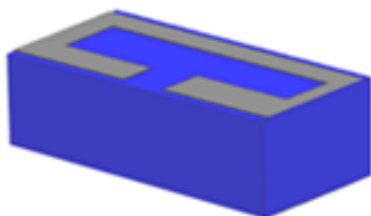


## Description: 3216 2.4G/5G Chip Antenna

**PART NUMBER: ANT3216LL11R2455A**

### Features:

- Size : 3.2x1.6x1.2 mm
- Omni-directional Radiation
- Tape & reel automatic mounting
- Reflow process compatible
- RoHS compliant



### Applications:

- 2.4G/5GHz WiFi device
- Bluetooth gadget
- Zigbee device
- ISM band equipment

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## Description: 3216 2.4G/5G Chip Antenna

**PART NUMBER: ANT3216LL11R2455A**

### ELECTRICAL SPECIFICATIONS

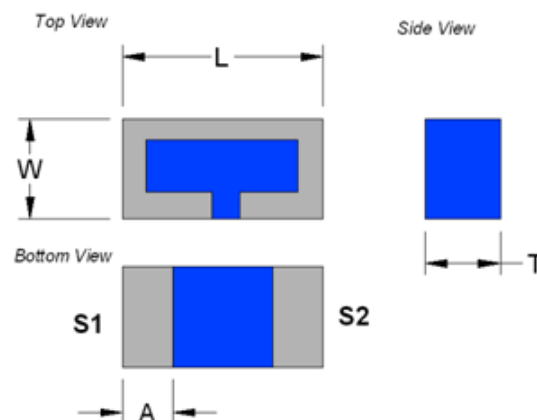
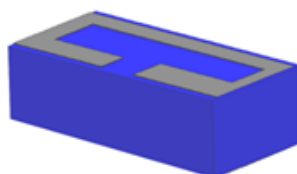
|                                      |                                        |
|--------------------------------------|----------------------------------------|
| <b>Working Frequency</b>             | 2.45 / 5.5 GHz                         |
| <b>Bandwidth</b>                     | 90/700 MHz(Typ.)                       |
| <b>Return Loss</b>                   | 6.5 dB Min                             |
| <b>Polarization</b>                  | Linear                                 |
| <b>Azimuth Beamwidth</b>             | Omni-directional                       |
| <b>Peak Gain</b>                     | 0.45/0.64 dBi(Typ.)                    |
| <b>Impedance</b>                     | 50 $\Omega$                            |
| <b>Operating Temperature</b>         | - 40~85 $^{\circ}\text{C}$             |
| <b>Maximum Power</b>                 | 1 W                                    |
| <b>Termination</b>                   | Ag (Environmentally-Friendly Leadless) |
| <b>Resistance to Soldering Heats</b> | 260 $^{\circ}\text{C}$ , 10sec.        |

**NOTE**

1. The specification is defined on Pulse evaluation board

### MECHANICAL DRAWING

|        | <b>Dimension</b> |
|--------|------------------|
| L (mm) | $3.2 \pm 0.20$   |
| W (mm) | $1.6 \pm 0.20$   |
| T (mm) | $1.2 \pm 0.20$   |
| A (mm) | $0.8 \pm 0.20$   |



| <b>Terminal name</b> | <b>Function</b> |
|----------------------|-----------------|
| S1                   | Feeding Point   |
| S2                   | Soldering Point |

