





品名：ACA-2003-P1-GF-S

1. Explanation of Part Number :


AC A - 2003 P1 - GF - S -     
 (1) (2) (3) (4) (5) (6) (7)

- (1) Product Type : Chip Antenna
- (2) Center Frequency/Band Code : A -2.45GHz
- (3) Size Code : 20.5mm(length) x 3.6mm(width)
- (4) Design Revision Code : P1= Rev. 1
- (5) Series No. : GF=On Ground FR4
- (6) Special Code : S= RoHS Compliant
- (7) Suffix For Special Requirements

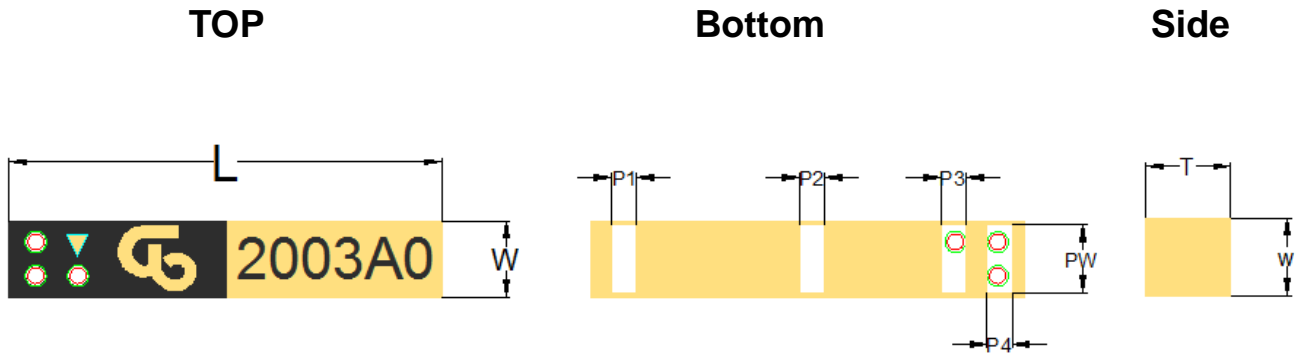
2. Electrical Specification :

ITEM	SPECIFICATION
Working Frequency Range	2400 ~ 2500 MHz
Peak Gain	1.2 dBi (Typical)
Return Loss	-10 dB (Typical)
Polarization	Linear
Feed Impedance	50Ω
Operating Temperature	-40 ~ 85 °C

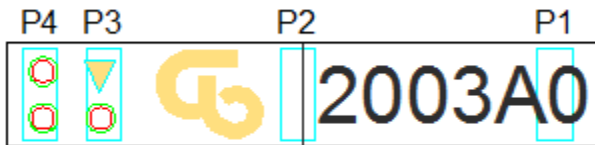
\*Note : Central Frequency should be defined after customer's application approval.

UNLESS OTHER SPECIFIED TOLERANCES ON : X=N/R      X.X=N/R      X.XX =N/R ANGLES=N/R      HOLEDIA=N/R			INPAQ TECHNOLOGY CO., LTD.	
SCALE : N/R	UNIT : mm			
DRAWN BY : Darren	CHECKED BY : Darren	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 : Kerry	APPROVED BY : MACRO			
TITLE : ACA-2003-P1-GF-S		DOCUMENT NO.	ENS070008800-000824000427	SPEC REV. A0

### 3. Physical Dimension :



Chip Antenna	L	W	T	PW	P1	P2	P3	P4
Dimension(mm)	20.5±0.2	3.6±0.2	4.0±0.2	3.2±0.1	1.2±0.1	1.2±0.1	1.2±0.1	1.2±0.1



