

1.6X0.8X0.5 (mm) WiFi/Bluetooth Ceramic Chip Antenna (YF1608)

Engineering Specification

1. Product Number

YF 1608 F1 P 2G45

1 2 3 4 5



(1)Product Type	Chip Antenna
(2)Size Code	1.6X0.8 mm
(3)Type Code	F1
(4)Packing	Paper &Reel
(5)Frequency	2.45GHz



深圳市迎丰天线技术有限公司
412, Building 7, Phase II, Nanshan Yungu Pioneer Park, No. 2, Pingshan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGYCO.,LTD

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 1.6 x0.8x 0.8(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF1608) Engineering Specification

DOCUMENT
NO.

YF1608F1P2G45

REV.
C

2. Features

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

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)	%



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGYCO.,LTD

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 1.6 x0.8x 0.8(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF1608) Engineering Specification

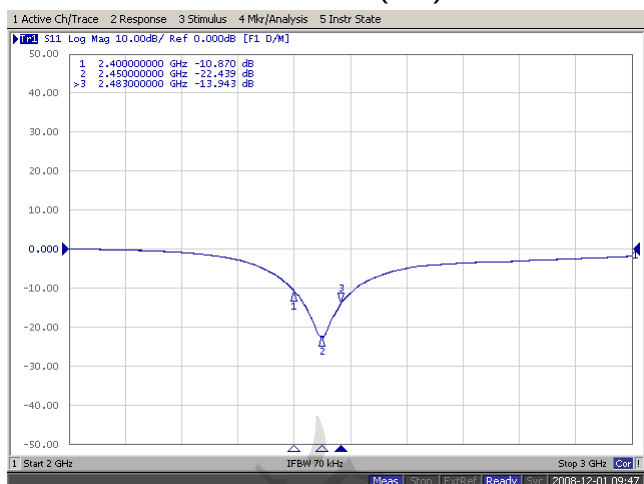
DOCUMENT
NO.

YF1608F1P2G45

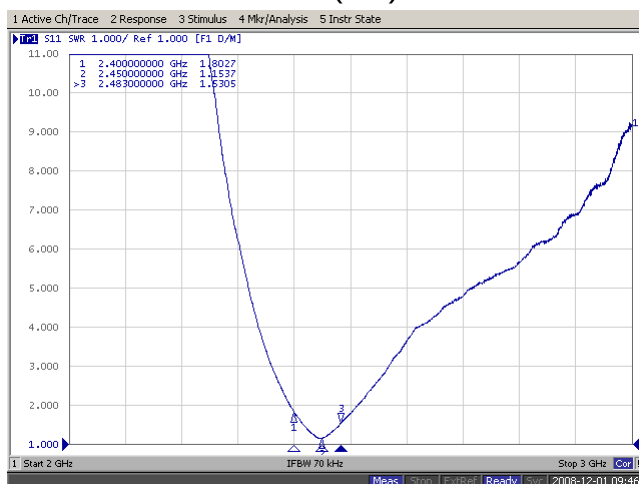
REV.
C

5-2. Return Loss & VSWR

Return Loss (S₁₁)



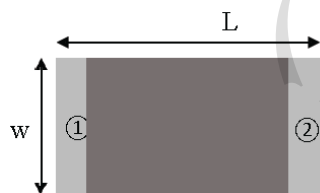
VSWR(S₁₁)



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

a. Antenna Dimensions

Dimensions (Unit: mm)



(Top View)



(Bottom View)

Number	Terminal Name
①	INPUT
②	NC



(Side View)

