

# SMD CERAMIC ANTENNA

## Data Sheet

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# CS-2450-16-C

For 2400-2483MHz

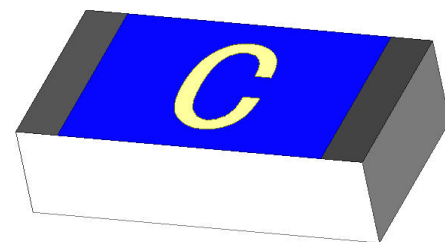
1.6x0.8mm [EIA1608]

## Feature

- Light weight, compact
- Wide bandwidth, low cost
- Built-in antenna with high gain
- Operating Temp. : -40°C ~ +85°C

## Application

- Bluetooth, Wireless LAN, Mobile TV
- Home RF system, etc



**CS-2450-16-C**

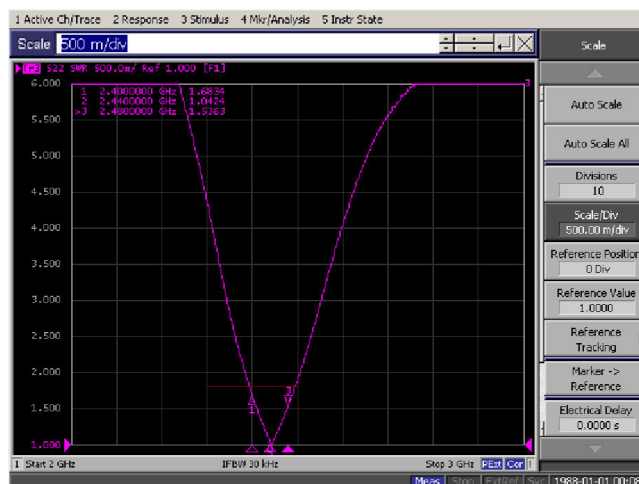
## Electrical Characteristics per line(TA=25°C)

Parameter	Specification	Units
Frequency Band	2400~2483	MHz
Polarization	Linear	
Peak Gain	2.36	dBi
Peak Efficiency	66.5%	%
Impedance	50	$\Omega$

Test condition: Test board size 98\*65 mm; Matching circuit: Pi matching circuit will be required

## Typical Characteristics

Fig.1 VSWR

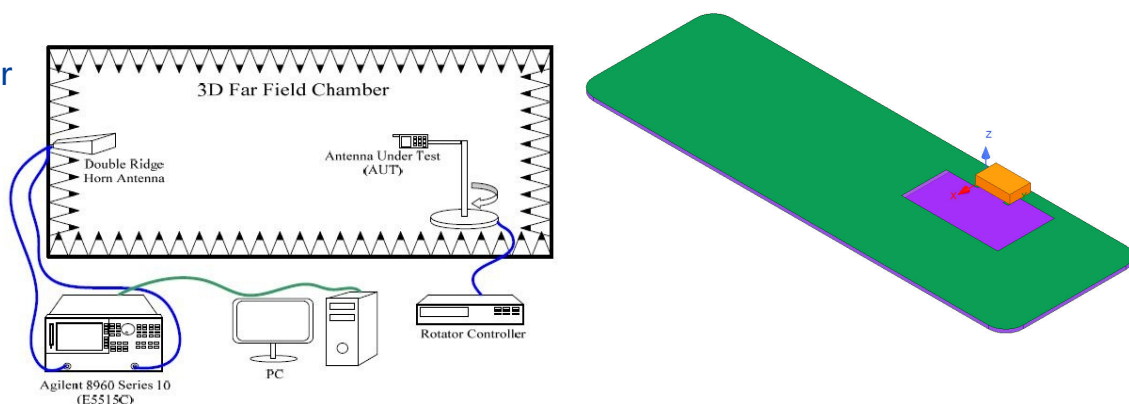


## Radiation Pattern

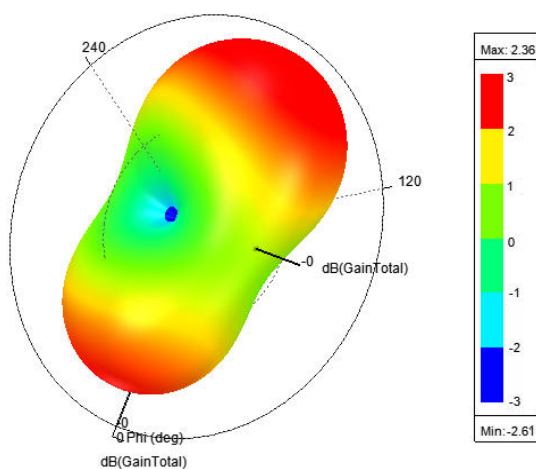
The Gain pattern is measured in FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.

