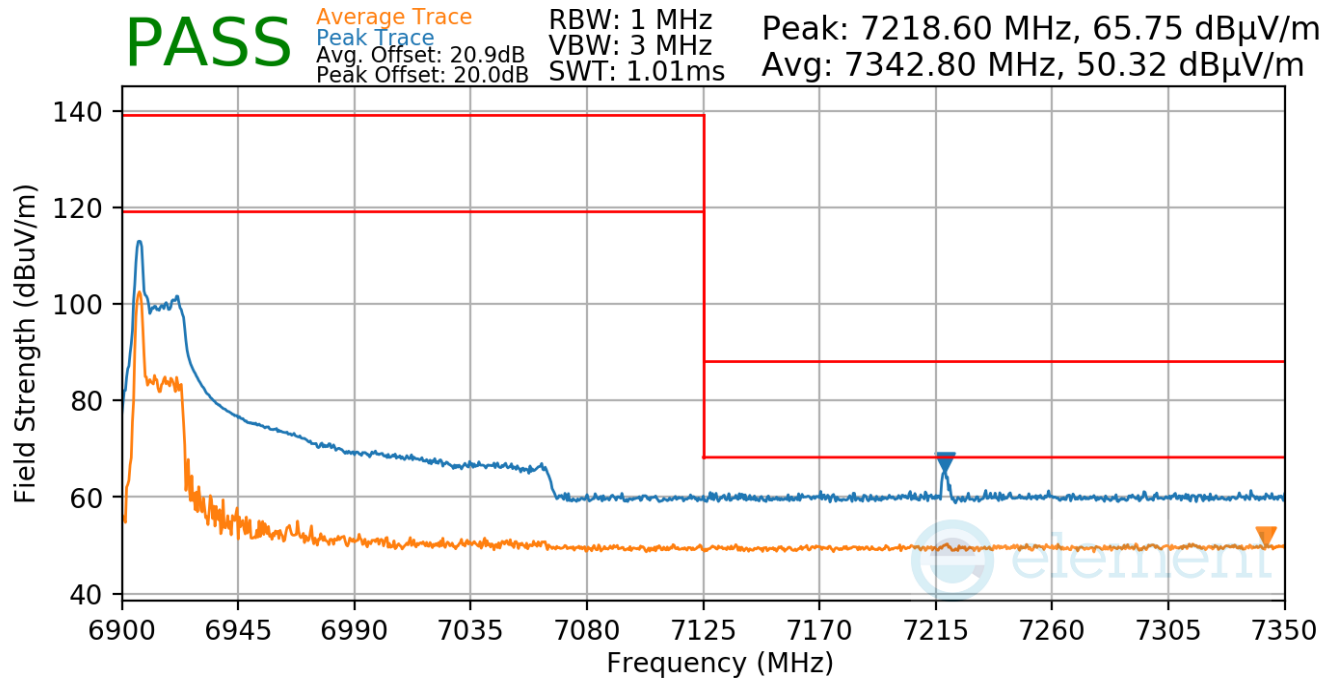


Worst Case Mode: 802.11ax  
 Worst Case Transfer Rate: MCS11  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 6985MHz  
 Channel: 207

