



TEST REPORT

Report No. SST240923020EF01

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 15.247

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:

Bob

Reviewed by:

Tiger

Approved by:

Seven Chan



*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

| | Page |
|--|------|
| 1 COVER PAGE | 1 |
| 2 CONTENTS | 3 |
| 3 TEST SUMMARY | 4 |
| 4 MEASUREMENT UNCERTAINTY | 4 |
| 5 GENERAL INFORMATION | 5 |
| 5.1 CLIENT INFORMATION | 5 |
| 5.2 GENERAL DESCRIPTION OF EUT | 5 |
| 5.3 TEST MODE(S) | 6 |
| 5.4 TEST FACILITY | 7 |
| 5.5 DESCRIPTION OF SUPPORT UNITS | 7 |
| 5.6 ADDITIONAL INSTRUCTIONS | 7 |
| 5.7 ANTENNA INFORMATION | 7 |
| 5.8 OTHERS | 7 |
| 6 TECHNICAL REQUIREMENT AND MEASUREMENT DATA | 8 |
| 6.1 GENERALLY REQUIREMENT | 8 |
| 6.2 CONDUCTED PEAK OUTPUT POWER | 9 |
| 6.3 20dB EMISSION BANDWIDTH | 10 |
| 6.4 CARRIER FREQUENCY SEPARATION | 11 |
| 6.5 HOPPING CHANNEL NUMBERS | 12 |
| 6.6 DWELL TIME | 13 |
| 6.7 CONDUCTED EMISSION | 14 |
| 6.8 RADIATED SPURIOUS EMISSION | 15 |
| 6.9 CONDUCTED EMISSIONS | 24 |
| 7 TEST SETUP PHOTO | 27 |
| 8 EUT CONSTRUCTIONAL DETAILS | 27 |
| ANNEX A --TEST INSTRUMENTS LIST | 28 |

3 Test Summary

| Test items | Basics standards | Result |
|----------------------------------|--------------------|--------|
| Antenna Requirement | 15.203/15.247 (c) | Pass |
| AC Power Line Conducted Emission | 15.207 | Pass |
| Conducted Peak Output Power | 15.247 (b)(1) | Pass |
| 20dB Occupied Bandwidth | 15.247 (a)(1) | Pass |
| Carrier Frequencies Separation | 15.247 (a)(1) | Pass |
| Hopping Channel Number | 15.247 (a)(1)(iii) | Pass |
| Dwell Time | 15.247 (a)(1)(iii) | Pass |
| Radiated Emission | 15.205/15.209 | Pass |
| Band Edge | 15.247(d) | 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 (\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.: | WF3288T, FA3288T, WF3288T-4K, FA3288T-4K |
| Test Model: | WF3288T |
| Test sample(s) ID: | 24092302001 |
| Sample(s) Status: | Continuously transmitter |
| S/N: | / |
| Hardware Version: | / |
| Software Version: | / |
| Operation Frequency: | 2402MHz~2480MHz |
| Channel numbers: | 79 |
| Channel separation: | 1MHz |
| Modulation type: | GFSK, Pi/4DQPSK, 8DPSK |
| Antenna gain: | Refer to section 5.7 for details |
| Power supply: | Adapter 1: Model: FJ-SW729S1205000N Input: AC 100-240V, 50/60Hz Output: DC 12V, 5A Adapter 2: Model: S06S-1A120500B3 Input: AC 100-240V, 50/60Hz 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: | |
| | |
| | |
| | |

| Operation Frequency each of channel | | | | | | | |
|-------------------------------------|-----------|---------|-----------|---------|-----------|---------|-----------|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 1 | 2402MHz | 21 | 2422MHz | 41 | 2442MHz | 61 | 2462MHz |
| 2 | 2403MHz | 22 | 2423MHz | 42 | 2443MHz | 62 | 2463MHz |
| 3 | 2404MHz | 23 | 2424MHz | 43 | 2444MHz | 63 | 2464MHz |
| 4 | 2405MHz | 24 | 2425MHz | 44 | 2445MHz | 64 | 2465MHz |
| 5 | 2406MHz | 25 | 2426MHz | 45 | 2446MHz | 65 | 2466MHz |
| 6 | 2407MHz | 26 | 2427MHz | 46 | 2447MHz | 66 | 2467MHz |
| 7 | 2408MHz | 27 | 2428MHz | 47 | 2448MHz | 67 | 2468MHz |
| 8 | 2409MHz | 28 | 2429MHz | 48 | 2449MHz | 68 | 2469MHz |
| 9 | 2410MHz | 29 | 2430MHz | 49 | 2450MHz | 69 | 2470MHz |
| 10 | 2411MHz | 30 | 2431MHz | 50 | 2451MHz | 70 | 2471MHz |
| 11 | 2412MHz | 31 | 2432MHz | 51 | 2452MHz | 71 | 2472MHz |
| 12 | 2413MHz | 32 | 2433MHz | 52 | 2453MHz | 72 | 2473MHz |
| 13 | 2414MHz | 33 | 2434MHz | 53 | 2454MHz | 73 | 2474MHz |
| 14 | 2415MHz | 34 | 2435MHz | 54 | 2455MHz | 74 | 2475MHz |
| 15 | 2416MHz | 35 | 2436MHz | 55 | 2456MHz | 75 | 2476MHz |
| 16 | 2417MHz | 36 | 2437MHz | 56 | 2457MHz | 76 | 2477MHz |
| 17 | 2418MHz | 37 | 2438MHz | 57 | 2458MHz | 77 | 2478MHz |
| 18 | 2419MHz | 38 | 2439MHz | 58 | 2459MHz | 78 | 2479MHz |
| 19 | 2420MHz | 39 | 2440MHz | 59 | 2460MHz | 79 | 2480MHz |
| 20 | 2421MHz | 40 | 2441MHz | 60 | 2461MHz | | |

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see above marked

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 provided by manufacturer |
| Power level setup | Default |

5.7 Antenna Information

| Ant | Manufacturer | Model | Antenna Type | Antenna Gain (dBi) | Note |
|-----|--|-------|--------------|--------------------|----------|
| 1 | Shenzhen Yishengbang Technology Co., Ltd | / | FPC | 1.67 | 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:

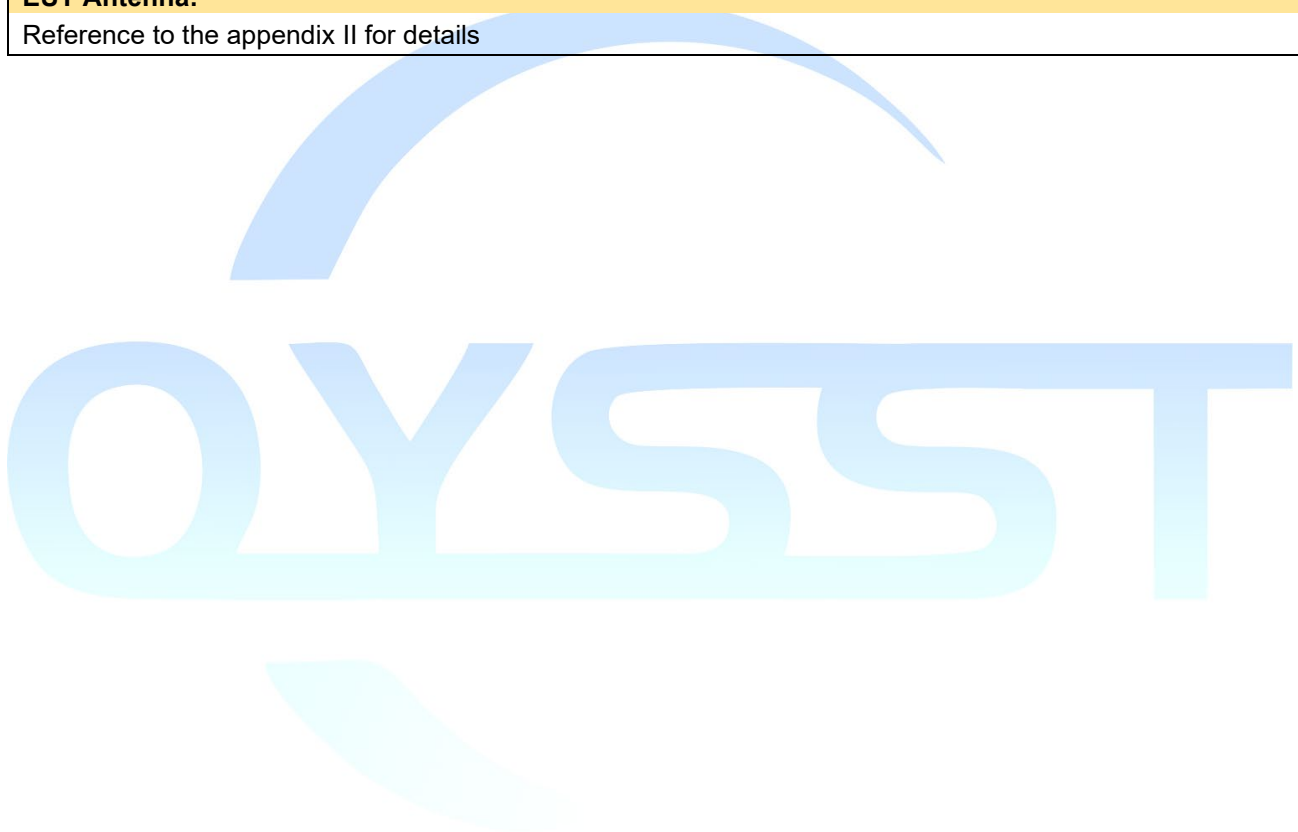
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply 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.

15.247(c) (1)(i) requirement:

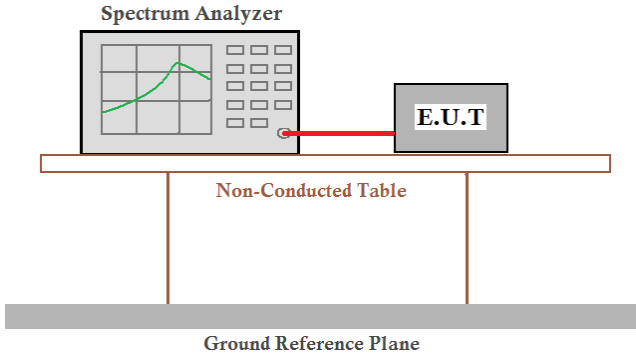
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply 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:

Reference to the appendix II for details

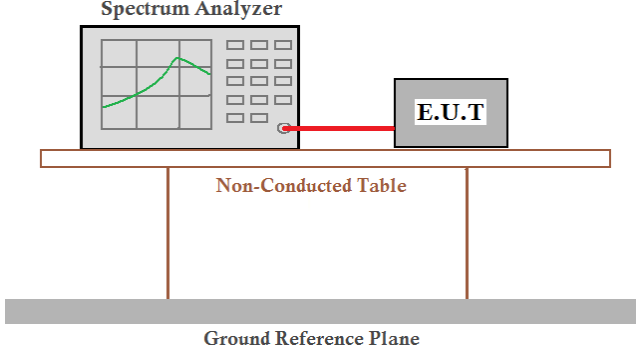


6.2 Conducted Peak Output Power

| |
|--|
| Limit |
| 20.97dBm |
| 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 C63.10 |
| Verdict |
| Pass |

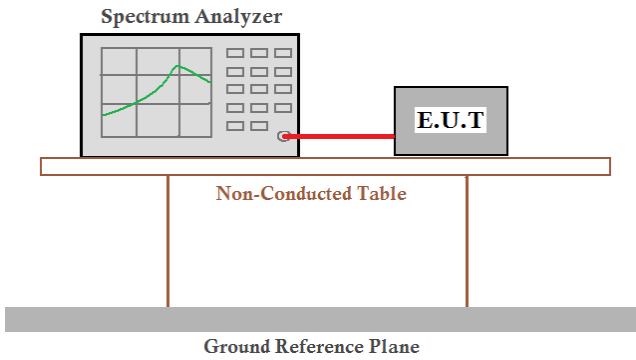
Measurement Data: The detailed test data see Appendix

