



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: SwitchBot Air Purifier Table

Test Model: W5302310

Environmental Conditions

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





A.1 -6dB Bandwidth

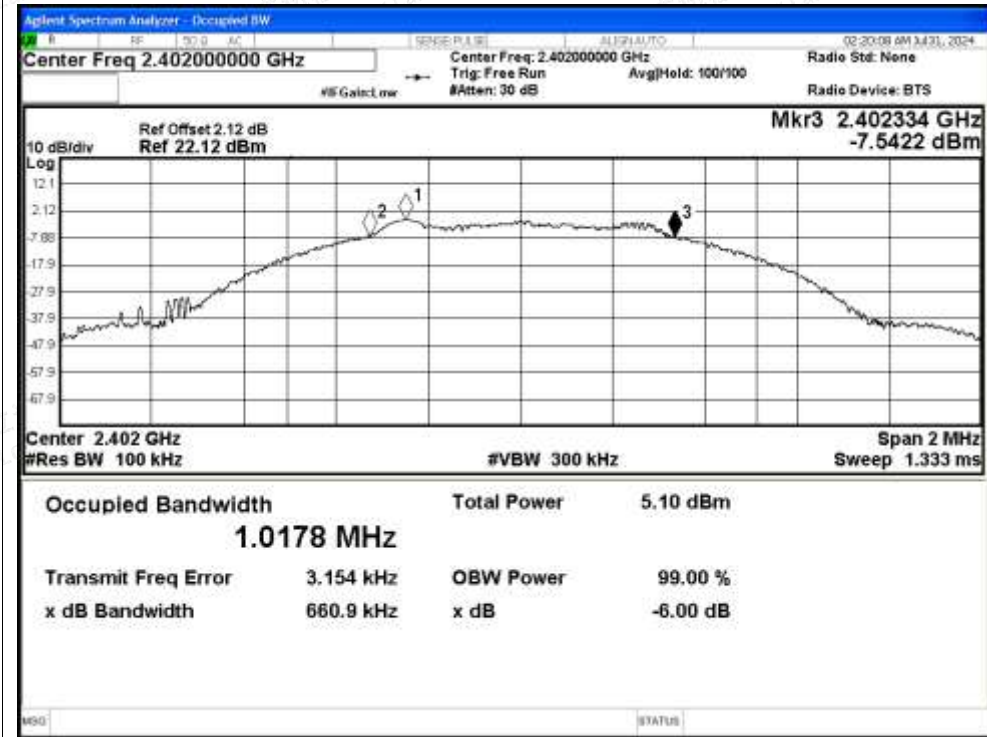
| Condition | Mode | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|-----------|------|-----------------|---------|-----------------------|-----------------------------|---------|
| NVNT | BLE | 2402 | Ant | 0.661 | ≥ 0.5 | Pass |
| NVNT | BLE | 2440 | Ant | 0.656 | ≥ 0.5 | Pass |
| NVNT | BLE | 2480 | Ant | 0.66 | ≥ 0.5 | Pass |



