



## Appendix B

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

Product Name: Diagnostic Tool

Test Model: DP55

#### Environmental Conditions

|                    |            |
|--------------------|------------|
| Temperature:       | 23.8°C     |
| Relative Humidity: | 52.1%      |
| ATM Pressure:      | 100.0 kPa  |
| Test Engineer:     | Paddi Chen |
| Supervised by:     | Ling Zhu   |





## B.1 -6dB Bandwidth

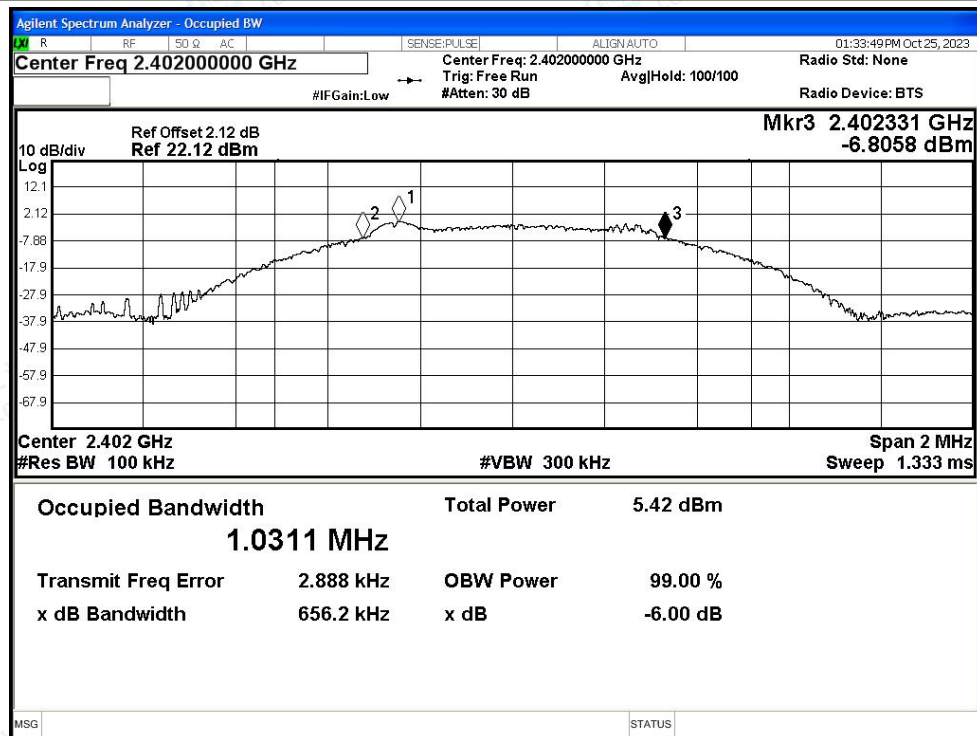
| Condition | Mode   | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|-----------|--------|-----------------|---------|-----------------------|-----------------------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | 0.656                 | $\geq 0.5$                  | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | 0.649                 | $\geq 0.5$                  | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 0.661                 | $\geq 0.5$                  | Pass    |



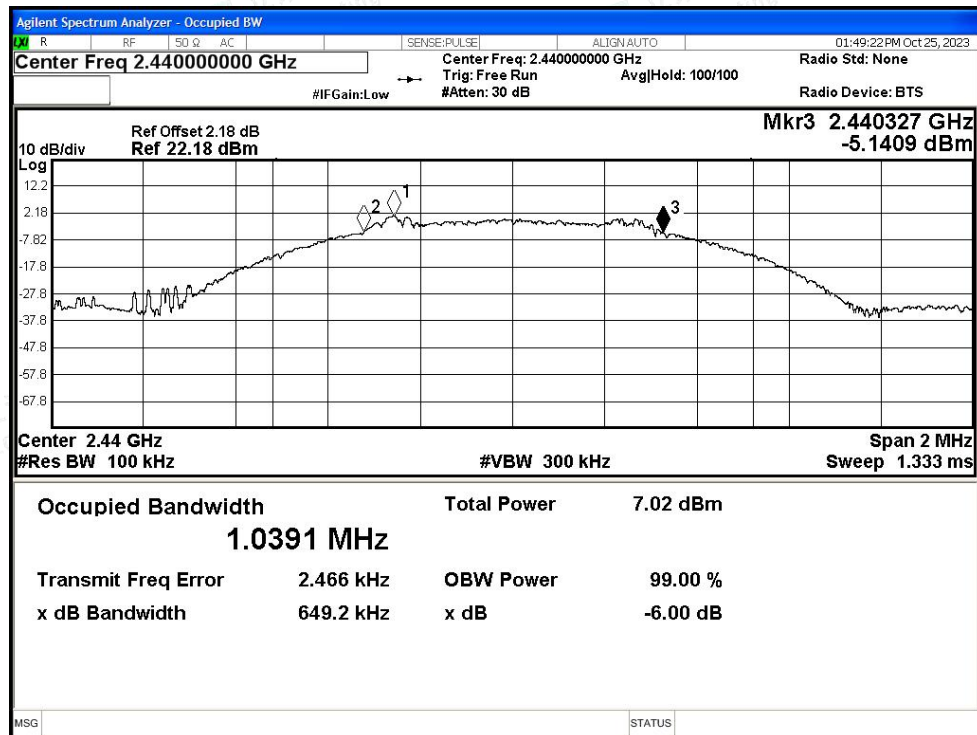


## Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

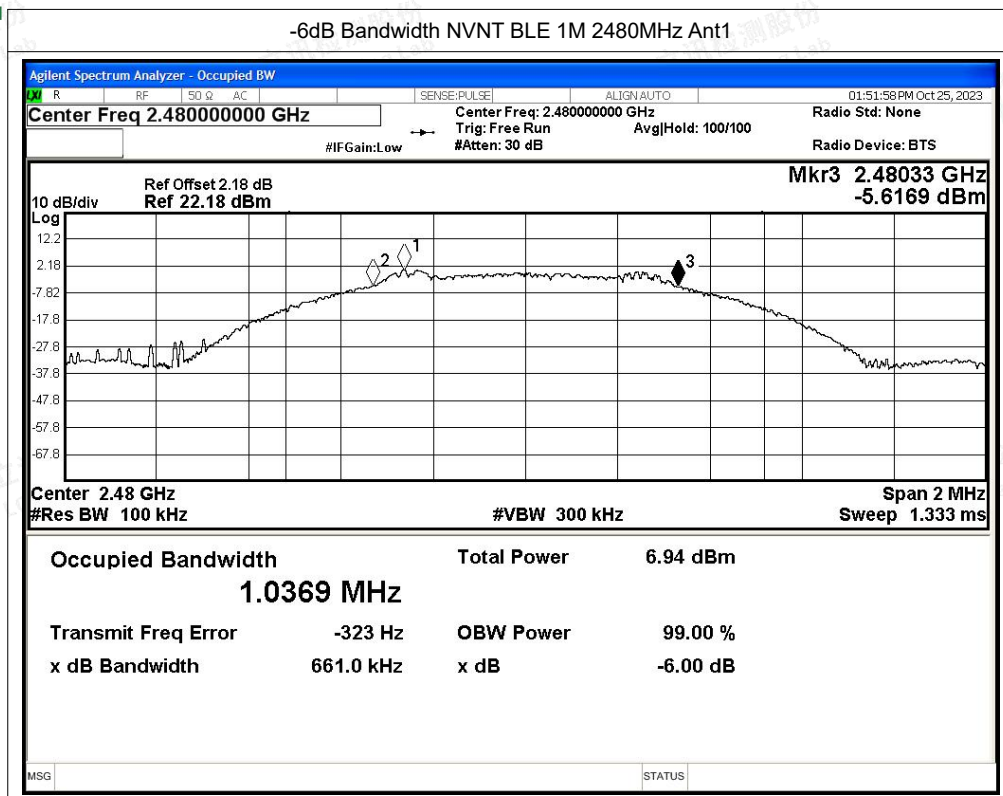


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## B.2 Maximum Peak Conducted Output Power

| Condition | Mode   | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|-----------|--------|-----------------|---------|-----------------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | -0.58                 | 30          | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | 1.19                  | 30          | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 1.02                  | 30          | Pass    |

