



Appendix B

RF Test Data for BLE (Conducted Measurement)

Product Name: Bluetooth speakerphone device

Test Model: AIRHUG 18

Environmental Conditions

|                    |                                         |
|--------------------|-----------------------------------------|
| Temperature:       | 23.5 ° C                                |
| Relative Humidity: | 52.2%                                   |
| ATM Pressure:      | 100.0 kPa                               |
| Test Engineer:     | <div>Joker.Hu</div> <div>Joker Hu</div> |
| Supervised by:     | <div>Li hu</div> <div>Li huan</div>     |





B.1 -6dB Bandwidth

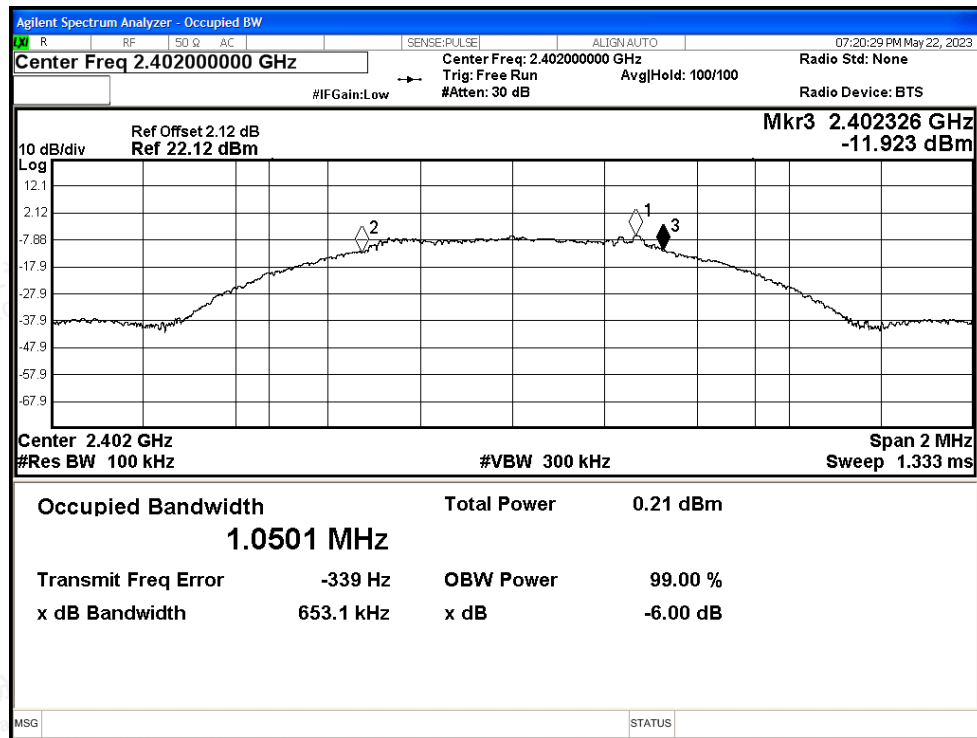
| Condition | Mode   | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|-----------|--------|-----------------|---------|-----------------------|-----------------------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | 0.653                 | >=0.5                       | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | 0.65                  | >=0.5                       | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 0.66                  | >=0.5                       | Pass    |



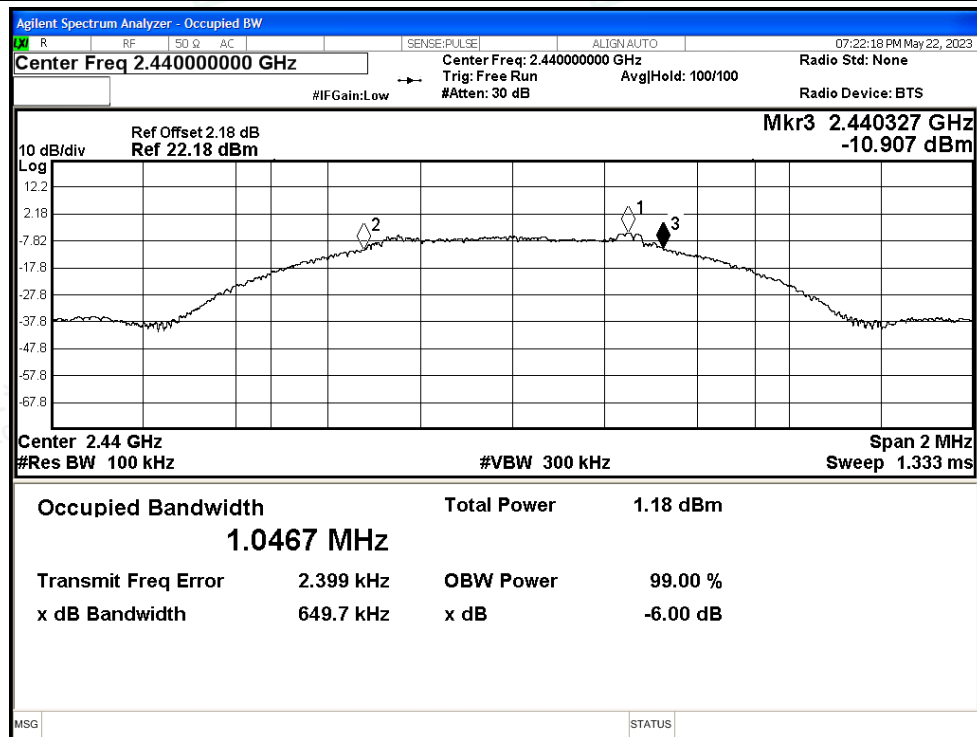


## Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

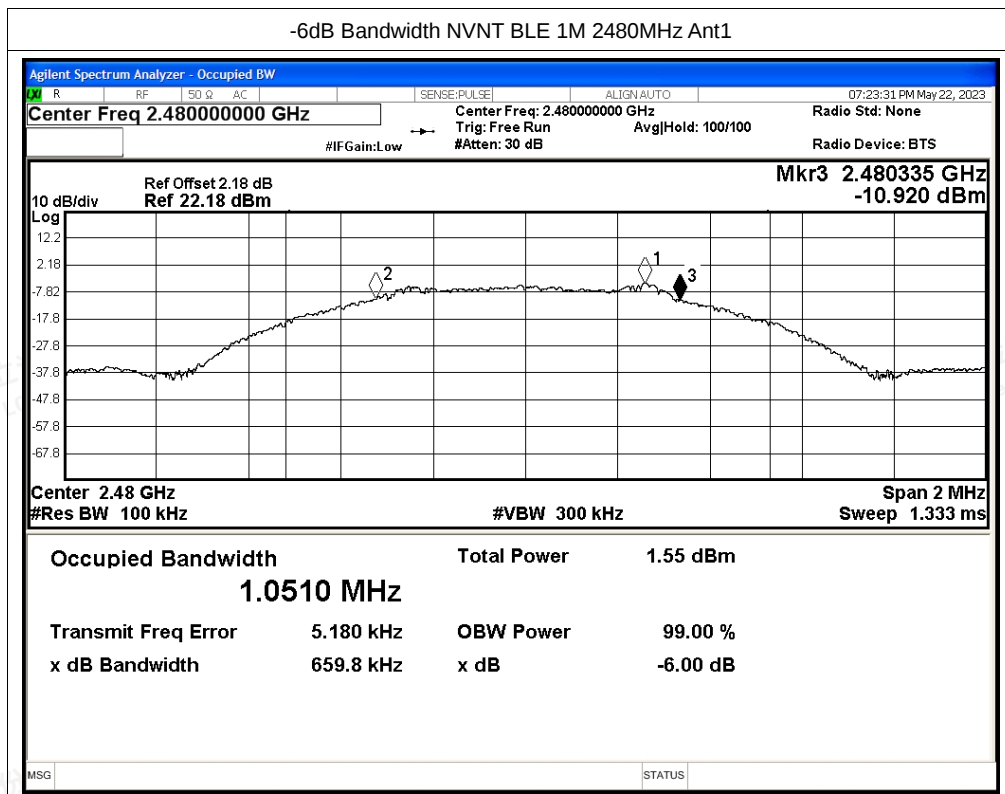


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## B.2 Maximum Conducted Output Power

