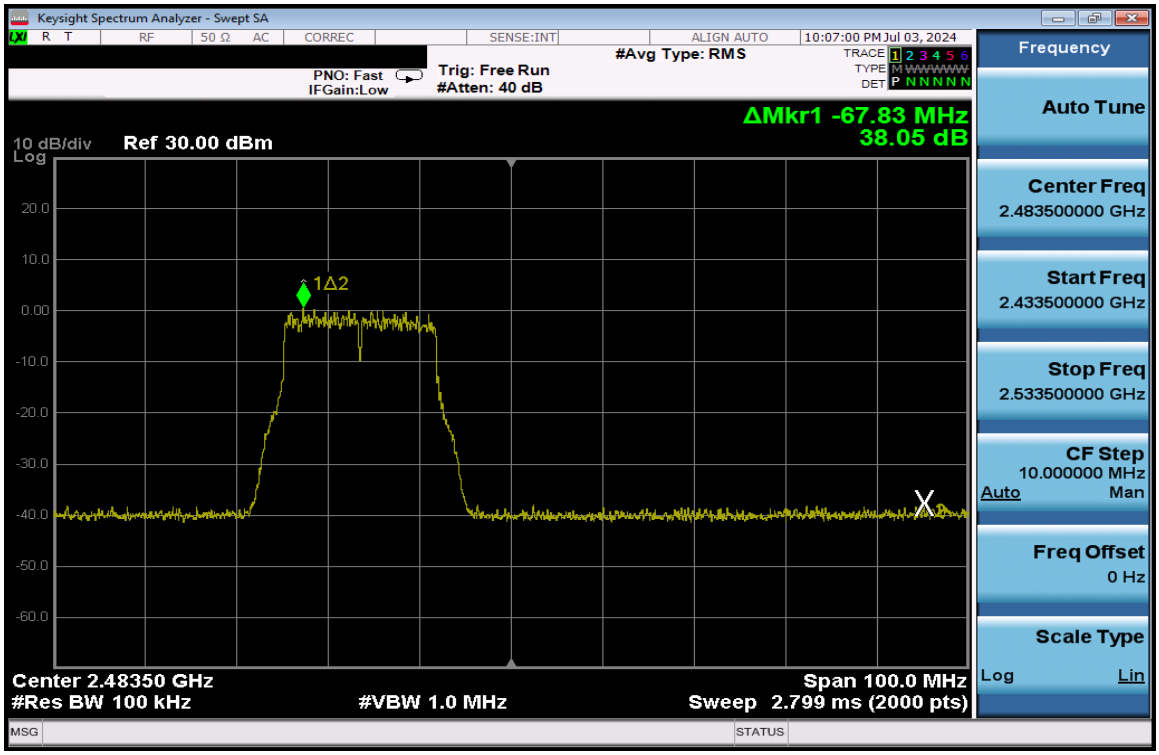
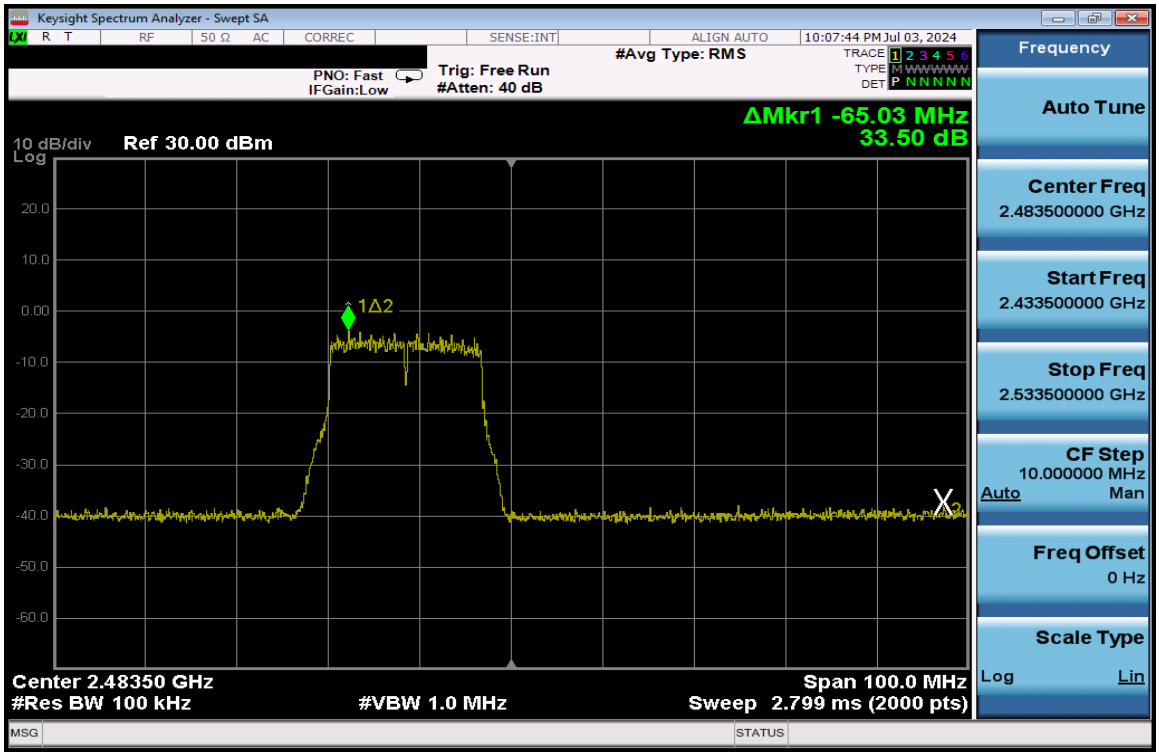



**Plot 7-400. Band Edge Plot Antenna 1a (802.11g – Ch. 12) – 54Mbps**




**Plot 7-401. Band Edge Plot Antenna 1a (802.11g – Ch. 13) – 54Mbps**

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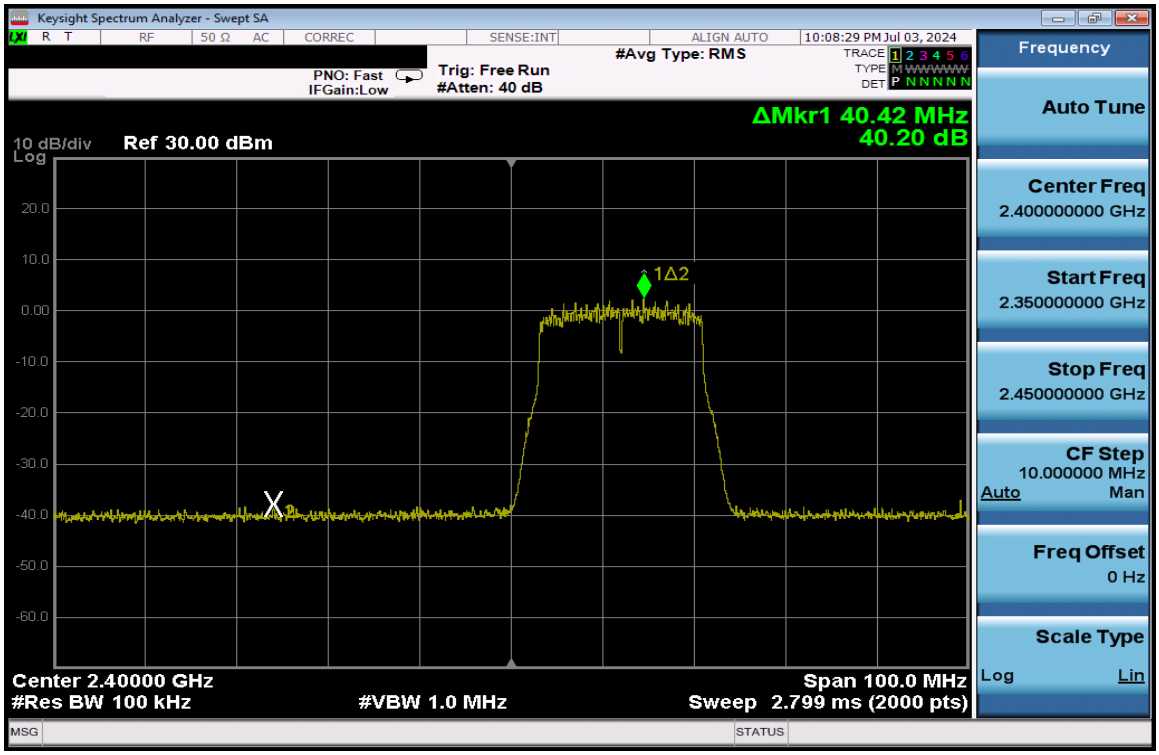
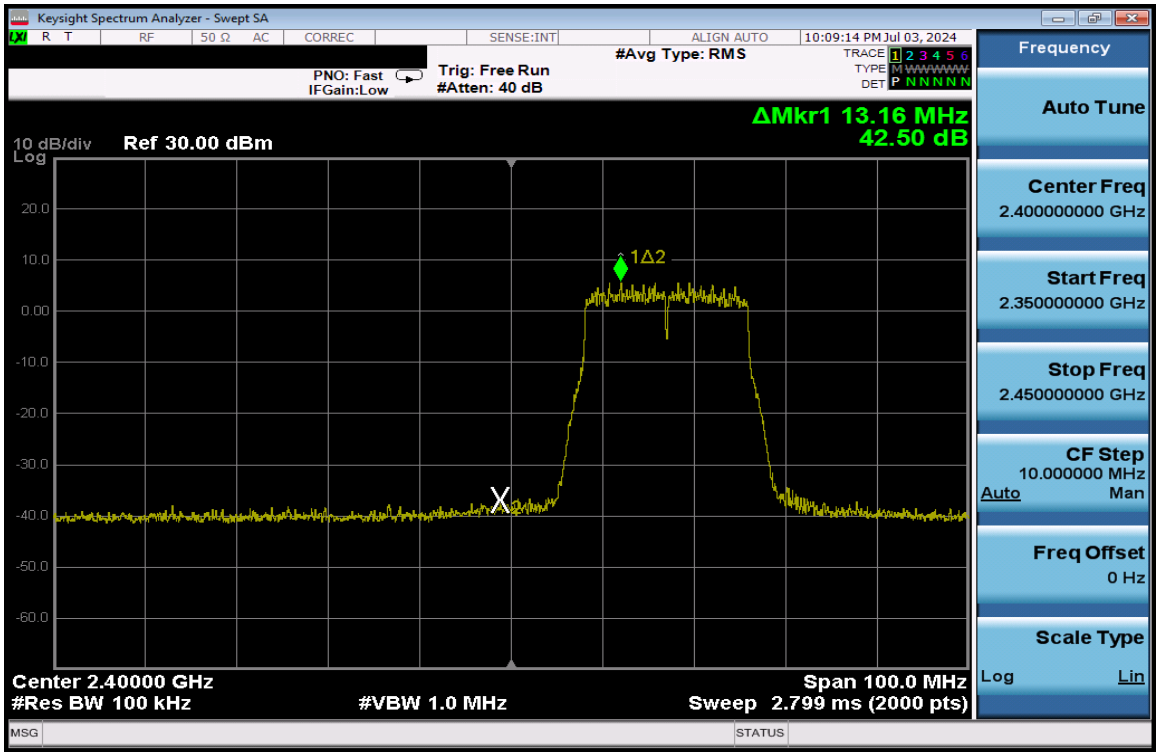



**Plot 7-402. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 1) – MCS7**




**Plot 7-403. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 2) – MCS7**

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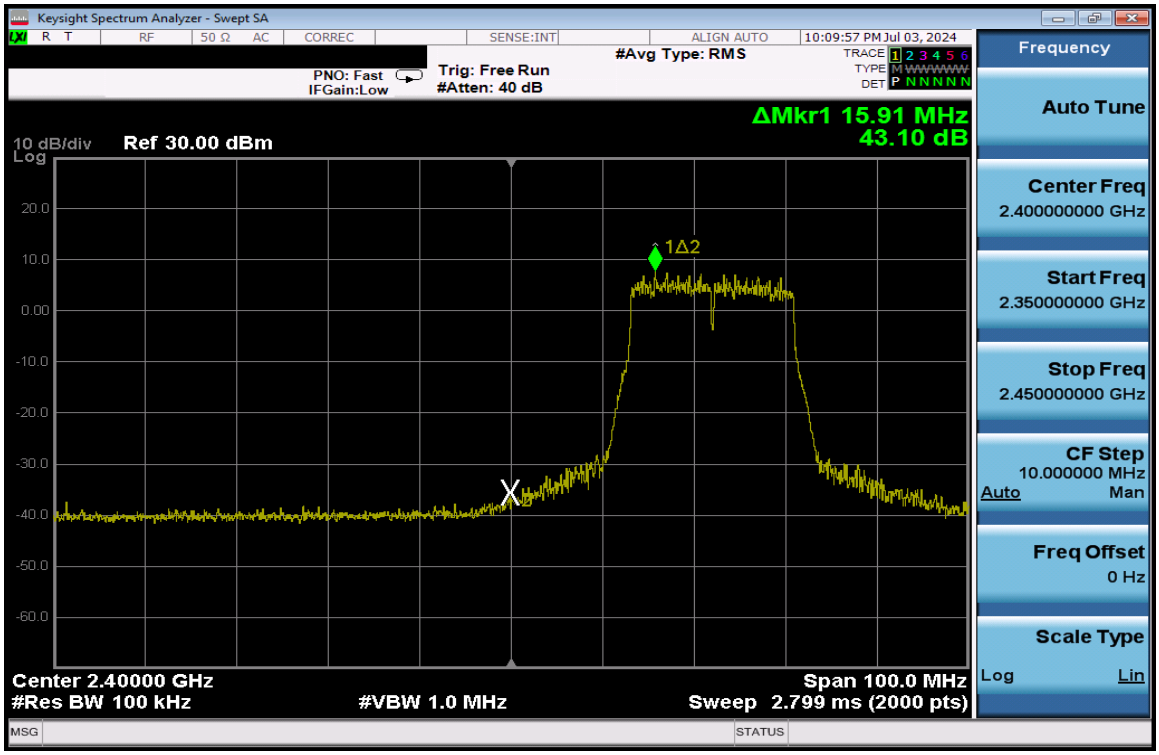
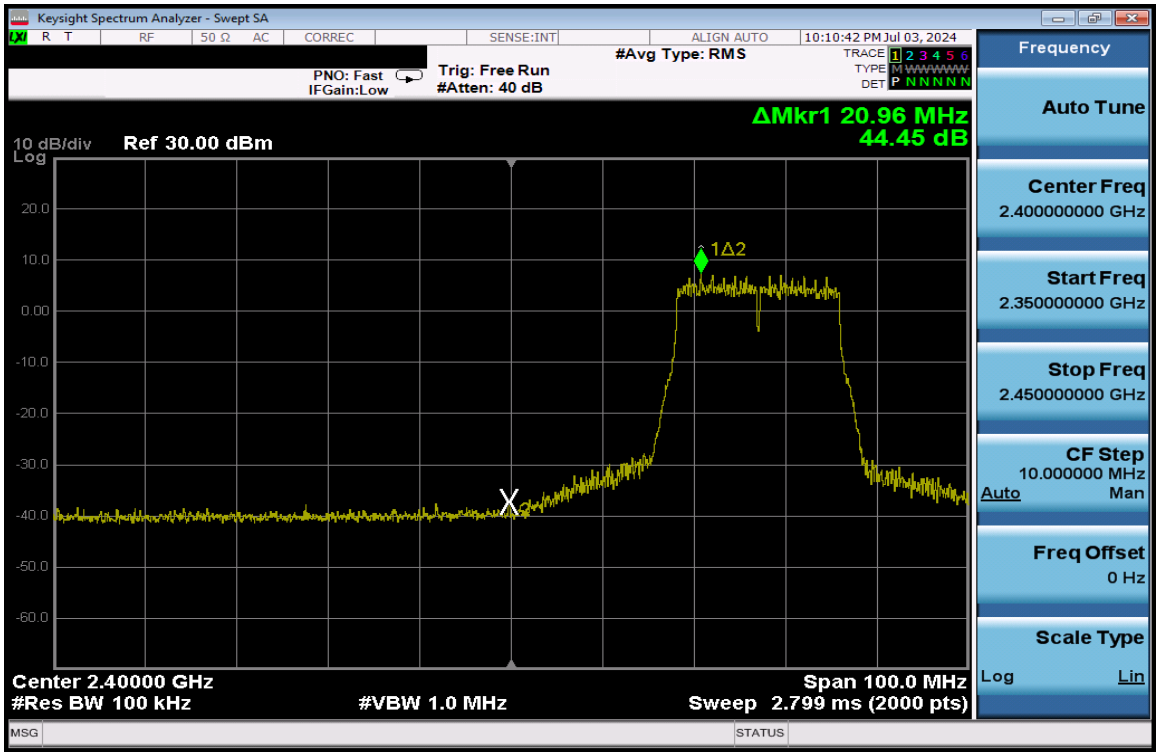



**Plot 7-404. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 3) – MCS7**




**Plot 7-405. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 4) – MCS7**

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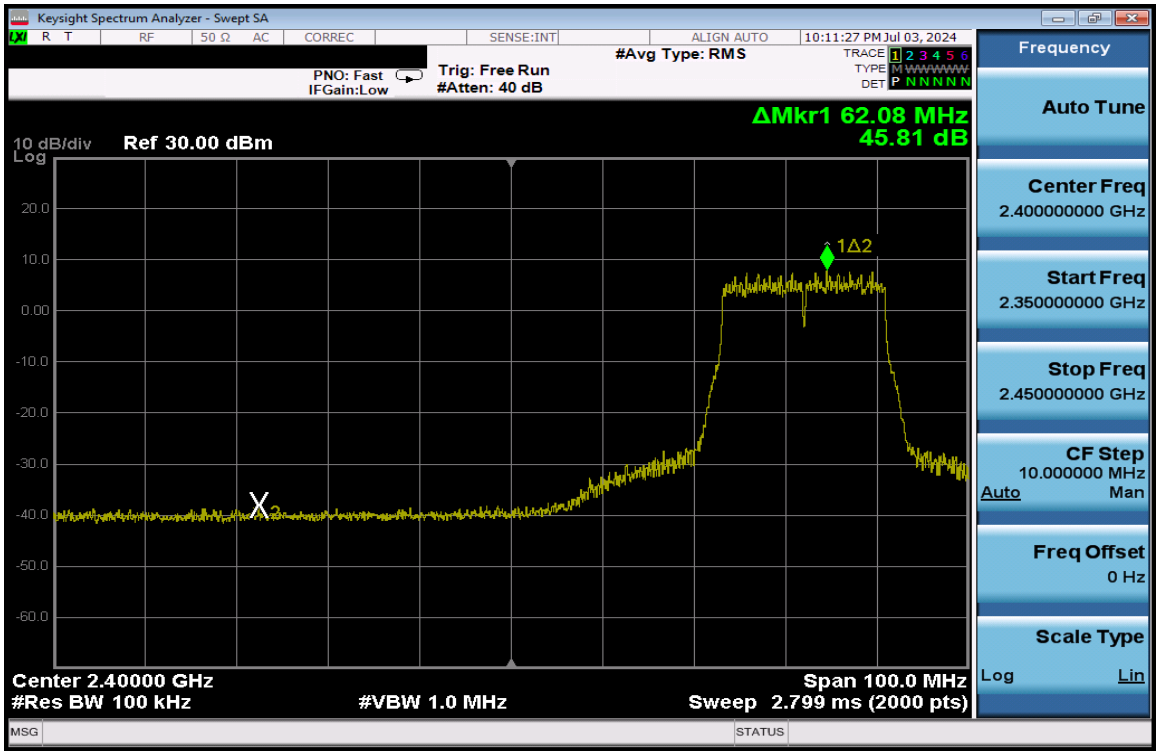
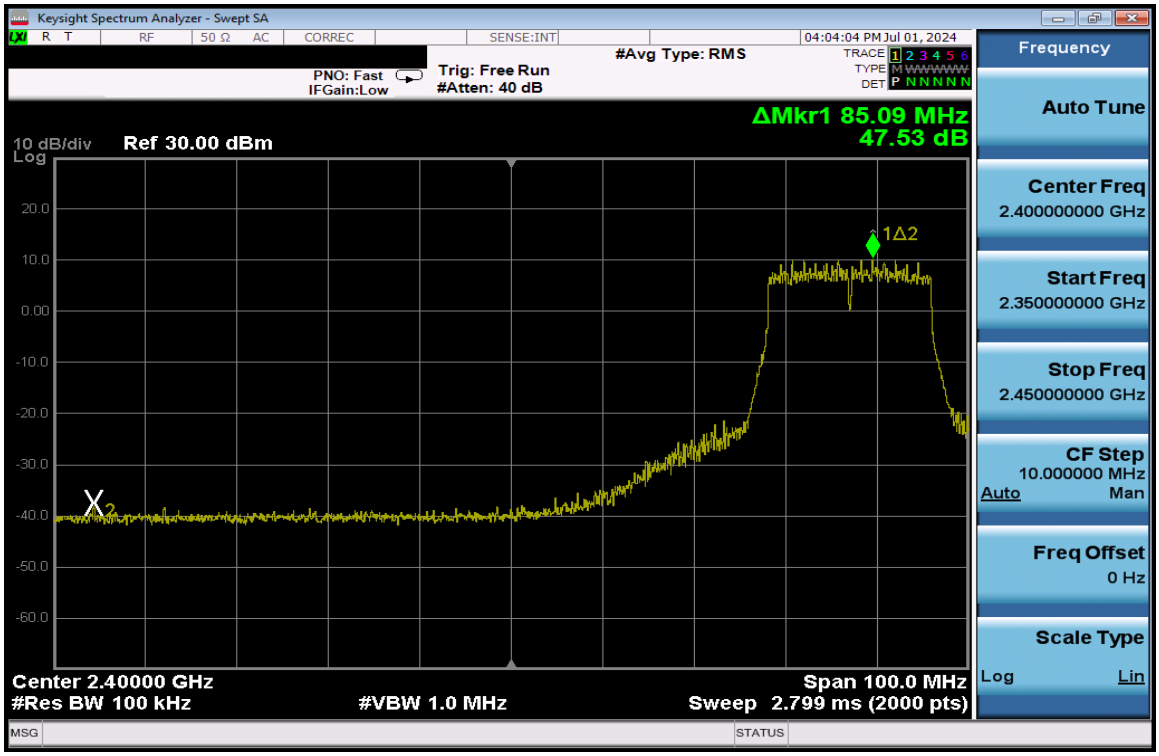



