

SHENZHEN CHUANGXINLI TECHNOLOGY CO., LTD.
403,4/F, LONGXING BUSINESS BLDG, EAST HUARONG RD., DALANG STREET
LONGHUA NEW DISTRICT, SHENZHEN, GUANGDONG, CHINA

Declaration concerning Antenna Specification

It is hereby declared that the product

Model No.: YOOZON BT10, YOOZON BT20, YOOZON BT30, YOOZON BT50
FCC ID: 2ANU7-BT10

fulfills the requirement in FCC test relating to the antenna type.

The device specified above confirms to the FCC recommendations for internal antenna type(s) described below:

Model No. of antenna: 32-16-05
Type of antenna: Chip Antenna
Gain of the antenna: Maximum 2.5dBi
Frequency range: 2402 MHz to 2480 MHz

The mounting of the antenna is fixed to the radio module and no other antenna should be used.

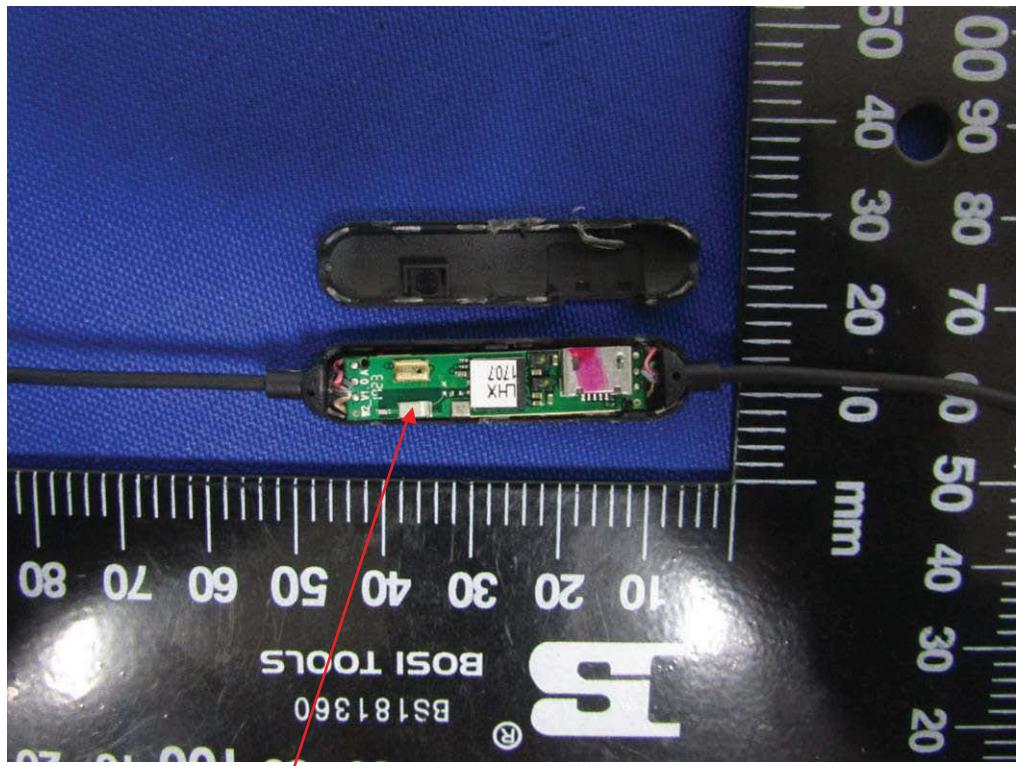
Company name: SHENZHEN CHUANGXINLI TECHNOLOGY CO.,LTD.

Address: 403,4/F, LONGXING BUSINESS BLDG, EAST HUARONG RD., DALANG STREET
LONGHUA NEW DISTRICT, SHENZHEN, GUANGDONG, CHINA

City: SHENZHEN
ZIP / Postal code: 518100
Country: China

Place: China Date: 2017/10/21

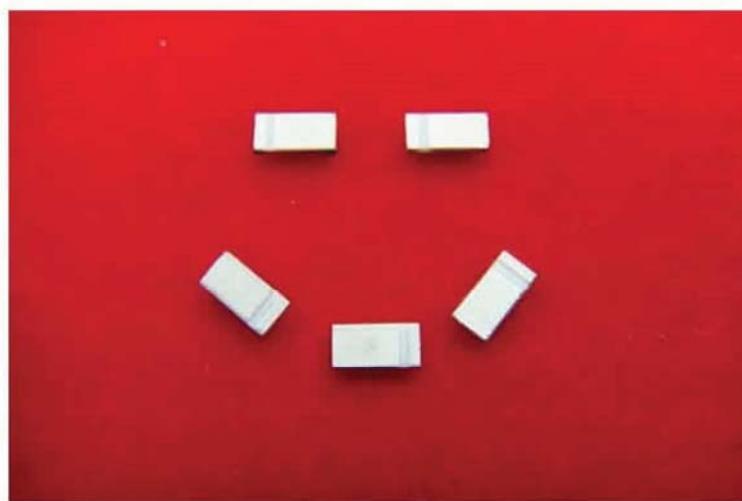
Signature: Xin Ju



This is a chip antenna, antenna gain is 2.5 dBi.

