

Testing Report



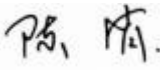
Customer Name: SHENZHEN SHIXINZHONGXIN TECHNOLOGY.CO.,LTD

Product Name: BT Antenna

Sample Model: BM2020

Reference Standard: *GB/T9410-2008; ANSI/IEEE Std 149-1979*

Issue Date: 2023.07.28

| | | |
|-----------|---|------------------|
| Engineer: |  | Date: 2023.07.28 |
| Auditor: |  | Date: 2023.07.28 |
| Approver: |  | Date: 2023.07.28 |

1. General Information

1.1 General Information of testing institutions

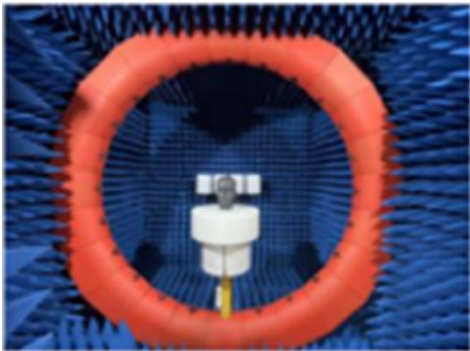
| | |
|-----------|--|
| Name | Shenzhen Hetuo Technology Co.,Ltd. |
| Address | Room 1202B, Building C6, Hengfeng Industrial City, Xixiang, Baoan District, Shenzhen |
| Tel | 18665849001 |
| E-mail | 18665849001@163.com |
| Equipment | Agilent 5071C |

1.2 Testing principle

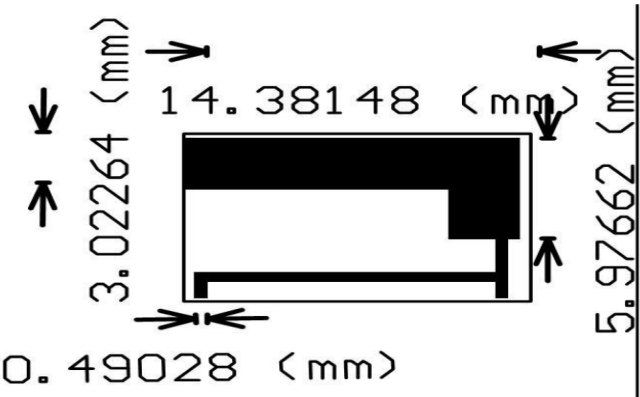
2. Test System

Multi-probe OTA Measurement System

| | | |
|-------------------|-------------------|-------------------------|
| Gain & Efficiency | Gain & Efficiency | SATIMO Agilent 5071C |
|-------------------|-------------------|-------------------------|



Antenna Photo & Length(mm)



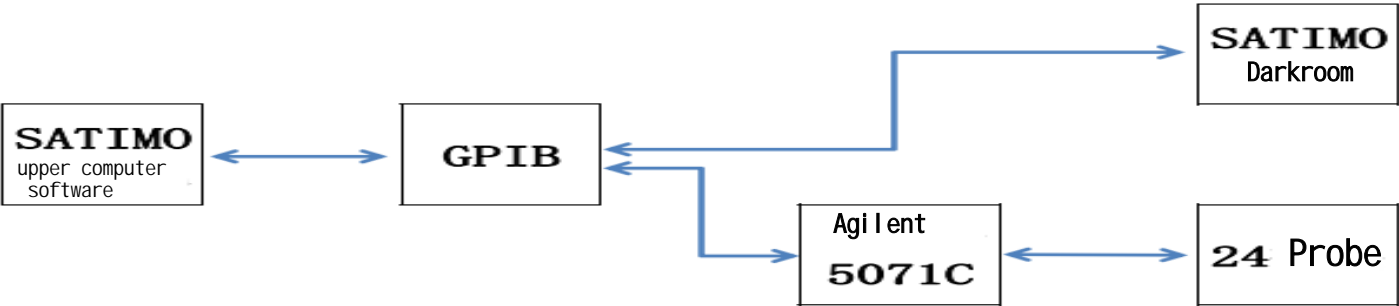
1.3 Test equipment

| Equipment | Model No. | Serial No. | Manufacturer | Calibration date | Next calibration date |
|----------------------------|-----------|------------|--------------|------------------|-----------------------|
| 24 probe microwave chamber | 4*3*3 | NA | SATIMO | 2023.06.29 | 2023.09.30 |
| Network Analyzer | 5071C | NA | Agilent | 2023.06.29 | 2023.09.30 |

