

# Dongguan Guosheng Electronic Technology Co., Ltd

## AN2012S24PL antenna ATO test report

|         |             |
|---------|-------------|
| client  | wanquanjia  |
| Tester  | 003         |
| Phone   | 18025177909 |
| date    | 2025-04-18  |
| Editors | 002         |

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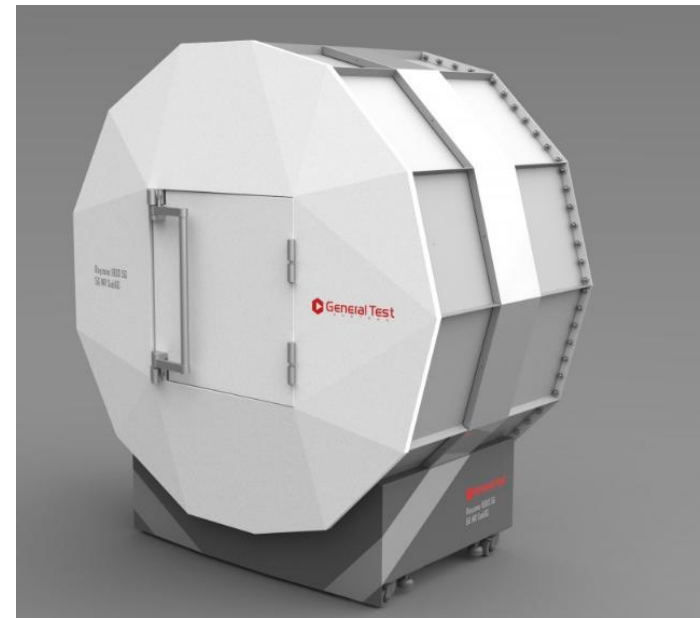
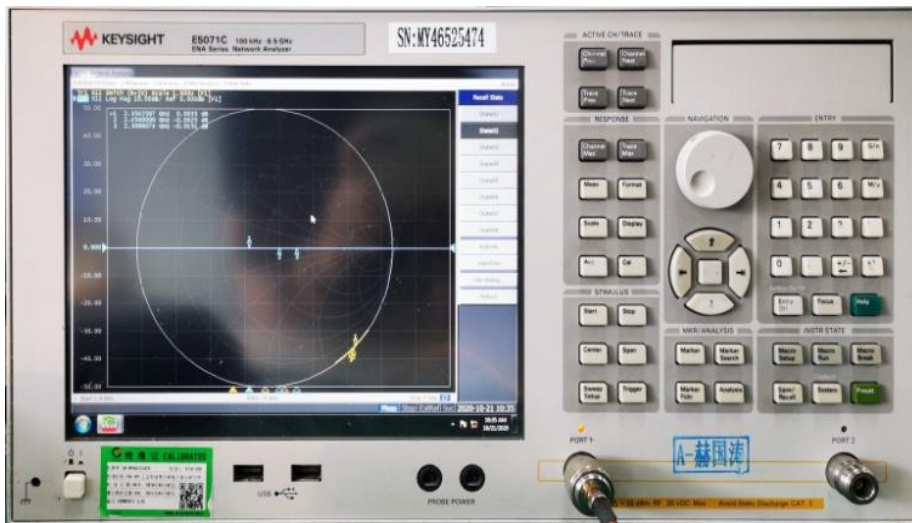
## Table of Contents of Reports

- The network debugs the antenna S parameter
- OTA free field data
- OTA free field type

