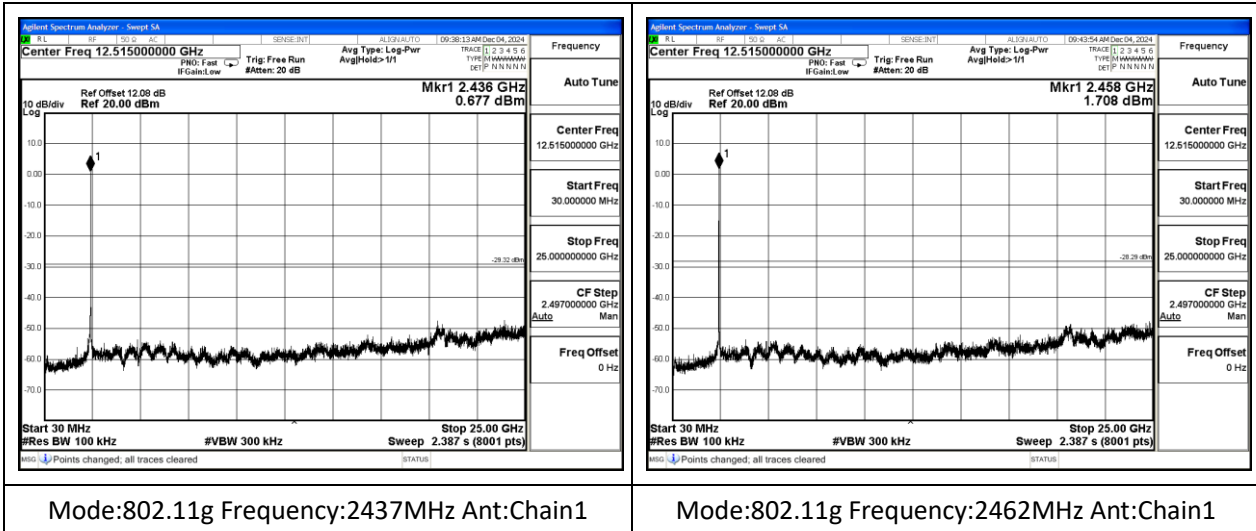
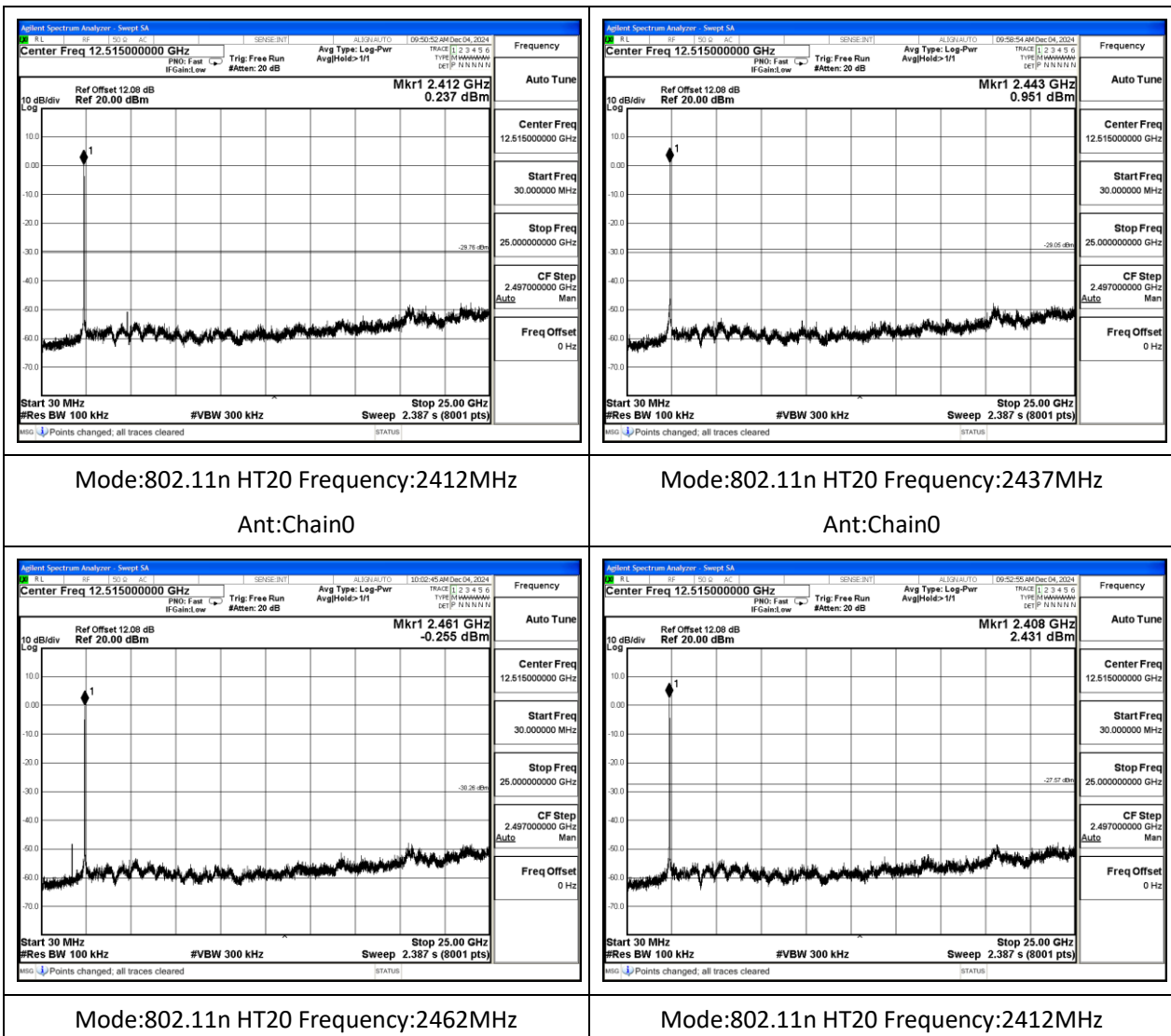




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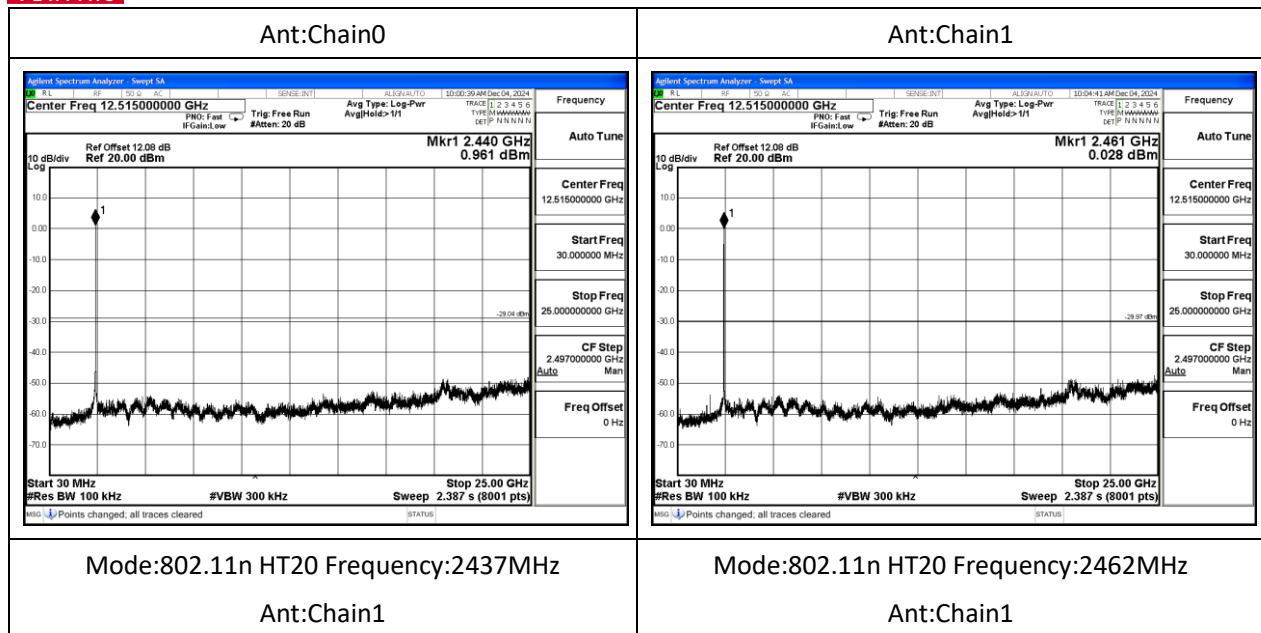


