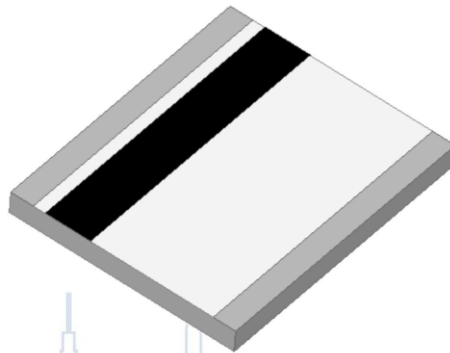




Product Name: UWB Ceramic Chip Antenna – CR601C

Part Number: H2UL6F1T2S0100

Features:

- SMD Chip Antenna
- Frequency: 6000 ~ 8000 MHz
- Dimensions: 6.0 x 5.0 x 0.5mm
- RoHS 2.0 Compliant

Applications:

- Automotive sensors
- Ultra-wideband radios
- Precision surveying
- Remote controls
- Centimeter Level Positioning

UWB Ceramic Chip Antenna

MODEL: CR601C

Version: Preliminary

I. Specifications:

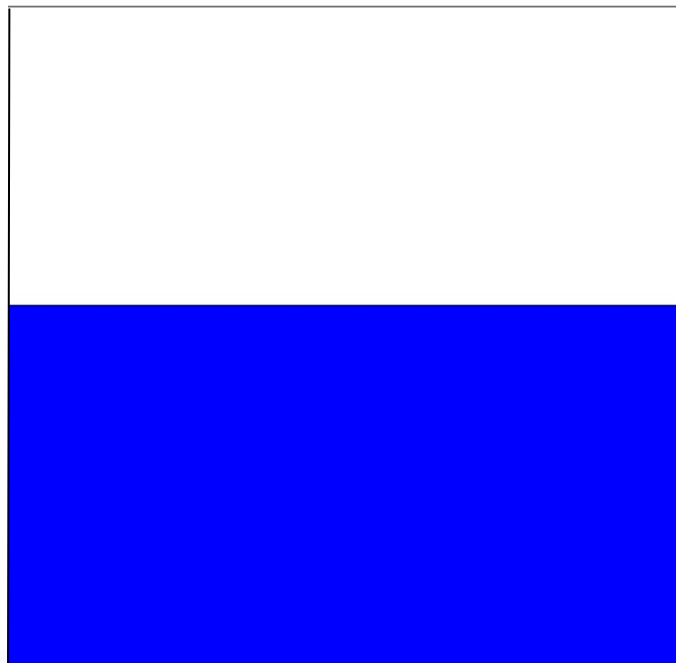
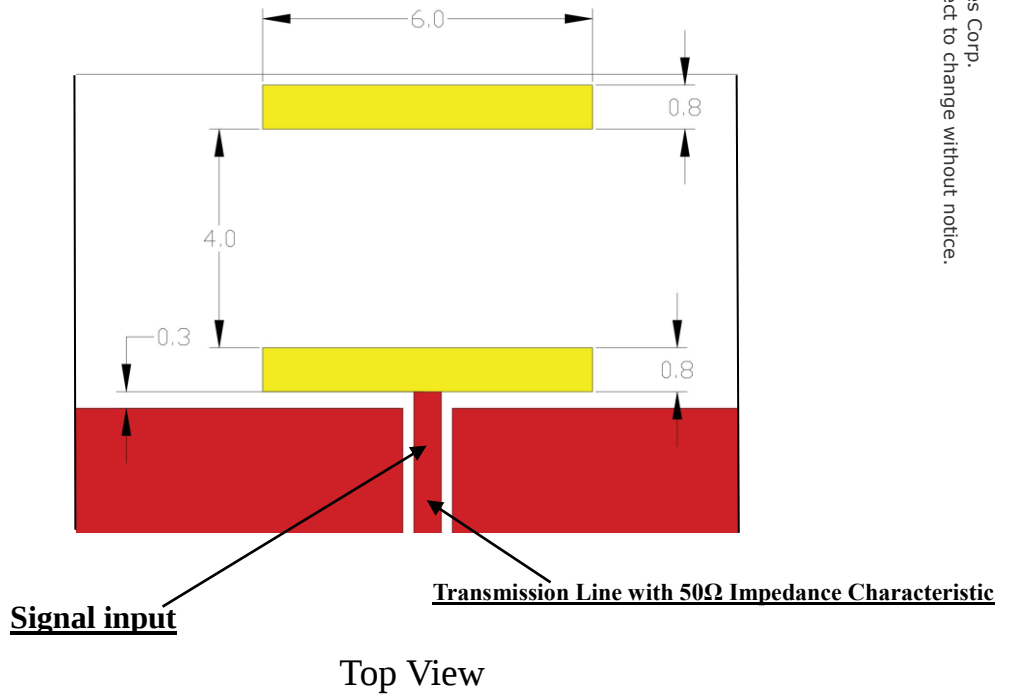
Items	Specifications
Frequencies (MHz)	6000 ~ 8000
Return Loss (dB)	<-10 (typical)
VSWR	2.0 Max. (typical)
Efficiency (%)	86 (typical)
Peak Gain (dBi)	4.5 (typical)
Test Condition	25 x 20 mm ² (Evaluation board)
Impedance (Ω)	50
Polarization	Linear Polarization

