# BESTLA

3-in-1 combo antenna

SZW-N-6X05

## Key Features

- 3-in-1 combo: 2x LTE MIMO (main + diversity) + 1x dual-band WiFi
- Wide cellular coverage: 698–960 MHz and 1710–2700 MHz
- Dual-band WiFi: 2400–2500 MHz and 4900–5850 MHz
- IP66-rated, low-profile puck (φ80 x 15 mm), −40°C to +85°C
- M12 screw mount, gold-plated SMA/RP-SMA connectors
- RoHS / REACH compliant

# 1 Introduction

The SZW-N-6X05 is a 3-in-1 combo antenna combining dual-port 4G LTE MIMO (main and diversity) with dual-band WiFi (2.4 GHz and 5 GHz) in a single low-profile enclosure. Housed in a black plastic dome measuring 80 mm in diameter and 15 mm in height, the antenna is designed for permanent surface mounting via a threaded M12 screw stud and brass nut with integrated cable trough. Each RF element terminates in a 1 m length of black RG174 coaxial cable, with LTE ports fitted with standard SMA male connectors and the WiFi port fitted with an RP-SMA male connector, both gold-plated brass. An IP67-rated housing and EVA gasket with double-sided adhesive backing allow the antenna to be sealed against the mounting surface, giving it a −40°C to +85°C operating range suitable for outdoor and vehicular installation.

## Features

- 3-in-1 combo: 2x LTE MIMO (main + diversity) + 1x dual-band WiFi
- Wide cellular coverage: 698–960 MHz and 1710–2700 MHz
- Dual-band WiFi: 2400–2500 MHz and 4900–5850 MHz
- IP66-rated, low-profile puck (φ80 x 15 mm), −40°C to +85°C
- M12 screw mount, gold-plated SMA/RP-SMA connectors
- RoHS / REACH compliant

## Applications

- Fleet telematics and vehicle tracking systems
- Industrial IoT gateways and routers requiring combined cellular/WiFi connectivity
- Outdoor M2M and remote monitoring equipment
- Asset tracking devices
- Smart infrastructure and roadside units
- Marine and off-highway equipment requiring sealed, weatherproof antennas

## 2 Mechanical Specifications

| | |
|---|---|
| **Part Number** | SZW-N-6X05 |
| **Name** | BESTLA |
| **Dimensions (mm)** | ⌀80 ± 3 mm x 15 ± 2 mm |
| **Connector LSMA MaleTEx2** | SMA Male, standard |
| **Connector Wi-Fi** | RP-SMA Male |
| **Housing material** | Black plastic shell |
| **Gasket** | EVA (black) & double-sided adhesive tape |
| **Mounting** | M12 screw connector (brass) with brass nut (cable trough integrated) |
| **Cable** | RG174 coaxial, black, 1 m ± 50 mm (custom lengths available) |
| **Connectors – LTE (x2)** | SMA Male, standard |
| **Connectors – WiFi (x1)** | RP-SMA Male |
| **Cable labeling** | White heat-shrink sleeve, black print: "4G" (x2), "WiFi"/"2.4G" (x1) |

## 3 Electrical / RF Specifications

### 3.1 LTE0

| **Band** | B5, B8, B12, B13, B14, B17, B20, B26, B28 | B1, B2, B3, B4, B9, B10, B25, B34, B39, B66 | B30, B40 | B7, B38, B41 |
|---|---|---|---|---|
| **Frequency Range (MHz)** | 698 - 960 | 1710–2200 | 2300–2400 | 2500–2700 |
| **Average Efficiency (%)** | 54.3 | 61.7 | 55.0 | 71.0 |
| **Peak Gain (dBi)** | 3.98 | 1.14 | 2.99 | 4.55 |
| **VSWR (worst case)** | 2.86:1 | 2.77:1 | 2.41:1 | 2.70:1 |
| **Impedance** | 50 ohm | | | |

### 3.2 LTE1

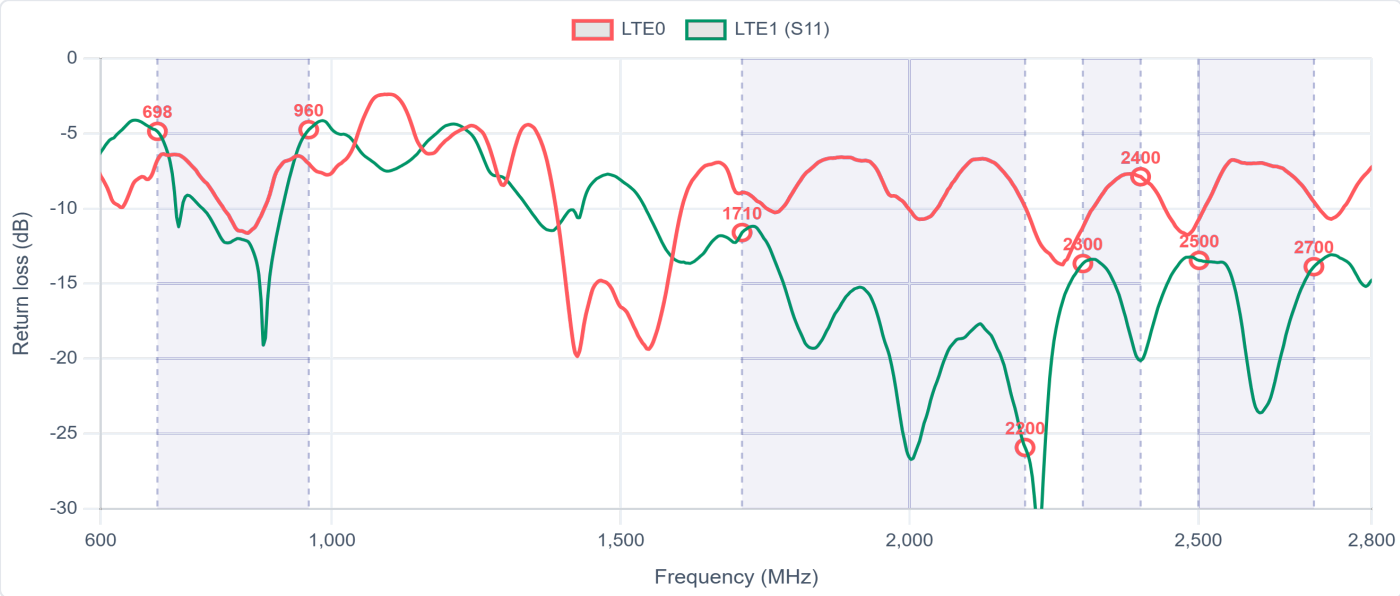
| **Band** | B5, B8, B12, B13, B14, B17, B20, B26, B28 | B1, B2, B3, B4, B9, B10, B25, B34, B39, B66 | B30, B40 | B7, B38, B41 |
|---|---|---|---|---|
| **Frequency Range (MHz)** | 698 - 960 | 1710–2200 | 2300–2400 | 2500–2700 |
| **Average Efficiency (%)** | 47 | 64 | 57 | 67 |
| **Peak Gain (dBi)** | 2.8 | 3.9 | 3.1 | 4.1 |
| **VSWR (worst case)** | <3.8:1 | <1.8:1 | <1.5:1 | <1.5:1 |
| **Impedance** | 50 ohm | | | |

