

ACA-3216-A1-CC-S-W1 Specification

1. Features and Application :

This product is for WiFi/BT band

2. Explanation of Part Number :

AC A - 3216 - A1 - CC - S - W1
(1) (2) (3) (4) (5) (6) (7)

- (1) Product Type : Chip Antenna
- (2) Center Frequency/Band Code : 2.4 GHz Band
- (3) Size Code : 3.2*1.6 mm (Length * Width)
- (4) Design Revision Code : Rev.1
- (5) Antenna Type : Coupling Ceramics
- (6) Special Code : RoHS Compliant
- (7) Suffix For Special Requirements

3. Electrical Specification :

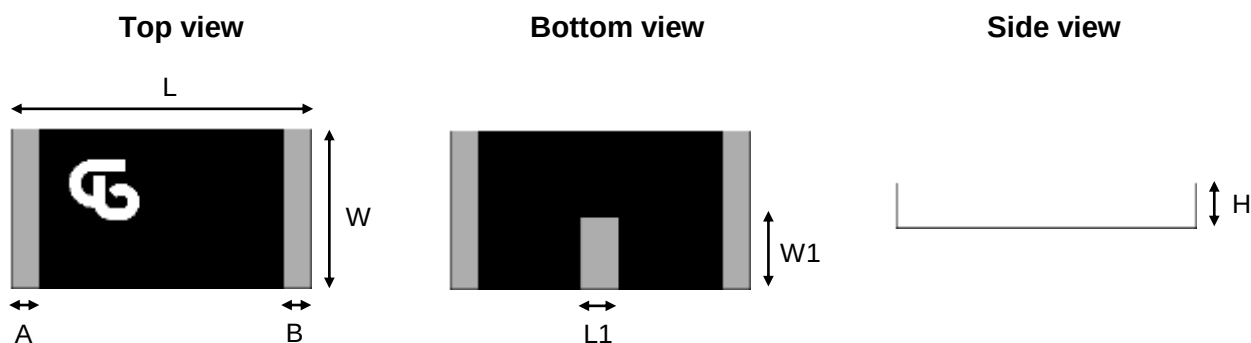
Item	Specification
Frequency Band	2400 ~ 2500 MHz
Polarization	Linear
Impedance	50 ohm Typ.
VSWR	Less than 2.5
*Peak Gain	0.97 dBi Typ.
*Peak Efficiency	71.1 % Typ.

* Test condition : Test board size 100*50 mm

Matching circuit may be required

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ANGLES=± HOLEDIA=±				
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DRAWN BY : 彭少君	CHECKED BY : 洪賢修			
DESIGNED BY : 彭少君	APPROVED BY : 謝立庭			
TITLE : ACA-3216-A1-CC-S-W1 Specification		DOCUMENT NO.	ENS000211800	SPEC REV. A0

4. Physical Dimension :

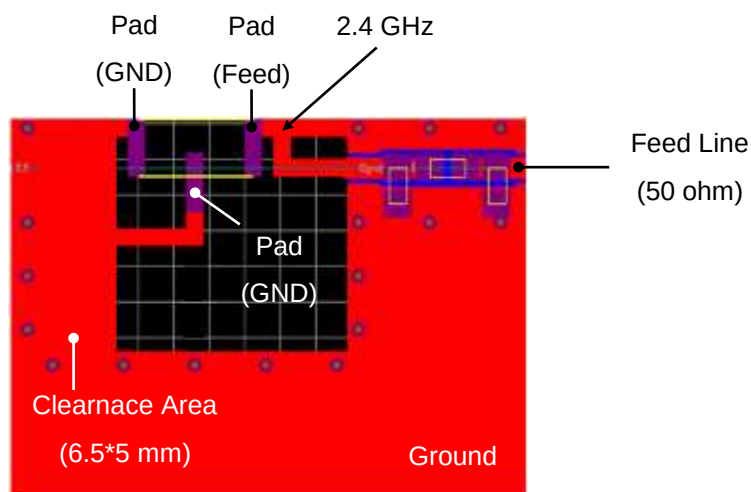


L	3.20 ± 0.30
W	1.70 ± 0.20
H	0.50 ± 0.10
A	0.30 ± 0.15
B	0.30 ± 0.15
L1	0.47 ± 0.20
W1	0.70 ± 0.20

(Unit : mm)