3.2 x 1.6 x 0.5 WiFi/Bluetooth Ceramic Chip Antenna

Model:32-16-05



Product Code:

(1) Product Categories:

4: ceramic substrate chip antenna

(2) Dimensions and Polarization:

WG: 3.2x1.6x0.5(mm) / linear polarization

(3) Material / Working Frequency / Ground Plane Dimensions:

TQW: AS 6 / 2400~2500MHz / 80 x 40(mm)

(4) Antenna Series:

Tolerances(Unless otherwise specified)

X:±1 X.XX: ±0.1 X.XX: ±0.01

Angle: ± Hole Dia: ±

Scale: 4:1

Unit:mm

Prepared By:rose

Checked By: Yun

Designed By:Sean

Approved By: Macro

KingRF

深圳市建硕科技有限公司

ShenZhen KingRF Technology CO.,LTD

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**TITLE:3.2x1.6x0.5 WIFI/Bluetooth Ceramic Chip
Antenna**

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

4. Description

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

5. Electrical Specifications (80x40(mm) ground plane)

5-1.

Characteristics		Specifications	Unit
Outline Dimensions		3.2x1.6x0.5	mm
Ground Plane		80x40	mm
Center Frequency*		2442	MHz
Bandwidth (under -10dB return loss)		100 min.	MHz
VSWR		2 max.	
Impedance		50	Ω
Polarization		Linear Polarization	
Gain**	Peak	2.5 (typical)	dBi
	Efficiency	84 (typical)	%
Temperature Coefficient of Frequency		0±20 max (@ -40°C ~85°C)	ppm/°C

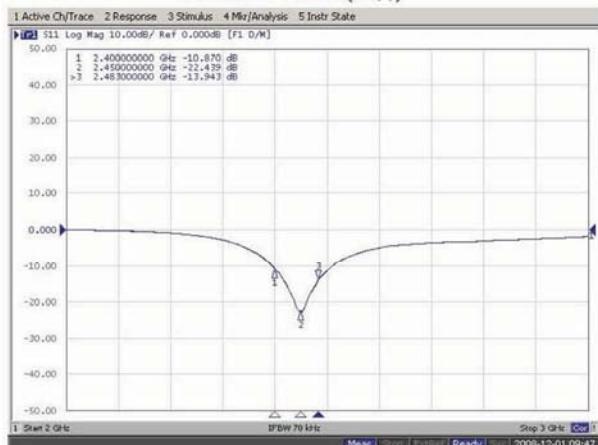
*Center frequency will be offset to working frequency according to the conditions of user's ground plane and radome.

**The data was measured by A Test Lab Techno Corp.(CTIA Authorized Test Lab).

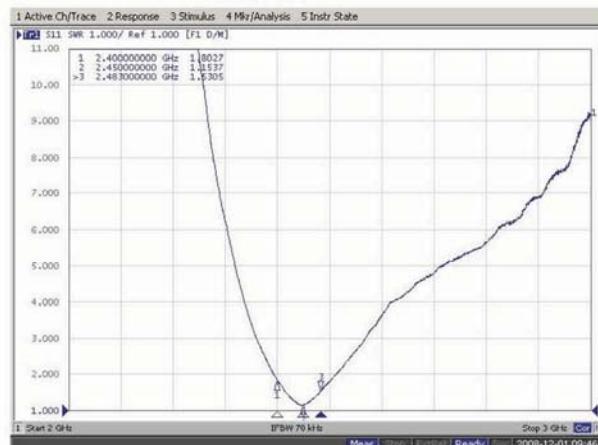
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5-2.

Return Loss(S_{11})

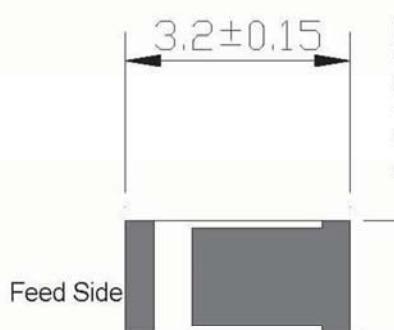


VSWR

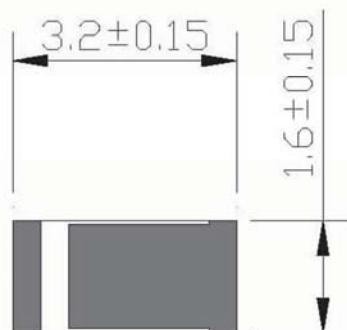


6. Antenna Dimensions & Test Board (unit: mm)

a. Antenna Dimensions



Top View



Bottom View



Unit : mm

Tolerances(Unless otherwise specified)