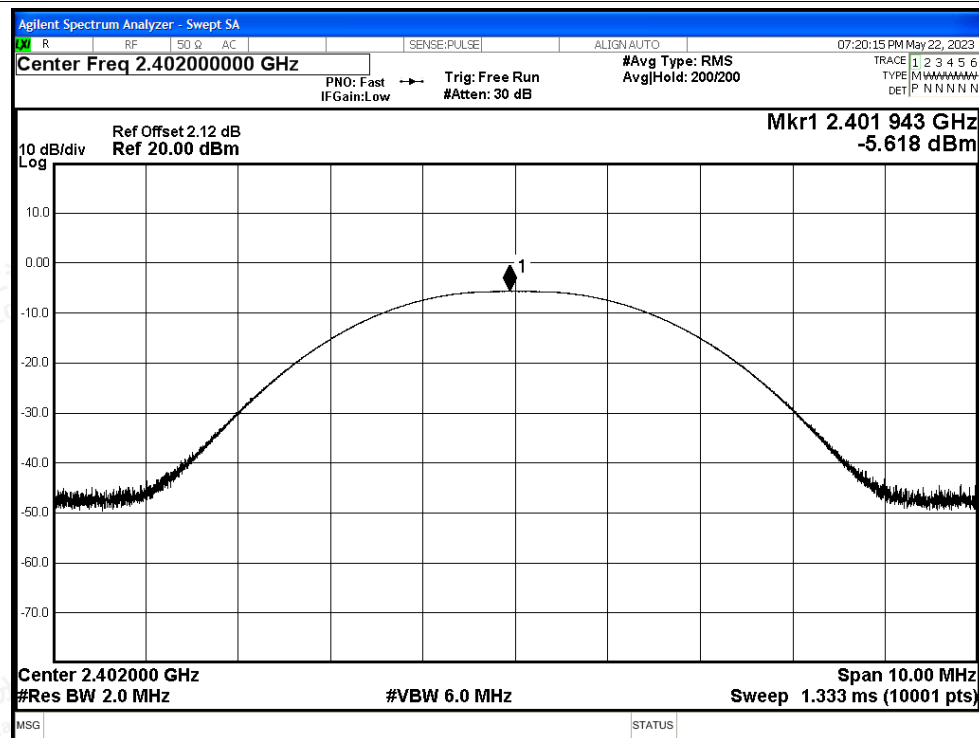
| Condition | Mode   | Frequency (MHz) | Antenna | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|--------|-----------------|---------|-------------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | -5.62             | 30          | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | -4.65             | 30          | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -4.35             | 30          | Pass    |



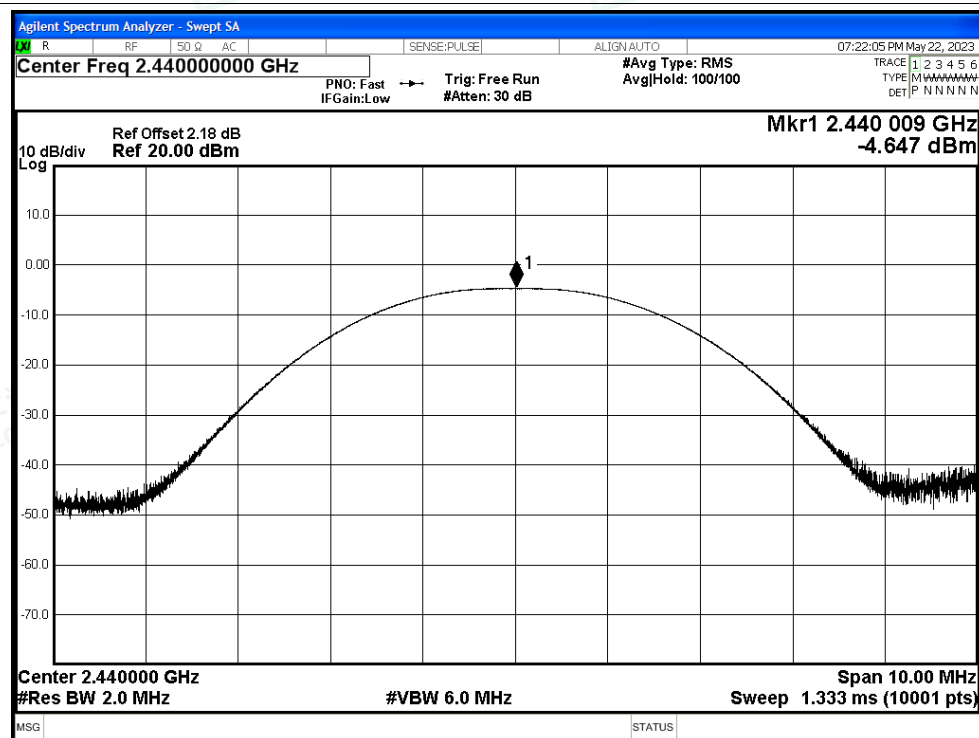


## Test Graphs

## Power NVNT BLE 1M 2402MHz Ant1



## Power NVNT BLE 1M 2440MHz Ant1

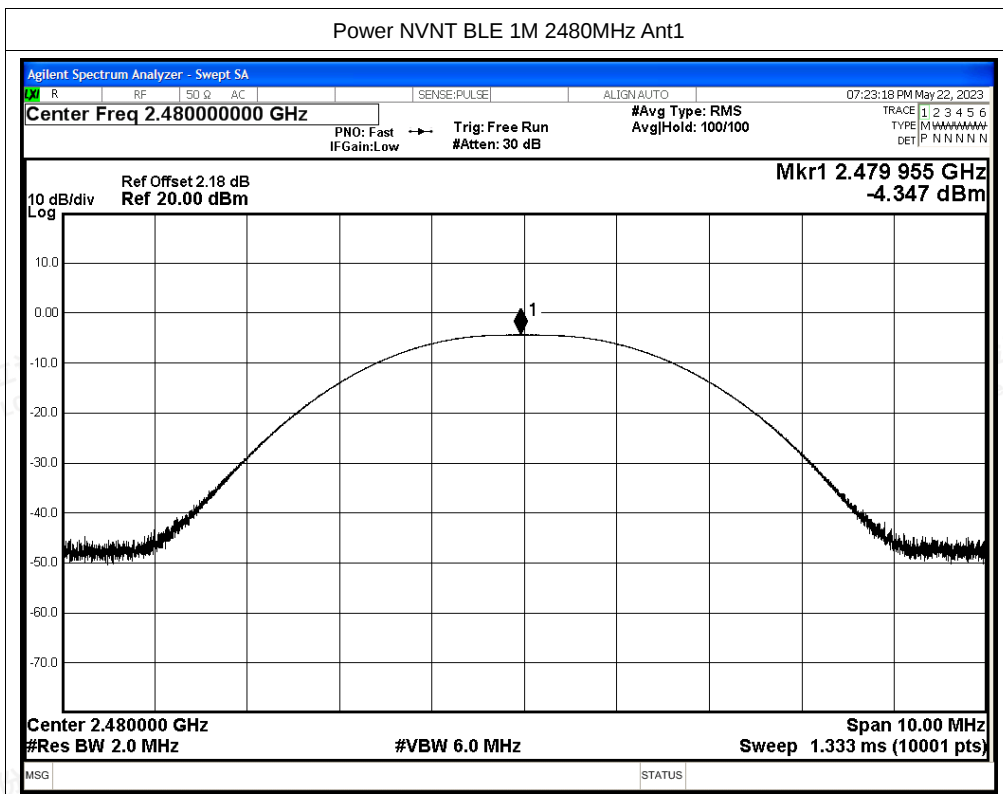


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### B.3 Maximum Power Spectral Density Level

