0.8	-0.9	-1.1	-1.2	-1.3	-1.4
Efficiency (%)	53.8	54.7	55.3	564	57.5	58.0	57.0	56.6	55.1	54.6	54.5
Gain (dBi)	2.1	2.2	2.3	2.4	2.5	2.5	2.4	1.8	1.7	1.6	1.4

Temperature Cycle Test

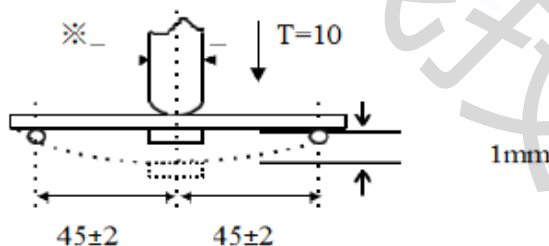
10±1S Applied Force: 5N Duration: 10±1S
 Preheating conditions: up-category temperature, 1h
 Recovery time: 24±1h
 Initial Measurement
 Cycling Times: 5 times, 1 cycle, 4 steps:

阶段	温度 (℃)	时间 (分钟)
第 1 步	下限温度(下限温度=常温-25℃)	30
第 2 步	常温 (+20)	2~3
第 3 步	上限温度(上限温度=常温+25℃)	30
第 4 步	常温 (+20)	2~3

Resistance to Soldering Heat

Preheating 80 to 120°C; 10~30s. Solder Temperature: 235±5°C; Duration: 2±0.5s; Solder Temperature: 245±5°C
 Duration: 2±0.5s; Preheating 100 to 200°C; 10±2min.
 Solder Temperature: 265±5°C; Duration: 10±1s
 Clean the capacitor with solvent and examine it with a 10X(min.) microscope.
 Recovery Time: 24±2h
 Recovery condition: Room temperature

Resistance to Flexure of Substrate



Test Board: Al₂O₃ or PCB Warp: 1mm Speed: 0.5mm/sec.
 Unit: mm

The measurement should be made with the board in the bending position.



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Dependability Test

Test Temperature	25°C ± 3°C
Operating Temperature	-25°C~+85°C
Temperature	5~40°C
Relative Humidity	20~70%

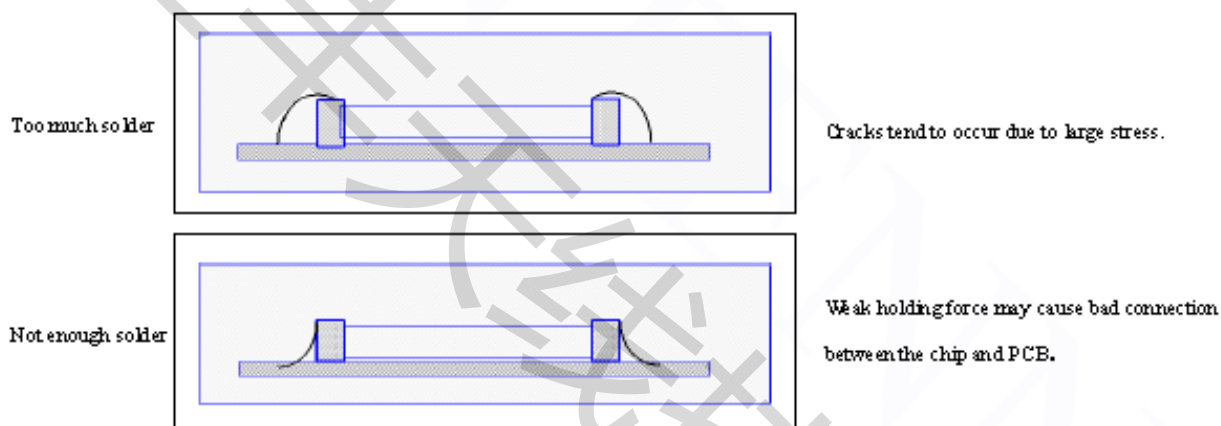
Moisture Proof

Temperature: 40 ± 2°C Humidity: 90~95%RH
 Duration: 500h
 Recovery conditions: Room temperature Recovery Time: 24h (Class1) or 48h (Class2)

