

Description: 5GHz WiFi SMT Antenna

Series: Embedded 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

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Tel: 86 512 6807 9998



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**PART NUMBER: W3713****ELECTRICAL SPECIFICATIONS**

|                    |                 |
|--------------------|-----------------|
| Frequency          | 4.9-6GHz        |
| Nominal Impedance  | 50Ω             |
| VSWR               | 2:1             |
| Peak Gain          | 4.5dBi +/- 1 dB |
| Radiation Pattern  | Omni            |
| Polarization:      | Linear          |
| Power withstanding | 5W              |

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**MECHANICAL SPECIFICATIONS**

|                |                 |          |  |
|----------------|-----------------|----------|--|
| Material       | Phosphor bronze |          |  |
| Thickness      | 0.2             | mm       |  |
| Weight         | 0.1             | g        |  |
| Overall Length | 10.5(0.41)      | mm(inch) |  |
| Fixing system  | SMT             |          |  |

**ENVIRONMENTAL SPECIFICATIONS**

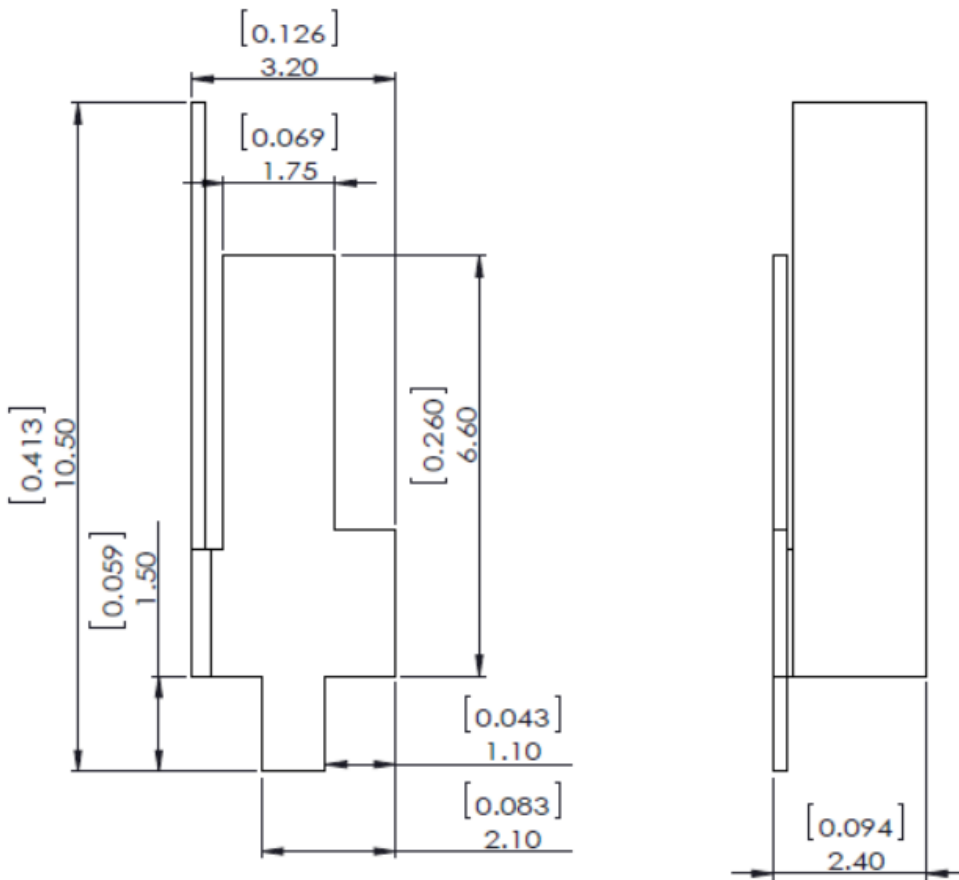
|                       |             |
|-----------------------|-------------|
| Operating temperature | -40/+85 ° C |
|-----------------------|-------------|

