# TEST REPORT

| | |
|---|---|
| **Report No.** | SST240923020EF06 |
| **Applicant:** | SHENZHEN ELECTRON TECHNOLOGY CO., LTD. |
| **Address of Applicant:** | Bld.2, Yingfeng Industrial Zone, Tantou Community, Songgang Street, Bao'an, Shenzhen, China. |
| **Product Name:** | Android Tablet |
| **Trade Mark:** | / |
| **Standard(s):** | FCC CFR Title 47 Part 15.225 |
| **FCC ID:** | 2ABC5-E0078 |
| **Test Report Form No:** | SST-RD-7.5-02-E01(A/0) |
| **Date of sample receipt:** | 2024/9/23 |
| **Date of Test:** | 2024/9/23 - 2024/10/30 |
| **Date of report issued:** | 2024/11/1 |

*The equipment complies with the requirements according to the standard(s) or Specification above, it is applicable only to the tested sample identified in the report.

Prepared by: _____

Reviewed by: _____

Approved by: _____

GUANGDONG SET SAIL TESTING CO., LTD. **CERTIFICATE**

*The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

# Revision History

| Version | Description | Date of Issue |
|---|---|---|
| V1.0 | Original | 2024/11/1 |
| | | |
| | | |

# 2 Contents

# 3 Test Summary

| Test items | Basics standards | Result |
|---|---|---|
| Conducted Emission | FCC Part 15.207 | Pass |
| Radiated Emissions | FCC Part 15.225 | Pass |
| Emission bandwidth | FCC part 15.215 | Report only |
| Frequency tolerance | FCC Part 15.225 | Pass |
| Antenna requirement | FCC Part 15.203 | Pass |

*Notes:*
*1: NA =Not Applicable*
*2: Determining compliance based on the results of the compliance measurement, not taking into account measurement uncertainty. If necessary, the applicant shall informing test lab in advance*
*3: Additions, Deviations and Exclusions from Standards: None.*

# 4 Measurement Uncertainty

*Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:*
*The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.*

| Item | Uncertainty (±) (k=2, 95%) | |
|---|---|---|
| Output Power, Conducted | 0.54 | |
| Power Spectral Density, Conducted | 1.28 | |
| Spurious Emissions, Conducted | 1.28 | |
| Radiated Emissions(<1GHz) | 9kHz~30MHz | 2.6 |
| | 30MHz~1GHz | 5.08 |
| Radiated Emissions(>1GHz) | 1GHz~6GHz | 4.02 |
| | 6GHz~18GHz | 4.62 |
| | 18GHz~40GHz | 4.7 |
| Occupied Bandwidth | 1.14 | |
| Conducted Emissions—AC mains | 9kHz~150KHz | 1.76 |
| | 150kHz~30MHz | 2.52 |
| Conducted Emissions—Telecom | 2.64 | |

# 5 General Information

## 5.1 Client Information

| | |
|---|---|
| **Applicant:** | SHENZHEN ELECTRON TECHNOLOGY CO., LTD. |
| **Address of applicant:** | Bld.2, Yingfeng Industrial Zone, Tantou Community, Songgang Street, Bao'an, Shenzhen, China. |
| **Manufacturer:** | Same as applicant |
| **Address of Manufacturer:** | Same as applicant |
| **Factory:** | Same as applicant |
| **Address of Factory:** | Same as applicant |

## 5.2 General Description of EUT

| | |
|---|---|
| Product Name: | Android Tablet |
| Model No.: | WF3288T, FA3288T, FA3288T, WF3288T-4K, FA3288T-4K |
| Test model: | WF3288T |
| Test sample(s) ID: | 24092302001 |
| Sample(s) Status: | Normal without modified |
| Operation Frequency: | 13.56MHz |
| Modulation Type: | ASK |
| Power supply: | Adapter 1:<br>Model: FJ-SW729S1205000N<br>Input: AC 100-240V, 50/60Hz<br>Output: DC 12V, 5A<br><br>Adapter 2:<br>Model: S06S-1A120500B3<br>Input: AC 100-240V, 50/60Hz<br>Output: DC 12V, 5A |

List adapters were test and compliance with relevant requirement, the worst condition report (adapter 1)

## 5.3 Test mode(s)

| | |
|---|---|
| Mode 1: | Continuously transmitting |
| Mode 2: | |
| Mode 3: | |
| Mode 4: | |
| Mode 5: | |

## 5.4 Test Facility

| | |
|---|---|
| The test facility is recognized, certified, or accredited by these organizations: | **FCC Accredited Lab**<br>Test Firm Registration Number: 638130<br>Designation Number: CN1359 |
| | **IC Registration Lab**<br>CAB Identifier No.CN0154 |
| | **A2LA Accreditation Lab**<br>Certificate No.:7057.01 |

| | |
|---|---|
| Test Performed at: | **Name**<br>GuangDong Set Sail Testing Co., Ltd. |
| | **Address**<br>101, No.19, Tianxin Hudie 1st Road, Huangjiang Town, Dongguan, Guangdong, China |

