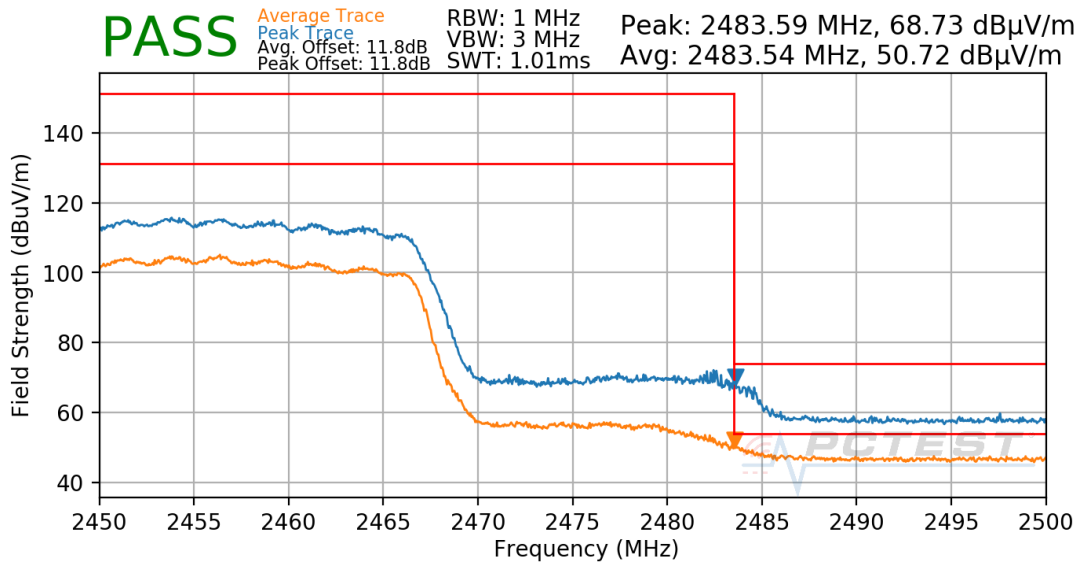
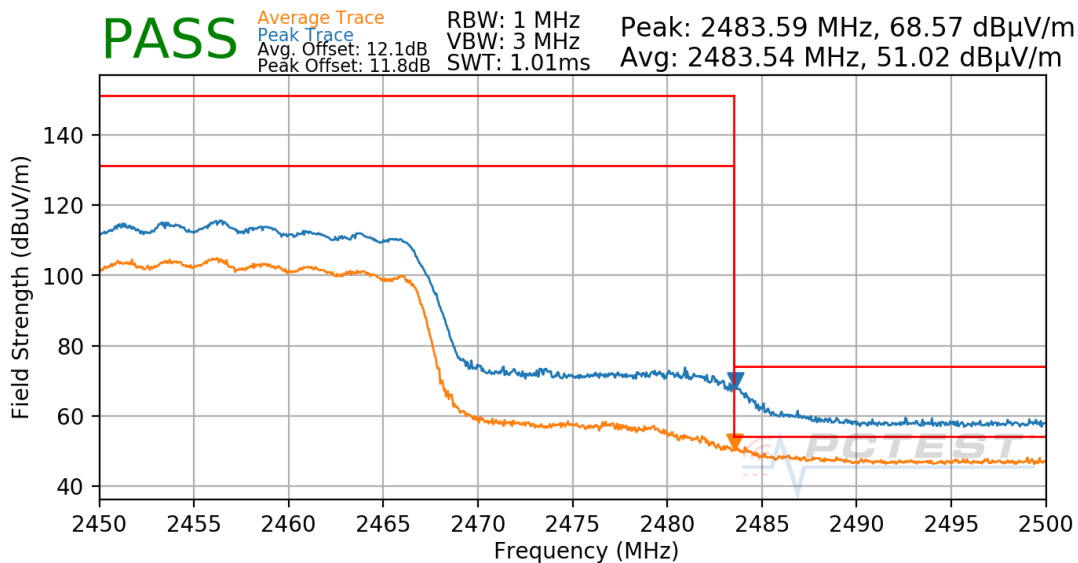


Mode: 802.11ax - SU
Data Rate: MCS0
Distance of Measurements: 3 Meters
Operating Frequency: 2457MHz
Channel: 10



Plot 7-533. Radiated Restricted Upper Band Edge Measurement CDD

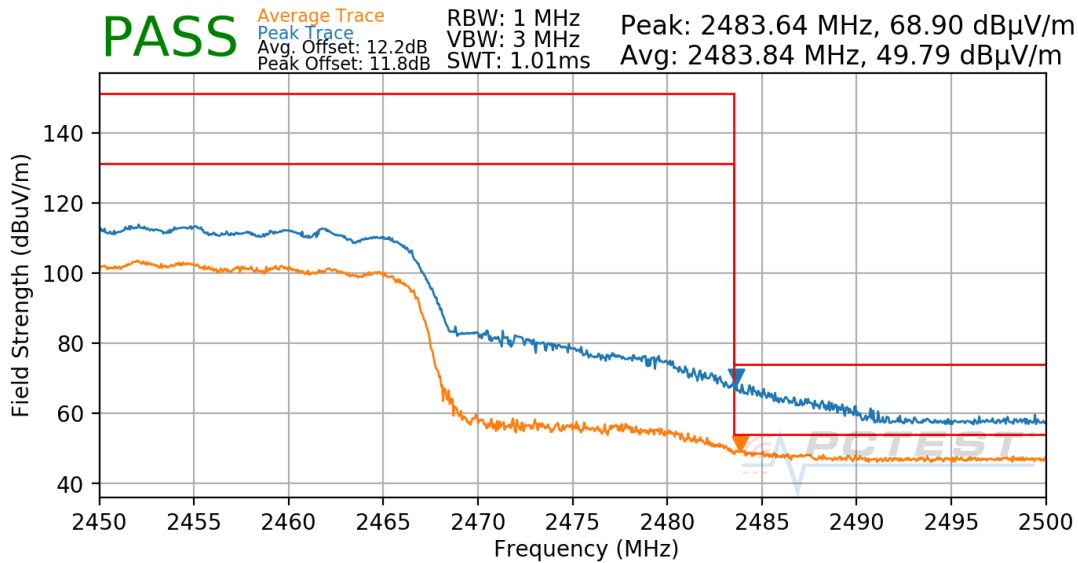
Mode: 802.11ax - SU
Data Rate: MCS3
Distance of Measurements: 3 Meters
Operating Frequency: 2457MHz
Channel: 10