X: ± 1 X.XX: ± 0.1 X.XX: ± 0.01
Angle: \pm Hole Dia: \pm

Scale: 4:1

Prepared By:rose

Designed By:Sean

**TITLE:3.2x1.6x0.5 WIFI/Bluetooth Ceramic Chip
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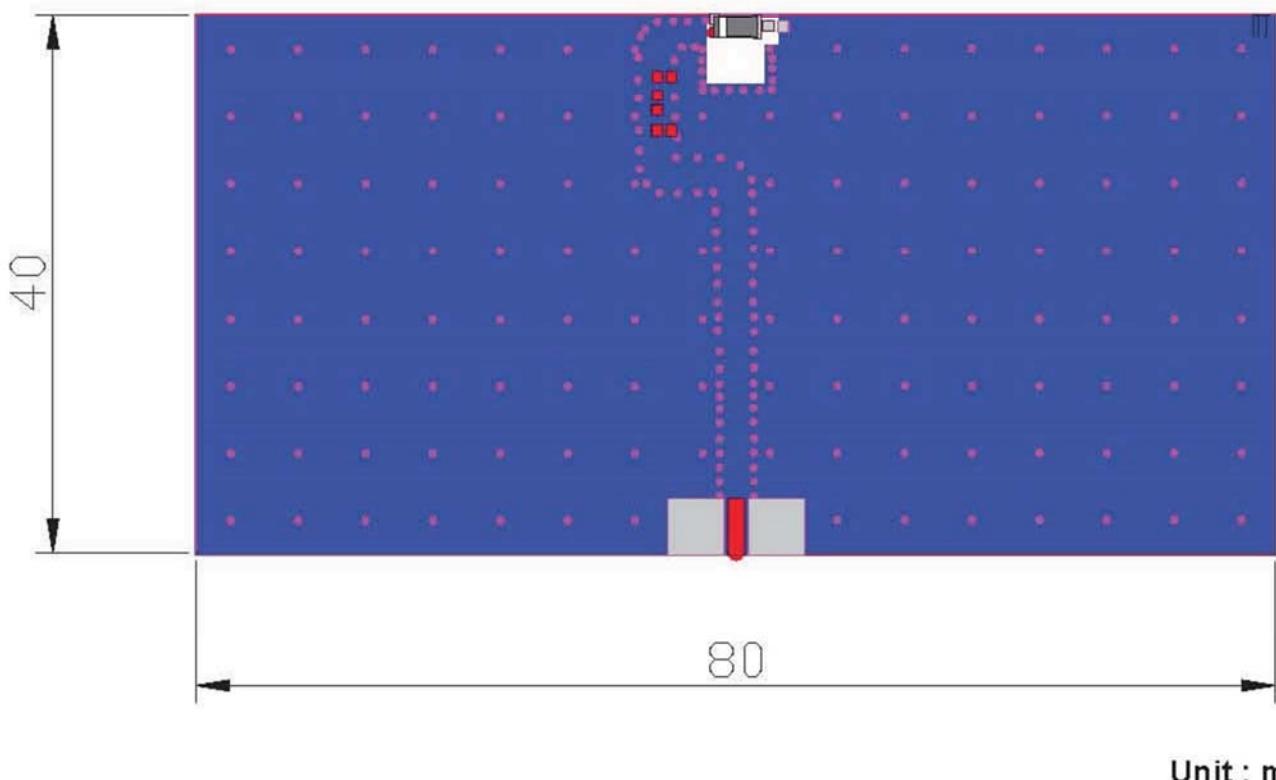
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b. Test Board with Antenna



Tolerances(Unless otherwise specified)