## 5.5 Description of Support Units

| Manufacturer | Description | Model | Serial Number |
|---|---|---|---|
| / | / | / | / |
| | | | / |
| | | | |

## 5.6 Others

The laboratory responsible for all the information provided in the report, except those information provided by the applicant.
The applicant shall fully responsible for the information they provided.
The report would be invalid without a stamp of test laboratory and the signatures of compiler and approver.
The laboratory has not been responsible for the sampling stage; the test report merely corresponds to the test sample received.
Any objection to the test report shall submitted to the test laboratory within 15 days from the date of receipt of the report.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

# 6 Technical Requirement and Measurement Data

## 6.1 Generally requirement

| **15.203 requirement:** |
| --- |
| An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. |
| **EUT Antenna:** |
| The antenna of EUT is permanently attached |

## 6.2 Conducted Emission

**Limit**

| Frequency (MHz) | ☐Class A (dBμV) | | ☒Class B (dBμV) | |
|---|---|---|---|---|
| | Quasi-peak | Average | Quasi-peak | Average |
| 0.15~0.50 | 79 | 66 | 66 to 56* | 56 to 46* |
| 0.50~5.0 | 73 | 60 | 56 | 46 |
| 5.0~30 | 73 | 60 | 60 | 50 |

*Decreases with the logarithm of the frequency.

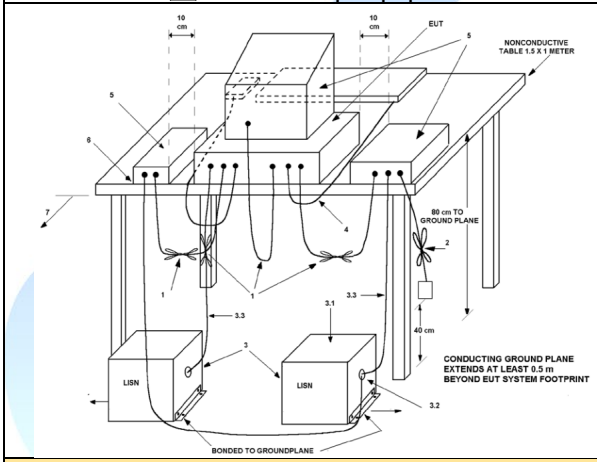
If the limit for the measurement with the average detector is met when using a receiver with a quasi-peak detector, the equipment under test shall be deemed to meet both limits and the measurement using the receiver with an average detector need not be carried out

**Measured Frequency Range**

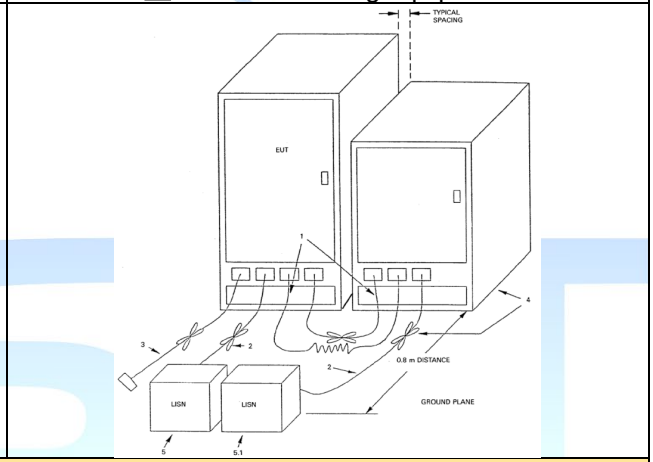
150kHz ~ 30MHz

**Block diagram of Test Setup**

☒For table-top equipment




☐For floor standing equipment




**Test Instrument**

Refer to Annex A for details

**Test Procedures**

The measurement was performed in a shield room.

Measured levels of ac power-line conducted emission shall be the radio-noise voltage from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), as terminated into a 50 Ω EMI receiver or spectrum analyzer. All radio-noise voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord or calibrated extension cord by the use of mating plugs and receptacles on the EUT and LISN, if used. The manufacturer shall test equipment with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended. For measurements using a LISN, the 50 Ω measuring port is terminated into a 50 Ω EMI receiver or spectrum analyzer. All other ports are terminated into 50 Ω loads.