Mechanical Specifications	
Dimensions (mm)	6 (L) x 5 (W) x 0.5 (H)
Material	Ceramic
Environmental Conditions	
Operation Temperature (°C)	-40 ~ +85
Storage Temperature (°C)	-5 ~ +40
Relative Humidity	10 ~ 70 %

II. Layout Guide:

Solder Land Pattern:

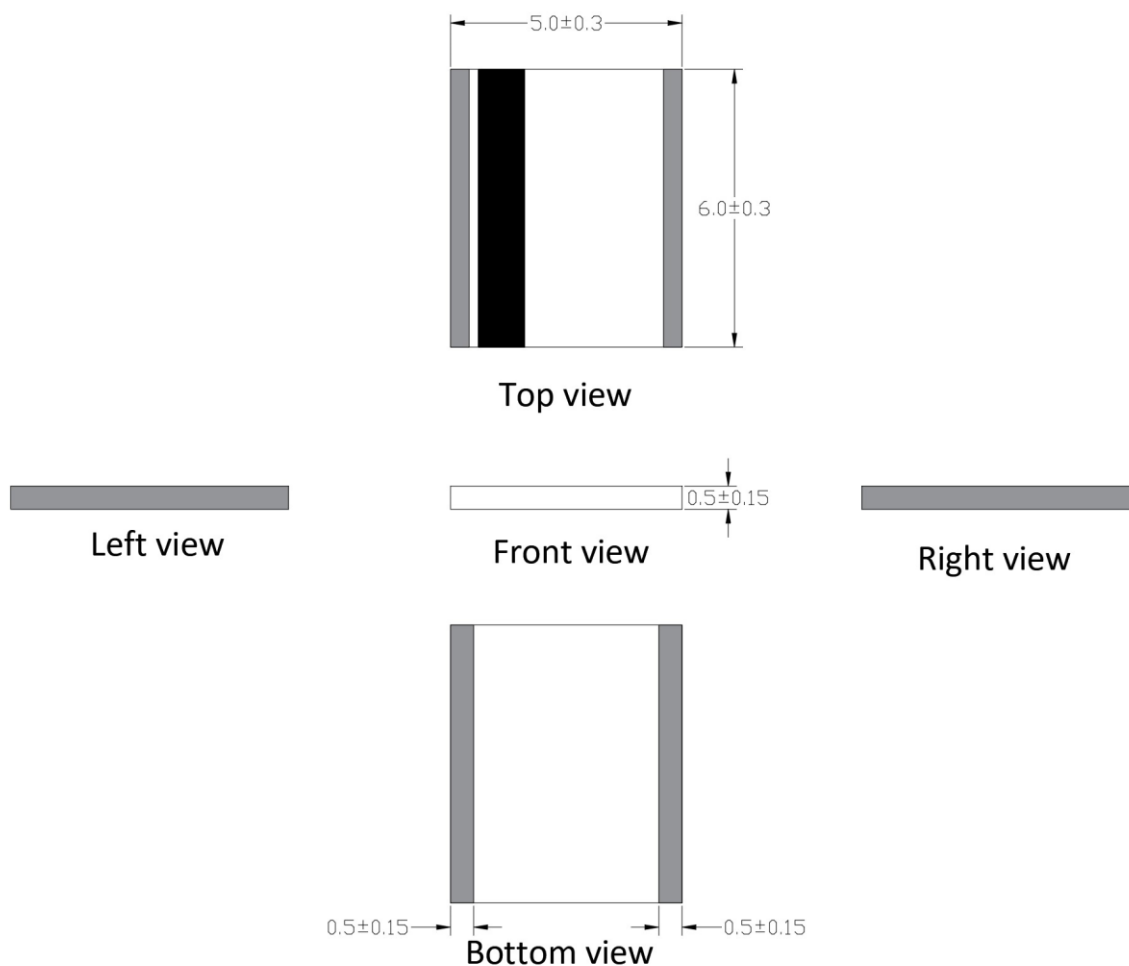
The solder land pattern (gold marking areas) is shown below. Recommendation on matching circuit will be provided according to customer's installation conditions.



