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[ANT016008LCD2442MA1](#)

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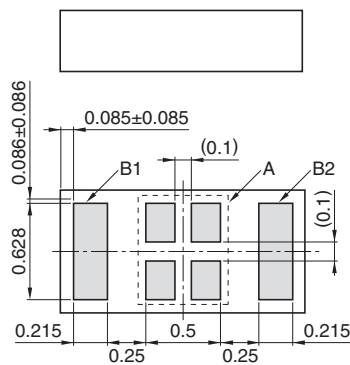
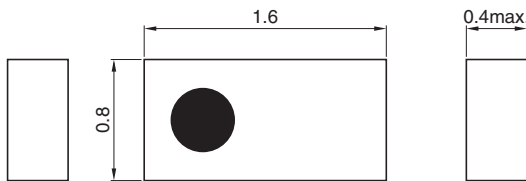
[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

# Multilayer Chip Antennas For IEEE802.11a/b/g/n

Conformity to RoHS Directive  
Halogen-free

ANT Series ANT016008LCD2442MA1

## SHAPES AND DIMENSIONS



A: Feed point  
 B1: Radiator electrode for 2.4GHz  
 B2: Radiator electrode for 5.5GHz  
 Tolerance: ±0.1 mm

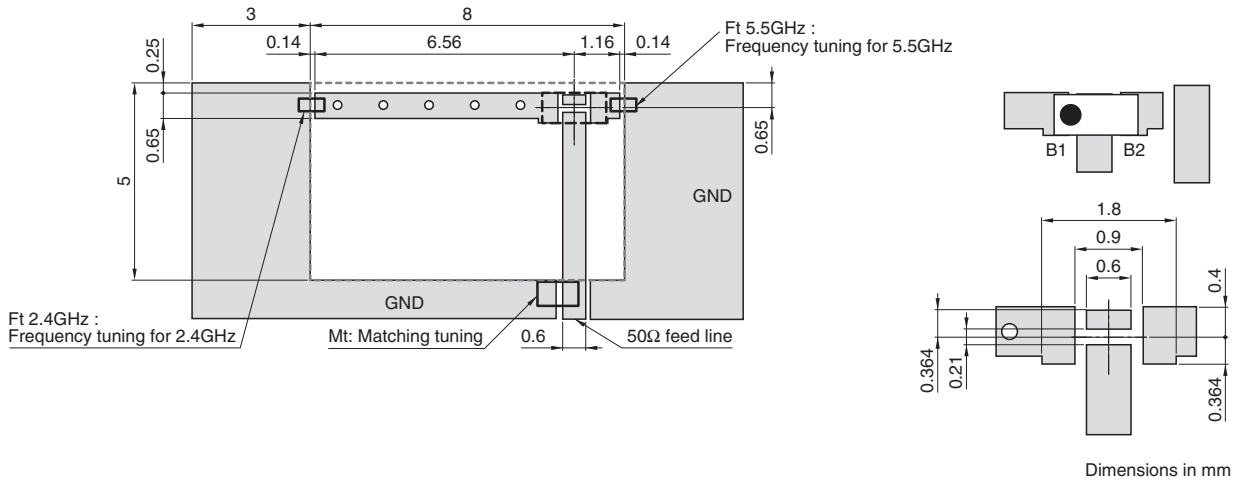
Dimensions in mm

- **Conformity to RoHS Directive:** This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
- **Halogen-free:** Indicates that Cl content is less than 900ppm, Br content is less than 900ppm, and that the total Cl and Br content is less than 1500ppm.

