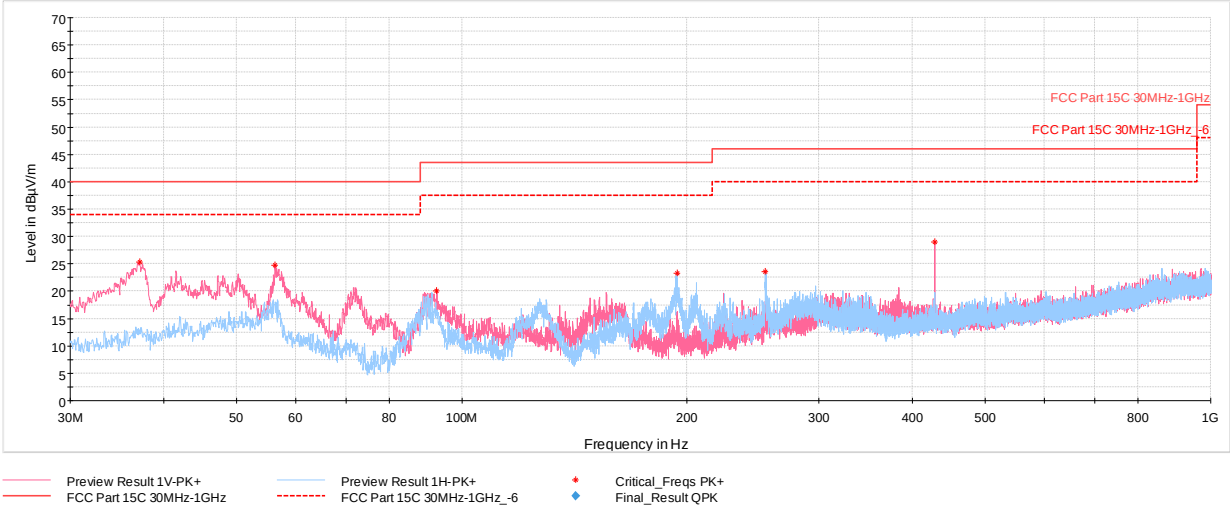
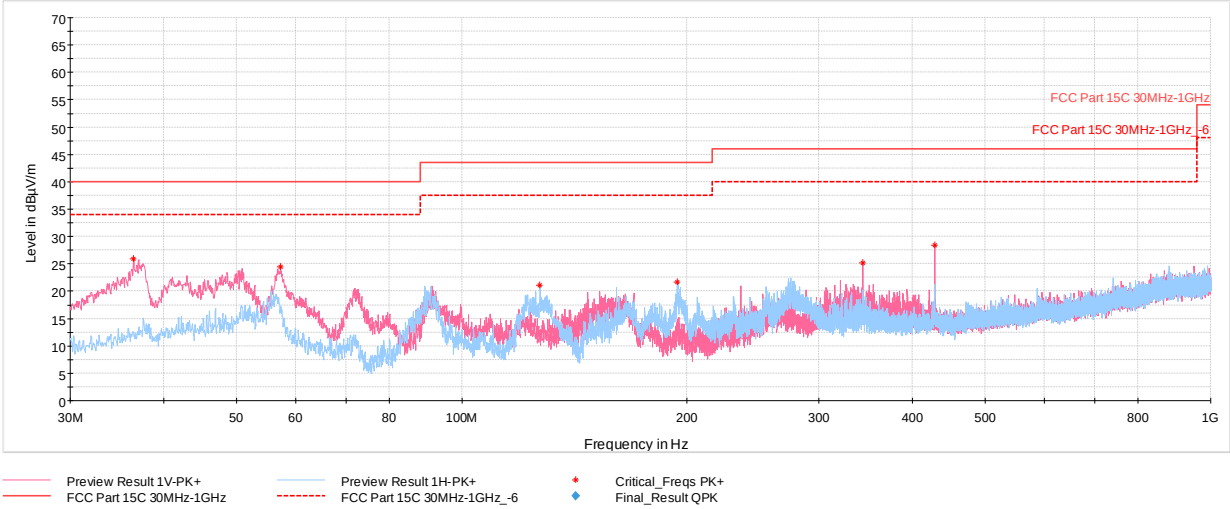


Plot 7-1946. Radiated Spurious Emissions below 1GHz, 802.11n, CDD Diversity Ch.36 with AC/DC Adapter