### 3.3 WIFI

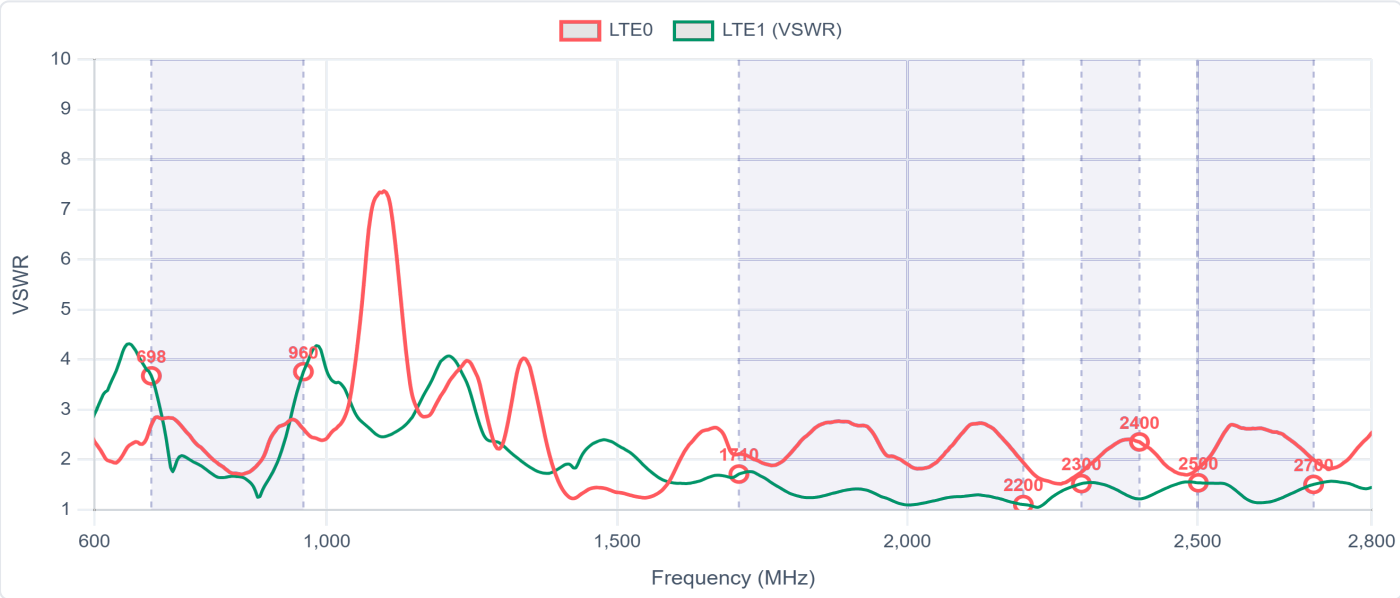
| | |
|---|---|
| **Band** | Band 1 |
| **Frequency Range (MHz)** | 698 - 960 |
| **Average Efficiency (%)** | 50 |
| **Peak Gain (dBi)** | 2.0 |
| **VSWR (worst case)** | 3.0:1 |
| **Impedance** | 50 ohm |

