

# TEST REPORT

**Product Name** : Machine entertainment system  
**Brand Mark** : N/A  
**Model No.** : ZH-DT6125-01  
**Extension model** : SK8734012,SK8734010,SK8734011,  
SV5734015,SV5734016,SV5734017,  
MILA734002,MILA734001,MILA734003,  
SK83B2,MILA734006  
**Report Number** : BLA-EMC-202303-A11904  
**FCC ID** : 2BACQMAXUS6125  
**Date of Sample Receipt** : 2023/3/28  
**Date of Test** : 2023/3/28 to 2023/4/28  
**Date of Issue** : 2023/4/28  
**Test Standard** : 47 CFR Part 15, Subpart C 15.247  
**Test Result** : Pass

Prepared for:

**China Satellite Navigation and Communication Co., Ltd**  
**C5-C6, Siwei Tuxin Building, Yongfeng Road Haidian District, Beijing,**  
**100012 CN**

Prepared by:

**BlueAsia of Technical Services(Shenzhen) Co.,Ltd.**  
**Building C, No. 107, Shihuan Road, Shiyao Sub-District, Baoan District,**  
**Shenzhen, Guangdong Province, China**  
**TEL: +86-755-23059481**

Compiled by: *charlie*

Review by:

*Sueels*

Approved by:

*Blue Zheng*

Date:

2023/4/28



## REPORT REVISE RECORD

| Version No. | Date      | Description |
|-------------|-----------|-------------|
| 00          | 2023/4/28 | Original    |

## TABLE OF CONTENTS

|           |                                                                    |           |
|-----------|--------------------------------------------------------------------|-----------|
| <b>1</b>  | <b>TEST SUMMARY .....</b>                                          | <b>5</b>  |
| <b>2</b>  | <b>GENERAL INFORMATION .....</b>                                   | <b>6</b>  |
| <b>3</b>  | <b>GENERAL DESCRIPTION OF E.U.T. ....</b>                          | <b>6</b>  |
| <b>4</b>  | <b>TEST ENVIRONMENT .....</b>                                      | <b>7</b>  |
| <b>5</b>  | <b>TEST MODE .....</b>                                             | <b>7</b>  |
| <b>6</b>  | <b>MEASUREMENT UNCERTAINTY .....</b>                               | <b>7</b>  |
| <b>7</b>  | <b>DESCRIPTION OF SUPPORT UNIT .....</b>                           | <b>8</b>  |
| <b>8</b>  | <b>LABORATORY LOCATION .....</b>                                   | <b>8</b>  |
| <b>9</b>  | <b>TEST INSTRUMENTS LIST .....</b>                                 | <b>9</b>  |
| <b>10</b> | <b>ANTENNA REQUIREMENT .....</b>                                   | <b>11</b> |
| 10.1      | CONCLUSION .....                                                   | 11        |
| <b>11</b> | <b>RADIATED SPURIOUS EMISSIONS .....</b>                           | <b>12</b> |
| 11.1      | LIMITS .....                                                       | 12        |
| 11.2      | BLOCK DIAGRAM OF TEST SETUP .....                                  | 13        |
| 11.3      | PROCEDURE .....                                                    | 13        |
| 11.4      | TEST DATA .....                                                    | 15        |
| <b>12</b> | <b>RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS .....</b> | <b>23</b> |
| 12.1      | LIMITS .....                                                       | 23        |
| 12.2      | BLOCK DIAGRAM OF TEST SETUP .....                                  | 24        |
| 12.3      | PROCEDURE .....                                                    | 24        |
| 12.4      | TEST DATA .....                                                    | 26        |
| <b>13</b> | <b>CONDUCTED SPURIOUS EMISSIONS .....</b>                          | <b>42</b> |
| 13.1      | LIMITS .....                                                       | 42        |
| 13.2      | BLOCK DIAGRAM OF TEST SETUP .....                                  | 42        |
| 13.3      | TEST DATA .....                                                    | 43        |
| <b>14</b> | <b>CONDUCTED BAND EDGES MEASUREMENT .....</b>                      | <b>44</b> |
| 14.1      | LIMITS .....                                                       | 44        |
| 14.2      | BLOCK DIAGRAM OF TEST SETUP .....                                  | 44        |
| 14.3      | TEST DATA .....                                                    | 45        |

|                                                    |                                            |            |
|----------------------------------------------------|--------------------------------------------|------------|
| <b>15</b>                                          | <b>MINIMUM 6DB BANDWIDTH .....</b>         | <b>46</b>  |
| 15.1                                               | LIMITS .....                               | 46         |
| 15.2                                               | BLOCK DIAGRAM OF TEST SETUP .....          | 46         |
| 15.3                                               | TEST DATA .....                            | 46         |
| <b>16</b>                                          | <b>POWER SPECTRUM DENSITY .....</b>        | <b>47</b>  |
| 16.1                                               | LIMITS .....                               | 47         |
| 16.2                                               | BLOCK DIAGRAM OF TEST SETUP .....          | 47         |
| 16.3                                               | TEST DATA .....                            | 47         |
| <b>17</b>                                          | <b>CONDUCTED PEAK OUTPUT POWER .....</b>   | <b>48</b>  |
| 17.1                                               | LIMITS .....                               | 48         |
| 17.2                                               | BLOCK DIAGRAM OF TEST SETUP .....          | 48         |
| 17.3                                               | TEST DATA .....                            | 49         |
| <b>18</b>                                          | <b>APPENDIX .....</b>                      | <b>50</b>  |
| 18.1                                               | MAXIMUM CONDUCTED OUTPUT POWER .....       | 50         |
| 18.2                                               | -6DB BANDWIDTH .....                       | 57         |
| 18.3                                               | OCCUPIED CHANNEL BANDWIDTH .....           | 64         |
| 18.4                                               | MAXIMUM POWER SPECTRAL DENSITY LEVEL ..... | 71         |
| 18.5                                               | BAND EDGE .....                            | 78         |
| 18.6                                               | CONDUCTED RF SPURIOUS EMISSION .....       | 87         |
| <b>APPENDIX A: PHOTOGRAPHS OF TEST SETUP .....</b> |                                            | <b>100</b> |
| <b>APPENDIX B: PHOTOGRAPHS OF EUT .....</b>        |                                            | <b>101</b> |

## 1 TEST SUMMARY

| Test item                                             | Test Requirement                 | Test Method                                          | Class/Severity                                        | Result |
|-------------------------------------------------------|----------------------------------|------------------------------------------------------|-------------------------------------------------------|--------|
| Antenna Requirement                                   | 47 CFR Part 15, Subpart C 15.247 | N/A                                                  | 47 CFR Part 15, Subpart C 15.203 & 15.247(c)          | Pass   |
| Radiated Spurious Emissions                           | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 6.4,6.5,6.6               | 47 CFR Part 15, Subpart C 15.209 & 15.247(d)          | Pass   |
| Radiated Emissions which fall in the restricted bands | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 6.10.5                    | 47 CFR Part 15, Subpart C 15.209 & 15.247(d)          | Pass   |
| Conducted Spurious Emissions                          | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 7.8.6 & Section 11.11     | 47 CFR Part 15, Subpart C 15.247(d)                   | Pass   |
| Conducted Band Edges Measurement                      | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2 | 47 CFR Part 15, Subpart C 15.247(d)                   | Pass   |
| Minimum 6dB Bandwidth                                 | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 11.8.1                    | 47 CFR Part 15, Subpart C 15.247a(2)                  | Pass   |
| Power Spectrum Density                                | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 11.10.2                   | 47 CFR Part 15, Subpart C 15.247(e)                   | Pass   |
| Conducted Peak Output Power                           | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1    | 47 CFR Part 15, Subpart C 15.247(b)(1) & 15.247(b)(3) | Pass   |
| Conducted Emissions at AC Power Line (150kHz-30MHz)   | 47 CFR Part 15, Subpart C 15.247 | ANSI C63.10 (2013) Section 6.2                       | 47 CFR Part 15, Subpart C 15.207                      | N/A    |

Remark:

N/A: Not Applicable

## 2 GENERAL INFORMATION

|                        |                                                                                                                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant</b>       | China Satellite Navigation and Communication Co., Ltd                                                                                                                                        |
| <b>Address</b>         | C5-C6, Siwei Tuxin Building, Yongfeng Road Haidian District, Beijing, 100012 CN                                                                                                              |
| <b>Manufacturer</b>    | China Satellite Navigation and Communication Co., Ltd                                                                                                                                        |
| <b>Address</b>         | C5-C6, Siwei Tuxin Building, Yongfeng Road Haidian District, Beijing, 100012 CN                                                                                                              |
| <b>Factory</b>         | China Satellite Navigation and Communication Co., Ltd                                                                                                                                        |
| <b>Address</b>         | C5-C6, Siwei Tuxin Building, Yongfeng Road Haidian District, Beijing, 100012 CN                                                                                                              |
| <b>Product Name</b>    | Machine entertainment system                                                                                                                                                                 |
| <b>Test Model No.</b>  | ZH-DT6125-01                                                                                                                                                                                 |
| <b>Extension model</b> | SK8734012,SK8734010,SK8734011,SV5734015,SV5734016,SV5734017, MILA734002,MILA734001,MILA734003,SK83B2,MILA734006                                                                              |
| <b>Remark</b>          | MILA734001, MILA734002,MILA734003, MILA734006,SK83B2Their electrical circuit design, layout, components used and internal wiring are identical,Only the item number and color are different. |

## 3 GENERAL DESCRIPTION OF E.U.T.

|                             |                                                                                 |
|-----------------------------|---------------------------------------------------------------------------------|
| <b>Hardware Version</b>     | N/A                                                                             |
| <b>Software Version</b>     | N/A                                                                             |
| <b>Operation Frequency:</b> | 802.11b/g/n(HT20): 2412MHz to 2462MHz<br>802.11n(HT40): 2422MHz to 2452MHz      |
| <b>Modulation Type:</b>     | 802.11b: DSSS (CCK, DQPSK, DBPSK)<br>802.11g/n: OFDM (64QAM, 16QAM, QPSK, BPSK) |
| <b>Channel Spacing:</b>     | 5MHz                                                                            |
| <b>Number of Channels:</b>  | 802.11b/g/n(HT20):11<br>802.11n(HT40):7                                         |
| <b>Antenna Type:</b>        | FPC Antenna                                                                     |
| <b>Antenna Gain:</b>        | 5dBi(Provided by the customer)                                                  |

Remark: The Antenna Gain is supplied by the customer. BlueAsia is not responsible for this data

#### 4 TEST ENVIRONMENT

| Environment | Temperature | Voltage |
|-------------|-------------|---------|
| Normal      | 25°C        | 12Vdc   |

#### 5 TEST MODE

| TEST MODE                                                                                                                                                                                                                                                                        | TEST MODE DESCRIPTION                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Transmitting mode                                                                                                                                                                                                                                                                | Keep the EUT in continuously transmitting mode with modulation. (The duty cycle is greater than 98%) |
| Remark: Full battery is used during all test except ac conducted emission, 802.11b/g/n(HT20) and 802.11n(HT40) all have been tested, During the radiated spurious emission test, 802.11b/11g/11nH20/11nH40 modulations all have been tested,only worse case 802.11b is reported. |                                                                                                      |

#### 6 MEASUREMENT UNCERTAINTY

| Parameter                                      | Expanded Uncertainty (Confidence of 95%) |
|------------------------------------------------|------------------------------------------|
| Radiated Emission(9kHz-30MHz)                  | ±4.34dB                                  |
| Radiated Emission(30Mz-1000MHz)                | ±4.24dB                                  |
| Radiated Emission(1GHz-18GHz)                  | ±4.68dB                                  |
| AC Power Line Conducted Emission(150kHz-30MHz) | ±3.45dB                                  |

| Parameter                                    | Expanded Uncertainty (Confidence of 95%) |
|----------------------------------------------|------------------------------------------|
| Occupied Channel Bandwidth                   | ±5 %                                     |
| RF output power, conducted                   | ±1.5 dB                                  |
| Power Spectral Density, conducted            | ±3.0 dB                                  |
| Unwanted Emissions, conducted                | ±3.0 dB                                  |
| Temperature                                  | ±3 °C                                    |
| Supply voltages                              | ±3 %                                     |
| Time                                         | ±5 %                                     |
| Unwanted Radiated Emission (30MHz ~ 1000MHz) | ±4.35 dB                                 |
| Unwanted Radiated Emission (1GHz ~ 18GHz)    | ±4.44 dB                                 |

## 7 DESCRIPTION OF SUPPORT UNIT

| Device Type | Manufacturer | Model Name | Serial No. | Remark |
|-------------|--------------|------------|------------|--------|
| DC source   | N/A          | N/A        | N/A        | N/A    |
| PC          | HASEE        | K610D      | N/A        | N/A    |

## 8 LABORATORY LOCATION

All tests were performed at:  
BlueAsia of Technical Services(Shenzhen) Co., Ltd.  
Building C, No. 107, Shihuan Road, Shiyuan Sub-District, Baoan District, Shenzhen, Guangdong Province, China  
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673  
No tests were sub-contracted.

## 9 TEST INSTRUMENTS LIST

| Test Equipment Of RF Conducted Test |              |           |                |            |            |
|-------------------------------------|--------------|-----------|----------------|------------|------------|
| Equipment                           | Manufacturer | Model     | S/N            | Cal.Date   | Cal.Due    |
| Spectrum                            | R&S          | FSP40     | 100817         | 2022/09/15 | 2023/09/14 |
| Spectrum                            | Agilent      | N9020A    | MY49100060     | 2022/09/07 | 2023/09/06 |
| Spectrum                            | KEYSIGHT     | N9030A    | MY52350152     | 2022/07/01 | 2023/06/30 |
| Spectrum                            | KEYSIGHT     | N9010A    | MY54330814     | 2022/07/01 | 2023/06/30 |
| Signal Generator                    | Agilent      | N5182A    | MY47420955     | 2022/09/07 | 2023/09/06 |
| Signal Generator                    | Agilent      | E8257D    | MY44320250     | 2022/07/01 | 2023/06/30 |
| Signal Generator                    | Agilent      | N5181A    | MY46240904     | 2022/08/02 | 2023/08/01 |
| Signal Generator                    | R&S          | CMW500    | 132429         | 2022/09/07 | 2023/09/06 |
| BluetoothTester                     | Anritsu      | MT8852B   | 06262047872    | 2022/09/07 | 2023/09/06 |
| Power probe                         | DARE         | RPR3006W  | 14I00889SN042  | 2022/09/07 | 2023/09/06 |
| DCPowersupply                       | zhaoxin      | KXN-305D  | 20K305D1221363 | 2022/09/14 | 2023/09/13 |
| DCPowersupply                       | zhaoxin      | RXN-1505D | 19R1505D050168 | 2022/09/14 | 2023/09/13 |

| Test Equipment Of Radiated Spurious Emissions |              |                        |                  |            |            |
|-----------------------------------------------|--------------|------------------------|------------------|------------|------------|
| Equipment                                     | Manufacturer | Model                  | S/N              | Cal.Date   | Cal.Due    |
| Chamber 1                                     | SKET         | 966                    | N/A              | 2020/11/10 | 2023/11/09 |
| Chamber 2                                     | SKET         | 966                    | N/A              | 2021/07/20 | 2024/07/19 |
| Spectrum                                      | R&S          | FSP40                  | 100817           | 2022/09/15 | 2023/09/14 |
| Receiver                                      | R&S          | ESR7                   | 101199           | 2022/09/15 | 2023/09/14 |
| Receiver                                      | R&S          | ESPI7                  | 101477           | 2022/07/16 | 2023/07/15 |
| broadband Antenna                             | Schwarzbeck  | VULB9168               | 00836<br>P:00227 | 2022/09/15 | 2023/09/14 |
| Horn Antenna                                  | Schwarzbeck  | BBHA9120D              | 01892<br>P:00331 | 2022/09/13 | 2025/09/12 |
| Amplifier                                     | SKET         | LNPA_30M01G-30         | SK2021060801     | 2022/07/16 | 2023/07/15 |
| Amplifier                                     | SKET         | PA-000318G-45          | N/A              | 2022/09/13 | 2023/09/12 |
| Amplifier                                     | SKET         | LNPA_18G40G-50         | SK2022071301     | 2022/07/14 | 2023/07/13 |
| Filter group                                  | SKET         | 2.4G/5G Filter group r | N/A              | 2022/07/16 | 2023/07/15 |
| EMI software                                  | EZ           | EZ-EMC                 | EEMC-3A1         | N/A        | N/A        |
| Loop antenna                                  | SCHNARZBECK  | FMZB1519B              | 00102            | 2022/9/14  | 2025/9/13  |

|               |          |           |     |     |     |
|---------------|----------|-----------|-----|-----|-----|
| Controller    | SKET     | N/A       | N/A | N/A | N/A |
| Coaxial Cable | BlueAsia | BLA-XC-02 | N/A | N/A | N/A |
| Coaxial Cable | BlueAsia | BLA-XC-03 | N/A | N/A | N/A |
| Coaxial Cable | BlueAsia | BLA-XC-01 | N/A | N/A | N/A |

## 10 ANTENNA REQUIREMENT

|               |                                  |
|---------------|----------------------------------|
| Test Standard | 47 CFR Part 15, Subpart C 15.247 |
| Test Method   | N/A                              |

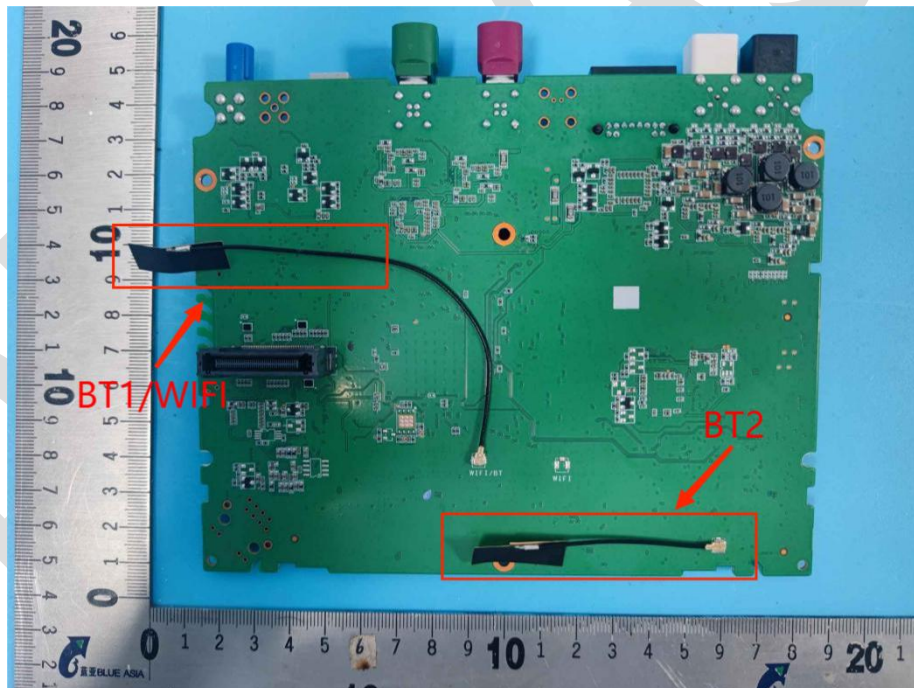
### 10.1 CONCLUSION

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The best case gain of the antenna is 5dBi.



