Multilayer Antenna (Dual Band type)
For 2400-2484MHz / 5150-5850MHz

ANT162442DT-2001A2

1.6x0.8mm [EIA 0603]*
* Dimensions Code JIS[EIA]
RF Components

Multilayer Antenna
For 2400-2484MHz / 5150-5850MHz

ANT162442DT-2001A2

SHAPES AND DIMENSIONS

[Top view]

[Bottom view]

Terminal functions
1. Radiator electrode for 2.4GHz ISM
2. Feed point
3. Feed point
4. Radiator electrode for 5.5GHz
5. Feed point
6. Feed point

Dimensions in mm

RECOMMENDED LAND PATTERN

SOLDER RESIST PATTERN


All specifications are subject to change without notice.
Before using these products, be sure to request the delivery specifications.
Before using these products, be sure to request the delivery specifications.

**EVALUATION BOARD**

**Measurement condition for Radiation Pattern**

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- Before using these products, be sure to request the delivery specifications.
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■ ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Item</th>
<th>Frequency Range (MHz)</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSWR</td>
<td>2400 to 2484</td>
<td>—</td>
<td>1.54</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>5150 to 5850</td>
<td>—</td>
<td>1.58</td>
<td>3.0</td>
</tr>
<tr>
<td>Polarization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Linear</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCB size (mm)</td>
<td>50 x 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antenna keep-out area (mm)</td>
<td>8 x 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Characteristic Impedance (Ω)</td>
<td>50 (Nominal)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* This is typical antenna performance with the standard PCB.

■ TEMPERATURE RANGE

<table>
<thead>
<tr>
<th>Operating temperature (°C)</th>
<th>Storage temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>−40 to +85</td>
<td>−40 to +85</td>
</tr>
</tbody>
</table>

■ FREQUENCY CHARACTERISTICS

- **2.4GHz WLAN BAND**

- **5.5GHz WLAN BAND**

* Tested antenna has been soldered. Evaluation board size is 50x20x1 mm.

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RADIATION PATTERNS

2.4GHz ISM BAND

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>2.400</th>
<th>2.442</th>
<th>2.485</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (dBi)</td>
<td>-12.0</td>
<td>-13.5</td>
<td>-12.7</td>
</tr>
<tr>
<td>Maximum (dBi)</td>
<td>-30.1</td>
<td>-27.6</td>
<td>-28.7</td>
</tr>
</tbody>
</table>

Frequency (GHz) 2.400 2.442 2.485 Average (dBi) -14.4 -14.7 -14.8 Maximum (dBi) -12.8 -13.4 -13.4 Minimum (dBi) -17.1 -16.7 -18.0

• Tested antenna has been soldered. Evaluation board size is 50x20x1 mm.

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**RADIATION PATTERNS**

**5.5GHZ BAND**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>Average (dBi)</th>
<th>Maximum (dBi)</th>
<th>Minimum (dBi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.150</td>
<td>-3.5</td>
<td>-7.5</td>
<td>-29.1</td>
</tr>
<tr>
<td>5.500</td>
<td>-1.4</td>
<td>-6.6</td>
<td>-20.3</td>
</tr>
<tr>
<td>5.850</td>
<td>-0.7</td>
<td>-3.2</td>
<td>-15.2</td>
</tr>
</tbody>
</table>

Tested antenna has been soldered. Evaluation board size is 50x20x1 mm.
RECOMMENDED REFLOW PROFILE

**Preheating**

<table>
<thead>
<tr>
<th>Temp.</th>
<th>T1</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>150°C</td>
<td>200°C</td>
<td>60 to 120sec</td>
</tr>
</tbody>
</table>

**Soldering**

<table>
<thead>
<tr>
<th>Temp.</th>
<th>T2</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>217°C</td>
<td>60 to 120sec</td>
<td></td>
</tr>
</tbody>
</table>

**Peak**

<table>
<thead>
<tr>
<th>Temp.</th>
<th>T4</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>240 to 280°C</td>
<td>30sec max.</td>
<td></td>
</tr>
</tbody>
</table>

* t3 : Time within 5°C of actual peak temperature

The maximum number of reflow is 3.

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PACKAGING STYLE

REEL DIMENSIONS

Dimensions in mm

TAPE DIMENSIONS

Material of carrier the tape: PS

Dimensions in mm

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.97±0.05</td>
<td>1.8±0.05</td>
<td>8.0±0.2</td>
<td>3.5±0.05</td>
<td>1.75±0.1</td>
<td>4.0±0.1</td>
<td>2.0±0.05</td>
<td>4.0±0.1</td>
<td>1.5±0.1/-0</td>
<td>0.55max</td>
<td>0.25±0.05</td>
</tr>
</tbody>
</table>

PACKAGE QUANTITY

Standard package quantity (pieces/reel)

4,000

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REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

⚠️ REMINDERS

The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this catalog.

1. Aerospace/Aviation equipment
2. Transportation equipment (cars, electric trains, ships, etc.)
3. Medical equipment
4. Power-generation control equipment
5. Atomic energy-related equipment
6. Seabed equipment
7. Transportation control equipment
8. Public information-processing equipment
9. Military equipment
10. Electric heating apparatus, burning equipment
11. Disaster prevention/crime prevention equipment
12. Safety equipment
13. Other applications that are not considered general-purpose applications

When using this product in general-purpose applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc., to ensure higher safety.