



## Appendix B

### RF Test Data for BT LE (Conducted Measurement)

Product Name: Massage Chair

Test Model: HL-6610

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.8° C   |
| Relative Humidity: | 52.1%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Jay Luo   |
| Supervised by:     | Nick Peng |



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## B.1 -6dB Bandwidth

| Condition | Mode   | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|-----------|--------|-----------------|---------|-----------------------|-----------------------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | 0.702                 | $\geq 0.5$                  | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | 0.711                 | $\geq 0.5$                  | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 0.717                 | $\geq 0.5$                  | Pass    |

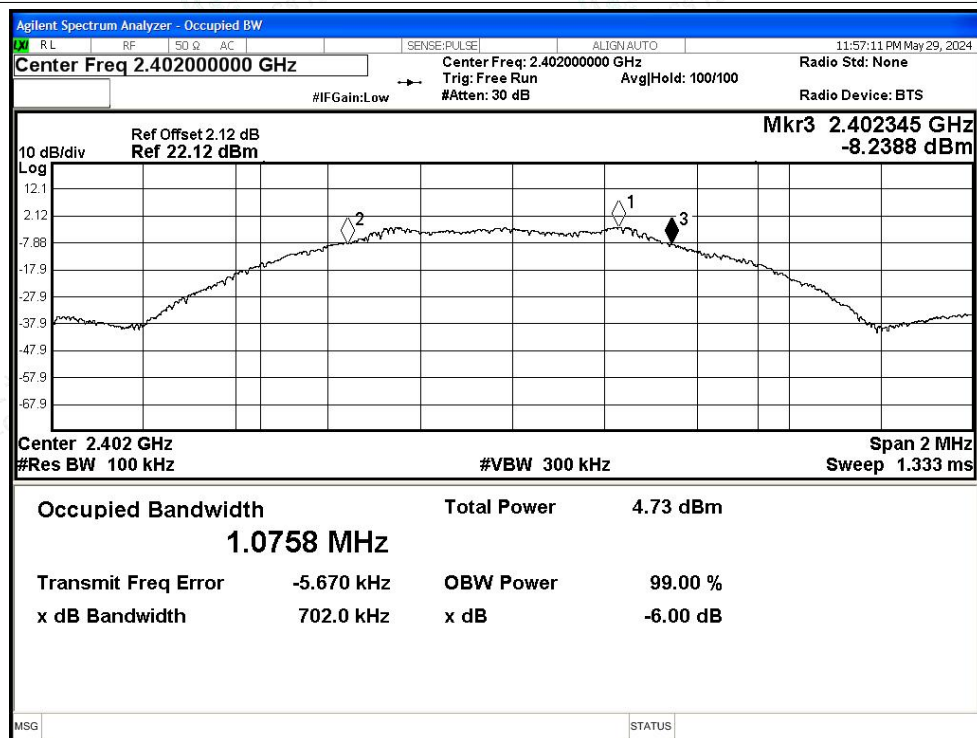


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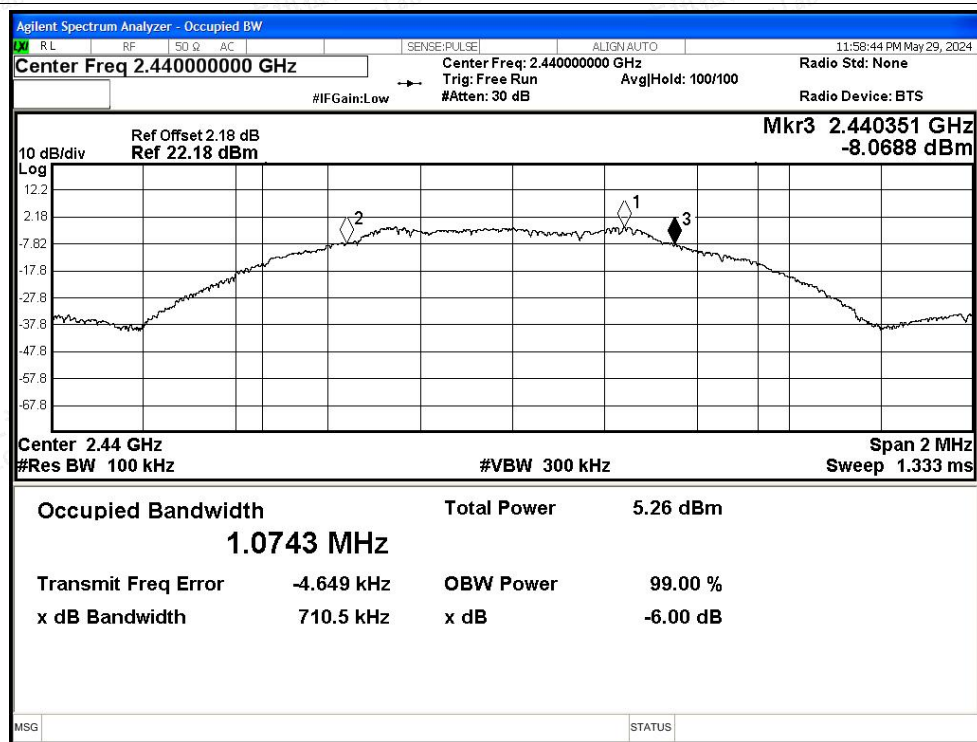


## Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

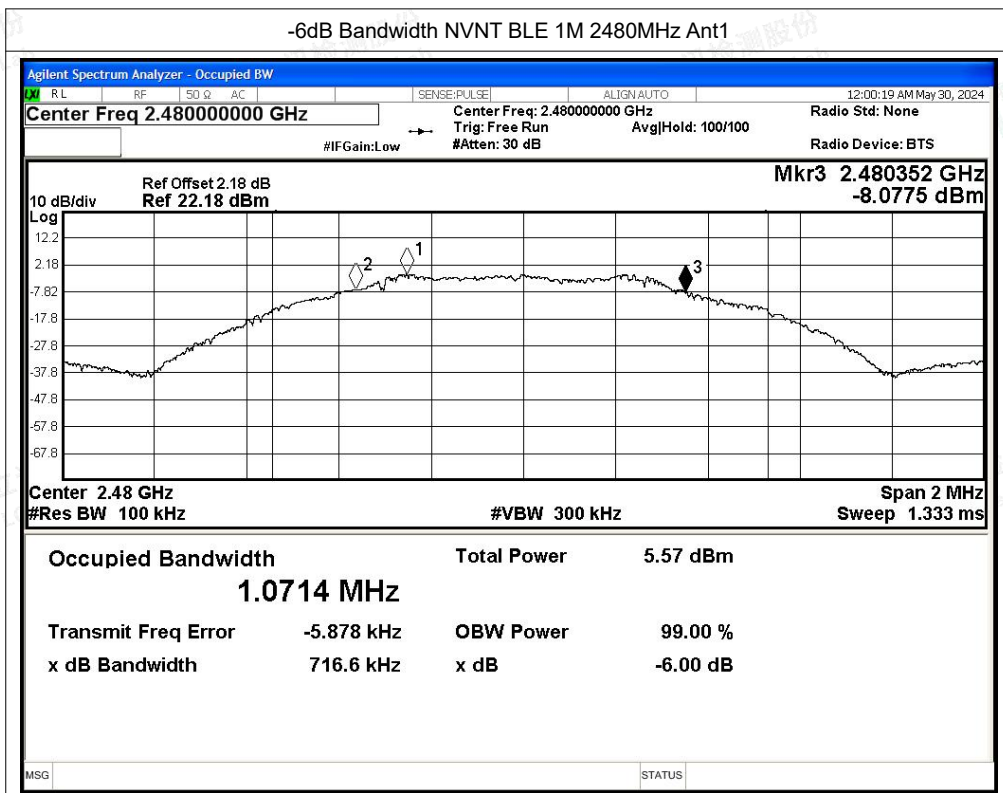


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## B.2 Maximum Conducted Output Power

| Condition | Mode   | Frequency (MHz) | Antenna | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|--------|-----------------|---------|-------------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | -1.04             | 30          | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | -0.45             | 30          | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -0.10             | 30          | Pass    |

