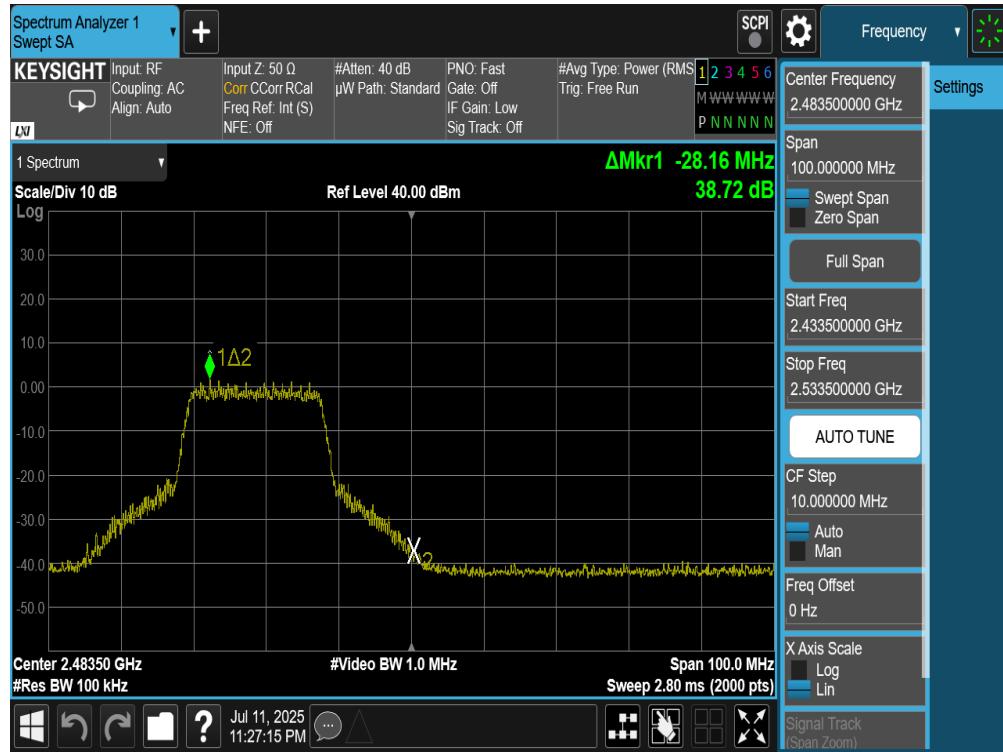


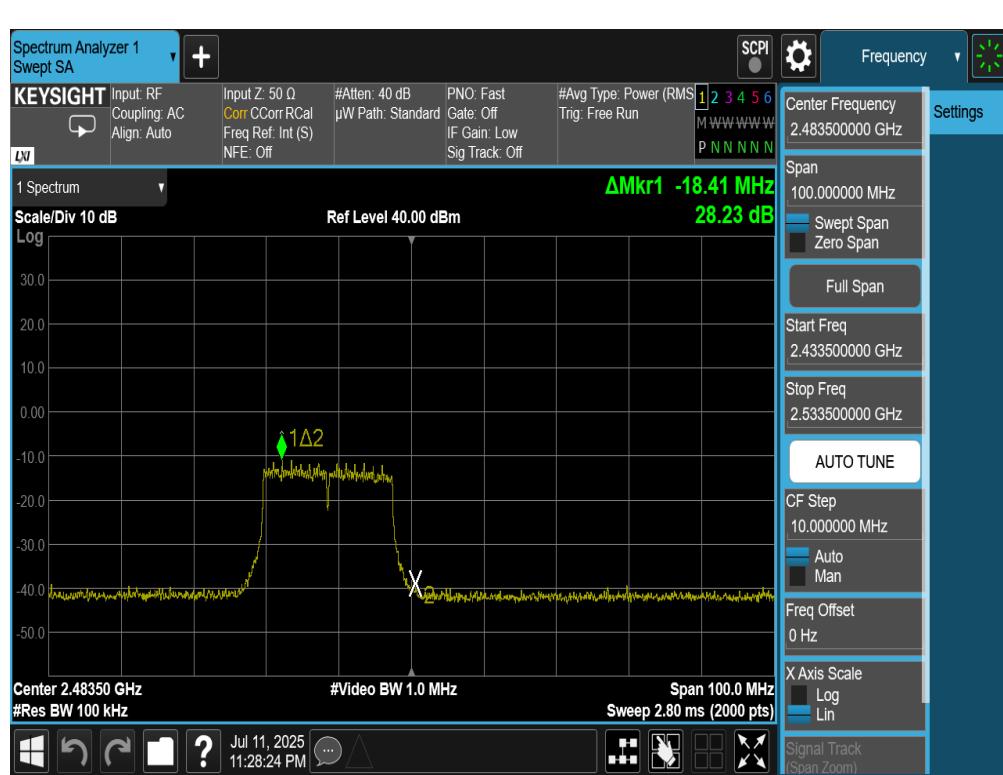


Plot 7-49. Band Edge Plot (802.11n (2.4GHz) – Ch. 10) – MCS7



Plot 7-50. Band Edge Plot (802.11n (2.4GHz) – Ch. 11) – MCS7

FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	Approved by: Technical Manager
<b>Test Report S/N:</b> 1C2503270029-08.BCG	<b>Test Dates:</b> 6/5/2025- 07/13/2025	<b>EUT Type:</b> Watch	Page 46 of 77



FCC ID: BCG-A3281 IC: 579C-A3281		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 47 of 77

## 7.6 Conducted Spurious Emissions

§15.247(d); RSS-247 [5.5]

### Test Overview and Limit

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. For the following out of band conducted spurious emissions plots, the EUT was investigated in all available data rates for "b", "g", "n" modes. The worst case spurious emissions for the 2.4GHz band were found while transmitting in "b" mode at 1 Mbps and are shown in the plots below.

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

### Test Procedure Used

ANSI C63.10-2020 – Subclause 11.11.3  
KDB 558074 D01 v05r02 – Section 8.5

### Test Settings

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

### Test Setup

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



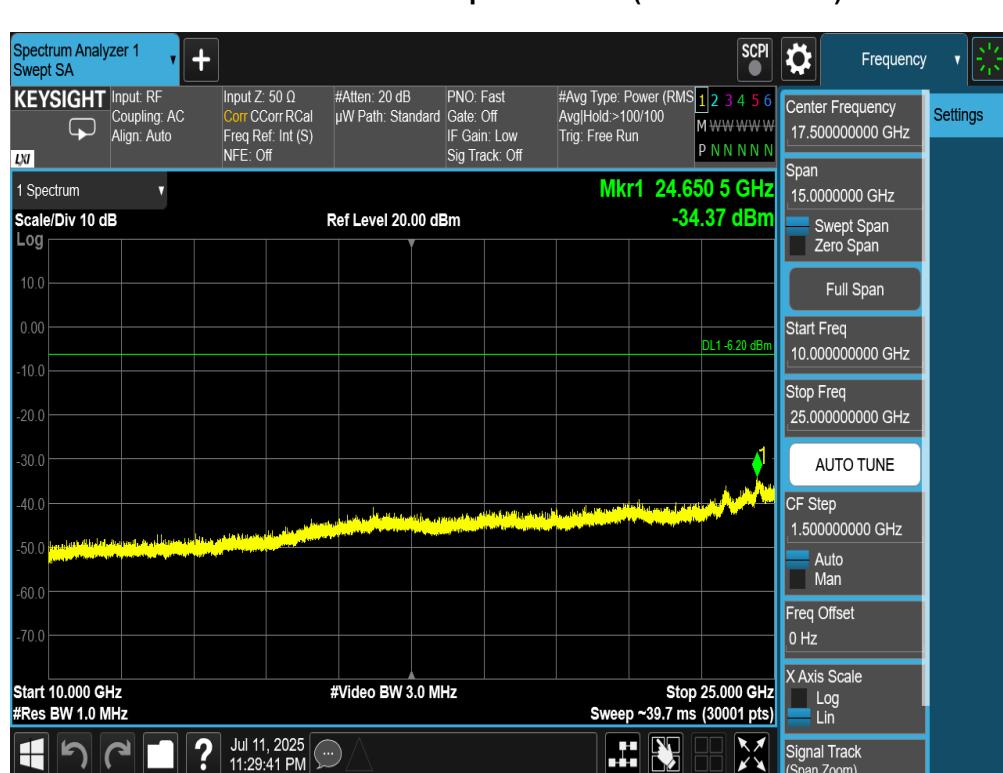
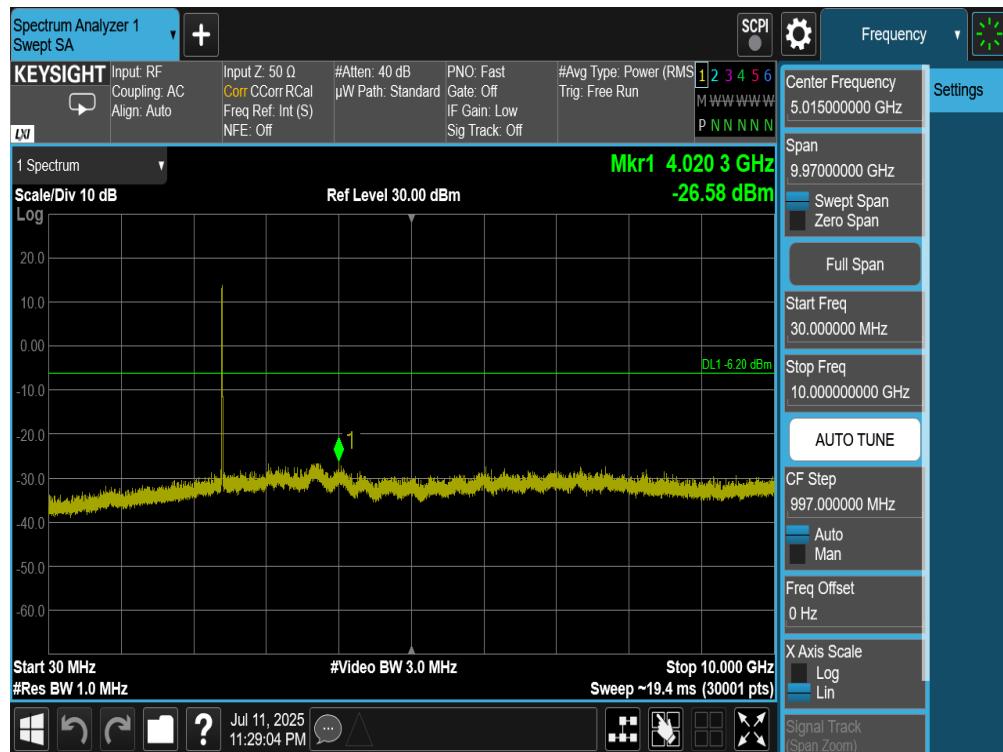
**Figure 7-5. Test Instrument & Measurement Setup**

FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 48 of 77

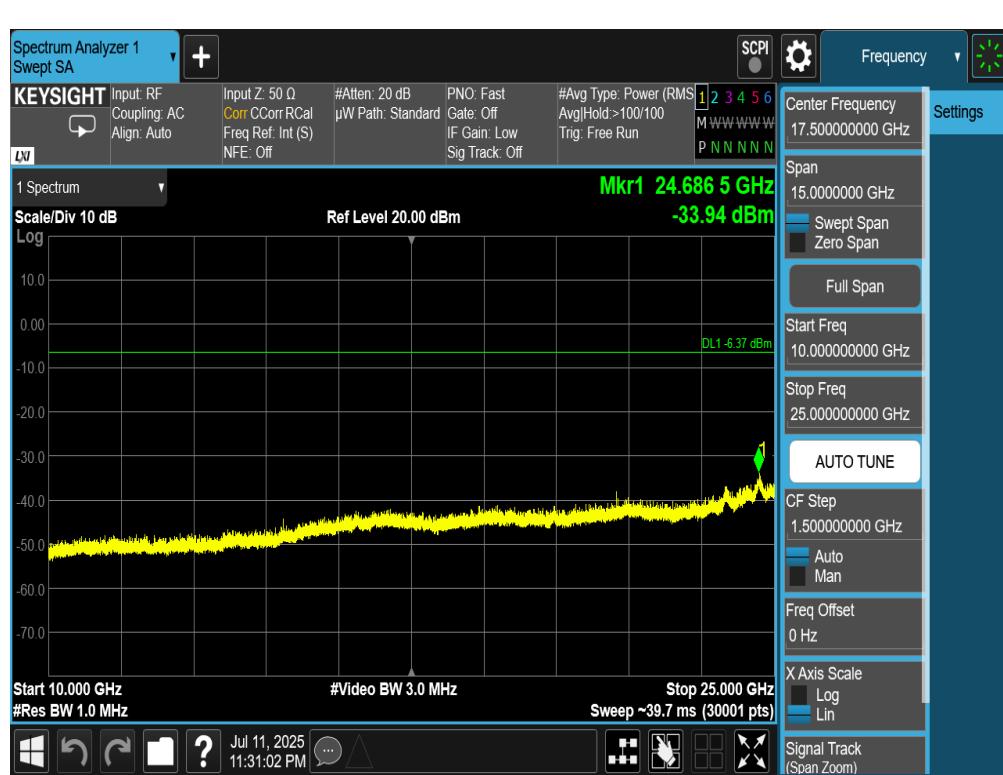
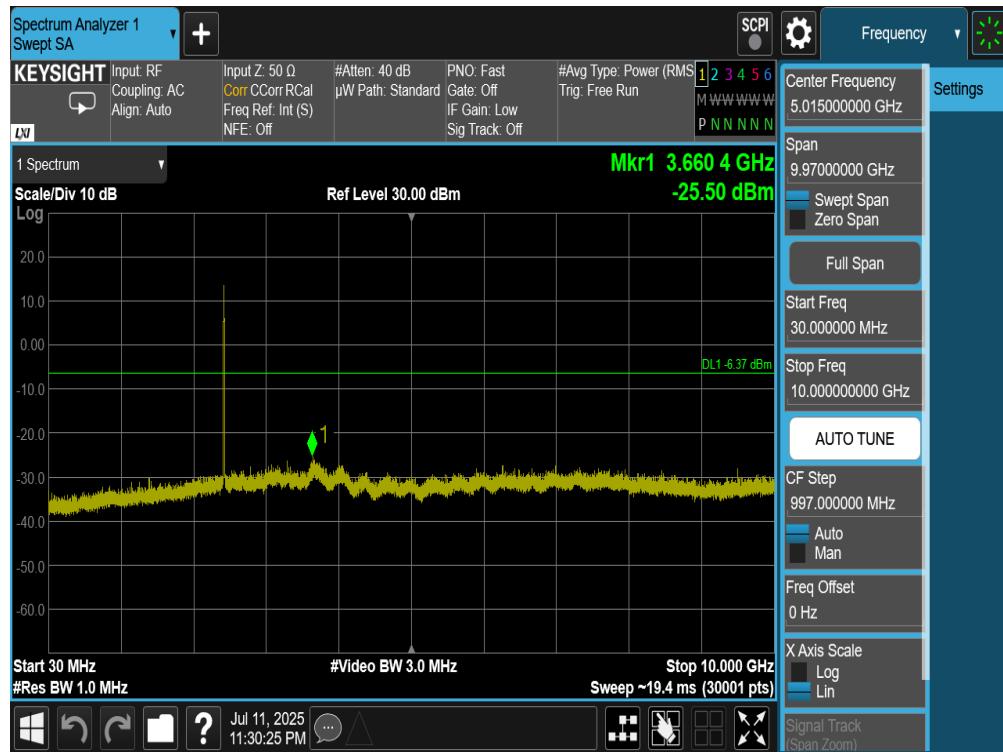
**Test Notes**

1. RBW was set to 1MHz rather than 100kHz in order to increase the measurement speed.
2. The display line shown in the following plots denotes the limit at 20dB below the fundamental emission level measured in a 100kHz bandwidth. However, since the traces in the following plots are measured with a 1MHz RBW, the display line may not necessarily appear to be 20dB below the level of the fundamental in a 1MHz bandwidth.
3. For plots showing conducted spurious emissions near the limit, the frequencies were investigated with a reduced RBW to ensure that no emissions were present.
4. The conducted spurious emissions were measured to relative limits.
5. The unit was tested with all possible modes and only the highest emission is reported.

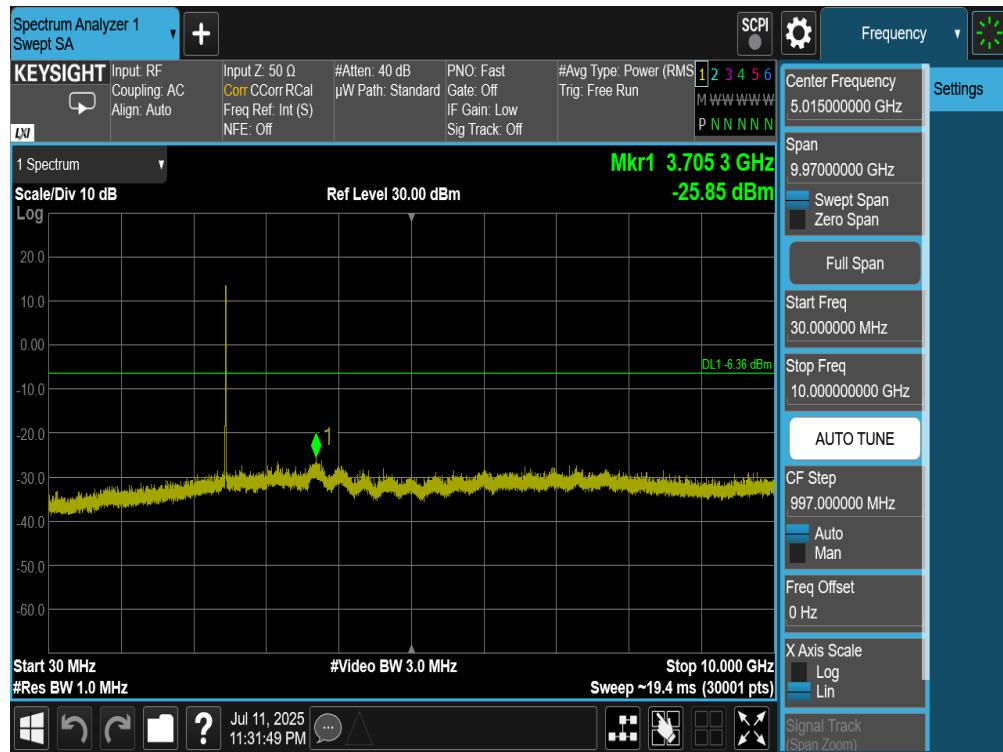
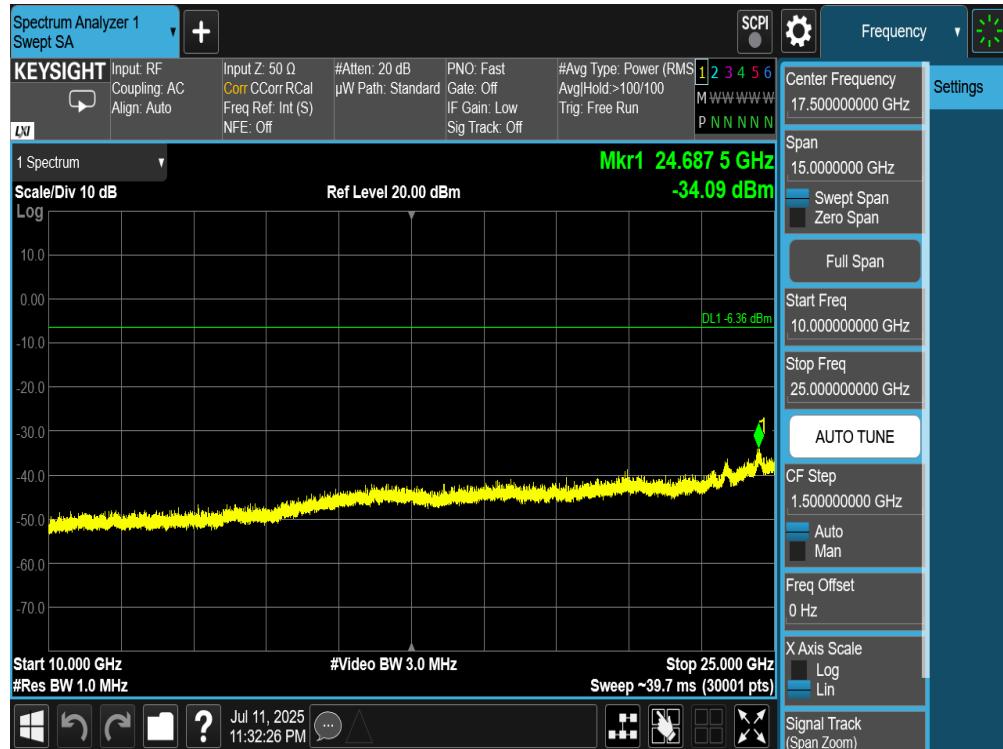
FCC ID: BCG-A3281 IC: 579C-A3281	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 49 of 77



FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 50 of 77



FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 51 of 77


**Plot 7-57. Conducted Spurious Plot (802.11b – Ch. 11)**

**Plot 7-58. Conducted Spurious Plot (802.11b – Ch. 11)**

FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 52 of 77

## 7.7 Radiated Spurious Emissions – Above 1 GHz

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

### Test Overview and Limit

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

***All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 7 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-6 per Section 15.209 and RSS-Gen (8.9).***

Frequency	Field Strength [ $\mu$ V/m]	Measured Distance [Meters]
Above 960.0 MHz	500	3

**Table 7-6. Radiated Limits**

### Test Procedures Used

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

### Test Settings

#### Average Field Strength Measurements

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

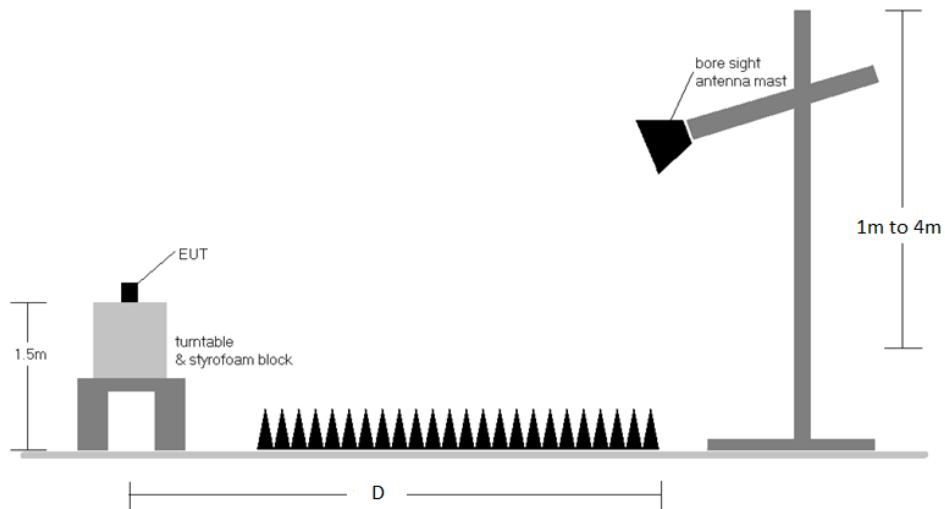
#### Peak Field Strength Measurements

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

FCC ID: BCG-A3281 IC: 579C-A3281	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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## Test Setup

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



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

## Test Notes

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

FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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## Sample Calculations

### Determining Spurious Emissions Levels

- Field Strength Level  $[\text{dB}_{\mu\text{V/m}}]$  = Analyzer Level  $[\text{dBm}] + 107 + \text{AFCL} [\text{dB/m}]$
- AFCL  $[\text{dB/m}]$  = Antenna Factor  $[\text{dB/m}] + \text{Cable Loss} [\text{dB}] - \text{Preamplifier Gain} [\text{dB}]$
- Margin  $[\text{dB}]$  = Field Strength Level  $[\text{dB}_{\mu\text{V/m}}]$  – Limit  $[\text{dB}_{\mu\text{V/m}}]$

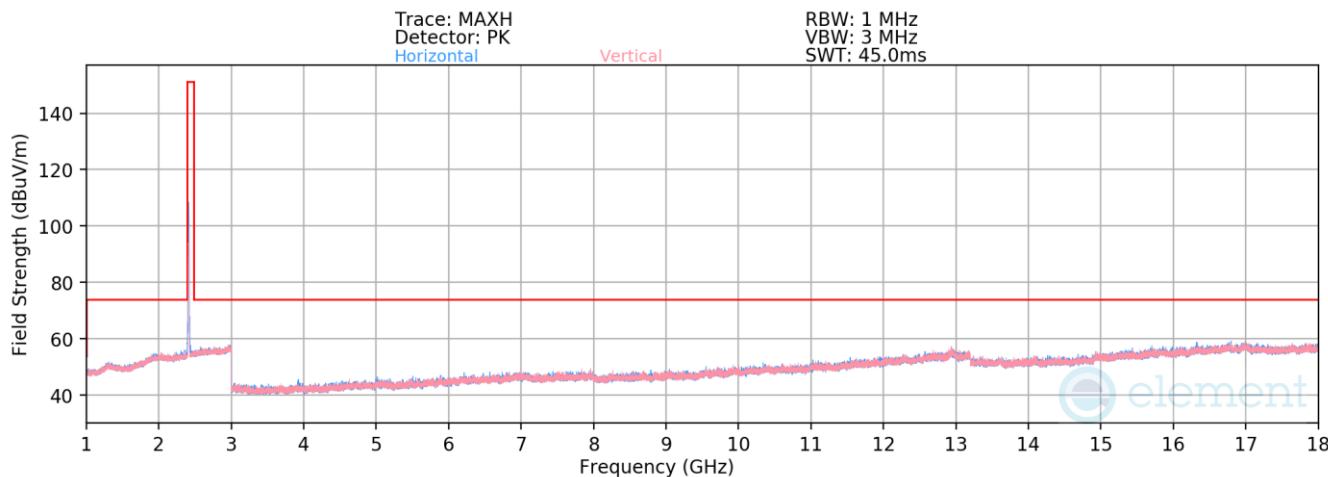
### Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots was calculated using the formula:  
Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

FCC ID: BCG-A3281 IC: 579C-A3281	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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## Radiated Spurious Emission Measurements

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



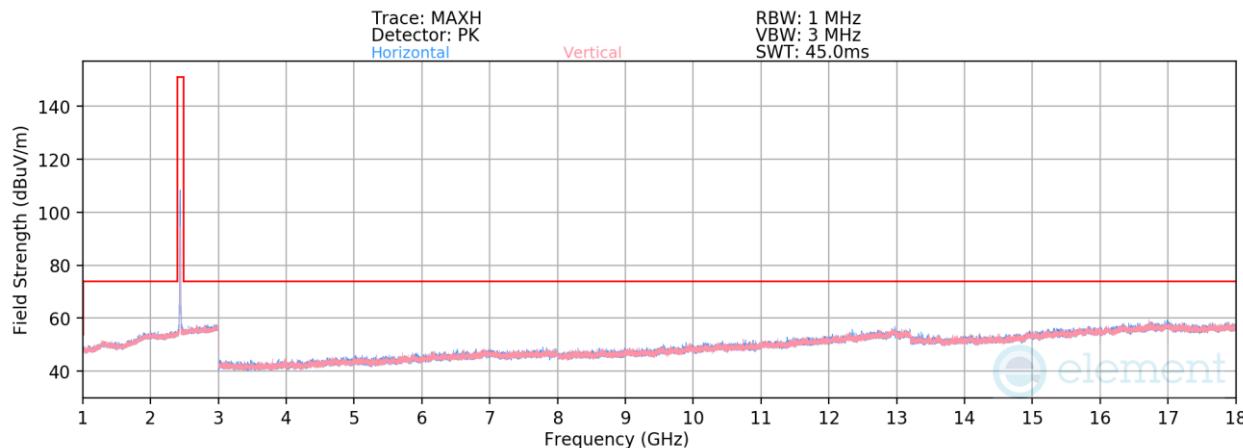
Plot 7-59. Radiated Spurious Emissions above 1GHz (802.11b – Ch. 1)

Mode: 802.11b  
 Data Rate: 1Mbps  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2412MHz  
 Channel: 01

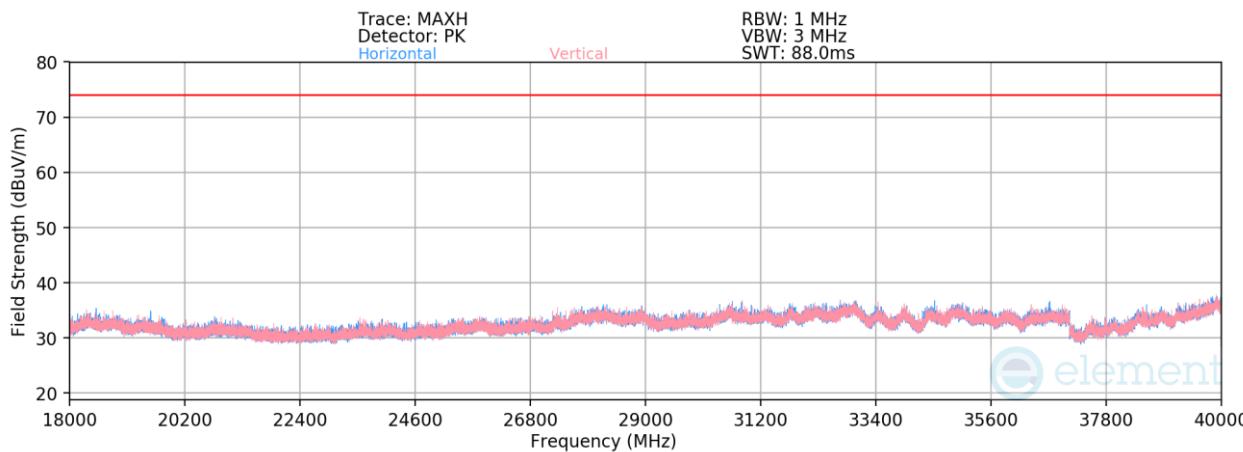
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4824.00	Avg	H	-	-	-80.50	8.16	34.66	53.98	-19.32
4824.00	Peak	H	-	-	-68.43	8.16	46.73	73.98	-27.25
12060.00	Avg	H	-	-	-83.21	17.65	41.44	53.98	-12.54
12060.00	Peak	H	-	-	-71.83	17.60	52.77	73.98	-21.21

Table 7-7. Radiated Measurements

FCC ID: BCG-A3281 IC: 579C-A3281	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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**Plot 7-60. Radiated Spurious Emissions above 1GHz (802.11b – Ch. 6)**



**Plot 7-61. Radiated Spurious Emissions Above 18GHz (802.11b – Ch. 6)**

Mode: 802.11b  
 Data Rate: 1Mbps  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2437MHz  
 Channel: 06

