



### Features:

- Frequency 902-928MHz
- Peak Gain +5dBi
- Polarization Linear
- Size 40 x 40 x 6 mm
- Pin feed
- Adhesive tape mount
- RoHS Compliant

### Applications:

- ISM 915MHz radios
- IoT Devices
- Smart traffic signs
- Lighting controls
- Monitoring

All dimensions are in mm / inches

Issue: 1850

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

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**Description: 902-928MHz Ceramic Directional  
5dBi Antenna****Series: Patch Antenna****PART NUMBER: W3215****ELECTRICAL SPECIFICATIONS**

|                                      |                   |
|--------------------------------------|-------------------|
| Antenna Type                         | Patch Antenna     |
| Frequency                            | 902-928MHz        |
| Nominal Impedance                    | 50 $\Omega$       |
| Peak Return Loss                     | -20dB             |
| Return Loss (902M~928M)              | <-4dB             |
| Peak Gain                            | 4.5 dBi           |
| Gain (902M~928M)                     | >1.4dBi           |
| Peak Efficiency                      | 70%               |
| Efficiency (902M~928M)               | >37%              |
| Polarization                         | Linear – Vertical |
| Radiation Pattern – Vertical plane   | Omni              |
| Radiation Pattern – Horizontal plane | Directional       |

