



## Appendix A

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

Product Name: Li-ion Battery Pack

Test Model: MW37V036

#### Environmental Conditions

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





## A.1 -6dB Bandwidth

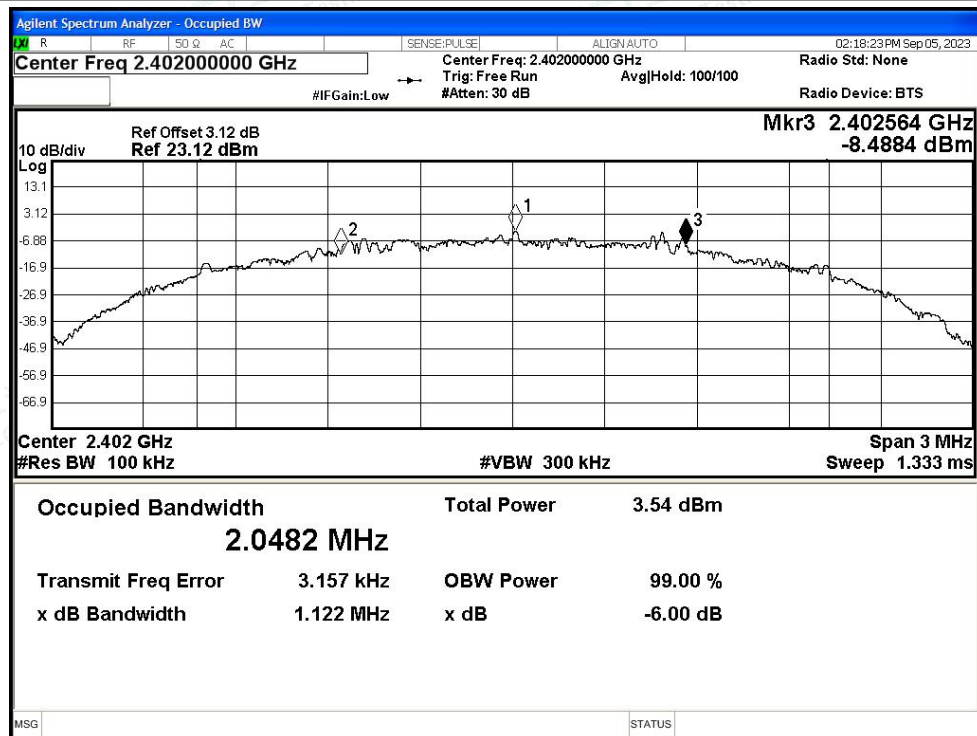
| Condition | Mode   | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|-----------|--------|-----------------|---------|-----------------------|-----------------------------|---------|
| NVNT      | BLE 2M | 2402            | Ant1    | 1.122                 | $\geq 0.5$                  | Pass    |
| NVNT      | BLE 2M | 2440            | Ant1    | 1.186                 | $\geq 0.5$                  | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | 1.226                 | $\geq 0.5$                  | Pass    |



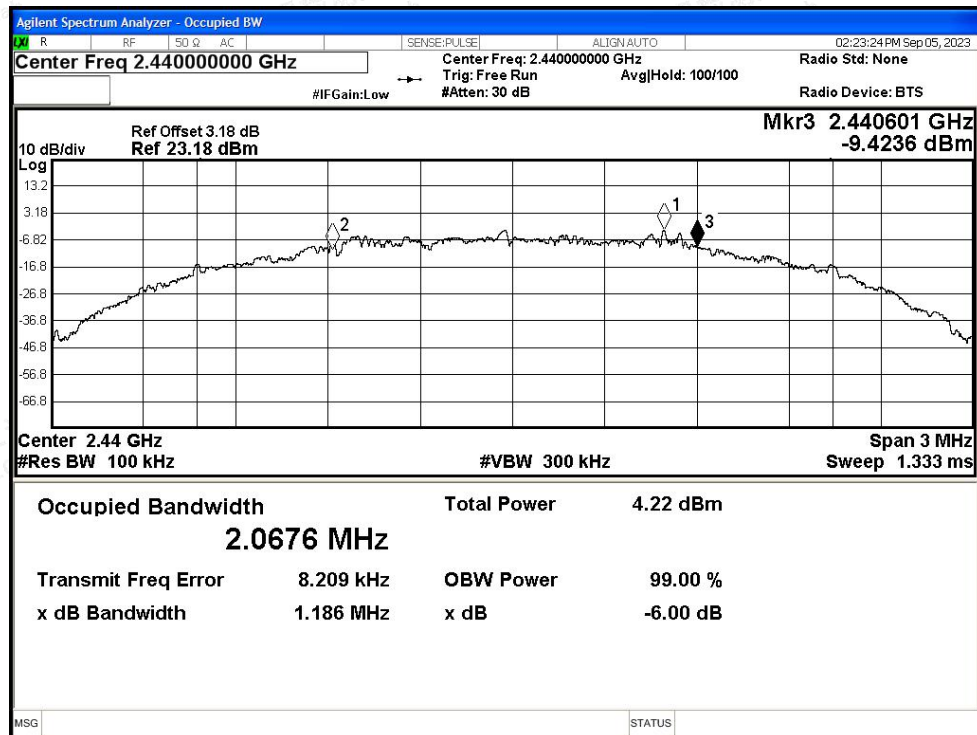


Test Graphs

-6dB Bandwidth NVNT BLE 2M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2440MHz Ant1