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## MECHANICAL DRAWING



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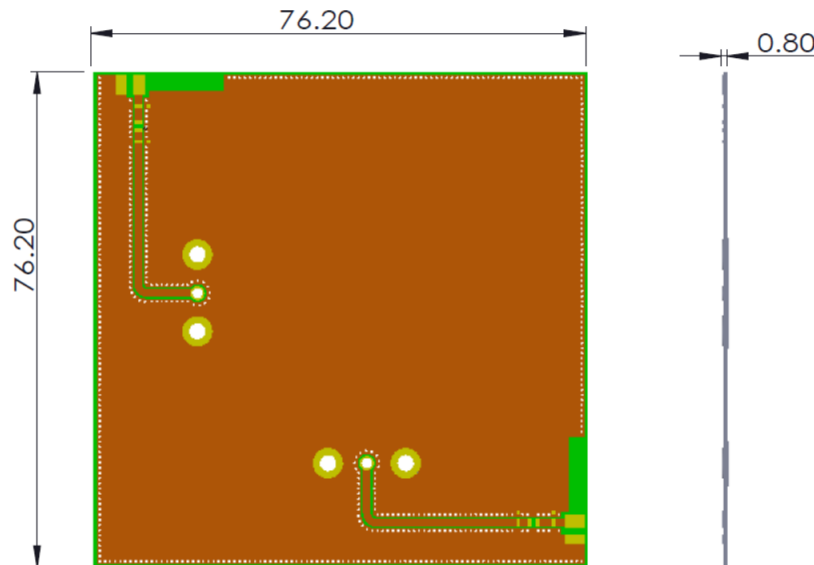
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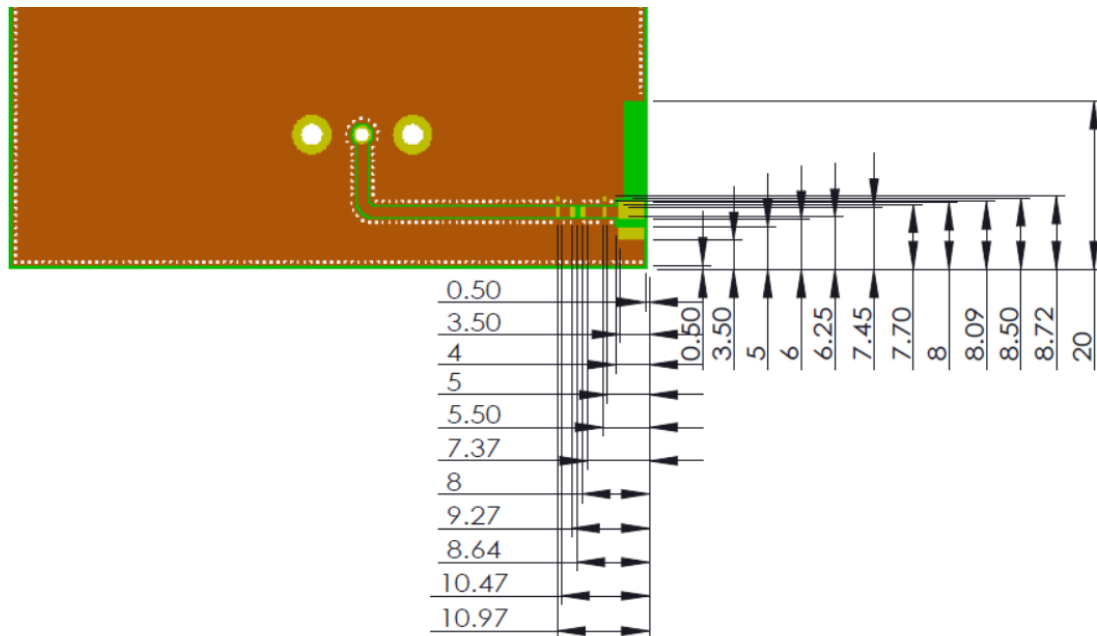
## OTHER SPECIFICATIONS

### PCB LAYOUT:

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



2, Clearance area (Top)



