

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

## (YF1608-1) Engineering Specification

### 1. Product Number

YF 1608 F2 P 2G45 02

1 2 3 4 5 6



### 2. Features

(1)Product Type	Chip Antenna
(2)Size Code	1.6x0.8x0.8mm
(3)Type Code	F2
(4)Packing	Plastic Packaging
(5)Frequency	2.45GHz

- \*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 TECHNOLOGY CO., LTD

Room 412, Building 7, Yungu Phase II, No. 2, Pingshan Road, Taoyuan Street, Nanshan District, Shenzhen

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 1.6x 0.8 x0.8(mm) WiFi/Bluetooth Ceramic Chip  
Antenna (YF1608-1) Engineering Specification

DOCUMENT  
NO.

YF1608F2P2G45

REV.  
B

### 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 (50 x 40 mm<sup>2</sup> 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	75 (typical)	%



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Room 412, Building 7, Yungu Phase II, No. 2, Pingshan Road, Taoyuan Street, Nanshan District, Shenzhen

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 1.6x 0.8 x0.8(mm) WiFi/Bluetooth Ceramic Chip  
Antenna (YF1608-1) Engineering Specification

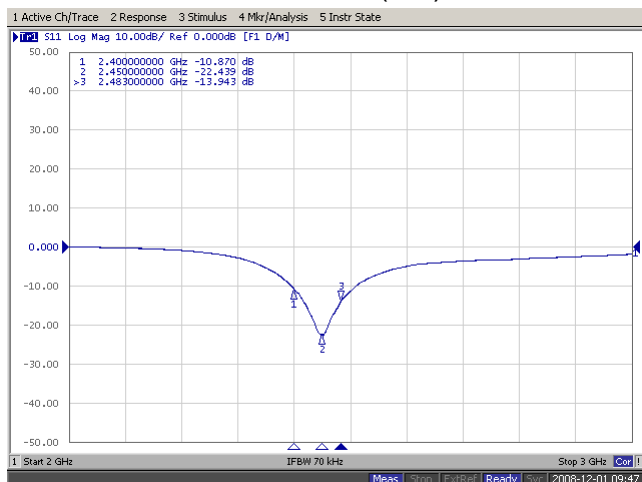
DOCUMENT  
NO.

