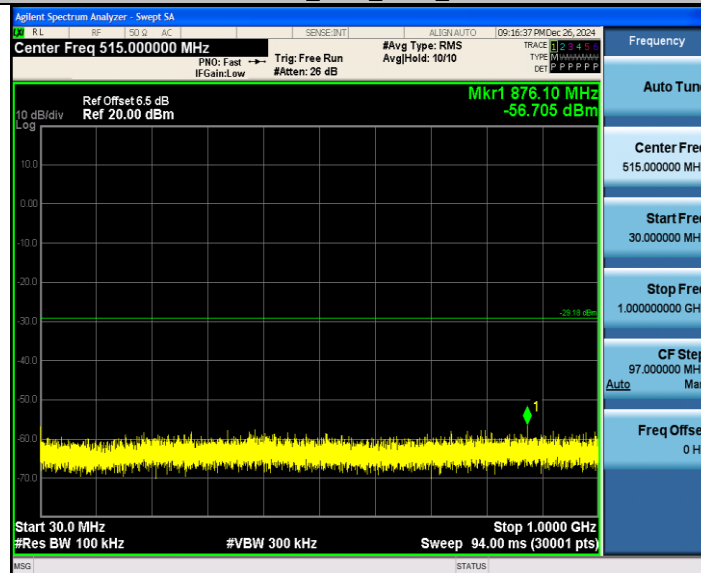
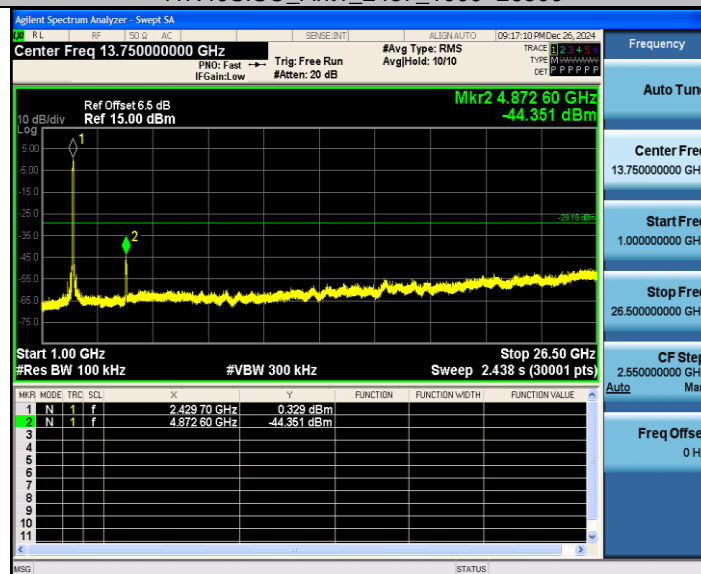




11N40SISO\_Ant1\_2437\_30~1000



11N40SISO\_Ant1\_2437\_1000~26500



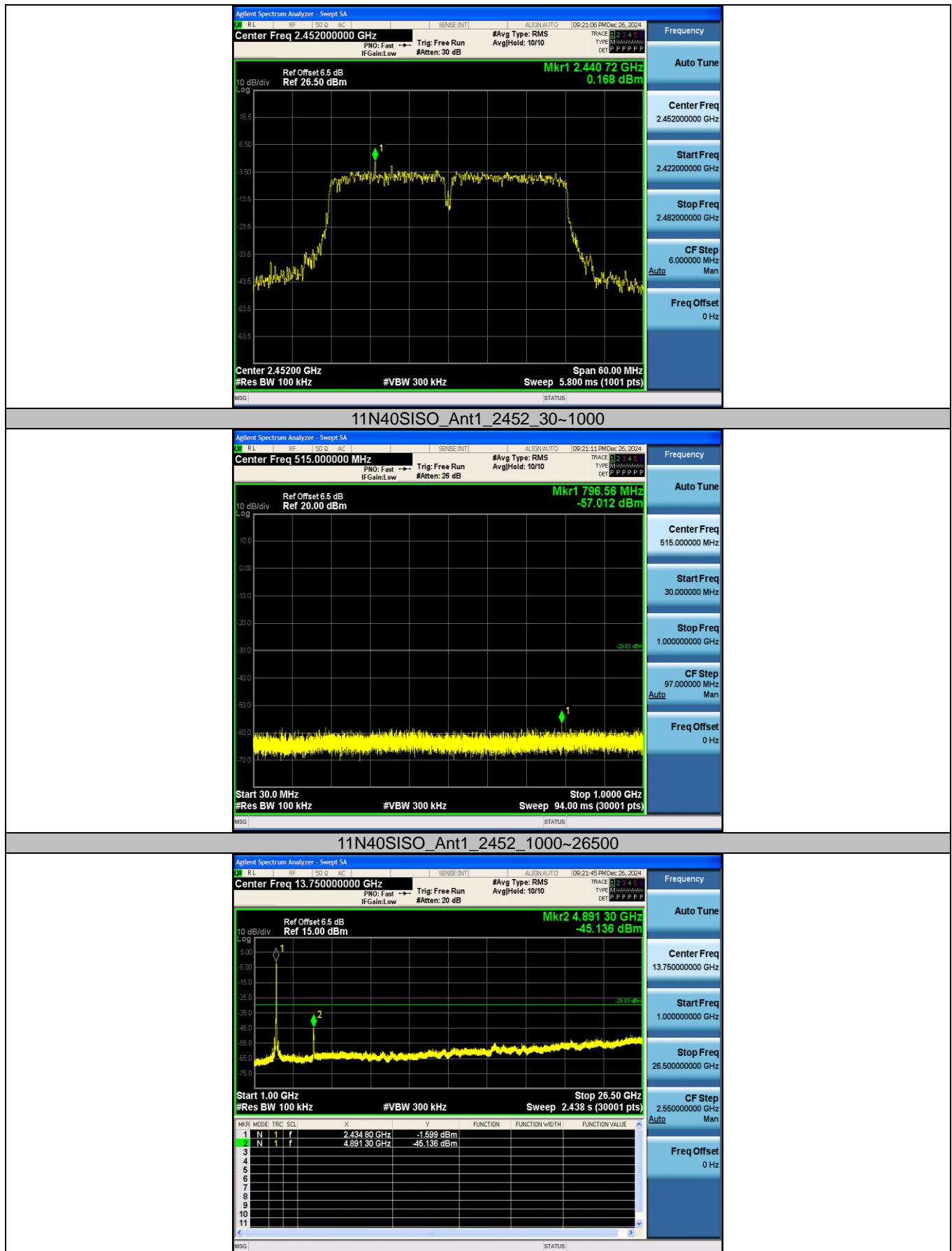
11N40SISO\_Ant1\_2452\_0~Reference

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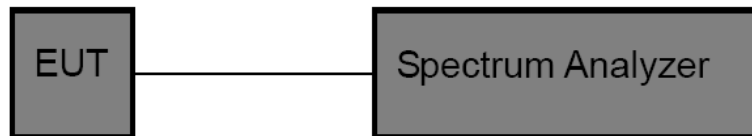
### 3.5. DTS Bandwidth

#### Limit

#### FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(2)

| Test Item     | Limit                             | Frequency Range (MHz) |
|---------------|-----------------------------------|-----------------------|
| DTS Bandwidth | $\geq 500$ kHz<br>(6dB bandwidth) | 2400~2483.5           |

#### Test Configuration



#### Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. DTS Spectrum Setting:
  - (1) Set RBW = 100 kHz.
  - (2) Set the video bandwidth (VBW)  $\geq 3$  RBW.
  - (3) Detector = Peak.
  - (4) Trace mode = Max hold.
  - (5) Sweep = Auto couple.OCB Spectrum Setting:
  - (1) Set RBW = 1% ~ 5% occupied bandwidth.
  - (2) Set the video bandwidth (VBW)  $\geq 3$  RBW.
  - (3) Detector = Peak.
  - (4) Trace mode = Max hold.
  - (5) Sweep = Auto couple.

