



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: IP Phone

Test Model: UCV20

Environmental Conditions

|                    |                              |
|--------------------|------------------------------|
| Temperature:       | 23.5℃                        |
| Relative Humidity: | 52.2%                        |
| ATM Pressure:      | 100.0 kPa                    |
| Test Engineer:     | <div>Ling Zhu</div> Ling Zhu |
| Supervised by:     | <div>Li Huan</div> Li Huan   |





### B.1 -6dB Bandwidth

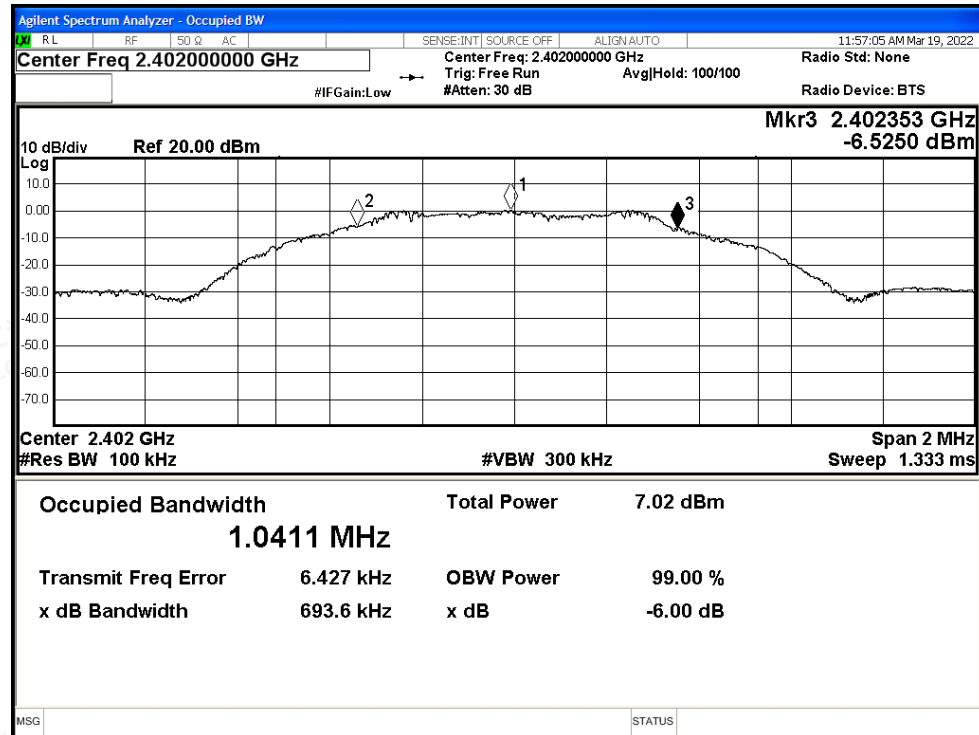
| Condition | Mode   | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|-----------|--------|-----------------|---------|-----------------------|-----------------------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | 0.694                 | 0.5                         | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | 0.68                  | 0.5                         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 0.697                 | 0.5                         | Pass    |



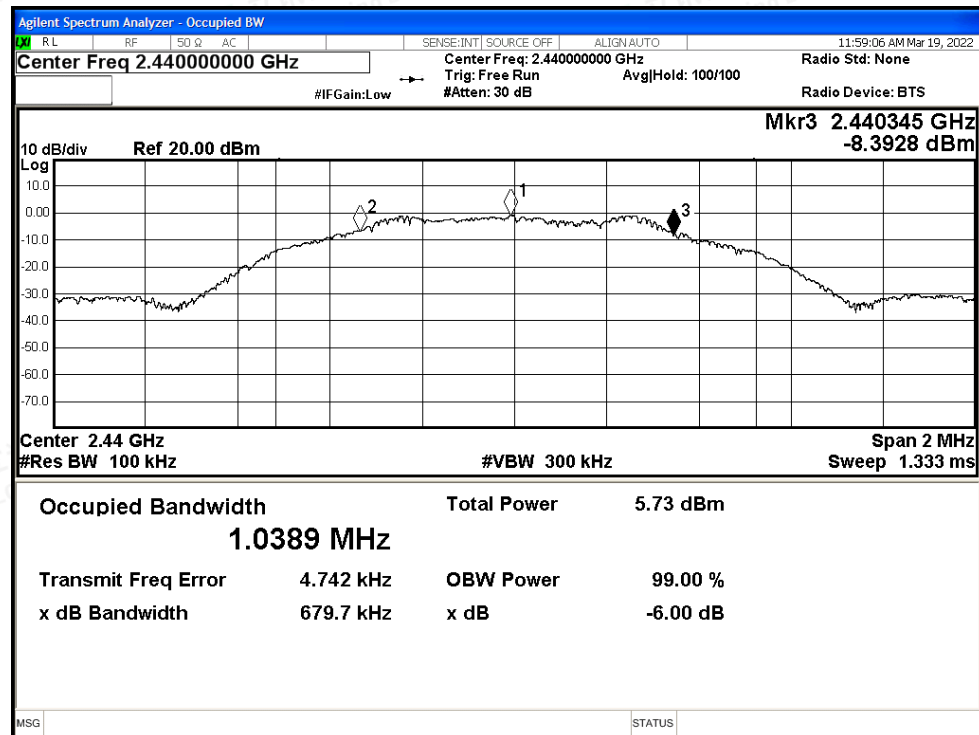


## Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

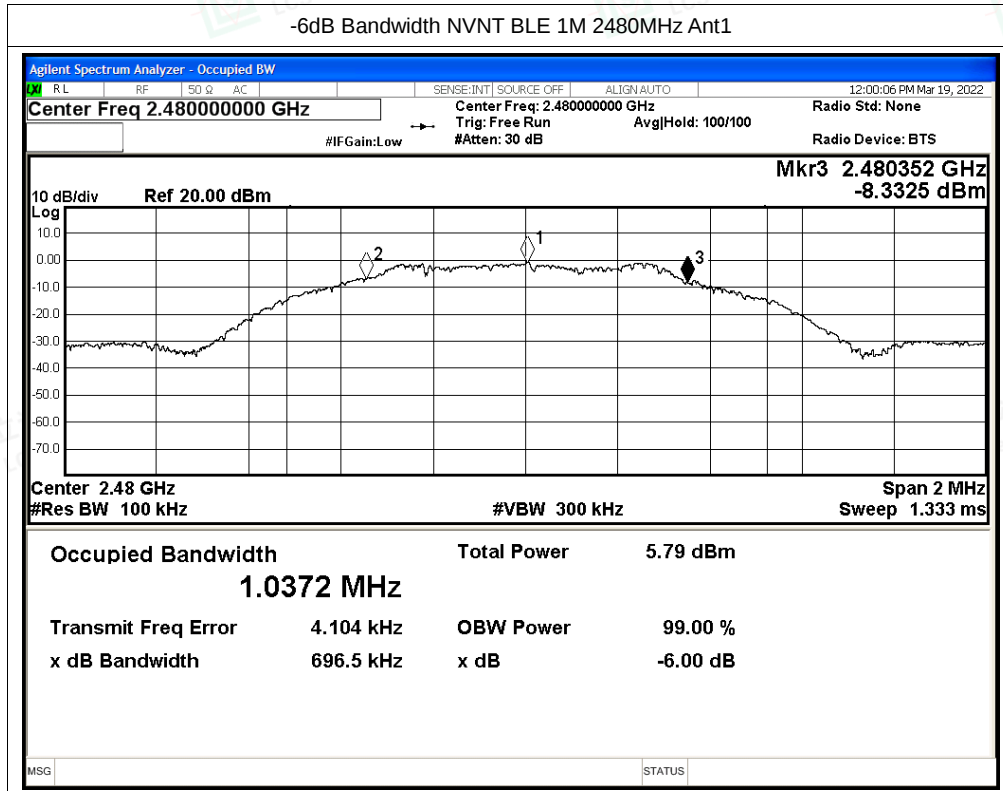


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B.2 Maximum Peak Conducted Output Power

