

# Antenna specification

INPAQ TECHNOLOGY CO., LTD.

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Model No. ACA-5020-D1-MF-S

## 1. Explanation of Part Number :

$$\frac{AC}{(1)} \frac{A}{(2)} - \frac{5020}{(3)} \frac{D1}{(4)} - \frac{MF}{(5)} - \frac{S}{(6)} - (7)$$

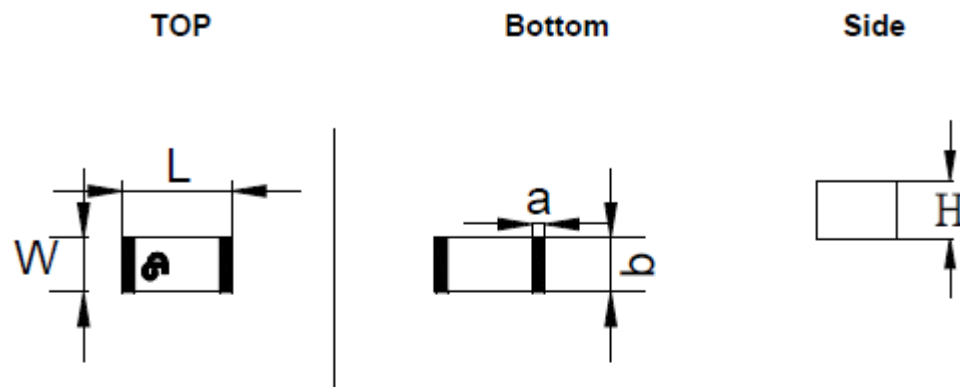
- (1) Product Type : Chip Antenna
- (2) Center Frequency/Band Code : A -2.45GHz
- (3) Size Code : 5.0mm(length) x 2.0mm(width)
- (4) Design Revision Code : D1= Rev. 1
- (5) Series No. : MF=MONOPOLE FR4 type
- (6) Special Code : S= RoHS Compliant
- (7) Suffix For Special Requirements

## 2. Electrical Specification :

ITEM	SPECIFICATION
Frequency Band	2400-2500MHz
Return Loss	Less than -10
Polarization	Linear
Impedance	50 ohm Typ.
Operating temperature	-45 ~85 °C
Dimension	5.0 x 2.0 x 1.6mm

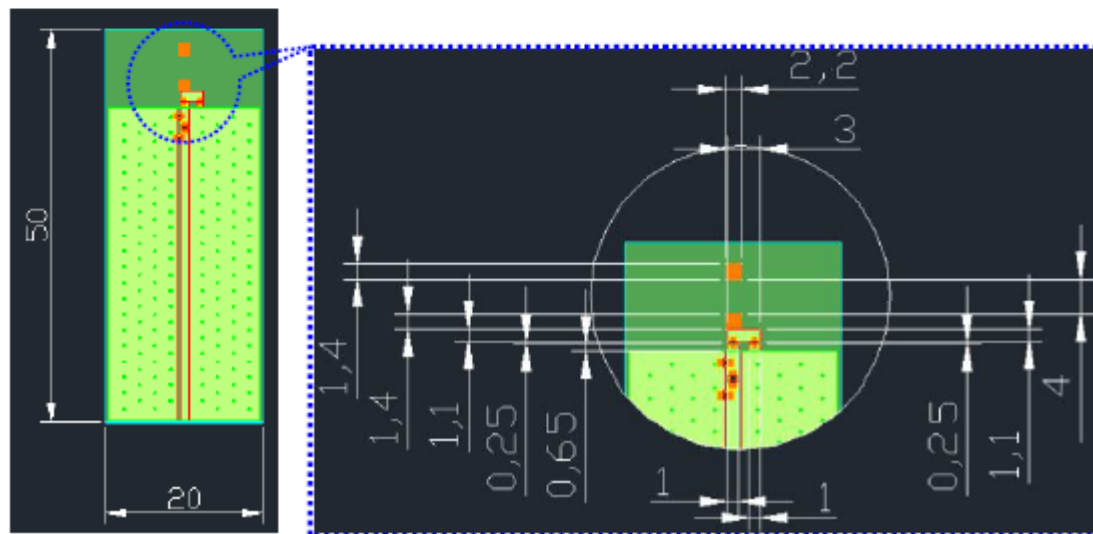
\* Test condition : Test board size 50\*20 mm  
Matching circuit may be required

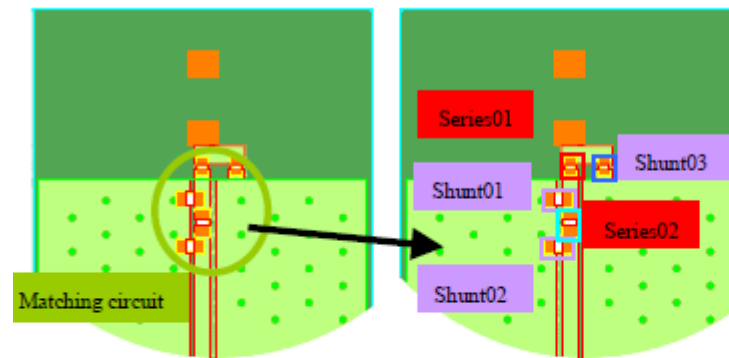
### 3. Physical Dimension :



