# TEST REPORT

| | | |
|---|---|---|
| **Report Number. ..... :** | 90415-22-71-22-PP001 | |
| **Date of issue ..... :** | Jun. 06, 2022 | |
| **Tested by (+signature) ..... :** | Duke CHEN |  |
| **Approved by (+signature) ..... :** | Owen ZHAN |  |
| **Testing Laboratory name ..... :** | SLG-CPC Testlaboratory Dongguan Co., Ltd. | |
| **Address ..... :** | No. 11, Wu Song Road, Dongcheng District, Dongguan, Guangdong Province, China 523117 | |
| **Applicant's name ..... :** | Shenzhen Flame Technology Co., Ltd. | |
| **Address ..... :** | Plant 3003, West Block, Hengfang Laobing Building, No.3012, Xingye Road, Labour Community, Xixiang Street, Bao'an District, Shenzhen City, Guangdong Province, China | |
| **Manufacturer's name ..... :** | Shenzhen Flame Technology Co., Ltd. | |
| **Address ..... :** | Plant 3003, West Block, Hengfang Laobing Building, No.3012, Xingye Road, Labour Community, Xixiang Street, Bao'an District, Shenzhen City, Guangdong Province, China | |
| **Factory's name ..... :** | Shenzhen Flame Technology Co., Ltd. | |
| **Address ..... :** | Plant 3003, West Block, Hengfang Laobing Building, No.3012, Xingye Road, Labour Community, Xixiang Street, Bao'an District, Shenzhen City, Guangdong Province, China | |
| **Standard(s) ..... :** | EN IEC 55014-1:2021(CISPR 14-1:2016),<br>EN IEC 55014-2:2021(CISPR 14-2:2015),<br>EN IEC 61000-6-3:2021, EN IEC 61000-6-1:2019 | |
| **Test item description ..... :** | MOTI TUBE 3000 | |
| **Trade Mark ..... :** | MOTI | |
| **Model/Type reference ..... :** | MOTI TUBE 3000 | |
| **Rating(s) ..... :** | DC 3.7 V | |
| **Date of receipt of test item ..... :** | Jun. 01, 2022 | |
| **Date (s) of performance of test:** | See dates for each test case | |
| **Test Report Form No. ..... :** | EN14_1&2_61000_6_1&3_A3 | |
| **Master TRF ..... :** | Dated 2022-04 | |
| **Summary of Test Results ..... :** | **Pass** | |


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The Summary of Test Results based on a technical opinion belongs to the standard(s).
EN IEC 55014-1:2021 and EN 55014-1:2017+A11:2020 the technical are identical for EUT.
EN 55014-1:2017+A11:2020 is within CNAS recognized scope.
EN IEC 55014-1:2021 is not within CNAS recognized scope.
EN 55014-1:2017+A11:2020 and CISPR 14-1:2016 the technical are identical for EUT.
CISPR 14-1:2016 is within CNAS recognized scope.
EN IEC 55014-2:2021 and EN 55014-2:2015 the technical are identical for EUT.
EN 55014-2:2015 is within CNAS recognized scope.
EN IEC 55014-2:2021 is not within CNAS recognized scope.
EN 55014-2:2015 and CISPR 14-2:2015 the technical are identical for EUT.
CISPR 14-2:2015 is within CNAS recognized scope.
EN IEC 61000-6-3:2021 and EN 61000-6-3:2007+A1:2011 the technical are identical for EUT.
EN 61000-6-3:2007+A1:2011 is within CNAS recognized scope.
EN IEC 61000-6-3:2021 is not within CNAS recognized scope.

**General disclaimer:**




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# Report Index




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# 1. General Information

## 1.1. Description of device (EUT)

| | |
|---|---|
| **Test item description..... :** | MOTI TUBE 3000 |
| **Model/Type reference..... :** | MOTI TUBE 3000 |
| **Rating(s)..... :** | DC 3.7 V |
| **Highest internal frequency..... :** | ☒ ≤108MHz ☐>108MHz |
| **AC Line..... :** | ☐Shielded ☐Unshielded, ☐Detachable ☐Un-detachable<br>☒No applicable ☐Length: |
| **DC Line..... :** | ☐Shielded ☐Unshielded, ☐Detachable ☐Un-detachable<br>☒No applicable ☐Length: |

## 1.2. Difference between model numbers

None

## 1.3. EUT Operation modes

| Mode # | Description | Test voltage |
|---|---|---|
| **1** | Normal Operation | DC 3.7 V |
| **2** | / | / |
| **3** | / | / |

## 1.4. Supporting equipment (Accessory / Auxiliary / Simulator)

| Product Type | Manufacturer | Model | Serial No. |
|---|---|---|---|
| / | / | / | / |

## 1.5. Block diagram of test set-up

**EUT**

**(EUT: MOTI TUBE 3000)**


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## 1.6. General test conditions

### Environmental reference conditions

If not defined otherwise by the Technical Committee responsible for the generic standard and/or the product standard the climatic conditions during the tests are to be within the limits specified by the manufacturer for the operation of the EUT and the test equipment.

The climatic conditions during the tests were within the following limits:

| Ambient Temperature | Relative Humidity | Air pressure |
|---|---|---|
| 15 to 35 °C | 30 to 60 % | 86 kPa – 106 kPa |

If explicitly required in the test base (basic) the climatic values are recorded and documented separately for the respective test.

### Measurement uncertainties

| Test Item | Uncertainty |
|---|---|
| Uncertainty for disturbance voltage at the mains terminals | 3.08 dB |
| Uncertainty for disturbance power | 4.28 dB |
| Uncertainty for radiated disturbances | 4.60 dB |

All tests are subject to measurement uncertainties. The overall measurement uncertainty of a measurement is defined as the range of which can be supposed that it contains the true value with a specified probability.

This probability is 95 % for the generally specified measurement uncertainty (so-called expanded measurement uncertainty).

The Limits for emission measurements and the test levels for immunity tests in the applied standards were defined taking into consideration the accuracy Limits for measurement and testing equipment required by the basic standards.

All measurement and test results of the EMC laboratory of SLG-CPC Testlaboratory Dongguan Co., Ltd. fulfil the requirements for measurement uncertainties according to the standards applied.

Unless otherwise stated the decision rule of uncertainties in the tests and measurements are evaluated in according to CPC procedure files CPC-3195 and CPC-2040.

