

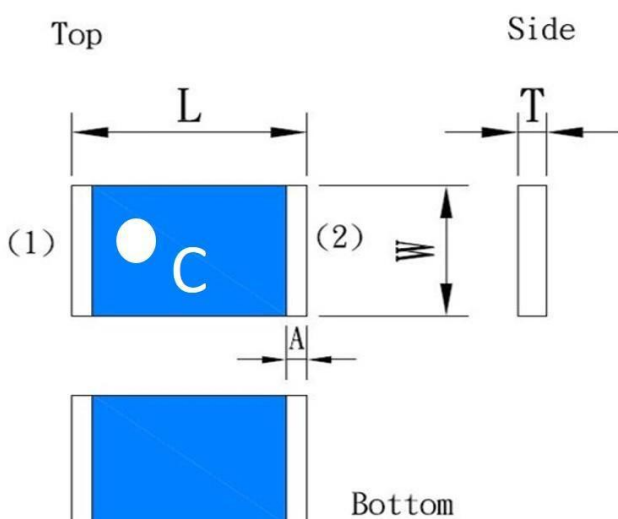
Description

The HCA2012B2450H05S chip antenna is designed for WIFI /Bluetooth applications. This chip antenna has excellent stability consistently provide high signal reception efficiency.

Features

- Dimensions 2.0 x1.25 x 0.5(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 Point
[2]	GND

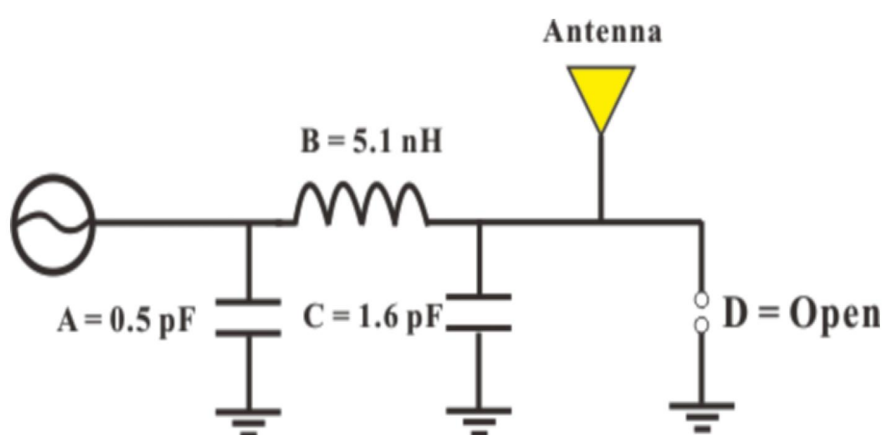
TYPE	L	W	T	A
HCA2012B2450H05S	2.0 ± 0.20	1.25 ± 0.15	0.5 ± 0.15	0.3 ± 0.15

Electrical Characteristics

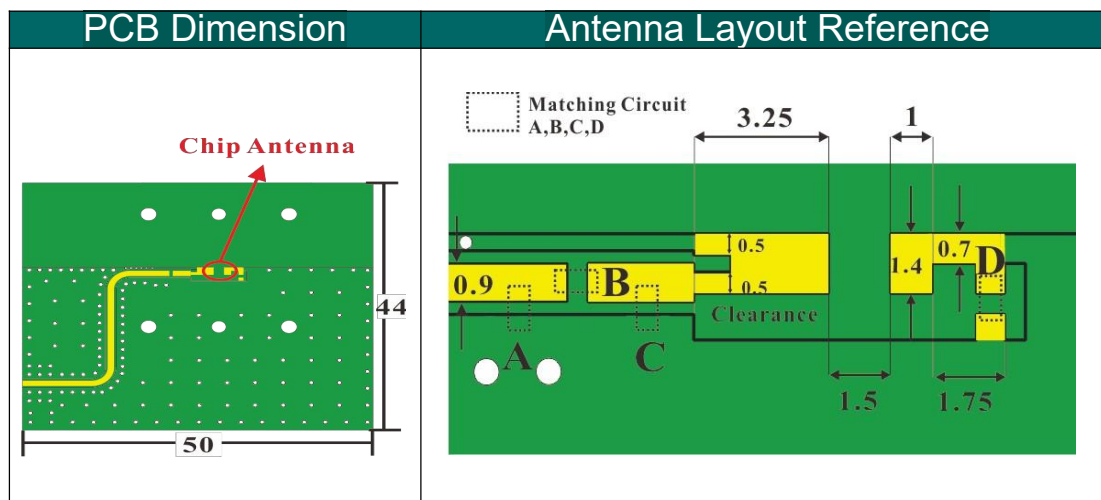
Working Frequency Range	2400 ~ 2484 MHz
Peak Gain	1.94dBi
Impedance	50 Ohm
Return loss	10 dB (Min)
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Operation Temperature	-40 ~ 125 °C

