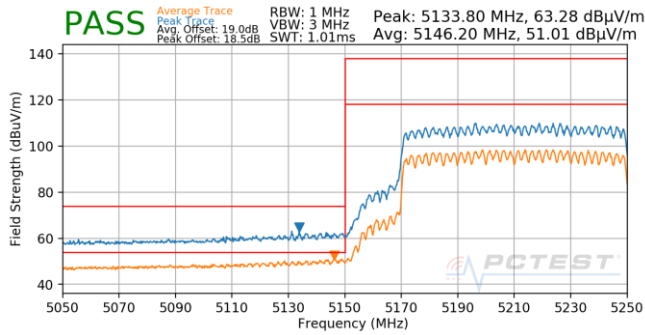
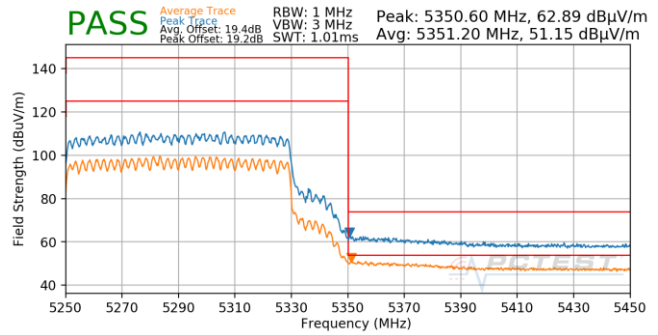
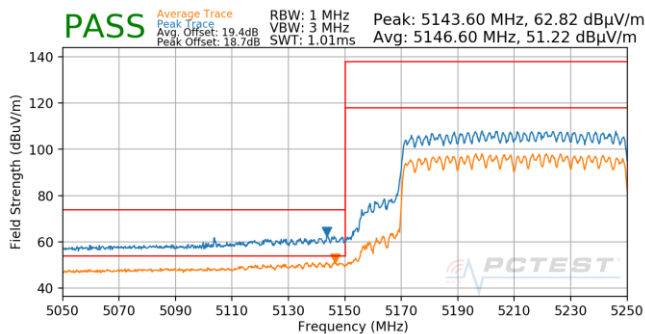




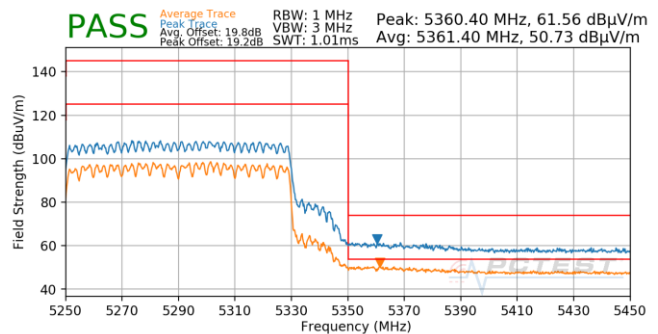
Plot 7-1076. CDD (Pk & Avg, Ch.42, 802.11ax(SU), MCS0)



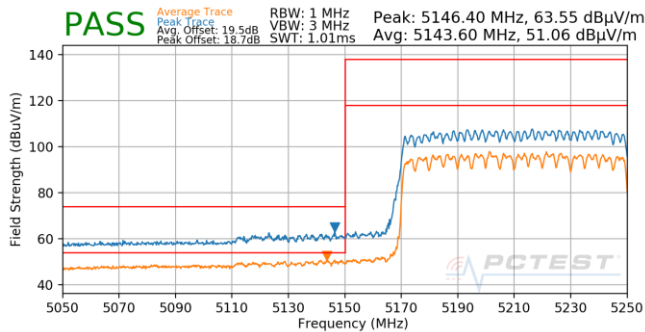
Plot 7-1079. CDD (Pk & Avg, Ch.58, 802.11ax(SU), MCS0)



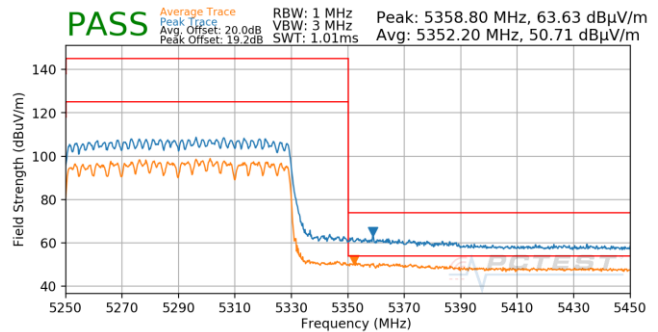
Plot 7-1077. CDD (Pk & Avg, Ch.42, 802.11ax(SU), MCS3)



Plot 7-1080. CDD (Pk & Avg, Ch.58, 802.11ax(SU), MCS3)

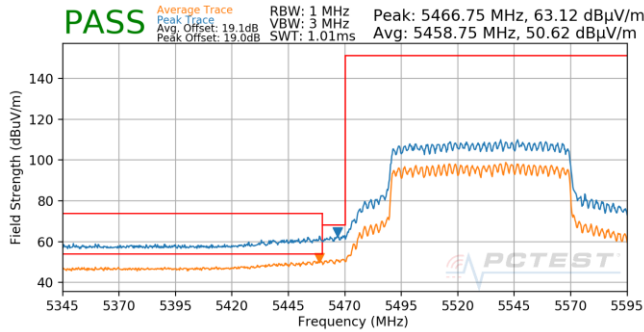


Plot 7-1078. CDD (Pk & Avg, Ch.42, 802.11ax(SU), MCS5)

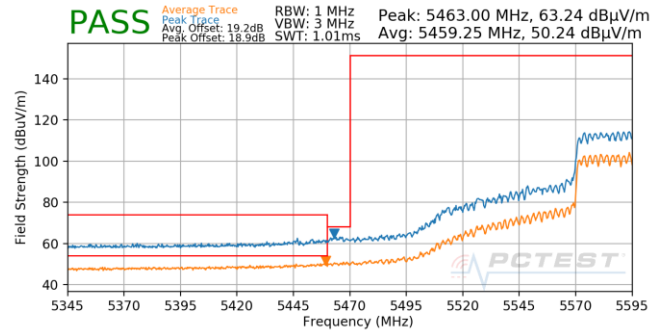


Plot 7-1081. CDD (Pk & Avg, Ch.58, 802.11ax(SU), MCS5)