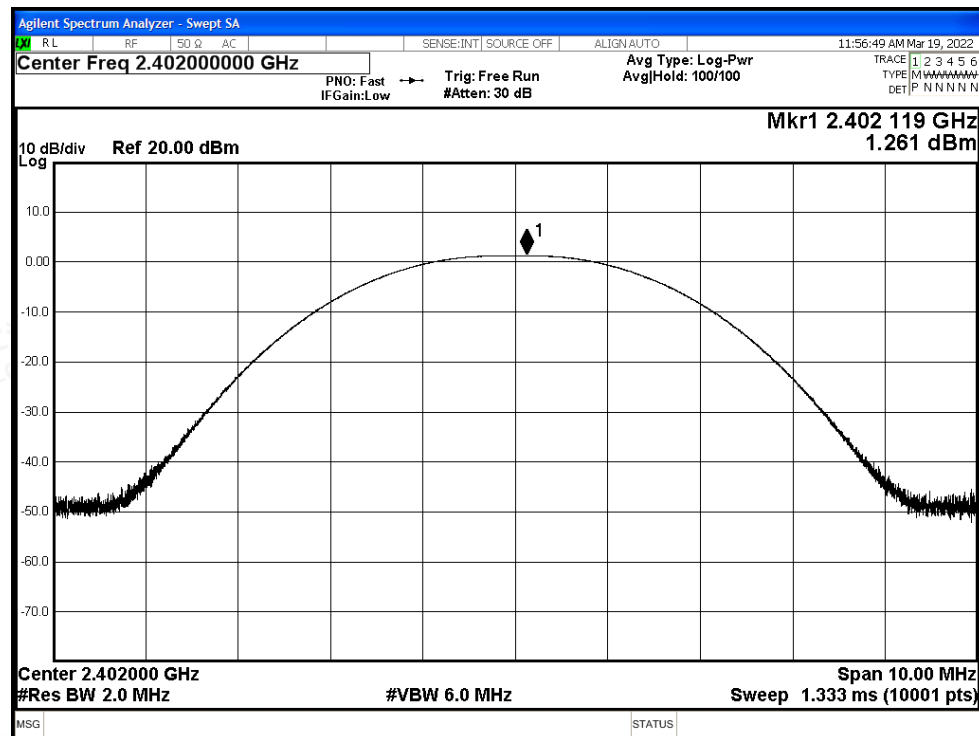
| Condition | Mode   | Frequency (MHz) | Antenna | Conducted Power (dBm) | Duty Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|--------|-----------------|---------|-----------------------|------------------|-------------------|-------------|---------|
| NVNT      | BLE 1M | 2402            | Ant1    | 1.26                  | 0                | 1.26              | 30          | Pass    |
| NVNT      | BLE 1M | 2440            | Ant1    | 0.12                  | 0                | 0.12              | 30          | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | 0.09                  | 0                | 0.09              | 30          | Pass    |



