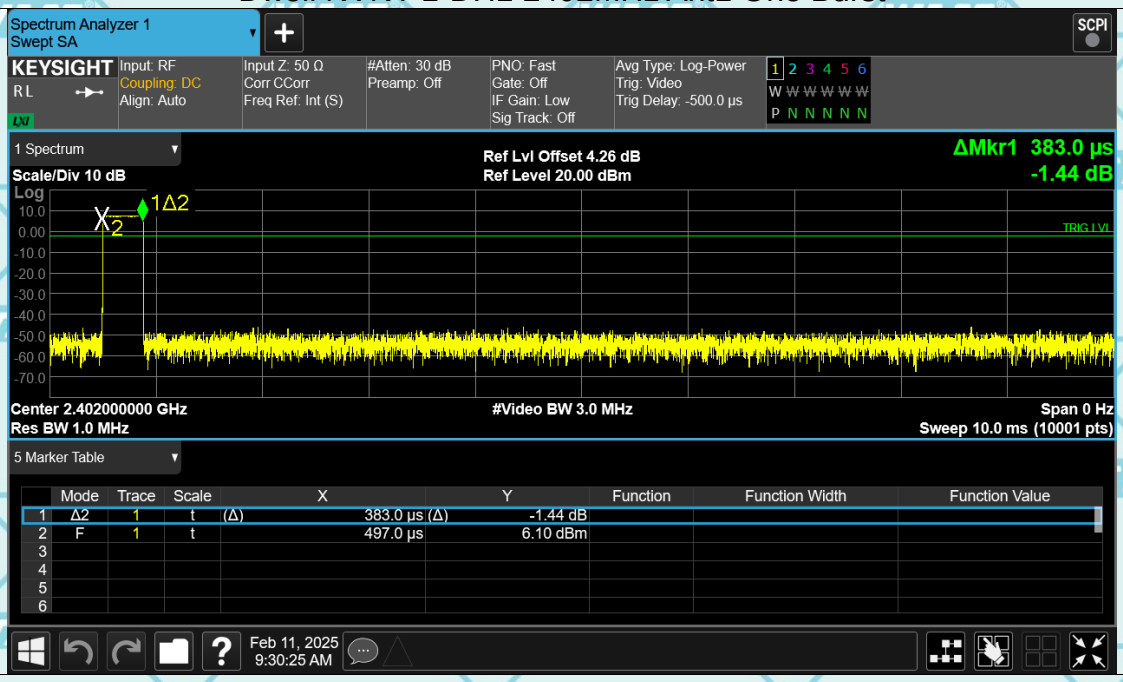
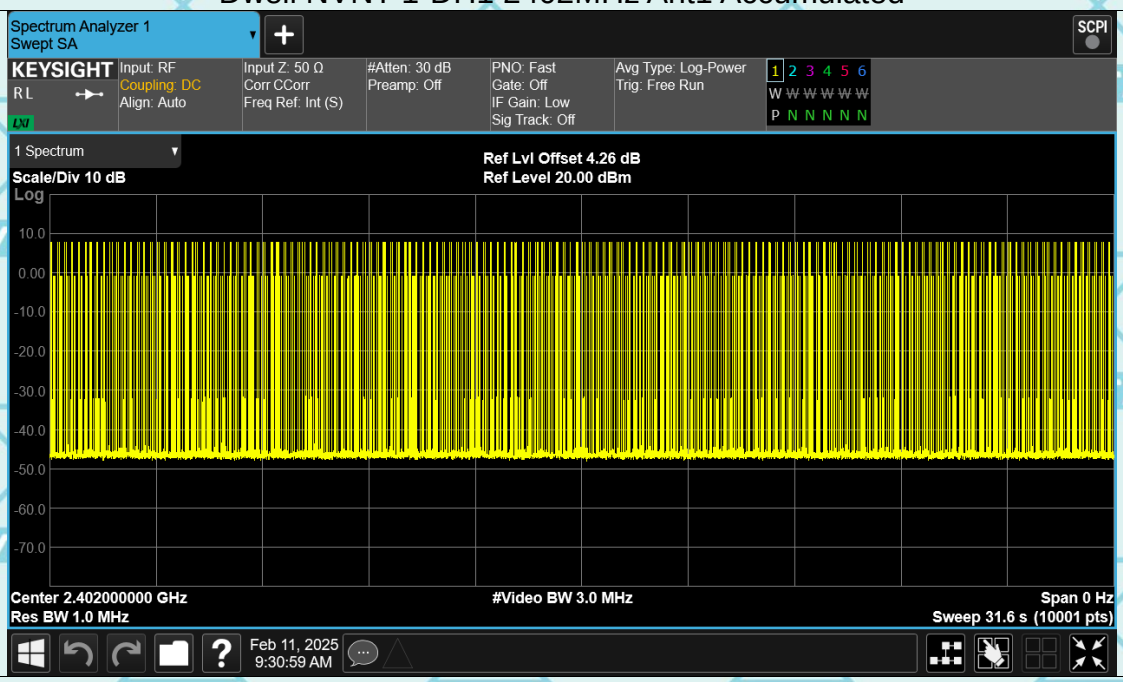
## Test Graphs

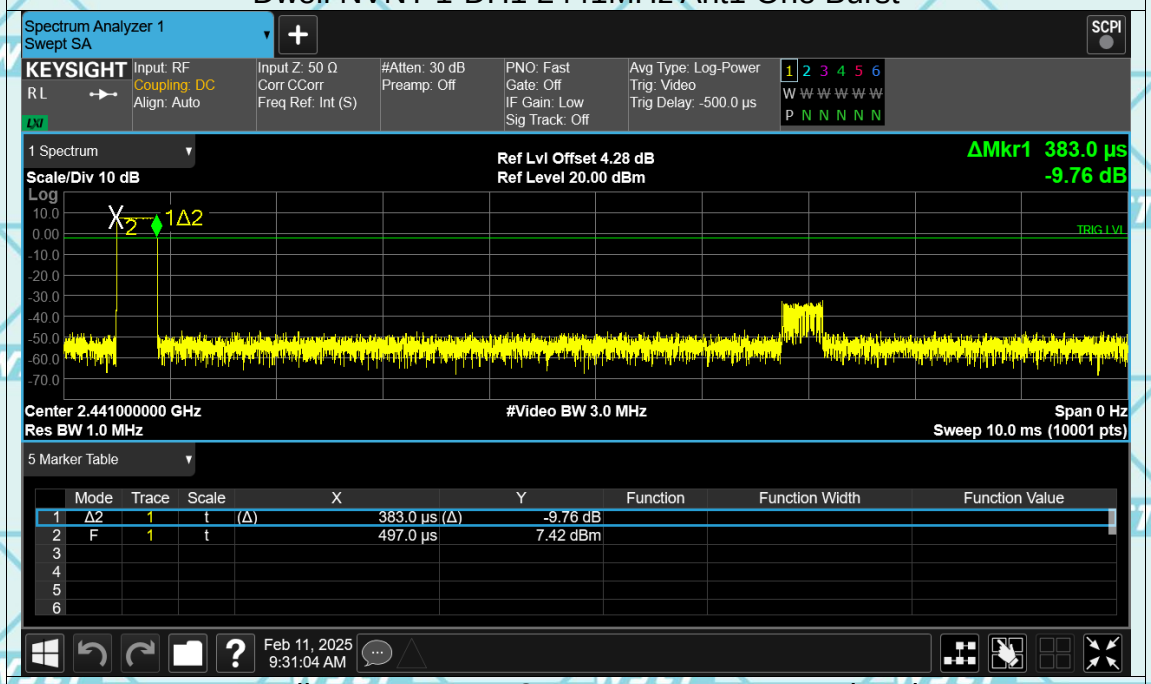
### Dwell NVNT 1-DH1 2402MHz Ant1 One Burst



