

History List

[illegible]

ACM3-5036-A1-CC-S Specification

1. Features and Application

This product is for 2.4/5 GHz Dual Band WiFi, 802.11 a/b/g/n, Zigbee, Bluetooth,...

2. Explanation of Part Number

AC M3 - 5036 - A1 - CC - S
(1) (2) (3) (4) (5) (6) (7)

- (1) Product Type: Chip Antenna
- (2) Center Frequency/Band Code: 2.4/5 GHz Dual-Band
- (3) Size Code: 5.0*3.6 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	5000 ~ 6000 MHz
Polarization	Linear	
Impedance	50 ohm Typ.	
VSWR	Less than 2.0	Less than 2.0
*Peak Gain	3.0 dBi Typ.	3.3 dBi Typ.
*Peak Efficiency	73.4% Typ.	80.2% Typ.

* Test condition: Test board size 80*40 mm
Matching circuit may be required

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
ANGLES=± HOLEDIA=±



INPAQ TECHNOLOGY CO., LTD.

SCALE : -----

UNIT : mm

DRAWN BY : 趙彥年 *Okano*

CHECKED BY : 黃啓傑 *Tommy*

DESIGNED BY: 林豪建 *Stan*

APPROVED BY : 蘇志銘 *Tommy*

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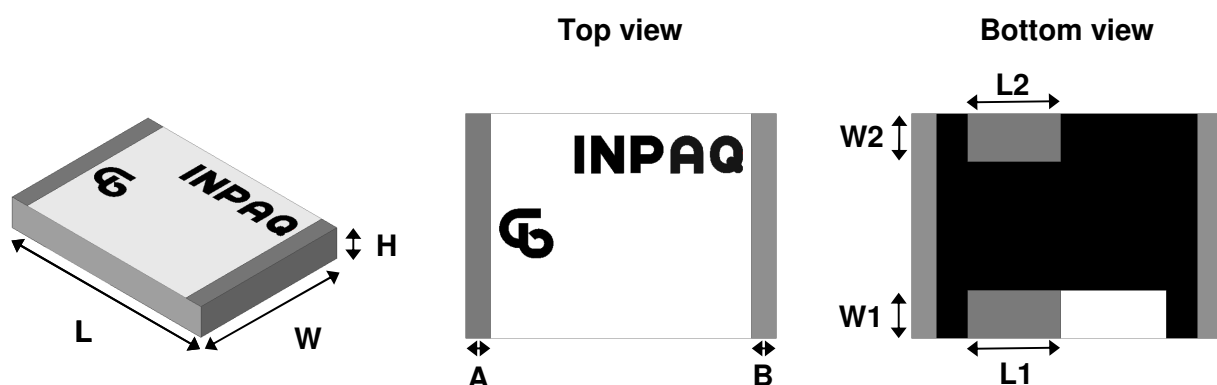
TITLE : ACM3-5036-A1-CC-S Specification

DOCUMENT
NO.

ENS000062410

SPEC REV.
A1

4. Physical Dimension

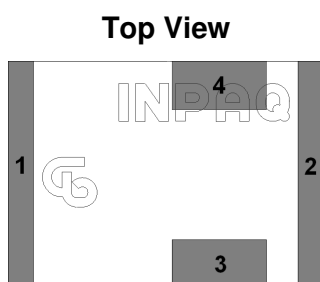


Marking is Black

L	5.20 ± 0.30
W	3.70 ± 0.30
H	0.70 ± 0.15
A	0.45 ± 0.25
B	0.45 ± 0.25
L1	1.60 ± 0.20
W1	0.62 ± 0.20
L2	1.50 ± 0.20
W2	0.62 ± 0.20

(Unit: mm)

