# ACF-2505-A1-MF-S Specification

### 2. Explanation of Part Number:

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

(1) Product Type: Chip Antenna

(2) Center Frequency/Band Code: F-ISM Band (421~442MHz)

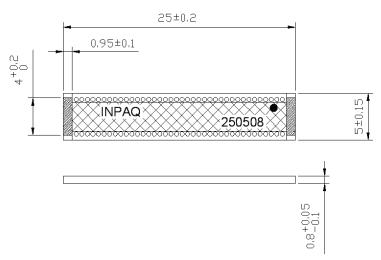
(3) Size Code: 25.0mmX5.0mmX0.8mm
(4) Design Revision Code: A1= Rev. 1
(5) Series No.: MF=Monopole FR4
(6) Special Code: S= RoHS Compliant

(7) Suffix For Special Requirements

### 2. Electrical Specification:

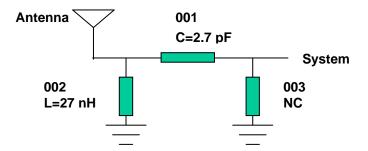
Electrica	al Specification
Frequency Range	421 ~ 442MHz
VSWR	Less than 2.0:1
Polarization	Linear
Peak Gain	-8.68 dBi
Pattern	Omni-Directional
Impedance	50 ohm
Size	25.0mmx5.0mmx0.8mm

### 3. Dimensions: (unit: mm)



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TITLE: ACF-2505-A1-MF-S Specification		DOCUMEN	ENS000026740	SPEC REV
TITLE : AGF-2505-A I-WIF-5 Specification		NO.	EN300020740	Α0

# 4. Demo Board Matching Circuit

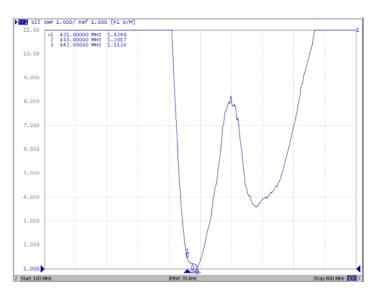


### 5. The Picture of Test Board



# 6. Measurement Data

**VSWR** 



Frequency	421 MHz	433 MHz	442 MHz
VSWR	1.42	1.20	1.11

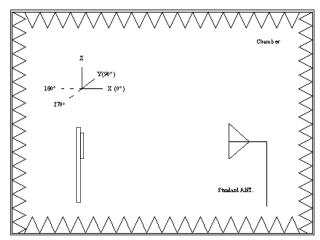
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#### 7. Radiation Pattern

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)

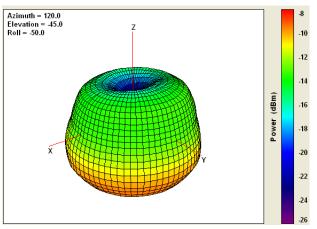
#### Measuring factors definition



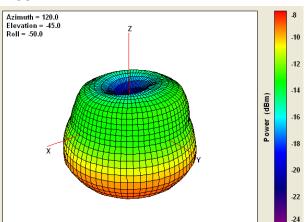


#### 3D Gain Pattern

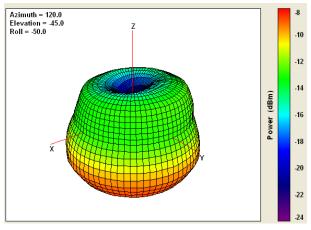
#### 421 MHz



#### 433MHz



#### 442MHz



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	APPROVED BY: 黄月碧 <sup>ま月頃</sup>	AS THE BASIS
DESIGNED BY:溫勝凱	DEVICES WITH	
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#### INPAQ TECHNOLOGY CO., LTD.

