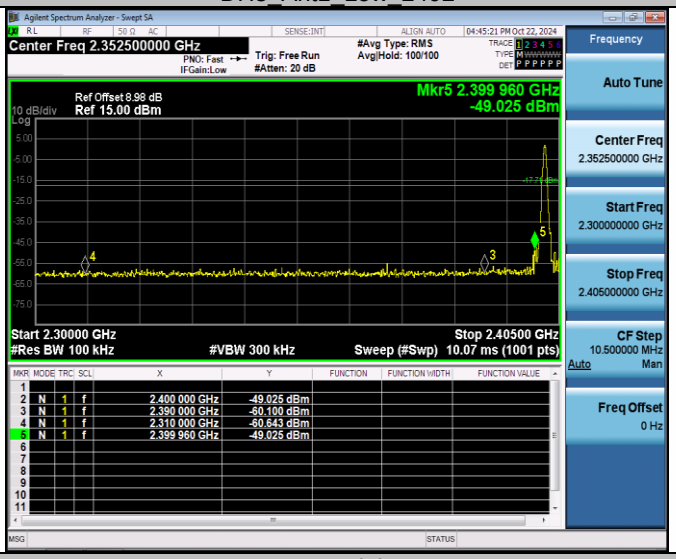
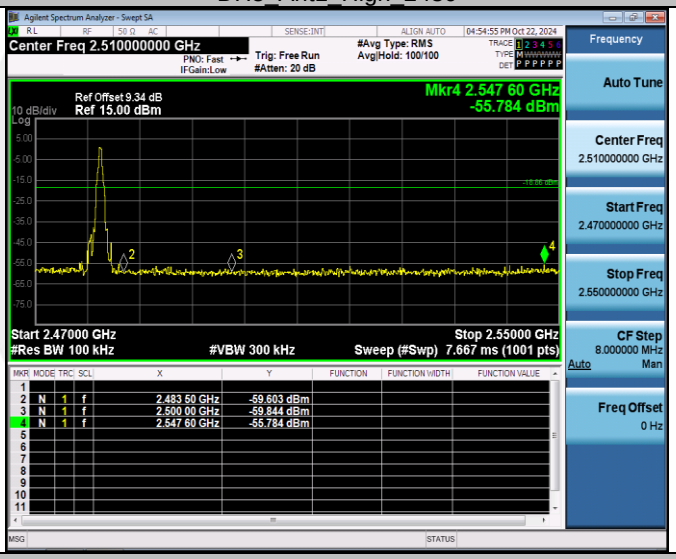
| DH5_Ant1_Low_2402 |
| --- |
|  |
| DH5_Ant1_High_2480 |
|  |
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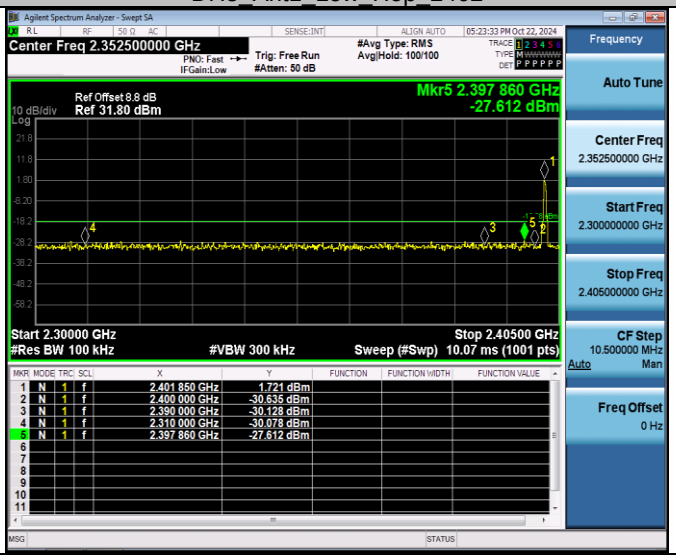
|  |

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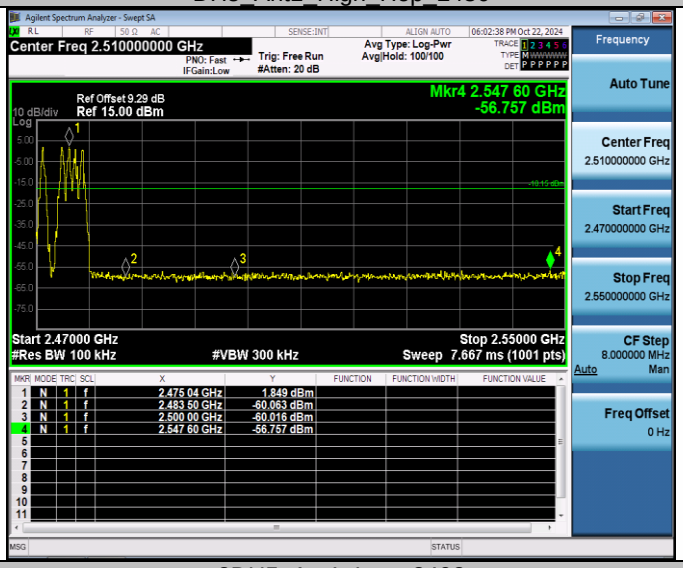
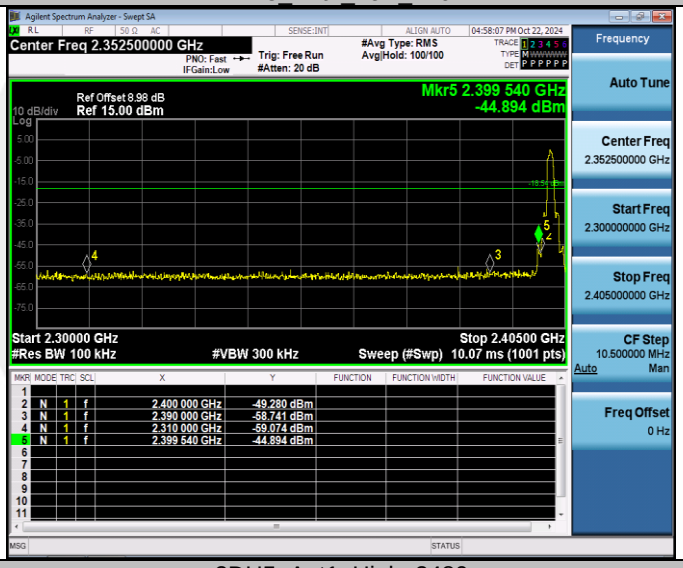
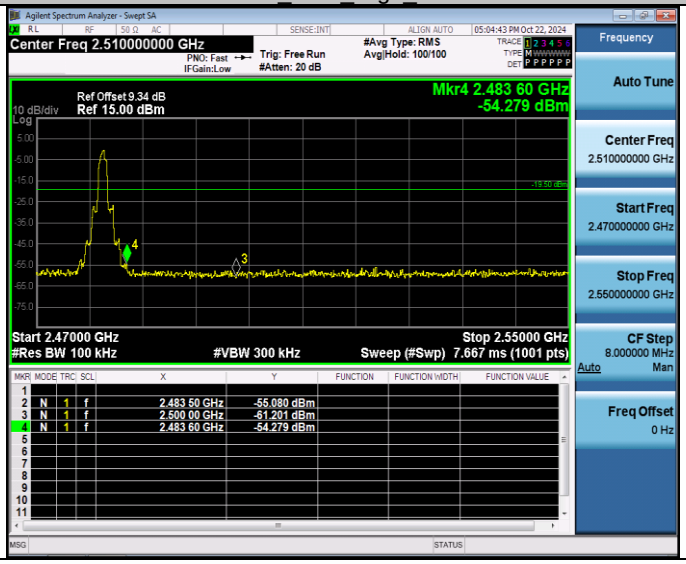
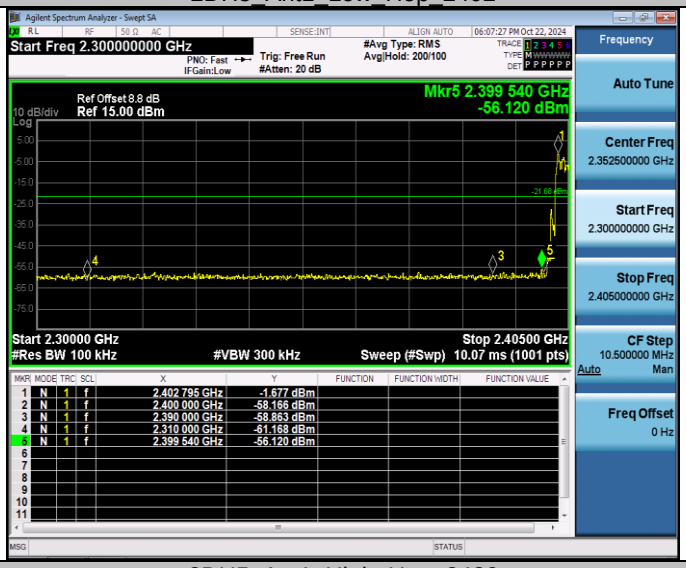
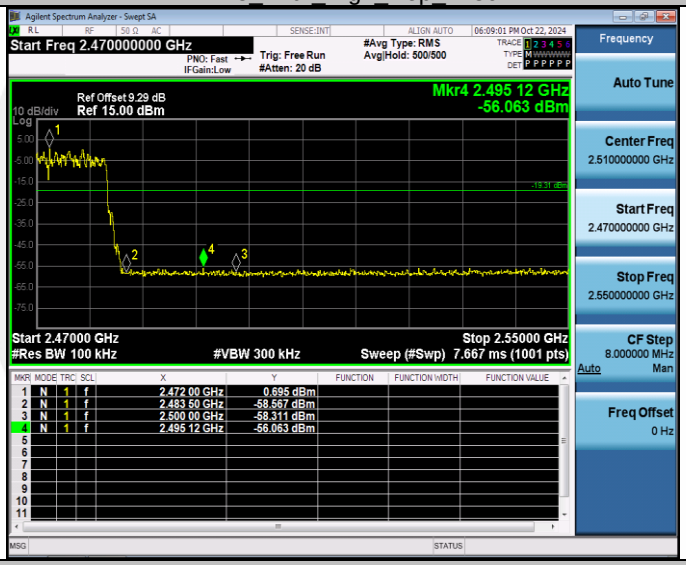
| --- |
|  |
| 2DH5_Ant1_Low_2402 |
|  |
| 2DH5_Ant1_High_2480 |
|  |

