



TEST REPORT

Report No. SST240710002EF04

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 Subpart E Section 15.407

FCC ID: 2ABC5-E0069

Test Report Form No: SST-RD-7.5-02-E01(A/0)

Date of sample receipt: 2024/7/22

Date of Test: 2024/7/22 - 2024/8/9

Date of report issued: 2024/8/13

*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:

Bob

Reviewed by:

Tiger

Approved by:

Seven Zhan



*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 | 2024/8/13 |
| | | |
| | | |



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3 Test Summary

| Test items | Basics standards | Result |
|--|--------------------------------------|--------|
| Antenna requirement | FCC part 15.203 | PASS |
| Automatically discontinue transmission | FCC part 15.407(c) | Pass |
| AC Power Line Conducted Emission | FCC part 15.207 | PASS |
| 99% Bandwidth | Report only | PASS |
| Emission Bandwidth | FCC part 15.407(a) | PASS |
| Peak Transmit Power | FCC part 15.407(a)(1)(2) | PASS |
| Power Spectral Density | FCC part 15.407(a) (1)(2) | PASS |
| Undesirable Emission | FCC part 15.407(b), 15.205/15.209 | PASS |
| Radiated Emission | FCC part 15.205/15.209 | PASS |
| Frequency Stability | FCC part 15.407(g) | 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 inform 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 (\pm) (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.: | WF2136T、WF1026T、WF1036T、WF1066T、WF1416T、WF1526T、WF1566T、WF1736T、WF1856T、WF2136T、WF2156T、WF2406T、WF2706T、WF3206T、WF4306T、WF5506T |
| Different product models only represent sales customers, sales regions are different, everything else is completely the same. | |
| Test Model: | WF2136T |
| Test sample(s) ID: | 24071000201 |
| Sample(s) Status: | Continuously transmitter |
| S/N: | / |
| Hardware version: | / |
| Software version: | / |
| Operation Frequency: | 5180MHz~5240MHz |
| Technical specific: | 802.11a, 802.11n, 802.11ac, 802.11ax |
| Supported bandwidth: | 20MHz, 40MHz, 80MHz |
| Modulation technology: | OFDM(A) |
| Antenna gain: | Refer to section 5.7 for details |
| Power supply: | SWITCHING ADAPTER Model: FJ-SW20261203000 Input: AC 200~250V, 50/60Hz, 1.5A Max Output: DC 12V, 3A Or DC 12V/5A, POE Power Supply |

| Channel list for 802.11 | | | | | | | |
|-------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 36 | 5180MHz | 54 | 5270MHz | 104 | 5520MHz | 122 | 5610MHz |
| 38 | 5190MHz | 56 | 5280MHz | 106 | 5530MHz | 124 | 5620MHz |
| 40 | 5200MHz | 58 | 5290MHz | 108 | 5540MHz | 126 | 5630MHz |
| 42 | 5210MHz | 60 | 5300MHz | 110 | 5550MHz | 128 | 5640MHz |
| 44 | 5220MHz | 62 | 5310MHz | 112 | 5560MHz | 132 | 5660MHz |
| 46 | 5230MHz | 64 | 5320MHz | 116 | 5580MHz | 134 | 5670MHz |
| 48 | 5240MHz | 100 | 5500MHz | 118 | 5590MHz | 136 | 5680MHz |
| 52 | 5260MHz | 102 | 5510MHz | 120 | 5600MHz | 140 | 5700MHz |

5.3 Test mode(s)

| | |
|---------|---|
| Mode 1: | continuously transmitting, with its lowest data rate which emit the max power level |
| Mode 2: | |
| Mode 3: | |
| | |
| | |
| | |

5.4 Test Facility

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

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

5.5 Description of Support Units

| Device Type | Brand | Model | Series No. | Note |
|-------------|-------|----------|------------|------|
| Notebook PC | HP | ZHAN 66P | --- | --- |

5.6 Additional Instructions

| | |
|-------------------|---------------------------|
| Test Software | Special test command used |
| Power level setup | Default |

5.7 Antenna Information

| Ant | Manufacturer | Model | Antenna Type | Antenna Gain (dBi) | Note |
|-----|--|-------|--------------|--------------------|----------|
| 1 | Shenzhen Yishengbang Technology Co., Ltd | / | / | 1.36 | WiFi, BT |

All above information provided by the applicant which is fully responsible for those information.

5.8 Others

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

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.

15.407 requirement:

If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

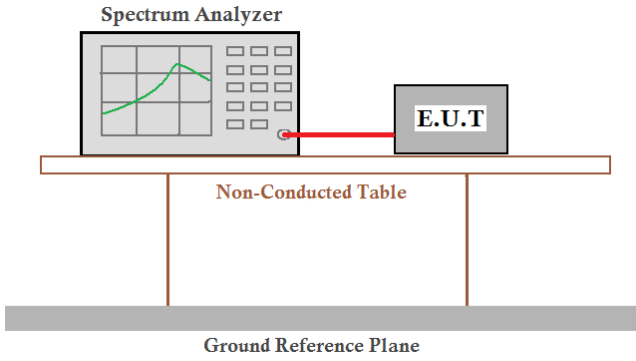
EUT Antenna:

Reference to the appendix II for details

15.407(c) requirement:

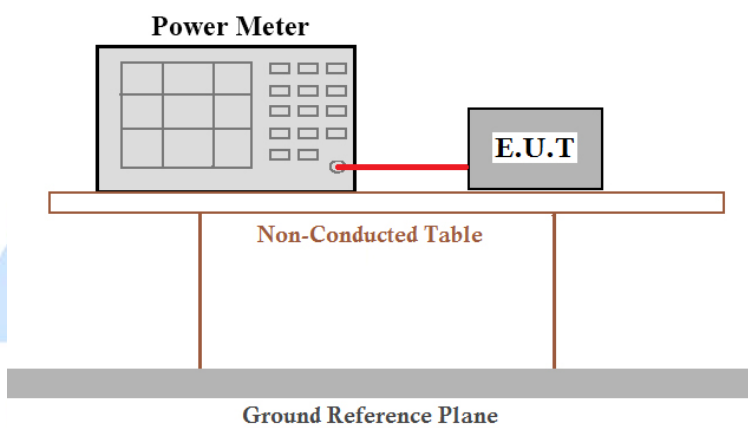
The applicant declares that the device (FCC Part 15 Subpart E Section 15.407) shall automatically discontinue transmission in cases of absence of information to transmit, or operational failure.

