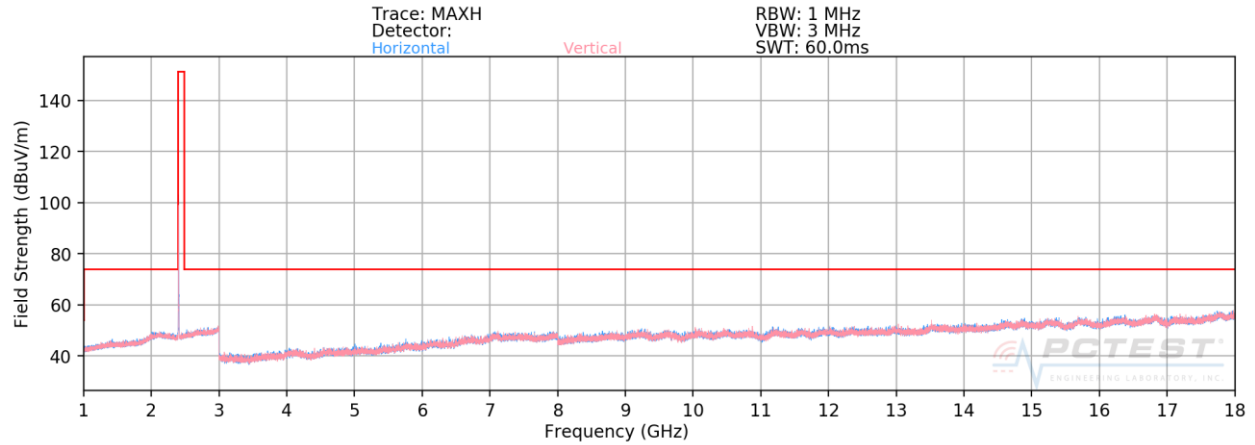
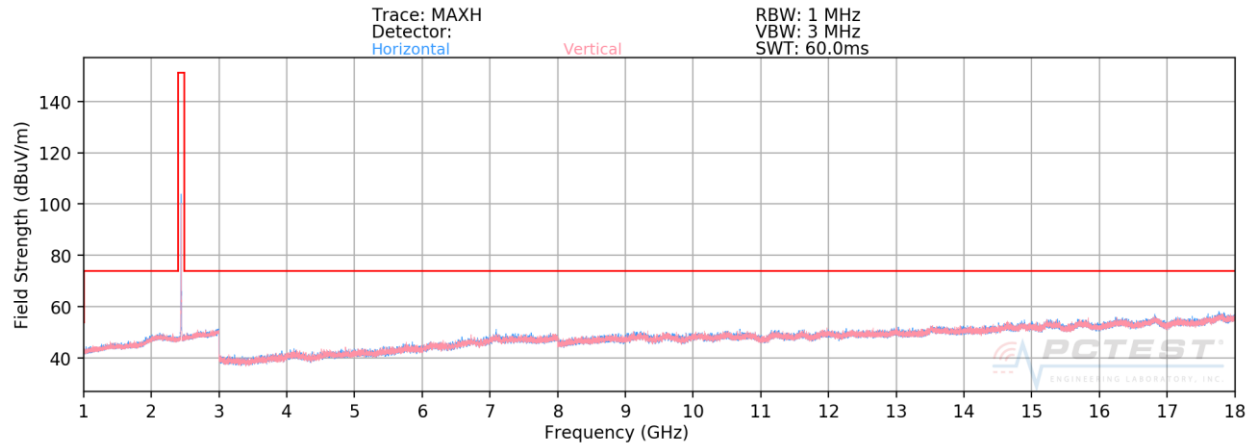


Radiated Spurious Emission Measurements

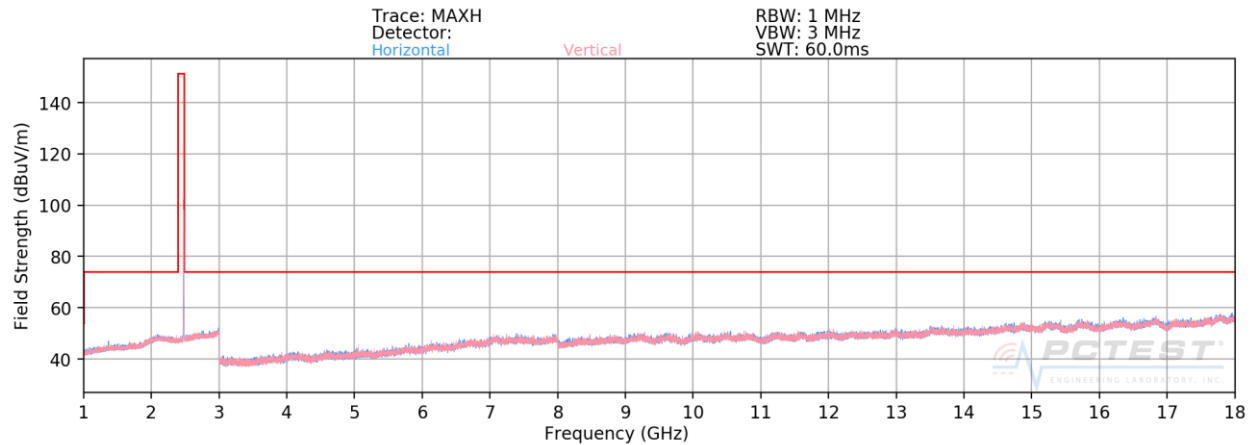
§15.205 §15.209 §15.247(d); RSS-Gen [8.9]



Plot 7-94. Radiated Spurious Plot Above 1GHz ANT1 (8Mbps, HDR8 ePA – Ch. 1, Ant. Pol. H & V)



Plot 7-95. Radiated Spurious Plot Above 1GHz ANT1 (8Mbps, HDR8 ePA – Ch. 38, Ant. Pol. H & V)