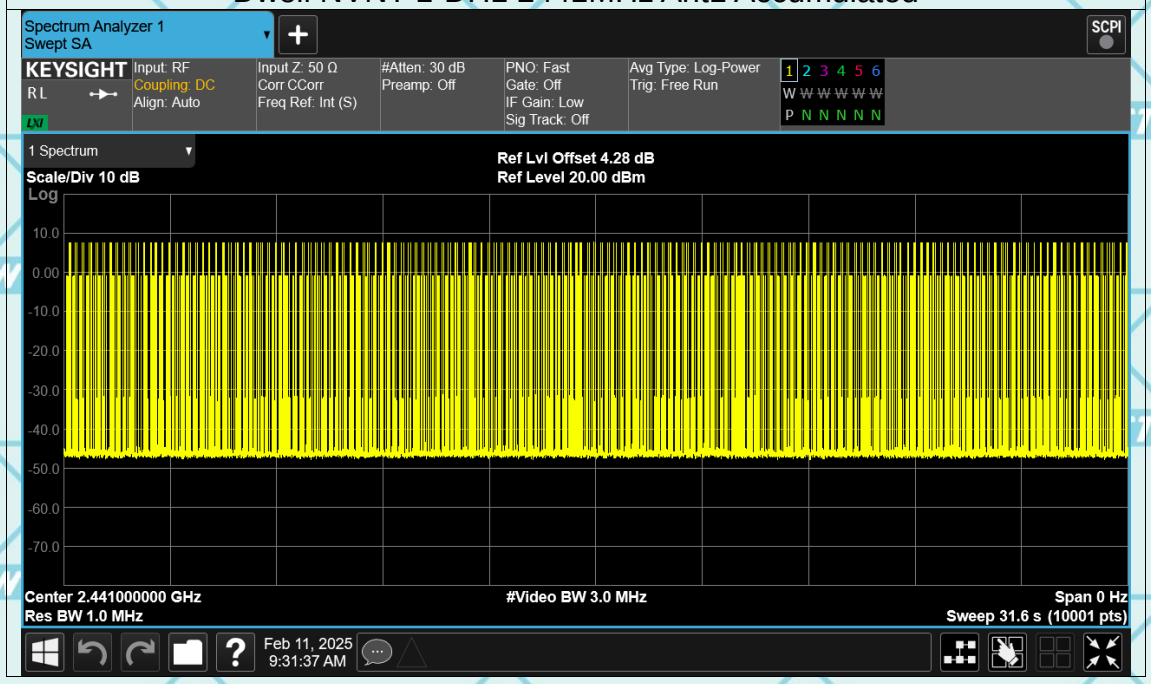

### Dwell NVNT 1-DH1 2402MHz Ant1 Accumulated



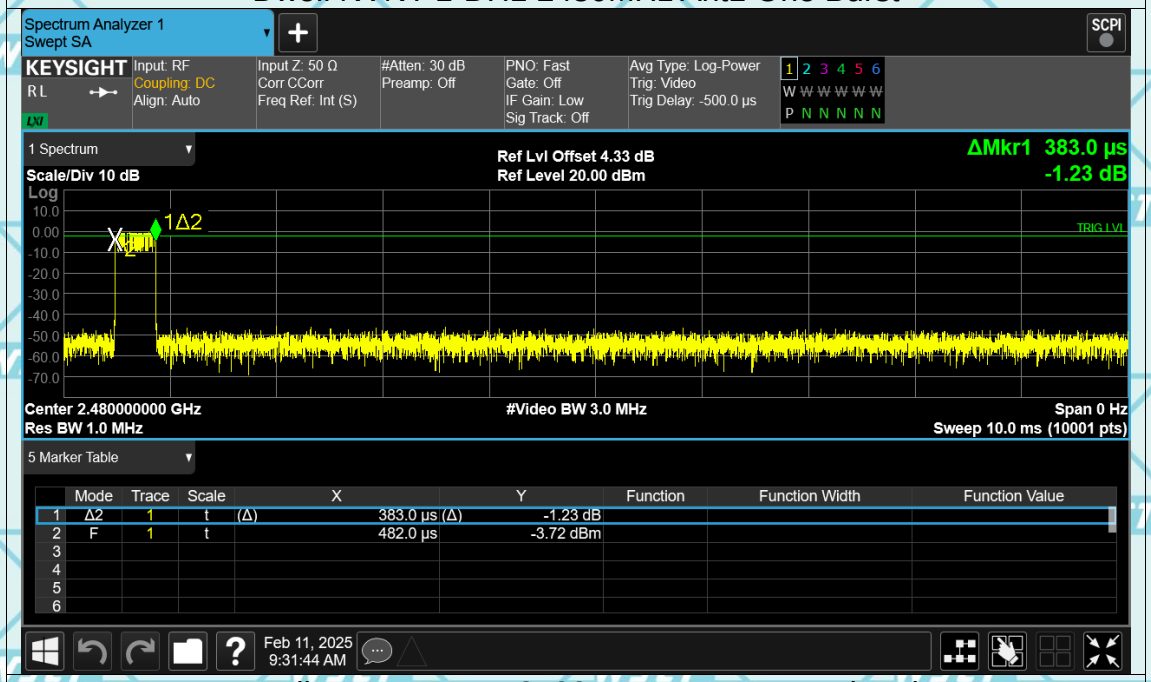
Dwell NVNT 1-DH1 2441MHz Ant1 One Burst



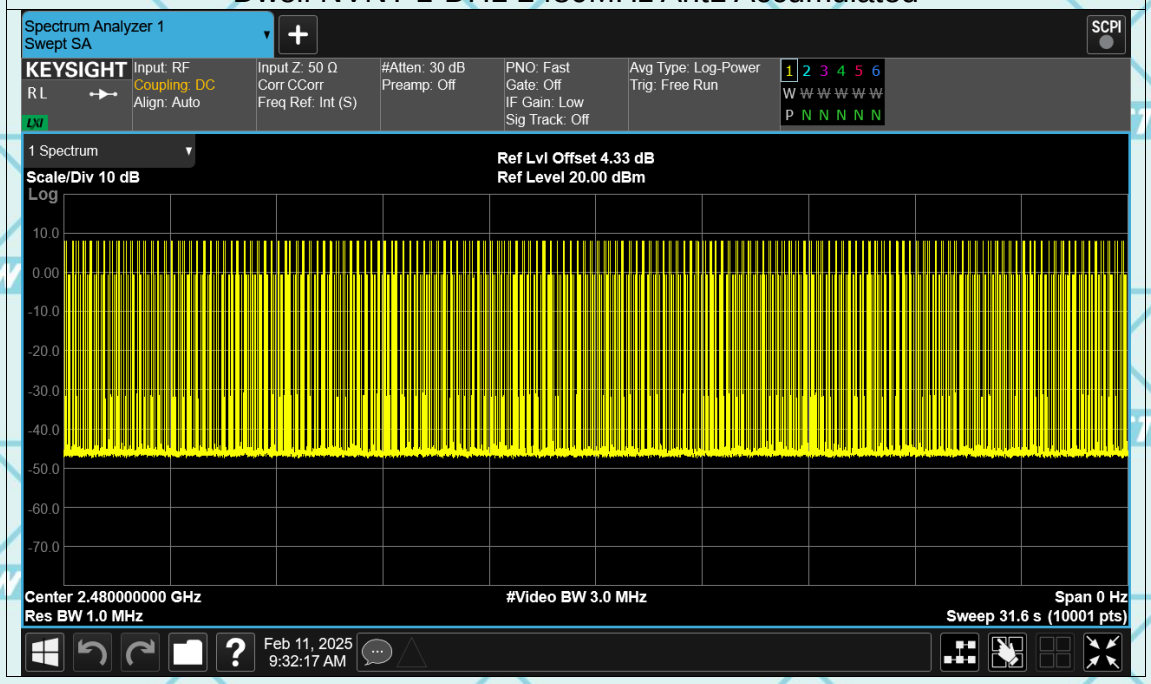

Dwell NVNT 1-DH1 2441MHz Ant1 Accumulated



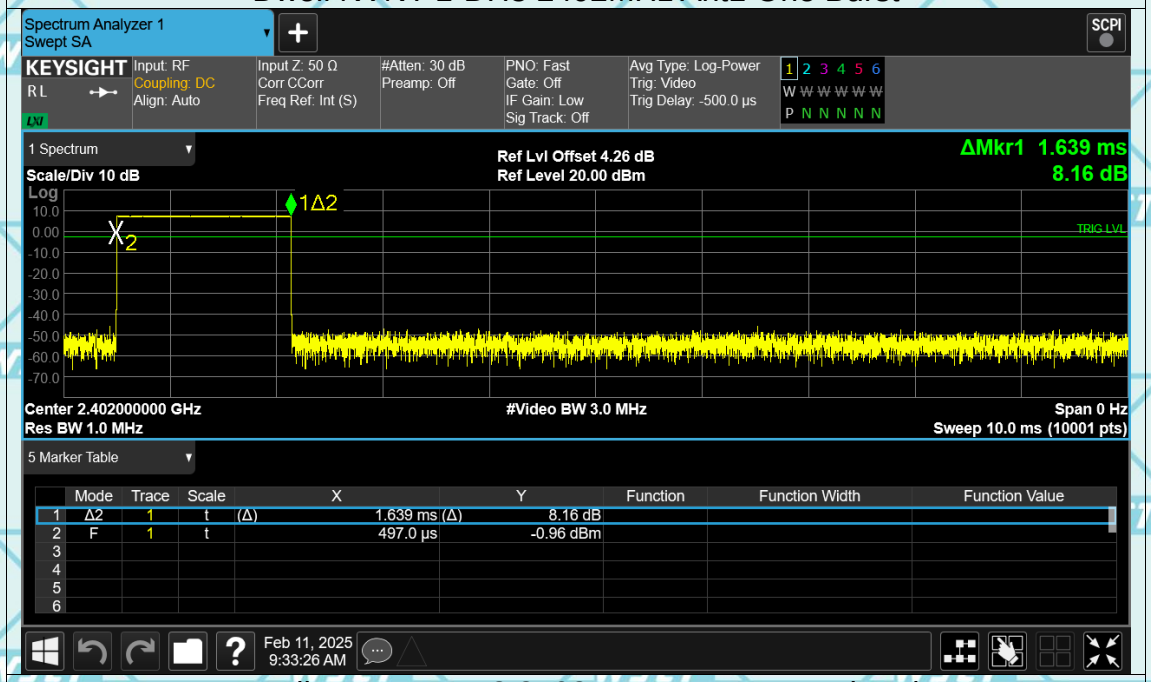
Dwell NVNT 1-DH1 2480MHz Ant1 One Burst



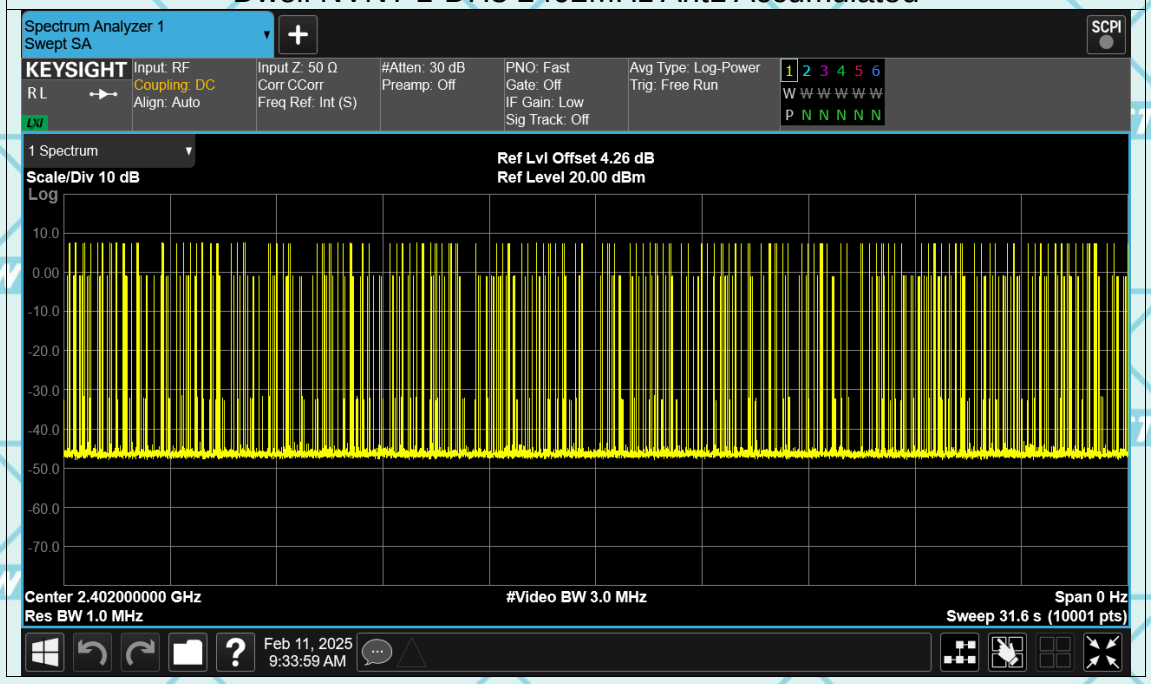

Dwell NVNT 1-DH1 2480MHz Ant1 Accumulated



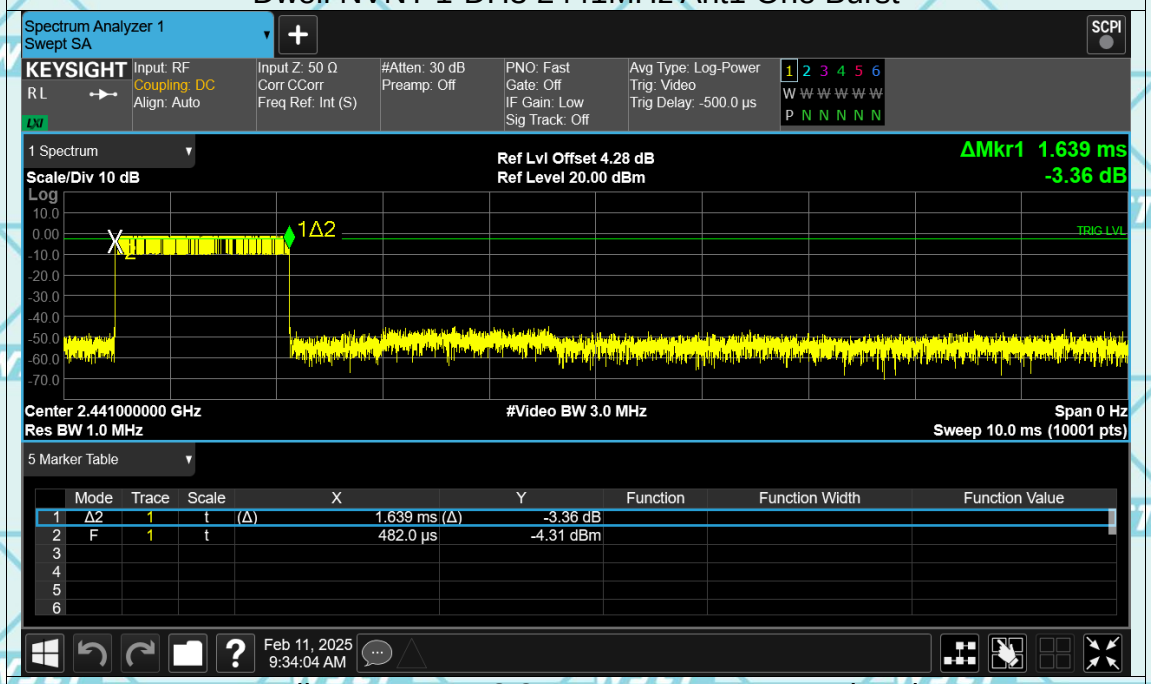
Dwell NVNT 1-DH3 2402MHz Ant1 One Burst



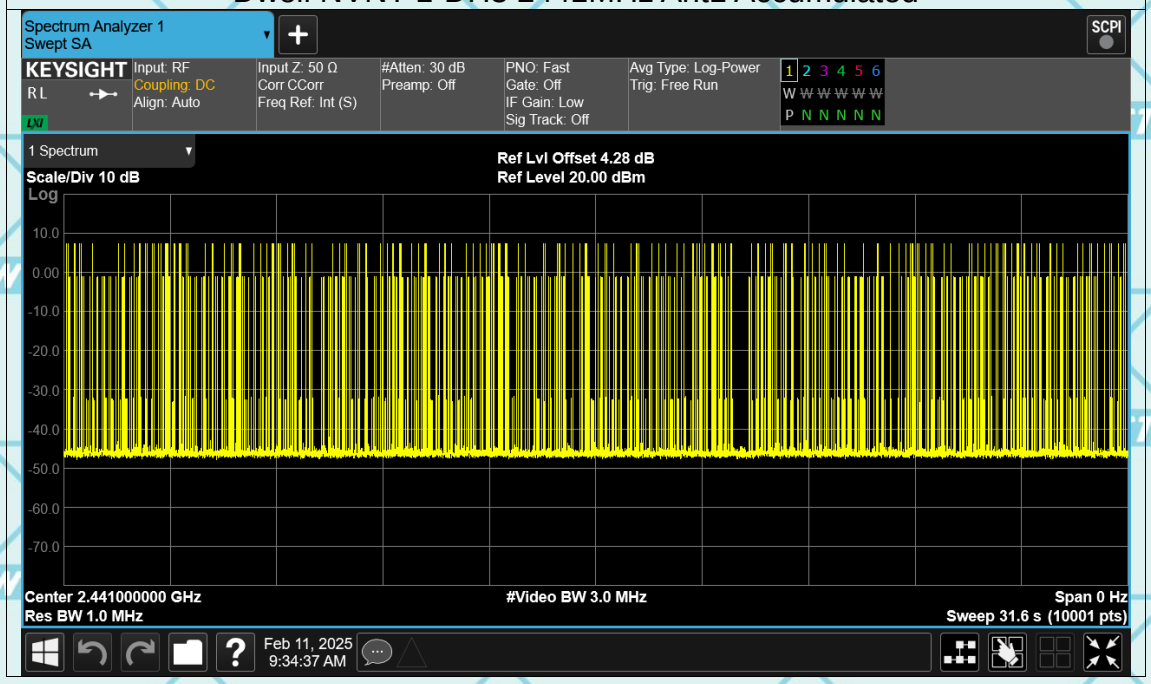

Dwell NVNT 1-DH3 2402MHz Ant1 Accumulated



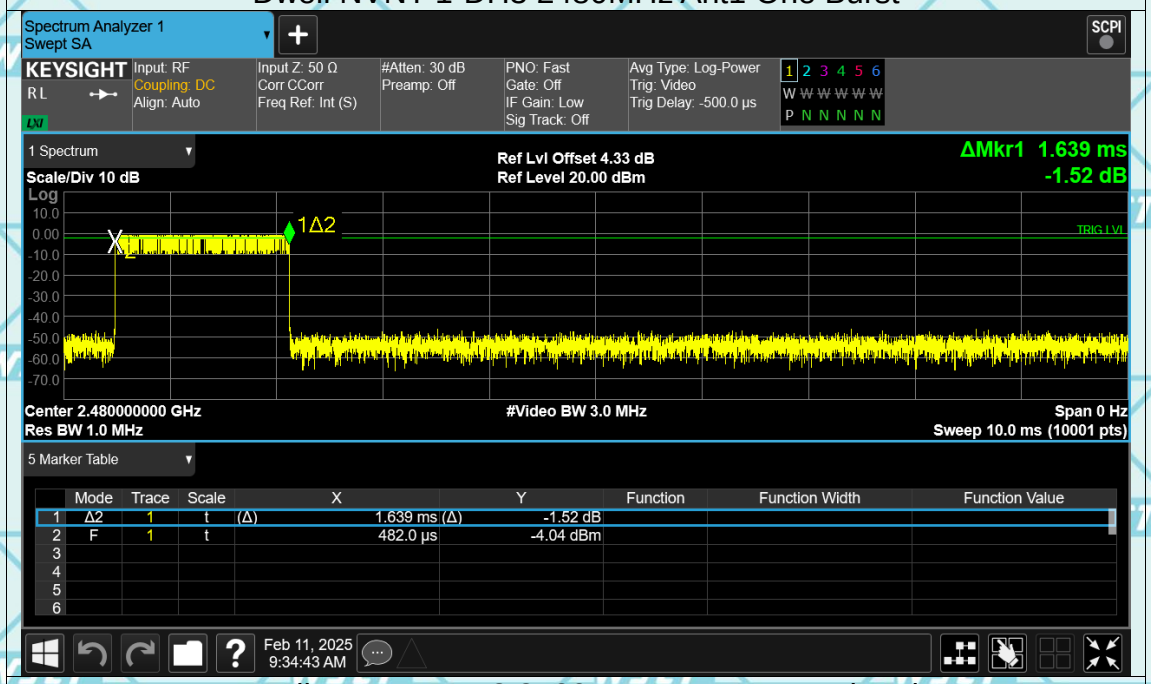
Dwell NVNT 1-DH3 2441MHz Ant1 One Burst




Dwell NVNT 1-DH3 2441MHz Ant1 Accumulated

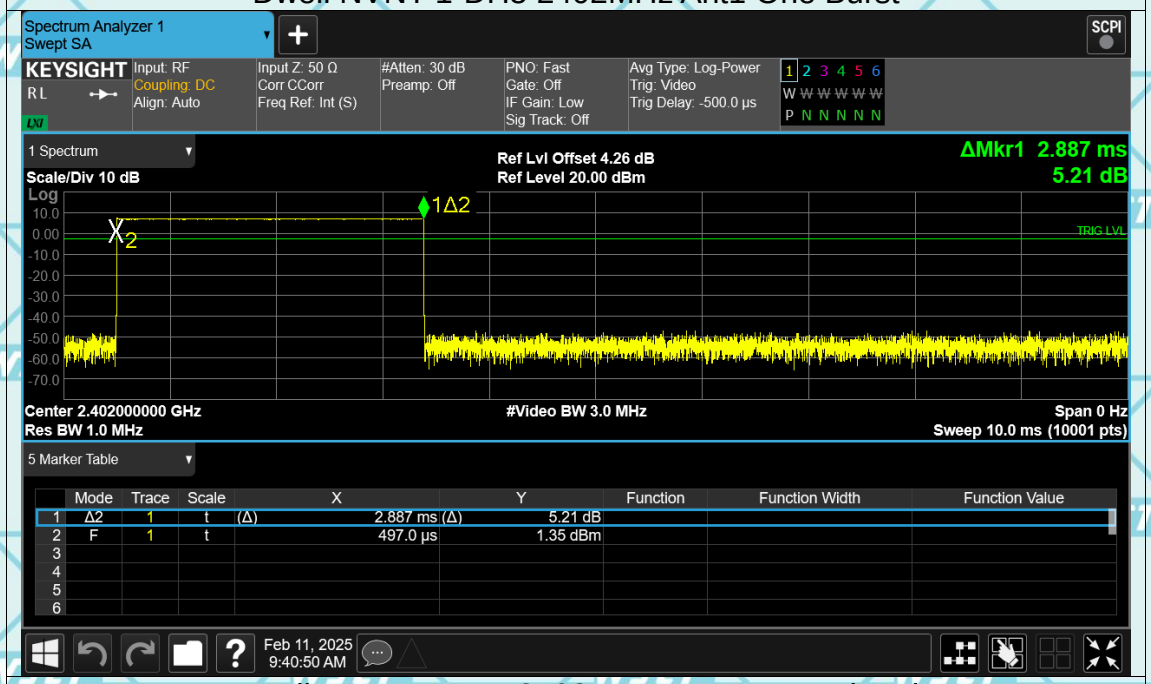


Dwell NVNT 1-DH3 2480MHz Ant1 One Burst

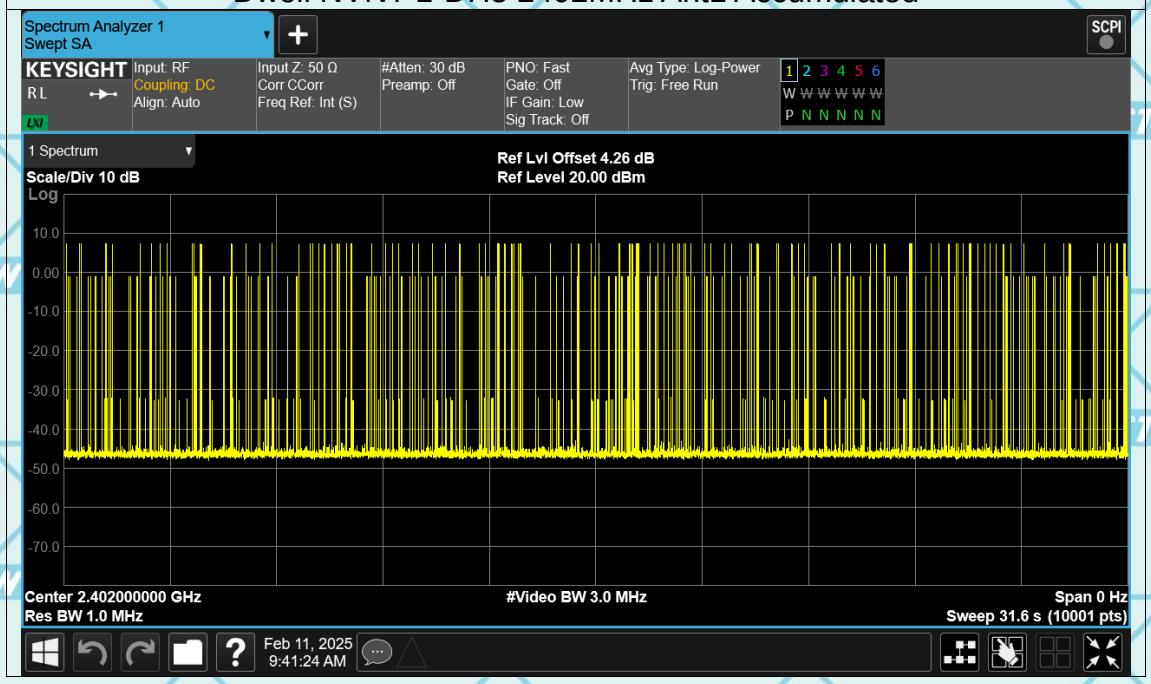



Dwell NVNT 1-DH3 2480MHz Ant1 Accumulated

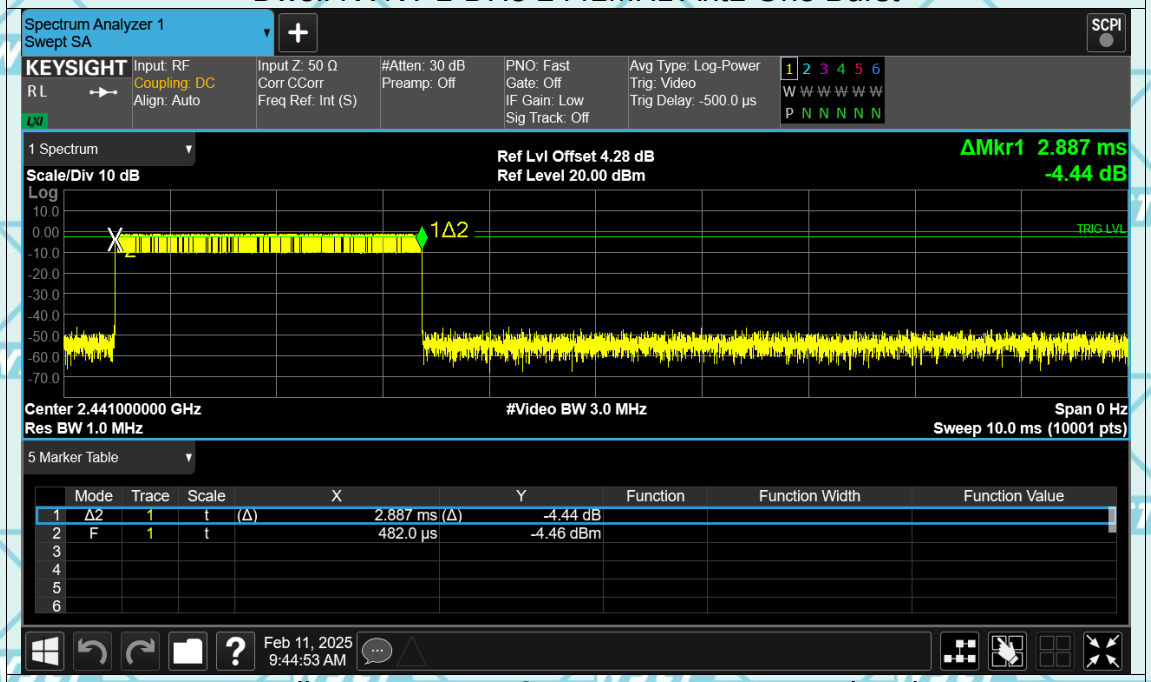
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