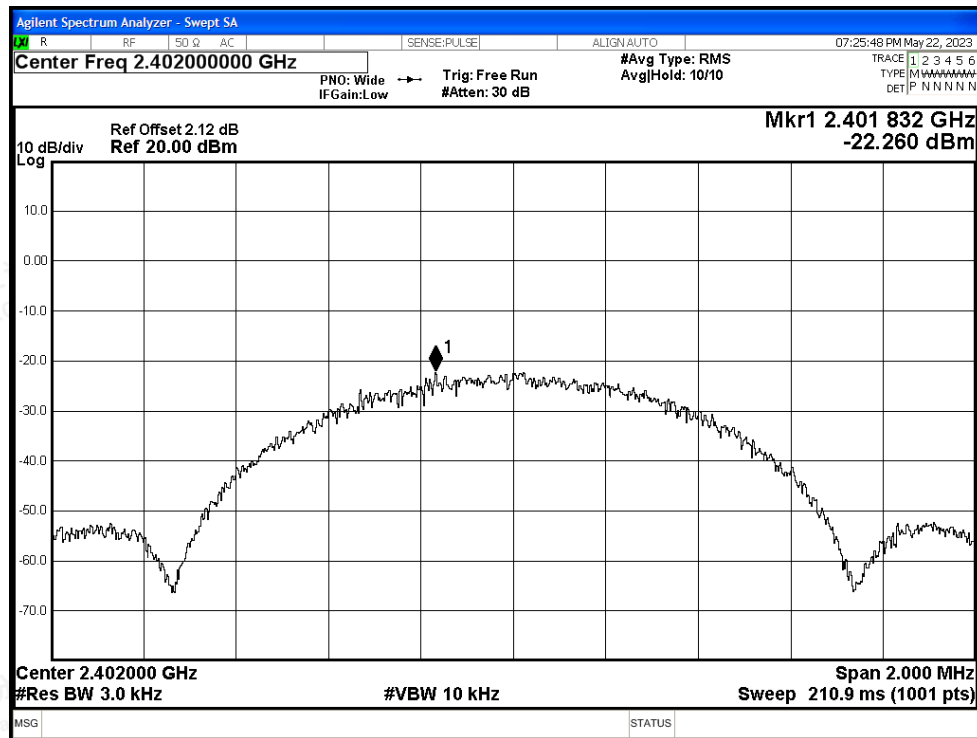
| Condition | Mode   | Frequency (MHz) | Antenna | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | Verdict |
|-----------|--------|-----------------|---------|----------------------|------------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | -22.26               | 8                | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | -21.23               | 8                | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -20.76               | 8                | Pass    |



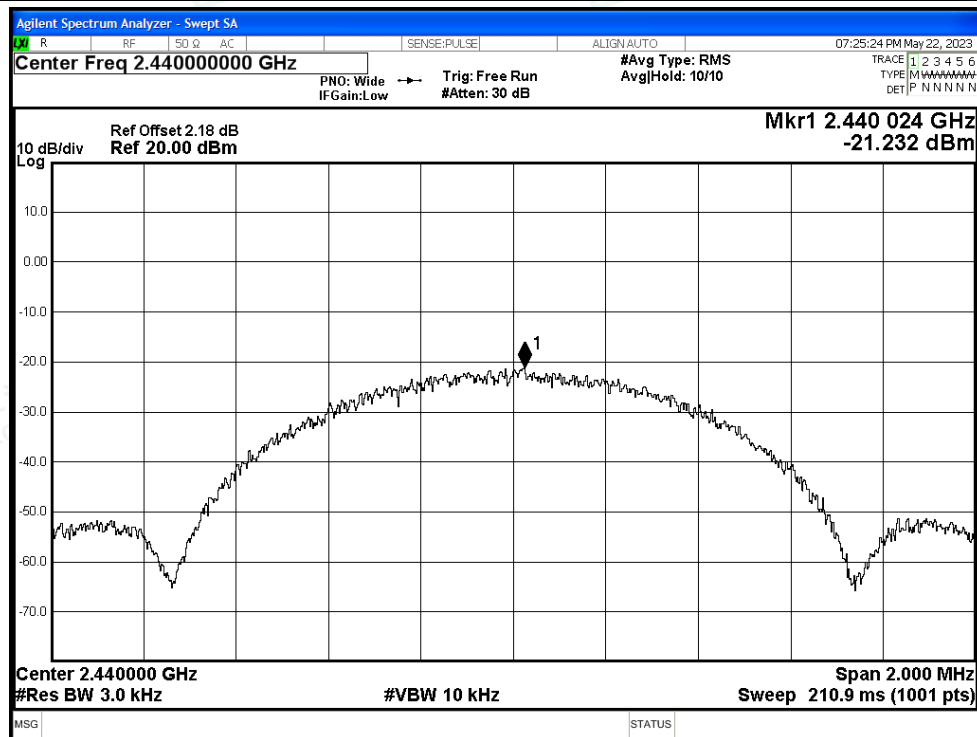


## Test Graphs

## PSD NVNT BLE 1M 2402MHz Ant1



## PSD NVNT BLE 1M 2440MHz Ant1

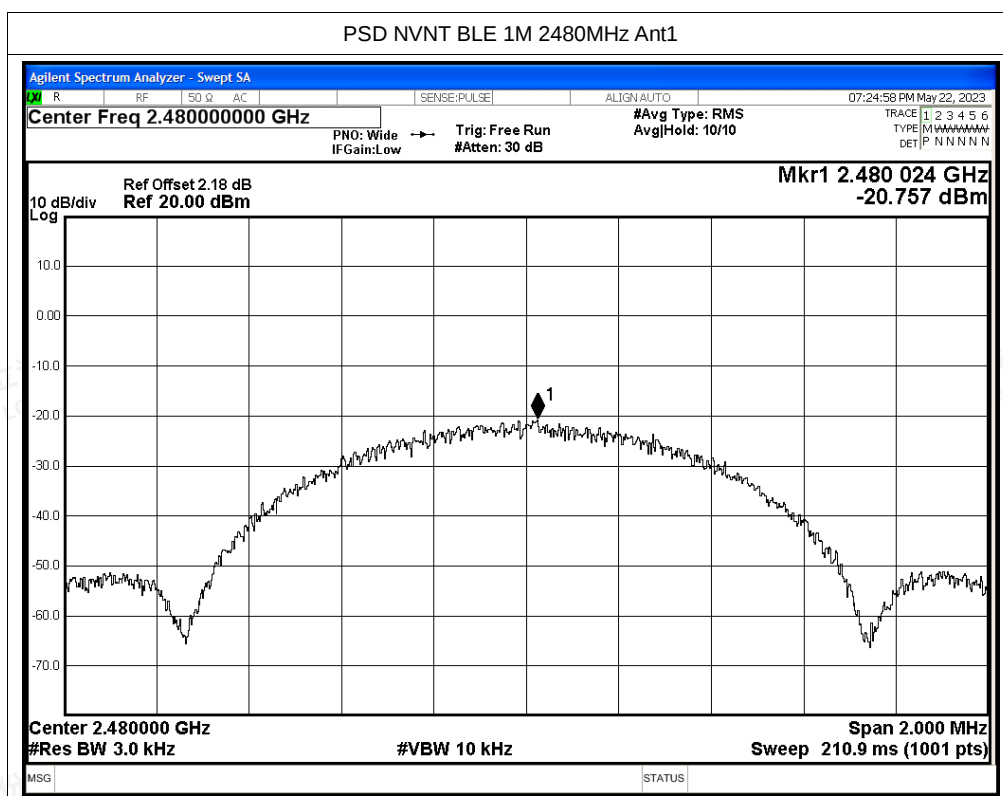


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## B.4 Band Edge

| Condition | Mode   | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | -50.87          | -20         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -52.21          | -20         | Pass    |