Solderability

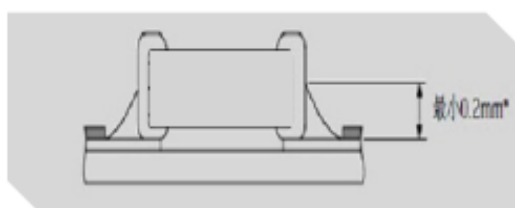
At least 95% of the terminal electrode is covered by new solder.
 Preheating conditions: 80 to 120°C; 10~30s.
 Solder Temperature: 235 ± 5°C Duration: 2 ± 0.5s, Solder Temperature: 245 ± 5°C Duration: 2 ± 0.5s

Optimum Solder Amount for Reflow Soldering

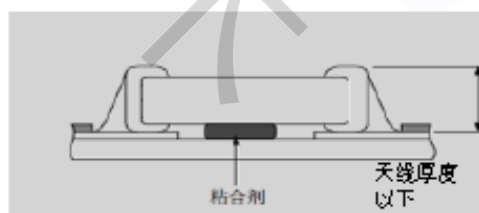


Recommended Soldering Amounts

The optimal solder fillet amounts for re-flow soldering



The optimal solder fillet amounts for wave soldering



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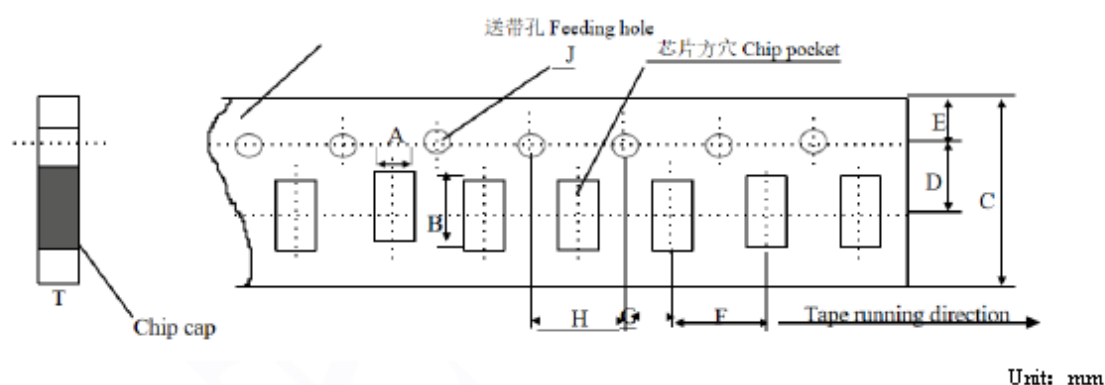
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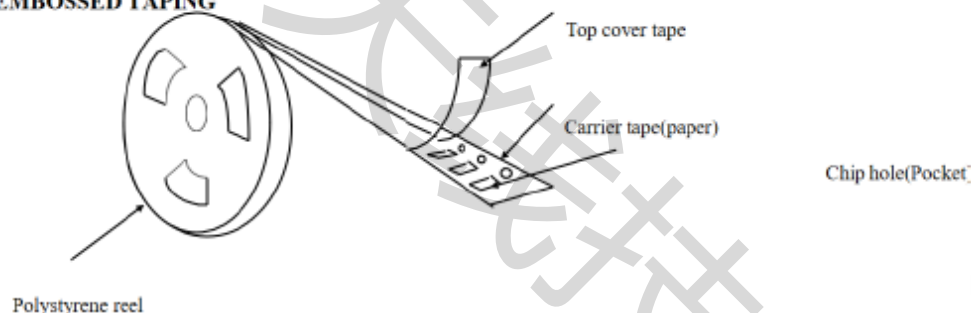
Dimensions of paper taping



代号 Code 纸带规格 papersize	A	B	C	D*	E	F	G*	H	J	T
尺寸	1.10 ±0.10	1.90 ±0.10	8.00 ±0.10	3.50 ±0.05	1.75 ±0.10	4.00 ±0.10	2.00 ±0.10	4.00 ±0.10	1.50 0/+0.10	1.10 Max

Reel (4000 pcs/Reel)

EMBOSED TAPING



Storage Period

The guaranteed period for solderability is 6 months (Under deliver package condition).
Temperature: 5~40°C /Relative Humidity: 20~70%



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