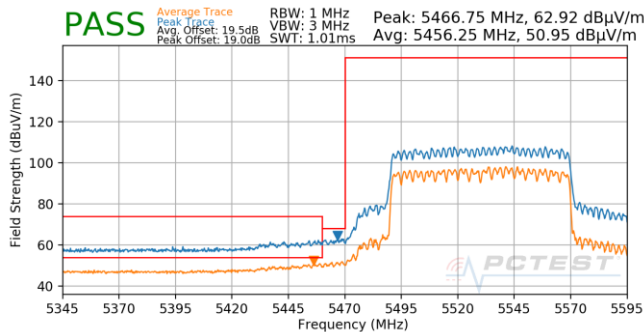
FCC ID: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device		Page 336 of 352



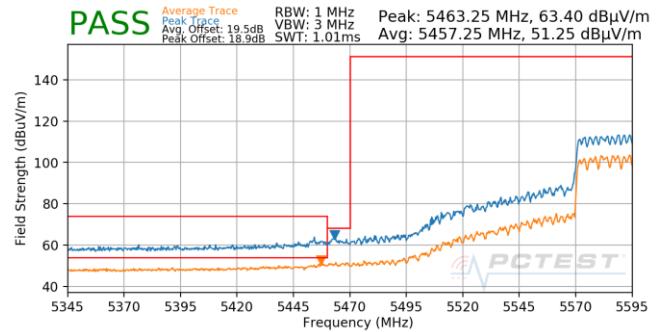
Plot 7-1082. CDD (Pk & Avg, Ch.106, 802.11ax(SU), MCS0)



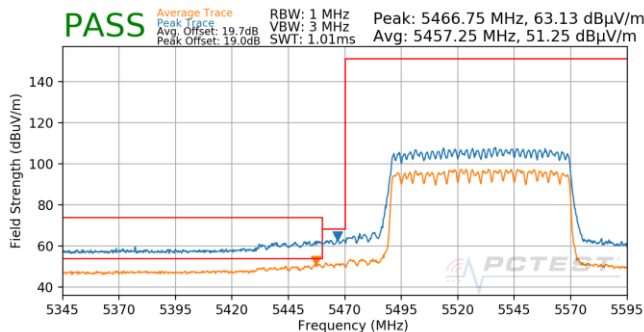
Plot 7-1085. (FCC Only) CDD (Pk & Avg, Ch.122, 802.11ax(SU), MCS0)



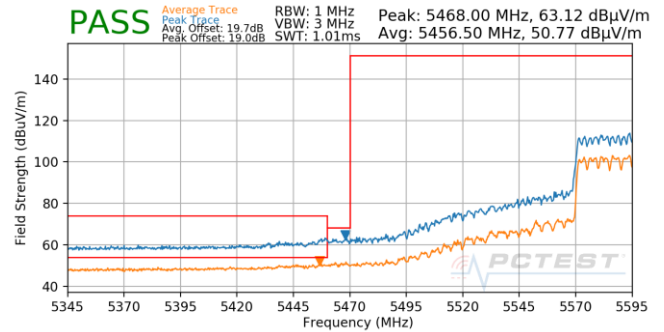
Plot 7-1083. CDD (Pk & Avg, Ch.106, 802.11ax(SU), MCS3)



Plot 7-1086. (FCC Only) CDD (Pk & Avg, Ch.122, 802.11ax(SU), MCS3)

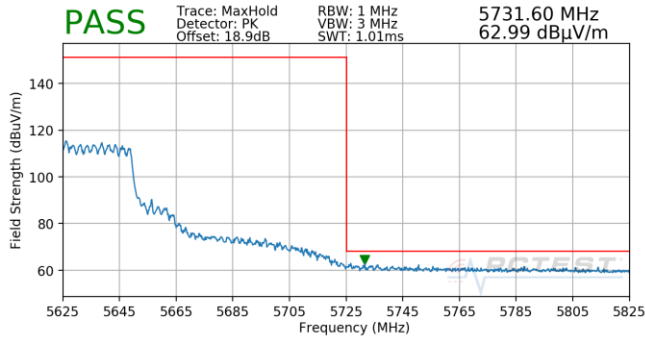


Plot 7-1084. CDD (Pk & Avg, Ch.106, 802.11ax(SU), MCS5)

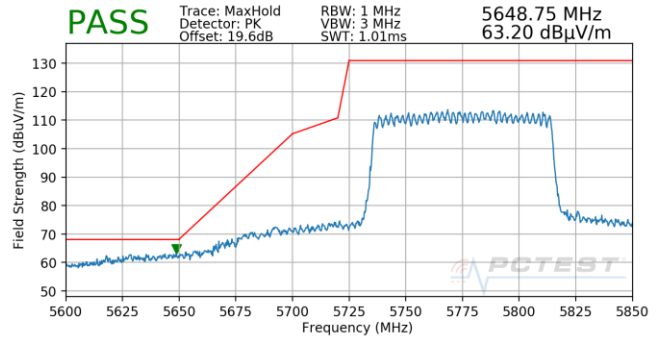


Plot 7-1087. (FCC Only) CDD (Pk & Avg, Ch.122, 802.11ax(SU), MCS5)

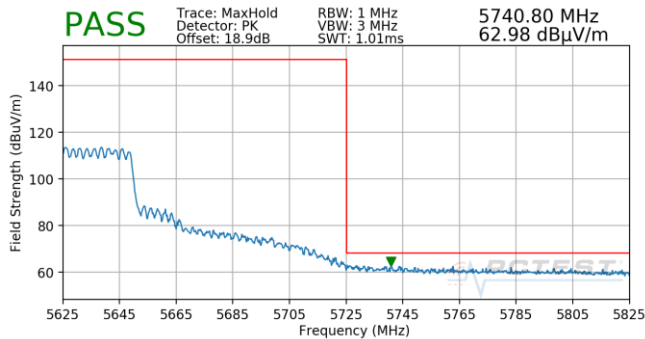
FCC ID: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device		Page 337 of 352