Pin Configuration



Pin Assignments

Layout	
Pin	Function
1	GND
2	GND
3	Feed
4	No connect

Mirror Layout	
Pin	Function
1	GND
2	GND
3	No connect
4	Feed

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=±

X.X=±

X.XX=

ANGLES=±

HOLEDIA=±



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SCALE : -----

UNIT : mm

DRAWN BY : 趙彥年 Okanon

CHECKED BY : 黃啓傑 Tommy

DESIGNED BY : 林豪建 Stan

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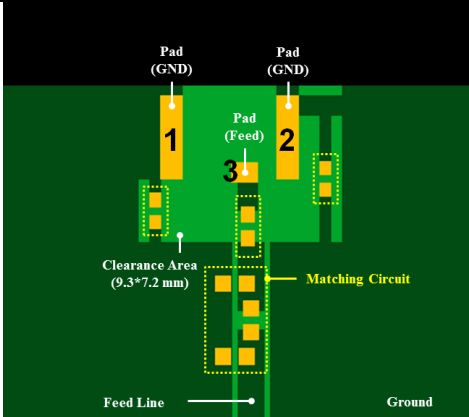
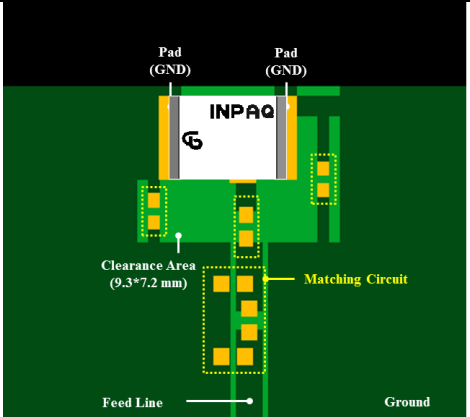
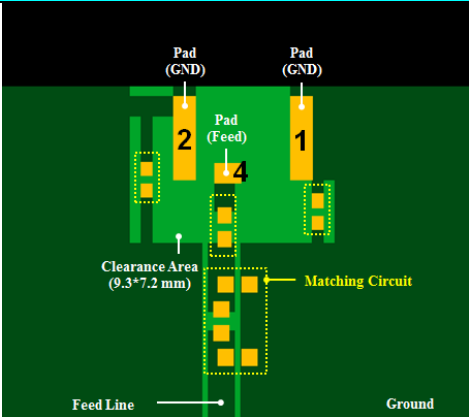
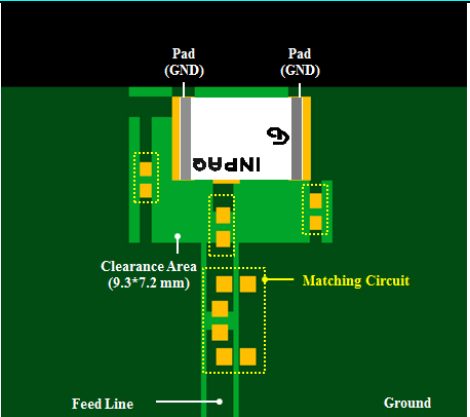
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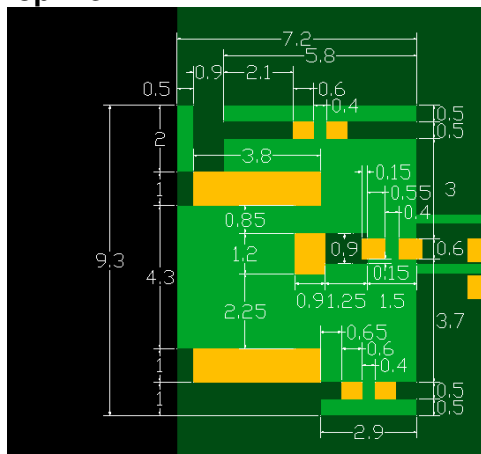
A1

5. Recommend PCB Layout

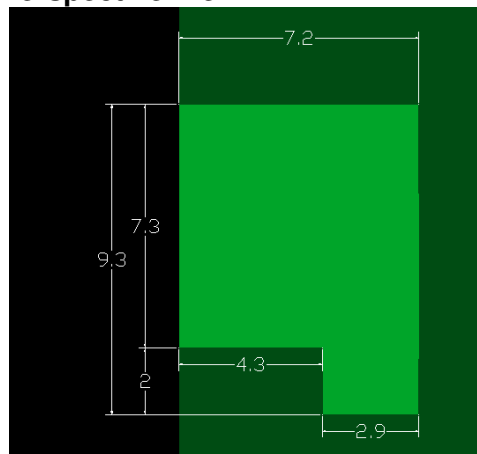
Layout	Usage
	
Mirror Layout	Usage
	

Pad Dimensions on PCB Layout

Top View



Perspective View



(Unit: mm)

