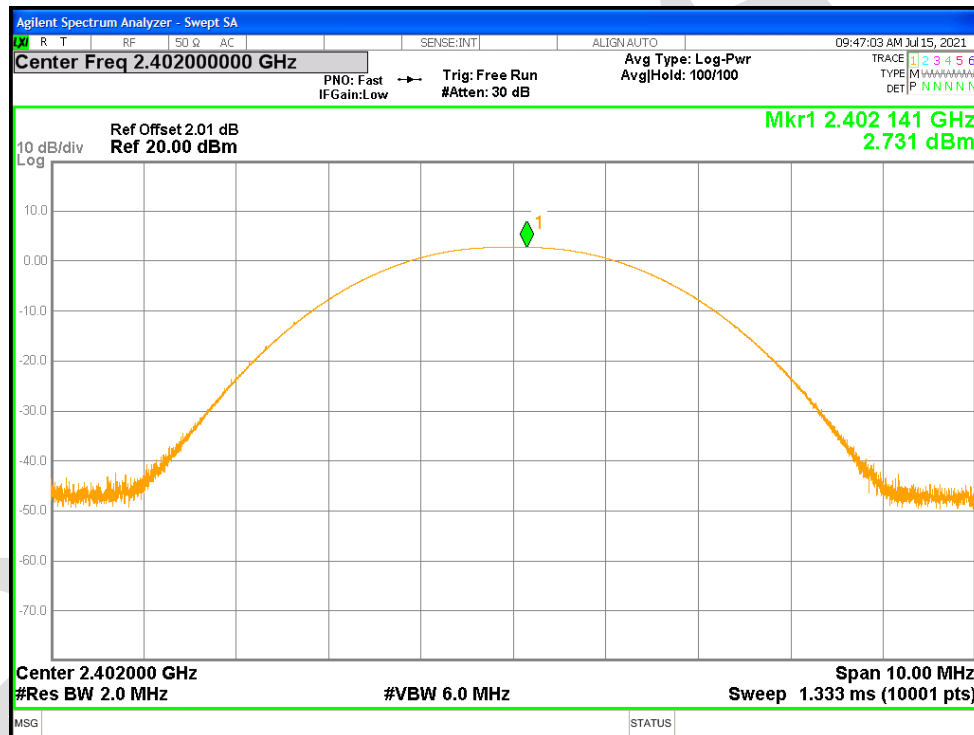


## 21 APPENDIX

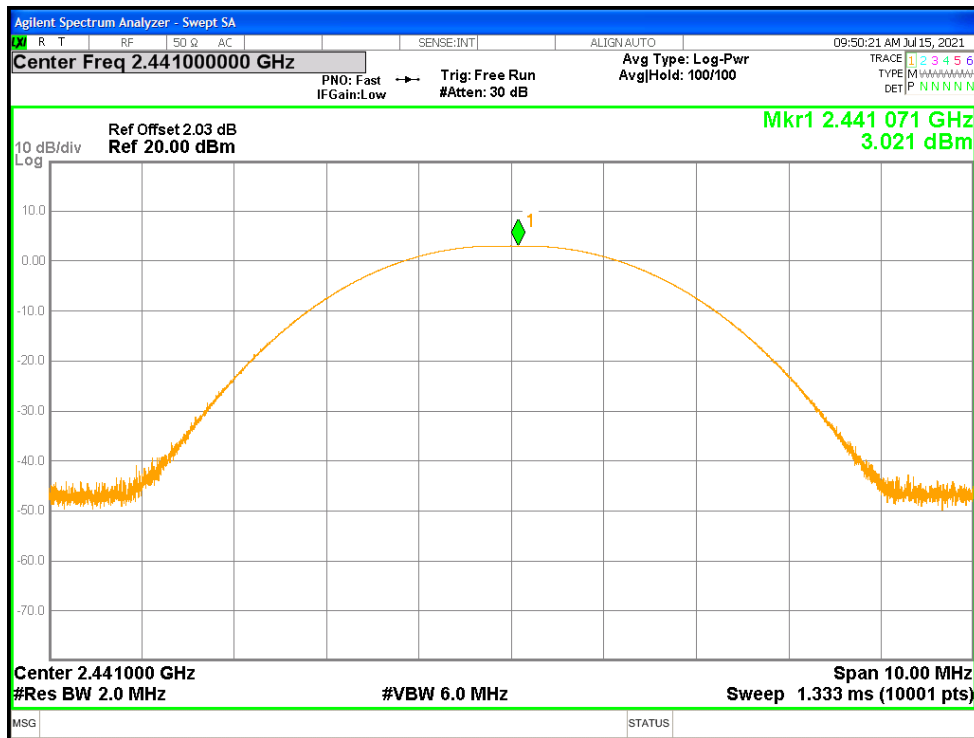
### 21.1 MAXIMUM CONDUCTED OUTPUT POWER

| Condition | Mode  | Frequency (MHz) | Antenna | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|-------|-----------------|---------|-------------------|-------------|---------|
| NVNT      | 1-DH1 | 2402            | Ant1    | 2.731             | 21          | Pass    |
| NVNT      | 1-DH1 | 2441            | Ant1    | 3.021             | 21          | Pass    |
| NVNT      | 1-DH1 | 2480            | Ant1    | 3.066             | 21          | Pass    |
| NVNT      | 2-DH1 | 2402            | Ant1    | 5.15              | 21          | Pass    |
| NVNT      | 2-DH1 | 2441            | Ant1    | 5.411             | 21          | Pass    |
| NVNT      | 2-DH1 | 2480            | Ant1    | 5.427             | 21          | Pass    |
| NVNT      | 3-DH1 | 2402            | Ant1    | 5.686             | 21          | Pass    |
| NVNT      | 3-DH1 | 2441            | Ant1    | 5.777             | 21          | Pass    |
| NVNT      | 3-DH1 | 2480            | Ant1    | 5.84              | 21          | Pass    |

