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INPAQ TECHNOLOGY CO., LTD.

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Title: Business Manager

ACD-5036-A3-CC-S

Specification

Product Name	**INPAQ RF Chip Antenna**
Series/PN	**ACD-5036-A3-CC-S**
Size	**EIAJ 5036**

PN：ACD-5036-A3-CC-S

1. Features and Application

This product is for GPS L1 band、1575.42 MHz

2. Explanation of part number

AC	D	-	5036	-	A3	-	CC	-	S	_
(1)	(2)		(3)		(4)		(5)		(6)	(7)

(1) Product Type: Chip Antenna
(2) Center Frequency / Band Code: 1575.42 MHz
(3) Size Code: 5.0*3.6 mm (Length * Width)
(4) Design Revision Code: Rev.3
(5) Antenna type: Coupling Ceramics
(6) Special Code: RoHS Compliant
(7) Suffix For Special Requirements

3. Electrical Specification

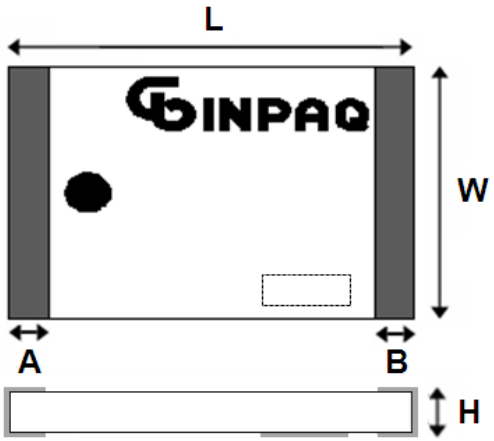
Item	Specification
Frequency Band	1570 ~ 1580 MHz
Polarization	Linear
Impedance	50 ohm Typ.
VSWR	Less than 2.0
*Peak Gain	3.40 dBi Typ.
*Peak Efficiency	83.1 % Typ.

* Test condition: Test board size 80*40 mm

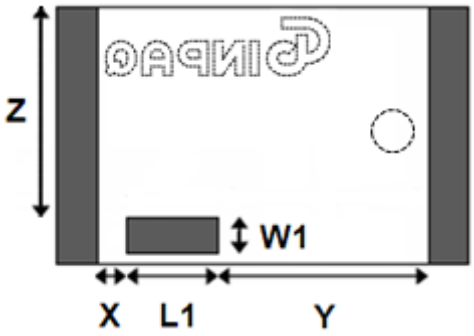
Matching circuit: Pi matching circuit will be required

4. Physical Dimension

Top view



Bottom view



L	5.20 ± 0.30
W	3.70 ± 0.30
H	0.70 ± 0.15
A	0.50 ± 0.25
B	0.50 ± 0.25
L1	1.10 ± 0.20
W1	0.55 ± 0.20
X	0.50 ± 0.10
Y	2.60 ± 0.20
Z	2.95 ± 0.30

(Unit: mm)

5. Recommended PCB Layout

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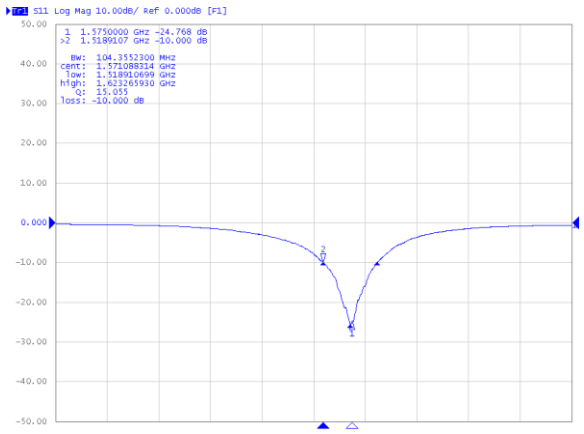
6.Electrical Characteristics