**Plot 7-406. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 5) – MCS7**




**Plot 7-407. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 6 Low) – MCS7**

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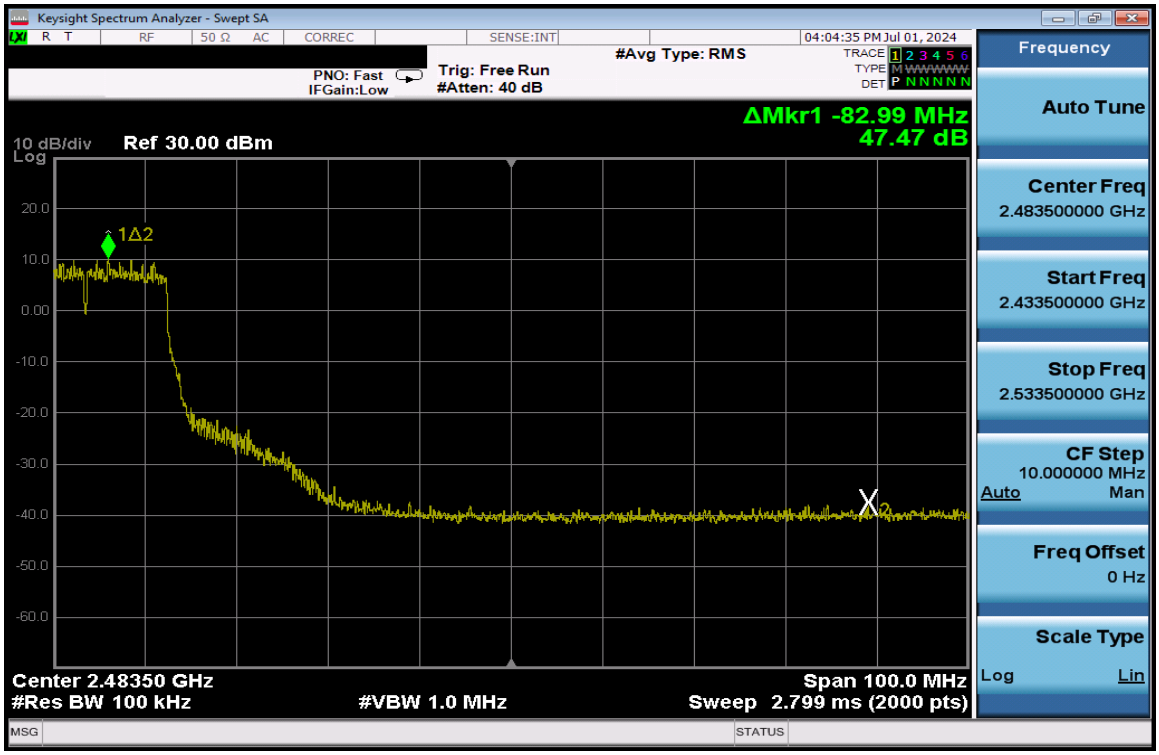
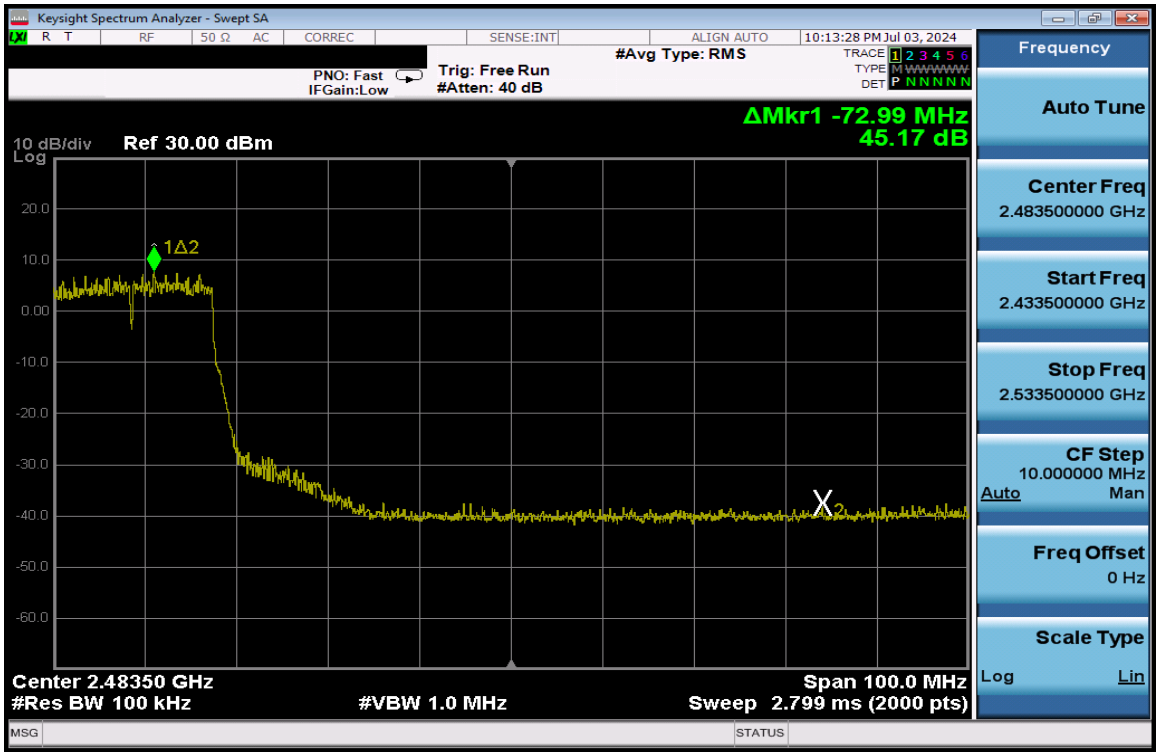



**Plot 7-408. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 6 High) – MCS7**




**Plot 7-409. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 7) – MCS7**

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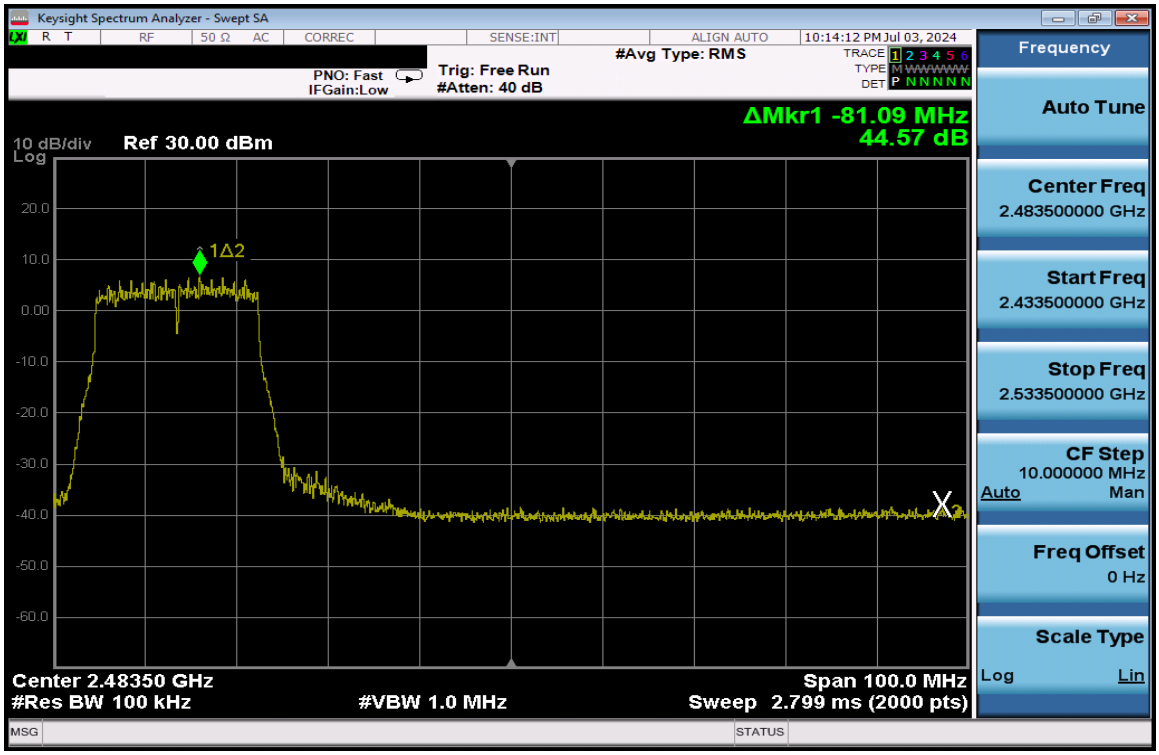
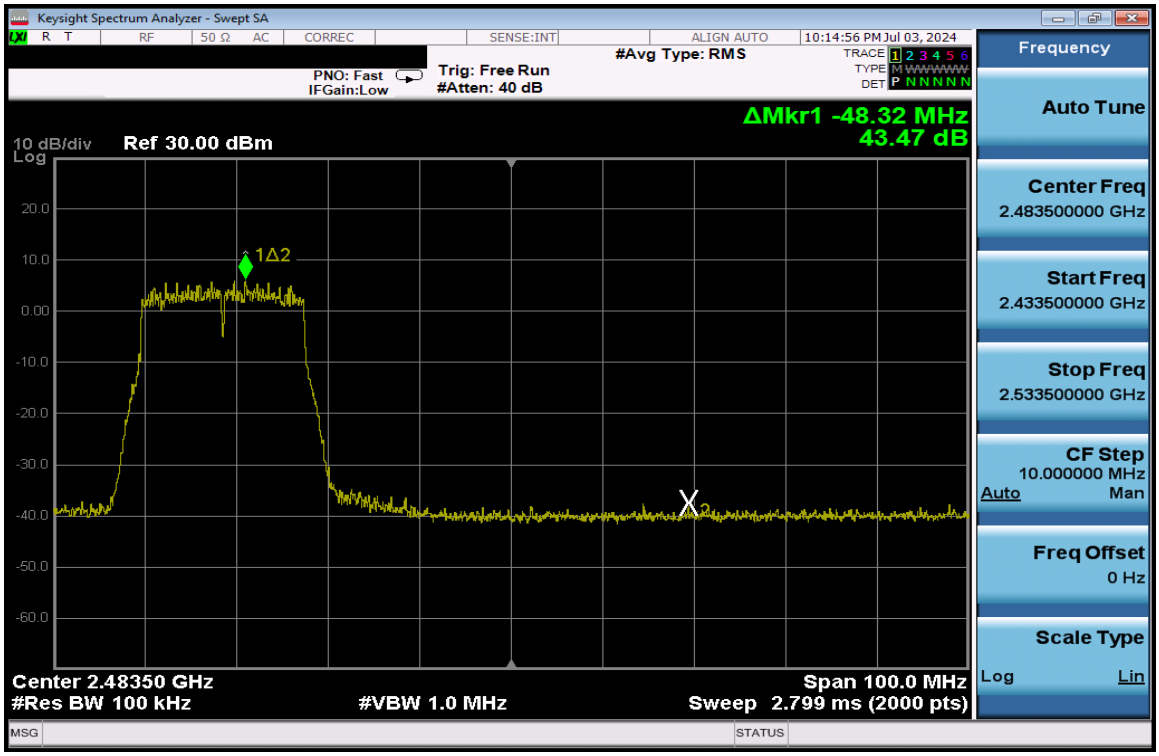



**Plot 7-410. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 8) – MCS7**




**Plot 7-411. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 9) – MCS7**

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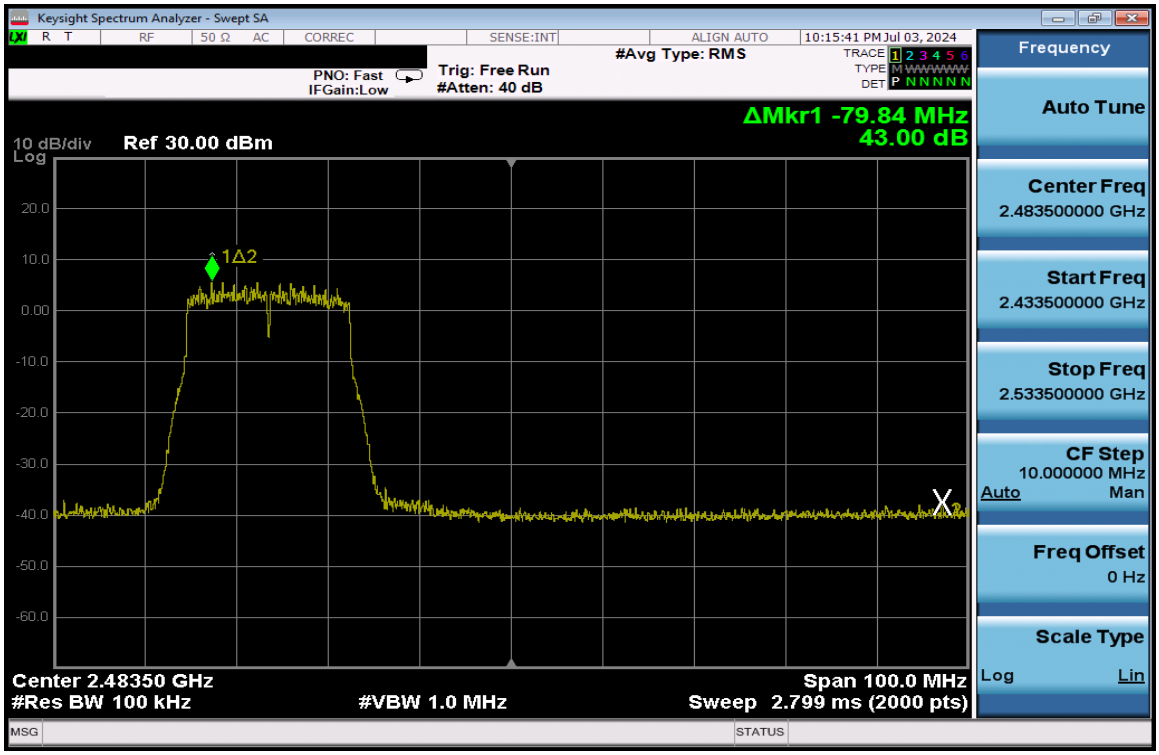
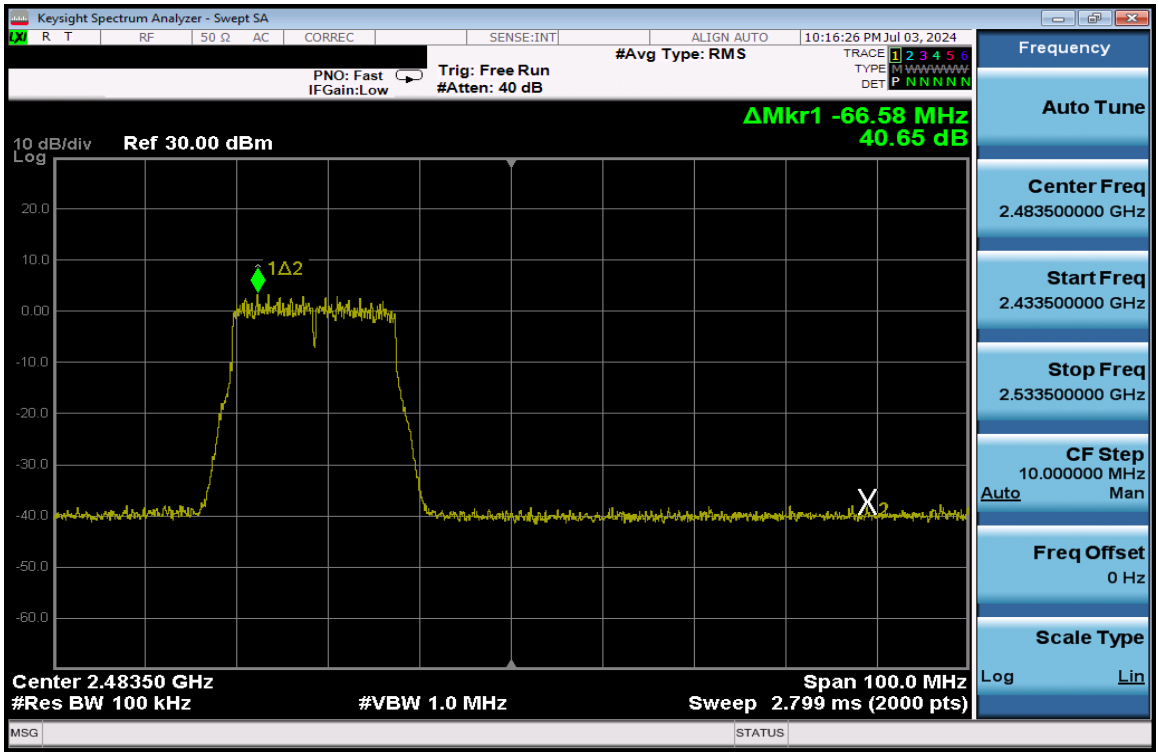



**Plot 7-412. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 10) – MCS7**




**Plot 7-413. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 11) – MCS7**

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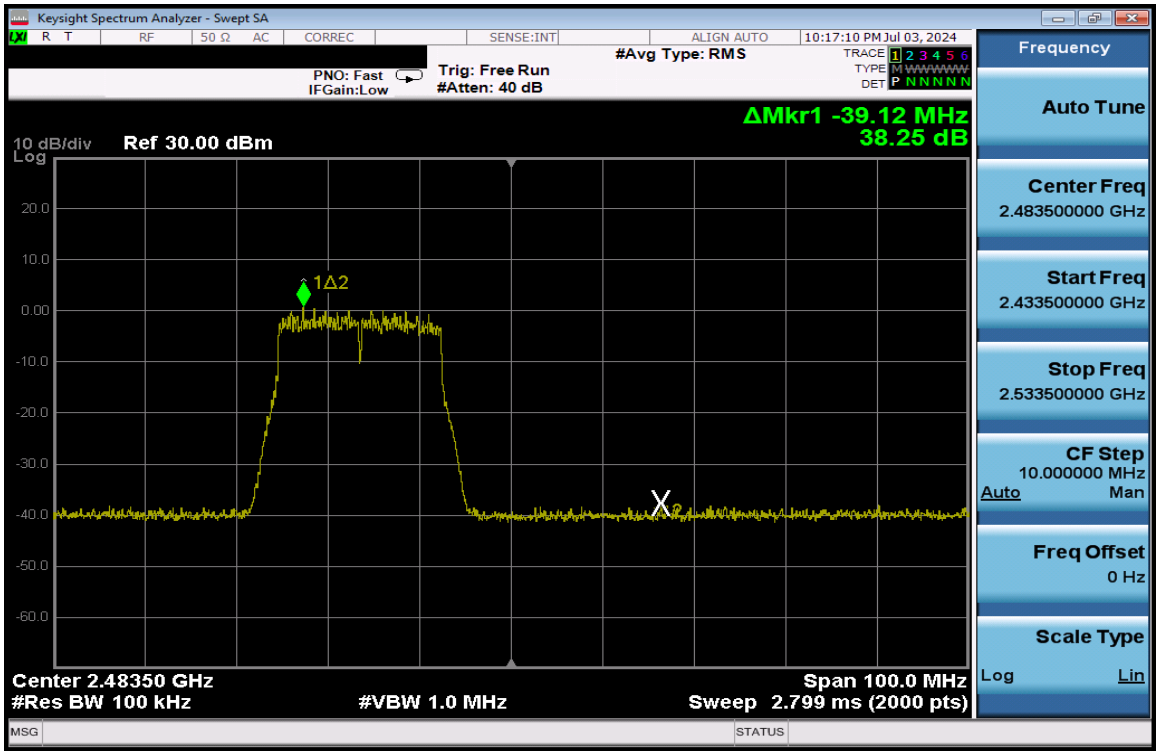
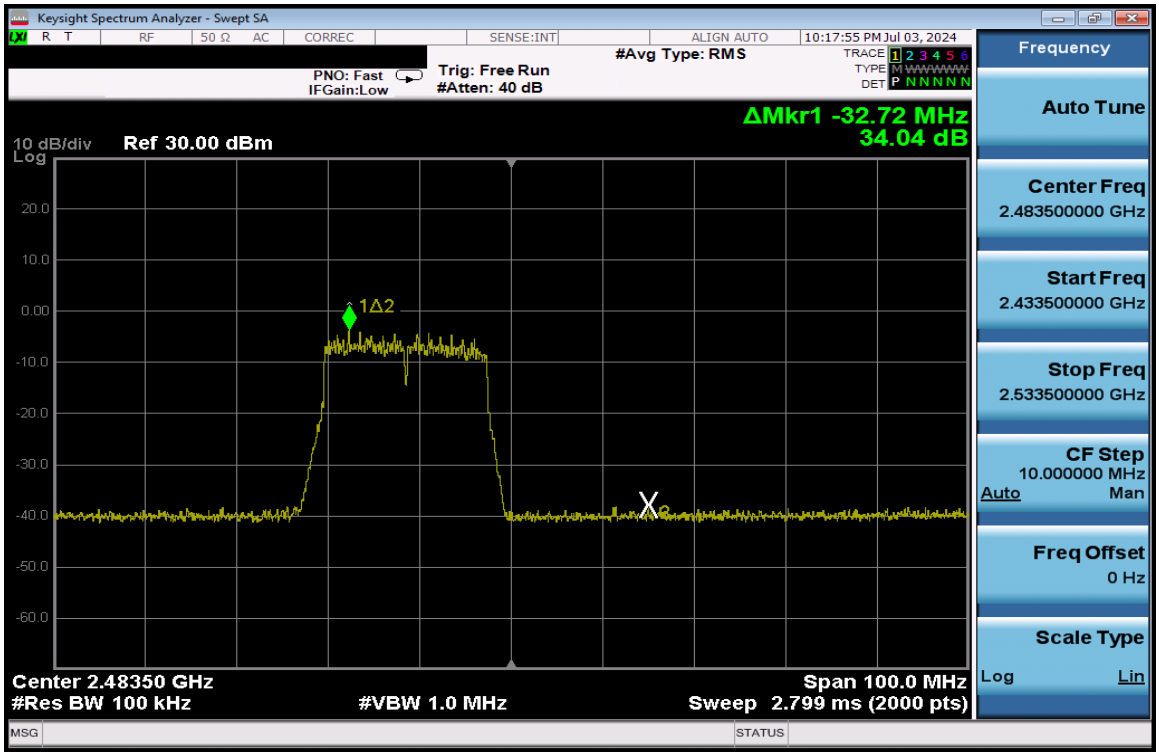



**Plot 7-414. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 12) – MCS7**




**Plot 7-415. Band Edge Plot Antenna 1a (802.11n (2.4GHz) – Ch. 13) – MCS7**

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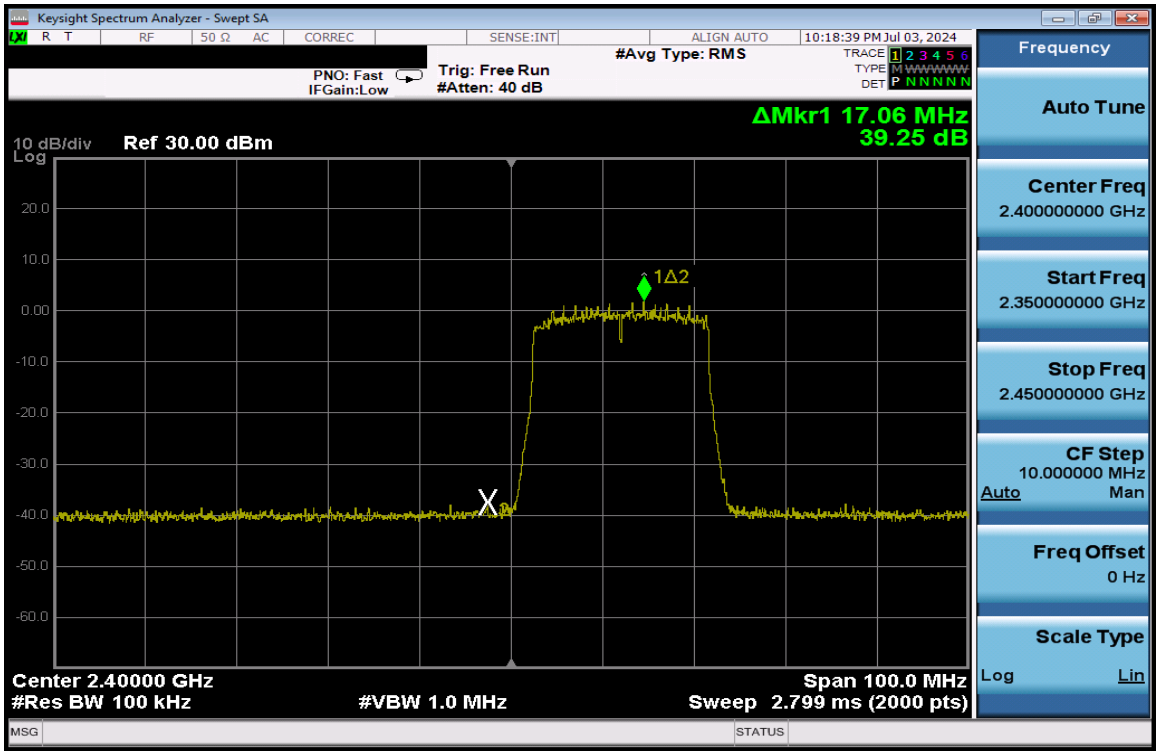
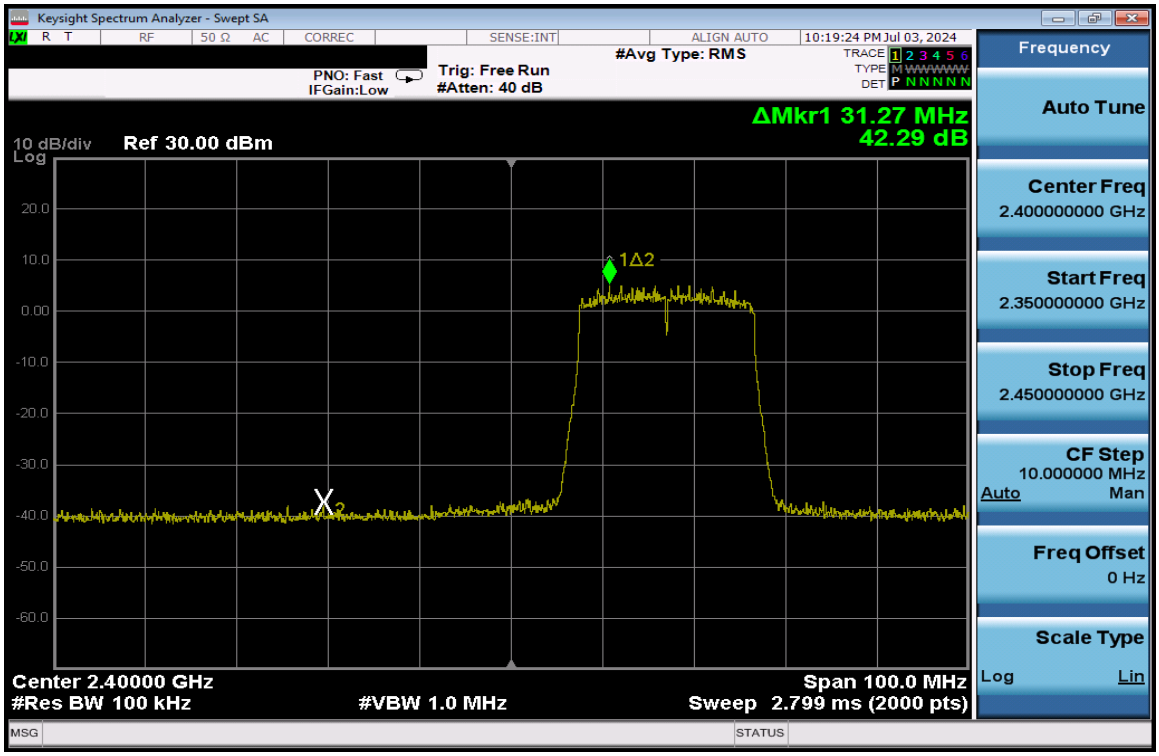



