Description: 5GHz WiFi SMT Antenna

PART NUMBER: W3713

Features:
- Frequency: 4.9-6GHz
- Gain: 4.5dBi
- Size: 10.5 x 3.2 x 2.4 mm
- SMT compatible
- Packing: Tape&Reel
- RoHS compliant
- Mirror image pair for this antenna is W3714

Applications:
- WiFi, ISM 5GHz
- DSRC 5.925GHz
- Tablets, Notebooks
- IoT and M2M devices
- Portable Electronics
- Security, Transportation

All dimensions are in mm / inches

Issue: 1812

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Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998
Description: 5GHz WiFi SMT Antenna

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<table>
<thead>
<tr>
<th><strong>ELECTRICAL SPECIFICATIONS</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>4.9-6GHz</td>
</tr>
<tr>
<td>Nominal Impedance</td>
<td>50Ω</td>
</tr>
<tr>
<td>VSWR</td>
<td>2:1</td>
</tr>
<tr>
<td>Peak Gain</td>
<td>4.5dBi +/- 1 dB</td>
</tr>
<tr>
<td>Radiation Pattern</td>
<td>Omni</td>
</tr>
<tr>
<td>Polarization:</td>
<td>Linear</td>
</tr>
<tr>
<td>Power withstanding</td>
<td>5W</td>
</tr>
</tbody>
</table>
**Description:** 5GHz WiFi SMT Antenna

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### MECHANICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>Phosphor bronze</td>
</tr>
<tr>
<td>Thickness</td>
<td>0.2 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>0.1 g</td>
</tr>
<tr>
<td>Overall Length</td>
<td>10.5(0.41) mm (inch)</td>
</tr>
<tr>
<td>Fixing system</td>
<td>SMT</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>-40/+85 °C</td>
</tr>
</tbody>
</table>
Description: 5GHz WiFi SMT Antenna

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OTHER SPECIFICATIONS

PCB LAYOUT:
1. PCB material, FR4, size, 76.2X76.2X0.8mm

2. Clearance area (Top)
3. Clearance area (Bottom)

4. PCB Features
Description: 5GHz WiFi SMT Antenna

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OTHER SPECIFICATIONS

3. Antenna on test PCB

Reserved for W3714
Recommendation for reflow soldering process

Printing stencil thickness 0.15 - 0.25 mm is recommended for the solder paste. The maximum soldering temperature should not exceed 260°C. The temperature profile recommendations for reflow soldering process is presented in the Figures 1 and 2. The reflow profile presented in figure 1 describes minimum reflow temperatures. The reflow profile presented in figure 2 describes maximum reflow temperatures, located at the center of the coverage area.

<table>
<thead>
<tr>
<th>Method of heat transfer</th>
<th>Controlled hot air convection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Average temperature gradient in preheating</td>
<td>2.5 °C/s</td>
</tr>
<tr>
<td>2 Soak time</td>
<td>2-3 minutes</td>
</tr>
<tr>
<td>3 Max temperature gradient in reflow</td>
<td>3 °C/s</td>
</tr>
<tr>
<td>4 Time above 217 °C</td>
<td>Max 30 sec</td>
</tr>
<tr>
<td>5 Peak temperature in reflow</td>
<td>230 °C for 10 seconds</td>
</tr>
<tr>
<td>6 Temperature gradient in cooling</td>
<td>Max -5 °C/s</td>
</tr>
</tbody>
</table>

Figure 1. Minimum temperature profile recommendation for reflow soldering process
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<tr>
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<td>2.3 minutes</td>
</tr>
<tr>
<td>3 Max temperature gradient in reflow</td>
<td>3 °C/s</td>
</tr>
<tr>
<td>4 Time above 217 °C</td>
<td>Max 60 sec</td>
</tr>
<tr>
<td>5 Time above 230 °C</td>
<td>Max 50 sec</td>
</tr>
<tr>
<td>6 Time above 250 °C</td>
<td>Max 10 sec</td>
</tr>
<tr>
<td>7 Peak temperature in reflow</td>
<td>260 °C for 5 seconds</td>
</tr>
<tr>
<td>8 Temperature gradient in cooling</td>
<td>Max -5 °C/s</td>
</tr>
</tbody>
</table>

Figure 2. Maximum temperature profile recommendation for reflow soldering process

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CHARTS

VSWR

VSWR

Frequency (MHz)

1.00 1.50 2.00 2.50 3.00 3.50 4.00 4.50 5.00

4040 4083 4125 4168 4210 4253 4295 4338 4380 4423 4465 4508 4550 4593 4635 4678 4720 4763 4805 4848 4890 4933 4975 5018 5060 5103 5145 5188 5230 5273 5315 5358 5400 5443 5485 5528 5570 5613 5655 5698 5740 5783 5825 5868 5910 5953

VSWR

Spec
Description: 5GHz WiFi SMT Antenna

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Series: Embedded Antenna

CHARTS

Efficiency (%)
Description: 5GHz WiFi SMT Antenna

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CHARTS

Peak Gain (dBi)

Frequency (MHz) 4000 4950 5000 5050 5100 5150 5200 5250 5300 5350 5400 5450 5500 5550 5600 5650 5700 5750 5800 5850 5900 5950 6000

Peak Gain (dBi)

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5

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CHARTS

Free Space Radiation Pattern

Elevation Plane

Horizontal Plane

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PACKAGING

Tape and Reel packing:
3000PCS/Tape and Reel
6000PCS/ Carton box

Tape Width : 24mm
Tape Material : Polystyrene