VGAP-CLJ-AS-A1 Specification

1. Features and Application

(1) This product is manufactured in ISO/TS16949 certified production factory.
(2) This product is for 6GHz to 8GHz,

2. Explanation of Part Number

VGAP - C LJ - A S - A1
(1) (2) (3) (4) (5)

(1) Product Type: Chip Antenna
(2) Center Frequency: 6GHz to 8GHz
(3) Size Code: 5.0*3.6 mm (Length * Width)
(4) Special Code: RoHS Compliant
(5) Design Revision Code: Rev.1

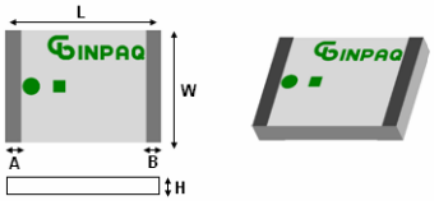
3. Electrical Specification

Item	Specification
Frequency Band	6000 ~ 8000 MHz
Polarization	Linear
Impedance	50 ohm Typ.
VSWR	Less than 2.0

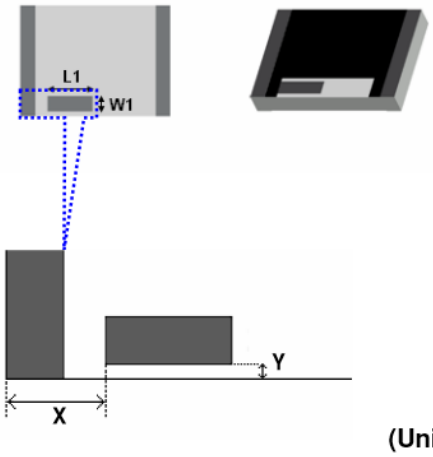
* Test condition: Test board size 50*30 mm
Matching circuit may be required

4. Physical Dimension

Top View



Bottom View

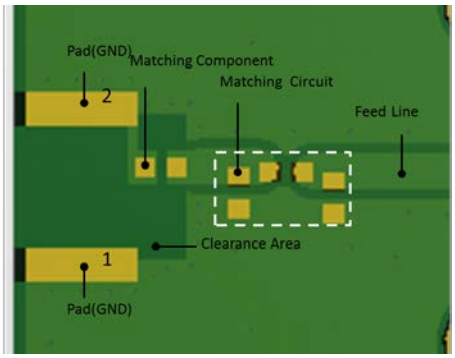


Marking is Green

(Unit: mm)

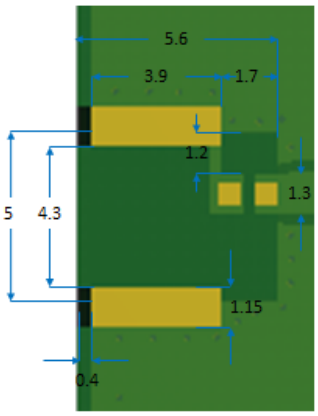
Chip Antenna	L	W	A	B	L1	W1	H	X	Y
VGAP-CLC-AS-A1	5.2±0.3	3.7±0.3	0.45±0.25	0.45±0.25	1.55±0.20	0.55±0.20	0.70±0.15	0.85±0.25	0.12±0.06

5. Recommend PCB Layout

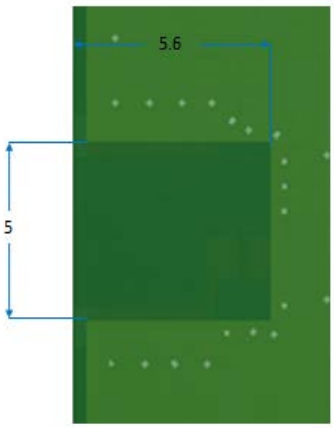


Pad Dimensions on PCB Layout

Top View



Perspective View



(unit:mm)