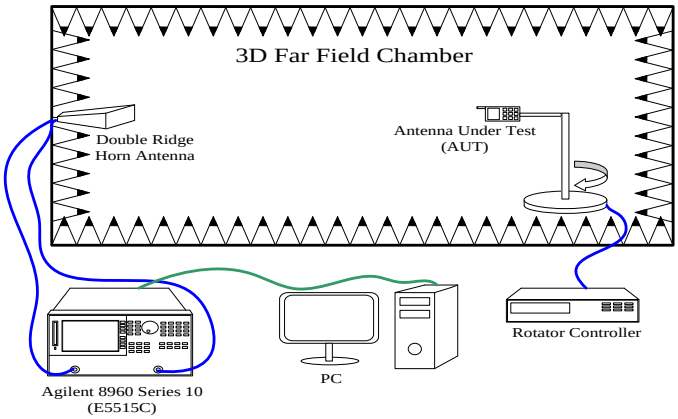
Return Loss



Frequency (MHz)	S_{11} (dB)
1575	-24.77
1518	-10.00
1623	-10.00

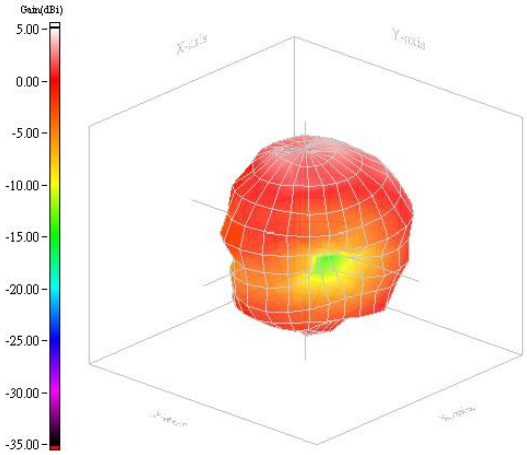
Radiation Pattern

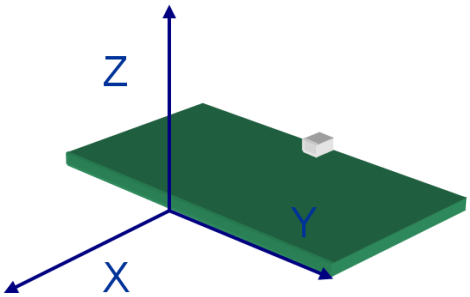
The Gain pattern is measured in INPAQ's FAR-field chamber. DUT is placed on the table of rotator, a standard horn antenna and Vector Network Analyzer is used to collect data.



3D Chamber Definition

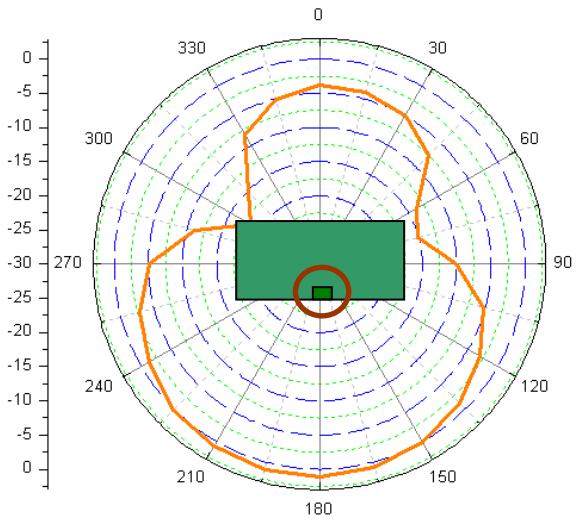
◎ 3D Gain Pattern (1575.42MHz)



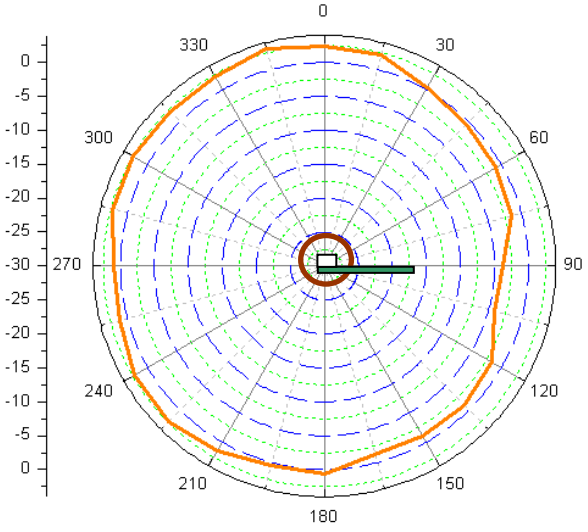


◎ 2D Gain Pattern (1575.42 MHz)