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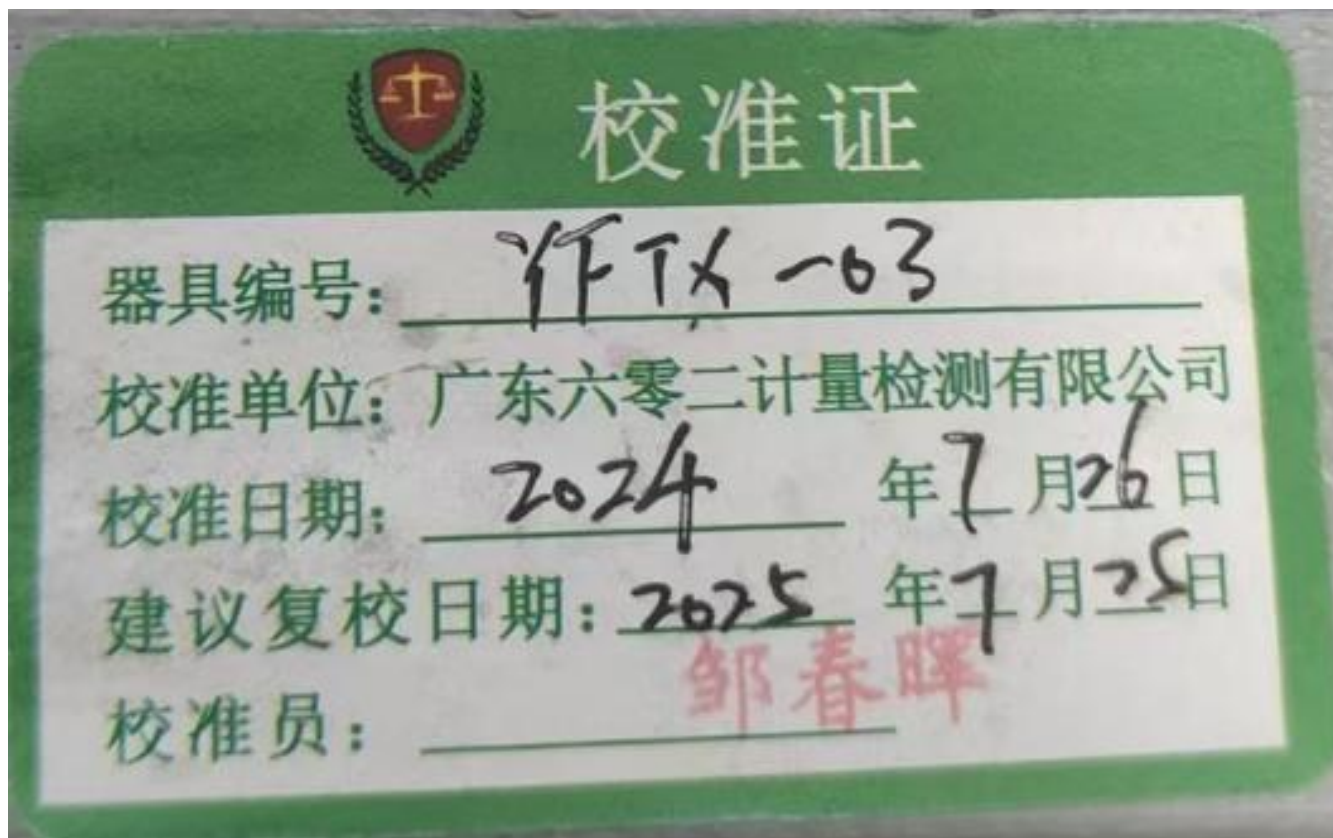
## Test conditions

- 1.S-parameter measurement
- 2. Equipment: Network analyzer (Agilent E5062A), microwave anechoic chamber, MT8852B
- 3. Items: Impedance, Return Loss, VSWR, Efficiency, Gain, Radiated Field Type, Sensitivity, Power, Frequency Offset Active Data TRP TIS
- 4. The date of instrument calibration 2024/7/26



