

ACF-2505-A1-MF-S Specification

2. Explanation of Part Number :

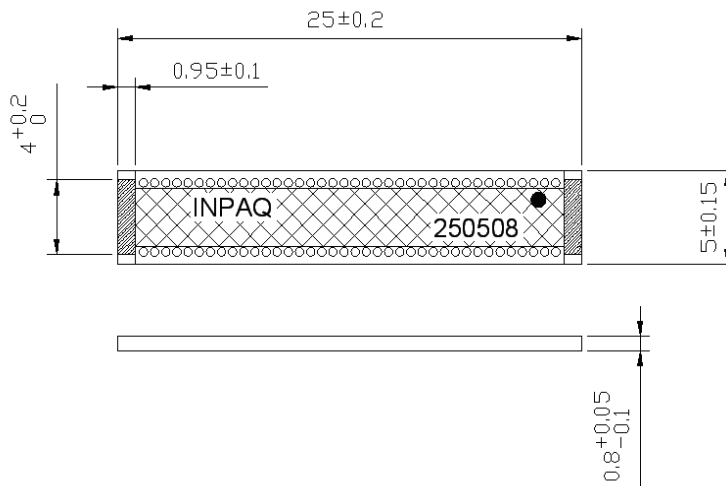
$\frac{\text{AC}}{(1)} \quad \frac{\text{F}}{(2)} \quad - \quad \frac{2505}{(3)} \quad - \quad \frac{\text{A1}}{(4)} \quad - \quad \frac{\text{MF}}{(5)} \quad - \quad \frac{\text{S}}{(6)} \quad \bar{(7)}$

- (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 :

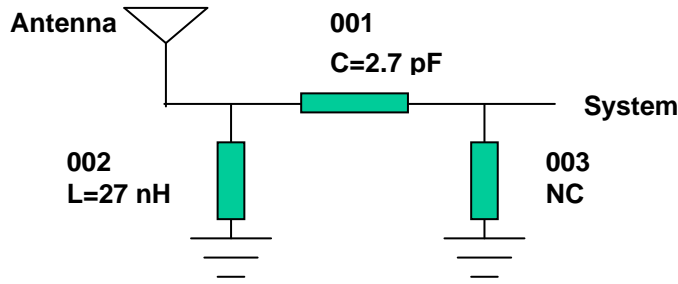
Electrical Specification	
Frequency Range	421 ~ 442MHz
VSWR	Less than 2.0:1
Polarization	Linear
Peak Gain	-8.68 dBi
Pattern	Omni-Directional
Impedance	50 ohm
Size	25.0mmx5.0mmx0.8mm

3. Dimensions: (unit: mm)

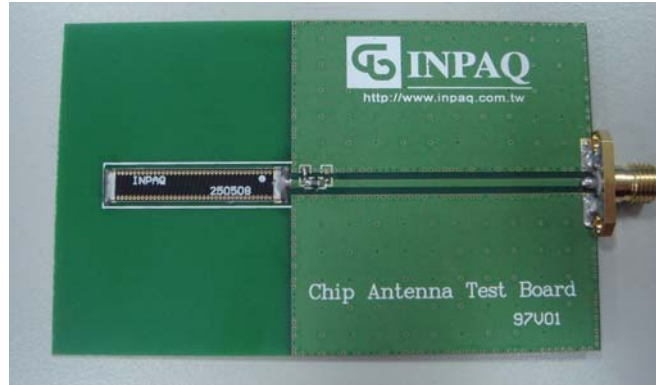


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DRAWN BY: 楊奇峰 楊奇峰	CHECKED BY: 蔡孟學 蔡孟學			
DESIGNED BY: 溫勝凱 溫勝凱	APPROVED BY: 黃月碧 黃月碧			
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4. Demo Board Matching Circuit