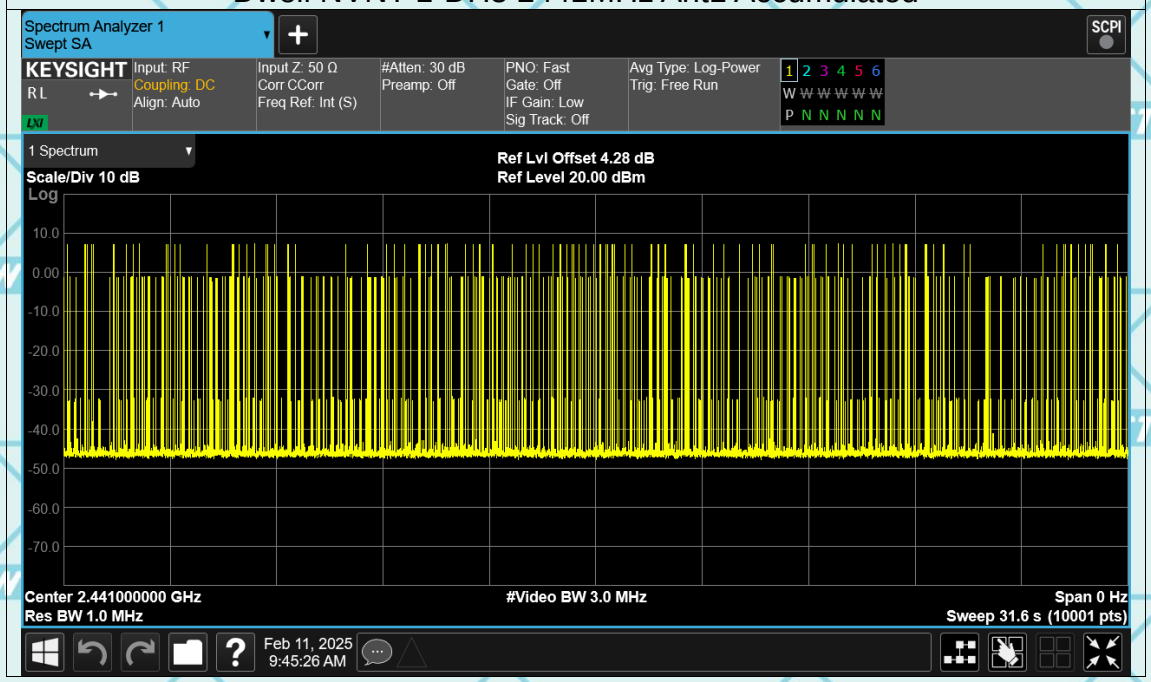

Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



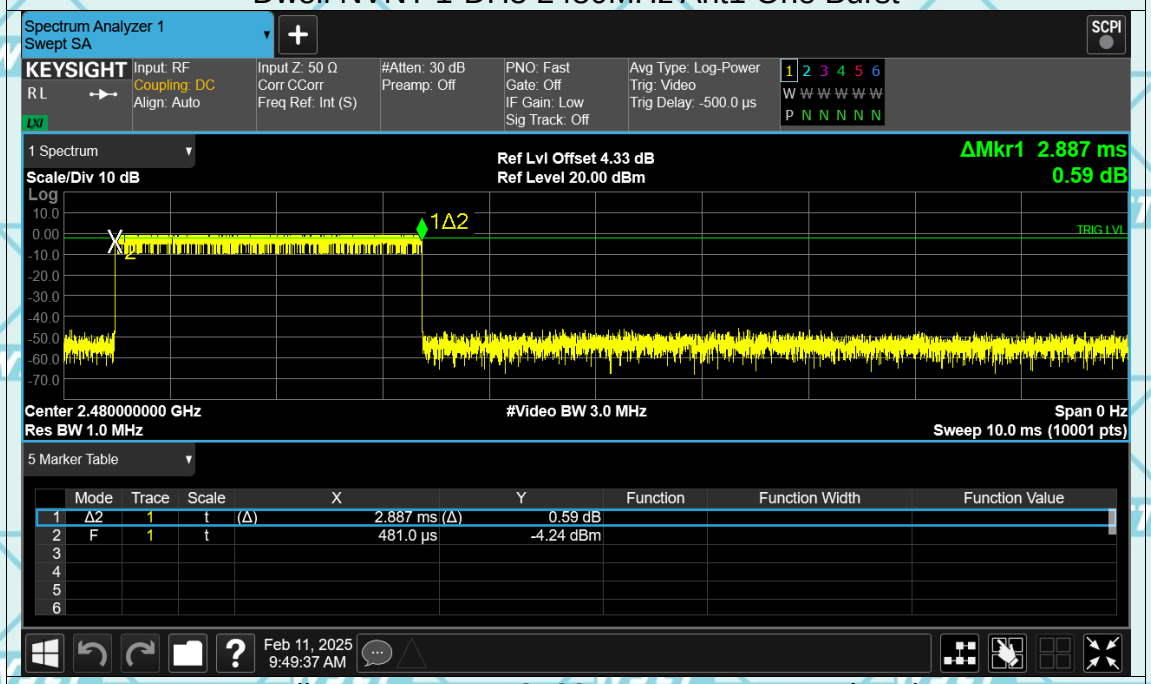
Dwell NVNT 1-DH5 2441MHz Ant1 One Burst



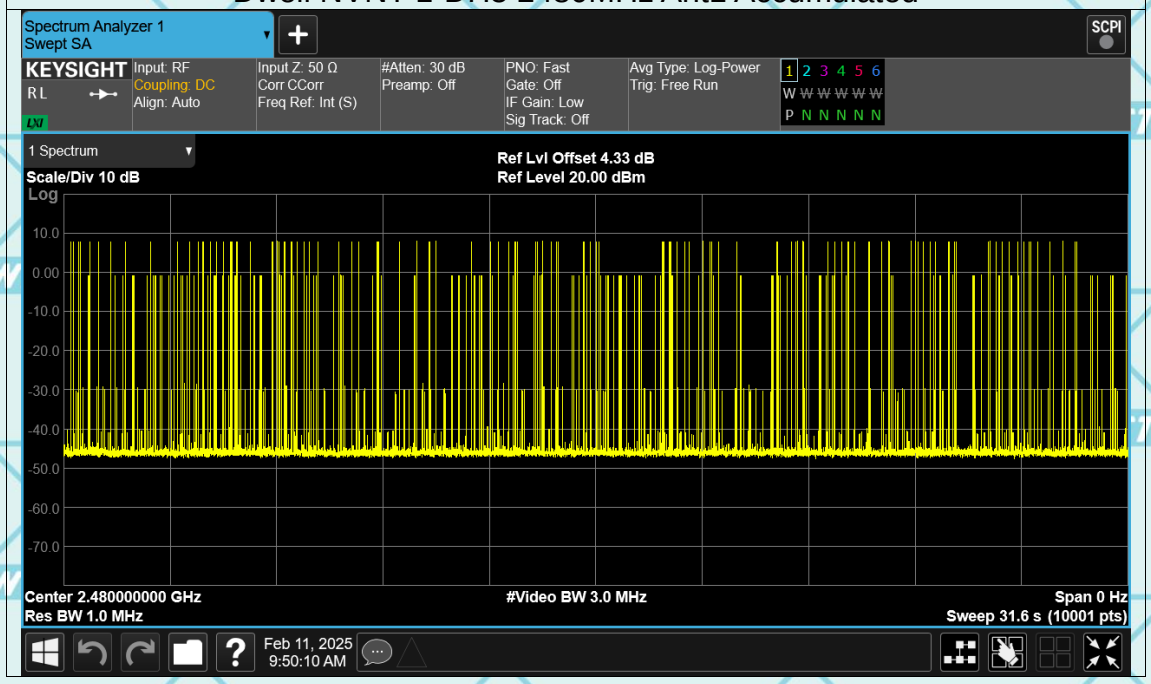

Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated



Dwell NVNT 1-DH5 2480MHz Ant1 One Burst




Dwell NVNT 1-DH5 2480MHz Ant1 Accumulated



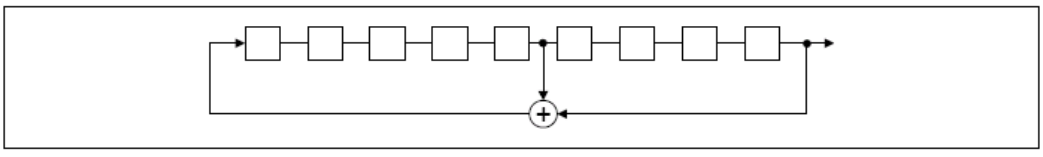
## 6.8. Pseudorandom Frequency Hopping Sequence

| Test Requirement: | FCC Part15 C Section 15.247 (a)(1) requirement: |
|---|---|

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.
Alternatively. Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

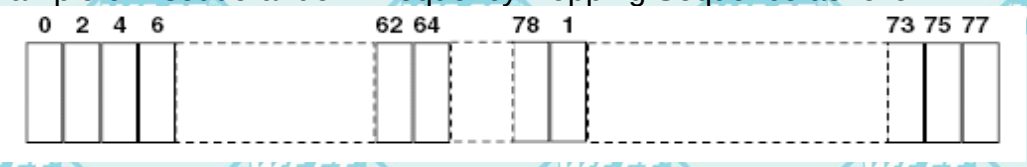
**EUT Pseudorandom Frequency Hopping Sequence**

The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first one of 9 consecutive ones; i.e. the shift register is initialized with nine ones.
• Number of shift register stages: 9
• Length of pseudo-random sequence: $2^9$ -1 = 511 bits
• Longest sequence of zeros: 8 (non-inverted signal)



*Linear Feedback Shift Register for Generation of the PRBS sequence*

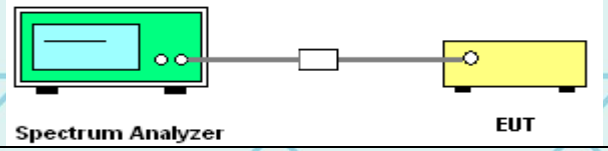
An example of Pseudorandom Frequency Hopping Sequence as follow:




Each frequency used equally on the average by each transmitter.
The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

## 6.9. Conducted Band Edge Measurement

### 6.9.1. Test Specification

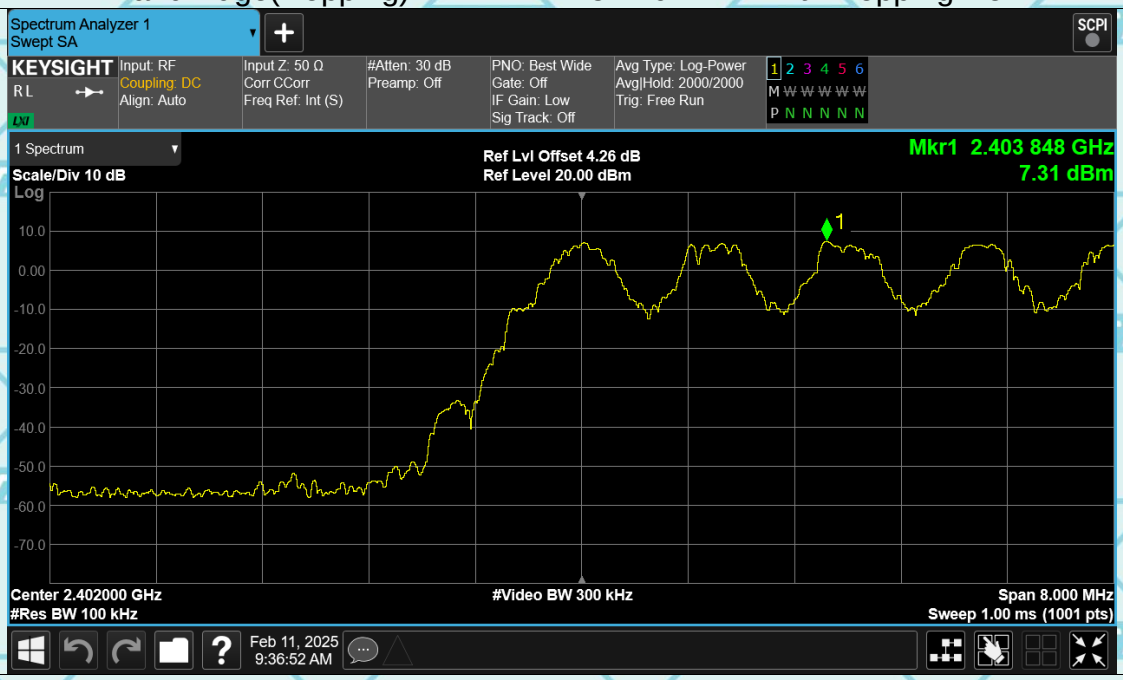
| | |
|---|---|
| **Test Requirement:** | FCC Part15 C Section 15.247 (d) |
| **Test Method:** | ANSI C63.10:2014 |
| **Limit:** | In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits. |
| **Test Setup:** |  |
| **Test Mode:** | Transmitting mode with modulation |
| **Test Procedure:** | 1. The testing follows the guidelines in Band-edge Compliance of RF Conducted Emissions of ANSI C63.10:2014 Measurement Guidelines.<br>2. Set to the maximum power setting and enable the EUT transmit continuously.<br>3. Set RBW = 100 kHz (≥1% span=10MHz), VBW = 300 kHz (≥RBW). Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100kHz RBW. The attenuation shall be 30 dB instead of 20 dB when RMS conducted output power procedure is used.<br>4. Enable hopping function of the EUT and then repeat step 2 and 3.<br>5. Measure and record the results in the test report. |
| **Test Result:** | PASS |

### 6.9.2. Test Data

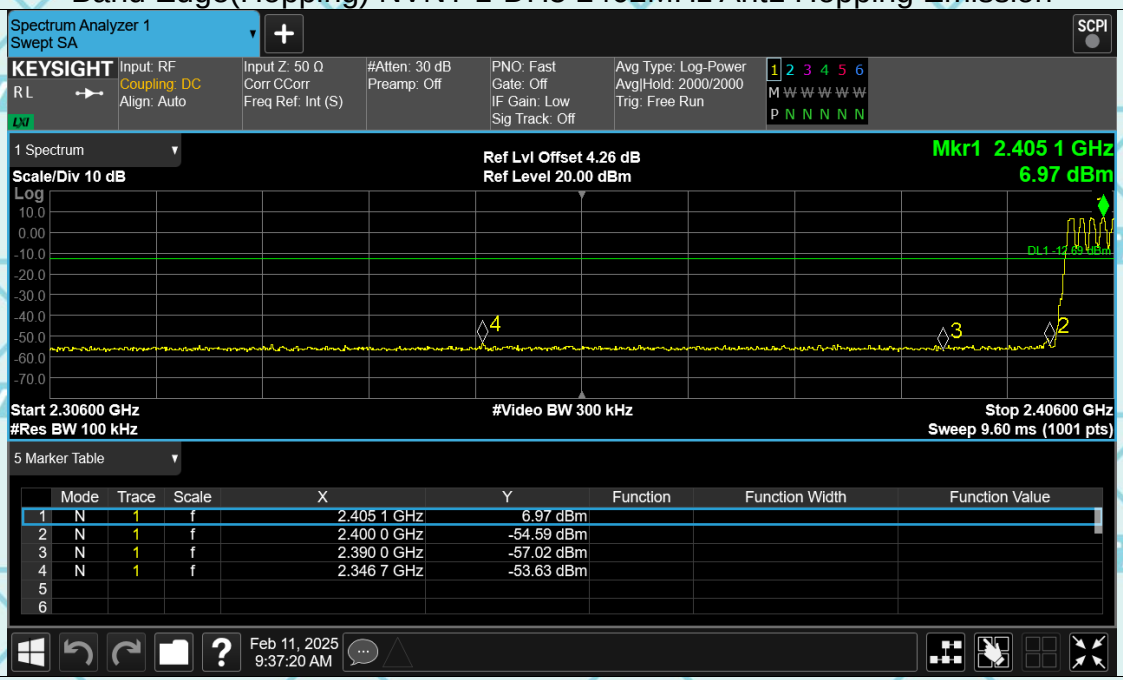
### GFSK Modulation ( the worst case )

