

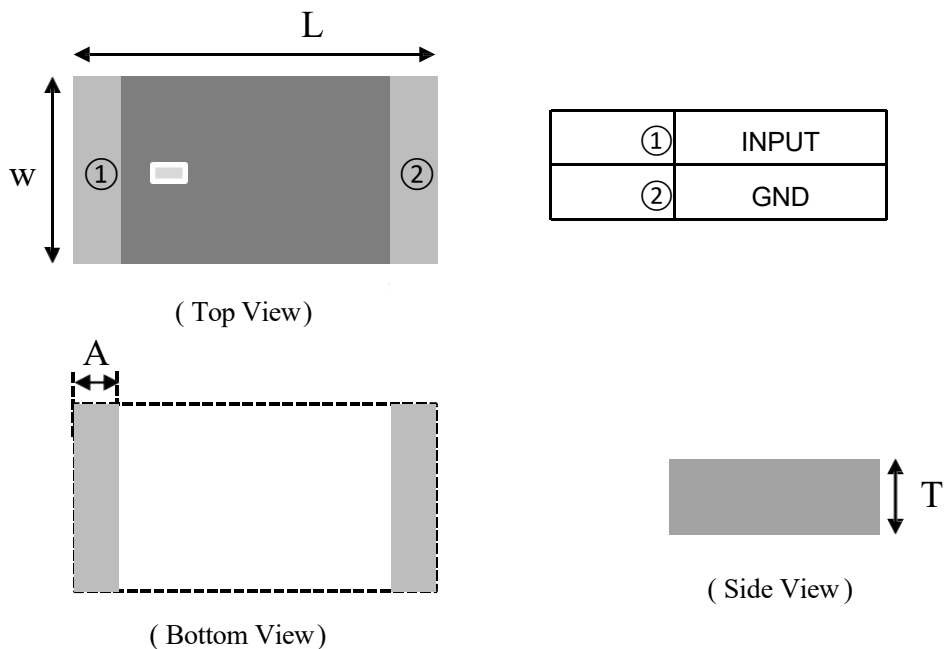
Features

- 1.Surface Mounted Devices with a small dimension of 2.0 x 1.25 x 0.6 mm³ meet future miniaturization trend.
- 2.Embedded and LTCC (Low Temperature Co-fired Ceramic) technology is able to future integrate with system design as well as beautifying the housing of final product.
3. High Stability in Temperature / Humidity Change