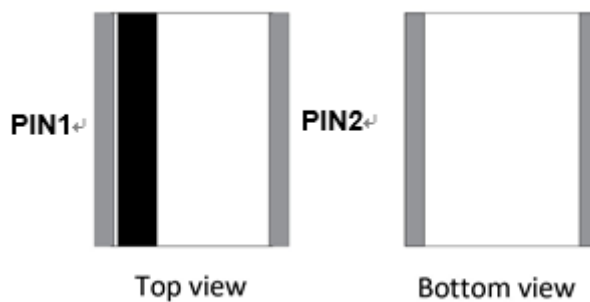
Bottom View

III. Mechanical Dimensions:

a) Antenna Dimensions

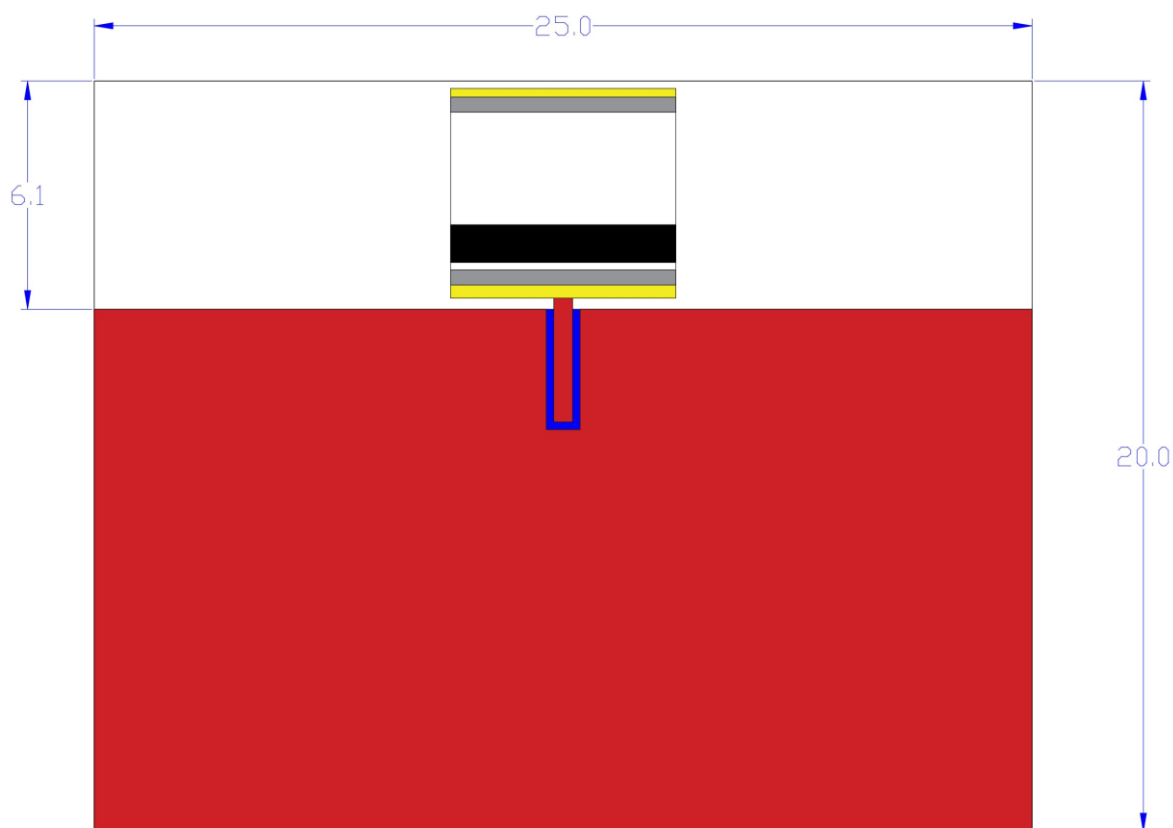


b) PIN Definition



PIN	1	2
Soldering PAD	Signal	N/A

