

# TEST REPORT

**Applicant:** Shenzhen Sulang Technology Co.,Ltd

**Address of Applicant:** Area C, 18th Floor, Building 12, Lehui Science and Technology Innovation Center, No. 489 Jihua Road, Bantian Community, Longgang District, Shenzhen City, China

**Manufacturer/Factory:** Shenzhen Sulang Technology Co.,Ltd

**Address of Manufacturer/Factory:** Area C, 18th Floor, Building 12, Lehui Science and Technology Innovation Center, No. 489 Jihua Road, Bantian Community, Longgang District, Shenzhen City, China

**Equipment Under Test (EUT)**

**Product Name:** Digital microscope

**Model No.:** inskam330, inskam330H, inskam332, inskam332H, inskam336, inskam336H, inskam338, inskam338H

**Trade Mark:** inskam

**Applicable standards:** EN IEC 55014-1:2021  
EN IEC 55014-2:2021

**Date of sample receipt:** July 18, 2024

**Date of Test:** July 18- 24, 2024

**Date of report issued:** April 21, 2025

**Test Result :** Pass \*

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

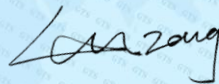
**Robinson Luo**  
**Laboratory Manager**

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

## 2 Version

| Report No.       | Version No. | Date           | Description                  |
|------------------|-------------|----------------|------------------------------|
| GTS2024070265E01 | 00          | July 24, 2024  | Original                     |
| GTS2025040412E01 | 01          | April 21, 2025 | Change photo of the adapter. |
|                  |             |                |                              |
|                  |             |                |                              |

Prepared by:

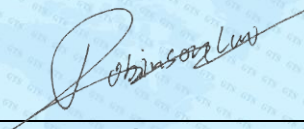


Date:

April 21, 2025

Project Engineer

Reviewed by:



Date:

April 21, 2025

Reviewer

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## 4 Test Summary

| Test item                       | Test Requirement | Test Method      | Limits / Severity                                                                            | Result |
|---------------------------------|------------------|------------------|----------------------------------------------------------------------------------------------|--------|
| Radiated Emission<br>(up to 1G) | EN IEC 55014-1   | CISPR16-2-3      | Table 9                                                                                      | Pass   |
| Radiated Emission<br>(Above 1G) | EN IEC 55014-1   | CISPR16-2-3      | Table 11                                                                                     | Pass   |
| Conducted Emission              | EN IEC 55014-1   | CISPR 16-2-1     | Table 5                                                                                      | N/A    |
| Disturbance Power               | EN IEC 55014-1   | CISPR 16-2-2     | Table 7                                                                                      | N/A    |
| Harmonic Emission               | EN IEC 61000-3-2 | EN IEC 61000-3-2 | Class A                                                                                      | N/A    |
| Flicker Emission                | EN 61000-3-3     | EN 61000-3-3     | Clause 5                                                                                     | N/A    |
| ESD                             | EN IEC 55014-2   | EN 61000-4-2     | Contact $\pm 4$ kV<br>Air $\pm 8$ kV                                                         | Pass   |
| Radiated Immunity               | EN IEC 55014-2   | EN 61000-4-3     | 3V/m<br>80%, 1kHz, AM                                                                        | Pass   |
| Electrical Fast Transients      | EN IEC 55014-2   | EN 61000-4-4     | AC $\pm 1.0$ kV                                                                              | N/A    |
| Surge Immunity                  | EN IEC 55014-2   | EN 61000-4-5     | $\pm 1$ kV D.M<br>$\pm 2$ kV C.M                                                             | N/A    |
| Injected Currents               | EN IEC 55014-2   | EN 61000-4-6     | 3Vrms (emf), 80%,<br>1kHz Amp. Mod.                                                          | N/A    |
| Voltage Dips and Interruptions  | EN IEC 55014-2   | EN 61000-4-11    | 0 % $U_T^*$ for 0.5<br>cycle<br>40 % $U_T^*$ for 10<br>cycle<br>70 % $U_T^*$ for 25<br>cycle | N/A    |

### Remark:

1. Pass: Comply with the essential requirements in the standard.
2. N/A: Not applicable.
3.  $U_T$ : the nominal supply voltage; D.M: Differential Mode; C.M: Common Mode.

## 5 General Information

### 5.1 General Description of EUT

|                 |                                                                                                                                                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name:   | Digital microscope                                                                                                                                      |
| Model No.:      | inskam330, inskam330H, inskam332, inskam332H, inskam336, inskam336H, inskam338, inskam338H                                                              |
| Test Model No.: | inskam330                                                                                                                                               |
| Remark:         | All above models are identical in the same PCB layout, interior structure and electrical circuits. The difference is model name for commercial purpose. |
| Power Supply:   | USB input: DC 5V<br>Li-battery: DC 3.7V, 2000mAh                                                                                                        |

Remark: The relevant information of the sample is provided by the entrusting company, and the laboratory is not responsible for its authenticity.

### 5.2 Test mode and Test voltage

|                                       |                                               |
|---------------------------------------|-----------------------------------------------|
| <b>Test mode:</b>                     |                                               |
| PC mode                               | Keep the EUT in the operation status with PC. |
| Charge mode                           | Keep the EUT charging.                        |
| Photograph mode                       | Keep the EUT in the photograph status.        |
| <b>Test voltage:</b>                  |                                               |
| USB input: DC 5V& Li-battery: DC 3.7V |                                               |

### 5.3 Description of Support Units

| Manufacturer | Description | Model      | Serial Number |
|--------------|-------------|------------|---------------|
| GTS          | Accumulator | DC 5V      | N/A           |
| Lenovo       | LCD monitor | A16270UP0  | N/A           |
| TP LINK      | Router      | TL-WDR7500 | N/A           |
| YISHE        | MOUSE       | YS-MA75USB | N/A           |
| YISHE        | KEYBOARD    | YS-MA75    | N/A           |

### 5.4 Monitoring of EUT for All Immunity Test

|         |                                                   |
|---------|---------------------------------------------------|
| Visual: | Monitor the screen display and lights of the EUT. |
| Audio:  | N/A                                               |

### 5.5 Deviation from Standards

|       |
|-------|
| None. |
|-------|

### 5.6 Abnormalities from Standard Conditions

|       |
|-------|
| None. |
|-------|

## 5.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC —Registration No.: 381383**

Designation Number: CN5029

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files.

- **ISED —Registration No.: 9079A**

CAB identifier: CN0091

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of ISED for radio equipment testing..

- **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

## 5.8 Test Location

All test items were performed at:

Global United Technology Services Co., Ltd.

