



FCC AND ISED CERTIFICATION TEST REPORT

| | | |
|--------------------------------|---|---|
| Applicant | : | Edifier International Limited |
| Address of Applicant | : | P. O. Box 6264 General Post Office Hong Kong |
| Manufacturer | : | Beijing Edifier Technology Co., Ltd. |
| Address of Manufacturer | : | 815, Floor 8, Shuangqiao Building, No.68, North Fourth Ring West Road, Haidian District, Beijing 100080, P.R.China |
| Equipment under Test | : | Tabletop Wireless Speaker |
| Model No. | : | EDF100080 |
| FCC ID | : | Z9G-EDF227 |
| IC | : | 10004A-EDF227 |
| Test Standard(s) | : | FCC Rules and Regulations Part 15 Subpart C, RSS-247 Issue 3 August 2023, ANSI C63.10:2013, RSS-Gen Issue 5, Apr. 2018, Amendment 2 (February 2021) |
| Report No. | : | DDT-RE23121803-2E03 |
| Issue Date | : | 2024/01/16 |
| Issue By | : | Guangdong Dongdian Testing Service Co., Ltd. |
| Address of Laboratory | : | Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808 |

REPORT

Table of Contents

| | | |
|------|---|----|
| | Test report declares..... | 4 |
| 1. | Summary of Test Results..... | 7 |
| 2. | General Test Information | 8 |
| 2.1. | Description of EUT | 8 |
| 2.2. | Accessories of EUT..... | 9 |
| 2.3. | Assistant equipment used for test..... | 9 |
| 2.4. | Block diagram of EUT configuration for test | 9 |
| 2.5. | Deviations of test standard..... | 10 |
| 2.6. | Test environment conditions | 11 |
| 2.7. | Test laboratory | 11 |
| 2.8. | Measurement uncertainty..... | 12 |
| 3. | Equipment Used During Conductive Test..... | 13 |
| 4. | 6dB Bandwidth | 14 |
| 4.1. | Block diagram of test setup..... | 14 |
| 4.2. | Limits | 14 |
| 4.3. | Test procedure | 14 |
| 4.4. | Test result..... | 15 |
| 4.5. | Test graphs | 16 |
| 5. | 99% Bandwidth | 18 |
| 5.1. | Block diagram of test setup..... | 18 |
| 5.2. | Limits | 18 |
| 5.3. | Test procedure | 18 |
| 5.4. | Test result..... | 19 |
| 5.5. | Test graphs | 20 |
| 6. | Conducted Output Power..... | 22 |
| 6.1. | Block diagram of test setup..... | 22 |
| 6.2. | Limits | 22 |
| 6.3. | Test procedure | 22 |
| 6.4. | Test result average | 23 |
| 7. | Power Spectral Density..... | 24 |
| 7.1. | Block diagram of test setup..... | 24 |
| 7.2. | Limits | 24 |
| 7.3. | Test procedure | 24 |
| 7.4. | Test result..... | 25 |
| 7.5. | Test graphs | 26 |
| 8. | Band Edge Compliance (Conducted Method) | 28 |
| 8.1. | Block diagram of test setup..... | 28 |

| | | |
|-------|--|----|
| 8.2. | Limits | 28 |
| 8.3. | Test procedure | 28 |
| 8.4. | Test result..... | 29 |
| 8.5. | Test graphs | 30 |
| 9. | RF Conducted Spurious Emissions | 32 |
| 9.1. | Block diagram of test setup..... | 32 |
| 9.2. | Limits | 32 |
| 9.3. | Test procedure | 32 |
| 9.4. | Test result..... | 33 |
| 9.5. | Test graphs | 34 |
| 10. | Duty Cycle..... | 40 |
| 10.1. | Block diagram of test setup..... | 40 |
| 10.2. | Limit | 40 |
| 10.3. | Test procedure | 40 |
| 10.4. | Test result..... | 41 |
| 10.5. | Test graphs | 42 |
| 11. | Radiated Spurious Emissions | 44 |
| 11.1. | Test equipment..... | 44 |
| 11.2. | Block diagram of test setup..... | 44 |
| 11.3. | Limit | 46 |
| 11.4. | Test procedure | 48 |
| 11.5. | Test result..... | 49 |
| 12. | Radiated Band Edge Compliance..... | 59 |
| 12.1. | Test equipment..... | 59 |
| 12.2. | Block diagram of test setup..... | 59 |
| 12.3. | Limit | 59 |
| 12.4. | Test procedure | 59 |
| 12.5. | Test result..... | 60 |
| 13. | Power Line Conducted Emission | 68 |
| 13.1. | Test equipment..... | 68 |
| 13.2. | Block diagram of test setup..... | 68 |
| 13.3. | Power Line Conducted Emission Limits | 68 |
| 13.4. | Test procedure | 68 |
| 13.5. | Test result..... | 69 |
| 14. | Antenna Requirements | 72 |
| 14.1. | Limit..... | 72 |
| 14.2. | Result | 72 |
| 15. | Test Setup Photograph | 73 |

16. Photos of the EUT 76

Test Report Declare

| | | |
|--------------------------------|---|--|
| Applicant | : | Edifier International Limited |
| Address of Applicant | : | P. O. Box 6264 General Post Office Hong Kong |
| Equipment under Test | : | Tabletop Wireless Speaker |
| Model No. | : | EDF100080 |
| Manufacturer | : | Beijing Edifier Technology Co., Ltd. |
| Address of Manufacturer | : | 815, Floor 8, Shuangqiao Building, No.68, North Fourth Ring West Road, Haidian District, Beijing 100080, P.R.China |

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart C, RSS-247 Issue 3 August 2023.

Test Procedure Used:

ANSI C63.10:2013, RSS-Gen Issue 5, Apr. 2018, Amendment 2 (February 2021), 558074 D01 15.247 Meas Guidance v05r02, 662911 D01 Multiple Transmitter Output v02r01

We Declare:

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above standards.

| | | | |
|-------------------------|---------------------|----------------------|-----------------------|
| Report No.: | DDT-RE23121803-2E03 | | |
| Date of Receipt: | 2023/12/20 | Date of Test: | 2023/12/20-2024/01/16 |

Prepared By:

Approved By:

Johnson Huang

Johnson Huang/Engineer

Damon Hu

Damon Hu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

| Rev. | Revisions | Issue Date | Revised By |
|------|---------------|------------|------------|
| --- | Initial issue | 2024/01/16 | |
| | | | |

1. Summary of Test Results

| The EUT have been tested according to the applicable standards as referenced below. | | |
|---|--|---------|
| Description of Test Item | Standard | Results |
| 6dB Bandwidth and 99% Bandwidth | FCC Part 15: 15.247(a)(2) RSS-247 Issue 2 clause 5.2(a) | PASS |
| Conducted Output Power | FCC Part 15: 15.247(b)(3) RSS-247 Issue 2 clause 5.4(d) | PASS |
| Power Spectral Density | FCC Part 15:15.247(e) RSS-247 Issue 2 clause 5.2(b) | PASS |
| Band-edge and Spurious Emissions (Conducted) | FCC Part 15: 15.247(d) RSS-247 Issue 2 clause 5.5 | PASS |
| Radiated Spurious Emissions | FCC Part 15: 15.205 FCC Part 15: 15.209 FCC Part 15: 15.247(d) RSS-247 Issue 2 clause 5.5 RSS-Gen Issue 5 clause 8.9 | PASS |
| Radiated Band Edge Compliance | FCC Part 15: 15.205 FCC Part 15: 15.209 FCC Part 15: 15.247(d) RSS-247 Issue 2 clause 5.5 RSS-Gen Issue 5 clause 8.9 | PASS |
| Power Line Conducted Emission | FCC Part 15: 15.207(a) RSS-Gen Issue 5 clause 8.8 | PASS |
| Antenna requirement | FCC Part 15: 15.203 RSS-Gen Issue 5 clause 6.8 | PASS |

2. General Test Information

2.1. Description of EUT

| | |
|--------------------------|--|
| EUT Name | : Tabletop Wireless Speaker |
| Model Number | : EDF100080 |
| EUT Function Description | : Please reference user manual of this device |
| Power Supply | : AC 100-240V, 50/60Hz, 0.5A or powered by a 7.4V built-in lithium battery |
| Radio Specification | : Bluetooth (BR/EDR/LE), WLAN (2.4 GHz): IEEE 802.11g/n WLAN (5 GHz): IEEE 802.11n |
| Operation Frequency | : Bluetooth (BR/EDR/LE): 2402 MHz-2480 MHz IEEE 802.11g/n: 2412 MHz to 2462 MHz, IEEE 802.11n: 5180 MHz to 5240 MHz, 5260 MHz to 5320 MHz, 5500 MHz to 5720 MHz, 5745 MHz to 5825 MHz |
| Modulation | : Bluetooth BR/EDR: GFSK, $\pi/4$ -DQPSK, 8DPSK Bluetooth LE: GFSK IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK) |
| Transmitter rate | : IEEE 802.11g: up to 54 Mbps IEEE 802.11n HT20: up to 144.4 Mbps |
| Operating mode | : <input type="checkbox"/> Master <input checked="" type="checkbox"/> Client Without Radar Detection <input type="checkbox"/> Client with Radar Detection |
| TPC function | : <input type="checkbox"/> With TPC <input checked="" type="checkbox"/> Without TPC |
| Antenna Type | : FPC antenna, Maximum PK gain: 3.0 dBi |

Note 1: EUT is the abbreviation of equipment under test.

Note 2: “☑” means to be chosen or applicable; “☐” means don't to be chosen or not applicable; This note applies to entire report.

Note 3: This report only for WLAN (2.4 GHz): IEEE 802.11g/n

| Channel information | | | | | |
|---------------------|-----------------|----|-----------------|----|-----------------|
| CH | Frequency (MHz) | CH | Frequency (MHz) | CH | Frequency (MHz) |
| 1 | 2412 | 5 | 2432 | 9 | 2452 |
| 2 | 2417 | 6 | 2437 | 10 | 2457 |
| 3 | 2422 | 7 | 2442 | 11 | 2462 |
| 4 | 2427 | 8 | 2447 | / | / |

2.2. Accessories of EUT

| Description of Accessories | Manufacturer | Model number | Description | Remark |
|----------------------------|--------------|--------------|-------------|--------|
| N/A | N/A | N/A | N/A | N/A |

2.3. Assistant equipment used for test

| Assistant equipment | Manufacturer | Model number | EMC Compliance | SN |
|---------------------|--------------|--------------|----------------|-----|
| N/A | N/A | N/A | N/A | N/A |

2.4. Block diagram of EUT configuration for test



Test software: SSCOM V5.13.1

The test software was used to control EUT work in Continuous Tx mode and select test channel, wireless mode as below table.

The pathloss of external cable: 0.5dB (According to the manufacturer's claims)

| Tested mode, channel, and data rate information | | | | |
|---|------------------|--------------------------------|-----------|--------------------|
| Mode | Setting Tx Power | data rate (Mbps) (see Note) | Channel | Frequency (MHz) |
| | ANT | | | |
| IEEE 802.11g | 13 | 6 | LCH: CH1 | 2412 |
| | 13 | 6 | MCH: CH6 | 2437 |
| | 13 | 6 | HCH: CH11 | 2462 |
| IEEE 802.11n HT20 | 13 | MCS 0 | LCH: CH1 | 2412 |
| | 13 | MCS 0 | MCH: CH6 | 2437 |
| | 13 | MCS 0 | HCH: CH11 | 2462 |

Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.

2.5. Deviations of test standard

No Deviation

2.6. Test environment conditions

| | |
|--------------------|-------------------|
| Temperature range: | +15°C to +35 °C |
| Humidity range: | 20% to 75% |
| Pressure range: | 86 kPa to 106 kPa |

2.7. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2.8. Measurement uncertainty

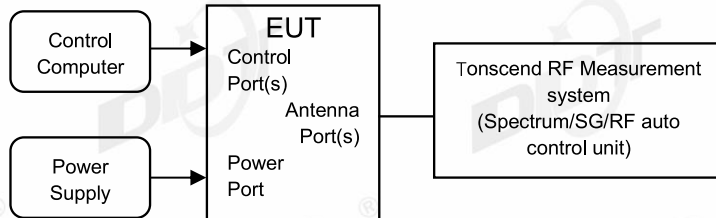
| Test Item | Uncertainty |
|---|--|
| Bandwidth | 1.1% |
| Peak Output Power (Conducted) (Spectrum analyzer) | 0.86 dB (10 MHz ≤ f < 3.6 GHz); |
| | 1.38 dB (3.6 GHz ≤ f < 8 GHz) |
| Peak Output Power (Conducted) (Power Sensor) | 0.74 dB |
| Power Spectral Density | 0.74 dB (10 MHz ≤ f < 3.6 GHz); |
| | 1.38 dB (3.6 GHz ≤ f < 8 GHz) |
| Frequencies Stability | 6.7 × 10 ⁻⁸ (Antenna couple method) |
| | 5.5 × 10 ⁻⁸ (Conducted method) |
| Conducted spurious emissions | 0.86 dB (10 MHz ≤ f < 3.6 GHz); |
| | 1.40 dB (3.6 GHz ≤ f < 8 GHz) |
| | 1.66 dB (8 GHz ≤ f < 26.5 GHz) |
| Uncertainty for radio frequency (RBW < 20 kHz) | 3×10 ⁻⁸ |
| Temperature | 0.4 °C |
| Humidity | 2 % |
| Uncertainty for Radiation Emission test (9 kHz – 30 MHz) | 3.44 dB |
| Uncertainty for Radiation Emission test (30 MHz - 1 GHz) | 4.70 dB (Antenna Polarize: V) |
| | 4.84 dB (Antenna Polarize: H) |
| Uncertainty for Radiation Emission test (1 GHz - 40 GHz) | 4.10 dB (1 - 6 GHz) |
| | 4.40 dB (6 GHz - 18 GHz) |
| | 3.54 dB (18 GHz - 26 GHz) |
| | 4.30 dB (26 GHz - 40 GHz) |
| Uncertainty for Power line conduction emission test | 3.34dB (150KHz-30MHz) |
| | 3.72dB (9KHz-150KHz) |
| Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2. | |

3. Equipment Used During Conductive Test

| Equipment | Manufacturer | Model No. | Serial Number | Due Date |
|--|--------------|-------------|---------------|------------|
| <input checked="" type="checkbox"/> RF Connected Test (RF Measurement System 3#) | | | | |
| SIGNAL ANALYZER | R&S | FSV40 | 101407 | 2024/07/11 |
| Wideband Radio Communication Tester | R&S | CMW500 | 117491 | 2024/04/26 |
| EXG Analog Signal Generator | KEYSIGHT | N5173B | MY62153058 | 2024/07/11 |
| MXG Vector Signal Generator | Agilent | N5182A | MY48180912 | 2024/04/22 |
| RF Control Unit | Tonscend | JS0806-2 | 20C8060230 | 2024/04/26 |
| TEMP&HUMI Programmable Chamber | ZHIXIANG | ZXGDJS-150L | ZX170110-A | 2024/05/14 |
| Test Software | Tonscend | JS1120-3 | Ver.3.2.22 | N/A |

4. 6dB Bandwidth

4.1. Block diagram of test setup



4.2. Limits

For direct sequence systems, the minimum 6 dB bandwidth shall be at least 500 kHz

4.3. Test procedure

- (1) The test according to ANSI C63.10-2013 clause 11.8.
- (2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results
- (3) Set the EUT as maximum power setting and enable the EUT transmit continuously
- (4) Use the following spectrum analyzer settings for 6 dB Bandwidth:

| | |
|----------------|------------------------------|
| RBW: | 100 kHz |
| VBW: | $\geq [3 \times \text{RBW}]$ |
| Detector Mode: | peak |
| Sweep time: | auto |
| Trace mode | max hold |

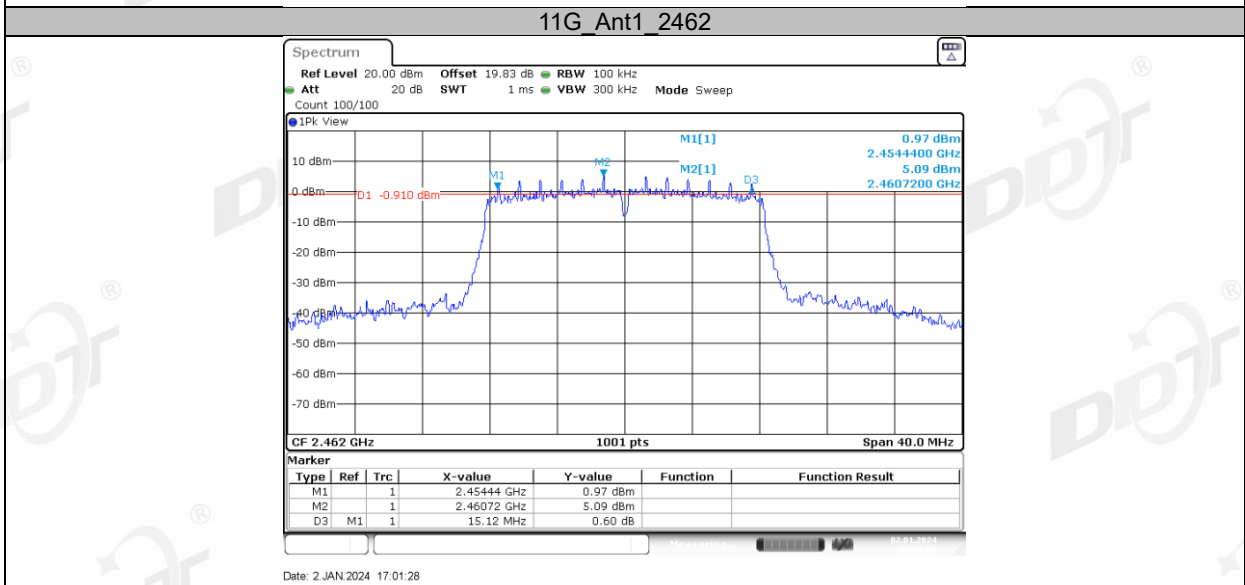
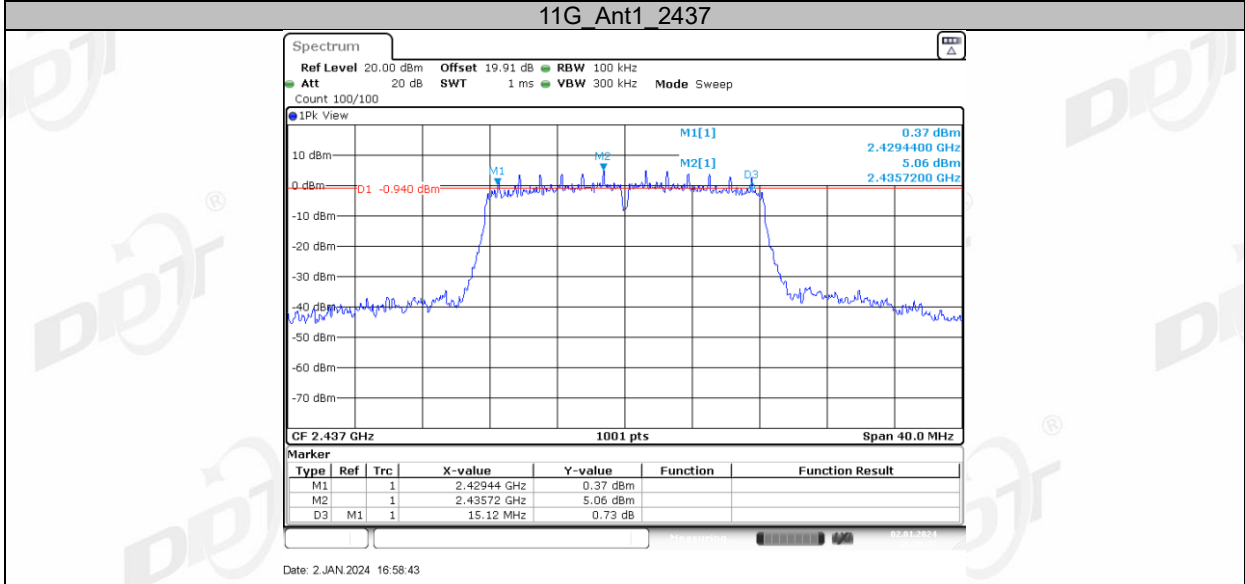
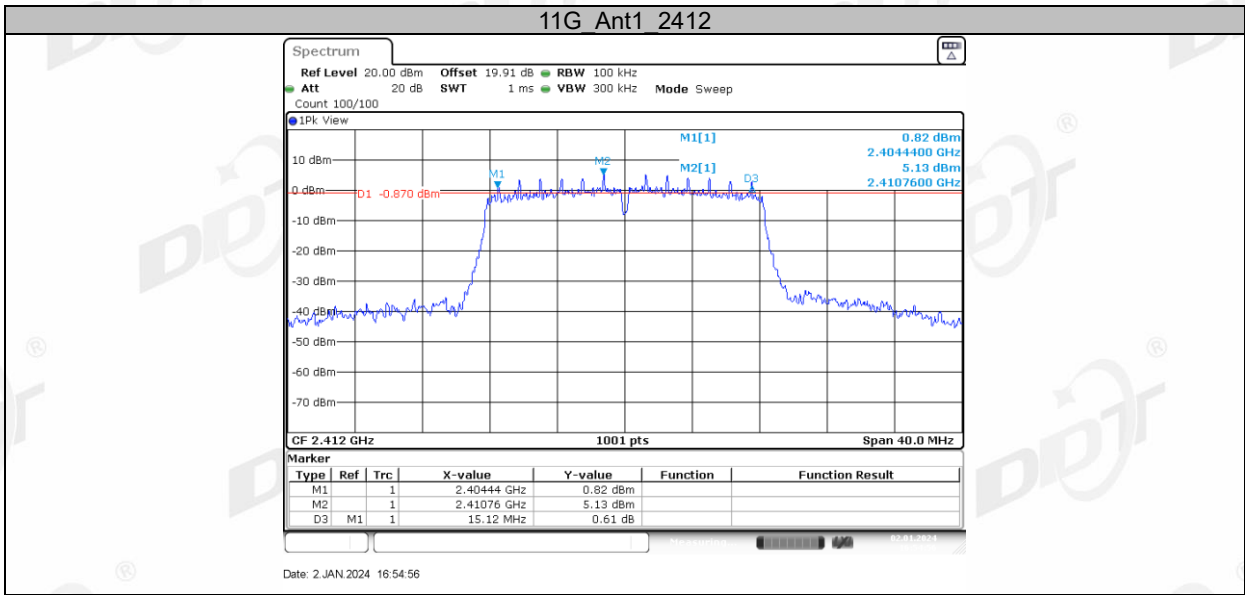
Allow the trace to stabilize, measure the 6 dB bandwidth of signal, and record the results in the report