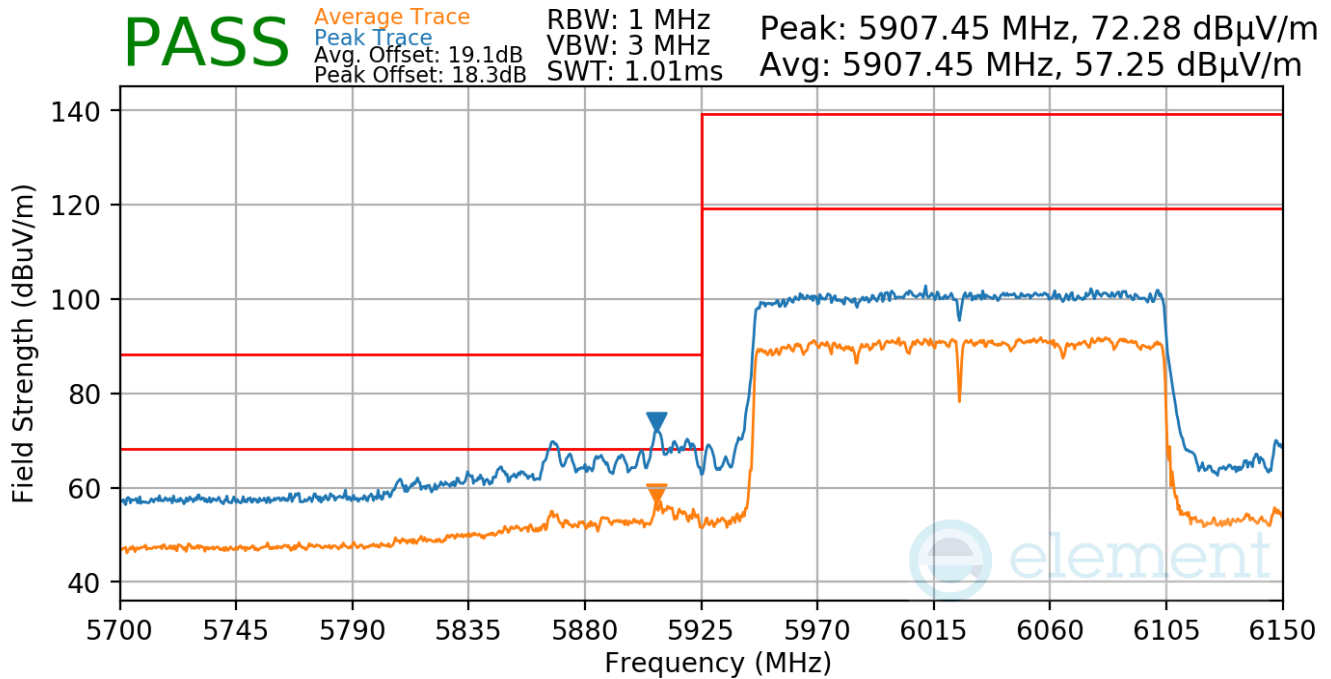


**Plot 7-806. SDM Radiated Upper Band Edge (Peak & Average – UNII Band 8 – RU26)**

FCC ID: BCGA2435 IC: 579C-A2435	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2205090025-22-R3.BCG	<b>Test Dates:</b> 05/27/2022 - 9/12/2022	<b>EUT Type:</b> Tablet Device	Page 309 of 323

## RU996x2

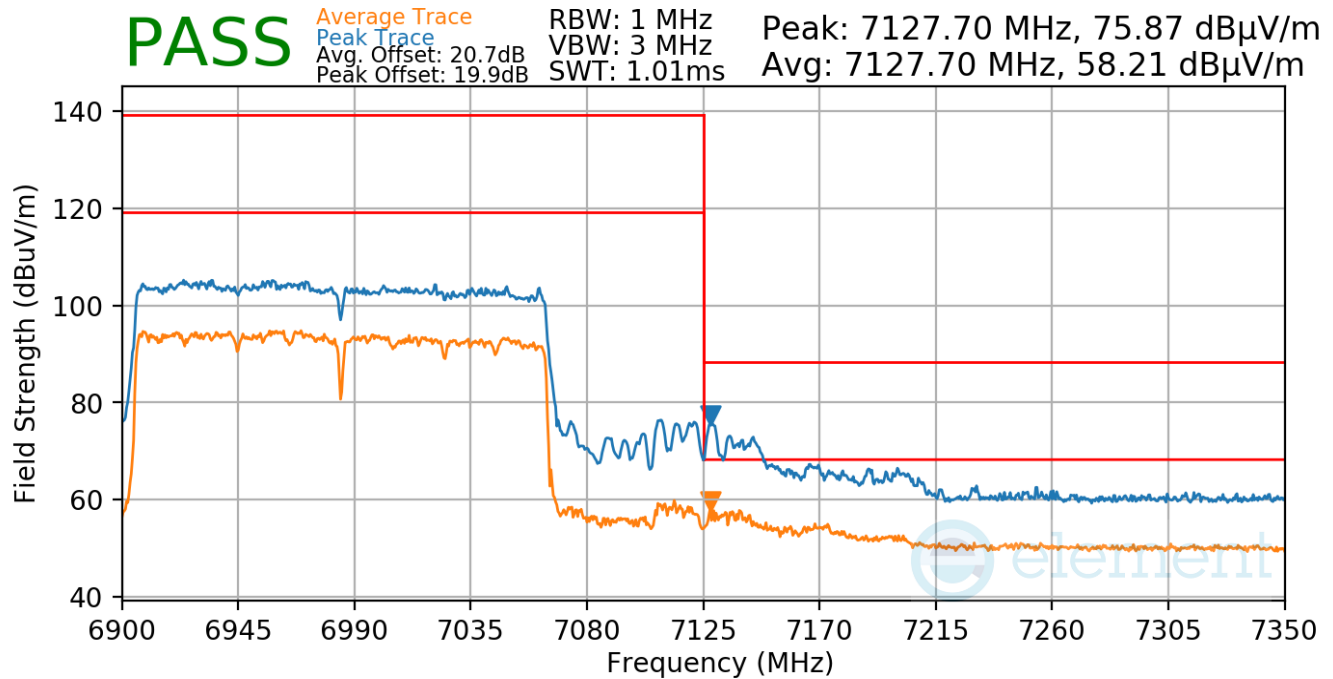
Worst Case Mode: 802.11ax  
 Worst Case Transfer Rate: MCS11  
 Distance of Measurements: 3 Meters  
 Operating Frequency: 6025MHz  
 Channel: 15



**Plot 7-807. SDM Radiated Lower Band Edge (Peak & Average – UNII Band 5 – RU996x2)**

<b>FCC ID:</b> BCGA2435 <b>IC:</b> 579C-A2435		<b>MEASUREMENT REPORT</b> <b>(CERTIFICATION)</b>	<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2205090025-22-R3.BCG	<b>Test Dates:</b> 05/27/2022 - 9/12/2022	<b>EUT Type:</b> Tablet Device	Page 310 of 323

