Percsson Communication Equipment Co., Ltd

# Antenna OTA Test Report

For

ESP-ANT-C

| | | | |
|---|---|---|---|
| **Customer** | 深圳四博智联科技有限公司 | **Demo** | **ESPC5-12** |
| **Band** | **2.4G&5G** | **Color** | **Black** |
| **PRS PN** | | **Version** | **V1.0** |
| **Issued by** | **Jason** | **Checked by** | **Mem** |
| **Confirmed by** | **Zhang** | **Date** | **2025.06.18** |

## 一. TEST INSTRUMENTATION

| | |
|---|---|
| **CHAMBER** | **SATIMO Chamber** |
| **Wireless Networking Test Set** | **Agilent E5071C** |
| **NETWORK ANALYZER** | **Agilent 8753D** |
| **TEMPERATURE** | **20±3℃** |
| **HUMIDITY** | **50±20%rh** |
| **GROUND RESISTANCE** | **<0.5R** |

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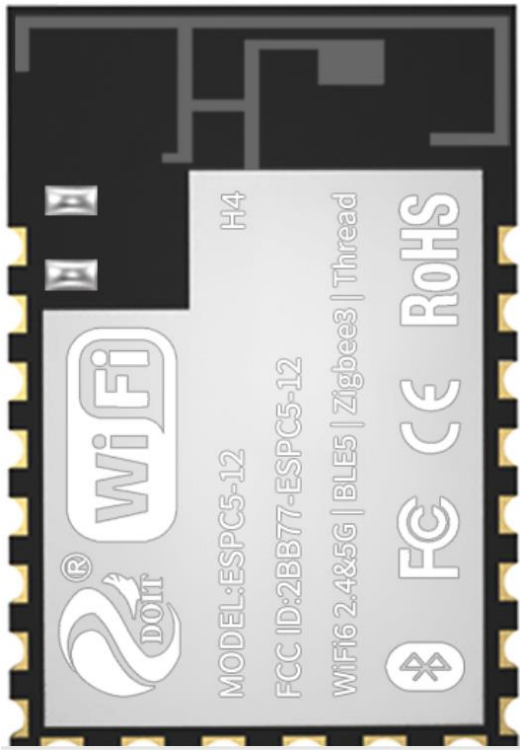
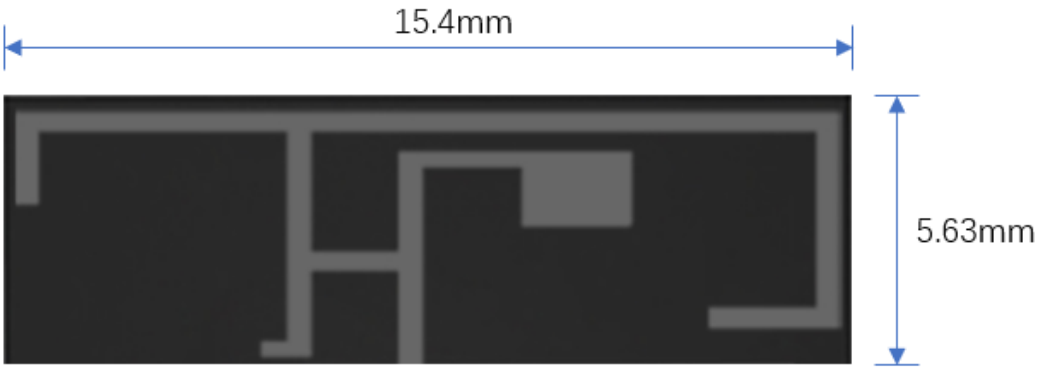