## 11 RADIATED SPURIOUS EMISSIONS

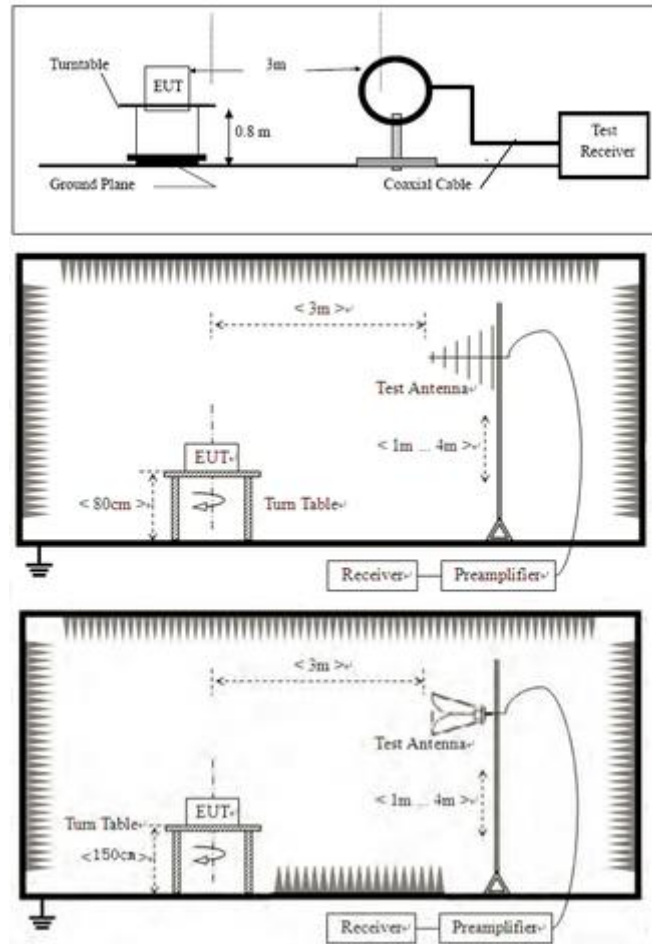
|                               |                                        |
|-------------------------------|----------------------------------------|
| <b>Test Standard</b>          | 47 CFR Part 15, Subpart C 15.247       |
| <b>Test Method</b>            | ANSI C63.10 (2013) Section 6.4,6.5,6.6 |
| <b>Test Mode (Pre-Scan)</b>   | TX                                     |
| <b>Test Mode (Final Test)</b> | TX                                     |
| <b>Tester</b>                 | Charlie                                |
| <b>Temperature</b>            | 25℃                                    |
| <b>Humidity</b>               | 60%                                    |

### 11.1 LIMITS

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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

## 11.2 BLOCK DIAGRAM OF TEST SETUP



## 11.3 PROCEDURE

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

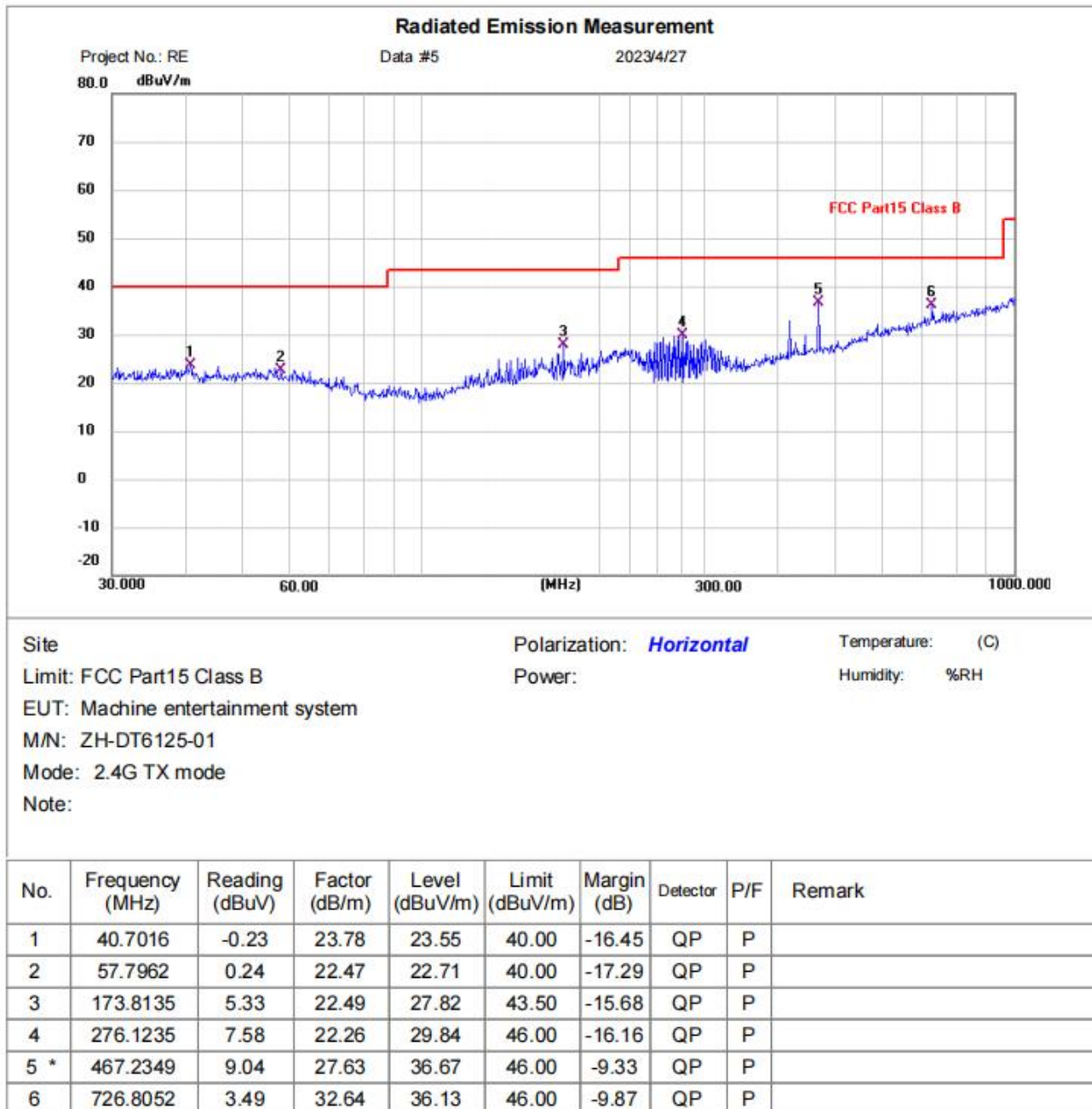
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark:

- 1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
- 2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:  
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor
- 3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. fundamental frequency is blocked by filter, and only spurious emission is shown.
- 4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

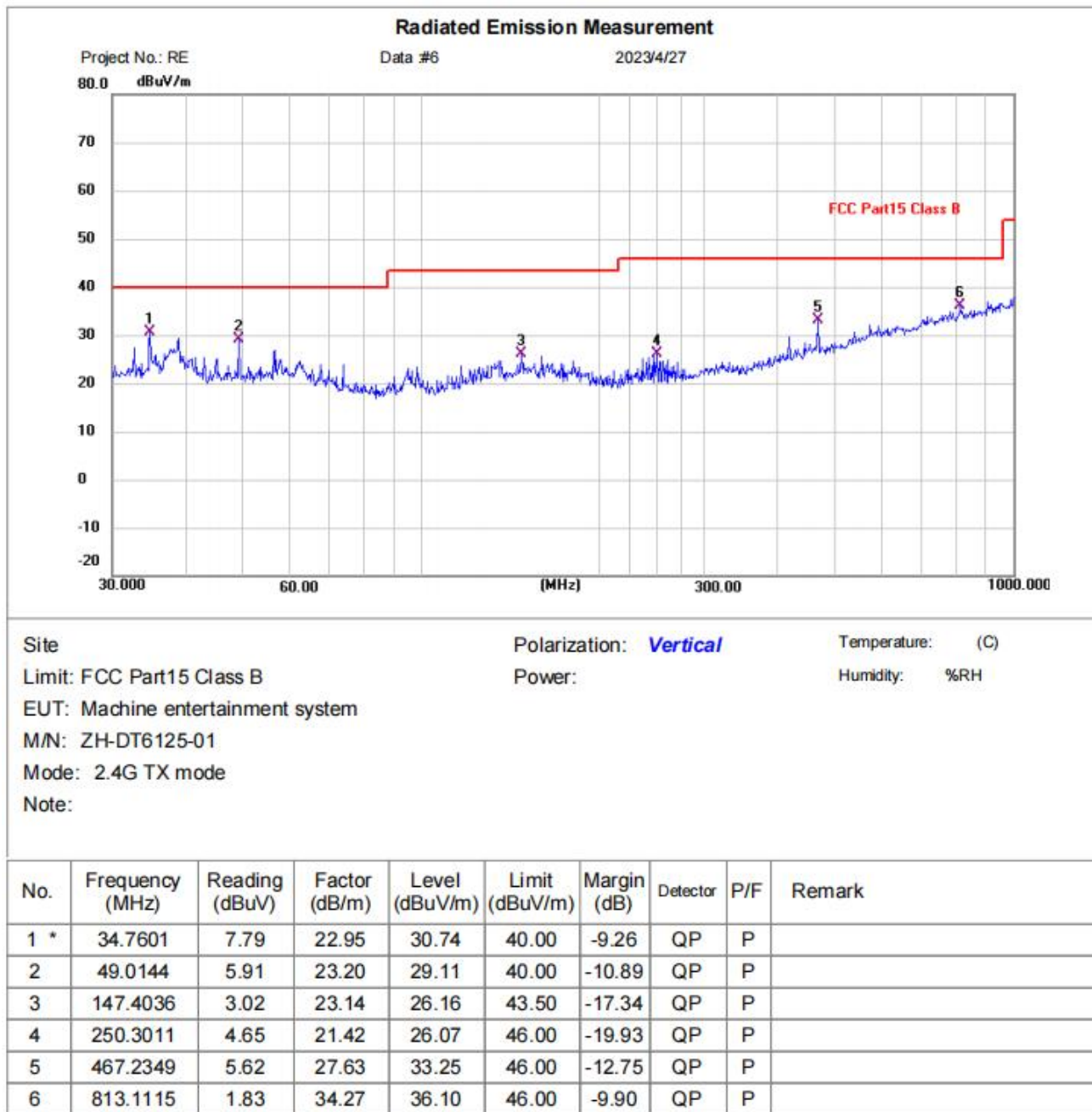
## 11.4 TEST DATA

[TestMode: TX below 1G]; [Polarity: Horizontal]



**Test Result: Pass**

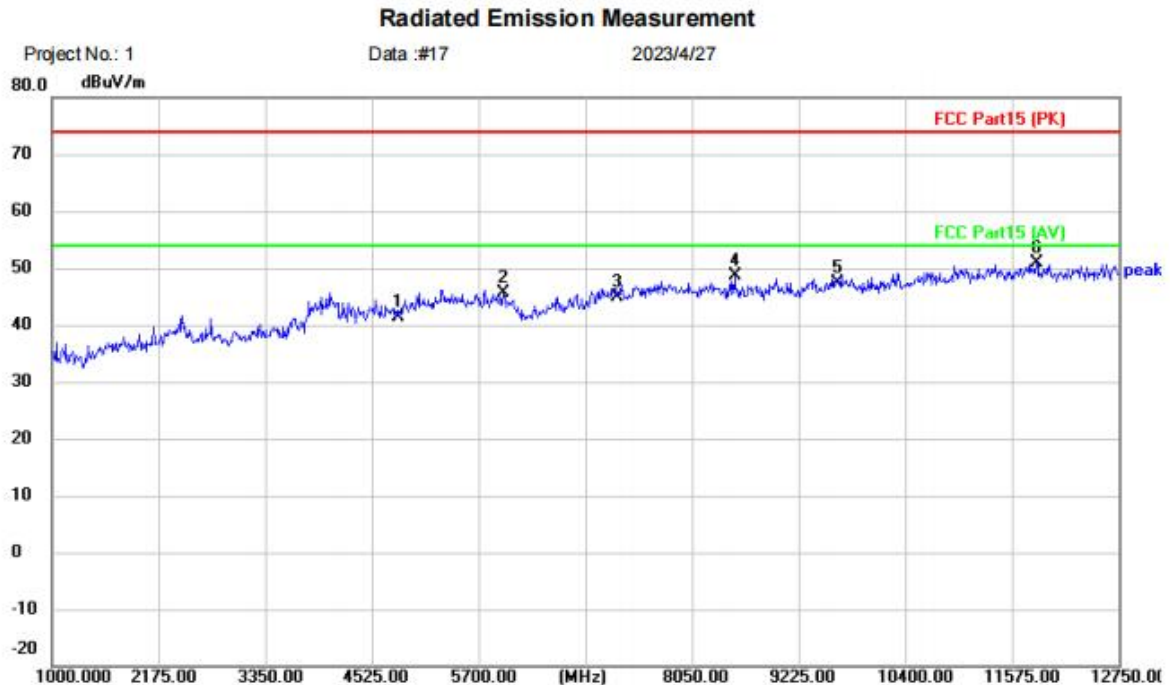
[TestMode: TX below 1G]; [Polarity: Vertical]



**Test Result: Pass**

Remark: During the test, pre-scan the 802.11b/g/n mode, and found the 802.11N20 mode which it is worse case.

[TestMode: TX low channel]; [Polarity: Horizontal]

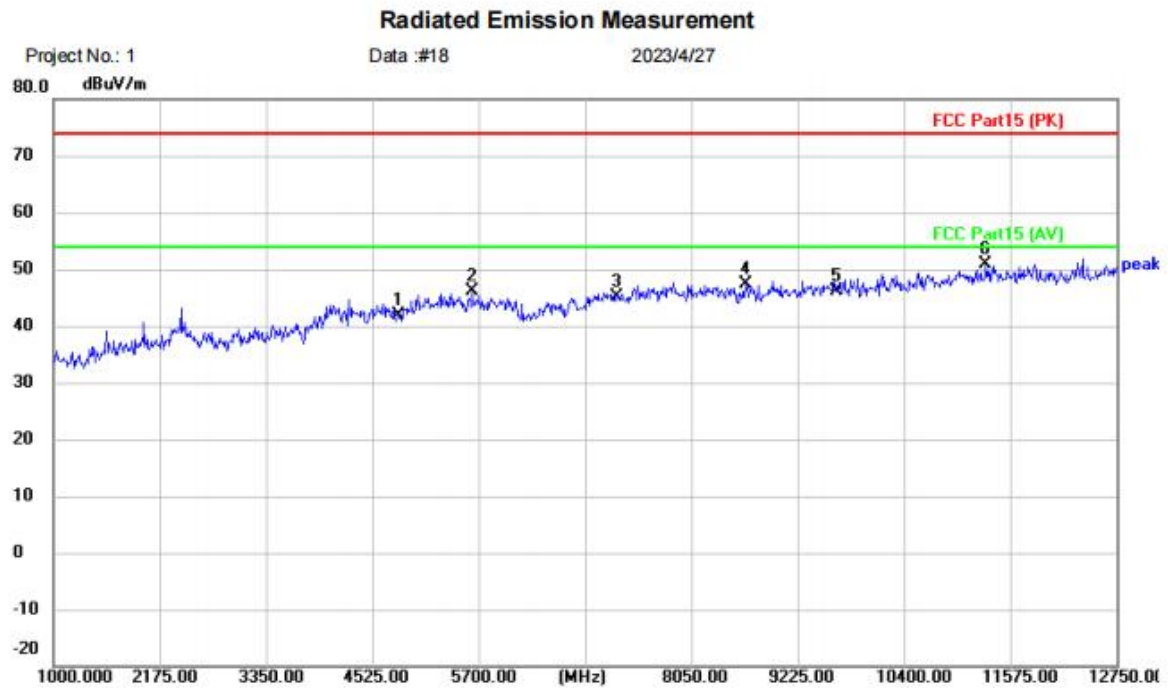


|                                   |                                 |                  |
|-----------------------------------|---------------------------------|------------------|
| Site                              | Polarization: <b>Horizontal</b> | Temperature: (C) |
| Limit: FCC Part15 (PK)            | Power:                          | Humidity: %RH    |
| EUT: Machine entertainment system |                                 |                  |
| M/N: ZH-DT6125-01                 |                                 |                  |
| Mode: 2.4G 11N20 TX-L             |                                 |                  |
| Note:                             |                                 |                  |

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4824.000     | 37.24                    | 4.13                    | 41.37                      | 74.00           | -32.63     | peak     |         |
| 2   |     | 5970.250     | 38.61                    | 6.98                    | 45.59                      | 74.00           | -28.41     | peak     |         |
| 3   |     | 7236.000     | 36.93                    | 8.00                    | 44.93                      | 74.00           | -29.07     | peak     |         |
| 4   |     | 8520.000     | 39.44                    | 9.13                    | 48.57                      | 74.00           | -25.43     | peak     |         |
| 5   |     | 9648.000     | 36.39                    | 11.01                   | 47.40                      | 74.00           | -26.60     | peak     |         |
| 6   | *   | 11845.25     | 37.01                    | 13.83                   | 50.84                      | 74.00           | -23.16     | peak     |         |

**Test Result: Pass**

[TestMode: TX low channel]; [Polarity: Vertical]



Site      Polarization: **Vertical**      Temperature: (C)

