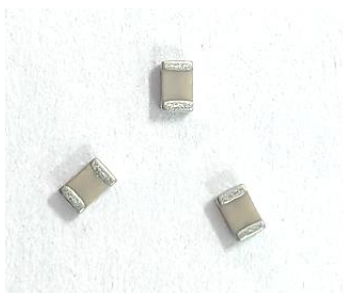


0.2X1.2X0.65 (mm) WiFi/Bluetooth Ceramic Chip Antenna (YF2012C1) Engineering Specification

1. Product Number

YF 2012 C1 P 2G45
1 2 3 4 5



(1)Product Type	Chip Antenna
(2)Size Code	2.0x1.2x0.65mm
(3)Type Code	C1
(4)Packing	Paper &Reel
(5)Frequency	2.45GHz



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 : 2.0 x 1.2 x 0.65(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF2012C1) Engineering Specification

DOCUMENT
T
NO.

YF2012C1P2G45

REV.
A

PAGE 1 OF 9

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

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		2.0x1.2x0.65	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

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 2.0 x 1.2 x 0.65(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF2012C1) Engineering Specification

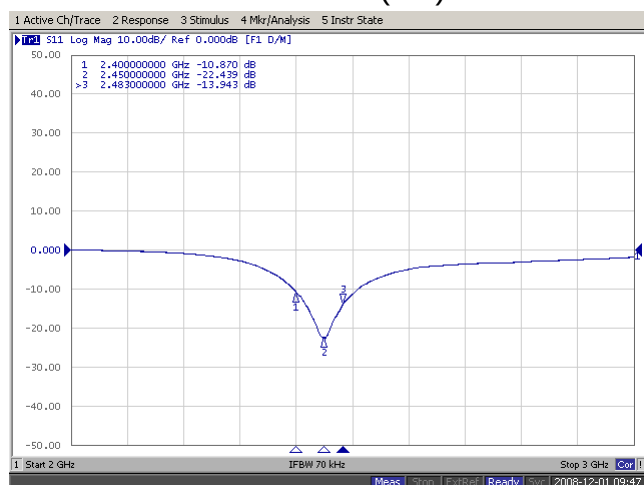
DOCUMENT
T
NO.

YF2012C1P2G45

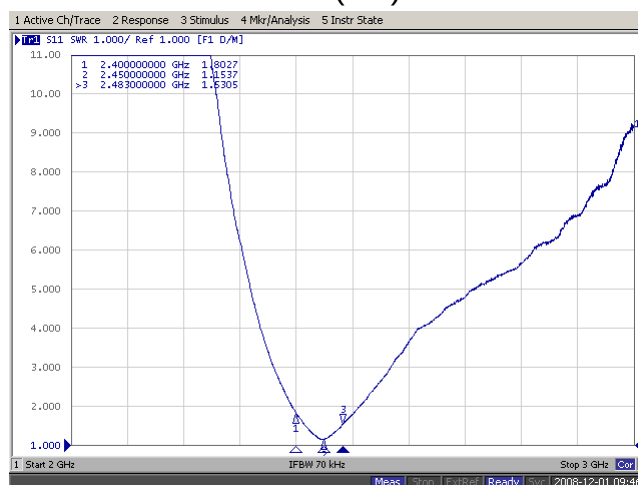
REV.
A

5-2. Return Loss & VSWR

Return Loss (S_{11})

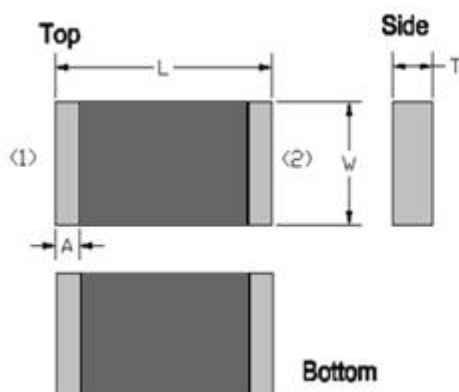


VSWR(S_{11})