## 3 RF Characteristics - LTE0

### Return Loss — S11

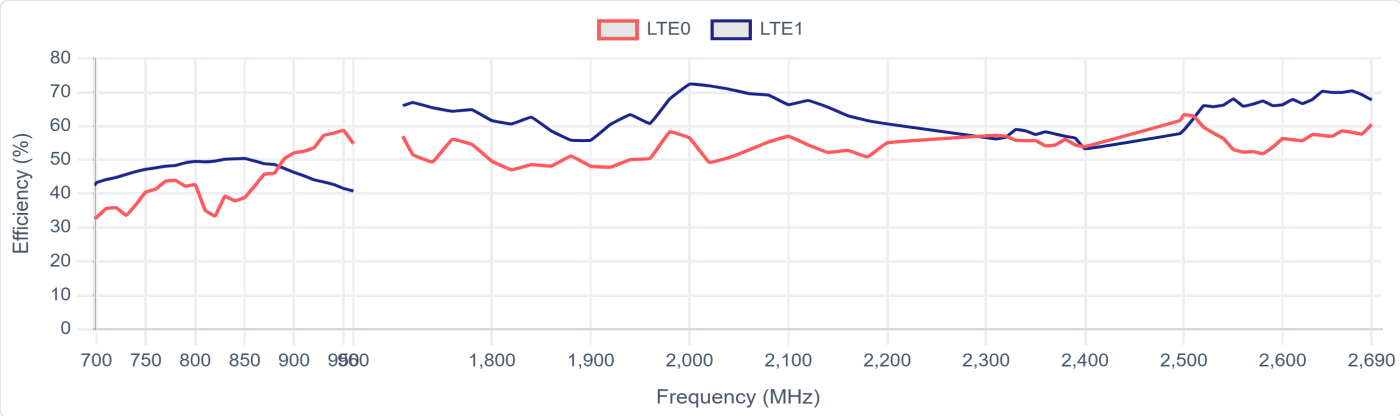



### VSWR

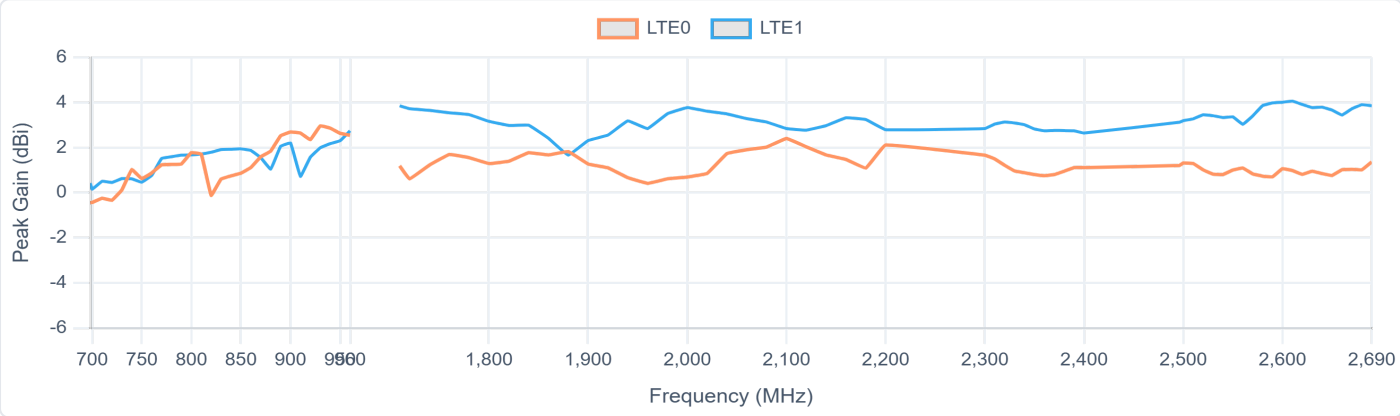


# 4 Chamber Performance - LTE0

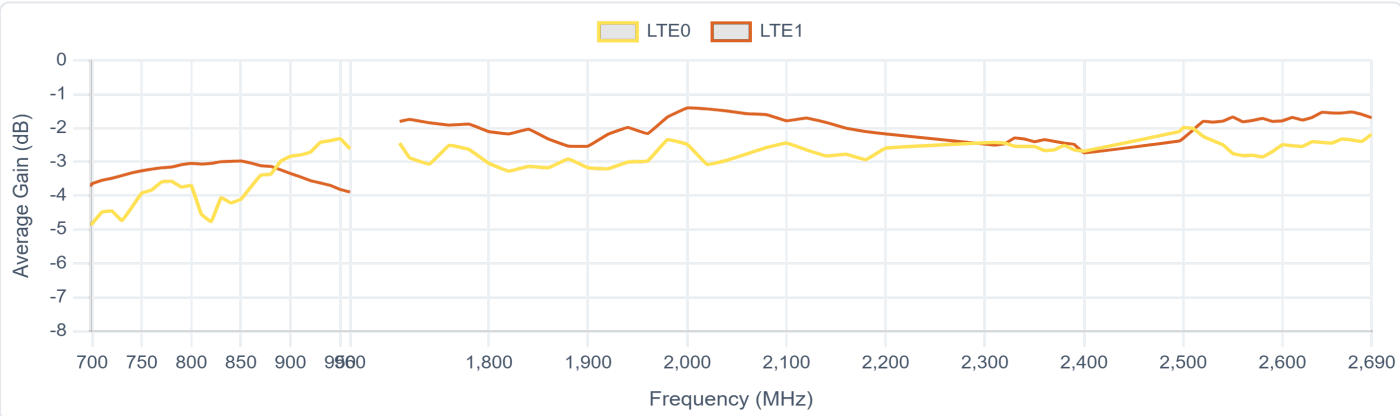
## Efficiency




## Peak Gain



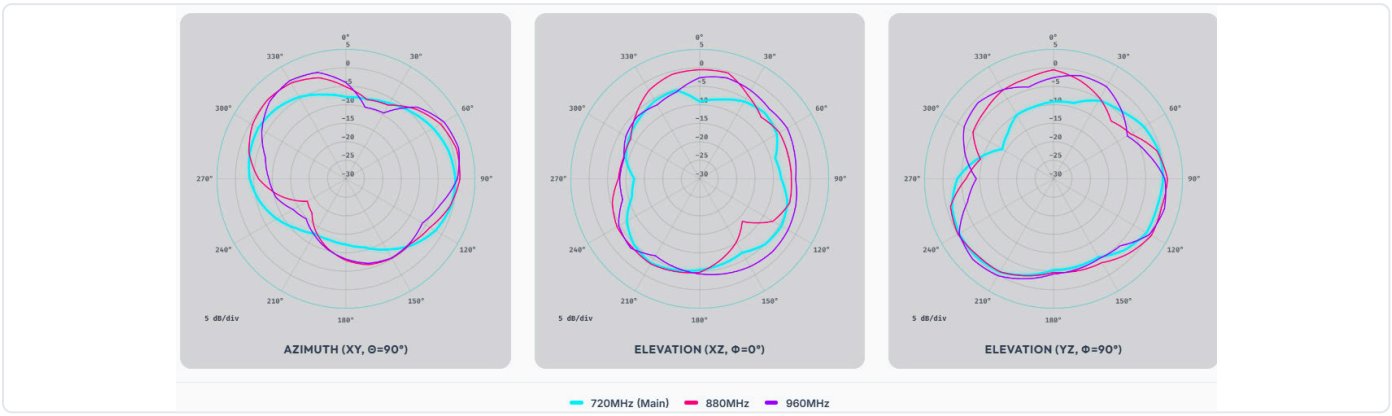

## Average Gain



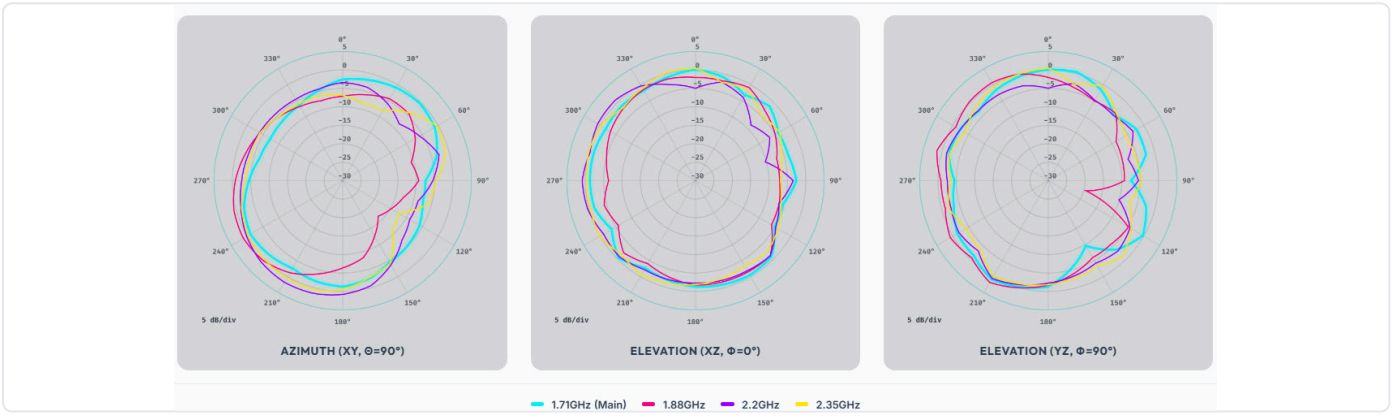
## 5 2D Polar Plots - LTE0

FREQUENCY RANGE: 698 - 2700 MHZ

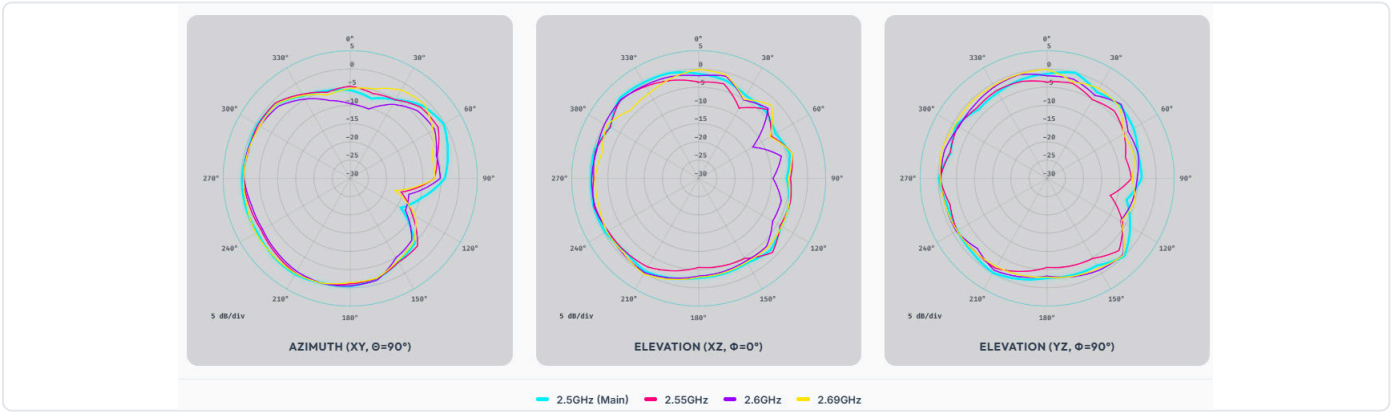
### 698-960 MHZ




### 1710-2400MHZ



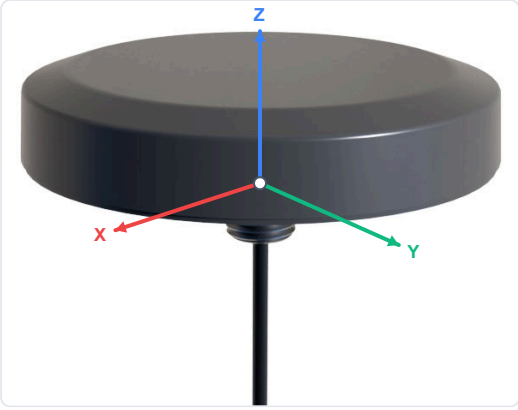