Test Mode: 802.11n HT20

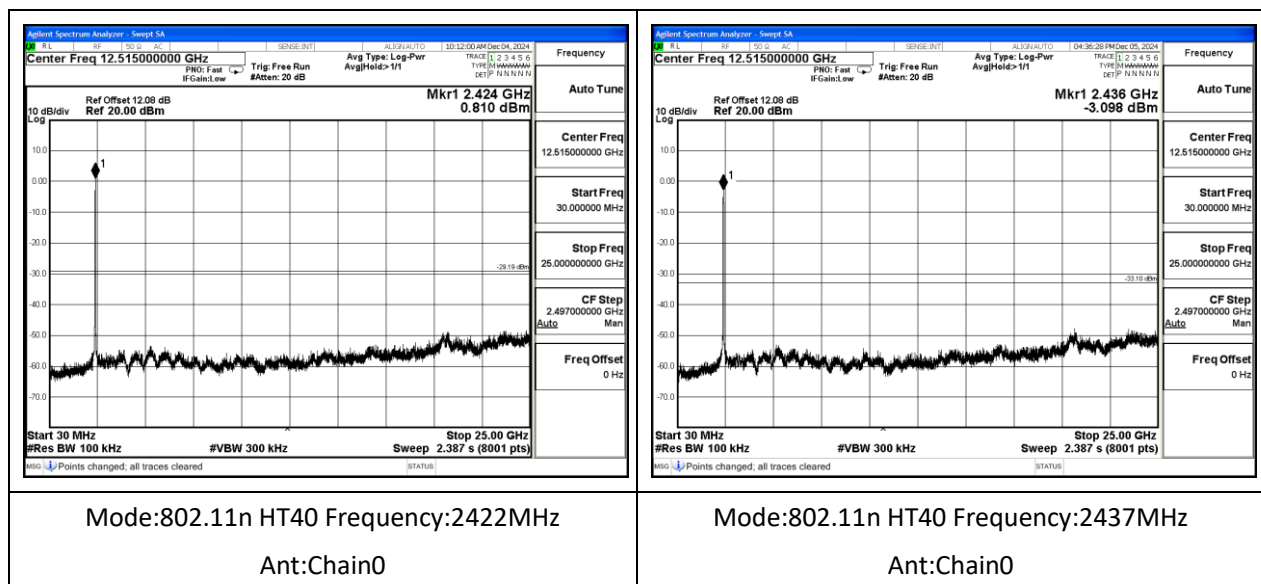




**BUREAU VERITAS** Test Report No.: PSU-NQN2412200117RF02

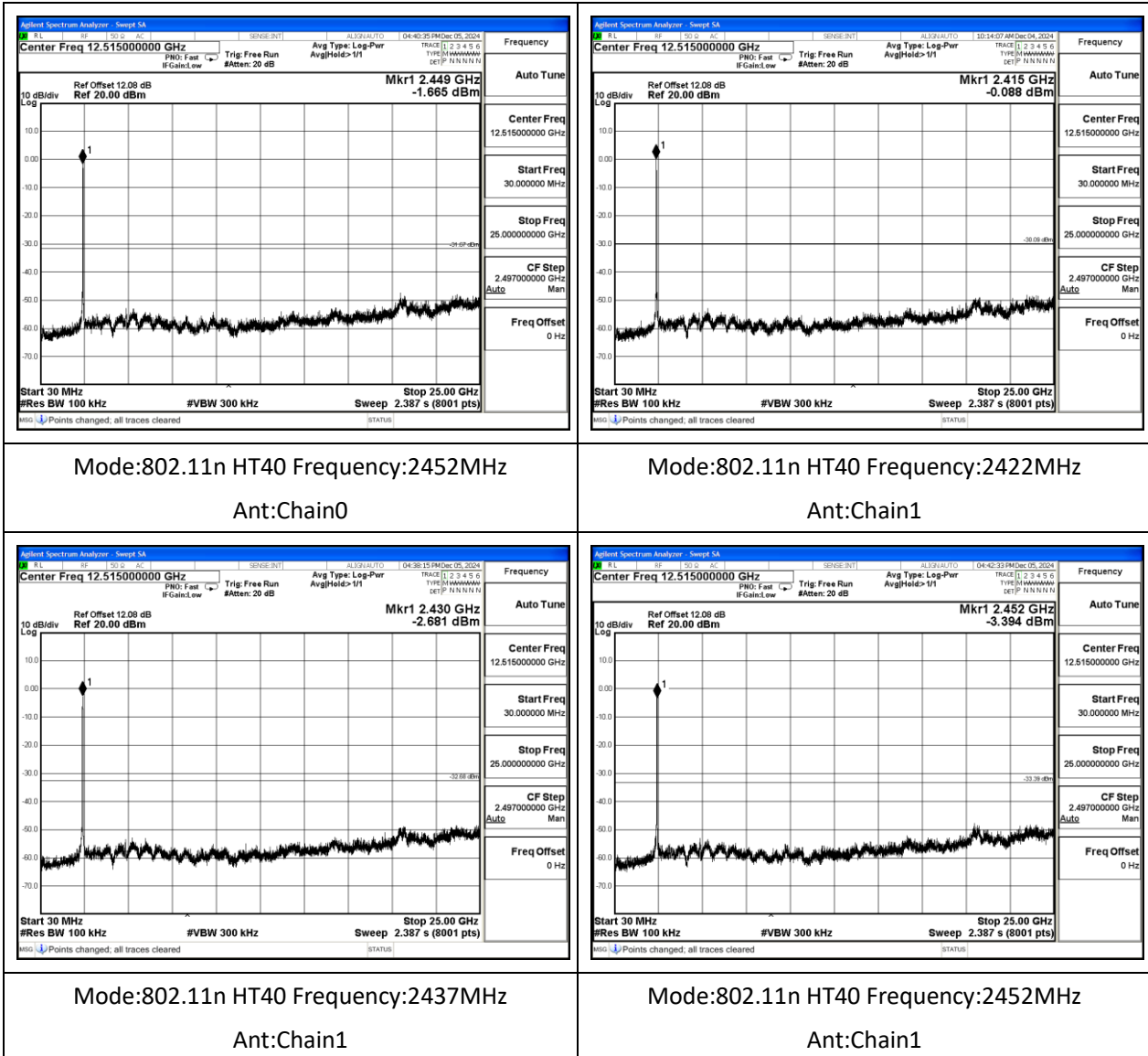


Test Mode: 802.11n HT40





**BUREAU VERITAS** Test Report No.: PSU-NQN2412200117RF02



**DUTY CYCLE****TEST RESULT**

| Modulation Type | Frequency (MHz) | Antenna | Plot  | Duty Cycle | Correction Factor(dB) |
|-----------------|-----------------|---------|-------|------------|-----------------------|
| 802.11b         | 2412            | Chain0  | Fig.1 | 99.97%     | 0                     |
| 802.11b         | 2412            | Chain1  | Fig.2 | 99.94%     | 0                     |
| 802.11g         | 2412            | Chain0  | Fig.3 | 99.58%     | 0                     |
| 802.11g         | 2412            | Chain1  | Fig.4 | 99.60%     | 0                     |
| 802.11n HT20    | 2412            | Chain0  | Fig.5 | 99.62%     | 0                     |
| 802.11n HT20    | 2412            | Chain1  | Fig.6 | 99.61%     | 0                     |
| 802.11n HT40    | 2422            | Chain0  | Fig.7 | 99.13%     | 0                     |
| 802.11n HT40    | 2422            | Chain1  | Fig.8 | 99.06%     | 0                     |

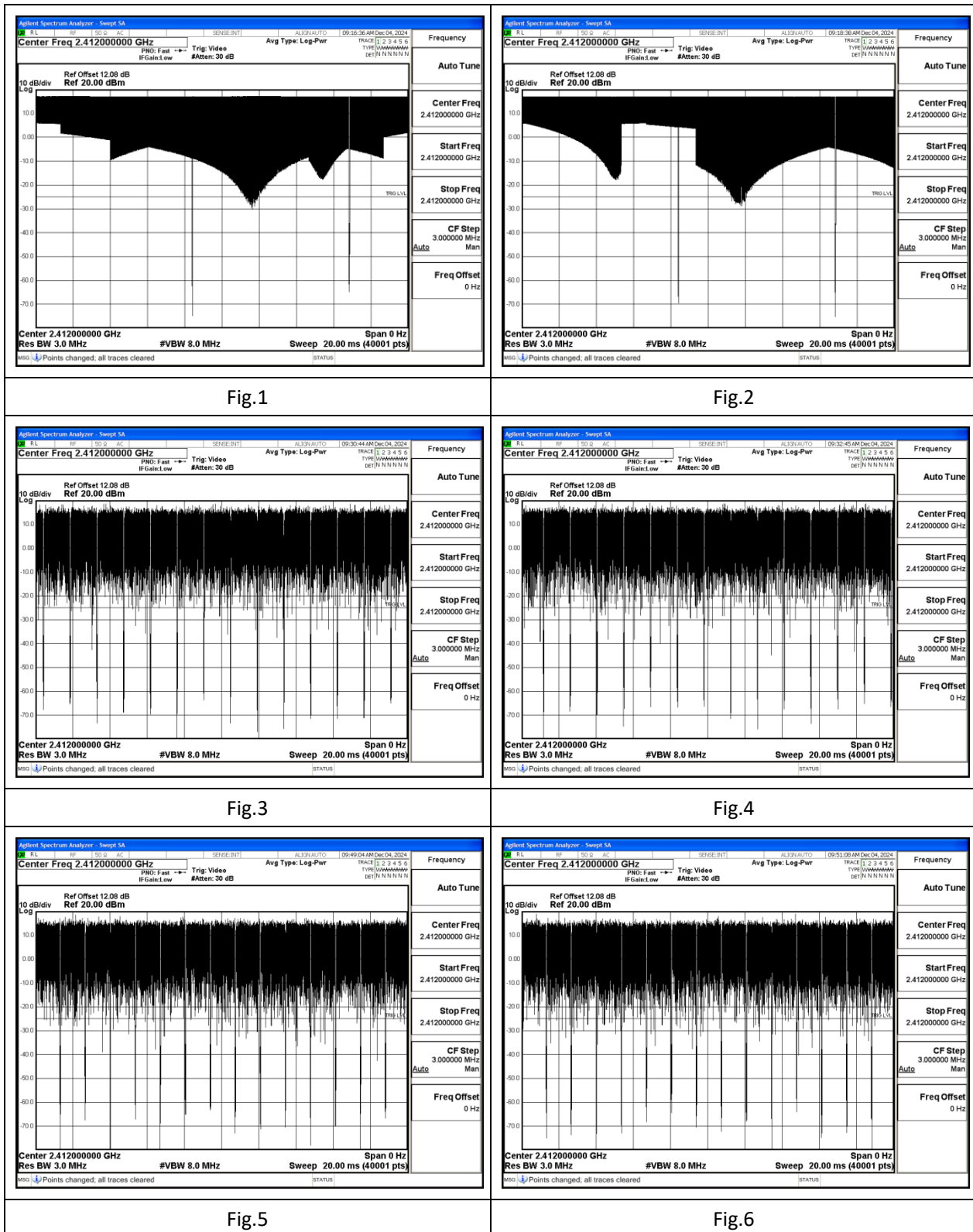
Note: Correction Factor= $10 \cdot \log(1/\text{Duty Cycle})$



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Test Report No.: PSU-NQN2412200117RF02

## TEST GRAPHS



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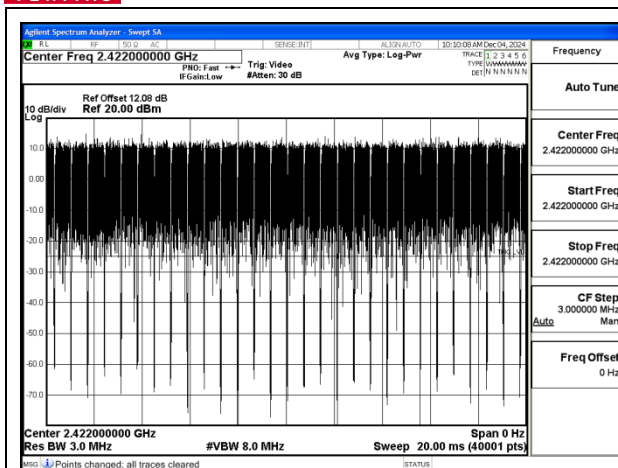


Fig.7

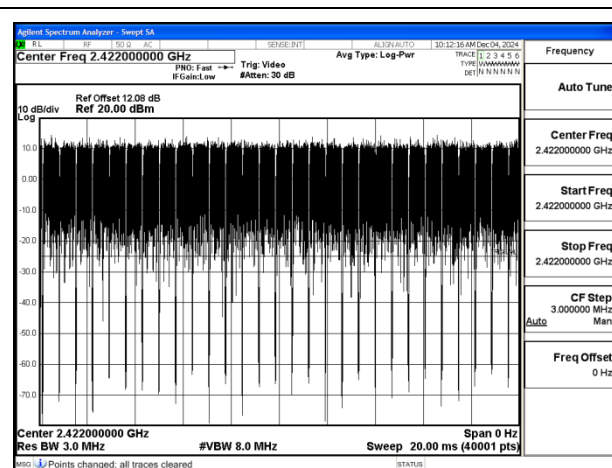


Fig.8



## 7 APPENDIX 2 BLE

### DTS BANDWIDTH

#### TEST RESULT

| Test Mode       | Carrier frequency (MHz) | 6dB Bandwidth(KHz) |
|-----------------|-------------------------|--------------------|
| GFSK (LE 1Mbps) | 2402                    | 698.4              |
| GFSK (LE 1Mbps) | 2440                    | 707.8              |
| GFSK (LE 1Mbps) | 2480                    | 705.4              |

| Test Mode       | Carrier frequency (MHz) | 6dB Bandwidth(KHz) |
|-----------------|-------------------------|--------------------|
| GFSK (LE 2Mbps) | 2402                    | 1267.9             |
| GFSK (LE 2Mbps) | 2440                    | 1227.9             |
| GFSK (LE 2Mbps) | 2480                    | 1230.5             |