Limit: FCC Part15 (PK)      Power:      Humidity: %RH

EUT: Machine entertainment system

M/N: ZH-DT6125-01

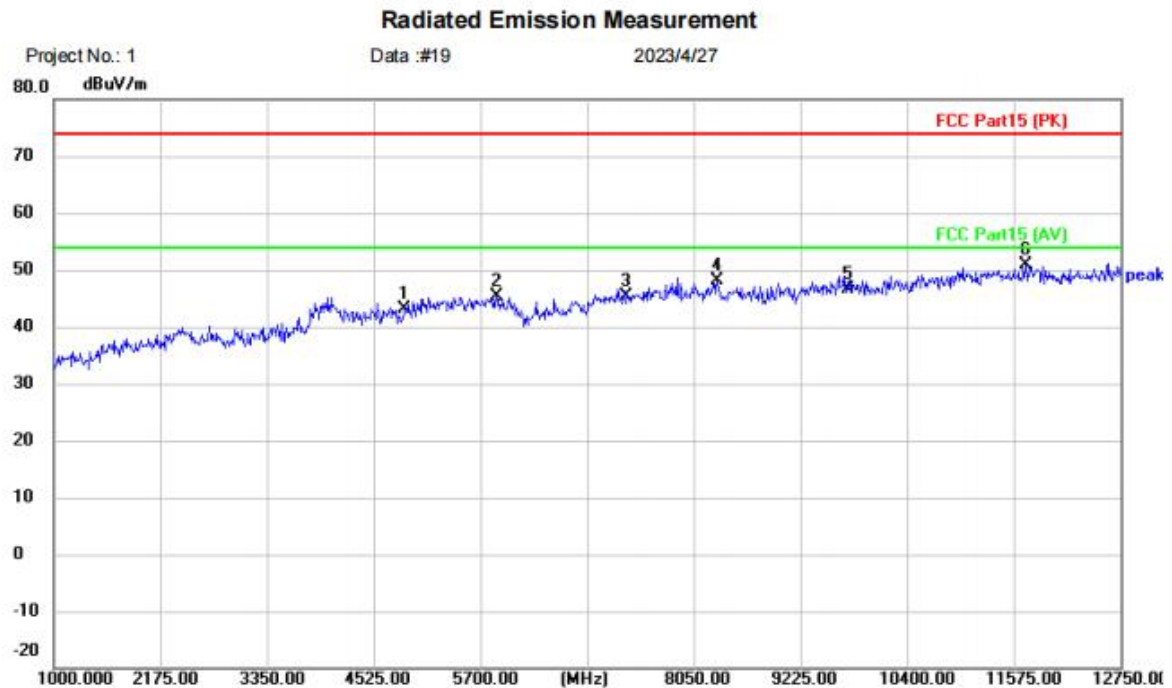
Mode: 2.4G 11N20 TX-L

Note:

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | Detector | Comment |
| 1   |     | 4824.000 | 37.71         | 4.13           | 41.84       | 74.00  | -32.16 | peak     |         |
| 2   |     | 5629.500 | 39.41         | 6.73           | 46.14       | 74.00  | -27.86 | peak     |         |
| 3   |     | 7236.000 | 37.01         | 8.00           | 45.01       | 74.00  | -28.99 | peak     |         |
| 4   |     | 8649.250 | 38.18         | 9.19           | 47.37       | 74.00  | -26.63 | peak     |         |
| 5   |     | 9648.000 | 35.10         | 11.01          | 46.11       | 74.00  | -27.89 | peak     |         |
| 6   | *   | 11304.75 | 37.23         | 13.59          | 50.82       | 74.00  | -23.18 | peak     |         |

**Test Result: Pass**

[TestMode: TX mid channel]; [Polarity: Horizontal]

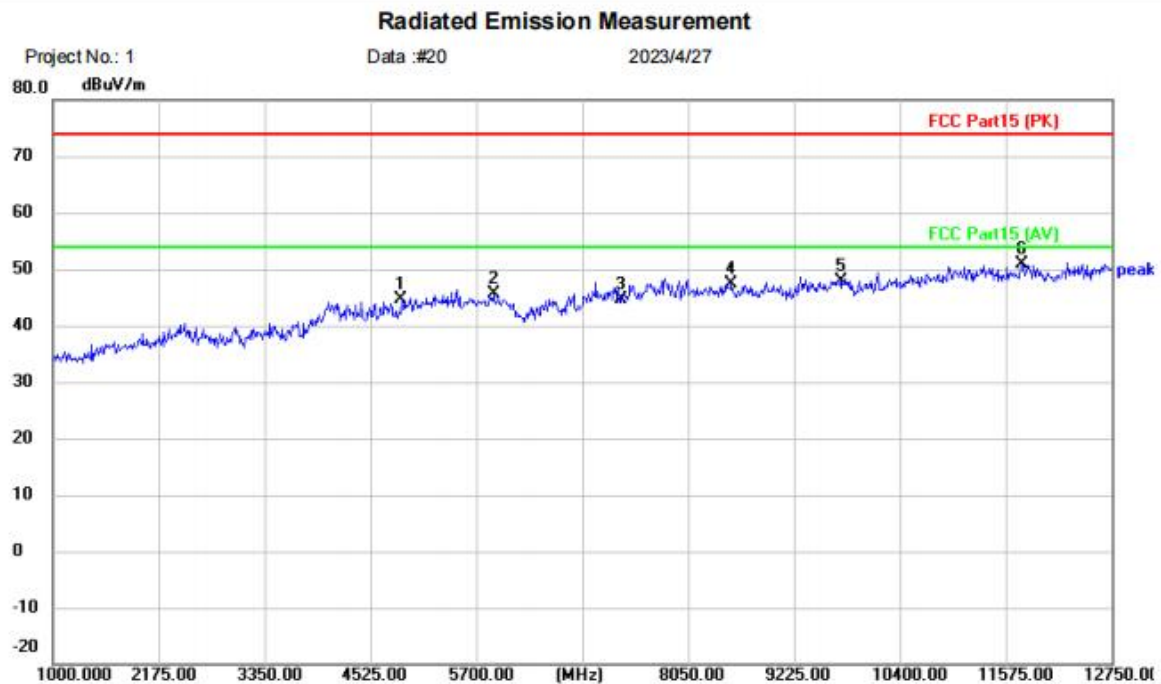


Site      Polarization: **Horizontal**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11N20 TX-M  
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4874.000     | 38.86                    | 4.32                    | 43.18                      | 74.00           | -30.82     | peak     |         |
| 2   |     | 5876.250     | 38.52                    | 6.81                    | 45.33                      | 74.00           | -28.67     | peak     |         |
| 3   |     | 7311.000     | 37.20                    | 8.18                    | 45.38                      | 74.00           | -28.62     | peak     |         |
| 4   |     | 8308.500     | 39.10                    | 9.04                    | 48.14                      | 74.00           | -25.86     | peak     |         |
| 5   |     | 9748.000     | 35.29                    | 11.26                   | 46.55                      | 74.00           | -27.45     | peak     |         |
| 6   | *   | 11704.25     | 37.17                    | 13.77                   | 50.94                      | 74.00           | -23.06     | peak     |         |

**Test Result: Pass**

[TestMode: TX mid channel]; [Polarity: Vertical]



Site      Polarization: **Vertical**      Temperature: (C)

Limit: FCC Part15 (PK)      Power:      Humidity: %RH

EUT: Machine entertainment system

M/N: ZH-DT6125-01

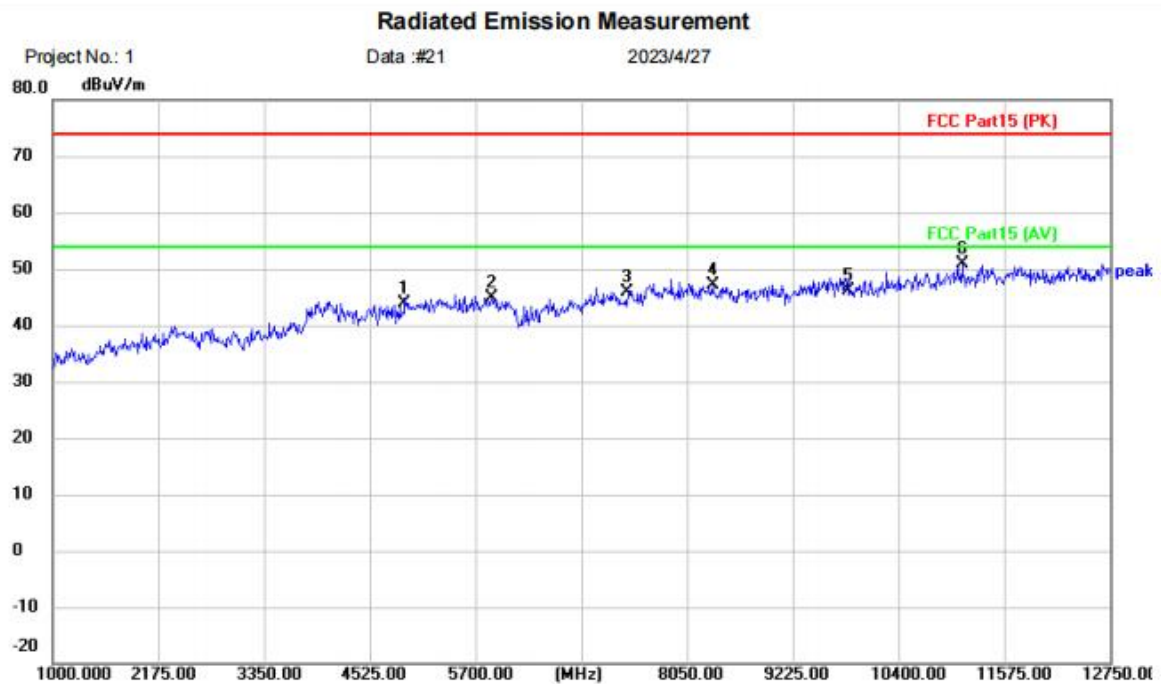
Mode: 2.4G 11N20 TX-M

Note:

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | Detector | Comment |
| 1   |     | 4874.000 | 40.22         | 4.32           | 44.54       | 74.00  | -29.46 | peak     |         |
| 2   |     | 5888.000 | 38.79         | 6.82           | 45.61       | 74.00  | -28.39 | peak     |         |
| 3   |     | 7311.000 | 36.39         | 8.18           | 44.57       | 74.00  | -29.43 | peak     |         |
| 4   |     | 8531.750 | 38.36         | 9.14           | 47.50       | 74.00  | -26.50 | peak     |         |
| 5   |     | 9748.000 | 36.55         | 11.26          | 47.81       | 74.00  | -26.19 | peak     |         |
| 6   | *   | 11751.25 | 37.10         | 13.79          | 50.89       | 74.00  | -23.11 | peak     |         |

**Test Result: Pass**

[TestMode: TX high channel]; [Polarity: Horizontal]



Site      Polarization: **Horizontal**      Temperature: (C)

Limit: FCC Part15 (PK)      Power:      Humidity: %RH

EUT: Machine entertainment system

M/N: ZH-DT6125-01

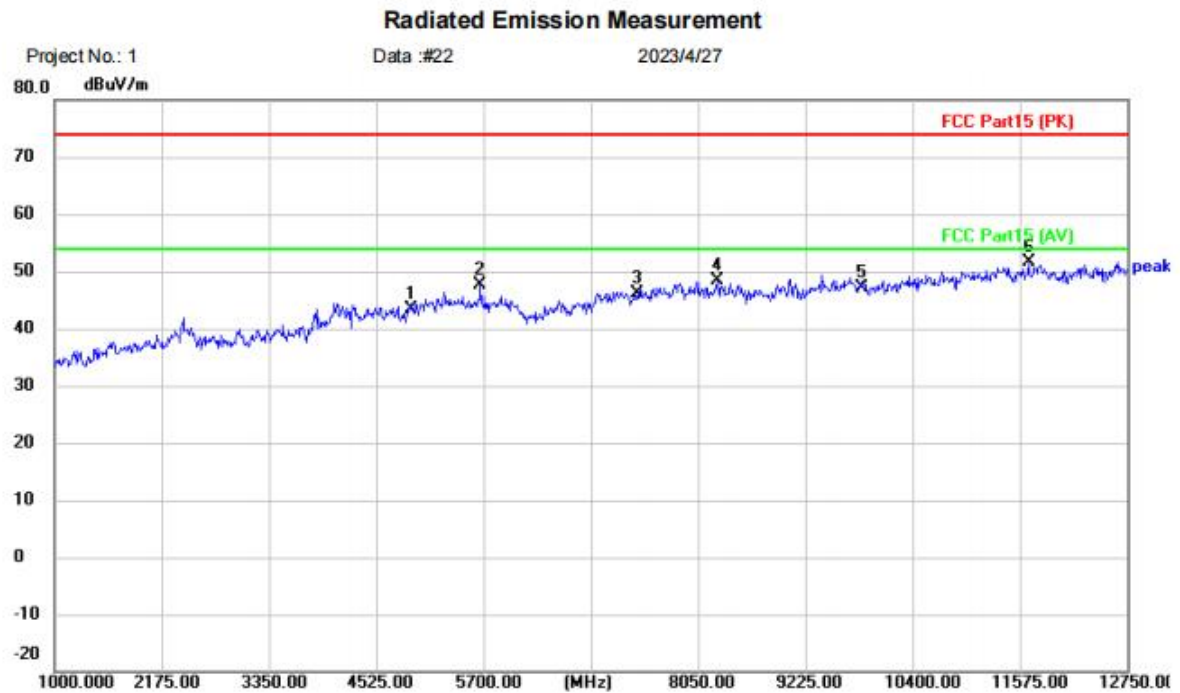
Mode: 2.4G 11N20 TX-H

Note:

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | Detector | Comment |
| 1   |     | 4924.000 | 39.16         | 4.82           | 43.98       | 74.00  | -30.02 | peak     |         |
| 2   |     | 5876.250 | 38.10         | 6.81           | 44.91       | 74.00  | -29.09 | peak     |         |
| 3   |     | 7386.000 | 37.40         | 8.36           | 45.76       | 74.00  | -28.24 | peak     |         |
| 4   |     | 8332.000 | 38.15         | 9.05           | 47.20       | 74.00  | -26.80 | peak     |         |
| 5   |     | 9848.000 | 34.61         | 11.52          | 46.13       | 74.00  | -27.87 | peak     |         |
| 6   | *   | 11105.00 | 37.46         | 13.50          | 50.96       | 74.00  | -23.04 | peak     |         |

**Test Result: Pass**

[TestMode: TX high channel]; [Polarity: Vertical]



Site:      Polarization: **Vertical**      Temperature: (C)

Limit: FCC Part15 (PK)      Power:      Humidity: %RH

EUT: Machine entertainment system

M/N: ZH-DT6125-01

Mode: 2.4G 11N20 TX-H

Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4924.000     | 38.67                    | 4.82                    | 43.49                      | 74.00           | -30.51     | peak     |         |
| 2   |     | 5664.750     | 40.76                    | 6.77                    | 47.53                      | 74.00           | -26.47     | peak     |         |
| 3   |     | 7386.000     | 37.73                    | 8.36                    | 46.09                      | 74.00           | -27.91     | peak     |         |
| 4   |     | 8261.500     | 39.46                    | 9.02                    | 48.48                      | 74.00           | -25.52     | peak     |         |
| 5   |     | 9848.000     | 35.60                    | 11.52                   | 47.12                      | 74.00           | -26.88     | peak     |         |
| 6   | *   | 11669.00     | 37.95                    | 13.75                   | 51.70                      | 74.00           | -22.30     | peak     |         |

**Test Result: Pass**

## 12 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

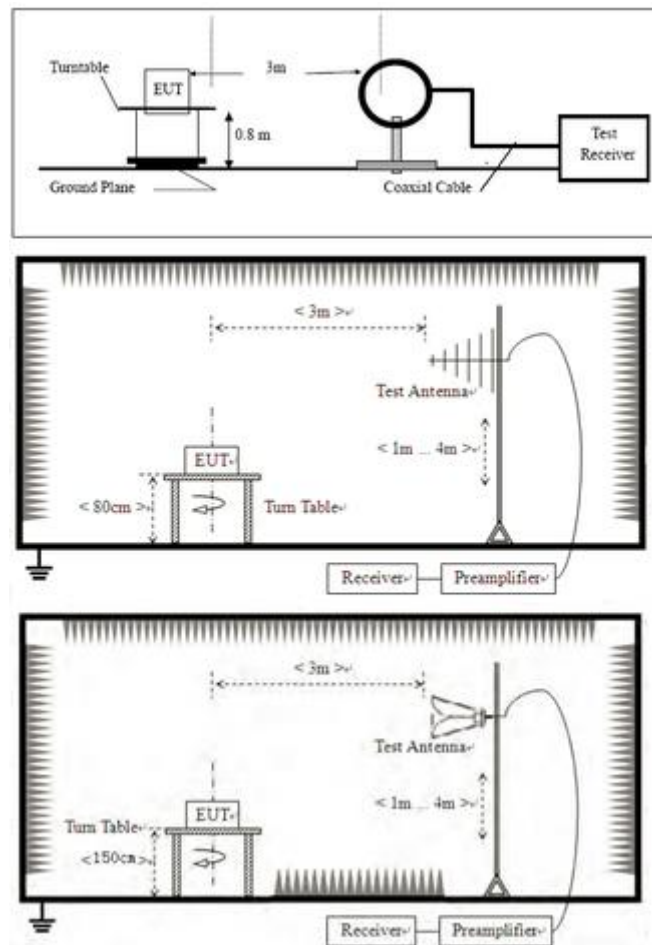
|                               |                                   |
|-------------------------------|-----------------------------------|
| <b>Test Standard</b>          | 47 CFR Part 15, Subpart C 15.247  |
| <b>Test Method</b>            | ANSI C63.10 (2013) Section 6.10.5 |
| <b>Test Mode (Pre-Scan)</b>   | TX                                |
| <b>Test Mode (Final Test)</b> | TX                                |
| <b>Tester</b>                 | Charlie                           |
| <b>Temperature</b>            | 25°C                              |
| <b>Humidity</b>               | 60%                               |

### 12.1 LIMITS

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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

