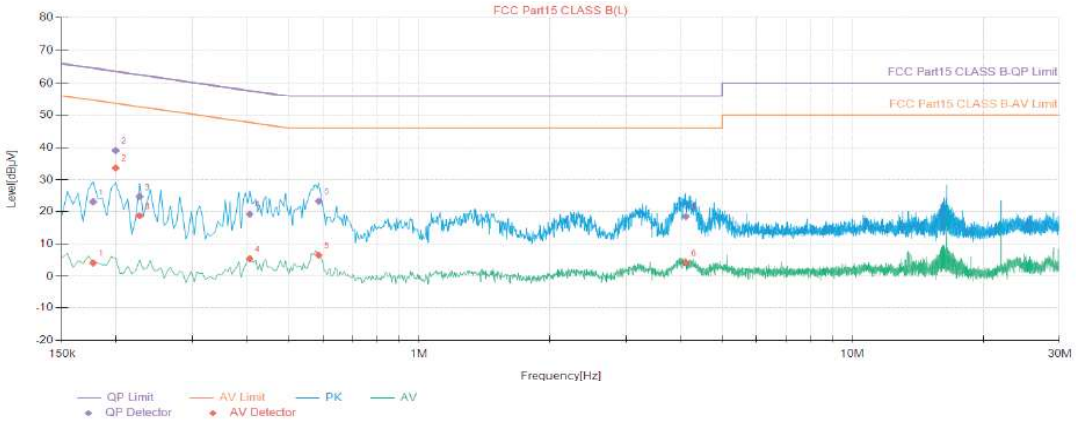
### 4.1.6 Test Results

AC230V 50Hz

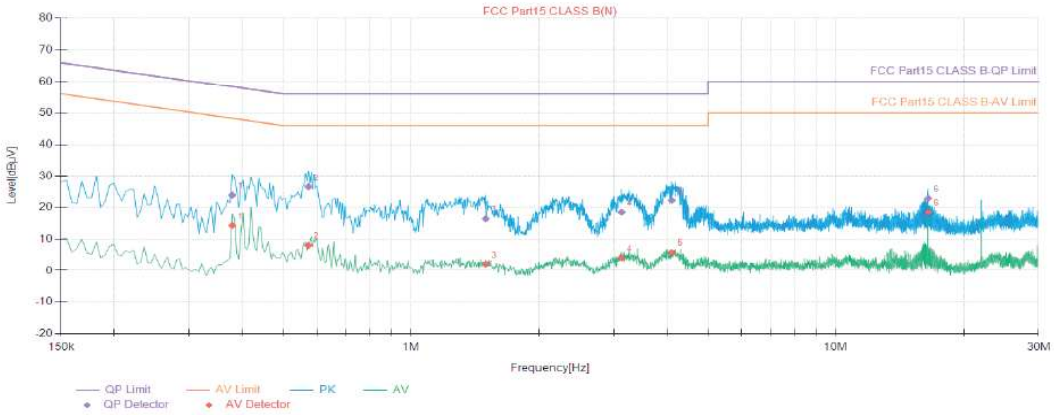



**Final Data List**

| NO. | Freq. [MHz] | Factor [dB] | QP Reading [dBµV] | QP Value [dBµV] | QP Limit [dBµV] | QP Margin [dB] | AV Reading [dBµV] | AV Value [dBµV] | AV Limit [dBµV] | AV Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.18 | 9.82 | 13.18 | 23.00 | 64.63 | 41.63 | -5.67 | 4.15 | 54.63 | 50.48 |
| 2 | 0.20 | 9.80 | 29.25 | 39.05 | 63.63 | 24.58 | 23.88 | 33.68 | 53.63 | 19.95 |
| 3 | 0.23 | 9.74 | 14.91 | 24.65 | 62.58 | 37.93 | 8.97 | 18.71 | 52.58 | 33.87 |
| 4 | 0.41 | 9.59 | 9.61 | 19.20 | 57.72 | 38.52 | -4.12 | 5.47 | 47.72 | 42.25 |
| 5 | 0.59 | 9.56 | 13.60 | 23.16 | 56.00 | 32.84 | -3.02 | 6.54 | 46.00 | 39.46 |
| 6 | 4.12 | 9.81 | 8.66 | 18.47 | 56.00 | 37.53 | -5.62 | 4.19 | 46.00 | 41.81 |

Remarks:1. Margin=Limit - Value, Value=Reading + Factor.

2. Factor=AMN Factor + Cable Loss.



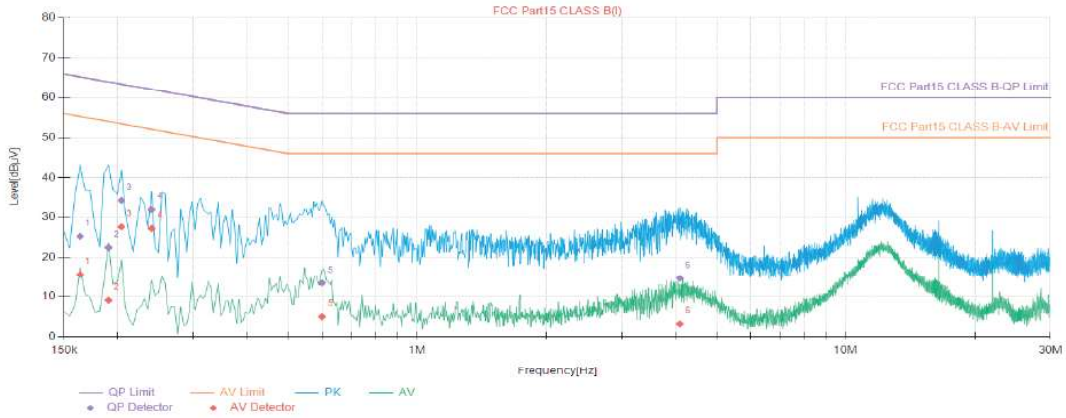

**Final Data List**

| NO. | Freq. [MHz] | Factor [dB] | QP Reading [dBµV] | QP Value [dBµV] | QP Limit [dBµV] | QP Margin [dB] | AV Reading [dBµV] | AV Value [dBµV] | AV Limit [dBµV] | AV Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.38 | 9.62 | 14.21 | 23.83 | 58.29 | 34.46 | 4.68 | 14.30 | 48.29 | 33.99 |
| 2 | 0.57 | 9.57 | 16.93 | 26.50 | 56.00 | 29.50 | -1.51 | 8.06 | 46.00 | 37.94 |
| 3 | 1.50 | 9.64 | 6.82 | 16.46 | 56.00 | 39.54 | -7.52 | 2.12 | 46.00 | 43.88 |
| 4 | 3.13 | 9.76 | 8.75 | 18.51 | 56.00 | 37.49 | -5.67 | 4.09 | 46.00 | 41.91 |
| 5 | 4.11 | 9.76 | 12.42 | 22.18 | 56.00 | 33.82 | -3.95 | 5.81 | 46.00 | 40.19 |
| 6 | 16.50 | 10.18 | 12.70 | 22.88 | 60.00 | 37.12 | 8.29 | 18.47 | 50.00 | 31.53 |

Remarks:1. Margin=Limit - Value, Value=Reading + Factor.

2. Factor=AMN Factor + Cable Loss.

AC 120V 60Hz

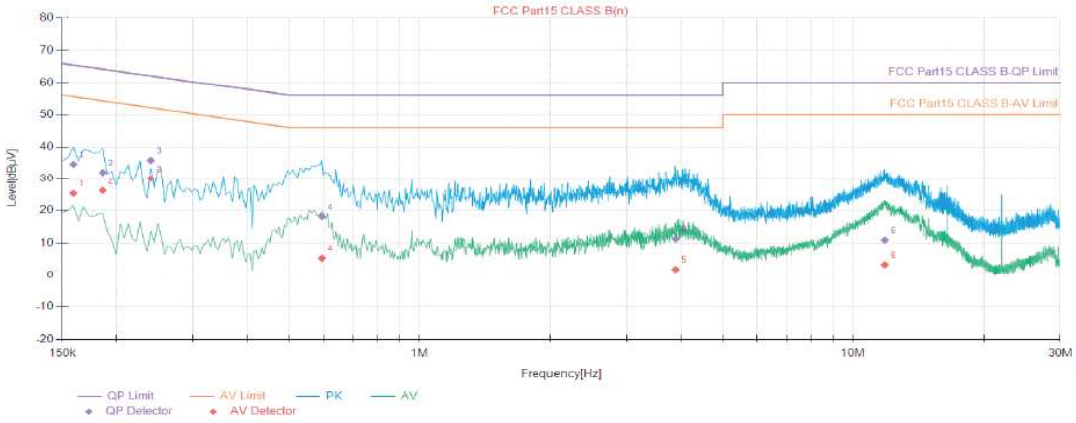



**Final Data List**

| NO. | Freq. [MHz] | Factor [dB] | QP Reading [dBµV] | QP Value [dBµV] | QP Limit [dBµV] | QP Margin [dB] | AV Reading [dBµV] | AV Value [dBµV] | AV Limit [dBµV] | AV Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.16 | 9.70 | 15.49 | 25.19 | 65.28 | 40.09 | 5.90 | 15.60 | 55.28 | 39.68 |
| 2 | 0.19 | 9.69 | 12.73 | 22.42 | 64.01 | 41.59 | -0.58 | 9.11 | 54.01 | 44.90 |
| 3 | 0.20 | 9.67 | 24.49 | 34.16 | 63.45 | 29.29 | 17.94 | 27.61 | 53.45 | 25.84 |
| 4 | 0.24 | 9.58 | 22.32 | 31.90 | 62.10 | 30.20 | 17.60 | 27.18 | 52.10 | 24.92 |
| 5 | 0.60 | 9.49 | 3.96 | 13.45 | 56.00 | 42.55 | -4.48 | 5.01 | 46.00 | 40.99 |
| 6 | 4.10 | 9.63 | 5.08 | 14.71 | 56.00 | 41.29 | -6.41 | 3.22 | 46.00 | 42.78 |

Remarks:1. Margin=Limit - Value, Value=Reading + Factor.

2. Factor=AMN Factor + Cable Loss.




**Final Data List**

| NO. | Freq. [MHz] | Factor [dB] | QP Reading [dBµV] | QP Value [dBµV] | QP Limit [dBµV] | QP Margin [dB] | AV Reading [dBµV] | AV Value [dBµV] | AV Limit [dBµV] | AV Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.16 | 9.66 | 24.92 | 34.58 | 65.52 | 30.94 | 15.57 | 25.23 | 55.52 | 30.29 |
| 2 | 0.19 | 9.67 | 22.37 | 32.04 | 64.21 | 32.17 | 16.48 | 26.15 | 54.21 | 28.06 |
| 3 | 0.24 | 9.62 | 26.19 | 35.81 | 62.10 | 26.29 | 20.38 | 30.00 | 52.10 | 22.10 |
| 4 | 0.60 | 9.45 | 8.64 | 18.09 | 56.00 | 37.91 | -4.12 | 5.33 | 46.00 | 40.67 |
| 5 | 3.89 | 9.66 | 1.58 | 11.24 | 56.00 | 44.76 | -7.79 | 1.87 | 46.00 | 44.13 |
| 6 | 11.83 | 10.11 | 0.77 | 10.88 | 60.00 | 49.12 | -6.76 | 3.35 | 50.00 | 46.65 |

Remarks:1. Margin=Limit - Value, Value=Reading + Factor.

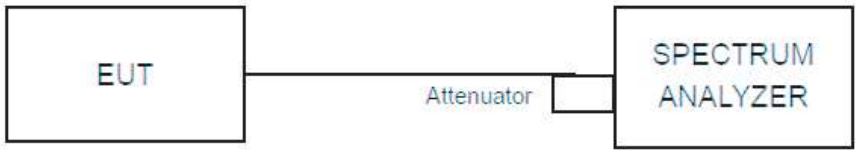
2. Factor=AMN Factor + Cable Loss.

## 4.2 Minimum 6dB Bandwidth

### 4.2.1 Limit

For digital modulation systems, the minimum 6dB bandwidth shall be at least 500 kHz

### 4.2.2 Test Setup




### 4.2.3 Test Procedures

The EUT was tested according to DTS test procedure of “KDB558074 D01 DTS Meas Guidance” for compliance to FCC 47CFR 15.247 requirements (clause 8.2).

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW ≥ 3 RBW, peak detector with maximum hold) is implemented by the instrumentation function.

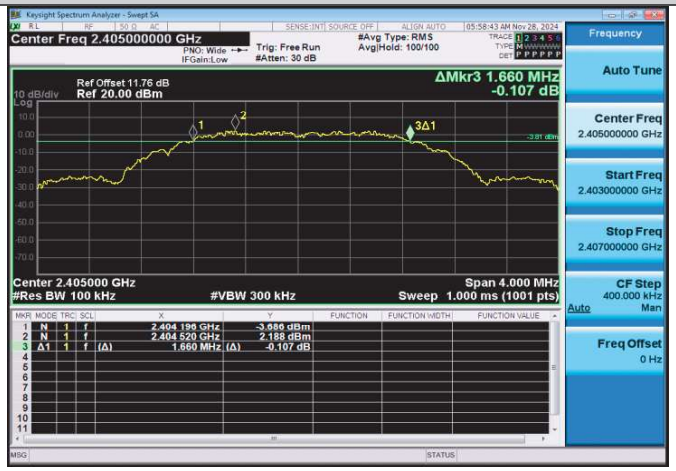
### 4.2.4 Deviation of Test Standard

No deviation.

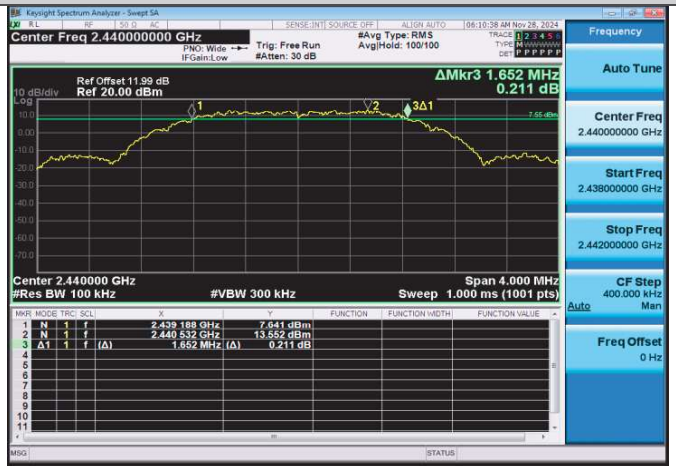
### 4.2.5 Test Results

| TestMode | Antenna | Freq(MHz) | DTS BW [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|---|---|---|---|---|---|---|---|
| Zigbee | Ant1 | 2405 | 1.660 | 2404.196 | 2405.856 | 0.5 | PASS |
| | | 2440 | 1.652 | 2439.188 | 2440.840 | 0.5 | PASS |
| | | 2480 | 1.720 | 2479.112 | 2480.832 | 0.5 | PASS |

Zigbee_Ant1_2405




Zigbee_Ant1_2440



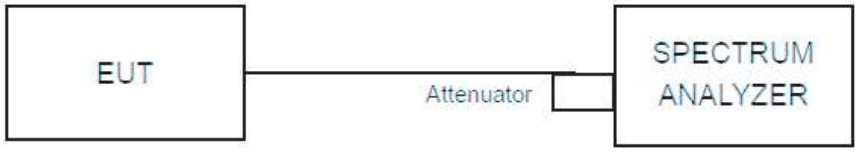

Zigbee_Ant1_2480

## 4.3 Conducted Output Power

### 4.3.1 Limit

For systems using digital modulation in the 2400– 2483.5 MHz bands: 1 Watt (30 dBm)

### 4.3.2 Test Setup




### 4.3.3 Test Procedures

The EUT was tested according to DTS test procedure of “KDB558074 D01 DTS Meas Guidance” for compliance to FCC 47CFR 15.247 requirements (clause 9.2.2.4).

a) Set RBW ≥ DTS bandwidth

b) Set VBW ≥ 3 RBW.

c) Set Span ≥ 3 RBW.

d) Sweep time = auto couple.

e) Detector = peak

f) Trace mode = max hold.

g) Allow trace to fully stabilize

h) Use peak marker function to determine the peak amplitude level.

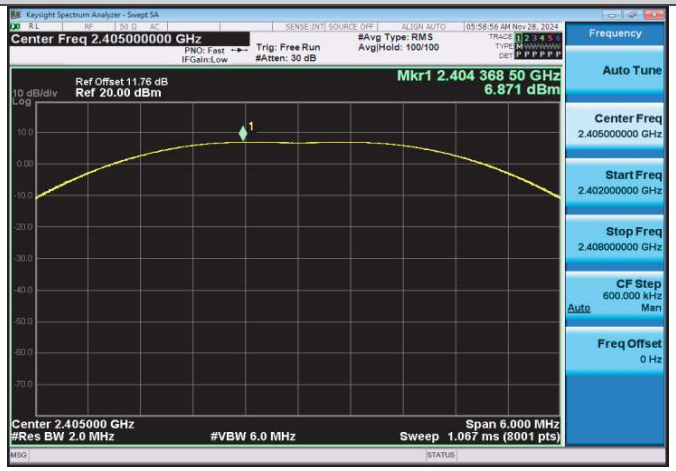
### 4.3.4 Deviation of Test Standard

No deviation.

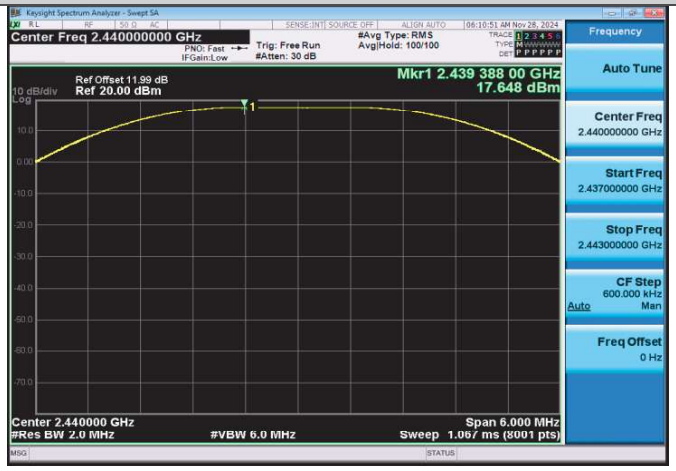
### 4.3.5 Test Results

| TestMode | Antenna | Freq(MHz) | Conducted Peak Powert[dBm] | Conducted Limit[dBm] | EIRP[dBm] | EIRP Limit[dBm] | Verdict |
|---|---|---|---|---|---|---|---|
| Zigbee | Ant1 | 2405 | 6.87 | ≤30 | 7.87 | ≤36 | PASS |
| | | 2440 | 17.65 | ≤30 | 18.65 | ≤36 | PASS |
| | | 2480 | 3.27 | ≤30 | 4.27 | ≤36 | PASS |

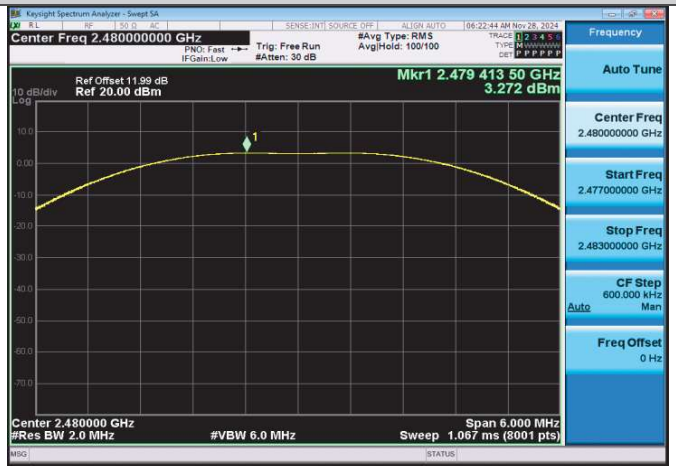
Zigbee_Ant1_2405




Zigbee_Ant1_2440




Zigbee_Ant1_2480



## 4.4 Power Spectral Density

### 4.4.1 Limit

The Maximum of Power Spectral Density Measurement is 8 dBm.

### 4.4.2 Test Setup


### 4.4.3 Test Procedures

The power output per FCC § 15.247(e) was tested according to DTS test procedure of "KDB558074 D01 DTS Meas Guidance" (clause 10.5) for compliance to FCC 47CFR 15.247 requirements.

a) Set analyzer center frequency to DTS channel center frequency.

b) Set the span to 1.5 times the DTS bandwidth.

c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.

d) Set the VBW ≥ 3 ×RBW.

e) Detector = peak.

f) Sweep time = auto couple.

g) Trace mode = max hold.

h) Allow trace to fully stabilize.

i) Use the peak marker function to determine the maximum amplitude level within the RBW.

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

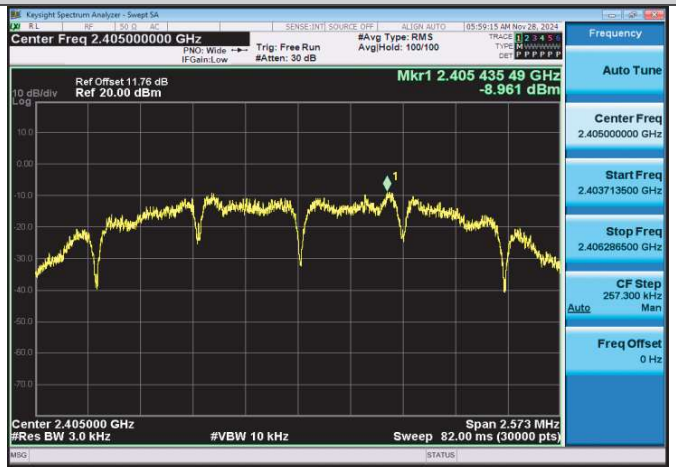
### 4.4.4 Deviation of Test Standard

No deviation.

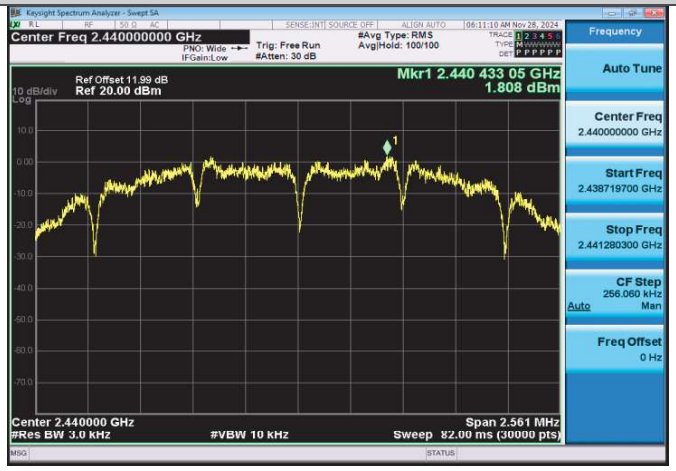
### 4.4.5 Test Results

| TestMode | Antenna | Freq(MHz) | Result[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|---|---|---|---|---|---|
| Zigbee | Ant1 | 2405 | -8.96 | ≤8.00 | PASS |
| | | 2440 | 1.81 | ≤8.00 | PASS |
| | | 2480 | -12.78 | ≤8.00 | PASS |

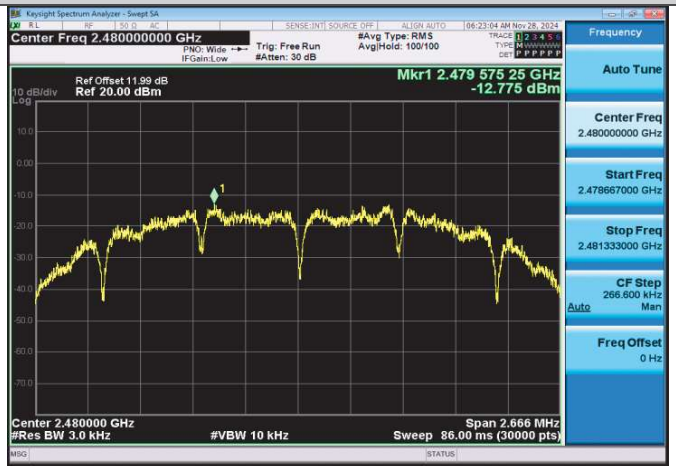
Zigbee_Ant1_2405




Zigbee_Ant1_2440




Zigbee_Ant1_2480



## 4.5 Conducted Band Edges Measurement

### 4.5.1 Limit

Below 20 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

### 4.5.2 Test Setup


### 4.5.3 Test Procedures

The EUT was tested according to DTS test procedure of " KDB558074 D01 DTS Meas Guidance" (clause 11.0) for compliance to FCC 47CFR 15.247 requirements.

**MEASUREMENT PROCEDURE REF**

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

**MEASUREMENT PROCEDURE OOBE**

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

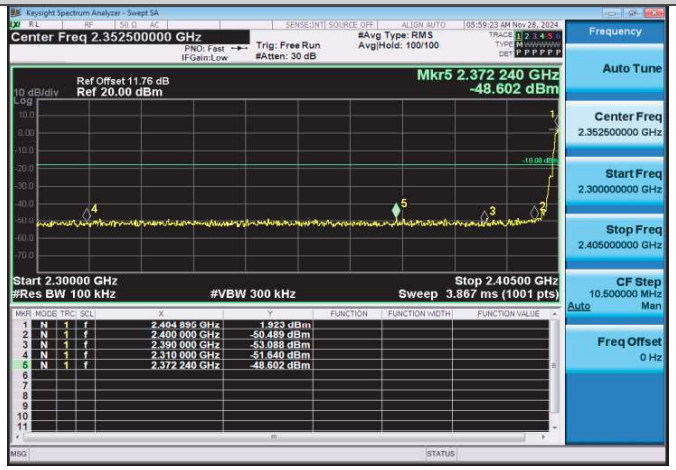
### 4.5.4 Deviation of Test Standard

No deviation.

### 4.5.5 Test Results

| TestMode | Antenna | ChName | Freq(MHz) | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|---|---|---|---|---|---|---|---|
| Zigbee | Ant1 | Low | 2405 | 1.92 | -48.6 | ≤-18.08 | PASS |
| | | High | 2480 | -1.42 | -46.46 | ≤-21.42 | PASS |

Zigbee_Ant1_Low_2405




Zigbee_Ant1_High_2480