



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name:Multi-function projector  
Test Model: NeoPix 130

Environmental Conditions

|                    |            |
|--------------------|------------|
| Temperature:       | 23.1° C    |
| Relative Humidity: | 52.3%      |
| ATM Pressure:      | 100.0 kPa  |
| Test Engineer:     | Eason Zhou |
| Supervised by:     | Nick Peng  |





### B.1 -6dB Bandwidth

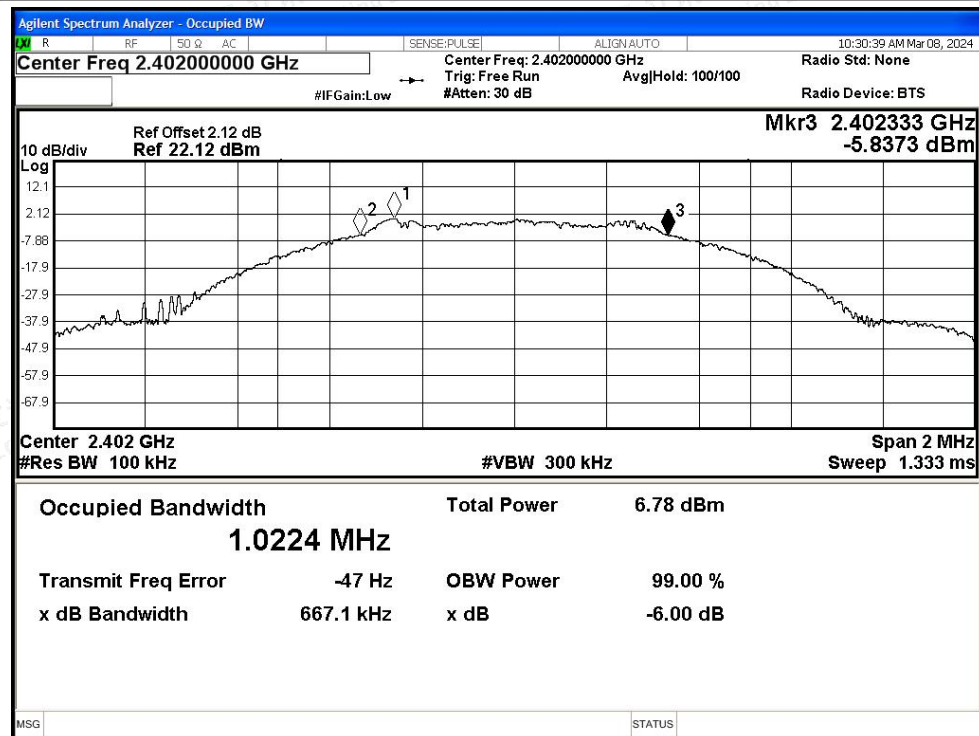
| Condition | Mode   | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|-----------|--------|-----------------|---------|-----------------------|-----------------------------|---------|
| NVNT      | BLE 1M | 2402            | Ant2    | 0.667                 | $\geq 0.5$                  | Pass    |
| NVNT      | BLE 1M | 2440            | Ant2    | 0.653                 | $\geq 0.5$                  | Pass    |
| NVNT      | BLE 1M | 2480            | Ant2    | 0.656                 | $\geq 0.5$                  | Pass    |



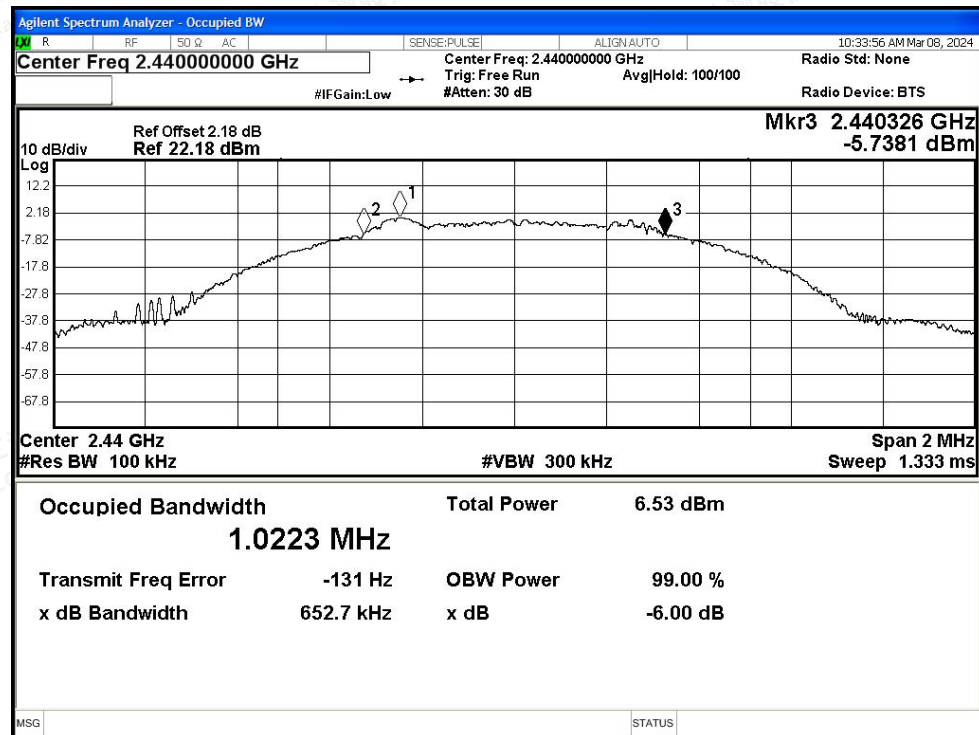


## Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant2



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant2

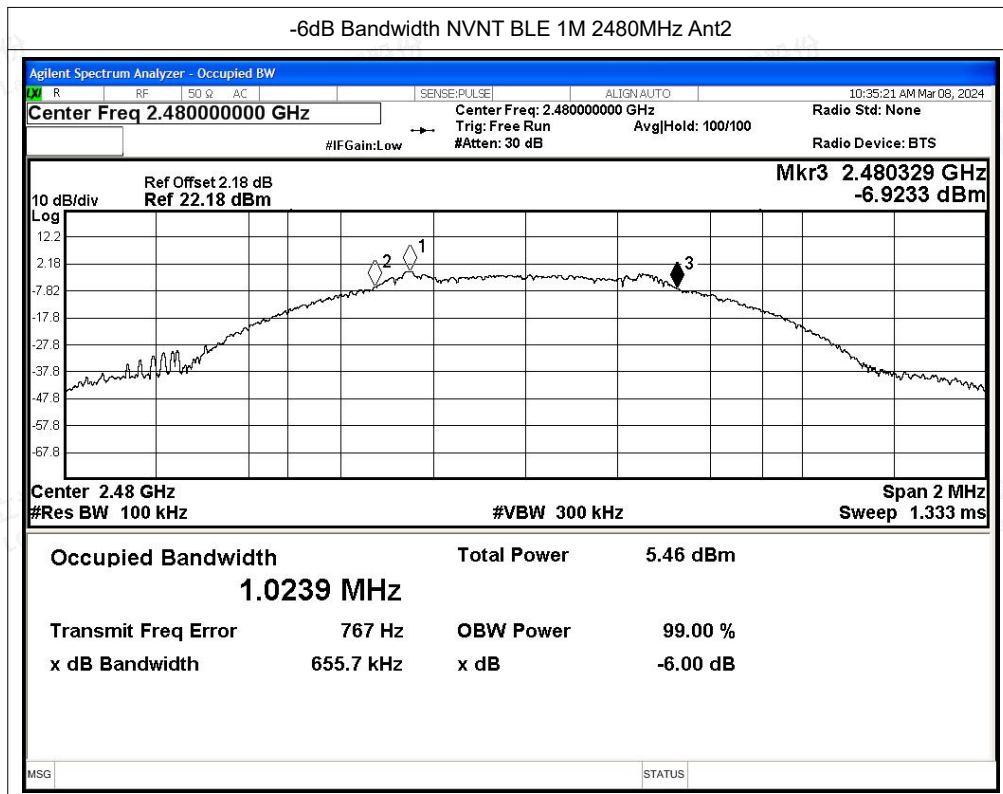


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## B.2 Maximum Peak Conducted Output Power