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	13	-66.40	-15.20	25.40	40.00	-14.60
56.29	Max-Peak	V	100	110	-67.90	-14.41	24.69	40.00	-15.31
92.61	Max-Peak	V	100	174	-69.19	-17.70	20.11	43.52	-23.41
193.74	Max-Peak	H	100	168	-66.79	-17.00	23.21	43.52	-20.31
254.31	Max-Peak	H	100	175	-68.28	-15.16	23.56	46.02	-22.46
427.89	Max-Peak	V	100	185	-66.90	-11.08	29.02	46.02	-17.00

Table 7-372. Radiated Spurious Emissions below 1GHz, 802.11n, CDD Diversity Ch.36 with AC/DC Adapter

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



Plot 7-1947. Radiated Spurious Emissions below 1GHz 802.11ax (SU), CDD Diversity Ch.36 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]
36.45	Max-Peak	V	100	36	-65.75	-15.37	25.88	40.00	-14.12
57.21	Max-Peak	V	100	176	-67.93	-14.65	24.42	40.00	-15.58
127.19	Max-Peak	H	300	0	-66.48	-19.44	21.08	43.52	-22.44
193.83	Max-Peak	H	100	179	-68.41	-16.98	21.61	43.52	-21.91
343.12	Max-Peak	V	200	1	-69.09	-12.73	25.18	46.02	-20.84
427.85	Max-Peak	V	100	169	-67.45	-11.08	28.47	46.02	-17.55

Table 7-373. Radiated Spurious Emissions below 1GHz, CDD Diversity 802.11ax (SU), Ch.36 with AC/DC Adapter

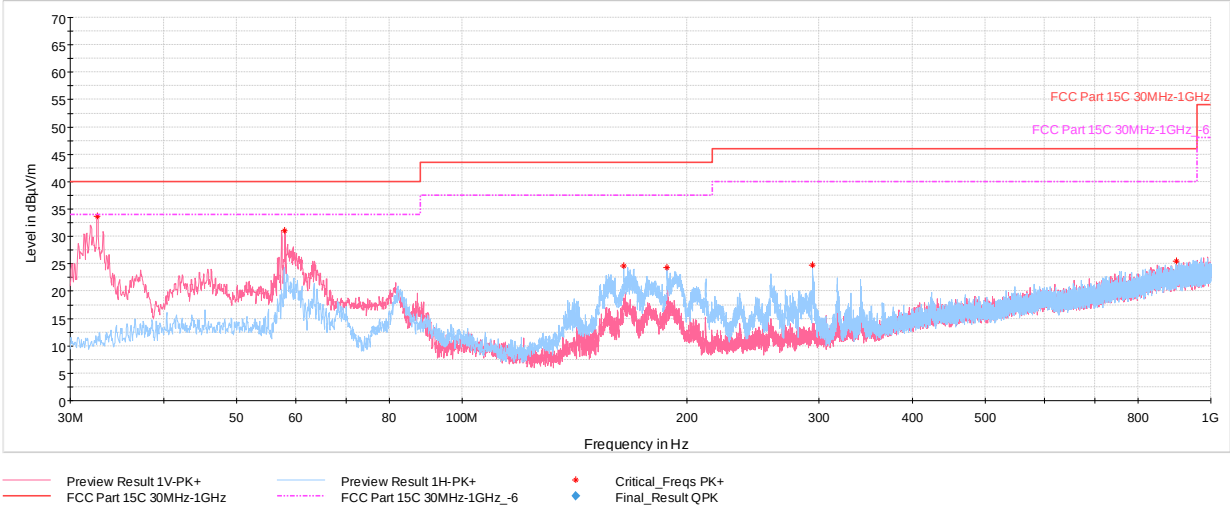
Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

Simultaneous TX Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]

Description	Bluetooth	UNII
Antenna	Antenna WF8	Antenna WF8
Channel	79	36
Operating Frequency (MHz)	2480	5180
Mode/Modulation	GFSK ePA	802.11n

Table 7-374. Worst Case Simultaneous Configuration



Plot 7-1948. Radiated Spurious Emissions – Simutaneous 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]
32.62	Max-Peak	V	100	330	-57.26	-16.00	33.74	40.00	-6.26
58.03	Max-Peak	V	100	343	-61.09	-14.86	31.05	40.00	-8.95
164.59	Max-Peak	H	200	159	-62.94	-19.42	24.64	43.52	-18.88
187.96	Max-Peak	H	200	185	-64.93	-17.73	24.34	43.52	-19.18
293.84	Max-Peak	H	100	292	-67.60	-14.70	24.70	46.02	-21.32
899.65	Max-Peak	V	300	194	-79.12	-2.41	25.47	46.02	-20.55

