

**EN 55032:2015/A1:2020
EN 55035:2017/A11:2020**

TEST REPORT

For

STM32MP257 Core Board

MODEL NUMBER: ATK-CLMP257B

REPORT NUMBER: E04A25031316E00101

ISSUE DATE: April 15, 2025

Prepared for

**Guangzhou Xingyi Electronic Technology Co., Ltd
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Prepared by

Guangdong Global Testing Technology Co., Ltd.

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Dongguan city, Guangdong, People's Republic of China, 523808**

This report is based on a single evaluation of the submitted sample(s) of the above mentioned product, it does not imply an assessment of the production of the products.

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Revision History

| Rev. | Issue Date | Revisions | Revised By |
|------|----------------|---------------|------------|
| V0 | April 15, 2025 | Initial Issue | |

Summary of Test Results

| Emission | | | |
|-----------------------|--|----------|--------|
| Standard | Test Item | Limit | Result |
| EN 55032:2015/A1:2020 | Conducted emissions (AC mains power ports) | Clause 5 | N/A |
| | Radiated emissions below 1GHz | Clause 5 | Pass |
| | Radiated emissions above 1GHz | Clause 5 | Pass |

| Immunity (EN 55035:2017/A11:2020) | | | | |
|--|---|---|----------|--------------------|
| Basic Standard | Test Item | Test Specification | Criteria | Result |
| IEC 61000-4-2:2008 | Electrostatic Discharge | Contact +/- 4 kV; Air +/- 2 kV; +/- 4 kV; +/- 8 kV | B | Pass |
| IEC 61000-4-3:2006 +A1:2007+A2:2010 | Continuous RF electromagnetic field disturbances | 3 V/m, 80 %; 1 kHz, AM 80 MHz-1000 MHz; 1800 MHz, 2600 MHz, 3500 MHz, 5000 MHz | A | Pass |
| IEC 61000-4-4:2012 | Electrical fast transients burst (AC mains power ports) | +/- 1.0 kV 5/50 ns, 5 kHz | B | N/A |
| IEC 61000-4-5:2014 | Surges (AC mains power ports) | +/-2 kV (Common) +/-1 kV (Differential) 1.2/50 us | B | N/A |
| IEC 61000-4-6:2013 | Continuous induced RF disturbances (AC mains power ports) | 150 kHz-80 MHz 80 %, 1 kHz 0.15 MHz-10 MHz: 3 V 10 MHz-30 MHz: 3 V~1 V 30 MHz-80 MHz: 1 V | A | N/A |
| IEC 61000-4-8:2009 | Power frequency magnetic field | 50 Hz, 1 A/m | A | N/A (NOTE 1, 2) |
| IEC 61000-4-11:2004 | Voltage dips and interruptions (AC mains power ports) | Residual < 5 %: 0.5 cycle; Residual 70 %: 25 cycles; Residual < 5 %: 250 cycles; | B,C,C | N/A |

Note:

1. N/A: In this whole report not applicable.
2. Only applicable to EUT containing devices susceptible to magnetic fields, such as CRT monitors, Hall elements, electrodynamic microphones, magnetic field sensors.

*This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

*The measurement result for the sample received is <Pass> according to <EN 55032:2015/A1:2020, EN 55035:2017/A11:2020> when <Accuracy Method> decision rule is applied.

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Guangzhou Xingyi Electronic Technology Co., Ltd
Address: Room 805-808, Room 801, Building 4, No. 1, 3, and 5, Kesheng Road, Guangzhou Private Science and Technology Park, No. 1633 Beitai Road, Baiyun District, Guangzhou City

Manufacturer Information

Company Name: Guangzhou Xingyi Electronic Technology Co., Ltd
Address: Room 805-808, Room 801, Building 4, No. 1, 3, and 5, Kesheng Road, Guangzhou Private Science and Technology Park, No. 1633 Beitai Road, Baiyun District, Guangzhou City

Factory Information

Company Name: DongGuan ZhiChen Electronic Technology Co.Ltd
Address: Room 201, No. 60, Longbeiling Lane, Lincun, Tangxia Town, Dongguan City, Guangdong Province, China

EUT Information

Product Description: STM32MP257 Core Board
Model: ATK-CLMP257B
Brand: ALIENTEK
Sample Received Date: 2 April 2025
Sample ID: A25031316 001
Date of Tested: April 2, 2025 to April 15, 2025

| APPLICABLE STANDARDS | |
|------------------------|--------------|
| STANDARD | TEST RESULTS |
| EN 55032:2015/A1:2020 | Pass |
| EN 55035:2017/A11:2020 | Pass |

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Laboratory Manager



2. TEST METHODOLOGY

All tests were performed in accordance with the standard EN 55032:2015/A1:2020, EN 55035:2017/A11:2020

3. FACILITIES AND ACCREDITATION

| | |
|---------------------------|--|
| Accreditation Certificate | <p>A2LA (Certificate No.: 6947.01) Guangdong Global Testing Technology Co., Ltd. has been assessed and proved to be in compliance with A2LA.</p> <p>FCC (FCC Designation No.: CN1343) Guangdong Global Testing Technology Co., Ltd. has been recognized to perform compliance testing on equipment subject to Supplier's Declaration of Conformity (SDoC) and Certification rules</p> <p>ISED (Company No.: 30714) Guangdong Global Testing Technology Co., Ltd. has been registered and fully described in a report filed with ISED. The Company Number is 30714 and the test lab Conformity Assessment Body Identifier (CABID) is CN0148.</p> |
|---------------------------|--|

Note: All tests measurement facilities use to collect the measurement data are located at Room 101-105, 203-210, Building 1, No.2, Keji 8 Road, Songshan Lake Park, Dongguan city, Guangdong, People's Republic of China, 523808

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| Test Item | Measurement Frequency Range | K | U(dB) |
|---|-----------------------------|---|-------|
| Radiated emissions below 1GHz | 30 MHz -1 GHz | 2 | 3.79 |
| Radiated emissions above 1GHz | 1 GHz - 18 GHz | 2 | 5.62 |
| Note1: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2. | | | |
| Note 2: According to the standard CISPR 16-4-2, the MU for the Conducted emissions from the AC mains power ports using AMN should not exceed 3.8 in range of 9kHz to 150kHz and 3.4 in range of 150kHz to 30MHz. We have considered the test results containing the value of U _{lab} (in dB) for the measurement instrumentation actually used for the measurements. | | | |

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

| | | |
|--------------------|----|-----------------------|
| EUT Name | | STM32MP257 Core Board |
| Model | | ATK-CLMP257B |
| EUT Classification | | Class B |
| Internal Frequency | | above 108MHz |
| Ratings | | INPUT:DC5V 1A |
| Power Supply | DC | DC5V from host unit |

5.2. TEST MODE

| | |
|-----------|--|
| Test Mode | Description |
| M01 | Normal Working: Operate according to the user manual |

5.3. SUPPORT UNITS FOR SYSTEM TEST

The EUT has been tested as an independent unit

6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Radiated emissions below 1GHz

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Due Date |
|----------------------|--------------|------------|------------|------------|-----------|
| Chamber | ETS | 9*6*6 | Q2146 | 8/30/2022 | 8/29/2025 |
| Receiver | R&S | ESCI3 | 101409 | 9/14/2024 | 9/13/2025 |
| Loop Antenna | ETS | 6502 | 243668 | 2/22/2025 | 2/21/2028 |
| Pre-Amplifier | HzEMC | HPA-9K0130 | HYP A21001 | 9/14/2024 | 9/13/2025 |
| Biconilog Antenna | Schwarzbeck | VULB 9168 | 1315 | 10/10/2022 | 10/9/2025 |
| Biconilog Antenna | ETS | 3142E | 243651 | 2/22/2025 | 2/21/2028 |
| Test Software for RE | Farad | EZ-EMC | V1.1.4.2 | N/A | N/A |

