



Customer Name & Project: Slimca2

Prepared By: Chris

Date: 22<sup>nd</sup> Aug 2023

Airgain Project Code:

- Airgain proposes a FPC antenna solution<sup>1</sup> for Slimca<sup>2</sup>

- Total 1 antenna need to be integrated into limited housing space:
  - **2.4GHz Signal Band Antenna \*1**  
Ant1 Frequency Range : 2400-2490 (MHz)

- Passive measurement results are presented

# Summary of Requirements



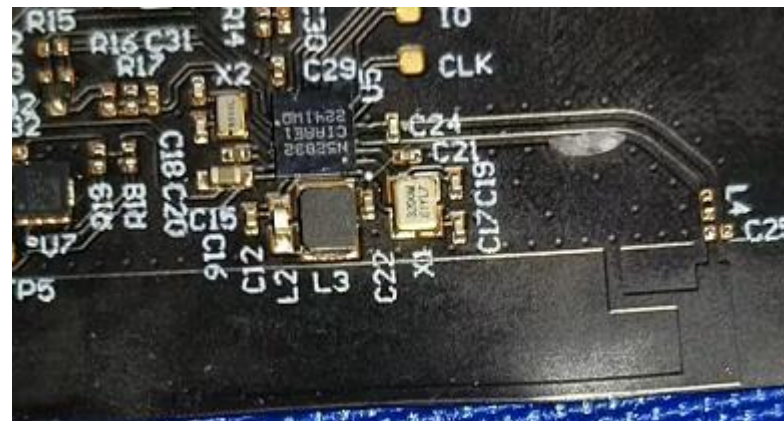
- Return Loss:  
<-10dB

# Airgain Antenna System Proposal

# Antenna System Proposal

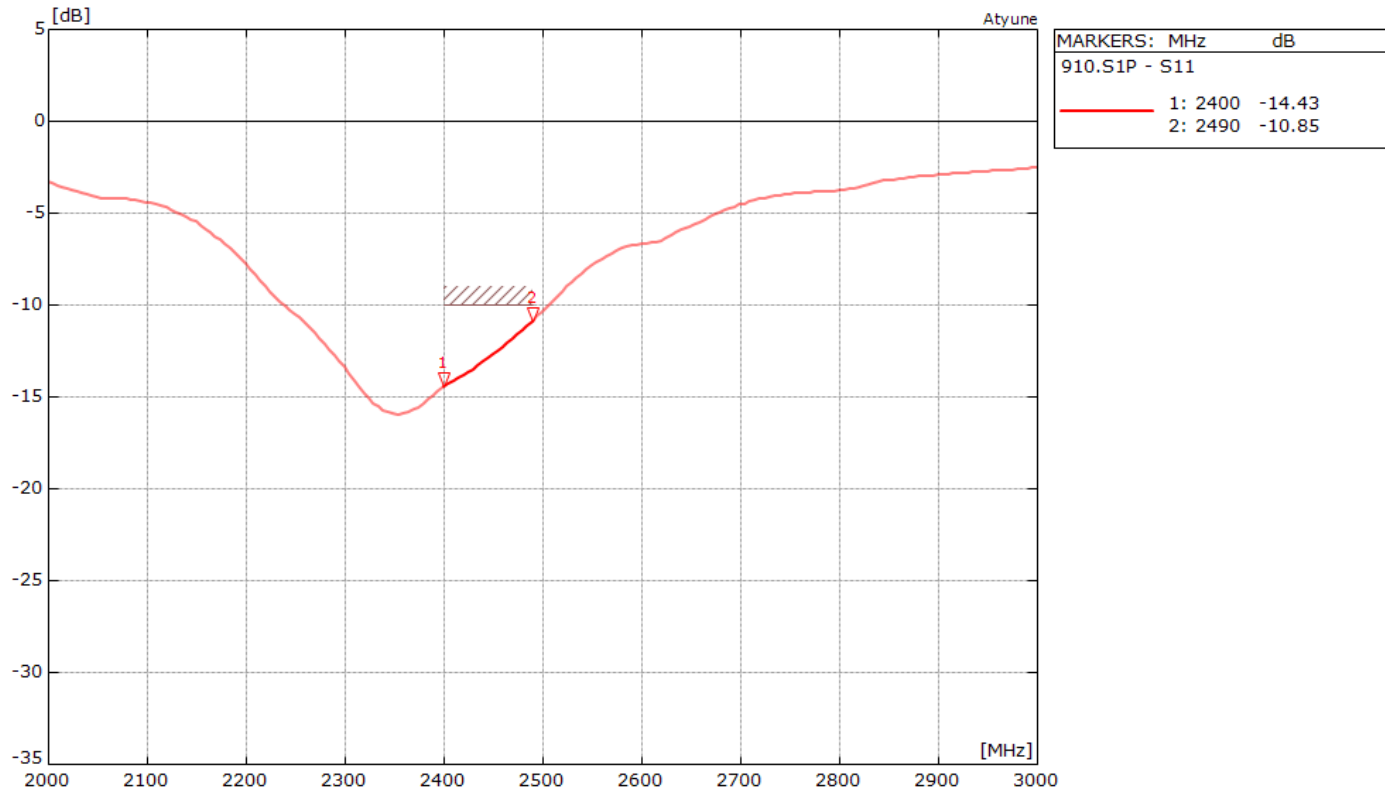


| Antenna # | Part Number |
|-----------|-------------|
| ANT_2.4G  | TBD         |



