

SPECIFICATIONS

| | |
|--------------|----------------|
| Part No. | AN3216F2450-B0 |
| Customer P/N | |
| Make By | Lu |
| Check By | Tony |
| Date | 2022-4-18 |

| | |
|-----------------------------|--|
| Customer approval signature | |
| Date | |

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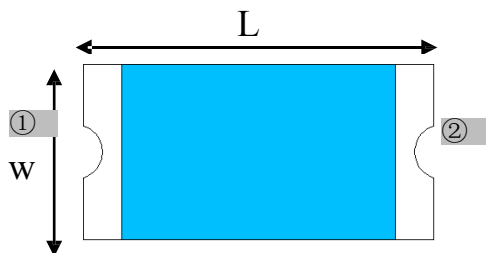
Features

- 1.Surface Mounted Devices with a small dimension of 3.2 x 1.6 x 0.42 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

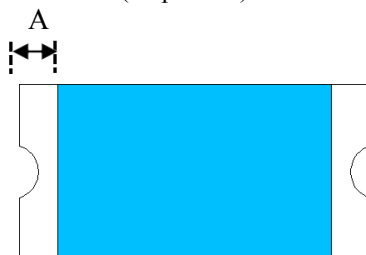
1. Bluetooth
2. Wireless LAN
3. ISM band 2.4GHz wireless applications

Dimensions (Unit: mm)



(Top View)

| Number | Terminal Name |
|--------|---------------|
| ① | INPUT |
| ② | OUTPUT |



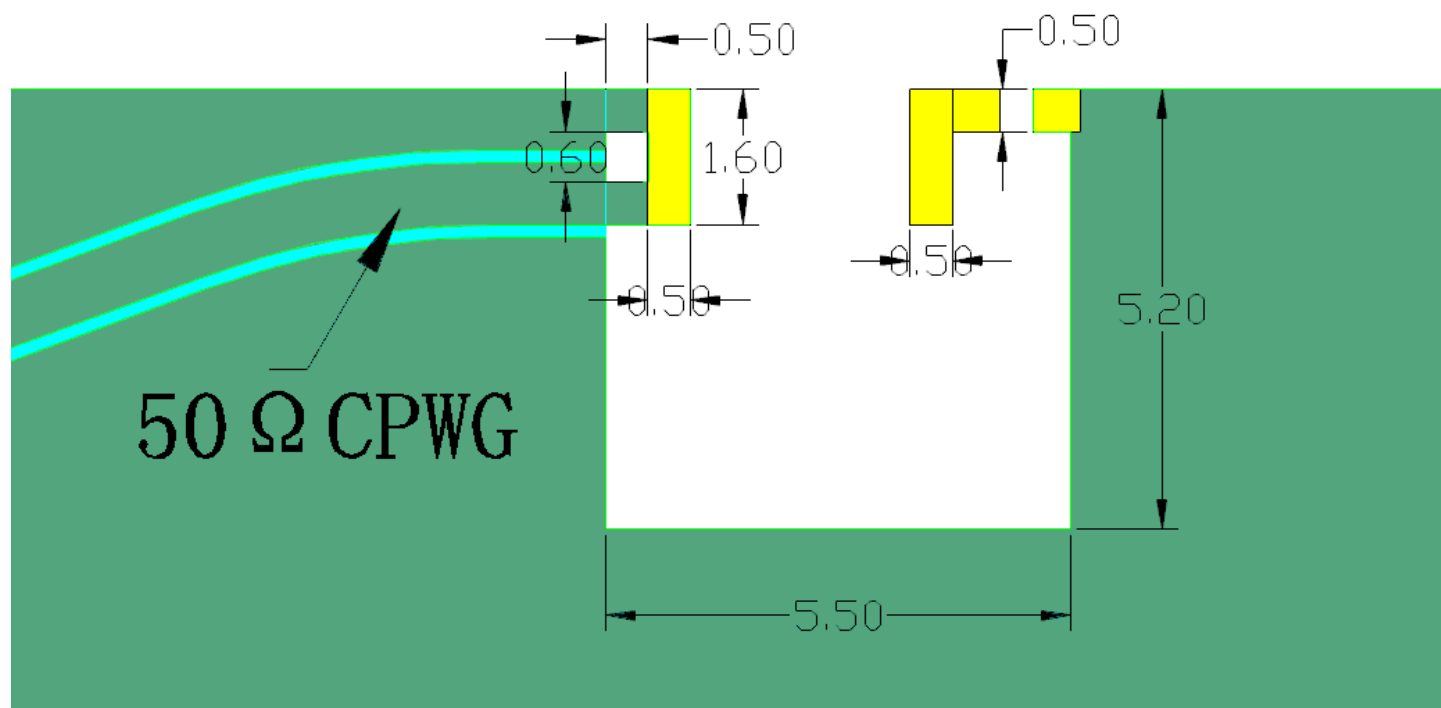
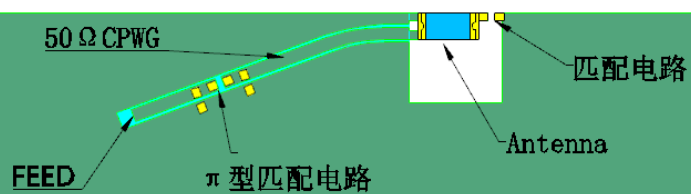
(Bottom View)



