

ACA-2012-A1-CC-S Specification

1. APPLICATION:

WLAN, 802.11b/g, Bluetooth, etc...

2. Explanation of Part Number :

$\frac{AC}{(1)} \quad \frac{A}{(2)} - \frac{2012}{(3)} - \frac{A1}{(4)} - \frac{CC}{(5)} - \frac{S}{(6)} \quad \bar{(7)}$

- (1) Product Type : Chip Antenna
- (2) Center Frequency/Band Code : A—2442MHz group
- (3) Size Code: 2.0mm(Length) x 1.2mm(Width)
- (4) Design Revision Code: Rev.1
- (5) CC= Coupling Ceramic Type
- (6) Special Code: S=RoHS Compliant
- (7) Suffix For Special Requirements

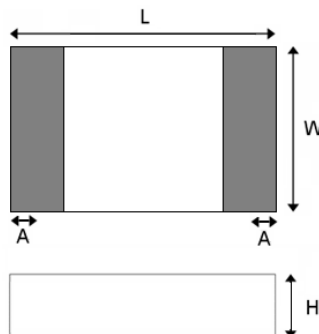
3. Electrical Specification :

ITEM	SPECIFICATION
Frequency Band	2400MHz~2483MHz
VSWR	Less than 3
Polarization	Linear
*Peak Gain	1.72 dBi Typ.
*Peak Efficiency	72.3% Typ.
Impedance	50Ω Typ.

* Test condition: Test board size 110*55 mm

Matching circuit: Pi matching circuit will be required

4. Physical Dimension : (Unit:mm)



Chip Antenna	L	W	H	A
ACA2012	2.0±0.3	1.2±0.3	0.55±0.2	0.4±0.25

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
 ANGLES=± HOLEDIA=±



INPAQ TECHNOLOGY CO., LTD.

SCALE : -----

UNIT : mm

DRAWN BY : 楊奇峰 楊奇峰

CHECKED BY : 蔡孟學 蔡孟學

DESIGNED BY : 謝立庭 謝立庭

APPROVED BY : 黃月碧 黃月碧

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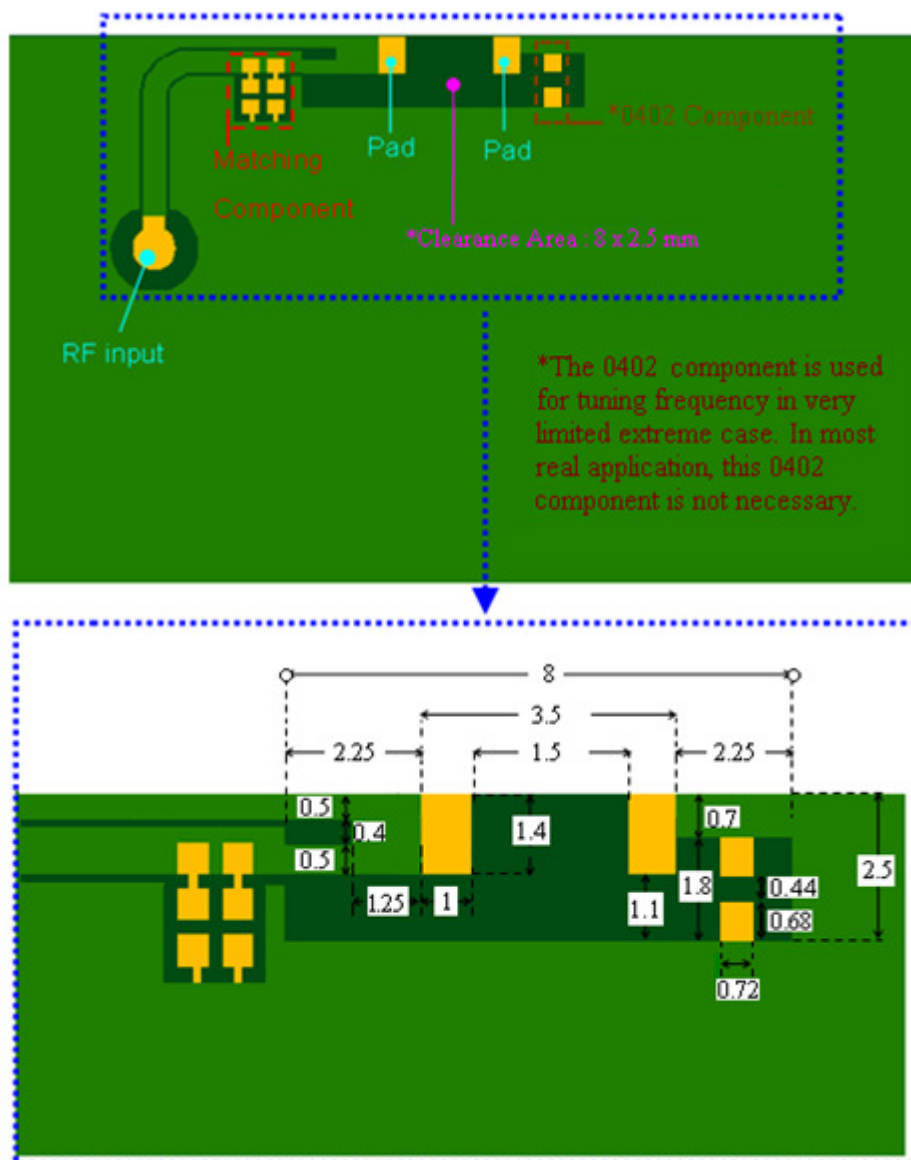
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5. Recommend PCB Layout : (Unit:mm)