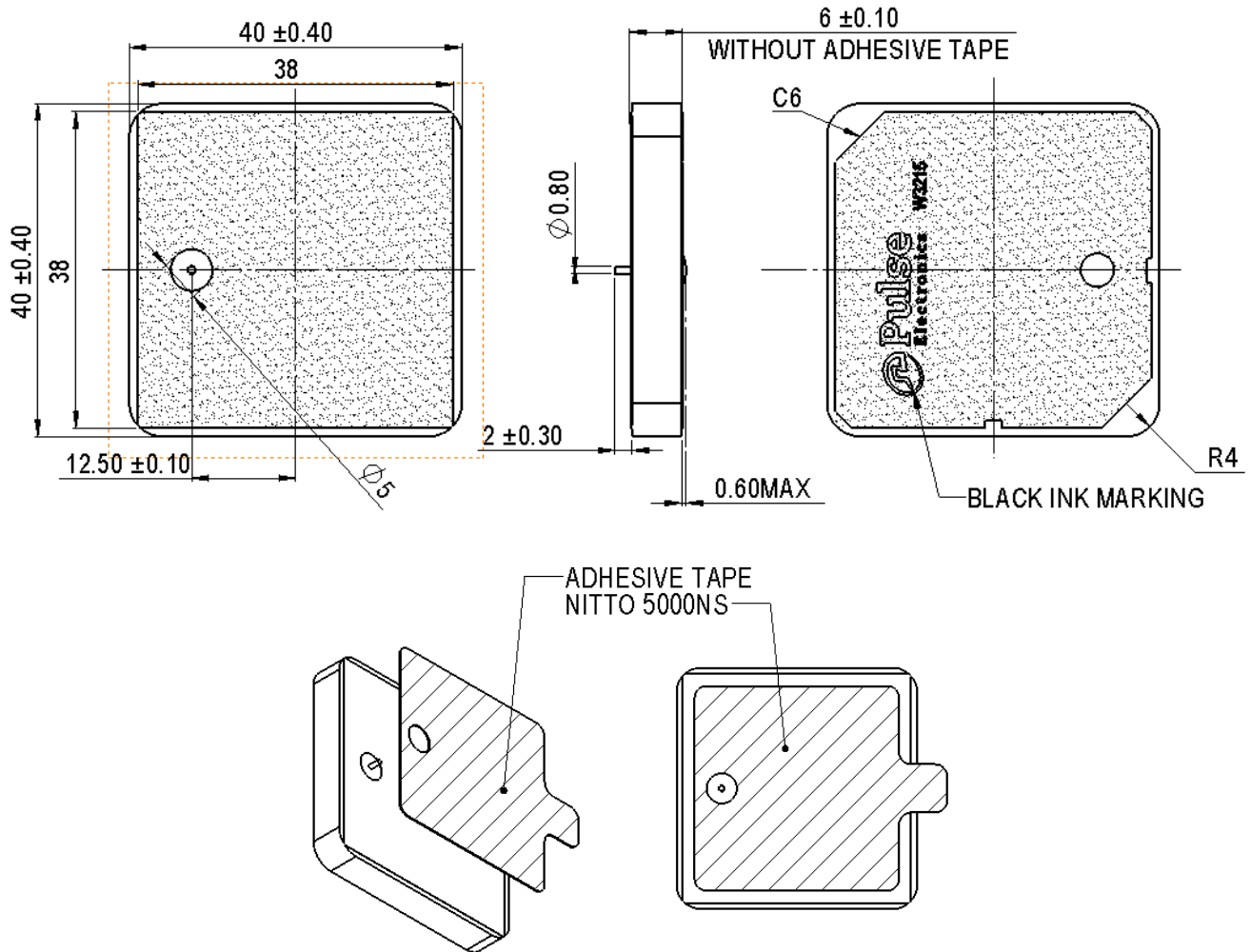
**MECHANICAL SPECIFICATIONS**

|                 |                              |
|-----------------|------------------------------|
| Overall size    | 40 x 40 x 6.0 mm             |
| Weight          | 37g                          |
| Connection type | Pin soldering, adhesive tape |

**ENVIRONMENTAL SPECIFICATIONS**

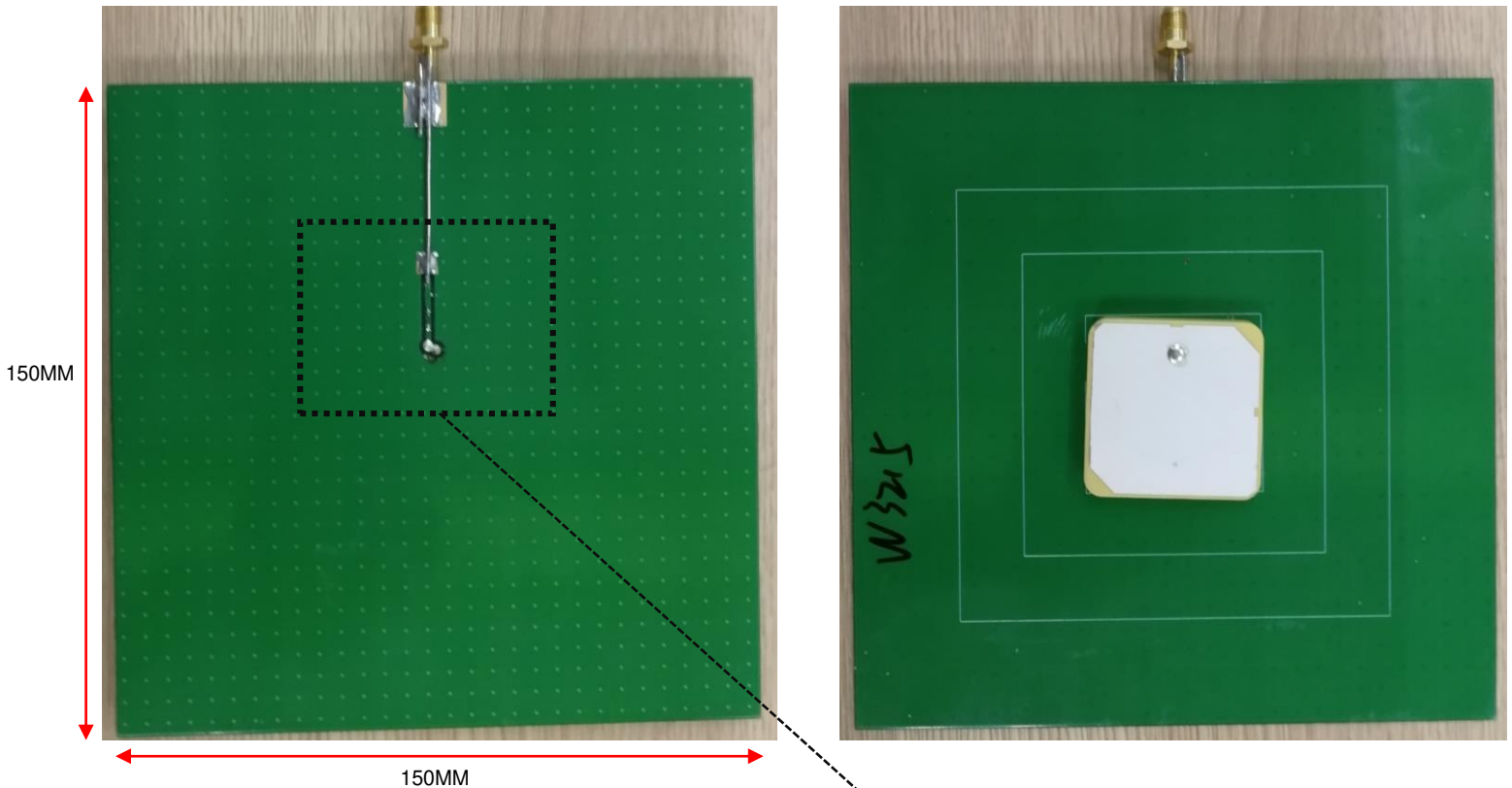
|                       |            |
|-----------------------|------------|
| Operating Temperature | -40~+85 °C |
| Storage Temperature   | -40~+85 °C |
| RoHS Compliant        | Yes        |