Test Equipment of Radiated emissions above 1GHz

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Due Date |
|----------------------|--------------|------------|------------|-----------|-----------|
| Spectrum Analyzer | R&S | FSV40 | 101413 | 9/14/2024 | 9/13/2025 |
| Pre-Amplifier | HzEMC | HPA-1G1850 | HYP A21003 | 9/14/2024 | 9/13/2025 |
| Horn antenna | ETS | 3117 | 246069 | 2/22/2025 | 2/21/2028 |
| Test Software for RE | Farad | EZ-EMC | V1.1.4.2 | N/A | N/A |

Test Equipment of Electrostatic Discharge

| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Due Date |
|---------------|--------------|-----------|------------|-----------|-----------|
| ESD Simulator | TESEQ | NSG437 | 336 | 9/14/2024 | 9/13/2025 |

| Test Equipment of Continuous RF electromagnetic field disturbances | | | | | |
|--|--------------|-------------------|------------|-----------|-----------|
| Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Due Date |
| Stacked Log-Per-Broadband Antenna | Schwarzbeck | STLP 9129 | 170 | N/A | N/A |
| Power amplifier | MiCOTOP | MPA-80-1000-500 | MPA2209336 | 9/13/2024 | 9/12/2025 |
| Power amplifier | MiCOTOP | MPA-1000-6000-100 | MPA2209337 | 9/13/2024 | 9/12/2025 |
| EPM Series Power Meter | Keysight | N1914A | MY53240003 | 9/14/2024 | 9/13/2025 |
| Average Power Sensor | Keysight | E9304A | MY41498925 | 9/14/2024 | 9/13/2025 |
| Average Power Sensor | Keysight | E9304A | MY41497454 | 9/14/2024 | 9/13/2025 |
| EXG Analog Signal Generator | Keysight | N5171B | MY61252624 | 9/14/2024 | 9/13/2025 |
| Field Probe | Narda | EP 601 | 811ZX11137 | 9/14/2024 | 9/13/2025 |
| Microphone kit | Magasig | MPA 663 | 220803075 | 9/14/2024 | 9/13/2025 |
| Test Software for RS | HzEMC | FASLAB-RS | V2.7.2.3 | N/A | N/A |

7. EMISSION TEST

7.1. RADIATED EMISSIONS BELOW 1GHZ

LIMITS

(a). Limits up to 1 GHz

| FREQUENCY (MHz) | Class A | | Class B | |
|-----------------|--------------|--------------|--------------|--------------|
| | At 10 m | At 3 m | At 10 m | At 3 m |
| | dB μ V/m | dB μ V/m | dB μ V/m | dB μ V/m |
| 30 – 230 | 40 | 50 | 30 | 40 |
| 230 – 1000 | 47 | 57 | 37 | 47 |

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dB μ V/m)=20log Emission level (uV/m).
- (3) If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.

TEST PROCEDURE

Below 1 GHz and above 30 MHz

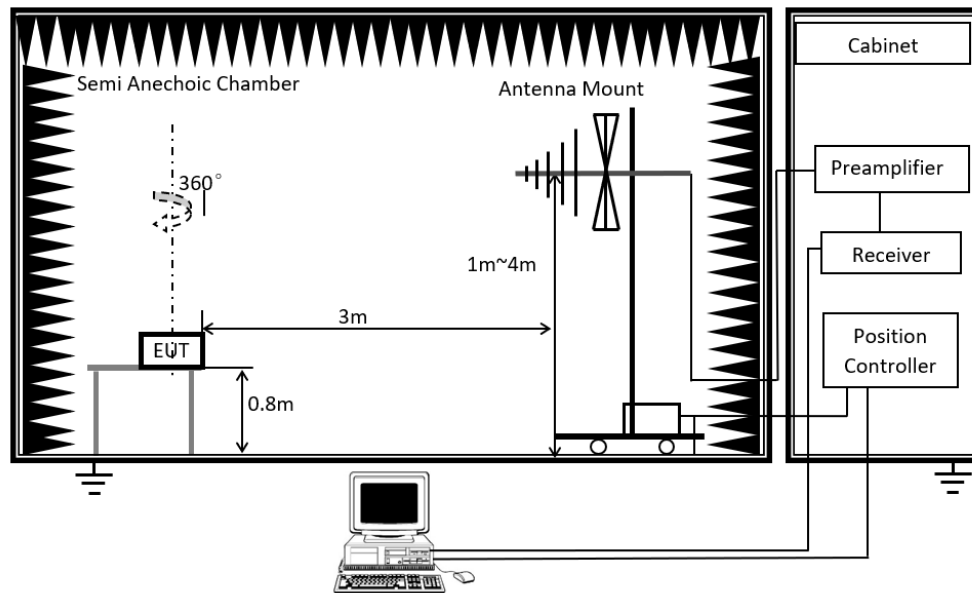
The setting of the spectrum analyzer

| | |
|----------|-------------|
| RBW | 120 kHz |
| VBW | 300 kHz |
| Sweep | Auto |
| Detector | Peak and QP |
| Trace | Max hold |

1. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp was used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
2. The EUT was placed on a turntable with 80 cm above ground.
3. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
4. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

5. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.
6. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
7. For measurement below 1 GHz, the initial step in collecting Radiated emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

TEST SETUP



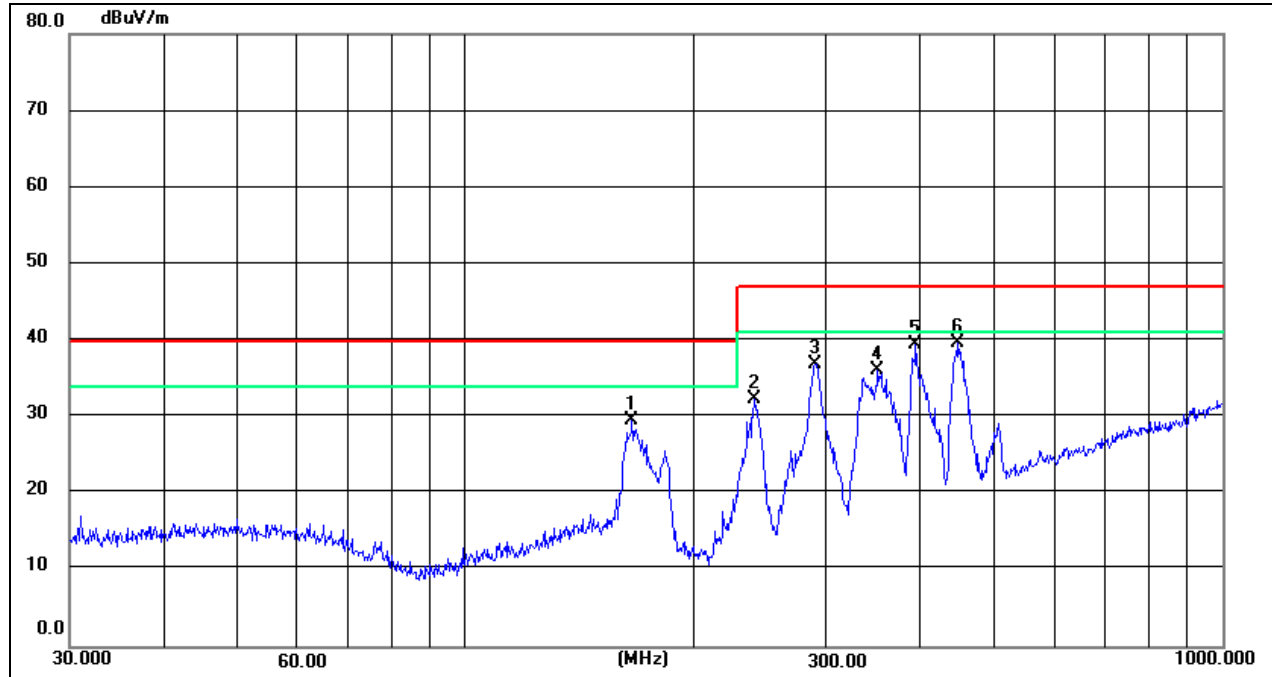
TEST ENVIRONMENT

| | | | |
|---------------------|--------|-------------------|-----|
| Temperature | 22.8°C | Relative Humidity | 53% |
| Atmosphere Pressure | 101kPa | | |

TEST MODE

| | |
|------------------|-----------|
| Pre-test Mode: | M01 ~ M01 |
| Final Test Mode: | M01 |

