

# FCC AND ISED CERTIFICATION TEST REPORT

## FOR

|                             |   |                                                               |
|-----------------------------|---|---------------------------------------------------------------|
| <b>Applicant</b>            | : | Harman International Industries, Inc.                         |
| <b>Address</b>              | : | 8500 Balboa Boulevard, Northridge, CA 91329,<br>UNITED STATES |
| <b>Equipment under Test</b> | : | Portable Bluetooth Speaker                                    |
| <b>Model No.</b>            | : | XTREME 3N                                                     |
| <b>Trade Mark</b>           | : | JBL                                                           |
| <b>FCC ID</b>               | : | APIJBLXTREME3N                                                |
| <b>IC</b>                   | : | 6132A-JBLXTREME3N                                             |
| <b>Manufacturer</b>         | : | Harman International Industries, Inc.                         |
| <b>Address</b>              | : | 8500 Balboa Boulevard, Northridge, CA 91329,<br>UNITED STATES |

**Issued By: Dongguan Dongdian Testing Service Co., Ltd.**

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# REPORT

## Table of Contents

|      |                                                  |    |
|------|--------------------------------------------------|----|
|      | Test report declares.....                        | 4  |
| 1.   | Summary of Test Results.....                     | 5  |
| 2.   | General Test Information .....                   | 6  |
| 2.1. | Description of EUT .....                         | 6  |
| 2.2. | Accessories of EUT.....                          | 7  |
| 2.3. | Assistant equipment used for test.....           | 7  |
| 2.4. | Block diagram of EUT configuration for test..... | 7  |
| 2.5. | Test environment conditions .....                | 7  |
| 2.6. | Deviations of test standard.....                 | 8  |
| 2.7. | Test laboratory .....                            | 8  |
| 2.8. | Measurement uncertainty.....                     | 8  |
| 3.   | Equipment Used During Test.....                  | 9  |
| 4.   | 20dB Bandwidth and 99% Bandwidth.....            | 11 |
| 4.1. | Block diagram of test setup.....                 | 11 |
| 4.2. | Limits .....                                     | 11 |
| 4.3. | Test procedure .....                             | 11 |
| 4.4. | Test Result .....                                | 12 |
| 4.5. | Original test data .....                         | 12 |
| 5.   | Radiated Emission .....                          | 19 |
| 5.1. | Block diagram of test setup.....                 | 19 |
| 5.2. | Limit.....                                       | 20 |
| 5.3. | Test procedure .....                             | 21 |
| 5.4. | Test result.....                                 | 22 |
| 6.   | Band Edge Compliance .....                       | 27 |
| 6.1. | Block diagram of test setup.....                 | 27 |
| 6.2. | Limit.....                                       | 27 |
| 6.3. | Test procedure .....                             | 27 |
| 6.4. | Test result.....                                 | 27 |
| 7.   | Power Line Conducted Emission .....              | 40 |
| 7.1. | Block diagram of test setup.....                 | 40 |
| 7.2. | Power line conducted emission limits .....       | 40 |
| 7.3. | Test procedure .....                             | 40 |
| 7.4. | Test Result .....                                | 41 |
| 8.   | Antenna Requirements .....                       | 44 |
| 8.1. | Limit.....                                       | 44 |
| 8.2. | Result .....                                     | 44 |

## Test Report Declare

|                             |   |                                                            |
|-----------------------------|---|------------------------------------------------------------|
| <b>Applicant</b>            | : | Harman International Industries, Inc.                      |
| <b>Address</b>              | : | 8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES |
| <b>Equipment under Test</b> | : | Portable Bluetooth Speaker                                 |
| <b>Model No.</b>            | : | XTREME 3N                                                  |
| <b>Trade mark</b>           | : | JBL                                                        |
| <b>Manufacturer</b>         | : | Harman International Industries, Inc.                      |
| <b>Address</b>              | : | 8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES |

### Test Standard Used:

FCC Rules and Regulations Part 15 Subpart C, RSS-210 Issue 10 December 2019.

### Test procedure used:

ANSI C63.10:2013, RSS-Gen Issue 5, Apr. 2018.

### We Declare:

The equipment described above is tested by Dongguan 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 Dongguan 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 FCC&ISED standards.**

|                         |                   |                      |                              |
|-------------------------|-------------------|----------------------|------------------------------|
| <b>Report No:</b>       | DDT-R20052205-4E6 |                      |                              |
| <b>Date of Receipt:</b> | May 15, 2020      | <b>Date of Test:</b> | May 15, 2020 ~ Aug. 18, 2020 |

**Prepared By:**

*Sam Li*

**Sam Li/Engineer**

**Approved By:**



**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 Dongguan Dongdian Testing Service Co., Ltd.

## Revision History

| Rev. | Revisions     | Issue Date    | Revised By |
|------|---------------|---------------|------------|
| ---  | Initial issue | Aug. 18, 2020 |            |
|      |               |               |            |

## 1. Summary of Test Results

| The EUT have been tested according to the applicable standards as referenced below. |                                                                                                       |         |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------|
| Description of Test Item                                                            | Standard                                                                                              | Results |
| 20 dB Bandwidth and 99% Bandwidth                                                   | FCC Part 15: 15.215<br>ANSI C63.10:2013<br>RSS-210 Issue 10<br>RSS-Gen Issue 5                        | Pass    |
| Radiated Emission                                                                   | FCC Part 15: 15.209<br>FCC Part 15: 15.249<br>ANSI C63.10:2013<br>RSS-210 Issue 10<br>RSS-Gen Issue 5 | Pass    |
| Band Edge Compliance                                                                | FCC Part 15: 15.205<br>FCC Part 15: 15.249<br>ANSI C63.10:2013<br>RSS-210 Issue 10<br>RSS-Gen Issue 5 | Pass    |
| Power Line Conducted Emission                                                       | FCC Part 15: 15.207<br>ANSI C63.10:2013<br>RSS-Gen Issue 5                                            | Pass    |
| Antenna requirement                                                                 | FCC Part 15: 15.203<br>RSS-Gen Issue 5                                                                | Pass    |

## 2. General Test Information

### 2.1. Description of EUT

|                          |                                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------------------------|
| EUT* Name                | : Portable Bluetooth Speaker                                                                        |
| Model Number             | : XTREME 3N                                                                                         |
| EUT function description | : Please reference user manual of this device                                                       |
| Power supply             | : DC 5V/9V/12V/15V/20V---3.0A from external AC Adapter<br>DC 7.26 V Polymer Li-ion built-in battery |
| Operation frequency      | : 2407 MHz - 2475 MHz                                                                               |
| Modulation               | : GFSK, $\pi/4$ -DQPSK, 8DPSK                                                                       |
| Antenna Type             | : Dedicated FPC antenna, maximum PK gain: 2.24 dBi                                                  |
| Serialnumber             | : 0020ND-0000105DK for conducted test<br>0020ND-0000418FK for radiation test                        |

Note: EUT is the abbreviation of equipment under test.

EUT channels and frequencies list:

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

## 2.2. Accessories of EUT

| Description of Accessories | Manufacturer                                                   | Model number            | Description                                                                                                   | Remark |
|----------------------------|----------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------|--------|
| AC Adapter                 | Shenzhen JingQuanHua & Everrise Intelligent Electric Co., Ltd. | NSA60EU-2003000 (PD60W) | Input: 100-240V ~ 50/60 Hz 1.5A<br>Output: 5.0V---3.0A, 9.0V---3.0A, 12.0V---3.0A, 15.0V---3.0A, 20.0V---3.0A | N/A    |

### Battery information

| Description of Accessories  | Manufacturer                             | Model number | Description                           | Remark |
|-----------------------------|------------------------------------------|--------------|---------------------------------------|--------|
| Rechargeable Li-ion Battery | ICON ENERGY SYSTEM (SHEN ZHEN) CO., LTD. | IBA001GA     | Rated Capacity: 7.26V 5000mAh 36.3Wh; | N/A    |

## 2.3. Assistant equipment used for test

| Assistant equipment | Manufacturer            | Model number | EMC Compliance | SN       |
|---------------------|-------------------------|--------------|----------------|----------|
| Notebook            | Lenovo Beijing Co. Ltd. | ThinkPad     | FCC/CE         | TP00015A |

## 2.4. Block diagram of EUT configuration for test

Tx Mode:



Test software: FCCTool.exe

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

| Tested mode, channel, information |         |                 |
|-----------------------------------|---------|-----------------|
| Mode                              | Channel | Frequency (MHz) |
| GFSK Tx mode                      | CH5     | 2407            |
|                                   | CH39    | 2441            |
|                                   | CH73    | 2475            |
| $\pi/4$ -DQPSK Tx mode            | CH5     | 2407            |
|                                   | CH39    | 2441            |
|                                   | CH73    | 2475            |
| 8DPSK Tx mode                     | CH5     | 2407            |
|                                   | CH39    | 2441            |
|                                   | CH73    | 2475            |

## 2.5. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

|                    |            |
|--------------------|------------|
| Temperature range: | 21-25 °C   |
| Humidity range:    | 40-75%     |
| Pressure range:    | 86-106 kPa |

## 2.6. Deviations of test standard

No deviation.

## 2.7. Test laboratory

Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: [ddt@dgddt.com](mailto:ddt@dgddt.com)

CNAS Registration No. CNAS L6451; A2LA Certificate Number: 3870.01;

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

Industry Canada Site Registration Number: 10288A-1

## 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);<br>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);<br>1.38 dB (3.6 GHz ≤ f < 8 GHz)                                 |
| Conducted spurious emissions                                                                                                                  | 0.86 dB (10 MHz ≤ f < 3.6 GHz);<br>1.40 dB (3.6 GHz ≤ f < 8 GHz)<br>1.66 dB (8 GHz ≤ f < 22 GHz) |
| Uncertainty for radio frequency (RBW < 20 kHz)                                                                                                | 3×10 <sup>-8</sup>                                                                               |
| Temperature                                                                                                                                   | 0.4 °C                                                                                           |
| Humidity                                                                                                                                      | 2%                                                                                               |
| Uncertainty for Radiation Emission test (30 MHz - 1 GHz)                                                                                      | 4.70 dB (Antenna Polarize: V)<br>4.84 dB (Antenna Polarize: H)                                   |
| Uncertainty for Radiation Emission test (1 GHz - 18 GHz)                                                                                      | 4.10 dB (1-6 GHz)<br>4.40 dB (6 GHz - 18 GHz)                                                    |
| Uncertainty for Power line conduction emission test                                                                                           | 3.32 dB (150 kHz - 30 MHz)                                                                       |
| Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2. |                                                                                                  |

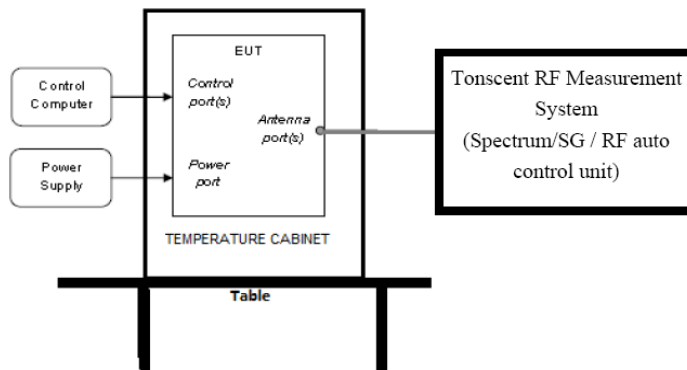
### 3. Equipment Used During Test

| Equipment                                                 | Manufacturer | Model No.     | Serial No.     | Last Cal.     | Cal. Interval |
|-----------------------------------------------------------|--------------|---------------|----------------|---------------|---------------|
| <b>RF Connected Test (Tonscend RF Measurement System)</b> |              |               |                |               |               |
| Spectrum analyzer                                         | R&S          | FSU26         | 200071         | Sep. 29, 2019 | 1 Year        |
| Wideband Radio Communication tester                       | R&S          | CMW500        | 117491         | Jul. 01, 2020 | 1 Year        |
| Vector Signal Generator                                   | Agilent      | E8267D        | US49060192     | Sep. 29, 2019 | 1 Year        |
| Vector Signal Generator                                   | Agilent      | N5182A        | MY48180737     | Jul. 01, 2020 | 1 Year        |
| Power Sensor                                              | Agilent      | U2021XA       | MY55150010     | Jul. 01, 2020 | 1 Year        |
| Power Sensor                                              | Agilent      | U2021XA       | MY55150011     | Jul. 01, 2020 | 1 Year        |
| DC Power Source                                           | MATRIS       | MPS-3005L-3   | D813058W       | Jul. 01, 2020 | 1 Year        |
| RF Cable                                                  | Micable      | C10-01-01-1   | 100309         | Sep. 29, 2019 | 1 Year        |
| Temp&Humi Programmable                                    | ZHIXIANG     | ZXGDJS-150L   | ZX170110-A     | Oct. 21, 2019 | 1 Year        |
| Test Software                                             | JS Tonscend  | JS1120-3      | Ver.2.7        | N/A           | N/A           |
| <b>Radiation 1#chamber</b>                                |              |               |                |               |               |
| EMI Test Receiver                                         | R&S          | ESU8          | 100316         | Sep. 29, 2019 | 1 Year        |
| Spectrum analyzer                                         | Agilent      | E4447A        | MY50180031     | Jul. 01, 2020 | 1 Year        |
| Trilog Broadband Antenna                                  | Schwarzbeck  | VULB9163      | 9163-462       | Nov. 15, 2019 | 1 Year        |
| Active Loop antenna                                       | Schwarzbeck  | FMZB-1519     | 1519-038       | Sep. 29, 2019 | 1 Year        |
| Double Ridged Horn Antenna                                | R&S          | HF907         | 100276         | Nov. 15, 2019 | 1 Year        |
| Broad Band Horn Antenna                                   | Schwarzbeck  | BBHA 9170     | 790            | Sep. 29, 2019 | 1 Year        |
| Pre-amplifier                                             | A.H.         | PAM-0118      | 360            | Sep. 29, 2019 | 1 Year        |
| Pre-amplifier                                             | TERA-MW      | TRLA-0040 G35 | 101303         | Sep. 29, 2019 | 1 Year        |
| RF Cable                                                  | HUBSER       | CP-X2+ CP-X1  | W11.03+ W12.02 | Sep. 29, 2019 | 1 Year        |
| RF Cable                                                  | N/A          | 5m+6m+1m      | 06270619       | Sep. 29, 2019 | 1 Year        |
| MI Cable                                                  | HUBSER       | C10-01-01-1 M | 1091629        | Sep. 29, 2019 | 1 Year        |
| Test software                                             | Audix        | E3            | V 6.11111b     | N/A           | N/A           |
| <b>Radiation 2#chamber</b>                                |              |               |                |               |               |
| EMI Test Receiver                                         | R&S          | ESCI          | 101364         | Sep. 29, 2019 | 1 Year        |
| Spectrum analyzer                                         | Agilent      | E4447A        | MY50180031     | Jul. 01, 2020 | 1 Year        |
| Trilog Broadband Antenna                                  | Schwarzbeck  | VULB 9163     | 9163-994       | Nov. 15, 2019 | 1 Year        |
| Active Loop antenna                                       | Schwarzbeck  | FMZB-1519     | 1519-038       | Sep. 29, 2019 | 1 Year        |
| Double Ridged Horn Antenna                                | Schwarzbeck  | BBHA9120      | 02108          | Jul. 11, 2020 | 1 Year        |
| Broad Band Horn Antenna                                   | Schwarzbeck  | BBHA 9170     | 790            | Sep. 29, 2019 | 1 Year        |

|                                            |         |                  |            |               |        |
|--------------------------------------------|---------|------------------|------------|---------------|--------|
| Pre-amplifier                              | TERA-MW | TRLA-0040<br>G35 | 101303     | Sep. 29, 2019 | 1 Year |
| RF Cable                                   | N/A     | 14+1.5m          | 06270619   | Sep. 29, 2019 | 1 Year |
| Test software                              | Audix   | E3               | V 6.11111b | N/A           | N/A    |
| <b>Power Line Conducted Emissions Test</b> |         |                  |            |               |        |
| EMI Test Receiver                          | R&S     | ESU8             | 100316     | Sep. 29, 2019 | 1 Year |
| LISN 1                                     | R&S     | ENV216           | 101109     | Sep. 29, 2019 | 1 Year |
| LISN 2                                     | R&S     | ESH2-Z5          | 100309     | Sep. 29, 2019 | 1 Year |
| Pulse Limiter                              | R&S     | ESH3-Z2          | 101242     | Sep. 29, 2019 | 1 Year |
| CE Cable 1                                 | HUBSER  | N/A              | W10.01     | Sep. 29, 2019 | 1 Year |
| Test software                              | Audix   | E3               | V 6.11111b | N/A           | N/A    |