6.3 20dB Emission Bandwidth

| |
|---|
| Limit |
| Report only |
| Block diagram of Test Setup |
|  <p style="text-align: center;">Spectrum Analyzer</p> <p style="text-align: center;">E.U.T</p> <p style="text-align: center;">Non-Conducted Table</p> <p style="text-align: center;">Ground Reference Plane</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| Test applies to C63.10 |
| Verdict |
| Pass |

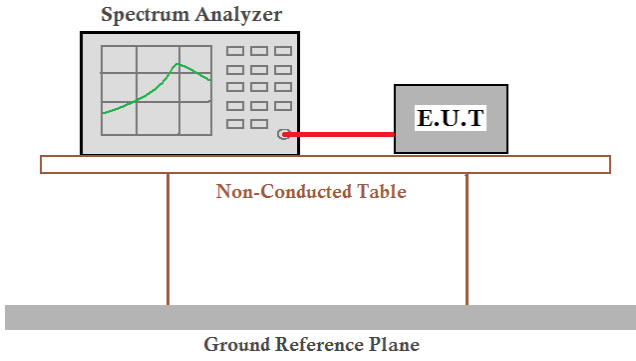
Measurement Data: The detailed test data see Appendix

6.4 Carrier Frequency Separation

| |
|--|
| Limit |
| Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. |
| Block diagram of Test Setup |
|  <p>The diagram illustrates the test setup. A Spectrum Analyzer and an E.U.T. (Equipment Under Test) are placed on a Non-Conducted Table. The Spectrum Analyzer is connected to the E.U.T. via a red cable. Below the table is a Ground Reference Plane.</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| Test applies to C63.10 |
| Verdict |
| Pass |

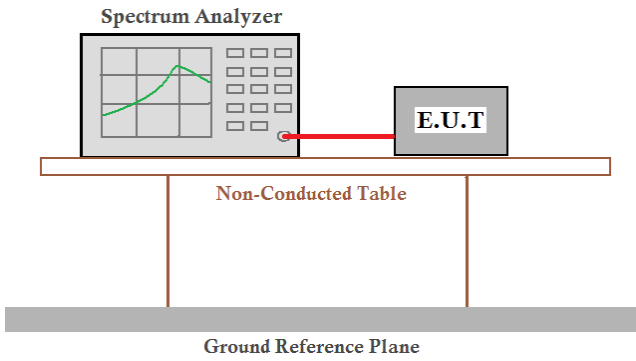
Measurement Data: The detailed test data see Appendix

6.5 Hopping Channel Numbers

| |
|---|
| Limit |
| At least 15 channels |
| 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, which is positioned above a Ground Reference Plane.</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| Test applies to C63.10 |
| Verdict |
| Pass |

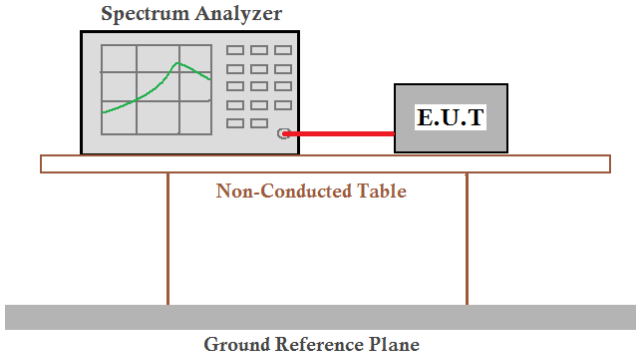
Measurement Data: The detailed test data see Appendix

6.6 Dwell Time

| |
|---|
| Limit |
| 0.4s |
| Block diagram of Test Setup |
|  <p>The diagram illustrates the test setup for dwell time measurement. A Spectrum Analyzer is connected to an Equipment Under Test (E.U.T.) via 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 C63.10 |
| Verdict |
| Pass |

Measurement Data: The detailed test data see Appendix

6.7 Conducted Emission

| |
|---|
| Limit |
| In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. |
| Block diagram of Test Setup |
|  <p>The diagram illustrates the test setup for conducted emission. 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, which is supported by a Ground Reference Plane.</p> |
| Test Instrument |
| Refer to Annex A for details |
| Test Procedures |
| Test applies to C63.10 |
| Verdict |
| Pass |

Measurement Data: The detailed test data see Appendix

6.8 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 |

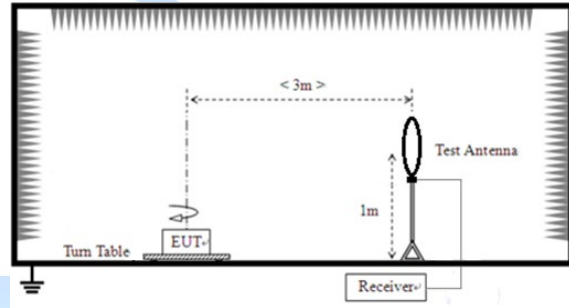
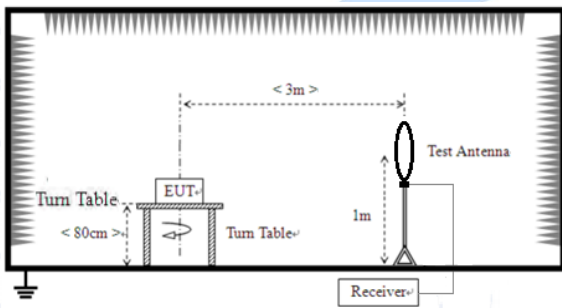
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this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