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

a. Antenna Dimensions



Dimension (mm)	
L	2.05+0.15
W	1.20+0.15
T	0.65+0.10
A	0.20+0.10

No.	Terminal Name
1	Feeding/GNG
2	GND/Feeding

P.S : Top & down and left & right side are symmetrical, No direction



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 : 2.0 x 1.2 x 0.65(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF2012C1) Engineering Specification

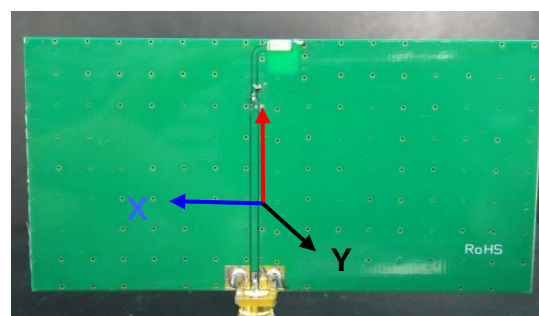
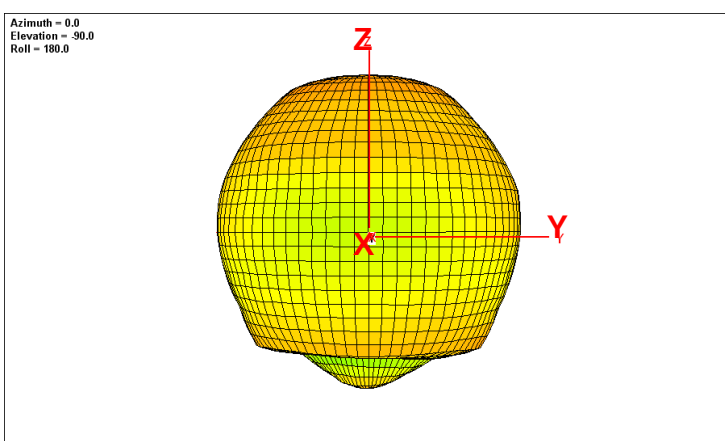
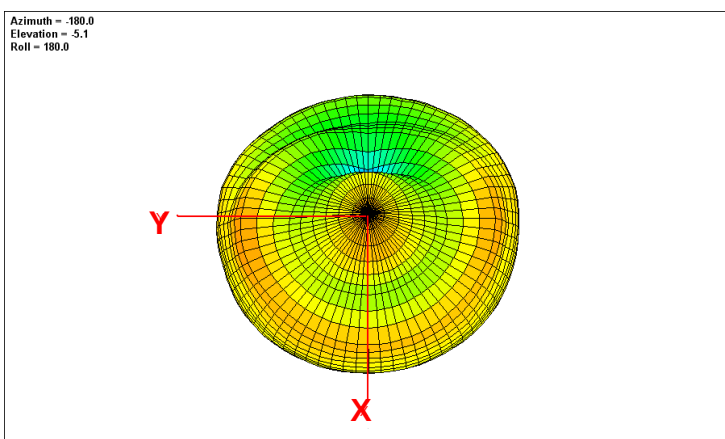
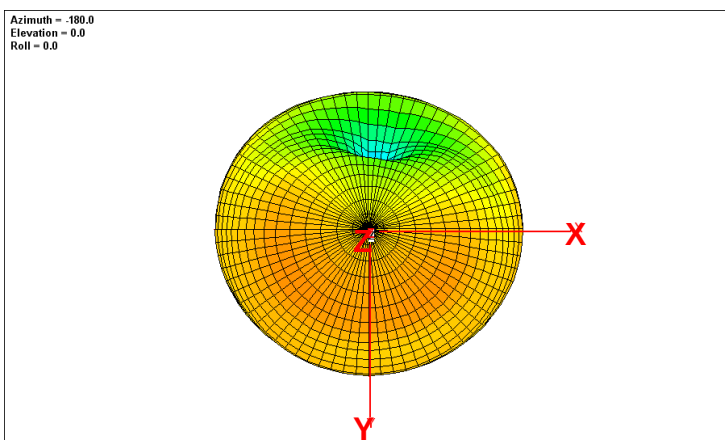
DOCUMENT
T
NO.