## 4. 20dB Bandwidth and 99% Bandwidth

### 4.1. Block diagram of test setup



### 4.2. Limits

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

### 4.3. Test procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) Set the spectrum analyzer as follows:

For 20 dB bandwidth:

|                |          |
|----------------|----------|
| RBW:           | 100 kHz  |
| VBW:           | 300 kHz  |
| Detector Mode: | Peak     |
| Sweep time:    | auto     |
| Trace mode     | Max hold |

For 99% bandwidth:

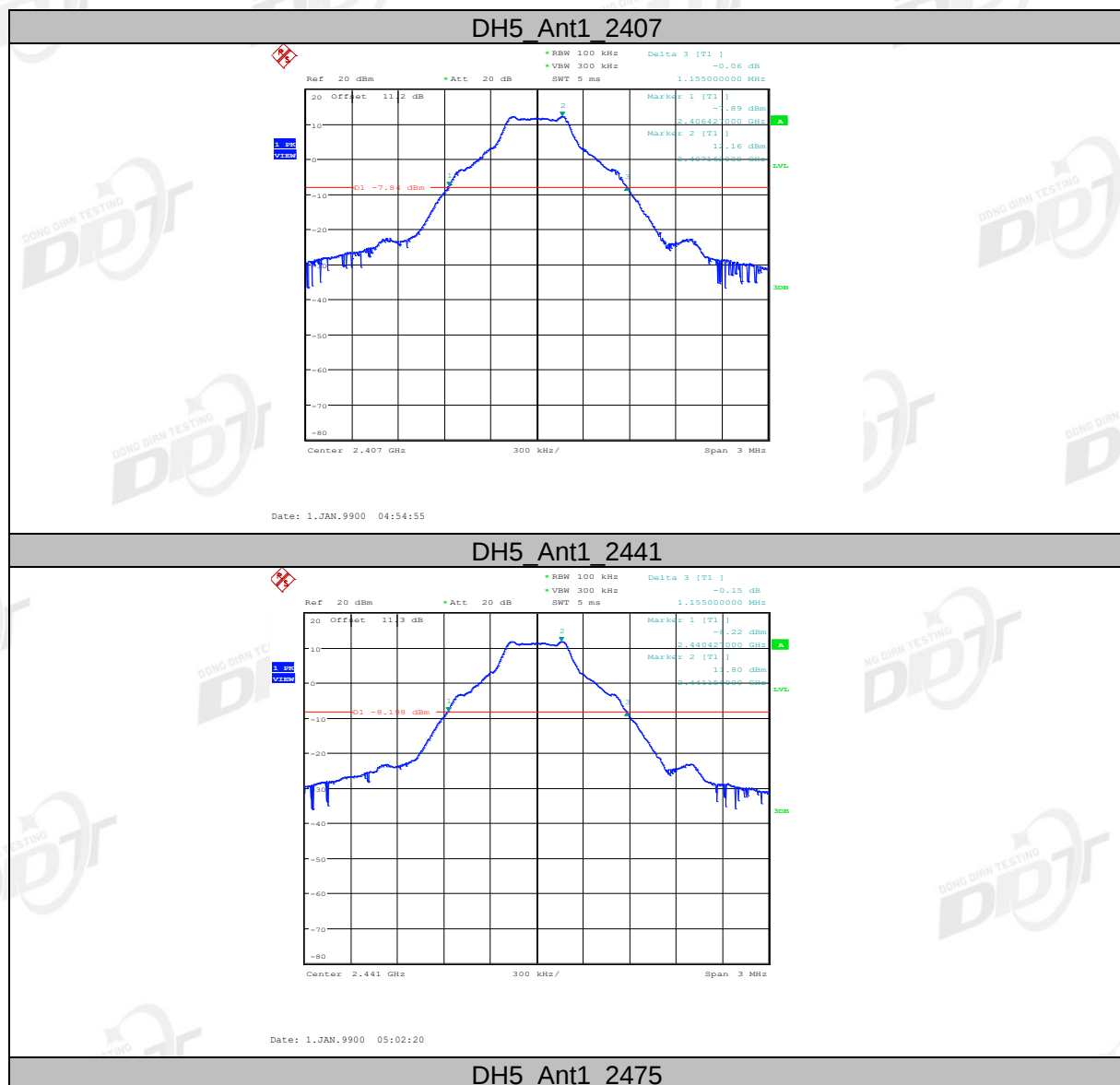
|                |          |
|----------------|----------|
| RBW:           | 30 kHz   |
| VBW:           | 100 kHz  |
| Detector Mode: | Peak     |
| Sweep time:    | auto     |
| Trace mode     | Max hold |

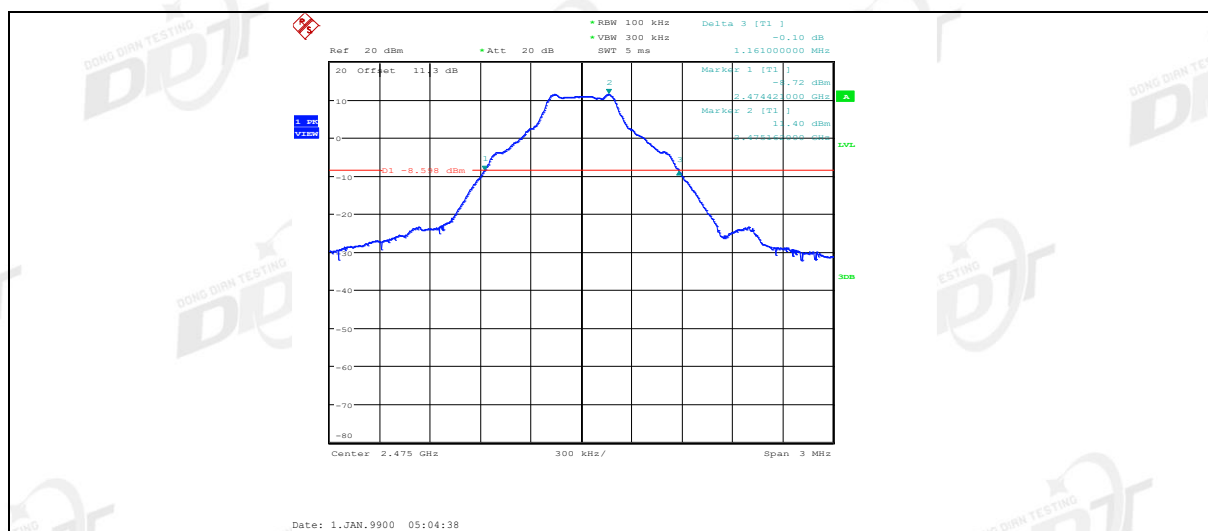
- (3) Allow the trace to stabilize, measure the 20 dB and 99% bandwidth of signal.

#### 4.4. Test Result

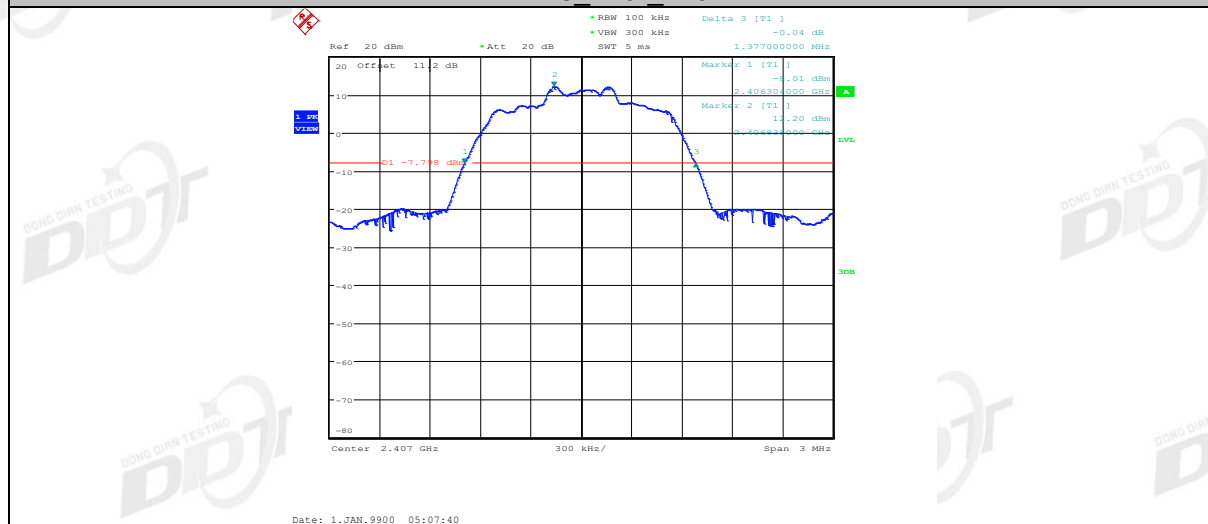
| Test Mode      | Freq. (MHz) | 99% bandwidth Result (MHz) | 20 dB bandwidth Result (MHz) | Verdict |
|----------------|-------------|----------------------------|------------------------------|---------|
| GFSK           | 2407        | 0.936                      | 1.155                        | Pass    |
|                | 2441        | 0.927                      | 1.155                        | Pass    |
|                | 2475        | 0.933                      | 1.161                        | Pass    |
| $\pi/4$ -DQPSK | 2407        | 1.179                      | 1.377                        | Pass    |
|                | 2441        | 1.185                      | 1.374                        | Pass    |
|                | 2475        | 1.182                      | 1.365                        | Pass    |
| 8DPSK          | 2407        | 1.185                      | 1.374                        | Pass    |
|                | 2441        | 1.185                      | 1.377                        | Pass    |
|                | 2475        | 1.185                      | 1.377                        | Pass    |