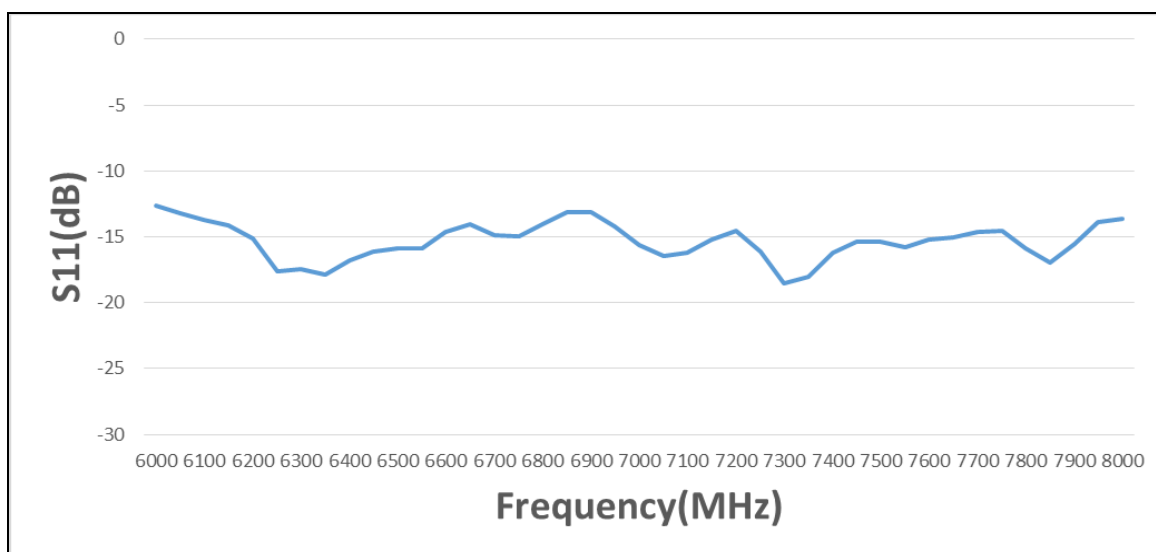
c) Test Board with Antenna



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All specifications subject to change without notice.

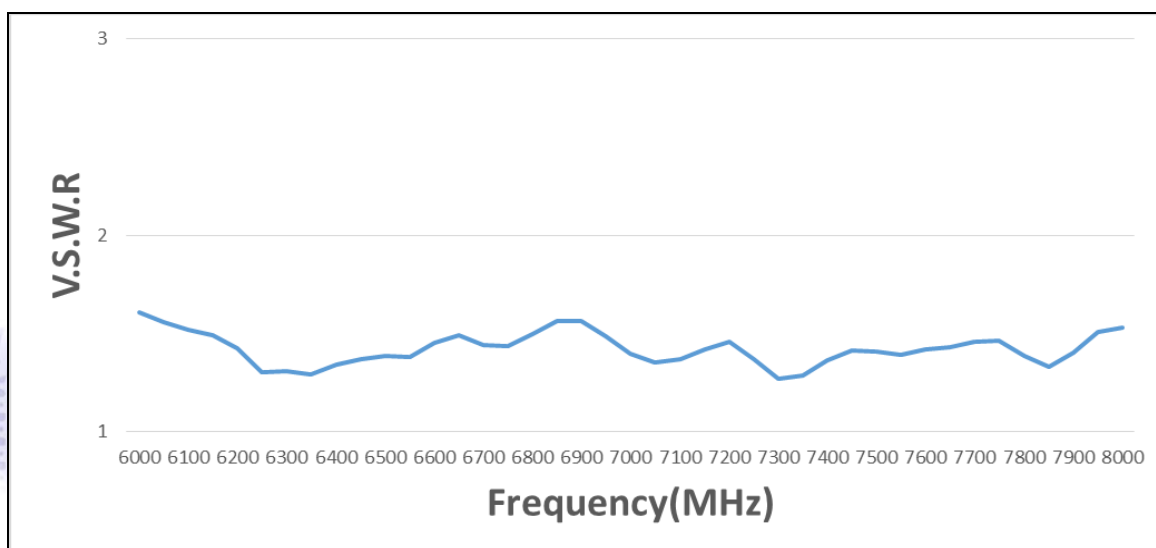
IV. Properties:

a) Return Loss

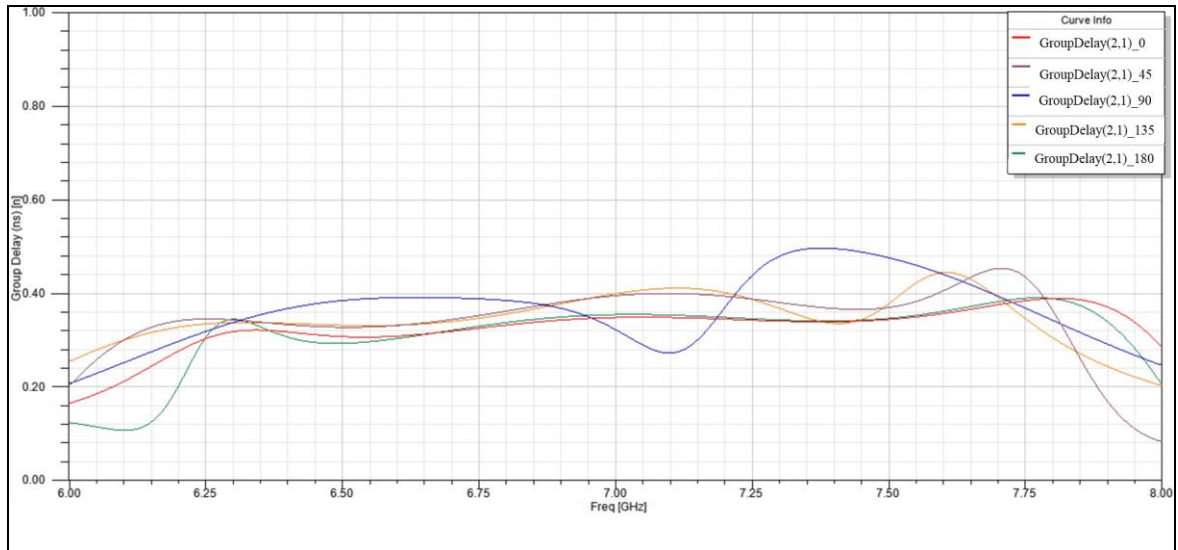


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b) VSWR

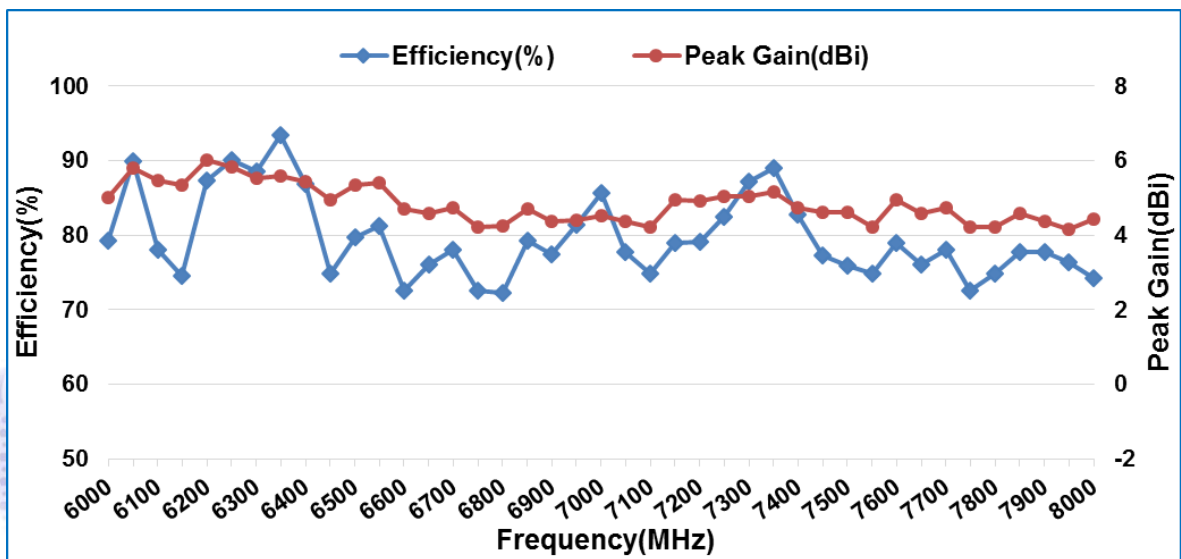


c) Group Delay vs. Frequency



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d) Efficiency vs. Peak Gain



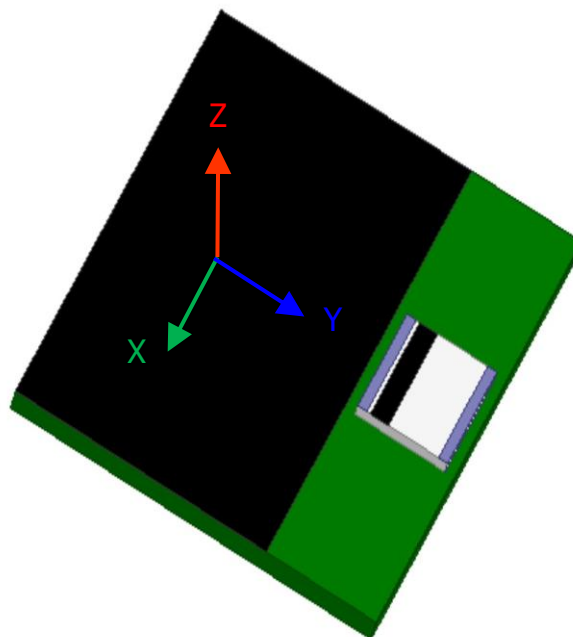
