



## Regulatory Test Report

### Prepared for u-blox AG

This report presents detailed information on

### NORA-W3 series

Prepared by

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Engineer II

Approved by

Jason Kanakry

General Manager

Issue date: 05/16/2024

Report No: J23220-TR1 v1.3

This test result relates only to the described test object.

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Customer must not use this test report as the product certification of each accreditation body or each national organization.

The test is traceable to national standard or related international standard

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## 1. Test Request Information

|                            |                                                                                                                                                                          |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Request #:            | 24660                                                                                                                                                                    |
| Test Requested By:         | Bob Recny<br>u-blox AG, Zürcherstrasse 68, Thalwil, 8800, Switzerland                                                                                                    |
| Test item Description:     | NORA-W3 series stand-alone dual-band Wi-Fi and Bluetooth modules                                                                                                         |
| Part Number:               | NORA-W300, NORA-W301, NORA-W306,<br>NORA-W360, NORA-W361, NORA-W366                                                                                                      |
| DUT Sample Number:         | J23220-W300#1<br>J23220-W301#2<br>J23220-W306#1                                                                                                                          |
| Hardware Version of DUT:   | Rev 03                                                                                                                                                                   |
| Software Version of DUT:   | MP v2.5 or newer (Test Mode)<br>u-connectXpress v0.28.0d-281 or newer (Normal Operation)                                                                                 |
| Component Category of DUT: | N/A                                                                                                                                                                      |
| FCC ID:                    | XPYNORAW3                                                                                                                                                                |
| ISED ID:                   | 8595A-NORAW3                                                                                                                                                             |
| Type of Test:              | FCC/ISED Certification                                                                                                                                                   |
| Test Method:               | CFR Title 47 FCC Part 15.247, ISED Canada RSS-247 Issue 3,<br>ISED Canada RSS-GEN Issue 5, FCC KDB 558074 D01 15.247 Measurement Guidance<br>v05r02 and ANSI C63.10-2013 |
| Deviations from standard:  | None                                                                                                                                                                     |
| Approved Test Plan Number: | N/A                                                                                                                                                                      |
| Test Plan Revision:        | N/A                                                                                                                                                                      |
| Date Test Sample Received: | 10-04-2023                                                                                                                                                               |
| Date Test Started:         | 12-04-2023                                                                                                                                                               |
| Date Test Finished:        | 05-13-2024                                                                                                                                                               |

## 2. Test Laboratory Information

|                                   |                                                                                                                                                                                                                           |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Location of Test Lab:</b>      | The radiated and conducted emissions test sites are located at<br>Bureau Veritas<br>815 N. Opdyke Rd #100,<br>Auburn Hills, MI 48326,<br>Phone: +1-248-836-4700                                                           |
| <b>Key Contact:</b>               | Jason Kanakry (General Manager)<br><a href="mailto:Jason.Kanakry@BureauVeritas.com">Jason.Kanakry@BureauVeritas.com</a><br>Phone: +1-248-836-4747                                                                         |
| <b>Laboratory Accreditations:</b> | BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. |
| <b>ISO/IEC 17025:2017:</b>        | 5678.01                                                                                                                                                                                                                   |
| <b>FCC Test Site Number:</b>      | US1278 (242530)                                                                                                                                                                                                           |
| <b>IC Test Site Number:</b>       | US0229 (26240)                                                                                                                                                                                                            |

### 3. Statement of Conformity

| RSS-GEN | Part 15          | Comments                                                                                                                                                                               |
|---------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.4     | 15.15(b)         | There are no controls accessible to the user that varies the output power to operate in violation of the regulatory requirements.                                                      |
|         | 15.19            | The label shown in the label exhibit.                                                                                                                                                  |
|         | 15.21            | Information to the user shown in the instruction manual exhibit.                                                                                                                       |
|         | 15.27            | No special accessories are required for compliance.                                                                                                                                    |
| 3.2     | 15.31            | The EUT tested in accordance with the measurement standards in this section.                                                                                                           |
| 6.13.2  | 15.33            | Frequency range investigated according to this section, unless noted in specific rule section under which the equipment operates.                                                      |
| 6.13.1  | 15.35            | The EUT emissions measured using the measurement detector and bandwidth specified in this section, unless noted in specific rule section under which the equipment operates.           |
| 6.8     | 15.203           | EUT employs.<br>5.3dBi (Pulse ANTX100P001B24553)<br>3.8dBi (Taolgas GW.59)<br>0.5dBi (Integrated PCB antenna)<br>3.5dBi (Abracon AFG4507W2S)<br>1.9dBi (TE ANT-DB1-RAF-RPS)            |
| 8.10    | 15.205<br>15.209 | The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209 or RSS-GEN as applicable |
| 8.8     | 15.207           | N/A. EUT is vehicle battery powered only.                                                                                                                                              |

## 4. Conducted Testing

### 4.1 Test Summary

This test report supports an application for certification of a transmitter operating pursuant to: **CFR Title 47 FCC Part 15.247, ISSED Canada RSS-247 Issue 3**. The products are **NORA-W300, NORA-W301, NORA-W306, NORA-W360, NORA-W361, NORA-W366** transmitters that operate in the 2412-2462MHz frequency range.

| Details                   | Description                                                                                                                                                                                                               |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency Range (MHz)     | 2412 – 2462                                                                                                                                                                                                               |
| Tested Modes              | 802.11b,802.11g,802.11n                                                                                                                                                                                                   |
| Number of Channels        | 11                                                                                                                                                                                                                        |
| Tested Channels           | 1, 6 ,11 (20MHz)<br>3, 9 (40MHz)                                                                                                                                                                                          |
| Tested DUT Models         | NORA-W300, NORA-W301, NORA-W306                                                                                                                                                                                           |
| Not Tested DUT Models     | NORA-W360, NORA-W361, NORA-W366                                                                                                                                                                                           |
| Number of transmit Chains | 1                                                                                                                                                                                                                         |
| Equipment Type            | Equipment with wideband modulation other than frequency hopping                                                                                                                                                           |
| DUT/EUT Operation         | EUT is configured/programmed by an External Test Laptop with Serial Commination interface to set WLAN Test Mode, data rates, channels, bandwidth, band configurations etc., using NORA-W3 Series Test Controller program. |

| DUT Antenna | Brand   | Model             | Type     | Gain<br><input checked="" type="checkbox"/> Provided by Customer with Gain Report<br><input type="checkbox"/> Not Provided by Customer |
|-------------|---------|-------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------|
| 1           | YAGEO   | ANTX100P001B24553 | Pulse    | 5.3dBi                                                                                                                                 |
| 2           | TAOLGAS | GW.59             | Dipole   | 3.8dBi                                                                                                                                 |
| 3           | U-BLOX  | NORA-W3x6 trace   | Internal | 0.5dBi                                                                                                                                 |
| 4           | ABRACON | AFG4507W2S        | Patch    | 3.5dBi                                                                                                                                 |
| 5           | TE      | ANT-DB1-RAF-RPS   | Dipole   | 1.9dBi                                                                                                                                 |

## Channels and Frequency

| Channel  | Freq. (MHz) | Channel   | Freq. (MHz) |
|----------|-------------|-----------|-------------|
| <b>1</b> | <b>2412</b> | 8         | 2447        |
| 2        | 2417        | <b>9</b>  | 2452        |
| <b>3</b> | 2422        | 10        | 2457        |
| 4        | 2427        | <b>11</b> | <b>2462</b> |
| 5        | 2432        |           |             |
| <b>6</b> | <b>2437</b> |           |             |
| 7        | 2442        |           |             |

### Notes:

1. Channels marked bold were tested.
2. Output power measurements performed at the lowest and highest data rate of each supported 802.11 mode.

## Power Settings

| NORA-W300, NORA-W301 (20MHz) |               |               |               |
|------------------------------|---------------|---------------|---------------|
| 802.11b                      |               | 802.11g       |               |
| Channel                      | Power Setting | Channel       | Power Setting |
| 1                            | 17.5          | 1             | 11.5          |
| 2                            | 17.5          | 2             | 15            |
| 3-9                          | 20            | 3-9           | 18            |
| 10                           | 17.5          | 10            | 15            |
| 11                           | 17.5          | 11            | 11.5          |
| 802.11n (HT20)               |               |               |               |
| Channel                      |               | Power Setting |               |
| 1                            |               | 11            |               |
| 2                            |               | 15            |               |
| 6                            |               | 18            |               |
| 10                           |               | 15            |               |
| 11                           |               | 11            |               |

| NORA-W306 (20MHz) |               |               |               |
|-------------------|---------------|---------------|---------------|
| 802.11b           |               | 802.11g       |               |
| Channel           | Power Setting | Channel       | Power Setting |
| 1                 | 17.5          | 1             | 15.5          |
| 2                 | 19            | 2             | 16.5          |
| 3-9               | 20            | 3-9           | 19            |
| 10                | 19            | 10            | 16.5          |
| 11                | 17.5          | 11            | 15.5          |
| 802.11n (HT20)    |               |               |               |
| Channel           |               | Power Setting |               |
| 1                 |               | 13            |               |
| 2                 |               | 16.5          |               |
| 6                 |               | 18            |               |
| 10                |               | 16.5          |               |
| 11                |               | 13            |               |

| NORA-W300, NORA-W301 (40MHz) |               |
|------------------------------|---------------|
| 802.11n (HT40)               |               |
| Channel                      | Power Setting |
| 3                            | 10            |
| 5                            | 12            |
| 7                            | 11            |
| 9                            | 9             |

| NORA-W306 (40MHz) |               |
|-------------------|---------------|
| 802.11n (HT40)    |               |
| Channel           | Power Setting |
| 3                 | 11            |
| 5                 | 14            |
| 7                 | 13            |
| 9                 | 11            |

## Test Results

| Test                           | Frequency (MHz) | 802.11b | 802.11g | 802.11n (HT20) |
|--------------------------------|-----------------|---------|---------|----------------|
| RF Output Power                | 2412/2437/2462  | PASS    | PASS    | PASS           |
| Power Spectral Density         | 2412/2437/2462  | PASS    | PASS    | PASS           |
| DTS Bandwidth (6dB)            | 2412/2437/2462  | PASS    | PASS    | PASS           |
| Occupied Channel Bandwidth 99% | 2412/2437/2462  | PASS    | PASS    | PASS           |
| Band Edges Low                 | 2412            | PASS    | PASS    | PASS           |
| Band Edges High                | 2462            | PASS    | PASS    | PASS           |
| Conducted Spurious Emissions   | 2412/2437/2462  | PASS    | PASS    | PASS           |

| Test                           | Frequency (MHz) | 802.11n (HT40) |
|--------------------------------|-----------------|----------------|
| RF Output Power                | 2422/2452       | PASS           |
| Power Spectral Density         | 2422/2452       | PASS           |
| DTS Bandwidth (6dB)            | 2422/2452       | PASS           |
| Occupied Channel Bandwidth 99% | 2422/2452       | PASS           |
| Band Edges Low                 | 2422            | PASS           |
| Band Edges High                | 2452            | PASS           |
| Conducted Spurious Emissions   | 2422/2452       | PASS           |

We found that the product met the requirements. Test samples received in good condition and remains good and functional post testing.

| Test Item                            | Sample #      | Result             |
|--------------------------------------|---------------|--------------------|
| <a href="#">FCC 15.247 2.4G WLAN</a> | J23220-W300#1 | Meets Requirements |

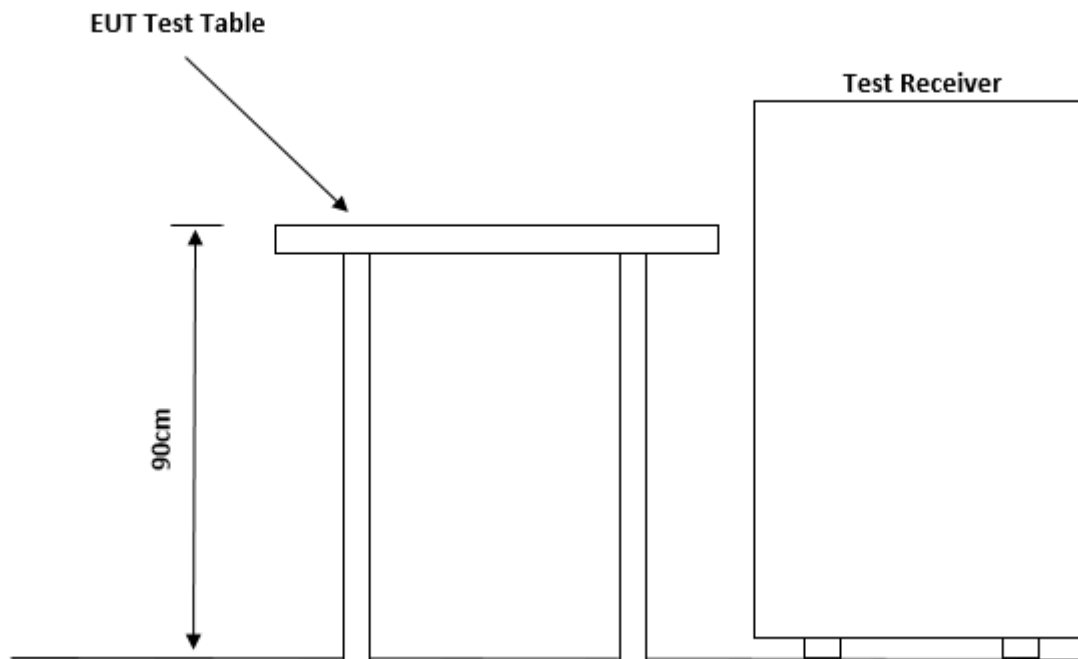
Notes:-

- W300 (J23220-W300#1) is used for conducted and radiated full testing as this has Antenna port on module.
- In addition, spot checks for radiated testing are performed on W301 (J23220-W301#2) and W306 (J23220-W306#1) which is further explained in Section 5 of this test report.

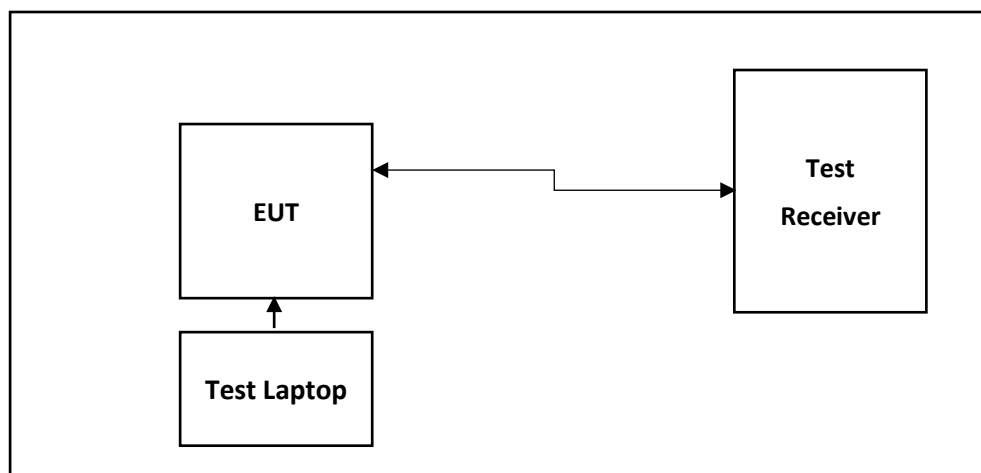
## 4.2 Test Setup

### Conducted Test Site Description

The site is accommodated to test tabletop and floor standing test equipment.



TEST SETUP DIAGRAM



### 4.3 Test Equipment Used

| ID #    | Equipment                                     | Manufacturer    | Model #      | Serial #   | Cal Due    |
|---------|-----------------------------------------------|-----------------|--------------|------------|------------|
| BVD0226 | Spectrum Analyzer 10Hz-44GHz                  | Rohde & Schwarz | FSV3044      | 101018     | 4/14/2024  |
| BVD0227 | 8 port switch unit for Wireless Test system   | Rohde & Schwarz | OSP150       | 101100     | 11/24/2025 |
| BVD0228 | 8 port switch unit for Wireless Test system   | Rohde & Schwarz | OSP220       | 101632     | 11/14/2025 |
| BVD0224 | Signal Generator 100kHz-40GHz                 | Rohde & Schwarz | SMB100A      | 181741     | 4/15/2024  |
| BVD0225 | Signal Generator 100k-6GHz with GPS simulator | Rohde & Schwarz | SMW200A      | 107664     | 4/15/2024  |
| BVD0250 | Wireless Connectivity Tester 70M-6GHz         | Rohde & Schwarz | CMW270       | 102113     | 4/15/2024  |
| BVD0321 | Fixed Attenuator 2W 20dB -40GHz               | Mini-Circuits   | BW-K20-2W44+ | 2103       | 12/11/2024 |
| BVD0430 | Multimeter                                    | Fluke           | 117          | 49710262SV | 11/17/2024 |
| BVD0229 | Temp and Humidity Meter                       | Fluke           | 971          | 12001009   | 5/25/2024  |

### Customer Supplied Equipment

| ID # | Equipment                      | Manufacturer | Model | Serial # | Version No. |
|------|--------------------------------|--------------|-------|----------|-------------|
| N/A  | Test Laptop                    | Dell         | E7250 | B38BY52  | N/A         |
| N/A  | NORA-W3 Series Test Controller | Ublox        | N/A   | N/A      | 1.7.0.1     |

### Equipment List (Software)

| ID # | Equipment         | Manufacturer    | Model | Version No |     |
|------|-------------------|-----------------|-------|------------|-----|
| N/A  | EMC Test Software | Rodhe & Schwarz | EMC32 | 11.20.00   | N/A |

## 4.4 Test Data

### 4.4.1 RF Output Power

Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 11.9.2.3.2, RSS-247 5.4 (d)

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.

Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

#### 802.11b

| Data Rate | Gated RMS (dBm)<br>2412 MHz | Gated RMS (dBm)<br>2437 MHz | Gated RMS (dBm)<br>2462 MHz | Limit (dBm) |
|-----------|-----------------------------|-----------------------------|-----------------------------|-------------|
| 1 Mbps    | 18.112                      | 19.693                      | 18.226                      | 30.0        |

#### 802.11g

| Data Rate | Gated RMS (dBm)<br>2412 MHz | Gated RMS (dBm)<br>2437 MHz | Gated RMS (dBm)<br>2462 MHz | Limit (dBm) |
|-----------|-----------------------------|-----------------------------|-----------------------------|-------------|
| 6 Mbps    | 15.112                      | 17.783                      | 15.375                      | 30.0        |

#### 802.11n (HT20)

| Data Rate | Gated RMS (dBm)<br>2412 MHz | Gated RMS (dBm)<br>2437 MHz | Gated RMS (dBm)<br>2462 MHz | Limit (dBm) |
|-----------|-----------------------------|-----------------------------|-----------------------------|-------------|
| MCS0      | 12.783                      | 16.553                      | 12.934                      | 30.0        |

#### 802.11n (HT40)

| Data Rate | Gated RMS (dBm)<br>2422 MHz | Gated RMS (dBm)<br>2452 MHz | Limit (dBm) |
|-----------|-----------------------------|-----------------------------|-------------|
| MCS0      | 16.451                      | 16.423                      | 30.0        |

## 4.4.2 Power Spectral Density

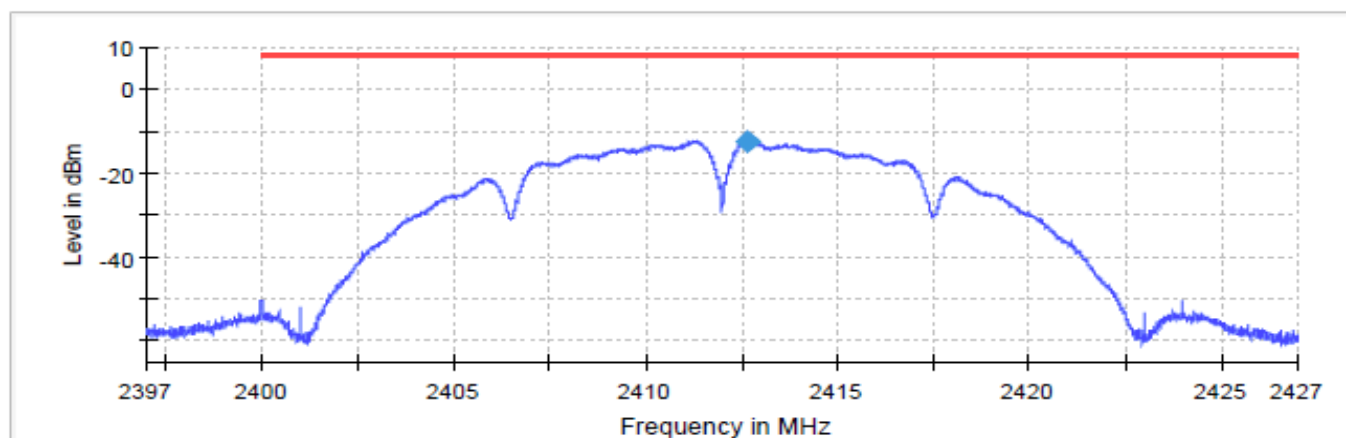
Test according to FCC title 47 part 15 §15.247(e), KDB 558074 D01 DTS Meas Guidance v05r02 F and ANSI C63.10-2013 Section 11.10.2, RSS-247 5.2 (b)

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.3 dB

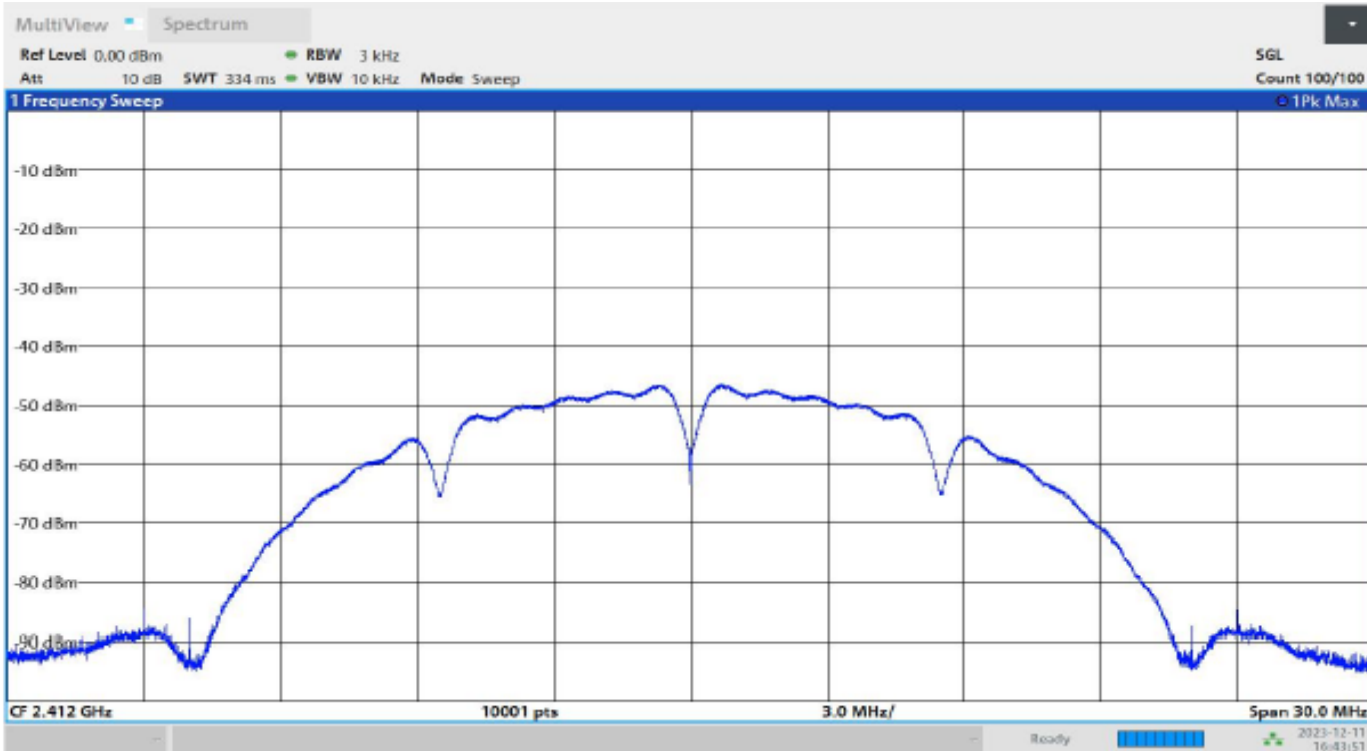
| Mode    | Data Rate | PSD (dBm)<br>2412 MHz | PSD (dBm)<br>2437 MHz | PSD (dBm)<br>2462 MHz | Limit (dBm) |
|---------|-----------|-----------------------|-----------------------|-----------------------|-------------|
| 802.11b | 1 Mbps    | -12.267               | -10.760               | -12.230               | 8.0         |

### 802.11b 2412MHz 1Mbps

Power Spectral Density



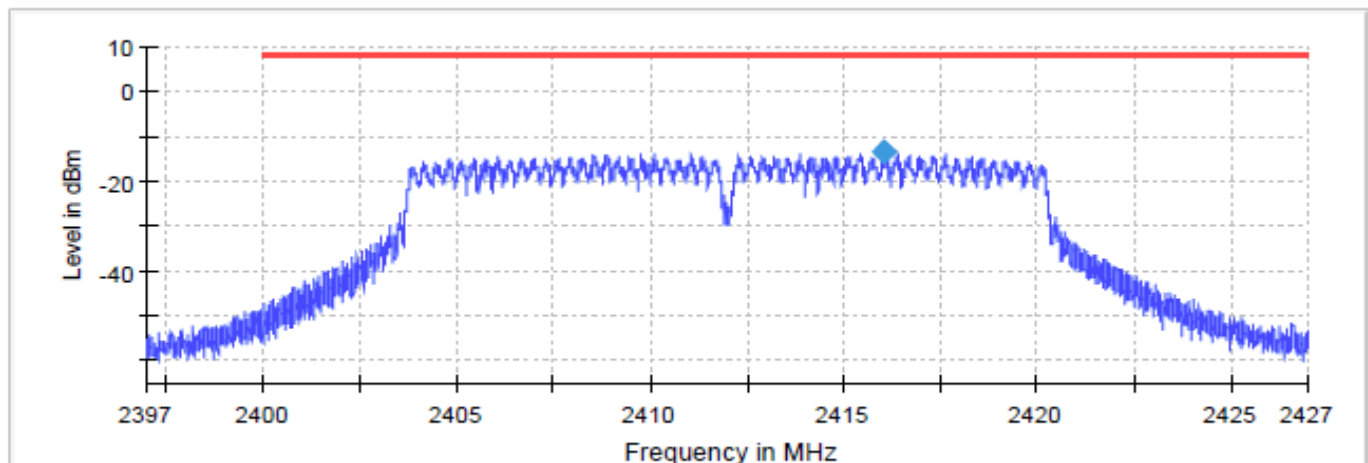
Connector 1 Sum Level Limit PSD



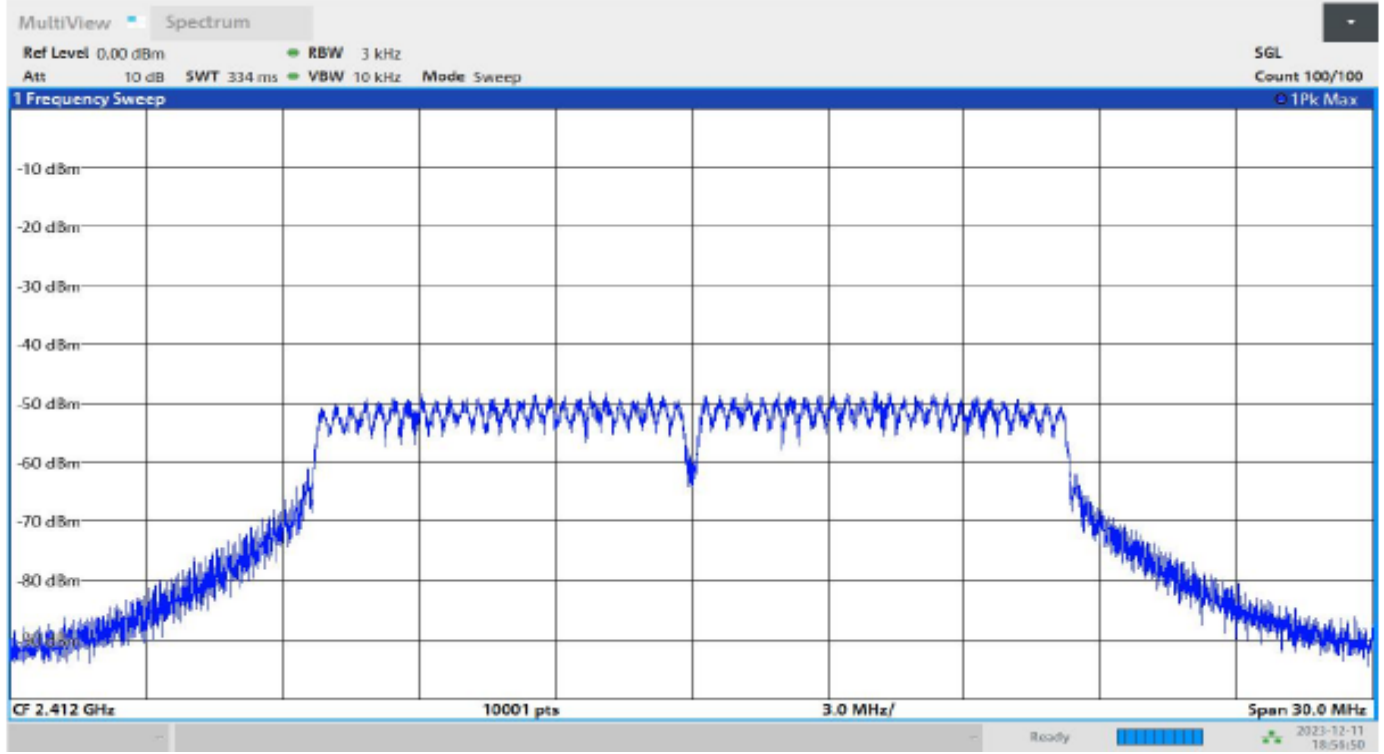
| Mode    | Data Rate | PSD (dBm)<br>2412 MHz | PSD (dBm)<br>2437 MHz | PSD (dBm)<br>2462 MHz | Limit (dBm) |
|---------|-----------|-----------------------|-----------------------|-----------------------|-------------|
| 802.11g | 6Mbps     | -13.588               | -11.849               | -13.753               | 8.0         |

#### 802.11g 2412MHz 6Mbps

Power Spectral Density



Connector 1 Sum Level Limit PSD

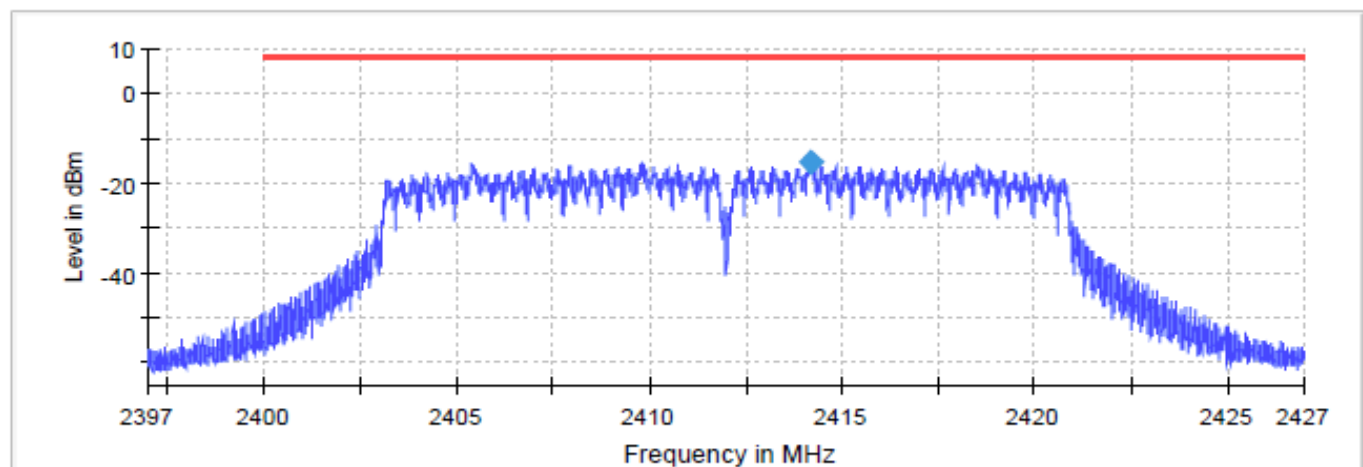


| Mode         | Data Rate | PSD (dBm)<br>2412 MHz | PSD (dBm)<br>2437 MHz | PSD (dBm)<br>2462 MHz | Limit (dBm) |
|--------------|-----------|-----------------------|-----------------------|-----------------------|-------------|
| 802.11n HT20 | MCS0      | -15.146               | -11.529               | -15.017               | 8.0         |

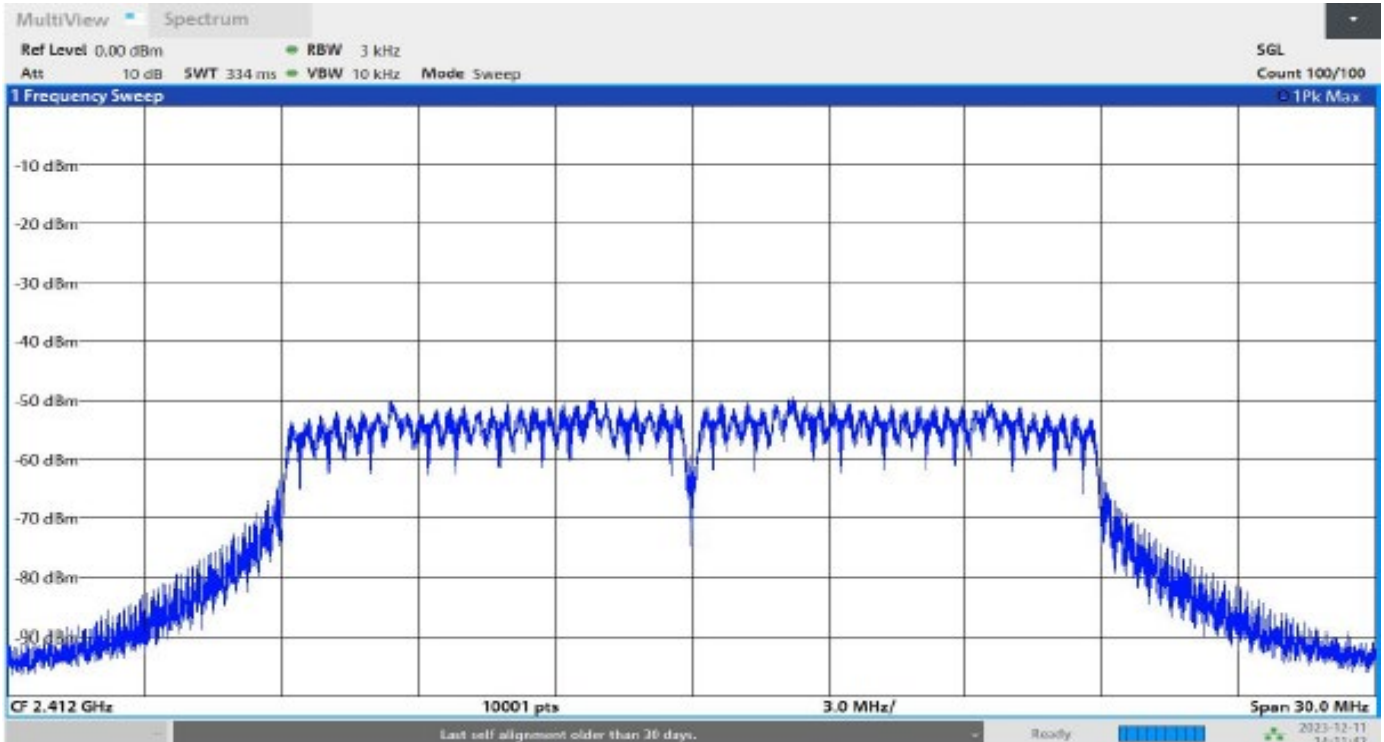
| Mode         | Data Rate | PSD (dBm)<br>2422 MHz | PSD (dBm)<br>2452 MHz | Limit (dBm) |
|--------------|-----------|-----------------------|-----------------------|-------------|
| 802.11n HT40 | MCS0      | -12.417               | -12.131               | 8.0         |

## 802.11n

Power Spectral Density



Connector 1 Sum Level Limit PSD

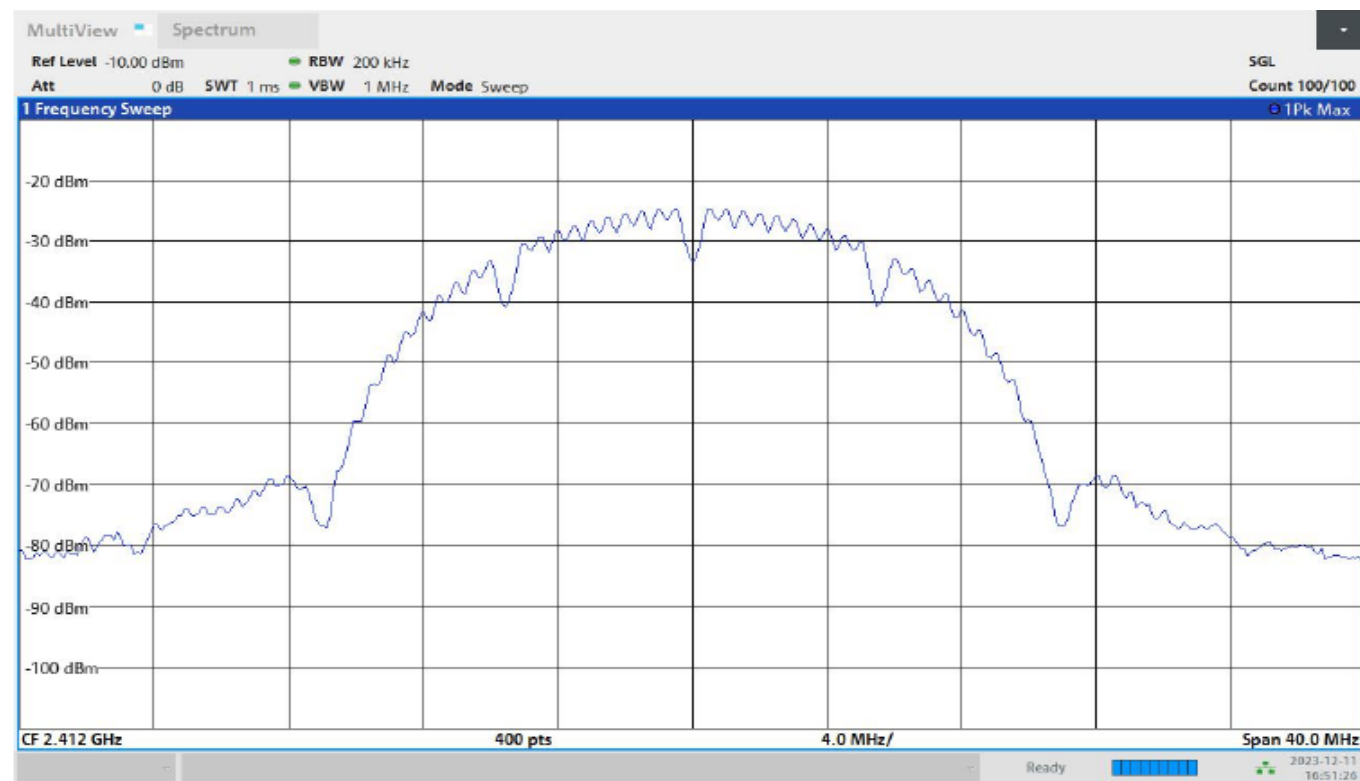
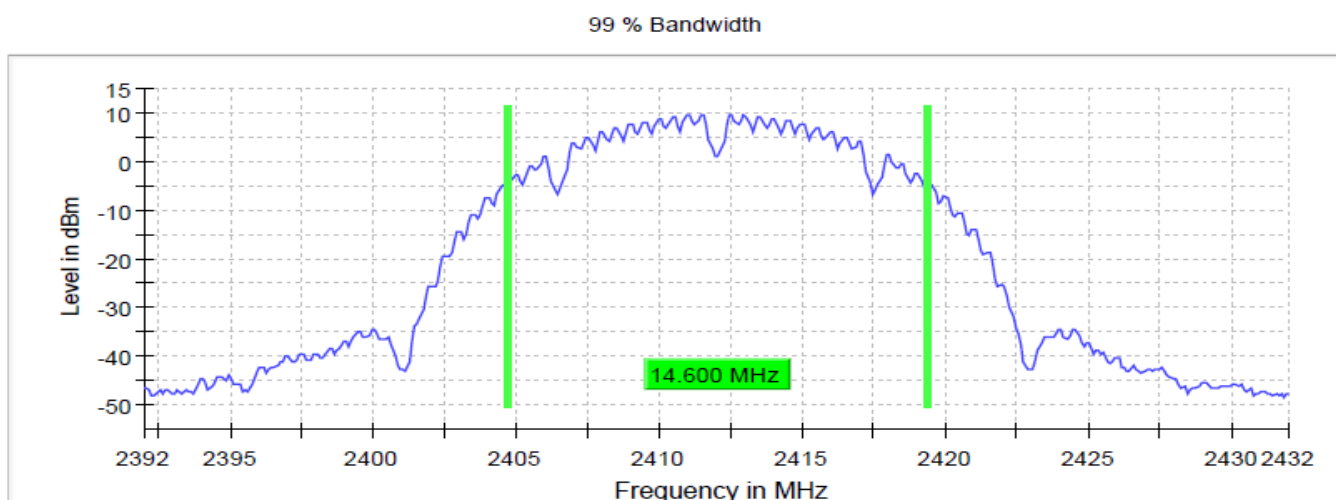


### 4.4.3 Occupied Channel Bandwidth

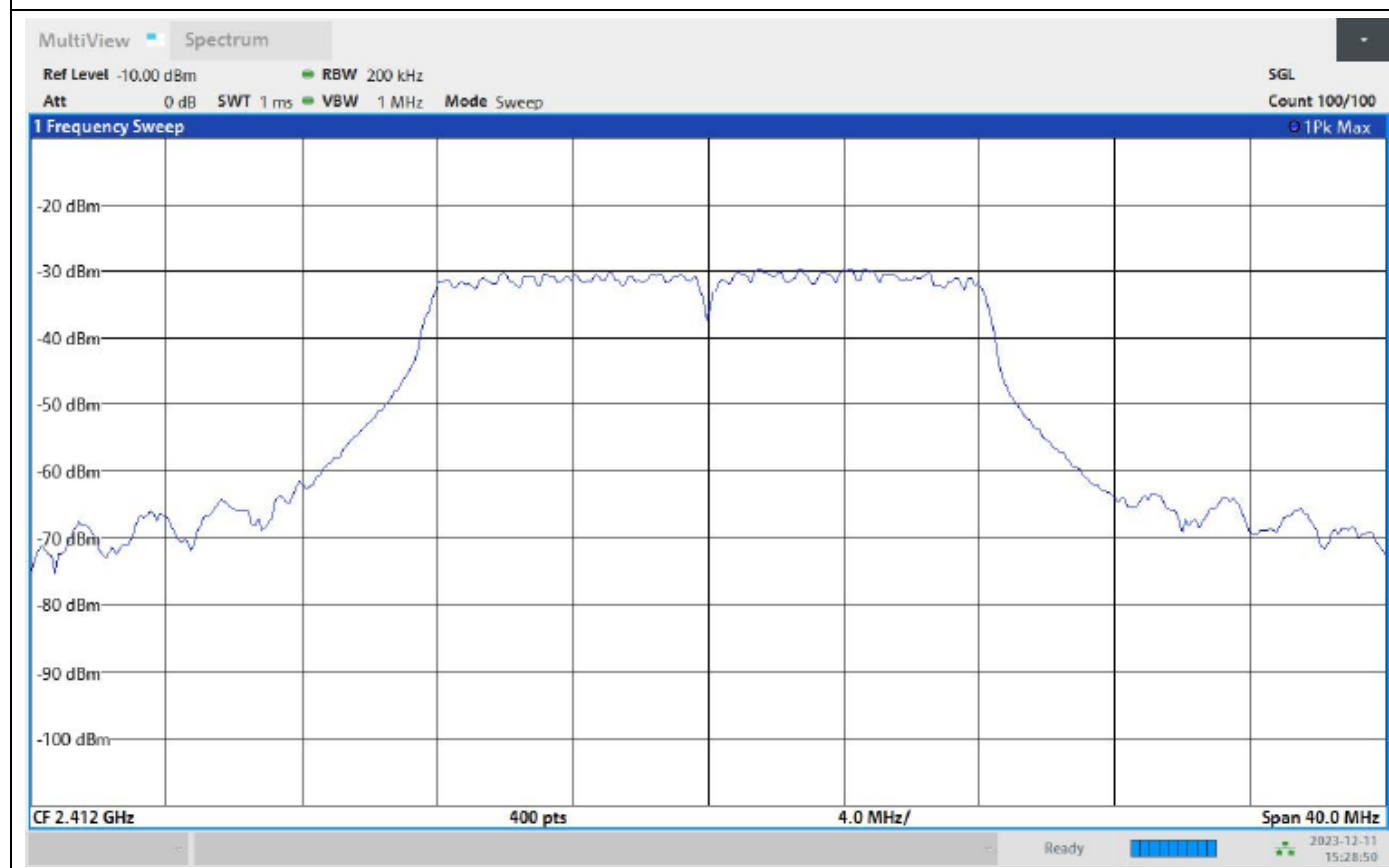
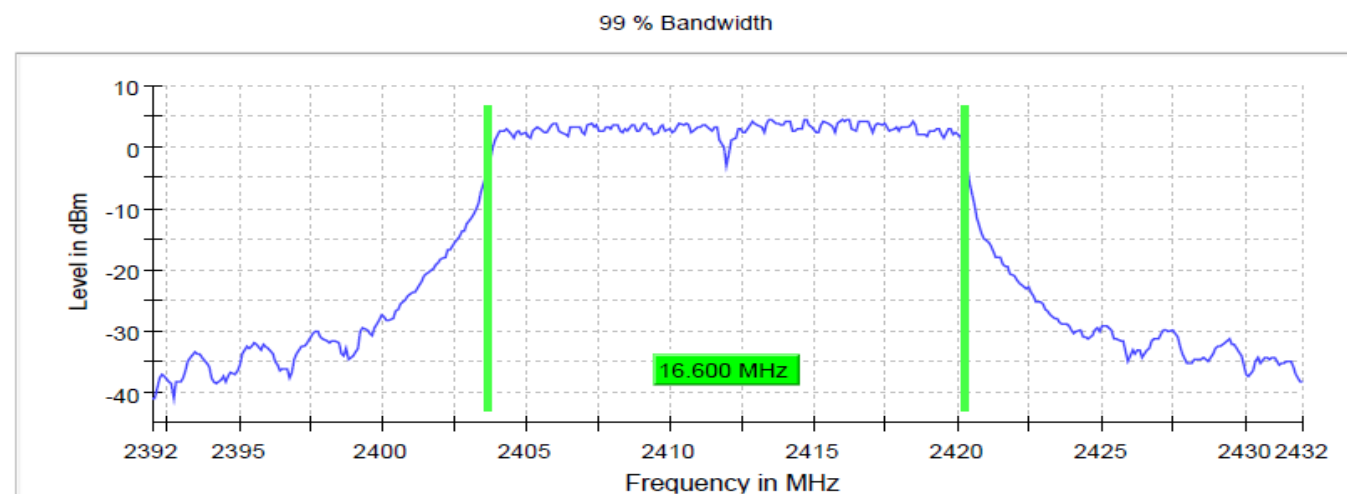
Test according to RSS-GEN Section 6.7, KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013,  
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

| Data Rate           | DUT Frequency (MHz) | Bandwidth (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|---------------------|-----------------|----------------------|-----------------------|
| 802.11b 1Mbps       | 2412.000000         | 14.600000       | 2404.750000          | 2419.350000           |
| 802.11g 6Mbps       | 2412.000000         | 16.600000       | 2403.650000          | 2420.250000           |
| 802.11n (HT20) MCS0 | 2412.000000         | 17.700000       | 2403.150000          | 2420.850000           |
| 802.11n (HT40) MCS0 | 2422.000000         | 36.000000       | 2404.125000          | 2440.125000           |
| 802.11b 1Mbps       | 2437.000000         | 14.500000       | 2429.750000          | 2444.250000           |
| 802.11g 6Mbps       | 2437.000000         | 16.600000       | 2428.650000          | 2445.250000           |
| 802.11n (HT20) MCS0 | 2437.000000         | 17.700000       | 2428.150000          | 2445.850000           |
| 802.11n (HT40) MCS0 | 2452.000000         | 36.000000       | 2434.125000          | 2470.125000           |
| 802.11b 1Mbps       | 2462.000000         | 14.600000       | 2454.750000          | 2469.350000           |
| 802.11g 6Mbps       | 2462.000000         | 16.600000       | 2453.650000          | 2470.250000           |
| 802.11n (HT20) MCS0 | 2462.000000         | 17.700000       | 2453.150000          | 2470.850000           |

