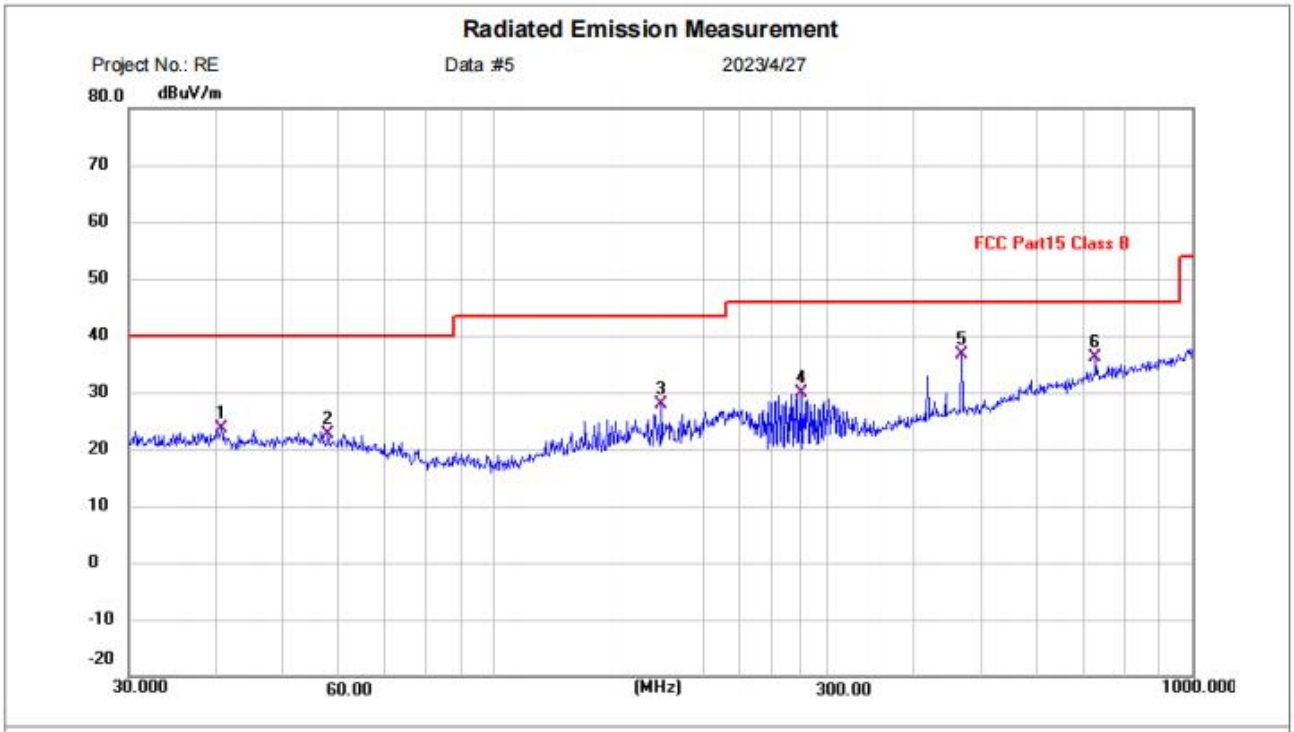
### 15.4 TEST DATA

Below 1GHz

[TestMode: TX]; [Polarity: Horizontal]




Site
Limit: FCC Part15 Class B
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: 2.4G TX mode
Note:

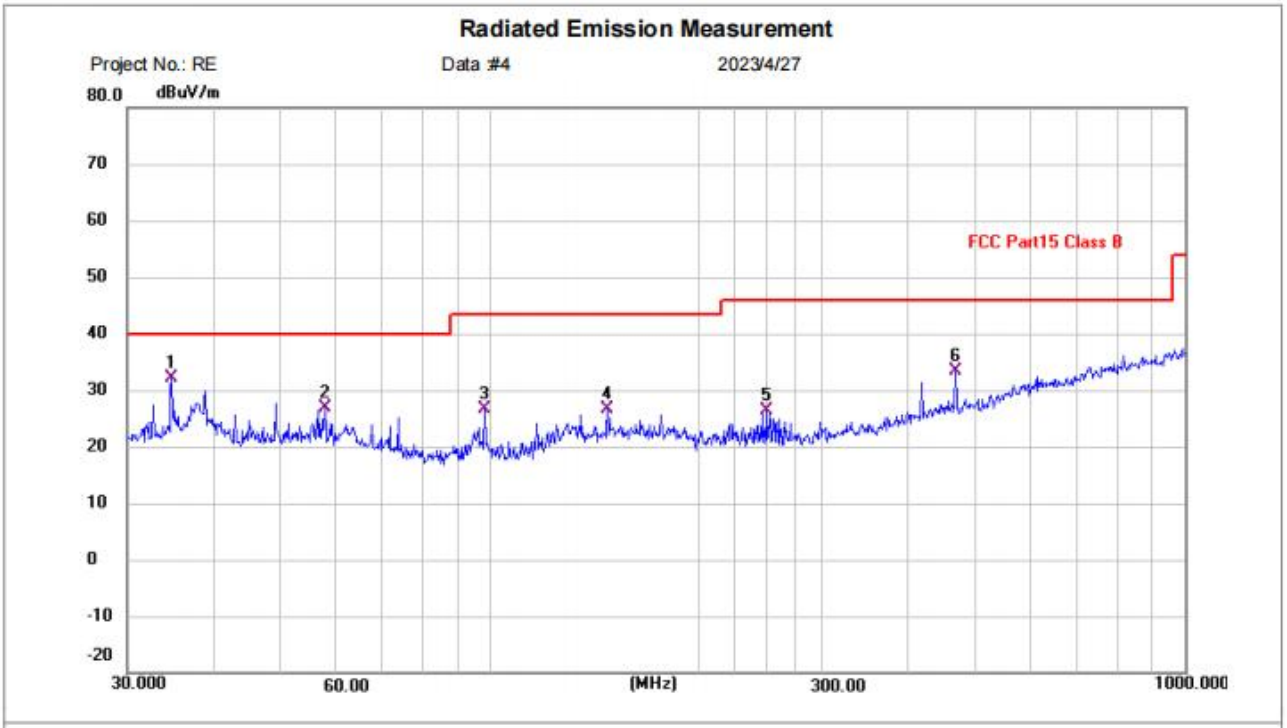
Polarization: ***Horizontal***
Power:

Temperature: (C)
Humidity: %RH

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | P/F | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 40.7016 | -0.23 | 23.78 | 23.55 | 40.00 | -16.45 | QP | P | |
| 2 | 57.7962 | 0.24 | 22.47 | 22.71 | 40.00 | -17.29 | QP | P | |
| 3 | 173.8135 | 5.33 | 22.49 | 27.82 | 43.50 | -15.68 | QP | P | |
| 4 | 276.1235 | 7.58 | 22.26 | 29.84 | 46.00 | -16.16 | QP | P | |
| 5 * | 467.2349 | 9.04 | 27.63 | 36.67 | 46.00 | -9.33 | QP | P | |
| 6 | 726.8052 | 3.49 | 32.64 | 36.13 | 46.00 | -9.87 | QP | P | |

**Test Result: Pass**

[TestMode: TX]; [Polarity: Vertical]




Site
Limit: FCC Part15 Class B
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX mode
Note:

Polarization: *Vertical*
Power:

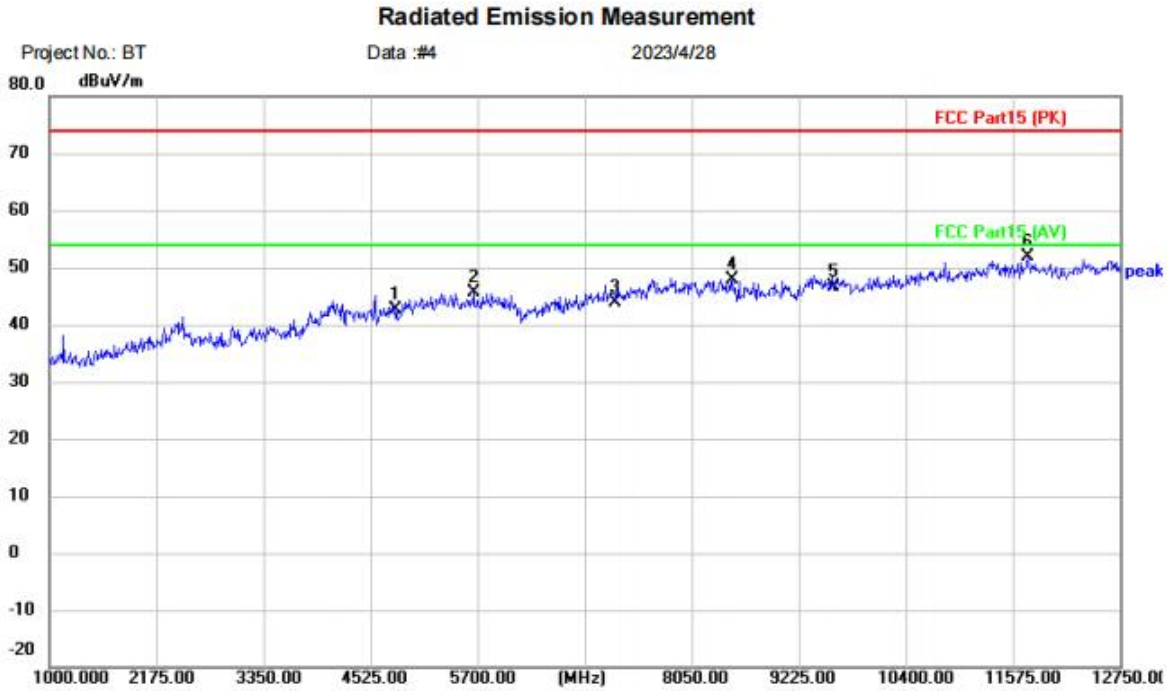
Temperature: (C)
Humidity: %RH

| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | P/F | Remark |
|---|---|---|---|---|---|---|---|---|---|
| 1 * | 34.7601 | 9.23 | 22.95 | 32.18 | 40.00 | -7.82 | QP | P | |
| 2 | 57.7962 | 4.41 | 22.47 | 26.88 | 40.00 | -13.12 | QP | P | |
| 3 | 98.1418 | 6.86 | 19.78 | 26.64 | 43.50 | -16.86 | QP | P | |
| 4 | 147.4036 | 3.42 | 23.14 | 26.56 | 43.50 | -16.94 | QP | P | |
| 5 | 249.4250 | 4.92 | 21.40 | 26.32 | 46.00 | -19.68 | QP | P | |
| 6 | 467.2349 | 5.72 | 27.63 | 33.35 | 46.00 | -12.65 | QP | P | |

**Test Result: Pass**

Above 1GHz

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




Site
Limit: FCC Part15 (PK)
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX-L
Note:

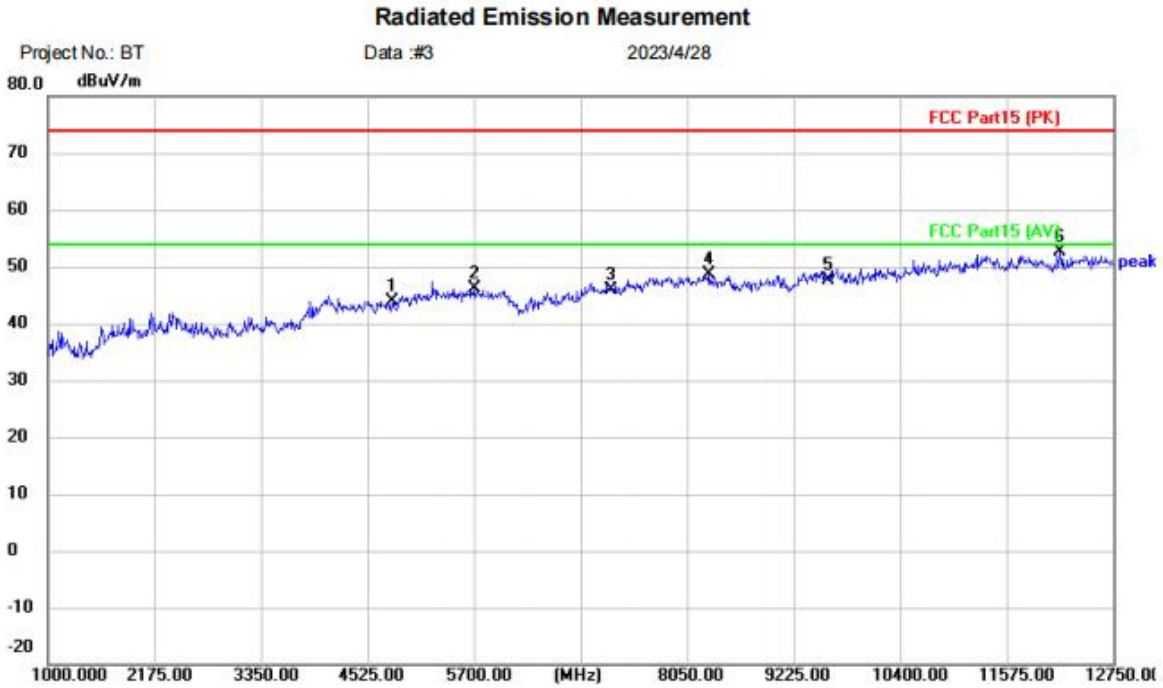
Polarization: *Horizontal*
Power:

Temperature: (C)
Humidity: %RH

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 4804.000 | 38.49 | 4.05 | 42.54 | 74.00 | -31.46 | peak | |
| 2 | | 5653.000 | 38.93 | 6.76 | 45.69 | 74.00 | -28.31 | peak | |
| 3 | | 7206.000 | 35.91 | 7.93 | 43.84 | 74.00 | -30.16 | peak | |
| 4 | | 8496.500 | 38.69 | 9.12 | 47.81 | 74.00 | -26.19 | peak | |
| 5 | | 9608.000 | 35.83 | 10.90 | 46.73 | 74.00 | -27.27 | peak | |
| 6 | * | 11739.50 | 38.14 | 13.78 | 51.92 | 74.00 | -22.08 | peak | |

**Test Result: Pass**

## [TestMode:TX lowest channel]; [Polarity: Vertical]




Site
Limit: FCC Part15 (PK)
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX-L
Note:

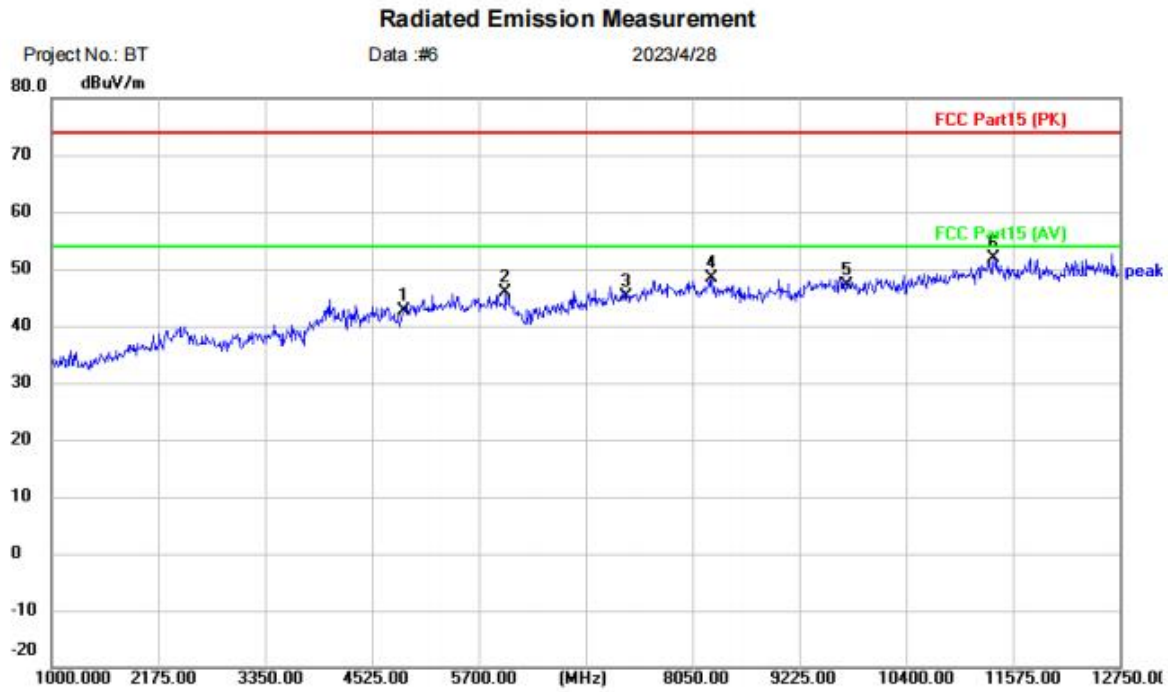
Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 4804.000 | 39.74 | 4.05 | 43.79 | 74.00 | -30.21 | peak | |
| 2 | | 5700.000 | 39.23 | 6.81 | 46.04 | 74.00 | -27.96 | peak | |
| 3 | | 7206.000 | 38.05 | 7.93 | 45.98 | 74.00 | -28.02 | peak | |
| 4 | | 8296.750 | 39.59 | 9.03 | 48.62 | 74.00 | -25.38 | peak | |
| 5 | | 9608.000 | 36.63 | 10.90 | 47.53 | 74.00 | -26.47 | peak | |
| 6 | * | 12162.50 | 38.73 | 13.90 | 52.63 | 74.00 | -21.37 | peak | |

## Test Result: Pass

## [TestMode: TX middle channel]; [Polarity: Horizontal]




Site
Limit: FCC Part15 (PK)
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX-M
Note:

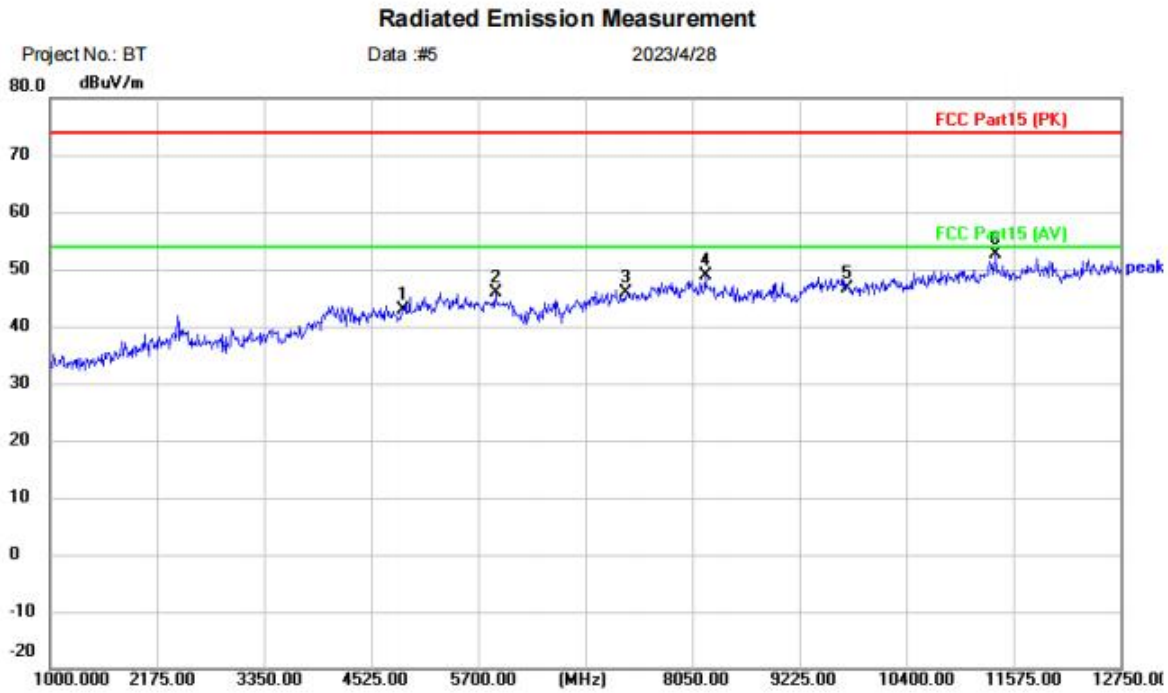
Polarization: ***Horizontal***
Power:

Temperature: (C)
Humidity: %RH

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 4884.000 | 38.33 | 4.37 | 42.70 | 74.00 | -31.30 | peak | |
| 2 | | 5993.750 | 38.92 | 7.04 | 45.96 | 74.00 | -28.04 | peak | |
| 3 | | 7323.000 | 36.85 | 8.21 | 45.06 | 74.00 | -28.94 | peak | |
| 4 | | 8261.500 | 39.39 | 9.02 | 48.41 | 74.00 | -25.59 | peak | |
| 5 | | 9764.000 | 35.83 | 11.30 | 47.13 | 74.00 | -26.87 | peak | |
| 6 | * | 11363.50 | 38.24 | 13.62 | 51.86 | 74.00 | -22.14 | peak | |

## Test Result: Pass

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




Site
Limit: FCC Part15 (PK)
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX-M
Note:

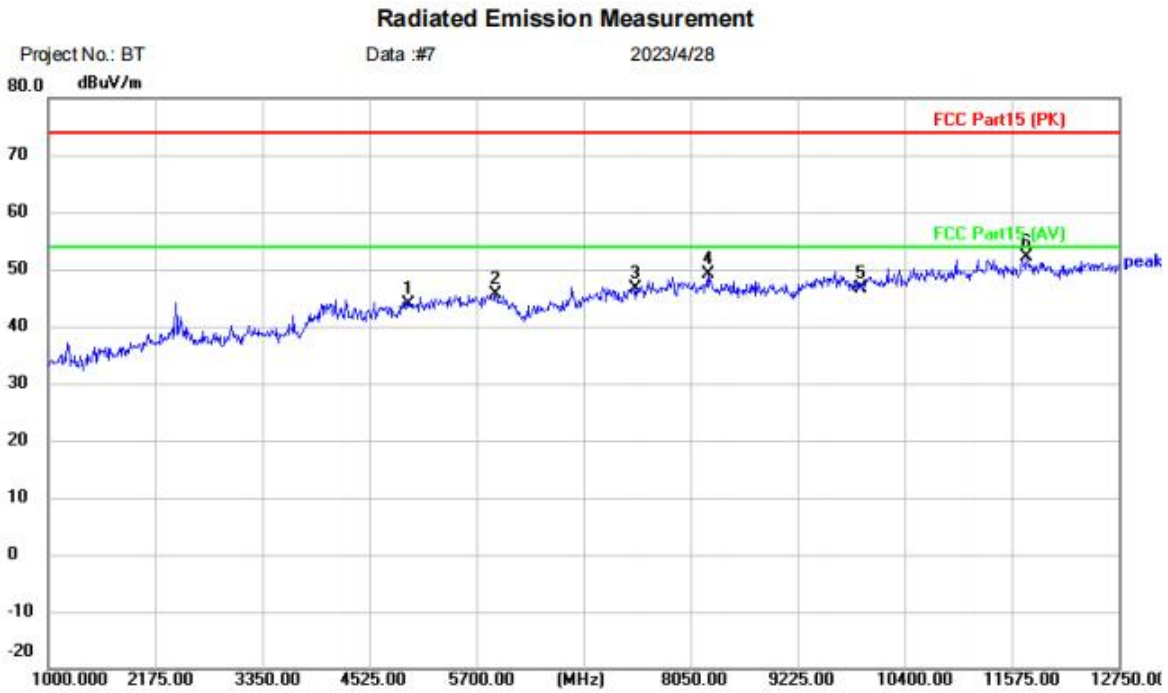
Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 4884.000 | 38.58 | 4.37 | 42.95 | 74.00 | -31.05 | peak | |
| 2 | | 5888.000 | 39.12 | 6.82 | 45.94 | 74.00 | -28.06 | peak | |
| 3 | | 7323.000 | 37.61 | 8.21 | 45.82 | 74.00 | -28.18 | peak | |
| 4 | | 8191.000 | 39.83 | 8.99 | 48.82 | 74.00 | -25.18 | peak | |
| 5 | | 9764.000 | 35.26 | 11.30 | 46.56 | 74.00 | -27.44 | peak | |
| 6 | * | 11375.25 | 38.89 | 13.62 | 52.51 | 74.00 | -21.49 | peak | |