Decision rule for statement(s) of conformity is based on Procedure 1 in CPC-2040 and Accuracy Method specified in Procedure 2, Clause 4.4.3 in IEC Guide 115:2021.


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## 1.7. Performance criteria

| | | |
|---|---|---|
| **Category of test item acc. EN 55014-2 (7.2):** | ☐ | CAT I (Category I)<br>Equipment containing no electronic control circuitry. |
| | ☐ | CAT II (Category II)<br>Mains operated equipment containing electronic control circuitry with no clock frequency higher than 15 MHz. |
| | ☒ | CAT III (Category III)<br>Battery operated equipment not included in Category I. |
| | ☐ | CAT IV (Category IV)<br>mains operated equipment containing electronic control circuitry with a highest clock frequency greater than 15 MHz but lower than or equal to 200 MHz. |
| | ☐ | CAT V (Category V)<br>Mains operated equipment containing electronic control circuitry with a highest clock frequency greater than 200 MHz. |
| Supplementary information: -- | | |

## 1.8. Modified Information

| Version | Report No. | Date of issue | Summary |
|---|---|---|---|
| 01 | 90415-22-71-22-PP001 | Jun. 06, 2022 | Original |


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# 2. Result Summary

| EN IEC 55014-1:2021; EN IEC 61000-6-3:2021 | | |
|---|---|---|
| **Requirement – Test** | **Result - Remark** | **Verdict** |
| Limits of disturbance voltage | See 4.1 | N/A |
| Limits of disturbance power | See 4.2 | N/A |
| Limits of radiated disturbances | See 4.3 | Pass |
| **EN IEC 55014-2:2021; EN IEC 61000-6-1:2019** | | |
| **Requirement – Test** | **Result - Remark** | **Verdict** |
| Electrostatic discharge immunity (ESD) | See 5.1 | Pass |
| Radiated, radio-frequency, electromagnetic field immunity (RS) | See 5.2 | Pass |
| **Note: Other items are not applicable to DC products** | | |

| Test case verdicts | |
|---|---|
| **- test case does not apply to the test object ..... :** | N/A |
| **- test object does meet the requirement ..... :** | P (Pass) |
| **- test object does not meet the requirement ..... :** | F (Fail) |


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# 3. List of Test and Measurement Equipment

| Equipment | Manufacturer | Model | Serial Number | Cal. Due |
|---|---|---|---|---|
| **Radiated disturbances(30 MHz to 1 GHz)** | | | | |
| RF Preamp Amplifier | EMEC | EM330 | 060676 | 2022-12-10 |
| Broadband Antenna | Schwarzbeck | 9162 | 139 | 2025-03-23 |
| EMI Test Receiver | R&S | ESVS30 | 829673/011 | 2022-12-10 |
| EXA signal analyzer | KEYSIGHT | MY56070465 | N9010A | 2022-12-10 |
| Test Software | Farad | EZ-EMC | Ver.CPC-3A1 | / |
| **Electrostatic discharge immunity (ESD)** | | | | |
| ESD Simulator | TESTQ | NSG437 | 1097 | 2022-12-15 |
| **Radiated, radio-frequency, electromagnetic field immunity(80 MHz to 6 GHz)** | | | | |
| Signal Generator | KEYSIGHT | N5182B | MY57301525 | 2022-08-20 |
| Amplifier | Milmega | 80RF1000-300 | 1074126 | 2023-03-25 |
| Amplifier | MICOTOP | MPA-1000-6000-100 | MPA2106182 | 2022-08-22 |
| Periodic Antenna | Schwarzbeck | STLP 9129 | 00017 | / |
| Field probe | PMM(Narda) | EP 601 | 511wx51163 | 2022-12-15 |
| Power Meter | Agilent | E4418B | GB43316102 | 2022-08-23 |


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# 4. Test Conditions and Results (Emission)

## 4.1. Limits of disturbance voltage

| | | |
|---|---|---|
| **Test Requirement:** | EN IEC 55014-1:2021 | |
| **Test Frequency Range:** | 150 kHz to 30 MHz | |
| **Applied Limit:** | ☐ | Table 2 (Induction cooking and IPT: 100 V rated); Mains terminals |
| | ☐ | Table 2 (Induction cooking and IPT; Other appliances); Mains terminals |
| | ☐ | Table 5 (Columns 2 and 3); Mains ports |
| | ☐ | Table 5 (Columns 4 and 5); Auxiliary ports; disturbance voltage |
| | ☐ | Table 5 (Columns 6 and 7); Auxiliary ports; disturbance current |
| | ☐ | Table 6 (Columns 2 and 3); Mains port of tools; P ≤ 700 W |
| | ☐ | Table 6 (Columns 4 and 5); Mains port of tools; 700 W < P ≤ 1000 W |
| | ☐ | Table 6 (Columns 6 and 7); Mains port of tools; P > 1000 W |
| | ☐ | Wired Network port according CISPR 32 class B |
| | ☐ | Other: -- |

| | | | | | |
|---|---|---|---|---|---|
| **Test Requirement:** | EN IEC 61000-6-3:2021 | | | | |
| **Test Frequency Range:** | 150 kHz to 30 MHz | | | | |
| **Limits:** | **Frequency (MHz)** | **Limits (dBµV)** | | | |
| | | **Quasi-Peak** | | **Quasi-Peak** | |
| | 0.15 to 0.5 | 66 to 56 | 56 to 46 | 0.15 to 0.5 | 66 to 56 |
| | 0.5 to 5 | 56 | 46 | 0.5 to 5 | 56 |
| | 5 to 30 | 60 | 50 | 5 to 30 | 60 |