NOTE: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

#### Test Mode

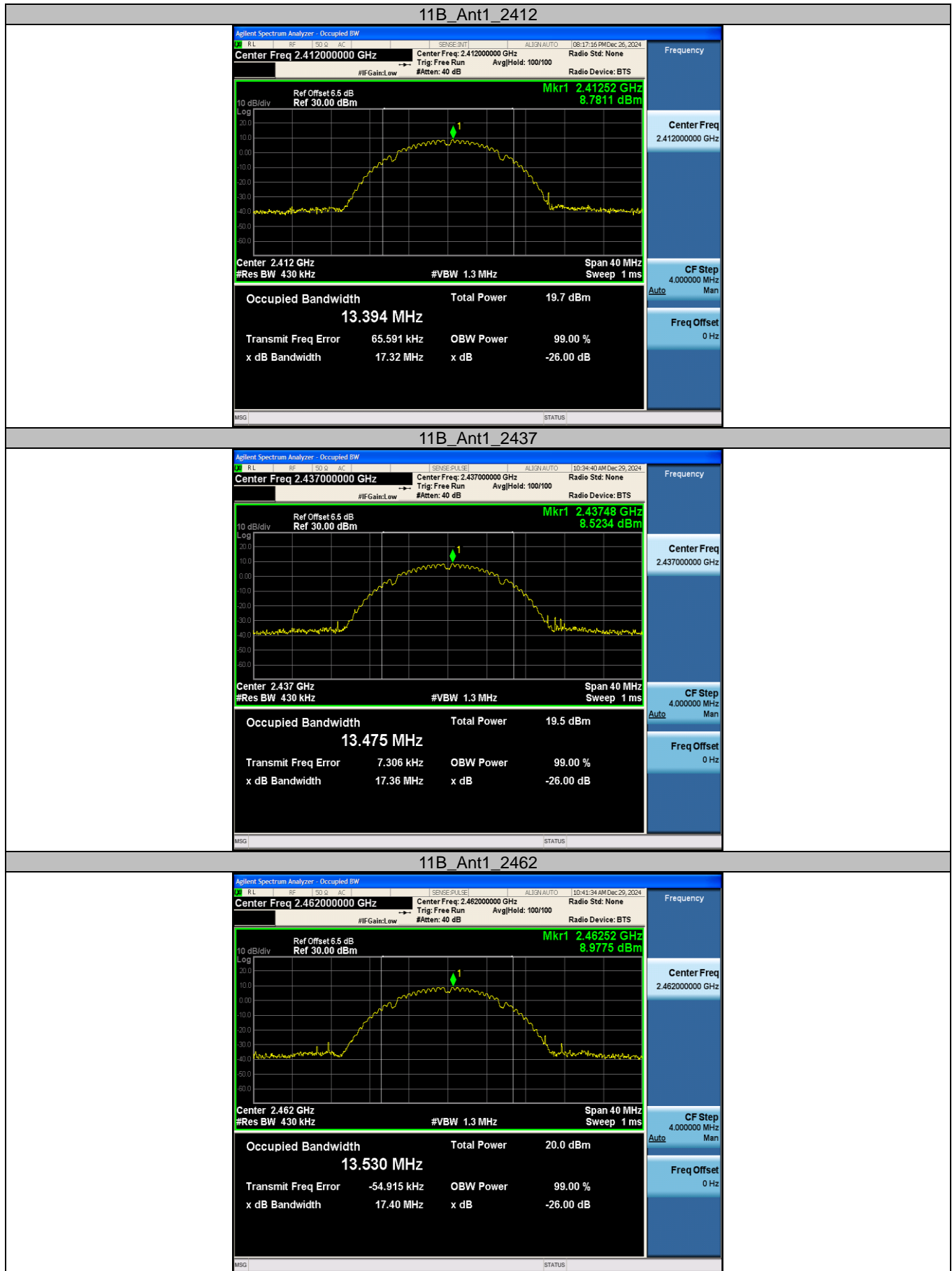
Please refer to the clause 2.4.

**Test Result**

| Test Mode     | Frequency (MHz) | 99% Bandwidth (MHz) | DTS Bandwidth (MHz) | Limit (MHz) | Verdict |
|---------------|-----------------|---------------------|---------------------|-------------|---------|
| 802.11b       | 2412            | 13.394              | 8.120               | ≥0.5        | Pass    |
|               | 2437            | 13.475              | 8.040               | ≥0.5        | Pass    |
|               | 2462            | 13.530              | 9.040               | ≥0.5        | Pass    |
| 802.11g       | 2412            | 17.090              | 16.360              | ≥0.5        | Pass    |
|               | 2437            | 17.139              | 16.320              | ≥0.5        | Pass    |
|               | 2462            | 17.111              | 16.360              | ≥0.5        | Pass    |
| 802.11n(HT20) | 2412            | 18.078              | 17.560              | ≥0.5        | Pass    |
|               | 2437            | 18.109              | 17.520              | ≥0.5        | Pass    |
|               | 2462            | 18.168              | 17.280              | ≥0.5        | Pass    |
| 802.11n(HT40) | 2422            | 36.359              | 35.440              | ≥0.5        | Pass    |
|               | 2437            | 36.279              | 35.680              | ≥0.5        | Pass    |
|               | 2452            | 36.260              | 35.200              | ≥0.5        | Pass    |



99% Bandwidth:



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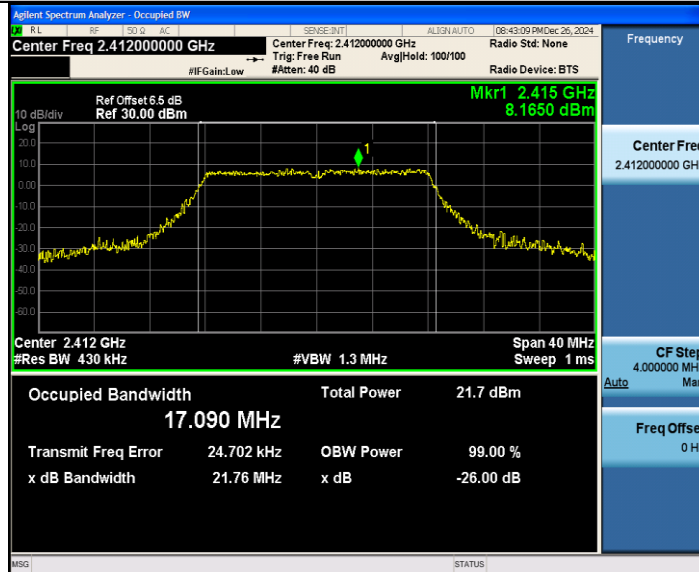
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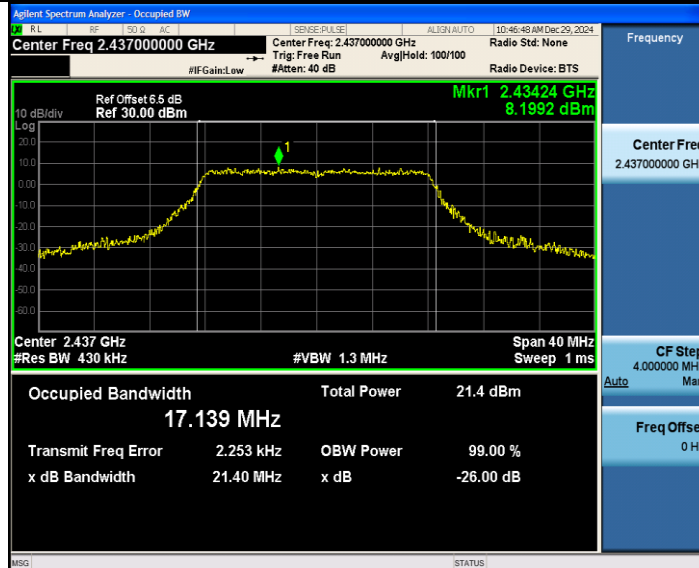
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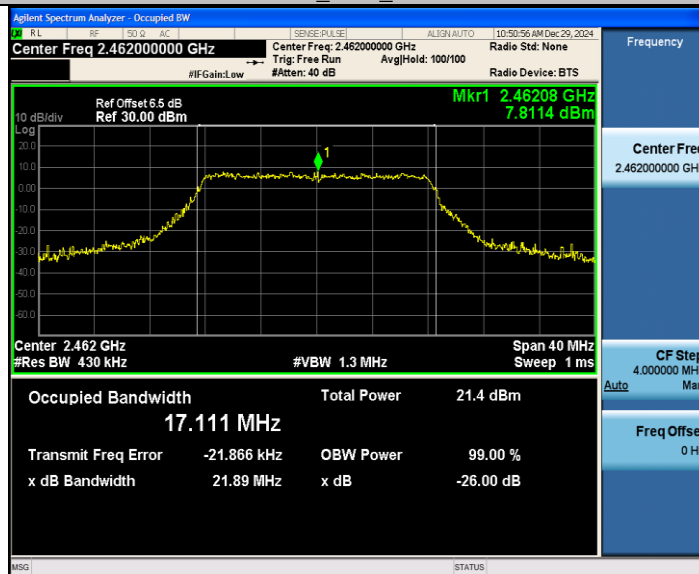
## 11G\_Ant1\_2412