(Side View)

| Symbols | L | W | T | A |
|------------|-----------|------------|------------|------------|
| Dimensions | 3.2+/-0.2 | 1.65+/-0.2 | 0.42+/-0.1 | 0.35+/-0.1 |

Evaluation Board and Matching Circuits

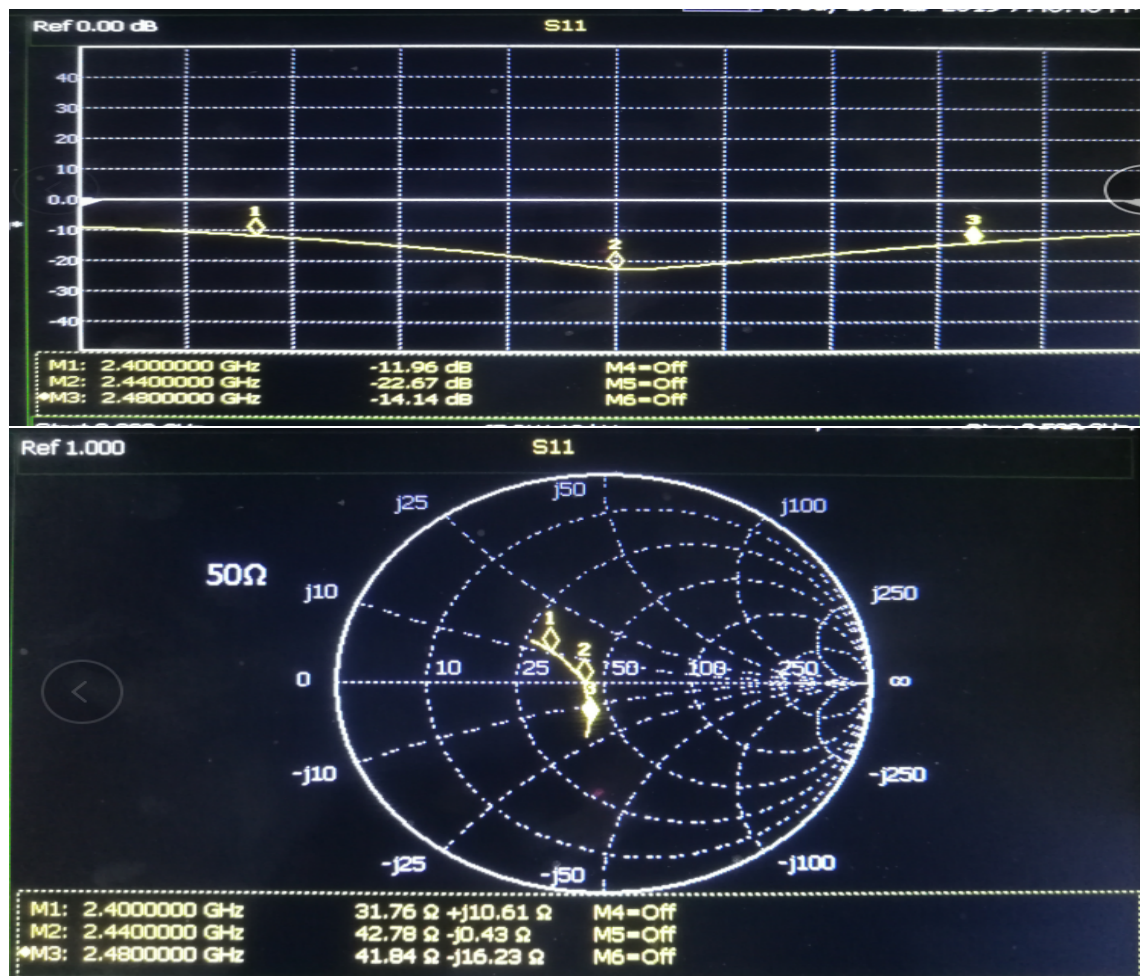


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Electrical Characteristics

| No. | Product number | AN3216F2450-B0 | |
|-----|------------------------------|-------------------------------|--------------------|
| 1 | Central Frequency | 2450 | MHz |
| 2 | Bandwidth | 100 (Min.) | MHz |
| 3 | Return Loss | -11.96 (Max.) | dB |
| 4 | Peak Gain | 2.58 | dBi |
