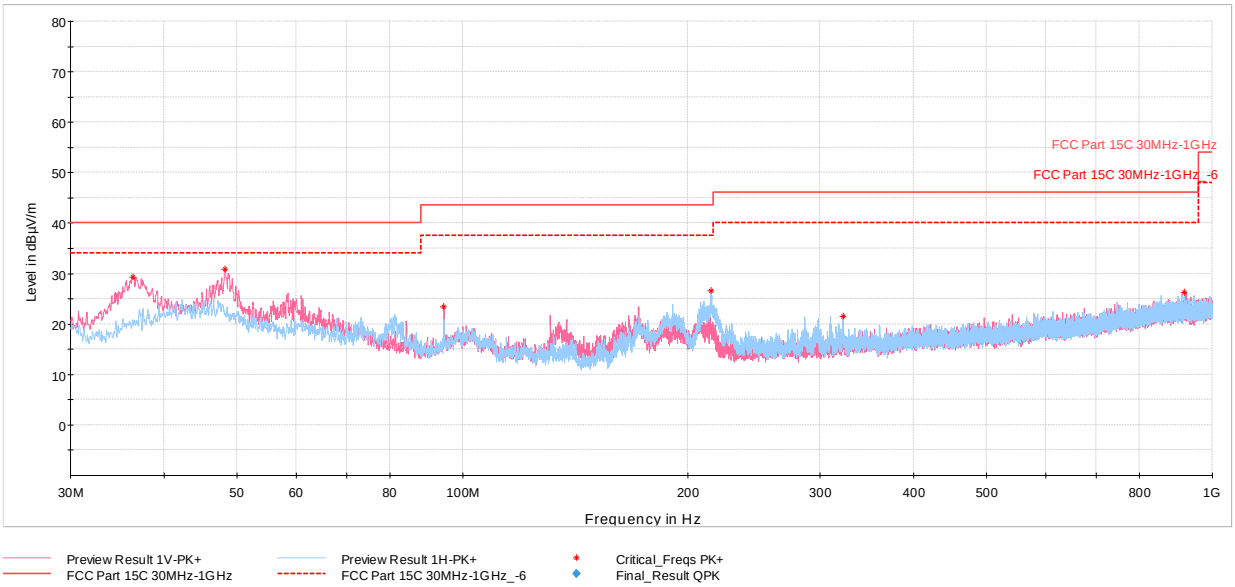
CDD Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-734. 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]
36.31	Max-Peak	V	100	122	-59.25	-18.38	29.37	40.00	-10.63
48.19	Max-Peak	V	100	4	-60.61	-15.45	30.94	40.00	-9.06
94.46	Max-Peak	V	100	214	-64.53	-19.06	23.41	43.52	-20.11
214.59	Max-Peak	H	100	163	-62.53	-17.89	26.58	43.52	-16.94
321.92	Max-Peak	H	100	104	-70.82	-14.58	21.60	46.02	-24.42
916.73	Max-Peak	V	300	160	-76.64	-4.02	26.34	46.02	-19.68

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

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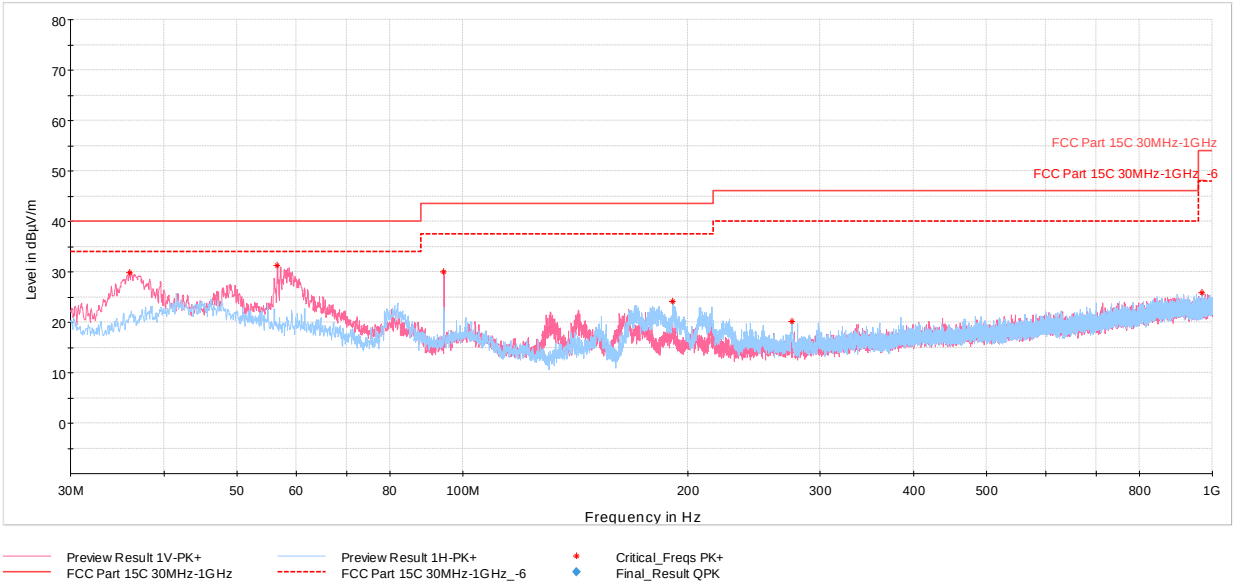

