

ACF-2505-A1-MF-S Specification

2. Explanation of Part Number :

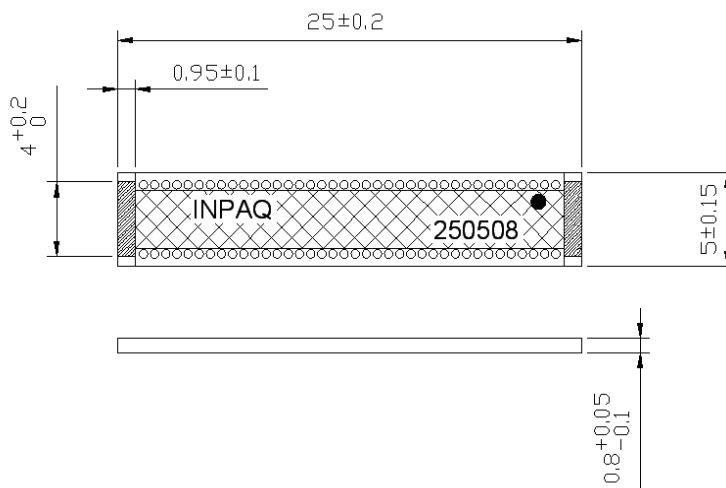
$\frac{AC}{(1)} \quad \frac{F}{(2)} \quad - \quad \frac{2505}{(3)} \quad - \quad \frac{A1}{(4)} \quad - \quad \frac{MF}{(5)} \quad - \quad \frac{S}{(6)} \quad \bar{(7)}$

- (1) Product Type: Chip Antenna
- (2) Center Frequency/Band Code: F-ISM Band (421~442MHz)
- (3) Size Code: 25.0mmX5.0mmX0.8mm
- (4) Design Revision Code: A1= Rev. 1
- (5) Series No.: MF=Monopole FR4
- (6) Special Code: S= RoHS Compliant
- (7) Suffix For Special Requirements

2. Electrical Specification :

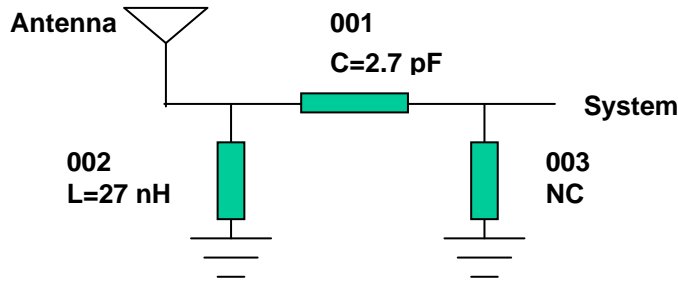
Electrical Specification	
Frequency Range	421 ~ 442MHz
VSWR	Less than 2.0:1
Polarization	Linear
Peak Gain	-8.68 dBi
Pattern	Omni-Directional
Impedance	50 ohm
Size	25.0mmx5.0mmx0.8mm

3. Dimensions: (unit: mm)

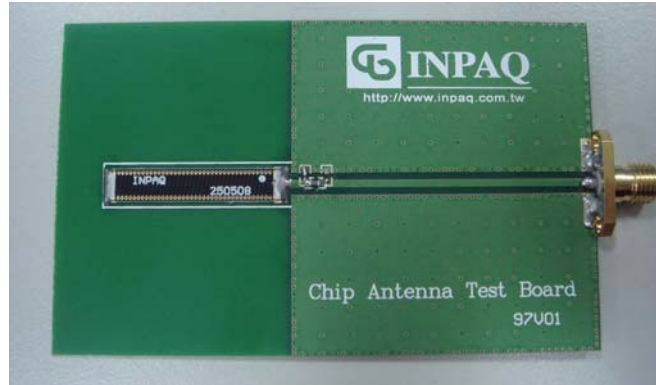


UNLESS OTHER SPECIFIED TOLERANCES ON : X=± X.X=± X.XX= ANGLES=± HOLEDIA=±		 INPAQ TECHNOLOGY CO., LTD.	
SCALE : xxxx	UNIT : mm		
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DESIGNED BY: 溫勝凱 溫勝凱	APPROVED BY: 黃月碧 黃月碧		
TITLE : ACF-2505-A1-MF-S Specification		DOCUMENT NO. ENS000026740	SPEC REV A0