Test Graphs

Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

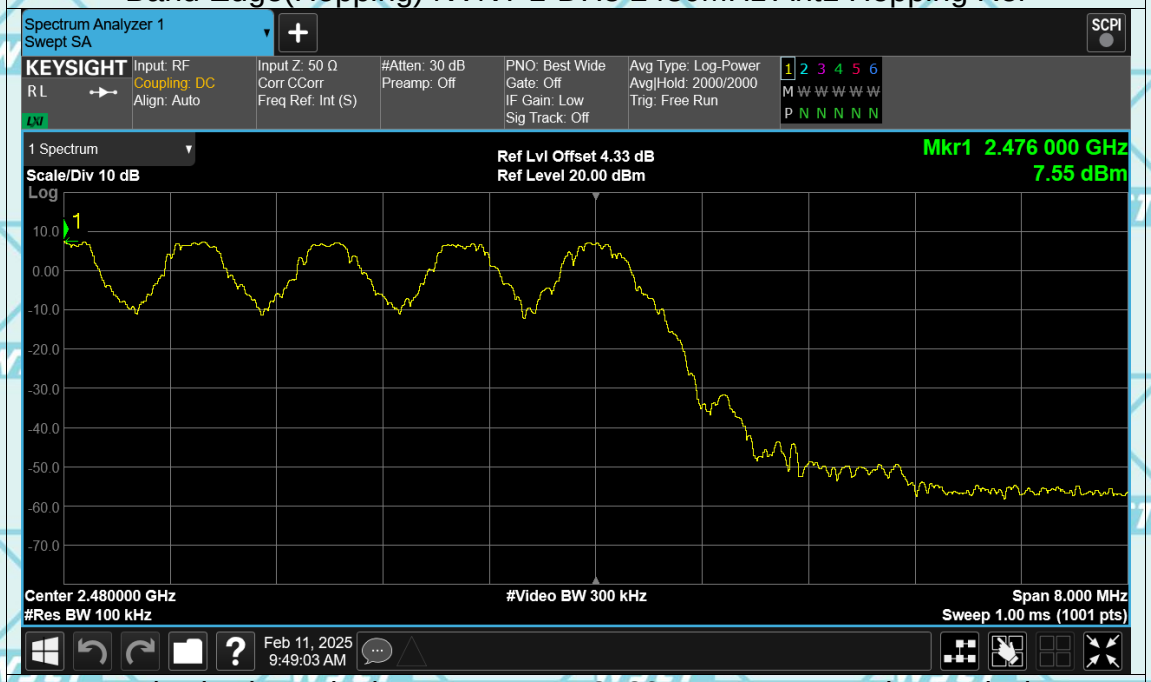



Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

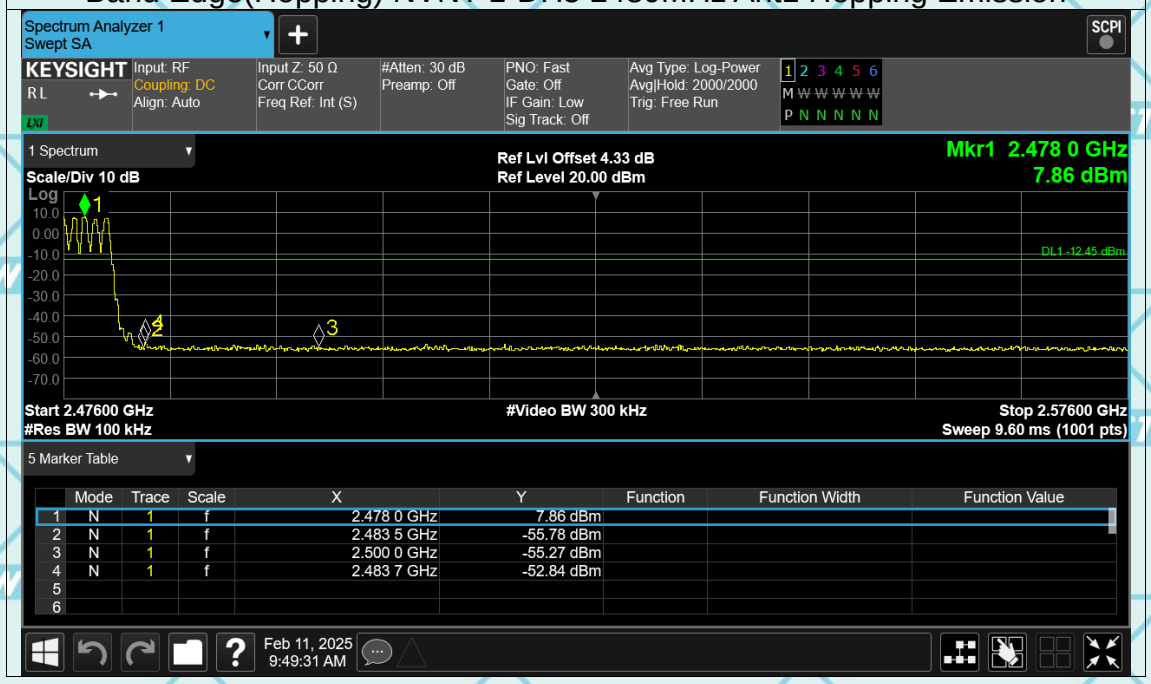



| | Mode | Trace | Scale | X | Y | Function | Function Width | Function Value |
|---|---|---|---|---|---|---|---|---|
| 1 | N | 1 | f | 2.405 1 GHz | 6.97 dBm | | | |
| 2 | N | 1 | f | 2.400 0 GHz | -54.59 dBm | | | |
| 3 | N | 1 | f | 2.390 0 GHz | -57.02 dBm | | | |
| 4 | N | 1 | f | 2.346 7 GHz | -53.63 dBm | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |

Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

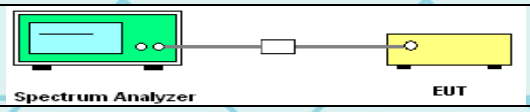



Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



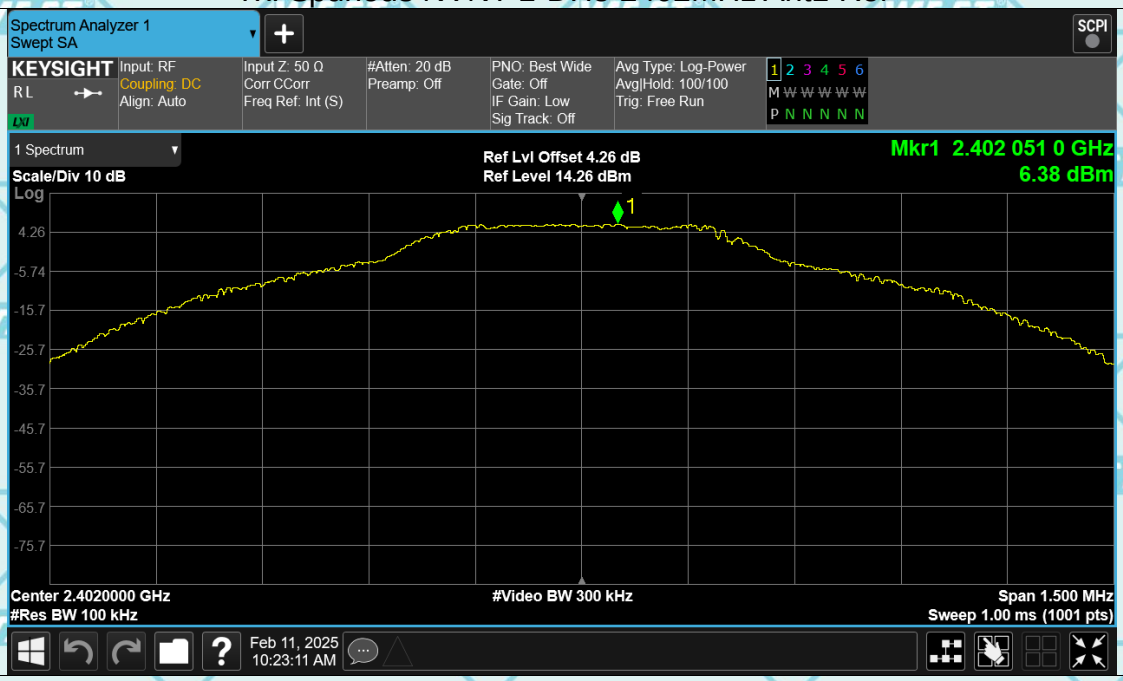
## 6.10. Conducted Spurious Emission Measurement

### 6.10.1. Test Specification

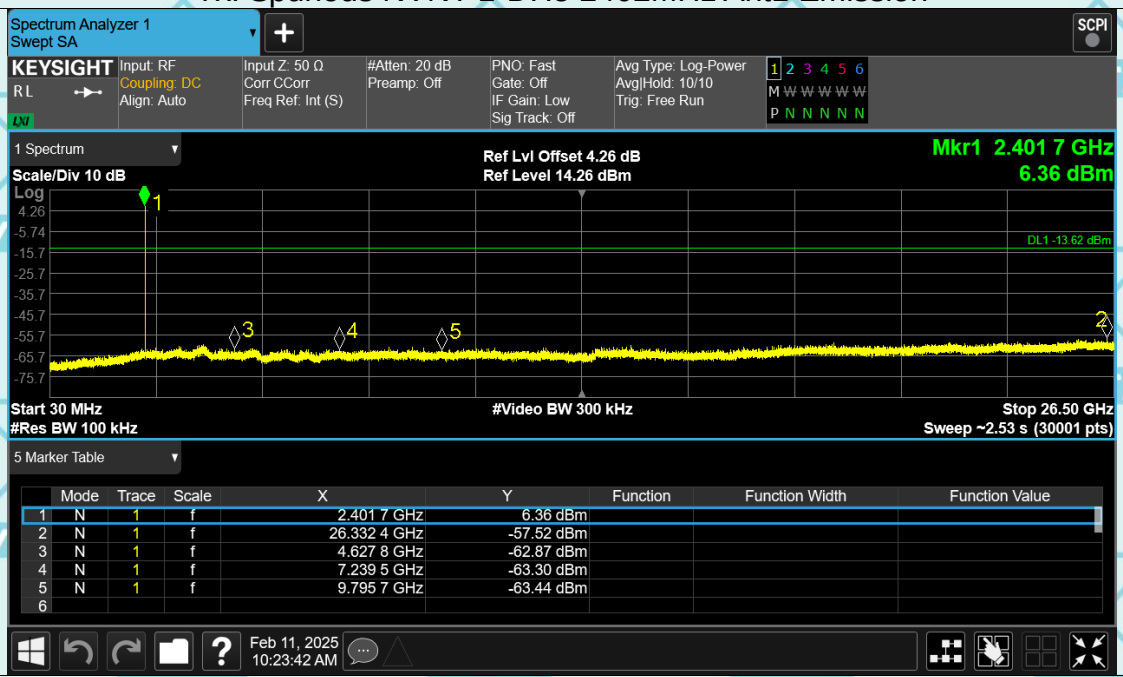
| | |
|---|---|
| **Test Requirement:** | FCC Part15 C Section 15.247 (d) |
| **Test Method:** | ANSI C63.10:2014 |
| **Limit:** | In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits. |
| **Test Setup:** |  |
| **Test Mode:** | Transmitting mode with modulation |
| **Test Procedure:** | 1. The testing follows the guidelines in Spurious RF Conducted Emissions of ANSI C63.10:2014 Measurement Guidelines<br>2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.<br>3. Set to the maximum power setting and enable the EUT transmit continuously.<br>4. Set RBW = 100 kHz, VBW = 300kHz, scan up through 10th harmonic. All harmonics / spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.<br>5. Measure and record the results in the test report.<br>6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band. |
| **Test Result:** | PASS |

## Test Graphs

### Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

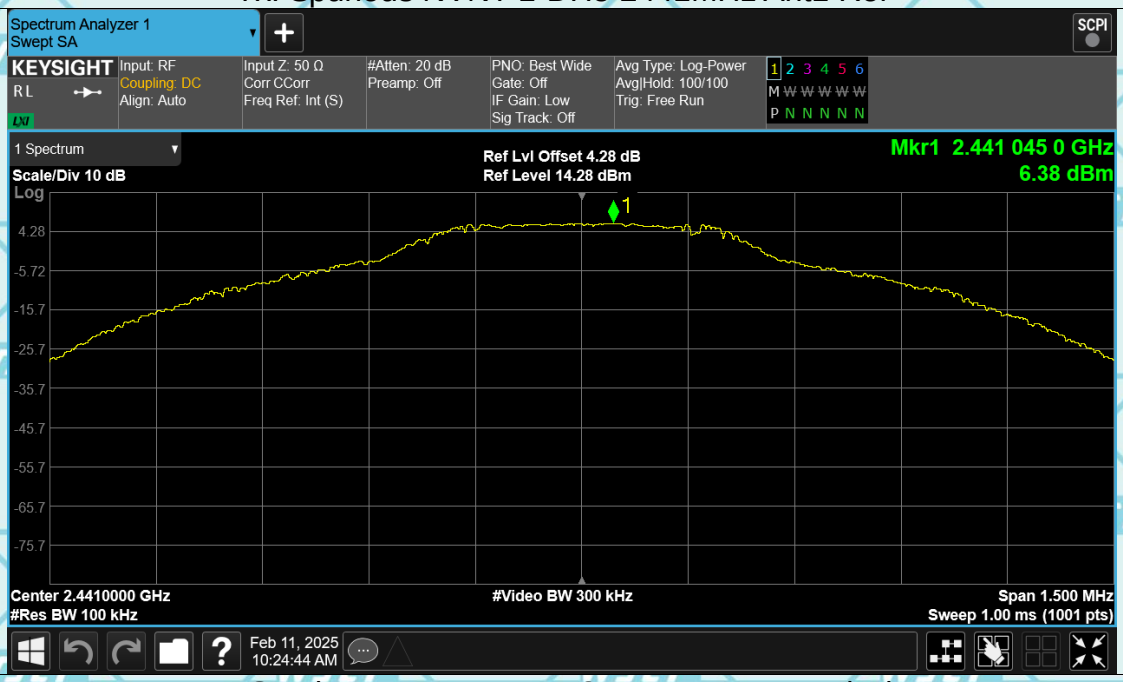



### Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

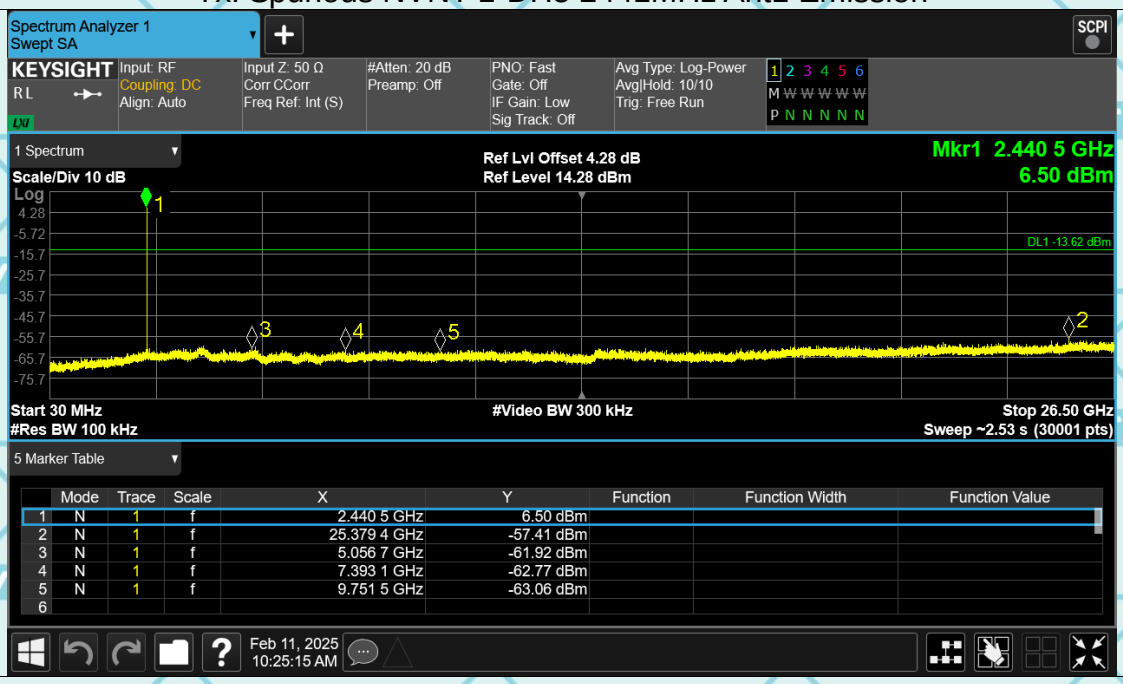



| | Mode | Trace | Scale | X | Y | Function | Function Width | Function Value |
|---|---|---|---|---|---|---|---|---|
| 1 | N | 1 | f | 2.401 7 GHz | 6.36 dBm | | | |
| 2 | N | 1 | f | 26.332 4 GHz | -57.52 dBm | | | |
| 3 | N | 1 | f | 4.627 8 GHz | -62.87 dBm | | | |
| 4 | N | 1 | f | 7.239 5 GHz | -63.30 dBm | | | |
| 5 | N | 1 | f | 9.795 7 GHz | -63.44 dBm | | | |
| 6 | | | | | | | | |

Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

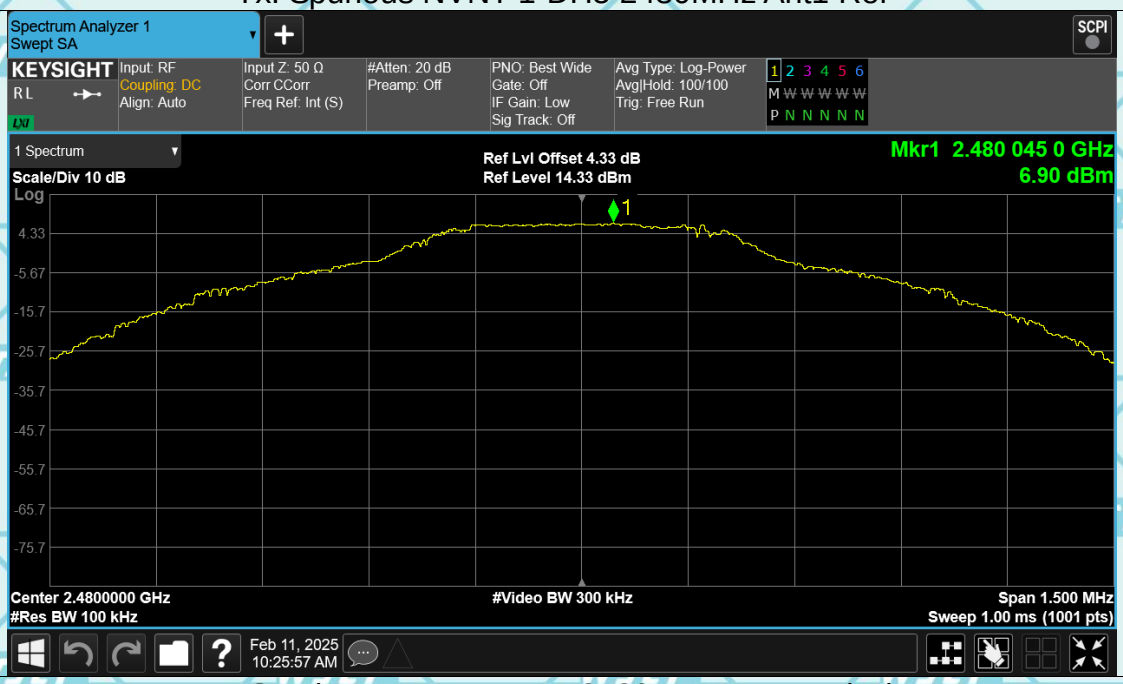



Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

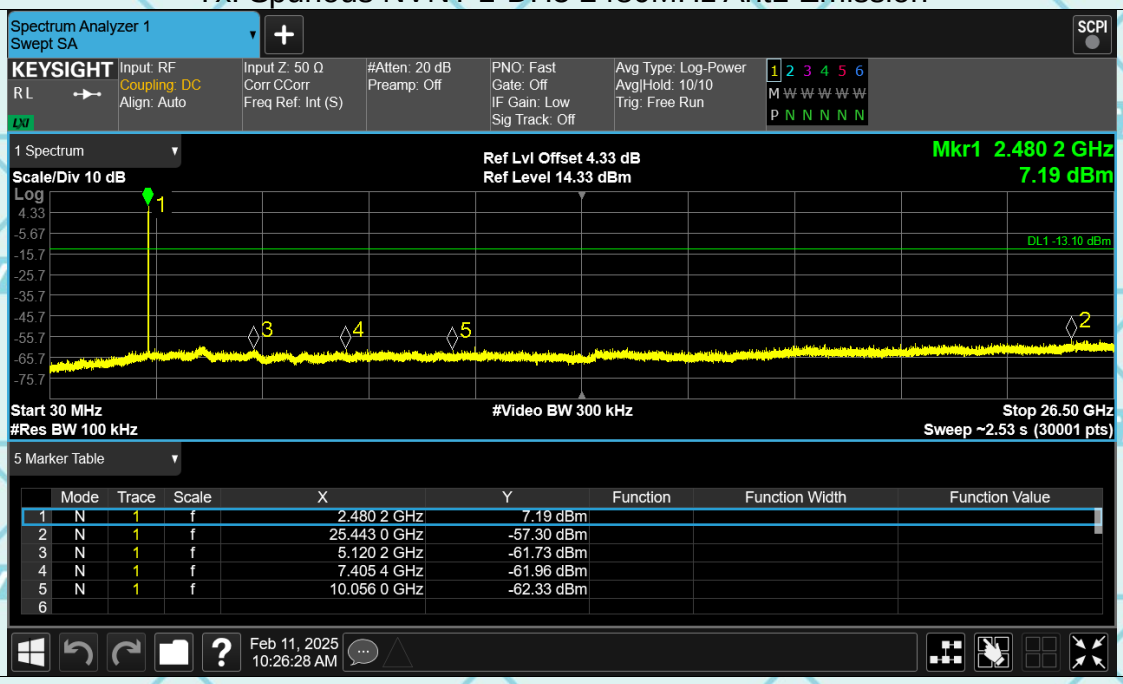



| | Mode | Trace | Scale | X | Y | Function | Function Width | Function Value |
|---|---|---|---|---|---|---|---|---|
| 1 | N | 1 | f | 2.440 5 GHz | 6.50 dBm | | | |
| 2 | N | 1 | f | 25.379 4 GHz | -57.41 dBm | | | |
| 3 | N | 1 | f | 5.056 7 GHz | -61.92 dBm | | | |
| 4 | N | 1 | f | 7.393 1 GHz | -62.77 dBm | | | |
| 5 | N | 1 | f | 9.751 5 GHz | -63.06 dBm | | | |
| 6 | | | | | | | | |