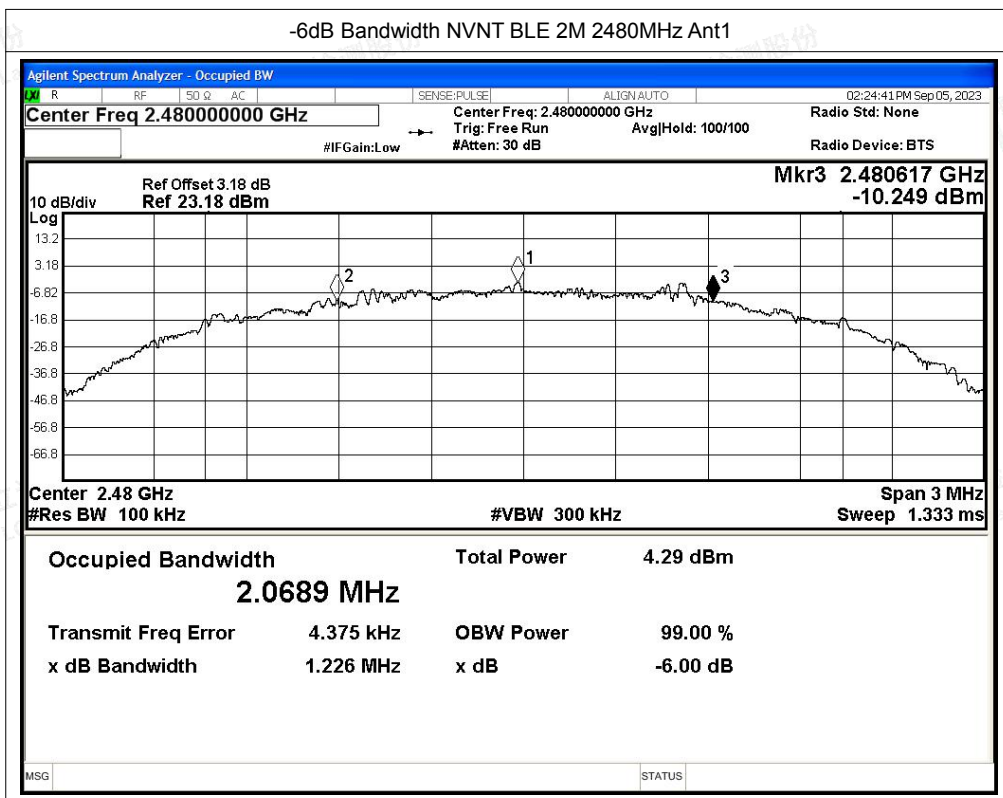


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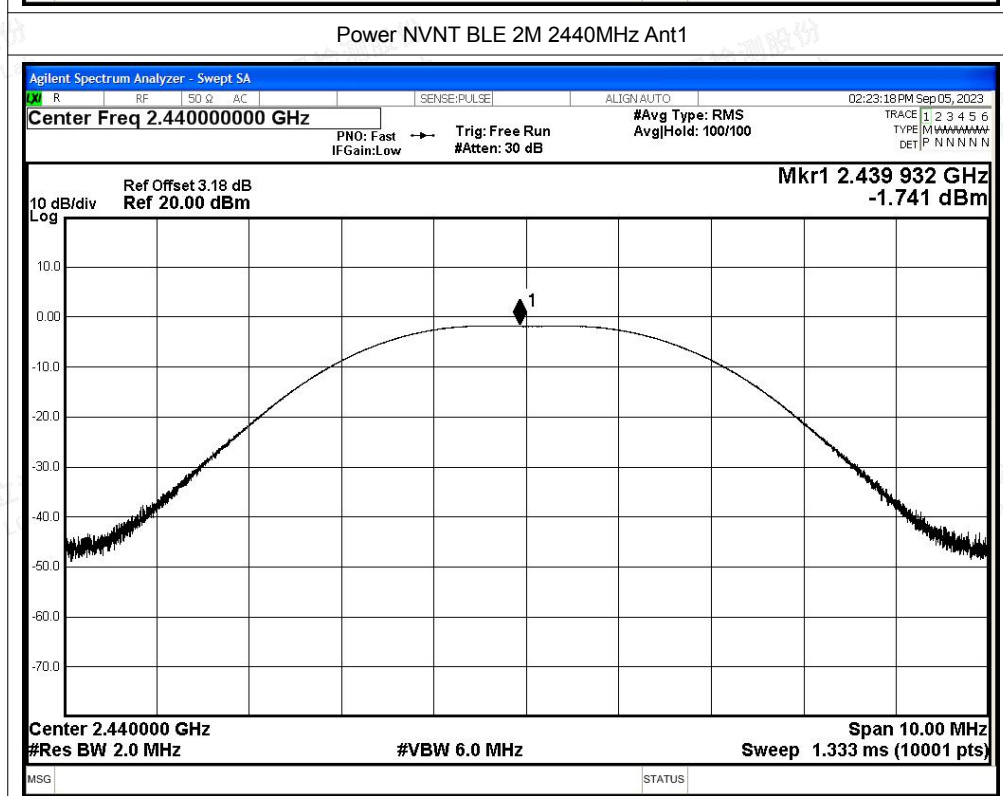
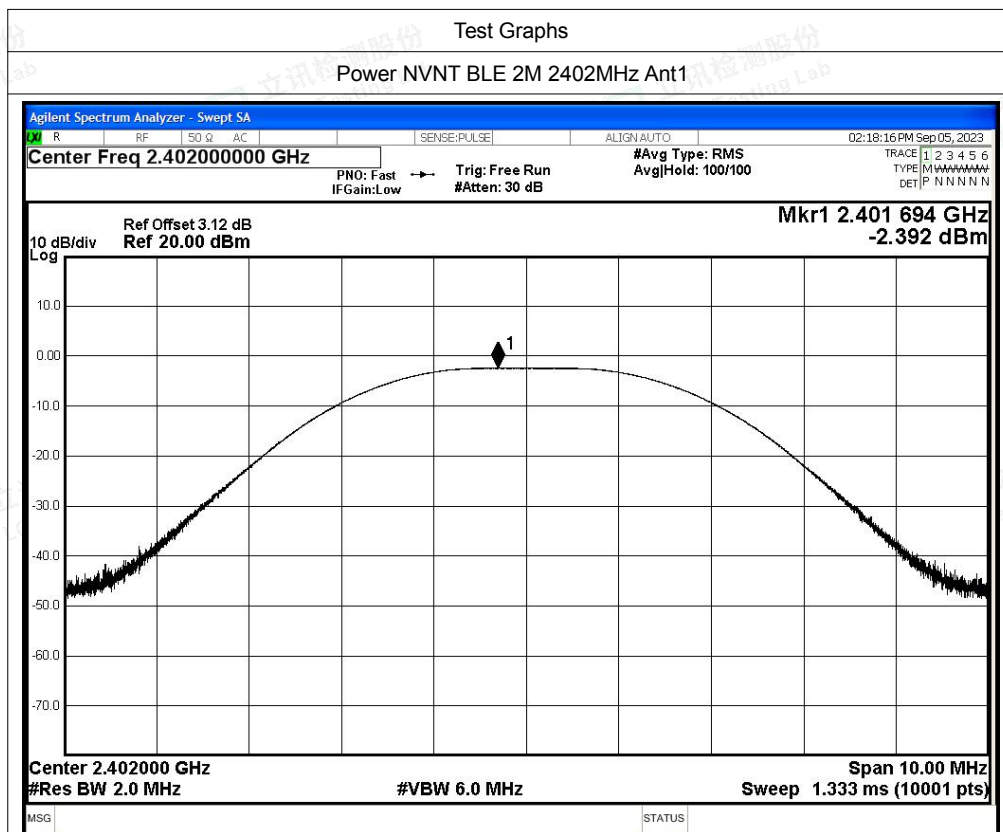
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## A.2 Maximum Conducted Output Power

| Condition | Mode   | Frequency (MHz) | Antenna | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|--------|-----------------|---------|-------------------|-------------|---------|
| NVNT      | BLE 2M | 2402            | Ant1    | -2.39             | 30          | Pass    |
| NVNT      | BLE 2M | 2440            | Ant1    | -1.74             | 30          | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | -1.68             | 30          | Pass    |