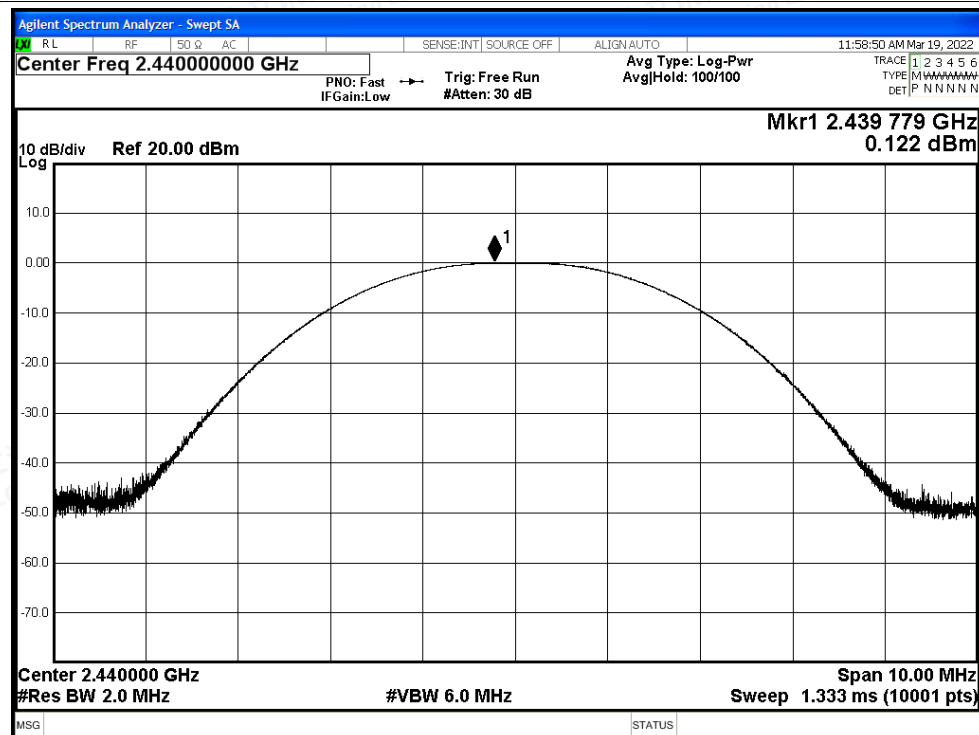


## Test Graphs

## Power NVNT BLE 1M 2402MHz Ant1



## Power NVNT BLE 1M 2440MHz Ant1

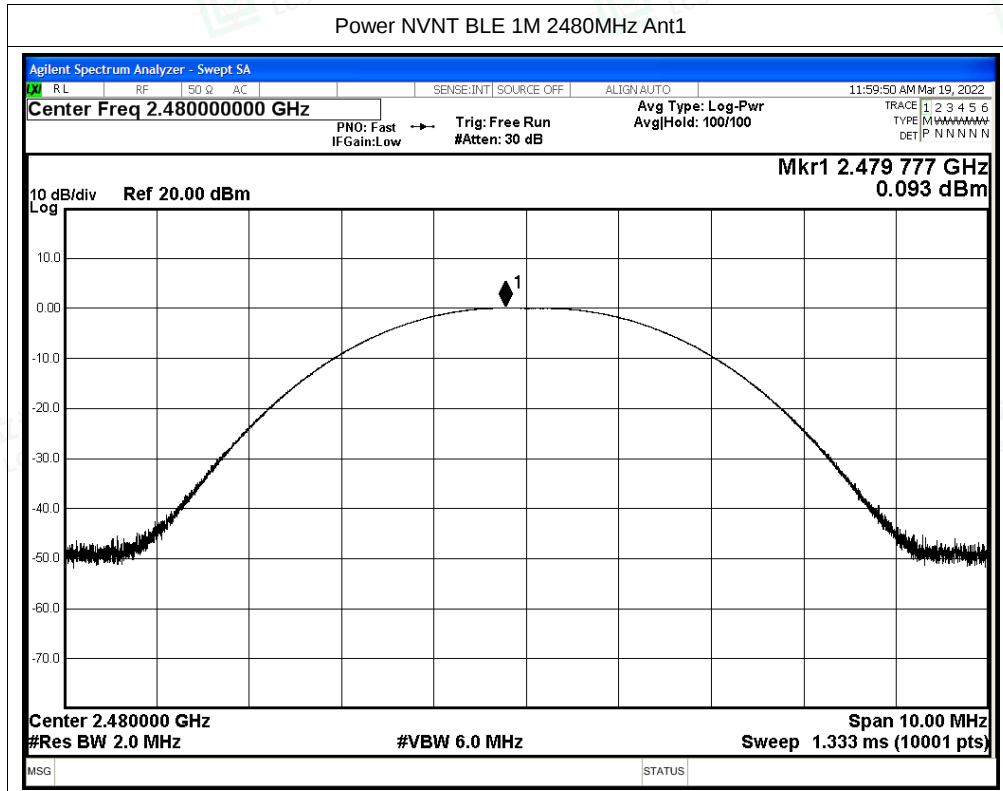


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### B.3 Maximum Power Spectral Density Level

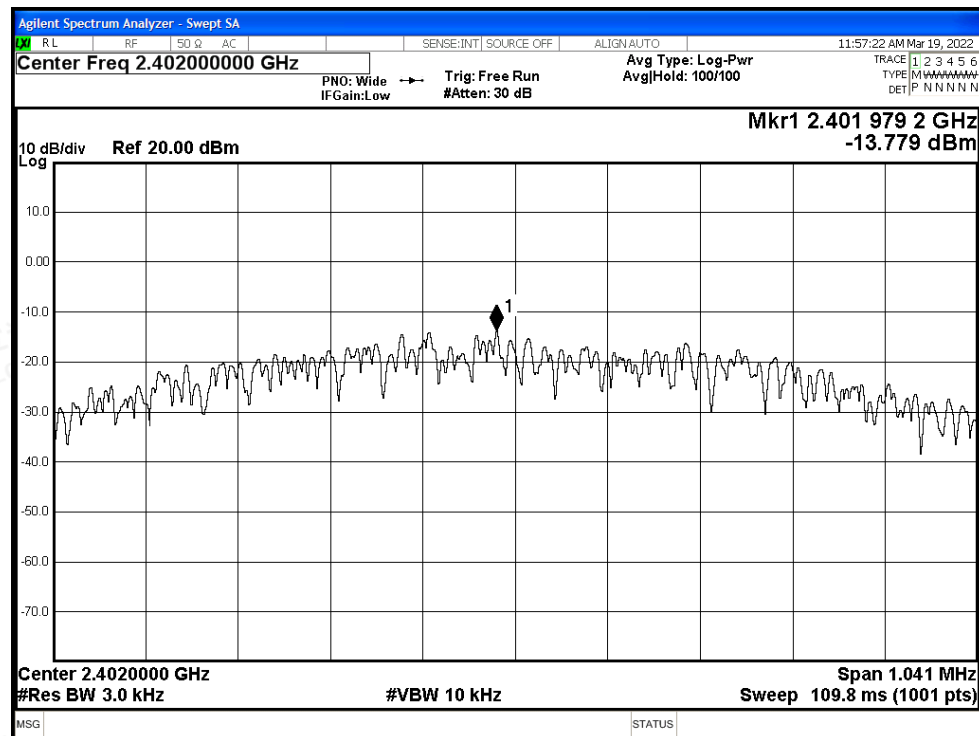
| Condition | Mode   | Frequency<br>(MHz) | Antenna | Conducted PSD<br>(dBm/3kHz) | Duty Factor<br>(dB) | Total PSD<br>(dBm/3kHz) | Limit<br>(dBm/3kHz) | Verdict |
|-----------|--------|--------------------|---------|-----------------------------|---------------------|-------------------------|---------------------|---------|
| NVNT      | BLE 1M | 2402               | Ant1    | -13.78                      | 0                   | -13.78                  | 8                   | Pass    |
| NVNT      | BLE 1M | 2440               | Ant1    | -15.05                      | 0                   | -15.05                  | 8                   | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | -14.7                       | 0                   | -14.7                   | 8                   | Pass    |



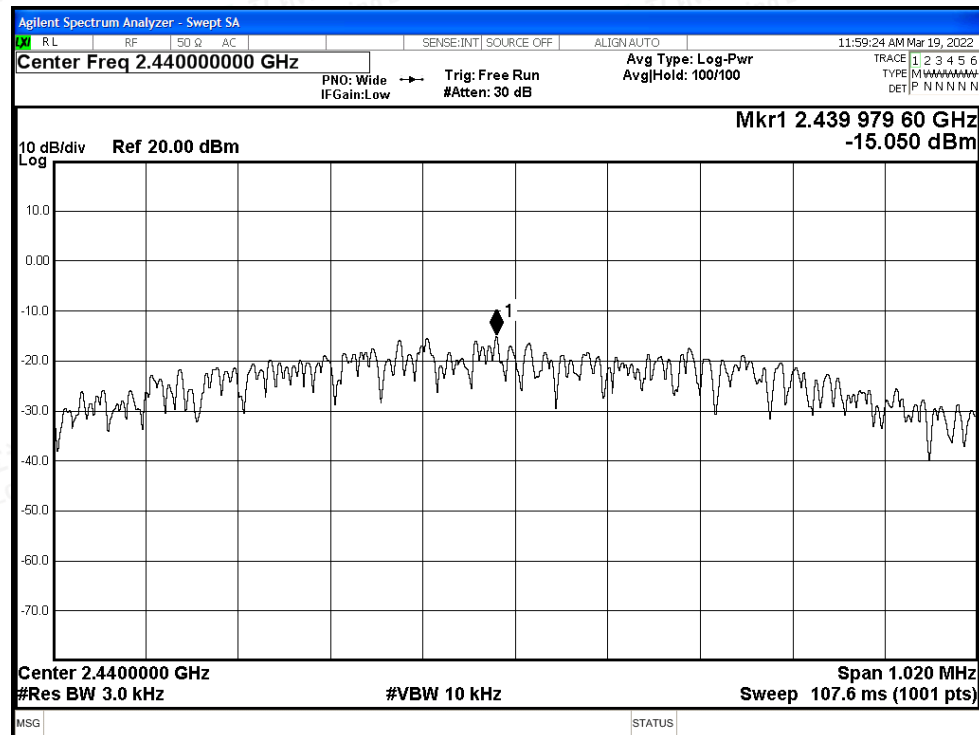


## Test Graphs

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    | -57.83          | -20         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -58.8           | -20         | Pass    |