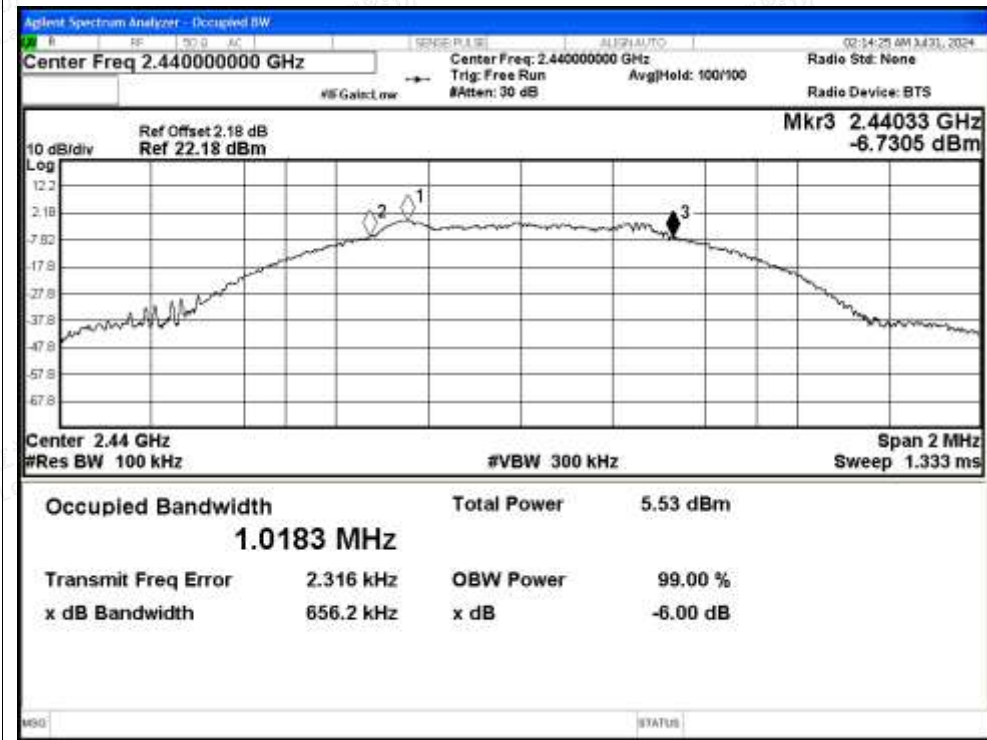


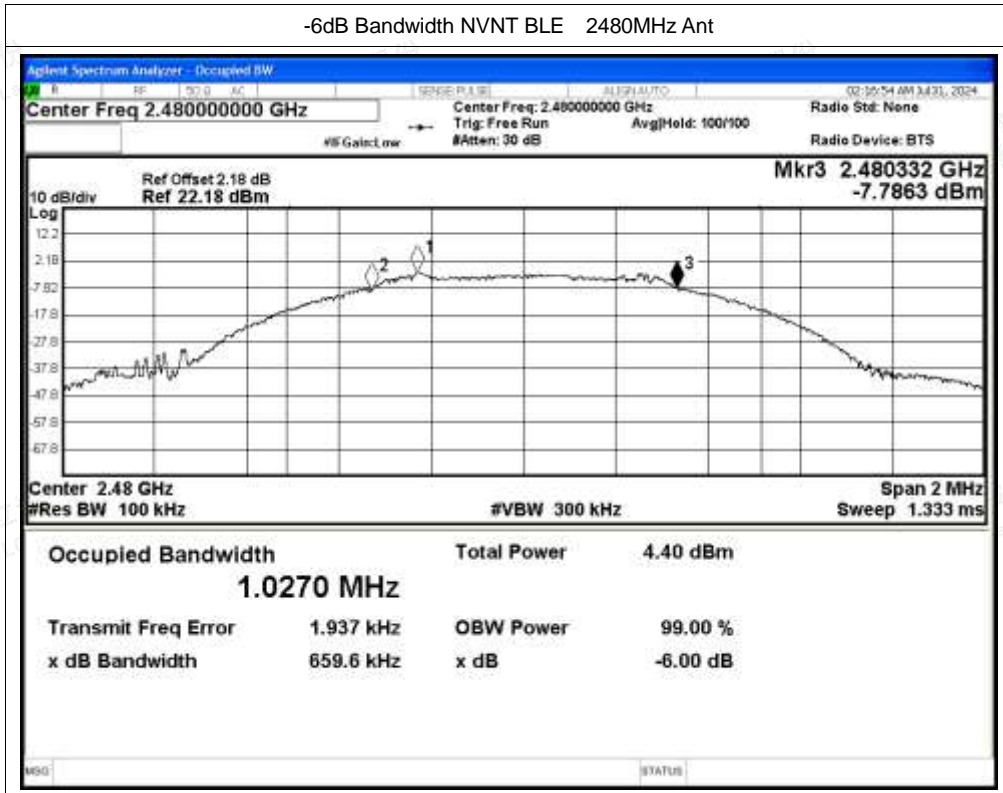
Test Graphs

-6dB Bandwidth NVNT BLE 2402MHz Ant



-6dB Bandwidth NVNT BLE 2440MHz Ant







A.2 Maximum Peak Conducted Output Power

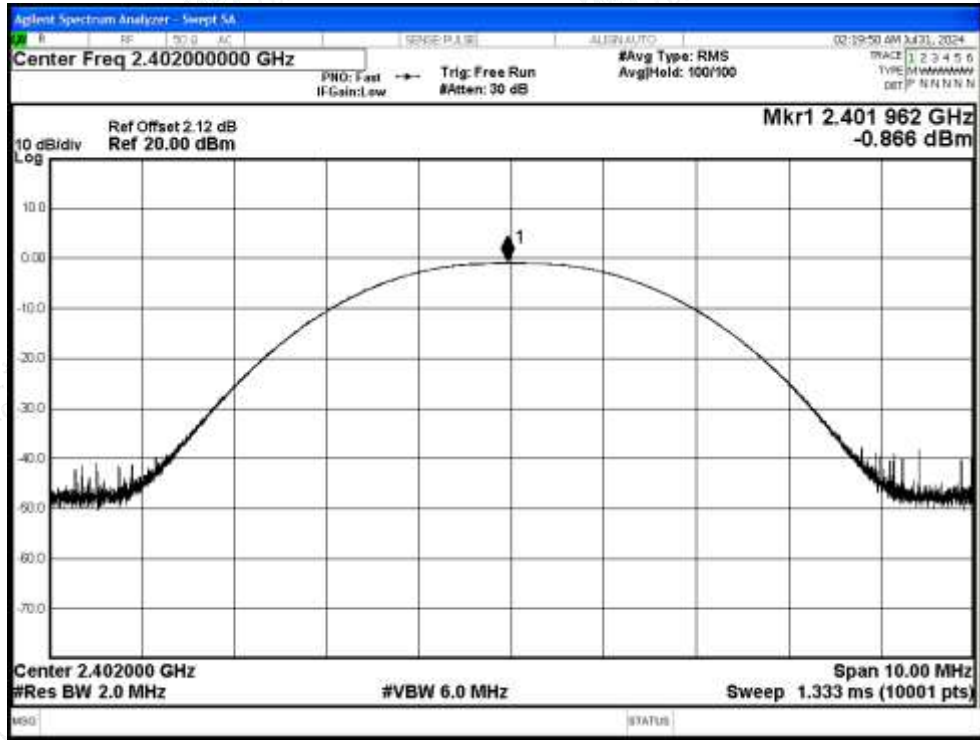
| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|-----------|------|-----------------|---------|-----------------------|-------------|---------|
| NVNT | BLE | 2402 | Ant | -0.87 | 30 | Pass |
| NVNT | BLE | 2440 | Ant | -0.31 | 30 | Pass |
| NVNT | BLE | 2480 | Ant | -0.56 | 30 | Pass |