*Clearance Area 8mm × 2.5mm : All metallization should be removed from all PCB layers.

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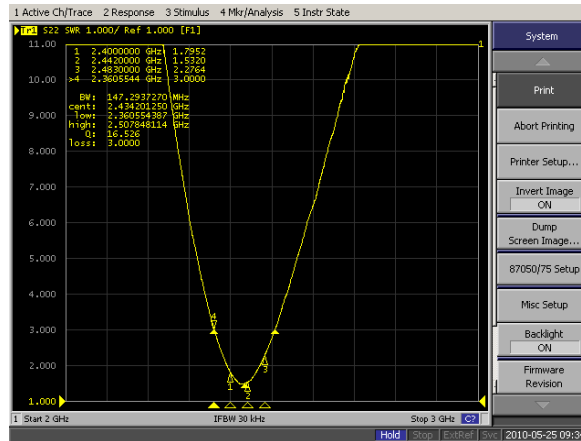
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6. Electrical Characteristics :

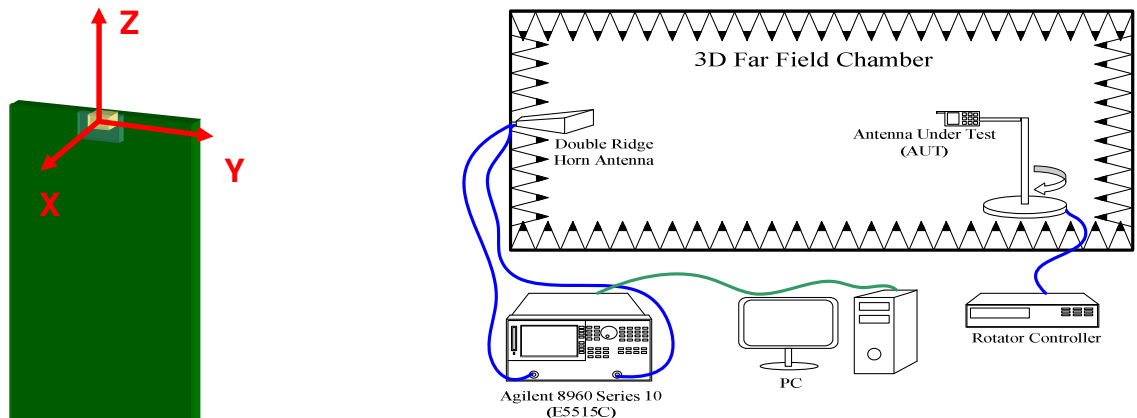
VSWR



Mark	Frequency	VSWR
1	2400 MHz	1.80
2	2442 MHz	1.53
3	2483 MHz	2.28

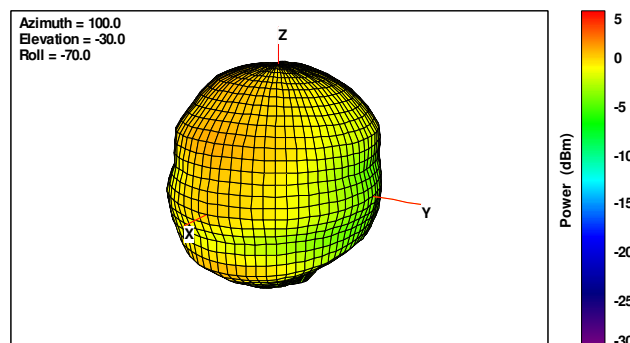
Radiation Pattern

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

© 3D Gain Pattern (2442 MHz)