6.2 Duty Cycle

| |
|---|
| Limit |
| Report for use |
| Block diagram of Test Setup |
|  <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| <p>The transmitter output connected to the Spectrum Analyzer. Test according to Procedure B.2 in KDB 789033 D02 v02r01.</p> <ol style="list-style-type: none"> 1.RBW=8 MHz(the largest available value) 2.VBW=8 MHz(>RBW) 3.SPAN = 0 Hz 4.Detector = Peak 5.Number of points in sweep: 30001 6.Trace mode: Clear write 7.Measure T_{total} and T_{on} 8.Calculate Duty Cycle = T_{on}/T_{total} and Duty Cycle Factor = $10\log(1/Duty\ Cycle)$ |
| Verdict |
| Pass |

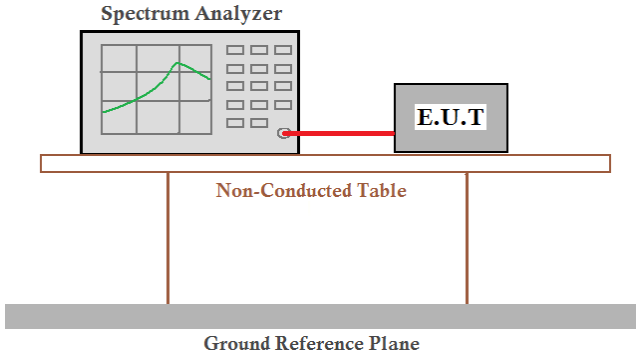
Measurement Data: The detailed test data see Appendix

6.3 Conducted Peak Output Power

| Limit | |
|---|---|
| Frequency band(MHz) | Maximum conducted power |
| 5150-5250 | ≤1W(30dBm) for master device |
| | ≤250Mw(23.98dBm) for client device |
| 5250-5350 | ≤250Mw(23.98dBm) for client device or 11dBm+10logB* |
| 5470-5725 | ≤250Mw(23.98dBm) for client device or 11dBm+10logB* |
| Remark: *Where B is the 26dB emission bandwidth in MHz. The maximum conducted output power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. | |
| Block diagram of Test Setup | |
|  <p>The diagram illustrates the test setup. A Power Meter is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p> | |
| Test Instrument | |
| Refer to Annex A for details | |
| Test Procedures | |
| Test applies to ANSI C63.10:2013 & KDB 789033 D02 v02r01 | |
| Verdict | |
| Pass | |

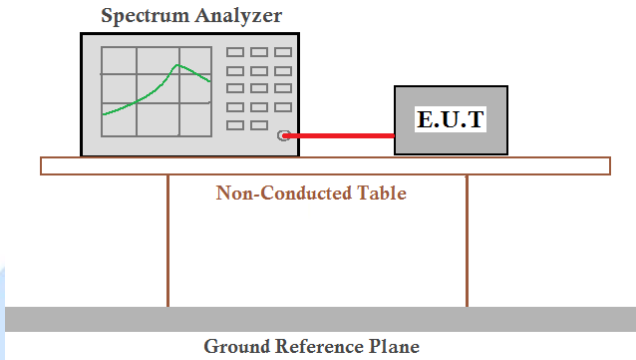
Measurement Data: The detailed test data see Appendix

6.4 Emission Bandwidth

| |
|---|
| Limit |
| Report only |
| Block diagram of Test Setup |
|  <p>The diagram shows a Spectrum Analyzer and an E.U.T. (Equipment Under Test) connected by a red cable. Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| Test applies to ANSI C63.10:2013 & KDB 789033 D02 v02r01 |
| Verdict |
| Pass |

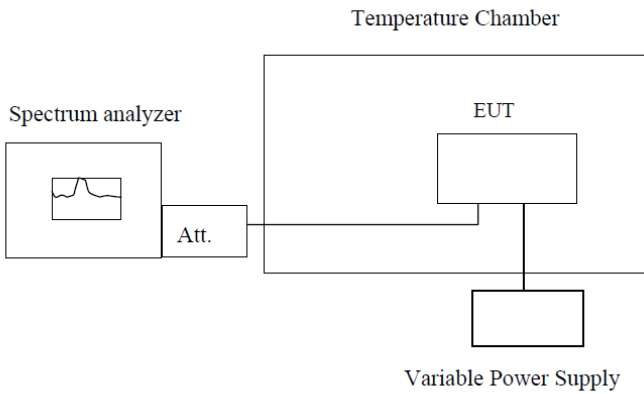
Measurement Data: The detailed test data see Appendix

6.5 Power Spectral Density

| Limit | |
|--|----------------------------------|
| Frequency band (MHz) | Maximum power spectral density |
| 5150-5250 | ≤17dBm in 1MHz for master device |
| | ≤11dBm in 1MHz for client device |
| 5250-5350 | ≤11dBm in 1MHz for client device |
| 5470-5725 | ≤11dBm in 1MHz for client device |
| Block diagram of Test Setup | |
|  <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p> | |
| Test Instrument | |
| Refer to Annex A for details | |
| Test Procedures | |
| Test applies to ANSI C63.10:2013 & KDB 789033 D02 v02r01 | |
| Verdict | |
| Pass | |

Measurement Data: The detailed test data see Appendix

6.6 Frequency Stability

| |
|---|
| Limit |
| Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified |
| Block diagram of Test Setup |
|  <p style="text-align: center;">Note : Measurement setup for testing on Antenna connector</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| Test applies to ANSI C63.10:2013, FCC Part 2.1055. |
| Verdict |
| Pass |

Measurement Data: The detailed test data see Appendix

6.7 Radiated Spurious Emission

Limit

| 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.