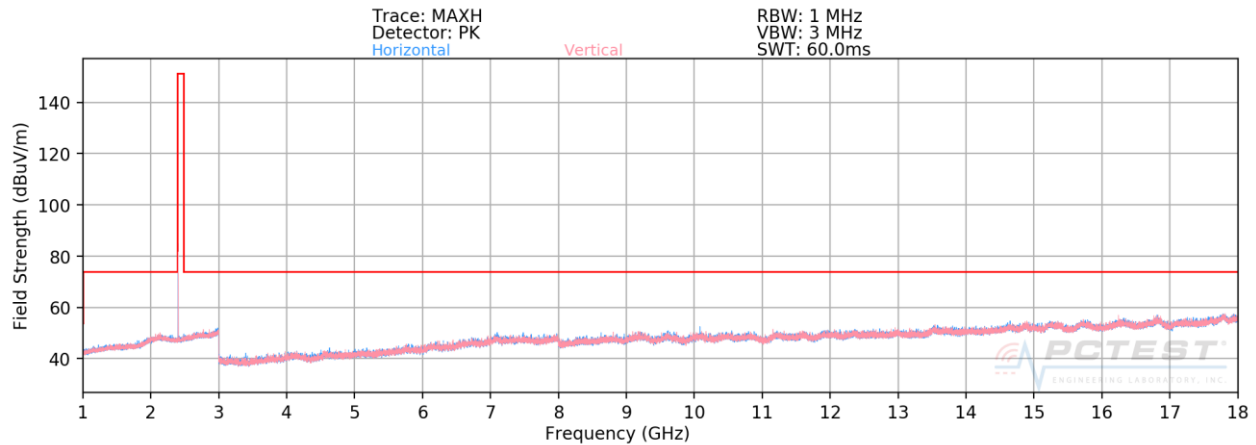
Plot 7-96. Radiated Spurious Plot Above 1GHz ANT1 (8Mbps, HDR8 ePA – Ch. 75, Ant. Pol. H & V)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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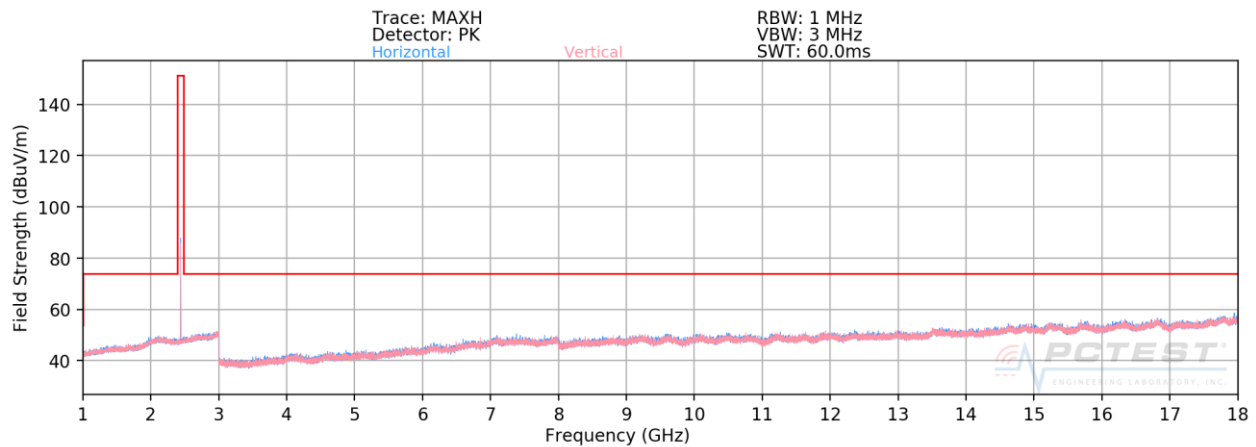
Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247(d); RSS-Gen [8.9]

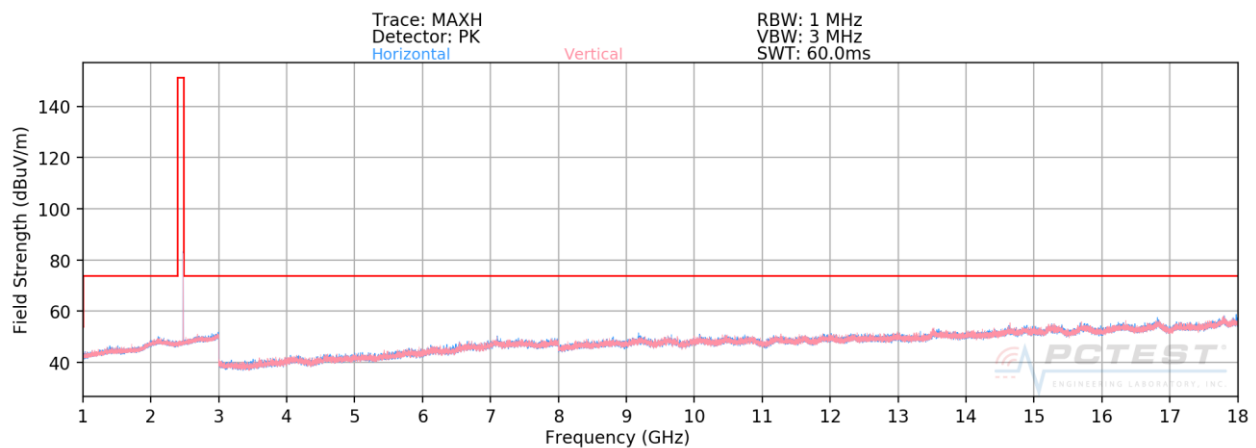
Antenna 2



Plot 7-97. Radiated Spurious Plot Above 1GHz ANT2 (4Mbps, HDR4 ePA – Ch. 1, Ant. Pol. H & V)



Plot 7-98. Radiated Spurious Plot Above 1GHz ANT2 (4Mbps, HDR4 ePA – Ch. 38, Ant. Pol. H & V)