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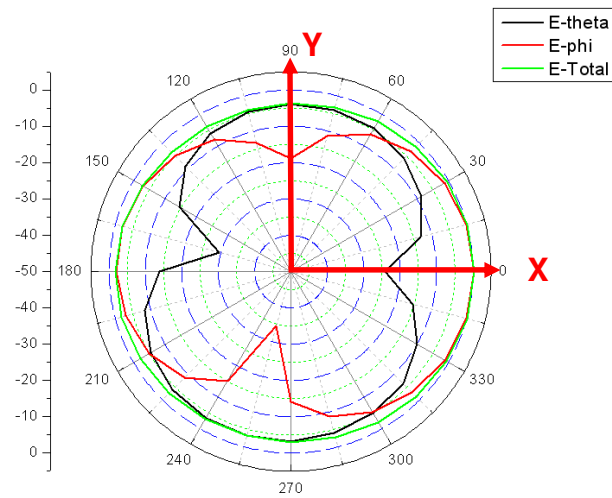
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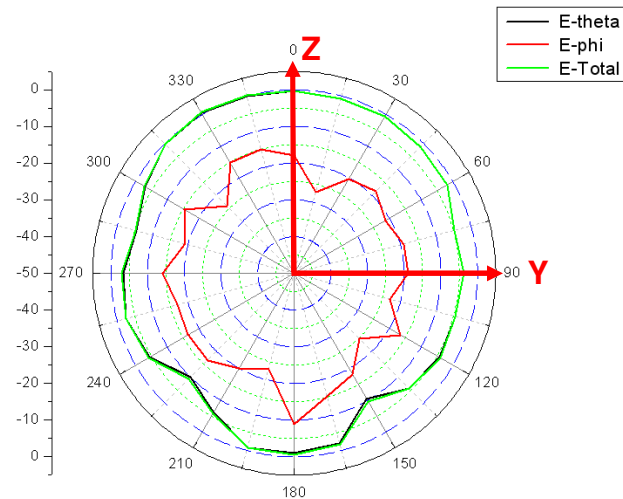
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© 2D Gain Pattern (2442 MHz)

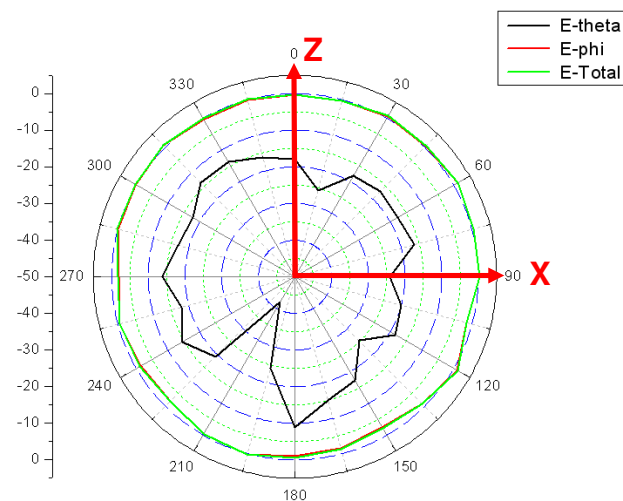
X-Y Plane



Y-Z Plane



X-Z Plane



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7. 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°C to +105°C.

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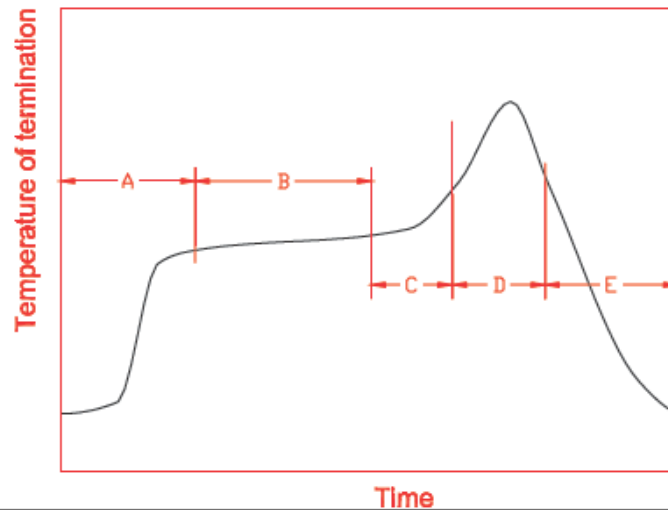
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8. Recommended Reflow Soldering



