

# PCB Antenna

# FCM360K Datasheet

**Antenna Services**

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Status: Preliminary



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# About the Document

## Revision History

| Version | Date       | Author          | Note                     |
|---------|------------|-----------------|--------------------------|
| -       | 2023-05-14 | Christopher.Yao | Creation of the document |
| 1.0     | 2023-05-14 | Christopher.Yao | First official release   |

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## 1 Product Description

The antenna is designed for superior performance, and can be widely used for wireless applications.

We provide comprehensive antenna design support such as simulation, testing and manufacturing for custom antenna solutions to meet your specific application needs.

## 2 Product Features

- Wifi
- High efficiency
- Excellent performance

### 3 Product Specifications

#### Passive Electrical Specifications

|                   |                             |
|-------------------|-----------------------------|
| Frequency Range   | 2400–2500 MHz;5150-5850 MHz |
| Input Impedence   | 50 $\Omega$                 |
| VSWR              | $\leq 3.3$                  |
| Gain              | $\leq 2.0$ dBi              |
| Polarization Type | Linear                      |

#### Detailed Passive Electrical Specifications

|                        |           |           |
|------------------------|-----------|-----------|
| Frequency Range (MHz)  | 2400-2500 | 5150-5850 |
| VSWR (Max.)            | 2.3       | 3.3       |
| Average Efficiency (%) | 46.3      | 33.5      |
| Max. Peak Gain (dBi)   | 2.0       | 0.9       |

## 4 Overall Performance

### 4.1. Test Environment

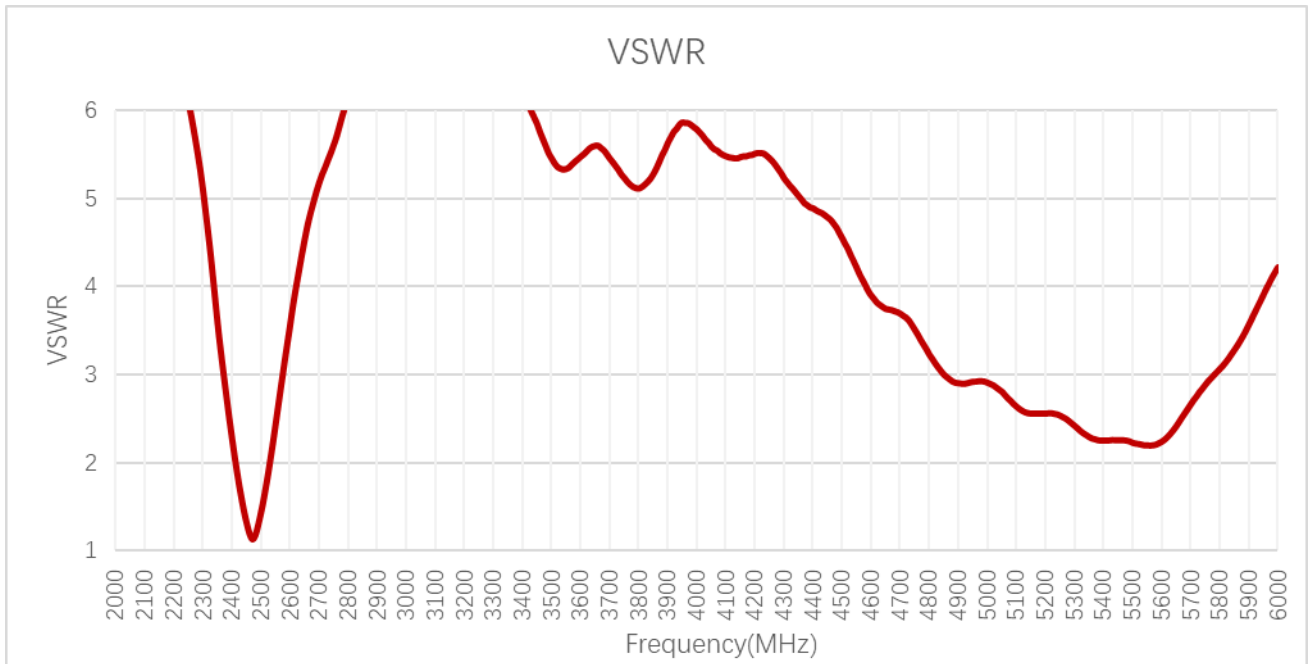
- KEYSIGHT ENA Network Analyzer E5063A 100 kHz – 8.5 GHz
- RayZone® 2800 Chamber 5G (FR1) SISO/MIMO, 600 MHz – 8.5 GHz