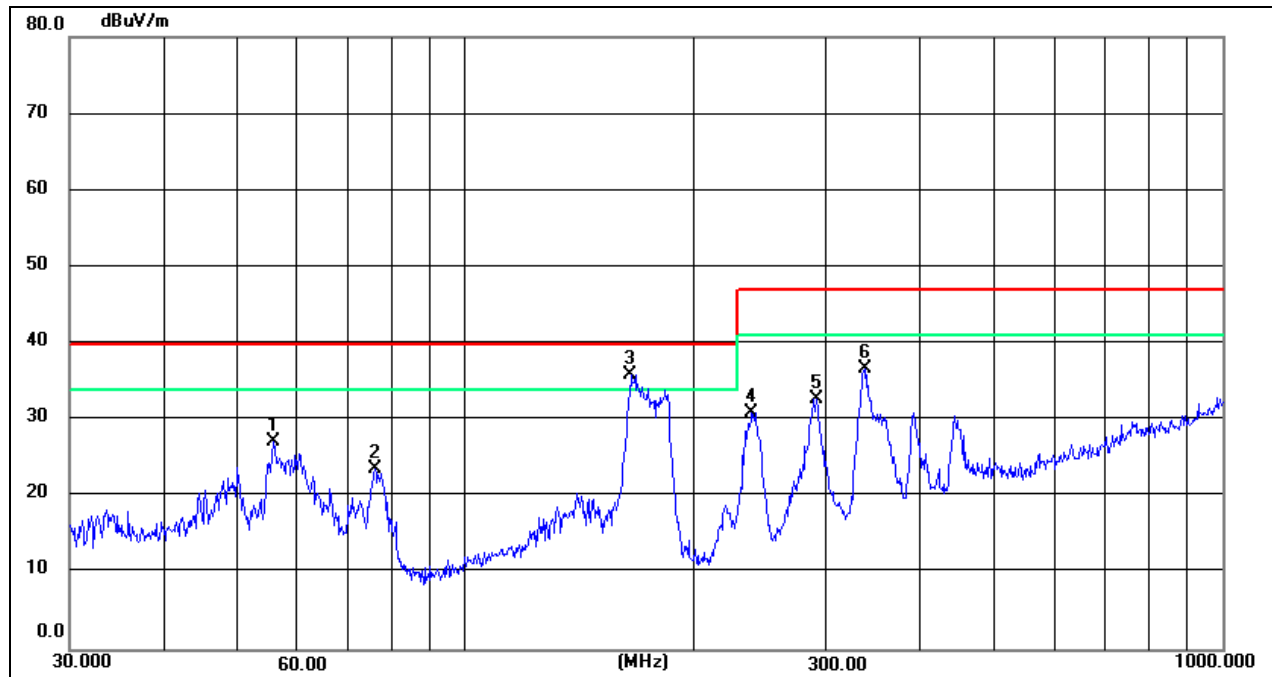
Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS

Antenna::Horizontal

Mode: M01

| No . | Frequenc y (MHz) | Reading Level(dBuV) | Correct Factor(dB/m) | Measure- ment(dBuV/m) | Limit (dBuV/m) | Margi n (dB) | Detecto r | Commen t |
|------|------------------|----------------------|-----------------------|------------------------|-----------------|--------------|-----------|----------|
| 1 | 166.0680 | 42.19 | -12.61 | 29.58 | 40.00 | -10.42 | QP | |
| 2 | 240.8304 | 46.46 | -14.00 | 32.46 | 47.00 | -14.54 | QP | |
| 3 | 290.0172 | 49.34 | -12.32 | 37.02 | 47.00 | -9.98 | QP | |
| 4 | 350.4768 | 47.01 | -10.87 | 36.14 | 47.00 | -10.86 | QP | |
| 5 | 393.4723 | 48.84 | -9.30 | 39.54 | 47.00 | -7.46 | QP | |
| 6 * | 447.9822 | 46.96 | -7.32 | 39.64 | 47.00 | -7.36 | QP | |



Antenna::Vertical

Mode: M01

| No . | Frequenc y (MHz) | Reading Level(dBuV) | Correct Factor(dB/m) | Measure- ment(dBuV/m) | Limit (dBuV/m) | Margi n (dB) | Detecto r | Commen t |
|------|------------------|----------------------|-----------------------|------------------------|-----------------|--------------|-----------|----------|
| 1 | 55.8047 | 39.56 | -12.26 | 27.30 | 40.00 | -12.70 | QP | |
| 2 | 75.9773 | 39.20 | -15.60 | 23.60 | 40.00 | -16.40 | QP | |
| 3 * | 165.4866 | 48.54 | -12.54 | 36.00 | 40.00 | -4.00 | QP | |
| 4 | 239.1472 | 45.14 | -14.10 | 31.04 | 47.00 | -15.96 | QP | |
| 5 | 291.0360 | 45.06 | -12.31 | 32.75 | 47.00 | -14.25 | QP | |
| 6 | 337.2155 | 47.80 | -10.99 | 36.81 | 47.00 | -10.19 | QP | |

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)

2. Margin = Result - Limit

7.2. RADIATED EMISSIONS ABOVE 1GHZ

LIMITS

(a). Limits above 1 GHz

| FREQUENCY (MHz) | Class A (at 3 m) dBμV/m | | Class B (at 3 m) dBμV/m | |
|-----------------|-------------------------|-----|-------------------------|-----|
| | Peak | Avg | Peak | Avg |
| 1000-6000 | 80 | 60 | 74 | 54 |

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBμV/m)=20log Emission level (uV/m).
- (3) If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.

TEST PROCEDURE

Above 1 GHz

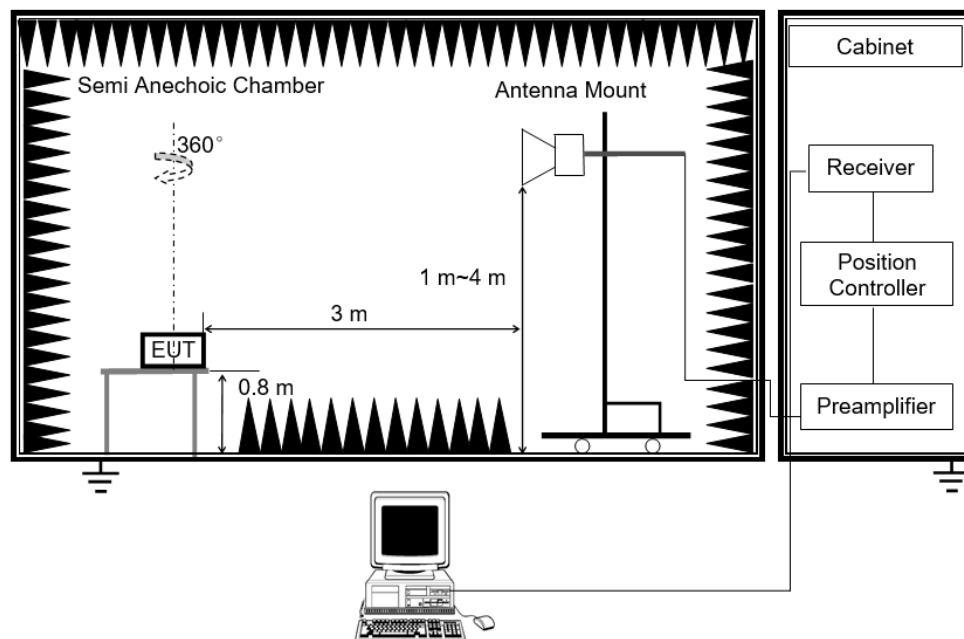
The setting of the spectrum analyzer

| | |
|----------|------------------------|
| RBW | 1 MHz |
| VBW | 3 MHz |
| Sweep | Auto |
| Detector | Peak: Peak AVG: RMS |
| Trace | Max hold |

- a. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- b. The EUT was placed on a turntable with 80 cm above ground.
- c. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- d. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance.
The overall length shall not exceed 1 m.