4.4. Test result

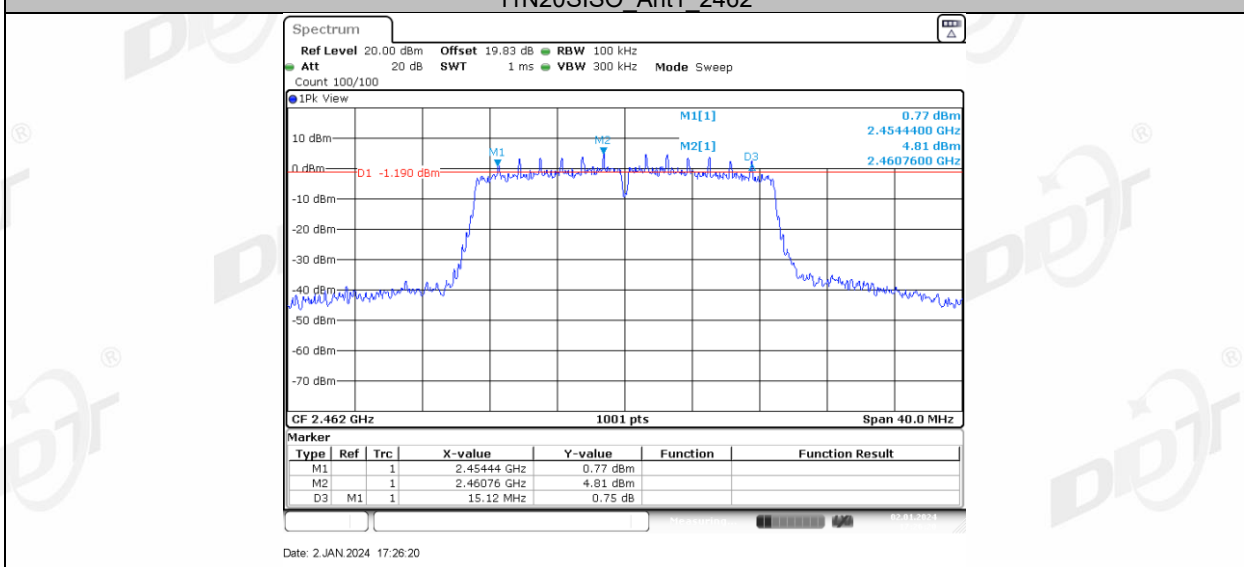
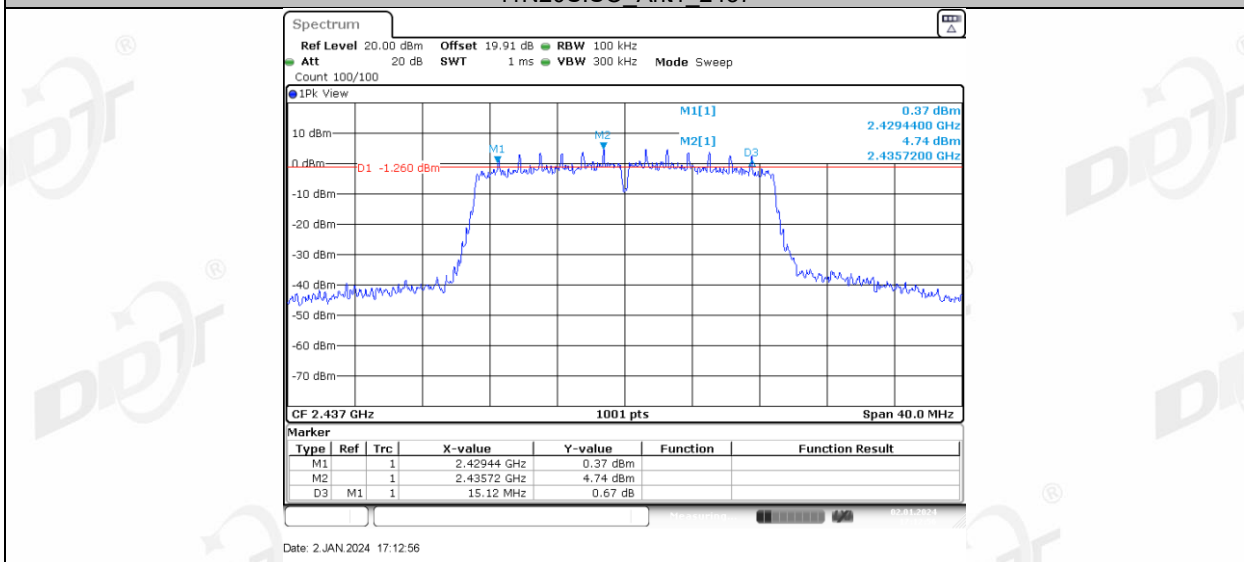
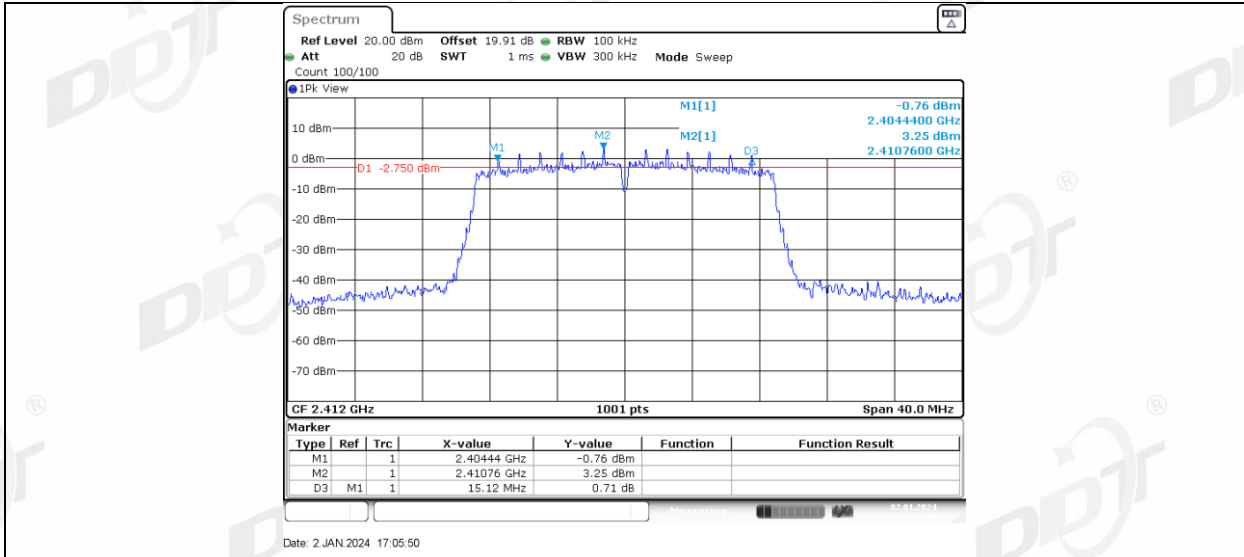
| | | | |
|--------------------|----------------|------------|---------------------------|
| Test Engineer: | Zoe | Test Site: | RF Measurement System 3# |
| Ambient Condition: | 21.3°C,40.5%RH | Test Date: | 2024.01.02 |
| Test Power Supply: | Battery | EUT: | Tabletop Wireless Speaker |
| Sample Number: | S23113018-02 | Model No.: | EDF100080 |

| Test Mode | Antenna | Frequency [MHz] | DTS BW [MHz] | FL [MHz] | FH [MHz] | Limit [MHz] | Verdict |
|-----------|---------|-----------------|--------------|----------|----------|-------------|---------|
| 11G | Ant1 | 2412 | 15.12 | 2404.44 | 2419.56 | 0.5 | PASS |
| | | 2437 | 15.12 | 2429.44 | 2444.56 | 0.5 | PASS |
| | | 2462 | 15.12 | 2454.44 | 2469.56 | 0.5 | PASS |
| 11N20SISO | Ant1 | 2412 | 15.12 | 2404.44 | 2419.56 | 0.5 | PASS |
| | | 2437 | 15.12 | 2429.44 | 2444.56 | 0.5 | PASS |
| | | 2462 | 15.12 | 2454.44 | 2469.56 | 0.5 | PASS |

4.5. Test graphs

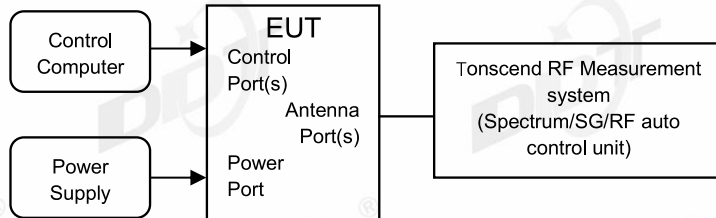


11N20SISO_Ant1_2412



5. 99% Bandwidth

5.1. Block diagram of test setup



5.2. Limits

Just for Report.

5.3. Test procedure

- (1) The test according to ANSI C63.10-2013 clause 6.9.3.
- (2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results
- (3) Set the EUT as maximum power setting and enable the EUT transmit continuously
- (4) Use the following spectrum analyzer settings for the 99% Bandwidth:

| | |
|----------------|---|
| RBW: | 1% to 5% of the OBW |
| VBW: | approximately three times RBW |
| Span: | between 1.5 times and 5.0 times the OBW |
| Detector Mode: | peak |
| Sweep time: | auto |
| Trace mode | max hold |

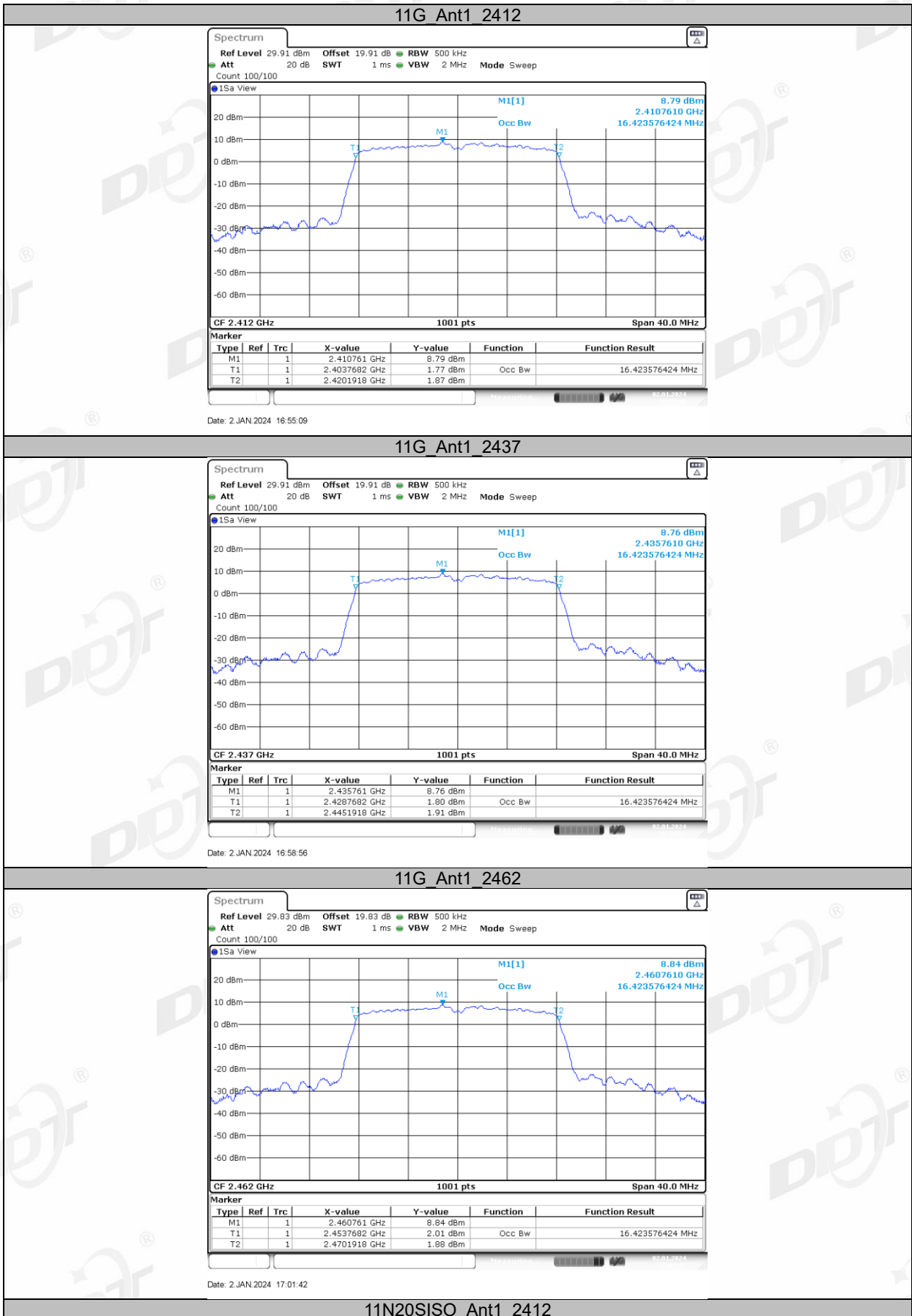
Allow the trace to stabilize, measure the 99% bandwidth of signal, and record the results in the report.

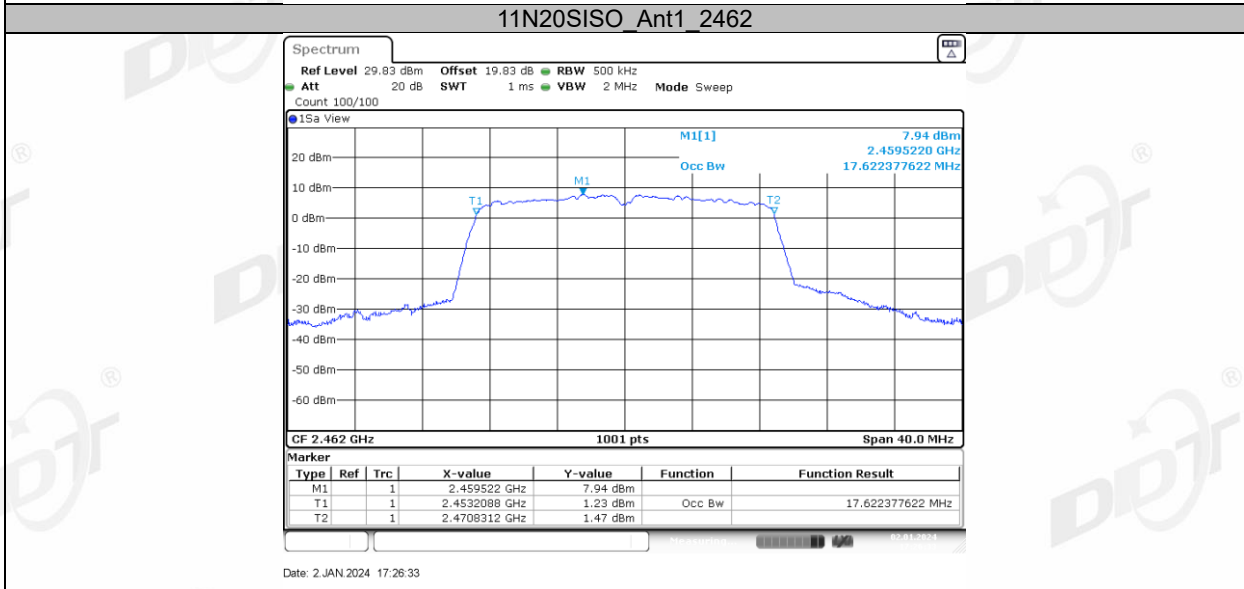
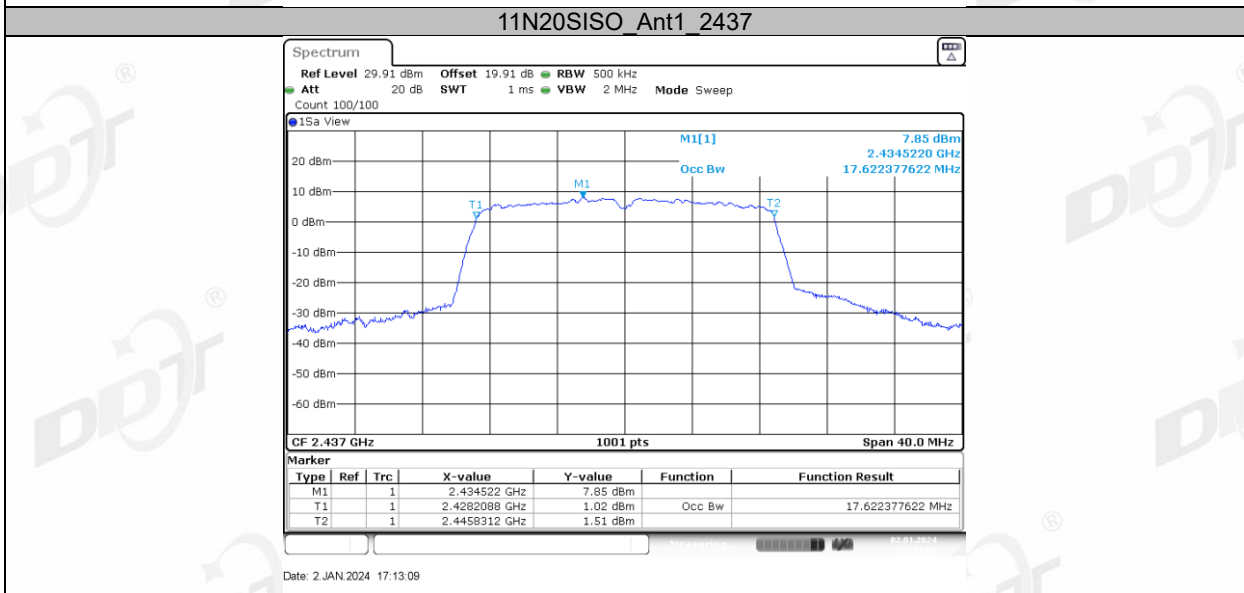
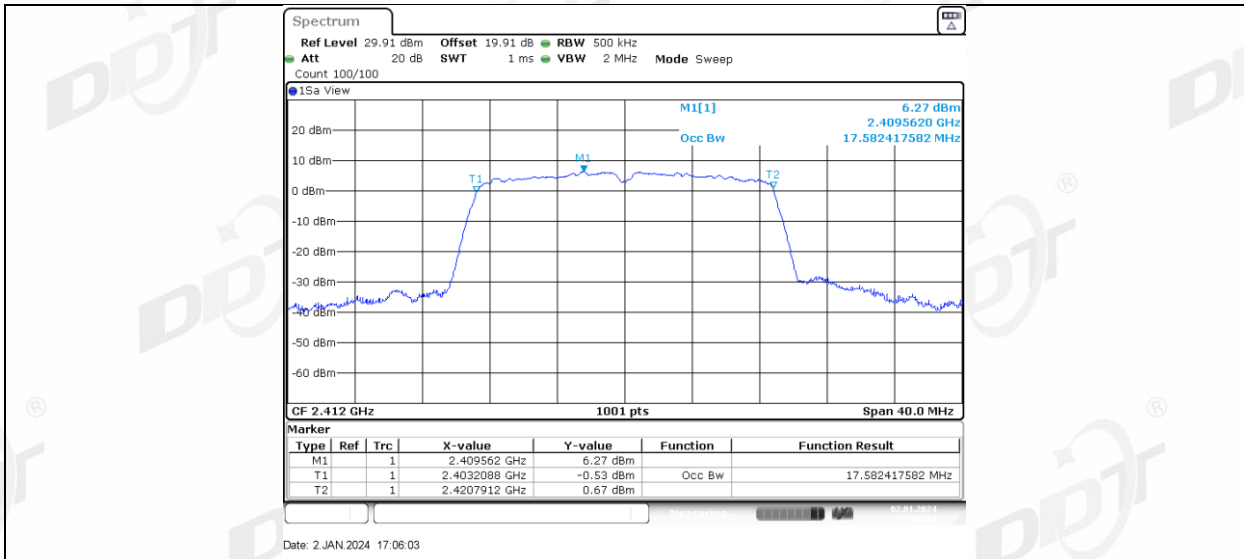
5.4. Test result

| | | | |
|--------------------|----------------|------------|---------------------------|
| Test Engineer: | Zoe | Test Site: | RF Measurement System 3# |
| Ambient Condition: | 21.3°C,40.5%RH | Test Date: | 2024.01.02 |
| Test Power Supply: | Battery | EUT: | Tabletop Wireless Speaker |
| Sample Number: | S23113018-02 | Model No.: | EDF100080 |

| TestMode | Antenna | Channel Frequency[MHz] | OCB [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|-----------|---------|------------------------|-----------|-----------|-----------|------------|---------|
| 11G | Ant1 | 2412 | 16.424 | 2403.7682 | 2420.1918 | --- | --- |
| | | 2437 | 16.424 | 2428.7682 | 2445.1918 | --- | --- |
| | | 2462 | 16.424 | 2453.7682 | 2470.1918 | --- | --- |
| 11N20SISO | Ant1 | 2412 | 17.582 | 2403.2088 | 2420.7912 | --- | --- |
| | | 2437 | 17.622 | 2428.2088 | 2445.8312 | --- | --- |
| | | 2462 | 17.622 | 2453.2088 | 2470.8312 | --- | --- |

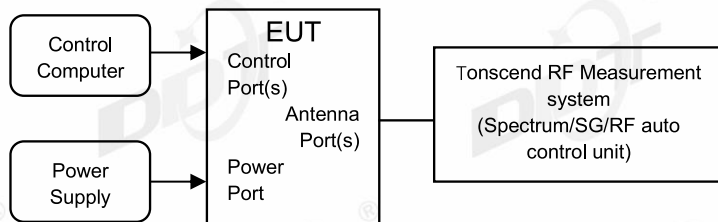
5.5. Test graphs





6. Conducted Output Power

6.1. Block diagram of test setup



6.2. Limits

For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

6.3. Test procedure

- (1) The test according to ANSI C63.10-2013 clause 11.9.2.3.
- (2) Connect EUT's antenna output to RF power meter by RF cable, the path loss was compensated to the results.
- (3) Set the EUT as maximum power setting and enable the EUT transmit continuously, If the transmitter does not transmit continuously, measure the duty cycle, D, of the transmitter output signal.
- (4) Measure the average power of the transmitter. This measurement is an average over both the ON and OFF periods of the transmitter.
- (5) Adjust the measurement in dBm by adding $[10 \log (1 / D)]$, where D is the duty cycle.
- (6) Record the RF average power of each antenna port.

6.4. Test result average

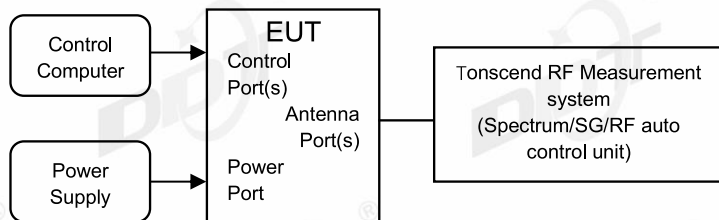
| | | | |
|--------------------|----------------|------------|---------------------------|
| Test Engineer: | Zoe | Test Site: | RF Measurement System 3# |
| Ambient Condition: | 21.3°C,40.5%RH | Test Date: | 2024.01.02 |
| Test Power Supply: | Battery | EUT: | Tabletop Wireless Speaker |
| Sample Number: | S23113018-02 | Model No.: | EDF100080 |

| Test Mode | Antenna | Frequency [MHz] | Average power [dBm] | Duty Cycle [%] | DC Factor [dB] | Result [dBm] | Limit [dBm] | EIRP [dBm] | EIRP Limit [dBm] | Verdict |
|-----------|---------|-----------------|---------------------|----------------|----------------|--------------|-------------|------------|------------------|---------|
| 11G | Ant1 | 2412 | 14.43 | 88.89 | 0.51 | 14.94 | ≤30.00 | 17.94 | ≤36.00 | PASS |
| | | 2437 | 14.86 | 92.31 | 0.35 | 15.21 | ≤30.00 | 18.21 | ≤36.00 | PASS |
| | | 2462 | 14.98 | 92.31 | 0.35 | 15.33 | ≤30.00 | 18.33 | ≤36.00 | PASS |
| 11N20SISO | Ant1 | 2412 | 14.38 | 92.86 | 0.32 | 14.70 | ≤30.00 | 17.70 | ≤36.00 | PASS |
| | | 2437 | 14.71 | 93.10 | 0.31 | 15.02 | ≤30.00 | 18.02 | ≤36.00 | PASS |
| | | 2462 | 14.87 | 92.86 | 0.32 | 15.19 | ≤30.00 | 18.19 | ≤36.00 | PASS |

Note: EIRP (dBm)=Conducted Output Power (dBm)+ Antenna Gain (dBi)

7. Power Spectral Density

7.1. Block diagram of test setup



7.2. Limits

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

7.3. Test procedure

- (1) The test according to ANSI C63.10-2013 clause 11.10.5.
- (2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results.
- (3) Set the EUT as maximum power setting and enable the EUT transmit continuously.
- (4) Use the following spectrum analyzer settings for Power Spectral Density measurement:

| | |
|------------------|--|
| Center frequency | DTS Channel center frequency |
| RBW: | $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ |
| VBW: | $\geq 3\text{RBW}$ |
| Span | 1.5 times the DTS bandwidth |
| Detector Mode: | RMS |
| Sweep time: | auto |
| Trace mode | max hold |
| | Employ trace averaging (rms) |
| Trace | mode over a minimum of 100 traces. |

- (5) Add $[10 \log (1 / D)]$, where D is the duty cycle measured in step a), to the measured PSD to compute the average PSD during the actual transmission time.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