UNLESS OTHER SPECIFIED TOLERANCES ON： X＝± X.X＝± X.XX＝ ANGLES＝± HOLEDIA＝±		INPAQ TECHNOLOGY CO., LTD.	
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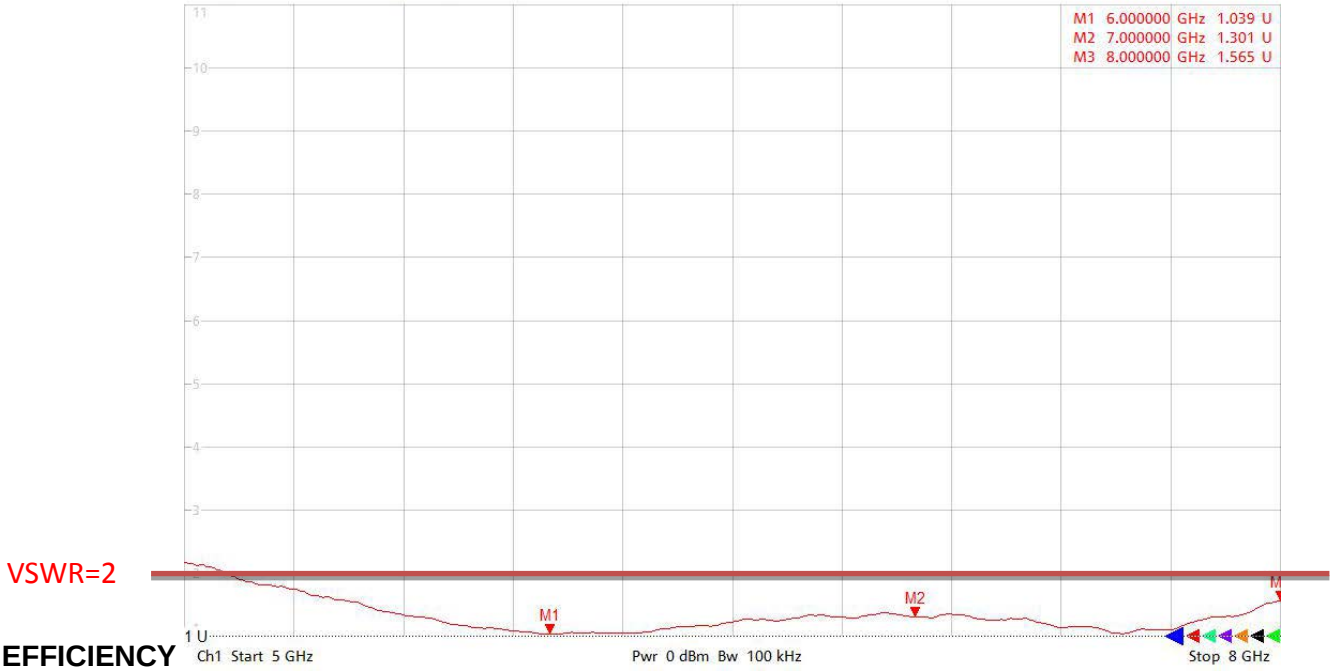
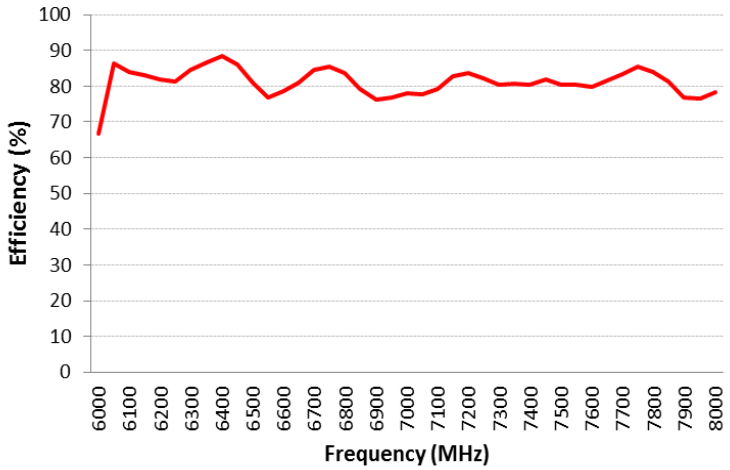
DESIGNED BY：林証瑋	APPROVED BY：蔡凱翔		
TITLE：VGAP-CLJ-AS-A1 Specification		DOCUMENT NO.	ENS000121560	SPEC REV. P3