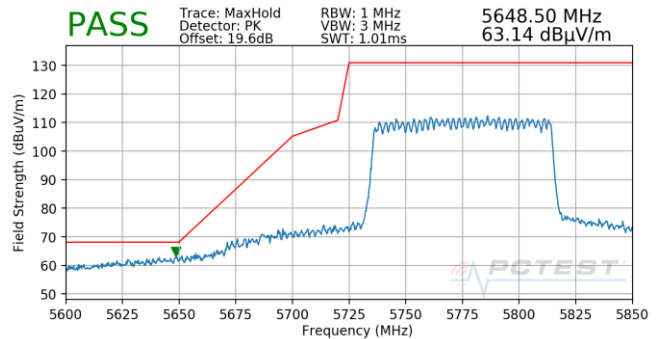
Plot 7-1088. (FCC Only) CDD (Pk, Ch.122, 802.11ax(SU), MCS0)



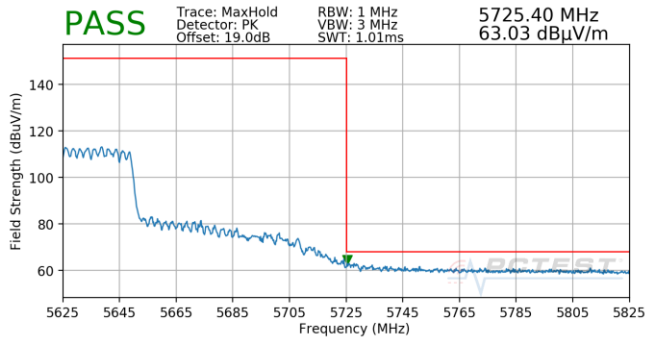
Plot 7-1091. CDD (Pk, Ch.155, 802.11ax(SU), MCS0)



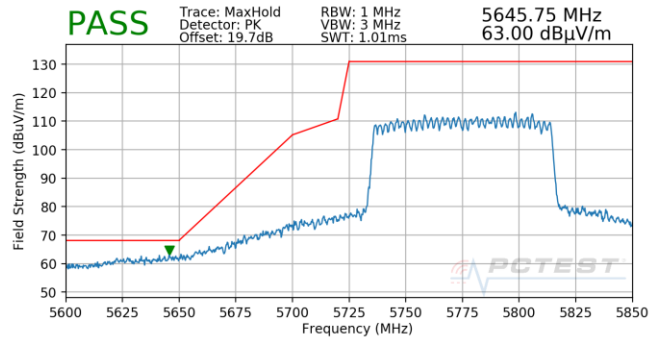
Plot 7-1089. (FCC Only) CDD (Pk, Ch.122, 802.11ax(SU), MCS3)



Plot 7-1092. CDD (Pk, Ch.155, 802.11ax(SU), MCS3)

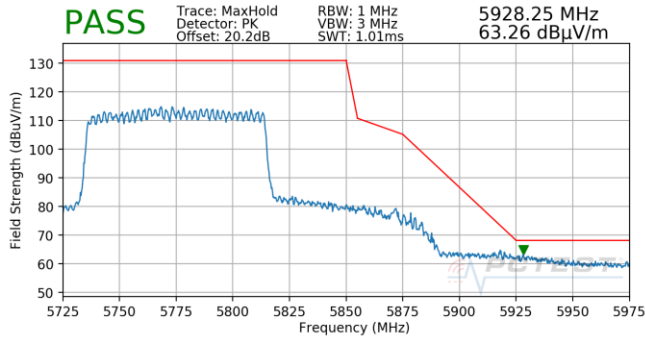


Plot 7-1090. (FCC Only) CDD (Pk, Ch.122, 802.11ax(SU), MCS5)

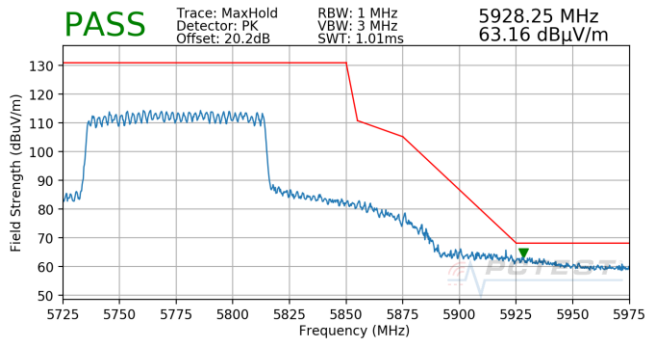


Plot 7-1093. CDD (Pk, Ch.155, 802.11ax(SU), MCS5)

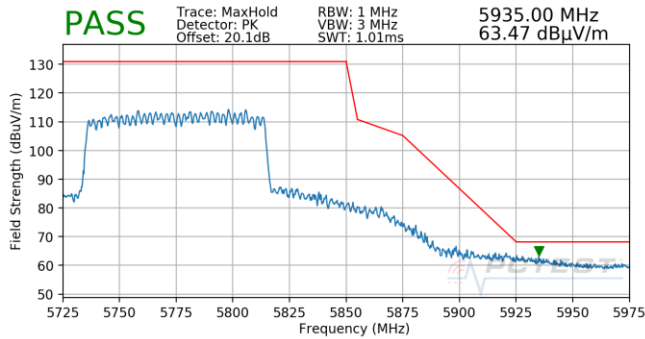
FCC ID: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device		Page 338 of 352



Plot 7-1094. CDD (Pk, Ch.155, 802.11ax(SU), MCS0)



Plot 7-1095. CDD (Pk, Ch.155, 802.11ax(SU), MCS3)



Plot 7-1096. CDD (Pk, Ch.155, 802.11ax(SU), MCS5)