Applications

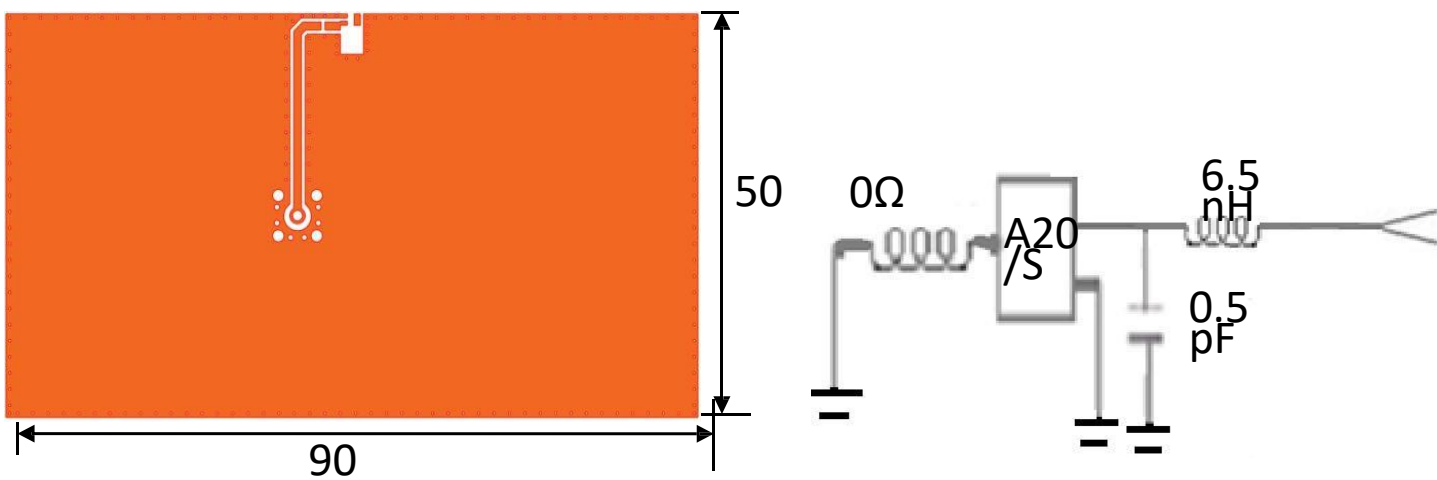
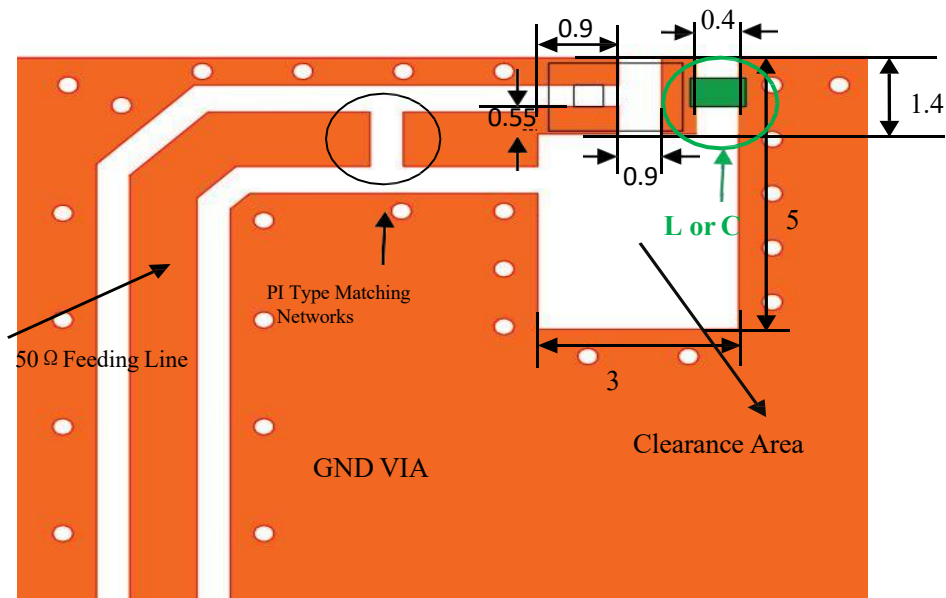
1. Bluetooth
2. Wireless LAN
3. ISM band 2.4GHz wireless applications

Dimensions (Unit: mm)