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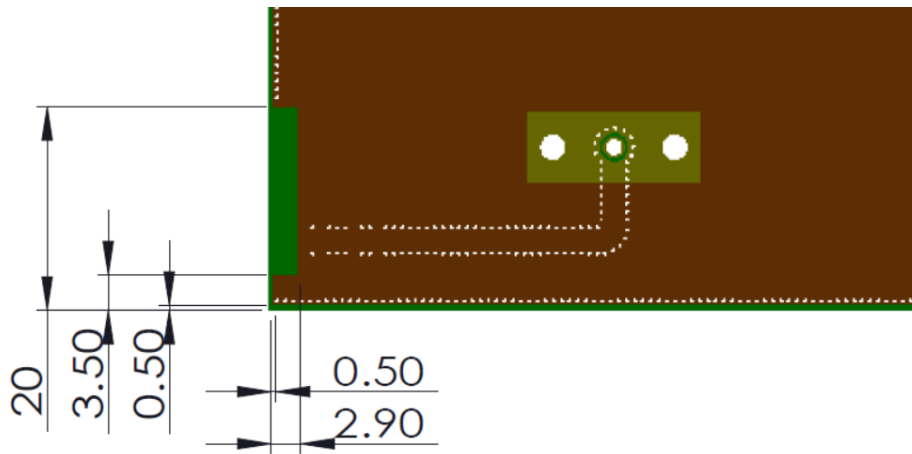
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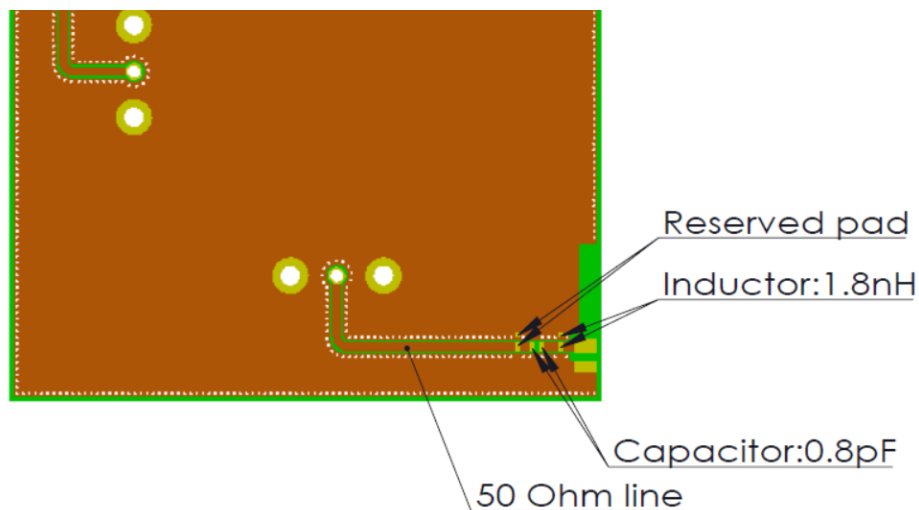
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### OTHER SPECIFICATIONS

#### 3, Clearance area (Bottom)



#### 4, PCB Features



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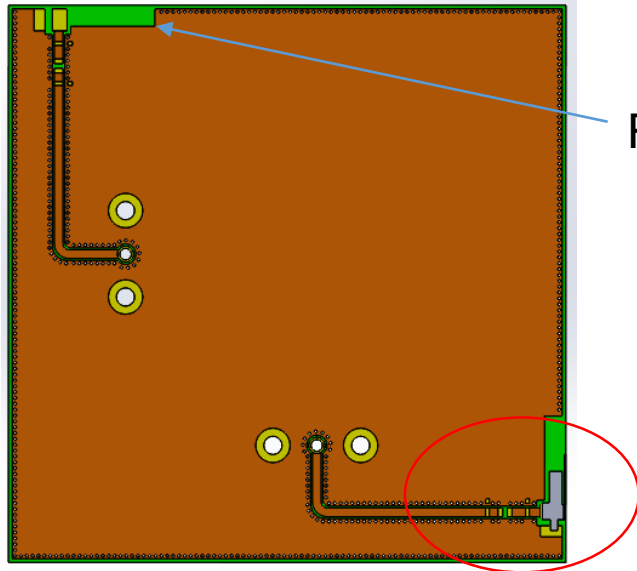
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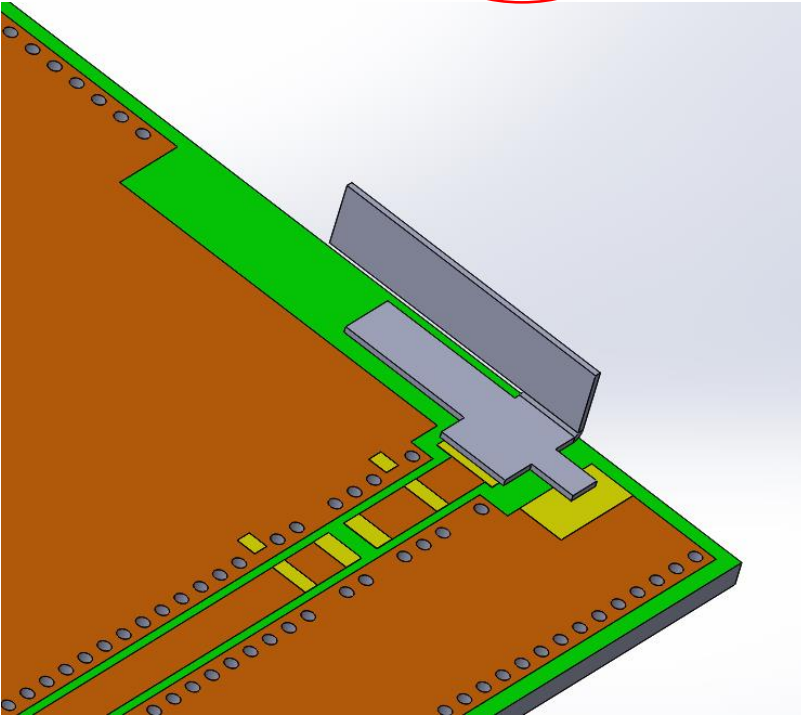
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### OTHER SPECIFICATIONS

