



深圳市宇鸿实业有限公司

Shenzhen Yuhong Industrial Co., LTD

零件规格书

Specification of parts

客户名称/Customer name:	东莞市创芯微电子科技有限公司 Dongguan CXW Technology Co., Ltd.
产品机型/Product Model:	HCA5025A2450C25S
客户料号/Risuntek P/N:	
版本/Version:	A0
零件名称/Prodcut Name:	陶瓷天线
产品描述/Description:	5.0×2.5×0.55mm陶瓷天线
日期/Date:	2024/2/27

客户签署
(Customer Signatures)

项目 (PM)	结构 (ME)	品质 (QE)

我司签署
(Our signature)

品质 (QE)	结构 (ME)	射频 (RF)

地址: 深圳市龙华新区民治大道与工业西路交汇展滔科技大厦A座1308
Address: 1308, Block A, Zhantao Technology Building, intersection of Minzhi Avenue and Industrial West Road, Longhua New District, Shenzhen
telephone: 0755-21031946
<http://www.yuhong-co.com/>

WiFi/Bluetooth Ceramic Chip Antenna

HCA5025A2450C25S

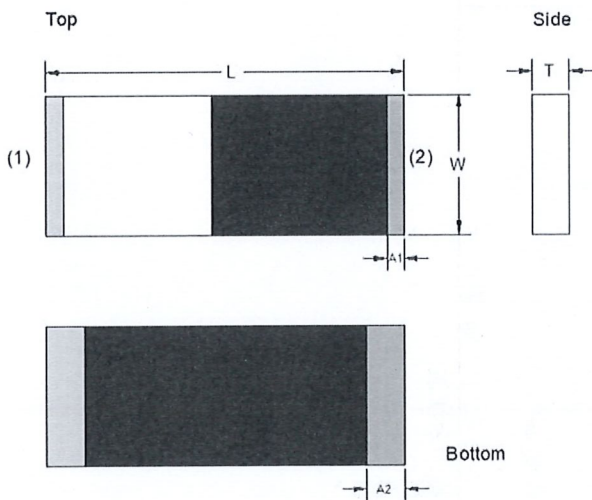
Description

The HCA5025A2450C25S chip antenna is designed for WiFi /Bluetooth applications. This chip antenna has excellent stability consistently provide high signal reception efficiency.

Features

- Dimensions 5.0 x 2.5 x 0.55 (mm)
- Stable and reliable in performances
- Low temperature coefficient of frequency
- Low profile, compact size
- RoHS compliance
- SMT processes compatible