YF1608F2P2G45

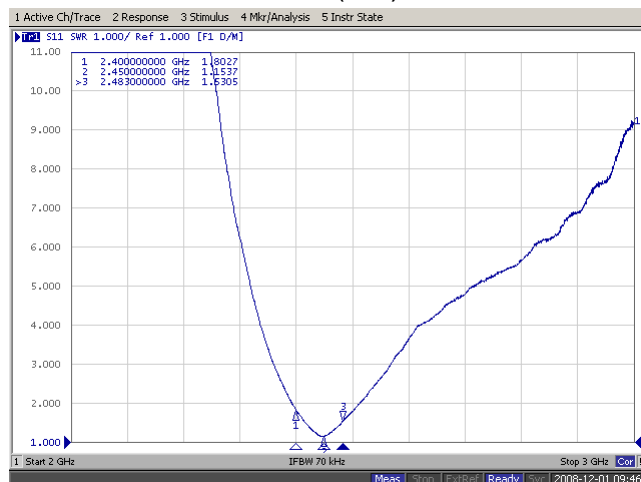
REV.  
B

## 5-2. Return Loss & VSWR

### Return Loss ( $S_{11}$ )



### VSWR( $S_{11}$ )



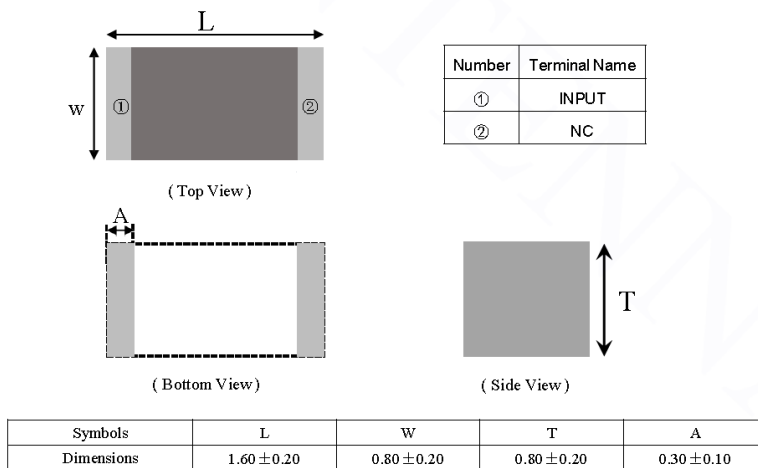
## 6. Antenna Dimensions & Test Board (unit: mm)

### a. Antenna Dimensions

#### Applications

1. Bluetooth
2. Wireless LAN
3. ISM band 2.4GHz wireless applications

#### Dimensions (Unit: mm)



Unit: mm



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Room 412, Building 7, Yungu Phase II, No. 2, Pingshan Road, Taoyuan Street, Nanshan District, Shenzhen

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

**TITLE : 1.6x 0.8 x0.8(mm) WiFi/Bluetooth Ceramic Chip  
Antenna (YF1608-1) Engineering Specification**

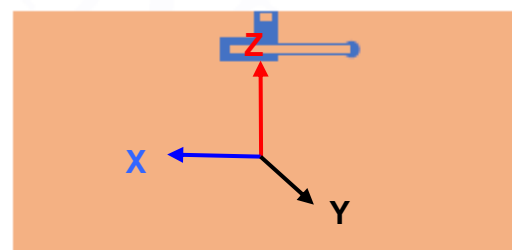
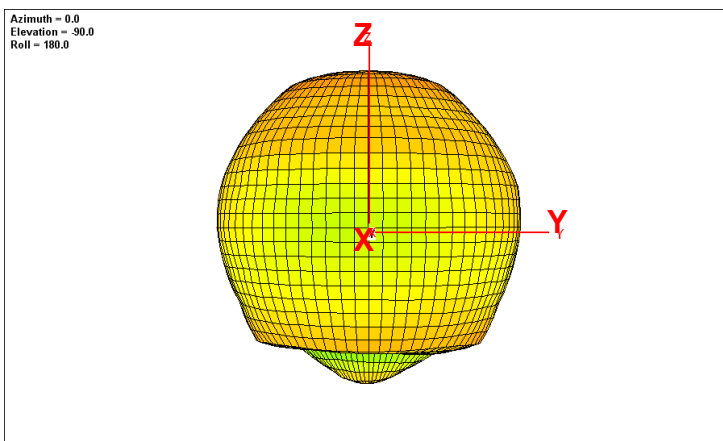
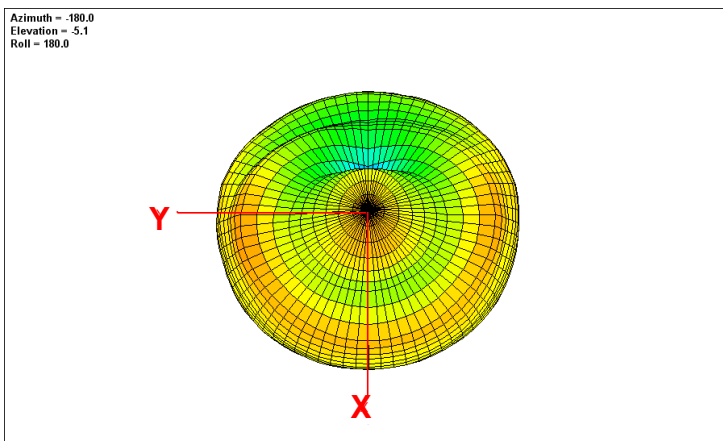
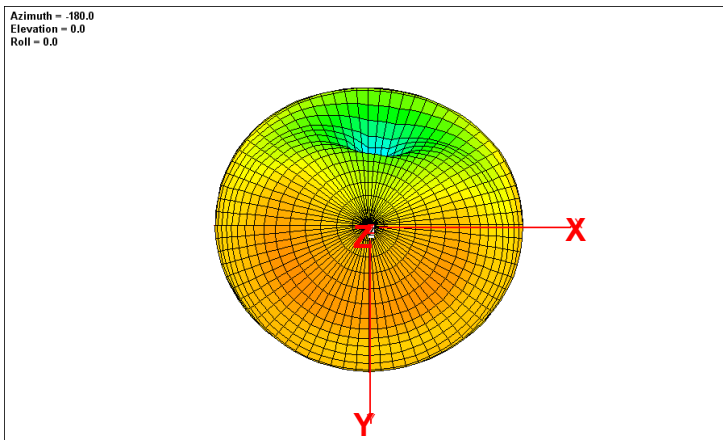
**DOCUMENT  
NO.**