MECHANICAL DRAWING



| NO. | Description       | Structure and material |
|-----|-------------------|------------------------|
| 1   | Antenna Substrate | Dielectric Ceramics    |
| 2   | Pin               | Copper and tinplated   |
| 3   | Electrode         | Ag Plated              |
| 4   | Ground Base       | Ag Plated              |
| 5   | Adhesive type     | NITTO 5000NS           |

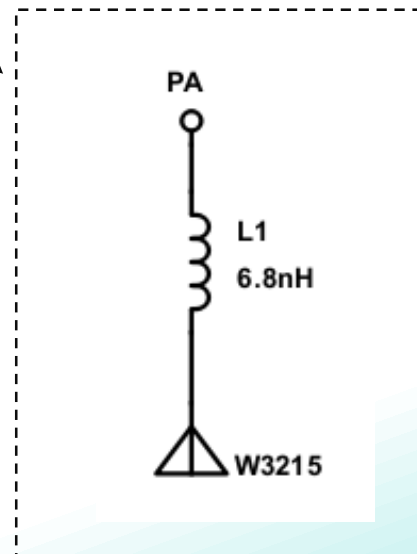
TEST SETUP FOR RF MEASUREMENTS



Test PCB 150 x 150mm

Matching circuit:  
6.8nH series inductor

Series inductor can be used to  
optimize center frequency on custom  
implementation.



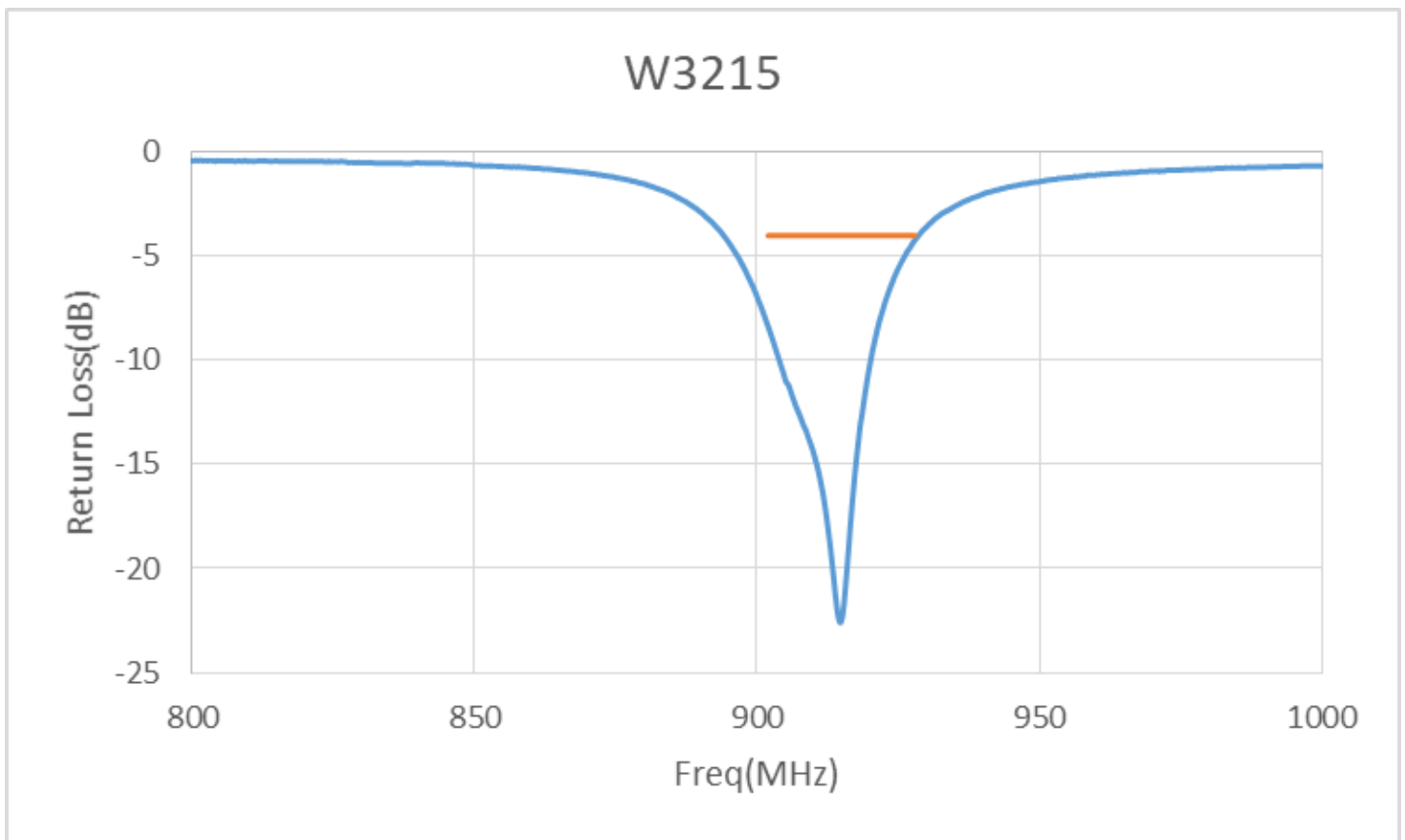
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CHARTS