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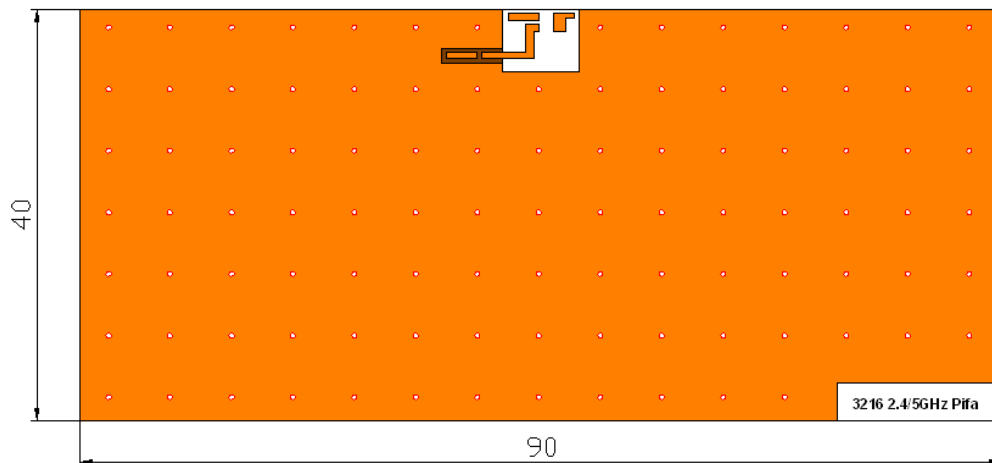
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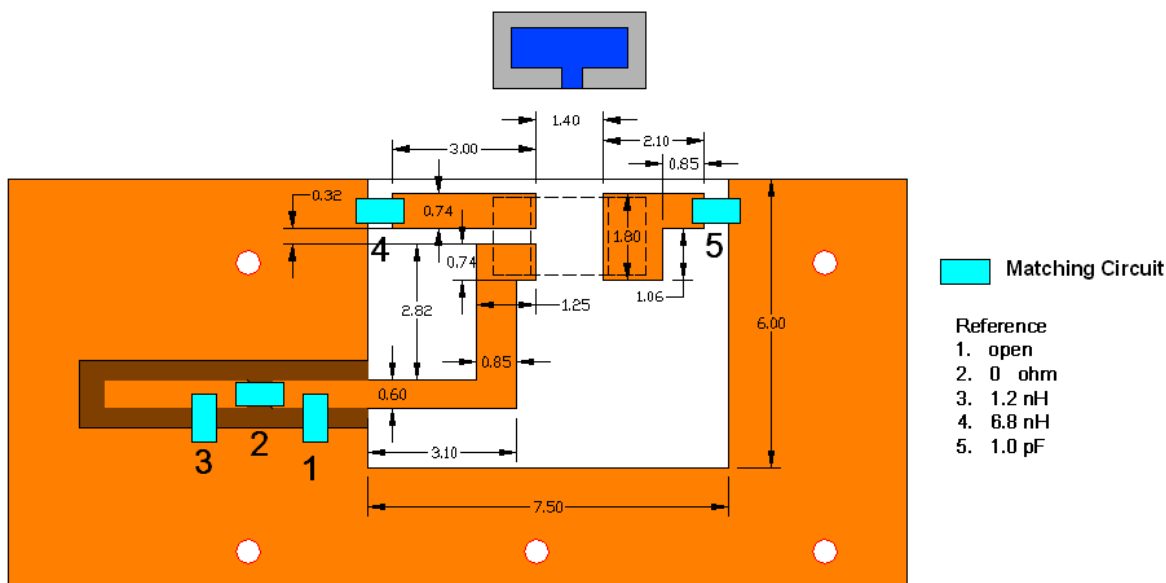
**Description:** 3216 2.4G/5G Chip Antenna

**PART NUMBER:** ANT3216LL11R2455A

## REFERENCE DESIGN OF EVALUATION BOARD



Outlook and dimension of evaluation board



Details of soldering Pad

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## Description: 3216 2.4G/5G Chip Antenna