| 2DH5_Ant1_Low_Hop_2402 |
| --- |
|  |
| 2DH5_Ant1_High_Hop_2480 |
|  |
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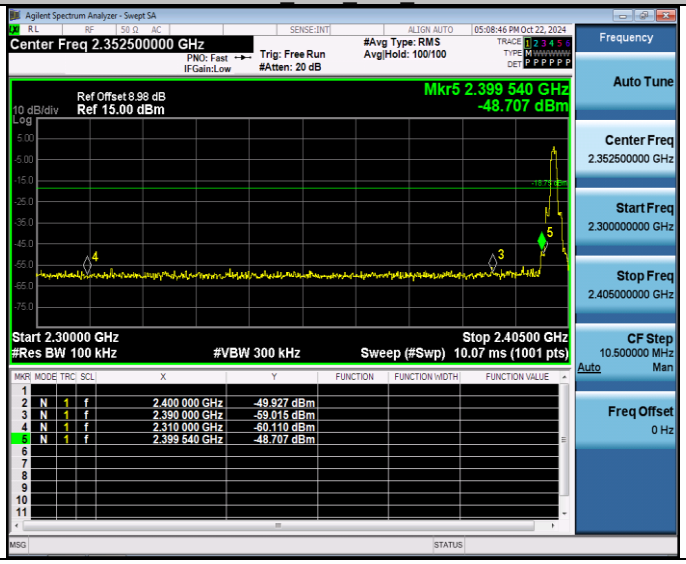
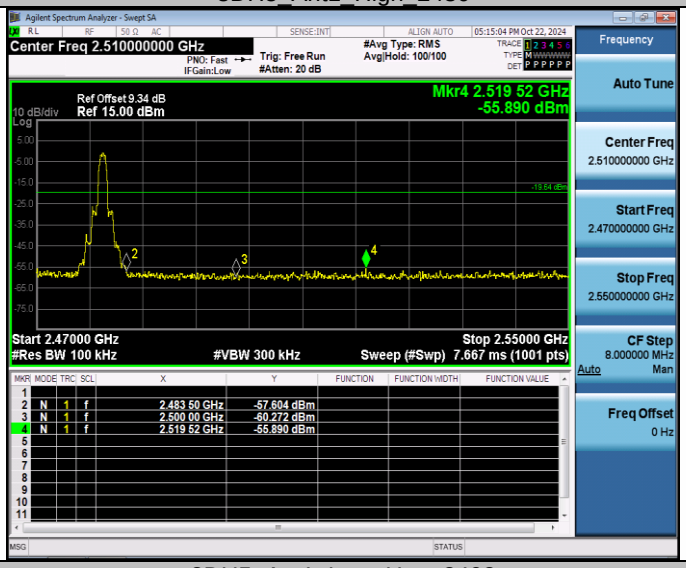
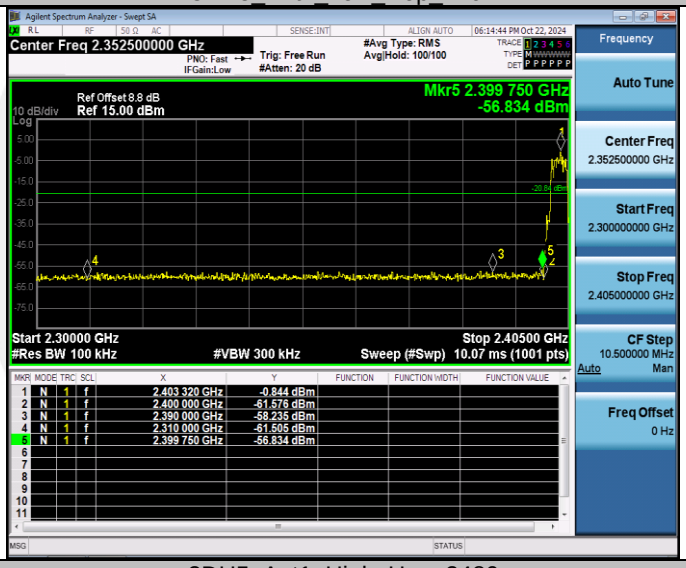
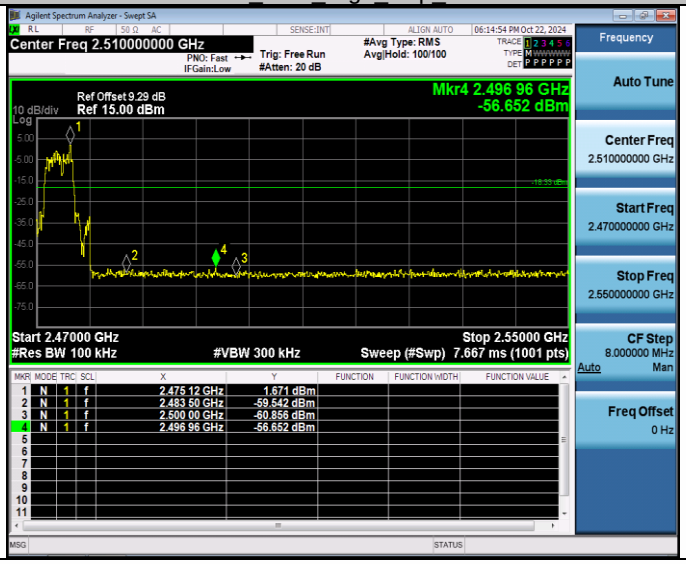
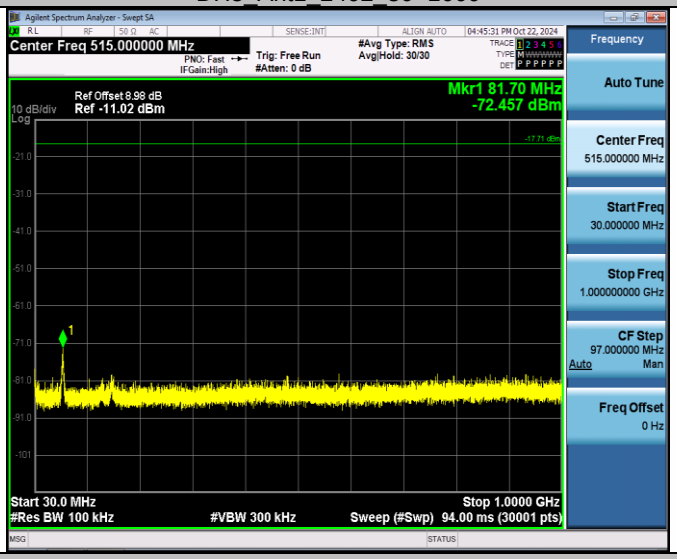
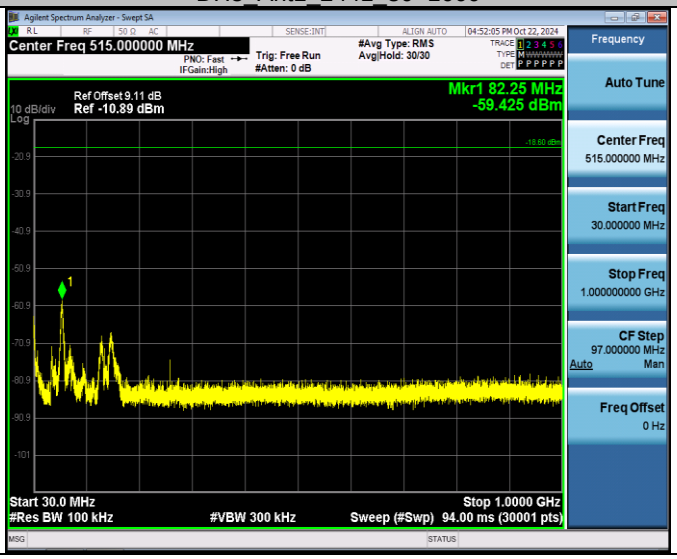
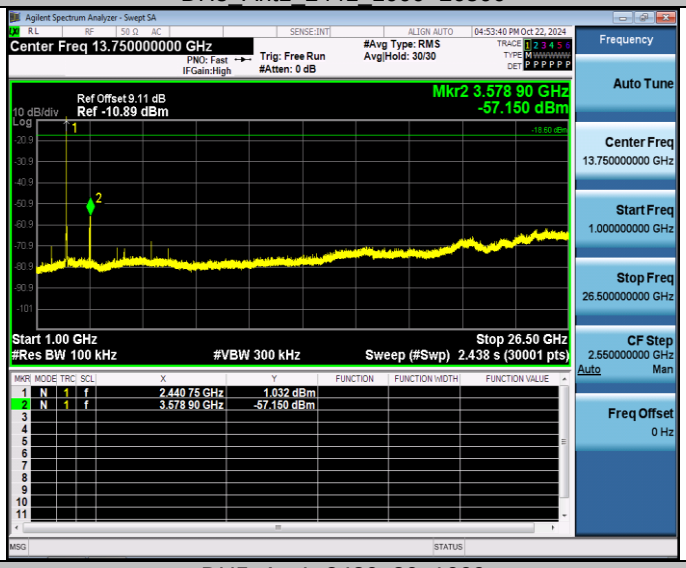
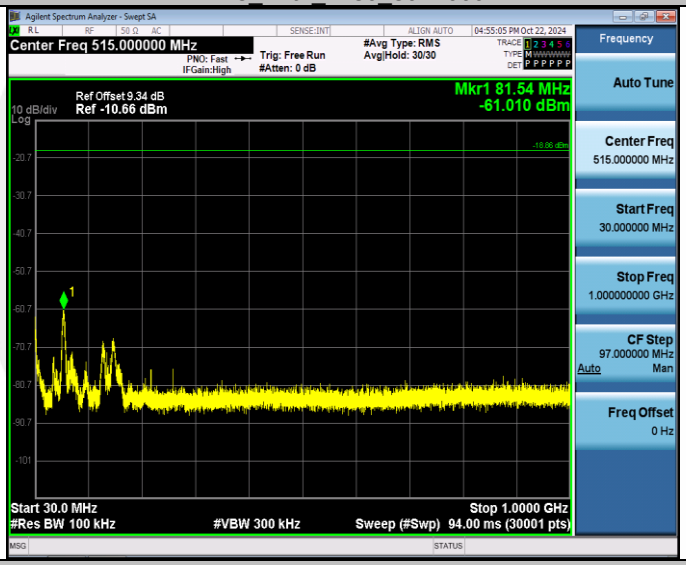
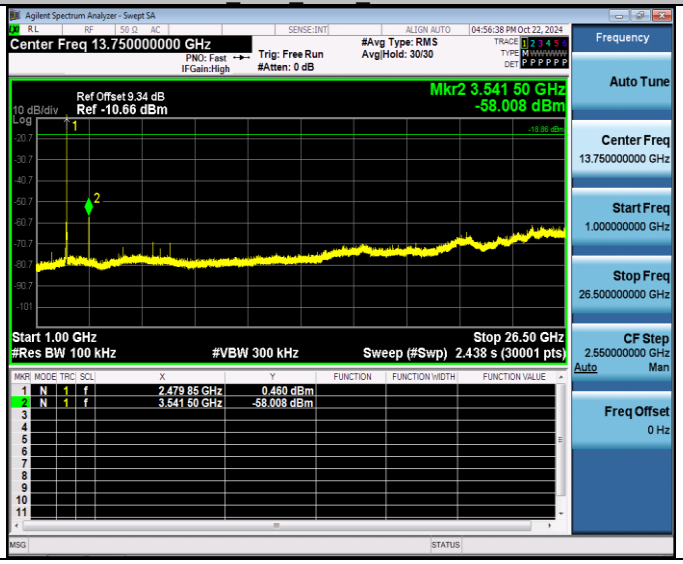
|  |