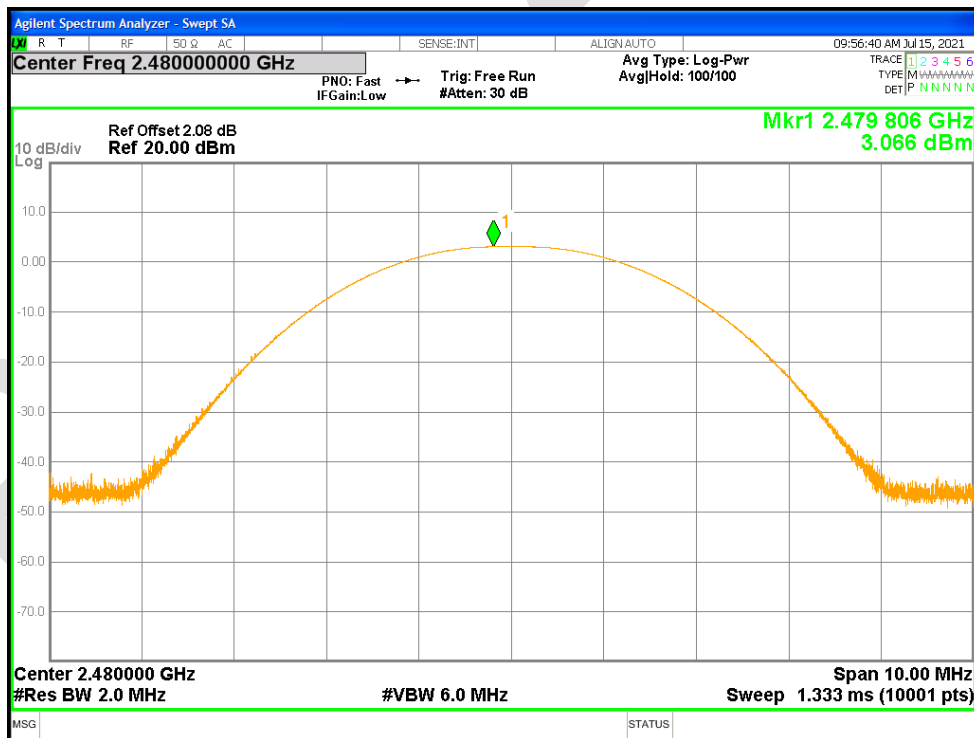
Power NVNT 1-DH1 2402MHz Ant1



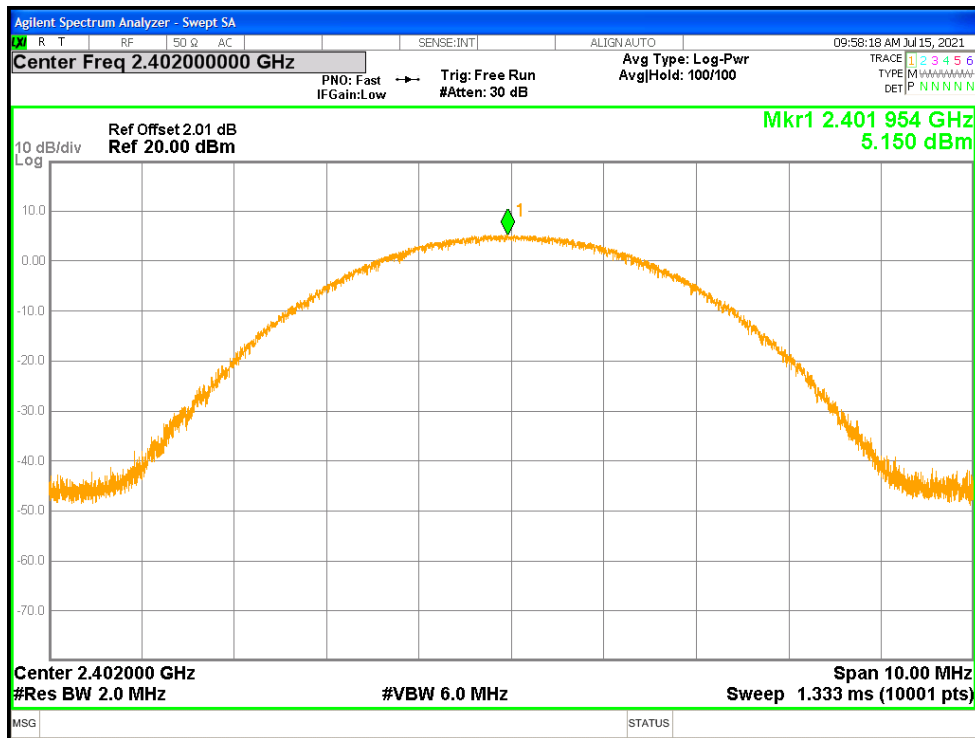
Power NVNT 1-DH1 2441MHz Ant1



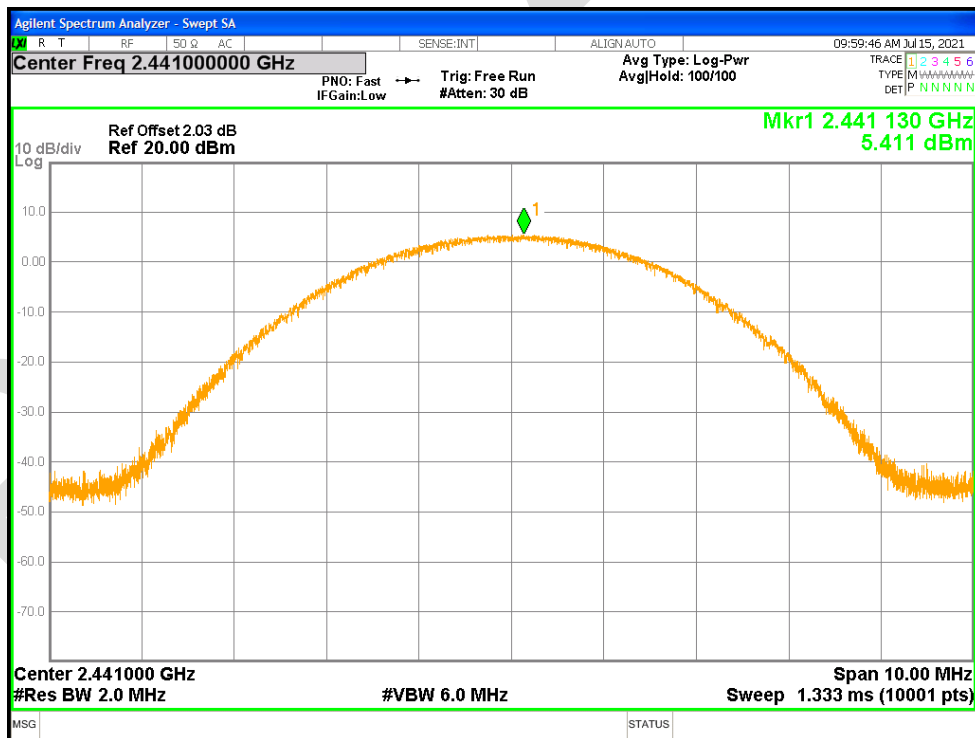
Power NVNT 1-DH1 2480MHz Ant1



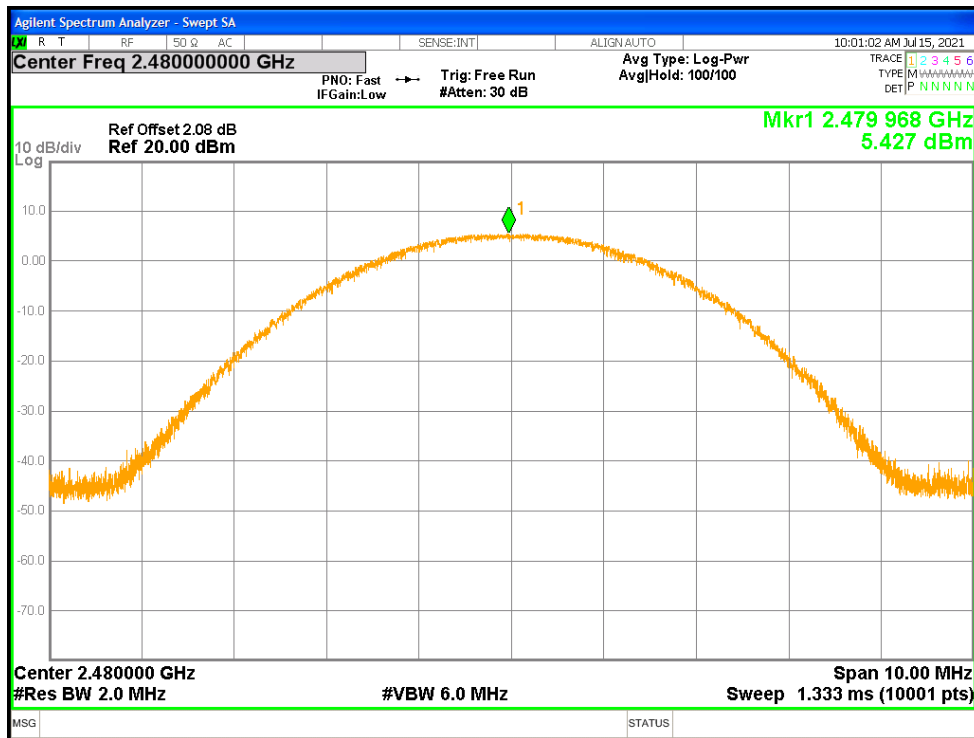
Power NVNT 2-DH1 2402MHz Ant1



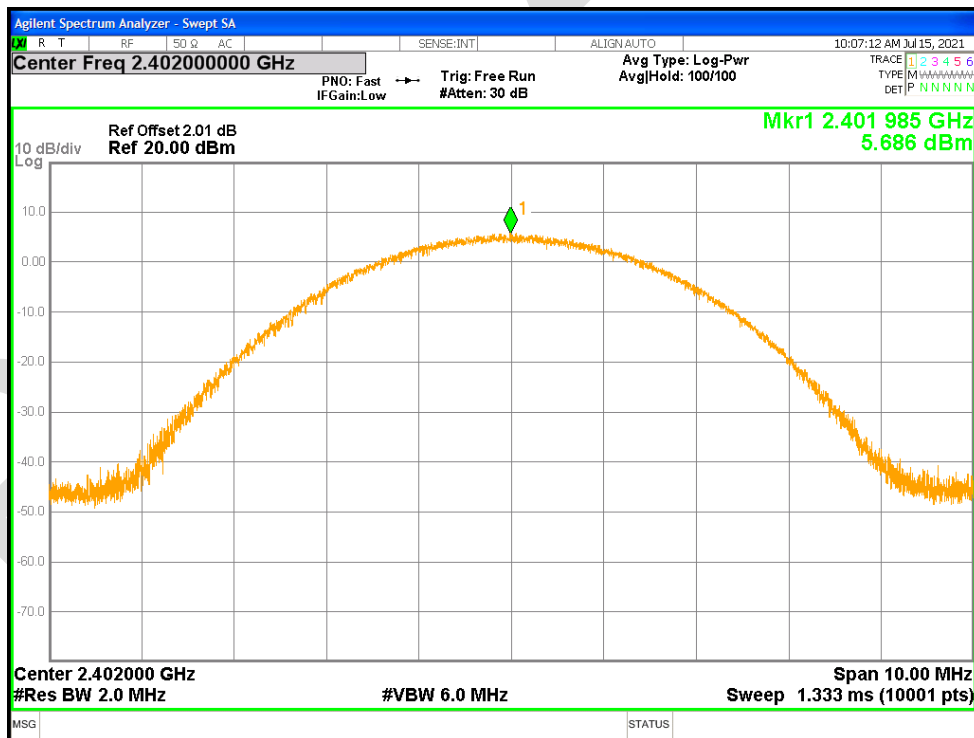
Power NVNT 2-DH1 2441MHz Ant1



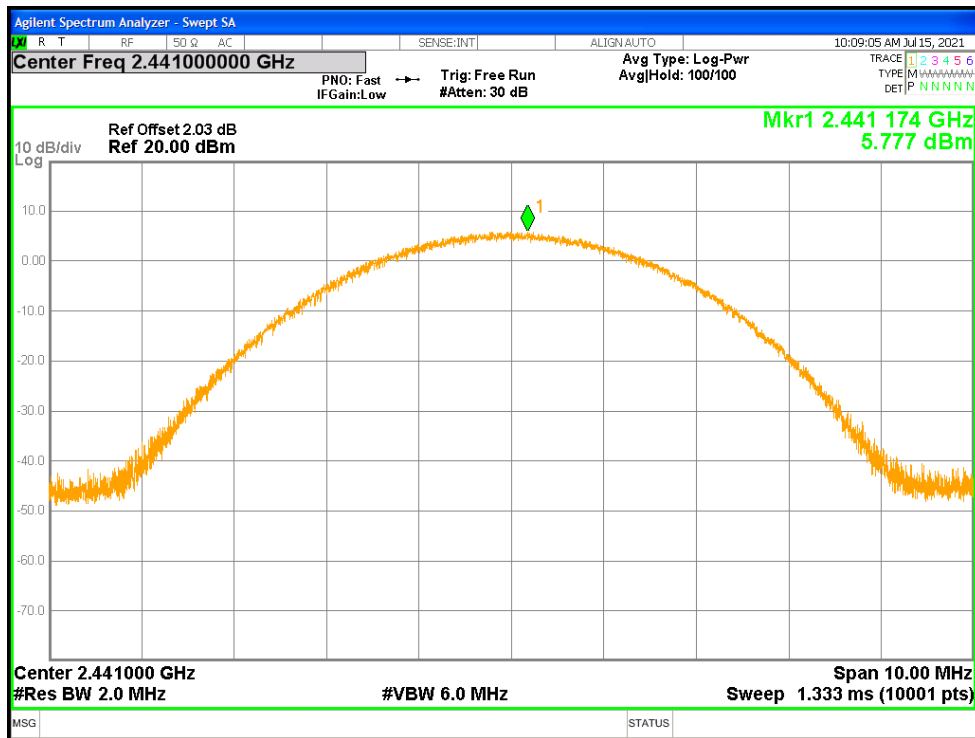
Power NVNT 2-DH1 2480MHz Ant1



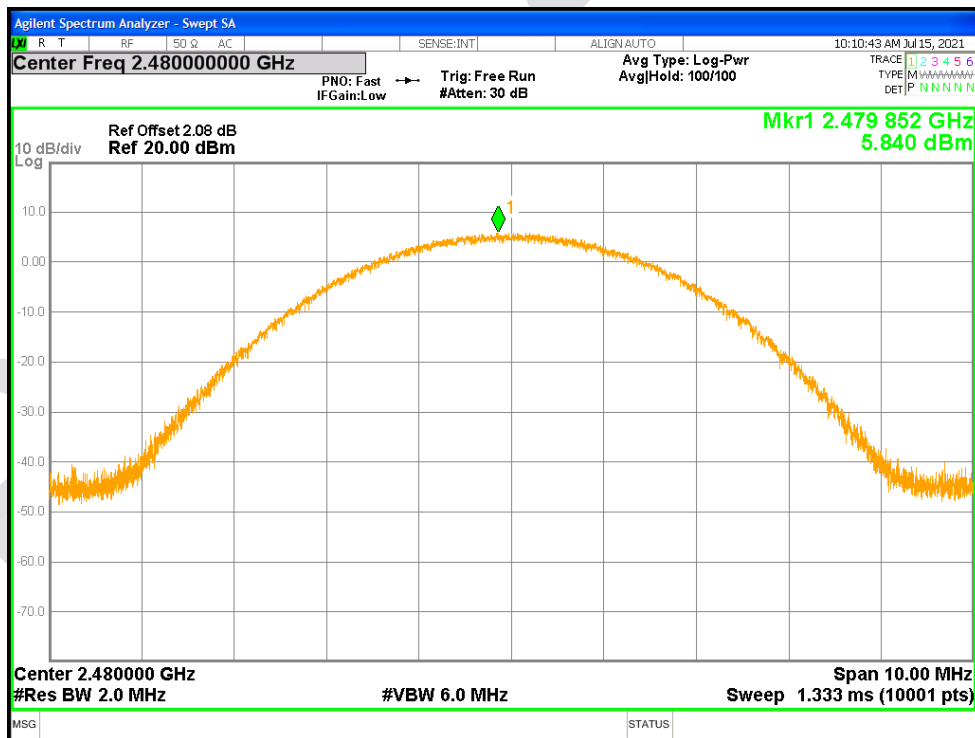
Power NVNT 3-DH1 2402MHz Ant1



Power NVNT 3-DH1 2441MHz Ant1



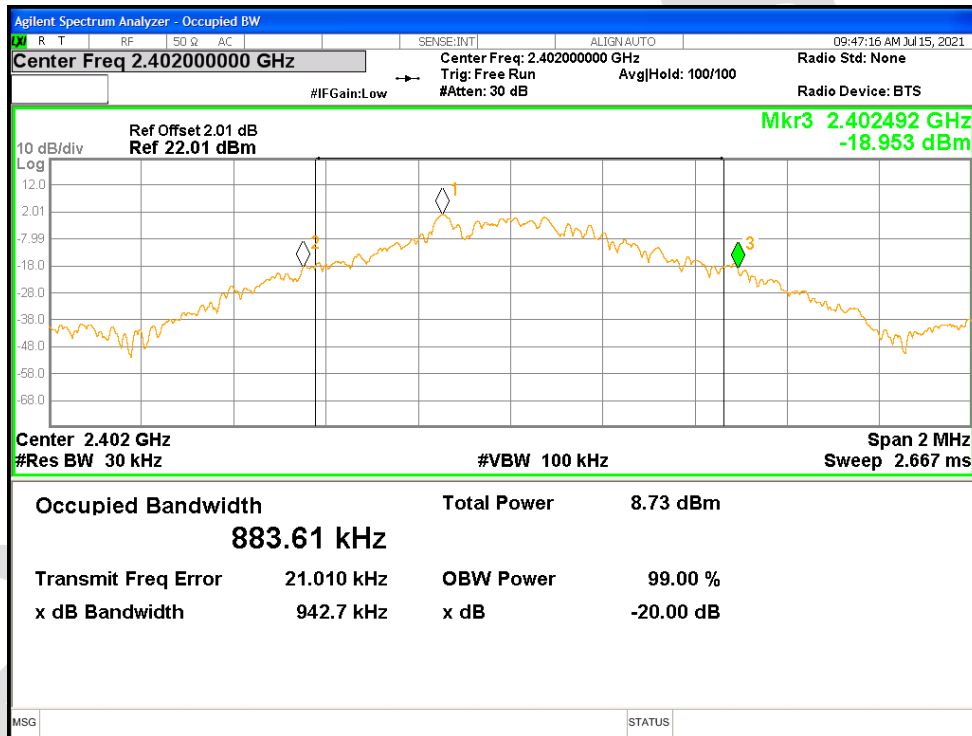
Power NVNT 3-DH1 2480MHz Ant1



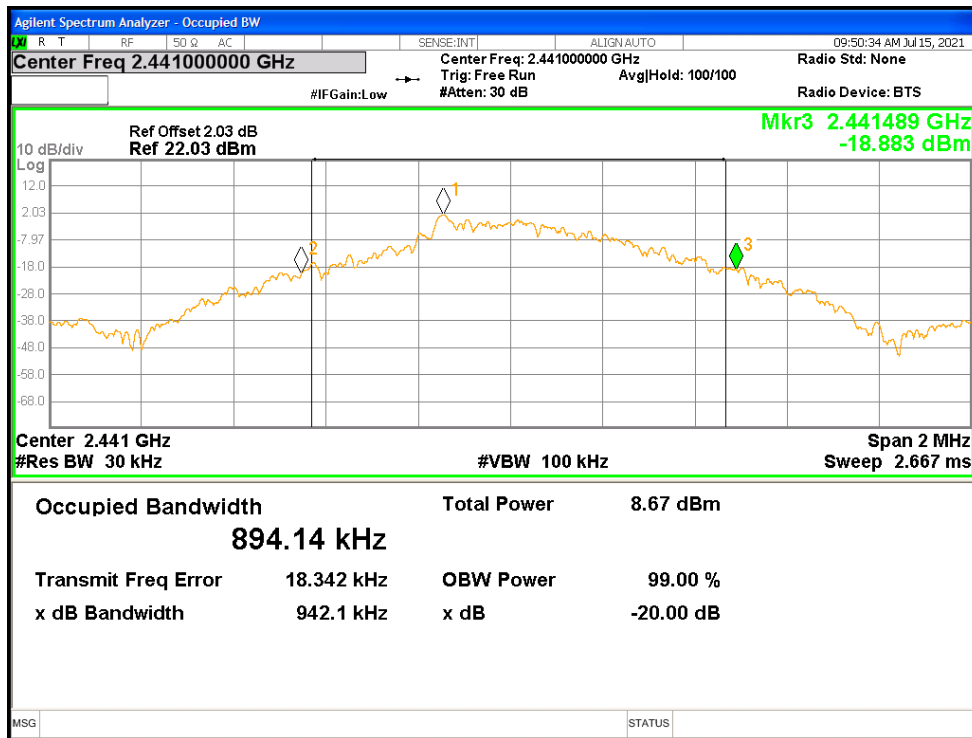
### 21.2 -20DB BANDWIDTH

| Condition | Mode  | Frequency (MHz) | Antenna | -20 dB Bandwidth (MHz) | Limit -20 dB Bandwidth (MHz) | Verdict |
|-----------|-------|-----------------|---------|------------------------|------------------------------|---------|
| NVNT      | 1-DH1 | 2402            | Ant1    | 0.943                  | 0                            | Pass    |
| NVNT      | 1-DH1 | 2441            | Ant1    | 0.942                  | 0                            | Pass    |
| NVNT      | 1-DH1 | 2480            | Ant1    | 0.937                  | 0                            | Pass    |
| NVNT      | 2-DH1 | 2402            | Ant1    | 1.282                  | 0                            | Pass    |
| NVNT      | 2-DH1 | 2441            | Ant1    | 1.261                  | 0                            | Pass    |
| NVNT      | 2-DH1 | 2480            | Ant1    | 1.278                  | 0                            | Pass    |
| NVNT      | 3-DH1 | 2402            | Ant1    | 1.281                  | 0                            | Pass    |
| NVNT      | 3-DH1 | 2441            | Ant1    | 1.286                  | 0                            | Pass    |
| NVNT      | 3-DH1 | 2480            | Ant1    | 1.276                  | 0                            | Pass    |

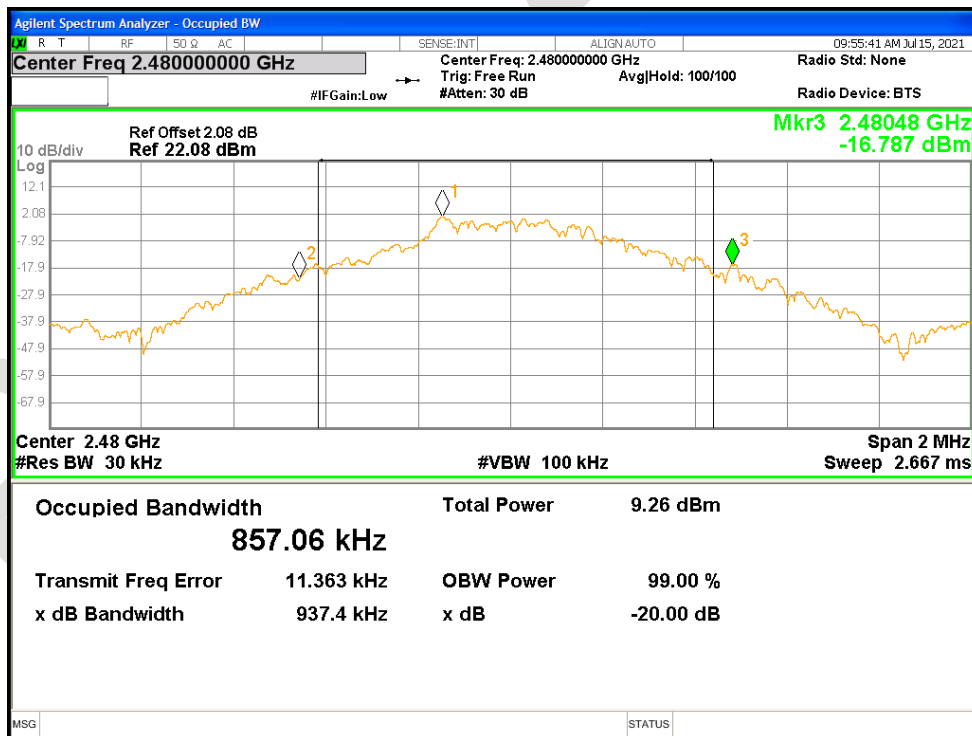
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



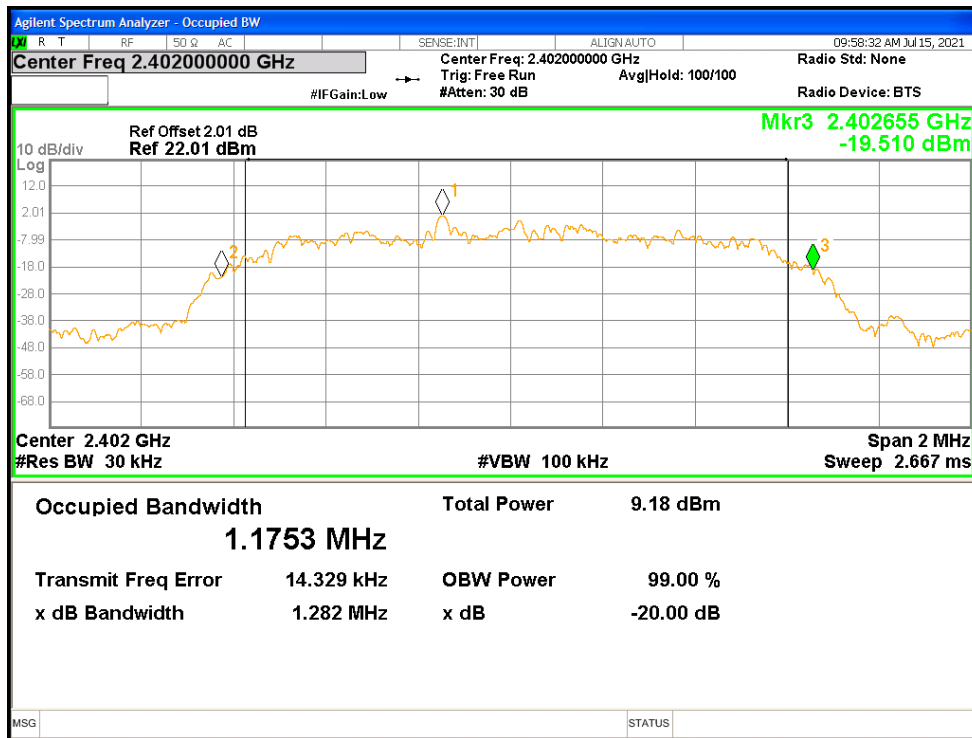
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



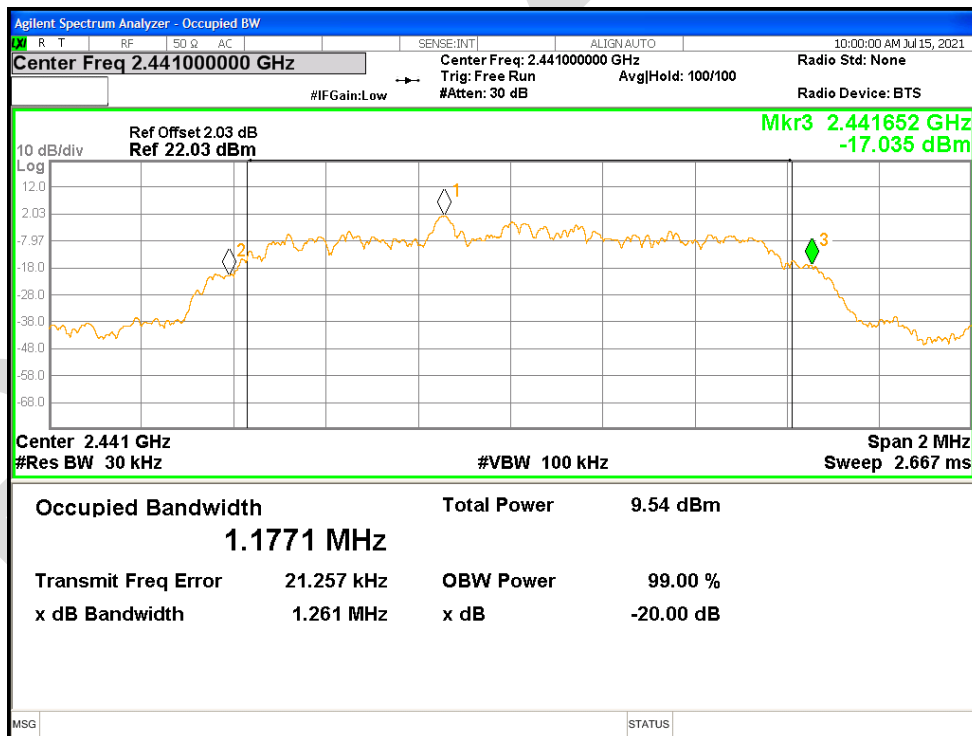
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1

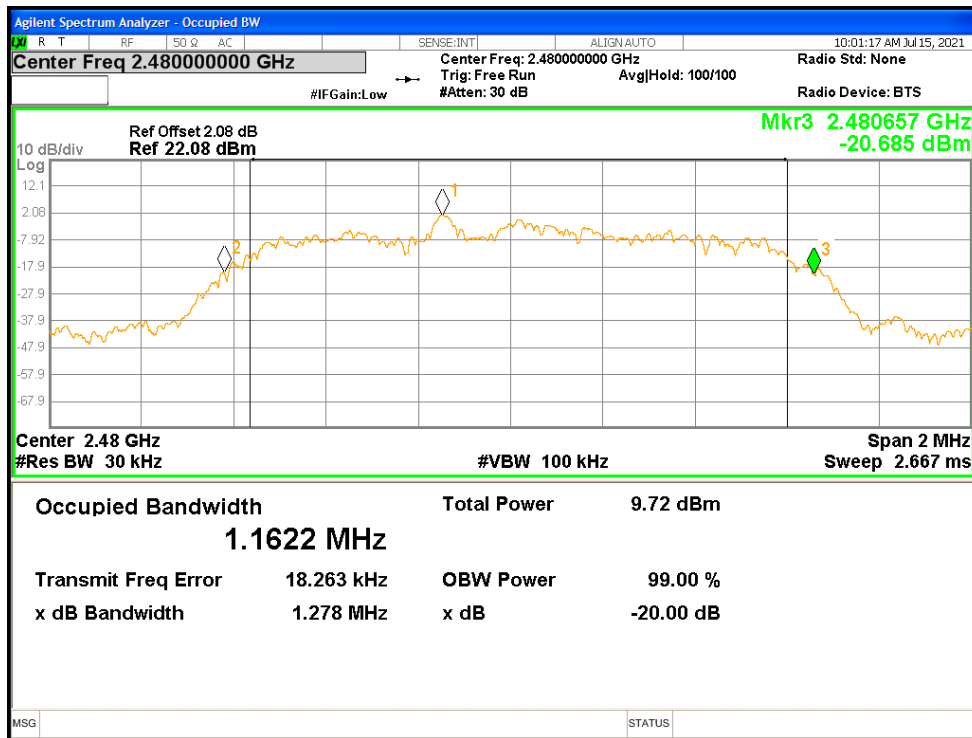


-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1

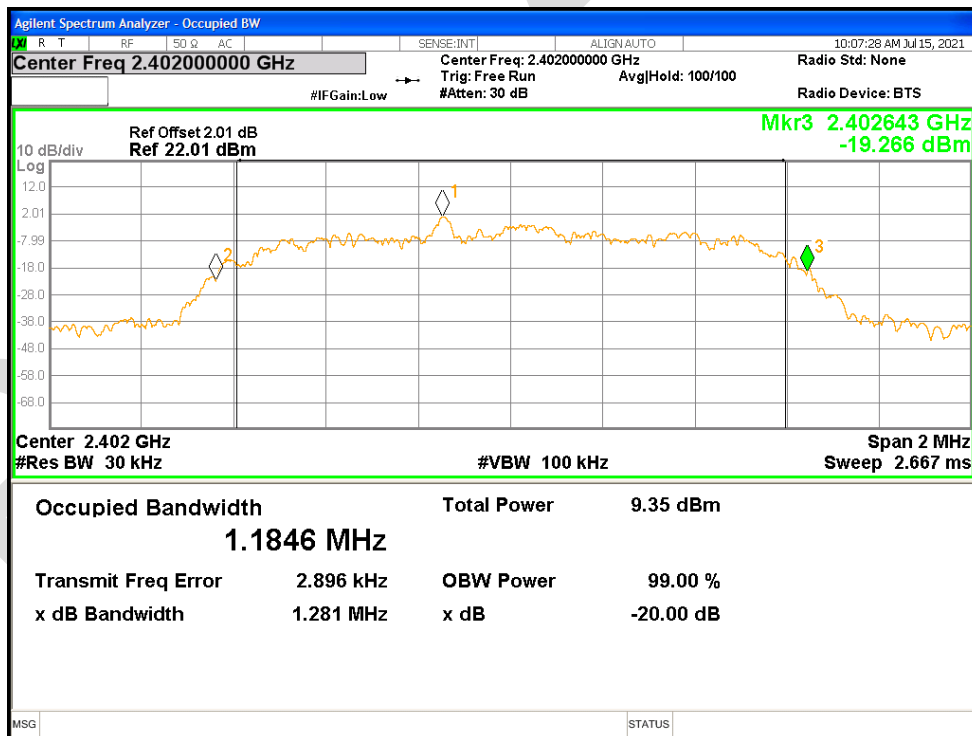


-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

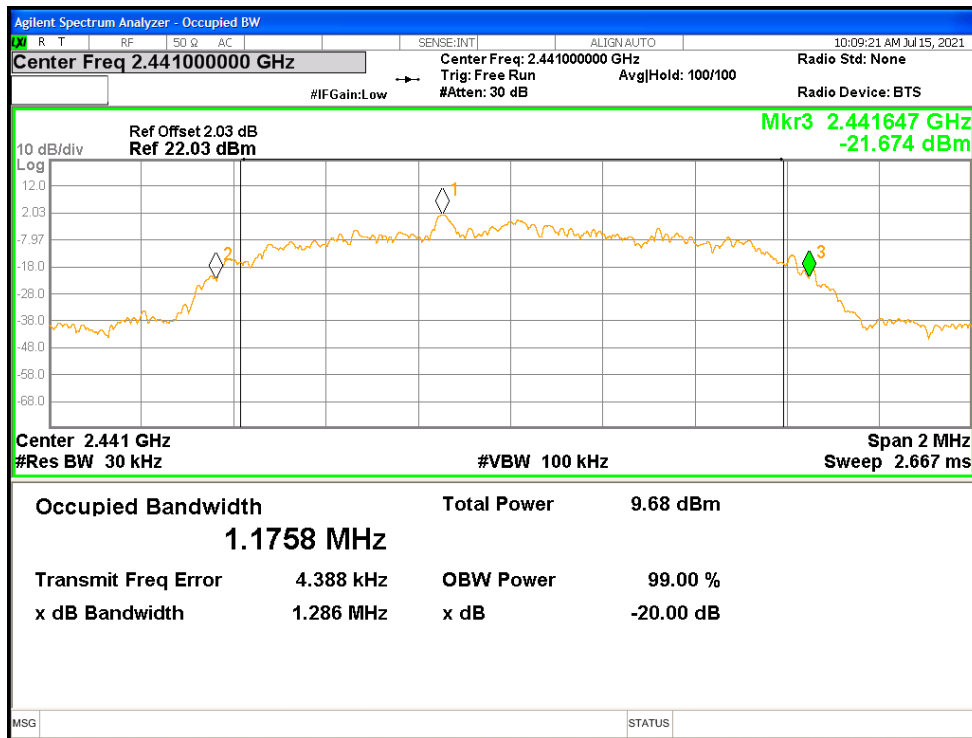




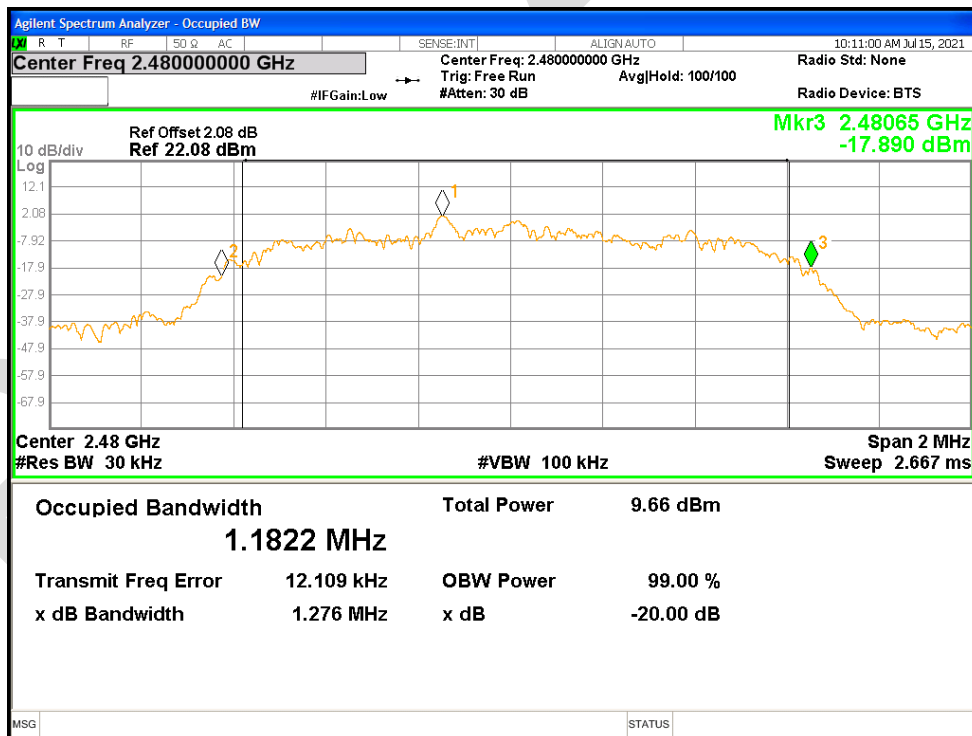
-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



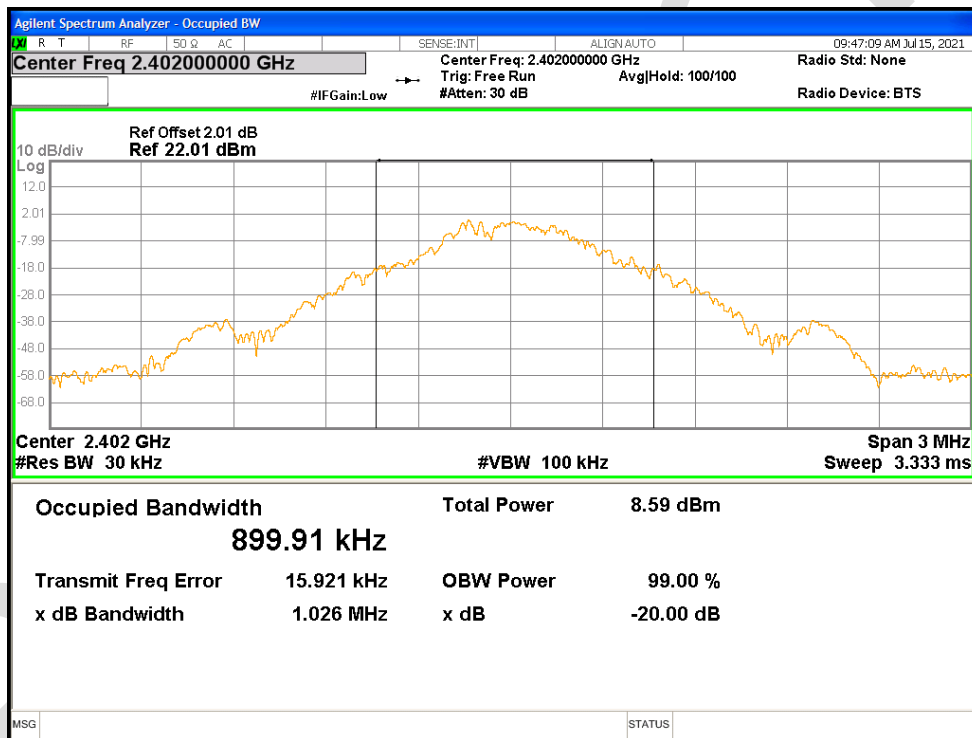
-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1