**PART NUMBER: ANT3216LL11R2455A**

### ELECTRICAL PERFORMANCES

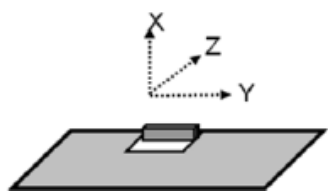


Return loss

#### Marker data

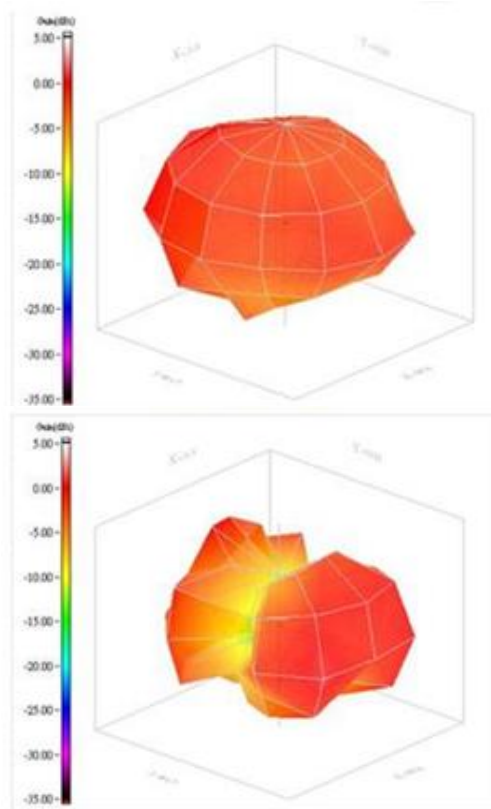
1. 2.40GHz, -8.0747dB
2. 2.44GHz, -12.014dB
3. 2.48GHz, -7.5008dB
4. 5.15GHz, -9.0265dB
5. 5.47GHz, -16.850dB
6. 5.85GHz, -6.1971dB

2442MHz



Evaluation board and XYZ direction

5470MHz



Max gain = 0.47 dBi  
Avg gain = -2.49 dB  
Efficiency = 56%

Max gain = 0.64 dBi  
Avg gain = -3.26 dB  
Efficiency = 47%

Radiation pattern

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

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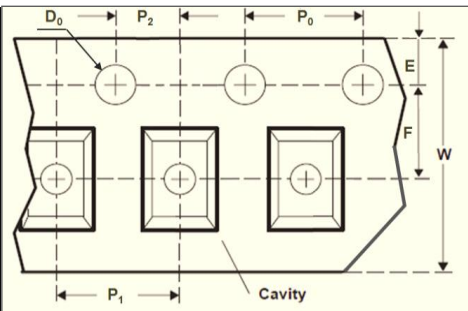
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## Description: 3216 2.4G/5G Chip Antenna

**PART NUMBER: ANT3216LL11R2455A**

### Tape & Reel Configurations

| Serial no | Checking note                           | Index |
|-----------|-----------------------------------------|-------|
| 1         | Sprocket hole                           | Do    |
| 2         | Distance sprocket hole to sprocket hole | Po    |
| 3         | Distance pocket to pocket               | P1    |
| 4         | Distance sprocket hole/pocket           | P2    |
| 5         | Tape width                              | W     |
| 6         | Distance sprocket hole to outside       | E     |
| 7         | Distance sprocket hole to pocket        | F     |
| 8         | Reel Diameter                           | R     |