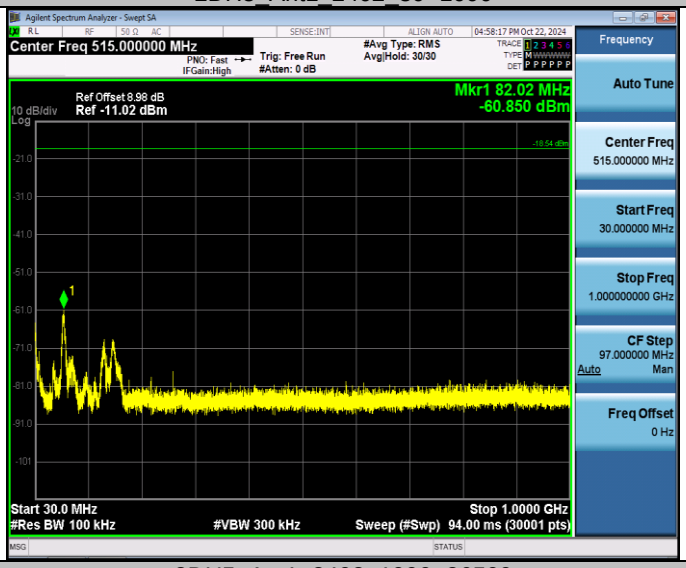
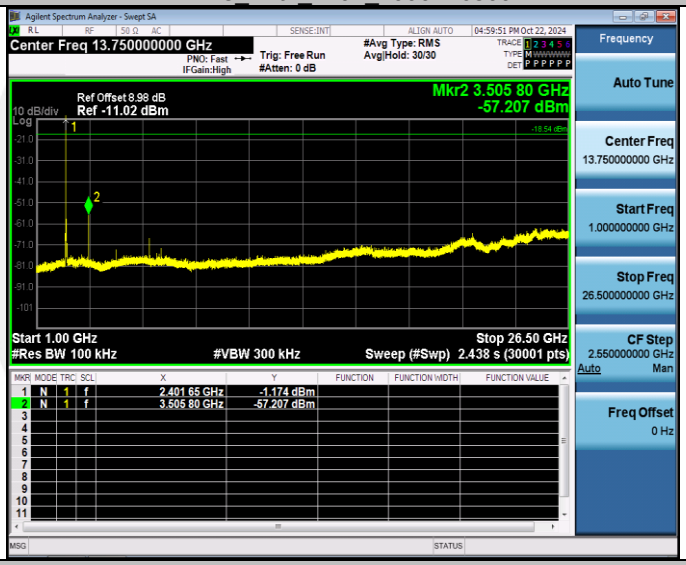
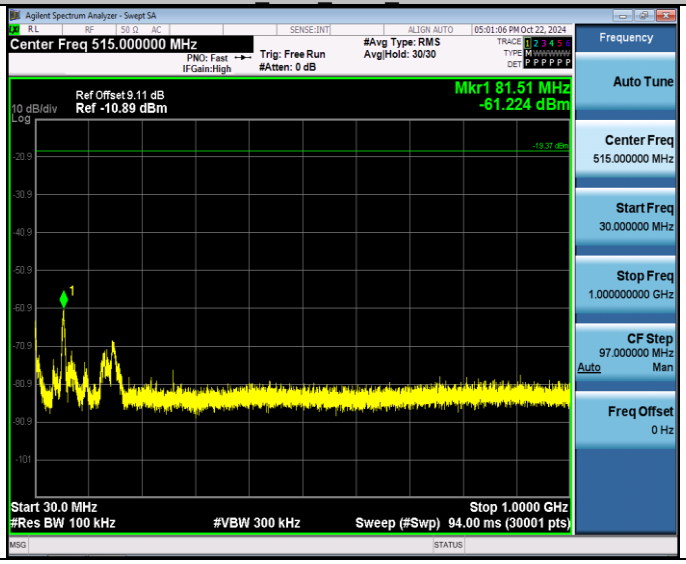
| 3DH5_Ant1_High_2480 |
| --- |
|  |
| 3DH5_Ant1_Low_Hop_2402 |
|  |
| 3DH5_Ant1_High_Hop_2480 |
|  |

**Conduceted Spurious Emission**

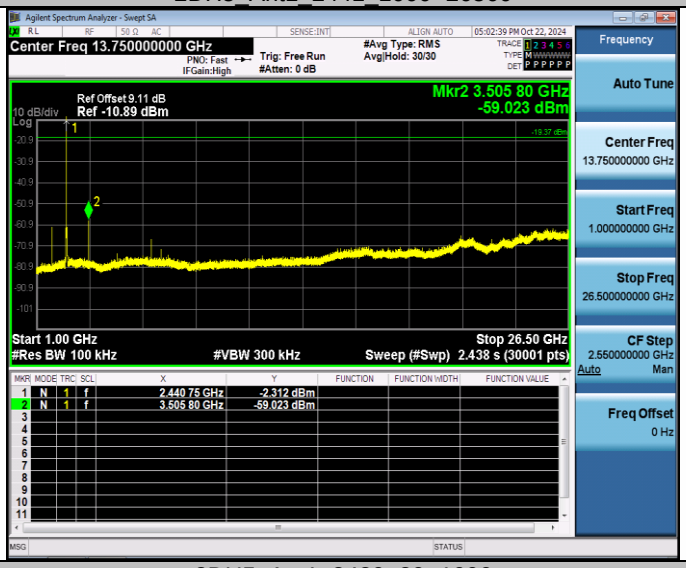
| TestMode | Antenna | Frequency[MHz] | FreqRange [MHz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|---|---|---|---|---|---|---|---|
| DH5 | Ant1 | 2402 | Reference | 10.49 | 10.49 | --- | PASS |
| | | | 30~1000 | 2.29 | -72.46 | ≤-17.71 | PASS |
| | | | 1000~26500 | 2.29 | -50.31 | ≤-17.71 | PASS |
| | | 2441 | Reference | 10.86 | 10.86 | --- | PASS |
| | | | 30~1000 | 1.40 | -59.43 | ≤-18.6 | PASS |
| | | | 1000~26500 | 1.40 | -57.15 | ≤-18.6 | PASS |
| | | 2480 | Reference | 10.65 | 10.65 | --- | PASS |
| | | | 30~1000 | 1.14 | -61.01 | ≤-18.86 | PASS |
| | | | 1000~26500 | 1.14 | -58.01 | ≤-18.86 | PASS |
| 2DH5 | Ant1 | 2402 | Reference | 4.74 | 4.74 | --- | PASS |
| | | | 30~1000 | 1.46 | -60.85 | ≤-18.54 | PASS |
| | | | 1000~26500 | 1.46 | -57.21 | ≤-18.54 | PASS |
| | | 2441 | 30~1000 | 0.63 | -61.22 | ≤-19.37 | PASS |
| | | | 1000~26500 | 0.63 | -59.02 | ≤-19.37 | PASS |
| | | 2480 | 30~1000 | 0.50 | -59.93 | ≤-19.5 | PASS |
| | | | 1000~26500 | 0.50 | -58.21 | ≤-19.5 | PASS |
| 3DH5 | Ant1 | 2402 | 30~1000 | 1.25 | -61.14 | ≤-18.75 | PASS |
| | | | 1000~26500 | 1.25 | -39.19 | ≤-18.75 | PASS |
| | | 2441 | 30~1000 | 0.47 | -61.53 | ≤-19.53 | PASS |
| | | | 1000~26500 | 0.47 | -47.3 | ≤-19.53 | PASS |
| | | 2480 | 30~1000 | 0.36 | -61.8 | ≤-19.64 | PASS |
| | | | 1000~26500 | 0.36 | -62.37 | ≤-19.64 | PASS |

| DH5_Ant1_2402_30~1000 |
| --- |
|  |
| DH5_Ant1_2402_1000~26500 |
|  |
| DH5_Ant1_2441_30~1000 |
|  |

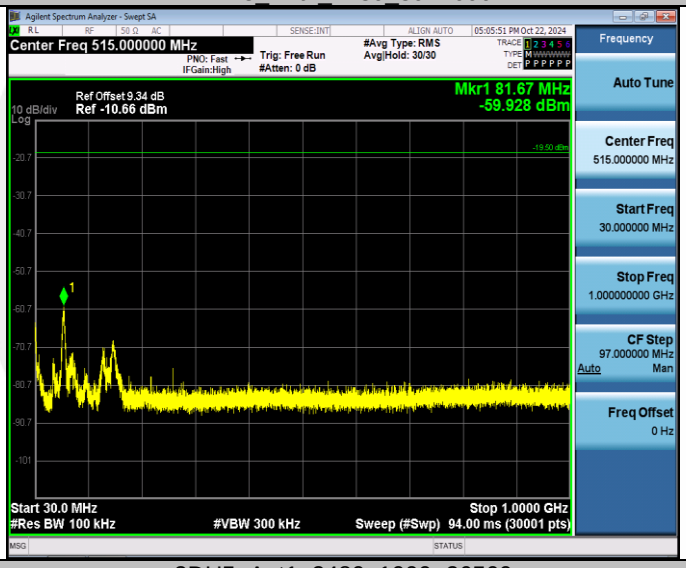
| DH5_Ant1_2441_1000~26500 |
| --- |
|  |
| DH5_Ant1_2480_30~1000 |
|  |
| DH5_Ant1_2480_1000~26500 |
|  |

| 2DH5_Ant1_2402_30~1000 |
| --- |
|  |
| 2DH5_Ant1_2402_1000~26500 |
|  |
| 2DH5_Ant1_2441_30~1000 |
|  |

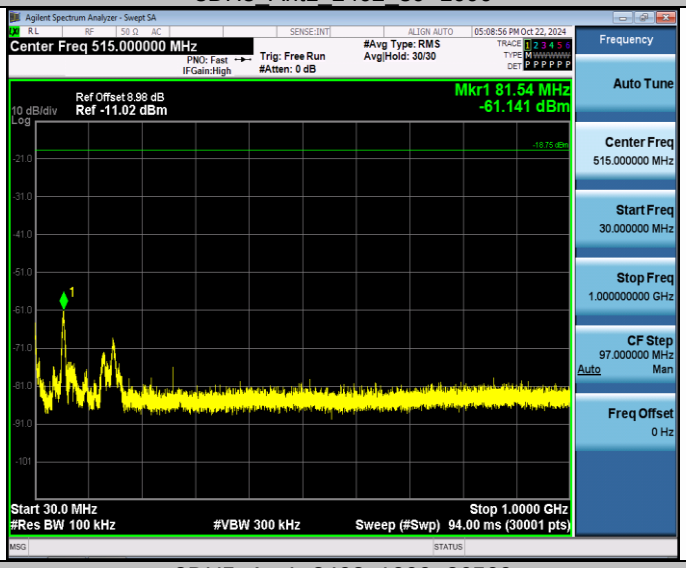
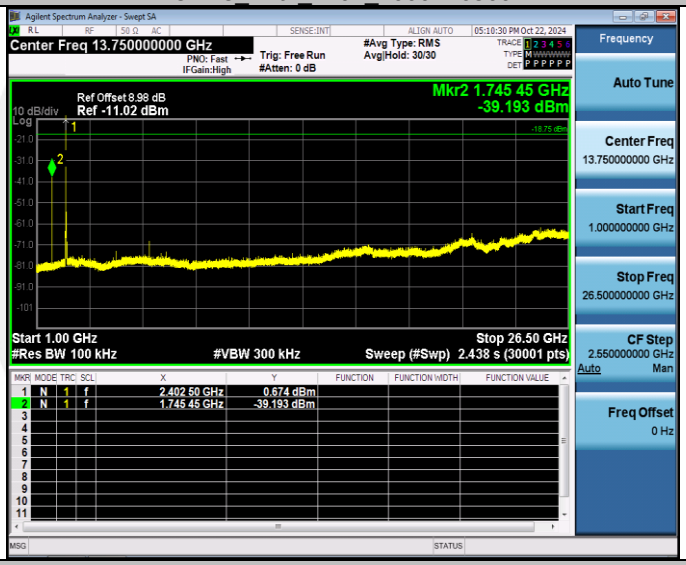
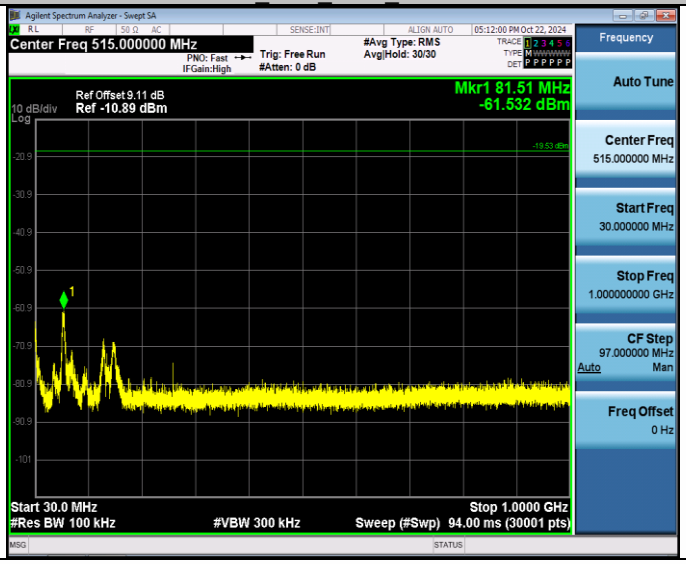
2DH5_Ant1_2441_1000~26500

