

ACA-3216-A2-MC-S SPECIFICATION

1. EXPLANATION OF PART NUMBER:

$\frac{AC}{(1)} \frac{A}{(2)} - \frac{3216}{(3)} \frac{A2}{(4)} - \frac{MC}{(5)} - \frac{S}{(6)} - \bar{(7)}$

- (1) Product Type: Chip Antenna
- (2) Center Frequency/Band Code: A -2.45GHz
- (3) Size Code: 3.2mm(length) x 1.6mm(width)
- (4) Design Revision Code: A2= Rev. 2
- (5) Series No.: MC=MONOPOLE Ceramics type
- (6) Special Code: S= RoHS Compliant
- (7) Suffix For Special Requirements

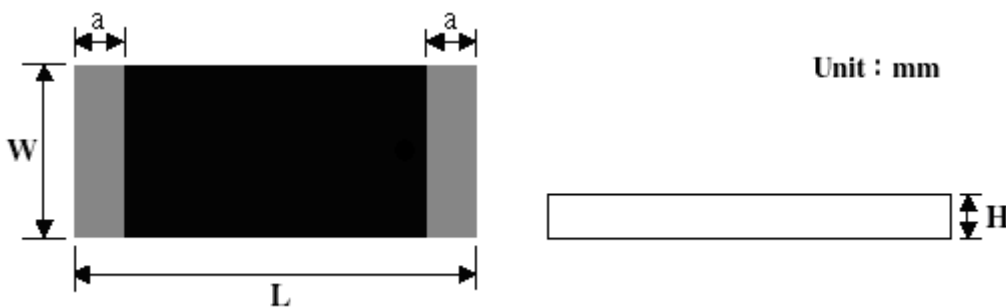
2. ELECTRICAL SPECIFICATION

| ITEM | SPECIFICATION |
|----------------|-------------------------|
| Frequency Band | 2400MHz~2500MHz |
| Return Loss | Less than -10 |
| Polarization | Linear |
| *Gain | Max peak gain: 0.5 dBi |
| | Typ peak gain: -0.5 dBi |
| Impedance | 50Ω typ. |

*Test condition :Test board size 53*20 mm , ground clearance 13*20 mm

Matching circuit : Pi matching circuit will be required

3. DIMENSIONS:



Unit : mm

| Mark | L | W | H | a |
|------------|---------|---------|----------|-----------|
| Dimensions | 3.2±0.2 | 1.6±0.2 | 0.7±0.15 | 0.35±0.15 |

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=

ANGLES=± HOLEDIA=±

SCALE : xxxx UNIT : mm

DRAWN BY: 張芳榕 CHECKED BY: 楊奇峰

DESIGNED BY: 謝立庭 APPROVED BY: 蔡岳霖



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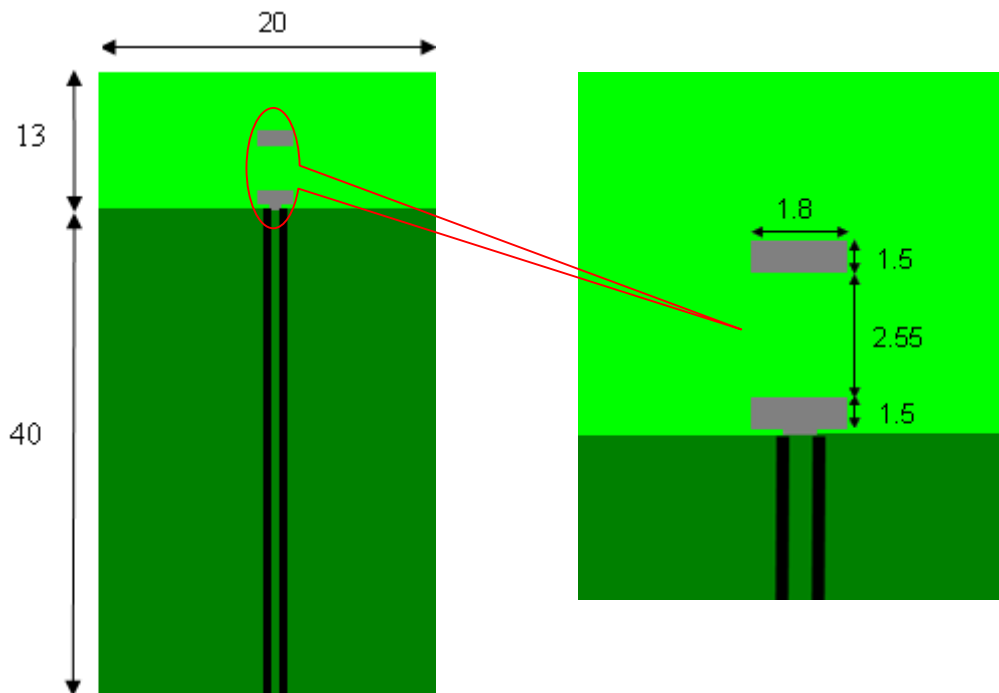
TITLE: ACA-3216-A2-MC-S SPECIFICATION