- e. Cables of hand-operated devices, such as keyboards and mice, shall be placed as for normal used.
- f. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- g. For measurement above 1 GHz, the peak emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the peak limit. If peak result complies with average limit, average result is deemed to comply with average limit.
- h. The average emission measurement will be measured by the RMS detector and must comply with the average limit.

TEST SETUP



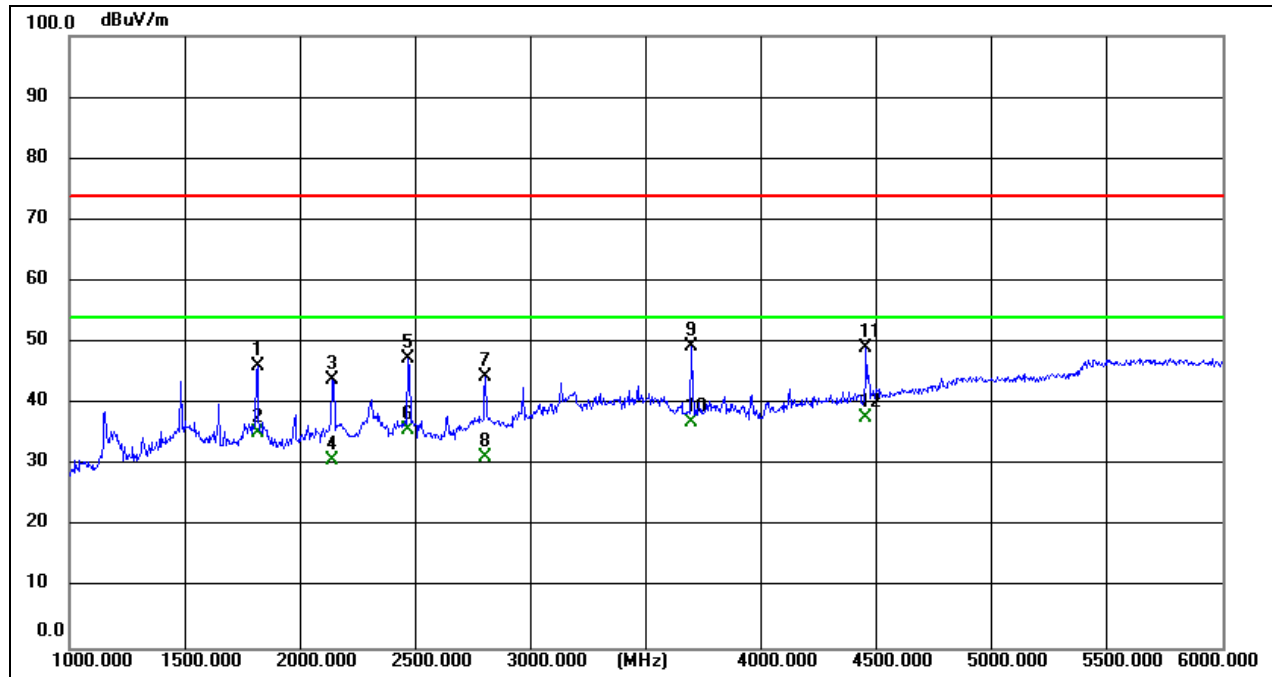
TEST ENVIRONMENT

| | | | |
|---------------------|--------|-------------------|-----|
| Temperature | 22.5°C | Relative Humidity | 51% |
| Atmosphere Pressure | 101kPa | | |

TEST MODE

| | |
|------------------|-----------|
| Pre-test Mode: | M01 ~ M01 |
| Final Test Mode: | M01 |

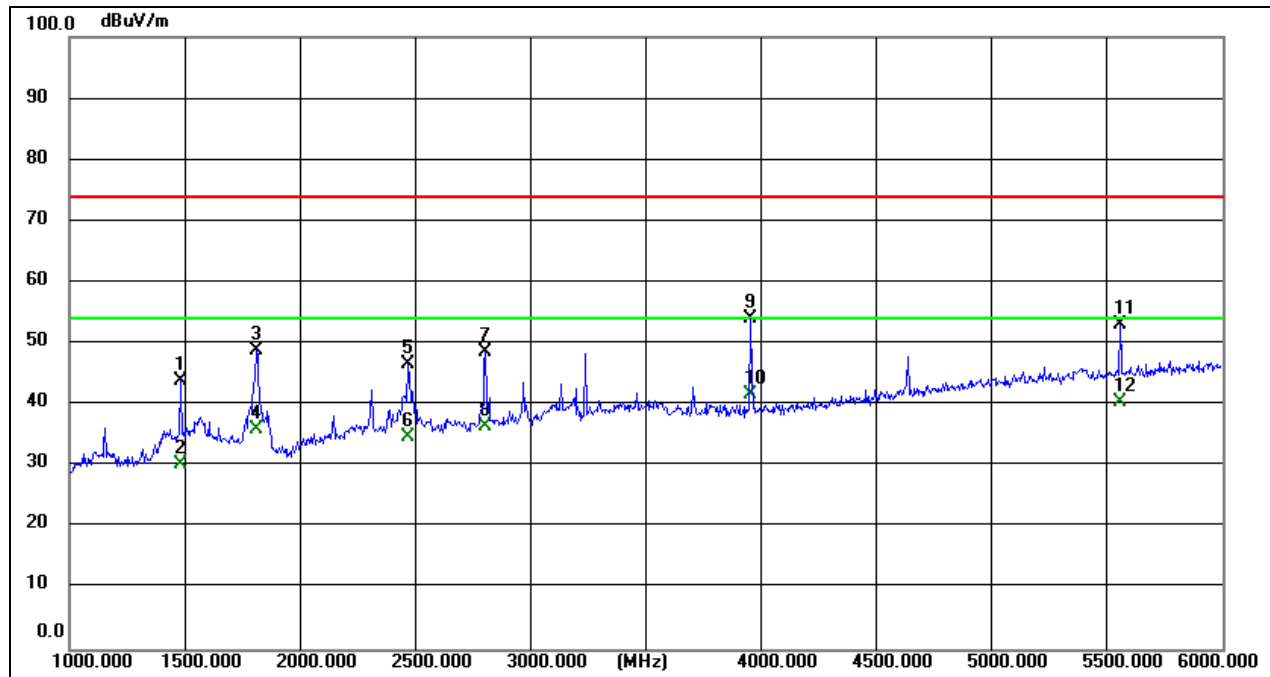
Note: All test modes had been tested, but only the worst data recorded in the report.

TEST RESULTS

Antenna::Vertical

Mode: M01

| No. | Frequency (MHz) | Reading Level(dBuV) | Correct Factor(dB/m) | Measurement(dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Comment |
|-----|-----------------|---------------------|----------------------|---------------------|----------------|-------------|----------|---------|
| 1 | 1816.000 | 59.08 | -12.80 | 46.28 | 74.00 | -27.72 | peak | |
| 2 | 1816.000 | 48.00 | -12.80 | 35.20 | 54.00 | -18.80 | AVG | |
| 3 | 2144.500 | 55.05 | -11.00 | 44.05 | 74.00 | -29.95 | peak | |
| 4 | 2144.500 | 41.80 | -11.00 | 30.80 | 54.00 | -23.20 | AVG | |
| 5 | 2474.500 | 57.39 | -10.02 | 47.37 | 74.00 | -26.63 | peak | |
| 6 | 2474.500 | 45.72 | -10.02 | 35.70 | 54.00 | -18.30 | AVG | |
| 7 | 2805.500 | 53.08 | -8.60 | 44.48 | 74.00 | -29.52 | peak | |
| 8 | 2805.500 | 40.00 | -8.60 | 31.40 | 54.00 | -22.60 | AVG | |
| 9 | 3697.000 | 53.84 | -4.57 | 49.27 | 74.00 | -24.73 | peak | |
| 10 | 3697.000 | 41.47 | -4.57 | 36.90 | 54.00 | -17.10 | AVG | |
| 11 | 4459.500 | 51.70 | -2.66 | 49.04 | 74.00 | -24.96 | peak | |
| 12 | 4459.500 | 40.46 | -2.66 | 37.80 | 54.00 | -16.20 | AVG | |