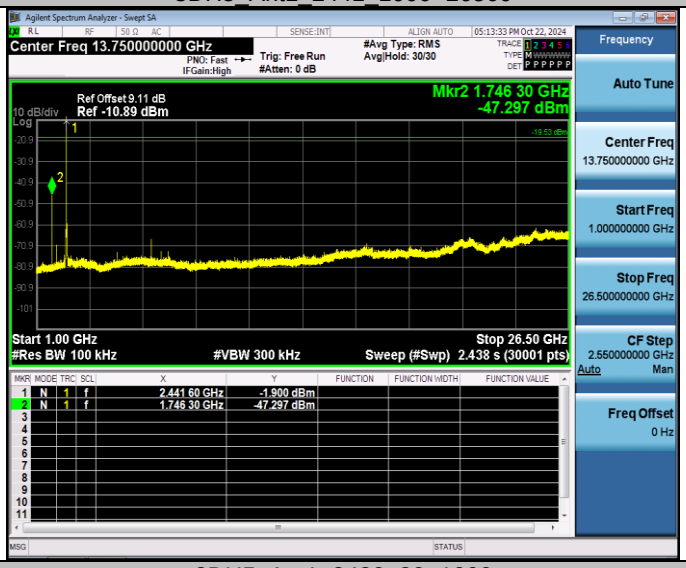
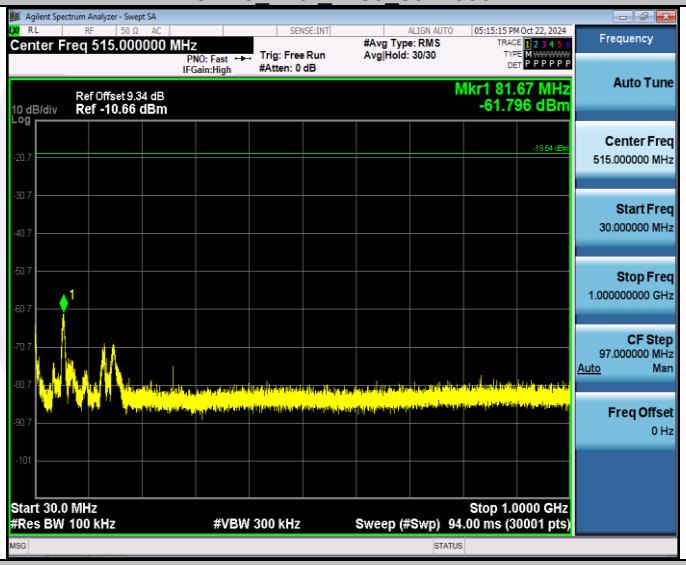
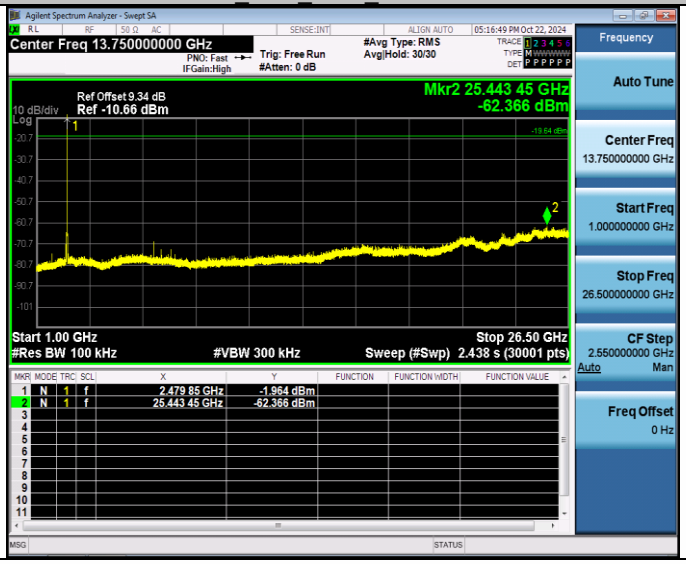



2DH5_Ant1_2480_30~1000




2DH5_Ant1_2480_1000~26500

| 3DH5_Ant1_2402_30~1000 |
| --- |
|  |
| 3DH5_Ant1_2402_1000~26500 |
|  |
| 3DH5_Ant1_2441_30~1000 |
|  |

| 3DH5_Ant1_2441_1000~26500 |
| --- |
|  |
| 3DH5_Ant1_2480_30~1000 |
|  |
| 3DH5_Ant1_2480_1000~26500 |
|  |

## 9.7 RADIATED SPURIOUS EMISSION

### 9.7.1 Applicable Standard

According to FCC Part 15.247(d) and 15.209 and KDB 558074 D01 15.247 MEAS GUIDANCE v05r02

### 9.7.2 Conformance Limit

According to FCC Part 15.247(d): 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)).
According to FCC Part15.205, Restricted bands

| MHz | MHz | MHz | GHz |
|---|---|---|---|
| 0.090-0.110 | 16.42-16.423 | 399.9-410 | 4.5-5.15 |
| 10.495-0.505 | 16.69475-16.69525 | 608-614 | 5.35-5.46 |
| 2.1735-2.1905 | 16.80425-16.80475 | 960-1240 | 7.25-7.75 |
| 4.125-4.128 | 25.5-25.67 | 1300-1427 | 8.025-8.5 |
| 4.17725-4.17775 | 37.5-38.25 | 1435-1626.5 | 9.0-9.2 |
| 4.20725-4.20775 | 73-74.6 | 1645.5-1646.5 | 9.3-9.5 |
| 6.215-6.218 | 74.8-75.2 | 1660-1710 | 10.6-12.7 |
| 6.26775-6.26825 | 123-138 | 2200-2300 | 14.47-14.5 |
| 8.291-8.294 | 149.9-150.05 | 2310-2390 | 15.35-16.2 |
| 8.362-8.366 | 156.52475-156.52525 | 2483.5-2500 | 17.7-21.4 |
| 8.37625-8.38675 | 156.7-156.9 | 2690-2900 | 22.01-23.12 |
| 8.41425-8.41475 | 162.0125-167.17 | 3260-3267 | 23.6-24.0 |
| 12.29-12.293 | 167.72-173.2 | 3332-3339 | 31.2-31.8 |
| 12.51975-12.52025 | 240-285 | 3345.8-3358 | 36.43-36.5 |
| 12.57675-12.57725 | 322-335.4 | 3600-4400 | (2) |
| 13.36-13.41 | | | |

According to FCC Part15.205, the level of any transmitter spurious emission in Restricted bands shall not exceed the level of the emission specified in the following table

| Restricted Frequency(MHz) | Field Strength (μV/m) | Field Strength (dBμV/m) | Measurement Distance |
|---|---|---|---|
| 0.009-0.490 | 2400/F(KHz) | 20 log (uV/m) | 300 |
| 0.490-1.705 | 24000/F(KHz) | 20 log (uV/m) | 30 |
| 1.705-30 | 30 | 29.5 | 30 |
| 30-88 | 100 | 40 | 3 |
| 88-216 | 150 | 43.5 | 3 |
| 216-960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

### 9.7.3 Test Configuration

Test according to clause 7.2 radio frequency test setup 2

### 9.7.4 Test Procedure

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:
For Above 1GHz:
The EUT was placed on a turn table which is 1.5m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured
RBW = 1 MHz
VBW ≥ RBW

Sweep = auto
Detector function = peak
Trace = max hold
For Below 1GHz:
The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured
RBW = 100 kHz for
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
For Below 30MHz:
The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured
RBW = 9kHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
For Below 150KHz:
The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured
RBW = 200Hz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Follow the guidelines in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b). Submit this data.
Now set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from 20log(dwell time/100 ms), in an effort to demonstrate compliance with the 15.209 limit. Submit this data.
Repeat above procedures until all frequency measured was complete.

### 9.7.5 Test Results

- Spurious Emission below 30MHz (9KHz to 30MHz)

| | |
|---|---|
| Temperature: | 25° C |
| Relative Humidity: | 60% |
| ATM Pressure: | 1011 mbar |

| Freq. (MHz) | Ant.Pol. H/V | Emission Level(dBuV/m) | | Limit 3m(dBuV/m) | | Over(dB) | |
|---|---|---|---|---|---|---|---|
| | | PK | AV | PK | AV | PK | AV |
| -- | -- | -- | -- | -- | -- | -- | -- |

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.
Distance extrapolation factor =40log(Specific distance/ test distance)( dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor

■ Spurious Emission Above 1GHz (1GHz to 25GHz)

Bluetooth (GFSK, π/4-DQPSK, 8DPSK) mode have been tested, and the worst result(GFSK) was report as below:

Test mode: GFSK Frequency: Channel 0: 2402MHz

| Freq. (MHz) | Ant.Pol. | Emission Level(dBuV/m) | Limit 3m(dBuV/m) | Over(dB) | Detector |
|---|---|---|---|---|---|
| 9240 | V | 58.04 | 74.00 | 15.96 | peak |
| 11263.1 | V | 60.69 | 74.00 | 13.31 | peak |
| 16914.3 | V | 62.39 | 74.00 | 11.61 | peak |
| 9240 | V | 43.94 | 54.00 | 10.06 | AVG |
| 11263.1 | V | 43.84 | 54.00 | 10.16 | AVG |
| 16914.3 | V | 44.94 | 54.00 | 9.06 | AVG |
| 9750 | H | 59.41 | 74.00 | 14.59 | peak |
| 11525.6 | H | 61.90 | 74.00 | 12.10 | peak |
| 16816.8 | H | 62.72 | 74.00 | 11.28 | peak |
| 9750 | H | 43.94 | 54.00 | 10.06 | AVG |
| 11525.6 | H | 44.20 | 54.00 | 9.80 | AVG |
| 16816.8 | H | 44.86 | 54.00 | 9.14 | AVG |