Block diagram of Test Setup

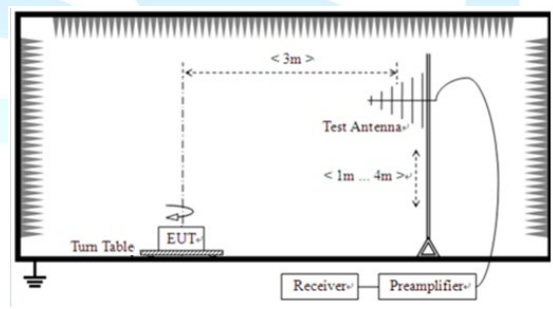
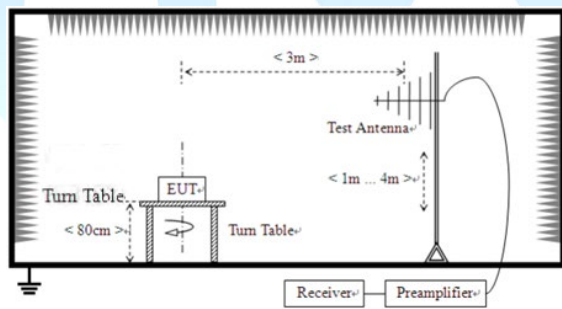
For table-top equipment

For floor standing equipment

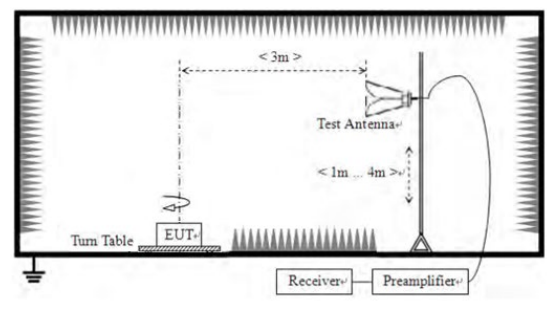
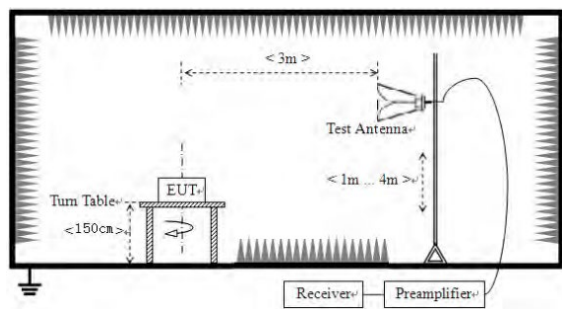
For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



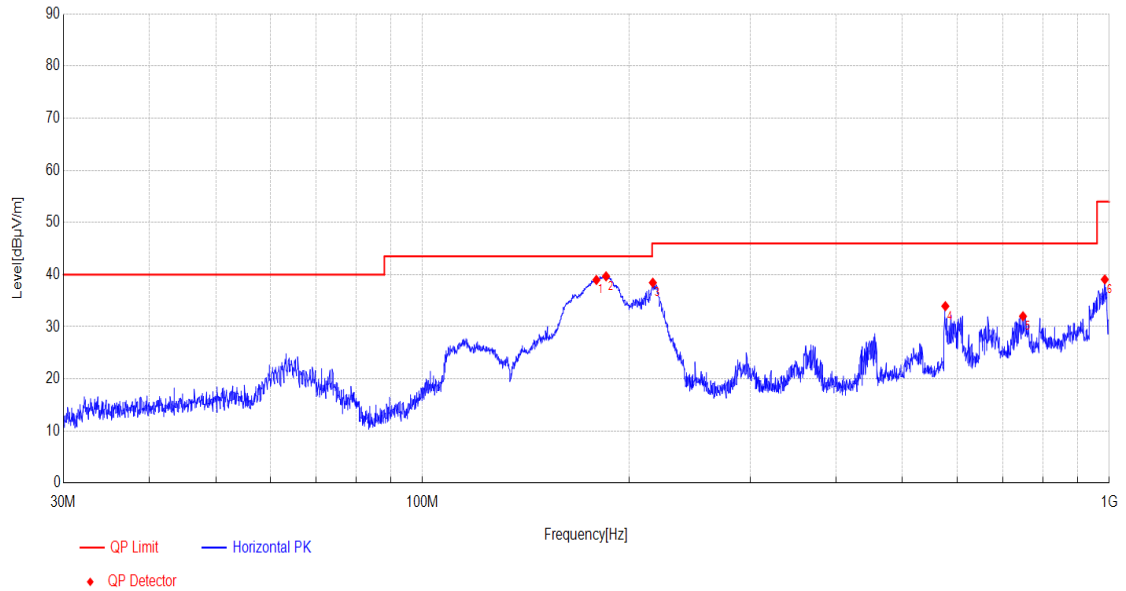
Test Instrument

| |
|------------------------------|
| Refer to Annex A for details |
| Test Procedures |
| Test applies to C63.10 |
| Verdict |
| Pass |

Note: 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.



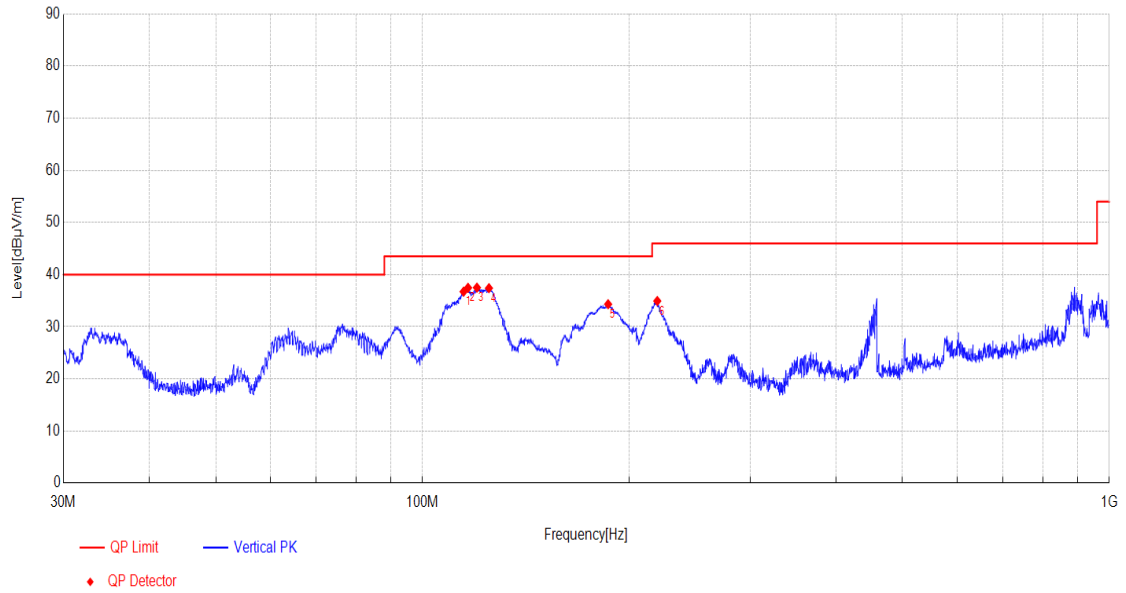
| Test Result(30M~1GHz) | | | |
|-----------------------|--------------|-------------|------------|
| Test mode | Mode 1 | Polarity | Horizontal |
| Test voltage | AC 120V/60Hz | Temp. /Hum. | 25 °C/60% |