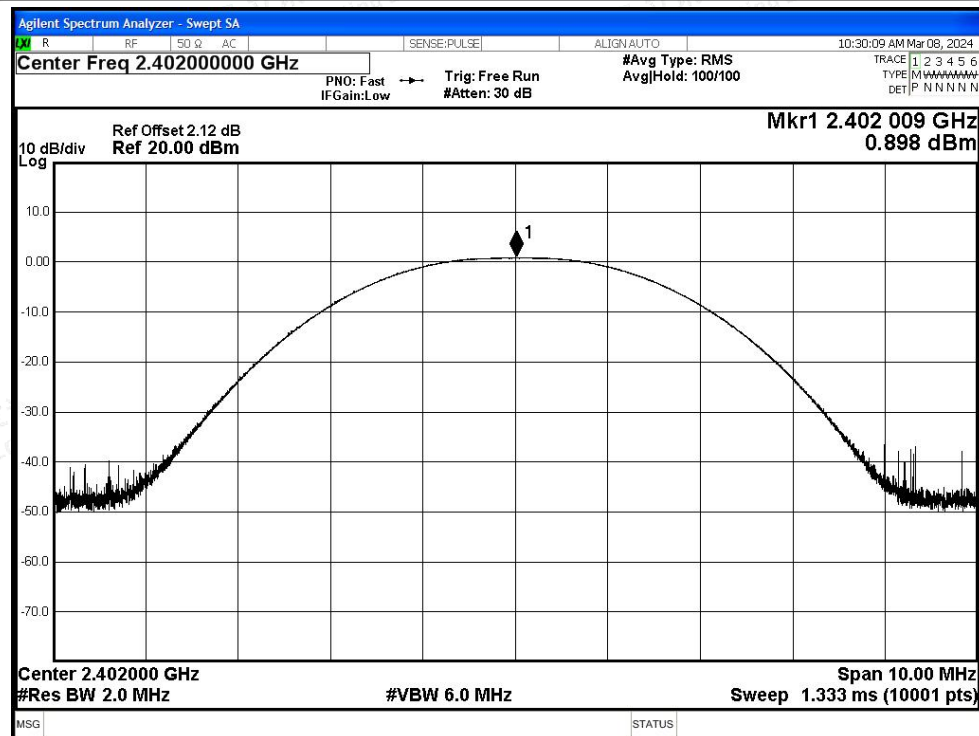
| Condition | Mode   | Frequency (MHz) | Antenna | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|--------|-----------------|---------|-------------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant2    | 0.9               | 30          | Pass    |
| NVNT      | BLE 1M | 2440            | Ant2    | 0.78              | 30          | Pass    |
| NVNT      | BLE 1M | 2480            | Ant2    | -0.29             | 30          | Pass    |



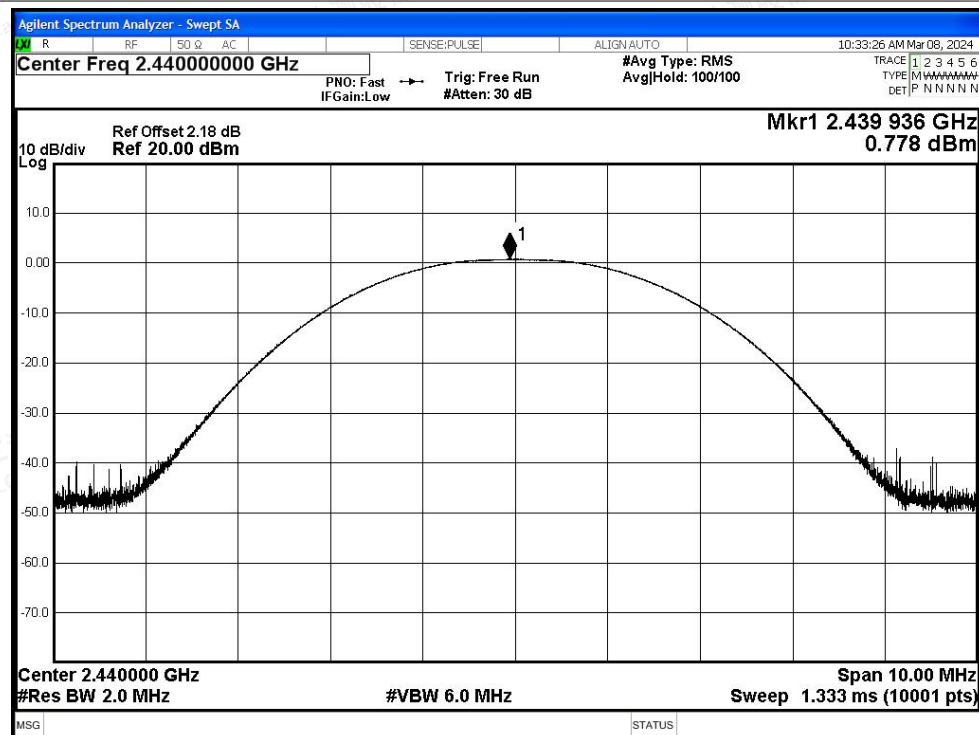


## Test Graphs

Power NVNT BLE 1M 2402MHz Ant2



Power NVNT BLE 1M 2440MHz Ant2

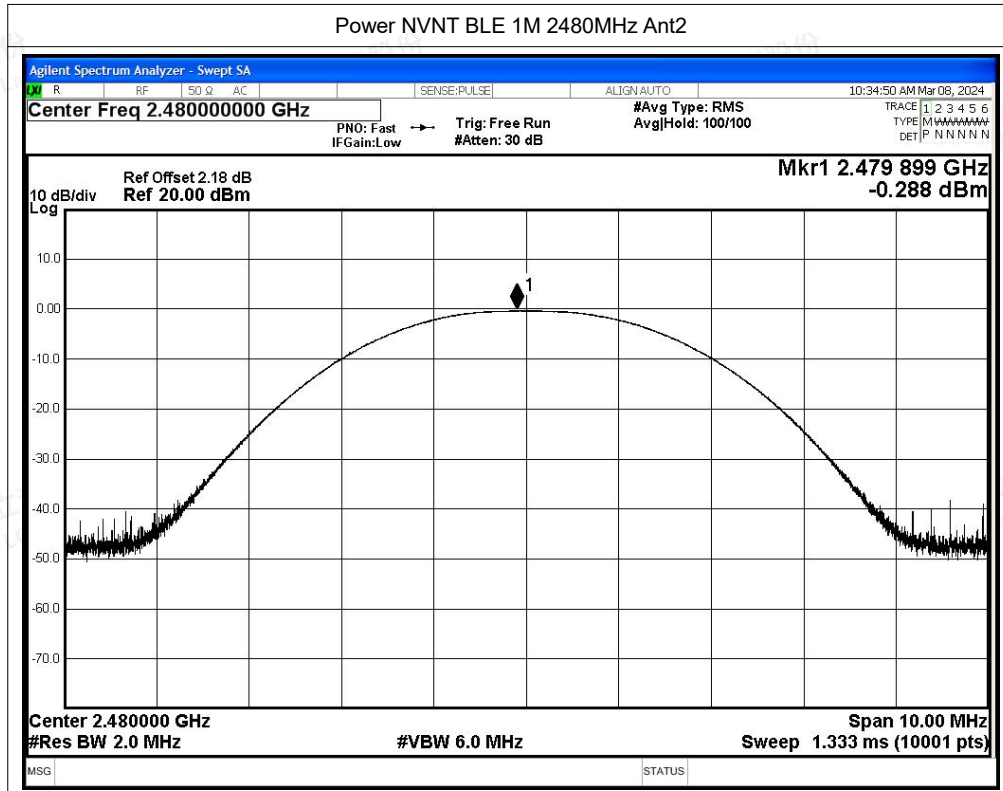


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### B.3 Maximum Peak Power Spectral Density Level