Antenna::Horizontal

Mode: M01

| No . | Frequenc y (MHz) | Reading Level(dBuV) | Correct Factor(dB/m) | Measure- ment(dBuV/m) | Limit (dBuV/m) | Margi n (dB) | Detecto r | Commen t |
|------|------------------|----------------------|-----------------------|------------------------|-----------------|--------------|-----------|----------|
| 1 | 1480.000 | 58.66 | -14.84 | 43.82 | 74.00 | -30.18 | peak | |
| 2 | 1480.000 | 45.24 | -14.84 | 30.40 | 54.00 | -23.60 | AVG | |
| 3 | 1810.000 | 61.67 | -12.85 | 48.82 | 74.00 | -25.18 | peak | |
| 4 | 1810.000 | 48.75 | -12.85 | 35.90 | 54.00 | -18.10 | AVG | |
| 5 | 2470.000 | 56.65 | -10.04 | 46.61 | 74.00 | -27.39 | peak | |
| 6 | 2470.000 | 44.74 | -10.04 | 34.70 | 54.00 | -19.30 | AVG | |
| 7 | 2805.000 | 57.30 | -8.60 | 48.70 | 74.00 | -25.30 | peak | |
| 8 | 2805.000 | 45.20 | -8.60 | 36.60 | 54.00 | -17.40 | AVG | |
| 9 | 3955.000 | 58.35 | -4.16 | 54.19 | 74.00 | -19.81 | peak | |
| 10 | 3955.000 | 45.96 | -4.16 | 41.80 | 54.00 | -12.20 | AVG | |
| 11 | 5555.000 | 52.33 | 0.73 | 53.06 | 74.00 | -20.94 | peak | |
| 12 | 5555.000 | 39.77 | 0.73 | 40.50 | 54.00 | -13.50 | AVG | |

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor)
 2. Margin = Result - Limit

8. IMMUNITY TEST

8.1. PERFORMANCE CRITERIA

EN 55035:2017/A11:2020

GENERAL PERFORMANCE CRITERIA

According to EN 55035 standard, the general performance criteria as following:

| | |
|-------------------|--|
| Criteria A | The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. 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 by what the user may reasonably expect from the equipment if used as intended. |
| Criteria B | <p>During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test.</p> <p>After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.</p> <p>If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.</p> |
| Criteria C | <p>Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed.</p> <p>Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.</p> |

PERFORMANCE CRITERIA FOR BROADCAST RECEPTION FUNCTION

The broadcast reception function shall comply with the general performance criteria given in Clause 8 and any relevant annex with the deviations defined in Table A.2.

| Table A.2 – Modified test levels for performance criterion A for the broadcast reception function | | | |
|--|---------------------------|---|----------------------------|
| Performance criteria | Test type table clause | Group 1 | Group 2 |
| Criterion A | 1.2 1.3 | The disturbance level is reduced to 1 V/m for in-band frequencies. | No test requirements apply |
| | 2.1 3.1 4.1 | The disturbance level is reduced to 1 V for in-band frequencies. | |
| | | | |
| In-band is defined as the entire tuneable operating range of the selected broadcast reception function. The tuned channel $\pm 0,5$ MHz (lower edge frequency – 0,5 MHz up to the upper edge frequency + 0,5 MHz of the tuned channel) is excluded from testing. Note: In some countries, there is a requirement to test the tuned channels. Refer to the relevant regional requirements for guidance. | | | |

PERFORMANCE CRITERIA FOR PRINT FUNCTION

| | |
|-------------|--|
| Criterion A | Refer to chapter B.3.1 of EN 55035:2017/A11:2020 |
| Criterion B | Refer to chapter B.3.2 of EN 55035:2017/A11:2020 |
| Criterion C | Refer to chapter B.3.3 of EN 55035:2017/A11:2020 |

PERFORMANCE CRITERIA FOR SCAN FUNCTION

| | |
|-------------|--|
| Criterion A | Refer to chapter C.3.1 of EN 55035:2017/A11:2020 |
| Criterion B | Refer to chapter C.3.2 of EN 55035:2017/A11:2020 |
| Criterion C | Refer to chapter C.3.3 of EN 55035:2017/A11:2020 |

PERFORMANCE CRITERIA FOR DISPLAY AND DISPLAY OUTPUT FUNCTION

| | |
|-------------|--|
| Criterion A | Refer to chapter D.3.1 and D.3.2 of EN 55035:2017/A11:2020 |
| Criterion B | Refer to chapter D.3.3 of EN 55035:2017/A11:2020 |
| Criterion C | Refer to chapter D.3.4 of EN 55035:2017/A11:2020 |

PERFORMANCE CRITERIA FOR MUSICAL TONE GENERATING FUNCTION

| | |
|-------------|--|
| Criterion A | Refer to chapter E.3.2 of EN 55035:2017/A11:2020 |
| Criterion B | Refer to chapter E.3.3 of EN 55035:2017/A11:2020 |
| Criterion C | Refer to chapter E.3.4 of EN 55035:2017/A11:2020 |

PERFORMANCE CRITERIA FOR NETWORKING FUNCTION

| General requirements for network functions | |
|--|--|
| Criterion A | Refer to chapter F.3.3.1 of EN 55035:2017/A11:2020 |
| Criterion B | Refer to chapter F.3.3.2 of EN 55035:2017/A11:2020 |
| Criterion C | Refer to chapter F.3.3.3 of EN 55035:2017/A11:2020 |

| Requirements for CPE containing xDSL ports | |
|--|--|
| Criterion A | Refer to chapter F.4.2 of EN 55035:2017/A11:2020 |
| Criterion B | Refer to chapter F.4.3 of EN 55035:2017/A11:2020 |
| Criterion C | Refer to chapter F.4.4 of EN 55035:2017/A11:2020 |

PERFORMANCE CRITERIA FOR AUDIO OUTPUT FUNCTION

| | |
|-------------|--|
| Criterion A | Refer to chapter G.7.1 of EN 55035:2017/A11:2020 |
| Criterion B | Refer to chapter G.7.2 of EN 55035:2017/A11:2020 |
| Criterion C | Refer to chapter G.7.3 of EN 55035:2017/A11:2020 |

PERFORMANCE CRITERIA FOR TELEPHONY FUNCTION

| | |
|-------------|--|
| Criterion A | Refer to chapter H.4 Table H.1 of EN 55035:2017/A11:2020 |
| Criterion B | Refer to chapter H.4 Table H.1 of EN 55035:2017/A11:2020 |
| Criterion C | Refer to chapter H.4 Table H.1 of EN 55035:2017/A11:2020 |

8.2. ELECTROSTATIC DISCHARGE

TEST SPECIFICATION

| | |
|-----------------------------|--|
| Standard: | EN 55035:2017/A11:2020 IEC 61000-4-2:2008 |
| Criterion Required: | Performance criteria B |
| Discharge Impedance: | 330(1±10 %) Ω / 150(1±10 %) pF |
| Polarity: | Positive & Negative |
| Number of Discharge: | Minimum 10 times at each test point |
| Discharge Mode: | Single Discharge |
| Discharge Period: | 1 second minimum |
| Test Level: | Air Discharge: 2 kV, 4 kV, 8 kV (Direct); Contact Discharge: 4 kV (Direct/Indirect) |

TEST PROCEDURE

The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

- a. Contact discharge was applied to conductive surfaces and coupling planes of the EUT.

During the test, it was performed with single discharges. For the single discharge time between successive single discharges was at least 1 second.

Vertical Coupling Plane (VCP):

The coupling plane, of dimensions 0.5 m x 0.5 m, is placed parallel to, and positioned at a distance 0.1 m from, the EUT, with the Discharge Electrode touching the coupling plane.

The four faces of the EUT will be performed with electrostatic discharge.

Horizontal Coupling Plane (HCP):

The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1 m from the EUT, with the Discharge Electrode touching the coupling plane. The four faces of the EUT will be performed with electrostatic discharge.