**Test Result: Pass**

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




Site
Limit: FCC Part15 (PK)
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX-H
Note:

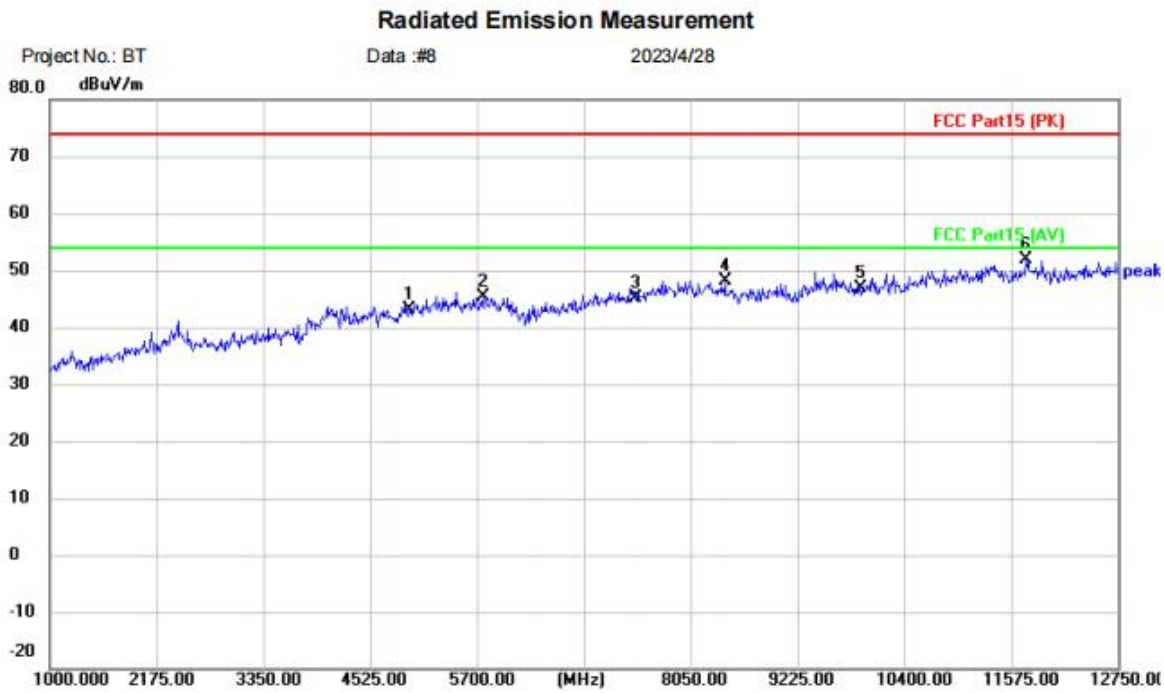
Polarization: *Horizontal*
Power:

Temperature: (C)
Humidity: %RH

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 4960.000 | 38.56 | 5.42 | 43.98 | 74.00 | -30.02 | peak | |
| 2 | | 5911.500 | 38.77 | 6.85 | 45.62 | 74.00 | -28.38 | peak | |
| 3 | | 7440.000 | 38.15 | 8.48 | 46.63 | 74.00 | -27.37 | peak | |
| 4 | | 8238.000 | 40.09 | 9.00 | 49.09 | 74.00 | -24.91 | peak | |
| 5 | | 9920.000 | 34.97 | 11.69 | 46.66 | 74.00 | -27.34 | peak | |
| 6 | * | 11739.50 | 38.41 | 13.78 | 52.19 | 74.00 | -21.81 | peak | |

**Test Result: Pass**

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




Site
Limit: FCC Part15 (PK)
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX-H
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 4960.000 | 37.77 | 5.42 | 43.19 | 74.00 | -30.81 | peak | |
| 2 | | 5770.500 | 38.50 | 6.78 | 45.28 | 74.00 | -28.72 | peak | |
| 3 | | 7440.000 | 36.75 | 8.48 | 45.23 | 74.00 | -28.77 | peak | |
| 4 | | 8426.000 | 38.93 | 9.09 | 48.02 | 74.00 | -25.98 | peak | |
| 5 | | 9920.000 | 35.10 | 11.69 | 46.79 | 74.00 | -27.21 | peak | |
| 6 | * | 11739.50 | 38.11 | 13.78 | 51.89 | 74.00 | -22.11 | peak | |

**Test Result: Pass**

# 16 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

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

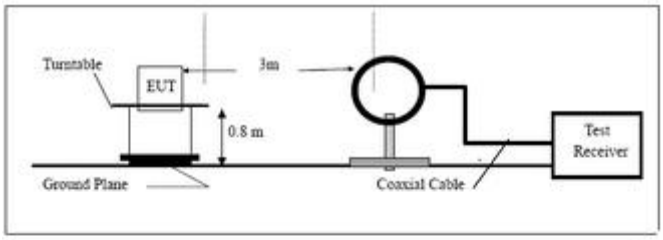
## 16.1 LIMITS

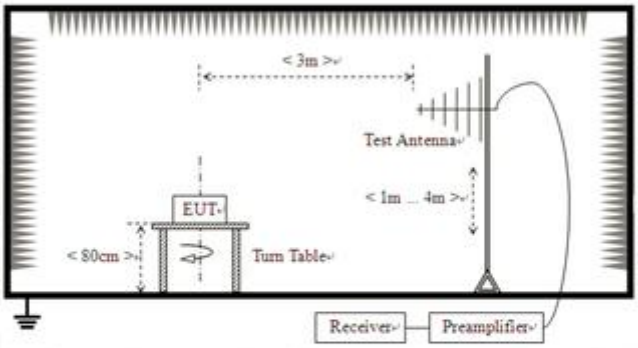
| Frequency(MHz) | Field strength(microvolts/meter) | Measurement distance(meters) |
|---|---|---|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30.0 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