Worst Case Mode: 802.11ax  
Worst Case Transfer Rate: MCS11  
Distance of Measurements: 3 Meters  
Operating Frequency: 6985MHz  
Channel: 207



**Plot 7-808. SDM Radiated Upper Band Edge (Peak & Average – UNII Band 8 – RU996x2)**

FCC ID: BCGA2435 IC: 579C-A2435		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090025-22-R3.BCG	Test Dates: 05/27/2022 - 9/12/2022	EUT Type: Tablet Device	Page 311 of 323

## 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 7-124 per Section 15.209 and RSS-Gen (8.9).***

Frequency	Field Strength [μV/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 7-124. Radiated Limits**

### Test Procedures Used

ANSI C63.10-2013

### 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

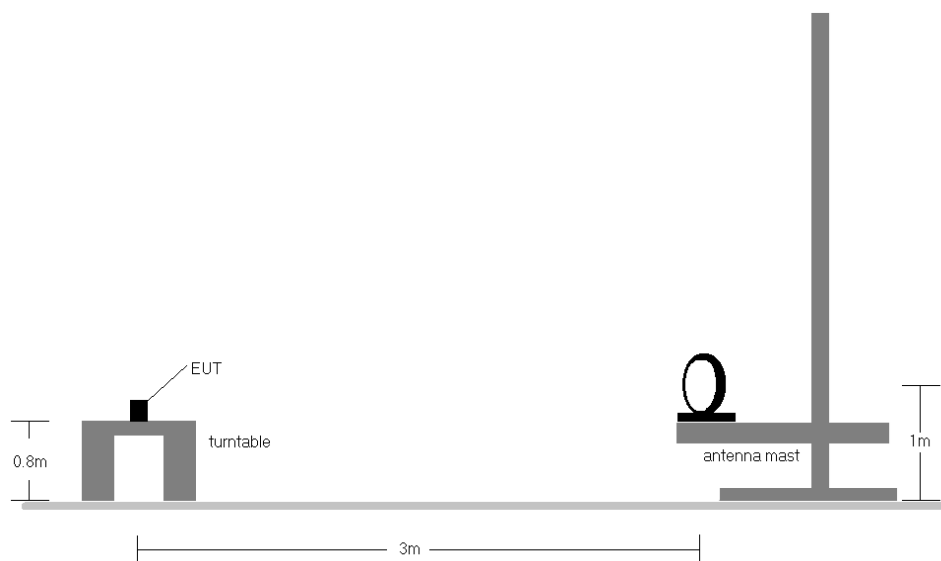
#### Peak Field Strength Measurements

7. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
8. RBW = 120kHz (for emissions from 30MHz – 1GHz)
9. VBW = 300kHz
10. Detector = quasi-peak
11. Sweep time = auto couple
12. Trace mode = max hold
13. Trace was allowed to stabilize

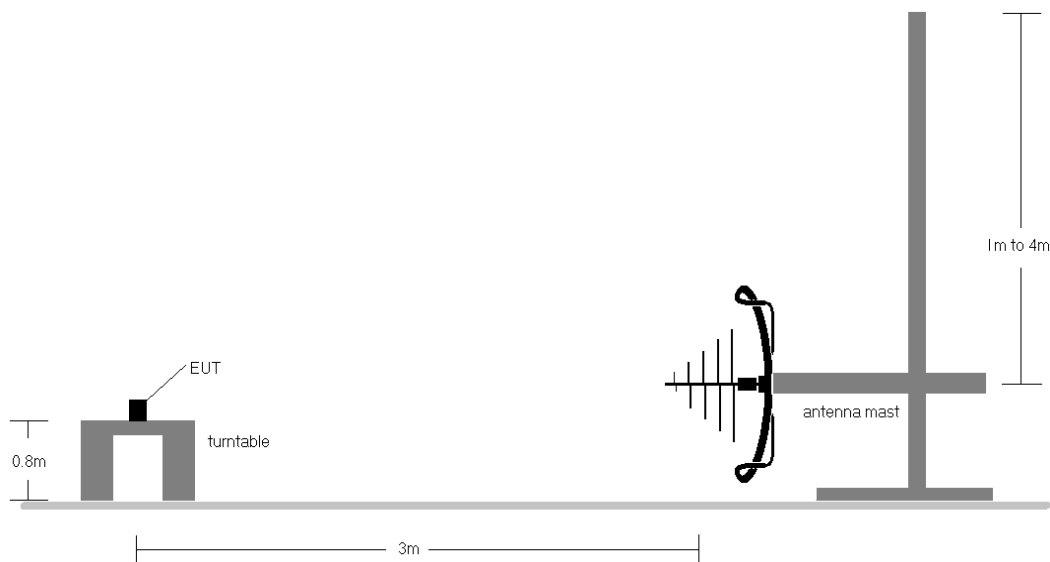
FCC ID: BCGA2435 IC: 579C-A2435		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090025-22-R3.BCG	Test Dates: 05/27/2022 - 9/12/2022	EUT Type: Tablet Device	Page 312 of 323