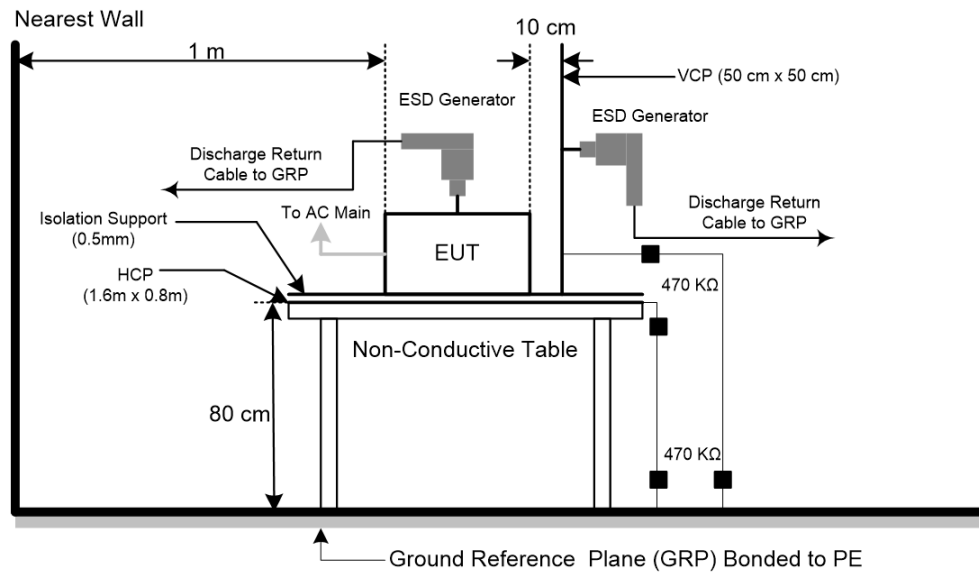
- b. Air discharges at insulation surfaces of the EUT.

It was at least ten single discharges with positive and negative at the same selected point.

- c. The test shall be performed with single discharges. On each pre-selected point at least 10 single discharges (in the most sensitive polarity) shall be applied.

- d. For air discharge testing, the test shall be applied at all test levels 2 kV, 4 kV and 8 kV.

- e. For the actual test configuration, please refer to the related Item: EUT Test Photos.

TEST SETUP**TEST ENVIRONMENT**

| | | | |
|---------------------|--------|-------------------|-----|
| Temperature | 22.2°C | Relative Humidity | 53% |
| Atmosphere Pressure | 101kPa | Test Voltage | |

TEST MODE

| | |
|------------|-----|
| Test Mode: | M01 |
|------------|-----|

TEST RESULTS

| Mode | Level(kV) | Polarity | Test Point | Criteria | Result | Judgement |
|--|-----------|----------|-----------------------|----------|--------|-----------|
| Air Discharge | 2,4,8 | + | All Slot | B | A | Pass |
| Air Discharge | 2,4,8 | - | All Slot | B | A | Pass |
| Contact Discharge | 4 | + | All Metal | B | A | Pass |
| Contact Discharge | 4 | - | All Metal | B | A | Pass |
| Horizontal Coupling | 4 | + | Front,rear,left,right | B | A | Pass |
| Horizontal Coupling | 4 | - | Front,rear,left,right | B | A | Pass |
| Vertical Coupling | 4 | + | Front,rear,left,right | B | A | Pass |
| Vertical Coupling | 4 | - | Front,rear,left,right | B | A | Pass |
| Air Discharge | 15 | + | All Slot | / | / | / |
| Air Discharge | 15 | - | All Slot | / | / | / |
| Contact Discharge | 8 | + | All Metal | / | / | / |
| Contact Discharge | 8 | - | All Metal | / | / | / |
| Observation: A: No observable change. Conclusion: The EUT met the requirements of the standard | | | | | | |

8.3. CONTINUOUS RF ELECTROMAGNETIC FIELD DISTURBANCES

TEST SPECIFICATION

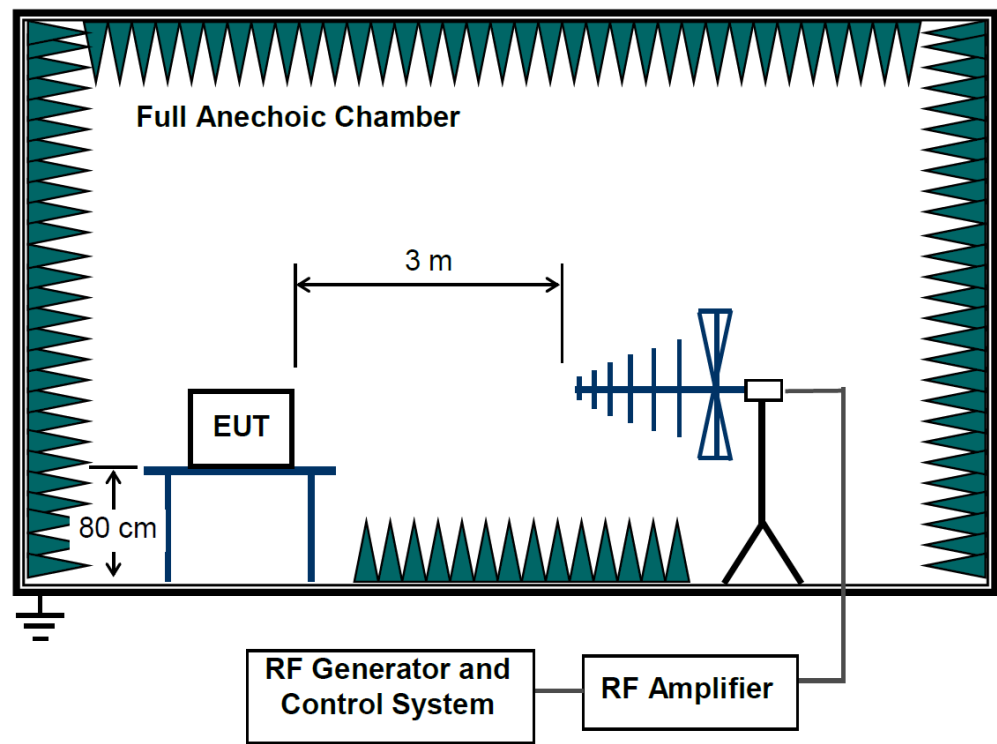
| | |
|------------------------------|---|
| Standard: | EN 55035:2017/A11:2020 IEC 61000-4-3:2006 +A1:2007+A2:2010 |
| Criterion Required: | Performance criteria A |
| Frequency range: | 80 MHz - 1000MHz; 1800 MHz, 2600 MHz, 3500 MHz, 5000 MHz |
| Test Level: | Level 2: 3 V/m (measured unmodulated) |
| Modulation: | The test signal shall be amplitude modulated to a depth of 80 % by a sinusoidal audio signal of 1 000 Hz. |
| Frequency Step: | 1 % of fundamental |
| Dwell time: | 1 seconds |
| Antenna Polarization: | Horizontal and vertical |

TEST PROCEDURE

The test procedure was in accordance with IEC 61000-4-3.

- a. The testing was performed in a fully anechoic chamber. The transmit antenna was located at a distance of 3 meters from the EUT.
- b. The disturbance test signal shall be 80 % amplitude modulated by a sine wave, preferably having a frequency of 1 kHz. A frequency other than 1 kHz may be used where permitted within EN 55035 (for example Clause G.3).
- c. 1 % step size is preferred, the frequency range can be swept incrementally with a step size not exceeding 4 % of the previous frequency with a test level of twice the value of the specified test level.
- d. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised and to be able to respond. However, the dwell time should not exceed 5 s at each of the frequencies during the scan.
- e. The test was performed with the EUT exposed to both vertically and horizontally polarized fields.

