ACA-2012-A1-CC-S Specification

1. APPLICATION:

WLAN, 802.11b/g, Bluetooth, etc…

2. Explanation of Part Number :

AC	A	–	2012	–	A1	–	CC	–	S	_
(1)	(2)		(3)		(4)		(5)		(6)	(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

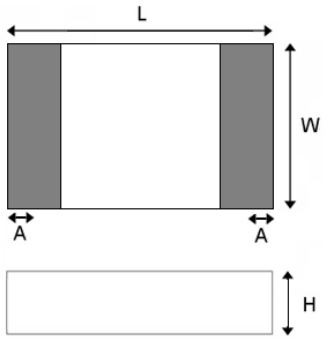
3. Electrical Specification :

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

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DESIGNED BY：謝立庭 | APPROVED BY：黃月碧

TITLE：ACA-2012-A1-CC-S Specification

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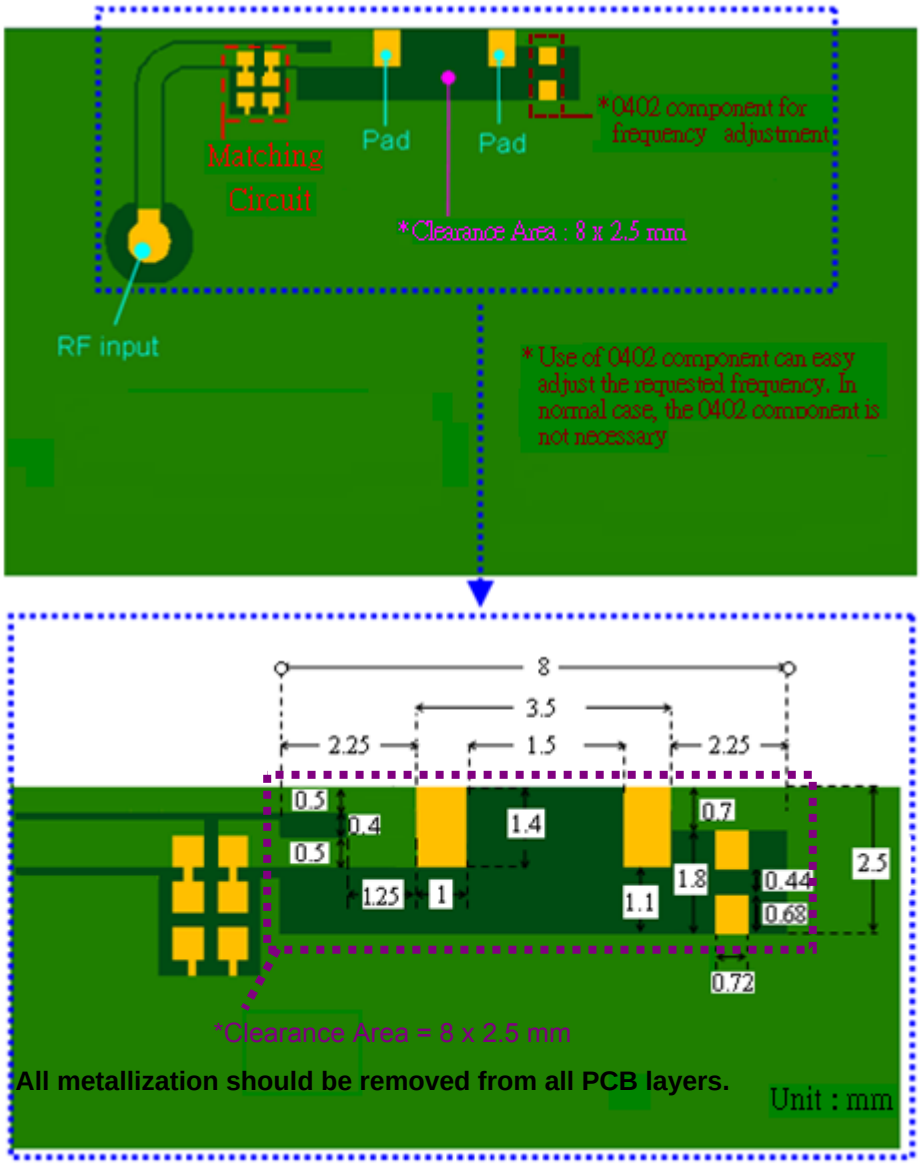
5. Recommend PCB Layout : (Unit:mm)