5. Recommended PCB Layout :

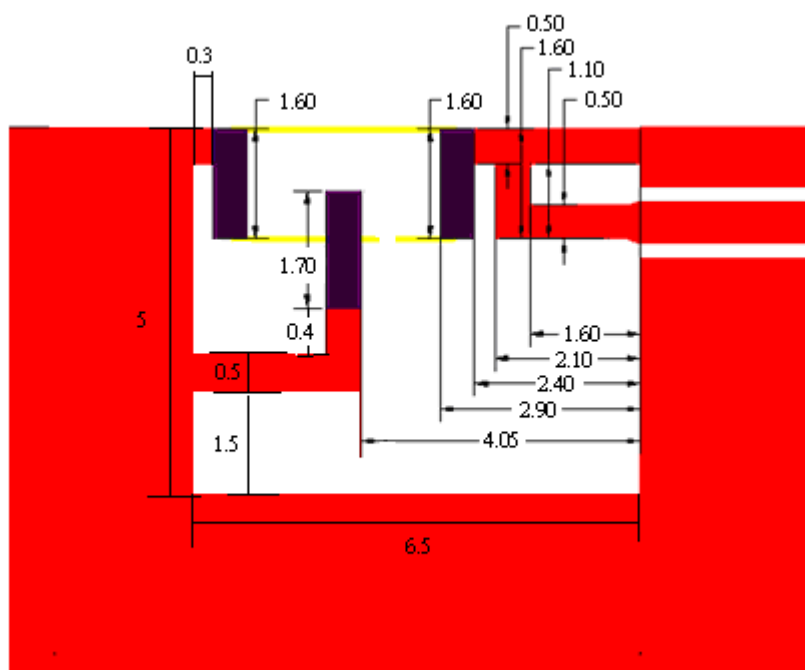
Layout



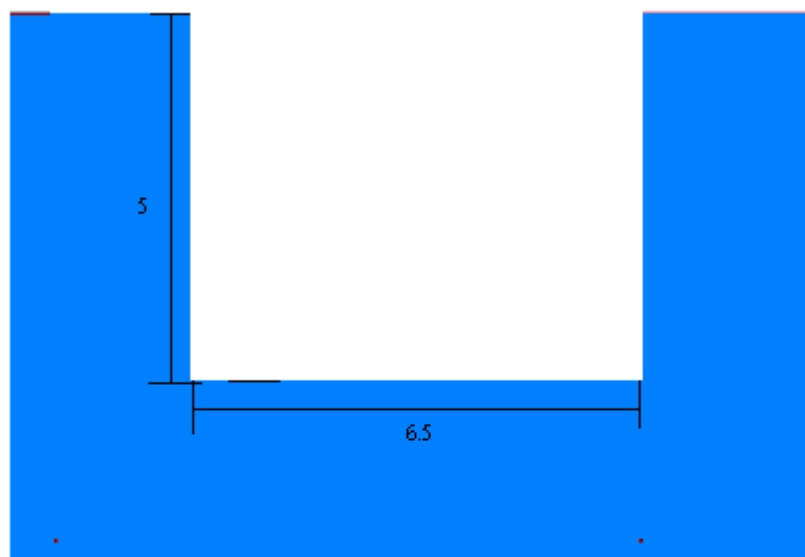
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Pad Dimensions on PCB Layout

Top View



Perspective View



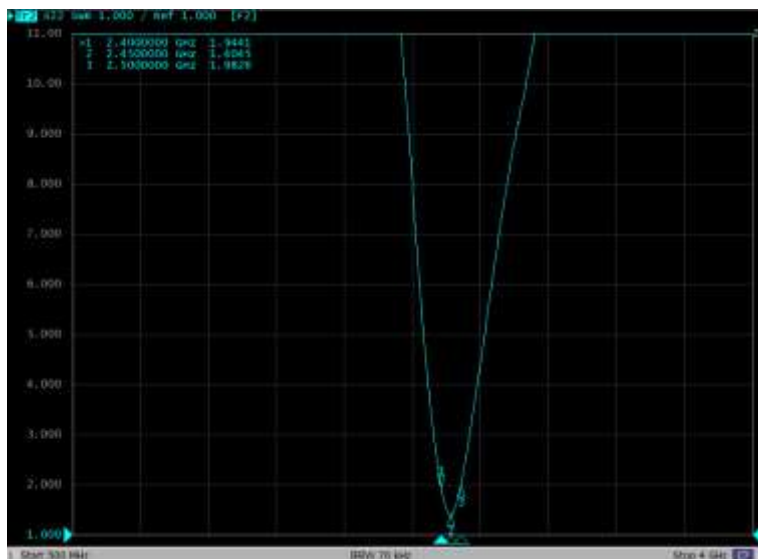
(Unit : mm)