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 ANGLES=± HOLEDIA=±



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SCALE : -----

UNIT : mm

DRAWN BY : 趙彥年 *Okaron*

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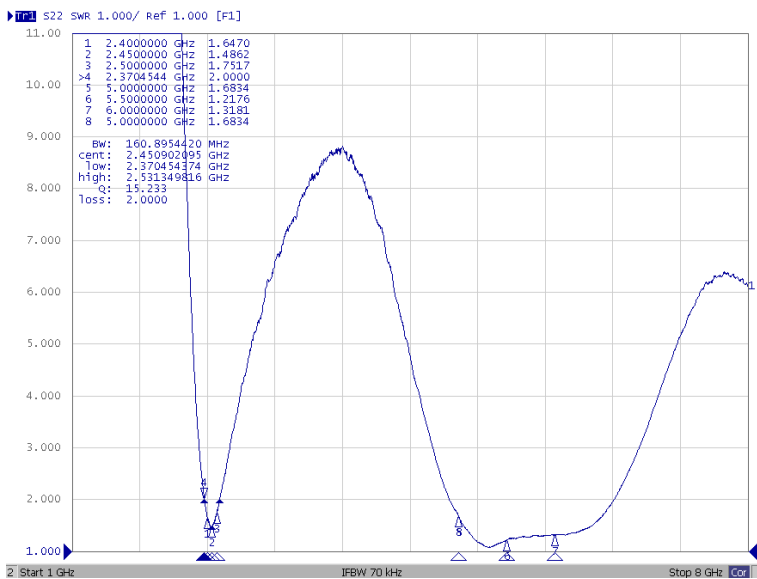
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SPEC REV.

A1

6.Electrical Characteristics

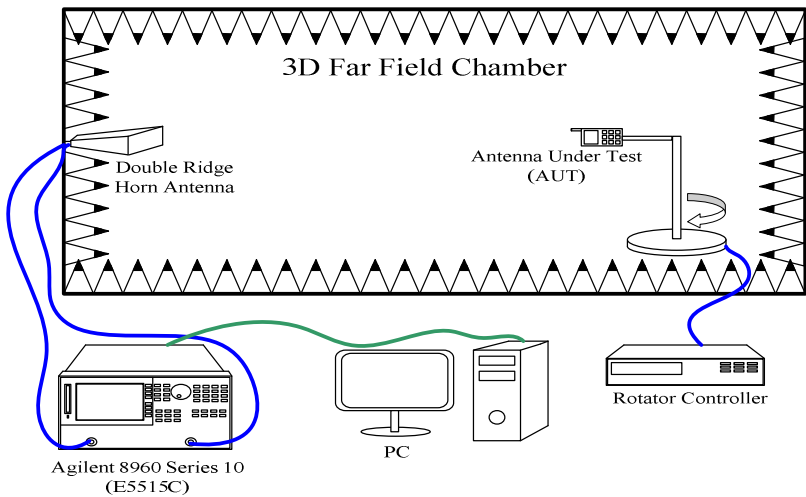
VSWR



Frequency (MHz)	VSWR
2400	1.7
2450	1.5
2500	1.7
5000	1.7
5500	1.2
6000	1.3

Radiation Pattern

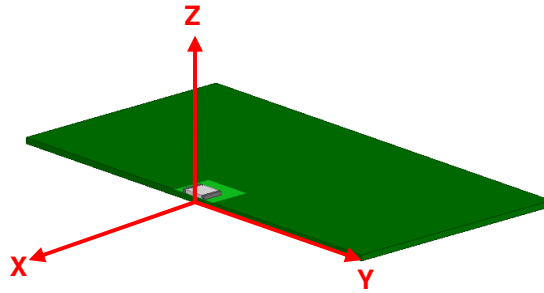
The Gain pattern is measured in INPAQ’s FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



3D Chamber Definition

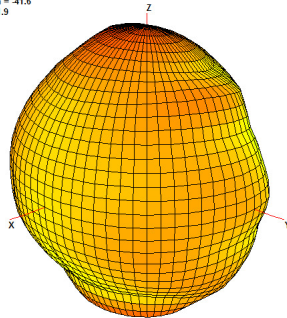
UNLESS OTHER SPECIFIED TOLERANCES ON : X=± X.X=± X.XX=± ANGLES=± HOLEDIA=±		 INPAQ TECHNOLOGY CO., LTD.
SCALE : -----	UNIT : mm	
DRAWN BY : 趙彥年 <i>Okano</i>	CHECKED BY : 黃啓傑 <i>Tommy</i>	THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION
DESIGNED BY: 林豪建 <i>Stan</i>	APPROVED BY : 蘇志銘 <i>Tommy</i>	
TITLE : ACM3-5036-A1-CC-S Specification		DOCUMENT NO. ENS000062410
		SPEC REV. A1