**Plot 7-416. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 1) – MCS9**




**Plot 7-417. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 2) – MCS9**

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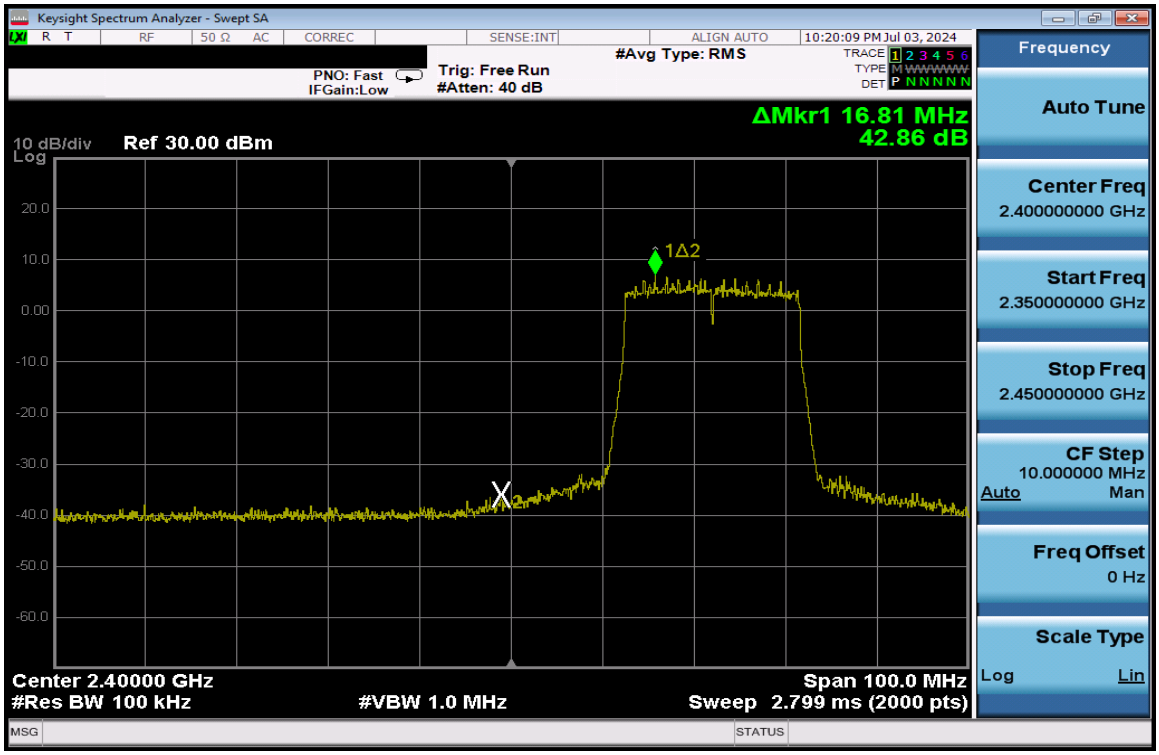
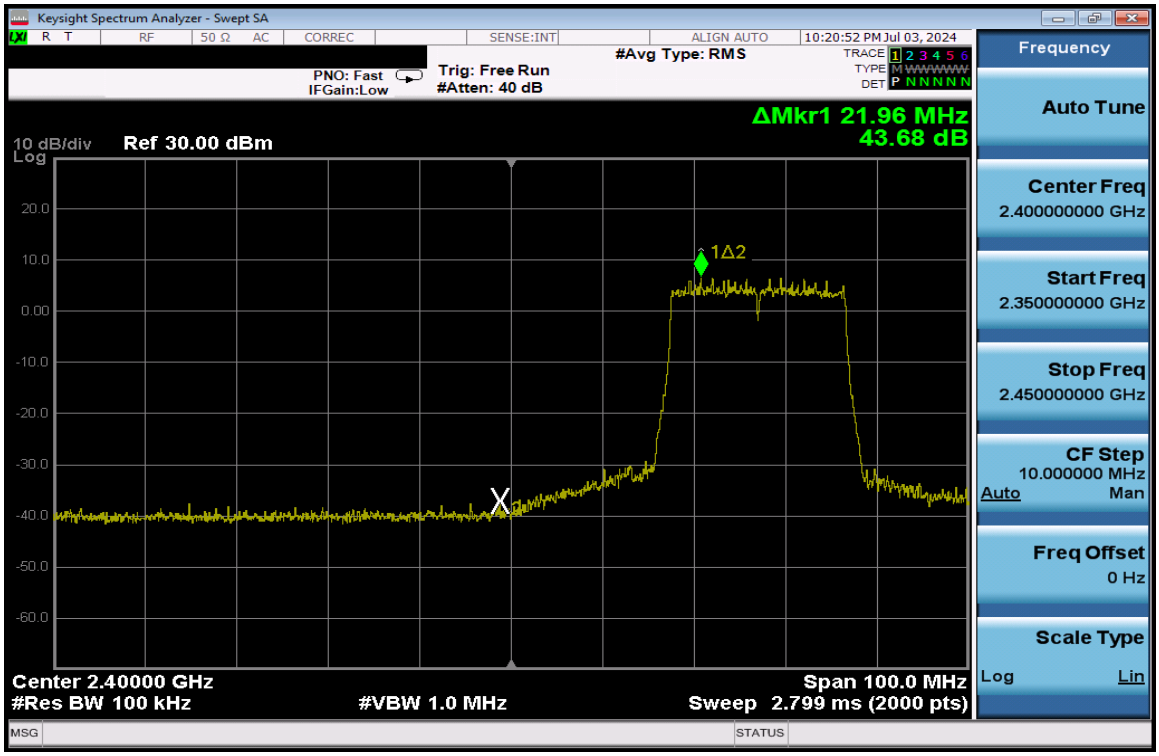



**Plot 7-418. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 3) – MCS9**




**Plot 7-419. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 4) – MCS9**

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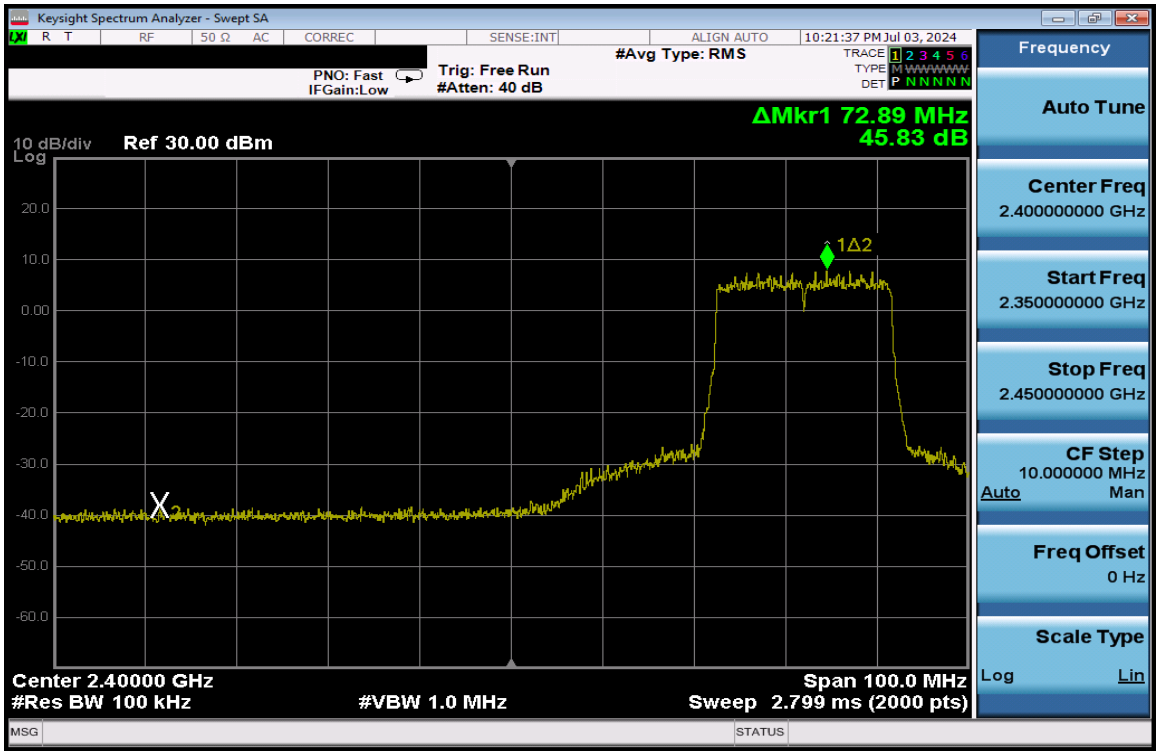
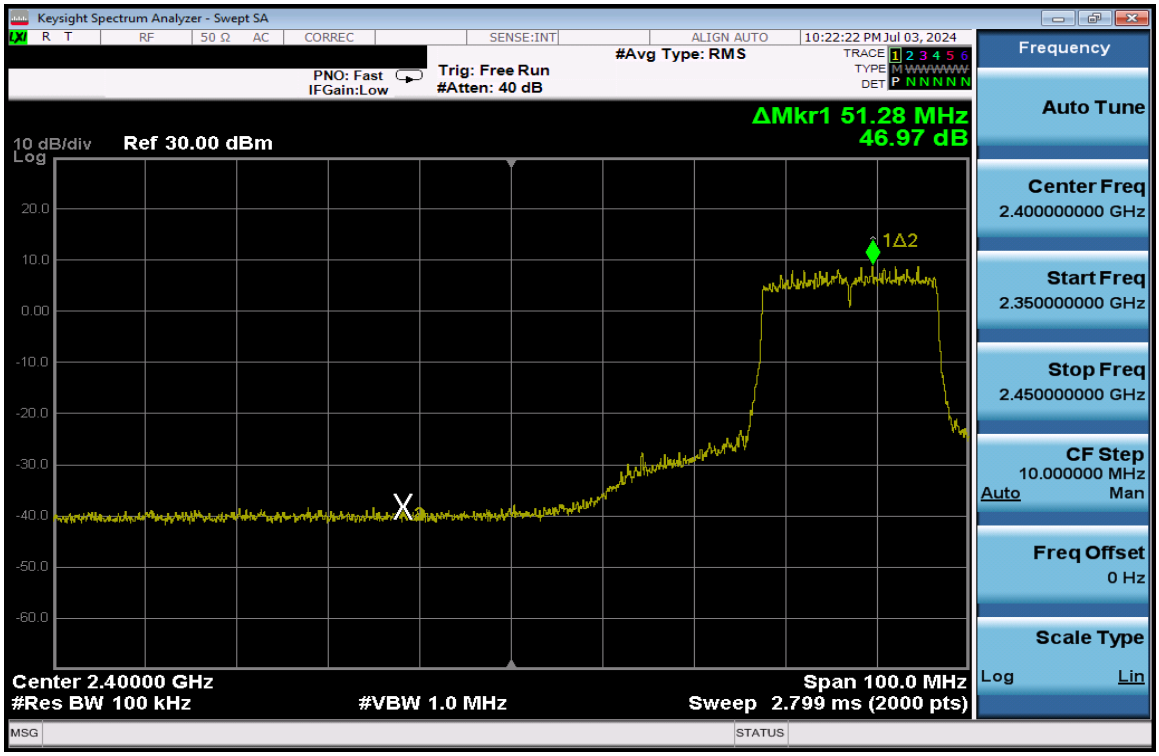



**Plot 7-420. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 5) – MCS9**




**Plot 7-421. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 6 (low)) – MCS9**

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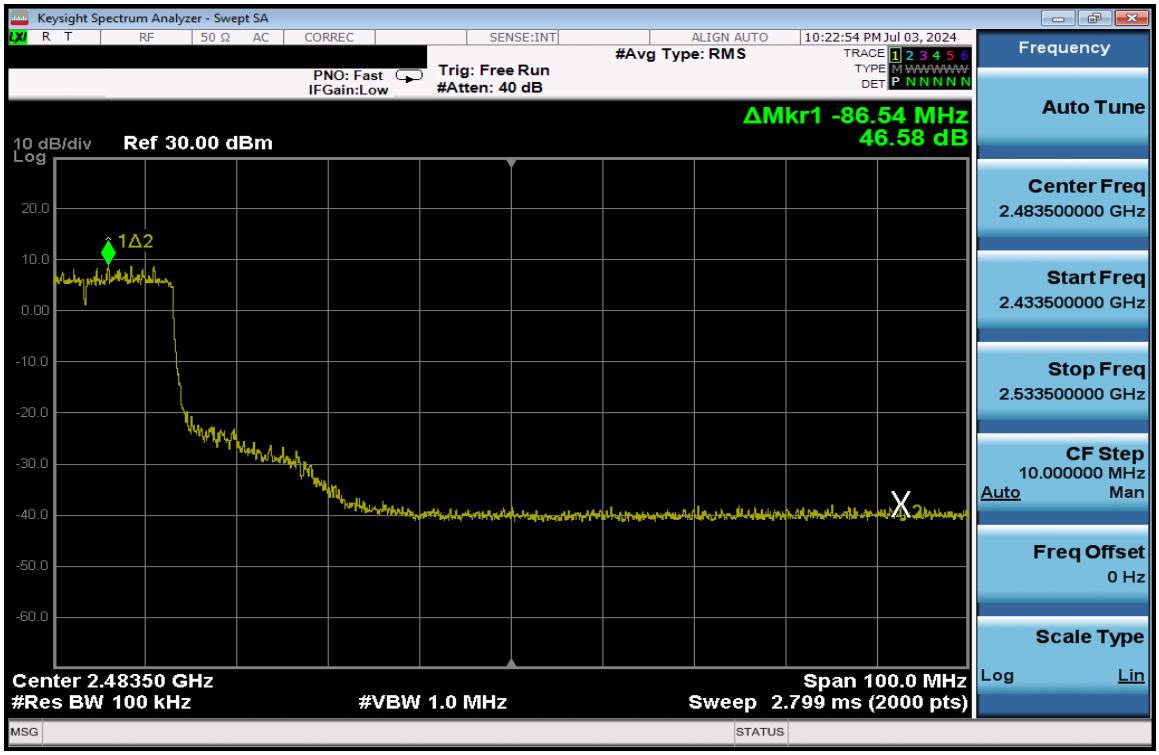
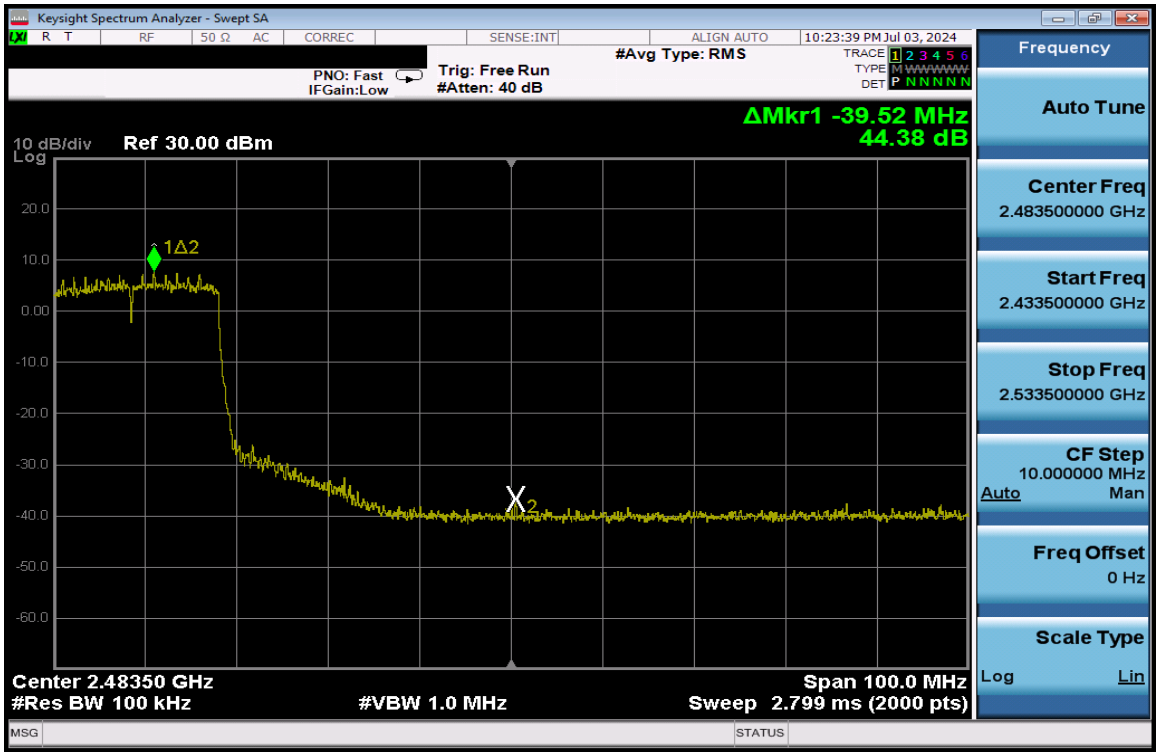



**Plot 7-422. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 6(high)) – MCS9**




**Plot 7-423. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 7) – MCS9**

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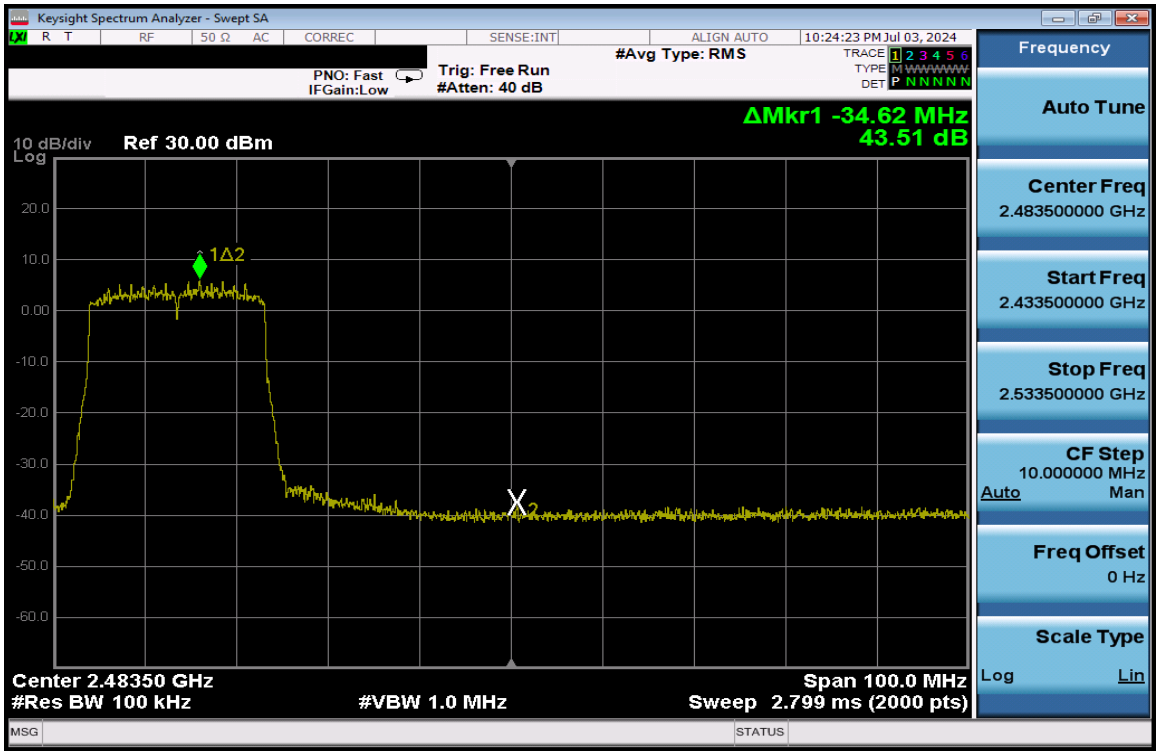
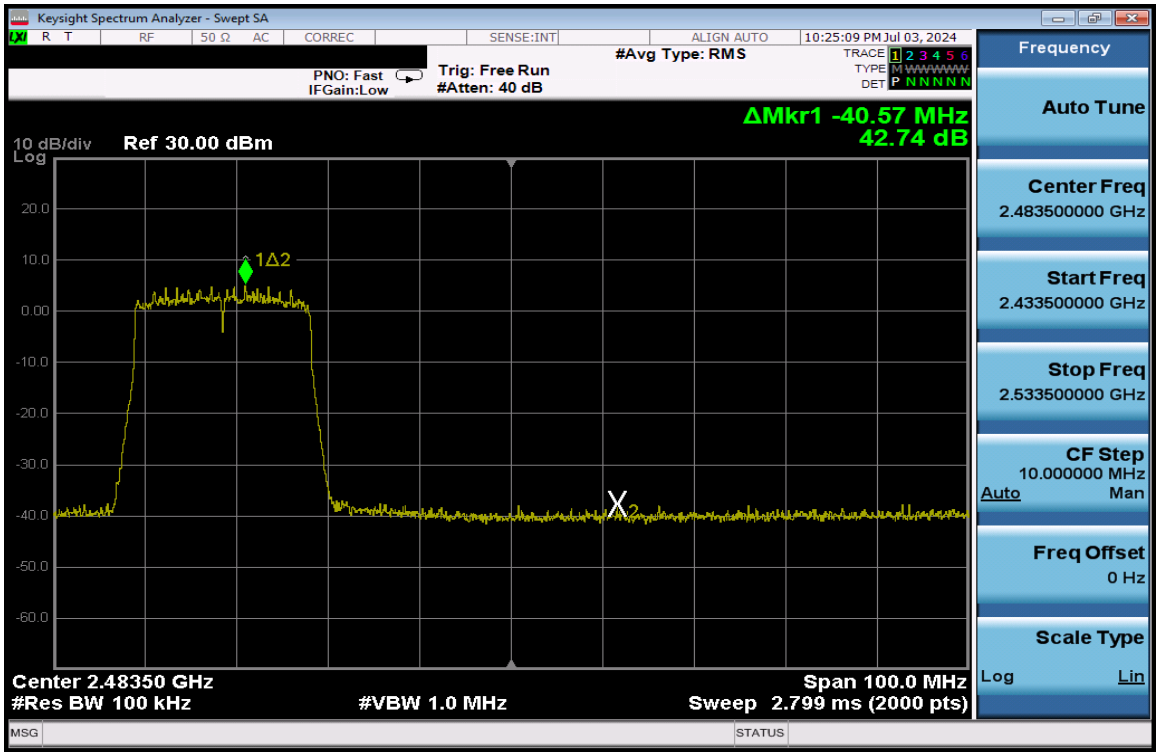