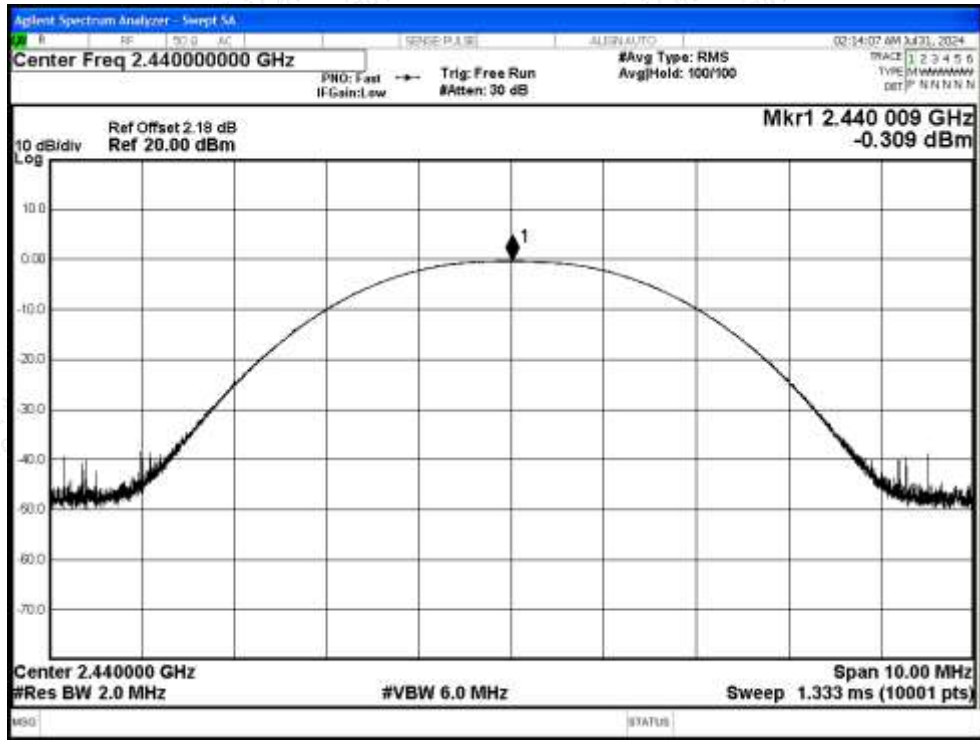


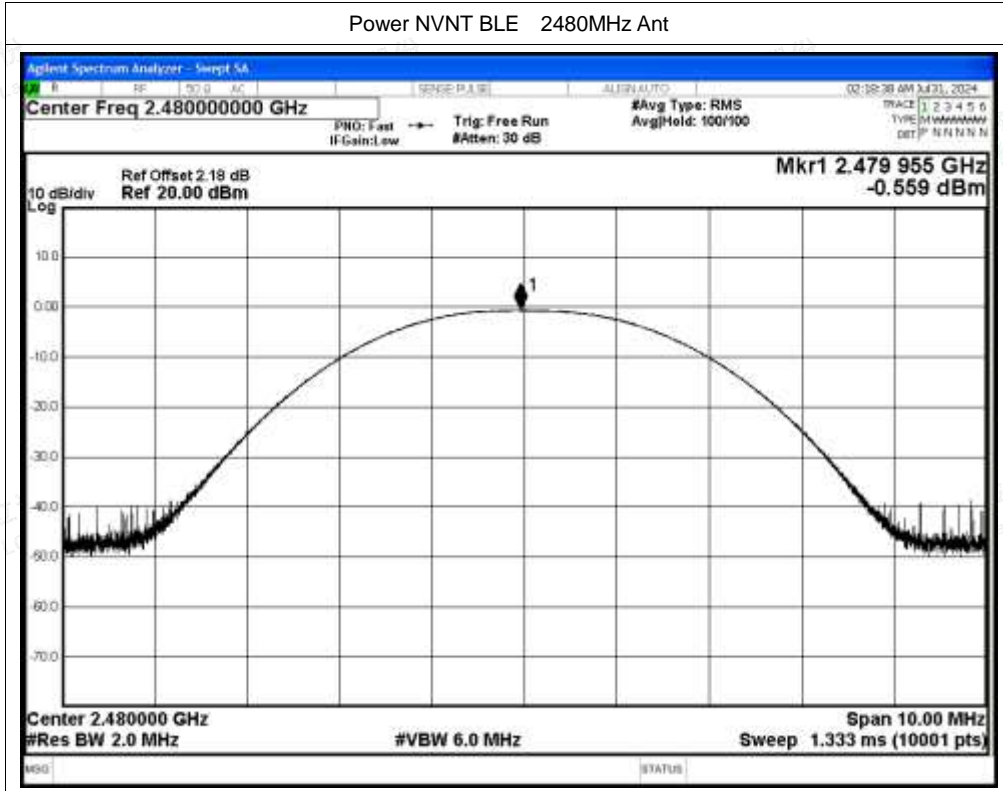
Test Graphs

Power NVNT BLE 2402MHz Ant



Power NVNT BLE 2440MHz Ant







A.3 Maximum Power Spectral Density Level

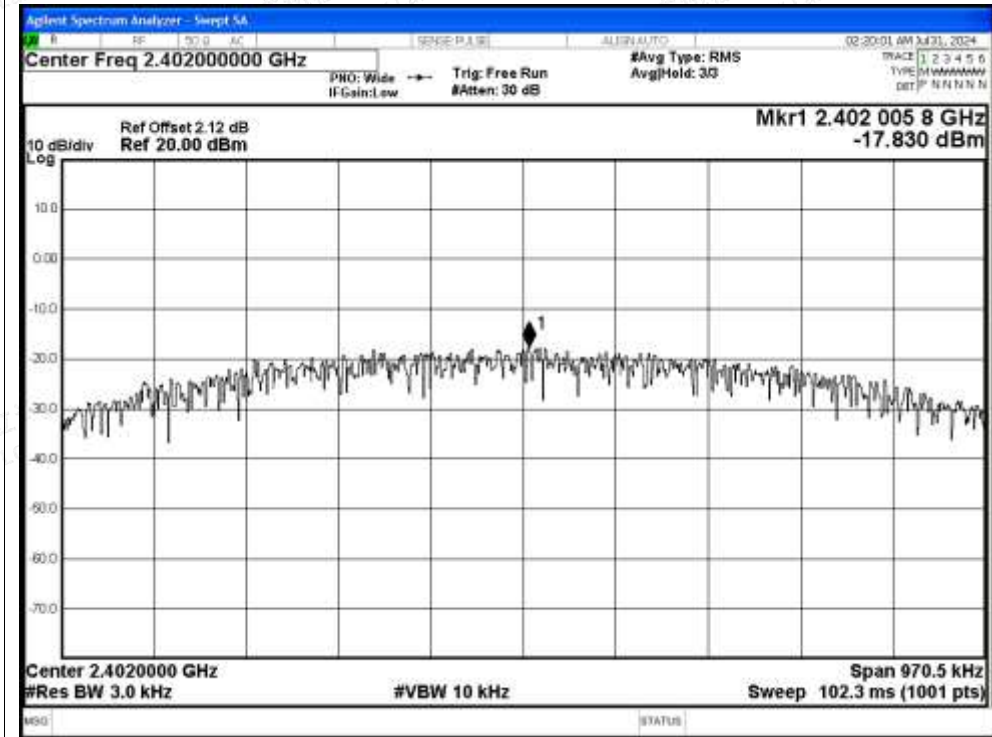
| Condition | Mode | Frequency (MHz) | Antenna | Conducted PSD (dBm/3kHz) | Limit (dBm/3kHz) | Verdict |
|-----------|------|-----------------|---------|--------------------------|------------------|---------|
| NVNT | BLE | 2402 | Ant | -17.83 | 8 | Pass |
| NVNT | BLE | 2440 | Ant | -17.03 | 8 | Pass |
| NVNT | BLE | 2480 | Ant | -17.94 | 8 | Pass |