## Test Setup


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



**Figure 7-6. Radiated Test Setup < 30MHz**



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

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<b>Test Report S/N:</b> 1C2205090025-22-R3.BCG	<b>Test Dates:</b> 05/27/2022 - 9/12/2022	<b>EUT Type:</b> Tablet Device	Page 313 of 323

## **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 7-124.
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 on emissions that were 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. 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.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.
10. Both configurations below were investigated, and the worst case has been reported.
  - a. EUT powered by AC/DC adaptor via USB-C cable with wire charger
  - b. EUT powered by host PC via USB-C cable with wire charger
11. All antenna configurations were investigated and only the worst case is reported.
12. The unit was tested with all possible modes and only the highest emission is reported.

## **Sample Calculations**

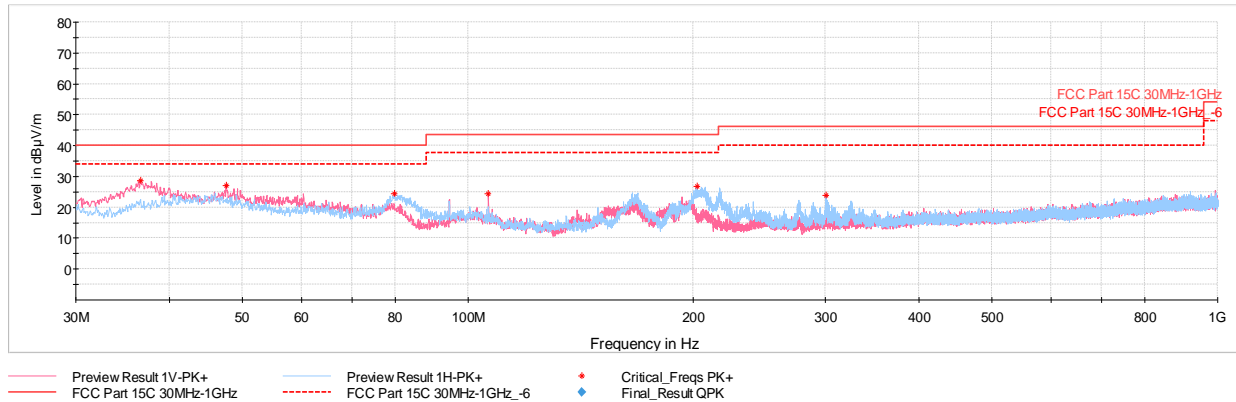
### **Determining Spurious Emissions Levels**

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

FCC ID: BCGA2435 IC: 579C-A2435	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2205090025-22-R3.BCG	<b>Test Dates:</b> 05/27/2022 - 9/12/2022	<b>EUT Type:</b> Tablet Device	Page 314 of 323

## 7.8.1 SDM Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]

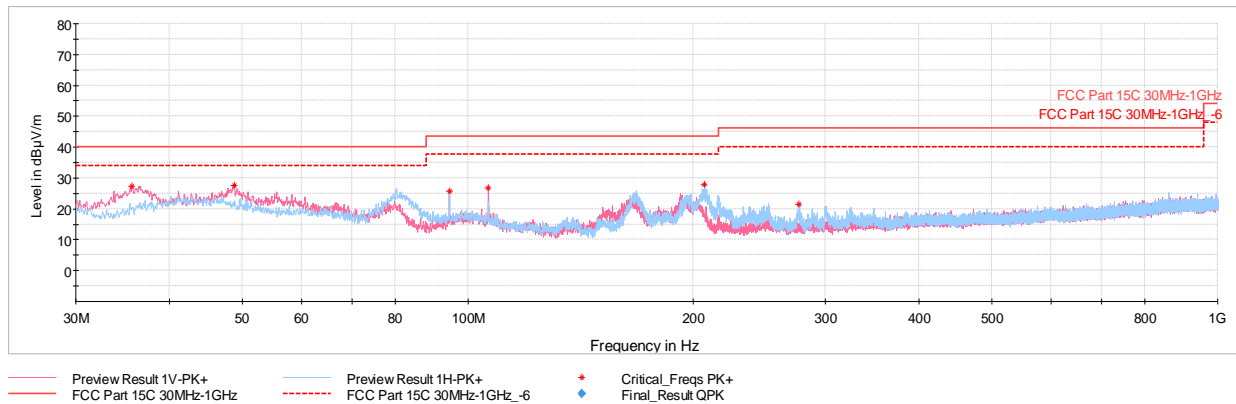


Plot 7-809. Radiated Spurious Emissions below 1GHz SDM (802.11ax – Ch.1 – RU26) with AC/DC Adapter