V. Antenna Radiation Pattern Measurement:

The antenna radiation patterns are measured in Unictron's 3D Anechoic Chamber. The measurement setup is as show below.

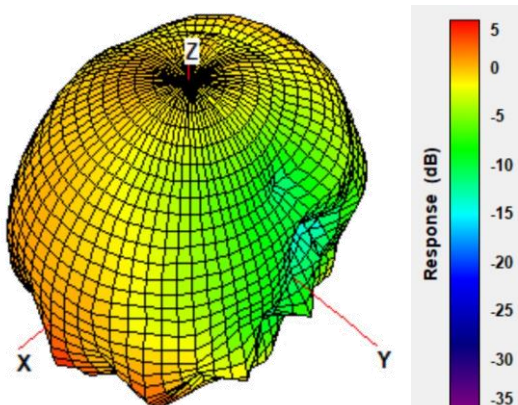


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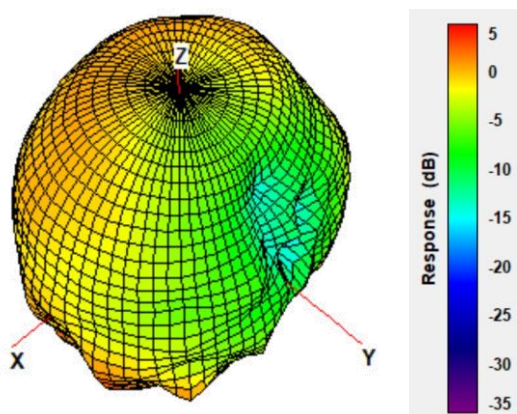
3D Radiation Gain Pattern