| NO. | Freq. [MHz] | Factor [dB] | QP Value [dBµV/m] | QP Limit [dBµV/m] | QP Margin [dB] | Polarity | Verdict |
|-----|-------------|-------------|-------------------|-------------------|----------------|------------|---------|
| 1 | 179.1491 | 10.90 | 38.98 | 43.50 | 4.52 | Horizontal | PASS |
| 2 | 185.0537 | 11.28 | 39.67 | 43.50 | 3.83 | Horizontal | PASS |
| 3 | 216.4859 | 12.62 | 38.45 | 46.00 | 7.55 | Horizontal | PASS |
| 4 | 577.2294 | 20.51 | 33.95 | 46.00 | 12.05 | Horizontal | PASS |
| 5 | 748.8484 | 22.94 | 32.02 | 46.00 | 13.98 | Horizontal | PASS |
| 6 | 985.2113 | 25.93 | 39.07 | 54.00 | 14.93 | Horizontal | PASS |

Note: Final Level =Receiver Read level + Factor
 Factor= Antenna Factor + Cable Loss – Preamplifier Factor
 Only the worst case report(GFSK 2402MHz)

| 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 | 114.7777 | 11.79 | 36.74 | 43.50 | 6.76 | Vertical | PASS |
| 2 | 116.5006 | 11.52 | 37.47 | 43.50 | 6.03 | Vertical | PASS |
| 3 | 120.0243 | 10.97 | 37.51 | 43.50 | 5.99 | Vertical | PASS |
| 4 | 124.962 | 10.10 | 37.41 | 43.50 | 6.09 | Vertical | PASS |
| 5 | 186.3557 | 11.36 | 34.33 | 43.50 | 9.17 | Vertical | PASS |
| 6 | 219.7355 | 12.72 | 34.95 | 46.00 | 11.05 | Vertical | PASS |

Note: Final Level = Receiver Read level + Factor
 Factor = Antenna Factor + Cable Loss – Preamplifier Factor
 Only the worst case report (GFSK 2402MHz)

| Test Result(Emissions in Non-restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | Lowest | | | |
| Peak value: | | | | | | | | |
| 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 |
| 2310 | 55.24 | 27.71 | 5.3 | 53.84 | 34.41 | 74 | -39.59 | Horizontal |
| 2390 | 54.9 | 27.91 | 5.4 | 53.82 | 34.39 | 74 | -39.61 | Horizontal |
| 2310 | 55.06 | 27.71 | 5.3 | 53.84 | 34.23 | 74 | -39.77 | Vertical |
| 2390 | 56.53 | 27.91 | 5.4 | 53.82 | 36.02 | 74 | -37.98 | Vertical |
| Average value: | | | | | | | | |
| 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 |
| 2310 | 43.57 | 27.71 | 5.3 | 53.84 | 22.74 | 54 | -31.26 | Horizontal |
| 2390 | 44.16 | 27.91 | 5.4 | 53.82 | 23.65 | 54 | -30.35 | Horizontal |
| 2310 | 44.01 | 27.71 | 5.3 | 53.84 | 23.18 | 54 | -30.82 | Vertical |
| 2390 | 48.93 | 27.91 | 5.4 | 53.82 | 28.42 | 54 | -25.58 | Vertical |
| <p>Note: Final Level =Receiver Read level + Factor Factor= Antenna Factor + Cable Loss – Pre-amplifier Factor The emission levels of other frequencies are very lower than the limit and not show in test report. Only the worst case report(GFSK)</p> | | | | | | | | |

| Test Result(Emissions in Non-restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | Highest | | | |
| Peak value: | | | | | | | | |
| 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 |
| 2483.5 | 53.42 | 28.16 | 5.51 | 53.8 | 33.29 | 74 | -40.71 | Horizontal |
| 2500 | 51.18 | 28.2 | 5.53 | 53.8 | 31.11 | 74 | -42.89 | Horizontal |
| 2483.5 | 53.05 | 28.16 | 5.51 | 53.8 | 32.92 | 74 | -41.08 | Vertical |
| 2500 | 53.31 | 28.2 | 5.53 | 53.8 | 33.24 | 74 | -40.76 | Vertical |
| Average value: | | | | | | | | |
| 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 |
| 2483.5 | 45.68 | 28.16 | 5.51 | 53.8 | 25.55 | 54 | -28.45 | Horizontal |
| 2500 | 43.3 | 28.2 | 5.53 | 53.8 | 23.23 | 54 | -30.77 | Horizontal |
| 2483.5 | 46.41 | 28.16 | 5.51 | 53.8 | 26.28 | 54 | -27.72 | Vertical |
| 2500 | 46.15 | 28.2 | 5.53 | 53.8 | 26.08 | 54 | -27.92 | Vertical |
| <p>Note: Final Level =Receiver Read level + Factor Factor= Antenna Factor + Cable Loss – Pre-amplifier Factor The emission levels of other frequencies are very lower than the limit and not show in test report. Only the worst case report(GFSK)</p> | | | | | | | | |