ESPC5-12 WiFi Module




Anetenna Size

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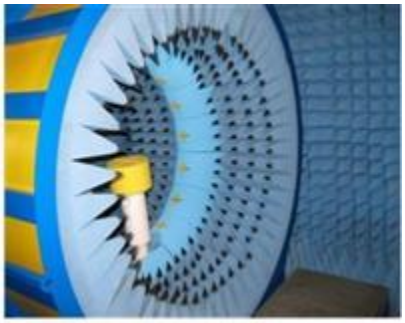
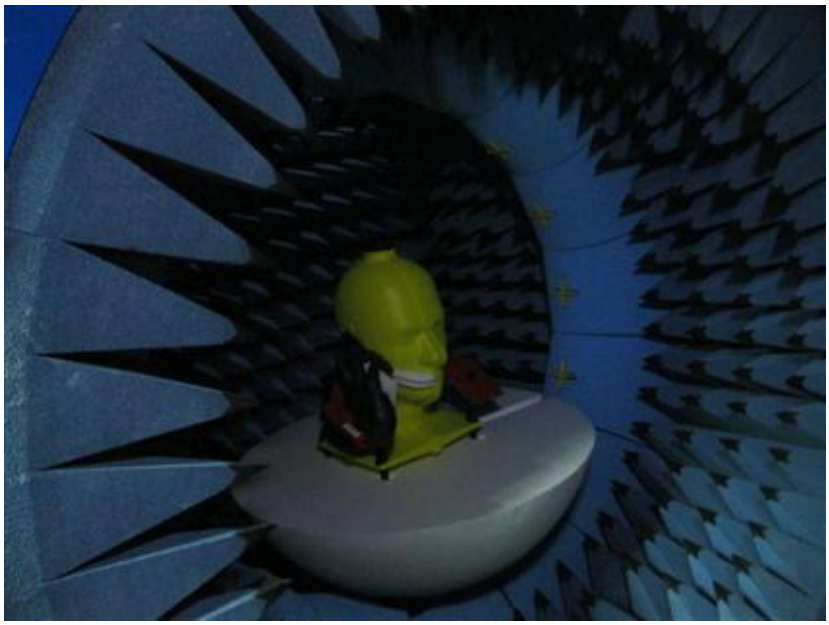
Test devices is shown as below.





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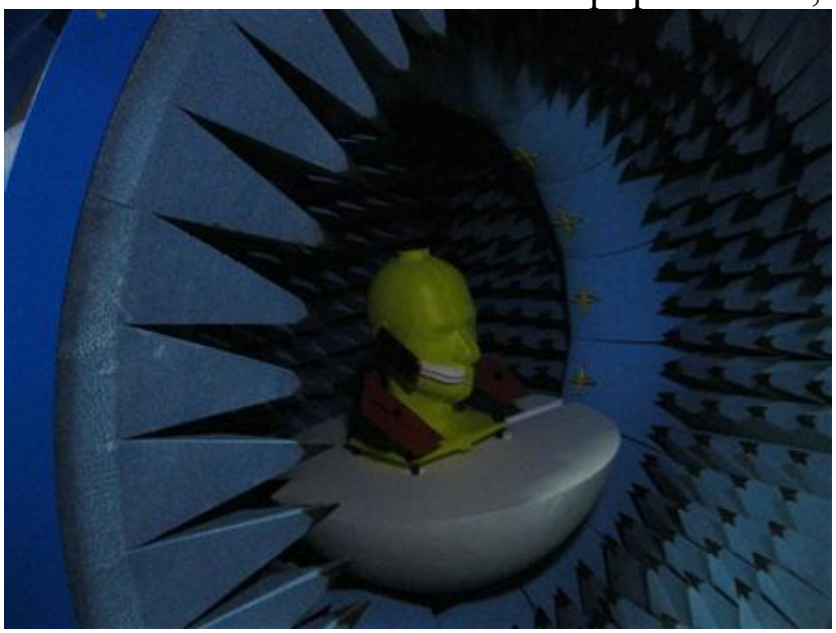
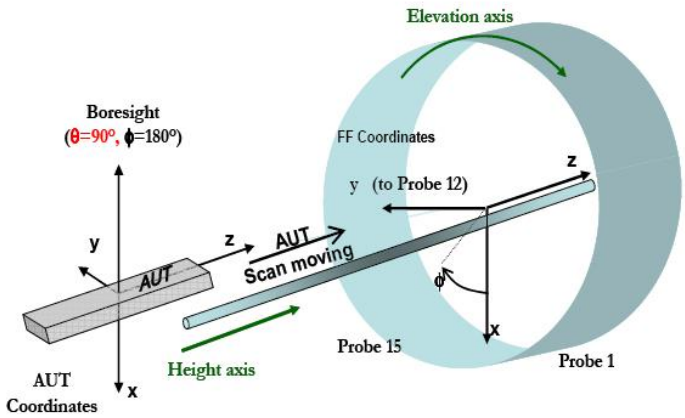
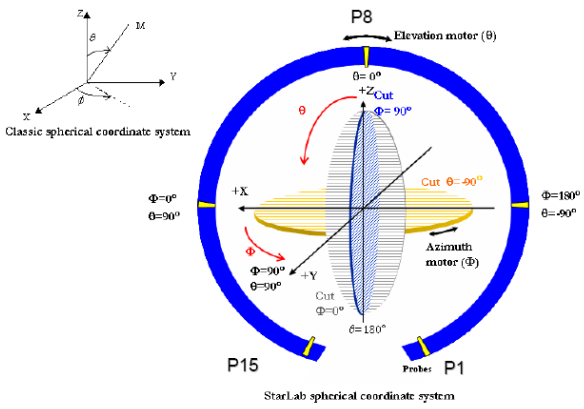