Fig.2

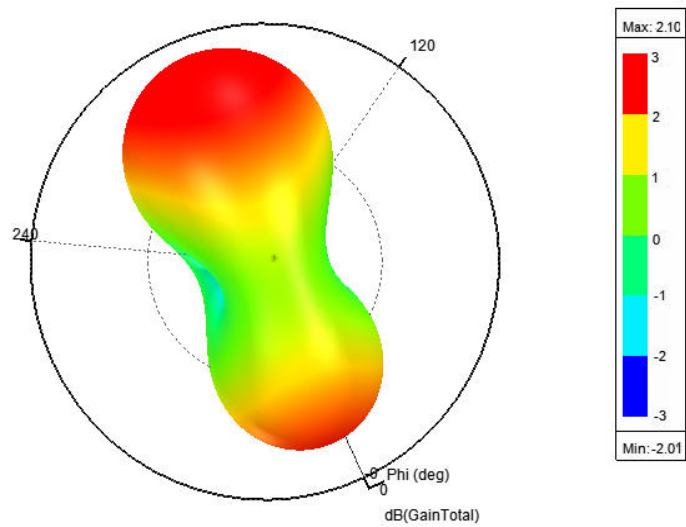
FAR-field Chamber



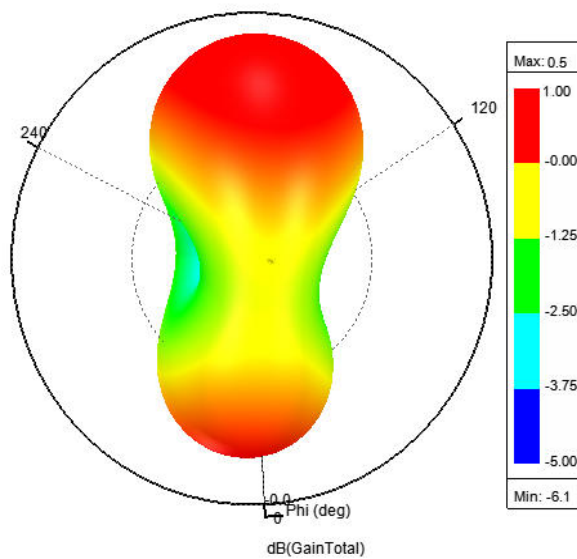
## 3D Gain Pattern (2400 MHz)



### 3D Gain Pattern (2450 MHz)



### 3D Gain Pattern (2500 MHz)



Item	Condition	Specification
Thermal shock	1. 30±3 minutes at -40°C±5°C, 2. Convert to +105°C (5 minutes) 3. 30±3 minutes at +105°C±5°C, 4. Convert to -40°C (5 minutes) 5. Total 100 continuous cycles	No apparent damage Fulfill the electrical spec. after test.
Humidity resistance	1. Humidity: 85% R.H. 2. Temperature: 85±5°C 3. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
High temperature resistance	No apparent damage Fulfill the electrical spec. after test.	1. Temperature: 150°C±5°C 2. Time: 1000 hours.
Low temperature resistance	1. Temperature: -40°C±5°C 2. Time: 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
Soldering heat resistance	1. Solder bath temperature : 260±5°C 2. Bathing time: 10±1 seconds	No apparent damage
Solderability	The dipped surface of the terminal shall be at least 95% covered with solder after dipped in solder bath of 245±5°C for 3±1 seconds.	No apparent damage

## (2) Storage Condition

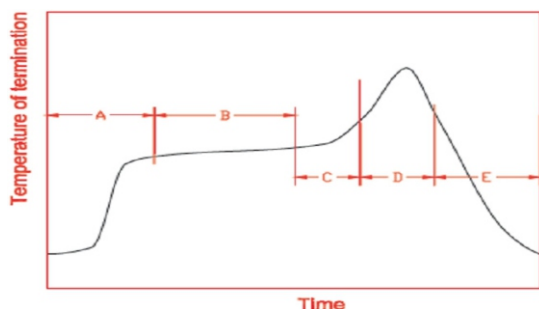
(a) At warehouse: The temperature should be within 0 ~ 30°C and humidity should be less than 60% RH. The product should be used within 1 year from the time of delivery.

(b) should be within -40~85°C and humidity should be less than 85% RH.

## (3) Operating Temperature Range

: -40°C to +85°C. Operating temperature range: -40°C to +85°C.

## Recommended Reflow Solder curve



A	1 <sup>st</sup> rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140°C to 160°C	60s to 120s
C	2 <sup>nd</sup> rising temperature	Preheating to 200°C	20s to 40s
D	Main heating	if 220°C	50s~60s
		if 230°C	40s~50s
		if 240°C	30s~40s
		if 250°C	20s~40s
E	Regular cooling	if 260°C	20s~40s
		200°C to 100°C	1°C/s ~ 4°C/s

\*reference: J-STD-020C

## (1) Soldering Gun Procedure

Note the follows, in case of using solder gun for replacement.

(a)

The tip temperature must be less than 350°C for the period within 3 seconds by using soldering gun under 30 W.

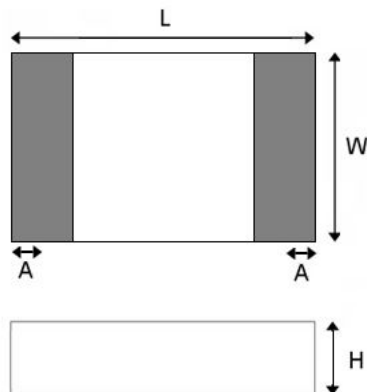
(b)

The soldering gun tip shall not touch this product directly.

