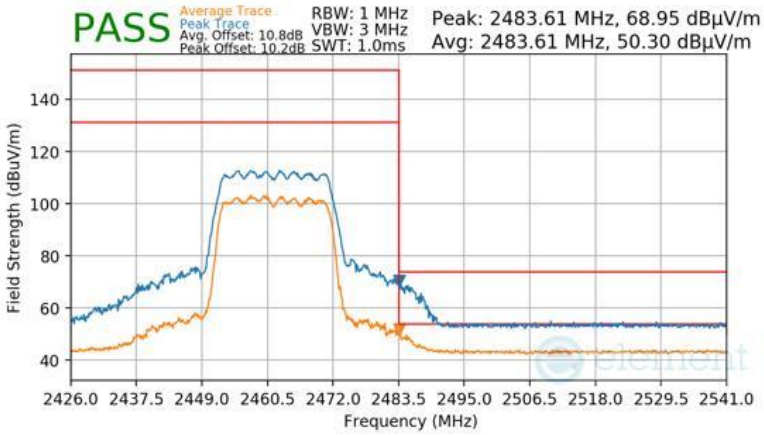
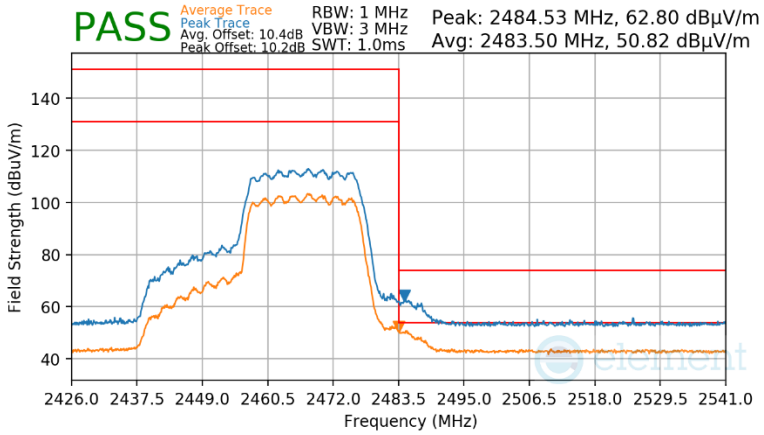
Mode	802.11ax-SU
Data Rate	MCS9
Distance of Measurement	3 Meters
Operating Frequency	2462MHz
Channel	11



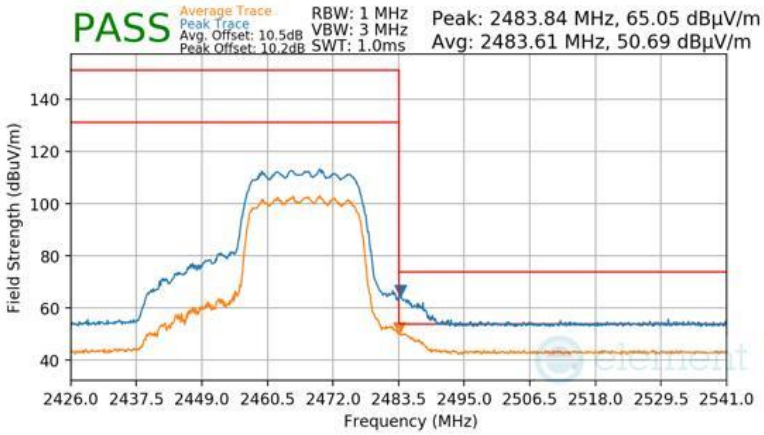
Plot 7-603 Radiated Restricted Upper Band Edge Measurement CDD

Mode	802.11ax-SU
Data Rate	MCS2
Distance of Measurement	3 Meters
Operating Frequency	2467MHz
Channel	12