6. Electrical Characteristics

VSWR



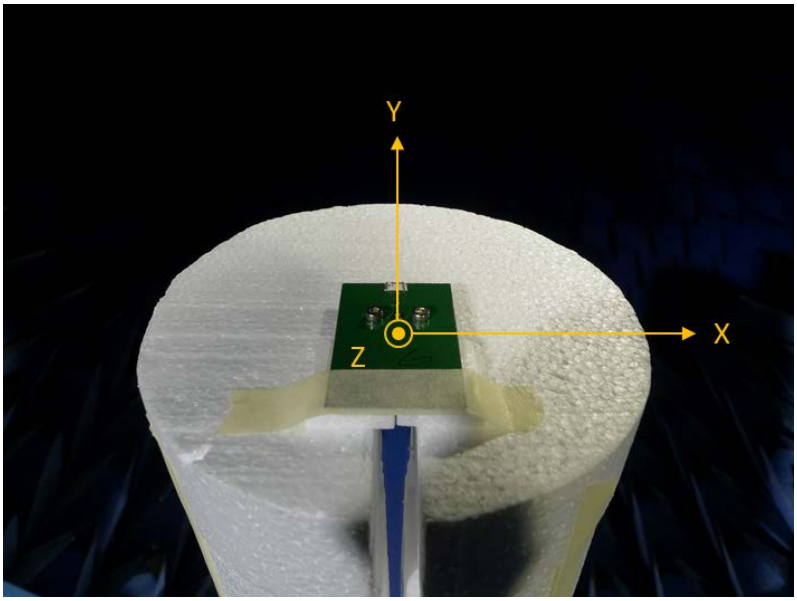
EFFICIENCY



Frequency(MHz)	Efficiency (%)	Average Gain(dBi)	Peak Gain(dBi)
6000 MHz	66.84	-1.75	2.8
6500 MHz	80.89	-0.92	3.6
7000 MHz	77.88	-1.09	3.3
7500 MHz	80.37	-0.95	3.55
8000 MHz	78.32	-1.06	2.95

RADIATION PATTERN

AXIAL DIMENSION

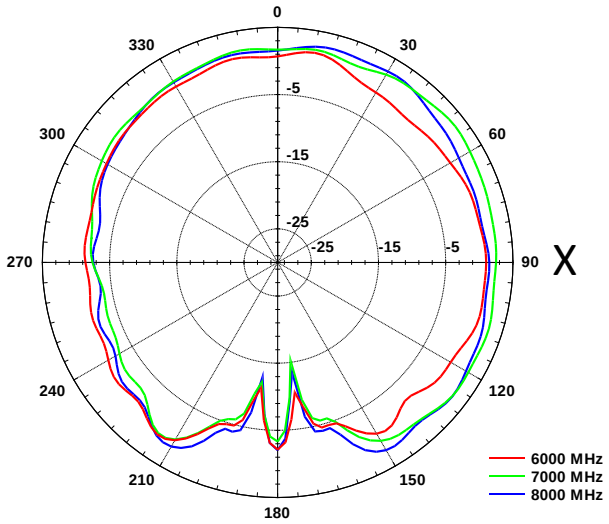


XZ-Plane

Freq.	Peak Gain	Avg. Gain
6000 MHz	0.78	-3.47
7000 MHz	1.68	-2.90
8000 MHz	1.55	-2.08

Z

Unit:dBi



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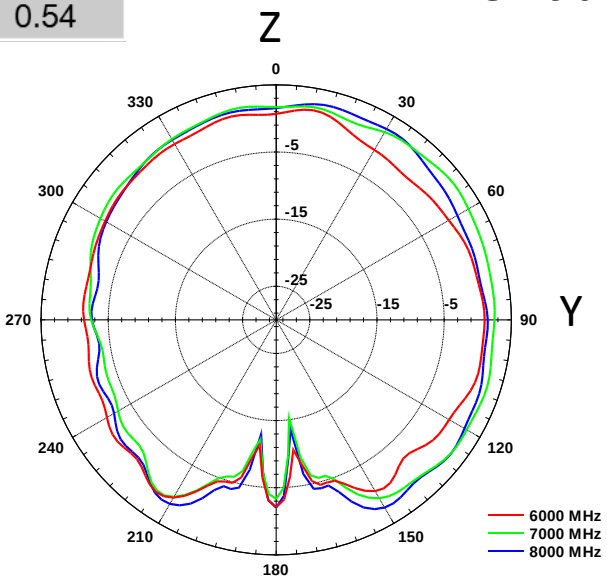
YZ-Plane