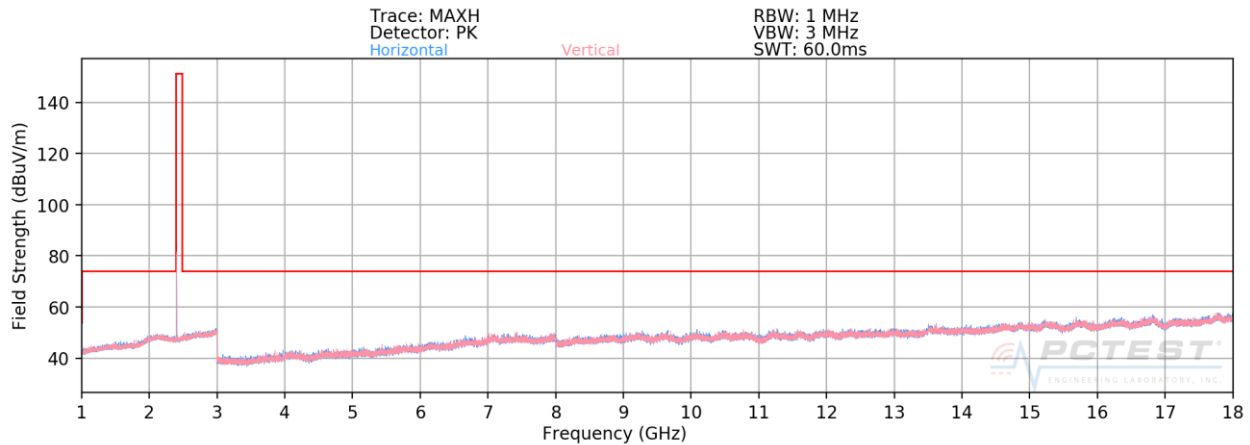
Plot 7-99. Radiated Spurious Plot Above 1GHz ANT2 (4Mbps, HDR4 ePA – Ch. 75, Ant. Pol. H & V)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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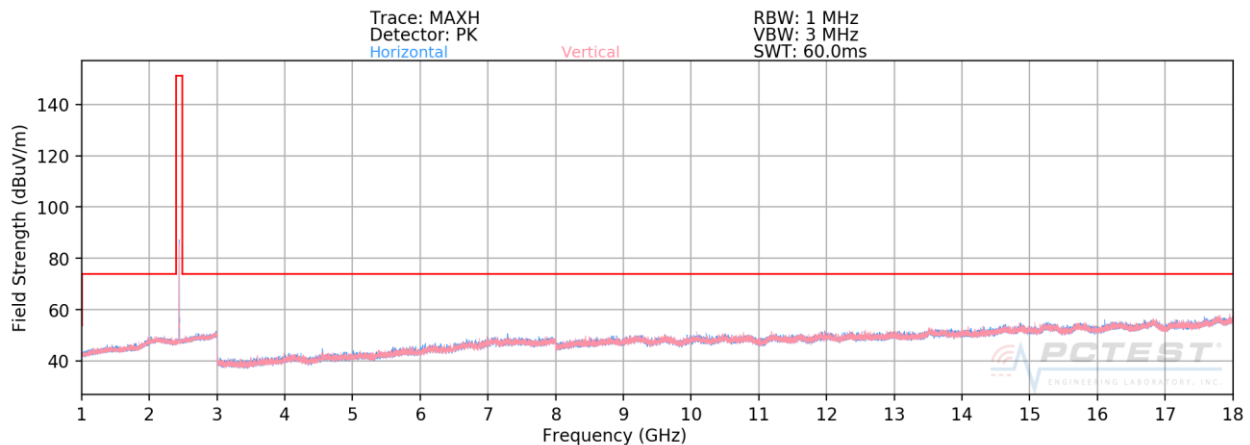
Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247(d); RSS-Gen [8.9]

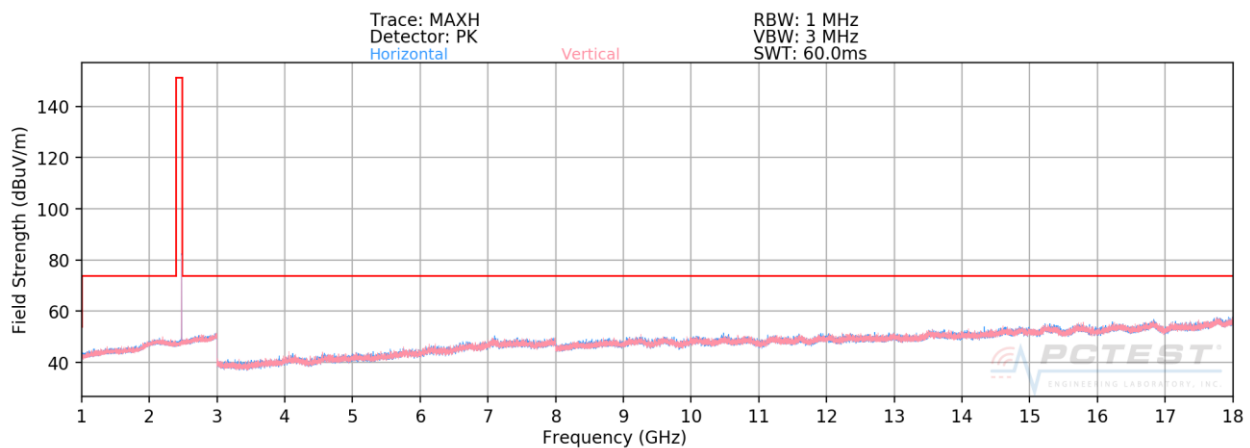
Antenna 2



Plot 7-100. Radiated Spurious Plot Above 1GHz ANT2 (4Mbps, HDR4 ePA – Ch. 1, Ant. Pol. H & V)



Plot 7-101. Radiated Spurious Plot Above 1GHz ANT2 (4Mbps, HDR4 ePA – Ch. 38, Ant. Pol. H & V)

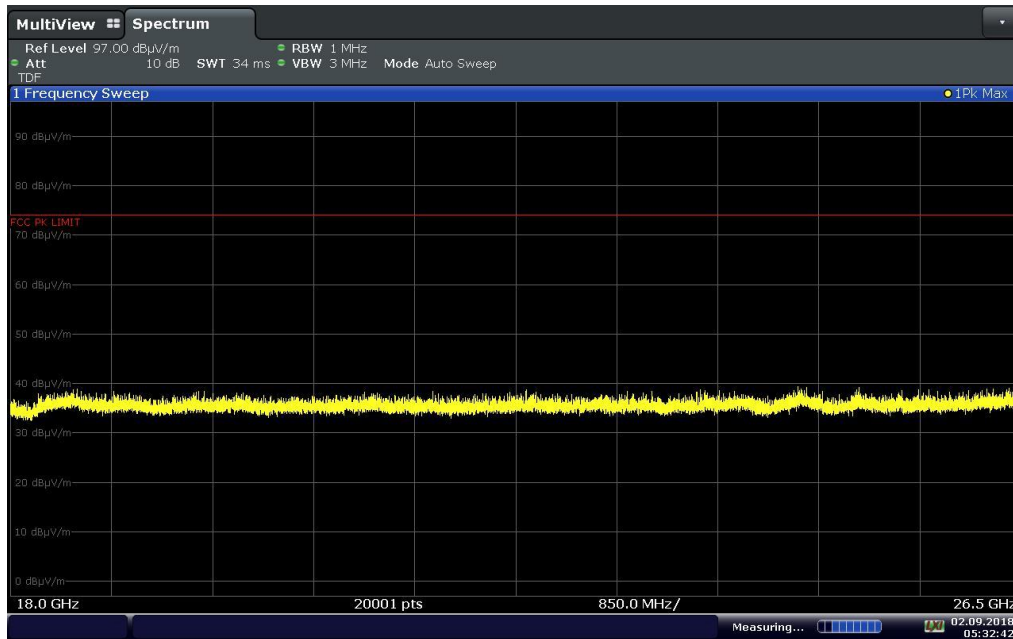


Plot 7-102. Radiated Spurious Plot Above 1GHz ANT2 (4Mbps, HDR4 ePA – Ch. 75, Ant. Pol. H & V)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 81 of 112