**Plot 7-424. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 8) – MCS9**




**Plot 7-425. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 9) – MCS9**

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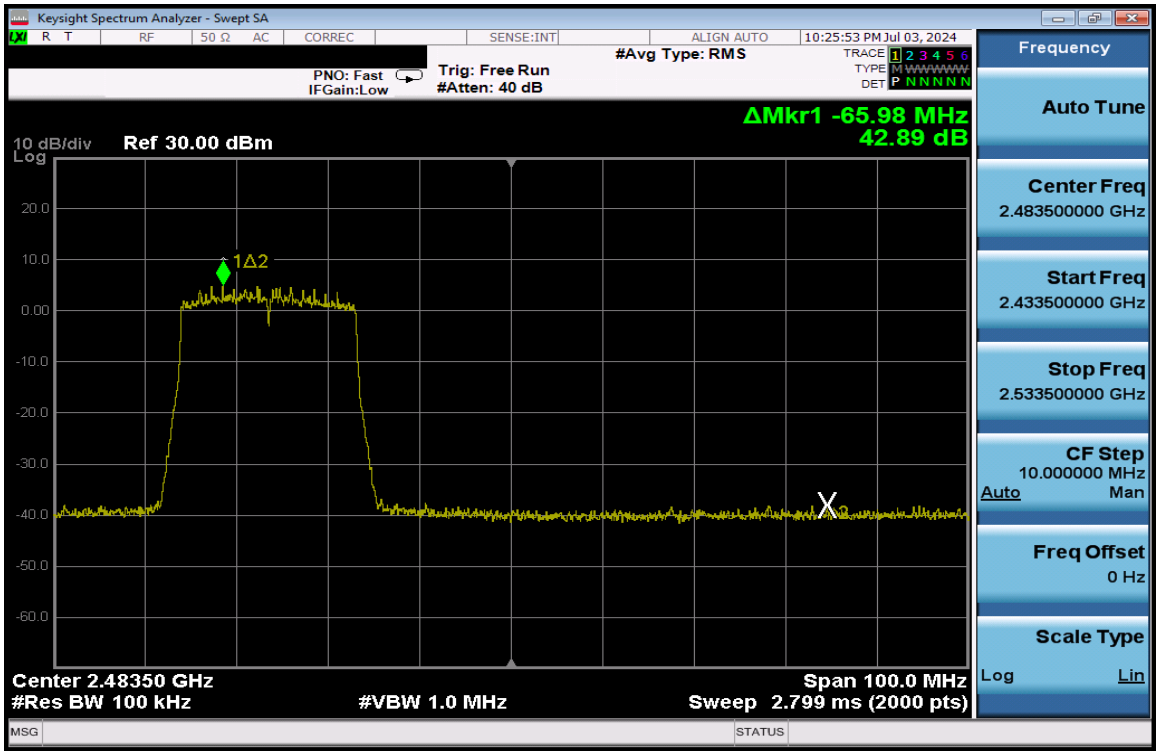
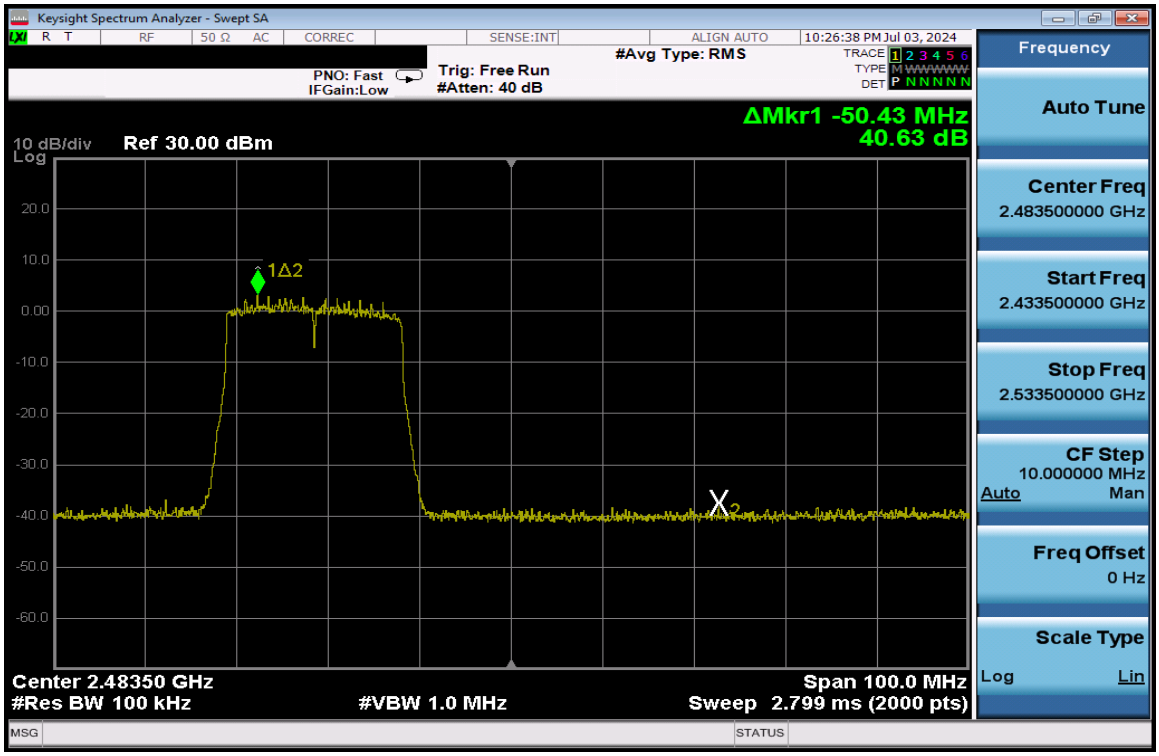



**Plot 7-426. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 10) – MCS9**




**Plot 7-427. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 11) – MCS9**

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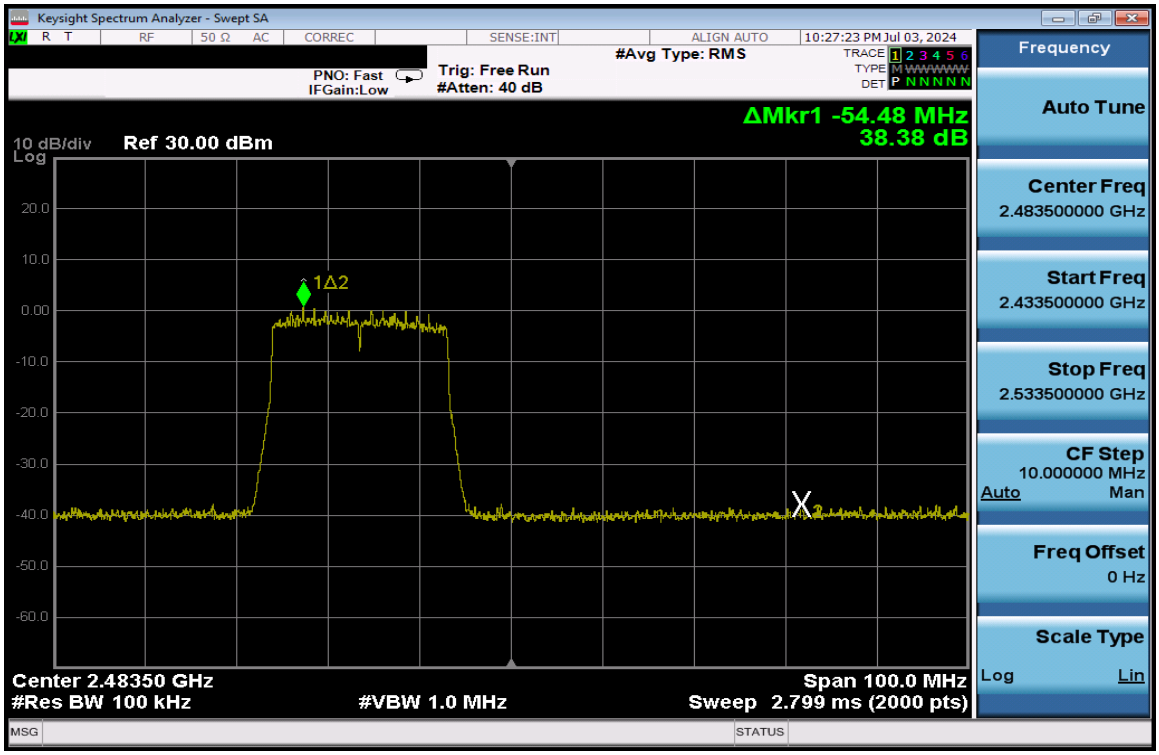


**Plot 7-428. Band Edge Plot Antenna 1a (802.11ax (SU - 2.4GHz) – Ch. 12) – MCS9**




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## 7.6 Conducted Spurious Emissions

**§15.247(d); RSS-247 [5.5]**

### Test Overview and Limit

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. For the following out of band conducted spurious emissions plots, the EUT was investigated in all available data rates for “b”, “g”, “n”, “ax-SU” modes. The worst case spurious emissions for the 2.4GHz band were found while transmitting in “b” mode at 11 Mbps and are shown in the plots below.

***The limit for out-of-band spurious emissions at the band edge is 20dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100kHz bandwidth per the procedure in Section 11.11 of ANSI C63.10-2020 and KDB 558074 D01 v05r02.***

### Test Procedure Used

ANSI C63.10-2020 – Subclause 11.11.3
KDB 558074 D01 v05r02 – Section 8.5
ANSI C63.10-2020 – Subclause 14.3.3
KDB 662911 D01 v02r01 – Section E)3)b)

### Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to 25GHz (separated into two plots per channel)
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.


**Figure 7-5. Test Instrument & Measurement Setup**



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## Test Notes

1. RBW was set to 1MHz rather than 100kHz in order to increase the measurement speed.

2. The display line shown in the following plots denotes the limit at 20dB below the fundamental emission level measured in a 100kHz bandwidth. However, since the traces in the following plots are measured with a 1MHz RBW, the display line may not necessarily appear to be 20dB below the level of the fundamental in a 1MHz bandwidth.

3. For plots showing conducted spurious emissions near the limit, the frequencies were investigated with a reduced RBW to ensure that no emissions were present.

4. The conducted spurious emissions were measured to relative limits. Therefore, in accordance with ANSI C63.10-2020 and KDB 662911 D01 v02r01 Section E)3)b), it was unnecessary to show compliance through the summation of test results of the individual outputs.

5. All modes, data rates, and antenna configurations were investigated and only the worse case is reported.



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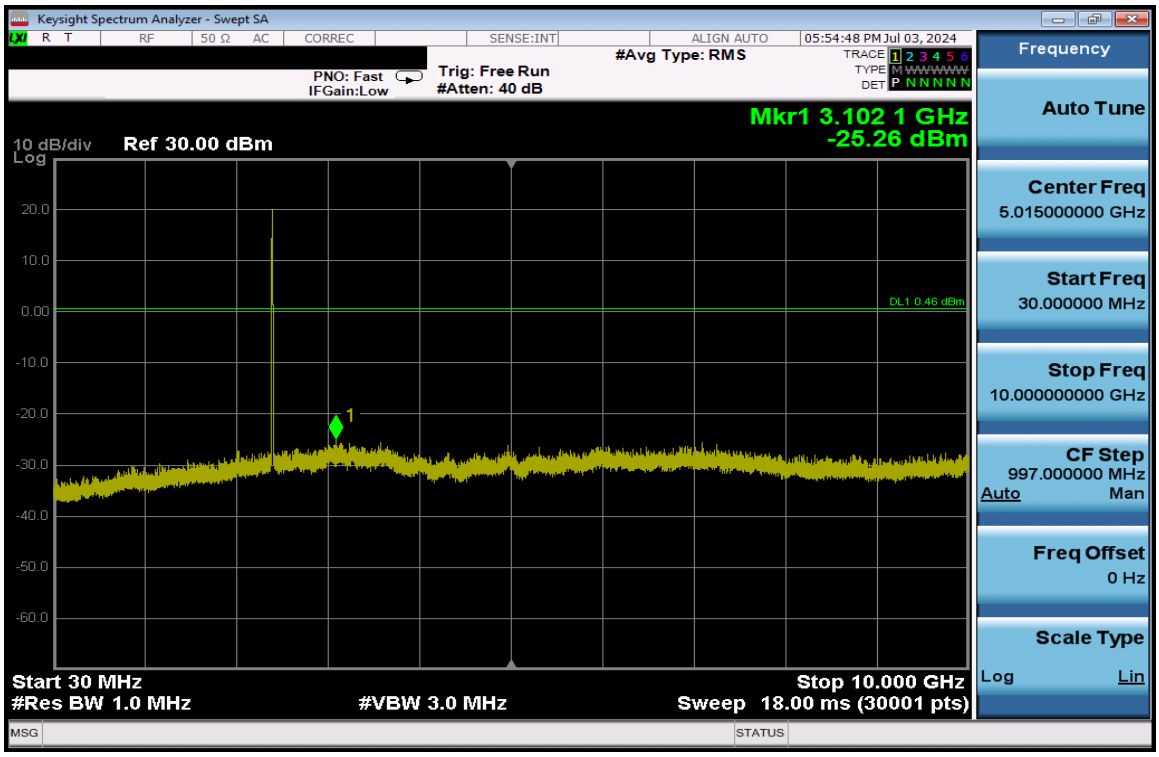
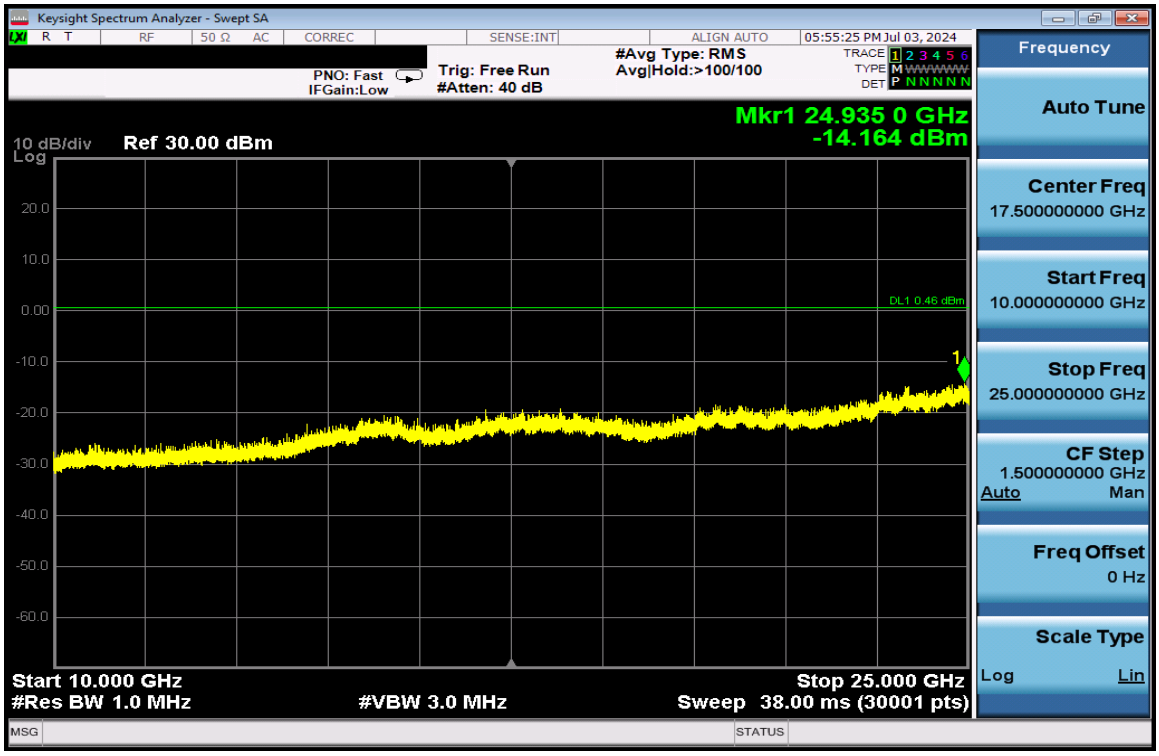
## 7.6.1 Antenna 3a Conducted Spurious Emission




**Plot 7-429. Conducted Spurious Plot Antenna 3a (802.11b – Ch. 1)**




**Plot 7-430. Conducted Spurious Plot Antenna 3a (802.11b – Ch. 1)**

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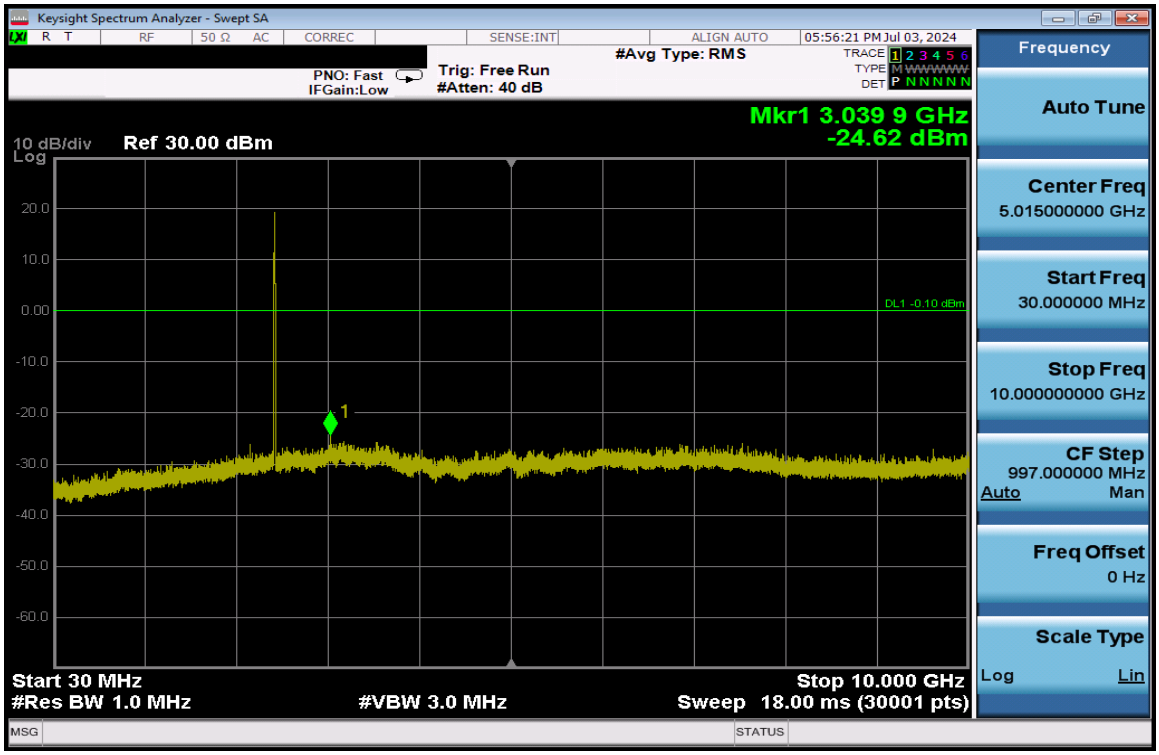
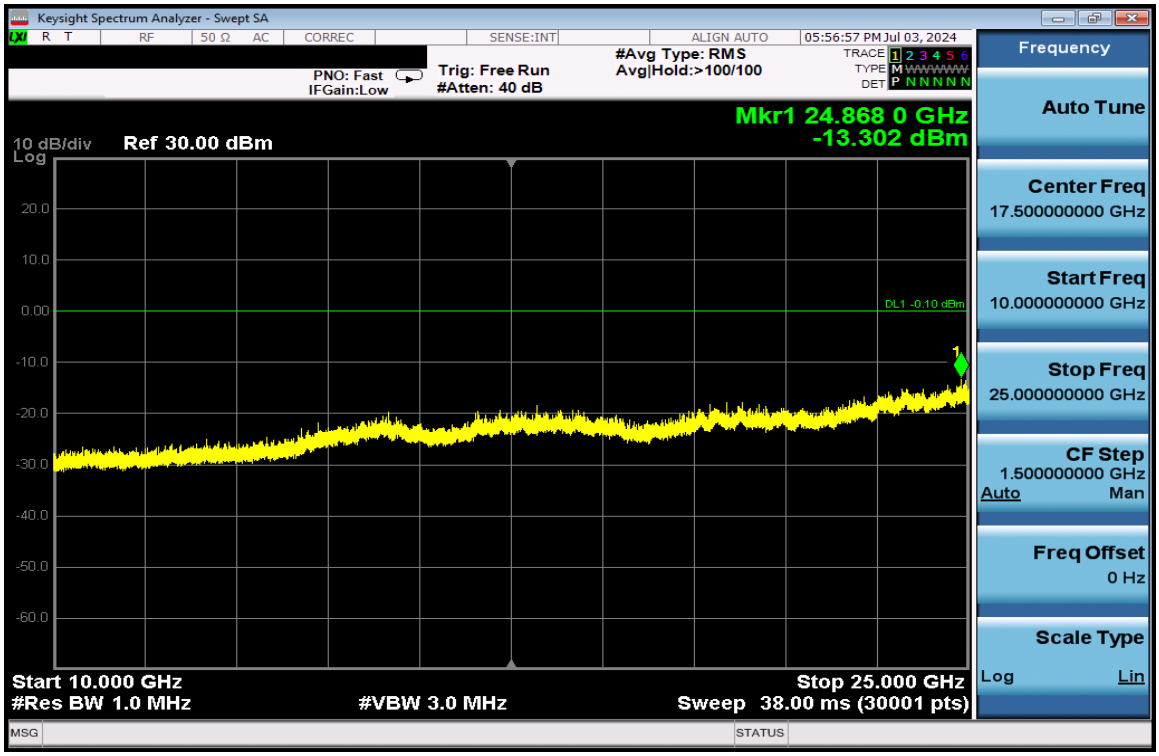



**Plot 7-431. Conducted Spurious Plot Antenna 3a (802.11b – Ch. 6)**




**Plot 7-432. Conducted Spurious Plot Antenna 3a (802.11b – Ch. 6)**

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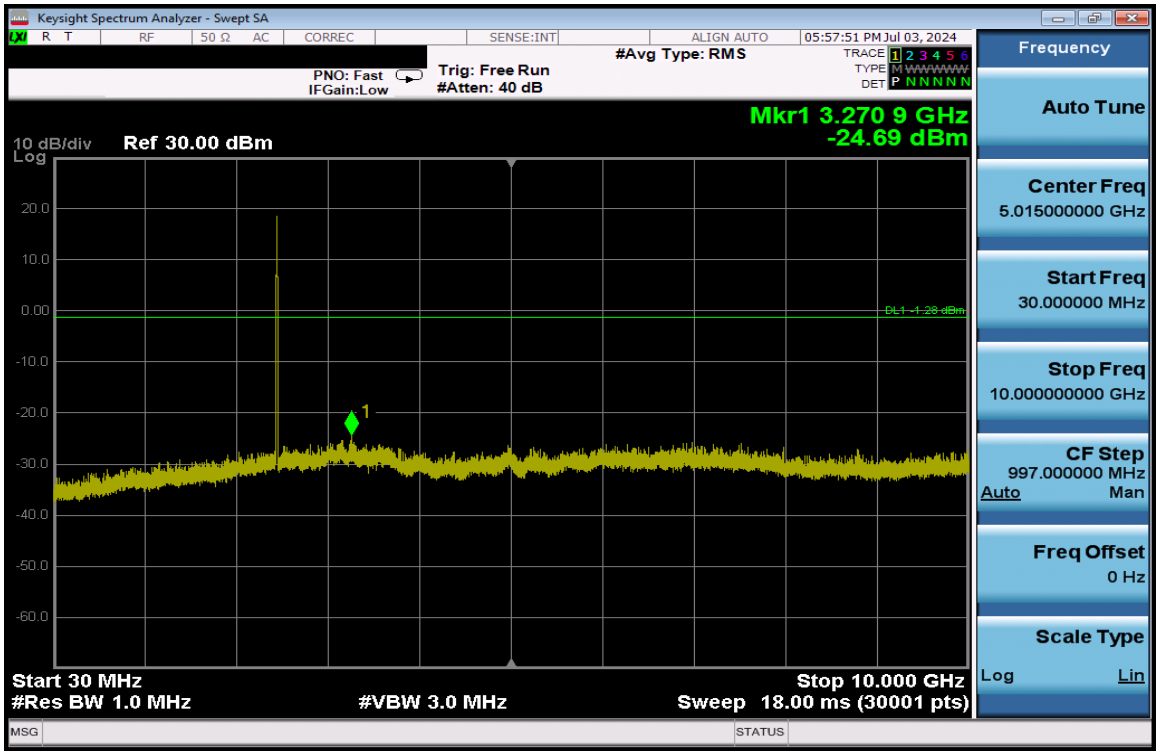
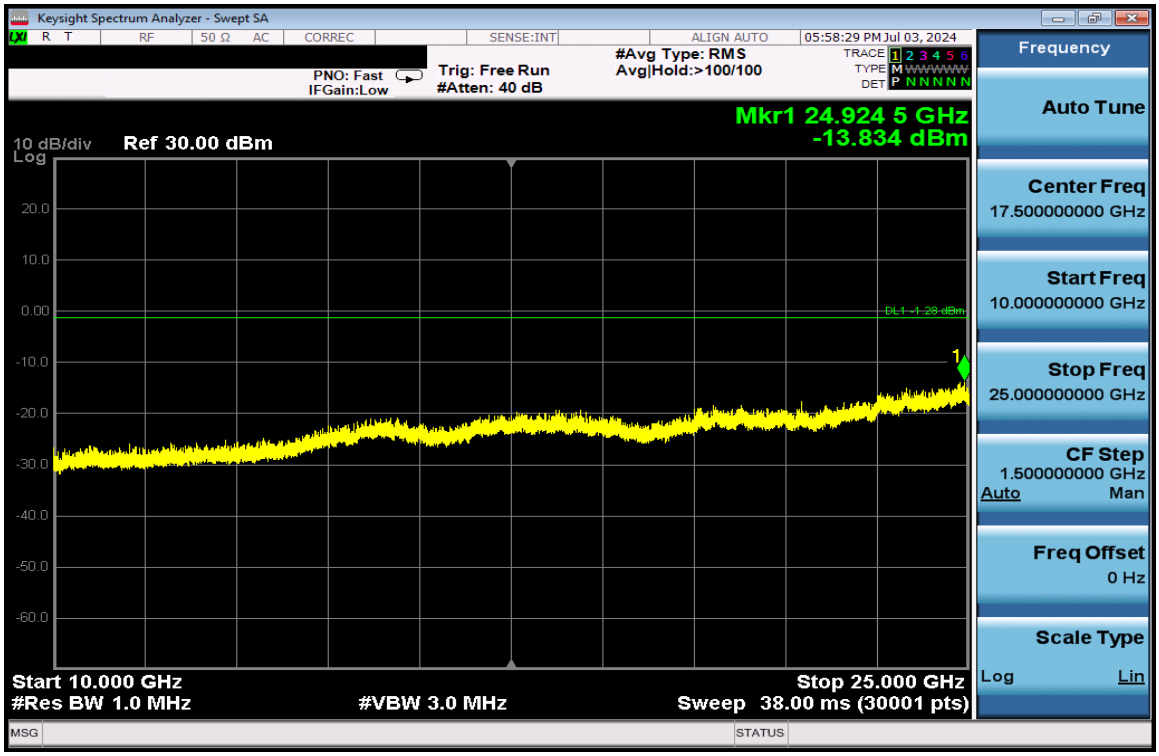