Return Loss



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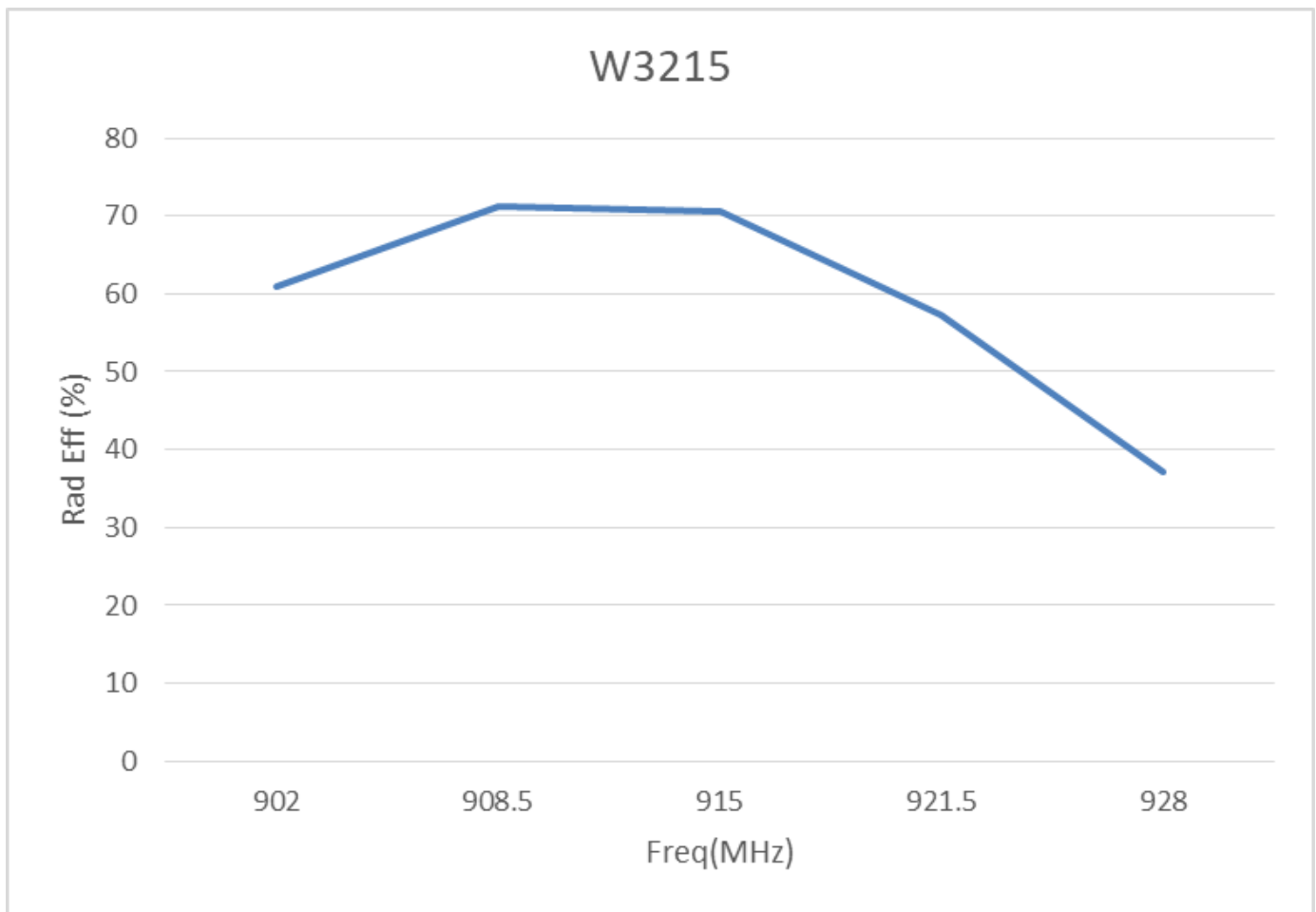
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CHARTS