* Tolerance : ± 0.05 mm

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6. Electrical Characteristics :

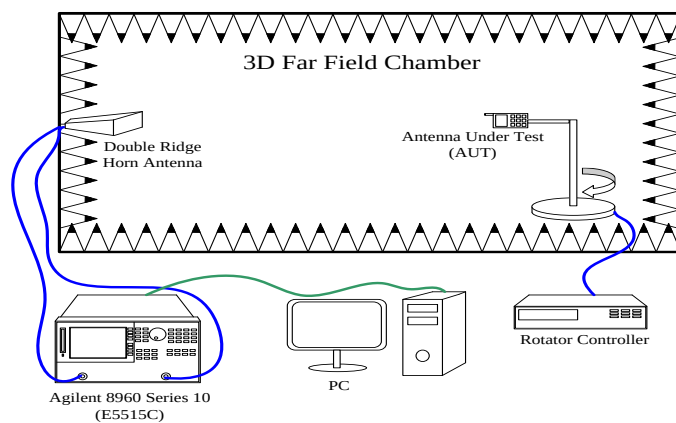
VSWR



Frequency (MHz)	VSWR
2400	1.94
2450	1.40
2500	1.98

Radiation Pattern :

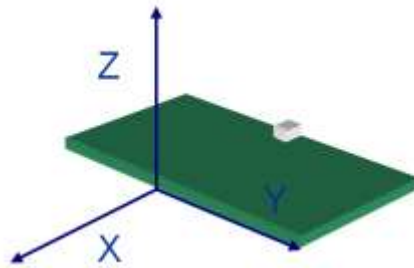
The Gain pattern is measured in INPAQ's FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



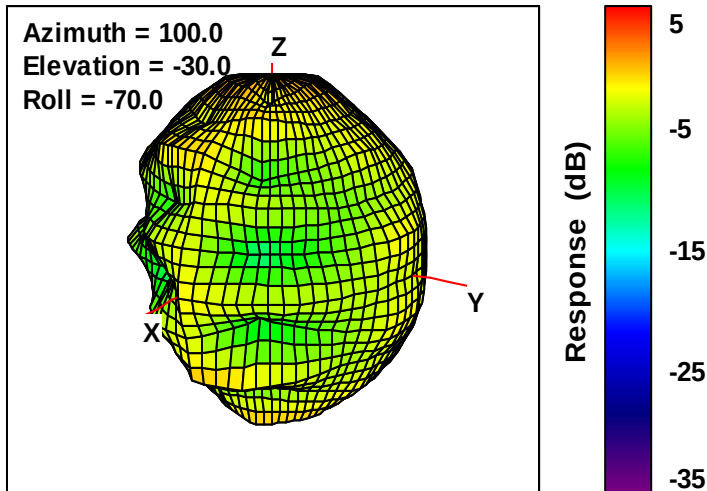
3D Chamber Definition

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3D Gain Pattern



2450 MHz

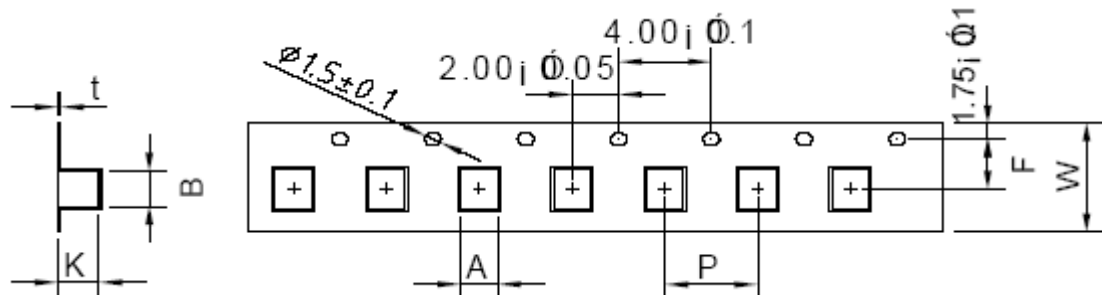


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7. Taping Package and Label Marking :