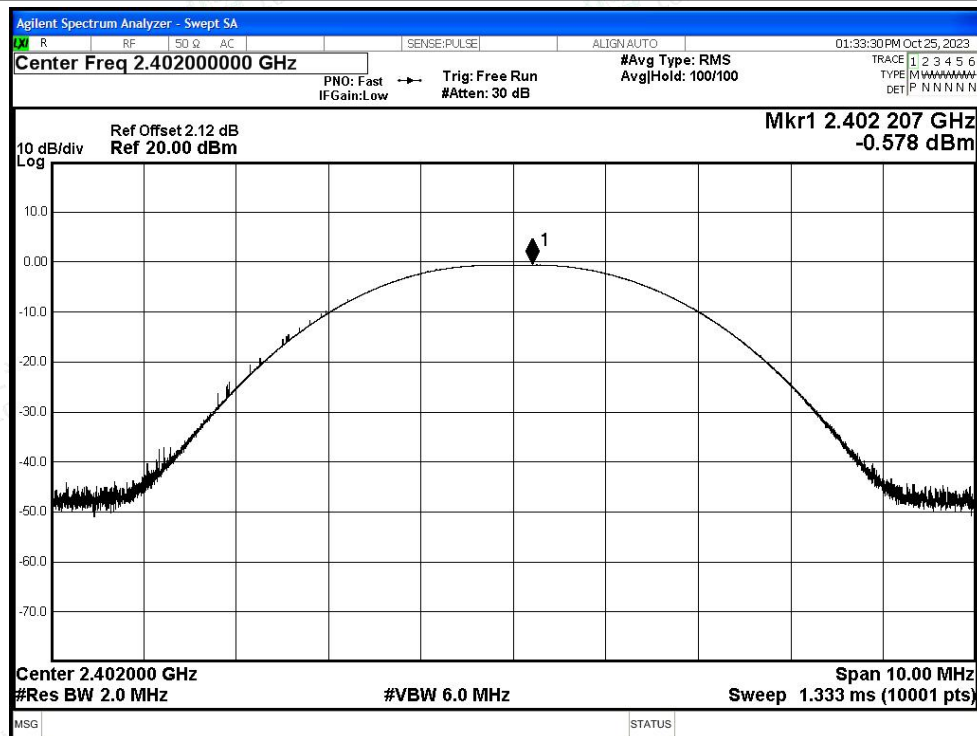


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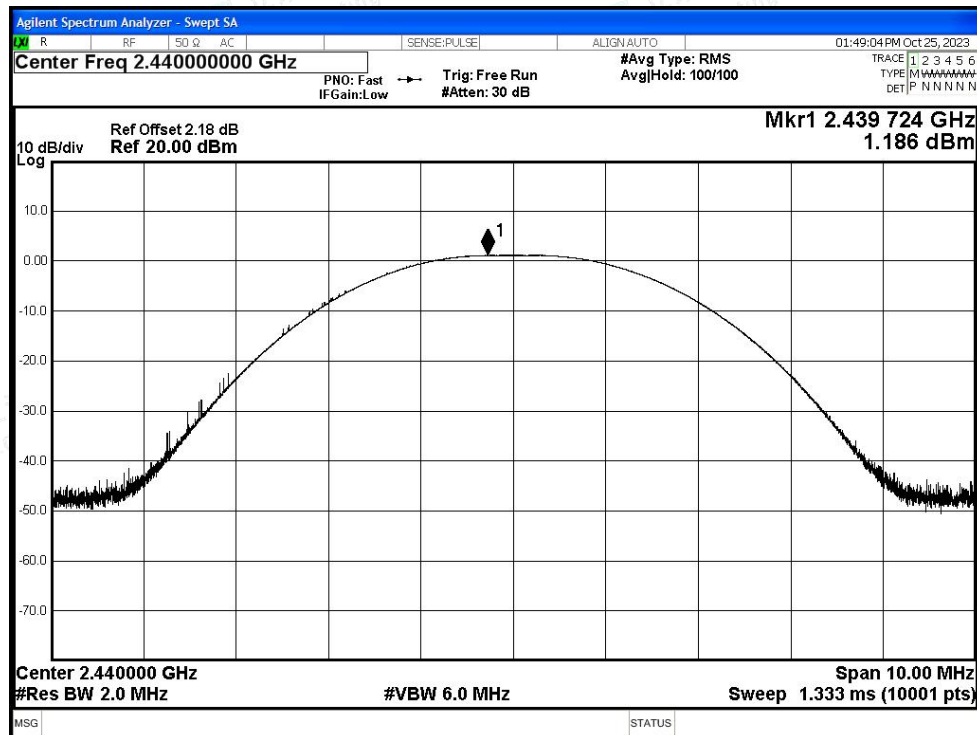


## Test Graphs

Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2440MHz Ant1

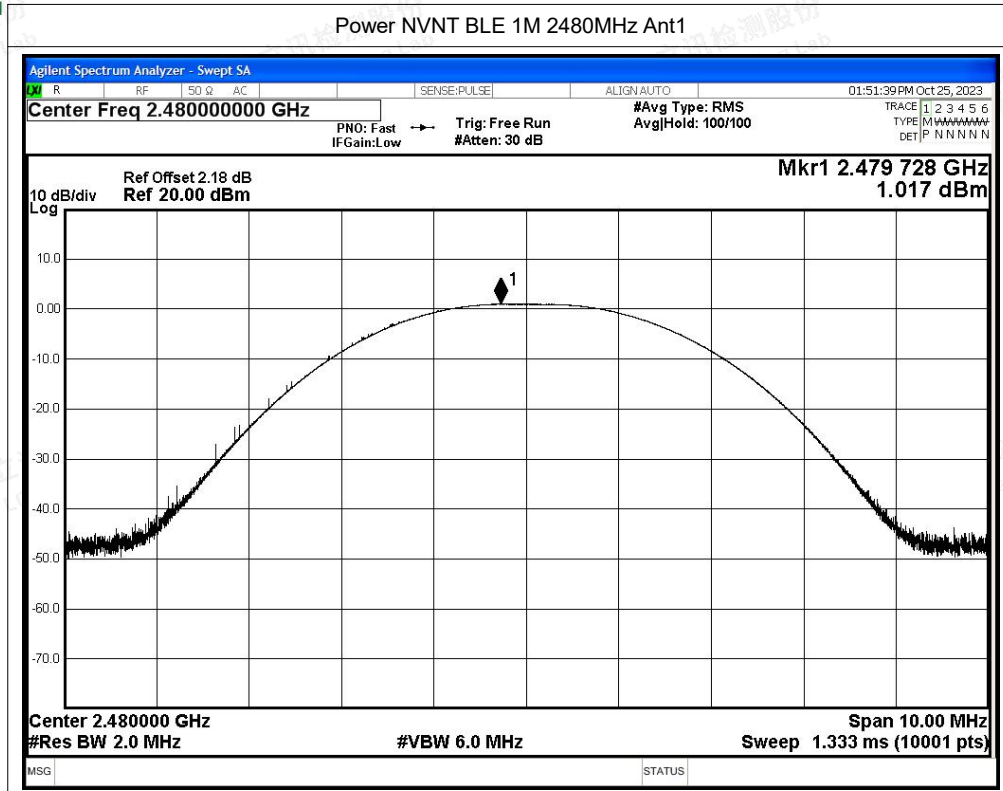


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### B.3 Maximum Power Spectral Density Level