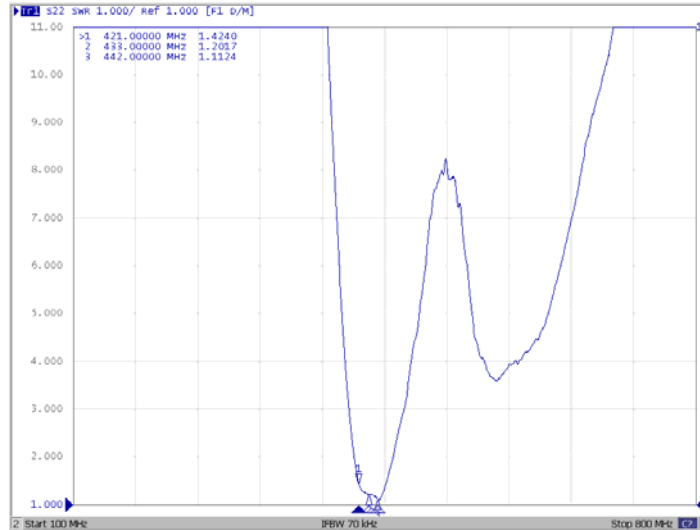


5. The Picture of Test Board



6. Measurement Data

VSWR



Frequency	421 MHz	433 MHz	442 MHz
VSWR	1.42	1.20	1.11

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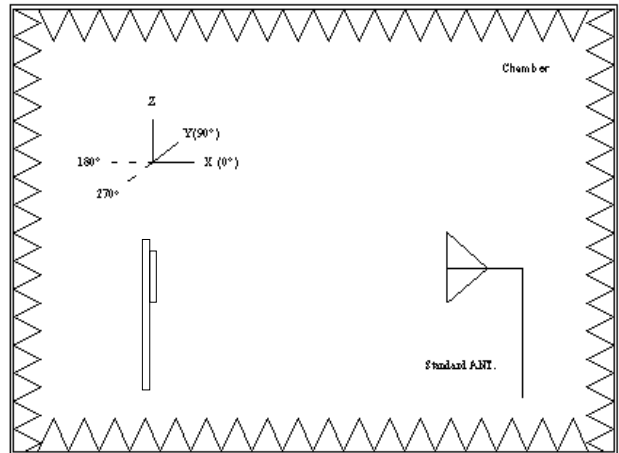
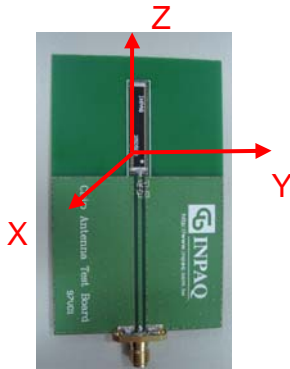
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7. Radiation Pattern

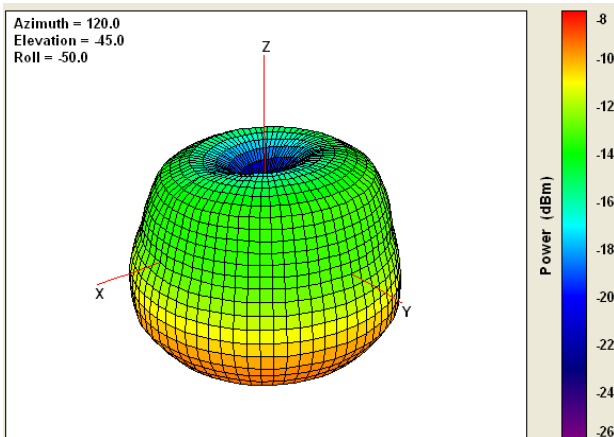
The Gain pattern was measured in INPAQ's FAR-field chamber. DUT was placed on the table of rotator, a standard horn antenna and Vector Network Analyzer was used to collect data. (Please contact to INPAQ for more detail)