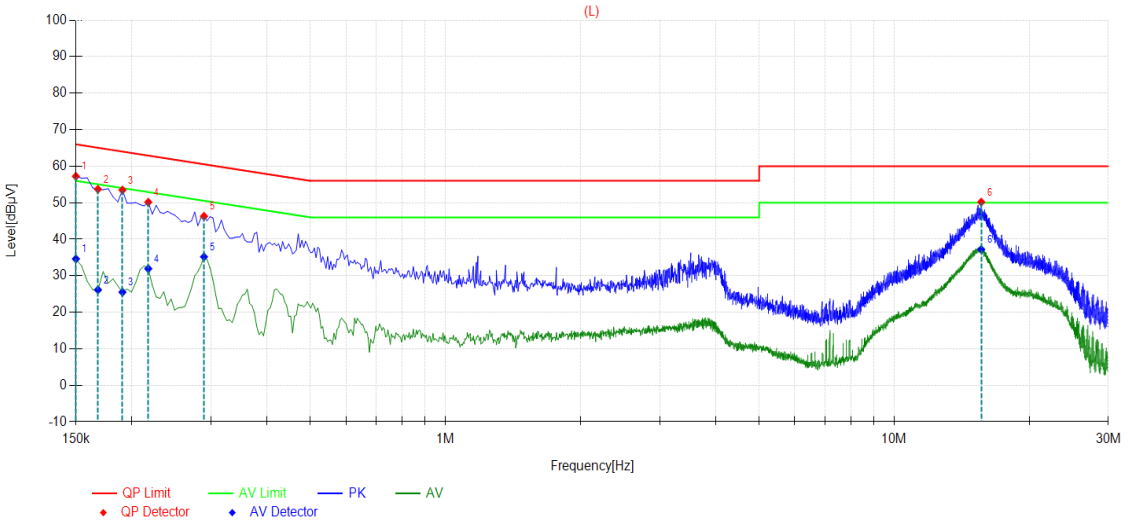
Table top devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of table top or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

The bandwidth of the test receiver is set at 9 kHz.

**Verdict**

Pass

| Test Result | | | |
|---|---|---|---|
| Test mode | Mode 1 | Polarity | Line |
| Test voltage | AC 120V/60Hz | Temp. /Hum. | 25 °C/60% |

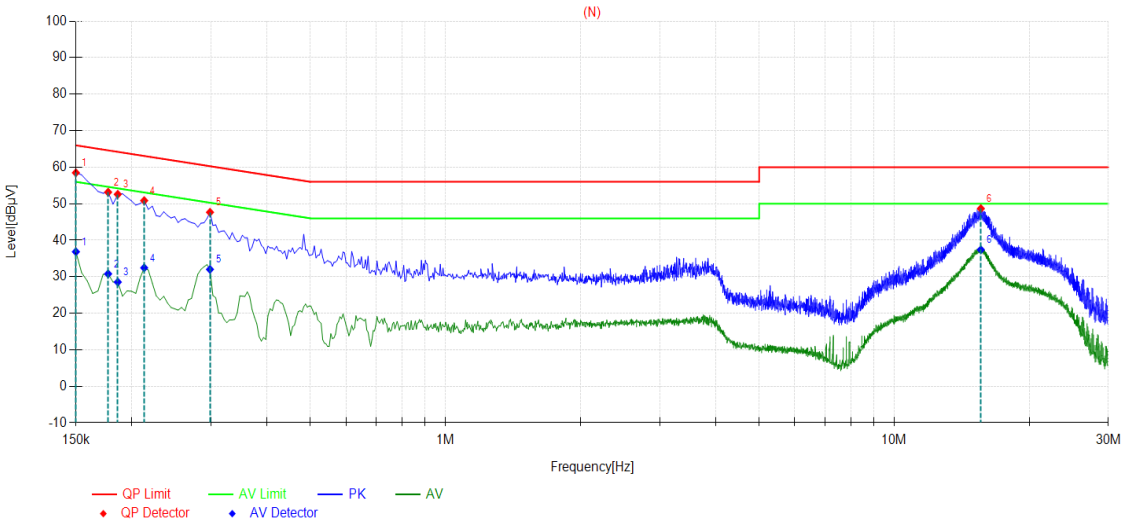



**Final Data List**

| NO. | Freq. [MHz] | QP Value [dBµV] | QP Limit [dBµV] | QP Margin [dB] | AV Value [dBµV] | AV Limit [dBµV] | AV Margin [dB] | Verdict | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.15 | 57.24 | 66.00 | 8.76 | 34.62 | 56.00 | 21.38 | PASS | L |
| 2 | 0.168 | 53.69 | 65.06 | 11.37 | 26.13 | 55.06 | 28.93 | PASS | L |
| 3 | 0.1905 | 53.47 | 64.01 | 10.54 | 25.50 | 54.01 | 28.51 | PASS | L |
| 4 | 0.2175 | 50.14 | 62.91 | 12.77 | 31.92 | 52.91 | 20.99 | PASS | L |
| 5 | 0.2895 | 46.29 | 60.54 | 14.25 | 35.17 | 50.54 | 15.37 | PASS | L |
| 6 | 15.63 | 50.18 | 60.00 | 9.82 | 37.21 | 50.00 | 12.79 | PASS | L |

*Note: Final Level =Receiver Read level + Factor*
*Factor= LISN Factor + Cable Loss*
*Only the worst data report*

| Test Result | | | |
|---|---|---|---|
| Test mode | Mode 1 | Polarity | Neutral |
| Test voltage | AC 120V/60Hz | Temp. /Hum. | 25 °C/60% |