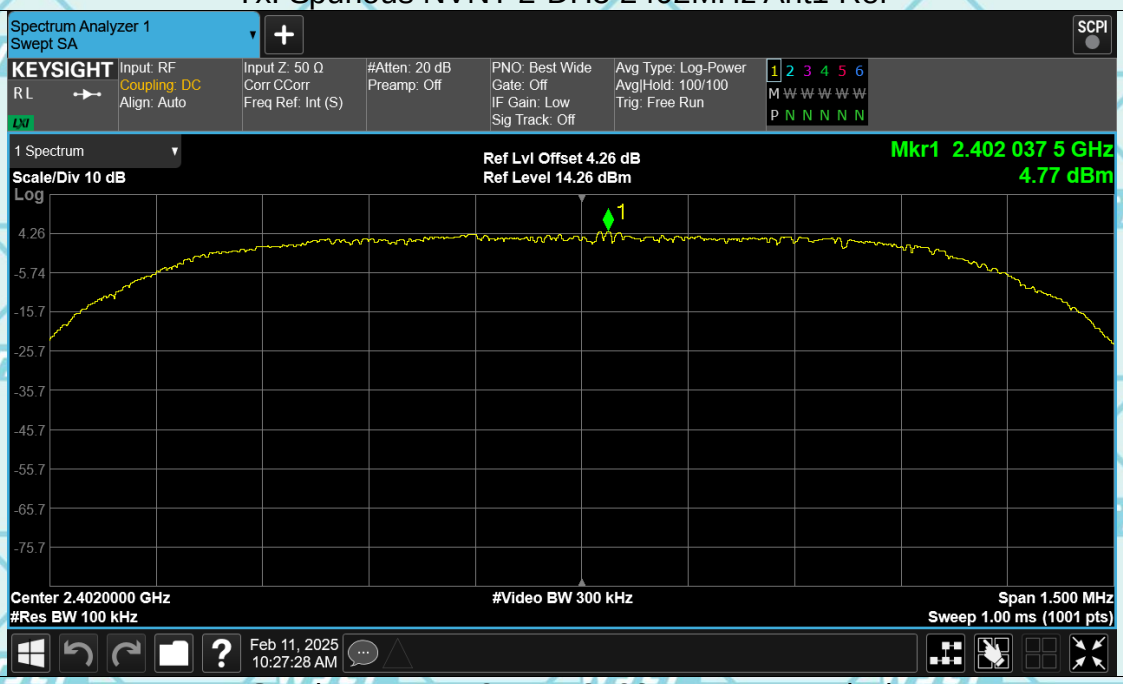
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



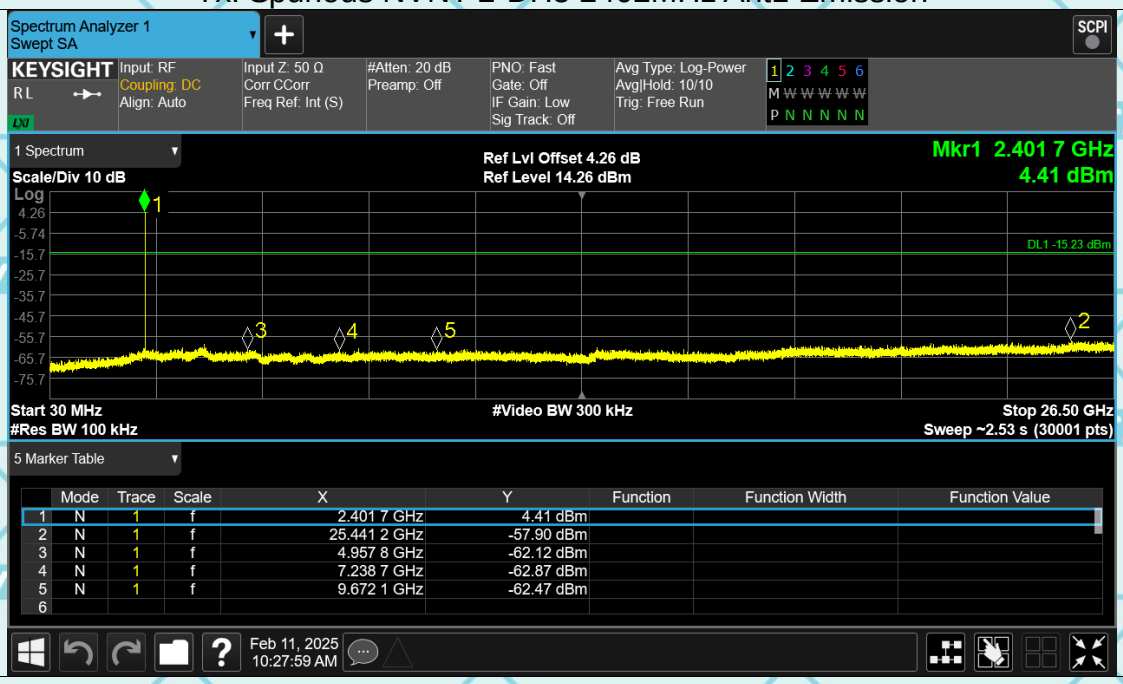

Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

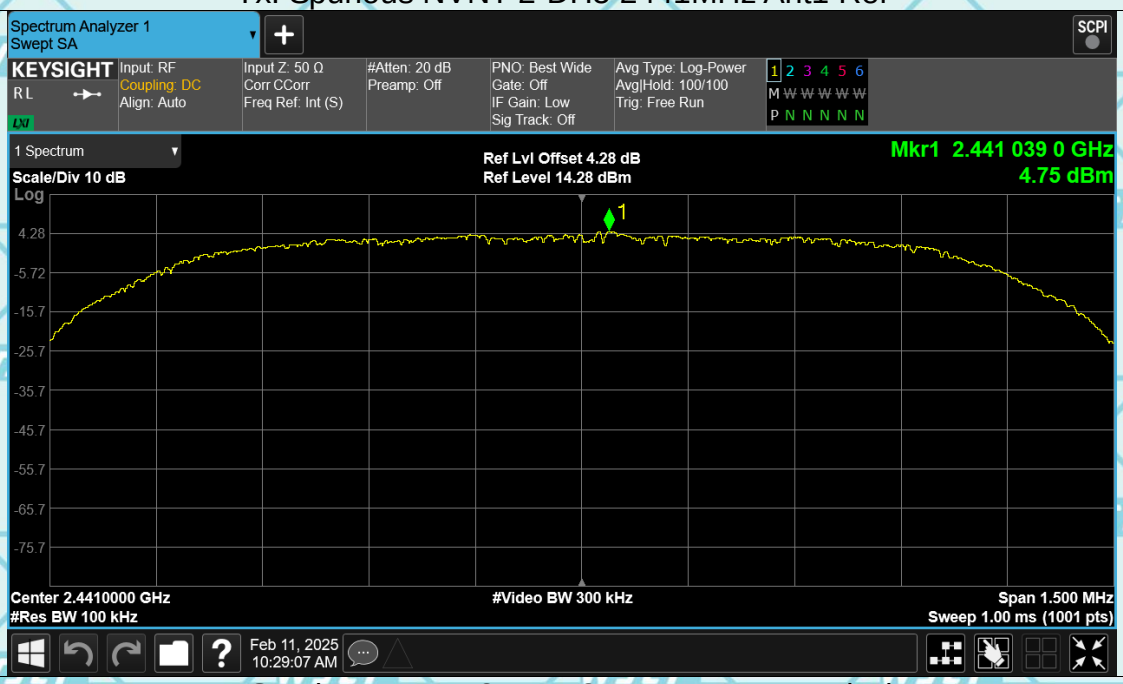



Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

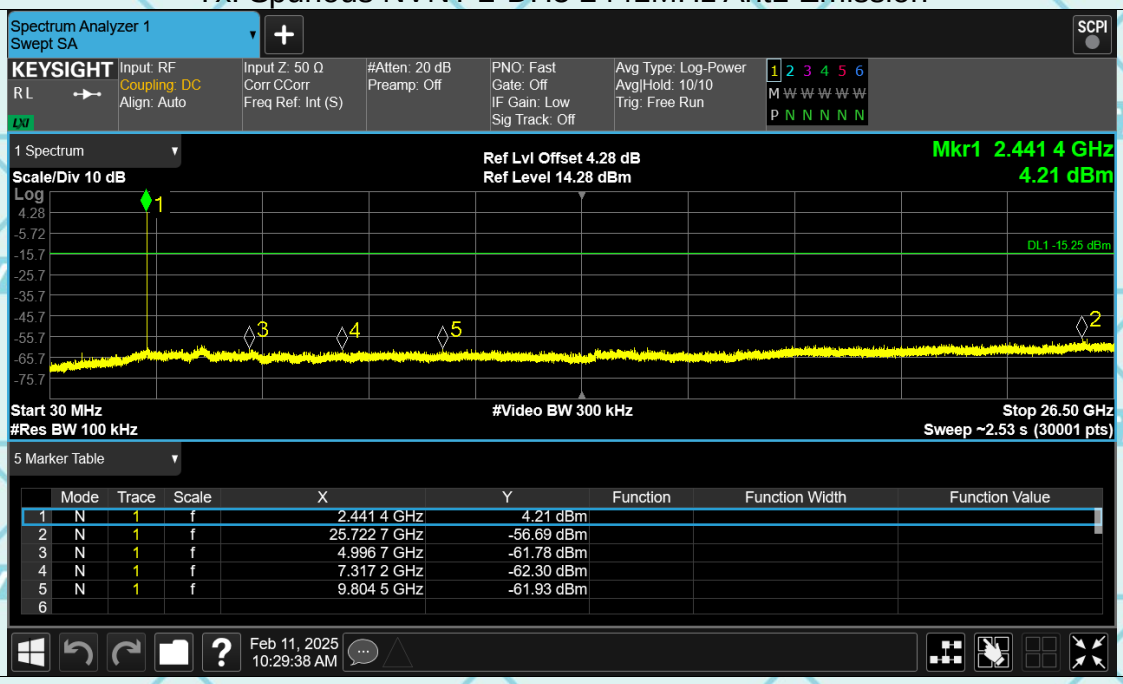



| | Mode | Trace | Scale | X | Y | Function | Function Width | Function Value |
|---|---|---|---|---|---|---|---|---|
| 1 | N | 1 | f | 2.401 7 GHz | 4.41 dBm | | | |
| 2 | N | 1 | f | 25.441 2 GHz | -57.90 dBm | | | |
| 3 | N | 1 | f | 4.957 8 GHz | -62.12 dBm | | | |
| 4 | N | 1 | f | 7.238 7 GHz | -62.87 dBm | | | |
| 5 | N | 1 | f | 9.672 1 GHz | -62.47 dBm | | | |
| 6 | | | | | | | | |

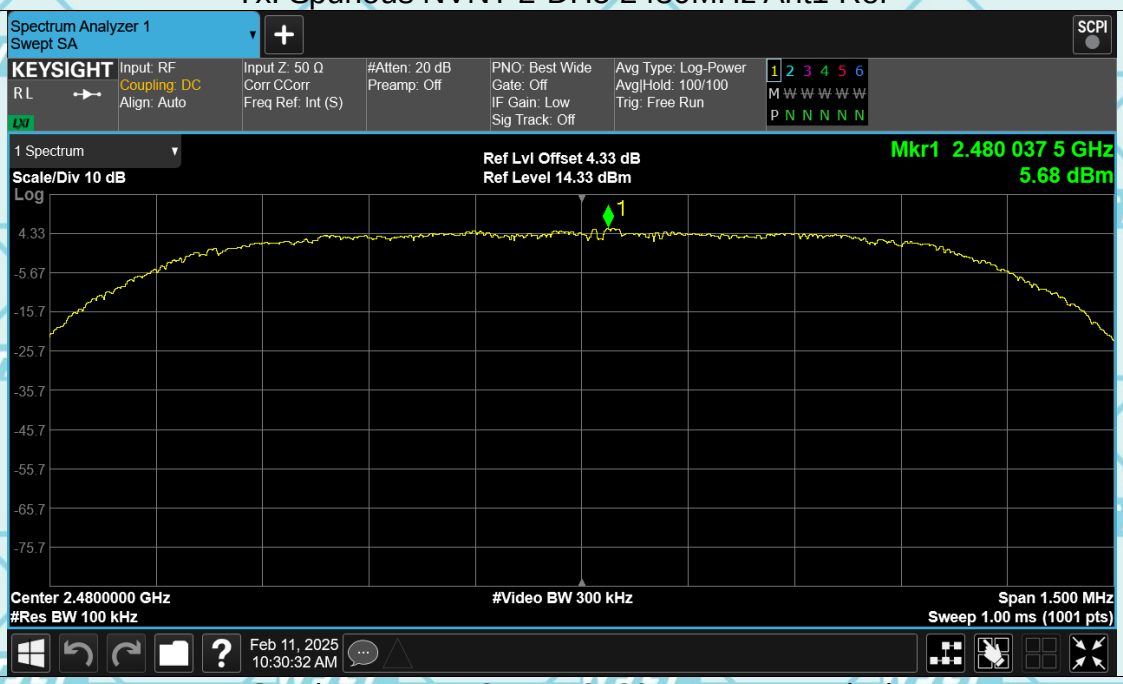
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