4. Demo Board Matching Circuit

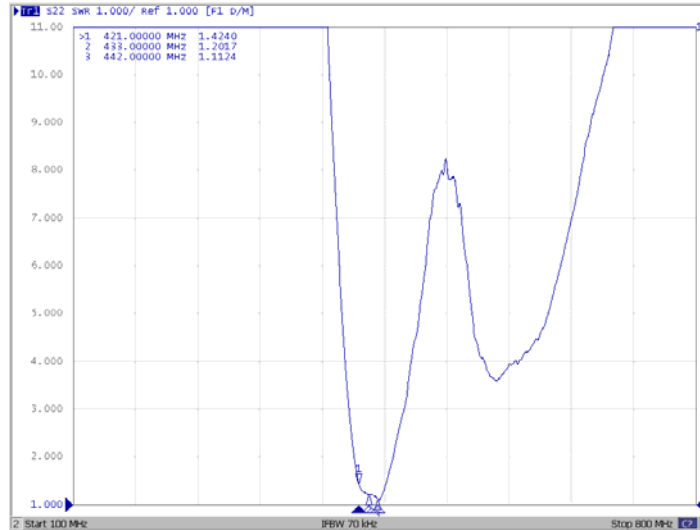


5. The Picture of Test Board



6. Measurement Data

VSWR



Frequency	421 MHz	433 MHz	442 MHz
VSWR	1.42	1.20	1.11

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UNIT : mm

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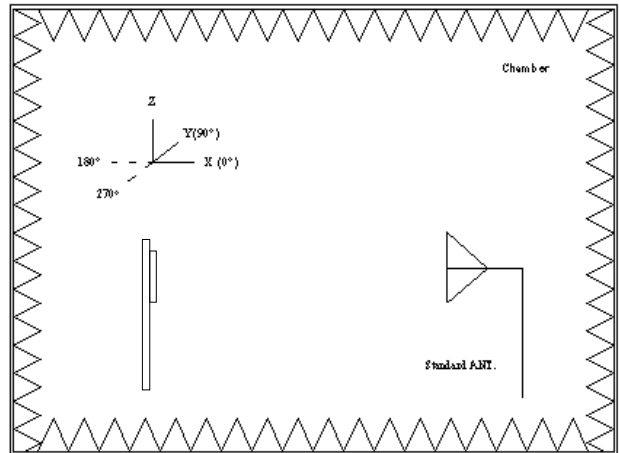
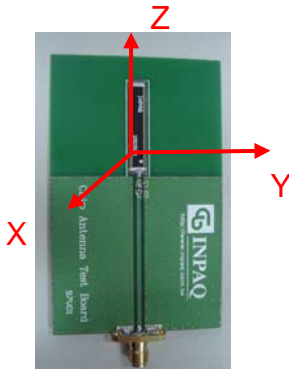
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7. Radiation Pattern

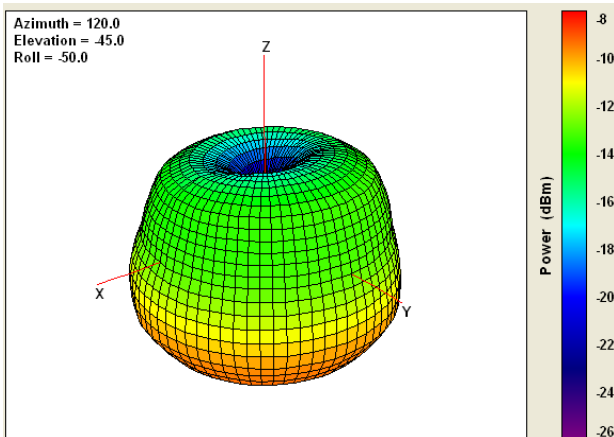
The Gain pattern was measured in INPAQ's FAR-field chamber. DUT was placed on the table of rotator, a standard horn antenna and Vector Network Analyzer was used to collect data. (Please contact to INPAQ for more detail)