X: ± 1 X.XX: ± 0.1 X.XX: ± 0.01
Angle: \pm Hole Dia: \pm

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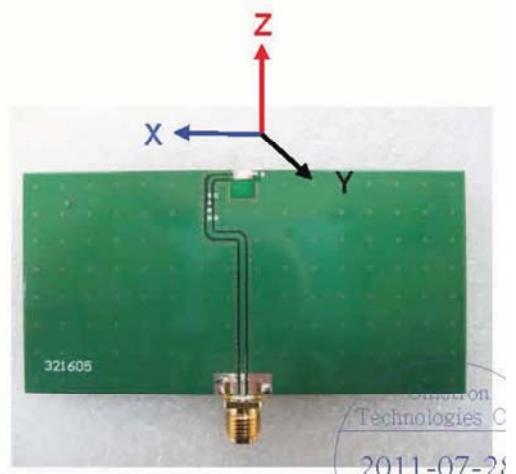
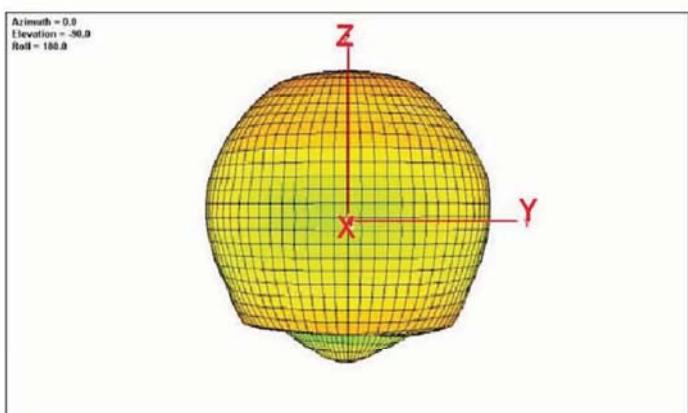
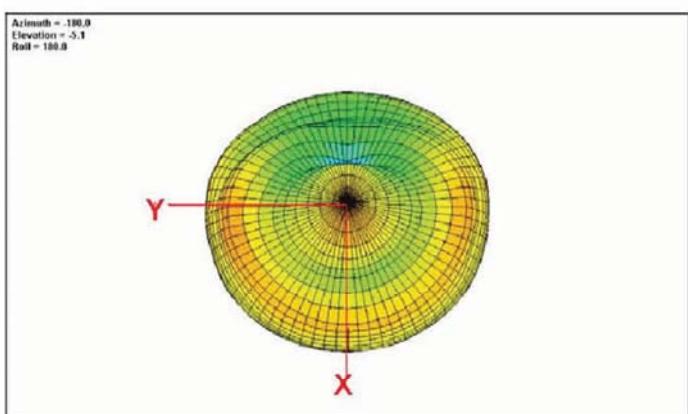
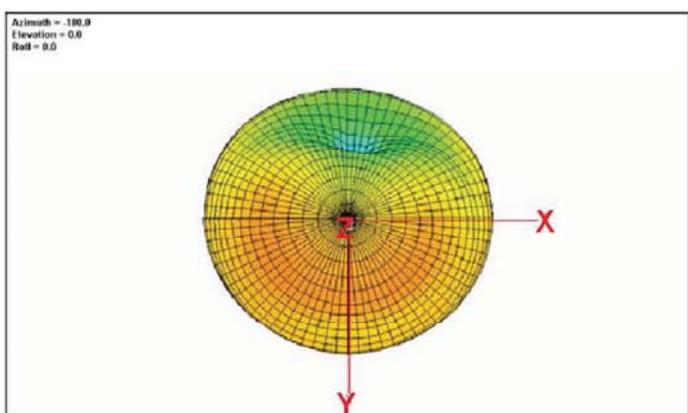
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TITLE:3.2x1.6x0.5 WIFI/Bluetooth Ceramic Chip Antenna		REV A KingRF-C-2400-01

7. Radiation Pattern (80x40(mm) ground plane)

7-1. 3D Gain Pattern (at 2442 MHz)



Tolerances(Unless otherwise specified)