Table 7-375. Radiated Spurious Emissions – Simultaneous Transmission 30MHz – 1GHz, with AC/DC Adapter)

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

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 7-376. 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

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

Test Setup

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

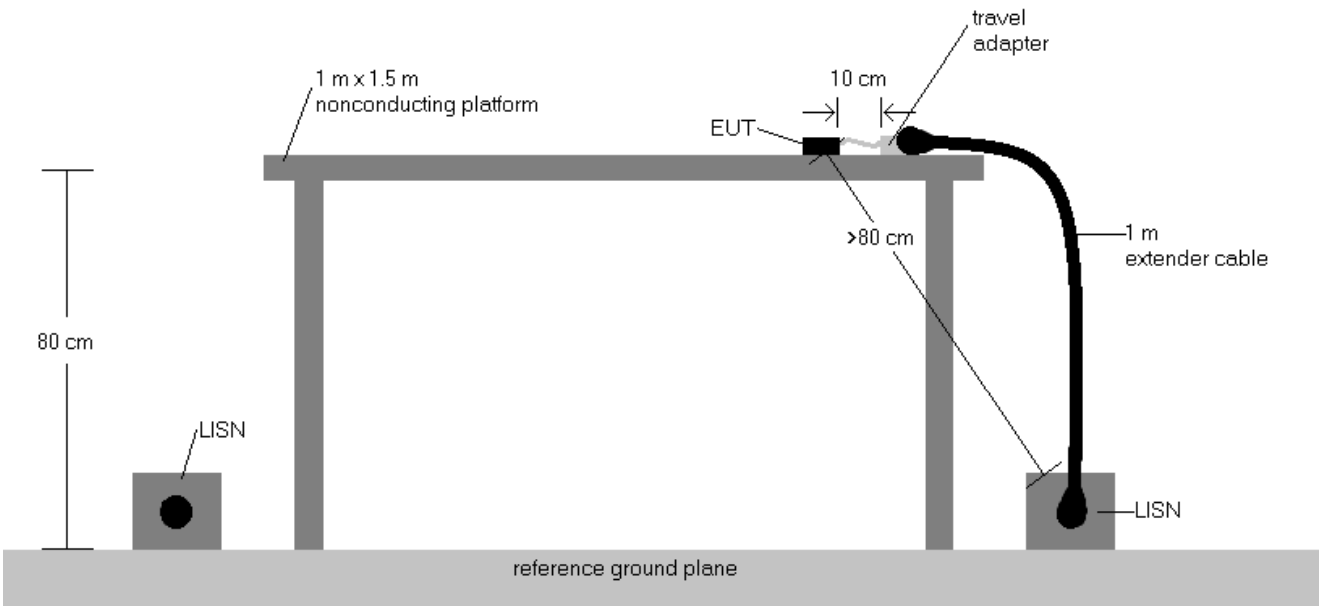
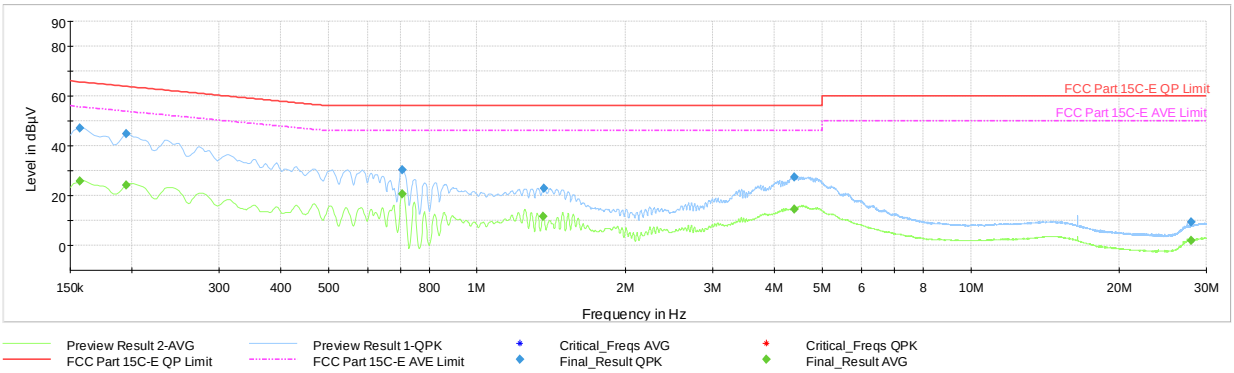