802.11b 1Mbps 2412MHz

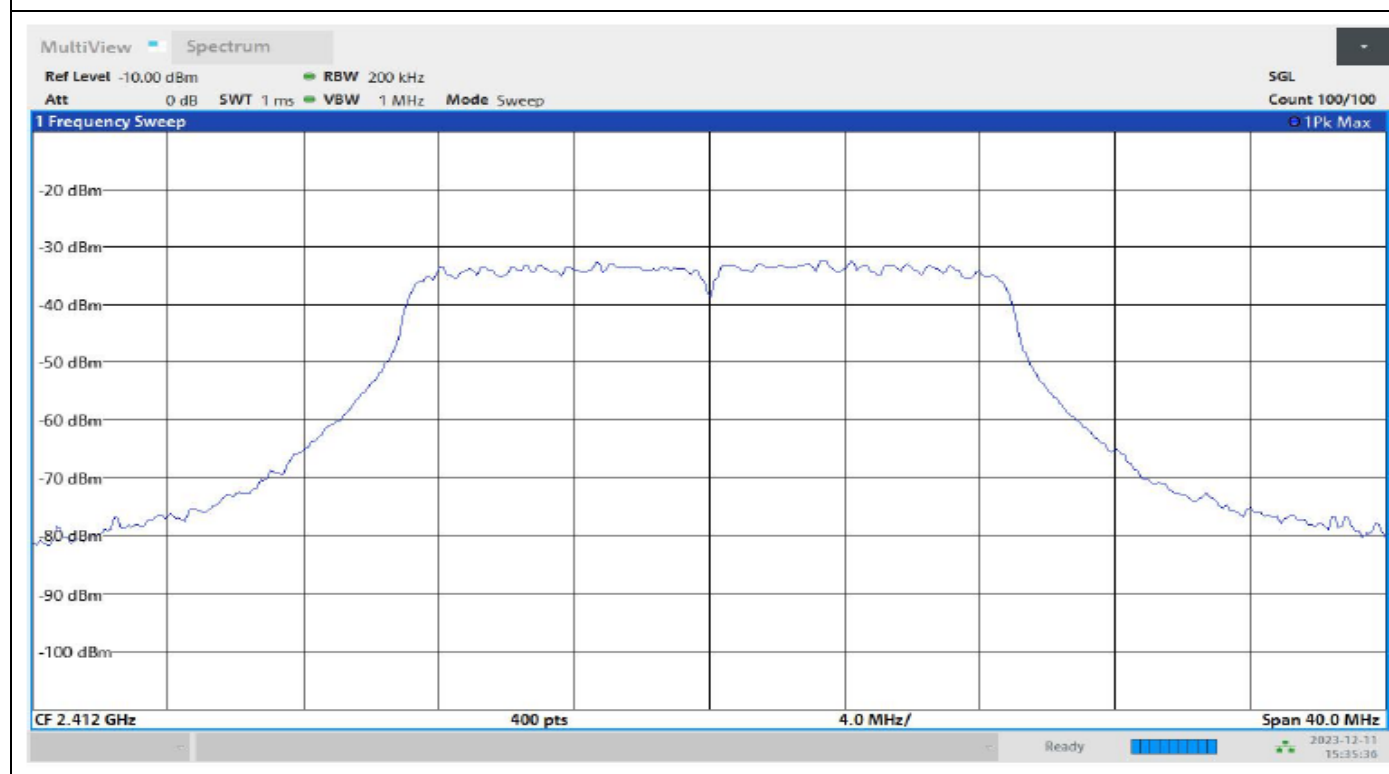
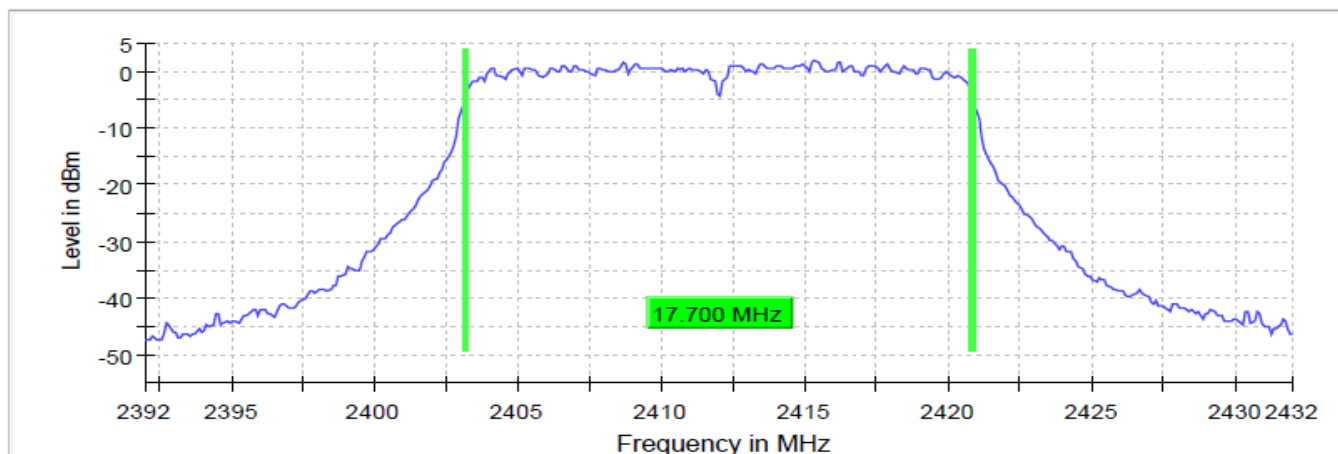


802.11g 6Mbps 2412MHz



# 802.11n MCS0 2412MHz

99 % Bandwidth



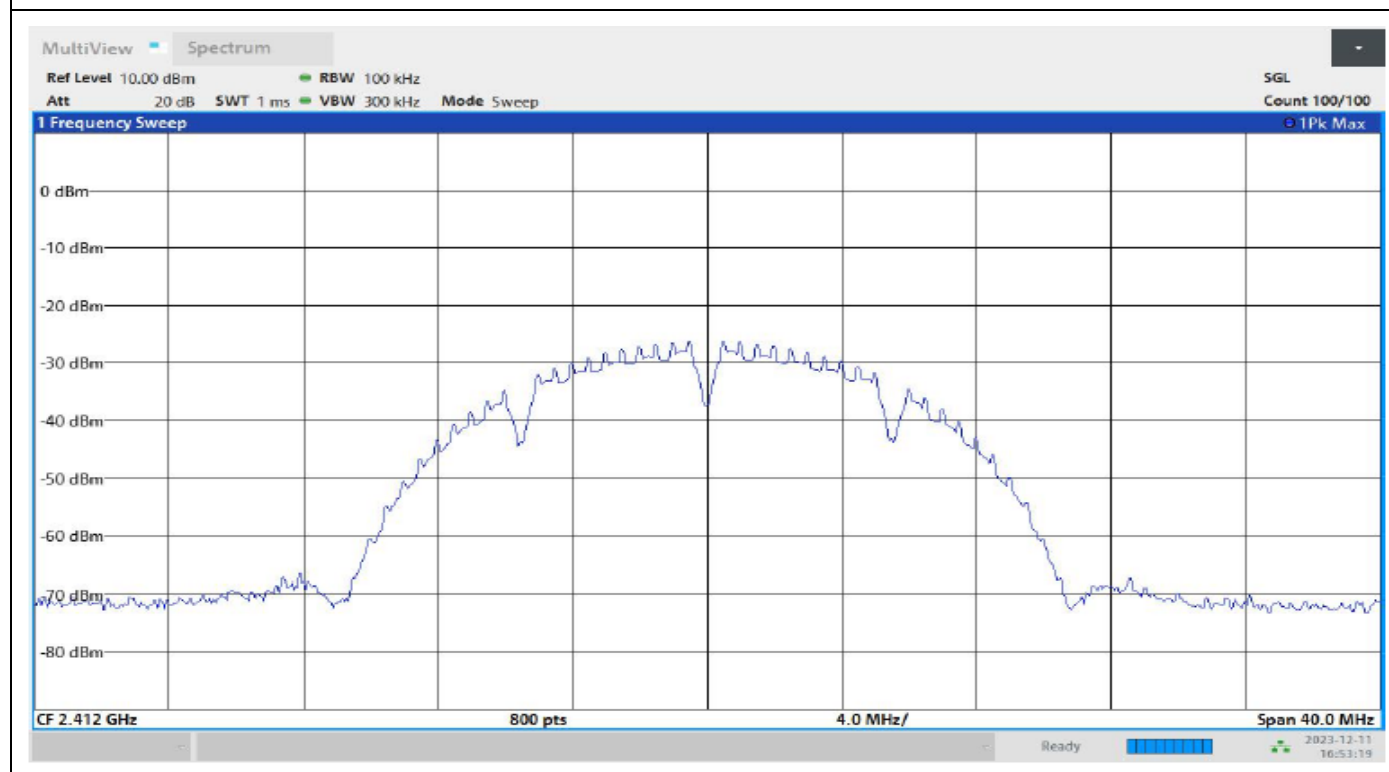
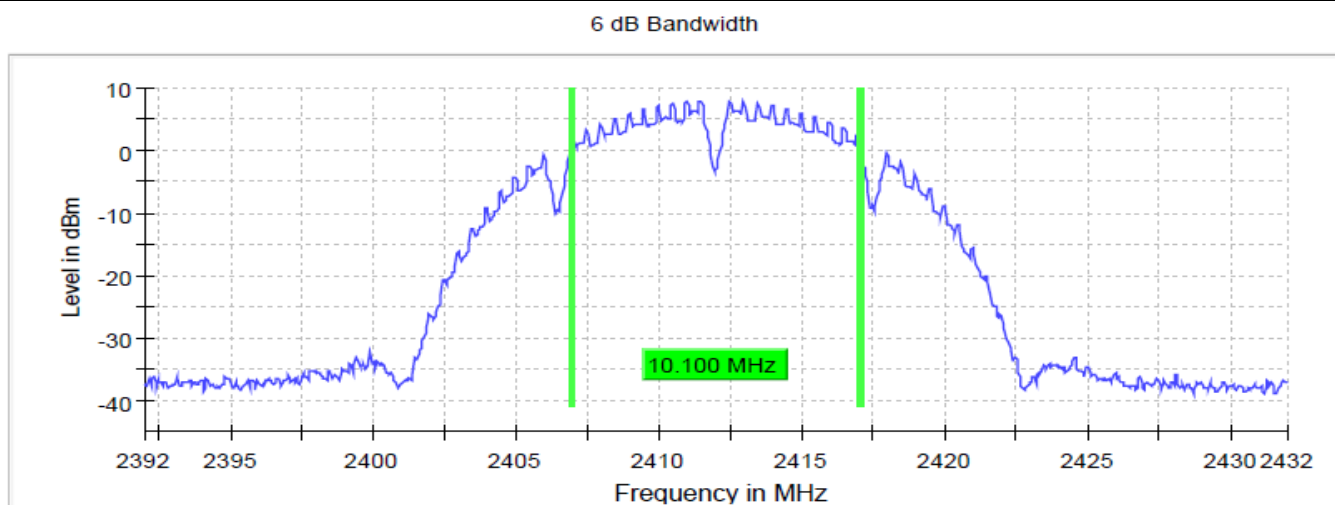
#### 4.4.4 DTS Bandwidth (6dB)

**Definition:** Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013 11.8.1, RSS-247 5.2(a)

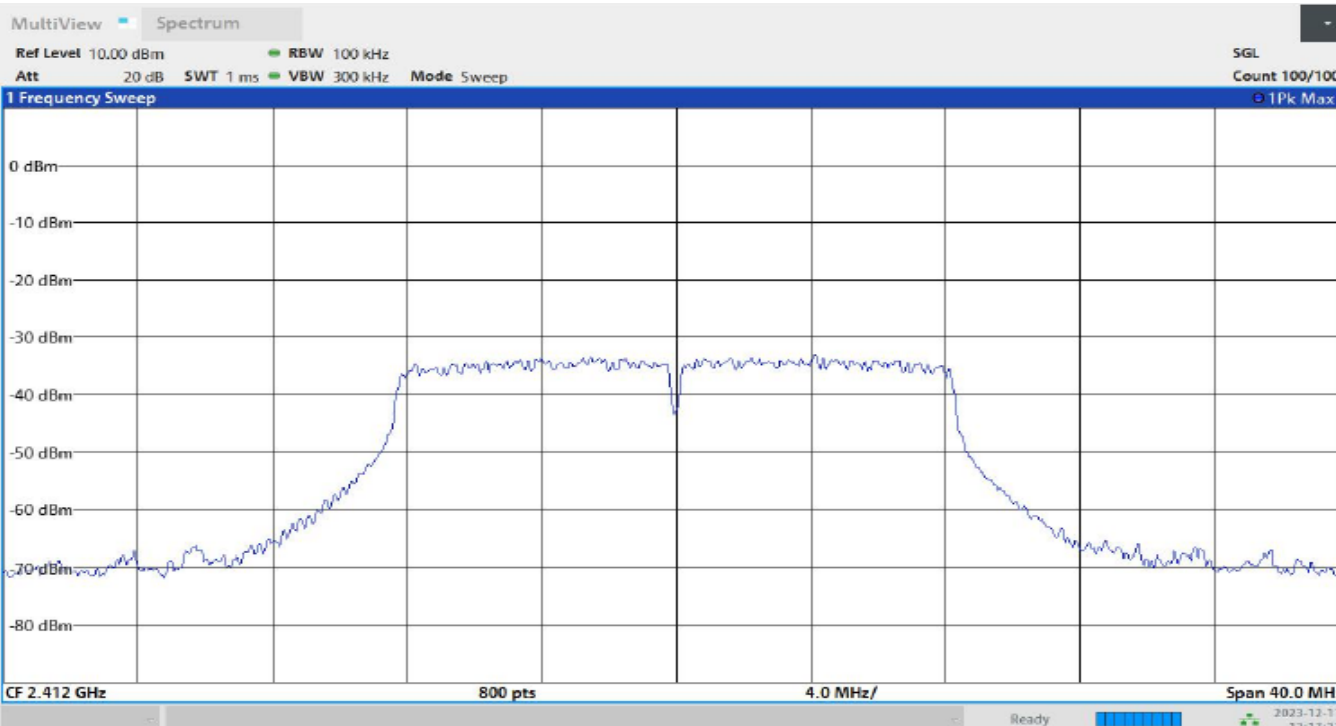
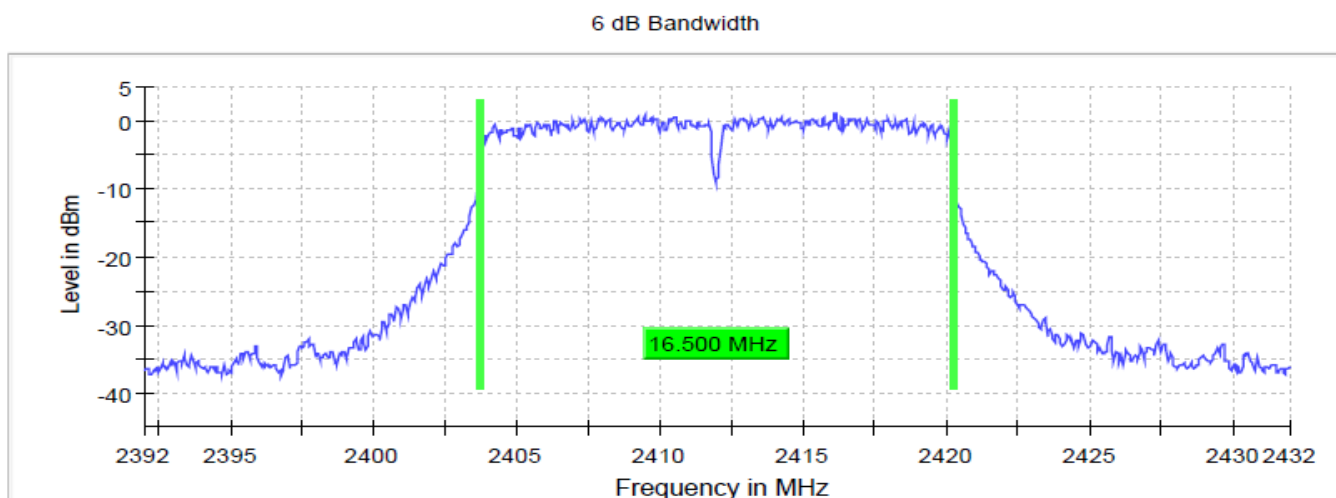
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 2%

| Data Rate           | DUT Frequency (MHz) | Bandwidth (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) | Minimum Limit (MHz) |
|---------------------|---------------------|-----------------|----------------------|-----------------------|---------------------|
| 802.11b 1Mbps       | 2412.000000         | 10.100000       | 2406.925000          | 2417.025000           | 0.500000            |
| 802.11g 6Mbps       | 2412.000000         | 16.500000       | 2403.725000          | 2420.225000           | 0.500000            |
| 802.11n (HT20) MCS0 | 2412.000000         | 17.700000       | 2403.125000          | 2420.825000           | 0.500000            |
| 802.11n (HT40) MCS0 | 2422.000000         | 36.050000       | 2404.125000          | 2440.175000           | 0.500000            |
| 802.11b 1Mbps       | 2437.000000         | 10.150000       | 2431.875000          | 2442.025000           | 0.500000            |
| 802.11g 6Mbps       | 2437.000000         | 16.550000       | 2428.675000          | 2445.225000           | 0.500000            |
| 802.11n (HT20) MCS0 | 2437.000000         | 17.700000       | 2428.125000          | 2445.825000           | 0.500000            |
| 802.11n (HT40) MCS0 | 2452.000000         | 36.400000       | 2433.775000          | 2470.175000           | 0.500000            |
| 802.11b 1Mbps       | 2462.000000         | 10.150000       | 2456.875000          | 2467.025000           | 0.500000            |
| 802.11g 6Mbps       | 2462.000000         | 16.500000       | 2453.725000          | 2470.225000           | 0.500000            |
| 802.11n (HT20) MCS0 | 2462.000000         | 17.700000       | 2453.125000          | 2470.825000           | 0.500000            |

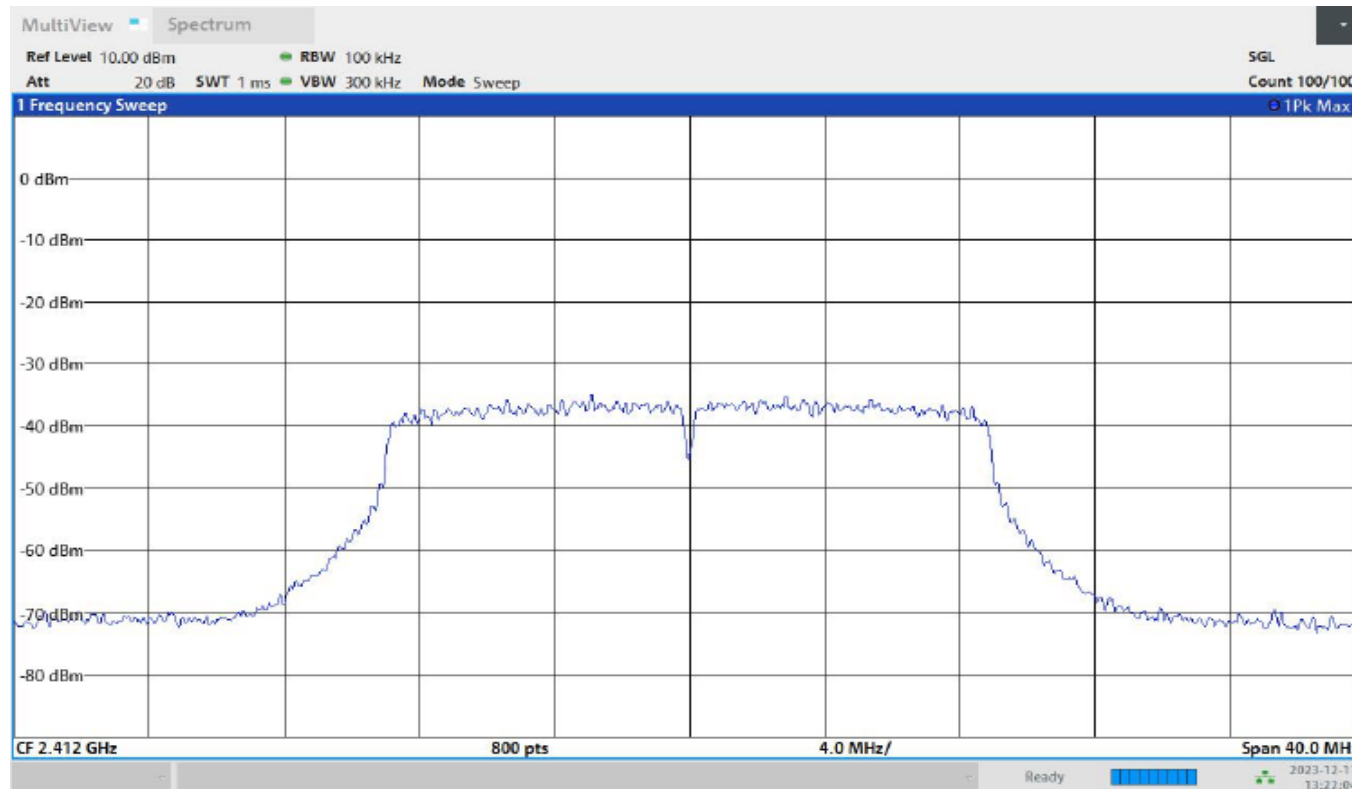
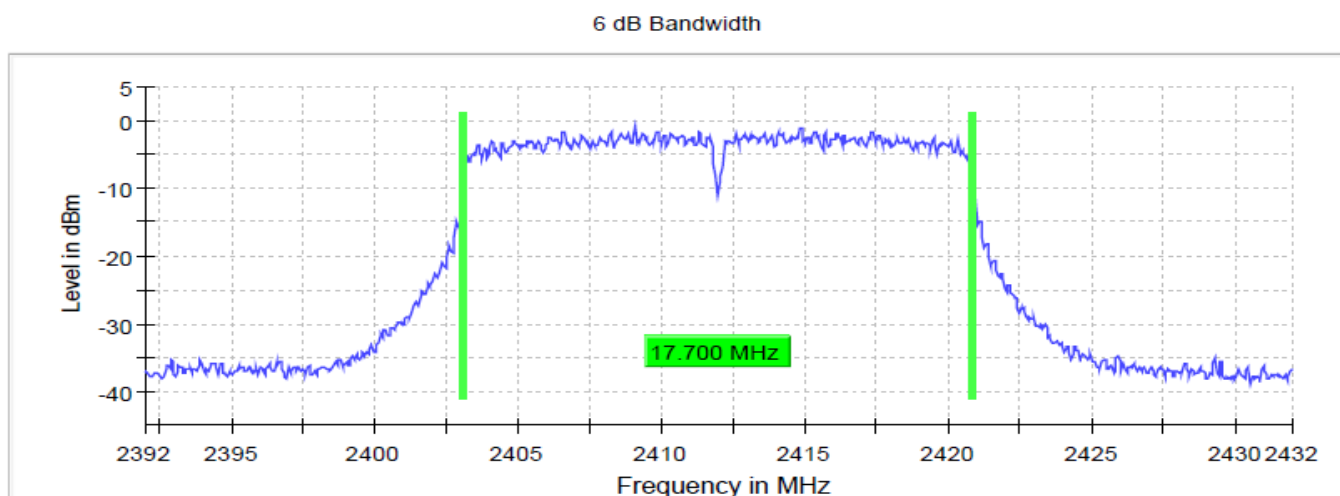
802.11b 2412MHz 1Mbps



802.11g 2412MHz 6Mbps



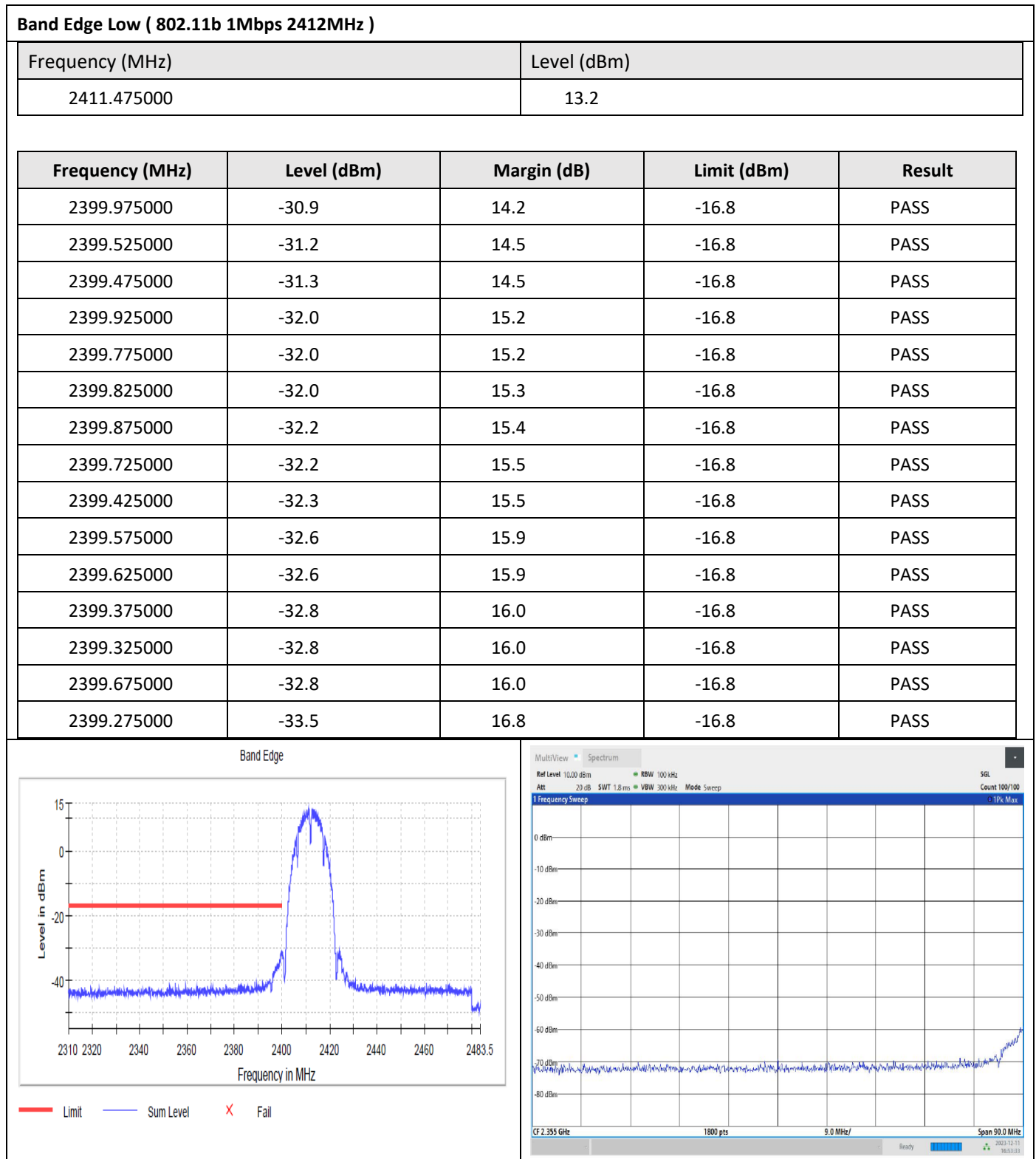
802.11n 2412MHz MCS0



## 4.4.5 Conducted Band Edge

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05r02 Section 8.7 and ANSI C63.10-2013 Section 11.11.3, RSS-247 5.5

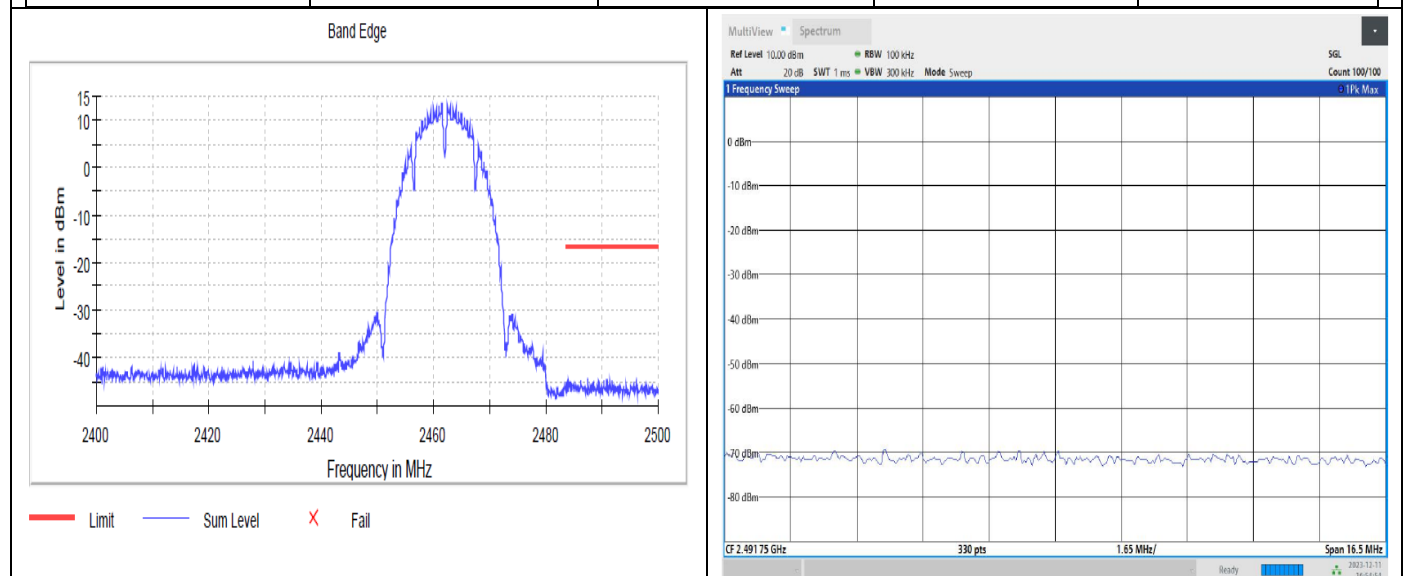
Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 0.8 dB



# Band Edge High ( 802.11b 1Mbps 2462MHz )

| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| 2462.475000     | 13.2        |

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) | Result |
|-----------------|-------------|-------------|-------------|--------|
| 2487.525000     | -44.4       | 27.6        | -16.8       | PASS   |
| 2487.475000     | -44.5       | 27.7        | -16.8       | PASS   |
| 2484.075000     | -44.6       | 27.8        | -16.8       | PASS   |
| 2486.275000     | -44.6       | 27.8        | -16.8       | PASS   |
| 2489.425000     | -44.7       | 27.9        | -16.8       | PASS   |
| 2490.875000     | -44.7       | 27.9        | -16.8       | PASS   |
| 2490.825000     | -44.7       | 27.9        | -16.8       | PASS   |
| 2491.825000     | -44.8       | 28.0        | -16.8       | PASS   |
| 2490.325000     | -44.8       | 28.0        | -16.8       | PASS   |
| 2491.475000     | -44.8       | 28.0        | -16.8       | PASS   |
| 2486.225000     | -44.8       | 28.0        | -16.8       | PASS   |
| 2484.325000     | -44.9       | 28.1        | -16.8       | PASS   |
| 2488.425000     | -45.0       | 28.2        | -16.8       | PASS   |
| 2490.375000     | -45.0       | 28.2        | -16.8       | PASS   |
| 2484.275000     | -45.0       | 28.2        | -16.8       | PASS   |

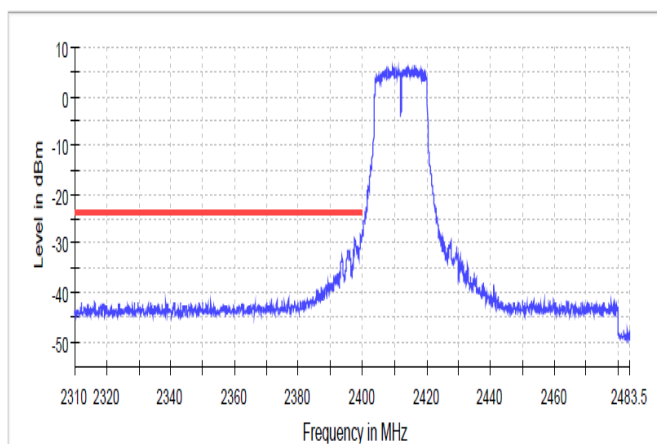


# Band Edge Low ( 802.11g 6Mbps 2412MHz )

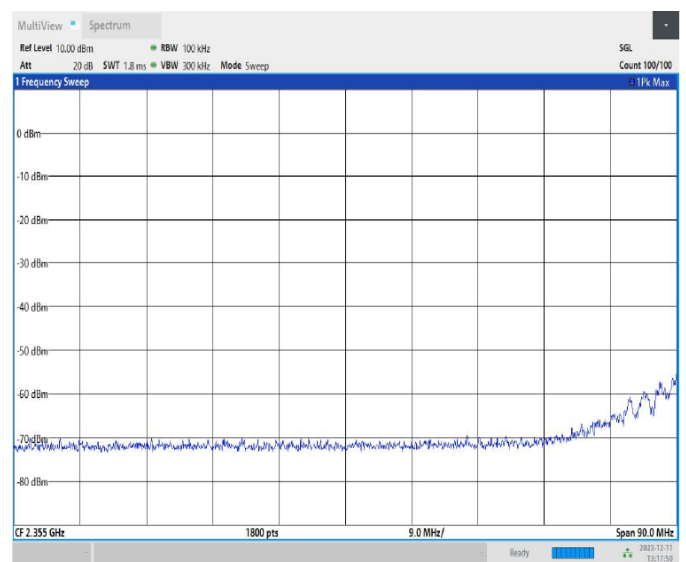
| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| 2416.125000     | 6.4         |

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) | Result |
|-----------------|-------------|-------------|-------------|--------|
| 2399.925000     | -27.3       | 3.7         | -23.6       | PASS   |
| 2399.975000     | -27.3       | 3.7         | -23.6       | PASS   |
| 2399.875000     | -27.6       | 4.0         | -23.6       | PASS   |
| 2399.825000     | -27.9       | 4.3         | -23.6       | PASS   |
| 2399.425000     | -28.2       | 4.6         | -23.6       | PASS   |
| 2399.475000     | -28.5       | 4.9         | -23.6       | PASS   |
| 2399.375000     | -28.6       | 5.0         | -23.6       | PASS   |
| 2399.625000     | -29.0       | 5.4         | -23.6       | PASS   |
| 2399.675000     | -29.0       | 5.4         | -23.6       | PASS   |
| 2397.625000     | -29.2       | 5.6         | -23.6       | PASS   |
| 2399.325000     | -29.2       | 5.6         | -23.6       | PASS   |
| 2397.675000     | -29.2       | 5.6         | -23.6       | PASS   |
| 2397.925000     | -29.4       | 5.8         | -23.6       | PASS   |
| 2399.775000     | -29.5       | 5.9         | -23.6       | PASS   |
| 2397.875000     | -29.7       | 6.1         | -23.6       | PASS   |

Band Edge



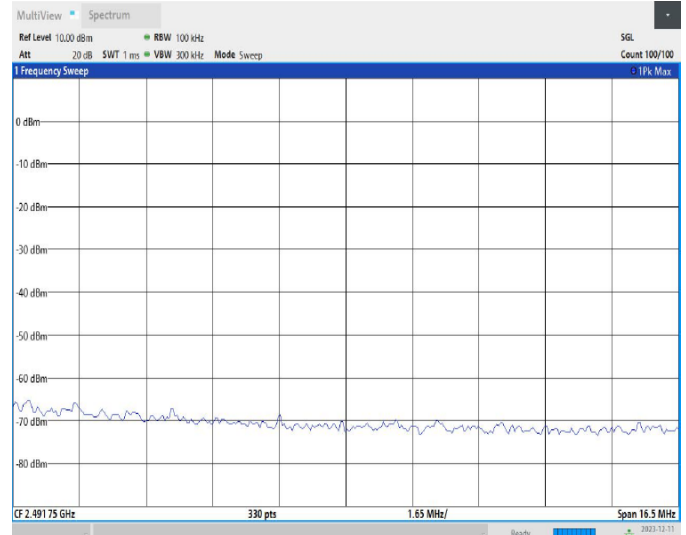
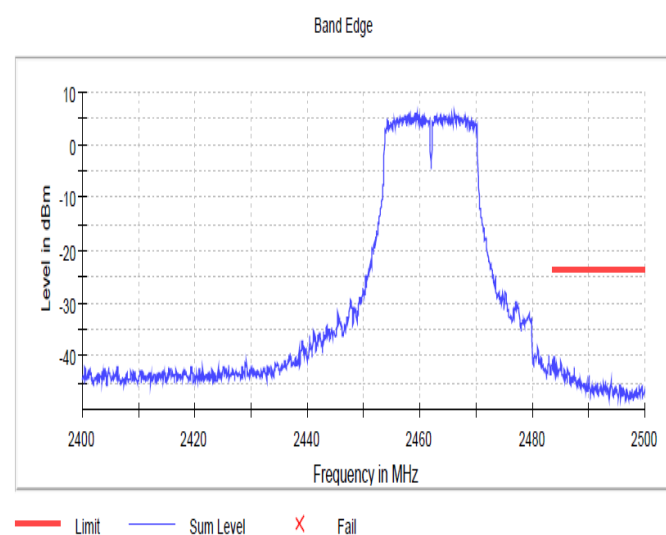
— Limit — Sum Level X Fail



# Band Edge High ( 802.11g 6Mbps 2462MHz )

| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| 2466.125000     | 6.3         |

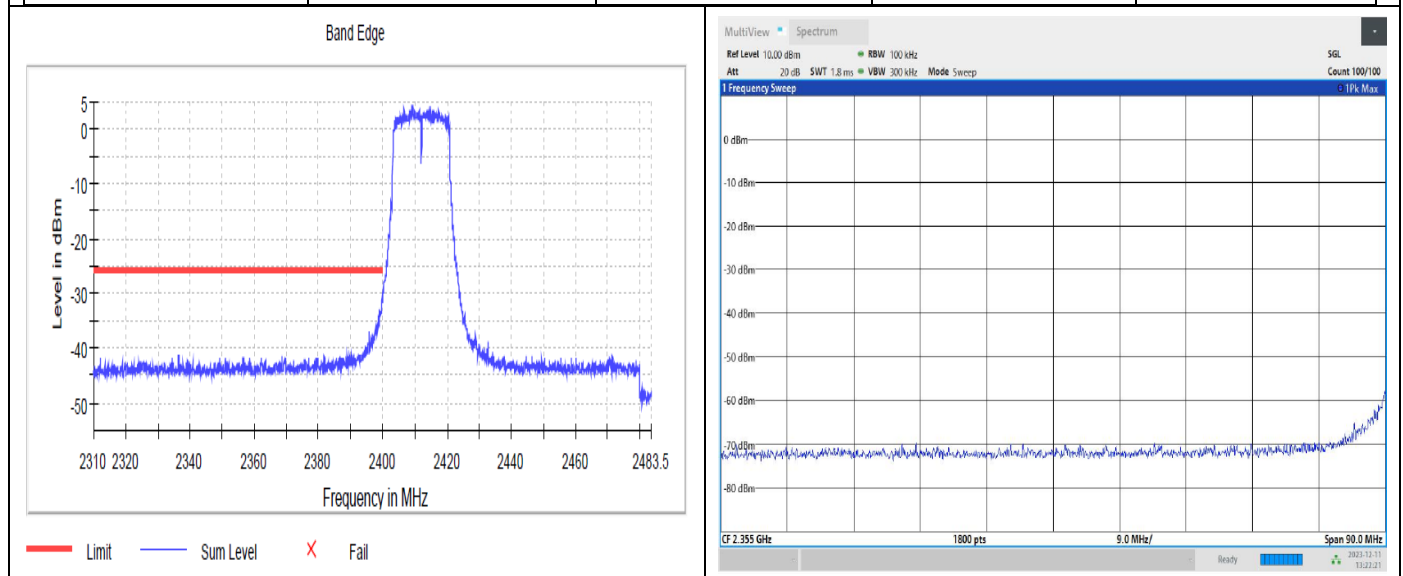
| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) | Result |
|-----------------|-------------|-------------|-------------|--------|
| 2483.925000     | -40.3       | 16.6        | -23.7       | PASS   |
| 2483.875000     | -40.3       | 16.6        | -23.7       | PASS   |
| 2483.575000     | -40.7       | 16.9        | -23.7       | PASS   |
| 2485.025000     | -40.9       | 17.1        | -23.7       | PASS   |
| 2485.075000     | -40.9       | 17.1        | -23.7       | PASS   |
| 2483.825000     | -40.9       | 17.2        | -23.7       | PASS   |
| 2483.625000     | -41.0       | 17.2        | -23.7       | PASS   |
| 2483.775000     | -41.3       | 17.6        | -23.7       | PASS   |
| 2483.975000     | -41.3       | 17.6        | -23.7       | PASS   |
| 2483.525000     | -41.7       | 17.9        | -23.7       | PASS   |
| 2484.125000     | -41.7       | 18.0        | -23.7       | PASS   |
| 2485.125000     | -41.8       | 18.1        | -23.7       | PASS   |
| 2484.475000     | -42.1       | 18.4        | -23.7       | PASS   |
| 2487.475000     | -42.3       | 18.5        | -23.7       | PASS   |
| 2487.425000     | -42.3       | 18.5        | -23.7       | PASS   |



**Band Edge Low ( 802.11n (HT20) MCS0 2412MHz )**

| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| 2409.125000     | 4.4         |

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) | Result |
|-----------------|-------------|-------------|-------------|--------|
| 2399.825000     | -29.9       | 4.3         | -25.6       | PASS   |
| 2399.875000     | -29.9       | 4.3         | -25.6       | PASS   |
| 2399.925000     | -30.3       | 4.7         | -25.6       | PASS   |
| 2399.975000     | -30.8       | 5.2         | -25.6       | PASS   |
| 2399.775000     | -31.4       | 5.8         | -25.6       | PASS   |
| 2399.725000     | -31.5       | 5.9         | -25.6       | PASS   |
| 2399.675000     | -31.6       | 6.0         | -25.6       | PASS   |
| 2399.625000     | -31.7       | 6.1         | -25.6       | PASS   |
| 2399.575000     | -32.3       | 6.7         | -25.6       | PASS   |
| 2398.975000     | -33.1       | 7.4         | -25.6       | PASS   |
| 2399.025000     | -33.1       | 7.4         | -25.6       | PASS   |
| 2399.275000     | -33.3       | 7.7         | -25.6       | PASS   |
| 2399.225000     | -33.4       | 7.7         | -25.6       | PASS   |
| 2399.375000     | -33.5       | 7.9         | -25.6       | PASS   |
| 2399.425000     | -33.6       | 7.9         | -25.6       | PASS   |

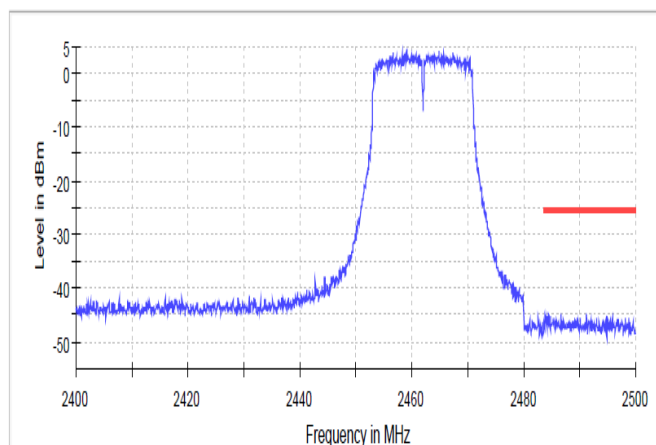


**Band Edge High ( 802.11n (HT20) MCS0 2462MHz )**

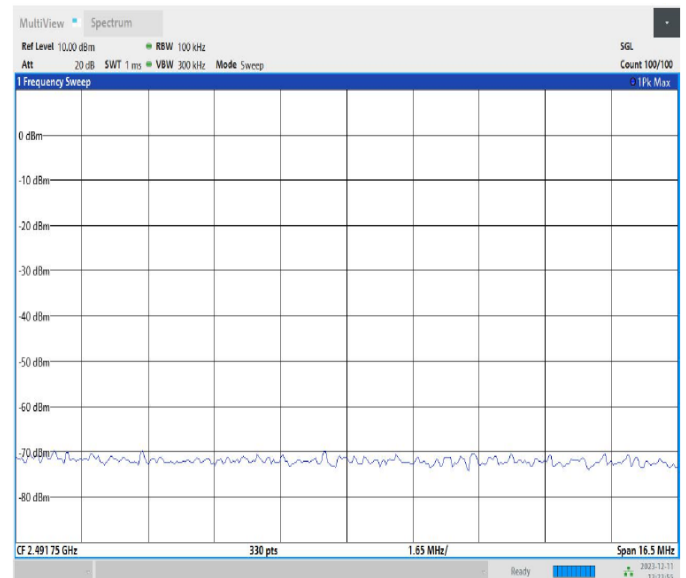
| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| 2459.125000     | 4.6         |