## 11G\_Ant1\_2437



## 11G\_Ant1\_2462



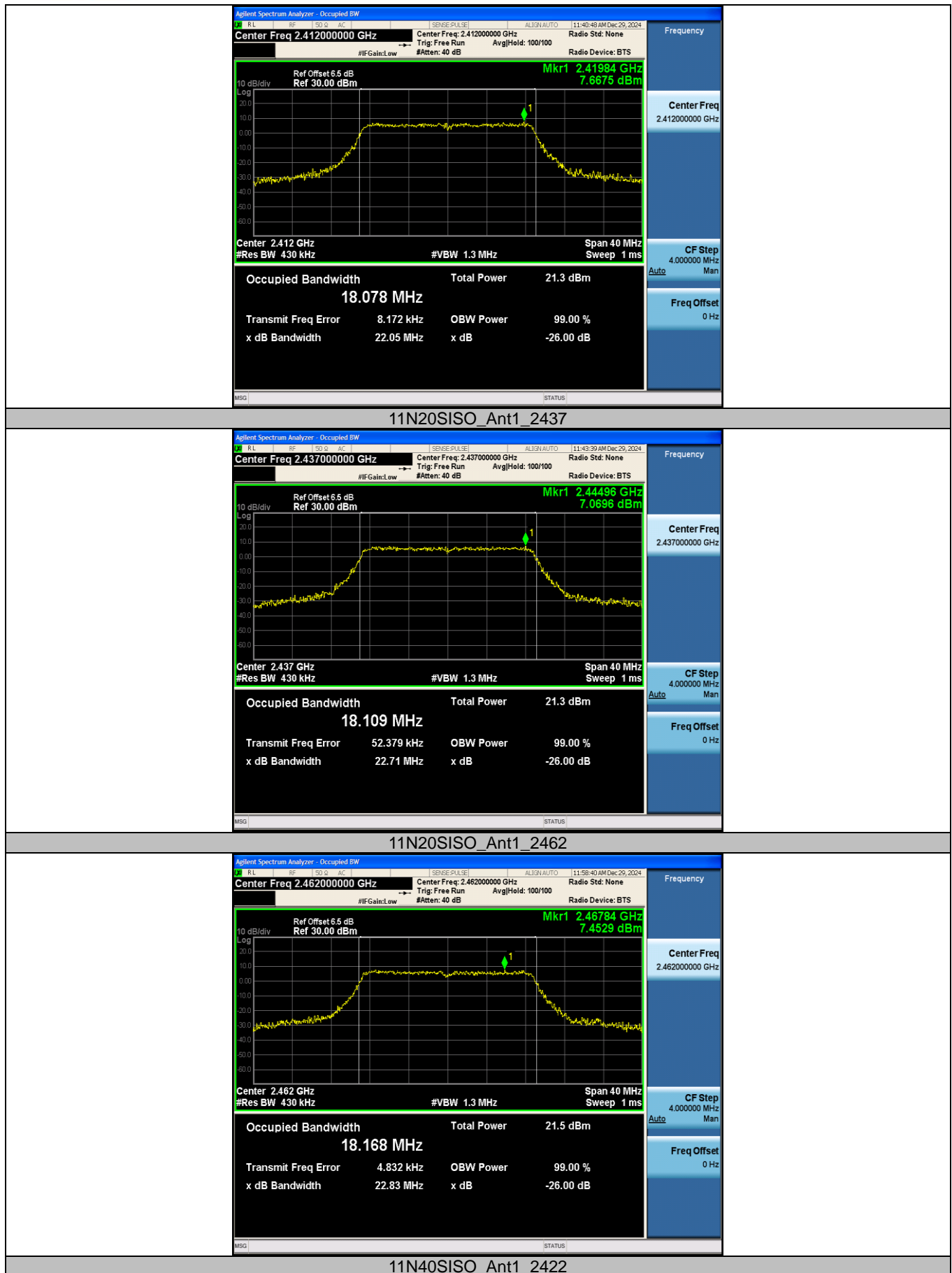
## 11N20SISO\_Ant1\_2412

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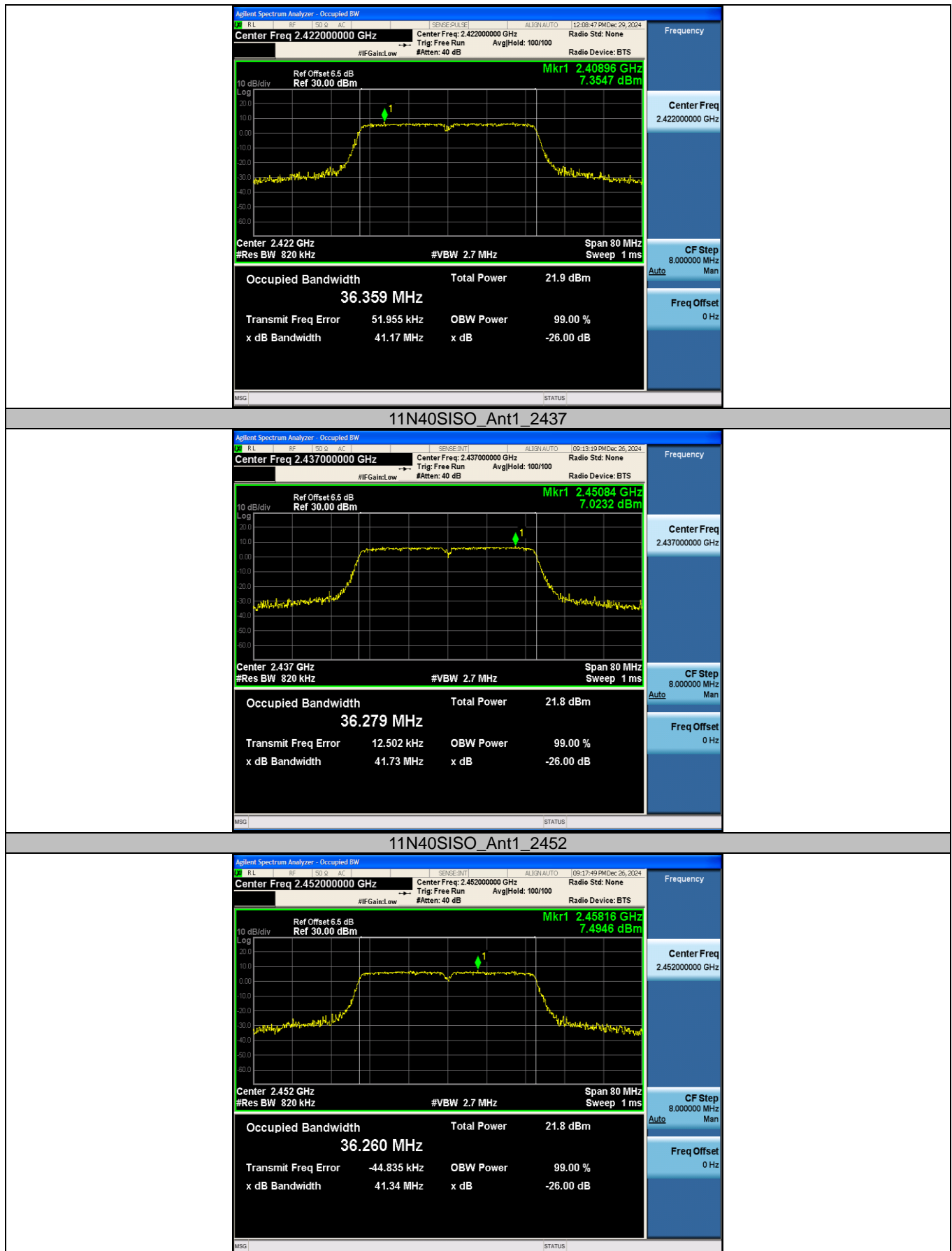
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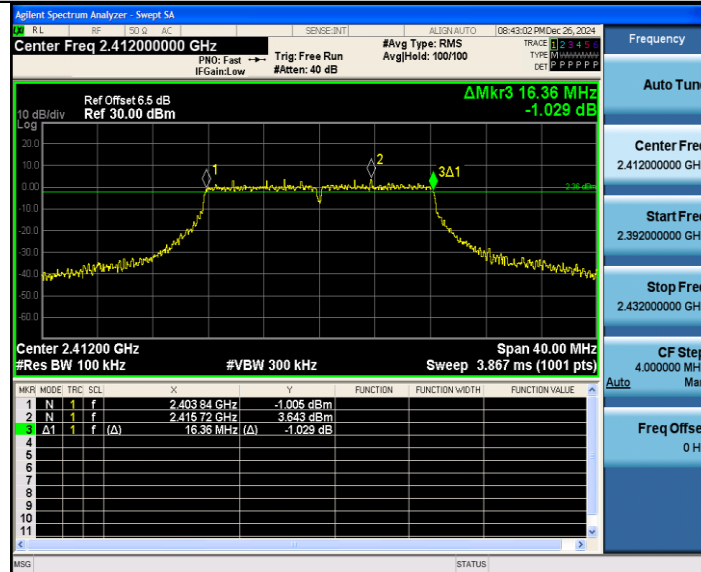
For anti-fake verification, please visit the official website of China Inspection And Testing Society : [yz.cnca.cn](http://yz.cnca.cn)