## 12.2 BLOCK DIAGRAM OF TEST SETUP



## 12.3 PROCEDURE

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

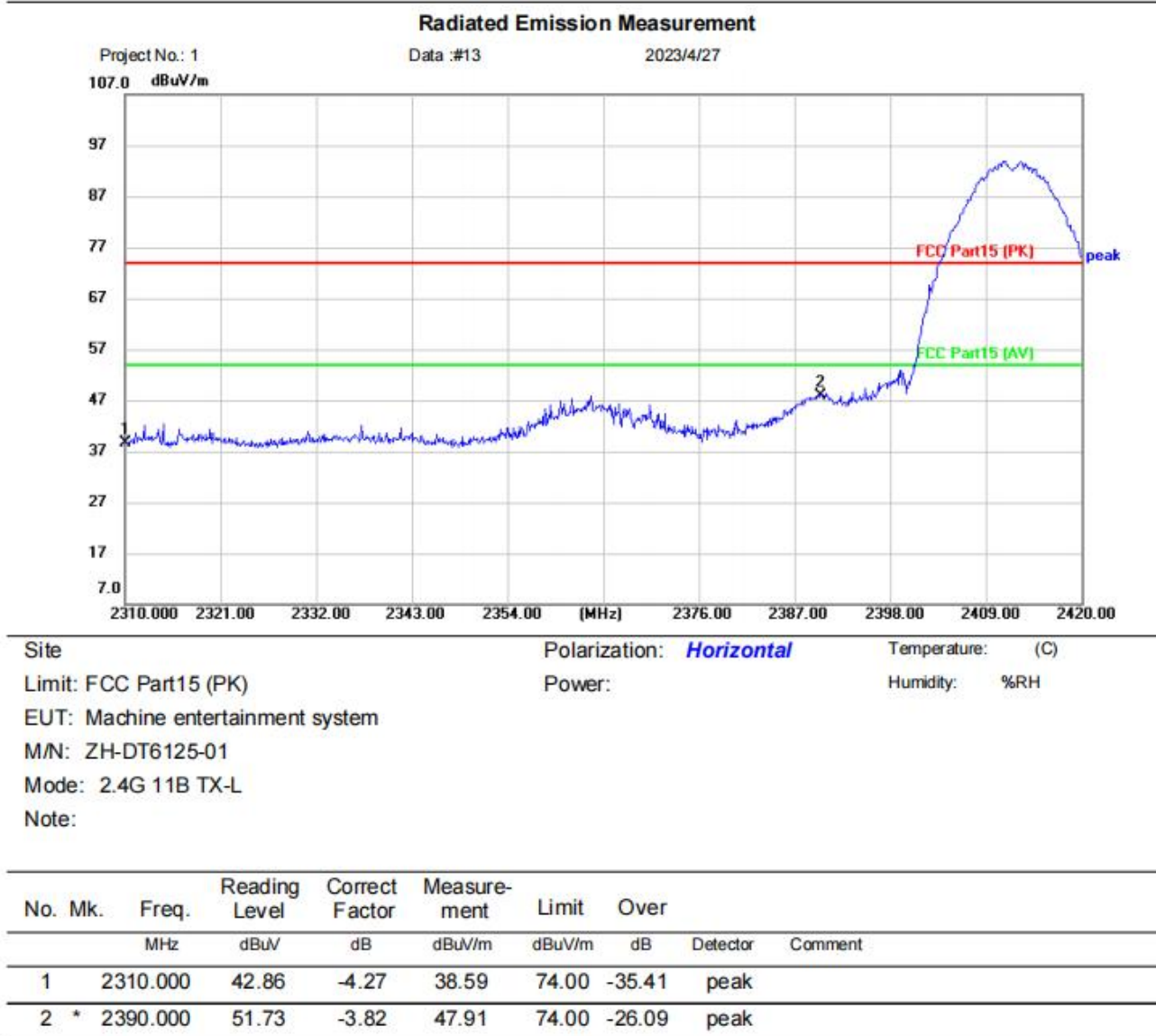
- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

Remark 1:  $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

## 12.4 TEST DATA

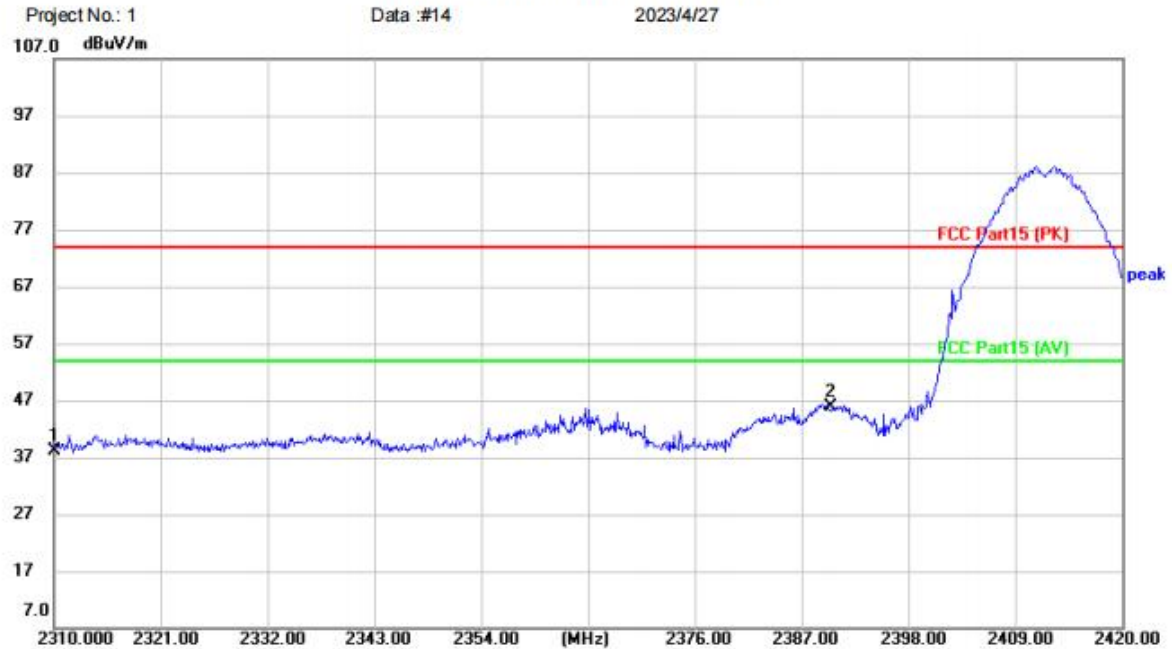
[TestMode: TX b low channel]; [Polarity: Horizontal]



**Test Result: Pass**

[TestMode: TX b low channel]; [Polarity: Vertical]

### Radiated Emission Measurement

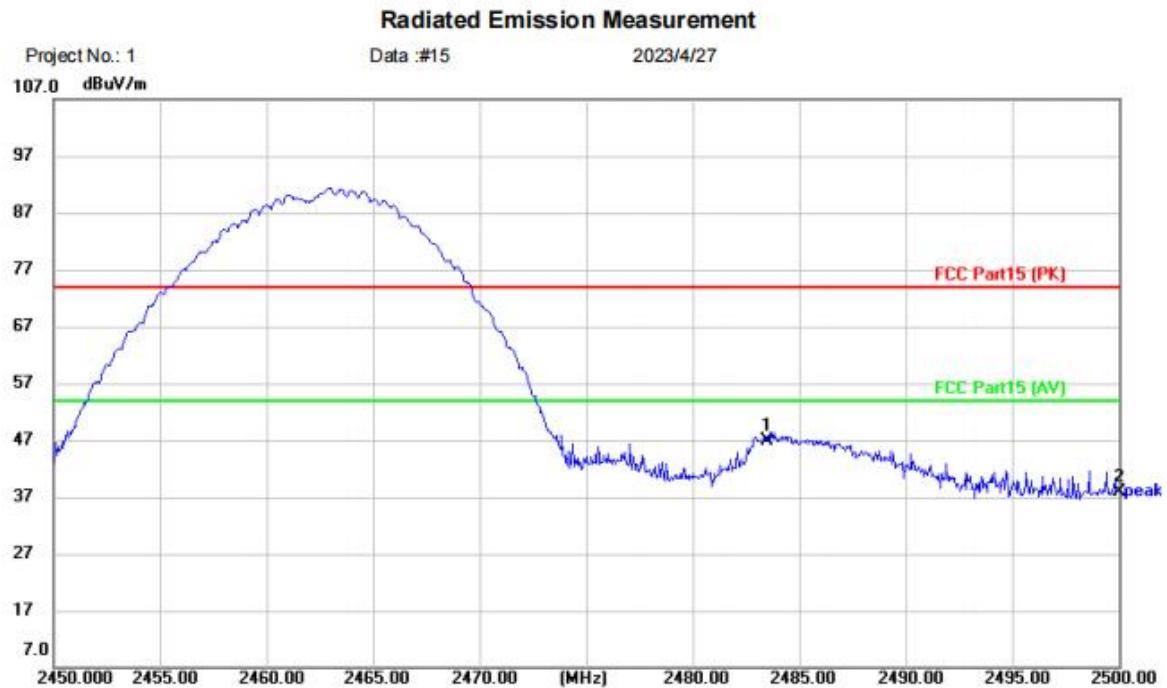


Site      Polarization: **Vertical**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11B TX-L  
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2310.000     | 42.49                    | -4.27                   | 38.22                      | 74.00           | -35.78     | peak     |         |
| 2   | *   | 2390.000     | 49.61                    | -3.82                   | 45.79                      | 74.00           | -28.21     | peak     |         |

**Test Result: Pass**

[TestMode: TX b high channel]; [Polarity: Horizontal]

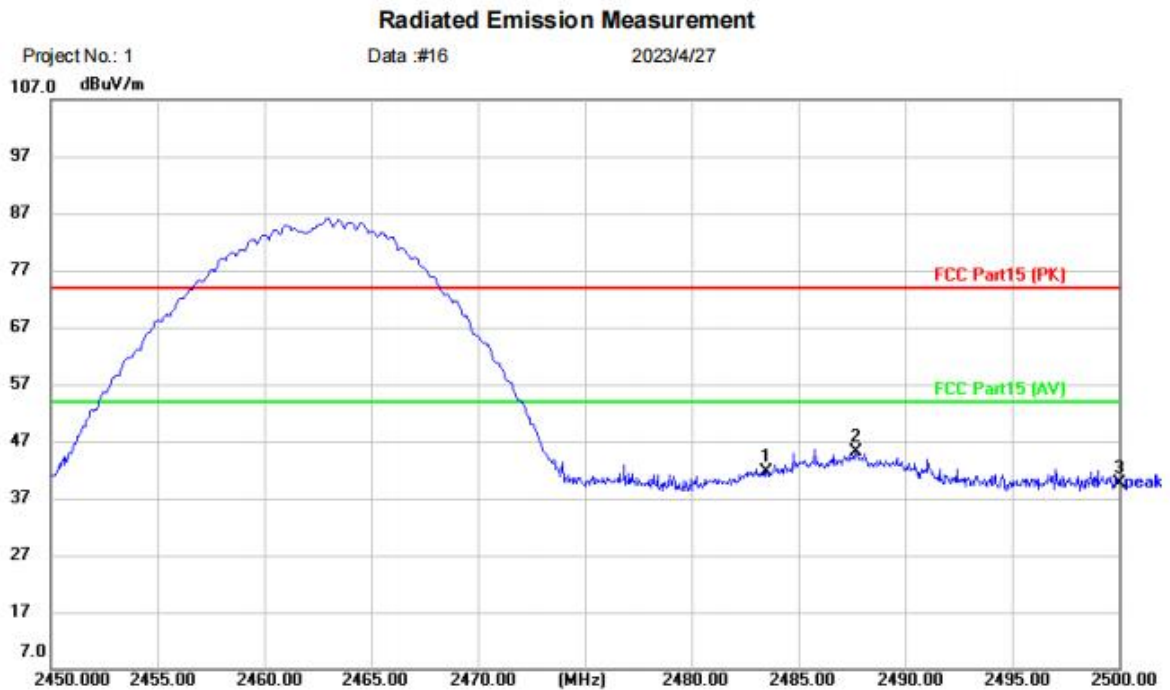


Site      Polarization: **Horizontal**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11B TX-H  
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | *   | 2483.500     | 50.95                    | -3.96                   | 46.99                      | 74.00           | -27.01     | peak     |         |
| 2   |     | 2500.000     | 41.83                    | -4.00                   | 37.83                      | 74.00           | -36.17     | peak     |         |

**Test Result: Pass**

[TestMode: TX b high channel]; [Polarity: Vertical]

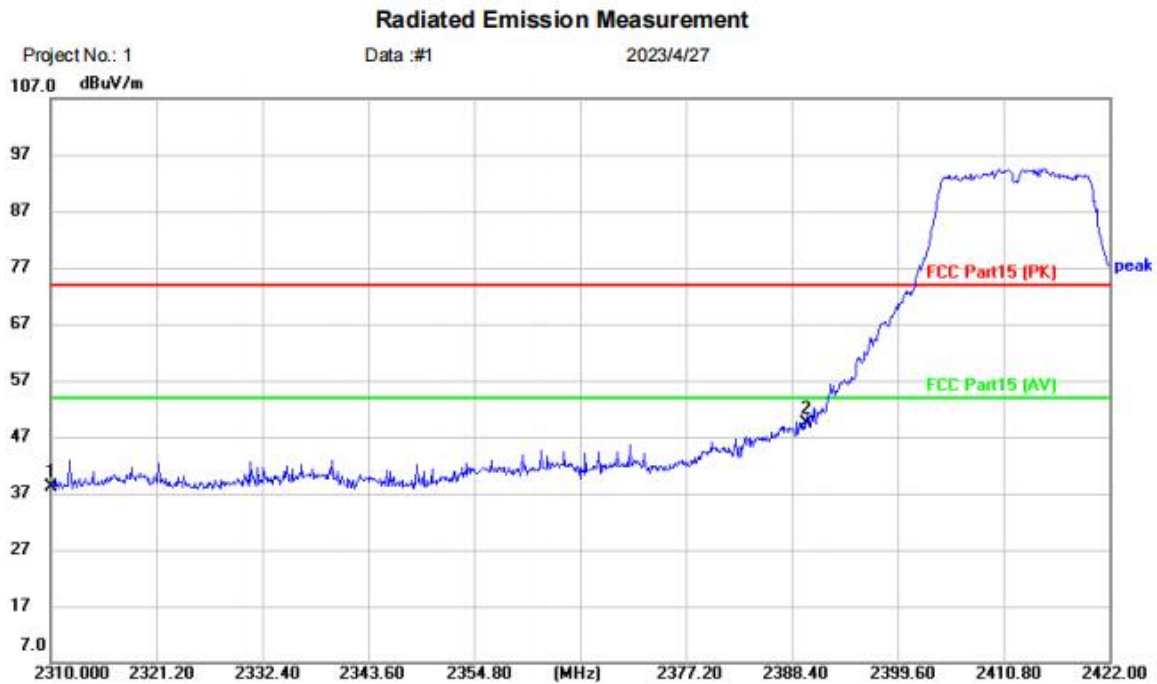


Site      Polarization: **Vertical**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11B TX-H  
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2483.500     | 45.66                    | -3.96                   | 41.70                      | 74.00           | -32.30     | peak     |         |
| 2   | *   | 2487.700     | 48.98                    | -3.97                   | 45.01                      | 74.00           | -28.99     | peak     |         |
| 3   |     | 2500.000     | 43.59                    | -4.00                   | 39.59                      | 74.00           | -34.41     | peak     |         |

**Test Result: Pass**

[TestMode: TX g low channel]; [Polarity: Horizontal]



Site      Polarization: **Horizontal**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11G TX-L  
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2310.000     | 42.51                    | -4.27                   | 38.24                      | 74.00           | -35.76     | peak     |         |
| 2   | *   | 2390.000     | 53.14                    | -3.82                   | 49.32                      | 74.00           | -24.68     | peak     |         |

**Test Result: Pass**

[TestMode: TX g low channel]; [Polarity: Vertical]

### Radiated Emission Measurement



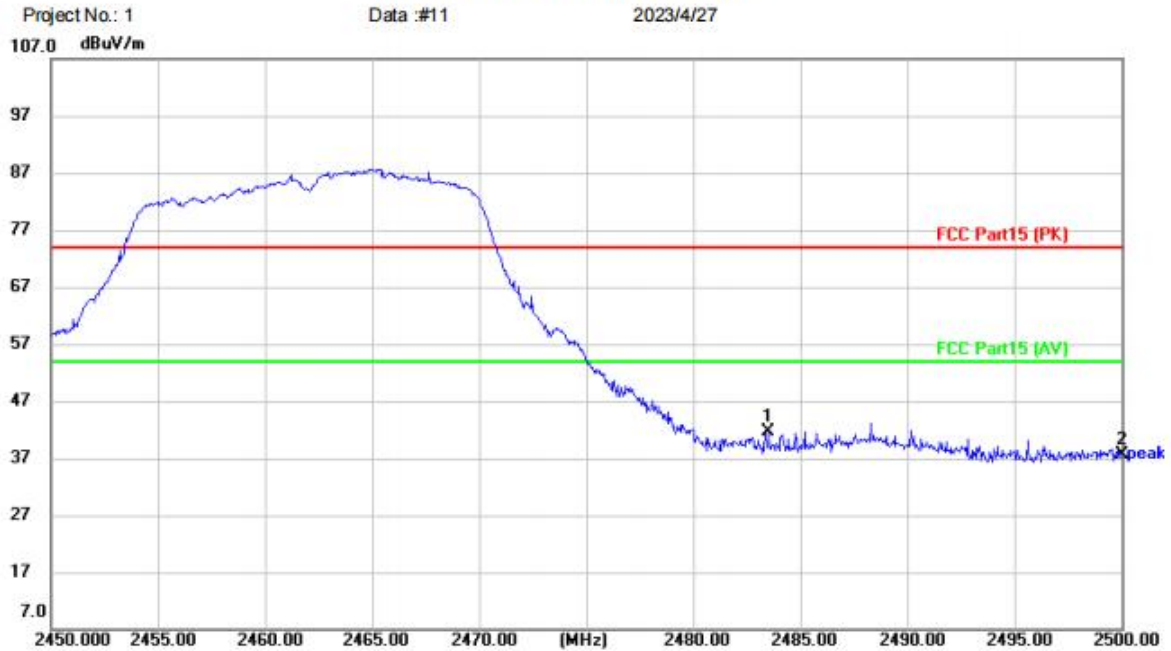
Site:      Polarization: **Vertical**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11G TX-L  
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2310.000     | 41.94                    | -4.27                   | 37.67                      | 74.00           | -36.33     | peak     |         |
| 2   | *   | 2390.000     | 46.66                    | -3.82                   | 42.84                      | 74.00           | -31.16     | peak     |         |

**Test Result: Pass**

[TestMode: TX g high channel]; [Polarity: Vertical]

### Radiated Emission Measurement



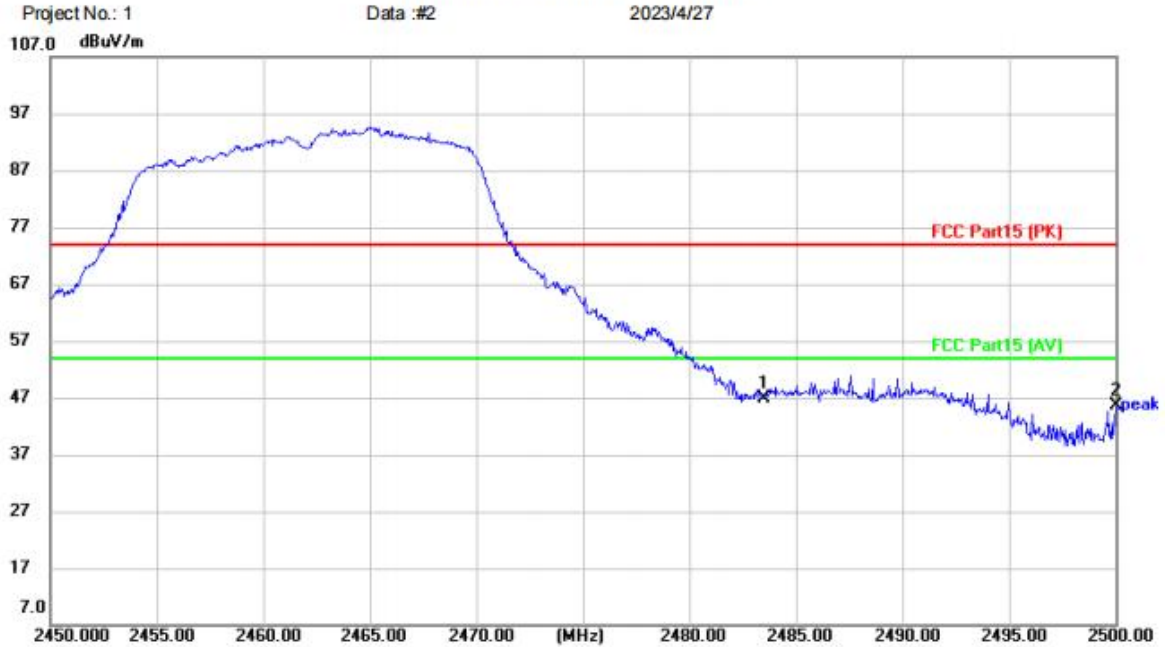
Site      Polarization: **Vertical**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11G TX-H  
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | *   | 2483.500     | 45.52                    | -3.96                   | 41.56                      | 74.00           | -32.44     | peak     |         |
| 2   |     | 2500.000     | 41.59                    | -4.00                   | 37.59                      | 74.00           | -36.41     | peak     |         |