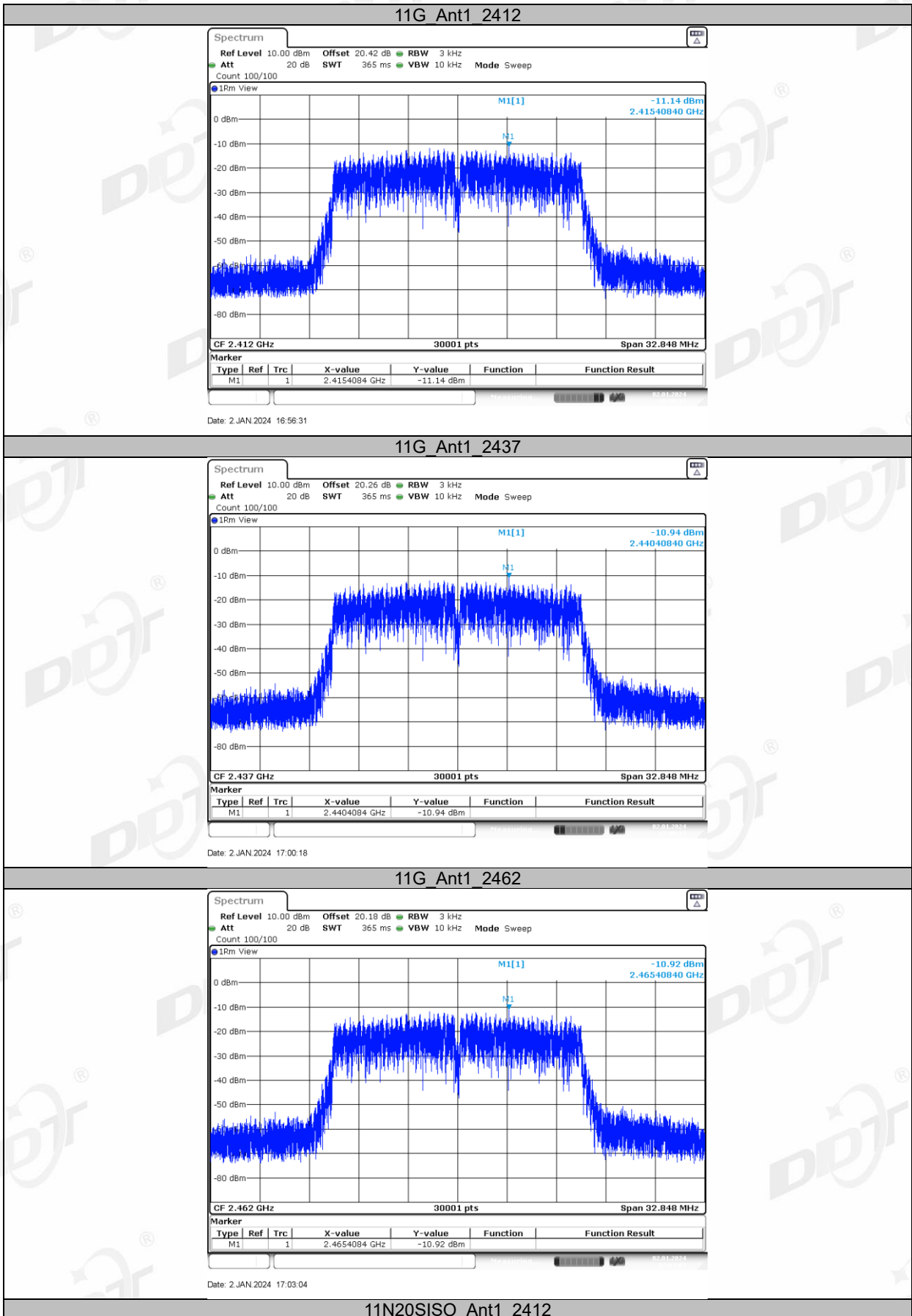
7.4. Test result

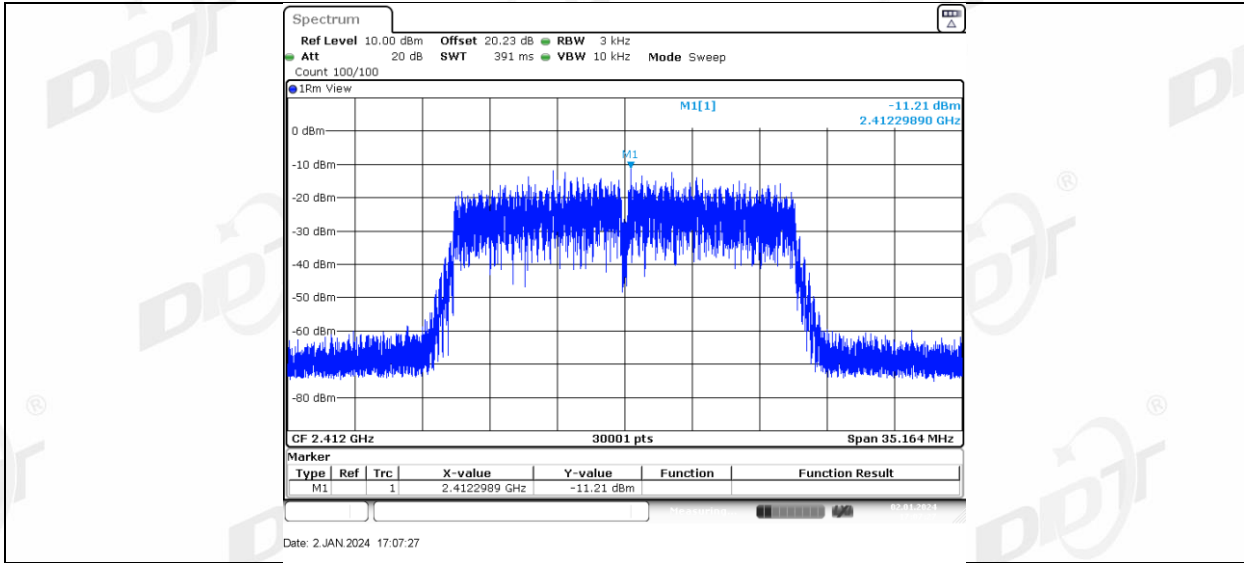
| | | | |
|--------------------|----------------|------------|---------------------------|
| Test Engineer: | Zoe | Test Site: | RF Measurement System 3# |
| Ambient Condition: | 21.3°C,40.5%RH | Test Date: | 2024.01.02 |
| Test Power Supply: | Battery | EUT: | Tabletop Wireless Speaker |
| Sample Number: | S23113018-02 | Model No.: | EDF100080 |

| Test Mode | Antenna | Frequency [MHz] | Result[dBm/3-100kHz] | Limit[dBm/3kHz] | Verdict |
|-----------|---------|-----------------|----------------------|-----------------|---------|
| 11G | Ant1 | 2412 | -11.14 | ≤8.00 | PASS |
| | | 2437 | -10.94 | ≤8.00 | PASS |
| | | 2462 | -10.92 | ≤8.00 | PASS |
| 11N20SISO | Ant1 | 2412 | -11.21 | ≤8.00 | PASS |
| | | 2437 | -9.63 | ≤8.00 | PASS |
| | | 2462 | -9.46 | ≤8.00 | PASS |

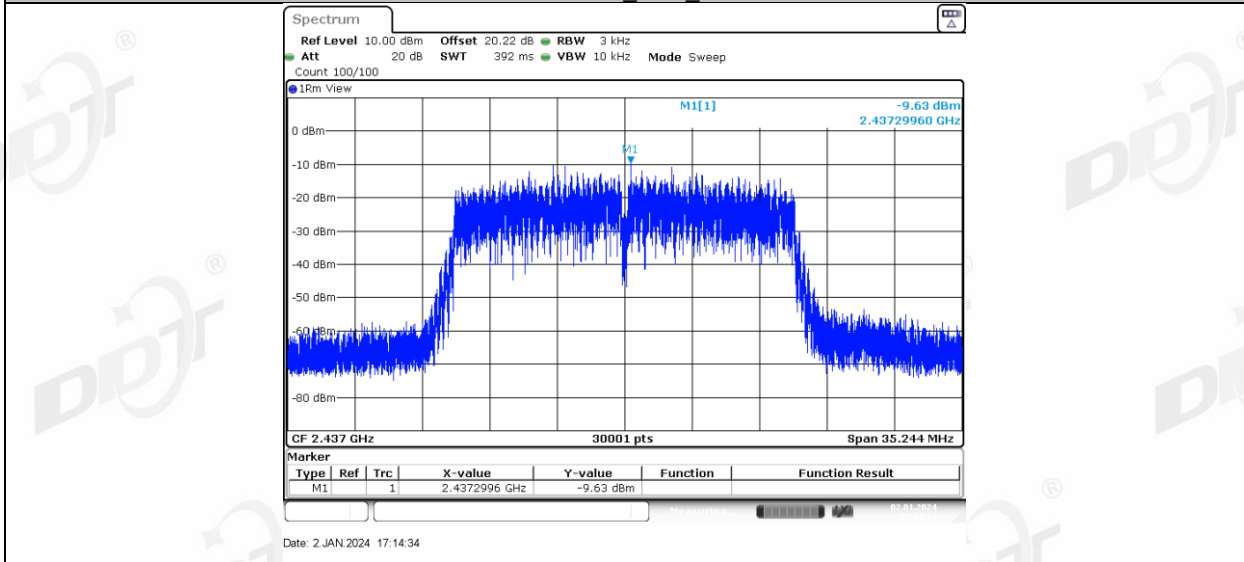
Note: The Duty Cycle Factor is compensated in the graph.

7.5. Test graphs

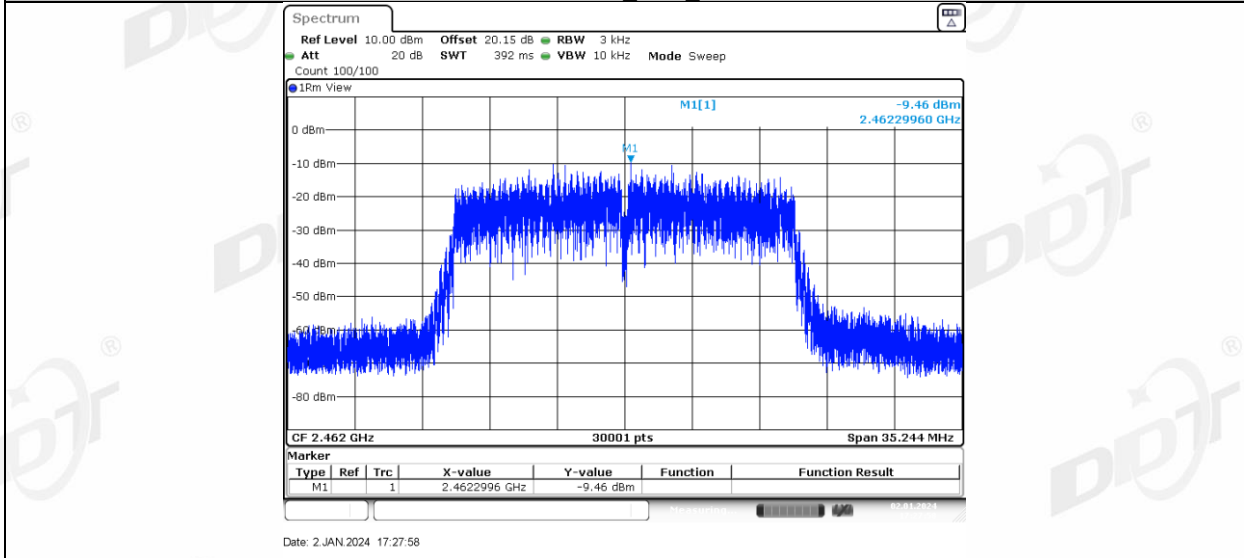




11N20SISO_Ant1_2437

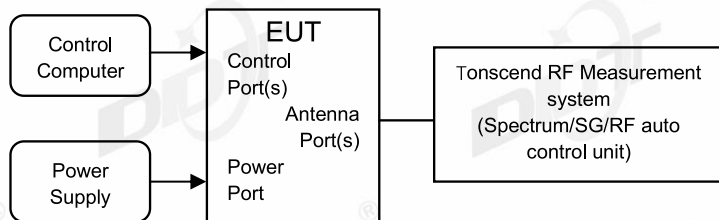


11N20SISO_Ant1_2462



8. Band Edge Compliance (Conducted Method)

8.1. Block diagram of test setup



8.2. Limits

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

8.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Establish a reference level by using the following procedure:

| | |
|----------------|--|
| RBW: | 100 kHz |
| VBW: | 300 kHz |
| Span | Encompass frequency range to be measured |
| Detector Mode: | Peak |
| Sweep time: | auto |
| Trace mode | Max hold |

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.

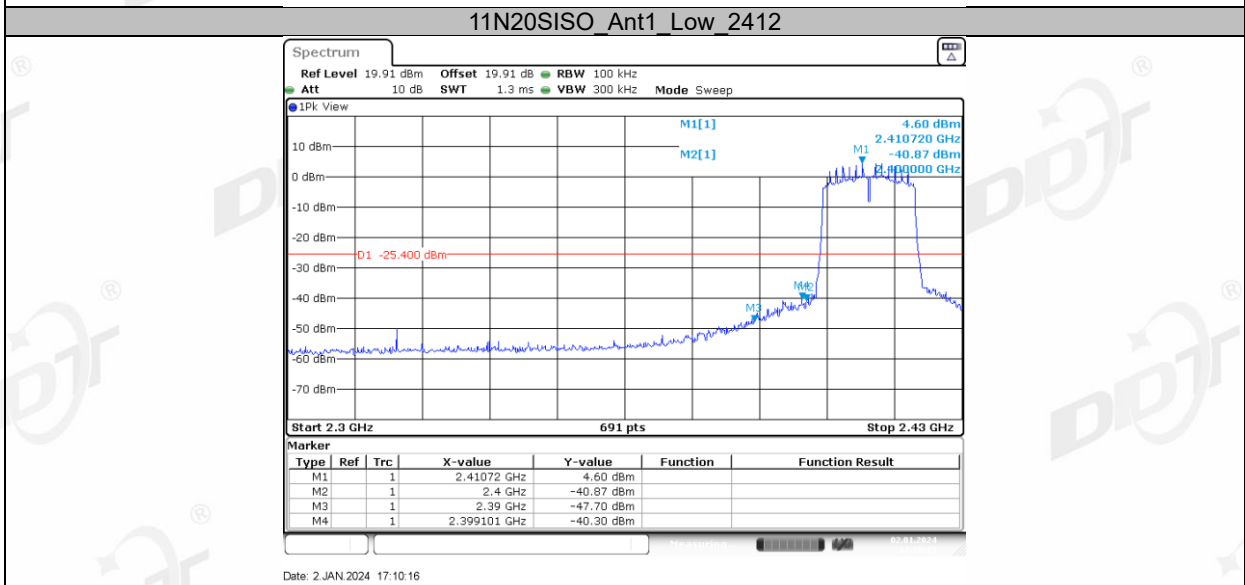
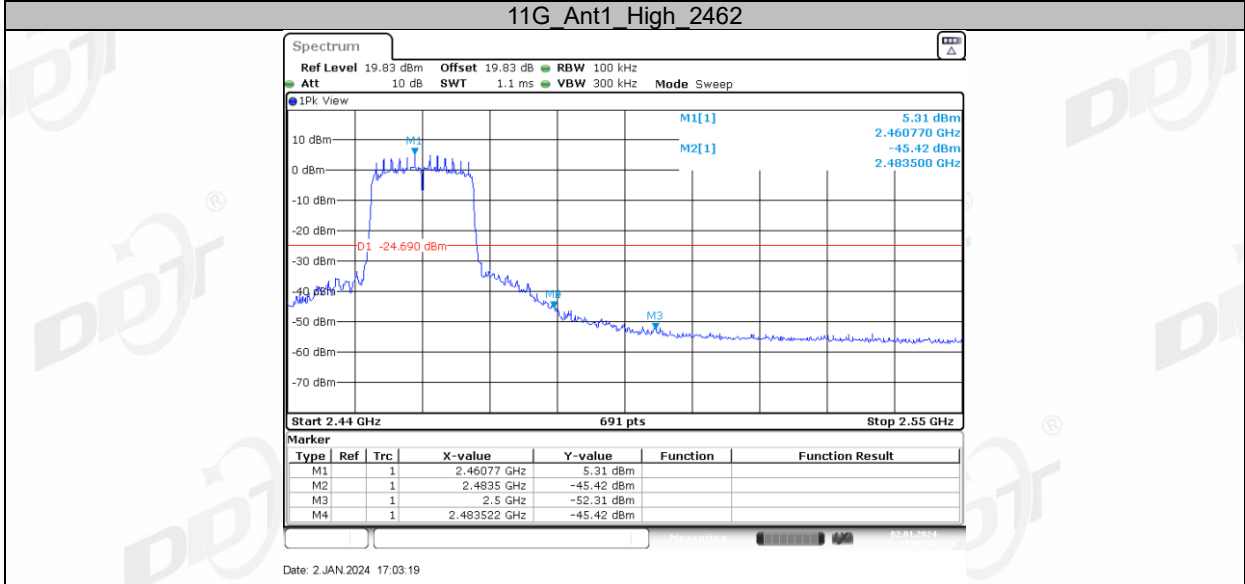
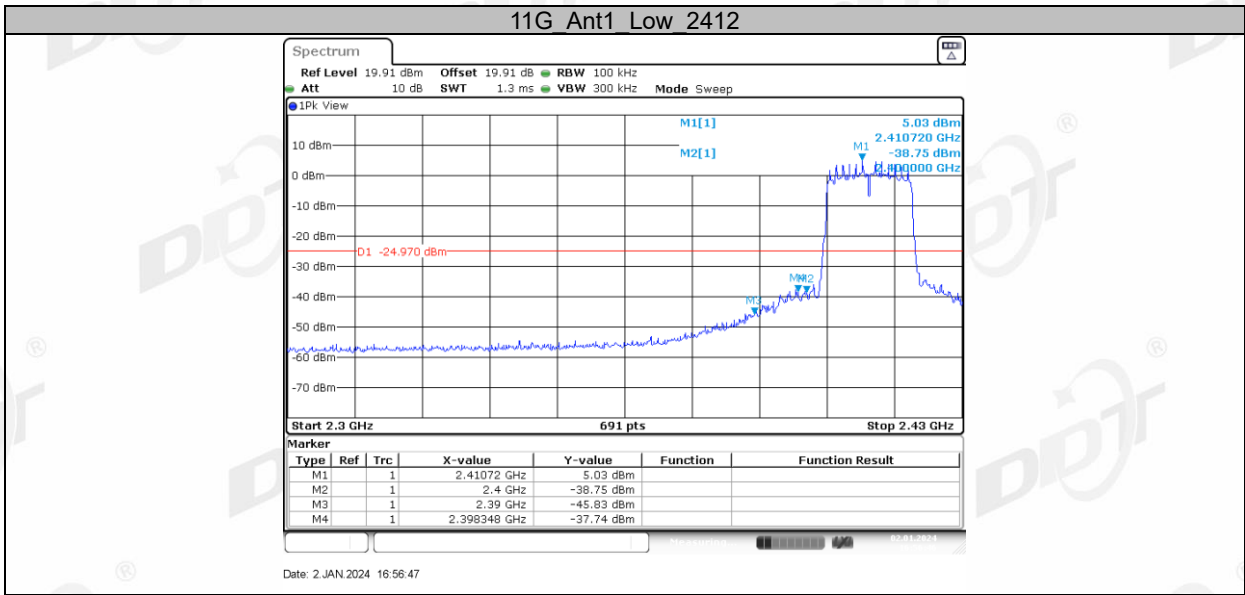
Then mark the maximum amplitude of all unwanted emissions outside of the authorized frequency band.

8.4. Test result

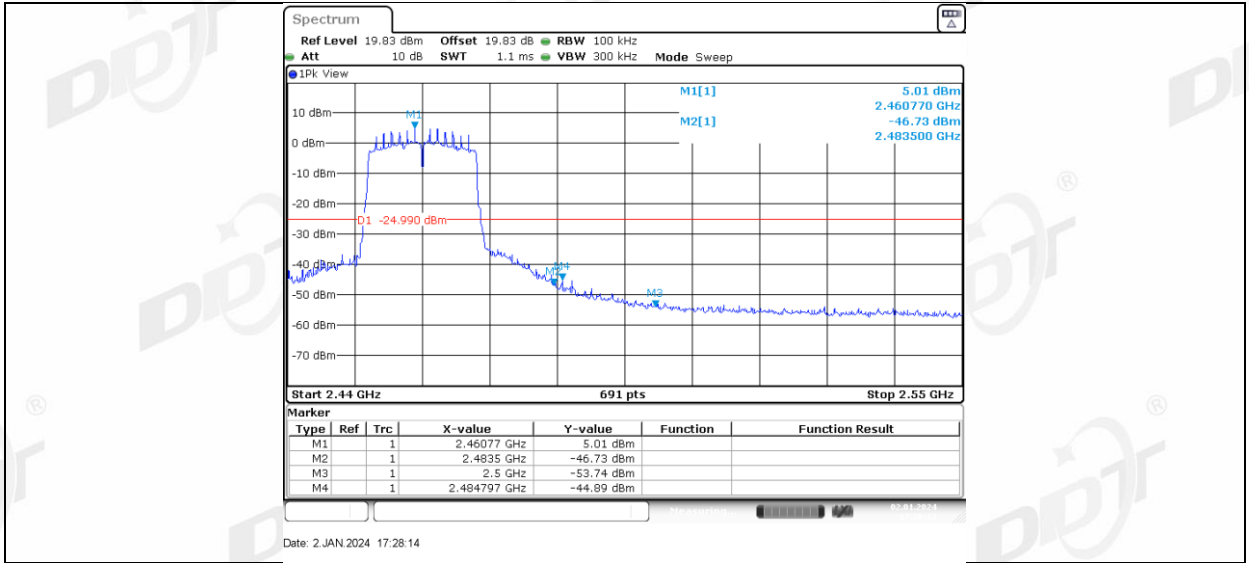
| | | | |
|--------------------|----------------|------------|---------------------------|
| Test Engineer: | Zoe | Test Site: | RF Measurement System 3# |
| Ambient Condition: | 21.3°C,40.5%RH | Test Date: | 2024.01.02 |
| Test Power Supply: | Battery | EUT: | Tabletop Wireless Speaker |
| Sample Number: | S23113018-02 | Model No.: | EDF100080 |

| EUT Set Mode | CH or Frequency | Result(dBm) | EUT Set Mode | CH or Frequency | Result (dBm) |
|--------------|-----------------|-------------|--------------|-----------------|--------------|
| 11g | CH1 | Pass | 11n HT 20 | CH1 | Pass |
| | CH11 | Pass | | CH11 | Pass |

8.5. Test graphs

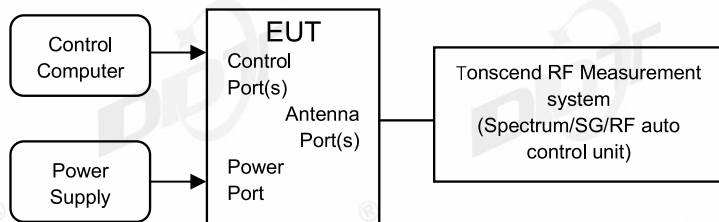


11N20SISO Ant1 High 2462



9. RF Conducted Spurious Emissions

9.1. Block diagram of test setup



9.2. Limits

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

9.3. Test procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) Establish a reference level by using the following procedure:

| | |
|------------------|---|
| Center frequency | Test frequency |
| RBW: | 100 kHz |
| VBW: | 300 kHz |
| Span | Wide enough to capture the peak level of the in-band emission |
| Detector Mode: | Peak |
| Sweep time: | auto |
| Trace mode | Max hold |
- (3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.
- (4) Set the spectrum analyzer as follows:

| | |
|------------------------------|--|
| RBW: | 100 kHz |
| VBW: | 300 kHz |
| Span | Encompass frequency range to be measured |
| Number of measurement points | $\geq \text{Span}/\text{RBW}$ |
| Detector Mode: | Peak |
| Sweep time: | auto |
| Trace mode | Max hold |

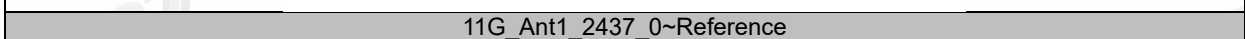
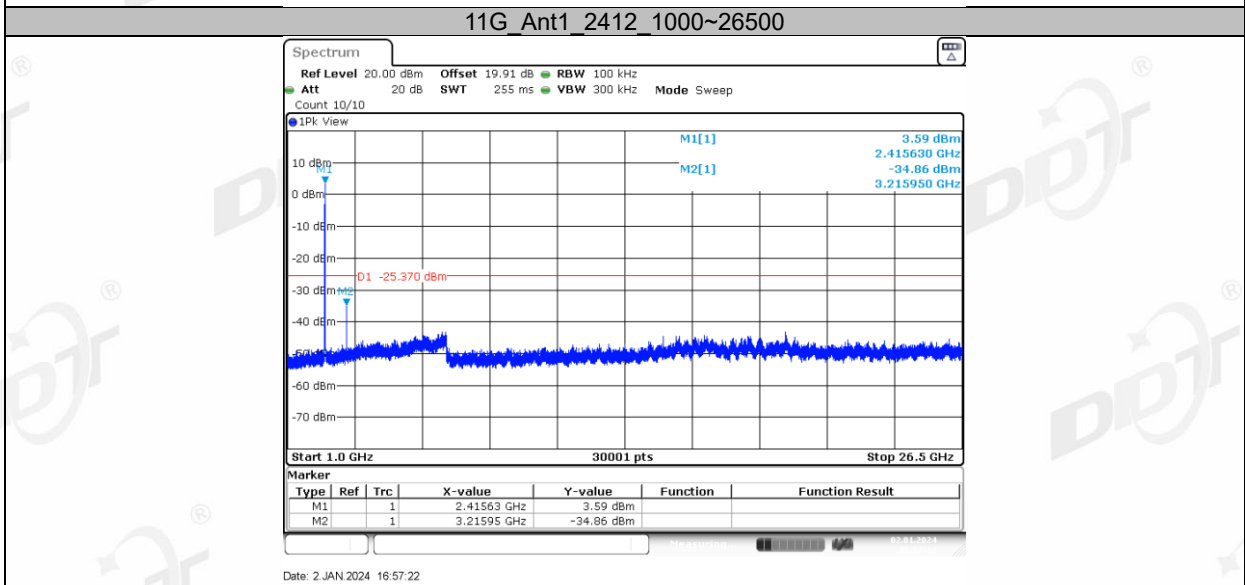
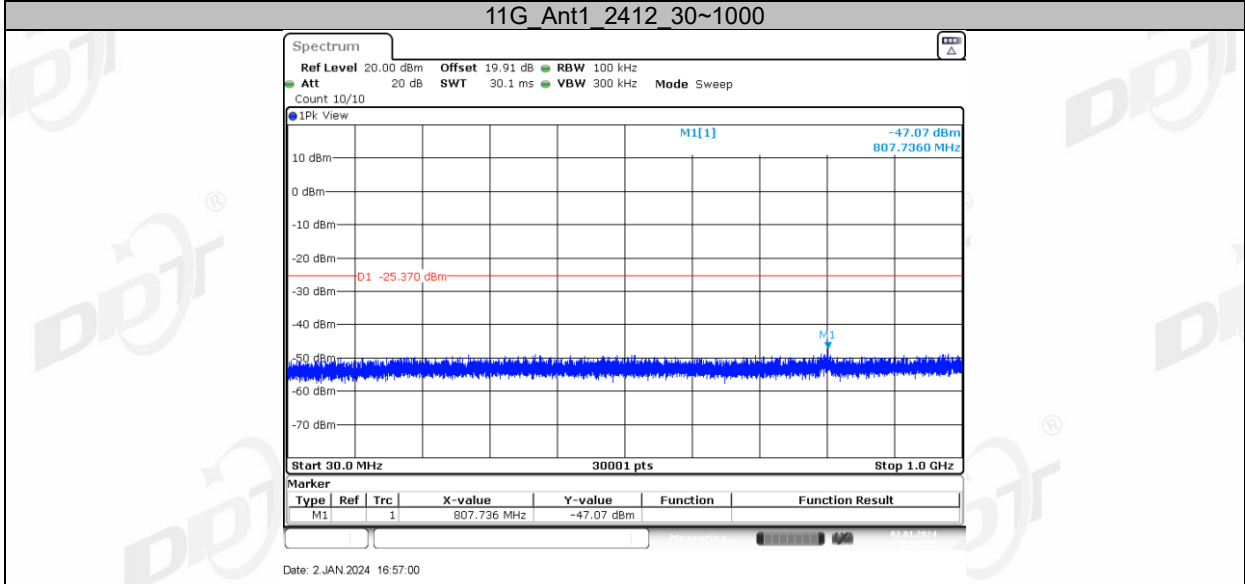
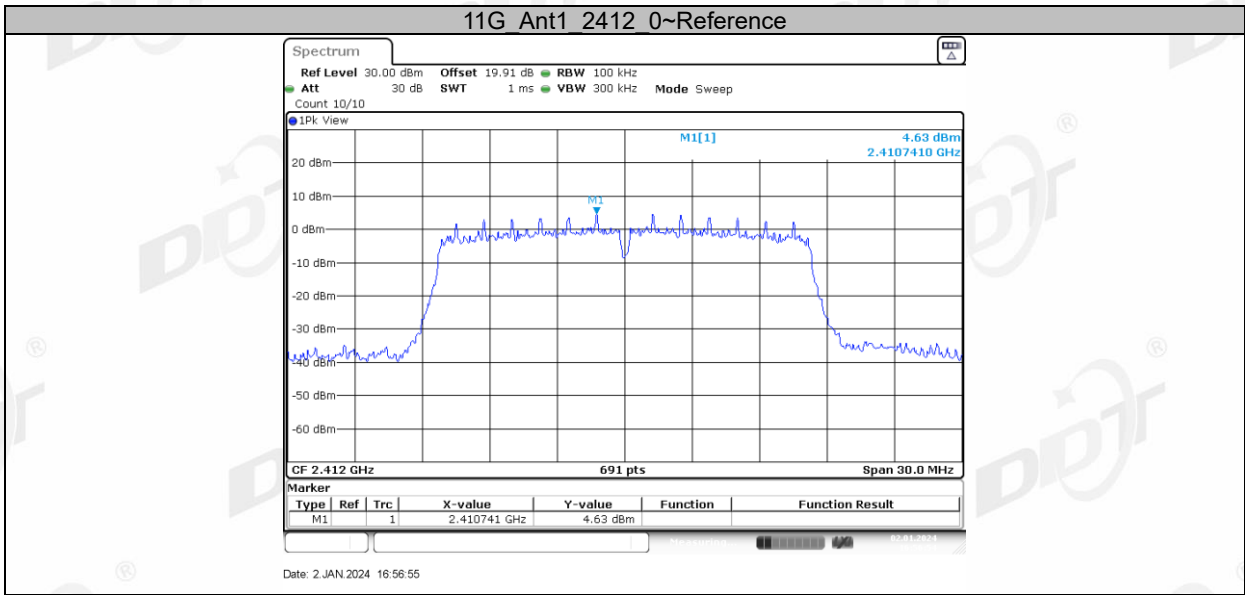
- (5) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