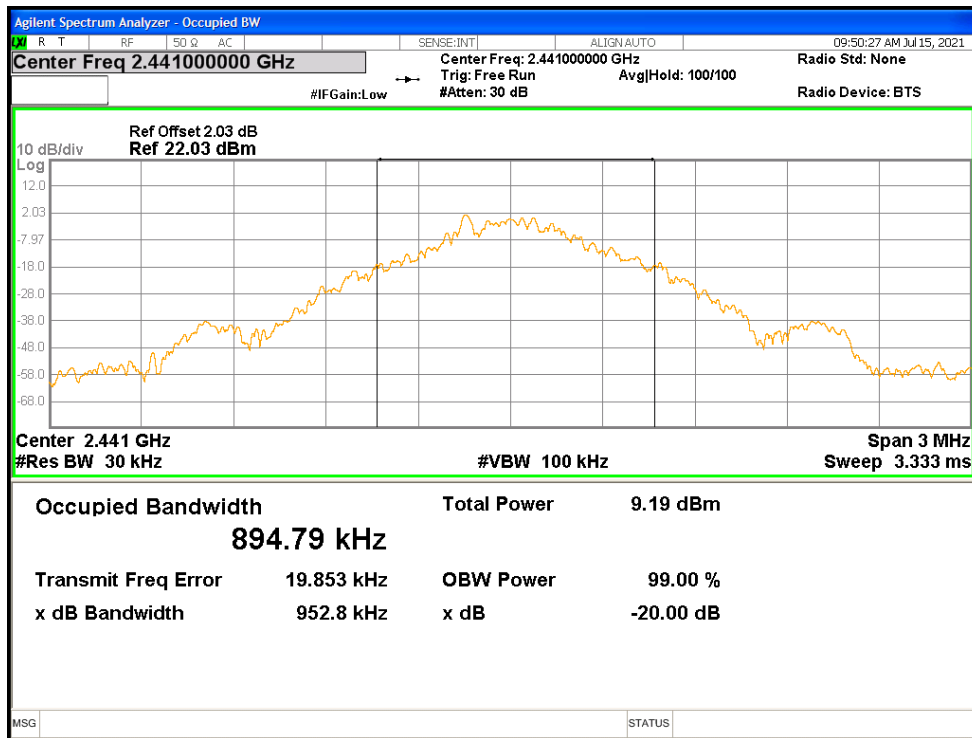
### 21.3 OCCUPIED CHANNEL BANDWIDTH

| Condition | Mode  | Frequency (MHz) | Antenna | 99% OBW (MHz) |
|-----------|-------|-----------------|---------|---------------|
| NVNT      | 1-DH1 | 2402            | Ant1    | 0.8999098818  |
| NVNT      | 1-DH1 | 2441            | Ant1    | 0.8947948802  |
| NVNT      | 1-DH1 | 2480            | Ant1    | 0.856461022   |
| NVNT      | 2-DH1 | 2402            | Ant1    | 1.159132993   |
| NVNT      | 2-DH1 | 2441            | Ant1    | 1.168105467   |
| NVNT      | 2-DH1 | 2480            | Ant1    | 1.177065631   |
| NVNT      | 3-DH1 | 2402            | Ant1    | 1.168636034   |
| NVNT      | 3-DH1 | 2441            | Ant1    | 1.152680351   |
| NVNT      | 3-DH1 | 2480            | Ant1    | 1.163238772   |

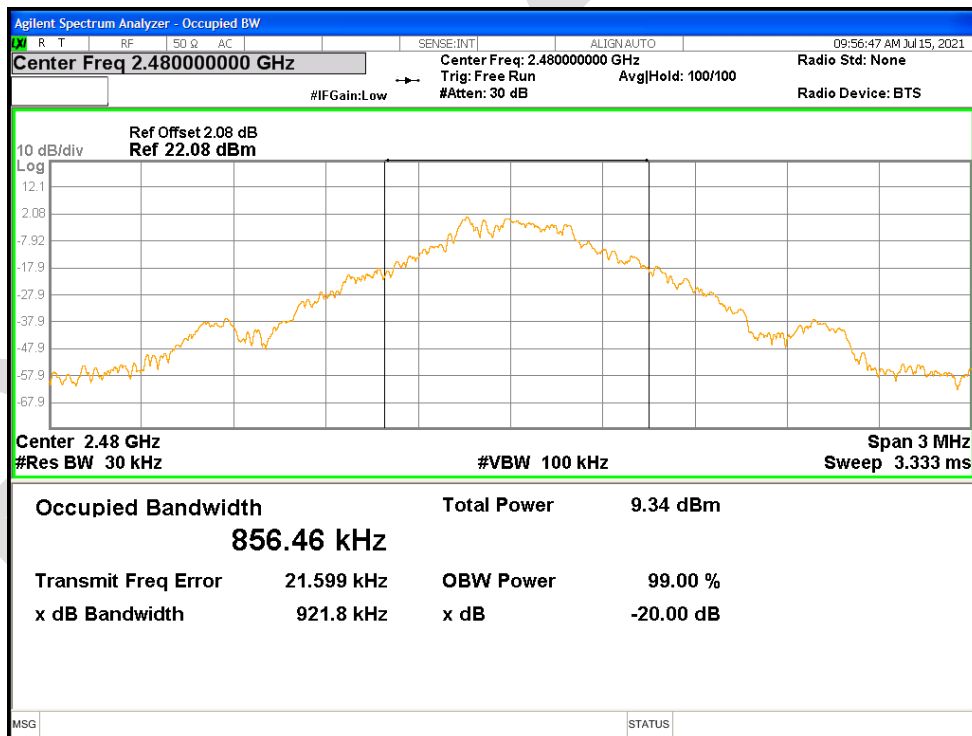
OBW NVNT 1-DH1 2402MHz Ant1



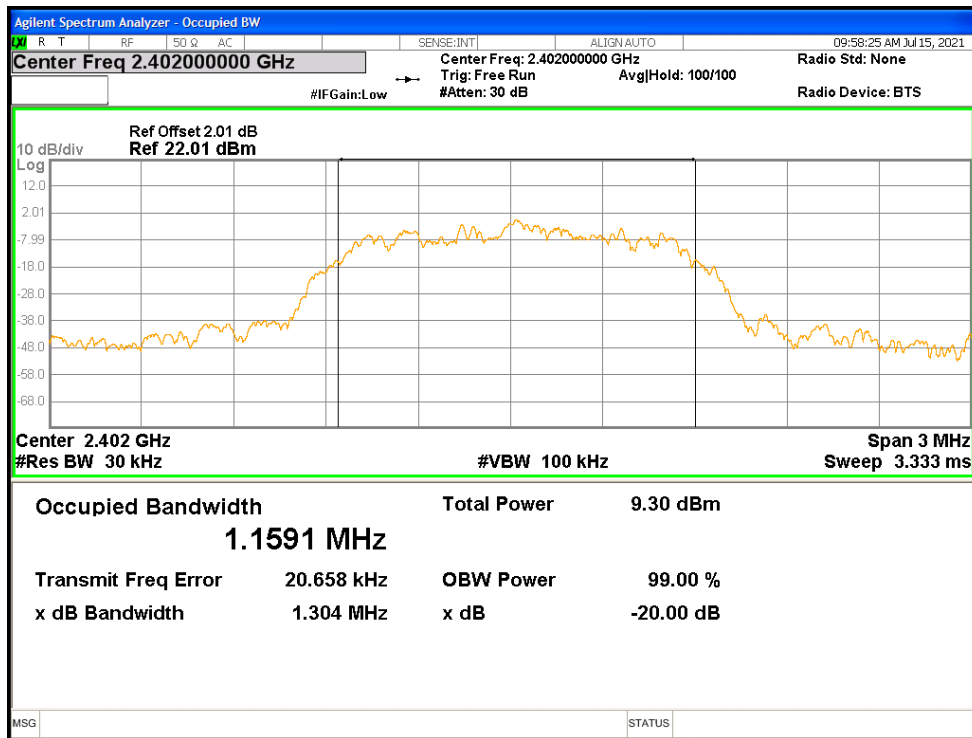
OBW NVNT 1-DH1 2441MHz Ant1



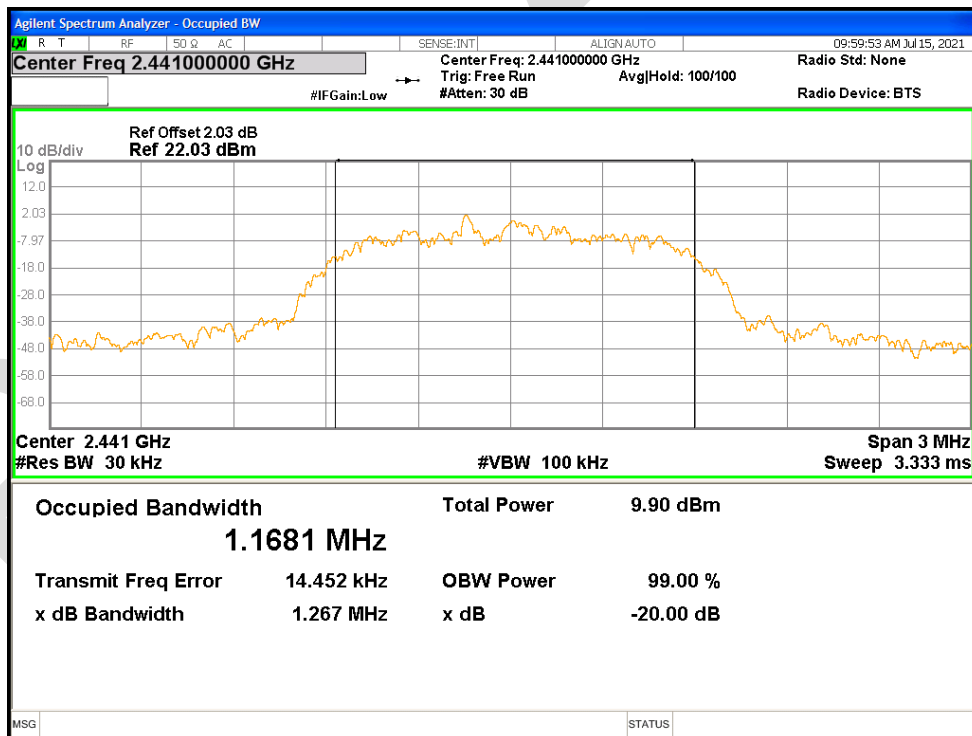
OBW NVNT 1-DH1 2480MHz Ant1



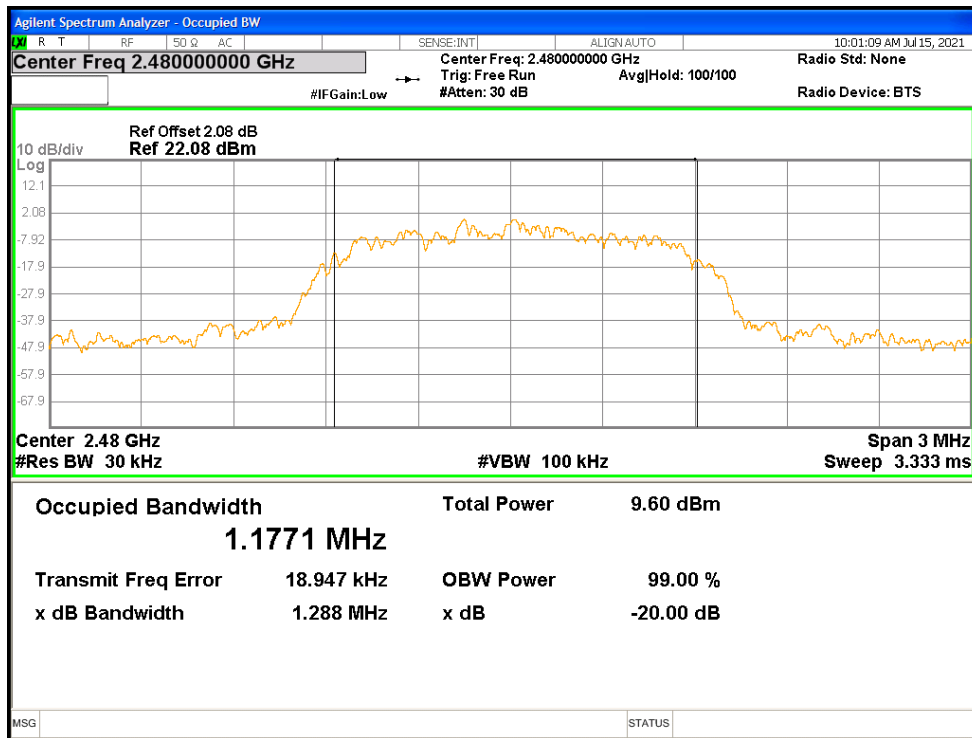
OBW NVNT 2-DH1 2402MHz Ant1



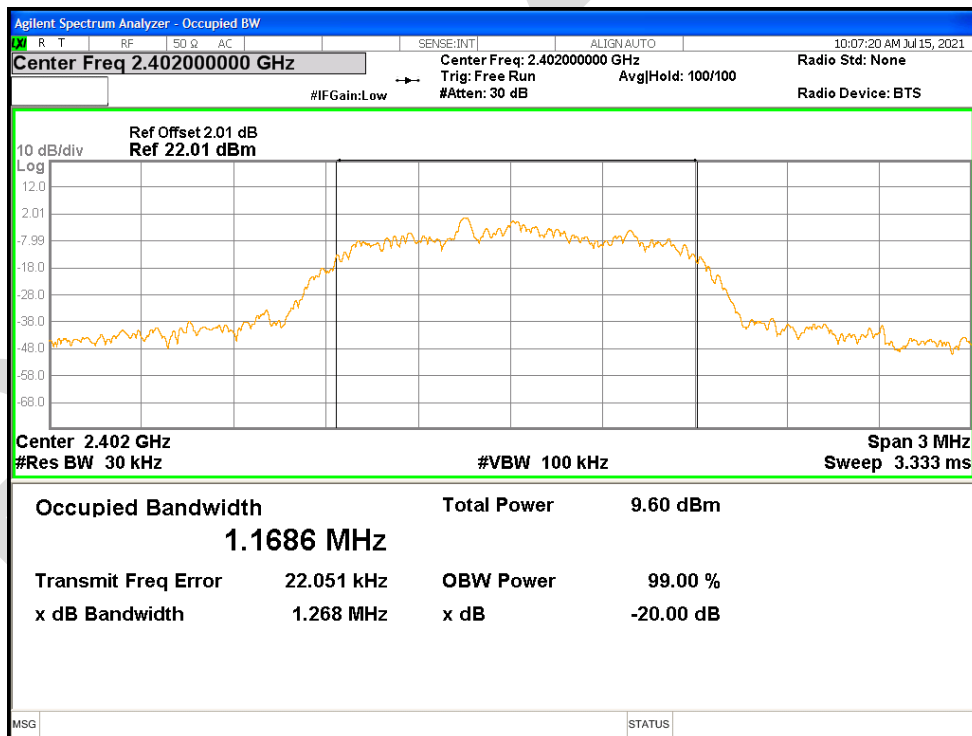
OBW NVNT 2-DH1 2441MHz Ant1



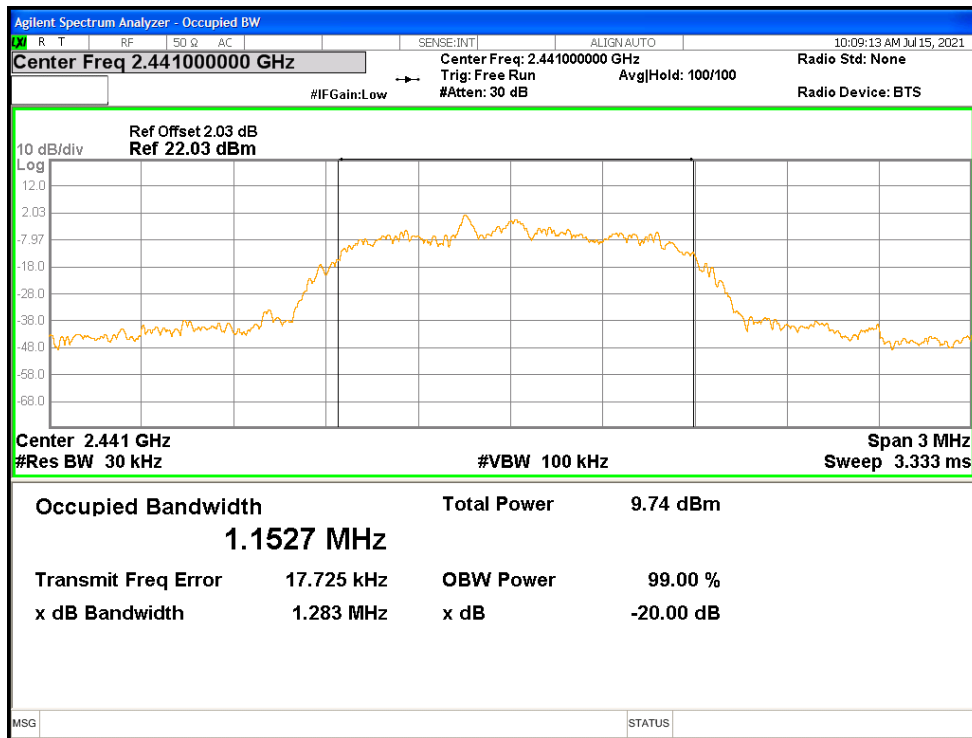
OBW NVNT 2-DH1 2480MHz Ant1



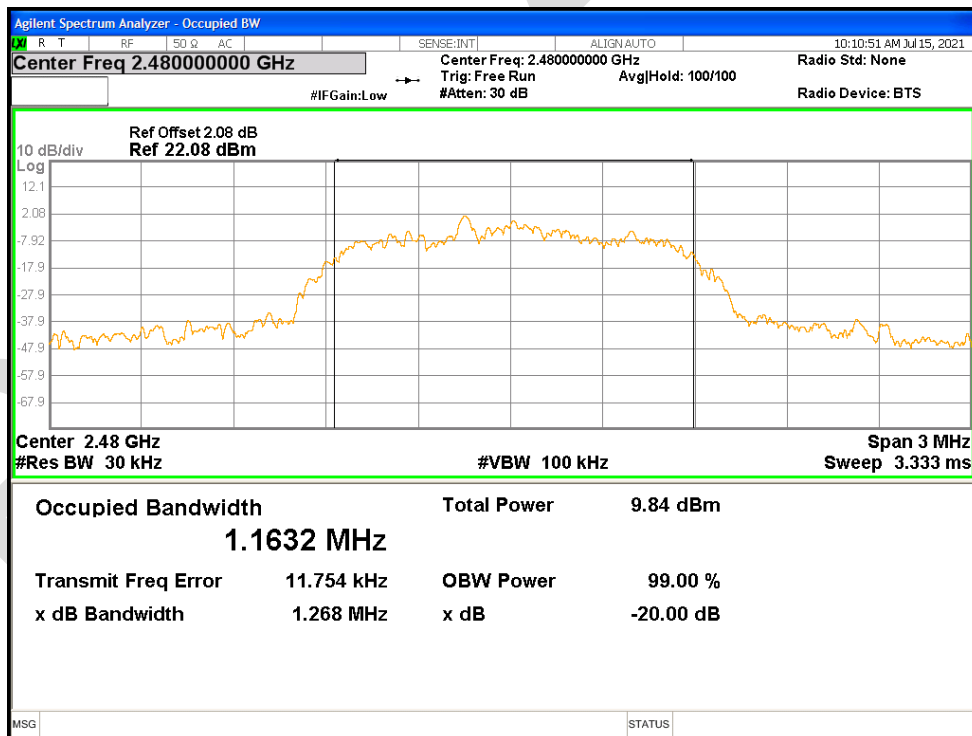
OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



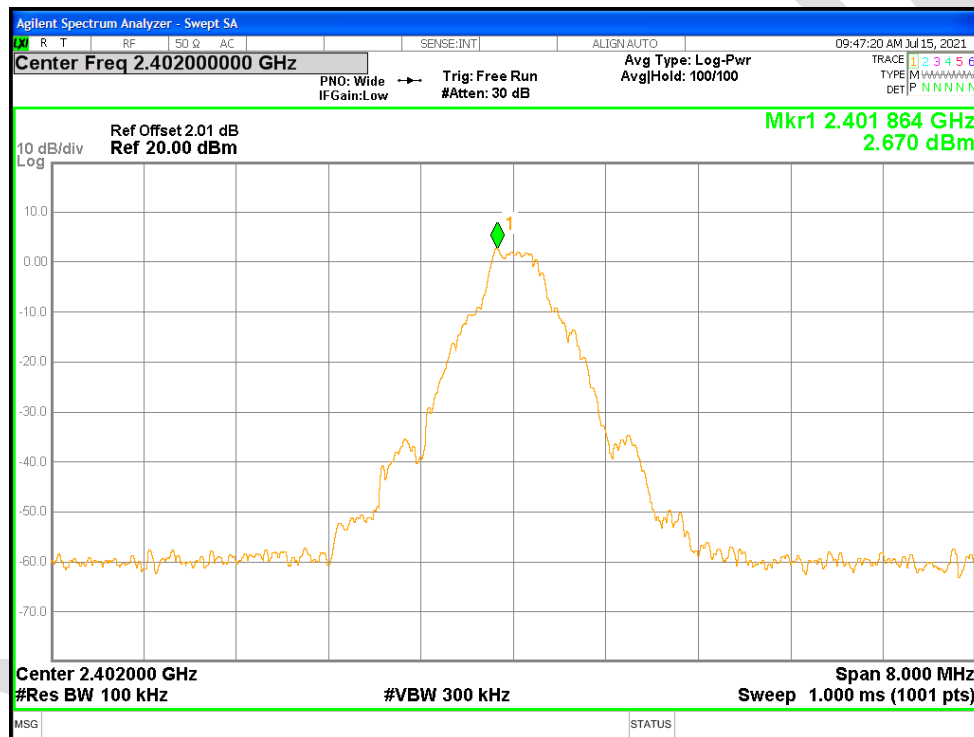
OBW NVNT 3-DH1 2480MHz Ant1



### 21.4 BAND EDGE

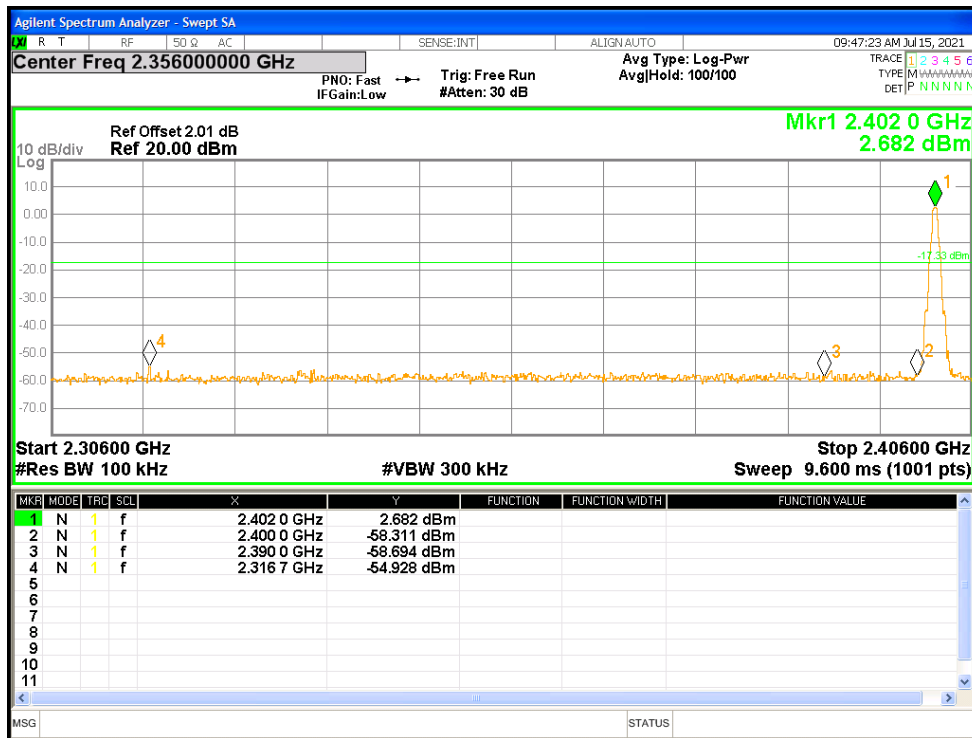
| Condition | Mode  | Frequency (MHz) | Antenna | Hopping Mode | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|-------|-----------------|---------|--------------|-----------------|-------------|---------|
| NVNT      | 1-DH1 | 2402            | Ant1    | No-Hopping   | -57.59          | -20         | Pass    |
| NVNT      | 1-DH1 | 2480            | Ant1    | No-Hopping   | -57.98          | -20         | Pass    |
| NVNT      | 2-DH1 | 2402            | Ant1    | No-Hopping   | -57.74          | -20         | Pass    |
| NVNT      | 2-DH1 | 2480            | Ant1    | No-Hopping   | -56.81          | -20         | Pass    |
| NVNT      | 3-DH1 | 2402            | Ant1    | No-Hopping   | -56.94          | -20         | Pass    |
| NVNT      | 3-DH1 | 2480            | Ant1    | No-Hopping   | -56.39          | -20         | Pass    |

Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref

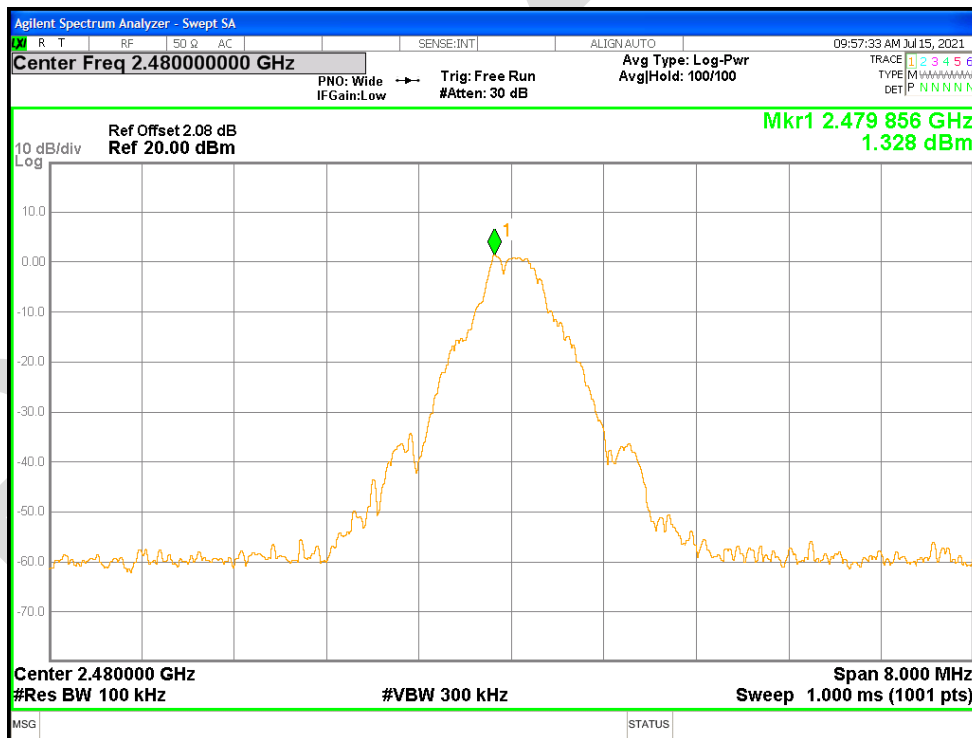


Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission

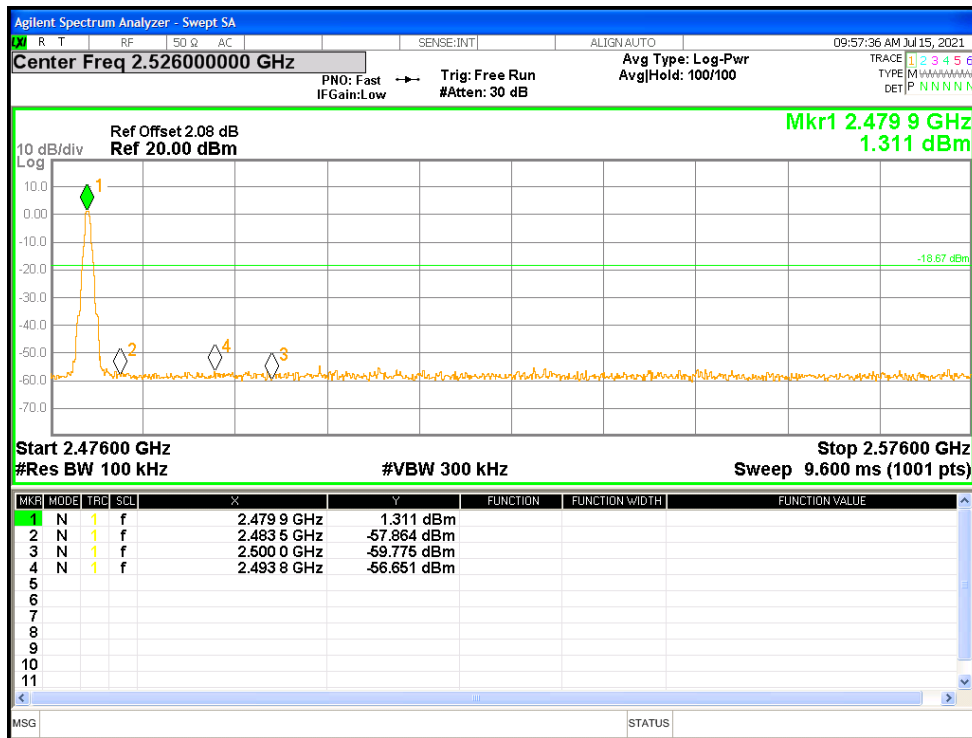




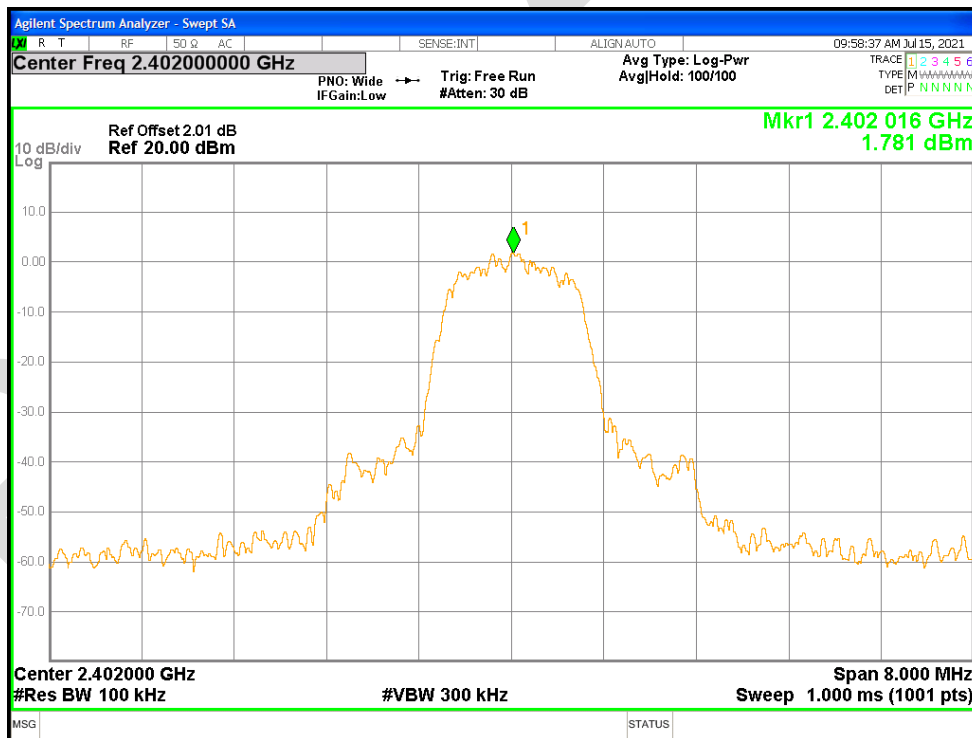
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



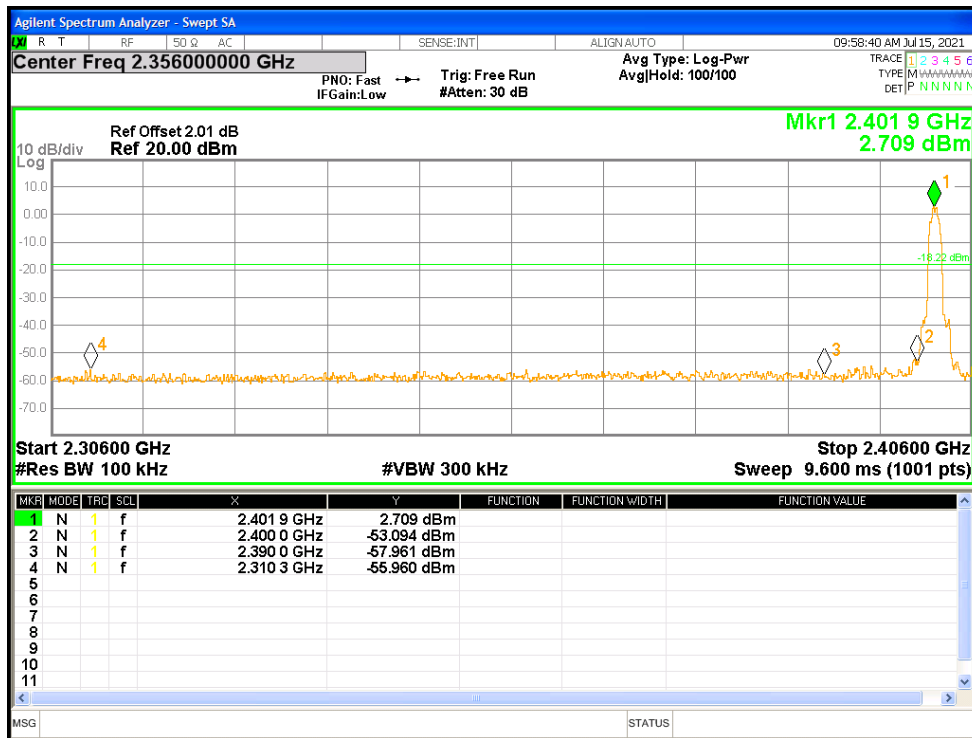
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



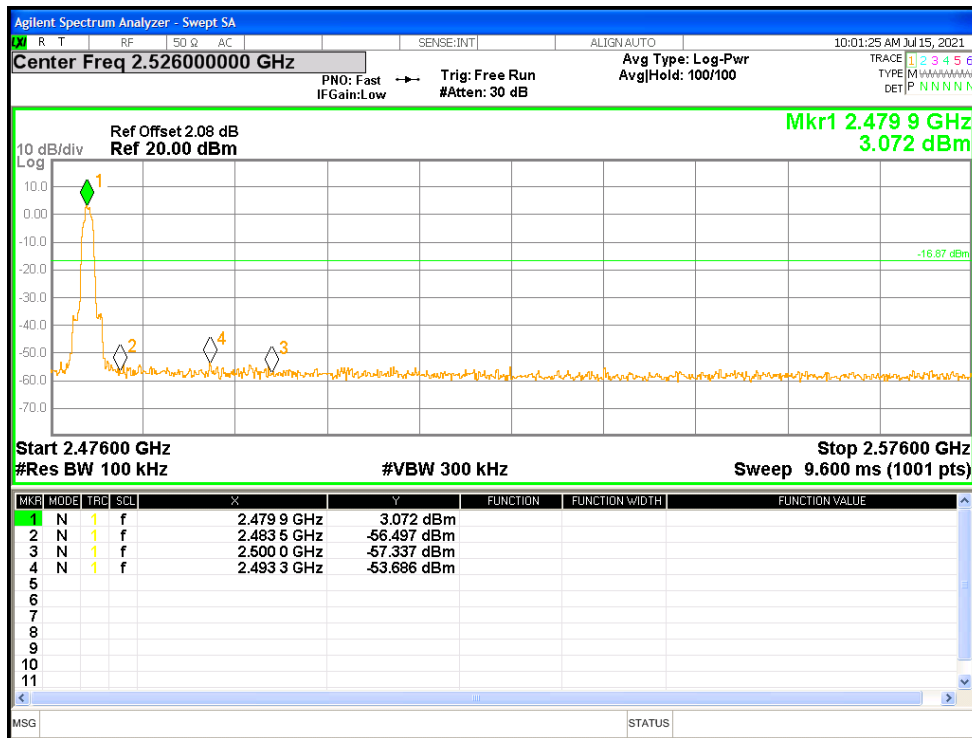
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



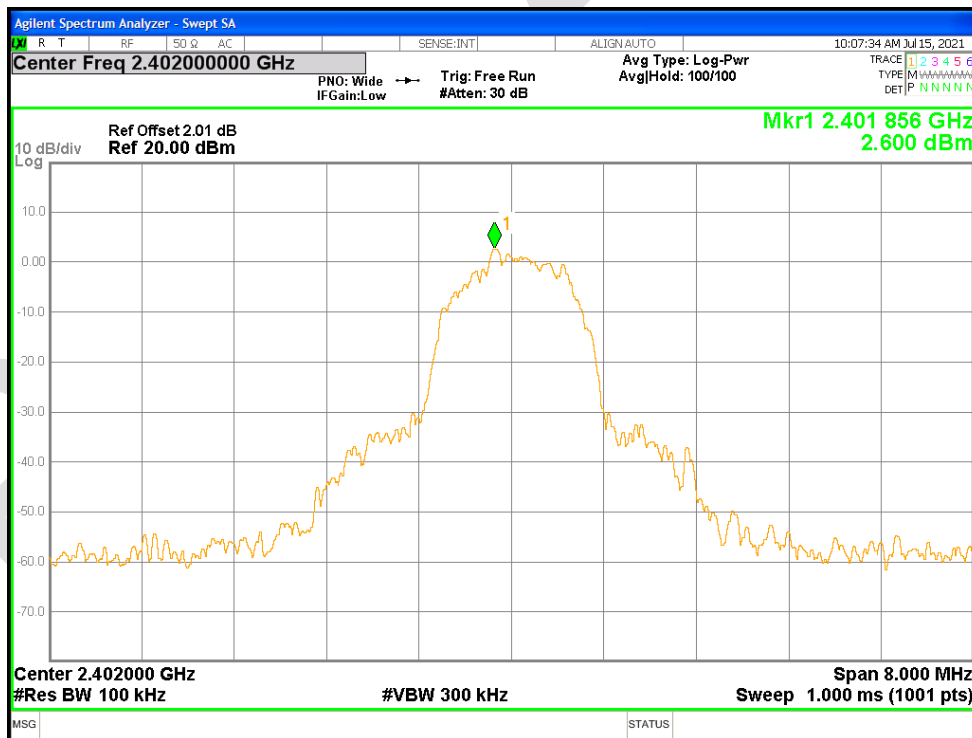
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



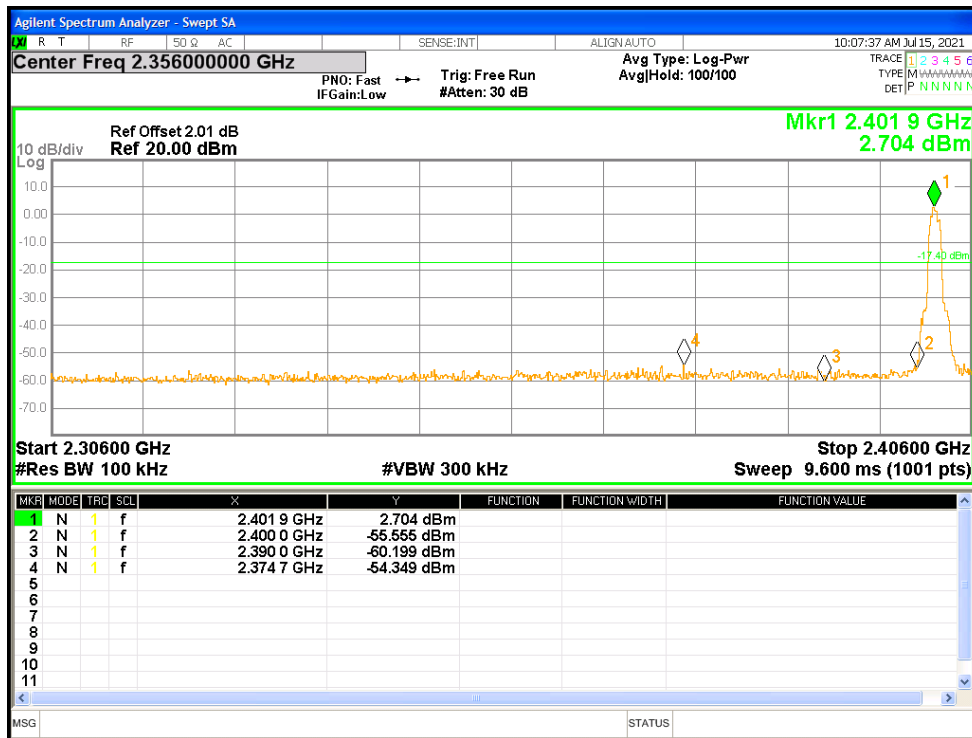
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



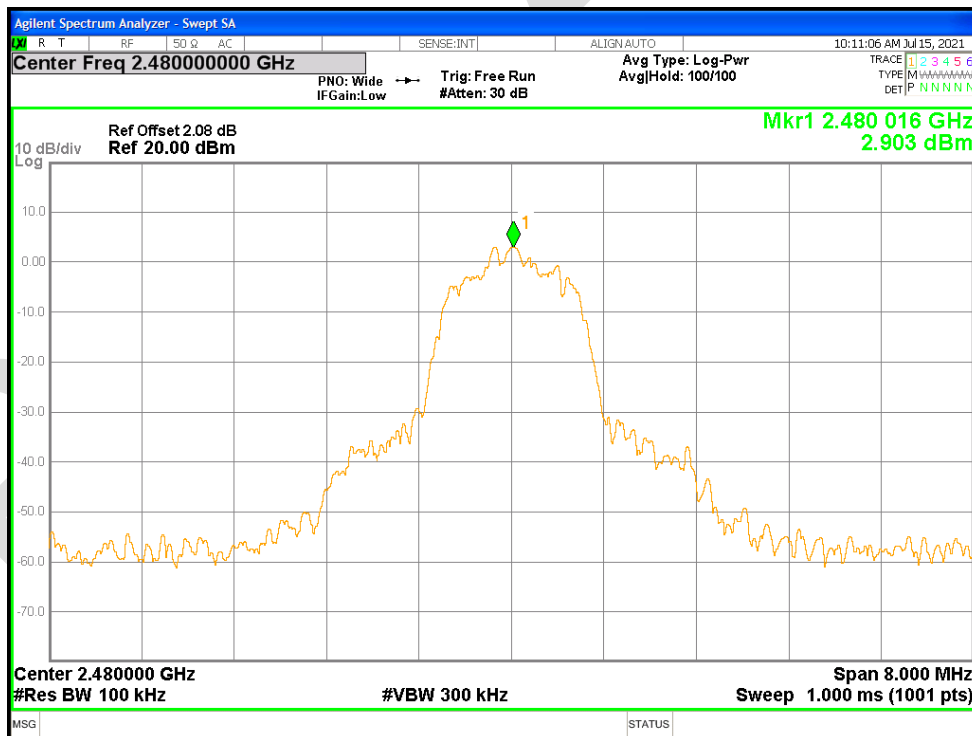
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



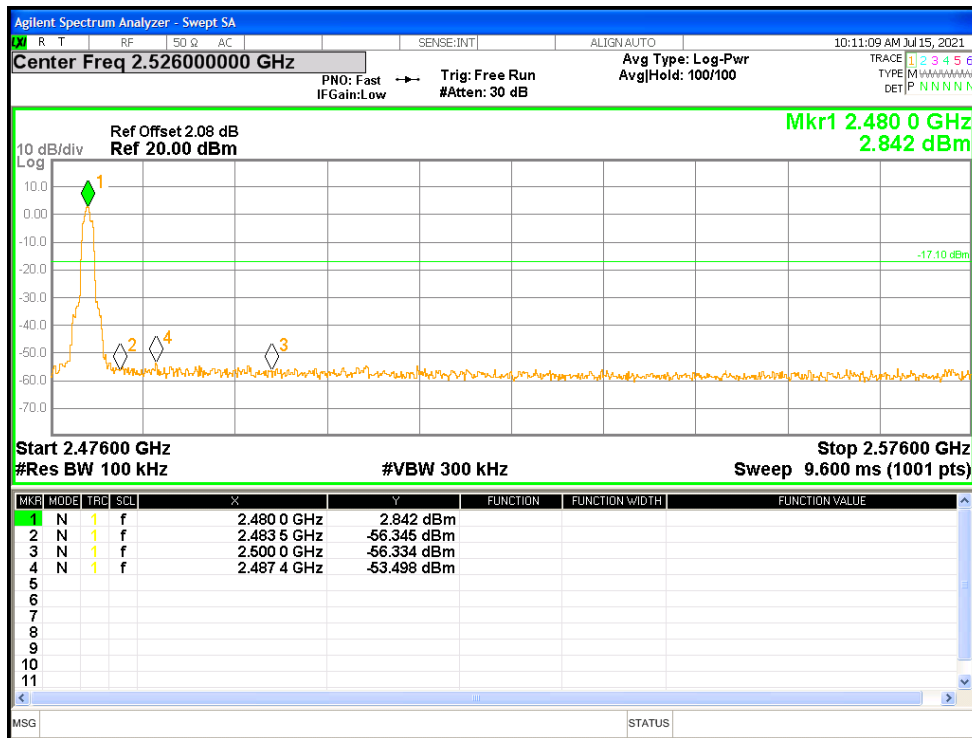
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