TEST SETUP



TEST ENVIRONMENT

| | | | |
|---------------------|--------|-------------------|-----|
| Temperature | 23.9℃ | Relative Humidity | 53% |
| Atmosphere Pressure | 101kPa | Test Voltage | |

TEST MODE

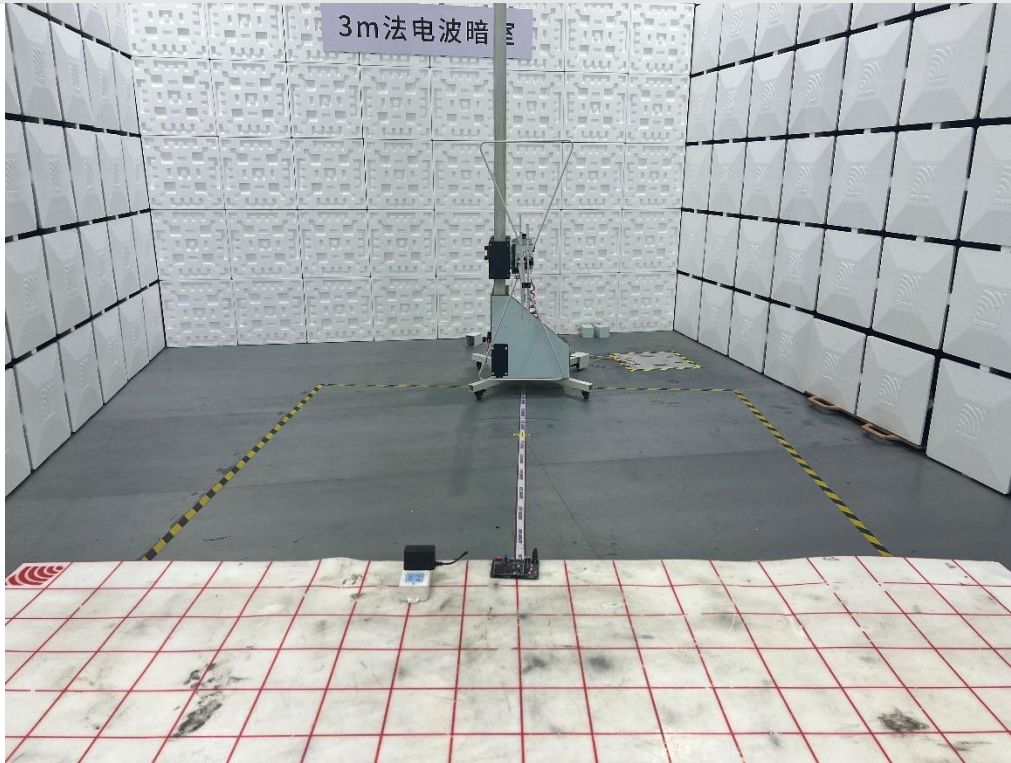
| | |
|------------|-----|
| Test Mode: | M01 |
|------------|-----|

TEST RESULTS

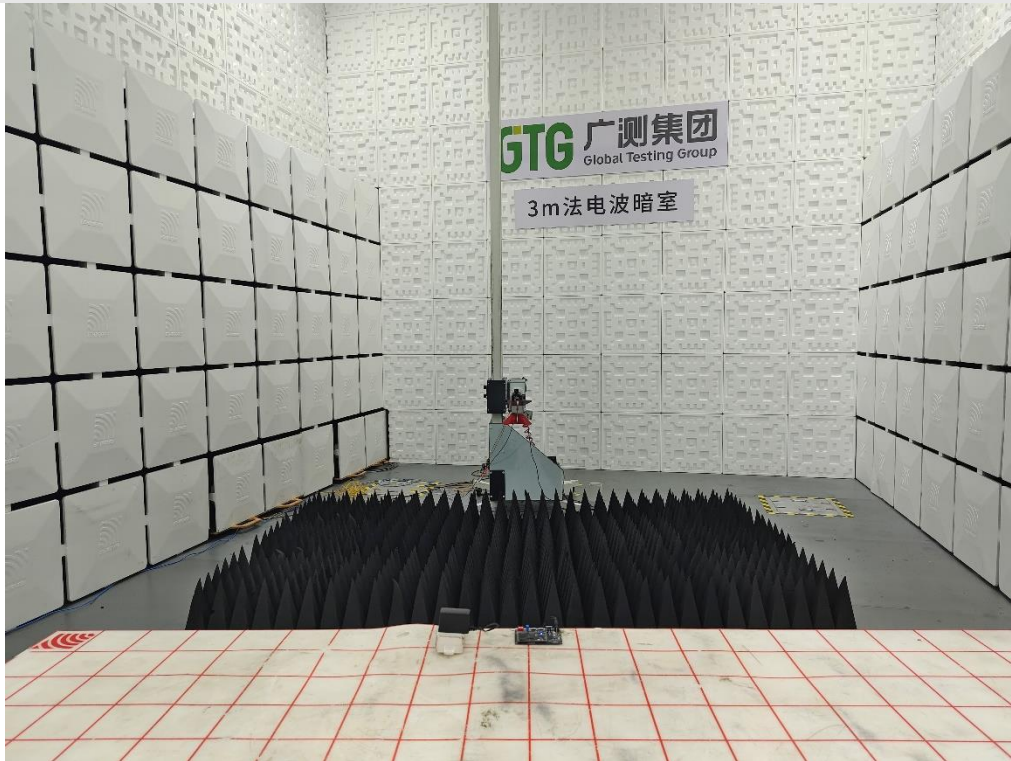
| Freq.Range (MHz) | Position (Face) | Polarity (H or V) | Field Strength (V/m) (unmodulated,r.m.s) | Criterion | Result | Judgment |
|--|--------------------|----------------------|--|-----------|--------|----------|
| 80-1000; 1800; 2600; 3500; 5000; | 0° | H&V | 3 V/m | A | A | Pass |
| 80-1000; 1800; 2600; 3500; 5000; | 90° | H&V | 3 V/m | A | A | Pass |
| 80-1000; 1800; 2600; 3500; 5000; | 180° | H&V | 3 V/m | A | A | Pass |
| 80-1000; 1800; 2600; 3500; 5000; | 270° | H&V | 3 V/m | A | A | Pass |
| Observation: A: No observable change. Conclusion: The EUT met the requirements of the standard | | | | | | |