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) | Result |
|-----------------|-------------|-------------|-------------|--------|
| 2484.475000     | -44.7       | 19.4        | -25.4       | PASS   |
| 2486.675000     | -44.7       | 19.4        | -25.4       | PASS   |
| 2491.225000     | -44.9       | 19.5        | -25.4       | PASS   |
| 2491.175000     | -44.9       | 19.6        | -25.4       | PASS   |
| 2484.775000     | -45.2       | 19.8        | -25.4       | PASS   |
| 2484.825000     | -45.2       | 19.8        | -25.4       | PASS   |
| 2484.225000     | -45.3       | 19.9        | -25.4       | PASS   |
| 2494.875000     | -45.3       | 19.9        | -25.4       | PASS   |
| 2483.875000     | -45.3       | 19.9        | -25.4       | PASS   |
| 2486.625000     | -45.3       | 20.0        | -25.4       | PASS   |
| 2484.525000     | -45.4       | 20.0        | -25.4       | PASS   |
| 2498.175000     | -45.5       | 20.1        | -25.4       | PASS   |
| 2495.825000     | -45.5       | 20.1        | -25.4       | PASS   |
| 2485.425000     | -45.5       | 20.1        | -25.4       | PASS   |
| 2492.975000     | -45.5       | 20.2        | -25.4       | PASS   |

Band Edge



— Limit — Sum Level x Fail

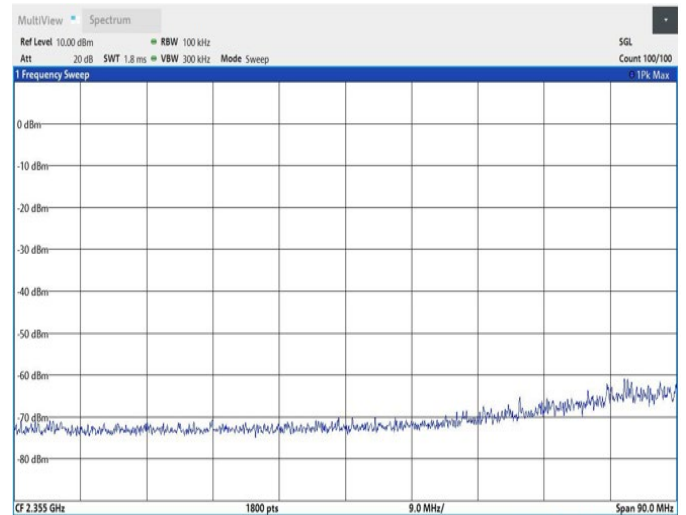
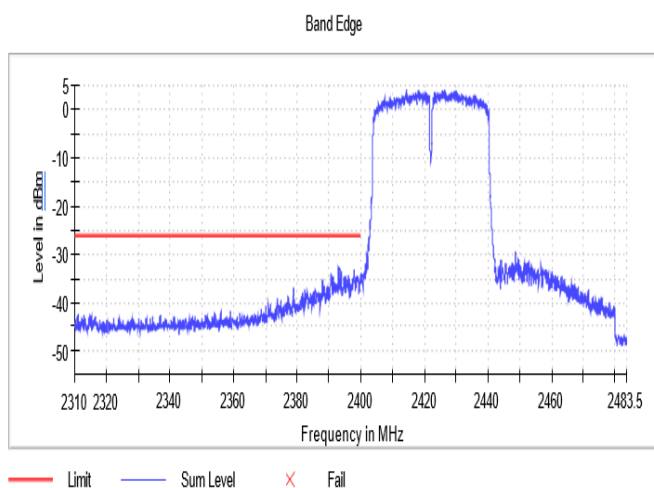


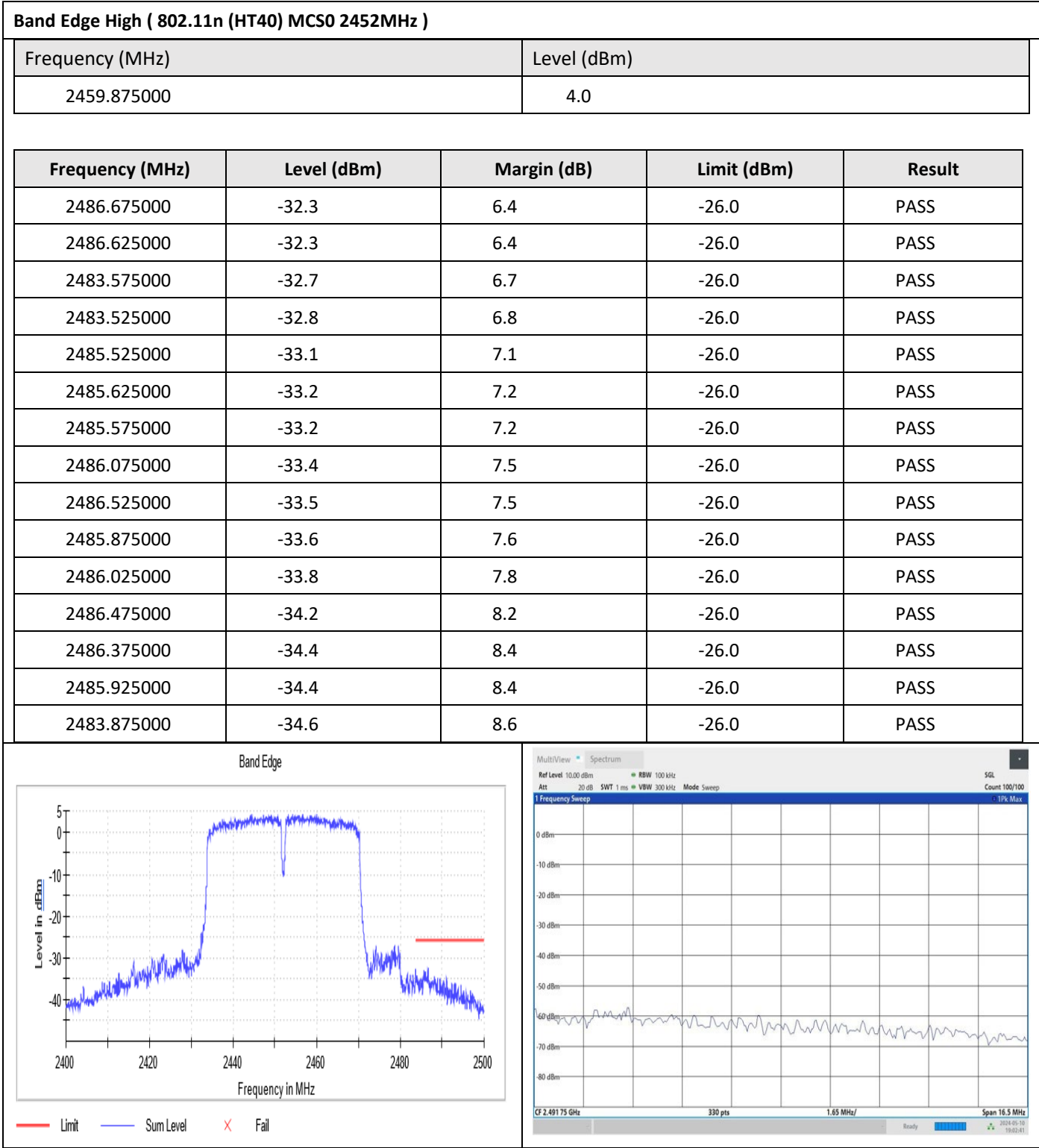
**Band Edge Low ( 802.11n (HT40) MCS0 2422MHz )**

| Frequency (MHz) | Level (dBm) |
|-----------------|-------------|
| 2425.475000     | 4.0         |

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) | Result |
|-----------------|-------------|-------------|-------------|--------|
| 2392.925000     | -32.8       | 6.8         | -26.0       | PASS   |
| 2392.875000     | -32.8       | 6.8         | -26.0       | PASS   |
| 2393.325000     | -32.8       | 6.8         | -26.0       | PASS   |
| 2393.275000     | -33.1       | 7.1         | -26.0       | PASS   |
| 2397.725000     | -33.4       | 7.3         | -26.0       | PASS   |
| 2397.775000     | -33.4       | 7.4         | -26.0       | PASS   |
| 2393.375000     | -33.4       | 7.4         | -26.0       | PASS   |
| 2393.875000     | -33.6       | 7.6         | -26.0       | PASS   |
| 2393.825000     | -33.6       | 7.6         | -26.0       | PASS   |
| 2390.575000     | -33.8       | 7.8         | -26.0       | PASS   |
| 2390.525000     | -33.9       | 7.8         | -26.0       | PASS   |
| 2392.825000     | -34.0       | 8.0         | -26.0       | PASS   |
| 2399.875000     | -34.1       | 8.0         | -26.0       | PASS   |
| 2392.975000     | -34.1       | 8.1         | -26.0       | PASS   |
| 2399.925000     | -34.3       | 8.3         | -26.0       | PASS   |

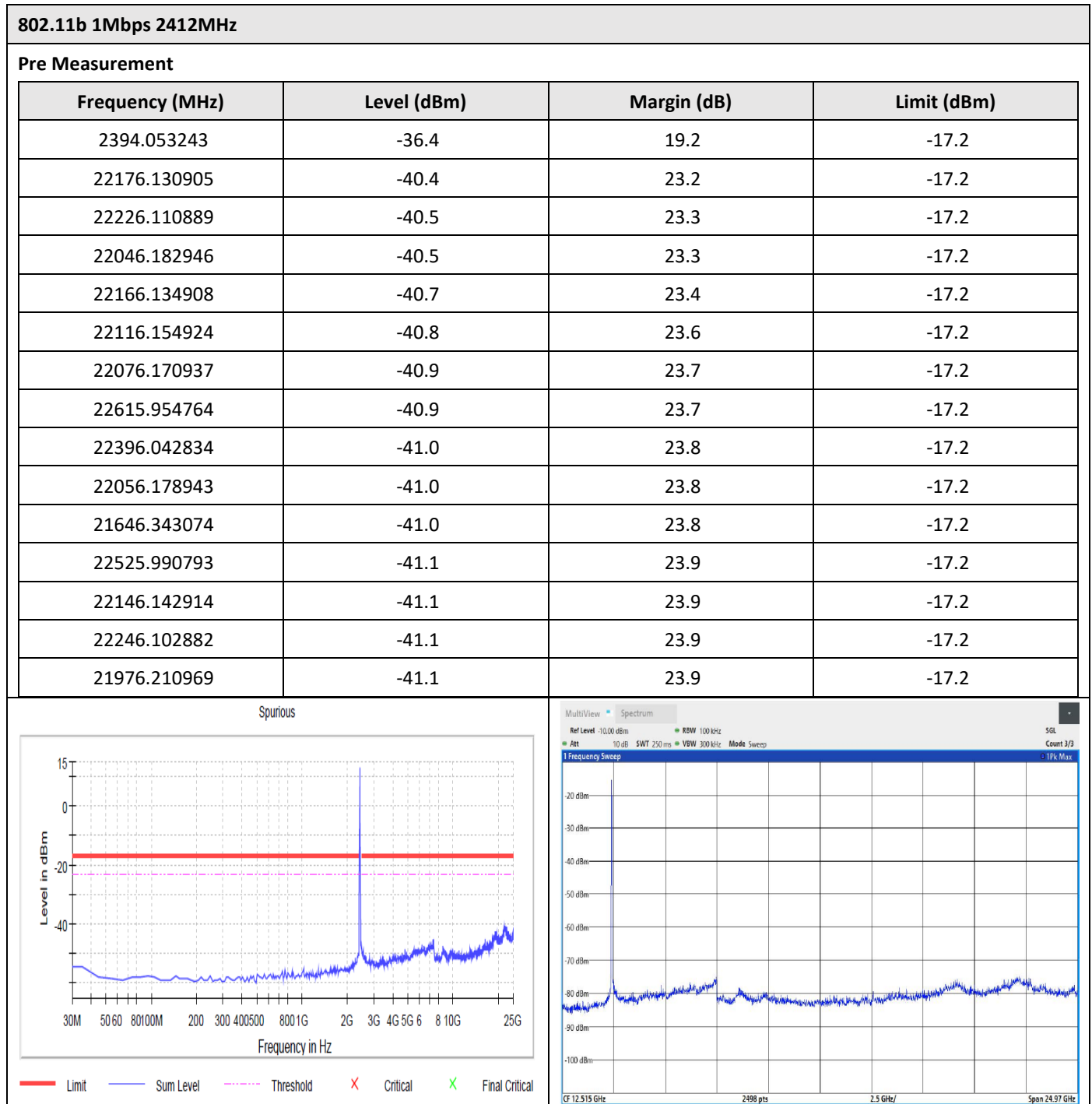




## 4.4.6 Tx Spurious Emissions

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05r02 8.5 and ANSI C63.10-2013 11.11.2 & 11.11.3, RSS-247 5.5

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1. Expanded Uncertainty (K=2) < 1.8 dB

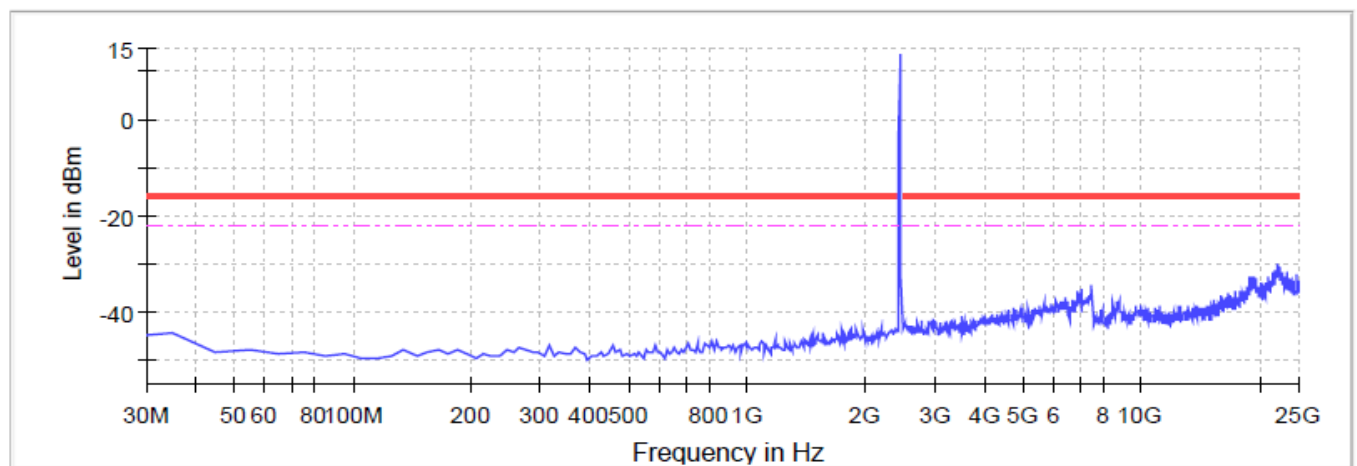


# 802.11b 1Mbps 2437MHz

## Pre Measurement

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 22026.190953    | -30.3       | 14.1        | -16.1       |
| 22236.106886    | -30.3       | 14.2        | -16.1       |
| 22056.178943    | -30.4       | 14.3        | -16.1       |
| 22016.194956    | -30.7       | 14.6        | -16.1       |
| 22176.130905    | -30.8       | 14.7        | -16.1       |
| 22206.118895    | -30.8       | 14.7        | -16.1       |
| 22246.102882    | -31.0       | 14.9        | -16.1       |
| 22046.182946    | -31.1       | 15.0        | -16.1       |
| 21996.202962    | -31.1       | 15.0        | -16.1       |
| 22515.994796    | -31.2       | 15.0        | -16.1       |
| 22146.142914    | -31.2       | 15.0        | -16.1       |
| 22166.134908    | -31.2       | 15.1        | -16.1       |
| 22226.110889    | -31.4       | 15.2        | -16.1       |
| 22106.158927    | -31.4       | 15.2        | -16.1       |
| 22076.170937    | -31.4       | 15.3        | -16.1       |

## Spurious



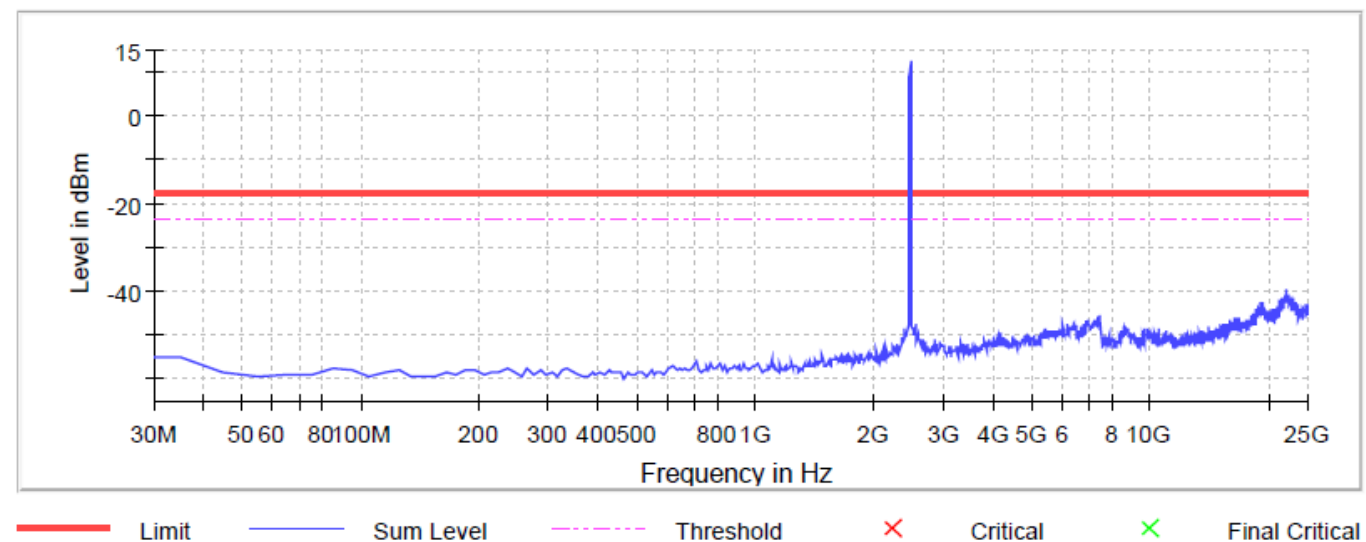
— Limit
 — Sum Level
 - - - Threshold
 × Critical
 × Final Critical

# 802.11b 1Mbps 2462MHz

## Pre Measurement

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 22086.166934    | -39.7       | 22.1        | -17.6       |
| 22136.146918    | -40.3       | 22.7        | -17.6       |
| 22076.170937    | -40.3       | 22.8        | -17.6       |
| 22046.182946    | -40.7       | 23.1        | -17.6       |
| 22036.186950    | -40.7       | 23.1        | -17.6       |
| 22056.178943    | -40.8       | 23.2        | -17.6       |
| 22106.158927    | -41.1       | 23.5        | -17.6       |
| 22006.198959    | -41.1       | 23.5        | -17.6       |
| 22246.102882    | -41.2       | 23.6        | -17.6       |
| 22206.118895    | -41.2       | 23.6        | -17.6       |
| 22236.106886    | -41.2       | 23.6        | -17.6       |
| 22276.090873    | -41.3       | 23.7        | -17.6       |
| 22176.130905    | -41.3       | 23.8        | -17.6       |
| 22386.046837    | -41.4       | 23.8        | -17.6       |
| 22096.162930    | -41.4       | 23.8        | -17.6       |

## Spurious



## 802.11g 6Mbps 2412MHz

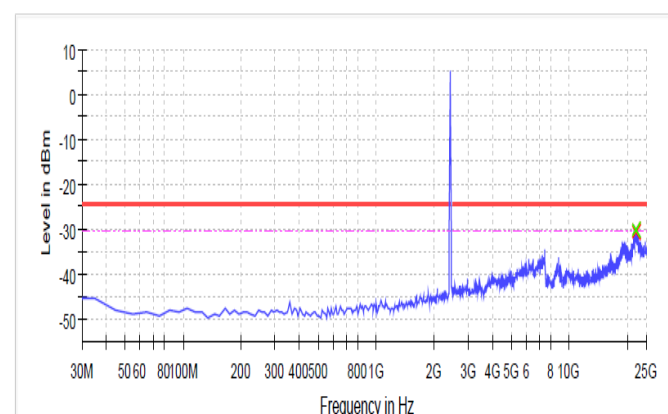
### Final Measurement

| Frequency (MHz) | Level Pre Measurement (dBm) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-----------------------------|-------------|-------------|-------------|
| 22102.069151    | -30.6                       | -60.5       | 35.9        | -24.7       |

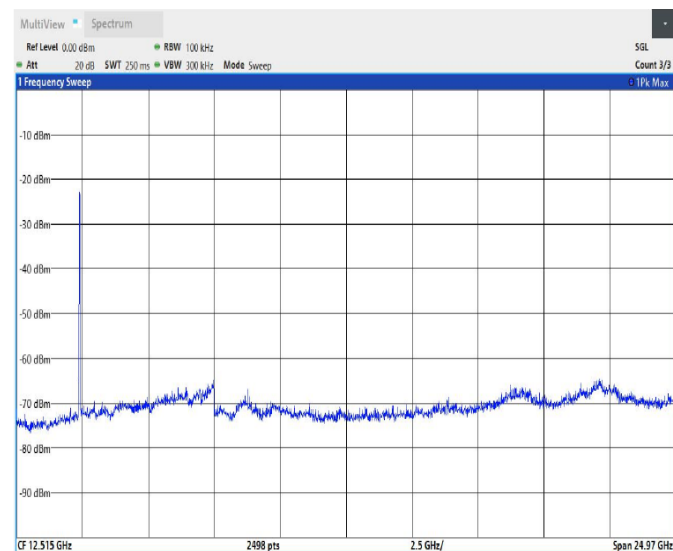
### Pre Measurement

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 22106.158927    | -30.0       | 5.3         | -24.7       |
| 22186.126902    | -30.2       | 5.6         | -24.7       |
| 22066.174940    | -30.5       | 5.8         | -24.7       |
| 22136.146918    | -30.5       | 5.8         | -24.7       |
| 21986.206966    | -30.6       | 5.9         | -24.7       |
| 22086.166934    | -30.8       | 6.1         | -24.7       |
| 21896.242994    | -30.9       | 6.2         | -24.7       |
| 22146.142914    | -31.2       | 6.5         | -24.7       |
| 22466.014812    | -31.2       | 6.5         | -24.7       |
| 22246.102882    | -31.2       | 6.5         | -24.7       |
| 21386.447158    | -31.3       | 6.6         | -24.7       |
| 22685.926741    | -31.4       | 6.7         | -24.7       |
| 22196.122898    | -31.4       | 6.7         | -24.7       |
| 22036.186950    | -31.4       | 6.7         | -24.7       |
| 22096.162930    | -31.4       | 6.7         | -24.7       |

### Spurious



— Limit  
— Sum Level  
— Threshold  
X Critical  
X Final Critical  
♦ Fail  
♦ Pass

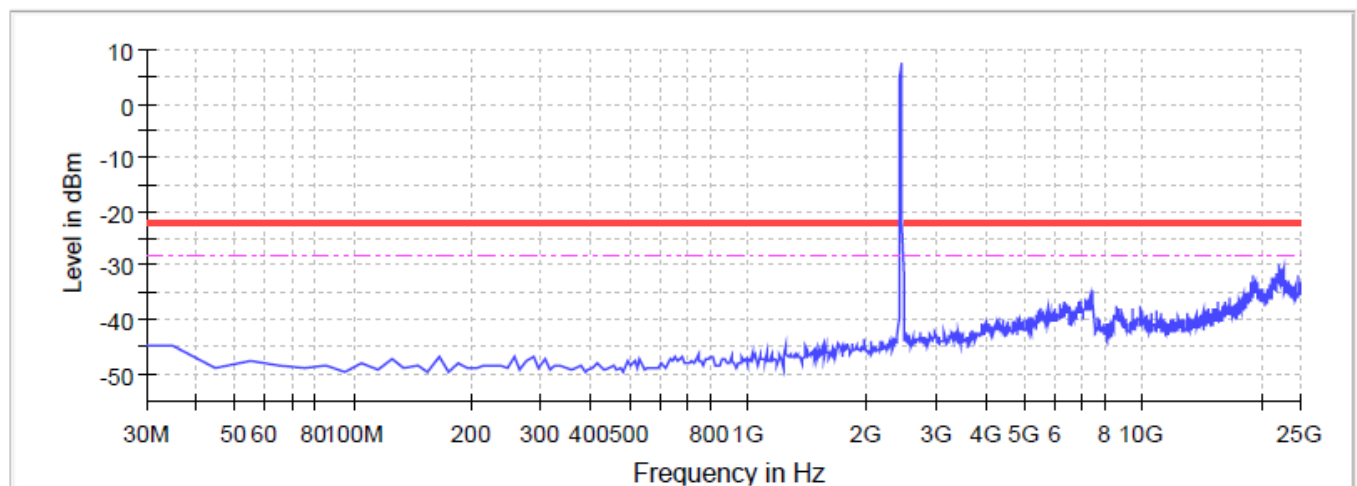


# 802.11g 6Mbps 2437MHz

## Pre Measurement

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 22006.198959    | -29.9       | 7.6         | -22.3       |
| 22096.162930    | -30.4       | 8.1         | -22.3       |
| 22106.158927    | -30.5       | 8.2         | -22.3       |
| 22196.122898    | -30.6       | 8.3         | -22.3       |
| 22336.066853    | -30.6       | 8.3         | -22.3       |
| 22056.178943    | -30.6       | 8.3         | -22.3       |
| 22555.978783    | -30.6       | 8.4         | -22.3       |
| 22146.142914    | -30.7       | 8.4         | -22.3       |
| 21996.202962    | -30.8       | 8.5         | -22.3       |
| 22026.190953    | -30.8       | 8.5         | -22.3       |
| 22036.186950    | -30.8       | 8.5         | -22.3       |
| 22046.182946    | -30.8       | 8.6         | -22.3       |
| 22186.126902    | -31.0       | 8.7         | -22.3       |
| 22166.134908    | -31.1       | 8.9         | -22.3       |
| 22086.166934    | -31.2       | 9.0         | -22.3       |

## Spurious



## 802.11g 6Mbps 2462MHz

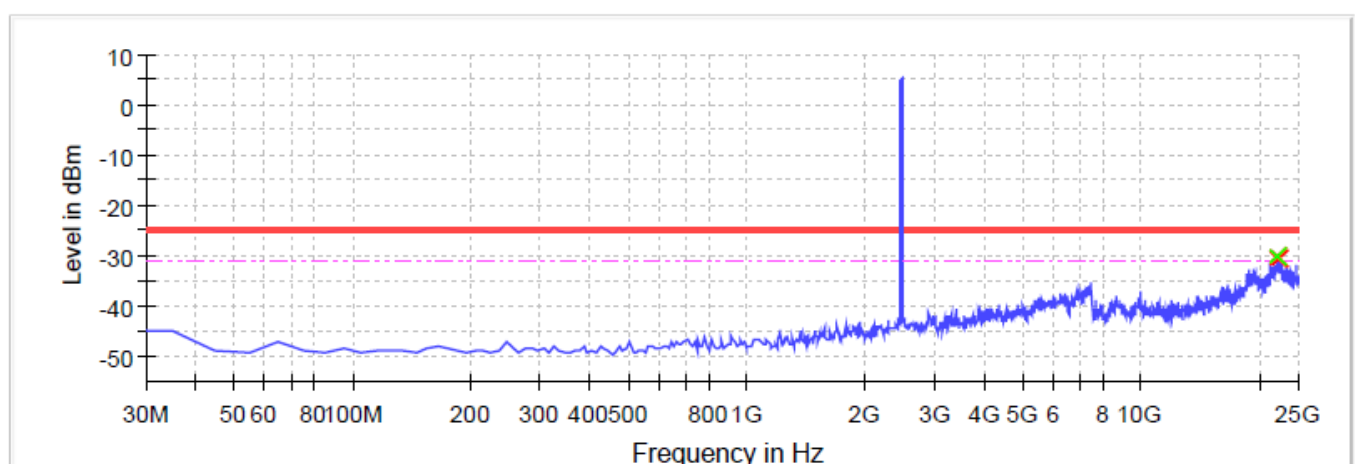
### Final Measurement

| Frequency (MHz) | Level Pre Measurement (dBm) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-----------------------------|-------------|-------------|-------------|
| 22056.677696    | -30.2                       | -60.0       | 35.2        | -24.8       |

### Pre Measurement

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 22056.178943    | -30.1       | 5.3         | -24.8       |
| 22116.154924    | -30.3       | 5.5         | -24.8       |
| 22086.166934    | -30.7       | 5.9         | -24.8       |
| 22416.034828    | -30.8       | 5.9         | -24.8       |
| 22066.174940    | -30.9       | 6.0         | -24.8       |
| 21996.202962    | -30.9       | 6.1         | -24.8       |
| 22096.162930    | -31.0       | 6.1         | -24.8       |
| 22346.062850    | -31.1       | 6.3         | -24.8       |
| 21336.467174    | -31.3       | 6.5         | -24.8       |
| 22386.046837    | -31.3       | 6.5         | -24.8       |
| 22126.150921    | -31.3       | 6.5         | -24.8       |
| 22166.134908    | -31.4       | 6.5         | -24.8       |
| 22306.078863    | -31.4       | 6.6         | -24.8       |
| 22336.066853    | -31.4       | 6.6         | -24.8       |
| 22246.102882    | -31.4       | 6.6         | -24.8       |

### Spurious



— Limit  
x Final Critical
 — Sum Level  
◆ Fail
 - - - Threshold  
◆ Pass
 x Critical

# 802.11n (HT20) MCS0 2412MHz

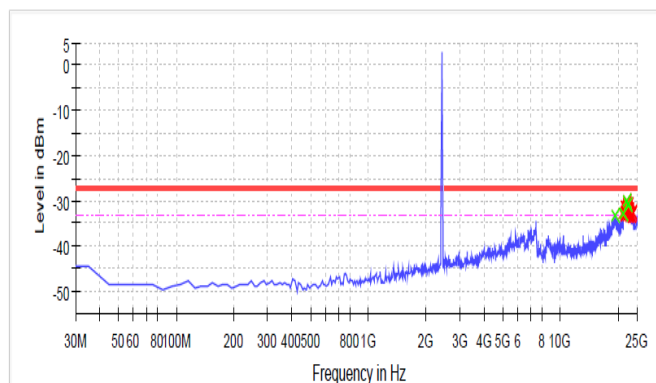
## Final Measurement

| Frequency (MHz) | Level Pre Measurement (dBm) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-----------------------------|-------------|-------------|-------------|
| 19271.186111    | -33.6                       | -63.1       | 35.9        | -27.2       |
| 21189.818993    | -32.9                       | -63.9       | 36.8        | -27.2       |
| 22087.264191    | -30.2                       | -60.3       | 33.1        | -27.2       |
| 22532.345891    | -31.4                       | -61.7       | 34.5        | -27.2       |

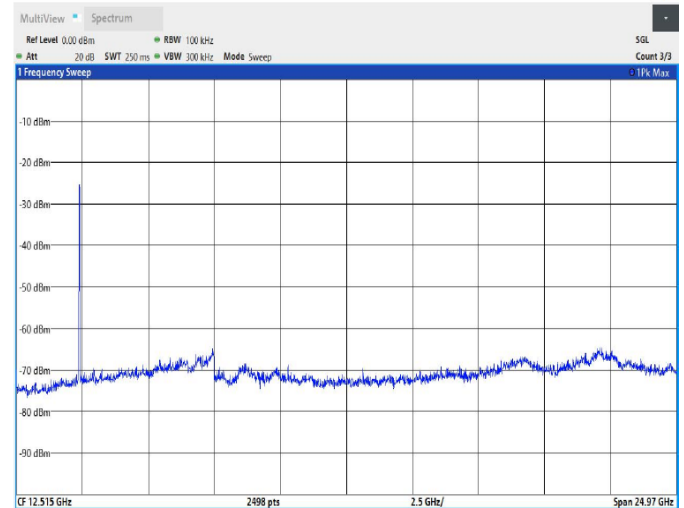
## Pre Measurement

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 22086.166934    | -30.0       | 2.9         | -27.2       |
| 22156.138911    | -30.1       | 2.9         | -27.2       |
| 21996.202962    | -30.4       | 3.2         | -27.2       |
| 22336.066853    | -30.7       | 3.5         | -27.2       |
| 22535.986789    | -30.7       | 3.5         | -27.2       |
| 22565.974780    | -30.8       | 3.6         | -27.2       |
| 22046.182946    | -30.9       | 3.7         | -27.2       |
| 22026.190953    | -30.9       | 3.7         | -27.2       |
| 22016.194956    | -31.1       | 4.0         | -27.2       |
| 22186.126902    | -31.1       | 4.0         | -27.2       |
| 22486.006805    | -31.2       | 4.0         | -27.2       |
| 22206.118895    | -31.2       | 4.0         | -27.2       |
| 22096.162930    | -31.2       | 4.1         | -27.2       |
| 22166.134908    | -31.3       | 4.1         | -27.2       |
| 22545.982786    | -31.3       | 4.1         | -27.2       |

Spurious



— Limit  
X Final Critical  
— Sum Level  
◆ Fail  
— Threshold  
◆ Pass  
X Critical

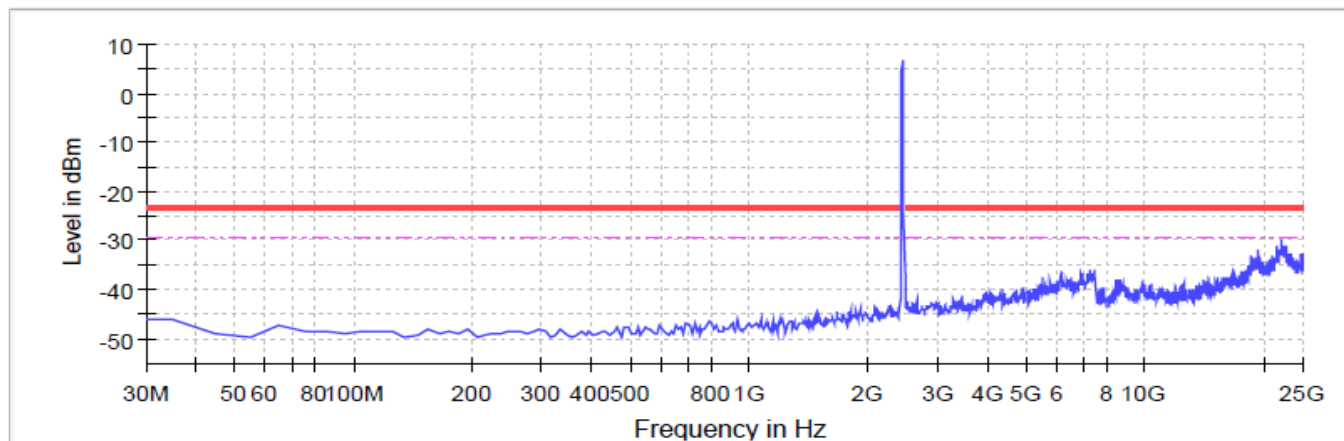


# 802.11n (HT20) MCS0 2437MHz

## Pre Measurement

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 22146.142914    | -29.8       | 6.4         | -23.4       |
| 22096.162930    | -30.2       | 6.8         | -23.4       |
| 22126.150921    | -30.3       | 6.9         | -23.4       |
| 22196.122898    | -30.6       | 7.1         | -23.4       |
| 22136.146918    | -30.7       | 7.2         | -23.4       |
| 22026.190953    | -30.9       | 7.4         | -23.4       |
| 22446.022818    | -30.9       | 7.5         | -23.4       |
| 22016.194956    | -31.1       | 7.6         | -23.4       |
| 22705.918735    | -31.1       | 7.6         | -23.4       |
| 22066.174940    | -31.1       | 7.6         | -23.4       |
| 21986.206966    | -31.1       | 7.7         | -23.4       |
| 21556.379103    | -31.2       | 7.7         | -23.4       |
| 22366.054844    | -31.2       | 7.8         | -23.4       |
| 22386.046837    | -31.3       | 7.8         | -23.4       |
| 22076.170937    | -31.3       | 7.9         | -23.4       |

## Spurious



— Limit
 — Sum Level
 --- Threshold
 × Critical
 × Final Critical

# 802.11n (HT20) MCS0 2462MHz

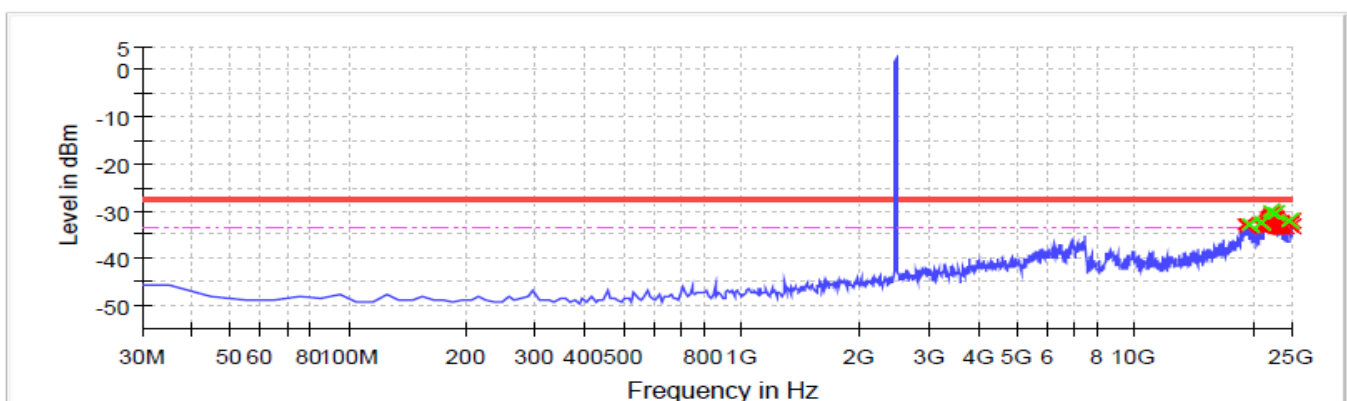
## Final Measurement

| Frequency (MHz) | Level Pre Measurement (dBm) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-----------------------------|-------------|-------------|-------------|
| 19391.707635    | -33.6                       | -63.5       | 36.1        | -27.5       |
| 20861.817419    | -33.3                       | -63.6       | 36.2        | -27.5       |
| 22105.938491    | -31.0                       | -60.4       | 32.9        | -27.5       |
| 22703.175593    | -31.0                       | -62.2       | 34.8        | -27.5       |
| 24796.229198    | -32.2                       | -62.7       | 35.2        | -27.5       |

## Pre Measurement

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 22096.162930    | -30.2       | 2.7         | -27.5       |
| 22705.918735    | -30.3       | 2.9         | -27.5       |
| 22016.194956    | -30.4       | 2.9         | -27.5       |
| 22076.170937    | -30.9       | 3.5         | -27.5       |
| 22156.138911    | -30.9       | 3.5         | -27.5       |
| 22366.054844    | -31.0       | 3.6         | -27.5       |
| 22106.158927    | -31.0       | 3.6         | -27.5       |
| 21966.214972    | -31.1       | 3.6         | -27.5       |
| 22236.106886    | -31.1       | 3.6         | -27.5       |
| 21796.283026    | -31.1       | 3.6         | -27.5       |
| 22116.154924    | -31.1       | 3.7         | -27.5       |
| 22196.122898    | -31.2       | 3.7         | -27.5       |
| 21856.259007    | -31.2       | 3.7         | -27.5       |
| 22226.110889    | -31.2       | 3.8         | -27.5       |
| 22166.134908    | -31.3       | 3.8         | -27.5       |

## Spurious



# 802.11n (HT40) MCS0 2422MHz

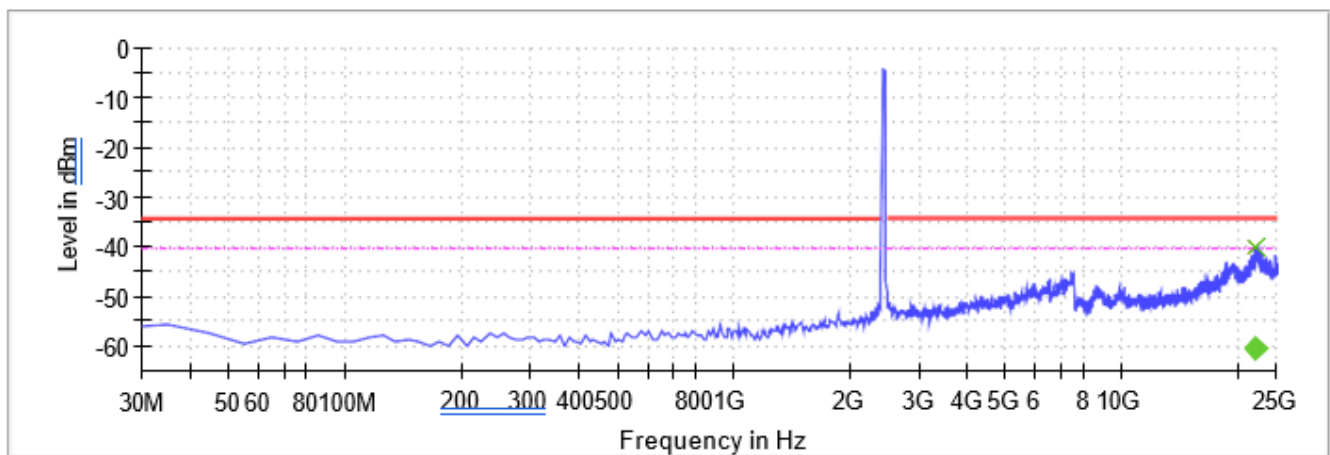
## Final Measurement

| Frequency (MHz) | Level Pre Measurement (dBm) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-----------------------------|-------------|-------------|-------------|
| 22034.769507    | -41.6                       | -60.8       | 26.4        | -34.4       |

## Pre Measurement

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 22026.190953    | -40.1       | 5.7         | -34.4       |
| 22246.102882    | -40.6       | 6.3         | -34.4       |
| 22066.174940    | -40.8       | 6.4         | -34.4       |
| 21936.226982    | -40.8       | 6.4         | -34.4       |
| 22346.062850    | -40.8       | 6.4         | -34.4       |
| 22006.198959    | -40.8       | 6.5         | -34.4       |
| 21966.214972    | -41.1       | 6.7         | -34.4       |
| 21926.230985    | -41.2       | 6.8         | -34.4       |
| 22106.158927    | -41.3       | 6.9         | -34.4       |
| 22206.118895    | -41.3       | 6.9         | -34.4       |
| 22136.146918    | -41.4       | 7.0         | -34.4       |
| 22086.166934    | -41.4       | 7.0         | -34.4       |
| 22575.970777    | -41.4       | 7.0         | -34.4       |
| 22076.170937    | -41.5       | 7.1         | -34.4       |
| 22096.162930    | -41.5       | 7.1         | -34.4       |

## Spurious



— Limit  
X Final Critical  
— Sum Level  
◆ Fail  
— Threshold  
◆ Pass  
X Critical

# 802.11n (HT40) MCS0 2452MHz

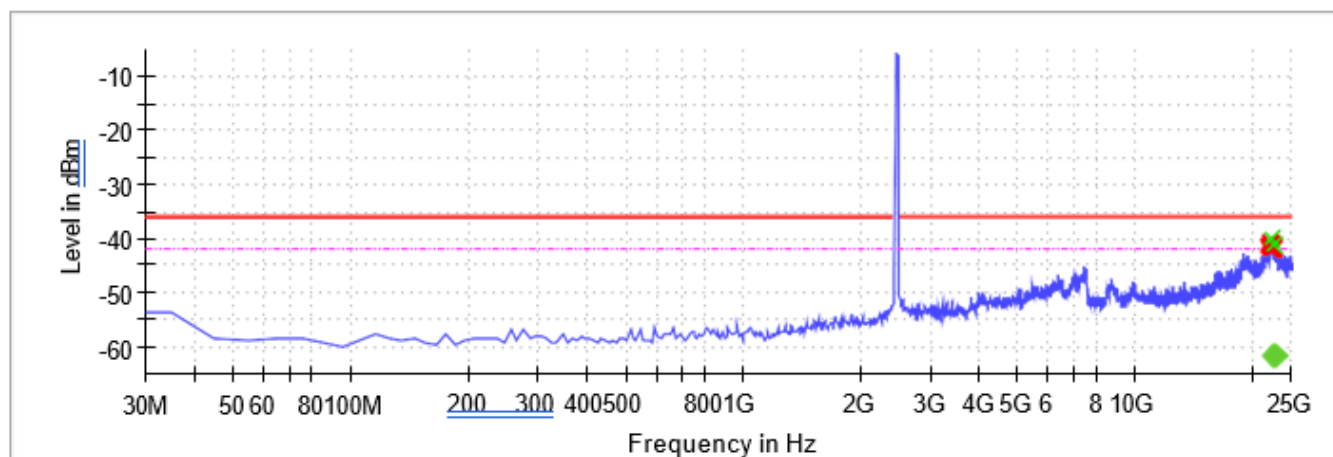
## Final Measurement

| Frequency (MHz) | Level Pre Measurement (dBm) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-----------------------------|-------------|-------------|-------------|
| 22387.443346    | -40.3                       | -61.7       | 25.8        | -35.9       |
| 22646.512317    | -43.2                       | -61.8       | 25.9        | -35.9       |

## Pre Measurement

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 22386.046837    | -39.9       | 4.0         | -35.9       |
| 22026.190953    | -40.3       | 4.4         | -35.9       |
| 22176.130905    | -40.4       | 4.5         | -35.9       |
| 22196.122898    | -40.7       | 4.8         | -35.9       |
| 22076.170937    | -40.7       | 4.8         | -35.9       |
| 22136.146918    | -40.8       | 4.9         | -35.9       |
| 22156.138911    | -40.9       | 5.0         | -35.9       |
| 22046.182946    | -41.0       | 5.1         | -35.9       |
| 22126.150921    | -41.1       | 5.2         | -35.9       |
| 22655.938751    | -41.2       | 5.2         | -35.9       |
| 22226.110889    | -41.2       | 5.3         | -35.9       |
| 22146.142914    | -41.2       | 5.3         | -35.9       |
| 22436.026821    | -41.3       | 5.4         | -35.9       |
| 22066.174940    | -41.3       | 5.4         | -35.9       |
| 21926.230985    | -41.3       | 5.4         | -35.9       |

## Spurious



— Limit  
— Sum Level  
--- Threshold  
✕ Final Critical  
◆ Fail  
◆ Pass  
✕ Critical

## 5. Radiated Testing

### 5.1 Test Summary

#### NORA-W300

|                   |                 |                                            |                 |
|-------------------|-----------------|--------------------------------------------|-----------------|
| Start: 12/07/2023 | End: 05/13/2024 | Temperature: 22.3°C<br>Humidity: 26.2 %R.H | Initials: AP/AB |
|-------------------|-----------------|--------------------------------------------|-----------------|

| DUT S/N      | J23220-W300#1   |                 | DUT Operating Mode            |                                           | WLAN Test Mode |
|--------------|-----------------|-----------------|-------------------------------|-------------------------------------------|----------------|
| Comment      | -               |                 |                               |                                           |                |
| Antenna      | Frequency Range | Polarization    | Result<br>Over/Under Limit    |                                           | Notes          |
| Loop         | 9kHz-30MHz      | Parallel        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                 | Perpendicular   | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                 | Ground-Parallel | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
| Log Periodic | 30MHz-1GHz      | Horizontal      | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                 | Vertical        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
| Horn         | 1GHz-18GHz      | Horizontal      | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                 | Vertical        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
| Horn         | 18GHz-27.5GHz   | Horizontal      | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                 | Vertical        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |

**Notes:** √ meets the requirements of the acceptance criteria.

#### NORA-W301

|                   |                 |                                            |                 |
|-------------------|-----------------|--------------------------------------------|-----------------|
| Start: 12/11/2023 | End: 02/27/2024 | Temperature: 22.3°C<br>Humidity: 26.2 %R.H | Initials: AP/AB |
|-------------------|-----------------|--------------------------------------------|-----------------|

| DUT S/N      | J23220-W301#2                                                                          |                 | DUT Operating Mode            |                                           | WLAN Test Mode |
|--------------|----------------------------------------------------------------------------------------|-----------------|-------------------------------|-------------------------------------------|----------------|
| Comment      | Worst case modulation and channels tested are based on RF output power of W300 device. |                 |                               |                                           |                |
| Antenna      | Frequency Range                                                                        | Polarization    | Result<br>Over/Under Limit    |                                           | Notes          |
| Loop         | 9kHz-30MHz                                                                             | Parallel        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                                                                                        | Perpendicular   | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                                                                                        | Ground-Parallel | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
| Log Periodic | 30MHz-1GHz                                                                             | Horizontal      | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                                                                                        | Vertical        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
| Horn         | 1GHz-18GHz                                                                             | Horizontal      | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                                                                                        | Vertical        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
| Horn         | 18GHz-27.5GHz                                                                          | Horizontal      | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                                                                                        | Vertical        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |

**Notes:** √ meets the requirements of the acceptance criteria.

**NORA-W306**

|                   |                 |                                            |                 |
|-------------------|-----------------|--------------------------------------------|-----------------|
| Start: 12/11/2023 | End: 02/27/2024 | Temperature: 21.9°C<br>Humidity: 24.4 %R.H | Initials: AP/AB |
|-------------------|-----------------|--------------------------------------------|-----------------|

| DUT S/N      | J23220-W306#1                                                                          |                 | DUT Operating Mode            |                                           | WLAN Test Mode |
|--------------|----------------------------------------------------------------------------------------|-----------------|-------------------------------|-------------------------------------------|----------------|
| Comment      | Worst case modulation and channels tested are based on RF output power of W300 device. |                 |                               |                                           |                |
| Antenna      | Frequency Range                                                                        | Polarization    | Result Over/Under Limit       |                                           | Notes          |
| Loop         | 9kHz-30MHz                                                                             | Parallel        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                                                                                        | Perpendicular   | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                                                                                        | Ground-Parallel | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
| Log Periodic | 30MHz-1GHz                                                                             | Horizontal      | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                                                                                        | Vertical        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
| Horn         | 1GHz-18GHz                                                                             | Horizontal      | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                                                                                        | Vertical        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
| Horn         | 18GHz-27.5GHz                                                                          | Horizontal      | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |
|              |                                                                                        | Vertical        | <input type="checkbox"/> Over | <input checked="" type="checkbox"/> Under | √              |

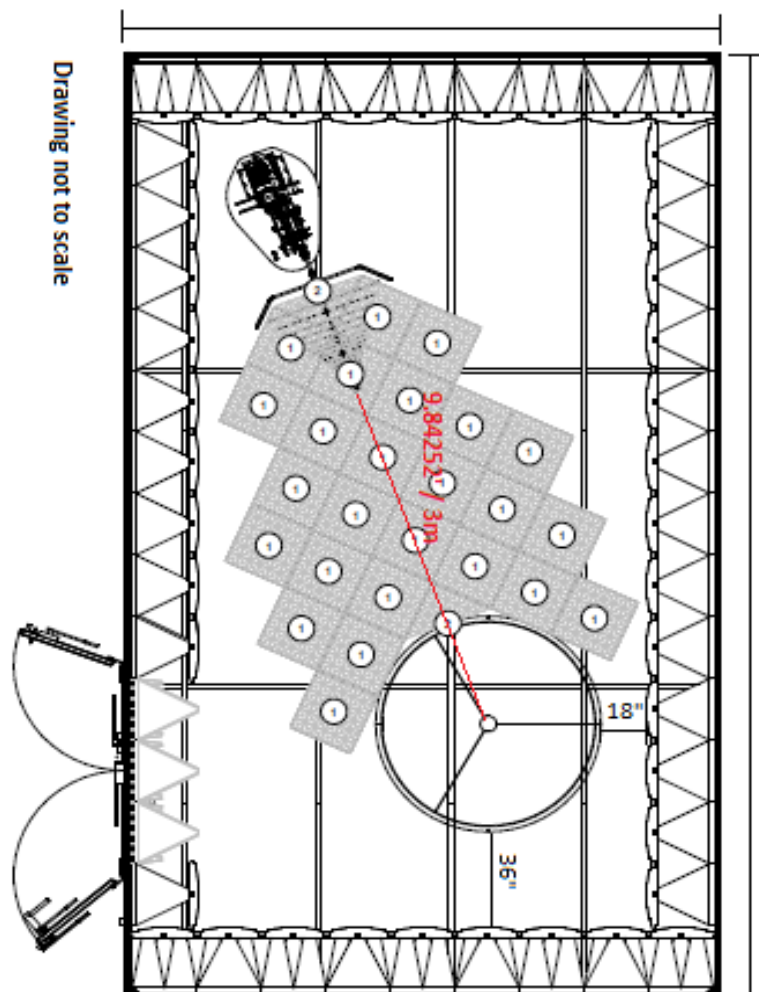
**Notes:** √ meets the requirements of the acceptance criteria.