Outline of Free Antenna

PIN	Difinition
P1	Soldering
P2	Soldering
P3	Feed
P4	Ground

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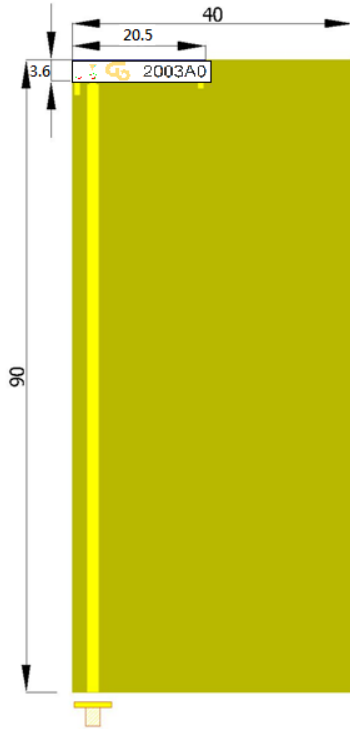
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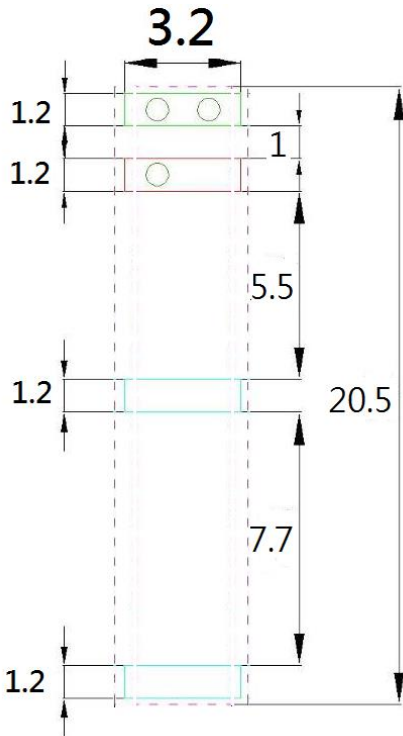
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#### 4. Recommend PCB Layout :



	EVB SIZE (mm)
Test EVB	90 x 40 x 0.8

#### SOLDER LAND PATTERN DESIGN



- Ground, connect to ground
- Feed, connected to 50ohm transmission line
- Soldering pads
- Antenna outline

Unit: mm

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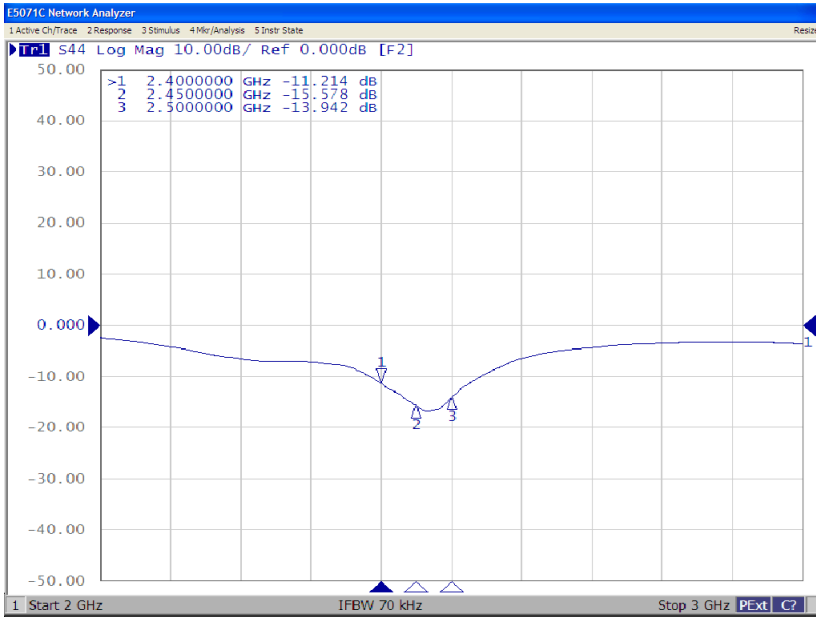
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## 5. Electrical Characteristics :