| 5 | Impedance | 50 | Ω |
| 6 | Operating Temperature | -40~+85 | $^{\circ}\text{C}$ |
| 7 | Maximum Power | 5 | W |
| 8 | Resistance to soldering heat | 10 (@260 $^{\circ}\text{C}$) | Sec. |
| 9 | Polarization | Linear | |
| 10 | Azimuth Beam width | Omni-directional | |
| 11 | Termination | Sn (leadless) | |

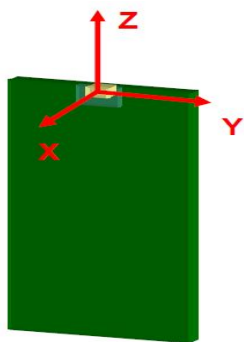
Characteristic curve



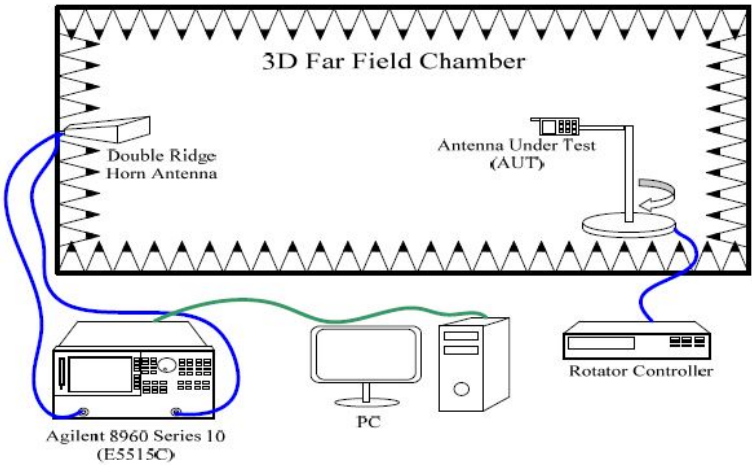
Add: 312, Building 6, Zone 2, Samsung Industrial Park, Fuyong Community, Fuyong Subdistrict, Bao'an District, Shenzhen, China .

Radiation Pattern

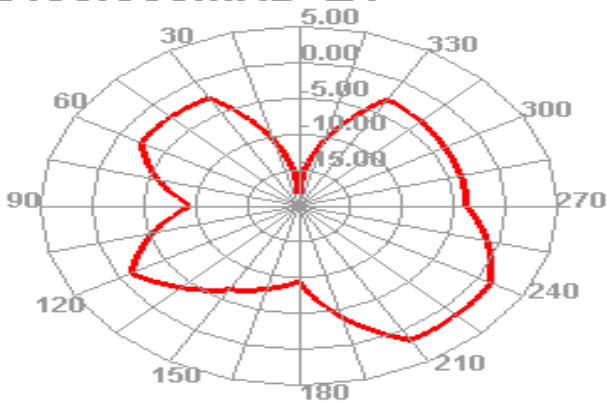
coordinates:



X-Z Plane

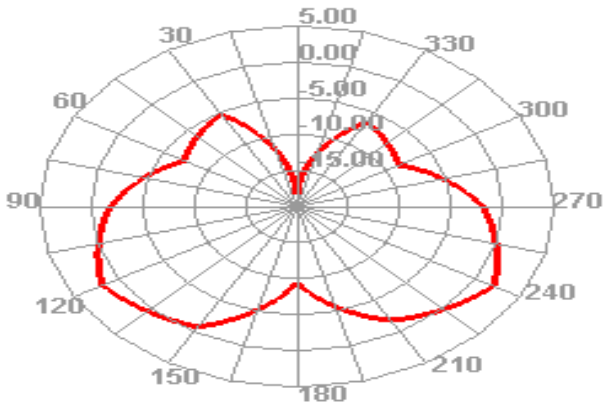


2450.000MHz E1



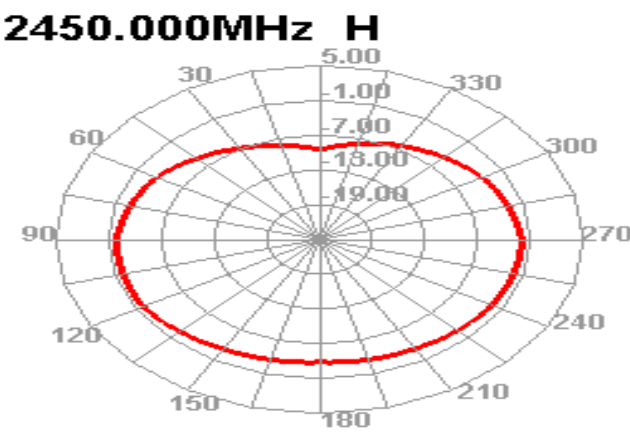
X-Y Plane

2450.000MHz E2

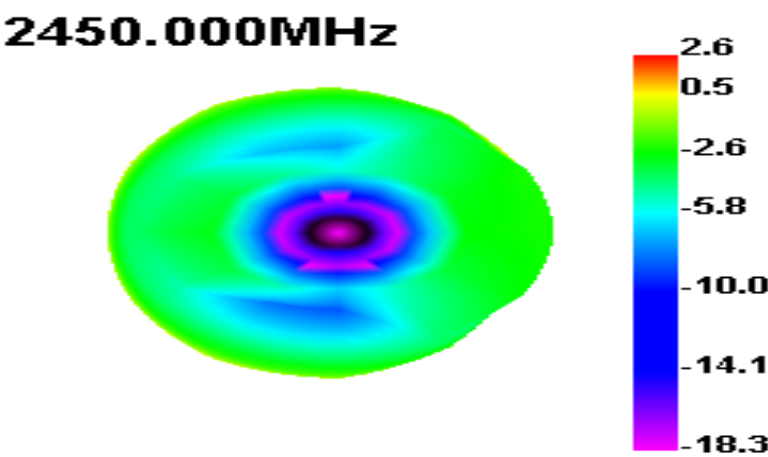


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Y-Z Plane



3D Radiation Pattern



| Frequency (MHz) | 2400 | 2450 | 2500 |
|-----------------|-------|-------|-------|
| Avg. Gain (dBi) | -1.83 | -1.86 | -2.97 |
| Peck Gain (dBi) | 2.7 | 2.58 | 1.34 |
| Efficiency (%) | 65.5 | 65.22 | 50.45 |

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Dependability Test

| | |
|-----------------------------|--|
| Temperature range | $25\pm5^{\circ}\text{C}$ |
| 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 fulfill the electrical specification 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 have no mechanical damage after dropping onto the hard wooden board from the height of 100cm for 3 times each facet of the 3 dimensions of the device.

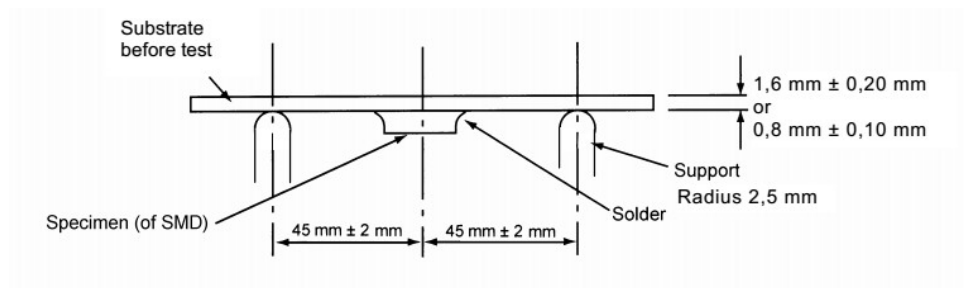
Solder Heat Proof

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 $1.6\pm 0.2\text{mm}$ or $0.8\pm 0.1\text{mm}$ 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 fulfill the electrical specification after exposed to the temperature $60\pm2^{\circ}\text{C}$ 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 fulfill the electrical specification after exposed to temperature $85\pm5^{\circ}\text{C}$ for 96 ± 2 hours and 1~2 hours recovery time under normal temperature.