- Measuring factors definition

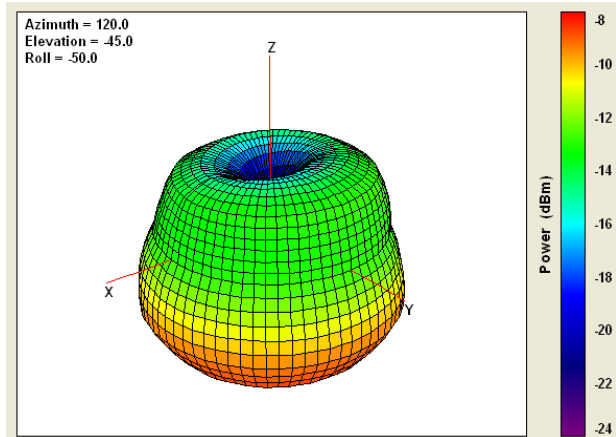


- 3D Gain Pattern

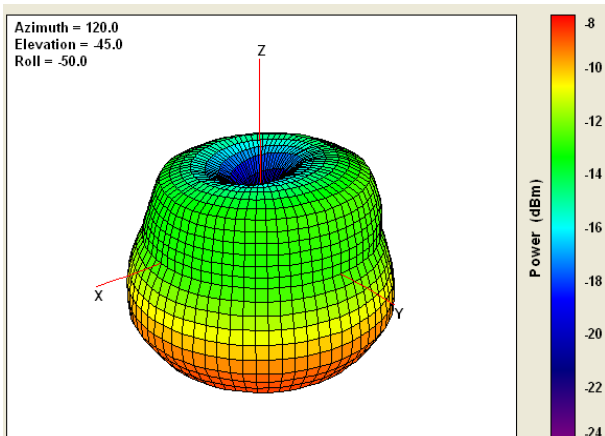
421 MHz



433MHz



442MHz



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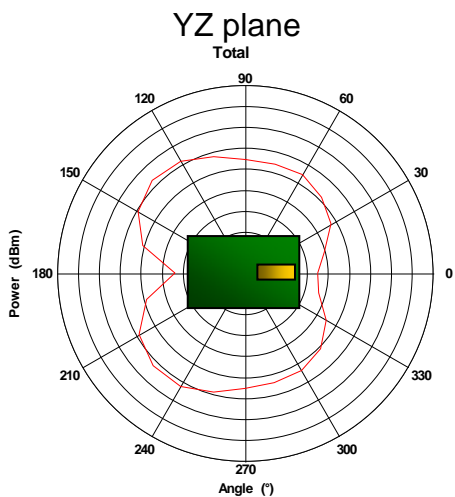
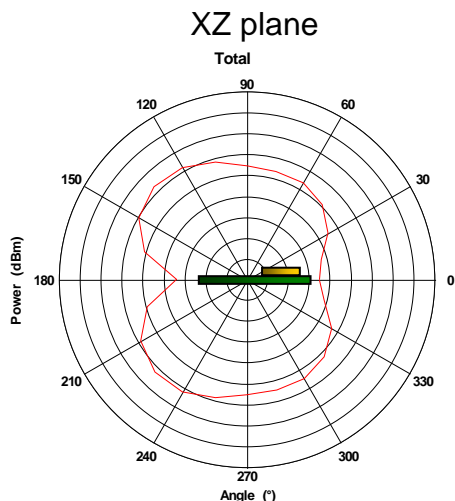
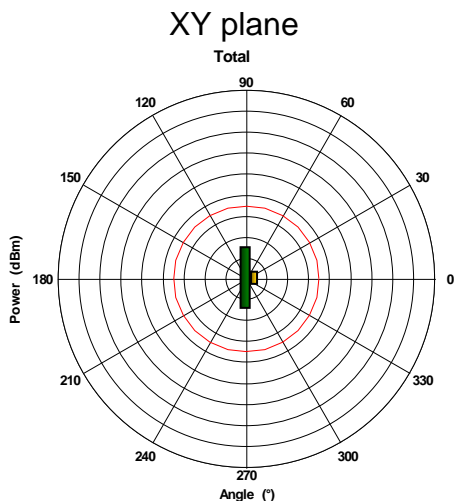
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● 2D Gain Pattern (at 433 MHz)



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8. Environmental Performance

(1) Reliability Test

Item	Condition	Specification
Thermal shock	1. 30±3 minutes at -40°C±5°C, 2. Convert to +85°C (5 minutes) 3. 30±3 minutes at +85°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: 85°C±2°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 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:

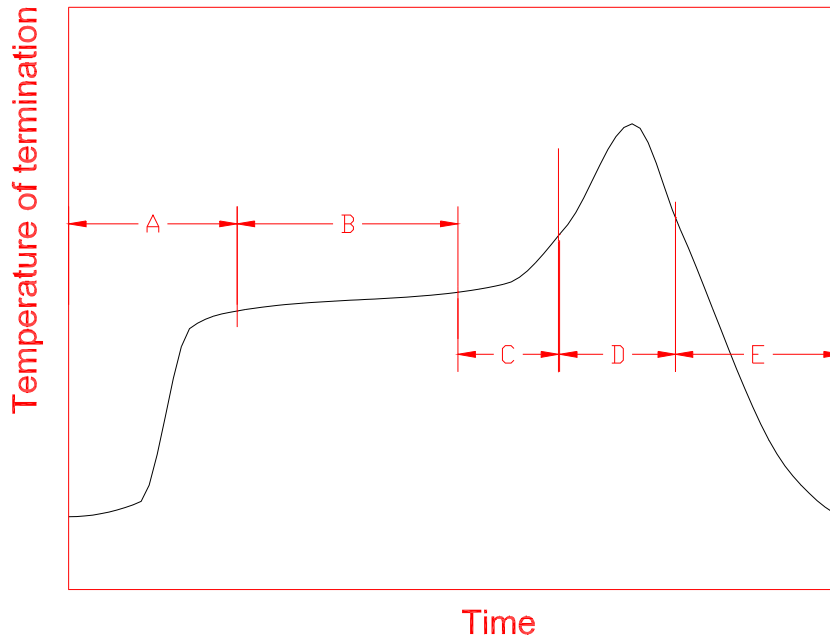
The temperature should be within -40~85°C and humidity should be less than 85% RH.

(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.

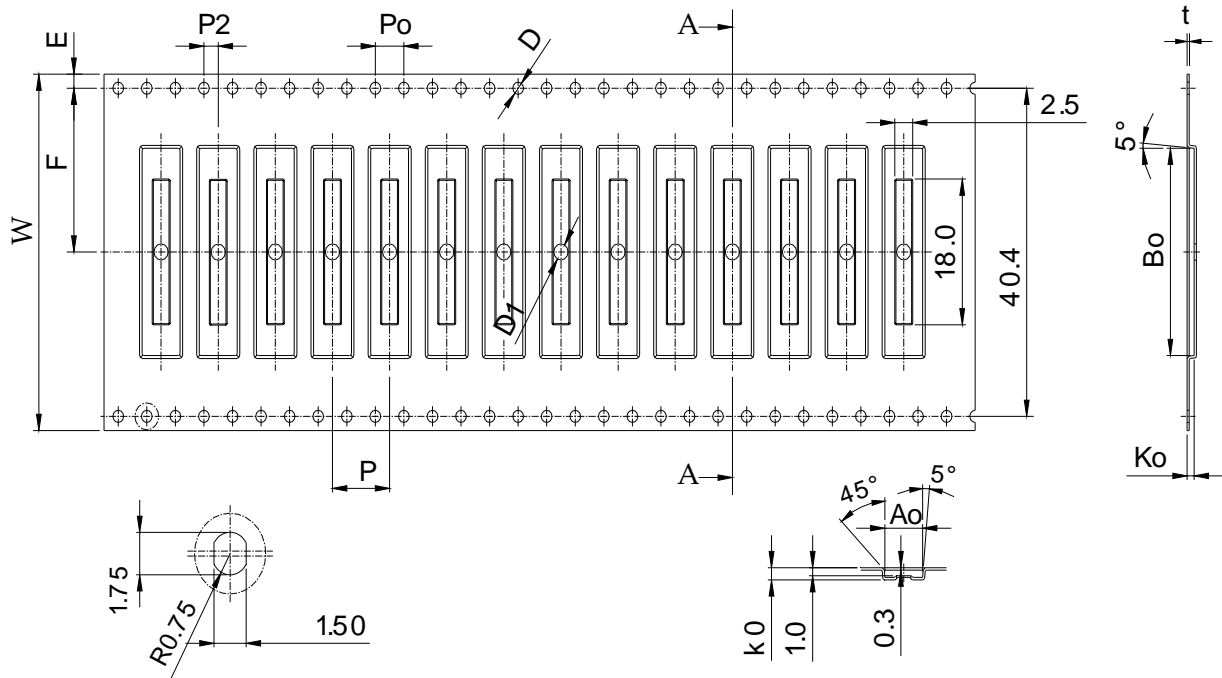
- (a) The tip temperature must be less than 380°C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

(2) Soldering Volume

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

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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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