Plot 7-534. Radiated Restricted Upper Band Edge Measurement CDD

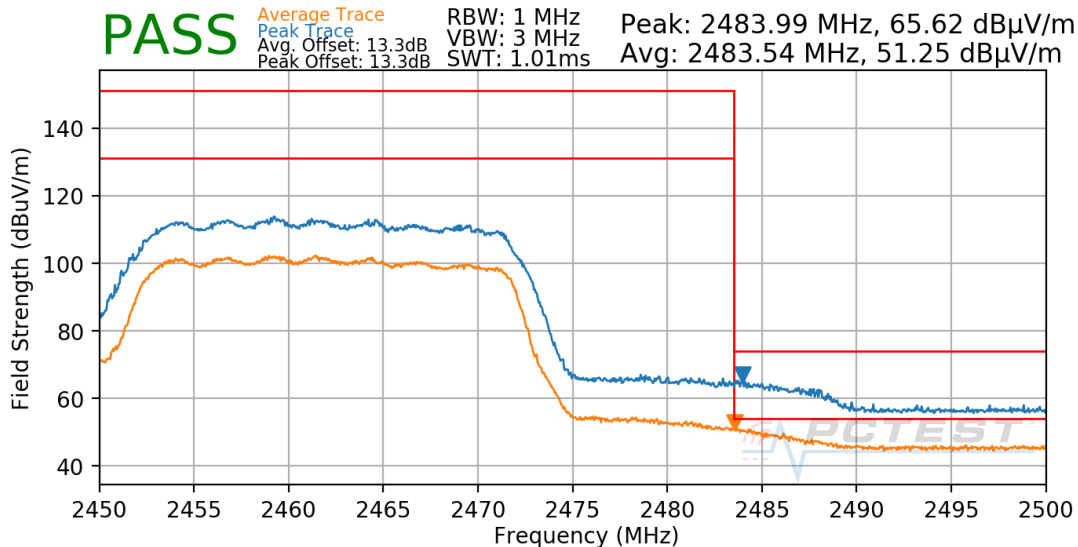
FCC ID: BCGA2301 IC: 579C-A2301		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Mode: 802.11ax - SU
Data Rate: MCS5
Distance of Measurements: 3 Meters
Operating Frequency: 2457MHz
Channel: 10



Plot 7-535. Radiated Restricted Upper Band Edge Measurement CDD

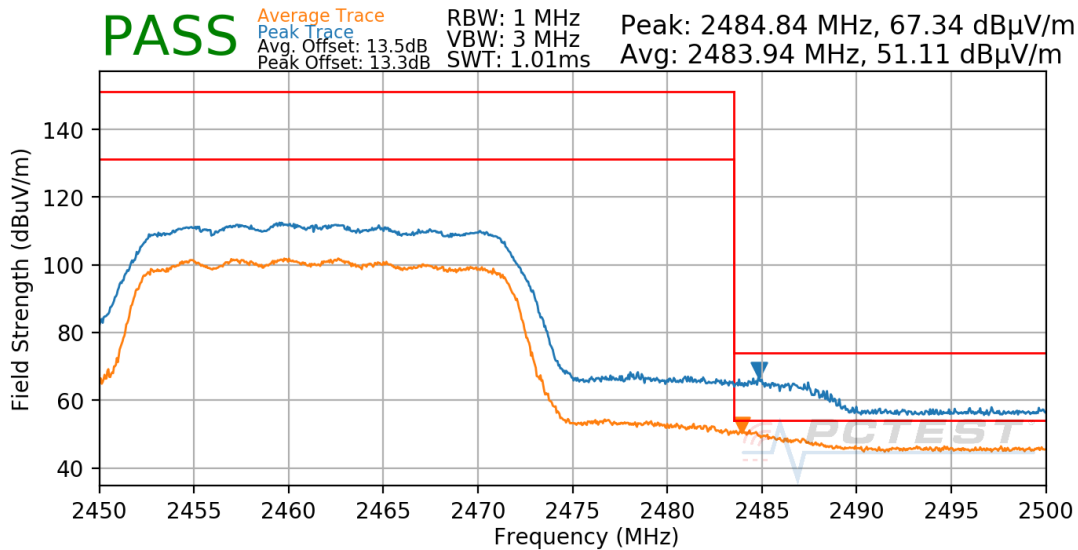
Mode: 802.11ax - SU
Data Rate: MCS0
Distance of Measurements: 3 Meters
Operating Frequency: 2462MHz
Channel: 11