Address: No. 123- 128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480; Fax: 0755-27798960

## 6 Test Instruments List

| Radiated Emission: |                                     |                                |                       |               |                     |                         |
|--------------------|-------------------------------------|--------------------------------|-----------------------|---------------|---------------------|-------------------------|
| Item               | Test Equipment                      | Manufacturer                   | Model No.             | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                  | 3m Semi- Anechoic Chamber           | ZhongYu Electron               | 9.2(L)*6.2(W)* 6.4(H) | GTS250        | June 22, 2024       | June 21, 2027           |
| 2                  | Control Room                        | ZhongYu Electron               | 6.2(L)*2.5(W)* 2.4(H) | GTS251        | N/A                 | N/A                     |
| 3                  | EMI Test Receiver                   | Rohde & Schwarz                | ESU26                 | GTS203        | April 11, 2024      | April 10, 2025          |
| 4                  | BiConiLog Antenna                   | SCHWARZBECK<br>MESS-ELEKTRONIK | VULB9168              | GTS640        | March 19, 2023      | March 18, 2025          |
| 5                  | Double -ridged waveguide horn       | SCHWARZBECK<br>MESS-ELEKTRONIK | BBHA 9120 D           | GTS208        | April 17, 2023      | April 16, 2025          |
| 6                  | EMI Test Software                   | AUDIX                          | E3                    | N/A           | N/A                 | N/A                     |
| 7                  | Wideband Radio Communication Tester | Rohde & Schwarz                | CMW500                | GTS575        | April 11, 2024      | April 10, 2025          |
| 8                  | Loop Antenna                        | ZHINAN                         | ZN30900A              | GTS534        | Nov. 13, 2023       | Nov.12, 2024            |
| 9                  | Broadband Preamplifier              | SCHWARZBECK                    | BBV9718               | GTS535        | April 11, 2024      | April 10, 2025          |
| 10                 | Amplifier(1GHz-26.5GHz)             | HP                             | 8449B                 | GTS601        | April 11, 2024      | April 10, 2025          |
| 11                 | Horn Antenna (18-26.5GHz)           | /                              | UG-598A/U             | GTS664        | Oct. 29, 2023       | Oct. 28, 2024           |
| 12                 | Horn Antenna (26.5-40GHz)           | A.H Systems                    | SAS-573               | GTS665        | Oct. 29, 2023       | Oct. 28, 2024           |
| 13                 | FSV-Signal Analyzer (10Hz-40GHz)    | Keysight                       | FSV-40-N              | GTS666        | March 12, 2024      | March 11, 2025          |
| 14                 | Amplifier                           | /                              | LNA-1000-30S          | GTS650        | April 11, 2024      | April 10, 2025          |
| 15                 | CDNE M2+M3-16A                      | HCT                            | 30MHz-300MHz          | GTS692        | Nov. 08, 2023       | Nov.07, 2024            |
| 16                 | Wideband Amplifier                  | /                              | WDA-01004000-15P35    | GTS602        | April 11, 2024      | April 10, 2025          |
| 17                 | Thermo meter                        | JINCHUANG                      | GSP-8A                | GTS643        | April 17, 2024      | April 16, 2025          |
| 18                 | RE cable 1                          | GTS                            | N/A                   | GTS675        | July 31. 2023       | July 30. 2024           |
| 19                 | RE cable 2                          | GTS                            | N/A                   | GTS676        | July 31. 2023       | July 30. 2024           |
| 20                 | RE cable 3                          | GTS                            | N/A                   | GTS677        | July 31. 2023       | July 30. 2024           |
| 21                 | RE cable 4                          | GTS                            | N/A                   | GTS678        | July 31. 2023       | July 30. 2024           |
| 22                 | RE cable 5                          | GTS                            | N/A                   | GTS679        | July 31. 2023       | July 30. 2024           |
| 23                 | RE cable 6                          | GTS                            | N/A                   | GTS680        | July 31. 2023       | July 30. 2024           |
| 24                 | RE cable 7                          | GTS                            | N/A                   | GTS681        | July 31. 2023       | July 30. 2024           |
| 25                 | RE cable 8                          | GTS                            | N/A                   | GTS682        | July 31. 2023       | July 30. 2024           |

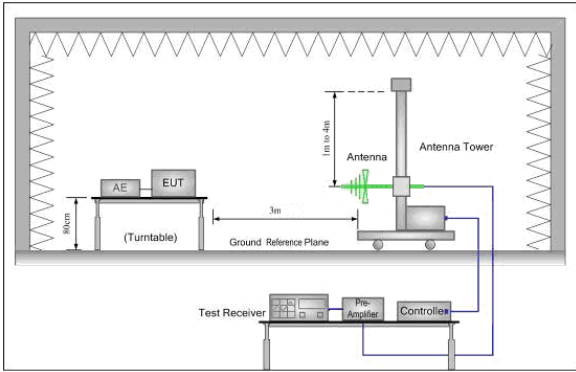
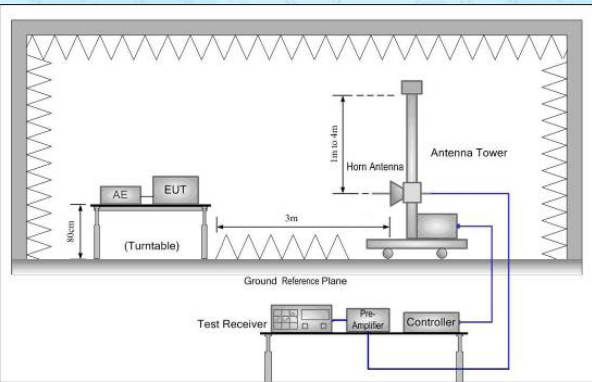
| ESD  |                |              |           |               |                     |                         |
|------|----------------|--------------|-----------|---------------|---------------------|-------------------------|
| Item | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1    | ESD Simulator  | LINCEL       | ESD-203B  | GTS645        | April 16, 2024      | April 15, 2025          |
| 2    | Thermo meter   | KTJ          | TA328     | GTS243        | April 17, 2024      | April 16, 2025          |

| Radiated Immunity |                                     |              |                   |               |                     |                         |
|-------------------|-------------------------------------|--------------|-------------------|---------------|---------------------|-------------------------|
| Item              | Test Equipment                      | Manufacturer | Model No.         | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                 | Probe                               | STT          | SEM-600           | GTS648        | April 16, 2024      | April 15, 2025          |
| 2                 | Stacked Log.-Per.-Broadband Antenna | SCHWARZBECK  | STLP 9129         | GTS658        | Aug.04, 2023        | Aug.03, 2024            |
| 3                 | MXG vector Signal Generator         | Agilent      | N5181A            | GTS659        | Nov. 08, 2023       | Nov.07, 2024            |
| 4                 | Power amplifier                     | Micotop      | MPA-20-1000-250   | GTS660        | Aug.04, 2023        | Aug.03, 2024            |
| 5                 | Power amplifier                     | Micotop      | MPA-1000-6000-100 | GTS661        | Aug.04, 2023        | Aug.03, 2024            |
| 6                 | EPM SSERIES POWER METER             | Agilent      | E4419B            | GTS662        | Nov. 08, 2023       | Nov.07, 2024            |
| 7                 | E-SERIES AVG POWER SENSOR           | HP           | E9301A            | GTS670        | Nov. 08, 2023       | Nov.07, 2024            |
| 8                 | Thermo meter                        | JINCHUANG    | GSP-8A            | GTS643        | April 17, 2024      | April 16, 2025          |

| General used equipment: |                |              |           |               |                     |                         |
|-------------------------|----------------|--------------|-----------|---------------|---------------------|-------------------------|
| Item                    | Test Equipment | Manufacturer | Model No. | Inventory No. | Cal.Date (mm-dd-yy) | Cal.Due date (mm-dd-yy) |
| 1                       | Barometer      | KUMAO        | SF132     | GTS647        | April 18, 2024      | April 17, 2025          |