### 2500-2700 MHZ



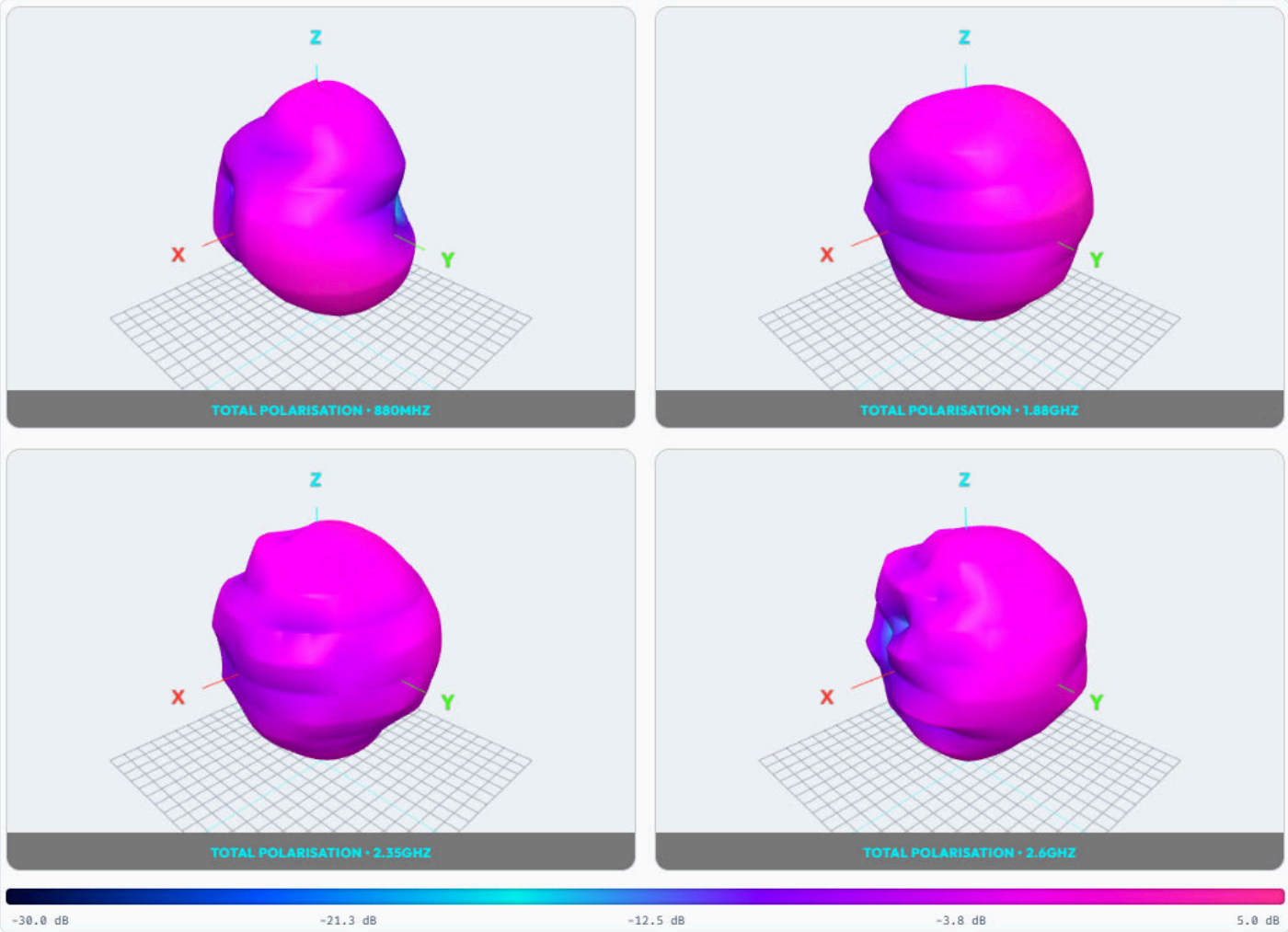
## 6 3D Radiation Patterns - LTE0

FREQUENCY RANGE: 698 - 2700 MHZ

### Antenna Orientation / Setup

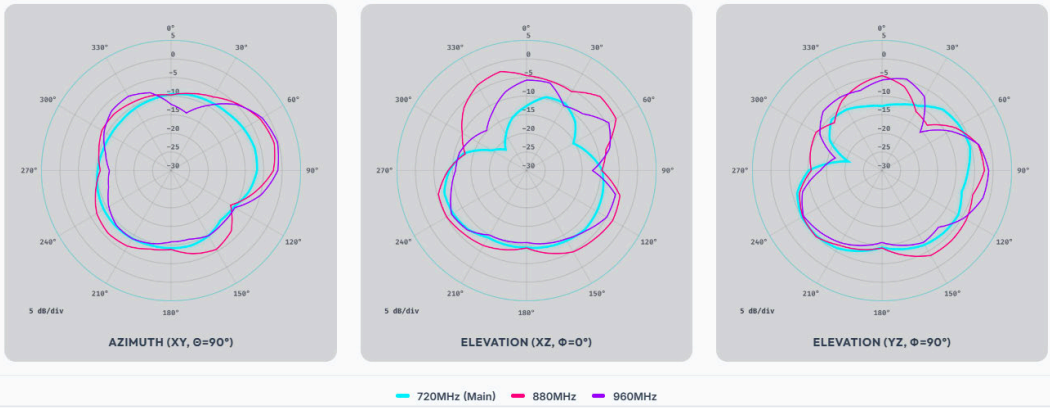


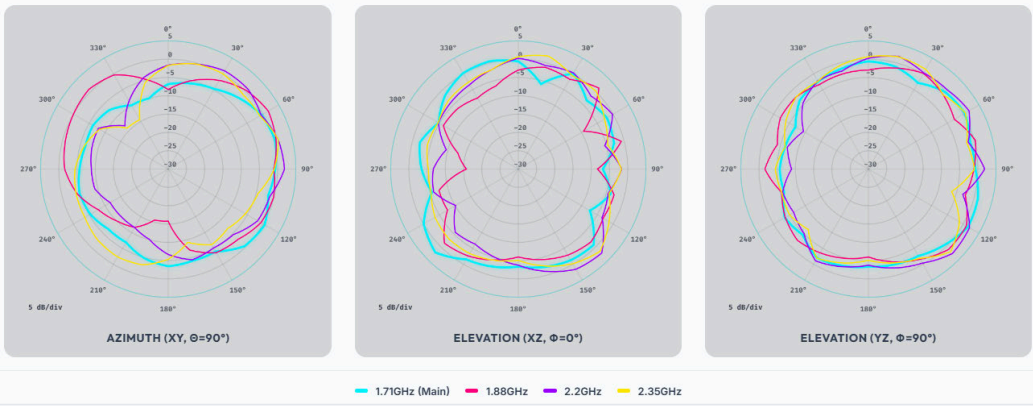

### 3D Radiation Pattern Lobe

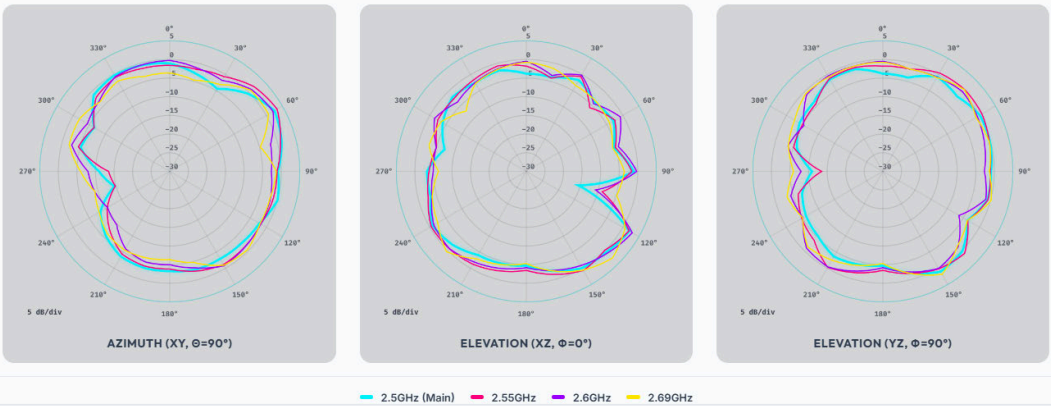


## 7 2D Polar Plots - LTE1

FREQUENCY RANGE: 698-2700 MHZ



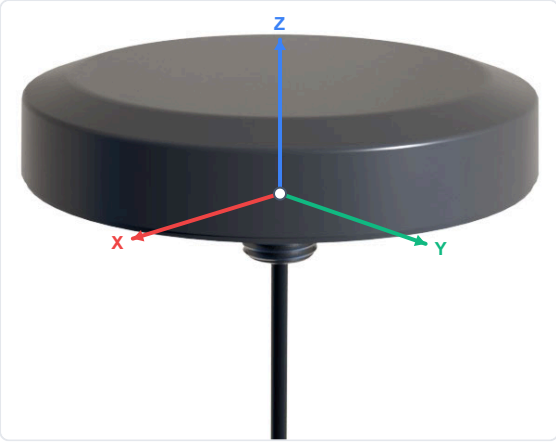



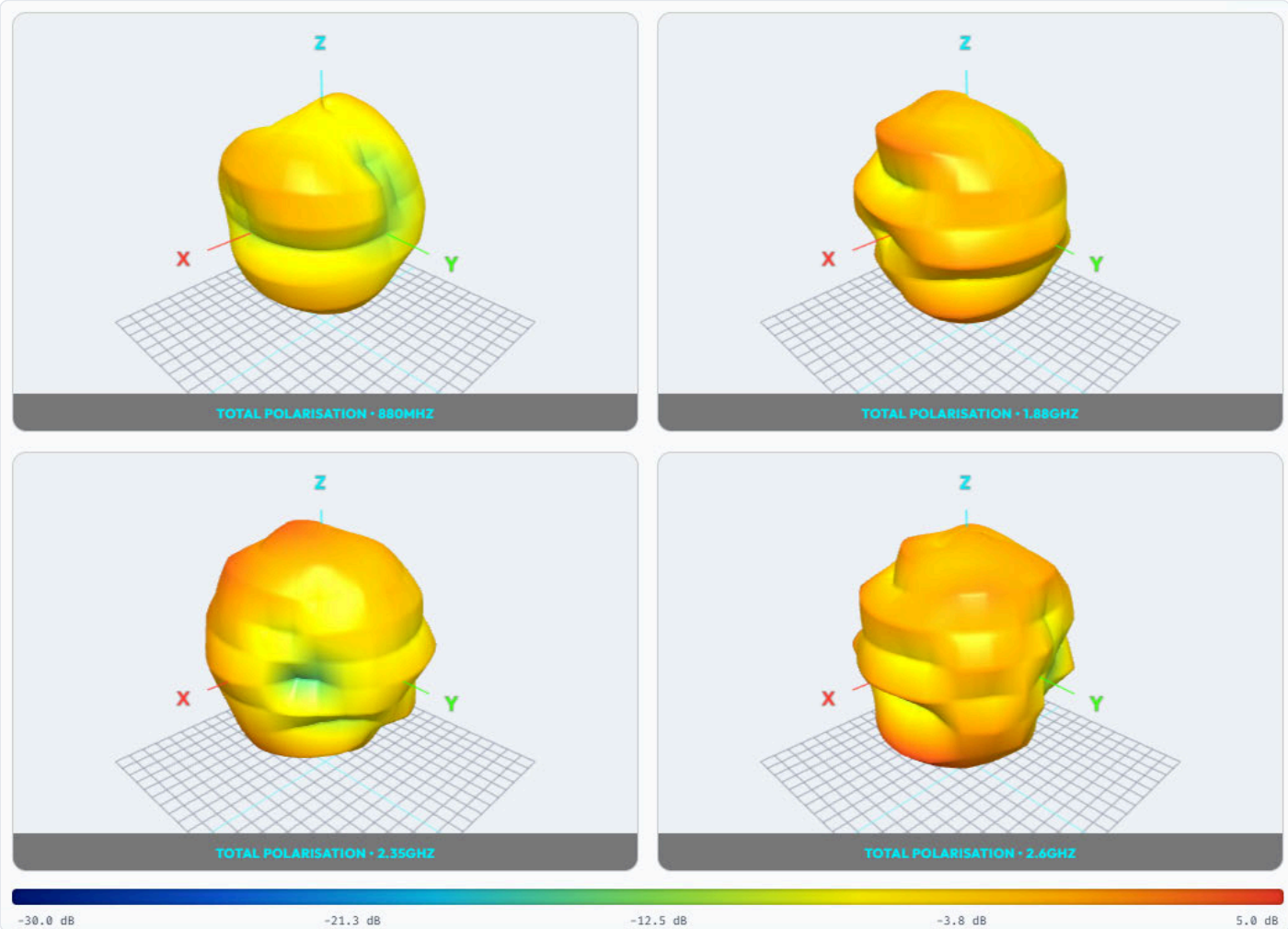