Freq.	Peak Gain	Avg. Gain
6000 MHz	1.70	-0.55
7000 MHz	3.30	0.72
8000 MHz	2.90	0.54

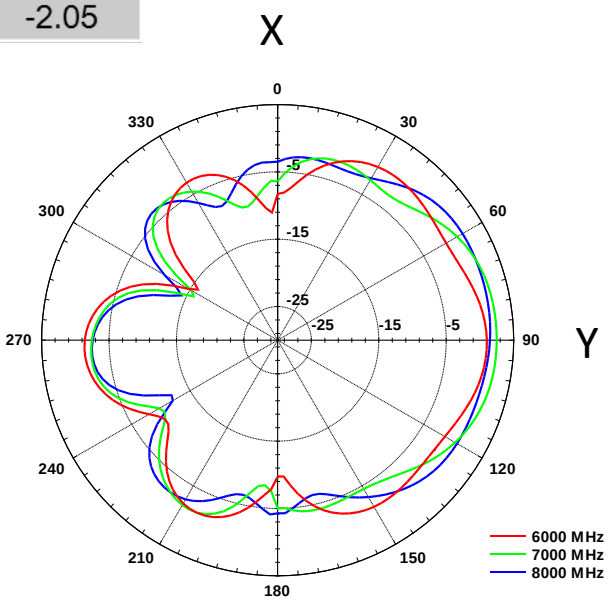
Unit:dBi



XY-Plane

Freq.	Peak Gain	Avg. Gain
6000 MHz	1.03	-2.57
7000 MHz	2.49	-2.18
8000 MHz	1.72	-2.05

Unit:dBi



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7. Environmental Characteristics

(1) Reliability Test

Item	Condition	Specification
Thermal shock	1. 30±3 minutes at -50°C±5°C, 2. Convert to +125°C (5 minutes) 3. 30±3 minutes at +125°C±5°C, 4. Convert to -50°C (5 minutes) 5. Total 1000 continuous cycles	No damage
Humidity resistance	1. Humidity: 85% R.H. 2. Temperature: 85±5°C 3. Time: 1000 hours.	No damage
High temperature resistance	1. Temperature: 150°C±5°C 2. Time: 1000 hours.	No damage
Low temperature resistance	1. Temperature: -40°C±5°C 2. Time: 1000 hours.	No damage
Soldering heat resistance	1. Solder bath temperature: 260±5°C 2. Bathing time: 10±1 seconds	No 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 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:

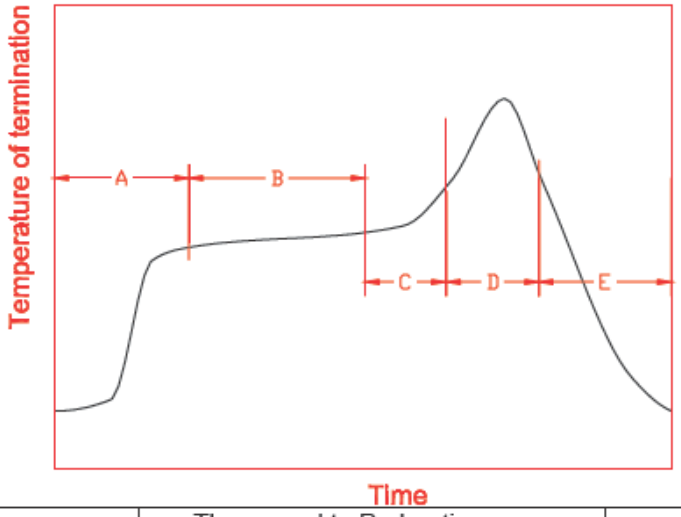
The temperature should be within -40 ~ 85°C and humidity should be less than 85% RH.

(3) Operating temperature range

Operating temperature range: -40 ~ +105°C.

8. Recommended reflow soldering

Reference: J-STD-020C



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

(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.