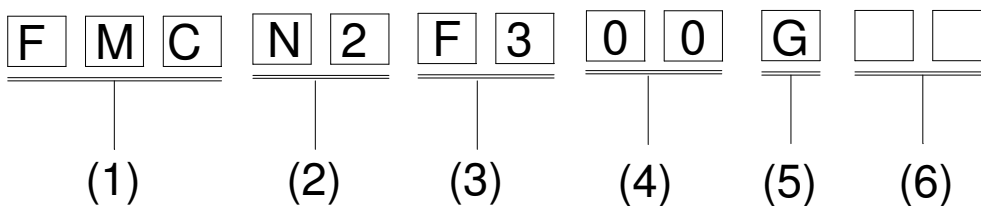


## FM Chip Antenna for FMCN2F300G

### 1. Explanation of part number :



- (1) Product type: FM chip antenna (FR4).
- (2) Size code:
  - 1. N2: 25.0x5.0x0.8mm<sup>3</sup>
- (3) Freq code:
  - 1. F3: 164~174MHz
- (4) Series code:
- (5) Green product: RoHS compliance
- (6) Suffix

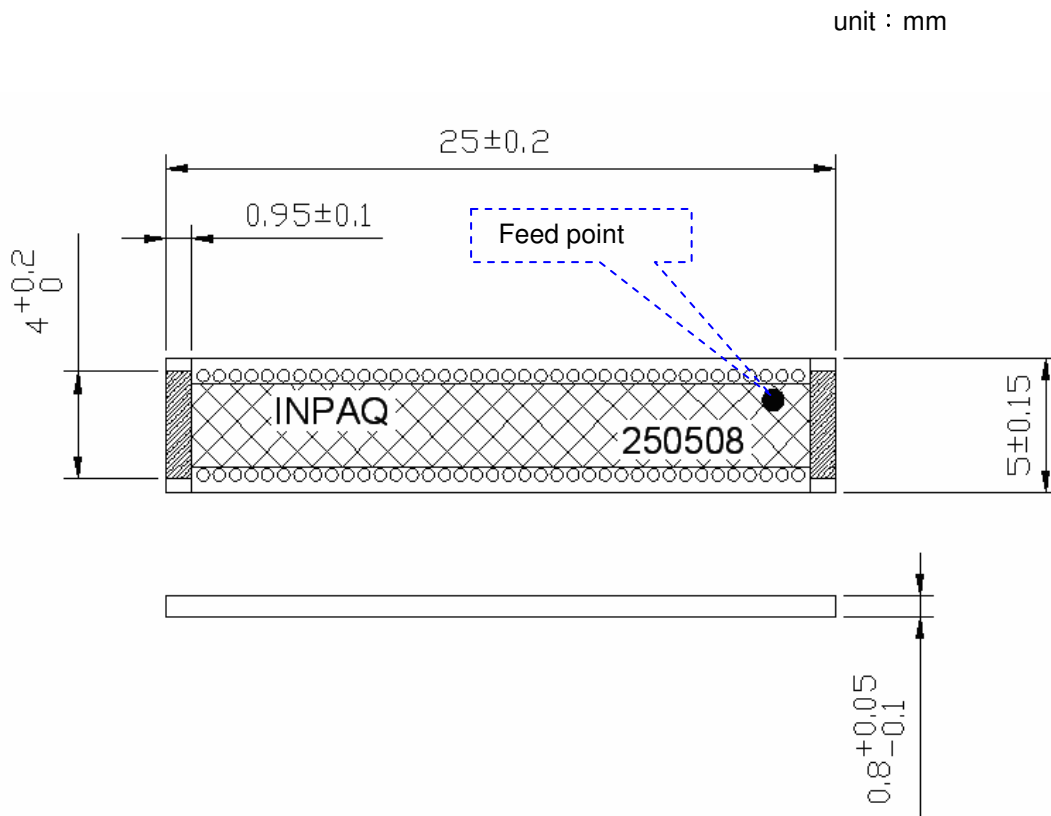
### 2. Electrical Specification :

Electrical Specification			
Frequency range	164 ~ 174MHz		
Polarization	Linear		
Patten	Omni-Directional		
Impedance	50 ohm		
Size	25.0x5.0x0.8mm <sup>3</sup>		
S <sub>11</sub>	164 MHz	169 MHz	174 MHz
	<-8.0 dB	<-15.5 dB	<-8.0 dB