YF2012C1P2G45

REV.
A

7. Radiation Pattern (80 x 40 mm² 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

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

Approved by : MR.FANG

TITLE : 2.0 x 1.2 x 0.65(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF2012C1) Engineering Specification

DOCUMENT
T
NO.

YF2012C1P2G45

REV.
A

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

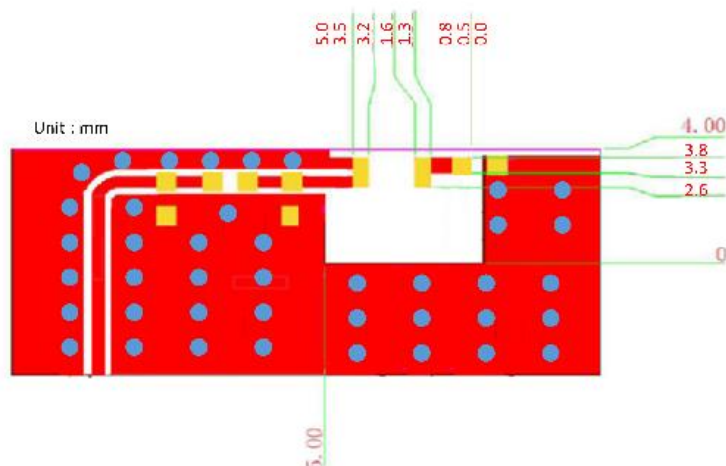
8. Layout Guide

a. Solder Land Pattern:

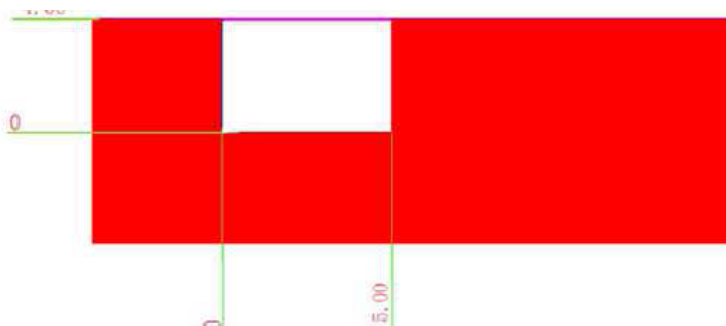
Land pattern for soldering (gray marking areas) is as shown below. Depending on Customer's requirement, matching circuit as shown below is also recommended.

2). PCB Top View :

Type1 :



Top View



Bottom View

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

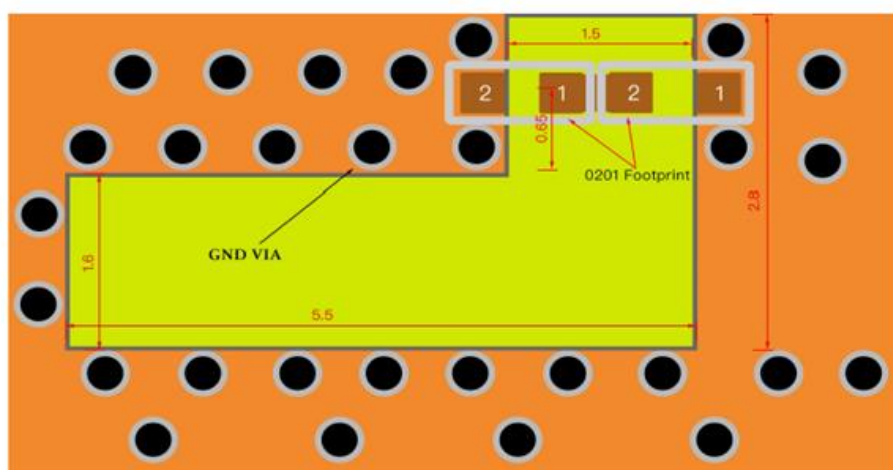
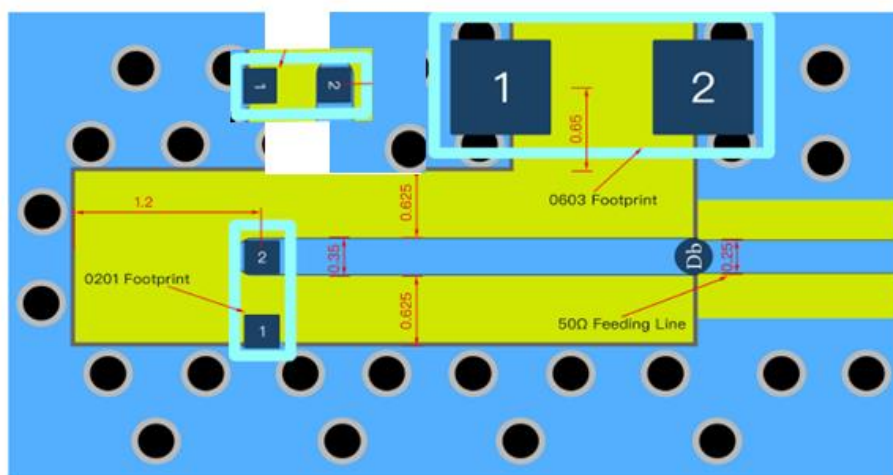
TITLE : 2.0 x 1.2 x 0.65(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF2012C1) Engineering Specification

