

# Specification for Approval

## CONTENTS

|                           |                 |                        |           |
|---------------------------|-----------------|------------------------|-----------|
| <b>Customer:</b>          | N/A             | <b>Vendor:</b>         | N/A       |
| <b>Customer P/N:</b>      | N/A             | <b>HL P/N:</b>         | N/A       |
| <b>Product model:</b>     | HSEL3_09_70M_15 | <b>HL Device Name:</b> | N/A       |
| <b>Pcb antenna brand:</b> | Fuxiang         | <b>Approval Date:</b>  | 2025-4-22 |

|                   |             |              |
|-------------------|-------------|--------------|
| Internal Approval |             |              |
| Approved By:      | Checked By: | Prepared By: |
|                   |             | Zhang Bin    |
| Customer Approval |             |              |
|                   |             |              |

Revision:

| Date      | Rev | Description of Changes |
|-----------|-----|------------------------|
| 2023-6-16 | A   | Initial Release        |

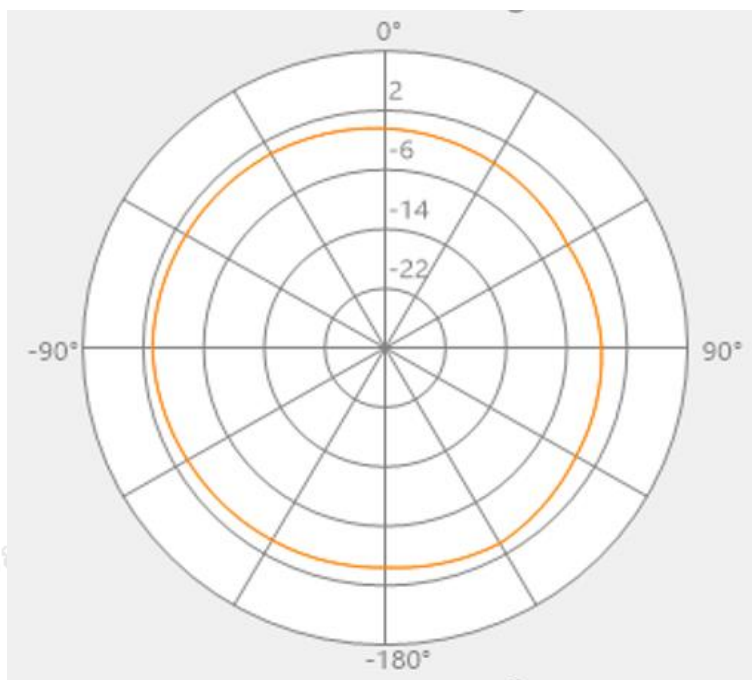
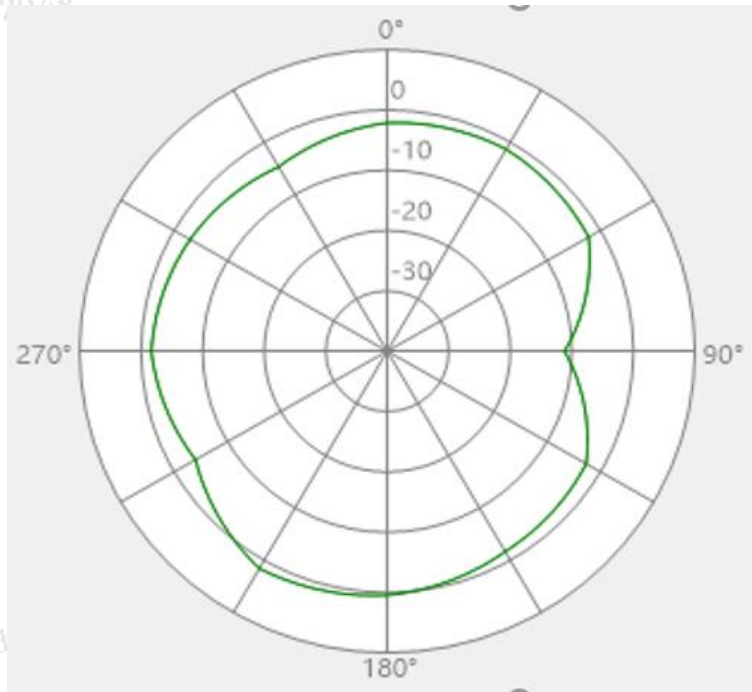
| 1、Products Electrical |                       |                 |
|-----------------------|-----------------------|-----------------|
| PCB Antenna           |                       |                 |
| 1                     | Antenna Model         | PCB IFA Antenna |
| 2                     | Frequency Range       | 2400-2500MHz    |
| 3                     | VSWR (or return loss) | <2 (<-9.5dB)    |
| 4                     | Broadband             | >100MHz         |
| 5                     | Impedance             | 50 ohm          |
| 6                     | Gain                  | -0.3dbi         |
| 7                     | Polarization          | LP              |

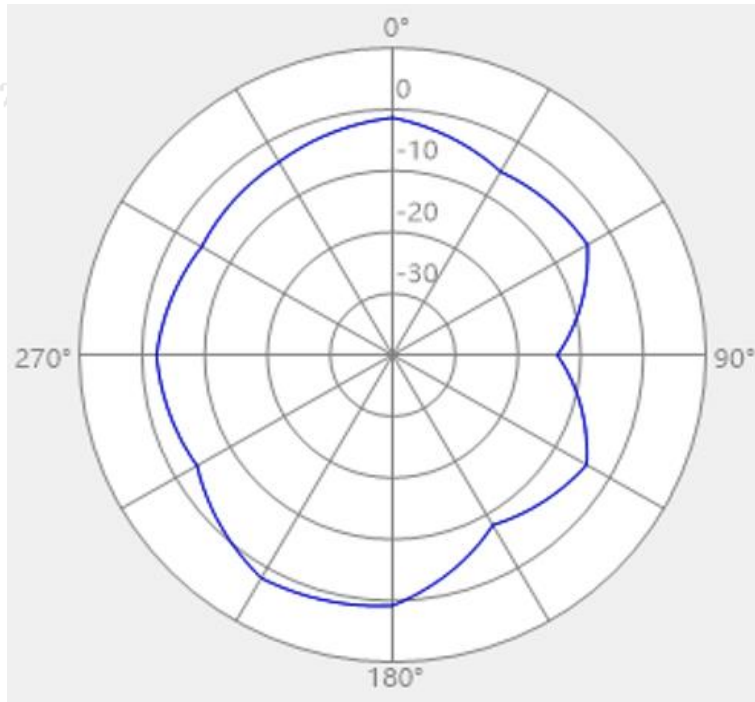
## 2、Antenna Test Data

### 2.1 VSWR



## 2.2 RADIATION PATTERNS 2450MHz





**2.3 GAIN AND EFFICIENCY**

| Frequency<br>(MHz) | Efficiency<br>(%) | Gain<br>(dBi) |
|--------------------|-------------------|---------------|
| 2400               | 31.6              | -0.4          |
| 2410               | 32.0              | -0.3          |
| 2420               | 30.4              | -0.3          |
| 2430               | 32.3              | -1.5          |
| 2440               | 33.5              | -0.4          |
| 2450               | 33.2              | -1.4          |
| 2460               | 32.2              | -0.6          |
| 2470               | 31.0              | -0.5          |
| 2480               | 31.6              | -0.3          |
| 2490               | 32.1              | -1.4          |
| 2500               | 29.8              | -1.7          |

### 3、PCB ANTENNA (MM)