## 8 3D Radiation Patterns - LTE1

FREQUENCY RANGE: 698 - 2700 MHZ

### Antenna Orientation / Setup

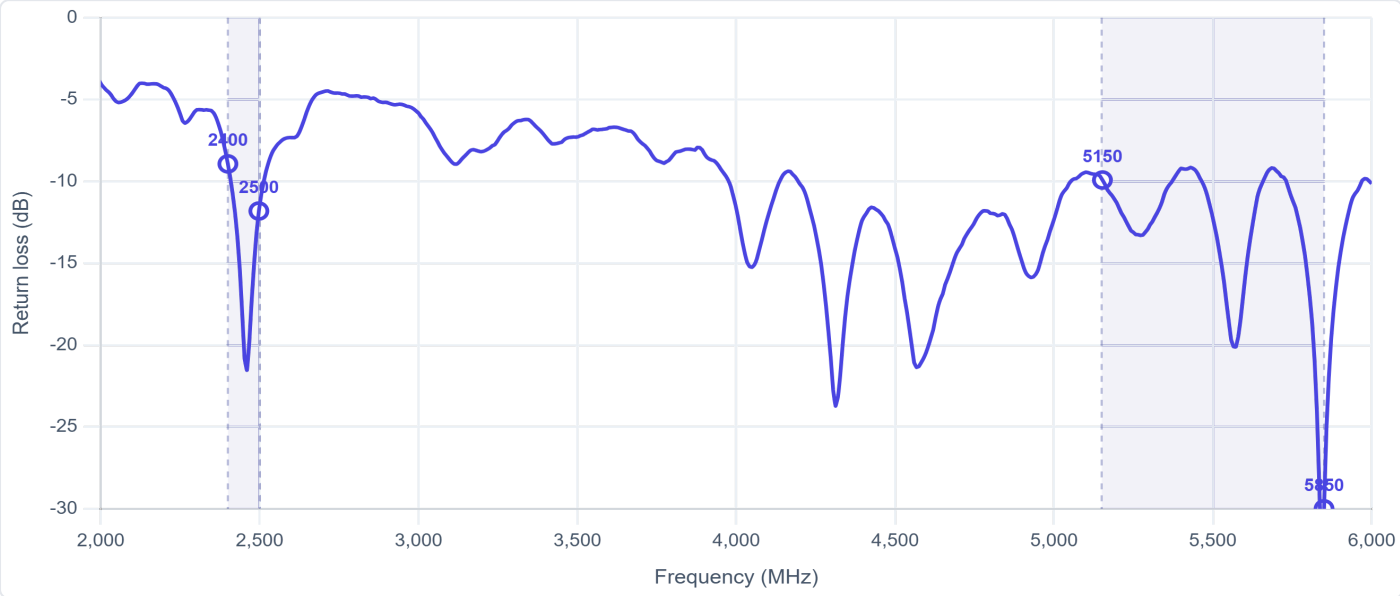



### 3D Radiation Pattern Lobe

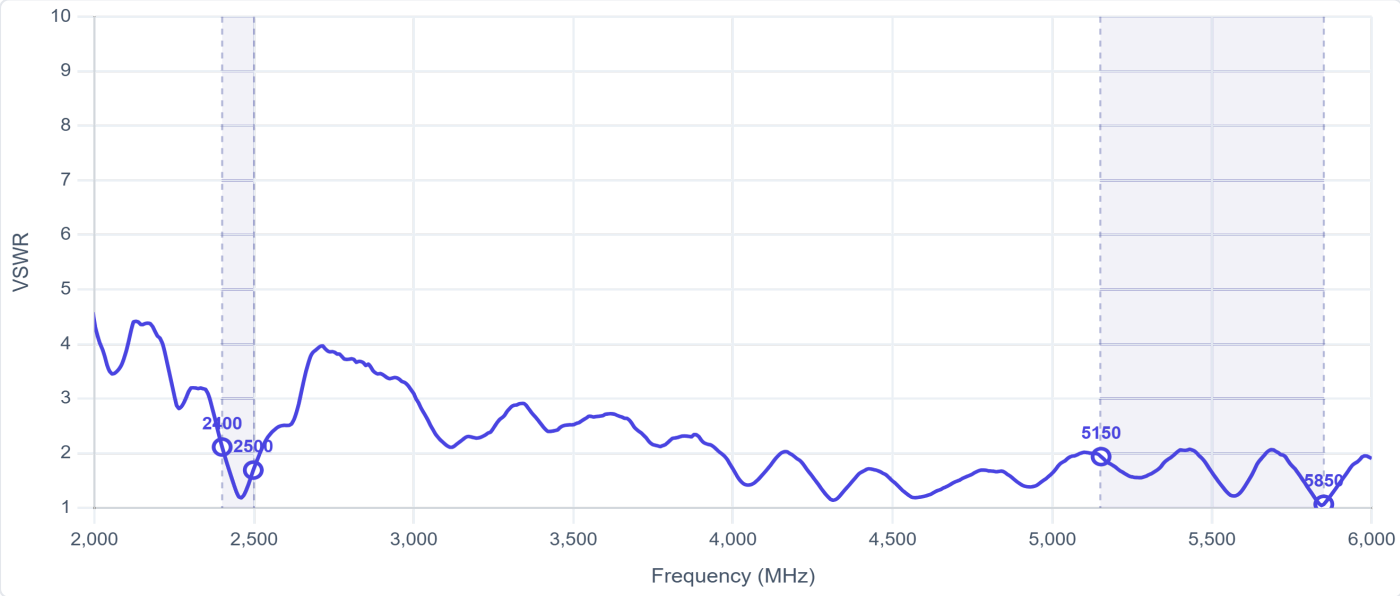


# 9 RF Characteristics - WIFI

### Return Loss — S11

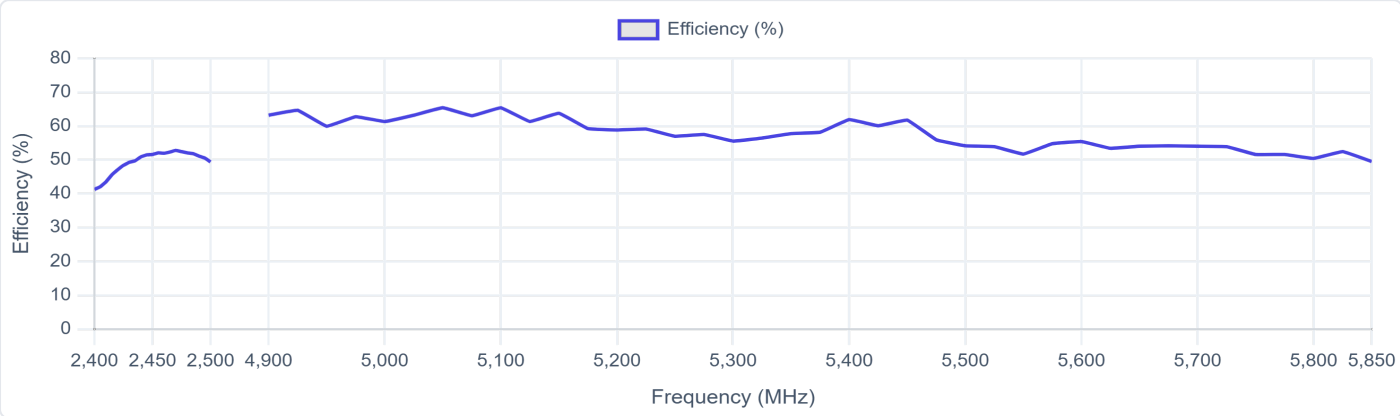



### VSWR

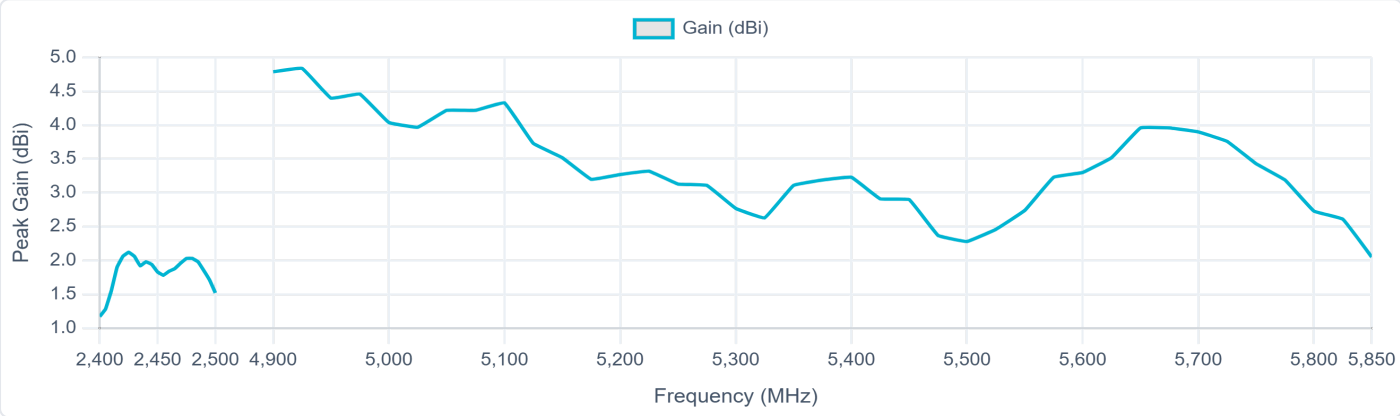


# 10 Chamber Performance - WIFI

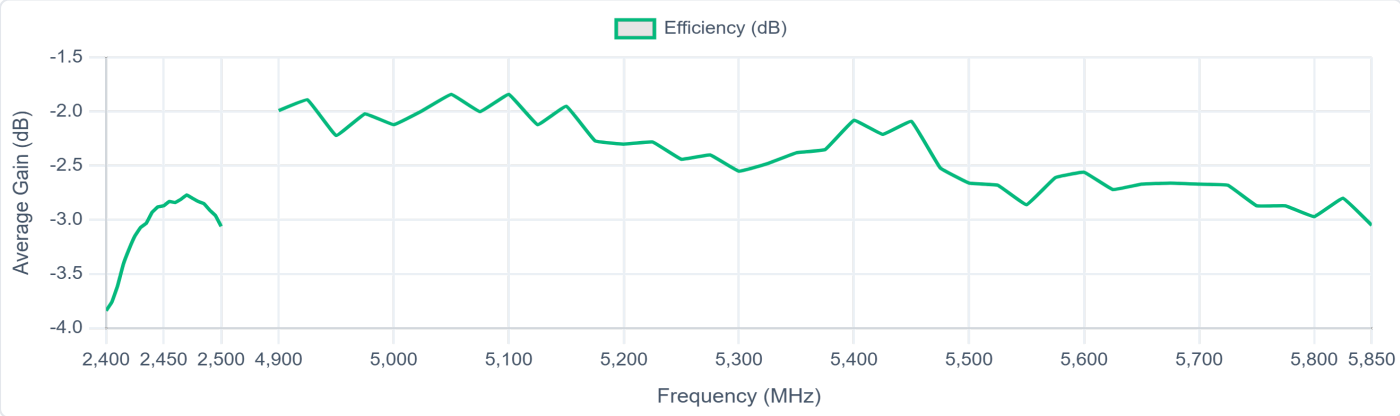
## Efficiency




## Peak Gain

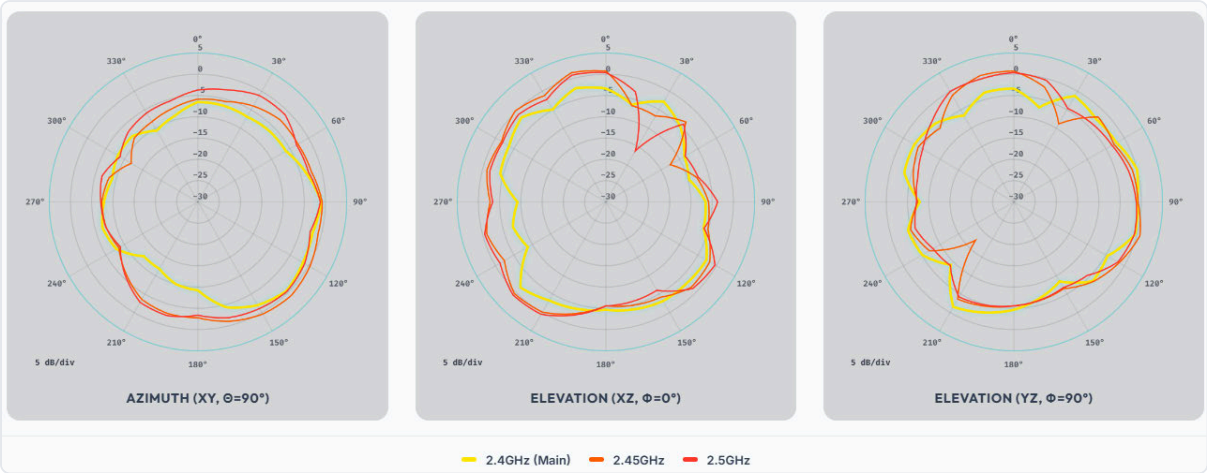