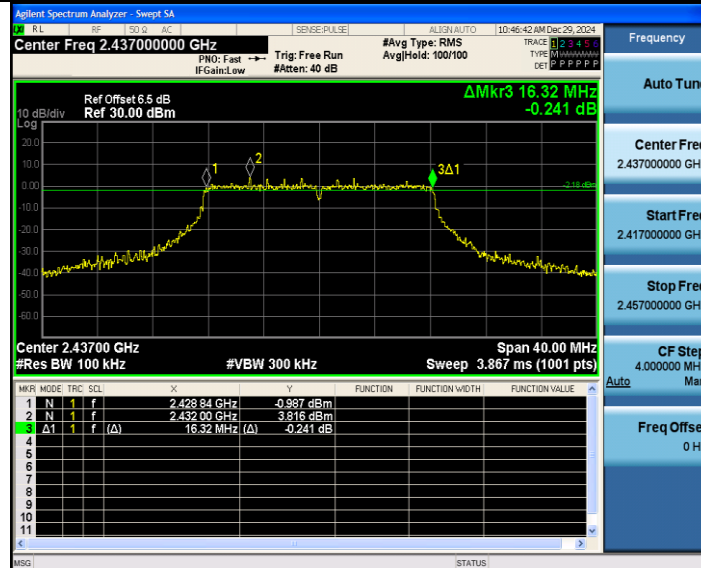




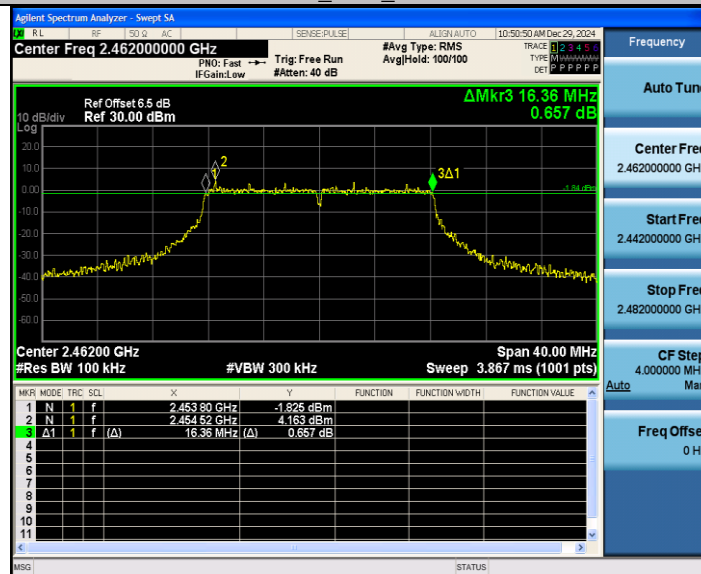
## 11G\_Ant1\_2412



## 11G\_Ant1\_2437



## 11G\_Ant1\_2462



## 11N20SISO\_Ant1\_2412

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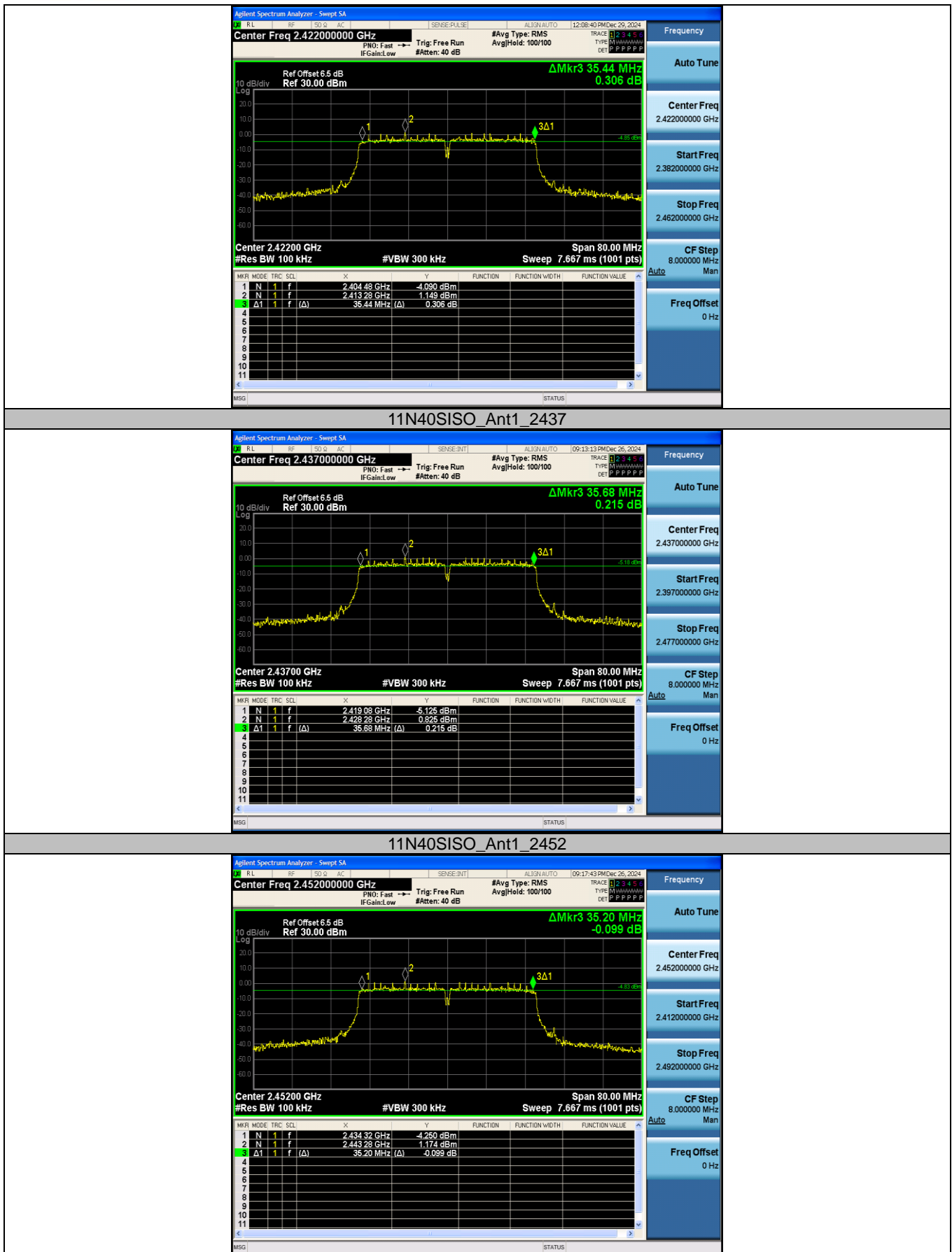


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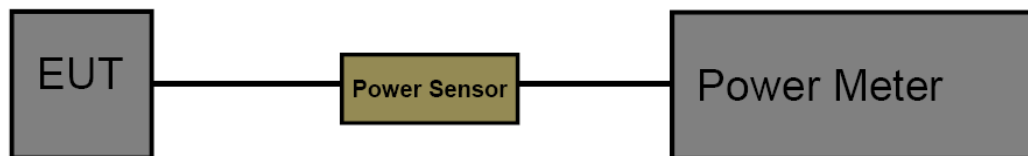
### 3.6. Maximum Conducted Output Power

#### Limit

#### FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3)

| Section                         | Test Item                         | Limit           | Frequency Range (MHz) |
|---------------------------------|-----------------------------------|-----------------|-----------------------|
| FCC CFR 47<br>Part15.247 (b)(3) | Maximum Conducted<br>Output Power | 1 Watt or 30dBm | 2400~2483.5           |

#### Test Configuration



#### Test Procedure

1. The maximum conducted output power may be measured using a broadband RF power meter.
2. Power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor.
3. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.
4. Record the measurement data.

#### Test Mode

Please refer to the clause 2.4.

**Test Result**

| Test Mode     | Antenna | Frequency (MHz) | AV Power Result (dBm) | Limit (dBm) | Verdict |
|---------------|---------|-----------------|-----------------------|-------------|---------|
| 802.11b       | Ant1    | 2412            | 16.28                 | ≤30         | Pass    |
|               | Ant1    | 2437            | 16.49                 | ≤30         | Pass    |
|               | Ant1    | 2462            | 16.87                 | ≤30         | Pass    |
| 802.11g       | Ant1    | 2412            | 15.24                 | ≤30         | Pass    |
|               | Ant1    | 2437            | 15.47                 | ≤30         | Pass    |
|               | Ant1    | 2462            | 15.50                 | ≤30         | Pass    |
| 802.11n(HT20) | Ant1    | 2412            | 15.45                 | ≤30         | Pass    |
|               | Ant1    | 2437            | 15.22                 | ≤30         | Pass    |
|               | Ant1    | 2462            | 15.52                 | ≤30         | Pass    |
| 802.11n(HT40) | Ant1    | 2422            | 15.16                 | ≤30         | Pass    |
|               | Ant1    | 2437            | 15.26                 | ≤30         | Pass    |
|               | Ant1    | 2452            | 15.14                 | ≤30         | Pass    |

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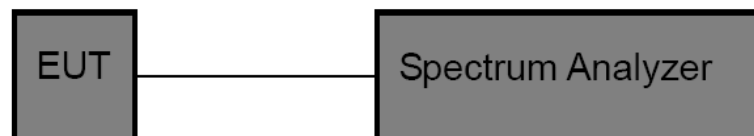
### 3.7. Power Spectral Density

#### Limit

#### FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e)

| Test Item              | Limit                | Frequency Range (MHz) |
|------------------------|----------------------|-----------------------|
| Power Spectral Density | 8 dBm (in any 3 kHz) | 2400~2483.5           |

#### Test Configuration



#### Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:
  - Set analyzer center frequency to DTS channel center frequency.
  - Set span to at least 1.5 times the OBW.
  - Set RBW to:  $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$ .
  - Set VBW  $\geq [3 \times \text{RBW}]$ .
  - Detector = power averaging (rms) or sample detector (when rms not available).
  - Ensure that the number of measurement points in the sweep  $\geq [2 \times \text{span} / \text{RBW}]$ .
  - Sweep time = auto couple.
  - Employ trace averaging (rms) mode over a minimum of 100 traces.
  - Use the peak marker function to determine the maximum amplitude level.
  - If the measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).