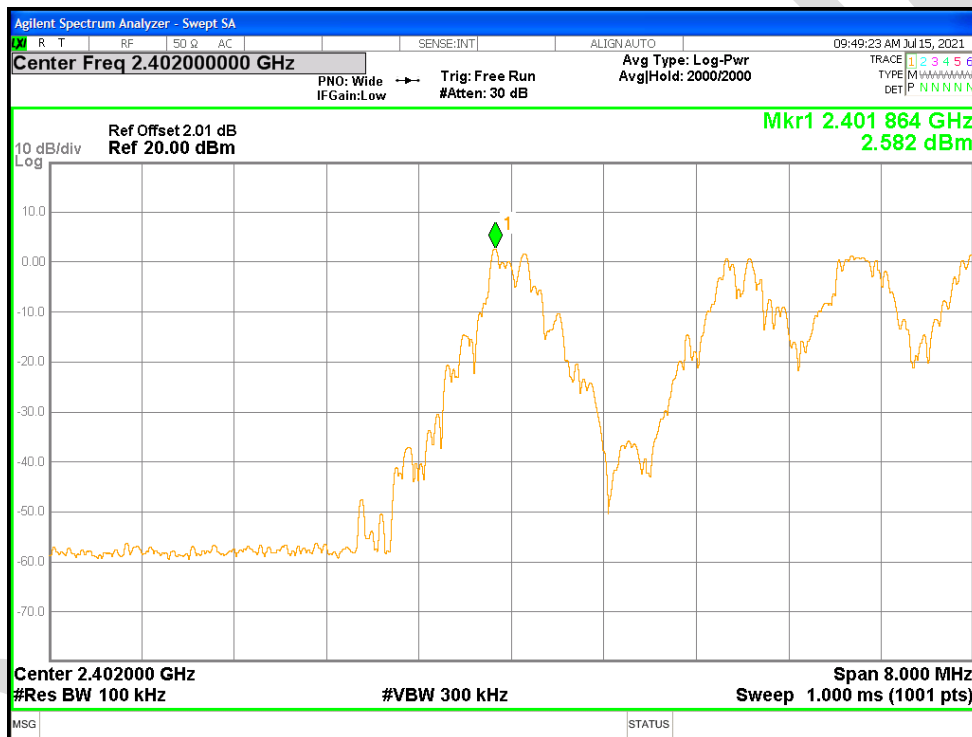
Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Emission



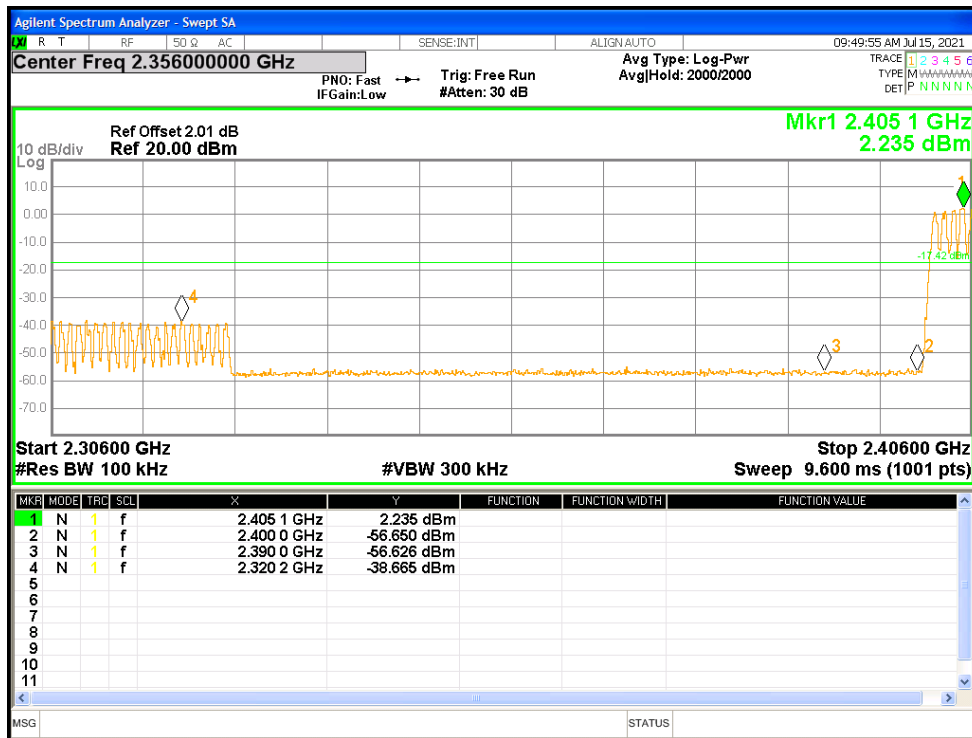
### 21.5 BAND EDGE(HOPPING)

| Condition | Mode  | Frequency (MHz) | Antenna | Hopping Mode | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|-------|-----------------|---------|--------------|-----------------|-------------|---------|
| NVNT      | 1-DH1 | 2402            | Ant1    | Hopping      | -41.24          | -20         | Pass    |
| NVNT      | 1-DH1 | 2480            | Ant1    | Hopping      | -56.69          | -20         | Pass    |
| NVNT      | 2-DH1 | 2402            | Ant1    | Hopping      | -50.4           | -20         | Pass    |
| NVNT      | 2-DH1 | 2480            | Ant1    | Hopping      | -55.61          | -20         | Pass    |
| NVNT      | 3-DH1 | 2402            | Ant1    | Hopping      | -52.42          | -20         | Pass    |
| NVNT      | 3-DH1 | 2480            | Ant1    | Hopping      | -53.97          | -20         | Pass    |

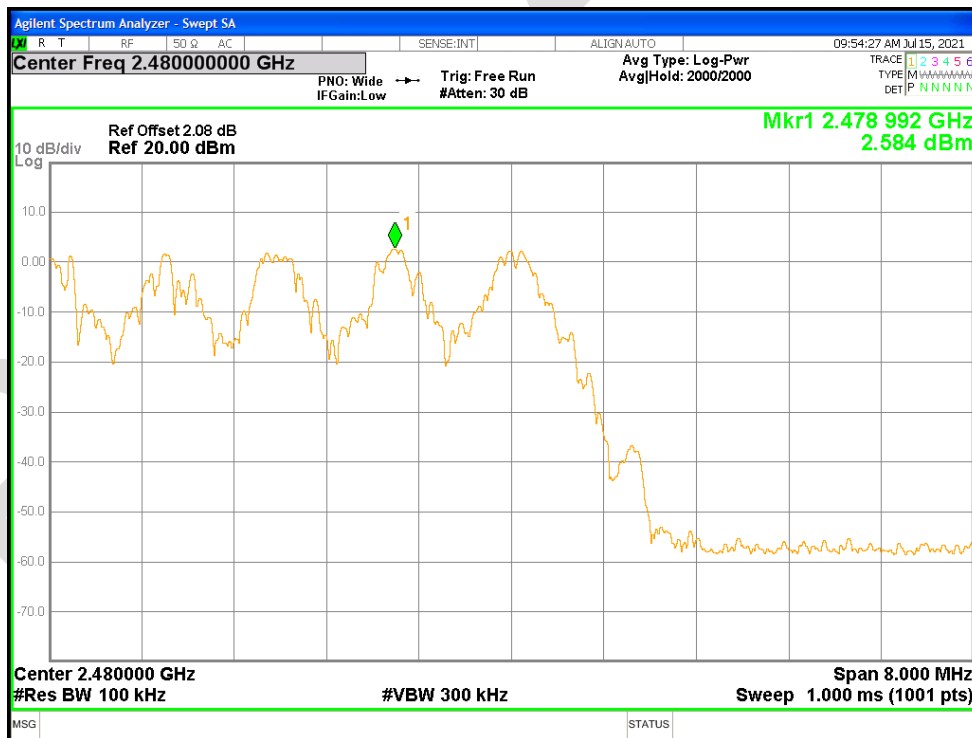
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission

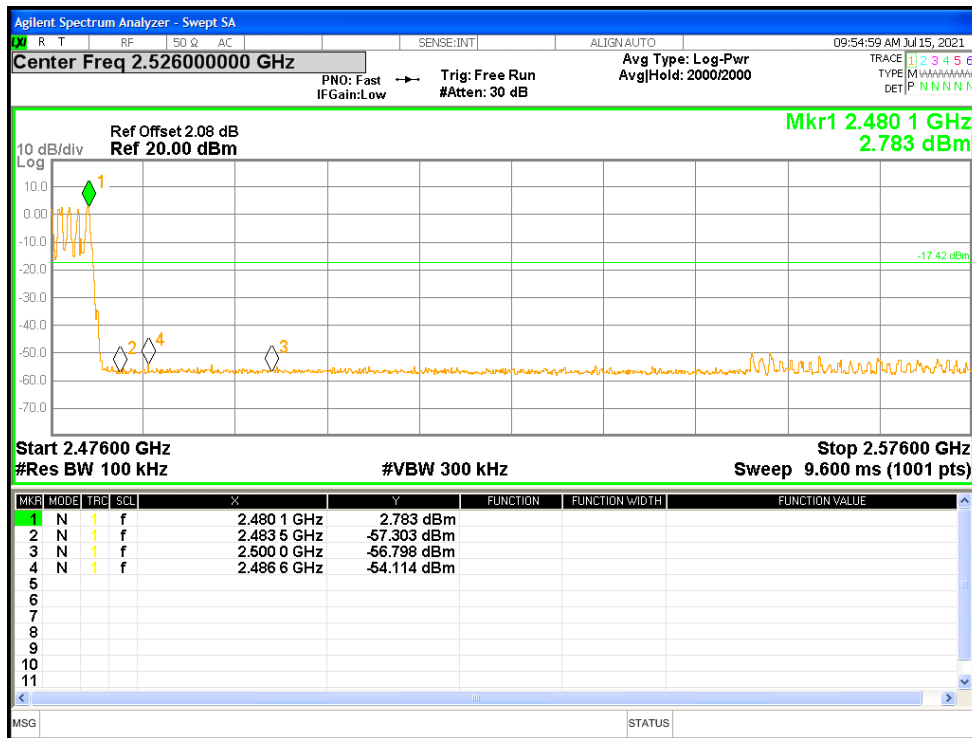


Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref

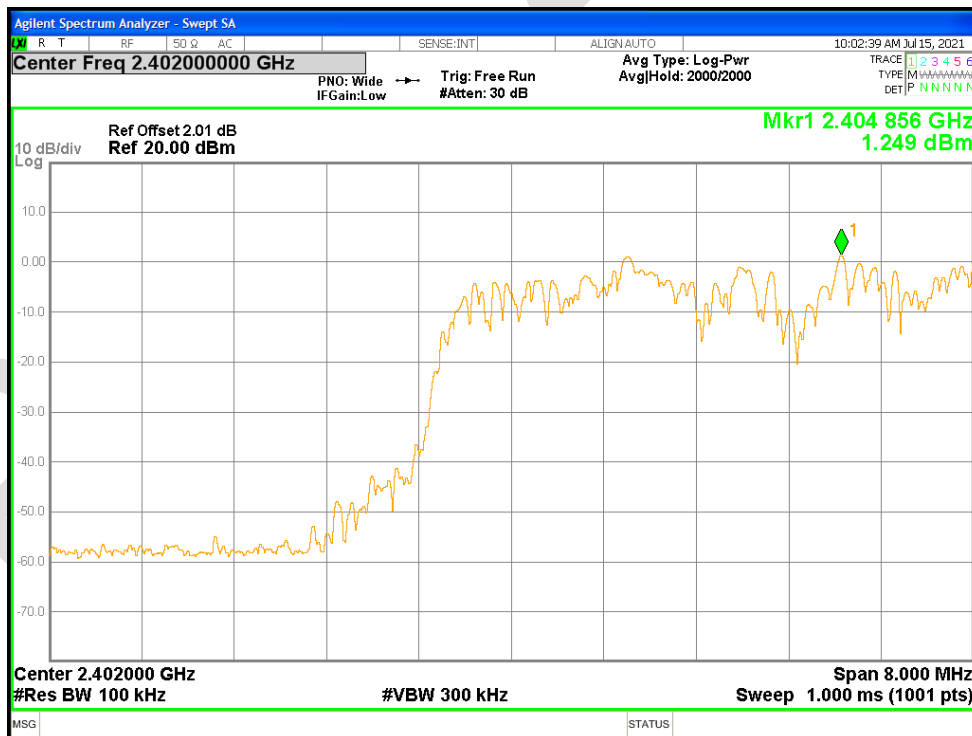


Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission

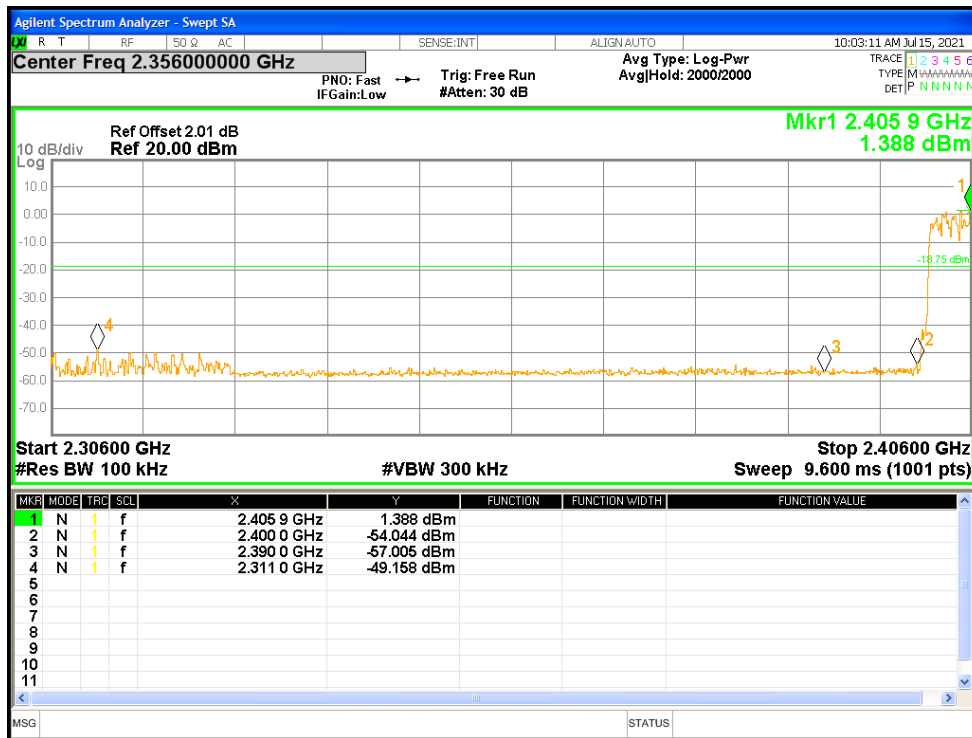




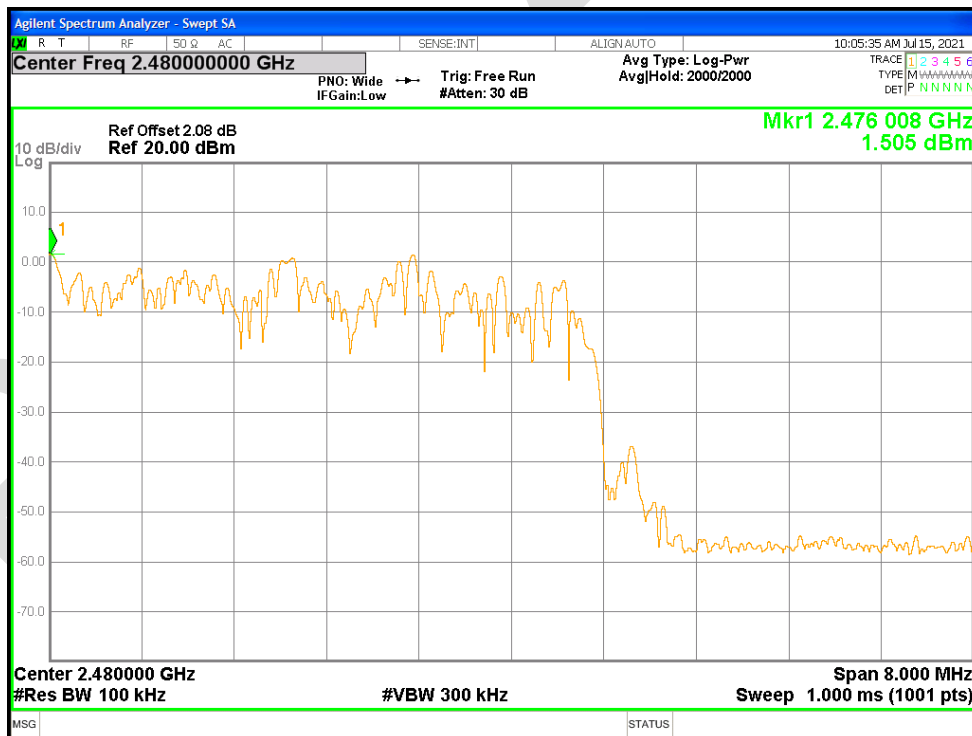
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



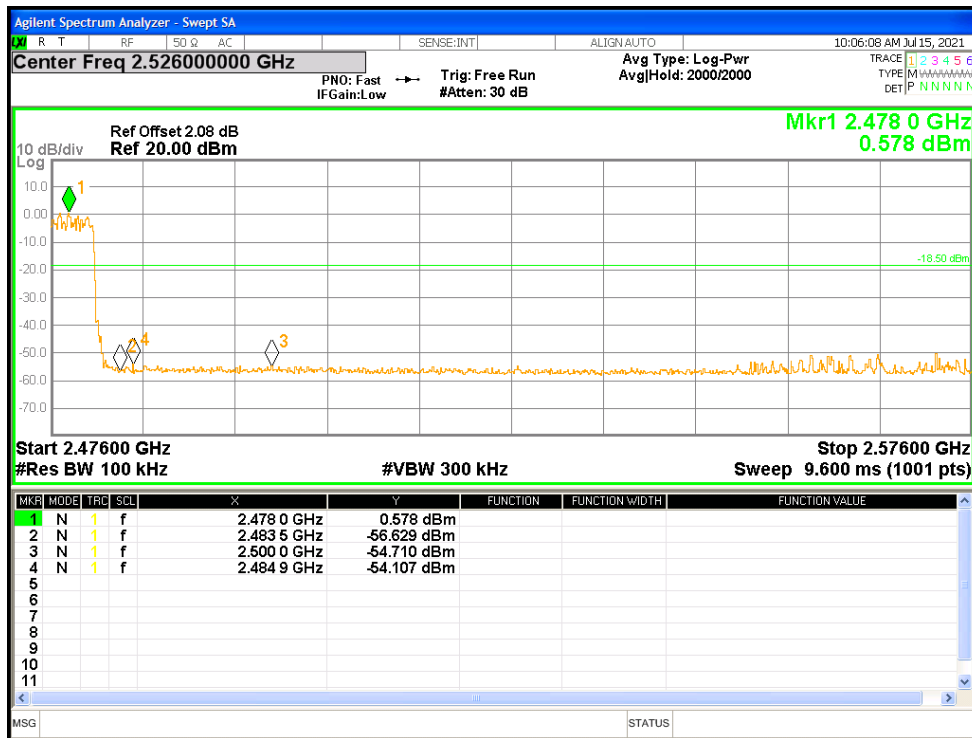
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



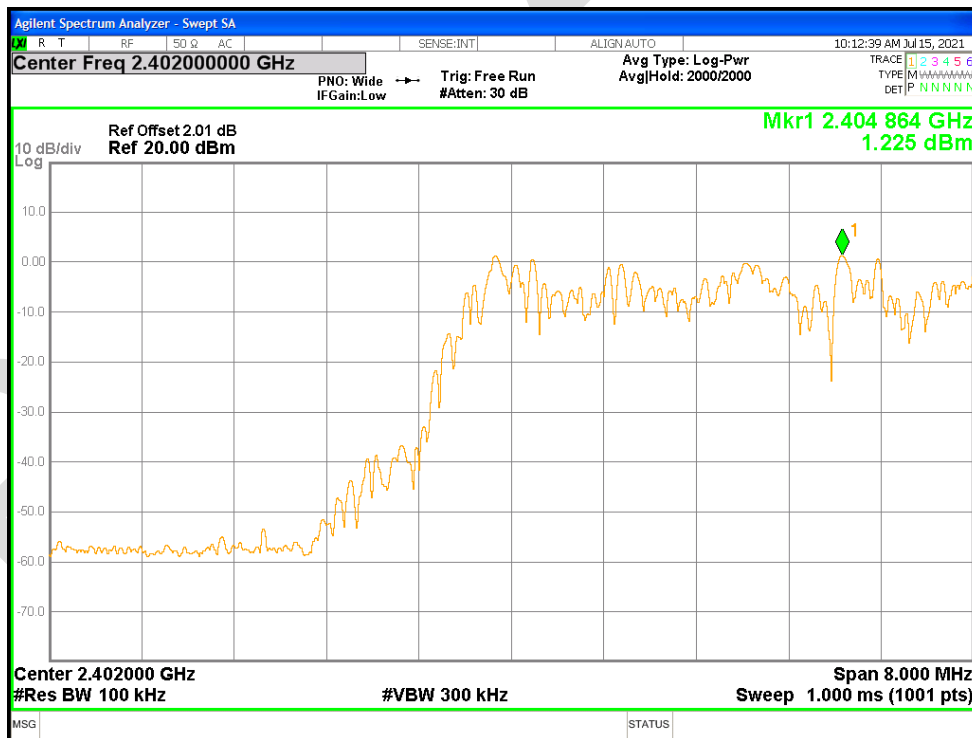
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



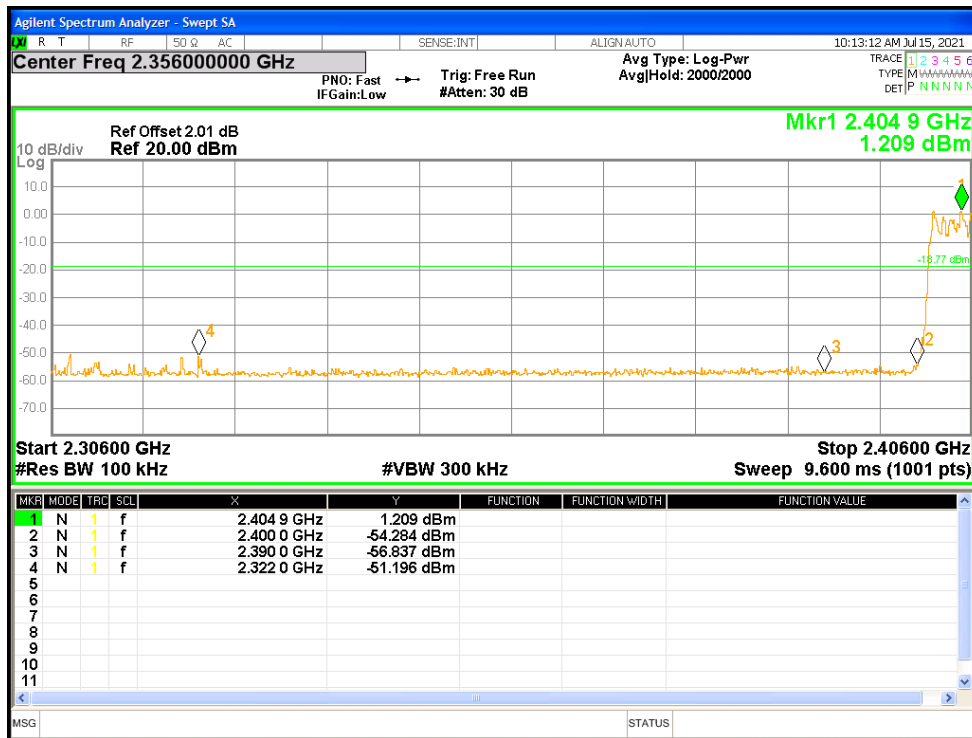
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