Test mode: GFSK Frequency: Channel 39: 2441MHz

| Freq. (MHz) | Ant.Pol. | Emission Level(dBuV/m) | Limit 3m(dBuV/m) | Over(dB) | Detector |
|---|---|---|---|---|---|
| 7948.12 | V | 55.67 | 74.00 | 18.33 | peak |
| 9905.62 | V | 59.86 | 74.00 | 14.14 | peak |
| 17596.8 | V | 62.76 | 74.00 | 11.24 | peak |
| 7948.12 | V | 39.07 | 54.00 | 14.93 | AVG |
| 9905.62 | V | 42.54 | 54.00 | 11.46 | AVG |
| 17596.8 | V | 47.40 | 54.00 | 6.60 | AVG |
| 8437.5 | H | 57.48 | 74.00 | 16.52 | peak |
| 11259.3 | H | 61.93 | 74.00 | 12.07 | peak |
| 17850 | H | 62.23 | 74.00 | 11.77 | peak |
| 8437.5 | H | 40.28 | 54.00 | 13.72 | AVG |
| 11259.3 | H | 43.48 | 54.00 | 10.52 | AVG |
| 17850 | H | 46.28 | 54.00 | 7.72 | AVG |

| Test mode: | GFSK | Frequency: | Channel 78: 2480MHz |
|---|---|---|---|

| Freq. (MHz) | Ant.Pol. | Emission Level(dBuV/m) | Limit 3m(dBuV/m) | Over(dB) | Detector |
|---|---|---|---|---|---|
| 8465.62 | V | 56.66 | 74.00 | 17.34 | peak |
| 11497.5 | V | 61.46 | 74.00 | 12.54 | peak |
| 17904.3 | V | 61.96 | 74.00 | 12.04 | peak |
| 8465.62 | V | 40.76 | 54.00 | 13.24 | AVG |
| 11497.5 | V | 45.28 | 54.00 | 8.72 | AVG |
| 17904.3 | V | 46.53 | 54.00 | 7.47 | AVG |
| 9243.75 | H | 59.72 | 74.00 | 14.28 | peak |
| 11341.8 | H | 61.20 | 74.00 | 12.80 | peak |
| 17317.5 | H | 61.71 | 74.00 | 12.29 | peak |
| 9243.75 | H | 43.84 | 54.00 | 10.16 | AVG |
| 11341.8 | H | 44.19 | 54.00 | 9.81 | AVG |
| 17317.5 | H | 46.04 | 54.00 | 7.96 | AVG |

**Note:** (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

■ Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz

Bluetooth (GFSK, π/4-DQPSK, 8DPSK, Hopping) mode have been tested, and the worst result(GFSK, Hopping) was report as below:

| Test mode: | GFSK | Frequency: | Channel 0: 2402MHz |
|---|---|---|---|

| Freq. (MHz) | Ant.Pol. | Emission Level(dBuV/m) | Limit 3m(dBuV/m) | Over(dB) | Detector |
|---|---|---|---|---|---|
| 2389.62 | V | 49.92 | 74.00 | 24.08 | peak |
| 2389.62 | V | 38.19 | 54.00 | 15.81 | AVG |
| 2389.65 | H | 46.76 | 74.00 | 27.24 | peak |
| 2389.65 | H | 37.82 | 54.00 | 16.18 | AVG |

| Test mode: | GFSK | Frequency: | Channel 78: 2480MHz |
|---|---|---|---|

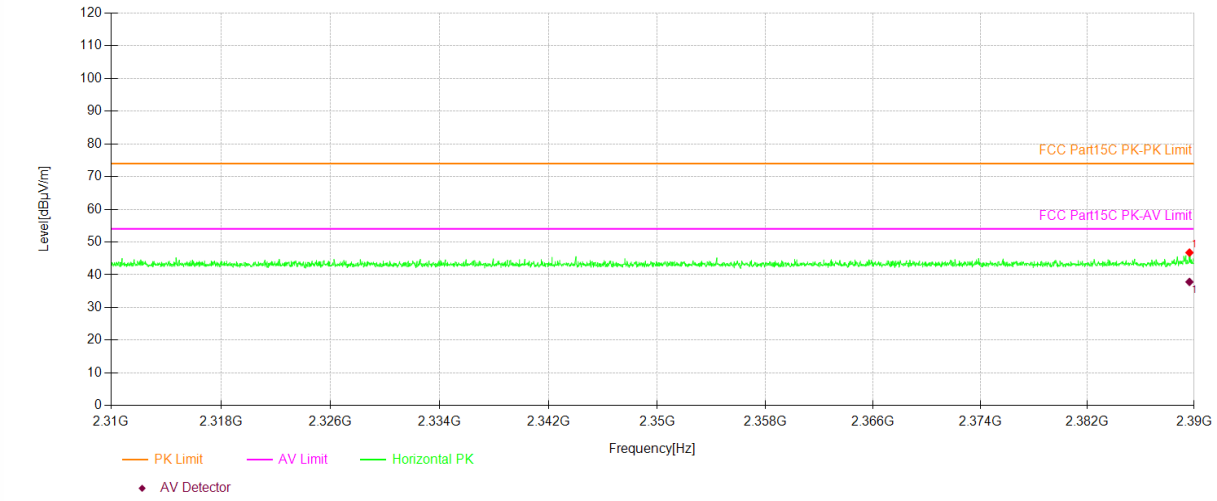
| Freq. (MHz) | Ant.Pol. | Emission Level(dBuV/m) | Limit 3m(dBuV/m) | Over(dB) | Detector |
|---|---|---|---|---|---|
| 2483.67 | V | 45.62 | 74.00 | 28.38 | peak |
| 2483.67 | V | 38.18 | 54.00 | 15.82 | AVG |
| 2483.54 | H | 48.70 | 74.00 | 25.30 | peak |
| 2483.54 | H | 38.45 | 54.00 | 15.55 | AVG |

| Test mode: | GFSK | Frequency: | Hopping |
|---|---|---|---|

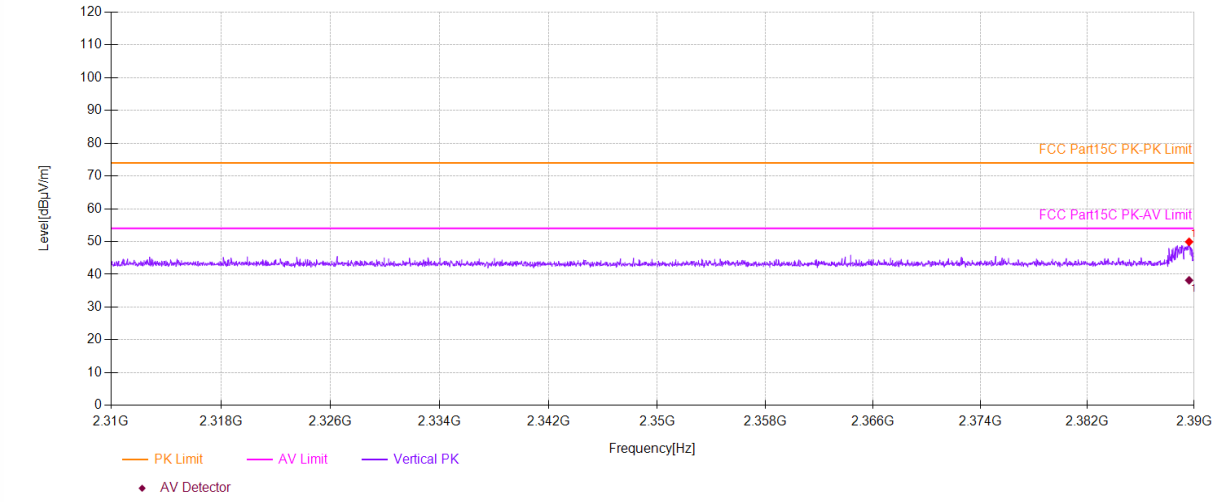
| Freq. (MHz) | Ant.Pol. | Emission Level(dBuV/m) | Limit 3m(dBuV/m) | Over(dB) | Detector |
|---|---|---|---|---|---|
| 2387.03 | V | 44.08 | 54.00 | 9.92 | peak |
| 2485.23 | V | 45.23 | 54.00 | 8.77 | peak |
| 2387.03 | V | 37.71 | 54.00 | 16.29 | AVG |
| 2485.23 | V | 37.87 | 54.00 | 16.13 | AVG |
| 2386.34 | H | 44.78 | 54.00 | 9.22 | peak |
| 2487.39 | H | 47.38 | 54.00 | 6.62 | peak |
| 2386.34 | H | 37.62 | 54.00 | 16.38 | AVG |
| 2487.39 | H | 38.24 | 54.00 | 15.76 | AVG |

**Note:** (1) All Readings are Peak Value (VBW=3MHz) and Peak Value (VBW=10Hz).
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) Data of measurement within this frequency range shown " -- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

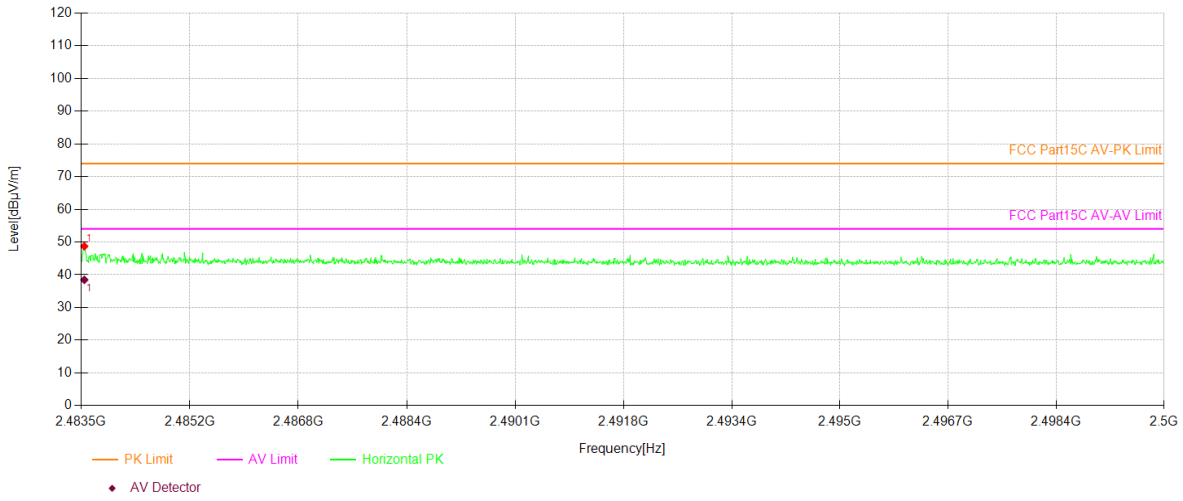
| | | | |
|---|---|---|---|
| Test Model | Spurious Emission in Restricted Band 2310-2390MHz<br>BT<br>Channel 0: 2402MHz | GFSK<br>Test By: HYD | H |



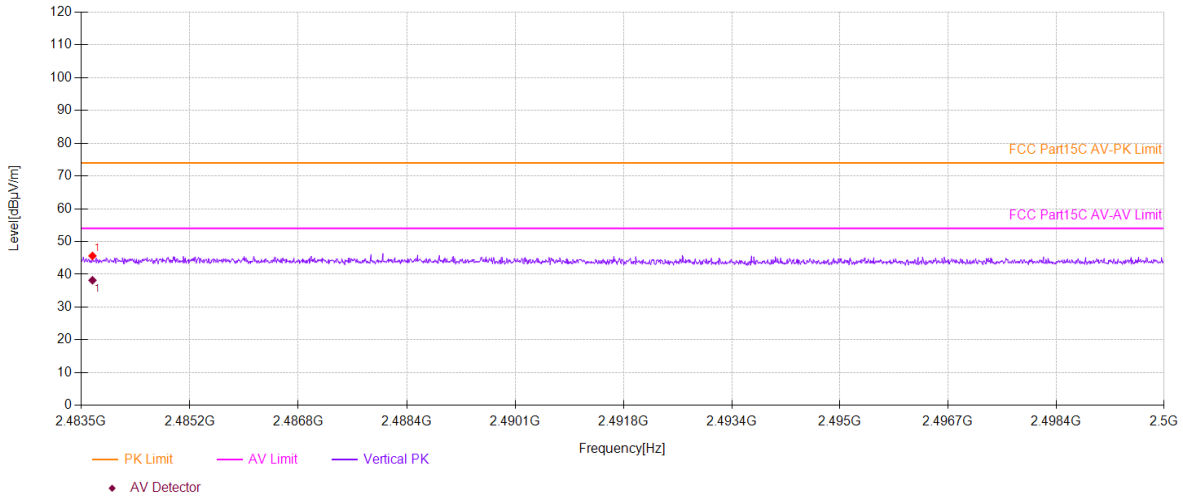

| | | | |
|---|---|---|---|
| Test Model | Spurious Emission in Restricted Band 2310-2390MHz<br>BT<br>Channel 0: 2402MHz | GFSK<br>Test By: HYD | V |