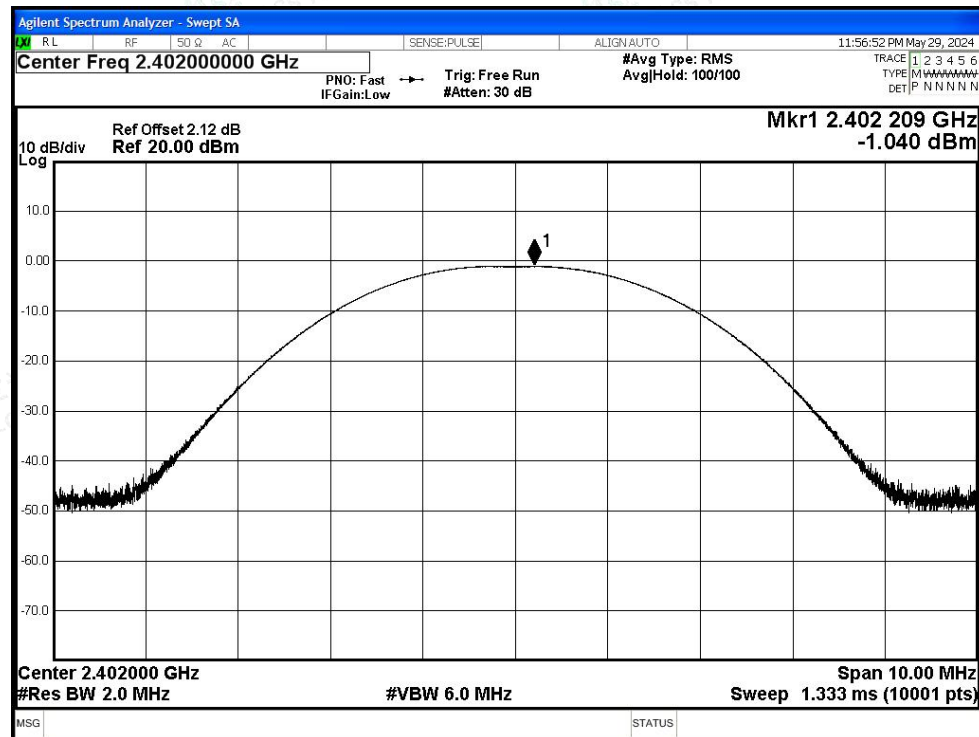


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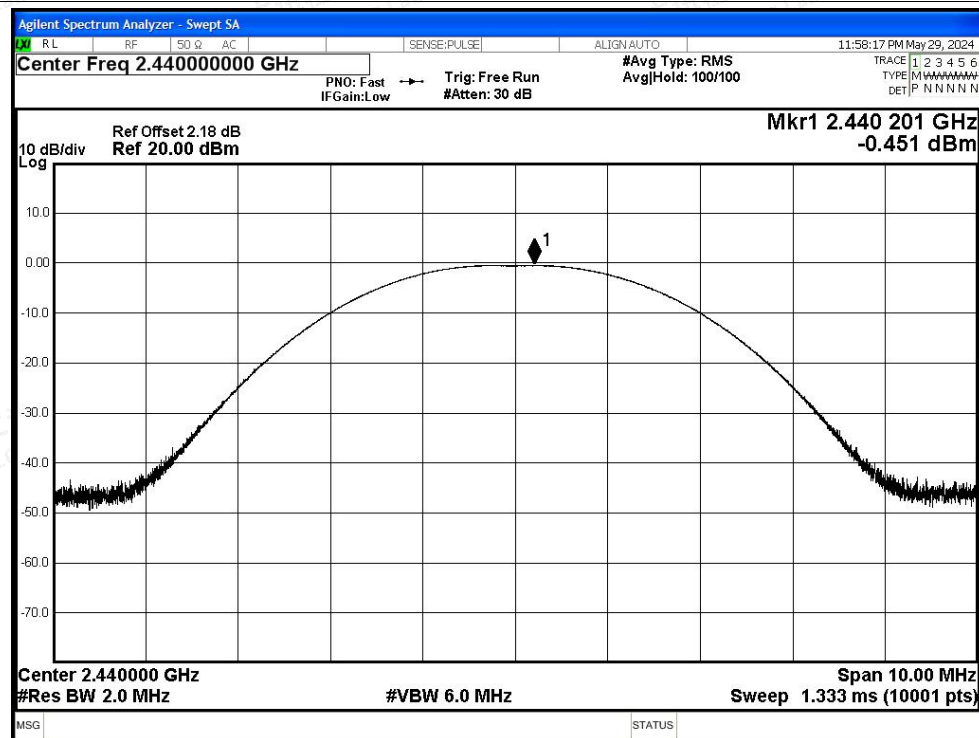


## Test Graphs

Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2440MHz Ant1

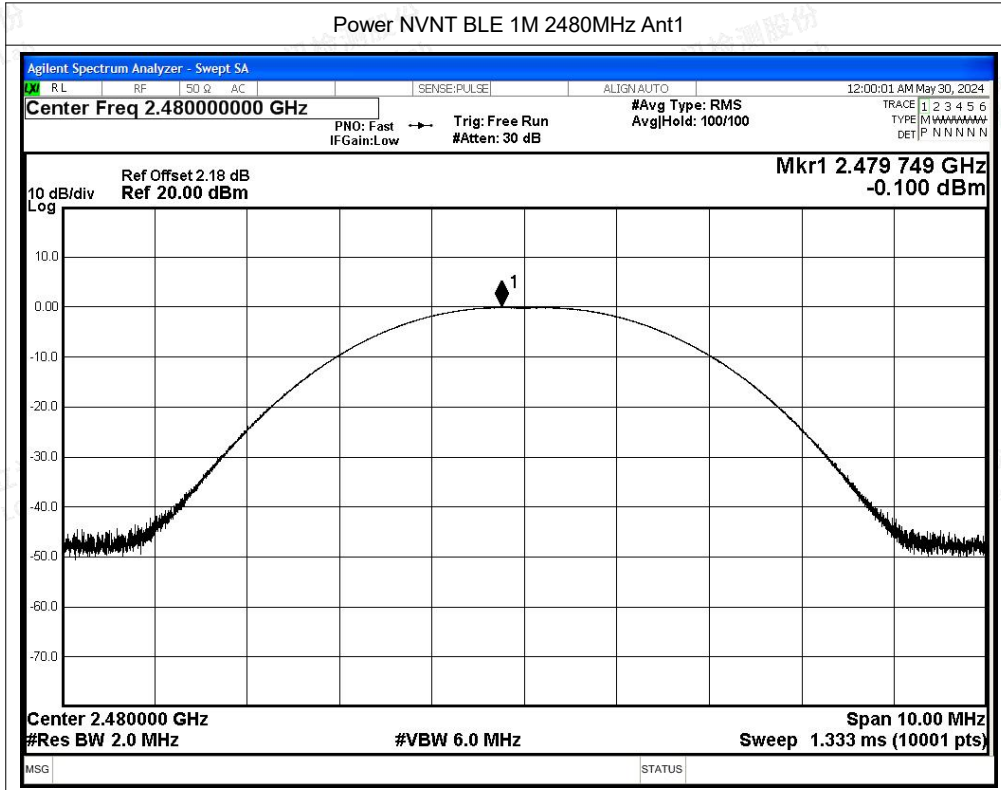


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### B.3 Maximum Power Spectral Density Level

| Condition | Mode   | Frequency<br>(MHz) | Antenna | Total PSD<br>(dBm/3kHz) | Limit<br>(dBm/3kHz) | Verdict |
|-----------|--------|--------------------|---------|-------------------------|---------------------|---------|
| NVNT      | BLE 1M | 2402               | Ant1    | -16.79                  | 8                   | Pass    |
| NVNT      | BLE 1M | 2440               | Ant1    | -16.74                  | 8                   | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | -16.43                  | 8                   | Pass    |