1.4 Test environment

| | |
|-------------|--------------|
| Temperature | 24 C ± 1.5 C |
| Humidity | 45%RH |
| Pressure | 101kPa |

1.5 Brief summary of Procedure



1. SATIMO turn on the Upper Computer Software, Name: VeryView99.exe, Version No.: V1.10;
2. VeryView99 via GPIB (General Purpose Interface Bus) to control the shielding room (darkroom)'s SATIMO;
3. Meanwhiel, GPIB control the Agilent 5071C to read the Antenna data by 24 Probe;
4. Agilent 5071C will analyse the data and generate the result;
5. Agilent 5071C will feedback to VeryView99 software to generate the test report.

2. Sample Information

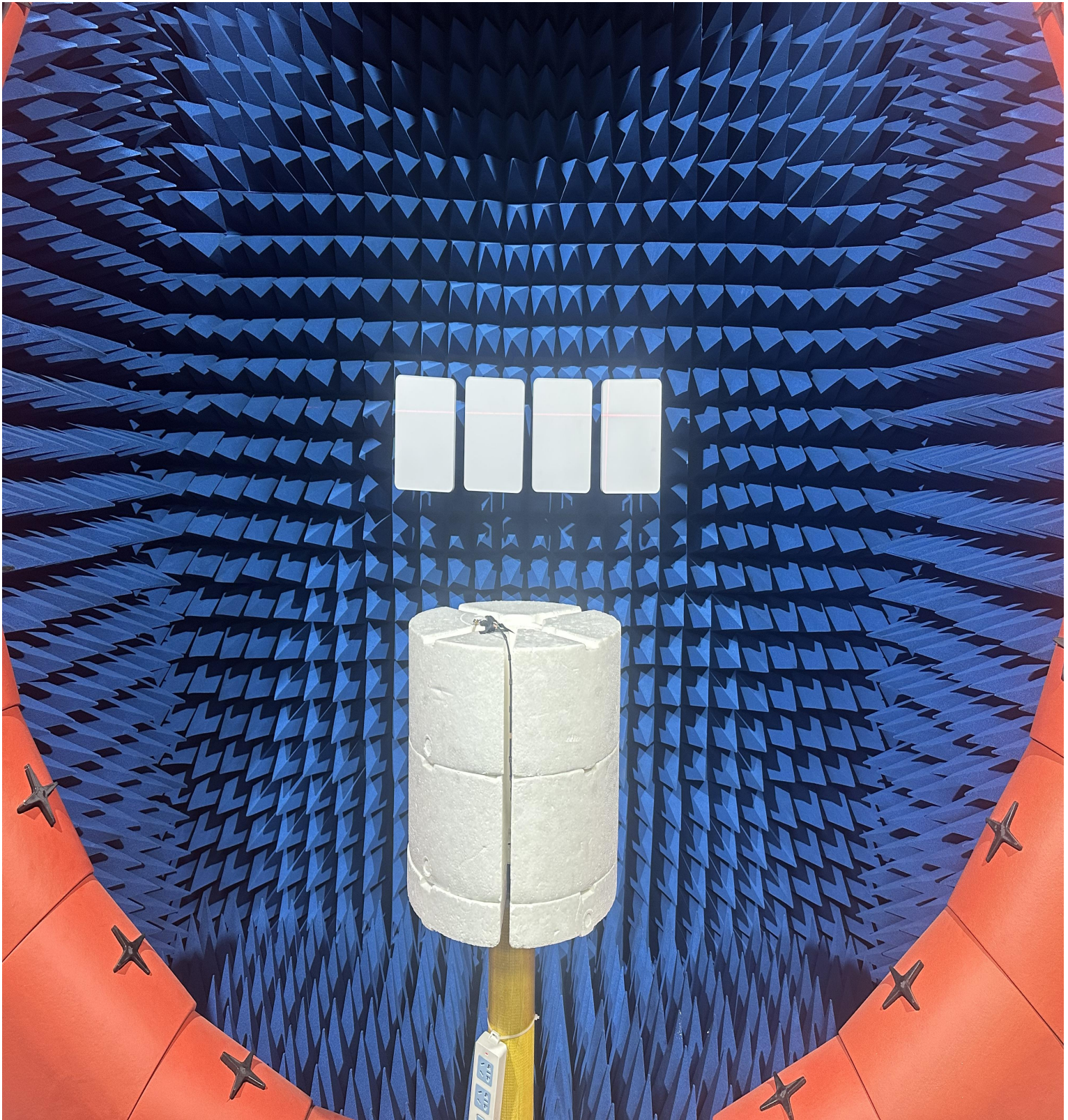
2.1 Client information

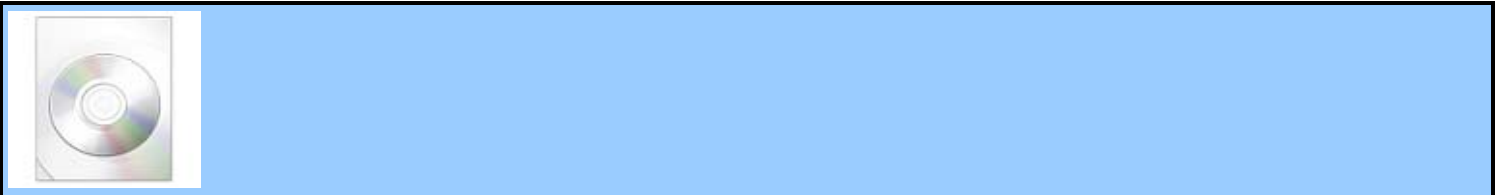
| | |
|----------|---|
| Name | SHENZHENSHIXINZHONGXIN TECHNOLOGY .CO .,LTD |
| Address | A1 , Shajing Donghuan Industrial Zone , Bao 'an District , Shenzhen |
| Contacts | Ma Chao |
| Tel | 18218809918 |
| E-mail | machao@c-chip.com.cn |

2.2 Description of EUT(S)

| | |
|-----------------|------------------------------------|
| Product Name | BT Antenna |
| Sample Model | BM2020 |
| Antenna Size | 5.97662*14.38148mm |
| Antenna Type | PCB antenna |
| Serial No. | / |
| Test Item | Antenna Gain,Radiation pattern |