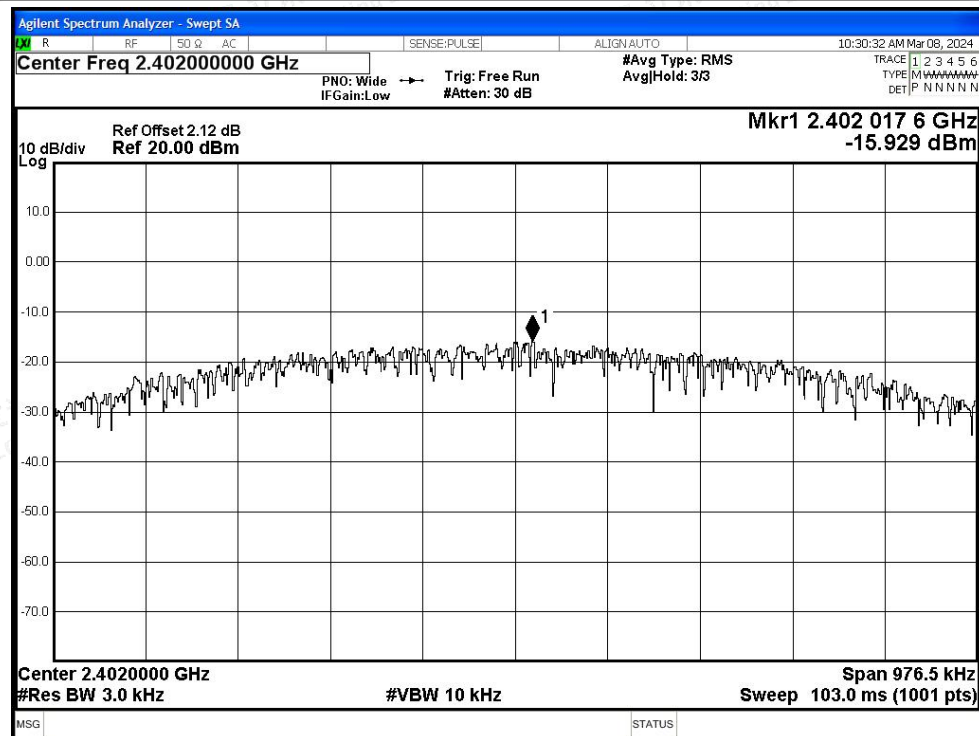
| Condition | Mode   | Frequency (MHz) | Antenna | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | Verdict |
|-----------|--------|-----------------|---------|----------------------|------------------|---------|
| NVNT      | BLE 1M | 2402            | Ant2    | -15.93               | 8                | Pass    |
| NVNT      | BLE 1M | 2440            | Ant2    | -16.17               | 8                | Pass    |
| NVNT      | BLE 1M | 2480            | Ant2    | -17.13               | 8                | Pass    |



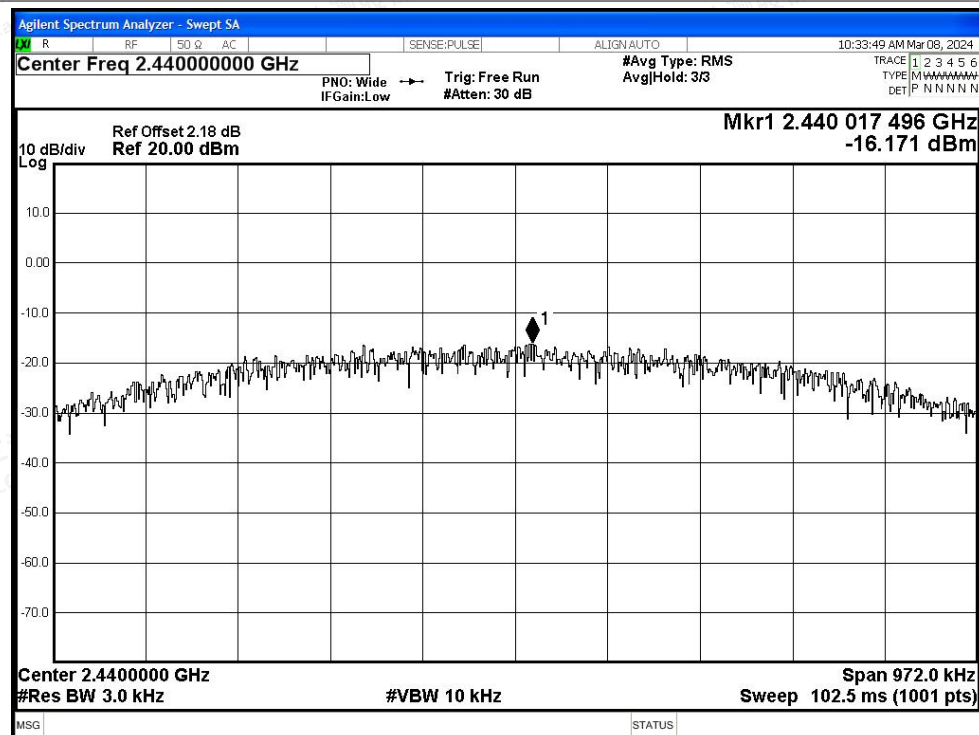


## Test Graphs

PSD NVNT BLE 1M 2402MHz Ant2



PSD NVNT BLE 1M 2440MHz Ant2

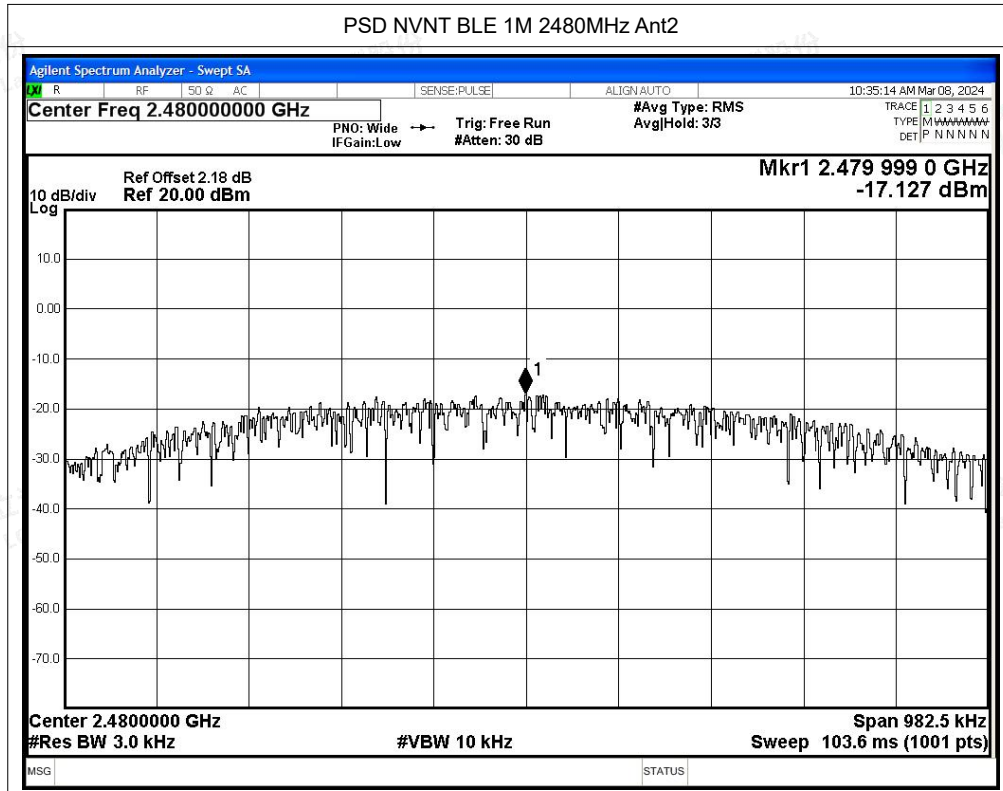


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B.4 Band Edge

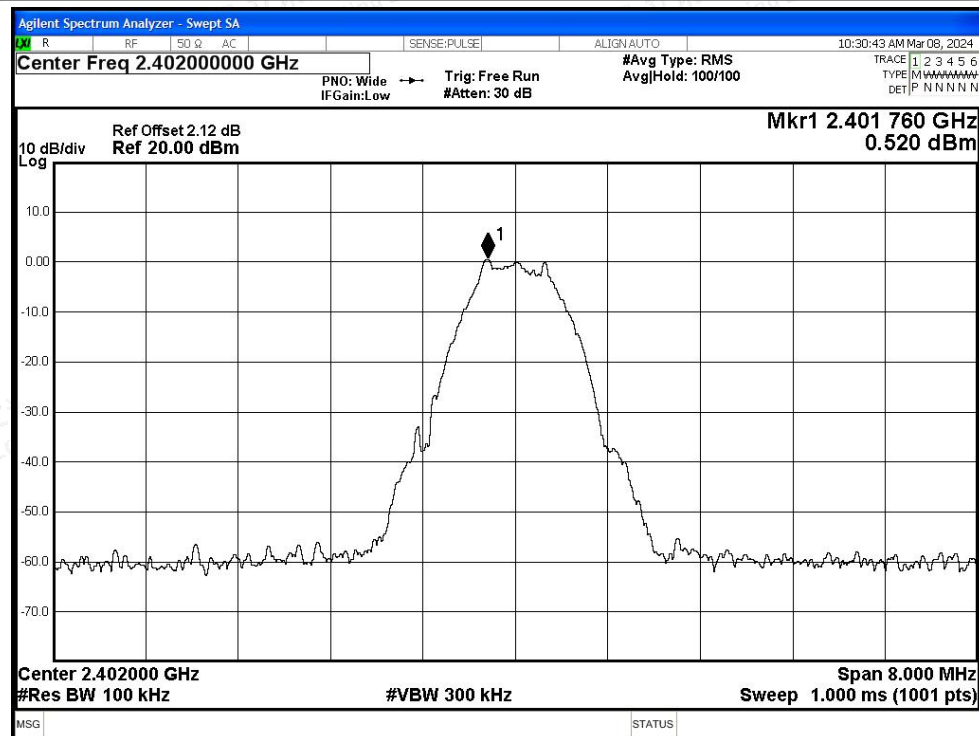
| Condition | Mode   | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant2    | -57.04          | -20         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant2    | -56.46          | -20         | Pass    |