#### 4.5. Original test data

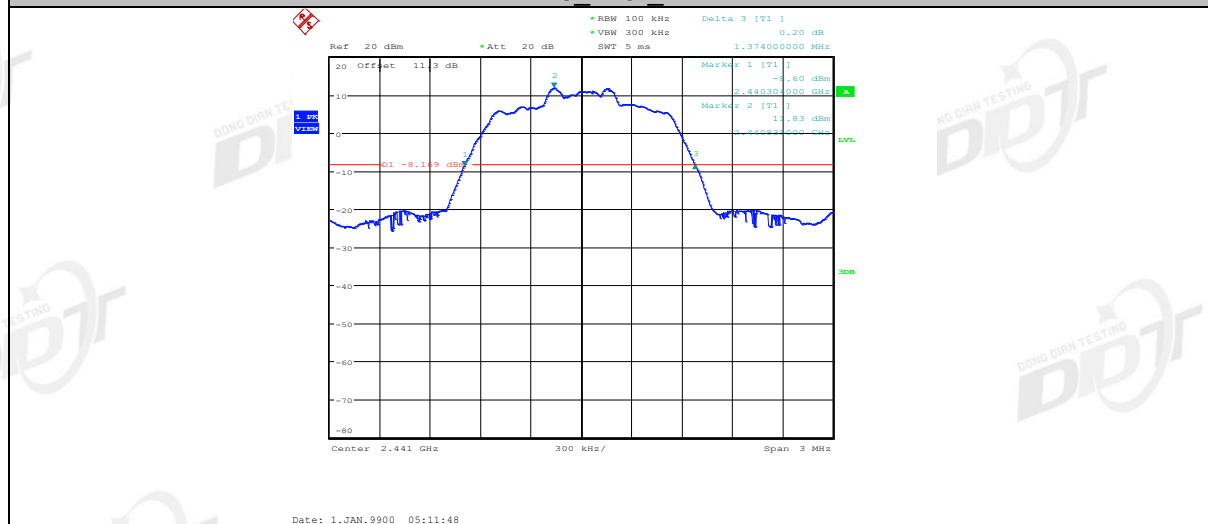




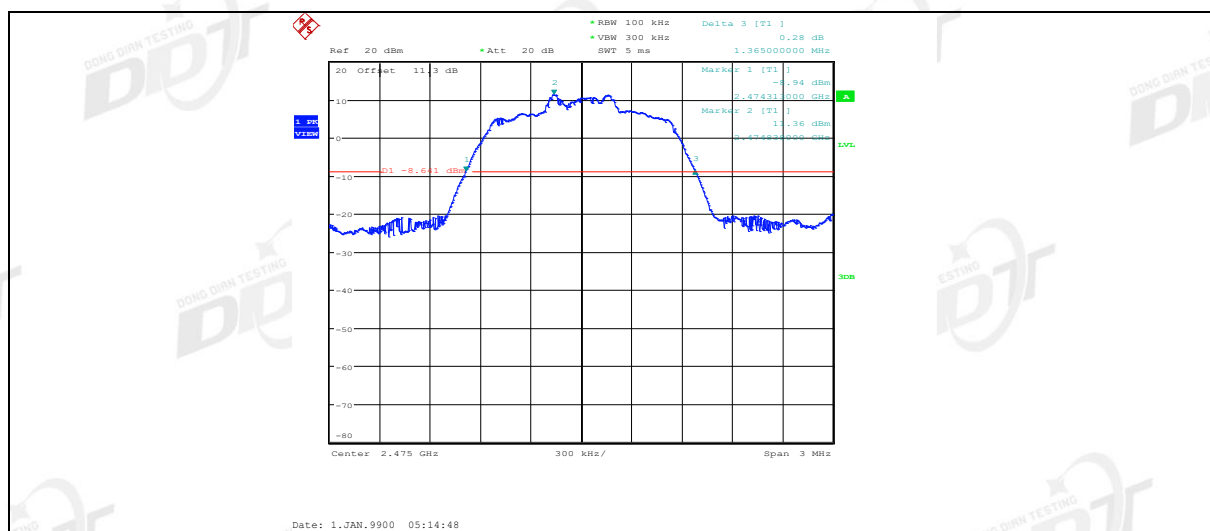
2DH5\_Ant1\_2407



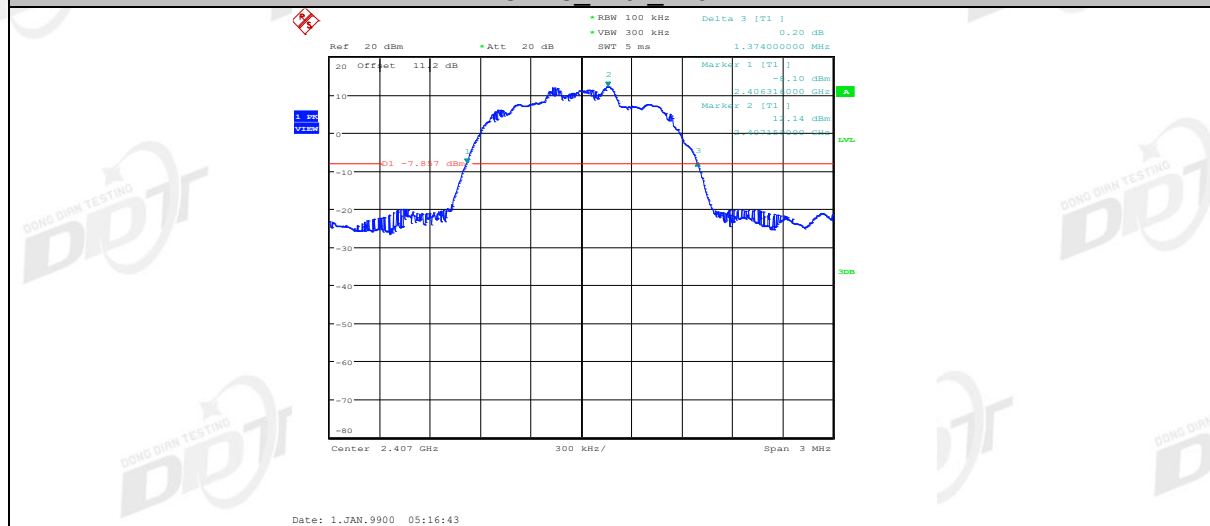
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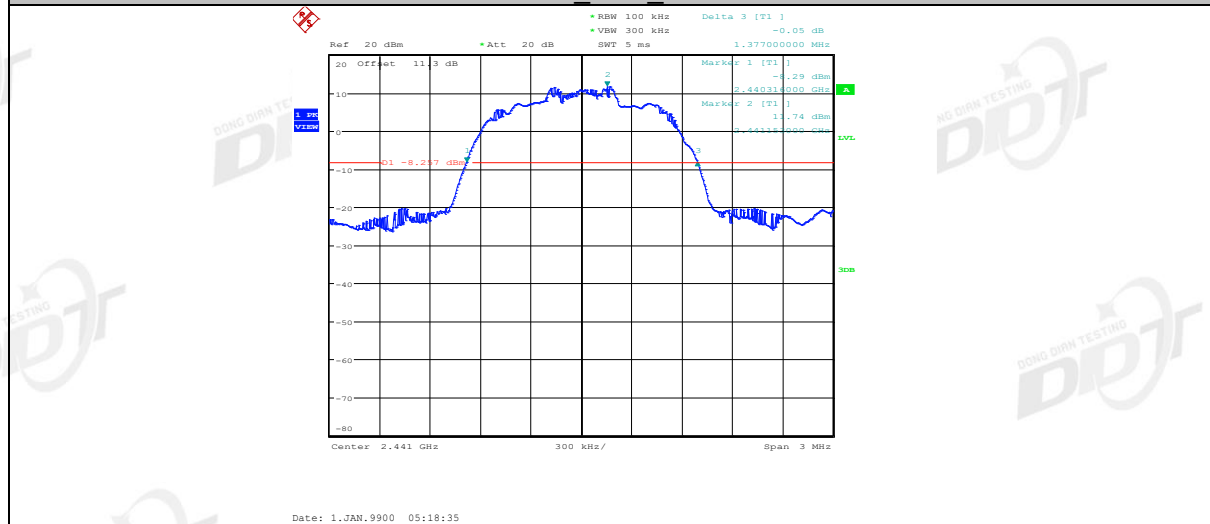
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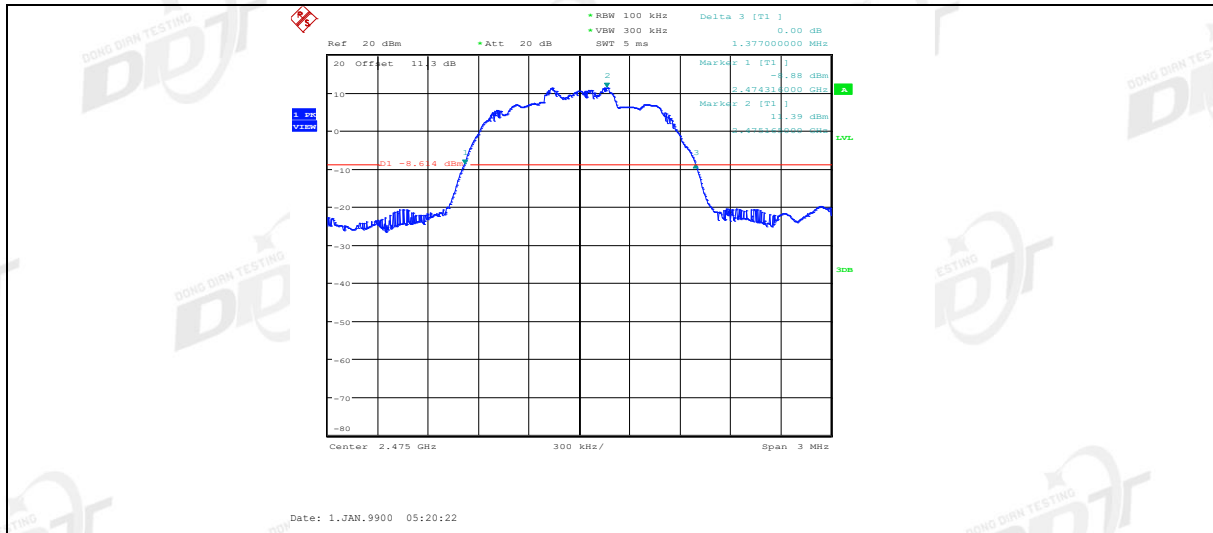
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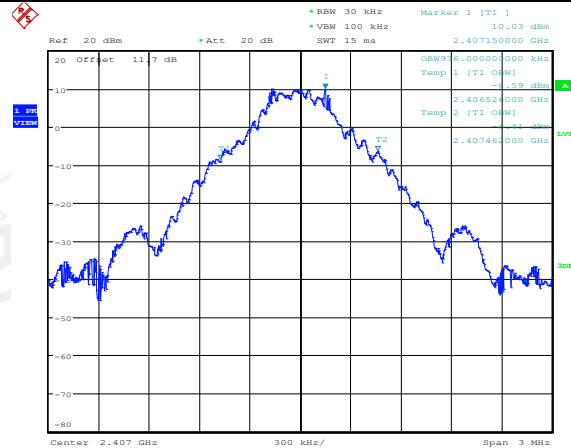
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## 3DH5 Ant1 2475

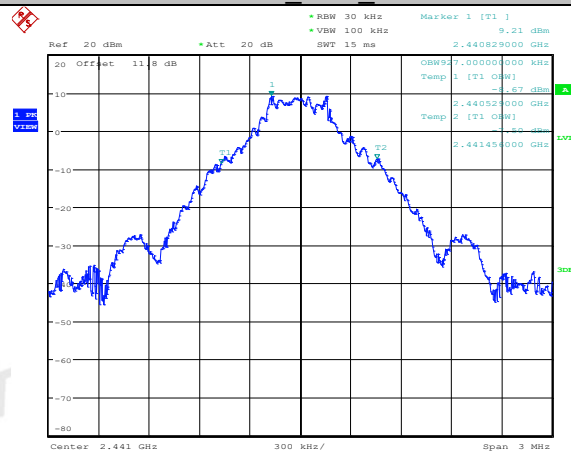


## DH5\_Ant1\_2407



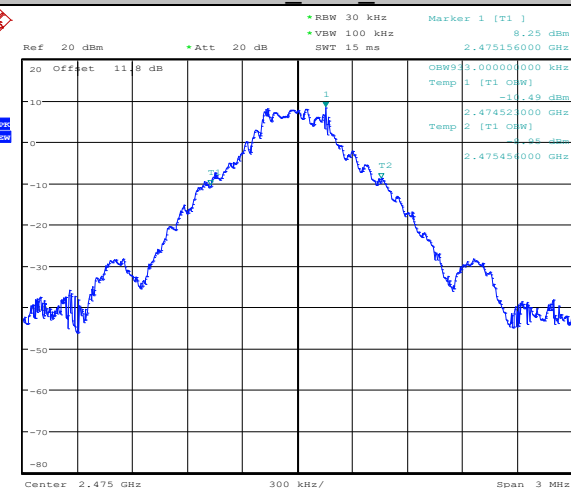
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## DH5\_Ant1\_2441



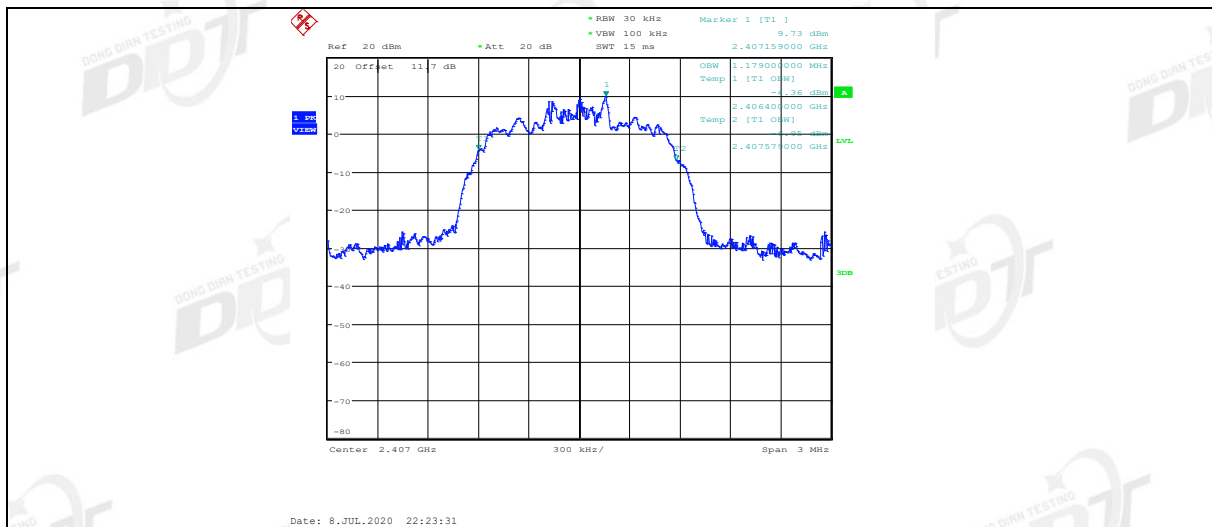
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## DH5\_Ant1\_2475

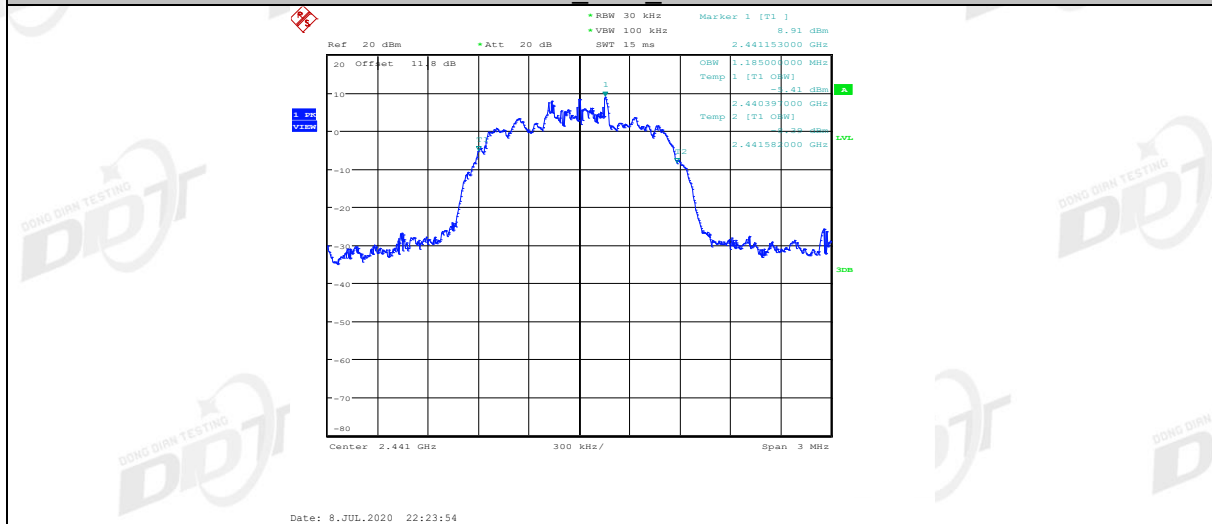


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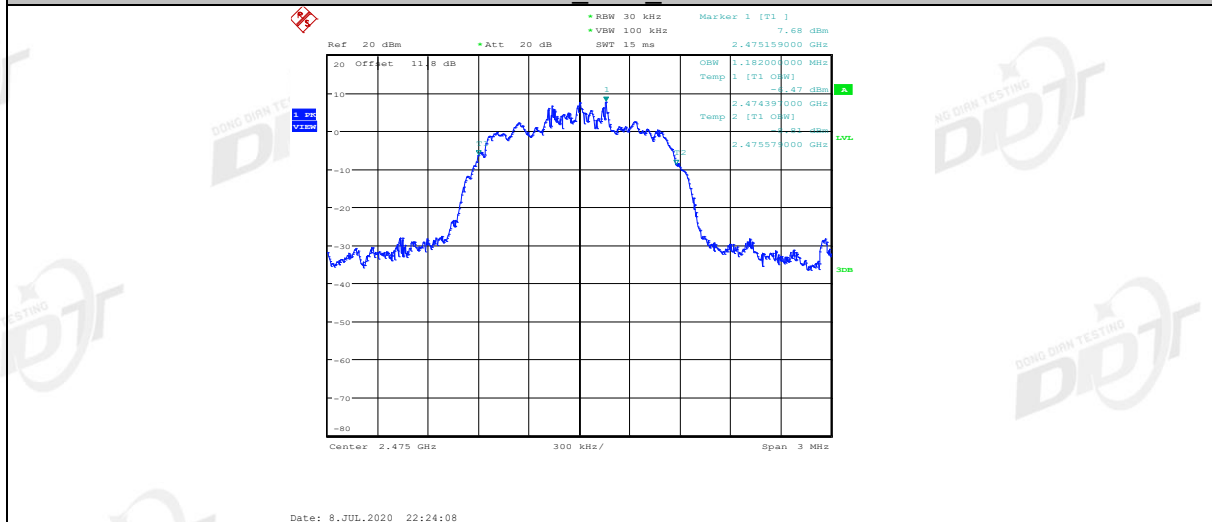
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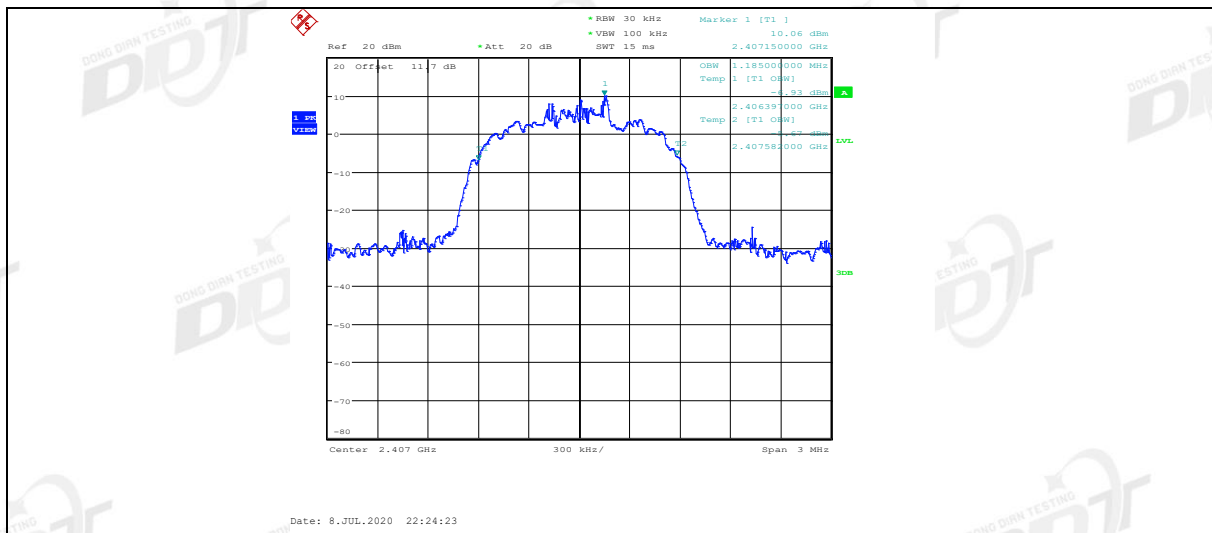
## 2DH5 Ant1 2441