X:±1 X.XX: ± 0. 1 X.XX: ± 0. 01

Angle: ± Hole Dia: ±

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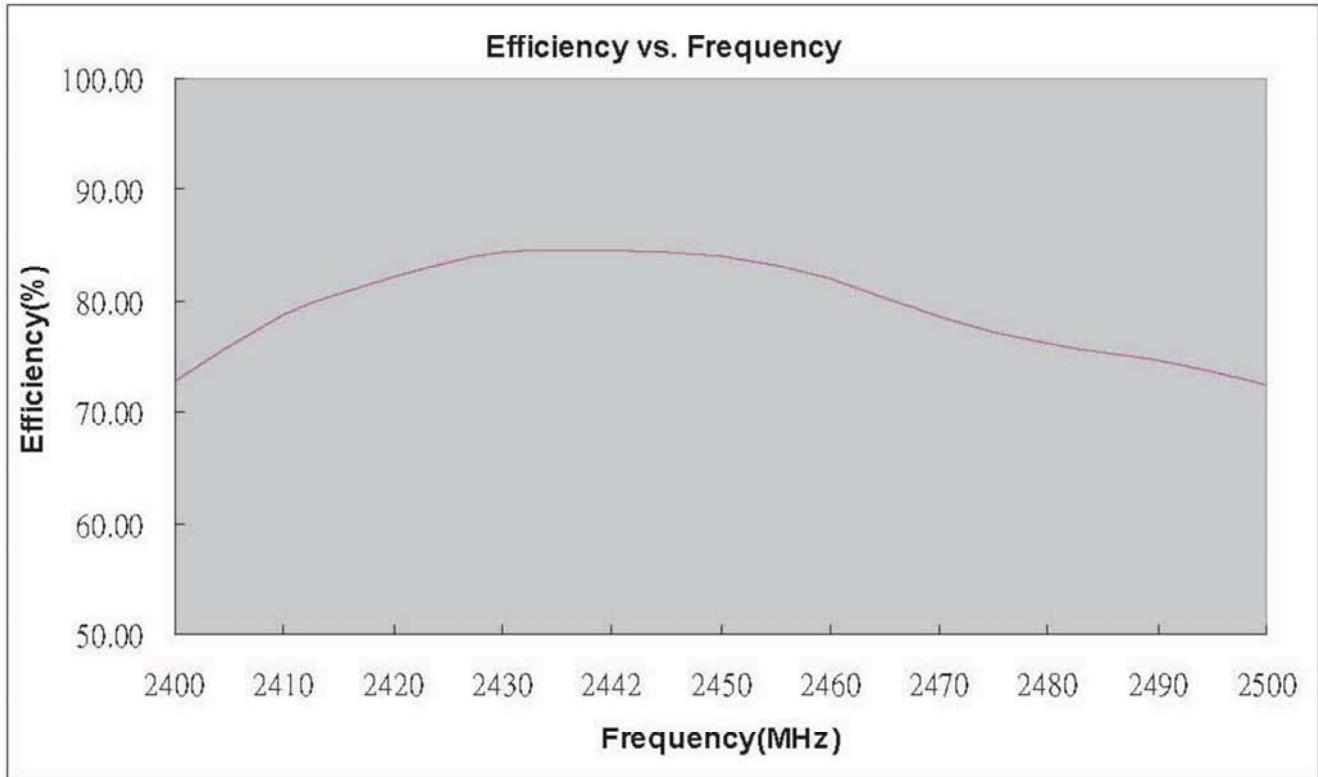
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7-2. Efficiency Table

Frequency(MHz)	2400	2410	2420	2430	2442	2450	2460	2470	2480	2490	2500
Efficiency(dB)	-1.38	-1.04	-0.85	-0.74	-0.73	-0.76	-0.86	-1.05	-1.18	-1.27	-1.40
Efficiency(%)	72.83	78.71	82.27	84.39	84.53	84.04	82.00	78.60	76.14	74.64	72.50
Gain(dBi)	1.47	1.81	2.10	2.40	2.50	2.50	2.37	2.10	1.90	1.87	1.75

7-3. Efficiency vs. Frequency

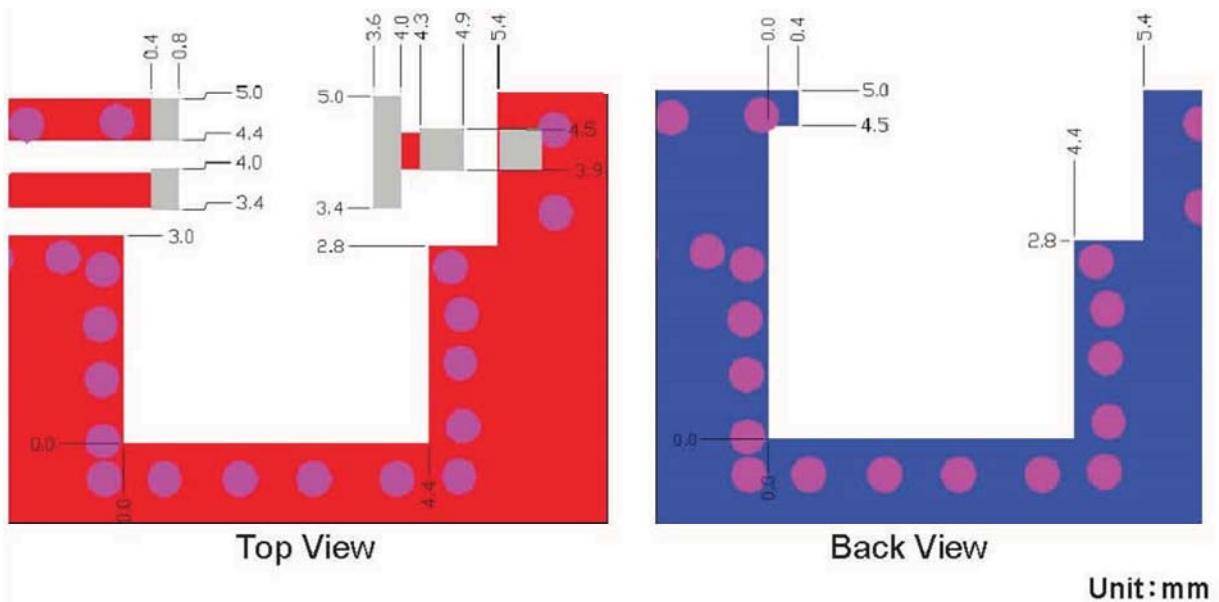


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8. Layout Guide:

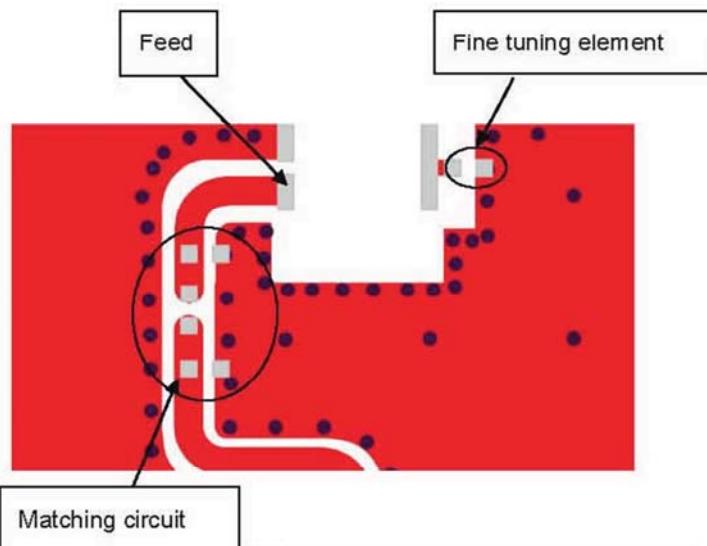
a. Solder Land Pattern:

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



9. Frequency tuning:

a. Chip antenna tuning scenario :



Tolerances(Unless otherwise specified)

X:±1 X.XX: ± 0. 1 X.XX: ± 0. 01

Angle: ± Hole Dia: ±

Scale: 4:1

Unit:mm

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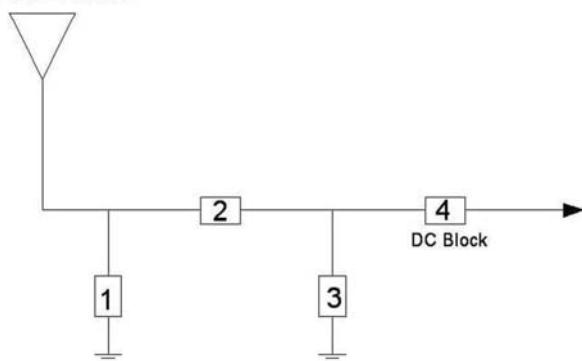
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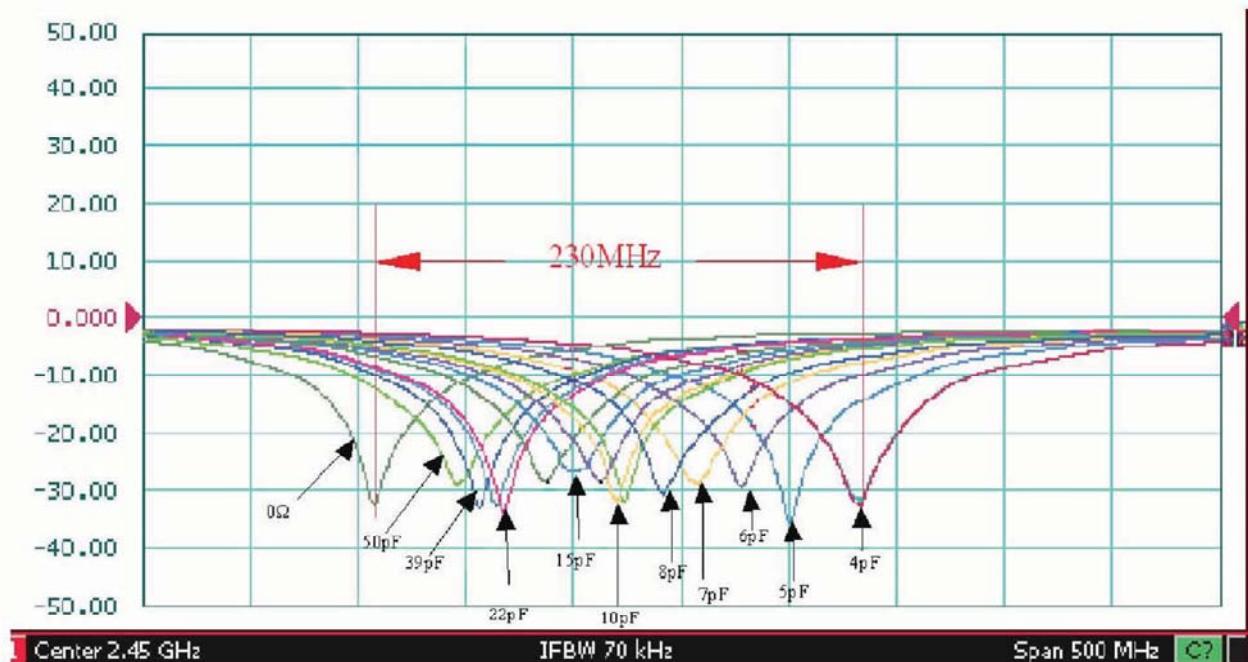
b. Matching circuit : (Center frequency is about 2442MHz at 80x40(mm) ground plane)