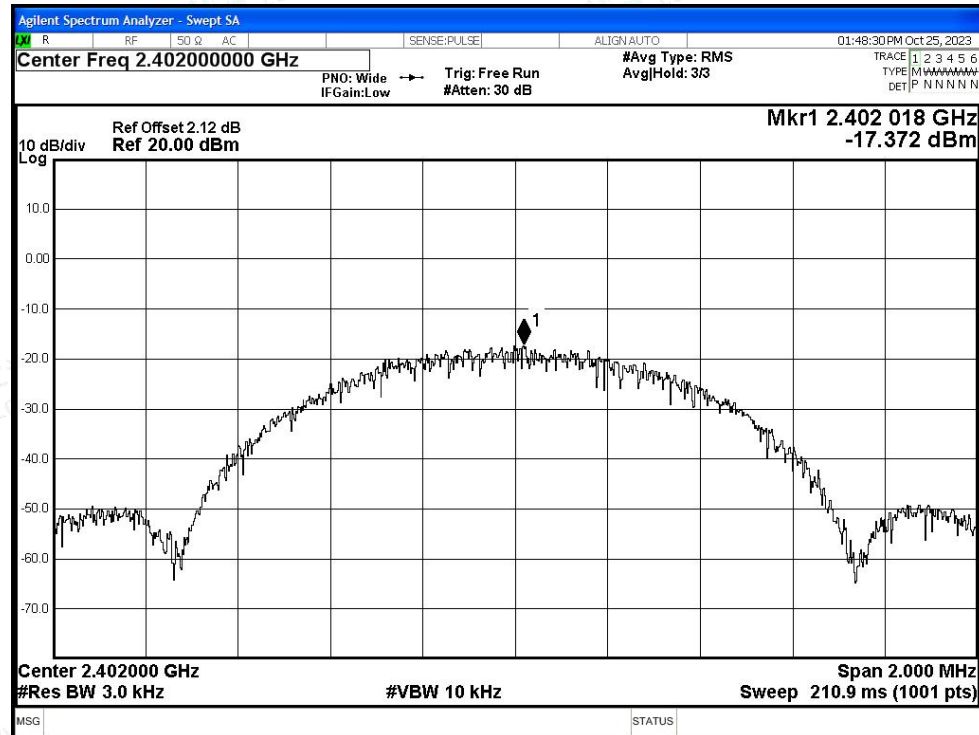
| Condition | Mode   | Frequency (MHz) | Antenna | Conducted PSD (dBm/3kHz) | Limit (dBm/3kHz) | Verdict |
|-----------|--------|-----------------|---------|--------------------------|------------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | -17.37                   | 8                | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | -15.02                   | 8                | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -15.5                    | 8                | Pass    |



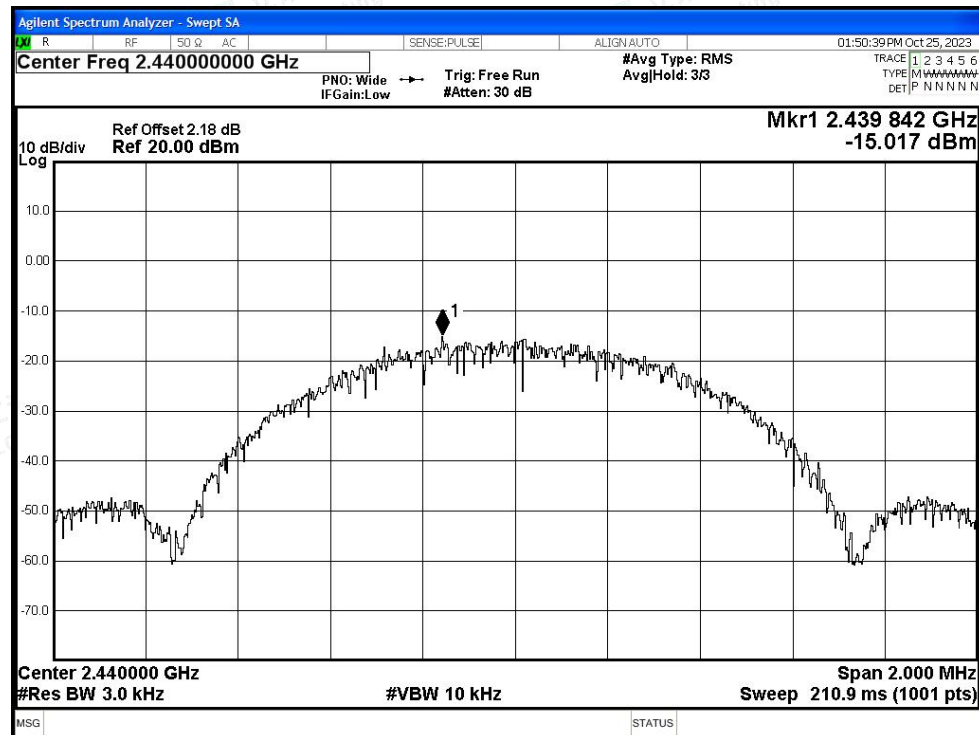


## Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1

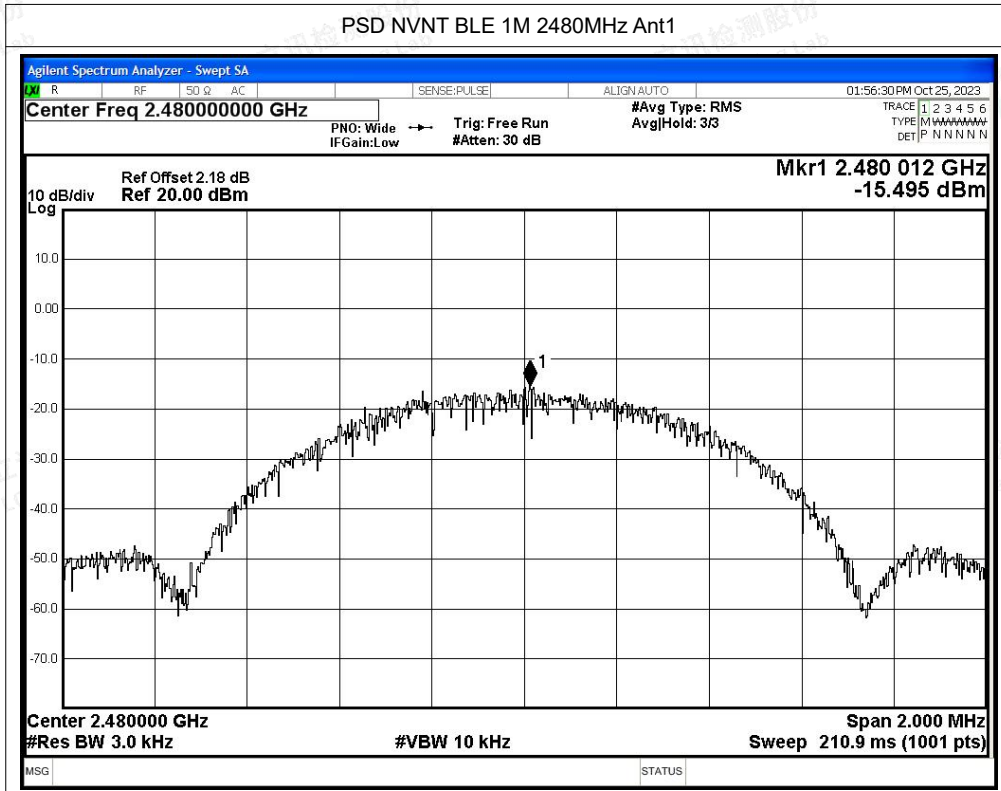


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## B.4 Band Edge

| Condition | Mode   | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | -54.7           | -20         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -57.61          | -20         | Pass    |