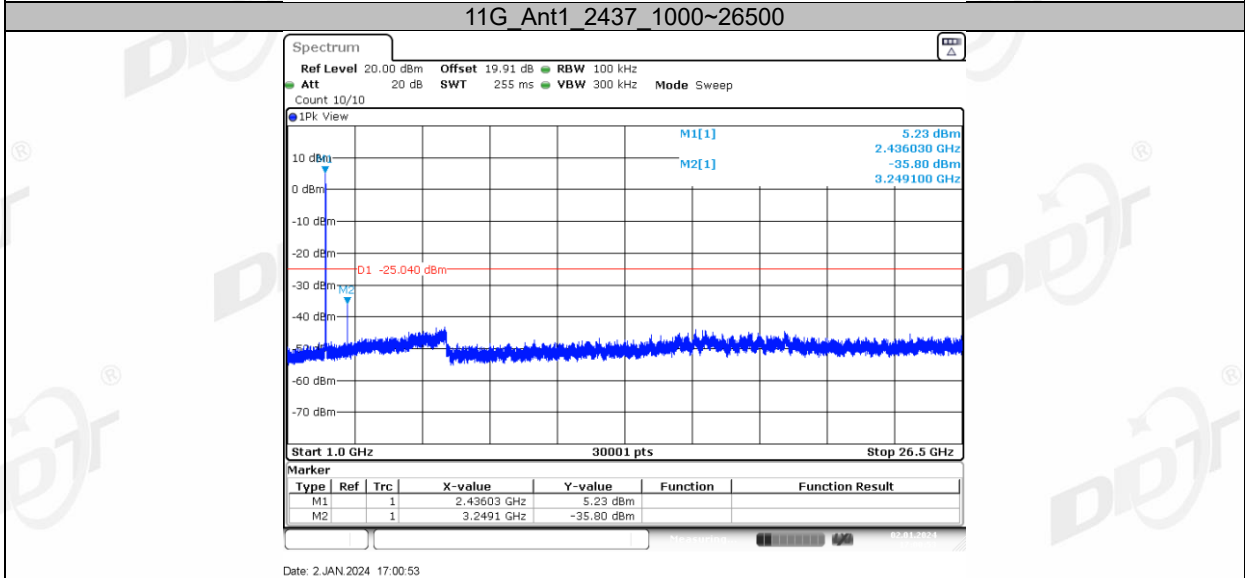
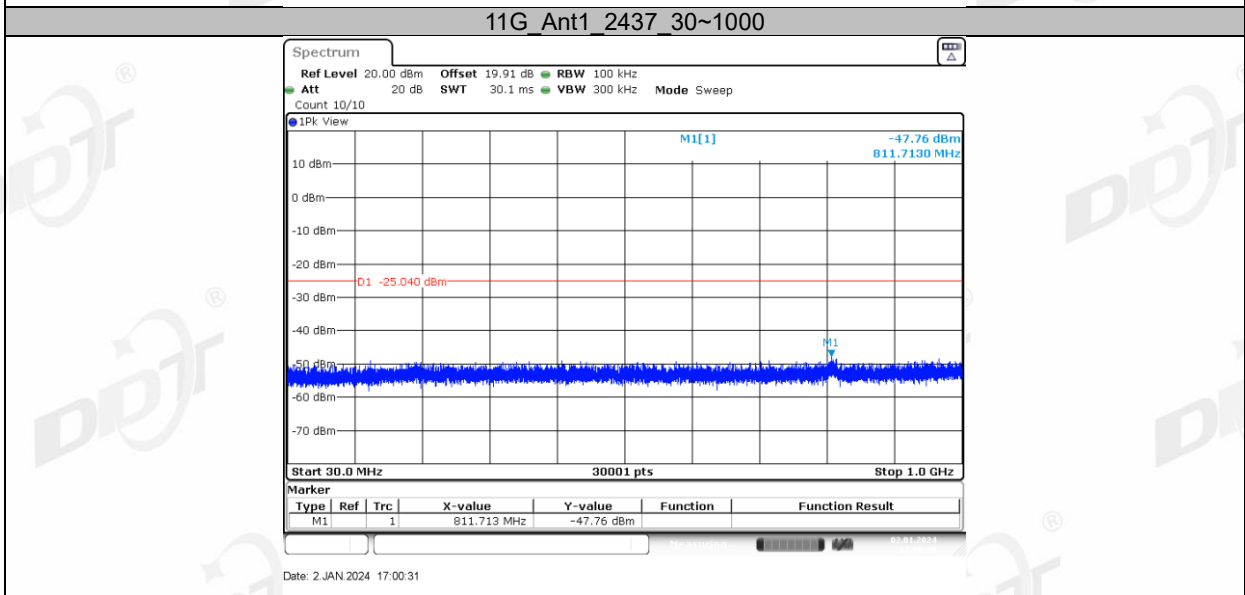
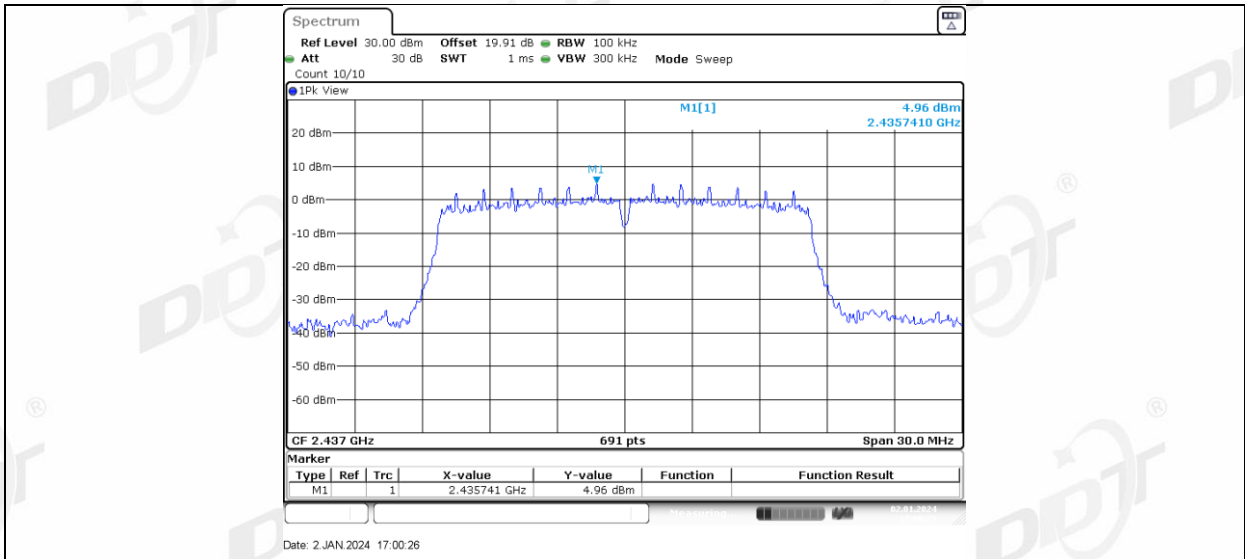
9.4. Test result

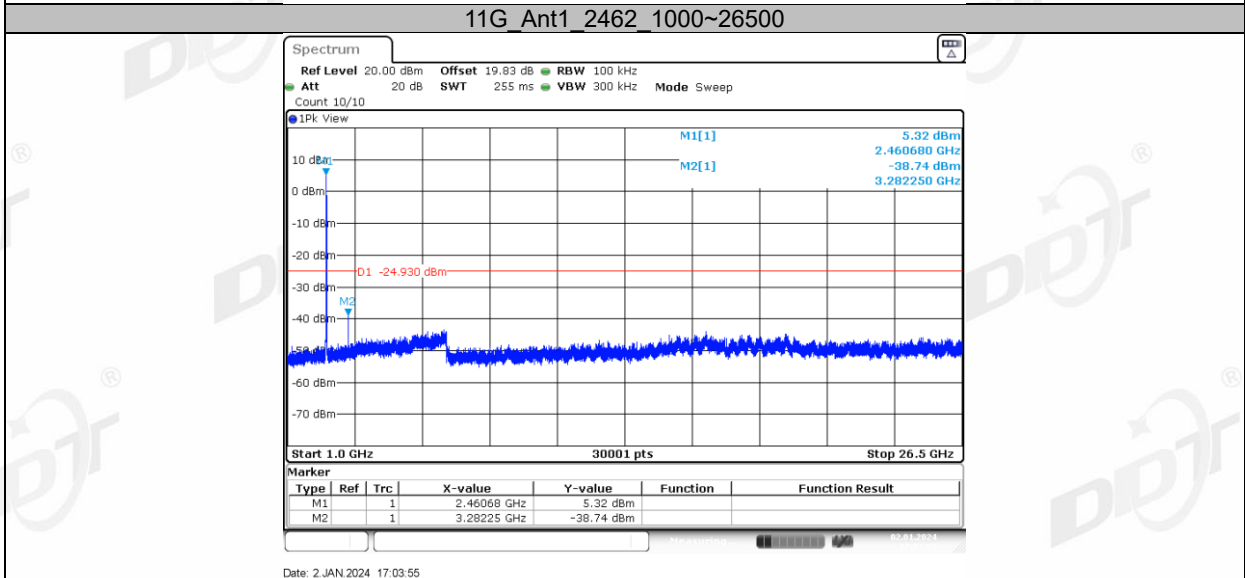
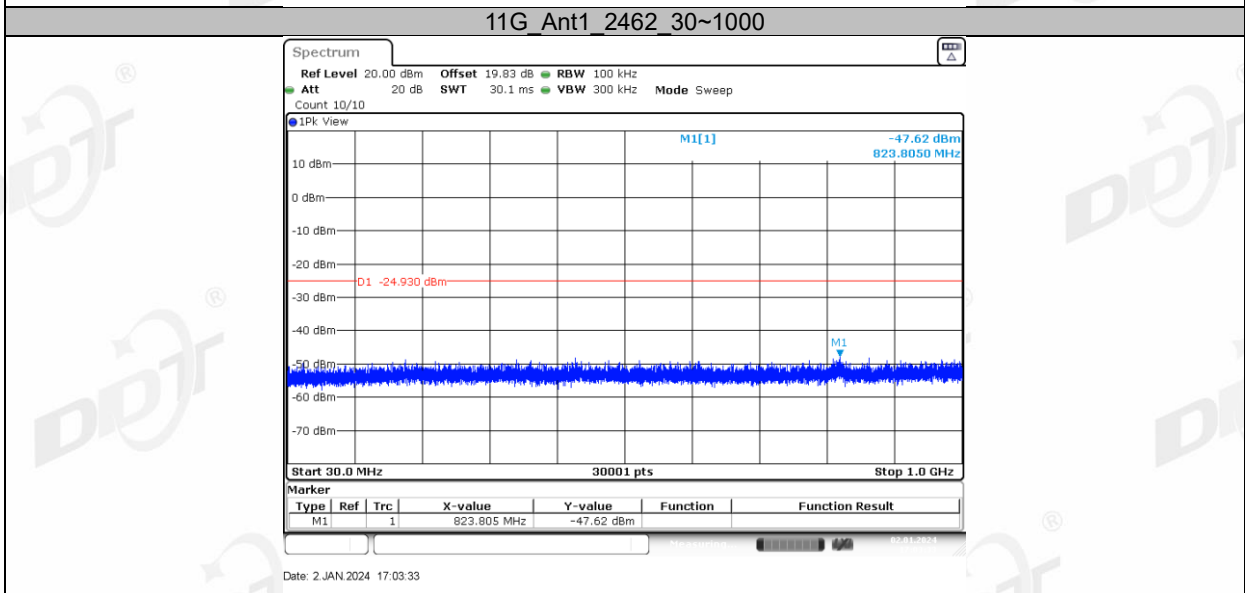
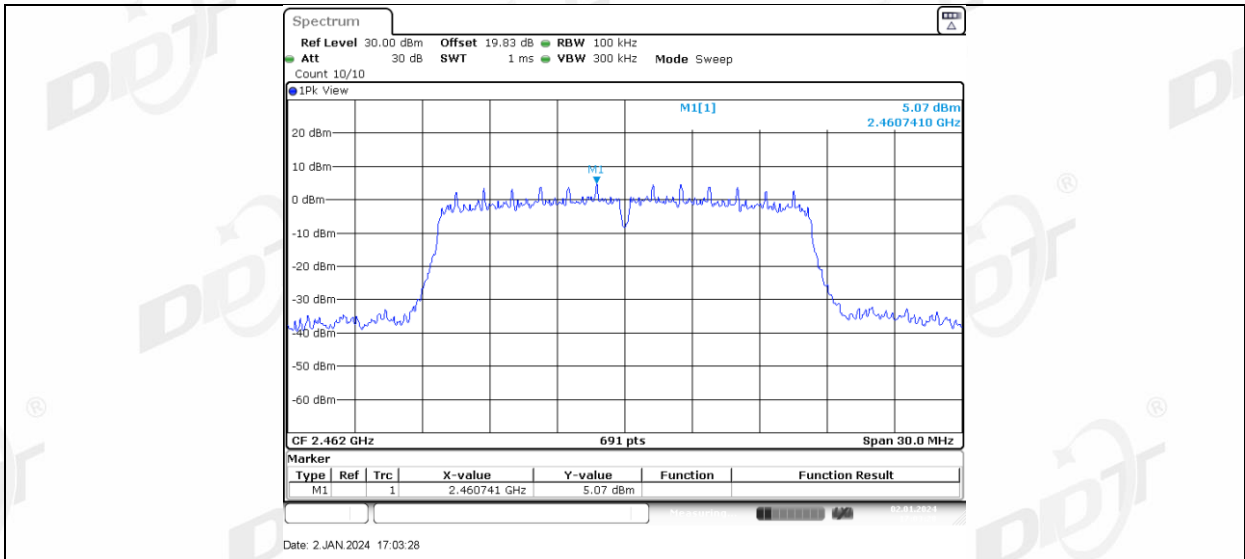
| | | | |
|--------------------|----------------|------------|---------------------------|
| Test Engineer: | Zoe | Test Site: | RF Measurement System 3# |
| Ambient Condition: | 21.3°C,40.5%RH | Test Date: | 2024.01.02 |
| Test Power Supply: | Battery | EUT: | Tabletop Wireless Speaker |
| Sample Number: | S23113018-02 | Model No.: | EDF100080 |

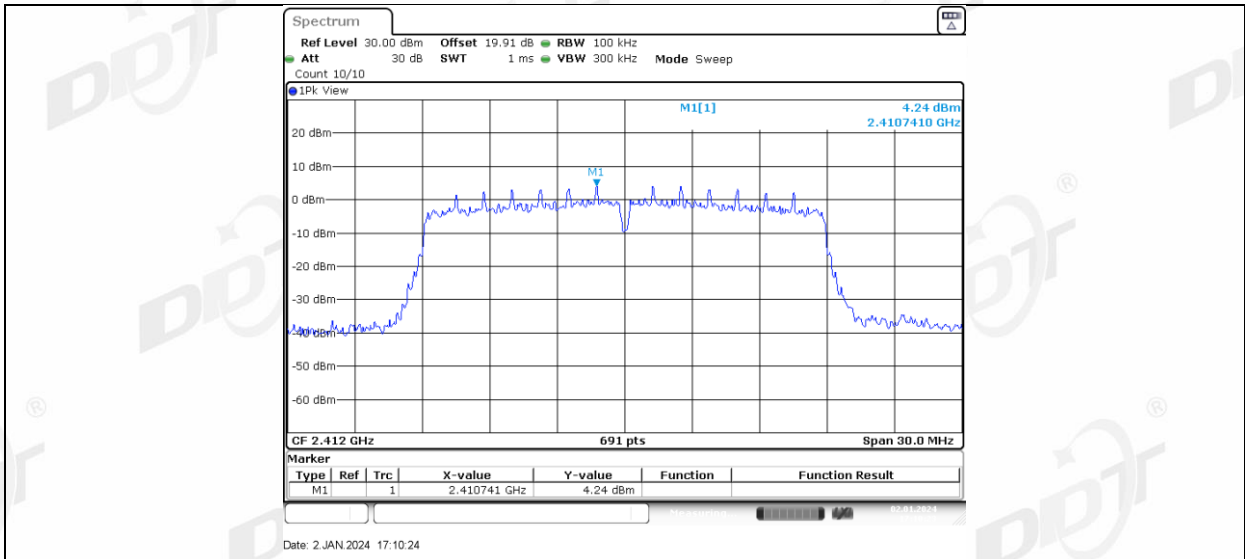
| EUT Set Mode | CH or Frequency | Result(dBm) | EUT Set Mode | CH or Frequency | Result (dBm) |
|--------------|-----------------|-------------|--------------|-----------------|--------------|
| 11g | CH1 | Pass | 11n HT 20 | CH1 | Pass |
| | CH11 | Pass | | CH11 | Pass |