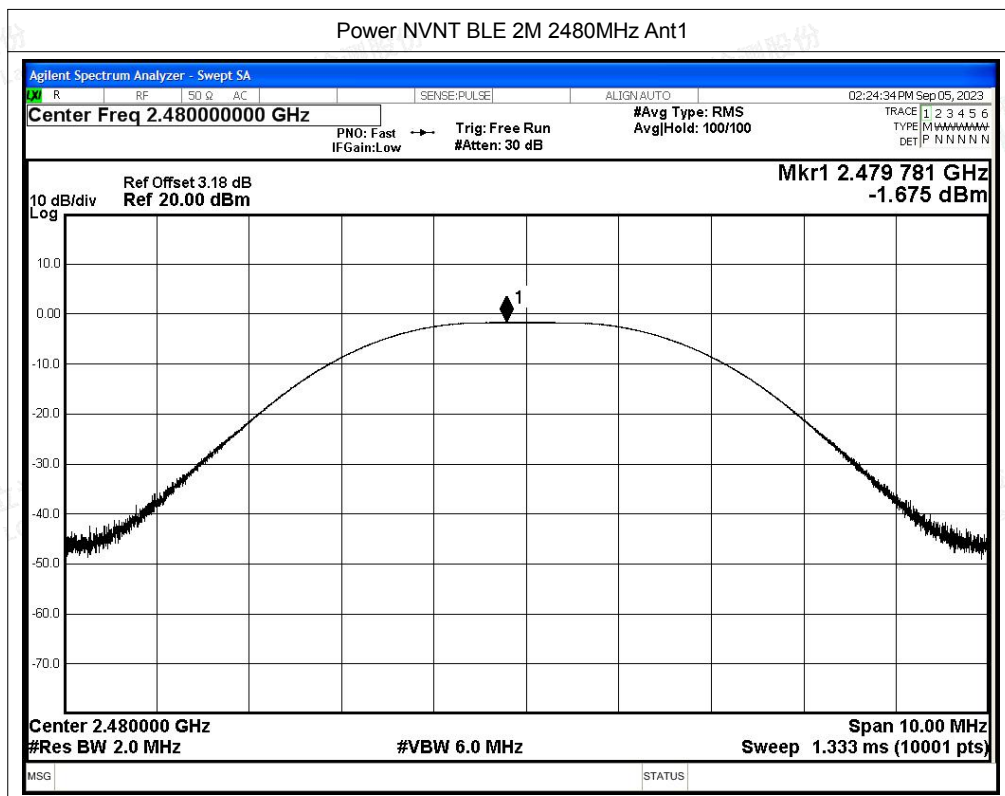


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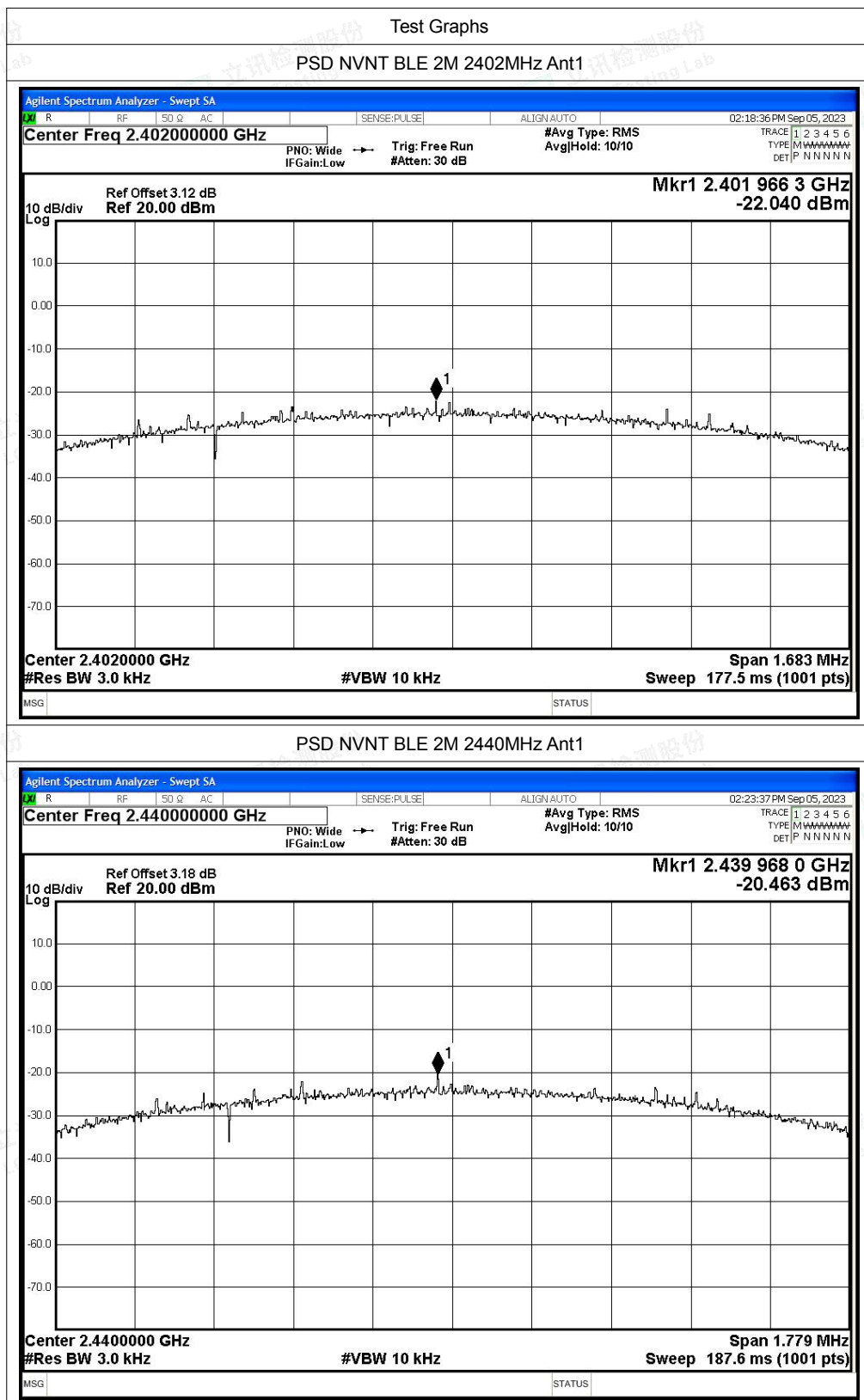
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### A.3 Maximum Power Spectral Density Level

| Condition | Mode   | Frequency (MHz) | Antenna | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | Verdict |
|-----------|--------|-----------------|---------|----------------------|------------------|---------|
| NVNT      | BLE 2M | 2402            | Ant1    | -22.04               | 8                | Pass    |
| NVNT      | BLE 2M | 2440            | Ant1    | -20.46               | 8                | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | -20.49               | 8                | Pass    |



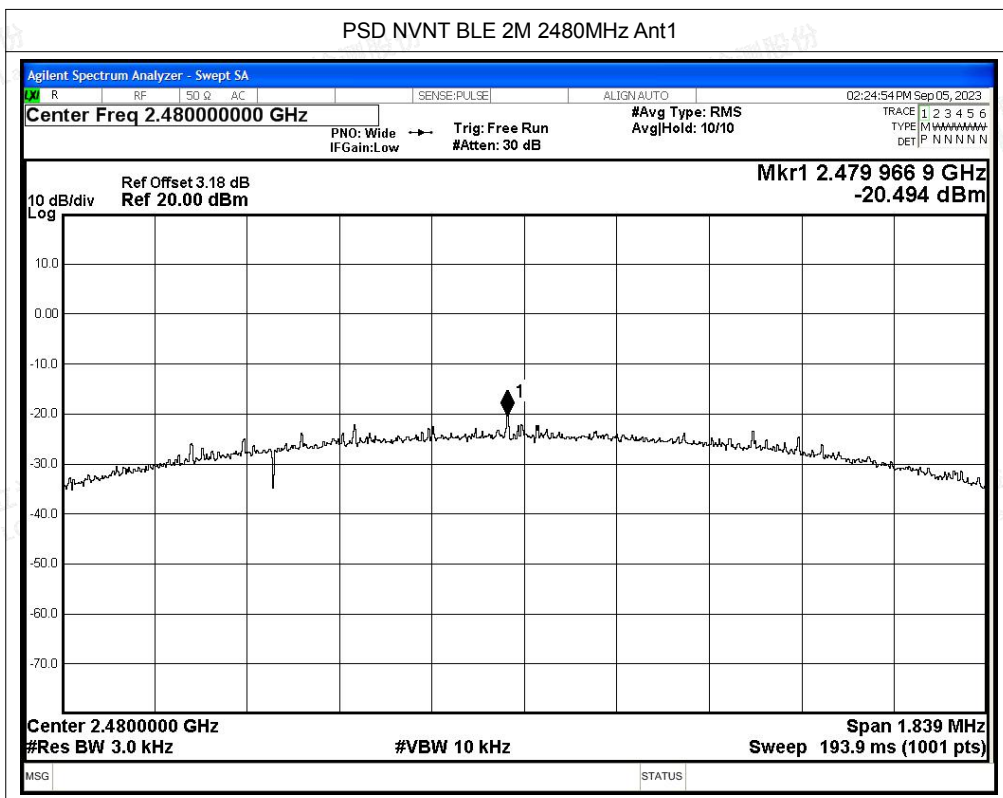


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### A.4 Band Edge

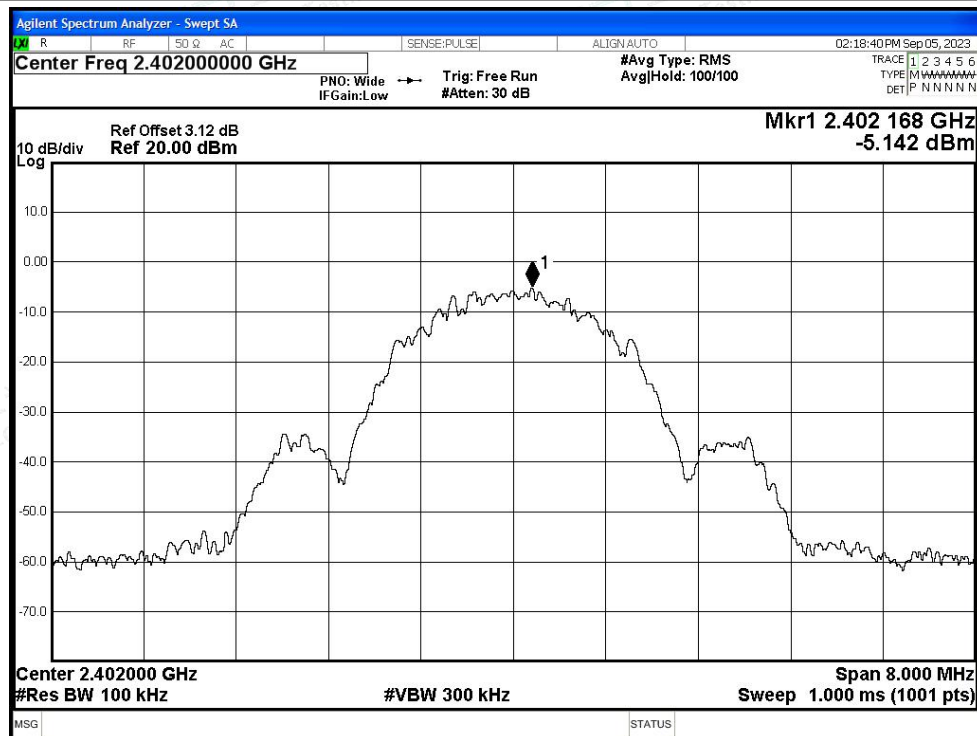
| Condition | Mode   | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | BLE 2M | 2402            | Ant1    | -32.09          | -20         | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | -50.73          | -20         | Pass    |