Symbols	L	W	T	A
Dimensions	2.0+/-0.2	1.25+/-0.2	0.6+/-0.1	0.6+/-0.1

Evaluation Board and Matching Circuits



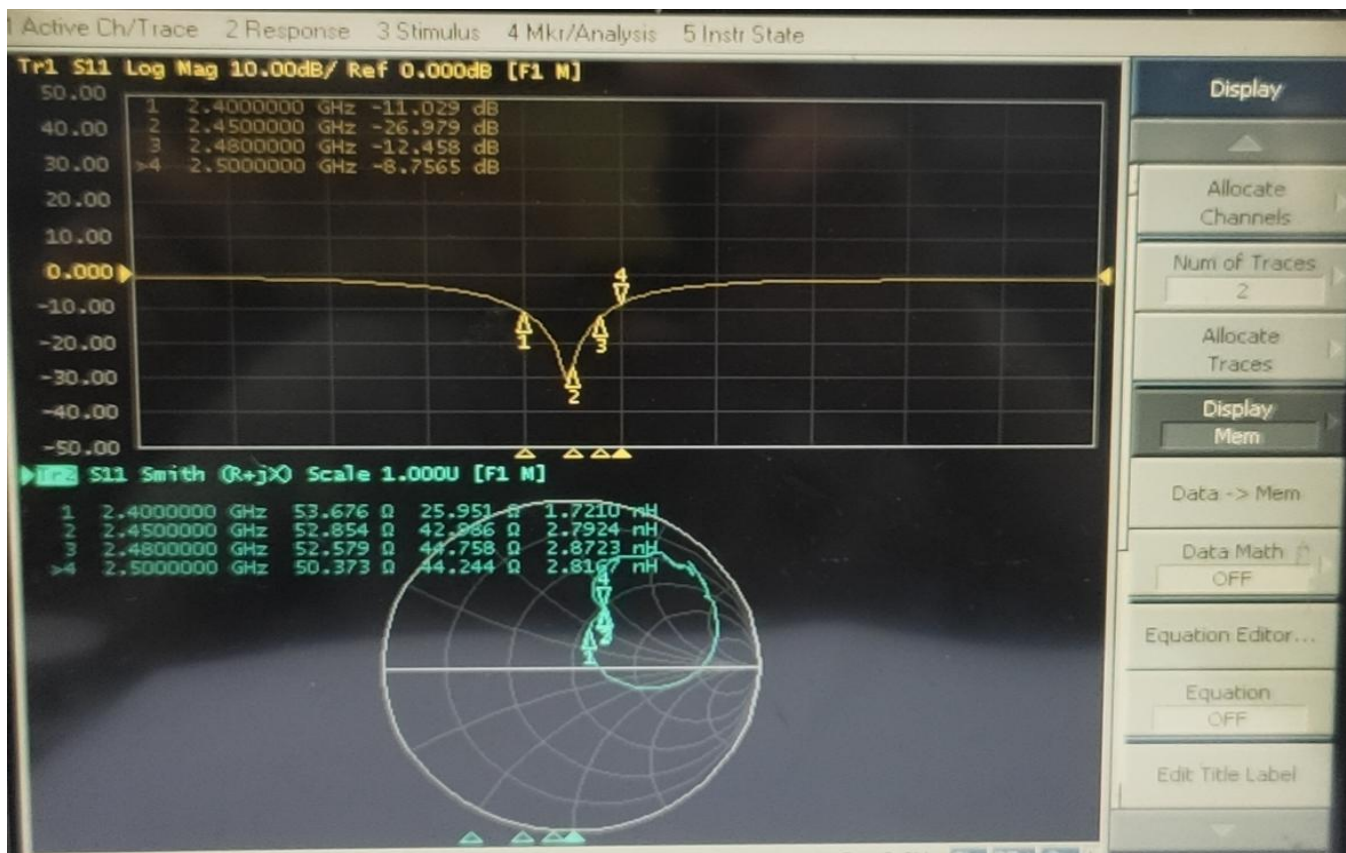
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Electrical Characteristics

No.	Item	Specifications
1	Central Frequency	2545MHz
2	Band Width	100MHz typ.
3	Peak Gain	2.7 dBi
4	Return Loss	≤ 2.0
5	Polarization	Linear
6	Azimuth Beam width	Omni-directional
7	Impedance	50 Ω

Characteristic curve

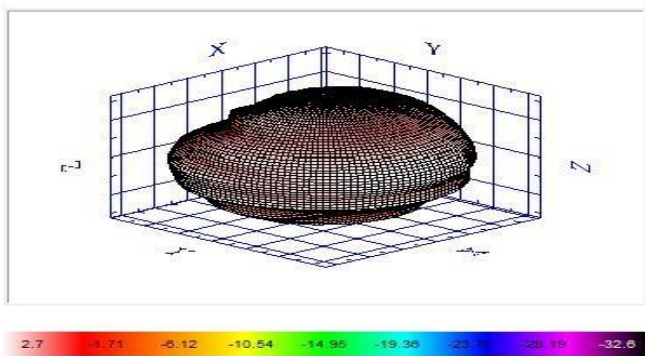
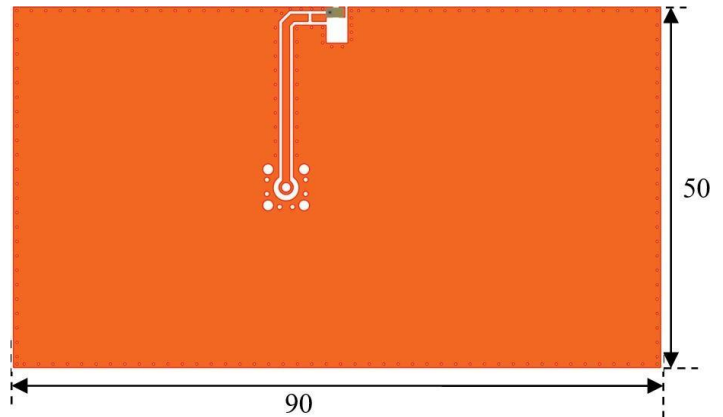
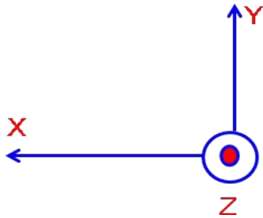