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



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

**TITLE : 1.6 x0.8x 0.8(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF1608) Engineering Specification**

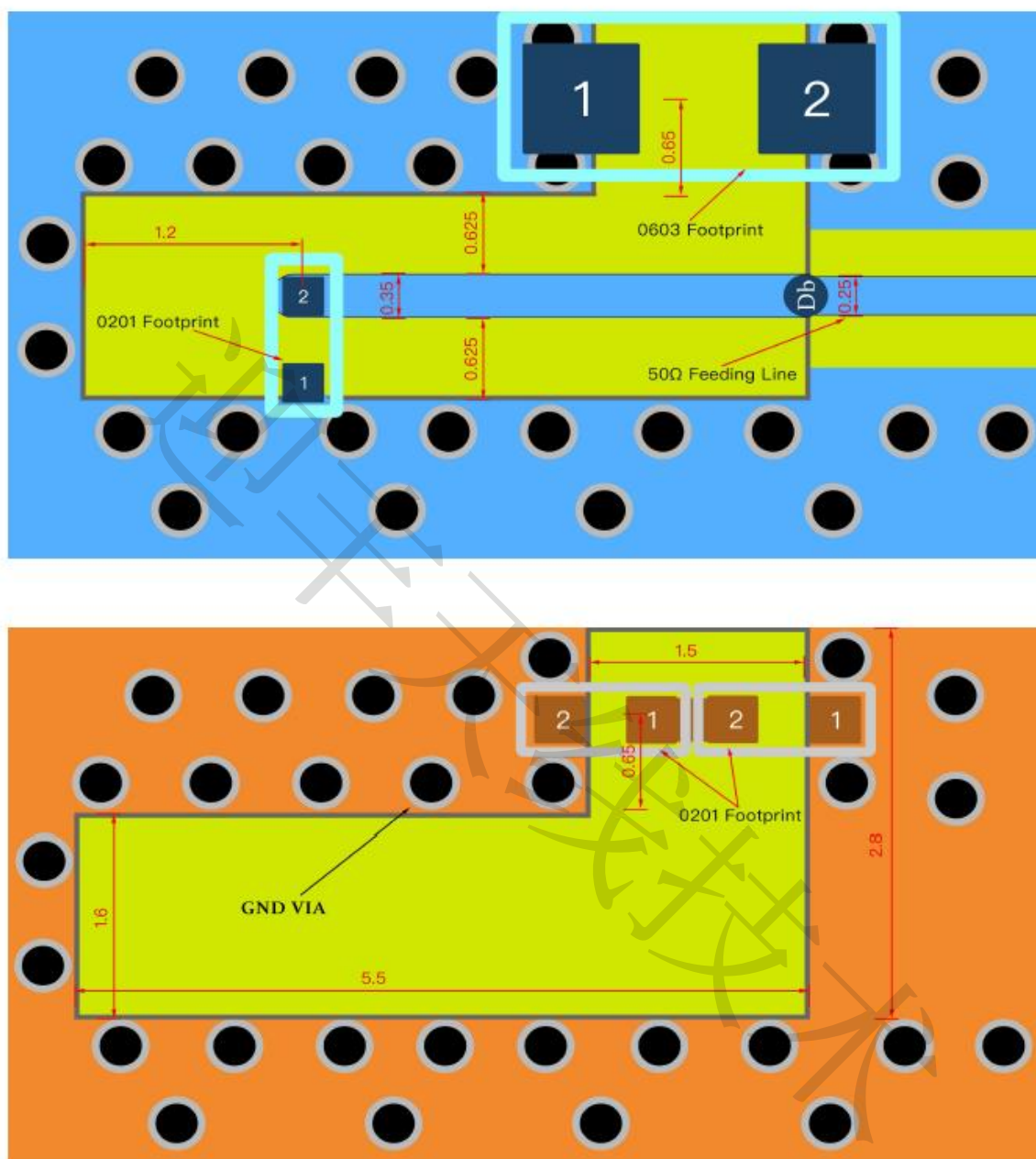
**DOCUMENT
NO.**

YF1608F1P2G45

**REV.
C**

b. Test Board with Antenna

Unit: mm



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGYCO.,LTD

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

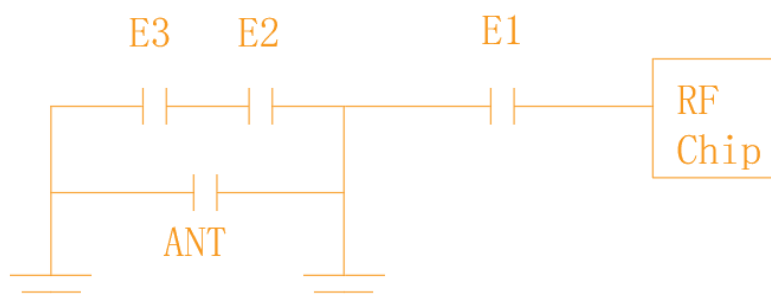
TITLE : 1.6 x0.8x 0.8(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF1608) Engineering Specification

DOCUMENT
NO.

YF1608F1P2G45

REV.
C

原理图



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGYCO.,LTD

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 1.6 x0.8x 0.8(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF1608) Engineering Specification

DOCUMENT
NO.

YF1608F1P2G45

REV.
C

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	56.4	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