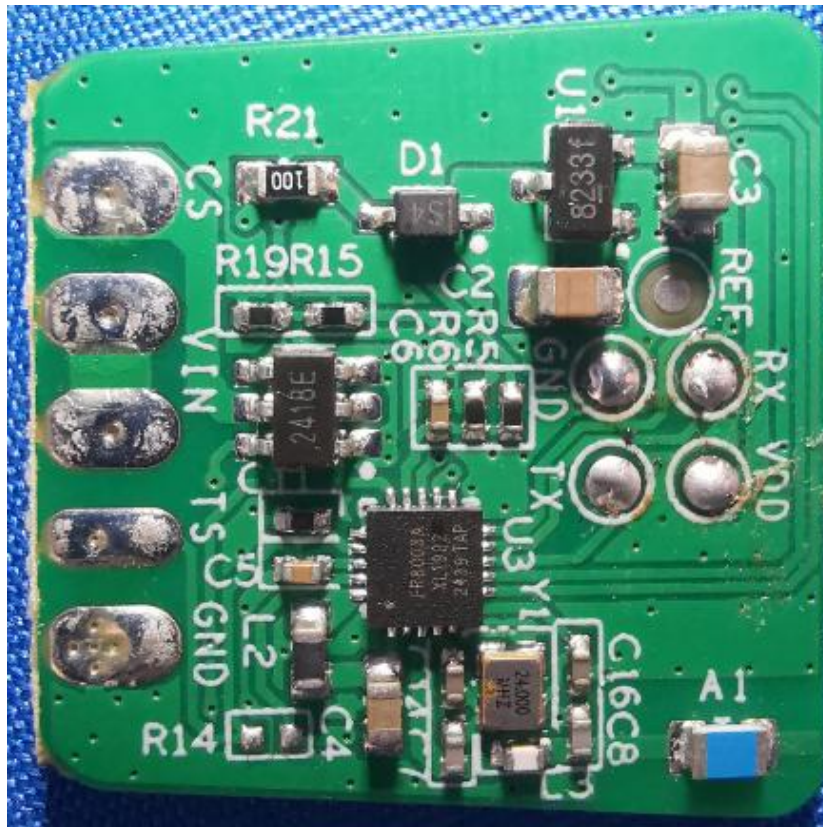
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## Test equipment calibration



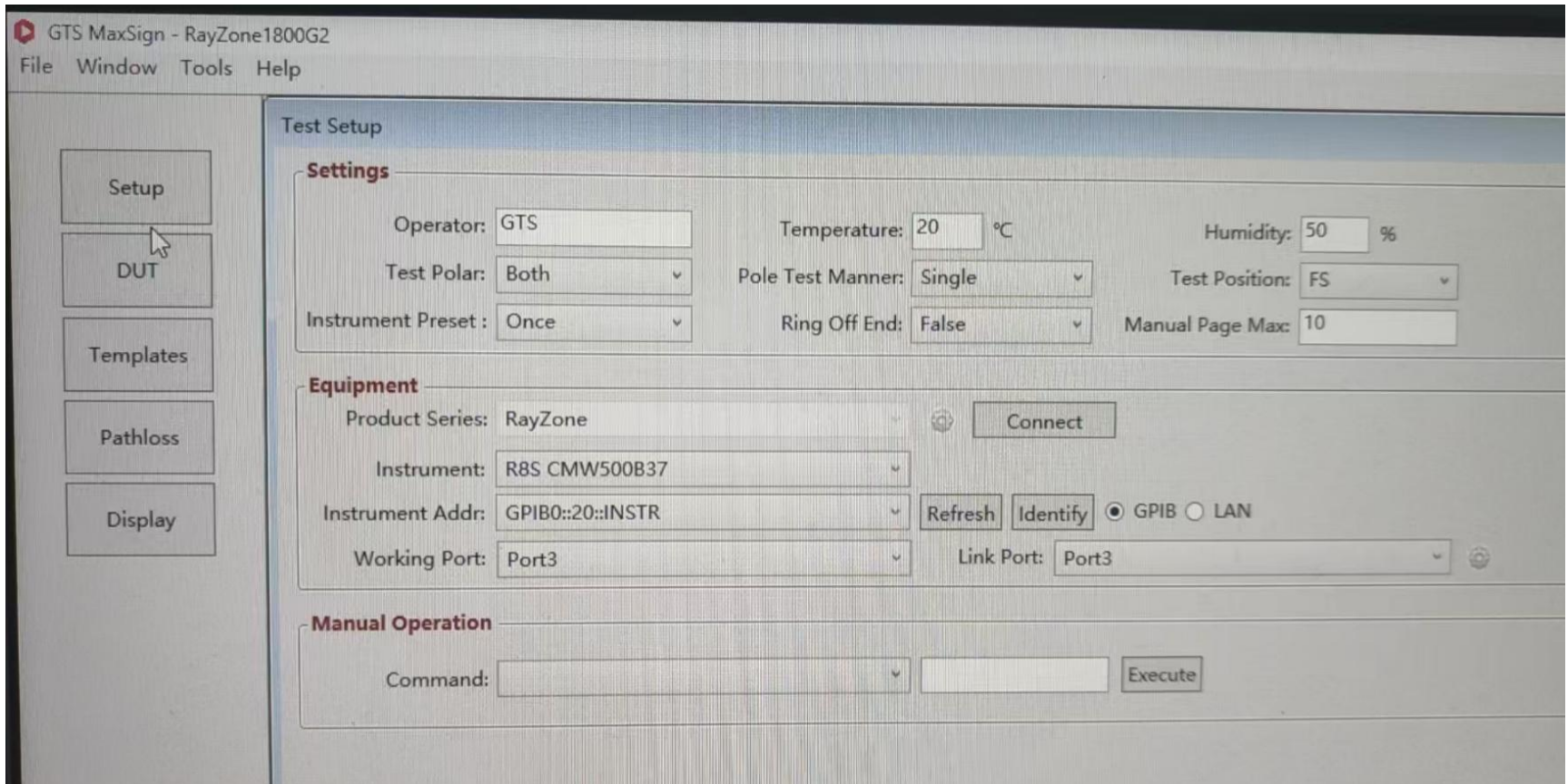
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FR8003 Bluetooth model