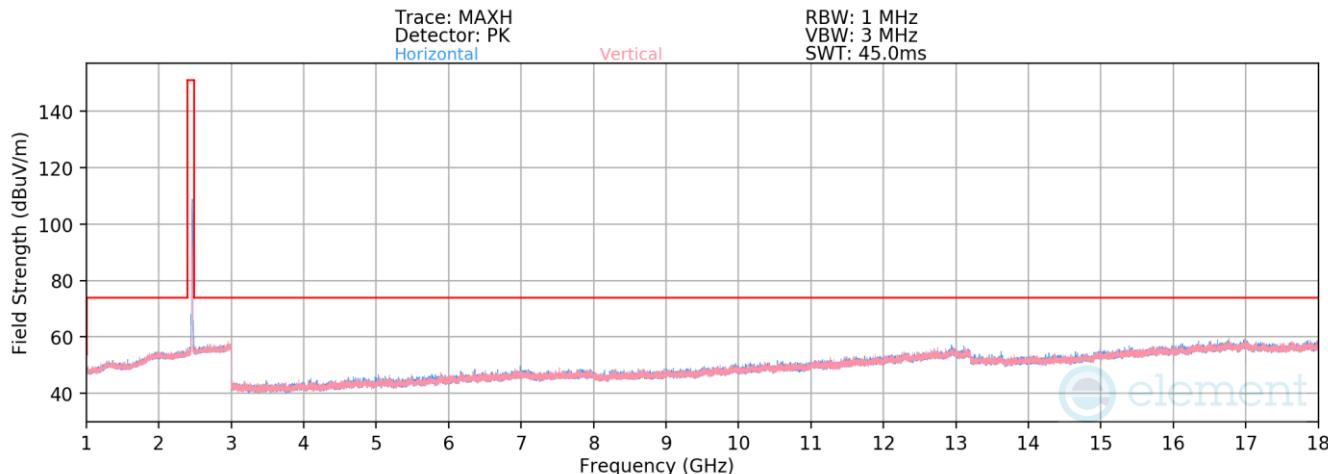
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4874.00	Avg	H	-	-	-80.52	8.16	34.64	53.98	-19.34
4874.00	Peak	H	-	-	-69.74	8.30	45.56	73.98	-28.42
7311.00	Avg	H	-	-	-82.24	11.17	35.94	53.98	-18.04
7311.00	Peak	H	-	-	-71.28	11.26	46.99	73.98	-26.99
12185.00	Avg	H	-	-	-82.78	17.28	41.50	53.98	-12.48
12185.00	Peak	H	-	-	-71.52	17.28	52.76	73.98	-21.22

**Table 7-8. Radiated Measurements**

FCC ID: BCG-A3281 IC: 579C-A3281	 element				MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch				

V 10.6 09/01/2023

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**Plot 7-62. Radiated Spurious Emissions above 1GHz (802.11b – Ch. 11)**

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

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4924.00	Avg	H	-	-	-80.64	7.95	34.31	53.98	-19.67
4924.00	Peak	H	-	-	-69.14	8.18	46.04	73.98	-27.94
7386.00	Avg	H	-	-	-81.74	11.33	36.58	53.98	-17.40
7386.00	Peak	H	-	-	-70.86	11.33	47.47	73.98	-26.51
12310.00	Avg	H	-	-	-83.41	18.63	42.22	53.98	-11.76
12310.00	Peak	H	-	-	-71.62	18.63	54.00	73.98	-19.98

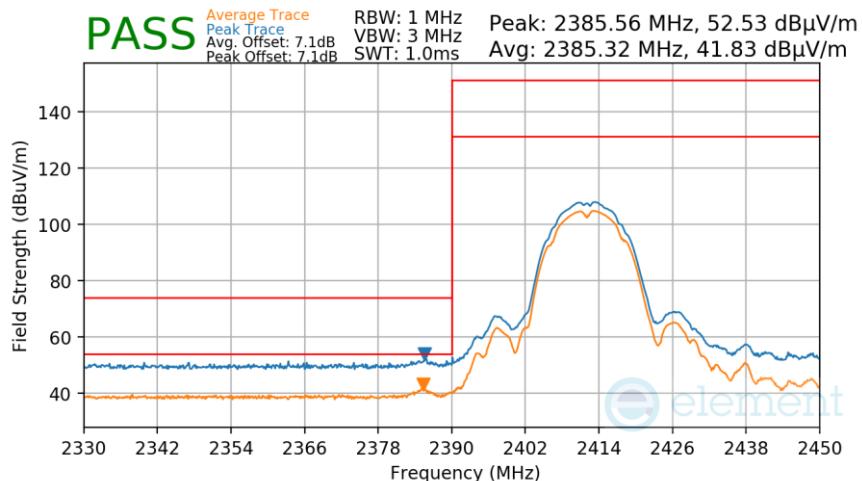
**Table 7-9. Radiated Measurements**

FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 58 of 77

## Radiated Spurious Emission Measurements

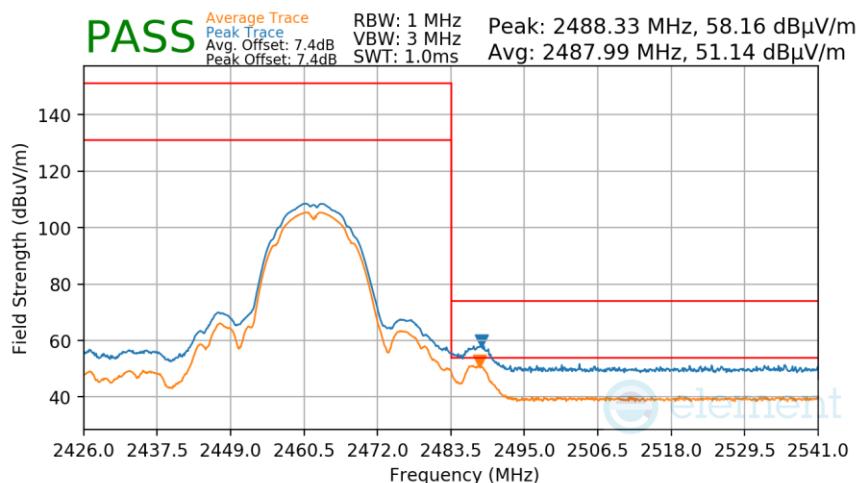
§15.205 §15.209; RSS-Gen [8.9]

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



**Plot 7-63. Radiated Restricted Lower Band Edge Measurement**

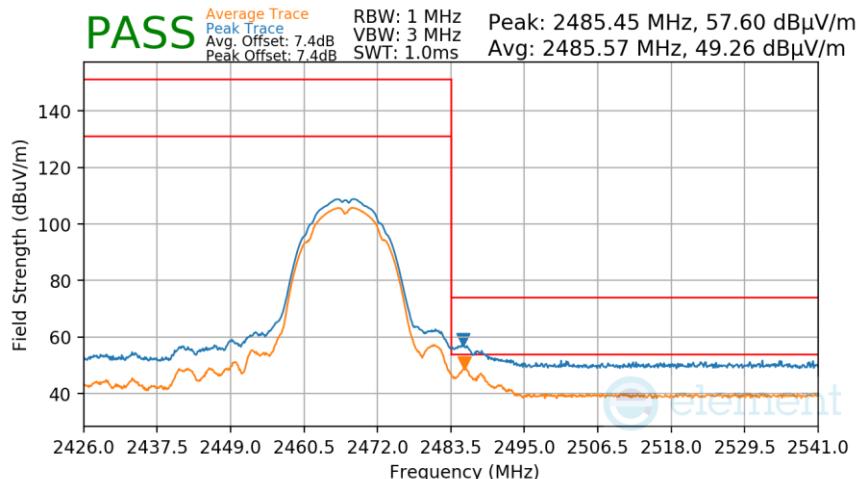
Mode: 802.11b  
 Data Rate: 1Mbps  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2462MHz  
 Channel: 11



**Plot 7-64. Radiated Restricted Upper Band Edge Measurement**

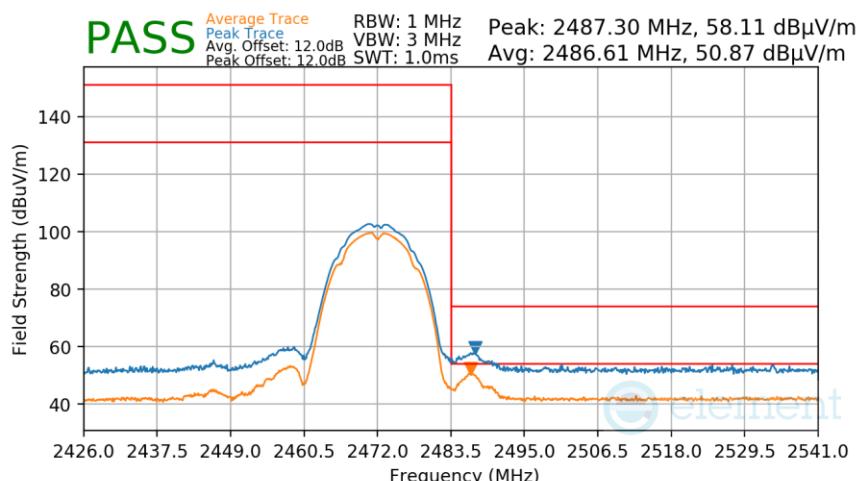
FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Mode: 802.11b  
 Data Rate: 1Mbps  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2467MHz  
 Channel: 12



**Plot 7-65. Radiated Restricted Upper Band Edge Measurement**

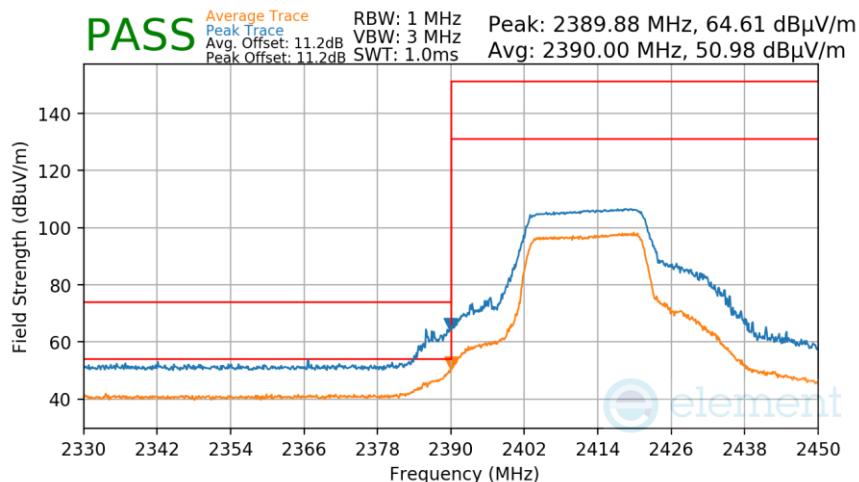
Mode: 802.11b  
 Data Rate: 1Mbps  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2472MHz  
 Channel: 13



**Plot 7-66. Radiated Restricted Upper Band Edge Measurement**

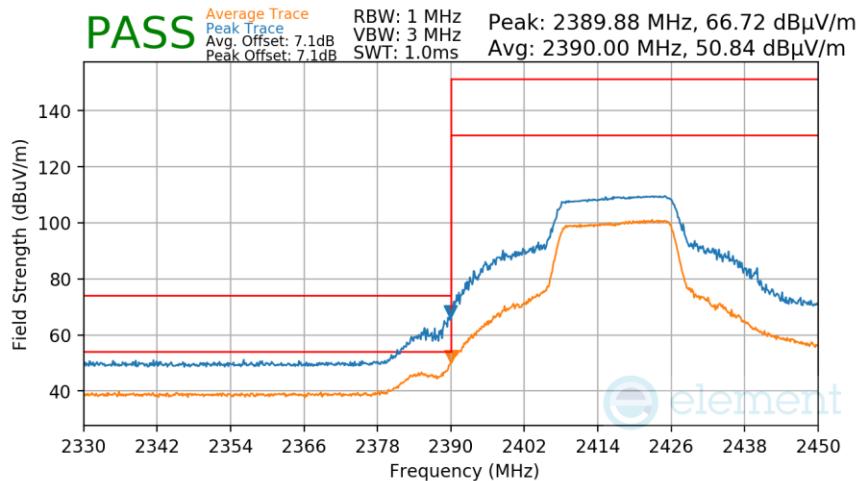
FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Mode: 802.11n  
 Data Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2412MHz  
 Channel: 1



**Plot 7-67. Radiated Restricted Lower Band Edge Measurement**

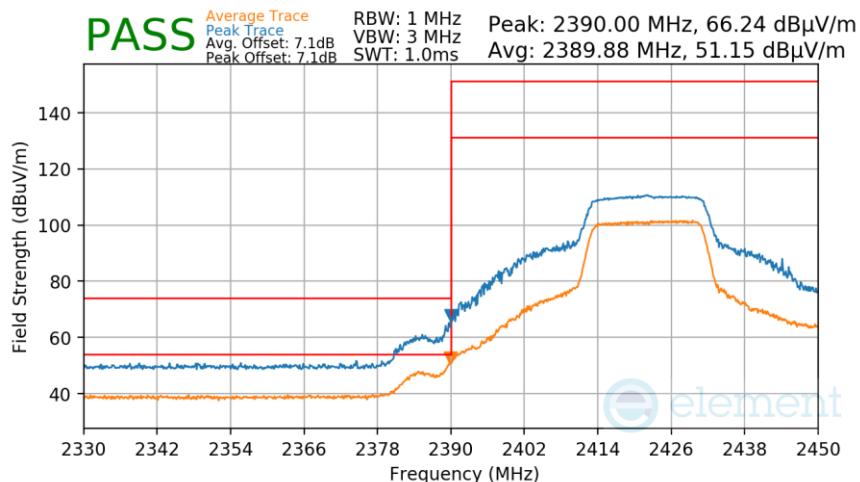
Mode: 802.11n  
 Data Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2417MHz  
 Channel: 2



**Plot 7-68. Radiated Restricted Lower Band Edge Measurement**

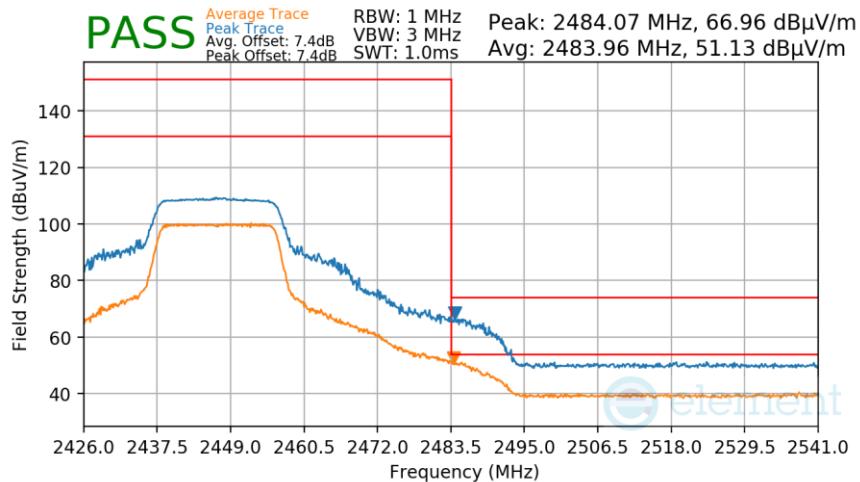
FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 61 of 77

Mode: 802.11n  
 Data Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2422MHz  
 Channel: 3



**Plot 7-69. Radiated Restricted Lower Band Edge Measurement**

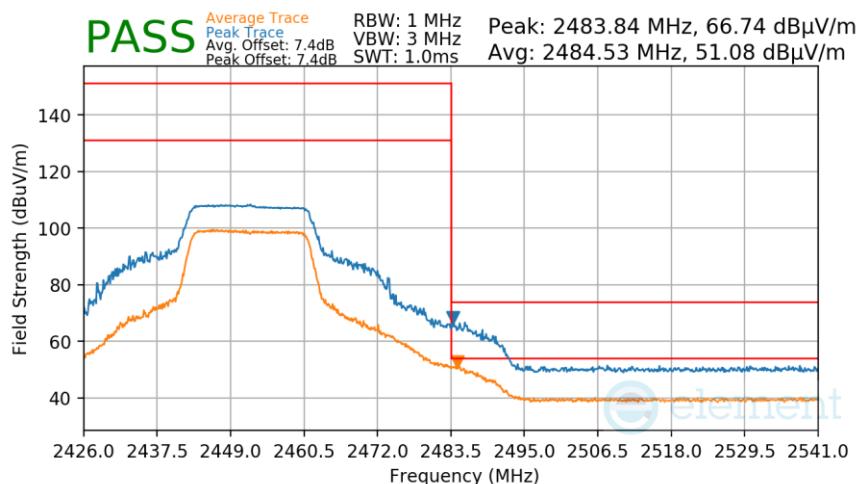
Mode: 802.11n  
 Data Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2447MHz  
 Channel: 8



**Plot 7-70. Radiated Restricted Upper Band Edge Measurement**

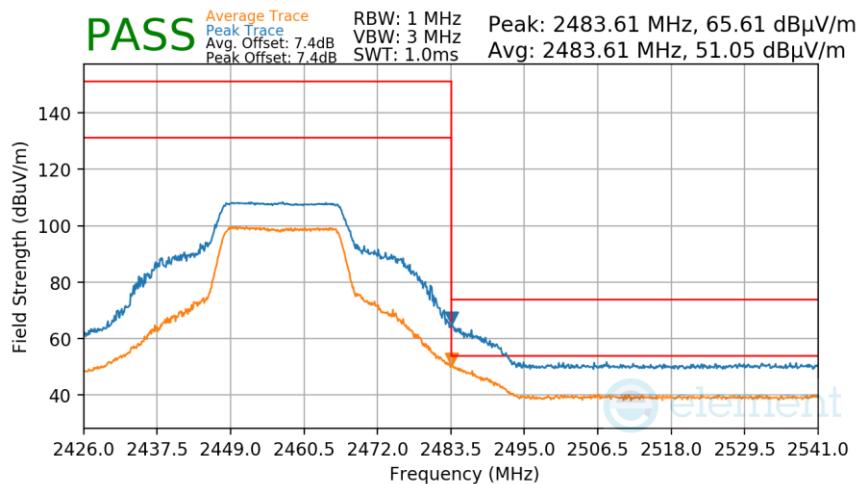
FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 62 of 77

Mode: 802.11n  
 Data Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2452MHz  
 Channel: 9



**Plot 7-71. Radiated Restricted Upper Band Edge Measurement**

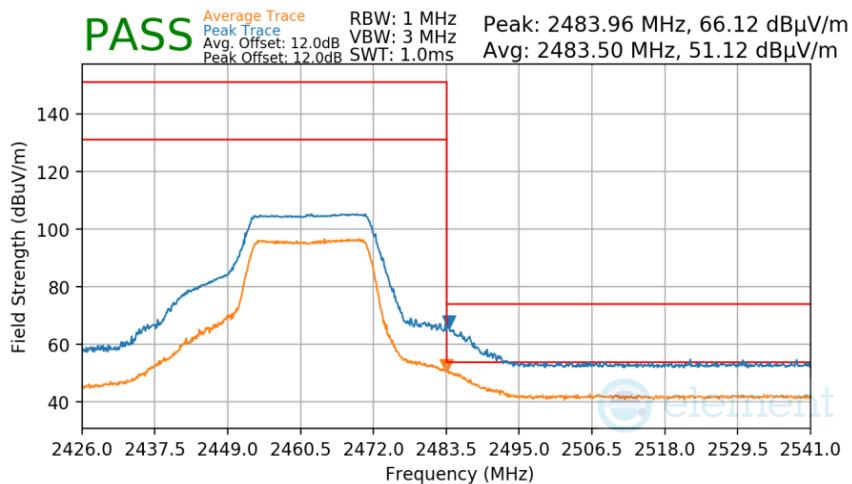
Mode: 802.11n  
 Data Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2457MHz  
 Channel: 10



**Plot 7-72. Radiated Restricted Upper Band Edge Measurement**

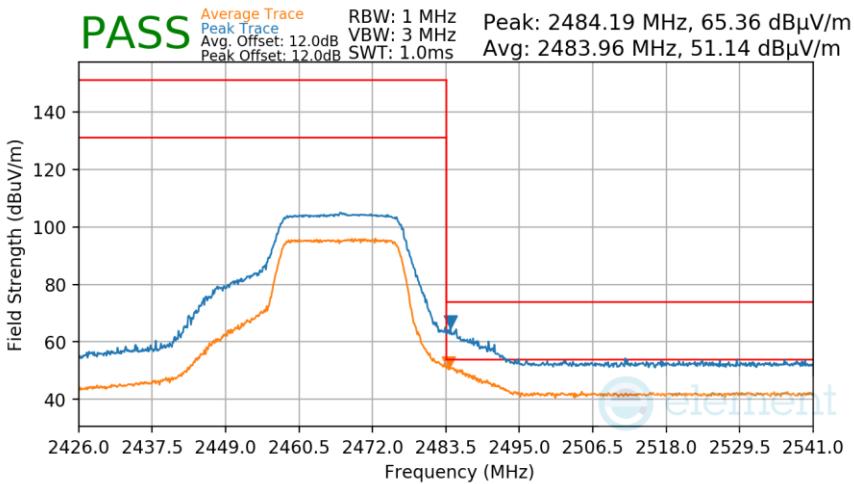
FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 63 of 77

Mode: 802.11n  
 Data Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2462MHz  
 Channel: 11



**Plot 7-73. Radiated Restricted Upper Band Edge Measurement**

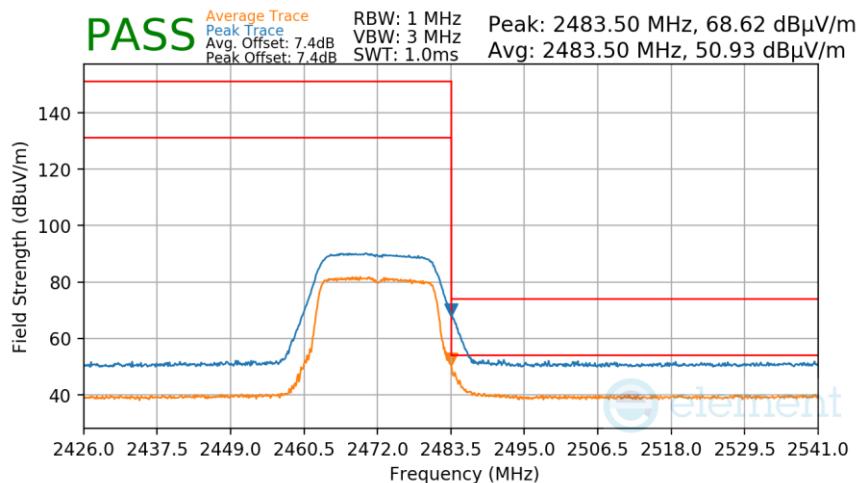
Mode: 802.11n  
 Data Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2467MHz  
 Channel: 12



**Plot 7-74. Radiated Restricted Upper Band Edge Measurement**

FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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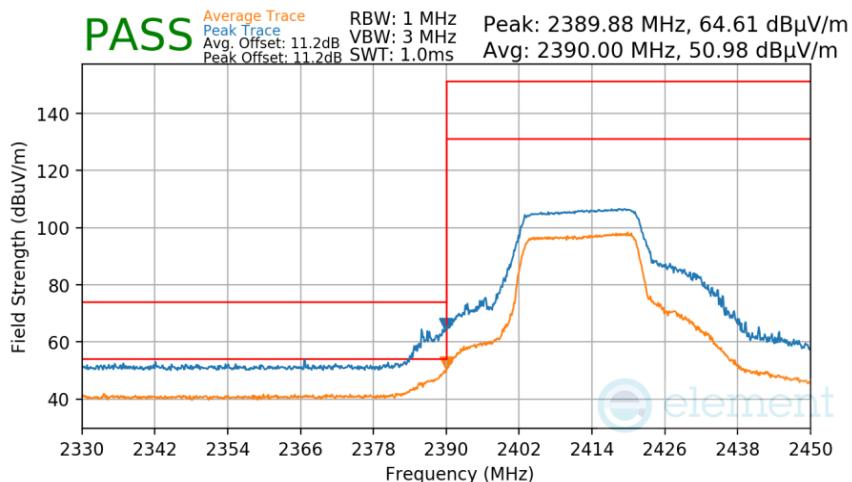
Mode: 802.11n  
 Data Rate: MCS0  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2472MHz  
 Channel: 13



**Plot 7-75. Radiated Restricted Upper Band Edge Measurement**

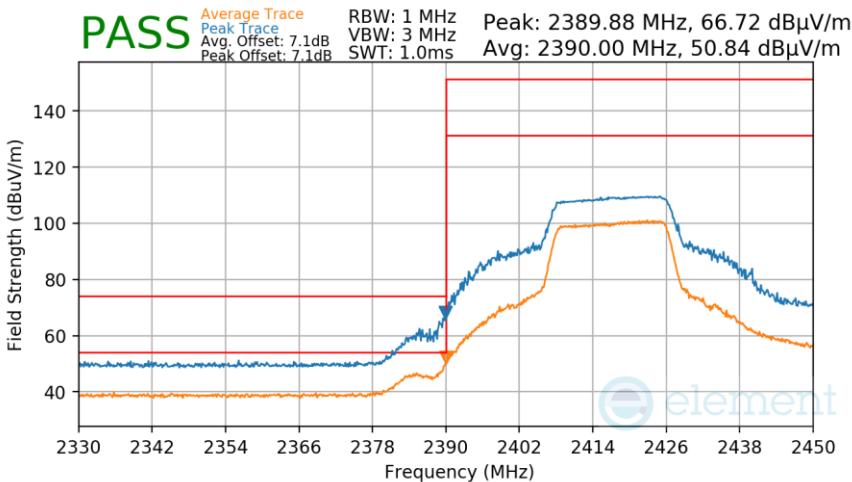
FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	<b>MEASUREMENT REPORT (CERTIFICATION)</b>	Approved by: Technical Manager
Test Report S/N: 1C2503270029-08.BCG	Test Dates: 6/5/2025- 07/13/2025	EUT Type: Watch	Page 65 of 77

Mode: 802.11n  
 Data Rate: MCS7  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2412MHz  
 Channel: 1



**Plot 7-76. Radiated Restricted Lower Band Edge Measurement**

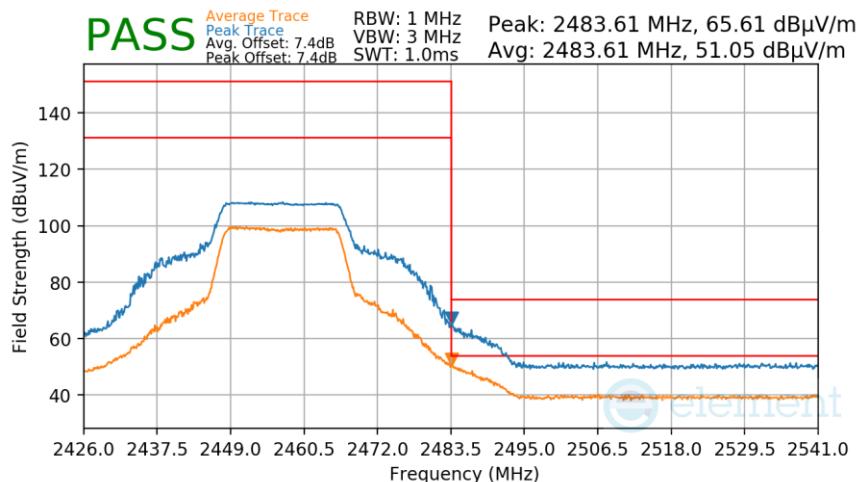
Mode: 802.11n  
 Data Rate: MCS7  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2417MHz  
 Channel: 2



**Plot 7-77. Radiated Restricted Lower Band Edge Measurement**

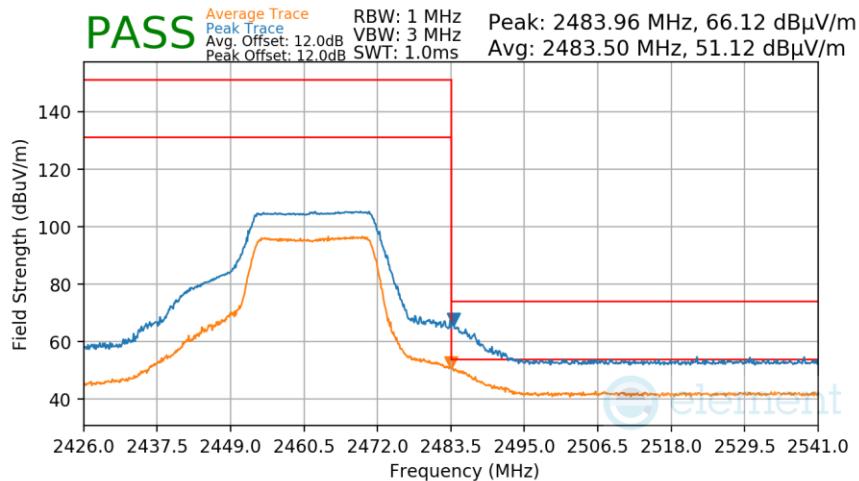
FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Mode: 802.11n  
 Data Rate: MCS7  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2457MHz  
 Channel: 10



**Plot 7-78. Radiated Restricted Upper Band Edge Measurement**

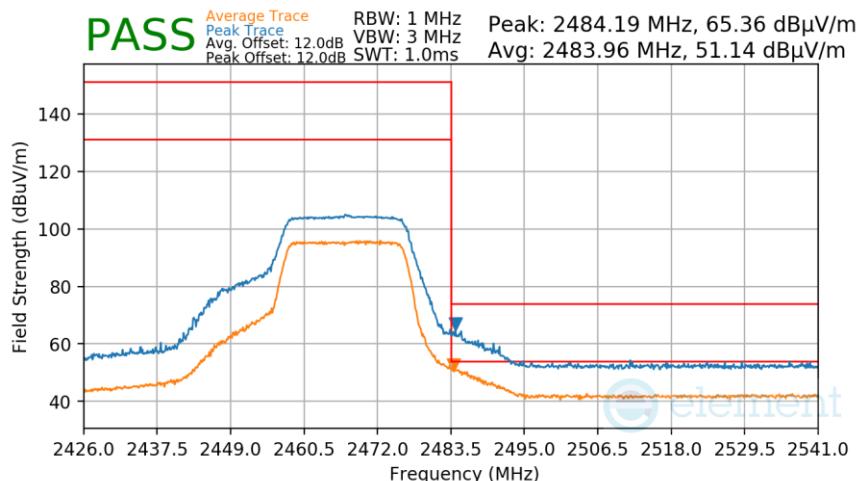
Mode: 802.11n  
 Data Rate: MCS7  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2462MHz  
 Channel: 11



**Plot 7-79. Radiated Restricted Upper Band Edge Measurement**

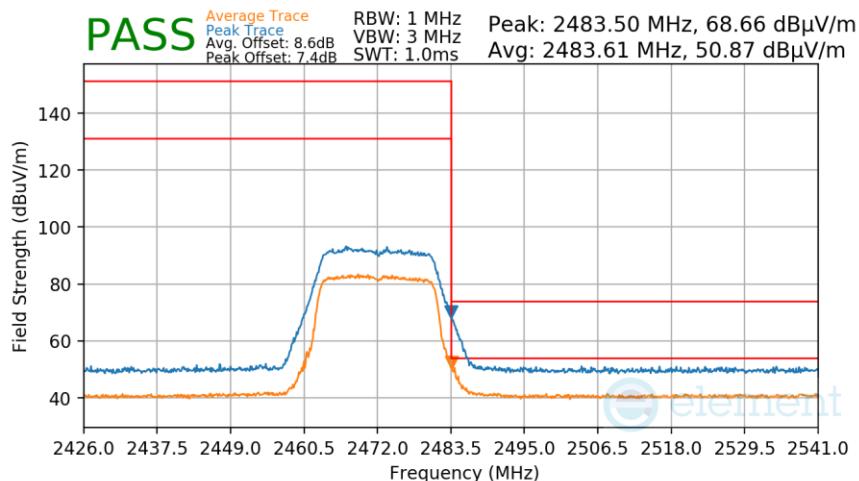
FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Mode: 802.11n  
 Data Rate: MCS7  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2467MHz  
 Channel: 12



**Plot 7-80. Radiated Restricted Upper Band Edge Measurement**

Mode: 802.11n  
 Data Rate: MCS7  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 2472MHz  
 Channel: 13



**Plot 7-81. Radiated Restricted Upper Band Edge Measurement**

FCC ID: BCG-A3281 IC: 579C-A3281	 <b>element</b>		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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## 7.8 Radiated Spurious Emissions – Below 1GHz

§15.209; RSS-Gen [8.9]

### Test Overview and Limit

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

***All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 7 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-10 per Section 15.209 and RSS-Gen (8.9).***

Frequency	Field Strength [ $\mu$ V/m]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

**Table 7-10. Radiated Limits**

### Test Procedures Used

ANSI C63.10-2020

### Test Settings

#### Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

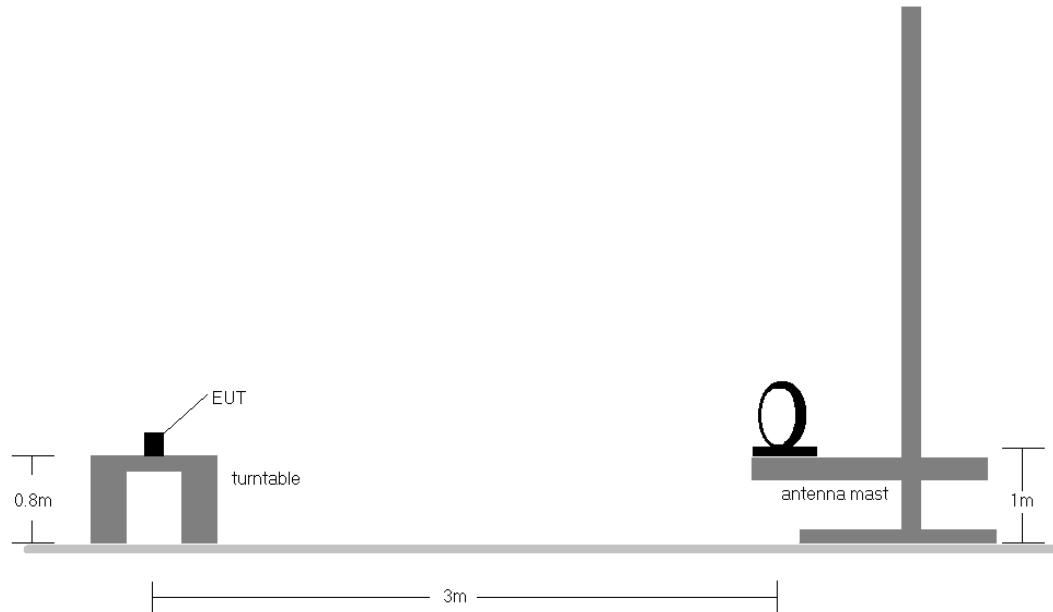
#### Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. VBW = 300kHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold

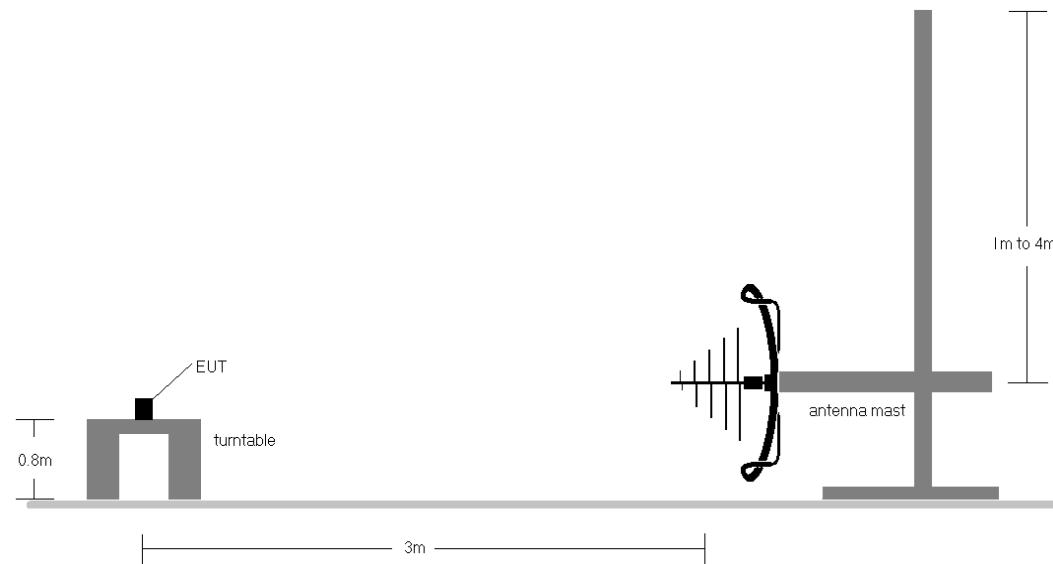
FCC ID: BCG-A3281 IC: 579C-A3281	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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## Test Setup

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



**Figure 7-7. Radiated Test Setup < 30MHz**



**Figure 7-8. Radiated Test Setup < 1GHz**

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## Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen(8.10) are below the limit shown in Table 7-10.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes. For below 30MHz the loop antenna was positioned in 3 orthogonal planes (X front, Y side, Z top) to determine the orientation resulting in the worst case emissions.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector for emissions within 6dB of the limit.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. Both configurations below were investigated, and the worst case has been reported.
  - a. EUT powered by AC/DC adaptor via USB-C cable with magnetic charger
  - b. EUT powered by host PC via USB-C cable with magnetic charger
9. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
10. The unit was tested with all possible modes and only the highest emission is reported.

## Sample Calculations

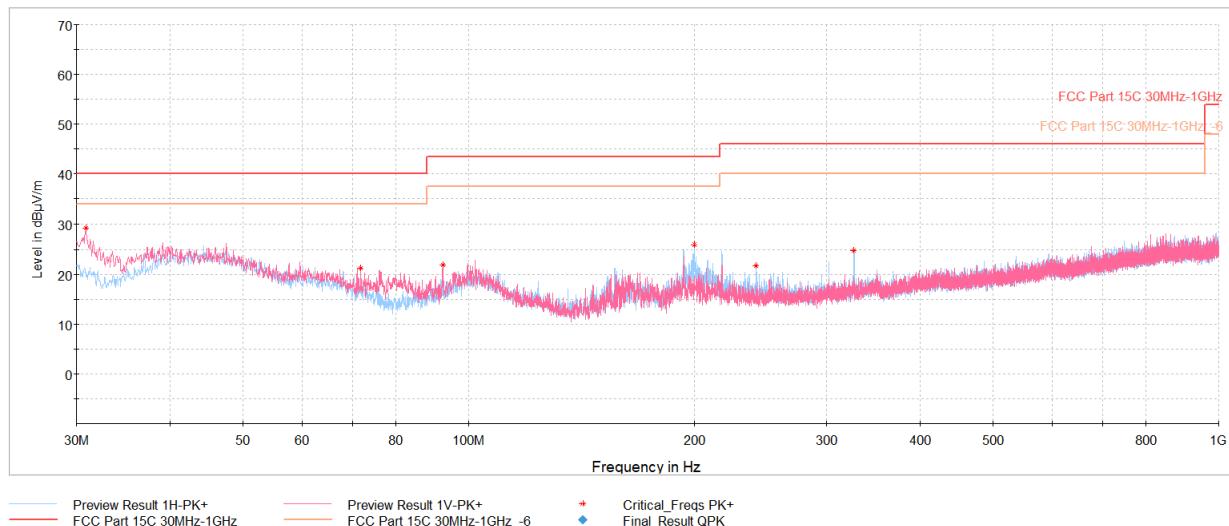
### Determining Spurious Emissions Levels

- Field Strength Level  $[\text{dB}_{\mu\text{V}/\text{m}}]$  = Analyzer Level  $[\text{dBm}] + 107 + \text{AFCL} [\text{dB}/\text{m}]$
- AFCL  $[\text{dB}/\text{m}]$  = Antenna Factor  $[\text{dB}/\text{m}] + \text{Cable Loss} [\text{dB}] - \text{Preamplifier Gain} [\text{dB}]$
- Margin  $[\text{dB}]$  = Field Strength Level  $[\text{dB}_{\mu\text{V}/\text{m}}] - \text{Limit} [\text{dB}_{\mu\text{V}/\text{m}}]$

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## Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



**Plot 7-82. Radiated Spurious Emissions below 1GHz 11b Ch.6, with AC/DC Adapter via USB-C cable with magnetic charger**

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
30.87	Max-Peak	V	100	0	-58.41	-19.41	29.18	40.00	-10.82
71.86	Max-Peak	V	100	290	-64.72	-21.03	21.25	40.00	-18.75
92.42	Max-Peak	V	100	348	-66.03	-19.06	21.91	43.52	-21.61
199.70	Max-Peak	H	100	12	-63.06	-18.02	25.92	43.52	-17.60
241.51	Max-Peak	H	100	41	-68.71	-16.63	21.66	46.02	-24.36
326.24	Max-Peak	H	100	45	-67.52	-14.67	24.81	46.02	-21.21

**Table 7-11. Radiated Spurious Emissions below 1GHz 11b Ch.6, with AC/DC Adapter via USB-C cable with magnetic charger**

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## 7.9 AC Line-Conducted Emissions Measurement

§15.207; RSS-Gen [8.8]

### Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for AC Line conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

***All conducted emissions must not exceed the limits shown in the table below, per Section 15.207 and RSS-Gen (8.8).***

Frequency of emission (MHz)	Conducted Limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

**Table 7-12. Conducted Limits**

\*Decreases with the logarithm of the frequency.

### Test Procedures Used

ANSI C63.10-2020, Subclause 6.2

### Test Settings

#### Quasi-Peak Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

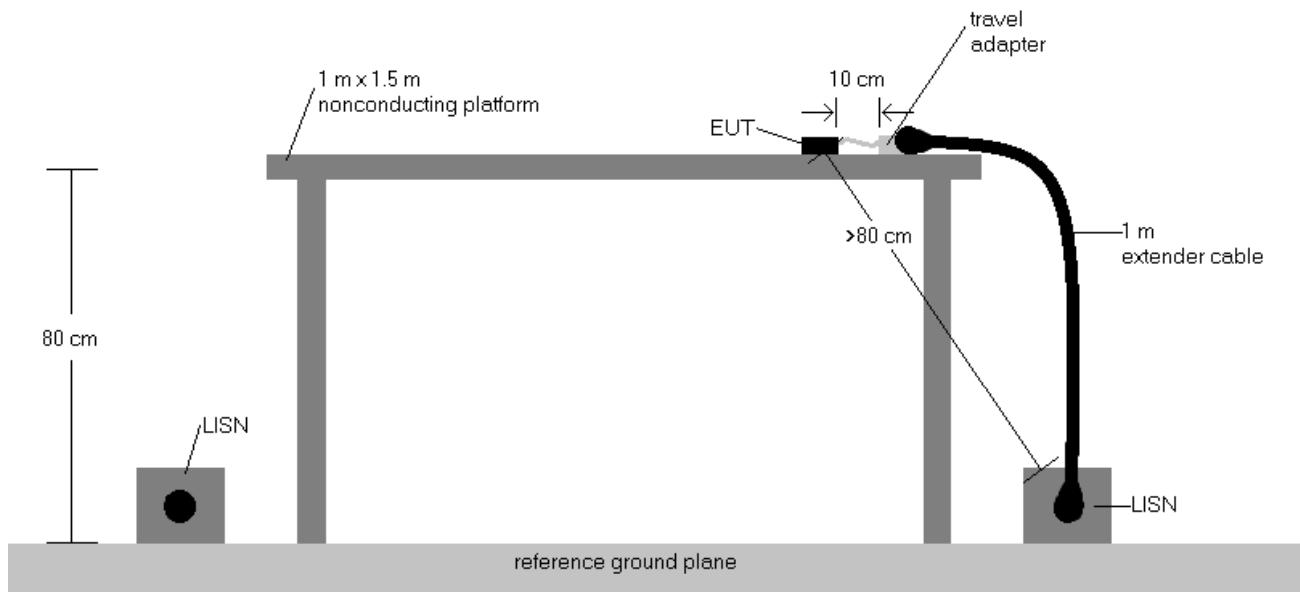
#### Average Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

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## Test Setup

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

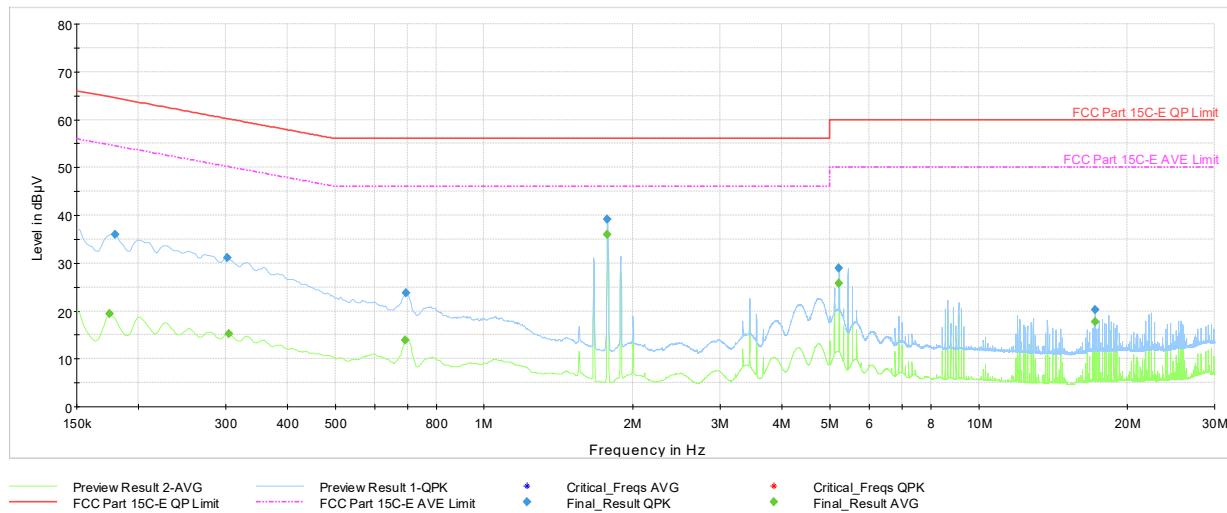


**Figure 7-9. Test Instrument & Measurement Setup**

## Test Notes

1. All modes of operation were investigated and the worst-case emissions are reported. The emissions found were not affected by the choice of channel used during testing.
2. Both configurations below were investigated, and the worst case has been reported.
  - a. EUT powered by AC/DC adaptor via USB-C cable with magnetic charger
  - b. EUT powered by host PC via USB-C cable with magnetic charger
3. The limit for an intentional radiator from 150kHz to 30MHz are specified in Part 15.207 and RSS-Gen(8.8).
4. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dB $\mu$ V) = QP/AV Analyzer/Receiver Level (dB $\mu$ V) + Corr. (dB)
6. Margin (dB) = QP/AV Level (dB $\mu$ V) - QP/AV Limit (dB $\mu$ V)
7. Traces shown in plot are made using quasi peak and average detectors.
8. Deviations to the Specifications: None.

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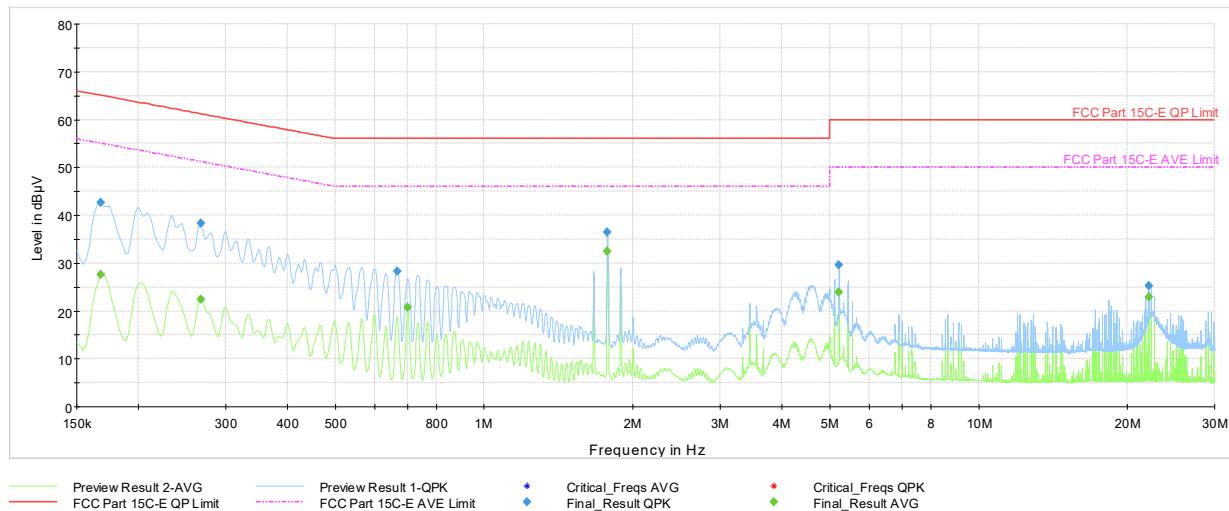


**Plot 7-83. AC Line Conducted Plot 802.11b - Ch.6 (L1, with AC/DC adaptor via USB-C cable with magnetic charger)**

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.168	FINAL	—	27.64	55.06	-27.42	L1	GND
0.168	FINAL	42.6	—	65.06	-22.45	L1	GND
0.267	FINAL	—	22.43	51.21	-28.78	L1	GND
0.267	FINAL	38.3	—	61.21	-22.94	L1	GND
0.668	FINAL	28.3	—	56.00	-27.70	L1	GND
0.701	FINAL	—	20.79	46.00	-25.21	L1	GND
1.777	FINAL	36.4	—	56.00	-19.56	L1	GND
1.777	FINAL	—	32.48	46.00	-13.52	L1	GND
5.222	FINAL	29.6	—	60.00	-30.40	L1	GND
5.222	FINAL	—	23.92	50.00	-26.08	L1	GND
22.110	FINAL	—	22.85	50.00	-27.15	L1	GND
22.110	FINAL	25.3	—	60.00	-34.73	L1	GND

**Table 7-13. AC Line Conducted Data 802.11b - Ch.6 (L1, with AC/DC adaptor via USB-C cable with magnetic charger)**

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**Plot 7-84. AC Line Conducted Plot 802.11b - Ch.6 (N, with AC/DC adaptor via USB-C cable with magnetic charger)**

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.175	FINAL	—	19.35	54.73	-35.38	N	GND
0.179	FINAL	36.0	—	64.52	-28.53	N	GND
0.303	FINAL	31.1	—	60.16	-29.08	N	GND
0.305	FINAL	—	15.30	50.10	-34.80	N	GND
0.692	FINAL	—	13.87	46.00	-32.13	N	GND
0.695	FINAL	23.8	—	56.00	-32.18	N	GND
1.777	FINAL	39.2	—	56.00	-16.85	N	GND
1.777	FINAL	—	36.03	46.00	-9.97	N	GND
5.222	FINAL	29.0	—	60.00	-30.97	N	GND
5.222	FINAL	—	25.72	50.00	-24.28	N	GND
17.223	FINAL	—	17.78	50.00	-32.22	N	GND
17.223	FINAL	20.3	—	60.00	-39.74	N	GND

**Table 7-14. AC Line Conducted Data 802.11b - Ch.6 (N, with AC/DC adaptor via USB-C cable with magnetic charger)**

FCC ID: BCG-A3281 IC: 579C-A3281	 element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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## 8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Apple Watch FCC ID: BCG-A3281, IC: 579C-A3281** is in compliance with Part 15 Subpart C (15.247) of the FCC Rules and RSS-247 of the Innovation, Science and Economic Development Canada Rules.

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