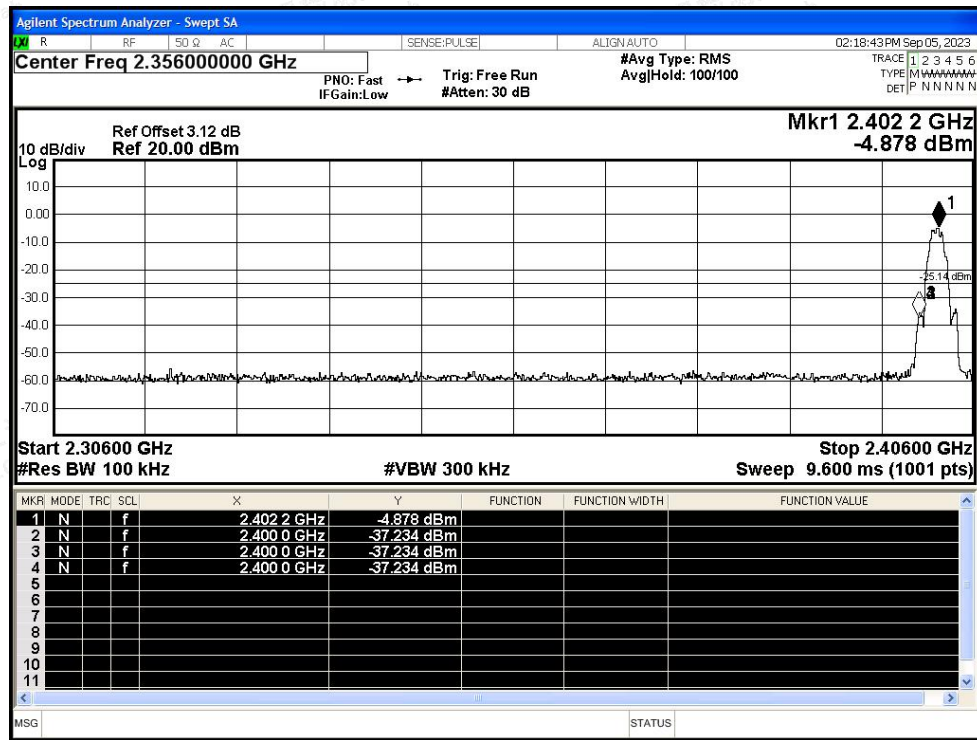


Test Graphs

Band Edge NVNT BLE 2M 2402MHz Ant1 Ref



Band Edge NVNT BLE 2M 2402MHz Ant1 Emission

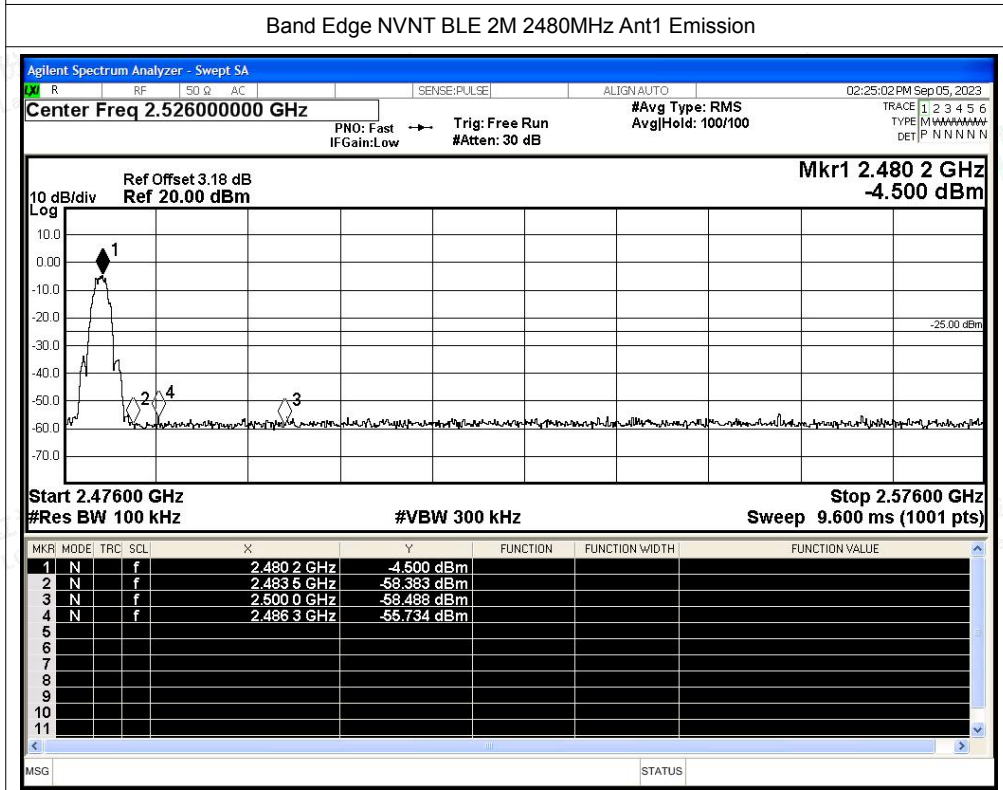
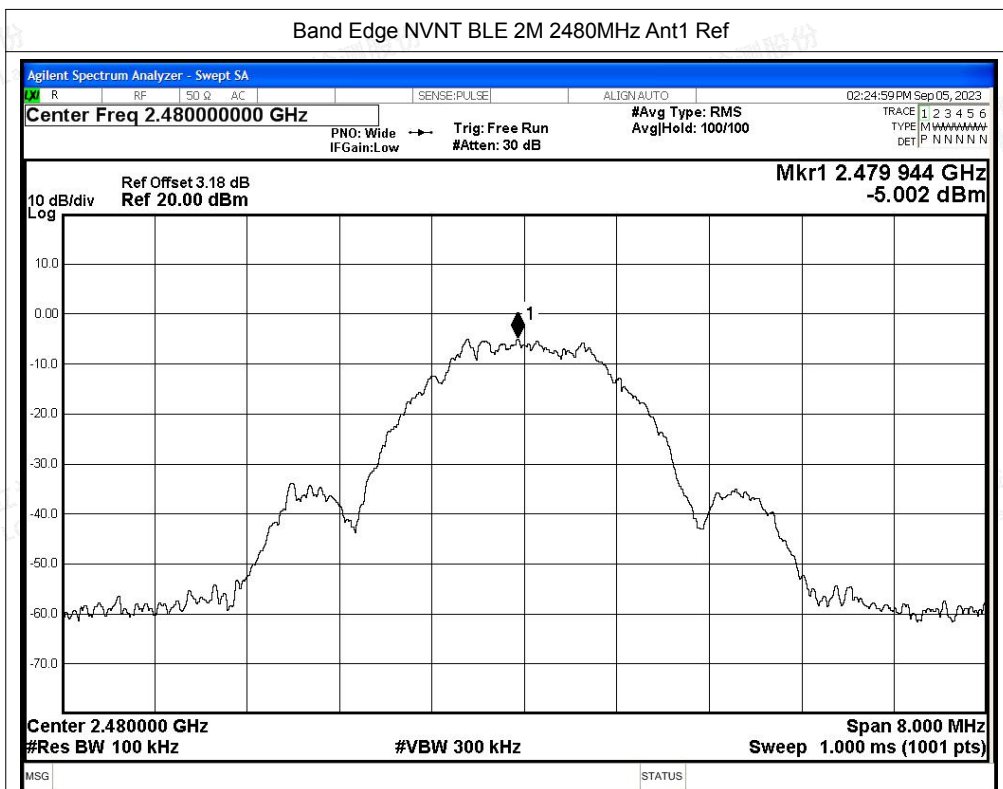


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## A.5 Conducted RF Spurious Emission