| Test Result(Emissions in Restricted band) | | | | | | | | |
|--|-------------------|-----------------------|-----------------|--------------------------|----------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | Lowest | | | |
| Peak value: | | | | | | | | |
| 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 |
| 4804 | 54.62 | 33.35 | 7.7 | 53.72 | 41.95 | 74 | -32.05 | Vertical |
| 7206 | 53.15 | 36.54 | 9.55 | 53.24 | 46 | 74 | -28 | Vertical |
| 9608 | 53.54 | 39.04 | 11.29 | 53.28 | 50.59 | 74 | -23.41 | Vertical |
| 4804 | 53.89 | 33.35 | 7.7 | 53.72 | 41.22 | 74 | -32.78 | Horizontal |
| 7206 | 54.62 | 36.54 | 9.55 | 53.24 | 47.47 | 74 | -26.53 | Horizontal |
| 9608 | 53.48 | 39.04 | 11.29 | 53.28 | 50.53 | 74 | -23.47 | Horizontal |
| Average value: | | | | | | | | |
| 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 |
| 4804 | 49.79 | 33.35 | 7.7 | 53.72 | 37.12 | 54 | -16.88 | Vertical |
| 7206 | 48.84 | 36.54 | 9.55 | 53.24 | 41.69 | 54 | -12.31 | Vertical |
| 9608 | 49.12 | 39.04 | 11.29 | 53.28 | 46.17 | 54 | -7.83 | Vertical |
| 4804 | 50.49 | 33.35 | 7.7 | 53.72 | 37.82 | 54 | -16.18 | Horizontal |
| 7206 | 48.34 | 36.54 | 9.55 | 53.24 | 41.19 | 54 | -12.81 | Horizontal |
| 9608 | 49.4 | 39.04 | 11.29 | 53.28 | 46.45 | 54 | -7.55 | Horizontal |
| <p>Note: Final Level =Receiver Read level + Factor Factor= Antenna Factor + Cable Loss – Preamplifier Factor The emission levels of other frequencies are very lower than the limit and not show in test report. Only the worst case report(GFSK)</p> | | | | | | | | |

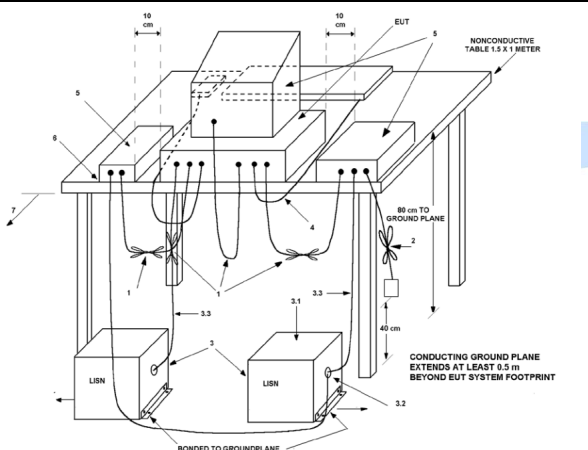
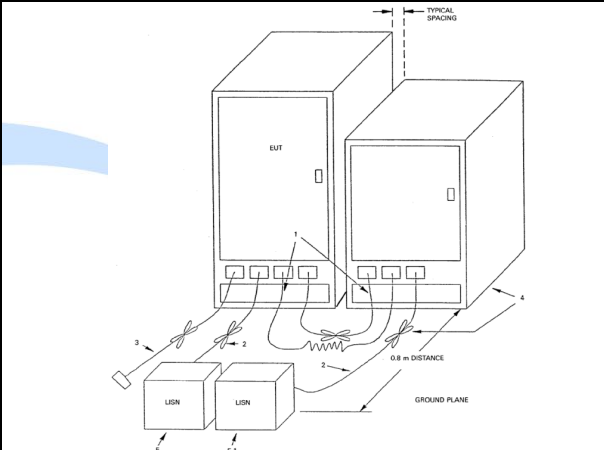
| Test Result(Emissions in Restricted band) | | | | | | | | |
|--|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | Middle | | | |
| Peak value: | | | | | | | | |
| 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 |
| 4882 | 53.8 | 33.57 | 7.77 | 53.71 | 41.43 | 74 | -32.57 | Vertical |
| 7323 | 53.19 | 36.56 | 9.64 | 53.26 | 46.13 | 74 | -27.87 | Vertical |
| 9764 | 53.09 | 39.11 | 11.39 | 53.25 | 50.34 | 74 | -23.66 | Vertical |
| 4882 | 54.9 | 33.57 | 7.77 | 53.71 | 42.53 | 74 | -31.47 | Horizontal |
| 7323 | 53.68 | 36.56 | 9.64 | 53.26 | 46.62 | 74 | -27.38 | Horizontal |
| 9764 | 54.42 | 39.11 | 11.39 | 53.25 | 51.67 | 74 | -22.33 | Horizontal |
| Average value: | | | | | | | | |
| 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 |
| 4882 | 47.1 | 33.57 | 7.77 | 53.71 | 34.73 | 54 | -19.27 | Vertical |
| 7323 | 49.53 | 36.56 | 9.64 | 53.26 | 42.47 | 54 | -11.53 | Vertical |
| 9764 | 48.33 | 39.11 | 11.39 | 53.25 | 45.58 | 54 | -8.42 | Vertical |
| 4882 | 47.57 | 33.57 | 7.77 | 53.71 | 35.2 | 54 | -18.8 | Horizontal |
| 7323 | 48.96 | 36.56 | 9.64 | 53.26 | 41.9 | 54 | -12.1 | Horizontal |
| 9764 | 47.96 | 39.11 | 11.39 | 53.25 | 45.21 | 54 | -8.79 | Horizontal |
| <p>Note: Final Level =Receiver Read level + Factor Factor= Antenna Factor + Cable Loss – Preamplifier Factor The emission levels of other frequencies are very lower than the limit and not show in test report. Only the worst case report(GFSK)</p> | | | | | | | | |