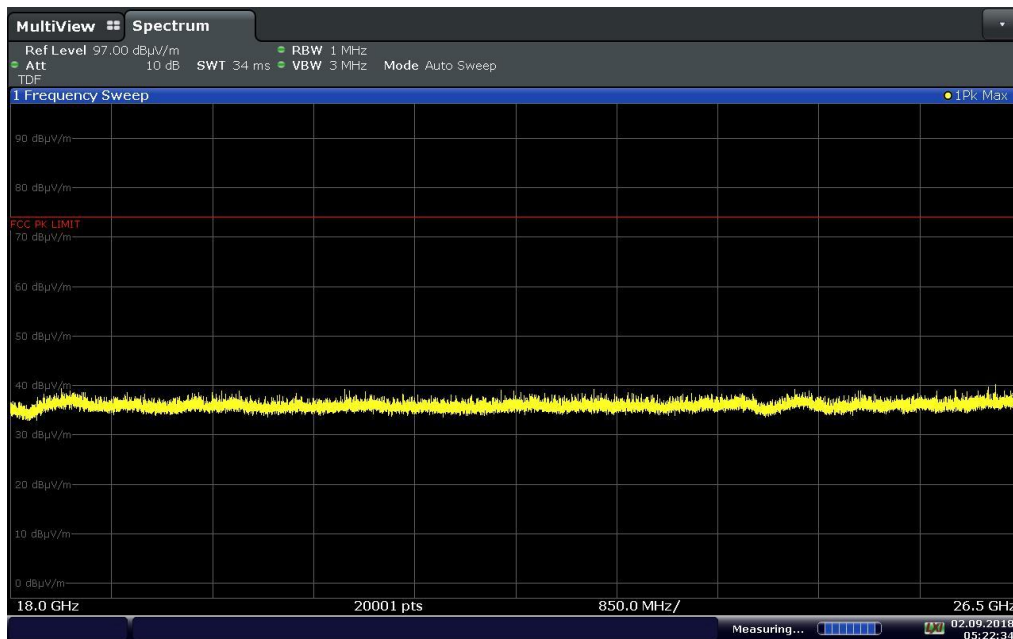
Radiated Spurious Emission Measurements (Above 18GHz)

§15.205 §15.209 §15.247(d); RSS-Gen [8.9]



05:32:42 02.09.2018

Plot 7-103. Radiated Spurious Plot Above 18GHz ANT0 (8Mbps, HDR8 ePA, Ant. Pol. H)



05:22:34 02.09.2018

Plot 7-104. Radiated Spurious Plot Above 18GHz ANT0 (8Mbps, HDR8 ePA, Ant. Pol. V)

FCC ID: BCGA1934	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247(d); RSS-Gen [8.9]

Antenna 0

Bluetooth Mode:	HDR4
Power Scheme	ePA
Distance of Measurements:	3 Meters
Operating Frequency:	2404MHz
Channel:	1

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]
4808.00	Avg	H	-	-	-79.62	3.95	31.33	53.98	-22.65
4808.00	Peak	H	-	-	-70.04	3.95	40.91	73.98	-33.07
12020.00	Avg	H	-	-	-83.02	15.17	39.15	53.98	-14.83
12020.00	Peak	H	-	-	-72.61	15.17	49.56	73.98	-24.42

Table 7-16. Radiated Measurements @ 3 meters

Bluetooth Mode:	HDR4
Power Scheme	ePA
Distance of Measurements:	3 Meters
Operating Frequency:	2441MHz
Channel:	38

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]
4882.00	Avg	H	-	-	-80.27	4.58	31.31	53.98	-22.67
4882.00	Peak	H	-	-	-70.27	4.58	41.31	73.98	-32.67
7323.00	Avg	H	-	-	-80.44	9.84	36.40	53.98	-17.58
7323.00	Peak	H	-	-	-70.31	9.84	46.53	73.98	-27.45
12205.00	Avg	H	-	-	-82.03	14.12	39.09	53.98	-14.89
12205.00	Peak	H	-	-	-72.25	14.12	48.87	73.98	-25.11

Table 7-17. Radiated Measurements @ 3 meters

FCC ID: BCGA1934		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247(d); RSS-Gen [8.9]

Bluetooth Mode: HDR4
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2478MHz
 Channel: 75

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]
4956.00	Avg	H	-	-	-79.67	4.39	31.72	53.98	-22.25
4956.00	Peak	H	-	-	-69.48	4.39	41.91	73.98	-32.06
7434.00	Avg	H	-	-	-80.23	10.30	37.07	53.98	-16.90
7434.00	Peak	H	-	-	-69.95	10.30	47.35	73.98	-26.62
12390.00	Avg	H	-	-	-83.51	15.18	38.67	53.98	-15.31
12390.00	Peak	H	-	-	-74.15	15.18	48.03	73.98	-25.95

Table 7-18. Radiated Measurements @ 3 meters

Bluetooth Mode: HDR8
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2404MHz
 Channel: 1

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]
4808.00	Avg	H	-	-	-81.38	3.95	29.57	53.98	-24.41
4808.00	Peak	H	-	-	-69.52	3.95	41.43	73.98	-32.55
12020.00	Avg	H	-	-	-83.99	15.17	38.18	53.98	-15.80
12020.00	Peak	H	-	-	-73.39	15.17	48.78	73.98	-25.20

Table 7-19. Radiated Measurements @ 3 meters

FCC ID: BCGA1934	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 84 of 112

Bluetooth Mode: HDR8
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2441MHz
 Channel: 38