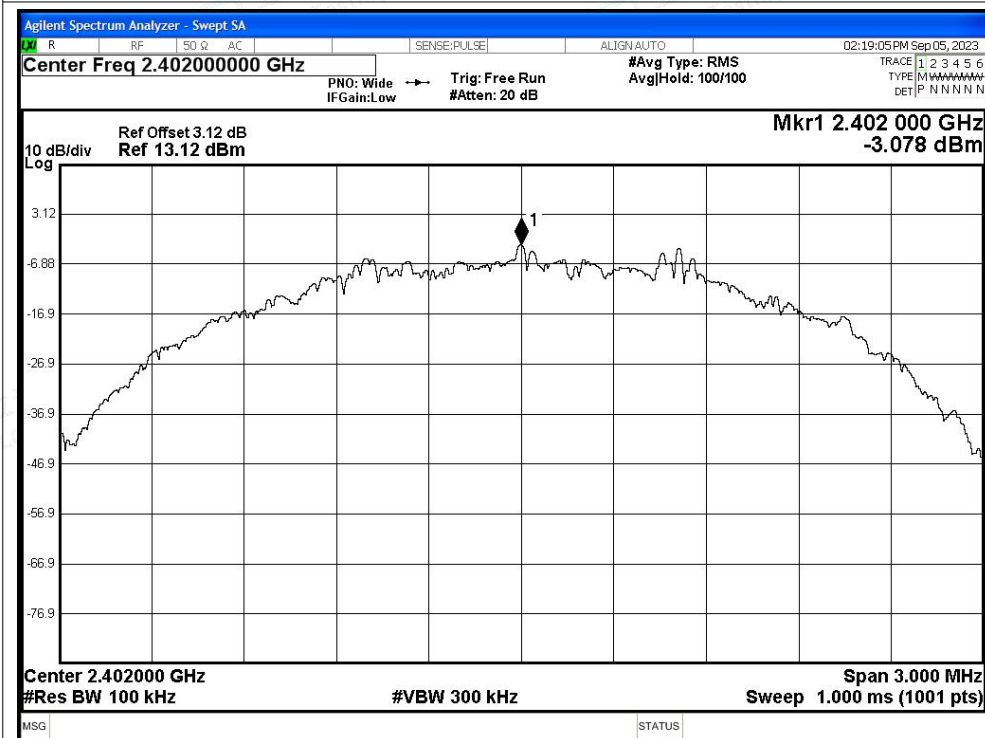
| Condition | Mode   | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | BLE 2M | 2402            | Ant1    | -50.89          | -20         | Pass    |
| NVNT      | BLE 2M | 2440            | Ant1    | -51.34          | -20         | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | -50.13          | -20         | Pass    |



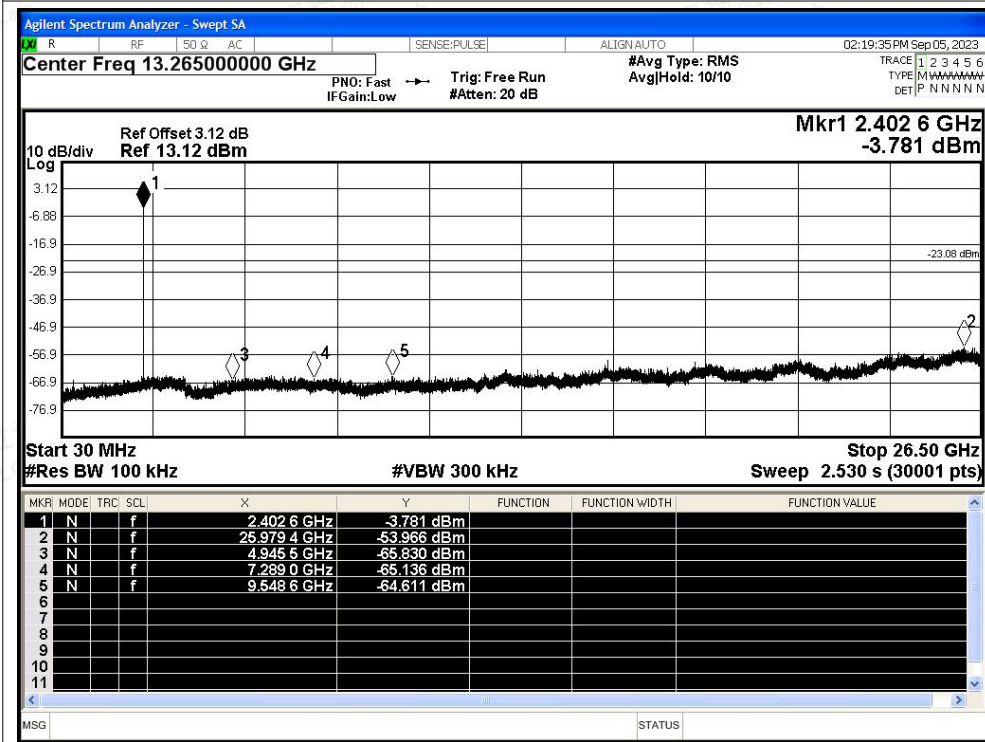


### Test Graphs

Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission

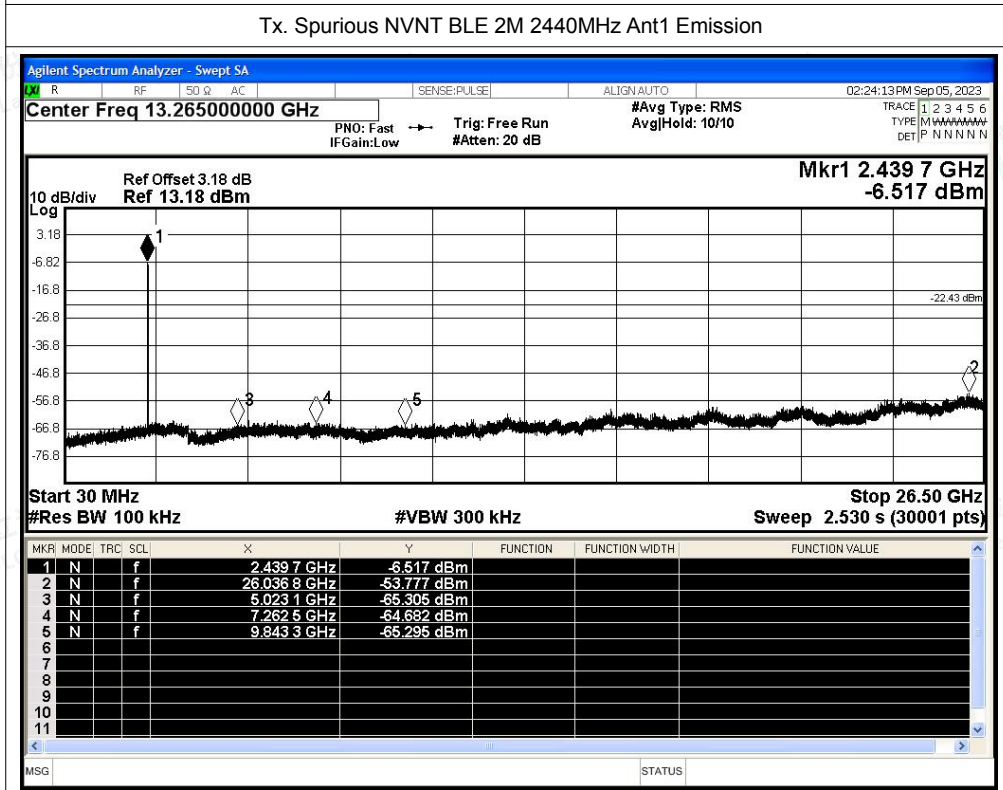
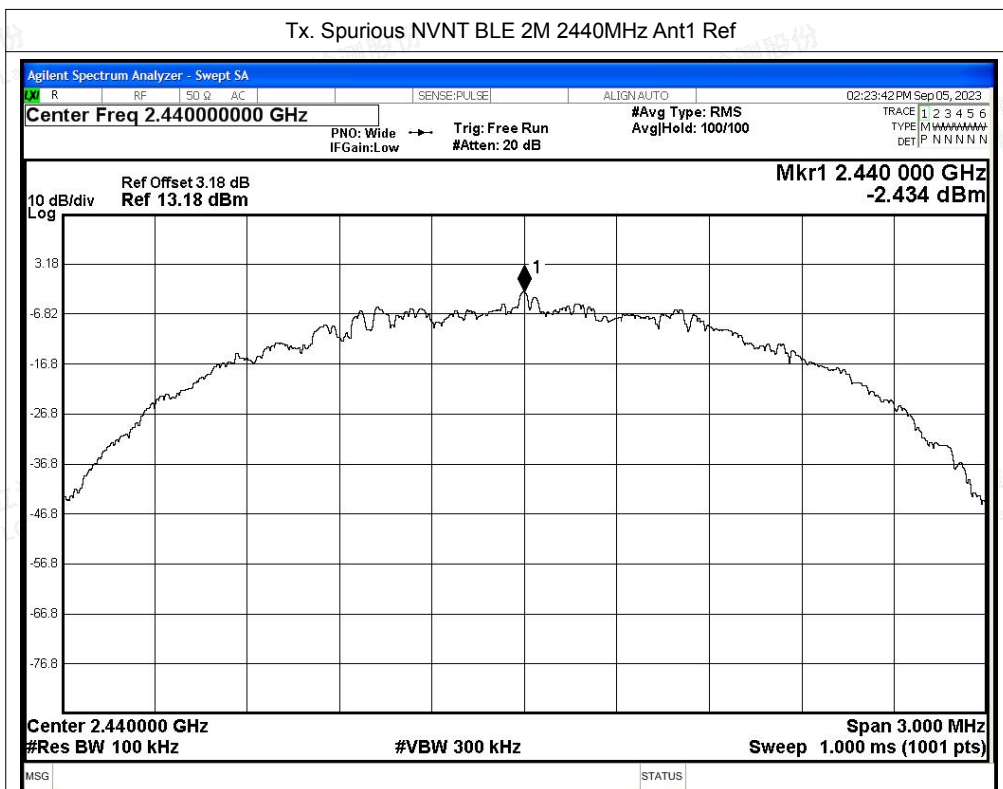