#### Test Mode

Please refer to the clause 2.4.



**Test Result**

| Test Mode     | Antenna | Frequency (MHz) | Power Spectral Density (dBm/3-100kHz) | Limit (dBm/3kHz) | Verdict |
|---------------|---------|-----------------|---------------------------------------|------------------|---------|
| 802.11b       | Ant1    | 2412            | -9.80                                 | ≤8               | Pass    |
|               |         | 2437            | -9.42                                 | ≤8               | Pass    |
|               |         | 2462            | -8.90                                 | ≤8               | Pass    |
| 802.11g       | Ant1    | 2412            | -12.80                                | ≤8               | Pass    |
|               |         | 2437            | -12.47                                | ≤8               | Pass    |
|               |         | 2462            | -12.65                                | ≤8               | Pass    |
| 802.11n(HT20) | Ant1    | 2412            | -12.15                                | ≤8               | Pass    |
|               |         | 2437            | -12.62                                | ≤8               | Pass    |
|               |         | 2462            | -11.92                                | ≤8               | Pass    |
| 802.11n(HT40) | Ant1    | 2412            | -12.35                                | ≤8               | Pass    |
|               |         | 2437            | -12.22                                | ≤8               | Pass    |
|               |         | 2462            | -12.63                                | ≤8               | Pass    |

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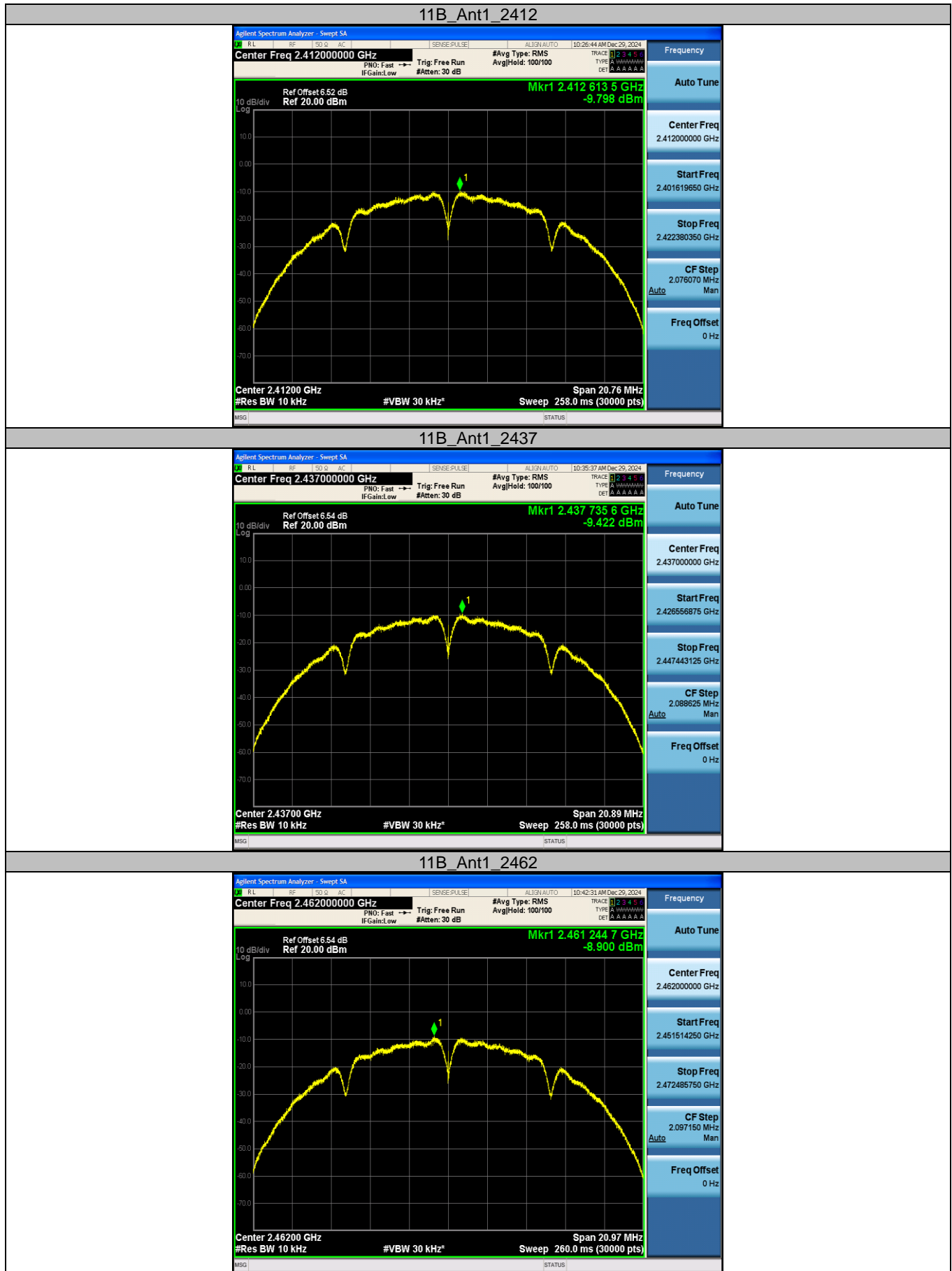
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Test plot as follows:



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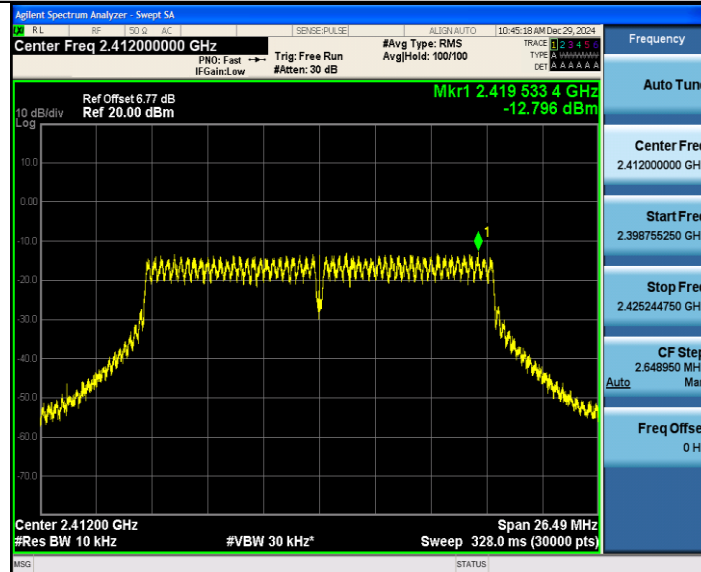
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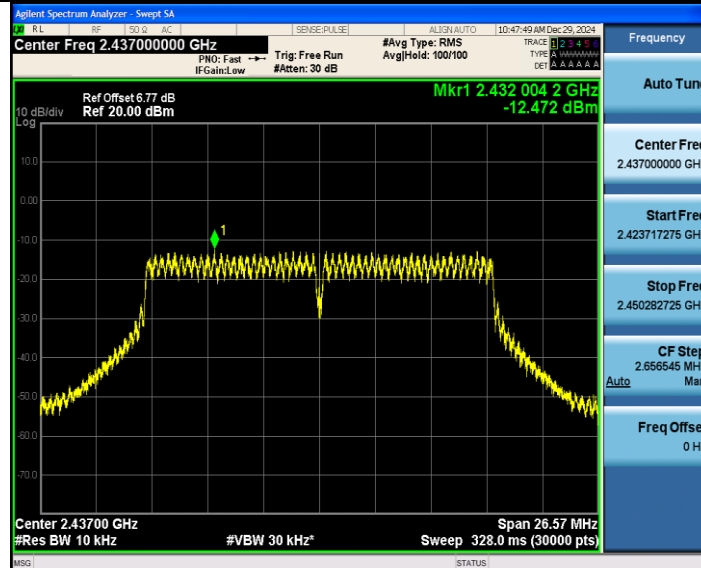
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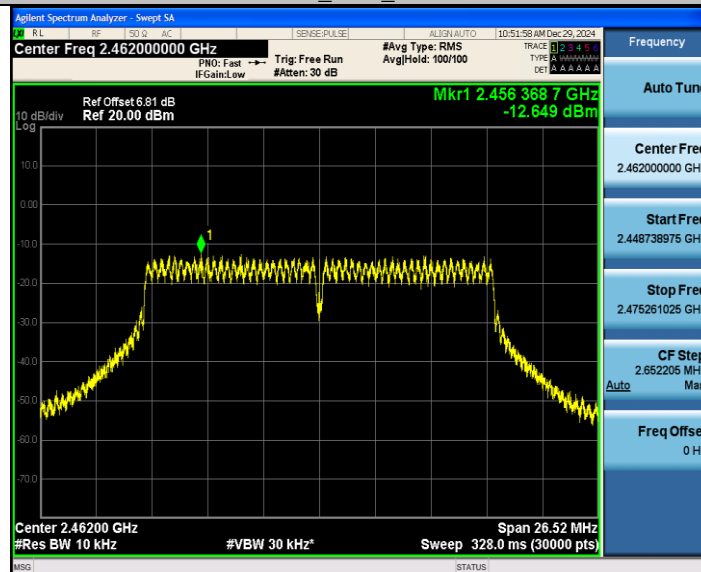
## 11G\_Ant1\_2412