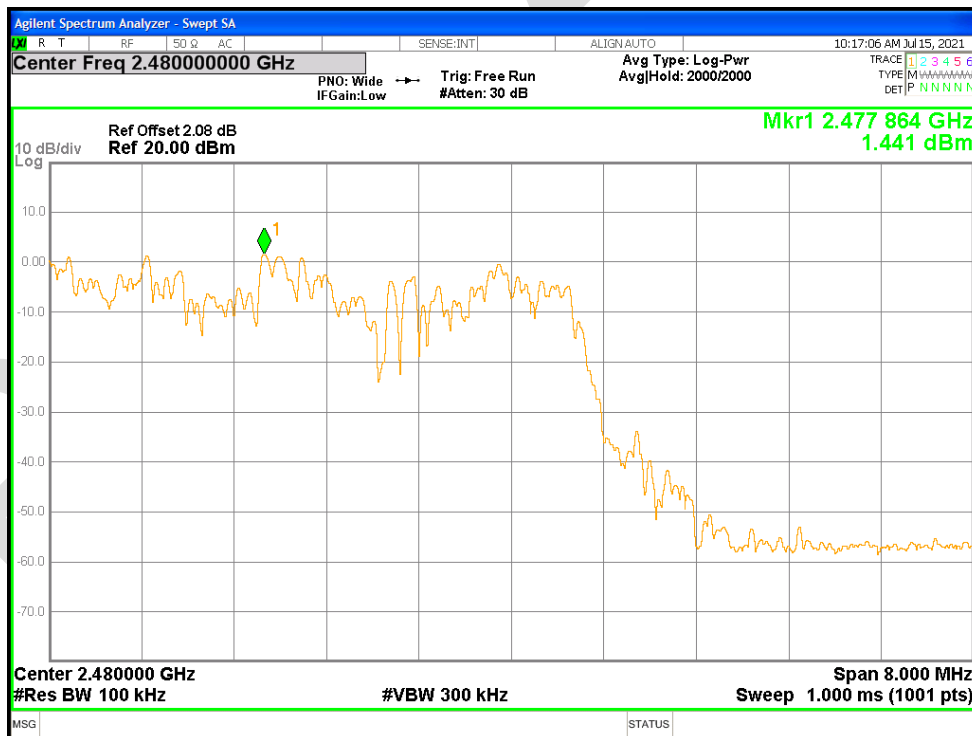
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



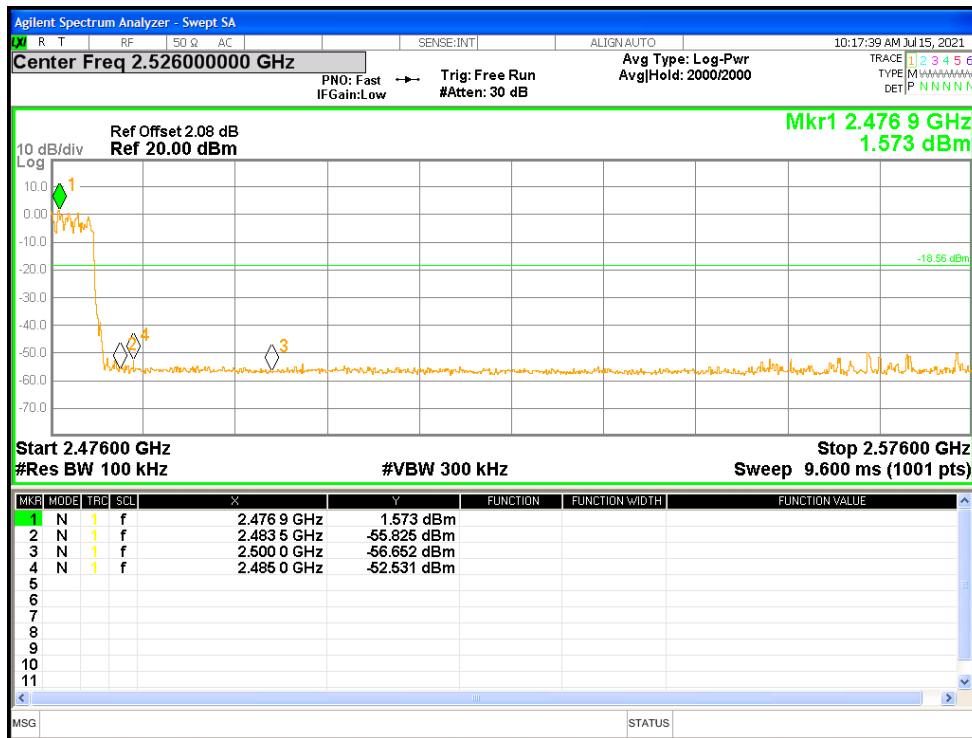
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref



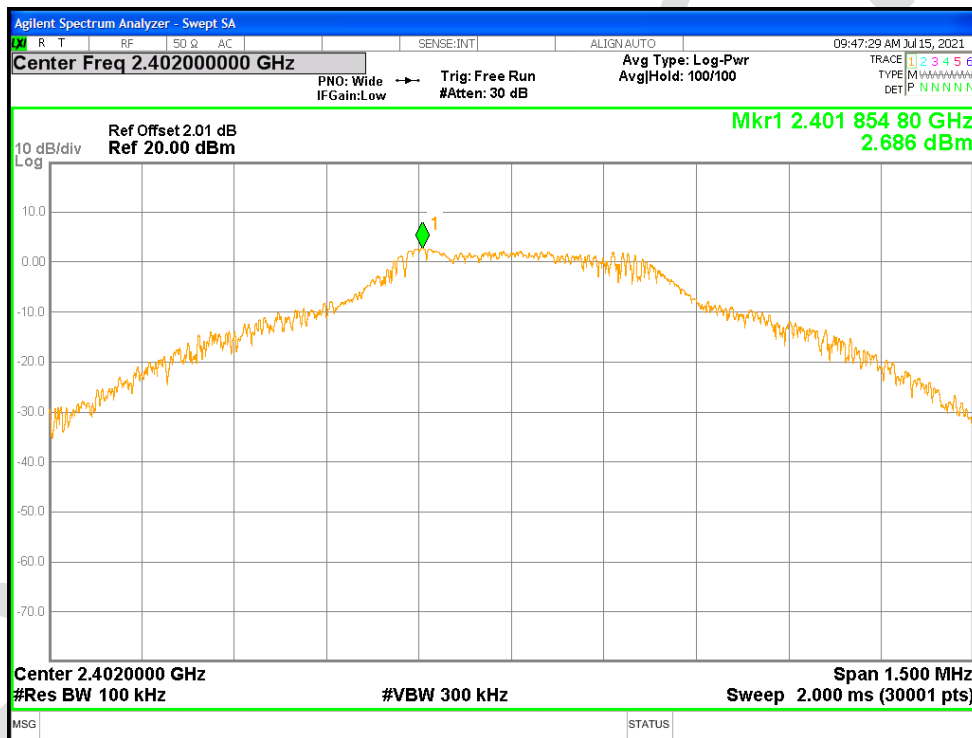
Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission



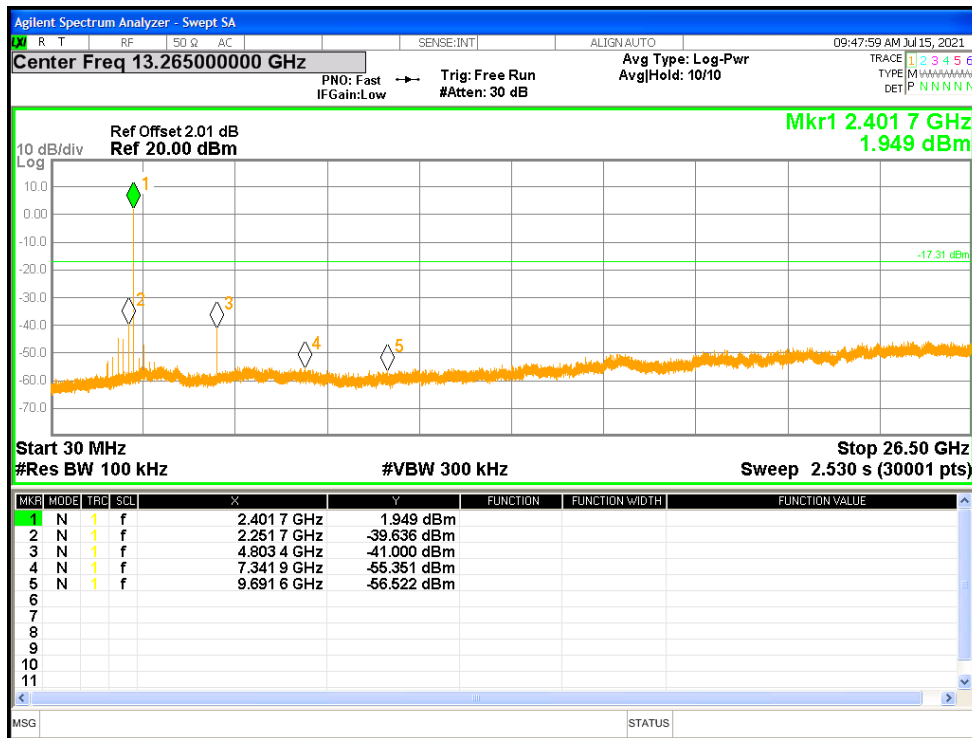
### 21.6 CONDUCTED RF SPURIOUS EMISSION

| Condition | Mode  | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|-------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | 1-DH1 | 2402            | Ant1    | -42.32          | -20         | Pass    |
| NVNT      | 1-DH1 | 2441            | Ant1    | -40.88          | -20         | Pass    |
| NVNT      | 1-DH1 | 2480            | Ant1    | -45.15          | -20         | Pass    |
| NVNT      | 2-DH1 | 2402            | Ant1    | -43.7           | -20         | Pass    |
| NVNT      | 2-DH1 | 2441            | Ant1    | -48.46          | -20         | Pass    |
| NVNT      | 2-DH1 | 2480            | Ant1    | -46.73          | -20         | Pass    |
| NVNT      | 3-DH1 | 2402            | Ant1    | -42.63          | -20         | Pass    |
| NVNT      | 3-DH1 | 2441            | Ant1    | -47.44          | -20         | Pass    |
| NVNT      | 3-DH1 | 2480            | Ant1    | -43.14          | -20         | Pass    |

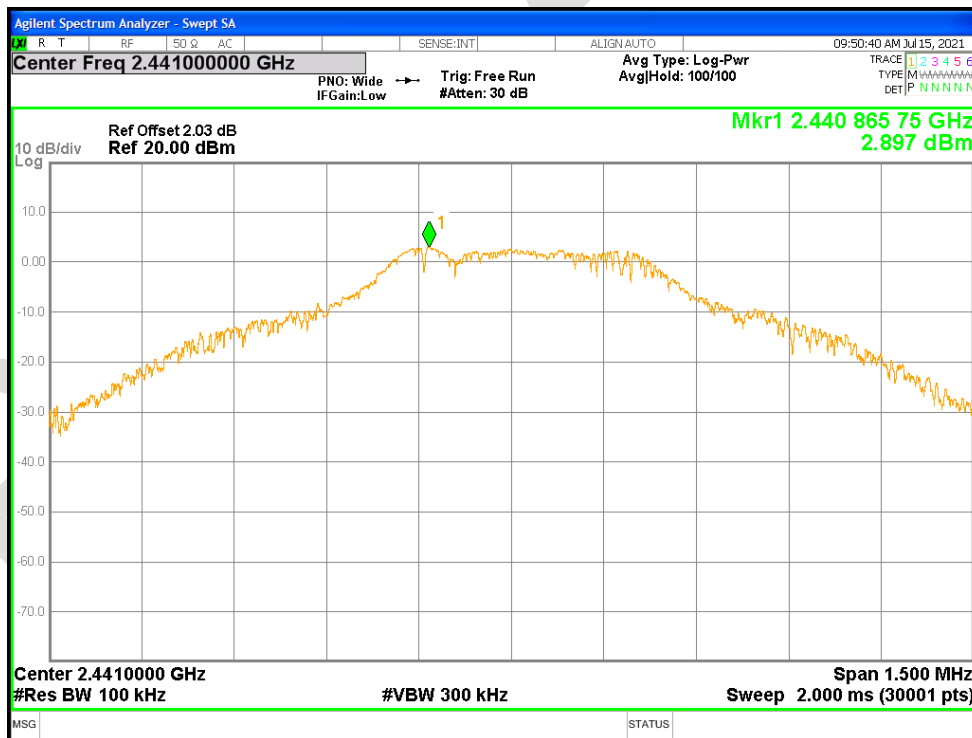
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



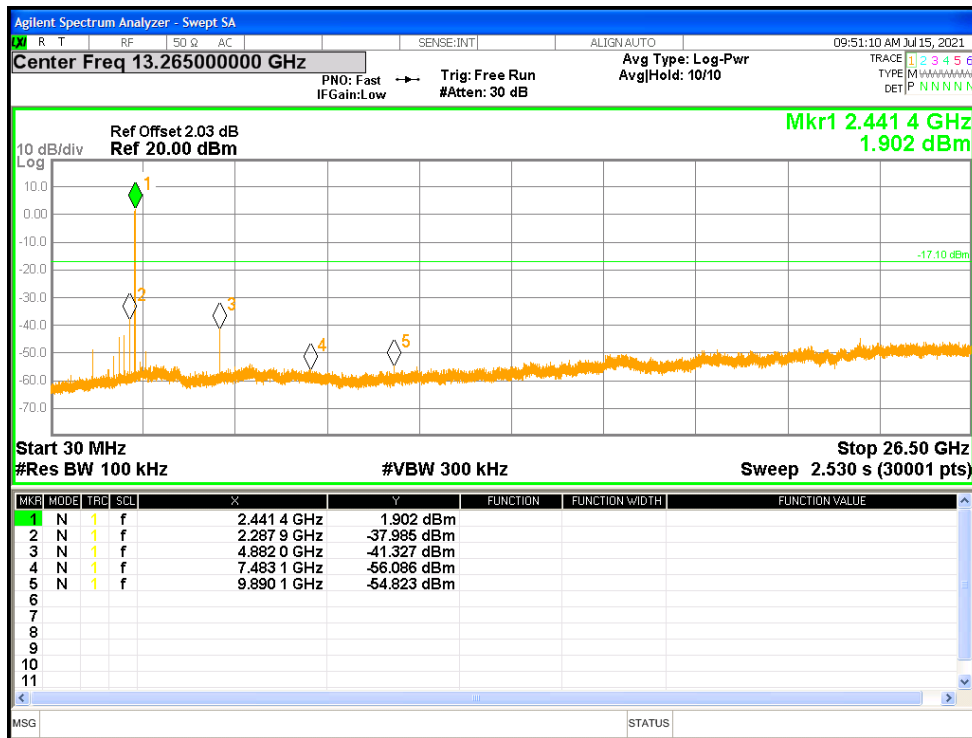
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



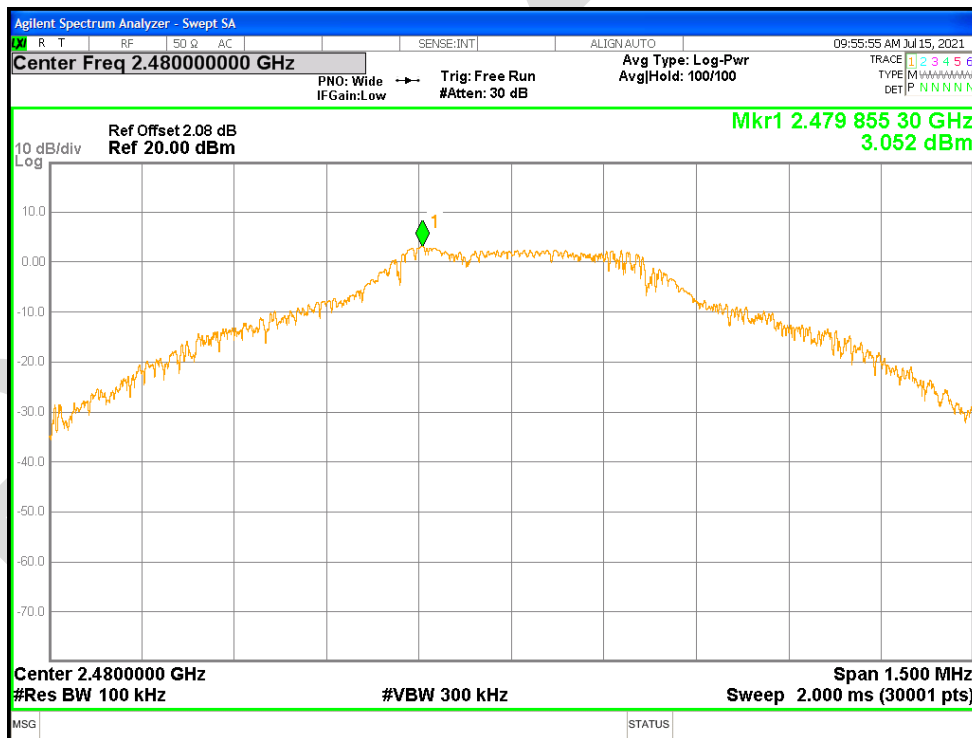
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission

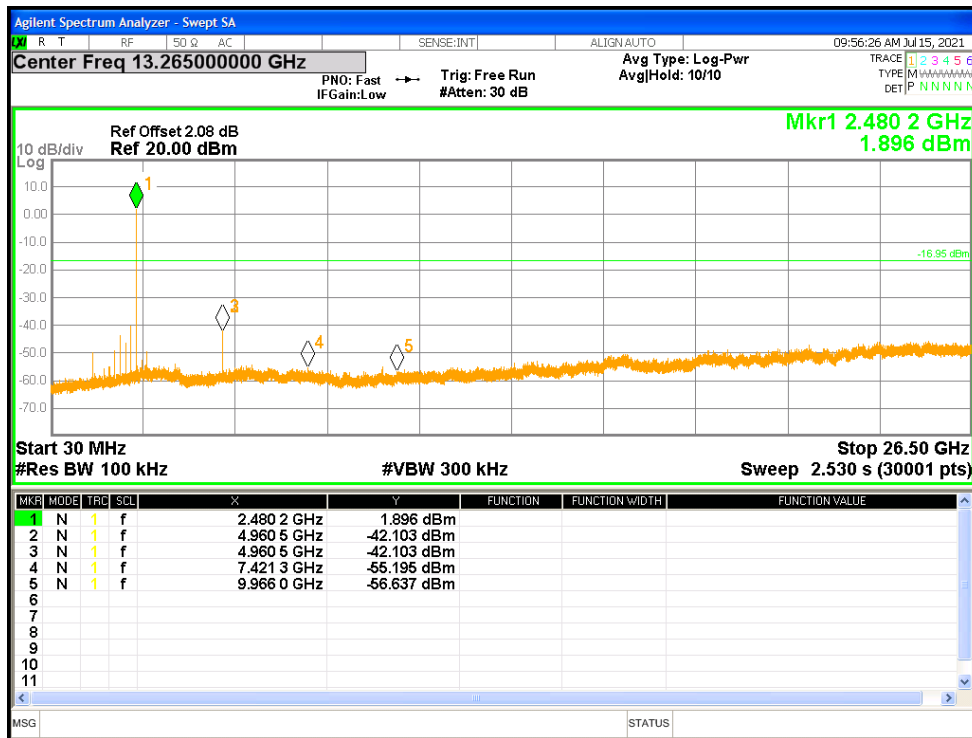


Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref

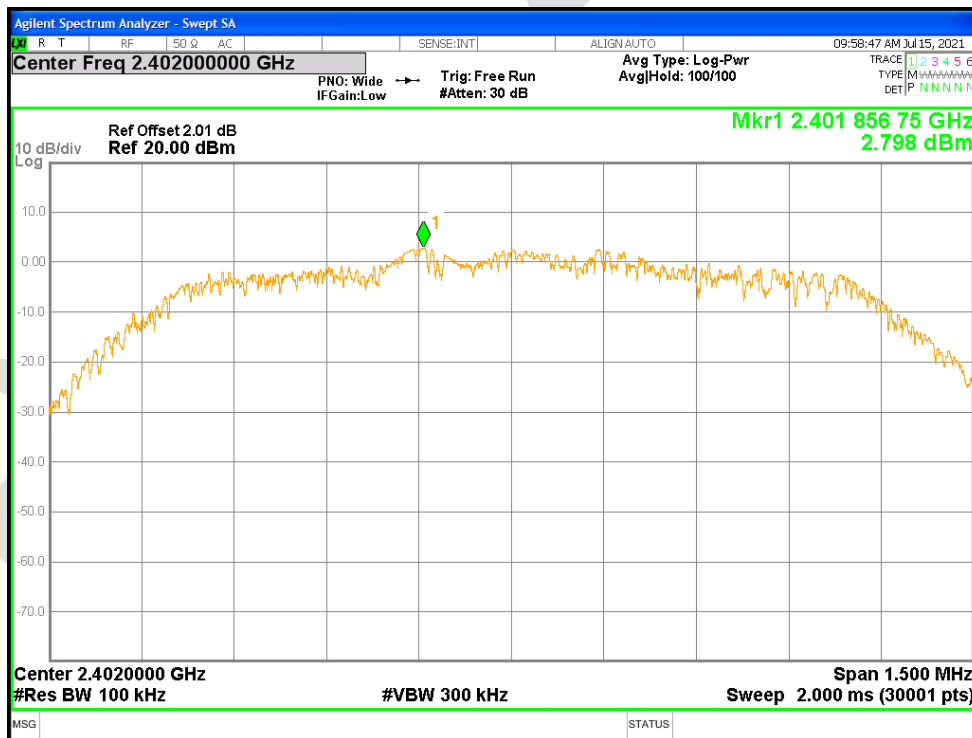


Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission

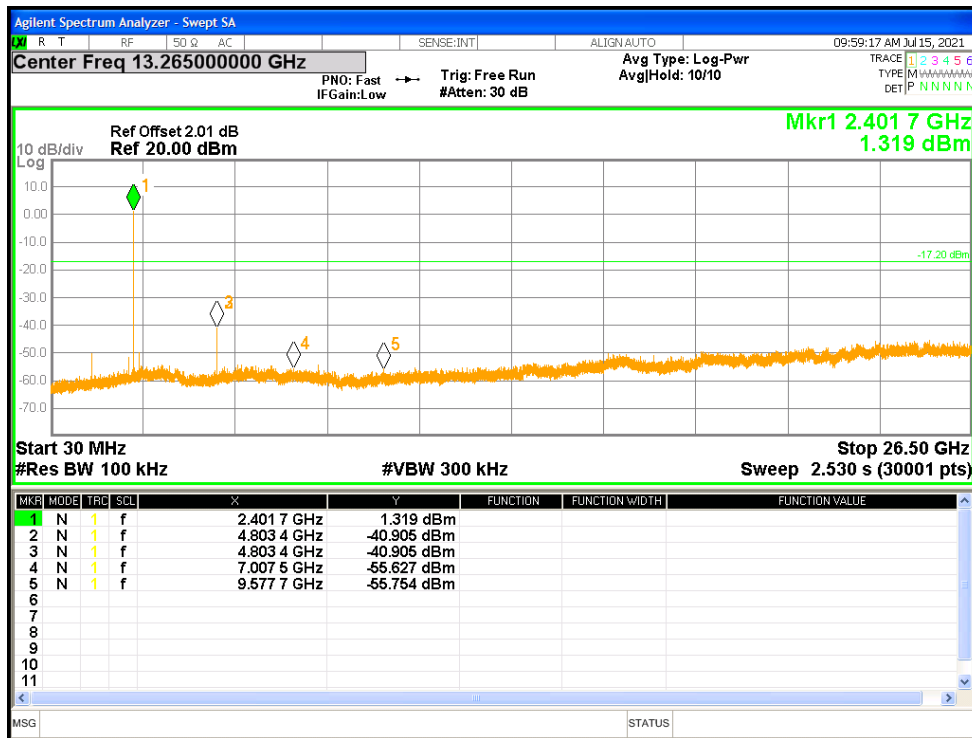




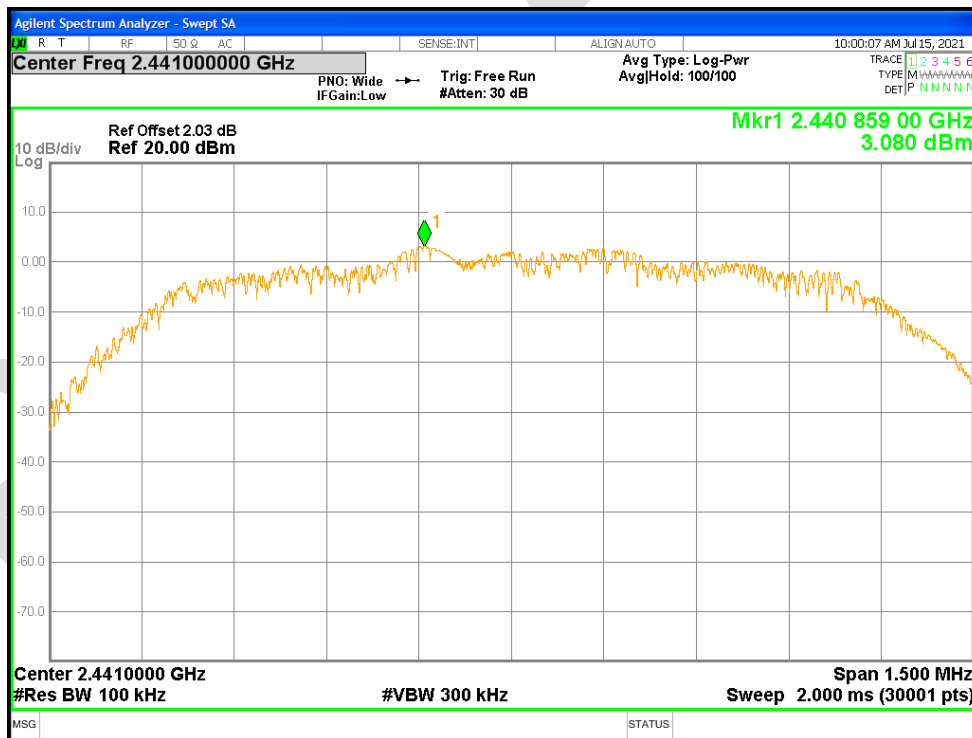
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