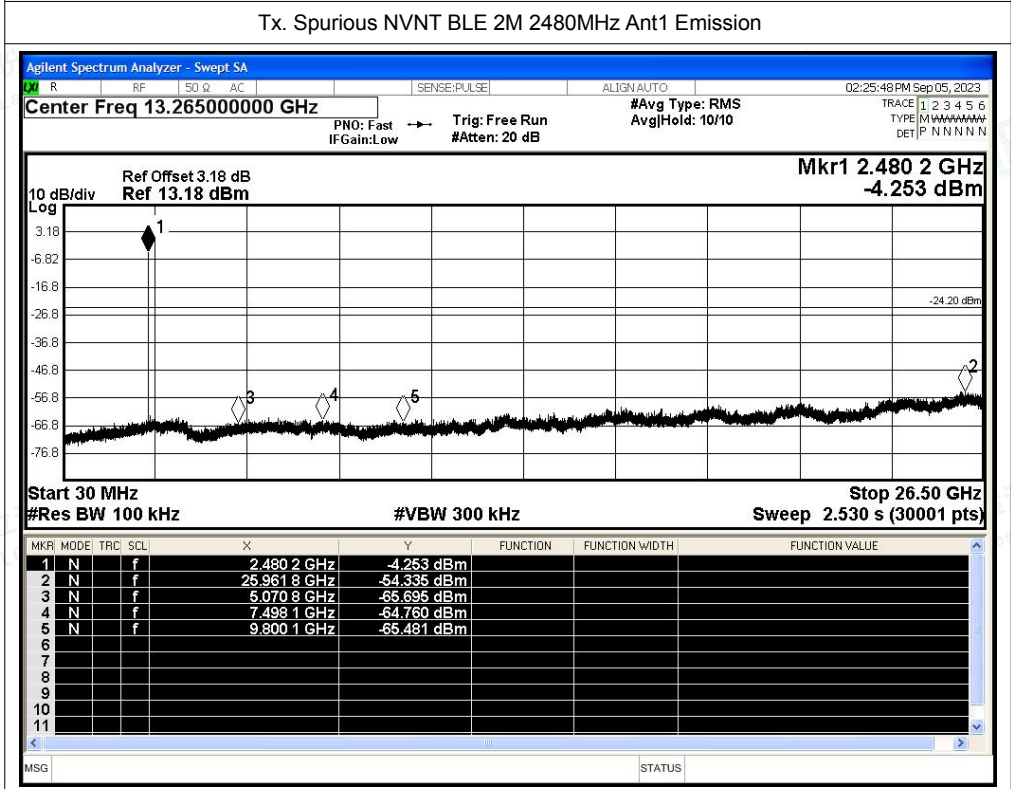
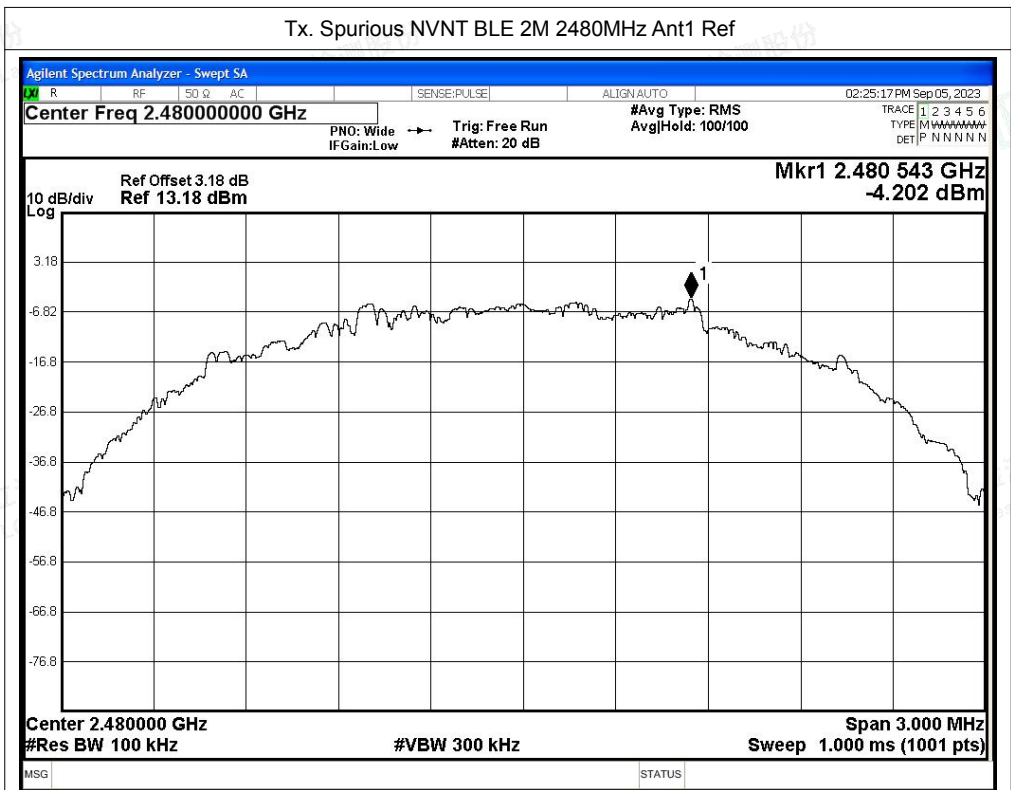
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## A.6 Duty Cycle

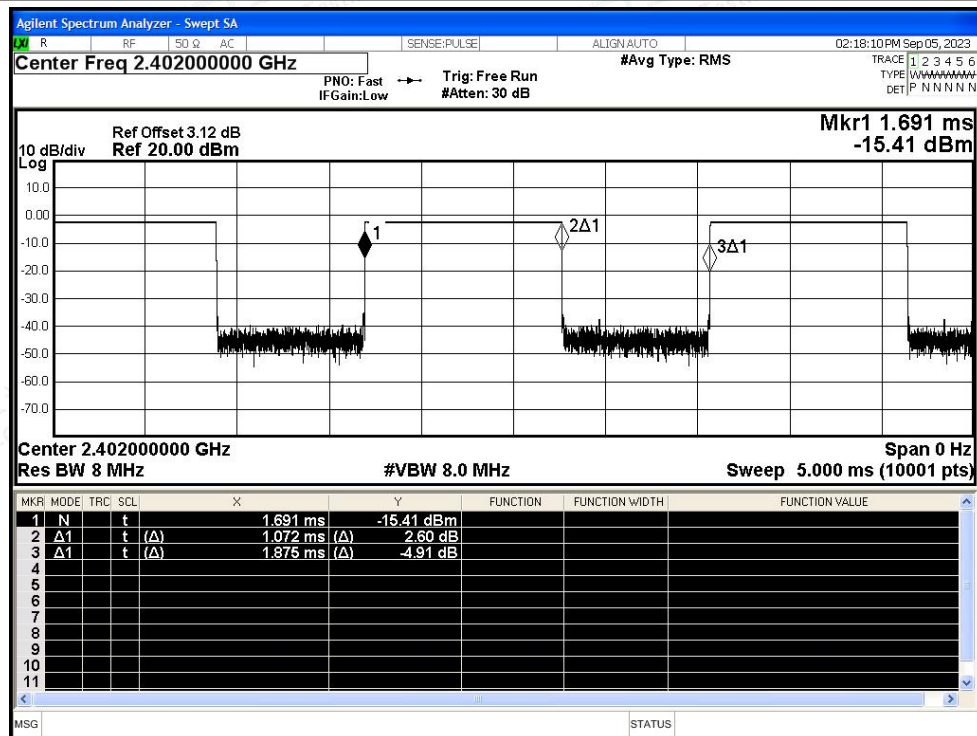
| Condition | Mode   | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) | 1/T (kHz) |
|-----------|--------|-----------------|---------|----------------|------------------------|-----------|
| NVNT      | BLE 2M | 2402            | Ant1    | 57.15          | 2.43                   | 0.93      |
| NVNT      | BLE 2M | 2440            | Ant1    | 57.17          | 2.43                   | 0.93      |
| NVNT      | BLE 2M | 2480            | Ant1    | 57.17          | 2.43                   | 0.93      |