## 11G\_Ant1\_2437



## 11G\_Ant1\_2462



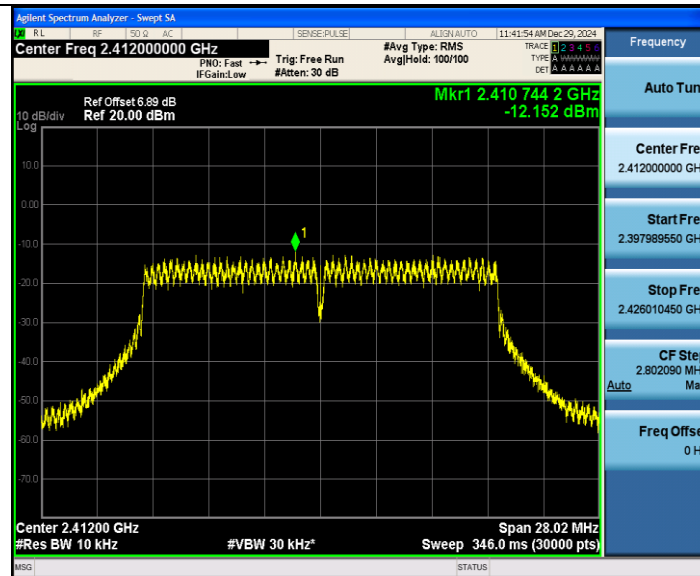
## 11N20SISO\_Ant1\_2412

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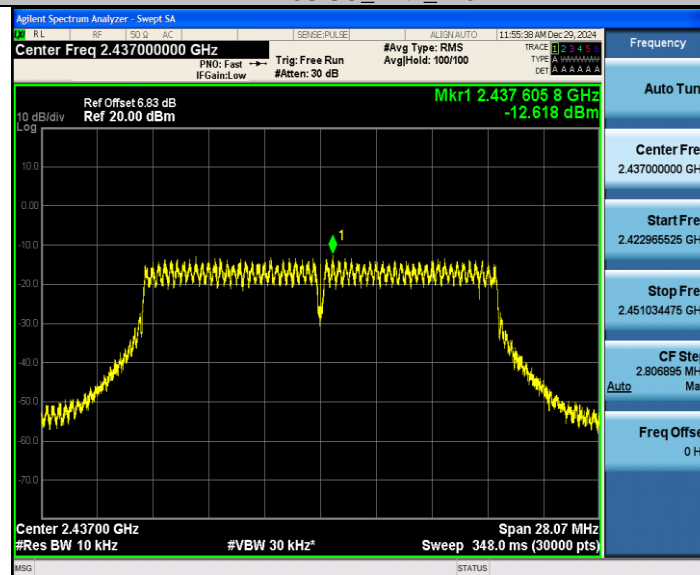
Room 101 Building B, No. 7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China  
Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-057\_A1

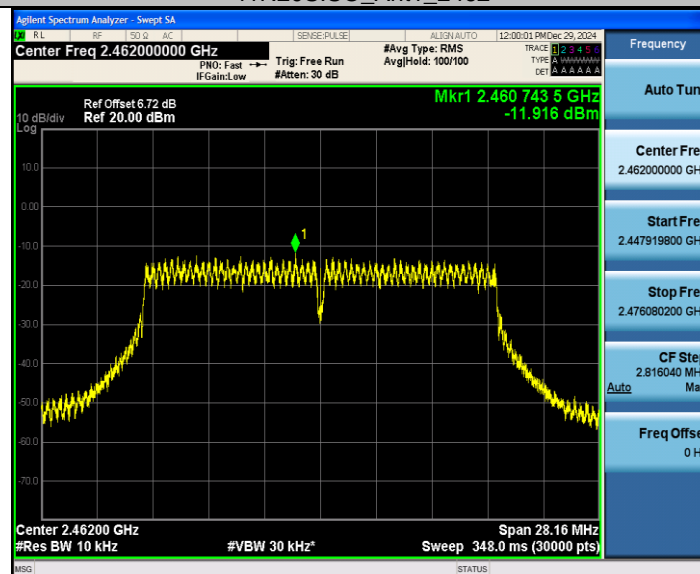
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11N20SISO\_Ant1\_2437



11N20SISO\_Ant1\_2462



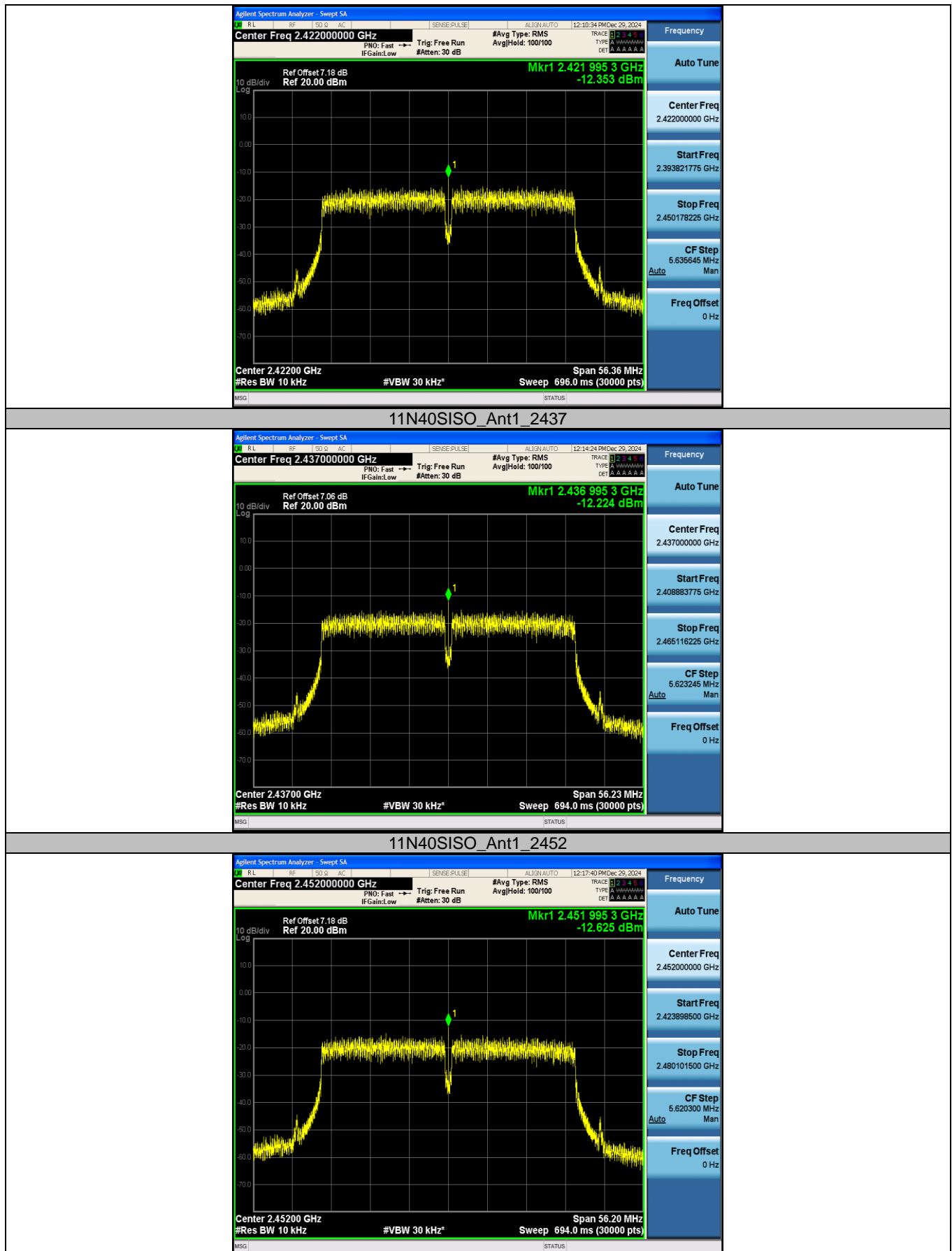
11N40SISO\_Ant1\_2422

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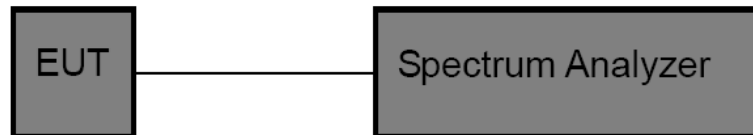


### 3.8. Duty Cycle

#### Limit

None, for report purposes only.