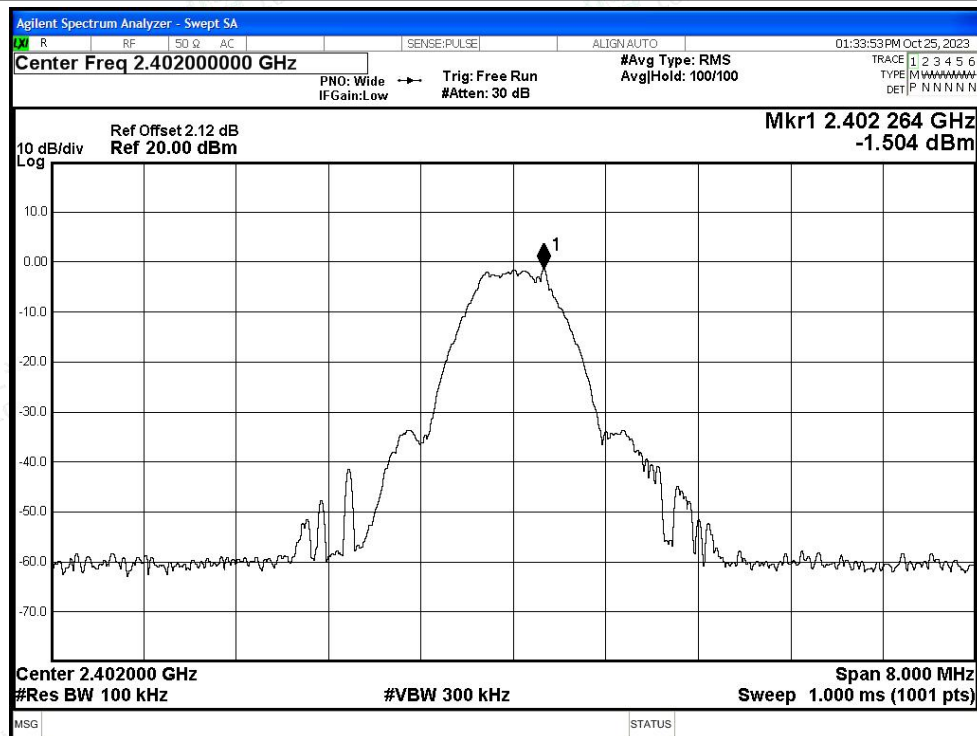


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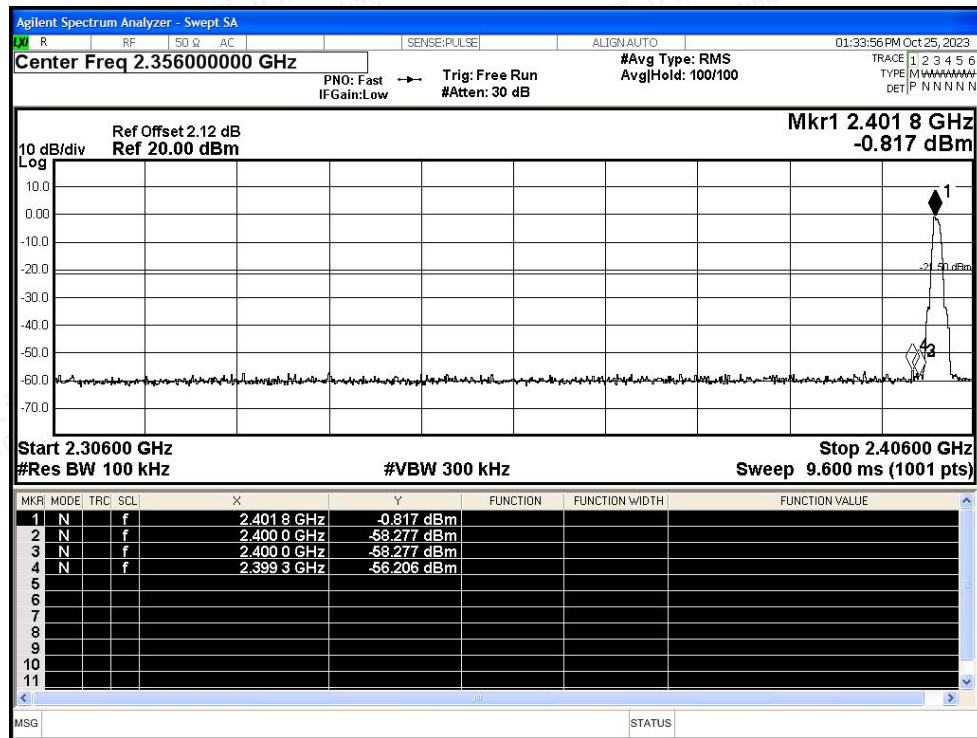


## Test Graphs

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



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



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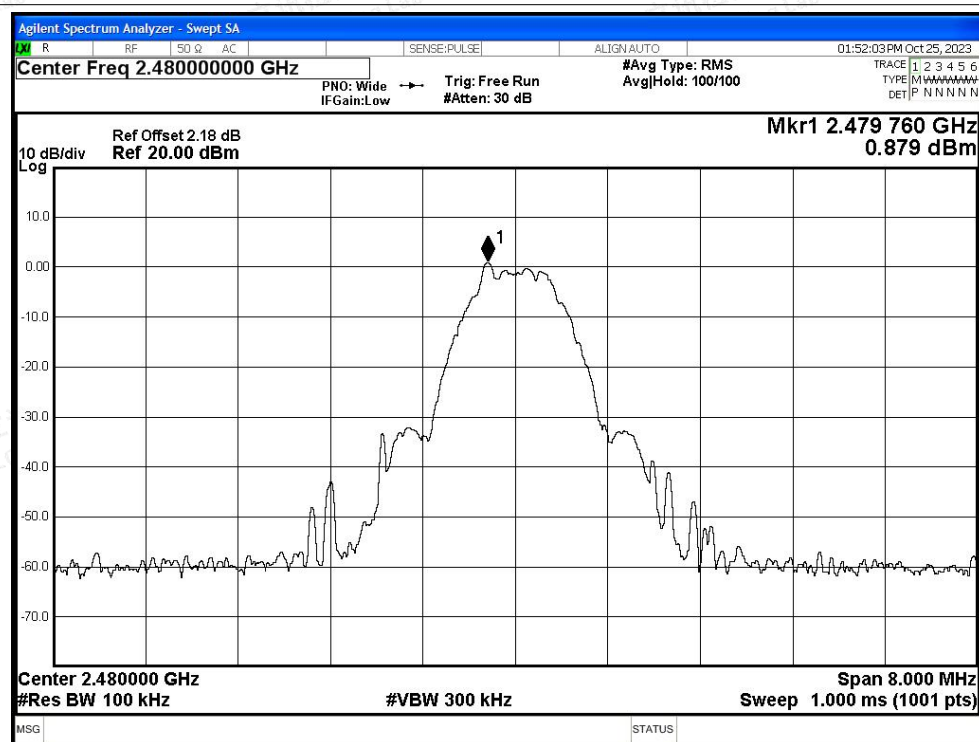
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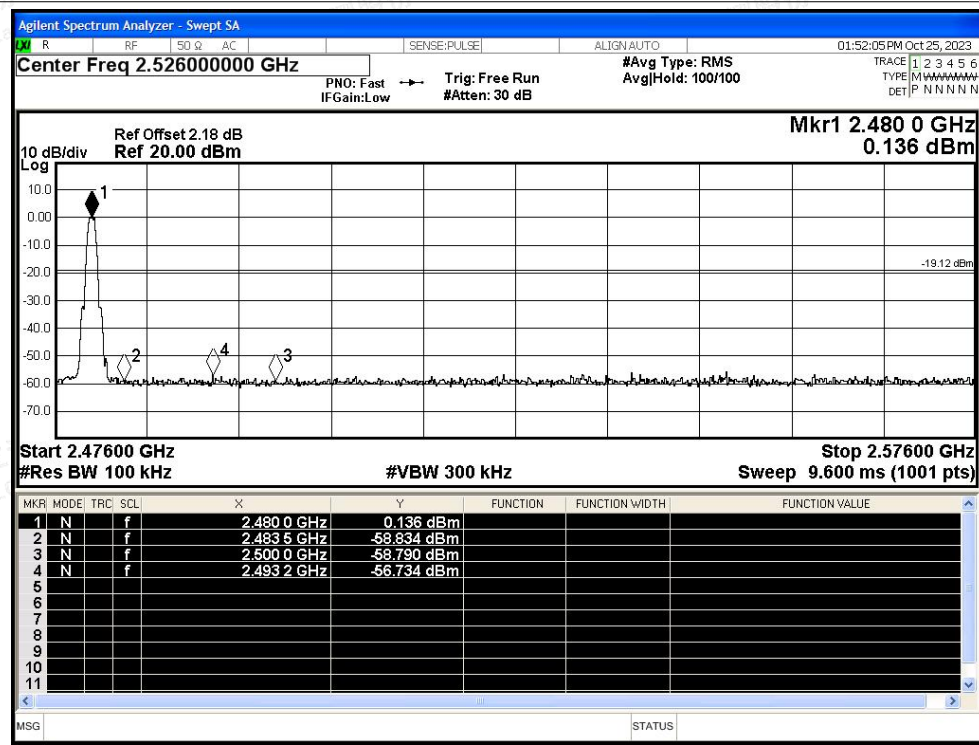
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## Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