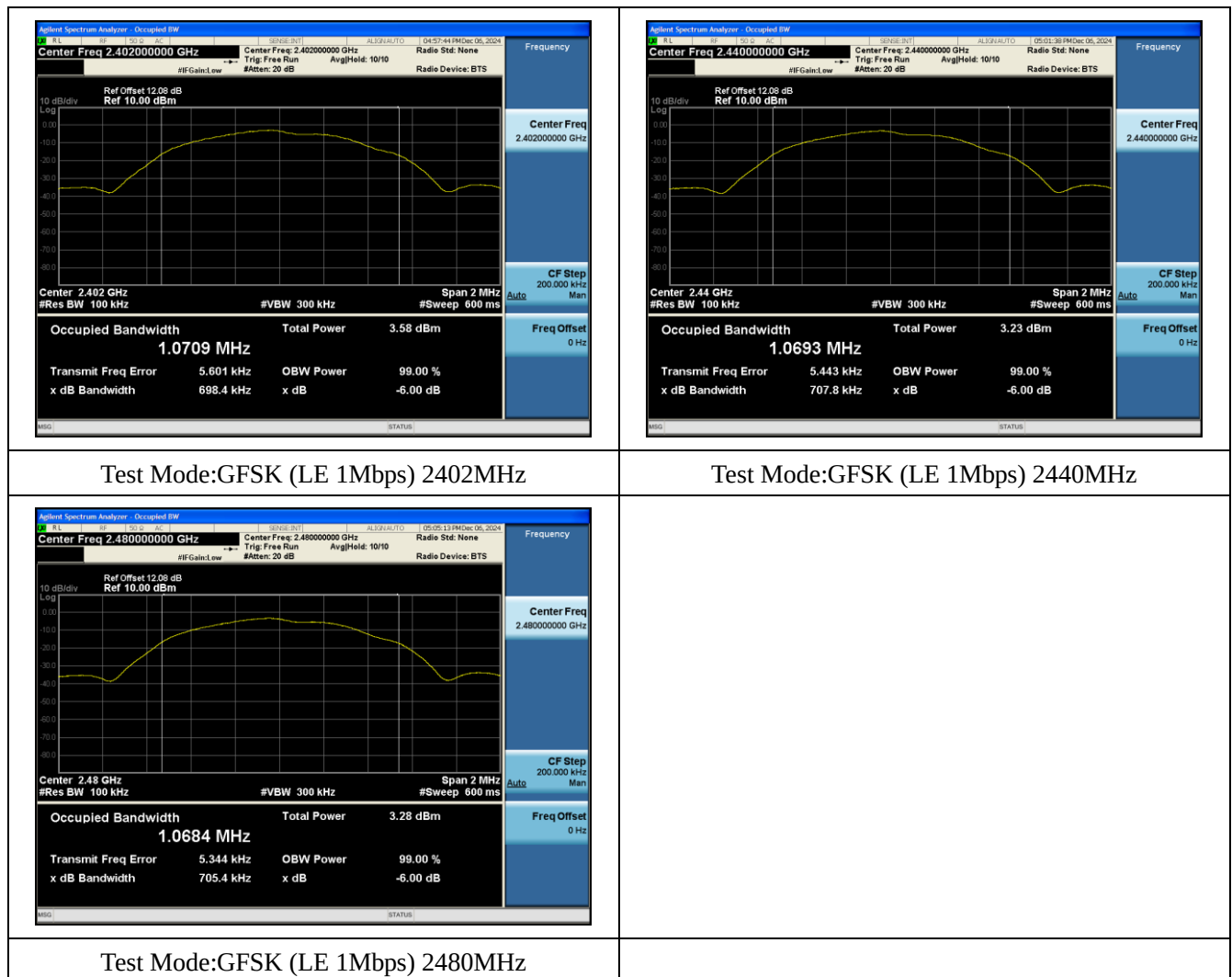
| Test Mode  | Carrier frequency (MHz) | 6dB Bandwidth(KHz) |
|------------|-------------------------|--------------------|
| Coded 125K | 2402                    | 645.4              |
| Coded 125K | 2440                    | 645.5              |
| Coded 125K | 2480                    | 645.1              |

| Test Mode  | Carrier frequency (MHz) | 6dB Bandwidth(KHz) |
|------------|-------------------------|--------------------|
| Coded 500K | 2402                    | 709.4              |
| Coded 500K | 2440                    | 734.5              |
| Coded 500K | 2480                    | 696.0              |



## TEST GRAPHS

Test Mode: GFSK (LE 1Mbps)



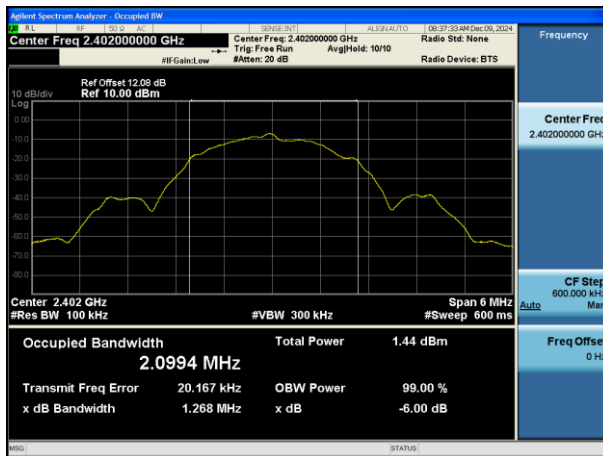




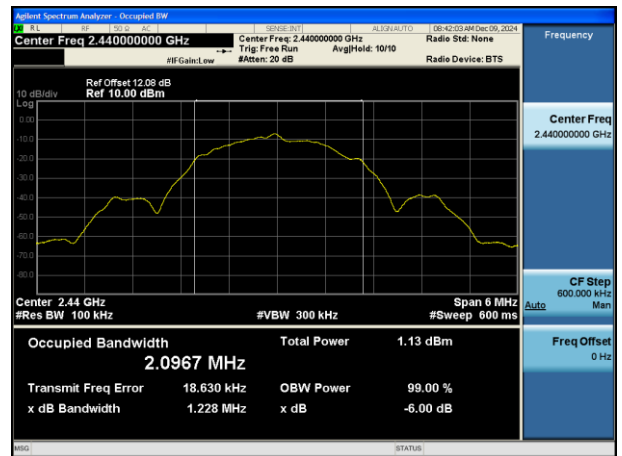
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Test Report No.: PSU-NQN2412200117RF02

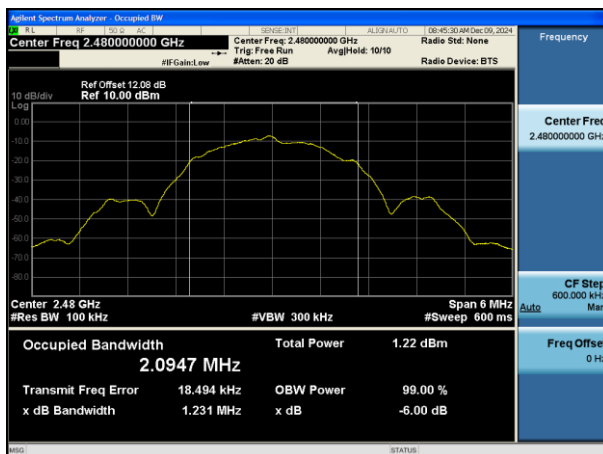
Test Mode: GFSK (LE 2Mbps)



Test Mode:GFSK (LE 2Mbps) 2402MHz



Test Mode:GFSK (LE 2Mbps) 2440MHz



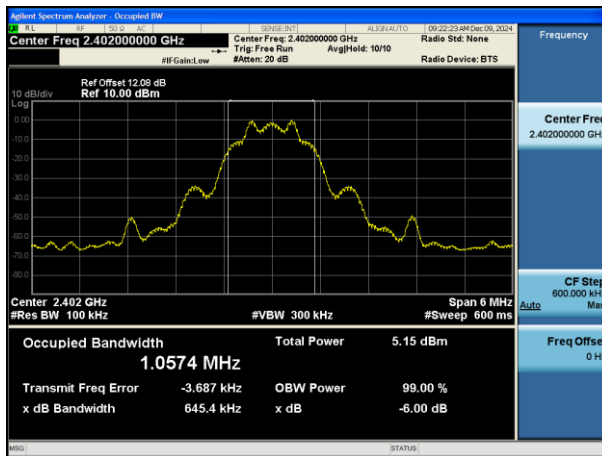
Test Mode:GFSK (LE 2Mbps) 2480MHz



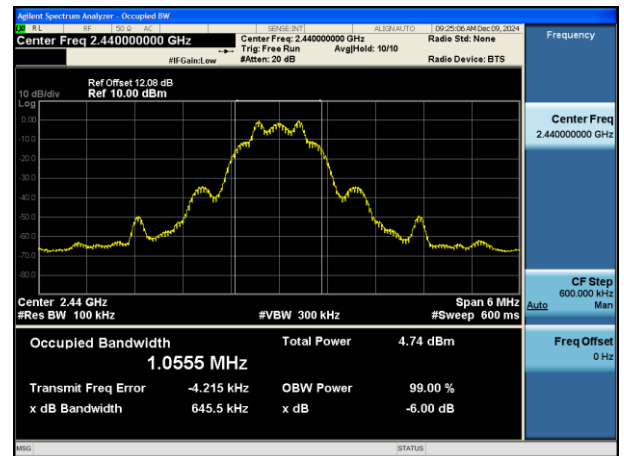
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Test Report No.: PSU-NQN2412200117RF02

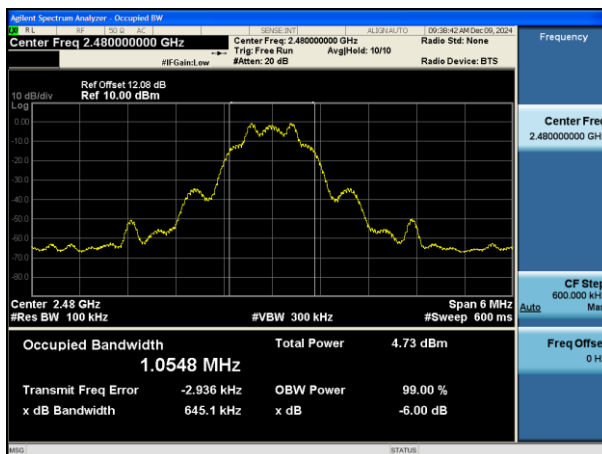
Test Mode: Coded 125K



Test Mode:Coded 125K 2402MHz



Test Mode:Coded 125K 2440MHz



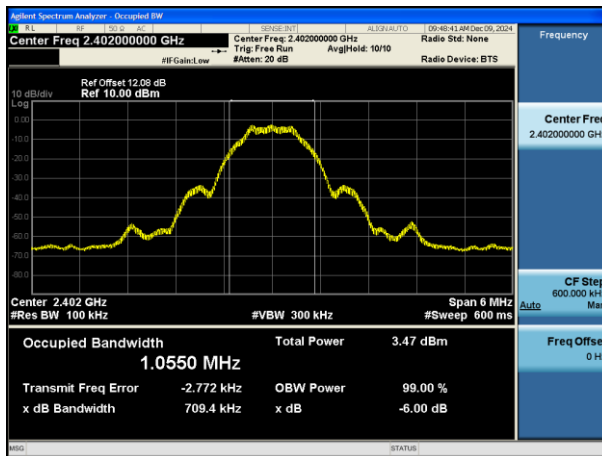
Test Mode:Coded 125K 2480MHz



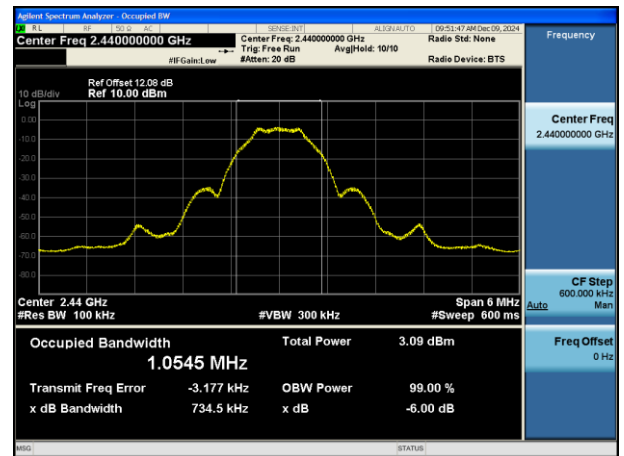
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Test Report No.: PSU-NQN2412200117RF02