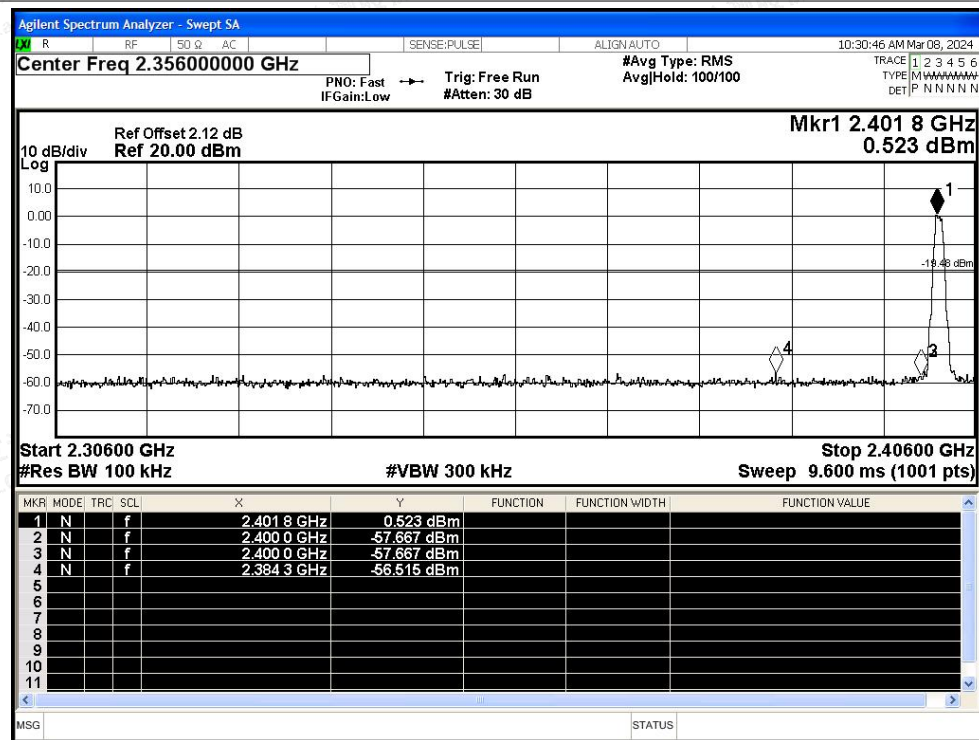


## Test Graphs

## Band Edge NVNT BLE 1M 2402MHz Ant2 Ref



## Band Edge NVNT BLE 1M 2402MHz Ant2 Emission



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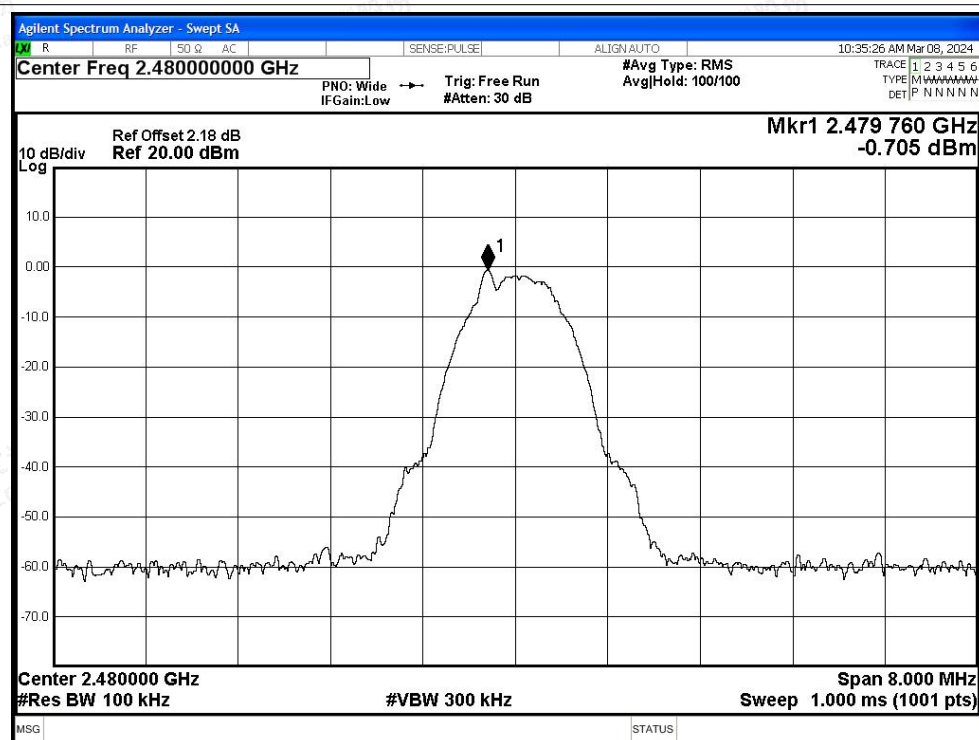
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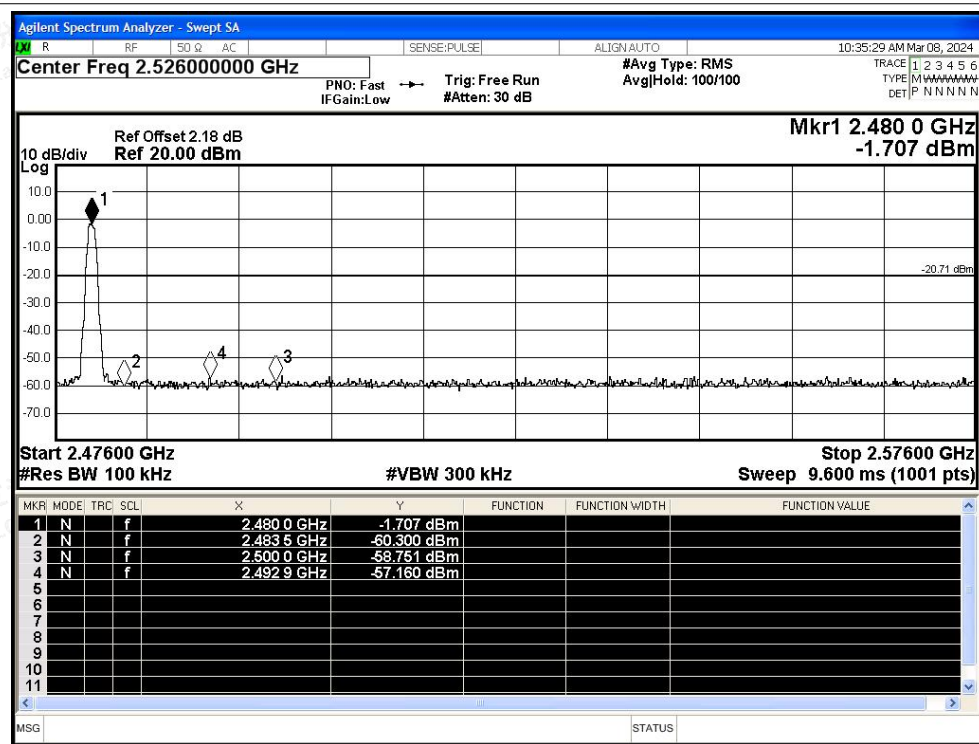
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## Band Edge NVNT BLE 1M 2480MHz Ant2 Ref



## Band Edge NVNT BLE 1M 2480MHz Ant2 Emission



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## B.5 Conducted RF Spurious Emission