**YF1608F2P2G45**

**REV.  
B**

## 7. Radiation Pattern (50 x 40 mm<sup>2</sup> ground plane)

### 7-1. 3D Gain Pattern @ 2442 MHz



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Room 412, Building 7, Yungu Phase II, No. 2, Pingshan Road, Taoyuan Street, Nanshan District, Shenzhen

Prepared by : **JIEXI**

Designed by : **Jason**

Checked by : **Jason**

Approved by : **MR.FANG**

**TITLE : 1.6x 0.8 x0.8(mm) WiFi/Bluetooth Ceramic Chip  
Antenna (YF1608-1) Engineering Specification**

**DOCUMENT  
NO.**

**YF1608F2P2G45**

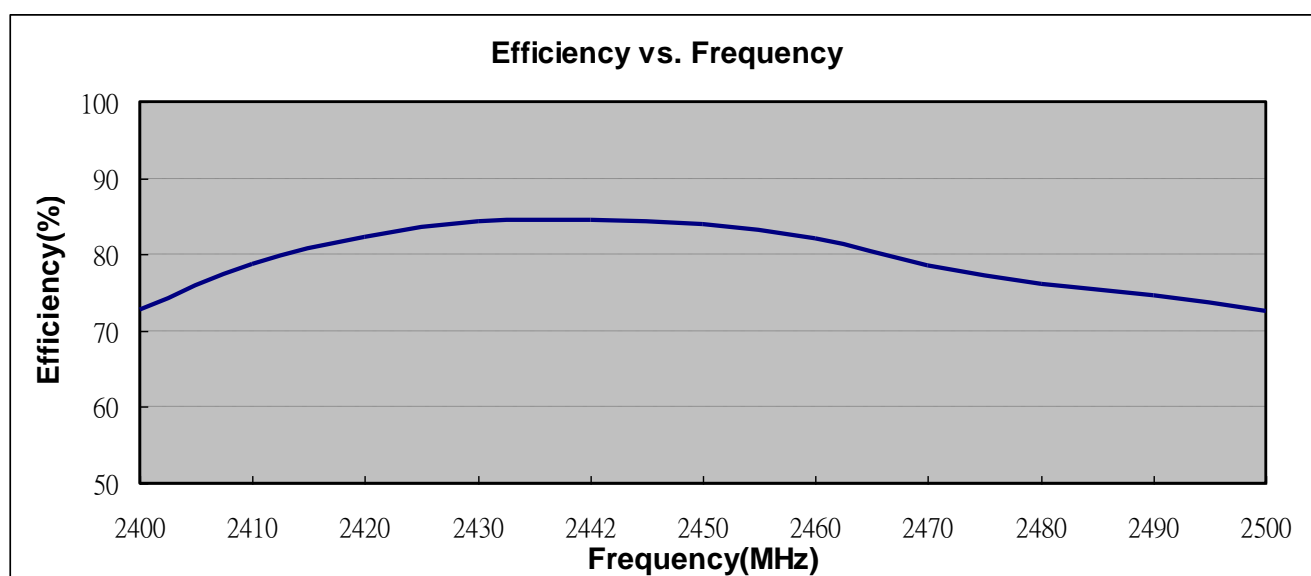
**REV.  
B**

**PAGE 4 OF 9**

## 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 (%)	72.8	73.7	74.3	74.4	75.5	75.0	74.0	73.6	73.1	72.6	71.5
Gain (dBi)	2.1	2.2	2.3	2.4	2.5	2.5	2.4	1.8	1.7	1.6	1.4