| Test Result(Emissions in Restricted band) | | | | | | | | |
|---|-------------------|-----------------------|-----------------|--------------------|----------------|---------------------|-----------------|--------------|
| Test mode | Mode 1 | | | Temp. /Hum. | 25 °C/60% | | | |
| Test voltage | AC 120V/60Hz | | | Test channel | Highest | | | |
| Peak value: | | | | | | | | |
| 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 |
| 4960 | 53.84 | 33.79 | 7.83 | 53.7 | 41.76 | 74 | -32.24 | Vertical |
| 7440 | 55.59 | 36.59 | 9.72 | 53.29 | 48.61 | 74 | -25.39 | Vertical |
| 9920 | 53.15 | 39.17 | 11.48 | 53.22 | 50.58 | 74 | -23.42 | Vertical |
| 4960 | 54.33 | 33.79 | 7.83 | 53.7 | 42.25 | 74 | -31.75 | Horizontal |
| 7440 | 54.3 | 36.59 | 9.72 | 53.29 | 47.32 | 74 | -26.68 | Horizontal |
| 9920 | 54.18 | 39.17 | 11.48 | 53.22 | 51.61 | 74 | -22.39 | Horizontal |
| Average value: | | | | | | | | |
| 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 |
| 4960 | 49.79 | 33.79 | 7.83 | 53.7 | 37.71 | 54 | -16.29 | Vertical |
| 7440 | 48.63 | 36.59 | 9.72 | 53.29 | 41.65 | 54 | -12.35 | Vertical |
| 9920 | 49.9 | 39.17 | 11.48 | 53.22 | 47.33 | 54 | -6.67 | Vertical |
| 4960 | 48.22 | 33.79 | 7.83 | 53.7 | 36.14 | 54 | -17.86 | Horizontal |
| 7440 | 47.51 | 36.59 | 9.72 | 53.29 | 40.53 | 54 | -13.47 | Horizontal |
| 9920 | 49.91 | 39.17 | 11.48 | 53.22 | 47.34 | 54 | -6.66 | Horizontal |
| <p>Note: Final Level =Receiver Read level + Factor Factor= Antenna Factor + Cable Loss – Pre-amplifier Factor The emission levels of other frequencies are very lower than the limit and not show in test report. Only the worst case report(GFSK)</p> | | | | | | | | |

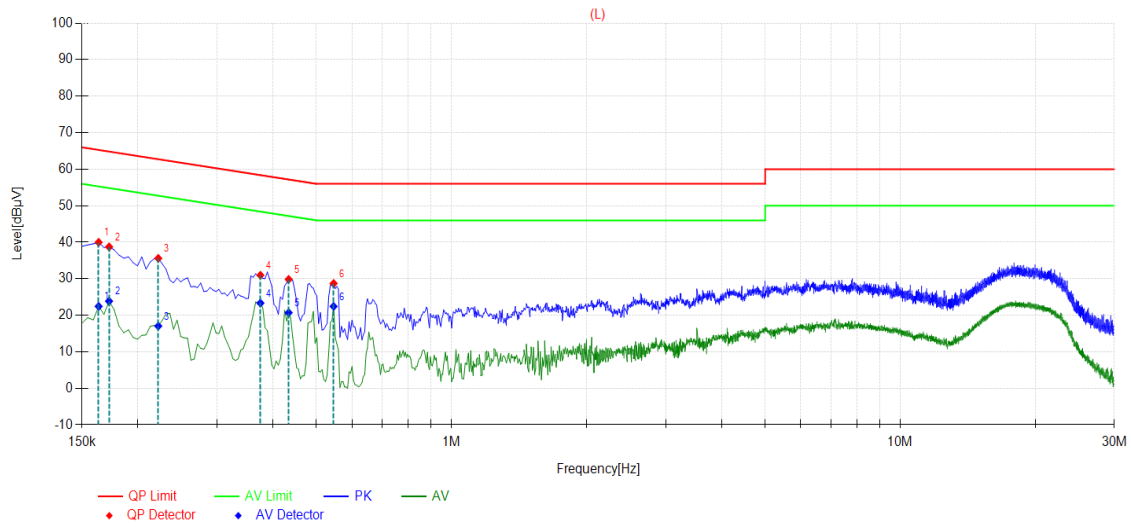
6.9 Conducted Emissions

| 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 | |
|--|--|
| <input checked="" type="checkbox"/> For table-top equipment | <input type="checkbox"/> For floor standing equipment |
|  <p>NONCONDUCTIVE TABLE 1.5 X 1 METER</p> <p>CONDUCTING GROUND PLANE EXTENDS AT LEAST 0.5 m BEYOND EUT SYSTEM FOOTPRINT</p> |  <p>TYPICAL SPACING</p> <p>GROUND PLANE</p> |
| Test Instrument | |
| Refer to Annex A for details | |
| Test Procedures | |
| <p>The measurement was performed in a shield room.</p> <p>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.</p> <p>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.</p> <p>The bandwidth of the test receiver is set at 9 kHz.</p> | |
| Verdict | |
| Pass | |

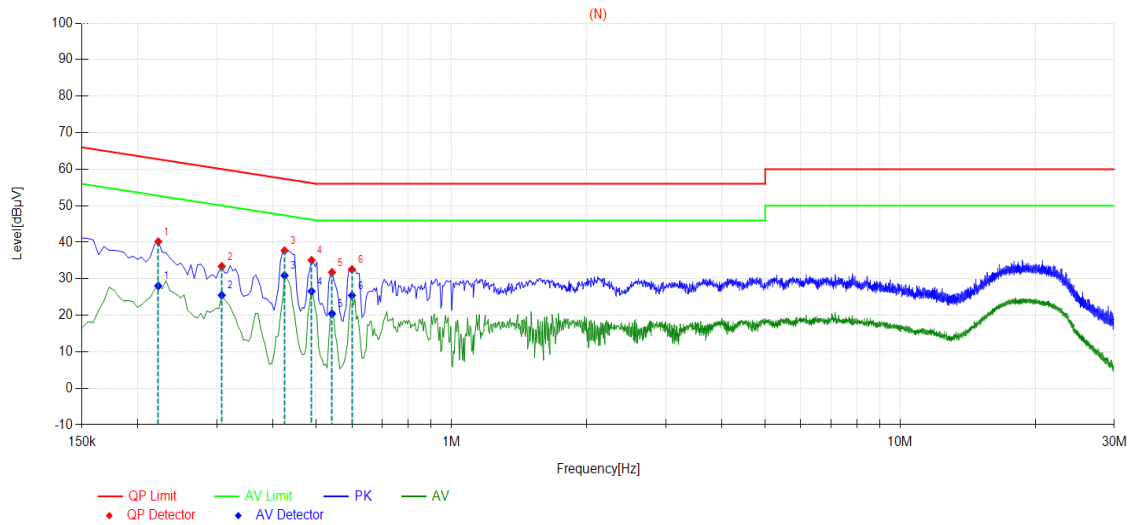
| Test Result | | | |
|--------------|--------------|-------------|-----------|
| Test mode | Mode 1 | Polarity | Line |
| Test voltage | AC 120V/60Hz | Temp. /Hum. | 25 °C/60% |