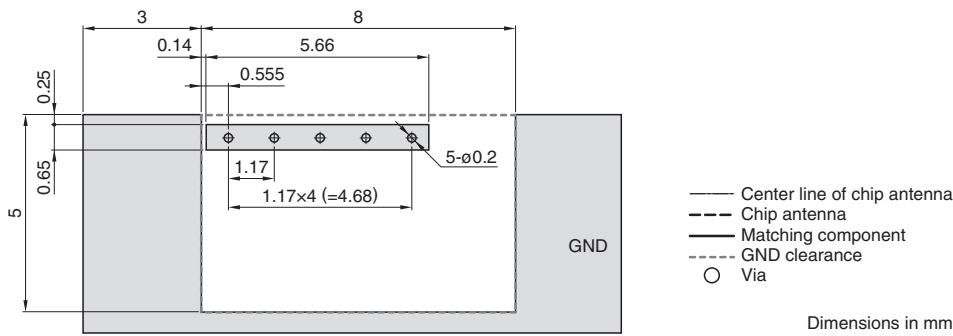
**RECOMMENDED PC BOARD PATTERNS**

**ELECTRODE**

**Front side**

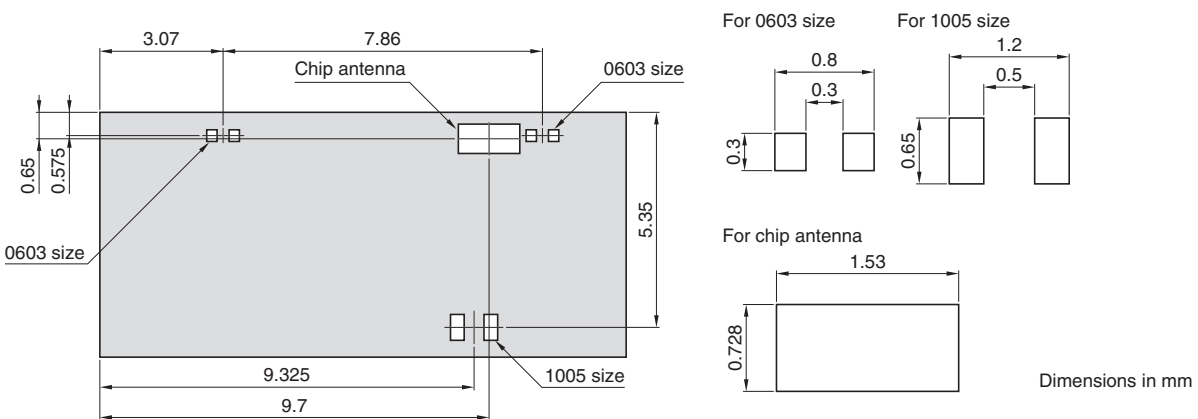


**Back side**

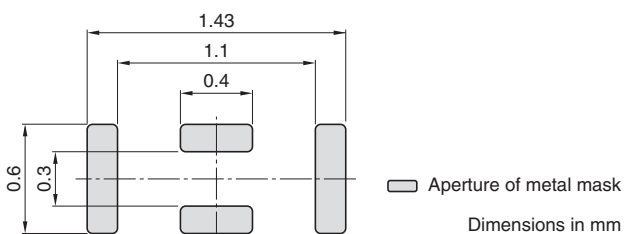


**SOLDER RESIST**

**Front side**



**RECOMMEND APERTURE SIZE OF METAL MASK FOR SOLDER PRINTING**



**ELECTRICAL CHARACTERISTICS**

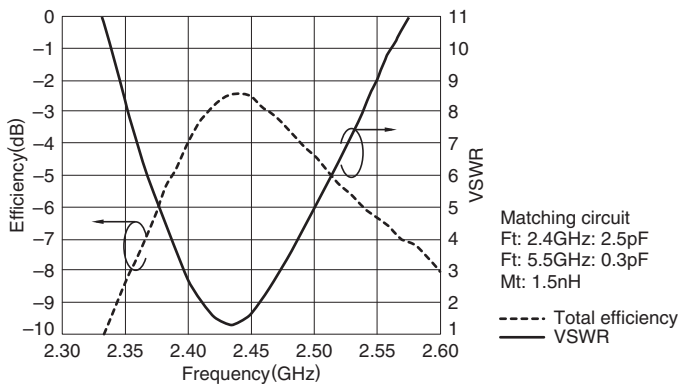
|   |   |
|---|---|
| Center frequency (F <sub>11b/g/n</sub> , F <sub>11a</sub> ) | F <sub>11b/g/n</sub> 2442MHz,<br>F <sub>11a</sub> 5500MHz |
| Band width(BW) (F <sub>11b/g/n</sub> , F <sub>11a</sub> )   | F <sub>11b/g/n</sub> ±42MHz,<br>F <sub>11a</sub> ±350MHz  |
| VSWR (at BW) (F <sub>11b/g/n</sub> , F <sub>11a</sub> )     | F <sub>11b/g/n</sub> 6.5max.<br>F <sub>11a</sub> 4max.    |
| Polarization  | Linear  |
| Impedance   | 50Ω   |
| PCB size  | 120×65×1.0mm  |
| Temperature range   | Operating -40 to +85°C                                    |
|   | Storage -40 to +85°C                                      |

• This is typical antenna performance with the standard PCB.