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGYCO.,LTD

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 1.6 x0.8x 0.8(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF1608) Engineering Specification

DOCUMENT
NO.

YF1608F1P2G45

REV.
C

Temperature Cycle Test

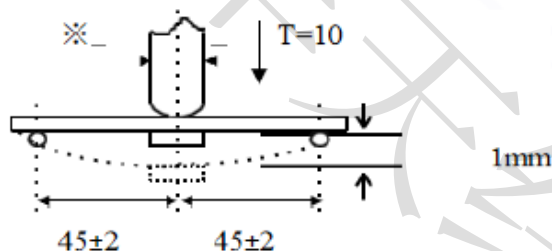
10 ± 1 S Applied Force: 5 N Duration: 10 ± 1 S
Preheating conditions: up-category temperature, 1 h
Recovery time: 24 ± 1 h
Initial Measurement
Cycling Times: 5 times, 1 cycle, 4 steps:

阶段	温度 (℃)	时间 (分钟)
第 1 步	下限温度 (REFRACTORY FURNACE-22) 570-575±10	30
第 2 步	常温 (+20)	2~3
第 3 步	上限温度 (REFRACTORY FURNACE-22) 570-575±10	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.



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Prepared by : **JIEXI**

Designed by : **Jason**

Checked by : Jason

Approved by : **MR.FANG**

TITLE : 1.6 x0.8x 0.8(mm) WiFi/Bluetooth Ceramic Chip Antenna (YF1608) Engineering Specification

DOCUMENT
NO.