3D Gain Pattern

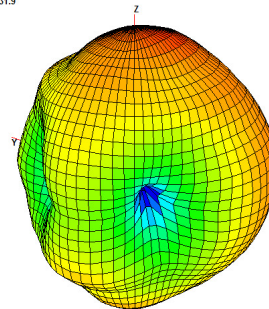


2450 MHz

Azimuth = 109.4
Elevation = -41.6
Roll = -61.9

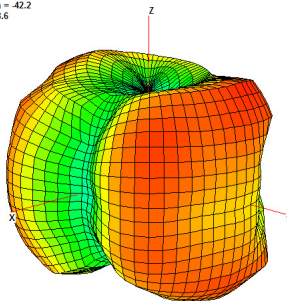


Azimuth = 74.4
Elevation = 31.9
Roll = -61.8

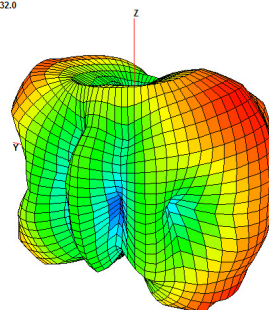


5500 MHz

Azimuth = 105.4
Elevation = -42.2
Roll = -58.6



Azimuth = 74.6
Elevation = 32.0
Roll = -62.0



UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
ANGLES=± HOLEDIA=±



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SCALE : -----

UNIT : mm

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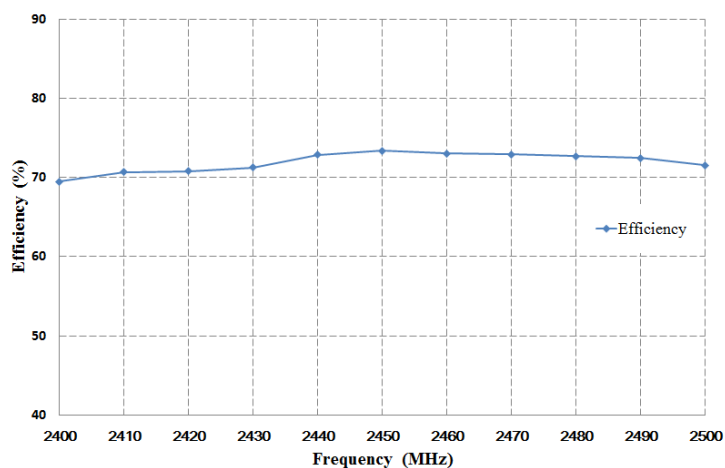
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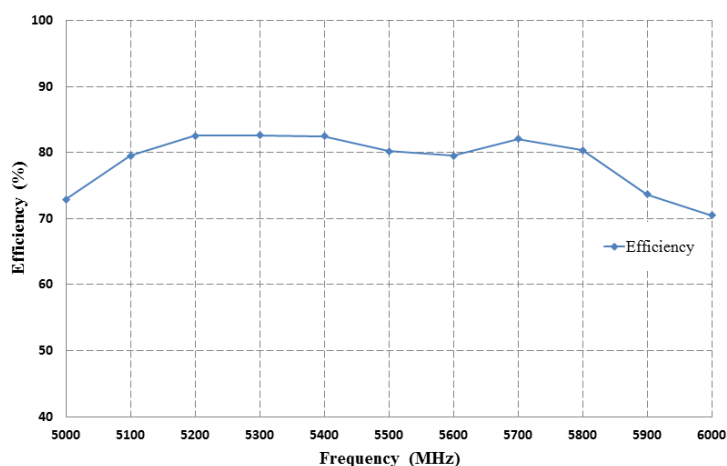
SPEC REV.

A1

Efficiency



Frequency (MHz)	Efficiency (%)
2400	69.5
2450	73.4
2500	71.5
5000	72.9
5500	80.2
6000	70.5



UNLESS OTHER SPECIFIED TOLERANCES ON :

X=±

X.X=±

X.XX=

ANGLES=±

HOLEDIA=±



INPAQ TECHNOLOGY CO., LTD.