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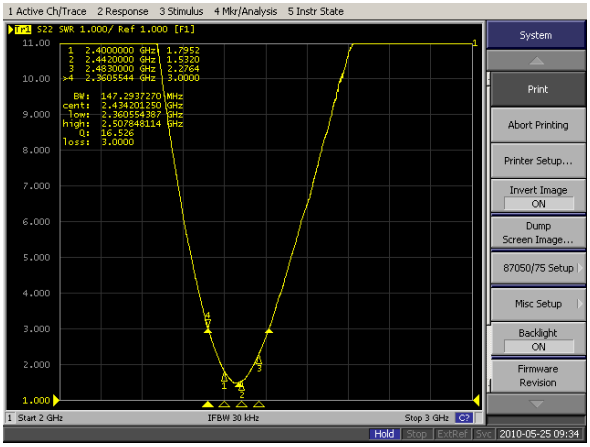
6. Electrical Characteristics :

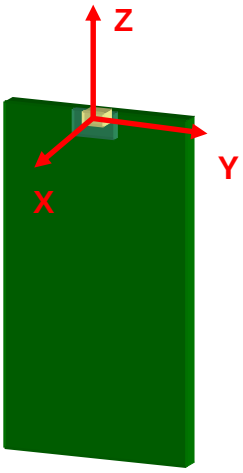
VSWR

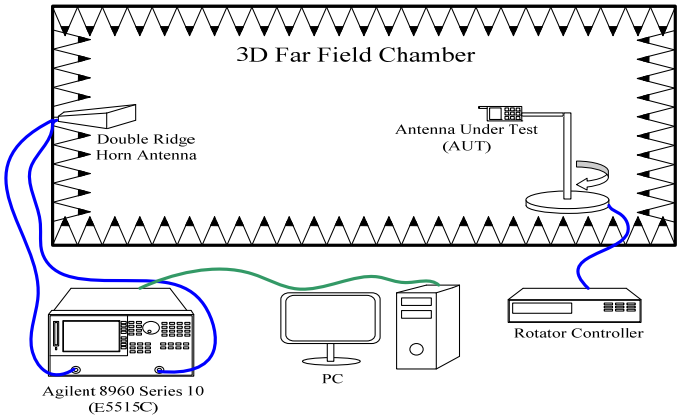


Mark	Frequency	VSWR
1	2400 MHz	1.80
2	2442 MHz	1.53
3	2483 MHz	2.28

Radiation Pattern

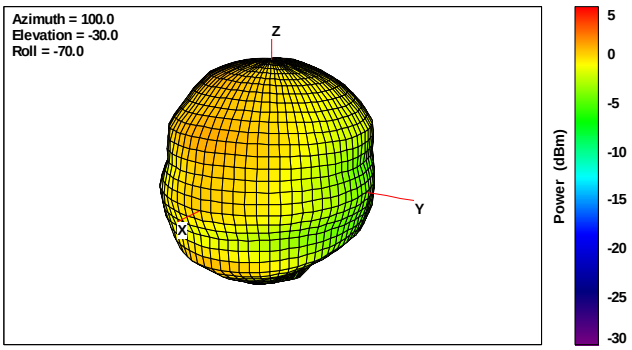
The Gain pattern is measured in INPAQ's FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.