| Frequency Range | 2400-2500MHz |
| Received Date | 2023.07.28 |
| Test Date | 2023.07. 28 |
| Remark | The length of the RF cable is 50mm |

The test photos





| | | | | | | | | | | | |
|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Efficiency (dBi) | -8.39 | -8.02 | -7.74 | -7.50 | -7.10 | -6.88 | -6.74 | -6.51 | -6.30 | -6.05 | -5.80 |
| Gain (dBi) | -0.94 | -0.67 | -0.41 | -0.47 | -0.23 | -0.05 | 0.12 | 0.52 | 0.95 | 1.28 | 1.51 |
| Efficiency (%) | 14.50 | 15.77 | 16.83 | 17.78 | 19.52 | 20.53 | 21.17 | 22.36 | 23.45 | 24.82 | 26.31 |

| | | | | | | | | | | | |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| E1(XZ) | 96.00 | 96.00 | 39.00 | 97.00 | 93.00 | 90.00 | 81.00 | 91.00 | 88.00 | 94.00 | 92.00 |
| E1(XZ)₁ | 1.82 | 2.68 | 3.84 | 2.95 | 3.34 | 3.32 | 2.90 | 1.42 | 1.91 | 1.25 | 1.37 |
| E2(YZ) | 35.00 | 33.00 | 37.00 | 36.00 | 37.00 | 59.00 | 74.00 | 37.00 | 36.00 | 35.00 | 35.00 |
| E2(YZ)₁ | 11.67 | 10.91 | 10.61 | 10.06 | 8.46 | 8.23 | 7.64 | 6.92 | 7.33 | 7.08 | 7.05 |
| (P) | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| (P)₁ | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 | 1.50 |
| Hc(XY) | 42.00 | 54.00 | 39.00 | 52.00 | 55.00 | 56.00 | 64.00 | 59.00 | 61.00 | 69.00 | 70.00 |

[illegible]