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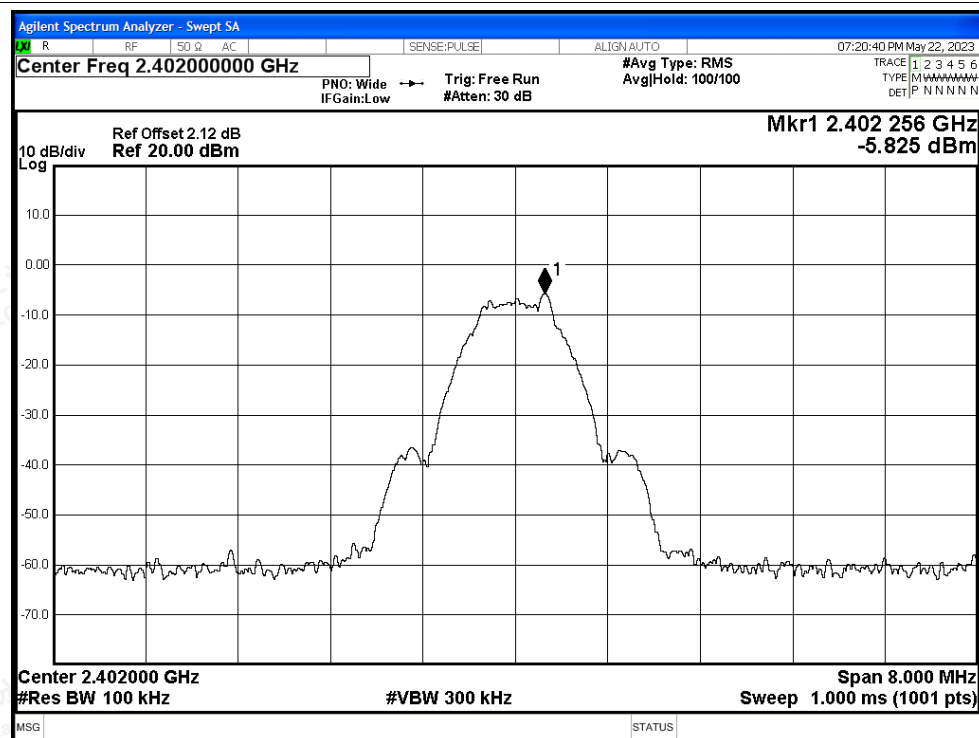
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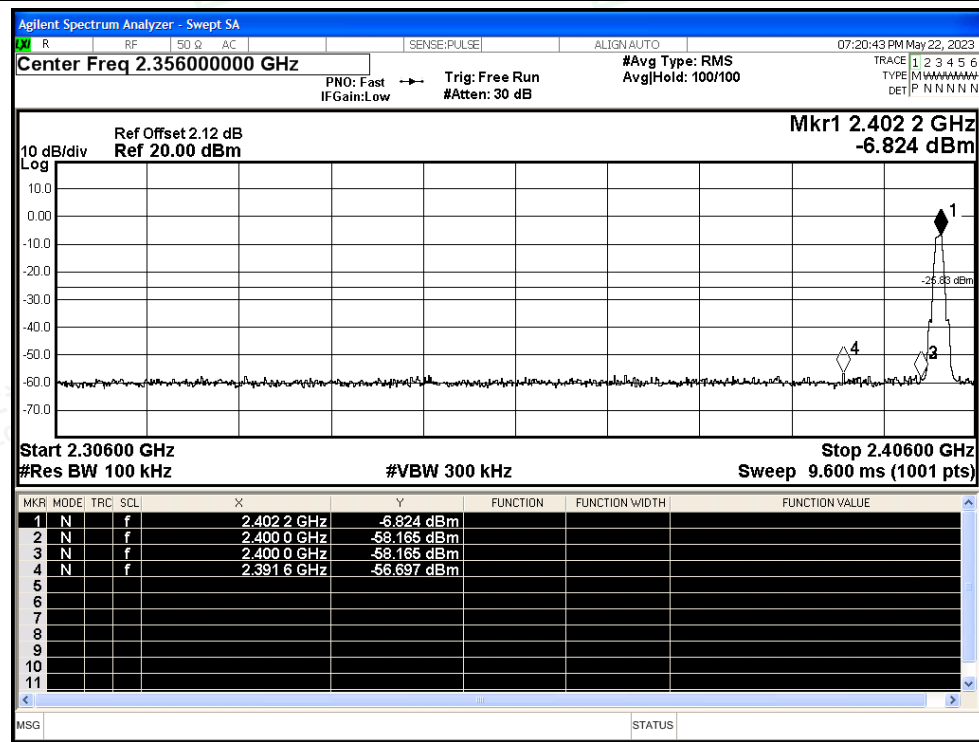


## Test Graphs

## Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



## Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



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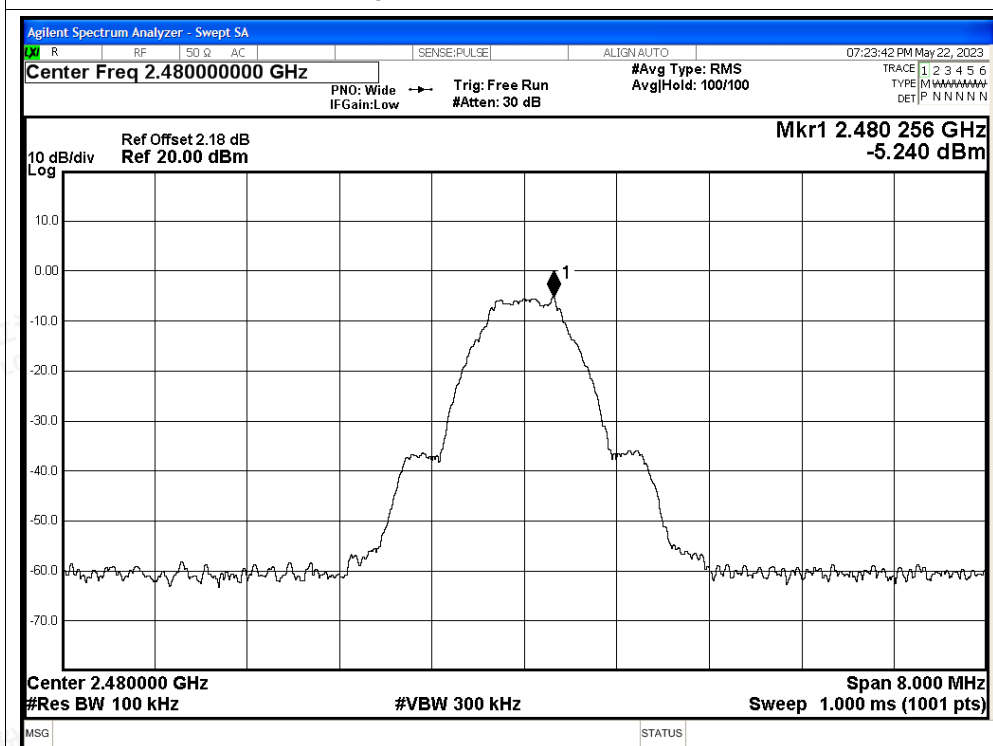
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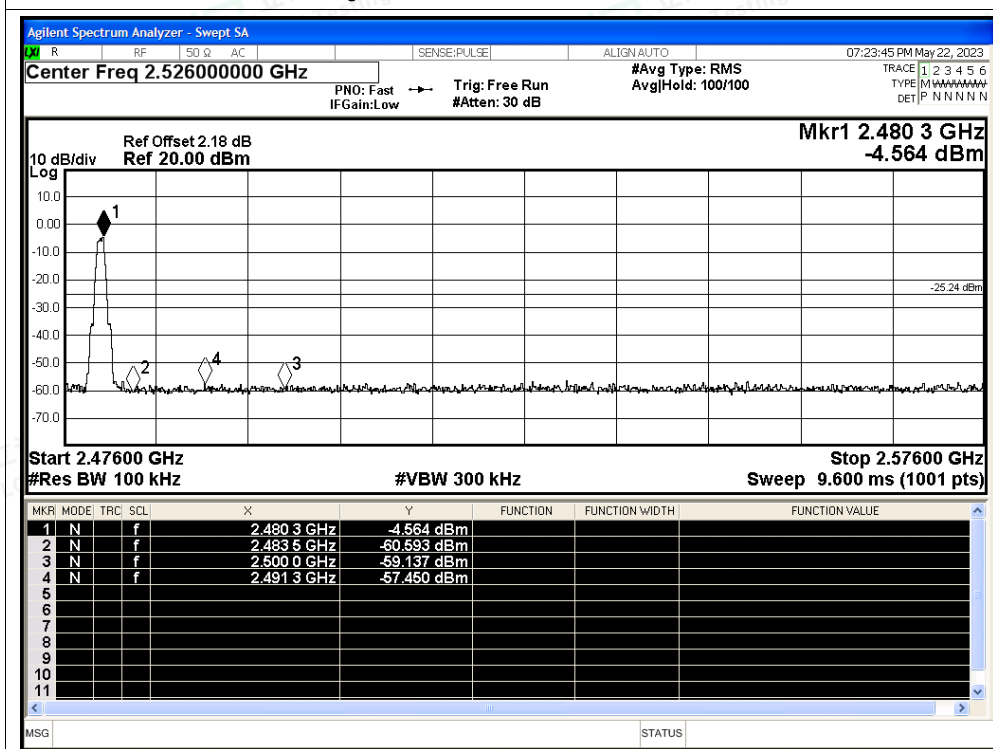
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## Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



## Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



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B.5 Conducted RF Spurious Emission