Chip Antenna	L	W	H	a	b
ACA-5020-D1-MF-S	$5.0 \pm 0.2$	$2.0 \pm 0.2$	$1.6 \pm 0.2$	$0.7 \pm 0.2$	$2 \pm 0.2$

### 4. Recommend PCB Layout :

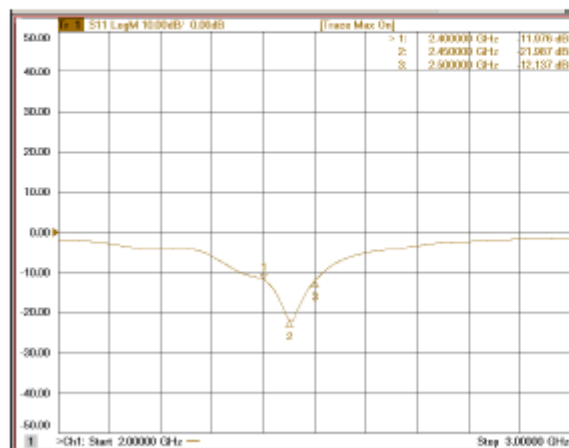




Circuit Symbol	Size	Description
Series01	0201	6.8nH
Series02	0201	0ohm
Shunt01	0402	N/A
Shunt02	0402	N/A
Shunt03	0402	N/A

## 5. Electrical Characteristics :

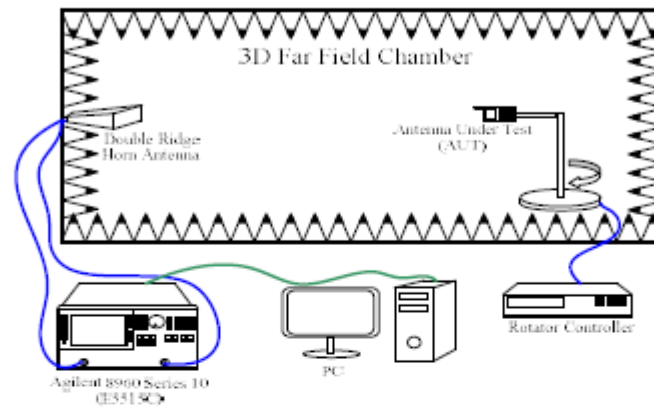
### Return Loss



Frequency (MHz)	S11(dB)
2400	-11
2450	-21
2500	-12

## Radiation Pattern

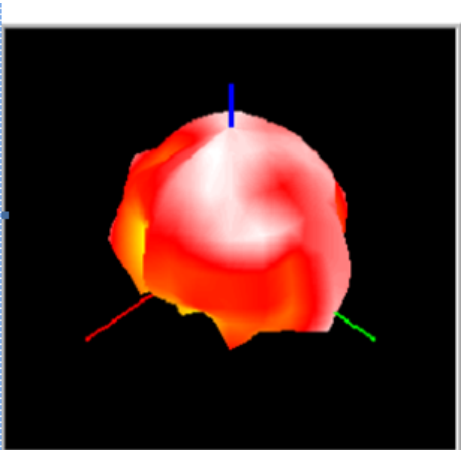
The Gain pattern is measured in INPAQ's FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



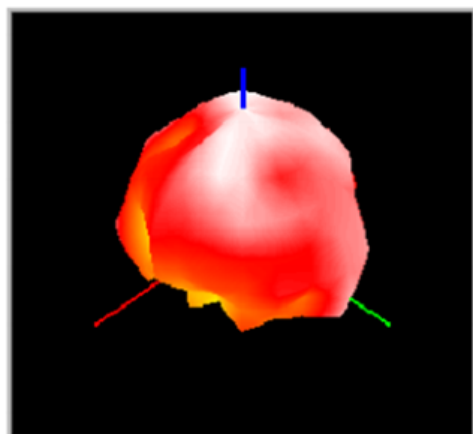
3D Chamber Definition

## Efficiency & Peak Gain

Frequency (MHz)	Peak Gain (dBi)	Efficiency (%)
2400	4.23	59.16
2410	4.3	60.35
2420	4.28	60.18
2430	4.46	62.59
2440	4.49	63.69
2450	4.51	64.52
2460	4.52	65.16
2470	4.5	65.22
2480	4.44	64.69
2490	4.45	64.65
2500	4.47	63.97

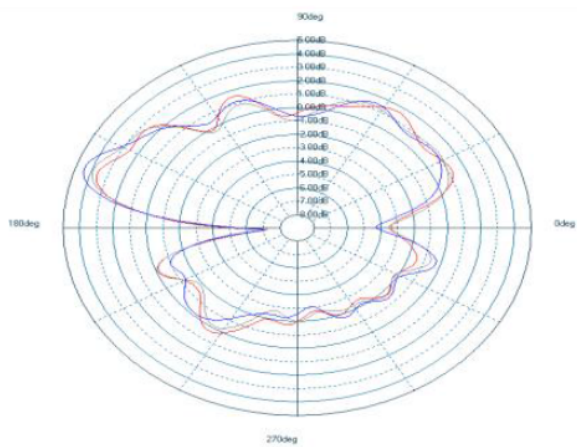


2400TRP



2400TIS

Legend  
 2400.000(Hz)  
 2450.000(Hz)  
 2500.000(Hz)



Legend  
 2400.000(Hz)  
 2450.000(Hz)  
 2500.000(Hz)