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4. RECOMMENDED PCB LAYOUT: (unit: mm)



5. TERMINAL CONFIGURATION:

Top Layer:



Bottom Layer:



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ANGLES=± HOLEDIA=±

SCALE : xxxxx

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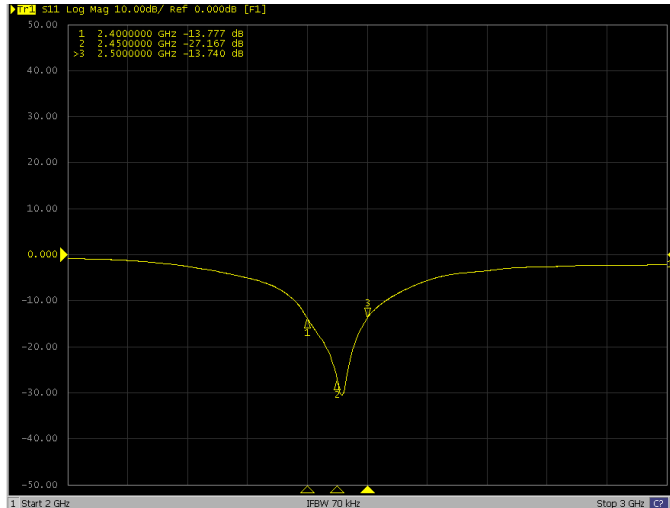
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6. ELECTRICAL CHARACTERISTICS

Return Loss

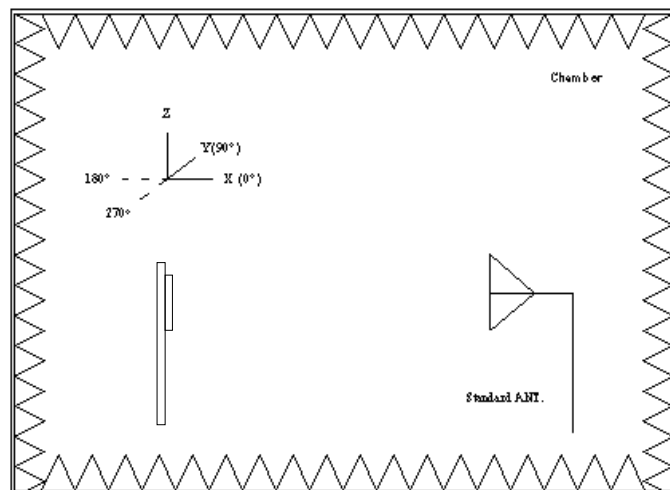
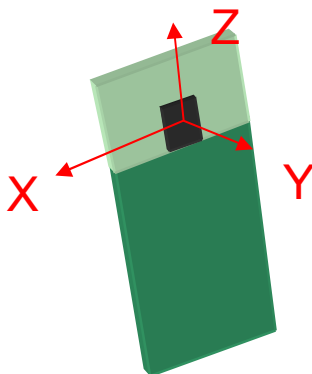


| Freq. | Return Loss |
|----------|-------------|
| 2400 MHz | -13.78 dB |
| 2450 MHz | -27.17 dB |
| 2500 MHz | -13.74 dB |

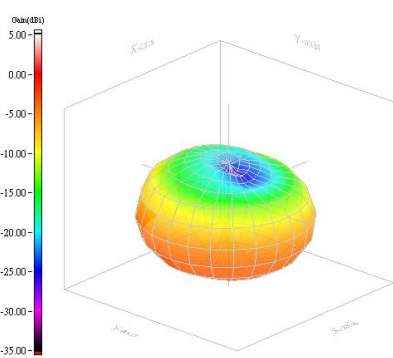
7. RADIATION PATTERN

The gain pattern is measured in INPAQ's far-field chamber. AUT is placed on the table of rotator, a standard horn antenna and vector network analyzer is used to collect data. (Please contact with INPAQ for more detail)