## 7 Emission Test Results

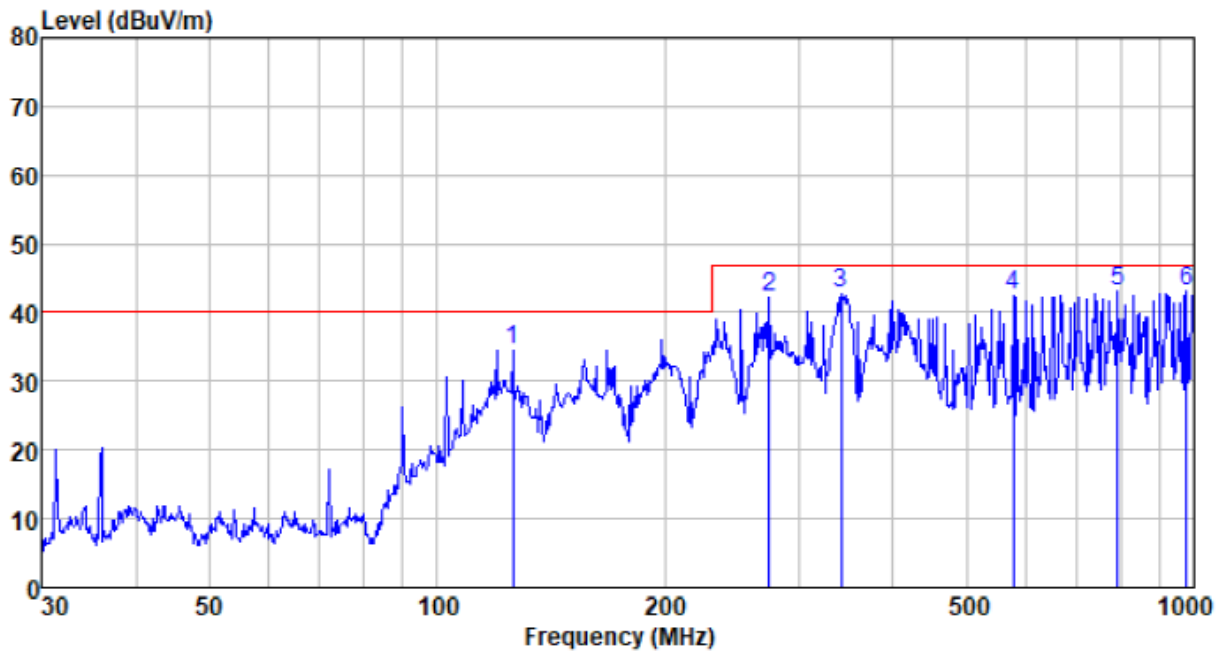
### 7.1 Radiated Emission

|                       |                                                                                       |            |                    |        |                   |
|-----------------------|---------------------------------------------------------------------------------------|------------|--------------------|--------|-------------------|
| Test Requirement:     | EN IEC 55014-1                                                                        |            |                    |        |                   |
| Test Method:          | CISPR16-2-3                                                                           |            |                    |        |                   |
| Test Frequency Range: | 30MHz to 6GHz                                                                         |            |                    |        |                   |
| Test site:            | Measurement Distance: 3m                                                              |            |                    |        |                   |
| Receiver setup:       | Frequency                                                                             | Detector   | RBW                | VBW    | Value             |
|                       | 30MHz-1GHz                                                                            | Quasi-peak | 120KHz             | 300KHz | Quasi-peak        |
|                       | Above 1GHz                                                                            | Peak       | 1MHz               | 3MHz   | Peak              |
|                       |                                                                                       | AV         | 1MHz               | 3MHz   | Average           |
| Limit:                | Frequency                                                                             |            | Limit (dBμV/m @3m) |        | Value             |
|                       | 30MHz-230MHz                                                                          |            | 40.00              |        | Quasi-peak        |
|                       | 230MHz-1GHz                                                                           |            | 47.00              |        | Quasi-peak        |
|                       | 1GHz-3GHz                                                                             |            | 70.00              |        | Peak              |
|                       | 1GHz-3GHz                                                                             |            | 50.00              |        | Average           |
|                       | 3GHz-6GHz                                                                             |            | 74.00              |        | Peak              |
|                       | 3GHz-6GHz                                                                             |            | 54.00              |        | Average           |
| Test setup:           | Below 1GHz:                                                                           |            |                    |        |                   |
|                       |   |            |                    |        |                   |
| Test setup:           | Above 1GHz:                                                                           |            |                    |        |                   |
|                       |   |            |                    |        |                   |
| Test environment:     | Temp.:                                                                                | 25 °C      | Humid.:            | 52%    | Press.: 1 012mbar |
| Measurement Record:   | Uncertainty: 3.8039dB (30MHz-200MHz)<br>3.9679dB (200MHz-1GHz)<br>4.29dB (1GHz-18GHz) |            |                    |        |                   |
| Test Instruments:     | Refer to section 6 for details                                                        |            |                    |        |                   |

|               |                                                             |
|---------------|-------------------------------------------------------------|
| Test mode:    | Refer to section 5.2 for details, only show the worst case. |
| Test results: | Pass                                                        |