9.5. Test graphs

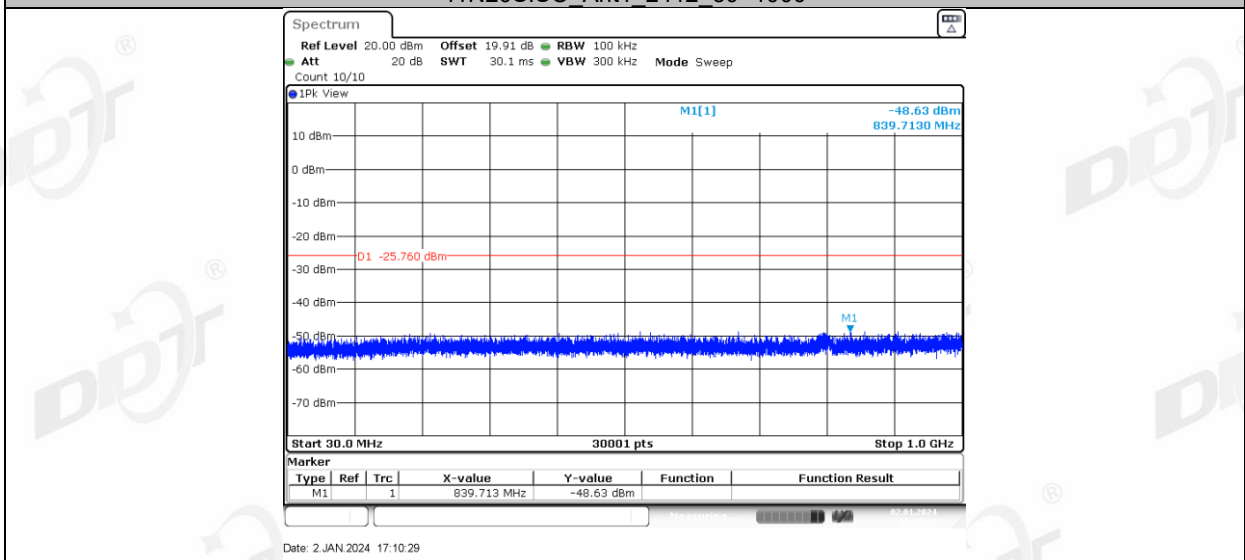




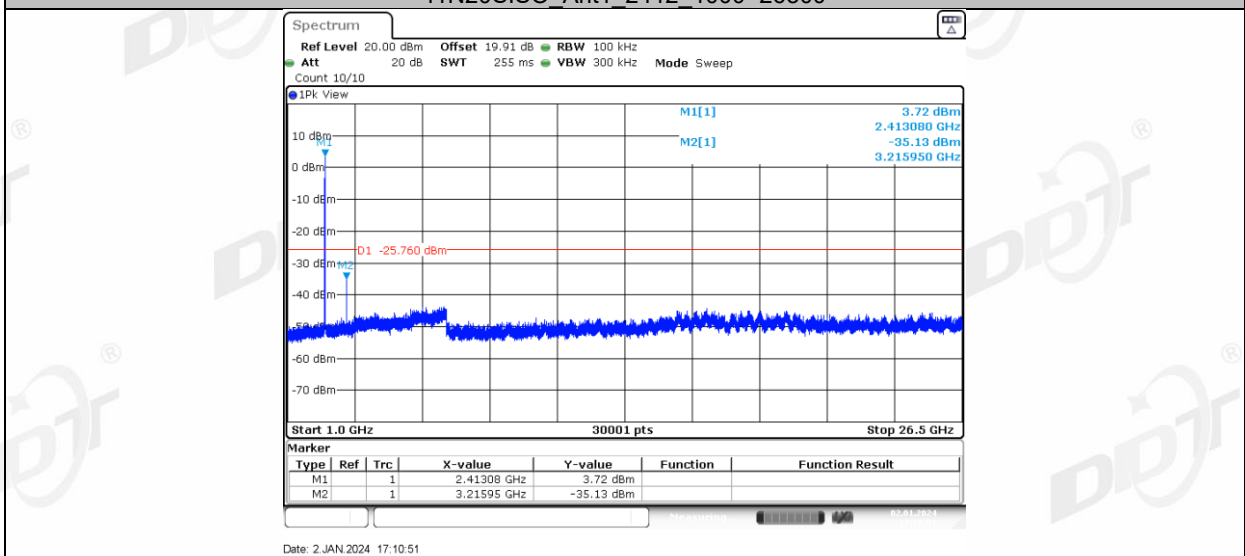




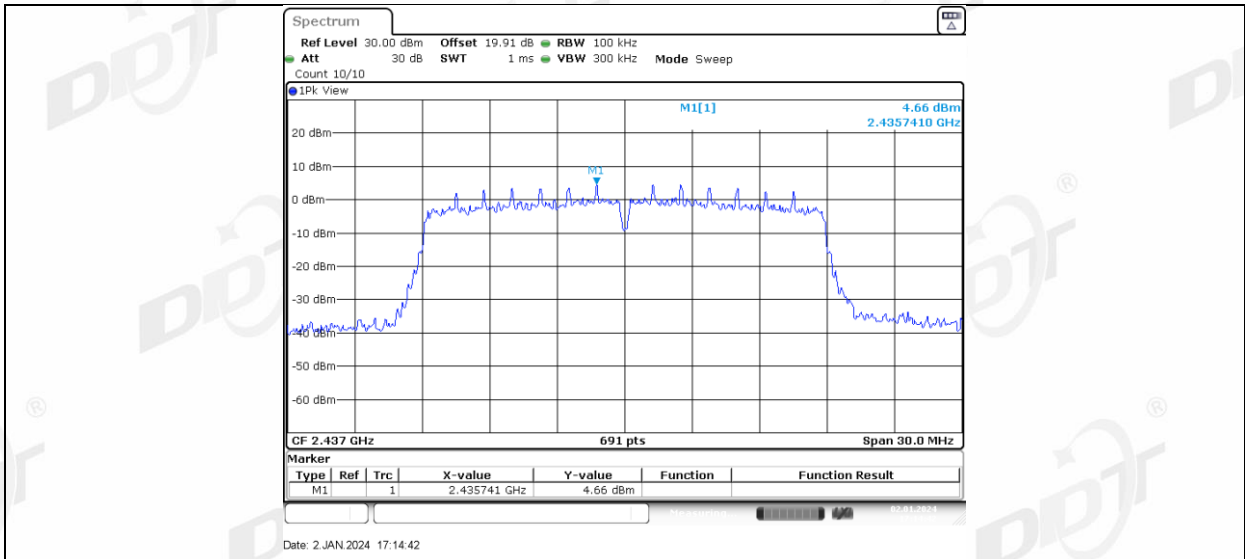
11N20SISO Ant1 2412_30~1000



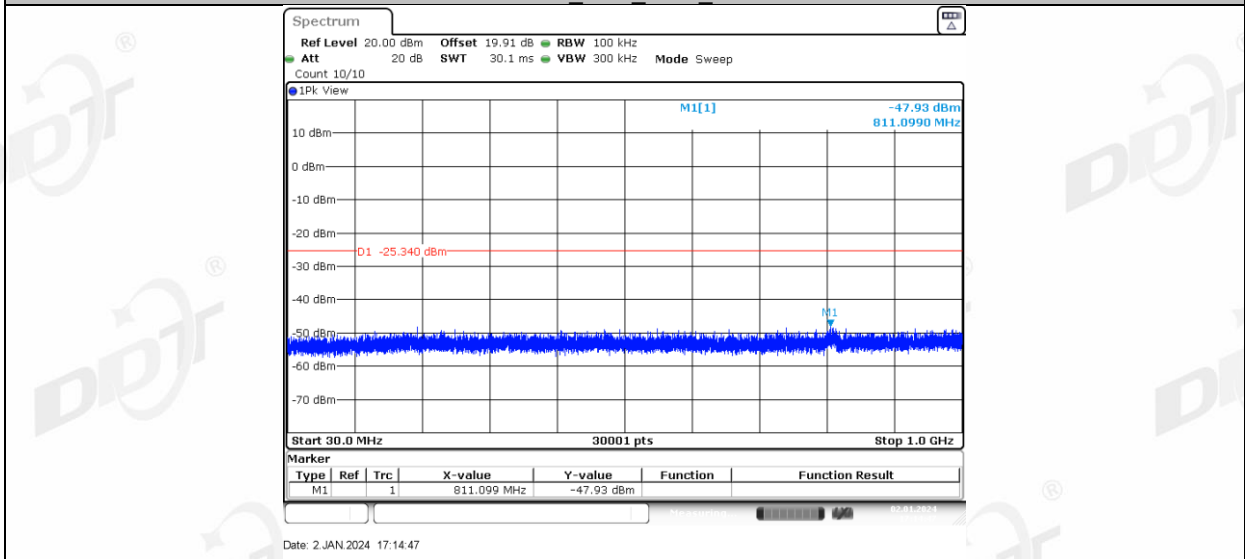
11N20SISO Ant1 2412_1000~26500



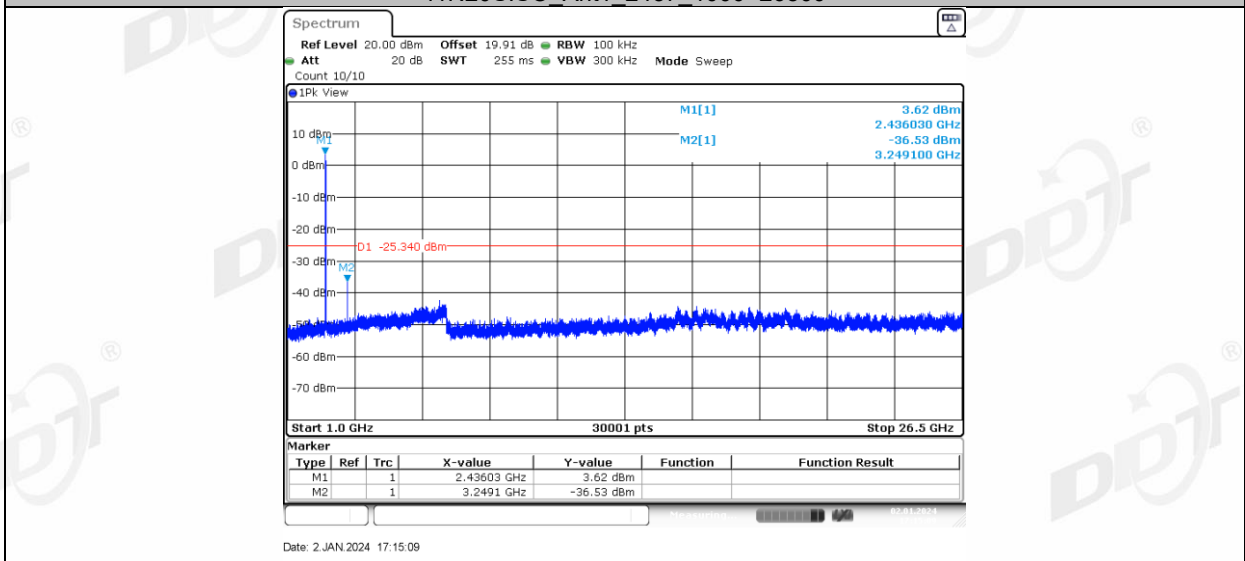
11N20SISO Ant1 2437_0~Reference



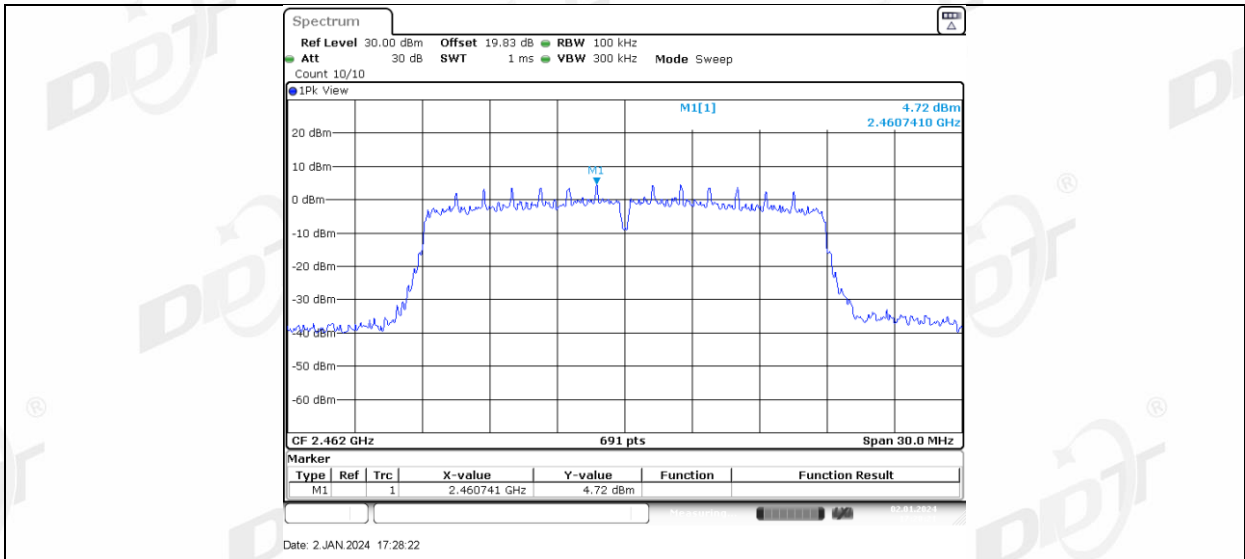
11N20SISO Ant1 2437 30~1000



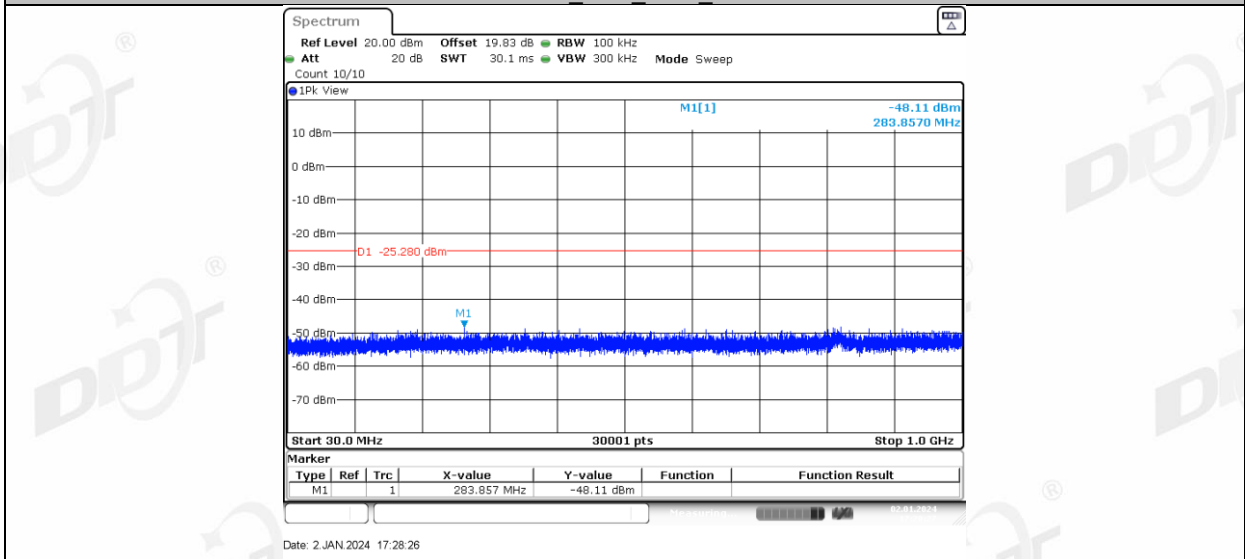
11N20SISO Ant1 2437 1000~26500



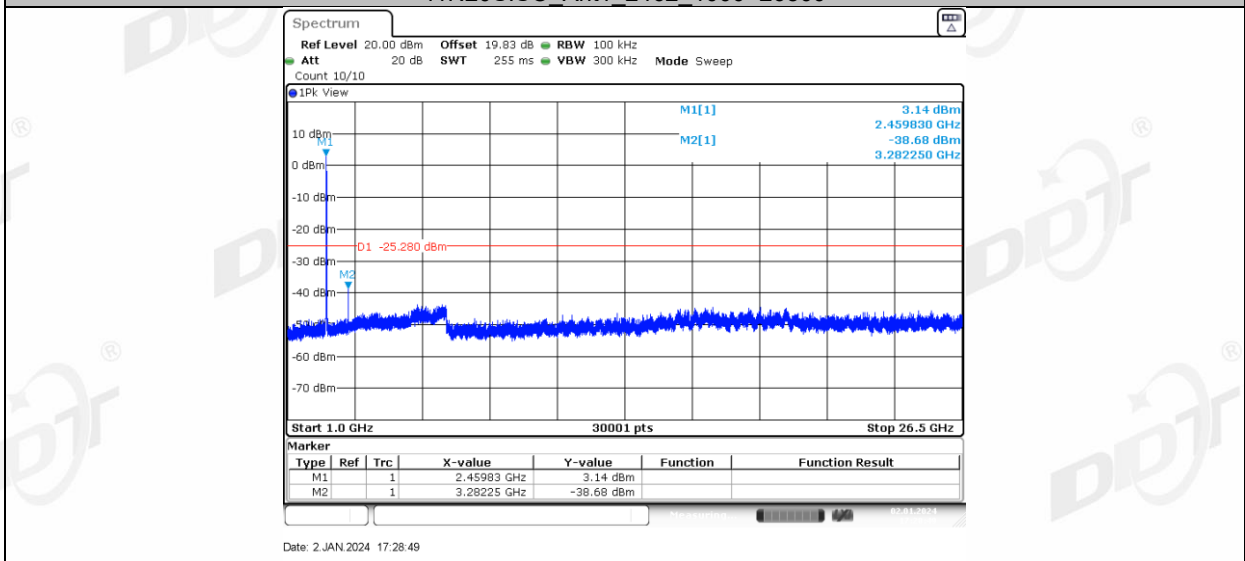
11N20SISO Ant1 2462 0~Reference



11N20SISO_Ant1_2462_30~1000

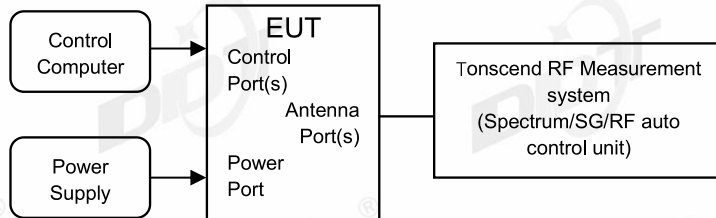


11N20SISO_Ant1_2462_1000~26500



10. Duty Cycle

10.1. Block diagram of test setup



10.2. Limit

Just for Report.

10.3. Test procedure

- (1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, The cable loss and attenuator loss have been put into spectrum analyzer as amplitude offset. set the Spectrum Analyzer as below:

Centre Frequency: The centre frequency of the middle hopping channel.

Resolution BW: 10 MHz.

Video BW: 10 MHz.

Span: Zero span.

Detector: Peak.

Trace Mode: Clear Write.

Sweep: Video Trigger

- (2) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 burst cycle.
- (3) Calculate dwell time follow below formula:
Duty cycle= Pulse's on time / Burst cycle

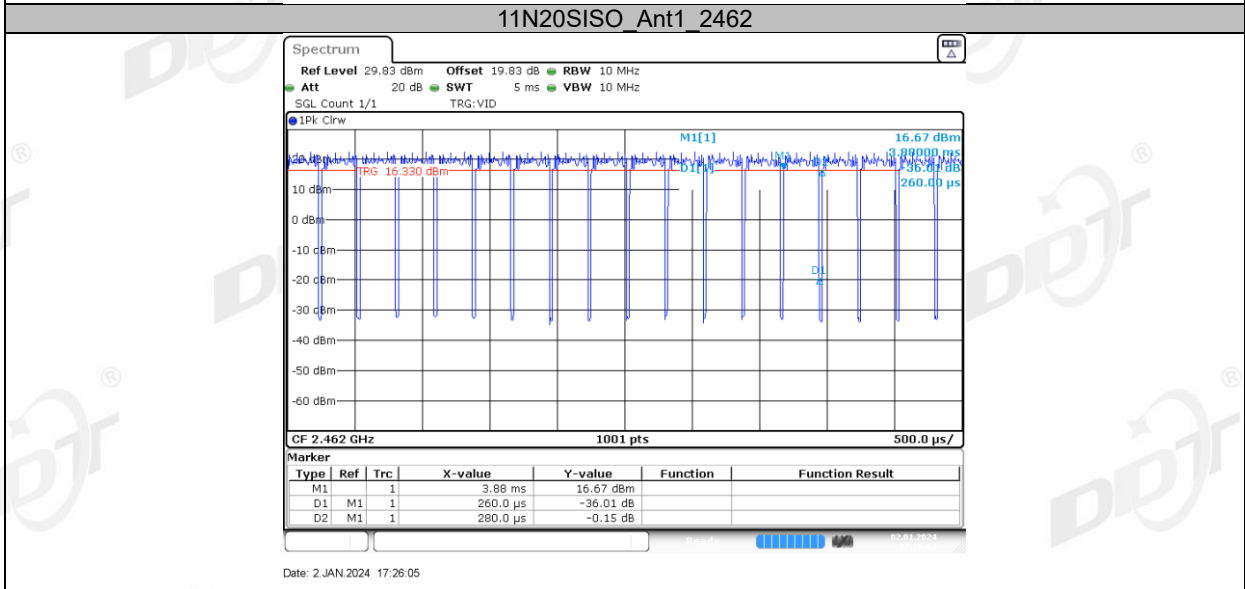
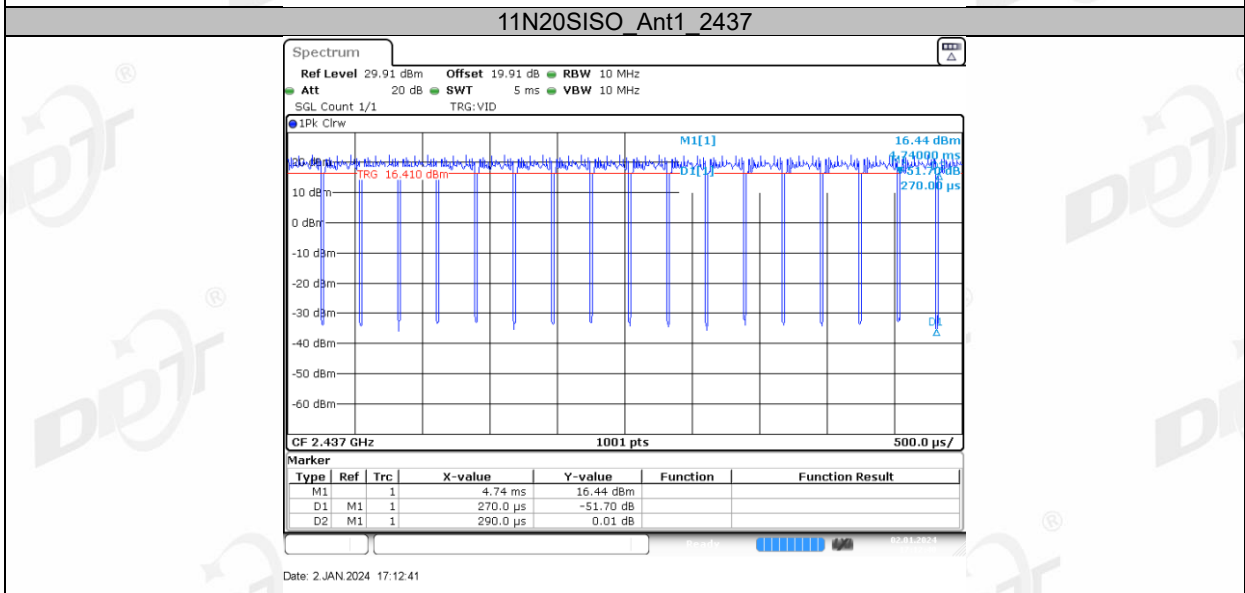
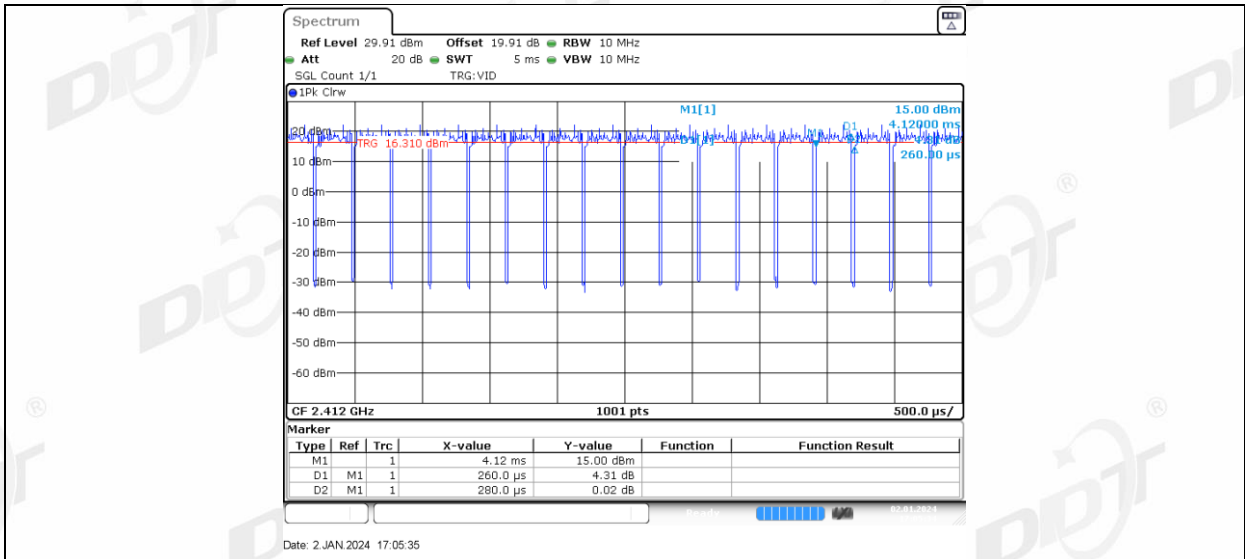
10.4. Test result

| | | | |
|--------------------|----------------|------------|---------------------------|
| Test Engineer: | Zoe | Test Site: | RF Measurement System 3# |
| Ambient Condition: | 21.3°C,40.5%RH | Test Date: | 2024.01.02 |
| Test Power Supply: | Battery | EUT: | Tabletop Wireless Speaker |
| Sample Number: | S23113018-02 | Model No.: | EDF100080 |

| Test Mode | Antenna | Frequency [MHz] | Transmission Duration [ms] | Transmission Period [ms] | Duty Cycle [%] |
|-----------|---------|-----------------|----------------------------|--------------------------|----------------|
| 11G | Ant1 | 2412 | 0.24 | 0.27 | 88.89 |
| | | 2437 | 0.24 | 0.26 | 92.31 |
| | | 2462 | 0.24 | 0.26 | 92.31 |
| 11N20SISO | Ant1 | 2412 | 0.26 | 0.28 | 92.86 |
| | | 2437 | 0.27 | 0.29 | 93.10 |
| | | 2462 | 0.26 | 0.28 | 92.86 |

10.5. Test graphs





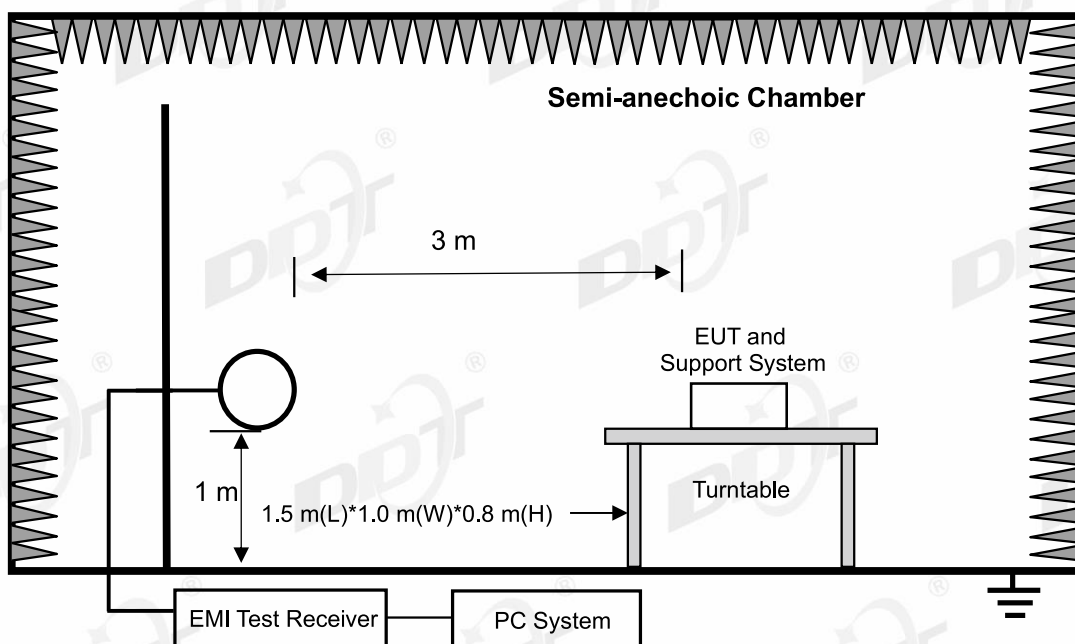
11. Radiated Spurious Emissions

11.1. Test equipment

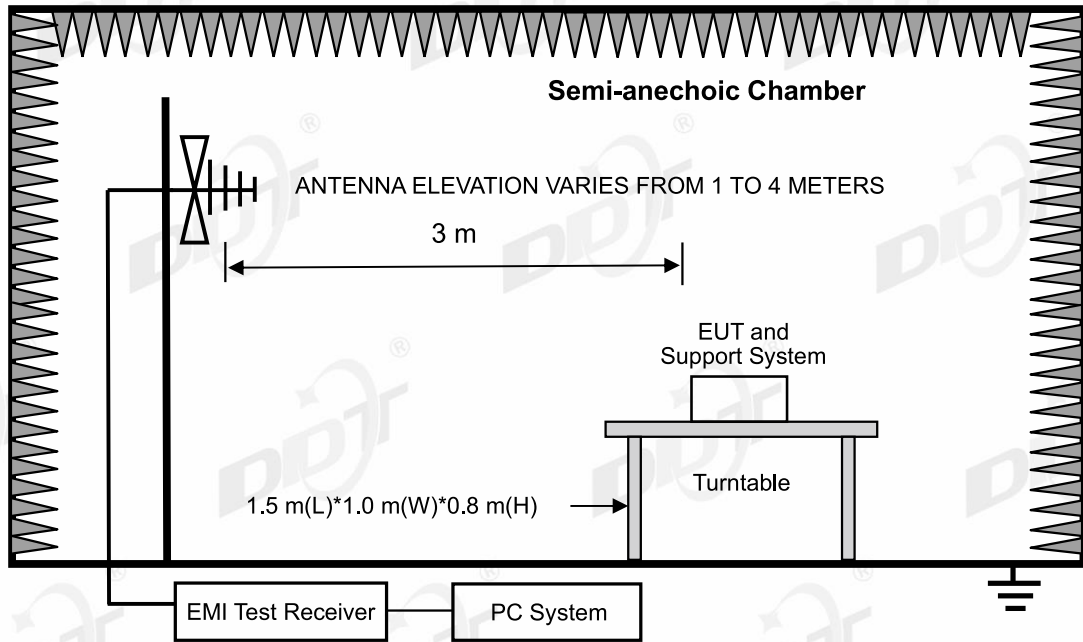
| Equipment | Manufacturer | Model No. | Serial Number | Due Date |
|-----------------------------------|--------------|--|------------------|------------|
| ☑ Radiation 3# Chamber | | | | |
| EMI TEST RECEIVER | R&S | ESU26 | 100472 | 2024/04/22 |
| PSA Series Spectrum Analyzer | Agilent | E4447A | MY50180031 | 2024/04/22 |
| Active Loop Antenna | Schwarzbeck | FMZB-1519 | 1519-038 | 2024/09/10 |
| Trilog Broadband Antenna | Schwarzbeck | VULB 9163 | 01429 | 2024/07/11 |
| Double Ridged Horn Antenna | Schwarzbeck | BBHA 9120 D | 02468 | 2024/09/17 |
| Broad Band Horn Antenna | Schwarzbeck | BBHA 9170 | 790 | 2024/04/25 |
| Pre-amplifier | COM-POWER | PAM-118A | 18040084 | 2024/07/14 |
| Pre-amplifier | COM-POWER | PAM-840A | 461369 | 2024/04/26 |
| RE Cable | N/A | W23.02 CP1-X2 + W23.09 AP1-X8+ JCT26S-NJ-NJ- 1.5M | 4.5M+8M+1.5 M | 2024/04/20 |
| RF Cable | Yuhu | JCTB810-NJ-NJ- 9M+ ZT26S- SMAJ-SMAJ-1M | 21123964 | 2024/04/22 |
| Band Reject Filter(2400-2500 MHz) | REBES | BRM50702 | G555 | N/A |
| Test Software | Tonscend | JS32-RE | V 5.0.0.1 | N/A |