**Test Result: Pass**

[TestMode: TX g high channel]; [Polarity: Horizontal]

### Radiated Emission Measurement



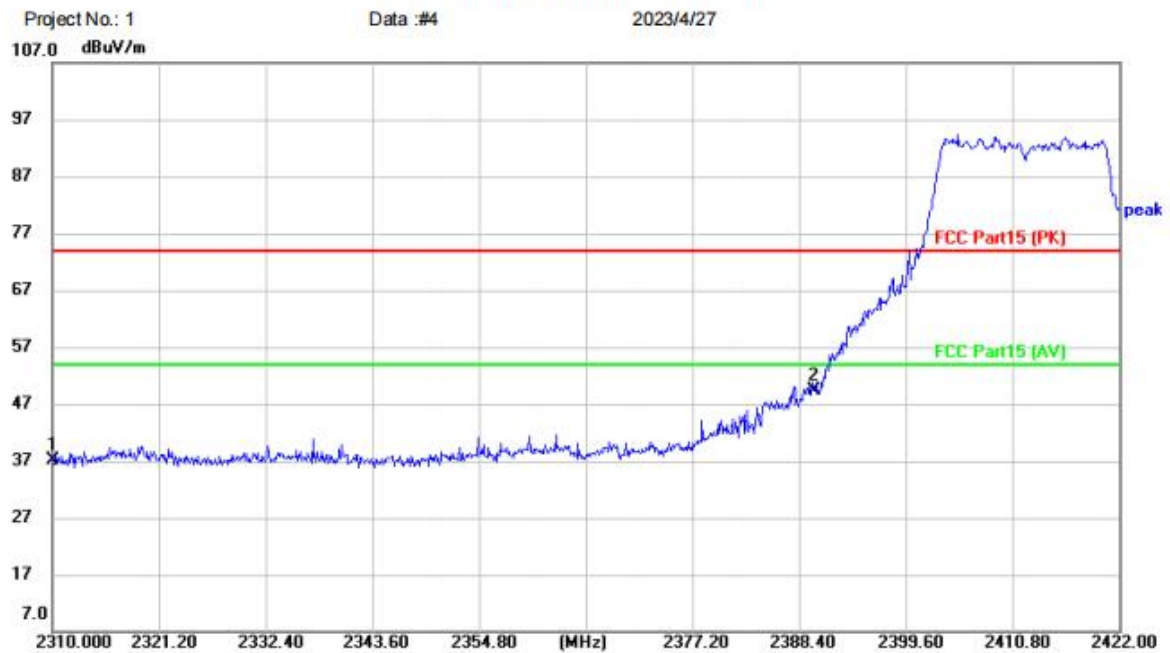
Site Polarization: **Horizontal** Temperature: (C)  
Limit: FCC Part15 (PK) Power: Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11G TX-H  
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | *   | 2483.500     | 50.83                    | -3.96                   | 46.87                      | 74.00           | -27.13     | peak     |         |
| 2   |     | 2500.000     | 49.61                    | -4.00                   | 45.61                      | 74.00           | -28.39     | peak     |         |

**Test Result: Pass**

[TestMode: TX n20 low channel]; [Polarity: Horizontal]

### Radiated Emission Measurement



Site      Polarization: **Horizontal**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11N20 TX-L  
Note:

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | Detector | Comment |
| 1   |     | 2310.000 | 41.41         | -4.27          | 37.14       | 74.00  | -36.86 | peak     |         |
| 2   | *   | 2390.000 | 53.30         | -3.82          | 49.48       | 74.00  | -24.52 | peak     |         |

**Test Result: Pass**

[TestMode: TX n20 low channel ]; [Polarity: Vertical]

### Radiated Emission Measurement



Site Polarization: **Vertical** Temperature: (C)

Limit: FCC Part15 (PK) Power: Humidity: %RH

EUT: Machine entertainment system

M/N: ZH-DT6125-01

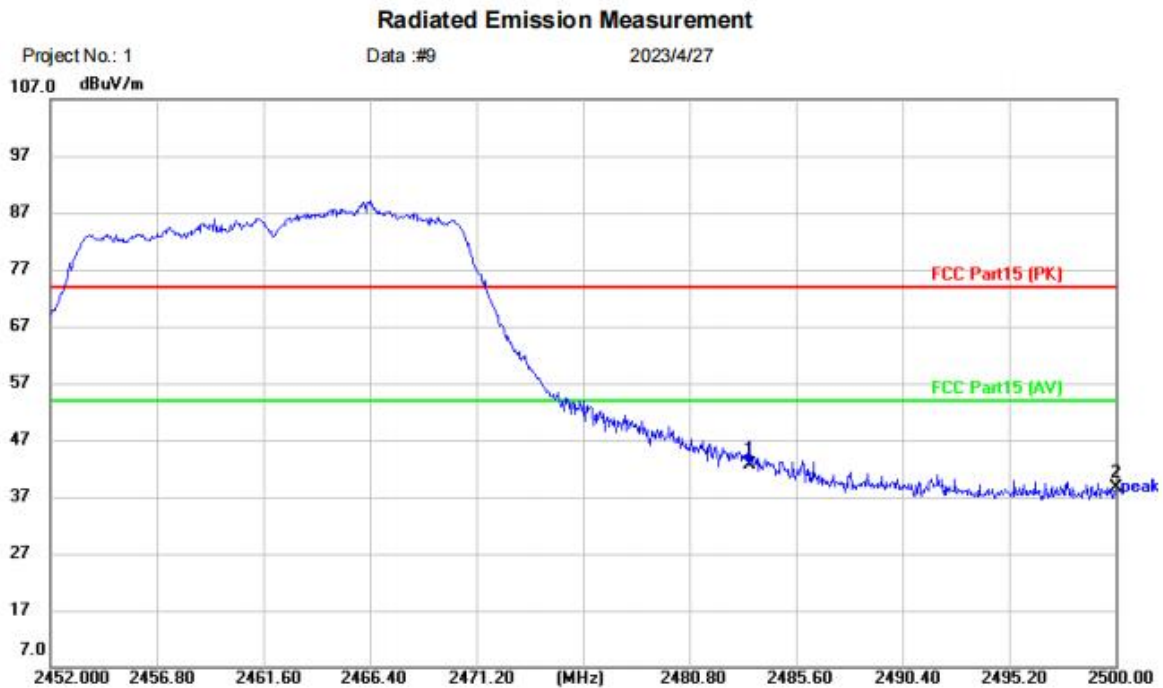
Mode: 2.4G 11N20 TX-L

Note:

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | Detector | Comment |
| 1   |     | 2310.000 | 41.30         | -4.27          | 37.03       | 74.00  | -36.97 | peak     |         |
| 2   | *   | 2390.000 | 53.37         | -3.82          | 49.55       | 74.00  | -24.45 | peak     |         |

**Test Result: Pass**

[TestMode: TX n20 high channel]; [Polarity: Vertical]

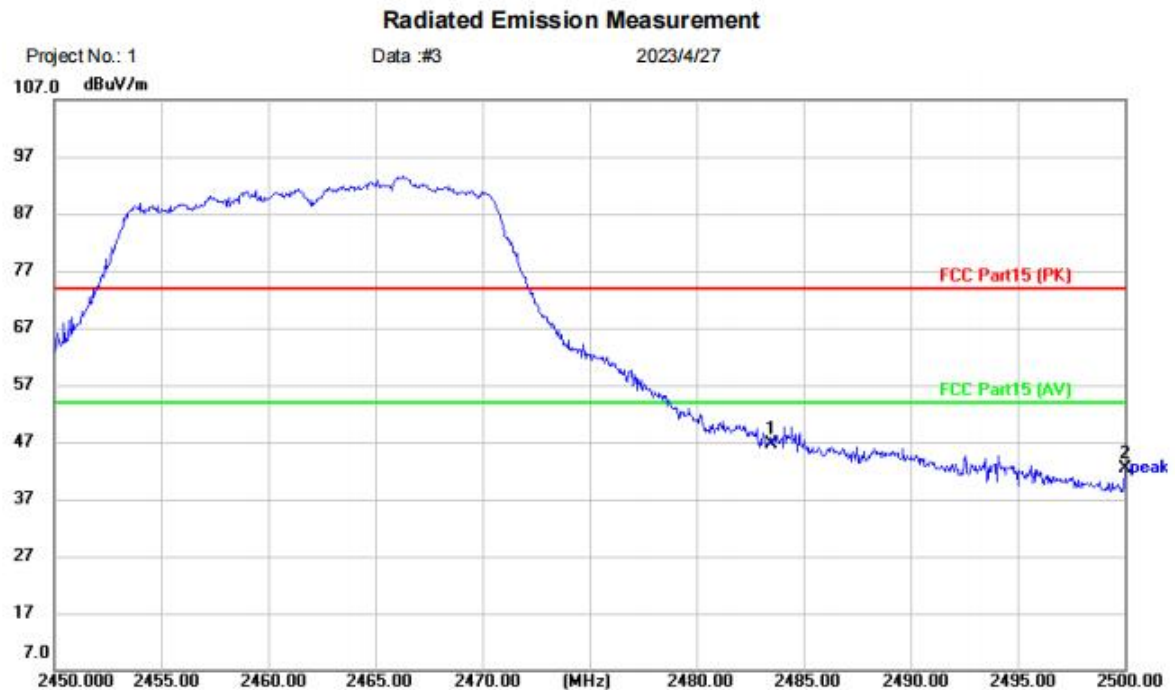


Site      Polarization: **Vertical**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11N20 TX-H  
Note:

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | Detector | Comment |
| 1   | *   | 2483.500 | 46.59         | -3.96          | 42.63       | 74.00  | -31.37 | peak     |         |
| 2   |     | 2500.000 | 42.52         | -4.00          | 38.52       | 74.00  | -35.48 | peak     |         |

**Test Result: Pass**

[TestMode: TX n20 high channel]; [Polarity: Horizontal]

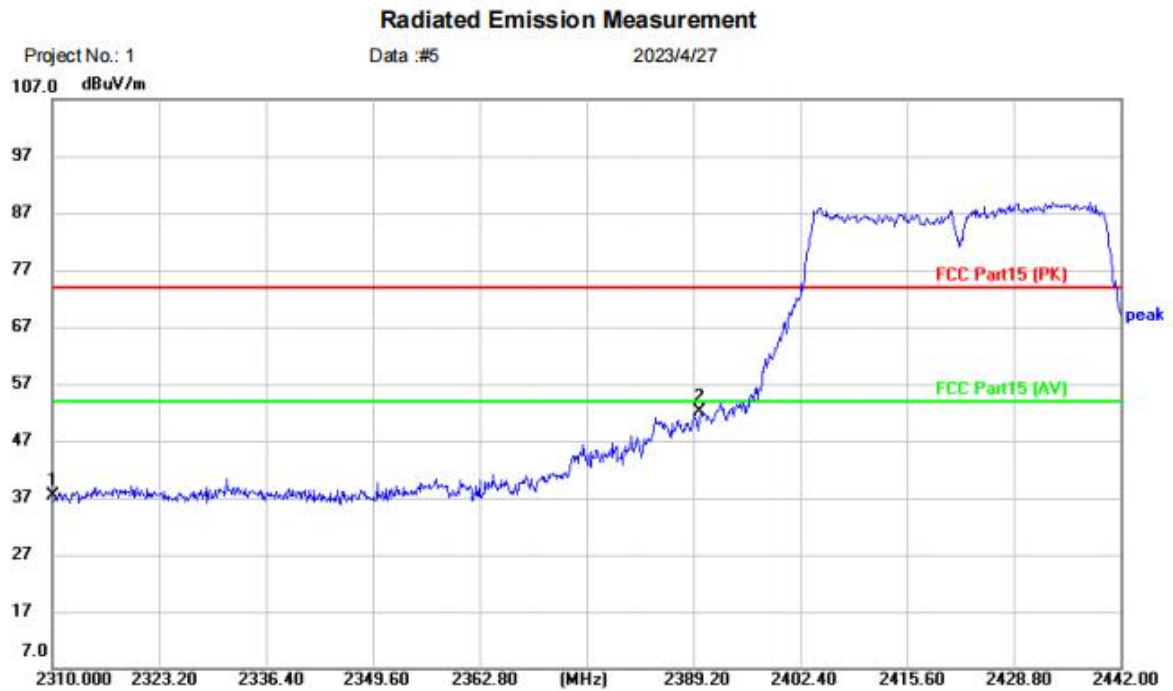


Site:      Polarization: **Horizontal**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11N20 TX-H  
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | *   | 2483.500     | 50.59                    | -3.96                   | 46.63                      | 74.00           | -27.37     | peak     |         |
| 2   |     | 2500.000     | 46.42                    | -4.00                   | 42.42                      | 74.00           | -31.58     | peak     |         |

**Test Result: Pass**

[TestMode: TX n40 low channel]; [Polarity: Horizontal]

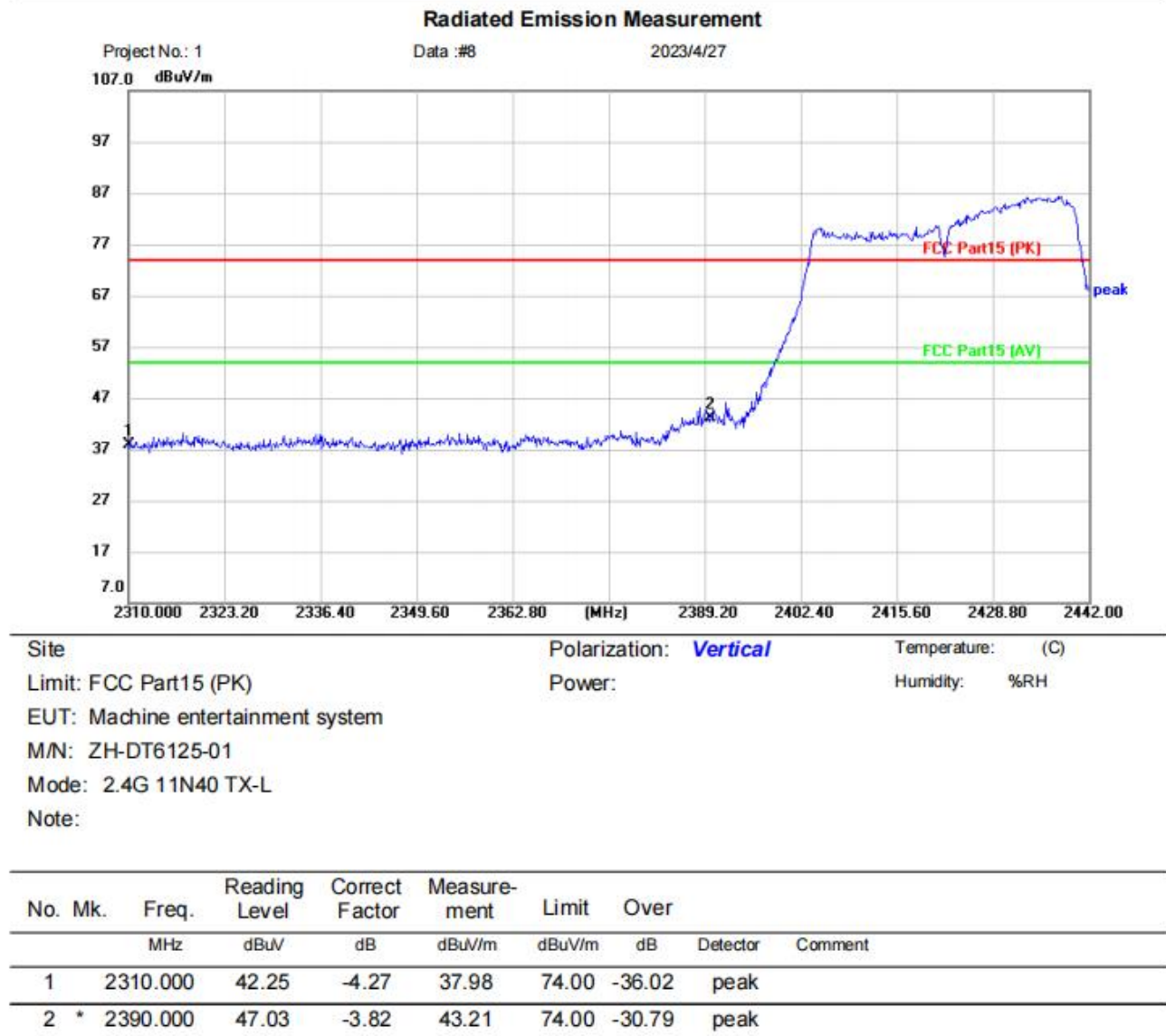


Site:      Polarization: **Horizontal**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11N40 TX-L  
Note:

| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2310.000     | 41.64                    | -4.27                   | 37.37                      | 74.00           | -36.63     | peak     |         |
| 2   | *   | 2390.000     | 55.93                    | -3.82                   | 52.11                      | 74.00           | -21.89     | peak     |         |