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]
36.60	Max Peak	V	100	92	-59.95	-18.31	28.74	40.00	-11.26
47.61	Max Peak	V	100	15	-64.43	-15.45	27.12	40.00	-12.88
79.91	Max Peak	H	200	111	-59.72	-22.86	24.42	40.00	-15.58
106.48	Max Peak	V	100	136	-64.10	-18.56	24.34	43.52	-19.18
202.42	Max Peak	H	200	182	-62.24	-18.08	26.68	43.52	-16.84
300.53	Max Peak	H	100	146	-67.66	-15.37	23.97	46.02	-22.05

Table 7-125. Radiated Limits Radiated Spurious Emissions below 1GHz SDM (802.11ax – Ch.1 – RU26) with AC/DC Adapter

FCC ID: BCGA2435 IC: 579C-A2435		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-810. Radiated Spurious Emissions below 1GHz SDM (802.11ax – Ch.1 – RU242) with AC/DC Adapter

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]
35.67	Max Peak	V	100	9	-61.16	-18.52	27.32	40.00	-12.68
48.82	Max Peak	V	100	292	-64.04	-15.50	27.46	40.00	-12.54
94.51	Max Peak	H	300	302	-62.11	-19.05	25.84	43.52	-17.68
106.48	Max Peak	V	100	194	-61.71	-18.56	26.73	43.52	-16.79
206.59	Max Peak	H	100	254	-60.94	-18.17	27.89	43.52	-15.63
276.48	Max Peak	H	100	294	-69.76	-15.76	21.48	46.02	-24.54

Table 7-126. Radiated Spurious Emissions below 1GHz SDM (802.11ax – Ch.1 – RU242) with AC/DC Adapter

FCC ID: BCGA2435 IC: 579C-A2435		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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## 7.9 AC Line-Conducted Emissions Measurement

**§15.407; 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 (dBμV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

**Table 7-127. Conducted Limits**

\*Decreases with the logarithm of the frequency.

### Test Procedures Used

ANSI C63.10-2013, Section 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

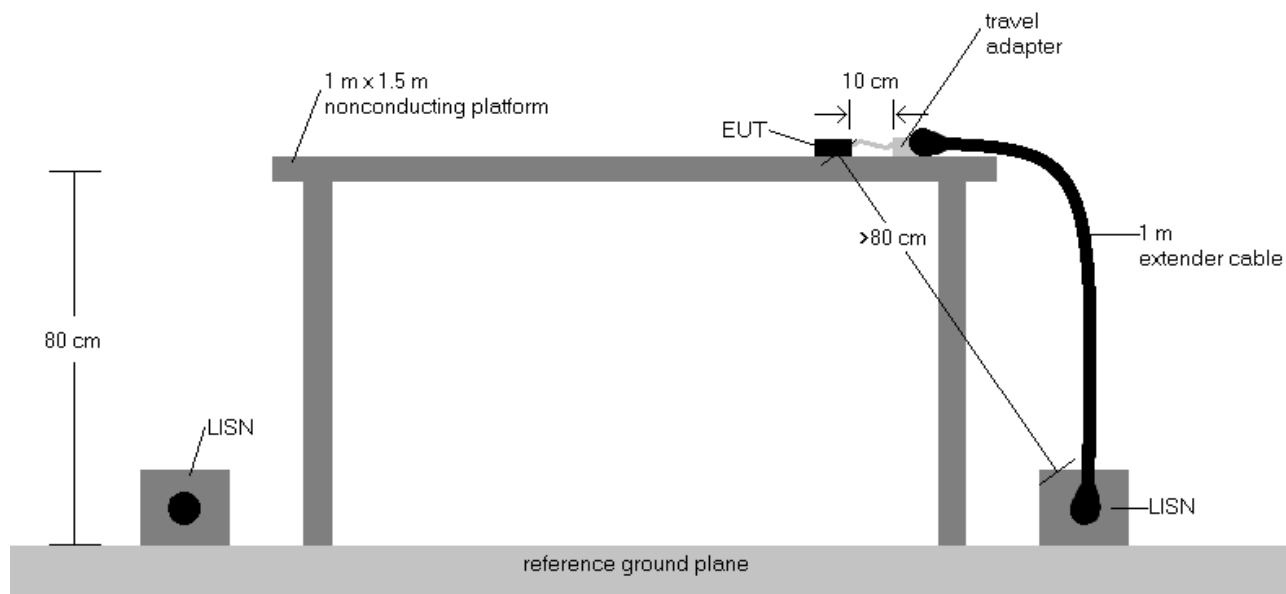
#### Average Measurements

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

FCC ID: BCGA2435 IC: 579C-A2435		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.