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## Test equipment for commercial software



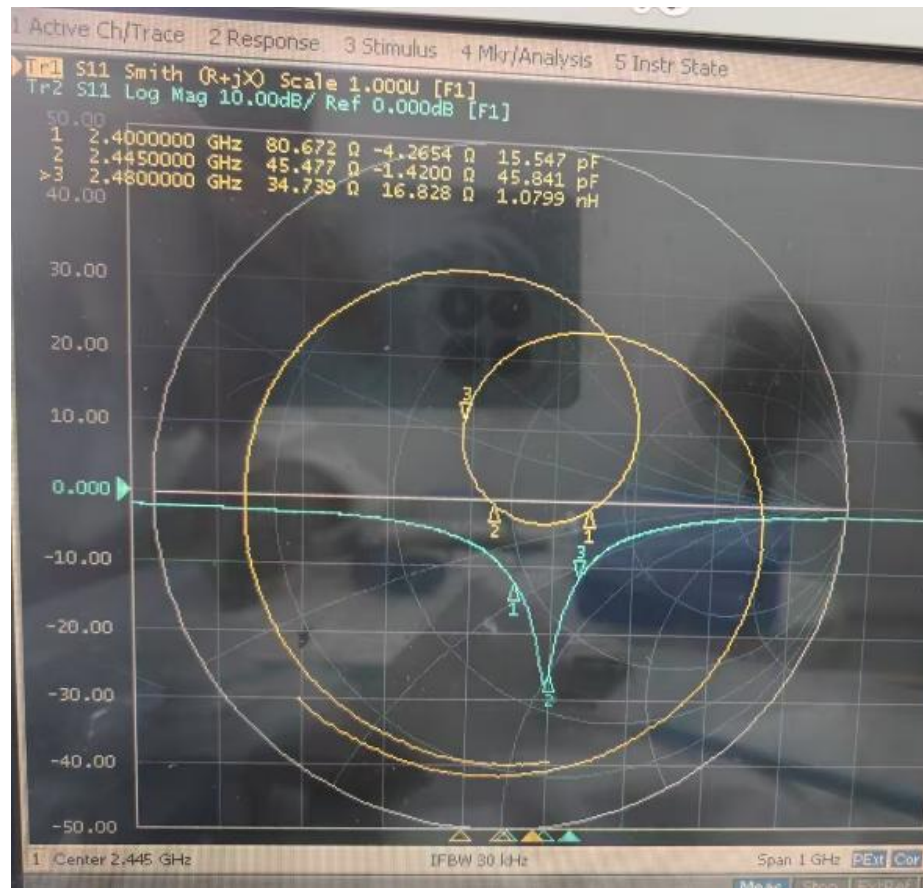
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## Test results