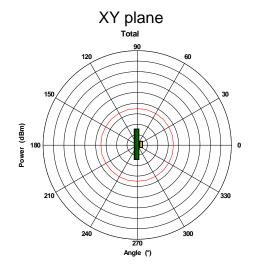
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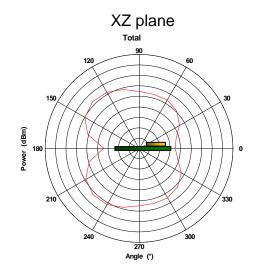
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110	EN300020/40	4.0

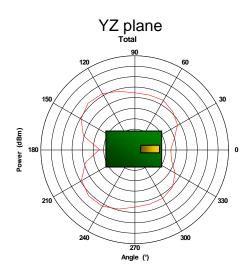
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### 2D Gain Pattern (at 433 MHz)







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### 8. Environmental Performance

### (1) Reliability Test

Item	Condition	Specification
Thermal shock	<ol> <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> <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> <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> <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> <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℃ for 3±1 seconds.	No apparent damage

### (2) Storage Condition

#### (a) At Warehouse:

The temperature should be within  $0 \sim 30^{\circ}\text{C}$  and humidity should be less than 75% RH. The product should be used within 1 year from the time of delivery.

#### (b) On Board:

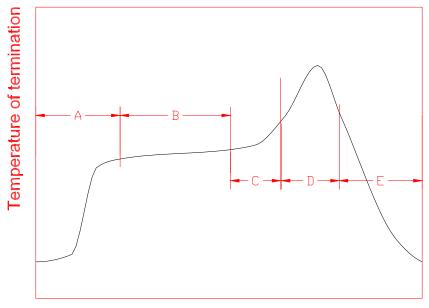
The temperature should be within -40~85°C and humidity should be less than 85% RH.

### (3) Operating Temperature Range

Operating temperature range :  $-40^{\circ}$ C to  $+85^{\circ}$ C.

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# 9. Recommendable Reflow Soldering



#### Time

Α	1 <sup>st</sup> rising temperature	The normal to Preheating	30s to 60s
		temperature	
В	Preheating	140℃ to 160℃	60s to 120s
С	2 <sup>nd</sup> rising temperature	Preheating to 200°C	20s to 40s
	D Main heating	if 220℃	50s∼60s
		if 230°C	40s∼50s
D		if 240℃	30s∼40s
		if 250°C	20s~40s
		if 260°C	20s~40s
Е	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.

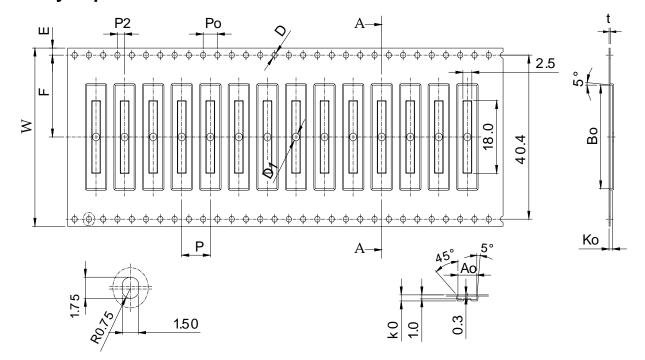
- (a) The tip temperature must be less than 380°C for the period within 3 seconds by using soldering gun under 30 W.
- (b) The soldering gun tip shall not touch this product directly.

### (2) Soldering Volume

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

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TITLE : ACF-2505-AT-MF-5 Specification		NO.	LN3000020740	Α0	

# 10. Carry Tape



Unit: mm

Item	Specifications	tolerance
W	44.00	±0.30
Р	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
Во	25.60	±0.10
Ko	1.50	±0.10
t	0.30	±0.05

UNLESS OTHER SPECIFIED X=± X.X=± ANGLES=±	TOLERANCES ON : X.XX= HOLEDIA=±	<b>G</b>	INPAQ TECHNOLOGY CO	)., LTD.	
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		NO.	LN3000020740	A0	

- (1) sprocket hole pitch cumulative tolerance ±0.20mm.
- (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

UNLESS OTHER SPECIFIED TOLERANCES ON:					
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