Radiation Efficiency



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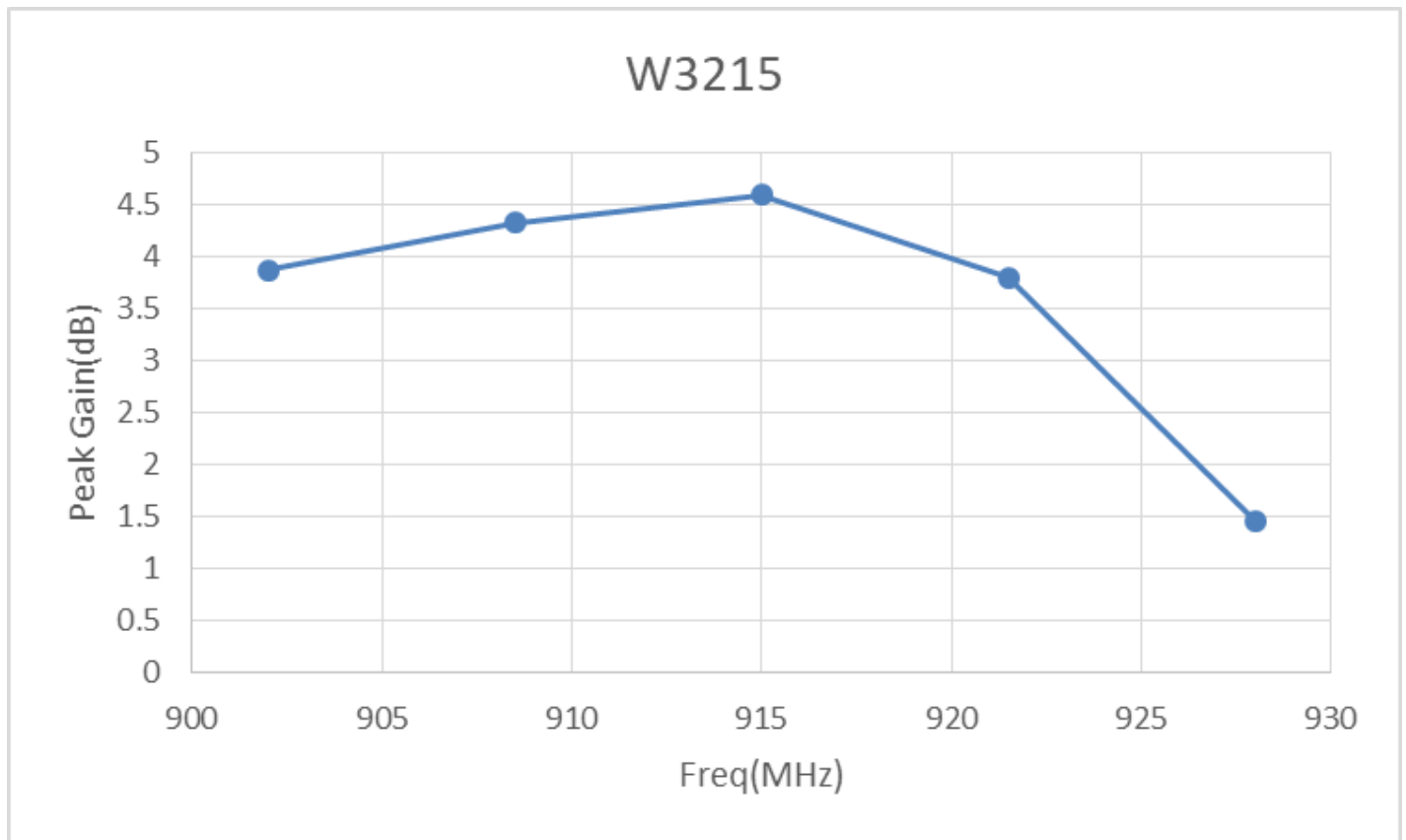
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CHARTS