Plot 7-735. Radiated Spurious Emissions below 1GHz CDD 11ax - SU Ch.6, with AC/DC Adapter

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]
35.97	Max-Peak	V	100	314	-58.64	-18.46	29.90	40.00	-10.10
56.63	Max-Peak	V	100	91	-59.49	-16.30	31.21	40.00	-8.79
94.41	Max-Peak	V	100	176	-57.91	-19.08	30.01	43.52	-13.51
190.73	Max-Peak	H	100	262	-64.61	-18.33	24.06	43.52	-19.46
275.07	Max-Peak	H	100	202	-70.86	-15.94	20.20	46.02	-25.82
967.89	Max-Peak	V	300	157	-77.34	-3.84	25.82	53.98	-28.16

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

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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, 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.

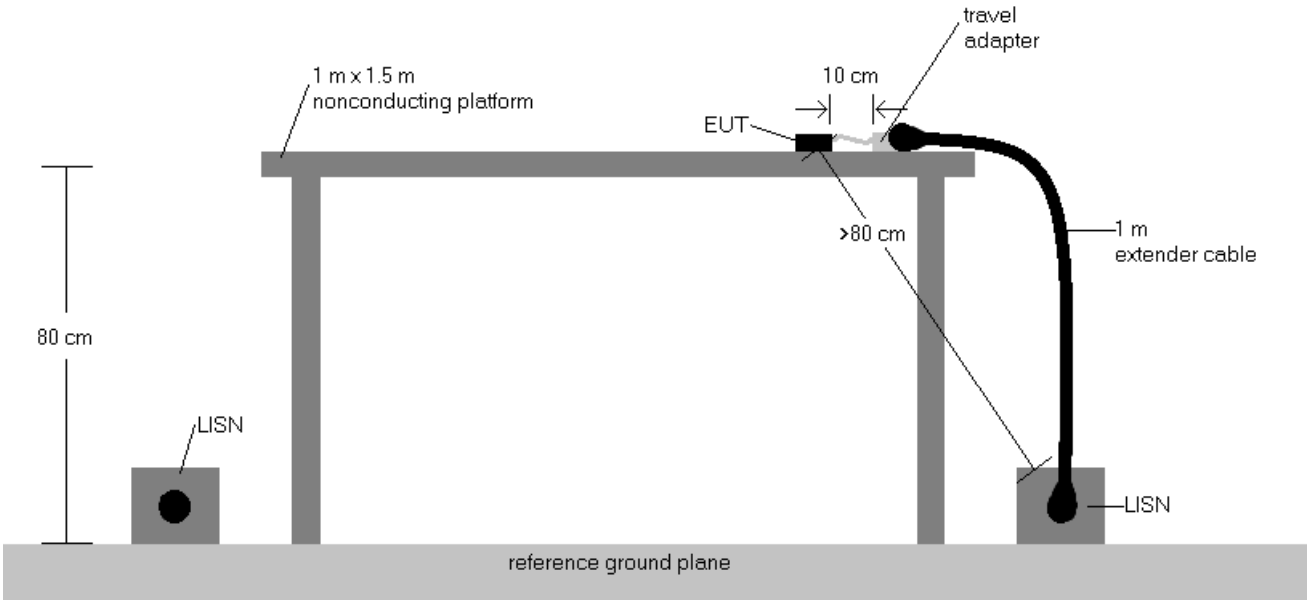

Figure 7-9. Test Instrument & Measurement Setup

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 wire charger
   b. EUT powered by host PC via USB-C cable with wire 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 (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
6. Margin (dB) = QP/AV Level (dBμV) - QP/AV Limit (dBμV)
7. Traces shown in plot are made using quasi peak and average detectors.
8. Deviations to the Specifications: None.
9. The unit was tested with all possible modes and only the highest emission is reported.