Other description:

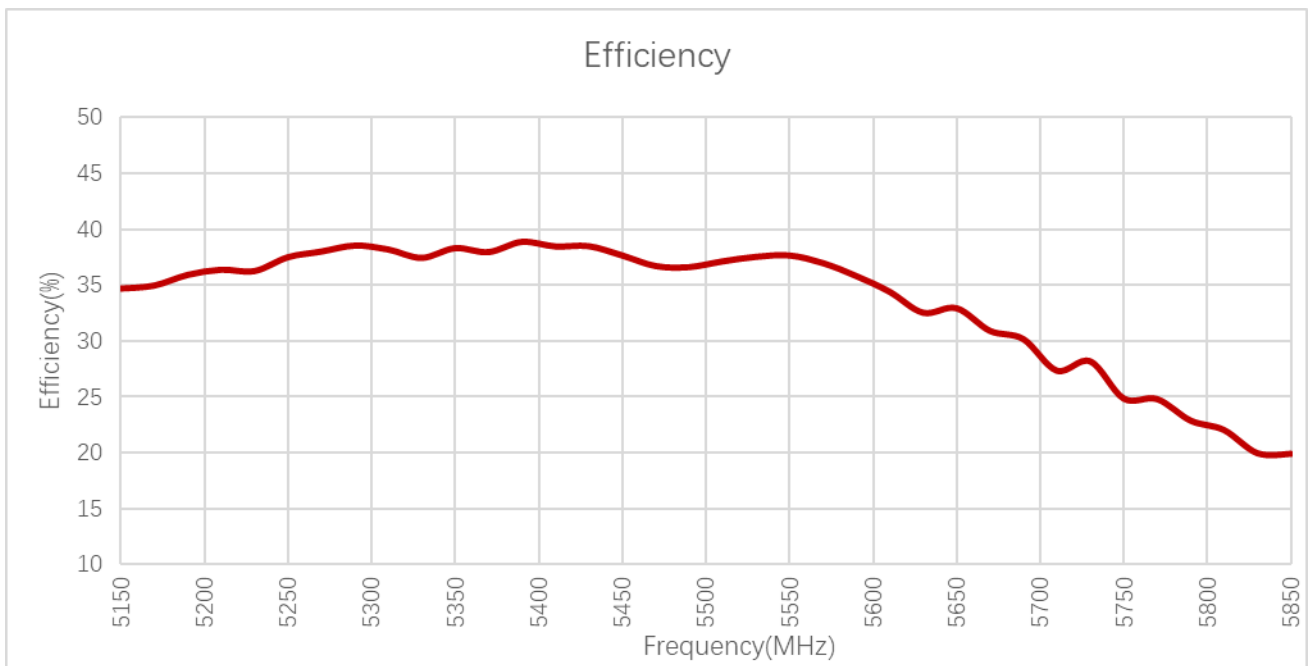
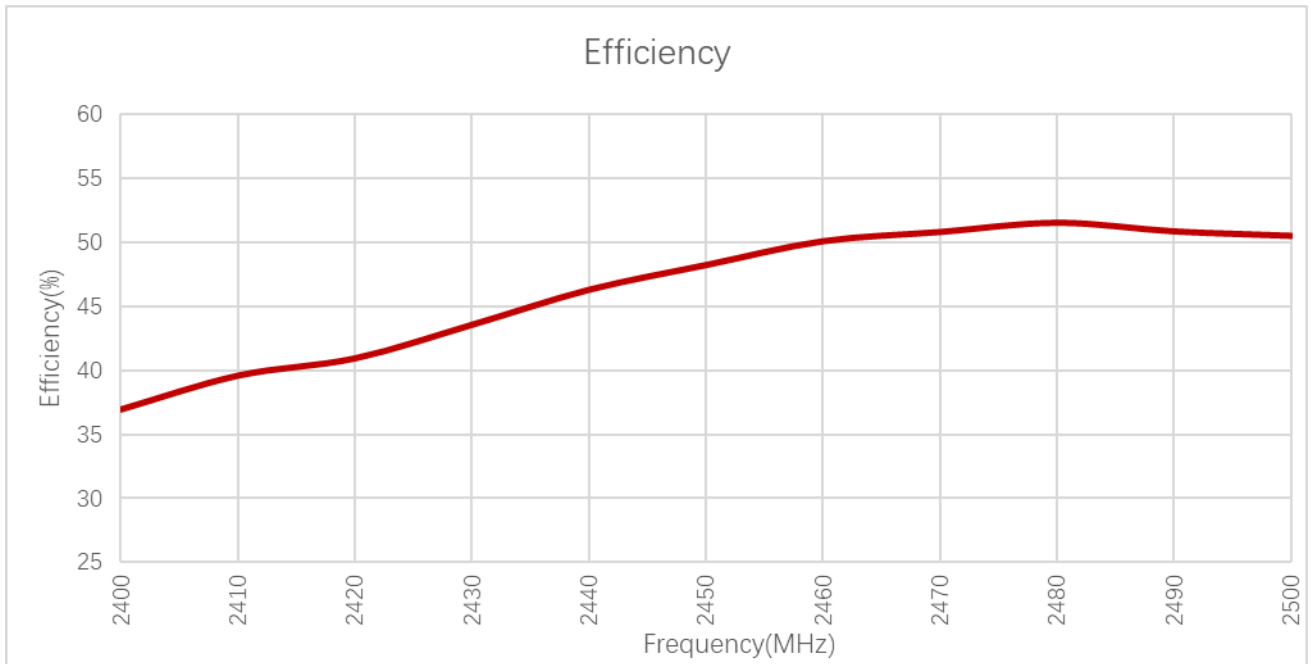