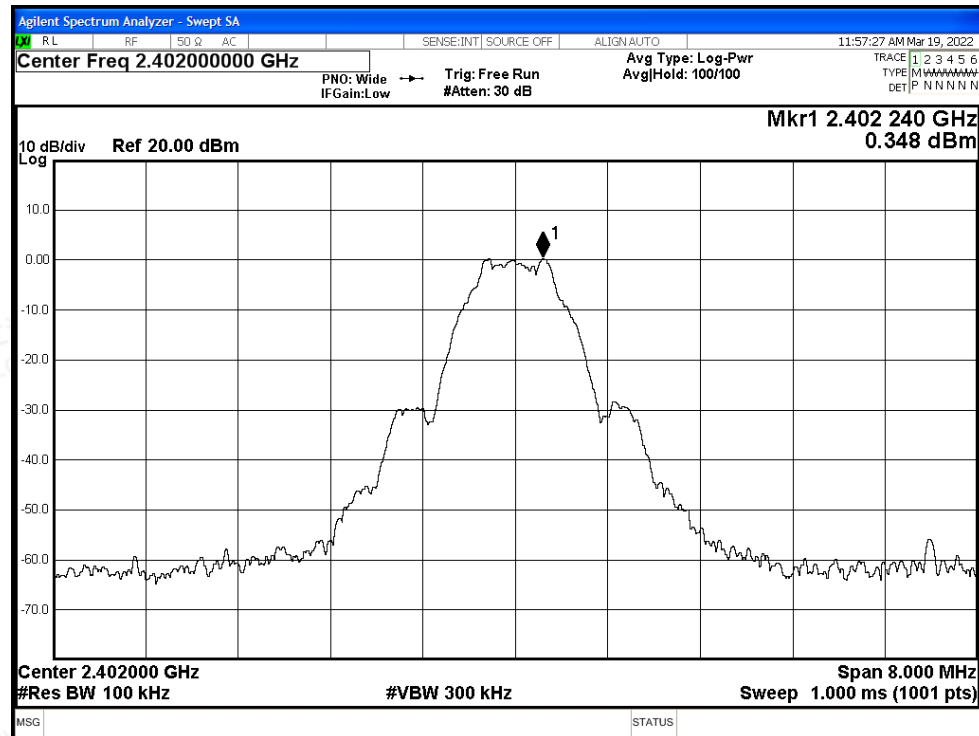




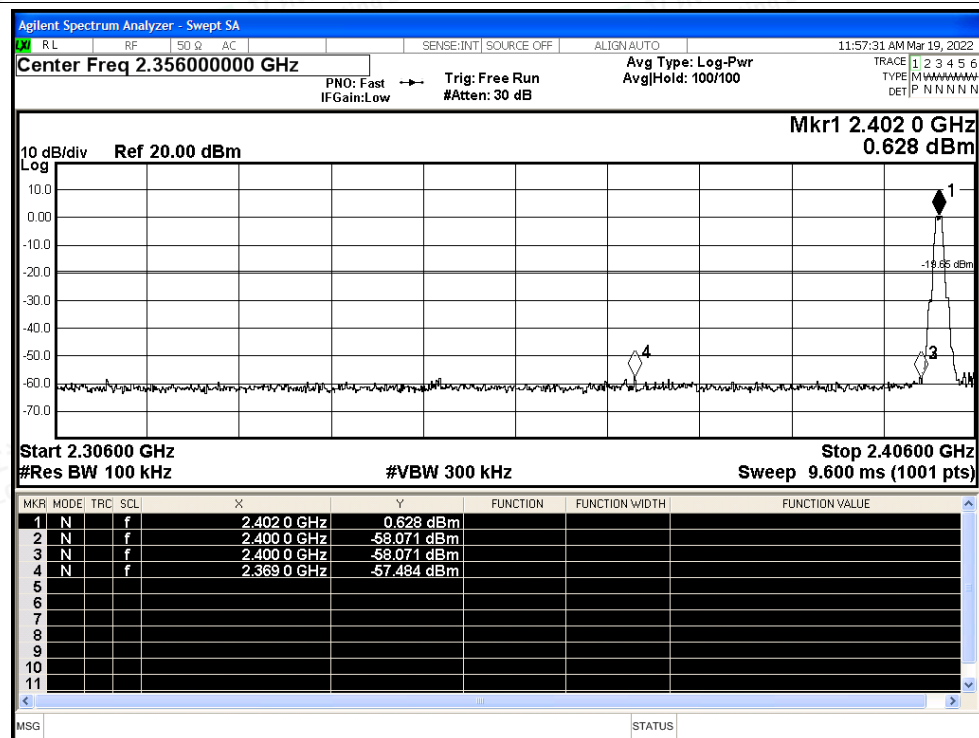
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## Test Graphs

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



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



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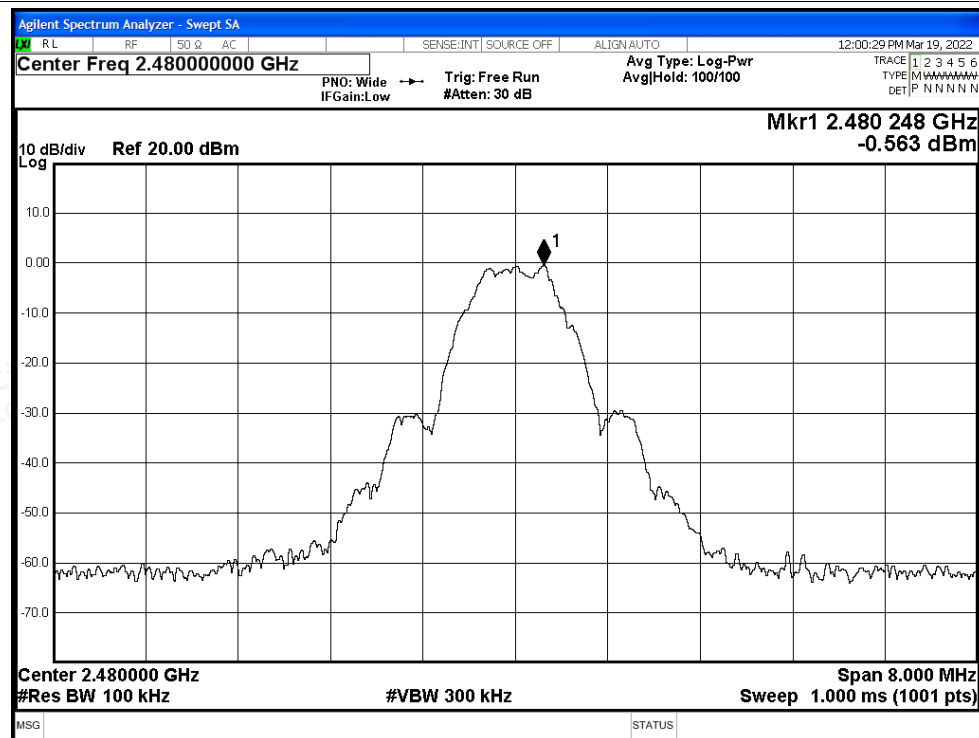
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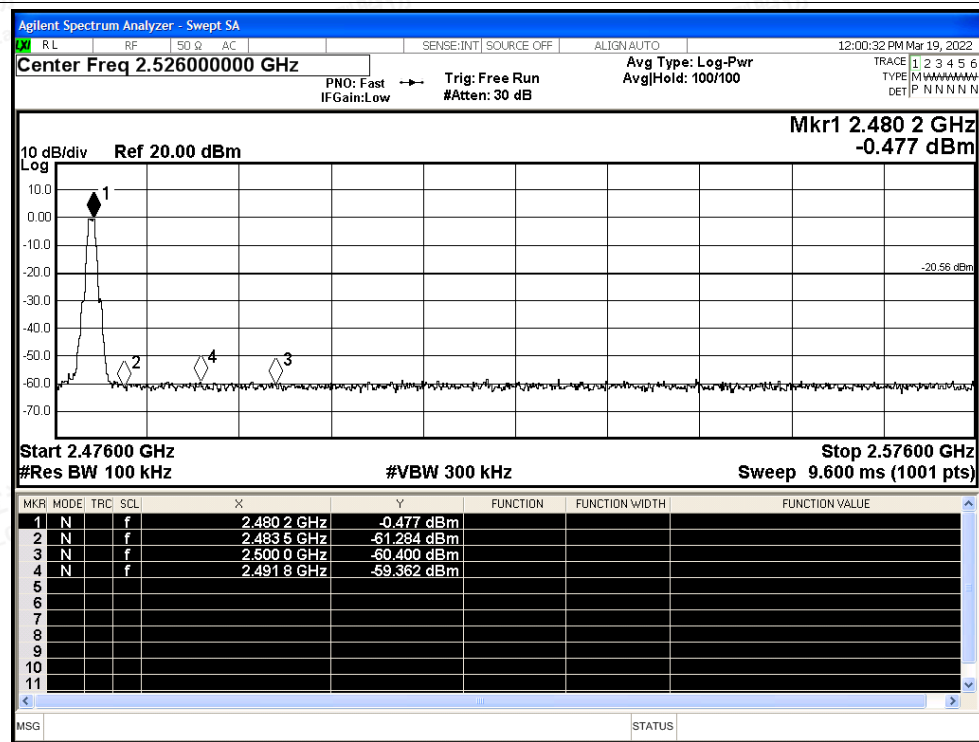


