

## The Main Antenna Sample Confirmation

|                    |                     |                     |             |
|--------------------|---------------------|---------------------|-------------|
| Customer           |                     |                     |             |
| Project Name       | BC211               | Date                | 2025-7-8    |
| Project NO.        | SN1368              | Notes               | Steel sheet |
| Frequency Range    | WIFI                |                     |             |
| Designed By        | RF Engineer         | Structural Engineer |             |
|                    |                     |                     |             |
| Checked By         | Engineering Manager |                     |             |
|                    |                     |                     |             |
| Client' s Approval |                     |                     |             |

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## 1. Specification description

This specification describes the status of the KK127 internal antenna with a frequency band of WIFI.

## 2. Antenna appearance



## 3. Electrical performance

### 3.1. Antenna band

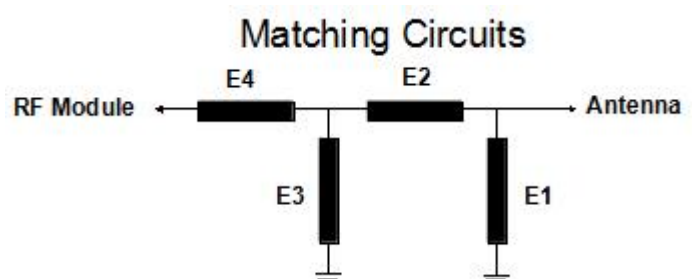
|                        | WIFI            |
|------------------------|-----------------|
| Transmitting band(MHz) | 2400MHz-2500MHz |

### 3.2. Matching Circuit

After the test point is at the antenna connector (RF test port), see the figure below.

#### 1. WIFI antenna matching。

| Element  | Value      |
|----------|------------|
| E1(0201) | 1.2PF      |
| E2(0201) | 0 $\Omega$ |
| E3(0201) | NC         |



### 3.3. Return Loss



## Appendix 1: Structural Drawing

Technical drawing of a WiFi antenna. The drawing includes a top view, a side view, and a front view. The top view shows a rectangular antenna with a central feed point. The dimensions are: width  $7.94 \pm 0.2$ , length  $13.3 \pm 0.2$ , and a circular arc with a radius of  $90^\circ \pm 5^\circ$ . The side view shows the antenna's profile with a height of  $5.67 \pm 0.2$ . The front view shows the antenna's base with a width of  $5.67 \pm 0.2$ .

| The third person |            |
|------------------|------------|
| 0~10             | $\pm 0.05$ |
| 10~18            | $\pm 0.10$ |
| 18~30            | $\pm 0.12$ |
| 30~40            | $\pm 0.15$ |
| 40~              | $\pm 0.20$ |

| No. | Part name    | Material            | Color         | Thickness |
|-----|--------------|---------------------|---------------|-----------|
| 1   | WiFi Antenna | SUS301 T=0.3mm 3/4h | silver colour |           |

| Project name | Date       |
|--------------|------------|
| WiFi Antenna | 2025-06-19 |