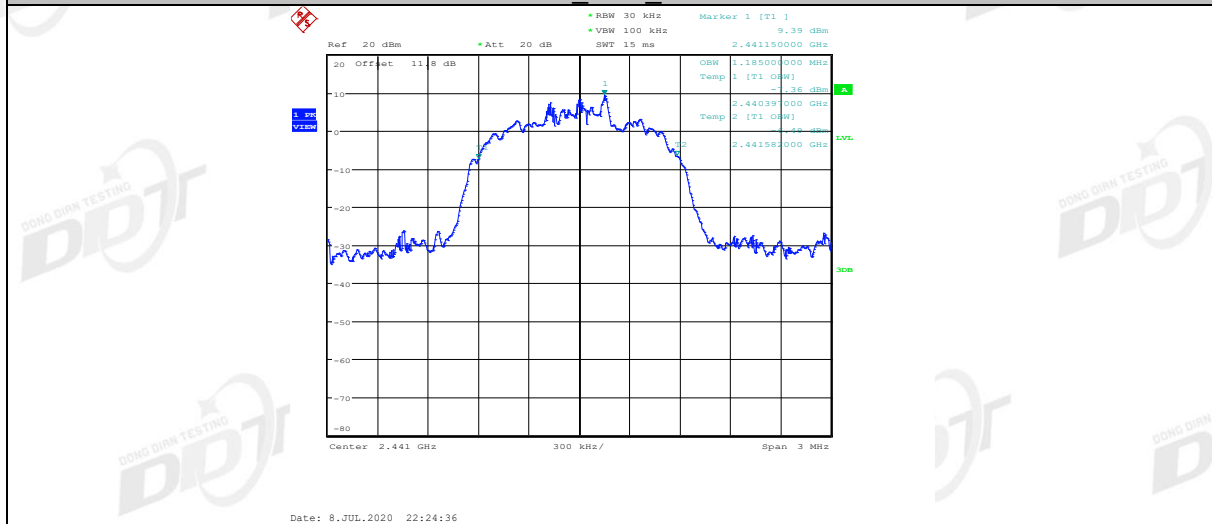
## 2DH5 Ant1 2475



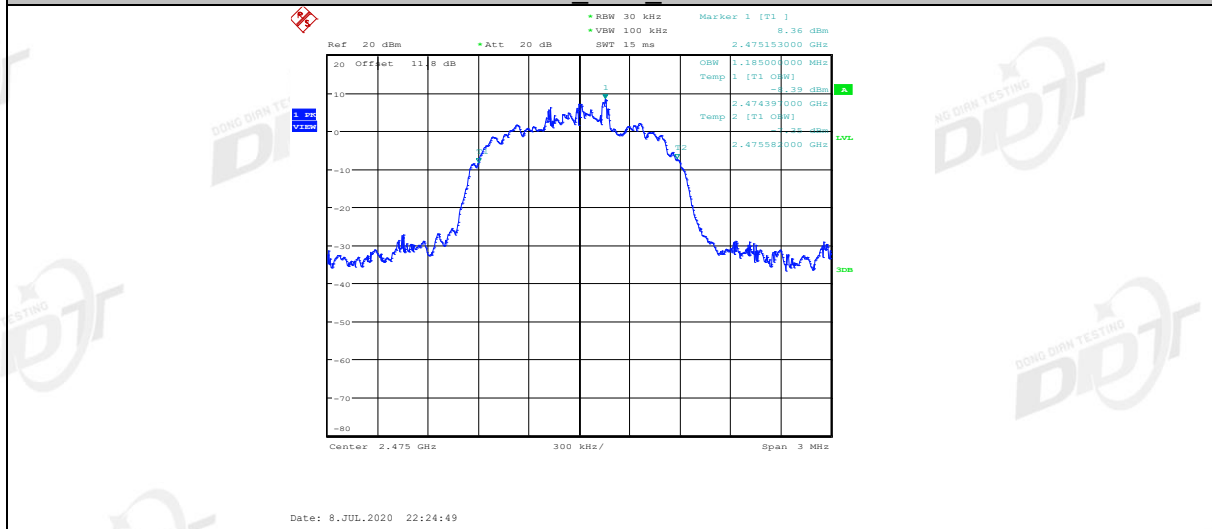
## 3DH5 Ant1 2407



## 3DH5\_Ant1\_2441



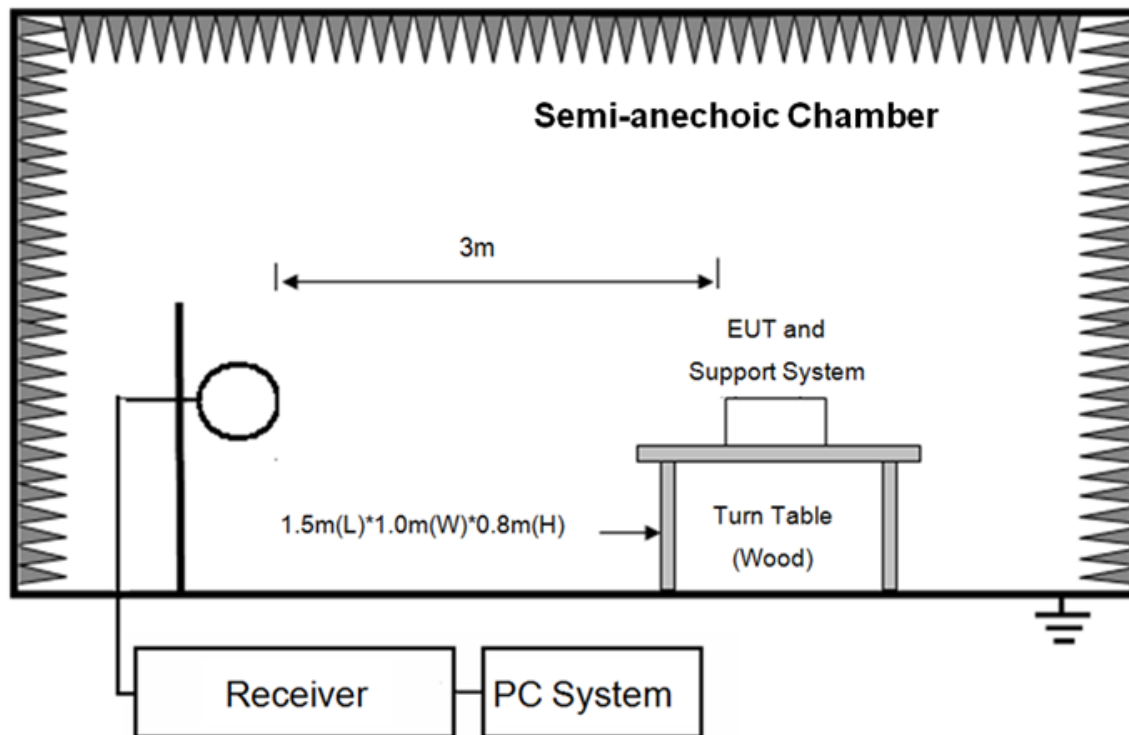
## 3DH5\_Ant1\_2475



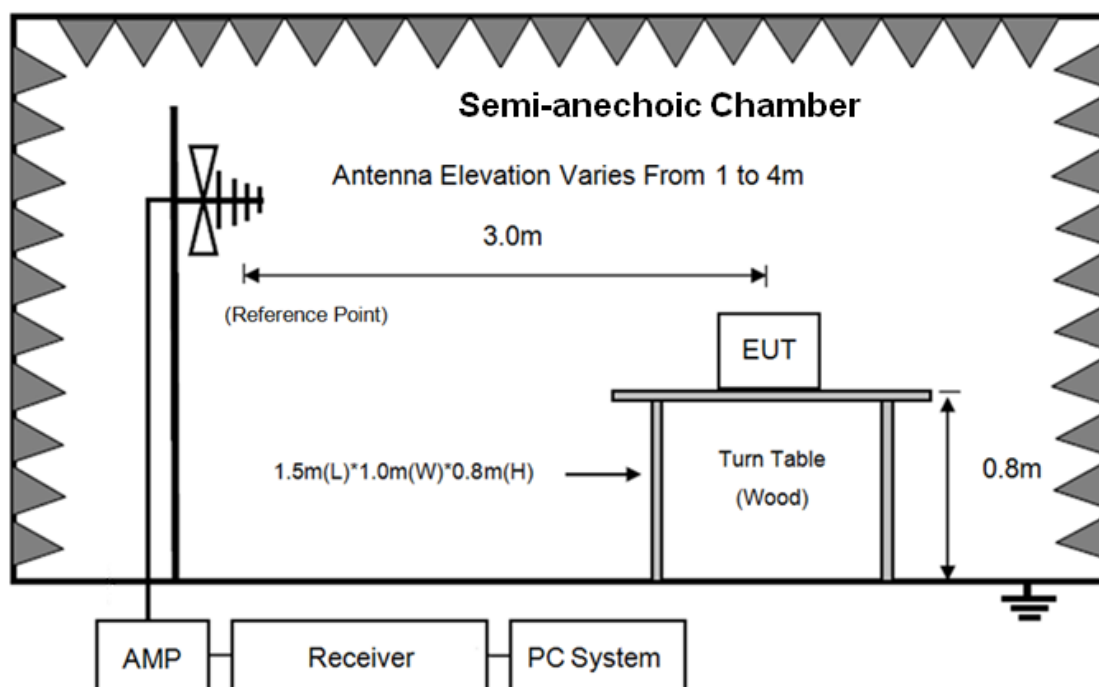
## 5. Radiated Emission

### 5.1. Block diagram of test setup

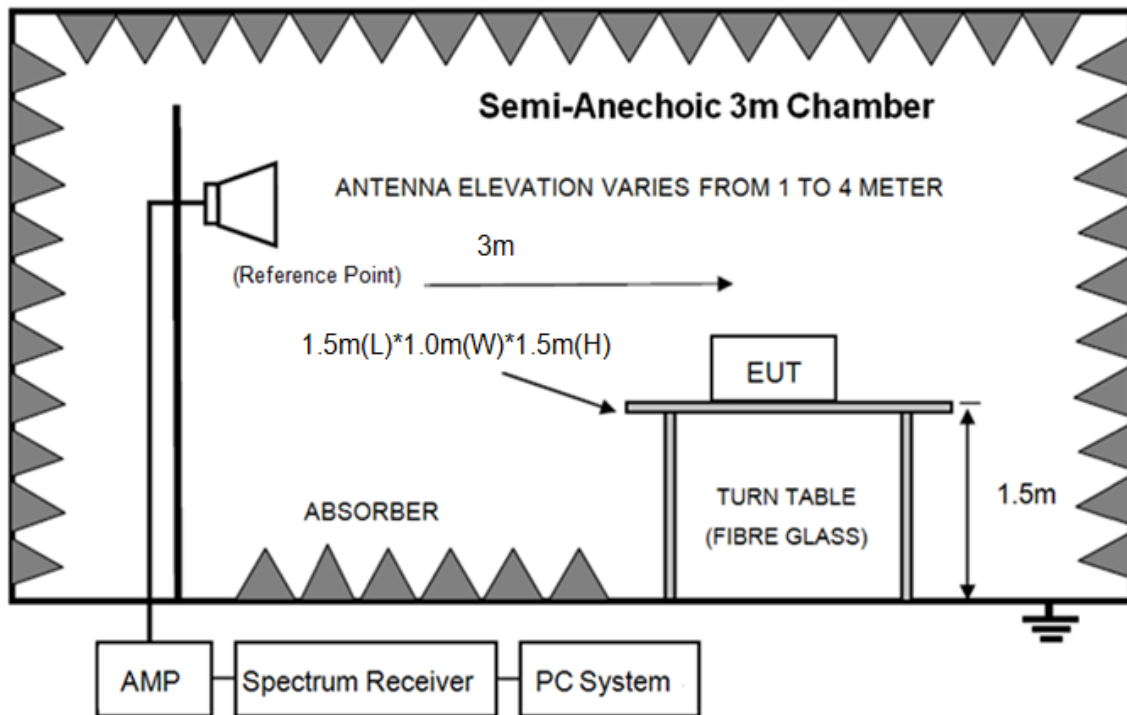
In 3 m Anechoic Chamber Test Setup Diagram for 9 kHz - 30 MHz



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.

## 5.2. Limit

| FREQUENCY<br>MHz                                                      | DISTANCE<br>Meters | FIELD STRENGTHS LIMIT                            |          |
|-----------------------------------------------------------------------|--------------------|--------------------------------------------------|----------|
|                                                                       |                    | μV/m                                             | dB(μV)/m |
| 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 MHz                                                        | 3                  | 74.0 dB(μV)/m (Peak)<br>54.0 dB(μV)/m (Average)  |          |
| Field Strength of<br>Fundamental emission for<br>2.4 GHz - 2.4835 GHz | 3                  | 94.0 dB(μV)/m (Average)<br>114.0 dB(μV)/m (Peak) |          |
| Field Strength of<br>Harmonics                                        | 3                  | 74.0 dB(μV)/m (Peak)<br>54.0 dB(μV)/m (Average)  |          |

Remark:

- (1) Emission level dBμV = 20 log Emission level μV/m
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.
- (4) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz, radiated emission limits in these three bands are based on measurements employing an average detector.

### 5.3. Test procedure

- (1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber.
- (2) Setup EUT and assistant system according clause 2.3 and 4.2
- (3) Test antenna was located 3 m from the EUT on an adjustable mast. Below pre-scan procedure was first performed in order to find prominent radiated emissions.
  - (a) Change work frequency or channel of device if practicable.
  - (b) Change modulation type of device if practicable.
  - (c) Change power supply range from 85% to 115% of the rated supply voltage
  - (d) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions
- (4) Spectrum frequency from 9 kHz to 25 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 9 kHz to 30 MHz and 18 GHz to 25 GHz, so below final test was performed with frequency range from 30 MHz to 18 GHz.
- (5) For final emissions measurements at each frequency of interest, the EUT were 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.
- (6) For emissions from 30 MHz to 1 GHz, Quasi-Peak values were measured with EMI Receiver and the bandwidth of Receiver is 120 kHz.
- (7) For emissions above 1 GHz, 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; according ANSI C63.10:2013 clause 4.1.4.2.2 procedure for average measure.
- (8) For fundamental frequency test, set spectrum analyzer's RBW= 3 MHz, VBW= 10 MHz. Peak detector for PK, according ANSI C63.10:2013 clause 4.1.4.2.2 procedure for average measure.
- (9) X axis, Y axis, Z axis are tested, and worse setup X axis is reported.

#### 5.4. 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 limit.

Note1: According exploratory test no any obvious emission was 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.

Note2: 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 GFSK, Tx 2407 MHz mode.