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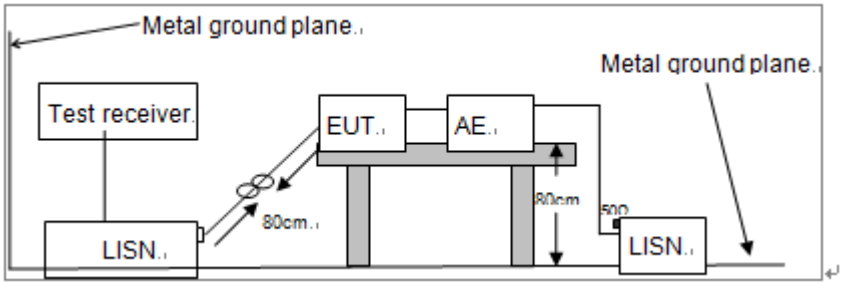
| | |
|---|---|
| **Test Method:** | The AMN placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane. This distance was between the closest points of the AMN and the EUT. All other units of the EUT and associated equipment were at least 0.8 m from the AMN. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN. |
| **Test Setup:** |  |
| **Test Information** | |
| **Ambient Temperature:** | / |
| **Relative Humidity:** | / |
| **Test model(s):** | / |
| **Test by:** | / |
| **Test date:** | / |
| **Test Location:** | / |
| **Test mode:** | / |
| **Test results:** | ☐Pass ☐Fail ☒N/A |
| **Remark:** | This test isn't applicable because the EUT doesn't have relative function. |

Test results were obtained from the following equation:
Result (dBμV) = LISN Factor (dB) + Cable Loss (dB) + Reading (dBμV)
Margin (dB) = Result (dBμV) - Limit (dBμV)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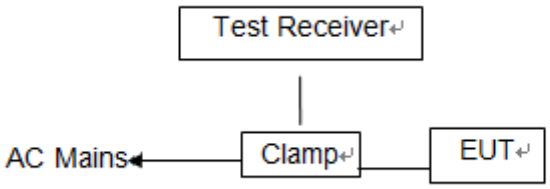
## 4.2. Limits of disturbance power

| | | |
|---|---|---|
| **Test Requirement:** | EN IEC 55014-1:2021 | |
| **Test Frequency Range:** | 30 MHz to 300 MHz | |
| **Applied Limit:** | ☐ | Table 7<br>(Columns 2 and 3); General |
| | ☐ | Table 7<br>(Columns 4 and 5); Tools; P ≤ 700 W |
| | ☐ | Table 7<br>(Columns 6 and 7); Tools; 700 W < P ≤ 1000 W |
| | ☐ | Table 7<br>(Columns 8 and 9); Tools; P > 1000 W |
| **Conditions for exemption from radiated measurements above 300 MHz:** | ☒ | Table 8 reduction of Table 7 limits applied and passed |
| | ☒ | Maximum clock frequency < 30 MHz |
| **Test Method:** | The distance between the clamp test set-up (the appliance, the lead to be measured and the absorbing clamp) and any other conductive objects (including persons, walls and ceiling, but excluding the floor) shall be at least 0.8 m. The appliance to be tested shall be placed on a non-metallic support table parallel to the floor. The height of the table shall be 0.1 m± 0.025 m for appliances primarily intended to be positioned on the floor in normal use, and 0.8 m±0.05 m for other appliances.<br>The lead to be measured is placed in a straight line for a distance sufficient to accommodate the absorbing clamp, and to permit the necessary measuring adjustment of position for tuning. The clamp is placed around the lead. | |
| **Test Setup:** |  | |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| Test Information | |
|---|---|
| **Ambient Temperature:** | / |
| **Relative Humidity:** | / |
| **Test model(s):** | / |
| **Test by:** | / |
| **Test date:** | / |
| **Test Location:** | / |
| **Test mode:** | / |
| **Test results:** | ☐Pass ☐Fail ☒N/A |
| **Remark:** | This test isn't applicable because the EUT doesn't have relative function. |

Test results were obtained from the following equation:
Result (dBpW) = Clamp Factor (dB) + Cable Loss (dB) + Reading (dBpW)
Margin (dB) = Result (dBpW) - Limit (dBpW)


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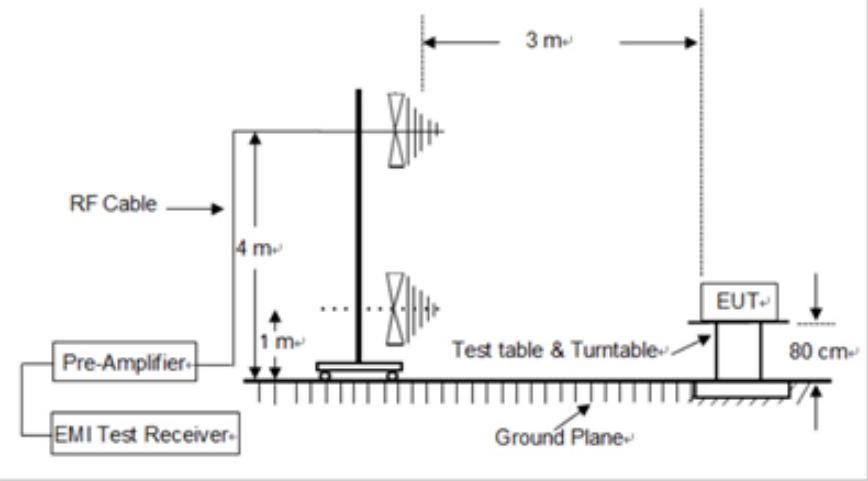
## 4.3. Limits of radiated disturbances

| | | |
|---|---|---|
| **Test Requirement:** | EN IEC 55014-1:2021 | |
| **Test Frequency Range:** | 30 MHz to 6 GHz | |
| **Applied Limit:** | ☒ | Table 9 Radiated disturbance limits 30 MHz to 1000 MHz |
| | ☐ | Table 11 Radiated disturbance limits 1 GHz to 6 GHz |
| | ☐ | Other: -- |

| | | |
|---|---|---|
| **Test Requirement:** | EN IEC 61000-6-3:2021 | |
| **Test Frequency Range:** | 30 MHz to 6 GHz | |
| **Limits:** | **Frequency (MHz)** | **Limits (dBμV/m) at 3m** |
| | 30 to 230 | 40 Quasi-Peak |
| | 230 to 1000 | 47 Quasi-Peak |
| | 1000 to 3000 | 50 Average, 70 Peak |
| | 3000 to 6000 | 54 Average, 74 Peak |

| | |
|---|---|
| **Test Method:** | Measurements were made in a 3/10-meter semi-anechoic chamber that complies to CISPR 16. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3/10 meters with the receive antenna located at 1 to 4-meter height in both horizontal and vertical polarities. Final measurements (quasi-peak) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4-meters. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable. |
| **Test Setup:** |  |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| Test Information | |
|---|---|
| **Ambient Temperature:** | 15 to 35 °C |
| **Relative Humidity:** | 30 to 60 % |
| **Test model(s):** | MOTI TUBE 3000 |
| **Test by:** | Duke CHEN |
| **Test date:** | Jun. 01, 2022 |
| **Test Location:** | No. 11, Wu Song Road, Dongcheng District, Dongguan, Guangdong Province, China 523117 |
| **Test mode:** | ☒Mode 1 ☐Mode 2 ☐Mode 3 |
| **Test results:** | ☒Pass ☐Fail ☐N/A |
| **Remark:** | The EUT highest internal frequency less 108 MHz, So don't need to test above 1GHz. |