**4.2. VSWR**



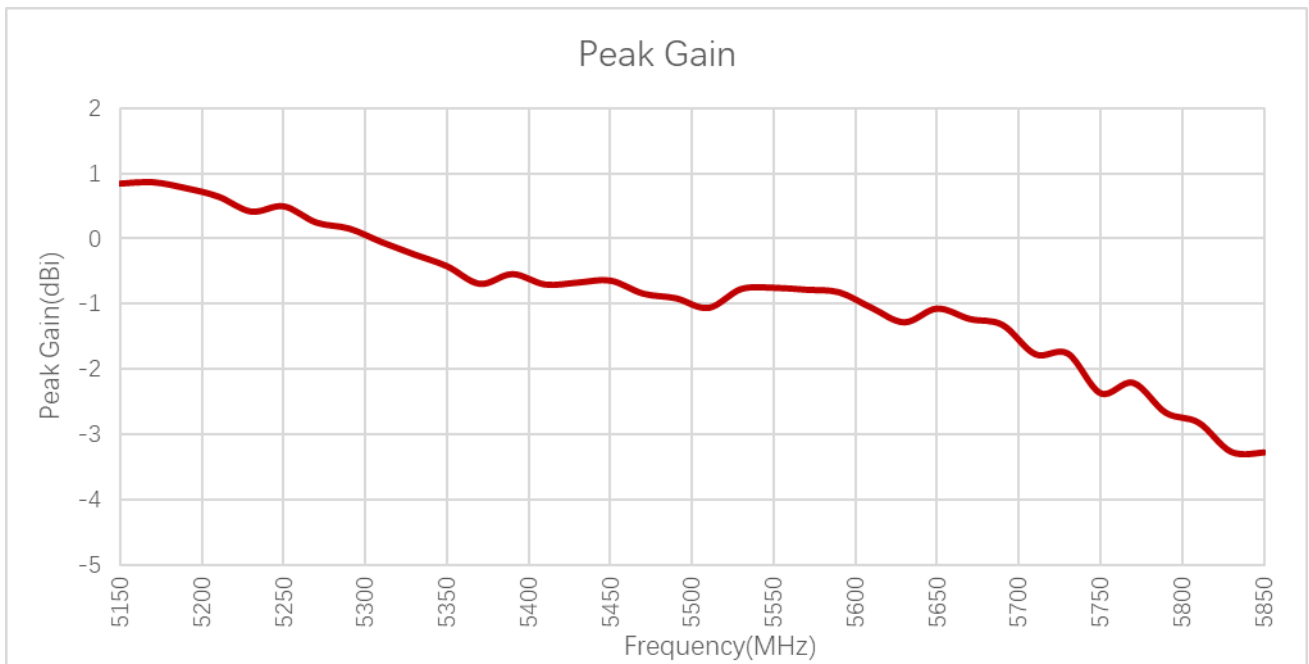
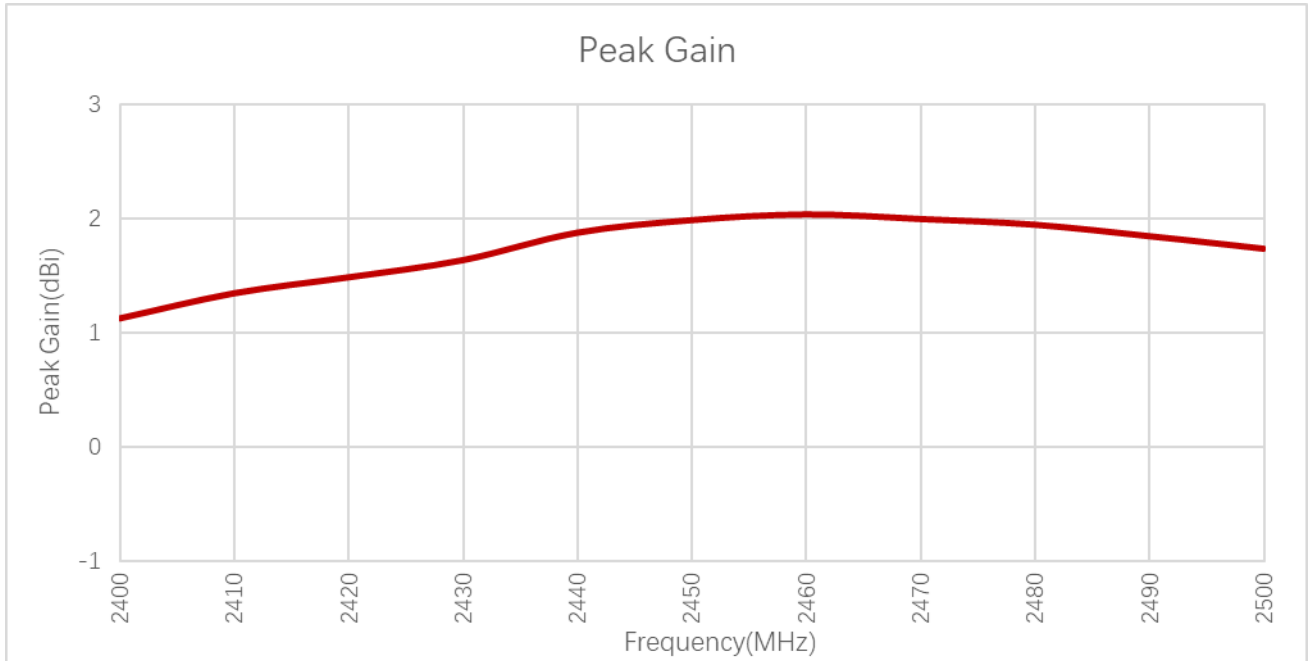
|                        |      |      |      |      |      |      |      |      |
|------------------------|------|------|------|------|------|------|------|------|
| <b>Frequency (MHz)</b> | 2400 | 2450 | 2500 | 5150 | 5350 | 5550 | 5750 | 5850 |
| <b>VSWR</b>            | 2.3  | 1.3  | 1.4  | 2.6  | 2.3  | 2.2  | 2.9  | 3.3  |