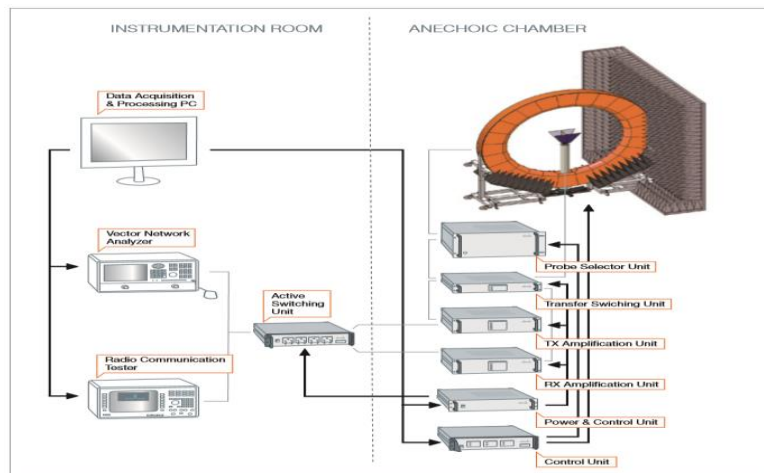
### Return Loss



Frequency (MHz)	S11(dB)
2400	-11.2
2450	-15.5
2500	-13.9

### 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

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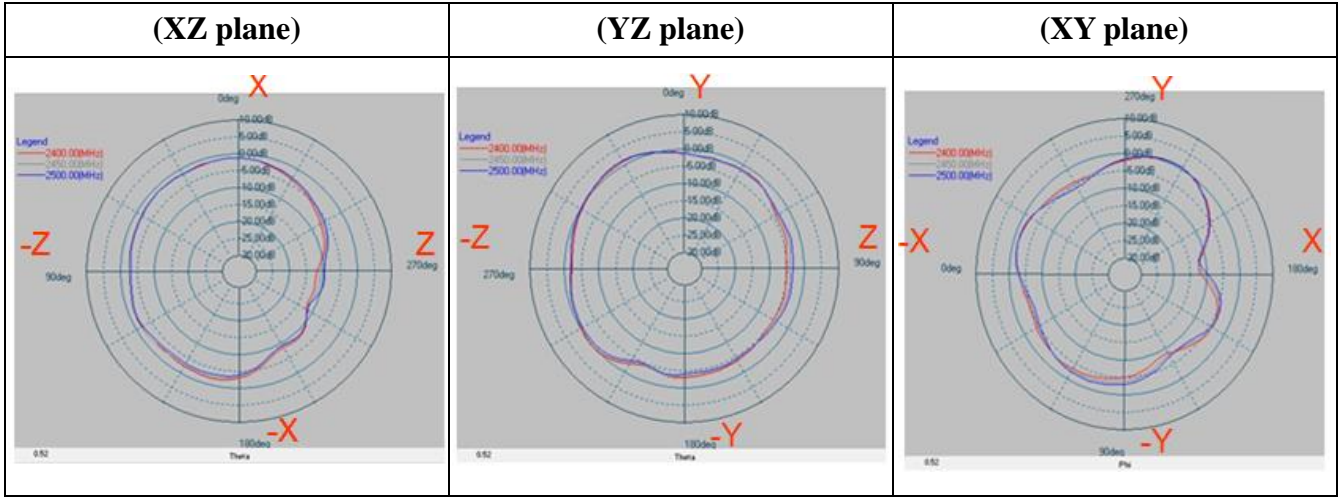
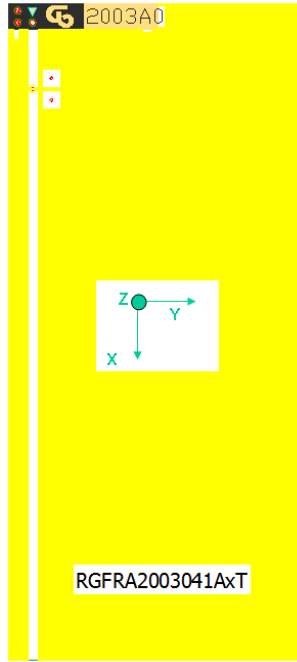
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Frequency [MHz]	ZX plane		ZY plane		XY plane	
	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]	Max Value [dB]	Average [dB]
2400	-1.37	-4.11	0.88	-2.20	0.29	-4.01
2450	-1.40	-4.05	1.18	-2.08	0.49	-3.86
2500	-1.42	-4.19	1.20	-2.12	0.31	-3.94

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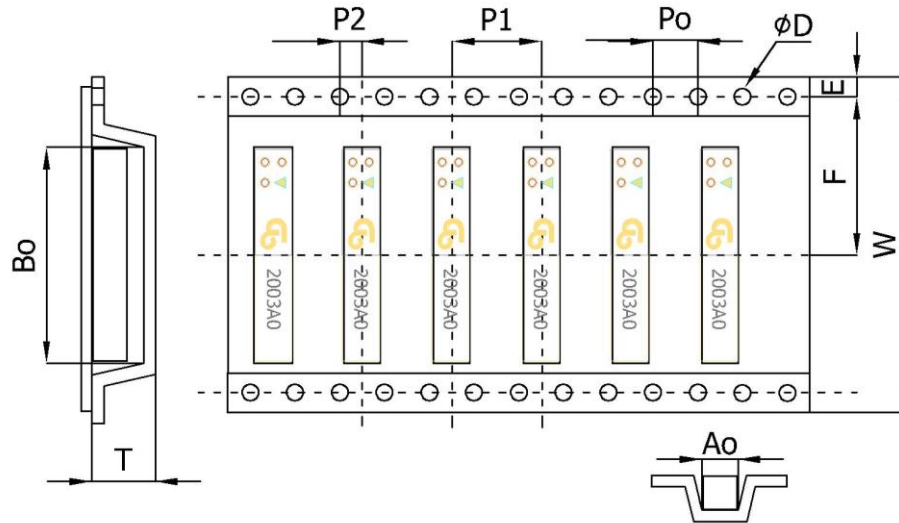
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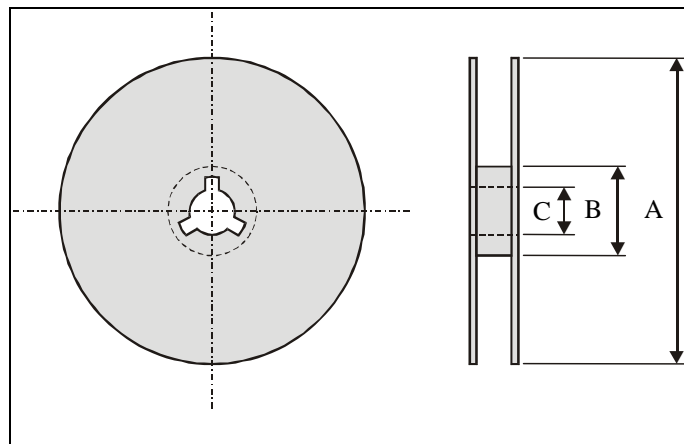
## 6. Taping Package and Label Marking : (unit : mm)