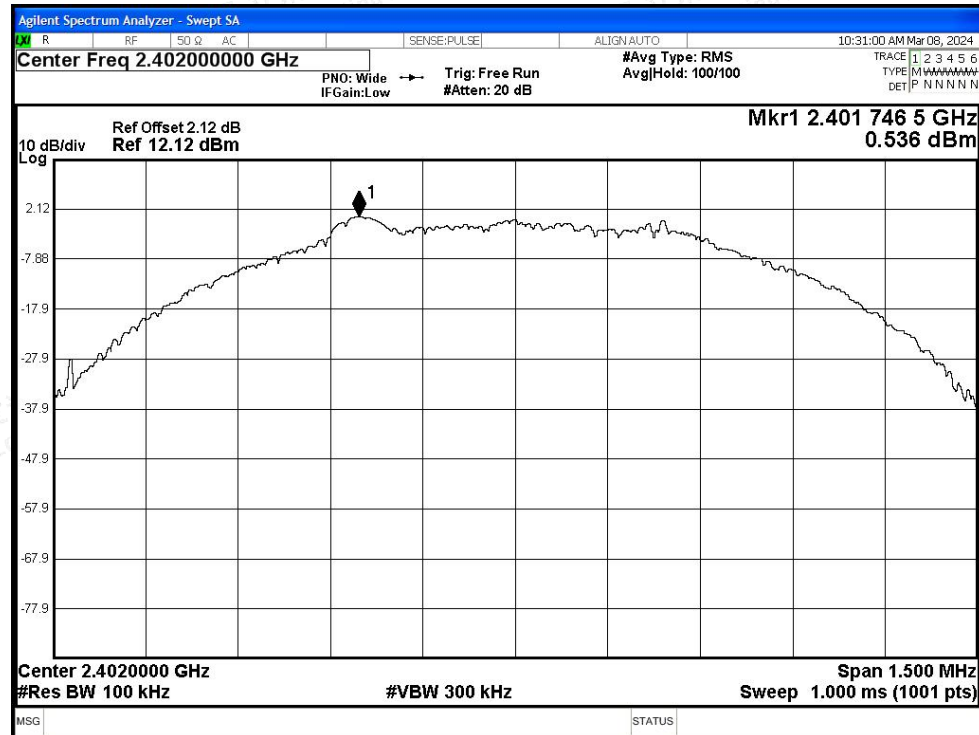
| Condition | Mode   | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant2    | -56.53          | -20         | Pass    |
| NVNT      | BLE 1M | 2440            | Ant2    | -55.72          | -20         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant2    | -53.21          | -20         | Pass    |



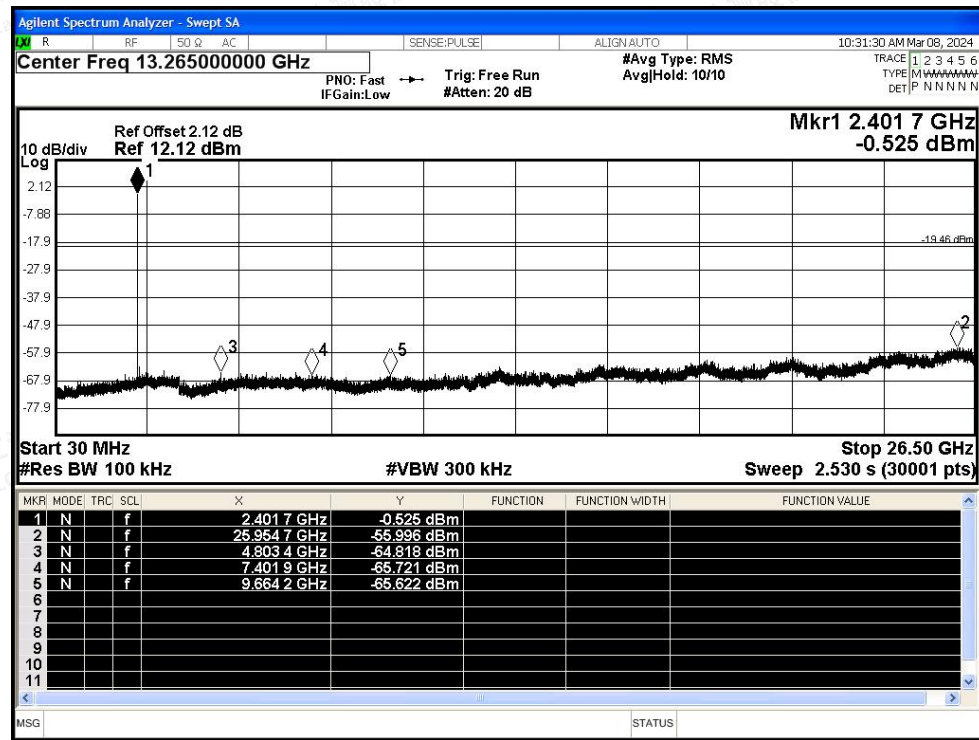


## Test Graphs

## Tx. Spurious NVNT BLE 1M 2402MHz Ant2 Ref



## Tx. Spurious NVNT BLE 1M 2402MHz Ant2 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

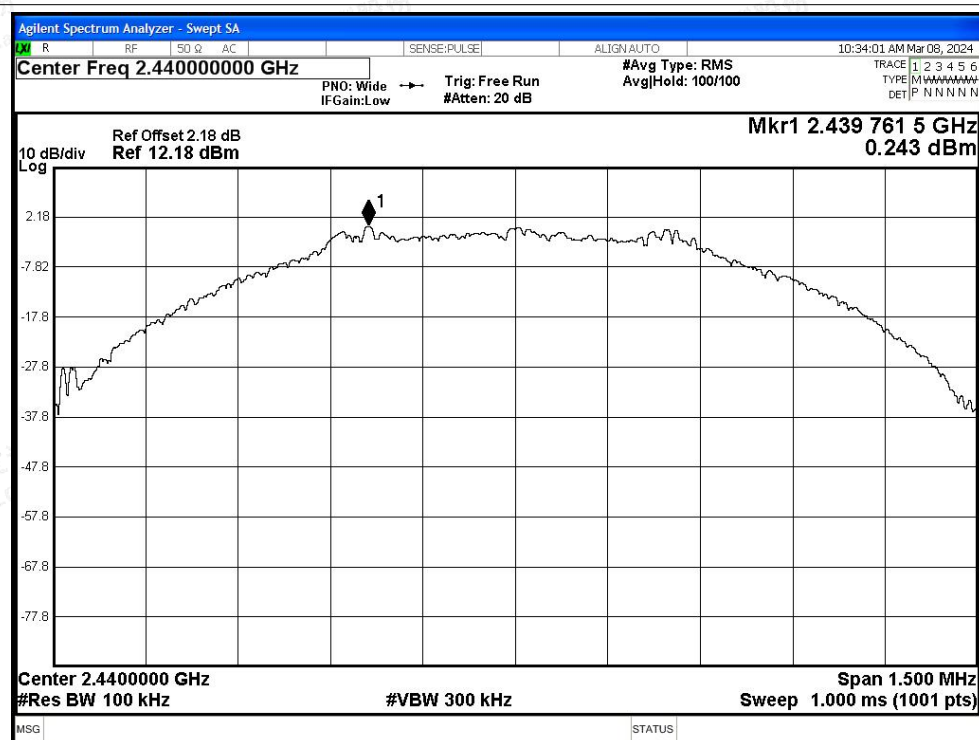
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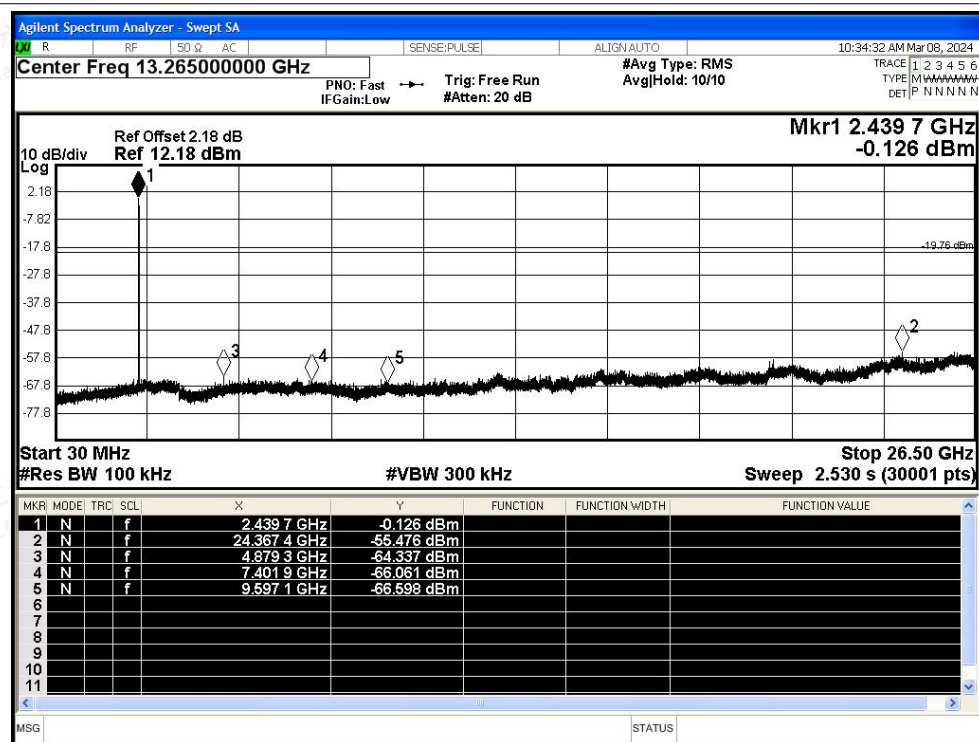
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## Tx. Spurious NVNT BLE 1M 2440MHz Ant2 Ref