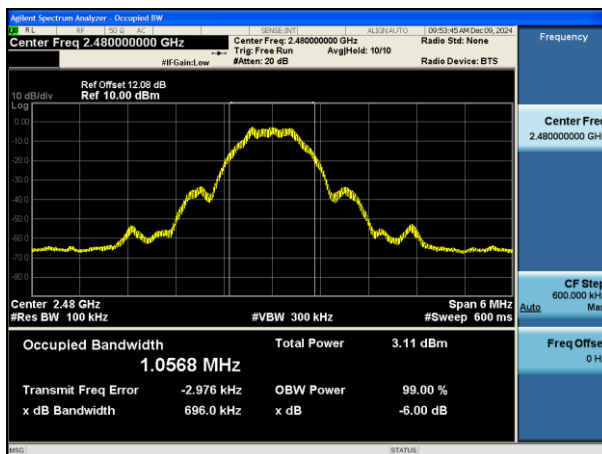
Test Mode: Coded 500K



Test Mode:Coded 500K 2402MHz



Test Mode:Coded 500K 2440MHz



Test Mode:Coded 500K 2480MHz

**OCCUPIED CHANNEL BANDWIDTH****TEST RESULT**

| Test Mode       | Carrier frequency (MHz) | 99% Bandwidth(kHz) |
|-----------------|-------------------------|--------------------|
| GFSK (LE 1Mbps) | 2402                    | 1041.9             |
| GFSK (LE 1Mbps) | 2440                    | 1040.5             |
| GFSK (LE 1Mbps) | 2480                    | 1039.8             |

| Test Mode       | Carrier frequency (MHz) | 99% Bandwidth(kHz) |
|-----------------|-------------------------|--------------------|
| GFSK (LE 2Mbps) | 2402                    | 2077.5             |
| GFSK (LE 2Mbps) | 2440                    | 2074.7             |
| GFSK (LE 2Mbps) | 2480                    | 2073.2             |

| Test Mode  | Carrier frequency (MHz) | 99% Bandwidth(kHz) |
|------------|-------------------------|--------------------|
| Coded 125K | 2402                    | 1033.5             |
| Coded 125K | 2440                    | 1031.3             |
| Coded 125K | 2480                    | 1031.1             |

| Test Mode  | Carrier frequency (MHz) | 99% Bandwidth(kHz) |
|------------|-------------------------|--------------------|
| Coded 500K | 2402                    | 1034.7             |
| Coded 500K | 2440                    | 1033.1             |
| Coded 500K | 2480                    | 1032.6             |

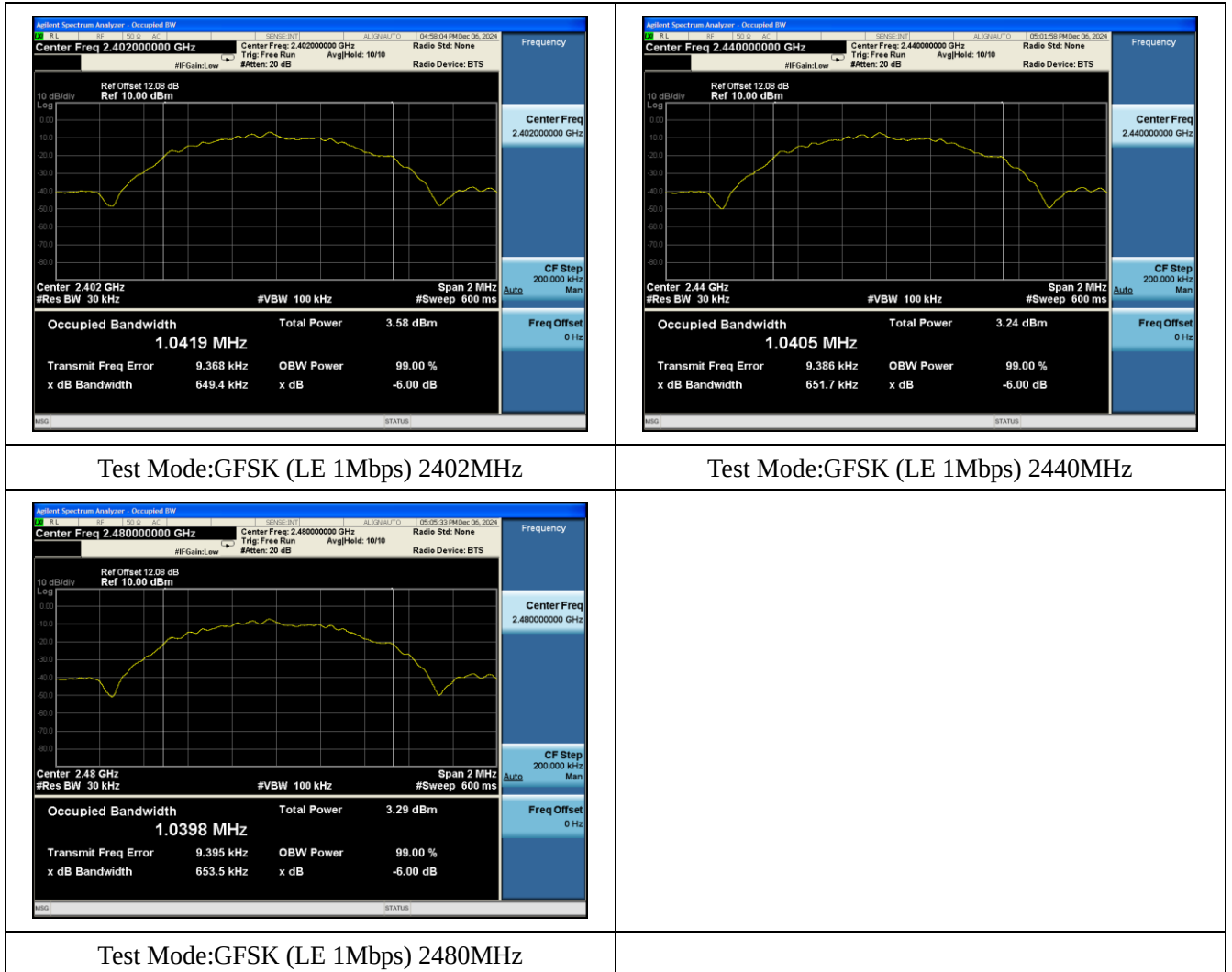


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Test Report No.: PSU-NQN2412200117RF02

## TEST GRAPHS

Test Mode: GFSK (LE 1Mbps)

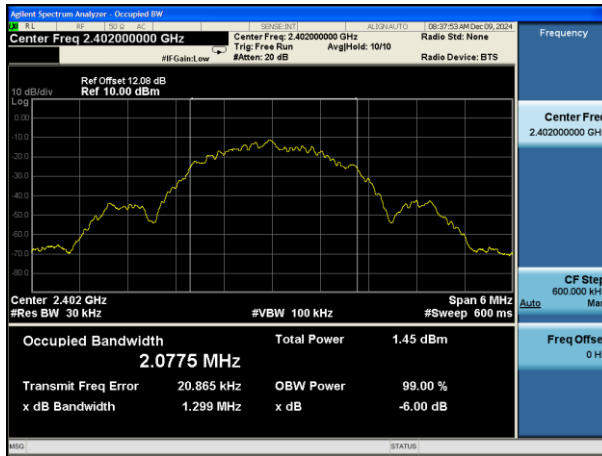




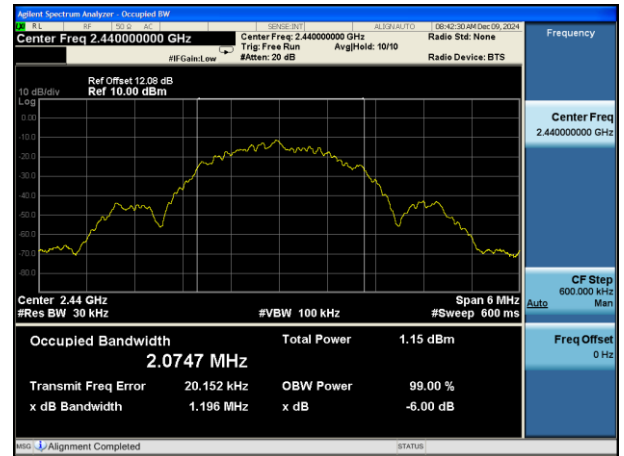
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Test Report No.: PSU-NQN2412200117RF02

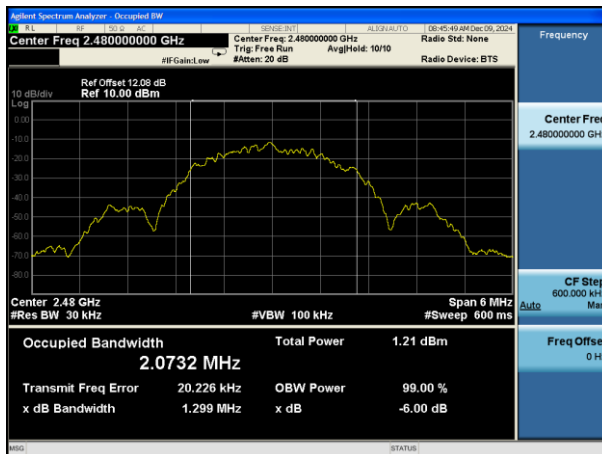
Test Mode: GFSK (LE 2Mbps)