Antenna



System Matching Circuit Component		
Location	Description	Vendor
1	N/A	-
2	0Ω	(0402)
3	N/A	-
4	22pF	TDK(0402)
Fine tuning element	8pF	TDK(0402)

c. Fine tuning element vs. Center frequency



Tolerances(Unless otherwise specified)

X: ± 1 X.XX: ± 0.1 X.XX: ± 0.01
Angle: \pm Hole Dia: \pm

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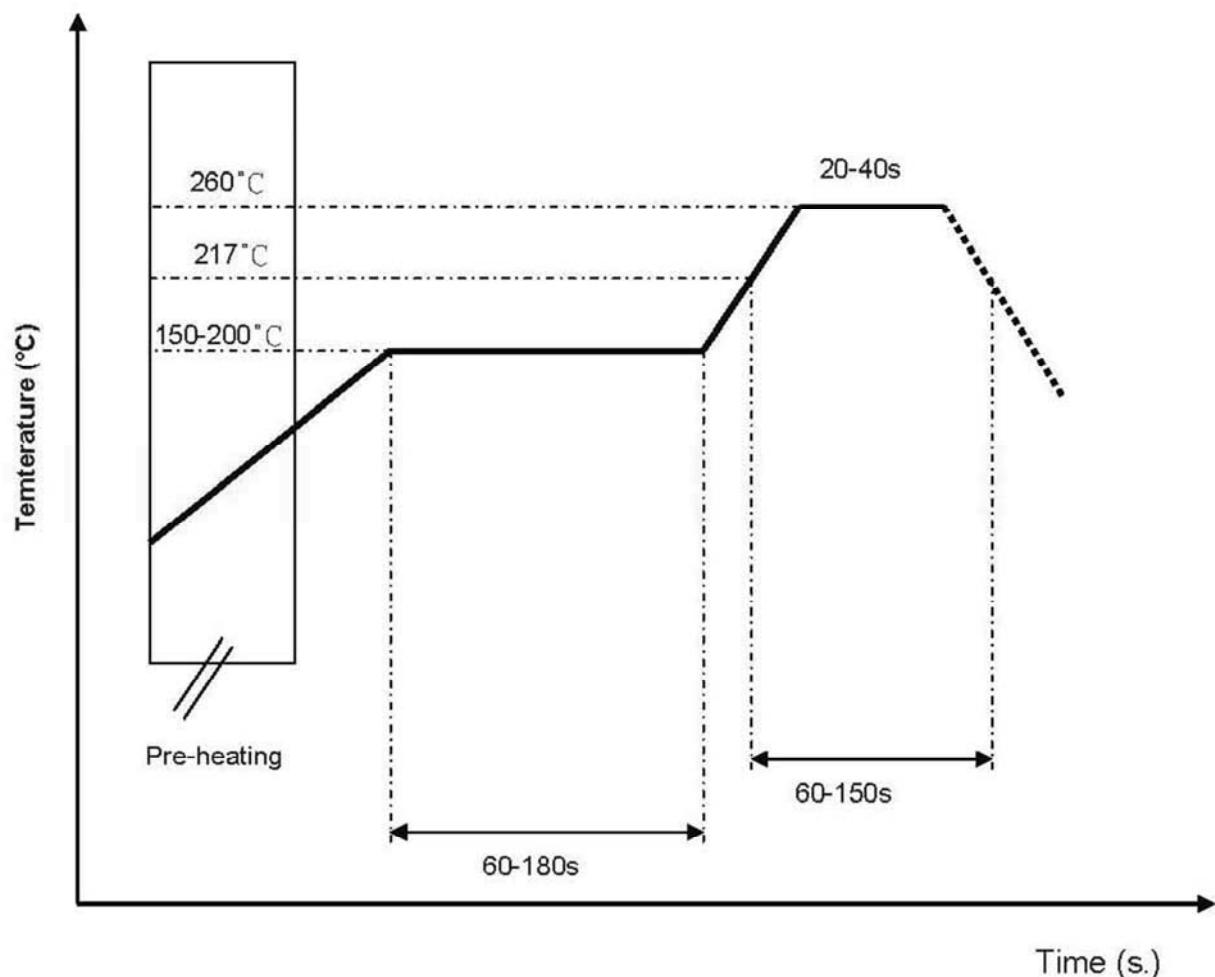
10. Reliability test :