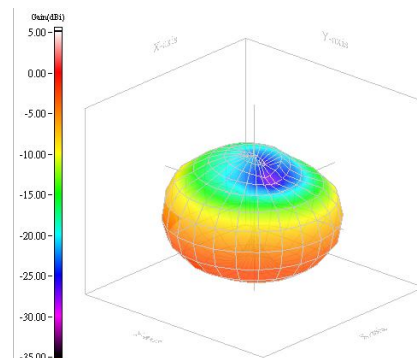
- Measuring factors definition



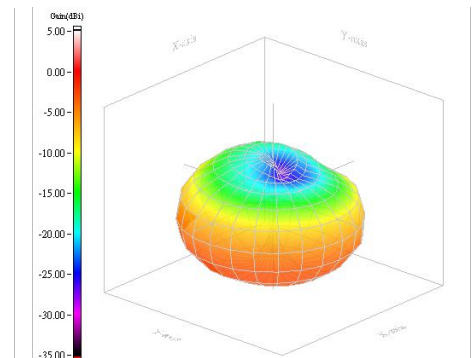
2400MHz



2450MHz



2500MHz



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ANGLES=± HOLEDIA=±

SCALE : xxxx UNIT : mm

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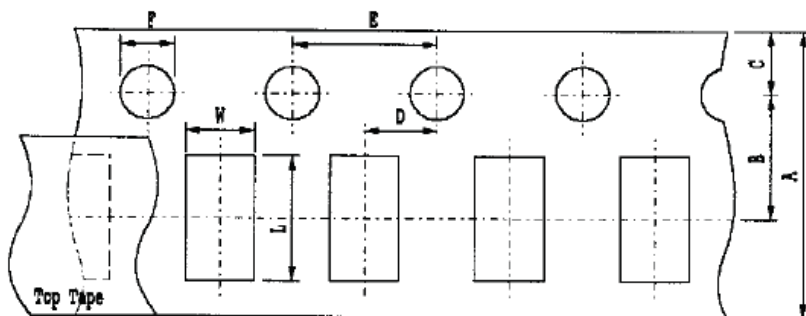
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8. PACKAGING

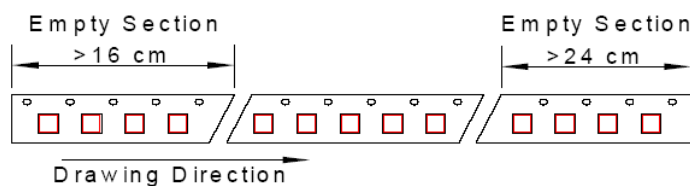
(1) Quantity: 3000pcs/Reel

(2) Plastic Tape: (unit: mm)



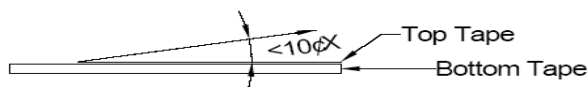
| | |
|---|----------|
| A | 8.0±0.3 |
| B | 3.5±0.05 |
| C | 1.75±0.1 |
| D | 2.0±0.05 |
| E | 4.0±0.1 |
| F | 1.5~1.6 |
| L | 3.5±0.2 |
| W | 1.9±0.2 |