Peak Gain



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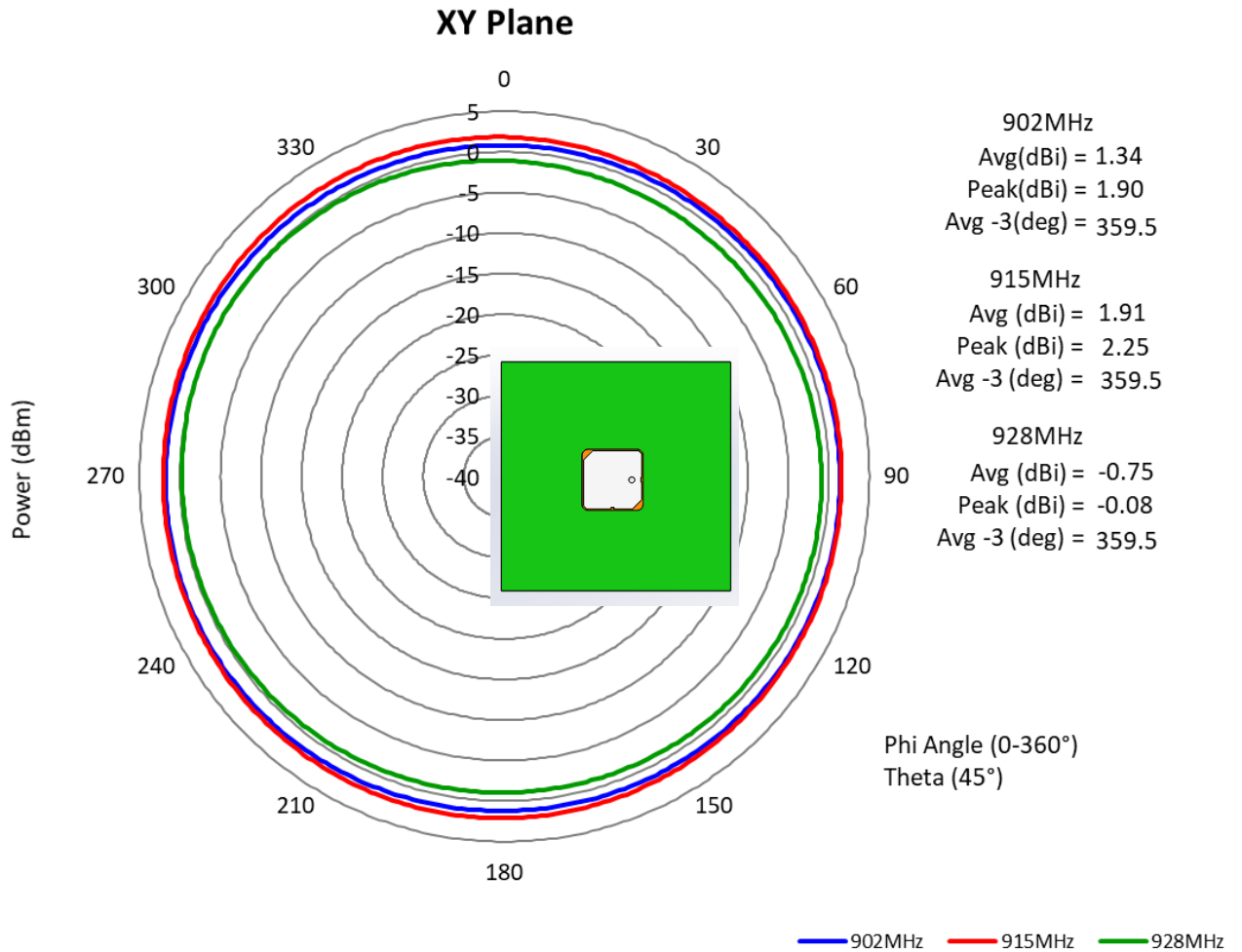
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CHARTS