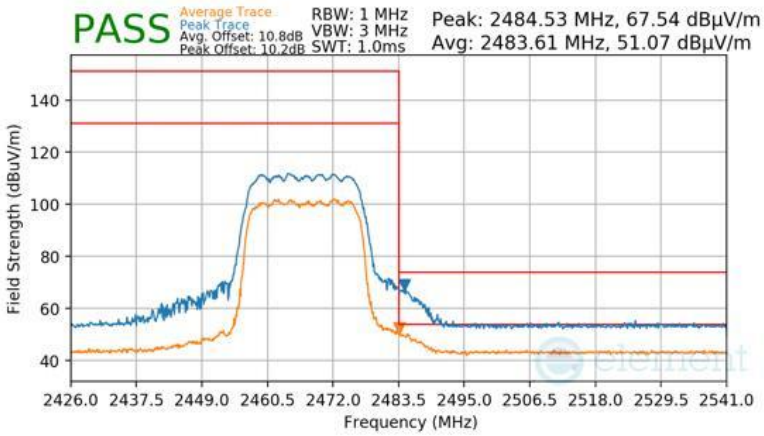
Plot 7-604 Radiated Restricted Upper Band Edge Measurement CDD

Mode	802.11ax-SU
Data Rate	MCS4
Distance of Measurement	3 Meters
Operating Frequency	2467MHz
Channel	12



Plot 7-605 Radiated Restricted Upper Band Edge Measurement CDD

Mode	802.11ax-SU
Data Rate	MCS9
Distance of Measurement	3 Meters
Operating Frequency	2467MHz
Channel	12