(3) Tape Packing

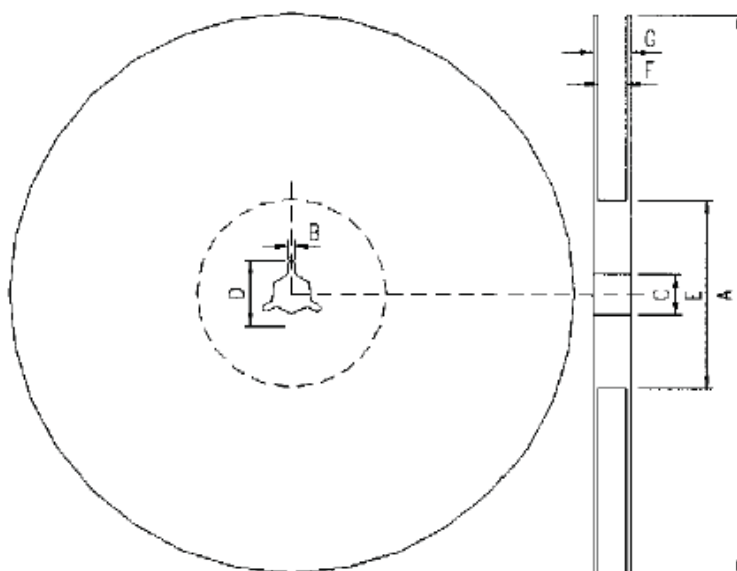


(4) Cover Tape Reel Off Force

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



(5) Reel Dimensions: (unit: mm)



| | |
|---|-----------|
| A | 178.0±2.0 |
| B | 2.0±0.5 |
| C | 13.0±0.5 |
| D | 21.0±0.8 |
| E | 60.0±1.0 |
| F | 9.0±0.5 |
| G | 12.0±0.2 |

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X=± X.X=± X.XX=

ANGLES=± HOLEDIA=±

SCALE : xxxxx

UNIT : mm

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9. Environmental Specifications:

(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 24 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: 500 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 75% RH.


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

(b) On board:

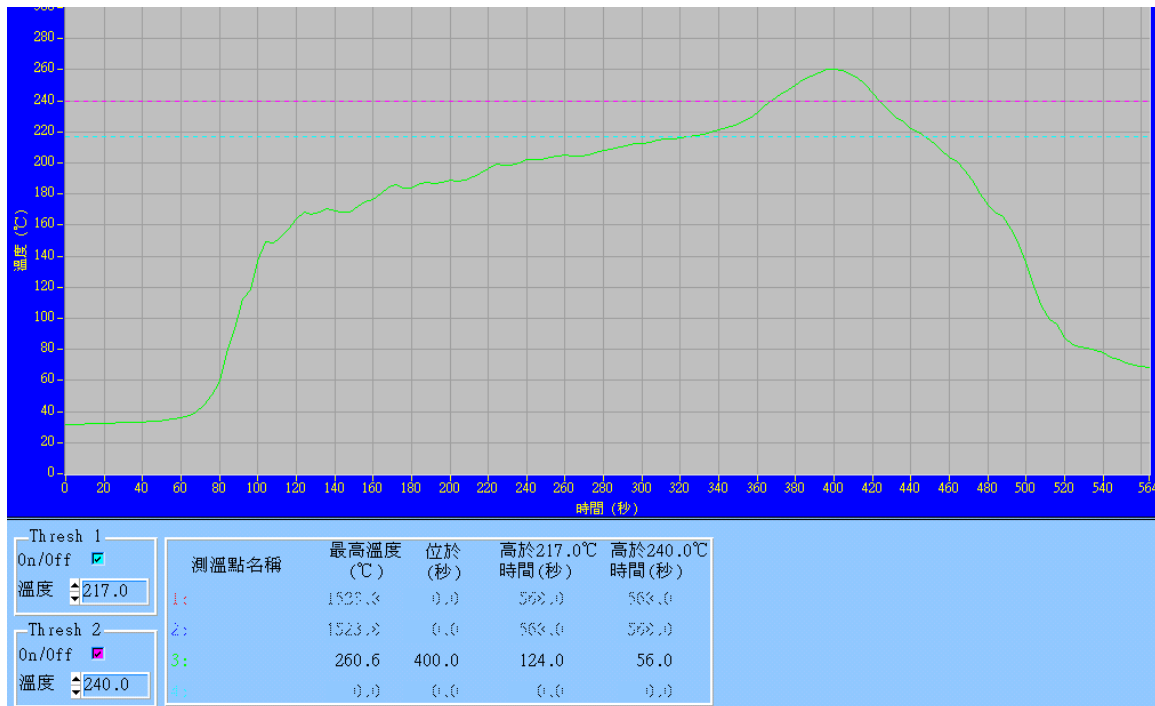
The temperature should be within -40~85°C and humidity should be less than 85% RH.

(3) Operating temperature range

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

| | | | | |
|--|------------------|---|---|-------|
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| ANGLES=± | HOLEDIA=± | | | |
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10. Recommendable reflow soldering




(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.

| | | | | |
|--|------------------|---|---|-----------|
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