# S-Parameters

# Reflection Coefficient for 2.4GHz Signal Band Antennas



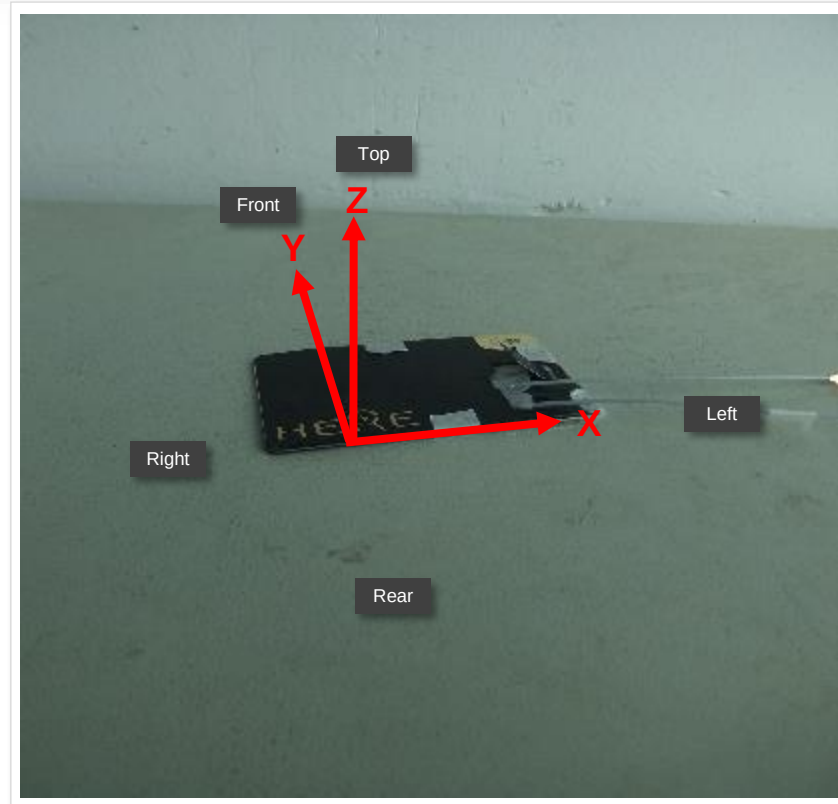
# Radiated Measurements

# Antenna Peak Gain & Efficiency– 2.4 GHz Wi-Fi Antennas



| Frequency (MHz) | Peak Gain (dBi) | Efficiency (%) |
|-----------------|-----------------|----------------|
| 2400            | 0.8             | 26.1           |
| 2410            | 1.0             | 27.1           |
| 2420            | 0.9             | 27.1           |
| 2430            | 0.9             | 27.3           |
| 2440            | 1.1             | 27.9           |
| 2450            | 1.1             | 27.8           |
| 2460            | 1.0             | 27.7           |
| 2470            | 1.1             | 28.2           |
| 2480            | 1.1             | 28.1           |
| 2490            | 1.1             | 27.9           |
| Average         | -               | 27.5           |