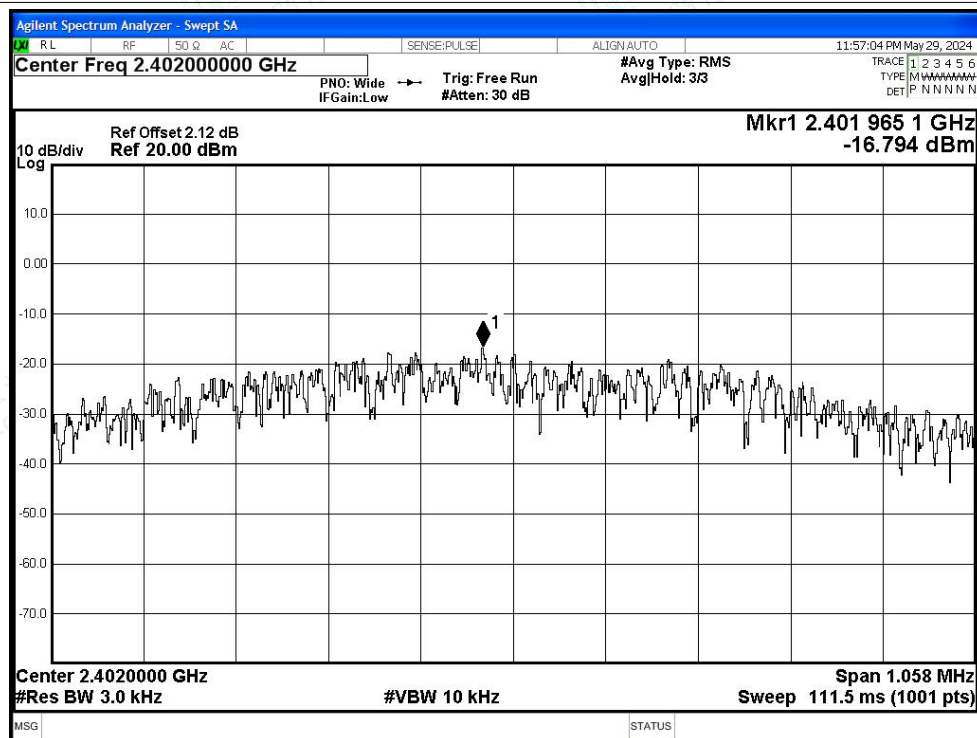


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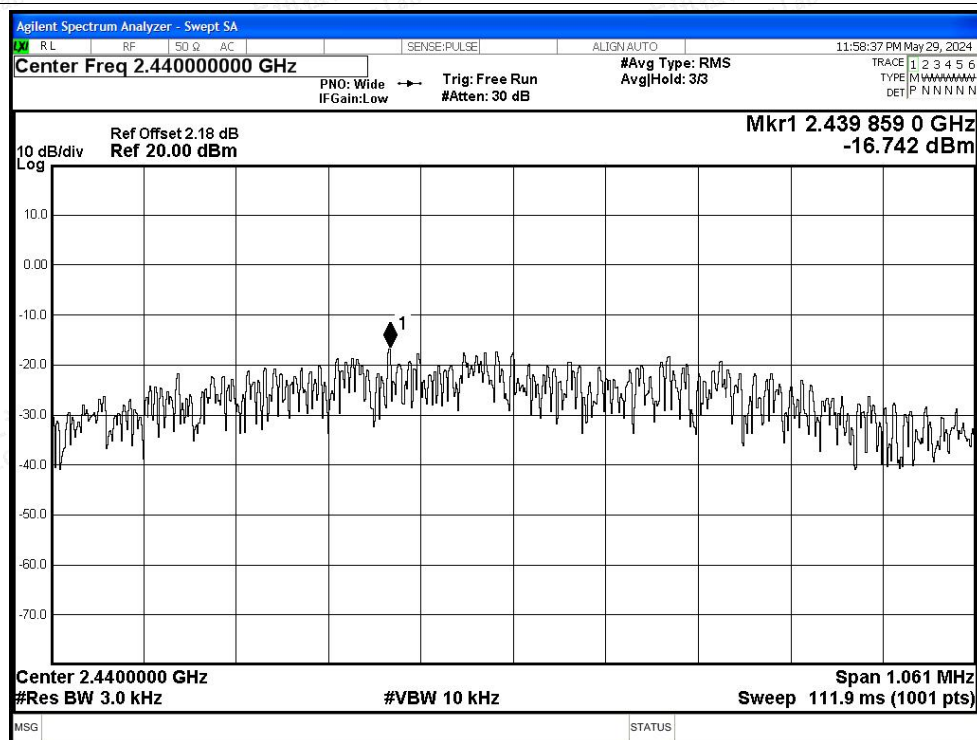


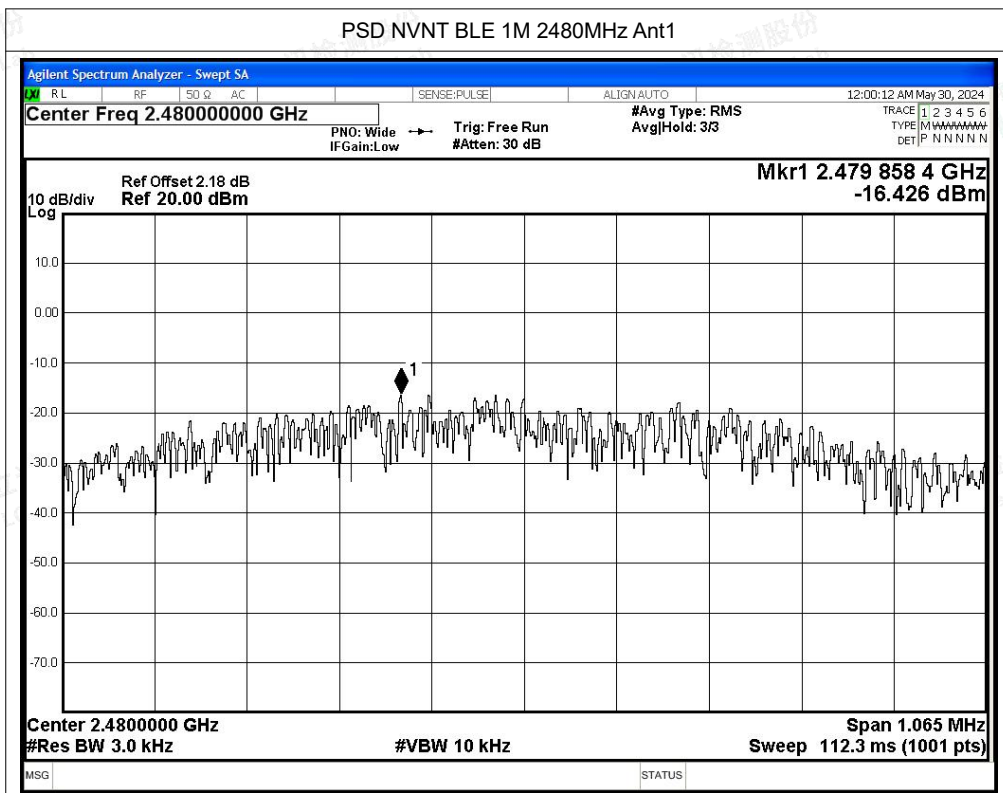
## Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1







## B.4 Band Edge

| Condition | Mode   | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | -54.56          | -20         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -55.98          | -20         | Pass    |