#### 3, Antenna on test PCB



Reserved for W3714



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### OTHER SPECIFICATIONS

### 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.

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

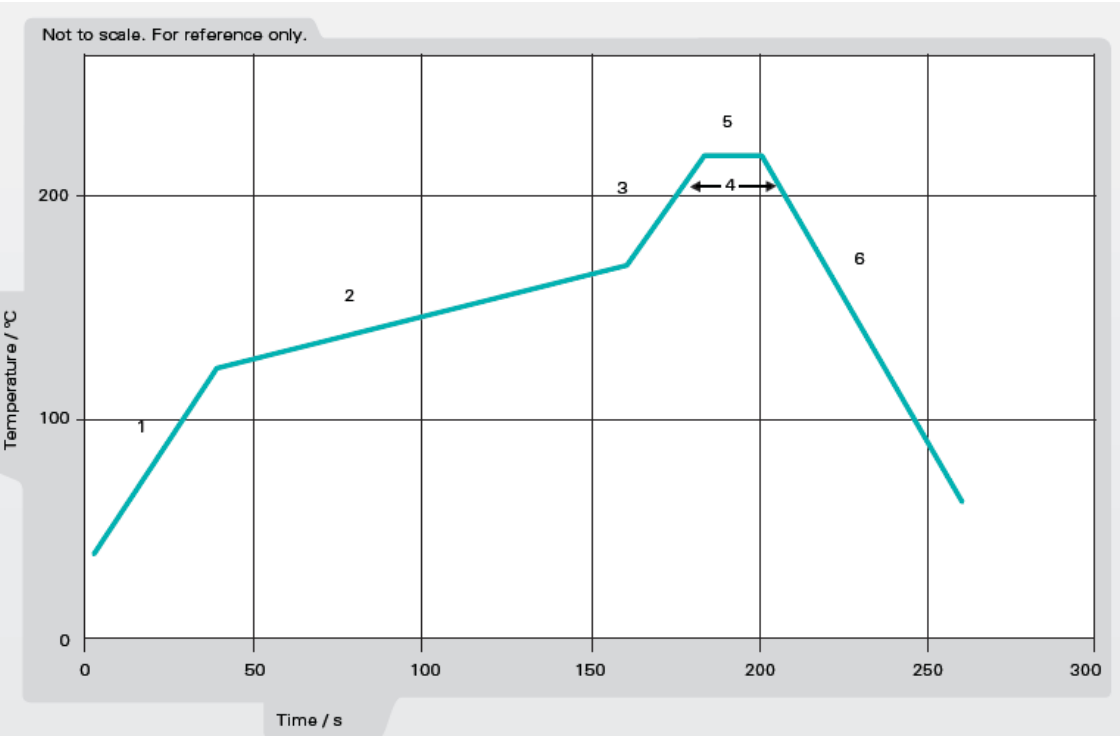


Figure 1. Minimum temperature profile recommendation for reflow soldering process

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|   | Method of heat transfer                    | Controlled hot air convection |
|---|--|-------------------------------|
| 1 | Average temperature gradient in preheating | 2.5 °C/s                      |
| 2 | Soak time                                  | 2-3 minutes                   |
| 3 | Max temperature gradient in reflow         | 3 °C/s                        |
| 4 | Time above 217 °C                          | Max 60 sec                    |
| 5 | Time above 230 °C                          | Max 50 sec                    |
| 6 | Time above 250 °C                          | Max 10 sec                    |
| 7 | Peak temperature in reflow                 | 260 °C for 5 seconds          |
| 8 | Temperature gradient in cooling            | Max -5 °C/s                   |