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## Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



## 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    | -54.55          | -20         | Pass    |
| NVNT      | BLE 1M | 2480            | Ant1    | -50.15          | -20         | Pass    |

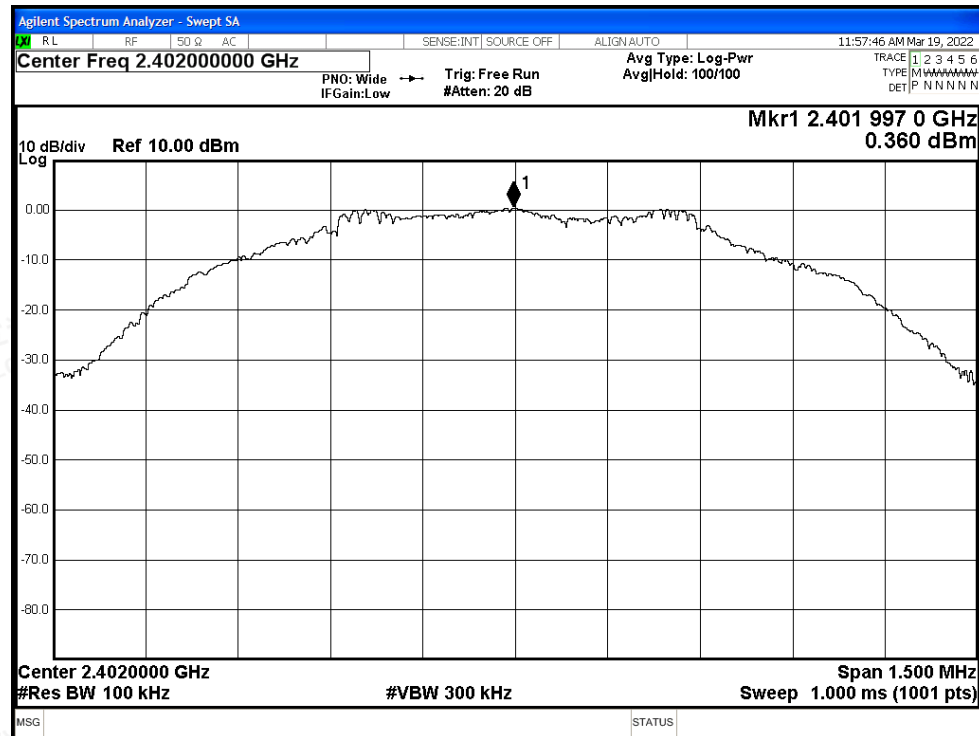




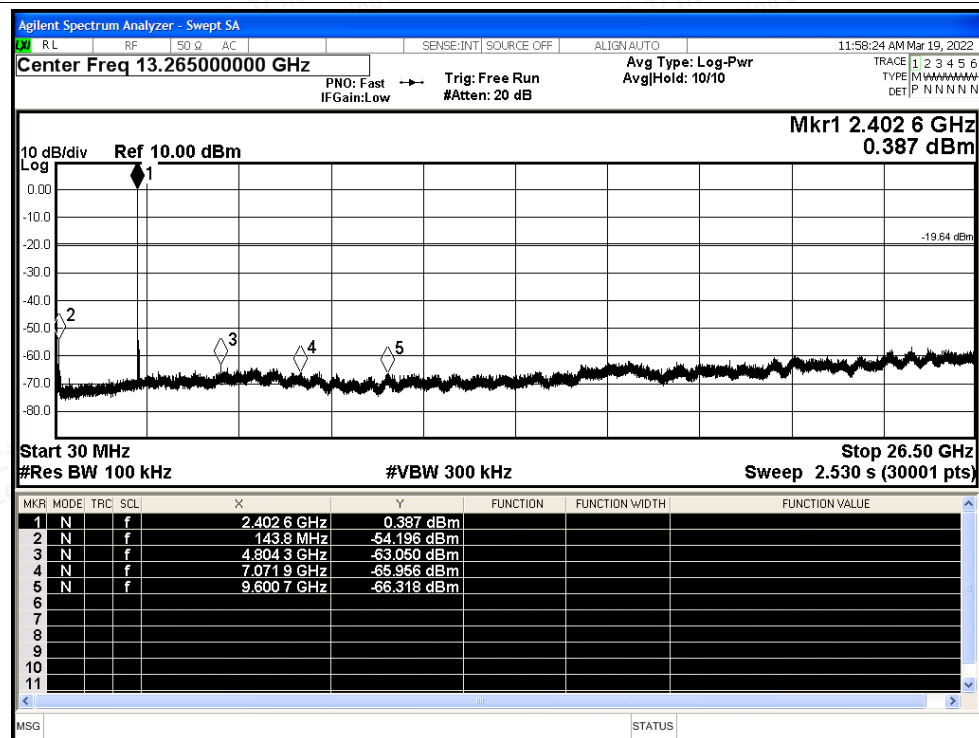
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## Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