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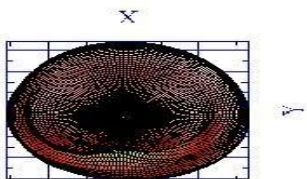
Radiation Pattern

coordinates:

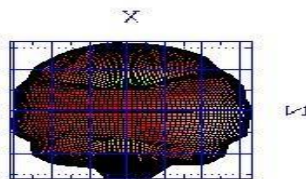


Frequency (MHz)	TRP (dBm)	Efficiency (%)
2450.00	-1.38	72.7
Peak EIRP (dBm)	Max. Power (dBm)	Directivity (dBi)
2.7	2.7	4.09
NHPRP +/- 45 (dBm)	Min. Power (dBm)	Average Gain (dB)
-2.41	-32.6	-1.38
NHPRP +/- 30 (dBm)	Avg. Power (dBm)	Upper Hem. (dBm)
-3.45	-1.13	-3.84
E-Theta Peak Gain (dBi)	Max. / Min. Ratio (dB)	Lower Hem. (dBm)
1.85	35.3	-5.02
E-Phi Peak Gain (dBi)	Max. / Avg. Ratio (dB)	Upper Hem. (%)
2.23	3.83	41.26
E-Total Peak Gain (dBi)	Min. / Avg. Ratio (dB)	Lower Hem. (%)
2.7	-31.47	31.45

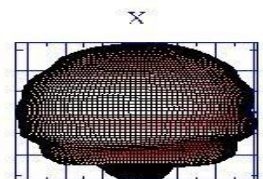
XY Plane (+ Z View)



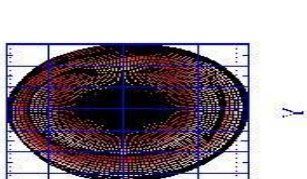
XZ Plane (- Y View)



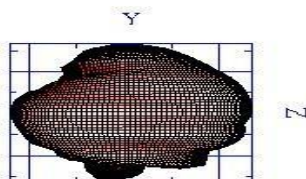
XZ Plane (+ Y View)



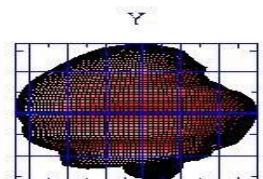
XY Plane (- Z View)



YZ Plane (+ X View)



YZ Plane (- X View)



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Post Dependability Tolerance

Item	Post Dependability Tolerance
Central Frequency	± 5 MHz
Band Width	± 5 MHz
Gain	± 0.1 dBi
V.S.W.R (in BW)	± 0.1

Dependability Test

Temperature range	$25 \pm 5^\circ\text{C}$
Relative Humidity range	55~75%RH
Operating Temperature range	$-40^\circ\text{C} \sim +85^\circ\text{C}$
Storage Temperature range	$-40^\circ\text{C} \sim +85^\circ\text{C}$

Vibration Resist

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after applied to the vibration of 10 to 55Hz with amplitude of 1.5mm for 2 hours each in X , Y and Z directions.