Radiation pattern(2D)  
XY Plane



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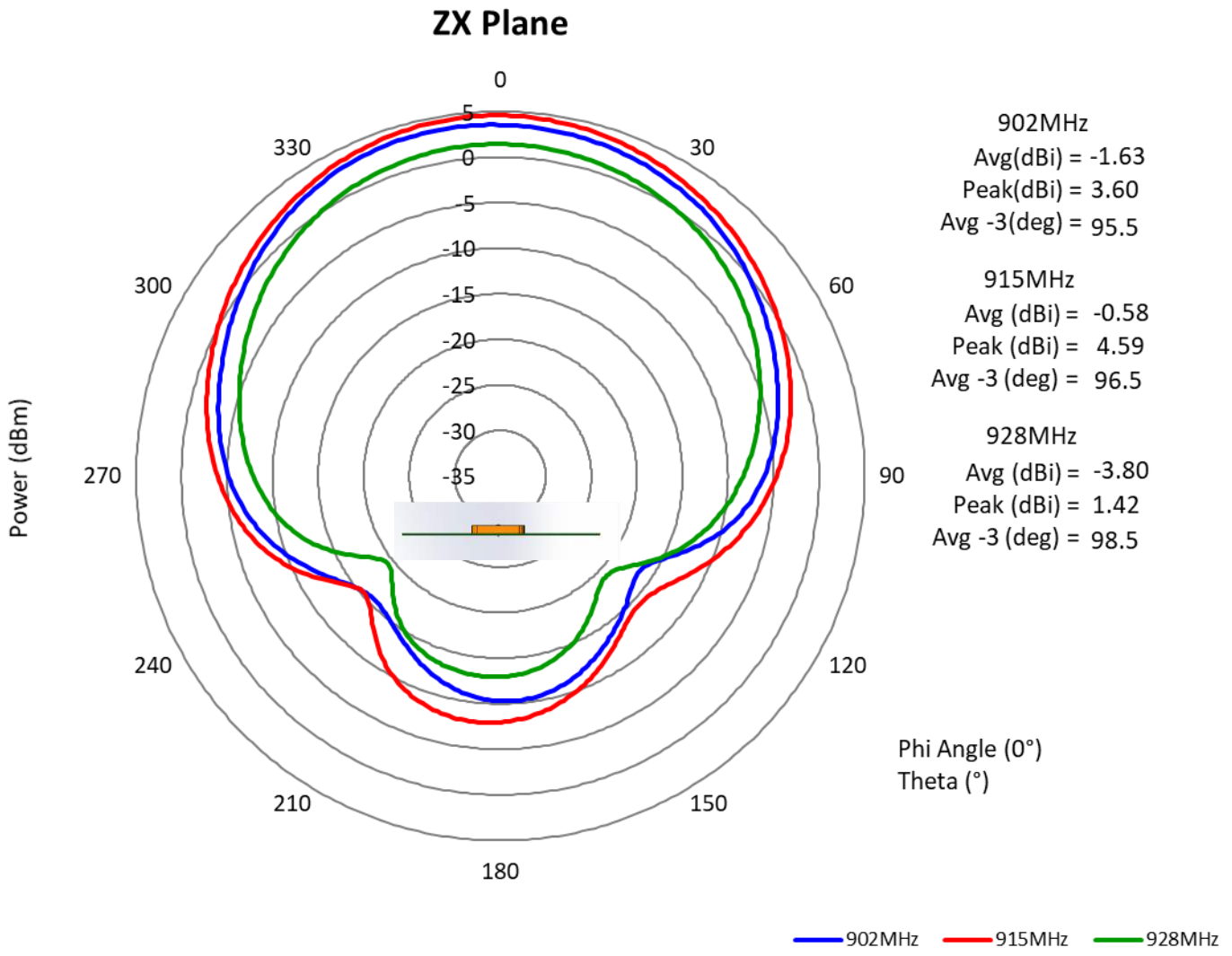
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CHARTS