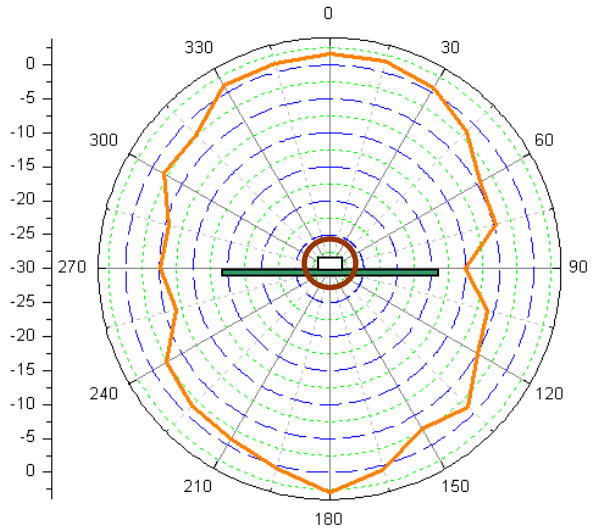
X-Y Plane

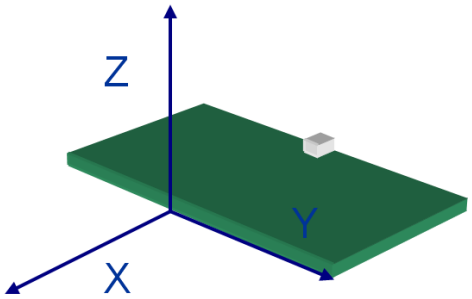


X-Z Plane



Y-Z Plane

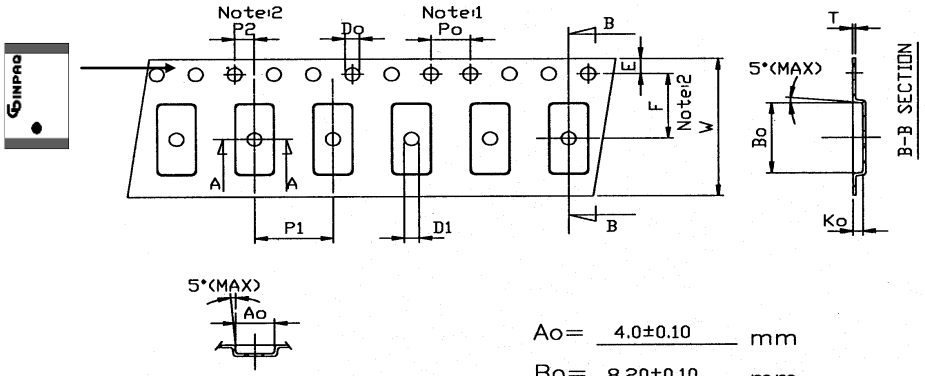




7. Taping Package and Label Marking

(1) Quantity/Reel: 2000pcs/Reel

(2) Carrier tape dimensions



Ao= 4.0±0.10 mm

Bo= 8.30±0.10 mm

Symbol	Spec.
Po	4.00±0.1
P1	8.00±0.1
P2	2.00±0.05
Do	1.55±0.05
D1	1.50(MIN)
E	1.75±0.1
F	5.50±0.05
10Po	40.00±0.2
W	12.00±0.1
T	0.25±0.05

Notice:

1. 10 Sprocket hole pitch cumulative tolerance is ±0.1mm
2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
3. Ao & Bo measured on a place 0.3mm above the bottom of the pocket to top surface of the carrier.
4. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
5. Carrier camber shall be not than 1mm per 100mm through a length of 250mm.