11.2. Block diagram of test setup

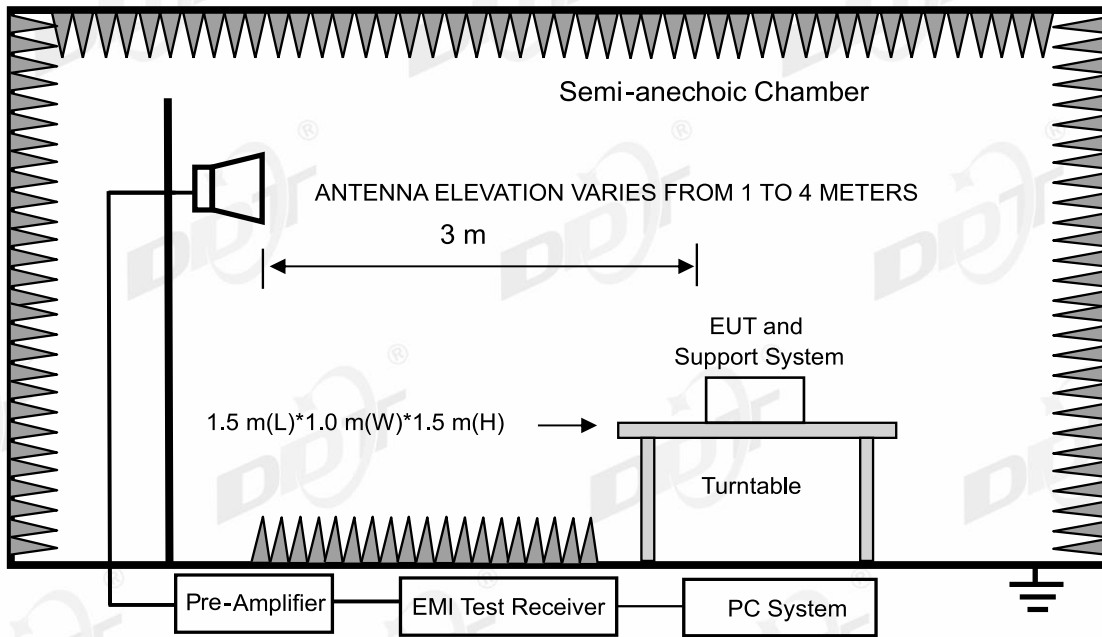
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

11.3. Limit

(1) FCC 15.205 Restricted frequency band:

| MHz | MHz | MHz | GHz |
|-------------------|---------------------|---------------|------------------|
| 0.090-0.110 | 16.42-16.423 | 399.9-410 | 4.5-5.15 |
| 10.495-0.505 | 16.69475-16.69525 | 608-614 | 5.35-5.46 |
| 2.1735-2.1905 | 16.80425-16.80475 | 960-1240 | 7.25-7.75 |
| 4.125-4.128 | 25.5-25.67 | 1300-1427 | 8.025-8.5 |
| 4.1772&4.17775 | 37.5-38.25 | 1435-1626.5 | 9.0-9.2 |
| 4.2072&4.20775 | 73-74.6 | 1645.5-1646.5 | 9.3-9.5 |
| 6.215-6.218 | 74.8-75.2 | 1660-1710 | 10.6-12.7 |
| 6.26775-6.26825 | 108-121.94 | 1718.8-1722.2 | 13.25-13.4 |
| 6.31175-6.31225 | 123-138 | 2200-2300 | 14.47-14.5 |
| 8.291-8.294 | 149.9-150.05 | 2310-2390 | 15.35-16.2 |
| 8.362-8.366 | 156.52475-156.52525 | 2483.5-2500 | 17.7-21.4 |
| 8.37625-8.38675 | 156.7-156.9 | 2690-2900 | 22.01-23.12 |
| 8.41425-8.41475 | 162.0125-167.17 | 3260-3267 | 23.6-24.0 |
| 12.29-12.293 | 167.72-173.2 | 3332-3339 | 31.2-31.8 |
| 12.51975-12.52025 | 240-285 | 3345.8-3358 | 36.43-36.5 |
| 12.57675-12.57725 | 322-335.4 | 3600-4400 | (²) |
| 13.36-13.41 | | | |

¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6

RSS-Gen section 8.10 Restricted frequency bands*

| MHz | MHz | MHz | GHz |
|-----------------|---------------------|---------------|-------------|
| 0.090-0.110 | 12.51975-12.52025 | 240-285 | 3.5-4.4 |
| 0.495-0.505 | 12.57675-12.57725 | 322-335.4 | 4.5-5.15 |
| 2.1735-2.1905 | 13.36-13.41 | 399.9-410 | 5.35-5.46 |
| 3.020-3.026 | 16.42-16.423 | 608-614 | 7.25-7.75 |
| 4.125-4.128 | 16.69475-16.69525 | 960-1427 | 8.025-8.5 |
| 4.1772&4.17775 | 16.80425-16.80475 | 1435-1626.5 | 9.0-9.2 |
| 4.2072&4.20775 | 25.5-25.67 | 1645.5-1646.5 | 9.3-9.5 |
| 5.677-5.683 | 37.5-38.25 | 1660-1710 | 10.6-12.7 |
| 6.215-6.218 | 73-74.6 | 1718.8-1722.2 | 13.25-13.4 |
| 6.26775-6.26825 | 74.8-75.2 | 2200-2300 | 14.47-14.5 |
| 6.31175-6.31225 | 108-138 | 2310-2390 | 15.35-16.2 |
| 8.291-8.294 | 149.9-150.05 | 2483.5-2500 | 17.7-21.4 |
| 8.362-8.366 | 156.52475-156.52525 | 2655-2900 | 22.01-23.12 |
| 8.37625-8.38675 | 156.7-156.9 | 3260-3267 | 23.6-24.0 |
| 8.41425-8.41475 | 162.0125-167.17 | 3332-3339 | 31.2-31.8 |
| 12.29-12.293 | 167.72-173.2 | 3345.8-3358 | 36.43-36.5 |
| | | | Above 38.6 |

* Certain frequency bands listed in table and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

(2) FCC 15.209 Limit.

| Frequency (MHz) | Measurement distance (meters) | Field strength limit | |
|-----------------|-------------------------------|---|-----------------------------------|
| | | $\mu\text{V}/\text{m}$ | $\text{dB}(\mu\text{V})/\text{m}$ |
| 0.009 ~ 0.490 | 300 | $2400/\text{F}(\text{kHz})$ | $67.6-20\log(\text{F})$ |
| 0.490 ~ 1.705 | 30 | $24000/\text{F}(\text{kHz})$ | $87.6-20\log(\text{F})$ |
| 1.705 ~ 30.0 | 30 | 30 | 29.54 |
| 30 ~ 88 | 3 | 100 | 40.0 |
| 88 ~ 216 | 3 | 150 | 43.5 |
| 216 ~ 960 | 3 | 200 | 46.0 |
| 960 ~ 1000 | 3 | 500 | 54.0 |
| Above 1000 | 3 | 74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak), 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average) | |

Note:

(1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000MHz, radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below

formula:

$$\text{Limit}_{3\text{m}}(\text{dBuV/m}) = \text{Limit}_{30\text{m}}(\text{dBuV/m}) + 40\text{Log}(30\text{m}/3\text{m})$$

(3) Limit for this EUT

The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, and the emissions appearing within RSS-Gen section 8.10 Restricted frequency bands shall not exceed the limits shown in RSS-Gen section 8.9, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits and RSS-Gen section 8.9 limits.

11.4. Test procedure

(1) EUT height should be 0.8 m for below 1 GHz at a semi - anechoic chamber while EUT height should be 1.5 m for above 1 GHz at full chamber or semi - anechoic chamber ground with absorbers.

(2) The antenna used as below table.

| Test frequency range | Test antenna used | Test antenna distance |
|----------------------|--|-----------------------|
| 9kHz-30MHz | Active Loop antenna | 3m |
| 30MHz-1GHz | Trilog Broadband Antenna | 3m |
| 1GHz-18GHz | Double Ridged Horn Antenna (1GHz-18GHz) | 3m |
| 18GHz-40GHz | Horn Antenna (18GHz-40GHz) | 1m |

According ANSI C63.10:2013 clause 6.4.6 and 6.5.3, for measurements below 30 MHz, Antenna was located 3 m from EUT, the loop antenna was positioned in three antenna orientations (parallel, perpendicular, and round-parallel), for each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable, and the lowest height of the magnetic antenna shall be 1 m above the ground. For measurement above 30MHz, the trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 25 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT through three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 25 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 18GHz to 25GHz, so below final test was performed with frequency range from 9kHz to 18GHz.

- (4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 2013 on Radiated Emission test.
- (5) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9-90 kHz, 110-490 kHz, for emissions from 9 kHz-90 kHz, 110 kHz-490 kHz and above 1 GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.
- (6) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW

| Frequency band | RBW |
|----------------|---------|
| 9 kHz-150 kHz | 200 Hz |
| 150 kHz-30 MHz | 9 kHz |
| 30 MHz-1 GHz | 120 kHz |

- (7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure; RMS detector RBW 1 MHz VBW 10 Hz for Average measure (according ANSI C63.10:2013 clause 4.2.3.2.3 procedure for average measure).
- (8) For portable device, X axis, Y axis, Z axis are tested, and worse axis is reported.

11.5. Test result

Pass. (See below detailed test result)

All the emissions except fundamental emission from 9 kHz to 25 GHz were comply with 15.209 limits and RSS-Gen section 8.9 limits.

Note 1: According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 25 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

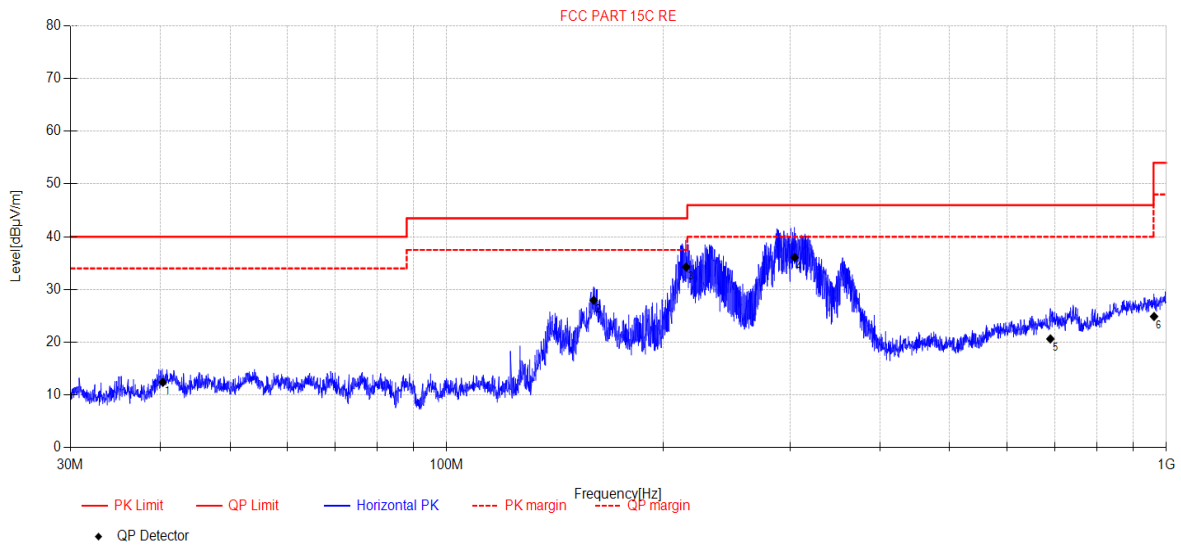
Note 2: 30 MHz ~ 25 GHz: (Scan with all mode, the worst case is 802.11n HT20 mode)

Note 3: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in 802.11n HT20, Tx 2412 MHz mode.

Note 4: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit, only recorded the worst case in this report.

Radiated Emission test (below 1GHz) TR-4-E-009 Radiated Emission Test Result

Test Date: 2023-12-29 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: WIFI2.4G MODE **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC BELOW 1G\20231229-224010_H
Memo: Sample Number:S23113018-01 Power Setting:NA



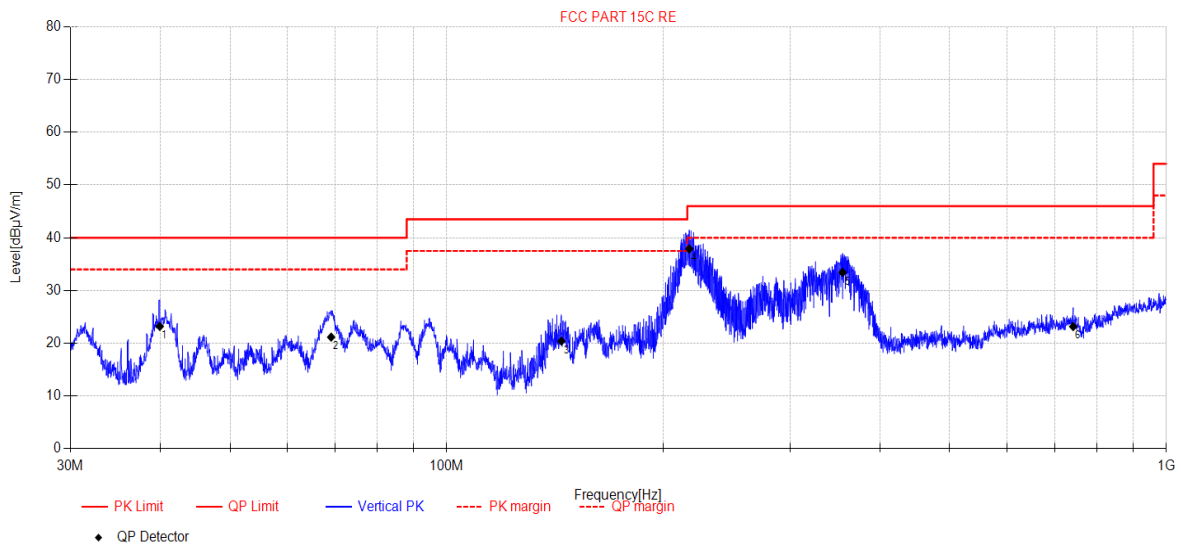
| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|-----------------|----------------|-------------|----------|------------|
| NO. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable Loss [dB] | AMP [dB] | Result [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 40.33 | 26.52 | 12.13 | 4.60 | -30.85 | 12.40 | 40.00 | 27.60 | QP | Horizontal |
| 2 | 160.07 | 44.37 | 8.90 | 5.40 | -30.72 | 27.95 | 43.50 | 15.55 | QP | Horizontal |
| 3 | 215.18 | 48.31 | 10.71 | 5.79 | -30.55 | 34.26 | 43.50 | 9.24 | QP | Horizontal |
| 4 | 304.47 | 46.48 | 13.70 | 6.17 | -30.29 | 36.06 | 46.00 | 9.94 | QP | Horizontal |
| 5 | 690.10 | 23.32 | 19.50 | 7.72 | -29.90 | 20.64 | 46.00 | 25.36 | QP | Horizontal |
| 6 | 961.50 | 22.66 | 22.11 | 8.56 | -28.45 | 24.88 | 54.00 | 29.12 | QP | Horizontal |

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2023-12-29 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: WIFI2.4G MODE **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC BELOW 1G\20231229-224054_V
Memo: Sample Number:S23113018-01 Power Setting:NA



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|-----------------|----------------|-------------|----------|----------|
| NO. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable Loss [dB] | AMP [dB] | Result [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 39.94 | 37.48 | 11.97 | 4.60 | -30.85 | 23.20 | 40.00 | 16.80 | QP | Vertical |
| 2 | 69.10 | 36.51 | 10.43 | 4.79 | -30.57 | 21.16 | 40.00 | 18.84 | QP | Vertical |
| 3 | 144.39 | 36.89 | 8.99 | 5.29 | -30.77 | 20.40 | 43.50 | 23.10 | QP | Vertical |
| 4 | 217.31 | 51.78 | 10.84 | 5.80 | -30.55 | 37.87 | 46.00 | 8.13 | QP | Vertical |
| 5 | 355.00 | 41.67 | 15.50 | 6.45 | -30.19 | 33.43 | 46.00 | 12.57 | QP | Vertical |
| 6 | 742.30 | 25.32 | 19.89 | 7.85 | -29.90 | 23.16 | 46.00 | 22.84 | QP | Vertical |

Note:

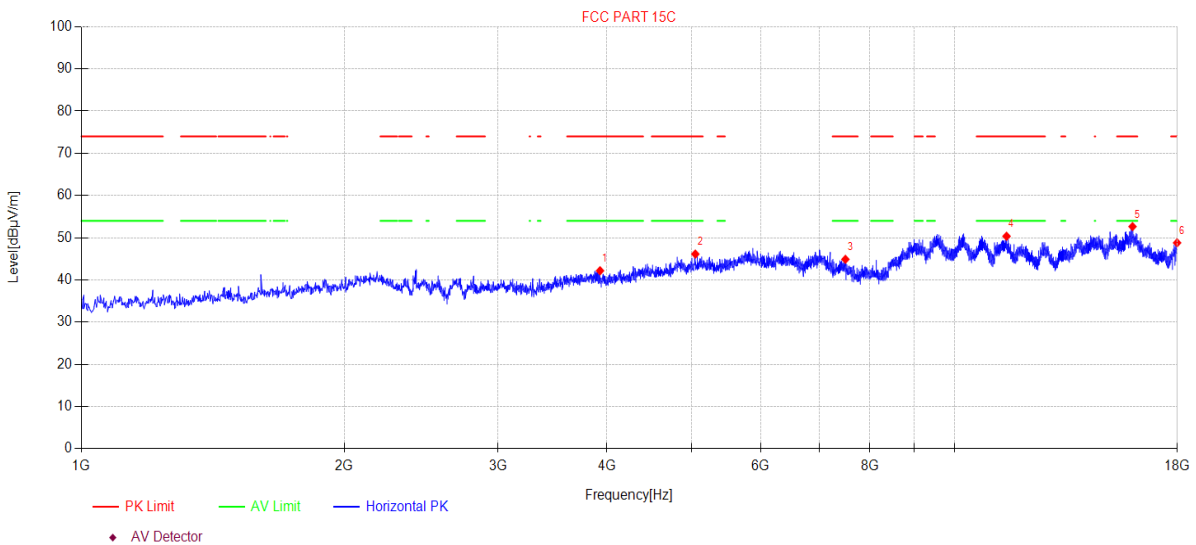
1. Result Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Radiated Emission test (above 1GHz)

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11N20 TX 2412MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\53
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 3927.40 | 45.61 | 31.15 | 5.83 | -40.41 | 42.18 | 74.00 | 31.82 | PK | Horizontal |
| 2 | 5049.40 | 44.96 | 33.30 | 7.94 | -40.07 | 46.13 | 74.00 | 27.87 | PK | Horizontal |
| 3 | 7500.80 | 42.69 | 36.50 | 7.65 | -41.95 | 44.89 | 74.00 | 29.11 | PK | Horizontal |
| 4 | 11472.00 | 40.36 | 39.23 | 10.07 | -39.31 | 50.35 | 74.00 | 23.65 | PK | Horizontal |
| 5 | 15994.00 | 38.14 | 38.01 | 15.85 | -39.36 | 52.64 | 74.00 | 21.36 | PK | Horizontal |
| 6 | 17989.80 | 35.70 | 42.35 | 13.12 | -42.38 | 48.79 | 74.00 | 25.21 | PK | Horizontal |

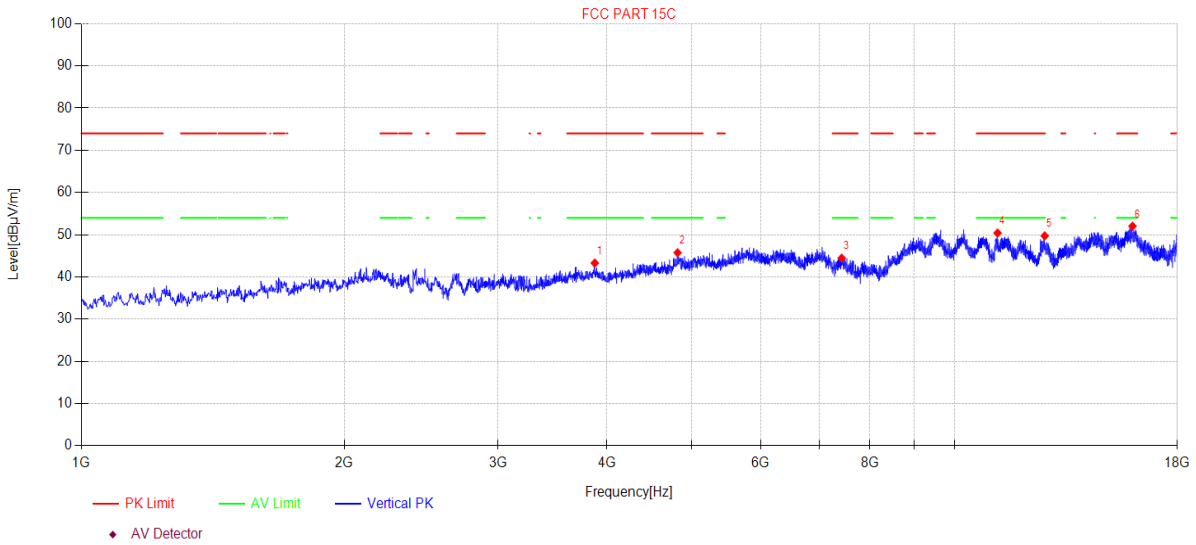
Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11N20 TX 2412MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\54
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 3873.00 | 46.80 | 31.04 | 5.82 | -40.37 | 43.29 | 74.00 | 30.71 | PK | Vertical |
| 2 | 4818.20 | 45.42 | 32.97 | 7.50 | -40.15 | 45.74 | 74.00 | 28.26 | PK | Vertical |
| 3 | 7427.70 | 41.94 | 36.64 | 7.64 | -41.77 | 44.45 | 74.00 | 29.55 | PK | Vertical |
| 4 | 11203.40 | 40.56 | 39.20 | 9.83 | -39.19 | 50.40 | 74.00 | 23.60 | PK | Vertical |
| 5 | 12687.50 | 39.44 | 39.58 | 10.54 | -39.83 | 49.73 | 74.00 | 24.27 | PK | Vertical |
| 6 | 15994.00 | 37.52 | 38.01 | 15.85 | -39.36 | 52.02 | 74.00 | 21.98 | PK | Vertical |