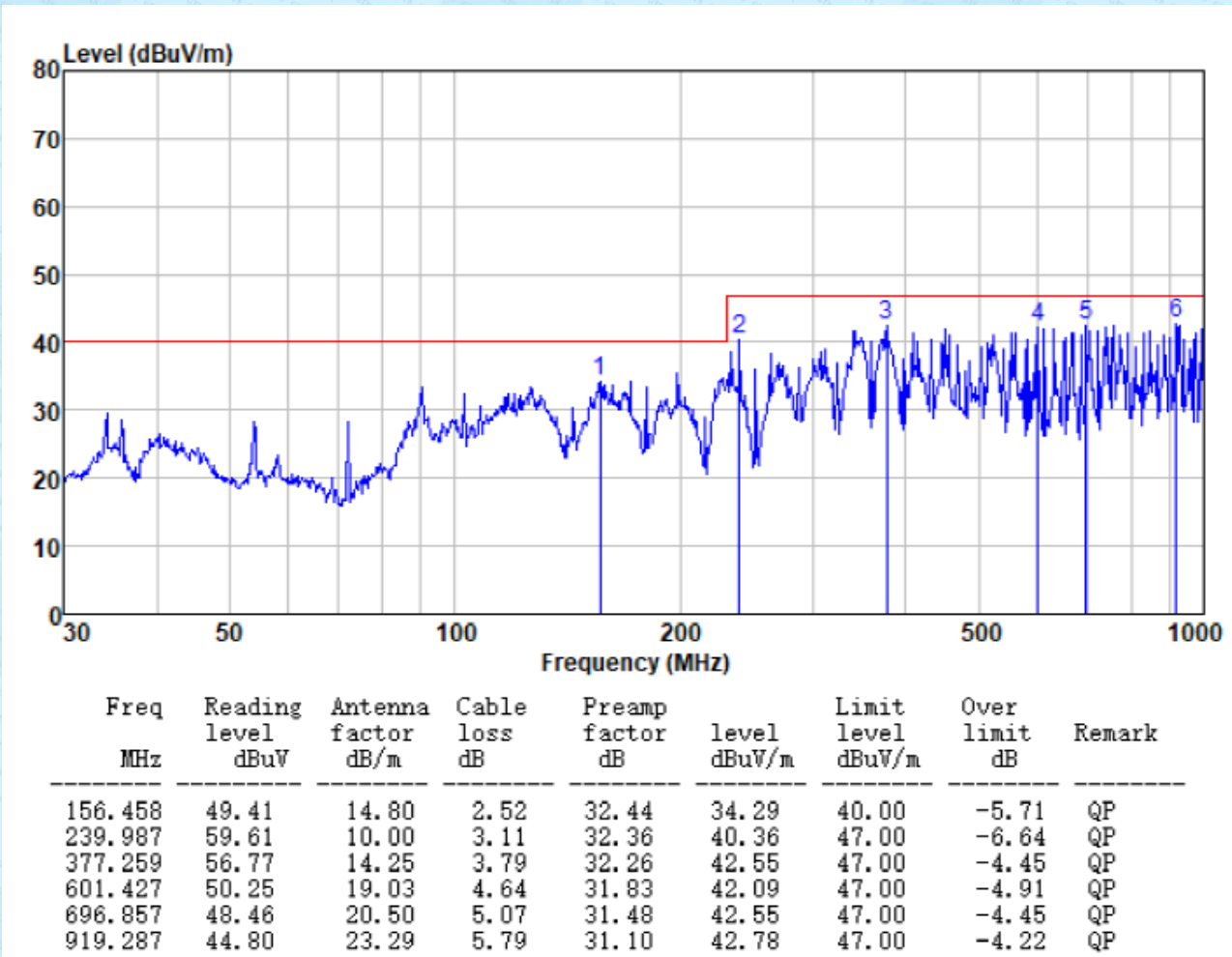
## Measurement Data Below 1GHz

|            |             |                   |            |
|------------|-------------|-------------------|------------|
| Test mode: | Charge mode | Antenna Polarity: | Horizontal |
|------------|-------------|-------------------|------------|



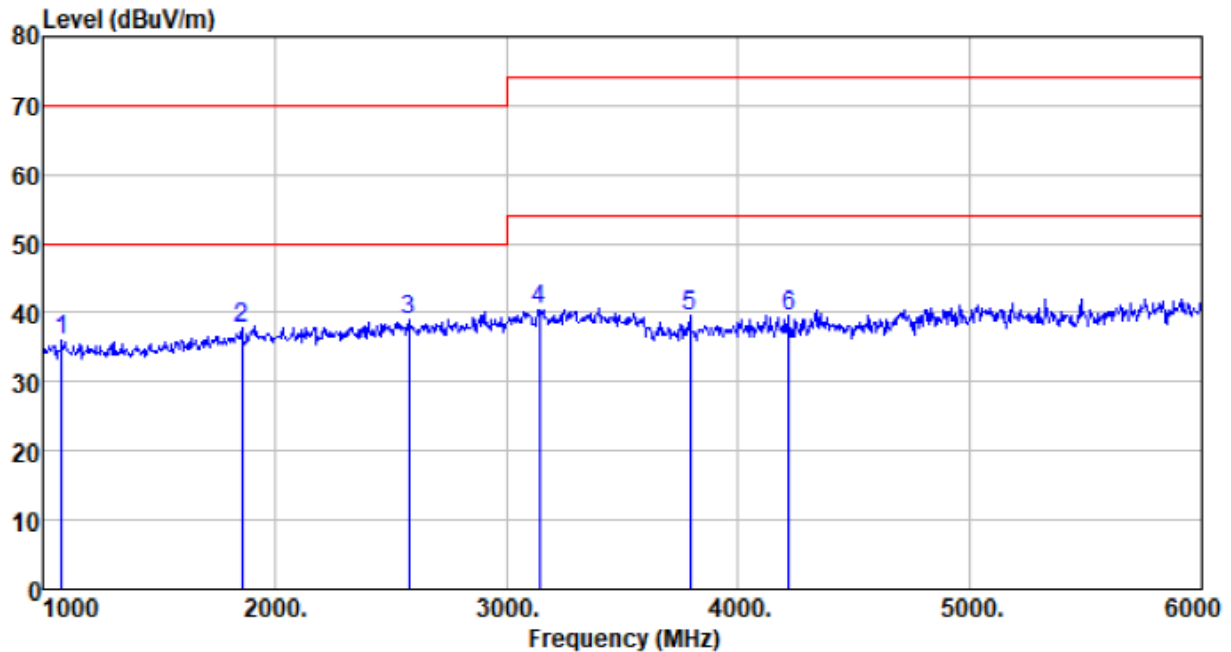
| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|--------|
| 125.886     | 52.07                    | 12.59                     | 2.24                | 32.47                  | 34.43           | 40.00                    | -5.57               | QP     |
| 274.194     | 59.72                    | 11.57                     | 3.29                | 32.33                  | 42.25           | 47.00                    | -4.75               | QP     |
| 341.979     | 58.30                    | 13.26                     | 3.63                | 32.28                  | 42.91           | 47.00                    | -4.09               | QP     |
| 576.644     | 51.59                    | 18.33                     | 4.53                | 31.92                  | 42.53           | 47.00                    | -4.47               | QP     |
| 793.396     | 47.01                    | 21.87                     | 5.45                | 31.12                  | 43.21           | 47.00                    | -3.79               | QP     |
| 975.753     | 44.47                    | 23.82                     | 5.95                | 31.10                  | 43.14           | 47.00                    | -3.86               | QP     |

|            |             |                   |          |
|------------|-------------|-------------------|----------|
| Test mode: | Charge mode | Antenna Polarity: | Vertical |
|------------|-------------|-------------------|----------|