| Material no. | RF |
|--------------|----|
| SNI 368-01   |    |

| Unit  | mm  |
|-------|-----|
| Scale | 1:1 |

## Appendix 2: 3D Test Report

### WIFI antenna passive test data

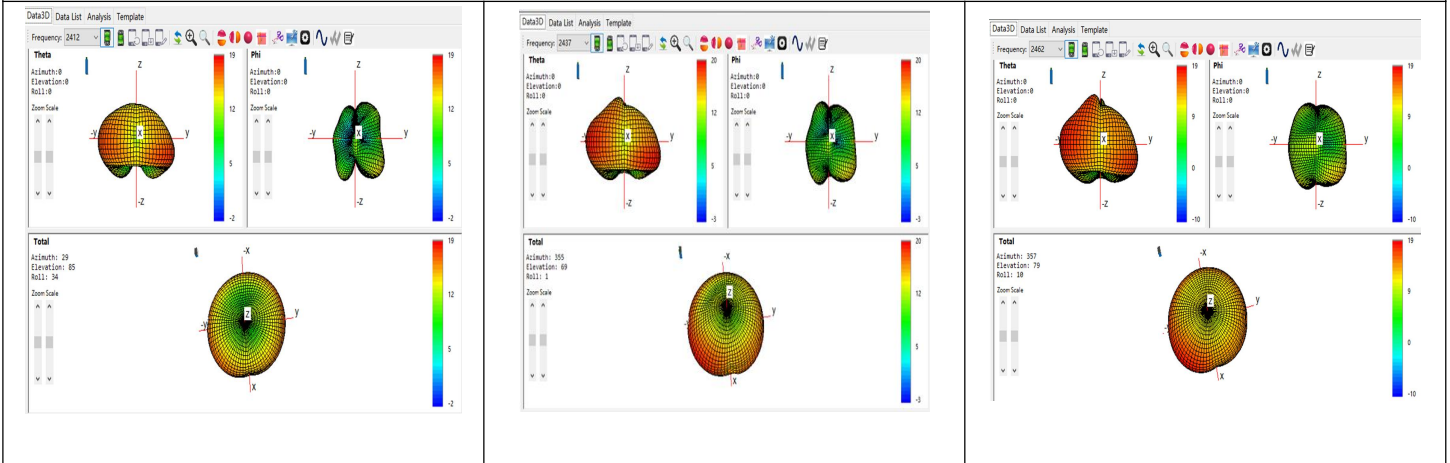
| Freq<br>(MHz) | Effi<br>(%) | Effi<br>(dB) | Gain<br>(dBi) |
|---------------|-------------|--------------|---------------|
| 2400          | 56.18       | -2.5         | 2.07          |
| 2410          | 57.56       | -2.4         | 2.2           |
| 2420          | 55.51       | -2.56        | 2.03          |
| 2430          | 55.15       | -2.58        | 1.94          |
| 2440          | 55.68       | -2.54        | 2.02          |
| 2450          | 57.04       | -2.44        | 2.12          |
| 2460          | 56.15       | -2.51        | 2.02          |
| 2470          | 56.61       | -2.47        | 2.1           |
| 2480          | 56.08       | -2.51        | 2.1           |
| 2490          | 55.19       | -2.58        | 2.1           |
| 2500          | 54.16       | -2.66        | 2.02          |

### WIFI antenna active test data

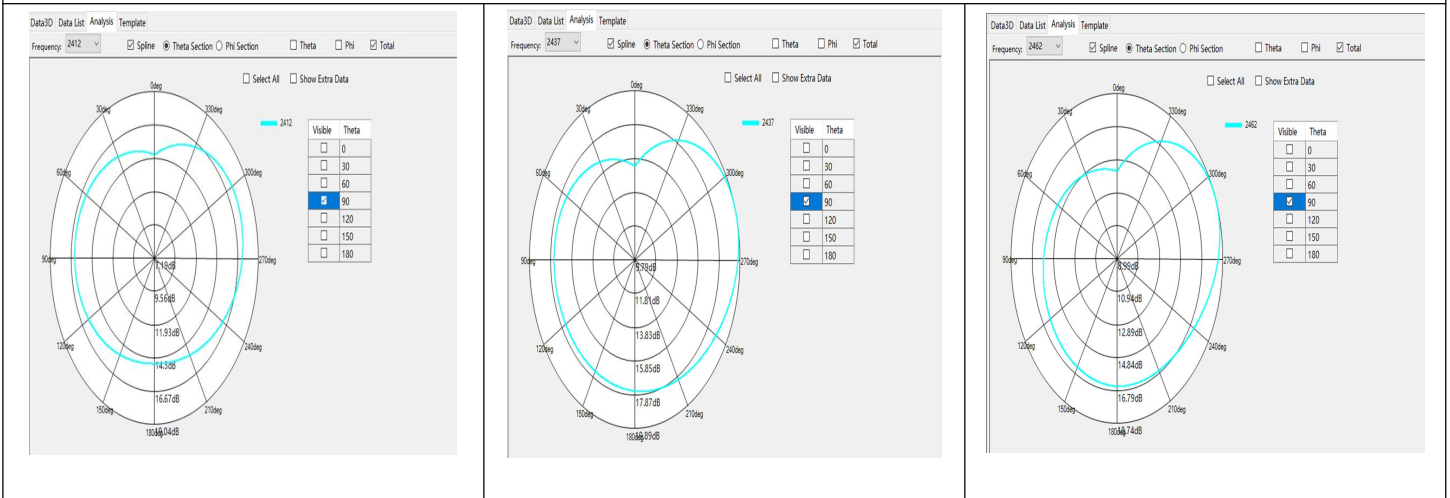
| Band    | Channel | TRP   | TIS    |
|---------|---------|-------|--------|
| 11B-11M | 1       | 15.07 | -80.43 |
|         | 3       | 15.12 | -80.2  |
|         | 5       | 15.94 | -82.89 |
|         | 6       | 14.89 | -83.38 |
|         | 7       | 14.85 | -82.89 |
|         | 9       | 15.02 | -82.24 |
|         | 11      | 15.06 | -82.48 |
|         | 13      | 15.22 | -81.63 |