Test results were obtained from the following equation:
Result(dBμV/m) = Antenna Factor -Amp Factor +Cable Loss + Reading
Margin (dB) = Result (dBμV/m) - Limit (dBμV/m)


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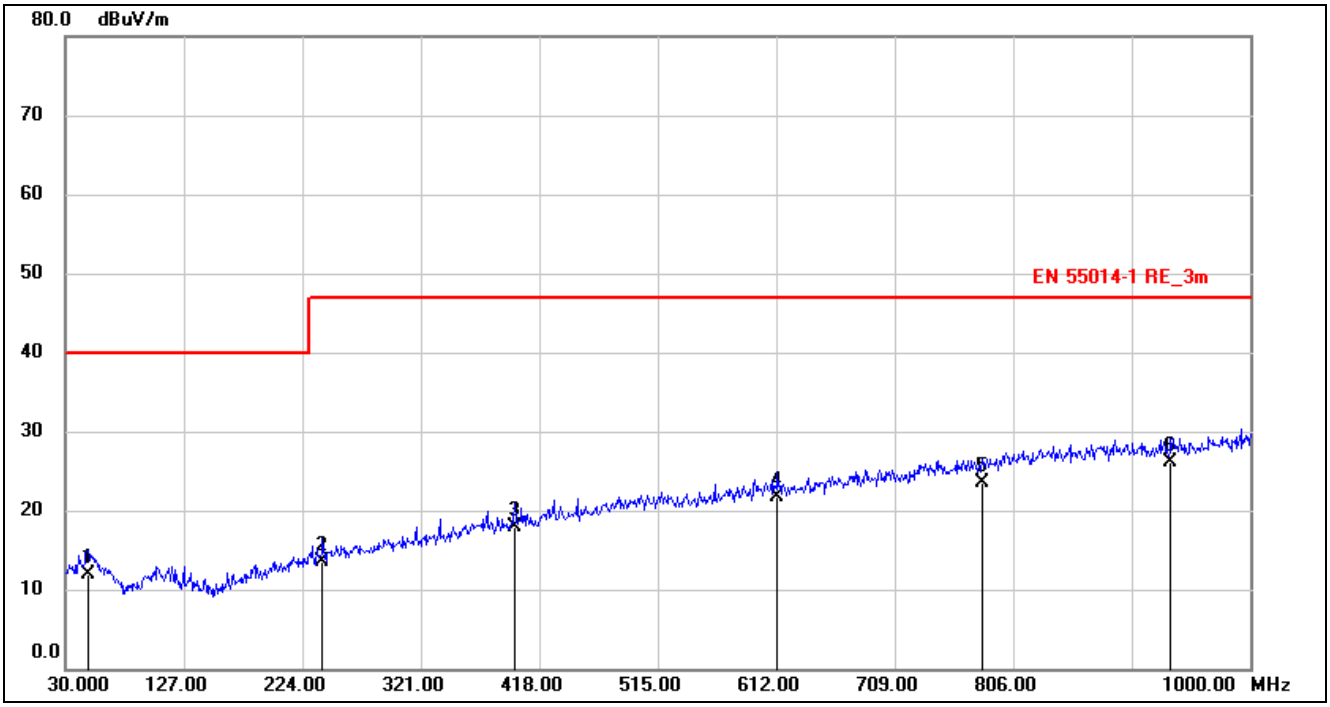
## Measurement Data

| | | | |
|---|---|---|---|
| **EUT:** | **MOTI TUBE 3000** | **Polarization:** | **Horizontal** |
| **Model:** | **MOTI TUBE 3000** | **Power Source:** | **DC 3.7 V** |
| **Mode:** | **Normal Operation** | **Date:** | **2022/6/1** |
| **Temp./Hum.(%RH):** | **25/57%RH** | **Time:** | **19:39:18** |
| **Standard:** | **EN 55014-1 RE_3m** | **Test By:** | **Duke CHEN** |
| **Test item:** | **Radiation Test** | **Distance:** | **3m** |
| **Note:** | | | |