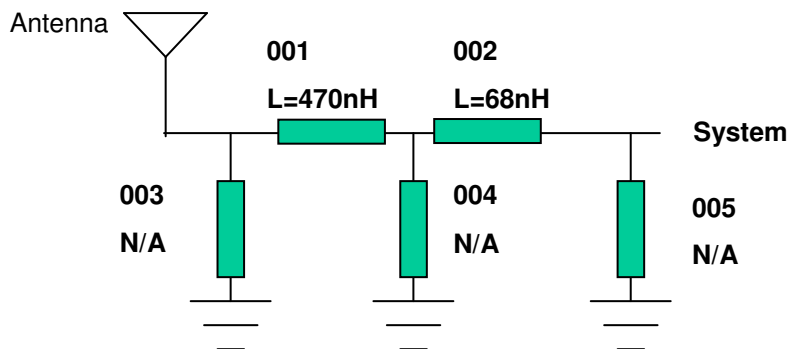
\* Base on 80x50mm<sup>2</sup> demo board

UNLESS OTHER SPECIFIED TOLERANCES ON : X = N/A      X.X = N/A      X.XX = N/A ANGLES = N/A      HOLEDIA = N/A		<b>INPAQ TECHNOLOGY CO., LTD.</b>
SCALE : N/A      UNIT : mm	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	
DRAWN BY : 游曉仔      CHECKED BY: 楊奇峯	DESIGNED BY : 蘇世豪      APPROVED BY: 謝立庭	
TITLE : FM Chip Antenna for FMCN2F300G	DOCUMENT NO.	<b>ENS000057810</b>
		SPEC REV. <b>P0</b>

### 3. Dimensions:



### 4. Demo board matching circuit



UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X = N/A      X.X = N/A      X.XX = N/A  
 ANGLES = N/A      HOLEDIA = N/A



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UNIT : mm

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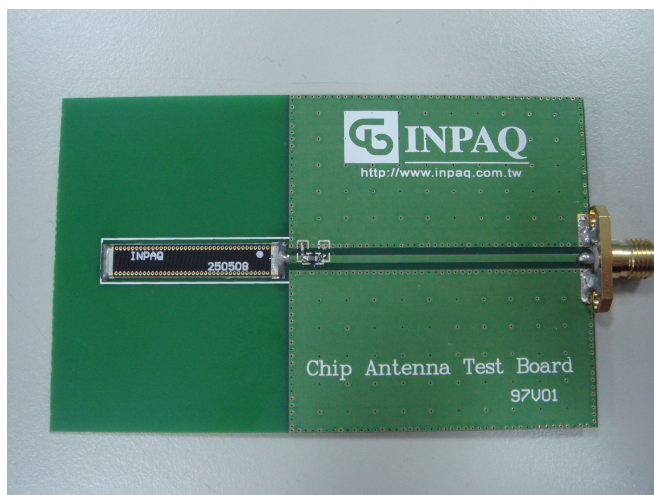
TITLE : FM Chip Antenna for FMCN2F300G

DOCUMENT NO.