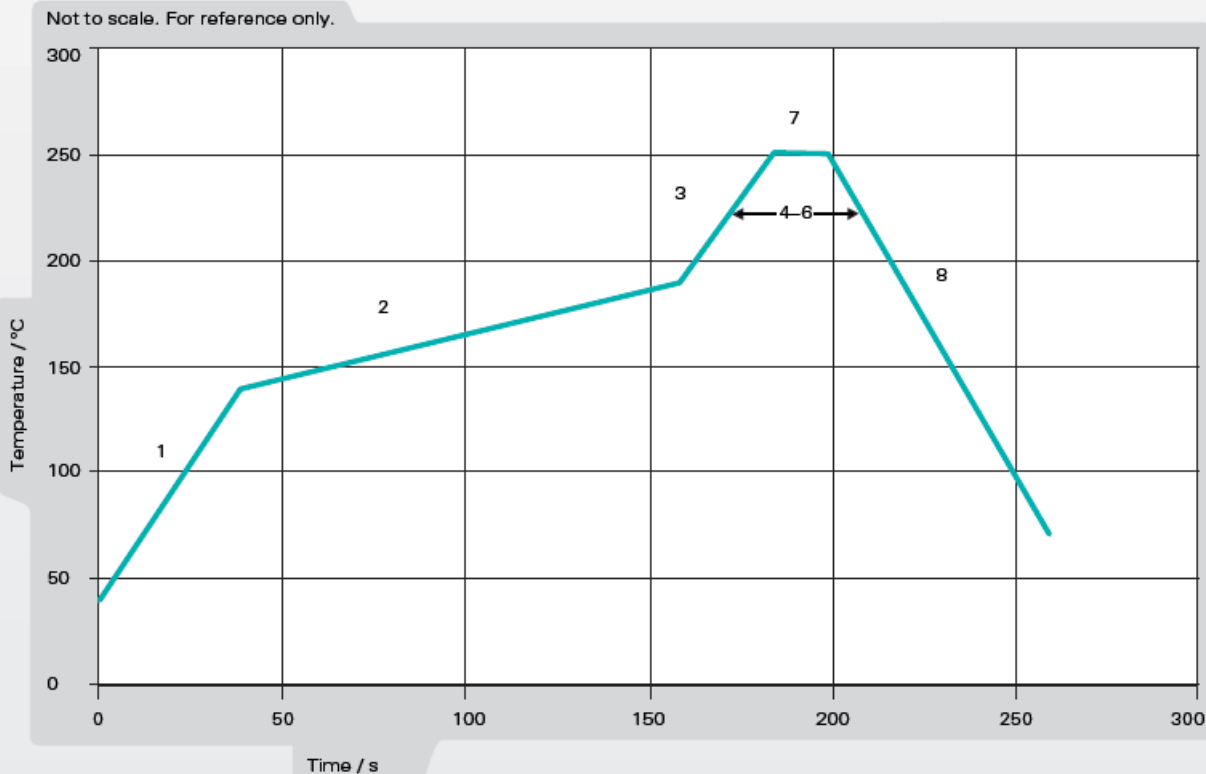


Figure 2. Maximum temperature profile recommendation for reflow soldering process