Figure 7-8. Test Instrument & Measurement Setup

Test Notes

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 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) + Correction Factor (dB)
6. Margin (dB) = QP/AV Level (dBμV) - QP/AV Limit (dBμV)
7. Traces shown in plots 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.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

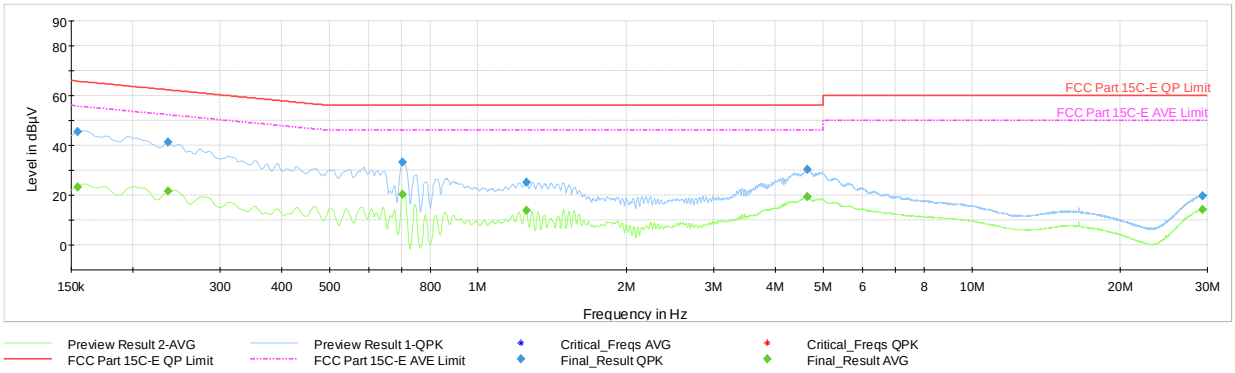


Plot 7-1949. AC Line Conducted Plot with 802.11n CDD Primary – Ch.36 (L1), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.157	FINAL	—	25.74	55.63	-29.89	L1	GND
0.157	FINAL	47.1	—	65.63	-18.50	L1	GND
0.195	FINAL	—	24.27	53.82	-29.55	L1	GND
0.195	FINAL	44.8	—	63.82	-19.04	L1	GND
0.706	FINAL	—	20.59	46.00	-25.41	L1	GND
0.706	FINAL	30.3	—	56.00	-25.73	L1	GND
1.363	FINAL	—	11.67	46.00	-34.33	L1	GND
1.365	FINAL	22.9	—	56.00	-33.08	L1	GND
4.398	FINAL	27.3	—	56.00	-28.67	L1	GND
4.398	FINAL	—	14.61	46.00	-31.39	L1	GND
27.940	FINAL	—	1.98	50.00	-48.02	L1	GND
27.940	FINAL	9.5	—	60.00	-50.55	L1	GND

Table 7-377. AC Line Conducted Data with 802.11n CDD Primary – Ch.36 (L1) with AC/DC adapter

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



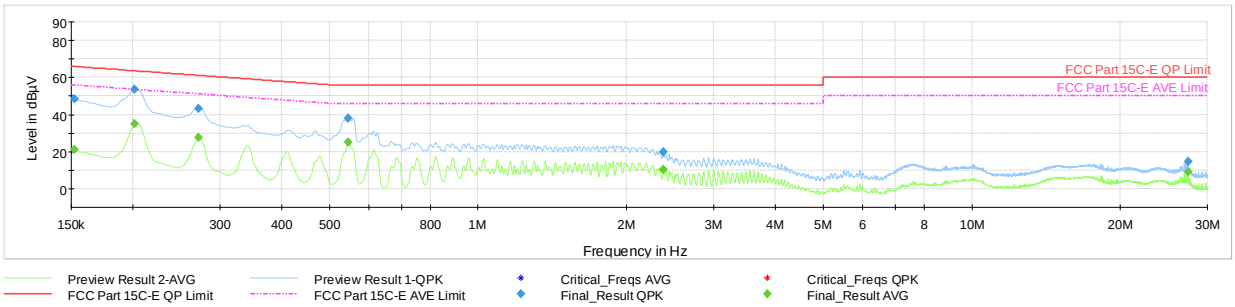
Plot 7-1950. AC Line Conducted Plot with 802.11n CDD Primary – Ch.36 (N), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.155	FINAL	—	23.28	55.75	-32.47	N	GND
0.155	FINAL	45.4	—	65.75	-20.39	N	GND
0.236	FINAL	—	21.46	52.25	-30.79	N	GND
0.236	FINAL	41.2	—	62.25	-21.03	N	GND
0.704	FINAL	—	20.43	46.00	-25.57	N	GND
0.704	FINAL	33.3	—	56.00	-22.66	N	GND
1.253	FINAL	25.2	—	56.00	-30.82	N	GND
1.253	FINAL	—	13.87	46.00	-32.13	N	GND
4.650	FINAL	30.3	—	56.00	-25.66	N	GND
4.650	FINAL	—	19.37	46.00	-26.63	N	GND
29.299	FINAL	—	14.31	50.00	-35.69	N	GND
29.299	FINAL	19.8	—	60.00	-40.17	N	GND