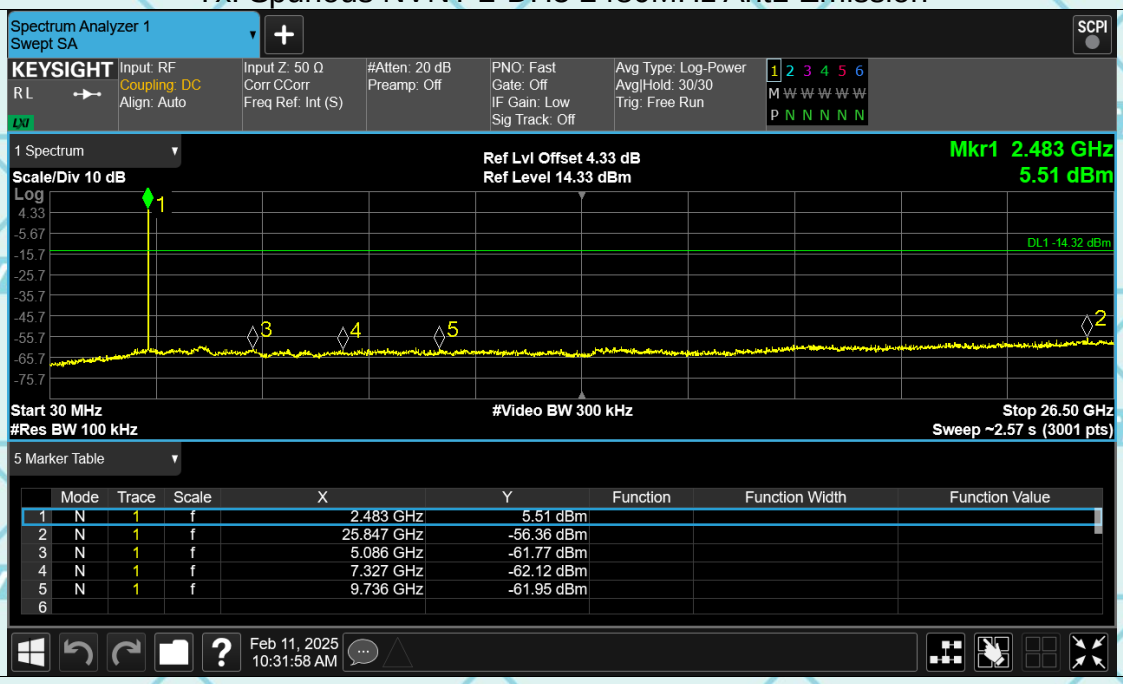

Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

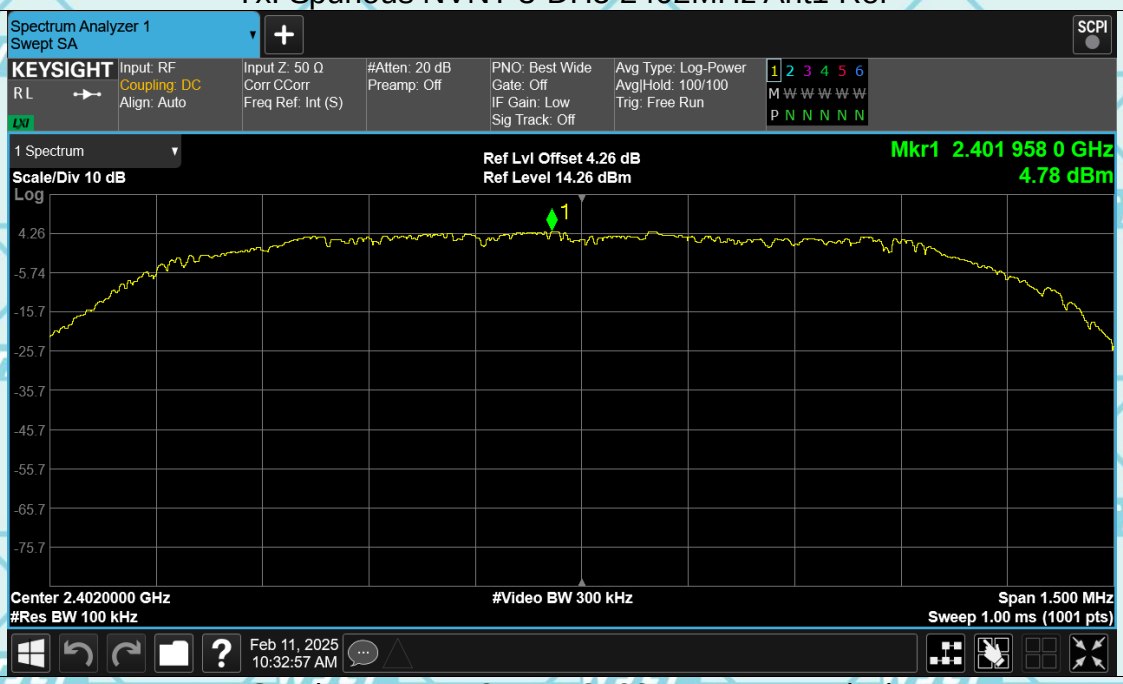



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

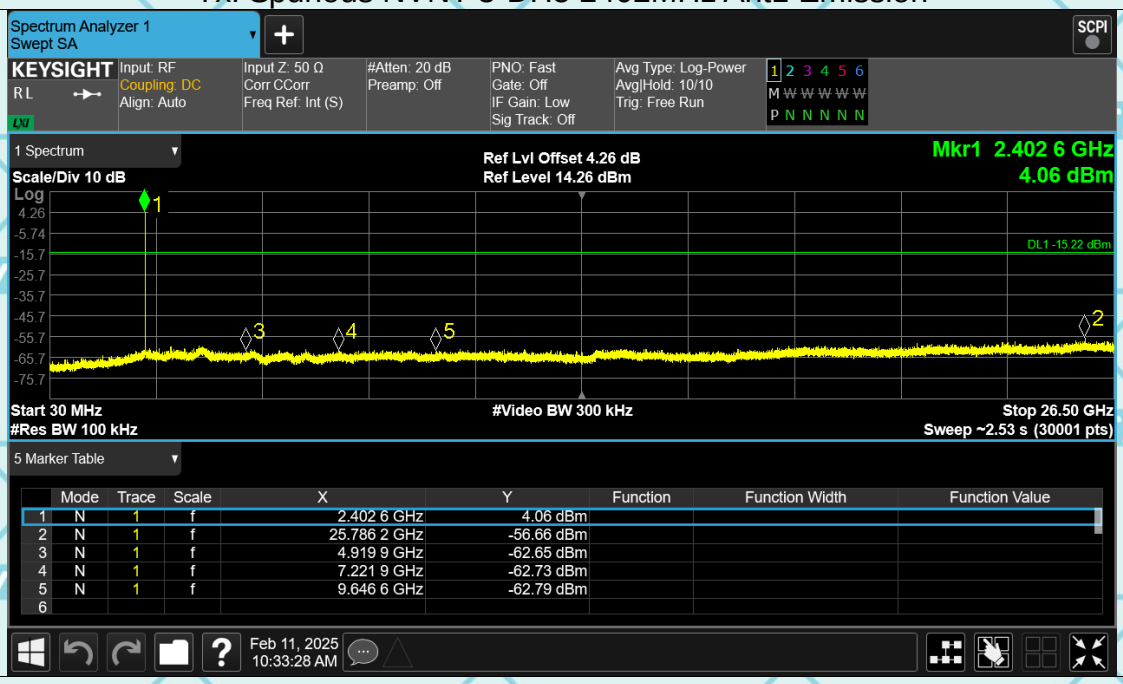



| | Mode | Trace | Scale | X | Y | Function | Function Width | Function Value |
|---|---|---|---|---|---|---|---|---|
| 1 | N | 1 | f | 2.483 GHz | 5.51 dBm | | | |
| 2 | N | 1 | f | 25.847 GHz | -56.36 dBm | | | |
| 3 | N | 1 | f | 5.086 GHz | -61.77 dBm | | | |
| 4 | N | 1 | f | 7.327 GHz | -62.12 dBm | | | |
| 5 | N | 1 | f | 9.736 GHz | -61.95 dBm | | | |
| 6 | | | | | | | | |

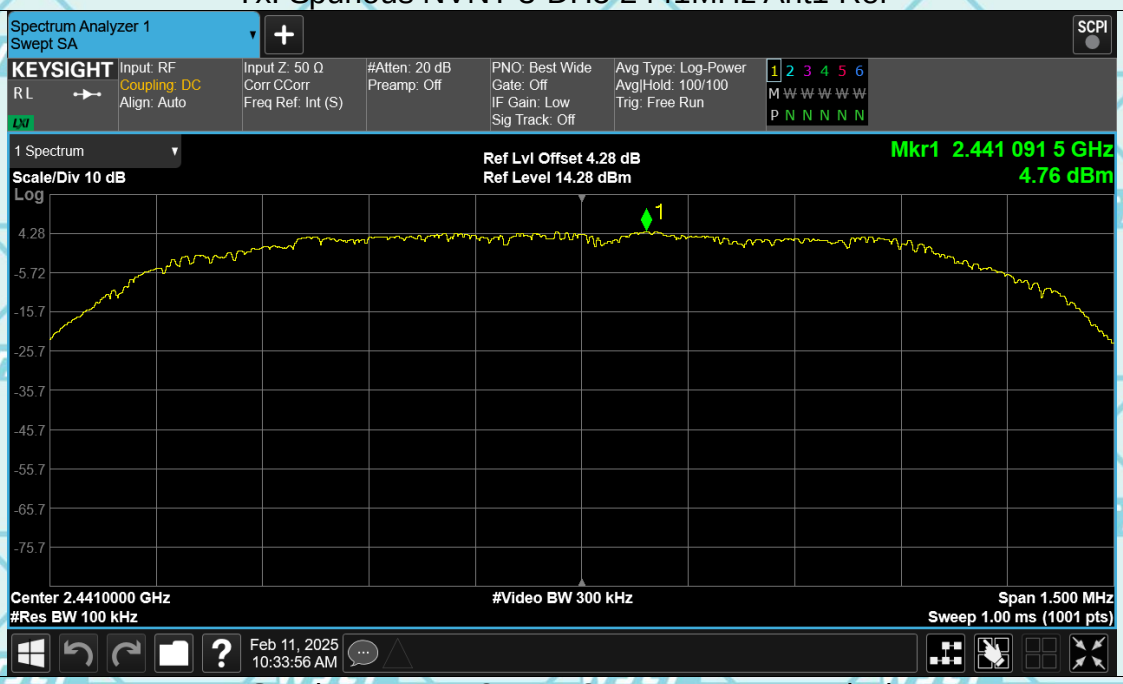
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



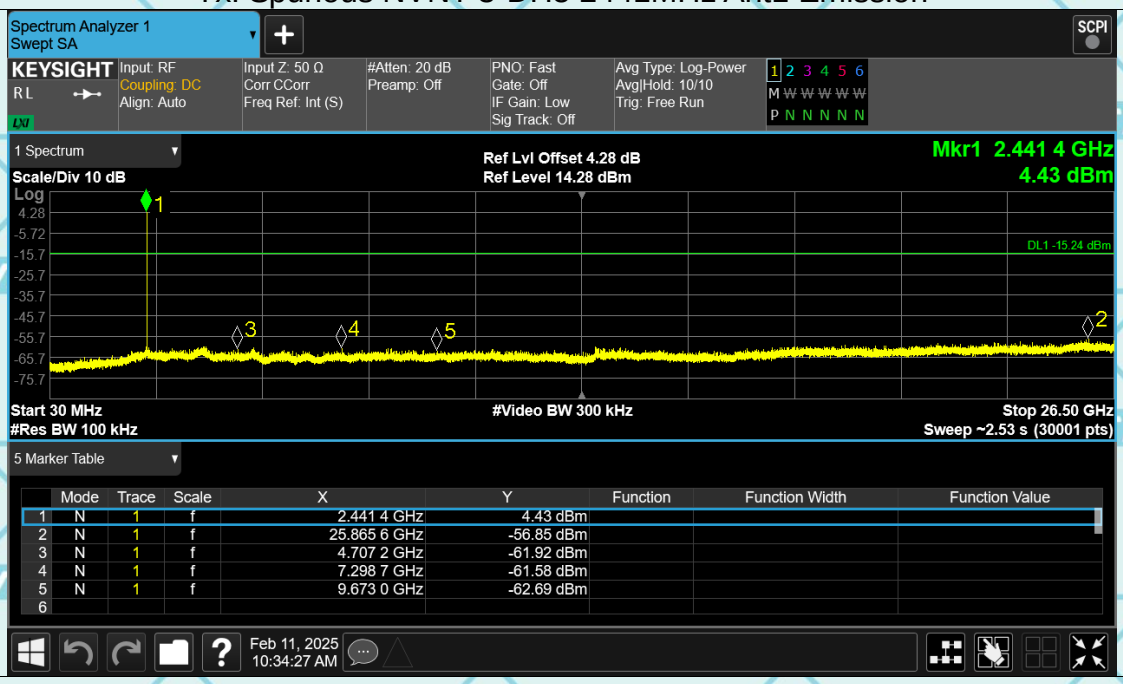

Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

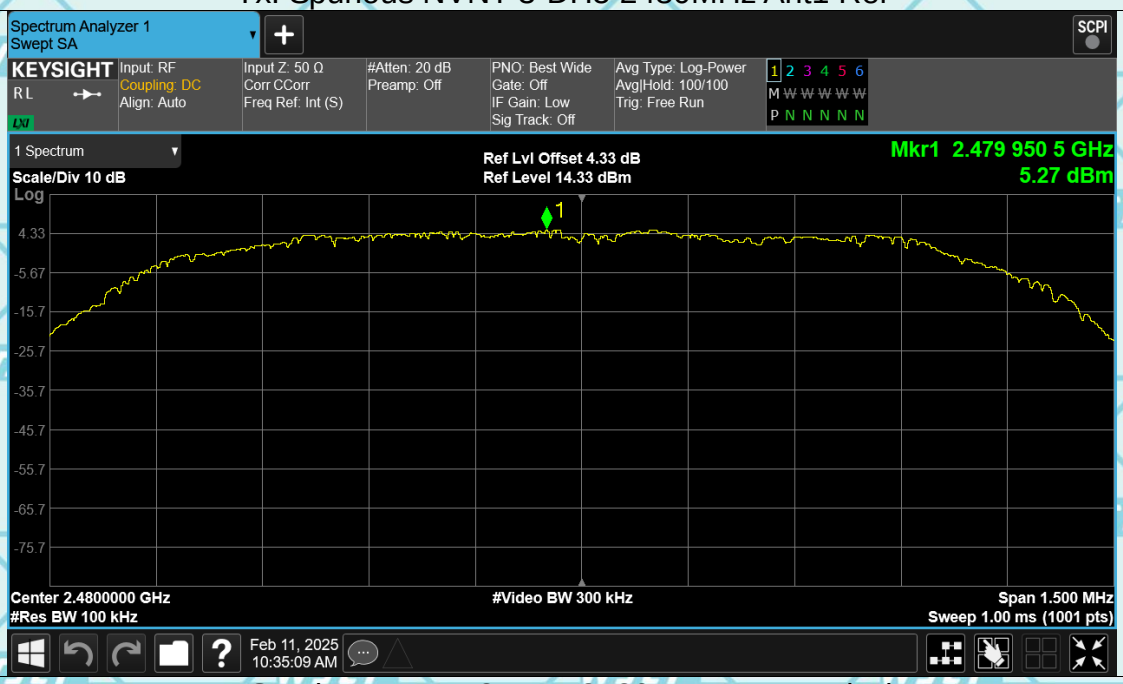



Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

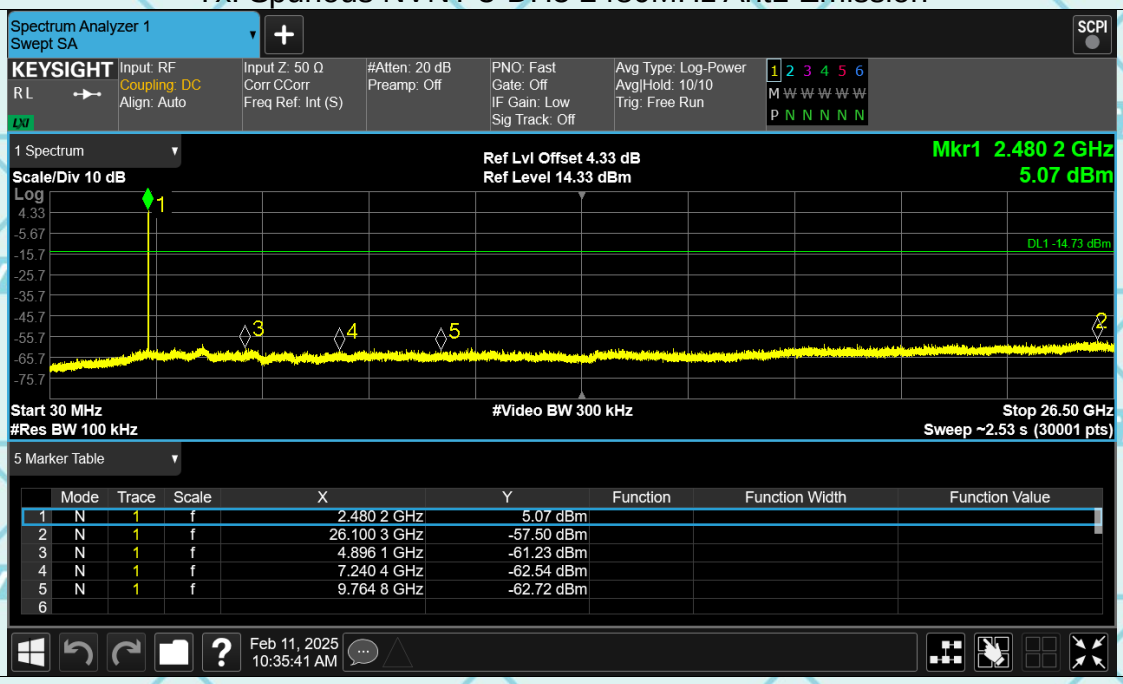



| | Mode | Trace | Scale | X | Y | Function | Function Width | Function Value |
|---|---|---|---|---|---|---|---|---|
| 1 | N | 1 | f | 2.441 4 GHz | 4.43 dBm | | | |
| 2 | N | 1 | f | 25.865 6 GHz | -56.85 dBm | | | |
| 3 | N | 1 | f | 4.707 2 GHz | -61.92 dBm | | | |
| 4 | N | 1 | f | 7.298 7 GHz | -61.58 dBm | | | |
| 5 | N | 1 | f | 9.673 0 GHz | -62.69 dBm | | | |
| 6 | | | | | | | | |

Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission



## 6.11. Radiated Spurious Emission Measurement

### 6.11.1. Test Specification

| | |
|---|---|
| **Test Requirement:** | FCC Part15 C Section 15.209 |
| **Test Method:** | ANSI C63.10:2014 |
| **Frequency Range:** | 9 kHz to 25 GHz |
| **Measurement Distance:** | 3 m |
| **Antenna Polarization:** | Horizontal & Vertical |

**Receiver Setup:**

| Frequency | Detector | RBW | VBW | Remark |
|---|---|---|---|---|
| 9kHz- 150kHz | Quasi-peak | 200Hz | 1kHz | Quasi-peak Value |
| 150kHz-30MHz | Quasi-peak | 9kHz | 30kHz | Quasi-peak Value |
| 30MHz-1GHz | Quasi-peak | 100KHz | 300KHz | Quasi-peak Value |
| Above 1GHz | Peak | 1MHz | 3MHz | Peak Value |
| | Peak | 1MHz | 10Hz | Average Value |

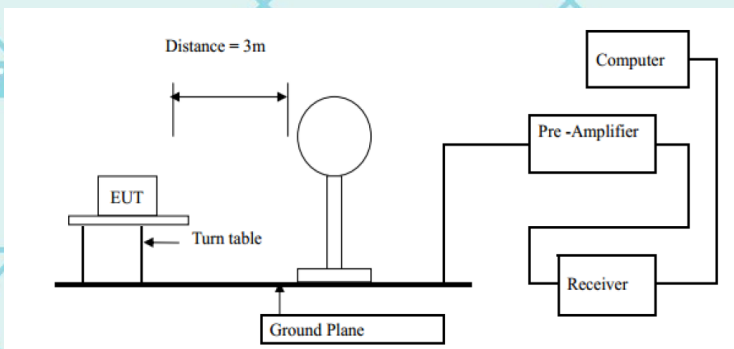
**Limit:**

| Frequency | 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 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