Plot 7-606 Radiated Restricted Upper Band Edge Measurement CDD

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

Test Setup

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

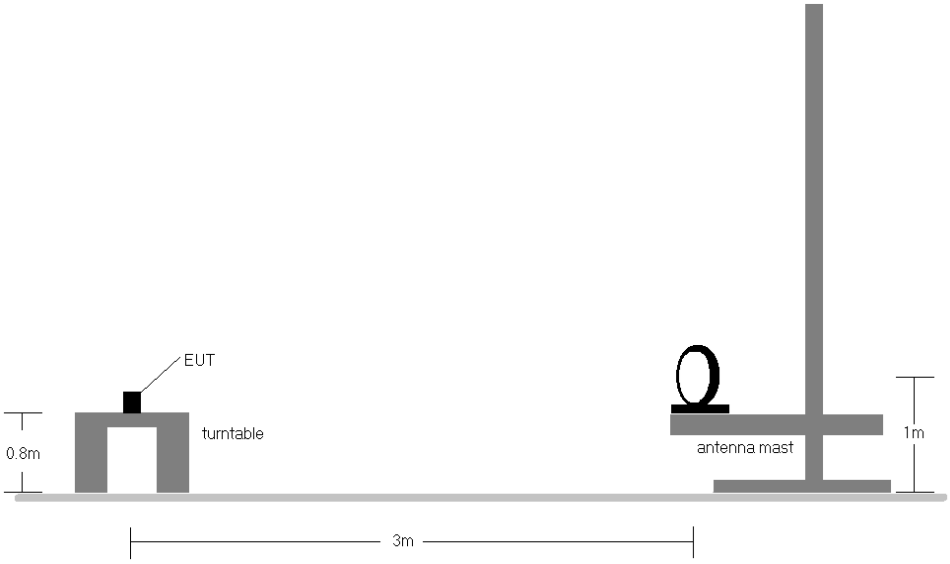


Figure 7-7. Radiated Test Setup < 30Mhz

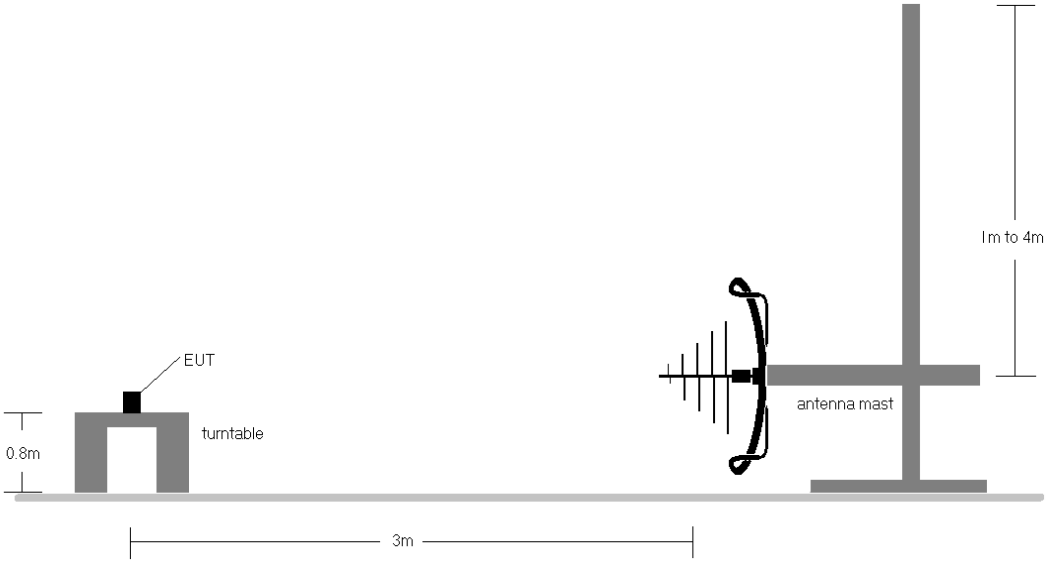


Figure 7-8. Radiated Test Setup < 1GHz

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

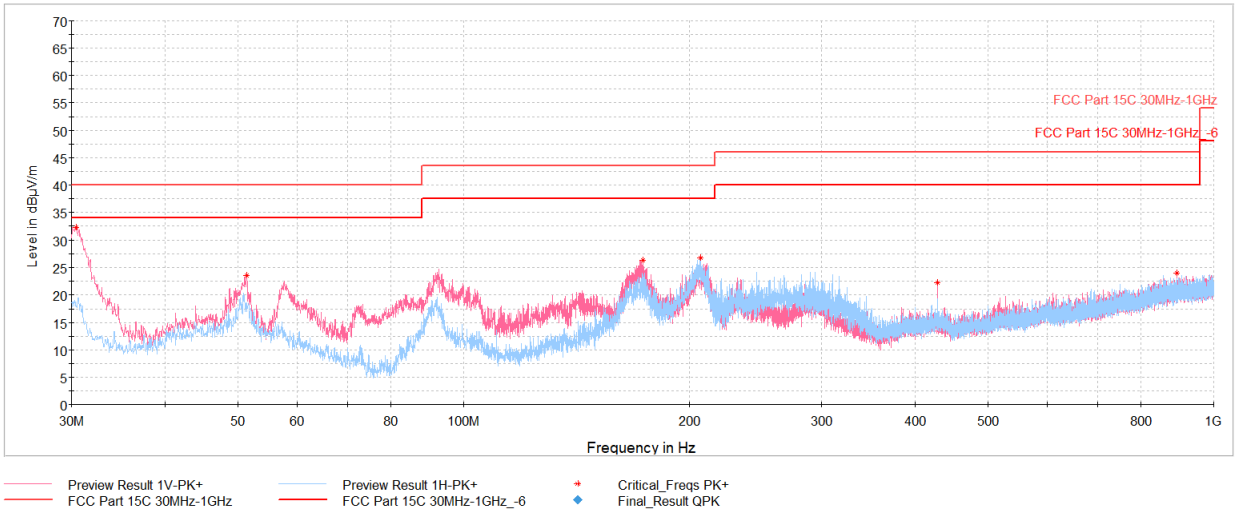
Sample Calculations

Determining Spurious Emissions Levels

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

CDD Radiated Spurious Emissions Measurements (Below 1GHz)