y

Table 7-378. AC Line Conducted Data with 802.11n CDD Primary – Ch.36 (N), with AC/DC adapter

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

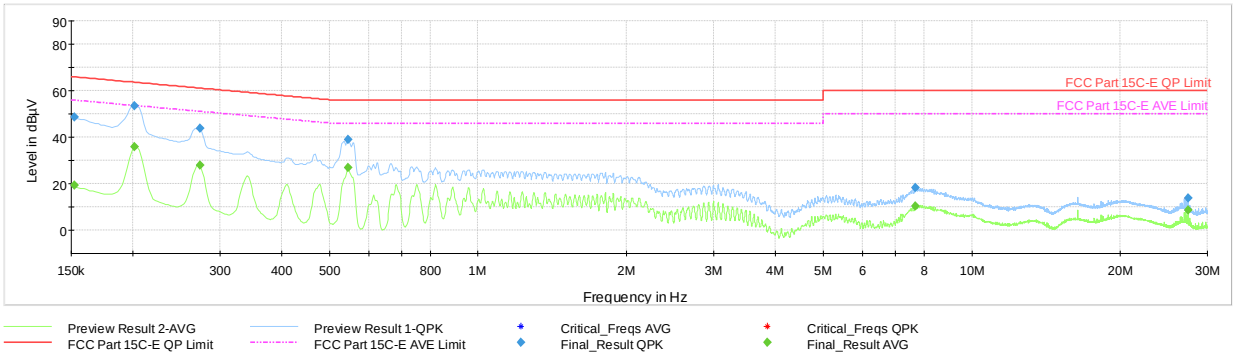


Plot 7-1951. AC Line Conducted Plot with 802.11ax(SU) CDD Primary – Ch.36 (L1), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.152	FINAL	—	21.01	55.88	-34.86	L1	GND
0.152	FINAL	48.5	—	65.88	-17.33	L1	GND
0.202	FINAL	—	35.17	53.54	-18.37	L1	GND
0.202	FINAL	53.6	—	63.54	-9.96	L1	GND
0.272	FINAL	—	27.83	51.07	-23.24	L1	GND
0.272	FINAL	43.4	—	61.07	-17.71	L1	GND
0.546	FINAL	38.2	—	56.00	-17.85	L1	GND
0.546	FINAL	—	24.91	46.00	-21.09	L1	GND
2.373	FINAL	19.8	—	56.00	-36.21	L1	GND
2.373	FINAL	—	10.20	46.00	-35.80	L1	GND
27.384	FINAL	—	9.02	50.00	-40.98	L1	GND
27.384	FINAL	14.6	—	60.00	-45.40	L1	GND

Table 7-379. AC Line Conducted Data with 802.11ax(SU) CDD Primary – Ch.36 (L1) with AC/DC adapter