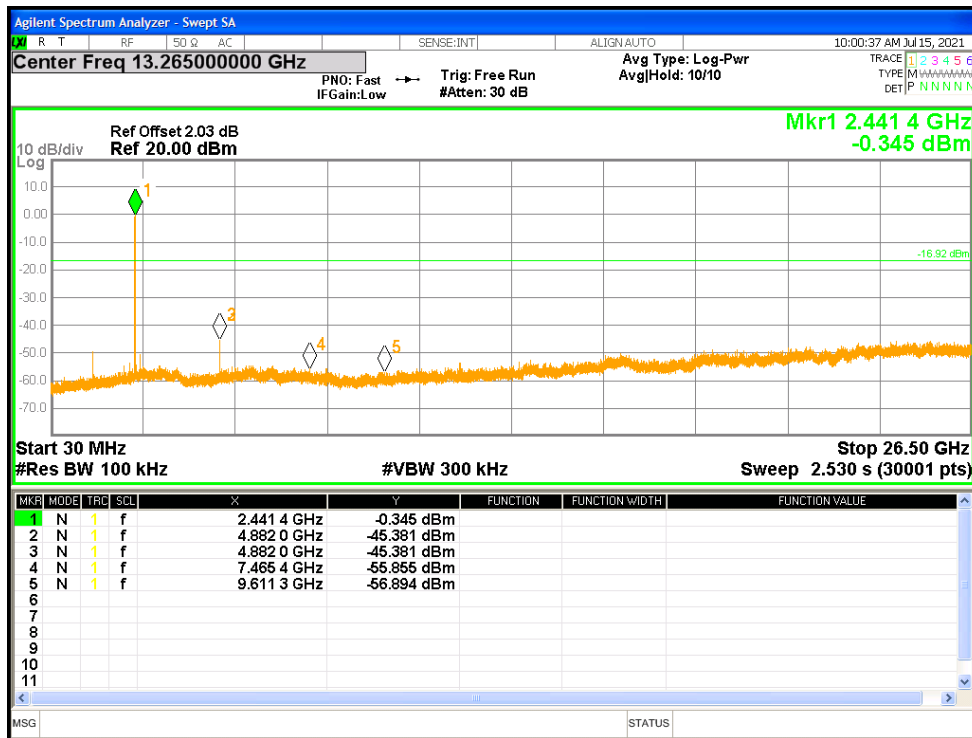
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



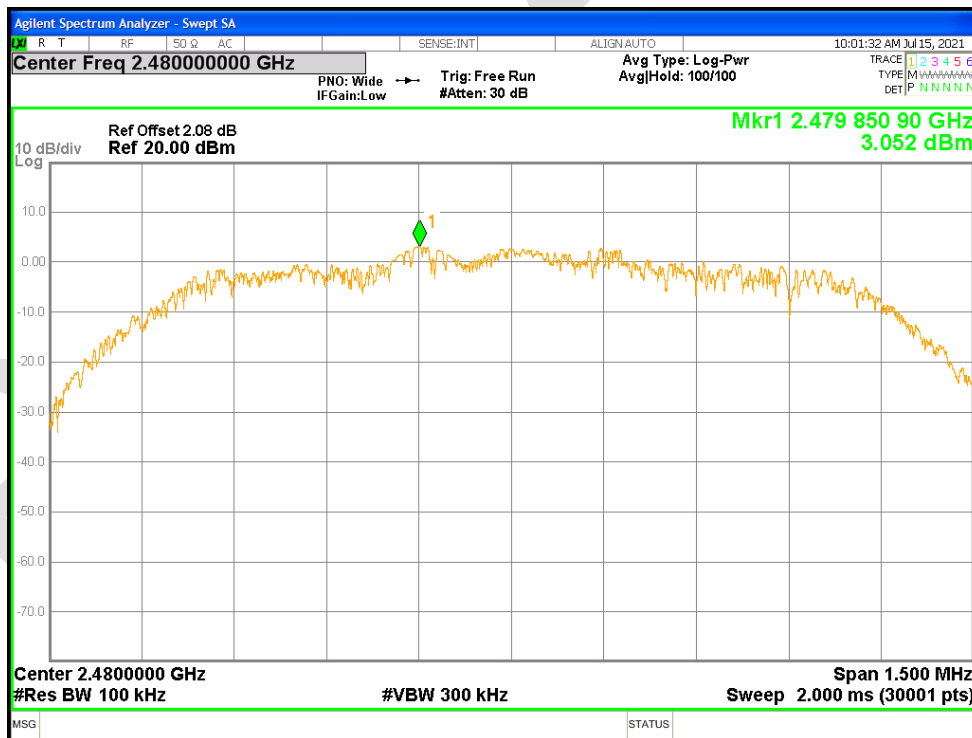
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



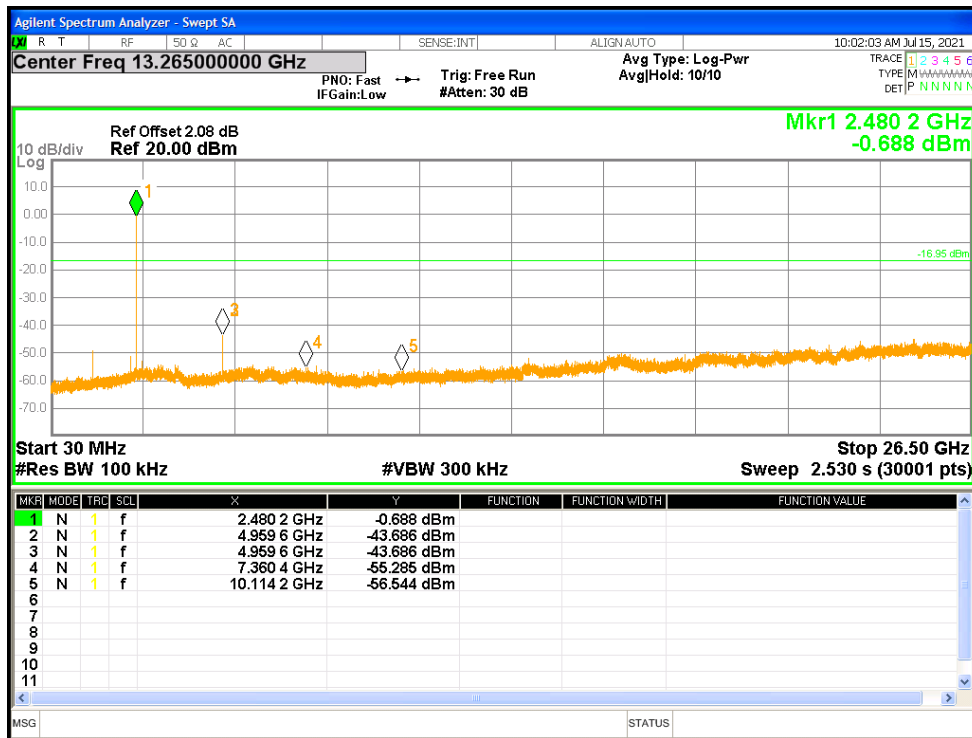
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



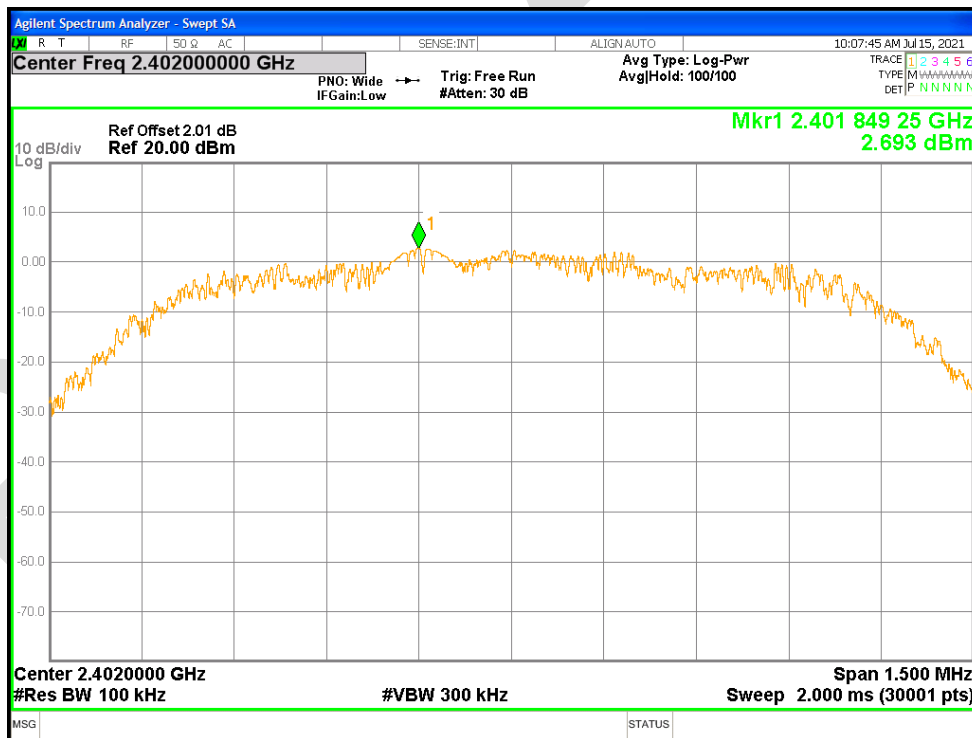
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



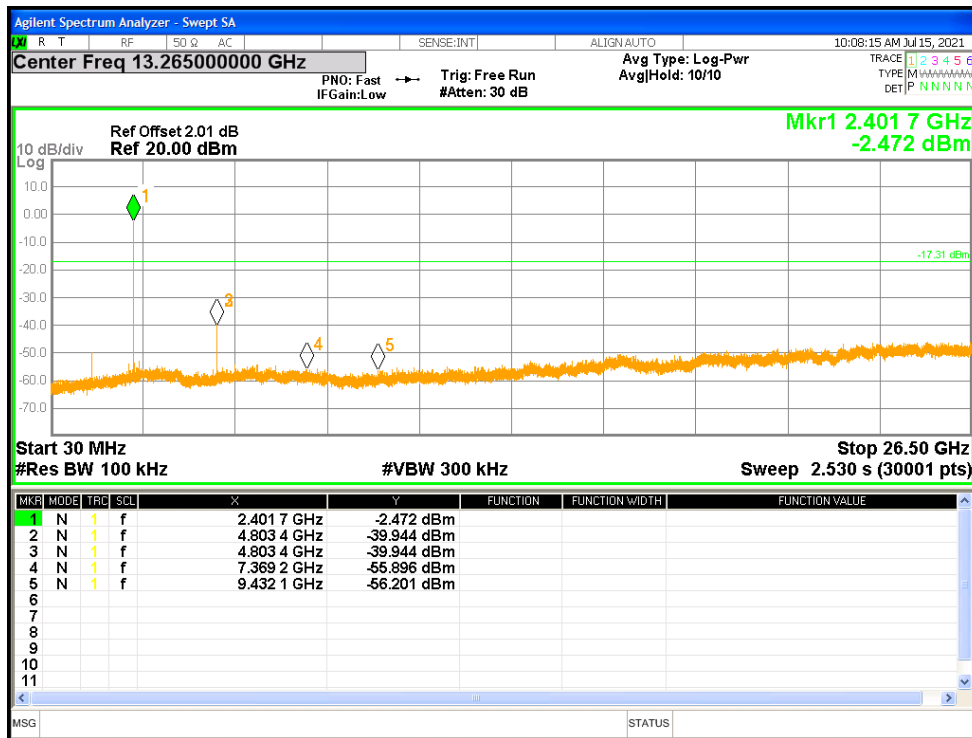
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



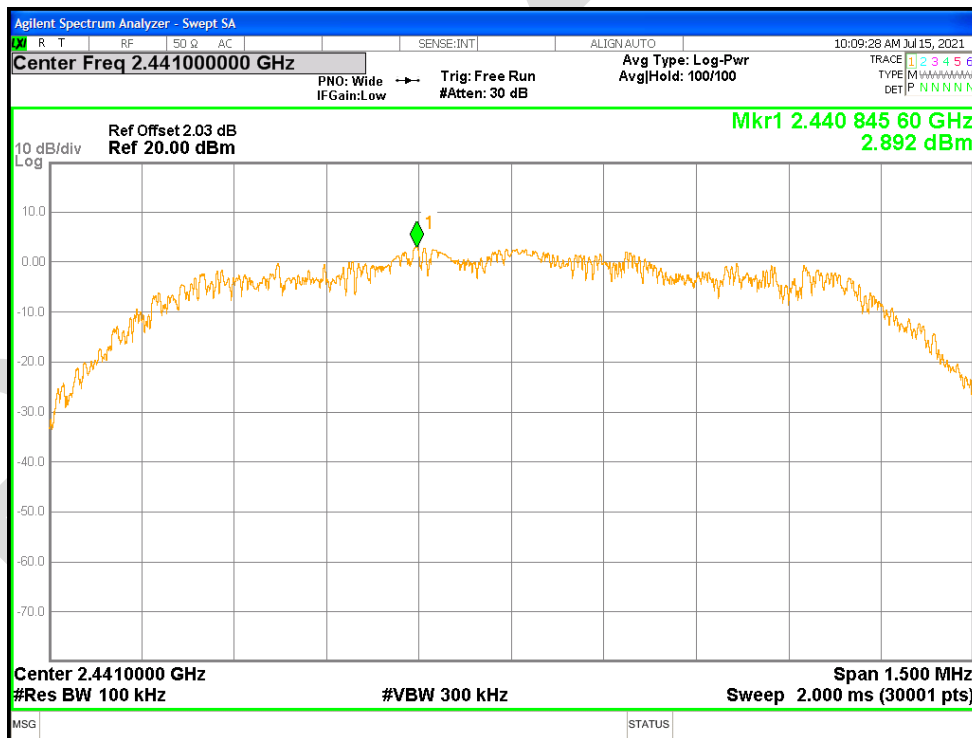
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



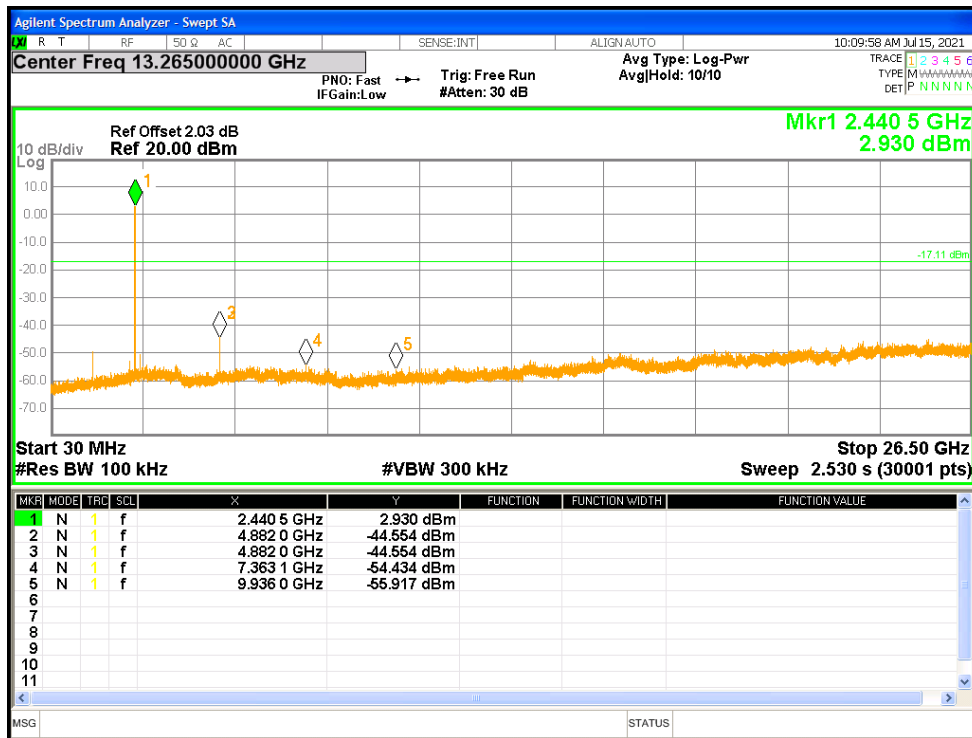
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



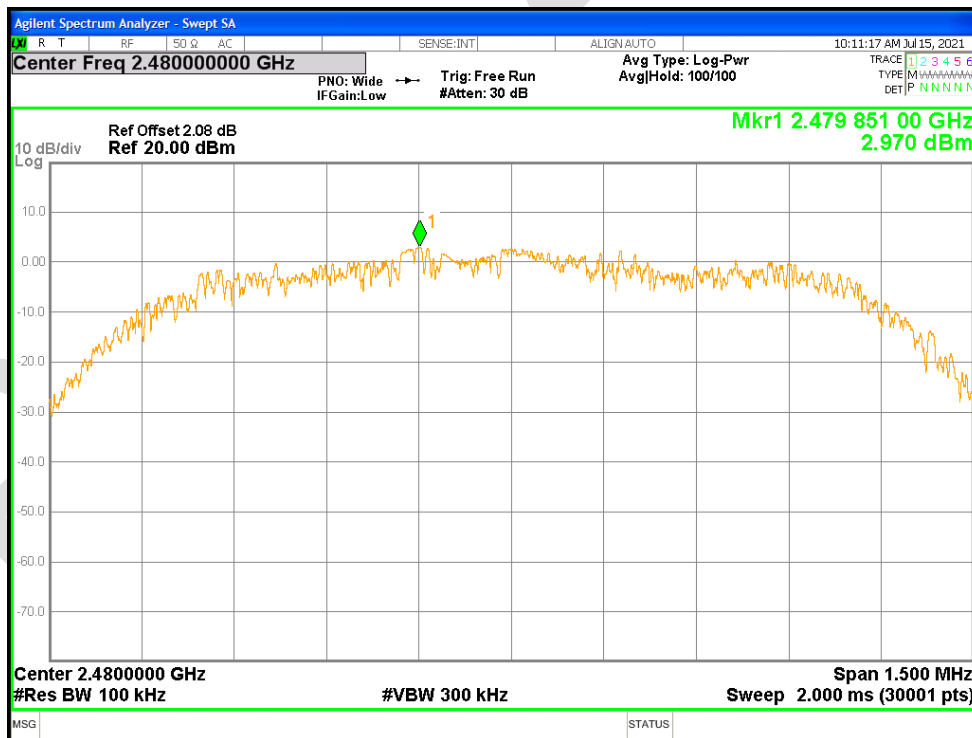
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



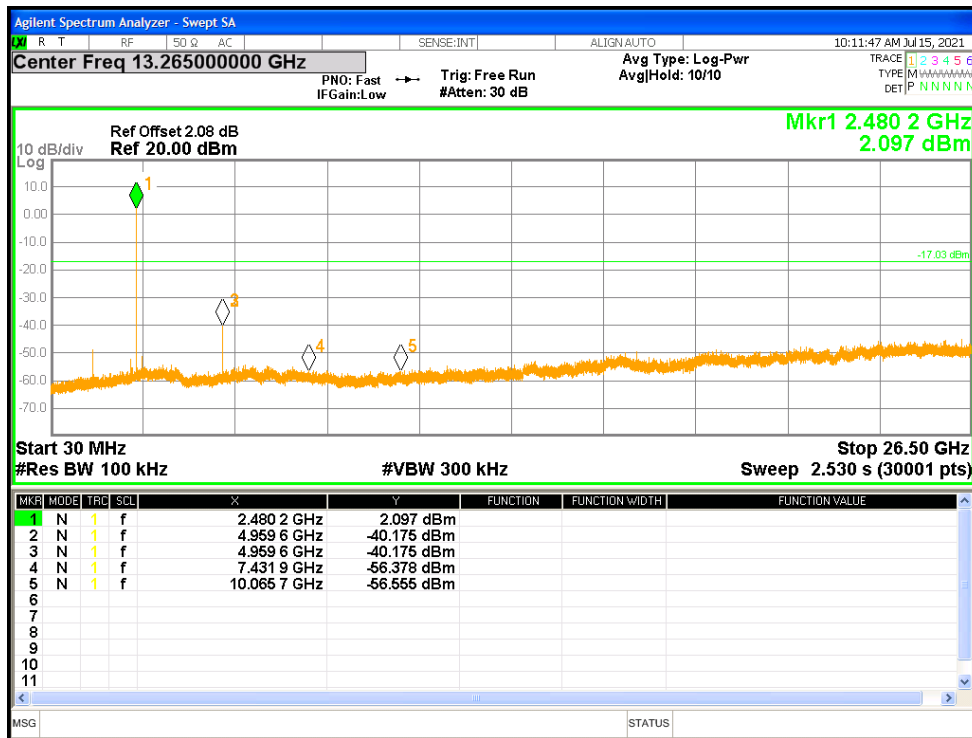
Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