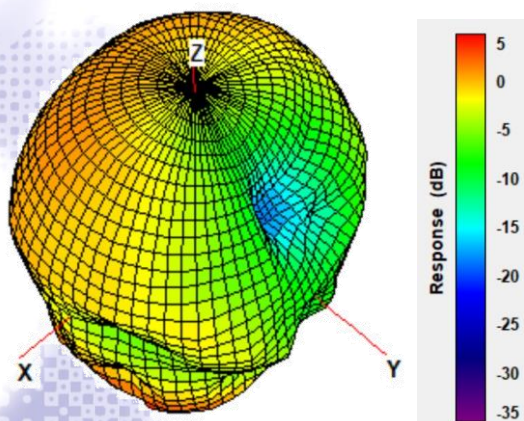
a) 6000 MHz



b) 7000 MHz

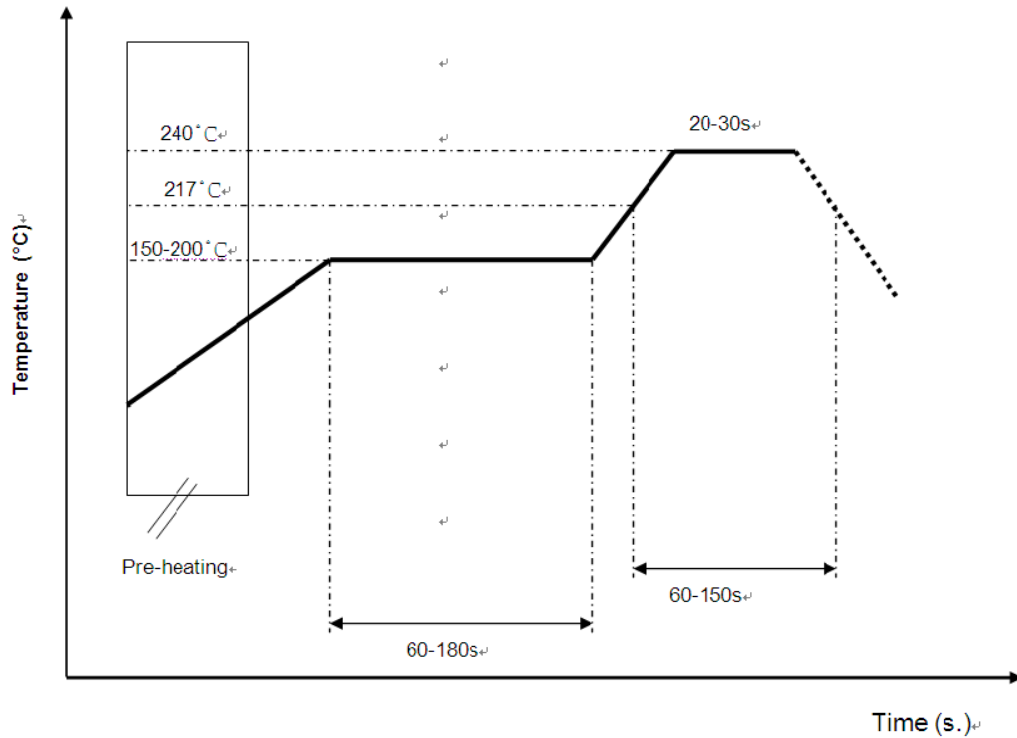


c) 8000 MHz



VI. Soldering conditions:

Typical Soldering Profile for Lead-free Process



*Recommended solder paste alloy: SAC305 (Sn96.5 /Ag3 /Cu0.5) Lead Free solder paste.

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VII. Reminders for use of Unictron's ceramic chip antennas:

- a) This chip antenna is made of ceramic materials which is relatively more rigid and brittle compared to circuit board materials. Furthermore, the length of this antenna is quite long. Bending of circuit board at the locations where chip antenna is mounted may cause the cracking of solder joints or antenna itself.
- b) Punching/cutting of the break-off tab of PCB panel may cause severe bending of the circuit board which may result in cracking of solder joints or chip antenna itself. Therefore break-off tab shall be located away from the installation site of chip antenna.
- c) Be cautious when ultrasonic welding process needs to be used near the locations where chip antennas are installed. Strong ultrasonic vibration may cause the cracking of chip antenna solder joints.

VIII. Operating & Storage conditions:

a) Operating

- (1) Maximum Input Power: 2 W
- (2) Operating Temperature: -40°C to 85°C
- (3) Relative Humidity: 10% to 70%

b) Storage (sealed)

- (1) Storage Temperature: -5°C to 40°C
- (2) Relative Humidity: 20% to 70%
- (3) Shelf Life: 1 year

c) Storage (unsealed)

Meet the criteria of J-STD-033 MSL2a

d) Storage (After mounted on customer's PCB with SMT process)

- (1) Storage Temperature: -40°C to 85°C
- (2) Relative Humidity: 10% to 70%

IX. Notice

(1) Installation Guide:

Please refer to Unictron's application note "General guidelines for the installation of Unictron's chip antennas" for further information.

(2) All specifications are subject to change without notice.