Test Mode:GFSK (LE 2Mbps) 2402MHz



Test Mode:GFSK (LE 2Mbps) 2440MHz



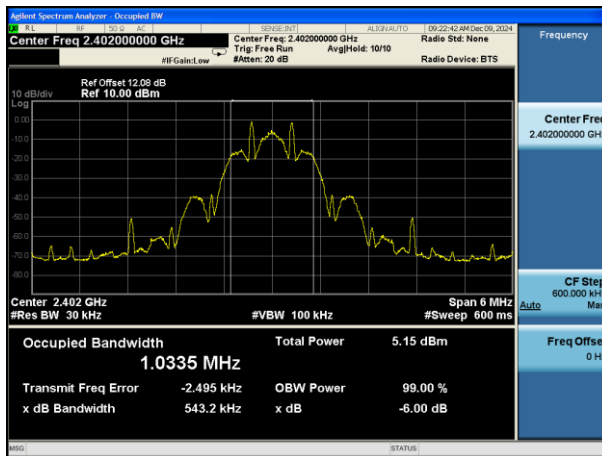
Test Mode:GFSK (LE 2Mbps) 2480MHz



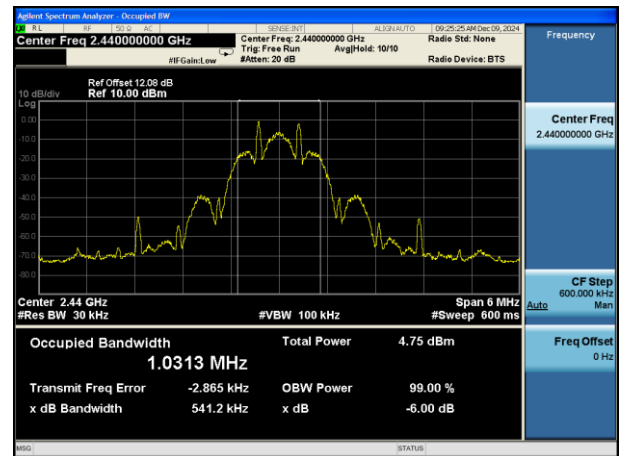
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Test Report No.: PSU-NQN2412200117RF02

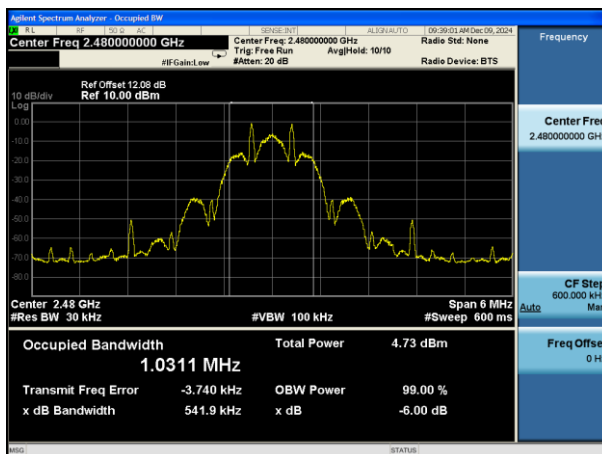
Test Mode: Coded 125K



Test Mode:Coded 125K 2402MHz



Test Mode:Coded 125K 2440MHz



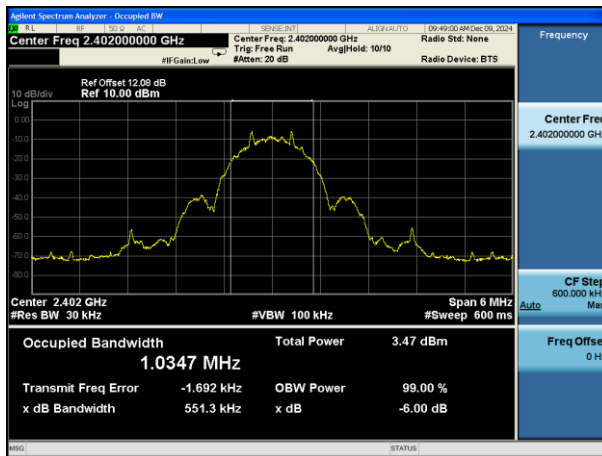
Test Mode:Coded 125K 2480MHz



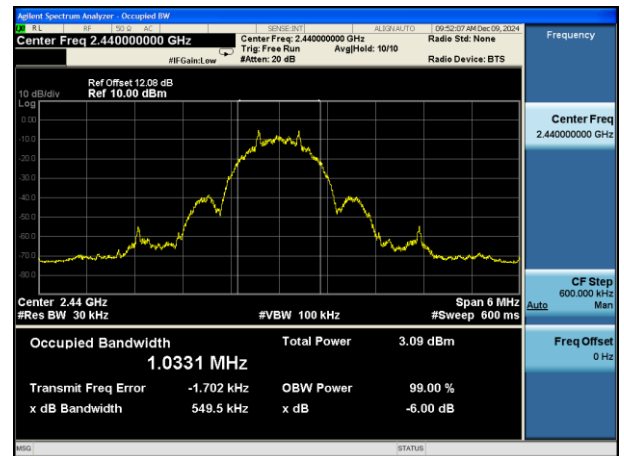
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Test Report No.: PSU-NQN2412200117RF02

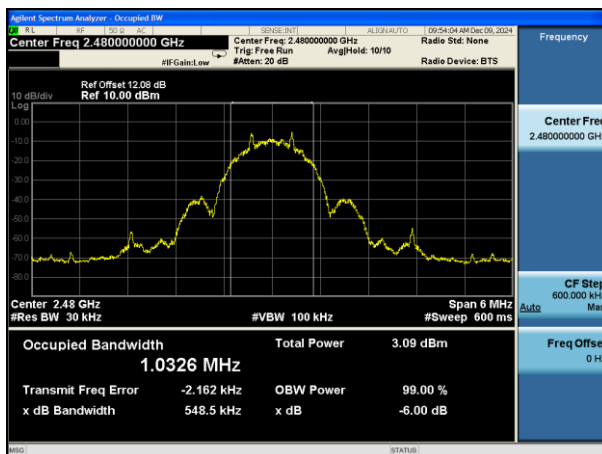
Test Mode: Coded 500K



Test Mode:Coded 500K 2402MHz



Test Mode:Coded 500K 2440MHz



Test Mode:Coded 500K 2480MHz



**MAXIMUM CONDUCTED OUTPUT POWER****TEST RESULT**

| Modulation type | Conducted Peak Power(dBm) |         |         |
|-----------------|---------------------------|---------|---------|
|                 | 2402MHz                   | 2440MHz | 2480MHz |
| GFSK (LE 1Mbps) | 6.35                      | 5.92    | 6.16    |
| GFSK (LE 2Mbps) | 6.70                      | 6.54    | 6.32    |
| Coded 125K      | 6.49                      | 5.90    | 5.86    |
| Coded 500K      | 6.39                      | 5.99    | 5.95    |

| Modulation type | Conducted Average Power(dBm) |         |         |
|-----------------|------------------------------|---------|---------|
|                 | 2402MHz                      | 2440MHz | 2480MHz |
| GFSK (LE 1Mbps) | 5.91                         | 5.03    | 4.83    |
| GFSK (LE 2Mbps) | 5.46                         | 5.19    | 5.21    |
| Coded 125K      | 4.90                         | 4.92    | 5.00    |
| Coded 500K      | 5.15                         | 6.20    | 4.38    |

**EIRP**

| Modulation type | Peak EIRP(dBm) |         |         |
|-----------------|----------------|---------|---------|
|                 | 2402MHz        | 2440MHz | 2480MHz |
| GFSK (LE 1Mbps) | 7.41           | 6.98    | 7.22    |
| GFSK (LE 2Mbps) | 7.76           | 7.60    | 7.38    |
| Coded 125K      | 7.55           | 6.96    | 6.92    |
| Coded 500K      | 7.45           | 7.05    | 7.01    |

| Modulation type | Average EIRP(dBm) |         |         |
|-----------------|-------------------|---------|---------|
|                 | 2402MHz           | 2440MHz | 2480MHz |
| GFSK (LE 1Mbps) | 6.97              | 6.09    | 5.89    |
| GFSK (LE 2Mbps) | 6.52              | 6.25    | 6.27    |
| Coded 125K      | 5.96              | 5.98    | 6.06    |
| Coded 500K      | 6.21              | 7.26    | 5.44    |

EIRP (dBm)=Conducted Power(dBm)+Antenna Gain(dBi)

**MAXIMUM POWER SPECTRAL DENSITY****TEST RESULT**

| Test Mode       | Carrier frequency (MHz) | Channel No. | Power Density<br>(dBm/3kHz) |
|-----------------|-------------------------|-------------|-----------------------------|
| GFSK (LE 1Mbps) | 2402                    | 0           | -9.4                        |
| GFSK (LE 1Mbps) | 2440                    | 19          | -9.6                        |
| GFSK (LE 1Mbps) | 2480                    | 39          | -9.6                        |

| Test Mode       | Carrier frequency (MHz) | Channel No. | Power Density<br>(dBm/3kHz) |
|-----------------|-------------------------|-------------|-----------------------------|
| GFSK (LE 2Mbps) | 2402                    | 0           | -11.0                       |
| GFSK (LE 2Mbps) | 2440                    | 19          | -11.6                       |
| GFSK (LE 2Mbps) | 2480                    | 39          | -11.4                       |

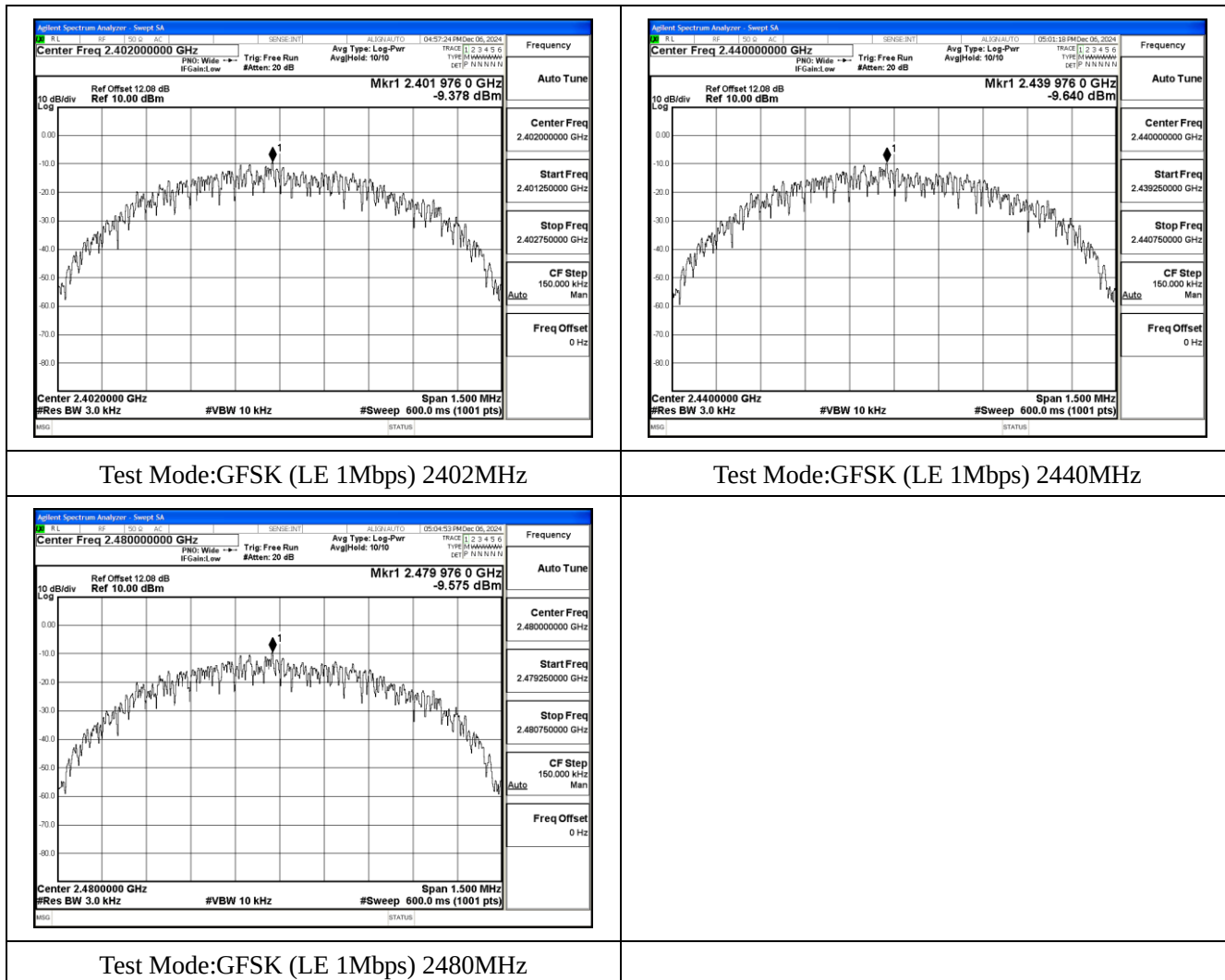
| Test Mode  | Carrier frequency (MHz) | Channel No. | Power Density<br>(dBm/3kHz) |
|------------|-------------------------|-------------|-----------------------------|
| Coded 125K | 2402                    | 0           | 0.1                         |
| Coded 125K | 2440                    | 19          | -0.4                        |
| Coded 125K | 2480                    | 39          | -0.4                        |