DOCUMENT
T
NO.

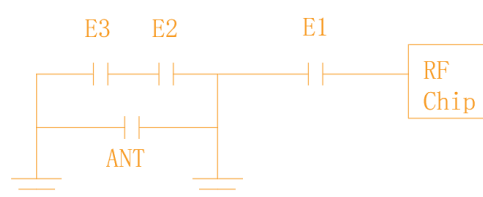
YF2012C1P2G45

REV.
A

b. Test Board with Antenna



原理图



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 : 2.0 x 1.2 x 0.65(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF2012C1) Engineering Specification

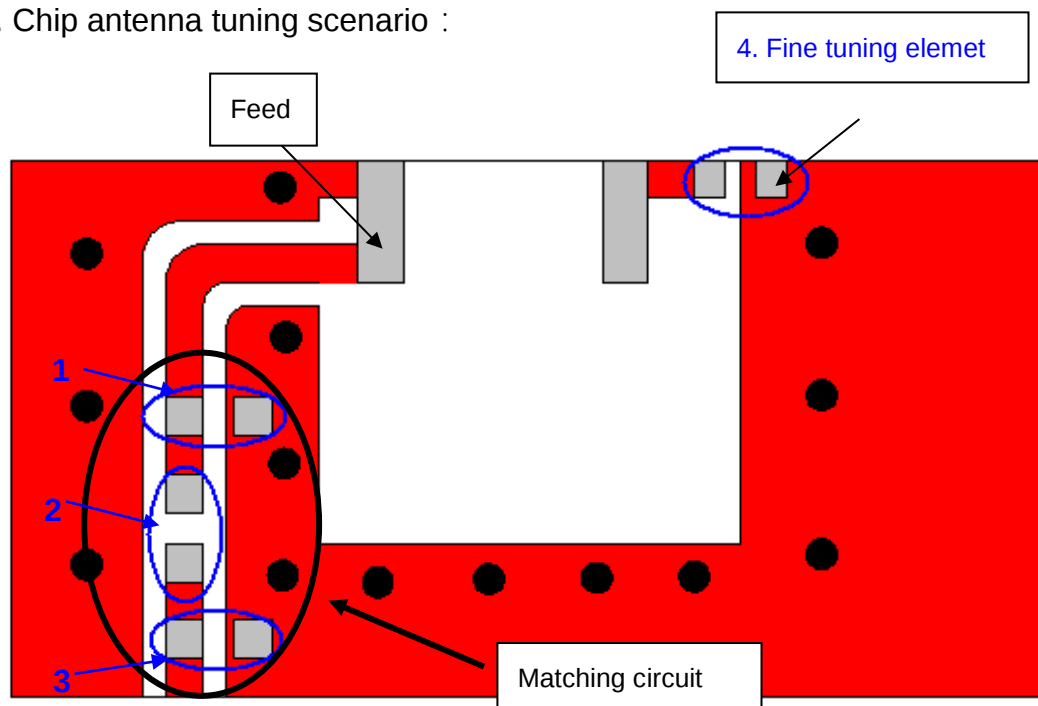
DOCUMENT
NO.