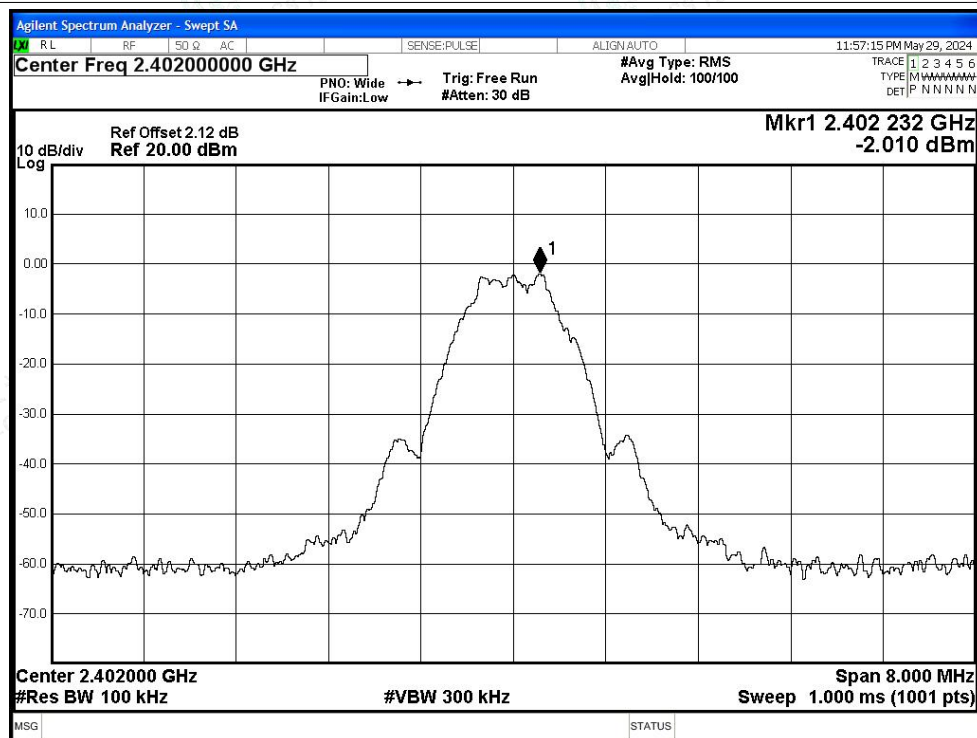


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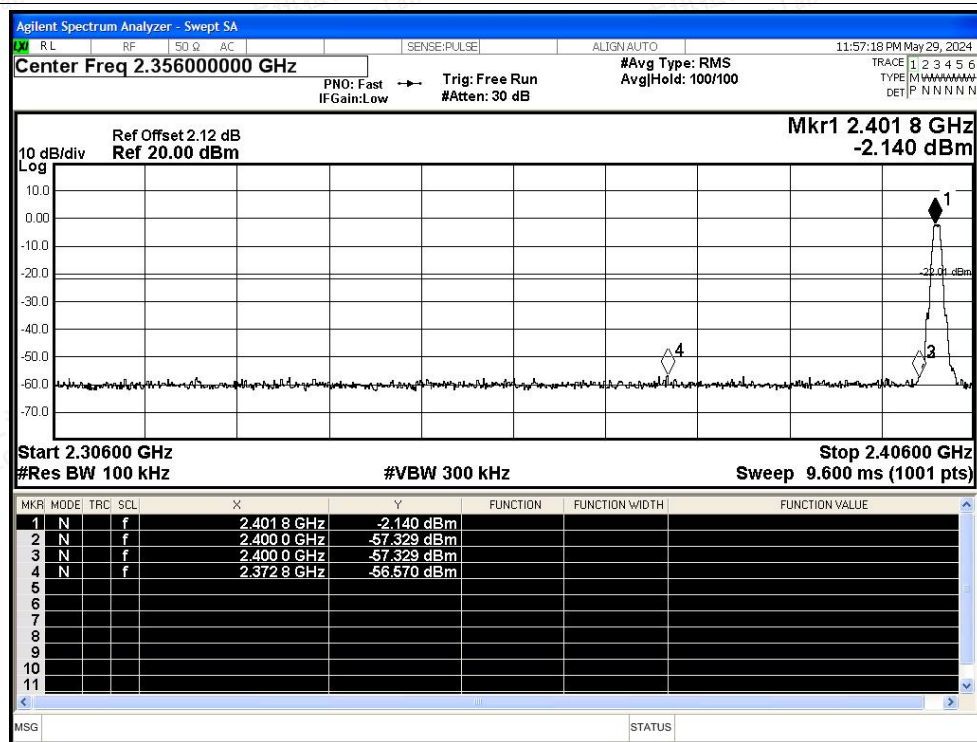


## Test Graphs

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



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



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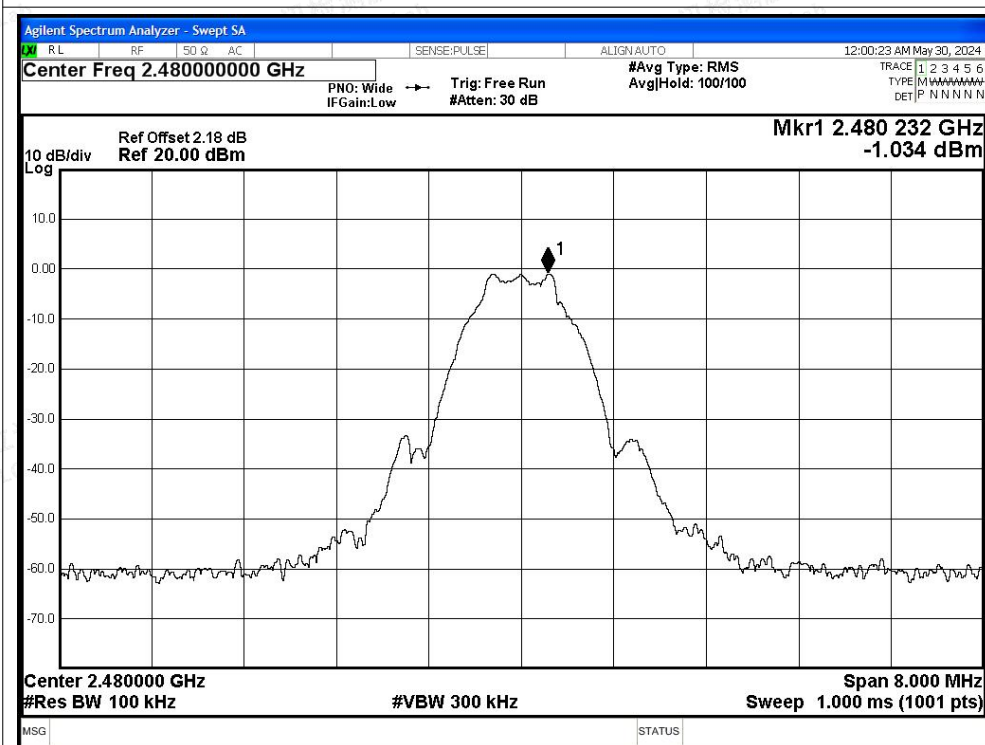
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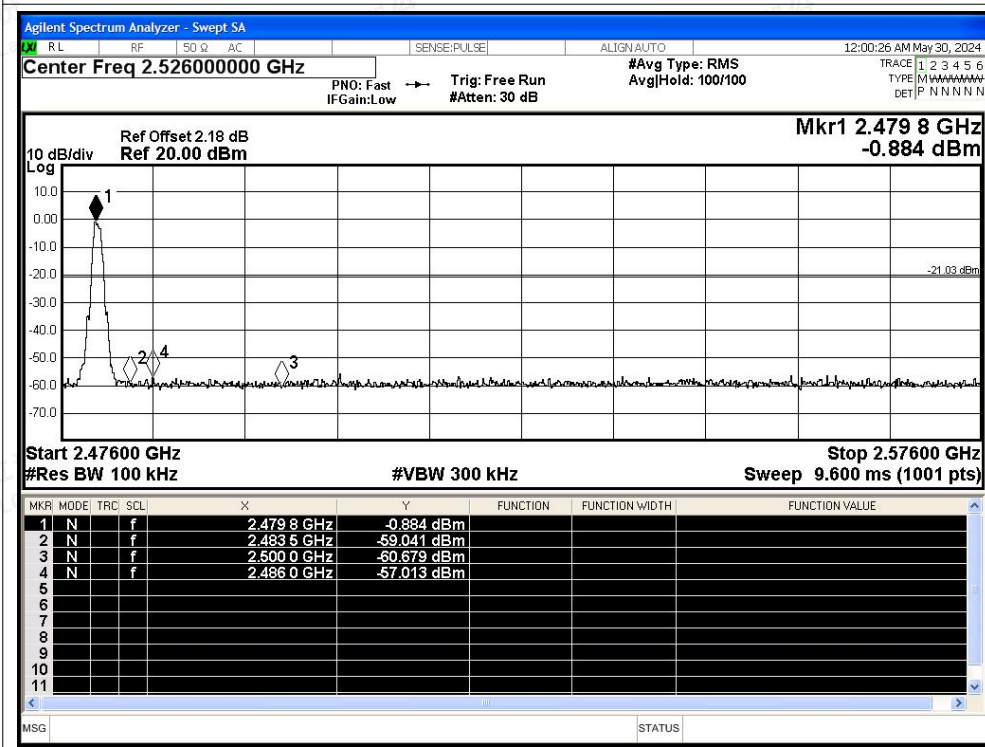
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## Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



## 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    | -52.88          | -20         | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | -54.27          | -20         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -53.56          | -20         | Pass    |