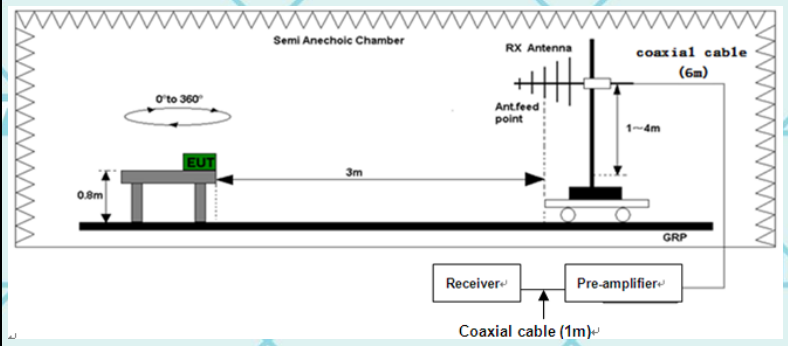
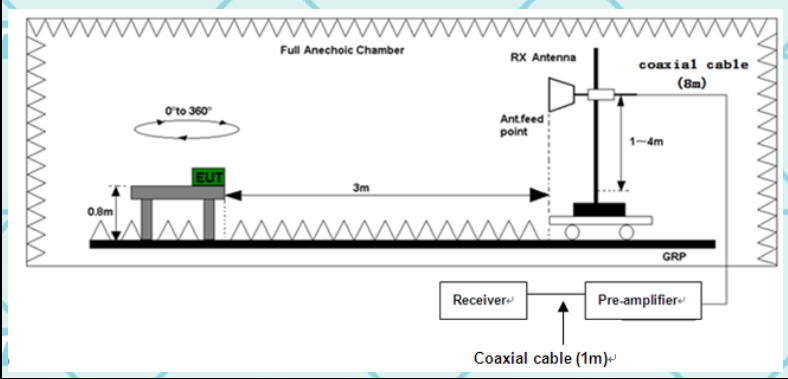
| Frequency | Field Strength (microvolts/meter) | Measurement Distance (meters) | Detector |
|---|---|---|---|
| Above 1GHz | 500 | 3 | Average |
| | 5000 | 3 | Peak |

**Test setup:**

For radiated emissions below 30MHz




30MHz to 1GHz

| | |
|---|---|
| |  <br>Above 1GHz<br>  |
| **Test Mode:** | Transmitting mode with modulation |
| **Test Procedure:** | 1. The testing follows the guidelines in Spurious Radiated Emissions of ANSI C63.10:2014 Measurement Guidelines.<br>2. For the radiated emission test below 1GHz:<br>The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level.<br>For the radiated emission test above 1GHz:<br>Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final |

| | |
|---|---|
| | measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.<br>3. Set to the maximum power setting and enable the EUT transmit continuously.<br>4. Use the following spectrum analyzer settings:<br>(1) Span shall wide enough to fully capture the emission being measured;<br>(2) Set RBW=100 kHz for f < 1 GHz, RBW=1MHz for f>1GHz ; VBW≥RBW;<br>Sweep = auto; Detector function = peak; Trace = max hold for peak<br>(3) For average measurement: use duty cycle correction factor method per<br>15.35(c). Duty cycle = On time/100 milliseconds<br>On time =N1*L1+N2*L2+...+Nn-1*LNn-1+Nn*Ln<br>Where N1 is number of type 1 pulses, L1 is length of type 1 pulses, etc.<br>Average Emission Level = Peak Emission Level + 20*log(Duty cycle)<br>Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level |
| **Test results:** | PASS |

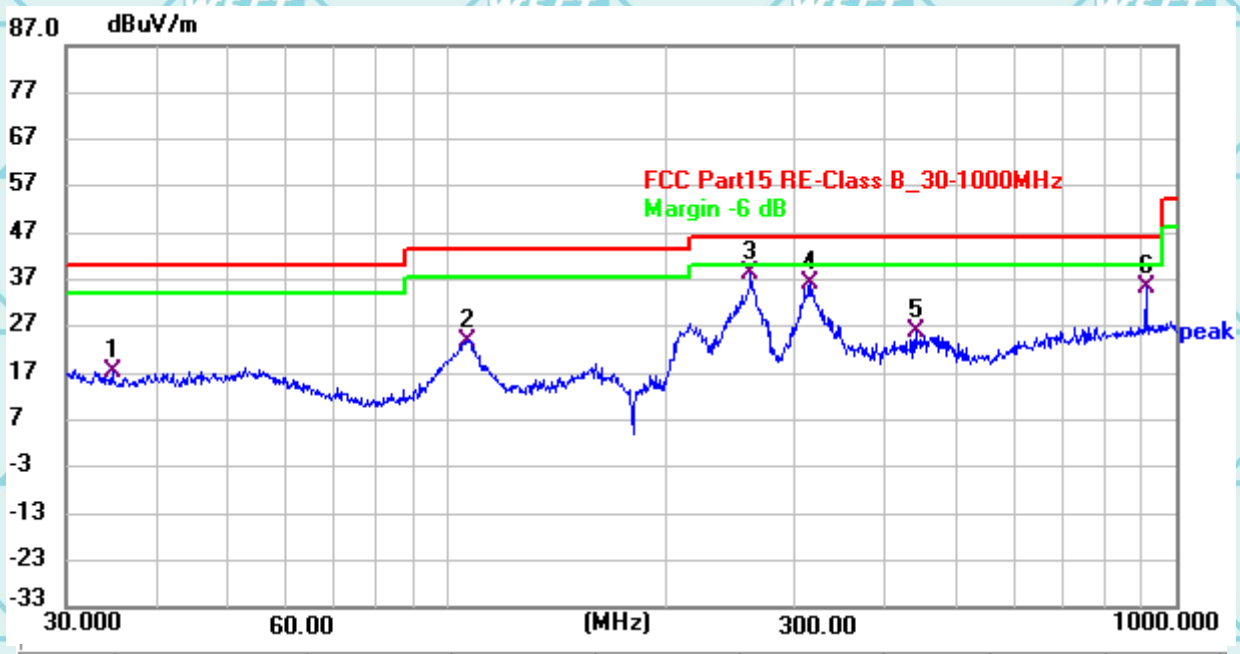
### 6.11.2. Test Data(worst case)

**Please refer to following diagram for individual**

The worst mode is GFSK

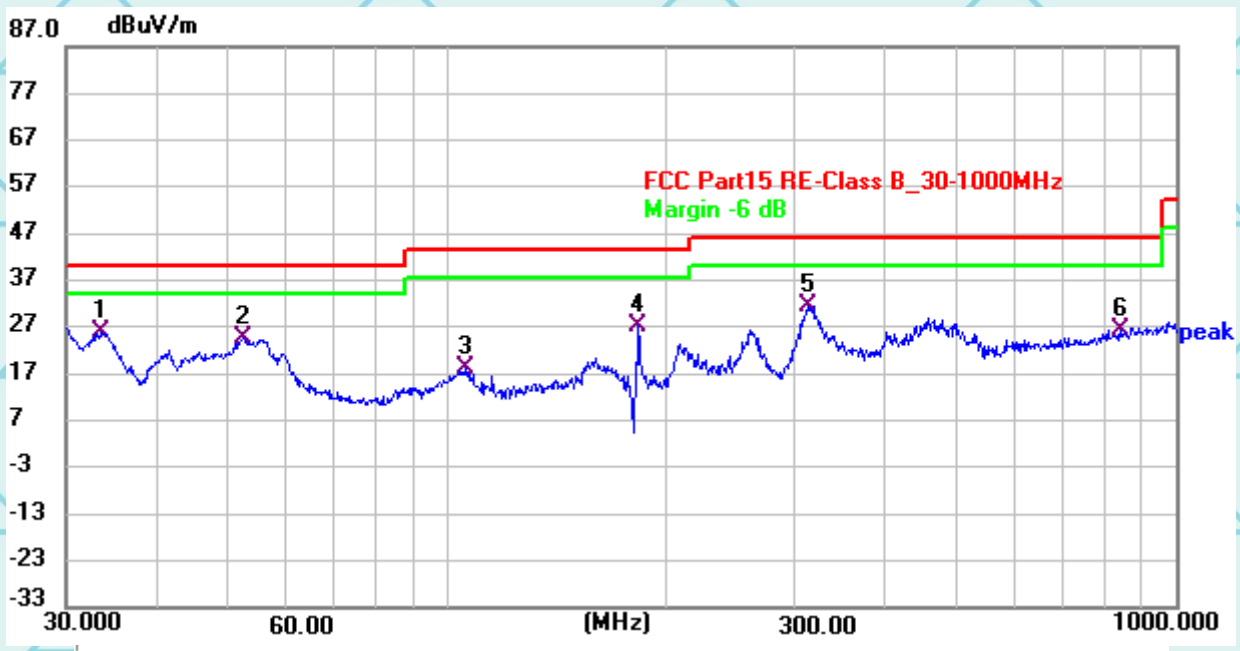
**Below 1GHz**

Horizontal:




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) |
|---|---|---|---|---|---|---|---|---|
| 1 | 34.7754 | 36.70 | -19.48 | 17.22 | 40.00 | -22.78 | QP | 100 |
| 2 | 106.7119 | 46.83 | -22.92 | 23.91 | 43.50 | -19.59 | QP | 100 |
| 3 * | 261.6310 | 60.06 | -21.57 | 38.49 | 46.00 | -7.51 | QP | 100 |
| 4 | 315.3425 | 55.88 | -19.74 | 36.14 | 46.00 | -9.86 | QP | 100 |
| 5 | 440.1963 | 42.64 | -16.62 | 26.02 | 46.00 | -19.98 | QP | 100 |
| 6 | 910.4645 | 45.40 | -9.85 | 35.55 | 46.00 | -10.45 | QP | 100 |

Vertical:




| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|---|---|---|---|---|---|---|---|
| 1 * | 33.6656 | 45.62 | -19.51 | 26.11 | 40.00 | -13.89 | QP |
| 2 | 52.5292 | 43.68 | -18.97 | 24.71 | 40.00 | -15.29 | QP |
| 3 | 106.0126 | 41.11 | -22.99 | 18.12 | 43.50 | -25.38 | QP |
| 4 | 183.3611 | 49.69 | -22.45 | 27.24 | 43.50 | -16.26 | QP |
| 5 | 313.9633 | 51.41 | -19.80 | 31.61 | 46.00 | -14.39 | QP |
| 6 | 841.3917 | 36.86 | -10.32 | 26.54 | 46.00 | -19.46 | QP |

Note1:
Freq. = Emission frequency in MHz
Reading level (dBµV) = Receiver reading
Corr. Factor (dB) = Antenna factor + Cable loss - Amplifier factor.
Measurement (dBµV) = Reading level (dBµV) + Corr. Factor (dB)
Limit (dBµV) = Limit stated in standard
Margin (dB) = Measurement (dBµV) – Limits (dBµV)
*e 150 kHz to 30MHz.*

## Above 1GHz

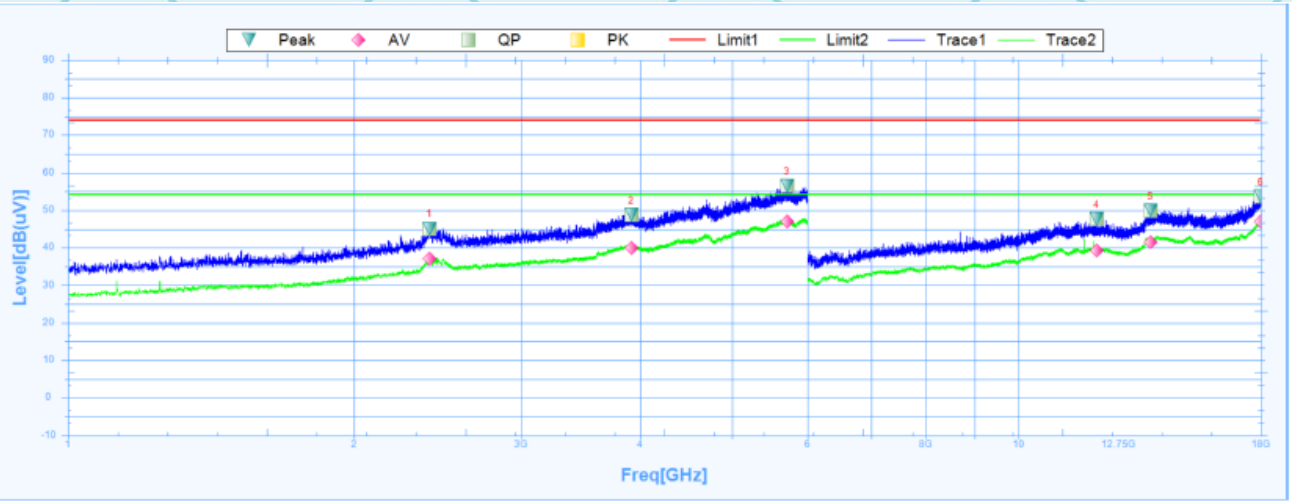
Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental signal.

Note 2: The spurious above 18G is noise only, do not show on the report.

**GFSK**

Low channel: 2402MHz

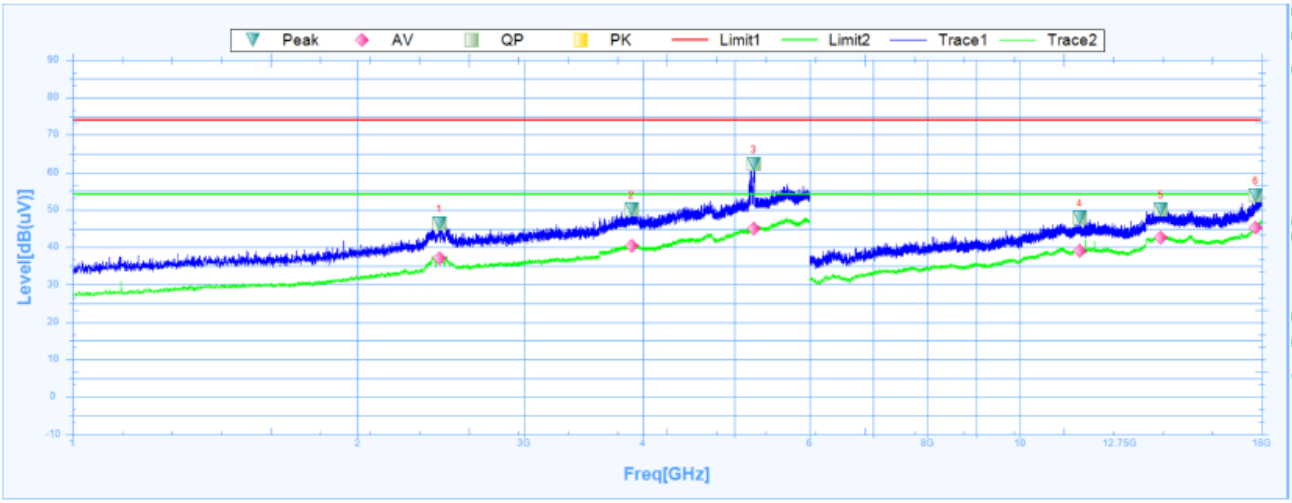
Horizontal:




**Susputed Data List**

| NO. | Freq. [MHz] | Reading [dB(uV)] | Factor [dB] | Level [dB(uV)] | Limit [dB] | Margin [dB] | Deg [°] | Polarity | Trace | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2400.0000 | 45.11 | 27.26 | 17.85 | 74 | -28.89 | 257.8 | Horizontal | PK | Pass |
| 1 | 2400.0000 | 37.02 | 27.26 | 9.76 | 54 | -16.98 | 257.8 | Horizontal | AV | Pass |
| 2 | 3915.6250 | 48.83 | 29.5 | 19.33 | 74 | -25.17 | 133.5 | Horizontal | PK | Pass |
| 2 | 3915.6250 | 39.98 | 29.5 | 10.48 | 54 | -14.02 | 133.5 | Horizontal | AV | Pass |
| 3 | 5708.7500 | 56.48 | 32.33 | 24.15 | 74 | -17.52 | 27.2 | Horizontal | PK | Pass |
| 3 | 5708.7500 | 47.06 | 32.33 | 14.73 | 54 | -6.94 | 27.2 | Horizontal | AV | Pass |
| 4 | 12084.0000 | 47.6 | 16.71 | 30.89 | 74 | -26.4 | 0.5 | Horizontal | PK | Pass |
| 4 | 12084.0000 | 39.19 | 16.71 | 22.48 | 54 | -14.81 | 0.5 | Horizontal | AV | Pass |
| 5 | 13771.5000 | 49.88 | 18.47 | 31.41 | 74 | -24.12 | 214.4 | Horizontal | PK | Pass |
| 5 | 13771.5000 | 41.54 | 18.47 | 23.07 | 54 | -12.46 | 214.4 | Horizontal | AV | Pass |
| 6 | 17988.0000 | 53.66 | 23.84 | 29.82 | 74 | -20.34 | 204.9 | Horizontal | PK | Pass |
| 6 | 17988.0000 | 47.04 | 23.84 | 23.2 | 54 | -6.96 | 204.9 | Horizontal | AV | Pass |

Vertical:

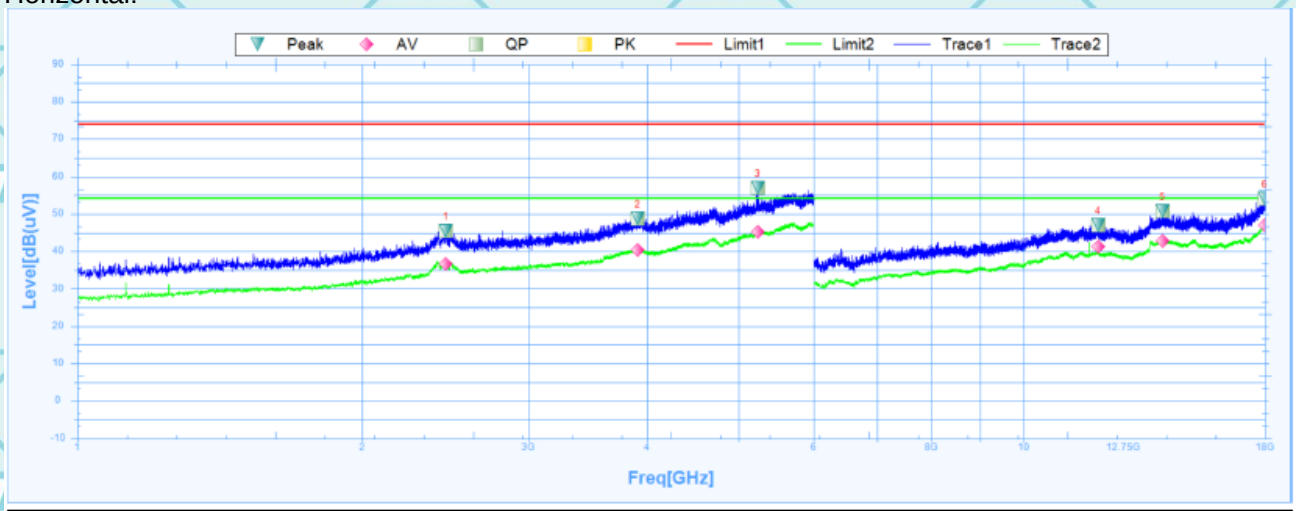



**Susputed Data List**

| NO. | Freq. [MHz] | Reading [dB(uV)] | Factor [dB] | Level [dB(uV)] | Limit [dB] | Margin [dB] | Deg [°] | Polarity | Trace | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2438.1250 | 46.39 | 27.39 | 19 | 74 | -27.61 | 52.2 | Vertical | PK | Pass |
| 1 | 2438.1250 | 37.01 | 27.39 | 9.62 | 54 | -16.99 | 52.2 | Vertical | AV | Pass |
| 2 | 3891.8750 | 50.02 | 29.44 | 20.58 | 74 | -23.98 | 353.5 | Vertical | PK | Pass |
| 2 | 3891.8750 | 40.38 | 29.44 | 10.94 | 54 | -13.62 | 353.5 | Vertical | AV | Pass |
| 3 | 5240.6250 | 62.21 | 31.79 | 30.42 | 74 | -11.79 | 77.4 | Vertical | PK | Pass |
| 3 | 5240.6250 | 44.94 | 31.79 | 13.15 | 54 | -9.06 | 77.4 | Vertical | AV | Pass |
| 4 | 11566.5000 | 47.81 | 16.2 | 31.61 | 74 | -26.19 | 129.5 | Vertical | PK | Pass |
| 4 | 11566.5000 | 39.16 | 16.2 | 22.96 | 54 | -14.84 | 129.5 | Vertical | AV | Pass |
| 5 | 14097.0000 | 50.13 | 19.03 | 31.1 | 74 | -23.87 | 301.8 | Vertical | PK | Pass |
| 5 | 14097.0000 | 42.54 | 19.03 | 23.51 | 54 | -11.46 | 301.8 | Vertical | AV | Pass |
| 6 | 17746.5000 | 53.87 | 22.28 | 31.59 | 74 | -20.13 | 2.1 | Vertical | PK | Pass |
| 6 | 17746.5000 | 45.18 | 22.28 | 22.9 | 54 | -8.82 | 2.1 | Vertical | AV | Pass |