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

Undesirable emission limits: the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

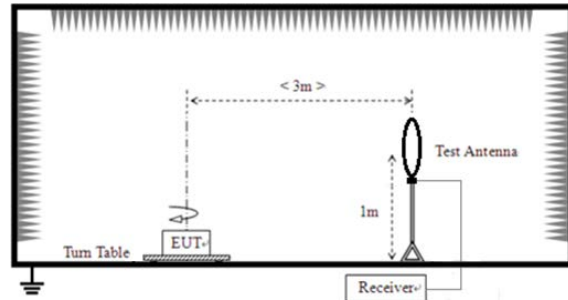
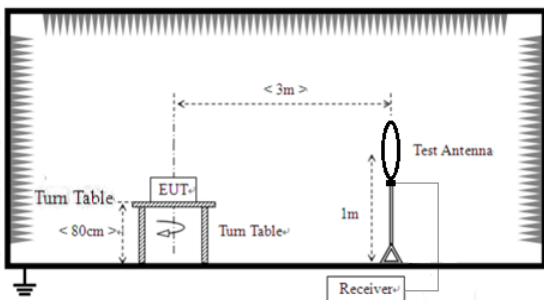
- (1) For transmitters operating in the 5.15–5.25 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (2) For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (3) For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.

Block diagram of Test Setup

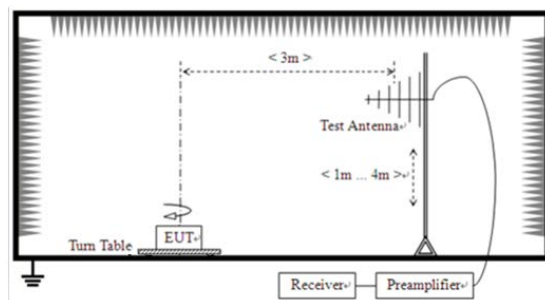
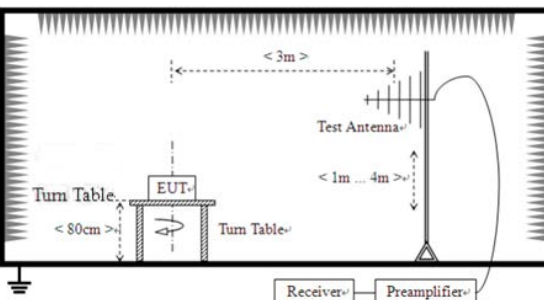
 For table-top equipment

 For floor standing equipment

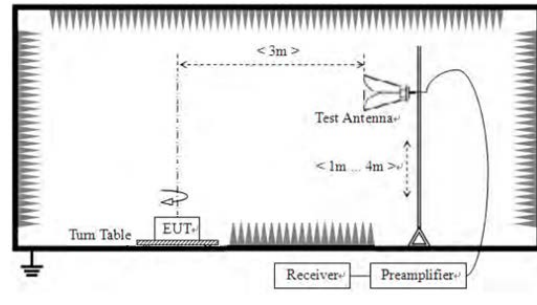
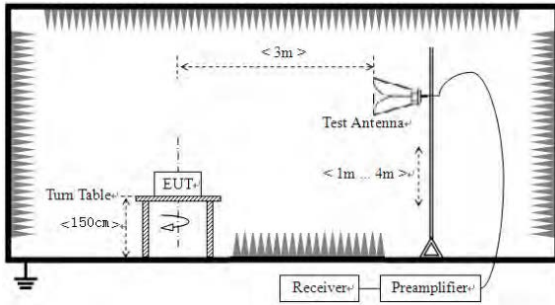
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz


Test Instrument

Refer to Annex A for details

Test Procedures

Test applies to ANSI C63.10:2013 & KDB 789033 D02 v02r01

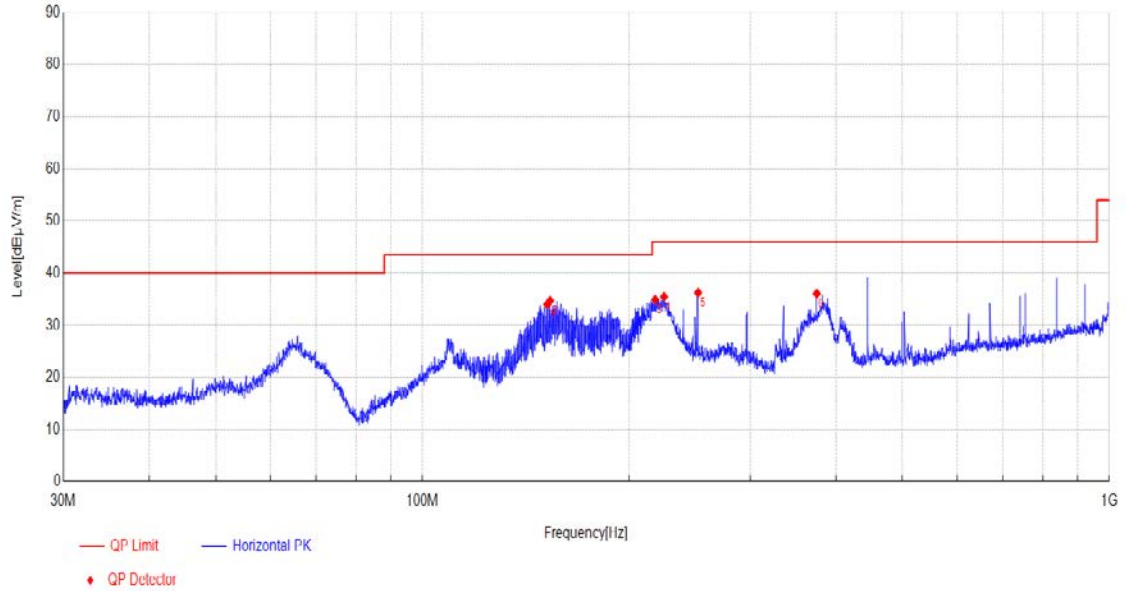
Verdict

Pass

Note:

1. The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o), the test result no need to reported.
2. The undesirable spurious emission range from 26GHz to 40GHz is as low as the cabinet noise, so there is no report, refer to appendix for details.
3. According to KDB 789033 D02 v02r01 section G) 1) (d), for For measurements above 1000 MHz @ 3m distance, the limit of field strength is computed as follows:
 $E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2;$
 For example, if $\text{EIRP} = -27\text{dBm}$
 $E[\text{dBuV/m}] = -27 + 95.2 = 68.2\text{dBuV/m}.$

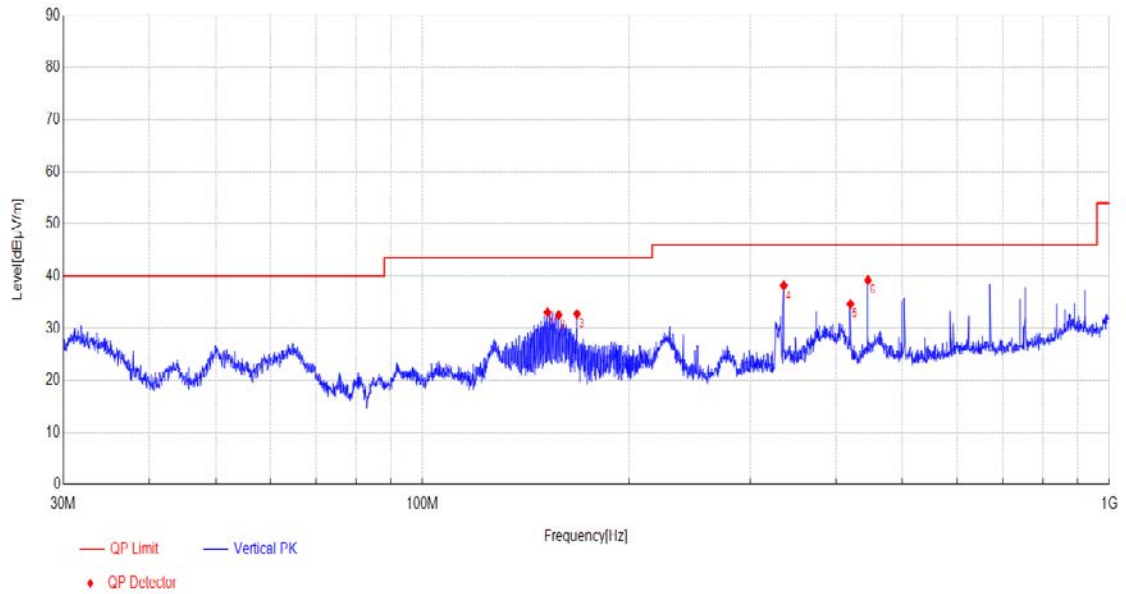
| Test Result(30M~1GHz) | | | |
|-----------------------|--------------|-------------|------------|
| Test mode | Mode 1 | Polarity | Horizontal |
| Test voltage | AC 120V/60Hz | Temp. /Hum. | 25 °C/60% |



| NO. | Freq. [MHz] | Factor [dB] | QP Value [dBµV/m] | QP Limit [dBµV/m] | QP Margin [dB] | Polarity | Verdict |
|-----|-------------|-------------|-------------------|-------------------|----------------|------------|---------|
| 1 | 151.9348 | 9.14 | 34.01 | 43.50 | 9.49 | Horizontal | PASS |
| 2 | 153.4066 | 9.25 | 34.69 | 43.50 | 8.81 | Horizontal | PASS |
| 3 | 218.2002 | 12.68 | 34.91 | 46.00 | 11.09 | Horizontal | PASS |
| 4 | 224.8001 | 12.89 | 35.47 | 46.00 | 10.53 | Horizontal | PASS |
| 5 | 251.9287 | 13.76 | 36.26 | 46.00 | 9.74 | Horizontal | PASS |
| 6 | 375.0431 | 16.71 | 36.07 | 46.00 | 9.93 | Horizontal | PASS |

Note: Final Level = Receiver Read level + Factor
 Factor = Antenna Factor + Cable Loss - Preamplifier Factor
 Only the worst case report (802.11ac(HT20) 5180MHz)

| Test Result(30M~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 | 152.068 | 9.14 | 33.04 | 43.50 | 10.46 | Vertical | PASS |
| 2 | 157.9082 | 9.57 | 32.54 | 43.50 | 10.96 | Vertical | PASS |
| 3 | 167.8991 | 9.68 | 32.72 | 43.50 | 10.78 | Vertical | PASS |
| 4 | 335.8323 | 15.97 | 38.21 | 46.00 | 7.79 | Vertical | PASS |
| 5 | 419.9347 | 17.61 | 34.63 | 46.00 | 11.37 | Vertical | PASS |
| 6 | 445.3316 | 18.16 | 39.20 | 46.00 | 6.80 | Vertical | PASS |