Plot 7-536. Radiated Restricted Upper Band Edge Measurement CDD

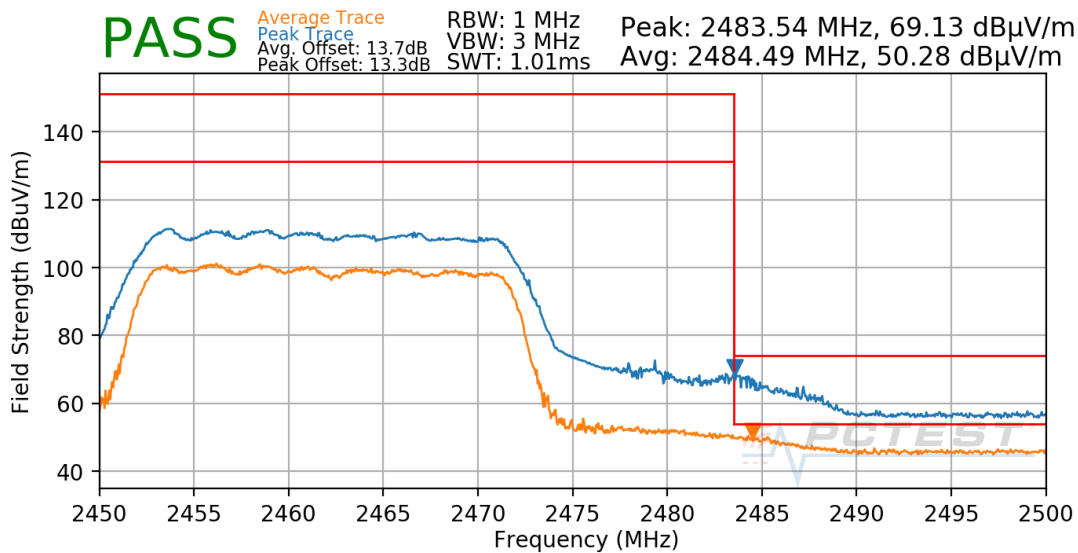
FCC ID: BCGA2301 IC: 579C-A2301	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2101020002-09.BCG	Test Dates: 12/15/2020-3/6/2021	EUT Type: Tablet Device	Page 330 of 345

Mode: 802.11ax - SU
Data Rate: MCS3
Distance of Measurements: 3 Meters
Operating Frequency: 2462MHz
Channel: 11



Plot 7-537. Radiated Restricted Upper Band Edge Measurement CDD

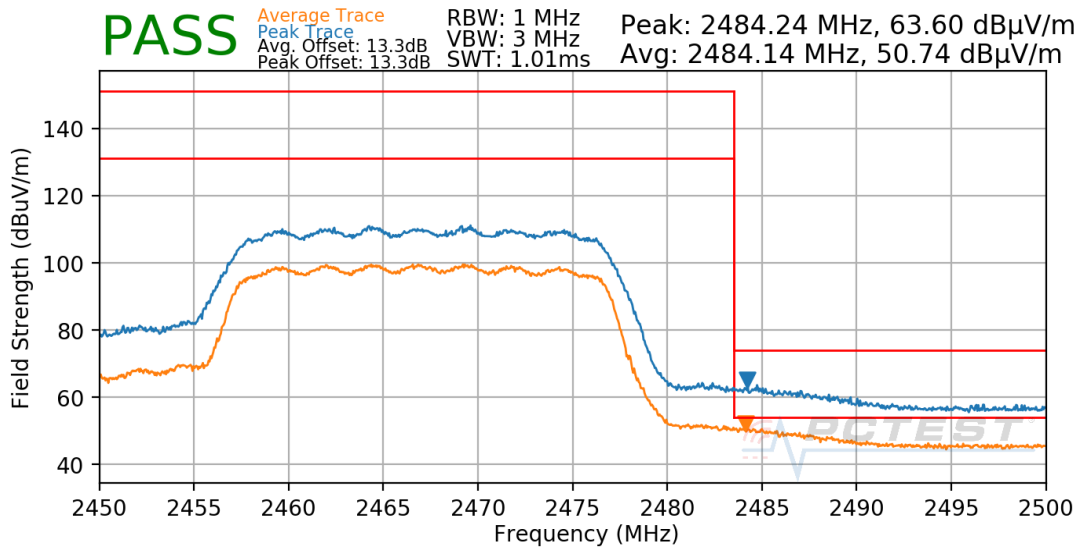
Mode: 802.11ax - SU
Data Rate: MCS5
Distance of Measurements: 3 Meters
Operating Frequency: 2462MHz
Channel: 11



Plot 7-538. Radiated Restricted Upper Band Edge Measurement CDD

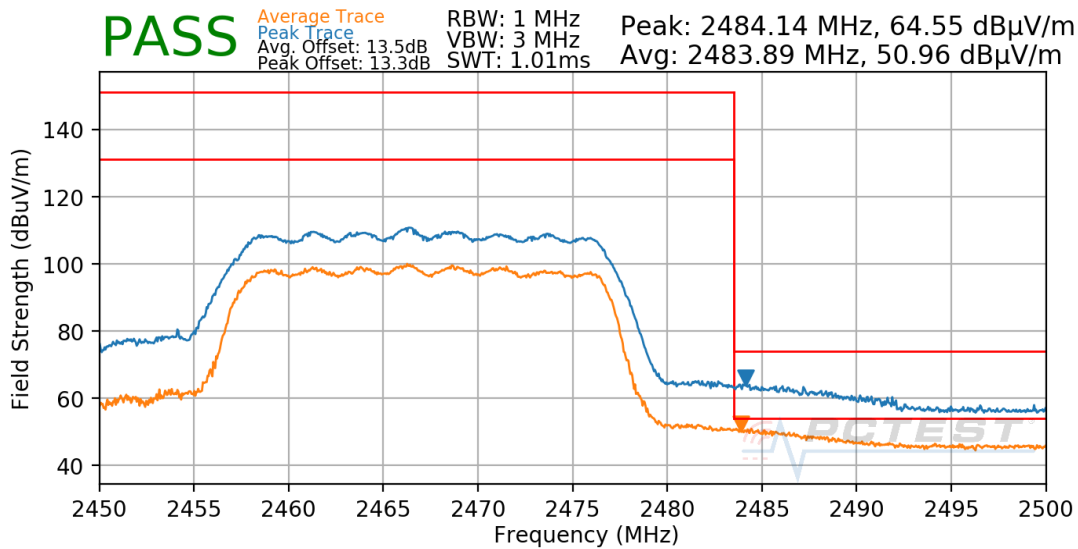
FCC ID: BCGA2301 IC: 579C-A2301	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C2101020002-09.BCG	Test Dates: 12/15/2020-3/6/2021	EUT Type: Tablet Device	Page 331 of 345