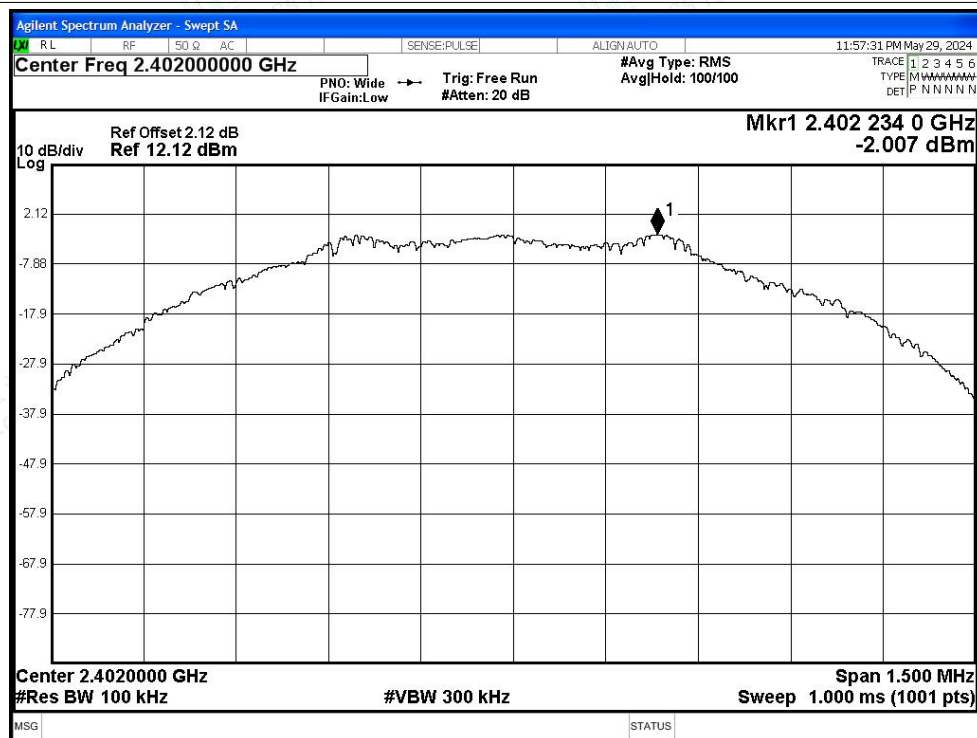


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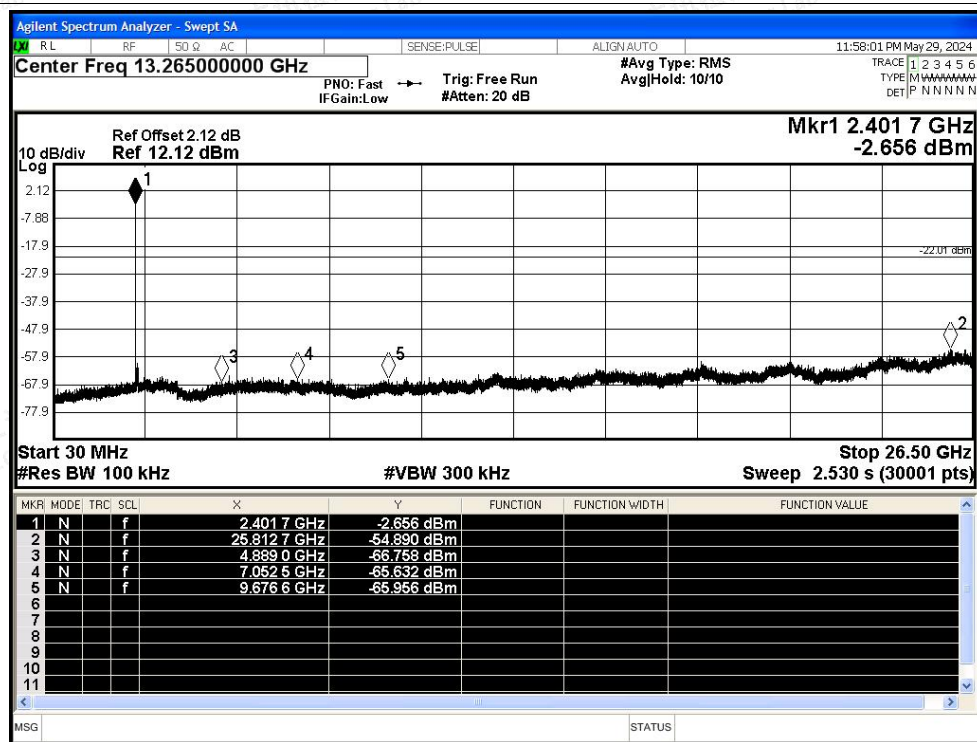


## Test Graphs

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



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



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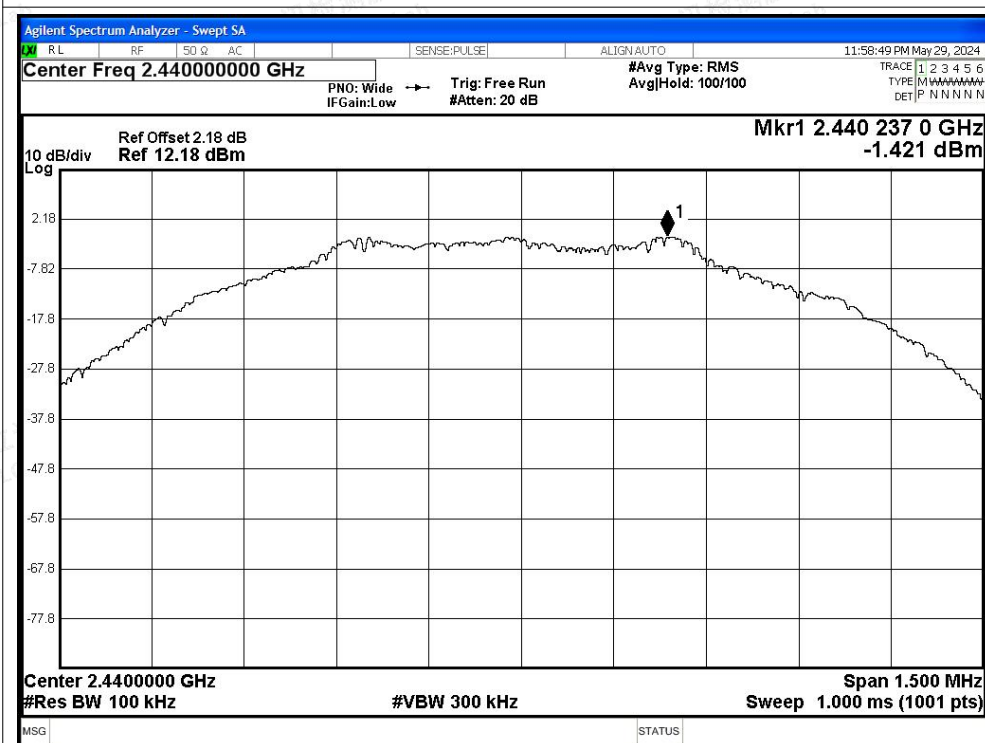
Add: 101, 201 Bldg A &amp; 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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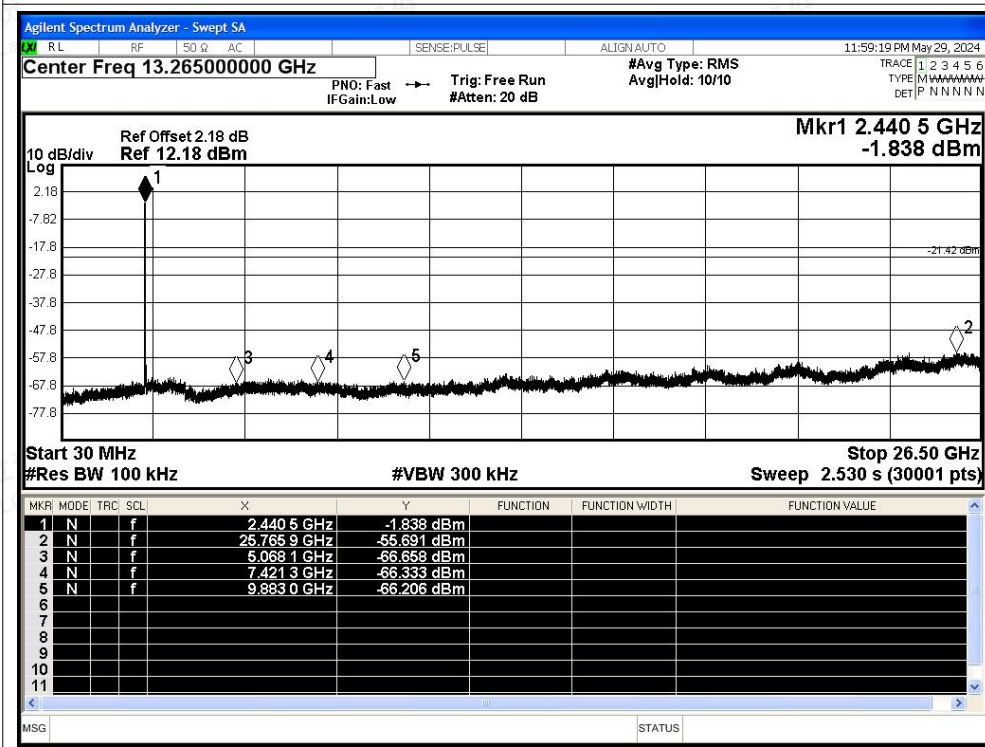
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## Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