| Test Mode  | Carrier frequency (MHz) | Channel No. | Power Density<br>(dBm/3kHz) |
|------------|-------------------------|-------------|-----------------------------|
| Coded 500K | 2402                    | 0           | -0.4                        |
| Coded 500K | 2440                    | 19          | -0.8                        |
| Coded 500K | 2480                    | 39          | -0.8                        |



## TEST GRAPHS

Test Mode: GFSK (LE 1Mbps)

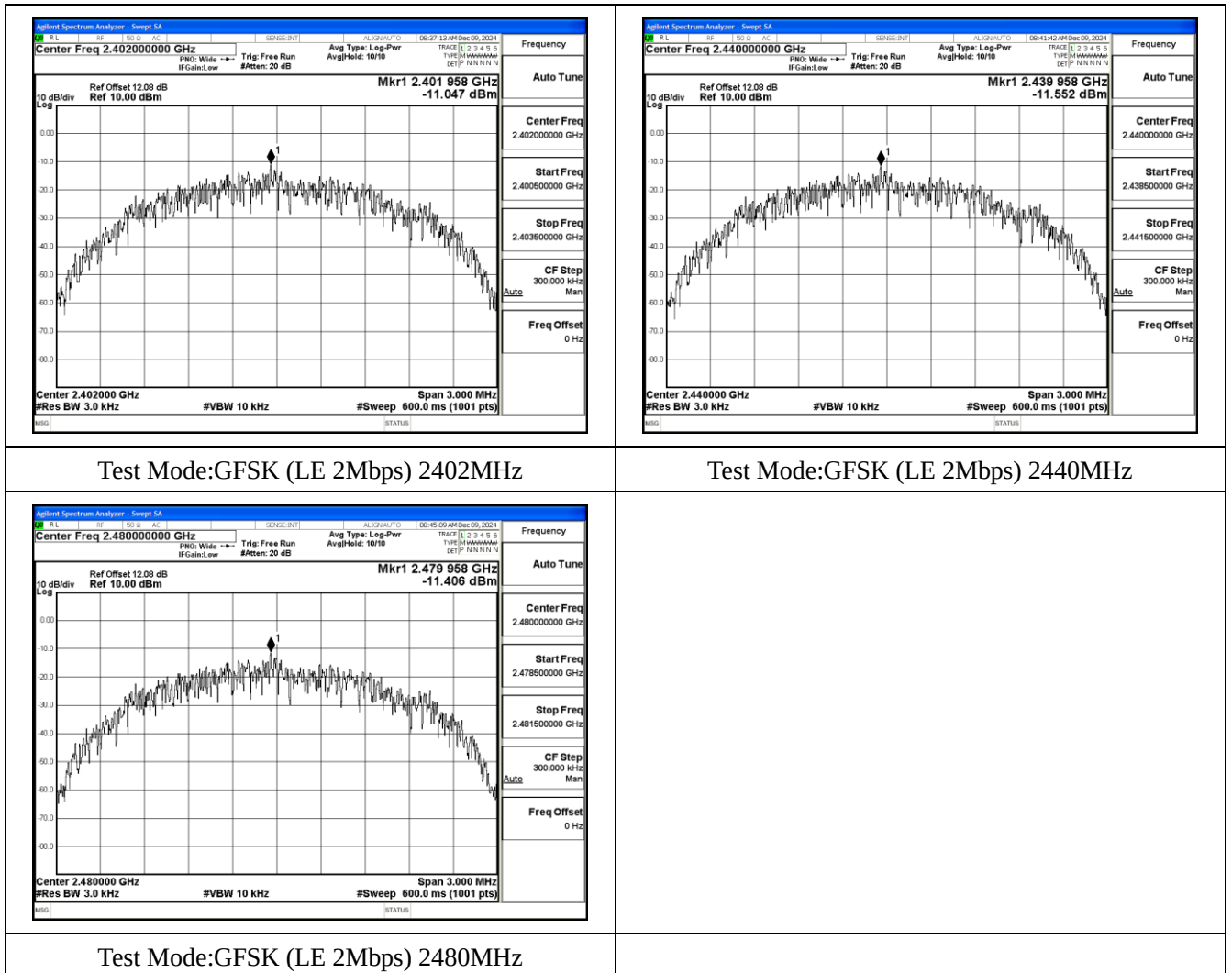




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Test Mode: GFSK (LE 2Mbps)



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Zhaoshang Street, Nanshan District Shenzhen,  
Guangdong, People's Republic of China

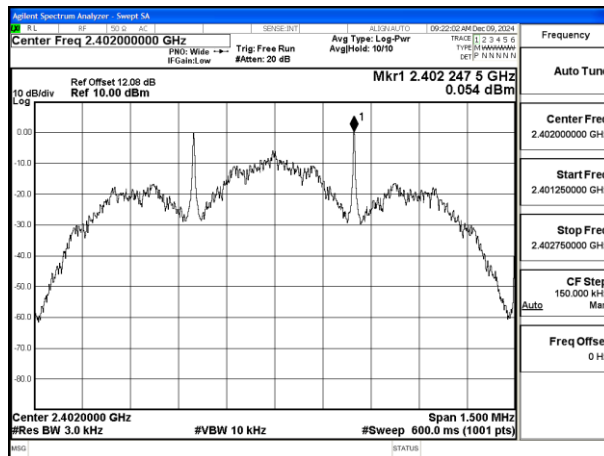
Tel: +86 755 8869 6566  
Fax: +86 755 8869 6577  
Email: [customerservice.sw@bureauveritas.com](mailto:customerservice.sw@bureauveritas.com)



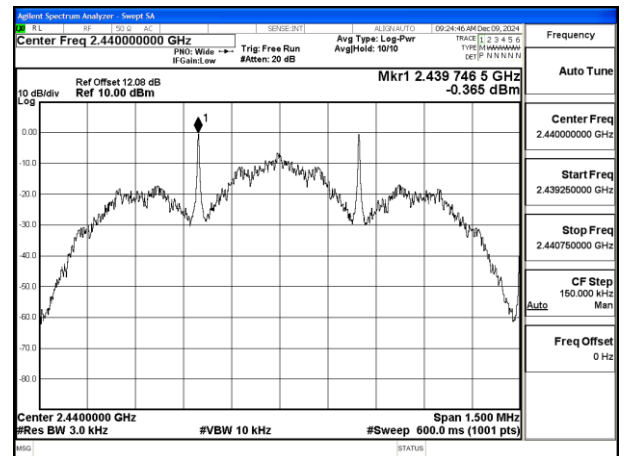
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Test Report No.: PSU-NQN2412200117RF02

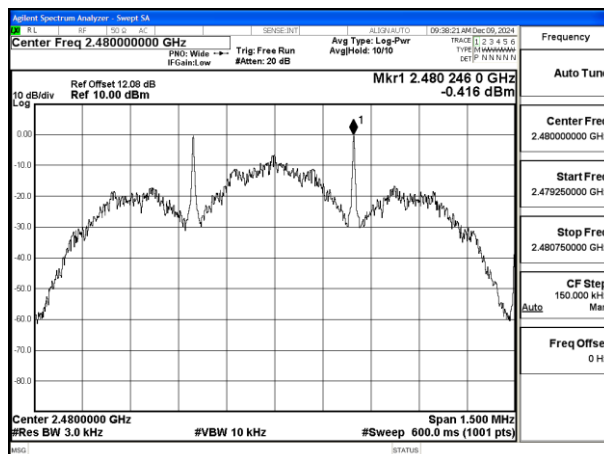
Test Mode: Coded 125K



Test Mode:Coded 125K 2402MHz



Test Mode:Coded 125K 2440MHz



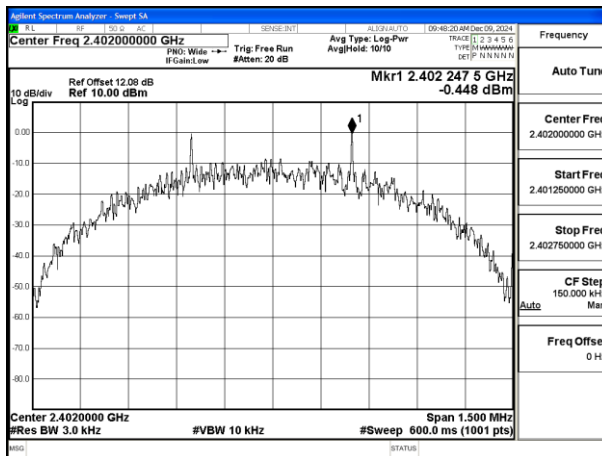
Test Mode:Coded 125K 2480MHz



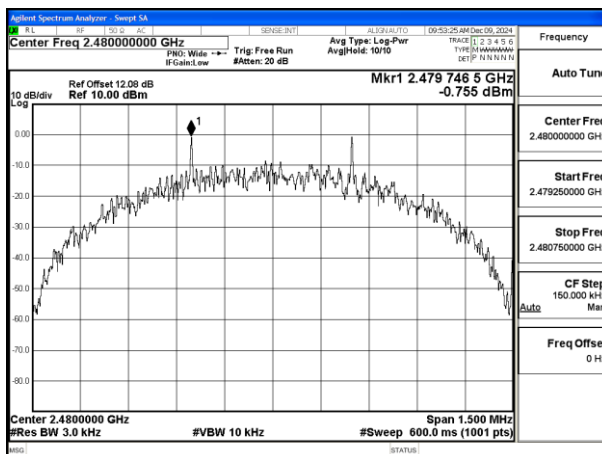
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Test Report No.: PSU-NQN2412200117RF02