Drop Shock

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

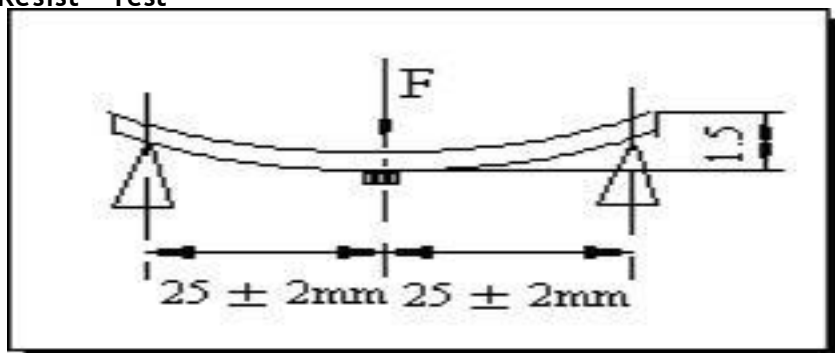
Solder Heat Proof

The device should be satisfied after preheating at $120^\circ\text{C} \sim 150^\circ\text{C}$ for 120 seconds and dipping in soldering Sn at $255^\circ\text{C} \pm 10^\circ\text{C}$ for 5 ± 0.5 seconds, or electric iron $300^\circ\text{C} \sim 10^\circ\text{C}$ for 3 ± 0.5 seconds, without damage.

Adhesive Strength of Termination

The device have no remarkable damage or removal of the termination after horizontal force of 5N(≤ 0603); 10N(>0603) with 10 ± 1 seconds.

Bending Resist Test



Weld the product to the center part of the PCB with the thickness $1.6 \pm 0.2\text{mm}$ as the illustration shows, and keep exerting force arrow-ward on it at speed of 1mm/S , and hold for $5 \pm 1\text{s}$ at the position of 1.5mm bending distance , so far , any peeling off of the product metal coating should not be detected .

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Moisture Proof

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature $60\pm 2^{\circ}\text{C}$ and the relative humidity 90~95% RH for 96 hours and 1~2 hours recovery time under normal condition.

High Temperature Endurance

The device should satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to temperature $85\pm 5^{\circ}\text{C}$ for 96 ± 2 hours and 1~2 hours recovery time under normal temperature.

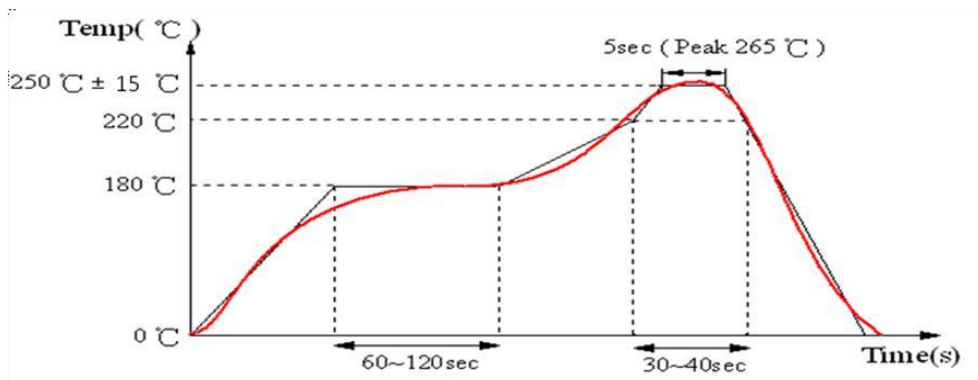
Low Temperature Endurance

The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the temperature $-40^{\circ}\text{C}\pm 5^{\circ}\text{C}$ for 96 ± 2 hours and to 2 hours recovery time under normal temperature.

Temperature Cycle Test

The device should also satisfy the electrical characteristics specified in paragraph 8.1~8.4 after exposed to the low temperature -40°C and high temperature $+85^{\circ}\text{C}$ for 30 ± 2 min each by 5 cycles and 1 to 2 hours recovery time under normal temperature.