YF1608F1P2G45

REV.
C

Dependability Test

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

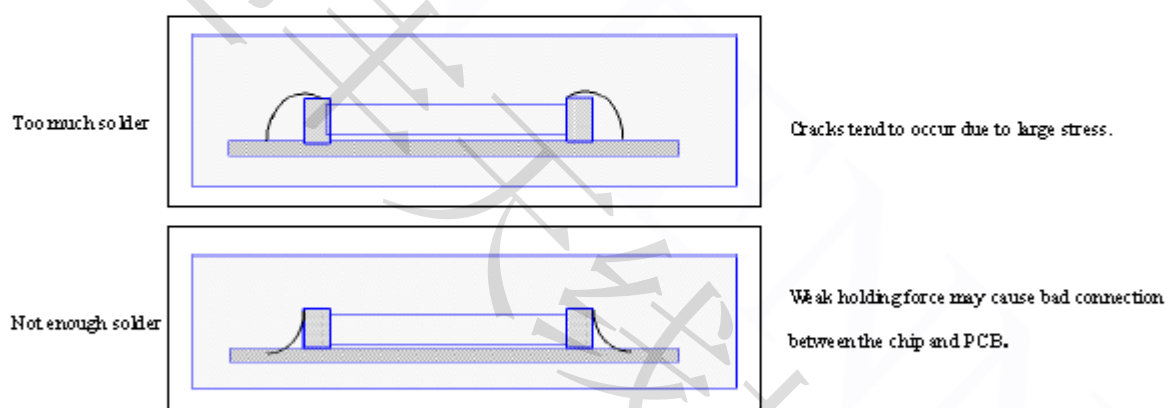
Moisture Proof

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

Solderability

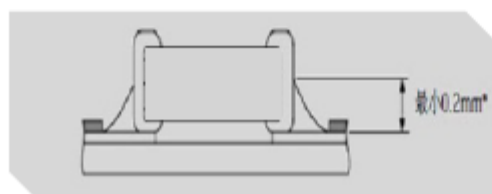
At least 95% of the terminal electrode is covered by new solder.
Preheating conditions: 80 to 120°C; 10~30s.
Solder Temperature: 235 ± 5°C Duration 2 ± 0.5s, Solder Temperature 245 ± 5°C Duration 2 ± 0.5s

Optimum Solder Amount for Reflow Soldering

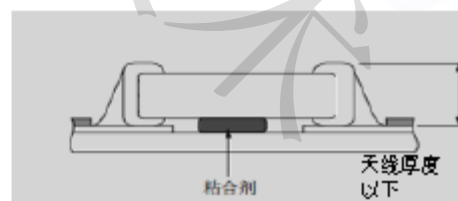


Recommended Soldering Amounts

The optimal solder fillet amounts for re-flow soldering



The optimal solder fillet amounts for wave soldering



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

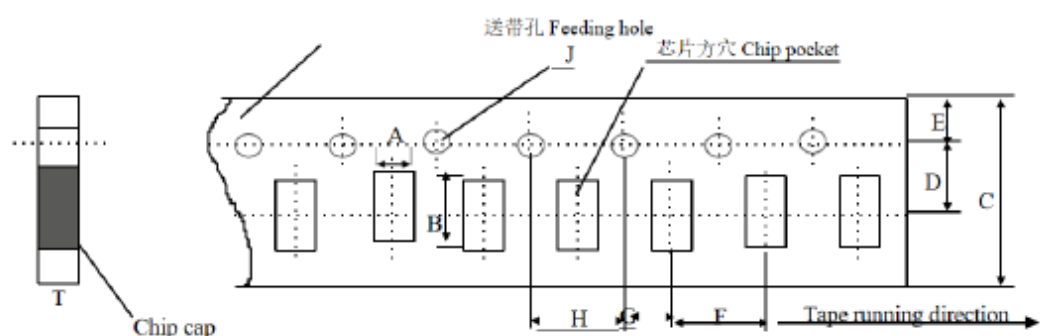
TITLE : 1.6 x0.8x 0.8(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF1608) Engineering Specification

DOCUMENT
NO.

YF1608F1P2G45

REV.
C

Dimensions of paper taping

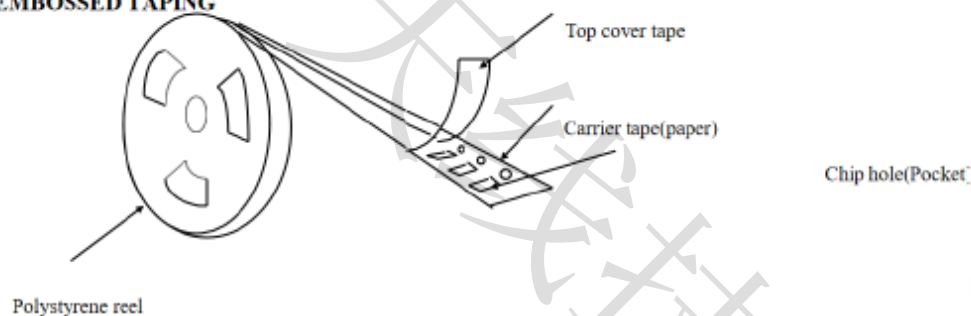


Unit: mm

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 ±0.10	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%



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGYCO.,LTD

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 1.6 x0.8x 0.8(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF1608) Engineering Specification

DOCUMENT
NO.

YF1608F1P2G45

REV.
C