| Freq(MHz) | Gain(dBi) | Efficiency(dB) | Efficiency(%) |
|-----------|-----------|----------------|---------------|
| 2400      | 2.7899    | -2.9335        | 50.8915       |
| 2410      | 2.8464    | -2.9084        | 51.1872       |
| 2420      | 2.9164    | -2.9630        | 50.5472       |
| 2430      | 2.9276    | -2.9655        | 50.5183       |
| 2440      | 3.2087    | -2.7868        | 52.6404       |
| 2450      | 3.2623    | -2.7926        | 52.5708       |
| 2460      | 3.0734    | -2.9622        | 50.5572       |
| 2470      | 3.2790    | -2.8027        | 52.4480       |
| 2480      | 3.4485    | -2.6348        | 54.5157       |
| 2490      | 3.4039    | -2.6643        | 54.1469       |
| 2500      | 3.4354    | -2.6270        | 54.6137       |

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The network debugs the antenna S parameter



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## OTA free field data

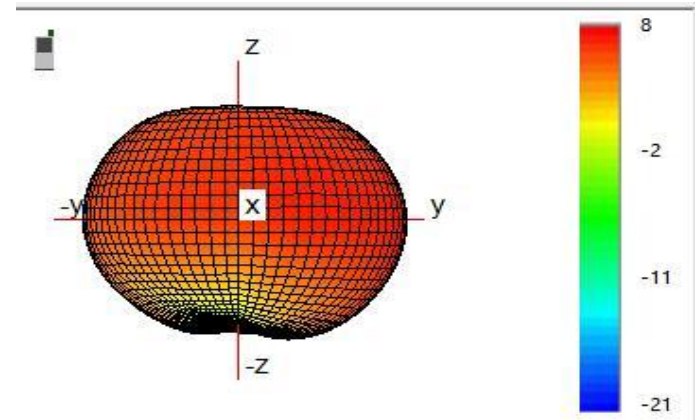
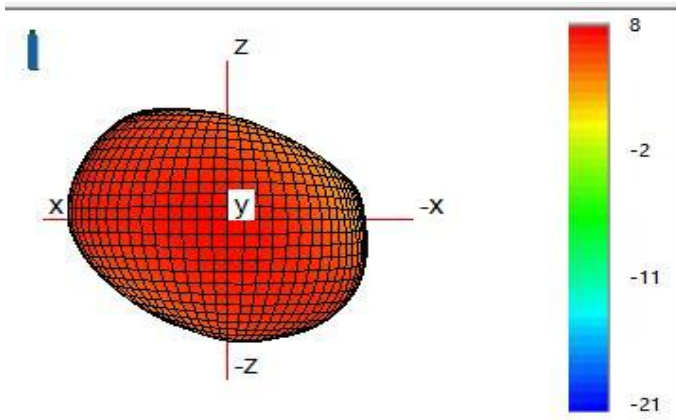
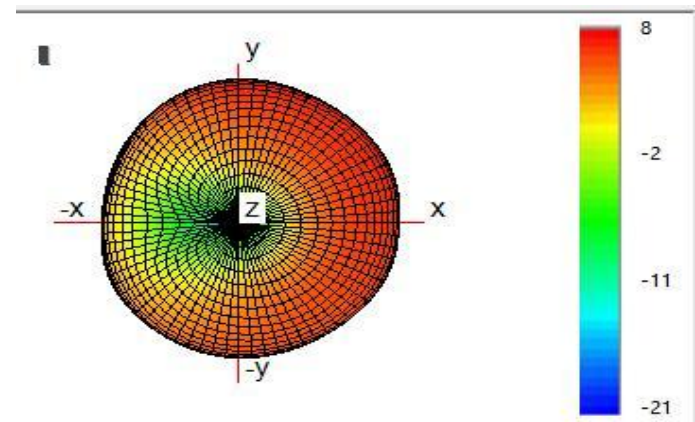
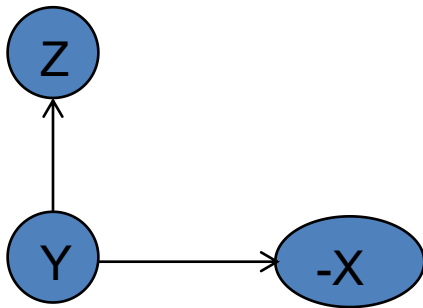
|   | Channel | TRP功率 (dBm) | TIS灵敏度 (dBm) |
|---|---------|-------------|--------------|
| L | CH 0    | 5.645191347 | -89.44134584 |
|   | CH 39   | 7.732432261 | -90.00377088 |
|   | CH 78   | 6.414439484 | -90.70531548 |