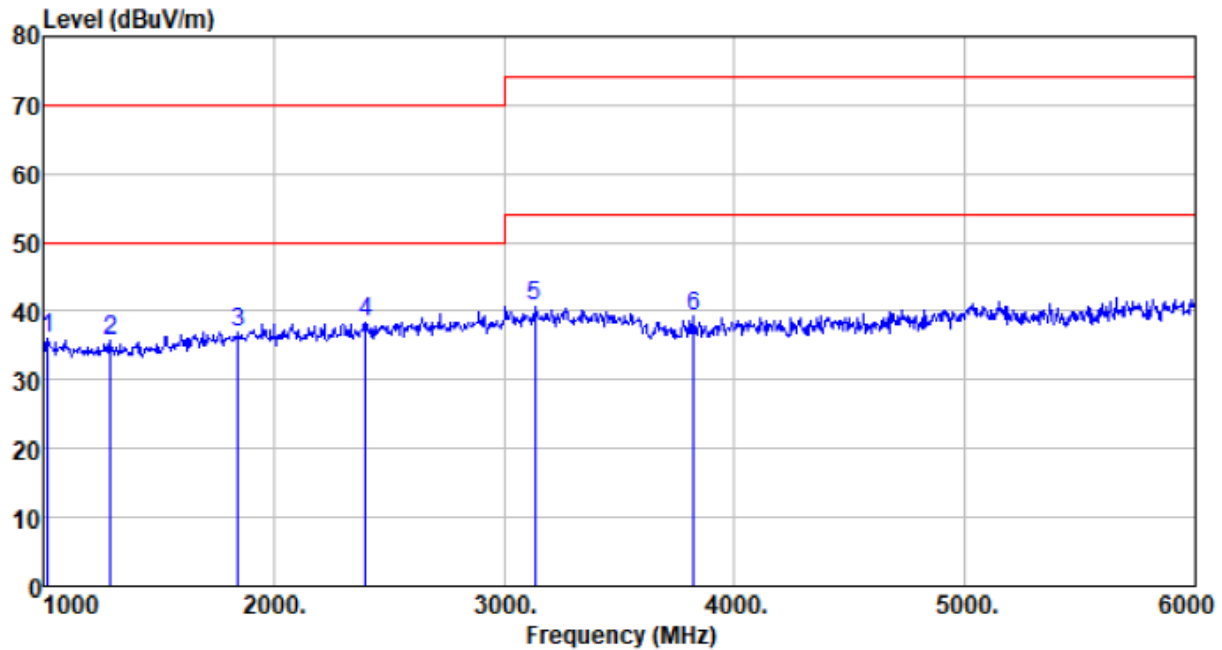
## Above 1GHz

|            |             |                   |            |
|------------|-------------|-------------------|------------|
| Test mode: | Charge mode | Antenna Polarity: | Horizontal |
|------------|-------------|-------------------|------------|



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|--------|
| 1080.000    | 49.19                    | 24.48                     | 2.05                | 39.72                  | 36.00           | 70.00                    | -34.00              | Peak   |
| 1860.000    | 47.58                    | 26.10                     | 2.50                | 38.51                  | 37.67           | 70.00                    | -32.33              | Peak   |
| 2580.000    | 46.91                    | 27.59                     | 3.09                | 38.60                  | 38.99           | 70.00                    | -31.01              | Peak   |
| 3140.000    | 46.99                    | 28.60                     | 3.56                | 38.57                  | 40.58           | 74.00                    | -33.42              | Peak   |
| 3790.000    | 44.99                    | 29.01                     | 3.91                | 38.33                  | 39.58           | 74.00                    | -34.42              | Peak   |
| 4220.000    | 44.07                    | 29.70                     | 4.04                | 38.24                  | 39.57           | 74.00                    | -34.43              | Peak   |

|            |             |                   |          |
|------------|-------------|-------------------|----------|
| Test mode: | Charge mode | Antenna Polarity: | Vertical |
|------------|-------------|-------------------|----------|



| Freq<br>MHz | Reading<br>level<br>dBuV | Antenna<br>factor<br>dB/m | Cable<br>loss<br>dB | Preamp<br>factor<br>dB | level<br>dBuV/m | Limit<br>level<br>dBuV/m | Over<br>limit<br>dB | Remark |
|-------------|--------------------------|---------------------------|---------------------|------------------------|-----------------|--------------------------|---------------------|--------|
| 1020.000    | 49.33                    | 24.57                     | 1.99                | 39.86                  | 36.03           | 70.00                    | -33.97              | Peak   |
| 1290.000    | 48.51                    | 24.34                     | 2.19                | 39.26                  | 35.78           | 70.00                    | -34.22              | Peak   |
| 1845.000    | 46.88                    | 26.02                     | 2.49                | 38.52                  | 36.87           | 70.00                    | -33.13              | Peak   |
| 2400.000    | 46.82                    | 27.28                     | 2.91                | 38.56                  | 38.45           | 70.00                    | -31.55              | Peak   |
| 3135.000    | 47.09                    | 28.60                     | 3.56                | 38.57                  | 40.68           | 74.00                    | -33.32              | Peak   |
| 3825.000    | 44.55                    | 29.06                     | 3.92                | 38.31                  | 39.22           | 74.00                    | -34.78              | Peak   |

## Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

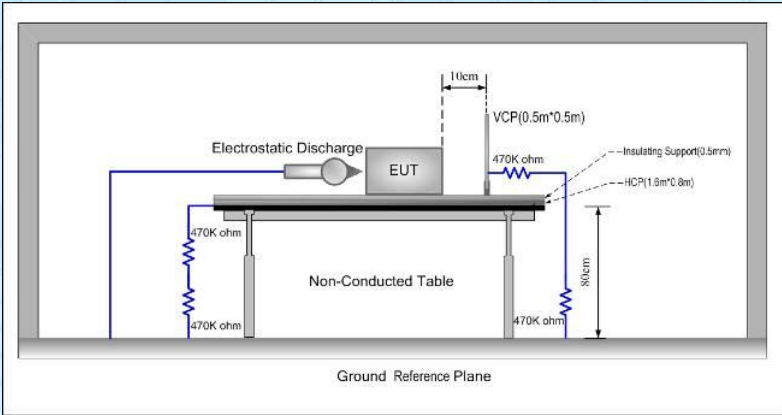
1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. If the average limit is met when using a Peak detector, the EUT shall be deemed to meet both peak and average limits. And measurement with the average detector is unnecessary.

## 8 Immunity Test Results

### 8.1 Performance Criteria Description in Clause 6 of EN IEC 55014-2

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Criterion A: | The apparatus shall continue to operate as intended during the test.No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended.                                                                                                                                                         |
| Criterion B: | The apparatus shall continue to operate as intended after the test.No degradation of performance or loss of function is allowed below a performance level (or permissible loss of performance) specified by the manufacturer, when the apparatus is used as intended. During the test, degradation of performance is allowed, however no change of actual operating state or stored data is allowed to persist after the test. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and from what the user may reasonably expect from the apparatus if used as intended. |
| Criterion C: | Temporary loss of function is allowed, provided the function is selfrecoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## 8.2 Electrostatic Discharge