**Final Data List**

| NO. | Freq. [MHz] | QP Value [dBµV] | QP Limit [dBµV] | QP Margin [dB] | AV Value [dBµV] | AV Limit [dBµV] | AV Margin [dB] | Verdict | Type |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.15 | 58.49 | 66.00 | 7.51 | 36.84 | 56.00 | 19.16 | PASS | N |
| 2 | 0.177 | 53.16 | 64.63 | 11.47 | 30.79 | 54.63 | 23.84 | PASS | N |
| 3 | 0.186 | 52.58 | 64.21 | 11.63 | 28.54 | 54.21 | 25.67 | PASS | N |
| 4 | 0.213 | 50.86 | 63.09 | 12.23 | 32.44 | 53.09 | 20.65 | PASS | N |
| 5 | 0.2985 | 47.66 | 60.28 | 12.62 | 32.01 | 50.28 | 18.27 | PASS | N |
| 6 | 15.5985 | 48.67 | 60.00 | 11.33 | 37.41 | 50.00 | 12.59 | PASS | N |

*Note: Final Level =Receiver Read level + Factor*
*Factor= LISN Factor + Cable Loss*
*Only the worst data report*

## 6.3 Radiated Emission

**Limit**

**Fundamental Emission:**

| Frequency(MHz) | Limit at 30m (dBuV/m) | Limit at 3m (dBuV/m) |
|---|---|---|
| 13.110 – 13.410 | 40.5 | 80.5 |
| 13.410 – 13.553 | 50.5 | 90.5 |
| 13.553 – 13.567 | 84.0 | 124.0 |
| 13.567 – 13.710 | 50.5 | 90.5 |
| 13.710 – 14.010 | 40.5 | 80.5 |

**Spurious emissions:**

| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|---|---|---|
| 0.009–0.490 | 2400/F(kHz) | 300 |
| 0.490–1.705 | 24000/F(kHz) | 30 |
| 1.705–30.0 | 30 | 30 |
| 30–88 | 100 ** | 3 |
| 88–216 | 150 ** | 3 |
| 216–960 | 200 ** | 3 |
| Above 960 | 500 | 3 |

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

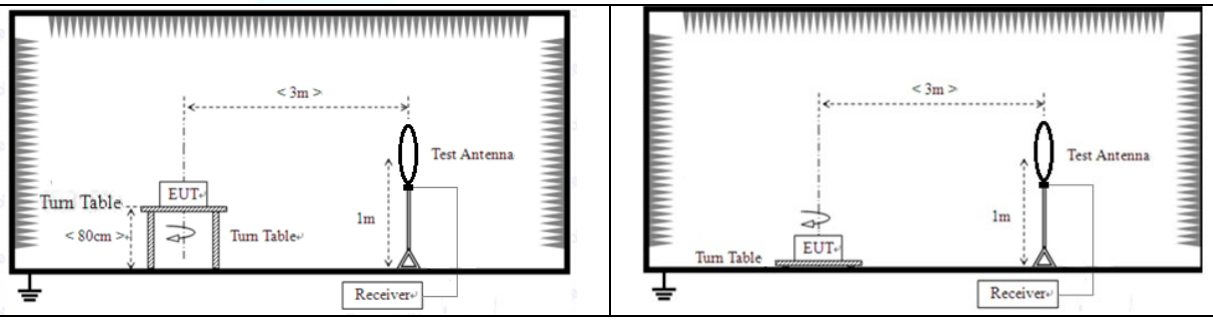
**Measured Frequency Range**

| Highest frequency generated or used in the device or on which the device operates or tunes (MHz) | Upper frequency of measurement range (MHz) |
|---|---|
| Below 1.705 | 30. |
| 1.705–108 | 1000. |
| 108–500 | 2000. |
| 500–1000 | 5000. |
| Above 1000 | 5th harmonic of the highest frequency or 40 GHz, whichever is lower. |

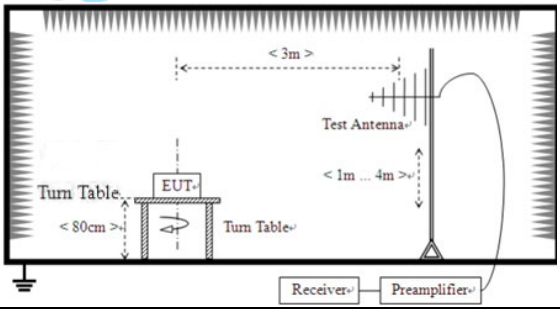
**Block diagram of Test Setup**

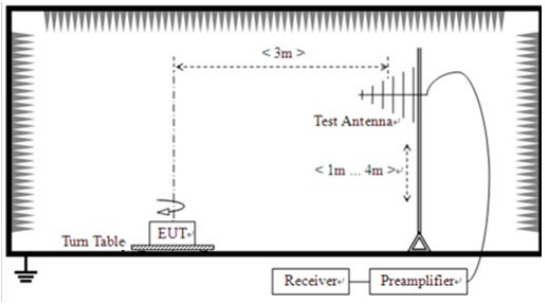
| ☒For table-top equipment | ☐For floor standing equipment |
|---|---|