## Coordinate system – Cylindrical geometry




## Coordinate system – Spherical geometry

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# 二. Test Results

## 2.1 Gain and Efficiency

| Test Item | Freq (MHz) | Efficiency (%) | Gain (dBi) |
|---|---|---|---|
| Gain | 2370 | 28.01 | 3.06 |
| | 2380 | 28.07 | 3.17 |
| | 2390 | 30.22 | 2.55 |
| | 2400 | 38.55 | 2.89 |
| | 2410 | 35.34 | 2.89 |
| | 2420 | 41.24 | 2.80 |
| | 2430 | 41.70 | 2.76 |
| | 2440 | 42.10 | 2.87 |
| | 2450 | 42.20 | 2.88 |
| | 2460 | 41.70 | 3.12 |
| | 2470 | 43.20 | 3.22 |
| | 2480 | 42.80 | 3.24 |
| | 2490 | 41.95 | 3.24 |
| | 2500 | 43.33 | 3.43 |

| Test Item | Freq (MHz) | Efficiency (%) | Gain (dBi) |
|---|---|---|---|
| Gain | 5150 | 32.38 | 1.02 |
| | 5180 | 32.75 | 1.07 |
| | 5210 | 34.64 | 1.07 |
| | 5240 | 32.45 | 1.45 |
| | 5270 | 31.16 | 1.84 |
| | 5300 | 32.52 | 1.83 |
| | 5330 | 31.17 | 1.92 |
| | 5360 | 32.91 | 2.33 |
| | 5400 | 36.04 | 2.53 |
| | 5450 | 39.68 | 2.64 |
| | 5500 | 43.43 | 3.01 |
| | 5550 | 47.06 | 3.29 |
| | 5600 | 51.94 | 3.42 |

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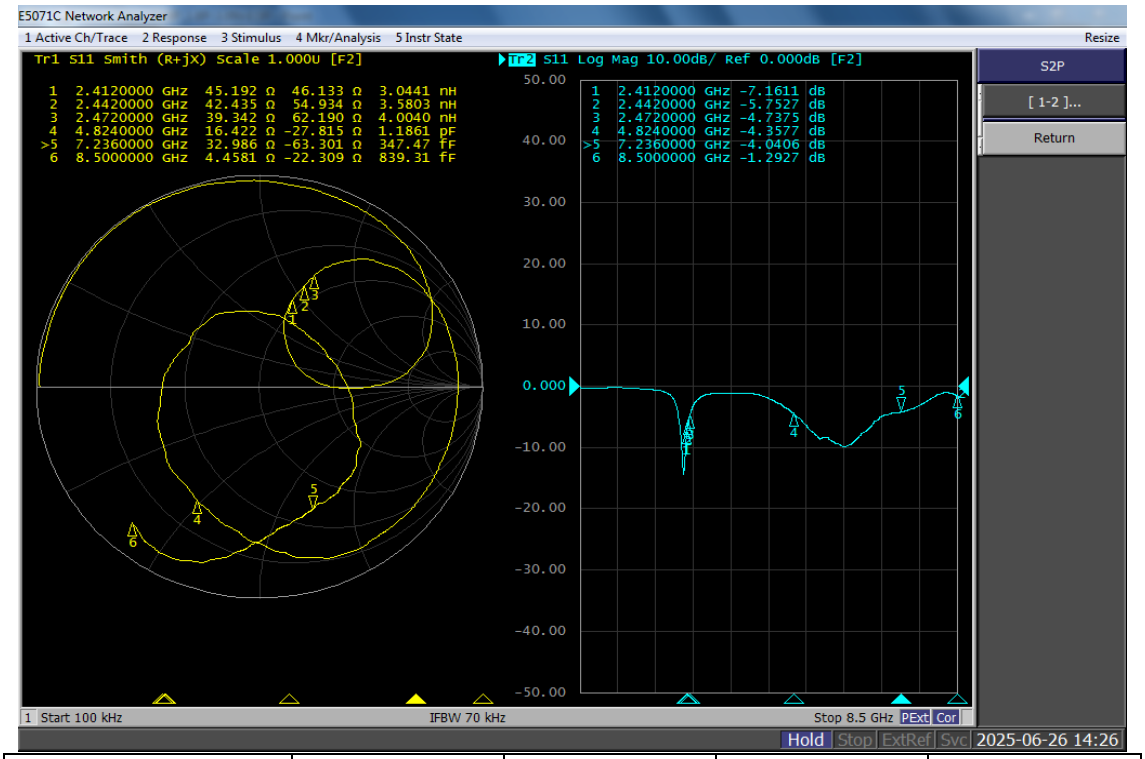
| | | | |
|---|---|---|---|
| | 5650 | 56.67 | 3.34 |
| | 5700 | 45.63 | 3.33 |
| | 5750 | 45.31 | 2.82 |
| | 5800 | 49.17 | 2.90 |
| | 5850 | 41.45 | 2.91 |