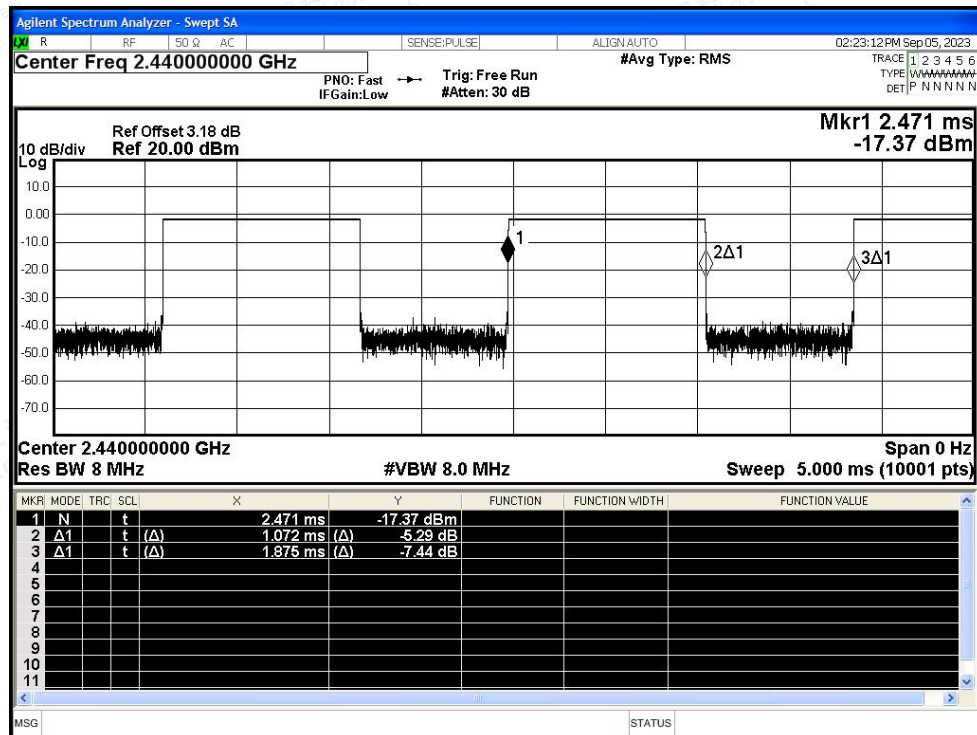


Test Graphs

Duty Cycle NVNT BLE 2M 2402MHz Ant1



Duty Cycle NVNT BLE 2M 2440MHz Ant1

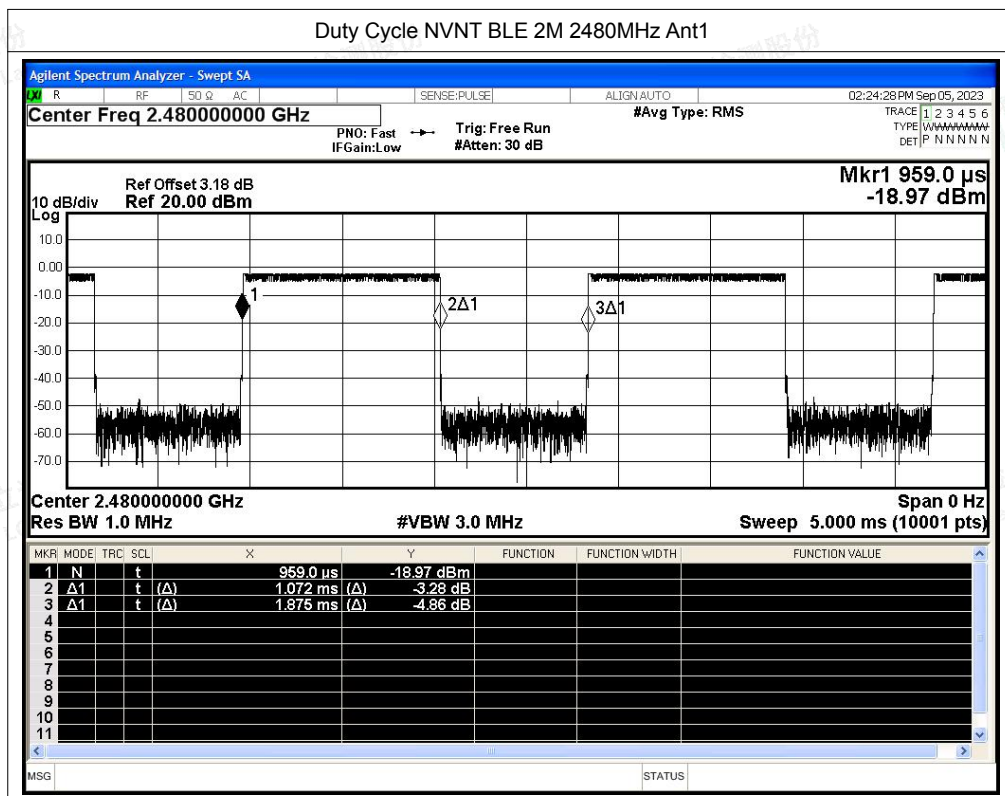


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## A.7 Restrict Band

| Condition | Mode   | Frequency (MHz) | Antenna | Spur Freq (MHz) | Power (dBm) | Gain (dBi) | E (dBuV/m) | Detector | Limit (dBuV/m) | Verdict |
|-----------|--------|-----------------|---------|-----------------|-------------|------------|------------|----------|----------------|---------|
| NVNT      | BLE 2M | 2402            | Ant1    | 2310            | -49.32      | 2          | 47.94      | Peak     | 74             | Pass    |
| NVNT      | BLE 2M | 2402            | Ant1    | 2310            | -56.58      | 2          | 40.68      | Average  | 54             | Pass    |
| NVNT      | BLE 2M | 2402            | Ant1    | 2335.728        | -45.57      | 2          | 51.69      | Peak     | 74             | Pass    |
| NVNT      | BLE 2M | 2402            | Ant1    | 2383.92         | -55.93      | 2          | 41.33      | Average  | 54             | Pass    |
| NVNT      | BLE 2M | 2402            | Ant1    | 2390            | -50.15      | 2          | 47.11      | Peak     | 74             | Pass    |
| NVNT      | BLE 2M | 2402            | Ant1    | 2390            | -56.22      | 2          | 41.04      | Average  | 54             | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | 2483.5          | -47.37      | 2          | 49.89      | Peak     | 74             | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | 2483.5          | -52.06      | 2          | 45.2       | Average  | 54             | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | 2496.712        | -45.82      | 2          | 51.44      | Peak     | 74             | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | 2483.512        | -52.06      | 2          | 45.2       | Average  | 54             | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | 2500            | -47.78      | 2          | 49.48      | Peak     | 74             | Pass    |
| NVNT      | BLE 2M | 2480            | Ant1    | 2500            | -55.93      | 2          | 41.33      | Average  | 54             | Pass    |