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]
4882.00	Avg	H	-	-	-80.98	4.58	30.60	53.98	-23.38
4882.00	Peak	H	-	-	-70.60	4.58	40.98	73.98	-33.00
7323.00	Avg	H	-	-	-79.68	9.84	37.16	53.98	-16.82
7323.00	Peak	H	-	-	-69.34	9.84	47.50	73.98	-26.48
12205.00	Avg	H	-	-	-82.30	14.12	38.82	53.98	-15.16
12205.00	Peak	H	-	-	-72.95	14.12	48.17	73.98	-25.81

Table 7-20. Radiated Measurements @ 3 meters

Bluetooth Mode: HDR8
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2478MHz
 Channel: 75

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]
4956.00	Avg	H	-	-	-80.24	4.39	31.15	53.98	-22.82
4956.00	Peak	H	-	-	-67.96	4.39	43.43	73.98	-30.54
7434.00	Avg	H	-	-	-81.11	10.30	36.19	53.98	-17.78
7434.00	Peak	H	-	-	-71.28	10.30	46.02	73.98	-27.95
12390.00	Avg	H	-	-	-83.62	15.18	38.56	53.98	-15.42
12390.00	Peak	H	-	-	-73.30	15.18	48.88	73.98	-25.10

Table 7-21. Radiated Measurements @ 3 meters

FCC ID: BCGA1934		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247(d); RSS-Gen [8.9]

Antenna 1

Bluetooth Mode:	HDR4
Power Scheme	ePA
Distance of Measurements:	3 Meters
Operating Frequency:	2404MHz
Channel:	1

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]
4808.00	Avg	H	-	-	-80.07	3.95	30.88	53.98	-23.10
4808.00	Peak	H	-	-	-69.59	3.95	41.36	73.98	-32.62
12020.00	Avg	H	-	-	-83.35	15.17	38.82	53.98	-15.16
12020.00	Peak	H	-	-	-72.84	15.17	49.33	73.98	-24.65

Table 7-22. Radiated Measurements @ 3 meters

Bluetooth Mode:	HDR4
Power Scheme	ePA
Distance of Measurements:	3 Meters
Operating Frequency:	2441MHz
Channel:	38

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]
4882.00	Avg	H	-	-	-79.94	4.58	31.64	53.98	-22.34
4882.00	Peak	H	-	-	-67.58	4.58	44.00	73.98	-29.98
7323.00	Avg	H	-	-	-80.98	9.84	35.86	53.98	-18.12
7323.00	Peak	H	-	-	-70.09	9.84	46.75	73.98	-27.23
12205.00	Avg	H	-	-	-82.13	14.12	38.99	53.98	-14.99
12205.00	Peak	H	-	-	-71.08	14.12	50.04	73.98	-23.94

Table 7-23. Radiated Measurements @ 3 meters

FCC ID: BCGA1934		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247(d); RSS-Gen [8.9]

Bluetooth Mode: HDR4
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2478MHz
 Channel: 75

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]
4956.00	Avg	H	-	-	-79.98	4.39	31.41	53.98	-22.56
4956.00	Peak	H	-	-	-67.56	4.39	43.83	73.98	-30.14
7434.00	Avg	H	-	-	-80.13	10.30	37.17	53.98	-16.80
7434.00	Peak	H	-	-	-71.10	10.30	46.20	73.98	-27.77
12390.00	Avg	H	-	-	-83.42	15.18	38.76	53.98	-15.22
12390.00	Peak	H	-	-	-73.97	15.18	48.21	73.98	-25.77

Table 7-24. Radiated Measurements @ 3 meters

Bluetooth Mode: HDR8
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2404MHz
 Channel: 1

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]
4808.00	Avg	H	-	-	-79.84	3.95	31.11	53.98	-22.87
4808.00	Peak	H	-	-	-67.83	3.95	43.12	73.98	-30.86
12020.00	Avg	H	-	-	-82.71	15.17	39.46	53.98	-14.52
12020.00	Peak	H	-	-	-73.28	15.17	48.89	73.98	-25.09

Table 7-25. Radiated Measurements @ 3 meters

FCC ID: BCGA1934	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Bluetooth Mode: HDR8
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2441MHz
 Channel: 38

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]
4882.00	Avg	H	-	-	-80.04	4.58	31.54	53.98	-22.44
4882.00	Peak	H	-	-	-67.87	4.58	43.71	73.98	-30.27
7323.00	Avg	H	-	-	-80.17	9.84	36.67	53.98	-17.31
7323.00	Peak	H	-	-	-69.76	9.84	47.08	73.98	-26.90
12205.00	Avg	H	-	-	-82.00	14.12	39.12	53.98	-14.86
12205.00	Peak	H	-	-	-72.11	14.12	49.01	73.98	-24.97

Table 7-26. Radiated Measurements @ 3 meters

Bluetooth Mode: HDR8
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2478MHz
 Channel: 75

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]
4956.00	Avg	H	-	-	-80.11	4.39	31.28	53.98	-22.69
4956.00	Peak	H	-	-	-68.04	4.39	43.35	73.98	-30.62
7434.00	Avg	H	-	-	-80.05	10.30	37.25	53.98	-16.72
7434.00	Peak	H	-	-	-69.93	10.30	47.37	73.98	-26.60
12390.00	Avg	H	-	-	-83.84	15.18	38.34	53.98	-15.64
12390.00	Peak	H	-	-	-73.57	15.18	48.61	73.98	-25.37

Table 7-27. Radiated Measurements @ 3 meters

FCC ID: BCGA1934	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247(d); RSS-Gen [8.9]

Antenna 2

Bluetooth Mode:	HDR4
Power Scheme	ePA
Distance of Measurements:	3 Meters
Operating Frequency:	2404MHz
Channel:	1

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]
4808.00	Avg	H	-	-	-79.35	3.95	31.60	53.98	-22.38
4808.00	Peak	H	-	-	-67.10	3.95	43.85	73.98	-30.13
12020.00	Avg	H	-	-	-82.75	15.17	39.42	53.98	-14.56
12020.00	Peak	H	-	-	-73.99	15.17	48.18	73.98	-25.80

Table 7-28. Radiated Measurements @ 3 meters

Bluetooth Mode:	HDR4
Power Scheme	ePA
Distance of Measurements:	3 Meters
Operating Frequency:	2441MHz
Channel:	38

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]
4882.00	Avg	H	-	-	-80.20	4.58	31.38	53.98	-22.60
4882.00	Peak	H	-	-	-67.83	4.58	43.75	73.98	-30.23
7323.00	Avg	H	-	-	-80.27	9.84	36.57	53.98	-17.41
7323.00	Peak	H	-	-	-70.92	9.84	45.92	73.98	-28.06
12205.00	Avg	H	-	-	-82.50	14.12	38.62	53.98	-15.36
12205.00	Peak	H	-	-	-72.57	14.12	48.55	73.98	-25.43