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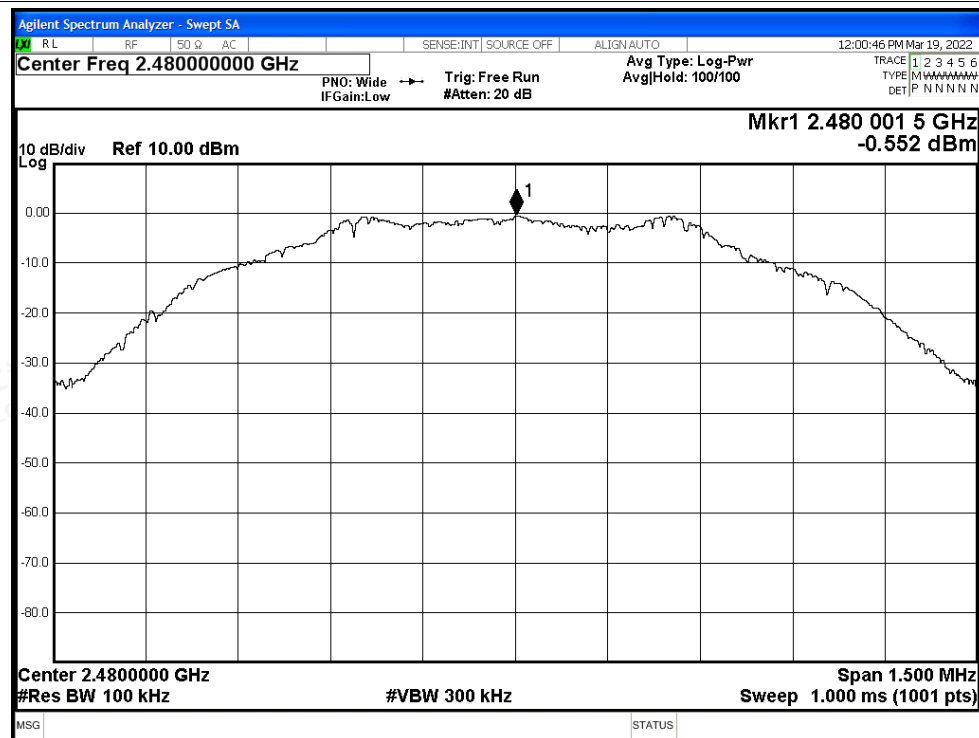
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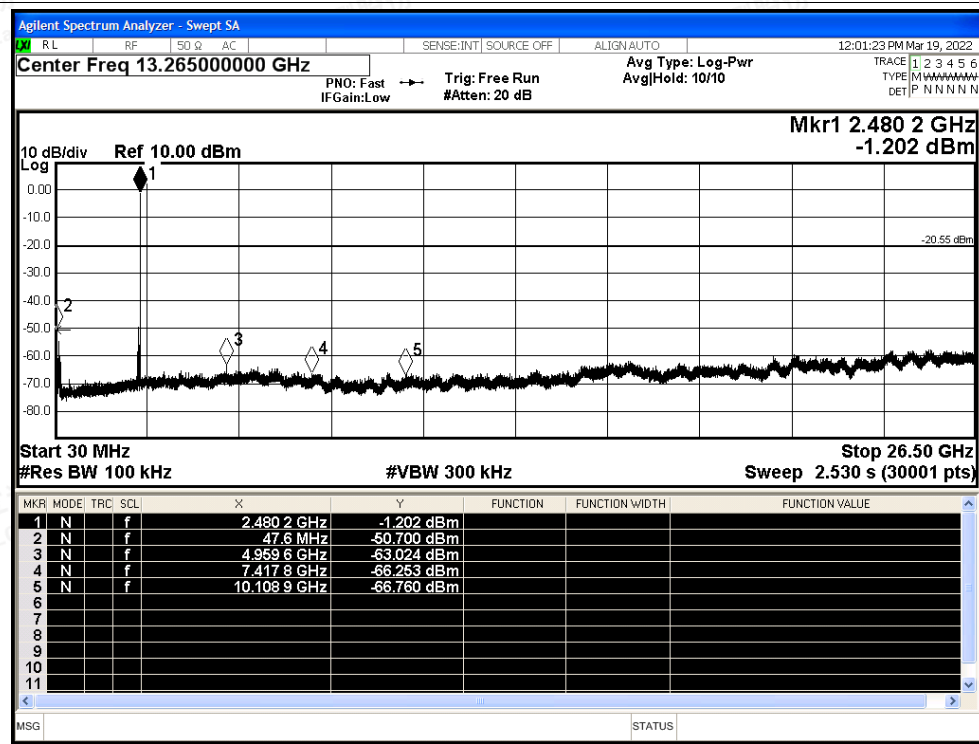


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## Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



## 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    | 61.44          | 2.12                   | 2.6       |
| NVNT      | BLE 1M | 2440            | Ant1    | 61.44          | 2.12                   | 2.6       |
| NVNT      | BLE 1M | 2480            | Ant1    | 61.44          | 2.12                   | 2.6       |