| No. | Frequency (MHz) | Reading (dBuV/m) | Correct dB/m | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 48.4300 | 28.26 | -16.30 | 11.96 | 40.00 | -28.04 | QP |
| 2 | 240.4900 | 29.64 | -16.11 | 13.53 | 47.00 | -33.47 | QP |
| 3 | 397.6300 | 30.62 | -12.72 | 17.90 | 47.00 | -29.10 | QP |
| 4 | 612.9699 | 30.05 | -8.29 | 21.76 | 47.00 | -25.24 | QP |
| 5 | 780.7800 | 29.36 | -5.80 | 23.56 | 47.00 | -23.44 | QP |
| 6 | 935.0100 | 29.69 | -3.58 | 26.11 | 47.00 | -20.89 | QP |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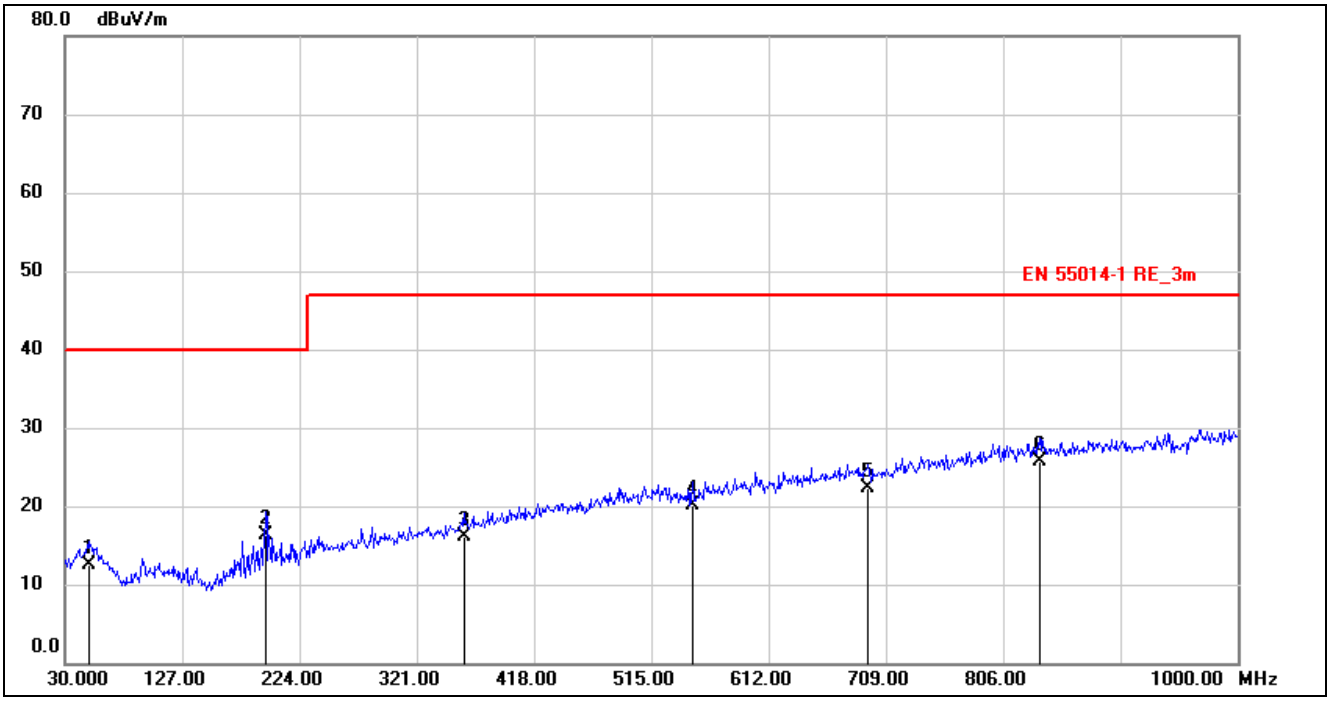
| | | | |
|---|---|---|---|
| **EUT:** | **MOTI TUBE 3000** | **Polarization:** | **Vertical** |
| **Model:** | **MOTI TUBE 3000** | **Power Source:** | **DC 3.7 V** |
| **Mode:** | **Normal Operation** | **Date:** | **2022/6/1** |
| **Temp./Hum.(%RH):** | **25/57%RH** | **Time:** | **19:40:49** |
| **Standard:** | **EN 55014-1 RE_3m** | **Test By:** | **Duke CHEN** |
| **Test item:** | **Radiation Test** | **Distance:** | **3m** |
| **Note:** | | | |




| No. | Frequency (MHz) | Reading (dBuV/m) | Correct dB/m | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 50.3700 | 28.89 | -16.44 | 12.45 | 40.00 | -27.55 | QP |
| 2 | 195.8700 | 34.71 | -18.35 | 16.36 | 40.00 | -23.64 | QP |
| 3 | 359.8000 | 29.33 | -13.26 | 16.07 | 47.00 | -30.93 | QP |
| 4 | 548.9500 | 30.23 | -10.04 | 20.19 | 47.00 | -26.81 | QP |
| 5 | 694.4500 | 29.15 | -6.86 | 22.29 | 47.00 | -24.71 | QP |
| 6 | 836.0700 | 30.16 | -4.40 | 25.76 | 47.00 | -21.24 | QP |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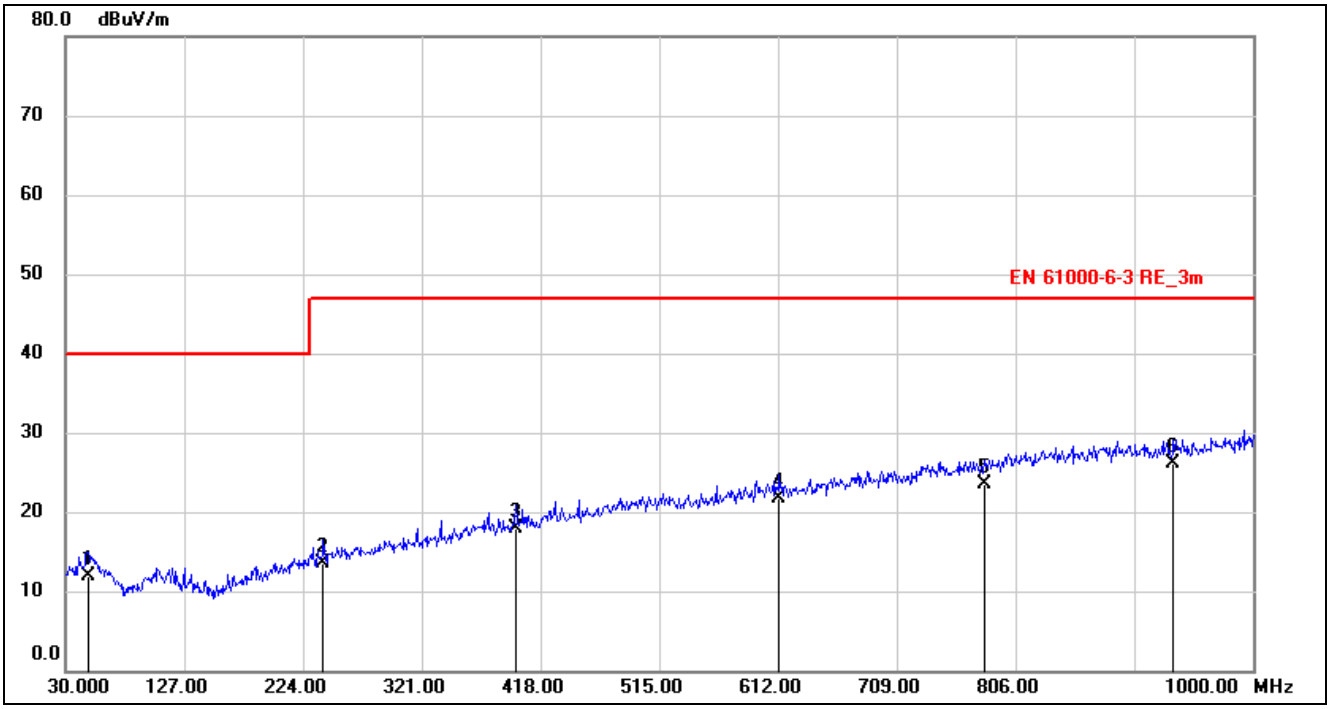
| | | | |
|---|---|---|---|
| **EUT:** | **MOTI TUBE 3000** | **Polarization:** | **Horizontal** |
| **Model:** | **MOTI TUBE 3000** | **Power Source:** | **DC 3.7 V** |
| **Mode:** | **Normal Operation** | **Date:** | **2022/6/1** |
| **Temp./Hum.(%RH):** | **25/57%RH** | **Time:** | **19:39:18** |
| **Standard:** | **EN 61000-6-3 RE_3m** | **Test By:** | **Duke CHEN** |
| **Test item:** | **Radiation Test** | **Distance:** | **3m** |
| **Note:** | | | |