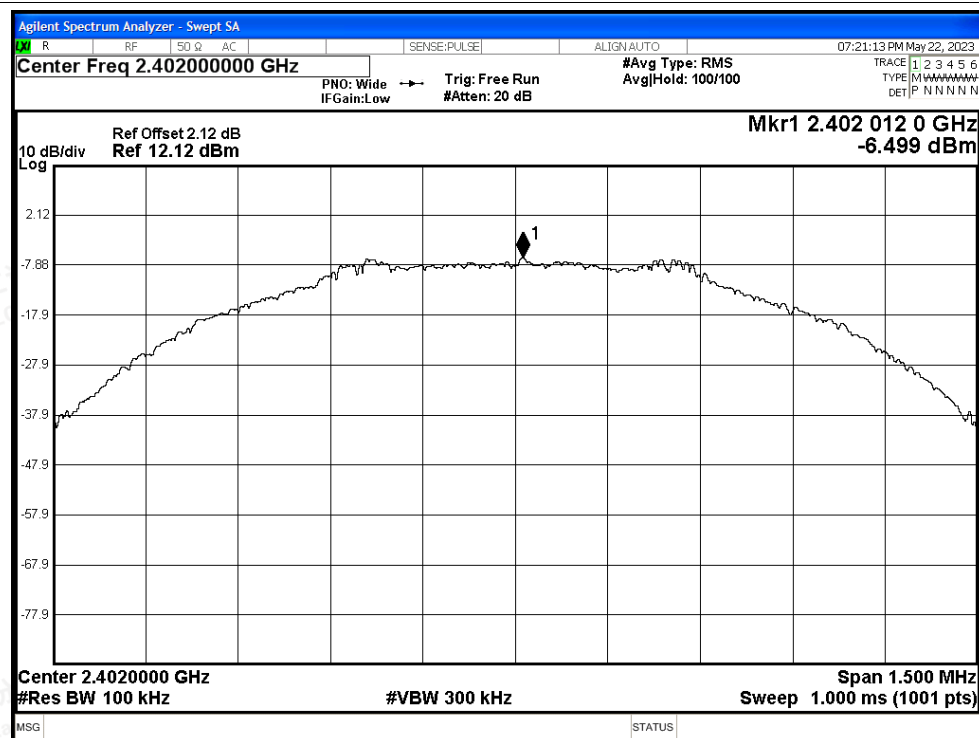
| Condition | Mode   | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | -48.56          | -20         | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | -50.09          | -20         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -51.01          | -20         | Pass    |



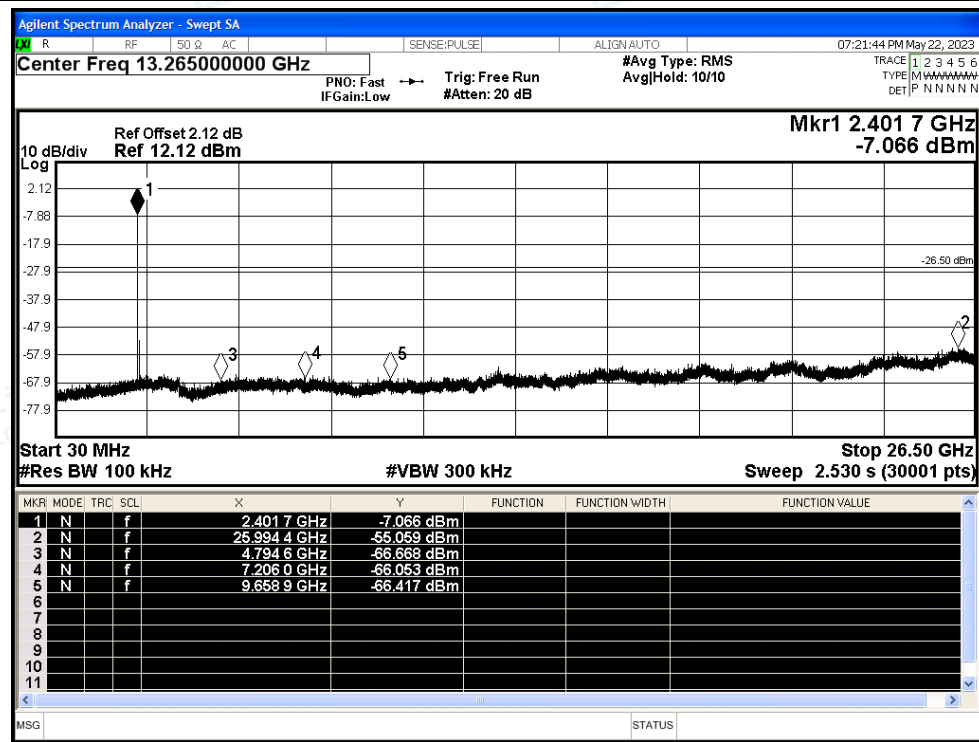


## Test Graphs

## Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



## Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

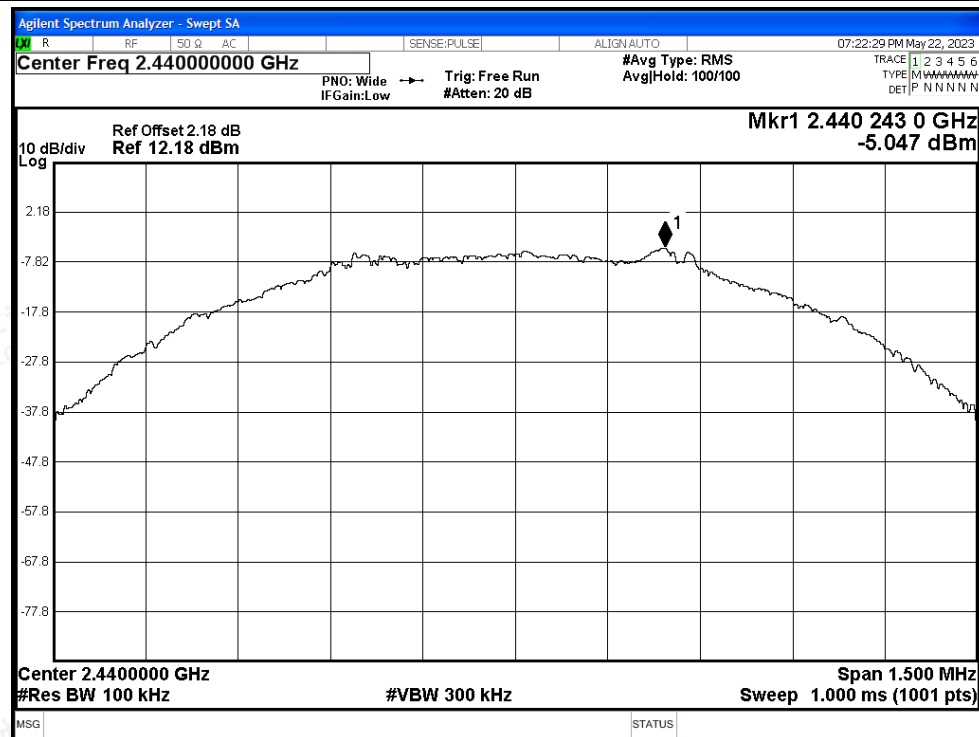
Add: 101, 201 Bldg A &amp; 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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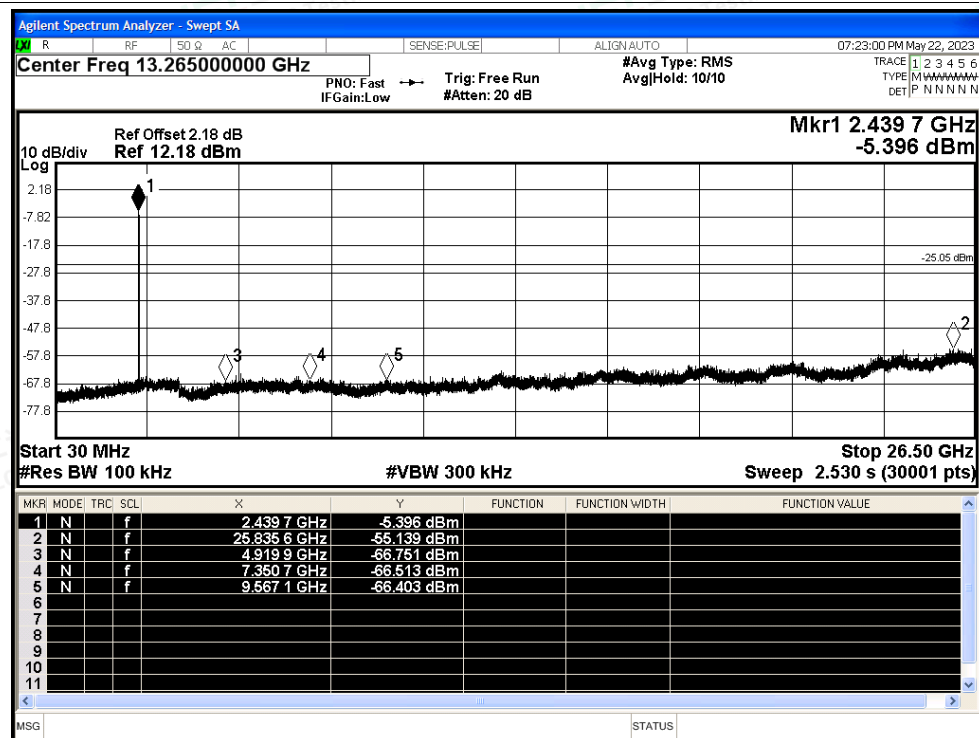
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## Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



## Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



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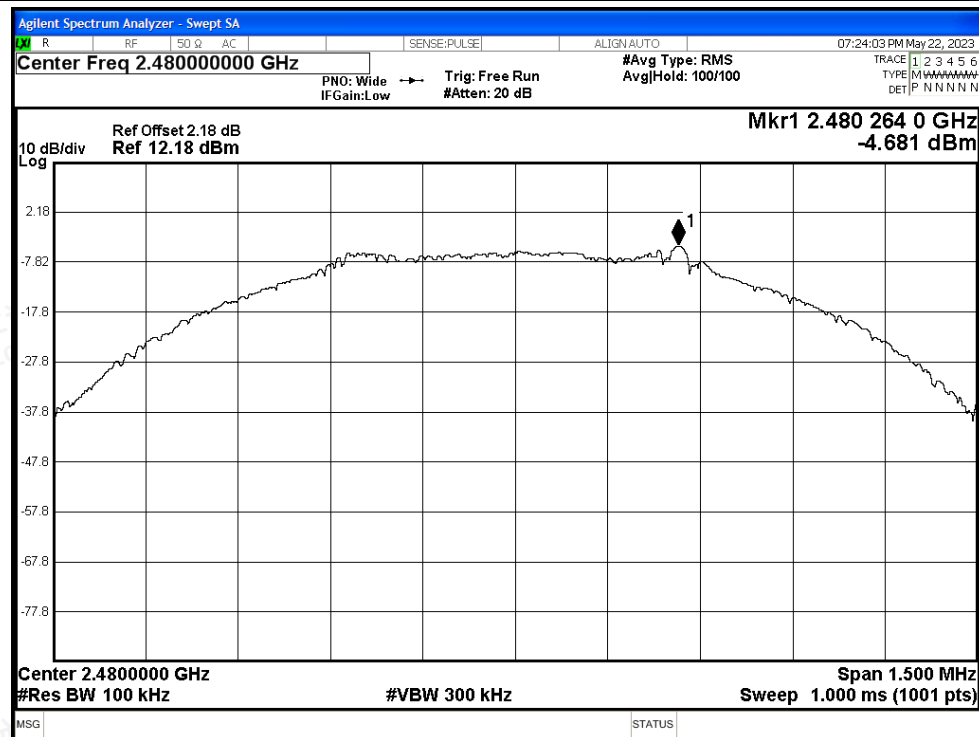
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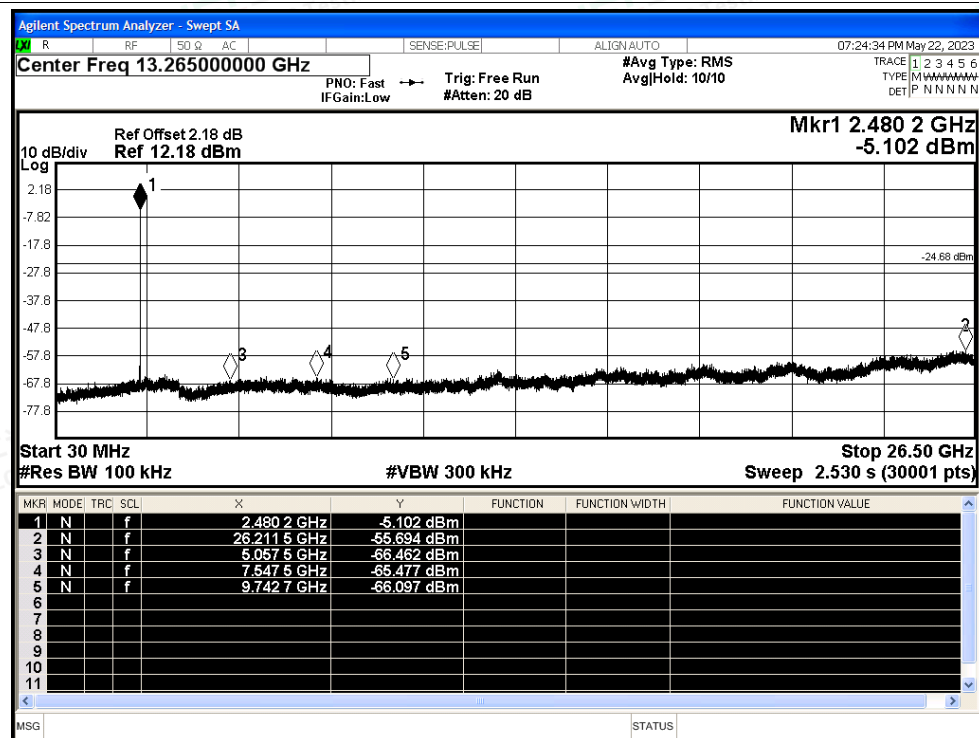
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## Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



## Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



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B.6 Duty Cycle

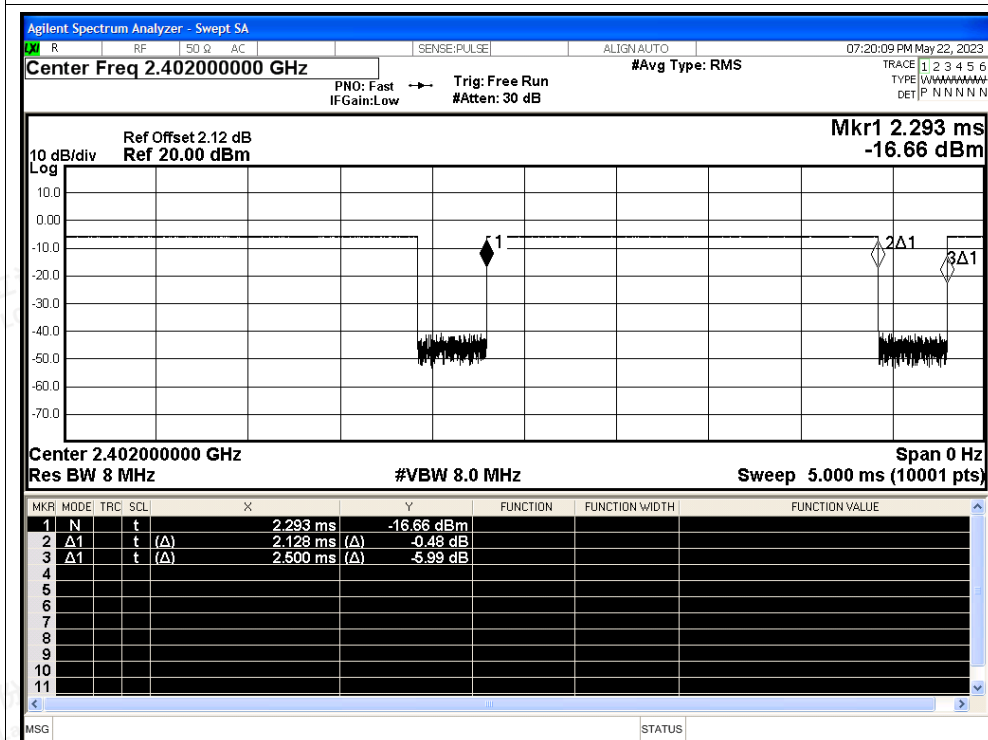
| Condition | Mode   | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) | 1/T (kHz) |
|-----------|--------|-----------------|---------|----------------|------------------------|-----------|
| NVNT      | BLE 1M | 2402            | Ant1    | 85.1           | 0.7                    | 0.47      |
| NVNT      | BLE 1M | 2440            | Ant1    | 85.1           | 0.7                    | 0.47      |
| NVNT      | BLE 1M | 2480            | Ant1    | 85.1           | 0.7                    | 0.47      |