Matching Circuit

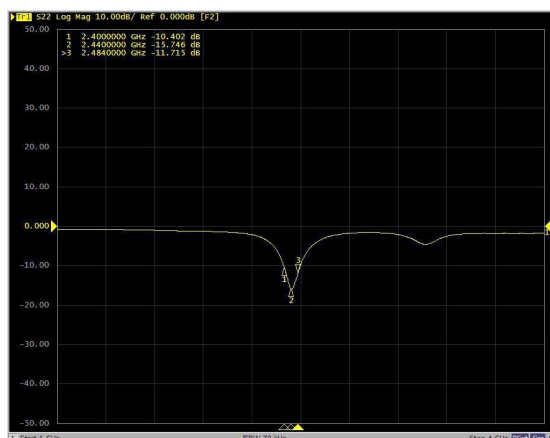
The inductance and capacitance values are used in the matching network to match the circuits by our company.
Users can design their own matching network to make some adjustments.



Evaluation Board Reference-Regular Layout

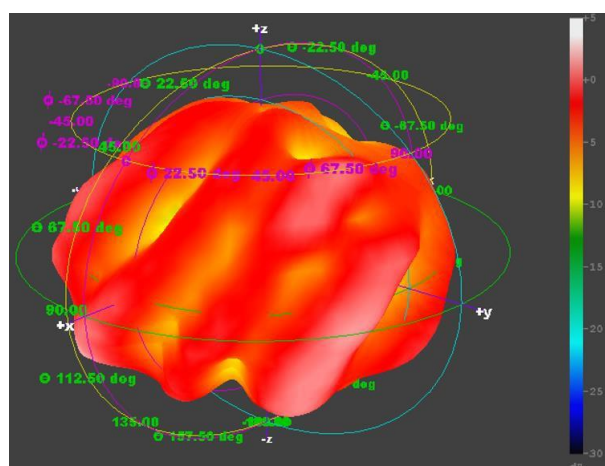


Return Loss & Radiation



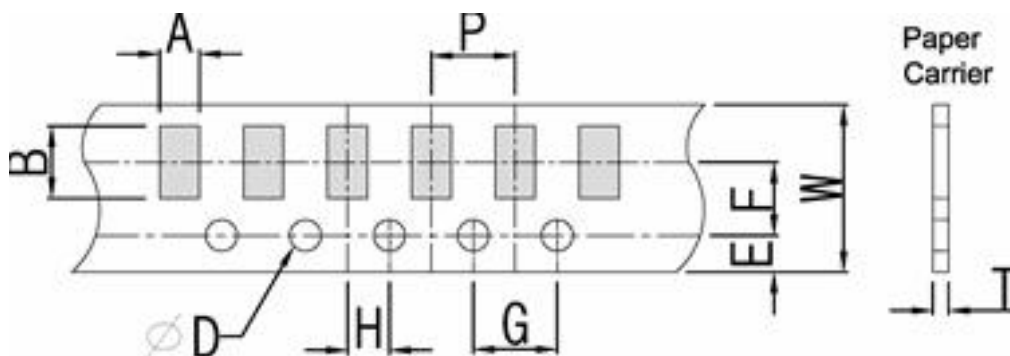
Frequency (MHz)	Return Loss (dB)
2400	10.40
2440	15.75
2484	11.72