## Tx. Spurious NVNT BLE 1M 2440MHz Ant2 Emission



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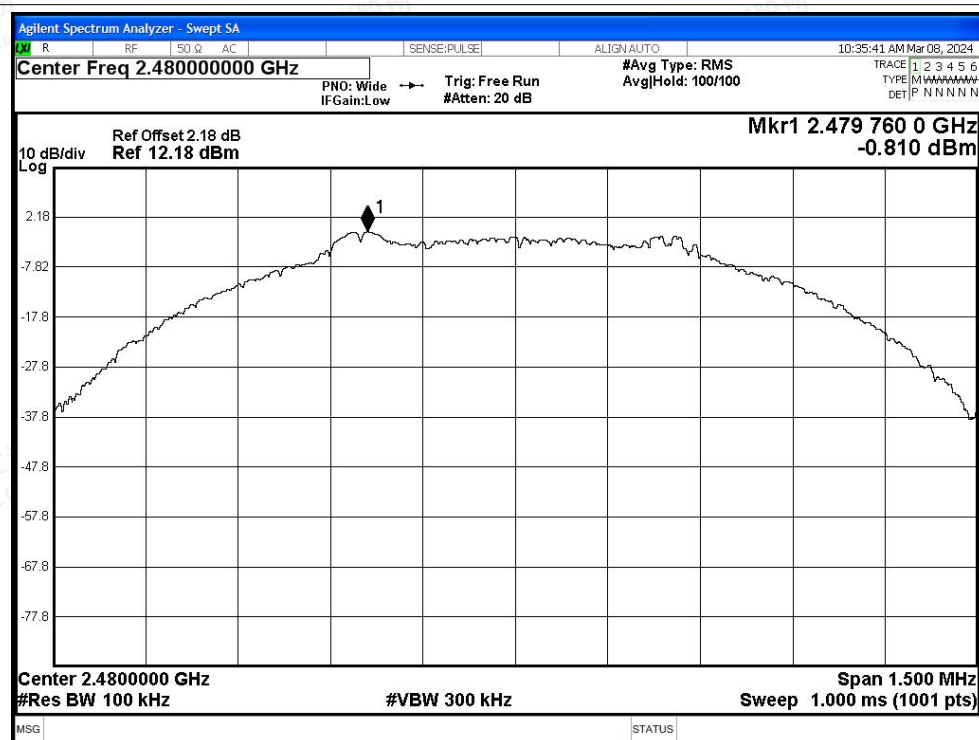
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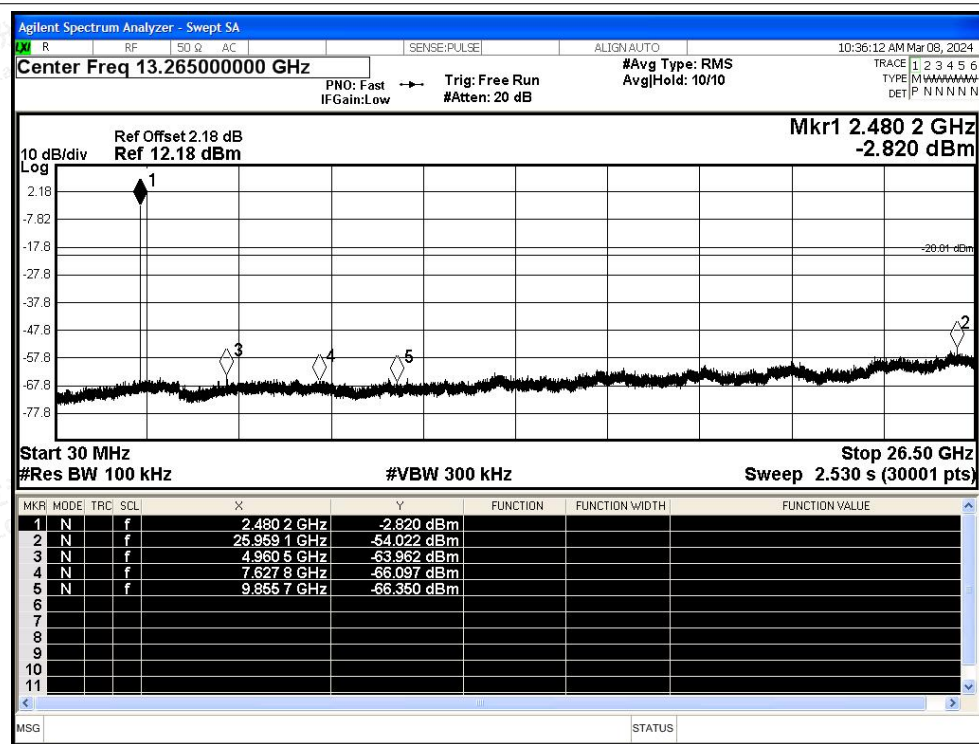
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## Tx. Spurious NVNT BLE 1M 2480MHz Ant2 Ref



## Tx. Spurious NVNT BLE 1M 2480MHz Ant2 Emission



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## B.6 Duty Cycle

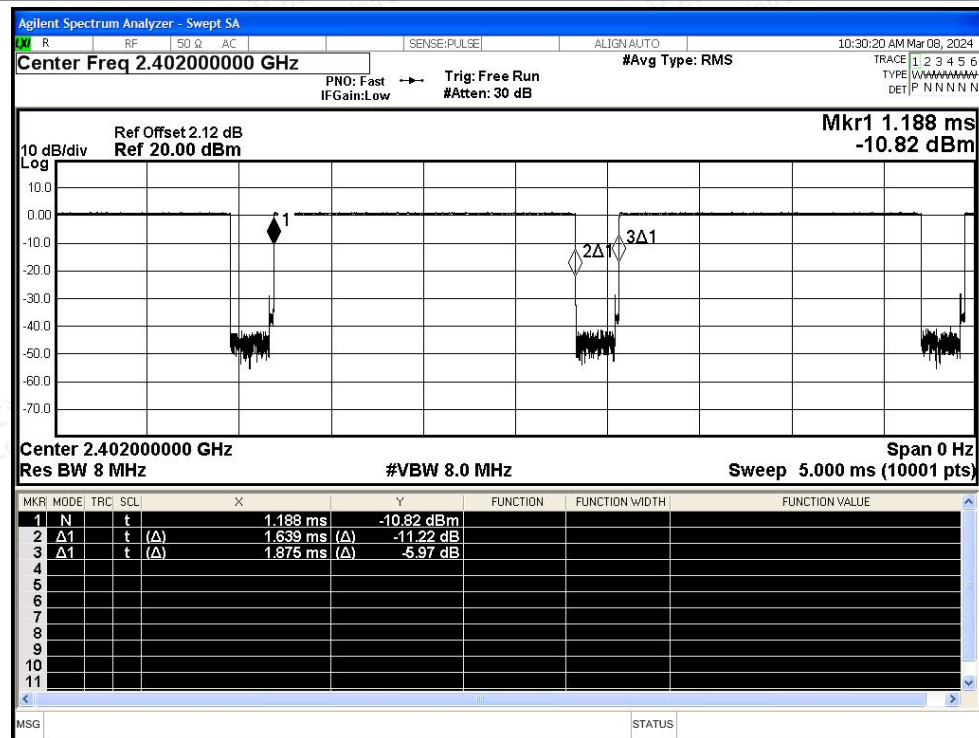
| Condition | Mode   | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) | 1/T (kHz) |
|-----------|--------|-----------------|---------|----------------|------------------------|-----------|
| NVNT      | BLE 1M | 2402            | Ant2    | 87.39          | 0.59                   | 0.61      |
| NVNT      | BLE 1M | 2440            | Ant2    | 87.39          | 0.59                   | 0.61      |
| NVNT      | BLE 1M | 2480            | Ant2    | 87.39          | 0.59                   | 0.61      |