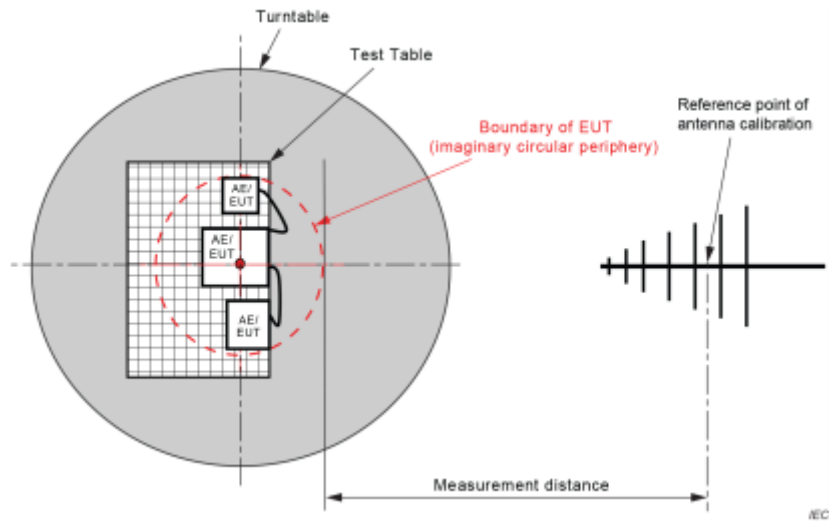
## 5.2 Test Setup

Semi-Anechoic Chamber Test Site-3 meter

|                                |                                                 |
|--------------------------------|-------------------------------------------------|
| Chamber Location               | 815 N Opdyke Rd<br>Auburn Hills, Michigan 48326 |
| Chamber Manufacturer:          | ETS-Lindgren                                    |
| Chamber Type                   | Semi-Anechoic                                   |
| Model                          | FACT™ 3-2.0 Plus                                |
| Chamber Dimensions (L x W x H) | 18'x18'x30'                                     |
| Quiet Zone Diameter            | 2.0 meters                                      |
| Quiet Zone Test Heights        | 1 & 2 meters (front only)                       |
| Test Distance                  | 3.0 meters                                      |
| Test Frequency Range           | 1-40 GHz                                        |
| Measured Performance           | 4.87 dB Site sVSWR                              |

Chamber Dimensions





### 5.3 Test Equipment Used

| ID #    | Equipment                                       | Manufacturer          | Model #        | Serial #              | Cal Due    |
|---------|-------------------------------------------------|-----------------------|----------------|-----------------------|------------|
| BVD0217 | Receiver 2Hz-44GHz                              | Rohde & Schwarz       | ESW44          | 101871                | 6/15/2024  |
| BVD0118 | Antenna Mast Position Controller                | ETS                   | 7006-001       | 00214778/<br>00214648 | N/A        |
| BVD0111 | 3 Meter Anechoic Chamber                        | ETS                   | N/A            | N/A                   | N/A        |
| BVD0247 | Turn Table                                      | ETS                   | 920250         | N/A                   | N/A        |
| BVD0323 | Foam Test Table For 3 Meter Chamber             | ETS-Lindgren          | LDT-1.5        | N/A                   | N/A        |
| BVD0069 | Bore Sight Tower                                | ETS                   | 2171B          | 226732                | N/A        |
| BVD0184 | Preamplifier 29dB 1-18GHz                       | Rohde & Schwarz       | TS-PR18        | 101646                | 6/22/2024  |
| BVD0185 | Preamplifier 45dB 18-40GHz                      | Rohde & Schwarz       | TS-PR1840      | 100064                | 12/12/2024 |
| BVD0187 | Preamplifier 25dB cal to 100kHz-1GHz            | Rohde & Schwarz       | TS-PR1         | 102080                | 1/23/2025  |
| BVD0267 | Double Ridge Waveguide 800MHz-18GHz             | Rohde & Schwarz       | HF907          | 102832                | 6/22/2024  |
| BVD0021 | UltraLog Antenna 30-6000MHz                     | Rohde & Schwarz       | HL562E         | 101113                | 6/26/2025  |
| BVD0320 | 18-40GHz Horn Antenna                           | L3 Narda ATM          | PNR 180-442-KF | 136164-01             | 4/29/2024  |
| BVD0012 | Loop Antenna 9kHz-30MHz                         | Rohde & Schwarz       | FMZB1519B      | 146                   | 7/13/2024  |
| BVD0480 | Band Reject Filter 50dB from 2400 to 2500MHz    | Micro-Tronics         | BRM50702       | G482                  | 6/15/2024  |
| BVD0394 | Double Shielded N-Type Cable 6.9 Meter          | Rohde & Schwarz       | N-Type         | N/A                   | 4/3/2024   |
| BVD0398 | Double Shielded N-Type Cable 2 Meter            | Rohde & Schwarz       | N-Type         | N/A                   | 12/29/2024 |
| BVD0563 | RF Cable Assembly                               | Huber+Suhner, inc     | SUCOFLEX 102A  | 502215/2A             | 9/12/2024  |
| BVD0407 | Double Shielded N-Type Cable 410mm (For PreAmp) | Rohde & Schwarz       | N-Type         | N/A                   | 10/12/2024 |
| BVD0495 | SMA Shielded Cable approx 100mm (for Pre-Amp)   | Rohde & Schwarz       | SMA-Type       | N/A                   | 4/29/2024  |
| BVD0552 | Double Shielded N-Type Cable 440mm (For PreAmp) | Electronic Assemblies | N-Type         | N/A                   | 4/19/2024  |
| BVD0229 | Temp and Humidity Meter                         | Fluke                 | 971            | 12001009              | 5/25/2024  |

### Equipment List (Software)

| ID # | Equipment         | Manufacturer    | Model | Version No. |     |
|------|-------------------|-----------------|-------|-------------|-----|
| N/A  | EMC Test Software | Rodhe & Schwarz | EMC32 | 11.20.00    | N/A |

### Customer Supplied Equipment

| ID # | Equipment                      | Manufacturer | Model | Serial # | Version No. |
|------|--------------------------------|--------------|-------|----------|-------------|
| N/A  | Test Laptop                    | Dell         | E7250 | B38BY52  | N/A         |
| N/A  | NORA-W3 Series Test Controller | Ublox        | N/A   | N/A      | 1.7.0.1     |

## 5.4 Test Limits and Procedures

Radiated emissions that fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a). Other emissions shall be at least 20dB below the highest level of the desired power.

| Frequencies (MHz) | Field strength<br>( $\mu\text{V/m}$ ) | Field strength<br>(dB $\mu\text{V/m}$ ) | Measurement distance<br>(meters) |
|-------------------|---------------------------------------|-----------------------------------------|----------------------------------|
| 0.009 ~ 0.490     | 2400/F(kHz)                           | 48.5 - 13.8                             | 300                              |
| 0.490 ~ 1.705     | 24000/F(kHz)                          | 33.8 - 23                               | 30                               |
| 1.705 ~ 30.0      | 30                                    | 29.54                                   | 30                               |
| 30 ~ 88           | 100                                   | 40.0                                    | 3                                |
| 88 ~ 216          | 150                                   | 43.5                                    | 3                                |
| 216 ~ 960         | 200                                   | 46.0                                    | 3                                |
| Above 960         | 500                                   | 54.0                                    | 3                                |

Note:

- The lower limit shall apply at the transition frequencies.
- As per 15.35(b), for frequencies above 1000MHz, the field strength limits based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.
- For performing measurements at a specified distance of 3m, the values are extrapolated using extrapolation factor.  
Frequencies below 30MHz are extrapolated using 40dB/decade.  
Frequencies above 30MHz are extrapolated using 20dB/decade.

| Frequencies (MHz) | Formula for Limits derivation for below<br>30MHz | Limits for frequencies below 30MHz<br>(dB $\mu\text{V/m}$ ) |
|-------------------|--------------------------------------------------|-------------------------------------------------------------|
| 0.009 ~ 0.490     | 2400/F(kHz) + 40 Log (300m/3m)                   | 128.5 ~ 93.8                                                |
| 0.490 ~ 1.705     | 24000/F(kHz) + 40 Log (30m/3m)                   | 73.8 ~ 62.96                                                |
| 1.705 ~ 30.0      | 29.54 + 40 Log (30m/3m)                          | 69.54                                                       |

Radiated emissions that fall in restricted bands, as defined in RSS-GEN Section 8.10 must also comply with radiated emissions limits specified in RSS-GEN Section 8.9

The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377 $\Omega$ .

The measurement procedures are as per ANSI C63.10-2013 Sections 6.3, Section 6.4, Section 6.5, and Section 6.6

1. The table height for emissions measurements
  - i) Below 1 GHz, the table height is 80 cm above the reference ground plane.
  - ii) Above 1 GHz, the table height is 1.5 m
2. Radiated emission tests are performed in the frequency range
  - i) 9 kHz to 30 MHz, using a calibrated loop antenna
  - ii) 30 MHz to 1GHz, using a calibrated log antenna
  - iii) Above 1 GHz using a calibrated horn antenna
3. Measurements performed with the EUT rotated from 0° to 360°, the antenna height scanned between 1m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

## 5.5 Test Data

### Uncertainty

Radiated Emissions (30MHz to 40GHz)

**Test Engineer Initials:** AP/AB

The test is to measure the radiated emissions of the EUT. Some error sources that can contribute to the total uncertainty:

- Uncertainty of the receiver
- Uncertainty of the antenna
- Uncertainty of cables
- Uncertainty due to the mismatches
- NSA Calibration
- Etc., details see the below table

### 30MHz to 1GHZ

| Source of Uncertainty                                                 | Value (dB) | ProbabilityDistribution | Division | Sensitivity Coefficient | Expanded Uncertainty |
|-----------------------------------------------------------------------|------------|-------------------------|----------|-------------------------|----------------------|
| Receiver Reading                                                      | 0.12       | Rectangular             | 1.732    | 1                       | 0.069284             |
| Cable Insertion Loss                                                  | 0.21       | Normal                  | 2        | 1                       | 0.105                |
| Filter Insertion Loss                                                 | 0.25       | Normal                  | 2        | 1                       | 0.125                |
| Antenna Factor                                                        | 0.65       | Normal                  | 2        | 1                       | 0.325                |
| Receiver CW accuracy                                                  | 0.5        | Rectangular             | 1.732    | 1                       | 0.2886836            |
| Pulse Amplitude Response                                              | 1.5        | Rectangular             | 1.732    | 1                       | 0.86605081           |
| PRF Response                                                          | 1.5        | Rectangular             | 1.732    | 1                       | 0.86605081           |
| Mismatch Filter – Receiver                                            | 0.25       | U-Shape                 | 2.449    | 1                       | 0.1768033            |
| NSA Calibration                                                       | 4.0        | Triangular              | 1.414    | 1                       | 1.633332             |
| ETS Foam Table (LDT-1.5)                                              | 1.8        | Rectangular             | 1.732    | 1                       | 1.039261             |
| Combined Standard Uncertainty (square root of the sum of the squares) |            |                         |          |                         | 2.113781             |
| <b>Expanded Uncertainty (K=2)</b>                                     |            |                         |          |                         | <b>4.227562</b>      |

The total derived measurement uncertainty is +/- 4.228 dB

**1GHz to 40GHz**

| Source of Uncertainty                                                 | Value (dB) | Probability Distribution | Division | Sensitivity Coefficient | Expanded Uncertainty |
|-----------------------------------------------------------------------|------------|--------------------------|----------|-------------------------|----------------------|
| Receiver Reading                                                      | 0.12       | Rectangular              | 1.732    | 1                       | 0.069284             |
| Cable Insertion Loss                                                  | 0.21       | Normal                   | 2        | 1                       | 0.105000             |
| Filter Insertion Loss                                                 | 0.25       | Normal                   | 2        | 1                       | 0.125000             |
| Antenna Factor                                                        | 0.65       | Normal                   | 2        | 1                       | 0.325000             |
| Receiver CW accuracy                                                  | 0.5        | Rectangular              | 1.732    | 1                       | 0.2886836            |
| Pulse Amplitude Response                                              | 1.5        | Rectangular              | 1.732    | 1                       | 0.866051             |
| PRF Response                                                          | 1.5        | Rectangular              | 1.732    | 1                       | 0.866051             |
| Mismatch Filter – Receiver                                            | 0.25       | U-Shape                  | 1.414    | 1                       | 0.176803             |
| VSWR Calibration                                                      | 2.0        | Triangular               | 2.449    | 1                       | 0.816659             |
| ETS Foam Table (LDT-1.5)                                              | 1.8        | Rectangular              | 1.732    | 1                       | 1.039261             |
| Combined Standard Uncertainty (square root of the sum of the squares) |            |                          |          |                         | 1.869213             |
| <b>Expanded Uncertainty (K=2)</b>                                     |            |                          |          |                         | <b>3.738426</b>      |

The total derived measurement uncertainty is +/- 3.738 dB.

Remarks:

1. Level Q-Peak Reading (dBμV/m) = Raw Q-Peak Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Q-Peak Reading – Limit

Remarks:

1. Level Peak Reading (dBμV/m) = Raw Peak Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Peak Reading – Limit

Remarks:

1. Level Average Reading (dBμV/m) = Raw Average Level + Correction Factor
2. Correction Factor (dB) = Antenna Factor + Cable Loss – Preamplifier Gain
3. Margin = Level Average Reading – Limit

## 5.5.1 NORA-W300

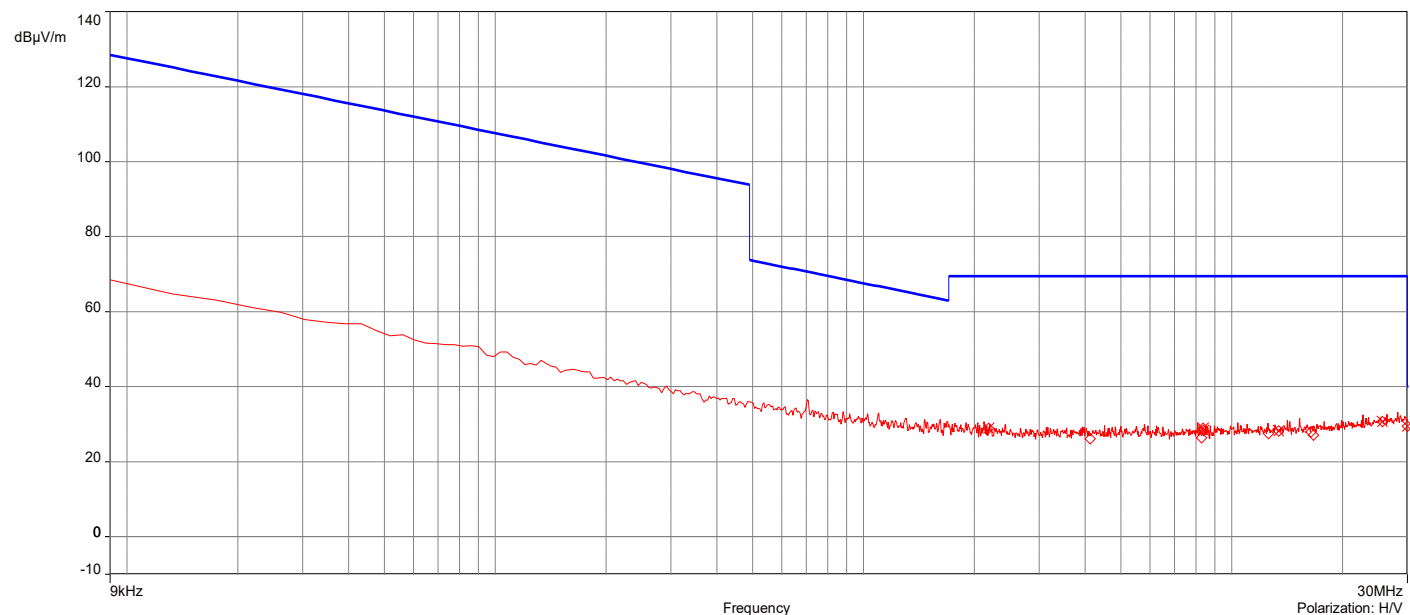
### Pulse

J23220\_W300#1\_2.4G 802.11b\_Ch 6\_9kHz-30MHz\_Ground-Parallel

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| No | Frequency (MHz) | Level Q-Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.190086MHz     | 28.85                         | 19.23                  | 69.54        | -40.69      | 1.00       | 237.20    | H/V          | Passed    |
| 2. | 8.364829MHz     | 28.94                         | 19.34                  | 69.54        | -40.60      | 1.00       | 88.90     | H/V          | Passed    |
| 3. | 8.38197MHz      | 28.28                         | 19.34                  | 69.54        | -41.26      | 1.00       | 69.10     | H/V          | Passed    |
| 4. | 13.404037MHz    | 28.18                         | 19.86                  | 69.54        | -41.36      | 1.00       | 292.80    | H/V          | Passed    |
| 5. | 25.620688MHz    | 30.77                         | 21.21                  | 69.54        | -38.77      | 1.00       | 84.50     | H/V          | Passed    |
| 6. | 30MHz           | 29.52                         | 22.04                  | 40.00        | -10.48      | 1.00       | 280.00    | H/V          | Passed    |

### Overall Graphs:

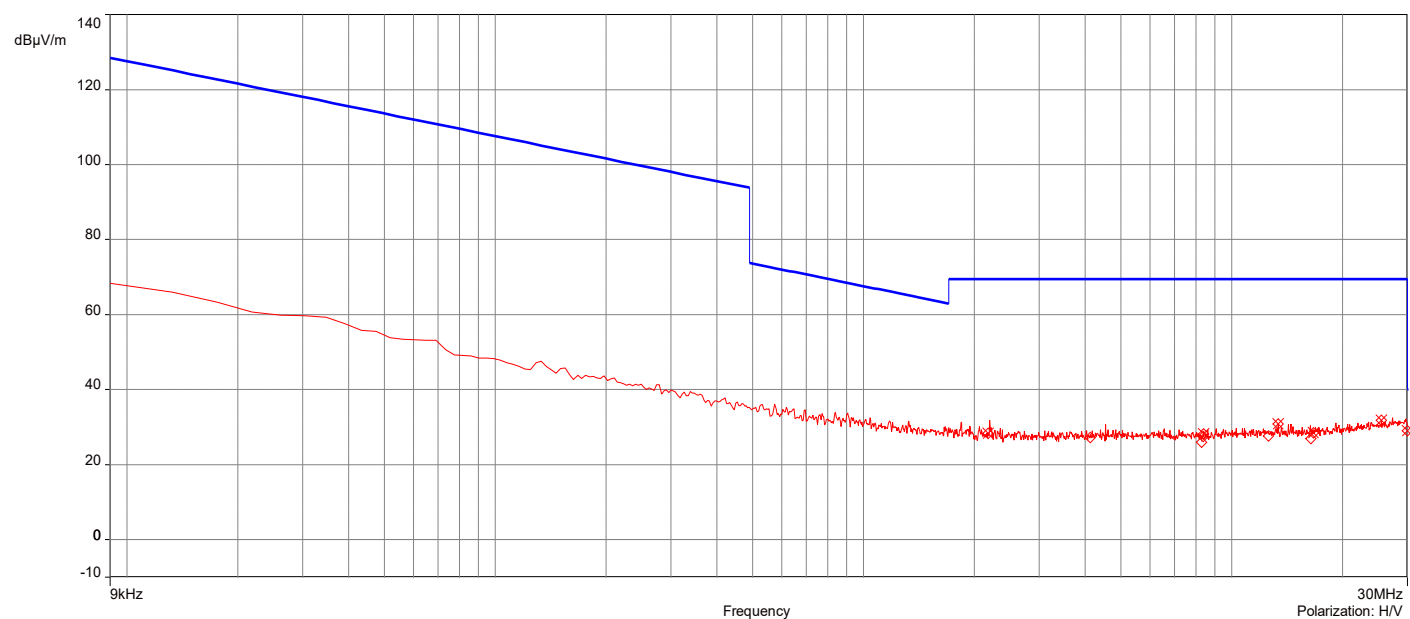


**J23220\_W300#1\_2.4G 802.11b\_Ch 6\_9kHz-30MHz\_Parallel**

12/11/2023 6:41:01 PM

| No | Frequency (MHz) | Level Q-Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.177231MHz     | 28.42                         | 19.23                  | 69.54        | -41.12      | 1.00       | 262.00    | H/V          | Passed    |
| 2. | 8.377685MHz     | 28.27                         | 19.34                  | 69.54        | -41.27      | 1.00       | 113.20    | H/V          | Passed    |
| 3. | 13.386897MHz    | 30.83                         | 19.86                  | 69.54        | -38.71      | 1.00       | 248.80    | H/V          | Passed    |
| 4. | 16.694949MHz    | 28.53                         | 20.04                  | 69.54        | -41.01      | 1.00       | 0.10      | H/V          | Passed    |
| 5. | 25.517847MHz    | 31.82                         | 21.20                  | 69.54        | -37.72      | 1.00       | 295.70    | H/V          | Passed    |
| 6. | 30MHz           | 29.03                         | 22.04                  | 40.00        | -10.97      | 1.00       | 358.00    | H/V          | Passed    |

Overall Graphs:

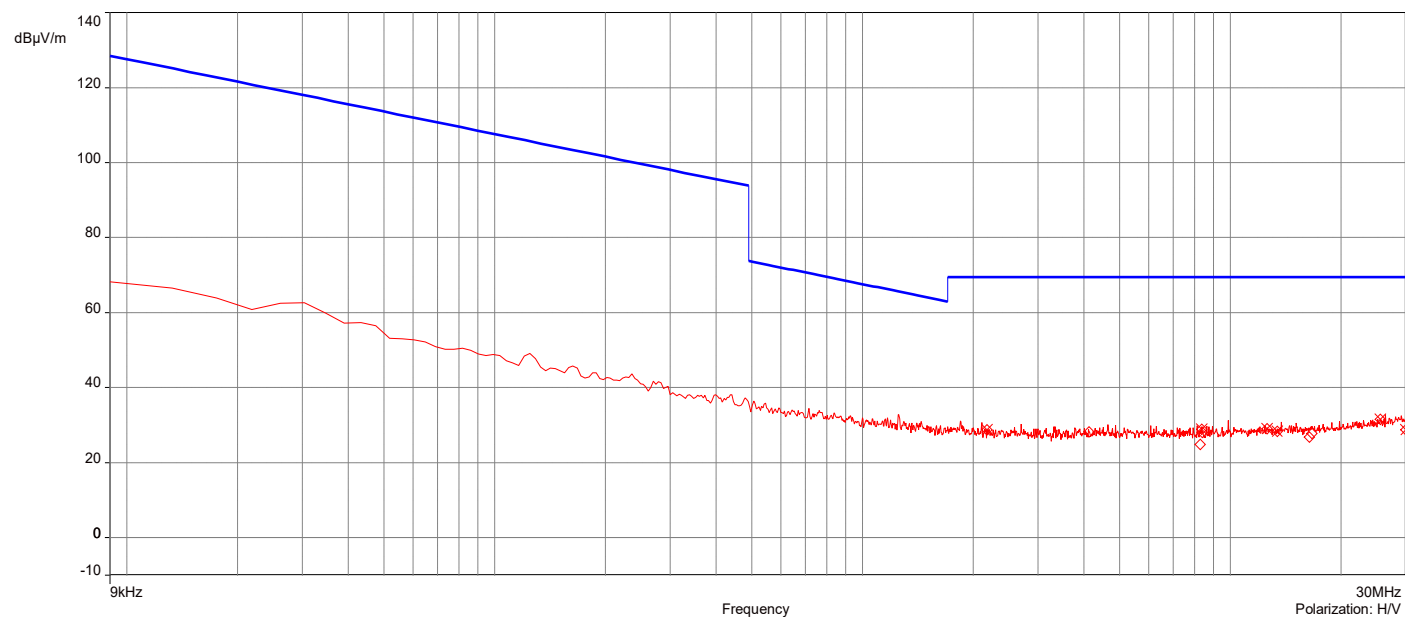


**J23220\_W300#1\_2.4G 802.11b\_Ch 6\_9kHz-30MHz\_Perpendicular**

12/11/2023 6:47:20 PM

| No | Frequency (MHz) | Level Q-Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.177231MHz     | 28.71                         | 19.23                  | 69.54        | -40.83      | 1.00       | 72.80     | H/V          | Passed    |
| 2. | 8.364829MHz     | 28.87                         | 19.34                  | 69.54        | -40.67      | 1.00       | 195.40    | H/V          | Passed    |
| 3. | 12.577024MHz    | 29.07                         | 19.79                  | 69.54        | -40.47      | 1.00       | 232.50    | H/V          | Passed    |
| 4. | 13.408322MHz    | 28.29                         | 19.86                  | 69.54        | -41.25      | 1.00       | 358.90    | H/V          | Passed    |
| 5. | 25.616403MHz    | 31.56                         | 21.21                  | 69.54        | -37.98      | 1.00       | 1.80      | H/V          | Passed    |
| 6. | 30MHz           | 28.77                         | 22.04                  | 40.00        | -11.23      | 1.00       | 191.10    | H/V          | Passed    |

Overall Graphs:

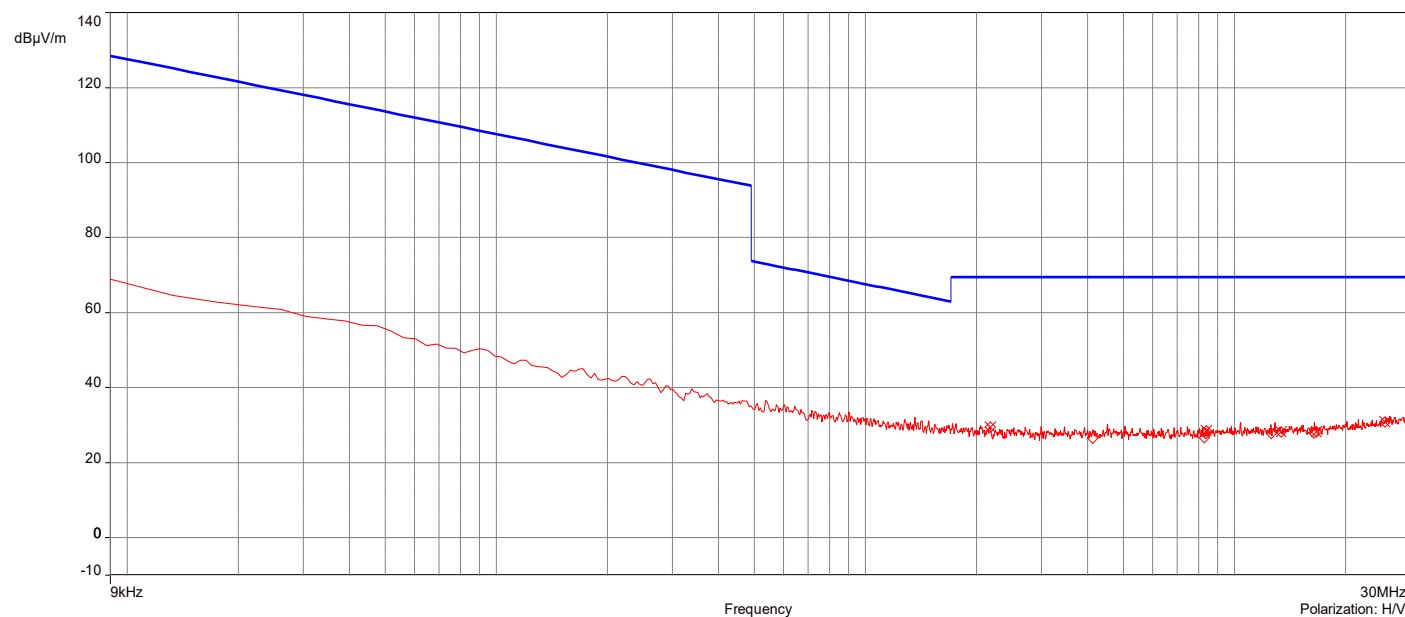


**J23220\_W300#1\_2.4G 802.11n\_Ch 6\_9kHz-30MHz\_Ground-Parallel**

12/11/2023 6:38:16 PM

| No | Frequency (MHz) | Level Q-Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.177231MHz     | 29.45                         | 19.23                  | 69.54        | -40.09      | 1.00       | 125.60    | H/V          | Passed    |
| 2. | 8.386255MHz     | 28.44                         | 19.34                  | 69.54        | -41.10      | 1.00       | 358.90    | H/V          | Passed    |
| 3. | 13.369757MHz    | 28.25                         | 19.86                  | 69.54        | -41.29      | 1.00       | 161.70    | H/V          | Passed    |
| 4. | 16.694949MHz    | 28.25                         | 20.04                  | 69.54        | -41.29      | 1.00       | 313.10    | H/V          | Passed    |
| 5. | 25.556413MHz    | 30.81                         | 21.21                  | 69.54        | -38.73      | 1.00       | 1.00      | H/V          | Passed    |
| 6. | 30MHz           | 29.80                         | 22.04                  | 40.00        | -10.20      | 1.00       | 228.80    | H/V          | Passed    |

Overall Graphs:

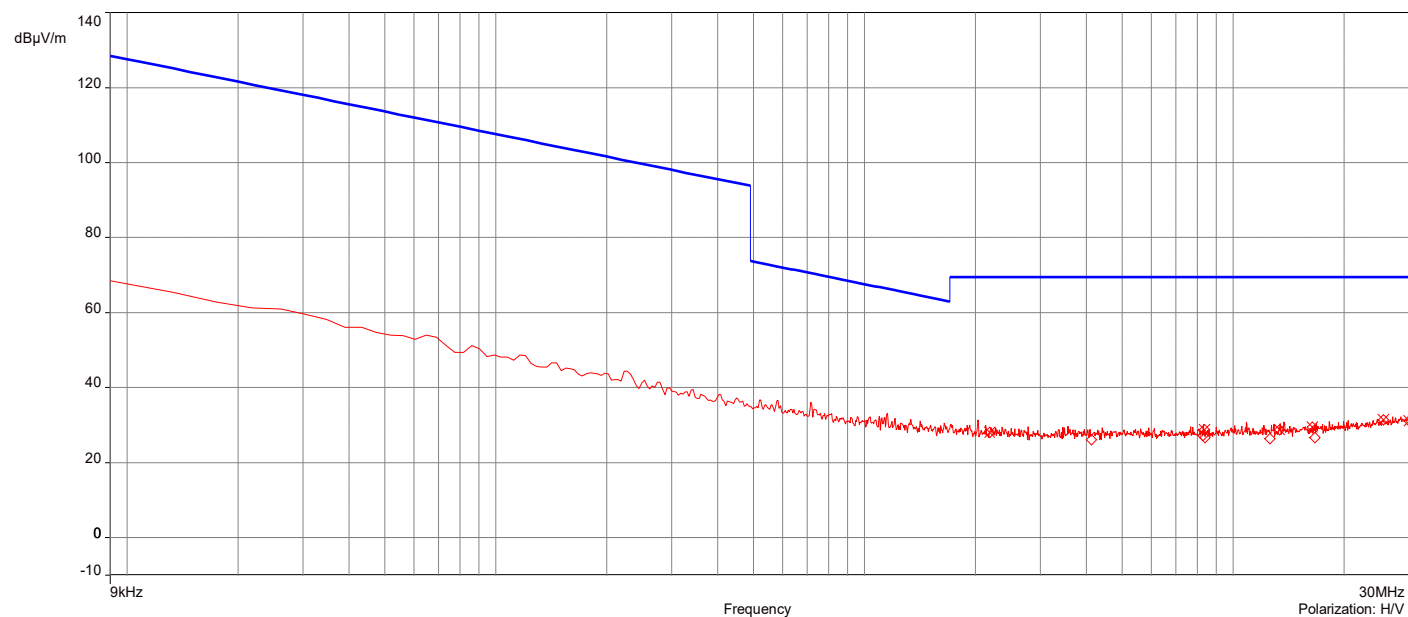


**J23220\_W300#1\_2.4G 802.11n\_Ch 6\_9kHz-30MHz\_Parallel**

12/11/2023 6:42:44 PM

| No | Frequency (MHz) | Level Q-Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.185801MHz     | 28.12                         | 19.23                  | 69.54        | -41.42      | 1.00       | 147.20    | H/V          | Passed    |
| 2. | 8.364829MHz     | 28.83                         | 19.34                  | 69.54        | -40.71      | 1.00       | 17.60     | H/V          | Passed    |
| 3. | 13.391182MHz    | 28.82                         | 19.86                  | 69.54        | -40.72      | 1.00       | 0.60      | H/V          | Passed    |
| 4. | 16.420706MHz    | 29.46                         | 20.00                  | 69.54        | -40.08      | 1.00       | 134.10    | H/V          | Passed    |
| 5. | 25.616403MHz    | 31.47                         | 21.21                  | 69.54        | -38.07      | 1.00       | 294.10    | H/V          | Passed    |
| 6. | 30MHz           | 31.17                         | 22.04                  | 40.00        | -8.83       | 1.00       | 140.50    | H/V          | Passed    |

Overall Graphs:

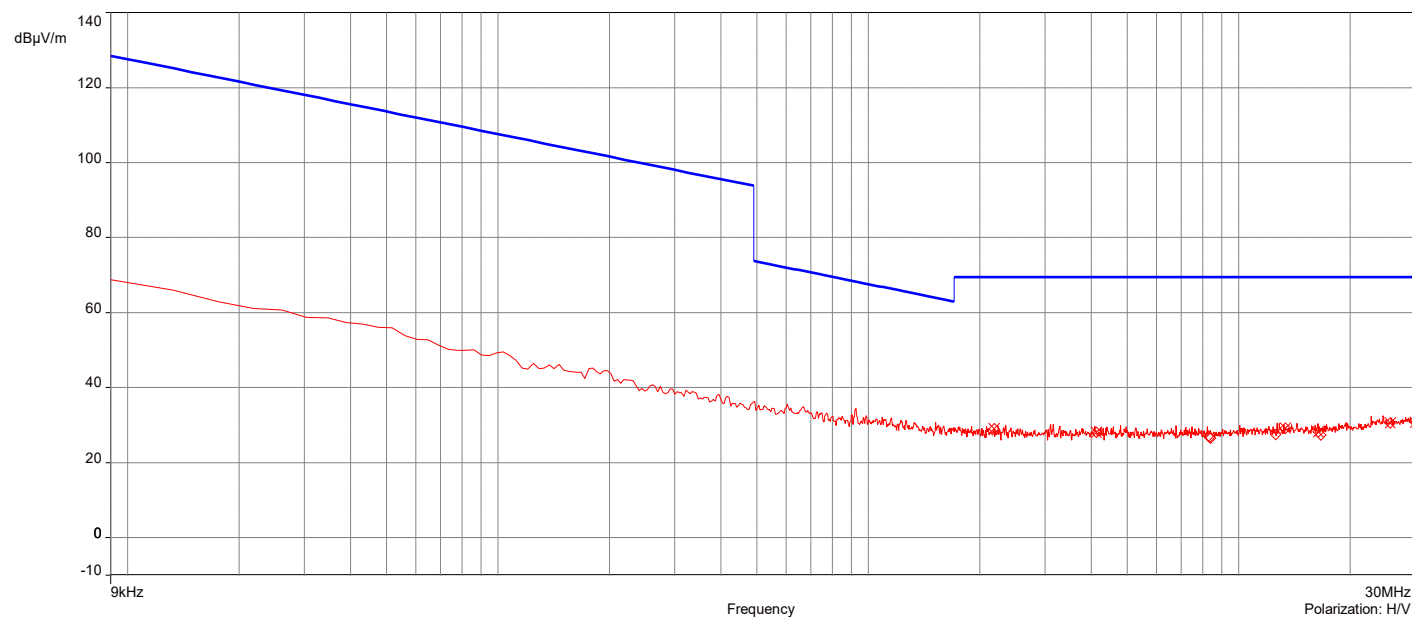


**J23220\_W300#1\_2.4G 802.11n\_Ch 6\_9kHz-30MHz\_Perpendicular**

12/11/2023 6:45:22 PM

| No | Frequency (MHz) | Level Q-Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.190086MHz     | 29.01                         | 19.23                  | 69.54        | -40.53      | 1.00       | 295.40    | H/V          | Passed    |
| 2. | 4.126924MHz     | 28.11                         | 19.43                  | 69.54        | -41.43      | 1.00       | 101.80    | H/V          | Passed    |
| 3. | 13.382612MHz    | 29.16                         | 19.86                  | 69.54        | -40.38      | 1.00       | 13.70     | H/V          | Passed    |
| 4. | 16.420706MHz    | 28.14                         | 20.00                  | 69.54        | -41.40      | 1.00       | 16.00     | H/V          | Passed    |
| 5. | 25.646399MHz    | 30.59                         | 21.21                  | 69.54        | -38.95      | 1.00       | 138.10    | H/V          | Passed    |
| 6. | 30MHz           | 30.70                         | 22.04                  | 40.00        | -9.30       | 1.00       | 269.80    | H/V          | Passed    |

**Overall Graphs:**

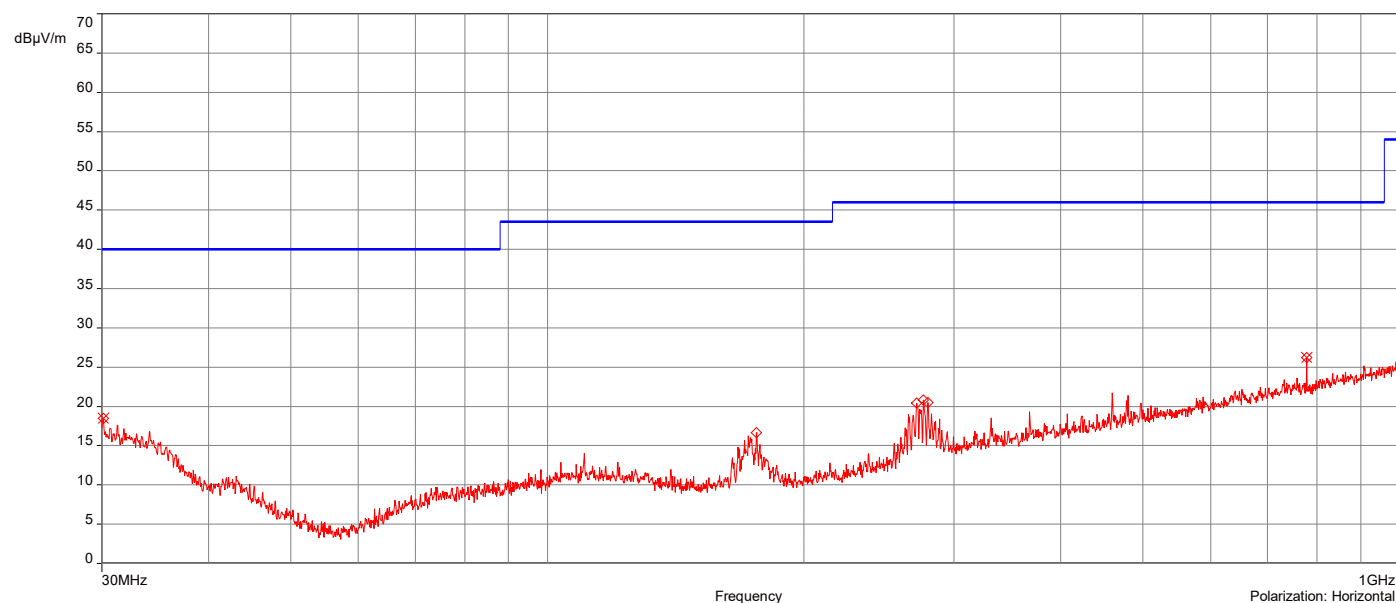


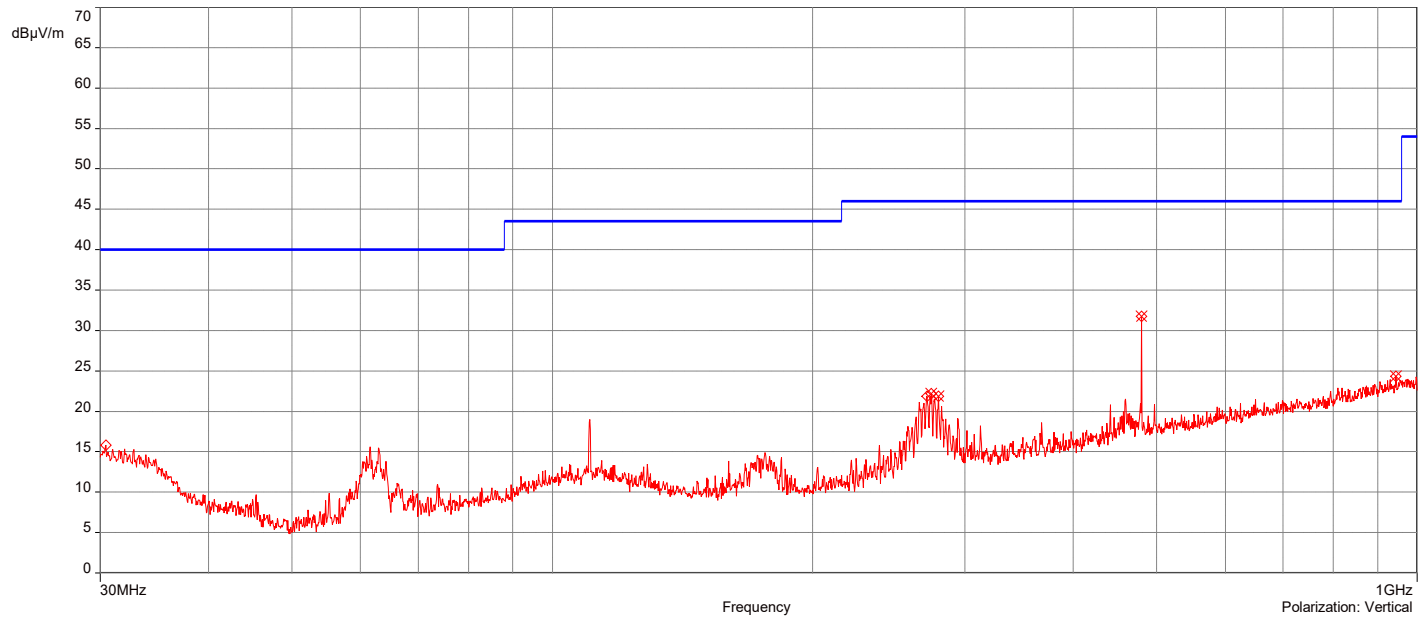
**J23220\_W300#1\_2.4G\_802.11b\_1Mbps\_Ch 6\_30MHz-1GHz**