- Measuring factors definition

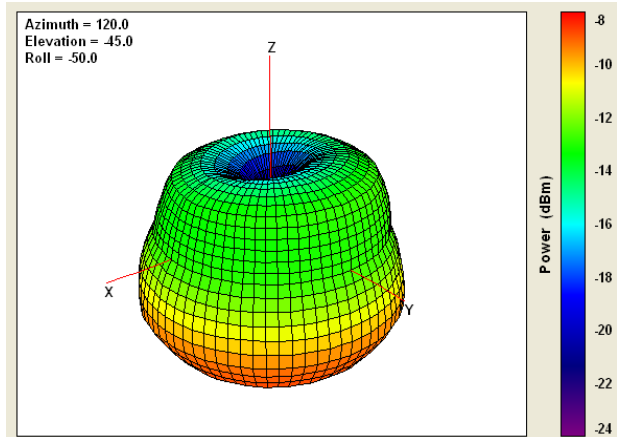


- 3D Gain Pattern

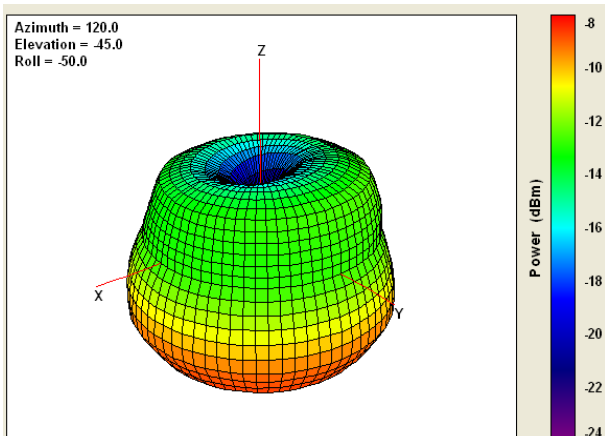
421 MHz



433MHz



442MHz



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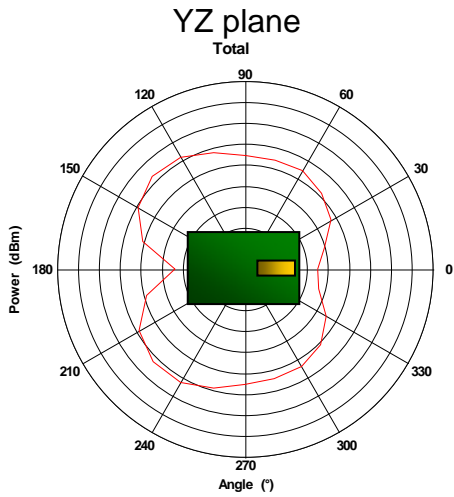
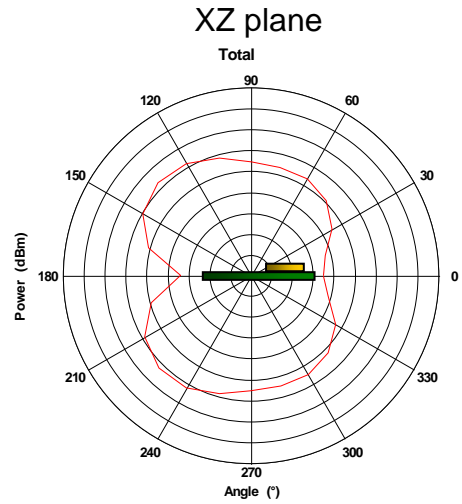
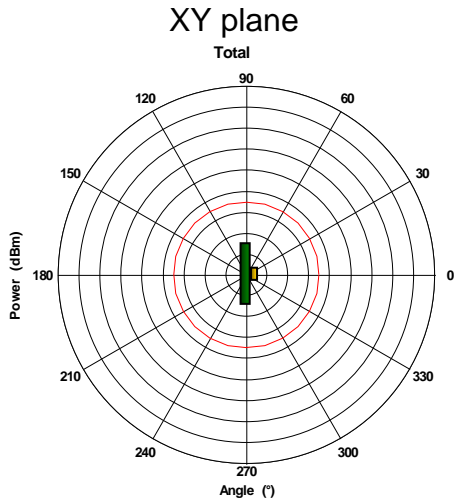
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● 2D Gain Pattern (at 433 MHz)



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8. Environmental Performance