| No. | Frequency (MHz) | Reading (dBuV/m) | Correct dB/m | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 48.4300 | 28.26 | -16.30 | 11.96 | 40.00 | -28.04 | QP |
| 2 | 240.4900 | 29.64 | -16.11 | 13.53 | 47.00 | -33.47 | QP |
| 3 | 397.6300 | 30.62 | -12.72 | 17.90 | 47.00 | -29.10 | QP |
| 4 | 612.9699 | 30.05 | -8.29 | 21.76 | 47.00 | -25.24 | QP |
| 5 | 780.7800 | 29.36 | -5.80 | 23.56 | 47.00 | -23.44 | QP |
| 6 | 935.0100 | 29.69 | -3.58 | 26.11 | 47.00 | -20.89 | QP |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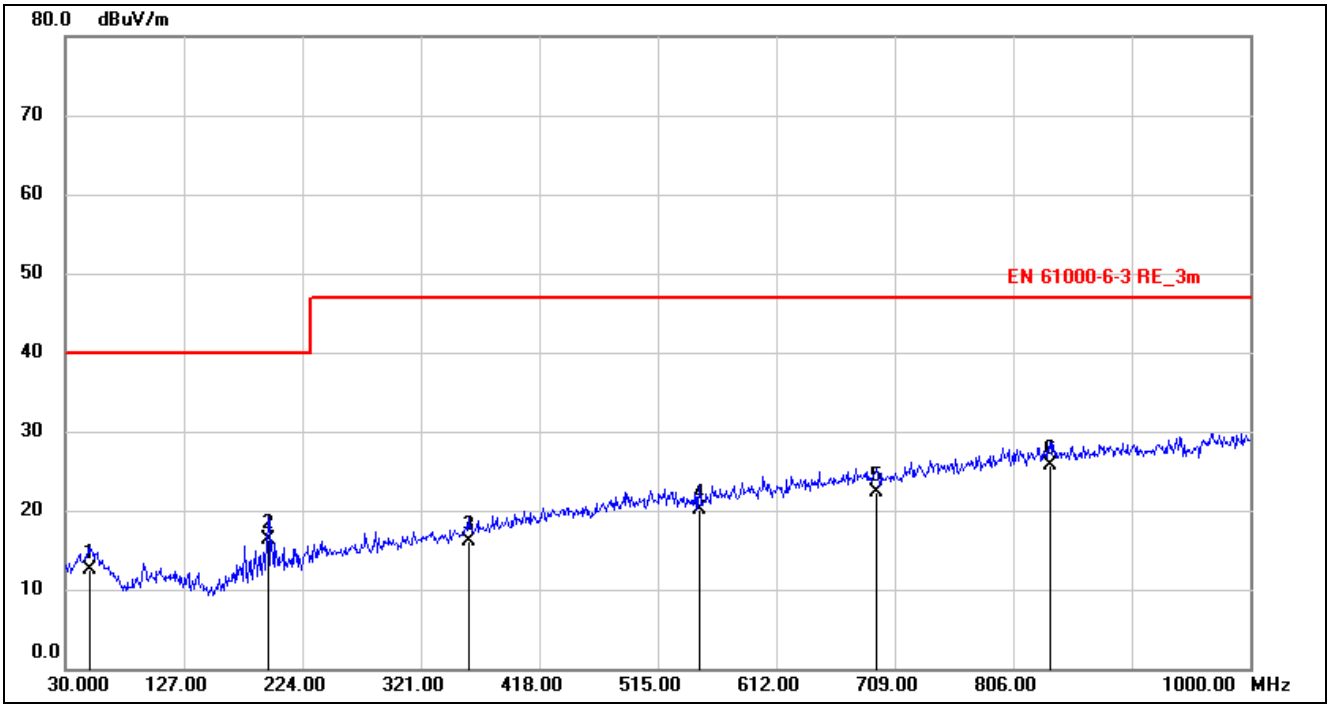
| | | | |
|---|---|---|---|
| **EUT:** | **MOTI TUBE 3000** | **Polarization:** | **Vertical** |
| **Model:** | **MOTI TUBE 3000** | **Power Source:** | **DC 3.7 V** |
| **Mode:** | **Normal Operation** | **Date:** | **2022/6/1** |
| **Temp./Hum.(%RH):** | **25/57%RH** | **Time:** | **19:40:49** |
| **Standard:** | **EN 61000-6-3 RE_3m** | **Test By:** | **Duke CHEN** |
| **Test item:** | **Radiation Test** | **Distance:** | **3m** |
| **Note:** | | | |




| No. | Frequency (MHz) | Reading (dBuV/m) | Correct dB/m | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 50.3700 | 28.89 | -16.44 | 12.45 | 40.00 | -27.55 | QP |
| 2 | 195.8700 | 34.71 | -18.35 | 16.36 | 40.00 | -23.64 | QP |
| 3 | 359.8000 | 29.33 | -13.26 | 16.07 | 47.00 | -30.93 | QP |
| 4 | 548.9500 | 30.23 | -10.04 | 20.19 | 47.00 | -26.81 | QP |
| 5 | 694.4500 | 29.15 | -6.86 | 22.29 | 47.00 | -24.71 | QP |
| 6 | 836.0700 | 30.16 | -4.40 | 25.76 | 47.00 | -21.24 | QP |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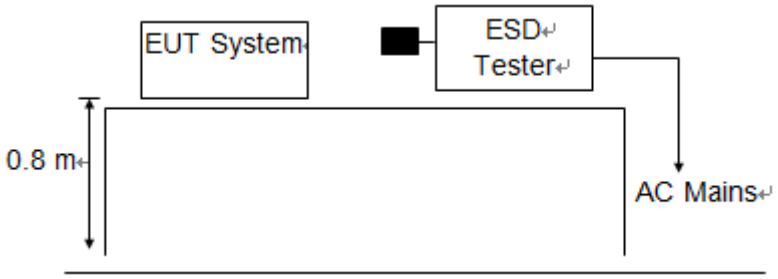
# 5. Test Conditions and Results (Immunity)