FCC ID: BCGA2588 IC: 579C-A2588	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 339 of 352

7.7 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 7-195 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 7-195. 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 = quasi-peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

FCC ID: BCGA2588 IC: 579C-A2588	 PCTEST® Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 340 of 352

Test Setup

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

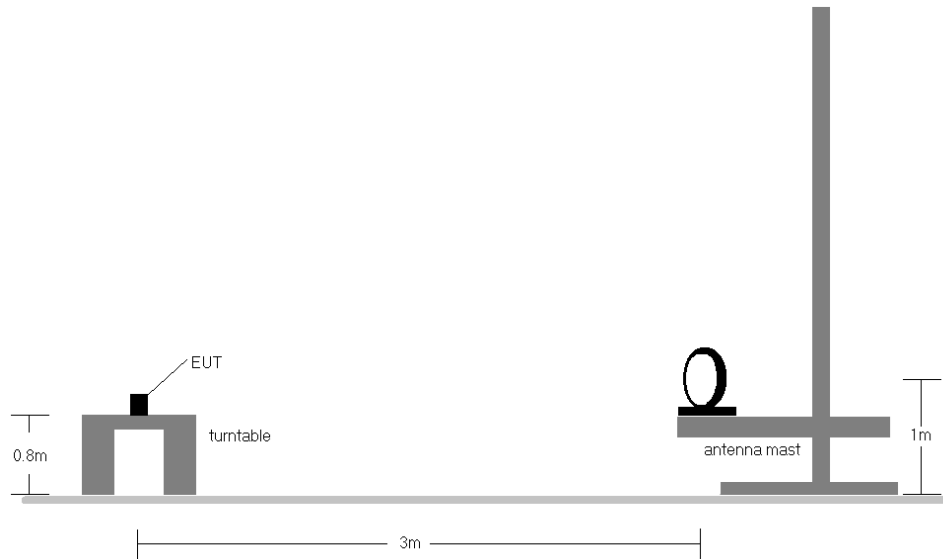


Figure 7-6. Radiated Test Setup < 30MHz

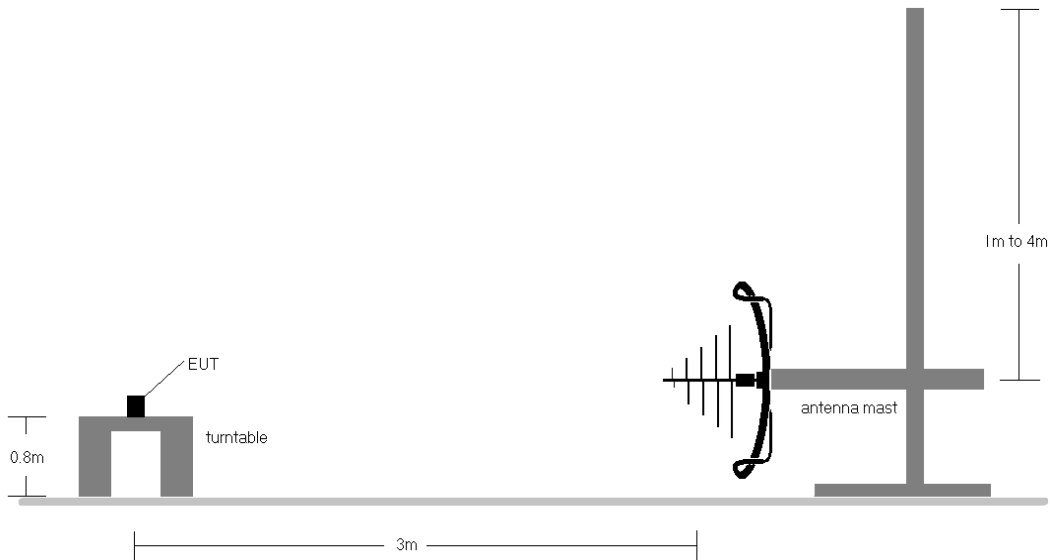


Figure 7-7. Radiated Test Setup < 1GHz

FCC ID: BCGA2588 IC: 579C-A2588		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device		Page 341 of 352

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 7-195.
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. 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
10. All antenna configurations were investigated and only the worst case is reported.
11. The unit was tested with all possible modes and only the highest emission is reported.

Sample Calculations

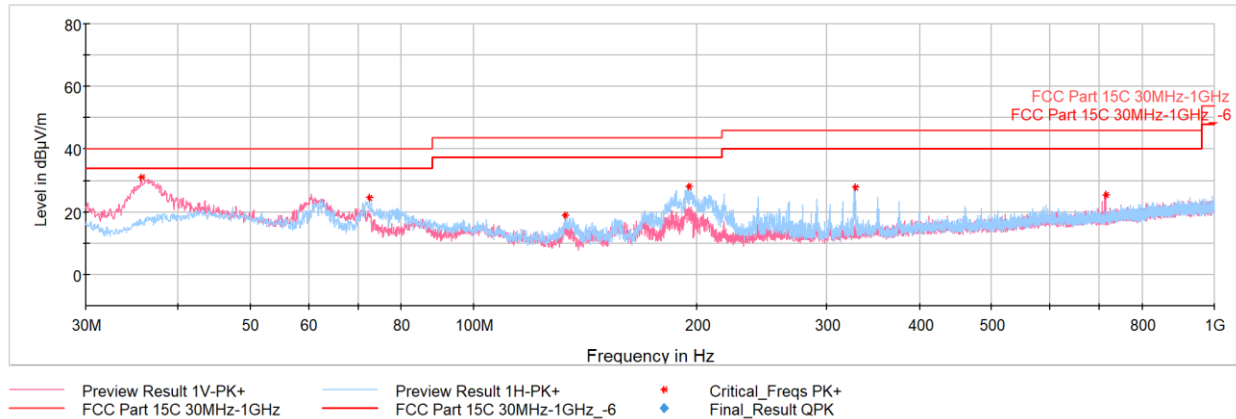
Determining Spurious Emissions Levels

- 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: BCGA2588 IC: 579C-A2588		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device		Page 342 of 352

CDD/SDM Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]

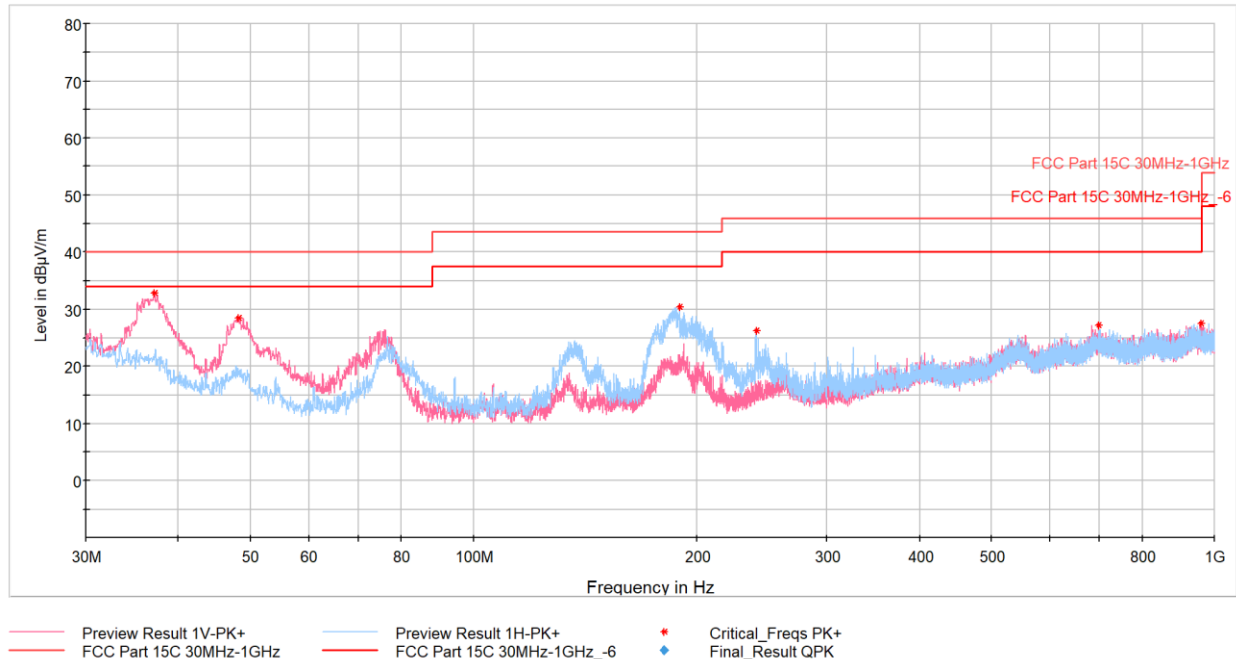


Plot 7-1097. Radiated Spurious Emissions below 1GHz SDM, 802.11n, Ch.40 with AC/DC Adapter

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	21	-57.97	-18.12	30.91	40.00	-9.09
72.49	Max Peak	H	300	335	-60.85	-21.63	24.52	40.00	-15.48
133.16	Max Peak	H	300	59	-66.75	-21.24	19.01	43.52	-24.51
195.09	Max Peak	H	100	88	-61.44	-17.51	28.05	43.52	-15.47
327.21	Max Peak	H	100	336	-64.83	-14.40	27.77	46.02	-18.25
713.03	Max Peak	V	100	316	-74.17	-7.44	25.39	46.02	-20.63

Table 7-196. Radiated Spurious Emissions below 1GHz, 802.11n, Ch.40 with AC/DC Adapter

FCC ID: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 343 of 352



Plot 7-1098. Radiated Spurious Emissions below 1GHz SDM, 802.11ax (SU), Ch.40 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]
37.18	Max Peak	V	100	174	-59.22	-14.99	32.79	40.00	-7.21
48.24	Max Peak	V	100	181	-58.19	-20.22	28.59	40.00	-11.41
189.57	Max Peak	H	100	280	-60.35	-16.23	30.42	43.52	-13.10
240.59	Max Peak	H	100	198	-66.65	-14.06	26.29	46.02	-19.73
697.12	Max Peak	V	100	144	-78.56	-1.16	27.28	46.02	-18.74
957.27	Max Peak	V	300	343	-79.17	-0.24	27.59	46.02	-18.43

Table 7-197. Radiated Spurious Emissions below 1GHz, 802.11ax (SU), Ch.40 with AC/DC Adapter

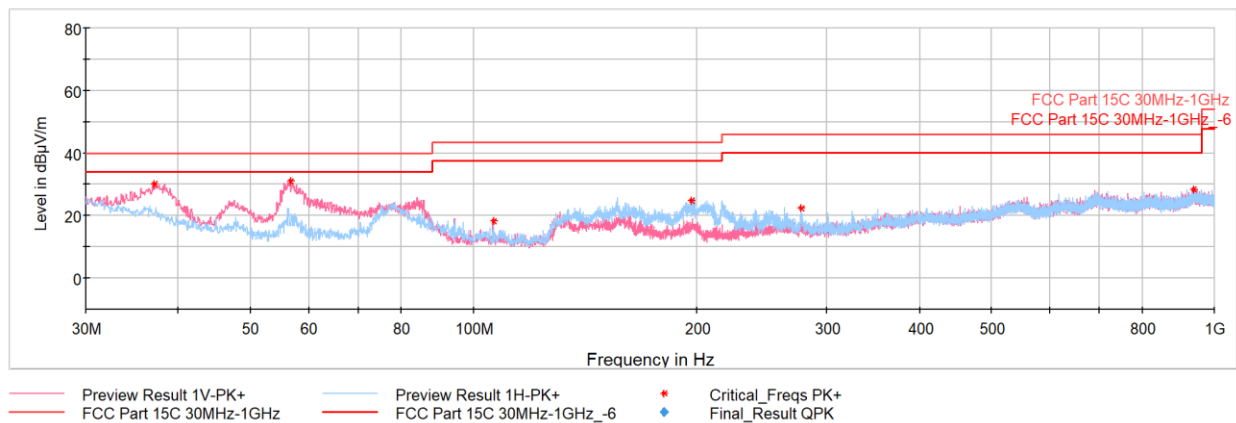
FCC ID: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 344 of 352

7.7.1 Simultaneous TX Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]

Description	Bluetooth	UNII
Antenna	Antenna WF8	Antenna WF8
Channel	19	36
Operating Frequency (MHz)	2440	5180
Data Rate (Mbps)	1.0	MCS0
Mode/Modulation	LE1M ePA	11n

Table 7-198. Worst Case Simultaneous Transmission Configuration



Plot 7-1099. Radiated Spurious Emissions – Simultaneous Transmission 30MHz – 1GHz, 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]
37.13	Max Peak	V	100	233	-62.05	-14.95	30.00	40.00	-10.00
56.68	Max Peak	V	100	193	-61.15	-21.04	30.90	40.00	-9.10
106.44	Max Peak	V	100	296	-73.63	-19.93	18.42	43.52	-25.10
197.08	Max Peak	H	100	118	-67.24	-16.51	24.81	43.52	-18.71
277.11	Max Peak	H	100	292	-69.65	-12.91	22.40	46.02	-23.62
935.88	Max Peak	V	100	13	-63.67	0.18	28.38	46.02	-17.64

Table 7-199. Radiated Spurious Emissions – Simultaneous Transmission 30MHz – 1GHz, with AC/DC Adapter)

FCC ID: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 345 of 352

7.8 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 7-200. 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: BCGA2588 IC: 579C-A2588	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 346 of 352

Test Setup

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

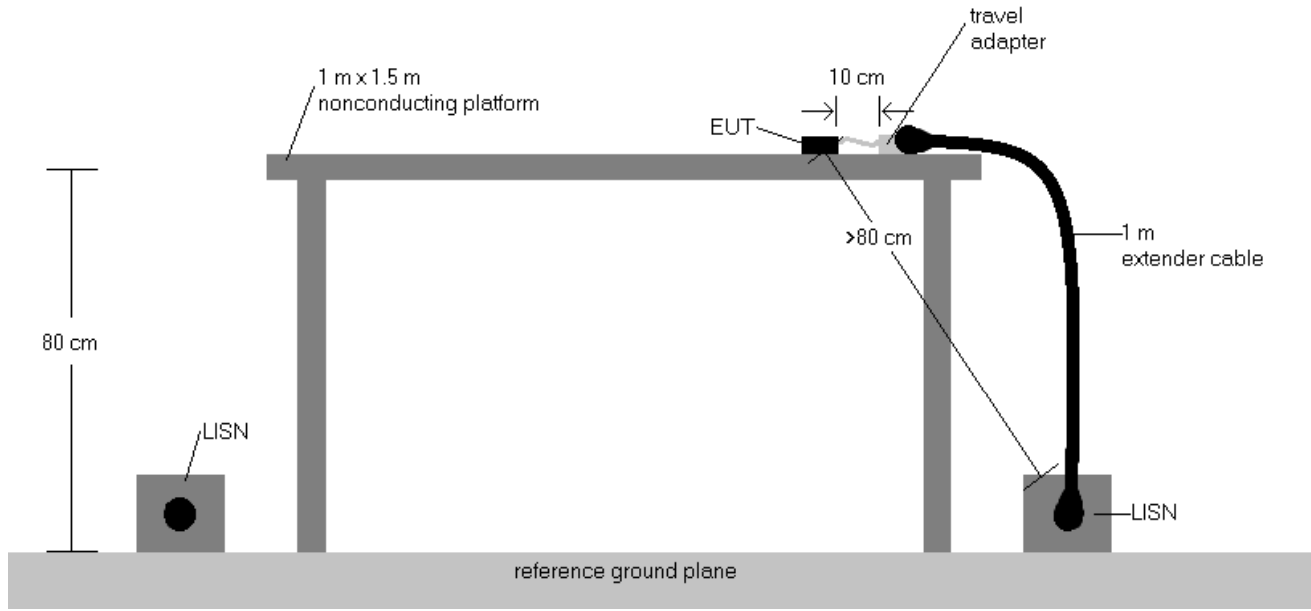
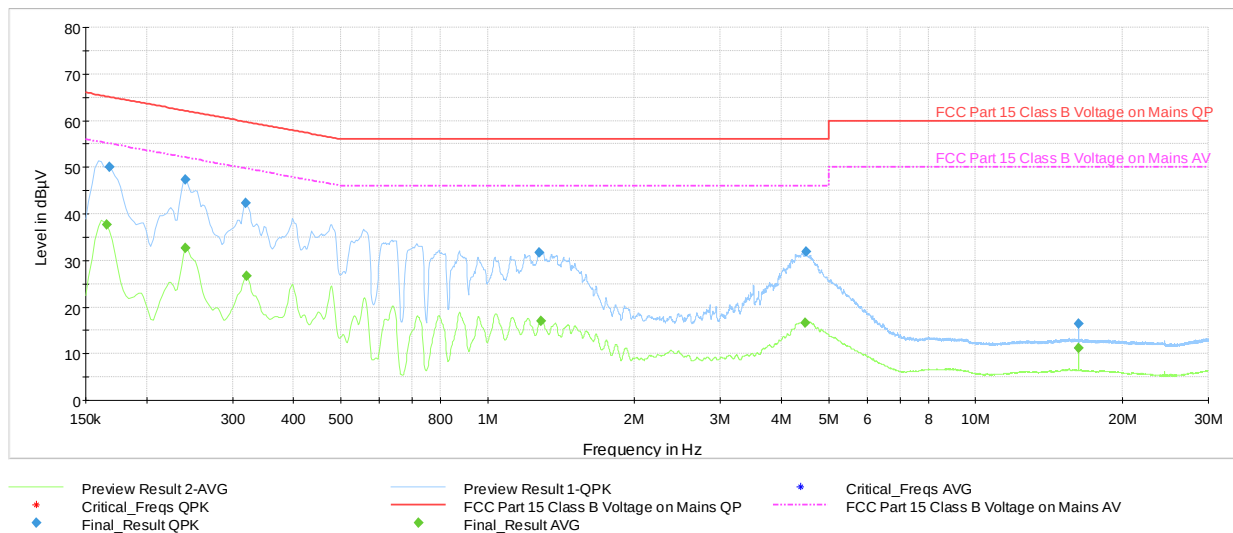


Figure 7-8. Test Instrument & Measurement Setup

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: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 347 of 352

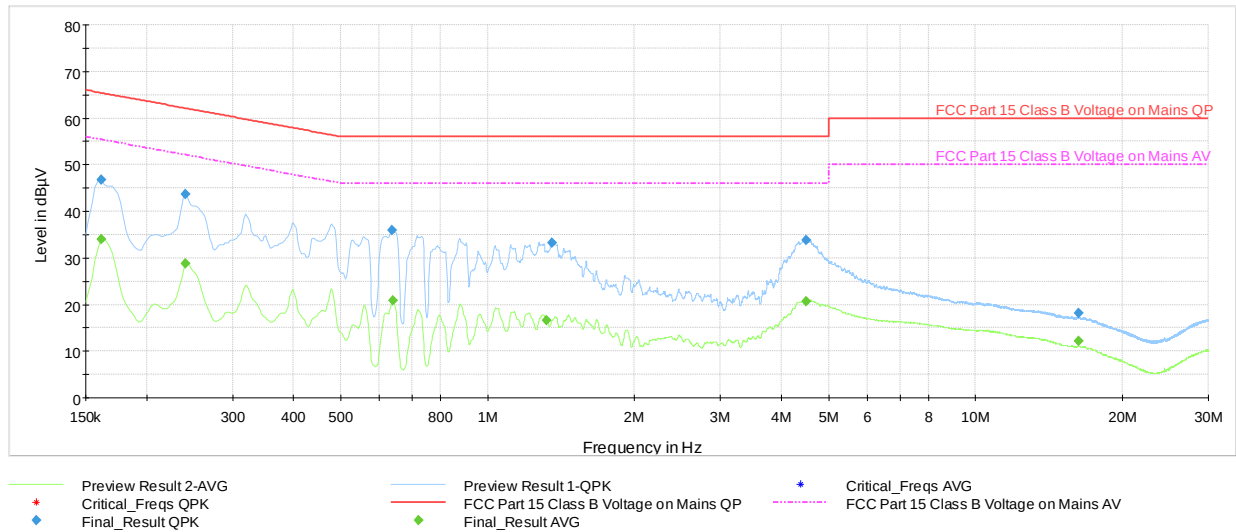


Plot 7-1100. AC Line Conducted Plot with 802.11n SDM – Ch.40 (L1), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.166	FINAL	—	37.66	55.17	-17.51	L1	GND
0.168	FINAL	50.1	—	65.06	-14.93	L1	GND
0.240	FINAL	—	32.59	52.10	-19.51	L1	GND
0.240	FINAL	47.4	—	62.10	-14.74	L1	GND
0.319	FINAL	42.2	—	59.74	-17.52	L1	GND
0.321	FINAL	—	26.76	49.68	-22.92	L1	GND
1.273	FINAL	31.6	—	56.00	-24.38	L1	GND
1.289	FINAL	—	17.04	46.00	-28.96	L1	GND
4.484	FINAL	—	16.70	46.00	-29.30	L1	GND
4.502	FINAL	32.0	—	56.00	-24.05	L1	GND
16.262	FINAL	—	11.11	50.00	-38.89	L1	GND
16.262	FINAL	16.3	—	60.00	-43.66	L1	GND

Table 7-201. AC Line Conducted Data with 802.11n SDM – Ch.40 (L1) with AC/DC adapter

