PCB Antenna Specification Sheet

1. Overview:

The PCB antenna is designed for the 2.4GHz frequency band (2400-2500MHz) and is suitable for various wireless communication and RF applications. This specification sheet aims to provide technical specifications and performance characteristics of the PCB antenna.

2. Technical Specifications:

- **Frequency Range:** 2400-2500MHz
- **Antenna Type:** PCB (Printed Circuit Board) antenna
- **Polarization:** Linear polarization
- **Antenna Interface:** 50-ohm matching
- **Antenna Gain:** 0dBi

3. Appearance and Dimensions:

- **Material:** PCB material
- **Physical Dimensions:** Depending on specific design, typically rectangular or helical shape
- **Dimensional Accuracy:** ±0.1mm
- **Antenna Thickness:** Typically 0.8mm to 1.6mm

4. Performance Characteristics:

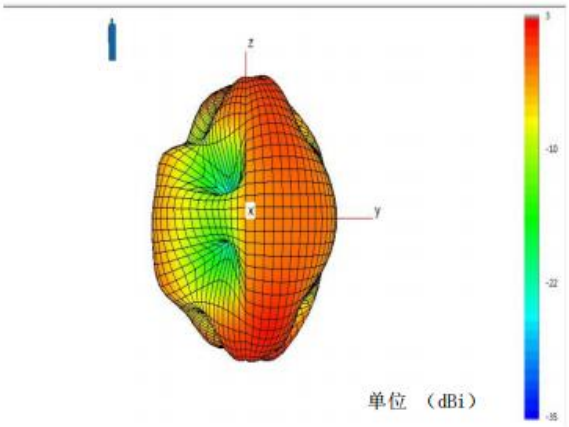
- **Bandwidth:** 100MHz
- **Radiation Efficiency:** Greater than 90%
- **Radiation Pattern:** Depending on specific design, typical values obtained through simulation or testing
- **Power Consumption:** Ultra-low power design, negligible power consumption

5. Testing and Validation:

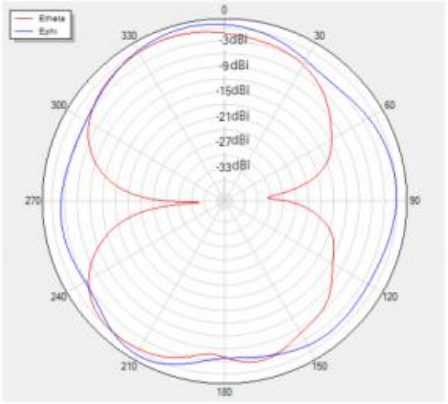
The performance of the PCB antenna can be validated through the following testing procedures:

- **Frequency Response Testing:** Measure the frequency response of the antenna using a spectrum analyzer or network analyzer, ensuring good performance within the 2400-2500MHz frequency range.
- **Radiation Pattern Testing:** Test the three-dimensional radiation pattern of the PCB antenna using an antenna test chamber or simulation software, and verify its radiation efficiency and coverage.
- **Antenna Gain Testing:** Measure the gain of the PCB antenna using antenna testing equipment, and validate its performance within the target frequency band.

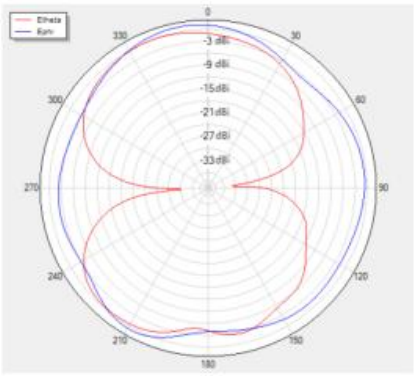
6. External Appearance Photo and Antenna Gain Plot:



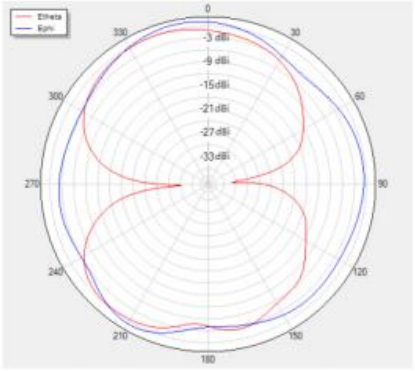
Channel(MHz) 2400 Max= -0.15dBi



Channel(MHz) 2450 Max= 0dBi



Channel(MHz) 2480 Max= -1.86dBi



7. Additional Notes:

- The data provided in this specification sheet is for reference only, and actual antenna design and performance may vary depending on the specific PCB antenna design and manufacturing process.
- The performance of the PCB antenna is influenced by the surrounding environment and substrate layout. It is recommended to conduct system-level testing and validation in real-world applications.