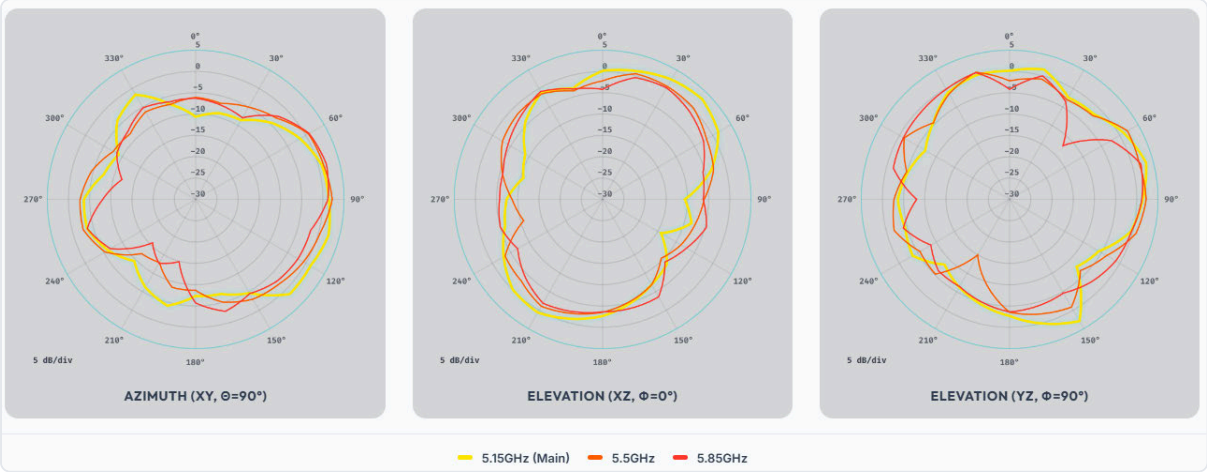

## Average Gain



## 11 2D Polar Plots - WIFI

FREQUENCY RANGE: 2400 - 5850 MHZ

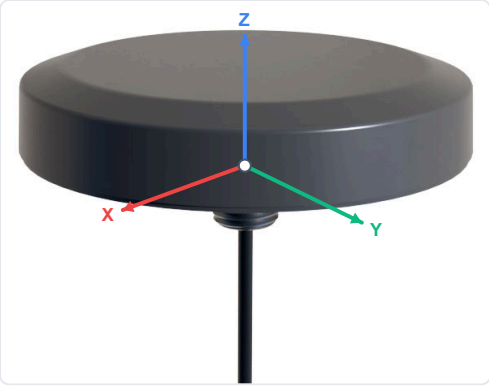


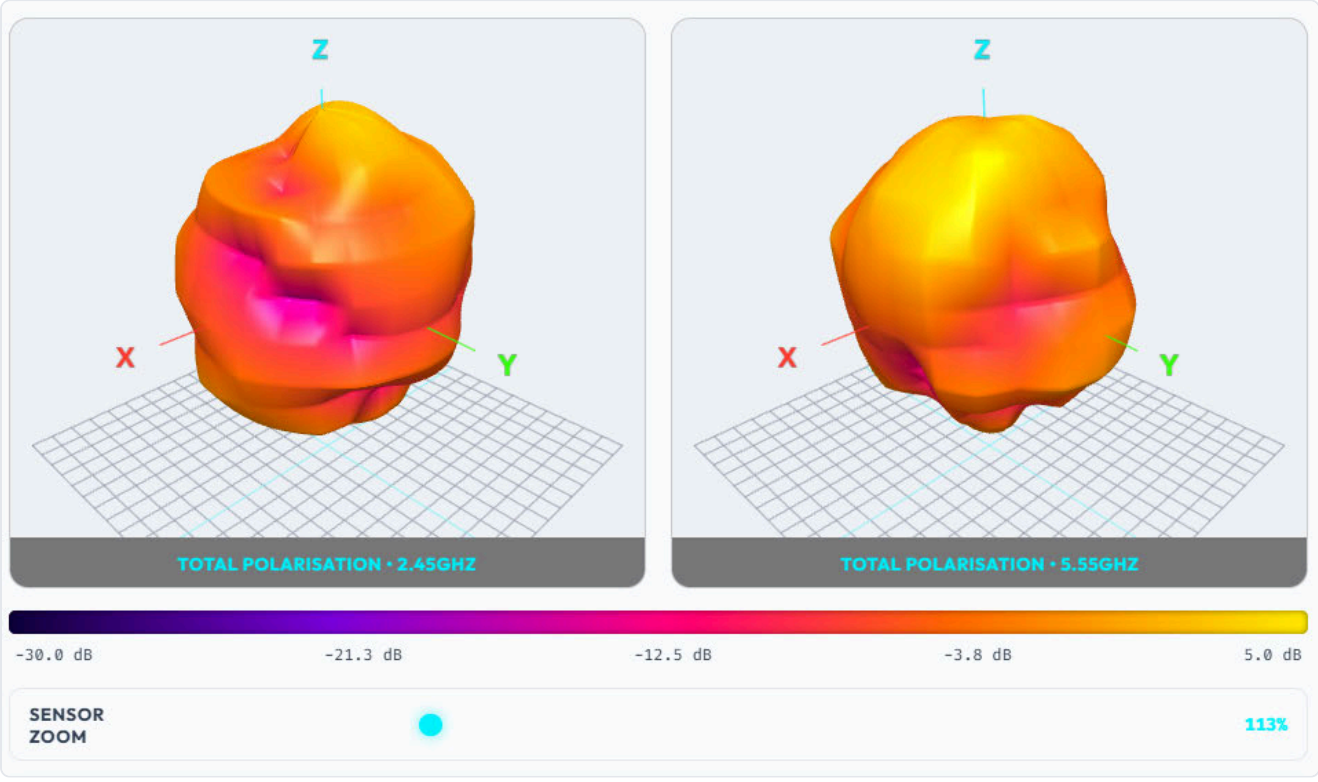
## 12 3D Radiation Patterns - WIFI

FREQUENCY RANGE: 2400-5850 MHZ

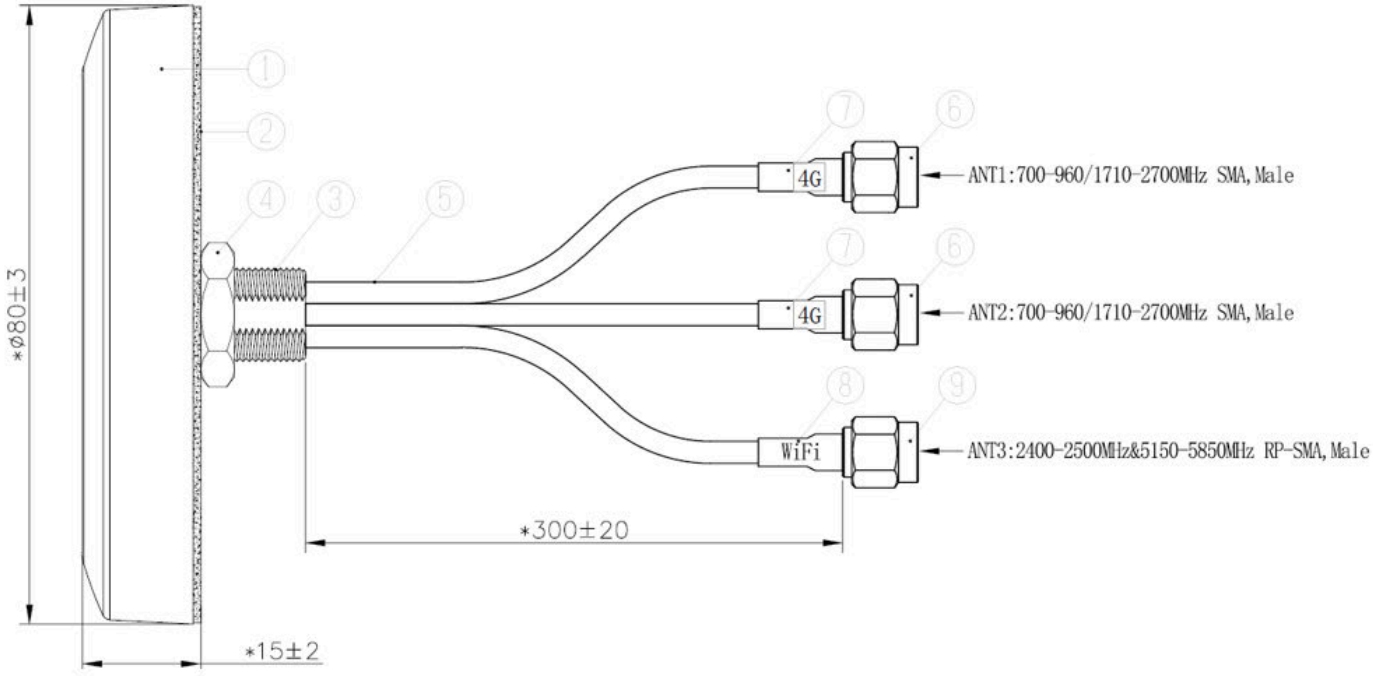
### Antenna Orientation / Setup




### 3D Radiation Pattern Lobe



## 13 Mechanical Drawing




NOTE:
1. Frequency Range:
   1) ANT1:700-960&1710-2700MHz
      VSWR:≤3.5
   2) ANT2:700-960&1710-2700MHz