For radiated emissions from 9kHz to 30MHz

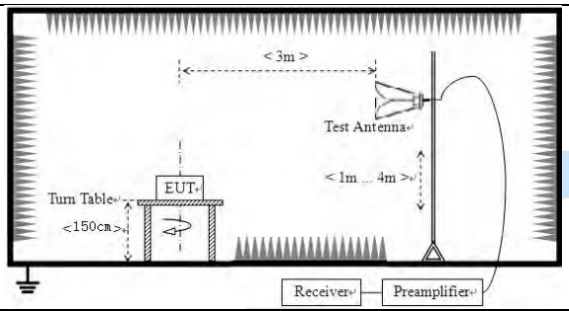


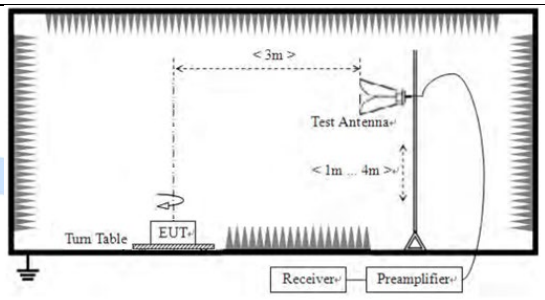

For radiated emissions from 30MHz to1GHz




For radiated emissions above 1GHz




**Test Instrument**

Refer to Annex A for details

**Test Procedures**

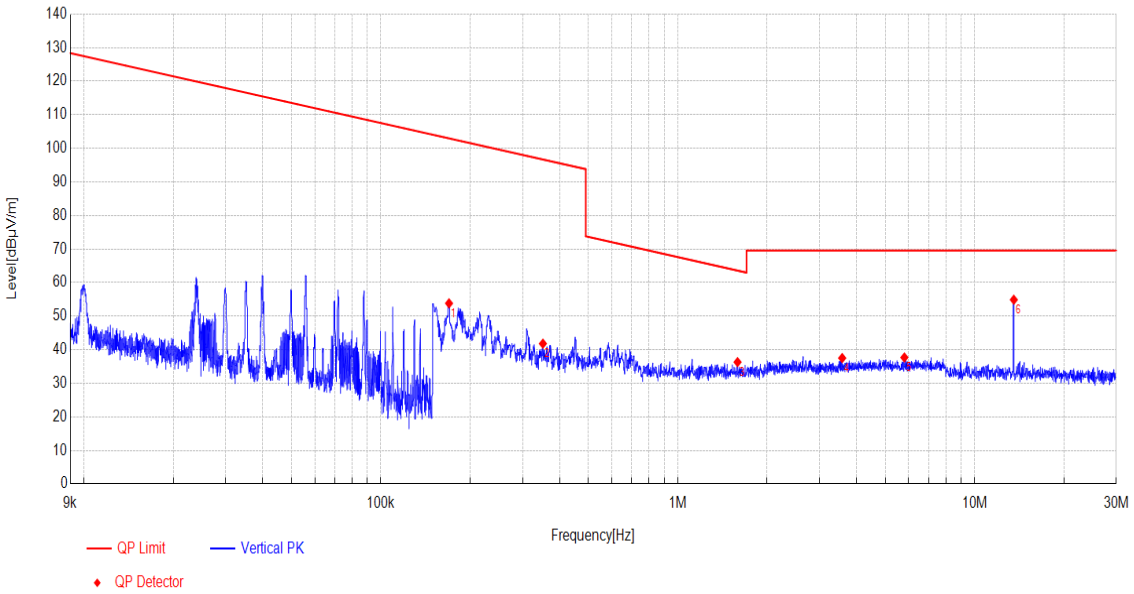
The measurement was performed in a semi-anechoic chamber.
While testing for spurious emission higher than 1GHz, the pre-amplifier (and high pass filter if necessary) is equipped just at the output terminal of the antenna.
The distance from EUT to receiving antenna is 3 meters.
The radiated emission was measured using the test receiver with the resolutions bandwidth set as:
RBW:
9kHz~150kHz: 300Hz
150kHz~30MHz: 10kHz
30MHz~1GHz: 100kHz
VBW: ≥3*RBW
Sweep time: Auto couple
Detector: Peak
Trace: Max hold, Trace allowed to stabilize.

The limit is converted from microvolts/meter to decibel microvolts/meter.
Limit(dBuV/m @3m)=Limit(dBuV/m)+Distance correction
Distance Correction:
0.009MHz~0.49MHz: 40*log(300m/3m)=80dB
0.49MHz~30MHz: 40*log(30m/0m)=40dB