(1) Reliability Test

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

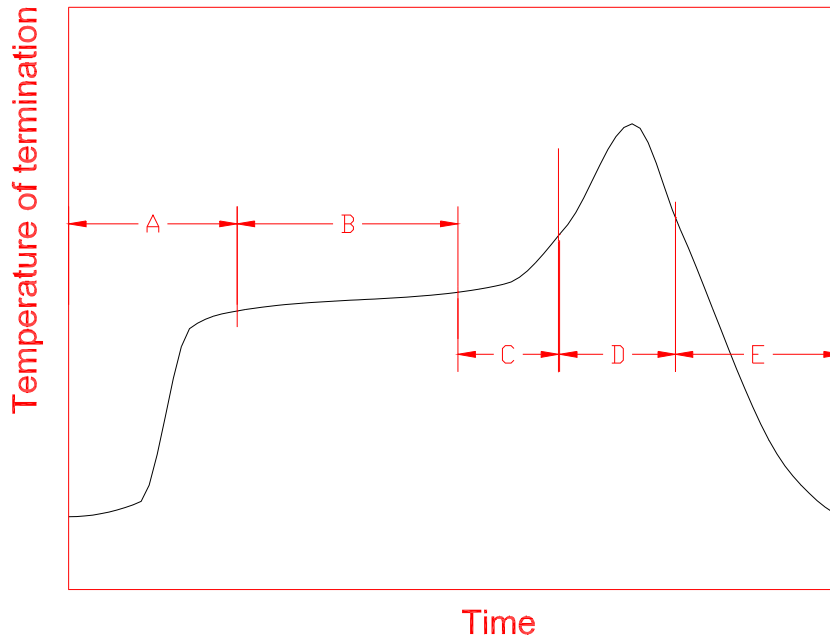
The temperature should be within -40~85°C and humidity should be less than 85% RH.

(3) Operating Temperature Range

Operating temperature range : -40°C to +85°C.

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9. Recommendable 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

(1) Soldering Gun Procedure

Note the follows, in case of using solder gun for replacement.

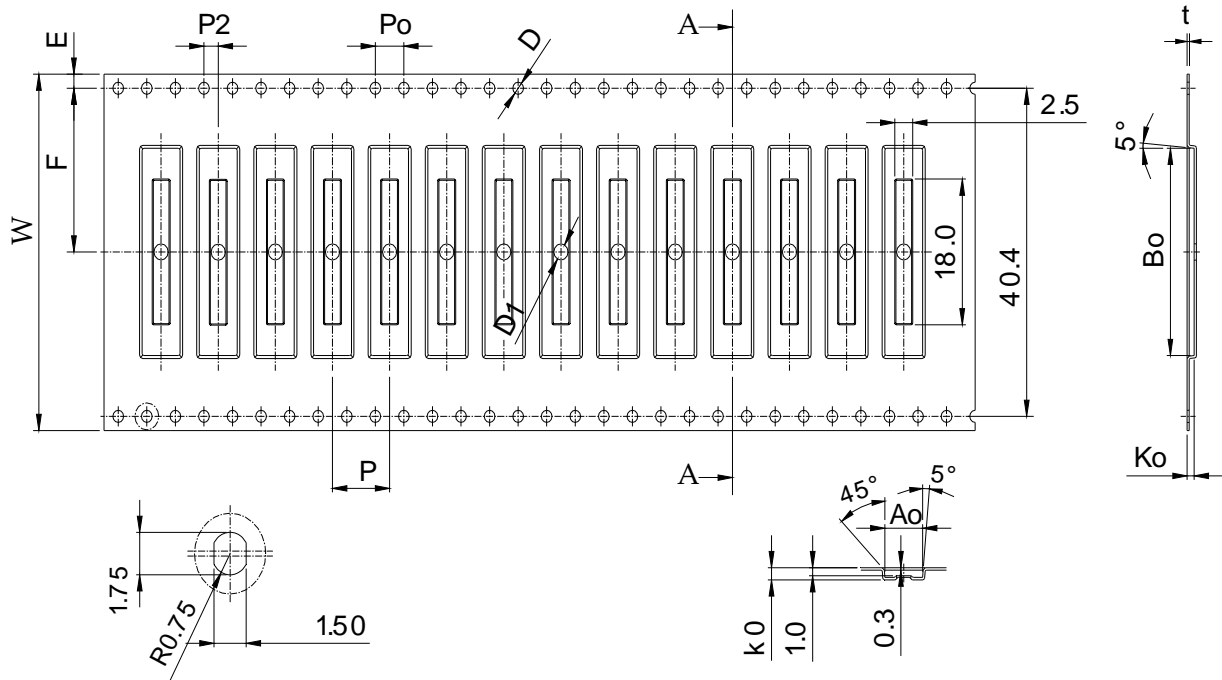
- The tip temperature must be less than 380°C for the period within 3 seconds by using soldering gun under 30 W.
- The soldering gun tip shall not touch this product directly.

(2) Soldering Volume

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

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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
Bo	25.60	±0.10
Ko	1.50	±0.10
t	0.30	±0.05

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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

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