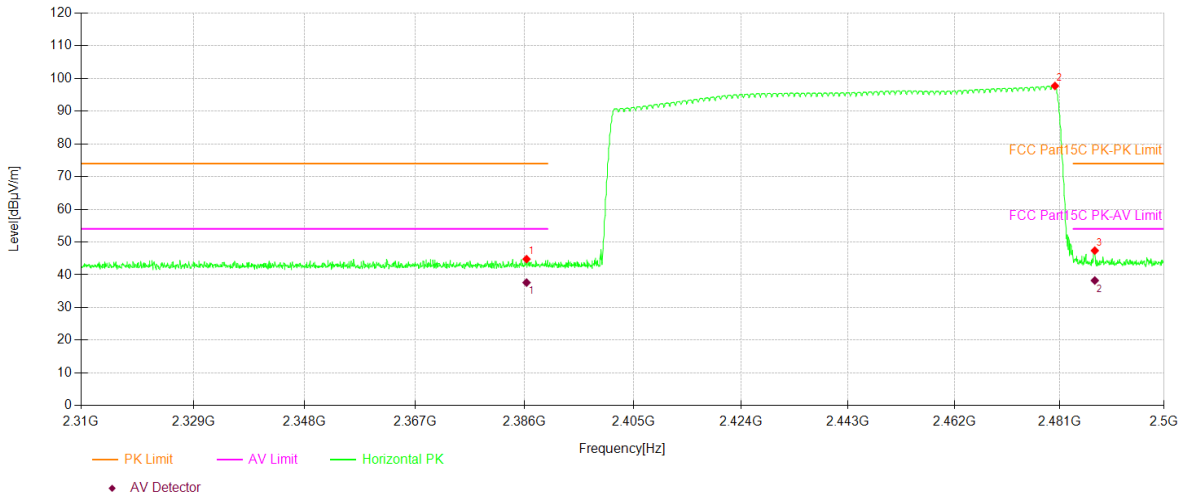
| | | | |
|---|---|---|---|
| Test Model | Spurious Emission in Restricted Band 2483.5-2500MHz<br>BT<br>Channel 78: 2480MHz | GFSK<br>Test By: HYD | H |



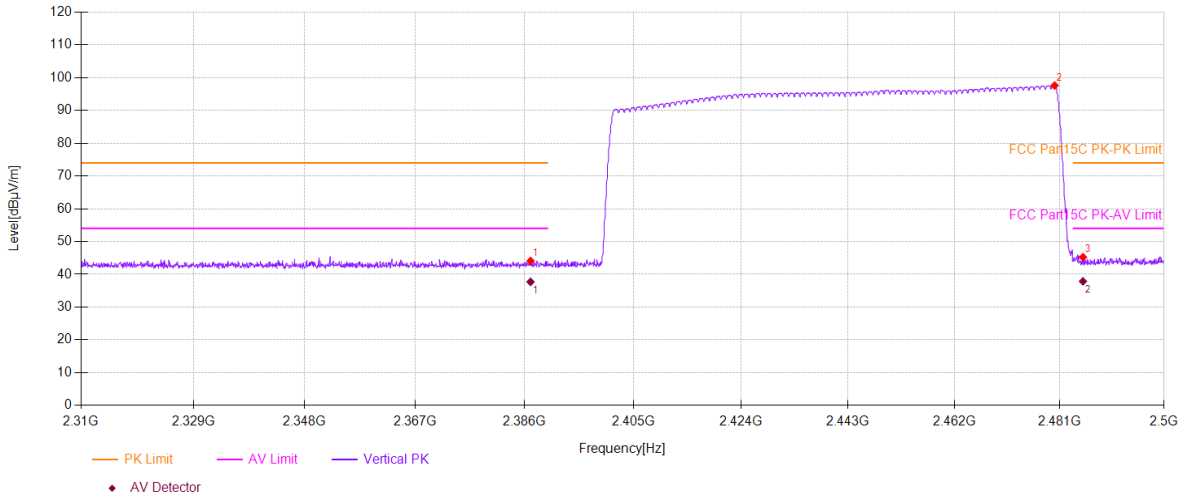

| | | | |
|---|---|---|---|
| Test Model | Spurious Emission in Restricted Band 2483.5-2500MHz<br>BT<br>Channel 78: 2480MHz | GFSK<br>Test By: HYD | V |



| | | | |
|---|---|---|---|
| Test Model | Spurious Emission in Restricted Band 2310-2390MHz and 2400-2483.5MHz<br>BT<br>Hopping | GFSK | H<br>Test By: HYD |



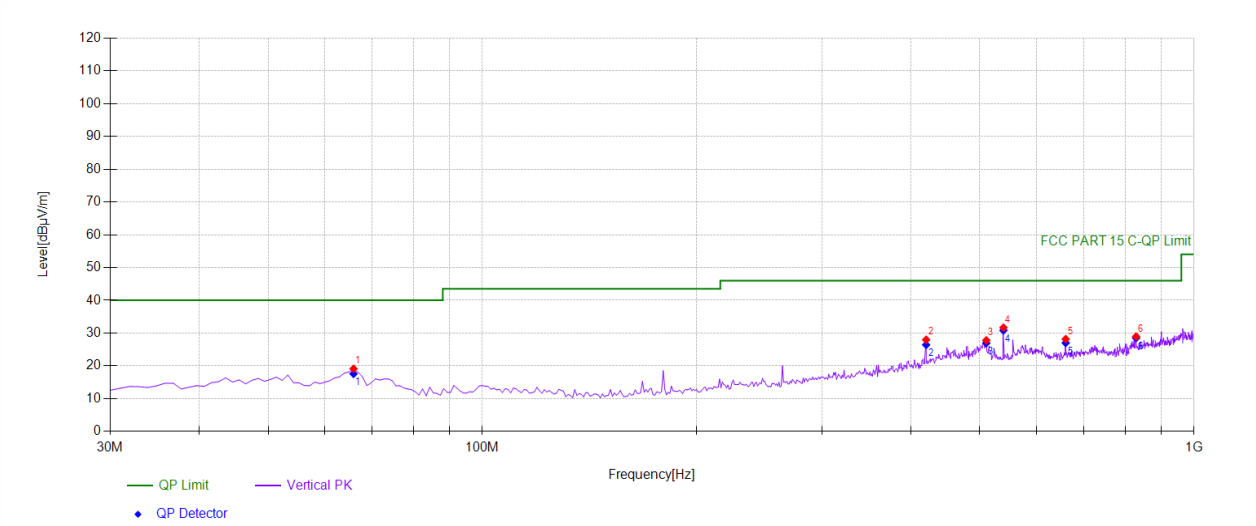

| | | | |
|---|---|---|---|
| Test Model | Spurious Emission in Restricted Band 2310-2390MHz and 2400-2483.5MHz<br>BT<br>Hopping | GFSK | V<br>Test By: HYD |



■ Spurious Emission below 1GHz (30MHz to 1GHz)

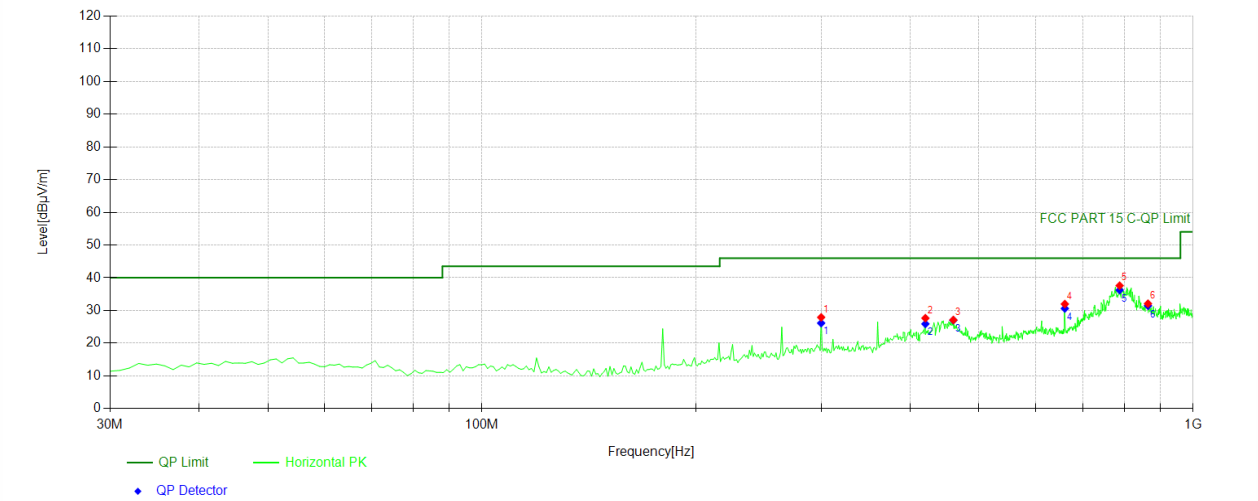
Bluetooth (GFSK, π/4-DQPSK, 8DPSK) mode have been tested, and the worst result(GFSK) was report as below:

| Test mode: | GFSK | Frequency: | Channel 0: 2402MHz |
|---|---|---|---|



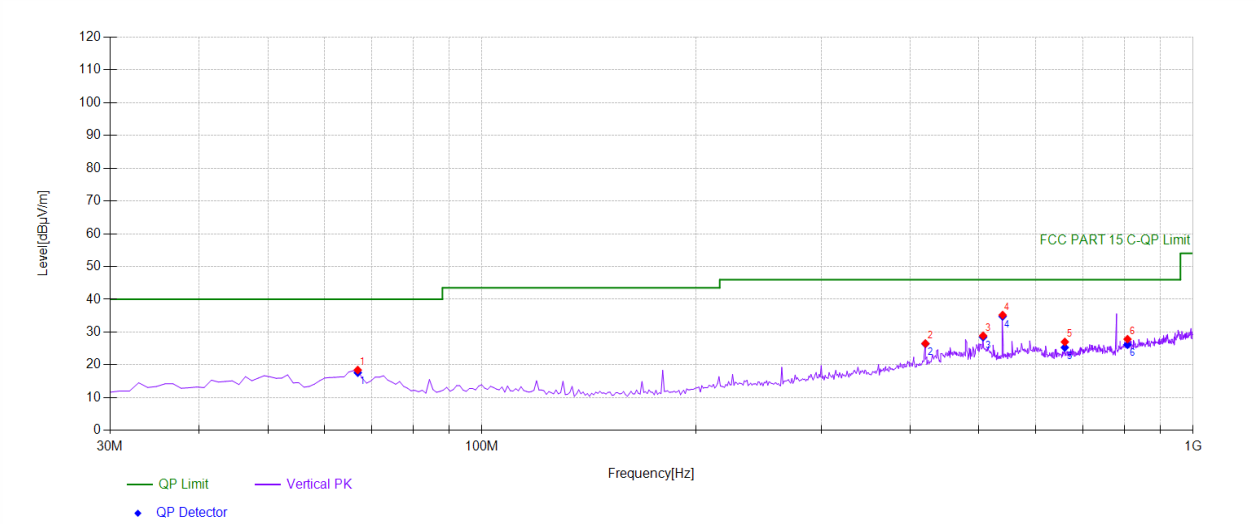

**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV] | Factor [dB/m] | Level [dBµV/m] | Detector | Limit [dBµV/m] | Margin [dB] | Polarity |
|---|---|---|---|---|---|---|---|---|
| 1 | 65.9259 | 37.38 | -18.24 | 19.14 | PK | 40.00 | 20.86 | Vertical |
| 2 | 420.330 | 39.86 | -11.87 | 27.99 | PK | 46.00 | 18.01 | Vertical |
| 3 | 510.630 | 37.72 | -9.92 | 27.80 | PK | 46.00 | 18.20 | Vertical |
| 4 | 539.759 | 41.02 | -9.34 | 31.68 | PK | 46.00 | 14.32 | Vertical |
| 5 | 660.160 | 35.14 | -6.97 | 28.17 | PK | 46.00 | 17.83 | Vertical |
| 6 | 829.109 | 33.94 | -4.97 | 28.97 | PK | 46.00 | 17.03 | Vertical |