APPENDIX: PHOTOGRAPHS OF TEST CONFIGURATION

Radiated emissions below 1GHz



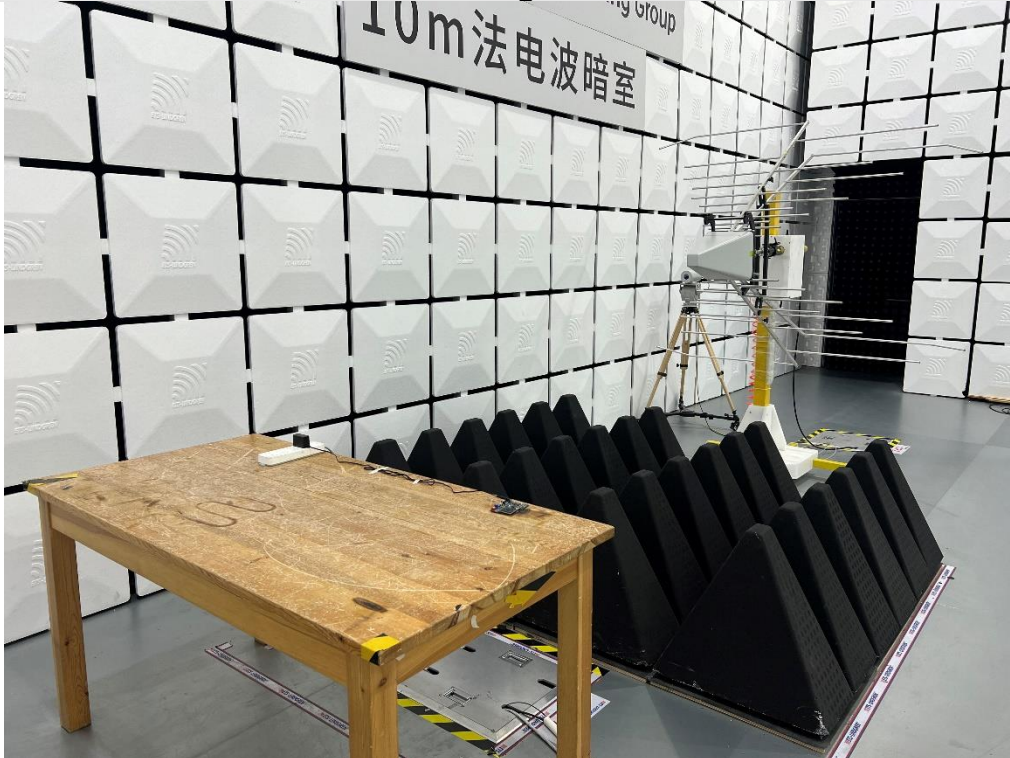
Radiated emissions above 1GHz



Electrostatic Discharge

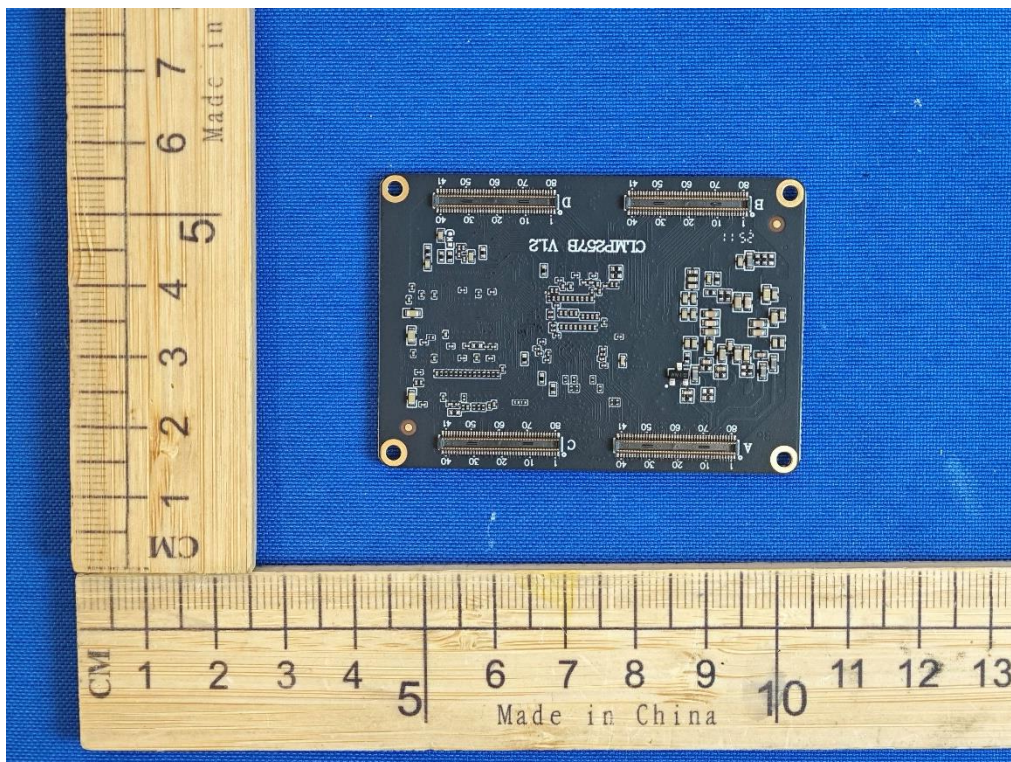
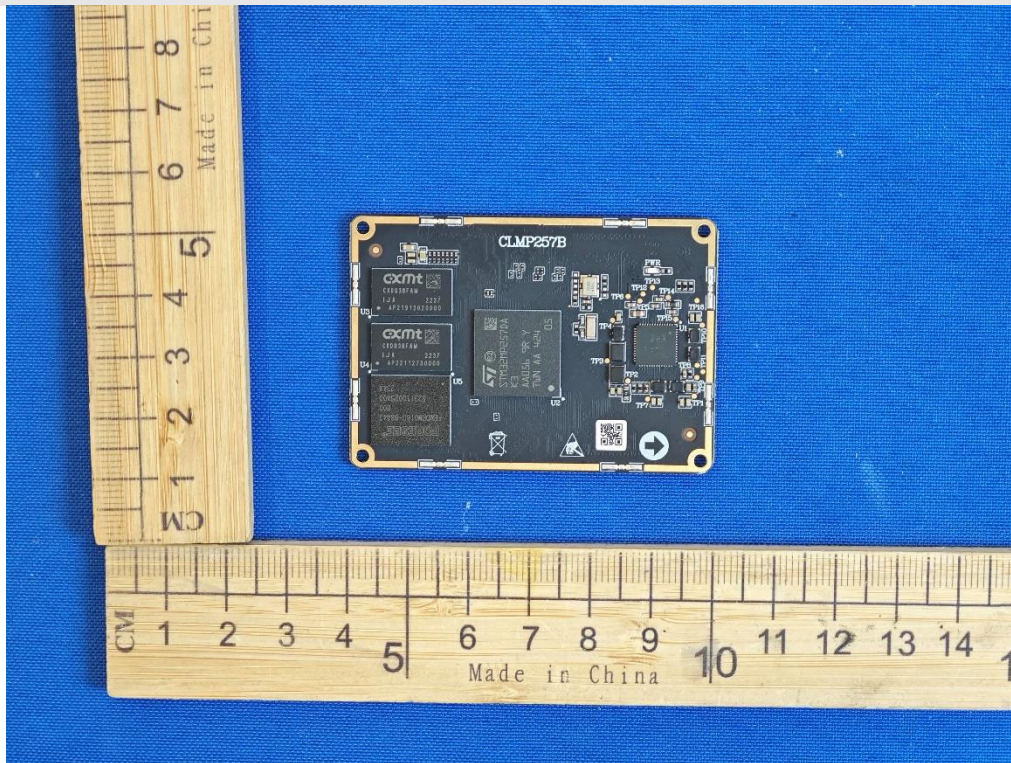


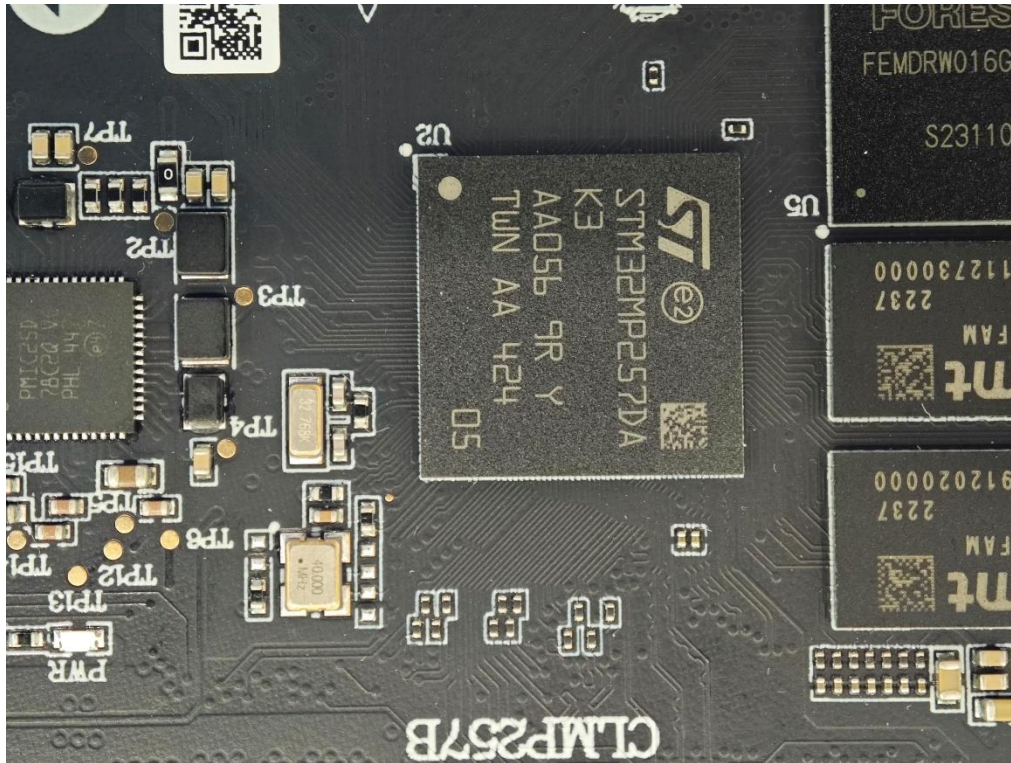
Continuous RF electromagnetic field disturbances



APPENDIX: PHOTOGRAPHS OF THE EUT

External





END OF REPORT