## 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    | -54.84          | -20         | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | -56.24          | -20         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -56.6           | -20         | Pass    |

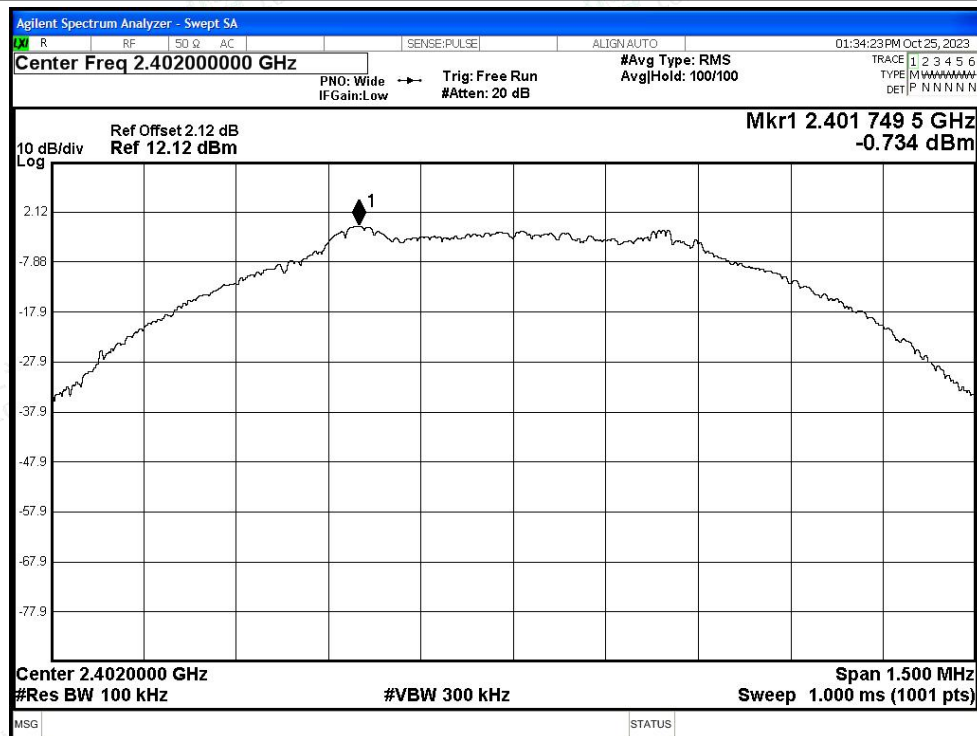


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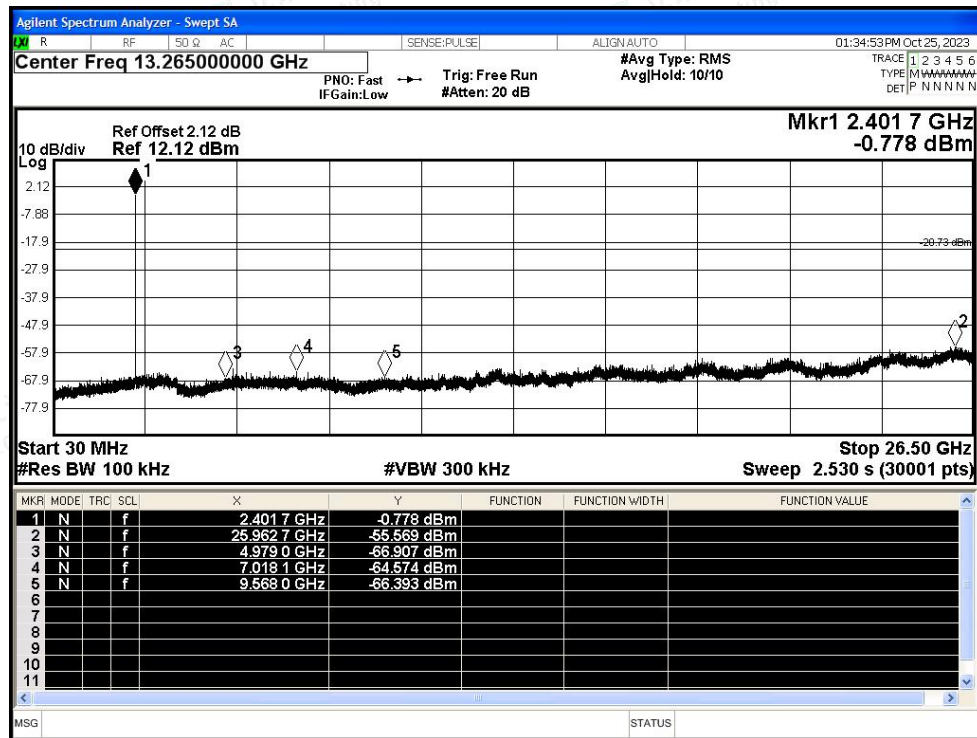


## Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



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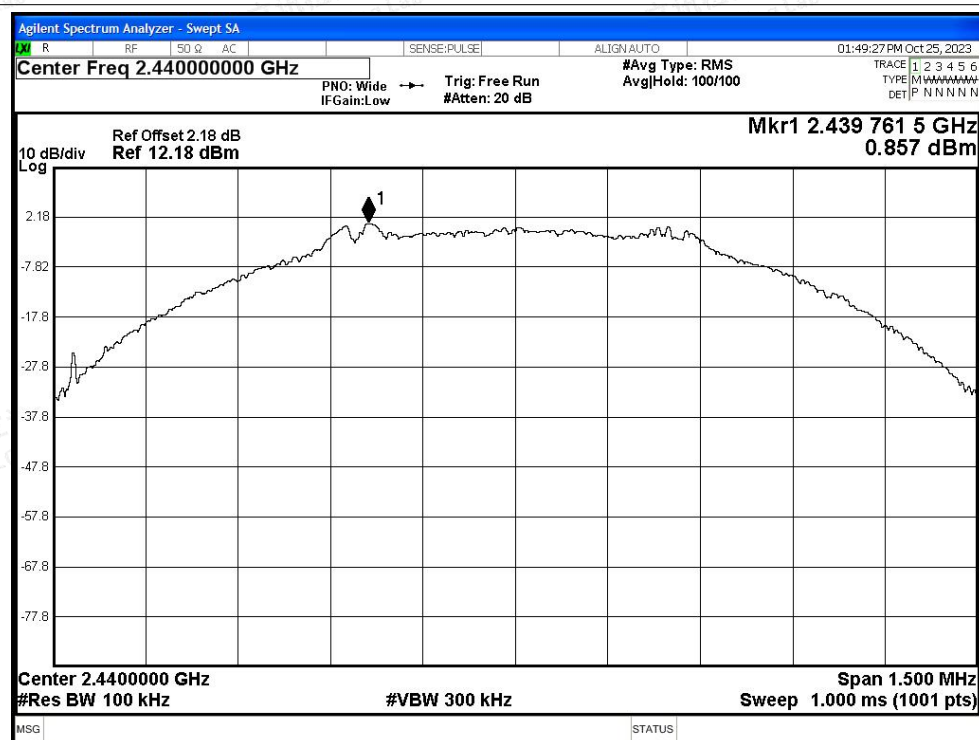
Add: 101, 201 Bldg A &amp; 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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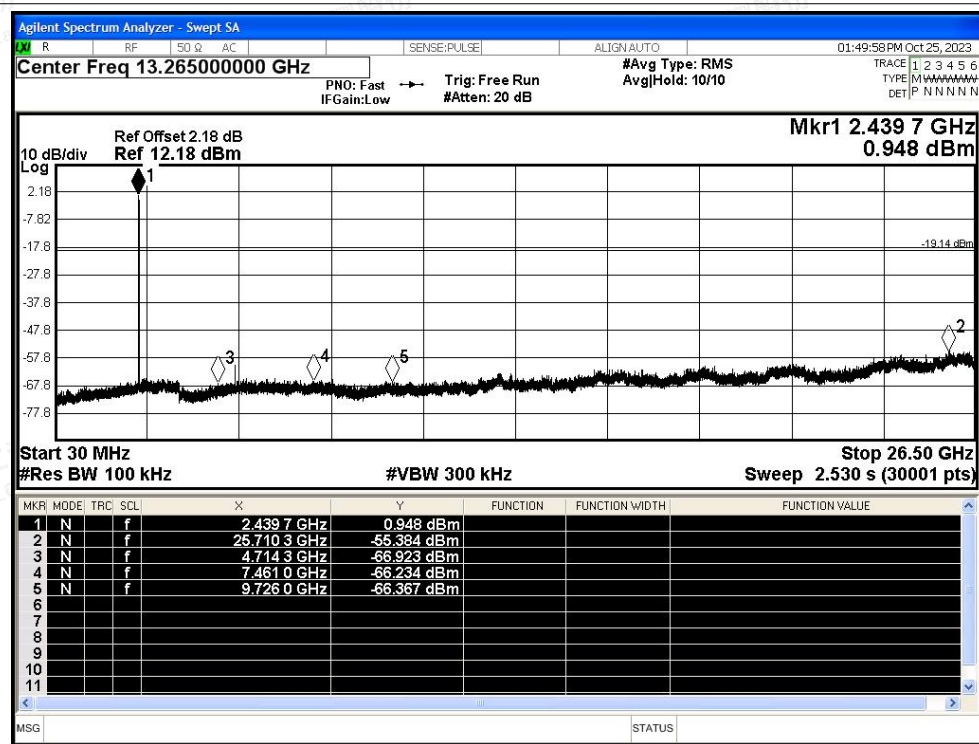
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## Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