12/8/2023 8:29:07 PM

| No | Frequency<br>(MHz) | Level Q-<br>Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 274.34026MHz       | 22.18                                   | -12.87                    | 46.00           | -23.82         | 1.00       | 20.00     | Vertical     | Passed    |
| 2. | 279.47585MHz       | 21.88                                   | -12.86                    | 46.00           | -24.12         | 1.00       | 358.90    | Vertical     | Passed    |
| 3. | 479.99235MHz       | 31.78                                   | -7.85                     | 46.00           | -14.22         | 1.00       | 129.10    | Vertical     | Passed    |
| 4. | 944.64968MHz       | 24.32                                   | -1.23                     | 46.00           | -21.68         | 4.00       | 200.30    | Vertical     | Passed    |
| 5. | 30.114124MHz       | 18.49                                   | -5.03                     | 40.00           | -21.51         | 2.00       | 178.00    | Horizontal   | Passed    |
| 6. | 777.91399MHz       | 26.25                                   | -1.67                     | 46.00           | -19.75         | 1.00       | 75.90     | Horizontal   | Passed    |

Overall Graphs:



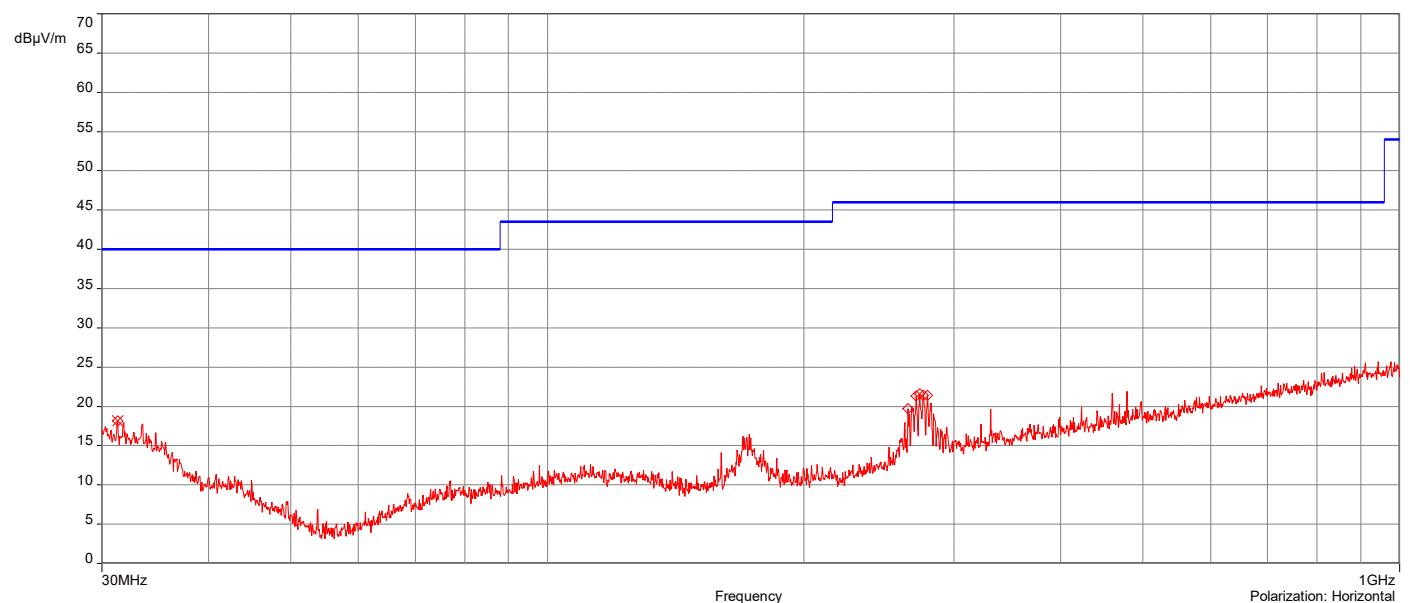


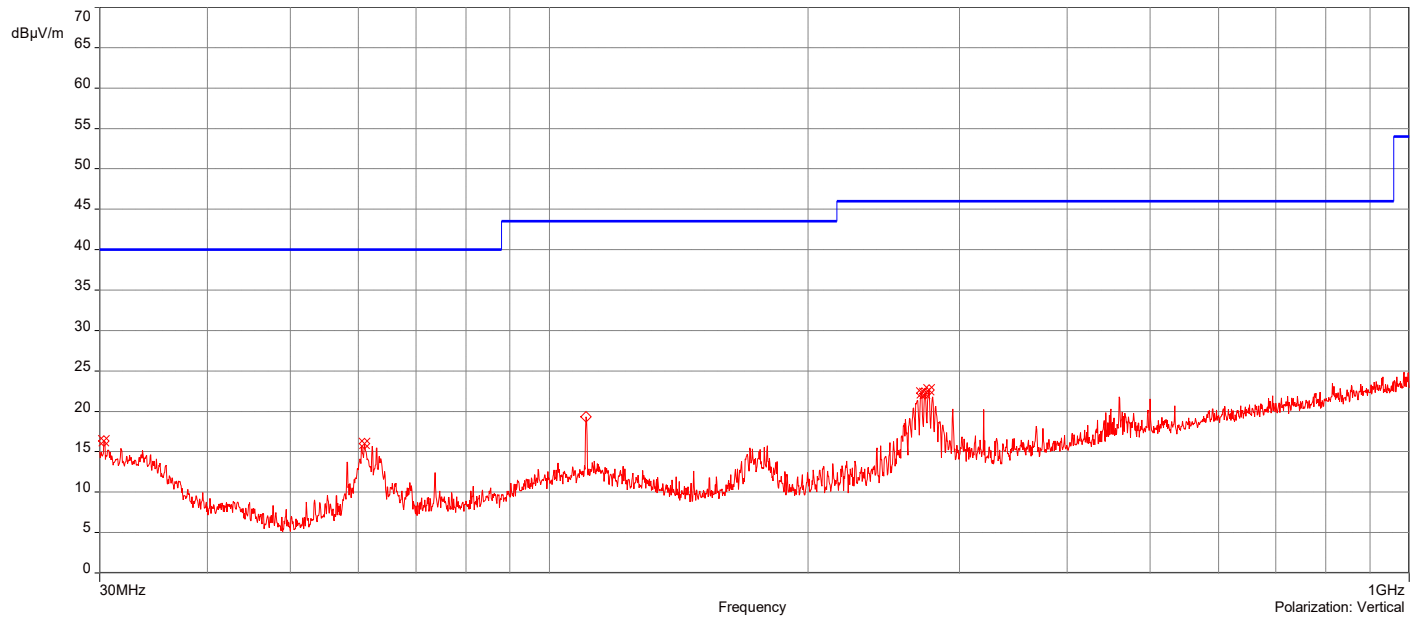
**J23220\_W300#1\_2.4G\_802.11n\_MCS0\_Ch 6\_30MHz-1GHz**

12/8/2023 9:08:54 PM

| No | Frequency<br>(MHz) | Level Q-<br>Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 30.342373MHz       | 16.35                                   | -6.98                     | 40.00           | -23.65         | 2.50       | 147.90    | Vertical     | Passed    |
| 2. | 60.984764MHz       | 16.02                                   | -19.01                    | 40.00           | -23.98         | 2.00       | 28.40     | Vertical     | Passed    |
| 3. | 271.03065MHz       | 22.26                                   | -12.80                    | 46.00           | -23.74         | 1.00       | 26.00     | Vertical     | Passed    |
| 4. | 273.31314MHz       | 22.18                                   | -12.88                    | 46.00           | -23.82         | 1.00       | 8.70      | Vertical     | Passed    |
| 5. | 276.39449MHz       | 22.67                                   | -12.88                    | 46.00           | -23.33         | 1.00       | 1.10      | Vertical     | Passed    |
| 6. | 31.31243MHz        | 18.14                                   | -5.78                     | 40.00           | -21.86         | 3.00       | 12.00     | Horizontal   | Passed    |

Overall Graphs:





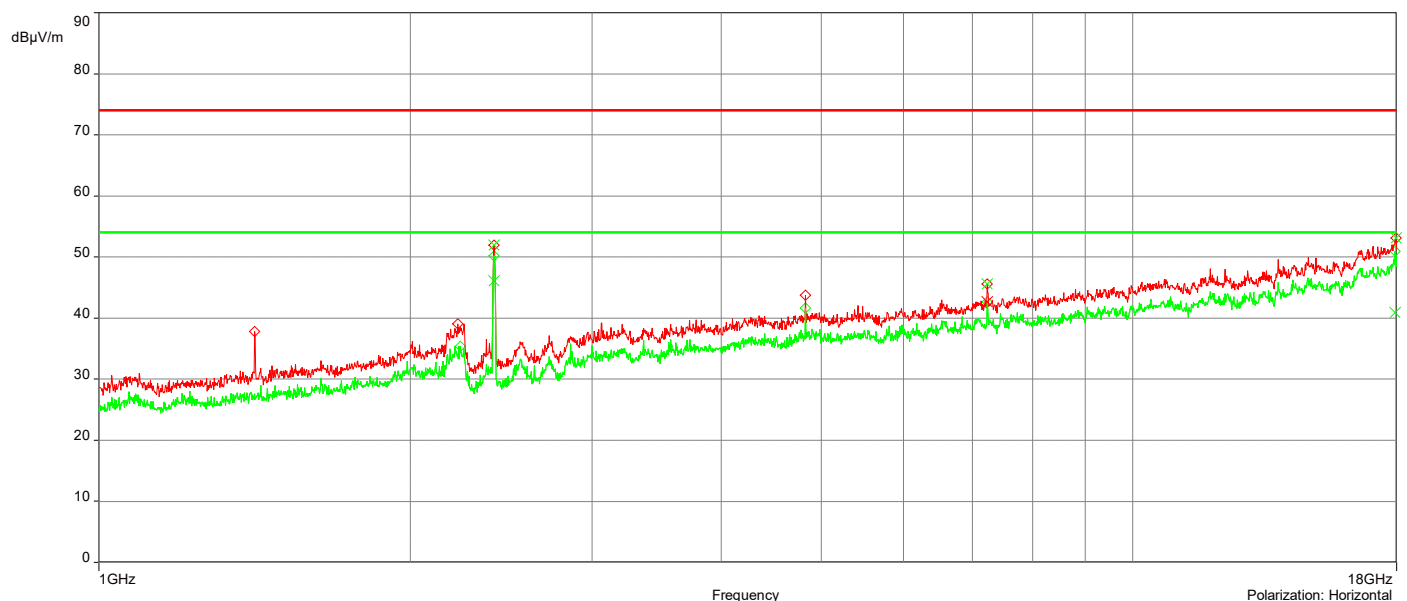
**J23220\_W300#1\_2.4G\_802.11b\_1Mbps\_Ch 1\_1-18GHz**

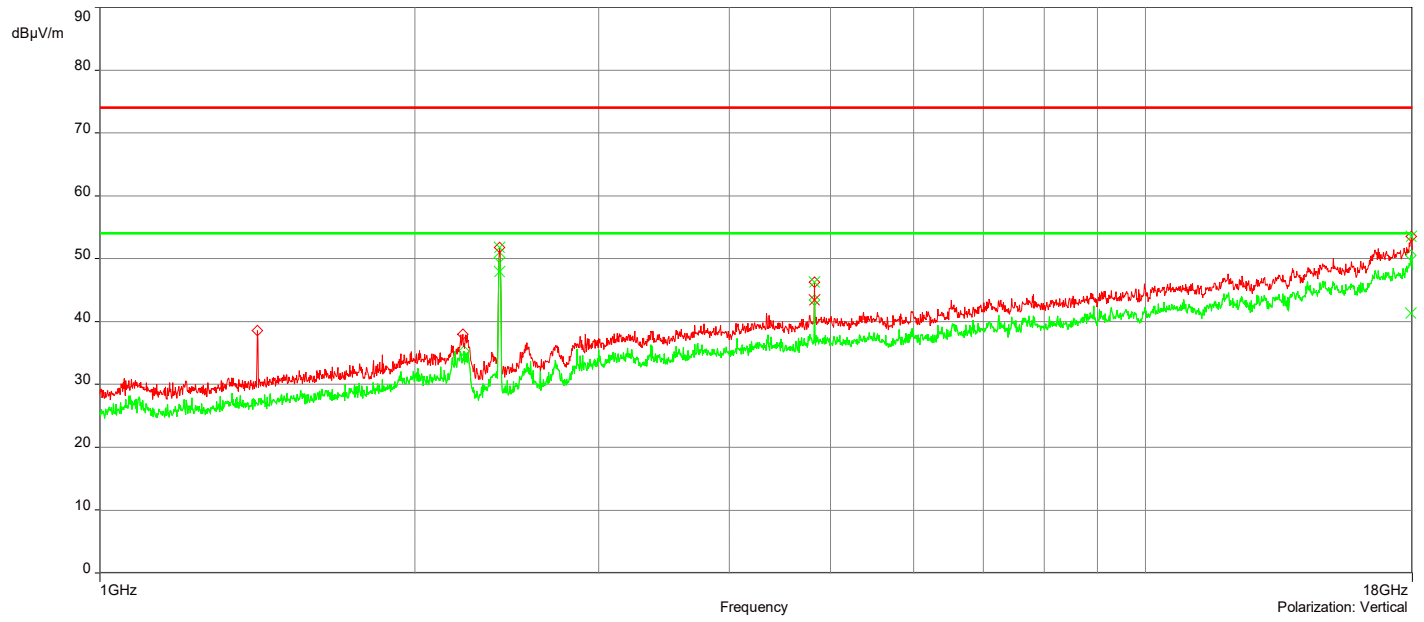
12/7/2023 1:50:33 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.4105415GHz    | 51.78                       | -1.66                  | 74.00        | -22.22      | 1.00       | 288.00    | Vertical     | Passed    |
| 2. | 4.8241125GHz    | 46.28                       | 4.68                   | 74.00        | -27.72      | 1.00       | 323.00    | Vertical     | Passed    |
| 3. | 17.965499GHz    | 53.57                       | 19.39                  | 74.00        | -20.43      | 1.00       | 359.90    | Vertical     | Passed    |
| 4. | 2.4110415GHz    | 51.91                       | -1.63                  | 74.00        | -22.09      | 1.50       | 238.10    | Horizontal   | Passed    |
| 5. | 7.2346834GHz    | 45.58                       | 7.95                   | 74.00        | -28.42      | 4.00       | 284.90    | Horizontal   | Passed    |
| 6. | 17.9855GHz      | 53.16                       | 19.65                  | 74.00        | -20.84      | 3.00       | 258.50    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.4110415GHz    | 47.94                          | -1.66                  | 54.00        | -6.06       | 1.00       | 262.10    | Vertical     | Passed   |
| 2. | 4.8241125GHz    | 43.42                          | 4.68                   | 54.00        | -10.58      | 1.00       | 323.00    | Vertical     | Passed   |
| 3. | 17.940998GHz    | 41.31                          | 19.09                  | 54.00        | -12.69      | 3.50       | 359.90    | Vertical     | Passed   |
| 4. | 2.4110415GHz    | 46.11                          | -1.63                  | 54.00        | -7.89       | 1.50       | 238.10    | Horizontal   | Passed   |
| 5. | 7.2341834GHz    | 42.69                          | 7.95                   | 54.00        | -11.31      | 4.00       | 284.90    | Horizontal   | Passed   |
| 6. | 17.936498GHz    | 40.87                          | 18.94                  | 54.00        | -13.13      | 3.00       | 353.90    | Horizontal   | Passed   |

Overall Graphs:





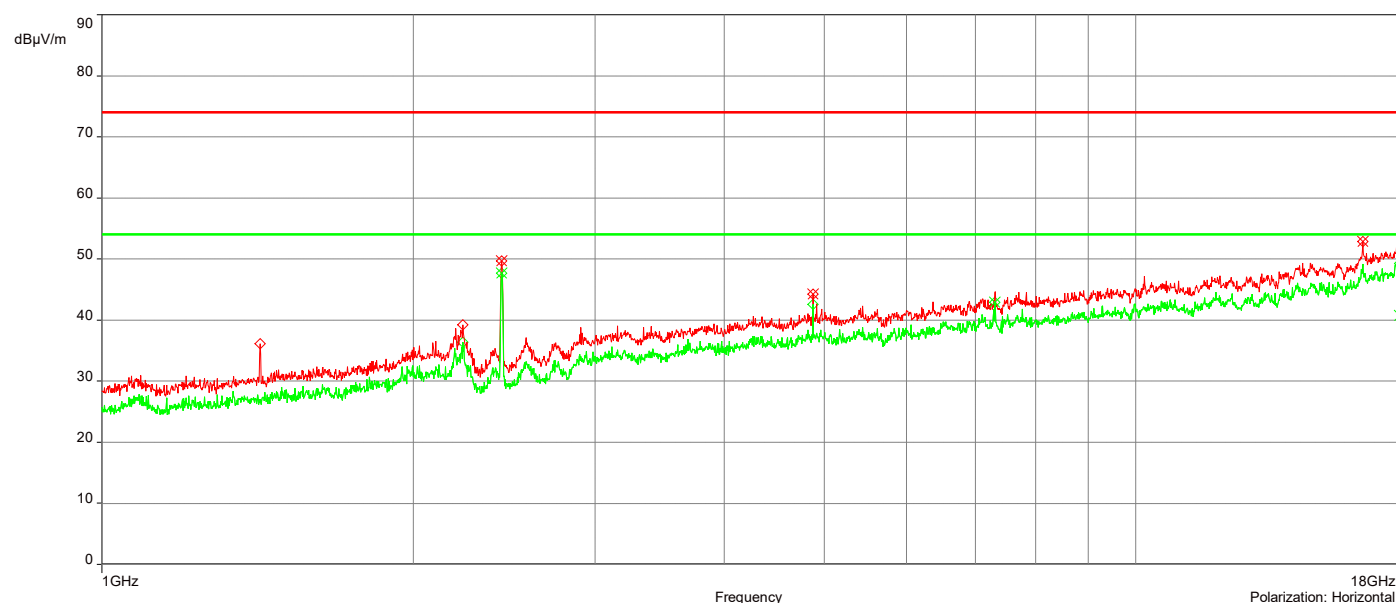
**J23220\_W300#1\_2.4G\_802.11b\_1Mbps\_Ch 6\_1-18GHz**

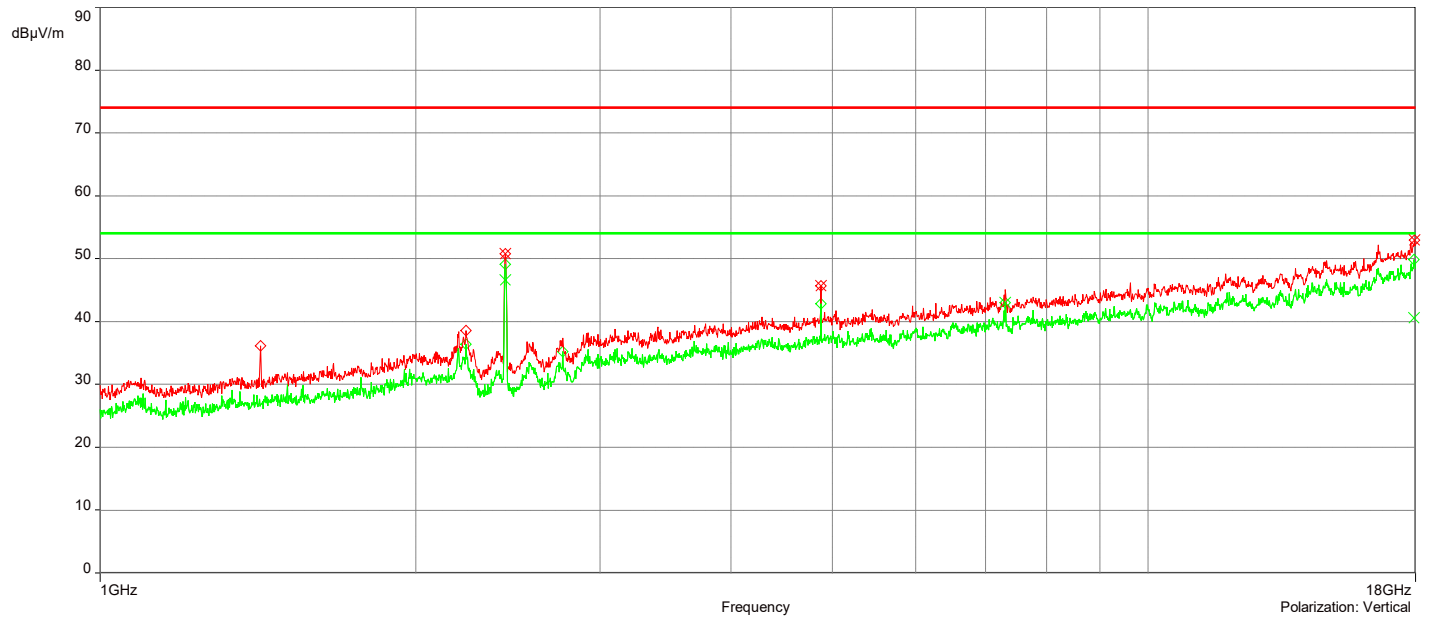
12/11/2023 7:25:55 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.4370423GHz    | 50.81                       | -1.59                  | 74.00        | -23.19      | 1.00       | 274.70    | Vertical     | Passed    |
| 2. | 4.8736139GHz    | 45.72                       | 4.96                   | 74.00        | -28.28      | 1.00       | 256.60    | Vertical     | Passed    |
| 3. | 17.963499GHz    | 52.95                       | 18.91                  | 74.00        | -21.05      | 3.00       | 221.80    | Vertical     | Passed    |
| 4. | 2.4360422GHz    | 49.68                       | -1.35                  | 74.00        | -24.32      | 1.00       | 43.10     | Horizontal   | Passed    |
| 5. | 4.8741139GHz    | 44.30                       | 4.91                   | 74.00        | -29.70      | 1.50       | 330.30    | Horizontal   | Passed    |
| 6. | 16.578958GHz    | 52.84                       | 16.20                  | 74.00        | -21.16      | 4.00       | 48.70     | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.4350422GHz    | 46.63                          | -1.61                  | 54.00        | -7.37       | 1.00       | 256.90    | Vertical     | Passed   |
| 2. | 7.3101856GHz    | 42.96                          | 8.03                   | 54.00        | -11.04      | 2.50       | 0.10      | Vertical     | Passed   |
| 3. | 17.938998GHz    | 40.55                          | 18.61                  | 54.00        | -13.45      | 2.67       | 359.90    | Vertical     | Passed   |
| 4. | 2.4355422GHz    | 47.70                          | -1.35                  | 54.00        | -6.30       | 1.50       | 285.50    | Horizontal   | Passed   |
| 5. | 7.3101856GHz    | 42.93                          | 7.99                   | 54.00        | -11.07      | 2.50       | 301.60    | Horizontal   | Passed   |
| 6. | 17.9995GHz      | 40.71                          | 19.59                  | 54.00        | -13.29      | 3.00       | 29.10     | Horizontal   | Passed   |

Overall Graphs:





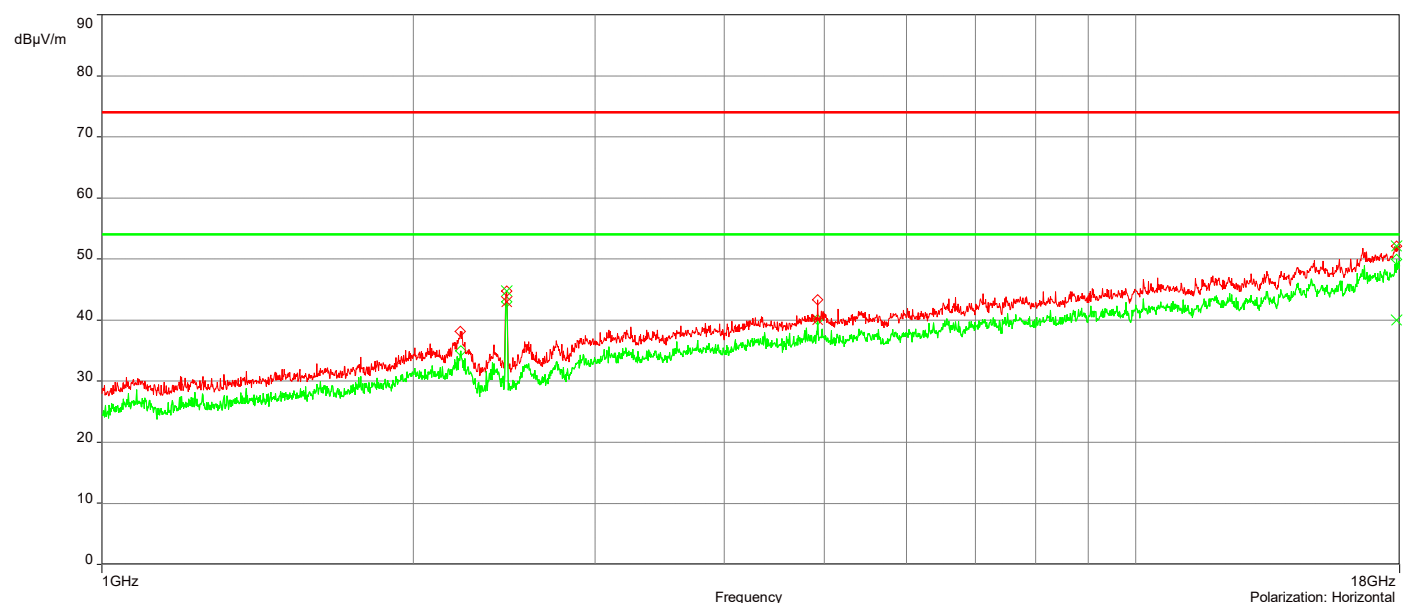
**J23220\_W300#1\_2.4G\_802.11b\_1Mbps\_Ch 11\_1-18GHz**

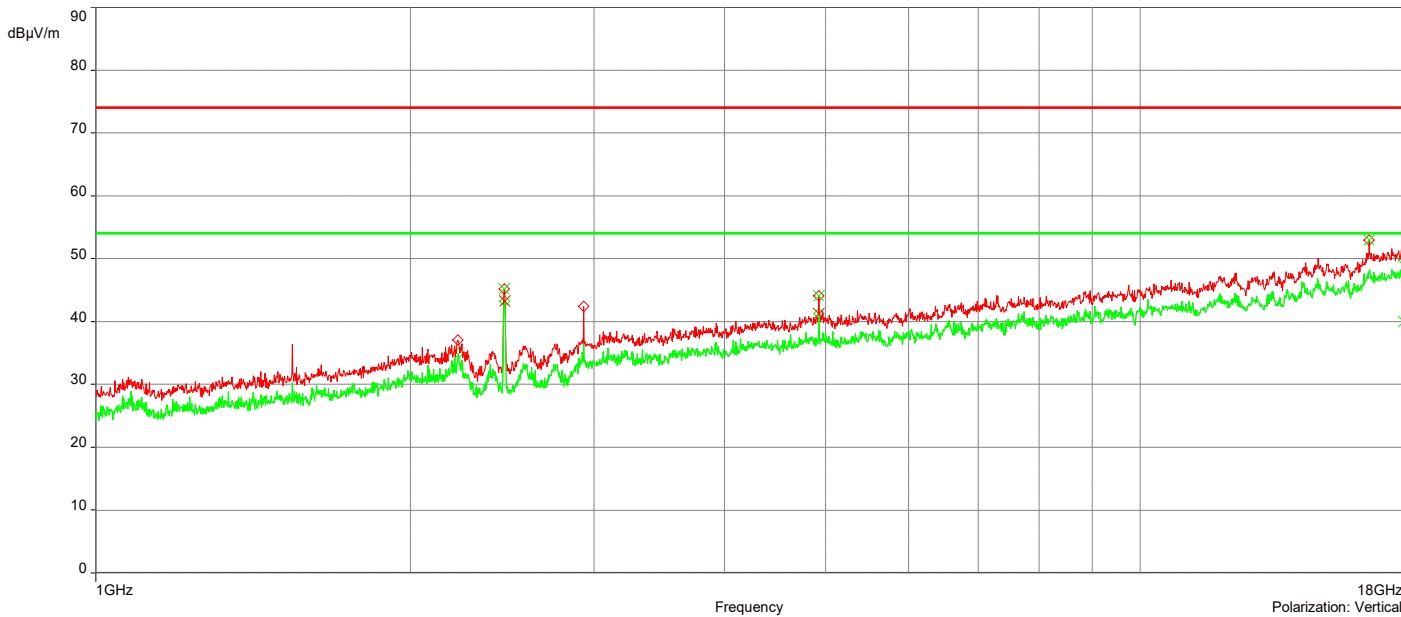
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| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.461043GHz     | 45.15                       | -1.39                  | 74.00        | -28.85      | 1.00       | 284.20    | Vertical     | Passed    |
| 2. | 4.9241154GHz    | 44.11                       | 4.98                   | 74.00        | -29.89      | 1.00       | 266.40    | Vertical     | Passed    |
| 3. | 16.571958GHz    | 52.93                       | 16.19                  | 74.00        | -21.07      | 3.00       | 258.80    | Vertical     | Passed    |
| 4. | 17.9945GHz      | 53.31                       | 19.49                  | 74.00        | -20.69      | 4.00       | 347.80    | Vertical     | Passed    |
| 5. | 2.463043GHz     | 44.78                       | -1.28                  | 74.00        | -29.22      | 1.50       | 232.20    | Horizontal   | Passed    |
| 6. | 17.887997GHz    | 52.14                       | 18.00                  | 74.00        | -21.86      | 1.00       | 354.10    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.463543GHz     | 43.22                          | -1.38                  | 54.00        | -10.78      | 1.00       | 275.30    | Vertical     | Passed   |
| 2. | 4.9236154GHz    | 41.24                          | 4.99                   | 54.00        | -12.76      | 1.00       | 266.40    | Vertical     | Passed   |
| 3. | 17.877496GHz    | 40.02                          | 18.01                  | 54.00        | -13.98      | 2.50       | 329.10    | Vertical     | Passed   |
| 4. | 2.463043GHz     | 43.04                          | -1.28                  | 54.00        | -10.96      | 1.50       | 232.20    | Horizontal   | Passed   |
| 5. | 4.9241154GHz    | 40.05                          | 4.98                   | 54.00        | -13.95      | 1.00       | 257.00    | Horizontal   | Passed   |
| 6. | 17.887997GHz    | 39.97                          | 18.00                  | 54.00        | -14.03      | 1.00       | 354.10    | Horizontal   | Passed   |

Overall Graphs:





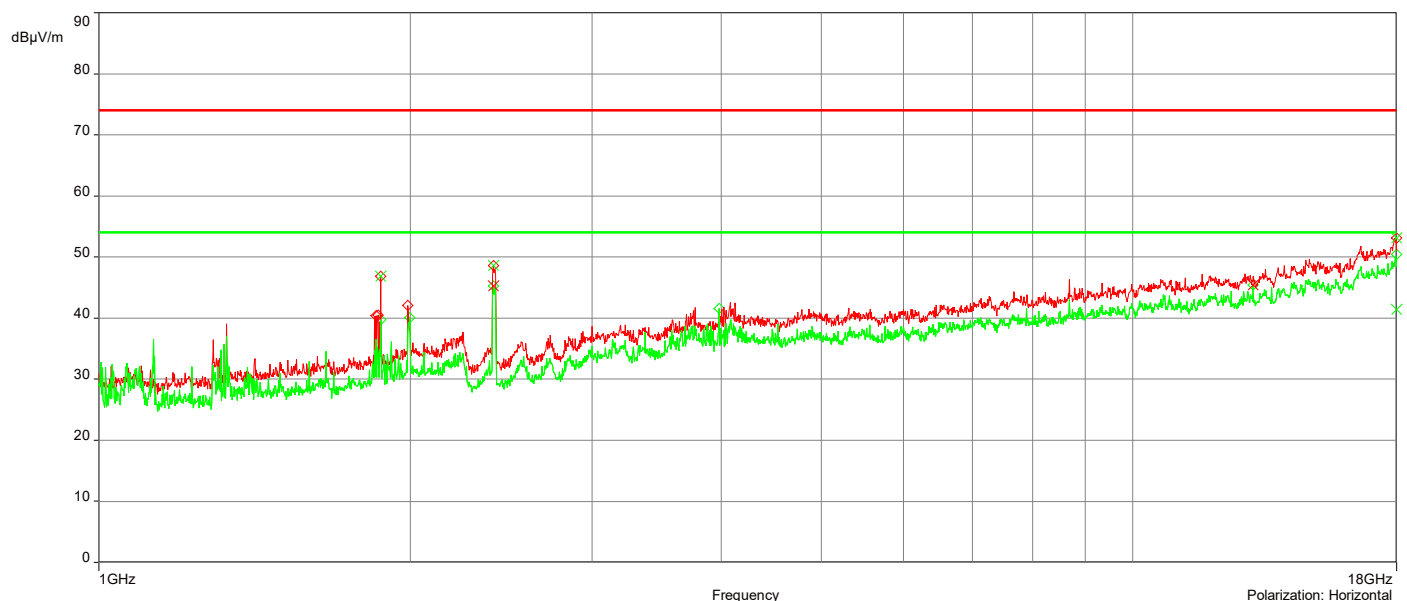
**J23220\_W300#1\_2.4G\_802.11n\_MCS0\_Ch 1\_1-18GHz**

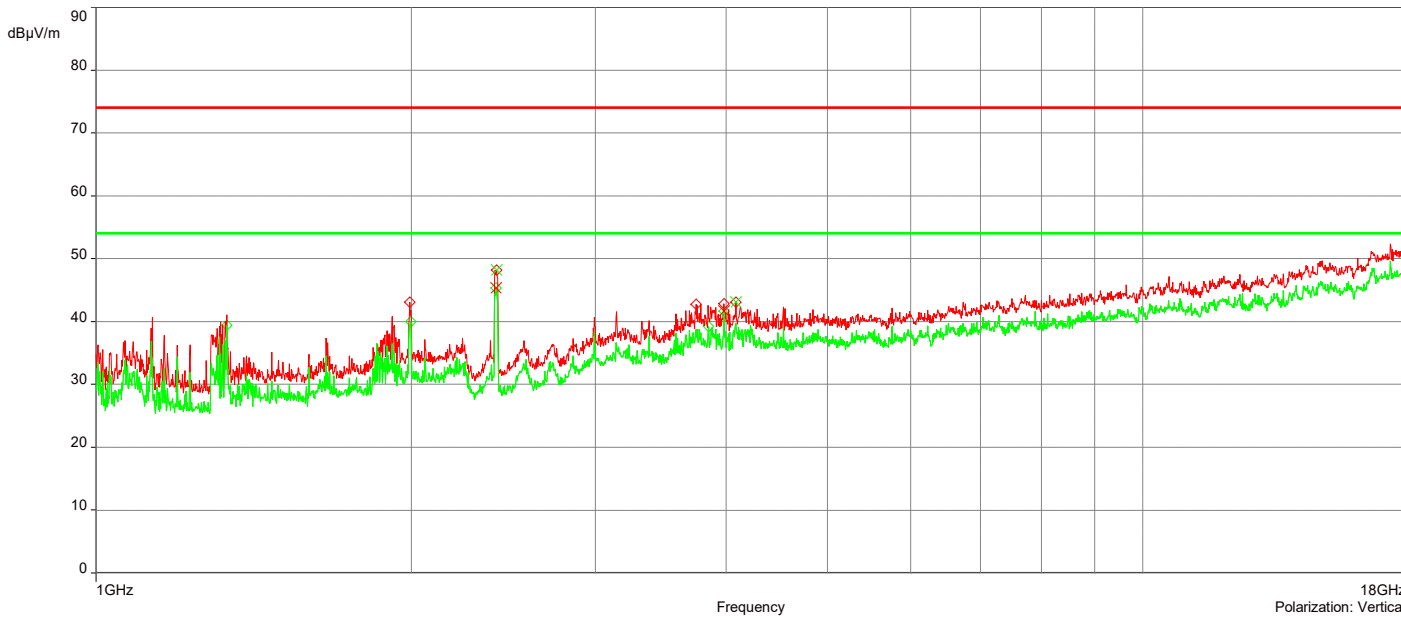
12/7/2023 1:27:29 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.4140416GHz    | 48.21                       | -1.67                  | 74.00        | -25.79      | 1.00       | 267.30    | Vertical     | Passed    |
| 2. | 4.0875908GHz    | 43.09                       | 3.02                   | 74.00        | -30.91      | 2.00       | 312.50    | Vertical     | Passed    |
| 3. | 17.958999GHz    | 53.82                       | 19.31                  | 74.00        | -20.18      | 3.00       | 358.60    | Vertical     | Passed    |
| 4. | 1.8735257GHz    | 46.87                       | -3.79                  | 74.00        | -27.13      | 2.00       | 318.00    | Horizontal   | Passed    |
| 5. | 2.4075414GHz    | 48.62                       | -1.66                  | 74.00        | -25.38      | 1.00       | 52.40     | Horizontal   | Passed    |
| 6. | 17.9925GHz      | 53.14                       | 19.85                  | 74.00        | -20.86      | 1.00       | 70.20     | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.4105415GHz    | 45.36                          | -1.66                  | 54.00        | -8.64       | 1.00       | 267.30    | Vertical     | Passed   |
| 2. | 3.9815877GHz    | 41.68                          | 2.81                   | 54.00        | -12.32      | 2.00       | 240.20    | Vertical     | Passed   |
| 3. | 17.960499GHz    | 41.13                          | 19.33                  | 54.00        | -12.87      | 3.50       | 0.10      | Vertical     | Passed   |
| 4. | 2.4090414GHz    | 45.23                          | -1.65                  | 54.00        | -8.77       | 1.00       | 52.40     | Horizontal   | Passed   |
| 5. | 13.071855GHz    | 45.45                          | 12.45                  | 54.00        | -8.55       | 4.00       | 1.90      | Horizontal   | Passed   |
| 6. | 17.999GHz       | 41.38                          | 20.03                  | 54.00        | -12.62      | 4.00       | 326.10    | Horizontal   | Passed   |

Overall Graphs:





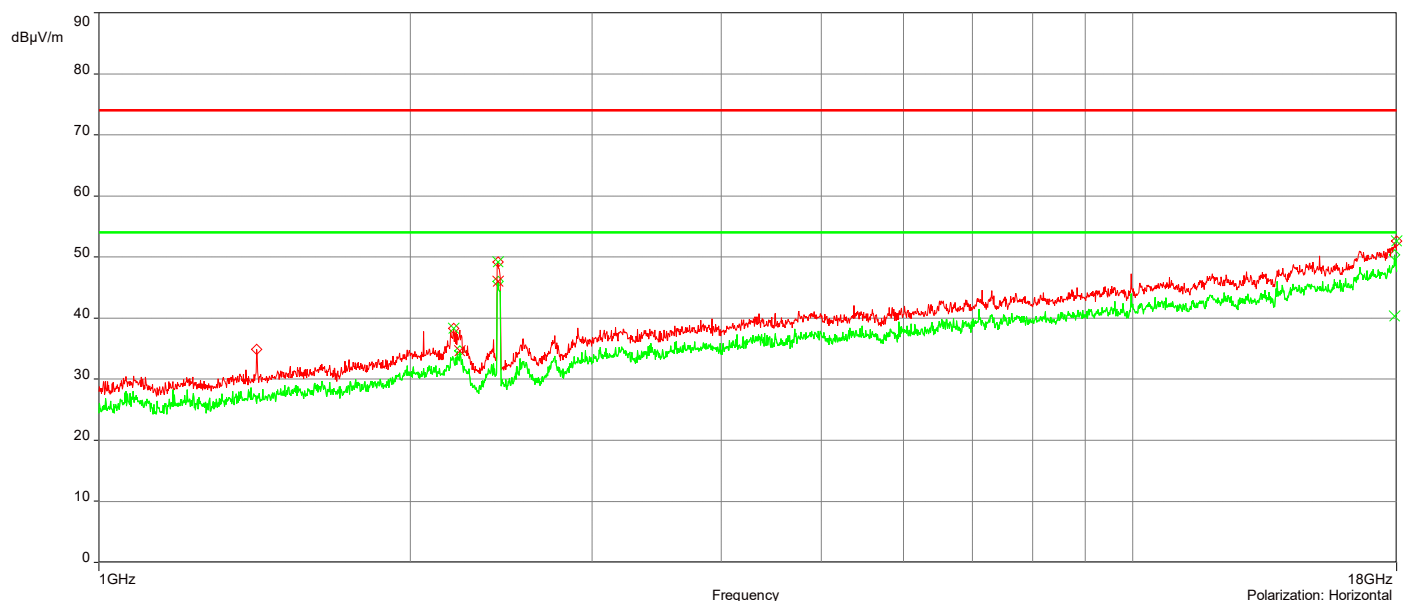
**J23220\_W300#1\_2.4G\_802.11n\_MCS0\_Ch 6\_1-18GHz**

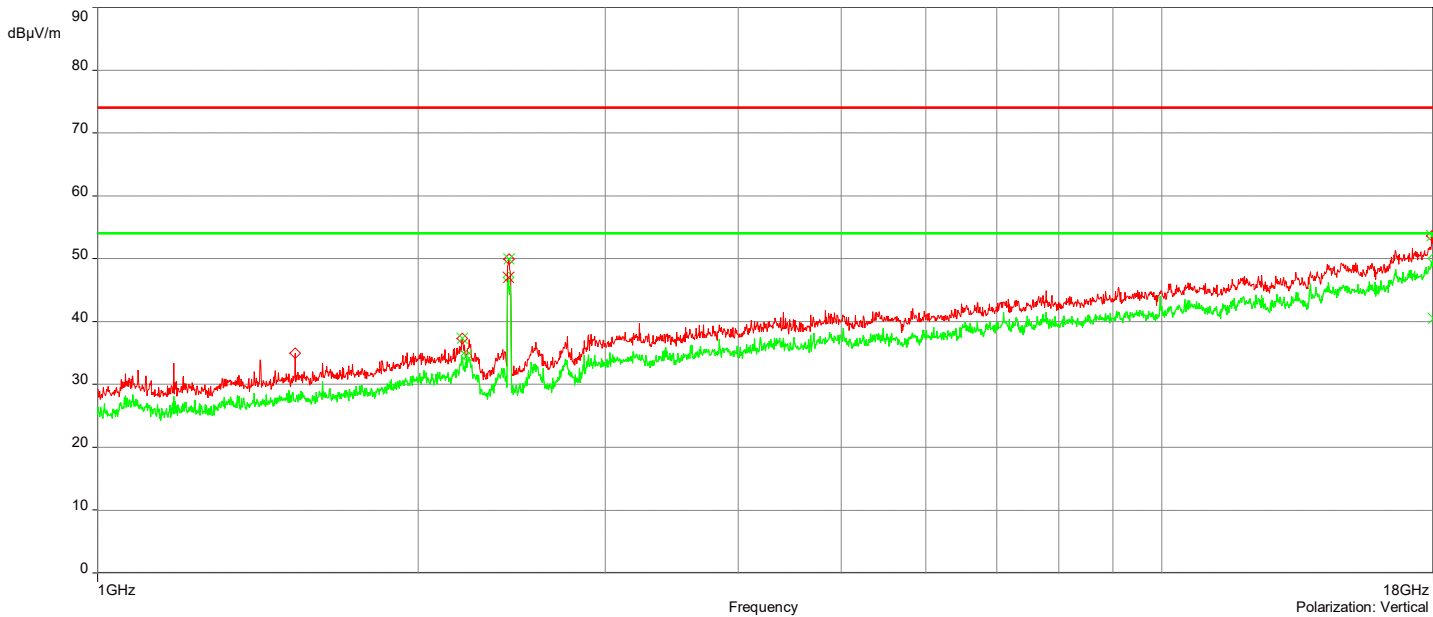
12/11/2023 8:15:50 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.2005353GHz    | 37.32                       | -2.50                  | 74.00        | -36.68      | 3.50       | 101.70    | Vertical     | Passed    |
| 2. | 2.4360422GHz    | 49.96                       | -1.60                  | 74.00        | -24.04      | 1.00       | 275.10    | Vertical     | Passed    |
| 3. | 17.943498GHz    | 53.60                       | 18.67                  | 74.00        | -20.40      | 3.00       | 0.10      | Vertical     | Passed    |
| 4. | 2.2045354GHz    | 38.35                       | -2.62                  | 74.00        | -35.65      | 1.00       | 132.10    | Horizontal   | Passed    |
| 5. | 2.4325421GHz    | 49.22                       | -1.37                  | 74.00        | -24.78      | 1.50       | 231.70    | Horizontal   | Passed    |
| 6. | 17.999GHz       | 52.60                       | 19.57                  | 74.00        | -21.40      | 1.50       | 267.60    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.2210359GHz    | 34.54                          | -2.41                  | 54.00        | -19.46      | 1.50       | 0         | Vertical     | Passed   |
| 2. | 2.4340422GHz    | 46.98                          | -1.62                  | 54.00        | -7.02       | 1.00       | 275.10    | Vertical     | Passed   |
| 3. | 17.9995GHz      | 40.50                          | 19.63                  | 54.00        | -13.50      | 3.00       | 0.10      | Vertical     | Passed   |
| 4. | 2.2340363GHz    | 34.65                          | -2.38                  | 54.00        | -19.35      | 1.00       | 41.30     | Horizontal   | Passed   |
| 5. | 2.4320421GHz    | 46.01                          | -1.37                  | 54.00        | -7.99       | 1.00       | 149.90    | Horizontal   | Passed   |
| 6. | 17.923498GHz    | 40.29                          | 18.33                  | 54.00        | -13.71      | 1.00       | 70.10     | Horizontal   | Passed   |

Overall Graphs:





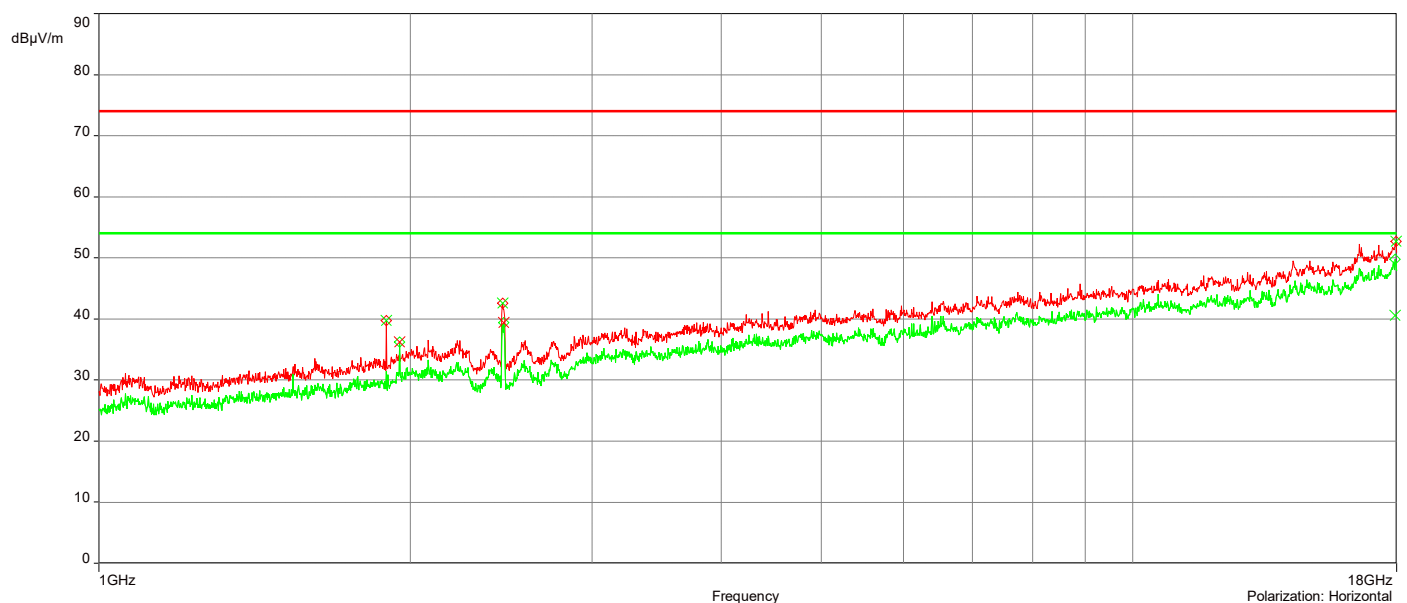
**J23220\_W300#1\_2.4G\_802.11n\_MCS0\_Ch 11\_1-18GHz**

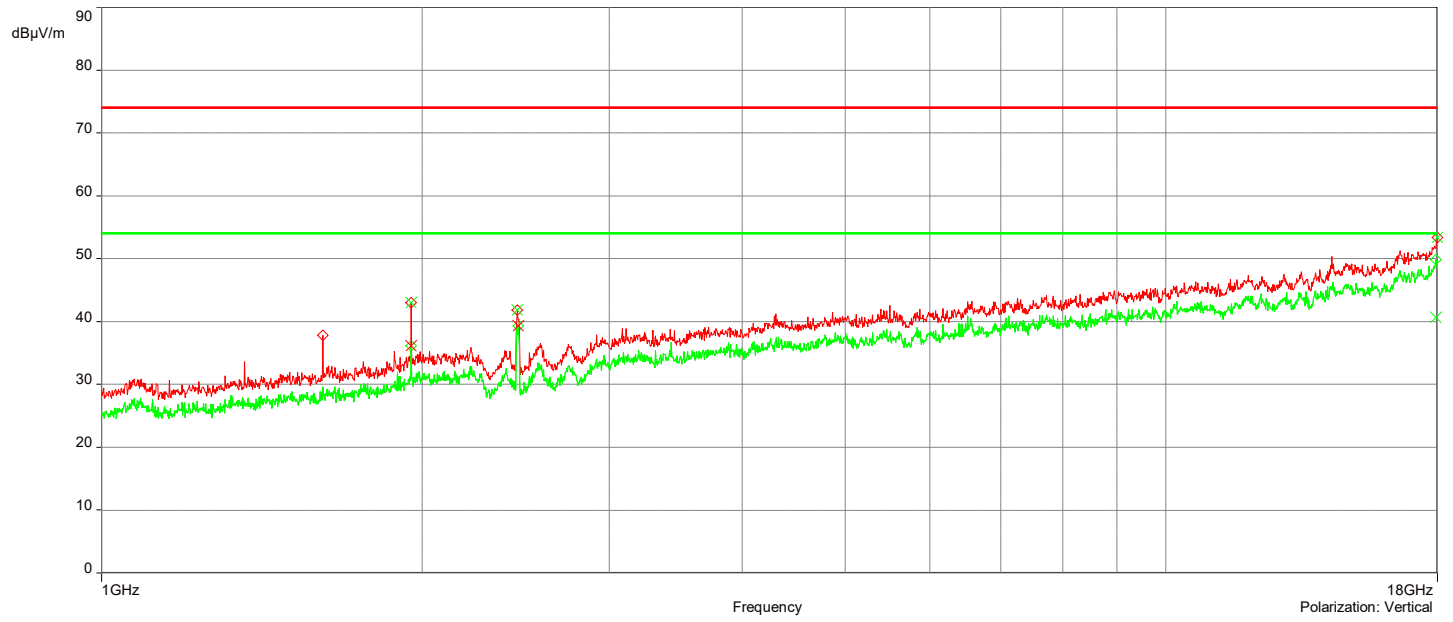
12/11/2023 8:33:58 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 1.953528GHz     | 43.02                       | -2.91                  | 74.00        | -30.98      | 3.00       | 356.50    | Vertical     | Passed    |
| 2. | 2.4580429GHz    | 41.84                       | -1.41                  | 74.00        | -32.16      | 1.00       | 279.50    | Vertical     | Passed    |
| 3. | 18GHz           | 53.34                       | 19.65                  | 74.00        | -20.66      | 3.50       | 0.20      | Vertical     | Passed    |
| 4. | 1.8965264GHz    | 39.73                       | -3.77                  | 74.00        | -34.27      | 3.50       | 337.20    | Horizontal   | Passed    |
| 5. | 2.4570429GHz    | 42.62                       | -1.30                  | 74.00        | -31.38      | 1.50       | 305.70    | Horizontal   | Passed    |
| 6. | 17.99GHz        | 52.72                       | 19.31                  | 74.00        | -21.28      | 4.00       | 321.90    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 1.953528GHz     | 36.17                          | -2.91                  | 54.00        | -17.83      | 3.00       | 356.50    | Vertical     | Passed   |
| 2. | 2.462543GHz     | 39.30                          | -1.39                  | 54.00        | -14.70      | 2.50       | 359.90    | Vertical     | Passed   |
| 3. | 17.936498GHz    | 40.66                          | 18.58                  | 54.00        | -13.34      | 3.50       | 359.90    | Vertical     | Passed   |
| 4. | 1.953528GHz     | 36.23                          | -2.85                  | 54.00        | -17.77      | 3.00       | 359.90    | Horizontal   | Passed   |
| 5. | 2.462543GHz     | 39.40                          | -1.28                  | 54.00        | -14.60      | 2.50       | 252.30    | Horizontal   | Passed   |
| 6. | 17.936498GHz    | 40.61                          | 18.49                  | 54.00        | -13.39      | 3.50       | 29.10     | Horizontal   | Passed   |

Overall Graphs:





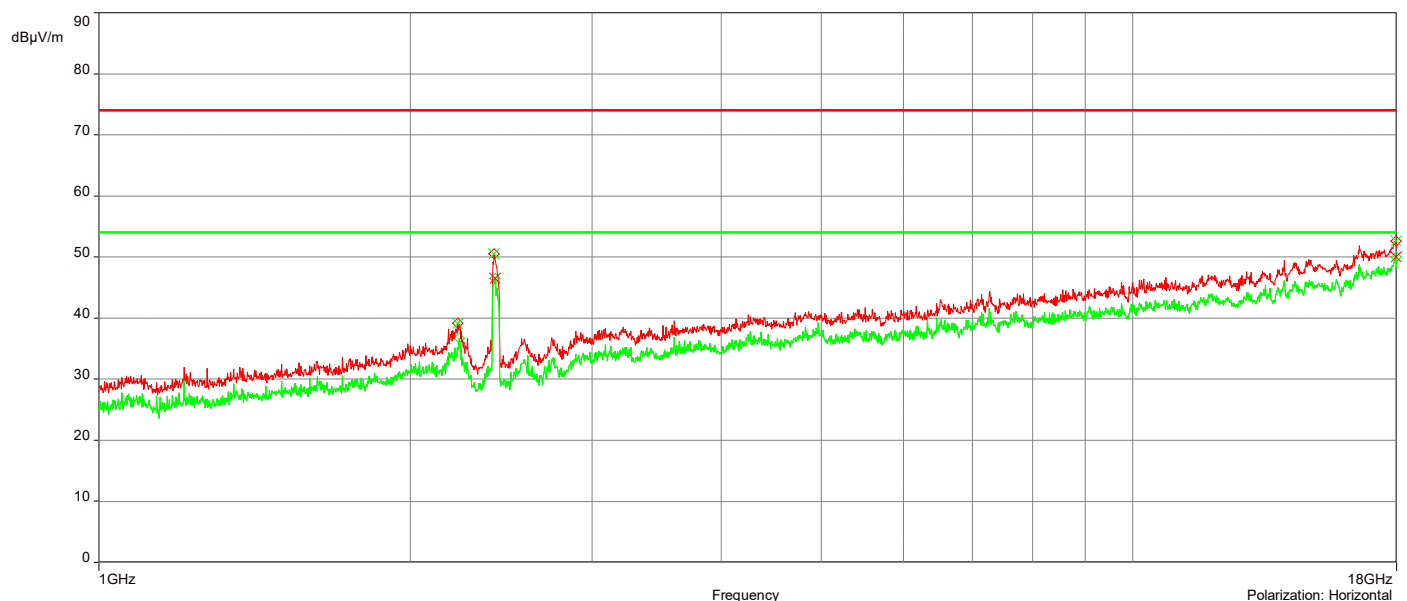
**J23220\_W300#1\_2.4G\_802.11n\_MCS0\_Ch 3\_40MHz\_1-18GHz**

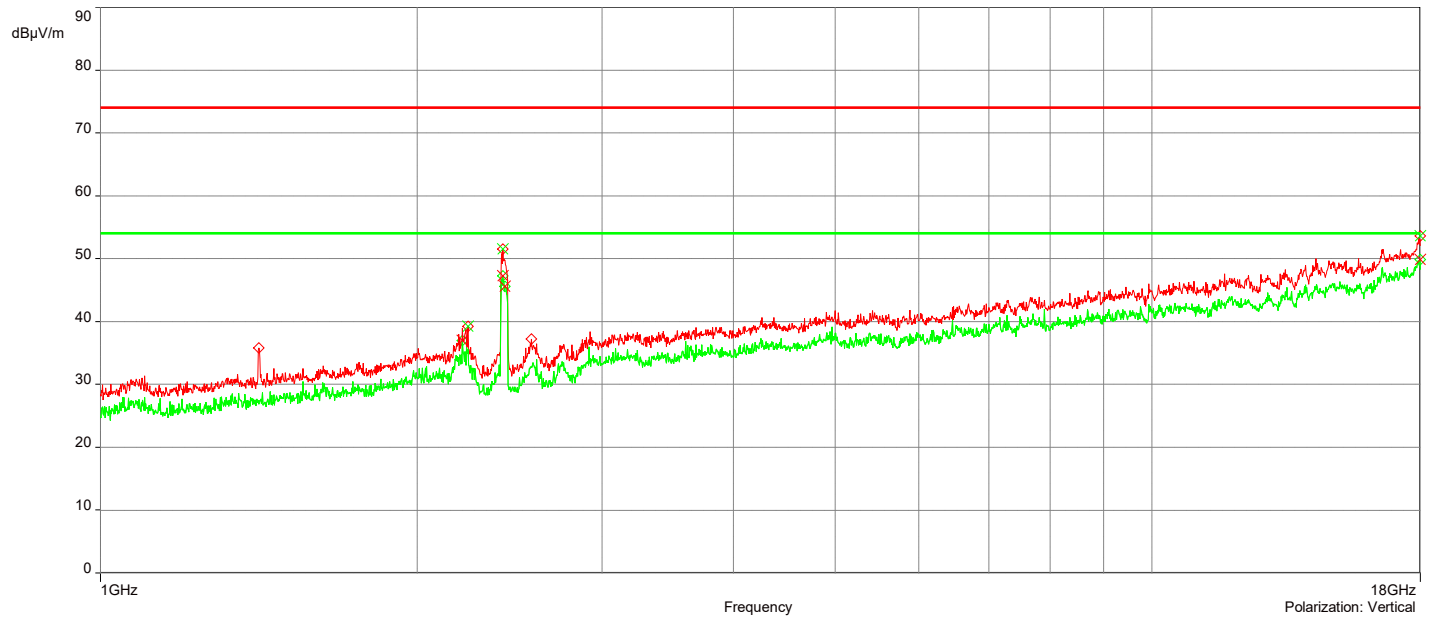
12/22/2023 1:19:11 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.2375364GHz    | 39.25                       | -2.43                  | 74.00        | -34.75      | 1.00       | 295.60    | Vertical     | Passed    |
| 2. | 2.4150416GHz    | 51.52                       | -1.68                  | 74.00        | -22.48      | 1.00       | 277.80    | Vertical     | Passed    |
| 3. | 17.9955GHz      | 53.61                       | 19.98                  | 74.00        | -20.39      | 2.50       | 0.10      | Vertical     | Passed    |
| 4. | 2.223536GHz     | 39.14                       | -2.45                  | 74.00        | -34.86      | 1.00       | 131.30    | Horizontal   | Passed    |
| 5. | 2.4120415GHz    | 50.56                       | -1.62                  | 74.00        | -23.44      | 1.50       | 244.50    | Horizontal   | Passed    |
| 6. | 17.988GHz       | 52.59                       | 19.72                  | 74.00        | -21.41      | 2.00       | 105.80    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.2080355GHz    | 36.97                          | -2.48                  | 54.00        | -17.03      | 1.00       | 295.60    | Vertical     | Passed   |
| 2. | 2.4130416GHz    | 47.30                          | -1.67                  | 54.00        | -6.70       | 1.00       | 286.70    | Vertical     | Passed   |
| 3. | 2.4260419GHz    | 45.63                          | -1.70                  | 54.00        | -8.37       | 1.00       | 277.80    | Vertical     | Passed   |
| 4. | 17.997GHz       | 49.87                          | 20.03                  | 54.00        | -4.13       | 4.00       | 1.50      | Vertical     | Passed   |
| 5. | 2.4165417GHz    | 46.50                          | -1.57                  | 54.00        | -7.50       | 1.50       | 145.80    | Horizontal   | Passed   |
| 6. | 17.973999GHz    | 50.04                          | 19.42                  | 54.00        | -3.96       | 2.00       | 51.50     | Horizontal   | Passed   |

Overall Graphs:





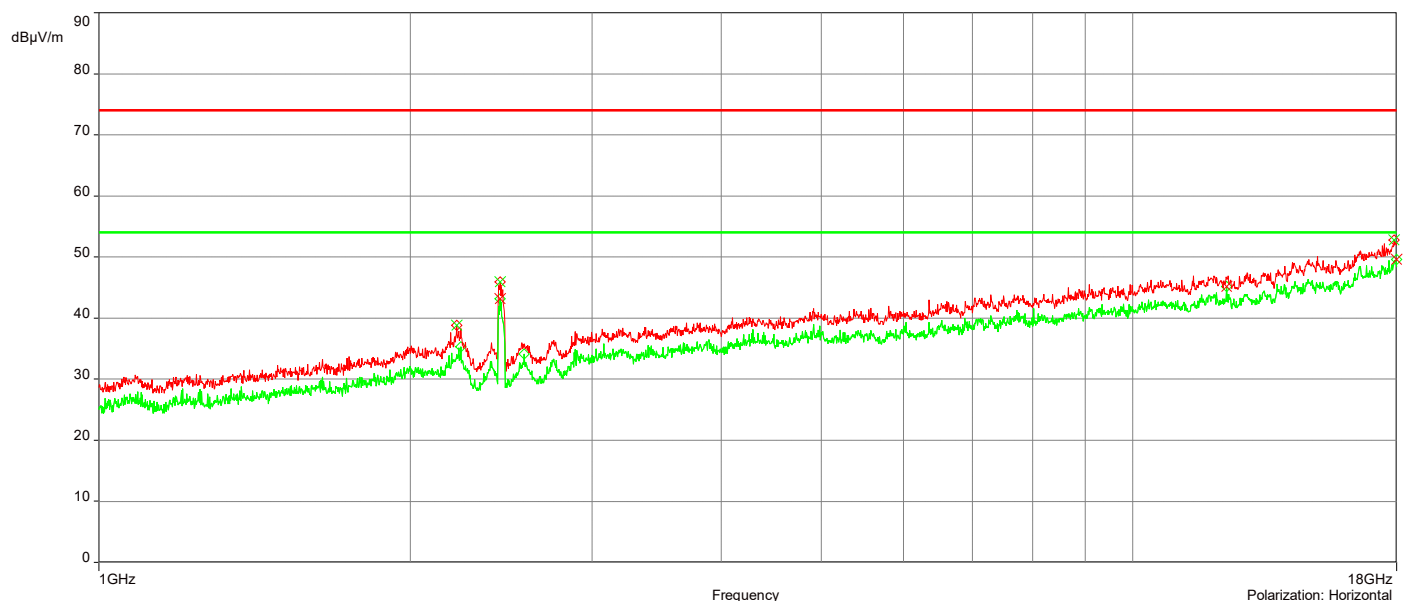
**J23220\_W300#1\_2.4G\_802.11n\_MCS0\_Ch 9\_40MHz\_1-18GHz**

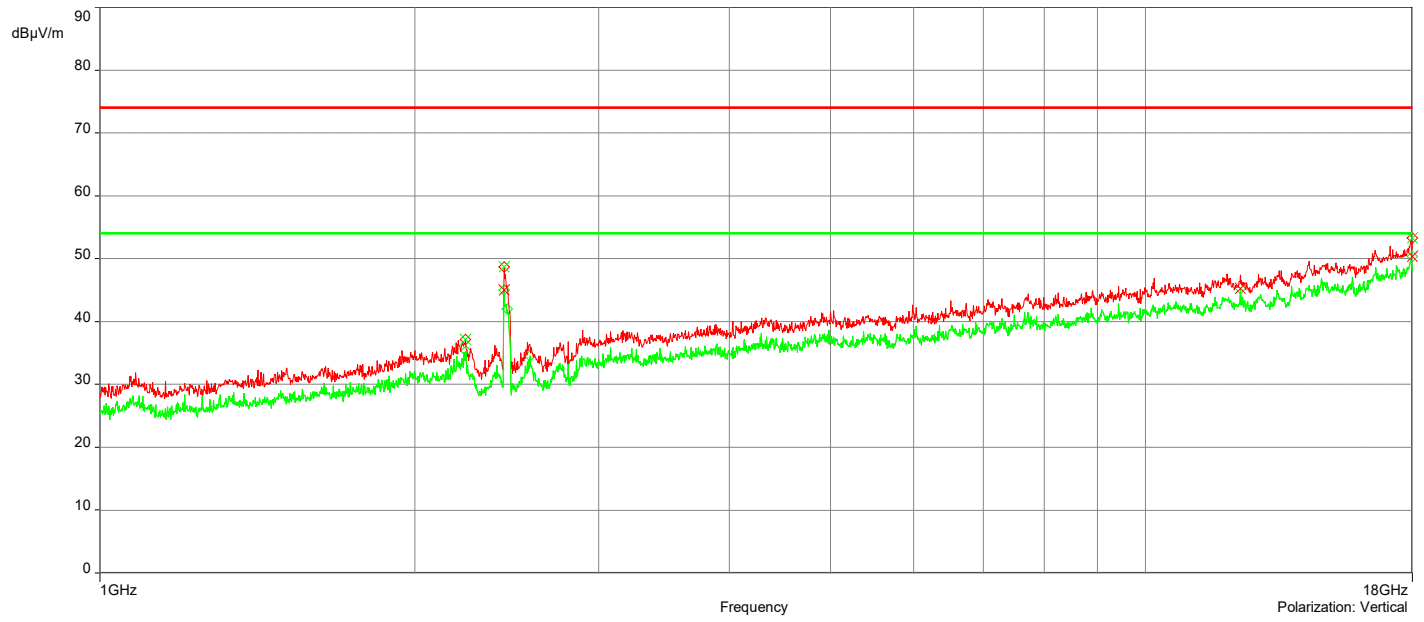
12/22/2023 1:37:35 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.2360364GHz    | 37.16                       | -2.43                  | 74.00        | -36.84      | 1.00       | 277.50    | Vertical     | Passed    |
| 2. | 2.4365423GHz    | 48.67                       | -1.63                  | 74.00        | -25.33      | 1.00       | 277.50    | Vertical     | Passed    |
| 3. | 17.992GHz       | 53.29                       | 19.89                  | 74.00        | -20.71      | 2.00       | 56.20     | Vertical     | Passed    |
| 4. | 2.2185358GHz    | 38.85                       | -2.48                  | 74.00        | -35.15      | 1.00       | 281.80    | Horizontal   | Passed    |
| 5. | 2.4445425GHz    | 45.90                       | -1.36                  | 74.00        | -28.10      | 2.00       | 229.80    | Horizontal   | Passed    |
| 6. | 17.896997GHz    | 52.76                       | 18.51                  | 74.00        | -21.24      | 2.50       | 280.70    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.4370423GHz    | 45.04                          | -1.62                  | 54.00        | -8.96       | 1.00       | 277.50    | Vertical     | Passed   |
| 2. | 12.323833GHz    | 45.25                          | 12.59                  | 54.00        | -8.75       | 4.00       | 335.00    | Vertical     | Passed   |
| 3. | 17.996GHz       | 50.39                          | 20.00                  | 54.00        | -3.61       | 1.50       | 95.90     | Vertical     | Passed   |
| 4. | 2.4445425GHz    | 43.19                          | -1.36                  | 54.00        | -10.81      | 2.00       | 229.80    | Horizontal   | Passed   |
| 5. | 12.323833GHz    | 45.19                          | 12.53                  | 54.00        | -8.81       | 4.00       | 359.90    | Horizontal   | Passed   |
| 6. | 17.9995GHz      | 49.58                          | 20.05                  | 54.00        | -4.42       | 3.00       | 294.30    | Horizontal   | Passed   |

Overall Graphs:





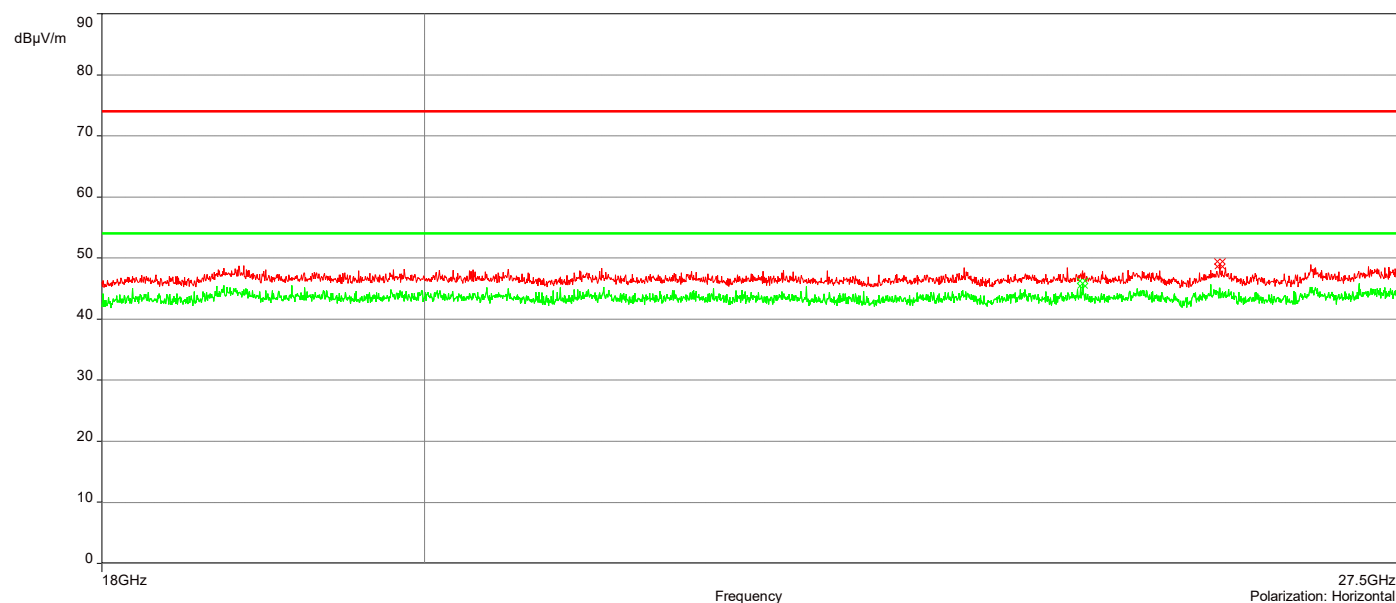
**J23220\_W300#1\_2.4G\_802.11b\_1Mbps\_Ch 6\_18-27.5GHz**

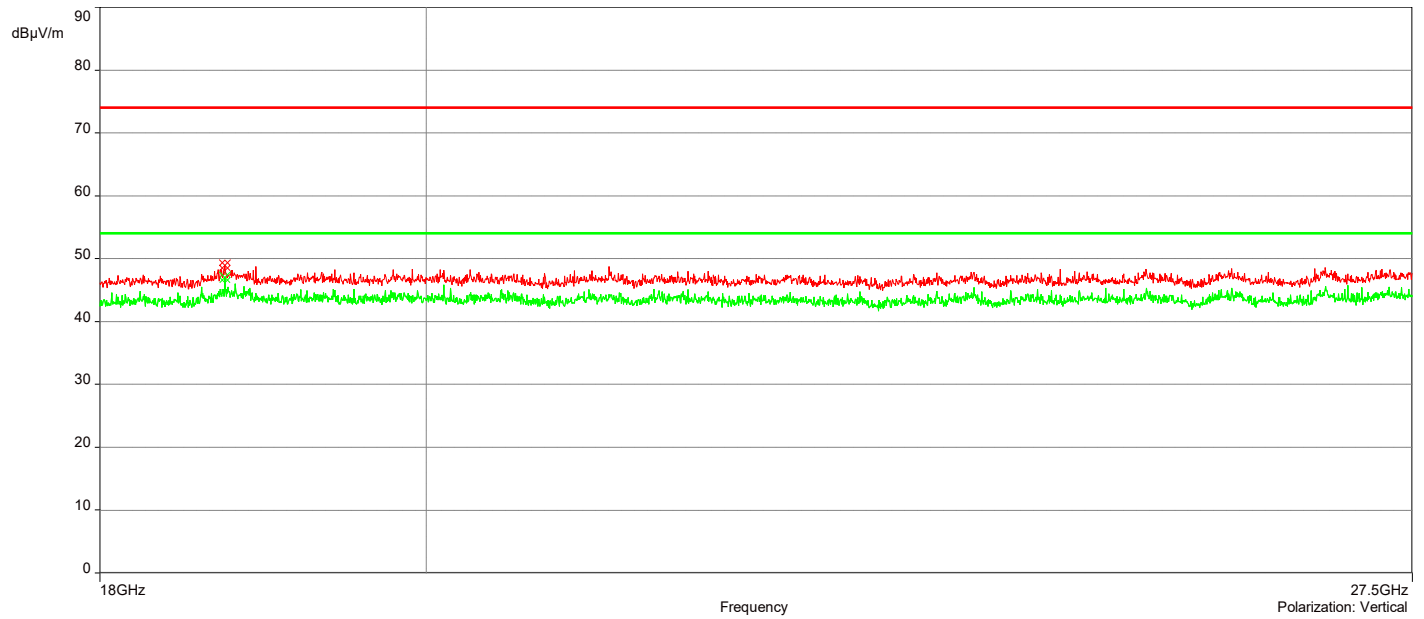
12/26/2023 5:05:07 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 18.742462GHz    | 48.95                       | -0.94                  | 74.00        | -25.05      | 1.95       | 314.90    | Vertical     | Passed    |
| 2. | 25.933847GHz    | 49.04                       | 0.81                   | 74.00        | -24.96      | 2.19       | 134.90    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 18.742462GHz    | 47.01                          | -0.94                  | 54.00        | -6.99       | 1.95       | 314.90    | Vertical     | Passed   |
| 2. | 24.79569GHz     | 45.88                          | 0.87                   | 54.00        | -8.12       | 1.78       | 269.90    | Horizontal   | Passed   |

Overall Graphs:





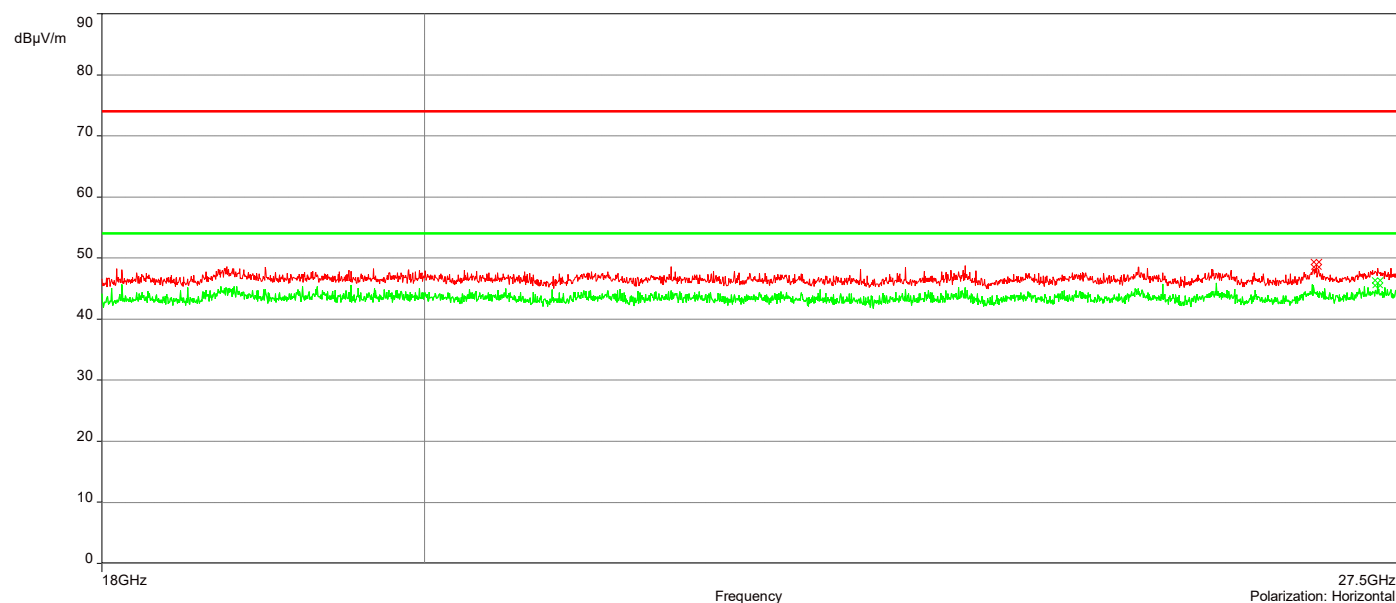
**J23220\_W300#1\_2.4G\_802.11n\_MCS0\_Ch 6\_18-27.5GHz**

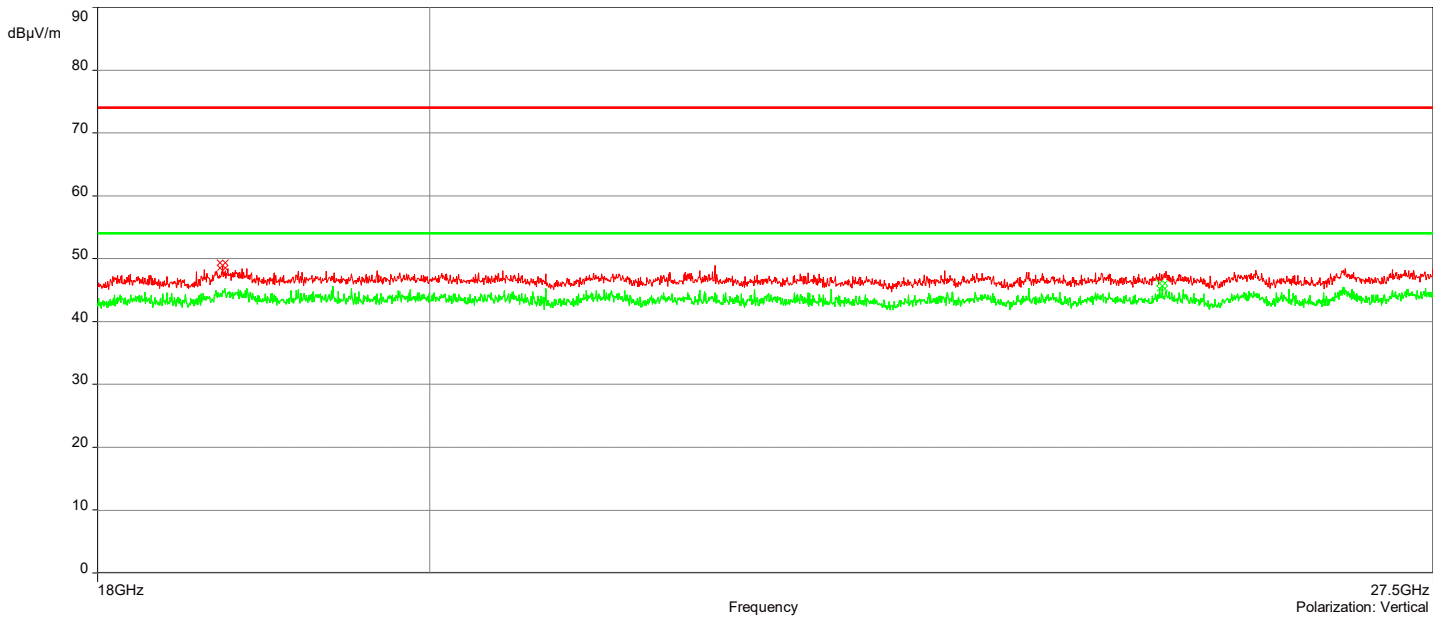
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| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 18.727261GHz    | 48.95                       | -0.91                  | 74.00        | -25.05      | 4.00       | 67.60     | Vertical     | Passed    |
| 2. | 26.764663GHz    | 48.93                       | 1.58                   | 74.00        | -25.07      | 1.13       | 112.60    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 25.233662GHz    | 45.64                          | 0.63                   | 54.00        | -8.36       | 1.15       | 202.60    | Vertical     | Passed   |
| 2. | 27.30334GHz     | 45.97                          | 1.77                   | 54.00        | -8.03       | 3.57       | 292.60    | Horizontal   | Passed   |

Overall Graphs:





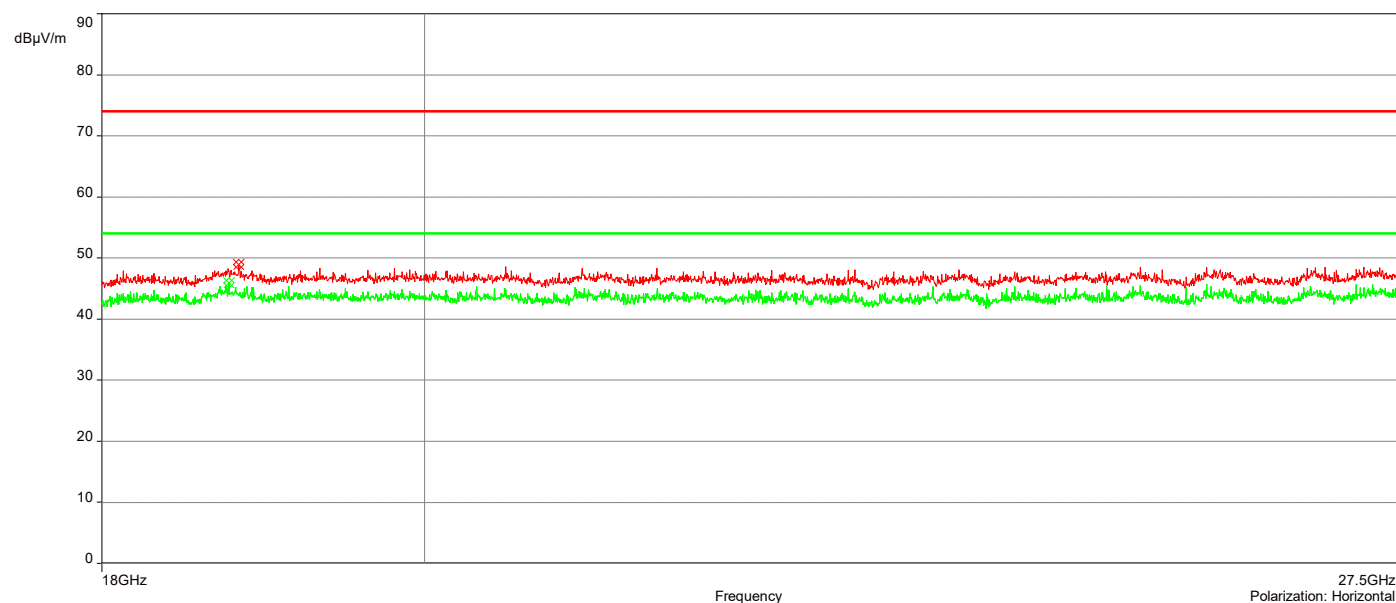
**J23220\_W300#1\_2.4G\_802.11n\_MCS0\_40MHz\_Ch3\_18-27.5GHz**

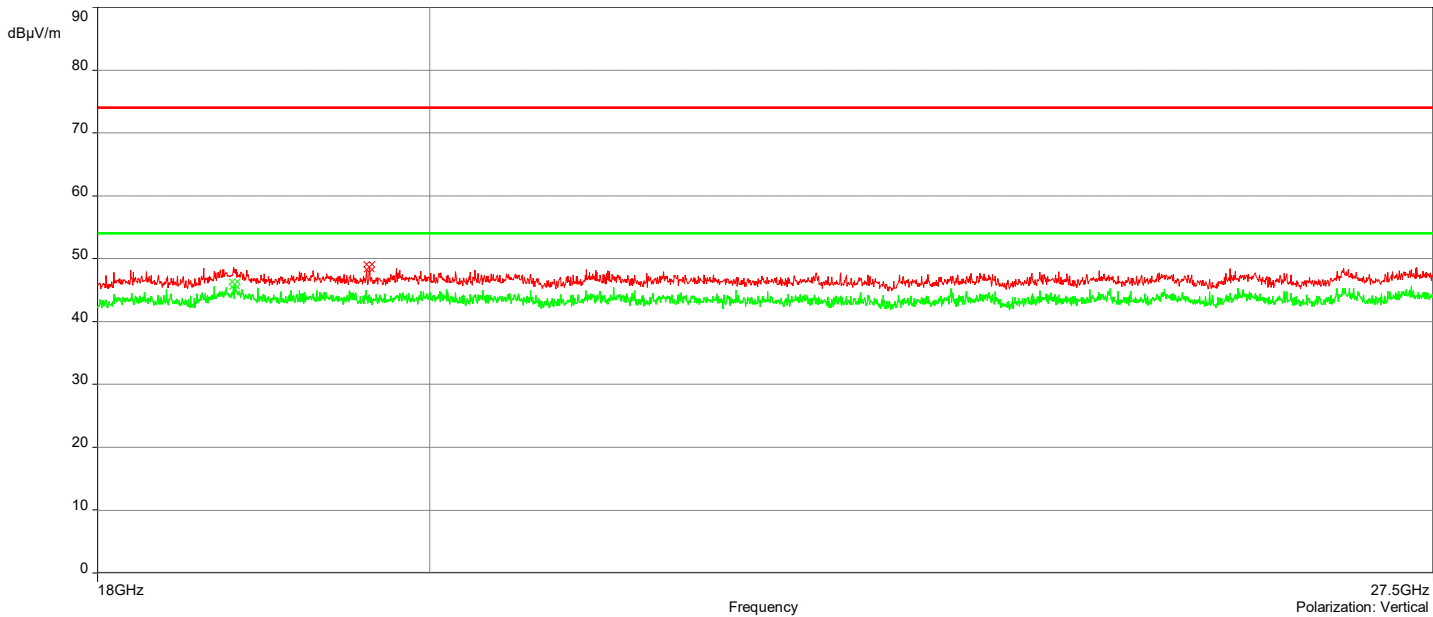
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| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 19.621731GHz    | 48.65                       | -1.98                  | 74.00        | -25.35      | 1.00       | 247.40    | Vertical     | Passed    |
| 2. | 18.823691GHz    | 48.90                       | -1.07                  | 74.00        | -25.10      | 3.17       | 112.40    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 18.799465GHz    | 45.92                          | -1.02                  | 54.00        | -8.08       | 2.65       | 224.90    | Vertical     | Passed   |
| 2. | 18.764313GHz    | 45.91                          | -1.01                  | 54.00        | -8.09       | 2.88       | 202.40    | Horizontal   | Passed   |

Overall Graphs:





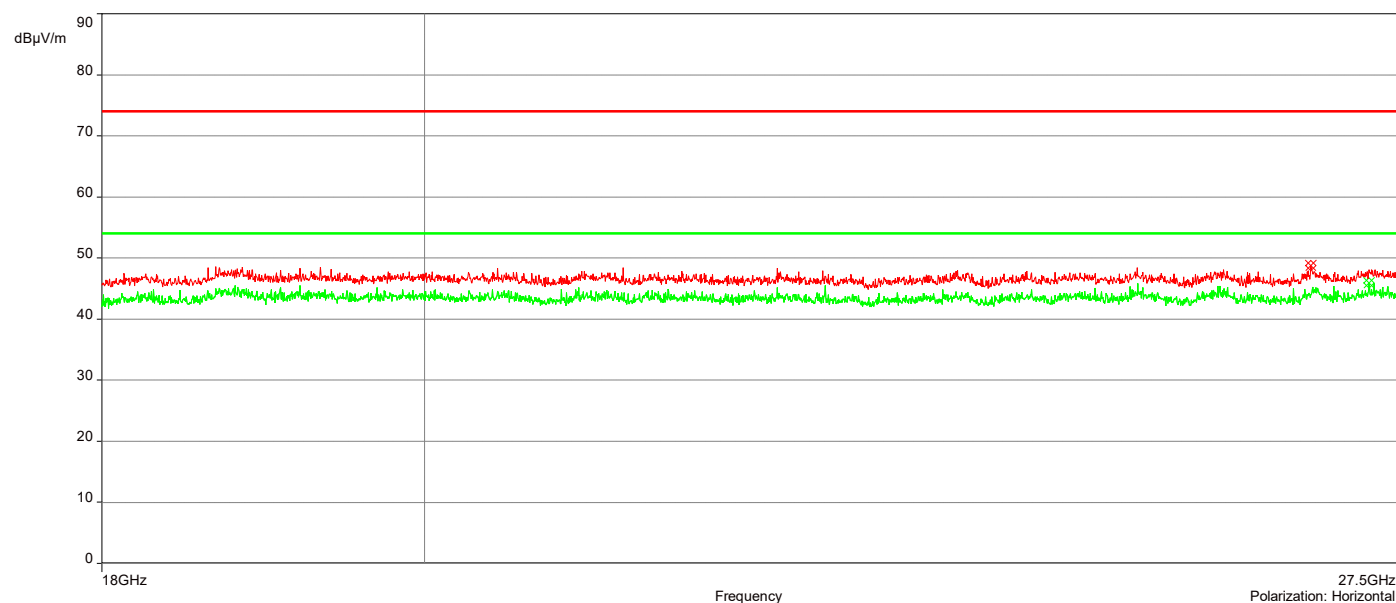
**J23220\_W300#1\_2.4G\_802.11n\_MCS0\_40MHz\_Ch9\_18-27.5GHz**

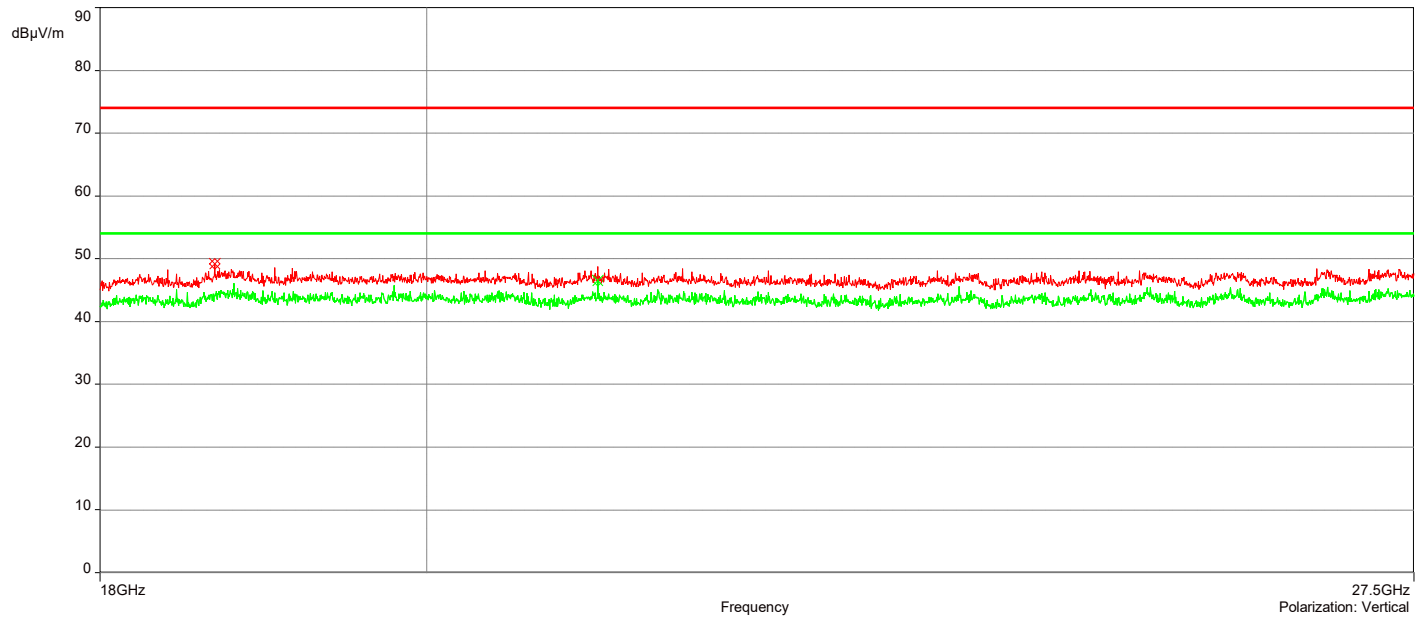
12/26/2023 6:24:44 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 3. | 18.677859GHz    | 49.19                       | -0.85                  | 74.00        | -24.81      | 1.15       | 292.60    | Vertical     | Passed    |
| 4. | 26.715736GHz    | 48.81                       | 1.56                   | 74.00        | -25.19      | 3.15       | 112.60    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 3. | 21.135632GHz    | 46.49                          | -0.37                  | 54.00        | -7.51       | 2.07       | 292.60    | Vertical     | Passed   |
| 4. | 27.227811GHz    | 45.90                          | 1.24                   | 54.00        | -8.10       | 2.87       | 157.50    | Horizontal   | Passed   |

Overall Graphs:





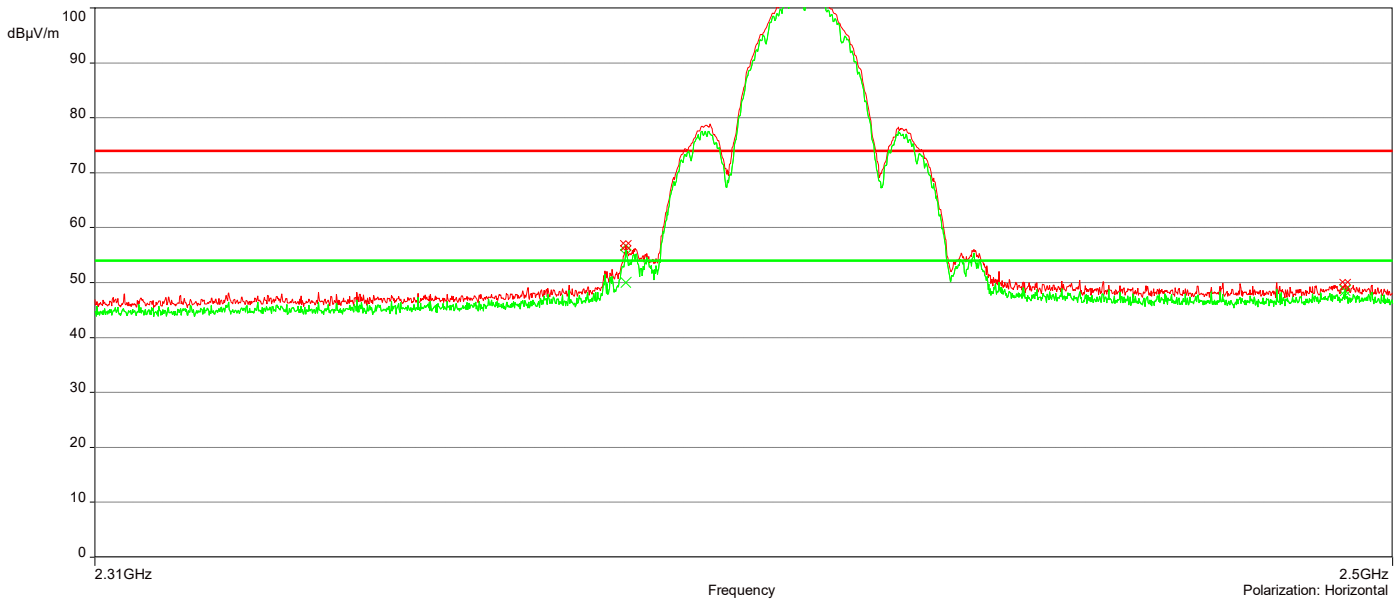
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11b\_1Mbps\_Ch 1

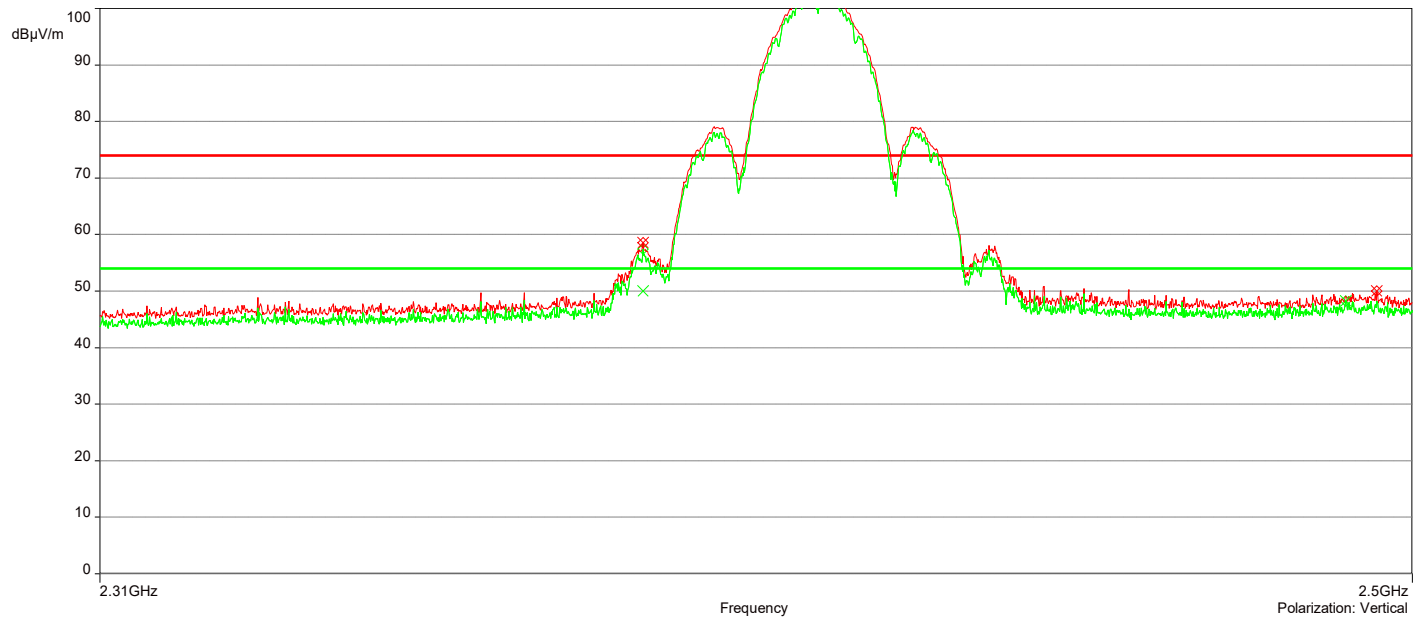
2/1/2024 3:38:53 PM

| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3867984GHz       | 58.55                             | -2.82                     | 74.00           | -15.45         | 1.00       | 277.10    | Vertical     | Passed    |
| 2. | 2.4946773GHz       | 50.00                             | -2.24                     | 74.00           | -24.00         | 4.00       | 270.80    | Vertical     | Passed    |
| 3. | 2.385943GHz        | 56.71                             | -2.92                     | 74.00           | -17.29         | 2.50       | 242.10    | Horizontal   | Passed    |
| 4. | 2.4927764GHz       | 49.59                             | -2.21                     | 74.00           | -24.41         | 3.50       | 48.40     | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.3867984GHz       | 49.97                                   | -2.82                     | 54.00           | -4.03          | 1.00       | 277.10    | Vertical     | Passed   |
| 2. | 2.49002GHz         | 48.22                                   | -2.24                     | 54.00           | -5.78          | 3.50       | 278.40    | Vertical     | Passed   |
| 3. | 2.385943GHz        | 50.02                                   | -2.92                     | 54.00           | -3.98          | 2.50       | 242.10    | Horizontal   | Passed   |
| 4. | 2.4927764GHz       | 48.53                                   | -2.21                     | 54.00           | -5.47          | 3.50       | 48.40     | Horizontal   | Passed   |

Overall Graphs:





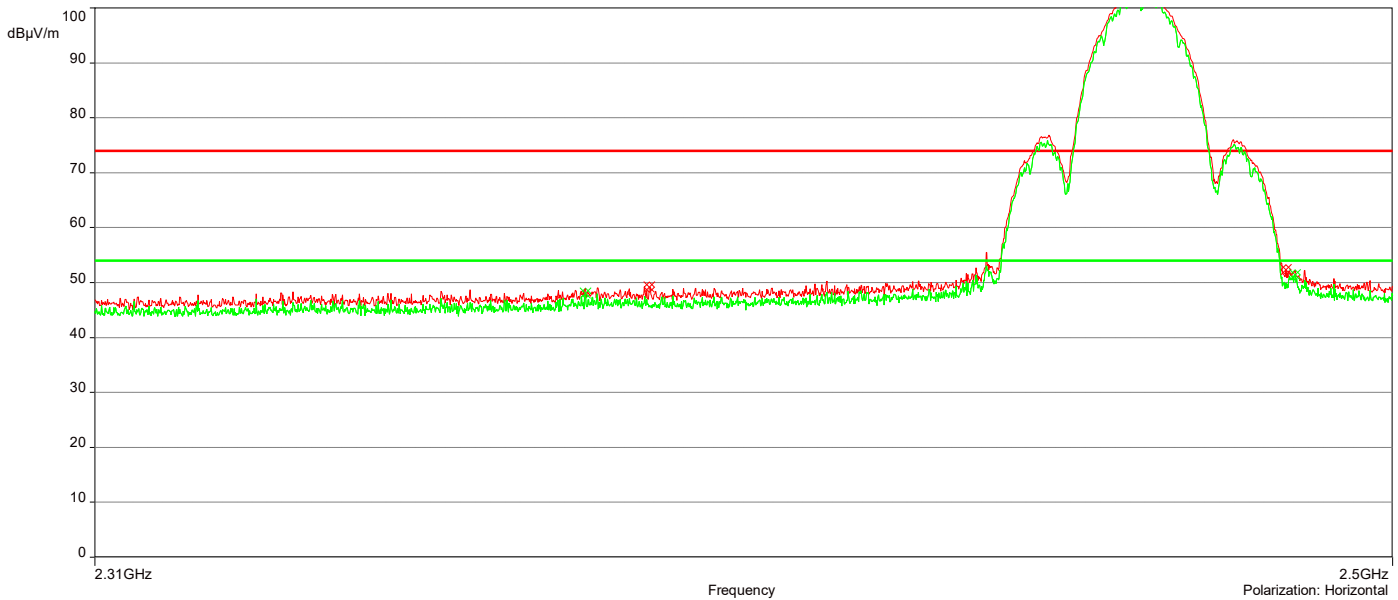
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11b\_1Mbps\_Ch 11

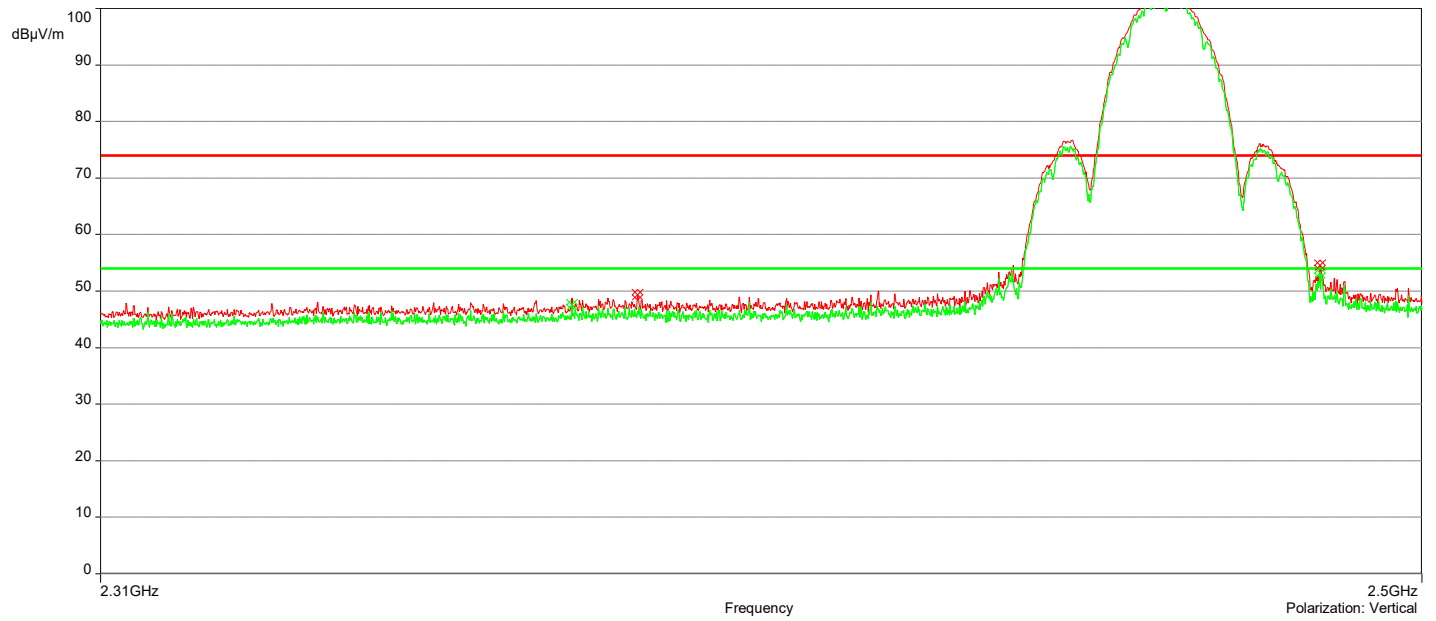
2/1/2024 3:57:14 PM

| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3853727GHz       | 49.38                             | -2.83                     | 74.00           | -24.62         | 1.00       | 246.50    | Vertical     | Passed    |
| 2. | 2.4847924GHz       | 54.52                             | -2.29                     | 74.00           | -19.48         | 1.00       | 276.80    | Vertical     | Passed    |
| 3. | 2.3893647GHz       | 49.19                             | -2.87                     | 74.00           | -24.81         | 2.00       | 145.20    | Horizontal   | Passed    |
| 4. | 2.4838419GHz       | 52.32                             | -2.22                     | 74.00           | -21.68         | 2.00       | 235.90    | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.376058GHz        | 47.61                                   | -2.89                     | 54.00           | -6.39          | 3.50       | 274.90    | Vertical     | Passed   |
| 2. | 2.4847924GHz       | 53.19                                   | -2.29                     | 54.00           | -0.81          | 1.00       | 276.80    | Vertical     | Passed   |
| 3. | 2.38005GHz         | 48.08                                   | -3.01                     | 54.00           | -5.92          | 1.50       | 299.00    | Horizontal   | Passed   |
| 4. | 2.4851726GHz       | 51.37                                   | -2.22                     | 54.00           | -2.63          | 2.00       | 237.90    | Horizontal   | Passed   |

Overall Graphs:





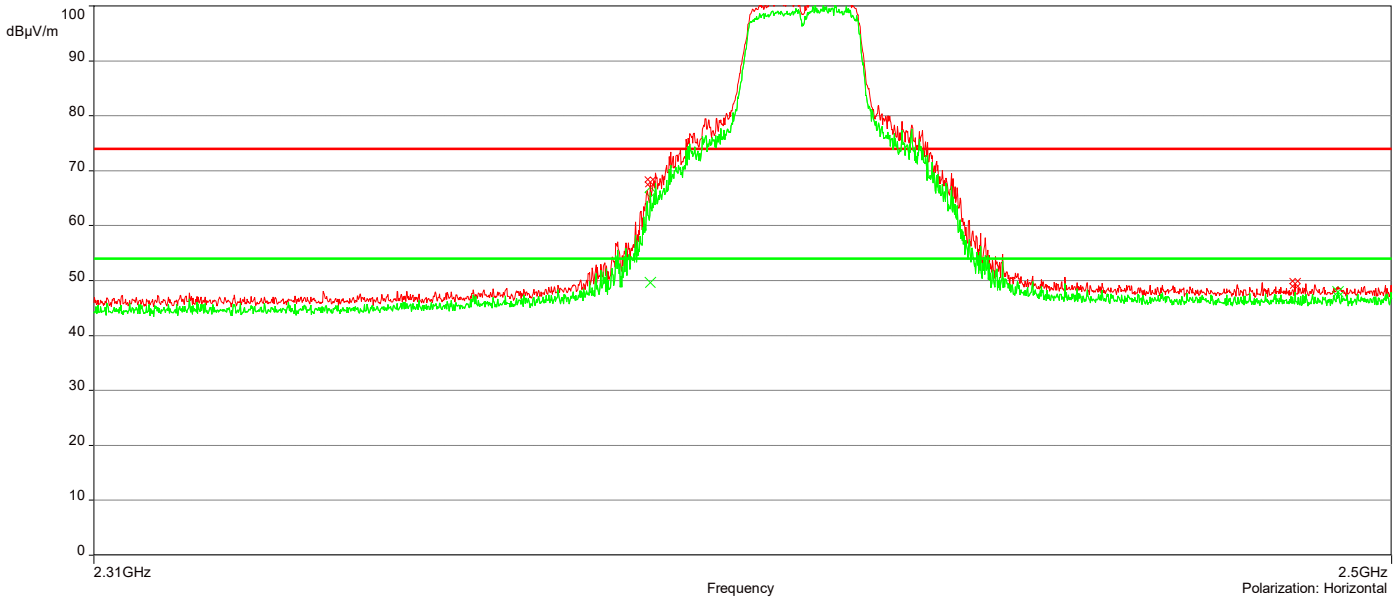
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11g\_6Mbps\_Ch 1

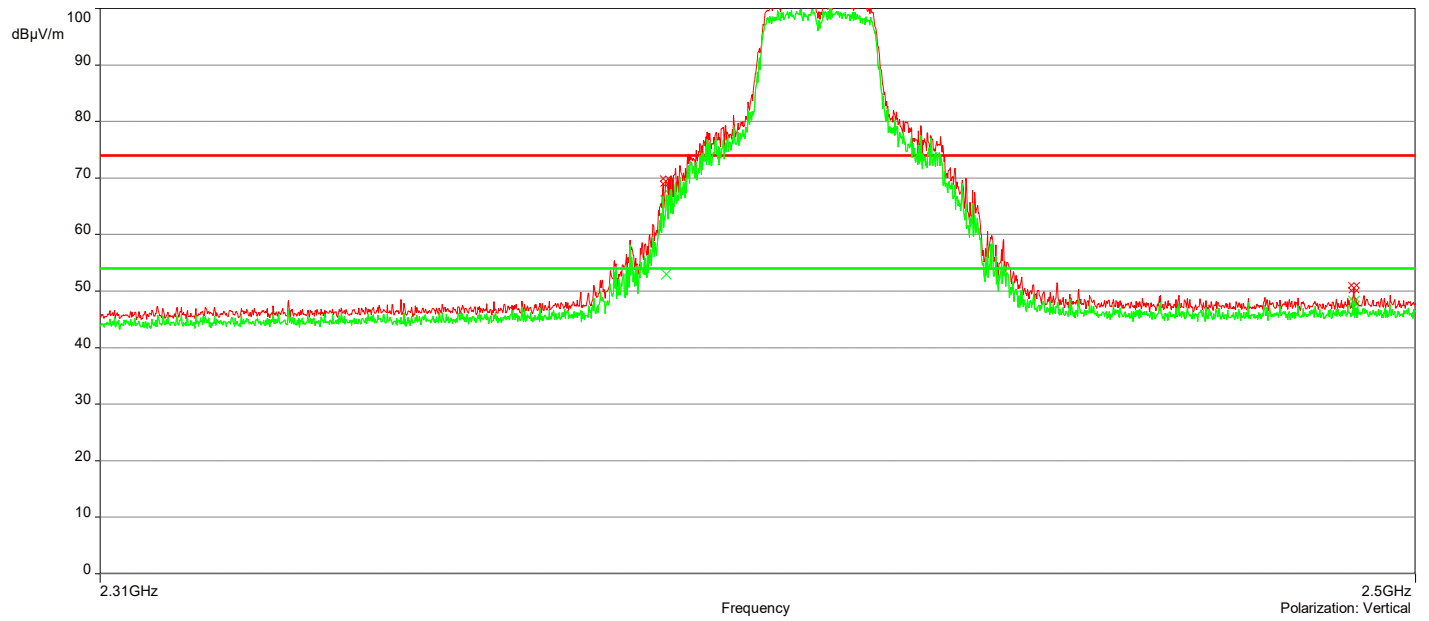
2/9/2024 10:39:52 AM

| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3898399GHz       | 69.47                             | -2.80                     | 74.00           | -4.53          | 1.00       | 274.70    | Vertical     | Passed    |
| 2. | 2.4907804GHz       | 50.54                             | -2.24                     | 74.00           | -23.46         | 1.00       | 269.40    | Vertical     | Passed    |
| 3. | 2.3896498GHz       | 67.92                             | -2.86                     | 74.00           | -6.08          | 1.00       | 245.10    | Horizontal   | Passed    |
| 4. | 2.4853627GHz       | 49.47                             | -2.22                     | 74.00           | -24.53         | 1.50       | 141.70    | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.389935GHz        | 52.97                                   | -2.80                     | 54.00           | -1.03          | 1.00       | 275.10    | Vertical     | Passed   |
| 2. | 2.4907804GHz       | 48.19                                   | -2.24                     | 54.00           | -5.81          | 1.00       | 269.40    | Vertical     | Passed   |
| 3. | 2.3896498GHz       | 49.61                                   | -2.86                     | 54.00           | -4.39          | 1.00       | 245.10    | Horizontal   | Passed   |
| 4. | 2.4918259GHz       | 47.92                                   | -2.21                     | 54.00           | -6.08          | 2.50       | 240.20    | Horizontal   | Passed   |

Overall Graphs:





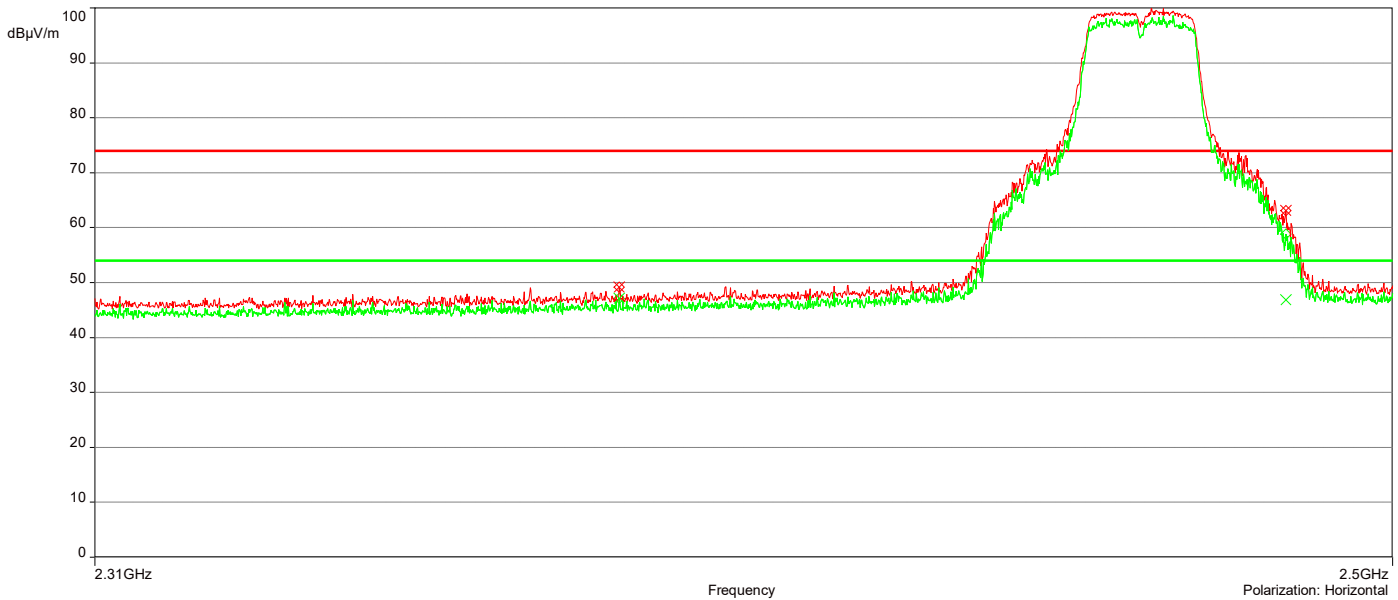
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11g\_6Mbps\_Ch 11

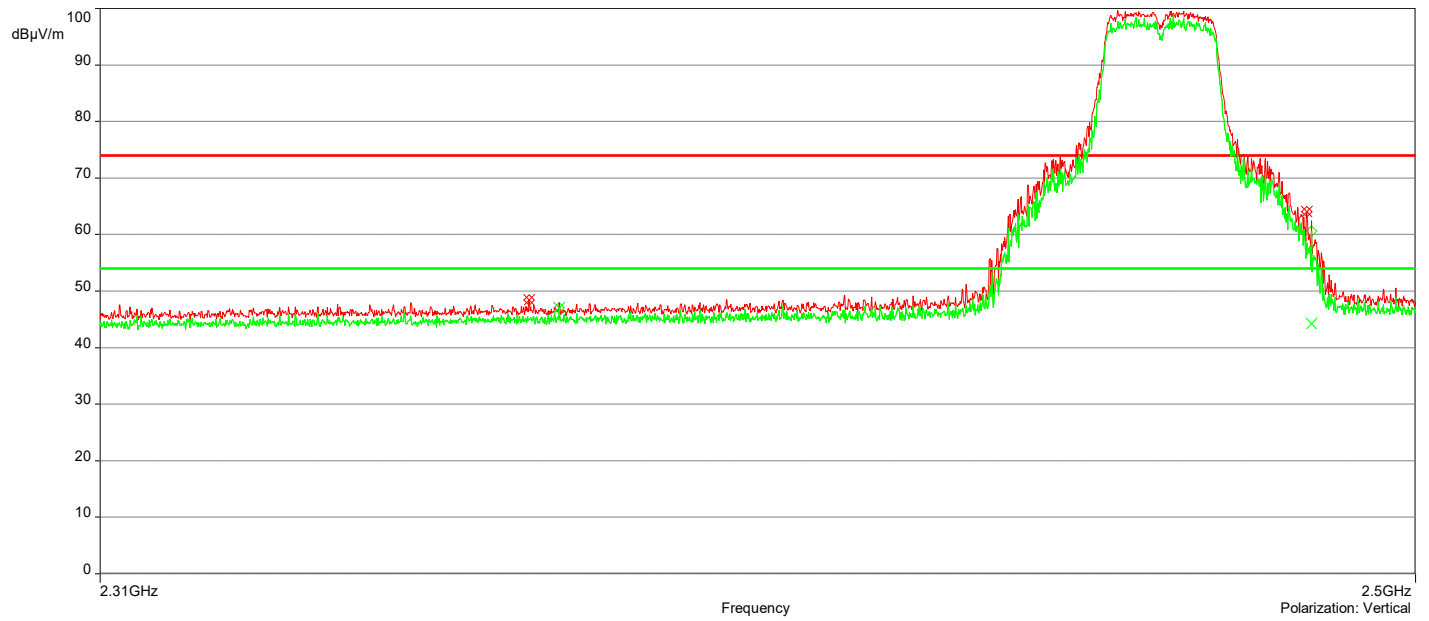
2/9/2024 11:01:08 AM

| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3703552GHz       | 48.41                             | -2.94                     | 74.00           | -25.59         | 3.00       | 302.50    | Vertical     | Passed    |
| 2. | 2.4837469GHz       | 64.04                             | -2.30                     | 74.00           | -9.96          | 1.00       | 273.00    | Vertical     | Passed    |
| 3. | 2.3849925GHz       | 49.13                             | -2.93                     | 74.00           | -24.87         | 1.00       | 142.90    | Horizontal   | Passed    |
| 4. | 2.4838419GHz       | 63.08                             | -2.22                     | 74.00           | -10.92         | 1.00       | 240.10    | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.3746323GHz       | 47.04                                   | -2.90                     | 54.00           | -6.96          | 3.50       | 270.50    | Vertical     | Passed   |
| 2. | 2.4844122GHz       | 44.29                                   | -2.30                     | 54.00           | -9.71          | 1.00       | 268.10    | Vertical     | Passed   |
| 3. | 2.3849925GHz       | 47.09                                   | -2.93                     | 54.00           | -6.91          | 1.00       | 142.90    | Horizontal   | Passed   |
| 4. | 2.4838419GHz       | 46.85                                   | -2.22                     | 54.00           | -7.15          | 1.00       | 240.10    | Horizontal   | Passed   |

Overall Graphs:





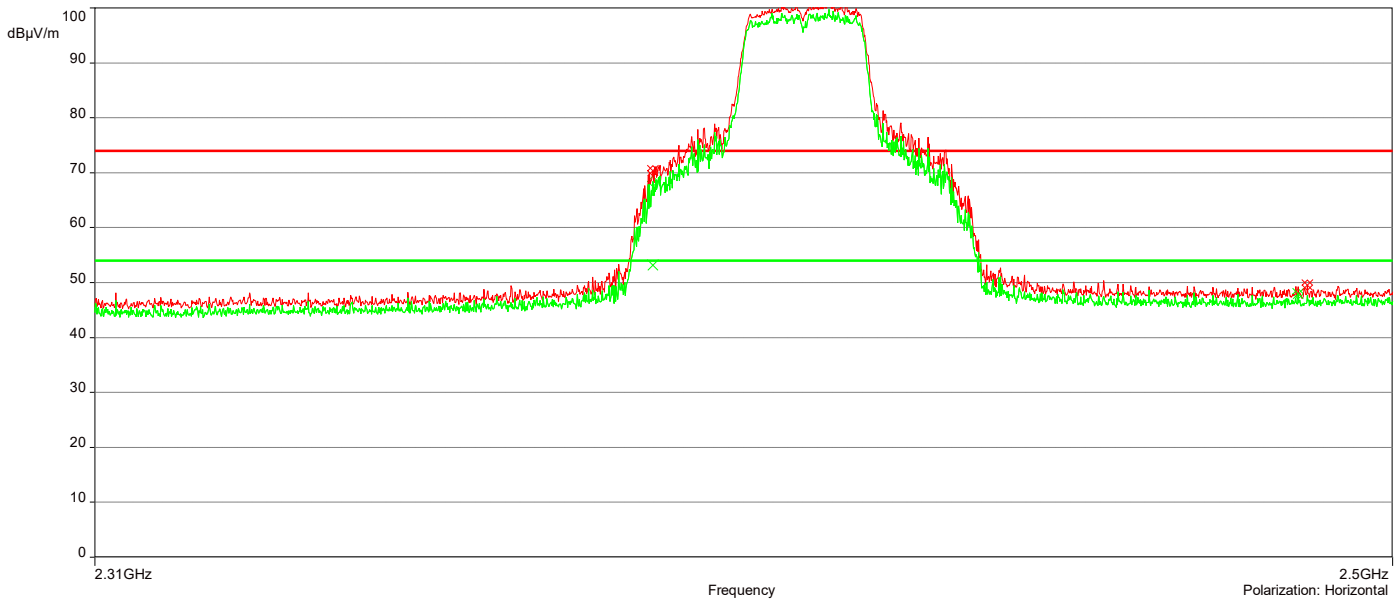
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11n\_MCS0\_Ch 1

2/9/2024 12:19:05 PM

| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3898399GHz       | 72.58                             | -2.80                     | 74.00           | -1.42          | 1.00       | 276.00    | Vertical     | Passed    |
| 2. | 2.4897349GHz       | 49.39                             | -2.24                     | 74.00           | -24.61         | 1.00       | 88.70     | Vertical     | Passed    |
| 3. | 2.3898399GHz       | 70.37                             | -2.86                     | 74.00           | -3.63          | 1.00       | 241.40    | Horizontal   | Passed    |
| 4. | 2.4870735GHz       | 49.54                             | -2.22                     | 74.00           | -24.46         | 1.00       | 248.00    | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.3892696GHz       | 53.04                                   | -2.81                     | 54.00           | -0.96          | 1.00       | 275.90    | Vertical     | Passed   |
| 2. | 2.4897349GHz       | 48.41                                   | -2.24                     | 54.00           | -5.59          | 1.00       | 88.70     | Vertical     | Passed   |
| 3. | 2.3898399GHz       | 53.21                                   | -2.86                     | 54.00           | -0.79          | 1.00       | 241.40    | Horizontal   | Passed   |
| 4. | 2.4856478GHz       | 47.95                                   | -2.22                     | 54.00           | -6.05          | 2.50       | 246.70    | Horizontal   | Passed   |

Overall Graphs:





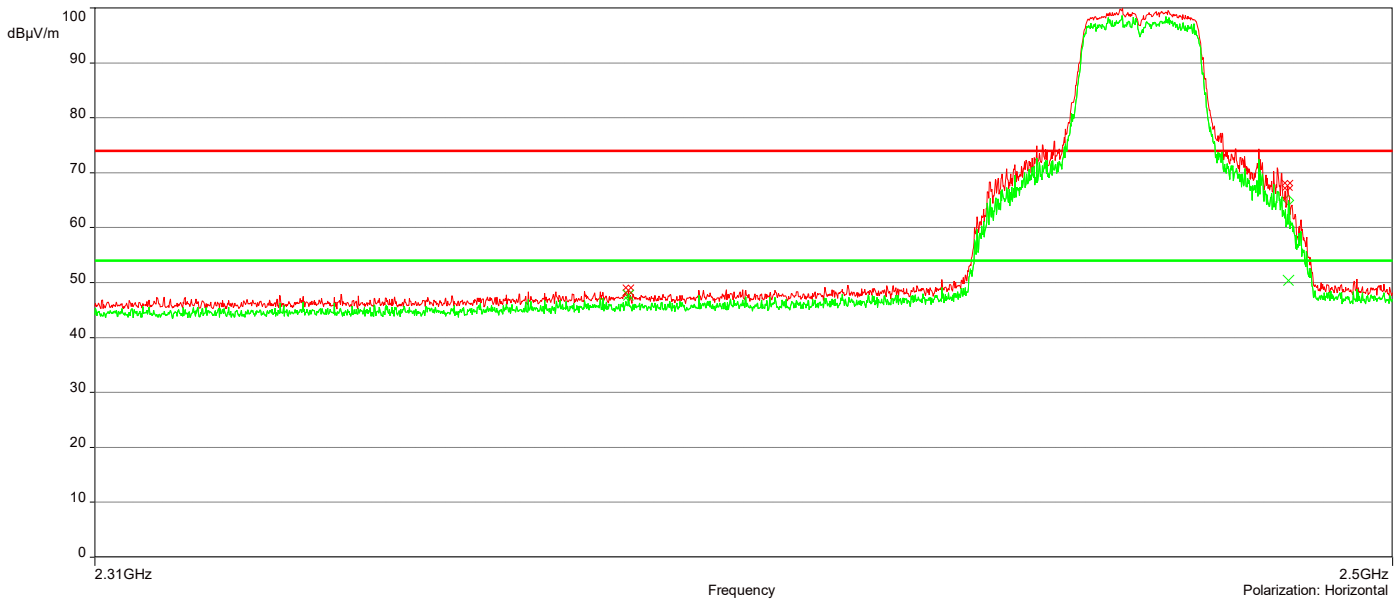
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11n\_MCS0\_Ch 11

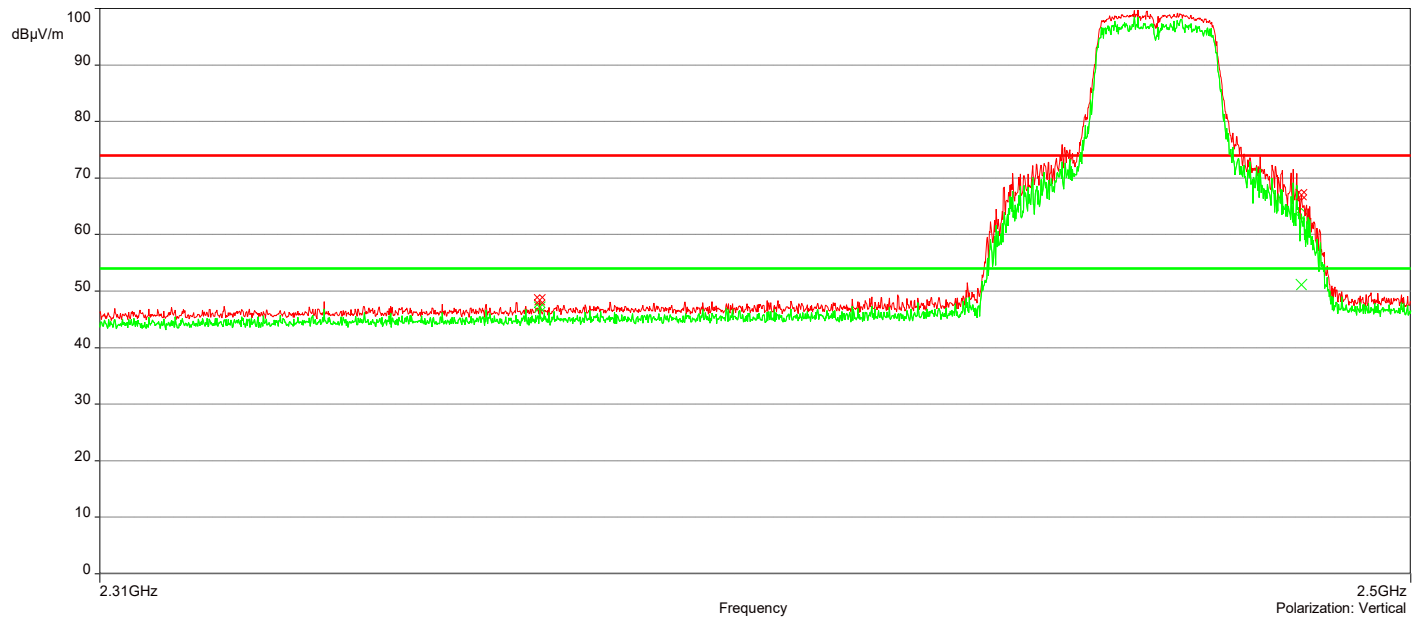
2/9/2024 12:39:54 PM

| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.372066GHz        | 48.38                             | -2.92                     | 74.00           | -25.62         | 2.00       | 231.00    | Vertical     | Passed    |
| 2. | 2.4835568GHz       | 67.01                             | -2.31                     | 74.00           | -6.99          | 1.00       | 275.90    | Vertical     | Passed    |
| 3. | 2.3863232GHz       | 48.60                             | -2.91                     | 74.00           | -25.40         | 1.00       | 42.40     | Horizontal   | Passed    |
| 4. | 2.484032GHz        | 67.63                             | -2.22                     | 74.00           | -6.37          | 1.00       | 245.20    | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.372066GHz        | 47.08                                   | -2.92                     | 54.00           | -6.92          | 2.00       | 231.00    | Vertical     | Passed   |
| 2. | 2.4835568GHz       | 51.15                                   | -2.31                     | 54.00           | -2.85          | 1.00       | 275.90    | Vertical     | Passed   |
| 3. | 2.3863232GHz       | 47.69                                   | -2.91                     | 54.00           | -6.31          | 1.00       | 42.40     | Horizontal   | Passed   |
| 4. | 2.4842221GHz       | 50.38                                   | -2.22                     | 54.00           | -3.62          | 1.00       | 242.10    | Horizontal   | Passed   |

Overall Graphs:





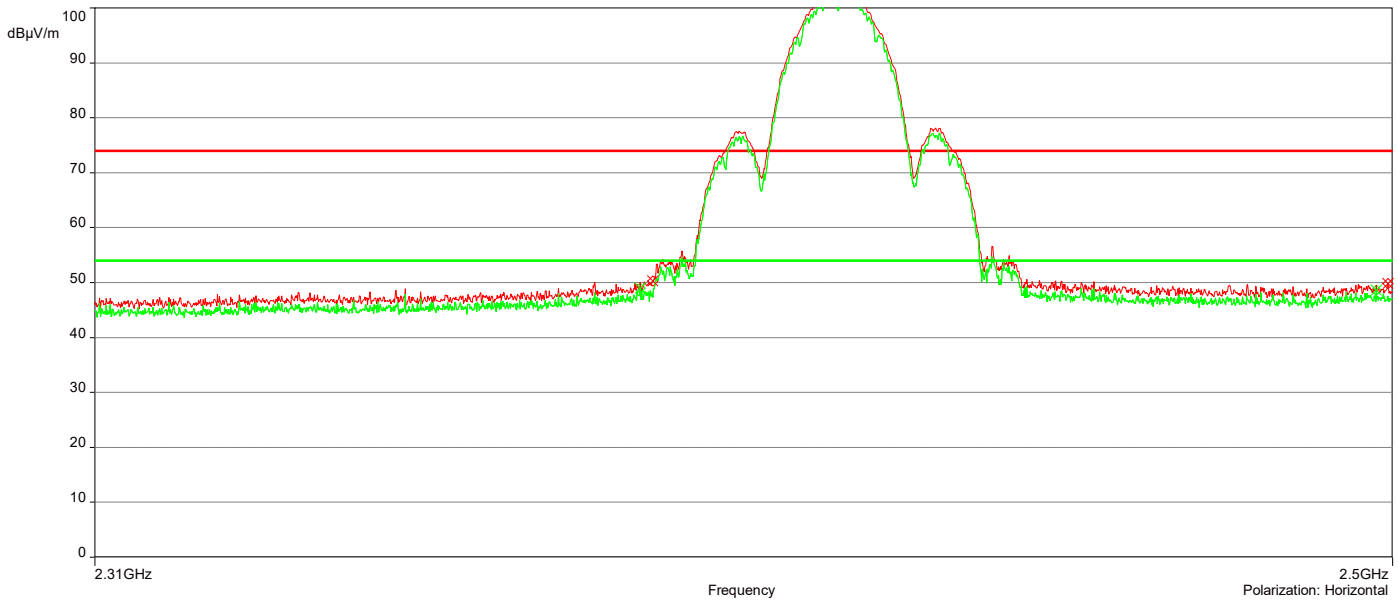
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11b\_1Mbps\_Ch 2

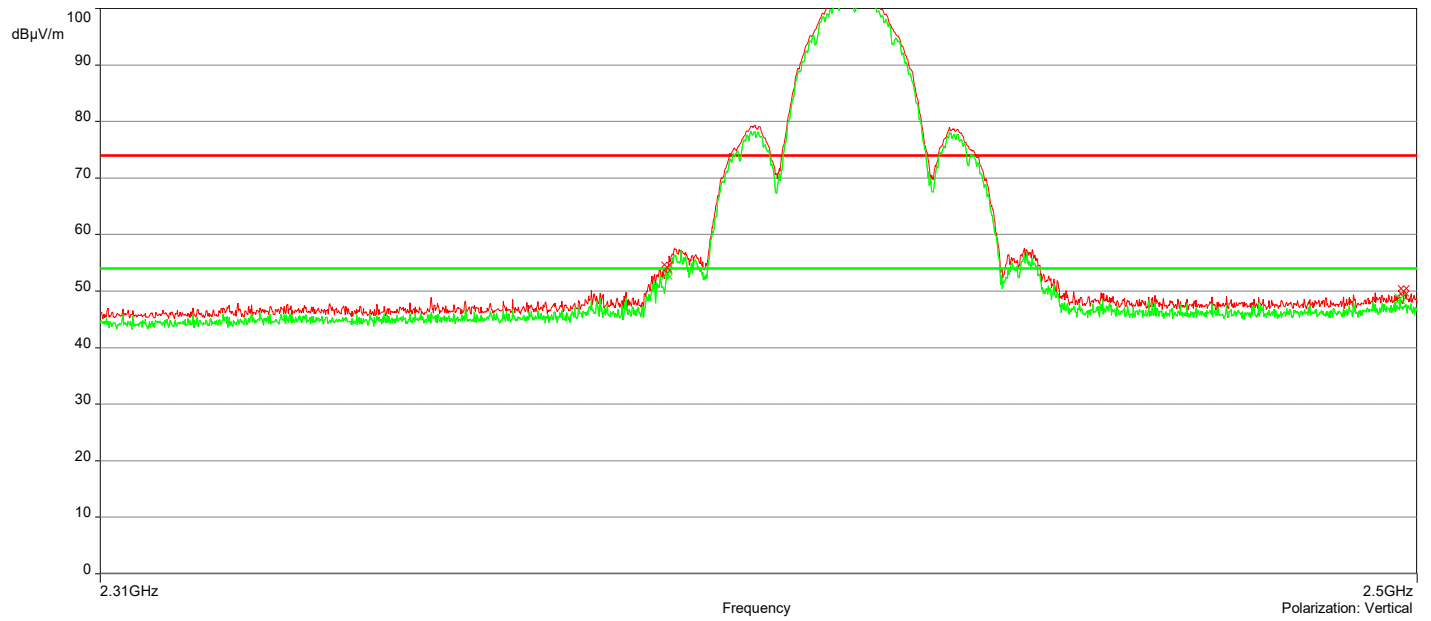
2/15/2024 6:06:24 PM

| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.389935GHz        | 54.19                             | -2.80                     | 74.00           | -19.81         | 1.00       | 281.80    | Vertical     | Passed    |
| 2. | 2.498004GHz        | 50.00                             | -2.24                     | 74.00           | -24.00         | 4.00       | 289.80    | Vertical     | Passed    |
| 3. | 2.3898399GHz       | 50.28                             | -2.86                     | 74.00           | -23.72         | 2.00       | 199.60    | Horizontal   | Passed    |
| 4. | 2.4993347GHz       | 49.81                             | -2.20                     | 74.00           | -24.19         | 1.50       | 145.50    | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.389935GHz        | 52.98                                   | -2.80                     | 54.00           | -1.02          | 1.00       | 281.80    | Vertical     | Passed   |
| 2. | 2.4974337GHz       | 48.62                                   | -2.24                     | 54.00           | -5.38          | 4.00       | 287.10    | Vertical     | Passed   |
| 3. | 2.388034GHz        | 48.98                                   | -2.89                     | 54.00           | -5.02          | 2.00       | 243.30    | Horizontal   | Passed   |
| 4. | 2.4975288GHz       | 48.63                                   | -2.21                     | 54.00           | -5.37          | 3.50       | 243.20    | Horizontal   | Passed   |

Overall Graphs:





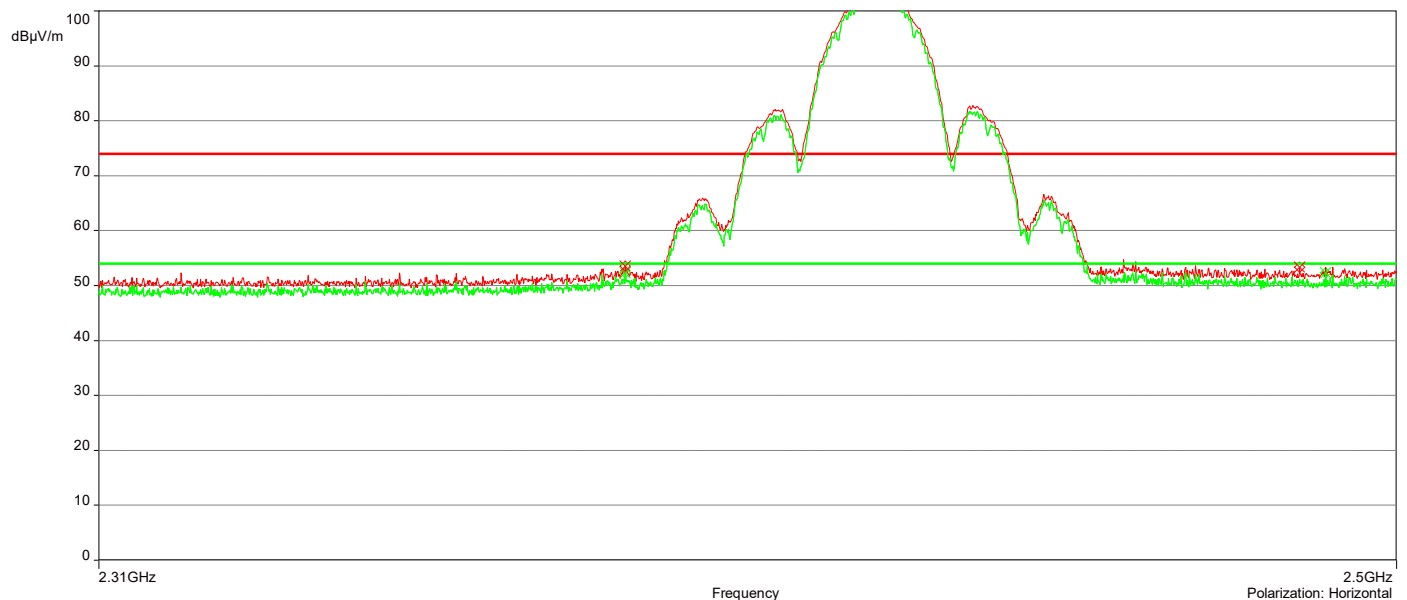
**J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11b\_1Mbps\_Ch 3**