**Plot 7-433. Conducted Spurious Plot Antenna 3a (802.11b – Ch. 11)**




**Plot 7-434. Conducted Spurious Plot Antenna 3a (802.11b – Ch. 11)**

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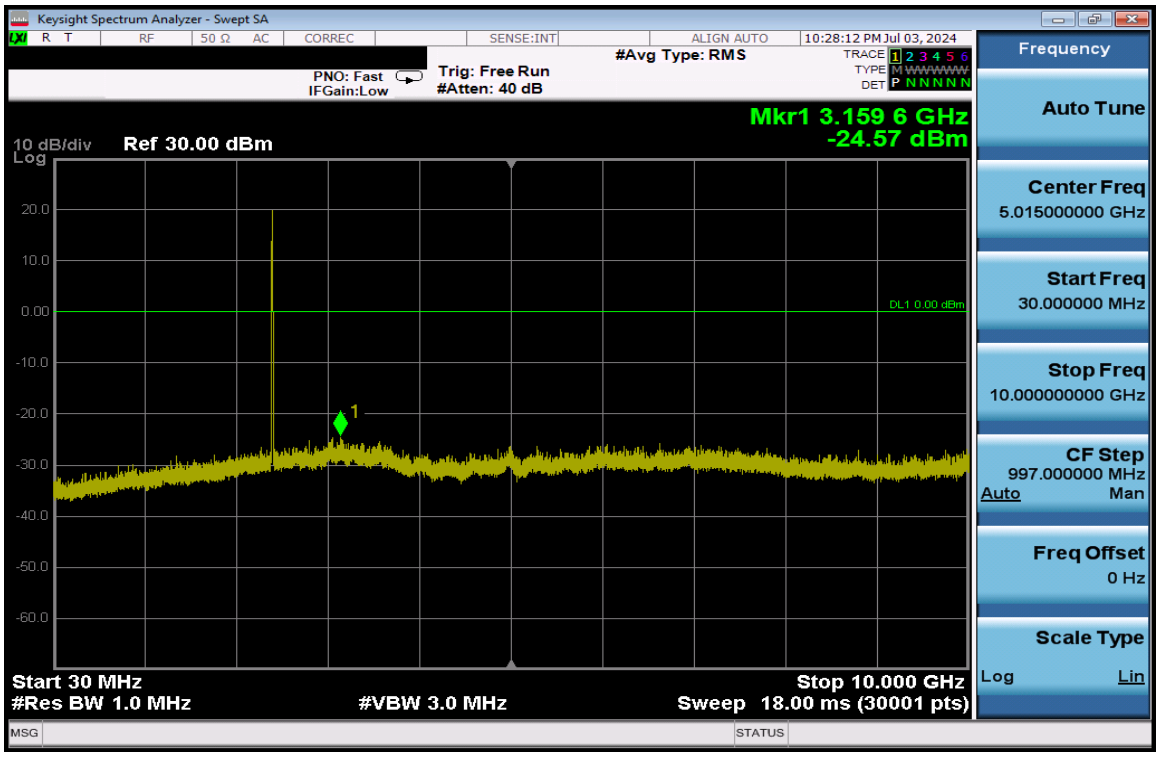
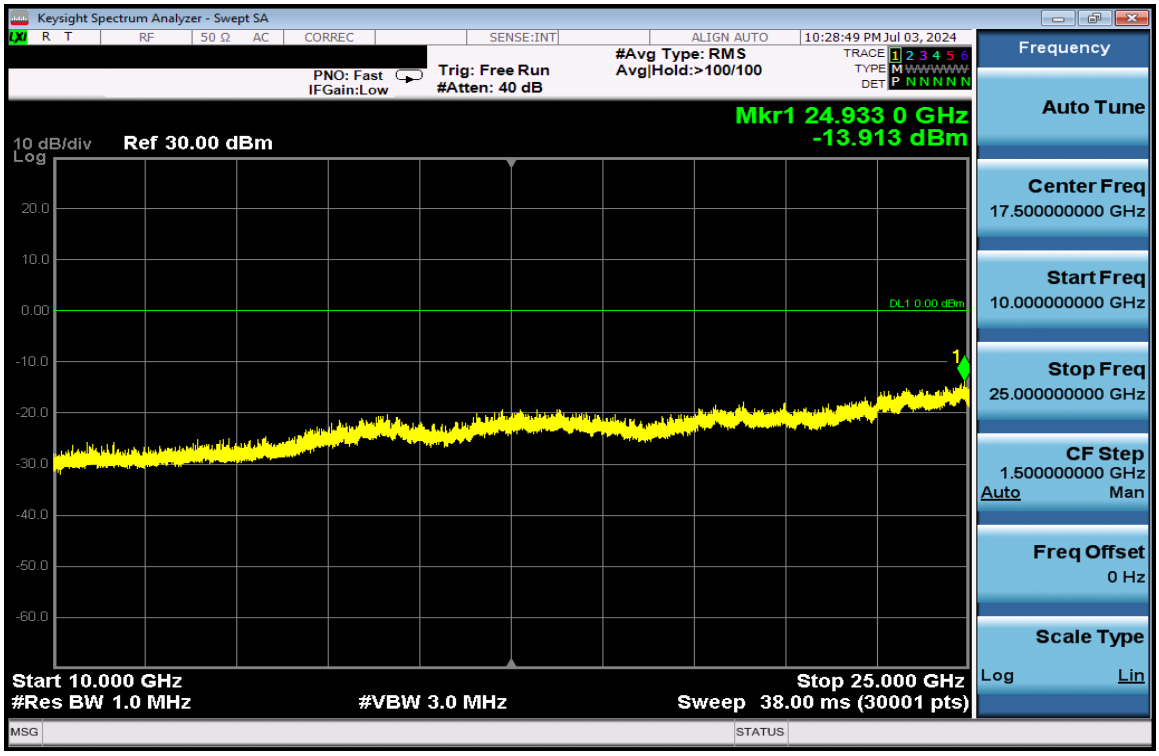
## 7.6.2 Antenna 1a Conducted Spurious Emissions




**Plot 7-435. Conducted Spurious Plot Antenna 1a (802.11b – Ch. 1)**




**Plot 7-436. Conducted Spurious Plot Antenna 1a (802.11b – Ch. 1)**

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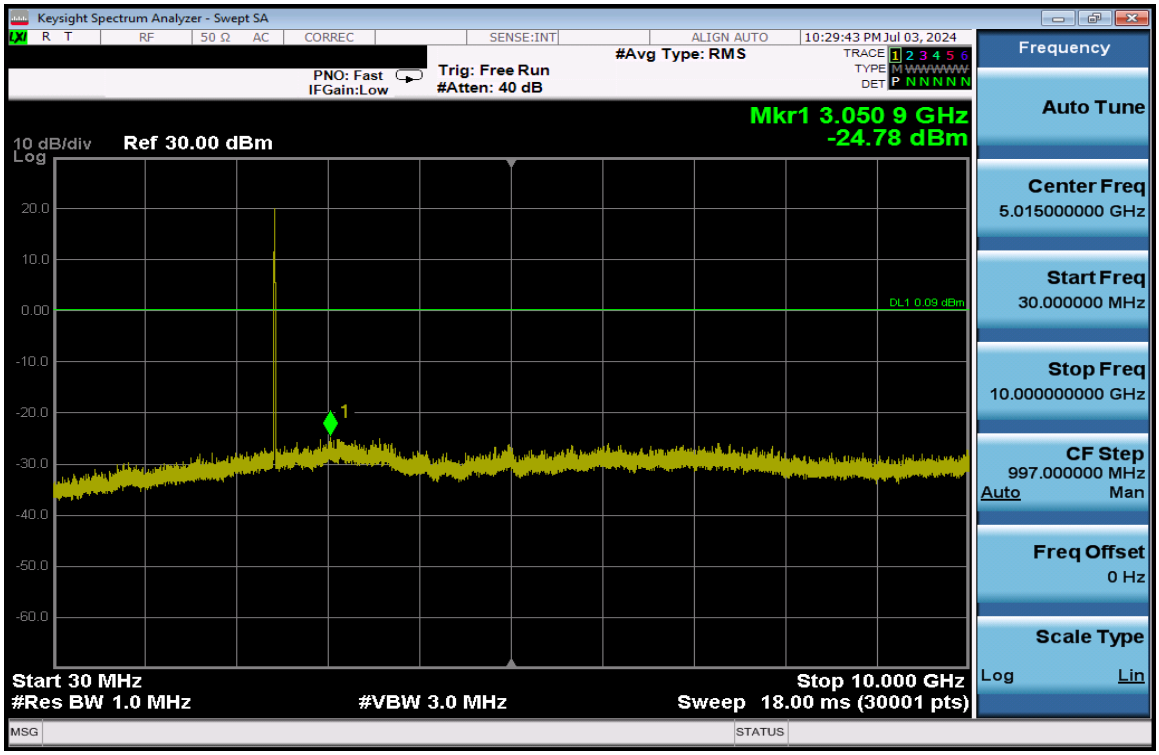
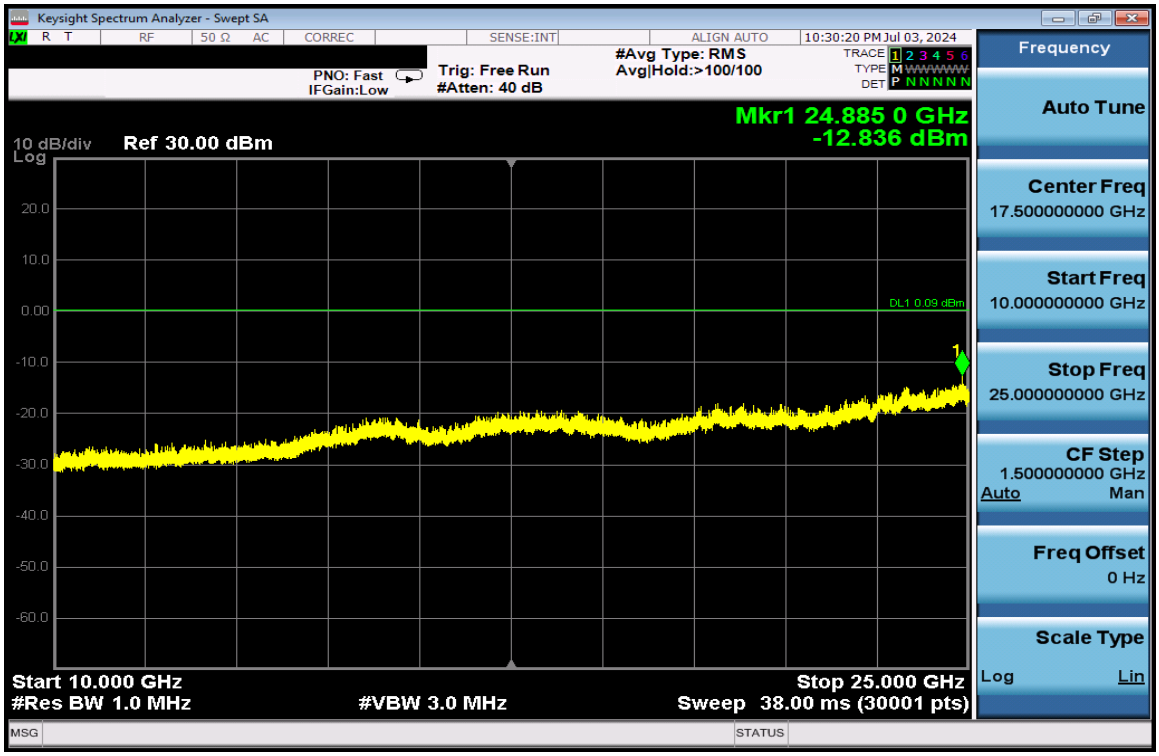



**Plot 7-437. Conducted Spurious Plot Antenna 1a (802.11b – Ch. 6)**




**Plot 7-438. Conducted Spurious Plot Antenna 1a (802.11b – Ch. 6)**

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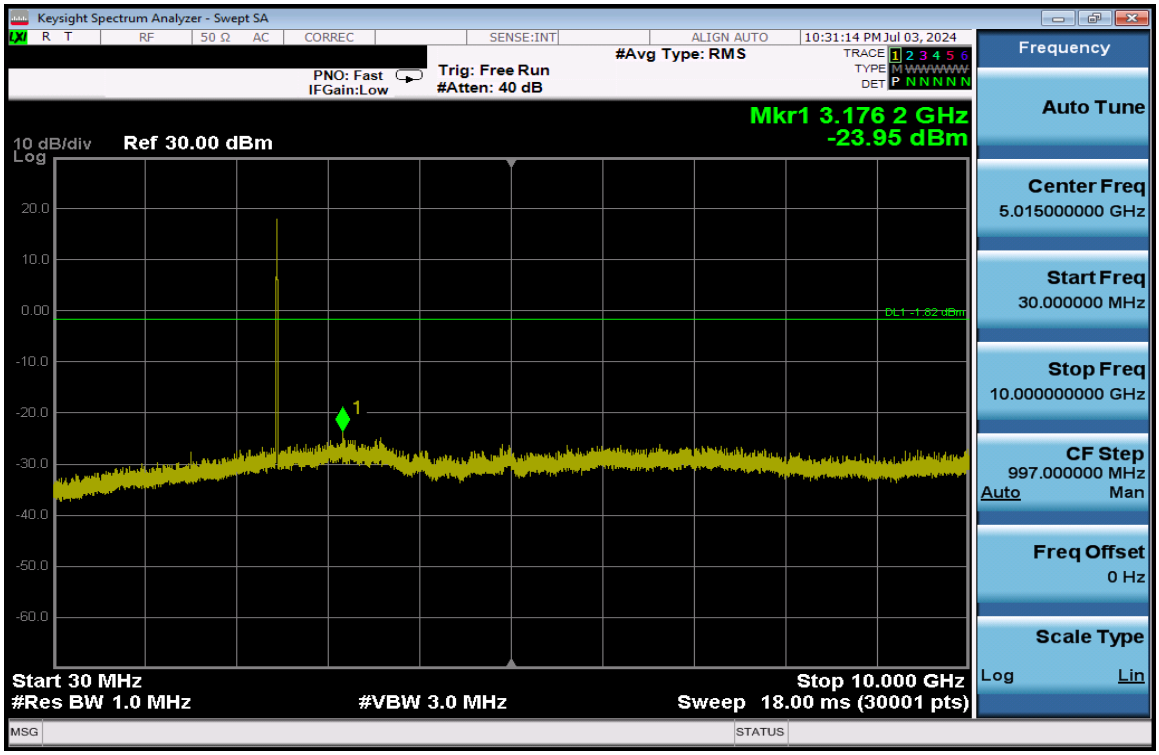
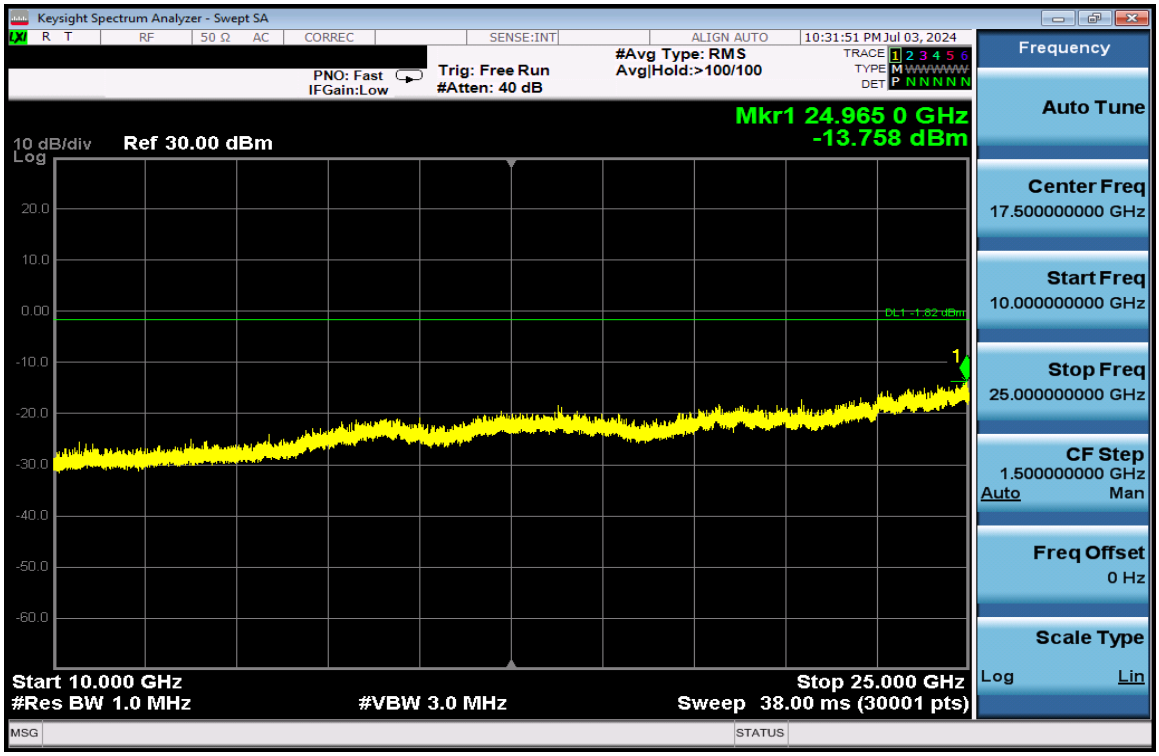



**Plot 7-439. Conducted Spurious Plot Antenna 1a (802.11b – Ch. 11)**




**Plot 7-440. Conducted Spurious Plot Antenna 1a (802.11b – Ch. 11)**

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## 7.7 Radiated Spurious Emissions – Above 1 GHz

**§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]**

### Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

***All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 7 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-47 per Section 15.209 and RSS-Gen (8.9).***

| Frequency | Field Strength [µV/m] | Measured Distance [Meters] |
|---|---|---|
| Above 960.0 MHz | 500 | 3 |

**Table 7-47. Radiated Limits**

### Test Procedures Used

ANSI C63.10-2020 – Subclause 6.6.4.3
KDB 558074 D01 v05r02 – Sections 8.6, 8.7

### Test Settings

#### Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be $\geq$ 2 x span/RBW)
6. Sweep time = auto
7. Trace (RMS) averaging was performed over at least 100 traces

#### Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize



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## Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

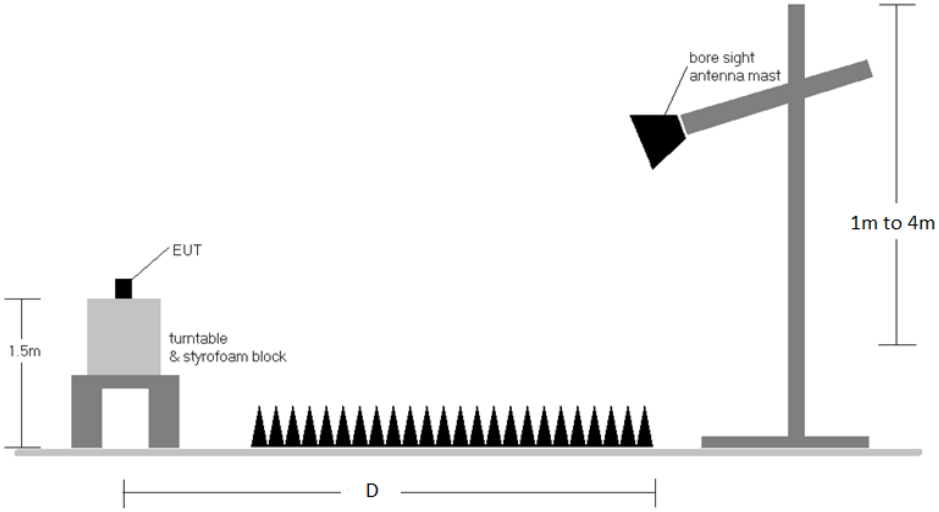


**Figure 7-6. Radiated Measurement Setup**

## Test Notes

1. The optional test procedures for antenna port conducted measurements of unwanted emissions per the guidance of KDB 558074 D01 v05r02 were not used to evaluate this device for compliance to radiated limits. All Radiated Spurious Emissions levels were measured in a radiated test setup.
2. All emissions lying in restricted bands specified in Section 15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-47.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas.
6. D is the measurement test distance and emissions 1-18GHz were measured at a 3 meters test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
9. All antenna configurations were investigated and only the worst case is reported.
10. The unit was tested with all possible modes and only the highest emission is reported.