Note: Final Level = Receiver Read level + Factor
 Factor = Antenna Factor + Cable Loss – Pre-amplifier Factor
 Only the worst case report (802.11ac(HT20) 5180MHz)

| Test Result(Emissions in Non-restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------------|---------------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | 802.11ac20, 5180MHz | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 10360 | 54.36 | 39.34 | 11.73 | 53.2 | 52.23 | 68.2 | -15.97 | Vertical |
| 15540 | 56.19 | 38.92 | 14.71 | 52.85 | 56.97 | 68.2 | -11.23 | Vertical |
| 10360 | 54.74 | 39.34 | 11.73 | 53.2 | 52.61 | 68.2 | -15.59 | Horizontal |
| 15540 | 55.15 | 38.92 | 14.71 | 52.85 | 55.93 | 68.2 | -12.27 | Horizontal |
| 10360 | 48.98 | 39.34 | 11.73 | 53.2 | 46.85 | 54 | -7.15 | Vertical |
| 15540 | 48.97 | 38.92 | 14.71 | 52.85 | 49.75 | 54 | -4.25 | Vertical |
| 10360 | 48.04 | 39.34 | 11.73 | 53.2 | 45.91 | 54 | -8.09 | Horizontal |
| 15540 | 48.73 | 38.92 | 14.71 | 52.85 | 49.51 | 54 | -4.49 | Horizontal |

Note: Final Level = Receiver Read level + Factor
Factor = Antenna Factor + Cable Loss – Preamplifier Factor
Only the worst case report
The level of emissions from 18GHz to 40GHz is same as the ambient noise, so no data report here.

| Test Result(Emissions in Non-restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------------|---------------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | 802.11ac20, 5200MHz | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 10400 | 54.56 | 39.36 | 11.76 | 53.2 | 52.48 | 68.2 | -15.72 | Vertical |
| 15600 | 55.86 | 38.96 | 14.73 | 52.78 | 56.77 | 68.2 | -11.43 | Vertical |
| 10400 | 54.61 | 39.36 | 11.76 | 53.2 | 52.53 | 68.2 | -15.67 | Horizontal |
| 15600 | 54.49 | 38.96 | 14.73 | 52.78 | 55.4 | 68.2 | -12.8 | Horizontal |
| 10400 | 47.89 | 39.36 | 11.76 | 53.2 | 45.81 | 54 | -8.19 | Vertical |
| 15600 | 48.91 | 38.96 | 14.73 | 52.78 | 49.82 | 54 | -4.18 | Vertical |
| 10400 | 48.29 | 39.36 | 11.76 | 53.2 | 46.21 | 54 | -7.79 | Horizontal |
| 15600 | 49.97 | 38.96 | 14.73 | 52.78 | 50.88 | 54 | -3.12 | Horizontal |

Note: Final Level = Receiver Read level + Factor
Factor = Antenna Factor + Cable Loss – Preamplifier Factor
Only the worst case report
The level of emissions from 18GHz to 40GHz is same as the ambient noise, so no data report here.

| Test Result(Emissions in Non-restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------------|---------------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | 802.11ac20, 5240MHz | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 10480 | 55.47 | 39.39 | 11.82 | 53.2 | 53.48 | 68.2 | -14.72 | Vertical |
| 15720 | 54.89 | 39.03 | 14.78 | 52.64 | 56.06 | 68.2 | -12.14 | Vertical |
| 10480 | 54.01 | 39.39 | 11.82 | 53.2 | 52.02 | 68.2 | -16.18 | Horizontal |
| 15720 | 54.05 | 39.03 | 14.78 | 52.64 | 55.22 | 68.2 | -12.98 | Horizontal |
| 10480 | 46.25 | 39.39 | 11.82 | 53.2 | 44.26 | 54 | -9.74 | Vertical |
| 15720 | 46.51 | 39.03 | 14.78 | 52.64 | 47.68 | 54 | -6.32 | Vertical |
| 10480 | 46.78 | 39.39 | 11.82 | 53.2 | 44.79 | 54 | -9.21 | Horizontal |
| 15720 | 47.55 | 39.03 | 14.78 | 52.64 | 48.72 | 54 | -5.28 | Horizontal |

Note: Final Level =Receiver Read level + Factor
 Factor= Antenna Factor + Cable Loss – Preamplifier Factor
 Only the worst case report
 The level of emissions from 18GHz to 40GHz is same as the ambient noise, so no data report here.

| Test Result(Emissions in Non-restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------------|---------------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | 802.11ac40, 5190MHz | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 10380 | 55.37 | 39.35 | 11.75 | 53.2 | 53.27 | 68.2 | -14.93 | Vertical |
| 15570 | 54.81 | 38.94 | 14.72 | 52.82 | 55.65 | 68.2 | -12.55 | Vertical |
| 10380 | 54.44 | 39.35 | 11.75 | 53.2 | 52.34 | 68.2 | -15.86 | Horizontal |
| 15570 | 54.05 | 38.94 | 14.72 | 52.82 | 54.89 | 68.2 | -13.31 | Horizontal |
| 10380 | 49.97 | 39.35 | 11.75 | 53.2 | 47.87 | 54 | -6.13 | Vertical |
| 15570 | 50.94 | 38.94 | 14.72 | 52.82 | 51.78 | 54 | -2.22 | Vertical |
| 10380 | 50.95 | 39.35 | 11.75 | 53.2 | 48.85 | 54 | -5.15 | Horizontal |
| 15570 | 49.49 | 38.94 | 14.72 | 52.82 | 50.33 | 54 | -3.67 | Horizontal |