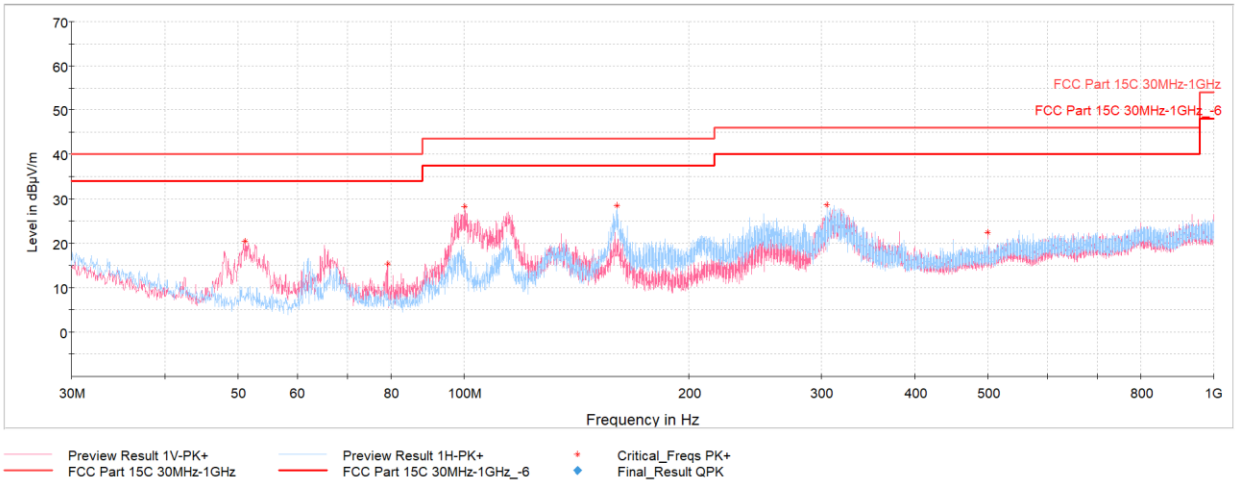
§15.209; RSS-Gen [8.9]



Plot 7-607. Radiated Spurious Emissions below 1GHz CDD 11n Ch.6, with Laptop

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]
30.44	Max-Peak	V	100	26	-58.76	-15.97	32.27	40.00	-7.73
51.44	Max-Peak	V	100	85	-70.33	-13.12	23.55	40.00	-16.45
173.37	Max-Peak	V	100	101	-61.45	-19.23	26.32	43.52	-17.20
206.59	Max-Peak	H	100	159	-62.88	-17.37	26.75	43.52	-16.77
427.89	Max-Peak	V	100	167	-73.66	-11.08	22.26	46.02	-23.76
892.04	Max-Peak	V	200	283	-79.91	-3.00	24.09	46.02	-21.93

Table 7-67. Radiated Spurious Emissions below 1GHz CDD 11n Ch.6, with Laptop



Plot 7-608. Radiated Spurious Emissions below 1GHz CDD 11ax - SU Ch.6, with Laptop

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]
51.20	Max-Peak	V	100	153	-63.39	-23.15	20.46	40.00	-19.54
79.18	Max-Peak	V	100	229	-67.74	-23.79	15.47	40.00	-24.53
100.42	Max-Peak	V	100	89	-57.04	-21.68	28.28	43.52	-15.24
159.98	Max-Peak	H	100	133	-59.59	-18.98	28.43	43.52	-15.09
304.95	Max-Peak	H	100	111	-63.47	-14.95	28.58	46.02	-17.44
499.58	Max-Peak	V	100	318	-73.51	-11.05	22.44	46.02	-23.58

Table 7-68. Radiated Spurious Emissions below 1GHz CDD 11ax - SU Ch.6, with Laptop