Note3: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

## Field Strength of the Fundamental Signal

| Freq.<br>(MHz)    | Read<br>level<br>(dBμV) | Antenn<br>a<br>Factor<br>(dB/m) | PRM<br>Facto<br>r(dB) | Cable<br>Loss<br>(dB) | ResultL<br>evel(dB<br>μV/m) | Limit<br>(dBμV/<br>m) | Margin<br>(dB) | Detector<br>type | Polarization |
|-------------------|-------------------------|---------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------|----------------|------------------|--------------|
| GFSK Tx mode      |                         |                                 |                       |                       |                             |                       |                |                  |              |
| 2407.00           | 116.84                  | 27.51                           | 43.21                 | 4.05                  | 105.19                      | 114.00                | -8.81          | Peak             | HORIZONTAL   |
| 2407.00           | 95.17                   | 27.51                           | 43.21                 | 4.05                  | 83.52                       | 94.00                 | -10.48         | Average          | HORIZONTAL   |
| 2441.00           | 116.67                  | 27.58                           | 43.23                 | 4.08                  | 105.10                      | 114.00                | -8.90          | Peak             | HORIZONTAL   |
| 2441.00           | 96.79                   | 27.58                           | 43.23                 | 4.08                  | 85.22                       | 94.00                 | -8.78          | Average          | HORIZONTAL   |
| 2475.00           | 117.42                  | 27.65                           | 43.25                 | 4.12                  | 105.94                      | 114.00                | -8.06          | Peak             | HORIZONTAL   |
| 2475.00           | 96.78                   | 27.65                           | 43.25                 | 4.12                  | 85.30                       | 94.00                 | -8.70          | Average          | HORIZONTAL   |
| 2407.00           | 114.03                  | 27.51                           | 43.21                 | 4.05                  | 102.38                      | 114.00                | -11.62         | Peak             | VERTICAL     |
| 2407.00           | 96.31                   | 27.51                           | 43.21                 | 4.05                  | 84.66                       | 94.00                 | -9.34          | Average          | VERTICAL     |
| 2441.00           | 110.50                  | 27.58                           | 43.23                 | 4.08                  | 98.93                       | 114.00                | -15.07         | Peak             | VERTICAL     |
| 2441.00           | 96.77                   | 27.58                           | 43.23                 | 4.08                  | 85.20                       | 94.00                 | -8.80          | Average          | VERTICAL     |
| 2475.00           | 110.44                  | 27.65                           | 43.25                 | 4.12                  | 98.96                       | 114.00                | -15.04         | Peak             | VERTICAL     |
| 2475.00           | 95.89                   | 27.65                           | 43.25                 | 4.12                  | 84.41                       | 94.00                 | -9.59          | Average          | VERTICAL     |
| π/4-DQPSK Tx mode |                         |                                 |                       |                       |                             |                       |                |                  |              |
| 2407.00           | 109.96                  | 27.51                           | 43.21                 | 4.05                  | 98.31                       | 114.00                | -15.69         | Peak             | HORIZONTAL   |
| 2407.00           | 96.66                   | 27.51                           | 43.21                 | 4.05                  | 85.01                       | 94.00                 | -8.99          | Average          | HORIZONTAL   |
| 2441.00           | 111.49                  | 27.58                           | 43.23                 | 4.08                  | 99.92                       | 114.00                | -14.08         | Peak             | HORIZONTAL   |
| 2441.00           | 101.11                  | 27.58                           | 43.23                 | 4.08                  | 89.54                       | 94.00                 | -4.46          | Average          | HORIZONTAL   |
| 2475.00           | 113.24                  | 27.65                           | 43.25                 | 4.12                  | 101.76                      | 114.00                | -12.24         | Peak             | HORIZONTAL   |
| 2475.00           | 98.73                   | 27.65                           | 43.25                 | 4.12                  | 87.25                       | 94.00                 | -6.75          | Average          | HORIZONTAL   |
| 2407.00           | 113.87                  | 27.51                           | 43.21                 | 4.05                  | 102.22                      | 114.00                | -11.78         | Peak             | VERTICAL     |
| 2407.00           | 99.32                   | 27.51                           | 43.21                 | 4.05                  | 87.67                       | 94.00                 | -6.33          | Average          | VERTICAL     |
| 2441.00           | 108.16                  | 27.58                           | 43.23                 | 4.08                  | 96.59                       | 114.00                | -17.41         | Peak             | VERTICAL     |
| 2441.00           | 99.00                   | 27.58                           | 43.23                 | 4.08                  | 87.43                       | 94.00                 | -6.57          | Average          | VERTICAL     |
| 2475.00           | 110.27                  | 27.65                           | 43.25                 | 4.12                  | 98.79                       | 114.00                | -15.21         | Peak             | VERTICAL     |
| 2475.00           | 99.99                   | 27.65                           | 43.25                 | 4.12                  | 88.51                       | 94.00                 | -5.49          | Average          | VERTICAL     |
| 8DPSK Tx mode     |                         |                                 |                       |                       |                             |                       |                |                  |              |
| 2407.00           | 106.47                  | 27.51                           | 43.21                 | 4.05                  | 94.82                       | 114.00                | -19.18         | Peak             | HORIZONTAL   |
| 2441.00           | 110.25                  | 27.58                           | 43.23                 | 4.08                  | 98.68                       | 114.00                | -15.32         | Peak             | HORIZONTAL   |
| 2441.00           | 97.90                   | 27.58                           | 43.23                 | 4.08                  | 86.33                       | 94.00                 | -7.67          | Average          | HORIZONTAL   |
| 2475.00           | 115.81                  | 27.65                           | 43.25                 | 4.12                  | 104.33                      | 114.00                | -9.67          | Peak             | HORIZONTAL   |
| 2475.00           | 103.42                  | 27.65                           | 43.25                 | 4.12                  | 91.94                       | 94.00                 | -2.06          | Average          | HORIZONTAL   |
| 2407.00           | 105.73                  | 27.51                           | 43.21                 | 4.05                  | 94.08                       | 114.00                | -19.92         | Peak             | VERTICAL     |
| 2441.00           | 108.01                  | 27.58                           | 43.23                 | 4.08                  | 96.44                       | 114.00                | -17.56         | Peak             | VERTICAL     |
| 2441.00           | 99.38                   | 27.58                           | 43.23                 | 4.08                  | 87.81                       | 94.00                 | -6.19          | Average          | VERTICAL     |
| 2475.00           | 110.37                  | 27.65                           | 43.25                 | 4.12                  | 98.89                       | 114.00                | -15.11         | Peak             | VERTICAL     |
| 2475.00           | 99.86                   | 27.65                           | 43.25                 | 4.12                  | 88.38                       | 94.00                 | -5.62          | Average          | VERTICAL     |
| Result: Pass      |                         |                                 |                       |                       |                             |                       |                |                  |              |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2: For emissions above 1GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

## Radiated Emission test (below 1 GHz)

## TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

E:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC  
BELOW 1G.EM6

Test Date : 2020-05-18

Tested By : Jacky

EUT : Portable Bluetooth Speaker

Model Number : XTREME 3N

Power Supply : Battery

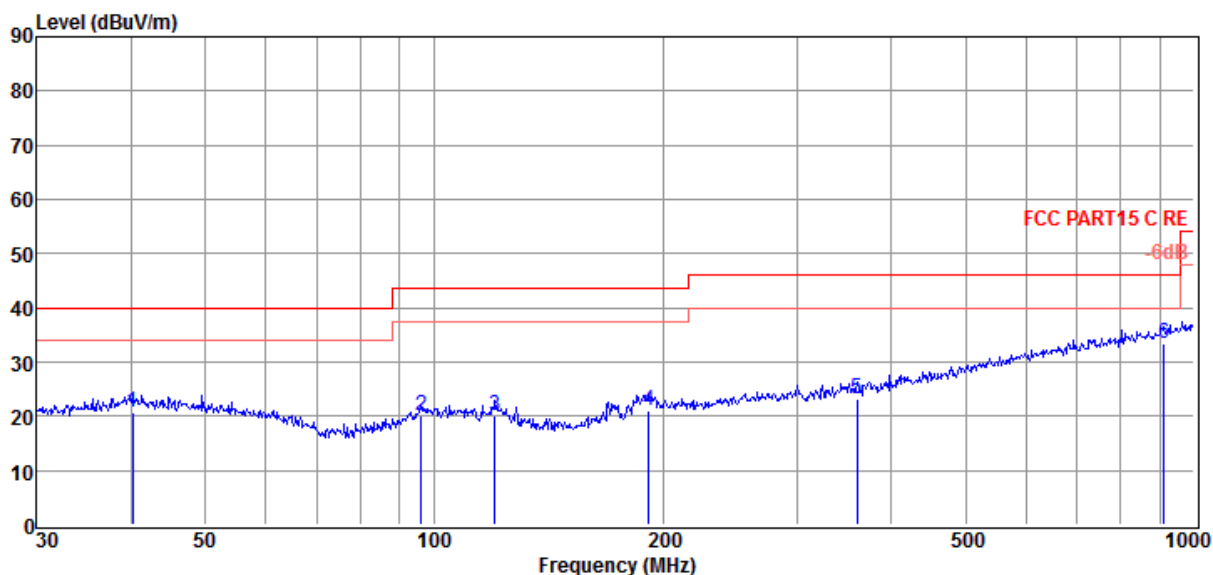
Test Mode : Tx mode

Condition : Temp:24.5'C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2019 VULB 9163 2#/3m/VERTICAL

Memo :

Data: 5



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | Cable<br>Loss<br>dB | Result<br>Level<br>(dBUV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 40.14          | 2.64                    | 14.48                       | 3.71                | 20.83                       | 40.00                     | -19.17                | QP       | VERTICAL     |
| 2              | 96.10          | 4.73                    | 11.10                       | 4.17                | 20.00                       | 43.50                     | -23.50                | QP       | VERTICAL     |
| 3              | 120.28         | 5.59                    | 10.06                       | 4.36                | 20.01                       | 43.50                     | -23.49                | QP       | VERTICAL     |
| 4              | 191.75         | 5.17                    | 11.07                       | 4.80                | 21.04                       | 43.50                     | -22.46                | QP       | VERTICAL     |
| 5              | 360.45         | 2.70                    | 14.96                       | 5.66                | 23.32                       | 46.00                     | -22.68                | QP       | VERTICAL     |
| 6              | 912.86         | 3.22                    | 22.19                       | 7.97                | 33.38                       | 46.00                     | -12.62                | QP       | VERTICAL     |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.

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 Site** : DDT 3m Chamber 2#

E:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC  
BELOW 1G.EM6

**Test Date** : 2020-05-18

**Tested By** : Jacky

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

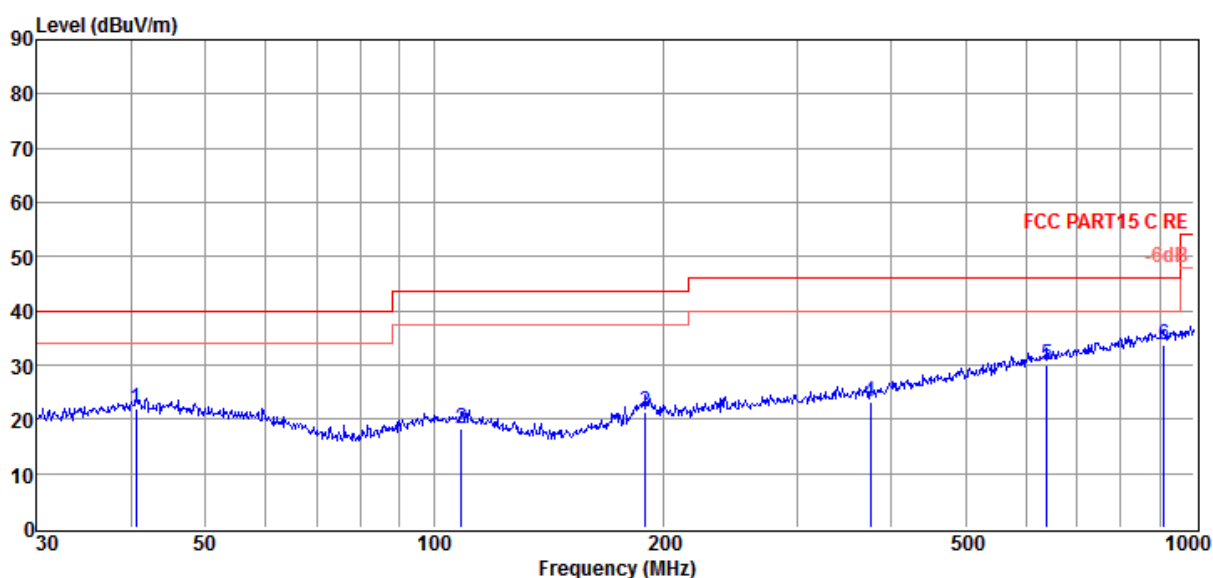
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 VULB 9163 2#/3m/HORIZONTAL

**Memo** :

Data: 6



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 40.56          | 3.76                    | 14.43                       | 3.71                | 21.90                       | 40.00                     | -18.10                | QP       | HORIZONTAL   |
| 2              | 108.65         | 2.34                    | 11.61                       | 4.27                | 18.22                       | 43.50                     | -25.28                | QP       | HORIZONTAL   |
| 3              | 189.74         | 5.52                    | 10.97                       | 4.79                | 21.28                       | 43.50                     | -22.22                | QP       | HORIZONTAL   |
| 4              | 374.62         | 2.40                    | 15.16                       | 5.73                | 23.29                       | 46.00                     | -22.71                | QP       | HORIZONTAL   |
| 5              | 640.61         | 3.62                    | 19.55                       | 6.94                | 30.11                       | 46.00                     | -15.89                | QP       | HORIZONTAL   |
| 6              | 912.86         | 3.45                    | 22.19                       | 7.97                | 33.61                       | 46.00                     | -12.39                | QP       | HORIZONTAL   |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.

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 1 GHz)**

| Freq.<br>(MHz)        | Read<br>level<br>(dBμV) | Antenn<br>a<br>Factor<br>(dB/m) | PRM<br>Facto<br>r(dB) | Cable<br>Loss<br>(dB) | ResultL<br>evel(dB<br>μV/m) | Limit<br>(dBμV/<br>m) | Margin<br>(dB) | Detector<br>type | Polarization |
|-----------------------|-------------------------|---------------------------------|-----------------------|-----------------------|-----------------------------|-----------------------|----------------|------------------|--------------|
| GFSK Tx mode 2407 MHz |                         |                                 |                       |                       |                             |                       |                |                  |              |
| 4814.00               | 48.33                   | 32.24                           | 43.48                 | 6.16                  | 43.25                       | 74.00                 | -30.75         | Peak             | HORIZONTAL   |
| 7001.00               | 44.73                   | 37.00                           | 42.94                 | 7.56                  | 46.35                       | 74.00                 | -27.65         | Peak             | HORIZONTAL   |
| 9109.00               | 43.42                   | 38.79                           | 42.57                 | 8.69                  | 48.33                       | 74.00                 | -25.67         | Peak             | HORIZONTAL   |
| 11370.00              | 44.14                   | 39.88                           | 42.33                 | 9.76                  | 51.45                       | 74.00                 | -22.55         | Peak             | HORIZONTAL   |
| 13546.00              | 41.70                   | 40.36                           | 40.73                 | 10.82                 | 52.15                       | 74.00                 | -21.85         | Peak             | HORIZONTAL   |
| 14940.00              | 41.80                   | 40.10                           | 40.20                 | 11.61                 | 53.31                       | 74.00                 | -20.69         | Peak             | HORIZONTAL   |
| 4814.00               | 51.36                   | 32.24                           | 43.48                 | 6.16                  | 46.28                       | 74.00                 | -27.72         | Peak             | VERTICAL     |
| 6916.00               | 43.92                   | 36.71                           | 42.95                 | 7.51                  | 45.19                       | 74.00                 | -28.81         | Peak             | VERTICAL     |
| 9330.00               | 43.55                   | 38.96                           | 42.52                 | 8.86                  | 48.85                       | 74.00                 | -25.15         | Peak             | VERTICAL     |
| 11540.00              | 43.71                   | 39.65                           | 42.32                 | 9.98                  | 51.02                       | 74.00                 | -22.98         | Peak             | VERTICAL     |
| 13410.00              | 42.37                   | 40.17                           | 40.86                 | 10.79                 | 52.47                       | 74.00                 | -21.53         | Peak             | VERTICAL     |
| 15875.00              | 42.33                   | 38.55                           | 40.11                 | 11.54                 | 52.31                       | 74.00                 | -21.69         | Peak             | VERTICAL     |
| GFSK Tx mode 2441 MHz |                         |                                 |                       |                       |                             |                       |                |                  |              |
| 4882.00               | 47.07                   | 32.33                           | 43.46                 | 6.20                  | 42.14                       | 74.00                 | -31.86         | Peak             | HORIZONTAL   |
| 7630.00               | 44.22                   | 37.48                           | 42.85                 | 8.27                  | 47.12                       | 74.00                 | -26.88         | Peak             | HORIZONTAL   |
| 9874.00               | 43.61                   | 39.40                           | 42.42                 | 9.28                  | 49.87                       | 74.00                 | -24.13         | Peak             | HORIZONTAL   |
| 12611.00              | 42.79                   | 38.82                           | 41.66                 | 10.64                 | 50.59                       | 74.00                 | -23.41         | Peak             | HORIZONTAL   |
| 14209.00              | 41.03                   | 40.86                           | 40.28                 | 11.08                 | 52.69                       | 74.00                 | -21.31         | Peak             | HORIZONTAL   |
| 15824.00              | 41.04                   | 38.61                           | 40.12                 | 11.54                 | 51.07                       | 74.00                 | -22.93         | Peak             | HORIZONTAL   |
| 4882.00               | 49.27                   | 32.33                           | 43.46                 | 6.20                  | 44.34                       | 74.00                 | -29.66         | Peak             | VERTICAL     |
| 7834.00               | 44.82                   | 37.77                           | 42.82                 | 8.50                  | 48.27                       | 74.00                 | -25.73         | Peak             | VERTICAL     |
| 9925.00               | 44.10                   | 39.44                           | 42.41                 | 9.32                  | 50.45                       | 74.00                 | -23.55         | Peak             | VERTICAL     |
| 11540.00              | 44.91                   | 39.65                           | 42.32                 | 9.98                  | 52.22                       | 74.00                 | -21.78         | Peak             | VERTICAL     |
| 13410.00              | 41.67                   | 40.17                           | 40.86                 | 10.79                 | 51.77                       | 74.00                 | -22.23         | Peak             | VERTICAL     |
| 14719.00              | 41.65                   | 40.45                           | 40.22                 | 11.45                 | 53.33                       | 74.00                 | -20.67         | Peak             | VERTICAL     |
| GFSK Tx mode 2475 MHz |                         |                                 |                       |                       |                             |                       |                |                  |              |
| 4950.00               | 49.50                   | 32.43                           | 43.43                 | 6.24                  | 44.74                       | 74.00                 | -29.26         | Peak             | HORIZONTAL   |
| 7426.00               | 44.27                   | 37.26                           | 42.88                 | 8.04                  | 46.69                       | 74.00                 | -27.31         | Peak             | HORIZONTAL   |
| 9636.00               | 44.52                   | 39.21                           | 42.47                 | 9.10                  | 50.36                       | 74.00                 | -23.64         | Peak             | HORIZONTAL   |
| 11761.00              | 42.99                   | 39.39                           | 42.31                 | 10.25                 | 50.32                       | 74.00                 | -23.68         | Peak             | HORIZONTAL   |
| 13155.00              | 42.93                   | 39.82                           | 41.11                 | 10.73                 | 52.37                       | 74.00                 | -21.63         | Peak             | HORIZONTAL   |
| 15246.00              | 41.09                   | 39.51                           | 40.17                 | 11.62                 | 52.05                       | 74.00                 | -21.95         | Peak             | HORIZONTAL   |
| 4950.00               | 48.32                   | 32.43                           | 43.43                 | 6.24                  | 43.56                       | 74.00                 | -30.44         | Peak             | VERTICAL     |
| 6984.00               | 44.28                   | 36.95                           | 42.94                 | 7.55                  | 45.84                       | 74.00                 | -28.16         | Peak             | VERTICAL     |
| 9211.00               | 43.81                   | 38.87                           | 42.55                 | 8.76                  | 48.89                       | 74.00                 | -25.11         | Peak             | VERTICAL     |
| 11064.00              | 43.10                   | 40.31                           | 42.34                 | 9.38                  | 50.45                       | 74.00                 | -23.55         | Peak             | VERTICAL     |
| 12645.00              | 43.14                   | 38.89                           | 41.62                 | 10.64                 | 51.05                       | 74.00                 | -22.95         | Peak             | VERTICAL     |
| 15076.00              | 40.55                   | 39.85                           | 40.19                 | 11.64                 | 51.85                       | 74.00                 | -22.15         | Peak             | VERTICAL     |
| Result: Pass          |                         |                                 |                       |                       |                             |                       |                |                  |              |