#### Test Configuration



#### Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:  
Set analyzer center frequency to test channel center frequency.  
Set the span to 0Hz.  
Set the RBW to 8MHz.  
Set the VBW to 8MHz.  
Detector: Peak.  
Sweep time: Auto.  
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

#### Test Mode

Please refer to the clause 2.4.

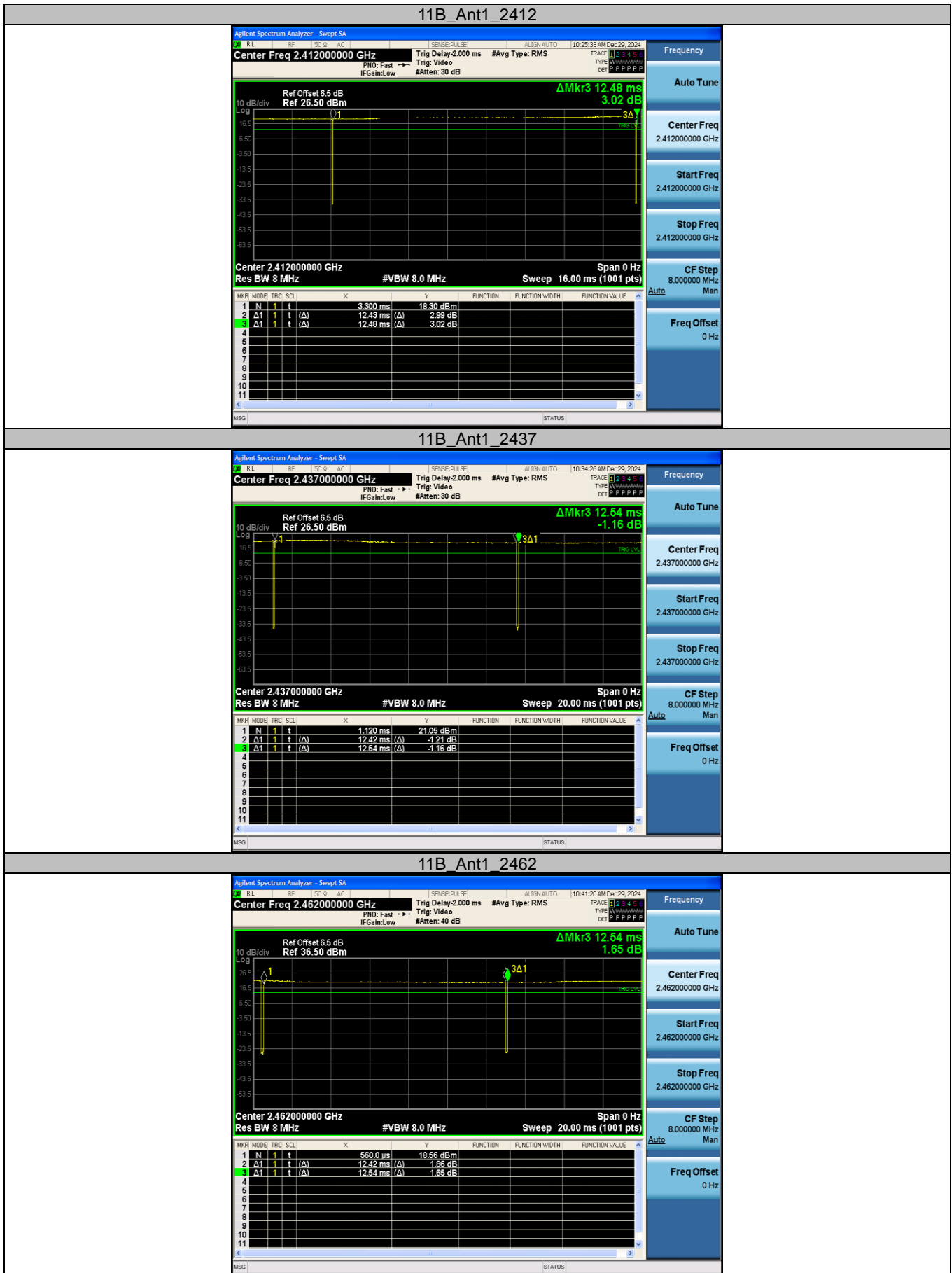
**Test Result**

| Test Mode | Antenna | Frequency (MHz) | Transmission Duration (ms) | Transmission Period (ms) | Duty Cycle (%) | 1/T Minimum VBW (kHz) | Final Setting for VBW (kHz) |
|-----------|---------|-----------------|----------------------------|--------------------------|----------------|-----------------------|-----------------------------|
| 11B       | Ant1    | 2412            | 12.43                      | 12.48                    | 99.60          | 0.08                  | 1                           |
|           |         | 2437            | 12.42                      | 12.54                    | 99.04          | 0.08                  | 1                           |
|           |         | 2462            | 12.42                      | 12.54                    | 99.04          | 0.08                  | 1                           |
| 11G       | Ant1    | 2412            | 2.06                       | 2.19                     | 94.06          | 0.49                  | 1                           |
|           |         | 2437            | 2.06                       | 2.19                     | 94.06          | 0.49                  | 1                           |
|           |         | 2462            | 2.06                       | 2.21                     | 93.21          | 0.48                  | 1                           |
| 11N20SISO | Ant1    | 2412            | 1.92                       | 2.10                     | 91.43          | 0.52                  | 1                           |
|           |         | 2437            | 1.92                       | 2.07                     | 92.75          | 0.52                  | 1                           |
|           |         | 2462            | 1.92                       | 2.02                     | 95.05          | 0.52                  | 1                           |
| 11N40SISO | Ant1    | 2422            | 0.94                       | 1.10                     | 85.45          | 1.06                  | 2                           |
|           |         | 2437            | 0.94                       | 1.07                     | 87.85          | 1.06                  | 2                           |
|           |         | 2452            | 0.95                       | 1.11                     | 85.59          | 1.06                  | 2                           |





Test plot as follows:



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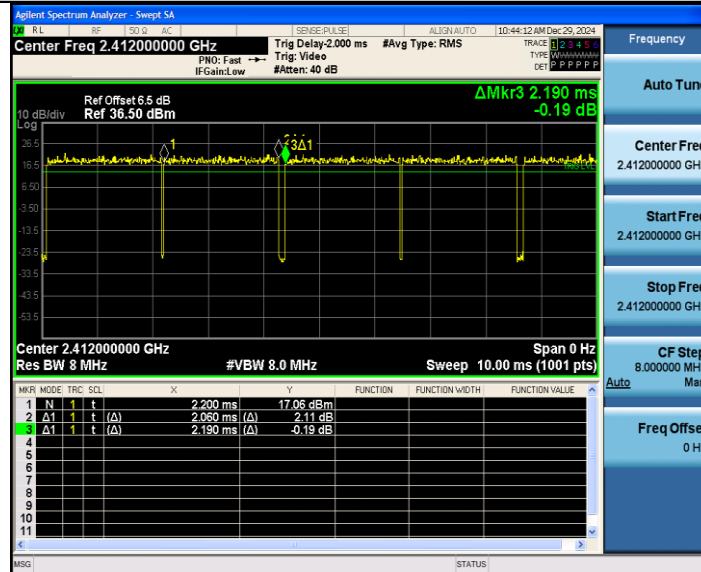
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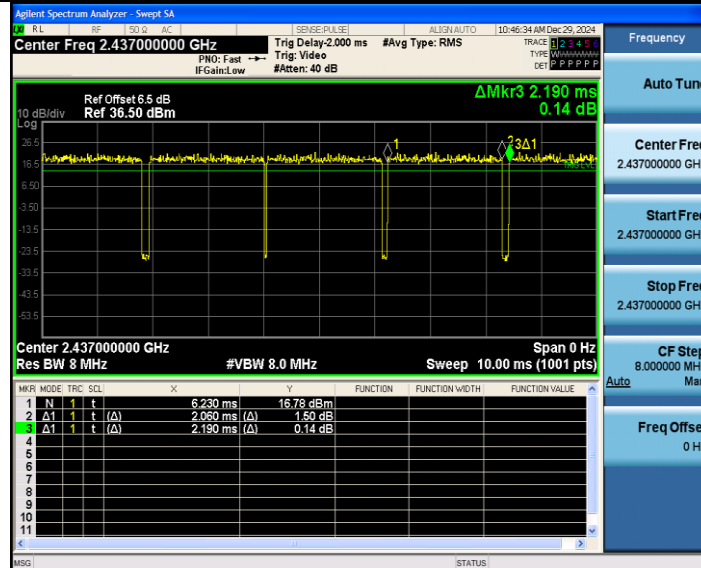
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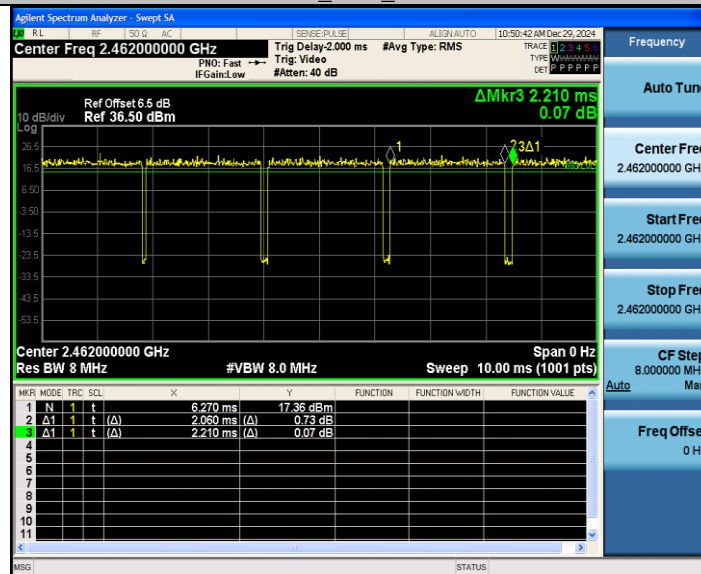
## 11G\_Ant1\_2412