3D Radiation

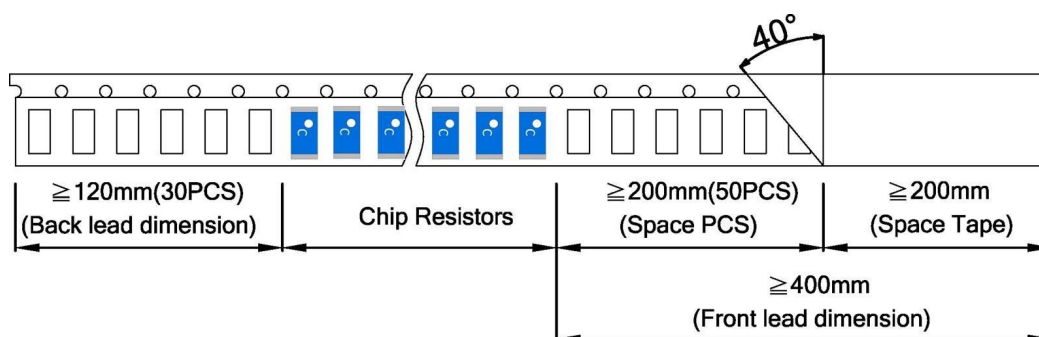


Frequency	2440 MHz
Peak Gain	1.94 dBi
Average Gain	1.43 dBi
Efficiency	43.15 %

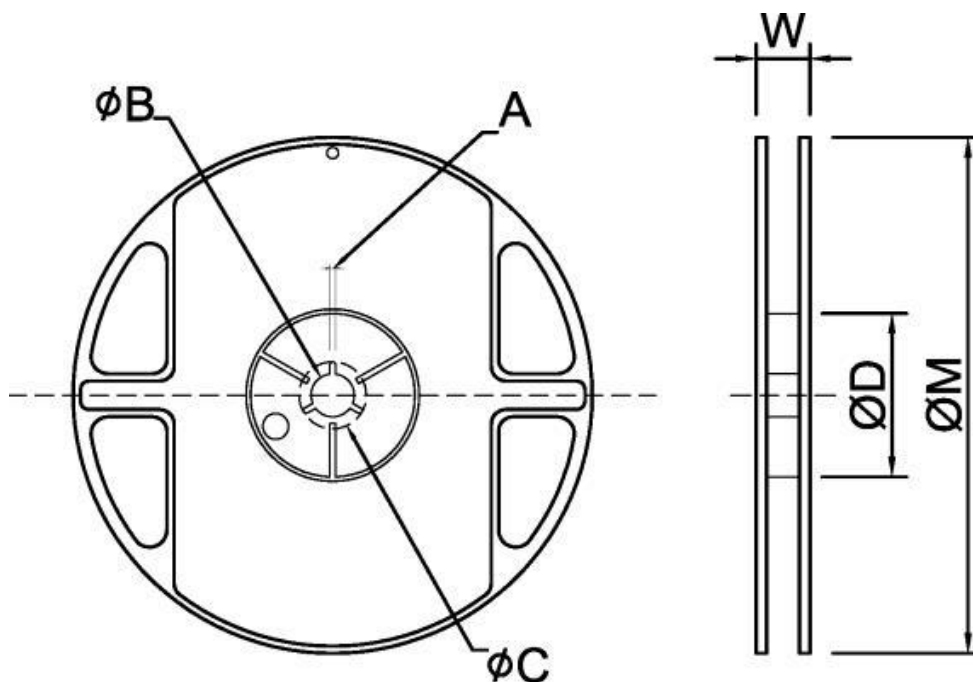
Packaging Specifications



Front & Back Lead Dimension

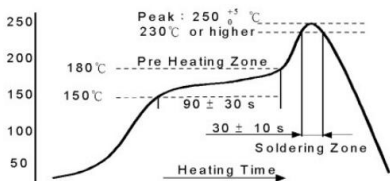


Packaging Information



Reliability Test and Requirement

● Reliability Test and Requirement

Test Item	Procedure	Requirement s Ceramic	Remark (Reference
Temperature Cycling	-55℃ to +155℃, 5Cycles	No Visible Damage Fulfill the electrical specification	JIS C 5201-1 4.19
HighTemperature Exposure	500hours @ T=+155℃	No Visible Damage Fulfill the electrical specification	MIL-STD-202 108
Low Temperature Storage	500hours @ T= -55℃	No Visible Damage Fulfill the electrical specification	MIL-STD-202 108
Leaching	260℃ ±5℃.for 30 seconds	>95% Coverage	Sony SS-00254-9
Soldering Heat	260 ± 5℃ For 10 Seconds	No Visible Damage	JIS C 5201-1
Biased Humidity	500hours 85 °C./85% RH.	No Visible Damage Fulfill the electrical specification	MIL-STD-202 Method 106
Board Flex(SMD)	Bending once for 60 seconds	No Visible Damage	AEC-Q200 005
IR Reflow	 The graph shows a temperature profile for IR reflow soldering. The y-axis represents temperature in degrees Celsius (50 to 250), and the x-axis represents heating time. Key points on the curve include: a pre-heating zone starting at 150°C, a peak temperature of 250°C (with a note '230°C or higher'), and a soldering zone with a duration of 30 ± 10 seconds. The curve also shows a cooling phase after the soldering zone.	In accordance with specification	Sony SS-00254
Physical Dimension	Any applicable method using x10 magnification, micrometers, calipers, gauges, contour projectors, or other measuring equipment, capable of determining the actual specimen dimensions.	In accordance with specification	JESD22 JB100

Manufacturer: Hongji Wireless Communication(Shenzhen)Co., Ltd

Address: Building 8, Huaqiang Creative Industrial Park, West 12th Floor, Guangsheng Road, Guangming District, Shenzhen