3D Chamber Definition

◎ 3D Gain Pattern (2442 MHz)



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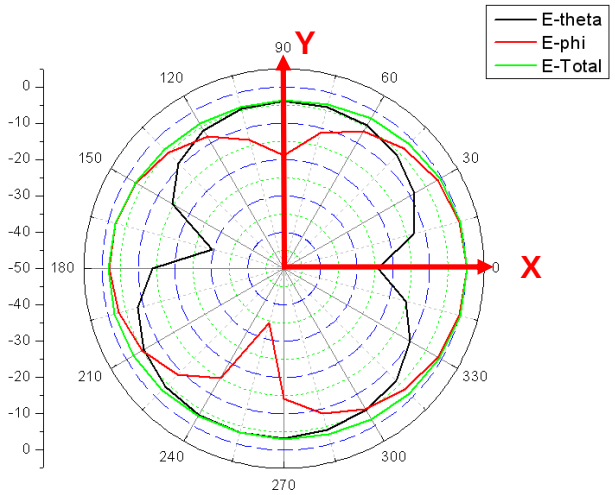
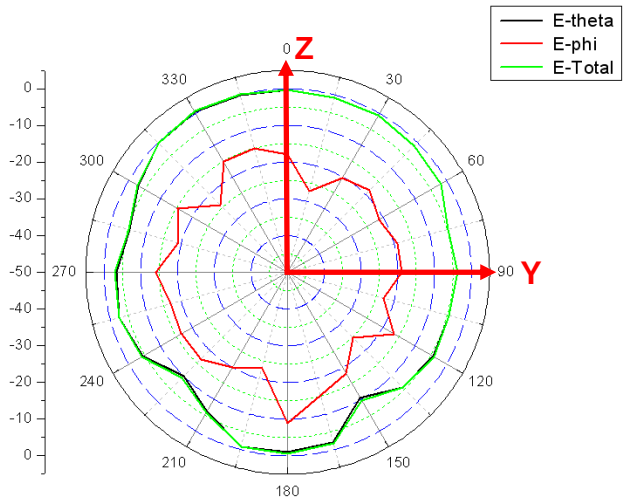
◎ 2D Gain Pattern (2442 MHz)

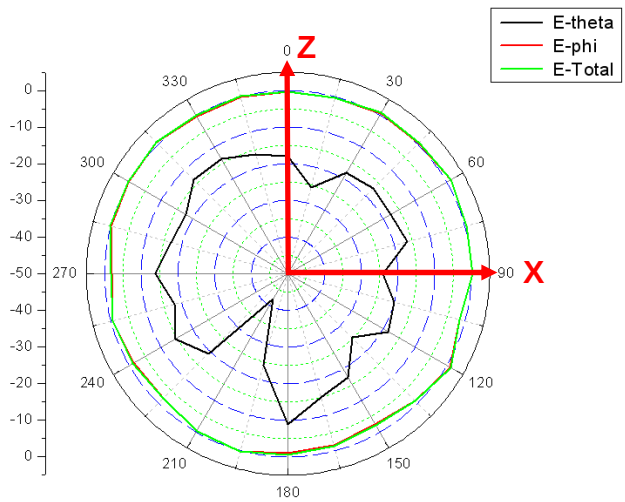
X-Y Plane



Y-Z Plane



X-Z Plane



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TITLE：ACA-2012-A1-CC-S Specification		DOCUMENT NO.	ENS000030640	SPEC REV. A1

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℃ 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℃ for 3±1 seconds.	No apparent damage

(2) Storage Condition

(a) At warehouse:

The temperature should be within 0 ~ 30℃ and humidity should be less than 60% RH.

The product should be used within 1 year from the time of delivery.

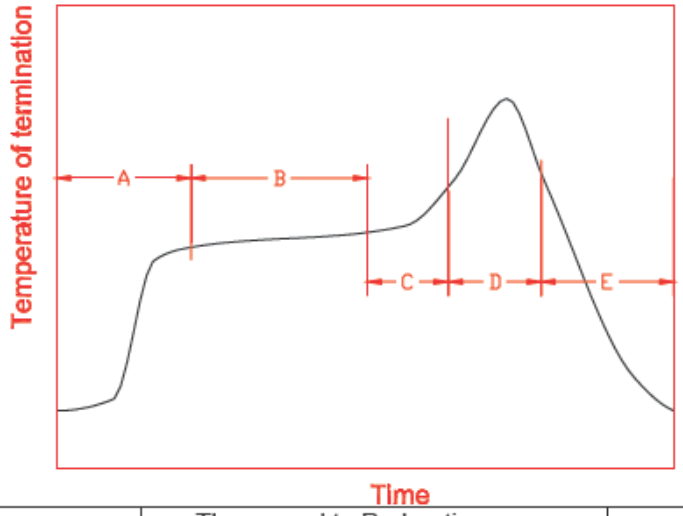
(b) On board:

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

(3) Operating Temperature Range

Operating temperature range : -40℃ to +105℃.