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



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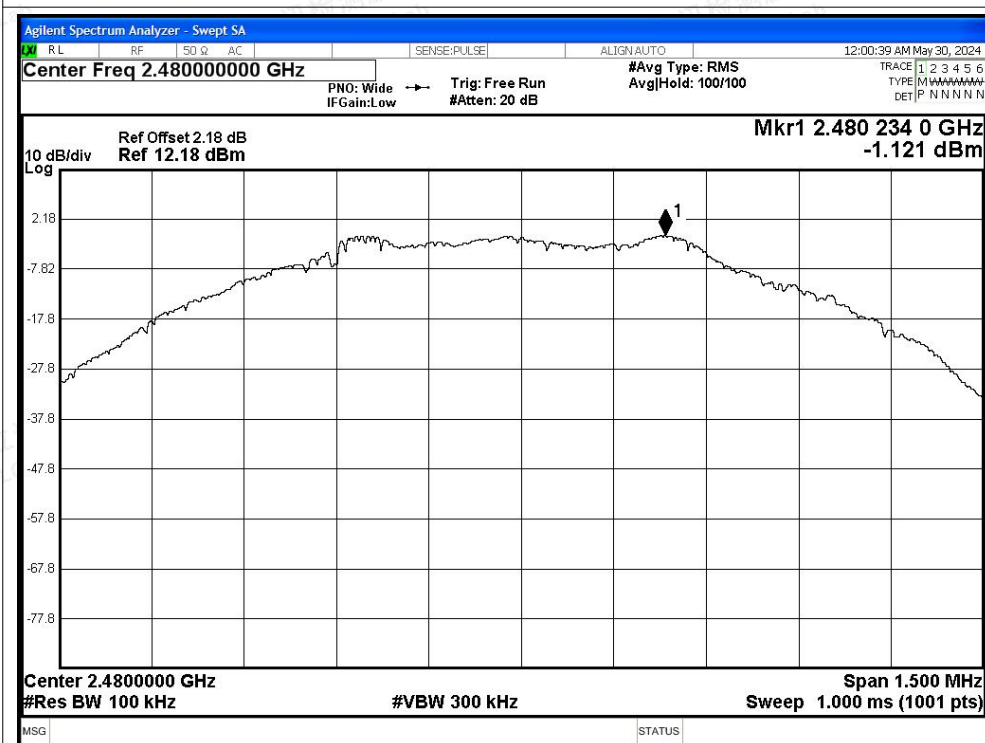
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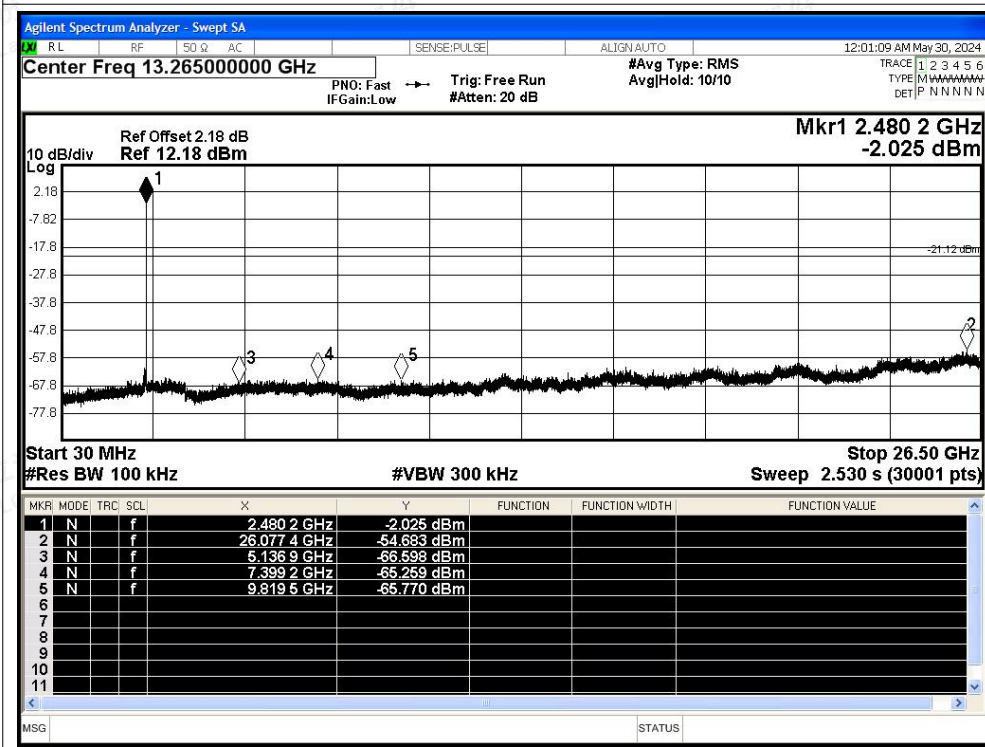
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## Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



## 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    | 61.36          | 2.12                   | 2.61      |
| NVNT      | BLE 1M | 2440            | Ant1    | 61.39          | 2.12                   | 2.6       |
| NVNT      | BLE 1M | 2480            | Ant1    | 61.36          | 2.12                   | 2.61      |