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



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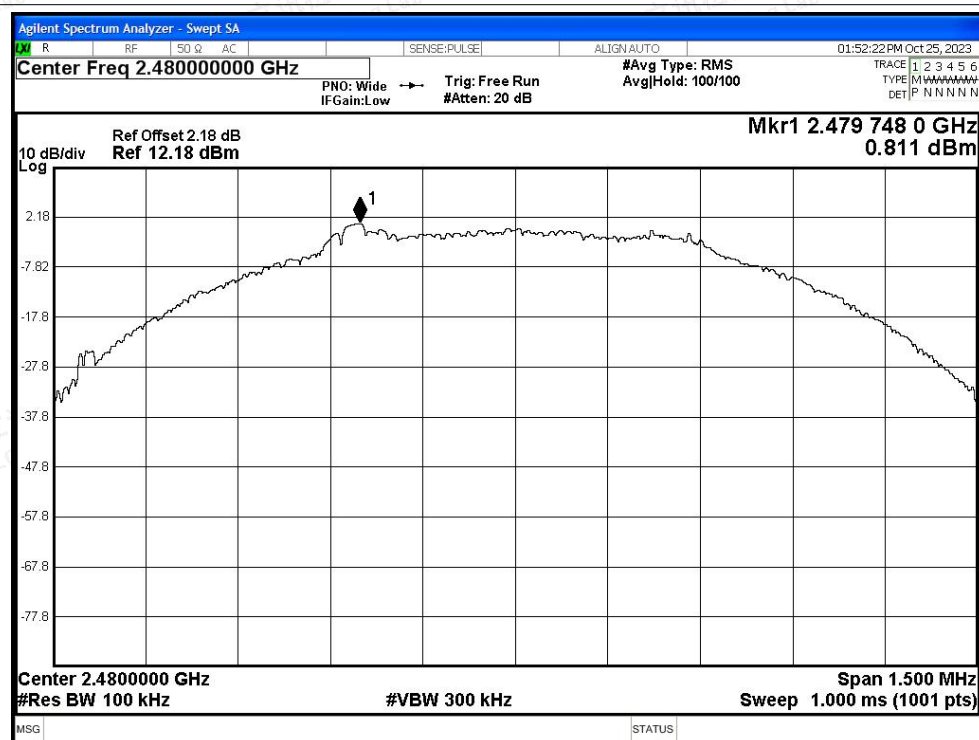
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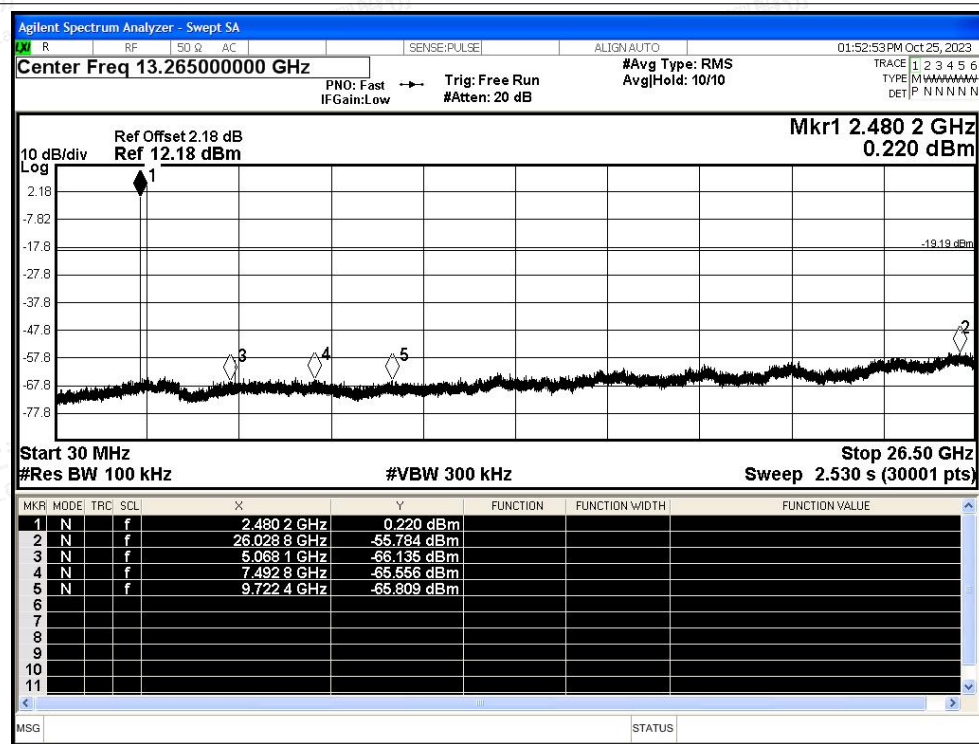
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## Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



## 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    | 87.15          | 0.6                    | 0.61      |
| NVNT      | BLE 1M | 2440            | Ant1    | 87.17          | 0.6                    | 0.61      |
| NVNT      | BLE 1M | 2480            | Ant1    | 87.18          | 0.6                    | 0.61      |