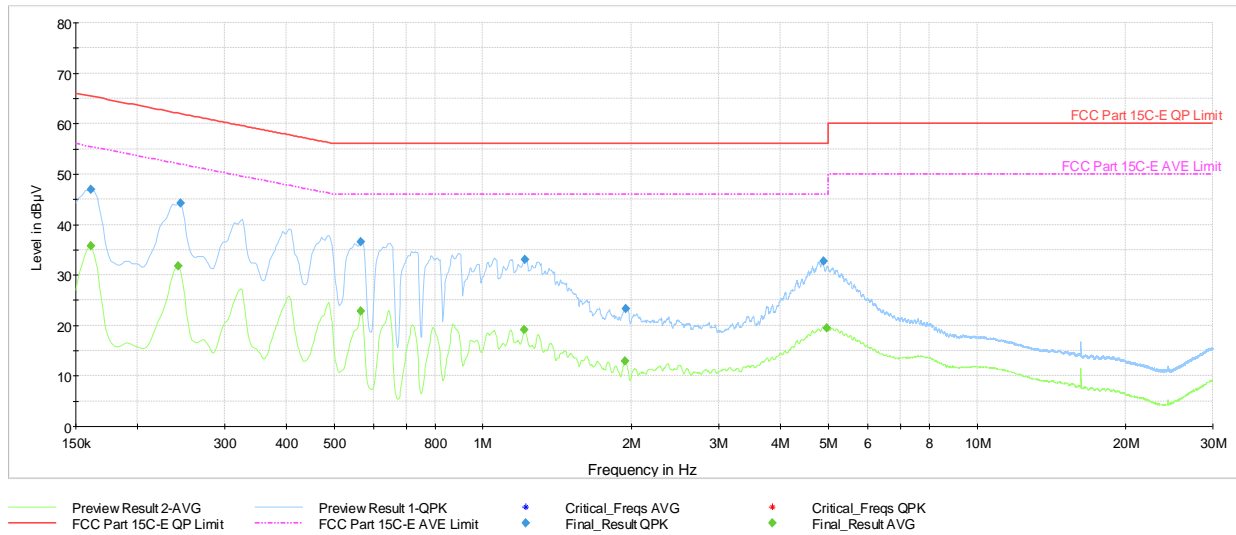


**Figure 7-8. Test Instrument & Measurement Setup**

## Test Notes

- 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.
- Both configurations below were investigated, and the worst case has been reported.
  - EUT powered by AC/DC adaptor via USB-C cable with wire charger
  - EUT powered by host PC via USB-C cable with wire charger
- The limit for an intentional radiator from 150kHz to 30MHz are specified in 15.207 and RSS-Gen (8.8).
- $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
- $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Correction Factor (dB)}$
- $\text{Margin (dB)} = \text{QP/AV Level (dB}\mu\text{V)} - \text{QP/AV Limit (dB}\mu\text{V)}$
- Traces shown in plots are made using quasi-peak and average detectors.
- Deviations to the Specifications: None.
- The unit was tested with all possible modes and only the highest emission is reported.

FCC ID: BCGA2435 IC: 579C-A2435		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090025-22-R3.BCG	Test Dates: 05/27/2022 - 9/12/2022	EUT Type: Tablet Device	Page 318 of 323