| 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 | 0.1635 | 39.98 | 65.28 | 25.30 | 22.44 | 55.28 | 32.84 | PASS | L |
| 2 | 0.1725 | 38.74 | 64.84 | 26.10 | 23.86 | 54.84 | 30.98 | PASS | L |
| 3 | 0.222 | 35.59 | 62.74 | 27.15 | 17.03 | 52.74 | 35.71 | PASS | L |
| 4 | 0.375 | 30.97 | 58.39 | 27.42 | 23.34 | 48.39 | 25.05 | PASS | L |
| 5 | 0.4335 | 29.85 | 57.19 | 27.34 | 20.71 | 47.19 | 26.48 | PASS | L |
| 6 | 0.546 | 28.70 | 56.00 | 27.30 | 22.42 | 46.00 | 23.58 | PASS | L |

Note: Final Level = Receiver Read level + Factor
 Factor = LISN Factor + Cable Loss
 Only the worst case report (GFSK 2402MHz)

| 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 | 0.222 | 40.16 | 62.74 | 22.58 | 28.05 | 52.74 | 24.69 | PASS | N |
| 2 | 0.3075 | 33.39 | 60.04 | 26.65 | 25.48 | 50.04 | 24.56 | PASS | N |
| 3 | 0.4245 | 37.72 | 57.36 | 19.64 | 30.89 | 47.36 | 16.47 | PASS | N |
| 4 | 0.4875 | 35.06 | 56.21 | 21.15 | 26.58 | 46.21 | 19.63 | PASS | N |
| 5 | 0.5415 | 31.76 | 56.00 | 24.24 | 20.42 | 46.00 | 25.58 | PASS | N |
| 6 | 0.6 | 32.55 | 56.00 | 23.45 | 25.42 | 46.00 | 20.58 | PASS | N |

Note: Final Level = Receiver Read level + Factor

Factor = LISN Factor + Cable Loss

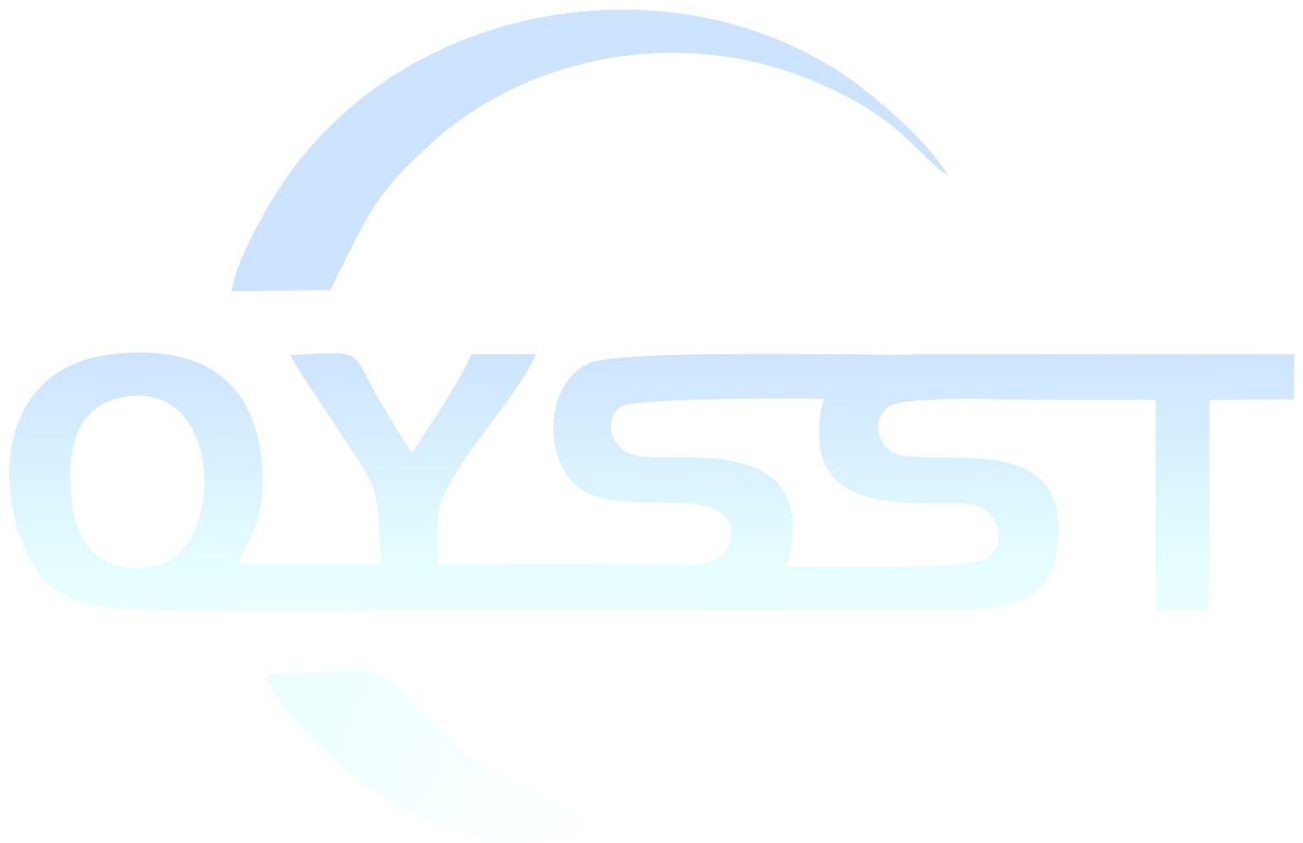
Only the worst case report (GFSK 2402MHz)

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 | 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 ◀◀◀