## 2.2 Antenna S11




| Frequency(MHz) | 2412 | 2442 | 4824 | 7236 |
|---|---|---|---|---|
| S11 (dB) | -7.16 | -5.75 | -4.33 | -4.04 |

# 三. 3-D pattern Plots

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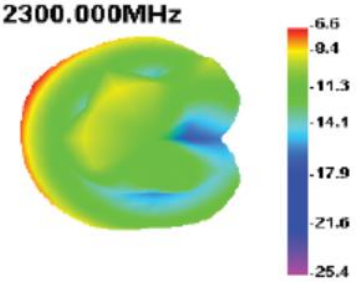
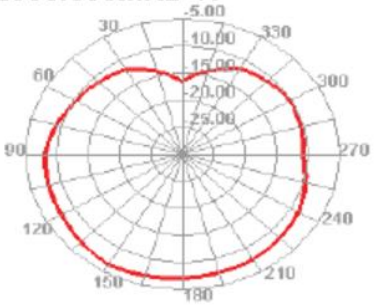
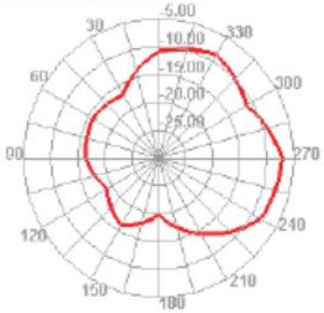
2300.000MHz