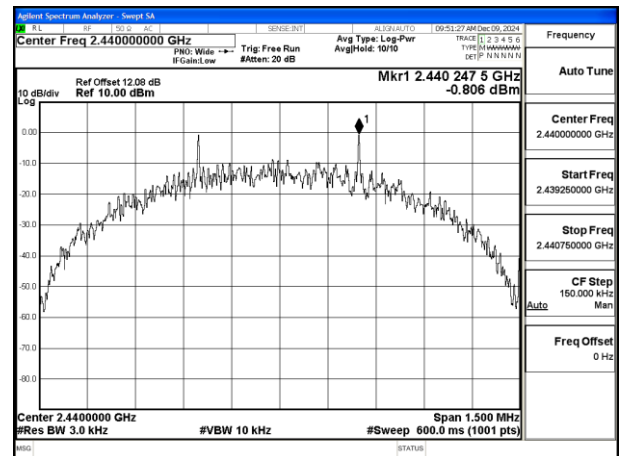
Test Mode: Coded 500K



Test Mode:Coded 500K 2402MHz



Test Mode:Coded 500K 2480MHz



Test Mode:Coded 500K 2440MHz



## BAND EDGE MEASUREMENTS

### TEST RESULT

### TEST GRAPHS

Test Mode: GFSK (LE 1Mbps)



Test Mode: GFSK (LE 2Mbps)





**BUREAU VERITAS** Test Report No.: PSU-NQN2412200117RF02

Test Mode: Coded 125K



Test Mode: Coded 500K





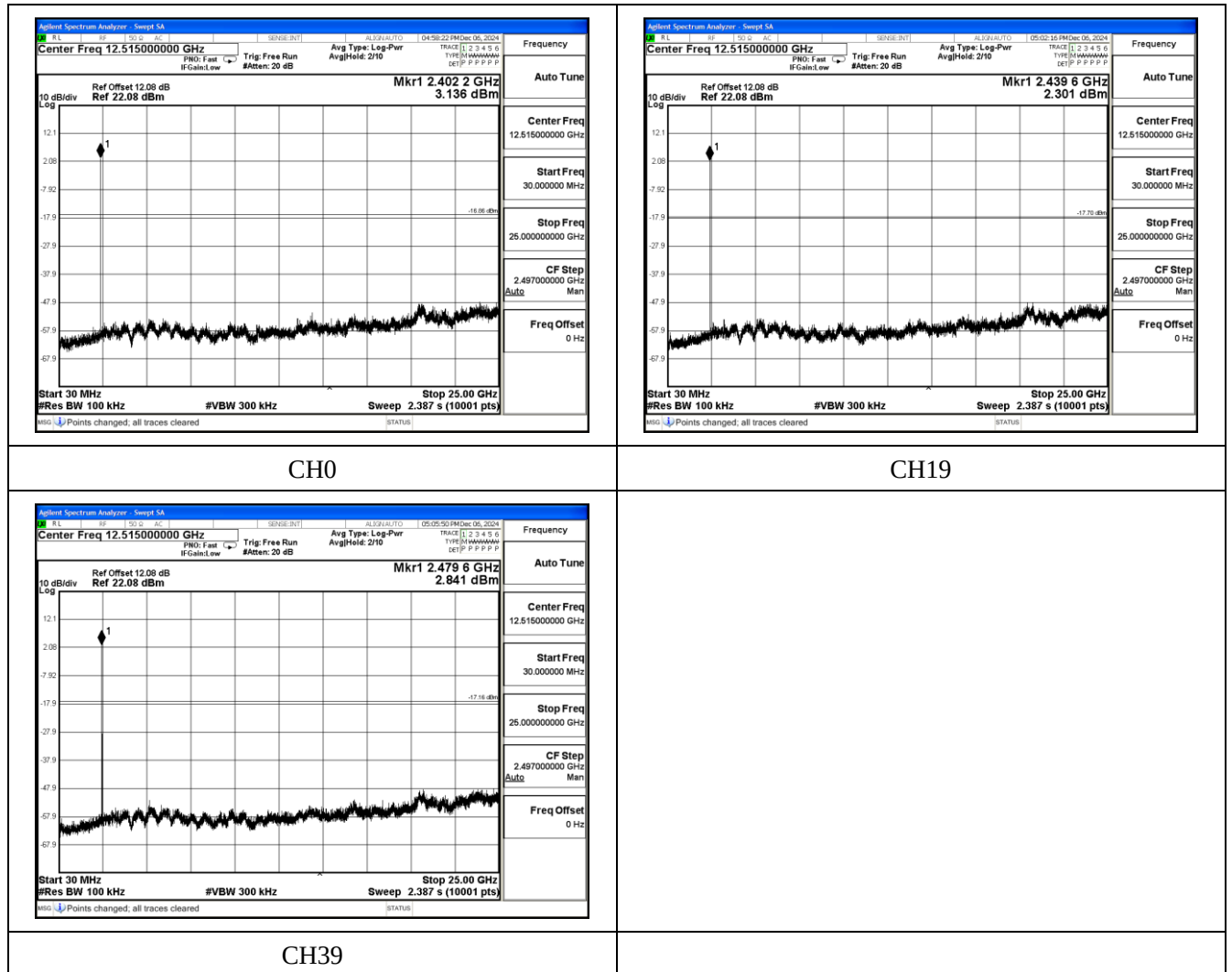


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VERITAS

Test Report No.: PSU-NQN2412200117RF02

## CONDUCTED SPURIOUS EMISSION TEST GRAPHS

Test Mode: GFSK (LE 1Mbps)

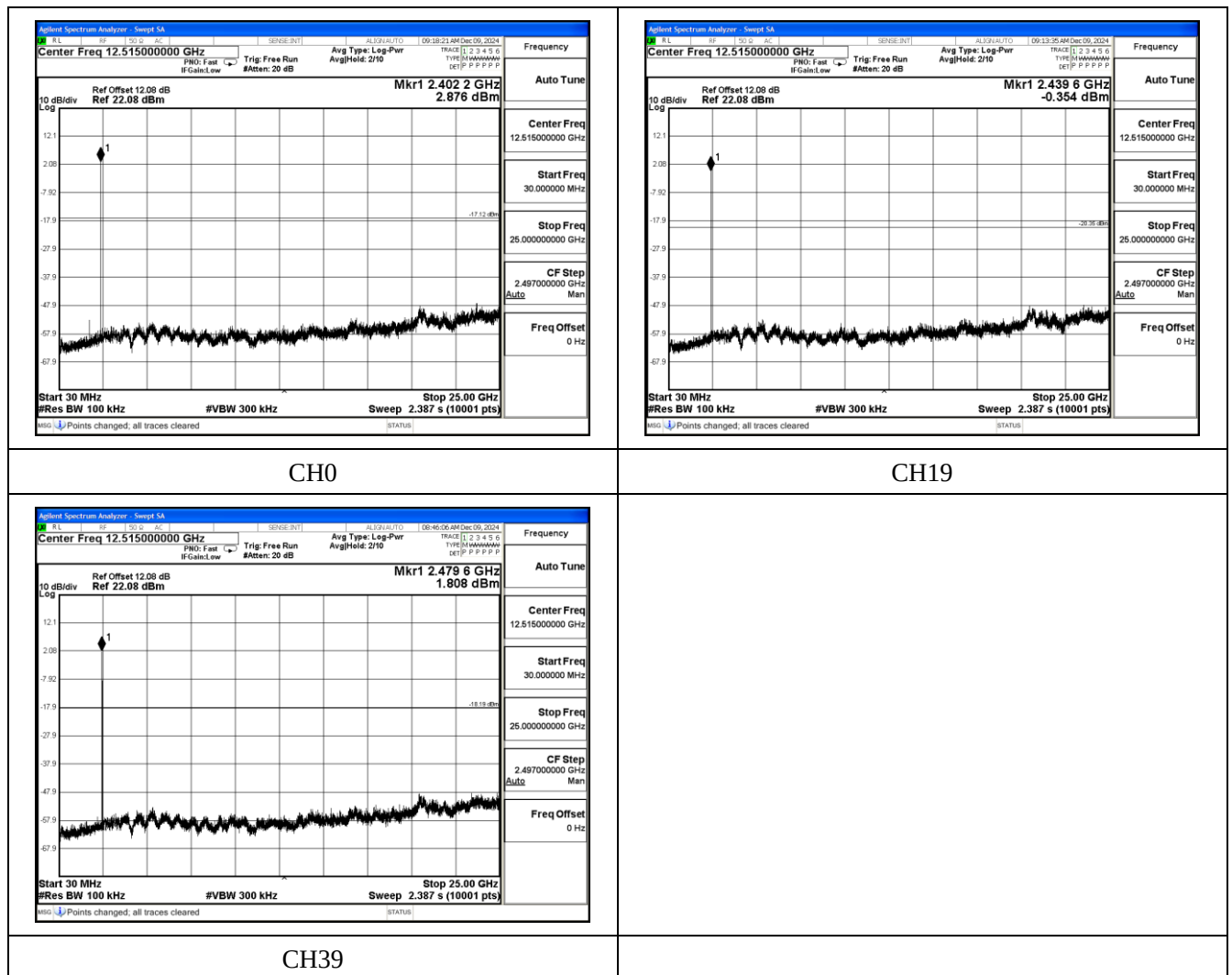




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Test Report No.: PSU-NQN2412200117RF02

Test Mode: GFSK (LE 2Mbps)

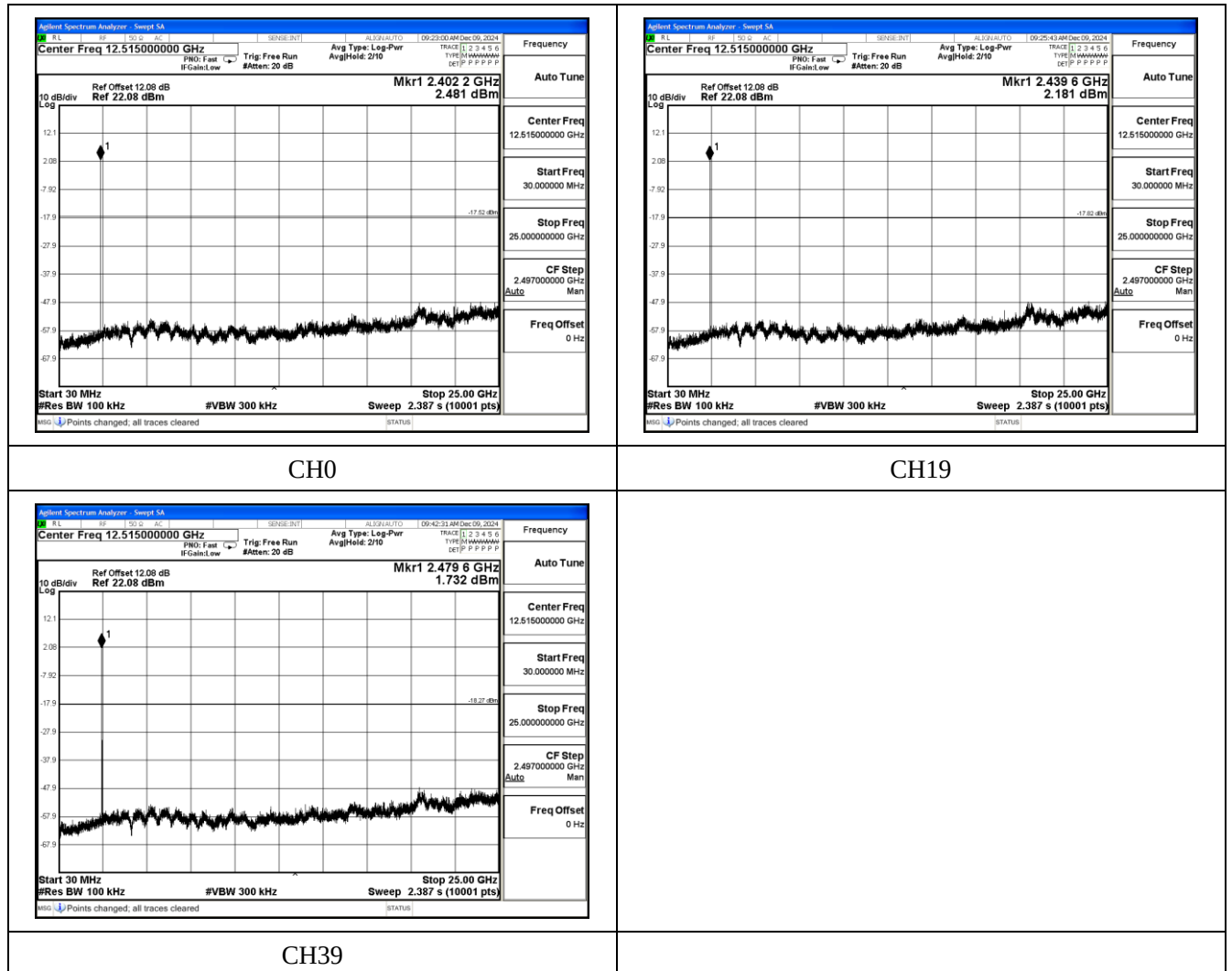




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Test Report No.: PSU-NQN2412200117RF02