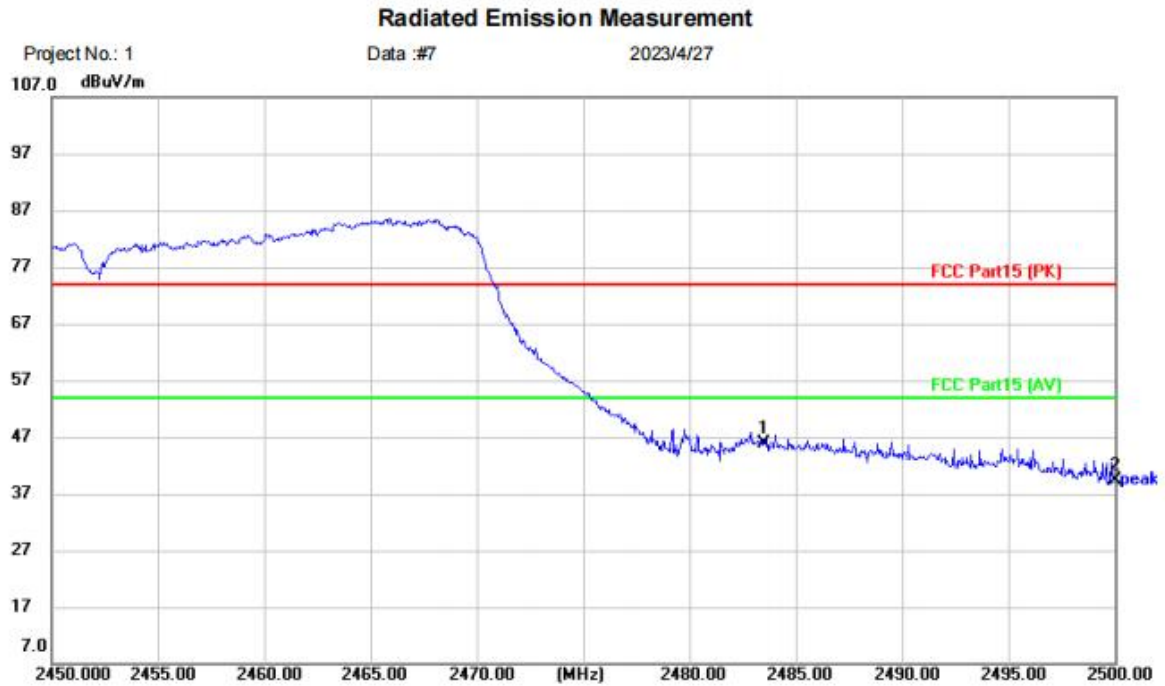
**Test Result: Pass**

[TestMode: TX n40 low channel]; [Polarity: Vertical]



**Test Result: Pass**

[TestMode: TX n40 hig channel]; [Polarity: Vertical]



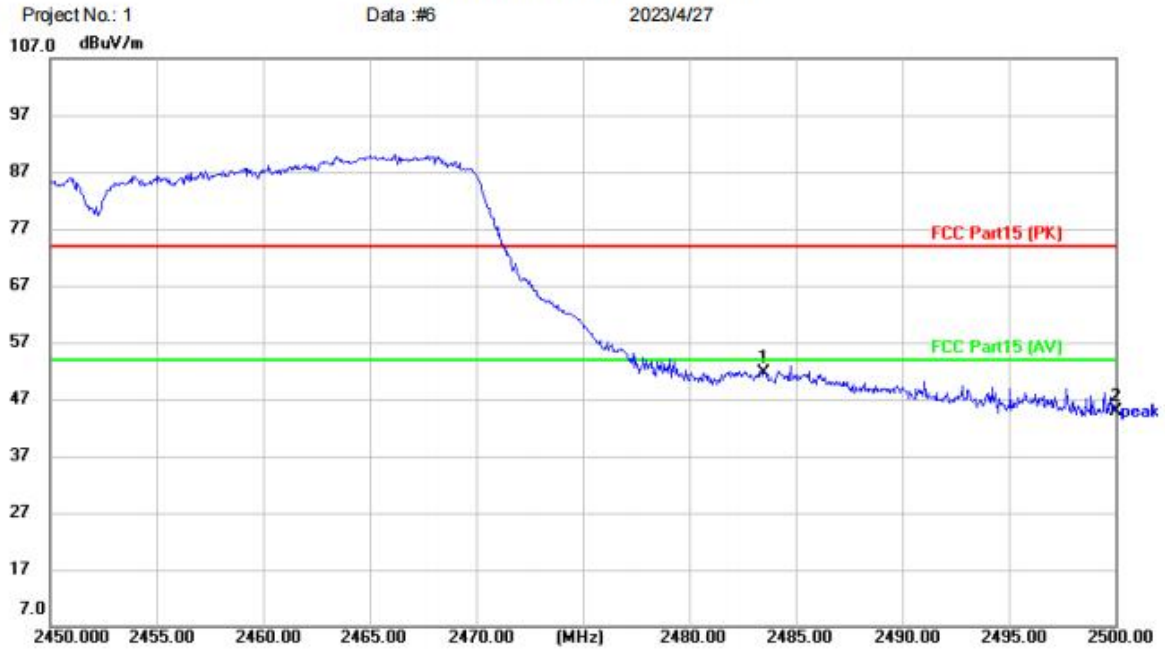
Site      Polarization: **Vertical**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11N40 TX-H  
Note:

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | Detector | Comment |
| 1   | *   | 2483.500 | 49.72         | -3.96          | 45.76       | 74.00  | -28.24 | peak     |         |
| 2   |     | 2500.000 | 43.41         | -4.00          | 39.41       | 74.00  | -34.59 | peak     |         |

**Test Result: Pass**

[TestMode: TX n40 high channel]; [Polarity: Horizontal]

### Radiated Emission Measurement



Site      Polarization: **Horizontal**      Temperature: (C)  
Limit: FCC Part15 (PK)      Power:      Humidity: %RH  
EUT: Machine entertainment system  
M/N: ZH-DT6125-01  
Mode: 2.4G 11N40 TX-H  
Note:

| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Over   |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBuV          | dB             | dBuV/m      | dBuV/m | dB     | Detector | Comment |
| 1   | *   | 2483.500 | 55.52         | -3.96          | 51.56       | 74.00  | -22.44 | peak     |         |
| 2   |     | 2500.000 | 49.00         | -4.00          | 45.00       | 74.00  | -29.00 | peak     |         |

**Test Result: Pass**

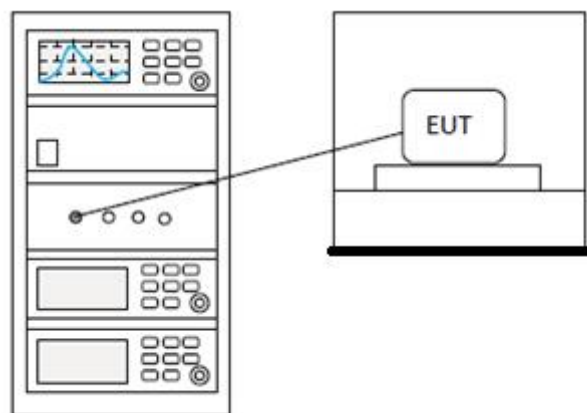
### 13 CONDUCTED SPURIOUS EMISSIONS

|                               |                                                  |
|-------------------------------|--------------------------------------------------|
| <b>Test Standard</b>          | 47 CFR Part 15, Subpart C 15.247                 |
| <b>Test Method</b>            | ANSI C63.10 (2013) Section 7.8.6 & Section 11.11 |
| <b>Test Mode (Pre-Scan)</b>   | TX                                               |
| <b>Test Mode (Final Test)</b> | TX                                               |
| <b>Tester</b>                 | Charlie                                          |
| <b>Temperature</b>            | 25°C                                             |
| <b>Humidity</b>               | 60%                                              |

#### 13.1 LIMITS

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Limit:</b> | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)). |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### 13.2 BLOCK DIAGRAM OF TEST SETUP



### 13.3 TEST DATA

**Pass: Please Refer To Appendix: Appendix1 For Details**

BlueAsia

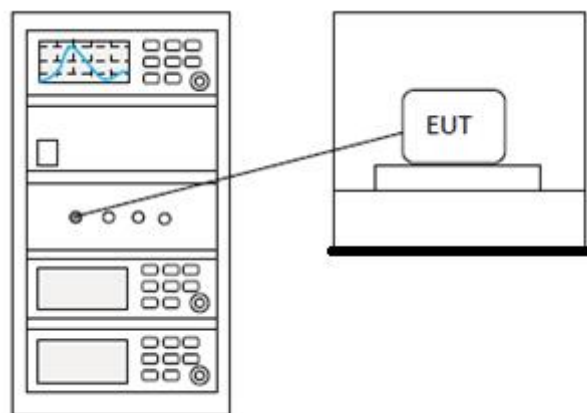
## 14 CONDUCTED BAND EDGES MEASUREMENT

|                               |                                                      |
|-------------------------------|------------------------------------------------------|
| <b>Test Standard</b>          | 47 CFR Part 15, Subpart C 15.247                     |
| <b>Test Method</b>            | ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2 |
| <b>Test Mode (Pre-Scan)</b>   | TX                                                   |
| <b>Test Mode (Final Test)</b> | TX                                                   |
| <b>Tester</b>                 | Charlie                                              |
| <b>Temperature</b>            | 25°C                                                 |
| <b>Humidity</b>               | 60%                                                  |

### 14.1 LIMITS

|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Limit:</b> | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)). |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 14.2 BLOCK DIAGRAM OF TEST SETUP



**14.3 TEST DATA****Pass: Please Refer To Appendix: Appendix1 For Details**

BlueAsia

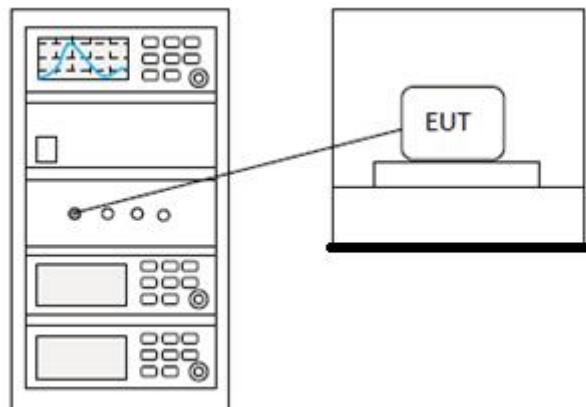
## 15 MINIMUM 6DB BANDWIDTH

|                        |                                   |
|------------------------|-----------------------------------|
| Test Standard          | 47 CFR Part 15, Subpart C 15.247  |
| Test Method            | ANSI C63.10 (2013) Section 11.8.1 |
| Test Mode (Pre-Scan)   | TX                                |
| Test Mode (Final Test) | TX                                |
| Tester                 | Charlie                           |
| Temperature            | 25°C                              |
| Humidity               | 60%                               |

### 15.1 LIMITS

|        |                |
|--------|----------------|
| Limit: | $\geq 500$ kHz |
|--------|----------------|

### 15.2 BLOCK DIAGRAM OF TEST SETUP



### 15.3 TEST DATA

**Pass: Please Refer To Appendix: Appendix1 For Details**

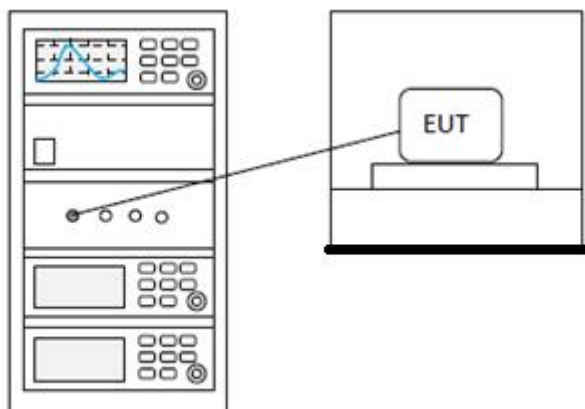
## 16 POWER SPECTRUM DENSITY

|                        |                                    |
|------------------------|------------------------------------|
| Test Standard          | 47 CFR Part 15, Subpart C 15.247   |
| Test Method            | ANSI C63.10 (2013) Section 11.10.2 |
| Test Mode (Pre-Scan)   | TX                                 |
| Test Mode (Final Test) | TX                                 |
| Tester                 | Charlie                            |
| Temperature            | 25°C                               |
| Humidity               | 60%                                |

### 16.1 LIMITS

**Limit:**  $\leq 8\text{dBm}$  in any 3 kHz band during any time interval of continuous transmission

### 16.2 BLOCK DIAGRAM OF TEST SETUP



### 16.3 TEST DATA

**Pass: Please Refer To Appendix: Appendix1 For Details**

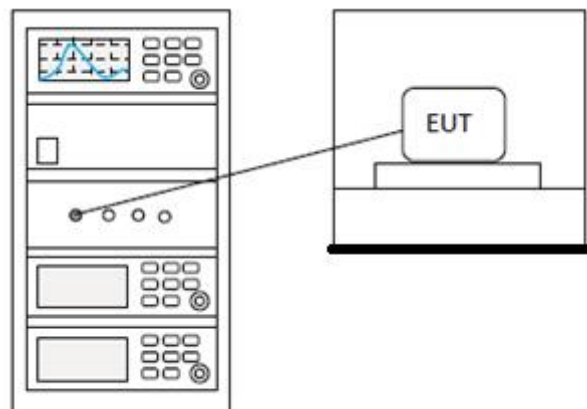
## 17 CONDUCTED PEAK OUTPUT POWER

|                        |                                                   |
|------------------------|---------------------------------------------------|
| Test Standard          | 47 CFR Part 15, Subpart C 15.247                  |
| Test Method            | ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1 |
| Test Mode (Pre-Scan)   | TX                                                |
| Test Mode (Final Test) | TX                                                |
| Tester                 | Charlie                                           |
| Temperature            | 25°C                                              |
| Humidity               | 60%                                               |

### 17.1 LIMITS

| Frequency range(MHz) | Output power of the intentional radiator(watt)         |
|----------------------|--------------------------------------------------------|
| 902-928              | 1 for $\geq 50$ hopping channels                       |
|                      | 0.25 for $25 \leq \text{hopping channels} < 50$        |
|                      | 1 for digital modulation                               |
| 2400-2483.5          | 1 for $\geq 75$ non-overlapping hopping channels       |
|                      | 0.125 for all other frequency hopping systems          |
|                      | 1 for digital modulation                               |
| 5725-5850            | 1 for frequency hopping systems and digital modulation |

### 17.2 BLOCK DIAGRAM OF TEST SETUP



**17.3 TEST DATA****Pass: Please Refer To Appendix: Appendix1 For Details**

BlueAsia

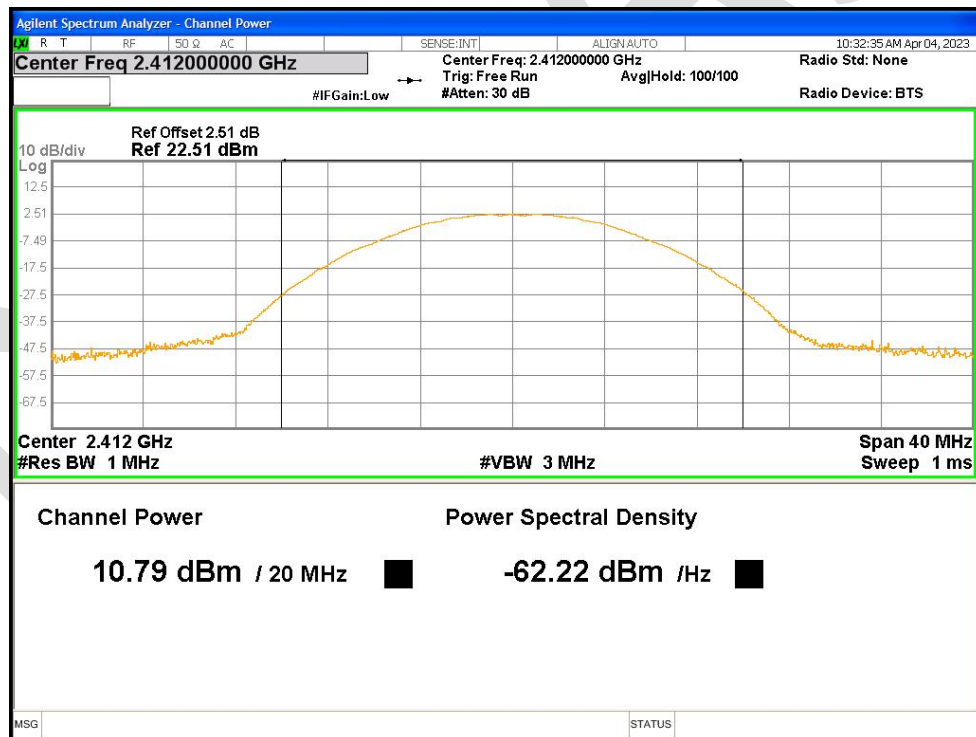
## 18 APPENDIX

### Appendix1

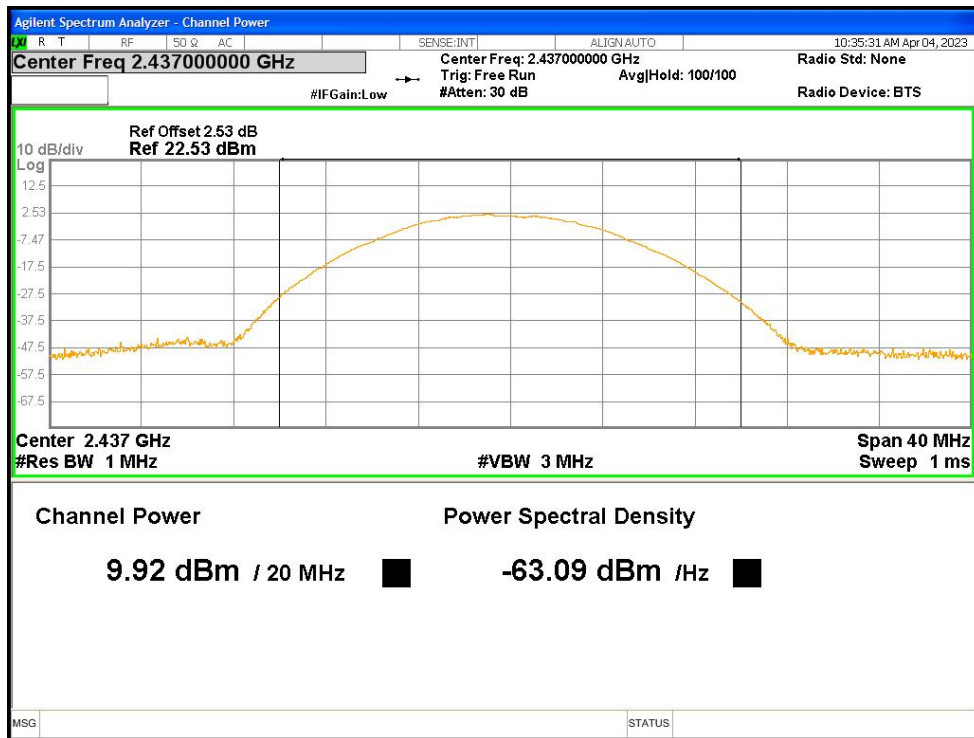
#### 18.1 MAXIMUM CONDUCTED OUTPUT POWER

| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|-----------|------|-----------------|---------|-----------------------|-------------|---------|
| NVNT      | b    | 2412            | Ant1    | 10.787                | 30          | Pass    |
| NVNT      | b    | 2437            | Ant1    | 9.919                 | 30          | Pass    |
| NVNT      | b    | 2462            | Ant1    | 9.819                 | 30          | Pass    |
| NVNT      | g    | 2412            | Ant1    | 14.009                | 30          | Pass    |
| NVNT      | g    | 2437            | Ant1    | 13.269                | 30          | Pass    |
| NVNT      | g    | 2462            | Ant1    | 13.247                | 30          | Pass    |
| NVNT      | n20  | 2412            | Ant1    | 13.957                | 30          | Pass    |
| NVNT      | n20  | 2437            | Ant1    | 13.128                | 30          | Pass    |
| NVNT      | n20  | 2462            | Ant1    | 12.942                | 30          | Pass    |
| NVNT      | n40  | 2422            | Ant1    | 12.739                | 30          | Pass    |
| NVNT      | n40  | 2437            | Ant1    | 13.051                | 30          | Pass    |
| NVNT      | n40  | 2452            | Ant1    | 12.68                 | 30          | Pass    |