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement:      | EN IEC 55014-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Test Method:           | EN 61000-4-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Discharge Voltage:     | Contact Discharge: $\pm 4\text{kV}$<br>Air Discharge: $\pm 8\text{kV}$<br>HCP/VCP: $\pm 4\text{kV}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Polarity:              | Positive & Negative                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Number of Discharge:   | Minimum 10 times at each test point.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Discharge Mode:        | Single Discharge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Discharge Period:      | 1 second minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Performance Criterion: | B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Test setup:            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Test Procedure:        | <ol style="list-style-type: none"> <li><b>Air discharge:</b><br/>The test was applied on non-conductive surfaces of EUT. The round discharge tip of the discharge electrode was approached as fast as possible to touch the EUT. After each discharge, the discharge electrode was removed from the EUT. The generator was re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure was repeated until all the air discharge completed</li> <li><b>Contact Discharge:</b><br/>The test was applied on conductive surfaces of EUT. the generator was re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. the tip of the discharge electrode was touch the EUT before the discharge switch was operated.</li> <li><b>Indirect discharge for horizontal coupling plane</b><br/>At least 10 single discharges shall be applied at the front edge of each HCP opposite the centre point of each unit of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge. Consideration should be given to exposing all sides of the EUT.</li> <li><b>Indirect discharge for vertical coupling plane</b><br/>At least 10 single discharges were applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, was placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges were applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely</li> </ol> |

|                   |                                           |
|-------------------|-------------------------------------------|
|                   | illuminated.                              |
| Test environment: | Temp.: 24 °C Humid.: 51% Press.: 1012mbar |
| Test Instruments: | Refer to section 6 for details            |
| Test mode:        | Refer to section 5.2 for details          |
| Test results:     | Pass                                      |

## Measurement Record:

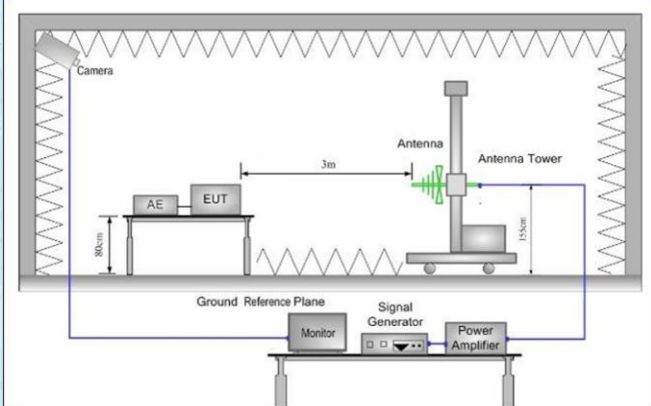
|                        |                                       |                   |                                      |        |
|------------------------|---------------------------------------|-------------------|--------------------------------------|--------|
| Test points:           | I: Metal cover                        |                   |                                      |        |
|                        | II: All plastic seams                 |                   |                                      |        |
| Direct discharge       |                                       |                   |                                      |        |
| Discharge Voltage (KV) | Type of discharge                     | Test points       | Observations (Performance Criterion) | Result |
| ± 4                    | Contact                               | I                 | A                                    | Pass   |
| ± 8                    | Air                                   | II                | A                                    | Pass   |
| Indirect discharge     |                                       |                   |                                      |        |
| Discharge Voltage (KV) | Type of discharge                     | Test points       | Observation Performance              | Result |
| ± 4                    | HCP-Bottom/Top/ Front/Back/Left/Right | Edge of the HCP   | A                                    | Pass   |
| ± 4                    | VCP-Front/Back /Left/Right            | Center of the VCP | A                                    | Pass   |

## Remark:

Performance Criteria: A, B, C: Refer to section 8.1 for details

N/A: Not applicable

## 8.3 Radio-frequency electromagnetic field Amplitude modulated

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Requirement:      | EN IEC 55014-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Test Method:           | EN 61000-4-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Frequency range:       | 80MHz to 1GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Test Level:            | 3V/m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Modulation:            | 80%, 1kHz Amplitude Modulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Performance Criterion: | Criterion A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Test setup:            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Test Procedure:        | <ol style="list-style-type: none"> <li>1. For table-top equipment, the EUT was placed in the chamber on a non-conductive table 0.8m high. For arrangement of floor-standing equipment, the EUT was mounted on a non-conductive support 0.1m above the supporting plane. For human body-mounted equipment, the EUT may be tested in the same manner as table top items.</li> <li>2. If possible, a minimum of 1 m of cable is exposed to the electromagnetic field. Excess length of cables interconnecting units of the EUT shall be bundled low-inductively in the approximate center of the cable to form a bundle 30 cm to 40 cm in length.</li> <li>3. The EUT was initially placed with one face coincident with the calibration plane. The EUT face being illuminated was contained within the UFA (Uniform Field Area).</li> <li>4. The frequency ranges to be considered were swept with the signal modulated and pausing to adjust the RF signal level or to switch oscillators and antennas as necessary. Where the frequency range was swept incrementally, the step size was not exceed 1 % of the preceding frequency value.</li> <li>5. The dwell time of the amplitude modulated carrier at each frequency was not be less than the time necessary for the EUT to be exercised and to respond, and was not less than 0,5 s.</li> <li>6. The test normally was performed with the generating antenna facing each side of the EUT.</li> <li>7. The polarization of the field generated by each antenna necessitates testing each selected side twice, once with the antenna positioned vertically and again with the antenna positioned horizontally.</li> </ol> |

|                   |                                                                                                                                                                       |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | 8. The EUT was performed in a configuration to actual installation conditions, a video camera and/or a audio monitor were used to monitor the performance of the EUT. |
| Test environment: | Temp.: 25 °C Humid.: 52% Press.: 1 012mbar                                                                                                                            |
| Test Instruments: | Refer to section 6 for details                                                                                                                                        |
| Test mode:        | Refer to section 5.2 for details                                                                                                                                      |
| Test results:     | Pass                                                                                                                                                                  |