Radiation pattern(2D)  
ZX Plane



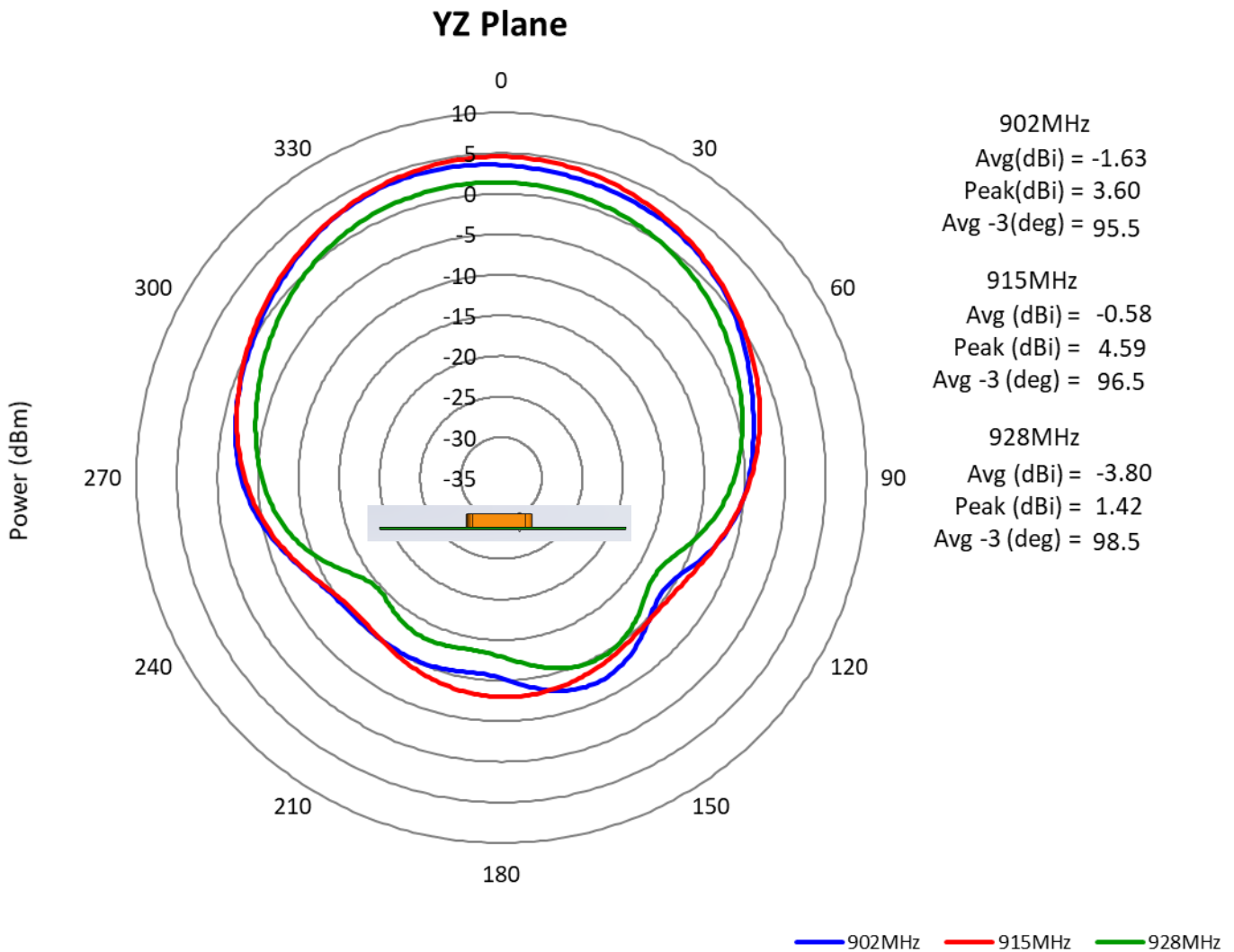
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CHARTS

Radiation pattern(2D)  
YZ Plane



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## PACKAGING

|                          |                 |
|--------------------------|-----------------|
| Per package tray         | 21 elements     |
| Per vacuum bag           | 4 package bases |
| Per inner box            | 1 vacuum bag    |
| Per package              | 4 inner boxes   |
| Total: 336 pcs           |                 |
| Big box dimensions (MM): | 365X365X160MM   |