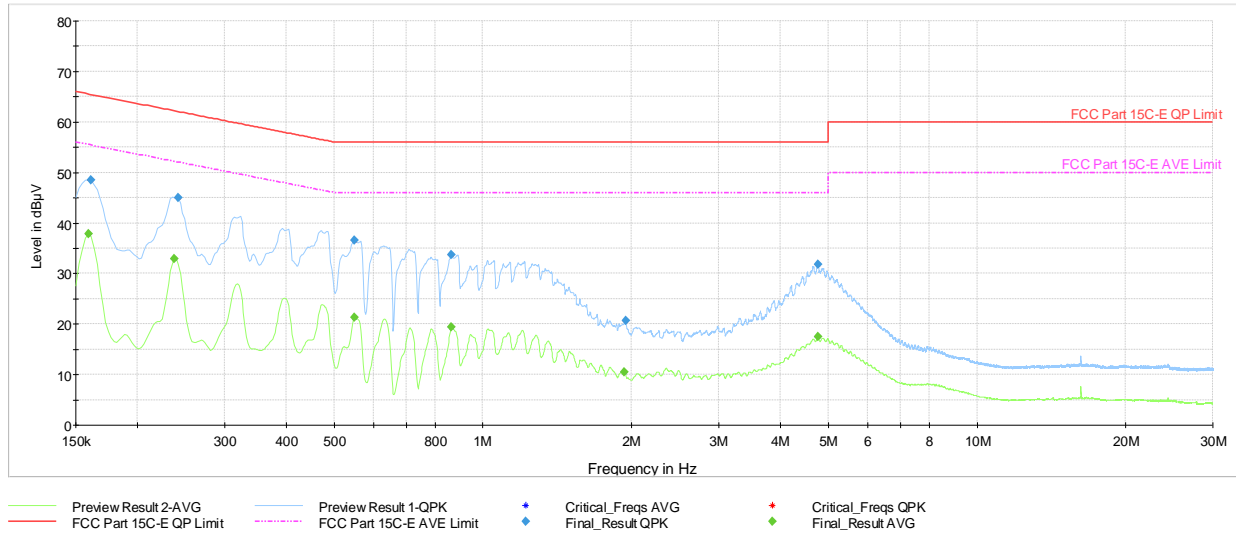


**Plot 7-811. AC Line Conducted Plot with 11ax UNII Band 5 – RU26 – Ch.1 (L1) with AC/DC Adapter**

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.161	FINAL	---	35.73	55.40	-19.67	L1	GND
0.161	FINAL	47.0	---	65.40	-18.42	L1	GND
0.242	FINAL	---	31.79	52.02	-20.23	L1	GND
0.245	FINAL	44.3	---	61.94	-17.64	L1	GND
0.566	FINAL	36.6	---	56.00	-19.42	L1	GND
0.566	FINAL	---	22.82	46.00	-23.18	L1	GND
1.214	FINAL	---	19.11	46.00	-26.89	L1	GND
1.217	FINAL	33.1	---	56.00	-22.88	L1	GND
1.937	FINAL	---	13.01	46.00	-32.99	L1	GND
1.943	FINAL	23.4	---	56.00	-32.64	L1	GND
4.884	FINAL	32.8	---	56.00	-23.23	L1	GND
4.972	FINAL	---	19.56	46.00	-26.44	L1	GND

**Table 7-128. AC Line Conducted Data with 11ax UNII Band 5 – RU26 – Ch.1 (L1) with AC/DC Adapter**

FCC ID: BCGA2435 IC: 579C-A2435			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2205090025-22-R3.BCG	Test Dates: 05/27/2022 - 9/12/2022	EUT Type: Tablet Device	Page 319 of 323	

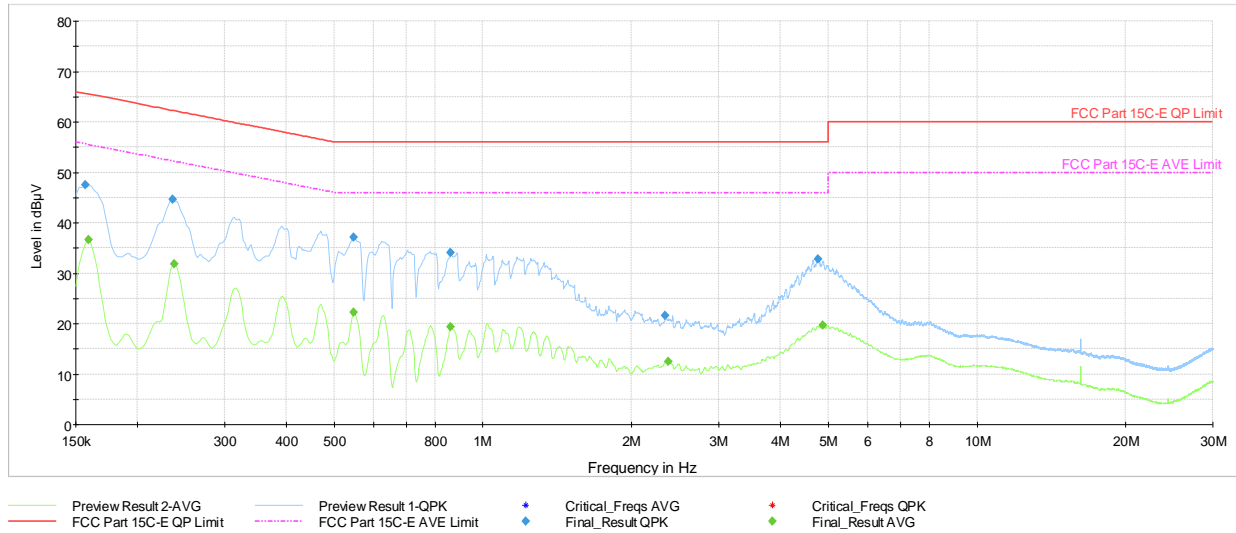


**Plot 7-812. AC Line Conducted Plot with 11ax UNII Band 5 – RU26 – Ch.1 (N) with AC/DC Adapter**

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.159	FINAL	---	37.87	55.52	-17.64	N	GND
0.161	FINAL	48.6	---	65.40	-16.85	N	GND
0.238	FINAL	---	32.91	52.17	-19.27	N	GND
0.242	FINAL	45.1	---	62.02	-16.95	N	GND
0.551	FINAL	36.6	---	56.00	-19.38	N	GND
0.551	FINAL	---	21.33	46.00	-24.67	N	GND
0.863	FINAL	33.7	---	56.00	-22.34	N	GND
0.863	FINAL	---	19.45	46.00	-26.55	N	GND
1.934	FINAL	---	10.44	46.00	-35.56	N	GND
1.946	FINAL	20.7	---	56.00	-35.33	N	GND
4.765	FINAL	---	17.43	46.00	-28.57	N	GND
4.767	FINAL	31.8	---	56.00	-24.20	N	GND