Test item	Test condition / Test method	Specification
Solderability	*Solder bath temperature : $260 \pm 5^{\circ}\text{C}$ *Immersion time : 2 ± 0.5 sec	At least 95% of a surface of each terminal electrode must be covered by fresh solder.
Resistance to dissolution of metallization)	*Solder bath temperature : $260 \pm 5^{\circ}\text{C}$ *Leaching immersion time : 30 ± 0.5 sec	Loss of metallization on the edges of each electrode shall not exceed 25%.
Drop Test	*1.8m drop on concrete with 150g weight *XYZ each 30 times	No mechanical damage. Samples shall satisfy electrical specification after test.
Bending test	Warp:2mm	No mechanical damage. Samples shall satisfy electrical specification after test.
Temperature cycle	-55°C / 30min~125°C /30min Total 1000 cycles	No mechanical damage. Samples shall satisfy electrical specification after test
High temperature	*Temperature : 125°C *Test duration : 1000 hours	No mechanical damage. Samples shall satisfy electrical specification after test.
Low temperature	*Temperature : -55°C *Test duration : 1000 hours	No mechanical damage. Samples shall satisfy electrical specification after test.
Adhesive Strength of Termination	*Pressure:5N *Duration : 10 ± 1 sec	No remarkable damage or removal of the termination.
Vibration	*Applied Frequency : 10-55-10Hz(1min) *1.5 p-p amplitude for XYZ each direction of 120min	No mechanical damage. Samples shall satisfy electrical specification after test
Damp heat	*Humidity:85% *Temperature:85°C *Time : 1000 hours	No mechanical damage. Samples shall satisfy electrical specification after test

Tolerances(Unless otherwise specified)		 深圳市建硕科技有限公司 Shenzhen KingRF Technology CO.,LTD Website: www.kingrf.com	
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11. Soldering Conditions:

a. Typical Soldering Profile for Lead-free Process



Tolerances(Unless otherwise specified)

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Angle: \pm Hole Dia: \pm

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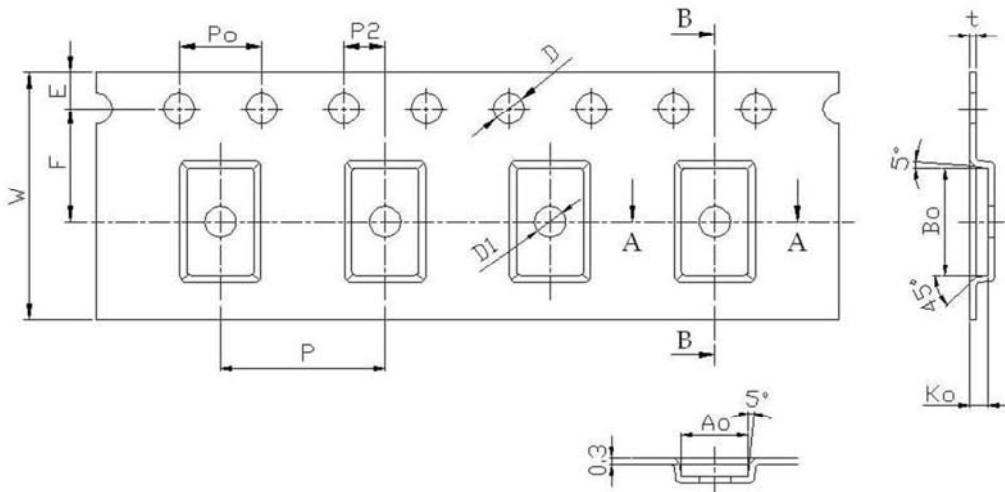
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12. Packing:

(1) Quantity/Reel: 6000pcs/Reel

(2) Plastic tape:



1. Cumulative tolerance of 10 sprocket hole pitch: $\pm 0.20\text{mm}$
2. Carrier camber not to exceed 1mm in 250mm
3. Ao and Bo measured on a plane above the inside bottom of the pocket.
4. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
5. All dimensions meet EIA-481-B requirements.
6. Material:
 - Clear Non Anti-Static Polystyrene.
 - Black Conductive Polystyrene.

2.1 Tape Dimensions(unit: mm)

Feature	Specifications	Tolerances
W	12.00	± 0.30
P	8.00	± 0.10
E	1.75	± 0.10
F	5.50	± 0.10
P2	2.00	± 0.10
D	1.50	+0.10 -0.00
Po	4.00	± 0.10
10Po	40.00	± 0.20

2.2 Pocket Dimensions(unit: mm)

Feature	Specifications	Tolerances
Ao	1.90	+0.20
Bo	3.50	-0.10
Ko	0.60	± 0.10
t	0.30	± 0.05

13. Storage Conditions:

- (1) Temperature: -25°C to 85°C
- (2) Relative Humidity: 20% to 70%

Tolerances(Unless otherwise specified)

X: ± 1 X.XX: ± 0.1 X.XX: ± 0.01

Angle: \pm Hole Dia: \pm

Scale: 4:1

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