Note: Final Level =Receiver Read level + Factor
 Factor= Antenna Factor + Cable Loss – Preamplifier Factor
 Only the worst case report
 The level of emissions from 18GHz to 40GHz is same as the ambient noise, so no data report here.

| Test Result(Emissions in Non-restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------------|---------------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | 802.11ac40, 5230MHz | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 10460 | 54.21 | 39.38 | 11.8 | 53.2 | 52.19 | 68.2 | -16.01 | Vertical |
| 15690 | 54.92 | 39.01 | 14.77 | 52.67 | 56.03 | 68.2 | -12.17 | Vertical |
| 10460 | 54.94 | 39.38 | 11.8 | 53.2 | 52.92 | 68.2 | -15.28 | Horizontal |
| 15690 | 54.87 | 39.01 | 14.77 | 52.67 | 55.98 | 68.2 | -12.22 | Horizontal |
| 10460 | 49.57 | 39.38 | 11.8 | 53.2 | 47.55 | 54 | -6.45 | Vertical |
| 15690 | 49.94 | 39.01 | 14.77 | 52.67 | 51.05 | 54 | -2.95 | Vertical |
| 10460 | 49.75 | 39.38 | 11.8 | 53.2 | 47.73 | 54 | -6.27 | Horizontal |
| 15690 | 49.18 | 39.01 | 14.77 | 52.67 | 50.29 | 54 | -3.71 | Horizontal |

Note: Final Level =Receiver Read level + Factor
 Factor= Antenna Factor + Cable Loss – Preamplifier Factor
 Only the worst case report
 The level of emissions from 18GHz to 40GHz is same as the ambient noise, so no data report here.

| Test Result(Emissions in Non-restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------------|---------------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | 802.11ac40, 5210MHz | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamplifier Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 10420 | 54.38 | 39.37 | 11.77 | 53.2 | 52.32 | 68.2 | -15.88 | Vertical |
| 15630 | 55.41 | 38.98 | 14.74 | 52.74 | 56.39 | 68.2 | -11.81 | Vertical |
| 10420 | 54.07 | 39.37 | 11.77 | 53.2 | 52.01 | 68.2 | -16.19 | Horizontal |
| 15630 | 55.09 | 38.98 | 14.74 | 52.74 | 56.07 | 68.2 | -12.13 | Horizontal |
| 10420 | 48.01 | 39.37 | 11.77 | 53.2 | 45.95 | 54 | -8.05 | Vertical |
| 15630 | 48.58 | 38.98 | 14.74 | 52.74 | 49.56 | 54 | -4.44 | Vertical |
| 10420 | 49.23 | 39.37 | 11.77 | 53.2 | 47.17 | 54 | -6.83 | Horizontal |
| 15630 | 48.84 | 38.98 | 14.74 | 52.74 | 49.82 | 54 | -4.18 | Horizontal |

Note: Final Level =Receiver Read level + Factor
 Factor= Antenna Factor + Cable Loss – Preamplifier Factor
 Only the worst case report
 The level of emissions from 18GHz to 40GHz is same as the ambient noise, so no data report here.

| Test Result(Emissions in Restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test mode | | Mode 1 | | Temp. /Hum. | | 25 °C/60% | | |
| Test voltage | | AC 120V/60Hz | | Test channel | | 802.11ac20 | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 5150 | 53.61 | 33.87 | 8.01 | 53.64 | 41.85 | 68.2 | -26.35 | Horizontal |
| 5350 | 52.65 | 33.83 | 8.17 | 53.56 | 41.09 | 68.2 | -27.11 | Horizontal |
| 5150 | 52.84 | 33.87 | 8.01 | 53.64 | 41.08 | 68.2 | -27.12 | Vertical |
| 5350 | 52.17 | 33.83 | 8.17 | 53.56 | 40.61 | 68.2 | -27.59 | Vertical |
| 5150 | 44.34 | 33.87 | 8.01 | 53.64 | 32.58 | 54 | -21.42 | Horizontal |
| 5350 | 45.1 | 33.83 | 8.17 | 53.56 | 33.54 | 54 | -20.46 | Horizontal |
| 5150 | 44.69 | 33.87 | 8.01 | 53.64 | 32.93 | 54 | -21.07 | Vertical |
| 5350 | 45.22 | 33.83 | 8.17 | 53.56 | 33.66 | 54 | -20.34 | Vertical |

Note:

1. Final Level =Receiver Read level + Factor
2. Factor= Antenna Factor + Cable Loss – Preamplifier Factor
3. Only the worst case report

| Test Result(Emissions in Restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test mode | | Mode 1 | | Temp. /Hum. | | 25 °C/60% | | |
| Test voltage | | AC 120V/60Hz | | Test channel | | 802.11ac40 | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 5150 | 52.01 | 33.87 | 8.01 | 53.64 | 40.25 | 68.2 | -27.95 | Horizontal |
| 5350 | 53.22 | 33.83 | 8.17 | 53.56 | 41.66 | 68.2 | -26.54 | Horizontal |
| 5150 | 52.45 | 33.87 | 8.01 | 53.64 | 40.69 | 68.2 | -27.51 | Vertical |
| 5350 | 52.8 | 33.83 | 8.17 | 53.56 | 41.24 | 68.2 | -26.96 | Vertical |
| 5150 | 47.43 | 33.87 | 8.01 | 53.64 | 35.67 | 54 | -18.33 | Horizontal |
| 5350 | 47.49 | 33.83 | 8.17 | 53.56 | 35.93 | 54 | -18.07 | Horizontal |
| 5150 | 46.93 | 33.87 | 8.01 | 53.64 | 35.17 | 54 | -18.83 | Vertical |
| 5350 | 46.68 | 33.83 | 8.17 | 53.56 | 35.12 | 54 | -18.88 | Vertical |