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

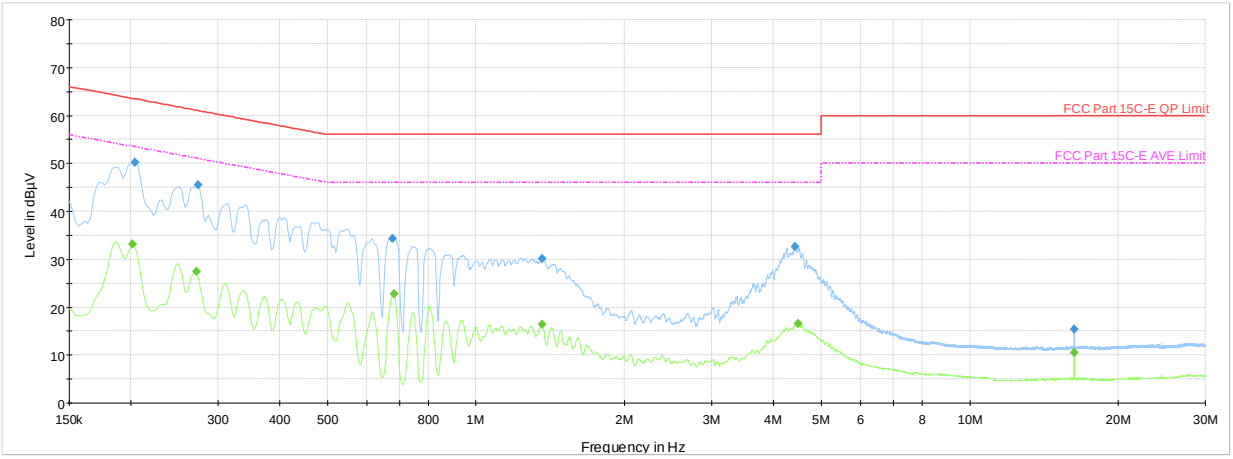


Plot 7-1952. AC Line Conducted Plot with 802.11ax(SU) CDD Primary – Ch.36 (N), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.152	FINAL	—	19.45	55.88	-36.43	N	GND
0.152	FINAL	48.6	—	65.88	-17.23	N	GND
0.202	FINAL	—	35.80	53.54	-17.74	N	GND
0.202	FINAL	53.4	—	63.54	-10.13	N	GND
0.274	FINAL	—	27.90	51.00	-23.10	N	GND
0.274	FINAL	43.8	—	61.00	-17.18	N	GND
0.546	FINAL	38.9	—	56.00	-17.07	N	GND
0.546	FINAL	—	26.94	46.00	-19.06	N	GND
7.676	FINAL	18.4	—	60.00	-41.58	N	GND
7.676	FINAL	—	10.43	50.00	-39.57	N	GND
27.386	FINAL	—	8.66	50.00	-41.34	N	GND
27.386	FINAL	13.9	—	60.00	-46.12	N	GND

Table 7-380. AC Line Conducted Data with 802.11ax(SU) CDD Primary – Ch.36 (N), with AC/DC adapter