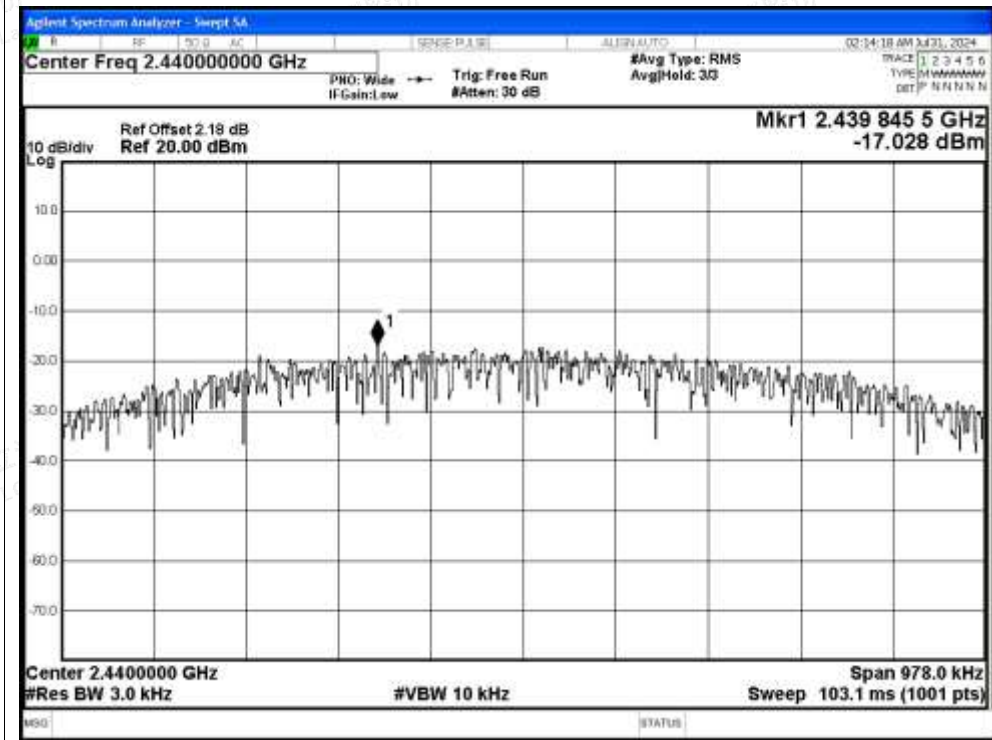


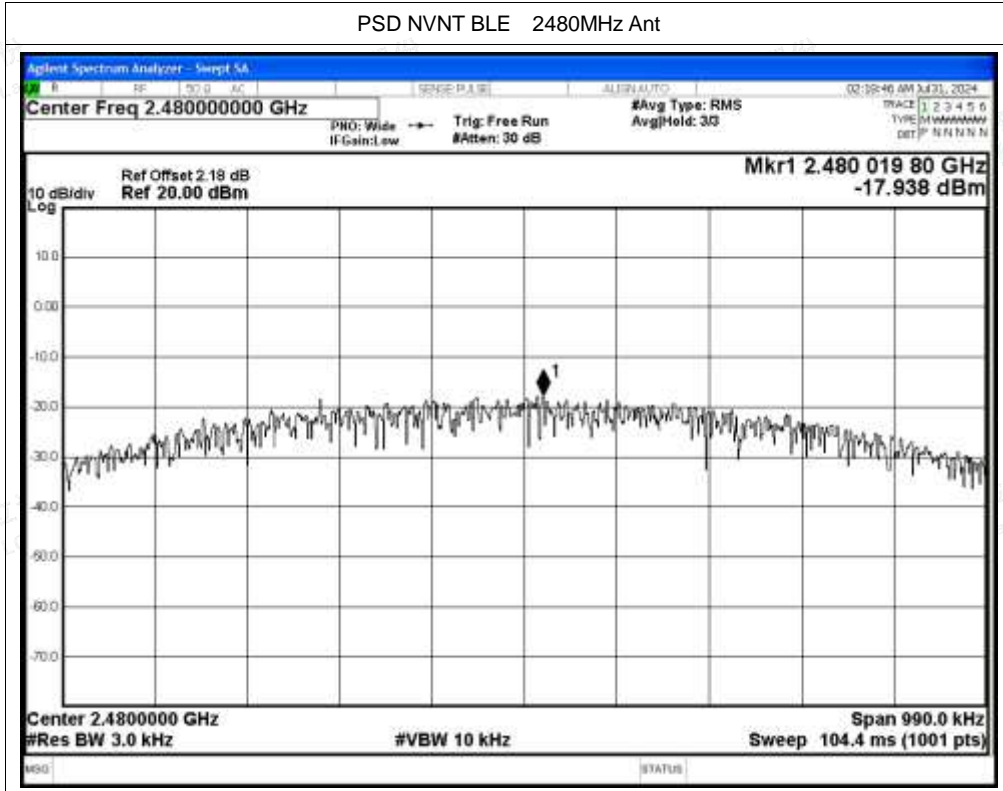
Test Graphs

PSD NVNT BLE 2402MHz Ant



PSD NVNT BLE 2440MHz Ant







A.4 Band Edge

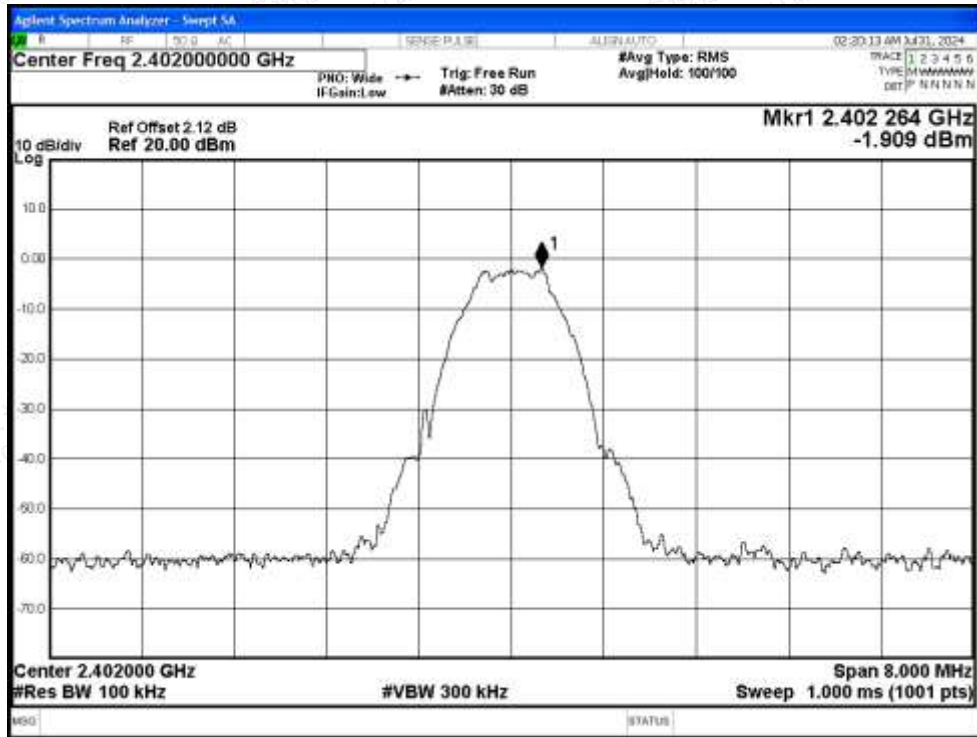
| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|------|-----------------|---------|-----------------|-------------|---------|
| NVNT | BLE | 2402 | Ant | -53.82 | -20 | Pass |
| NVNT | BLE | 2480 | Ant | -55.31 | -20 | Pass |