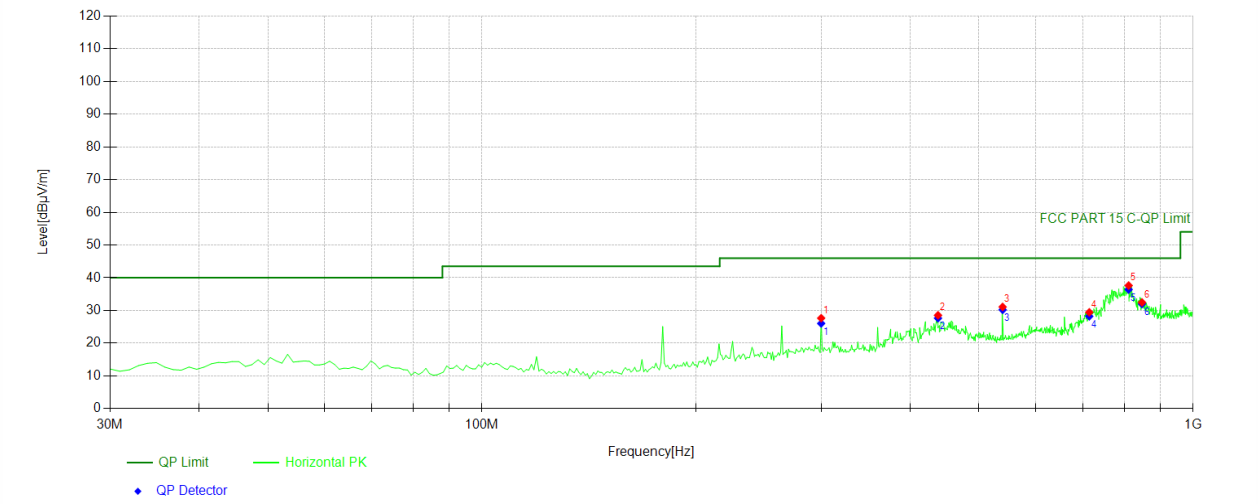



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Reading [dBµV] | Factor [dB/m] | Level [dBµV/m] | Detector | Limit [dBµV/m] | Margin [dB] | Polarity |
| 1 | 299.929 | 41.90 | -13.99 | 27.91 | PK | 46.00 | 18.09 | Horizontal |
| 2 | 420.330 | 39.53 | -11.87 | 27.66 | PK | 46.00 | 18.34 | Horizontal |
| 3 | 460.140 | 37.50 | -10.39 | 27.11 | PK | 46.00 | 18.89 | Horizontal |
| 4 | 660.160 | 38.95 | -6.97 | 31.98 | PK | 46.00 | 14.02 | Horizontal |
| 5 | 788.328 | 44.06 | -6.46 | 37.60 | PK | 46.00 | 8.40 | Horizontal |
| 6 | 864.064 | 35.88 | -3.79 | 32.09 | PK | 46.00 | 13.91 | Horizontal |

| Test mode: | GFSK | Frequency: | Channel 39: 2441MHz |
|---|---|---|---|

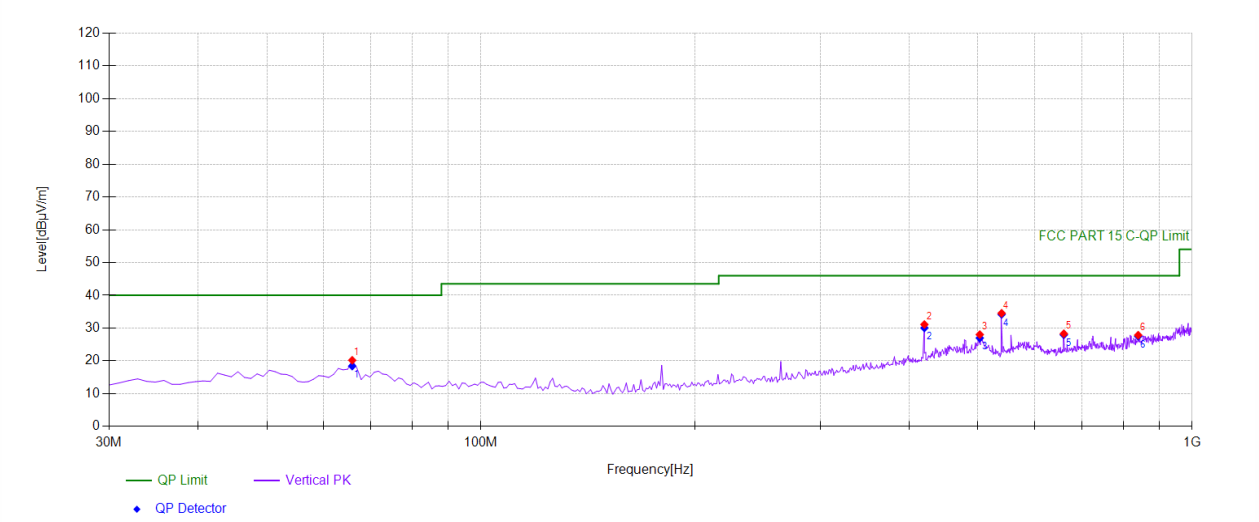



| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Reading [dBµV] | Factor [dB/m] | Level [dBµV/m] | Detector | Limit [dBµV/m] | Margin [dB] | Polarity |
| 1 | 66.8969 | 36.81 | -18.37 | 18.44 | PK | 40.00 | 21.56 | Vertical |
| 2 | 420.330 | 38.39 | -11.87 | 26.52 | PK | 46.00 | 19.48 | Vertical |
| 3 | 506.746 | 38.89 | -10.00 | 28.89 | PK | 46.00 | 17.11 | Vertical |
| 4 | 539.759 | 44.55 | -9.34 | 35.21 | PK | 46.00 | 10.79 | Vertical |
| 5 | 660.160 | 33.98 | -6.97 | 27.01 | PK | 46.00 | 18.99 | Vertical |
| 6 | 808.718 | 33.21 | -5.35 | 27.86 | PK | 46.00 | 18.14 | Vertical |



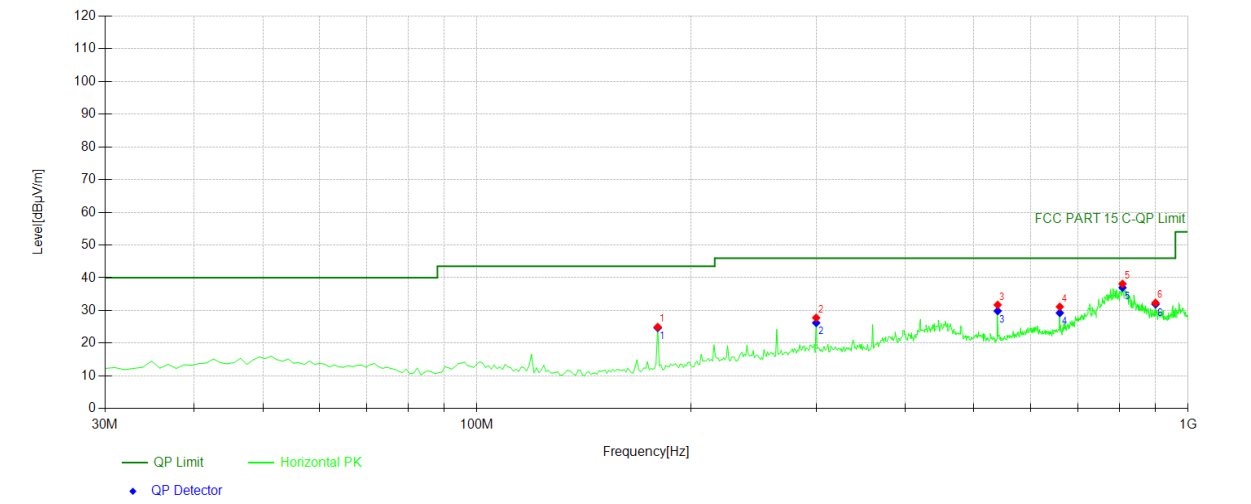

| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Reading [dBµV] | Factor [dB/m] | Level [dBµV/m] | Detector | Limit [dBµV/m] | Margin [dB] | Polarity |
| 1 | 299.929 | 41.65 | -13.99 | 27.66 | PK | 46.00 | 18.34 | Horizontal |
| 2 | 437.807 | 39.76 | -11.22 | 28.54 | PK | 46.00 | 17.46 | Horizontal |
| 3 | 539.759 | 40.44 | -9.34 | 31.10 | PK | 46.00 | 14.90 | Horizontal |
| 4 | 714.534 | 35.59 | -6.14 | 29.45 | PK | 46.00 | 16.55 | Horizontal |
| 5 | 811.631 | 42.94 | -5.31 | 37.63 | PK | 46.00 | 8.37 | Horizontal |
| 6 | 847.557 | 36.80 | -4.32 | 32.48 | PK | 46.00 | 13.52 | Horizontal |

| Test mode: | GFSK | Frequency: | Channel 78: 2480MHz |
|---|---|---|---|




**Suspected Data List**

| NO. | Freq. [MHz] | Reading [dBµV] | Factor [dB/m] | Level [dBµV/m] | Detector | Limit [dBµV/m] | Margin [dB] | Polarity |
|---|---|---|---|---|---|---|---|---|
| 1 | 65.9259 | 38.44 | -18.24 | 20.20 | PK | 40.00 | 19.80 | Vertical |
| 2 | 420.330 | 42.98 | -11.87 | 31.11 | PK | 46.00 | 14.89 | Vertical |
| 3 | 502.862 | 38.12 | -10.08 | 28.04 | PK | 46.00 | 17.96 | Vertical |
| 4 | 539.759 | 43.88 | -9.34 | 34.54 | PK | 46.00 | 11.46 | Vertical |
| 5 | 660.160 | 35.27 | -6.97 | 28.30 | PK | 46.00 | 17.70 | Vertical |
| 6 | 839.789 | 32.52 | -4.66 | 27.86 | PK | 46.00 | 18.14 | Vertical |




| Suspected Data List | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NO. | Freq. [MHz] | Reading [dBµV] | Factor [dB/m] | Level [dBµV/m] | Detector | Limit [dBµV/m] | Margin [dB] | Polarity |
| 1 | 179.529 | 43.56 | -18.61 | 24.95 | PK | 43.50 | 18.55 | Horizontal |
| 2 | 299.929 | 41.76 | -13.99 | 27.77 | PK | 46.00 | 18.23 | Horizontal |
| 3 | 539.759 | 41.06 | -9.34 | 31.72 | PK | 46.00 | 14.28 | Horizontal |
| 4 | 660.160 | 38.11 | -6.97 | 31.14 | PK | 46.00 | 14.86 | Horizontal |
| 5 | 808.718 | 43.49 | -5.35 | 38.14 | PK | 46.00 | 7.86 | Horizontal |
| 6 | 899.99 | 35.64 | -3.30 | 32.34 | PK | 46.00 | 13.66 | Horizontal |