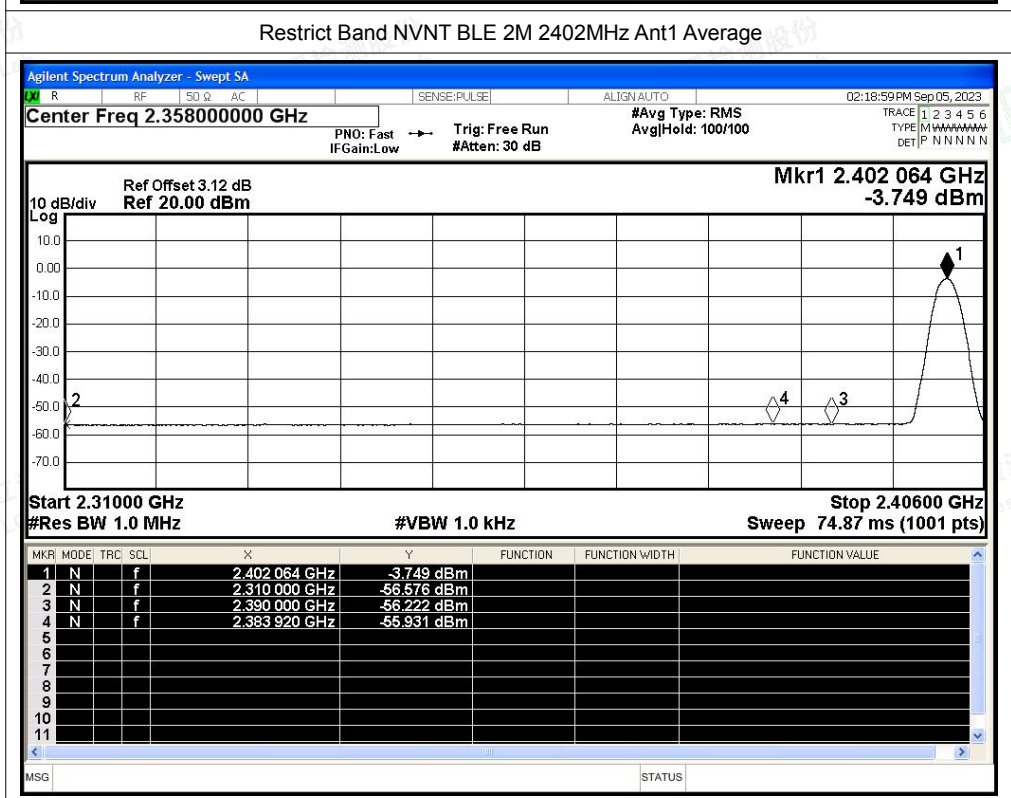
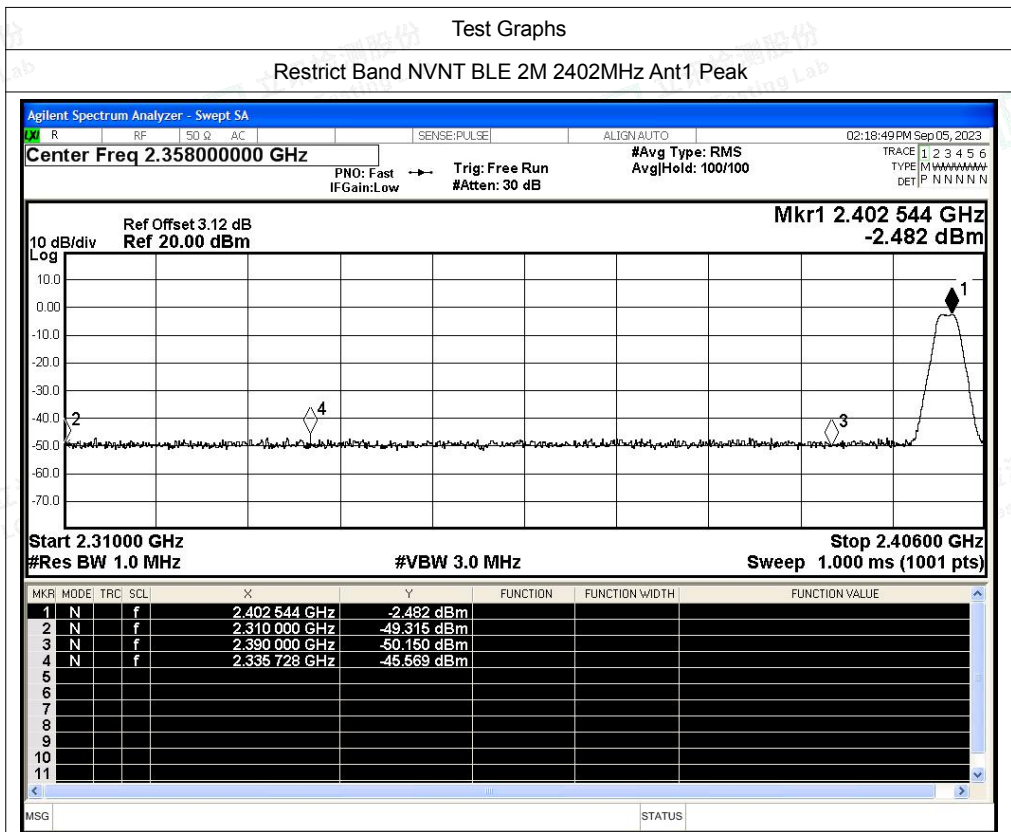


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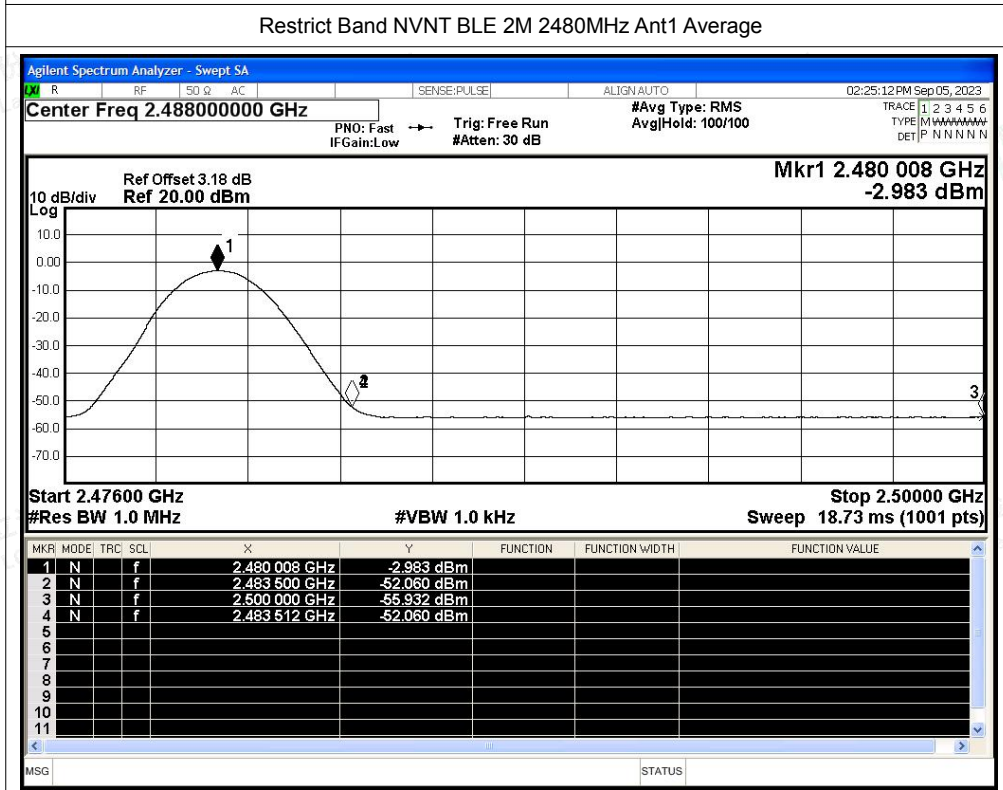
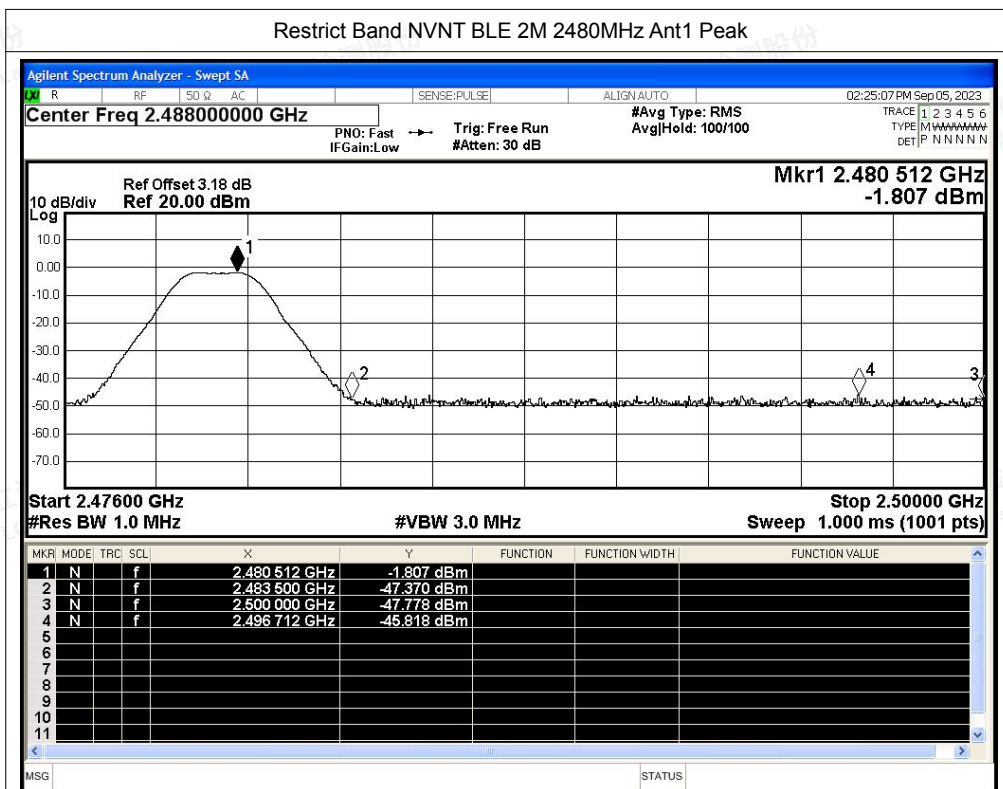


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