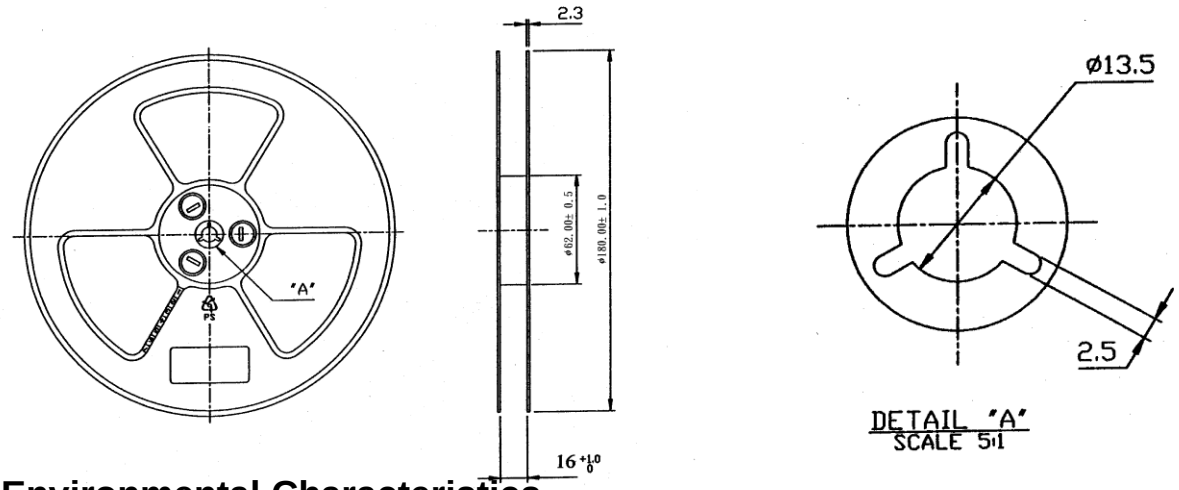
A0= 4.10±0.10 mm

B0= 5.60±0.10 mm

K0= 1.02±0.10 mm

(Unit: mm)

(3) Taping reel dimensions



8. Environmental Characteristics

(1) Reliability Test

Item	Condition	Specification
Thermal shock	1. 30±3 minutes at -40°C±5°C, 2. Convert to +105°C (5 minutes) 3. 30±3 minutes at +105°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: 150°C±5°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 95% 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 60% RH.

The product should be used within 1 year from the time of delivery.

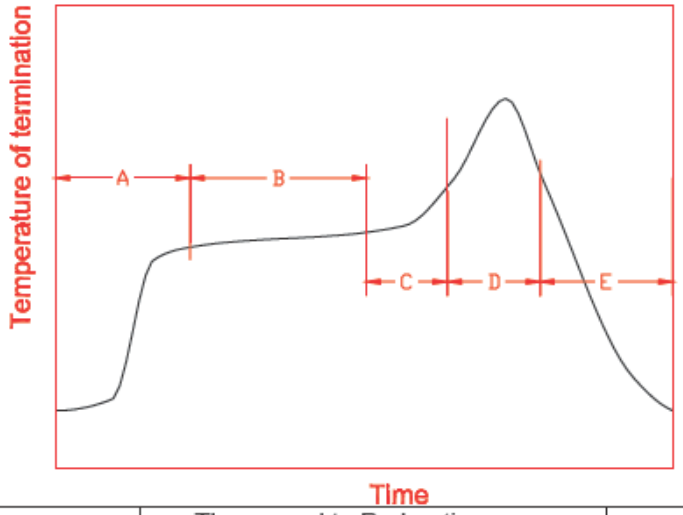
(b) On board:

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 +105°C.

9. Recommended reflow soldering



A	1st rising temperature	The normal to Preheating temperature	30s to 60s
B	Preheating	140℃ to 160℃	60s to 120s
C	2nd rising temperature	Preheating to 200℃	20s to 40s
D	Main heating	if 220℃	50s～60s
		if 230℃	40s～50s
		if 240℃	30s～40s
		if 250℃	20s～40s
		if 260℃	20s～40s
E	Regular cooling	200℃ to 100℃	1℃/s ～ 4℃/s

*reference: J-STD-020C

(1) Soldering gun procedure

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

(a) The tip temperature must be less than 350°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.