**Verdict**

Pass

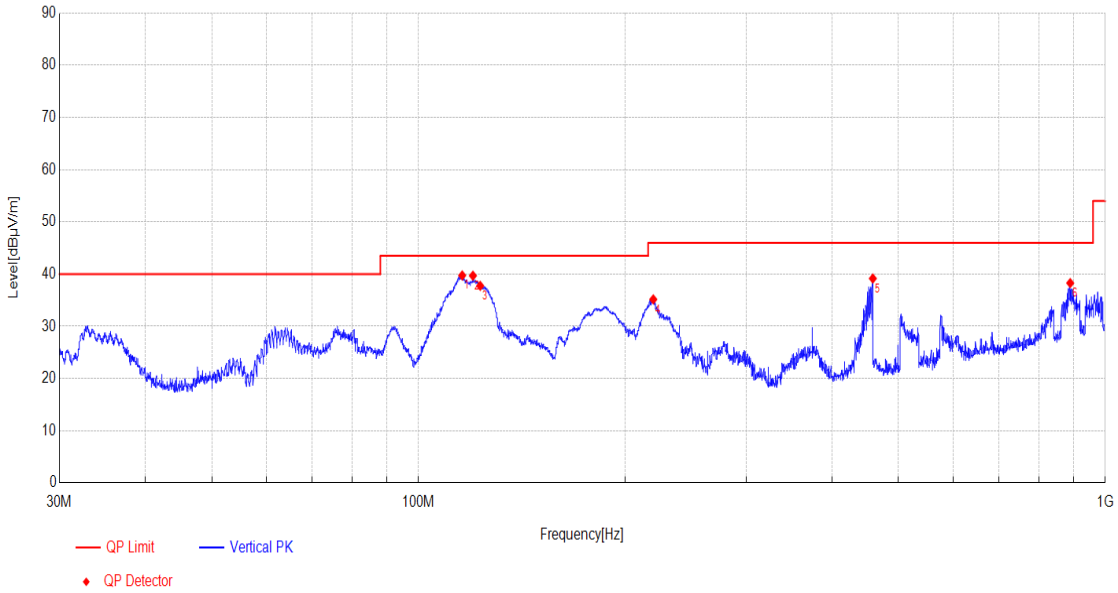
| Test Result(Below 30MHz) | | | |
|---|---|---|---|
| Test mode | Mode 1 | Temp. /Hum. | 25 °C/60% |
| Test voltage | AC 120V/60Hz | | |




| NO. | Freq. [MHz] | Factor [dB] | Value [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Verdict |
|---|---|---|---|---|---|---|---|
| 1 | 0.1697 | 20.34 | 53.81 | 102.97 | 49.16 | AV | PASS |
| 2 | 0.3515 | 20.30 | 41.81 | 96.67 | 54.86 | AV | PASS |
| 3 | 1.5904 | 20.26 | 36.30 | 63.57 | 27.27 | QP | PASS |
| 4 | 3.5815 | 20.41 | 37.51 | 69.54 | 32.03 | QP | PASS |
| 5 | 5.7997 | 20.54 | 37.69 | 69.54 | 31.85 | QP | PASS |
| 6 | 13.5535 | 20.58 | 54.88 | 124.0 | 69.12 | QP | PASS |

*Note: Final Level =Receiver Read level + Factor*
*Factor= Antenna Factor + Cable Loss – Preamplifier Factor*
*Test result contains x,y,z axis*

| Test Result(Below 1GHz) | | | |
|---|---|---|---|
| Test mode | Mode 1 | Polarity | Vertical |
| Test voltage | AC 120V/60Hz | Temp. /Hum. | 25 °C/60% |




| NO. | Freq. [MHz] | Factor [dB] | QP Value [dBµV/m] | QP Limit [dBµV/m] | QP Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|
| 1 | 115.788 | 11.62 | 39.74 | 43.50 | 3.76 | Vertical | PASS |
| 2 | 120.0243 | 10.97 | 39.70 | 43.50 | 3.80 | Vertical | PASS |
| 3 | 123.0061 | 10.44 | 37.75 | 43.50 | 5.75 | Vertical | PASS |
| 4 | 219.7355 | 12.72 | 35.16 | 46.00 | 10.84 | Vertical | PASS |
| 5 | 458.8015 | 18.46 | 39.16 | 46.00 | 6.84 | Vertical | PASS |
| 6 | 889.1936 | 24.94 | 38.29 | 46.00 | 7.71 | Vertical | PASS |

*Note: Final Level =Receiver Read level + Factor*
*Factor= Antenna Factor + Cable Loss – Preamplifier Factor*
*Only the worst data report*

| Test Result(Below 1GHz) | | | |
|---|---|---|---|
| Test mode | Mode 1 | Polarity | Horizontal |
| Test voltage | AC 120V/60Hz | Temp. /Hum. | 25 °C/60% |


| NO. | Freq. [MHz] | Factor [dB] | QP Value [dBµV/m] | QP Limit [dBµV/m] | QP Margin [dB] | Polarity | Verdict |
|---|---|---|---|---|---|---|---|
| 1 | 162.8271 | 9.71 | 34.49 | 43.50 | 9.01 | Horizontal | PASS |
| 2 | 169.5256 | 9.67 | 36.57 | 43.50 | 6.93 | Horizontal | PASS |
| 3 | 177.8974 | 10.74 | 38.69 | 43.50 | 4.81 | Horizontal | PASS |
| 4 | 184.8916 | 11.27 | 38.98 | 43.50 | 4.52 | Horizontal | PASS |
| 5 | 195.5587 | 11.86 | 35.56 | 43.50 | 7.94 | Horizontal | PASS |
| 6 | 218.583 | 12.69 | 36.16 | 46.00 | 9.84 | Horizontal | PASS |