FCC ID: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 348 of 352

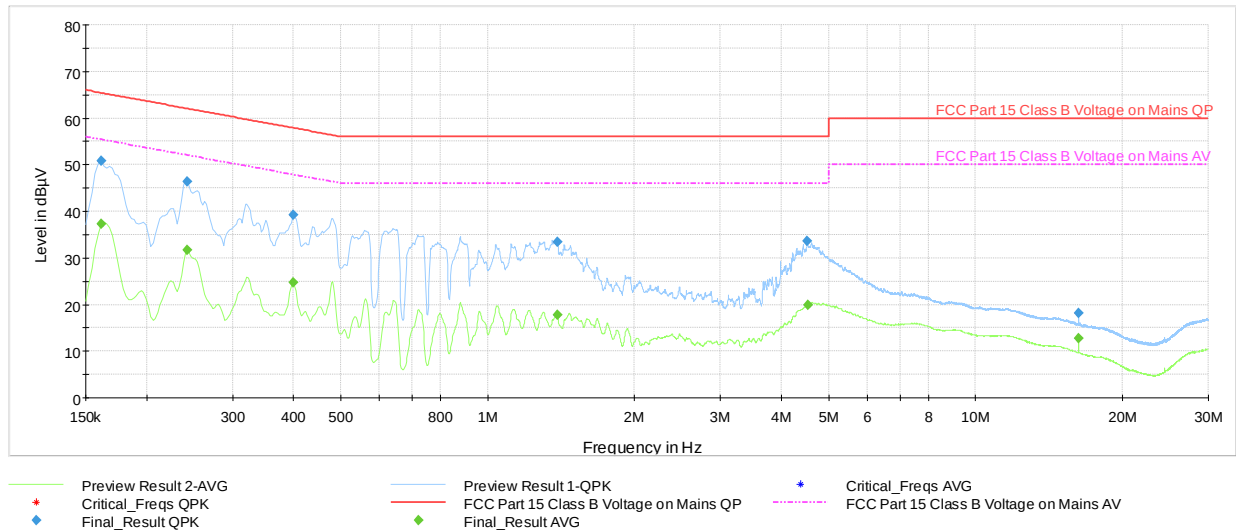


Plot 7-1101. AC Line Conducted Plot with 802.11n SDM – Ch.40 (N), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.161	FINAL	—	34.06	55.40	-21.34	N	GND
0.161	FINAL	46.8	—	65.40	-18.63	N	GND
0.240	FINAL	—	28.75	52.10	-23.35	N	GND
0.240	FINAL	43.8	—	62.10	-18.33	N	GND
0.636	FINAL	35.9	—	56.00	-20.15	N	GND
0.638	FINAL	—	20.86	46.00	-25.14	N	GND
1.318	FINAL	—	16.61	46.00	-29.39	N	GND
1.354	FINAL	33.3	—	56.00	-22.68	N	GND
4.493	FINAL	—	20.68	46.00	-25.32	N	GND
4.495	FINAL	33.9	—	56.00	-22.12	N	GND
16.267	FINAL	—	12.16	50.00	-37.84	N	GND
16.267	FINAL	18.2	—	60.00	-41.81	N	GND

Table 7-202. AC Line Conducted Data with 802.11n SDM – Ch.40 (N), with AC/DC adapter

FCC ID: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 349 of 352

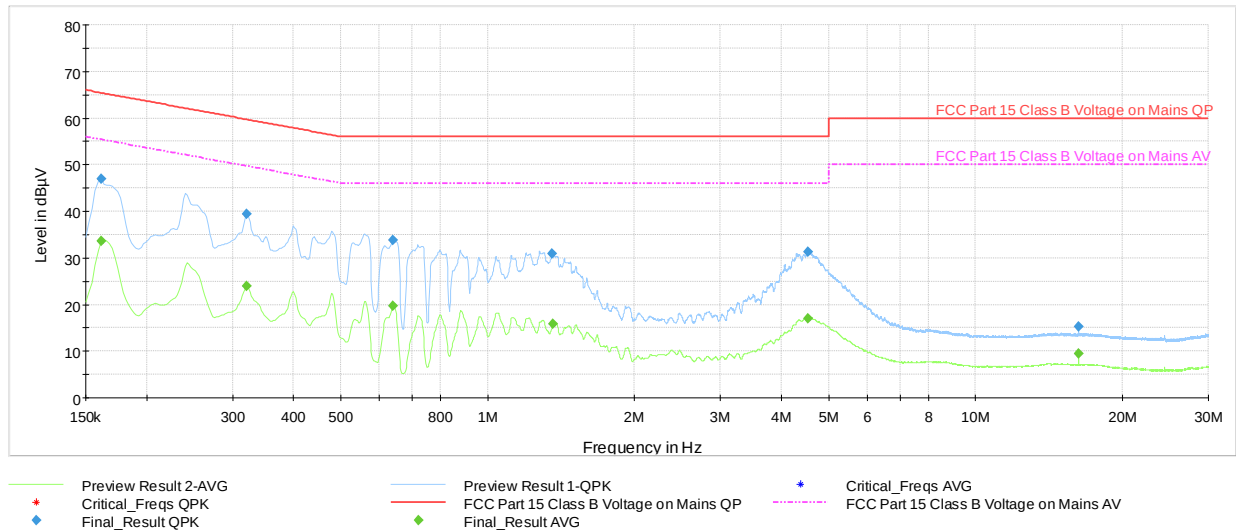


Plot 7-1102. AC Line Conducted Plot with 802.11ax(SU) CDD – Ch.64 (L1), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.161	FINAL	—	37.34	55.40	-18.06	L1	GND
0.161	FINAL	50.8	—	65.40	-14.57	L1	GND
0.242	FINAL	—	31.65	52.02	-20.37	L1	GND
0.242	FINAL	46.3	—	62.02	-15.68	L1	GND
0.400	FINAL	—	24.77	47.86	-23.09	L1	GND
0.400	FINAL	39.3	—	57.86	-18.59	L1	GND
1.390	FINAL	—	17.77	46.00	-28.23	L1	GND
1.392	FINAL	33.5	—	56.00	-22.49	L1	GND
4.517	FINAL	33.6	—	56.00	-22.36	L1	GND
4.535	FINAL	—	19.92	46.00	-26.08	L1	GND
16.260	FINAL	—	12.72	50.00	-37.28	L1	GND
16.260	FINAL	18.3	—	60.00	-41.75	L1	GND

Table 7-203. AC Line Conducted Data with 802.11ax(SU) CDD – Ch.64 (L1) with AC/DC adapter

FCC ID: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 350 of 352



Plot 7-1103. AC Line Conducted Plot with 802.11ax(SU) CDD – Ch.64 (N), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.161	FINAL	—	33.56	55.40	-21.84	N	GND
0.161	FINAL	46.9	—	65.40	-18.50	N	GND
0.321	FINAL	—	24.00	49.68	-25.68	N	GND
0.321	FINAL	39.3	—	59.68	-20.35	N	GND
0.638	FINAL	—	19.69	46.00	-26.31	N	GND
0.641	FINAL	33.8	—	56.00	-22.23	N	GND
1.356	FINAL	30.8	—	56.00	-25.16	N	GND
1.358	FINAL	—	15.77	46.00	-30.23	N	GND
4.526	FINAL	—	16.96	46.00	-29.04	N	GND
4.531	FINAL	31.3	—	56.00	-24.68	N	GND
16.265	FINAL	—	9.39	50.00	-40.61	N	GND
16.265	FINAL	15.3	—	60.00	-44.74	N	GND

Table 7-204. AC Line Conducted Data with 802.11ax(SU) CDD – Ch.64 (N), with AC/DC adapter

FCC ID: BCGA2588 IC: 579C-A2588	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 351 of 352

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Apple Tablet Device FCC ID: BCGA2588** and **IC: 579C-A2588** is in compliance with Part 15 Subpart E (15.407) of the FCC Rules and RSS-247 of the Innovation, Science and Economic Development Canada Rules.

FCC ID: BCGA2588 IC: 579C-A2588	 PCTEST Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2111150078-07.BCG	Test Dates: 12/02/2021- 02/06/2022	EUT Type: Tablet Device	Page 352 of 352