      VSWR:≤3.5
   3) ANT3:2400-2500MHz&5150-5850MHz

   Impendance: 50 Ohm;
2. Waterproof:IP66;
3. These Parts comply with ROHS 2.0 ;
4. Strict size is marked with "*",and () for reference

| NO | DESCRIPTION | | Q'TY |
|---|---|---|---|
| 9 | Connector | RP-SMA Male Brass shell, Gold-Plated | 1 |
| 8 | Heat shrinkable sleeve | PE, Color:White;Printing black mark: "WiFi" on surface | 1 |
| 7 | Heat shrinkable sleeve | PE, Color:White;Printing black mark: "4G" on surface | 2 |
| 6 | Connector | SMA Male, standard ;Brass shell, Gold-Plated | 2 |
| 5 | Cable | RG174 Coaxial Cable, Black | 3 |
| 4 | Nut | Nut for M12;Brass(with cable trough) | 1 |
| 3 | Screw connector | M12 Screw;Brass | 1 |
| 2 | EVA&Adensive | EVA &Double side adhensive tape | 1 |
| 1 | Antenna shell | Black plastic shell | 1 |

## 14 Packaging

1 pc antenna per PE bag (50 × 250 mm).

## 15 Material Regulation

The antenna has been assessed to conform to RoHS requirements. A certificate of conformance is available upon request.