Note:

1. Final Level =Receiver Read level + Factor
2. Factor= Antenna Factor + Cable Loss – Preamplifier Factor
3. Only the worst case report

| Test Result(Emissions in Restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test mode | | Mode 1 | | Temp. /Hum. | | 25 °C/60% | | |
| Test voltage | | AC 120V/60Hz | | Test channel | | 802.11ac80 | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | polarization |
| 5150 | 52.15 | 33.87 | 8.01 | 53.64 | 40.39 | 68.2 | -27.81 | Horizontal |
| 5350 | 52.36 | 33.83 | 8.17 | 53.56 | 40.8 | 68.2 | -27.4 | Horizontal |
| 5150 | 52.23 | 33.87 | 8.01 | 53.64 | 40.47 | 68.2 | -27.73 | Vertical |
| 5350 | 53.08 | 33.83 | 8.17 | 53.56 | 41.52 | 68.2 | -26.68 | Vertical |
| 5150 | 44.19 | 33.87 | 8.01 | 53.64 | 32.43 | 54 | -21.57 | Horizontal |
| 5350 | 45.8 | 33.83 | 8.17 | 53.56 | 34.24 | 54 | -19.76 | Horizontal |
| 5150 | 44.06 | 33.87 | 8.01 | 53.64 | 32.3 | 54 | -21.7 | Vertical |
| 5350 | 45.01 | 33.83 | 8.17 | 53.56 | 33.45 | 54 | -20.55 | Vertical |

Note:

1. Final Level =Receiver Read level + Factor
2. Factor= Antenna Factor + Cable Loss – Preamplifier Factor
3. Only the worst case report

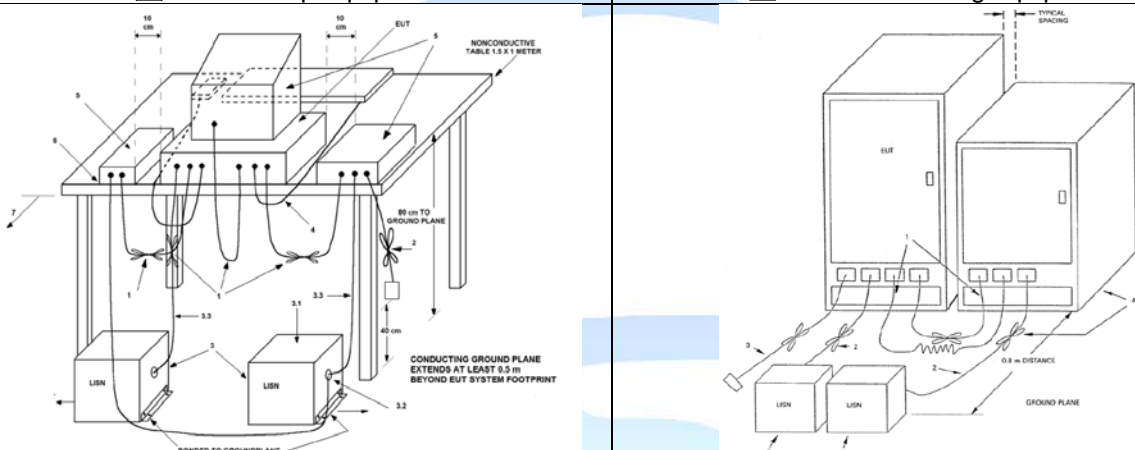
6.8 Conducted Emissions

| Limit | | |
|-----------------|------------|-----------|
| Frequency (MHz) | Quasi-peak | Average |
| 0.15~0.50 | 66 to 56* | 56 to 46* |
| 0.50~5.0 | 56 | 46 |
| 5.0~30 | 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

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.

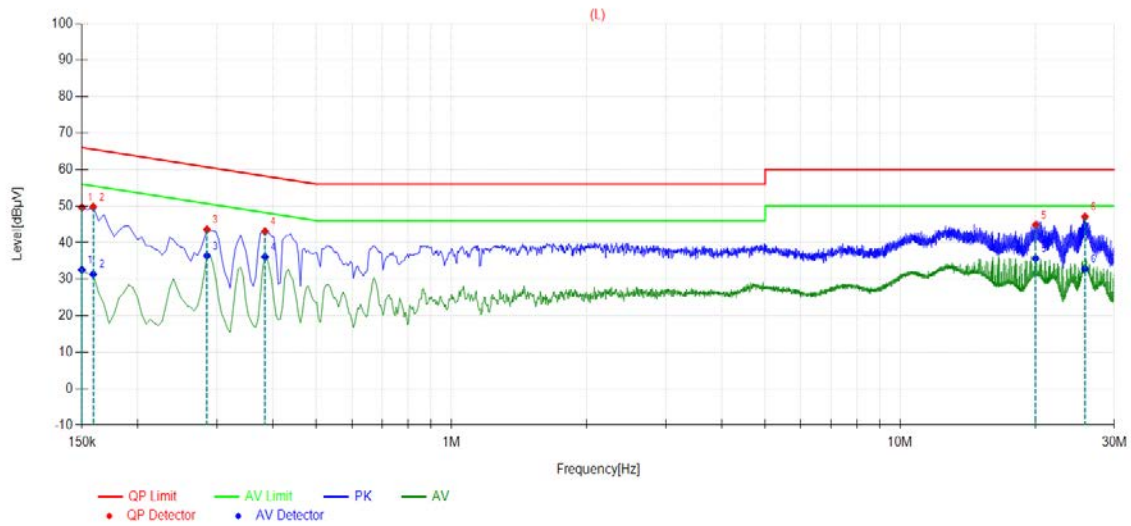
Measured levels of ac power-line conducted emission shall be the radio-noise voltage from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), as terminated into a 50 Ω EMI receiver or spectrum analyzer. All radio-noise voltage and current measurements shall 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 tabletop 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