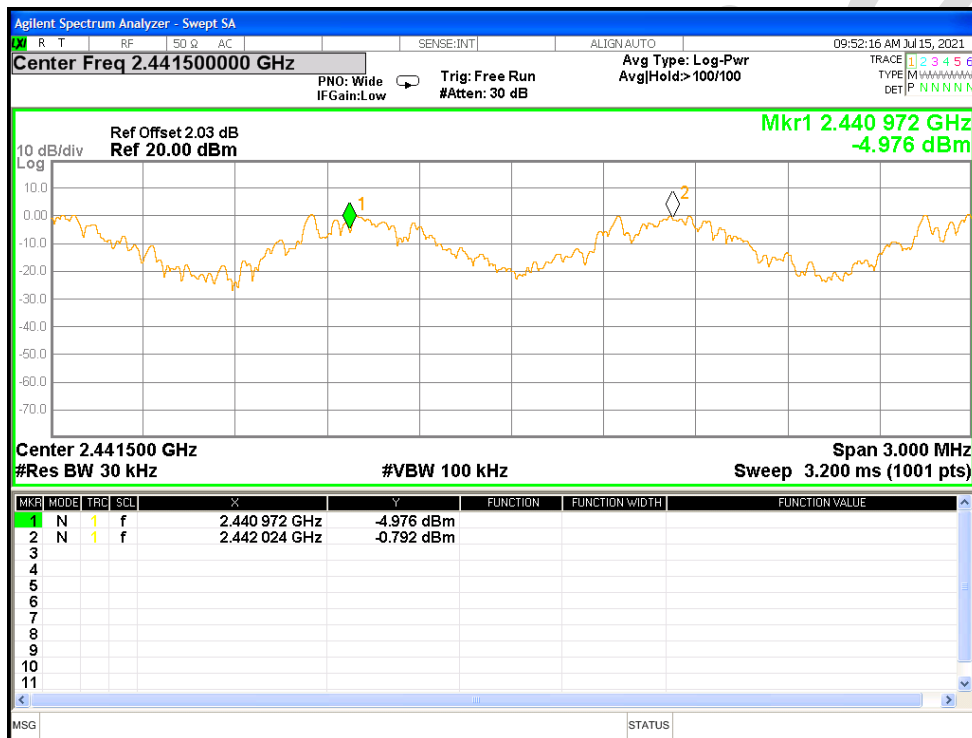
Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission



### 21.7 CARRIER FREQUENCIES SEPARATION

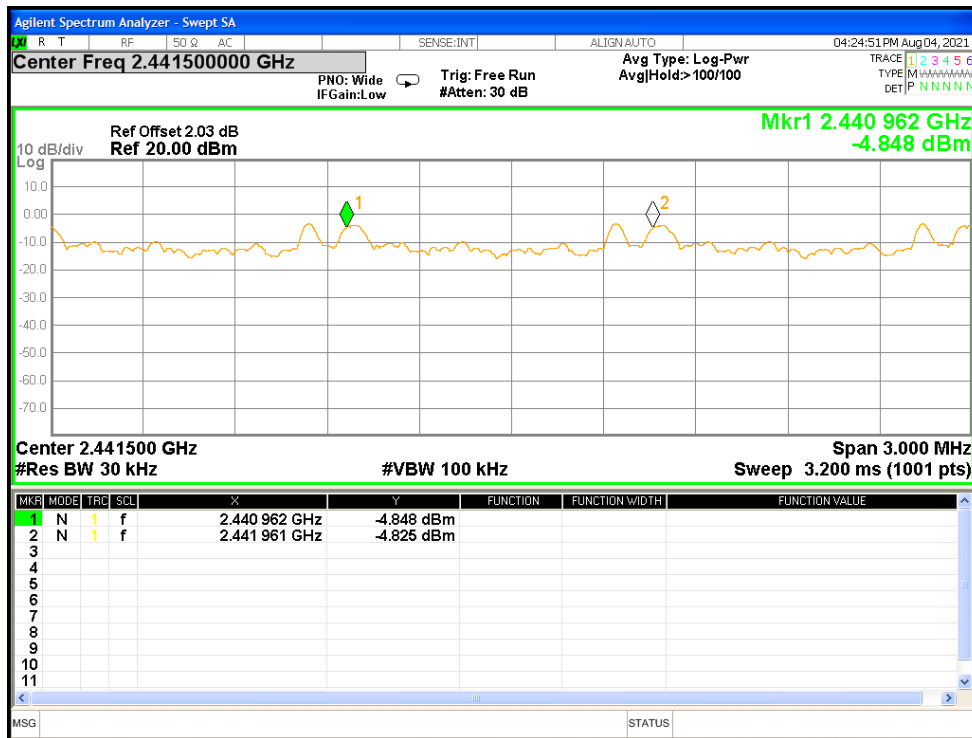
| Condition | Mode  | Antenna | Hopping Freq1 (MHz) | Hopping Freq2 (MHz) | HFS (MHz) | Limit (MHz) | Verdict |
|-----------|-------|---------|---------------------|---------------------|-----------|-------------|---------|
| NVNT      | 1-DH1 | Ant1    | 2440.972            | 2442.0235           | 1.0515    | 0.942       | Pass    |
| NVNT      | 2-DH1 | Ant1    | 2440.9615           | 2441.9605           | 0.999     | 0.841       | Pass    |
| NVNT      | 3-DH1 | Ant1    | 2440.8535           | 2441.9035           | 1.05      | 0.857       | Pass    |

CFS NVNT 1-DH1 2441MHz Ant1

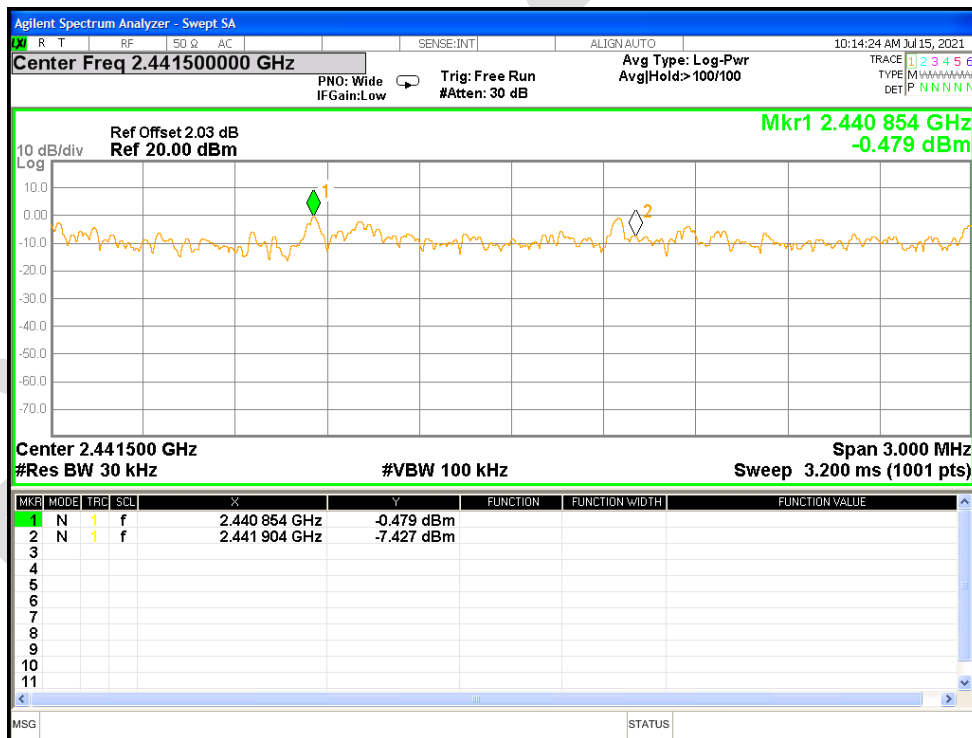


CFS NVNT 2-DH1 2441MHz Ant1





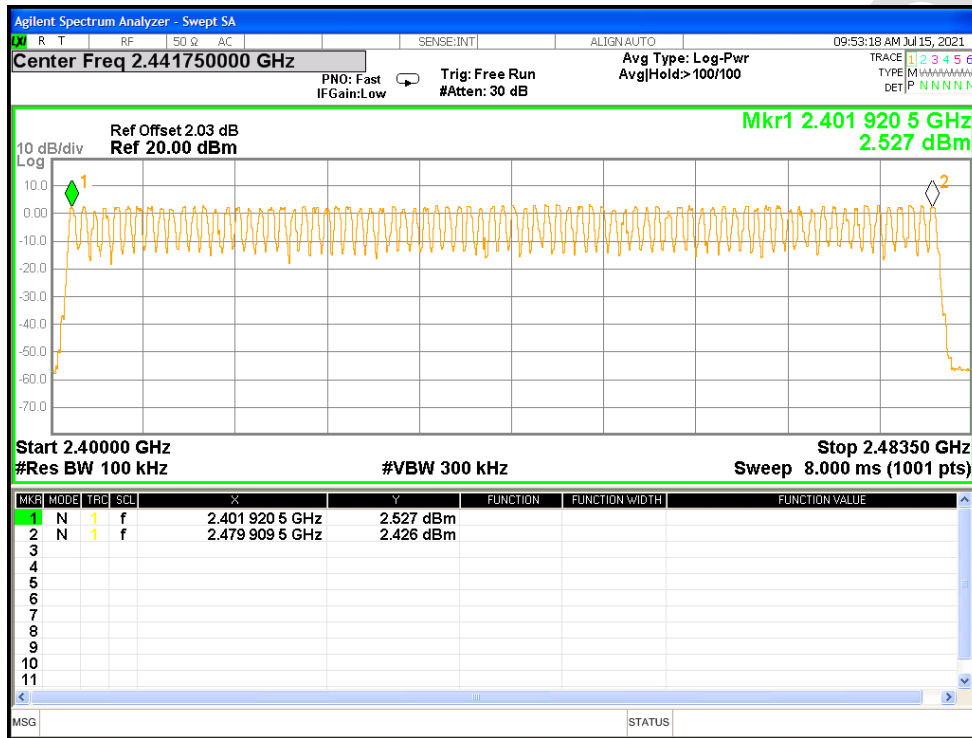
CFS NVNT 3-DH1 2441MHz Ant1



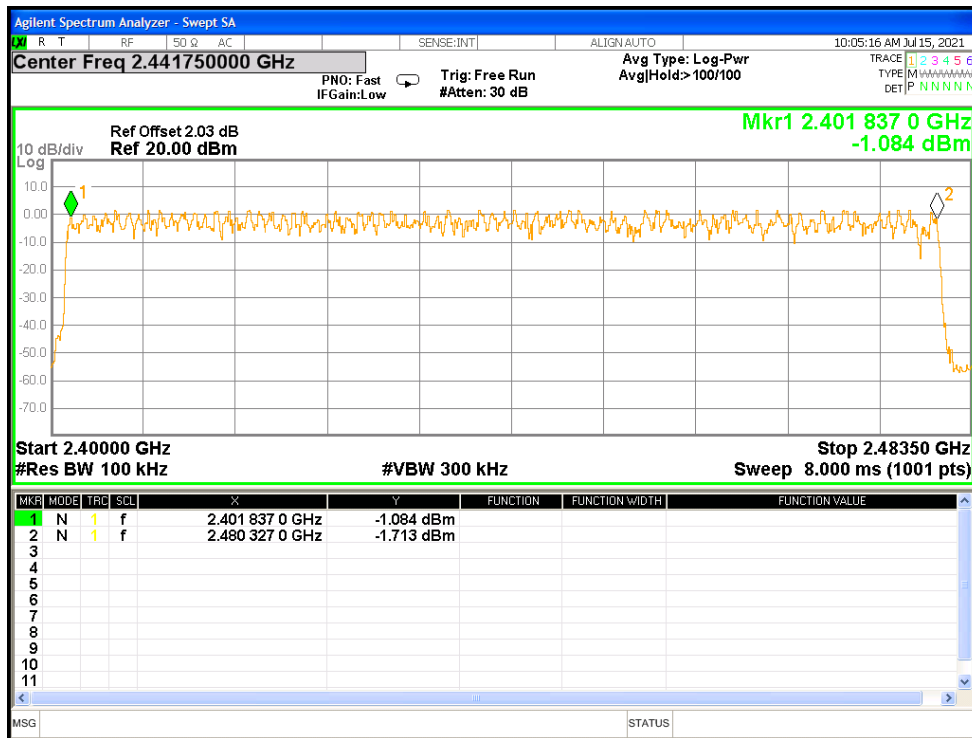
### 21.8 NUMBER OF HOPPING CHANNEL

| Condition | Mode  | Antenna | Hopping Number | Limit | Verdict |
|-----------|-------|---------|----------------|-------|---------|
| NVNT      | 1-DH1 | Ant1    | 79             | 15    | Pass    |
| NVNT      | 2-DH1 | Ant1    | 79             | 15    | Pass    |
| NVNT      | 3-DH1 | Ant1    | 79             | 15    | Pass    |

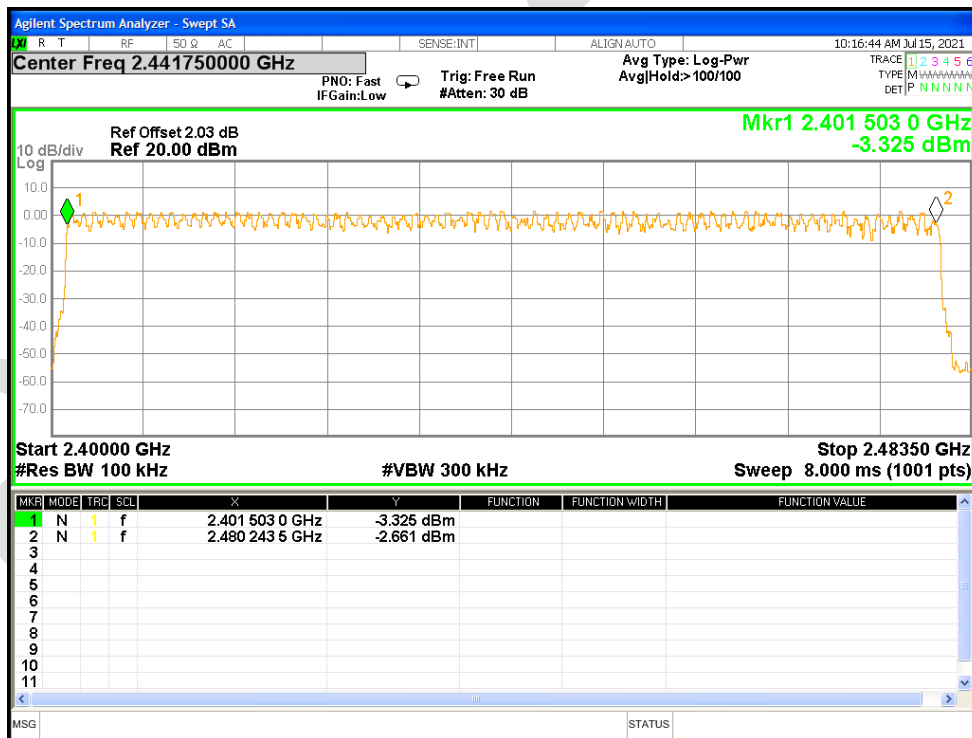
Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



Hopping No. NVNT 3-DH1 2441MHz Ant1



### 21.9 DWELL TIME

| Condition | Mode  | Frequency (MHz) | Antenna | Pulse Time (ms) | Total Dwell Time (ms) | Period Time (ms) | Limit (ms) | Verdict |
|-----------|-------|-----------------|---------|-----------------|-----------------------|------------------|------------|---------|
| NVNT      | 1-DH1 | 2441            | Ant1    | 0.399           | 127.68                | 31600            | 400        | Pass    |
| NVNT      | 1-DH3 | 2441            | Ant1    | 1.673           | 267.68                | 31600            | 400        | Pass    |
| NVNT      | 1-DH5 | 2441            | Ant1    | 2.896           | 308.91                | 31600            | 400        | Pass    |

Remake:

DH5 packet permit maximum 1600/79/6 hops per second in each channel (5 time slots RX,1 time slot TX).

DH3 packet permit maximum 1600/79/4 hops per second in each channel (3 time slots RX,1 time slot TX).

DH1 packet permit maximum 1600/79/2 hops per second in each channel (1 time slots RX,1 time slot TX).

So, the Dwell time can be calculated as follows:

DH5:  $1600/79/6 * 0.4 * 79 * \text{Pulse time}$

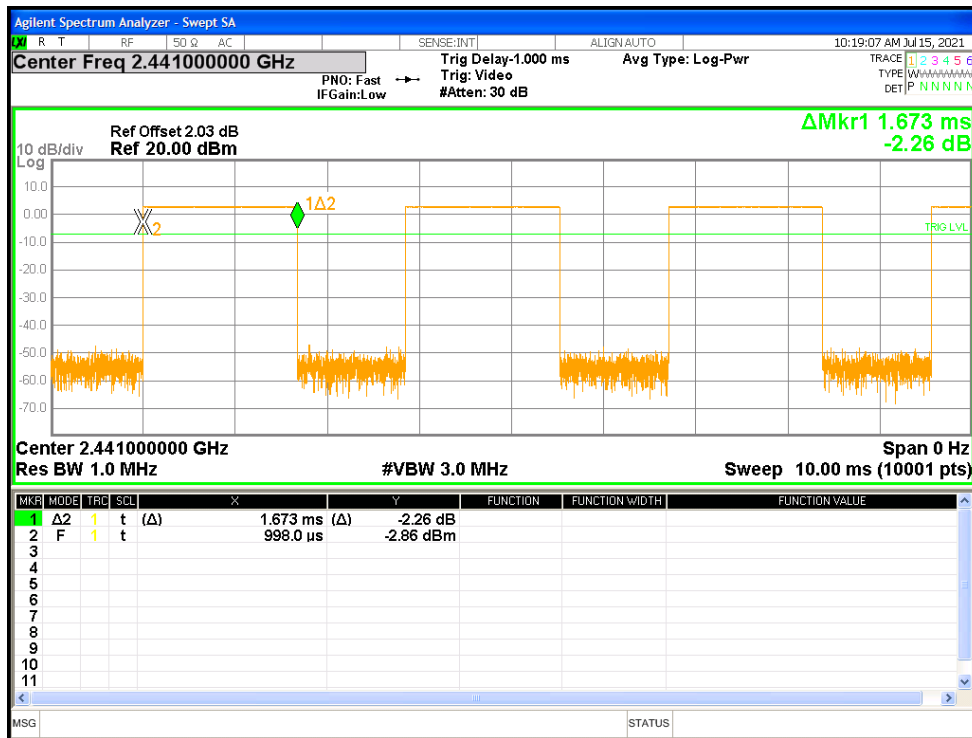
DH3:  $1600/79/4 * 0.4 * 79 * \text{Pulse time}$

DH1:  $1600/79/2 * 0.4 * 79 * \text{Pulse time}$

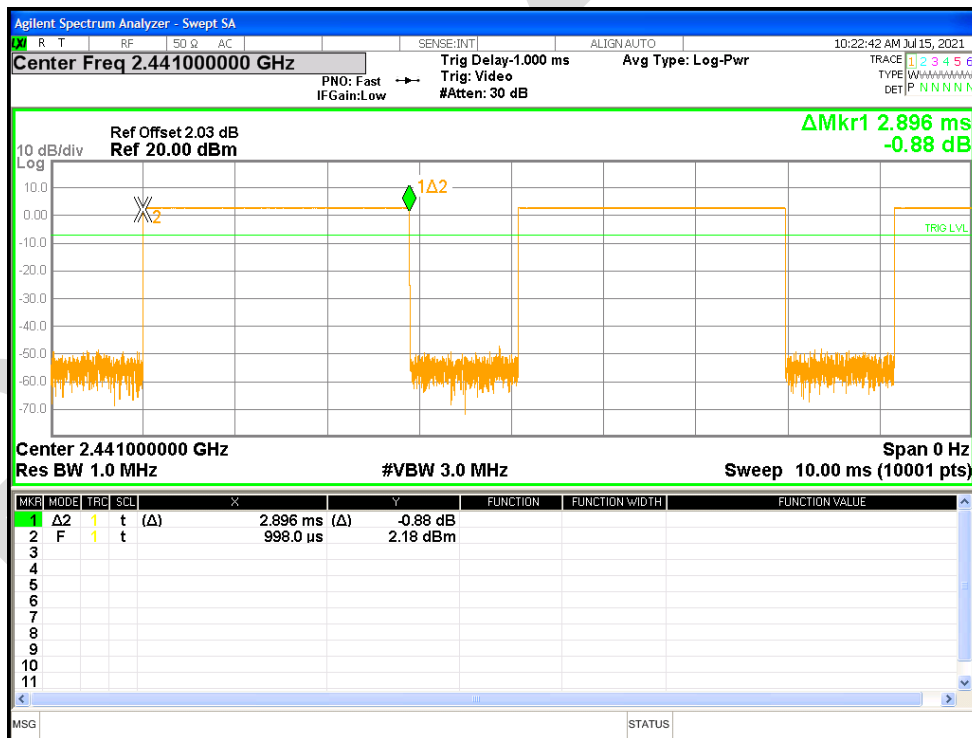
Dwell NVNT 1-DH1 2441MHz Ant1 One Burst



Dwell NVNT 1-DH3 2441MHz Ant1 One Burst



Dwell NVNT 1-DH5 2441MHz Ant1 One Burst

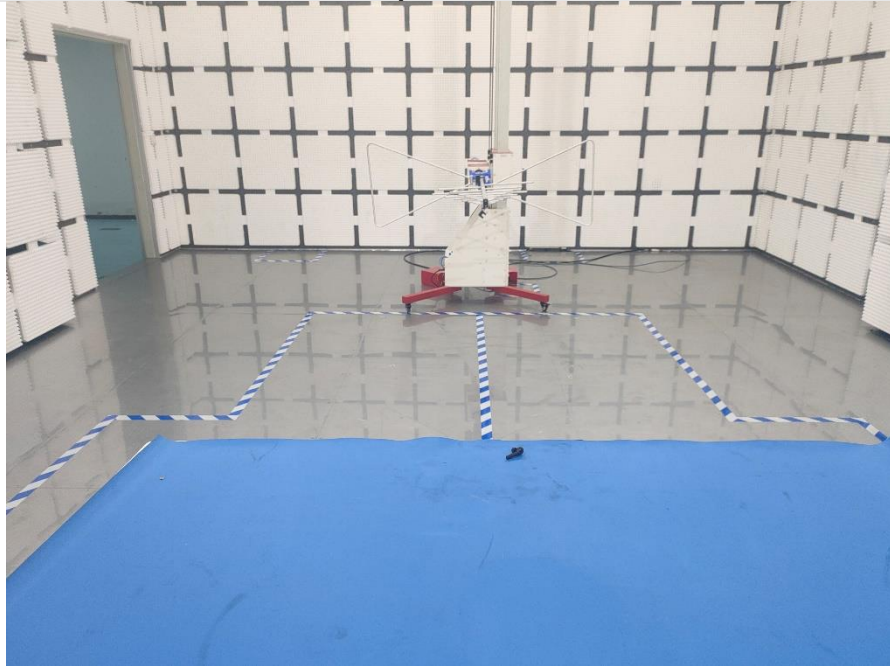


## APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Conducted Emissions at AC Power Line (150kHz-30MHz)



### Radiated Spurious Emissions



**APPENDIX B: PHOTOGRAPHS OF EUT**

Reference to the test report No. BLA-EMC-202106-A9701

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

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