SCALE : -----

UNIT : mm

DRAWN BY : 趙彥年 *Oknon*

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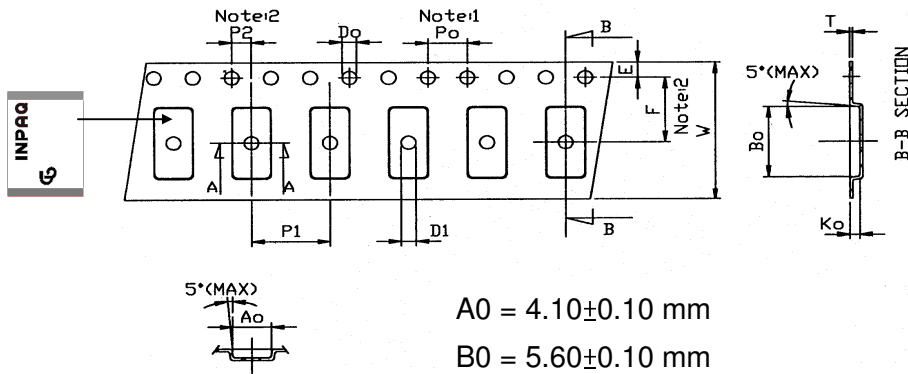
DOCUMENT
NO.

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SPEC REV.
A1

7. Taping Package and Label Marking

- (1) Quantity/Reel: 2000pcs/Reel
- (2) Carrier tape dimensions



$A0 = 4.10 \pm 0.10 \text{ mm}$

$B0 = 5.60 \pm 0.10 \text{ mm}$

$K0 = 1.02 \pm 0.10 \text{ mm}$

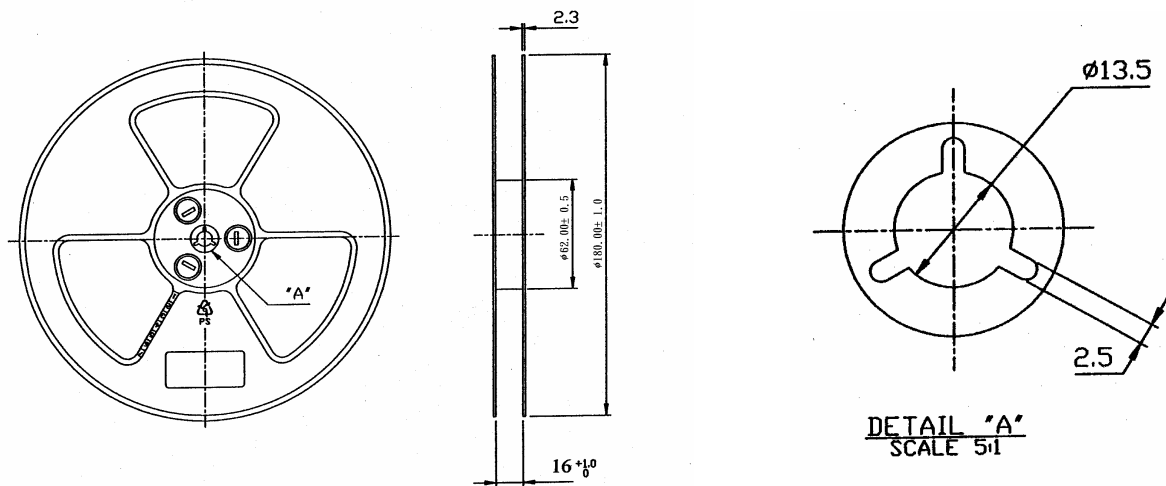
Symbol	Spec.
Po	4.00 ± 0.1
P1	8.00 ± 0.1
P2	2.00 ± 0.05
Do	1.55 ± 0.05
D1	$1.50(\text{MIN})$
E	1.75 ± 0.1
F	5.50 ± 0.05
10Po	40.00 ± 0.2
W	12.00 ± 0.1
T	0.25 ± 0.05

(Unit: mm)

Notice:

1. 10 Sprocket hole pitch cumulative tolerance is $\pm 0.1\text{mm}$
2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
3. Ao & Bo measured on a plane 0.3mm above the bottom of the pocket to top surface of the carrier.
4. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
5. Carrier camber shall be not than 1mm per 100mm through a length of 250mm.

- (3) Taping reel dimensions



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X=± X.X=± X.XX=±
 ANGLES=± HOLEDIA=±



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SCALE : -----

UNIT : mm

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SPEC REV.