**Table 7-129. AC Line Conducted Data with 11ax UNII Band 5 – RU26 – Ch.1 (N) with AC/DC Adapter**

FCC ID: BCGA2435 IC: 579C-A2435		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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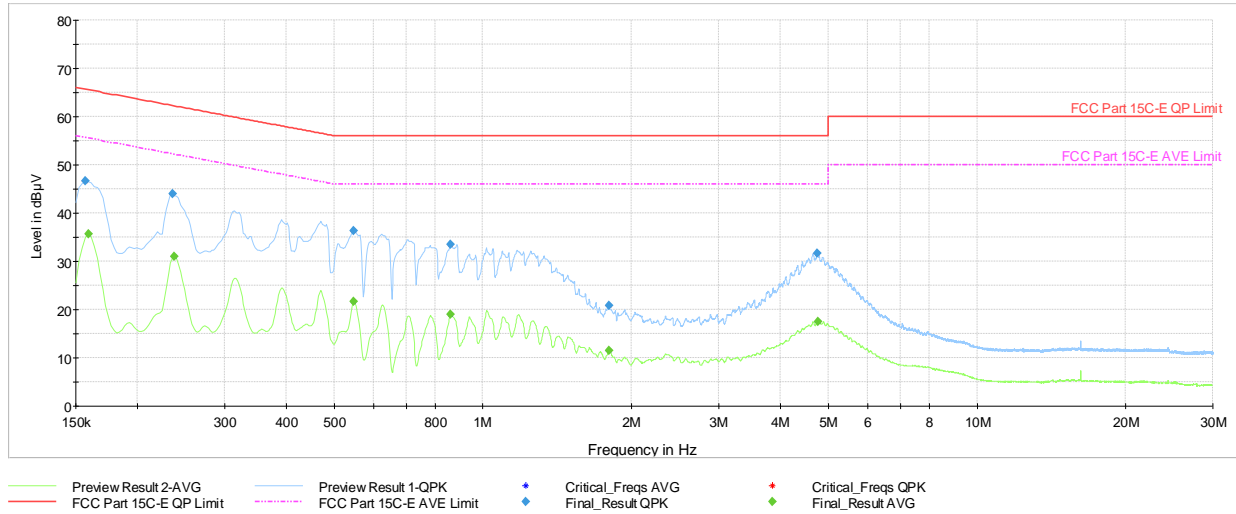


**Plot 7-813. AC Line Conducted Plot with 11ax UNII Band 5 – RU242 – Ch.1 (L1) with AC/DC Adapter**

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.157	FINAL	47.6	---	65.63	-18.06	L1	GND
0.159	FINAL	---	36.56	55.52	-18.95	L1	GND
0.236	FINAL	44.7	---	62.25	-17.58	L1	GND
0.238	FINAL	---	31.82	52.17	-20.36	L1	GND
0.548	FINAL	---	22.25	46.00	-23.75	L1	GND
0.548	FINAL	37.1	---	56.00	-18.90	L1	GND
0.861	FINAL	34.1	---	56.00	-21.89	L1	GND
0.861	FINAL	---	19.34	46.00	-26.66	L1	GND
2.342	FINAL	21.6	---	56.00	-34.36	L1	GND
2.371	FINAL	---	12.47	46.00	-33.53	L1	GND
4.765	FINAL	32.7	---	56.00	-23.28	L1	GND
4.877	FINAL	---	19.70	46.00	-26.30	L1	GND

**Table 7-130. AC Line Conducted Data with 11ax UNII Band 5 – RU242 – Ch.1 (L1) with AC/DC Adapter**

FCC ID: BCGA2435 IC: 579C-A2435		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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**Plot 7-814. AC Line Conducted Plot with 11ax UNII Band 5 – RU242 – Ch.1 (N) with AC/DC Adapter**


Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.157	FINAL	46.7	---	65.63	-18.95	N	GND
0.159	FINAL	---	35.66	55.52	-19.85	N	GND
0.236	FINAL	44.1	---	62.25	-18.18	N	GND
0.238	FINAL	---	31.08	52.17	-21.09	N	GND
0.548	FINAL	---	21.71	46.00	-24.29	N	GND
0.548	FINAL	36.4	---	56.00	-19.59	N	GND
0.861	FINAL	33.6	---	56.00	-22.43	N	GND
0.861	FINAL	---	19.08	46.00	-26.92	N	GND
1.797	FINAL	20.8	---	56.00	-35.17	N	GND
1.797	FINAL	---	11.57	46.00	-34.43	N	GND
4.742	FINAL	31.6	---	56.00	-24.38	N	GND
4.765	FINAL	---	17.45	46.00	-28.55	N	GND

**Table 7-131. AC Line Conducted Data with 11ax UNII Band 5 – RU242 – Ch.1 (N) with AC/DC Adapter**

FCC ID: BCGA2435 IC: 579C-A2435			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 Tablet Device FCC ID: BCGA2435** and **IC: 579C-A2435** is in compliance with Part 15 Subpart E (15.407) of the FCC Rules and RSS-248 of the Innovation, Science and Economic Development Canada Rules.

<b>FCC ID:</b> BCGA2435 <b>IC:</b> 579C-A2435		<b>MEASUREMENT REPORT (CERTIFICATION)</b>	<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1C2205090025-22-R3.BCG	<b>Test Dates:</b> 05/27/2022 - 9/12/2022	<b>EUT Type:</b> Tablet Device	Page 323 of 323

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