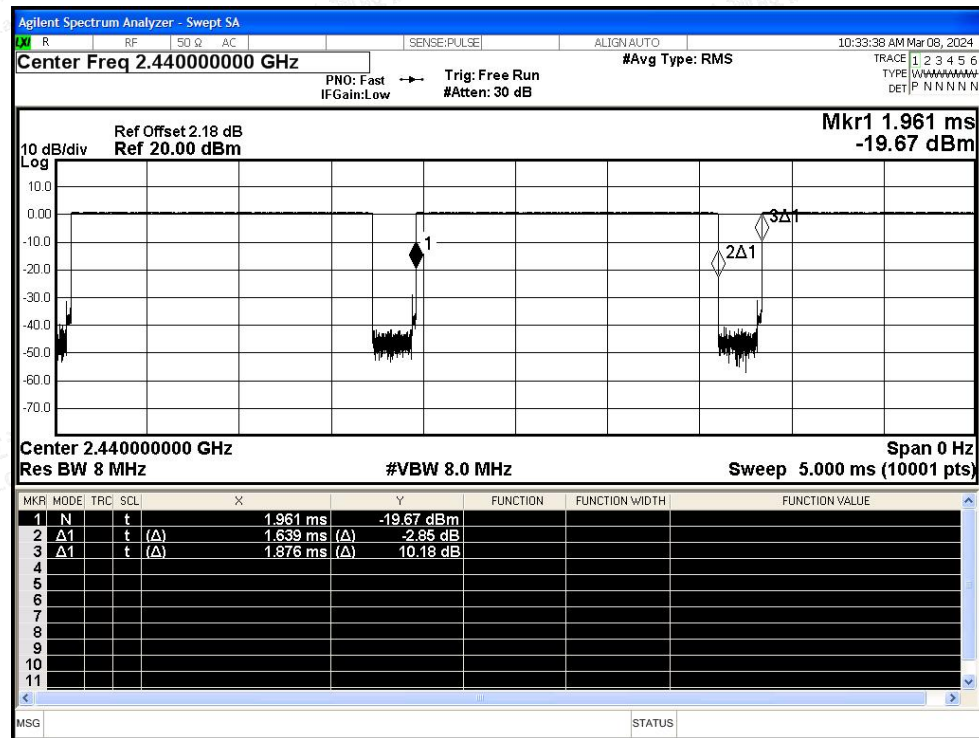


## Test Graphs

## Duty Cycle NVNT BLE 1M 2402MHz Ant2



## Duty Cycle NVNT BLE 1M 2440MHz Ant2

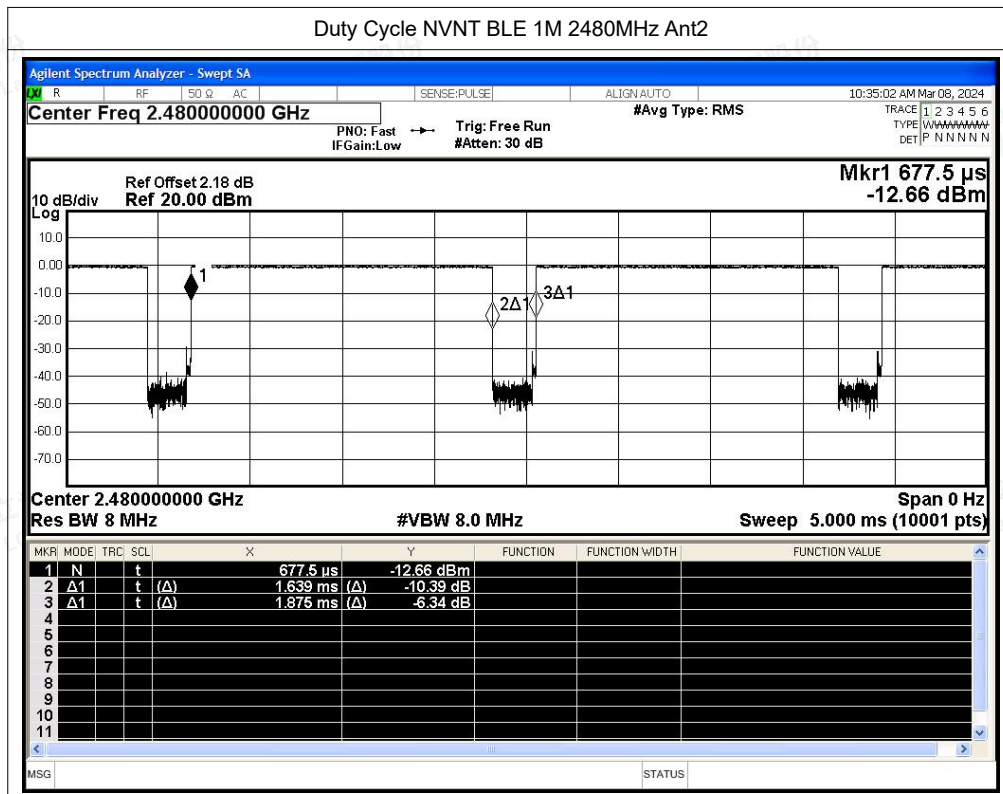


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## B.7 Restrict Band

| Condition | Mode   | Frequency<br>(MHz) | Antenna | Spur<br>Freq<br>(MHz) | Power<br>(dBm) | Gain<br>(dBi) | Duty<br>Factor<br>(dB) | E<br>(dBuV/m) | Detector | Limit<br>(dBuV/m) | Verdict |
|-----------|--------|--------------------|---------|-----------------------|----------------|---------------|------------------------|---------------|----------|-------------------|---------|
| NVNT      | BLE 1M | 2402               | Ant2    | 2310                  | -51.95         | 2             | -                      | 45.31         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant2    | 2310                  | -58.75         | 2             | 0.59                   | 39.1          | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant2    | 2385.744              | -46.99         | 2             | -                      | 50.27         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant2    | 2389.872              | -57.81         | 2             | 0.59                   | 40.04         | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant2    | 2390                  | -50.03         | 2             | -                      | 47.23         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant2    | 2390                  | -58.09         | 2             | 0.59                   | 39.76         | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant2    | 2483.5                | -48.95         | 2             | -                      | 48.31         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant2    | 2483.5                | -57.53         | 2             | 0.59                   | 40.32         | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant2    | 2485.648              | -45.87         | 2             | -                      | 51.39         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant2    | 2485.648              | -57.18         | 2             | 0.59                   | 40.67         | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant2    | 2500                  | -50.05         | 2             | -                      | 47.21         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant2    | 2500                  | -58.15         | 2             | 0.59                   | 39.7          | Average  | 54                | Pass    |