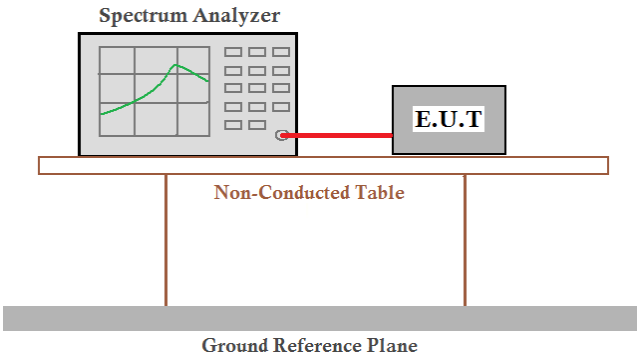
*Note: Final Level =Receiver Read level + Factor*
*Factor= Antenna Factor + Cable Loss – Preamplifier Factor*
*Only the worst data report*

## 6.4 Emission Bandwidth

**Limit**

Report only

**Block diagram of Test Setup**




**Test Instrument**

Refer to Annex A for details

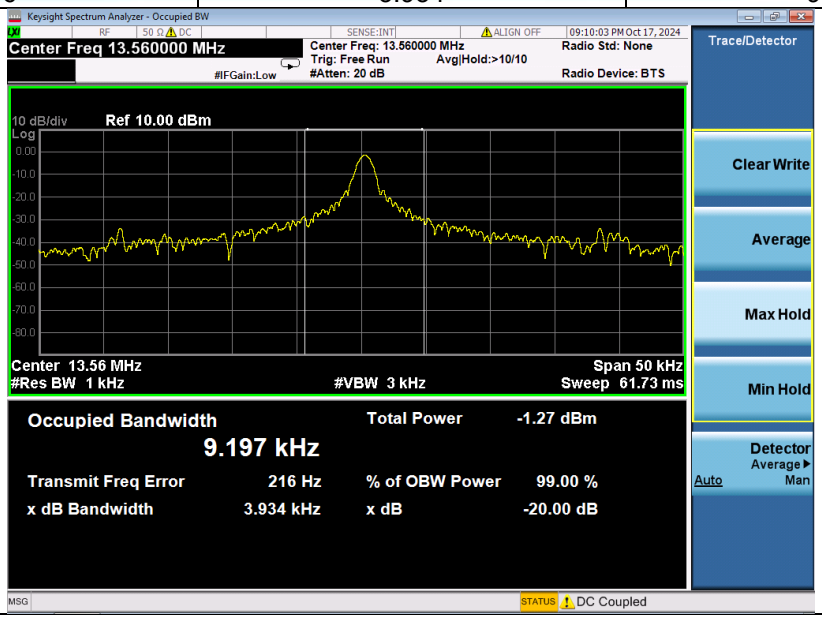
**Test Procedures**

Analyser frequency set to the wanted transmitting frequency
RBW: >200Hz
VBW: ≥3 x RBW
Sweep time: Auto couple
Detector: Peak
Trace: Max hold, trace was allowed to stabilize.

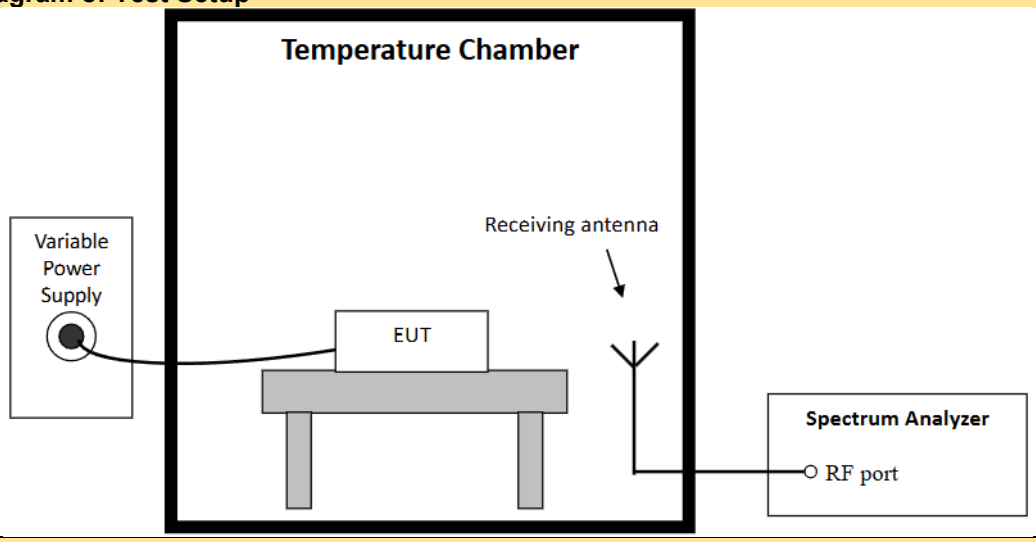
**Verdict**

Pass

| Test Frequency(MHz) | 20dB bandwidth(kHz) | 99% Occupied bandwidth(kHz) |
|---|---|---|
| 13.56 | 3.934 | 9.197 |