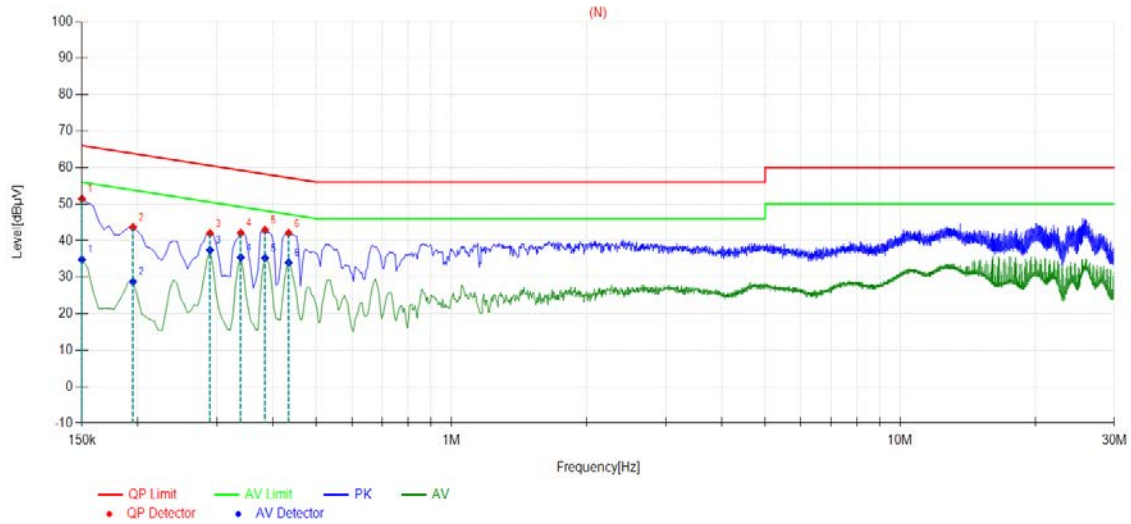
| Test Result | | | |
|--------------|--------------|-------------|-----------|
| Test mode | Mode 1 | Polarity | Line |
| Test voltage | AC 120V/60Hz | Temp. /Hum. | 25 °C/60% |



| 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 | 49.60 | 66.00 | 16.40 | 32.56 | 56.00 | 23.44 | PASS | L |
| 2 | 0.159 | 49.75 | 65.52 | 15.77 | 31.37 | 55.52 | 24.15 | PASS | L |
| 3 | 0.285 | 43.55 | 60.67 | 17.12 | 36.42 | 50.67 | 14.25 | PASS | L |
| 4 | 0.384 | 43.05 | 58.19 | 15.14 | 36.11 | 48.19 | 12.08 | PASS | L |
| 5 | 20.0355 | 44.81 | 60.00 | 15.19 | 35.65 | 50.00 | 14.35 | PASS | L |
| 6 | 25.809 | 47.04 | 60.00 | 12.96 | 32.81 | 50.00 | 17.19 | PASS | L |

Note: Final Level = Receiver Read level + Factor
 Factor = LISN Factor + Cable Loss
 Only the worst case report (1 802.11a 5180MHz)

| 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 | 51.41 | 66.00 | 14.59 | 34.82 | 56.00 | 21.18 | PASS | N |
| 2 | 0.195 | 43.64 | 63.82 | 20.18 | 28.76 | 53.82 | 25.06 | PASS | N |
| 3 | 0.2895 | 41.99 | 60.54 | 18.55 | 37.39 | 50.54 | 13.15 | PASS | N |
| 4 | 0.339 | 42.08 | 59.23 | 17.15 | 35.43 | 49.23 | 13.80 | PASS | N |
| 5 | 0.384 | 42.87 | 58.19 | 15.32 | 35.24 | 48.19 | 12.95 | PASS | N |
| 6 | 0.4335 | 42.05 | 57.19 | 15.14 | 33.99 | 47.19 | 13.20 | PASS | N |

Note: Final Level = Receiver Read level + Factor
 Factor = LISN Factor + Cable Loss
 Only the worst case report (1 802.11a 5180MHz)

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 | Amplifier (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 | Thermohyrometer | 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 year | 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 | Thermohyrometer | KTJ | TA218A | 879036 | 1 year | 2024.04.18 |
| / | EMI Test Software | Tonscend | TS+ | V4.0 | / | / |

| RF conducted | | | | | | |
|----------------|----------------------|--------------|-----------|------------|------------|------------|
| Equipment No. | Test Equipment | Manufacturer | Model No. | Serial No. | Cal. cycle | Cal.Date |
| SST-E-RSC001 | Shielding Room | BOST | 543 | / | 3 year | 2023.01.07 |
| SST-E-RSC007 | Spectrum analyzer | keysight | N9020A | MY51280659 | 1 year | 2024.04.16 |
| SST-E-RSC008 | Analog signal source | Agilent | N5181A | MY48180054 | 1 year | 2024.04.16 |
| SST-E-RSC009 | Vector signal source | keysight | N5172B | MY57281610 | 1 year | 2024.04.16 |
| SST-E-EMC007 | Thermohygrometer | KTJ | TA218A | 879032 | 1 year | 2024.04.18 |
| SST-E-RSC010 | Spectrum analyzer | R&S | FSV40-N | / | 1 year | 2024.04.16 |
| SST-E-RSC015-1 | Power meter 1 | TST | TST V2 | / | 1 year | 2024.04.16 |
| / | Test Software | TST PASS | TST PASS | V2.0 | / | / |

▶▶▶ END OF REPORT ◀◀◀