Test Mode: Coded 125K

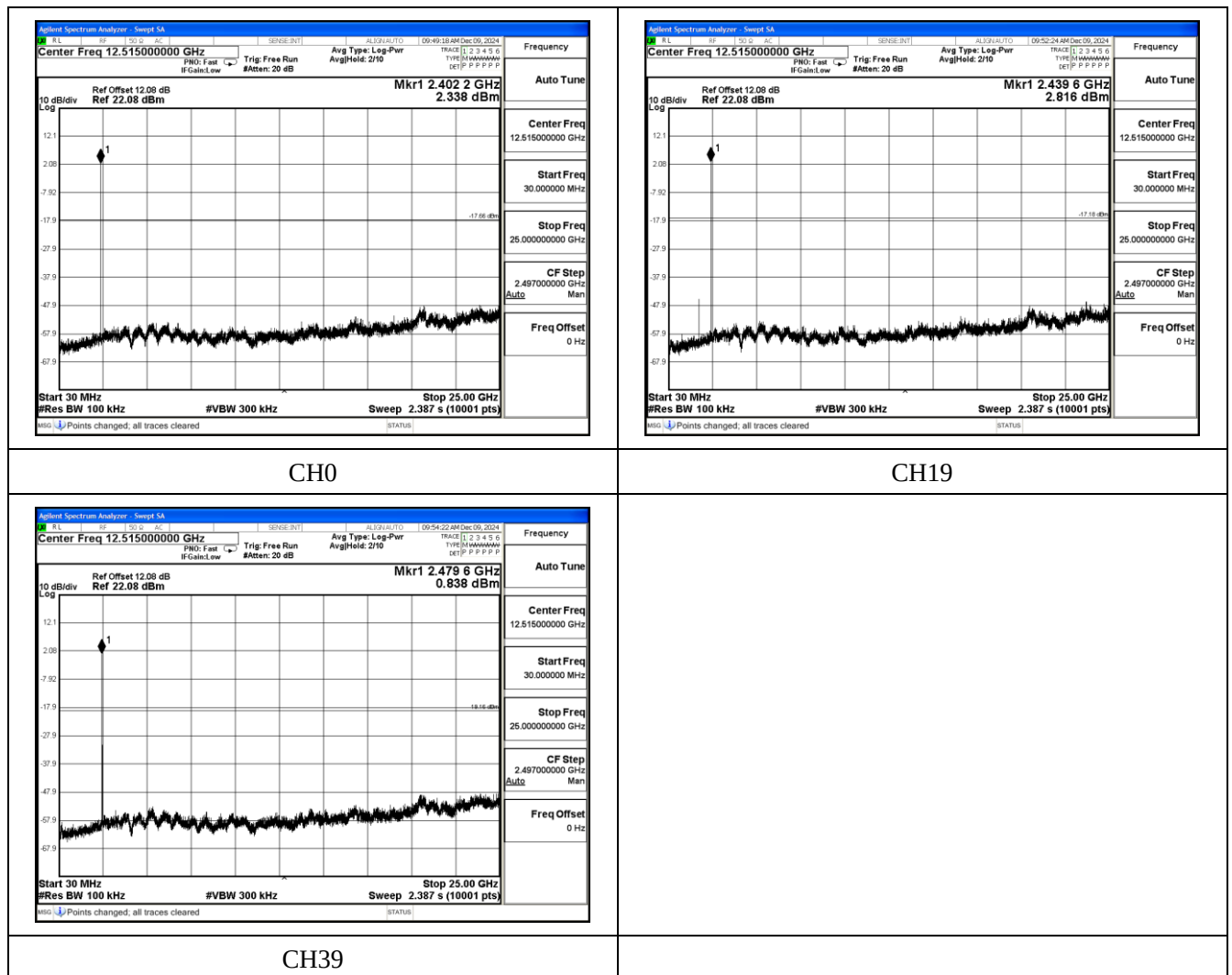




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Test Report No.: PSU-NQN2412200117RF02

Test Mode: Coded 500K



**DUTY CYCLE****TEST RESULT**

| Test Mode          | Frequency<br>(MHz) | Plot  | Duty Cycle | Correction<br>Factor(dB) | Antenna<br>Gain(dBi) |
|--------------------|--------------------|-------|------------|--------------------------|----------------------|
| GFSK (LE<br>1Mbps) | 2402               | Fig.1 | 65.60%     | 1.83                     | 1.06                 |

Note:Correction Factor= $10 \cdot \log(1/\text{Duty Cycle})$ 

| Test Mode          | Frequency<br>(MHz) | Plot  | Duty Cycle | Correction<br>Factor(dB) | Antenna<br>Gain(dBi) |
|--------------------|--------------------|-------|------------|--------------------------|----------------------|
| GFSK (LE<br>2Mbps) | 2402               | Fig.2 | 37.70%     | 4.24                     | 1.06                 |

Note:Correction Factor= $10 \cdot \log(1/\text{Duty Cycle})$ 

| Test Mode  | Frequency<br>(MHz) | Plot  | Duty Cycle | Correction<br>Factor(dB) | Antenna<br>Gain(dBi) |
|------------|--------------------|-------|------------|--------------------------|----------------------|
| Coded 125K | 2402               | Fig.3 | 83.70%     | 0.77                     | 1.06                 |

Note:Correction Factor= $10 \cdot \log(1/\text{Duty Cycle})$ 

| Test Mode  | Frequency<br>(MHz) | Plot  | Duty Cycle | Correction<br>Factor(dB) | Antenna<br>Gain(dBi) |
|------------|--------------------|-------|------------|--------------------------|----------------------|
| Coded 500K | 2402               | Fig.4 | 59.00%     | 2.29                     | 1.06                 |



## TEST GRAPHS

Test Mode: GFSK (LE 1Mbps)

Test Mode: GFSK (LE 2Mbps)

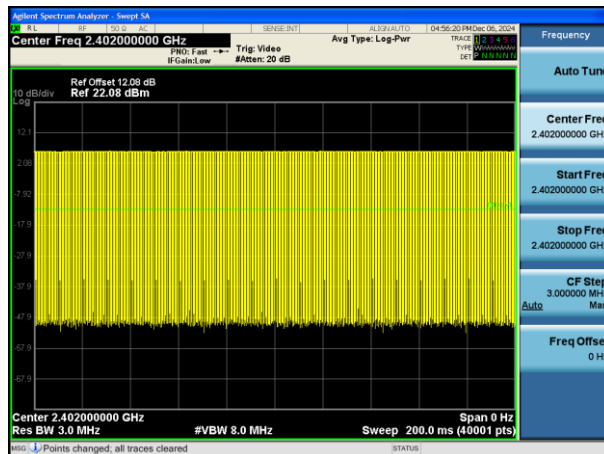


Fig.1

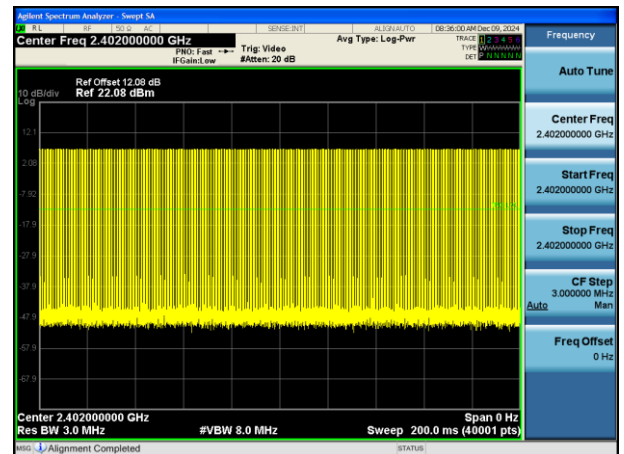


Fig.2

Test Mode: Coded 125K

Test Mode: Coded 500K

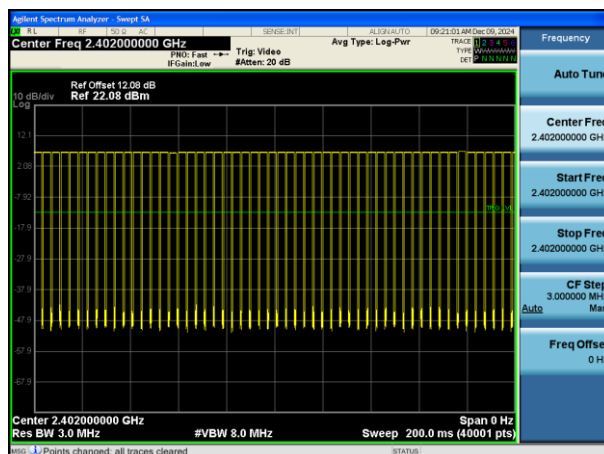


Fig.3

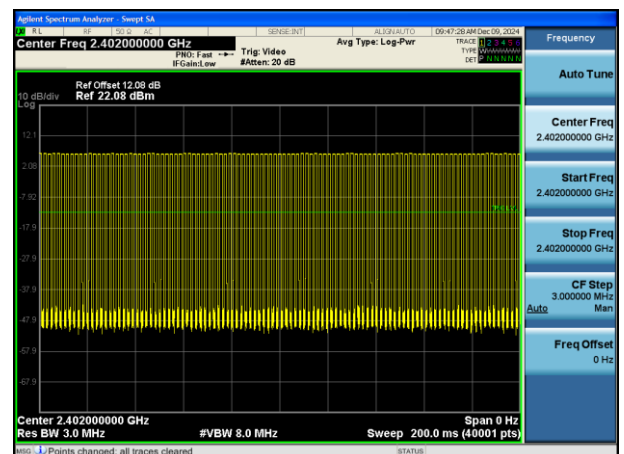


Fig.4

---END---