## 11G\_Ant1\_2437



## 11G\_Ant1\_2462



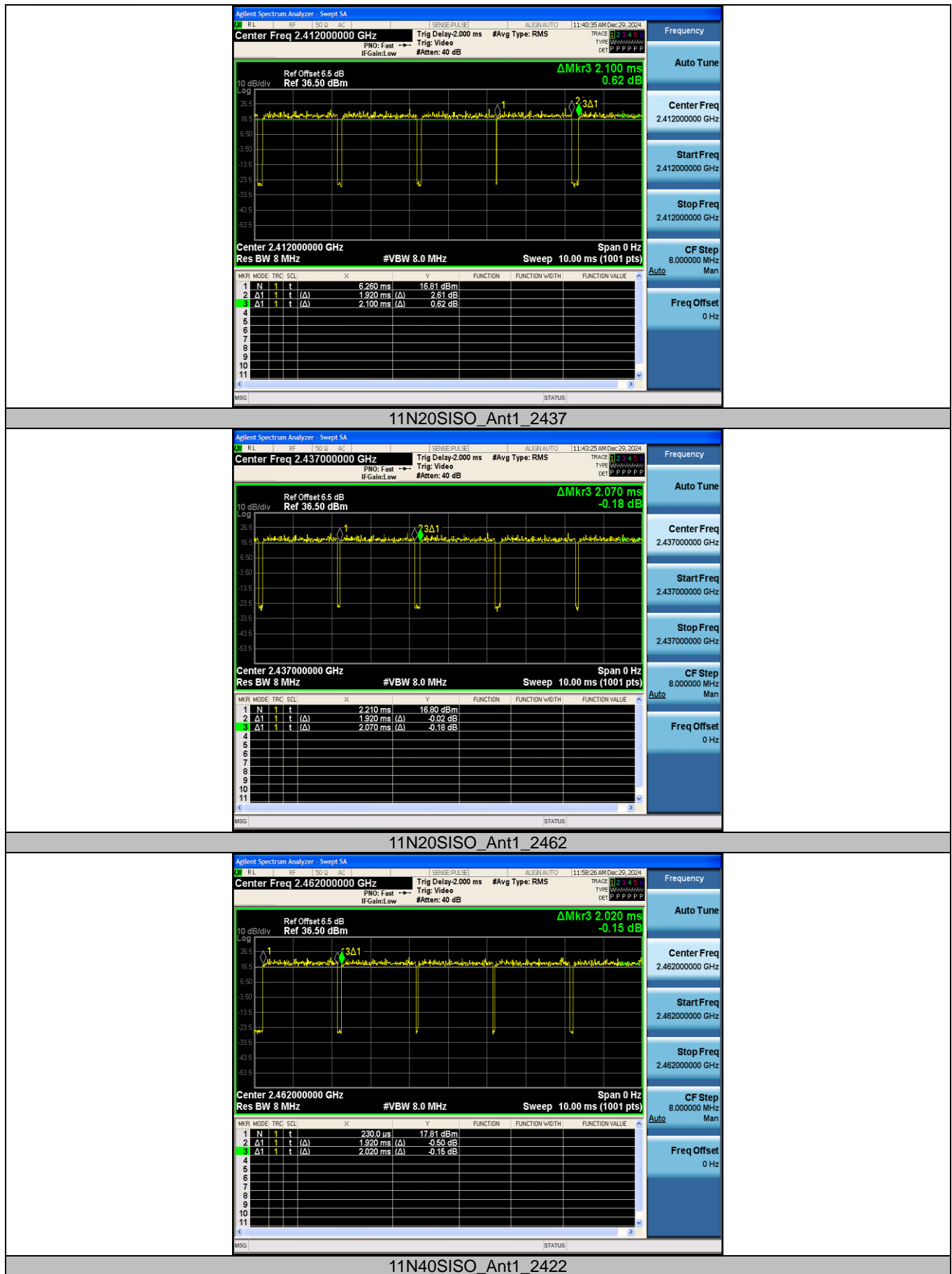
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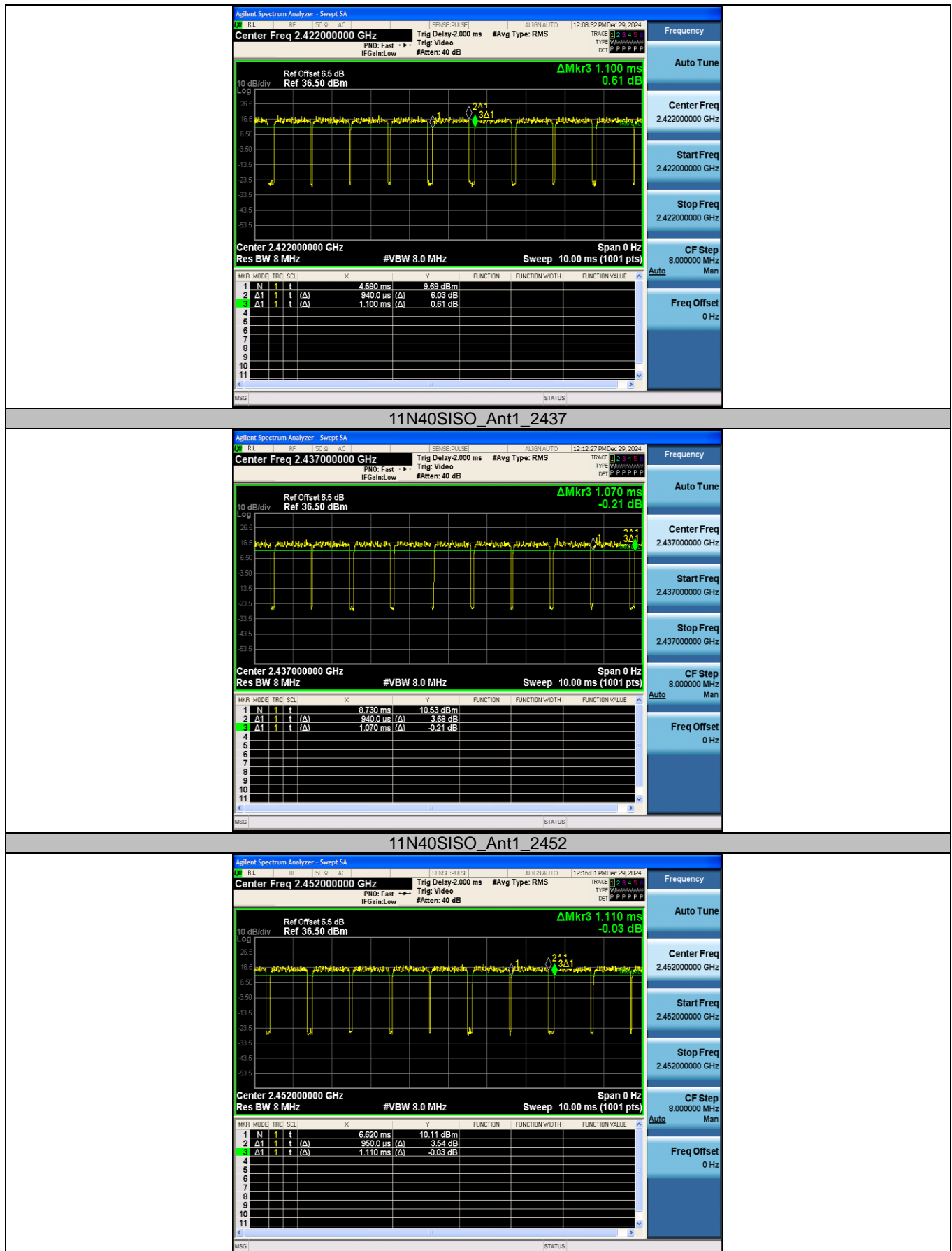


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### 3.9. Antenna Requirement

#### Requirement

##### **FCC CFR Title 47 Part 15 Subpart C Section 15.203**

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

##### **FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i)**

(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

#### Test Result

The directional gain of the antenna is less than 6dBi, please refer to the EUT internal photographs antenna photo.

\*\*\*\*\*THE END OF REPORT\*\*\*\*\*