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## Sample Calculations

### Determining Spurious Emissions Levels

- Field Strength Level [dBµV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB] – Preamplifier Gain [dB]
- Margin [dB] = Field Strength Level [dBµV/m] – Limit [dBµV/m]

### Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots in Section 7.7.4, 7.7.5, and 7.7.6 were calculated using the formula:
  Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain



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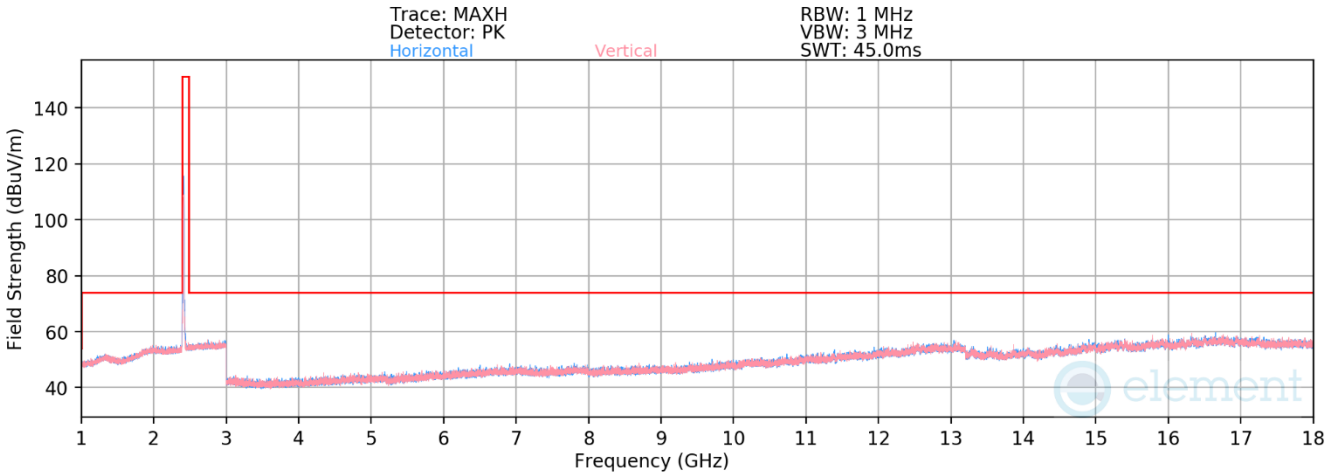
## 7.7.1 Antenna 3a Radiated Spurious Emission Measurements

**§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]**




**Plot 7-441. Radiated Spurious Emissions above 1GHz Antenna 3a (802.11b – Ch. 1)**

| | |
|---|---|
| Mode: | 802.11b |
| Data Rate: | 1Mbps |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2412MHz |
| Channel: | 1 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4824.00 | Avg | V | - | - | -80.17 | 7.31 | 34.14 | 53.98 | -19.84 |
| 4824.00 | Peak | V | - | - | -69.42 | 7.31 | 44.89 | 73.98 | -29.09 |
| 12060.00 | Avg | V | - | - | -83.42 | 18.40 | 41.98 | 53.98 | -12.00 |
| 12060.00 | Peak | V | - | - | -72.94 | 18.40 | 52.46 | 73.98 | -21.52 |

**Table 7-48. Radiated Spurious Emission Measurements Antenna 3a**

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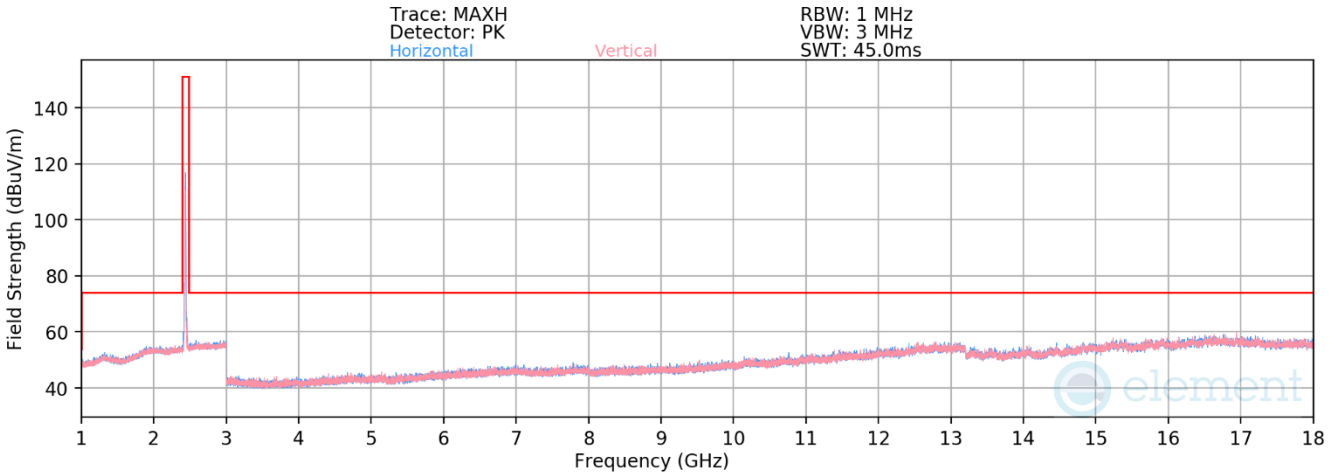


**Plot 7-442. Radiated Spurious Emissions above 1GHz Antenna 3a (802.11b – Ch. 6)**

| | |
|---|---|
| Mode: | 802.11b |
| Data Rate: | 1Mbps |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2437MHz |
| Channel: | 6 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4874.00 | Avg | V | - | - | -80.25 | 7.37 | 34.12 | 53.98 | -19.86 |
| 4874.00 | Peak | V | - | - | -68.86 | 7.37 | 45.51 | 73.98 | -28.47 |
| 7311.00 | Avg | V | - | - | -81.70 | 10.80 | 36.10 | 53.98 | -17.88 |
| 7311.00 | Peak | V | - | - | -70.49 | 10.80 | 47.31 | 73.98 | -26.67 |
| 12185.00 | Avg | V | - | - | -83.76 | 18.81 | 42.05 | 53.98 | -11.93 |
| 12185.00 | Peak | V | - | - | -72.68 | 18.81 | 53.13 | 73.98 | -20.85 |

**Table 7-49. Radiated Spurious Emission Measurements Antenna 3a**



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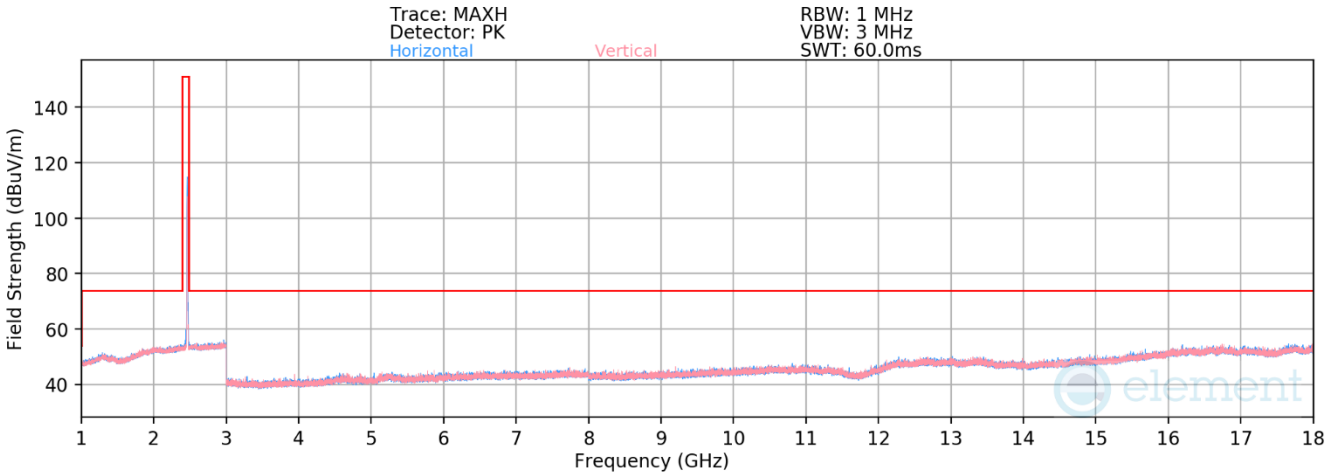


**Plot 7-443. Radiated Spurious Emissions above 1GHz Antenna 3a (802.11b – Ch. 11)**

| | |
|---|---|
| Mode: | 802.11b |
| Data Rate: | 1Mbps |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2462MHz |
| Channel: | 11 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4924.00 | Avg | V | - | - | -77.73 | 2.71 | 31.98 | 53.98 | -22.00 |
| 4924.00 | Peak | V | - | - | -66.13 | 2.71 | 43.58 | 73.98 | -30.40 |
| 7386.00 | Avg | V | - | - | -78.68 | 5.23 | 33.55 | 53.98 | -20.43 |
| 7386.00 | Peak | V | - | - | -67.42 | 5.23 | 44.81 | 73.98 | -29.17 |
| 12310.00 | Avg | V | - | - | -80.75 | 11.05 | 37.30 | 53.98 | -16.68 |
| 12310.00 | Peak | V | - | - | -69.37 | 11.05 | 48.68 | 73.98 | -25.30 |

**Table 7-50. Radiated Spurious Emission Measurements Antenna 3a**



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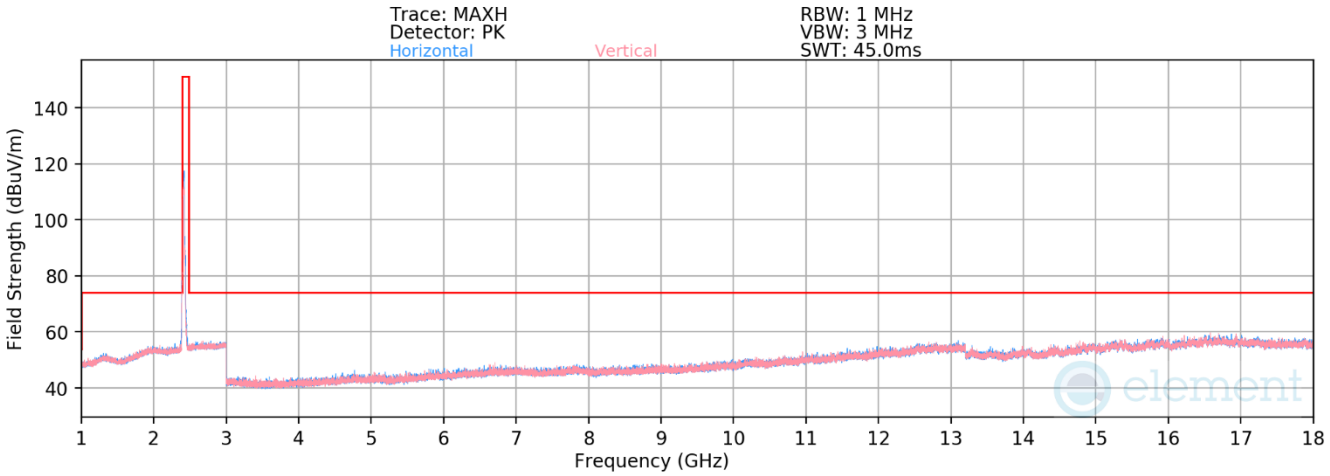


**Plot 7-444. Radiated Spurious Emissions above 1GHz Antenna 3a (802.11ax(SU) – Ch. 1)**

| | |
|---|---|
| Mode: | 802.11ax(SU) |
| Data Rate: | MCS0 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2412MHz |
| Channel: | 1 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4874.00 | Avg | V | - | - | -80.14 | 7.15 | 34.01 | 53.98 | -19.97 |
| 4874.00 | Peak | V | - | - | -68.61 | 7.15 | 45.54 | 73.98 | -28.44 |
| 12060.00 | Avg | V | - | - | -83.20 | 18.41 | 42.21 | 53.98 | -11.77 |
| 12060.00 | Peak | V | - | - | -72.72 | 18.41 | 52.69 | 73.98 | -21.29 |

**Table 7-51. Radiated Spurious Emission Measurements Antenna 3a**



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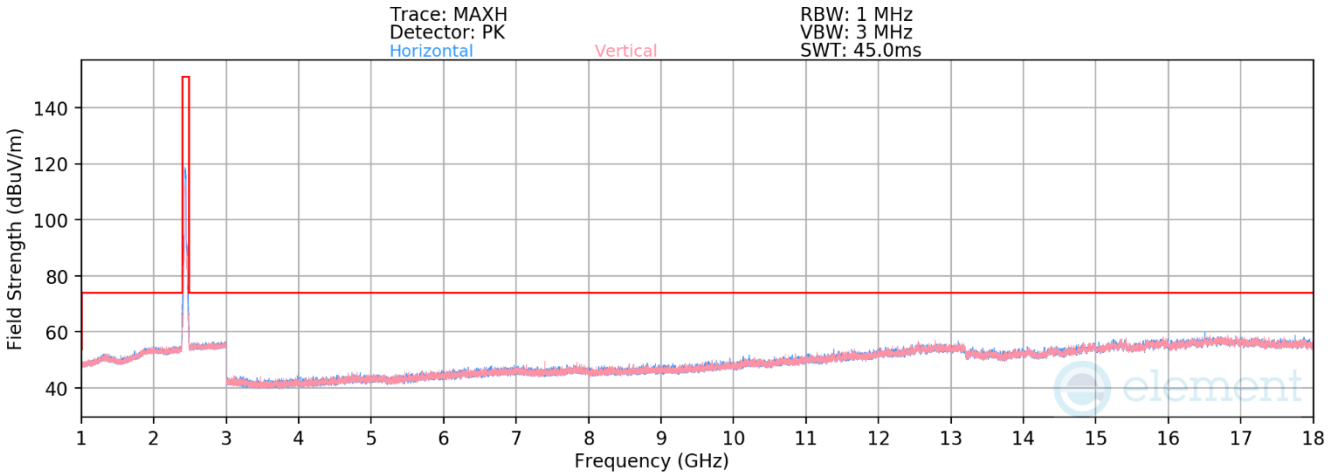


**Plot 7-445. Radiated Spurious Emissions above 1GHz Antenna 3a (802.11ax(SU) – Ch. 6)**

| | |
|---|---|
| Mode: | 802.11ax(SU) |
| Data Rate: | MCS0 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2437MHz |
| Channel: | 6 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4874.00 | Avg | V | - | - | -80.38 | 7.28 | 33.90 | 53.98 | -20.08 |
| 4874.00 | Peak | V | - | - | -69.45 | 7.28 | 44.83 | 73.98 | -29.15 |
| 7311.00 | Avg | V | - | - | -81.79 | 10.79 | 36.00 | 53.98 | -17.98 |
| 7311.00 | Peak | V | - | - | -70.17 | 10.79 | 47.62 | 73.98 | -26.36 |
| 12185.00 | Avg | V | - | - | -83.63 | 18.82 | 42.19 | 53.98 | -11.79 |
| 12185.00 | Peak | V | - | - | -73.09 | 18.82 | 52.73 | 73.98 | -21.25 |

**Table 7-52. Radiated Spurious Emission Measurements Antenna 3a**



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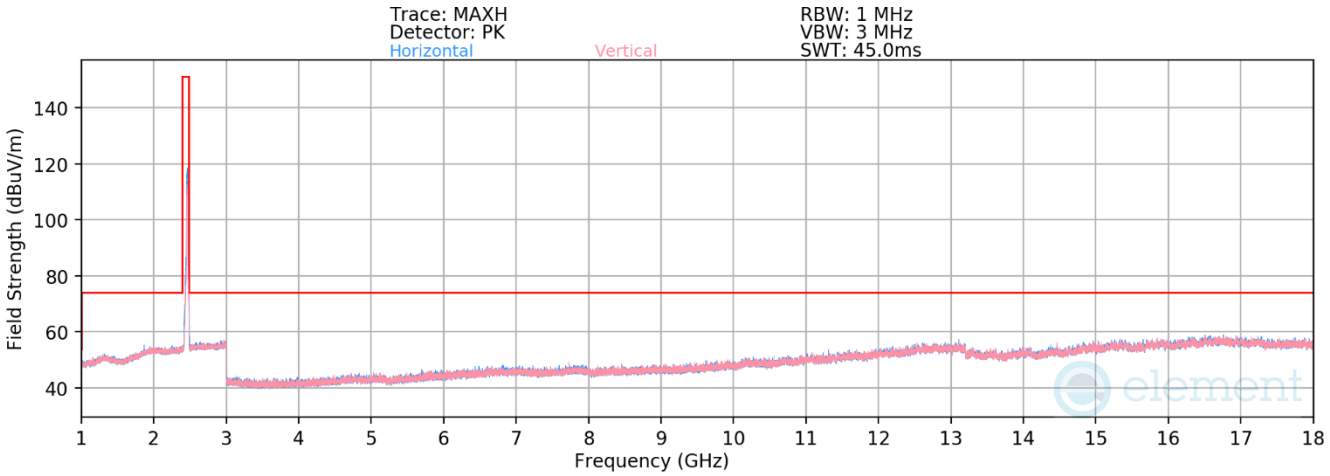


**Plot 7-446. Radiated Spurious Emissions above 1GHz Antenna 3a (802.11ax(SU) – Ch. 11)**

| | |
|---|---|
| Mode: | 802.11ax(SU) |
| Data Rate: | MCS0 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2462MHz |
| Channel: | 11 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4924.00 | Avg | V | - | - | -80.66 | 7.54 | 33.88 | 53.98 | -20.10 |
| 4924.00 | Peak | V | - | - | -69.71 | 7.54 | 44.83 | 73.98 | -29.15 |
| 7386.00 | Avg | V | - | - | -81.79 | 10.78 | 35.99 | 53.98 | -17.99 |
| 7386.00 | Peak | V | - | - | -70.52 | 10.78 | 47.26 | 73.98 | -26.72 |
| 12310.00 | Avg | V | - | - | -83.80 | 18.90 | 42.10 | 53.98 | -11.88 |
| 12310.00 | Peak | V | - | - | -73.24 | 18.90 | 52.66 | 73.98 | -21.32 |

**Table 7-53. Radiated Spurious Emission Measurements Antenna 3a**



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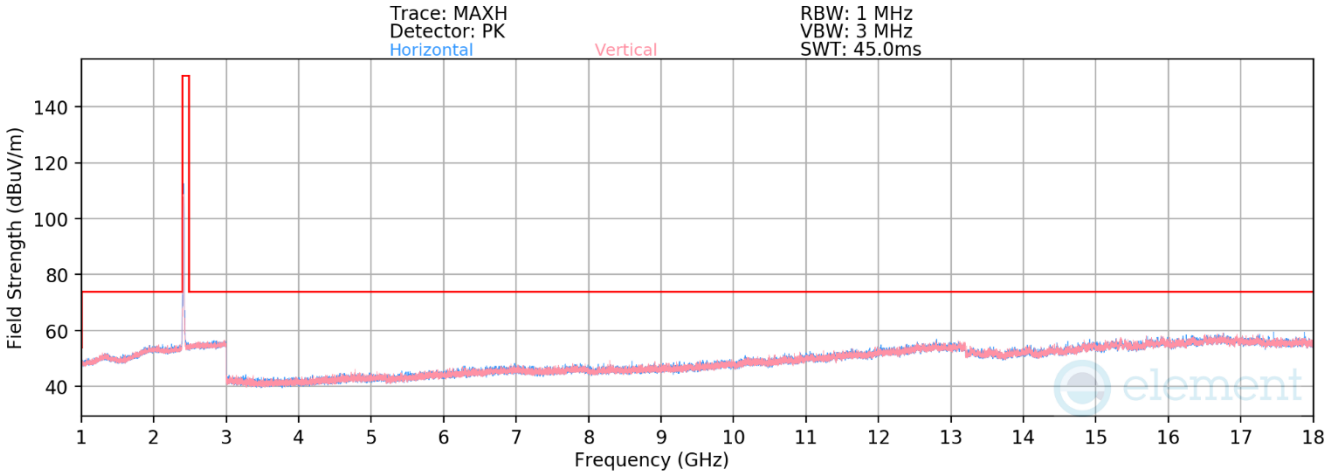
## 7.7.2 Antenna 1a Radiated Spurious Emission Measurements

**§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]**




**Plot 7-447. Radiated Spurious Emissions above 1GHz Antenna 1a (802.11b – Ch. 1)**

| | |
|---|---|
| Mode: | 802.11b |
| Data Rate: | 1Mbps |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2412MHz |
| Channel: | 1 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4824.00 | Avg | V | - | - | -80.16 | 7.31 | 34.15 | 53.98 | -19.83 |
| 4824.00 | Peak | V | - | - | -69.18 | 7.31 | 45.13 | 73.98 | -28.85 |
| 12060.00 | Avg | V | - | - | -83.87 | 18.62 | 41.75 | 53.98 | -12.23 |
| 12060.00 | Peak | V | - | - | -72.78 | 18.62 | 52.84 | 73.98 | -21.14 |

**Table 7-54. Radiated Spurious Emission Measurements Antenna 1a**

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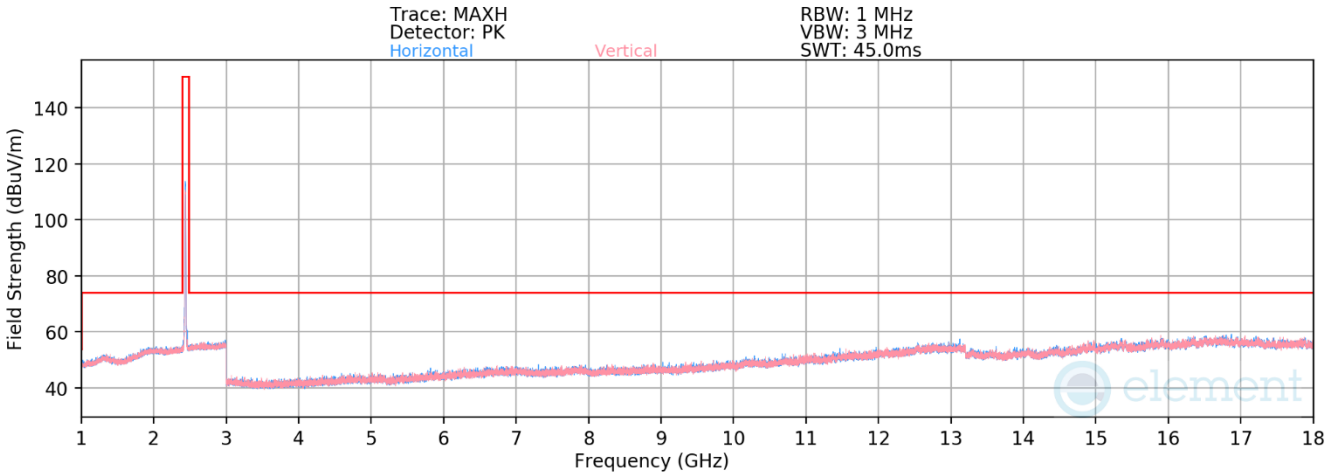


**Plot 7-448. Radiated Spurious Emissions above 1GHz Antenna 1a (802.11b – Ch. 6)**

| | |
|---|---|
| Mode: | 802.11b |
| Data Rate: | 1Mbps |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2437MHz |
| Channel: | 6 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4874.00 | Avg | V | - | - | -80.58 | 7.70 | 34.12 | 53.98 | -19.86 |
| 4874.00 | Peak | V | - | - | -69.69 | 7.70 | 45.01 | 73.98 | -28.97 |
| 7311.00 | Avg | V | - | - | -81.65 | 10.66 | 36.01 | 53.98 | -17.97 |
| 7311.00 | Peak | V | - | - | -70.71 | 10.66 | 46.95 | 73.98 | -27.03 |
| 12185.00 | Avg | V | - | - | -83.84 | 18.64 | 41.80 | 53.98 | -12.18 |
| 12185.00 | Peak | V | - | - | -72.59 | 18.64 | 53.05 | 73.98 | -20.93 |

**Table 7-55. Radiated Spurious Emission Measurements Antenna 1a**



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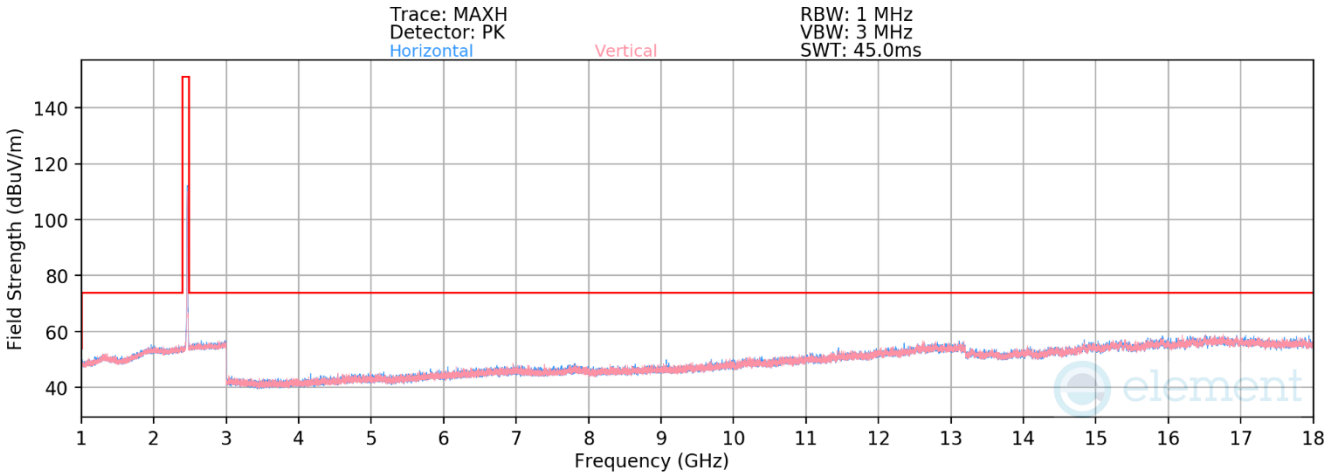