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



Plot 7-539. Radiated Restricted Upper Band Edge Measurement CDD

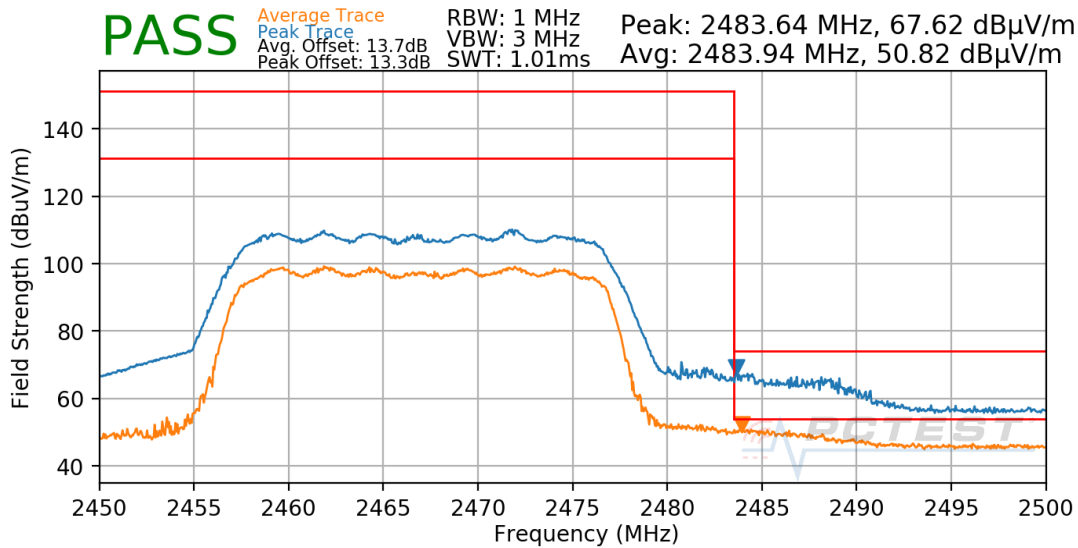
Mode: 802.11ax - SU
Data Rate: MCS3
Distance of Measurements: 3 Meters
Operating Frequency: 2467MHz
Channel: 12



Plot 7-540. Radiated Restricted Upper Band Edge Measurement CDD

FCC ID: BCGA2301 IC: 579C-A2301	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Mode: 802.11ax - SU
Data Rate: MCS5
Distance of Measurements: 3 Meters
Operating Frequency: 2467MHz
Channel: 12



Plot 7-541. Radiated Restricted Upper Band Edge Measurement CDD

FCC ID: BCGA2301 IC: 579C-A2301	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality 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 7-66 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 7-66. 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