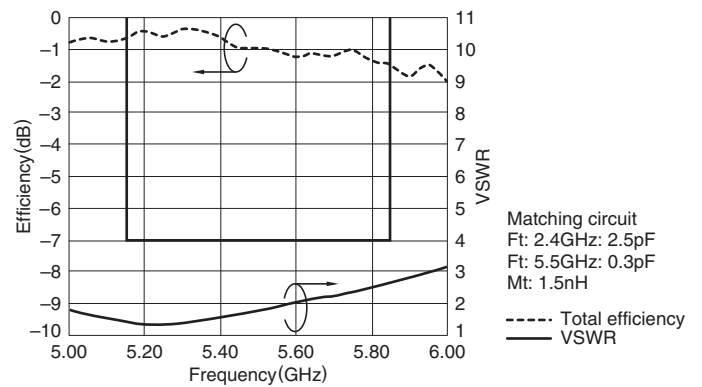
**FREQUENCY CHARACTERISTICS**

**EFFICIENCY AND VSWR**

**IEEE802.11b/g/n**



**IEEE802.11a**



**RADIATION PATTERNS**

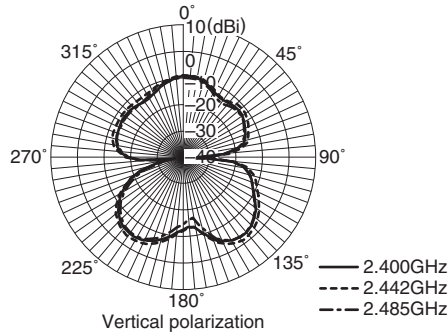
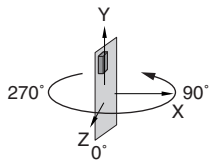
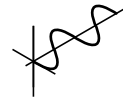
**IEEE802.11b/g/n**

Directivity angle

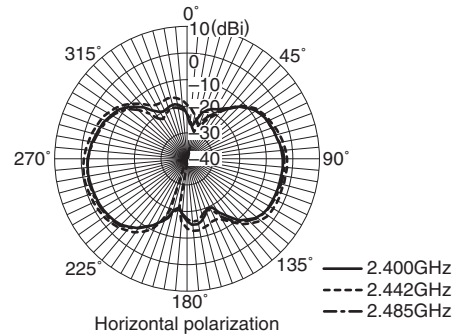
Vertical polarization



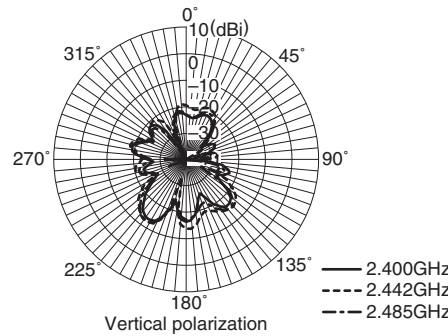
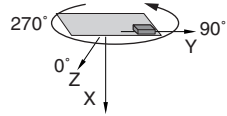
Horizontal polarization



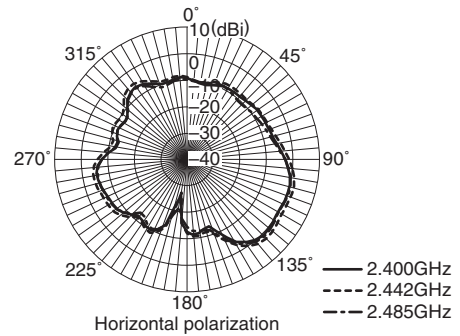
| Frequency(GHz) | 2.400  | 2.442  | 2.485  |
|----------------|--------|--------|--------|
| Average(dBi)   | -9.62  | -8.45  | -10.13 |
| Maximum(dBi)   | -2.82  | -1.44  | -3.02  |
| Minimum(dBi)   | -36.90 | -34.11 | -32.46 |



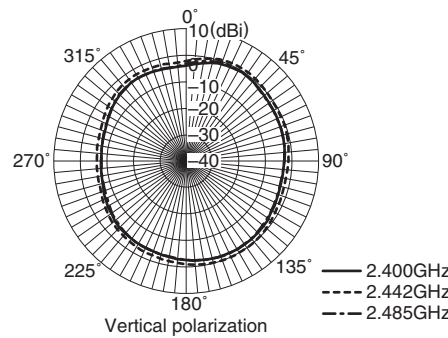
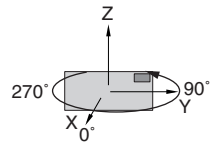
| Frequency(GHz) | 2.400  | 2.442  | 2.485  |
|----------------|--------|--------|--------|
| Average(dBi)   | -7.06  | -5.44  | -6.82  |
| Maximum(dBi)   | -2.18  | -0.48  | -1.94  |
| Minimum(dBi)   | -27.38 | -44.31 | -29.46 |



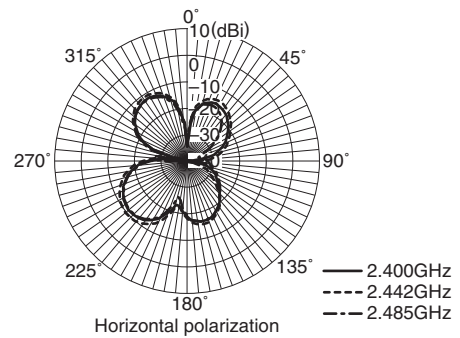
| Frequency(GHz) | 2.400  | 2.442  | 2.485  |
|----------------|--------|--------|--------|
| Average(dBi)   | -21.03 | -19.00 | -20.43 |
| Maximum(dBi)   | -13.19 | -12.04 | -12.29 |
| Minimum(dBi)   | -48.22 | -46.88 | -40.26 |



| Frequency(GHz) | 2.400  | 2.442  | 2.485  |
|----------------|--------|--------|--------|
| Average(dBi)   | -5.81  | -4.32  | -5.70  |
| Maximum(dBi)   | 0.54   | 2.27   | 1.19   |
| Minimum(dBi)   | -26.20 | -27.25 | -22.01 |



| Frequency(GHz) | 2.400 | 2.442 | 2.485 |
|----------------|-------|-------|-------|
| Average(dBi)   | -3.21 | -1.68 | -3.18 |
| Maximum(dBi)   | -0.54 | 0.98  | -0.23 |
| Minimum(dBi)   | -7.87 | -6.33 | -7.97 |



| Frequency(GHz) | 2.400  | 2.442  | 2.485  |
|----------------|--------|--------|--------|
| Average(dBi)   | -17.05 | -15.74 | -17.47 |
| Maximum(dBi)   | -11.24 | -9.64  | -11.46 |
| Minimum(dBi)   | -48.22 | -51.80 | -40.53 |

• Tested antenna has been soldered. Evaluation board size is 120x65x1 mm.

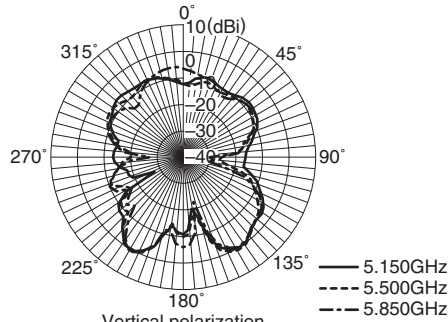
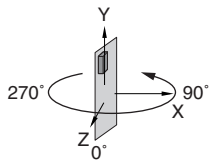
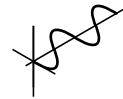
**RADIATION PATTERNS**  
**IEEE802.11a**

Directivity angle

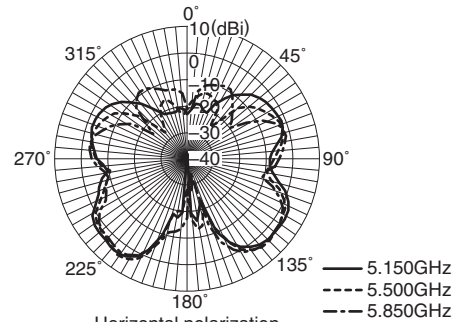
Vertical polarization



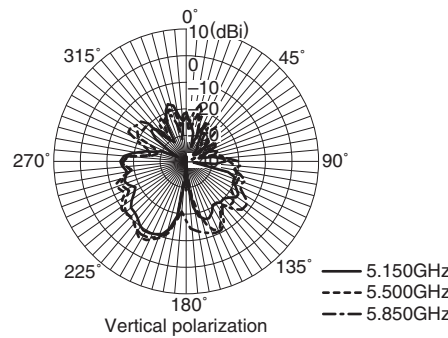
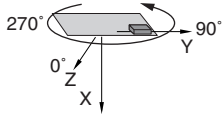
Horizontal polarization