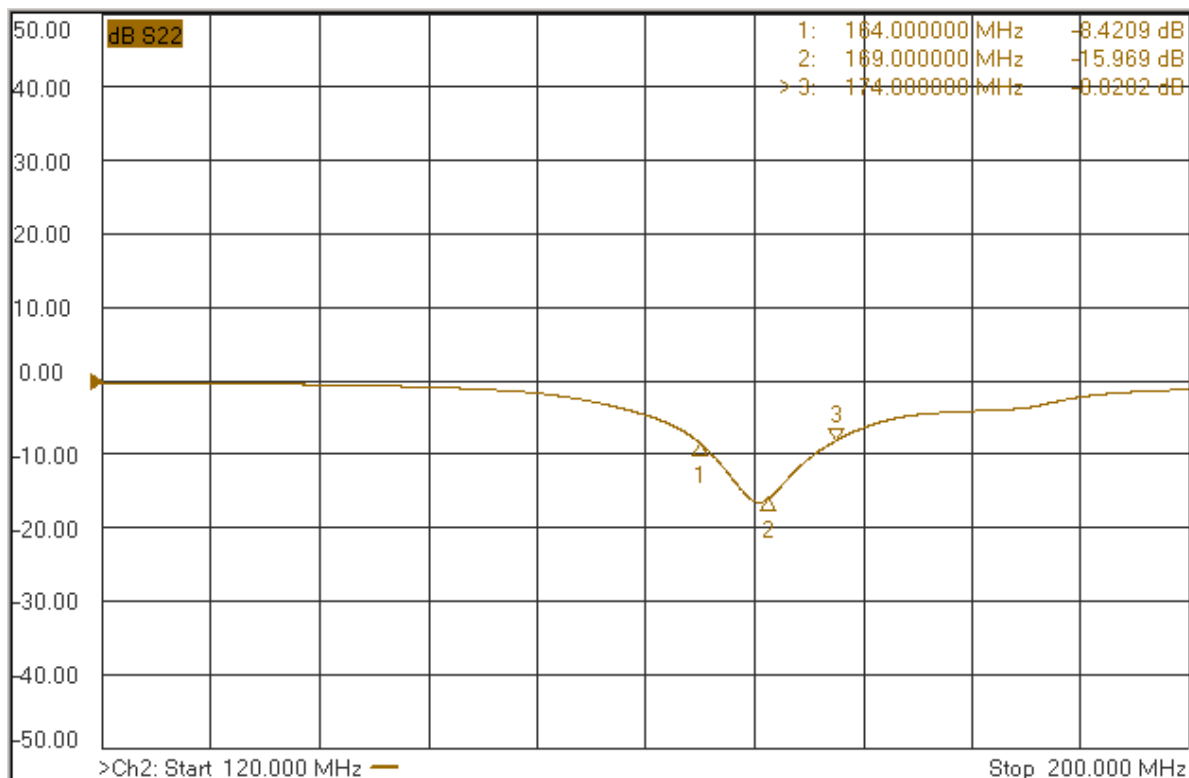
**ENS000057810**

SPEC REV.  
**P0**

### 5. The picture of test jig



### 6. Measurement data Return loss



Frequency (Unit MHz)	164	169	174
S <sub>11</sub> (dB)	-8.42	-15.96	-8.02

UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X = N/A      X.X = N/A      X.XX = N/A  
 ANGLES = N/A      HOLEDIA = N/A



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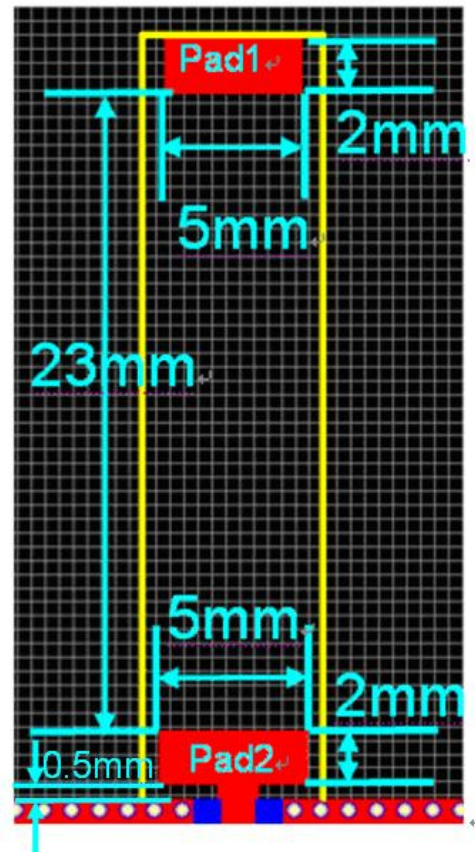
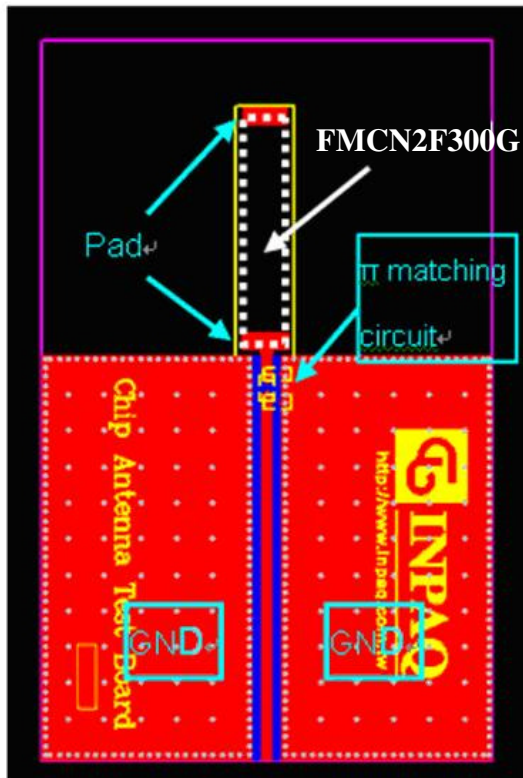
SCALE : N/A      UNIT : mm  
 DRAWN BY : 游曉仔      CHECKED BY: 楊奇峯  
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		P0