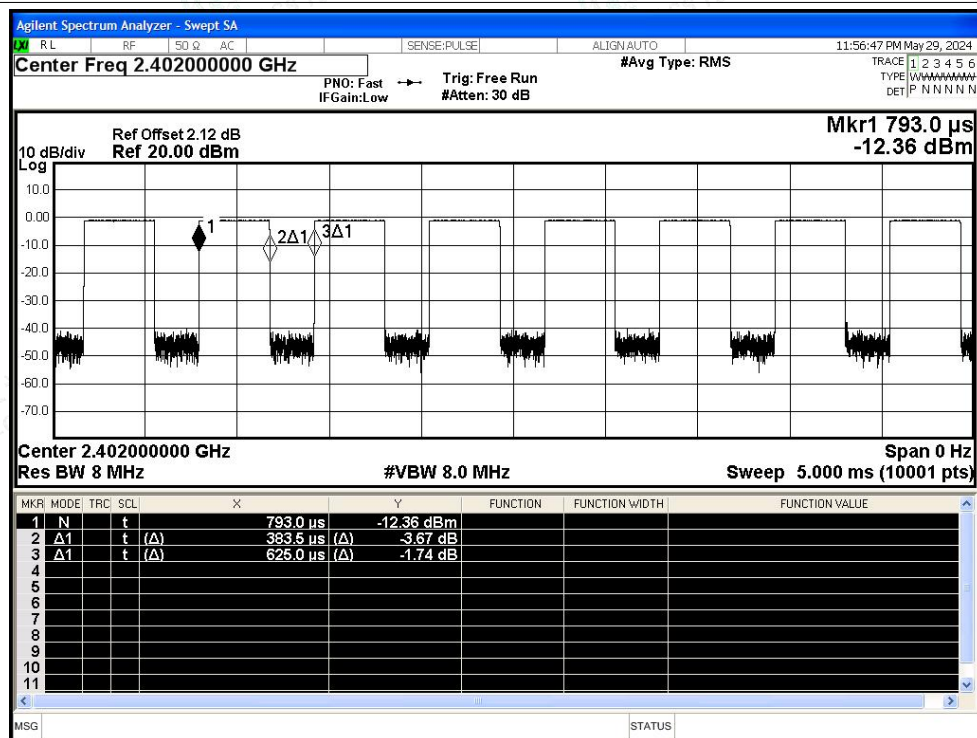


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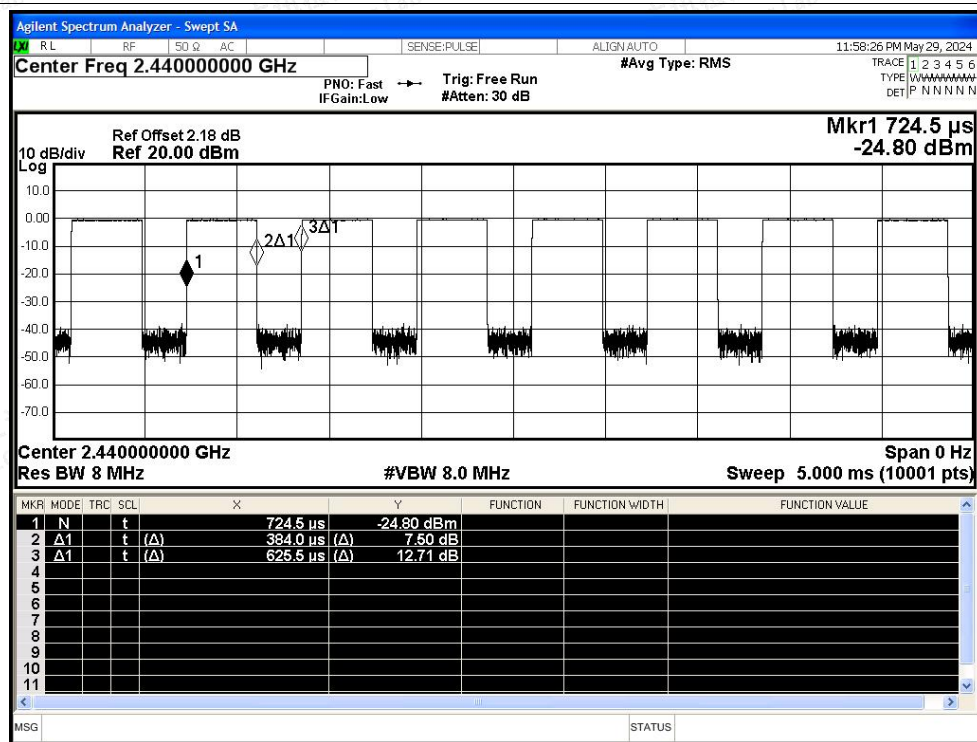


## Test Graphs

## Duty Cycle NVNT BLE 1M 2402MHz Ant1



## Duty Cycle NVNT BLE 1M 2440MHz Ant1

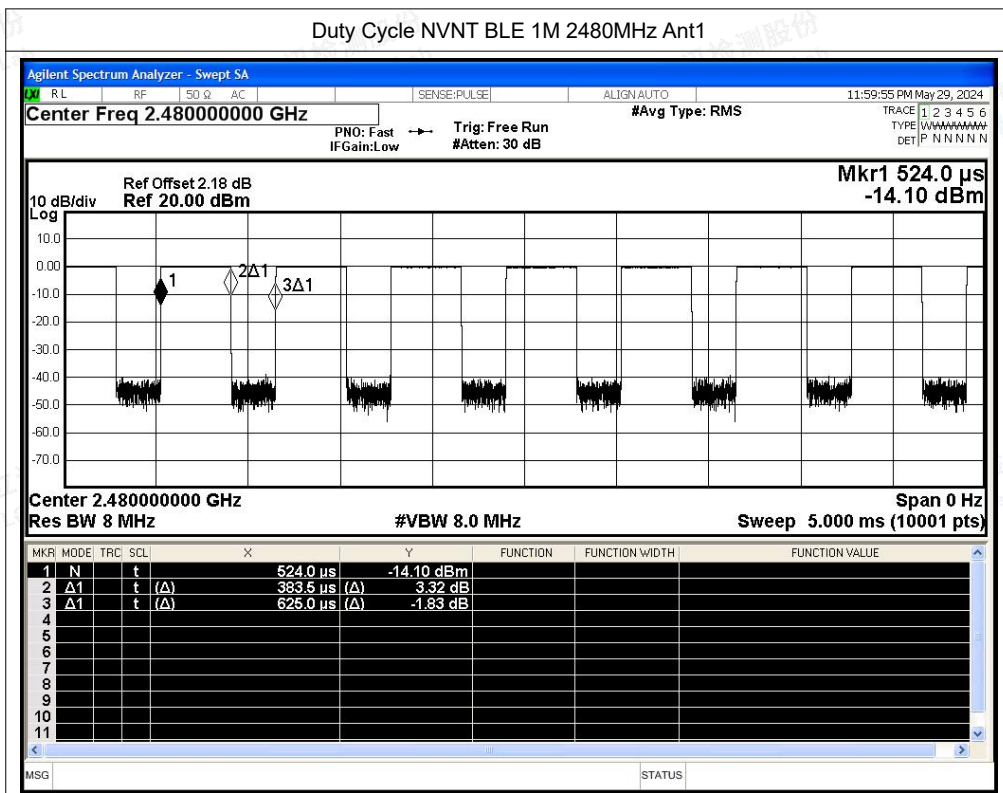


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## B.7 Restrict Band

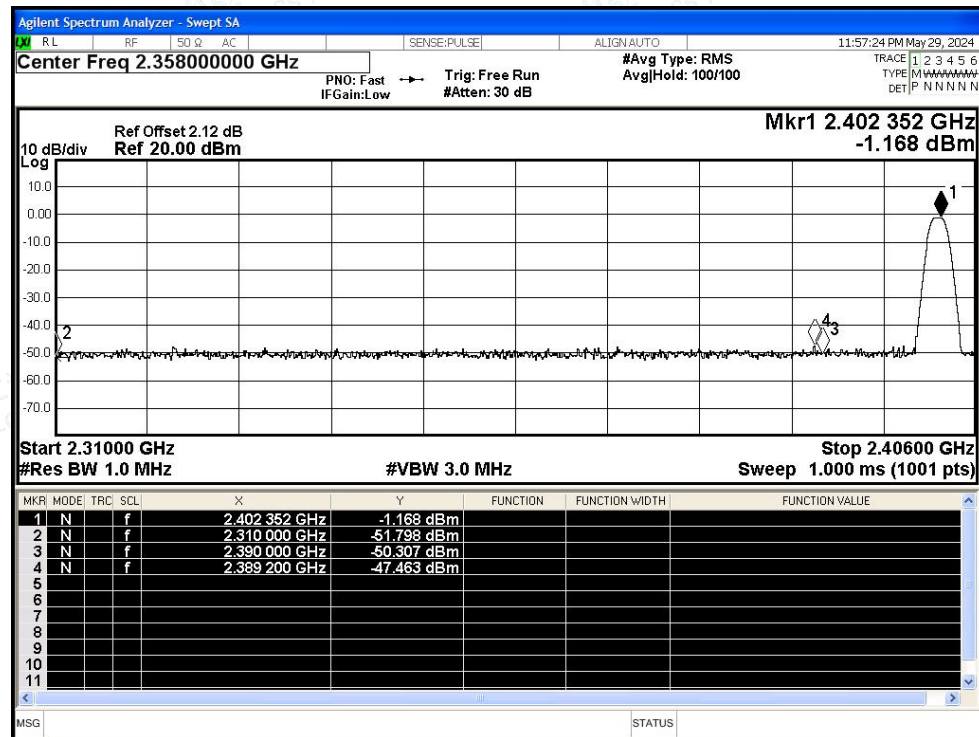
| Condition | Mode   | Frequency (MHz) | Antenna | Spur Freq (MHz) | Power (dBm) | Gain (dBi) | Duty Factor (dB) | E (dBuV/m) | Detector | Limit (dBuV/m) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|------------|------------------|------------|----------|----------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | 2310            | -51.8       | 2          | -                | 45.46      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2402            | Ant1    | 2310            | -58.67      | 2          | 2.12             | 40.71      | Average  | 54             | Pass    |
| NVNT      | BLE 1M | 2402            | Ant1    | 2389.2          | -47.46      | 2          | -                | 49.8       | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2402            | Ant1    | 2384.4          | -57.78      | 2          | 2.12             | 41.6       | Average  | 54             | Pass    |
| NVNT      | BLE 1M | 2402            | Ant1    | 2390            | -50.31      | 2          | -                | 46.95      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2402            | Ant1    | 2390            | -58.53      | 2          | 2.12             | 40.85      | Average  | 54             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2483.5          | -50.19      | 2          | -                | 47.07      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2483.5          | -58.45      | 2          | 2.12             | 40.93      | Average  | 54             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2486.104        | -46.79      | 2          | -                | 50.47      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2499.88         | -57.21      | 2          | 2.12             | 42.17      | Average  | 54             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2500            | -49.5       | 2          | -                | 47.76      | Peak     | 74             | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 2500            | -57.74      | 2          | 2.12             | 41.64      | Average  | 54             | Pass    |