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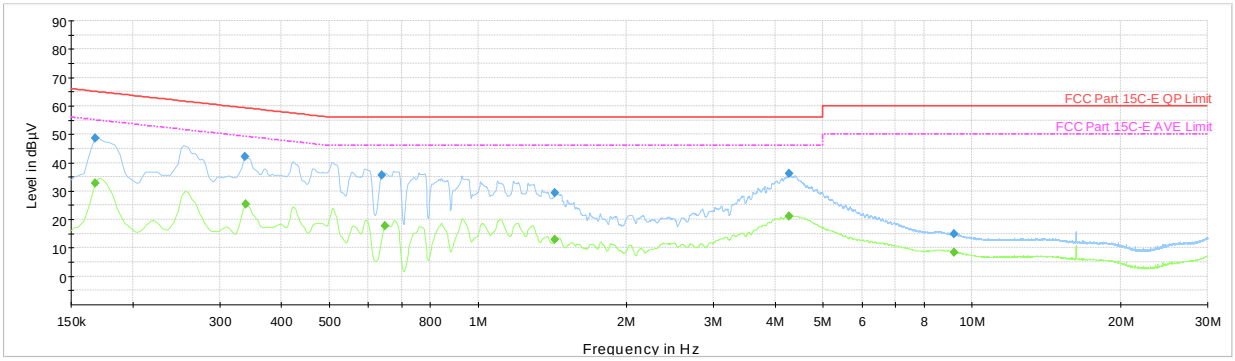

Plot 7-736. AC Line Conducted Plot with CDD 11n Ch.6 (L1, with AC/DC Adapter)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.168	FINAL	—	32.78	55.06	-22.28	L1	GND
0.168	FINAL	48.6	—	65.06	-16.42	L1	GND
0.337	FINAL	42.0	—	59.28	-17.29	L1	GND
0.339	FINAL	—	25.46	49.23	-23.76	L1	GND
0.638	FINAL	35.6	—	56.00	-20.42	L1	GND
0.647	FINAL	—	17.75	46.00	-28.25	L1	GND
1.430	FINAL	29.4	—	56.00	-26.56	L1	GND
1.433	FINAL	—	13.04	46.00	-32.96	L1	GND
4.263	FINAL	—	21.27	46.00	-24.73	L1	GND
4.265	FINAL	36.1	—	56.00	-19.90	L1	GND
9.202	FINAL	14.8	—	60.00	-45.21	L1	GND
9.209	FINAL	—	8.45	50.00	-41.55	L1	GND

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

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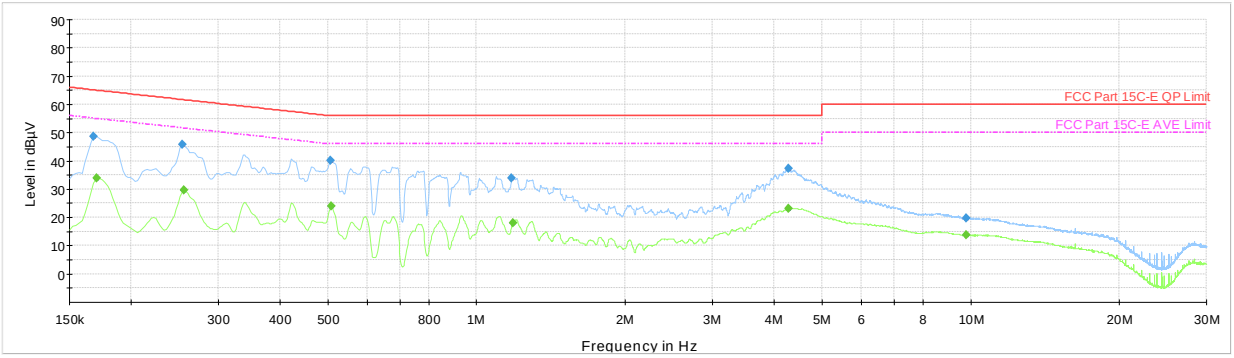

Plot 7-737. AC Line Conducted Plot with CDD 11n Ch.6 (N, with AC/DC Adapter)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.168	FINAL	48.6	—	65.06	-16.49	N	GND
0.170	FINAL	—	34.01	54.95	-20.93	N	GND
0.254	FINAL	45.9	—	61.64	-15.75	N	GND
0.256	FINAL	—	29.64	51.57	-21.93	N	GND
0.506	FINAL	40.0	—	56.00	-15.97	N	GND
0.508	FINAL	—	24.02	46.00	-21.98	N	GND
1.178	FINAL	34.0	—	56.00	-22.03	N	GND
1.185	FINAL	—	18.18	46.00	-27.82	N	GND
4.272	FINAL	37.3	—	56.00	-18.71	N	GND
4.281	FINAL	—	23.22	46.00	-22.78	N	GND
9.778	FINAL	19.8	—	60.00	-40.22	N	GND
9.794	FINAL	—	13.67	50.00	-36.33	N	GND