### 7. Recommend PCB layout



UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X=N/A      X.X=N/A      X.XX=N/A  
 ANGLES=N/A      HOLEDIA=N/A



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## 8. Environmental Performance

### (1) Reliability Test

Item	Condition	Specification
Thermal shock	<ol style="list-style-type: none"> <li>30±3 minutes at -40°C±5°C,</li> <li>Convert to +85°C (5 minutes)</li> <li>30±3 minutes at +85°C±5°C,</li> <li>Convert to -40°C (5 minutes)</li> <li>Total 100 continuous cycles</li> </ol>	No apparent damage Fulfill the electrical spec. after test.
Humidity resistance	<ol style="list-style-type: none"> <li>Humidity: 85% R.H.</li> <li>Temperature: 85±5°C</li> <li>Time: 1000 hours.</li> </ol>	No apparent damage Fulfill the electrical spec. after test.
High temperature resistance	<ol style="list-style-type: none"> <li>Temperature: 85°C±2°C</li> <li>Time: 1000 hours.</li> </ol>	No apparent damage Fulfill the electrical spec. after test.
Low temperature resistance	<ol style="list-style-type: none"> <li>Temperature: -40°C±5°C</li> <li>Time: 1000 hours.</li> </ol>	No apparent damage Fulfill the electrical spec. after test.
Soldering heat resistance	<ol style="list-style-type: none"> <li>Solder bath temperature : 260±5°C</li> <li>Bathing time: 10±1 seconds</li> </ol>	No apparent damage
Solderability	The dipped surface of the terminal shall be at least 75% 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 +85°C.

UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X = N/A      X.X = N/A      X.XX = N/A  
 ANGLES = N/A      HOLEDIA = N/A



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SCALE : N/A

UNIT : mm

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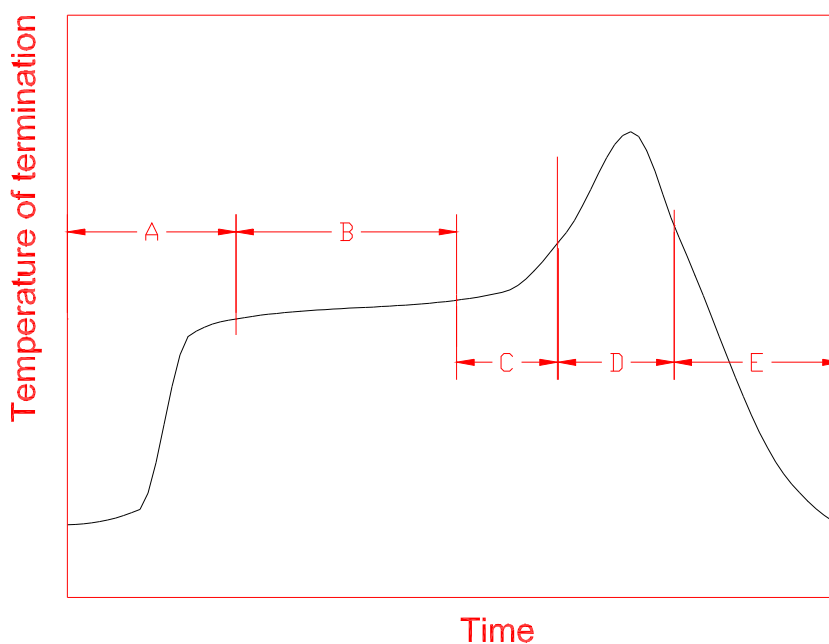
TITLE : FM Chip Antenna for FMCN2F300G

DOCUMENT  
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### 9. Recommendable reflow soldering



A	1 <sup>st</sup> rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140°C to 160°C	60s to 120s
C	2 <sup>nd</sup> 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.