### 4.3. Efficiency



|                        |      |      |      |      |      |      |      |      |
|------------------------|------|------|------|------|------|------|------|------|
| <b>Frequency (MHz)</b> | 2400 | 2450 | 2500 | 5150 | 5350 | 5550 | 5750 | 5850 |
| <b>Efficiency (%)</b>  | 36.9 | 48.2 | 50.5 | 34.7 | 38.3 | 37.7 | 24.8 | 19.9 |

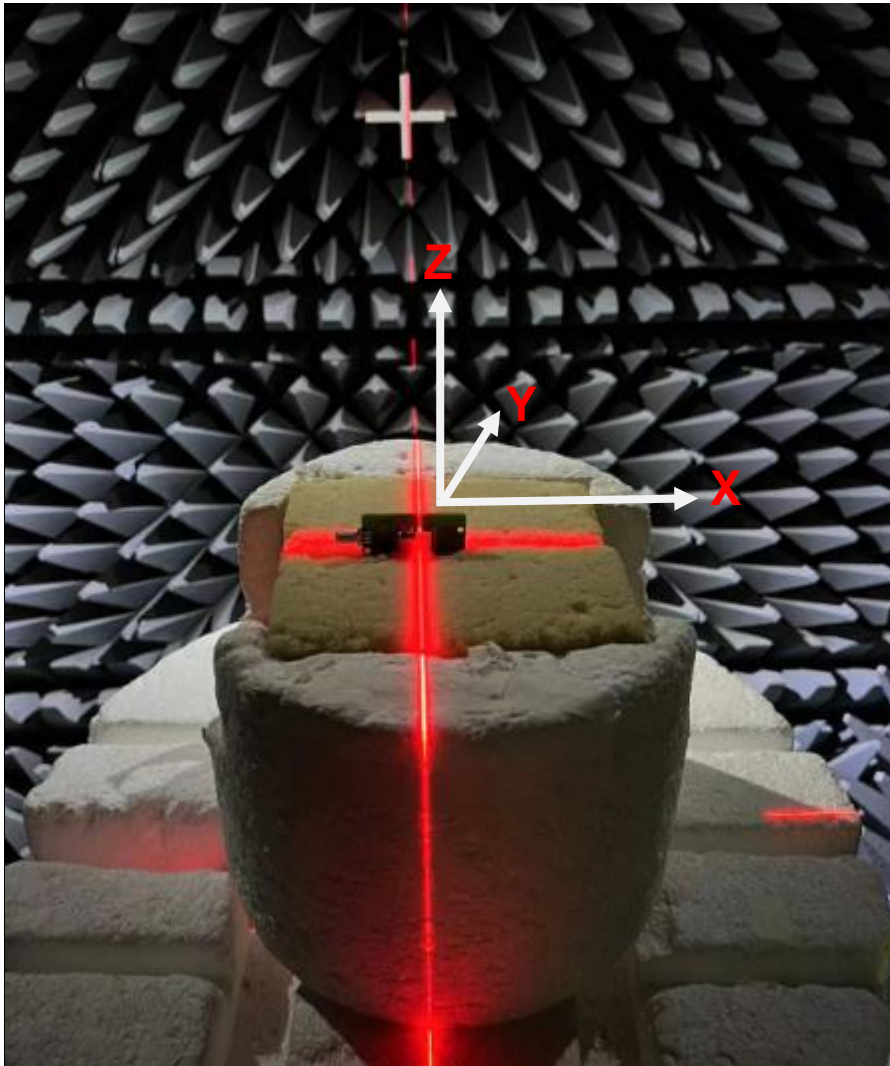
### 4.4. Gain



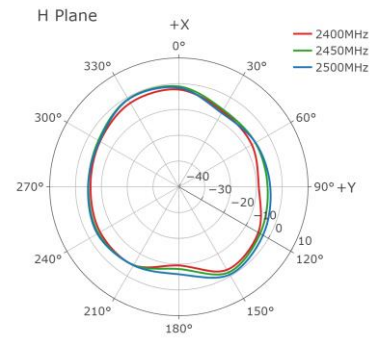
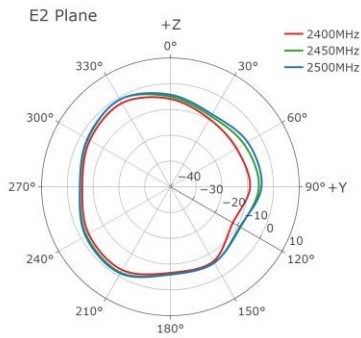
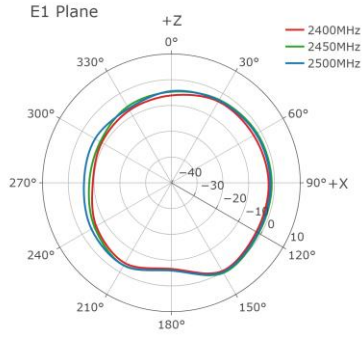
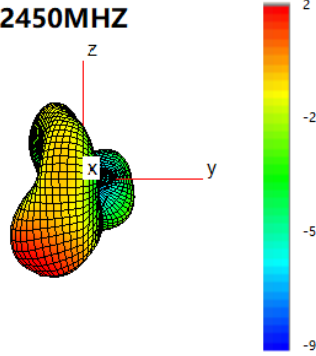