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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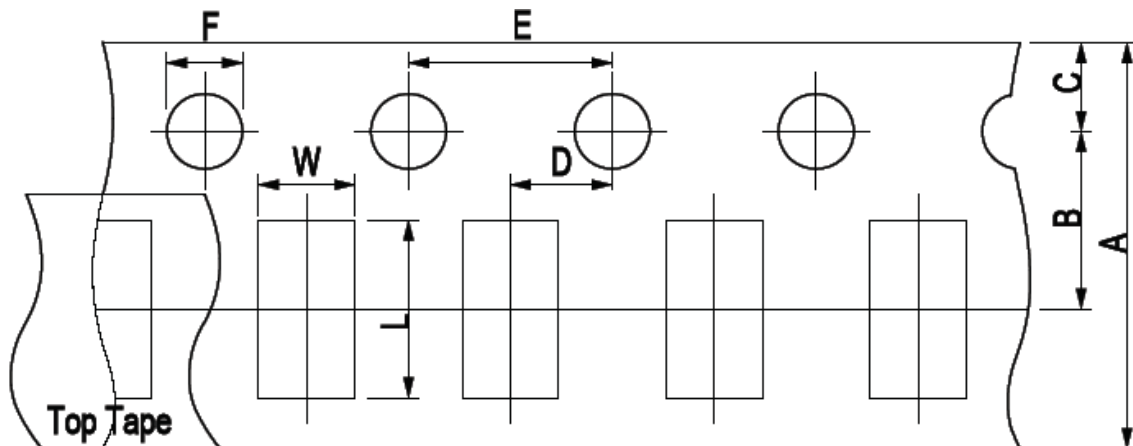
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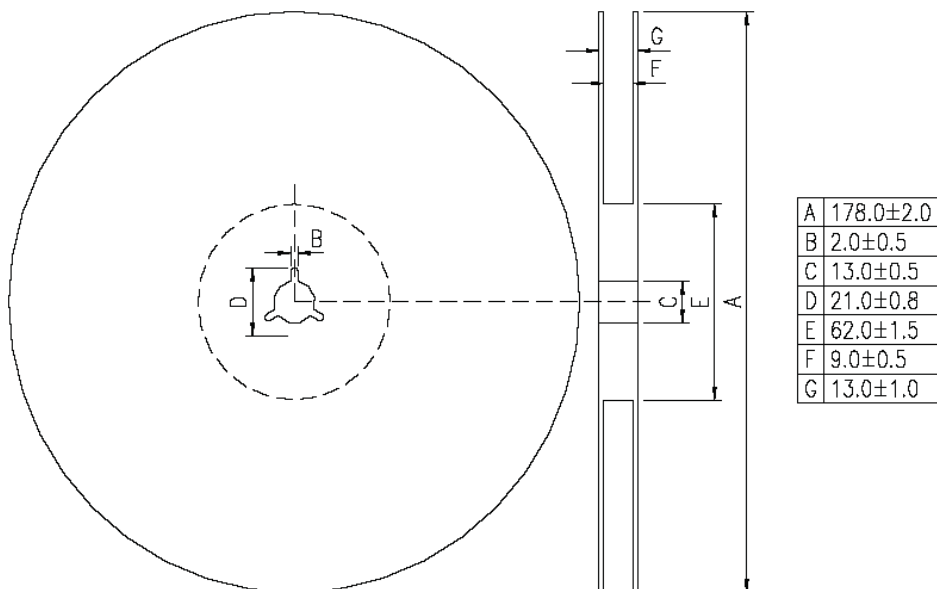
9. Taping Package and Label Marking: (unit: mm)

- (1) Quantity/Reel: 5000pcs/Reel
- (2) Carrier tape dimensions



Type	A	B	C	D	E	F	L	W
ACA2012	8.00±0.30	3.50±0.05	1.75±0.10	2.00±0.05	4.00±0.10	1.50±0.10	2.30±0.10	1.55±0.10

- (3) Taping reel dimensions



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