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

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Test Setup

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

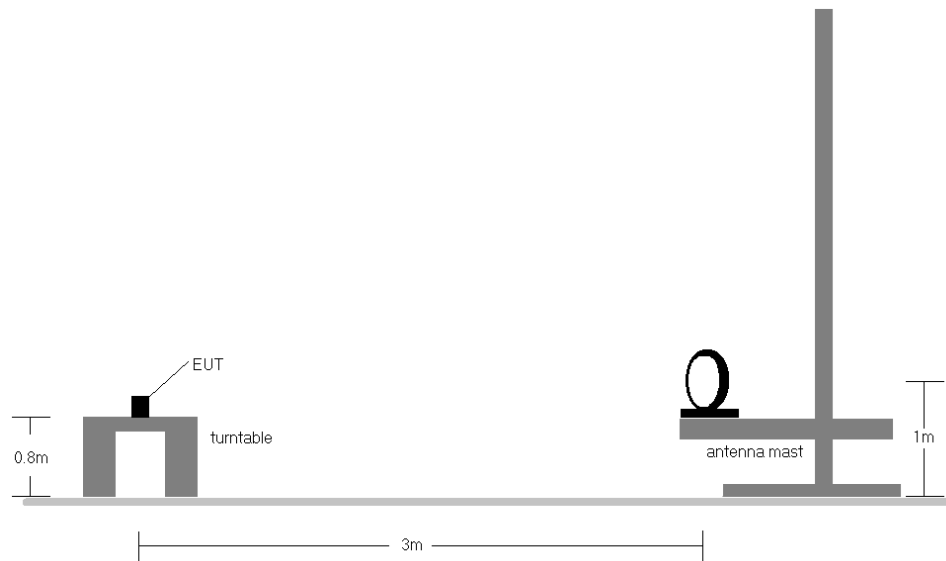


Figure 7-7. Radiated Test Setup < 30Mhz

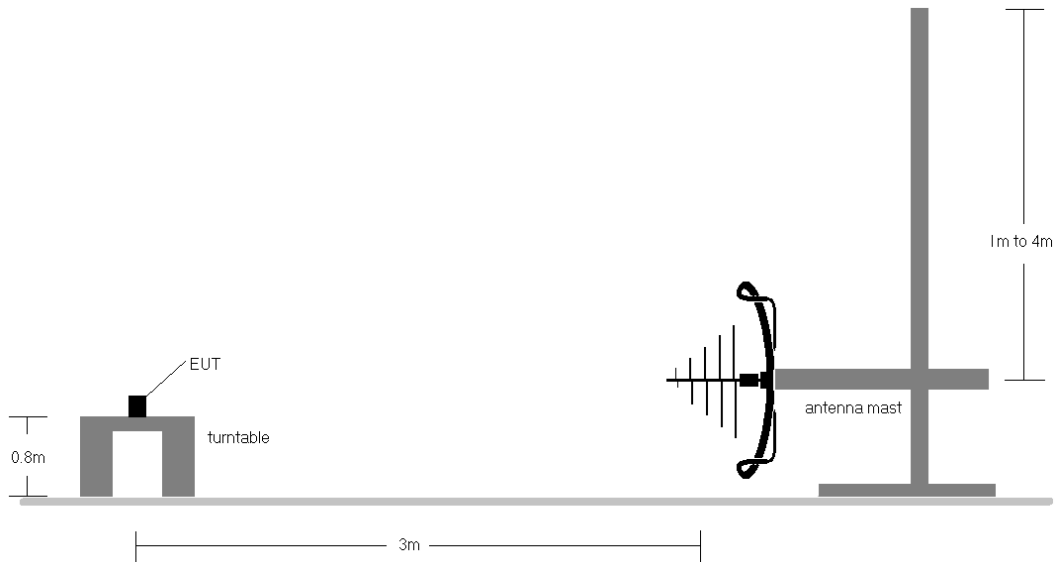


Figure 7-8. Radiated Test Setup < 1GHz

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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 7-66.
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 wire charger
 - b. EUT powered by host PC via USB-C cable with wire 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.
11. All antenna configurations were investigated and only the worst case is reported.

Sample Calculations

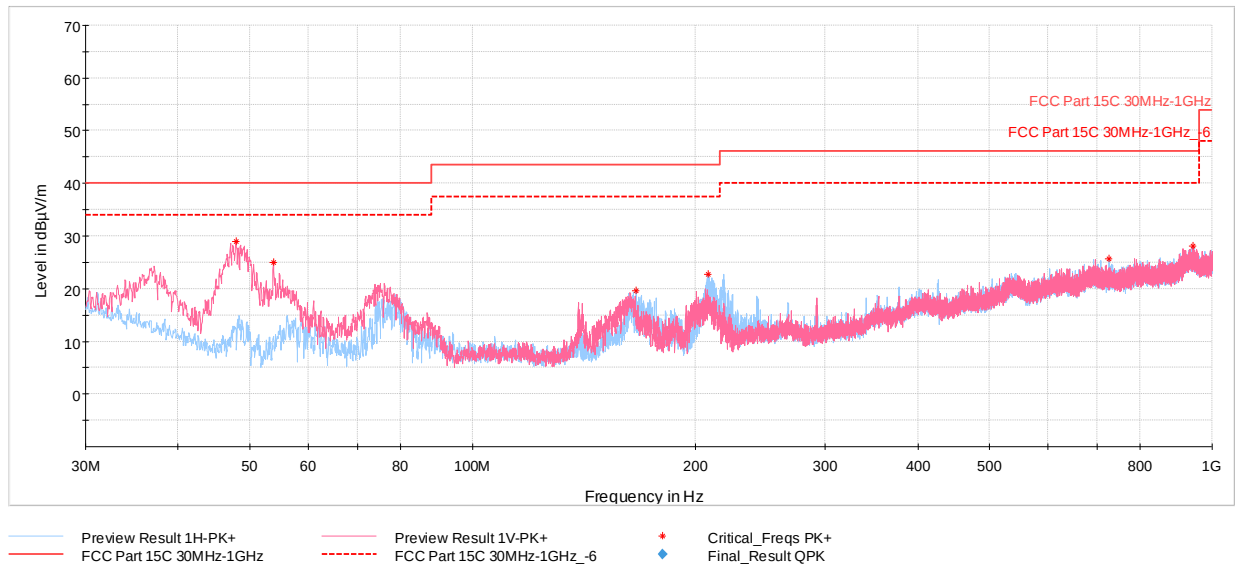
Determining Spurious Emissions Levels

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

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CDD Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]

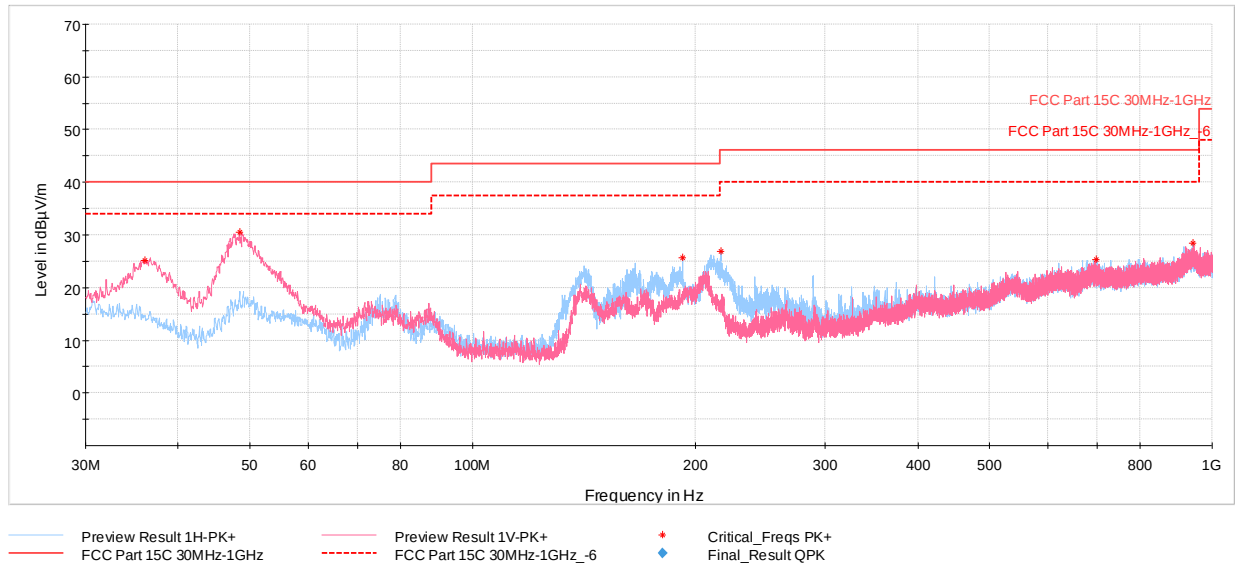


Plot 7-542. Radiated Spurious Emissions below 1GHz CDD 11n Ch.6, with AC/DC Adapter