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

Test Setup

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

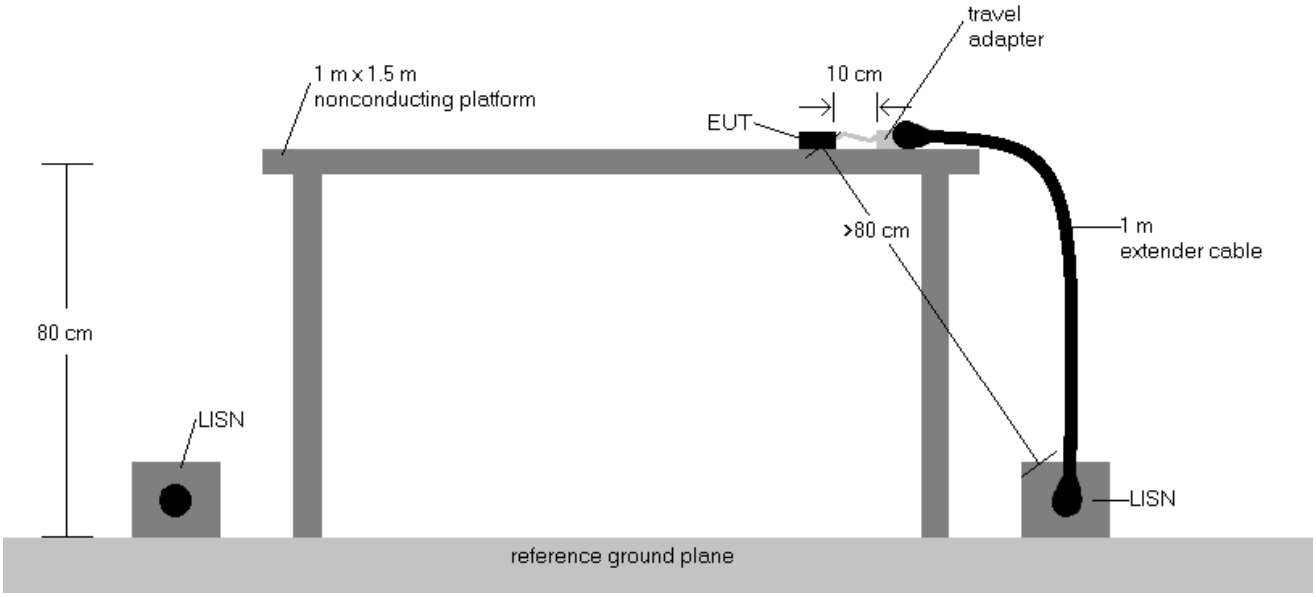
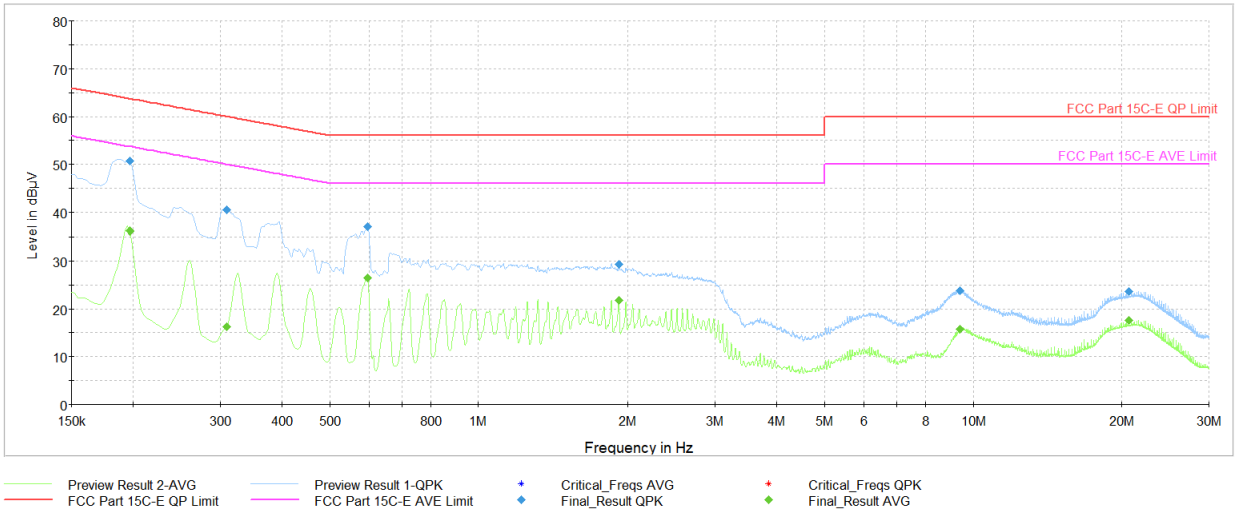