| Product Size Code | Product Size (mm) | Tape & Reel Configurations |                    |                 |                   |                   |                  |                    |                      |        |
|-------------------|-------------------|----------------------------|--------------------|-----------------|-------------------|-------------------|------------------|--------------------|----------------------|--------|
|                   |                   | Q'ty (Kpcs)                | D0 (mm)            | P0 (mm)         | P1 (mm)           | P2 (mm)           | W (mm)           | E (mm)             | F (mm)               | R (mm) |
| 0605              | 0.6 x 0.5         | 10                         | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 2 (+0.05 / -0.05) | 2 (+0.1 / -0.1)   | 8 (+0.3 / -0.1)  | 1.75 (+0.1 / -0.1) | 3.5 (+0.05 / -0.05)  | 180±2  |
| 1005              | 1.0 x 0.5         | 10                         | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 2 (+0.05 / -0.05) | 2 (+0.1 / -0.1)   | 8 (+0.3 / -0.1)  | 1.75 (+0.1 / -0.1) | 3.5 (+0.05 / -0.05)  | 180±2  |
| 1608              | 1.6 x 0.8         | 4                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 8 (+0.3 / -0.1)  | 1.75 (+0.1 / -0.1) | 3.5 (+0.05 / -0.05)  | 180±2  |
| 2012              | 2.0 x 1.2         | 4                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 8 (+0.3 / -0.1)  | 1.75 (+0.1 / -0.1) | 3.5 (+0.05 / -0.05)  | 180±2  |
| 2520              | 2.5 x 2.0         | 3                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 8 (+0.3 / -0.1)  | 1.75 (+0.1 / -0.1) | 3.5 (+0.05 / -0.05)  | 180±2  |
| 3216              | 3.2 x 1.6         | 3                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 8 (+0.3 / -0.1)  | 1.75 (+0.1 / -0.1) | 3.5 (+0.05 / -0.05)  | 180±2  |
| 5010              | 5.0 x 1.0         | 3                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 16 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 7.5 (+0.1 / -0.1)    | 180±2  |
| 5320              | 5.3 x 2.0         | 2                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 12 (+0.3 / -0.1) | 1.75 (+0.1 / -0.1) | 5.5 (+0.1 / -0.1)    | 180±2  |
| 6020              | 6.0 x 2.0         | 2                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 12 (+0.3 / -0.1) | 1.75 (+0.1 / -0.1) | 5.5 (+0.1 / -0.1)    | 180±2  |
| 6230              | 6.2 x 3.0         | 2                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 12 (+0.3 / -0.1) | 1.75 (+0.1 / -0.1) | 5.5 (+0.1 / -0.1)    | 180±2  |
| 7020              | 7.0 x 2.0         | 2                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 16 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 7.5 (+0.1 / -0.1)    | 180±2  |
| 7836              | 7.8 x 3.6         | 1                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 8 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 16 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 7.5 (+0.1 / -0.1)    | 180±2  |
| 8010              | 8.0 x 1.0         | 3                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 16 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 7.5 (+0.1 / -0.1)    | 180±2  |
| 8868              | 8.8 x 6.8         | 1                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 12 (+0.1 / -0.1)  | 2 (+0.1 / -0.1)   | 16 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 7.5 (+0.1 / -0.1)    | 180±2  |
| 9520              | 9.5 x 2.0         | 2                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 4 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 16 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 7.5 (+0.1 / -0.1)    | 180±2  |
| 1003              | 10 x 03           | 1                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 8 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 16 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 7.5 (+0.1 / -0.1)    | 180±2  |
| 1204              | 12 x 04           | 1                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 8 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 24 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 11.5 (+0.1 / -0.1)   | 180±2  |
| 1212              | 12 x 12           | 0.5                        | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 16 (+0.1 / -0.1)  | 2 (+0.1 / -0.1)   | 24 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 11.5 (+0.1 / -0.1)   | 330±2  |
| 1515              | 15 x15            | 0.4                        | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 20 (+0.1 / -0.1)  | 2 (+0.1 / -0.1)   | 32 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 14.2 (+0.1 / -0.1)   | 330±2  |
| 1818              | 18 x 18           | 0.4                        | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 24 (+0.1 / -0.1)  | 2 (+0.1 / -0.1)   | 32 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 14.2 (+0.1 / -0.1)   | 330±2  |
| 1903              | 19 x 03           | 1                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 8 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 32 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 14.2 (+0.1 / -0.1)   | 330±2  |
| 2405              | 24 x 05           | 2                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 8 (+0.1 / -0.1)   | 2 (+0.1 / -0.1)   | 44 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 20.2 (+0.1 / -0.1)   | 330±2  |
| 2525              | 25 x 25           | 0.25                       | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 32 (+0.1 / -0.1)  | 2 (+0.1 / -0.1)   | 44 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 20.2 (+0.15 / -0.15) | 330±2  |
| 3807              | 38 x 07           | 1                          | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 12 (+0.1 / -0.1)  | 2 (+0.15 / -0.15) | 56 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 26.2 (+0.15 / -0.15) | 330±2  |
| 4005              | 40 x 05           | 0.6                        | 1.55 (+0.1 / -0.1) | 4 (+0.1 / -0.1) | 12 (+0.1 / -0.1)  | 2 (+0.15 / -0.15) | 56 (+0.3 / -0.3) | 1.75 (+0.1 / -0.1) | 26.2 (+0.15 / -0.15) | 330±2  |

**Net Weight: 0.000018 Kg**

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**Description:** 3216 2.4G/5G Chip Antenna

**PART NUMBER:** ANT3216LL11R2455A

### REVISION HISTORY

| Revision  | Date          | Description                 |
|-----------|---------------|-----------------------------|
| Version 1 | Oct. 27, 2020 | - New issue                 |
| Version 2 | July.14, 2023 | - Adding packing and weight |