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]
47.90	Max Peak	V	100	10	-57.46	-20.64	28.90	40.00	-11.10
53.81	Max Peak	V	100	1	-60.86	-21.17	24.97	40.00	-15.03
166.48	Max Peak	H	250	50	-69.84	-17.60	19.56	43.52	-23.96
208.38	Max Peak	H	250	24	-67.84	-16.48	22.68	43.52	-20.84
725.30	Max Peak	H	250	186	-78.25	-3.09	25.66	46.02	-20.36
943.21	Max Peak	H	100	86	-79.23	0.26	28.03	46.02	-17.99

Table 7-67. Radiated Spurious Emissions below 1GHz CDD 11n Ch.6, with AC/DC Adapter

FCC ID: BCGA2301 IC: 579C-A2301	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-543. Radiated Spurious Emissions below 1GHz CDD 11ax - SU Ch.6, 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]
36.06	Max Peak	V	100	346	-66.96	-15.49	24.55	40.00	-15.45
48.43	Max Peak	V	100	1	-55.76	-20.75	30.49	40.00	-9.51
192.43	Max Peak	H	100	247	-63.66	-17.38	25.96	43.52	-17.56
216.68	Max Peak	H	100	261	-63.55	-16.22	27.23	46.02	-18.79
697.07	Max Peak	H	250	212	-78.83	-3.61	24.56	46.02	-21.46
941.95	Max Peak	H	250	85	-78.78	-0.86	27.36	46.02	-18.66

Table 7-68. Radiated Spurious Emissions below 1GHz CDD 11ax - SU Ch.6, with AC/DC Adapter

FCC ID: BCGA2301 IC: 579C-A2301	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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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 (dBμV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-69. 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

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Test Setup

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

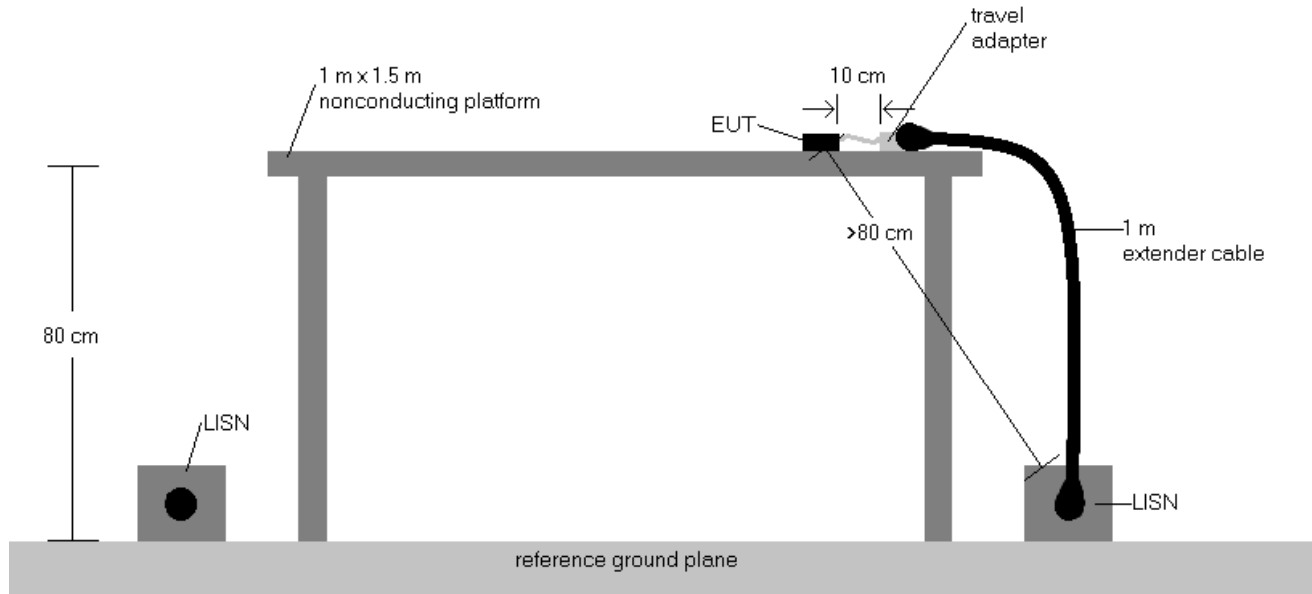
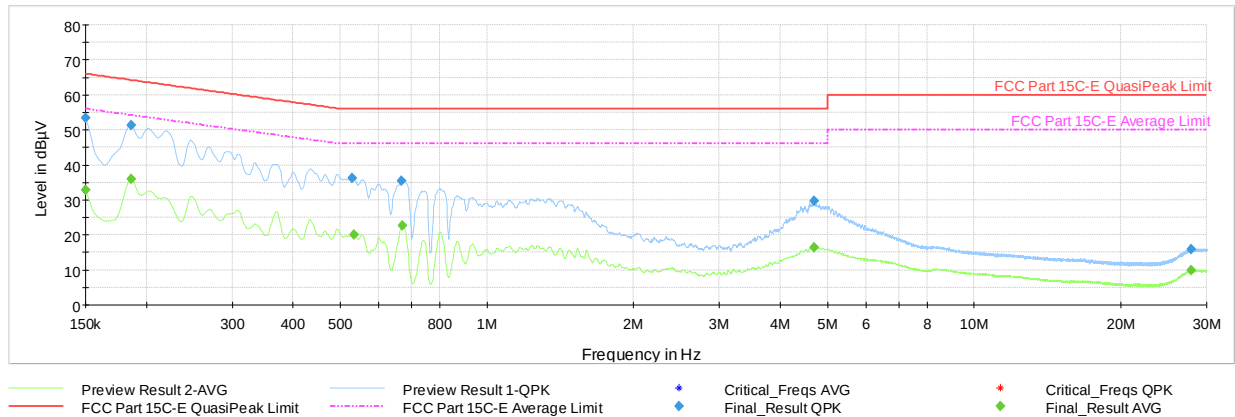


Figure 7-9. Test Instrument & Measurement Setup

Test Notes

- 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 Part 15.207 and RSS-Gen(8.8).
- $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
- $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Corr. (dB)}$
- $\text{Margin (dB)} = \text{QP/AV Level (dB}\mu\text{V)} - \text{QP/AV Limit (dB}\mu\text{V)}$
- Traces shown in plot 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.