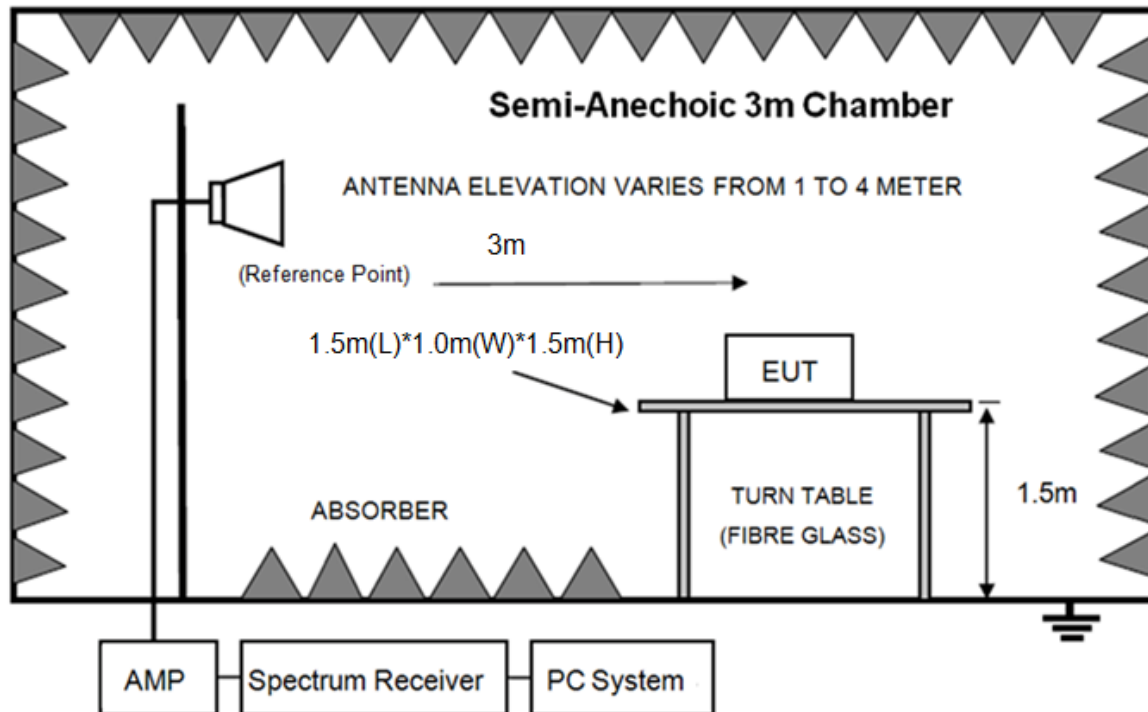
Note: 1. 30 MHz ~ 25 GHz: (Scan with GFSK,  $\pi/4$ -DQPSK, 8DPSK, the worst case is GFSK Mode)

2. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

3: For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

## 6. Band Edge Compliance

### 6.1. Block diagram of test setup



### 6.2. Limit

All the lower and upper band-edges emissions appearing within 2310 MHz to 2390 MHz and 2483.5 MHz to 2500 MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

### 6.3. Test procedure

Same with clause 5.3 except change investigated frequency range from 2310 MHz to 2410 MHz and 2470 MHz to 2500 MHz.

Remark: All restriction band have been tested, and only the worst case is shown in report.

### 6.4. Test result

**PASS.** (See below detailed test result)

## TR-4-E-009 Radiated Emission Test Result

**Test Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-18

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

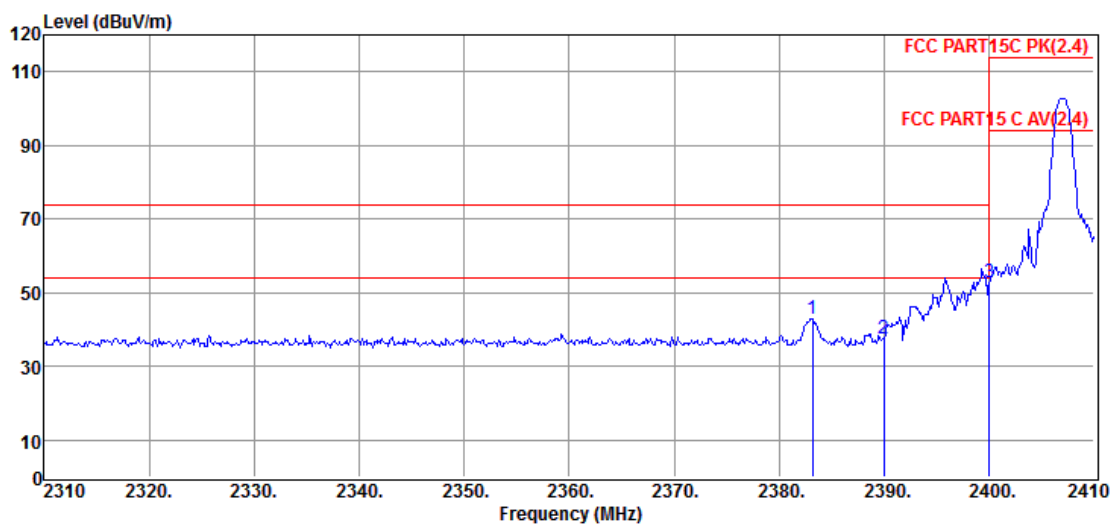
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/VERTICAL

**Memo** : SRD DH5 2407

Data: 45



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2383.20        | 54.41                   | 27.47                       | 43.20               | 4.03                | 42.71                       | 74.00                     | -31.29                | Peak     | VERTICAL     |
| 2              | 2390.00        | 49.09                   | 27.48                       | 43.21               | 4.03                | 37.39                       | 74.00                     | -36.61                | Peak     | VERTICAL     |
| 3              | 2400.00        | 64.51                   | 27.50                       | 43.21               | 4.04                | 52.84                       | 74.00                     | -21.16                | Peak     | VERTICAL     |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-18

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

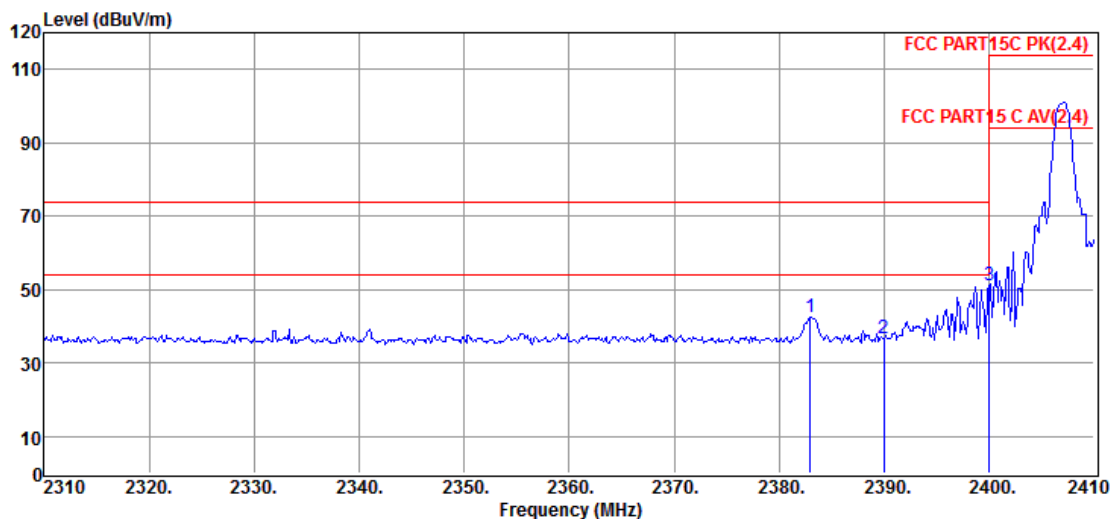
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/HORIZONTAL

**Memo** : SRD DH5 2407

Data: 46



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2383.00        | 54.02                   | 27.47                       | 43.20               | 4.03                | 42.32                       | 74.00                     | -31.68                | Peak     | HORIZONTAL   |
| 2              | 2390.00        | 48.30                   | 27.48                       | 43.21               | 4.03                | 36.60                       | 74.00                     | -37.40                | Peak     | HORIZONTAL   |
| 3              | 2400.00        | 62.95                   | 27.50                       | 43.21               | 4.04                | 51.28                       | 74.00                     | -22.72                | Peak     | HORIZONTAL   |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-18

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

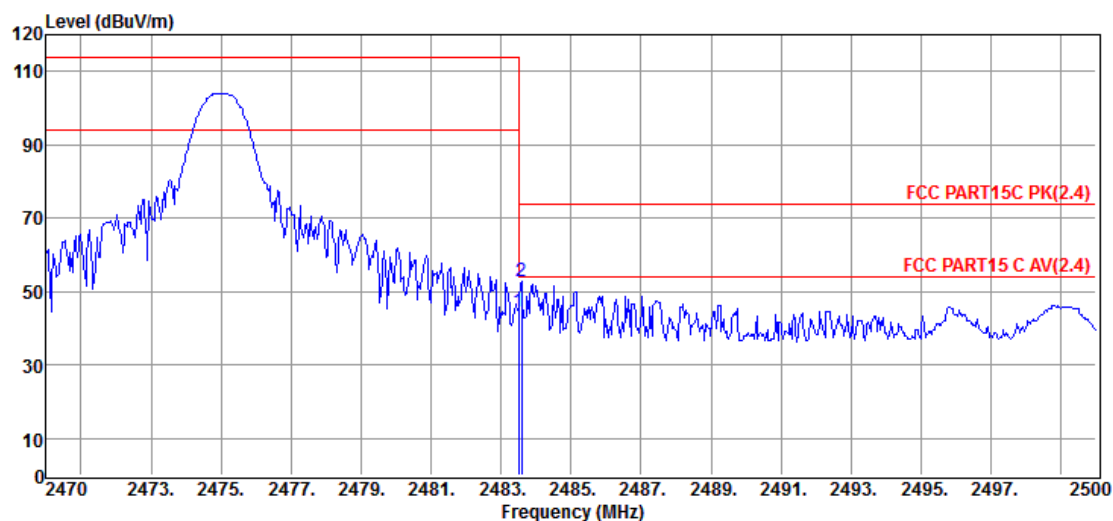
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/HORIZONTAL

**Memo** : SRD DH5 2475

Data: 47



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2483.50        | 56.11                   | 27.67                       | 43.25               | 4.12                | 44.65                       | 74.00                     | -29.35                | Peak     | HORIZONTAL   |
| 2              | 2483.59        | 64.40                   | 27.67                       | 43.25               | 4.12                | 52.94                       | 74.00                     | -21.06                | Peak     | HORIZONTAL   |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-18

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

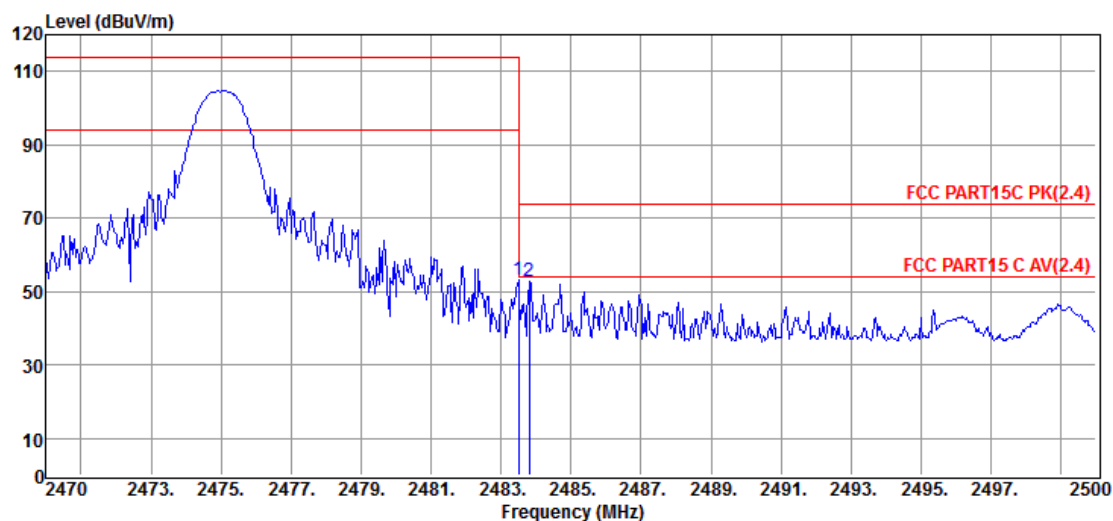
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/VERTICAL

**Memo** : SRD DH5 2475

Data: 48



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2483.50        | 64.81                   | 27.67                       | 43.25               | 4.12                | 53.35                       | 74.00                     | -20.65                | Peak     | VERTICAL     |
| 2              | 2483.80        | 64.32                   | 27.67                       | 43.25               | 4.12                | 52.86                       | 74.00                     | -21.14                | Peak     | VERTICAL     |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-18

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

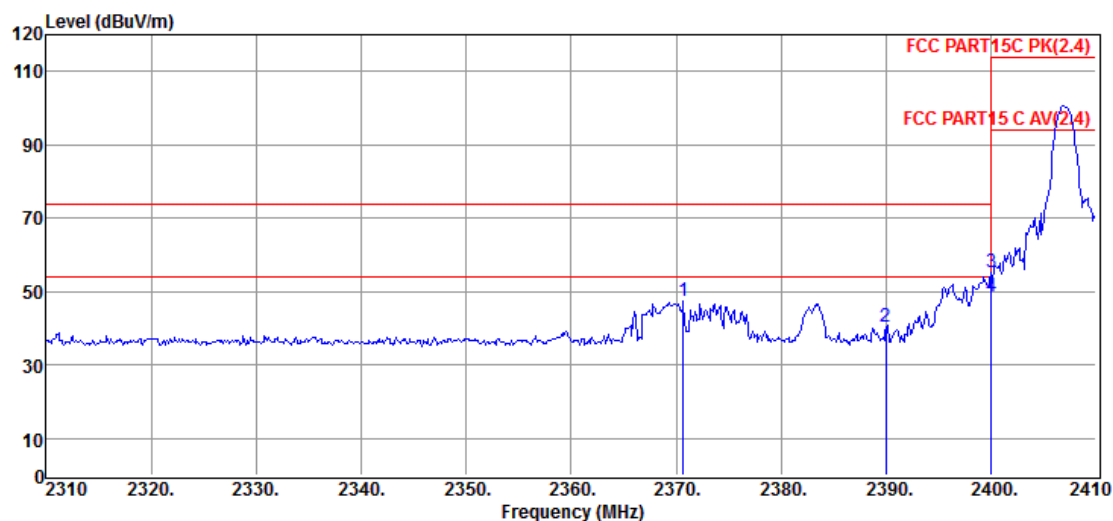
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/HORIZONTAL