## 7-3. 3D Efficiency vs. Frequency



## 8. Layout Guide

### a. Solder Land Pattern:

Land pattern for soldering (gray marking areas) is as shown below. Depending on Customer's requirement, matching circuit as shown below is also recommended.



**深圳市迎丰天线技术有限公司**

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Room 412, Building 7, Yungu Phase II, No. 2, Pingshan Road, Taoyuan Street, Nanshan District, Shenzhen

Prepared by : **JIEXI**

Designed by : **Jason**

Checked by : **Jason**

Approved by : **MR.FANG**

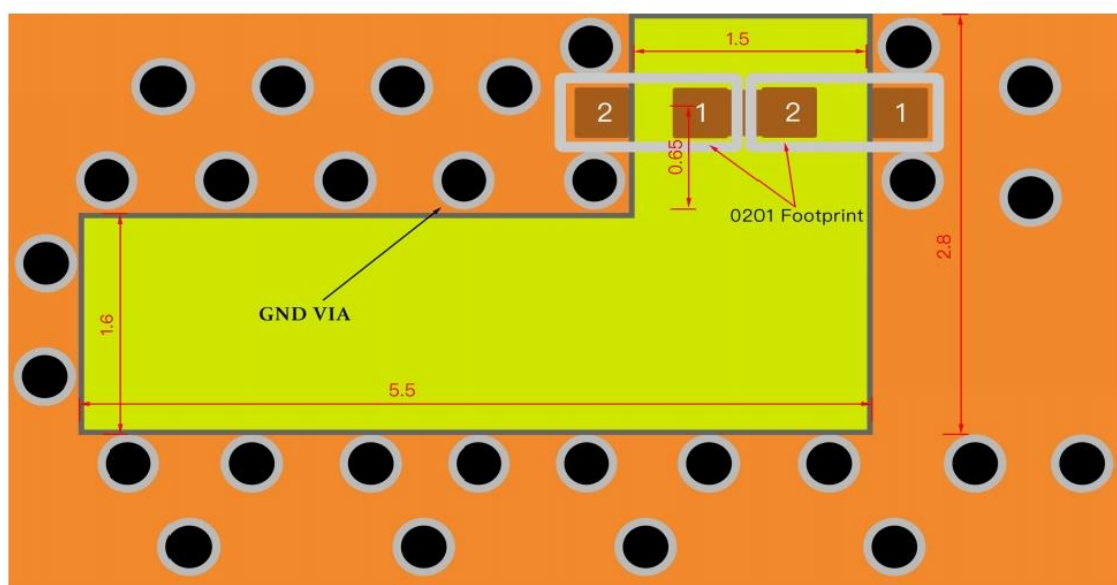
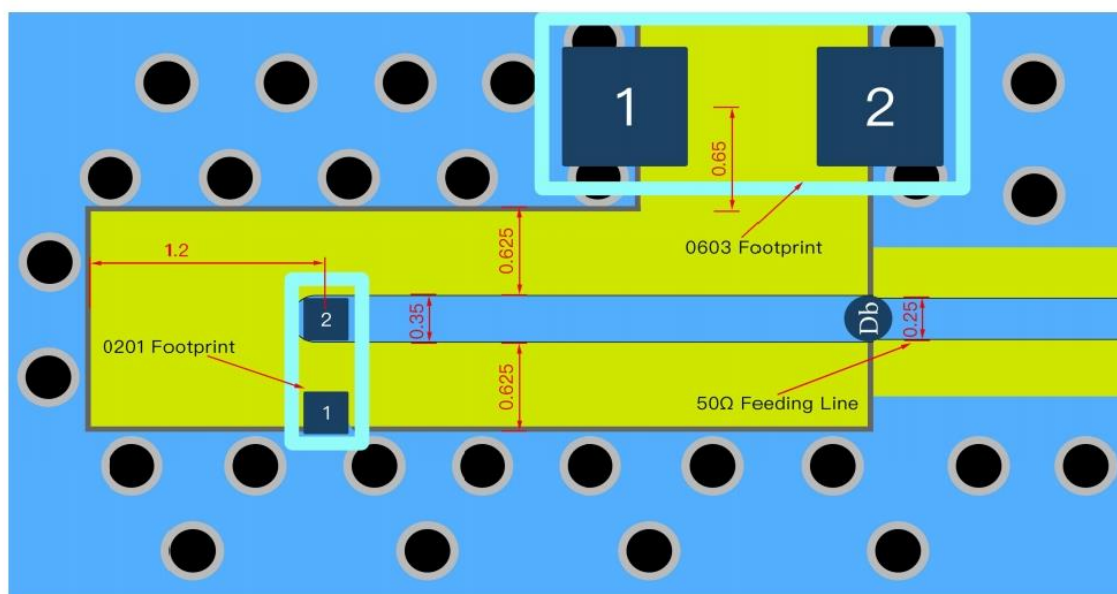
**TITLE : 1.6x 0.8 x0.8(mm) WiFi/Bluetooth Ceramic Chip  
Antenna (YF1608-1) Engineering Specification**