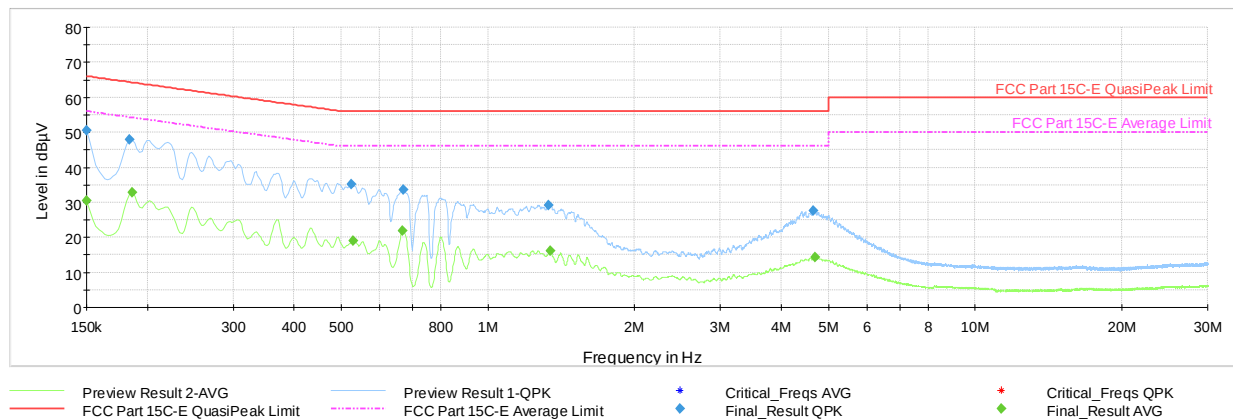
FCC ID: BCGA2301 IC: 579C-A2301	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.150	FINAL	53.3	—	66.00	-12.67	L1	GND
0.150	FINAL	—	32.92	56.00	-23.08	L1	GND
0.186	FINAL	51.3	—	64.21	-12.94	L1	GND
0.186	FINAL	—	35.84	54.21	-18.38	L1	GND
0.528	FINAL	36.1	—	56.00	-19.90	L1	GND
0.533	FINAL	—	20.18	46.00	-25.82	L1	GND
0.668	FINAL	35.4	—	56.00	-20.64	L1	GND
0.670	FINAL	—	22.56	46.00	-23.44	L1	GND
4.684	FINAL	—	16.37	46.00	-29.63	L1	GND
4.702	FINAL	29.6	—	56.00	-26.38	L1	GND
27.821	FINAL	—	9.77	50.00	-40.23	L1	GND
27.888	FINAL	15.8	—	60.00	-44.23	L1	GND

Table 7-70. AC Line Conducted Data with CDD 11n Ch.6 (L1, with AC/DC Adapter)

FCC ID: BCGA2301 IC: 579C-A2301	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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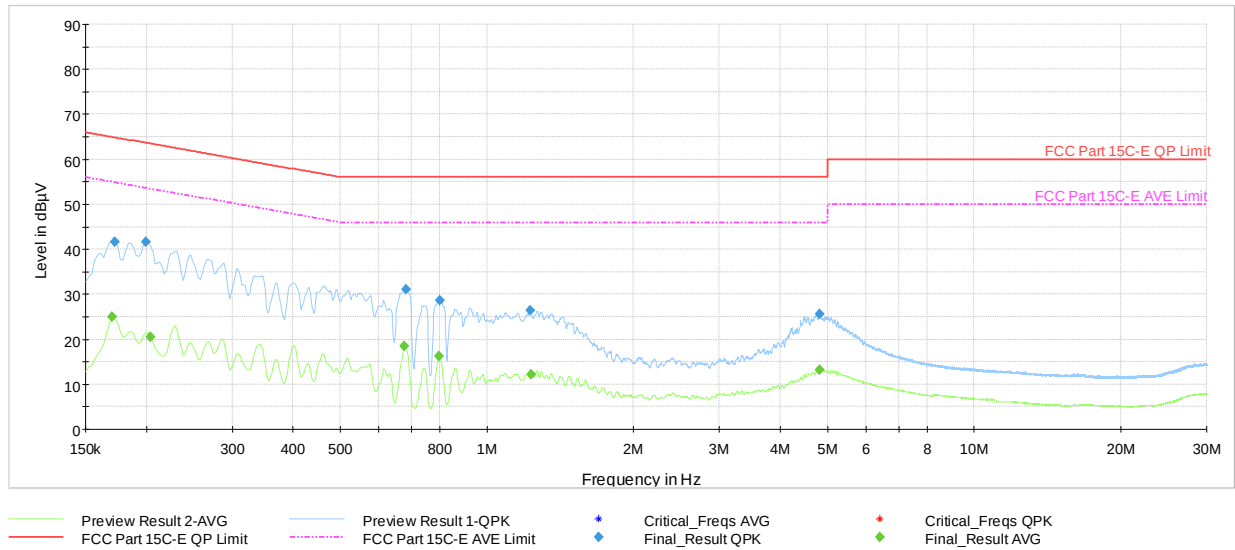


Plot 7-545. AC Line Conducted Plot with CDD 11n Ch.6 (N, with AC/DC Adapter)

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.150	FINAL	50.5	—	66.00	-15.55	N	GND
0.150	FINAL	—	30.41	56.00	-25.59	N	GND
0.184	FINAL	48.1	—	64.31	-16.24	N	GND
0.186	FINAL	—	32.78	54.21	-21.43	N	GND
0.524	FINAL	35.1	—	56.00	-20.95	N	GND
0.528	FINAL	—	19.00	46.00	-27.00	N	GND
0.668	FINAL	—	21.79	46.00	-24.21	N	GND
0.670	FINAL	33.5	—	56.00	-22.50	N	GND
1.334	FINAL	29.1	—	56.00	-26.90	N	GND
1.343	FINAL	—	16.03	46.00	-29.97	N	GND
4.661	FINAL	27.6	—	56.00	-28.44	N	GND
4.688	FINAL	—	14.23	46.00	-31.77	N	GND

Table 7-71. AC Line Conducted Data with CDD 11n Ch.6 (N, with AC/DC Adapter)

FCC ID: BCGA2301 IC: 579C-A2301	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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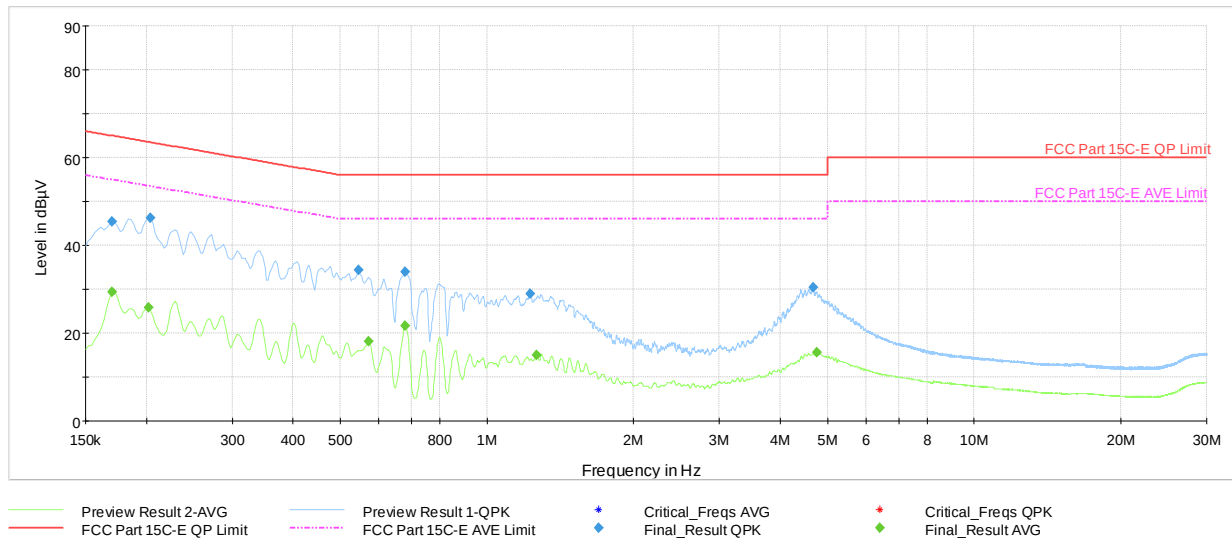


Plot 7-546. AC Line Conducted Plot with CDD 11ax - SU Ch.6 (L1, with AC/DC Adapter)

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.170	FINAL	—	24.96	54.95	-29.98	L1	GND
0.173	FINAL	41.7	—	64.84	-23.15	L1	GND
0.200	FINAL	41.6	—	63.63	-22.05	L1	GND
0.204	FINAL	—	20.60	53.45	-32.85	L1	GND
0.677	FINAL	—	18.47	46.00	-27.53	L1	GND
0.681	FINAL	31.1	—	56.00	-24.93	L1	GND
0.798	FINAL	—	16.20	46.00	-29.80	L1	GND
0.800	FINAL	28.6	—	56.00	-27.43	L1	GND
1.228	FINAL	26.5	—	56.00	-29.50	L1	GND
1.230	FINAL	—	12.18	46.00	-33.82	L1	GND
4.812	FINAL	—	13.23	46.00	-32.77	L1	GND
4.826	FINAL	25.7	—	56.00	-30.32	L1	GND

Table 7-72. AC Line Conducted Data with CDD 11ax - SU Ch.6 (L1, with AC/DC Adapter)

FCC ID: BCGA2301 IC: 579C-A2301	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-547. AC Line Conducted Plot with CDD 11ax - SU Ch.6 (N, with AC/DC Adapter)

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.170	FINAL	45.4	—	64.95	-19.57	N	GND
0.170	FINAL	—	29.47	54.95	-25.48	N	GND
0.202	FINAL	—	25.87	53.54	-27.67	N	GND
0.204	FINAL	46.3	—	63.45	-17.20	N	GND
0.546	FINAL	34.4	—	56.00	-21.65	N	GND
0.571	FINAL	—	18.21	46.00	-27.79	N	GND
0.679	FINAL	—	21.73	46.00	-24.27	N	GND
0.679	FINAL	33.9	—	56.00	-22.10	N	GND
1.228	FINAL	28.9	—	56.00	-27.09	N	GND
1.266	FINAL	—	14.94	46.00	-31.06	N	GND
4.675	FINAL	30.4	—	56.00	-25.65	N	GND
4.747	FINAL	—	15.60	46.00	-30.40	N	GND

Table 7-73. AC Line Conducted Data with CDD 11ax - SU Ch.6 (N, with AC/DC Adapter)

FCC ID: BCGA2301 IC: 579C-A2301	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality 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: BCGA2301, IC: 579C-A2301** 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.

FCC ID: BCGA2301 IC: 579C-A2301	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C2101020002-09.BCG	Test Dates: 12/15/2020-3/6/2021	EUT Type: Tablet Device	Page 345 of 345