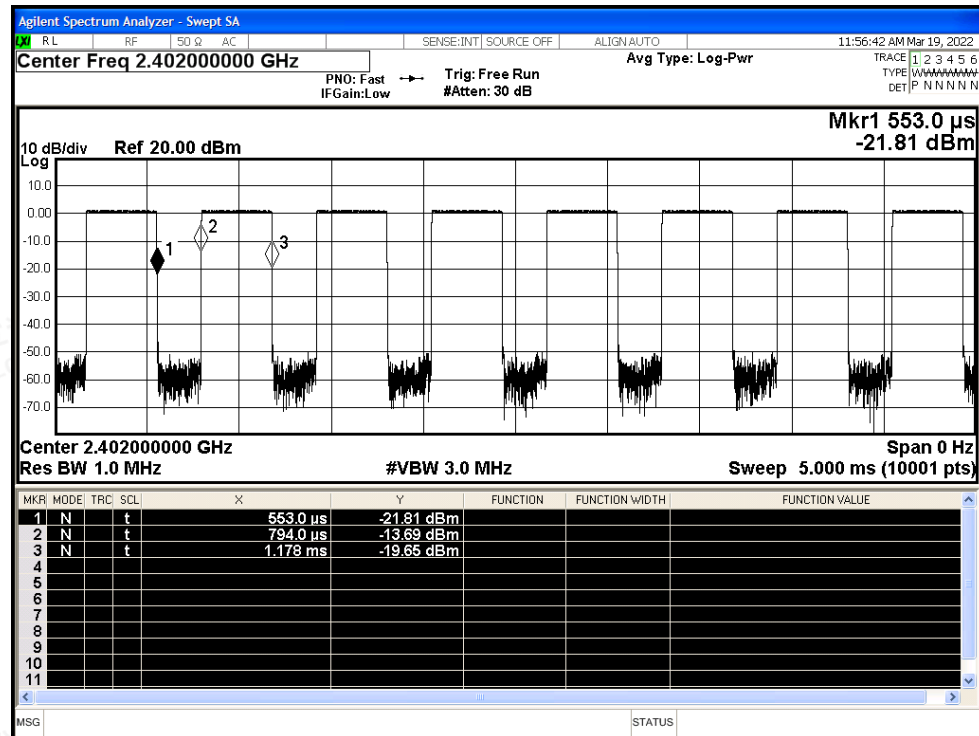




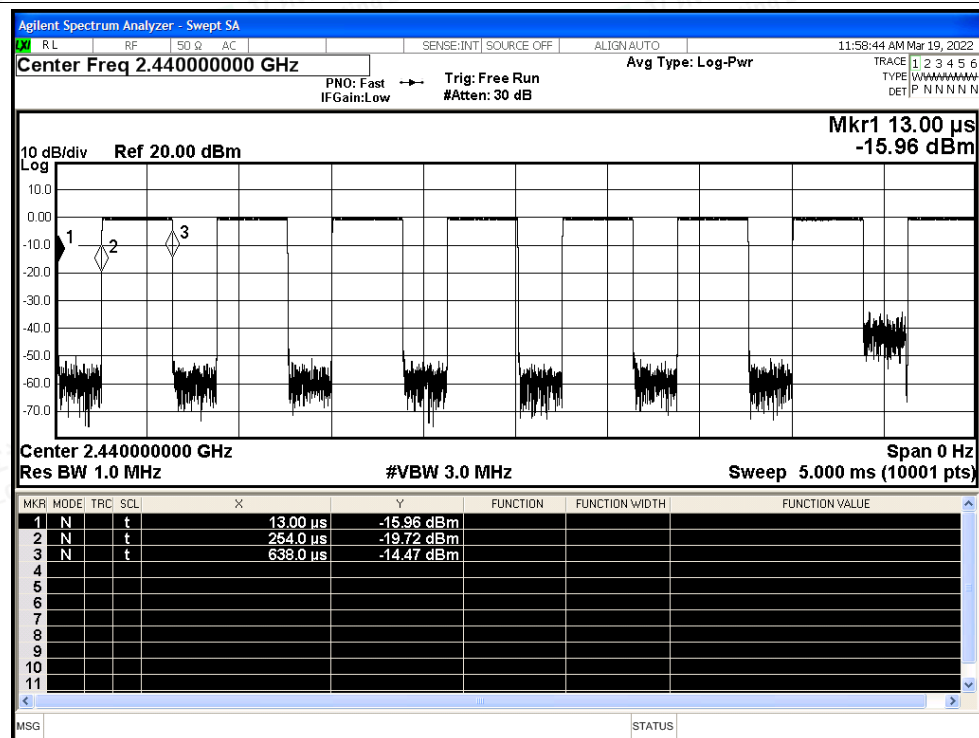
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## Test Graphs

## Duty Cycle NVNT BLE 1M 2402MHz Ant1



## Duty Cycle NVNT BLE 1M 2440MHz Ant1



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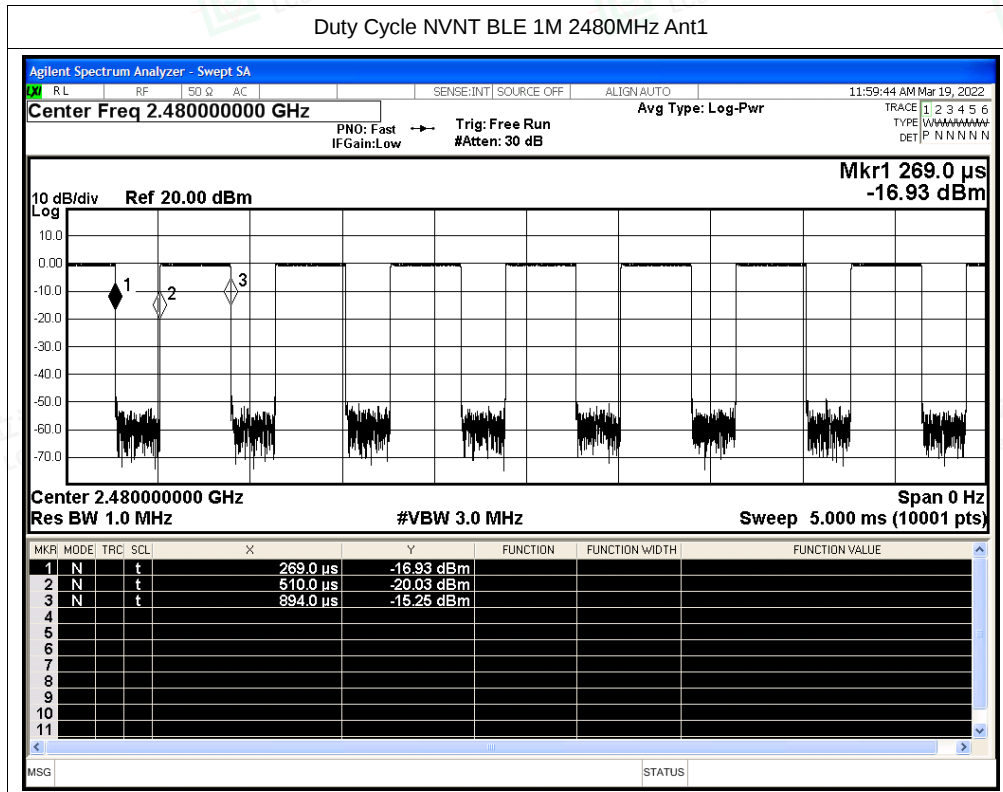
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## B.7 Restrict Band

| 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               | -52.23         | 2             | 45.03         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant1    | 2310               | -61.26         | 2             | 36            | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant1    | 2342.64            | -49.14         | 2             | 48.12         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant1    | 2376.72            | -60.16         | 2             | 37.1          | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant1    | 2390               | -50.53         | 2             | 46.73         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2402               | Ant1    | 2390               | -60.69         | 2             | 36.57         | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2483.5             | -52.57         | 2             | 44.69         | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2483.5             | -60.47         | 2             | 36.79         | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2490.136           | -47.96         | 2             | 49.3          | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2498.8             | -60.14         | 2             | 37.12         | Average  | 54                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2500               | -51.76         | 2             | 45.5          | Peak     | 74                | Pass    |
| NVNT      | BLE 1M | 2480               | Ant1    | 2500               | -60.69         | 2             | 36.57         | Average  | 54                | Pass    |