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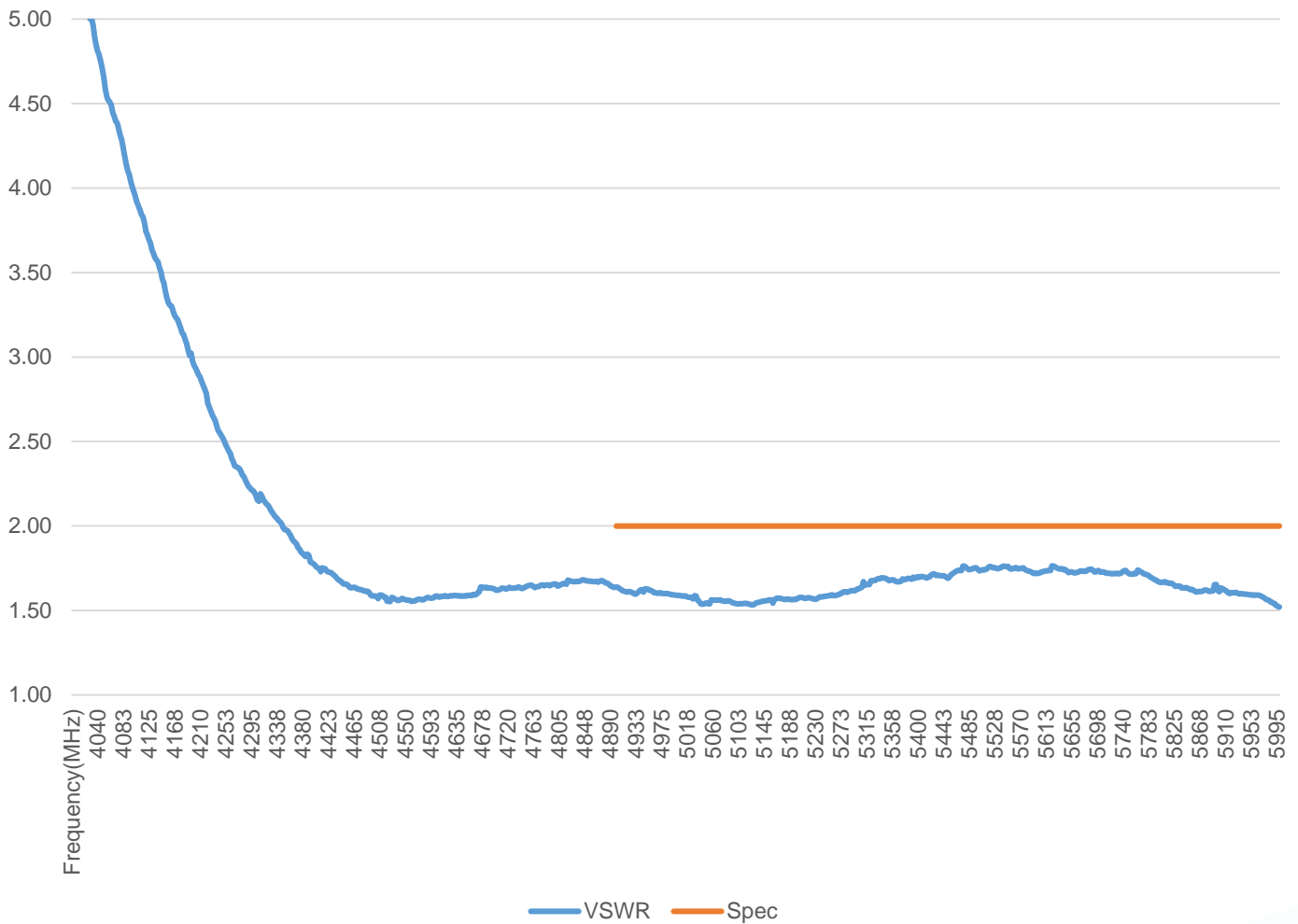
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## CHARTS

### VSWR

#### VSWR



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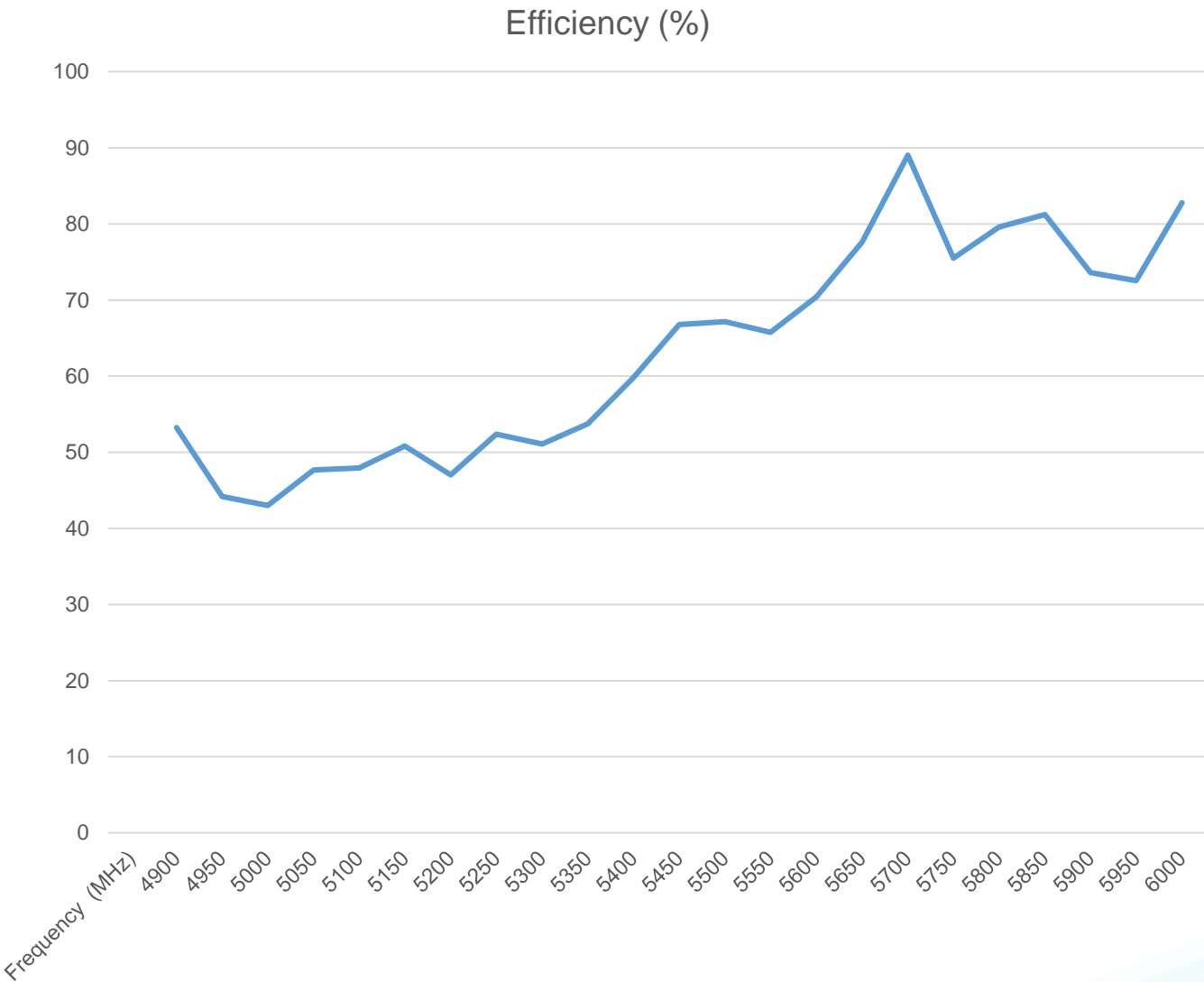
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CHARTS