**Plot 7-449. Radiated Spurious Emissions above 1GHz Antenna 1a (802.11b – Ch. 11)**

| | |
|---|---|
| Mode: | 802.11b |
| Data Rate: | 1Mbps |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2462MHz |
| Channel: | 11 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4924.00 | Avg | V | - | - | -80.31 | 7.16 | 33.85 | 53.98 | -20.13 |
| 4924.00 | Peak | V | - | - | -69.25 | 7.16 | 44.91 | 73.98 | -29.07 |
| 7386.00 | Avg | V | - | - | -81.91 | 10.75 | 35.84 | 53.98 | -18.14 |
| 7386.00 | Peak | V | - | - | -70.35 | 10.75 | 47.40 | 73.98 | -26.58 |
| 12310.00 | Avg | V | - | - | -83.69 | 18.89 | 42.20 | 53.98 | -11.78 |
| 12310.00 | Peak | V | - | - | -72.90 | 18.89 | 52.99 | 73.98 | -20.99 |

**Table 7-56. Radiated Spurious Emission Measurements Antenna 1a**



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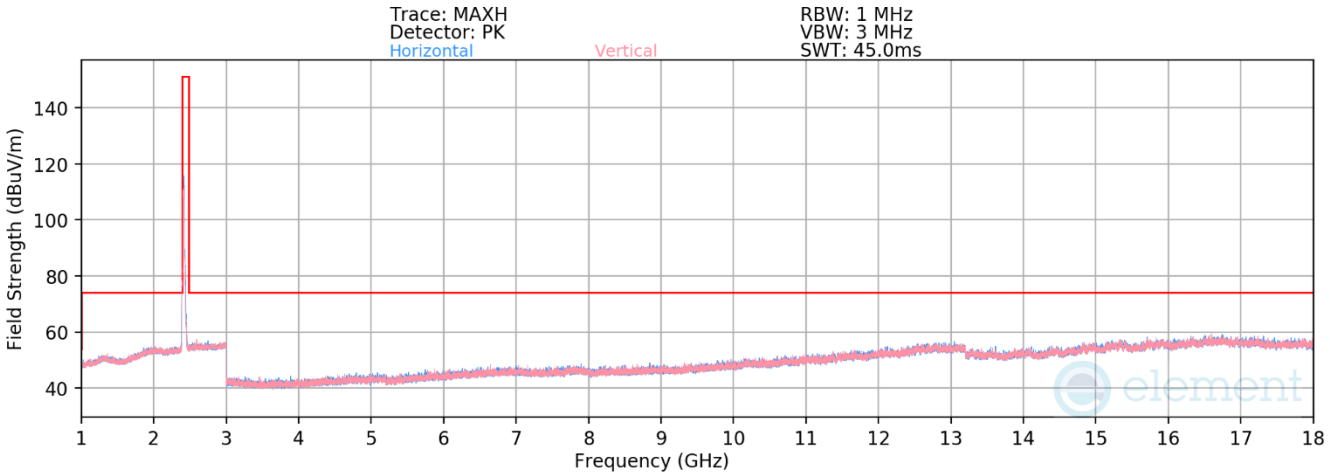


**Plot 7-450. Radiated Spurious Emissions above 1GHz Antenna 1a (802.11ax(SU) – Ch. 1)**

| | |
|---|---|
| Mode: | 802.11ax(SU) |
| Data Rate: | MCS0 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2412MHz |
| Channel: | 1 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4874.00 | Avg | V | - | - | -80.08 | 7.15 | 34.07 | 53.98 | -19.91 |
| 4874.00 | Peak | V | - | - | -68.69 | 7.15 | 45.46 | 73.98 | -28.52 |
| 12060.00 | Avg | V | - | - | -83.63 | 18.41 | 41.78 | 53.98 | -12.20 |
| 12060.00 | Peak | V | - | - | -72.56 | 18.41 | 52.85 | 73.98 | -21.13 |

**Table 7-57. Radiated Spurious Emission Measurements Antenna 1a**



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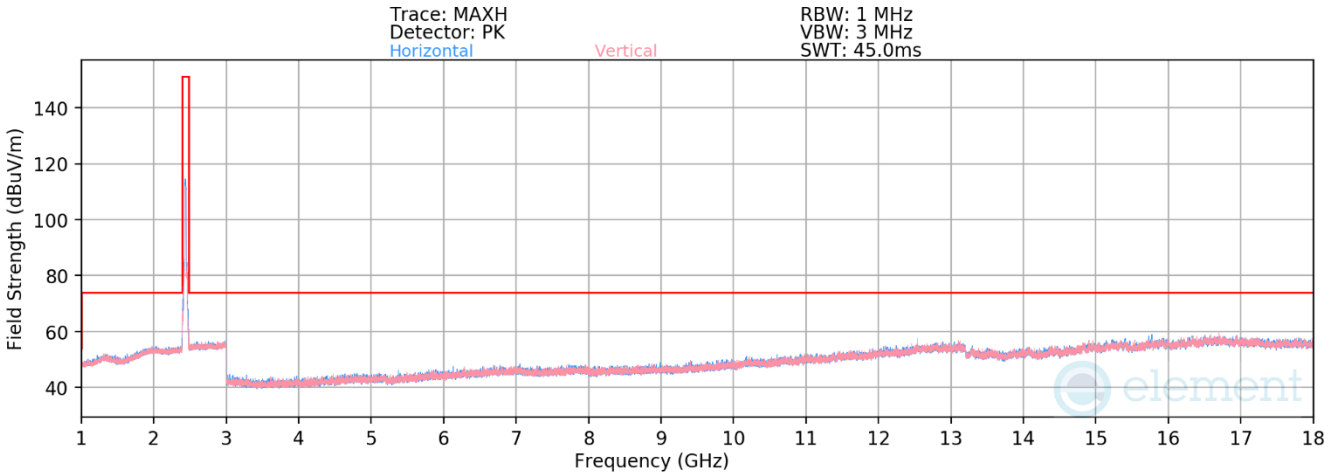


**Plot 7-451. Radiated Spurious Emissions above 1GHz Antenna 1a (802.11ax(SU) – Ch. 6)**

| | |
|---|---|
| Mode: | 802.11ax(SU) |
| Data Rate: | MCS0 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2437MHz |
| Channel: | 6 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4874.00 | Avg | V | - | - | -80.27 | 7.28 | 34.01 | 53.98 | -19.97 |
| 4874.00 | Peak | V | - | - | -68.92 | 7.28 | 45.36 | 73.98 | -28.62 |
| 7311.00 | Avg | V | - | - | -81.55 | 10.79 | 36.24 | 53.98 | -17.74 |
| 7311.00 | Peak | V | - | - | -70.59 | 10.79 | 47.20 | 73.98 | -26.78 |
| 12185.00 | Avg | V | - | - | -83.76 | 18.82 | 42.06 | 53.98 | -11.92 |
| 12185.00 | Peak | V | - | - | -72.72 | 18.82 | 53.10 | 73.98 | -20.88 |

**Table 7-58. Radiated Spurious Emission Measurements Antenna 1a**



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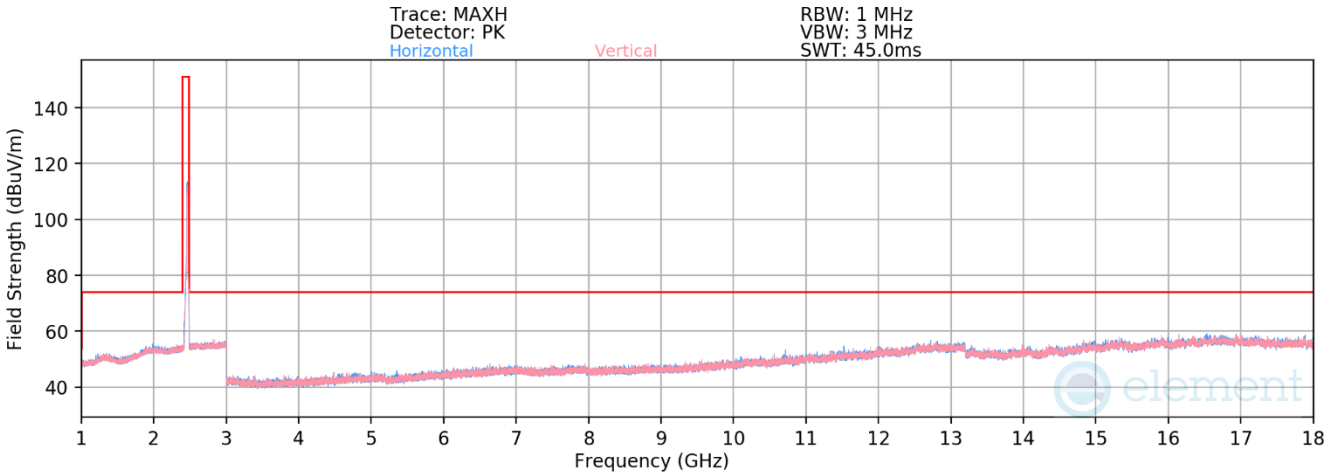


**Plot 7-452. Radiated Spurious Emissions above 1GHz Antenna 1a (802.11ax(SU) – Ch. 11)**

| | |
|---|---|
| Mode: | 802.11ax(SU) |
| Data Rate: | MCS0 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2462MHz |
| Channel: | 11 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4924.00 | Avg | V | - | - | -80.99 | 7.54 | 33.55 | 53.98 | -20.43 |
| 4924.00 | Peak | V | - | - | -69.06 | 7.54 | 45.48 | 73.98 | -28.50 |
| 7386.00 | Avg | V | - | - | -81.90 | 10.78 | 35.88 | 53.98 | -18.10 |
| 7386.00 | Peak | V | - | - | -70.28 | 10.78 | 47.50 | 73.98 | -26.48 |
| 12310.00 | Avg | V | - | - | -83.85 | 18.90 | 42.05 | 53.98 | -11.93 |
| 12310.00 | Peak | V | - | - | -72.77 | 18.90 | 53.13 | 73.98 | -20.85 |

**Table 7-59. Radiated Spurious Emission Measurements Antenna 1a**



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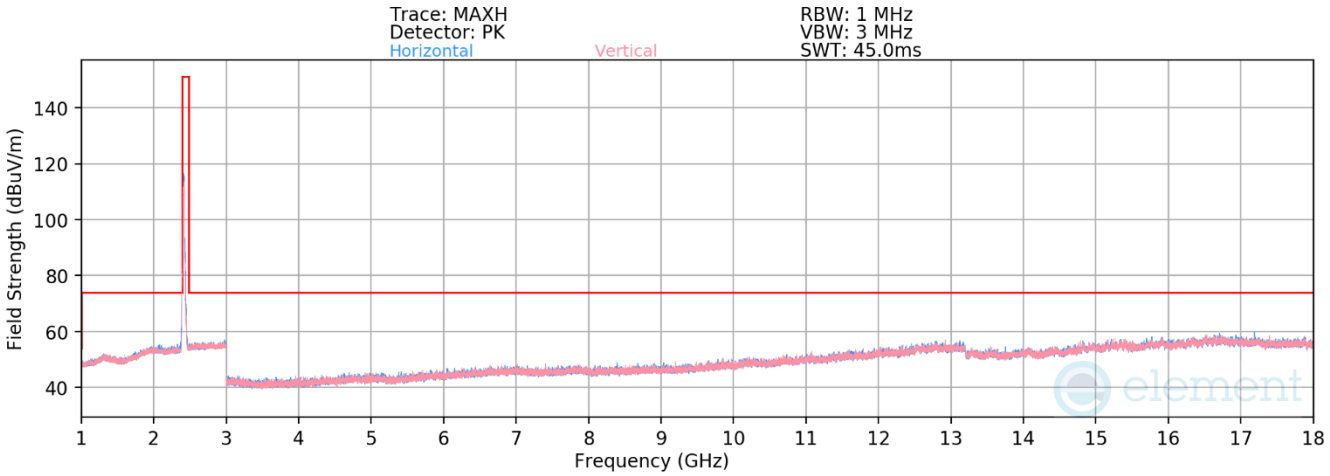
## 7.7.3 CDD Radiated Spurious Emission Measurements

**§15.247(d) §15.205 & §15.209; RSS-Gen [8.9]**




**Plot 7-453. Radiated Spurious Emissions above 1GHz CDD (802.11n – Ch. 1)**

| | |
|---|---|
| Mode: | 802.11n |
| Data Rate: | MCS10 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2412MHz |
| Channel: | 1 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4824.00 | Avg | V | - | - | -80.20 | 7.30 | 34.10 | 53.98 | -19.88 |
| 4824.00 | Peak | V | - | - | -69.63 | 7.30 | 44.67 | 73.98 | -29.31 |
| 12060.00 | Avg | V | - | - | -83.74 | 18.62 | 41.88 | 53.98 | -12.10 |
| 12060.00 | Peak | V | - | - | -72.65 | 18.62 | 52.97 | 73.98 | -21.01 |

**Table 7-60. Radiated Spurious Emission Measurements CDD**

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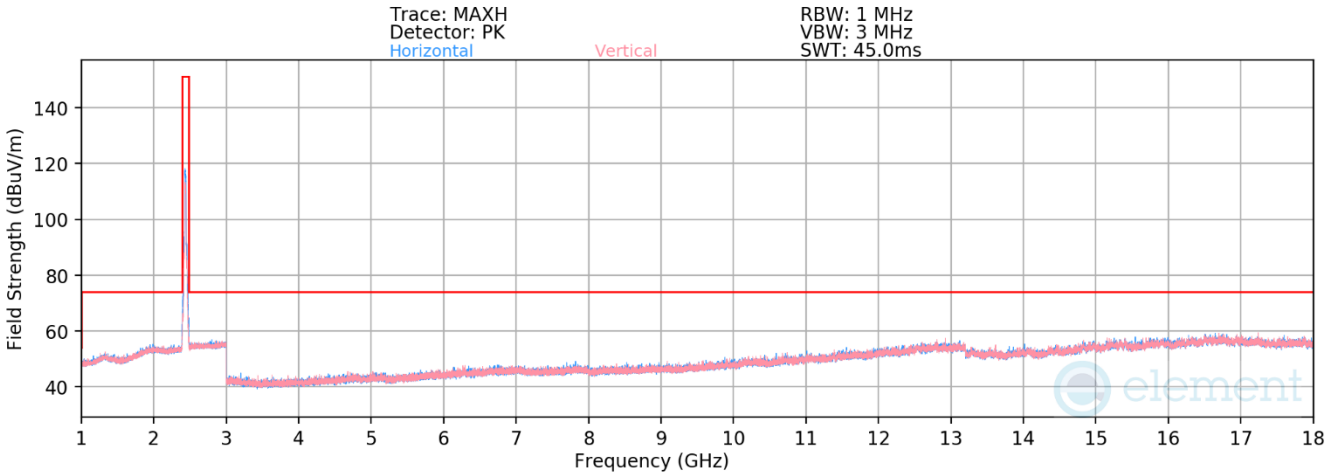
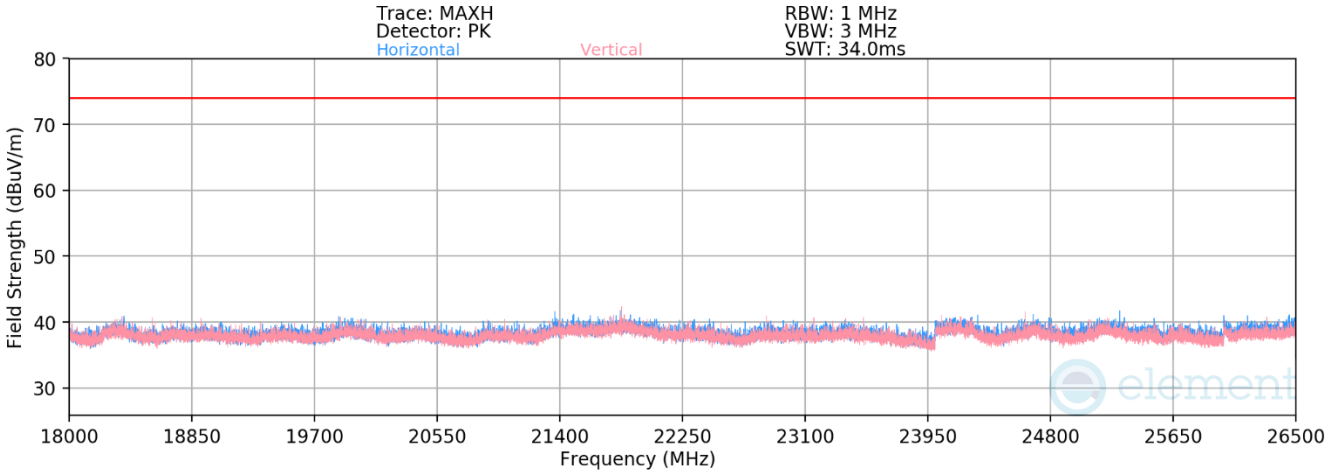



**Plot 7-454. Radiated Spurious Emissions above 1GHz CDD (802.11n – Ch. 6)**




**Plot 7-455. Radiated Spurious Emissions above 18GHz CDD (802.11n – Ch.6)**



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| | |
|---|---|
| Mode: | 802.11n |
| Data Rate: | MCS10 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2437MHz |
| Channel: | 6 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4874.00 | Avg | V | - | - | -80.28 | 7.27 | 33.99 | 53.98 | -19.99 |
| 4874.00 | Peak | V | - | - | -69.49 | 7.27 | 44.78 | 73.98 | -29.20 |
| 7311.00 | Avg | V | - | - | -81.62 | 10.79 | 36.17 | 53.98 | -17.81 |
| 7311.00 | Peak | V | - | - | -70.74 | 10.79 | 47.05 | 73.98 | -26.93 |
| 12185.00 | Avg | V | - | - | -83.64 | 18.82 | 42.18 | 53.98 | -11.80 |
| 12185.00 | Peak | V | - | - | -72.63 | 18.82 | 53.19 | 73.98 | -20.79 |

**Table 7-61. Radiated Spurious Emission Measurements CDD**



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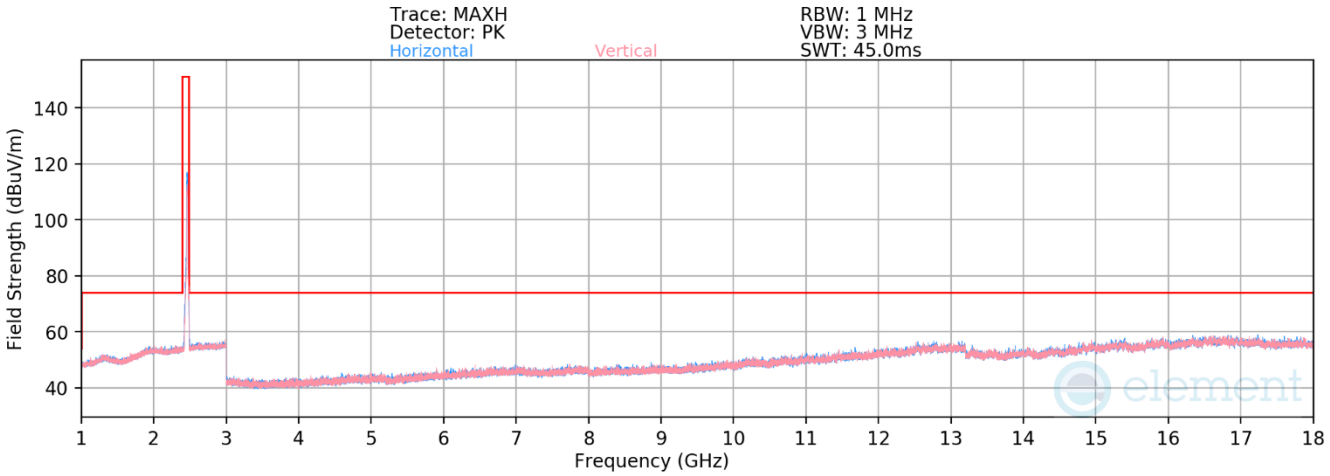


**Plot 7-456. Radiated Spurious Emissions above 1GHz CDD (802.11n – Ch. 11)**

| | |
|---|---|
| Mode: | 802.11n |
| Data Rate: | MCS10 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2462MHz |
| Channel: | 11 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4924.00 | Avg | V | - | - | -80.69 | 7.54 | 33.85 | 53.98 | -20.13 |
| 4924.00 | Peak | V | - | - | -69.53 | 7.54 | 45.01 | 73.98 | -28.97 |
| 7386.00 | Avg | V | - | - | -81.90 | 10.79 | 35.89 | 53.98 | -18.09 |
| 7386.00 | Peak | V | - | - | -70.19 | 10.79 | 47.60 | 73.98 | -26.38 |
| 12310.00 | Avg | V | - | - | -83.32 | 18.35 | 42.03 | 53.98 | -11.95 |
| 12310.00 | Peak | V | - | - | -71.11 | 18.35 | 54.24 | 73.98 | -19.74 |

**Table 7-62. Radiated Spurious Emission Measurements CDD**



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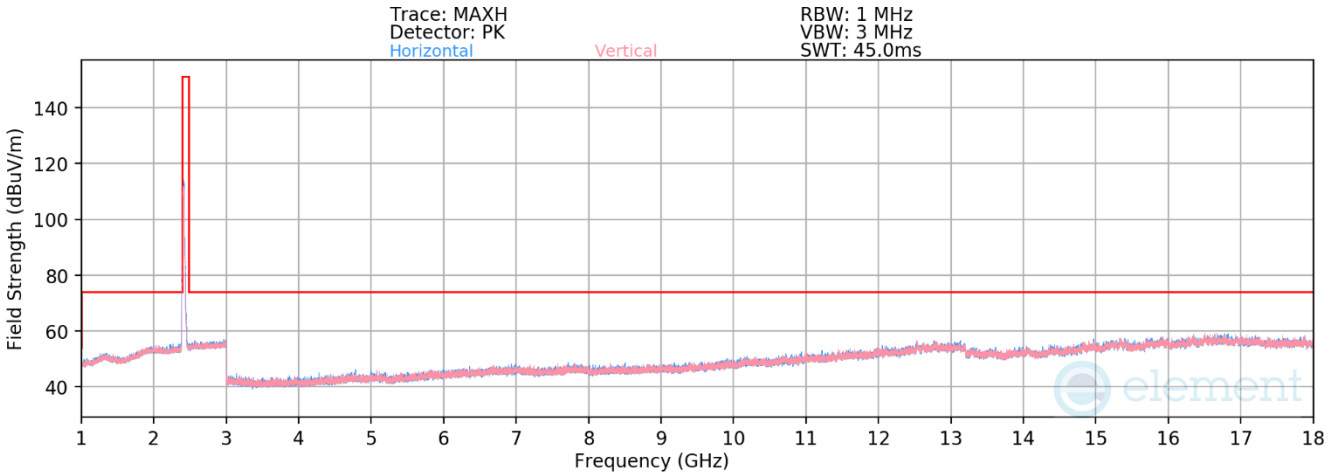


**Plot 7-457. Radiated Spurious Emissions above 1GHz CDD (802.11ax (SU) – Ch. 1)**

| | |
|---|---|
| Mode: | 802.11ax (SU) |
| Data Rate: | MCS2 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2412MHz |
| Channel: | 1 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4874.00 | Avg | V | - | - | -80.35 | 7.15 | 33.80 | 53.98 | -20.18 |
| 4874.00 | Peak | V | - | - | -68.49 | 7.15 | 45.66 | 73.98 | -28.32 |
| 12060.00 | Avg | V | - | - | -83.32 | 18.41 | 42.09 | 53.98 | -11.89 |
| 12060.00 | Peak | V | - | - | -72.64 | 18.41 | 52.77 | 73.98 | -21.21 |