**Memo** : SRD 2DH5 2407

Data: 49



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2370.70        | 59.02                   | 27.44                       | 43.20               | 4.02                | 47.28                       | 74.00                     | -26.72                | Peak     | HORIZONTAL   |
| 2              | 2390.00        | 52.30                   | 27.48                       | 43.21               | 4.03                | 40.60                       | 74.00                     | -33.40                | Peak     | HORIZONTAL   |
| 3              | 2400.00        | 66.81                   | 27.50                       | 43.21               | 4.04                | 55.14                       | 74.00                     | -18.86                | Peak     | HORIZONTAL   |
| 4              | 2400.00        | 60.31                   | 27.50                       | 43.21               | 4.04                | 48.64                       | 54.00                     | -5.36                 | Average  | HORIZONTAL   |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-18

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

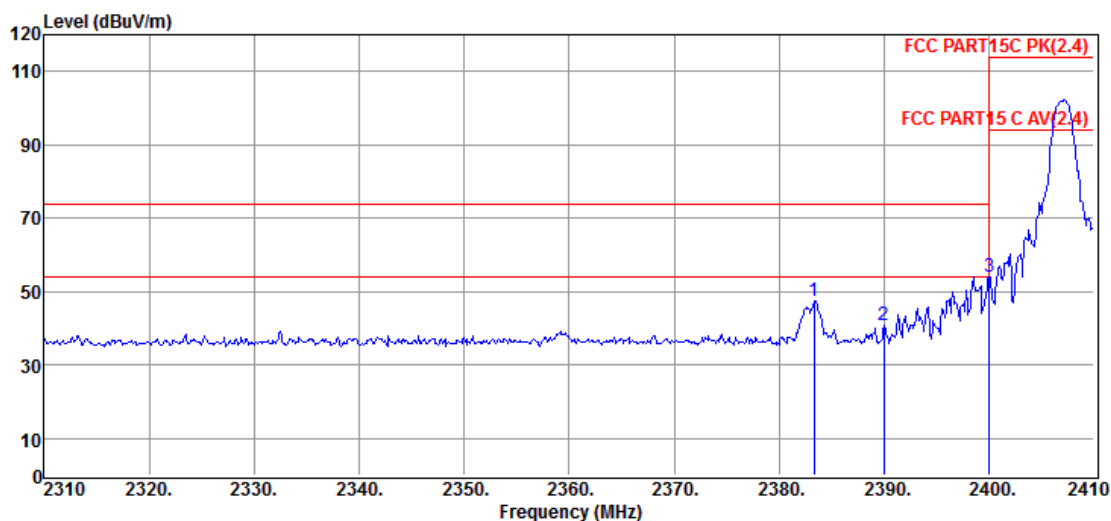
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/VERTICAL

**Memo** : SRD 2DH5 2407

Data: 50



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2383.30        | 59.11                   | 27.47                       | 43.20               | 4.03                | 47.41                       | 74.00                     | -26.59                | Peak     | VERTICAL     |
| 2              | 2390.00        | 52.58                   | 27.48                       | 43.21               | 4.03                | 40.88                       | 74.00                     | -33.12                | Peak     | VERTICAL     |
| 3              | 2400.00        | 65.64                   | 27.50                       | 43.21               | 4.04                | 53.97                       | 74.00                     | -20.03                | Peak     | VERTICAL     |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-30

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

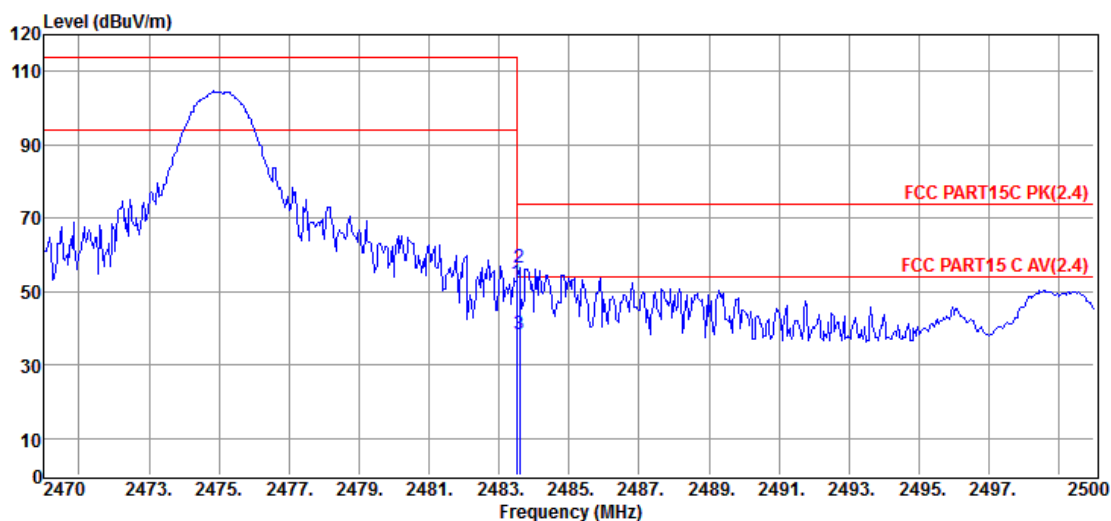
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/VERTICAL

**Memo** : SRD 2DH5 2475

Data: 51



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2483.50        | 63.73                   | 27.67                       | 43.25               | 4.12                | 52.27                       | 74.00                     | -21.73                | Peak     | VERTICAL     |
| 2              | 2483.59        | 68.00                   | 27.67                       | 43.25               | 4.12                | 56.54                       | 74.00                     | -17.46                | Peak     | VERTICAL     |
| 3              | 2483.59        | 50.00                   | 27.67                       | 43.25               | 4.12                | 38.54                       | 54.00                     | -15.46                | Average  | VERTICAL     |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-30

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

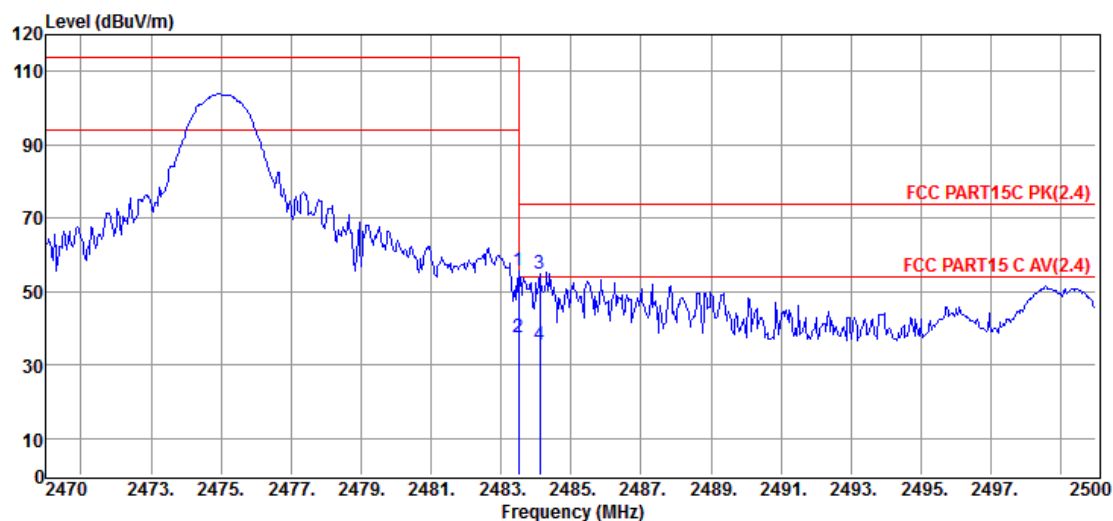
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/HORIZONTAL

**Memo** : SRD 2DH5 2475

Data: 52



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2483.50        | 67.19                   | 27.67                       | 43.25               | 4.12                | 55.73                       | 74.00                     | -18.27                | Peak     | HORIZONTAL   |
| 2              | 2483.50        | 49.00                   | 27.67                       | 43.25               | 4.12                | 37.54                       | 54.00                     | -16.46                | Average  | HORIZONTAL   |
| 3              | 2484.10        | 66.50                   | 27.67                       | 43.25               | 4.12                | 55.04                       | 74.00                     | -18.96                | Peak     | HORIZONTAL   |
| 4              | 2484.10        | 47.00                   | 27.67                       | 43.25               | 4.12                | 35.54                       | 54.00                     | -18.46                | Average  | HORIZONTAL   |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-18

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

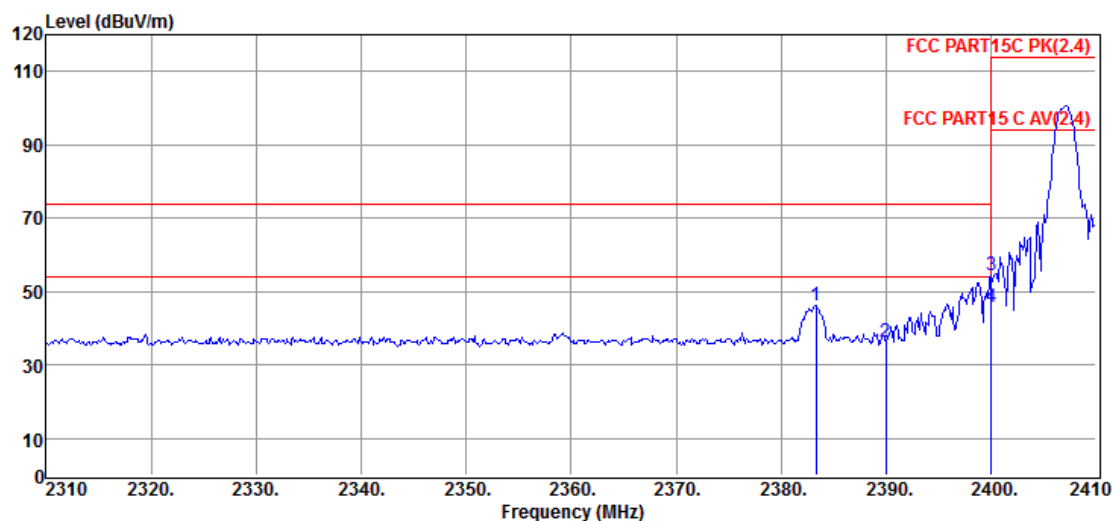
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/HORIZONTAL

**Memo** : SRD 3DH5 2407

Data: 53



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2383.30        | 57.95                   | 27.47                       | 43.20               | 4.03                | 46.25                       | 74.00                     | -27.75                | Peak     | HORIZONTAL   |
| 2              | 2390.00        | 48.07                   | 27.48                       | 43.21               | 4.03                | 36.37                       | 74.00                     | -37.63                | Peak     | HORIZONTAL   |
| 3              | 2400.00        | 65.95                   | 27.50                       | 43.21               | 4.04                | 54.28                       | 74.00                     | -19.72                | Peak     | HORIZONTAL   |
| 4              | 2400.00        | 57.33                   | 27.50                       | 43.21               | 4.04                | 45.66                       | 54.00                     | -8.34                 | Average  | HORIZONTAL   |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-18

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

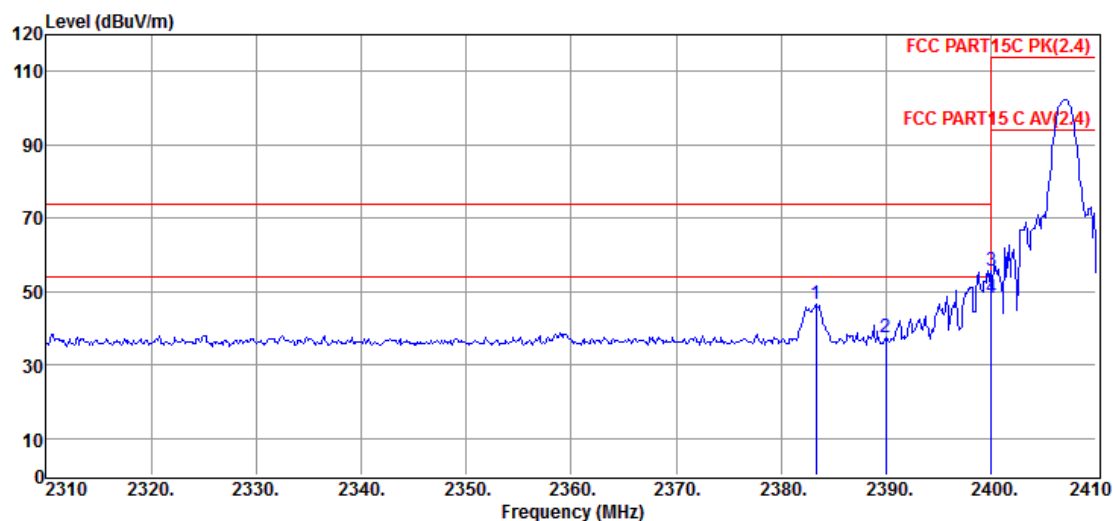
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/VERTICAL

**Memo** : SRD 3DH5 2407

Data: 54



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2383.30        | 58.11                   | 27.47                       | 43.20               | 4.03                | 46.41                       | 74.00                     | -27.59                | Peak     | VERTICAL     |
| 2              | 2390.00        | 49.28                   | 27.48                       | 43.21               | 4.03                | 37.58                       | 74.00                     | -36.42                | Peak     | VERTICAL     |
| 3              | 2400.00        | 67.36                   | 27.50                       | 43.21               | 4.04                | 55.69                       | 74.00                     | -18.31                | Peak     | VERTICAL     |
| 4              | 2400.00        | 60.11                   | 27.50                       | 43.21               | 4.04                | 48.44                       | 54.00                     | -5.56                 | Average  | VERTICAL     |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-30

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

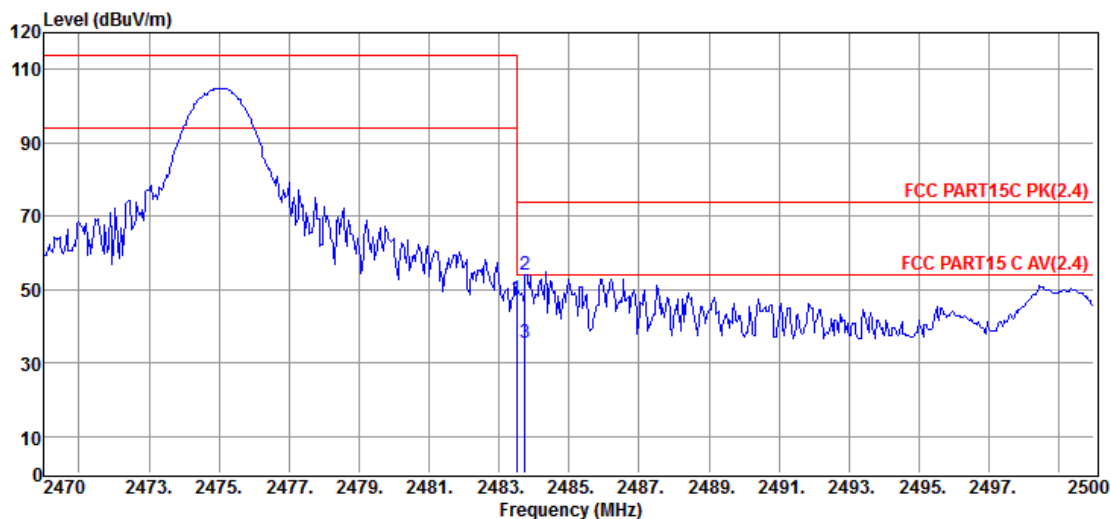
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/VERTICAL