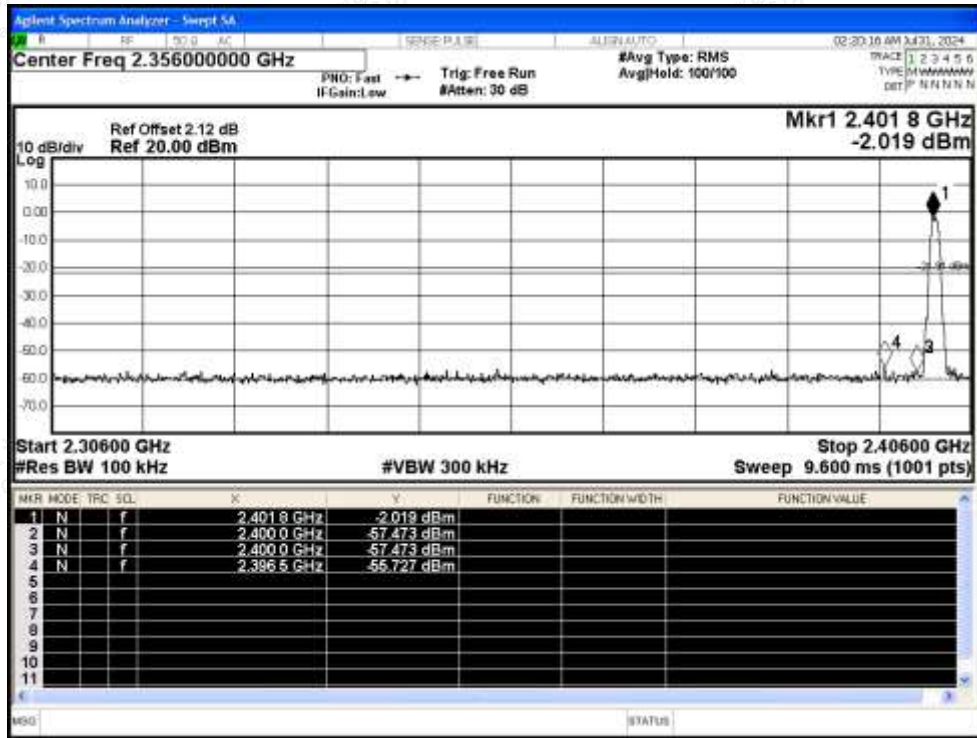


Test Graphs

Band Edge NVNT BLE 2402MHz Ant Ref

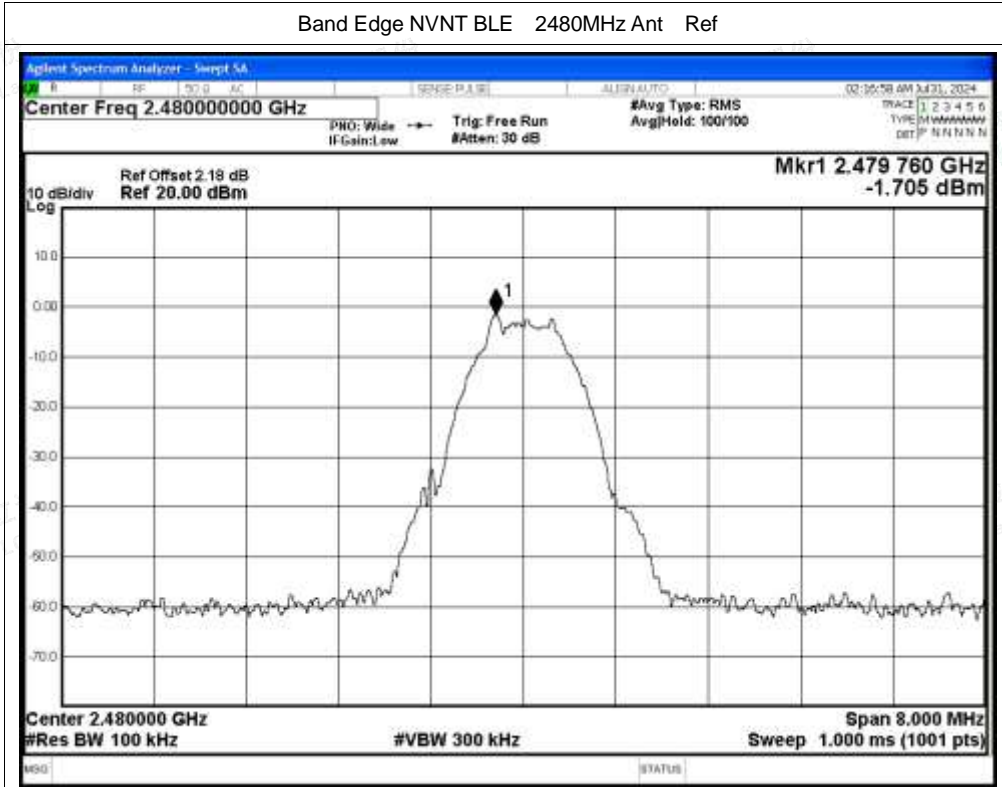


Band Edge NVNT BLE 2402MHz Ant Emission

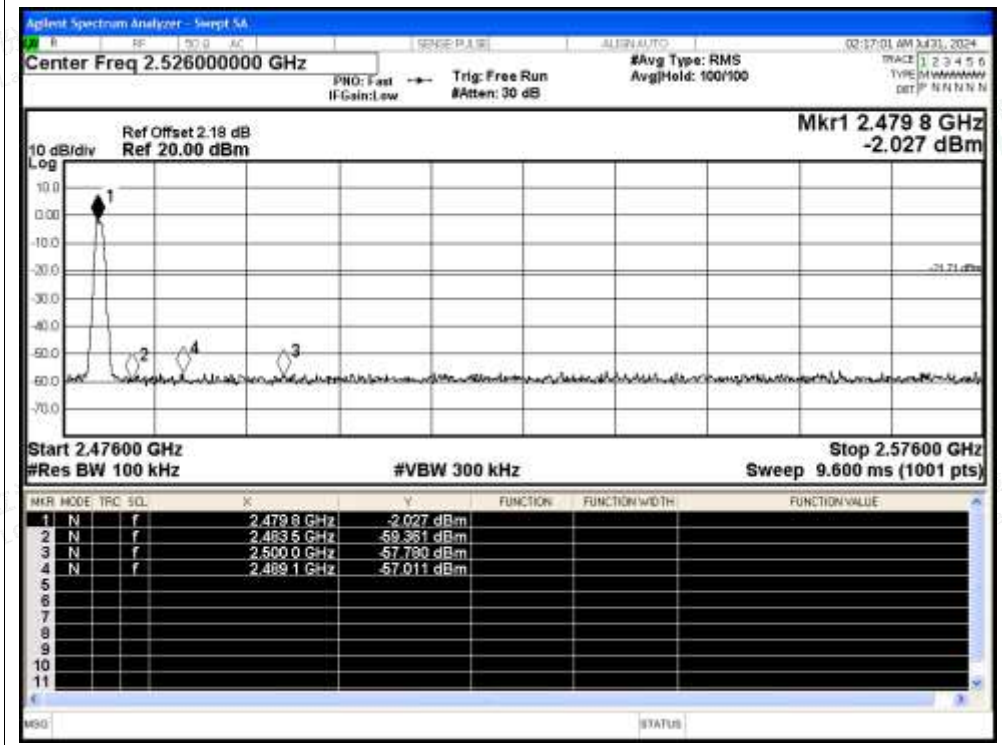




Band Edge NVNT BLE 2480MHz Ant Ref



Band Edge NVNT BLE 2480MHz Ant Emission





A.5 Conducted RF Spurious Emission

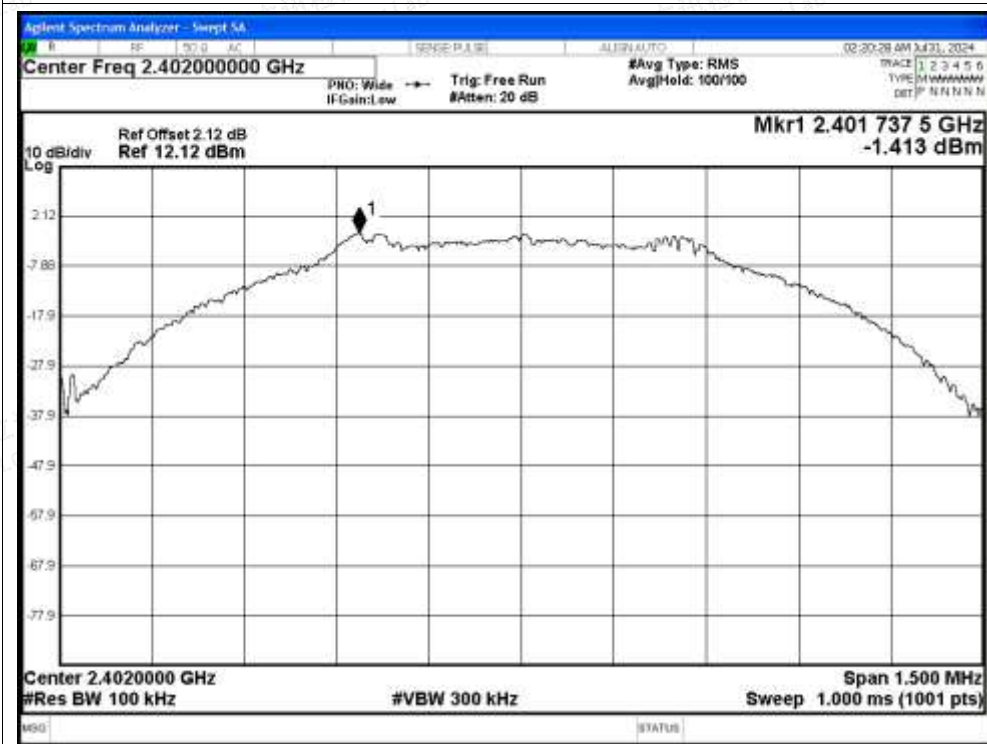
| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|------|-----------------|---------|-----------------|-------------|---------|
| NVNT | BLE | 2402 | Ant | -53.28 | -20 | Pass |
| NVNT | BLE | 2440 | Ant | -53.87 | -20 | Pass |
| NVNT | BLE | 2480 | Ant | -21.43 | -20 | Pass |



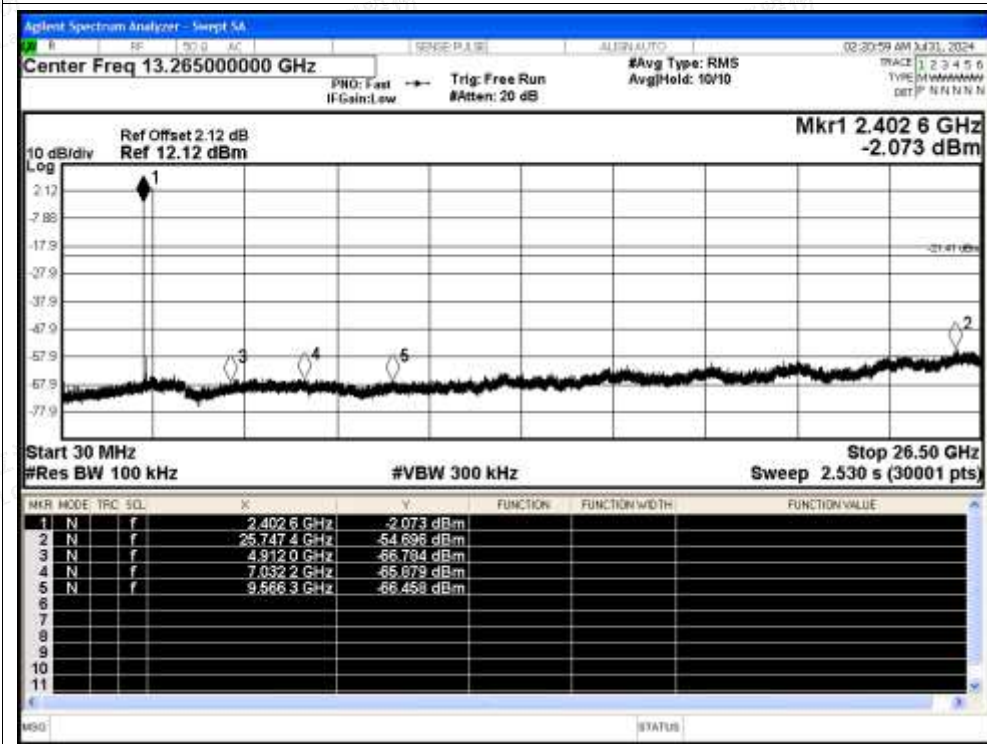


Test Graphs

Tx. Spurious NVNT BLE 2402MHz Ant Ref



Tx. Spurious NVNT BLE 2402MHz Ant Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

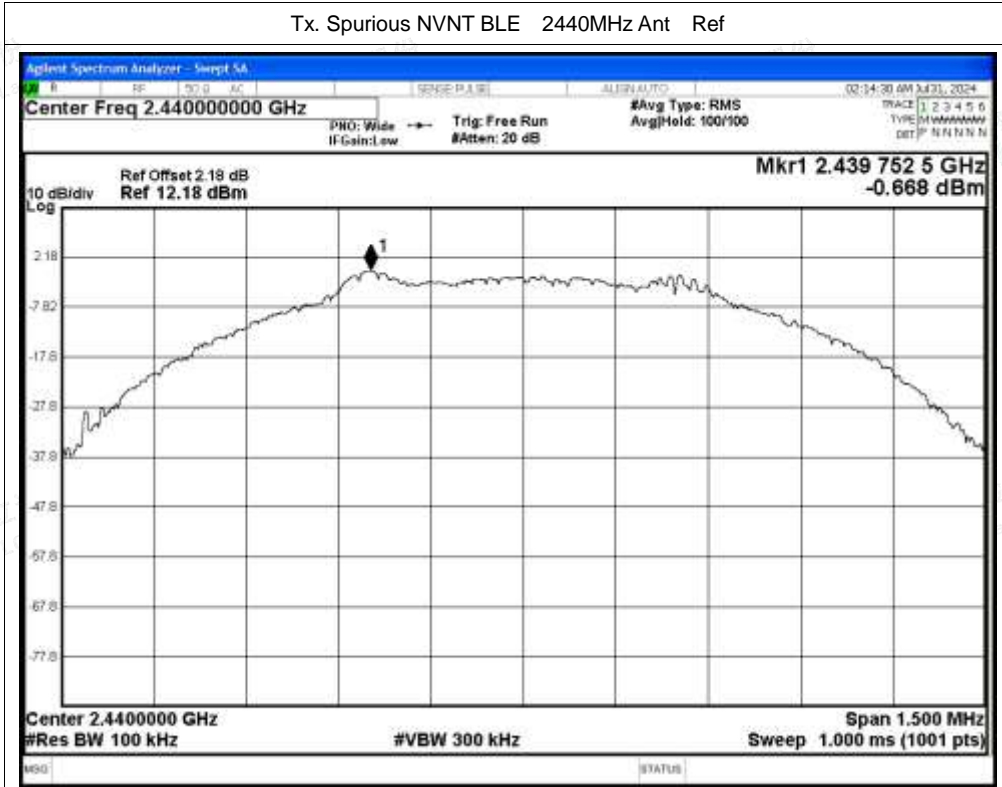
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