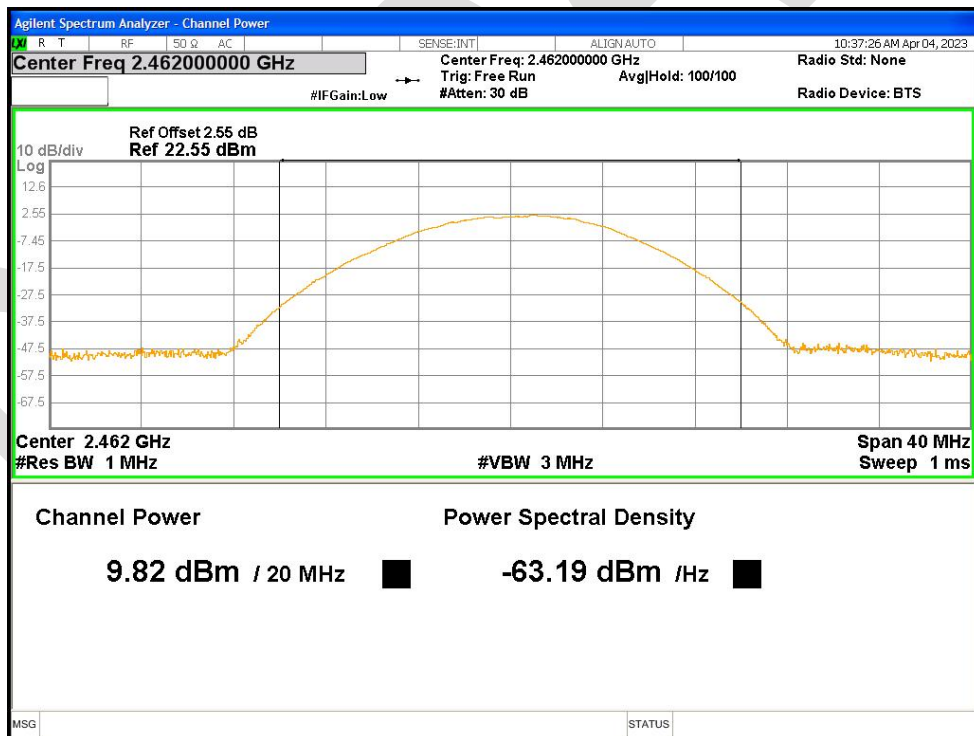
Power NVNT b 2412MHz Ant1



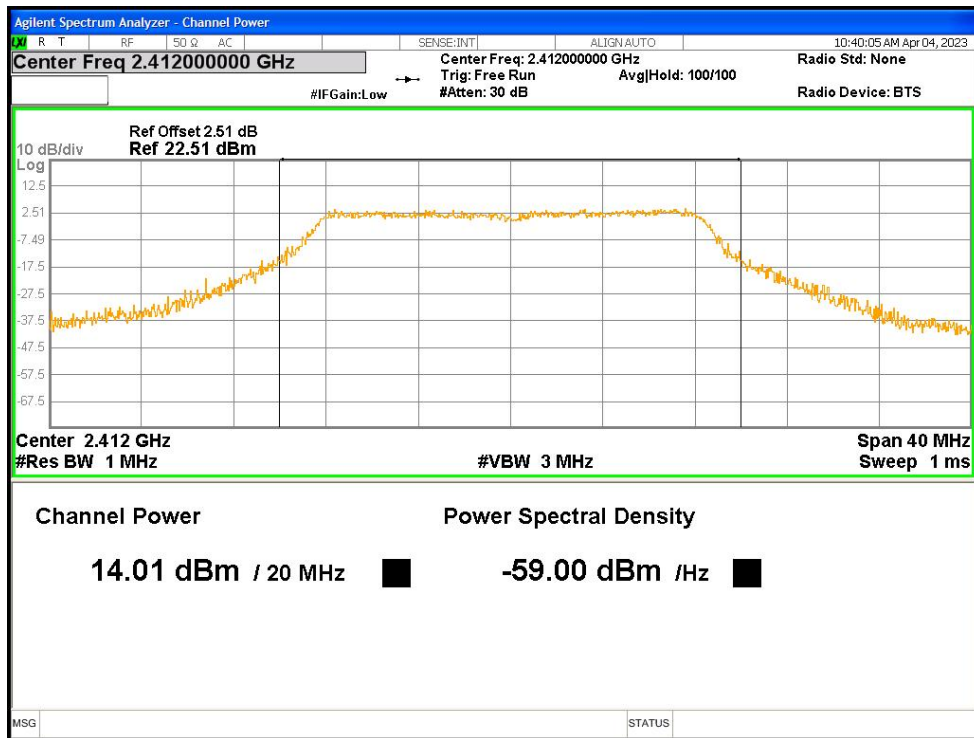
Power NVNT b 2437MHz Ant1



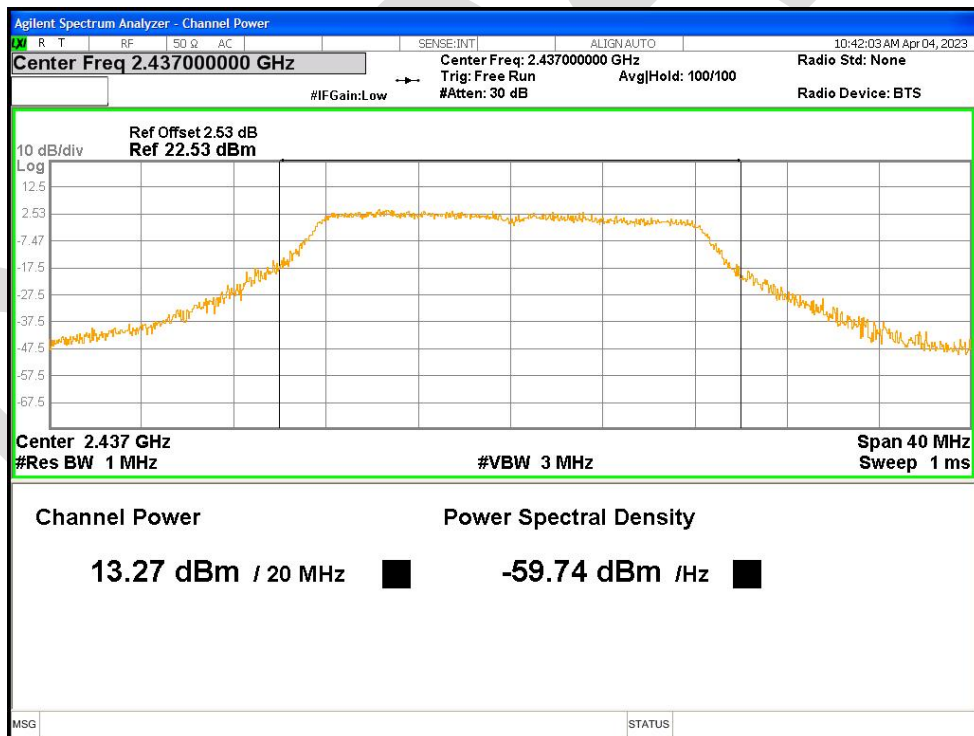
Power NVNT b 2462MHz Ant1



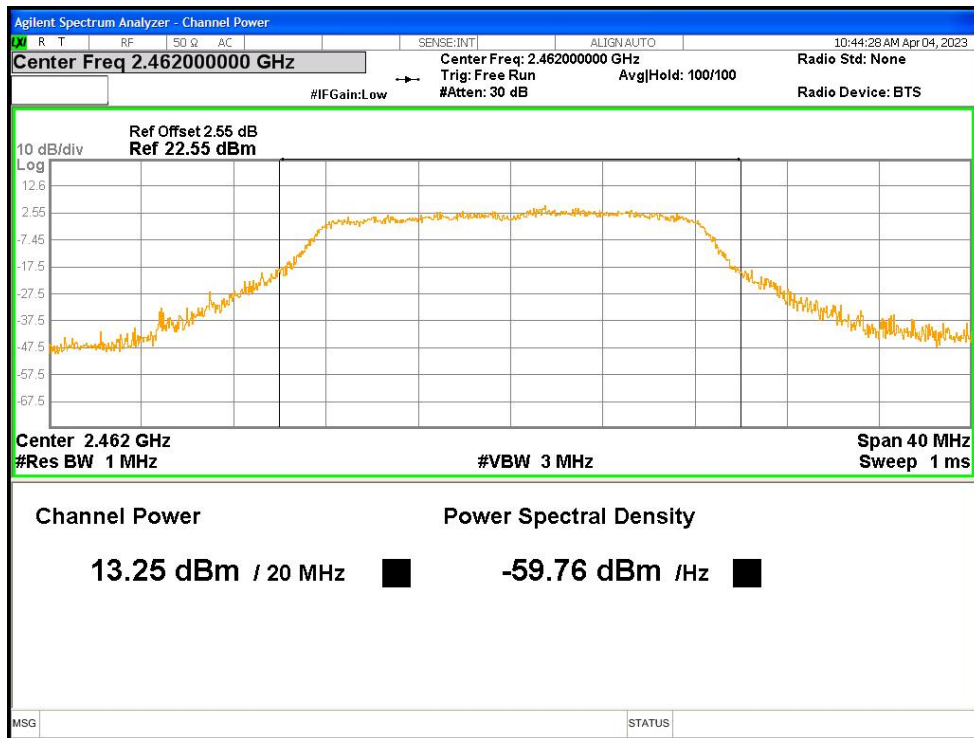
Power NVNT g 2412MHz Ant1



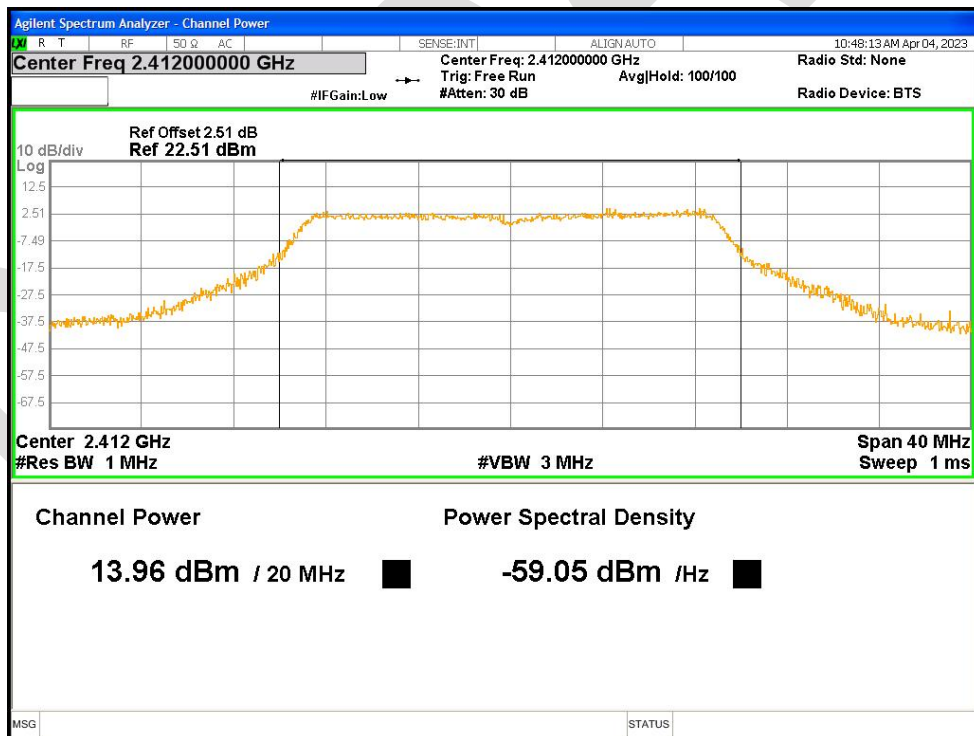
Power NVNT g 2437MHz Ant1



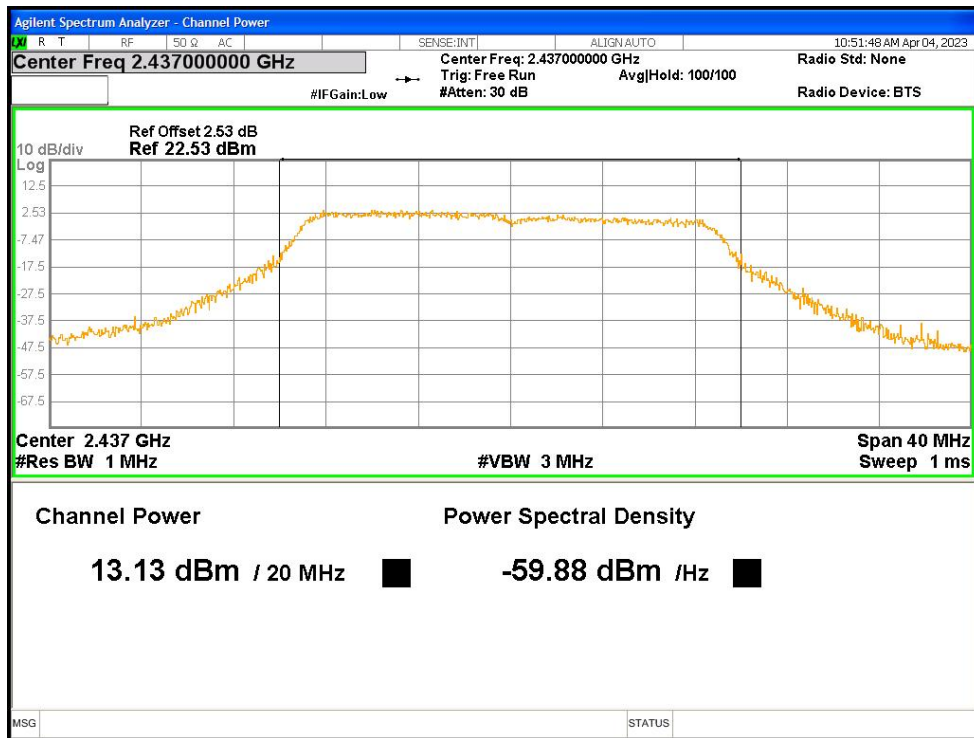
Power NVNT g 2462MHz Ant1



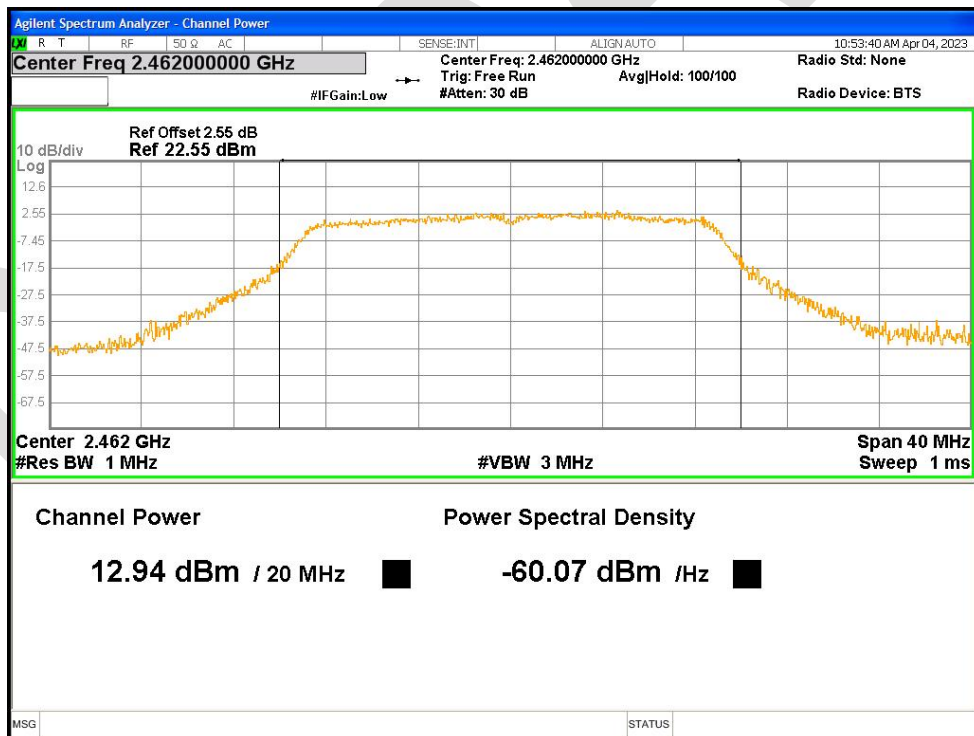
Power NVNT n20 2412MHz Ant1



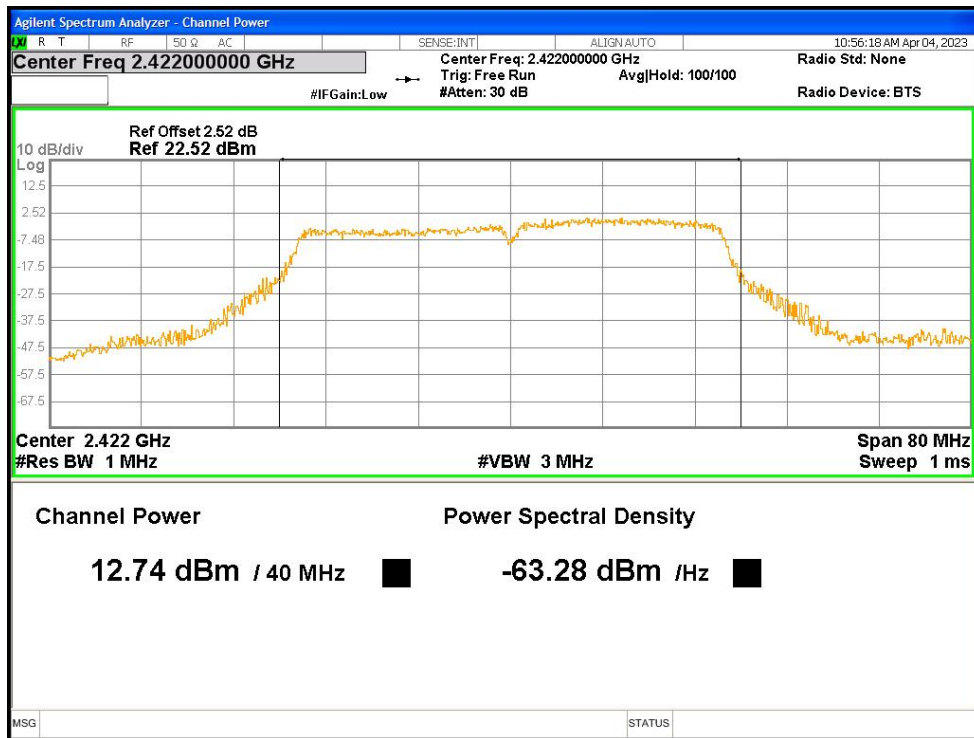
Power NVNT n20 2437MHz Ant1



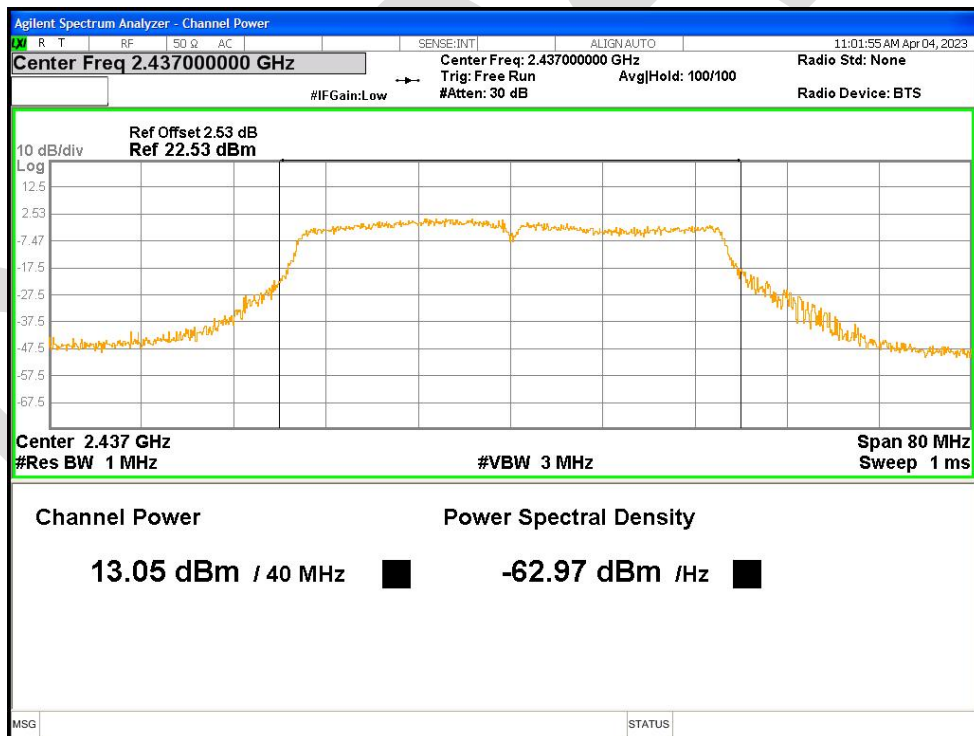
Power NVNT n20 2462MHz Ant1



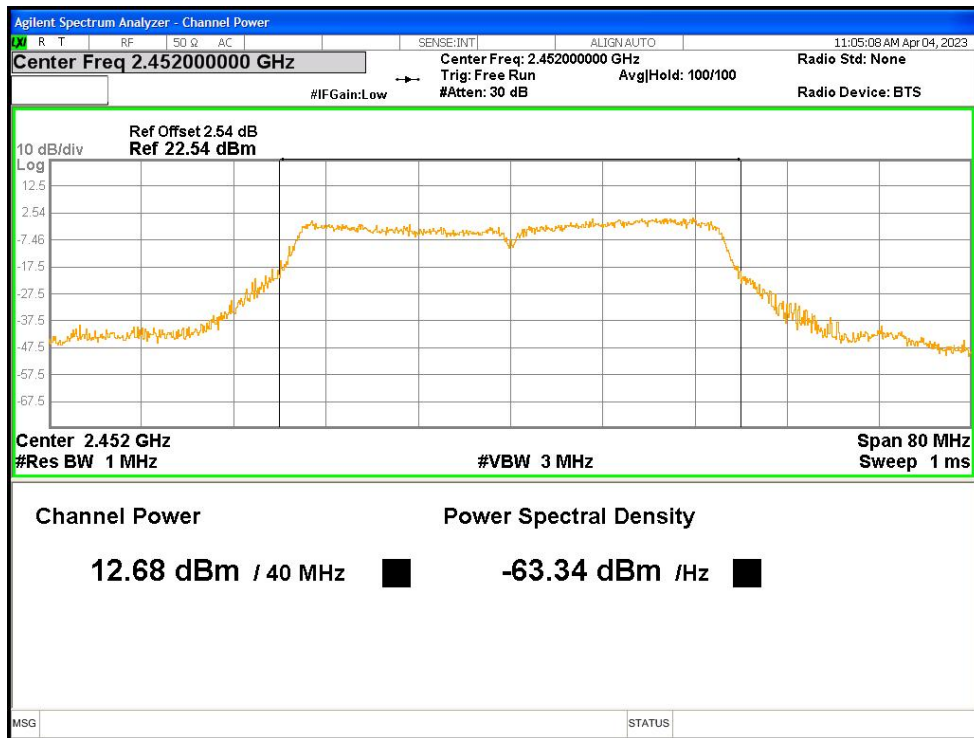
Power NVNT n40 2422MHz Ant1



Power NVNT n40 2437MHz Ant1



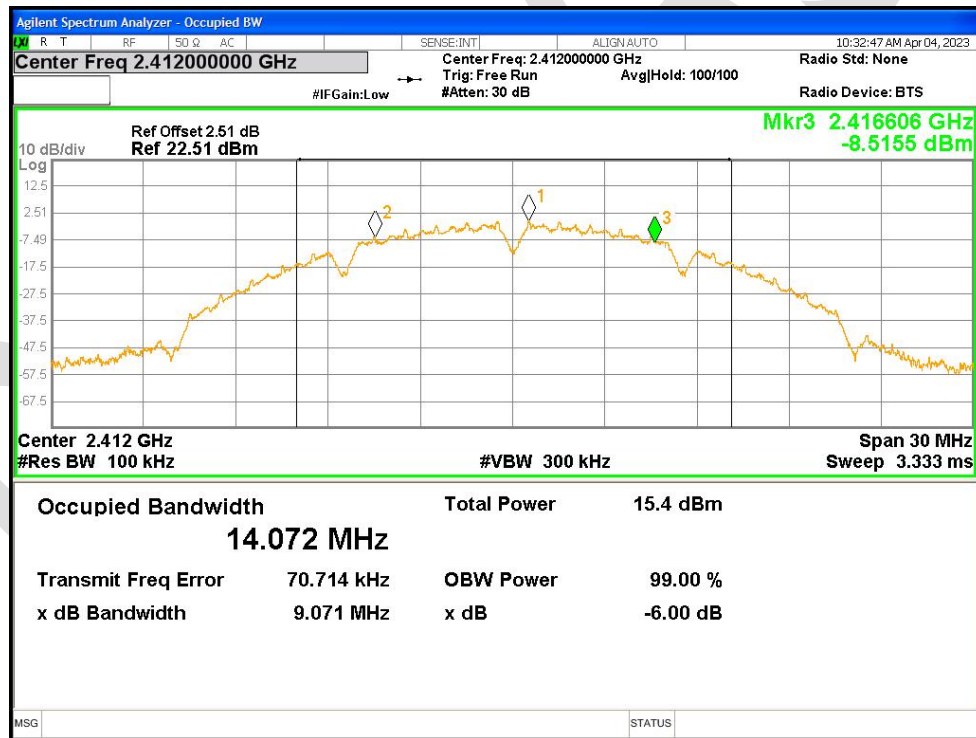
Power NVNT n40 2452MHz Ant1



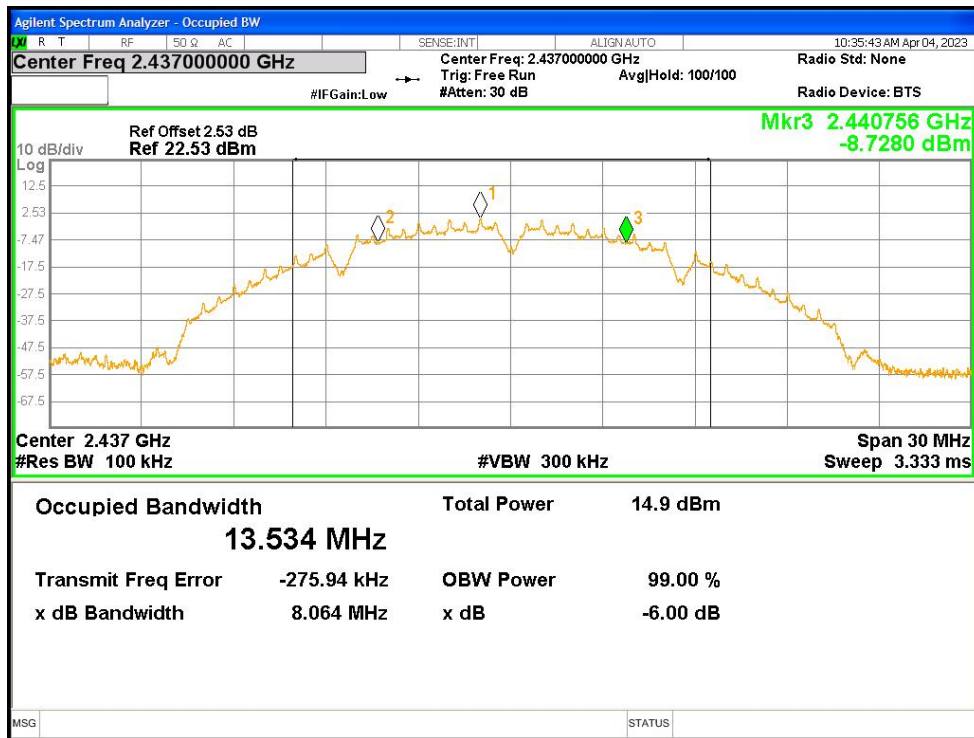
## 18.2 -6DB BANDWIDTH

| Condition | Mode | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|-----------|------|-----------------|---------|-----------------------|-----------------------------|---------|
| NVNT      | b    | 2412            | Ant1    | 9.071                 | 0.5                         | Pass    |
| NVNT      | b    | 2437            | Ant1    | 8.064                 | 0.5                         | Pass    |
| NVNT      | b    | 2462            | Ant1    | 7.089                 | 0.5                         | Pass    |