A1

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.

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
 ANGLES=± HOLEDIA=±



INPAQ TECHNOLOGY CO., LTD.

SCALE : -----

UNIT : mm

DRAWN BY : 趙彥年 *Okano*

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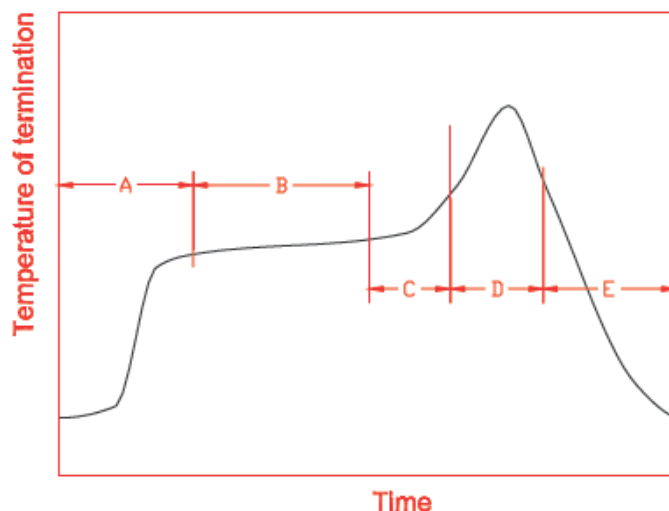
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SPEC REV.
A1

9. Recommended reflow soldering



			Time
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

(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.

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
 ANGLES=± HOLEDIA=±



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SCALE : -----

UNIT : mm

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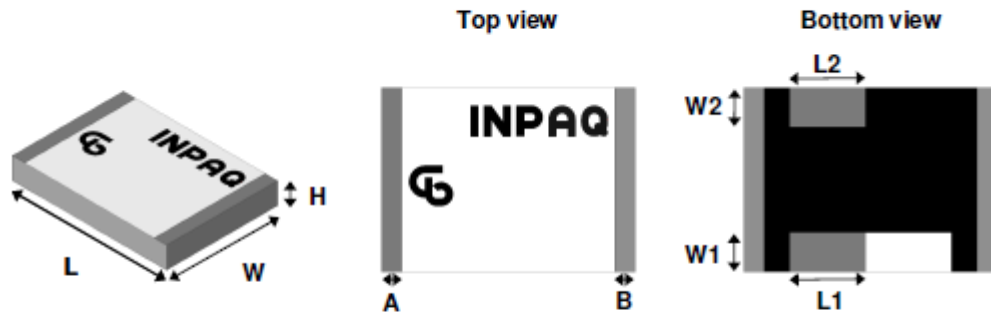
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A1

4. Physical Dimension



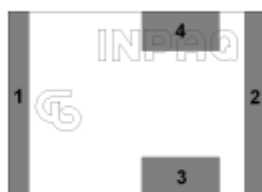
Marking is Black

L	5.20 ± 0.30
W	3.70 ± 0.30
H	0.70 ± 0.15
A	0.45 ± 0.25
B	0.45 ± 0.25
L1	1.60 ± 0.20
W1	0.62 ± 0.20
L2	1.50 ± 0.20
W2	0.62 ± 0.20

(Unit: mm)

Pin Configuration

Top View



Pin Assignments

Layout		Mirror Layout	
Pin	Function	Pin	Function
1	GND	1	GND
2	GND	2	GND
3	Feed	3	No connect
4	No connect	4	Feed