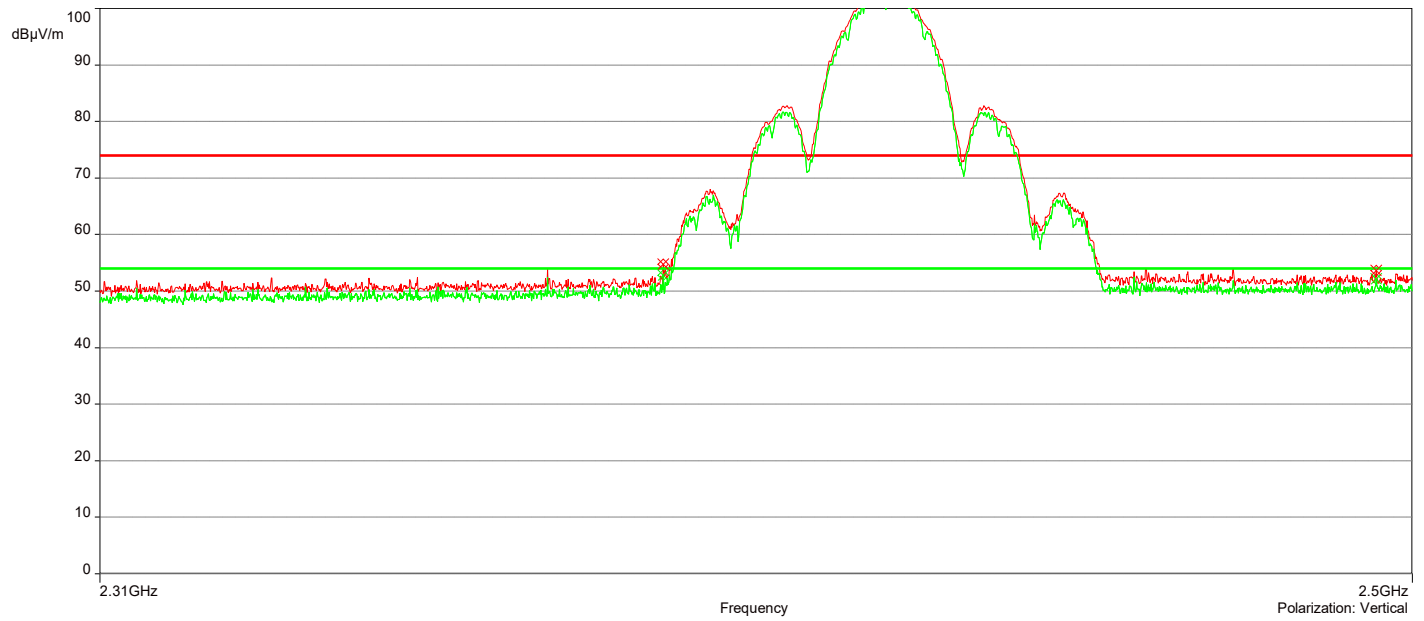
2/21/2024 11:53:39 AM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.3897449GHz    | 54.76                       | -2.80                  | 74.00        | -19.24      | 1.00       | 279.90    | Vertical     | Passed    |
| 2. | 2.4945823GHz    | 53.61                       | -2.24                  | 74.00        | -20.39      | 2.50       | 65.90     | Vertical     | Passed    |
| 3. | 2.3852776GHz    | 53.51                       | -2.93                  | 74.00        | -20.49      | 1.00       | 244.90    | Horizontal   | Passed    |
| 4. | 2.4852676GHz    | 53.35                       | -2.22                  | 74.00        | -20.65      | 1.00       | 143.10    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.3897449GHz    | 52.77                          | -2.80                  | 54.00        | -1.23       | 1.00       | 279.90    | Vertical     | Passed   |
| 2. | 2.4945823GHz    | 52.12                          | -2.24                  | 54.00        | -1.88       | 2.50       | 65.90     | Vertical     | Passed   |
| 3. | 2.3852776GHz    | 52.33                          | -2.93                  | 54.00        | -1.67       | 1.00       | 244.90    | Horizontal   | Passed   |
| 4. | 2.4892596GHz    | 52.30                          | -2.21                  | 54.00        | -1.70       | 4.00       | 253.70    | Horizontal   | Passed   |

Overall Graphs:





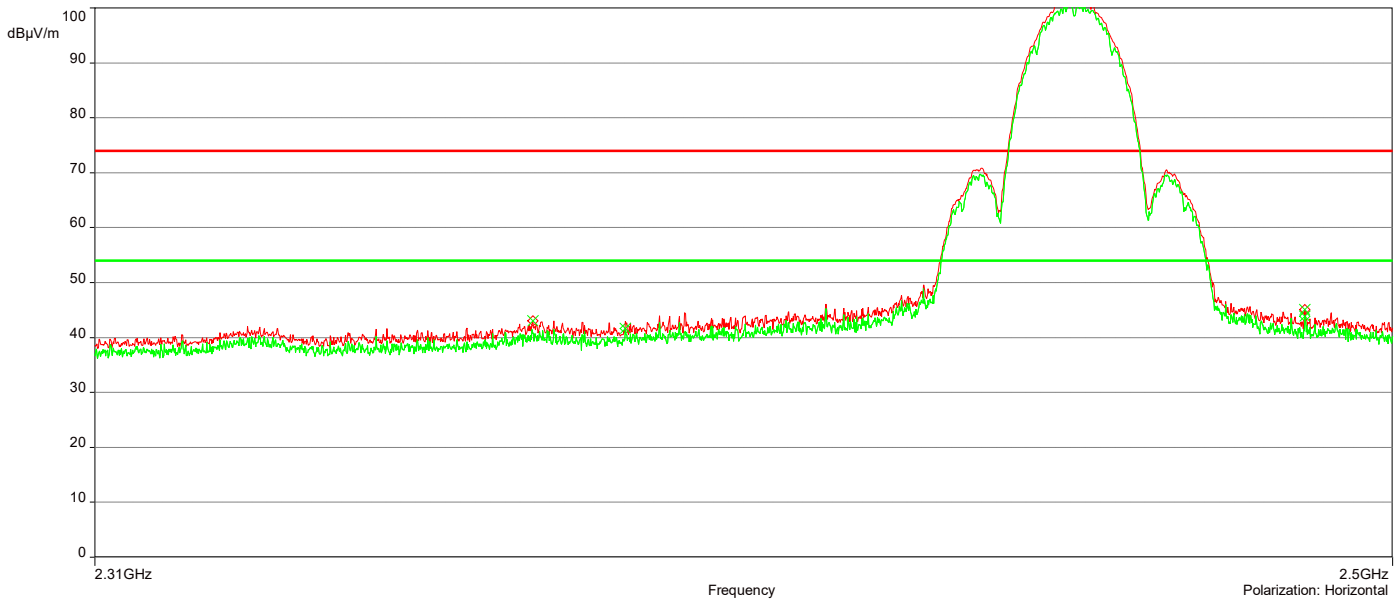
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11b\_1Mbps\_Ch 9

5/13/2024 3:40:22 PM

| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3692146GHz       | 48.05                             | -2.78                     | 74.00           | -25.95         | 4.00       | 266.00    | Vertical     | Passed    |
| 2. | 2.4835568GHz       | 54.42                             | -2.20                     | 74.00           | -19.58         | 1.50       | 14.30     | Vertical     | Passed    |
| 3. | 2.3724462GHz       | 43.06                             | -2.94                     | 74.00           | -30.94         | 3.00       | 167.90    | Horizontal   | Passed    |
| 4. | 2.4866933GHz       | 45.09                             | -2.12                     | 74.00           | -28.91         | 4.00       | 333.30    | Horizontal   | Passed    |

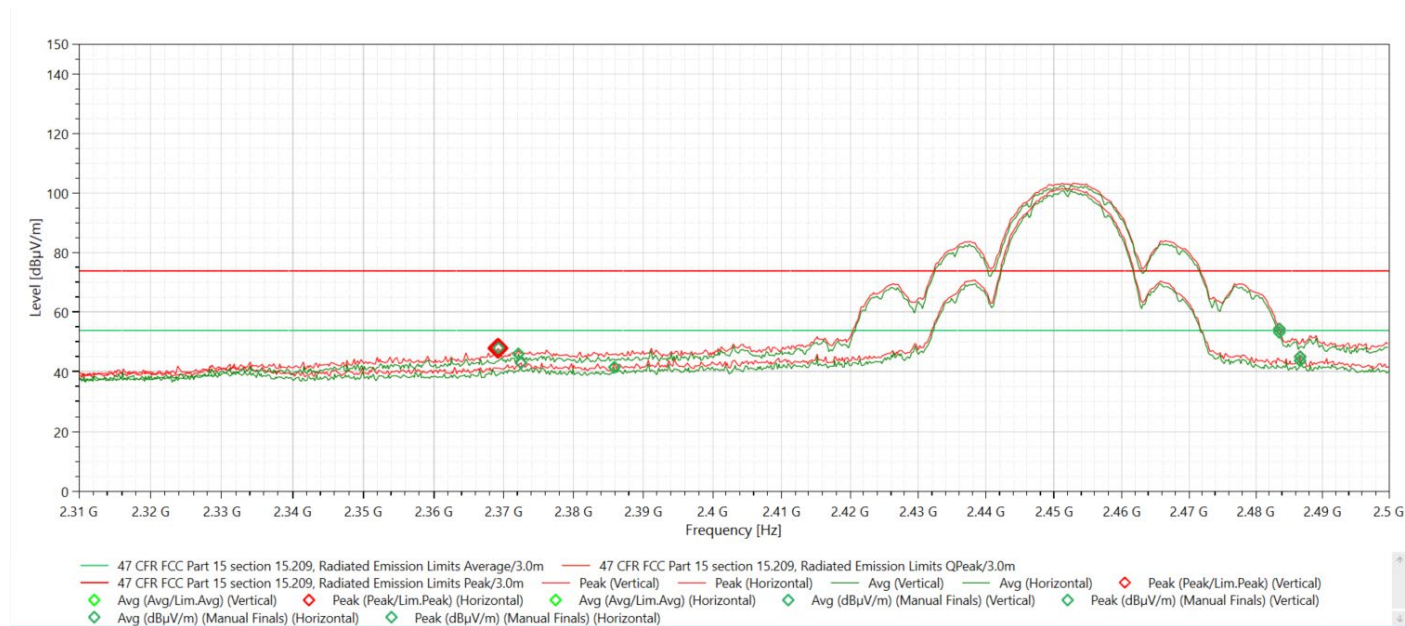
| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.372066GHz        | 46.16                                   | -2.75                     | 54.00           | -7.84          | 4.00       | 268.00    | Vertical     | Passed   |
| 2. | 2.4835568GHz       | 53.35                                   | -2.20                     | 54.00           | -0.65          | 1.50       | 14.30     | Vertical     | Passed   |
| 3. | 2.3858479GHz       | 41.65                                   | -2.79                     | 54.00           | -12.35         | 1.50       | 198.00    | Horizontal   | Passed   |
| 4. | 2.4866933GHz       | 43.86                                   | -2.12                     | 54.00           | -10.14         | 4.00       | 333.30    | Horizontal   | Passed   |

Overall Graphs:





Note: Additional Manual plot of above test is demonstrated to showcase the X-axis frequency.



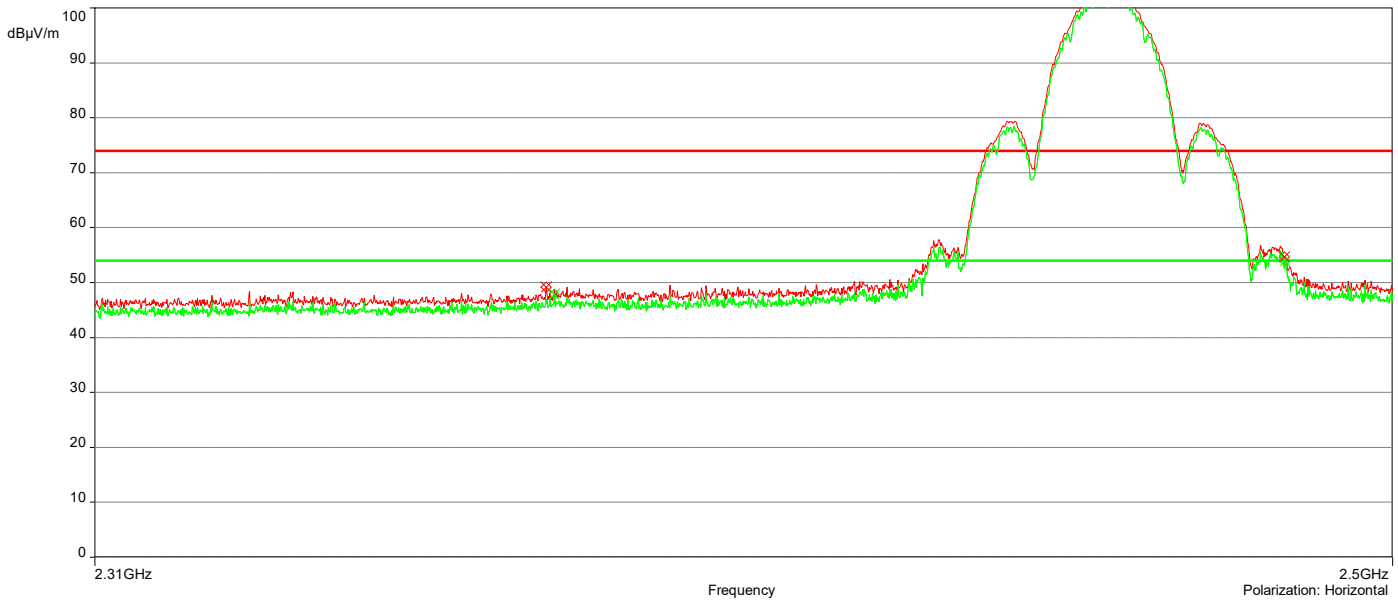
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11b\_1Mbps\_Ch 10

2/15/2024 6:34:41 PM

| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3852776GHz       | 49.99                             | -2.83                     | 74.00           | -24.01         | 1.00       | 283.90    | Vertical     | Passed    |
| 2. | 2.4838419GHz       | 53.95                             | -2.30                     | 74.00           | -20.05         | 1.00       | 279.20    | Vertical     | Passed    |
| 3. | 2.3743472GHz       | 49.16                             | -3.09                     | 74.00           | -24.84         | 3.00       | 347.20    | Horizontal   | Passed    |
| 4. | 2.4835568GHz       | 54.62                             | -2.23                     | 74.00           | -19.38         | 2.50       | 244.20    | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.3852776GHz       | 47.53                                   | -2.83                     | 54.00           | -6.47          | 1.00       | 283.90    | Vertical     | Passed   |
| 2. | 2.4835568GHz       | 52.23                                   | -2.31                     | 54.00           | -1.77          | 1.00       | 279.20    | Vertical     | Passed   |
| 3. | 2.3755828GHz       | 47.86                                   | -3.07                     | 54.00           | -6.14          | 1.50       | 130.70    | Horizontal   | Passed   |
| 4. | 2.4836518GHz       | 53.90                                   | -2.23                     | 54.00           | -0.10          | 2.50       | 244.20    | Horizontal   | Passed   |

Overall Graphs:





J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11g\_6Mbps\_Ch 2

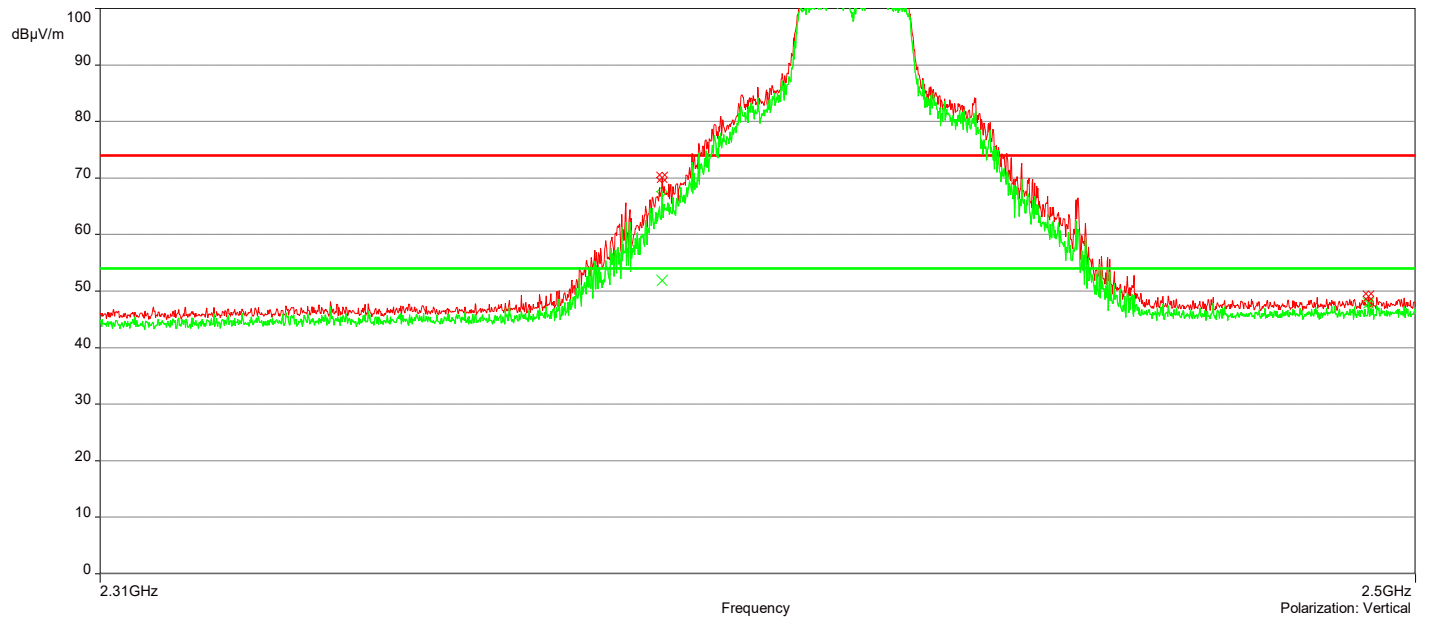
2/15/2024 3:27:33 PM

| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3893647GHz       | 70.06                             | -2.81                     | 74.00           | -3.94          | 1.00       | 282.30    | Vertical     | Passed    |
| 2. | 2.4929665GHz       | 49.10                             | -2.24                     | 74.00           | -24.90         | 1.00       | 257.50    | Vertical     | Passed    |
| 3. | 2.3893647GHz       | 69.01                             | -2.87                     | 74.00           | -4.99          | 2.00       | 246.80    | Horizontal   | Passed    |
| 4. | 2.4970535GHz       | 49.45                             | -2.21                     | 74.00           | -24.55         | 2.50       | 40.90     | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.3893647GHz       | 51.83                                   | -2.81                     | 54.00           | -2.17          | 1.00       | 282.30    | Vertical     | Passed   |
| 2. | 2.4929665GHz       | 47.89                                   | -2.24                     | 54.00           | -6.11          | 1.00       | 257.50    | Vertical     | Passed   |
| 3. | 2.3895548GHz       | 50.62                                   | -2.87                     | 54.00           | -3.38          | 1.50       | 241.10    | Horizontal   | Passed   |
| 4. | 2.4970535GHz       | 47.75                                   | -2.21                     | 54.00           | -6.25          | 2.50       | 40.90     | Horizontal   | Passed   |

Overall Graphs





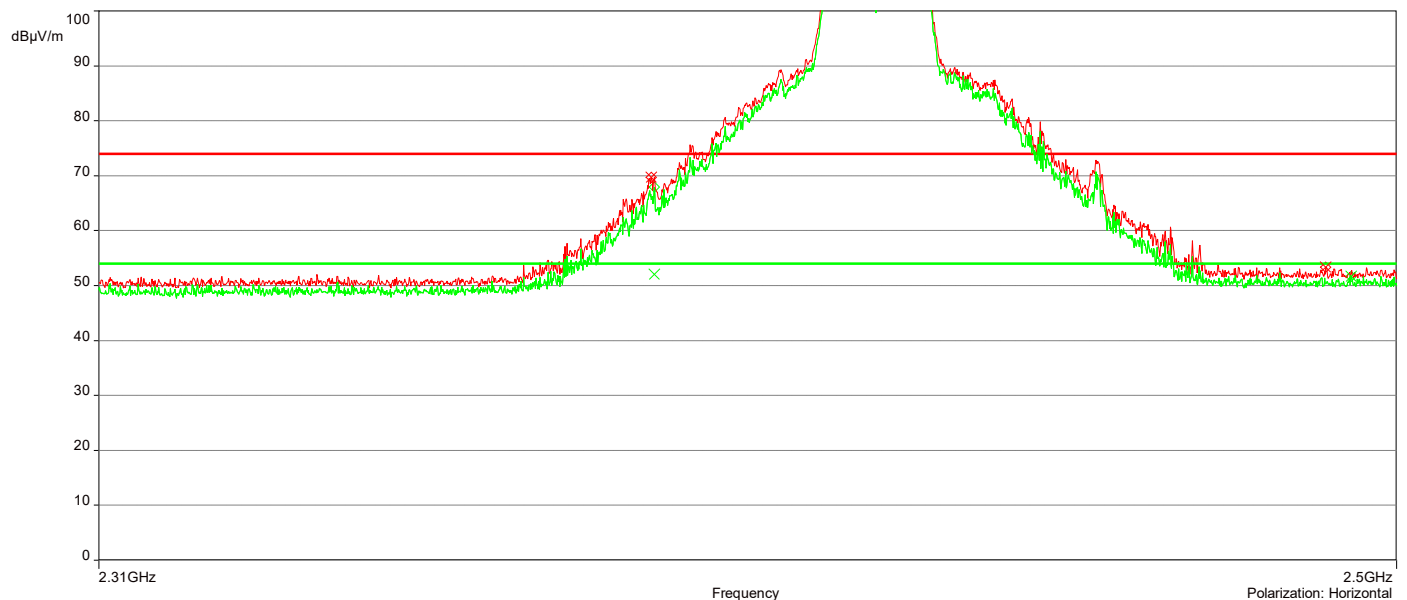
**J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11g\_6Mbps\_Ch 3**

2/21/2024 12:34:08 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.3888894GHz    | 71.81                       | -2.81                  | 74.00        | -2.19       | 1.00       | 282.90    | Vertical     | Passed    |
| 2. | 2.4990495GHz    | 53.27                       | -2.24                  | 74.00        | -20.73      | 3.50       | 293.40    | Vertical     | Passed    |
| 3. | 2.3890795GHz    | 69.71                       | -2.87                  | 74.00        | -4.29       | 1.00       | 40.40     | Horizontal   | Passed    |
| 4. | 2.4892596GHz    | 53.40                       | -2.21                  | 74.00        | -20.60      | 2.50       | 352.50    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.3888894GHz    | 51.04                          | -2.81                  | 54.00        | -2.96       | 1.00       | 282.90    | Vertical     | Passed   |
| 2. | 2.4953427GHz    | 51.78                          | -2.24                  | 54.00        | -2.22       | 2.50       | 161.60    | Vertical     | Passed   |
| 3. | 2.3894597GHz    | 52.05                          | -2.87                  | 54.00        | -1.95       | 2.00       | 248.10    | Horizontal   | Passed   |
| 4. | 2.4930615GHz    | 51.70                          | -2.21                  | 54.00        | -2.30       | 2.50       | 255.50    | Horizontal   | Passed   |

Overall Graphs:





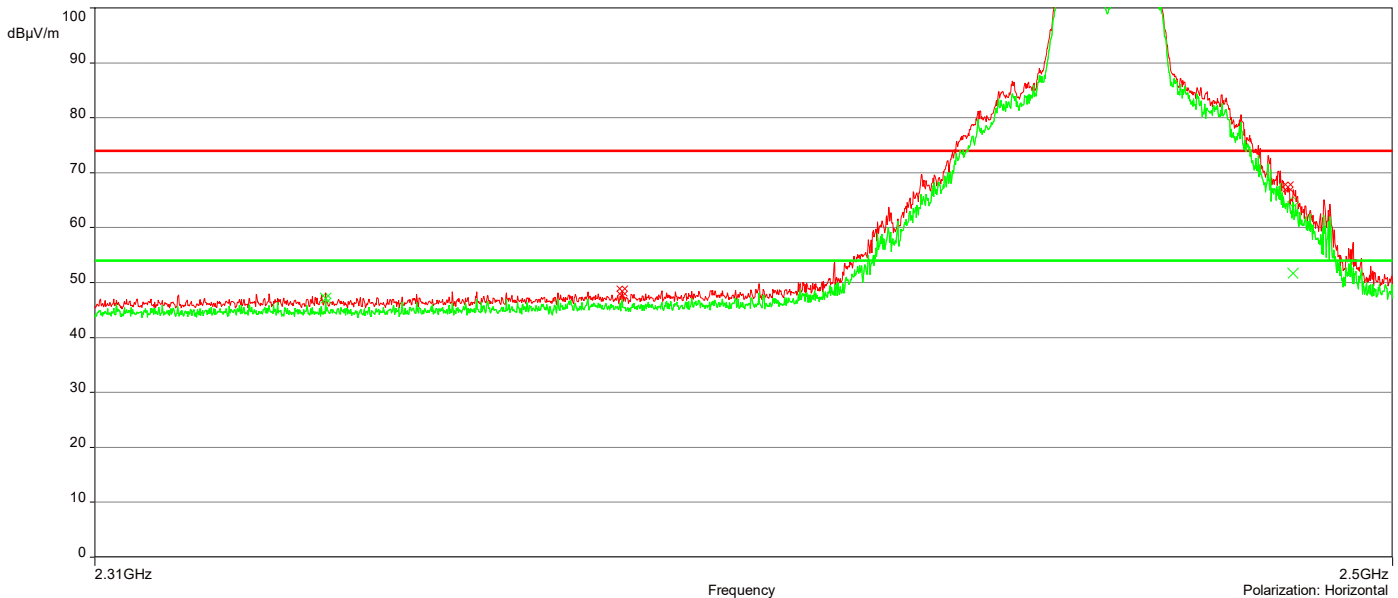
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11g\_6Mbps\_Ch 10

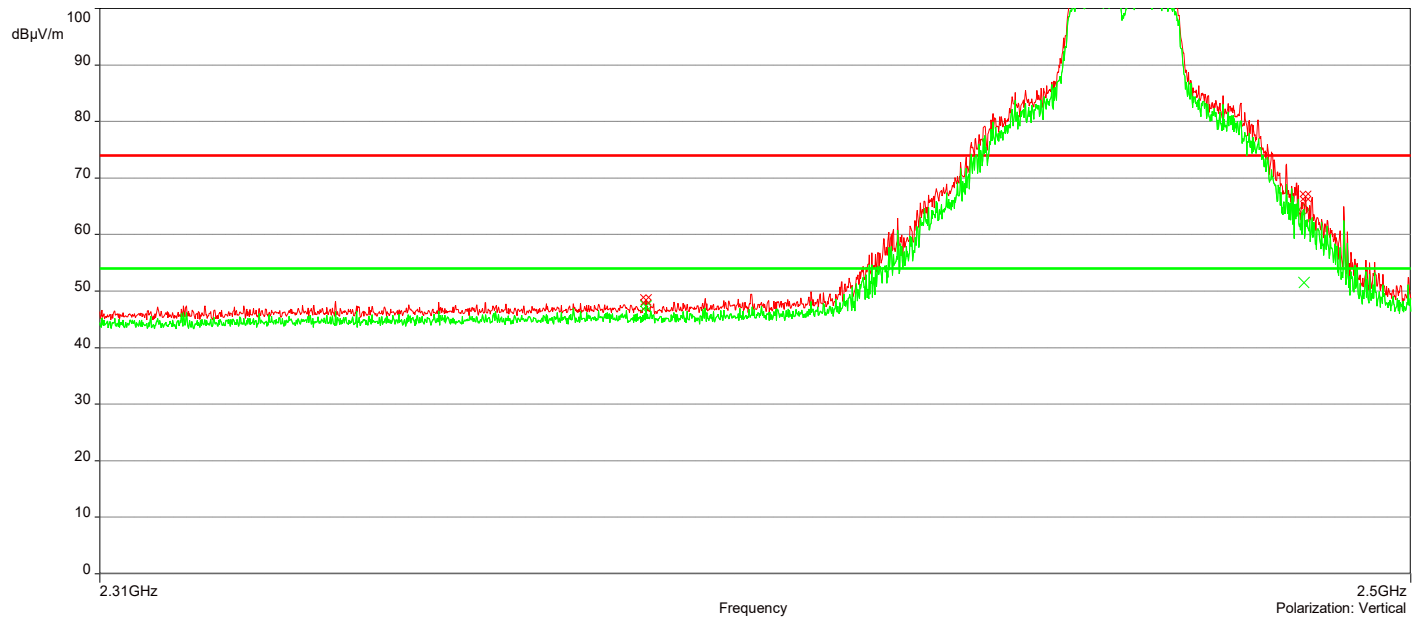
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| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3873687GHz       | 48.43                             | -2.82                     | 74.00           | -25.57         | 2.50       | 166.80    | Vertical     | Passed    |
| 2. | 2.4842221GHz       | 66.71                             | -2.30                     | 74.00           | -7.29          | 1.00       | 280.60    | Vertical     | Passed    |
| 3. | 2.3853727GHz       | 48.46                             | -2.93                     | 74.00           | -25.54         | 1.00       | 109.10    | Horizontal   | Passed    |
| 4. | 2.4841271GHz       | 67.37                             | -2.22                     | 74.00           | -6.63          | 2.50       | 249.10    | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.3873687GHz       | 47.33                                   | -2.82                     | 54.00           | -6.67          | 2.50       | 166.80    | Vertical     | Passed   |
| 2. | 2.483937GHz        | 51.49                                   | -2.30                     | 54.00           | -2.51          | 1.00       | 282.90    | Vertical     | Passed   |
| 3. | 2.3426963GHz       | 47.08                                   | -3.31                     | 54.00           | -6.92          | 1.50       | 196.20    | Horizontal   | Passed   |
| 4. | 2.4848874GHz       | 51.71                                   | -2.22                     | 54.00           | -2.29          | 2.50       | 246.90    | Horizontal   | Passed   |

Overall Graphs:





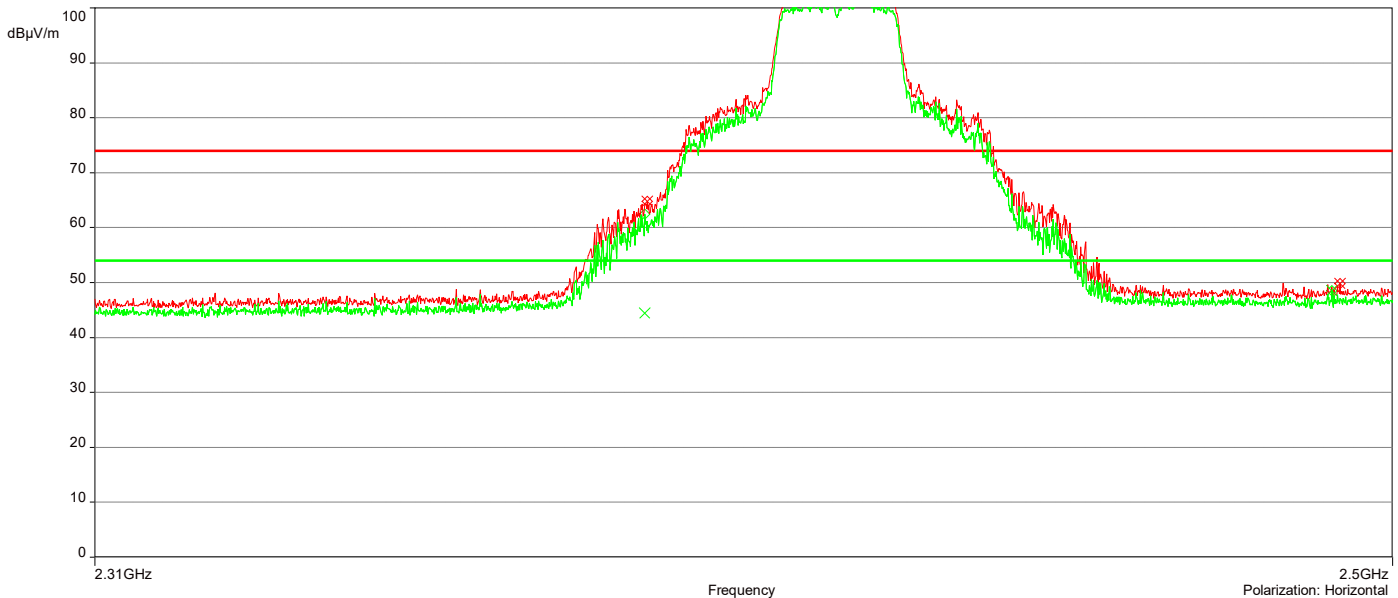
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11n\_MCS0\_Ch 2

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| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3887944GHz       | 67.23                             | -2.81                     | 74.00           | -6.77          | 1.00       | 279.70    | Vertical     | Passed    |
| 2. | 2.49002GHz         | 50.06                             | -2.24                     | 74.00           | -23.94         | 1.00       | 282.60    | Vertical     | Passed    |
| 3. | 2.3890795GHz       | 64.75                             | -2.87                     | 74.00           | -9.25          | 1.50       | 241.80    | Horizontal   | Passed    |
| 4. | 2.492016GHz        | 49.85                             | -2.21                     | 74.00           | -24.15         | 2.50       | 250.70    | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.3895548GHz       | 50.05                                   | -2.80                     | 54.00           | -3.95          | 1.00       | 283.10    | Vertical     | Passed   |
| 2. | 2.4967684GHz       | 48.12                                   | -2.24                     | 54.00           | -5.88          | 1.00       | 249.70    | Vertical     | Passed   |
| 3. | 2.3886993GHz       | 44.44                                   | -2.88                     | 54.00           | -9.56          | 2.50       | 241.10    | Horizontal   | Passed   |
| 4. | 2.4907804GHz       | 48.49                                   | -2.21                     | 54.00           | -5.51          | 1.50       | 43.40     | Horizontal   | Passed   |

Overall Graphs:





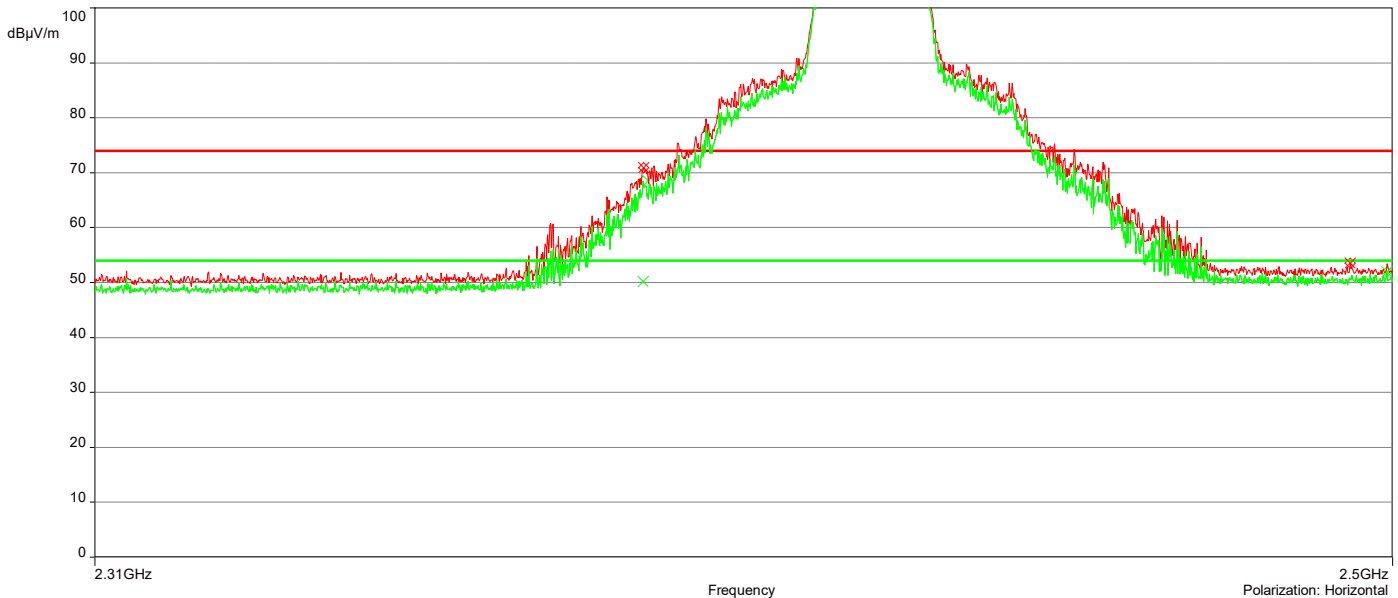
J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11n\_MCS0\_Ch 3

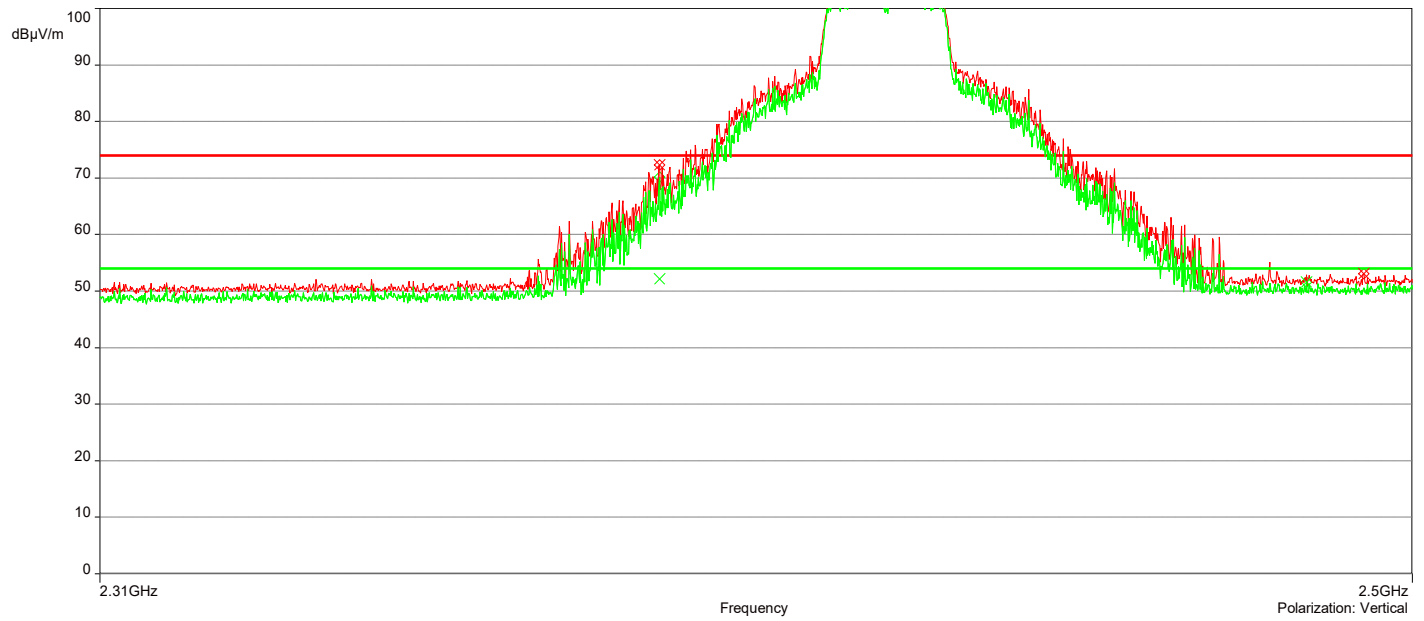
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| No | Frequency<br>(MHz) | Level Peak<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|--------------------|-----------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|-----------|
| 1. | 2.3891746GHz       | 72.28                             | -2.81                     | 74.00           | -1.72          | 1.00       | 274.50    | Vertical     | Passed    |
| 2. | 2.4926813GHz       | 53.03                             | -2.24                     | 74.00           | -20.97         | 1.50       | 307.00    | Vertical     | Passed    |
| 3. | 2.3885093GHz       | 70.89                             | -2.88                     | 74.00           | -3.11          | 2.00       | 247.50    | Horizontal   | Passed    |
| 4. | 2.4935368GHz       | 53.51                             | -2.21                     | 74.00           | -20.49         | 3.00       | 146.90    | Horizontal   | Passed    |

| No | Frequency<br>(MHz) | Level<br>Average<br>Reading<br>(dBμV/m) | Correction<br>Factor (dB) | Limit<br>dBμV/m | Margin<br>(dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|--------------------|-----------------------------------------|---------------------------|-----------------|----------------|------------|-----------|--------------|----------|
| 1. | 2.3891746GHz       | 52.15                                   | -2.81                     | 54.00           | -1.85          | 1.00       | 274.50    | Vertical     | Passed   |
| 2. | 2.4841271GHz       | 51.55                                   | -2.30                     | 54.00           | -2.45          | 3.50       | 69.50     | Vertical     | Passed   |
| 3. | 2.3884142GHz       | 50.24                                   | -2.88                     | 54.00           | -3.76          | 3.00       | 241.10    | Horizontal   | Passed   |
| 4. | 2.4991446GHz       | 51.92                                   | -2.20                     | 54.00           | -2.08          | 3.50       | 159.50    | Horizontal   | Passed   |

Overall Graphs:





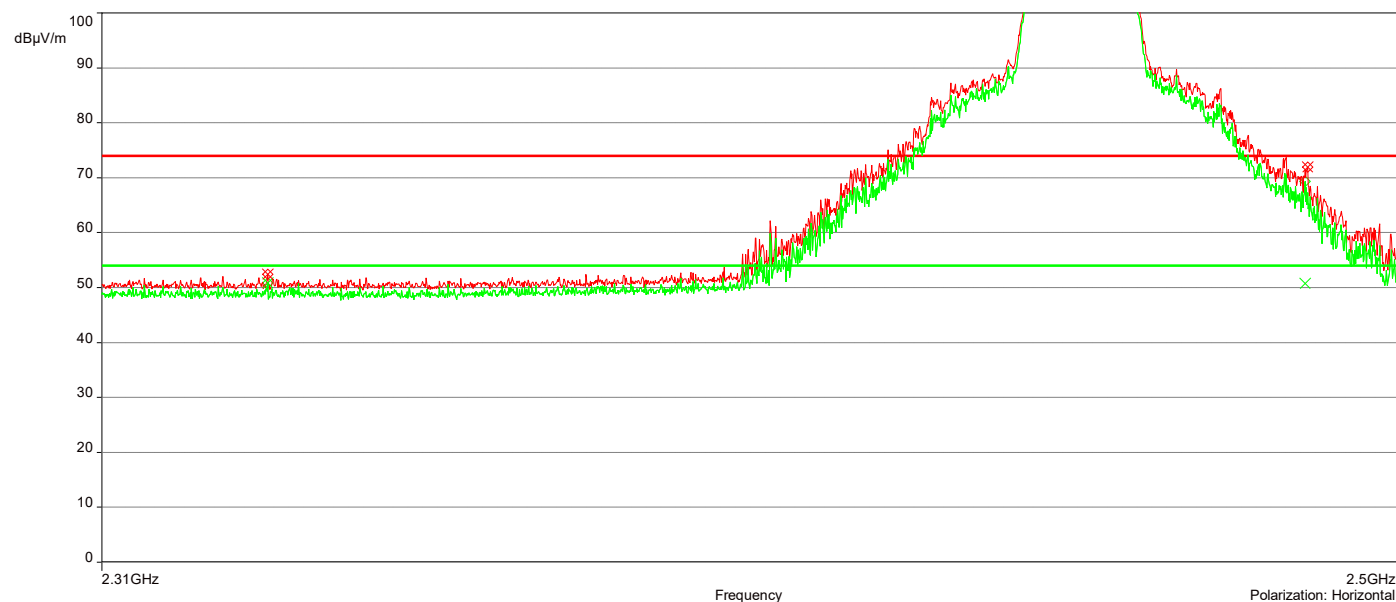
**J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11n\_MCS0\_Ch 9**

2/21/2024 2:53:19 PM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.3733967GHz    | 52.61                       | -2.91                  | 74.00        | -21.39      | 3.00       | 111.90    | Vertical     | Passed    |
| 2. | 2.486028GHz     | 72.11                       | -2.28                  | 74.00        | -1.89       | 1.00       | 275.70    | Vertical     | Passed    |
| 3. | 2.3334767GHz    | 52.45                       | -3.27                  | 74.00        | -21.55      | 2.50       | 119.50    | Horizontal   | Passed    |
| 4. | 2.486028GHz     | 71.99                       | -2.22                  | 74.00        | -2.01       | 1.00       | 245.50    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.3733967GHz    | 51.42                          | -2.91                  | 54.00        | -2.58       | 3.00       | 111.90    | Vertical     | Passed   |
| 2. | 2.4837469GHz    | 53.75                          | -2.30                  | 54.00        | -0.25       | 1.00       | 275.90    | Vertical     | Passed   |
| 3. | 2.3334767GHz    | 50.84                          | -3.27                  | 54.00        | -3.16       | 2.50       | 119.50    | Horizontal   | Passed   |
| 4. | 2.4856478GHz    | 50.78                          | -2.22                  | 54.00        | -3.22       | 1.00       | 243.10    | Horizontal   | Passed   |

Overall Graphs:





**J23220\_W300#1\_2.4G\_Restricted Bandedge\_802.11n\_MCS0\_Ch 10**

2/16/2024 9:23:50 AM

| No | Frequency (MHz) | Level Peak Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgement |
|----|-----------------|-----------------------------|------------------------|--------------|-------------|------------|-----------|--------------|-----------|
| 1. | 2.3887944GHz    | 48.77                       | -2.81                  | 74.00        | -25.23      | 1.00       | 277.70    | Vertical     | Passed    |
| 2. | 2.484032GHz     | 64.64                       | -2.30                  | 74.00        | -9.36       | 1.00       | 280.90    | Vertical     | Passed    |
| 3. | 2.3584742GHz    | 48.68                       | -3.29                  | 74.00        | -25.32      | 2.00       | 198.30    | Horizontal   | Passed    |
| 4. | 2.4838419GHz    | 68.15                       | -2.22                  | 74.00        | -5.85       | 2.00       | 249.10    | Horizontal   | Passed    |

| No | Frequency (MHz) | Level Average Reading (dBμV/m) | Correction Factor (dB) | Limit dBμV/m | Margin (dB) | Height (m) | Angle (°) | Polarization | Judgment |
|----|-----------------|--------------------------------|------------------------|--------------|-------------|------------|-----------|--------------|----------|
| 1. | 2.3887944GHz    | 47.49                          | -2.81                  | 54.0074.00   | -6.51       | 1.00       | 277.70    | Vertical     | Passed   |
| 2. | 2.484032GHz     | 46.68                          | -2.30                  | 54.0074.00   | -7.32       | 1.00       | 280.90    | Vertical     | Passed   |
| 3. | 2.3584742GHz    | 47.78                          | -3.29                  | 54.0074.00   | -6.22       | 2.00       | 198.30    | Horizontal   | Passed   |
| 4. | 2.4838419GHz    | 47.32                          | -2.22                  | 54.0074.00   | -6.68       | 2.00       | 249.10    | Horizontal   | Passed   |

Overall Graphs:



