

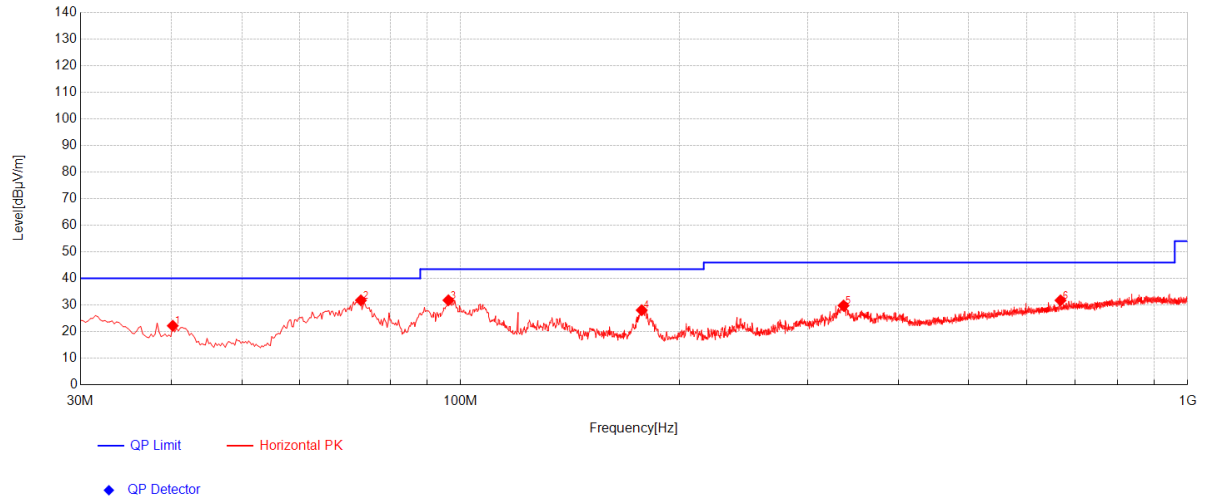
#### 7.3.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- d. 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.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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 quasi-peak method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. 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.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1.  $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$
2. Scan from 9kHz to 30MHz, the disturbance 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.

Test Mode: 00; Polarity: Horizontal



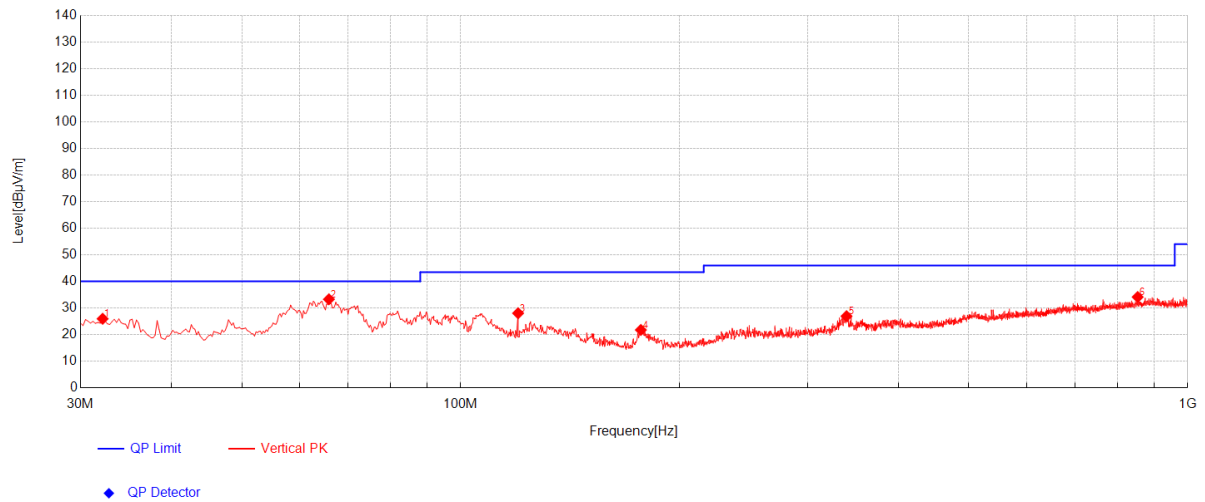
| Data List |                 |                |           |             |                |                |             |            |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|------------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity   |
| 1         | 40.185          | 43.38          | 11.24     | -32.41      | 22.21          | 40.00          | 17.79       | Horizontal |
| 2         | 72.9225         | 55.94          | 7.88      | -32.06      | 31.76          | 40.00          | 8.24        | Horizontal |
| 3         | 96.2025         | 52.22          | 11.44     | -31.87      | 31.79          | 43.50          | 11.71       | Horizontal |
| 4         | 177.44          | 48.24          | 11.31     | -31.48      | 28.07          | 43.50          | 15.43       | Horizontal |
| 5         | 336.2775        | 45.26          | 15.27     | -30.72      | 29.81          | 46.00          | 16.19       | Horizontal |
| 6         | 668.5025        | 40.01          | 21.33     | -29.58      | 31.76          | 46.00          | 14.24       | Horizontal |



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Test Mode: 00; Polarity: Vertical



| Data List |                 |                |           |             |                |                |             |          |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|----------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity |
| 1         | 32.1825         | 40.71          | 17.77     | -32.51      | 25.97          | 40.00          | 14.03       | Vertical |
| 2         | 65.89           | 59.14          | 6.26      | -32.11      | 33.29          | 40.00          | 6.71        | Vertical |
| 3         | 119.9675        | 46.13          | 13.69     | -31.77      | 28.05          | 43.50          | 15.45       | Vertical |
| 4         | 176.955         | 41.86          | 11.39     | -31.48      | 21.77          | 43.50          | 21.73       | Vertical |
| 5         | 339.43          | 42.45          | 15.21     | -30.71      | 26.95          | 46.00          | 19.05       | Vertical |
| 6         | 853.53          | 40.23          | 23.07     | -29.17      | 34.13          | 46.00          | 11.87       | Vertical |

## 7.4 Radiated Spurious Emissions Above 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2020) Section 6.6

Measurement Distance: 3M

Limit:

| Frequency(MHz) | Field strength(microvolts/meter) | Measurement distance(meters) |
|----------------|----------------------------------|------------------------------|
| Above 1000     | 500                              | 3                            |

### 7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 22.1 °C

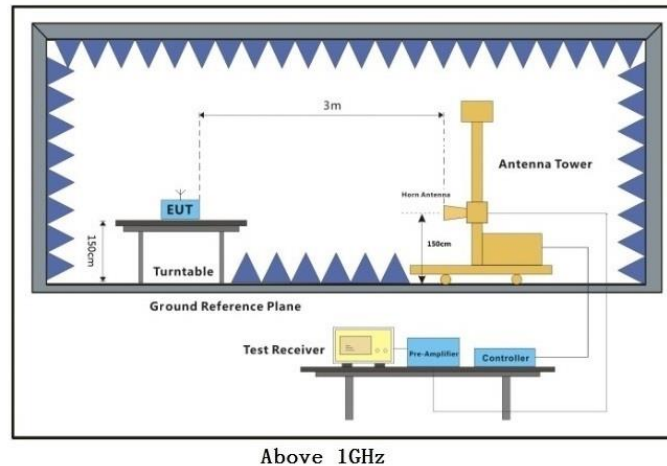
Humidity: 51.6 % RH

Atmospheric Pressure: 1010 mbar

### 7.4.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Final test            | 00        | TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report. |

### 7.4.3 Test Setup Diagram



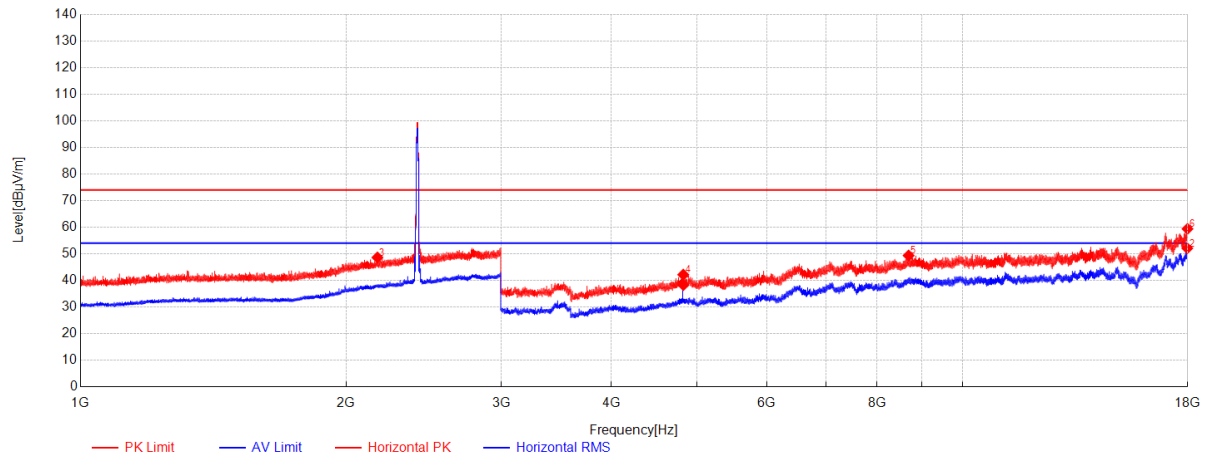
#### 7.4.4 Measurement Procedure and Data

- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- d. 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.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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 or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. 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.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

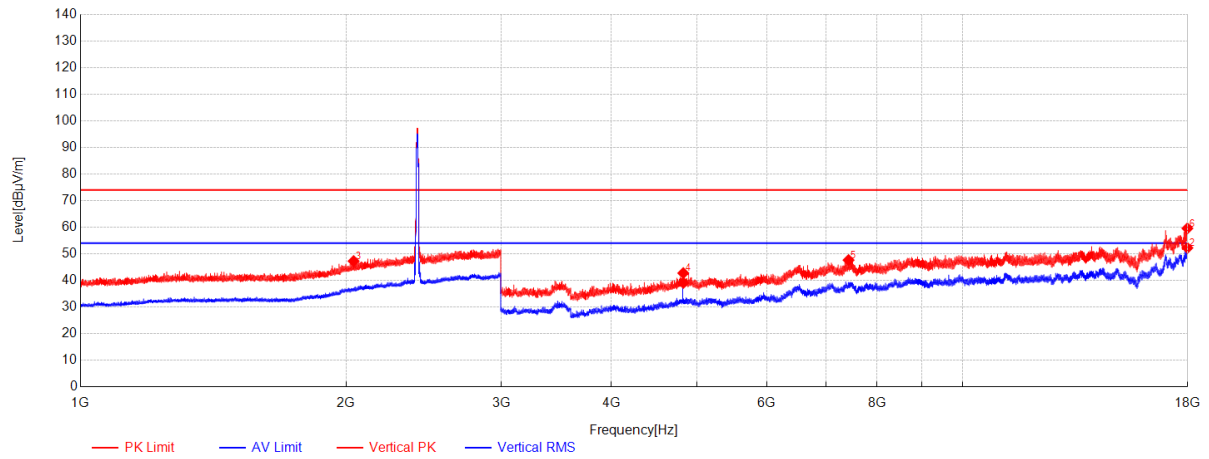
1.  $\text{Level} = \text{Read Level} + \text{Cable Loss} + \text{Antenna Factor} - \text{Preamp Factor}$
2. Scan from 1GHz to 25GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
3. As shown in this section, 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.

## 11b\_TX\_CH\_01\_Horizontal



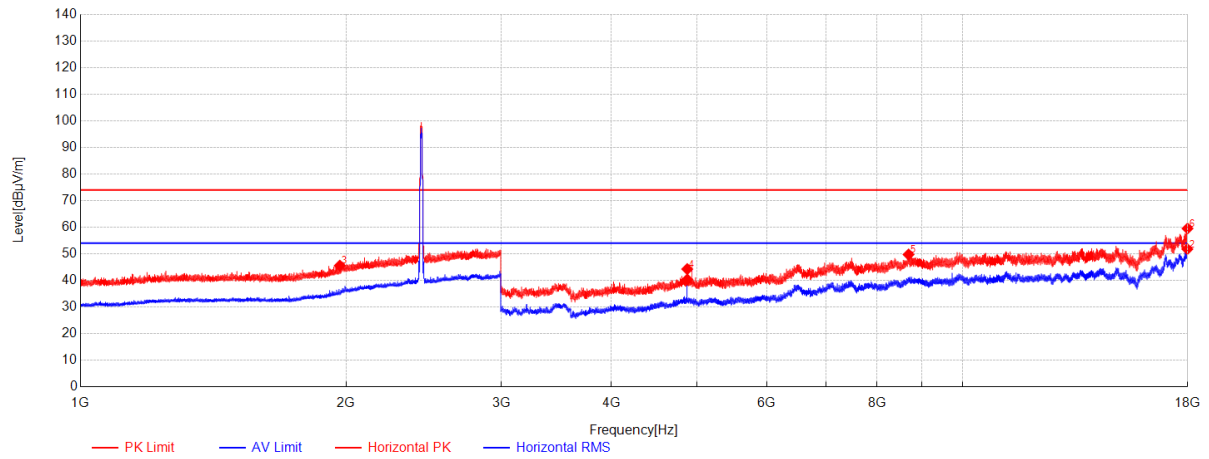
| Data List |                 |                |           |             |                |                |             |            |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|------------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity   |
| 1         | 4824.5          | 57.00          | 31.45     | -50.19      | 38.26          | 54.00          | 15.74       | Horizontal |
| 2         | 17981           | 50.36          | 43.20     | -41.49      | 52.07          | 54.00          | 1.93        | Horizontal |
| 3         | 2171            | 49.04          | 26.08     | -26.51      | 48.61          | 74.00          | 25.39       | Horizontal |
| 4         | 4824            | 60.90          | 31.45     | -50.19      | 42.16          | 74.00          | 31.84       | Horizontal |
| 5         | 8687            | 57.69          | 37.47     | -45.83      | 49.33          | 74.00          | 24.67       | Horizontal |
| 6         | 17991           | 57.48          | 43.20     | -41.31      | 59.37          | 74.00          | 14.63       | Horizontal |

## 11b\_TX\_CH\_01\_Vertical



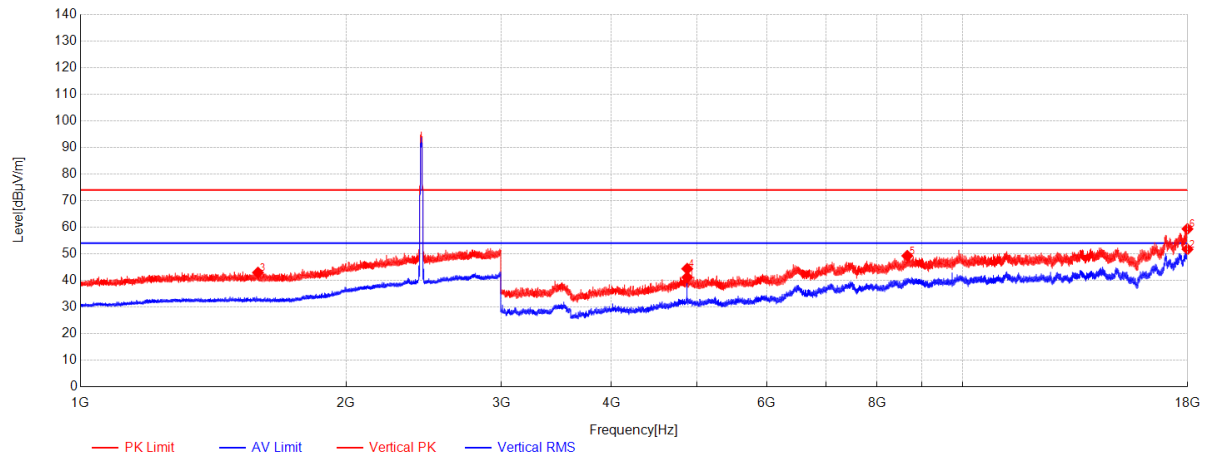
| Data List |                 |                |           |             |                |                |             |          |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|----------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity |
| 1         | 4824.5          | 57.82          | 31.45     | -50.19      | 39.08          | 54.00          | 14.92       | Vertical |
| 2         | 17987           | 50.40          | 43.20     | -41.38      | 52.22          | 54.00          | 1.78        | Vertical |
| 3         | 2040.3333       | 49.15          | 25.10     | -27.01      | 47.24          | 74.00          | 26.76       | Vertical |
| 4         | 4824            | 61.49          | 31.45     | -50.19      | 42.75          | 74.00          | 31.25       | Vertical |
| 5         | 7426.5          | 58.99          | 36.25     | -47.60      | 47.64          | 74.00          | 26.36       | Vertical |
| 6         | 17986.5         | 57.74          | 43.20     | -41.39      | 59.55          | 74.00          | 14.45       | Vertical |

## 11b\_TX\_CH\_06\_Horizontal



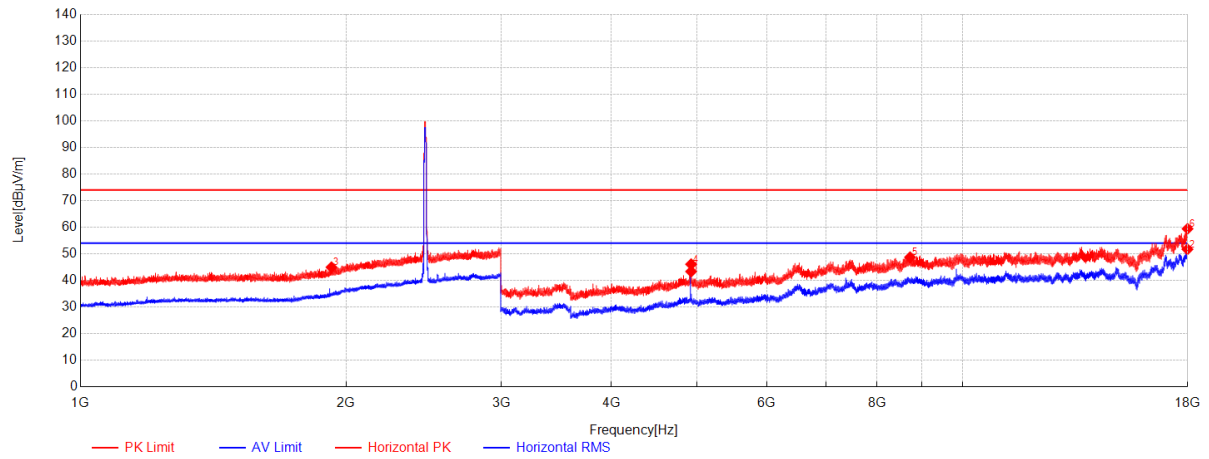
| Data List |                 |                |           |             |                |                |             |            |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|------------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity   |
| 1         | 4874.5          | 59.46          | 31.45     | -50.56      | 40.35          | 54.00          | 13.65       | Horizontal |
| 2         | 17983.5         | 50.00          | 43.20     | -41.44      | 51.76          | 54.00          | 2.24        | Horizontal |
| 3         | 1967.8333       | 48.46          | 24.40     | -27.31      | 45.55          | 74.00          | 28.45       | Horizontal |
| 4         | 4874            | 63.36          | 31.45     | -50.56      | 44.25          | 74.00          | 29.75       | Horizontal |
| 5         | 8686            | 58.09          | 37.47     | -45.84      | 49.72          | 74.00          | 24.28       | Horizontal |
| 6         | 17992.5         | 57.59          | 43.20     | -41.29      | 59.50          | 74.00          | 14.50       | Horizontal |

## 11b\_TX\_CH\_06\_Vertical



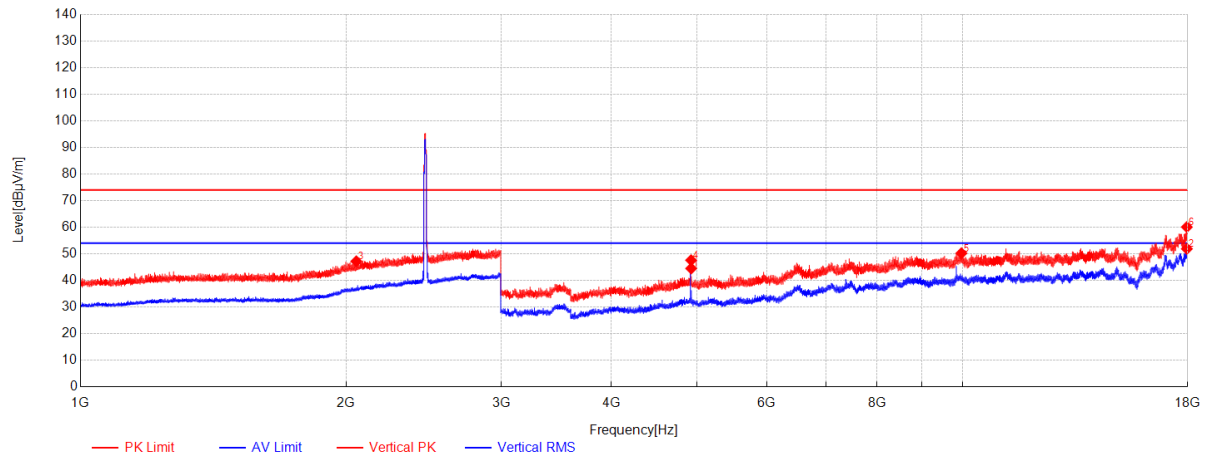
| Data List |                 |                |           |             |                |                |             |          |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|----------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity |
| 1         | 4874.5          | 60.26          | 31.45     | -50.56      | 41.15          | 54.00          | 12.85       | Vertical |
| 2         | 17992.5         | 49.76          | 43.20     | -41.29      | 51.67          | 54.00          | 2.33        | Vertical |
| 3         | 1589.3333       | 47.27          | 23.79     | -28.13      | 42.93          | 74.00          | 31.07       | Vertical |
| 4         | 4874            | 63.49          | 31.45     | -50.56      | 44.38          | 74.00          | 29.62       | Vertical |
| 5         | 8657            | 57.82          | 37.41     | -46.00      | 49.23          | 74.00          | 24.77       | Vertical |
| 6         | 17990.5         | 57.46          | 43.20     | -41.32      | 59.34          | 74.00          | 14.66       | Vertical |

## 11b\_TX\_CH\_11\_Horizontal



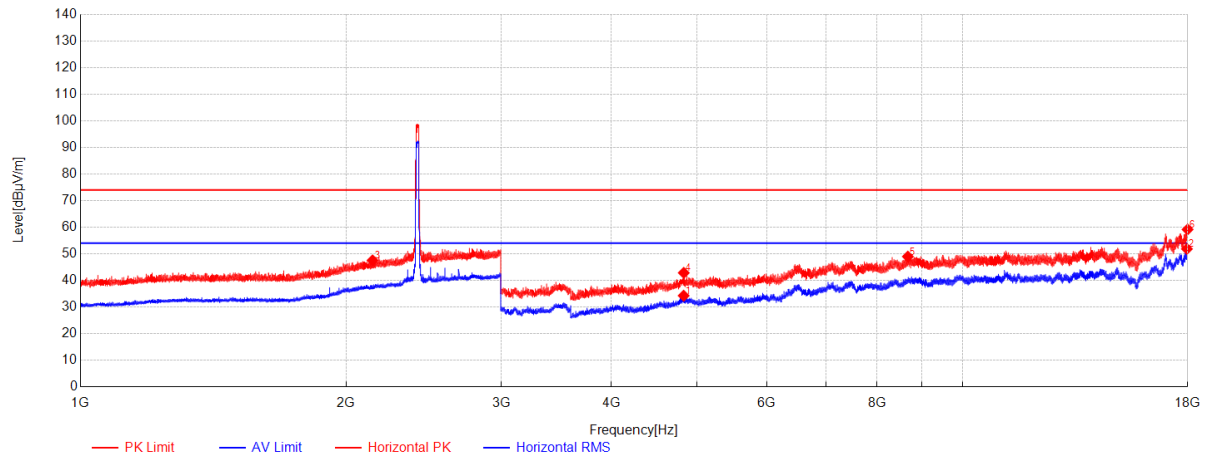
| Data List |                 |                |           |             |                |                |             |            |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|------------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity   |
| 1         | 4924.5          | 62.57          | 31.50     | -50.73      | 43.34          | 54.00          | 10.66       | Horizontal |
| 2         | 17989           | 49.83          | 43.20     | -41.35      | 51.68          | 54.00          | 2.32        | Horizontal |
| 3         | 1925.6667       | 48.18          | 24.36     | -27.60      | 44.94          | 74.00          | 29.06       | Horizontal |
| 4         | 4924            | 65.30          | 31.50     | -50.73      | 46.07          | 74.00          | 27.93       | Horizontal |
| 5         | 8720            | 57.02          | 37.54     | -45.87      | 48.69          | 74.00          | 25.31       | Horizontal |
| 6         | 17994           | 57.45          | 43.20     | -41.26      | 59.39          | 74.00          | 14.61       | Horizontal |

## 11b\_TX\_CH\_11\_Vertical



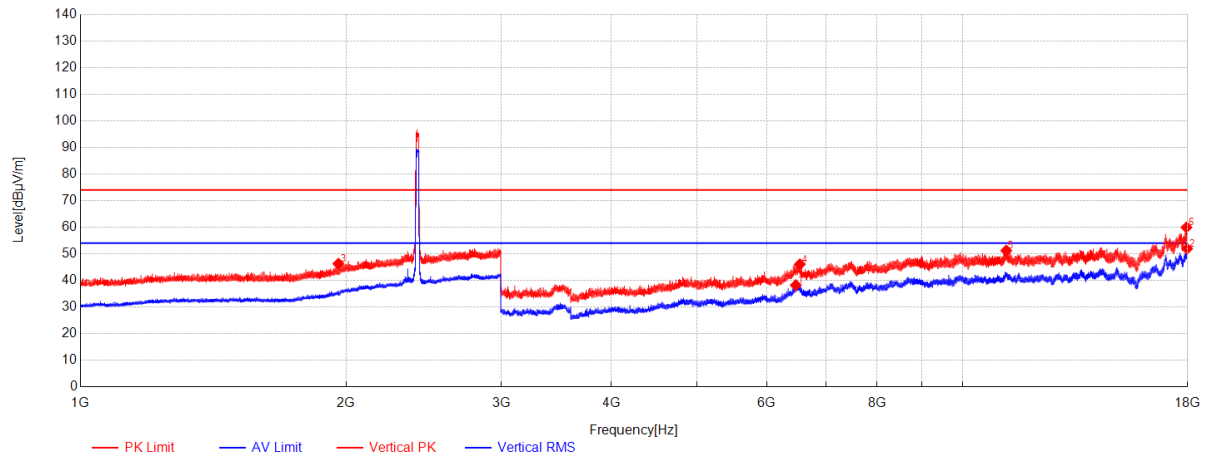
| Data List |                 |                |           |             |                |                |             |          |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|----------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity |
| 1         | 4924.5          | 63.72          | 31.50     | -50.73      | 44.49          | 54.00          | 9.51        | Vertical |
| 2         | 17961           | 50.49          | 43.20     | -41.83      | 51.86          | 54.00          | 2.14        | Vertical |
| 3         | 2054.8333       | 49.04          | 25.10     | -26.98      | 47.16          | 74.00          | 26.84       | Vertical |
| 4         | 4924            | 66.81          | 31.50     | -50.73      | 47.58          | 74.00          | 26.42       | Vertical |
| 5         | 9971            | 56.14          | 38.93     | -44.87      | 50.20          | 74.00          | 23.80       | Vertical |
| 6         | 17960.5         | 58.69          | 43.20     | -41.84      | 60.05          | 74.00          | 13.95       | Vertical |

## 11n(HT20)\_TX\_CH\_01\_Horizontal



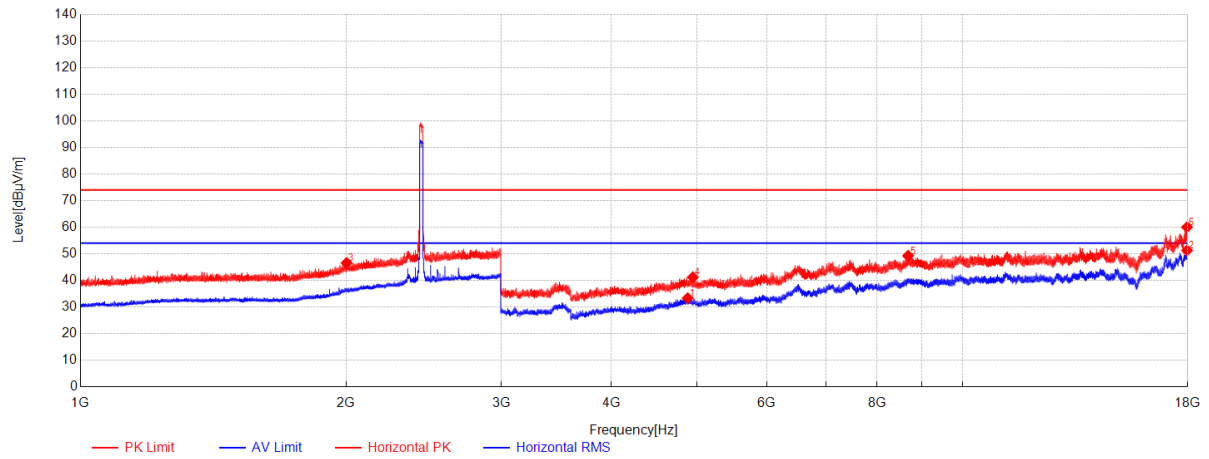
| Data List |                 |                |           |             |                |                |             |            |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|------------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity   |
| 1         | 4829            | 53.04          | 31.44     | -50.22      | 34.26          | 54.00          | 19.74       | Horizontal |
| 2         | 17964           | 50.40          | 43.20     | -41.78      | 51.82          | 54.00          | 2.18        | Horizontal |
| 3         | 2143.6667       | 48.58          | 25.60     | -26.65      | 47.53          | 74.00          | 26.47       | Horizontal |
| 4         | 4830.5          | 61.64          | 31.44     | -50.24      | 42.84          | 74.00          | 31.16       | Horizontal |
| 5         | 8670.5          | 57.43          | 37.44     | -45.93      | 48.94          | 74.00          | 25.06       | Horizontal |
| 6         | 17995           | 57.18          | 43.20     | -41.25      | 59.13          | 74.00          | 14.87       | Horizontal |

## 11n(HT20)\_TX\_CH\_01\_Vertical



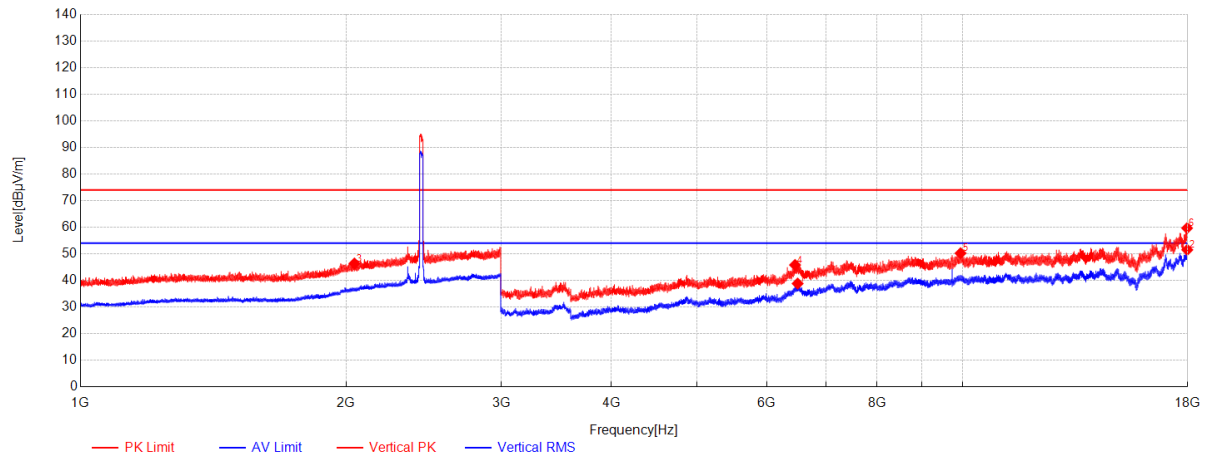
| Data List |                 |                |           |             |                |                |             |          |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|----------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity |
| 1         | 6471            | 50.66          | 34.20     | -46.64      | 38.22          | 54.00          | 15.78       | Vertical |
| 2         | 17974.5         | 50.30          | 43.20     | -41.60      | 51.90          | 54.00          | 2.10        | Vertical |
| 3         | 1960.6667       | 49.23          | 24.40     | -27.36      | 46.27          | 74.00          | 27.73       | Vertical |
| 4         | 6540            | 58.68          | 34.60     | -47.22      | 46.06          | 74.00          | 27.94       | Vertical |
| 5         | 11208.5         | 55.90          | 39.52     | -44.22      | 51.20          | 74.00          | 22.80       | Vertical |
| 6         | 17941           | 58.96          | 43.11     | -42.17      | 59.90          | 74.00          | 14.10       | Vertical |

## 11n(HT20)\_TX\_CH\_06\_Horizontal



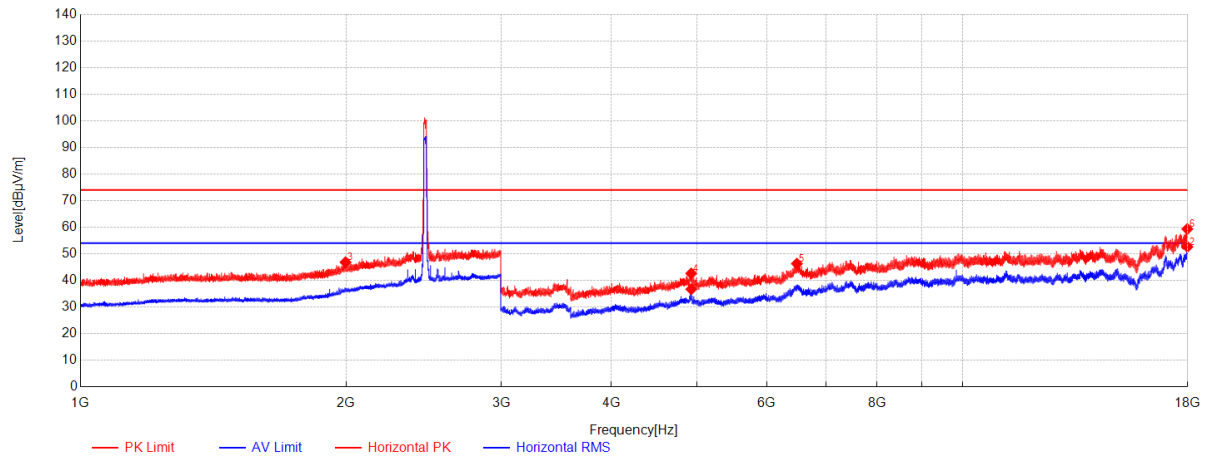
| Data List |                 |                |           |             |                |                |             |            |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|------------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity   |
| 1         | 4880            | 52.46          | 31.46     | -50.60      | 33.32          | 54.00          | 20.68       | Horizontal |
| 2         | 17966.5         | 49.78          | 43.20     | -41.74      | 51.24          | 54.00          | 2.76        | Horizontal |
| 3         | 2003.3333       | 48.46          | 25.20     | -27.08      | 46.58          | 74.00          | 27.42       | Horizontal |
| 4         | 4946.5          | 60.40          | 31.50     | -50.72      | 41.18          | 74.00          | 32.82       | Horizontal |
| 5         | 8675            | 57.70          | 37.45     | -45.90      | 49.25          | 74.00          | 24.75       | Horizontal |
| 6         | 17967.5         | 58.52          | 43.20     | -41.72      | 60.00          | 74.00          | 14.00       | Horizontal |

11n(HT20)\_TX\_CH\_06\_Vertical



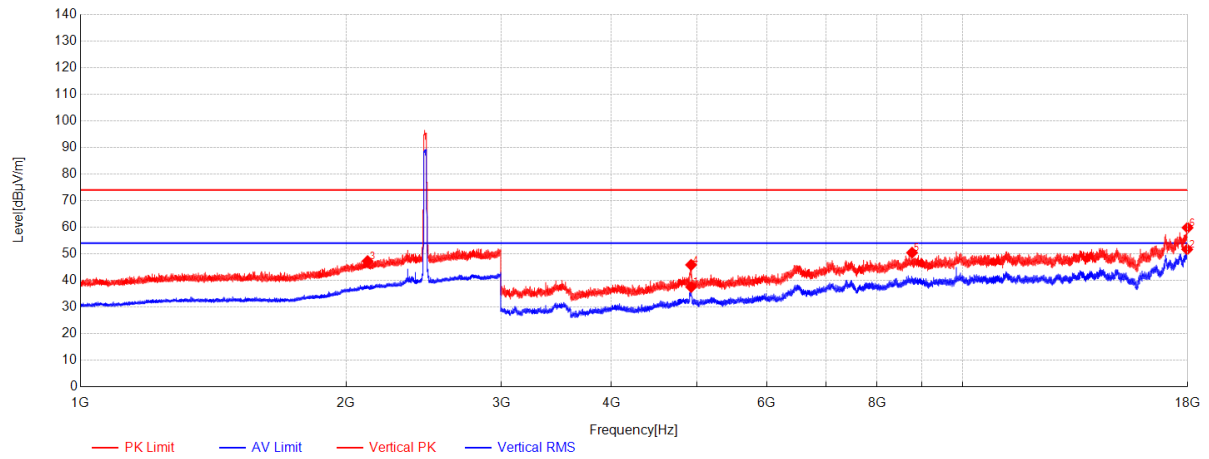
| Data List |                 |                |           |             |                |                |             |          |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|----------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity |
| 1         | 6502.5          | 50.83          | 34.23     | -46.24      | 38.82          | 54.00          | 15.18       | Vertical |
| 2         | 17980.5         | 49.78          | 43.20     | -41.50      | 51.48          | 54.00          | 2.52        | Vertical |
| 3         | 2044.6667       | 48.26          | 25.10     | -27.00      | 46.36          | 74.00          | 27.64       | Vertical |
| 4         | 6458.5          | 58.43          | 34.20     | -46.84      | 45.79          | 74.00          | 28.21       | Vertical |
| 5         | 9949            | 56.10          | 39.10     | -44.98      | 50.22          | 74.00          | 23.78       | Vertical |
| 6         | 17972           | 58.08          | 43.20     | -41.64      | 59.64          | 74.00          | 14.36       | Vertical |

## 11n(HT20)\_TX\_CH\_11\_Horizontal



| Data List |                 |                |           |             |                |                |             |            |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|------------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity   |
| 1         | 4926.5          | 55.95          | 31.50     | -50.73      | 36.72          | 54.00          | 17.28       | Horizontal |
| 2         | 17988           | 50.79          | 43.20     | -41.37      | 52.62          | 54.00          | 1.38        | Horizontal |
| 3         | 1997.6667       | 48.77          | 25.18     | -27.11      | 46.84          | 74.00          | 27.16       | Horizontal |
| 4         | 4925.5          | 61.85          | 31.50     | -50.73      | 42.62          | 74.00          | 31.38       | Horizontal |
| 5         | 6489.5          | 58.44          | 34.20     | -46.34      | 46.30          | 74.00          | 27.70       | Horizontal |
| 6         | 17981.5         | 57.60          | 43.20     | -41.48      | 59.32          | 74.00          | 14.68       | Horizontal |

11n(HT20)\_TX\_CH\_11\_Vertical



| Data List |                 |                |           |             |                |                |             |          |
|-----------|-----------------|----------------|-----------|-------------|----------------|----------------|-------------|----------|
| NO.       | Frequency [MHz] | Reading [dBμV] | AF [dB/m] | Factor [dB] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Polarity |
| 1         | 4924.5          | 56.77          | 31.50     | -50.73      | 37.54          | 54.00          | 16.46       | Vertical |
| 2         | 17977.5         | 49.99          | 43.20     | -41.55      | 51.64          | 54.00          | 2.36        | Vertical |
| 3         | 2115.8333       | 48.18          | 25.86     | -26.80      | 47.24          | 74.00          | 26.76       | Vertical |
| 4         | 4924            | 65.06          | 31.50     | -50.73      | 45.83          | 74.00          | 28.17       | Vertical |
| 5         | 8765.5          | 58.97          | 37.57     | -46.13      | 50.41          | 74.00          | 23.59       | Vertical |
| 6         | 17993           | 57.88          | 43.20     | -41.28      | 59.80          | 74.00          | 14.20       | Vertical |

## 7.5 Conducted Average Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.247(b)(3)

Test Method: ANSI C63.10 (2020) Section 11.9.2

Limit:

| Frequency range(MHz) | Output power of the intentional radiator(watt)         |
|----------------------|--------------------------------------------------------|
| 902-928              | 1 for $\geq 50$ hopping channels                       |
|                      | 0.25 for $25 \leq$ 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 |

### 7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C

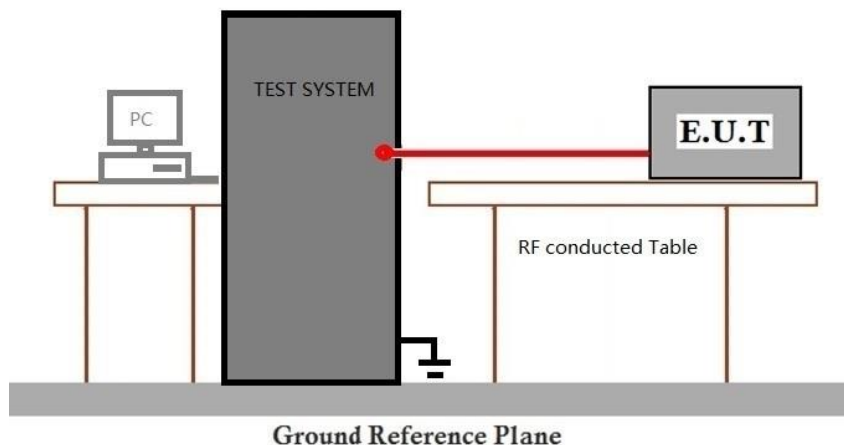
Humidity: 46.2 % RH

Atmospheric Pressure: 1010 mbar

### 7.5.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Final test            | 00        | TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report. |

### 7.5.3 Test Setup Diagram





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#### **7.5.4 Measurement Procedure and Data**

Note: Since the verify power the same operating range bandwidth and smaller power can be covered by the higher power.

Please Refer to Appendix for Details

## 7.6 Minimum 6dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.247a(2)

Test Method: ANSI C63.10 (2020) Section 11.8.1

Limit:

≥500 kHz

### 7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C

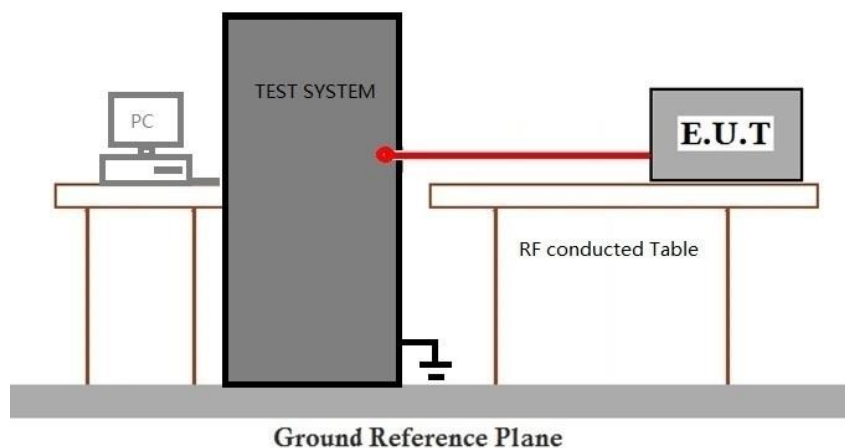
Humidity: 46.2 % RH

Atmospheric Pressure: 1010 mbar

### 7.6.2 Test Mode Description

| Pre-scan /<br>Final test | Mode<br>Code | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Final test               | 00           | TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report. |

### 7.6.3 Test Setup Diagram



### 7.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details

## 7.7 Power Spectrum Density

Test Requirement 47 CFR Part 15, Subpart C 15.247(e)

Test Method: ANSI C63.10 (2020) Section 11.10.3

Limit:

≤8dBm in any 3 kHz band during any time interval of continuous transmission

### 7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C

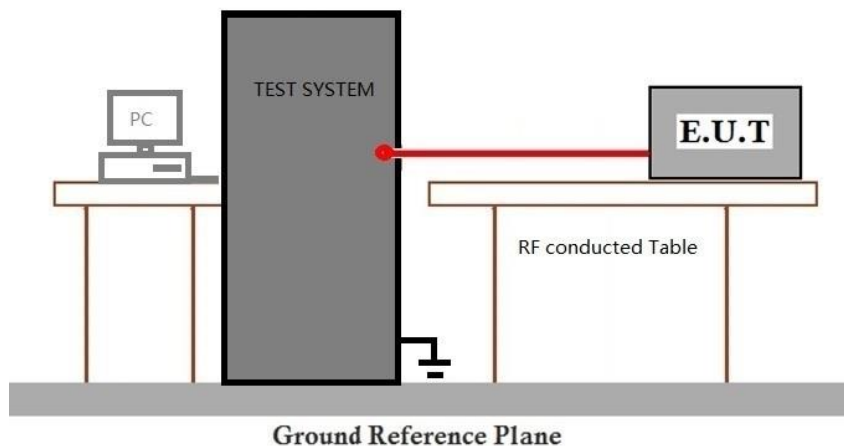
Humidity: 46.2 % RH

Atmospheric Pressure: 1010 mbar

### 7.7.2 Test Mode Description

| Pre-scan /<br>Final test | Mode<br>Code | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Final test               | 00           | TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report. |

### 7.7.3 Test Setup Diagram



### 7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

## 7.8 Conducted Band Edges Measurement

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)

Test Method: ANSI C63.10 (2020) Section 6.10.4

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)).

### 7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C

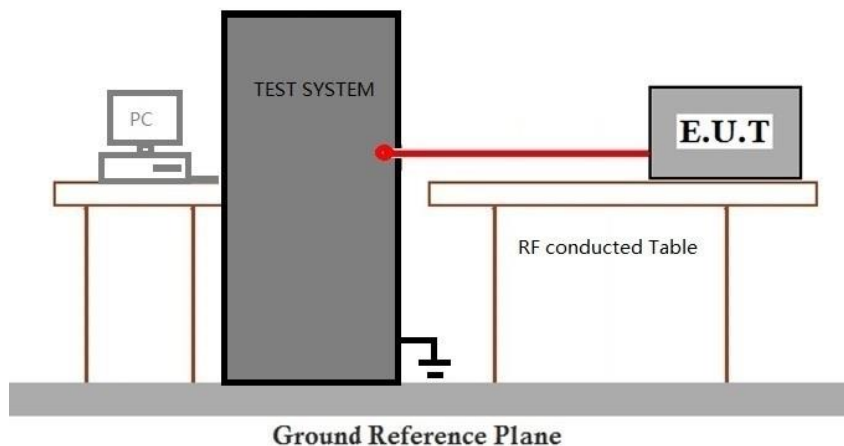
Humidity: 46.2 % RH

Atmospheric Pressure: 1010 mbar

### 7.8.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Final test            | 00        | TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report. |

### 7.8.3 Test Setup Diagram





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#### **7.8.4 Measurement Procedure and Data**

Please Refer to Appendix for Details

## 7.9 Conducted Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)

Test Method: ANSI C63.10 (2020) Section 11.11

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)).

### 7.9.1 E.U.T. Operation

Operating Environment:

Temperature: 25.3 °C

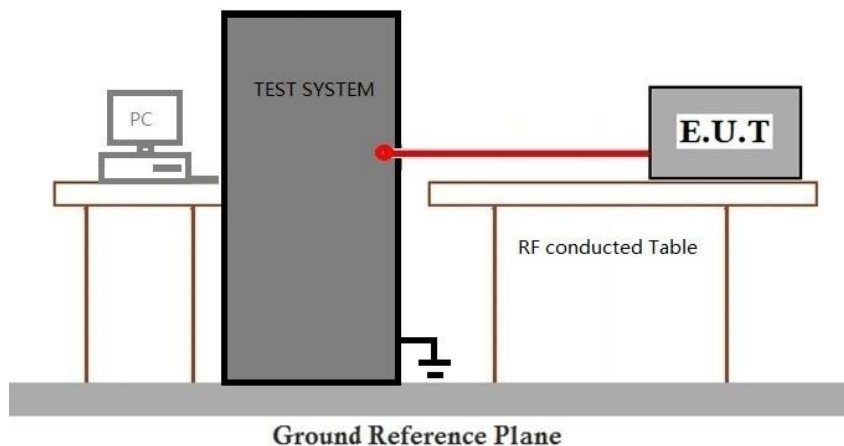
Humidity: 46.2 % RH

Atmospheric Pressure: 1010 mbar

### 7.9.2 Test Mode Description

| Pre-scan / Final test | Mode Code | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Final test            | 00        | TX mode_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 1Mbps is the worst case of IEEE 802.11b; data rate @ 6Mbps is the worst case of IEEE 802.11g; data rate @ 6.5Mbps is the worst case of IEEE 802.11n(HT20), final test modes are considering the modulation and worse data rates. Only the data of worst case is recorded in the report. |

### 7.9.3 Test Setup Diagram





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#### **7.9.4 Measurement Procedure and Data**

Please Refer to Appendix for Details



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## **8 Test Setup Photo**

Refer to Appendix - Test Setup Photo for KSCR2512002777AT

## **9 EUT Constructional Details (EUT Photos)**

Refer to Appendix\_Photographs of EUT Constructional Details for KSCR2512002777AT

## 10 Appendix

### 1. Duty Cycle

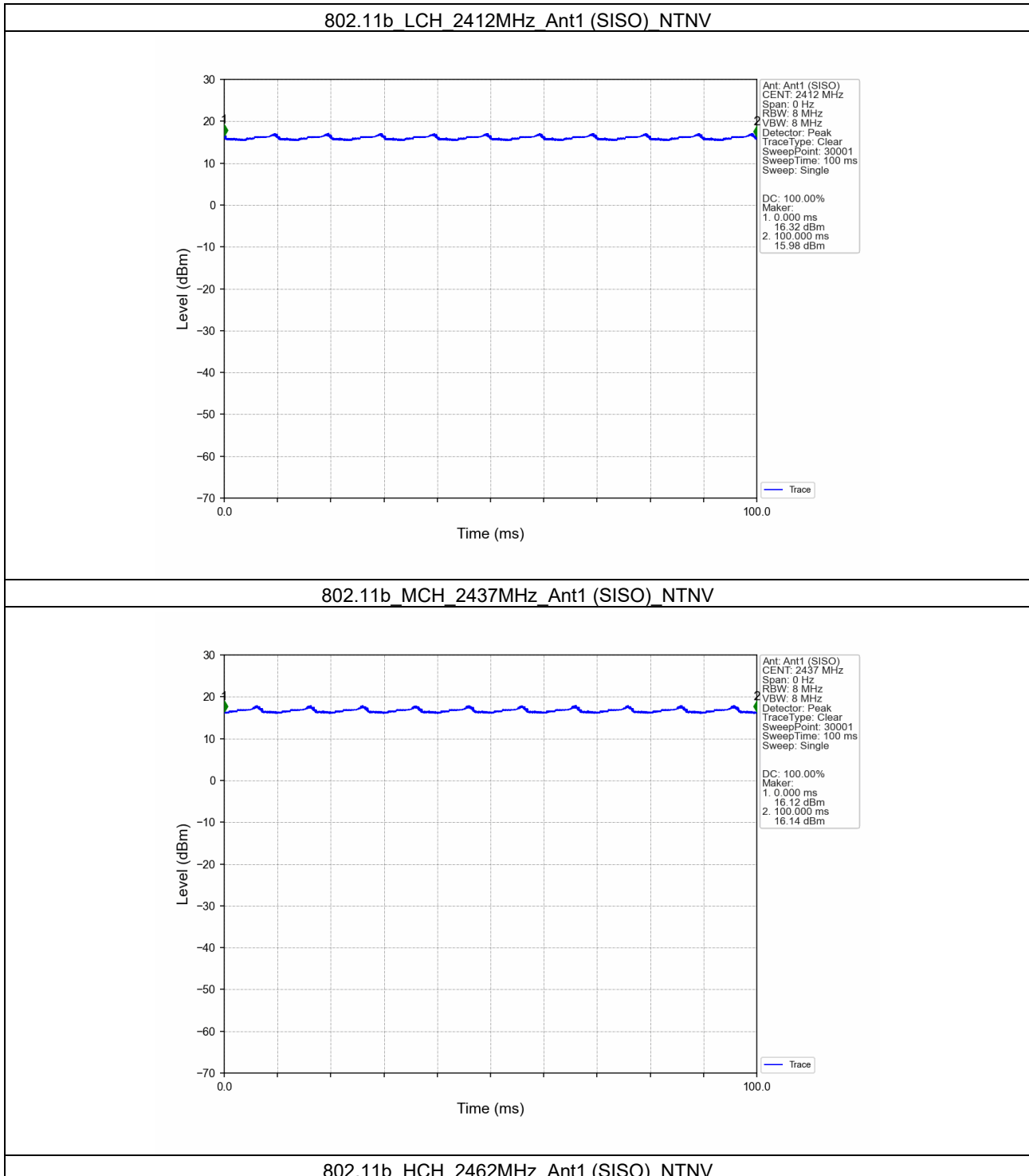
#### 1.1 Test Result

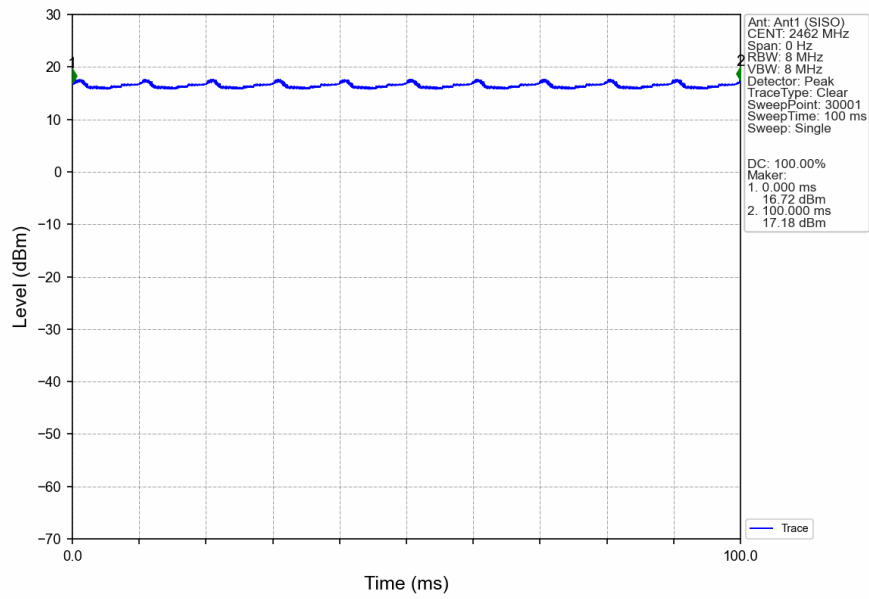
##### 1.1.1 Ant1

| Ant1           |         |                 |           |             |                |                                   |                       |
|----------------|---------|-----------------|-----------|-------------|----------------|-----------------------------------|-----------------------|
| Mode           | TX Type | Frequency (MHz) | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 802.11b        | SISO    | 2412            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
|                |         | 2437            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
|                |         | 2462            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
| 802.11g        | SISO    | 2412            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
|                |         | 2437            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
|                |         | 2462            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
| 802.11n (HT20) | SISO    | 2412            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
|                |         | 2437            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |
|                |         | 2462            | 100.000   | 100.000     | 100.00         | 0.00                              | 0.00                  |

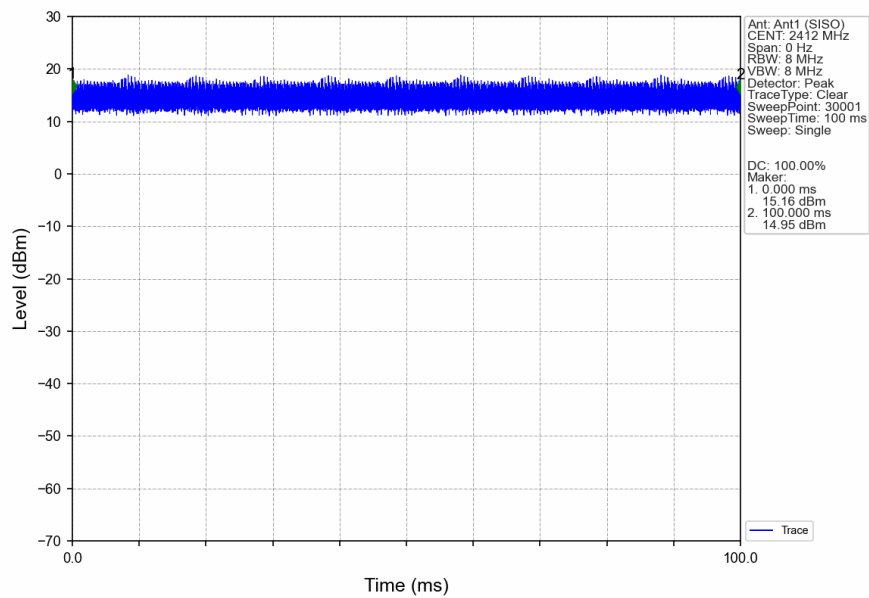
## 1.2 Test Graph

### 1.2.1 Ant1

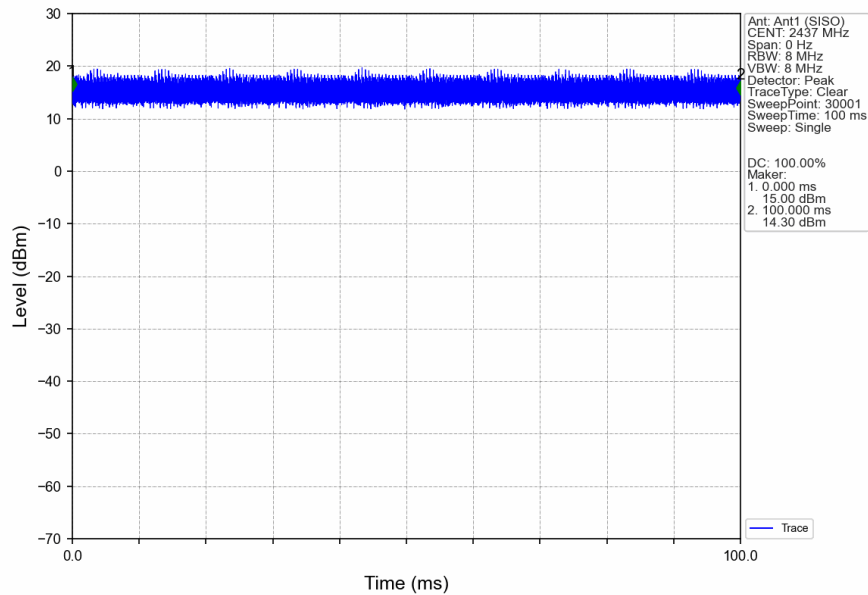




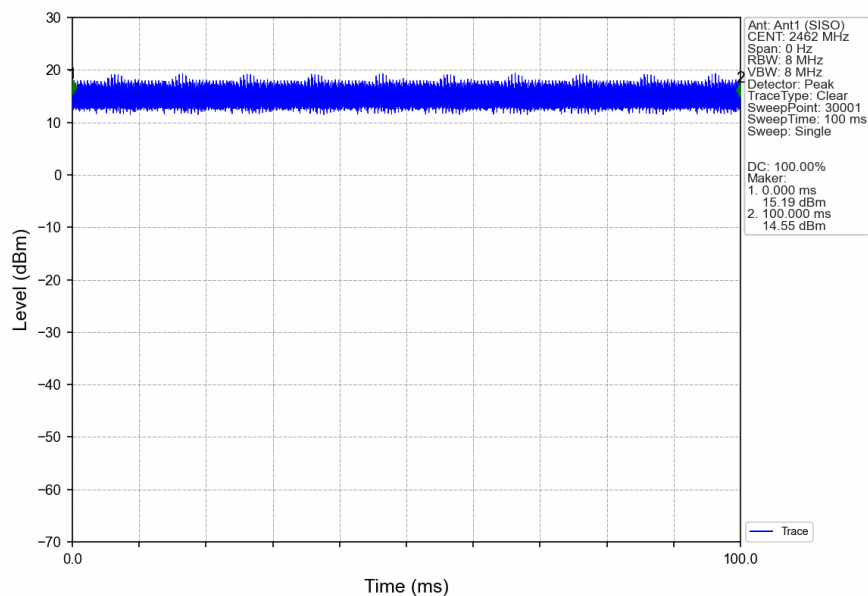
## 802.11g LCH 2412MHz\_Ant1 (SISO)\_NTNV



## 802.11g\_MCH\_2437MHz\_Ant1 (SISO)\_NTNV



## 802.11g\_HCH\_2462MHz\_Ant1 (SISO)\_NTNV



## 802.11n(HT20)\_LCH\_2412MHz\_Ant1 (SISO)\_NTNV