Efficiency(%)



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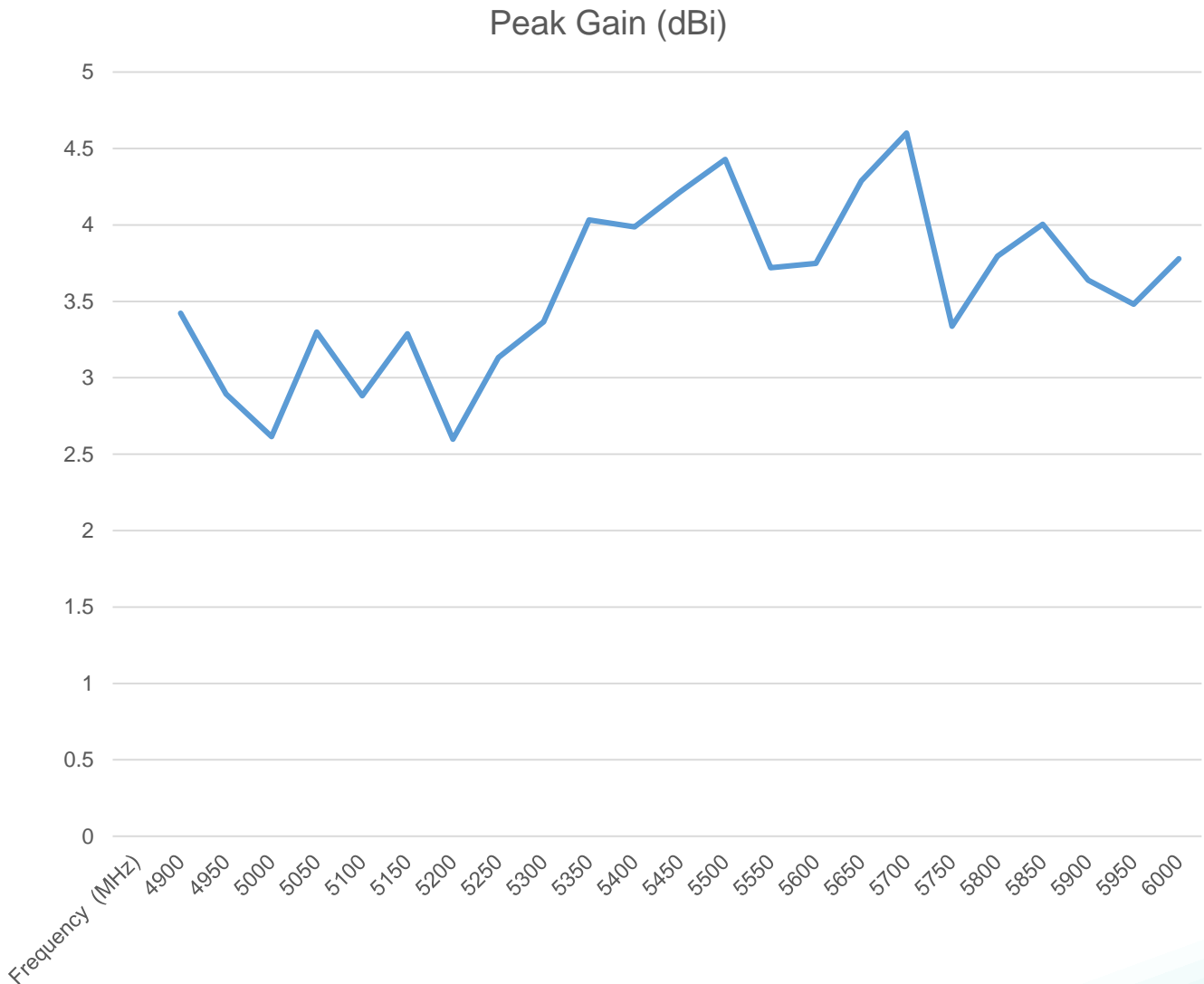
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## CHARTS