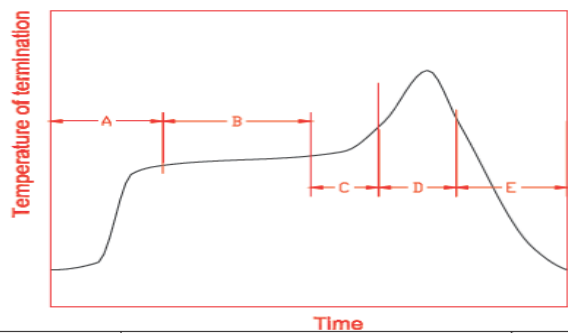
Low Temperature Endurance

The device should fulfill the electrical specification after exposed to the temperature $-40^{\circ}\text{C}\pm5^{\circ}\text{C}$ for 96 ± 2 hours and to 2 hours recovery time under normal temperature.

Temperature Cycle Test

The device should fulfill the electrical specification 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

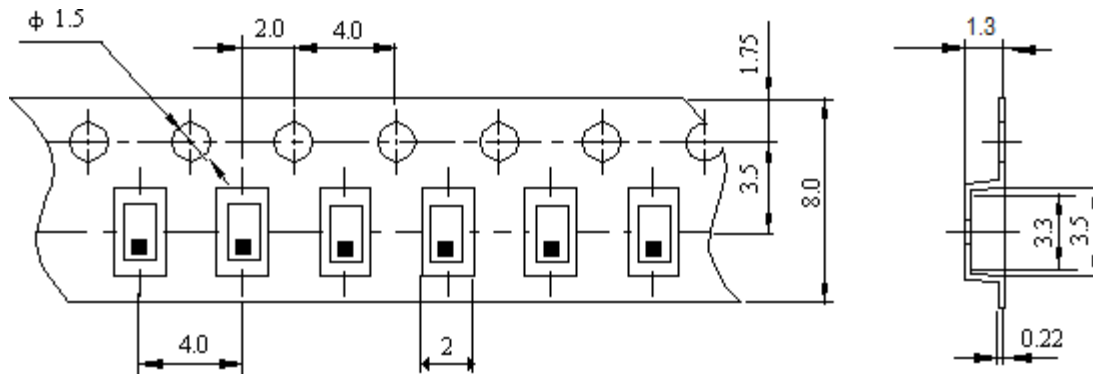


| | | | |
|---|------------------------------------|--|---|
| A | 1 st rising temperature | The normal to Preheating temperature | 30s to 60s |
| B | Preheating | 140 ^o C to 160 ^o C | 60s to 120s |
| C | 2 nd rising temperature | Preheating to 200 ^o C | 20s to 40s |
| D | Main heating | if 220 ^o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

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Packaging and Dimensions (3216)

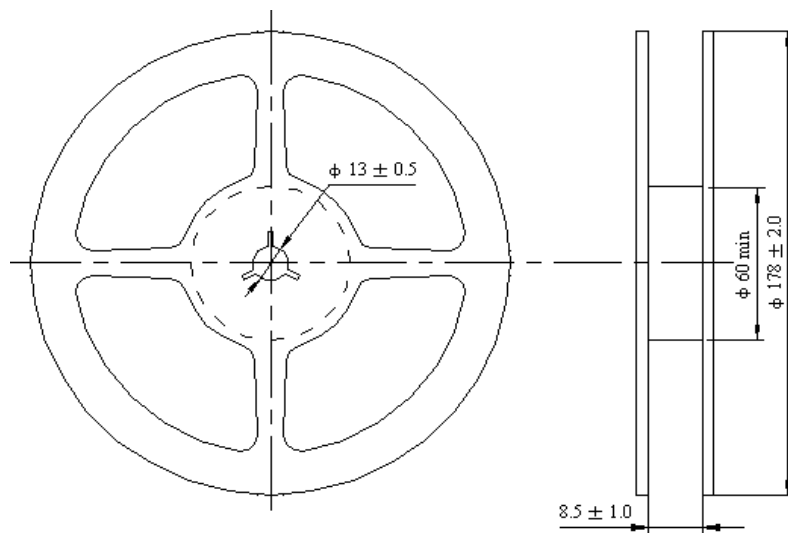
Plastic Tape



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 (5000 pcs/Reel)



Storage Period

Product should be used within six months of receipt.

MSL 1 / Storage Temperature Range : <30 degree C, Humidity : <85%RH