|                        |      |      |      |      |      |      |      |      |
|------------------------|------|------|------|------|------|------|------|------|
| <b>Frequency (MHz)</b> | 2400 | 2450 | 2500 | 5150 | 5350 | 5550 | 5750 | 5850 |
| <b>Gain (dBi)</b>      | 1.1  | 2.0  | 1.7  | 0.9  | -0.4 | -0.8 | -2.4 | -3.3 |

## 4.5. Radiation Pattern

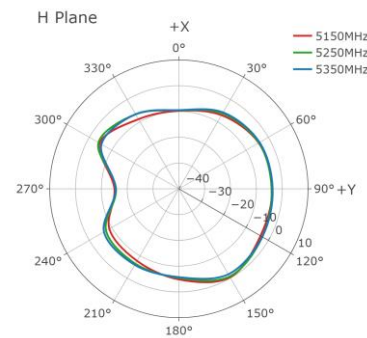
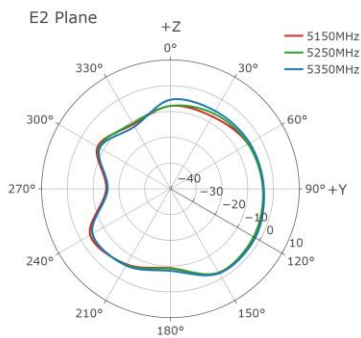
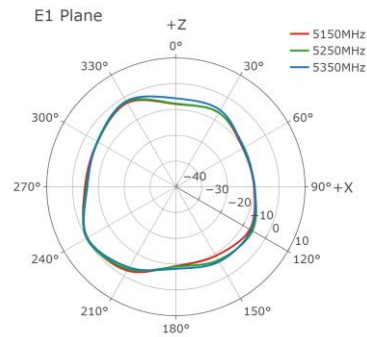
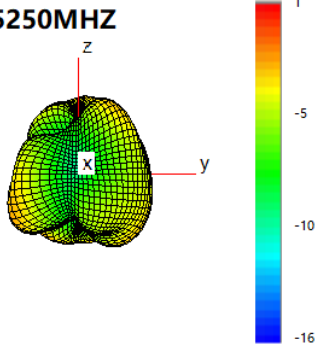
- Test condition: free space