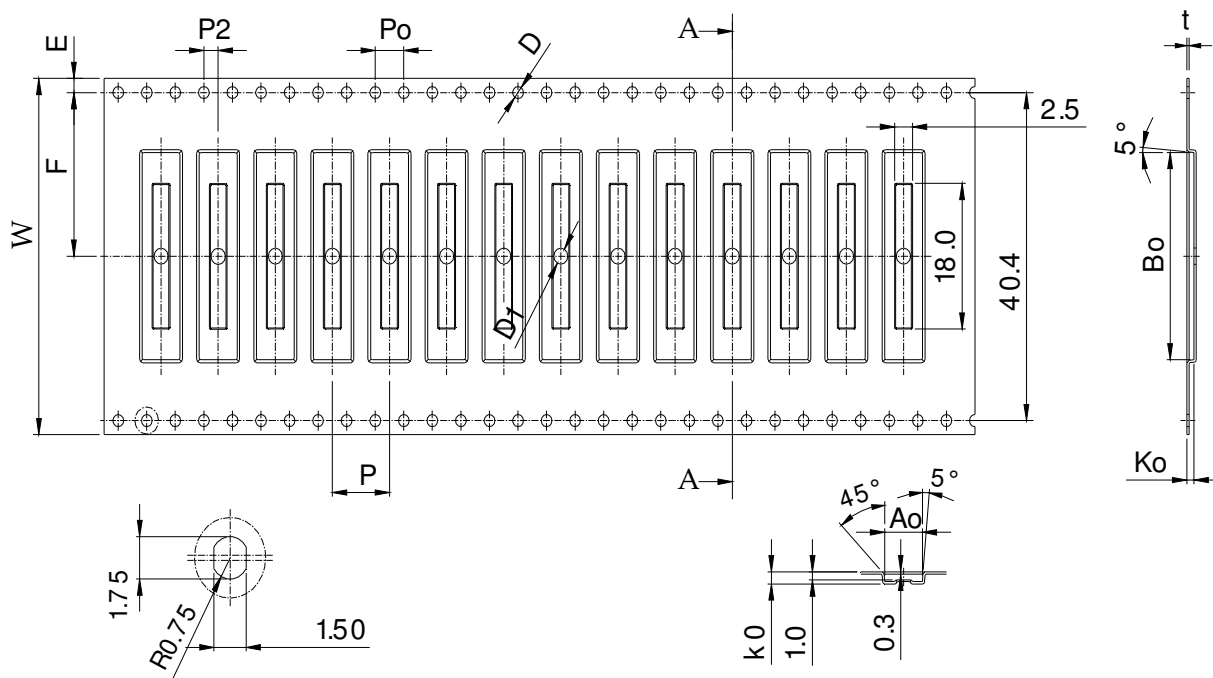
- (a) The tip temperature must be less than 380°C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

#### (2) Soldering volume

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

UNLESS OTHER SPECIFIED TOLERANCES ON : X=N/A      X.X=N/A      X.XX=N/A ANGLES=N/A      HOLEDIA=N/A			<b>INPAQ TECHNOLOGY CO., LTD.</b>	
SCALE : N/A	UNIT : mm			
DRAWN BY : 游曉仔	CHECKED BY: 楊奇峯			
DESIGNED BY : 蘇世豪	APPROVED BY: 謝立庭			
TITLE : FM Chip Antenna for FMCN2F300G		DOCUMENT NO.	<b>ENS000057810</b>	SPEC REV. <b>P0</b>

### 10. Carry tape



Unit: mm

Item	Specifications	tolerance
W	44.00	±0.30
P	8.00	±0.10
E	1.75	±0.10
F	20.20	±0.10
P2	2.00	±0.10
D	1.50	+0.10 - 0.00
D1	2.00	±0.10
Po	4.00	±0.10
10Po	40.00	±0.20
Ao	5.45	±0.10
B0	25.60	±0.10
Ko	1.50	±0.10
t	0.30	±0.05

UNLESS OTHER SPECIFIED TOLERANCES ON :  
 X = N/A      X.X = N/A      X.XX = N/A  
 ANGLES = N/A      HOLEDIA = N/A



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SCALE : N/A

UNIT : mm

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- (1) sprocket hole pitch cumulative tolerance  $\pm 0.20\text{mm}$ .
- (2) Carrier camber not to exceed 1mm in 250mm.
- (3) Ao and Bo measured on a plane 0.3mm above the bottom of the pocket.
- (4) Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
- (5) All dimensions meet EIA-481-B requirements
- (6) Material:  Clear Non Anti-Static Polystyrene.  
 Black Anti-Static Polystyrene.
- (7) Packing length per 13" reel: 16.6Meters.
- (8) Component load per 13" reel : 4000 Pcs

<b>UNLESS OTHER SPECIFIED TOLERANCES ON :</b> X = N/A      X.X = N/A      X.XX = N/A ANGLES = N/A      HOLEDIA = N/A			<b>INPAQ TECHNOLOGY CO., LTD.</b>
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