2.4 GHz WiFi Antenna
10 x 3.2 x 4.0 mm Ceramic Chip Antenna (On Ground type, Top surface ground removal area 10.80 x 6.25 mm).
Pulse Part Number: W3001

Features
- Omni directional radiation (Azimuthal plane)
- Low profile
- Compact size W x L x H (10 x 3.2 x 4 mm)
- Low weight (600 mg)
- Lead free materials
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS compliant product

Applications
- Bluetooth
- 2.4 GHz WLAN
- 2.4 GHz ISM Band System

Electrical specifications @ +25 °C
Note: Electrical characteristics depend on test board (GP) size and antenna positioning on GP and Ground Clearance area size.

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>2400 – 2483.5</td>
<td>1.5 (Peak)</td>
<td>75/-1.25 (Peak)</td>
<td>-6</td>
<td>50</td>
<td>-45 to +85</td>
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<tr>
<td></td>
<td>0.5 (Band edges)</td>
<td>60/-2.25 (Band edges)</td>
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WiFi 2.4 GHz
Typical performance
(Test board size 80 x 37 mm, PWB top surface ground removal area 10.80 x 6.25 mm, position 1 on PWB)
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Terminal Configuration and Dimensions
On Ground type, Top surface ground removal area 10.80 x 6.25 mm

Antenna features

<table>
<thead>
<tr>
<th>No.</th>
<th>Terminal name</th>
<th>Terminal Dimensions</th>
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<tbody>
<tr>
<td>1</td>
<td>Feed / GND</td>
<td>1.5 x 2.75 mm</td>
</tr>
<tr>
<td>2</td>
<td>Feed / GND</td>
<td>1.5 x 2.75 mm</td>
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</tbody>
</table>

Antenna is symmetrical.
Either of terminals 1 or 2 can be feed / GND

Antenna PWB Layout Specifications
On Ground type, Top surface ground removal area 10.80 x 6.25 mm

Matching and tuning component values depend on application and surrounding mechanics / materials. Feed line should be designed to match 50 Ω characteristic impedance, depending on PWB material and thickness. Recommended test board layout for electrical characteristic measurement, test board outline size 80 x 37 mm.

PWB layout for W3001 Antenna
Note: All dimensions are in metric system.
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Metallization layers for W3001 Antenna

PWB pad dimensions and antenna position for W3001 Antenna
2.4 GHz WiFi Antenna

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Typical ground via hole placement in PWB layout for W3001 Antenna

Solder resist opening and Paste stencil recommendation for W3001 Antenna
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Recommended antenna position on PWB for W3001 Antenna
Our test PWB size is 37 x 80 mm, other sized boards can be used depending on customer device size (minimum 35 x 35 mm).

Position 1
Tested

Position 2
(Optional, minimum distance from top corner is 10 mm)

Position 3
(Optional, minimum distance from corner is 10 mm)
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**Typical Electrical Characteristics (T=25 °C)**

Measured on the 80 x 37 mm test board with matching circuit (1.2 pF shunt matching capacitor on feed). Measured in antenna position 1 on PWB layout, see previous page.
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Typical Free Space Radiation Patterns

XYZ-PLANE
2.4 GHz WiFi Antenna

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**Packing**

Tape and reel packing is used. Carrier tape, reel and box dimensions are presented in following pictures.

**Carrier Tape**

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**Block Orientation**

Antenna soldering pads facing down to the bottom of the carrier tape.

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**Top View of the Carrier Tape**

---

**Top Surface of the Antenna**
2.4 GHz WiFi Antenna

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Packing Form

![Diagram of packing form]

CARRIER TAPE H85-00158
width=24.00 depth=4.15
COVER TAPE H85-00159
width=21.20

LENGTH OF TAPE:
- Leader section: min 350 mm before component section
- Trailer section: min 40 mm after component section.

Empty part cavities at leader and trailer section of the tape must be sealed with top cover tape.

BOX H85-00128
(182x182x125) 1 pcs
- LABEL 1 pcs/BOX
REEL H85-00160
(D180, W28) 4 pcs
- REEL LABEL 1 pcs/REEL

MATERIAL

PRODUCT
H90-OY800-F01P01
DENOMINATION
PACKING FORM

<table>
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</tr>
<tr>
<td>A</td>
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Mechanical Outline