# Radiation Patterns

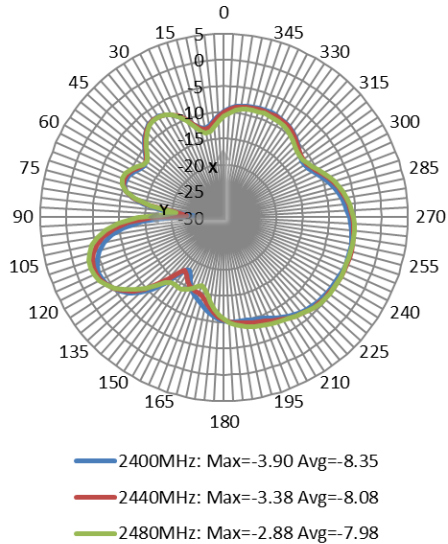


*Orientation of Slimca2*

# Total Gain Patterns: Antenna\_2G4

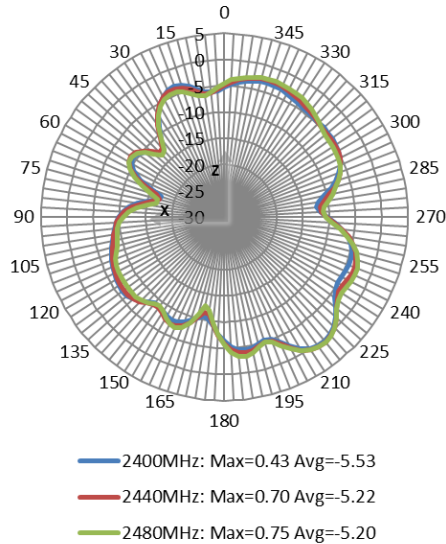


Antenna\_2G4 Azimuth XY



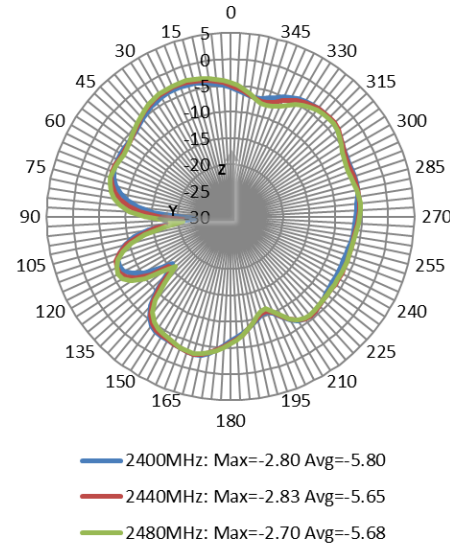
Azimuth (XY)

Antenna\_2G4 Elevation XZ

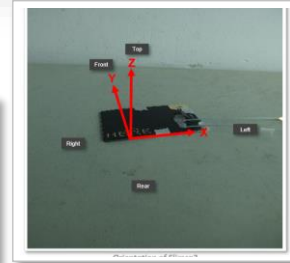


Side to Side (XZ)

Antenna\_2G4 Elevation YZ



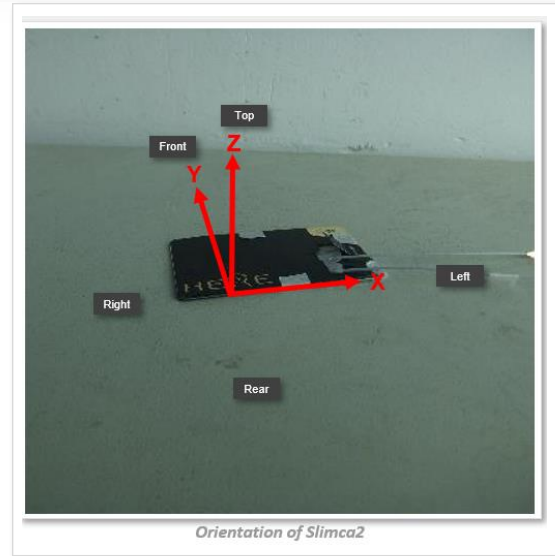
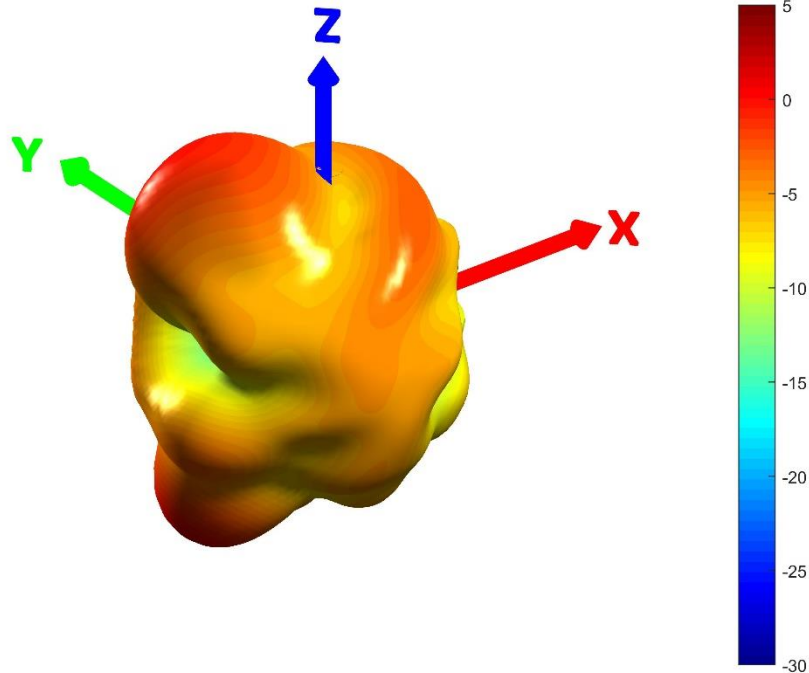
Front to Back (YZ)



# Total Gain 3D Pattern: Antenna\_2G4 at 2440MHz



Slimca2 Antenna\_2G4: Frequency = 2440 MHz Max Gain= 1.1 dBi



- Return Loss :  
2.4G antenna < -10dB
- Average efficiency > -27.5%