### Peak Gain (dBi)



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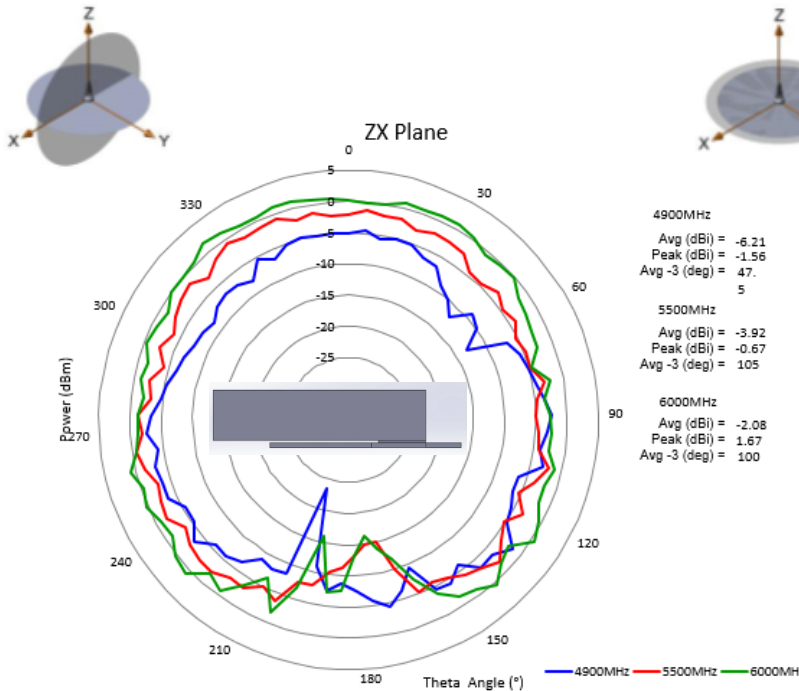
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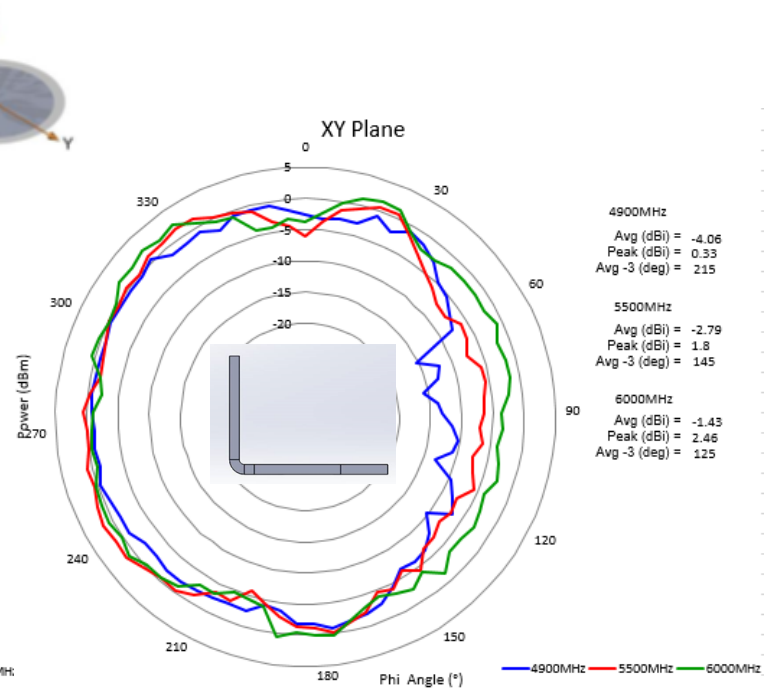
## CHARTS

### 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



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