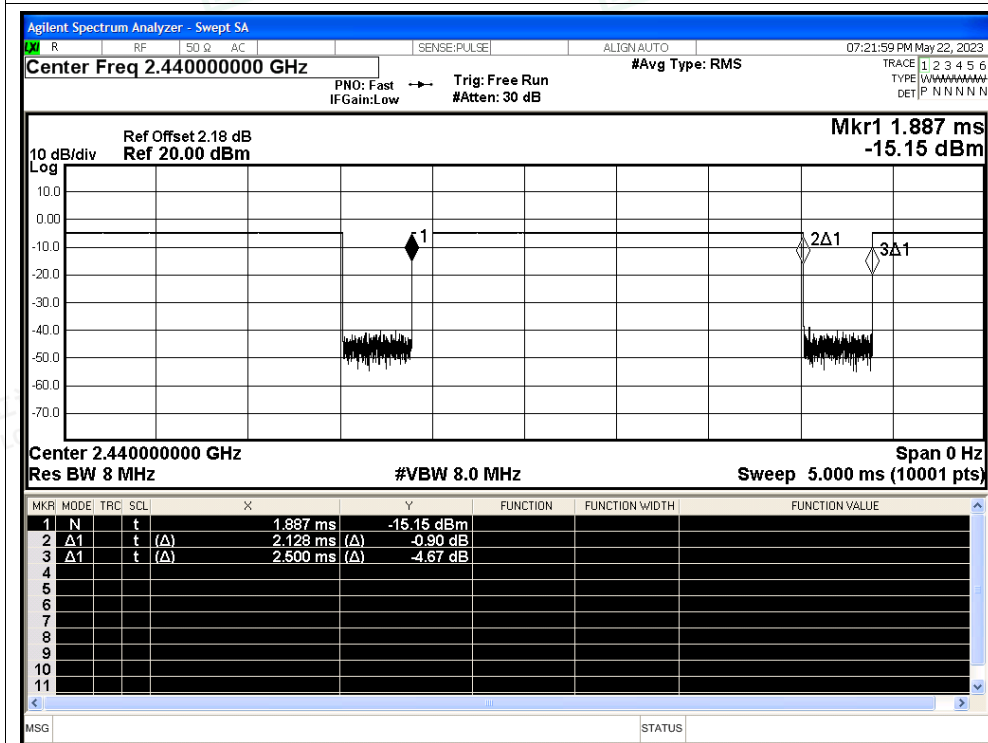


## Test Graphs

## Duty Cycle NVNT BLE 1M 2402MHz Ant1



## Duty Cycle NVNT BLE 1M 2440MHz Ant1

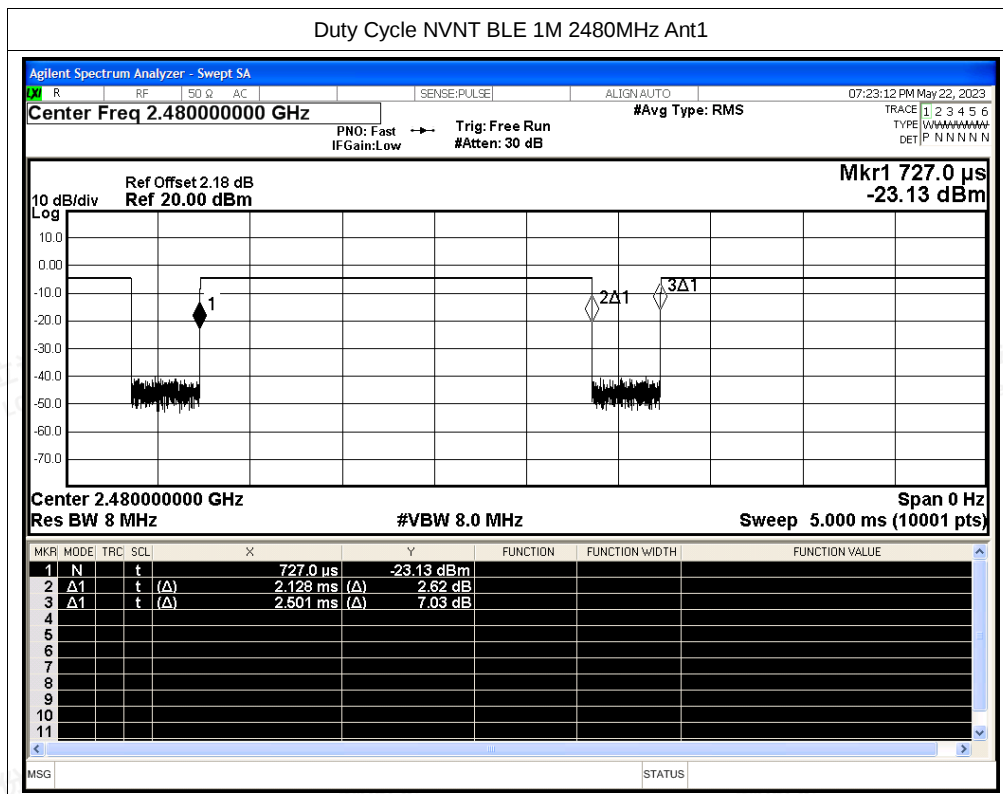


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## B.7 Restrict Band

| Condition | Mode   | Frequency (MHz) | Antenna | Spur Freq (MHz) | Power (dBm) | Gain (dBi) | E (dBuV/m) | Detector | Limit (dBuV/m) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|------------|------------|----------|----------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | 2310            | -50.99      | 2.61       | 46.88      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2402            | Ant1    | 2310            | -57.92      | 2.61       | 39.95      | Average  | 54             | Pass    |
| NVNT      | BLE 1M | 2402            | Ant1    | 2362.8          | -47.46      | 2.61       | 50.41      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2402            | Ant1    | 2386.416        | -57.34      | 2.61       | 40.53      | Average  | 54             | Pass    |
| NVNT      | BLE 1M | 2402            | Ant1    | 2390            | -50.88      | 2.61       | 46.99      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2402            | Ant1    | 2390            | -57.56      | 2.61       | 40.31      | Average  | 54             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2483.5          | -50.5       | 2.61       | 47.37      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2483.5          | -56.51      | 2.61       | 41.36      | Average  | 54             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2494.24         | -46.59      | 2.61       | 51.28      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2483.512        | -56.51      | 2.61       | 41.36      | Average  | 54             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2500            | -49.33      | 2.61       | 48.54      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2500            | -57.08      | 2.61       | 40.79      | Average  | 54             | Pass    |