(1) Quantity/Reel : 1000 pieces per 13" reel

(2) Carrier tape dimensions



Index	Ao	Bo	$\Phi D$	T	W
Dimension (mm)	$4.05 \pm 0.10$	$20.95 \pm 0.10$	$1.55 \pm 0.05$	$4.40 \pm 0.10$	$32.00 \pm 0.30$
Index	E	F	Po	P1	P2
Dimension (mm)	$1.75 \pm 0.10$	$14.20 \pm 0.15$	$4.00 \pm 0.01$	$12.00 \pm 0.10$	$2.00 \pm 0.15$



Index	A	B	C
Dimension (mm)	$\Phi 330 \pm 1$	$\Phi 99 \pm 1$	$\Phi 17.4 \pm 0.5$

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## 7. Recommended reflow soldering :

Typical examples of soldering processes that provide reliable joints without any damage are given in Fig 1

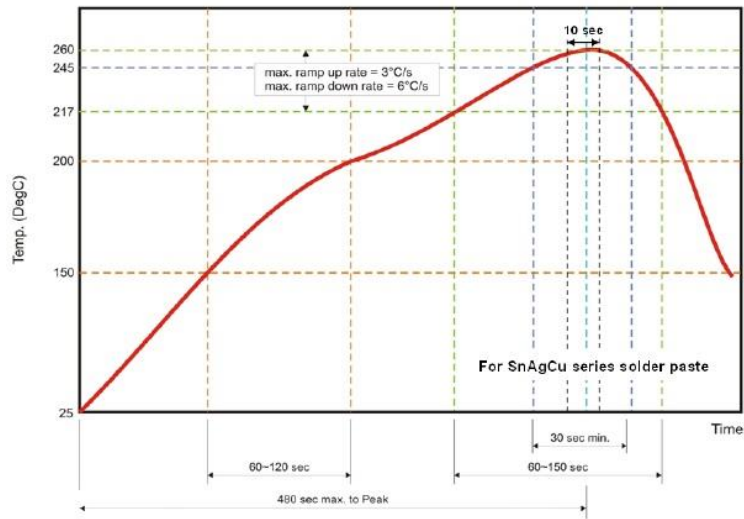



Fig 1. Infrared soldering profile

## 8. CAUTION OF HANDLING

### Limitation of Applications


● Please contact us before using our products for the applications listed below which require especially high reliability for the prevention of defects, which might directly cause damage to the third party's life, body or property.

- (1) Aircraft equipment
- (2) Aerospace equipment
- (3) Undersea equipment
- (4) Medical equipment
- (5) Disaster prevention / crime prevention equipment
- (6) Traffic signal equipment
- (7) Transportation equipment (vehicles, trains, ships, etc.)
- (8) Applications of similar complexity and /or reliability requirements to the applications listed in the above.

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## Storage condition

- (1) Products should be used in 6 months from the day of INPAQ outgoing inspection.
- (2) Storage environment condition.
  - Products should be storage in the warehouse on the following conditions.
  - Temperature : +5 to +40°C
  - Humidity : 30 to 70% relative humidity
  - Don't keep products in corrosive gases such as sulfur. Chlorine gas or acid or it may cause oxidization of electrode, resulting in poor solderability.
  - Products should be storage on the palette for the prevention of the influence from humidity, dust and son on.
  - Products should be storage in the warehouse without heat shock, vibration, direct sunlight and so on.
  - Products should be storage under the airtight packaged condition.

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