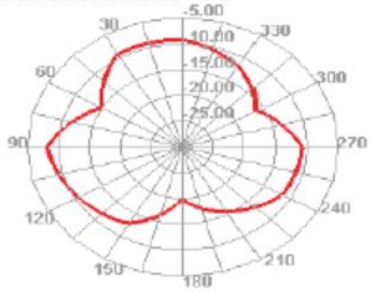

2300.000MHz H



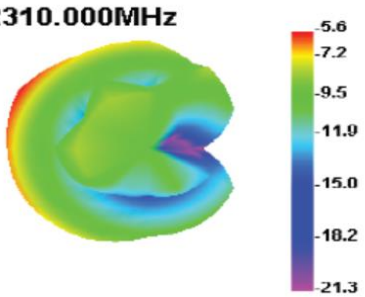

2300.000MHz E1



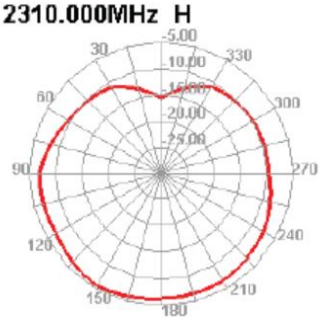

2300.000MHz E2



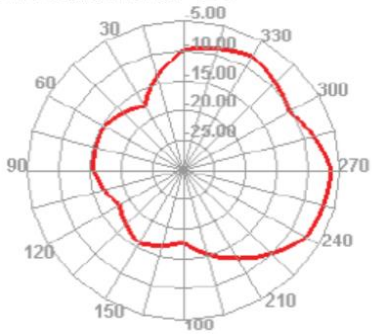

2310.000MHz



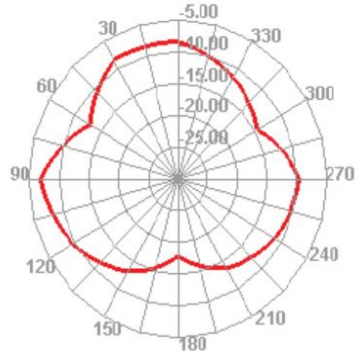

2310.000MHz H




2310.000MHz E1




2310.000MHz E2

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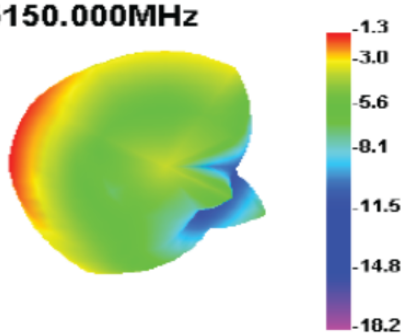
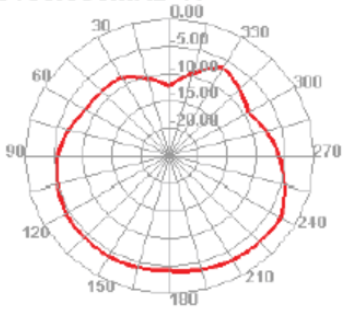
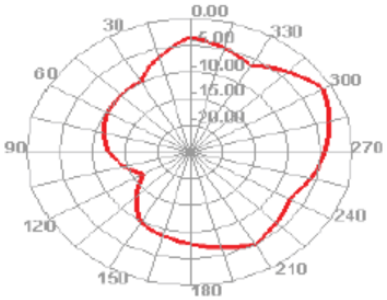
5150.000MHz



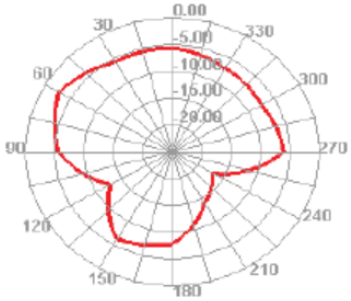

5150.000MHz H



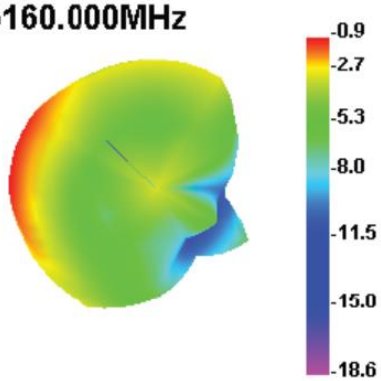
5150.000MHz E1



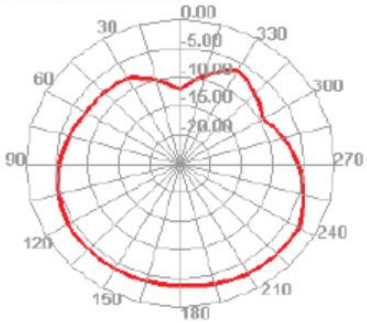
5150.000MHz E2



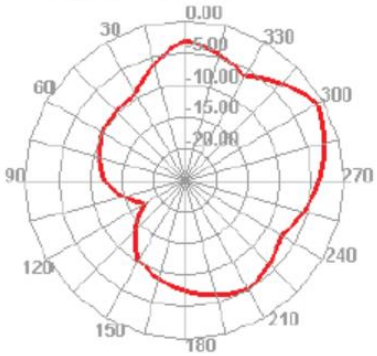
5160.000MHz



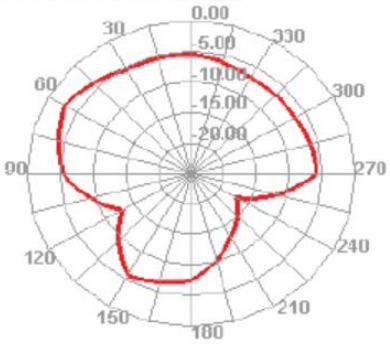

5160.000MHz H



5160.000MHz E1



5160.000MHz E2



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