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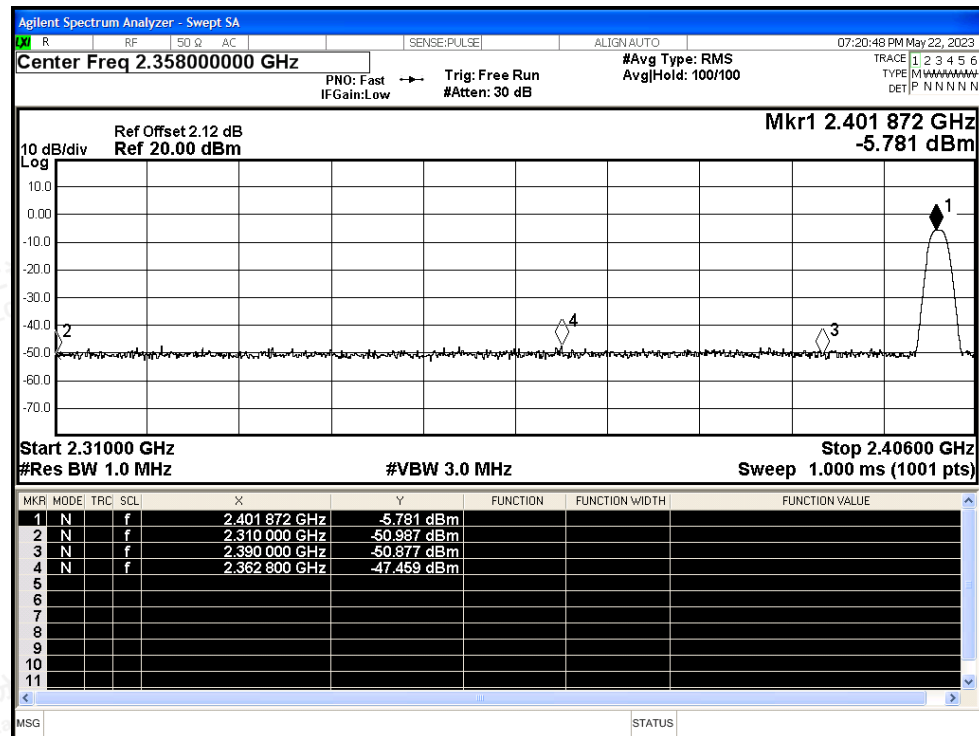
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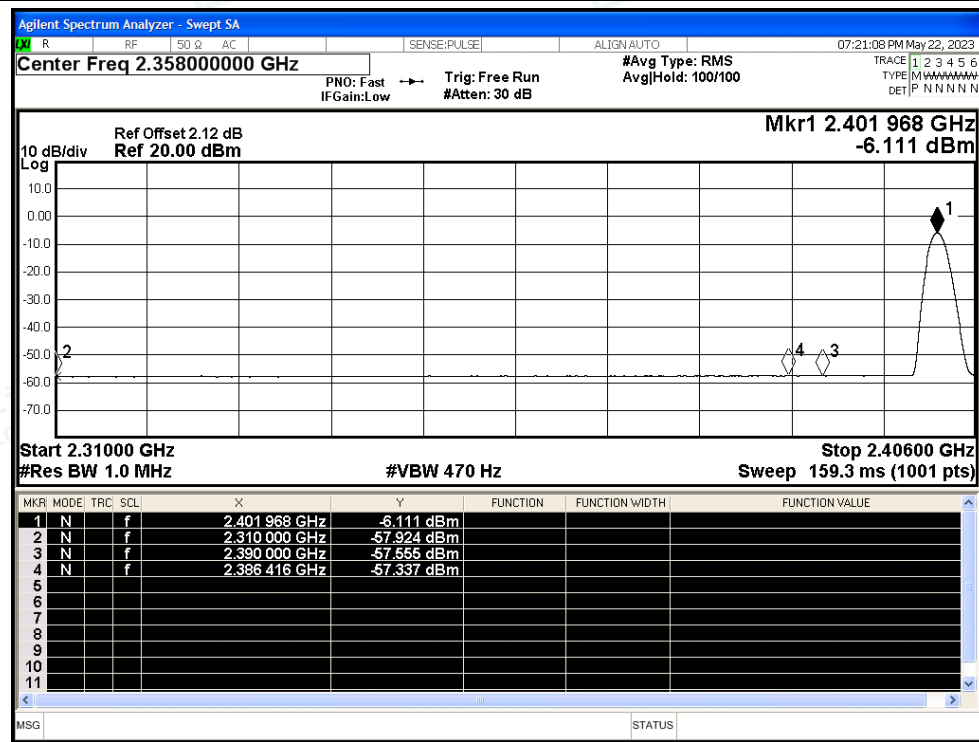


## Test Graphs

## Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



## Restrict Band NVNT BLE 1M 2402MHz Ant1 Average



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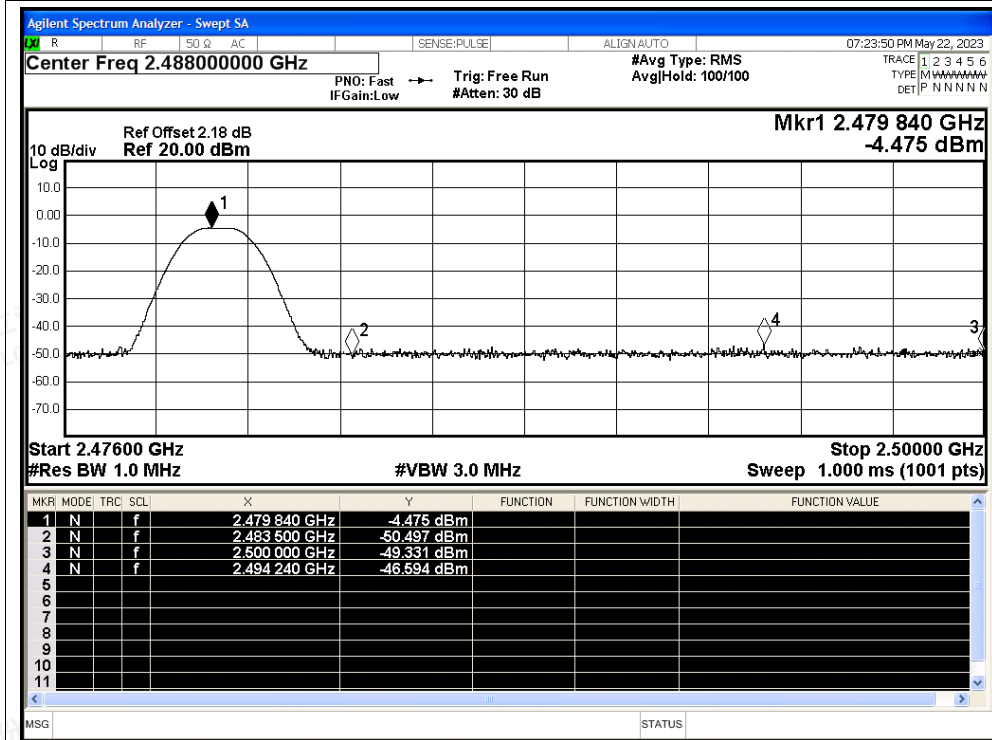
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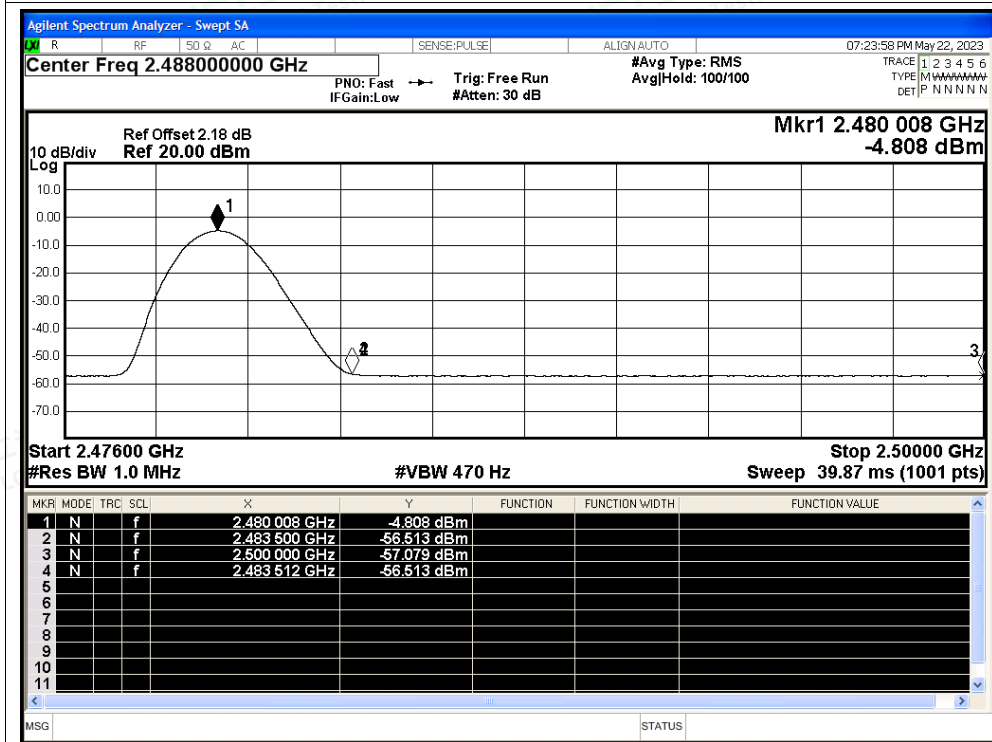
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## Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



## Restrict Band NVNT BLE 1M 2480MHz Ant1 Average



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