Figure 7-9. Test Instrument & Measurement Setup

Test Notes

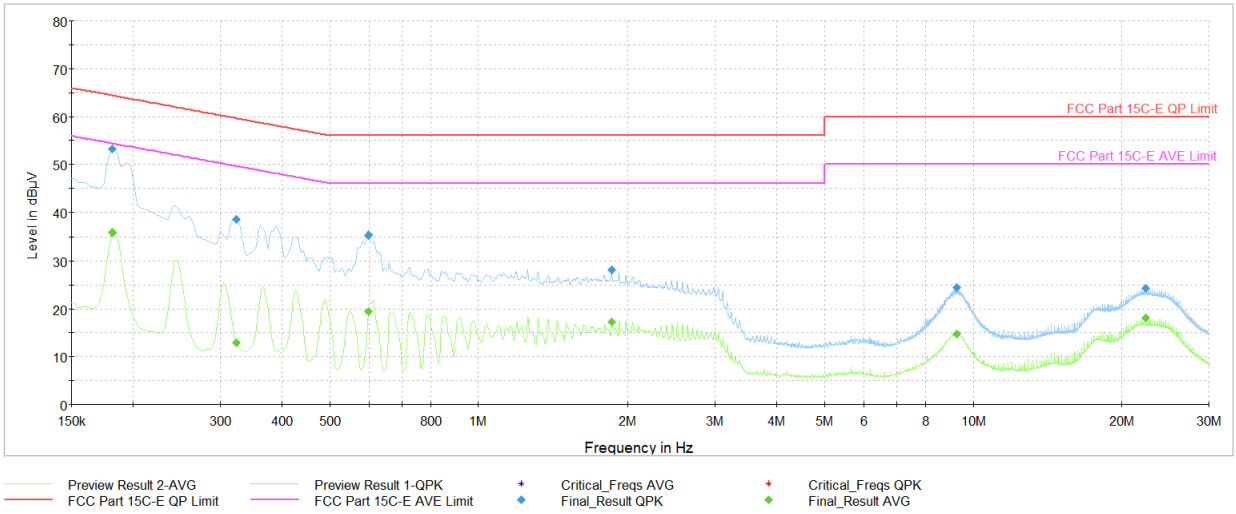
1. All modes of operation were investigated and the worst-case emissions are reported. The emissions found were not affected by the choice of channel used during testing.
2. Both configurations below were investigated, and the worst case has been reported.
   a. EUT powered by AC/DC adaptor via USB-C 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.



Plot 7-609. AC Line Conducted Plot with CDD 11n Ch.6 (L1, with Laptop)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.197	FINAL	—	36.08	53.73	-17.65	L1	GND
0.197	FINAL	50.8	—	63.73	-12.95	L1	GND
0.310	FINAL	—	16.22	49.98	-33.76	L1	GND
0.310	FINAL	40.5	—	59.98	-19.49	L1	GND
0.596	FINAL	—	26.52	46.00	-19.48	L1	GND
0.596	FINAL	37.0	—	56.00	-19.03	L1	GND
1.919	FINAL	29.2	—	56.00	-26.79	L1	GND
1.919	FINAL	—	21.78	46.00	-24.22	L1	GND
9.404	FINAL	23.8	—	60.00	-36.20	L1	GND
9.404	FINAL	—	15.67	50.00	-34.33	L1	GND
20.672	FINAL	—	17.55	50.00	-32.45	L1	GND
20.672	FINAL	23.5	—	60.00	-36.47	L1	GND

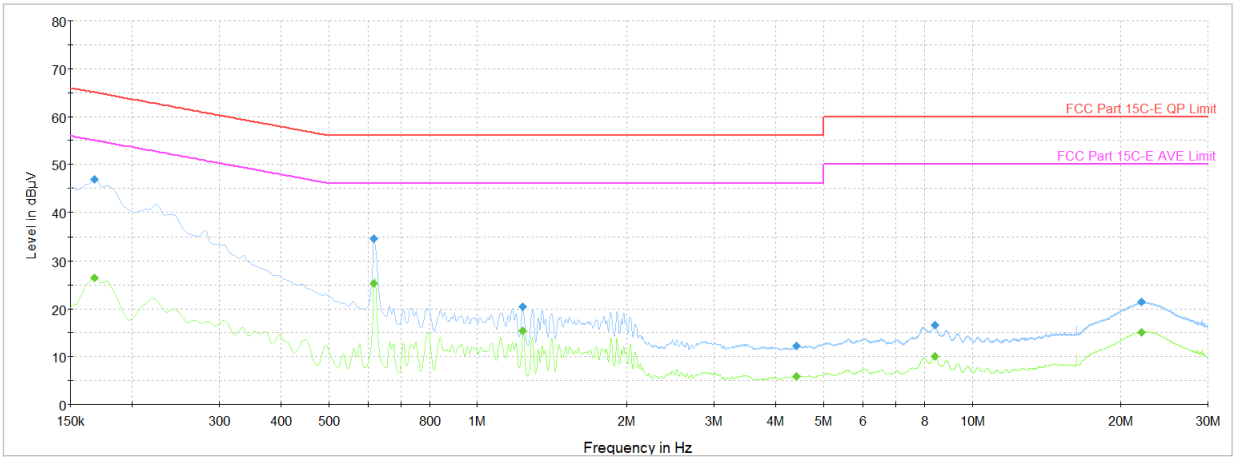
Table 7-70. AC Line Conducted Data with CDD 11n Ch.6 (L1, with Laptop)



Plot 7-610. AC Line Conducted Plot with CDD 11n Ch.6 (N, with Laptop)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.182	FINAL	—	35.88	54.42	-18.54	N	GND
0.182	FINAL	53.2	—	64.42	-11.18	N	GND
0.323	FINAL	—	12.85	49.62	-36.78	N	GND
0.323	FINAL	38.5	—	59.62	-21.16	N	GND
0.598	FINAL	—	19.46	46.00	-26.54	N	GND
0.598	FINAL	35.3	—	56.00	-20.70	N	GND
1.856	FINAL	28.1	—	56.00	-27.94	N	GND
1.856	FINAL	—	17.22	46.00	-28.78	N	GND
9.278	FINAL	24.5	—	60.00	-35.49	N	GND
9.278	FINAL	—	14.79	50.00	-35.21	N	GND
22.353	FINAL	—	18.11	50.00	-31.89	N	GND
22.353	FINAL	24.2	—	60.00	-35.76	N	GND