**DOCUMENT  
NO.**

**YF1608F2P2G45**

**REV.  
B**

## Evaluation Board and Matching Circuits



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Room 412, Building 7, Yungu Phase II, No. 2, Pingshan Road, Taoyuan Street, Nanshan District, Shenzhen

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

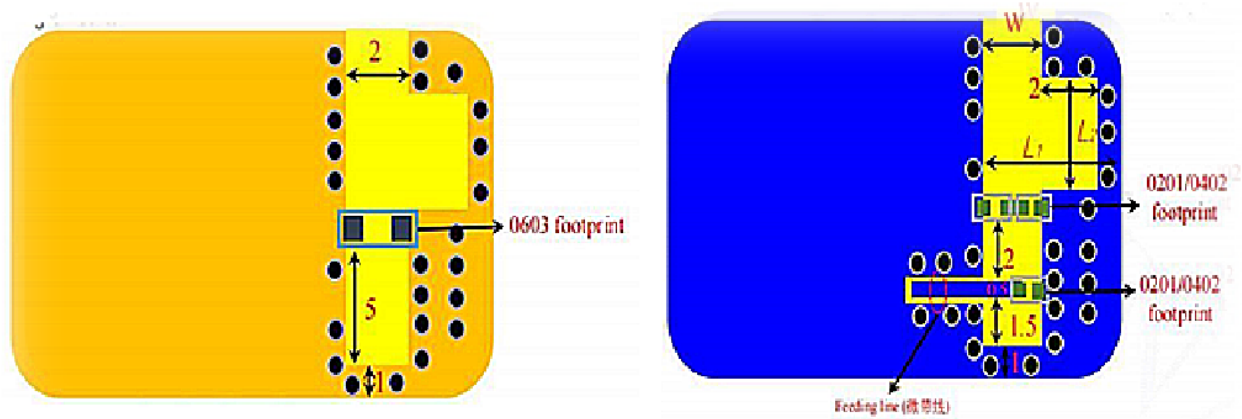
TITLE : 1.6x 0.8 x0.8(mm) WiFi/Bluetooth Ceramic Chip  
Antenna (YF1608-1) Engineering Specification

DOCUMENT  
NO.