Dimensions /Recommended Pattern



Applications

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

Product Identification

NO.	Terminal Name
[1]	Feeding
[2]	GND

TYPE	L	W	T	A1	A2
HCA5025A2450C25S	5.0 ± 0.20	2.5 ± 0.20	0.55 ± 0.10	0.25 ± 0.10	0.55 ± 0.20

Dimensions in mm

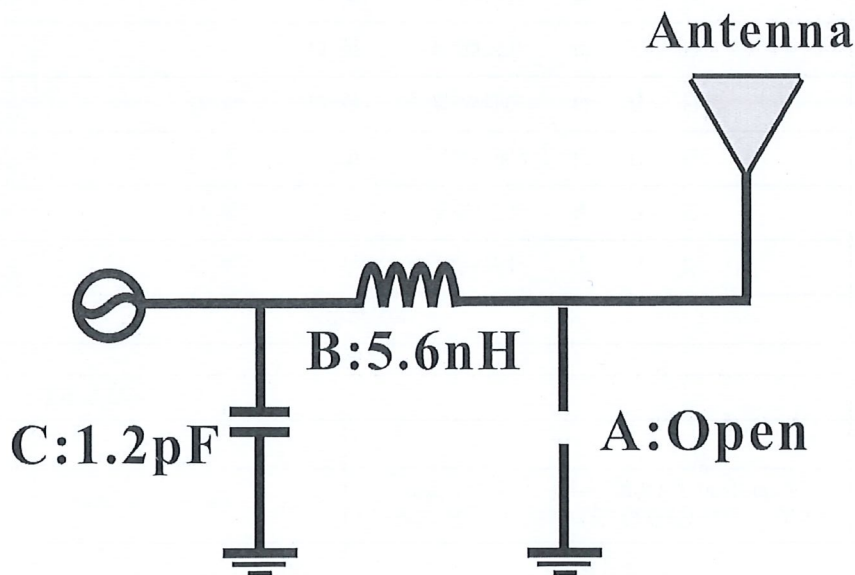
Electrical Characteristics

Working Frequency Range	2400 ~ 2484 MHz
Peak Gain	1.91 dBi
Impedance	50 Ohm
Return loss	10 dB (Min)
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Operation Temperature	-40 ~ 125 °C

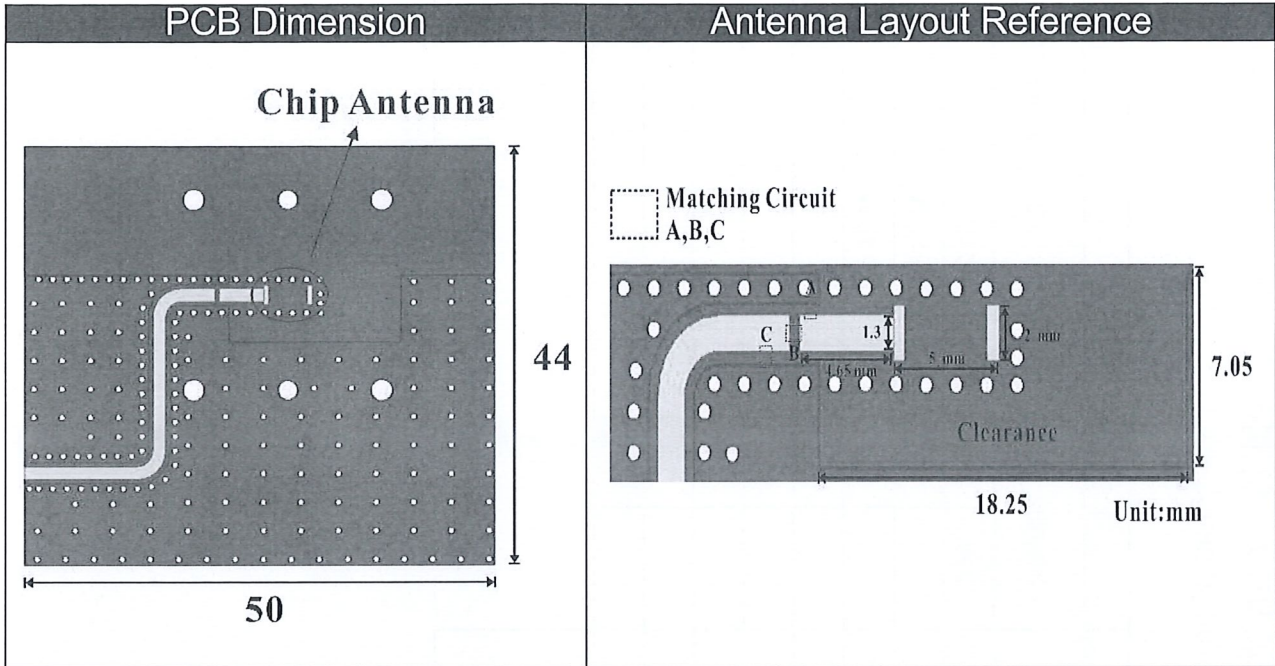
Matching Circuit

The inductance and capacitance values are used in the matching network to match the circuits by our company.

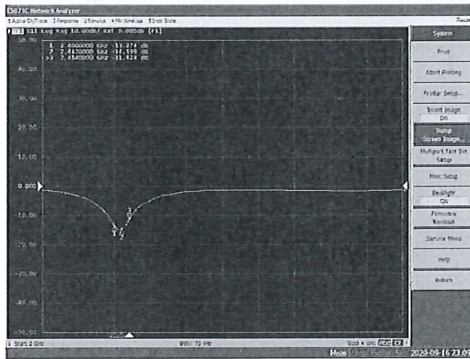
Users can design their own matching network to make some adjustments.



Evaluation Board Reference-Regular Layout

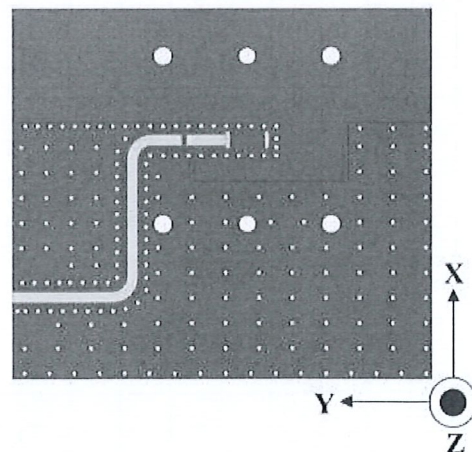
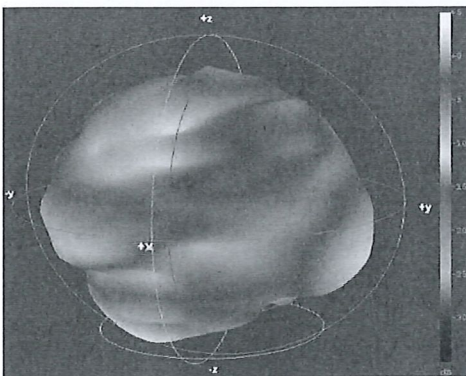


Return Loss & Radiation

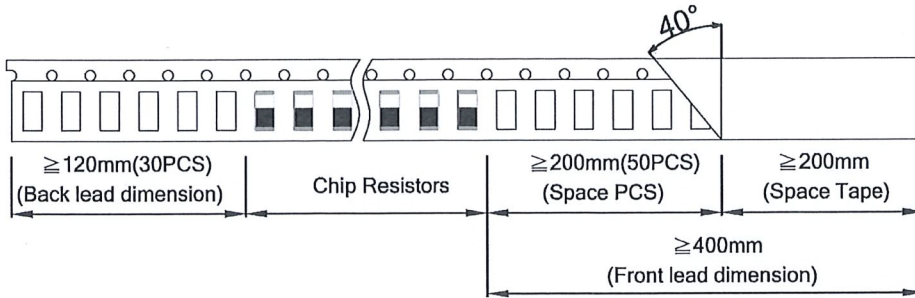


Frequency	2410 MHz
Peak Gain	1.91 dBi
Average Gain	1.68 dBi
Efficiency	45.9 %

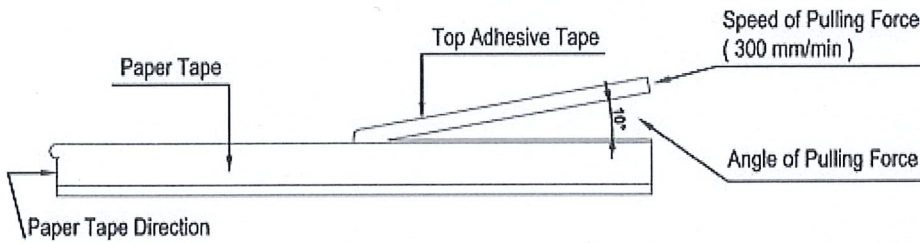
3D Radiation



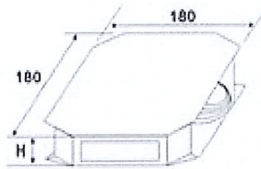
Packaging Specifications



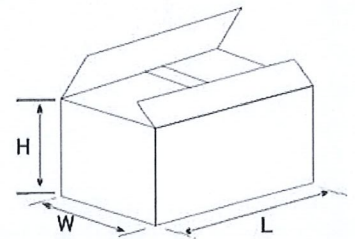
■ Top Adhesive Peel Off Strength : 10~70g



Inner Box Size	
Reel	Size H(mm)
1	13
2	24
3	36
5	60
10	113



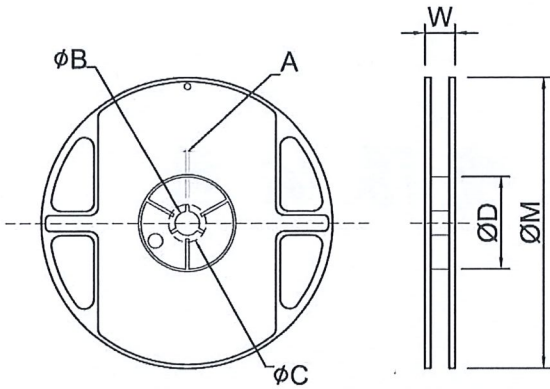
Contain (Kpcs)	Length (mm)	Width (mm)	Height (mm)
25K	180	180	60
50K	180	180	110
150K	430	200	200
300K	400	400	200



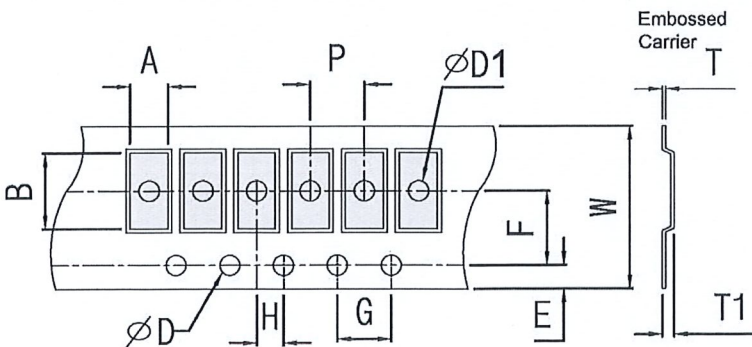
Appendix For SMD Chip Antenna

● Packaging Information

TYPE	SIZE	A	ψB	ψC	ψD	W	ψM
5025	7" 4K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	16.0±2.0	178±2.0



Packaging	Type	A	B	W	E	F	G	H	T	ψD	$\psi D1$	T1	P
Embossed	5025	2.80±0.20	5.60±0.20	12±0.10	1.75±0.10	5.5±0.05	4.0±0.10	2.0±0.05	0.23±0.10	+0.10 1.50	1.50±0.10	0.85±0.15	4.0±0.1



Reliability Test and Requirement

Test Item	Procedure	Requirements Ceramic Type	Remark (Reference)
Electrical Characterization		Fulfill the electrical	User Spec
Thermal Shock	50 ± 10°C / 1 hr	No Visible Damage Fulfill the electrical	MIL-STD-202 107
Temperature Cycling	-30°C to +85°C, 100 Cycles	No Visible Damage Fulfill the electrical	JESD22 JA104
High Temperature Exposure	500hours @ T=+85°C	No Visible Damage Fulfill the electrical	MIL-STD-202 108
Low Temperature Storage	500hours @ T= -30°C	No Visible Damage Fulfill the electrical	MIL-STD-202 108
Leaching	260°C ±5°C.for 30 seconds	>95% Coverage	Sony SS-00254-9
Soldering Heat	260 ± 5°C For 10 Seconds	No Visible Damage	JIS C 5201-1
Vibration	5g's for 20 min., 12 cycles each of 3 orientations	No Visible Damage	MIL-STD-202
Mechanical Shock	Impact acceleration:1500g Pulse duration:0.5ms	No Visible Damage	MIL-STD-202 Method 213
Biased Humidity	500hours 85 °C./85% RH.	No Visible Damage Fulfill the electrical	MIL-STD-202 Method 106
Board Flex(SMD)	Bending once for 60 seconds	No Visible Damage	AEC-Q200 005
IR Reflow		In accordance with specification	Sony SS-00254
Physical Dimension	Any applicable method using x10 magnification, micrometers, calipers, gauges, contour projectors, or other measuring	In accordance with specification	JESD22 JB100