## Measurement Record:

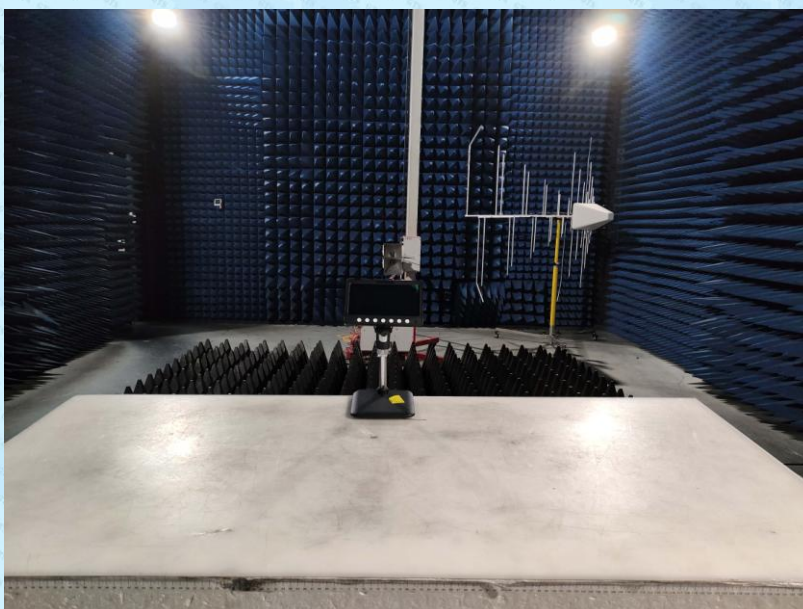
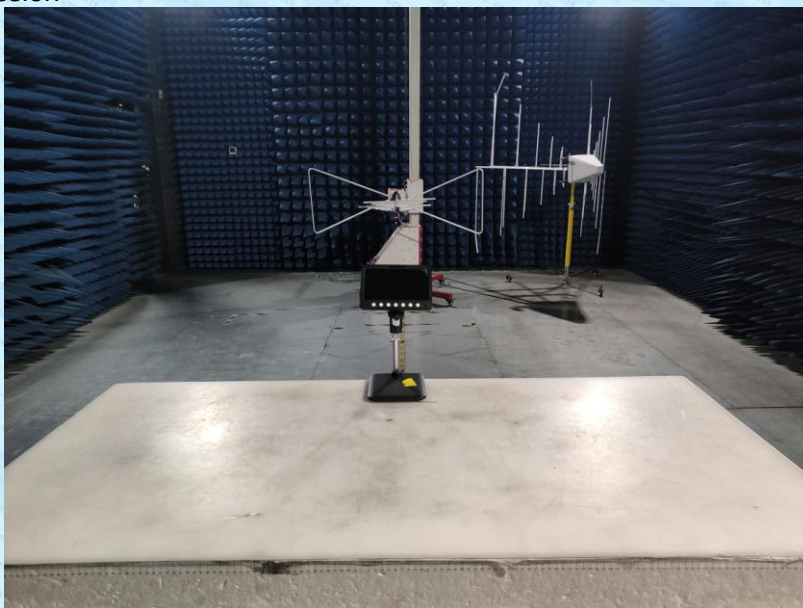
| Frequency    | Level | Modulation                                                           | Antenna Polarization | EUT Face | Observations<br>(Performance Criterion) | Result |
|--------------|-------|----------------------------------------------------------------------|----------------------|----------|-----------------------------------------|--------|
| 80 MHz-1 GHz | 3 V/m | 1 kHz,<br>80 % Amp. Mod,<br>1 % increment,<br>dwell<br>time=3seconds | V                    | Front    | A                                       | Pass   |
|              |       |                                                                      | H                    |          | A                                       | Pass   |
|              |       |                                                                      | V                    | Rear     | A                                       | Pass   |
|              |       |                                                                      | H                    |          | A                                       | Pass   |
|              |       |                                                                      | V                    | Left     | A                                       | Pass   |
|              |       |                                                                      | H                    |          | A                                       | Pass   |
|              |       |                                                                      | V                    | Right    | A                                       | Pass   |
|              |       |                                                                      | H                    |          | A                                       | Pass   |
|              |       |                                                                      | V                    | Top      | A                                       | Pass   |
|              |       |                                                                      | H                    |          | A                                       | Pass   |
|              |       |                                                                      | V                    | Bottom   | A                                       | Pass   |
|              |       |                                                                      | H                    |          | A                                       | Pass   |

Remark:

Performance Criteria: A, B, C: Refer to section 8.1 for details

## 9 Test Setup Photo

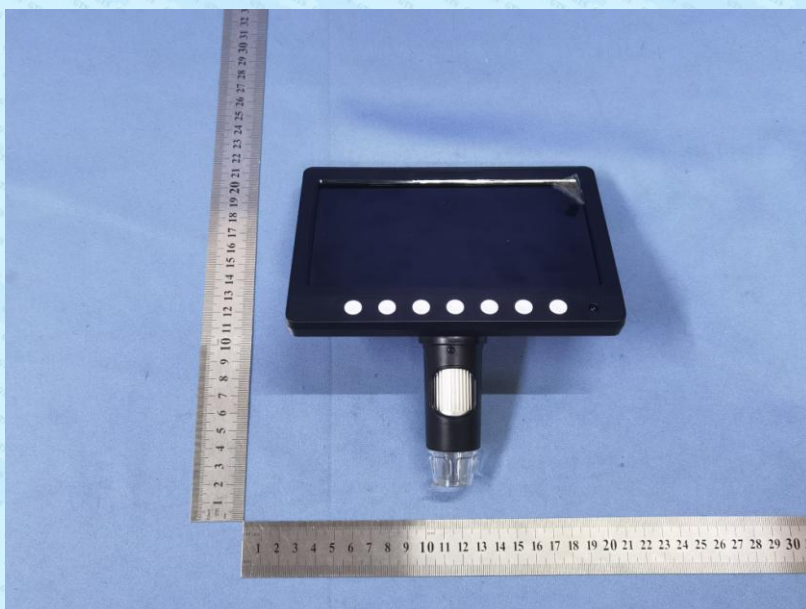
### Radiated Emission



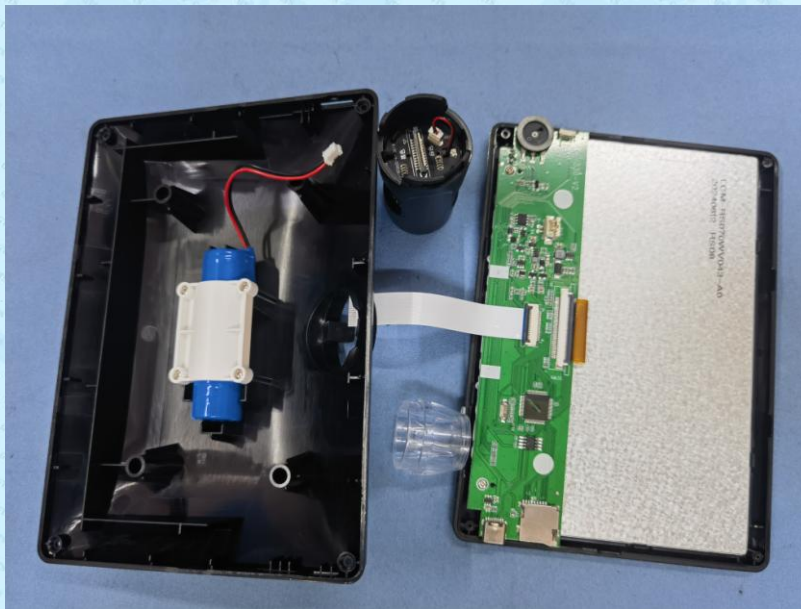
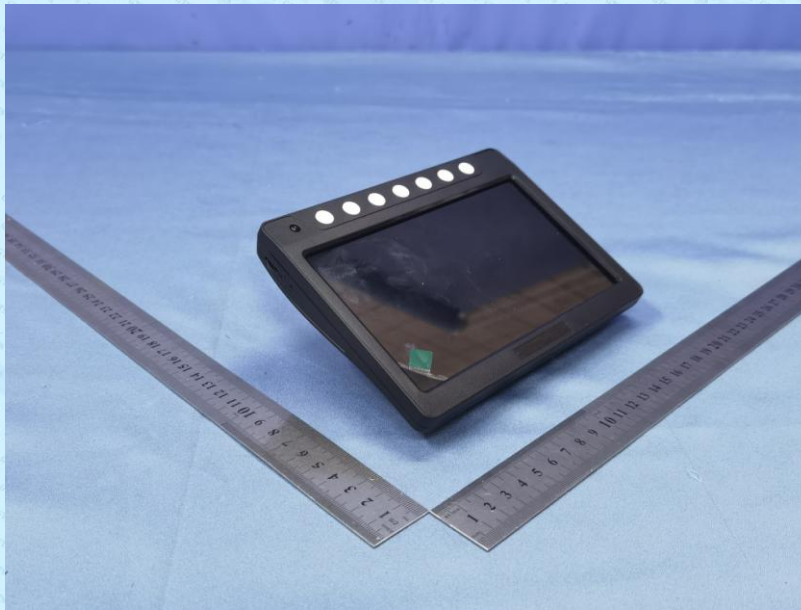
## Electrostatic Discharge