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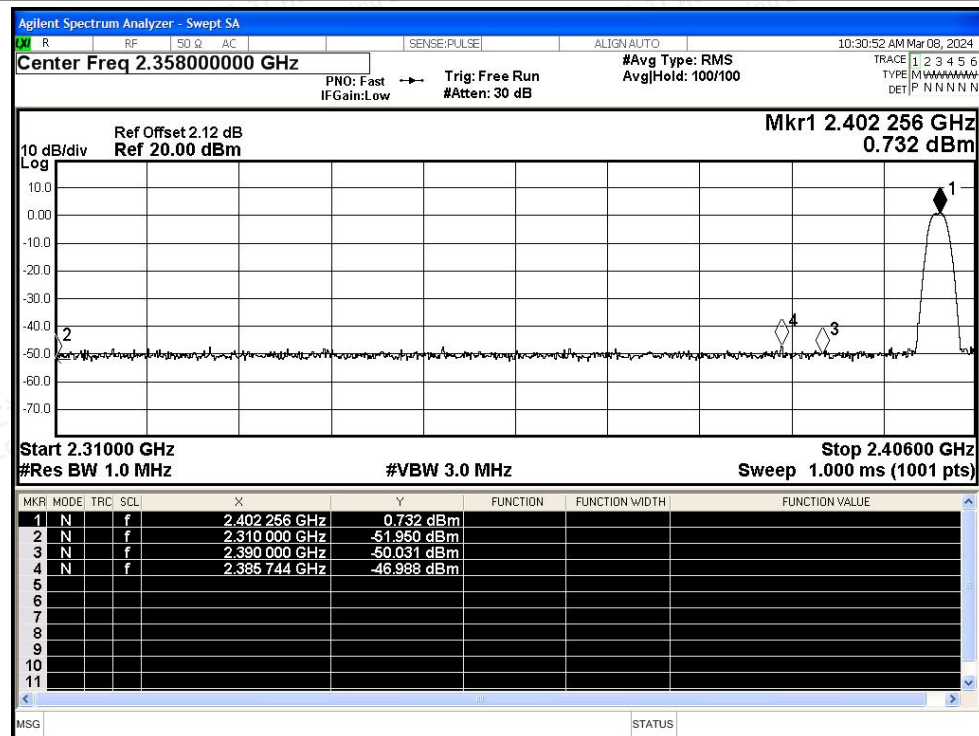
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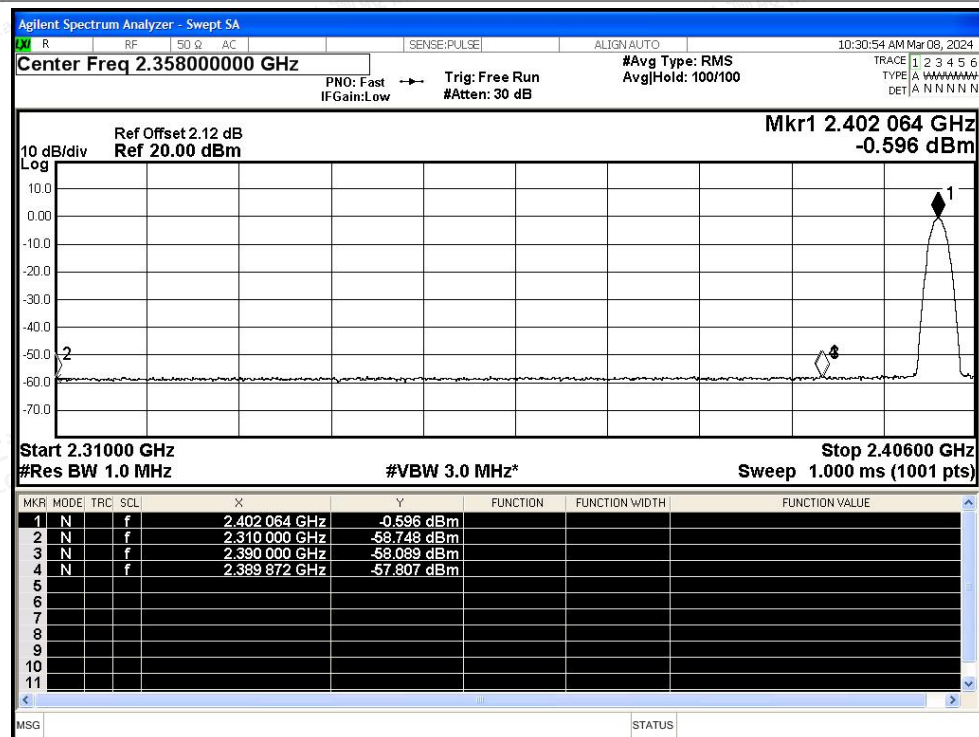


## Test Graphs

## Restrict Band NVNT BLE 1M 2402MHz Ant2 Peak



## Restrict Band NVNT BLE 1M 2402MHz Ant2 Average



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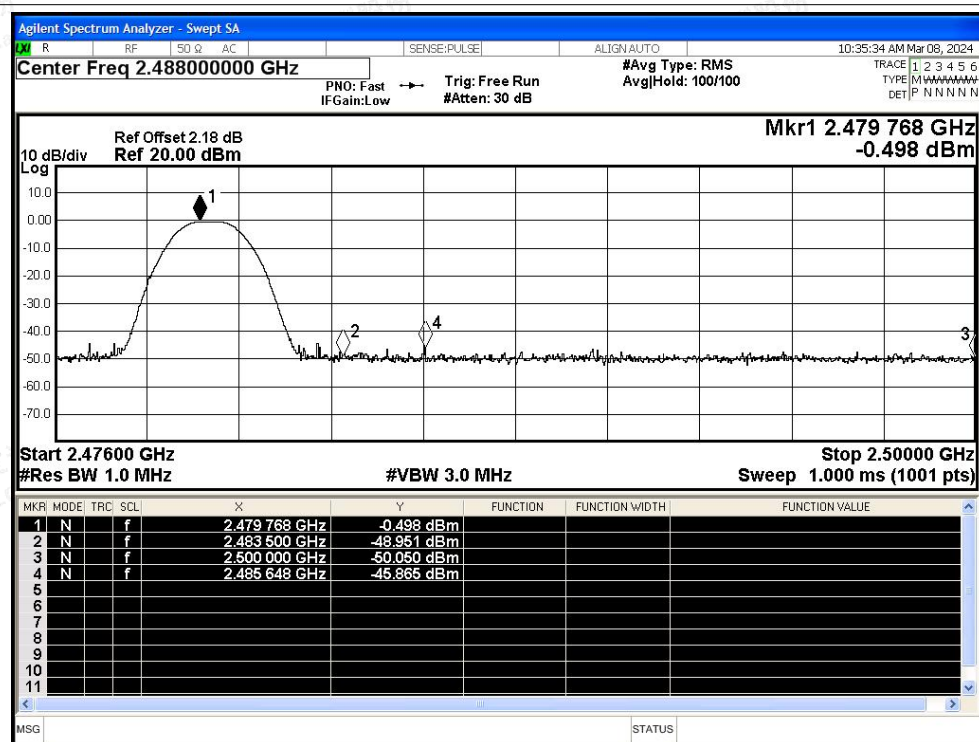
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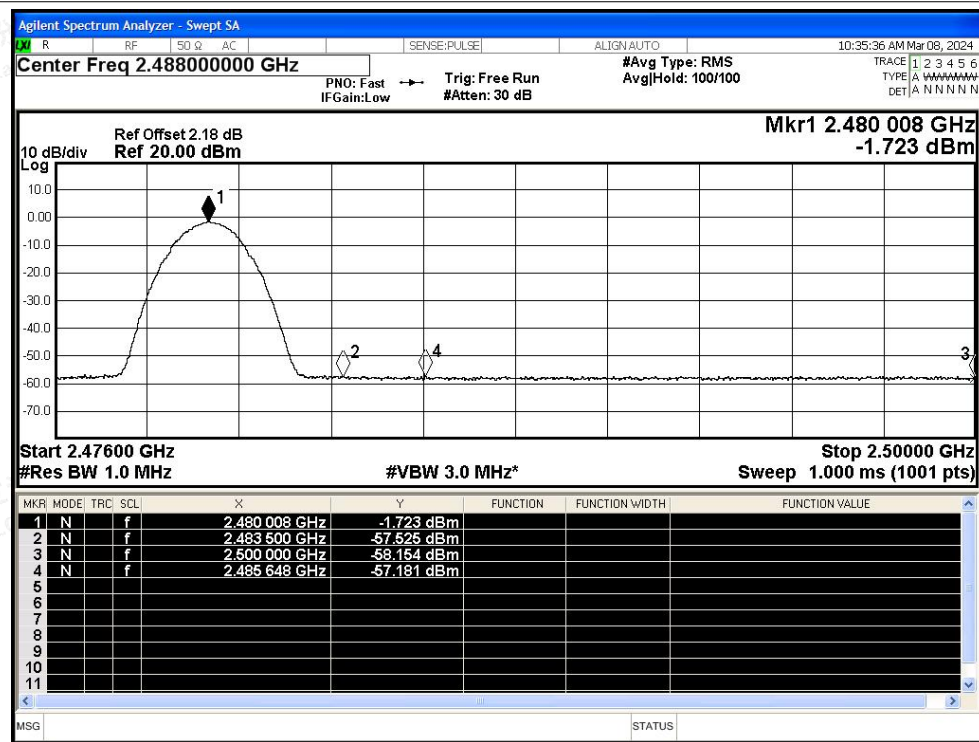
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## Restrict Band NVNT BLE 1M 2480MHz Ant2 Peak



## Restrict Band NVNT BLE 1M 2480MHz Ant2 Average



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