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

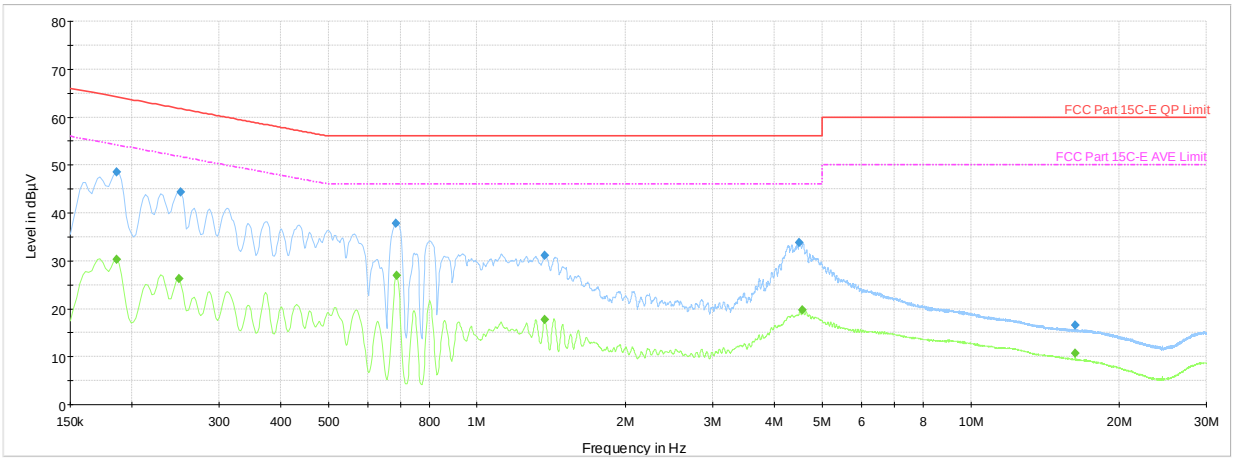


Plot 7-1953. AC Line Conducted Plot with 802.11n CDD Diversity Ch.36 (L1), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.202	FINAL	—	33.14	53.54	-20.40	L1	GND
0.204	FINAL	50.2	—	63.45	-13.30	L1	GND
0.272	FINAL	—	27.42	51.07	-23.65	L1	GND
0.274	FINAL	45.5	—	61.00	-15.49	L1	GND
0.677	FINAL	34.4	—	56.00	-21.63	L1	GND
0.683	FINAL	—	22.80	46.00	-23.20	L1	GND
1.358	FINAL	—	16.34	46.00	-29.66	L1	GND
1.361	FINAL	30.2	—	56.00	-25.82	L1	GND
4.432	FINAL	32.6	—	56.00	-23.44	L1	GND
4.497	FINAL	—	16.58	46.00	-29.42	L1	GND
16.278	FINAL	—	10.61	50.00	-39.39	L1	GND
16.278	FINAL	15.5	—	60.00	-44.54	L1	GND

Table 7-381. AC Line Conducted Data with 802.11n CDD Diversity – Ch.36 (L1) with AC/DC adapter

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

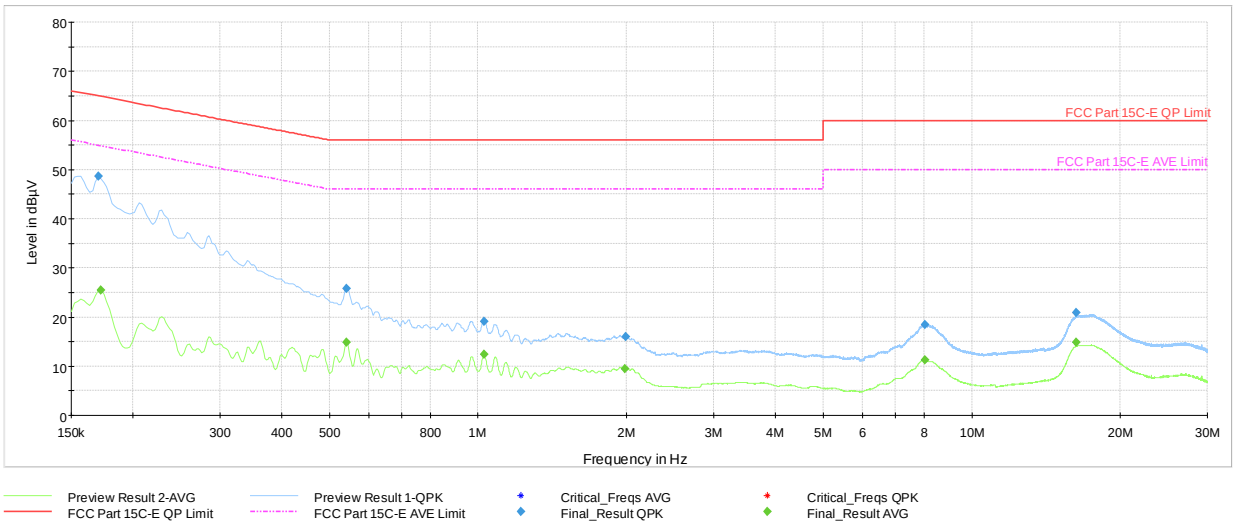


Plot 7-1954. AC Line Conducted Plot with 802.11n CDD Diversity – Ch.36 (N), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.186	FINAL	—	30.34	54.21	-23.87	N	GND
0.186	FINAL	48.5	—	64.21	-15.67	N	GND
0.249	FINAL	—	26.27	51.79	-25.52	N	GND
0.251	FINAL	44.3	—	61.72	-17.42	N	GND
0.686	FINAL	37.8	—	56.00	-18.22	N	GND
0.688	FINAL	—	26.91	46.00	-19.09	N	GND
1.370	FINAL	—	17.71	46.00	-28.29	N	GND
1.372	FINAL	31.1	—	56.00	-24.91	N	GND
4.497	FINAL	33.9	—	56.00	-22.15	N	GND
4.567	FINAL	—	19.73	46.00	-26.27	N	GND
16.280	FINAL	—	10.67	50.00	-39.33	N	GND
16.280	FINAL	16.6	—	60.00	-43.37	N	GND

Table 7-382. AC Line Conducted Data with 802.11n CDD Diversity – Ch.36 (N), with AC/DC adapter