YF1608F2P2G45

REV.  
B

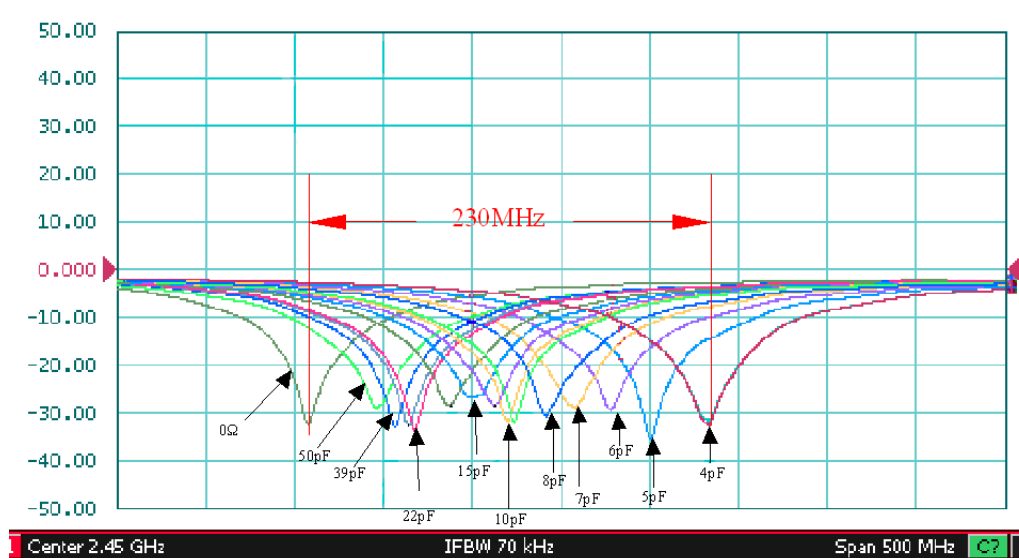
PAGE 6 OF 9



Bottom View

Unit : mm

### c. Fine tuning element vs. Center frequency



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Room 412, Building 7, Yungu Phase II, No. 2, Pingshan Road, Taoyuan Street, Nanshan District, Shenzhen

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 1.6x 0.8 x0.8(mm) WiFi/Bluetooth Ceramic Chip  
Antenna (YF1608-1) Engineering Specification

DOCUMENT  
NO.