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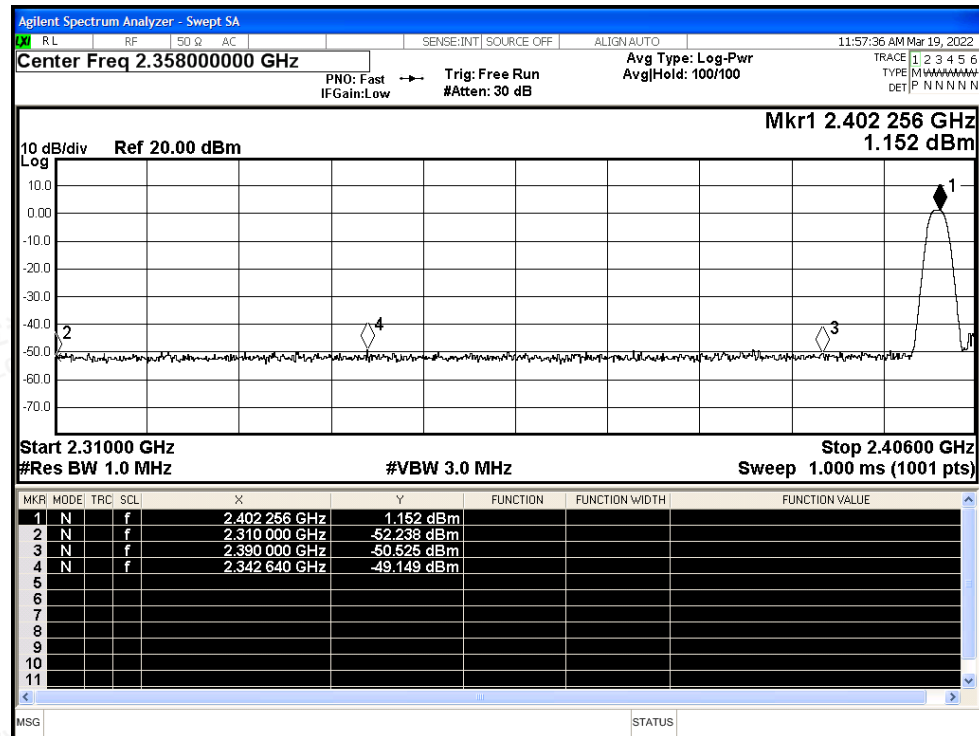
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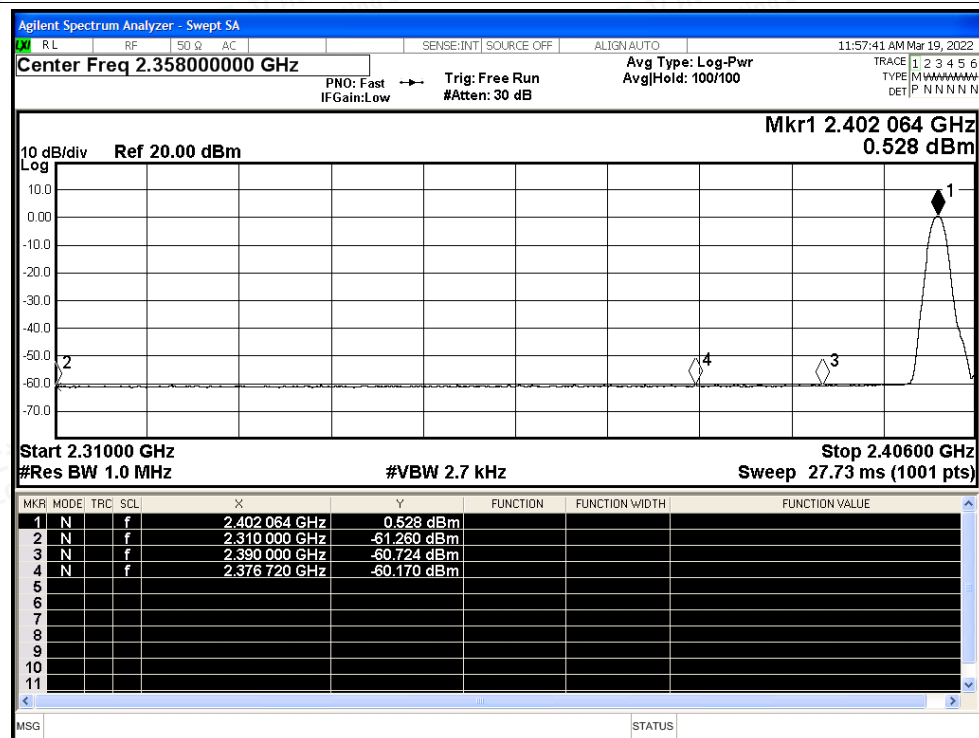
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## Test Graphs

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



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



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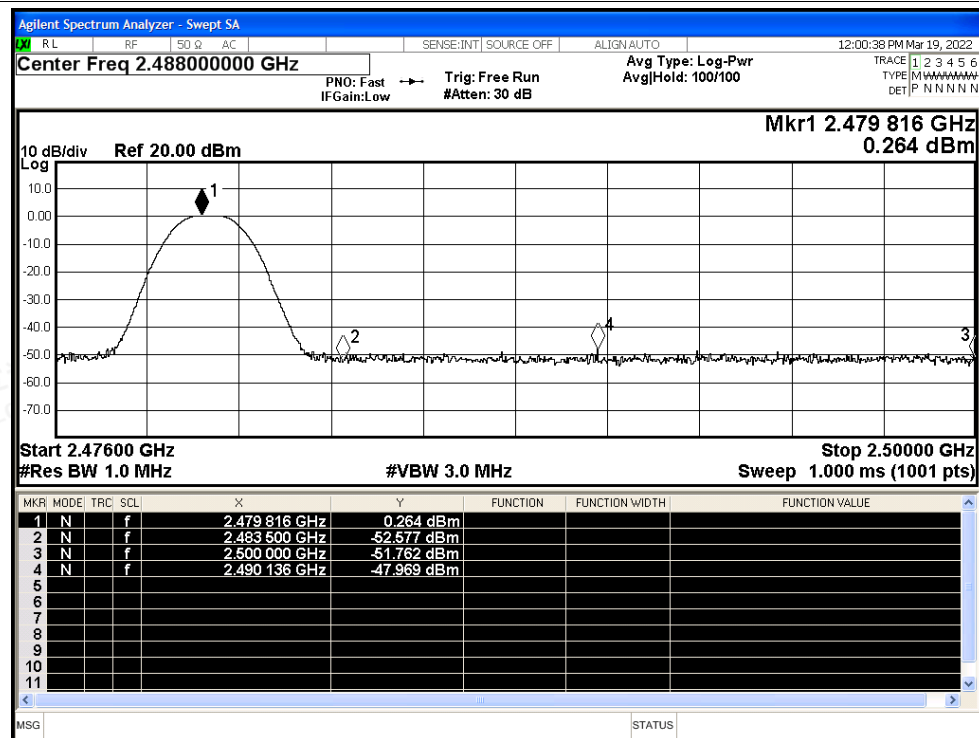
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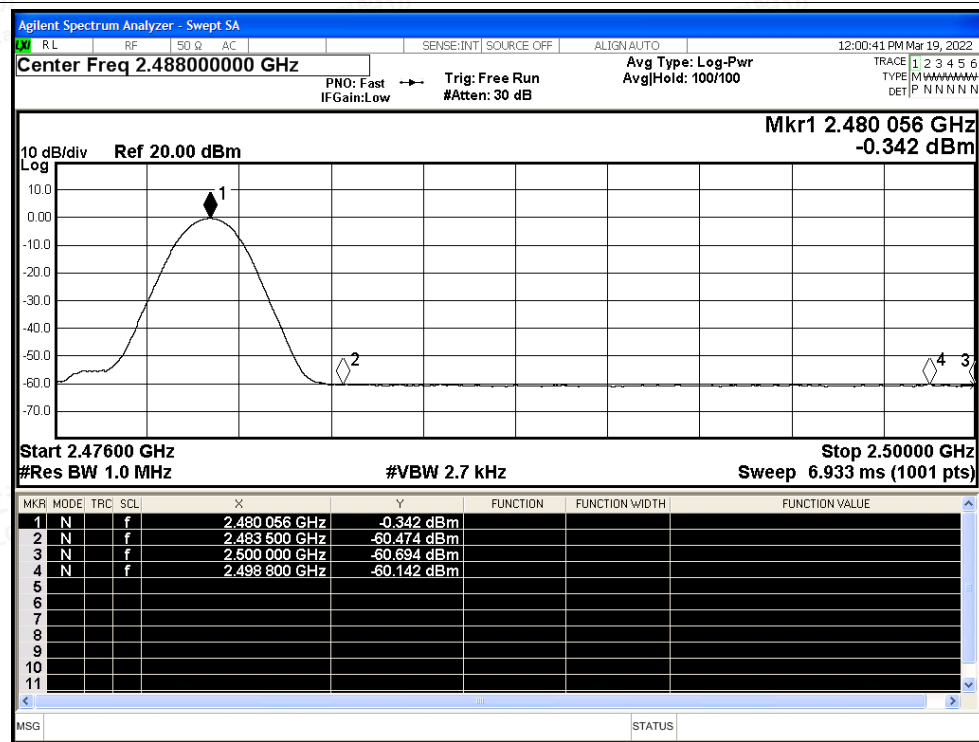


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## Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



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



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