## (2) Soldering Volume

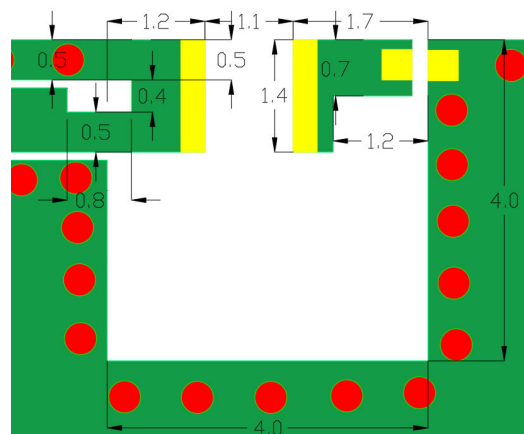
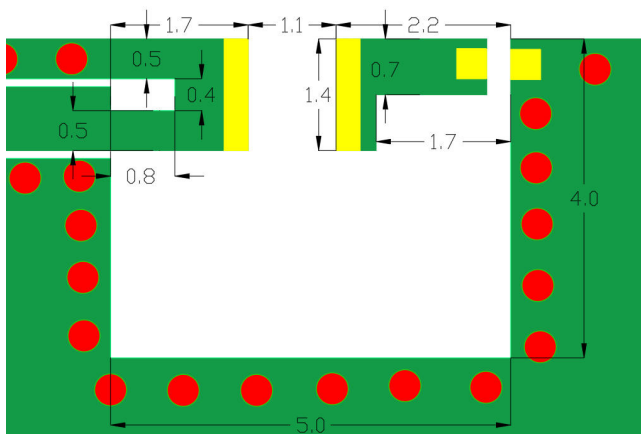
Note that excess of soldering volume will easily get crack the body of this product.

## Product Dimension

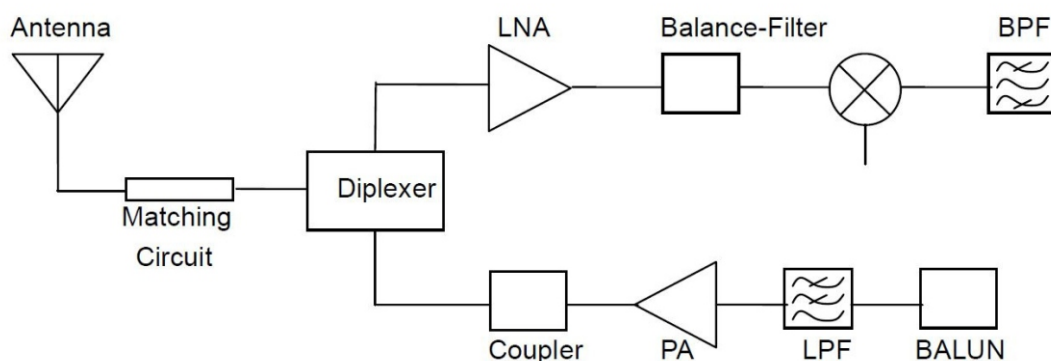


L	W	H	A
1.6±0.2	0.8±0.2	0.4±0.1	0.2±0.07

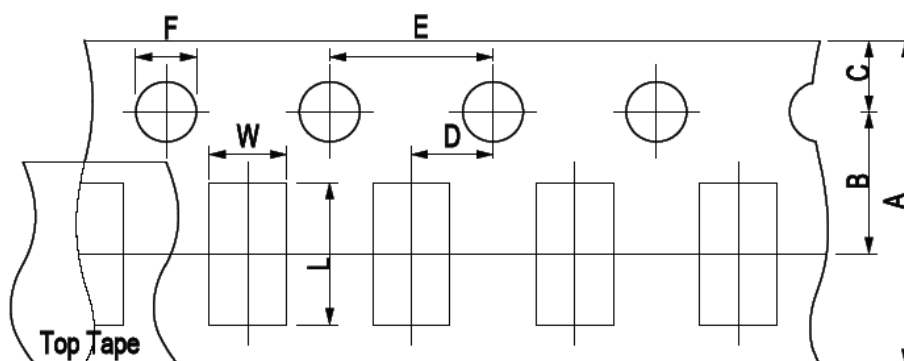
## Evaluation Board



## Application Guide



## Package Information



A	B	C	D	E	F	L	W
8.00±0.3	3.50± 0.05	1.75±0.1	2.00±0.05	4.00±0.1	1.50±0.1	2.30± 0.1	1.55± 0.1

## Part Number System

CS - 2450 - 16-C

External Dimensions L\*W (mm) 1.6\*0.8  
Central Frequency 2450MHz  
Product Series: Chip Antenna

## Marking



## Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
CS-2450-16-C	1608	0.002g	Tape&Reel	5000pcs	RoHS compliant

## Revision history

Date	Revision	Description of changes
2022-12-2	V1.0	First Version

The contents of this data sheet are subject to change without notice.  
Please confirm the specifications and delivery conditions when placing your order.

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