(1) Quantity : 4000pcs/Reel, T(Thickness of chip) ≤ 1.2

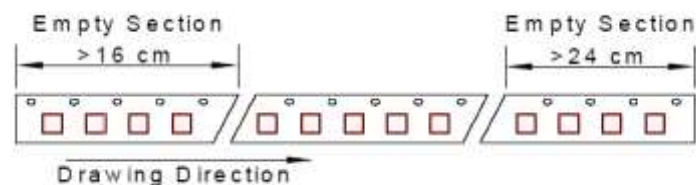
(2) Paper Tape



Type	W	A	B	K	t	F	P
3216	8±0.1	1.9~2.1	3.50~3.60	Max. 1.40	0.22±0.05	3.50±0.1	4.00±0.1

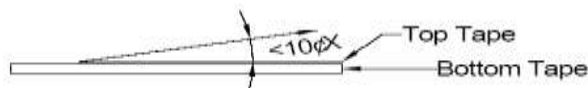
(Unit: mm)

(3) Tape Packing



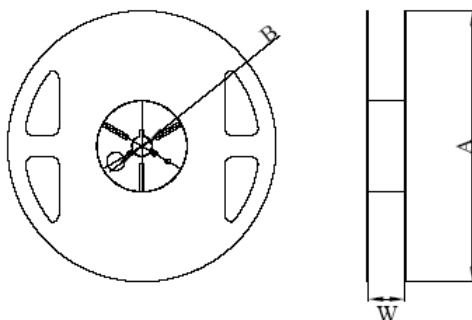
(4) Cover Tape Reel Off Force

$$5g \cdot f \leq \text{Peel-Off Force} \leq 70g \cdot f$$



(5) Reel Dimensions

Reel Material: Polystyrene



W	A	B
9±0.5	178±1	13+0.5/-0.2
11.4±0.5	178±1	13+0.5/-0.2

(Unit: mm)

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8. Environmental Characteristics :

(1) Reliability Test

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	1. Temperature : 150°C±5°C 2. Time : 1000 hours.	No apparent damage Fulfill the electrical spec. after test.
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) On board :

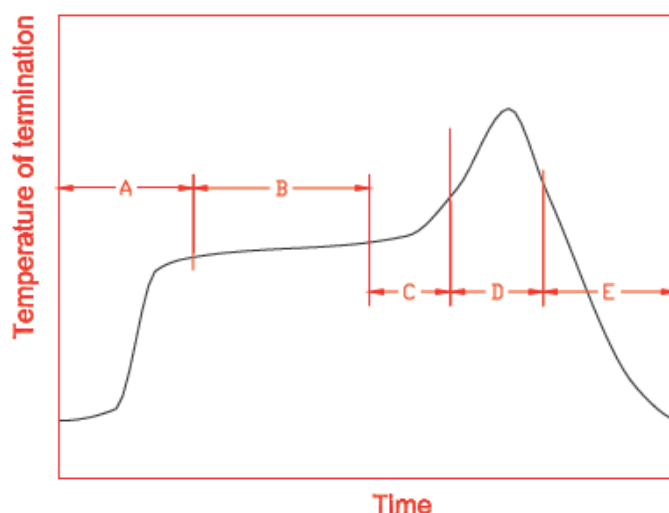
The temperature should be within -40 ~ 85°C and humidity should be less than 85% RH.

(3) Operating temperature range

Operating temperature range : -40 ~ +105°C.

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9. Recommended reflow soldering :



A	1 st rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140°C to 160°C	60s to 120s
C	2 nd 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
		if 260°C	20s~40s
E	Regular cooling	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.

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

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