Middle channel: 2441MHz

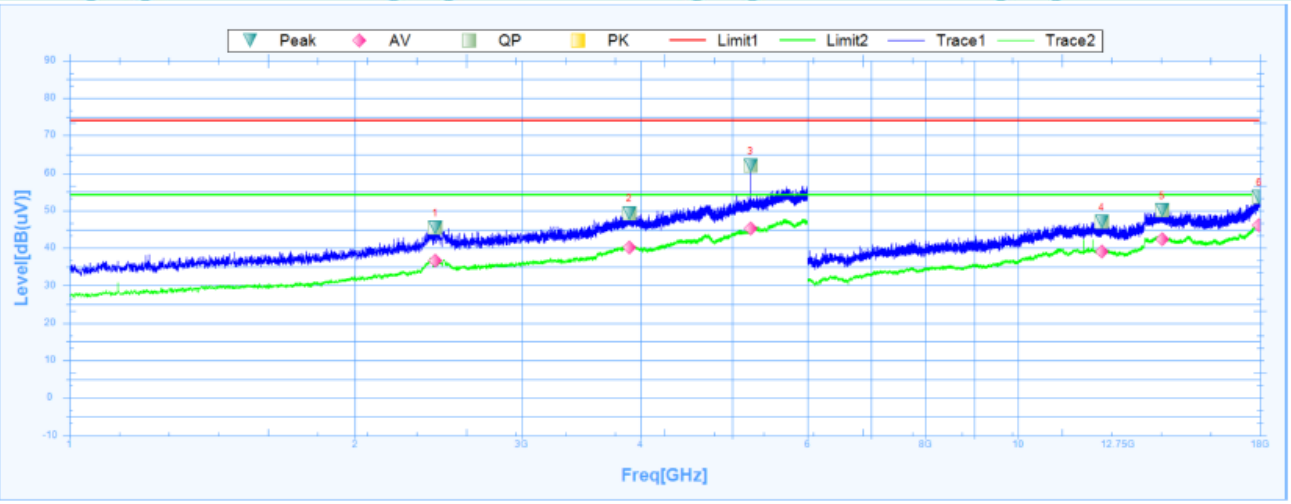
Horizontal:




**Susputed Data List**

| NO. | Freq. [MHz] | Reading [dB(uV)] | Factor [dB] | Level [dB(uV)] | Limit [dB] | Margin [dB] | Deg [°] | Polarity | Trace | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2451.2500 | 45.51 | 27.43 | 18.08 | 74 | -28.49 | 349.4 | Horizontal | PK | Pass |
| 1 | 2451.2500 | 36.52 | 27.43 | 9.09 | 54 | -17.48 | 349.4 | Horizontal | AV | Pass |
| 2 | 3910.6250 | 48.84 | 29.49 | 19.35 | 74 | -25.16 | 181.7 | Horizontal | PK | Pass |
| 2 | 3910.6250 | 40.41 | 29.49 | 10.92 | 54 | -13.59 | 181.7 | Horizontal | AV | Pass |
| 3 | 5240.6250 | 56.87 | 31.79 | 25.08 | 74 | -17.13 | 355 | Horizontal | PK | Pass |
| 3 | 5240.6250 | 45.16 | 31.79 | 13.37 | 54 | -8.84 | 355 | Horizontal | AV | Pass |
| 4 | 11991.0000 | 47.03 | 16.81 | 30.22 | 74 | -26.97 | 188.2 | Horizontal | PK | Pass |
| 4 | 11991.0000 | 41.31 | 16.81 | 24.5 | 54 | -12.69 | 188.2 | Horizontal | AV | Pass |
| 5 | 14023.5000 | 50.7 | 19.1 | 31.6 | 74 | -23.3 | 220.4 | Horizontal | PK | Pass |
| 5 | 14023.5000 | 42.71 | 19.1 | 23.61 | 54 | -11.29 | 220.4 | Horizontal | AV | Pass |
| 6 | 17979.0000 | 54.13 | 23.78 | 30.35 | 74 | -19.87 | 326.9 | Horizontal | PK | Pass |
| 6 | 17979.0000 | 46.92 | 23.78 | 23.14 | 54 | -7.08 | 326.9 | Horizontal | AV | Pass |

Vertical:

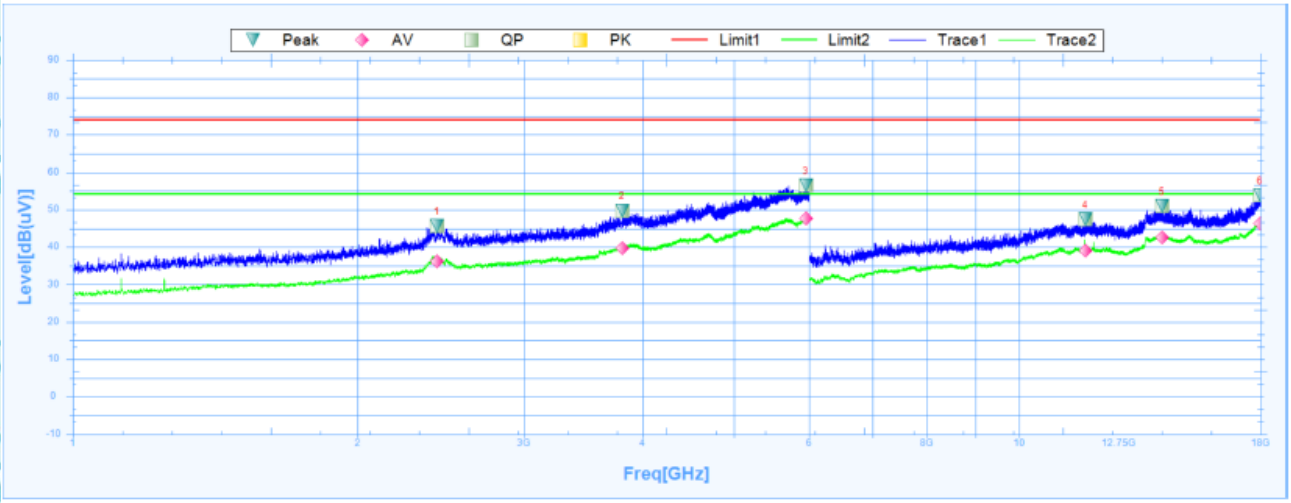



**Susputed Data List**

| NO. | Freq. [MHz] | Reading [dB(uV)] | Factor [dB] | Level [dB(uV)] | Limit [dB] | Margin [dB] | Deg [°] | Polarity | Trace | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2429.3750 | 45.43 | 27.36 | 18.07 | 74 | -28.57 | 246 | Vertical | PK | Pass |
| 1 | 2429.3750 | 36.55 | 27.36 | 9.19 | 54 | -17.45 | 246 | Vertical | AV | Pass |
| 2 | 3893.1250 | 49.32 | 29.44 | 19.88 | 74 | -24.68 | 100.2 | Vertical | PK | Pass |
| 2 | 3893.1250 | 40.07 | 29.44 | 10.63 | 54 | -13.93 | 100.2 | Vertical | AV | Pass |
| 3 | 5227.5000 | 62.11 | 31.78 | 30.33 | 74 | -11.89 | 355.4 | Vertical | PK | Pass |
| 3 | 5227.5000 | 45.14 | 31.78 | 13.36 | 54 | -8.86 | 355.4 | Vertical | AV | Pass |
| 4 | 12255.0000 | 47.06 | 16.48 | 30.58 | 74 | -26.94 | 264.6 | Vertical | PK | Pass |
| 4 | 12255.0000 | 39.08 | 16.48 | 22.6 | 54 | -14.92 | 264.6 | Vertical | AV | Pass |
| 5 | 14194.5000 | 50.01 | 18.93 | 31.08 | 74 | -23.99 | 312.5 | Vertical | PK | Pass |
| 5 | 14194.5000 | 42.47 | 18.93 | 23.54 | 54 | -11.53 | 312.5 | Vertical | AV | Pass |
| 6 | 17967.0000 | 53.64 | 23.7 | 29.94 | 74 | -20.36 | 360 | Vertical | PK | Pass |
| 6 | 17967.0000 | 46.16 | 23.7 | 22.46 | 54 | -7.84 | 360 | Vertical | AV | Pass |

High channel: 2480MHz

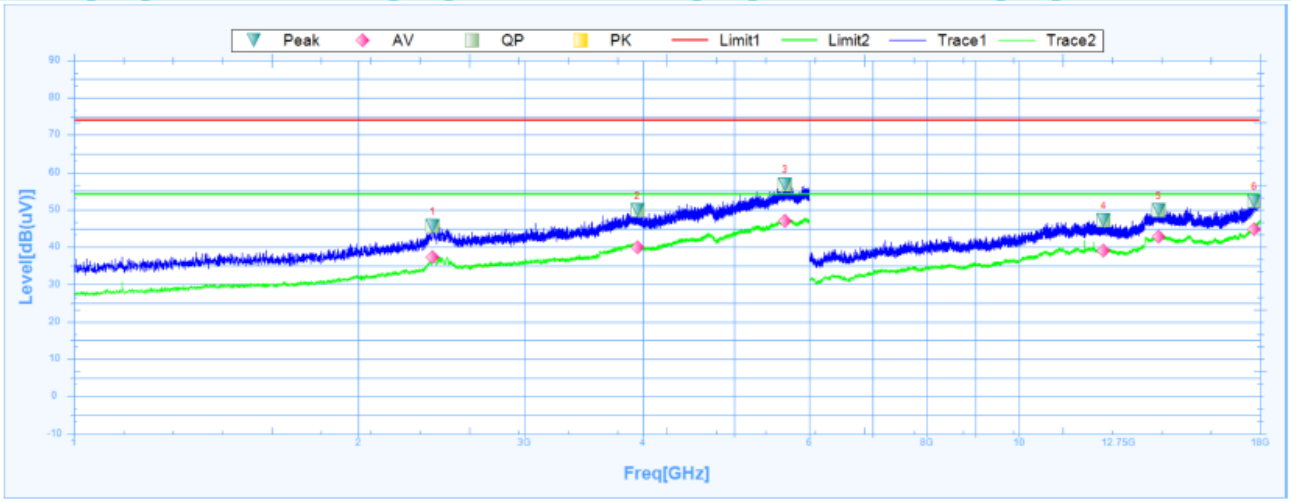
Horizontal:




**Susputed Data List**

| NO. | Freq. [MHz] | Reading [dB(uV)] | Factor [dB] | Level [dB(uV)] | Limit [dB] | Margin [dB] | Deg [°] | Polarity | Trace | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2425.0000 | 45.58 | 27.35 | 18.23 | 74 | -28.42 | -0.1 | Horizontal | PK | Pass |
| 1 | 2425.0000 | 36.11 | 27.35 | 8.76 | 54 | -17.89 | -0.1 | Horizontal | AV | Pass |
| 2 | 3806.8750 | 49.76 | 29.24 | 20.52 | 74 | -24.24 | 358.5 | Horizontal | PK | Pass |
| 2 | 3806.8750 | 39.78 | 29.24 | 10.54 | 54 | -14.22 | 358.5 | Horizontal | AV | Pass |
| 3 | 5952.5000 | 56.44 | 32.72 | 23.72 | 74 | -17.56 | 342.7 | Horizontal | PK | Pass |
| 3 | 5952.5000 | 47.75 | 32.72 | 15.03 | 54 | -6.25 | 342.7 | Horizontal | AV | Pass |
| 4 | 11752.5000 | 47.36 | 16.11 | 31.25 | 74 | -26.64 | 40 | Horizontal | PK | Pass |
| 4 | 11752.5000 | 39.04 | 16.11 | 22.93 | 54 | -14.96 | 40 | Horizontal | AV | Pass |
| 5 | 14163.0000 | 50.98 | 18.96 | 32.02 | 74 | -23.02 | 87.8 | Horizontal | PK | Pass |
| 5 | 14163.0000 | 42.51 | 18.96 | 23.55 | 54 | -11.49 | 87.8 | Horizontal | AV | Pass |
| 6 | 17974.5000 | 53.81 | 23.75 | 30.06 | 74 | -20.19 | 301.8 | Horizontal | PK | Pass |
| 6 | 17974.5000 | 46.29 | 23.75 | 22.54 | 54 | -7.71 | 301.8 | Horizontal | AV | Pass |

Vertical:




**Susputed Data List**

| NO. | Freq. [MHz] | Reading [dB(uV)] | Factor [dB] | Level [dB(uV)] | Limit [dB] | Margin [dB] | Deg [°] | Polarity | Trace | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2398.1250 | 45.63 | 27.25 | 18.38 | 74 | -28.37 | 305.8 | Vertical | PK | Pass |
| 1 | 2398.1250 | 37.19 | 27.25 | 9.94 | 54 | -16.81 | 305.8 | Vertical | AV | Pass |
| 2 | 3947.5000 | 49.94 | 29.57 | 20.37 | 74 | -24.06 | 268.6 | Vertical | PK | Pass |
| 2 | 3947.5000 | 39.99 | 29.57 | 10.42 | 54 | -14.01 | 268.6 | Vertical | AV | Pass |
| 3 | 5659.3750 | 56.83 | 32.26 | 24.57 | 74 | -17.17 | 303.4 | Vertical | PK | Pass |
| 3 | 5659.3750 | 47.05 | 32.26 | 14.79 | 54 | -6.95 | 303.4 | Vertical | AV | Pass |
| 4 | 12298.5000 | 47.25 | 16.48 | 30.77 | 74 | -26.75 | 324.5 | Vertical | PK | Pass |
| 4 | 12298.5000 | 39.15 | 16.48 | 22.67 | 54 | -14.85 | 324.5 | Vertical | AV | Pass |
| 5 | 14058.0000 | 49.89 | 19.06 | 30.83 | 74 | -24.11 | 341.2 | Vertical | PK | Pass |
| 5 | 14058.0000 | 42.89 | 19.06 | 23.83 | 54 | -11.11 | 341.2 | Vertical | AV | Pass |
| 6 | 17751.0000 | 52.34 | 22.31 | 30.03 | 74 | -21.66 | 285 | Vertical | PK | Pass |
| 6 | 17751.0000 | 44.88 | 22.31 | 22.57 | 54 | -9.12 | 285 | Vertical | AV | Pass |

***Note:***

*1. The emission levels of other frequencies are very lower than the limit and not show in test report.*

*2. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.*

*3. Data of measurement shown "---"in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.*

*4. Measurements were conducted in all three modulation (GFSK, Pi/4 DQPSK, 8DPSK), and the worst case Mode (GFSK) was submitted only.*

### 6.11.1. Restricted Bands Requirements

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

| Frequency | Reading | Correct Factor | Emission Level | Limit | Margin | Polar | Detector |
|---|---|---|---|---|---|---|---|
| (MHz) | (dBuV/m) | dB/m | (dBuV/m) | (dBuV/m) | (dB) | H/V | |
| Low Channel | | | | | | | |
| 2387 | 64.45 | -8.76 | 55.69 | 74 | 18.31 | H | PK |
| 2387 | 53.98 | -8.76 | 45.22 | 54 | 8.78 | H | AV |
| 2387 | 63.87 | -8.73 | 55.14 | 74 | 18.86 | V | PK |
| 2387 | 54.18 | -8.73 | 45.45 | 54 | 8.55 | V | AV |
| 2390 | 64.77 | -8.76 | 56.01 | 74 | 17.99 | H | PK |
| 2390 | 53.32 | -8.76 | 44.56 | 54 | 9.44 | H | AV |
| 2390 | 62.80 | -8.73 | 54.07 | 74 | 19.93 | V | PK |
| 2390 | 52.65 | -8.73 | 43.92 | 54 | 10.08 | V | AV |
| High Channel | | | | | | | |
| 2483.5 | 64.75 | -8.76 | 55.99 | 74 | 18.01 | H | PK |
| 2483.5 | 53.50 | -8.76 | 44.74 | 54 | 9.26 | H | AV |
| 2483.5 | 62.75 | -8.73 | 54.02 | 74 | 19.98 | V | PK |
| 2483.5 | 52.76 | -8.73 | 44.03 | 54 | 9.97 | V | AV |

Note: Freq. = Emission frequency in MHz
Reading level (dBµV) = Receiver reading
Corr. Factor (dB) = Attenuation factor + Cable loss
Level (dBµV) = Reading level (dBµV) + Corr. Factor (dB)
Limit (dBµV) = Limit stated in standard
Margin (dB) = Level (dBµV) – Limits (dBµV)

# 8 Test Setup Photographs

Please refer to Annex "Set Up Photos-15C " for test setup photos

*******END OF REPORT*******