**Memo** : SRD 3DH5 2475

Data: 55



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2483.50        | 58.99                   | 27.67                       | 43.25               | 4.12                | 47.53                       | 74.00                     | -26.47                | Peak     | VERTICAL     |
| 2              | 2483.74        | 65.43                   | 27.67                       | 43.25               | 4.12                | 53.97                       | 74.00                     | -20.03                | Peak     | VERTICAL     |
| 3              | 2483.74        | 47.00                   | 27.67                       | 43.25               | 4.12                | 35.54                       | 54.00                     | -18.46                | Average  | VERTICAL     |

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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 Site** : DDT 3m Chamber 2#

D:\2020 RE2# Report Data\Y20200514-1E XTREME3\FCC ABOVE 1G.EM6

**Test Date** : 2020-05-18

**Tested By** : KENNSY

**EUT** : Portable Bluetooth Speaker

**Model Number** : XTREME 3N

**Power Supply** : Battery

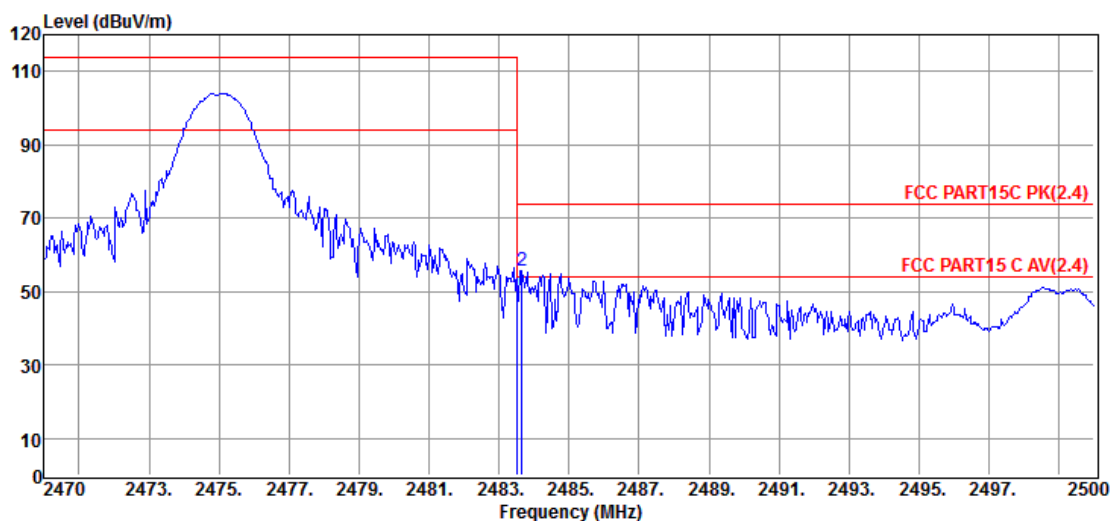
**Test Mode** : Tx mode

**Condition** : Temp:24.5°C,Humi:55%,Press:100.1kPa

**Antenna/Distance** : 2019 BBHA9120D/3m/HORIZONTAL

**Memo** : SRD 3DH5 2475

Data: 56



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | Antenna<br>Factor<br>(dB/m) | PRM<br>Factor<br>dB | Cable<br>Loss<br>dB | Result<br>Level<br>(dBμV/m) | Limit<br>Line<br>(dBμV/m) | Over<br>Limit<br>(dB) | Detector | Polarization |
|----------------|----------------|-------------------------|-----------------------------|---------------------|---------------------|-----------------------------|---------------------------|-----------------------|----------|--------------|
| 1              | 2483.50        | 60.03                   | 27.67                       | 43.25               | 4.12                | 48.57                       | 74.00                     | -25.43                | Peak     | HORIZONTAL   |
| 2              | 2483.65        | 67.31                   | 27.67                       | 43.25               | 4.12                | 55.85                       | 74.00                     | -18.15                | Peak     | HORIZONTAL   |

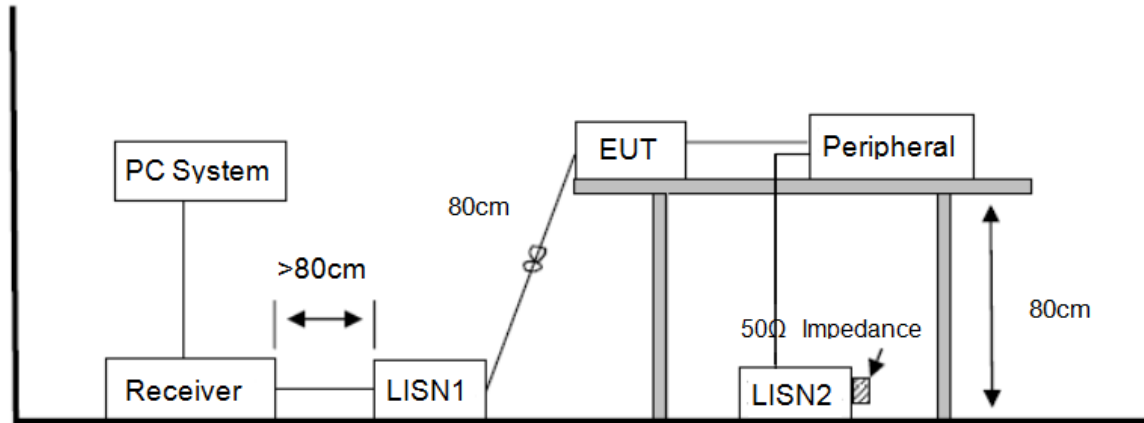
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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.

## 7. Power Line Conducted Emission

### 7.1. Block diagram of test setup



### 7.2. Power line conducted emission limits

| Frequency         | Quasi-Peak Level<br>dB(μV) | Average Level<br>dB(μV) |
|-------------------|----------------------------|-------------------------|
| 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.

### 7.3. Test procedure

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

Configuration EUT to simulate typical usage as described in clause 2.4 and test equipment as described in clause 7.1 of this report.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.

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.

#### 7.4. Test Result

**PASS. (See below detailed test result)**

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

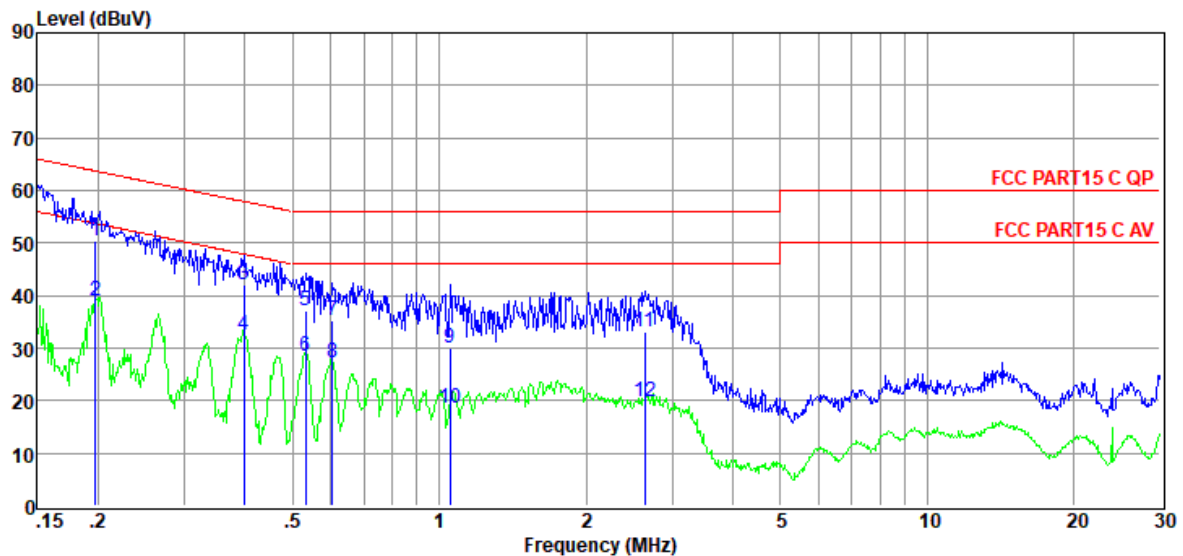
Note2: “----” means Peak detection; “-----” means Average detection.

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

## TR-4-E-010 Conducted Emission Test Result

**Test Site** : DDT 1# Shield Room **D:\2020 CE report data\Q20052205-4E\20200731 CE.EM6**  
**Test Date** : 2020-07-28 **Tested By** : Chunchieh Huang  
**EUT** : Portable Bluetooth Speaker **Model Number** : XTREME 3N  
**Power Supply** : AC 120V/60Hz **Test Mode** : Tx mode  
**Condition** : TEMP:24.8°C, RH:44.7%,  
BP:101.4kPa **LISN** : 2019 ENV216 1#/NEUTRAL  
**Memo** :

Data: 8



| Item<br>(Mark) | Freq.<br>(MHz) | Read<br>Level<br>(dBμV) | LISN<br>Factor<br>(dB) | Cable<br>Loss<br>(dB) | Pulse<br>Limiter<br>Factor<br>(dB) | Result<br>Level<br>(dBμV) | Limit<br>Line<br>(dBμV) | Over<br>Limit<br>(dB) | Detector | Phase   |
|----------------|----------------|-------------------------|------------------------|-----------------------|------------------------------------|---------------------------|-------------------------|-----------------------|----------|---------|
| 1              | 0.20           | 30.80                   | 9.60                   | 0.02                  | 9.86                               | 50.28                     | 63.71                   | -13.43                | QP       | NEUTRAL |
| 2              | 0.20           | 19.64                   | 9.60                   | 0.02                  | 9.86                               | 39.12                     | 53.71                   | -14.59                | Average  | NEUTRAL |
| 3              | 0.40           | 22.47                   | 9.60                   | 0.02                  | 9.86                               | 41.95                     | 57.90                   | -15.95                | QP       | NEUTRAL |
| 4              | 0.40           | 13.07                   | 9.60                   | 0.02                  | 9.86                               | 32.55                     | 47.90                   | -15.35                | Average  | NEUTRAL |
| 5              | 0.53           | 17.74                   | 9.60                   | 0.02                  | 9.86                               | 37.22                     | 56.00                   | -18.78                | QP       | NEUTRAL |
| 6              | 0.53           | 9.07                    | 9.60                   | 0.02                  | 9.86                               | 28.55                     | 46.00                   | -17.45                | Average  | NEUTRAL |
| 7              | 0.60           | 15.74                   | 9.60                   | 0.03                  | 9.86                               | 35.23                     | 56.00                   | -20.77                | QP       | NEUTRAL |
| 8              | 0.60           | 7.85                    | 9.60                   | 0.03                  | 9.86                               | 27.34                     | 46.00                   | -18.66                | Average  | NEUTRAL |
| 9              | 1.05           | 10.63                   | 9.60                   | 0.03                  | 9.86                               | 30.12                     | 56.00                   | -25.88                | QP       | NEUTRAL |
| 10             | 1.05           | -0.92                   | 9.60                   | 0.03                  | 9.86                               | 18.57                     | 46.00                   | -27.43                | Average  | NEUTRAL |
| 11             | 2.64           | 13.44                   | 9.60                   | 0.06                  | 9.86                               | 32.96                     | 56.00                   | -23.04                | QP       | NEUTRAL |
| 12             | 2.64           | 0.37                    | 9.60                   | 0.06                  | 9.86                               | 19.89                     | 46.00                   | -26.11                | 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.

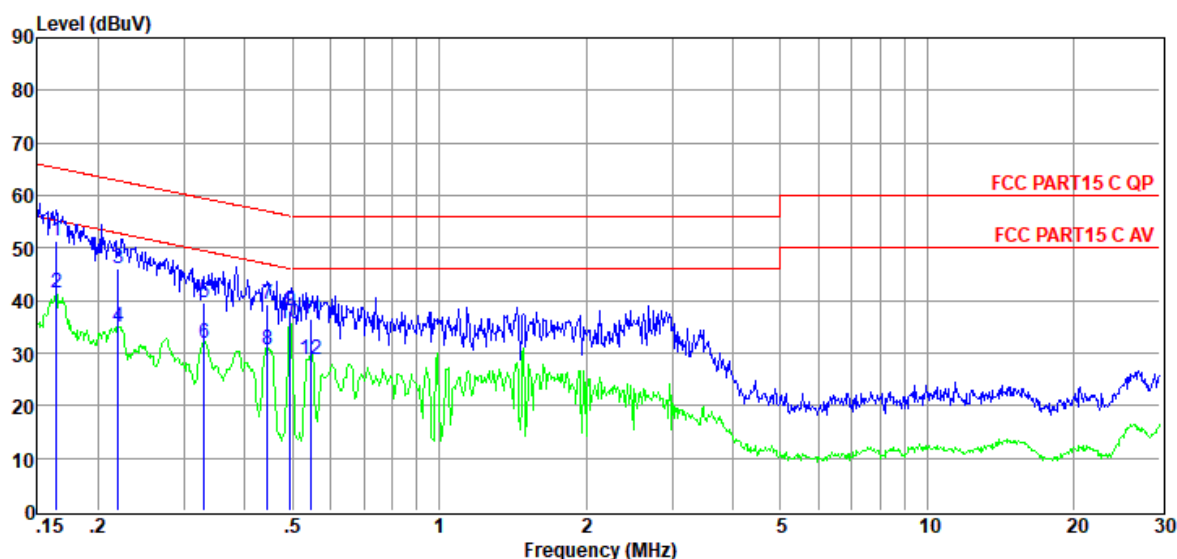
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).

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:\2020 CE report data\Q20052205-4E\20200731 CE.EM6**  
**Test Date** : 2020-07-16 **Tested By** : Chunchieh Huang  
**EUT** : Portable Bluetooth Speaker **Model Number** : XTREME 3N  
**Power Supply** : AC 120V/60Hz **Test Mode** : Tx mode  
**Condition** : TEMP:24.8°C, RH:44.7%,  
BP:101.4kPa **LISN** : 2019 ENV216 1#/LINE  
**Memo** :

Data: 10



| Item   | Freq. | Read Level | LISN Factor | Cable Loss | Pulse Limiter Factor | Result Level | Limit Line | Over Limit | Detector | Phase |
|--------|-------|------------|-------------|------------|----------------------|--------------|------------|------------|----------|-------|
| (Mark) | (MHz) | (dBμV)     | (dB)        | (dB)       | (dB)                 | (dBμV)       | (dBμV)     | (dB)       |          |       |
| 1      | 0.16  | 31.85      | 9.60        | 0.01       | 9.86                 | 51.32        | 65.25      | -13.93     | QP       | LINE  |
| 2      | 0.16  | 21.86      | 9.60        | 0.01       | 9.86                 | 41.33        | 55.25      | -13.92     | Average  | LINE  |
| 3      | 0.22  | 26.64      | 9.60        | 0.02       | 9.86                 | 46.12        | 62.83      | -16.71     | QP       | LINE  |
| 4      | 0.22  | 15.33      | 9.60        | 0.02       | 9.86                 | 34.81        | 52.83      | -18.02     | Average  | LINE  |
| 5      | 0.33  | 20.11      | 9.60        | 0.02       | 9.86                 | 39.59        | 59.44      | -19.85     | QP       | LINE  |
| 6      | 0.33  | 12.43      | 9.60        | 0.02       | 9.86                 | 31.91        | 49.44      | -17.53     | Average  | LINE  |
| 7      | 0.44  | 19.80      | 9.60        | 0.02       | 9.86                 | 39.28        | 56.98      | -17.70     | QP       | LINE  |
| 8      | 0.44  | 11.14      | 9.60        | 0.02       | 9.86                 | 30.62        | 46.98      | -16.36     | Average  | LINE  |
| 9      | 0.49  | 18.52      | 9.60        | 0.02       | 9.86                 | 38.00        | 56.10      | -18.10     | QP       | LINE  |
| 10     | 0.49  | 15.97      | 9.60        | 0.02       | 9.86                 | 35.45        | 46.10      | -10.65     | Average  | LINE  |
| 11     | 0.55  | 16.93      | 9.60        | 0.02       | 9.86                 | 36.41        | 56.00      | -19.59     | QP       | LINE  |
| 12     | 0.55  | 9.38       | 9.60        | 0.02       | 9.86                 | 28.86        | 46.00      | -17.14     | 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.

## 8. Antenna Requirements

### 8.1. 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.

### 8.2. Result

The antennas used for this product are dedicated FPC antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 2.24 dBi.

**END OF REPORT**