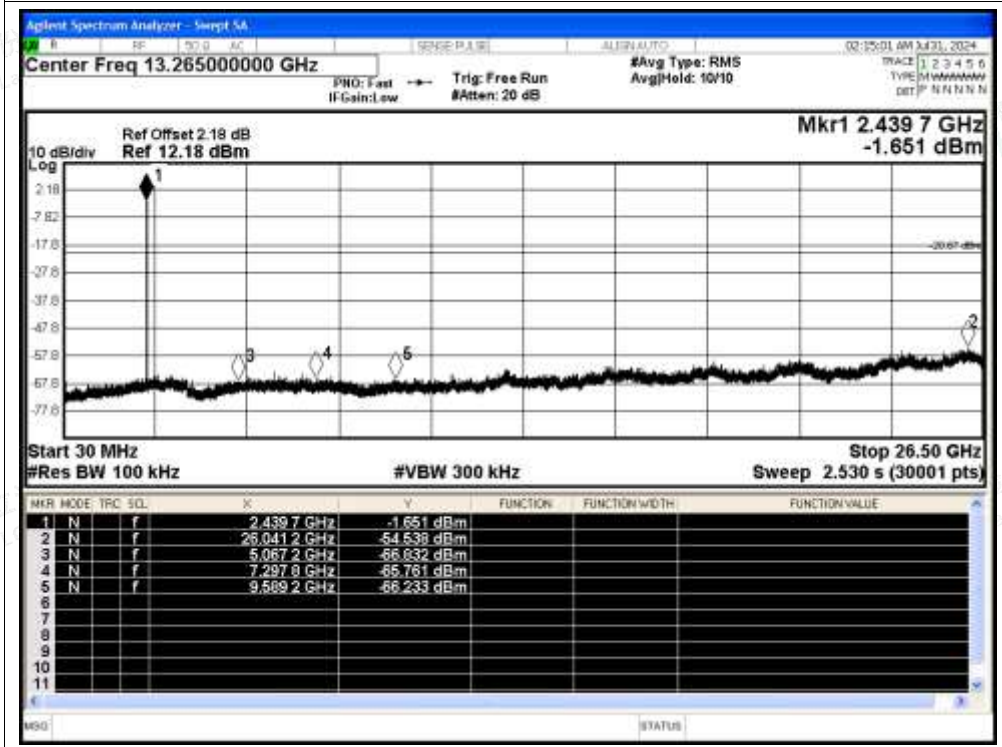
Scan code to check authenticity



Tx. Spurious NVNT BLE 2440MHz Ant Ref

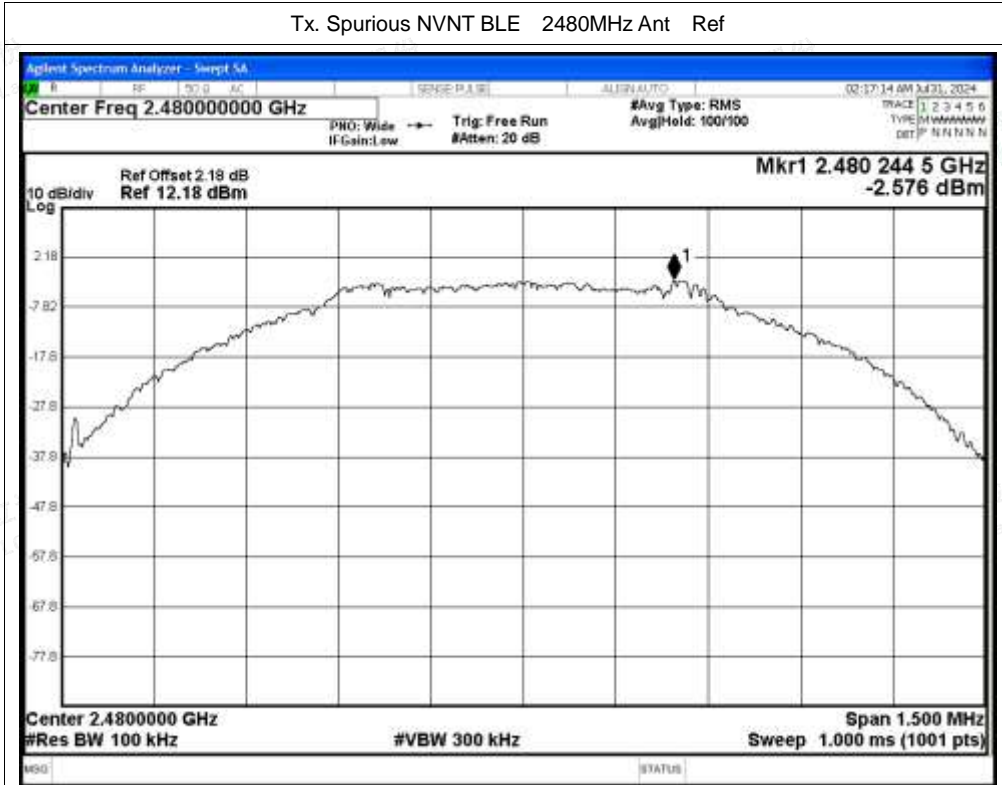


Tx. Spurious NVNT BLE 2440MHz Ant Emission

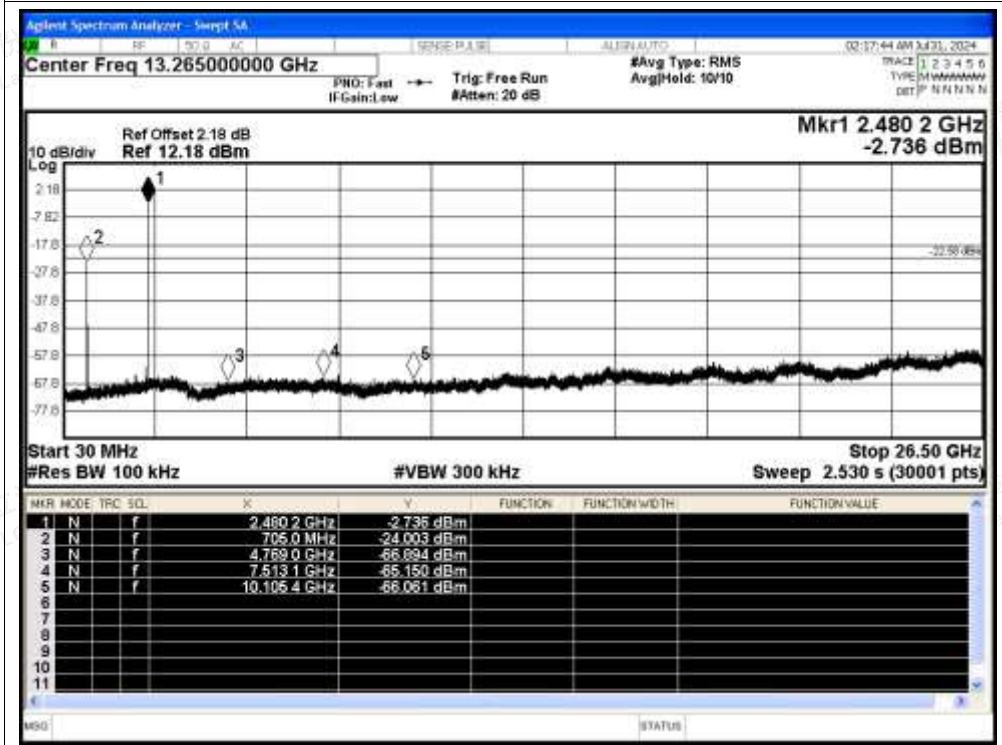




Tx. Spurious NVNT BLE 2480MHz Ant Ref



Tx. Spurious NVNT BLE 2480MHz Ant Emission





A.6 Duty Cycle

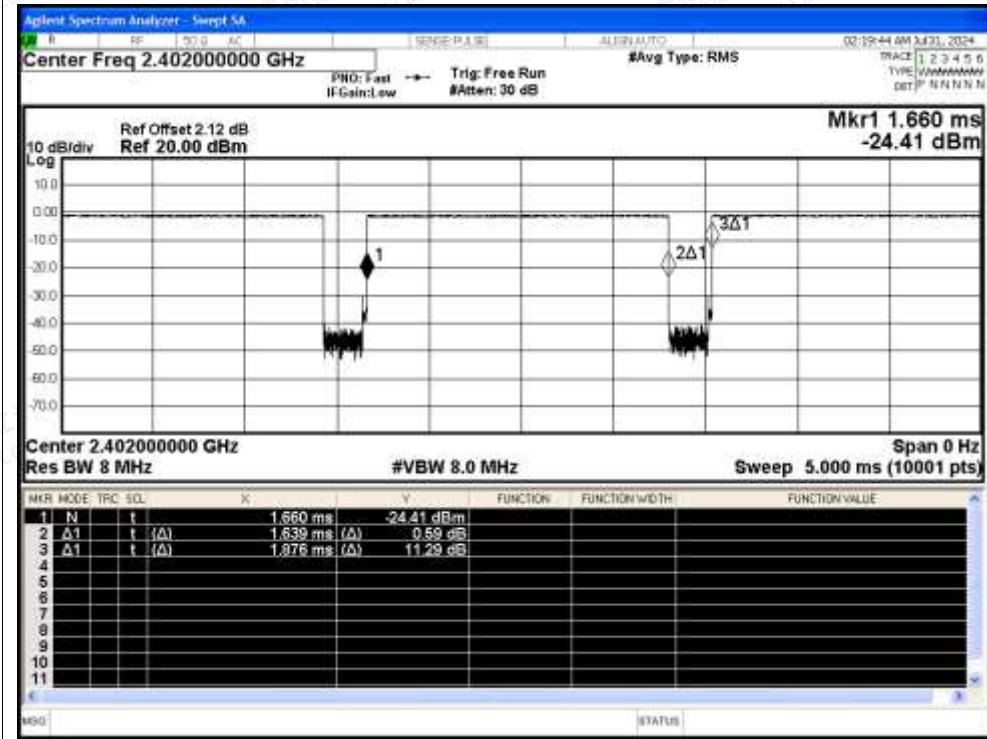
| Condition | Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) | 1/T (kHz) |
|-----------|------|-----------------|---------|----------------|------------------------|-----------|
| NVNT | BLE | 2402 | Ant | 87.39 | 0.59 | 0.61 |
| NVNT | BLE | 2440 | Ant | 87.41 | 0.58 | 0.61 |
| NVNT | BLE | 2480 | Ant | 87.39 | 0.59 | 0.61 |