## Field intensity pattern

### 3D



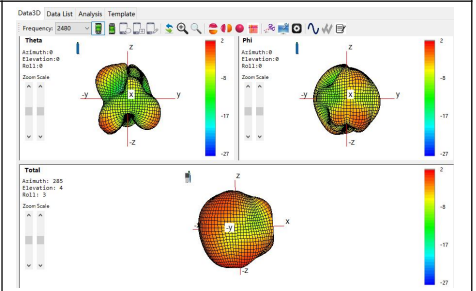
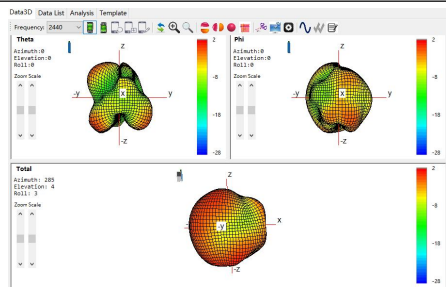
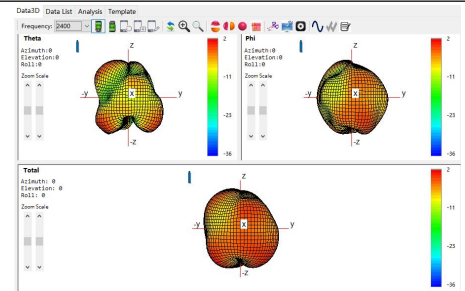
### 2D





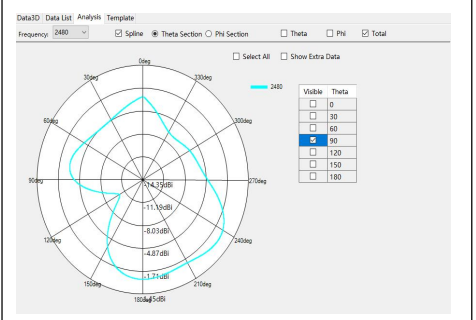
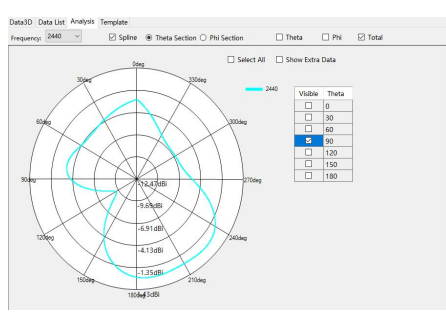
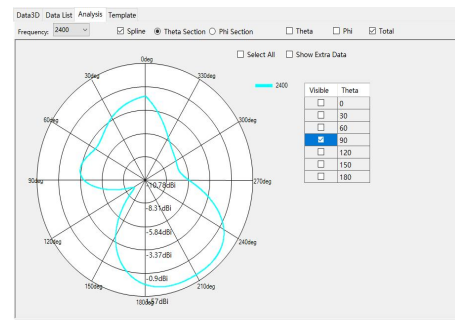
# Passive field pattern

## 3D

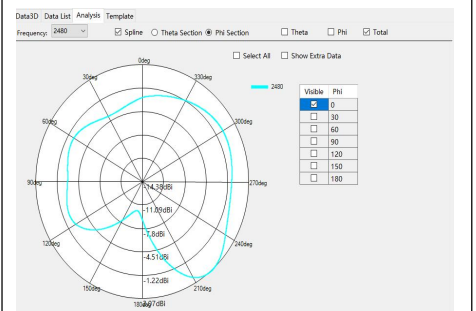
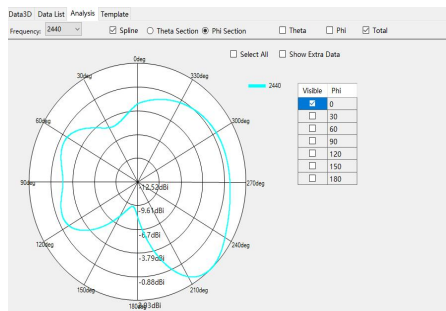
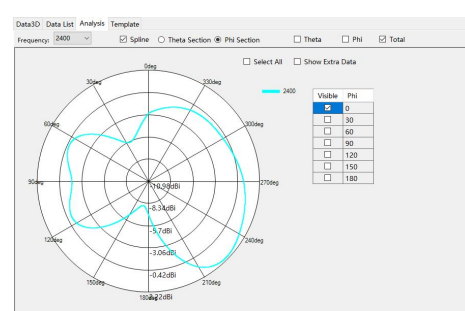


## 2D

### XOY



### XOZ



### YOZ