|   | Channel | TRP功率 (dBm) | TIS灵敏度 (dBm) |
|---|---------|-------------|--------------|
| R | CH 0    | 5.756207481 | -88.37160597 |
|   | CH 39   | 6.838599835 | -90.35589496 |
|   | CH 78   | 7.653103237 | -91.10708074 |

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## OTA free field type

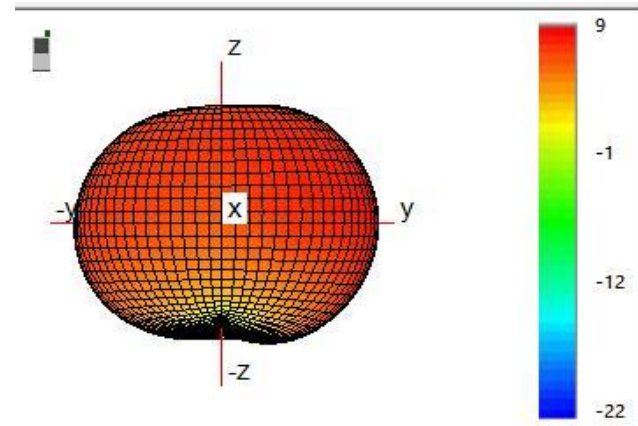
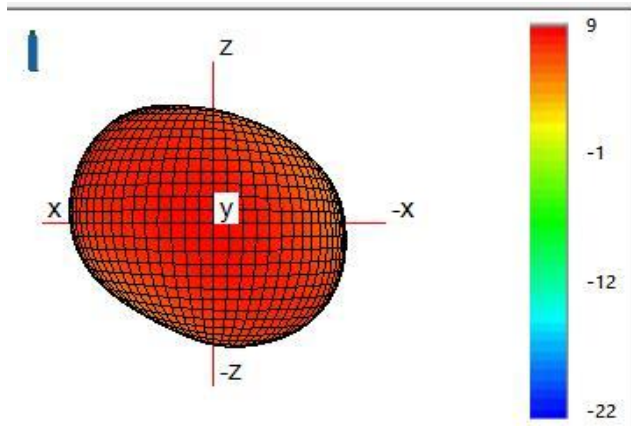
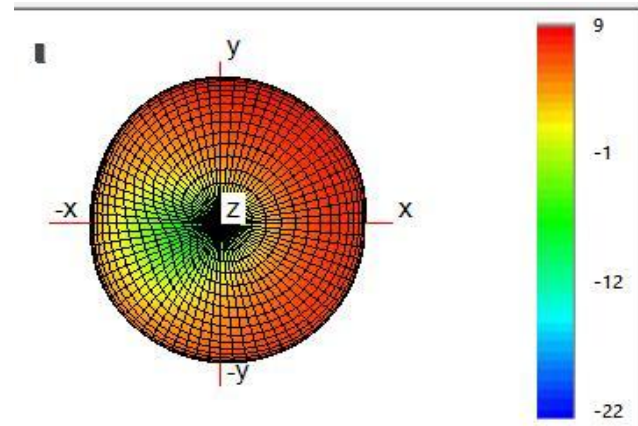
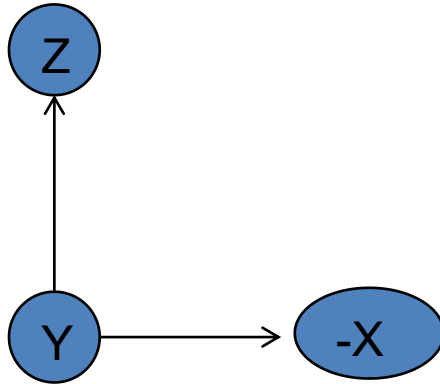
L: Field diagram



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## OTA free field type

R: Field diagram



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*Thanks for Your Attention*