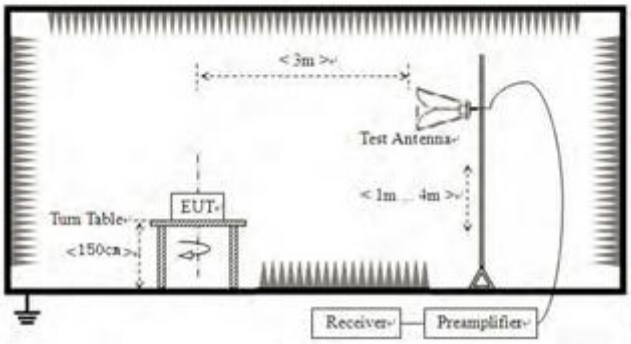
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field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

BlueAsia

## 16.2 BLOCK DIAGRAM OF TEST SETUP




## 16.3 PROCEDURE

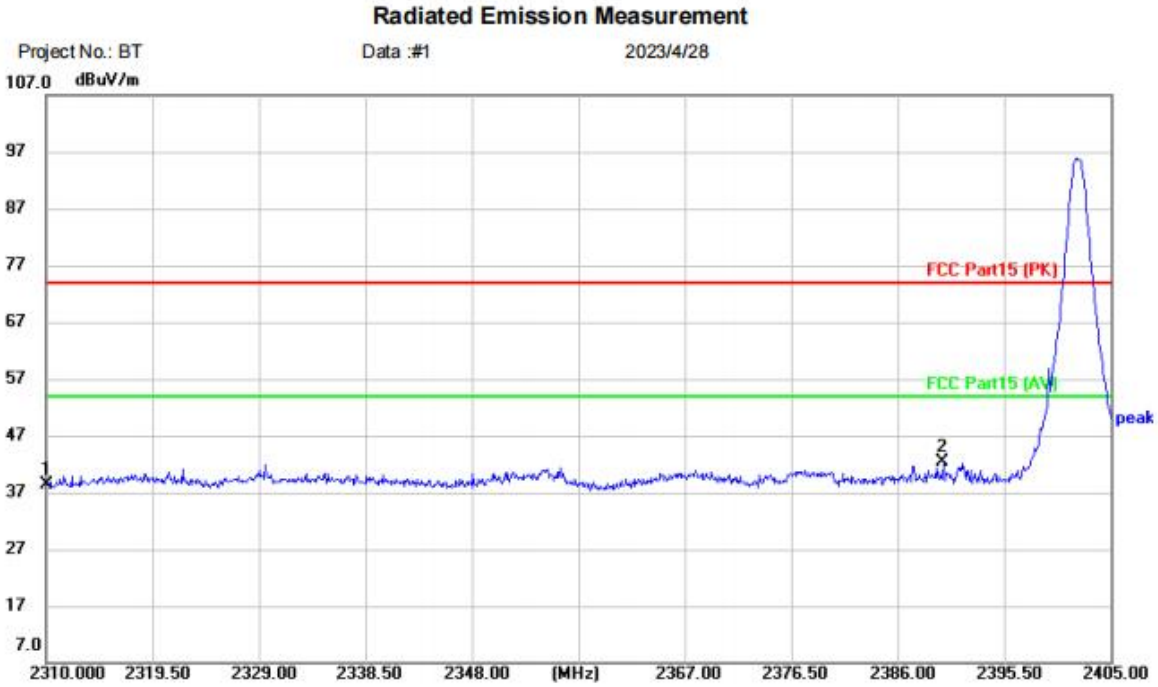
a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. 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.
d. 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.
e. 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.
f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
g. 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: Level= Read Level+ Cable Loss+ Antenna Factor- 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.

BlueAsia

### 16.4 TEST DATA

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

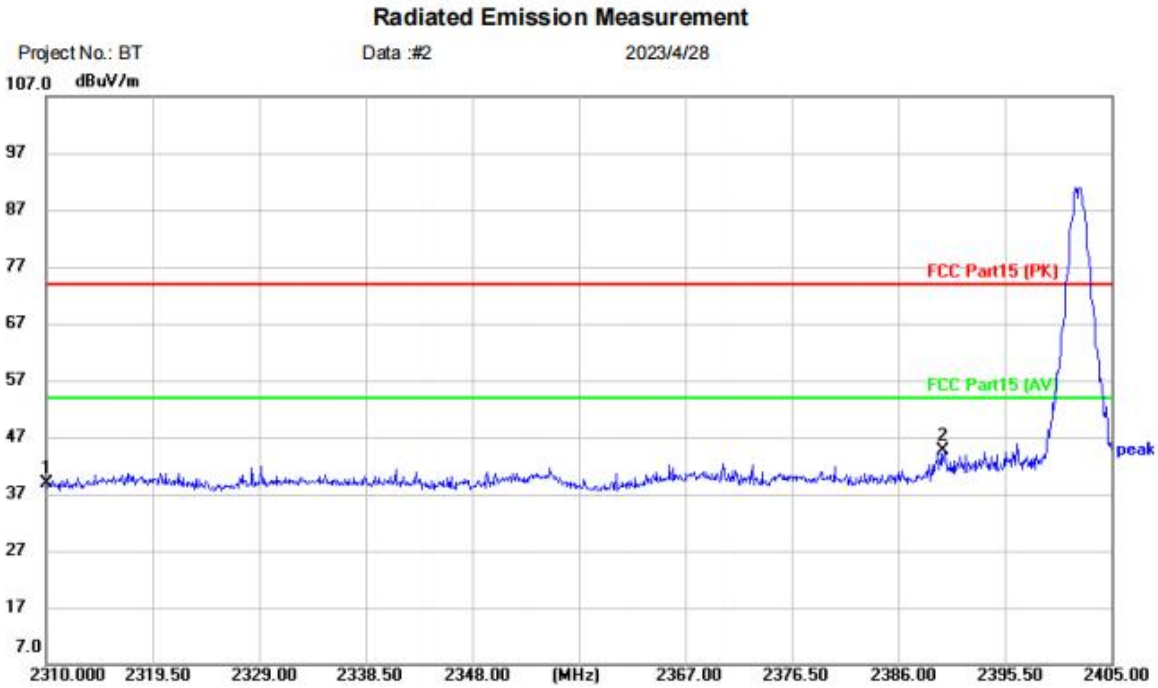



Site
Polarization: *Horizontal*
Temperature: (C)
Limit: FCC Part15 (PK)
Power:
Humidity: %RH
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX-L
Note:

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 2310.000 | 42.69 | -4.27 | 38.42 | 74.00 | -35.58 | peak | |
| 2 | * | 2390.000 | 46.09 | -3.82 | 42.27 | 74.00 | -31.73 | peak | |

**Test Result: Pass**

## [TestMode: TX lowest channel]; [Polarity: Vertical]

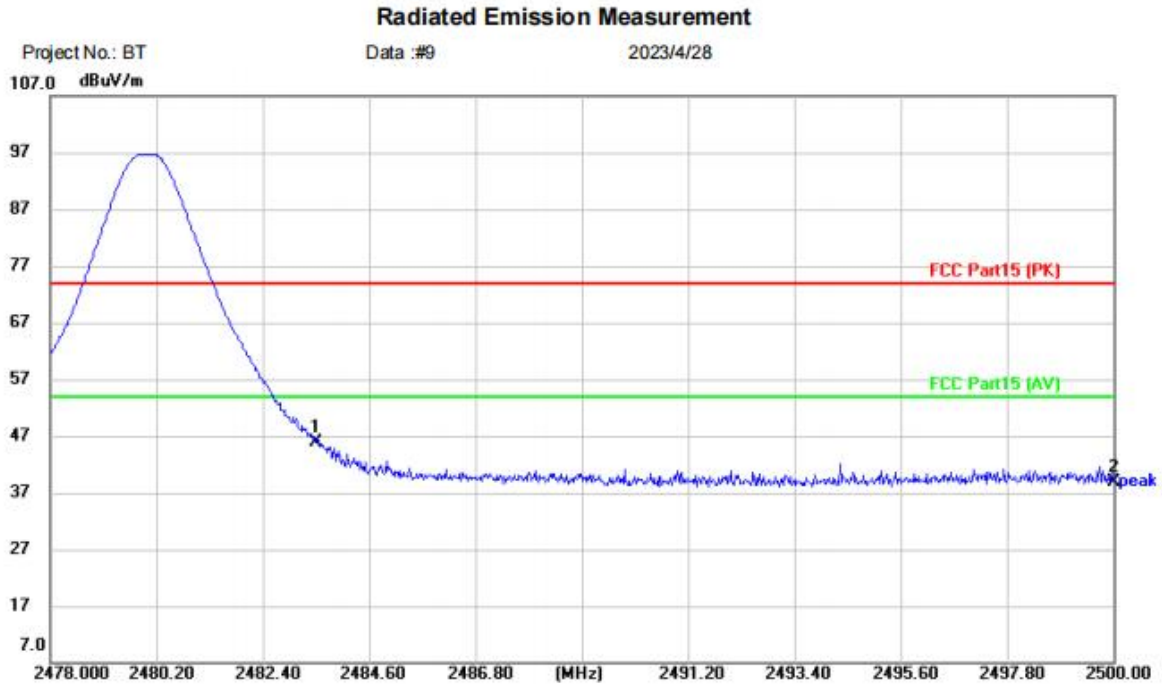



Site
Polarization: *Vertical*
Temperature: (C)
Limit: FCC Part15 (PK)
Power:
Humidity: %RH
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX-L
Note:

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | | 2310.000 | 43.22 | -4.27 | 38.95 | 74.00 | -35.05 | peak | |
| 2 | * | 2390.000 | 48.49 | -3.82 | 44.67 | 74.00 | -29.33 | peak | |

## Test Result: Pass

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

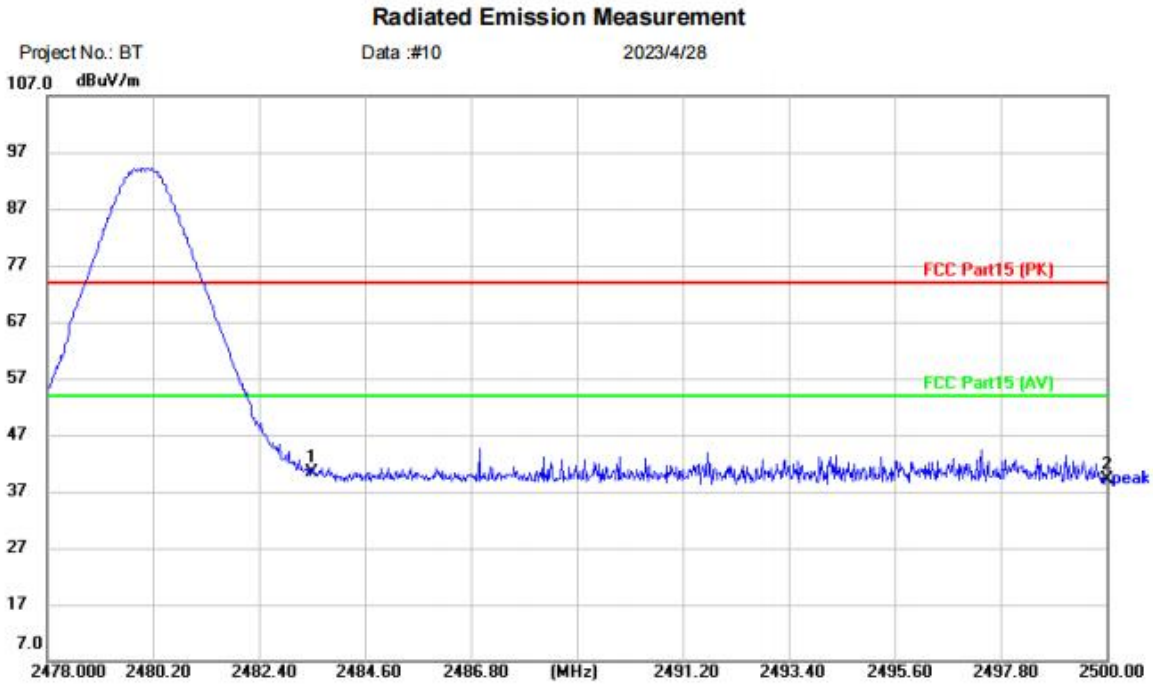



Site
Polarization: *Horizontal*
Temperature: (C)
Limit: FCC Part15 (PK)
Power:
Humidity: %RH
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX-H
Note:

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 2483.500 | 49.83 | -3.96 | 45.87 | 74.00 | -28.13 | peak | |
| 2 | | 2500.000 | 42.92 | -4.00 | 38.92 | 74.00 | -35.08 | peak | |

**Test Result: Pass**

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




Site
Limit: FCC Part15 (PK)
EUT: Machine entertainment system
M/N: ZH-DT6125-01
Mode: TX-H
Note:

Polarization: *Vertical*
Power:

Temperature: (C)
Humidity: %RH

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | Detector | Comment |
| 1 | * | 2483.500 | 44.41 | -3.96 | 40.45 | 74.00 | -33.55 | peak | |
| 2 | | 2500.000 | 43.03 | -4.00 | 39.03 | 74.00 | -34.97 | peak | |

**Test Result: Pass**

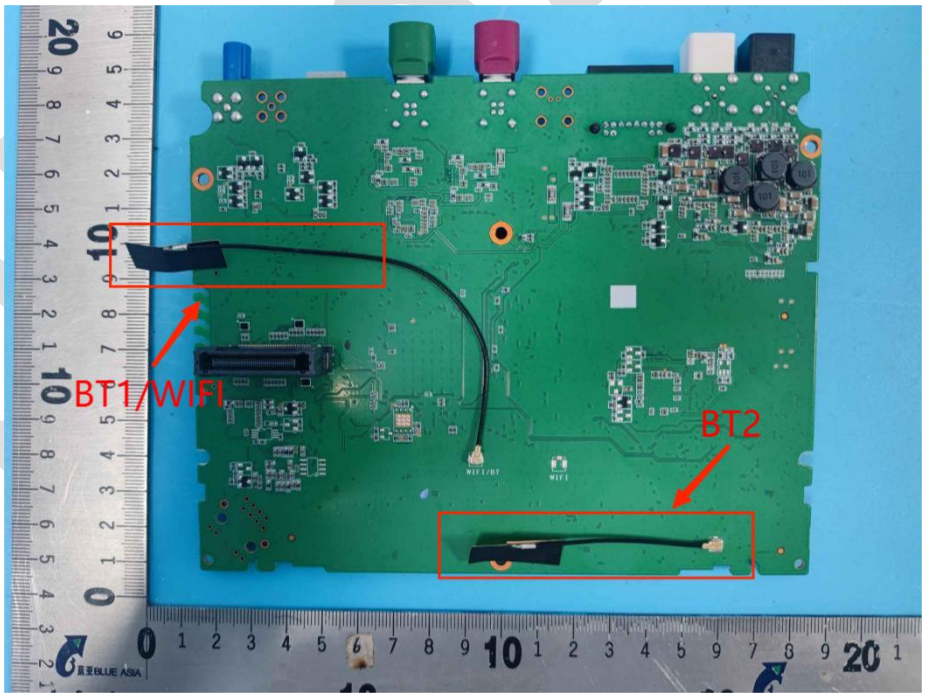
# 17 ANTENNA REQUIREMENT

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

## 17.1 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 a 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 antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 5dBi.



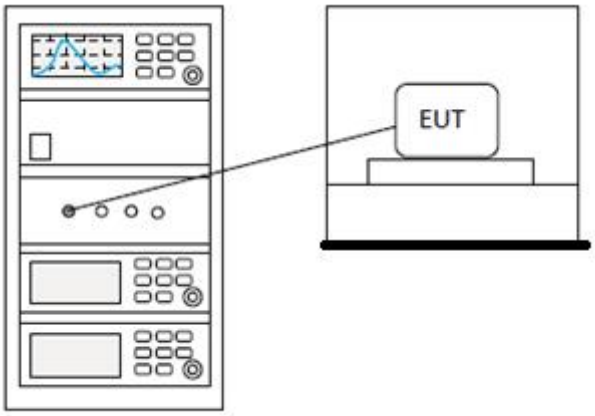
# 18 CONDUCTED SPURIOUS EMISSIONS

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

## 18.1 LIMITS

| | |
|---|---|
| **Limit:** | 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)). |

## 18.2 BLOCK DIAGRAM OF TEST SETUP



### 18.3 TEST DATA

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

BlueAsia

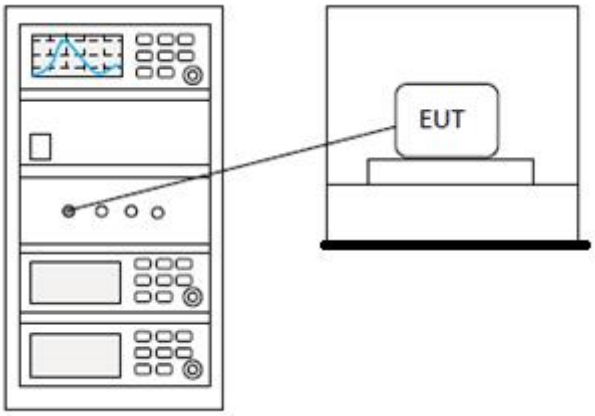
# 19 CONDUCTED BAND EDGES MEASUREMENT

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

## 19.1 LIMITS

| | |
|---|---|
| **Limit:** | 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)). |

## 19.2 BLOCK DIAGRAM OF TEST SETUP



### 19.3 TEST DATA

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

BlueAsia