**Table 7-63. Radiated Spurious Emission Measurements CDD**



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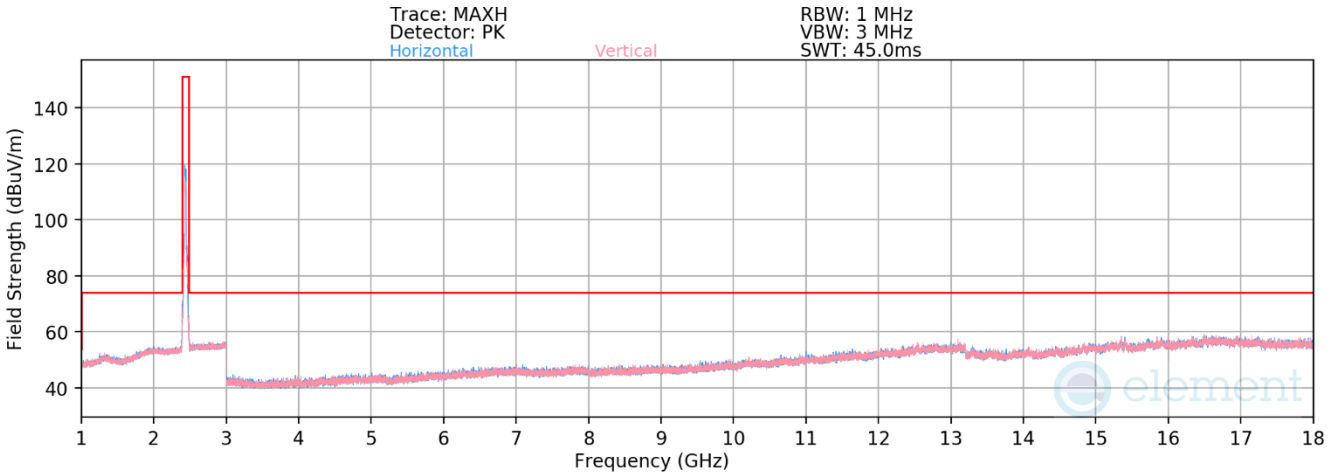
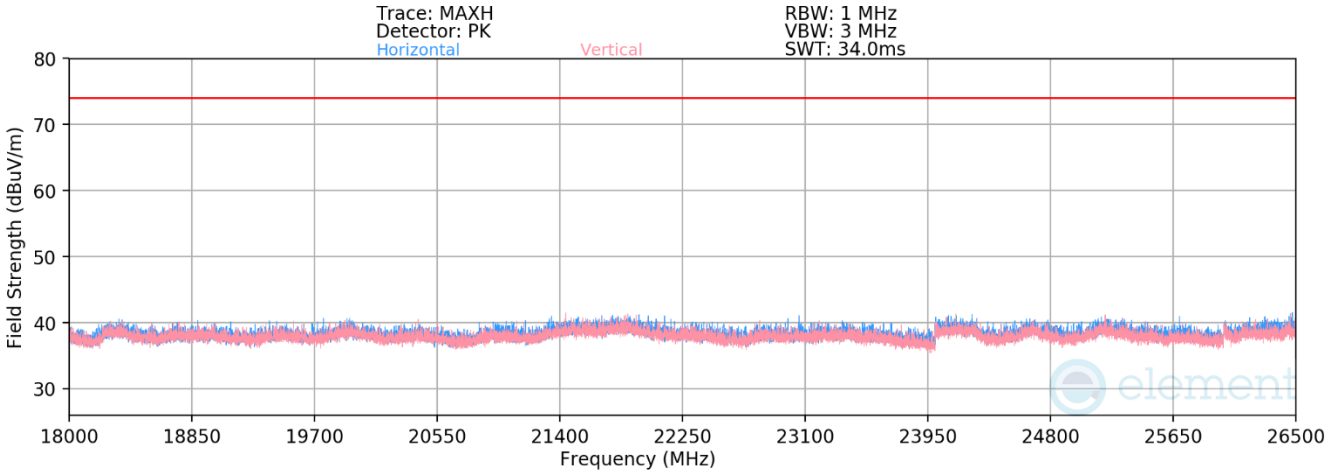



**Plot 7-458. Radiated Spurious Emissions above 1GHz CDD (802.11ax (SU) – Ch. 6)**




**Plot 7-459. Radiated Spurious Emissions above 18GHz CDD (802.11ax (SU) – Ch.6)**



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| | |
|---|---|
| Mode: | 802.11ax (SU) |
| Data Rate: | MCS2 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2437MHz |
| Channel: | 6 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4874.00 | Avg | V | - | - | -80.52 | 7.28 | 33.76 | 53.98 | -20.22 |
| 4874.00 | Peak | V | - | - | -68.40 | 7.28 | 45.88 | 73.98 | -28.10 |
| 7311.00 | Avg | V | - | - | -81.55 | 10.79 | 36.24 | 53.98 | -17.74 |
| 7311.00 | Peak | V | - | - | -70.54 | 10.79 | 47.25 | 73.98 | -26.73 |
| 12185.00 | Avg | V | - | - | -83.84 | 18.82 | 41.98 | 53.98 | -12.00 |
| 12185.00 | Peak | V | - | - | -72.82 | 18.82 | 53.00 | 73.98 | -20.98 |

**Table 7-64. Radiated Spurious Emission Measurements CDD**



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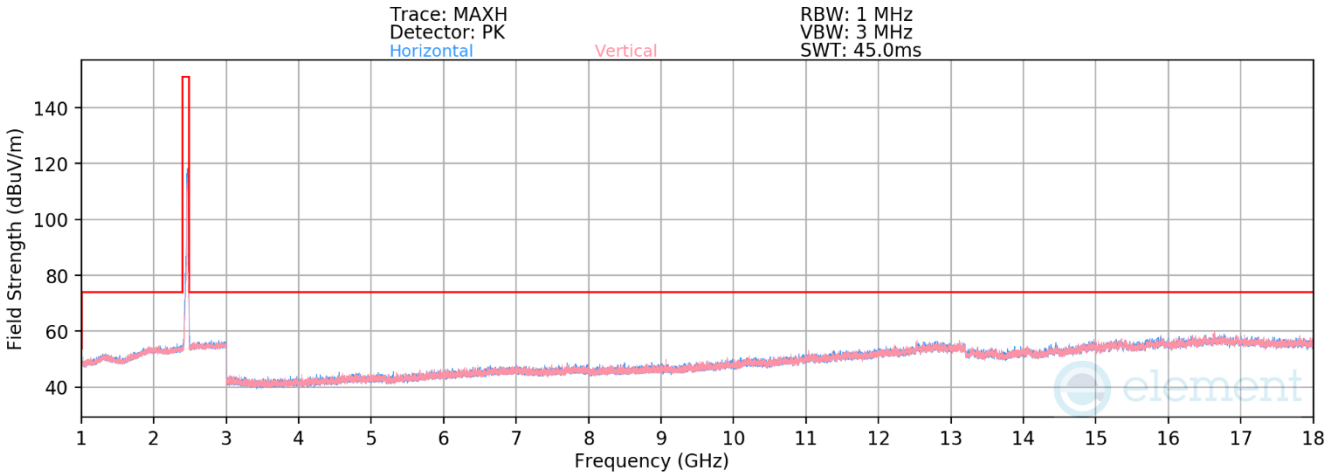


**Plot 7-460. Radiated Spurious Emissions above 1GHz CDD (802.11ax (SU) – Ch. 11)**

| | |
|---|---|
| Mode: | 802.11ax (SU) |
| Data Rate: | MCS2 |
| Distance of Measurements: | 3 Meters |
| Operating Frequency: | 2462MHz |
| Channel: | 11 |

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|---|---|---|---|---|---|---|---|---|---|
| 4924.00 | Avg | V | - | - | -80.84 | 7.54 | 33.70 | 53.98 | -20.28 |
| 4924.00 | Peak | V | - | - | -69.60 | 7.54 | 44.94 | 73.98 | -29.04 |
| 7386.00 | Avg | V | - | - | -81.56 | 10.78 | 36.22 | 53.98 | -17.76 |
| 7386.00 | Peak | V | - | - | -70.10 | 10.78 | 47.68 | 73.98 | -26.30 |
| 12310.00 | Avg | V | - | - | -83.95 | 18.90 | 41.95 | 53.98 | -12.03 |
| 12310.00 | Peak | V | - | - | -72.29 | 18.90 | 53.61 | 73.98 | -20.37 |

**Table 7-65. Radiated Spurious Emission Measurements CDD**



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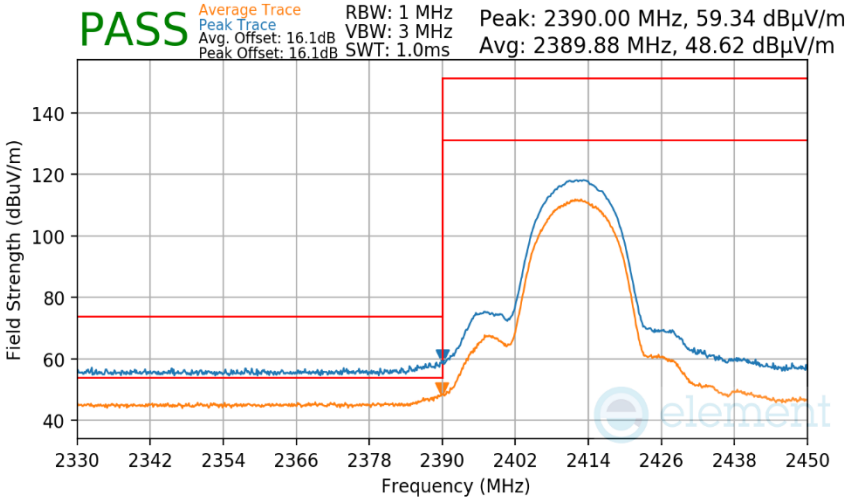
## 7.7.4 Antenna 3a Radiated Restricted Band Edge Measurements

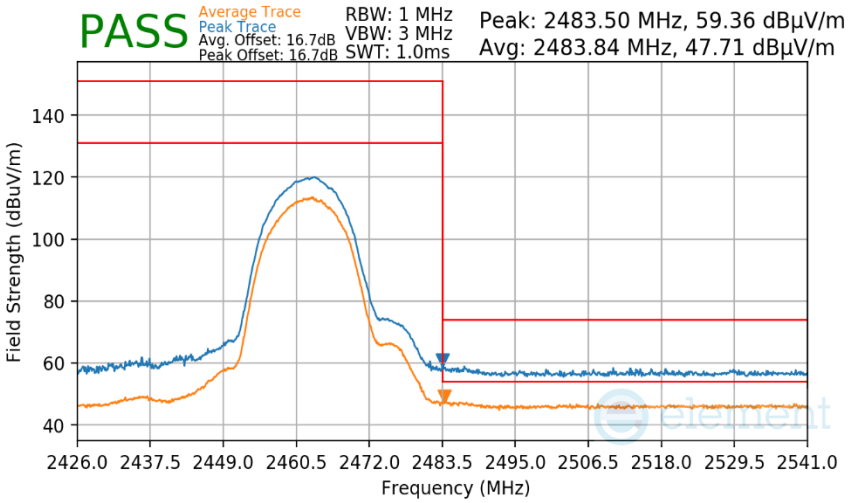
**§15.205 §15.209; RSS-Gen [8.9]**

| | |
|---|---|
| **Mode** | 802.11b |
| **Data Rate** | 11Mbps |
| **Distance of Measurement** | 3 Meters |
| **Operating Frequency** | 2412MHz |
| **Channel** | 1 |




**Plot 7-461 Radiated Restricted Lower Band Edge Measurement Antenna 3a**

| | |
|---|---|
| **Mode** | 802.11b |
| **Data Rate** | 11Mbps |
| **Distance of Measurement** | 3 Meters |
| **Operating Frequency** | 2462MHz |
| **Channel** | 11 |




**Plot 7-462 Radiated Restricted Upper Band Edge Measurement Antenna 3a**

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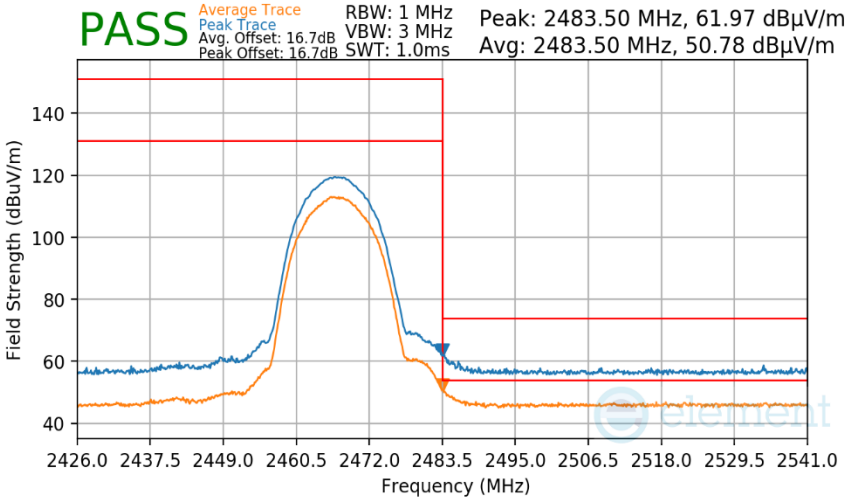
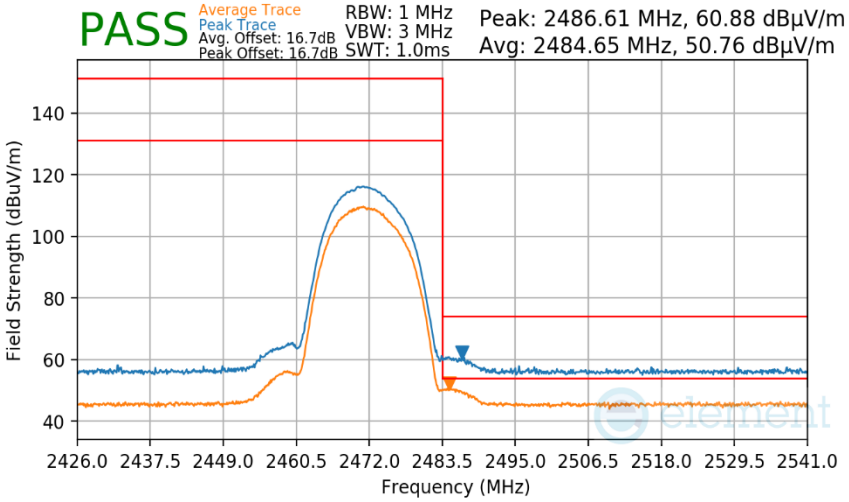
| | |
|---|---|
| **Mode** | 802.11b |
| **Data Rate** | 11Mbps |
| **Distance of Measurement** | 3 Meters |
| **Operating Frequency** | 2467MHz |
| **Channel** | 12 |




**Plot 7-463 Radiated Restricted Upper Band Edge Measurement Antenna 3a**

| | |
|---|---|
| **Mode** | 802.11b |
| **Data Rate** | 11Mbps |
| **Distance of Measurement** | 3 Meters |
| **Operating Frequency** | 2472MHz |
| **Channel** | 13 |




**Plot 7-464 Radiated Restricted Upper Band Edge Measurement Antenna 3a**



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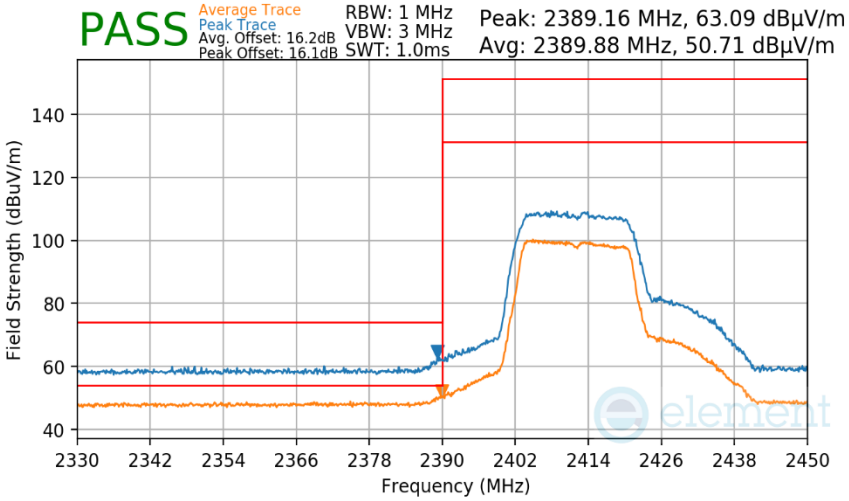
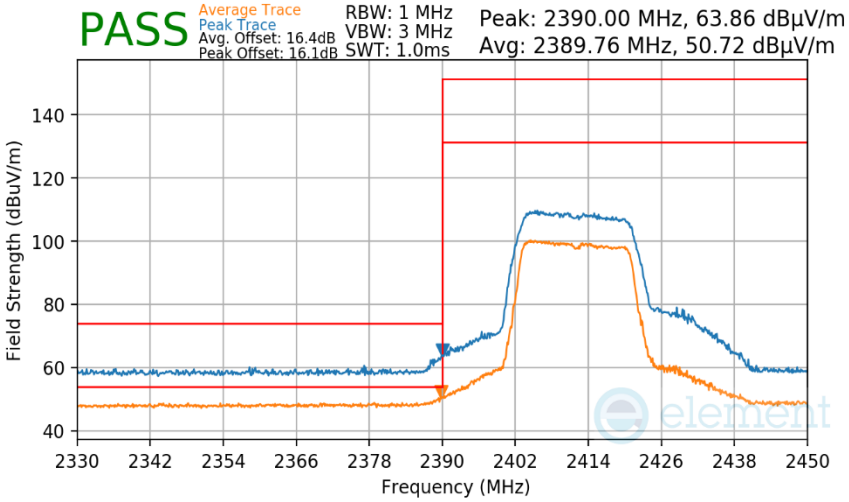
| | |
|---|---|
| **Mode** | 802.11n |
| **Data Rate** | MCS2 |
| **Distance of Measurement** | 3 Meters |
| **Operating Frequency** | 2412MHz |
| **Channel** | 1 |




**Plot 7-465 Radiated Restricted Lower Band Edge Measurement Antenna 3a**

| | |
|---|---|
| **Mode** | 802.11n |
| **Data Rate** | MCS4 |
| **Distance of Measurement** | 3 Meters |
| **Operating Frequency** | 2412MHz |
| **Channel** | 1 |




**Plot 7-466 Radiated Restricted Lower Band Edge Measurement Antenna 3a**



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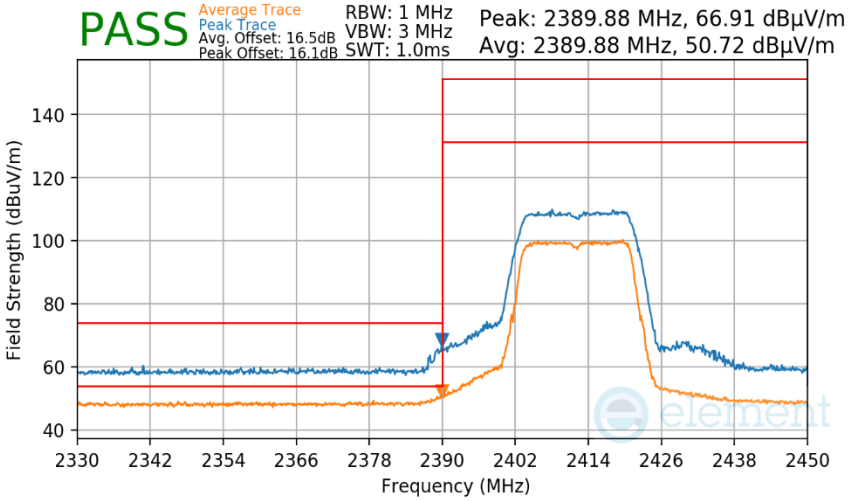
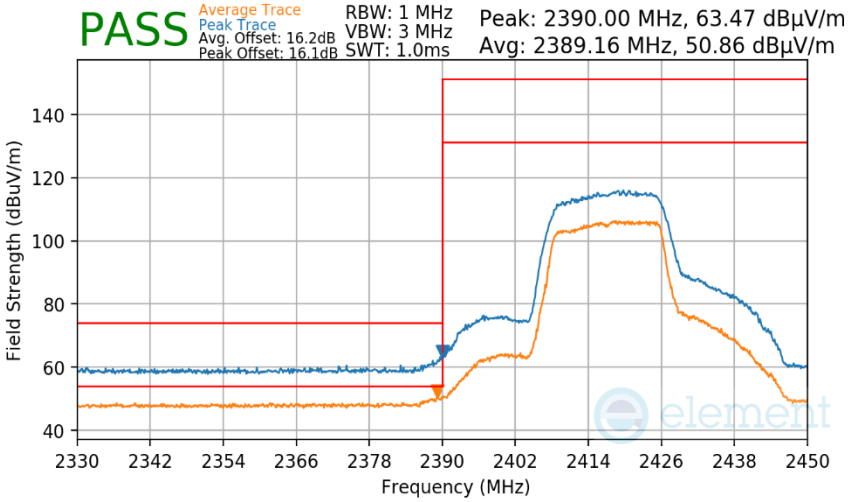
| | |
|---|---|
| **Mode** | 802.11n |
| **Data Rate** | MCS7 |
| **Distance of Measurement** | 3 Meters |
| **Operating Frequency** | 2412MHz |
| **Channel** | 1 |




**Plot 7-467 Radiated Restricted Lower Band Edge Measurement Antenna 3a**

| | |
|---|---|
| **Mode** | 802.11n |
| **Data Rate** | MCS2 |
| **Distance of Measurement** | 3 Meters |
| **Operating Frequency** | 2417MHz |
| **Channel** | 2 |




**Plot 7-468 Radiated Restricted Lower Band Edge Measurement Antenna 3a**

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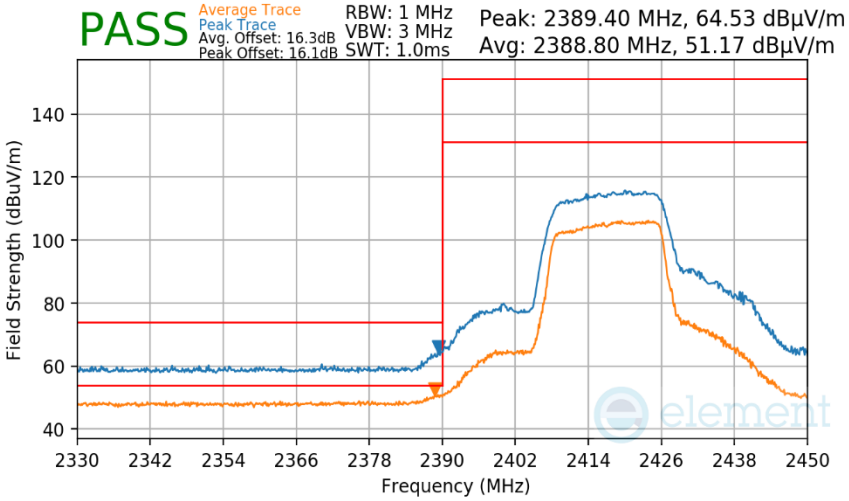
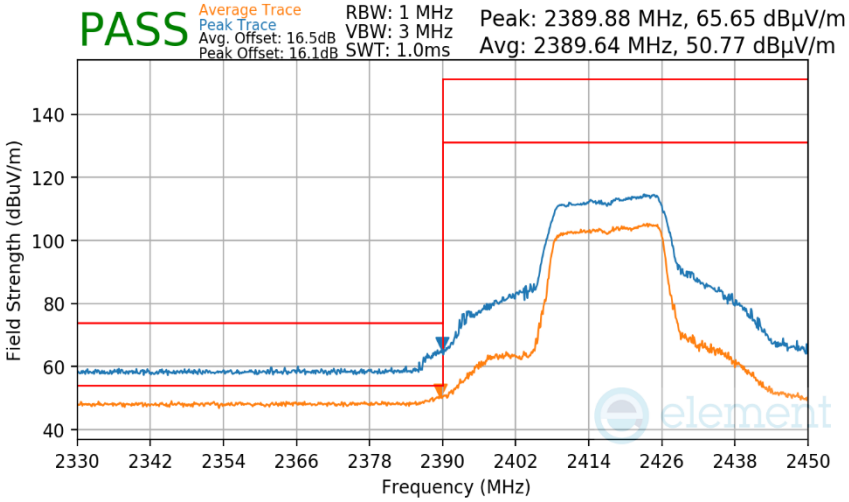
| | |
|---|---|
| **Mode** | 802.11n |
| **Data Rate** | MCS4 |
| **Distance of Measurement** | 3 Meters |
| **Operating Frequency** | 2417MHz |
| **Channel** | 2 |




**Plot 7-469 Radiated Restricted Lower Band Edge Measurement Antenna 3a**

| | |
|---|---|
| **Mode** | 802.11n |
| **Data Rate** | MCS7 |
| **Distance of Measurement** | 3 Meters |
| **Operating Frequency** | 2417MHz |
| **Channel** | 2 |




**Plot 7-470 Radiated Restricted Lower Band Edge Measurement Antenna 3a**

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