## 5.1. Electrostatic discharge immunity (ESD)

| | | | |
|---|---|---|---|
| **Test Requirement:** | EN IEC 55014-2:2021; EN IEC 61000-6-1:2019 | | |
| **Basic Standard:** | EN 61000-4-2:2009 | | |
| **Test Levels:** | **Discharge type** | **Discharge Level (kV)** | **Number of discharges per location (each polarity)** |
| | Air – Direct | ±2, 4, 8 | 10 |
| | Contact – Direct | ±2, 4 | 10 |
| | Contact – Indirect | ±2, 4 | 10 |
| **Performance Criteria:** | B | | |
| **Test Method:** | The test is intended to demonstrate the immunity of equipment subjected to static electricity discharges from operators directly and to adjacent objects.The table-top equipment under test is placed on a wooden table, 0.8 m high, standing on the ground reference plane. A horizontal coupling plane (HCP), 1.6 x 0.8 m, is placed on the table. The EUT and the cables are isolated from the coupling plane by an insulating support 0.5 mm thick. The floor standing equipment is isolated from the ground reference plane by an insulating support about 0.1 m thick. The vertical coupling plane (VCP) of dimensions 0.5 m x 0.5 m is placed parallel to, and positioned at a distance of 0.1 m from, the EUT. | | |
| **Test Setup:** |  | | |
| **Test Information** | | | |
| **Ambient Temperature:** | 24.3 °C | | |
| **Relative Humidity:** | 46 % | | |
| **Air pressure:** | 100.6 kPa | | |
| **Test model(s):** | MOTI TUBE 3000 | | |
| **Test by:** | Duke CHEN | | |
| **Test date:** | Jun. 01, 2022 | | |
| **Test Location:** | No. 11, Wu Song Road, Dongcheng District, Dongguan, Guangdong Province, China 523117 | | |
| **Test mode:** | ☒Mode 1 ☐Mode 2 ☐Mode 3 | | |
| **Test results:** | ☒Pass ☐Fail ☐N/A | | |
| **Remark:** | / | | |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### 5.1.1. Results for Electrostatic Discharges –Contact Discharges

| Results for Electrostatic Discharges – Contact Discharges | | | | | |
|---|---|---|---|---|---|
| Test Point | Positive Polarity | | Negative Polarity | | Results |
| | 2 kV | 4 kV | 2 kV | 4 kV | |
| VCP- Four Sides | Pass | Pass | Pass | Pass | 2 |
| HCP- Four Sides | Pass | Pass | Pass | Pass | 2 |

### 5.1.2. Results for Electrostatic Discharges – Air Discharges

| Results for Electrostatic Discharges –Air Discharges | | | | | | | |
|---|---|---|---|---|---|---|---|
| Test Point | Positive Polarity | | | Negative Polarity | | | Results |
| | 2 kV | 4 kV | 8 kV | 2 kV | 4 kV | 8 kV | |
| Plastic Enclosure | Pass | Pass | Pass | Pass | Pass | Pass | 1 |

### 5.1.3. Results Description

| |
|---|
| X - Not performed or not required. |
| 1 – Compliant - No perceived discharge, no observed response from EUT. |
| 2 – Compliant - Discharge observed; no observed response from EUT. |


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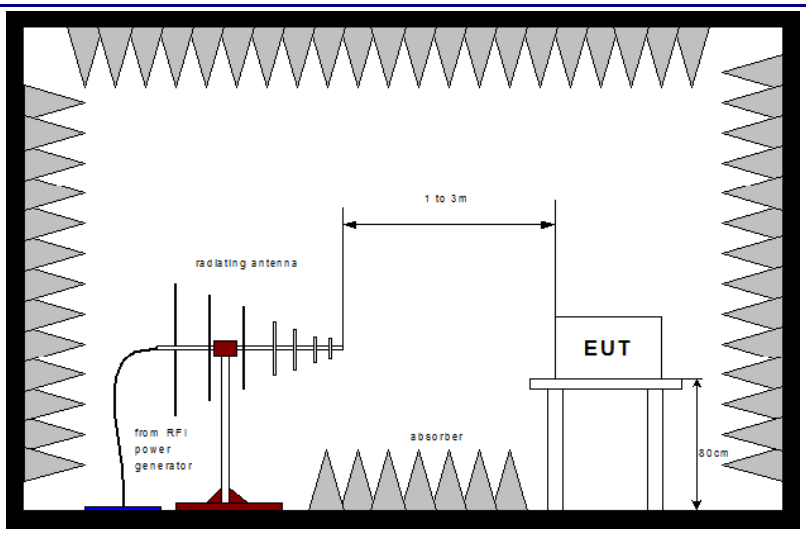
## 5.2. Radiated, radio-frequency, electromagnetic field immunity (RS)

| | | | |
|---|---|---|---|
| **Test Requirement:** | EN IEC 55014-2:2021; EN IEC 61000-6-1:2019 | | |
| **Basic Standard:** | EN 61000-4-3:2006+A1:2008+A2:2010 | | |
| **Test Levels:** | **Frequency (MHz)** | **(V/m)** | **Modulation** |
| | 80 - 6000 | 3 | 80% AM (1 kHz) |
| **Performance Criteria:** | A | | |
| **Test Method:** | Measurements were made in a fully anechoic chamber and the indicated field strength was pre-calibrated prior to placement of the system under test. Tests were performed in both the horizontal and vertical polarities, where applicable. The antenna was placed 3 meters from the product under test. All sides of the EUT were investigated for anomalies. | | |
| **Test Setup:** |  | | |
| **Test Information** | | | |
| **Ambient Temperature:** | 24.3 °C | | |
| **Relative Humidity:** | 46 % | | |
| **Air pressure:** | 100.6 kPa | | |
| **Test model(s):** | MOTI TUBE 3000 | | |
| **Test by:** | Duke CHEN | | |
| **Test date:** | Jun. 01, 2022 | | |
| **Test Location:** | No. 11, Wu Song Road, Dongcheng District, Dongguan, Guangdong Province, China 523117 | | |
| **Test mode:** | ☒Mode 1 ☐Mode 2 ☐Mode 3 | | |
| **Test results:** | ☒Pass ☐Fail ☐N/A | | |
| **Remark:** | / | | |