8. Recommended Reflow Soldering



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

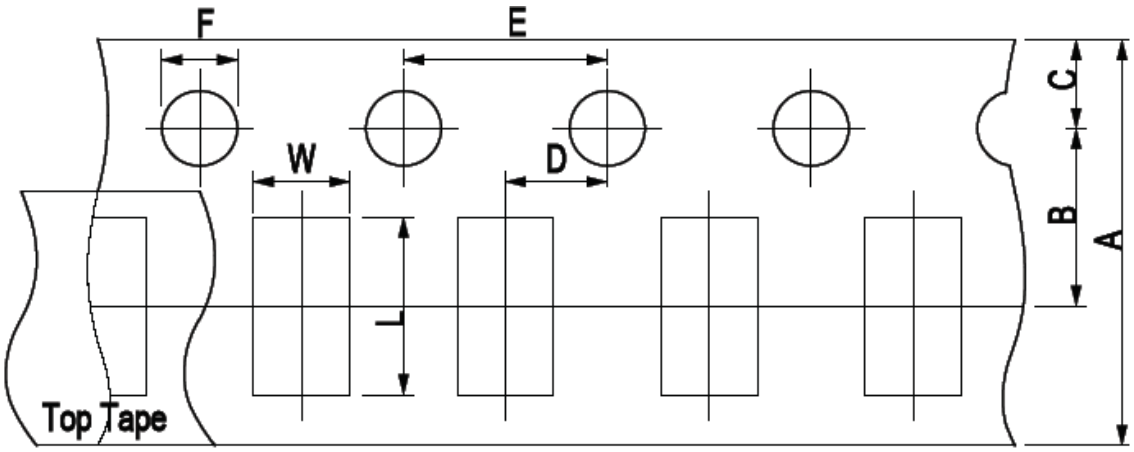
(2) Soldering Volume

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

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

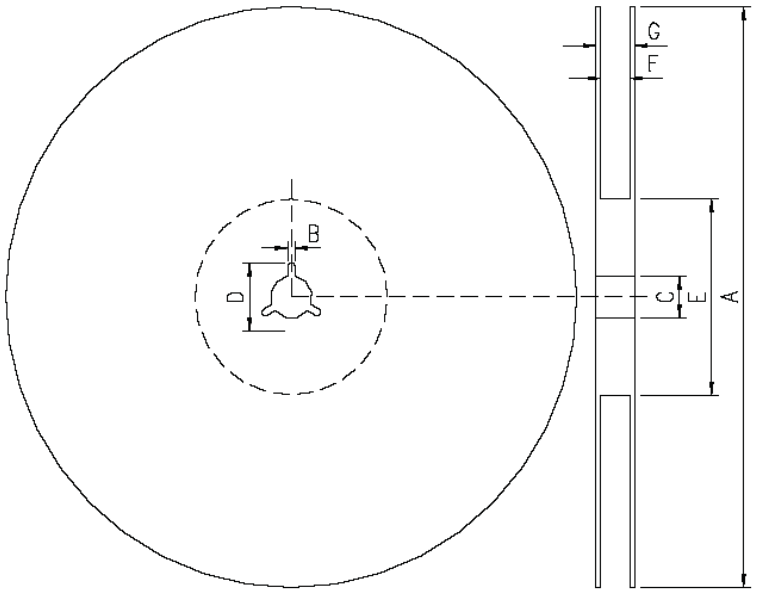
(1) Quantity/Reel: 5000pcs/Reel

(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



A	178.0±2.0
B	2.0±0.5
C	13.0±0.5
D	21.0±0.8
E	62.0±1.5
F	9.0±0.5
G	13.0±1.0

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