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
 ANGLES=± HOLEDIA=±



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SCALE : ---- UNIT : mm

DRAWN BY : 趙彦年 *Chen* CHECKED BY : 黃啓傑 *Tommy*
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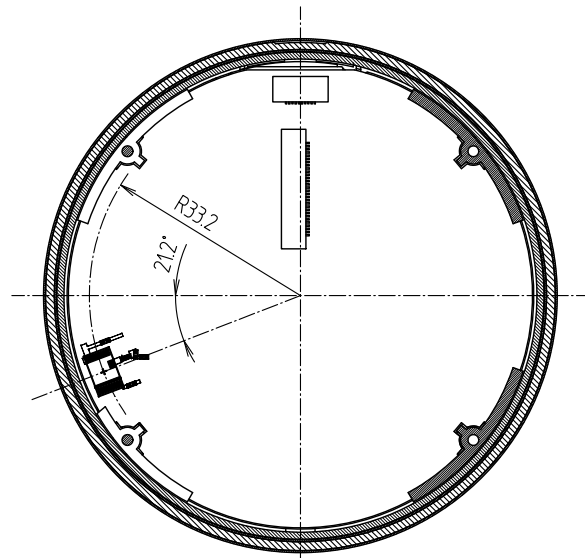
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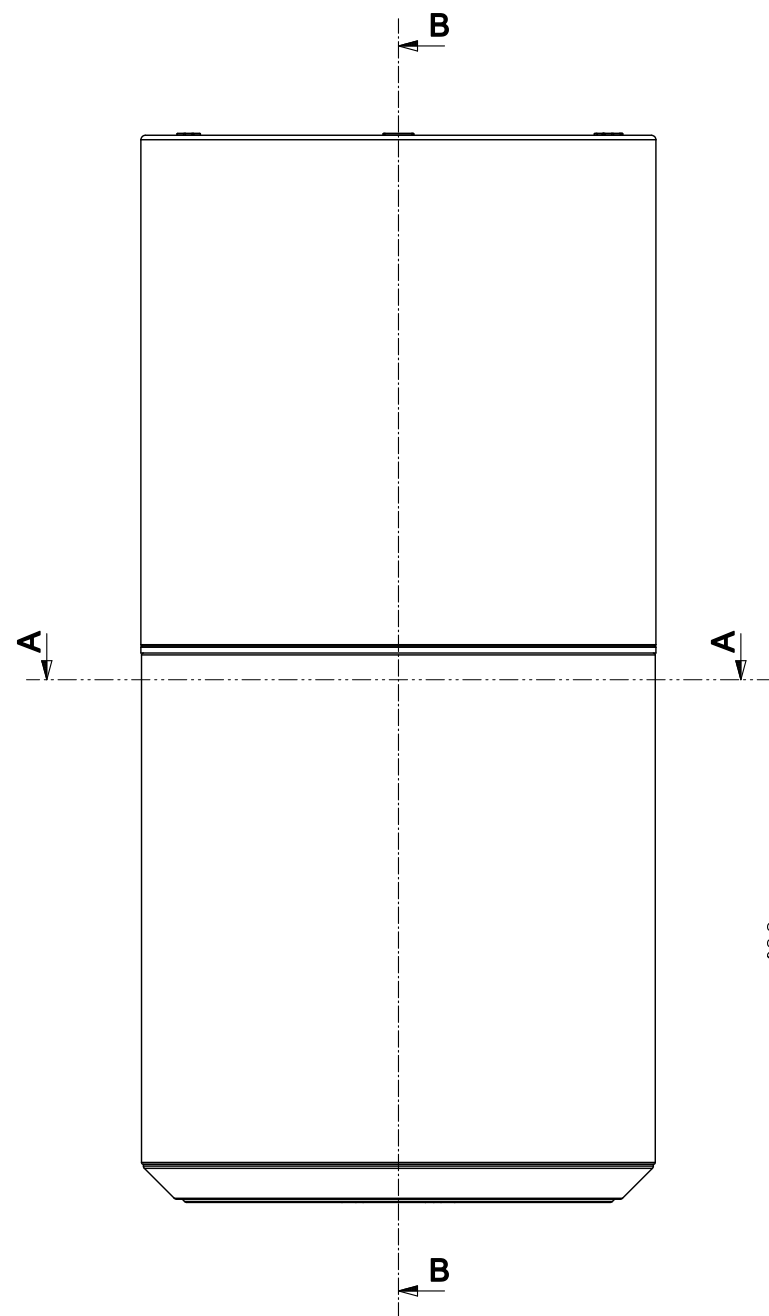
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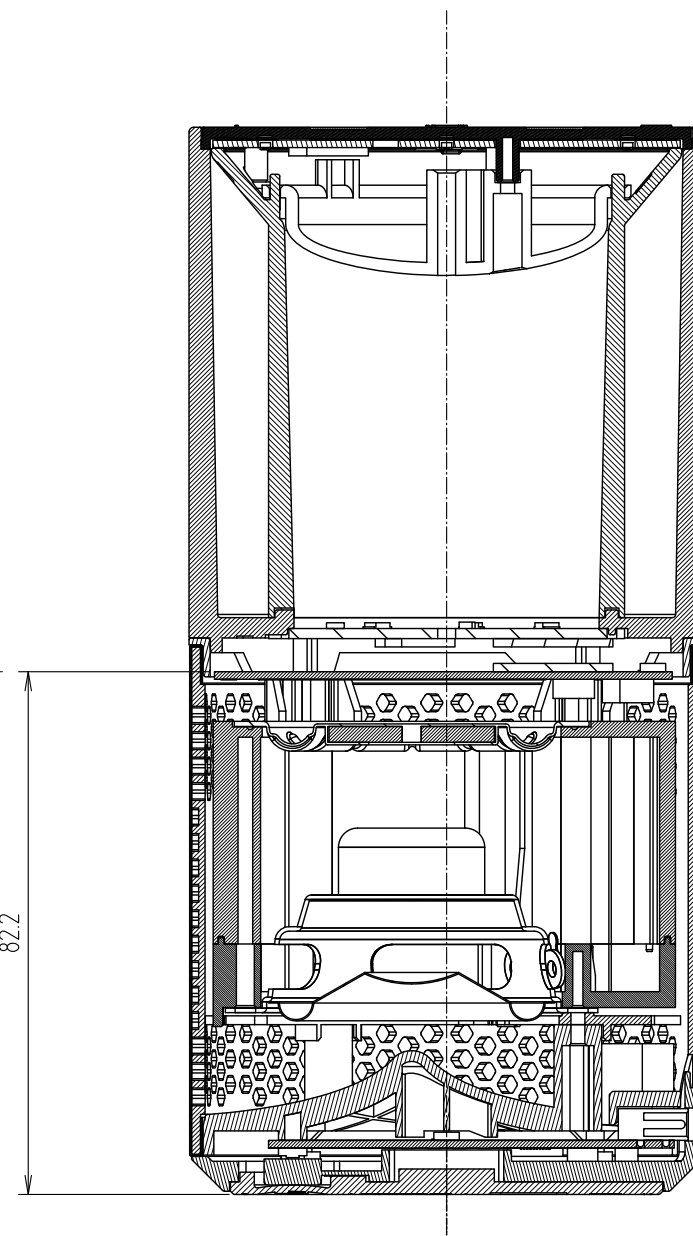
SPEC REV.
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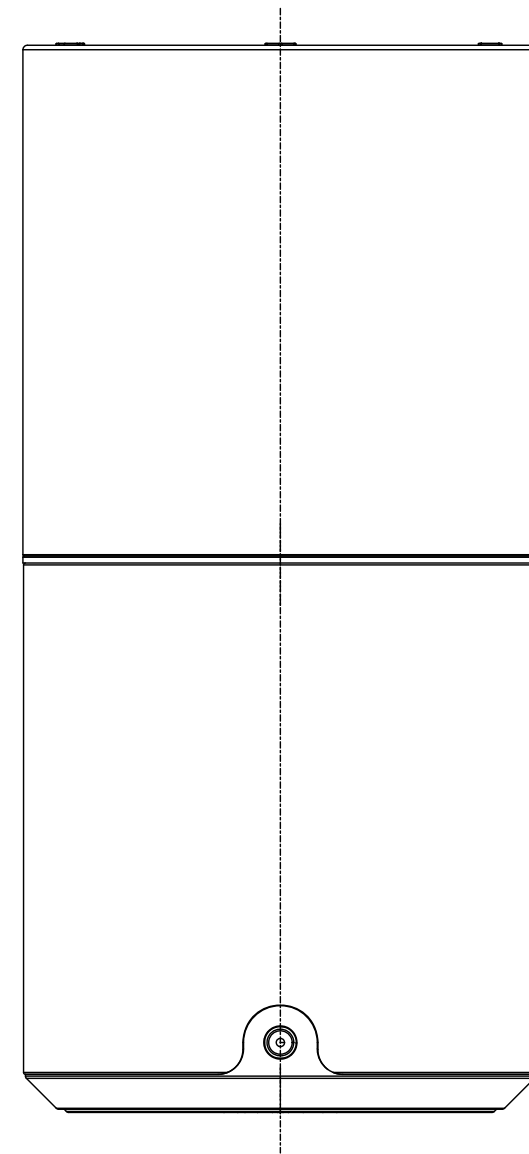
SECTION A-A



FRONT VIEW



SECTION B-B



BACK VIEW