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

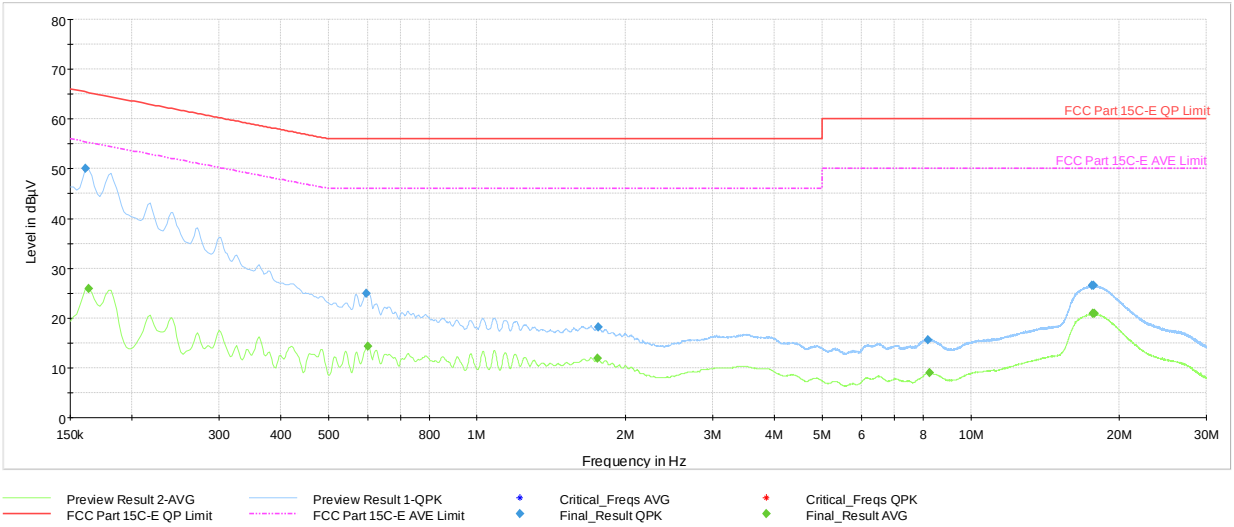


Plot 7-1955. AC Line Conducted Plot with 802.11ax(SU) CDD Diversity – Ch.36 (L1), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.170	FINAL	48.7	—	64.95	-16.25	L1	GND
0.173	FINAL	—	25.41	54.84	-29.43	L1	GND
0.542	FINAL	—	14.86	46.00	-31.14	L1	GND
0.542	FINAL	25.9	—	56.00	-30.14	L1	GND
1.028	FINAL	—	12.39	46.00	-33.61	L1	GND
1.030	FINAL	19.1	—	56.00	-36.95	L1	GND
1.984	FINAL	—	9.48	46.00	-36.52	L1	GND
1.993	FINAL	16.0	—	56.00	-39.96	L1	GND
8.030	FINAL	—	11.28	50.00	-38.72	L1	GND
8.032	FINAL	18.5	—	60.00	-41.50	L1	GND
16.267	FINAL	—	14.91	50.00	-35.09	L1	GND
16.267	FINAL	20.9	—	60.00	-39.12	L1	GND

Table 7-383. AC Line Conducted Data with 802.11ax(SU) CDD Diversity – Ch.36 (L1), with AC/DC adapter

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.



Plot 7-1956. AC Line Conducted Plot with 802.11ax(SU) CDD Diversity Ch.36 (N), with AC/DC adapter

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.161	FINAL	50.1	—	65.40	-15.29	N	GND
0.164	FINAL	—	25.88	55.28	-29.40	N	GND
0.596	FINAL	25.0	—	56.00	-30.99	N	GND
0.600	FINAL	—	14.33	46.00	-31.67	N	GND
1.757	FINAL	—	11.85	46.00	-34.15	N	GND
1.759	FINAL	18.3	—	56.00	-37.74	N	GND
8.176	FINAL	15.6	—	60.00	-44.37	N	GND
8.241	FINAL	—	9.03	50.00	-40.97	N	GND
17.608	FINAL	26.5	—	60.00	-33.46	N	GND
17.660	FINAL	—	20.85	50.00	-29.15	N	GND
17.754	FINAL	26.6	—	60.00	-33.43	N	GND
17.779	FINAL	—	20.89	50.00	-29.11	N	GND

Table 7-384. AC Line Conducted Data with 802.11ax(SU) CDD Diversity – Ch.36 (N) with AC/DC adapter

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Apple Tablet Device FCC ID: BCGA2925** and **IC: 579C-A2925** 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.

Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from Element. If you have any questions about this or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact ct.info@element.com.