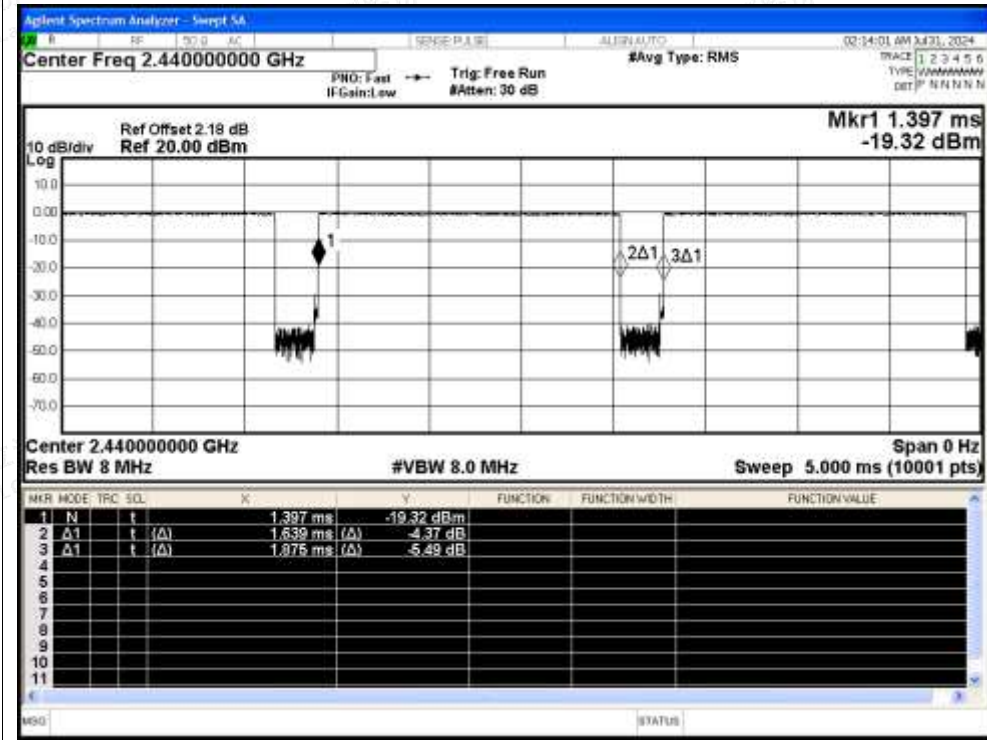


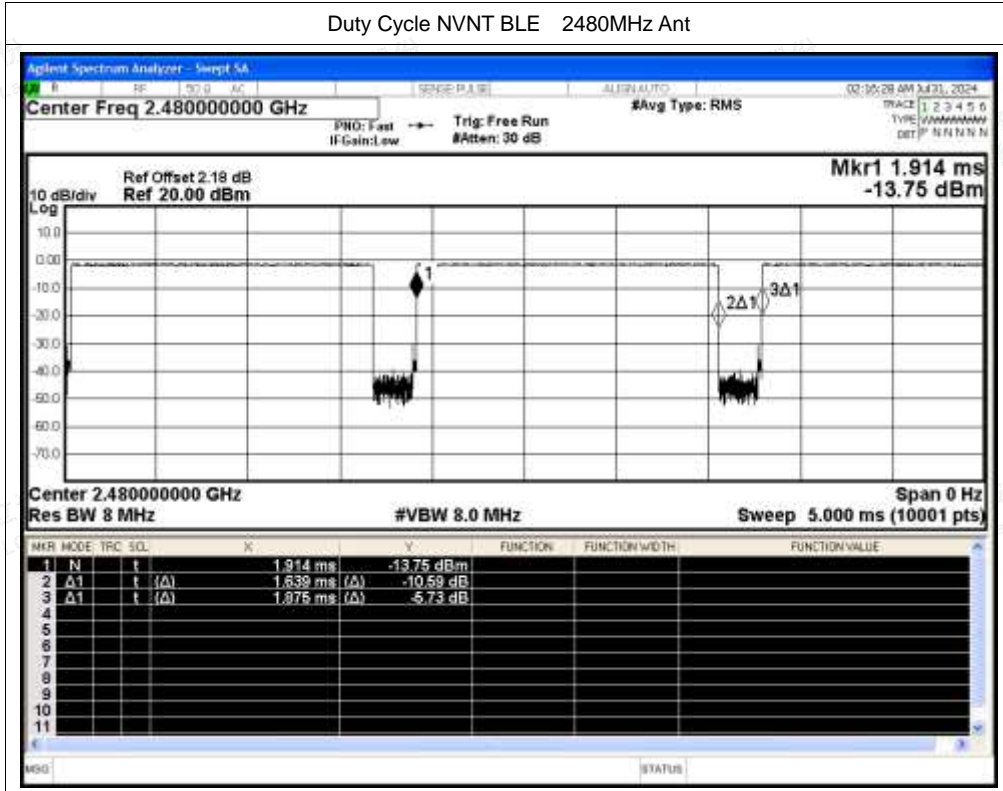
Test Graphs

Duty Cycle NVNT BLE 2402MHz Ant



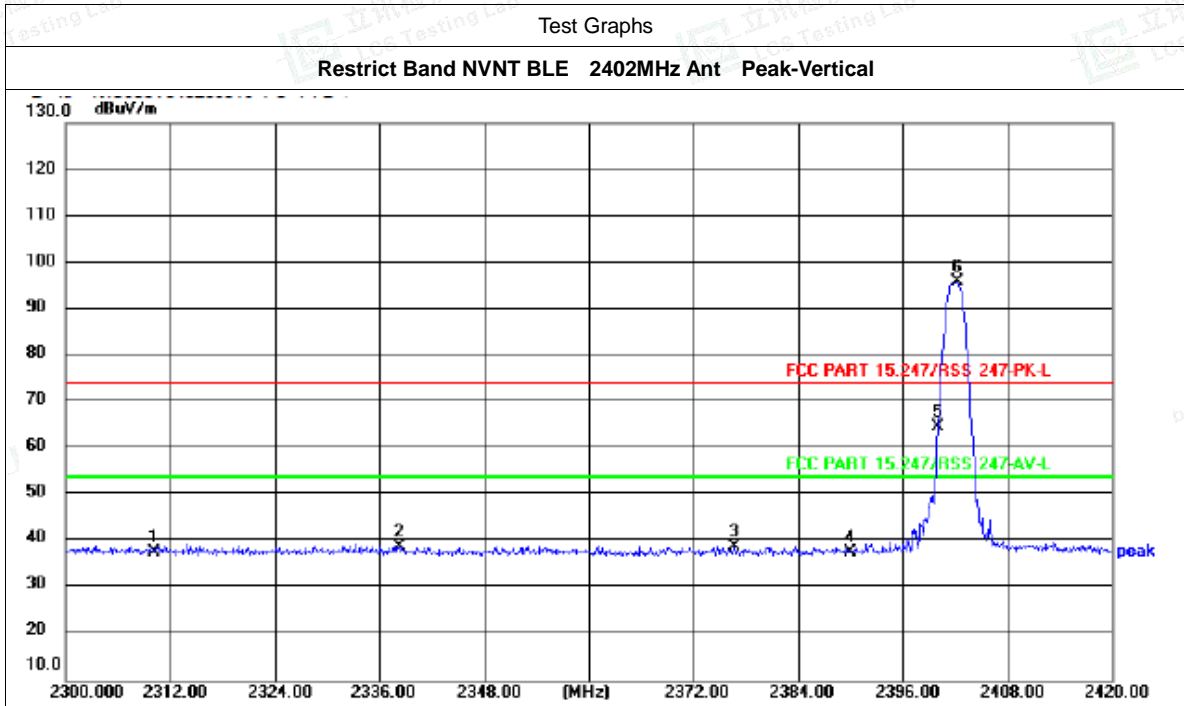
Duty Cycle NVNT BLE 2440MHz Ant



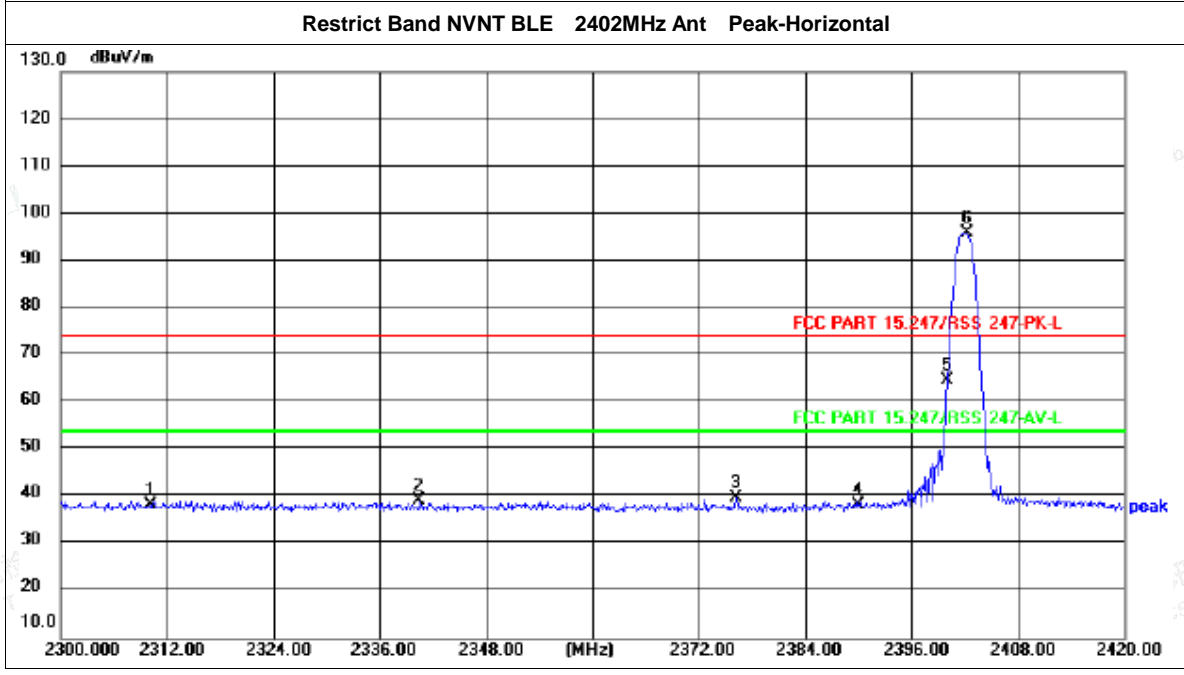




A.7 Restrict Band



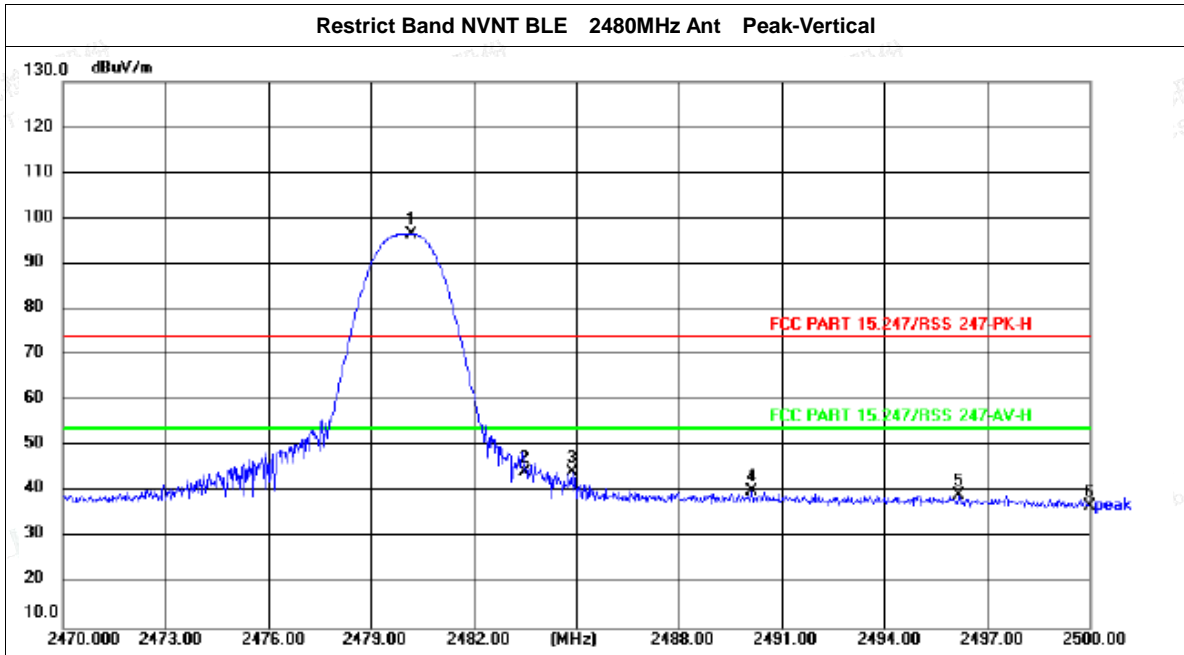
| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1 | 2310.000 | 48.11 | -10.42 | 37.69 | 74.00 | -36.31 | peak |
| 2 | 2338.280 | 49.62 | -10.55 | 39.07 | 74.00 | -34.93 | peak |
| 3 | 2376.680 | 49.84 | -10.80 | 39.04 | 74.00 | -34.96 | peak |
| 4 | 2390.000 | 48.79 | -10.89 | 37.90 | 74.00 | -36.10 | peak |
| 5 | 2400.000 | 75.72 | -10.96 | 64.76 | 74.00 | -9.24 | peak |



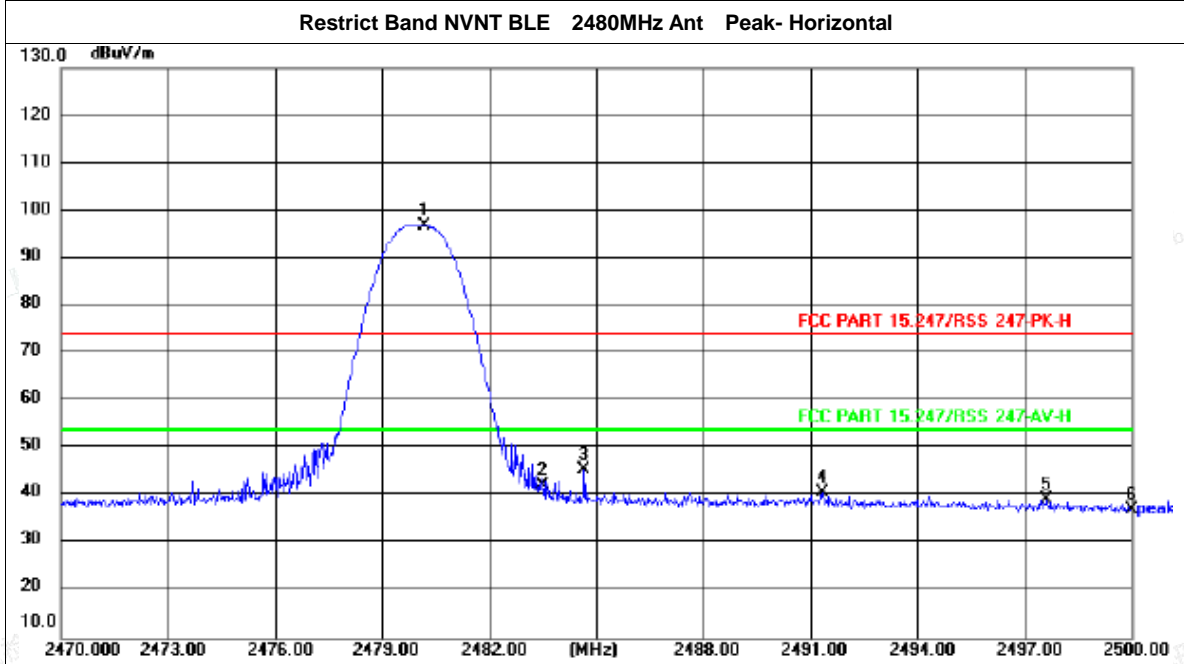


| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1 | 2310.000 | 50.40 | -12.02 | 38.38 | 74.00 | -35.62 | peak |
| 2 | 2340.440 | 51.17 | -11.90 | 39.27 | 74.00 | -34.73 | peak |
| 3 | 2376.200 | 51.52 | -11.79 | 39.73 | 74.00 | -34.27 | peak |