| NVNT      | g    | 2412            | Ant1    | 16.489                | 0.5                         | Pass    |
| NVNT      | g    | 2437            | Ant1    | 15.805                | 0.5                         | Pass    |
| NVNT      | g    | 2462            | Ant1    | 15.751                | 0.5                         | Pass    |
| NVNT      | n20  | 2412            | Ant1    | 17.688                | 0.5                         | Pass    |
| NVNT      | n20  | 2437            | Ant1    | 16.829                | 0.5                         | Pass    |
| NVNT      | n20  | 2462            | Ant1    | 16.827                | 0.5                         | Pass    |
| NVNT      | n40  | 2422            | Ant1    | 35.124                | 0.5                         | Pass    |
| NVNT      | n40  | 2437            | Ant1    | 35.132                | 0.5                         | Pass    |
| NVNT      | n40  | 2452            | Ant1    | 35.96                 | 0.5                         | Pass    |

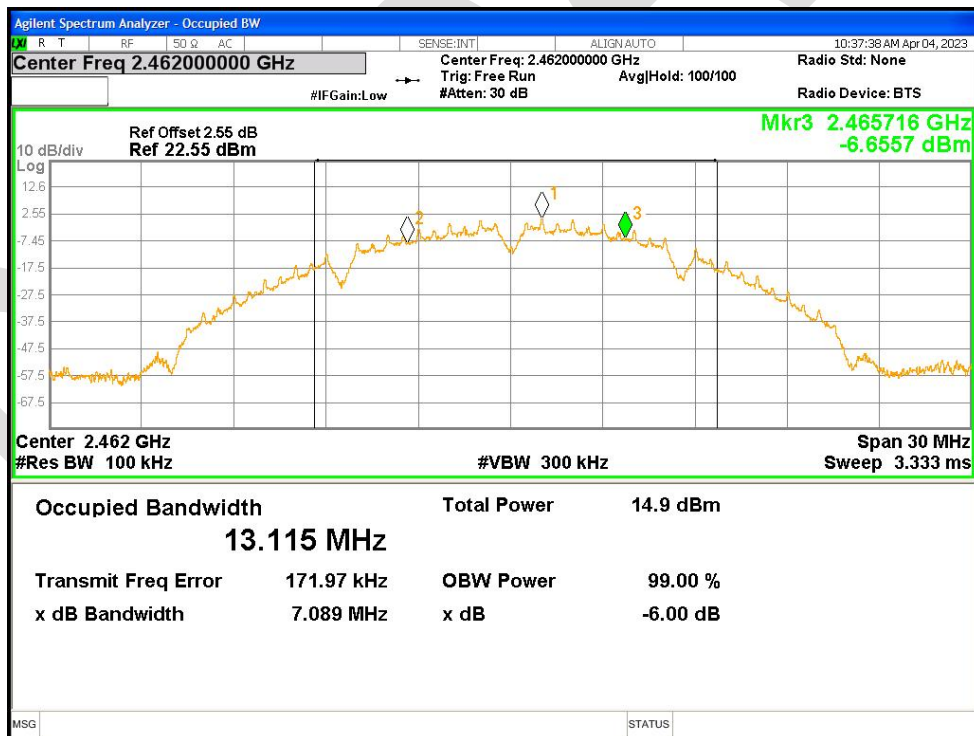
-6dB Bandwidth NVNT b 2412MHz Ant1



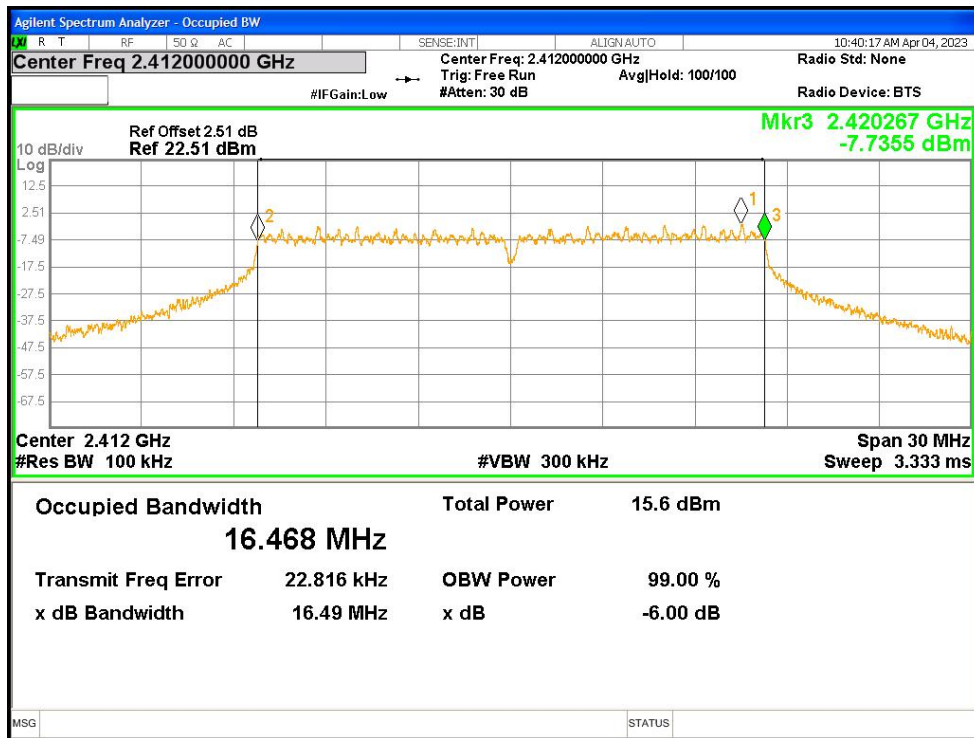
-6dB Bandwidth NVNT b 2437MHz Ant1



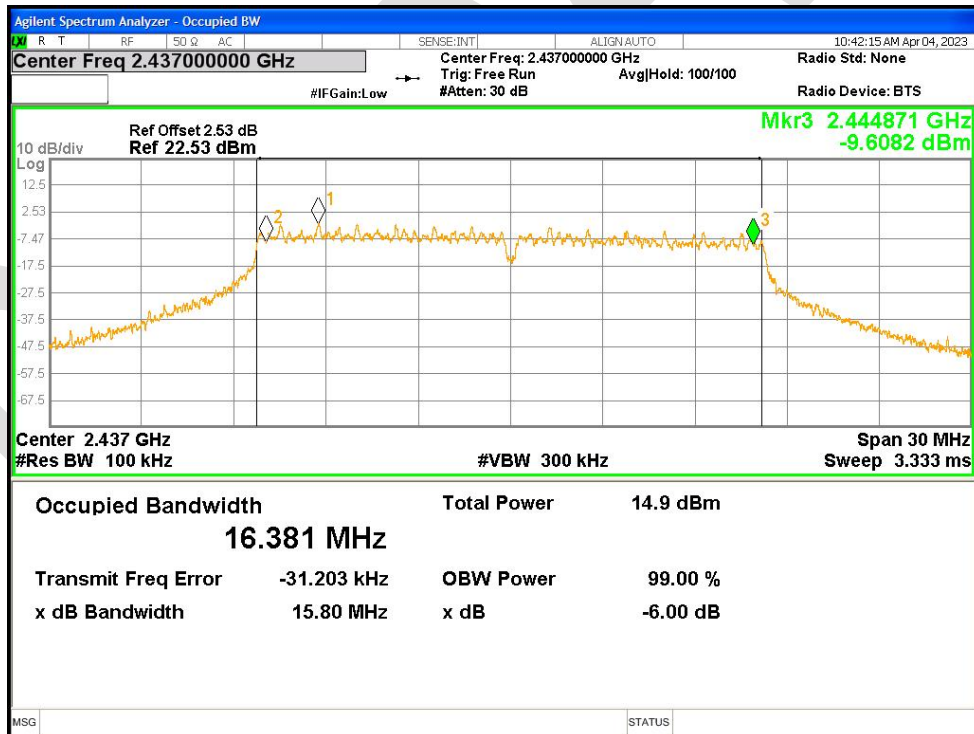
-6dB Bandwidth NVNT b 2462MHz Ant1



-6dB Bandwidth NVNT g 2412MHz Ant1



-6dB Bandwidth NVNT g 2437MHz Ant1



-6dB Bandwidth NVNT g 2462MHz Ant1