### 5.2.1. Results for Radio-frequency electromagnetic field

| Frequency (MHz) | EUT Side | Antenna Polarity | Field Strength | Results |
|---|---|---|---|---|
| 80 - 1000 | Front | Horizontal & Vertical | 3 V/m | 1 |
| 80 - 1000 | Left Side | Horizontal & Vertical | 3 V/m | 1 |
| 80 - 1000 | Right Side | Horizontal & Vertical | 3 V/m | 1 |
| 80 - 1000 | Rear | Horizontal & Vertical | 3 V/m | 1 |
| 1400 - 6000 | Front | Horizontal & Vertical | 3 V/m | 1 |
| 1400 - 6000 | Left Side | Horizontal & Vertical | 3 V/m | 1 |
| 1400 - 6000 | Right Side | Horizontal & Vertical | 3 V/m | 1 |
| 1400 - 6000 | Rear | Horizontal & Vertical | 3 V/m | 1 |

### 5.2.2. Results Description

| |
|---|
| X - Not performed or not required. |
| 1 – Compliant - No observed response from EUT. |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# 6. Photo of test setup

**Photo of test setup for radiated disturbances**


**Photo of test setup for Electrostatic discharge immunity (ESD)**



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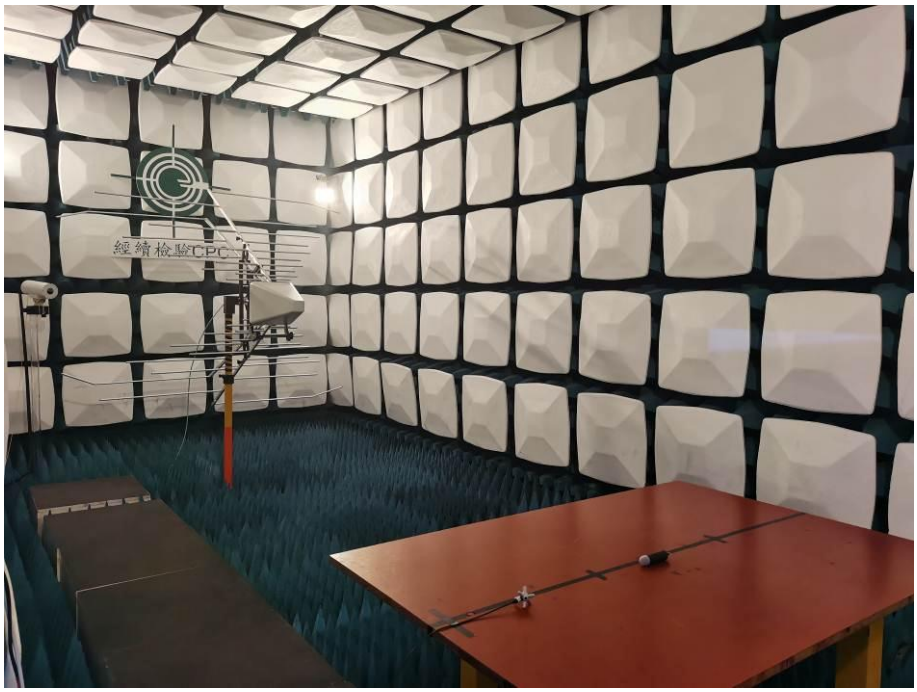
**Photo of test setup for Radiated, radio-frequency, electromagnetic field immunity (RS)**





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# 7. Photo of the EUT



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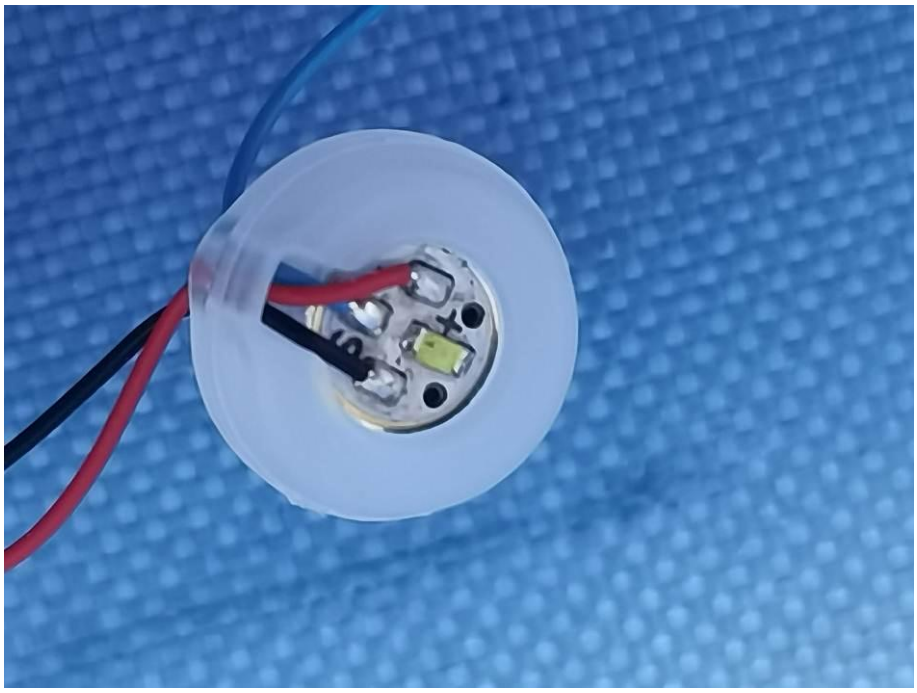

*******End of report*******


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