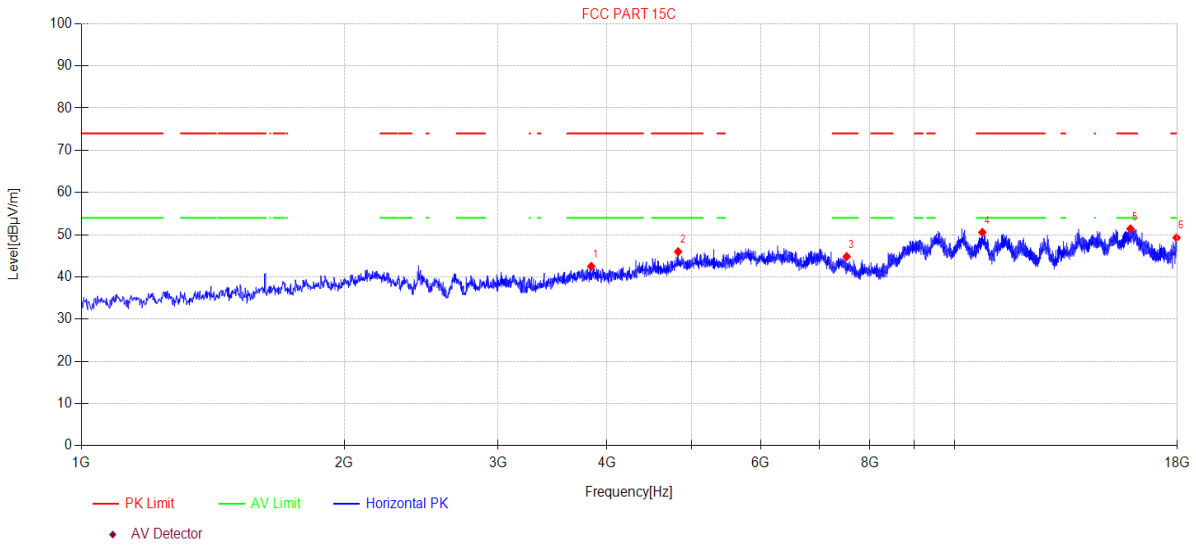
Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11N20 TX 2437MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\55
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 3837.30 | 46.19 | 30.85 | 5.81 | -40.35 | 42.50 | 74.00 | 31.50 | PK | Horizontal |
| 2 | 4825.00 | 45.44 | 33.15 | 7.52 | -40.14 | 45.97 | 74.00 | 28.03 | PK | Horizontal |
| 3 | 7526.30 | 42.76 | 36.45 | 7.65 | -42.02 | 44.84 | 74.00 | 29.16 | PK | Horizontal |
| 4 | 10763.10 | 40.67 | 39.40 | 9.48 | -39.00 | 50.55 | 74.00 | 23.45 | PK | Horizontal |
| 5 | 15905.60 | 37.14 | 38.09 | 15.45 | -39.30 | 51.38 | 74.00 | 22.62 | PK | Horizontal |
| 6 | 17966.00 | 36.29 | 42.23 | 13.09 | -42.32 | 49.29 | 74.00 | 24.71 | PK | Horizontal |

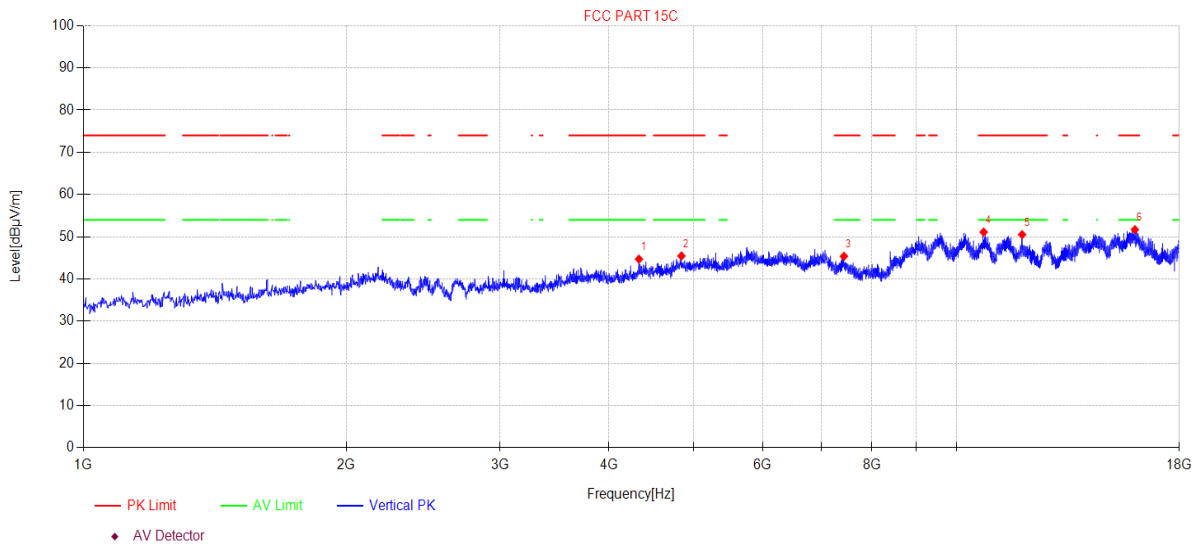
Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11N20 TX 2437MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\56
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 4328.60 | 46.91 | 31.60 | 6.51 | -40.33 | 44.69 | 74.00 | 29.31 | PK | Vertical |
| 2 | 4842.00 | 44.44 | 33.59 | 7.55 | -40.14 | 45.44 | 74.00 | 28.56 | PK | Vertical |
| 3 | 7432.80 | 42.87 | 36.63 | 7.64 | -41.78 | 45.36 | 74.00 | 28.64 | PK | Vertical |
| 4 | 10742.70 | 41.22 | 39.40 | 9.47 | -38.99 | 51.10 | 74.00 | 22.90 | PK | Vertical |
| 5 | 11890.20 | 40.67 | 38.90 | 10.44 | -39.51 | 50.50 | 74.00 | 23.50 | PK | Vertical |
| 6 | 16009.30 | 37.22 | 37.99 | 15.84 | -39.37 | 51.68 | 74.00 | 22.32 | PK | Vertical |

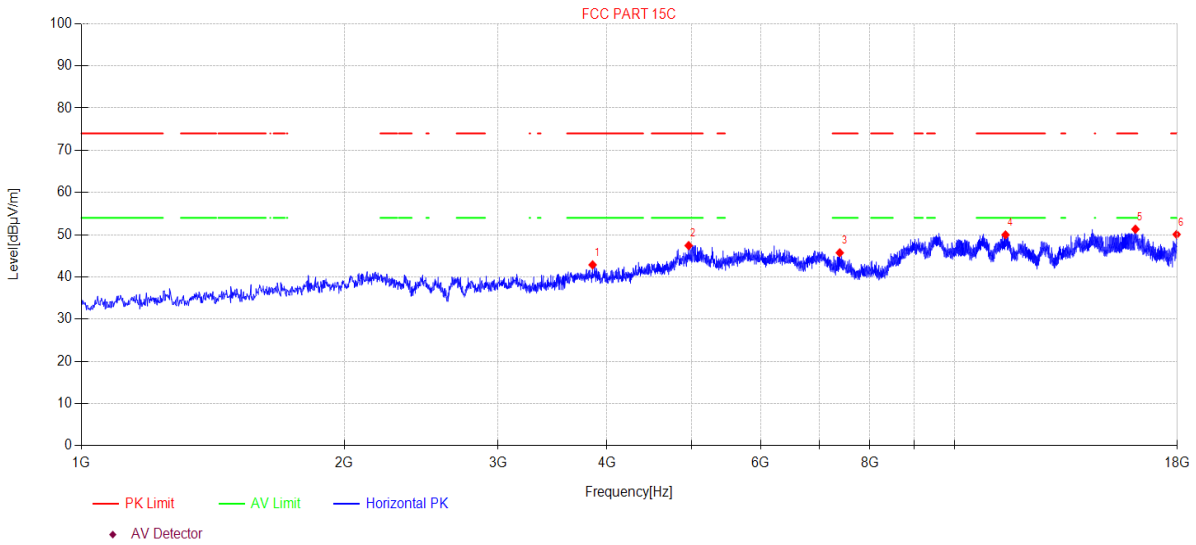
Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11N20 TX 2462MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\57
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 3850.90 | 46.50 | 30.91 | 5.82 | -40.36 | 42.87 | 74.00 | 31.13 | PK | Horizontal |
| 2 | 4961.00 | 46.61 | 33.12 | 7.79 | -40.09 | 47.43 | 74.00 | 26.57 | PK | Horizontal |
| 3 | 7390.30 | 43.04 | 36.72 | 7.64 | -41.68 | 45.72 | 74.00 | 28.28 | PK | Horizontal |
| 4 | 11441.40 | 39.97 | 39.26 | 10.04 | -39.30 | 49.97 | 74.00 | 24.03 | PK | Horizontal |
| 5 | 16116.40 | 37.46 | 37.88 | 15.42 | -39.45 | 51.31 | 74.00 | 22.69 | PK | Horizontal |
| 6 | 17967.70 | 37.07 | 42.24 | 13.09 | -42.33 | 50.07 | 74.00 | 23.93 | PK | Horizontal |

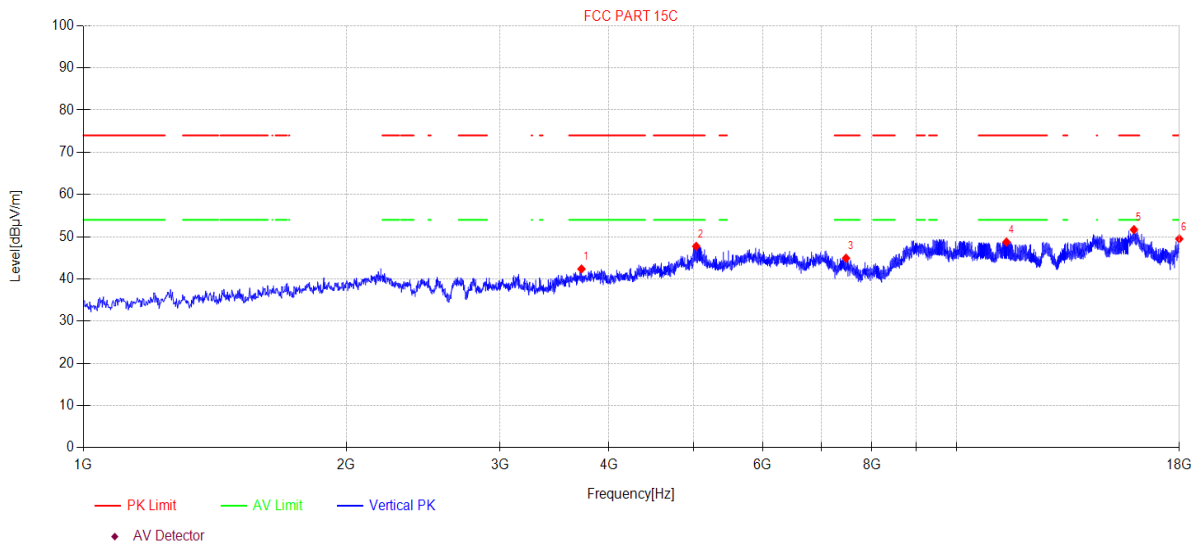
Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11N20 TX 2462MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\58
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 3720.00 | 46.40 | 30.44 | 5.79 | -40.28 | 42.35 | 74.00 | 31.65 | PK | Vertical |
| 2 | 5034.10 | 46.62 | 33.27 | 7.92 | -40.08 | 47.73 | 74.00 | 26.27 | PK | Vertical |
| 3 | 7473.60 | 42.61 | 36.55 | 7.64 | -41.88 | 44.92 | 74.00 | 29.08 | PK | Vertical |
| 4 | 11409.10 | 38.72 | 39.29 | 10.01 | -39.28 | 48.74 | 74.00 | 25.26 | PK | Vertical |
| 5 | 15968.50 | 37.24 | 38.03 | 15.74 | -39.34 | 51.67 | 74.00 | 22.33 | PK | Vertical |
| 6 | 17996.60 | 36.36 | 42.38 | 13.13 | -42.39 | 49.48 | 74.00 | 24.52 | PK | Vertical |

Note:

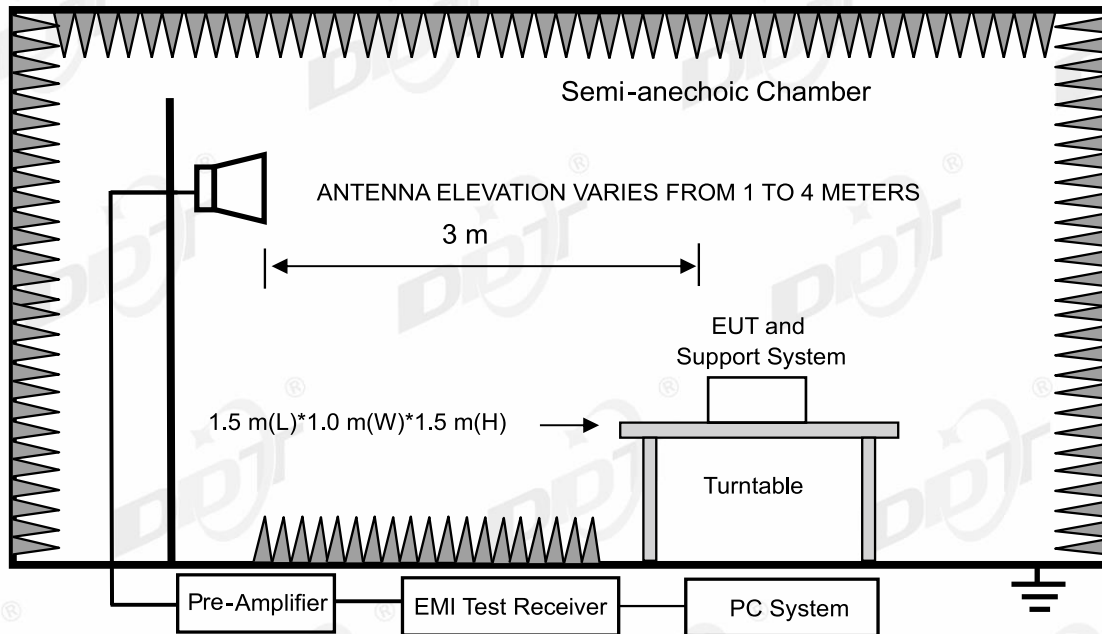
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

12. Radiated Band Edge Compliance

12.1. Test equipment

| Equipment | Manufacturer | Model No. | Serial Number | Due Date |
|----------------------------|--------------|---|---------------|------------|
| ☑Radiation 3#Chamber | | | | |
| EMI TEST RECEIVER | R&S | ESU26 | 100472 | 2024/04/22 |
| Double Ridged Horn Antenna | Schwarzbeck | BBHA 9120 D | 02468 | 2024/09/17 |
| Pre-amplifier | COM-POWER | PAM-118A | 18040084 | 2024/07/14 |
| RF Cable | Yuhu | JCTB810-NJ-NJ-9M+ ZT26S-SMAJ-SMAJ-1M | 21123964 | 2024/04/22 |
| Test Software | Tonscend | JS32-RE | V 5.0.0.1 | N/A |

12.2. Block diagram of test setup



12.3. Limit

All restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400 MHz to 2483.5 MHz shall be at least 20dB below the fundamental emissions or comply with RSS-Gen Issue 5 clause 6.13.2 (Same as FCC 15.209) limits.

12.4. Test procedure

Same with Radiated Spurious Emissions except change investigated frequency range from 2310 MHz to 2430 MHz and 2445 MHz to 2500 MHz.

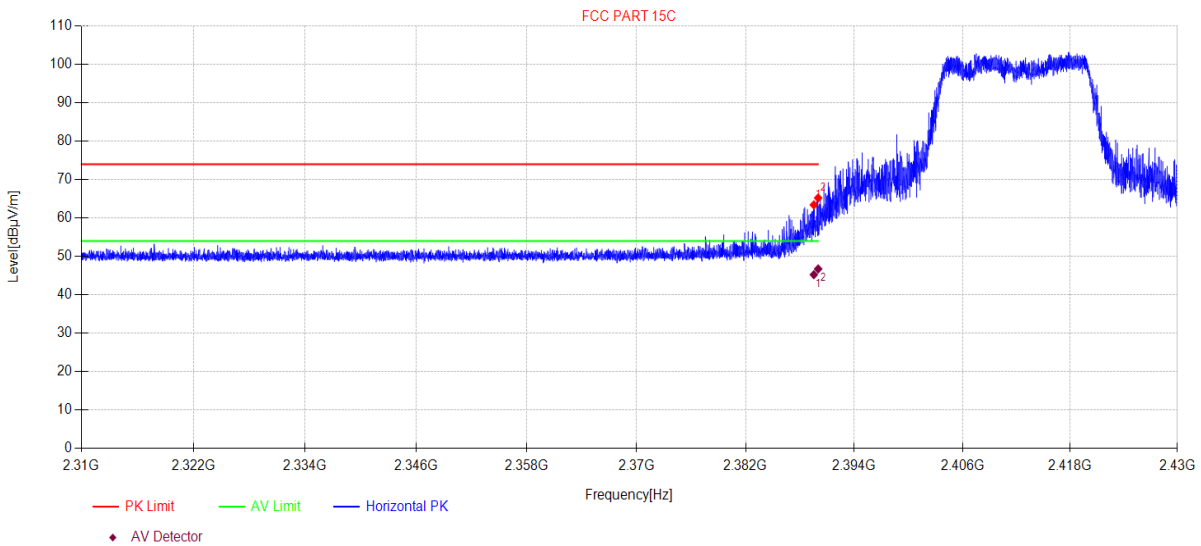
12.5. Test result

Pass. (See below detailed test result)

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 Tested By: Junchang Du
 EUT: Tabletop Wireless Speaker Model Number: EDF100080
 Test Mode: 11G TX 2412MHz Power Supply: AC 120V/60Hz
 Condition: Temp:21.4°C;Humi:54.5% Test Site: DDT 3# Chamber
 File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\45
 Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2389.52 | 60.37 | 27.26 | 3.87 | -28.11 | 63.39 | 74.00 | 10.61 | PK | Horizontal |
| 2 | 2390.00 | 62.18 | 27.26 | 3.87 | -28.11 | 65.20 | 74.00 | 8.80 | PK | Horizontal |

| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2389.52 | 42.21 | 27.26 | 3.87 | -28.11 | 45.23 | 54.00 | 8.77 | AV | Horizontal |
| 2 | 2390.00 | 43.71 | 27.26 | 3.87 | -28.11 | 46.73 | 54.00 | 7.27 | AV | Horizontal |

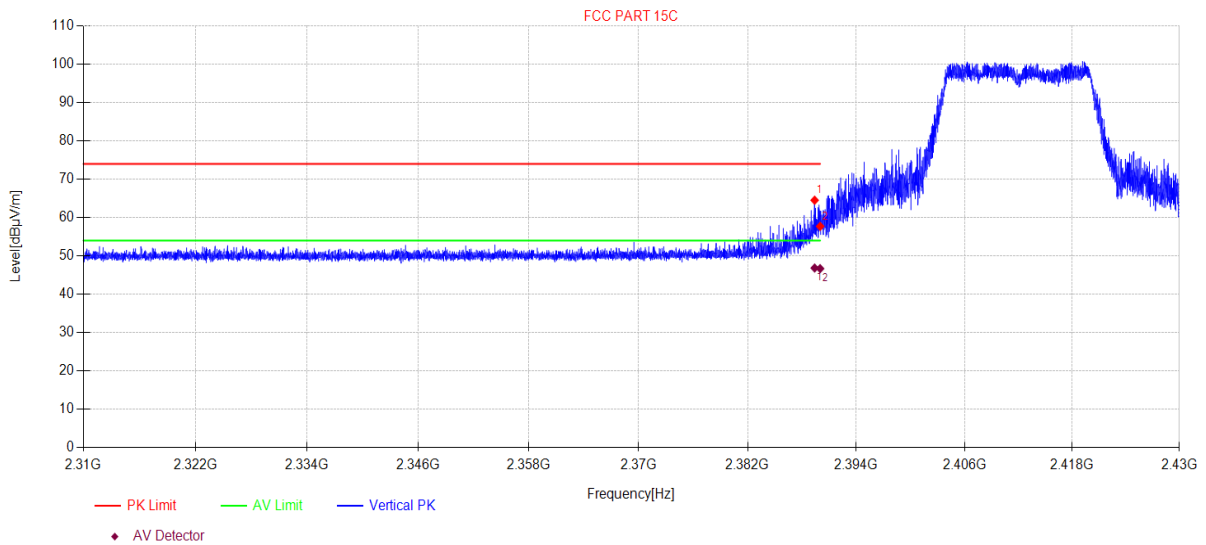
Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11G TX 2412MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\46
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2389.39 | 61.50 | 27.26 | 3.87 | -28.11 | 64.52 | 74.00 | 9.48 | PK | Vertical |
| 2 | 2390.00 | 54.69 | 27.26 | 3.87 | -28.11 | 57.71 | 74.00 | 16.29 | PK | Vertical |

| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2389.39 | 43.82 | 27.26 | 3.87 | -28.11 | 46.84 | 54.00 | 7.16 | AV | Vertical |
| 2 | 2390.00 | 43.67 | 27.26 | 3.87 | -28.11 | 46.69 | 54.00 | 7.31 | AV | Vertical |

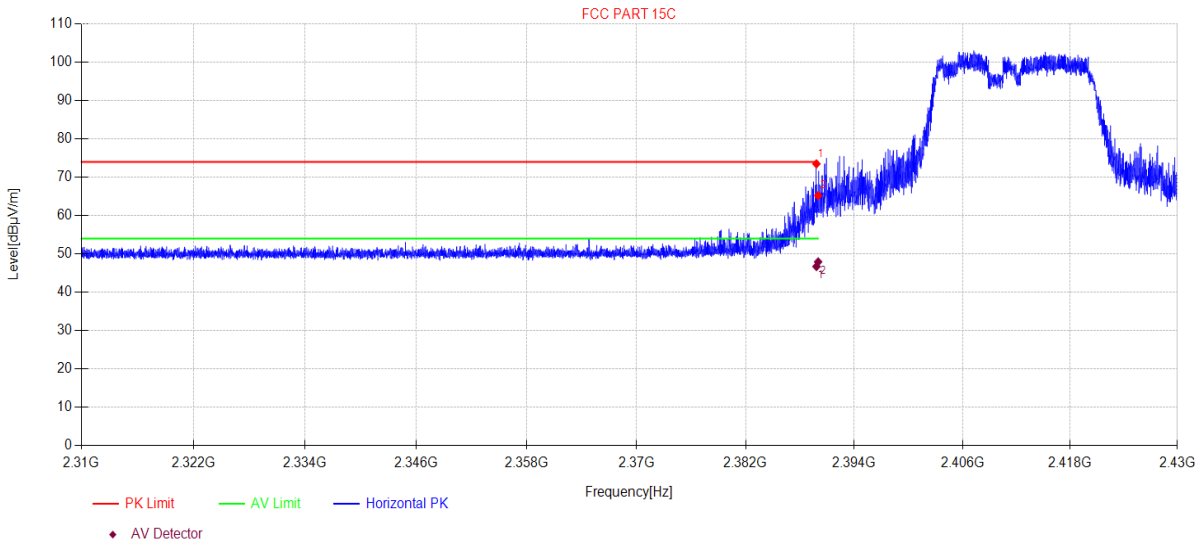
Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11N20 TX 2412MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\47
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2389.81 | 70.45 | 27.26 | 3.87 | -28.11 | 73.47 | 74.00 | 0.53 | PK | Horizontal |
| 2 | 2390.00 | 62.18 | 27.26 | 3.87 | -28.11 | 65.20 | 74.00 | 8.80 | PK | Horizontal |

| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2389.81 | 43.70 | 27.26 | 3.87 | -28.11 | 46.72 | 54.00 | 7.28 | AV | Horizontal |
| 2 | 2390.00 | 44.91 | 27.26 | 3.87 | -28.11 | 47.93 | 54.00 | 6.07 | AV | Horizontal |

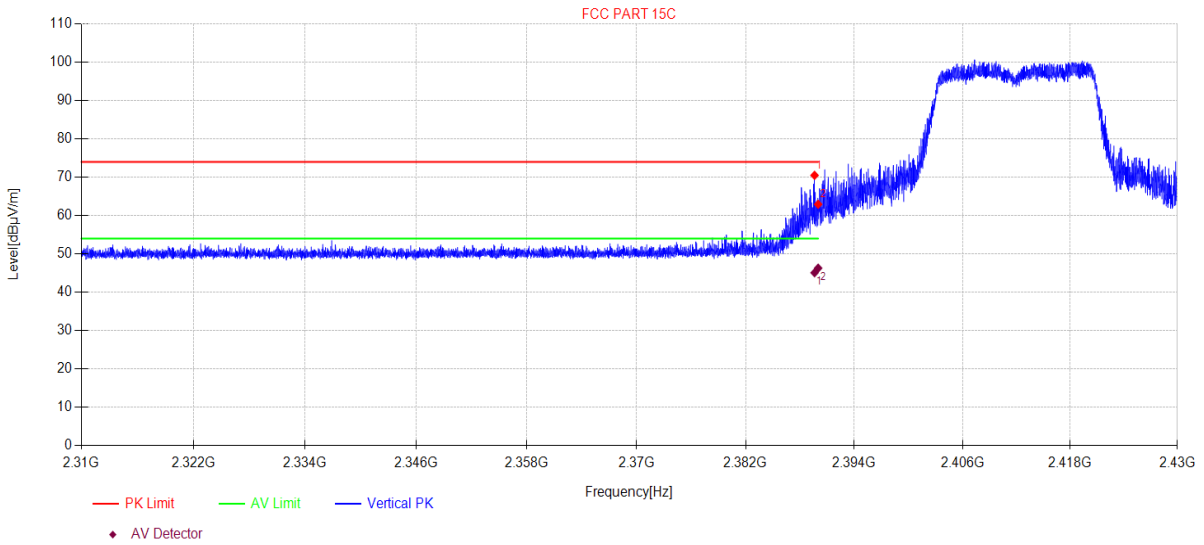
Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11N20 TX 2412MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\48
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2389.61 | 67.46 | 27.26 | 3.87 | -28.11 | 70.48 | 74.00 | 3.52 | PK | Vertical |
| 2 | 2390.00 | 59.91 | 27.26 | 3.87 | -28.11 | 62.93 | 74.00 | 11.07 | PK | Vertical |

| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2389.61 | 42.08 | 27.26 | 3.87 | -28.11 | 45.10 | 54.00 | 8.90 | AV | Vertical |
| 2 | 2390.00 | 43.27 | 27.26 | 3.87 | -28.11 | 46.29 | 54.00 | 7.71 | AV | Vertical |