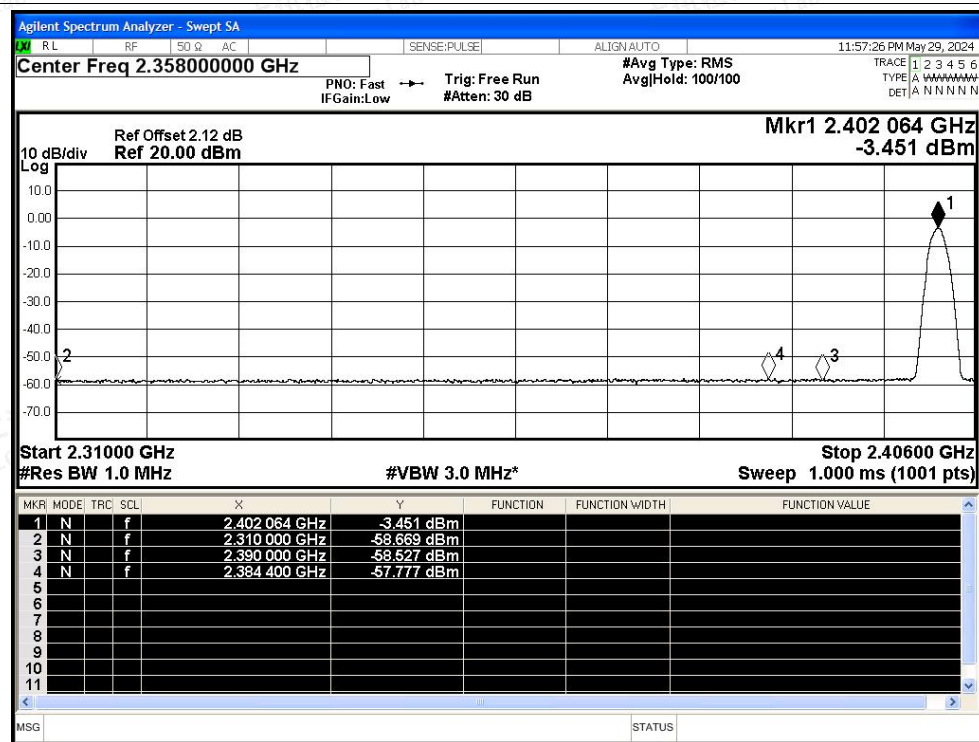


## Test Graphs

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



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



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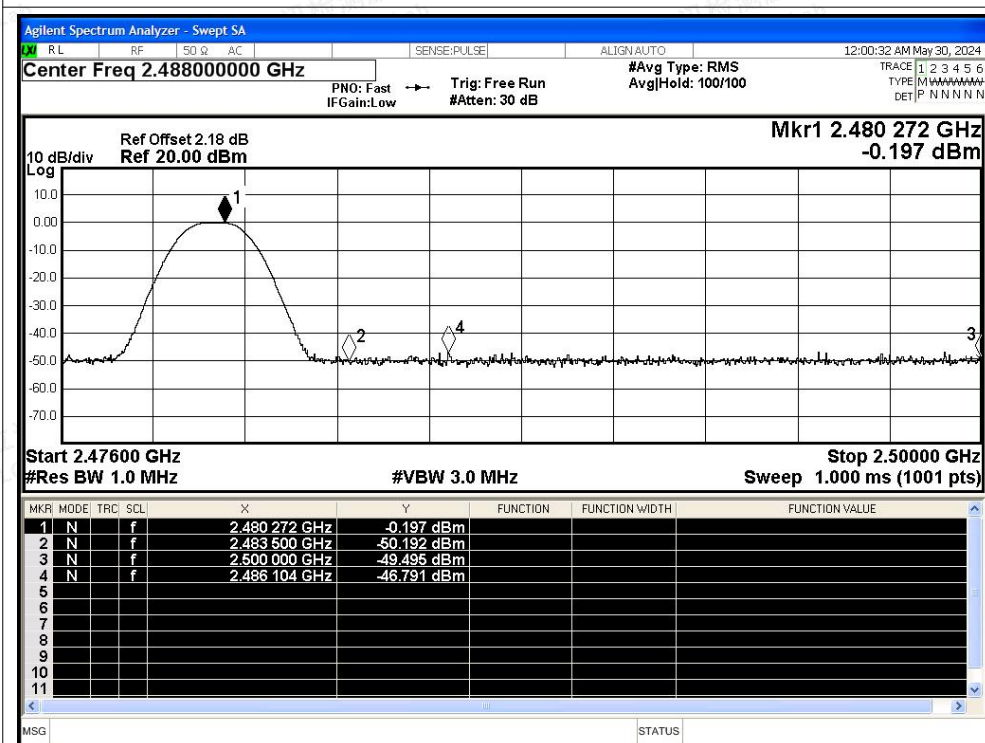
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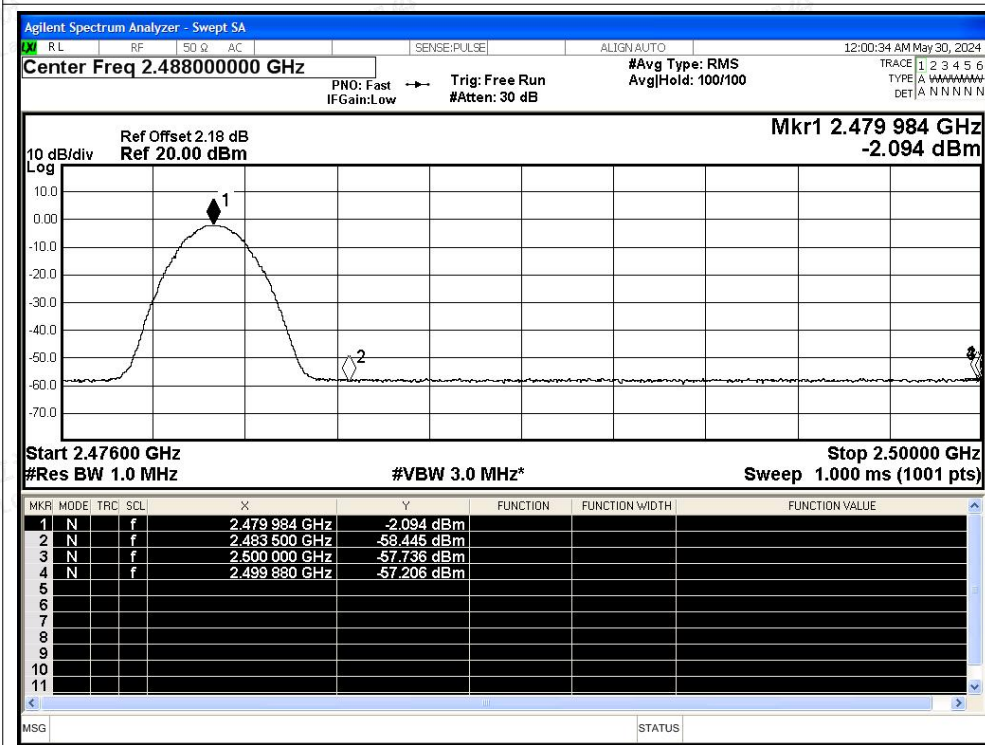
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## Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



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



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