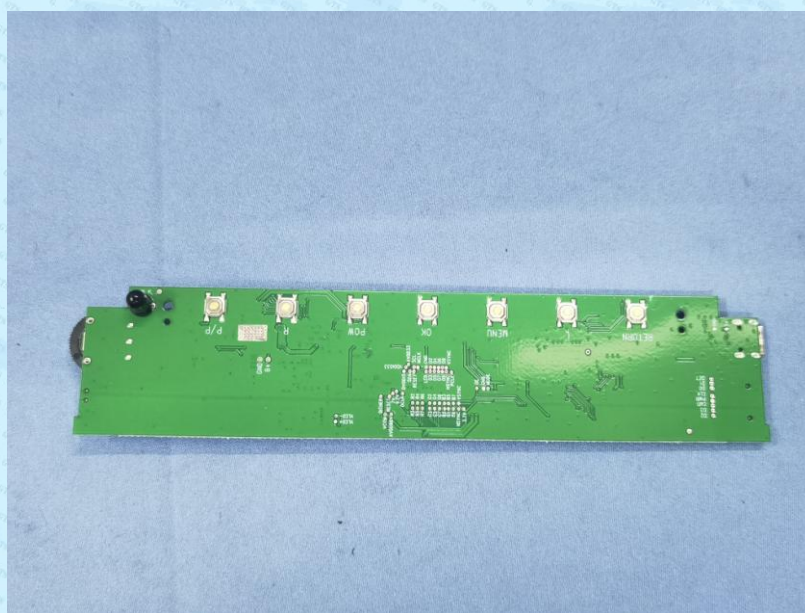
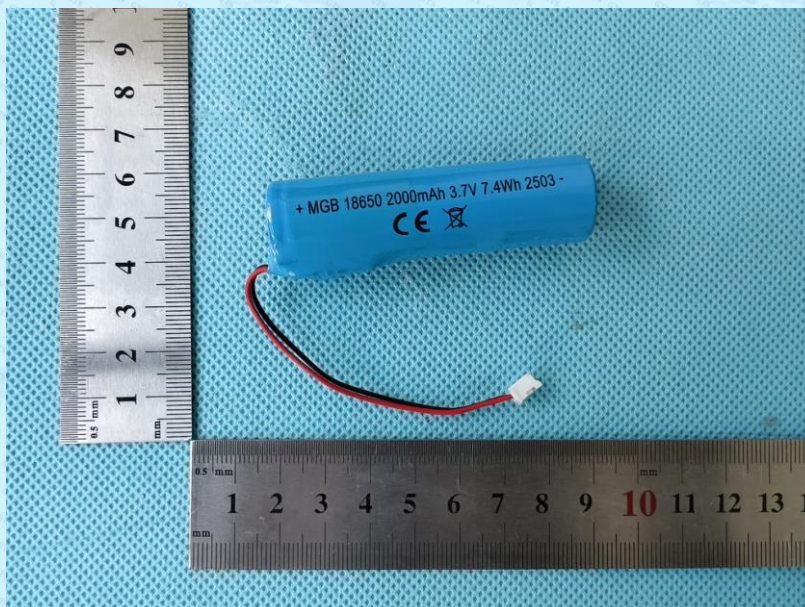


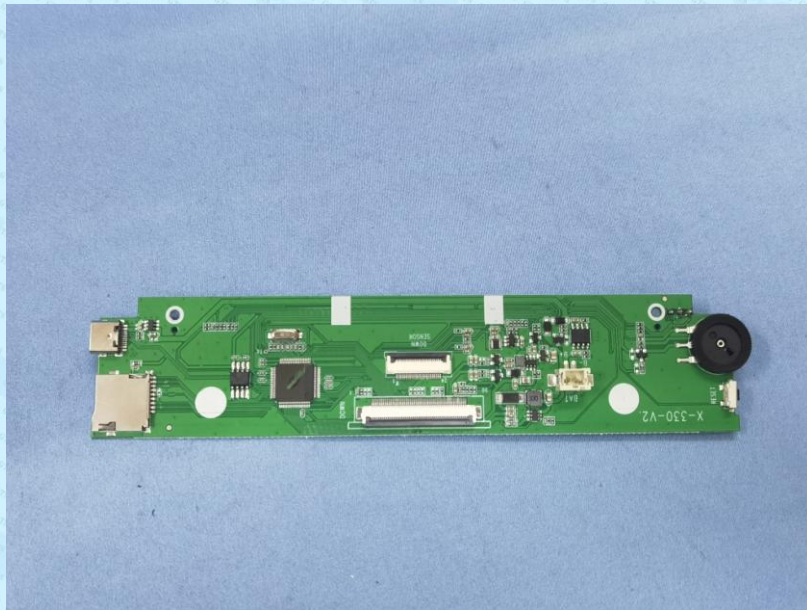
## 10 EUT Construcrtional Details

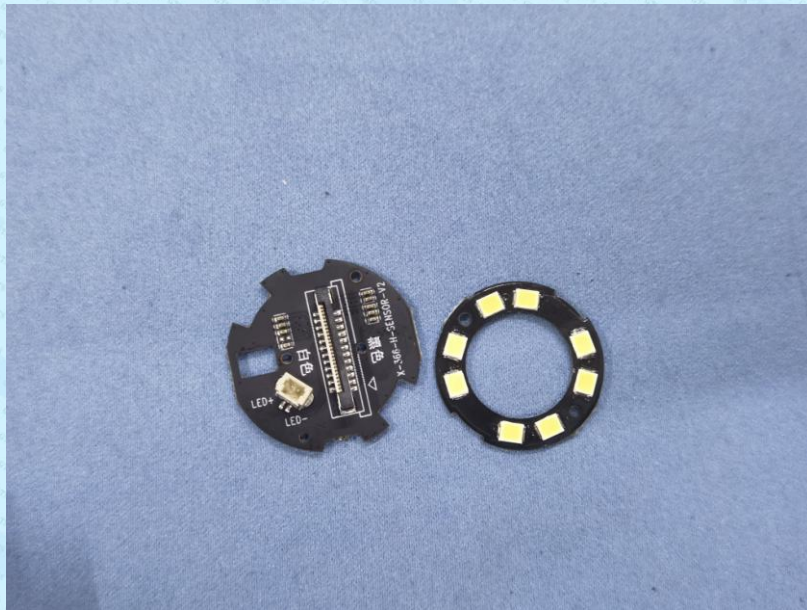












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