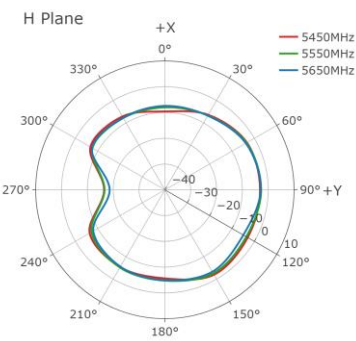
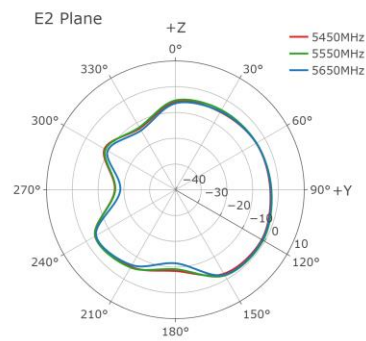
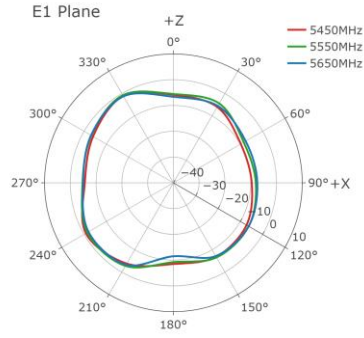
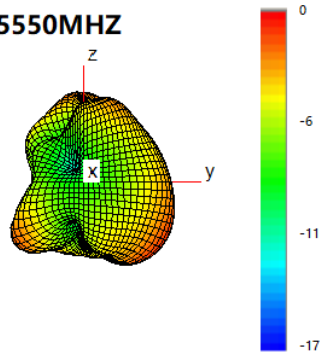
**2450MHZ**



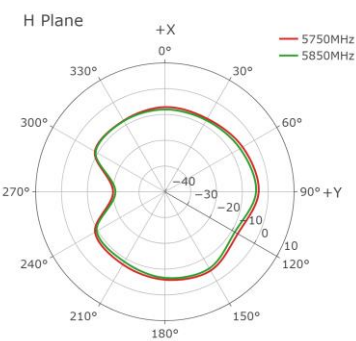
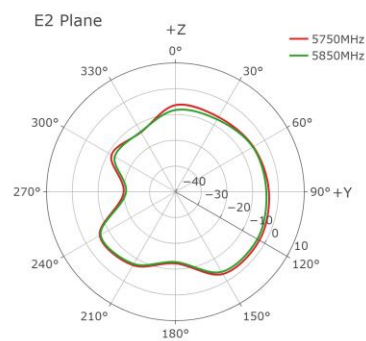
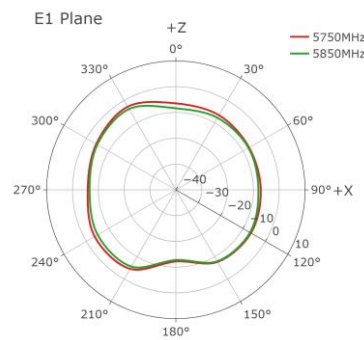
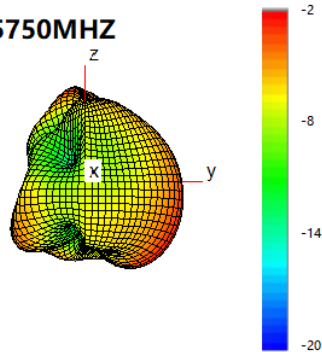
**5250MHZ**



**5550MHZ**



**5750MHZ**



### 5 Product Size (mm)