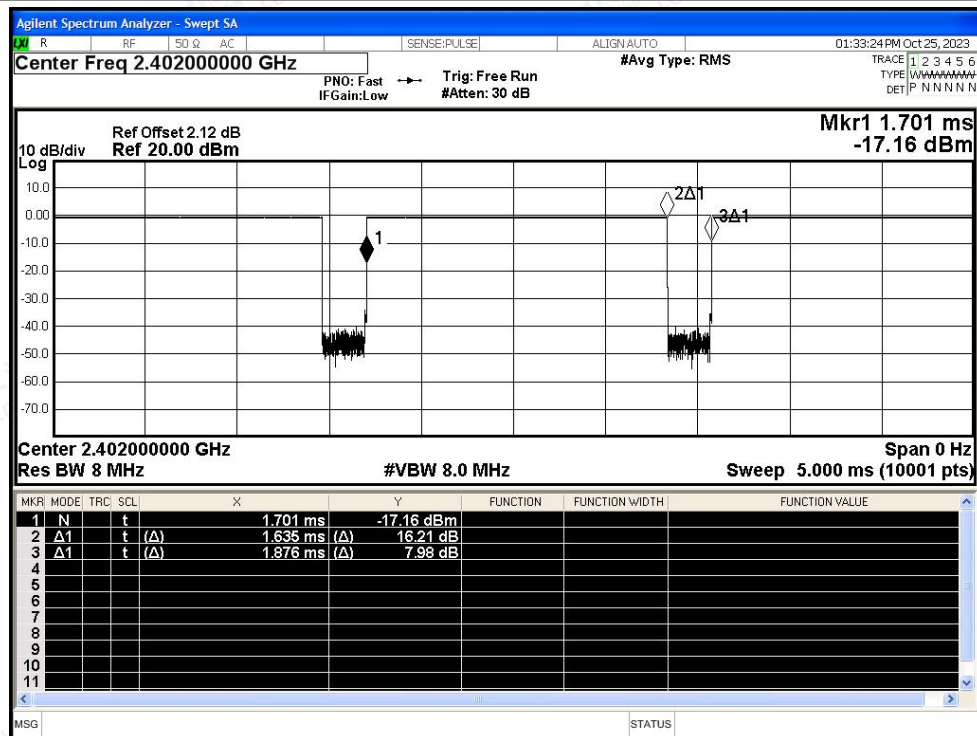


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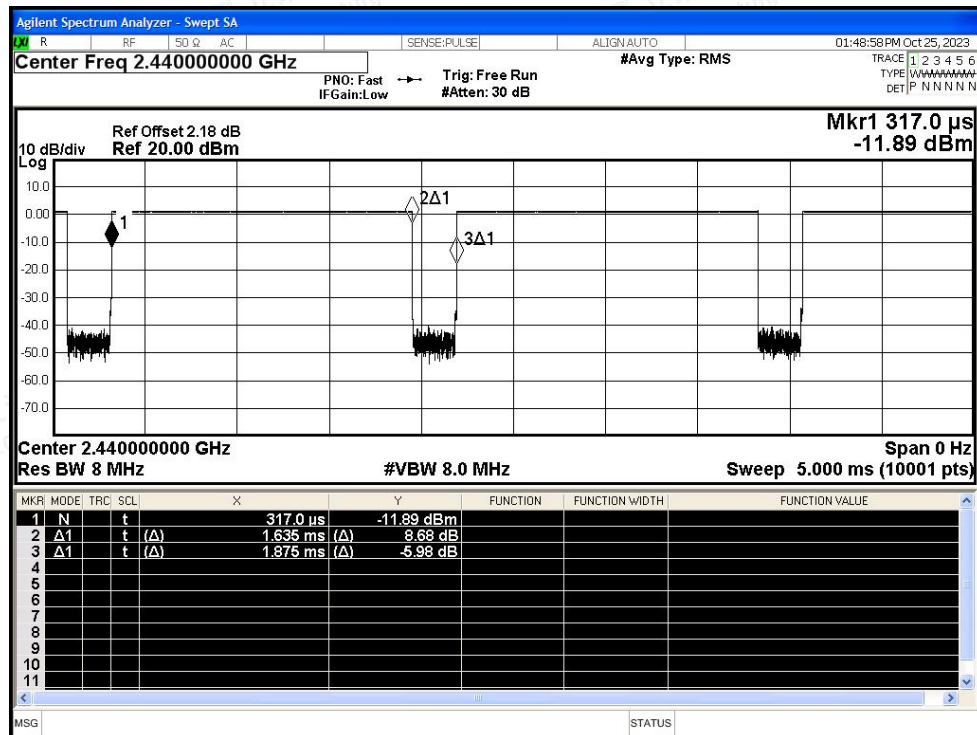


## Test Graphs

## Duty Cycle NVNT BLE 1M 2402MHz Ant1



## Duty Cycle NVNT BLE 1M 2440MHz Ant1

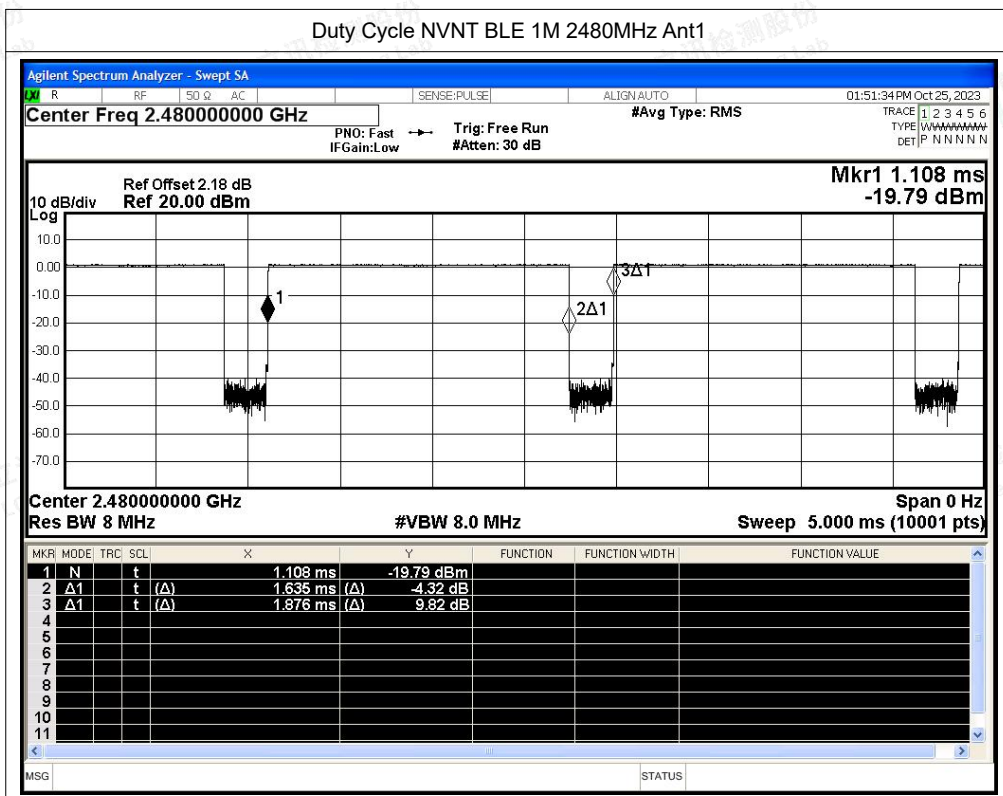


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## B.7 Restrict Band

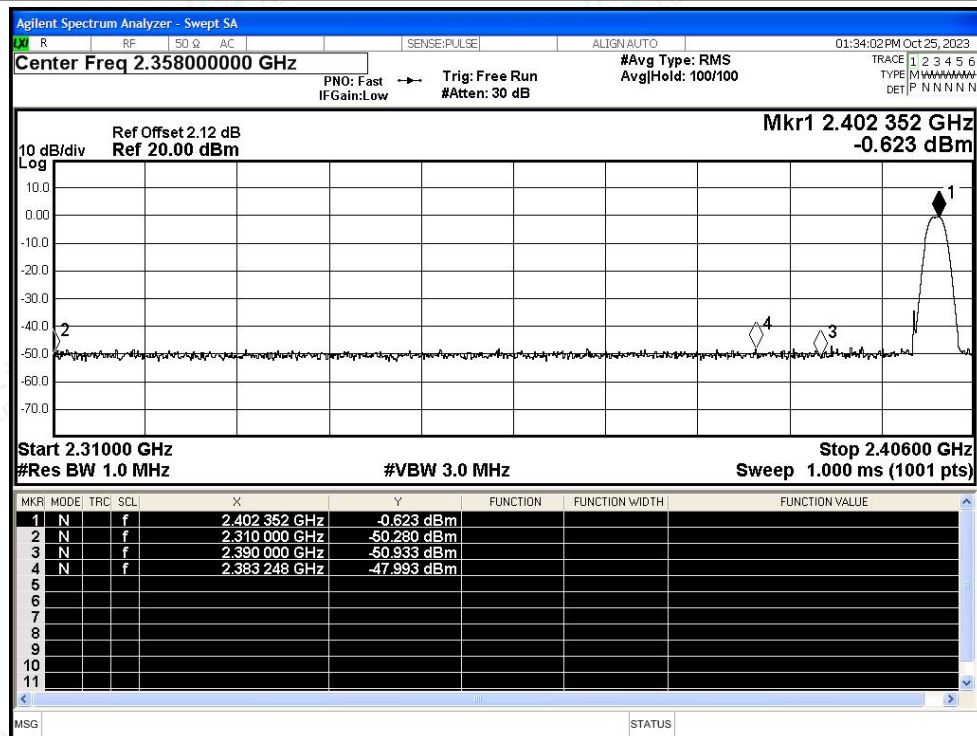
| Condition | Mode   | Frequency<br>(MHz) | Antenna | Spur Freq<br>(MHz) | Power<br>(dBm) | Gain<br>(dBi) | E<br>(dBuV/m) | Detector | Limit<br>(dBuV/m) | Verdict |
|-----------|--------|--------------------|---------|--------------------|----------------|---------------|---------------|----------|-------------------|---------|
| NVNT      | BLE 1M | 2402               | Ant1    | 2310               | -50.28         | 2             | 46.98         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant1    | 2310               | -57.79         | 2             | 39.47         | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant1    | 2383.248           | -47.99         | 2             | 49.27         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant1    | 2387.376           | -57.15         | 2             | 40.11         | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant1    | 2390               | -50.93         | 2             | 46.33         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant1    | 2390               | -57.4          | 2             | 39.86         | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2483.5             | -49.99         | 2             | 47.27         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2483.5             | -54.66         | 2             | 42.6          | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2485.072           | -46.47         | 2             | 50.79         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2483.512           | -54.66         | 2             | 42.6          | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2500               | -49.32         | 2             | 47.94         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2500               | -57.16         | 2             | 40.1          | Average  | 54                | Pass    |