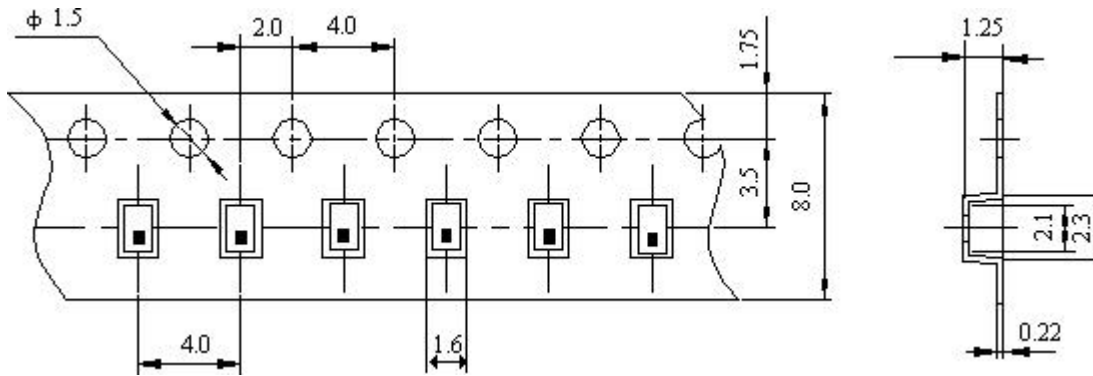
Reflow Soldering Standard Condition



P/N: SURL201212506TT6

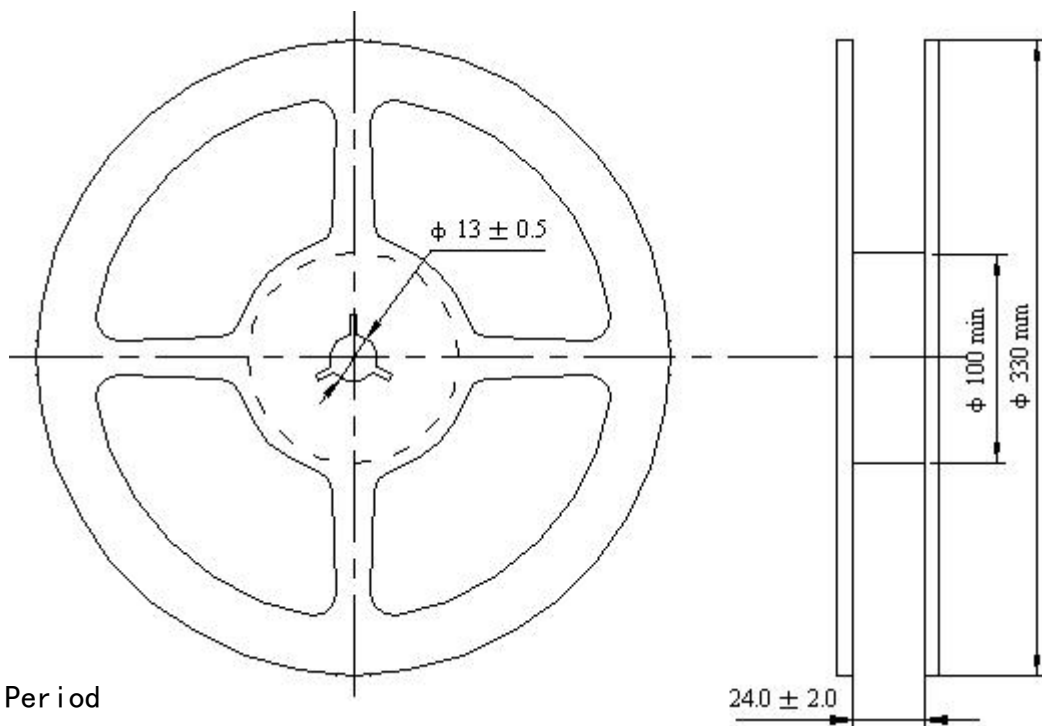
Packaging and Dimensions (2012)

Plastic Tape



Remarks for Package

Reserve a length of 150~200mm for the trailer of the carrier and 250~300 mm for the leader of the carrier and further 250mm of cover tape at the leading part of the carrier.
Reel (4000 pcs/Reel)



Storage Period

Product should be used within twelve months of receipt.

MSL 1 / Storage Temperature Range : -40~85 degree C, Humidity : <60%RH

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