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

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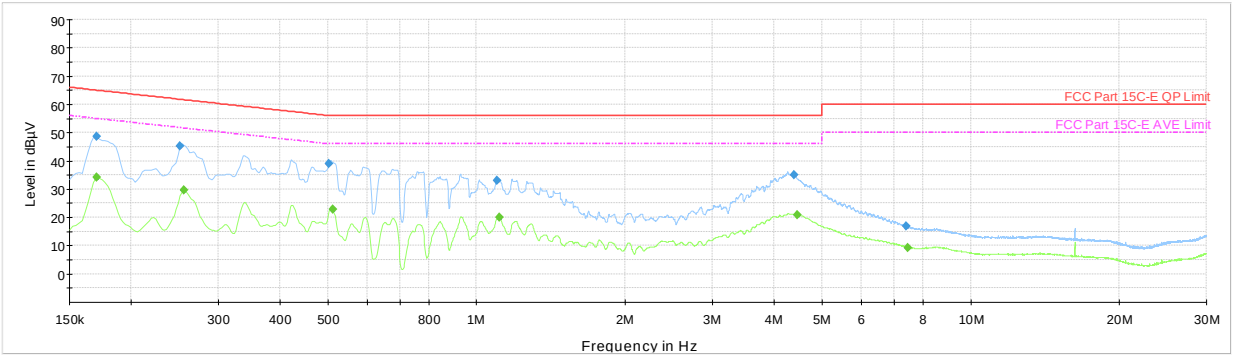

Plot 7-738. AC Line Conducted Plot with CDD 11ax - SU Ch.6 (L1, with AC/DC Adapter)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.170	FINAL	—	34.07	54.95	-20.88	L1	GND
0.170	FINAL	48.6	—	64.95	-16.35	L1	GND
0.251	FINAL	45.1	—	61.72	-16.60	L1	GND
0.256	FINAL	—	29.66	51.57	-21.91	L1	GND
0.503	FINAL	39.1	—	56.00	-16.88	L1	GND
0.512	FINAL	—	22.84	46.00	-23.16	L1	GND
1.100	FINAL	32.9	—	56.00	-23.08	L1	GND
1.113	FINAL	—	19.96	46.00	-26.04	L1	GND
4.389	FINAL	35.0	—	56.00	-21.04	L1	GND
4.466	FINAL	—	20.85	46.00	-25.15	L1	GND
7.400	FINAL	17.0	—	60.00	-43.03	L1	GND
7.463	FINAL	—	9.39	50.00	-40.61	L1	GND

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

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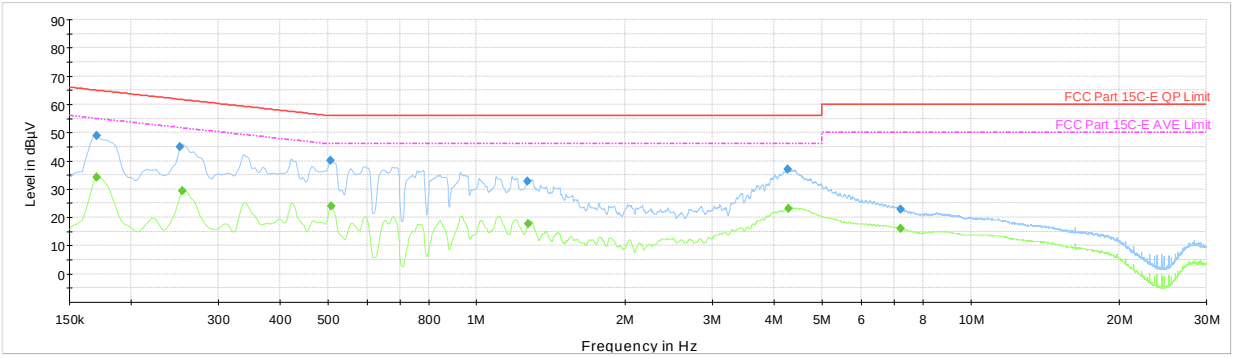

Plot 7-739. AC Line Conducted Plot with CDD 11ax - SU Ch.6 (N, with AC/DC Adapter)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.170	FINAL	—	34.27	54.95	-20.68	N	GND
0.170	FINAL	48.9	—	64.95	-16.03	N	GND
0.251	FINAL	45.1	—	61.72	-16.65	N	GND
0.254	FINAL	—	29.27	51.64	-22.37	N	GND
0.506	FINAL	40.2	—	56.00	-15.84	N	GND
0.508	FINAL	—	24.12	46.00	-21.88	N	GND
1.268	FINAL	32.9	—	56.00	-23.11	N	GND
1.273	FINAL	—	17.74	46.00	-28.26	N	GND
4.270	FINAL	37.1	—	56.00	-18.89	N	GND
4.272	FINAL	—	23.24	46.00	-22.76	N	GND
7.222	FINAL	22.9	—	60.00	-37.08	N	GND
7.224	FINAL	—	15.93	50.00	-34.07	N	GND

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

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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: BCGA2436, IC: 579C-A2436** 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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