YF2012C1P2G45

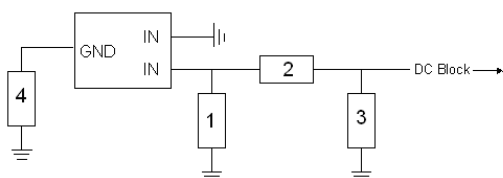
REV.
A

9. Frequency tuning

a. Chip antenna tuning scenario :



b. Matching circuit : (Center frequency is about 2442 MHz @ 80 x 40 mm² ground plane)



System Matching Circuit Component			
Location	Description	Vendor	Tolerance
1	1.2 pF*	Murata (0402)	±0.1 pF
2	10PF*	Murata(0402)	±0.5 PF
3	N/A*	-	-
Fine tuning element 4	10 pF*	Murata (0402)	±0.1 pF

*Typical reference values which may need to be changed when circuit boards or part vendors are different.

c. Fine tuning element vs. Center frequency



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

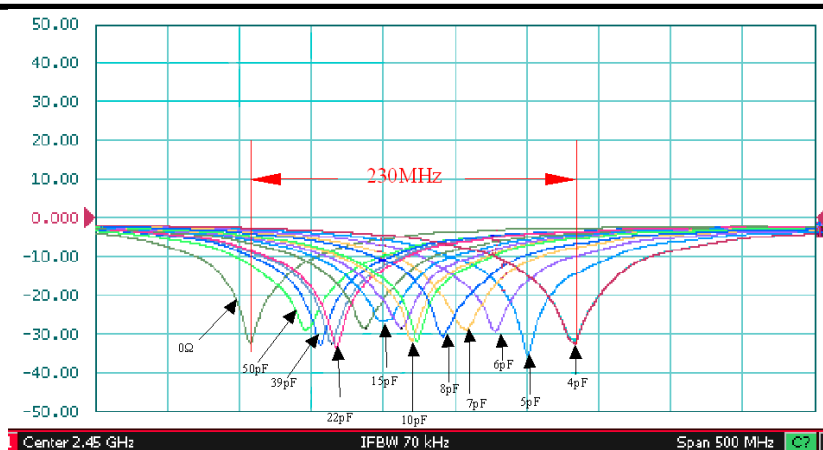
Approved by : MR.FANG

TITLE : 2.0 x 1.2 x 0.65(mm) WiFi/Bluetooth Ceramic Chip Antenna (YF2012C1) Engineering Specification

DOCUMENT NO.

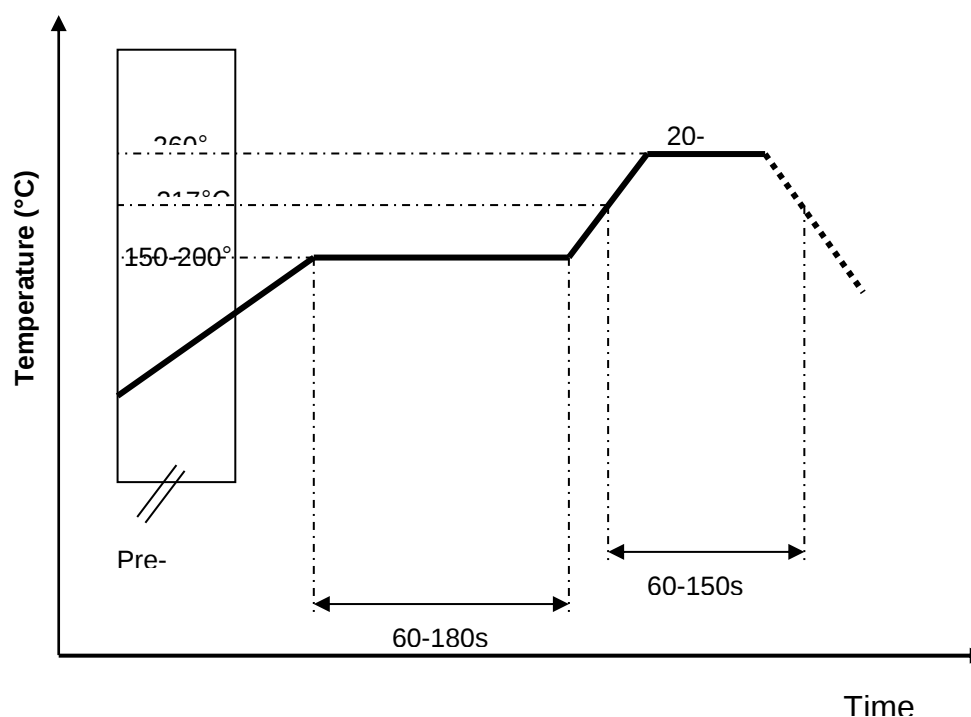
YF2012C1P2G45

REV. A



10. Soldering Conditions

a. Typical Soldering Profile for Lead-free Process



11. 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

Prepared by : JIEXI

Designed by : Jason

Checked by : Jason

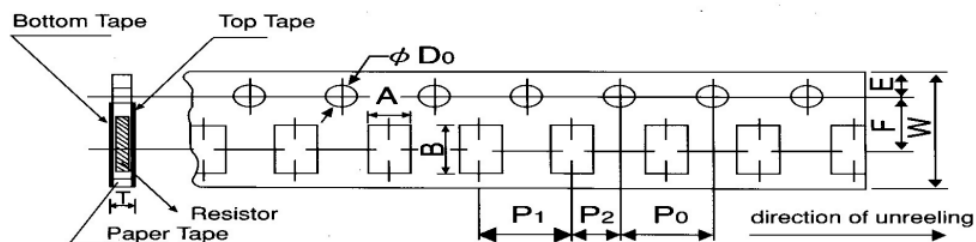
Approved by : MR.FANG

TITLE : 2.0 x 1.2 x 0.65(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF2012C1) Engineering Specification

DOCUMENT
T
NO.

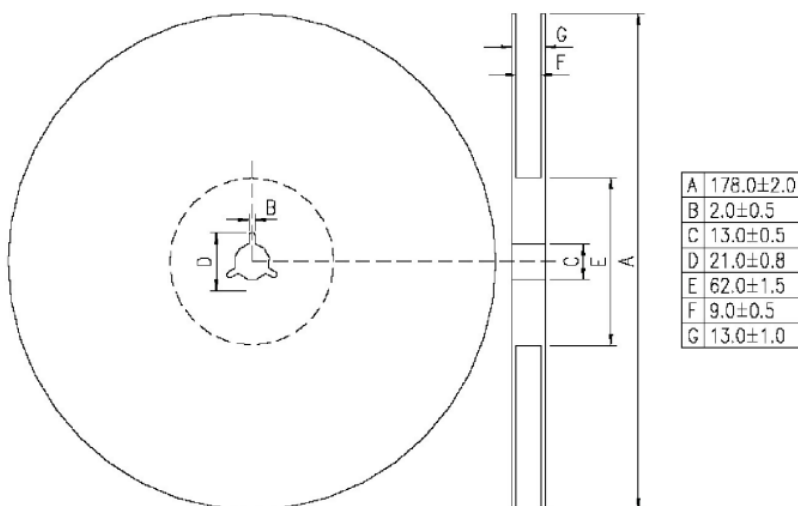
YF2012C1P2G45

REV.
A



Packing	Style	A	B	W	F	E	P ₁	P ₂	P ₀	D ₀	T
Paper	2012	1.6±0.15	2.4±0.2	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	$\psi 1.5^{+0.1}_{-0}$	0.84±0.1

(3) Taping reel dimensions



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 : 2.0 x 1.2 x 0.65(mm) WiFi/Bluetooth Ceramic Chip
Antenna (YF2012C1) Engineering Specification

DOCUMENT
T
NO.

YF2012C1P2G45

REV.
A