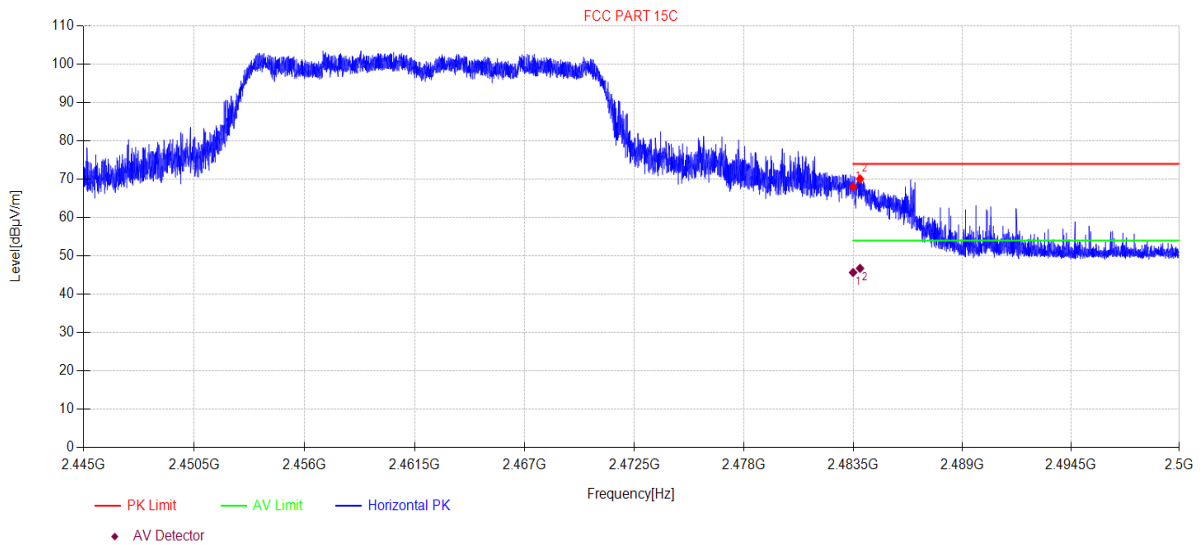
Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11N20 TX 2462MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\49
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2483.50 | 64.93 | 27.53 | 3.94 | -28.38 | 68.02 | 74.00 | 5.98 | PK | Horizontal |
| 2 | 2483.85 | 66.96 | 27.54 | 3.94 | -28.38 | 70.06 | 74.00 | 3.94 | PK | Horizontal |

| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2483.50 | 42.58 | 27.53 | 3.94 | -28.38 | 45.67 | 54.00 | 8.33 | AV | Horizontal |
| 2 | 2483.85 | 43.66 | 27.54 | 3.94 | -28.38 | 46.76 | 54.00 | 7.24 | AV | Horizontal |

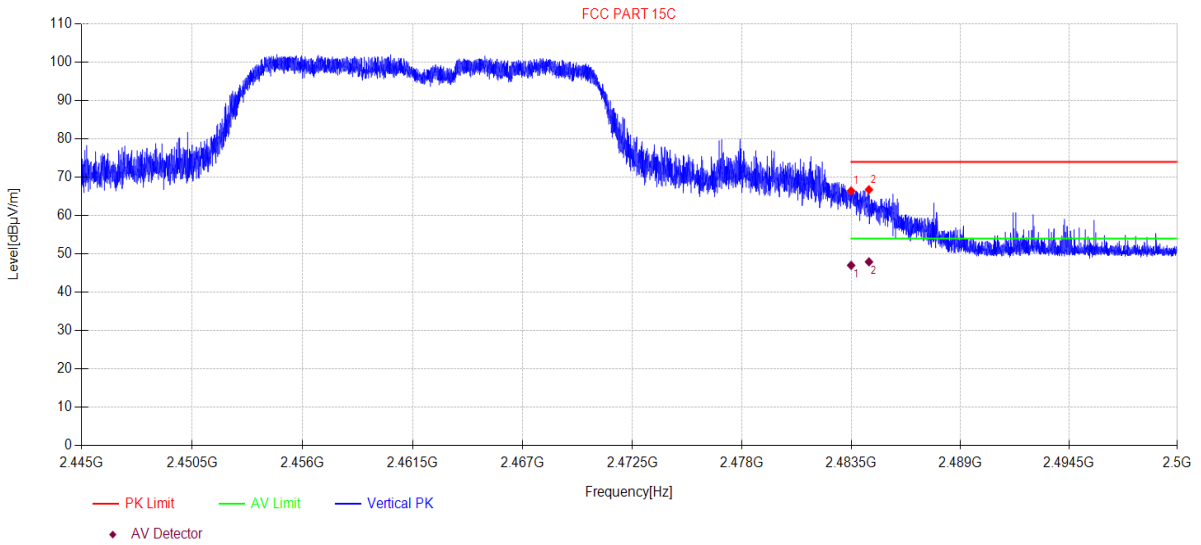
Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11N20 TX 2462MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\50
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2483.50 | 63.34 | 27.53 | 3.94 | -28.38 | 66.43 | 74.00 | 7.57 | PK | Vertical |
| 2 | 2484.40 | 63.64 | 27.54 | 3.94 | -28.38 | 66.74 | 74.00 | 7.26 | PK | Vertical |

| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2483.50 | 43.93 | 27.53 | 3.94 | -28.38 | 47.02 | 54.00 | 6.98 | AV | Vertical |
| 2 | 2484.40 | 44.83 | 27.54 | 3.94 | -28.38 | 47.93 | 54.00 | 6.07 | AV | Vertical |

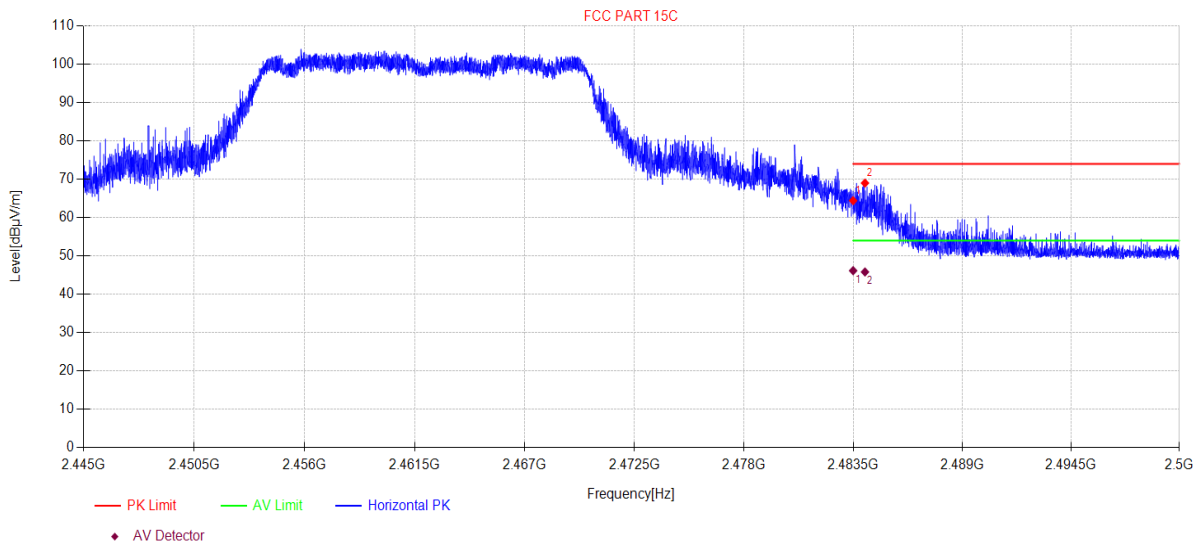
Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11G TX 2462MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\51
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2483.50 | 61.31 | 27.53 | 3.94 | -28.38 | 64.40 | 74.00 | 9.60 | PK | Horizontal |
| 2 | 2484.10 | 65.88 | 27.54 | 3.94 | -28.38 | 68.98 | 74.00 | 5.02 | PK | Horizontal |

| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|------------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2483.50 | 43.06 | 27.53 | 3.94 | -28.38 | 46.15 | 54.00 | 7.85 | AV | Horizontal |
| 2 | 2484.10 | 42.72 | 27.54 | 3.94 | -28.38 | 45.82 | 54.00 | 8.18 | AV | Horizontal |

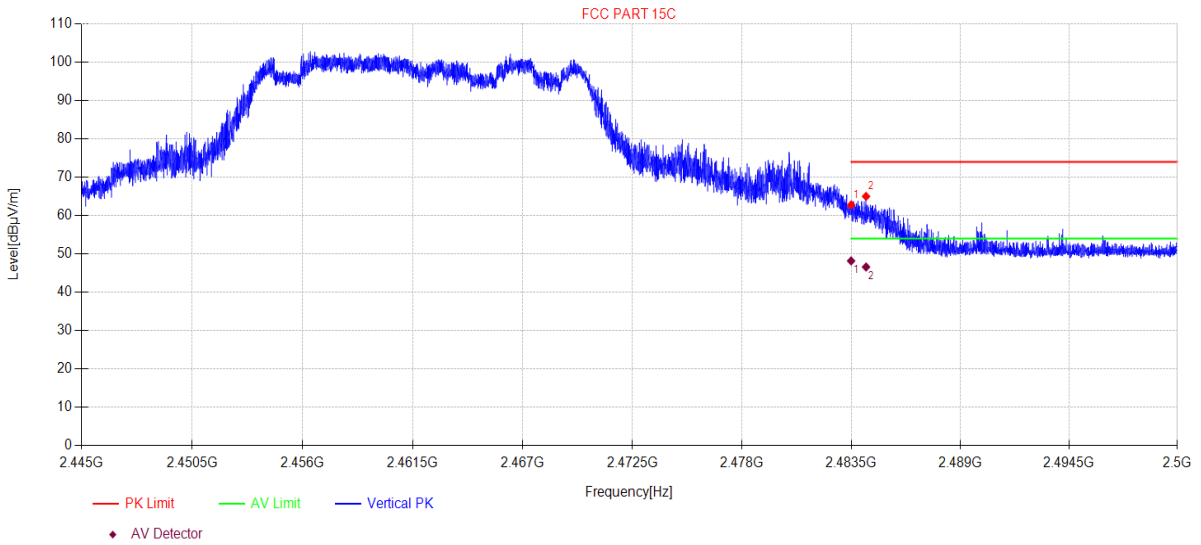
Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date: 2024-01-10 **Tested By:** Junchang Du
EUT: Tabletop Wireless Speaker **Model Number:** EDF100080
Test Mode: 11G TX 2462MHz **Power Supply:** AC 120V/60Hz
Condition: Temp:21.4°C;Humi:54.5% **Test Site:** DDT 3# Chamber
File Path: d:\ts\2023 report data\Q23121803-2E EDF100080\FCC ABOVE 1G\52
Memo: Sample Number:S23113018-01 Power Setting:NA

Test Graph



| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2483.50 | 59.68 | 27.53 | 3.94 | -28.38 | 62.77 | 74.00 | 11.23 | PK | Vertical |
| 2 | 2484.25 | 61.89 | 27.54 | 3.94 | -28.38 | 64.99 | 74.00 | 9.01 | PK | Vertical |

| Data List | | | | | | | | | | |
|-----------|-------------|------------------|---------------------|-----------------|----------|----------------|----------------|-------------|----------|----------|
| N O. | Freq. [MHz] | Reading [dBµV/m] | Antenna Factor [dB] | Cable loss [dB] | AMP [dB] | Level [dBµV/m] | Limit [dBµV/m] | Margin [dB] | Detector | Polarity |
| 1 | 2483.50 | 45.09 | 27.53 | 3.94 | -28.38 | 48.18 | 54.00 | 5.82 | AV | Vertical |
| 2 | 2484.25 | 43.49 | 27.54 | 3.94 | -28.38 | 46.59 | 54.00 | 7.41 | AV | Vertical |

Note:

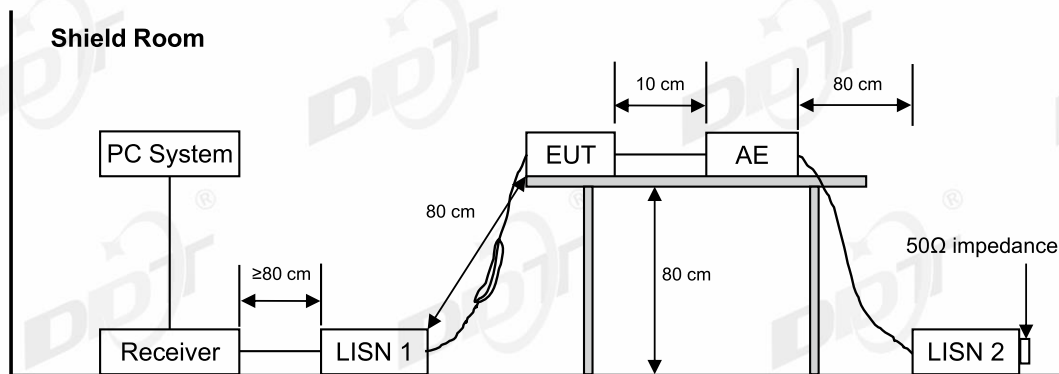
1. Level = Reading + Cable loss + Antenna Factor + AMP
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

13. Power Line Conducted Emission

13.1. Test equipment

| Equipment | Manufacturer | Model No. | Serial Number | Due Date |
|---|--------------|-----------|---------------|------------|
| ☑Power Line Conducted Emissions Test 1# | | | | |
| Test Receiver | R&S | ESCI | 100551 | 2024/07/10 |
| LISN 1 | R&S | ENV216 | 101109 | 2024/07/10 |
| LISN 2 | R&S | ESH2-Z5 | 100309 | 2024/07/11 |
| Pulse Limiter | R&S | ESH3-Z2 | 101242 | 2024/07/14 |
| CE Cable 1 | HUBSER | N/A | W10.01 | 2024/07/14 |
| Test software | Audix | E3 | V 6.11111b | N/A |

13.2. Block diagram of test setup



13.3. Power Line Conducted Emission Limits

| Frequency | Quasi-Peak Level dB(μ V) | Average Level dB(μ V) |
|-------------------|----------------------------------|-------------------------------|
| 150 kHz ~ 500 kHz | 66 ~ 56* | 56 ~ 46* |
| 500 kHz ~ 5 MHz | 56 | 46 |
| 5 MHz ~ 30 MHz | 60 | 50 |

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

13.4. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

13.5. Test result

Pass. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

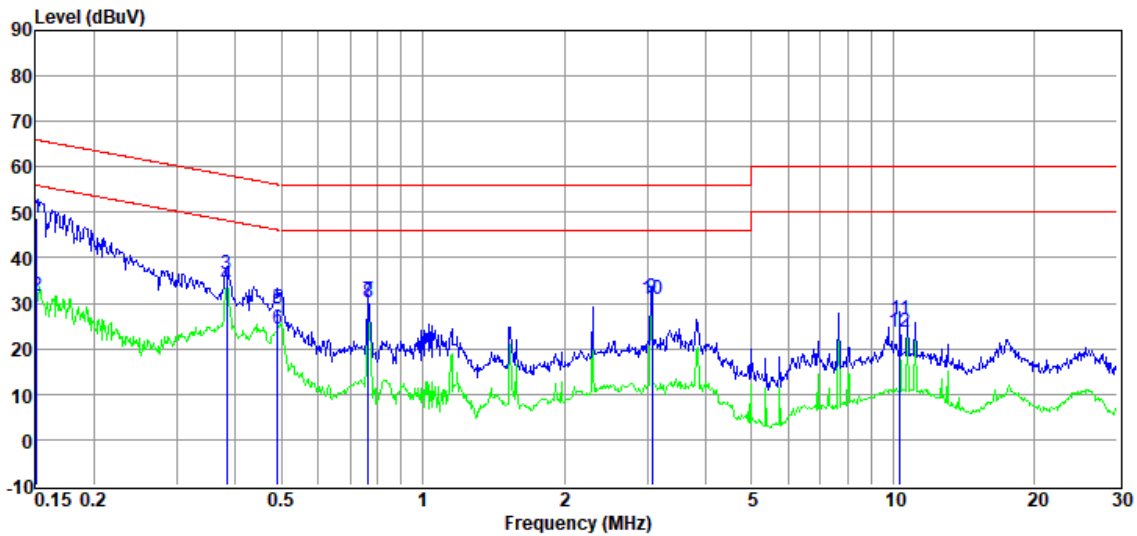
Note2: "----" means peak detection; "----" means average detection

Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/60Hz, recorded worse case.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room D:\2023 CE report data\Q23121803-2E\FCC CE.EM6
Test Date : 2024-01-15 **Tested By** : Junchang Du
EUT : Tabletop Wireless Speaker **Model Number** : EDF100080
Power Supply : AC 120V/60Hz **Test Mode** : 2.4G WIFI TX
Condition : TEMP:26.2°C, RH:58.9% **LISN** : 2023 1# ENV216/NEUTRAL
Memo : Sample Number:S23113018-10

Data: 14



| Item (Mark) | Freq. (MHz) | Read Level (dBμV) | LISN Factor (dB) | Cable Loss (dB) | Pulse Limiter Factor (dB) | Result Level (dBμV) | Limit Line (dBμV) | Over Limit (dB) | Detector | Phase |
|----------------|----------------|----------------------|---------------------|--------------------|------------------------------|------------------------|----------------------|--------------------|----------|---------|
| 1 | 0.15 | 28.27 | 9.83 | 0.92 | 9.68 | 48.70 | 65.96 | -17.26 | QP | NEUTRAL |
| 2 | 0.15 | 11.31 | 9.83 | 0.92 | 9.68 | 31.74 | 55.96 | -24.22 | Average | NEUTRAL |
| 3 | 0.38 | 16.04 | 9.71 | 0.85 | 9.71 | 36.31 | 58.21 | -21.90 | QP | NEUTRAL |
| 4 | 0.38 | 13.71 | 9.71 | 0.85 | 9.71 | 33.98 | 48.21 | -14.23 | Average | NEUTRAL |
| 5 | 0.49 | 8.62 | 9.79 | 0.86 | 9.71 | 28.98 | 56.14 | -27.16 | QP | NEUTRAL |
| 6 | 0.49 | 3.90 | 9.79 | 0.86 | 9.71 | 24.26 | 46.14 | -21.88 | Average | NEUTRAL |
| 7 | 0.77 | 10.36 | 9.82 | 0.75 | 9.72 | 30.65 | 56.00 | -25.35 | QP | NEUTRAL |
| 8 | 0.77 | 9.79 | 9.82 | 0.75 | 9.72 | 30.08 | 46.00 | -15.92 | Average | NEUTRAL |
| 9 | 3.07 | 11.20 | 9.71 | 0.59 | 9.77 | 31.27 | 56.00 | -24.73 | QP | NEUTRAL |
| 10 | 3.07 | 10.69 | 9.71 | 0.59 | 9.77 | 30.76 | 46.00 | -15.24 | Average | NEUTRAL |
| 11 | 10.34 | 6.55 | 9.78 | 0.19 | 9.82 | 26.34 | 60.00 | -33.66 | QP | NEUTRAL |
| 12 | 10.34 | 4.03 | 9.78 | 0.19 | 9.82 | 23.82 | 50.00 | -26.18 | Average | NEUTRAL |

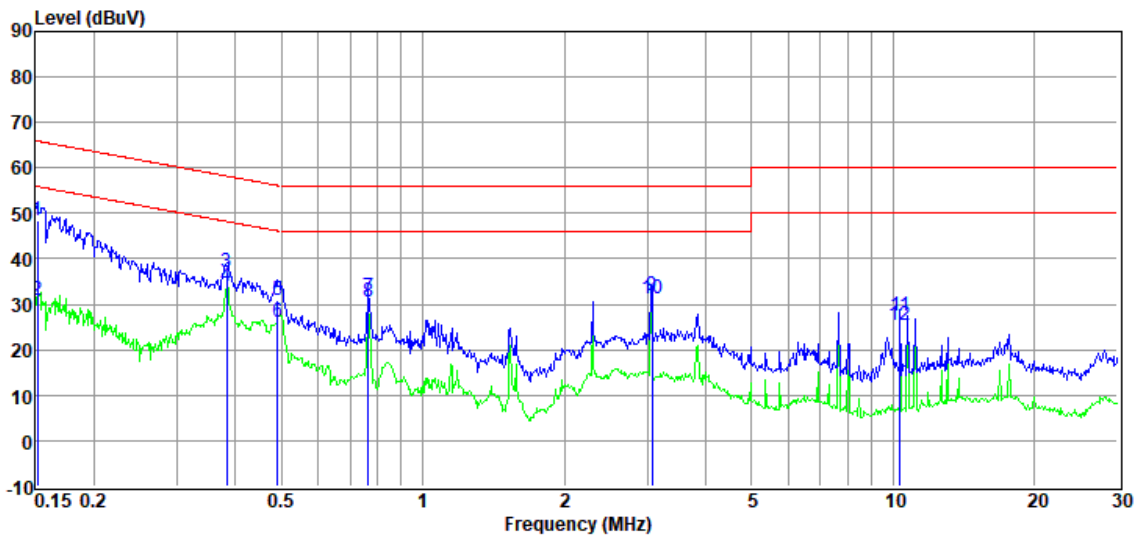
Note:

1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

TR-4-E-010 Conducted Emission Test Result

| | | |
|---------------------|------------------------------|---|
| Test Site | : DDT 1# Shield Room | D:\2023 CE report data\Q23121803-2E\FCC CE.EM6 |
| Test Date | : 2024-01-15 | Tested By : Junchang Du |
| EUT | : Tabletop Wireless Speaker | Model Number : EDF100080 |
| Power Supply | : AC 120V/60Hz | Test Mode : 2.4G WIFI TX |
| Condition | : TEMP:26.2°C, RH:58.9% | LISN : 2023 1# ENV216/LINE |
| Memo | : Sample Number:S23113018-10 | |

Data: 16



| Item (Mark) | Freq. (MHz) | Read Level (dBμV) | LISN Factor (dB) | Cable Loss (dB) | Pulse Limiter Factor (dB) | Result Level (dBμV) | Limit Line (dBμV) | Over Limit (dB) | Detector | Phase |
|-------------|-------------|-------------------|------------------|-----------------|---------------------------|---------------------|-------------------|-----------------|----------|-------|
| 1 | 0.15 | 27.84 | 9.84 | 0.92 | 9.68 | 48.28 | 65.91 | -17.63 | QP | LINE |
| 2 | 0.15 | 10.44 | 9.84 | 0.92 | 9.68 | 30.88 | 55.91 | -25.03 | Average | LINE |
| 3 | 0.38 | 16.91 | 9.75 | 0.85 | 9.71 | 37.22 | 58.21 | -20.99 | QP | LINE |
| 4 | 0.38 | 13.52 | 9.75 | 0.85 | 9.71 | 33.83 | 48.21 | -14.38 | Average | LINE |
| 5 | 0.49 | 10.52 | 9.81 | 0.86 | 9.71 | 30.90 | 56.14 | -25.24 | QP | LINE |
| 6 | 0.49 | 5.73 | 9.81 | 0.86 | 9.71 | 26.11 | 46.14 | -20.03 | Average | LINE |
| 7 | 0.77 | 11.17 | 9.79 | 0.75 | 9.72 | 31.43 | 56.00 | -24.57 | QP | LINE |
| 8 | 0.77 | 10.25 | 9.79 | 0.75 | 9.72 | 30.51 | 46.00 | -15.49 | Average | LINE |
| 9 | 3.07 | 11.88 | 9.63 | 0.59 | 9.77 | 31.87 | 56.00 | -24.13 | QP | LINE |
| 10 | 3.07 | 11.17 | 9.63 | 0.59 | 9.77 | 31.16 | 46.00 | -14.84 | Average | LINE |
| 11 | 10.34 | 7.72 | 9.82 | 0.19 | 9.82 | 27.55 | 60.00 | -32.45 | QP | LINE |
| 12 | 10.34 | 5.60 | 9.82 | 0.19 | 9.82 | 25.43 | 50.00 | -24.57 | Average | LINE |

Note:

1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

14. Antenna Requirements

14.1. Limit

For intentional device, according to FCC 47 CFR Section 15.203, 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For intentional device, according to RSS-Gen issue 5 section 6.8.

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

14.2. Result

The device support 1T1R, the antennas both used for this product are FPC antennas and no antenna other than that furnished by the responsible party shall be used with the device, maximum antenna gain is 3 dBi

16. Photos of the EUT

Please refer to appendix I.

END OF REPORT