| 4 | 2390.000 | 49.99 | -11.73 | 38.26 | 74.00 | -35.74 | peak |
| 5 | 2400.000 | 76.32 | -11.70 | 64.62 | 74.00 | -9.38 | peak |





| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1 | 2480.170 | 107.97 | -11.42 | 96.55 | 74.00 | 22.55 | peak |
| 2 | 2483.500 | 55.72 | -11.40 | 44.32 | 74.00 | -29.68 | peak |
| 3 | 2484.880 | 55.60 | -11.40 | 44.20 | 74.00 | -29.80 | peak |
| 4 | 2490.130 | 51.48 | -11.38 | 40.10 | 74.00 | -33.90 | peak |
| 5 | 2496.190 | 50.64 | -11.36 | 39.28 | 74.00 | -34.72 | peak |
| 6 | 2500.000 | 48.24 | -11.34 | 36.90 | 74.00 | -37.10 | peak |





| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1 | 2480.170 | 107.80 | -10.93 | 96.87 | 74.00 | 22.87 | peak |
| 2 | 2483.500 | 53.36 | -10.96 | 42.40 | 74.00 | -31.60 | peak |
| 3 | 2484.670 | 56.39 | -10.98 | 45.41 | 74.00 | -28.59 | peak |
| 4 | 2491.330 | 51.71 | -11.05 | 40.66 | 74.00 | -33.34 | peak |
| 5 | 2497.630 | 50.45 | -11.11 | 39.34 | 74.00 | -34.66 | peak |
| 6 | 2500.000 | 48.31 | -11.14 | 37.17 | 74.00 | -36.83 | peak |