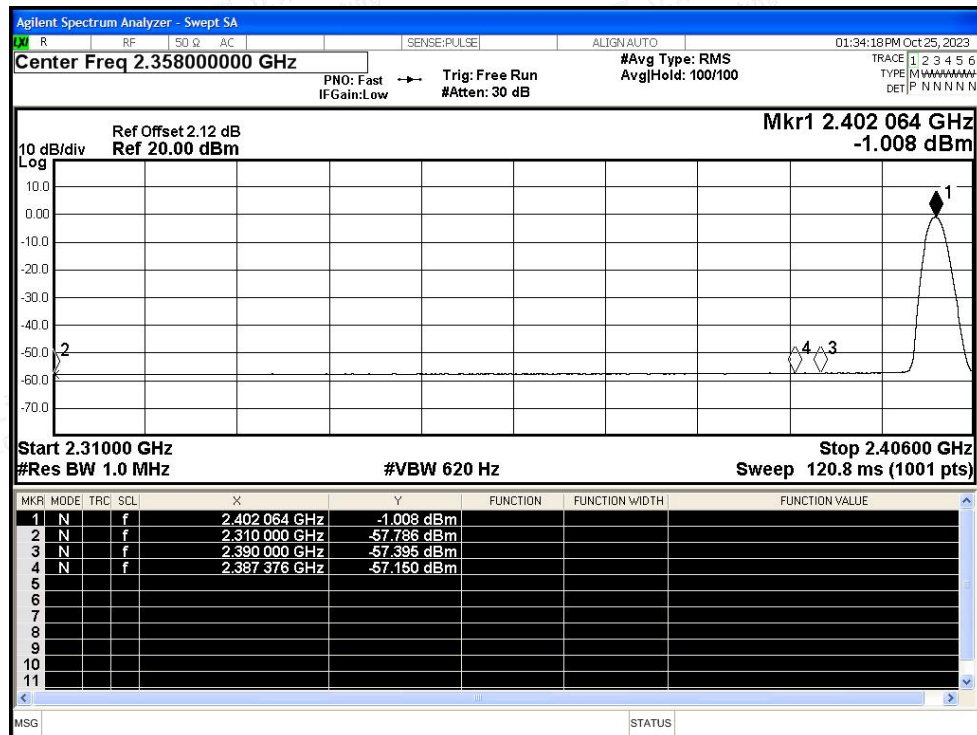


## Test Graphs

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



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



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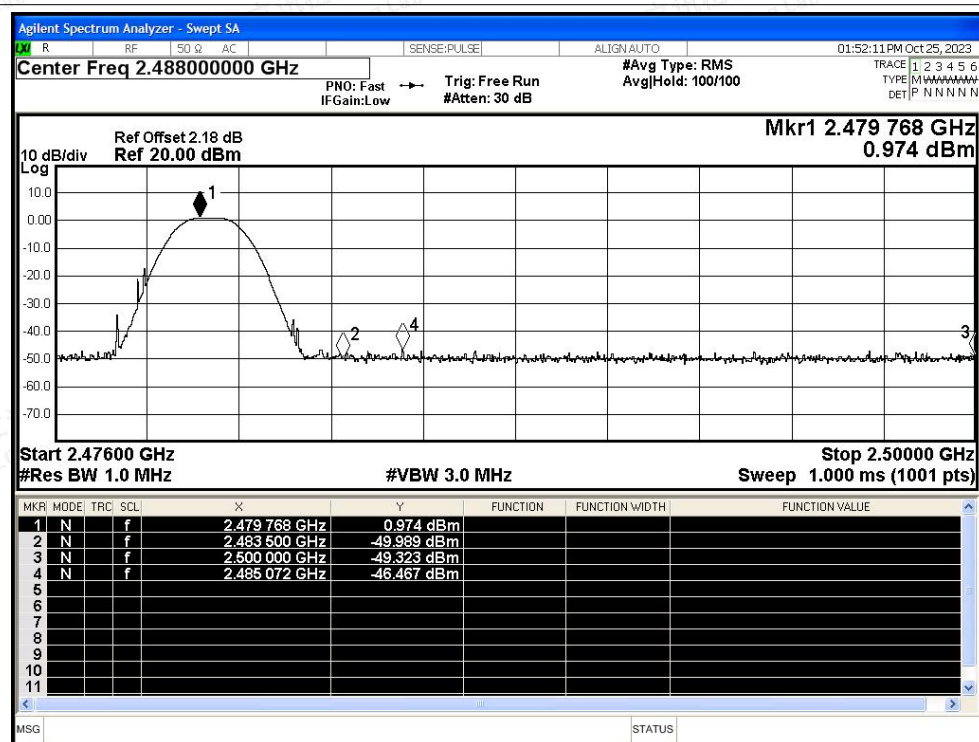
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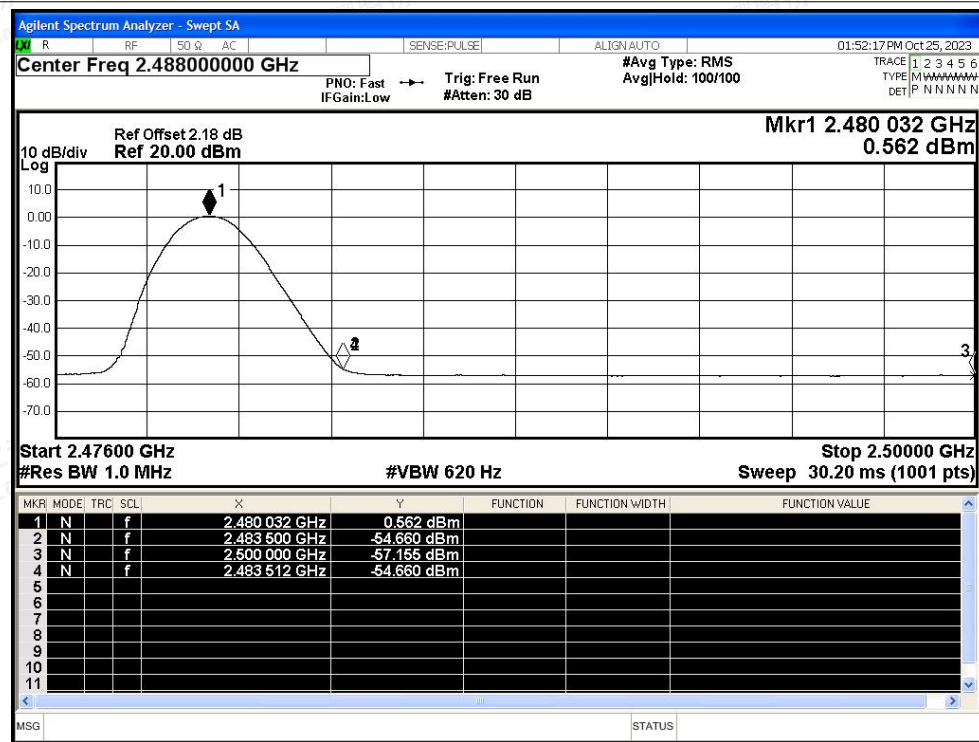
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## Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



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



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