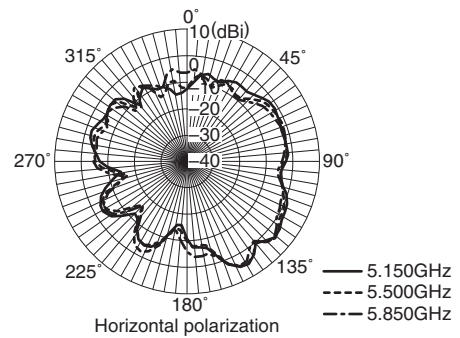
| Frequency(GHz) | 5.150  | 5.500  | 5.850  |
|----------------|--------|--------|--------|
| Average(dBi)   | -7.05  | -7.06  | -7.32  |
| Maximum(dBi)   | 0.04   | 0.89   | 0.31   |
| Minimum(dBi)   | -27.83 | -26.31 | -30.64 |



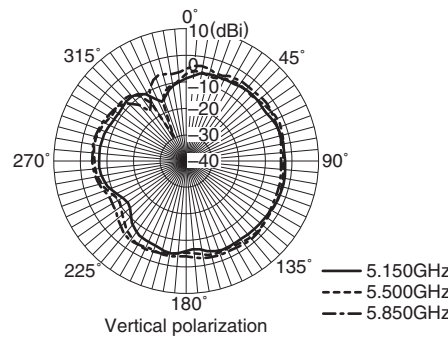
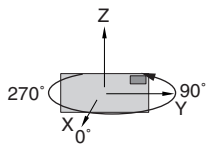
| Frequency(GHz) | 5.150  | 5.500  | 5.850  |
|----------------|--------|--------|--------|
| Average(dBi)   | -2.39  | -2.73  | -3.25  |
| Maximum(dBi)   | 4.22   | 4.78   | 3.29   |
| Minimum(dBi)   | -42.06 | -29.06 | -34.55 |



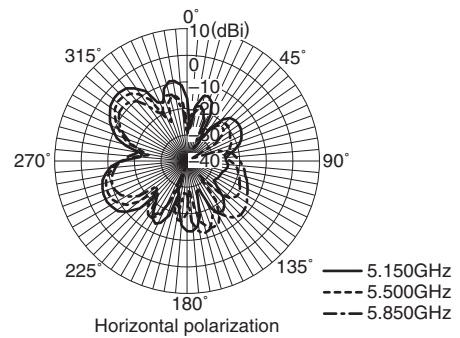
| Frequency(GHz) | 5.150  | 5.500  | 5.850  |
|----------------|--------|--------|--------|
| Average(dBi)   | -17.92 | -15.62 | -15.19 |
| Maximum(dBi)   | -9.40  | -6.43  | -7.73  |
| Minimum(dBi)   | -42.06 | -37.80 | -33.50 |



| Frequency(GHz) | 5.150  | 5.500  | 5.850  |
|----------------|--------|--------|--------|
| Average(dBi)   | -2.74  | -3.11  | -3.60  |
| Maximum(dBi)   | 5.18   | 5.04   | 4.09   |
| Minimum(dBi)   | -15.95 | -17.14 | -16.56 |



| Frequency(GHz) | 5.150  | 5.500  | 5.850  |
|----------------|--------|--------|--------|
| Average(dBi)   | -5.64  | -4.76  | -4.21  |
| Maximum(dBi)   | -2.18  | -1.95  | -1.61  |
| Minimum(dBi)   | -15.95 | -29.68 | -16.91 |



| Frequency(GHz) | 5.150  | 5.500  | 5.850  |
|----------------|--------|--------|--------|
| Average(dBi)   | -11.65 | -13.95 | -15.05 |
| Maximum(dBi)   | -3.56  | -5.67  | -8.20  |
| Minimum(dBi)   | -31.10 | -32.99 | -38.35 |

• Tested antenna has been soldered. Evaluation board size is 120x65x1 mm.