## 9.8 CONDUCTED EMISSION TEST

### 9.8.1 Applicable Standard

According to FCC Part 15.207(a)

### 9.8.2 Conformance Limit

| Conducted Emission Limit | | |
|---|---|---|
| Frequency(MHz) | Quasi-peak | Average |
| 0.15-0.5 | 66-56 | 56-46 |
| 0.5-5.0 | 56 | 46 |
| 5.0-30.0 | 60 | 50 |
| Note: 1. The lower limit shall apply at the transition frequencies<br>2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz. | | |

### 9.8.3 Test Configuration

Test according to clause 7.3 conducted emission test setup

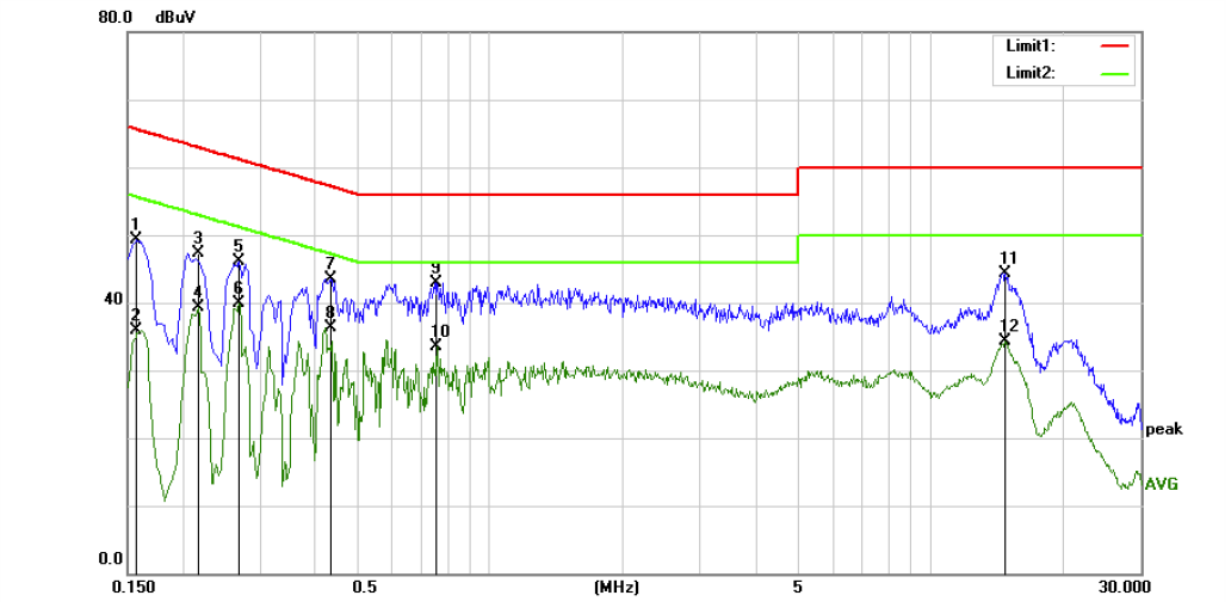
### 9.8.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Repeat above procedures until all frequency measured were complete.

### 9.8.5 Test Results

**Pass**

**The AC120V &240V voltage have been tested, and the worst result recorded was report as below:**



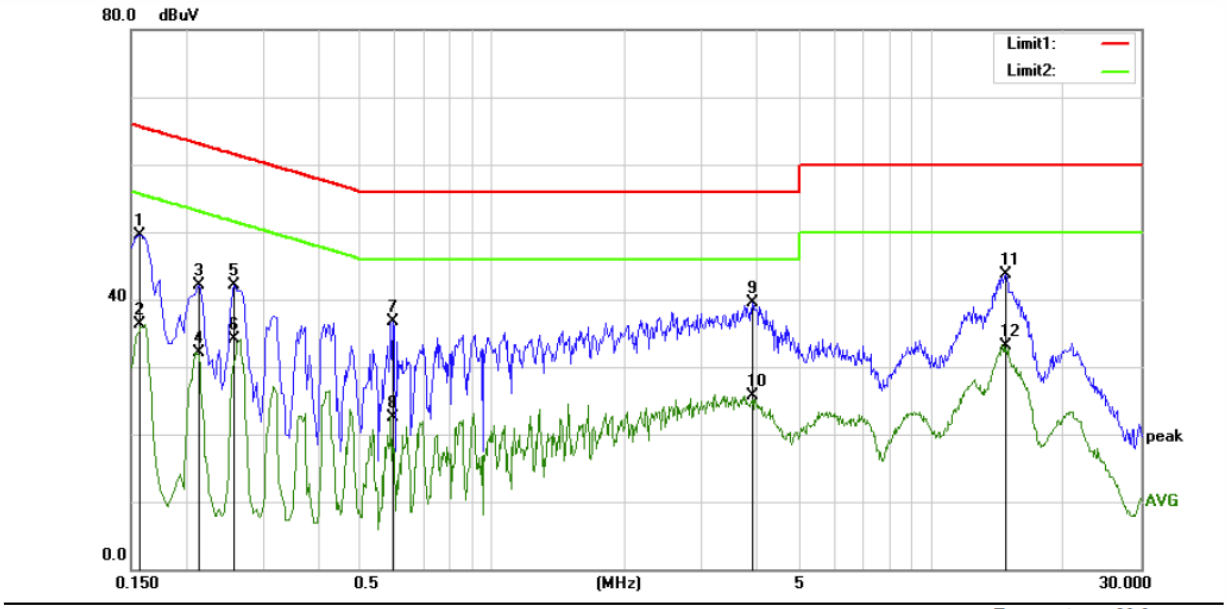

Site Conduction #1 Phase: N Temperature: 23.9

Limit: (CE)FCC PART 15 class B QP Power: AC 120V/60Hz Humidity: 53 %

Mode: BT Mode

Note:

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | | 0.1580 | 39.25 | 10.02 | 49.27 | 65.57 | -16.30 | QP | |
| 2 | | 0.1580 | 25.85 | 10.02 | 35.87 | 55.57 | -19.70 | AVG | |
| 3 | | 0.2180 | 37.30 | 10.03 | 47.33 | 62.89 | -15.56 | QP | |
| 4 | | 0.2180 | 29.33 | 10.03 | 39.36 | 52.89 | -13.53 | AVG | |
| 5 | | 0.2700 | 36.02 | 10.03 | 46.05 | 61.12 | -15.07 | QP | |
| 6 | | 0.2700 | 29.78 | 10.03 | 39.81 | 51.12 | -11.31 | AVG | |
| 7 | | 0.4340 | 33.58 | 9.94 | 43.52 | 57.18 | -13.66 | QP | |
| 8 | * | 0.4340 | 26.35 | 9.94 | 36.29 | 47.18 | -10.89 | AVG | |
| 9 | | 0.7580 | 32.92 | 9.99 | 42.91 | 56.00 | -13.09 | QP | |
| 10 | | 0.7580 | 23.45 | 9.99 | 33.44 | 46.00 | -12.56 | AVG | |
| 11 | | 14.7740 | 33.99 | 10.29 | 44.28 | 60.00 | -15.72 | QP | |
| 12 | | 14.7740 | 24.04 | 10.29 | 34.33 | 50.00 | -15.67 | AVG | |




Site Conduction #1 Phase: L1 Temperature: 23.9

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 53 %

Mode: BT Mode

Note:

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | |
|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector | Comment |
| 1 | * | 0.1580 | 39.48 | 10.02 | 49.50 | 65.57 | -16.07 | QP | |
| 2 | | 0.1580 | 26.22 | 10.02 | 36.24 | 55.57 | -19.33 | AVG | |
| 3 | | 0.2140 | 31.98 | 10.03 | 42.01 | 63.05 | -21.04 | QP | |
| 4 | | 0.2140 | 22.05 | 10.03 | 32.08 | 53.05 | -20.97 | AVG | |
| 5 | | 0.2580 | 32.09 | 10.02 | 42.11 | 61.50 | -19.39 | QP | |
| 6 | | 0.2580 | 24.05 | 10.02 | 34.07 | 51.50 | -17.43 | AVG | |
| 7 | | 0.5940 | 26.72 | 9.97 | 36.69 | 56.00 | -19.31 | QP | |
| 8 | | 0.5940 | 12.63 | 9.97 | 22.60 | 46.00 | -23.40 | AVG | |
| 9 | | 3.9060 | 29.53 | 9.97 | 39.50 | 56.00 | -16.50 | QP | |
| 10 | | 3.9060 | 15.64 | 9.97 | 25.61 | 46.00 | -20.39 | AVG | |
| 11 | | 14.7740 | 33.32 | 10.29 | 43.61 | 60.00 | -16.39 | QP | |
| 12 | | 14.7740 | 22.91 | 10.29 | 33.20 | 50.00 | -16.80 | AVG | |

## 9.9 ANTENNA APPLICATION

### 9.9.1 Antenna Requirement

| Standard | Requirement |
|---|---|
| FCC CRF Part 15.203 | An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded. |

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### 9.9.2 Result

**PASS**

☒ Antenna use a permanently attached antenna which is not replaceable.
☐ Not using a standard antenna jack or electrical connector for antenna replacement
☐ The antenna has to be professionally installed (please provide method of installation)
Note: Please refer to the attached document Internal Photos to show the antenna connector.

Detail of factor for radiated emission

| Frequency(MHz) | Ant_F(dB) | Cab_L(dB) | Preamp(dB) | Correct Factor(dB) |
|---|---|---|---|---|
| 0.009 | 20.6 | 0.03 | \ | 20.63 |
| 0.15 | 20.7 | 0.1 | \ | 20.8 |
| 1 | 20.9 | 0.15 | \ | 21.05 |
| 10 | 20.1 | 0.28 | \ | 20.38 |
| 30 | 18.8 | 0.45 | \ | 19.25 |
| | | | | |
| 30 | 11.7 | 0.62 | 27.9 | -15.58 |
| 100 | 12.5 | 1.02 | 27.8 | -14.28 |
| 300 | 12.9 | 1.91 | 27.5 | -12.69 |
| 600 | 19.2 | 2.92 | 27 | -4.88 |
| 800 | 21.1 | 3.54 | 26.6 | -1.96 |
| 1000 | 22.3 | 4.17 | 26.2 | 0.27 |
| | | | | |
| 1000 | 25.6 | 1.76 | 41.4 | -14.04 |
| 3000 | 28.9 | 3.27 | 43.2 | -11.03 |
| 5000 | 31.1 | 4.2 | 44.6 | -9.3 |
| 8000 | 36.2 | 5.95 | 44.7 | -2.55 |
| 10000 | 38.4 | 6.3 | 43.9 | 0.8 |
| 12000 | 38.5 | 7.14 | 42.3 | 3.34 |
| 15000 | 40.2 | 8.15 | 41.4 | 6.95 |
| 18000 | 45.4 | 9.02 | 41.3 | 13.12 |
| | | | | |
| 18000 | 37.9 | 1.81 | 47.9 | -8.19 |
| 21000 | 37.9 | 1.95 | 48.7 | -8.85 |
| 25000 | 39.3 | 2.01 | 42.8 | -1.49 |
| 28000 | 39.6 | 2.16 | 46.0 | -4.24 |
| 31000 | 41.2 | 2.24 | 44.5 | -1.06 |
| 34000 | 41.5 | 2.29 | 46.6 | -2.81 |
| 37000 | 43.8 | 2.30 | 46.4 | -0.3 |
| 40000 | 43.2 | 2.50 | 42.2 | 3.5 |

--- End of Report ---