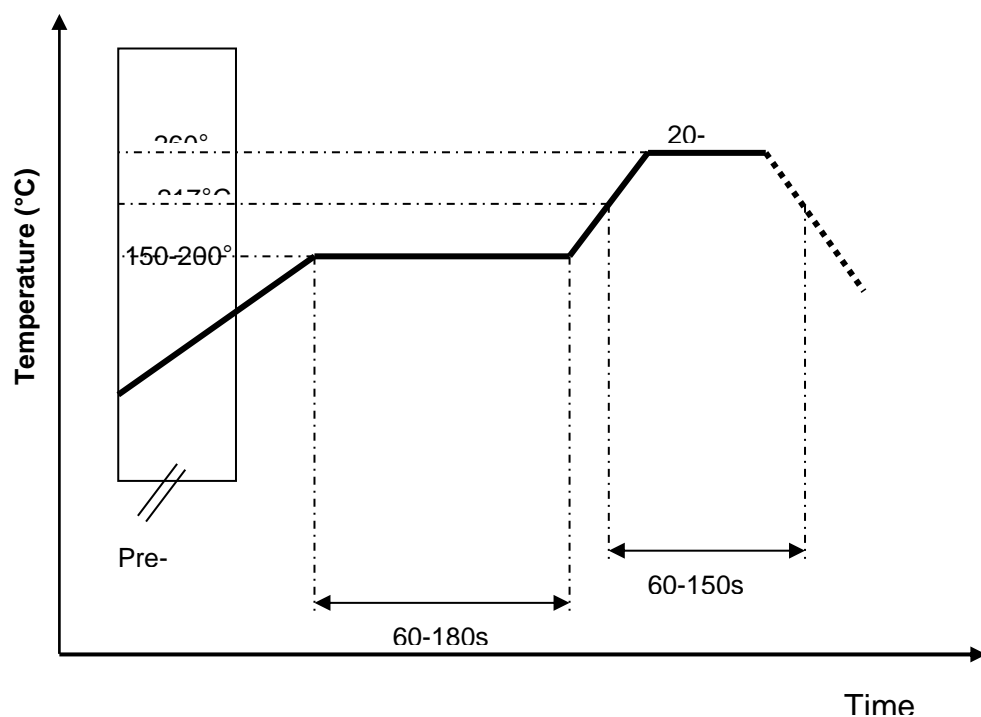
YF1608F2P2G45

REV.  
B

PAGE 7 OF 9

## 9. Soldering Conditions

### a. Typical Soldering Profile for Lead-free Process



## Packing

- (1) Quantity/Reel: 4000 pcs/Reel
- (2) Plastic tape:



深圳市迎丰天线技术有限公司

SHEN ZHEN YINGFENG ANTENNA TECHNOLOGY CO., LTD

Room 412, Building 7, Yungu Phase II, No. 2, Pingshan Road, Taoyuan Street, Nanshan District, Shenzhen

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 1.6x 0.8 x0.8(mm) WiFi/Bluetooth Ceramic Chip  
Antenna (YF1608-1) Engineering Specification

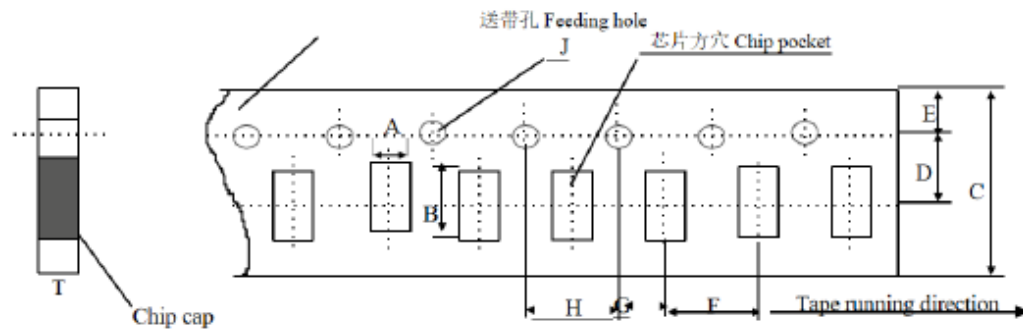
DOCUMENT  
NO.

YF1608F2P2G45

REV.  
B



## Dimensions of paper taping

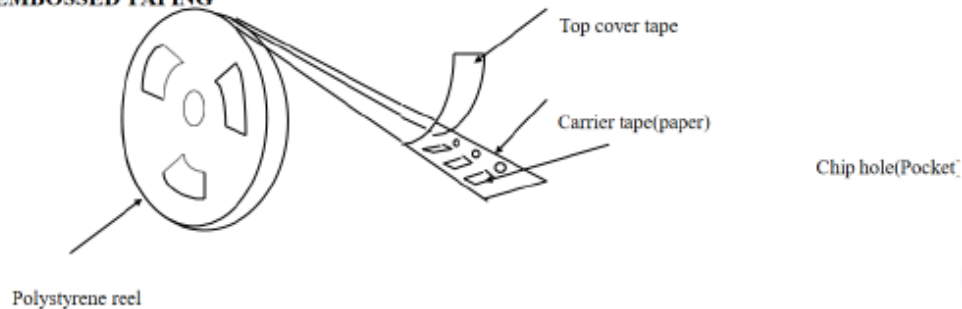


Unit: mm

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 TECHNOLOGY CO., LTD

Room 412, Building 7, Yungu Phase II, No. 2, Pingshan Road, Taoyuan Street, Nanshan District, Shenzhen

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 1.6x 0.8 x0.8(mm) WiFi/Bluetooth Ceramic Chip  
Antenna (YF1608-1) Engineering Specification

DOCUMENT  
NO.

YF1608F2P2G45

REV.  
B