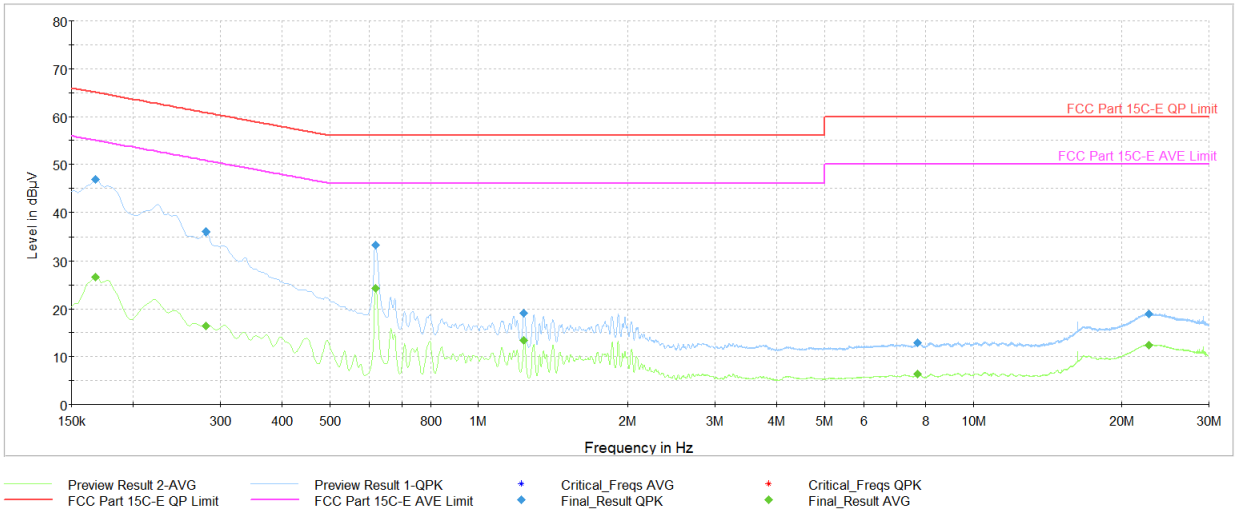
Table 7-71. AC Line Conducted Data with CDD 11n Ch.6 (N, with Laptop)



Plot 7-611. AC Line Conducted Plot with CDD 11ax - SU Ch.6 (L1, with Laptop)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.168	FINAL	—	26.42	55.06	-28.64	L1	GND
0.168	FINAL	46.9	—	65.06	-18.16	L1	GND
0.618	FINAL	—	25.34	46.00	-20.66	L1	GND
0.618	FINAL	34.6	—	56.00	-21.40	L1	GND
1.237	FINAL	—	15.35	46.00	-30.65	L1	GND
1.237	FINAL	20.4	—	56.00	-35.63	L1	GND
4.403	FINAL	12.2	—	56.00	-43.77	L1	GND
4.403	FINAL	—	5.89	46.00	-40.11	L1	GND
8.412	FINAL	16.5	—	60.00	-43.49	L1	GND
8.412	FINAL	—	10.04	50.00	-39.96	L1	GND
22.002	FINAL	—	15.13	50.00	-34.87	L1	GND
22.002	FINAL	21.4	—	60.00	-38.65	L1	GND

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



Plot 7-612. AC Line Conducted Plot with CDD 11ax - SU Ch.6 (N, with Laptop)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.168	FINAL	—	26.59	55.06	-28.46	N	GND
0.168	FINAL	46.9	—	65.06	-18.21	N	GND
0.281	FINAL	—	16.42	50.80	-34.38	N	GND
0.281	FINAL	36.0	—	60.80	-24.85	N	GND
0.620	FINAL	—	24.22	46.00	-21.78	N	GND
0.620	FINAL	33.3	—	56.00	-22.74	N	GND
1.237	FINAL	19.1	—	56.00	-36.86	N	GND
1.237	FINAL	—	13.47	46.00	-32.53	N	GND
7.721	FINAL	12.9	—	60.00	-47.13	N	GND
7.721	FINAL	—	6.31	50.00	-43.69	N	GND
22.657	FINAL	—	12.42	50.00	-37.58	N	GND
22.657	FINAL	19.0	—	60.00	-41.03	N	GND

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

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Apple Tablet Device FCC ID: BCGA2926, IC: 579C-A2926** 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.