## 6.5 Frequency Tolerance

| **Limit** |
|---|
| The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of −20 degrees to + 50 degrees C at normal supply voltage |
| **Block diagram of Test Setup** |
|  |
| **Test Instrument** |
| Refer to Annex A for details |
| **Test Procedures** |
| Test Procedure as per ANSI 63.10 clause 6.8.1, 6.8.2. |
| **Verdict** |
| Pass |



Test Result:

| Nominal Freq.: 13.56MHz | | | | |
|---|---|---|---|---|
| Voltage ($V_{ac}$) | Temp (℃) | Measured Frequency (MHz) | Tolerance (%) | Limit (%) |
| 120 | -20 | 13.5608 | 0.0061 | ±0.01 |
| | -10 | 13.5600 | 0 | |
| | 0 | 13.5607 | 0.0052 | |
| | 10 | 13.5604 | 0.0030 | |
| | 20 | 13.5604 | 0.0029 | |
| | 30 | 13.5601 | 0.0009 | |
| | 40 | 13.5604 | 0.0026 | |
| | 50 | 13.5608 | 0.0061 | |

| Nominal Freq.: 13.56MHz | | | | |
|---|---|---|---|---|
| Voltage ($V_{ac}$) | Temp (℃) | Measured Frequency (MHz) | Tolerance (%) | Limit (%) |
| 102 | 20 | 13.5594 | -0.0044 | ±0.01 |
| 120 | | 13.5596 | -0.0031 | |
| 138 | | 13.5594 | -0.0043 | |

# 7 Test Setup Photo

Reference to the **appendix I** for details.

# 8 EUT Constructional Details

Reference to the **appendix II** for details.

# Annex A --Test Instruments list

| Radiated Emission: | | | | | | |
|---|---|---|---|---|---|---|
| **Equipment No.** | **Test Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Cal. cycle** | **Cal.Date** |
| SST-E-SAC001 | 3m Semi- Anechoic Chamber | BOST | 966 | / | 3 years | 2023.01.07 |
| SST-E-SCC001 | Control Room | BOST | 333 | / | 3 years | 2023.01.07 |
| SST-E-SAC002 | Breiband TRILOG Messantenne | Schwarzbeck | VULB 9162 | 00556 | 1 year | 2024.04.20 |
| SST-E-SAC004 | Broad-band Horn Antenna | Schwarzbeck | BBHA 9120 D | 02783 | 1 year | 2024.04.16 |
| SST-E-SCC003 | EMI Test Receiver | R&S | ESU 8 | 100372 | 1 year | 2024.04.16 |
| SST-E-SCC004 | Amplifier | Schwarzbeck | BBV 9744 | 00327 | 1 year | 2024.04.16 |
| SST-E-SCC015 | Amplifie（1-18GHz） | TSTPASS | LNA10180G45 | TSAM2303003 | 1 year | 2024.04.16 |
| SST-E-SCC016 | Amplifier（40G） | RFsystem | TRLA-180400G45B | 23060801 | 1 year | 2024.04.16 |
| SST-E-SAC006 | Broadband Horn Antenna（40G） | Schwarzbeck | BBHA9170 | 01306 | 1 year | 2024.04.17 |
| SST-E-RSC010 | Spectrum analyzer | R&S | FSV40-N | / | 1 year | 2024.04.16 |
| SST-E-SAC007 | Loop Antenna | Schwarzbeck | FMZB 1513-60B | 1513-60B 044 | 1 year | 2024.04.17 |
| SST-E-SAC005 | 5W 6dB attenuator | / | DC-6GHz | / | Internal calibration | / |
| SST-E-EMC006 | Thermohygrometer | KTJ | TA218A | 879030 | 1 year | 2024.04.18 |
| / | EMI Test Software | Tonscend | TS+ | / | / | / |

| Conducted Emission | | | | | | |
|---|---|---|---|---|---|---|
| **Equipment No.** | **Test Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Cal. cycle** | **Cal.Date** |
| SST-E-CSC001 | Shielding Room | BOST | 854 | / | 3 years | 2023.01.07 |
| SST-E-CSC002 | EMI Test Receiver | R&S | ESR3 | 103057 | 1 year | 2024.04.16 |
| SST-E-CSC003 | LISN | R&S | ENV 216 | 102832 | 1 year | 2024.04.16 |
| SST-E-CSC004 | ISN | R&S | NTFM 8158 | 00347 | 1 year | 2024.04.16 |
| SST-E-CSC007 | Antenna port test assembly | / | DC-3GHz | / | Internal calibration | / |
| SST-E-EMC011 | Thermohygrometer | KTJ | TA218A | 879036 | 1 year | 2024.04.18 |
| / | EMI Test Software | Tonscend | TS+ | / | / | / |

**►►► END OF REPORT ◄◄◄**