Table 7-29. Radiated Measurements @ 3 meters

FCC ID: BCGA1934		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Radiated Spurious Emission Measurements

§15.205 §15.209 §15.247(d); RSS-Gen [8.9]

Bluetooth Mode: HDR4
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2478MHz
 Channel: 75

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]
4956.00	Avg	H	-	-	-80.15	4.39	31.24	53.98	-22.73
4956.00	Peak	H	-	-	-69.59	4.39	41.80	73.98	-32.17
7434.00	Avg	H	-	-	-80.53	10.30	36.77	53.98	-17.20
7434.00	Peak	H	-	-	-69.10	10.30	48.20	73.98	-25.77
12390.00	Avg	H	-	-	-83.26	15.18	38.92	53.98	-15.06
12390.00	Peak	H	-	-	-73.72	15.18	48.46	73.98	-25.52

Table 7-30. Radiated Measurements @ 3 meters

Bluetooth Mode: HDR8
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2404MHz
 Channel: 1

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]
4808.00	Avg	H	-	-	-80.38	3.95	30.57	53.98	-23.41
4808.00	Peak	H	-	-	-67.14	3.95	43.81	73.98	-30.17
12020.00	Avg	H	-	-	-82.65	15.17	39.52	53.98	-14.46
12020.00	Peak	H	-	-	-73.50	15.17	48.67	73.98	-25.31

Table 7-31. Radiated Measurements @ 3 meters

FCC ID: BCGA1934	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Bluetooth Mode: HDR8
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2441MHz
 Channel: 38

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]
4882.00	Avg	H	-	-	-80.55	4.58	31.03	53.98	-22.95
4882.00	Peak	H	-	-	-68.24	4.58	43.34	73.98	-30.64
7323.00	Avg	H	-	-	-80.68	9.84	36.16	53.98	-17.82
7323.00	Peak	H	-	-	-69.85	9.84	46.99	73.98	-26.99
12205.00	Avg	H	-	-	-83.21	14.12	37.91	53.98	-16.07
12205.00	Peak	H	-	-	-72.38	14.12	48.74	73.98	-25.24

Table 7-32. Radiated Measurements @ 3 meters

Bluetooth Mode: HDR8
 Power Scheme: ePA
 Distance of Measurements: 3 Meters
 Operating Frequency: 2478MHz
 Channel: 75

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]
4956.00	Avg	H	-	-	-80.39	4.39	31.00	53.98	-22.97
4956.00	Peak	H	-	-	-70.13	4.39	41.26	73.98	-32.71
7434.00	Avg	H	-	-	-80.63	10.30	36.67	53.98	-17.30
7434.00	Peak	H	-	-	-69.90	10.30	47.40	73.98	-26.57
12390.00	Avg	H	-	-	-83.15	15.18	39.03	53.98	-14.95
12390.00	Peak	H	-	-	-74.97	15.18	47.21	73.98	-26.77

Table 7-33. Radiated Measurements @ 3 meters

FCC ID: BCGA1934		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 91 of 112

7.8 Radiated Restricted Band Edge Measurements

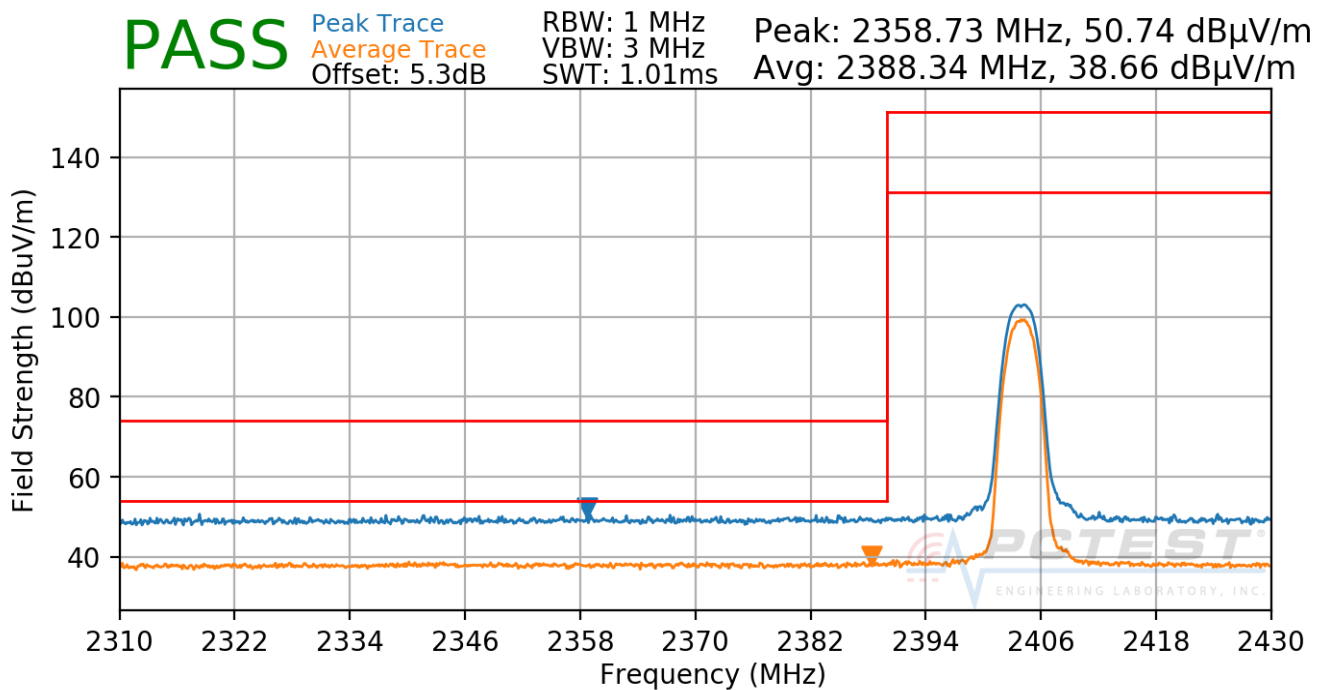
§15.205 §15.209; RSS-Gen [8.9]

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

Bluetooth Mode:	HDR4
Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2404MHz
Channel:	1



Plot 7-105. Radiated Restricted Lower Band Edge Measurement ANT0 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 92 of 112

Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

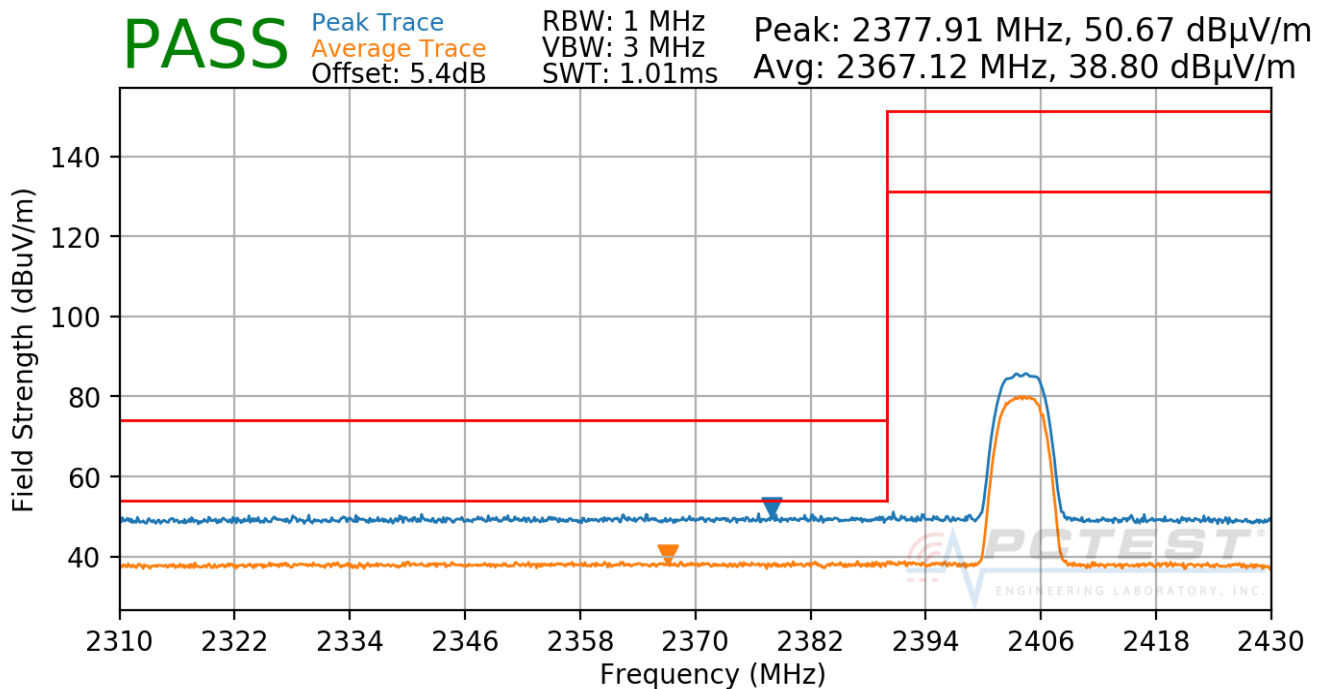
Bluetooth Mode: HDR8

Power Scheme: ePA

Measurement Distance: 3 Meters

Operating Frequency: 2404MHz

Channel: 1



Plot 7-106. Radiated Restricted Lower Band Edge Measurement ANT0 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 93 of 112

Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

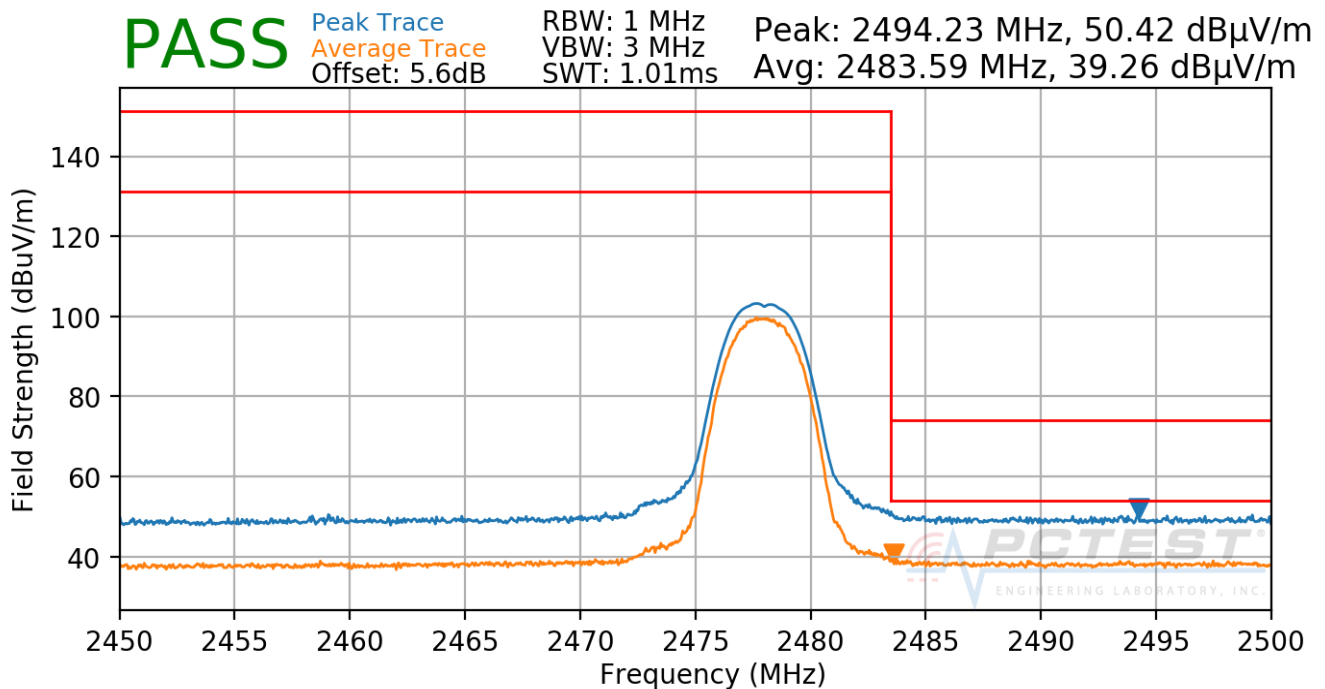
Bluetooth Mode: HDR4

Power Scheme: ePA

Measurement Distance: 3 Meters

Operating Frequency: 2478MHz

Channel: 75



Plot 7-107. Radiated Restricted Upper Band Edge Measurement ANT0 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 94 of 112

Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

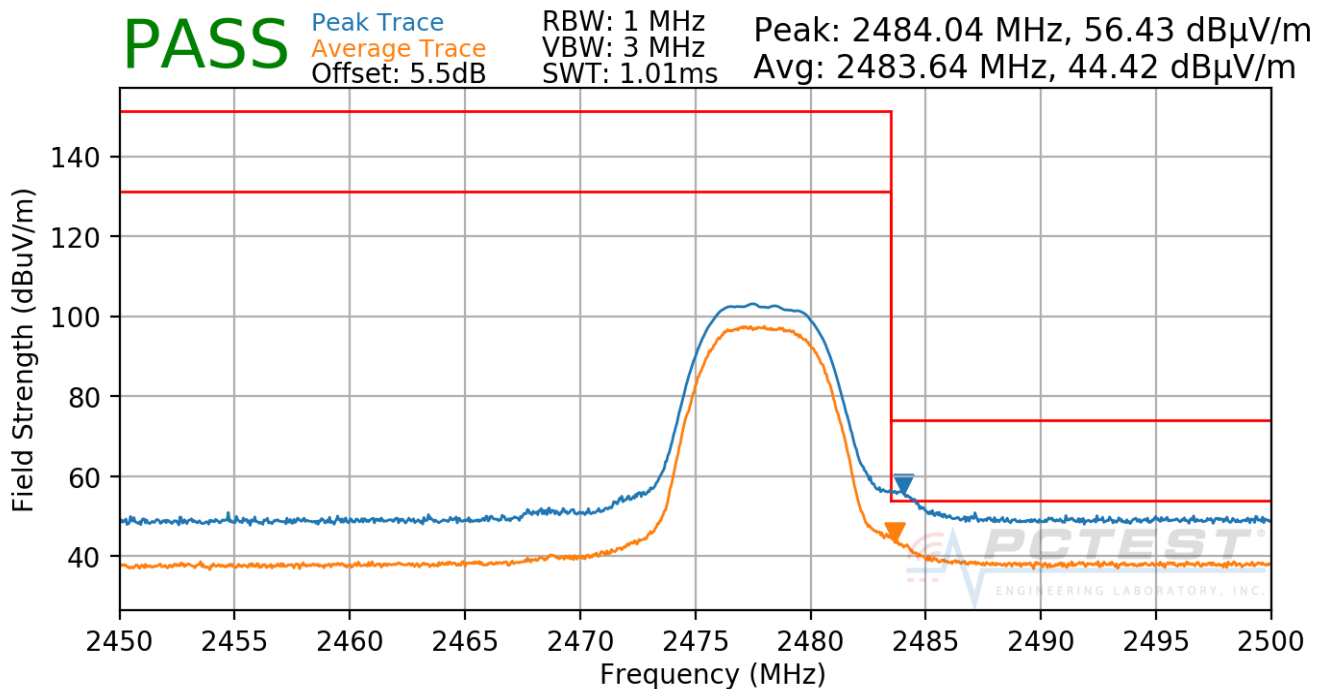
Bluetooth Mode: HDR8

Power Scheme: ePA

Measurement Distance: 3 Meters

Operating Frequency: 2478MHz

Channel: 75



Plot 7-108. Radiated Restricted Upper Band Edge Measurement ANT0 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 95 of 112

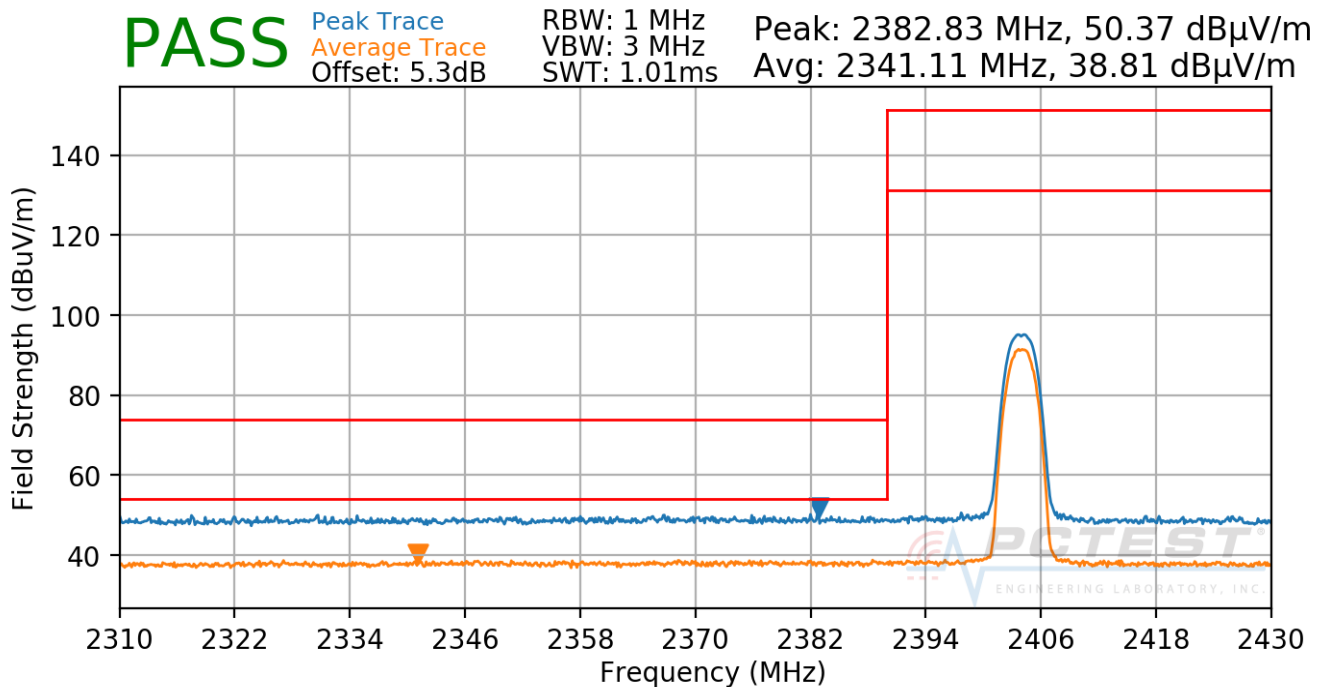
Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

Bluetooth Mode: HDR4
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 2404MHz
Channel: 1



Plot 7-109. Radiated Restricted Lower Band Edge Measurement ANT1 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 96 of 112

Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

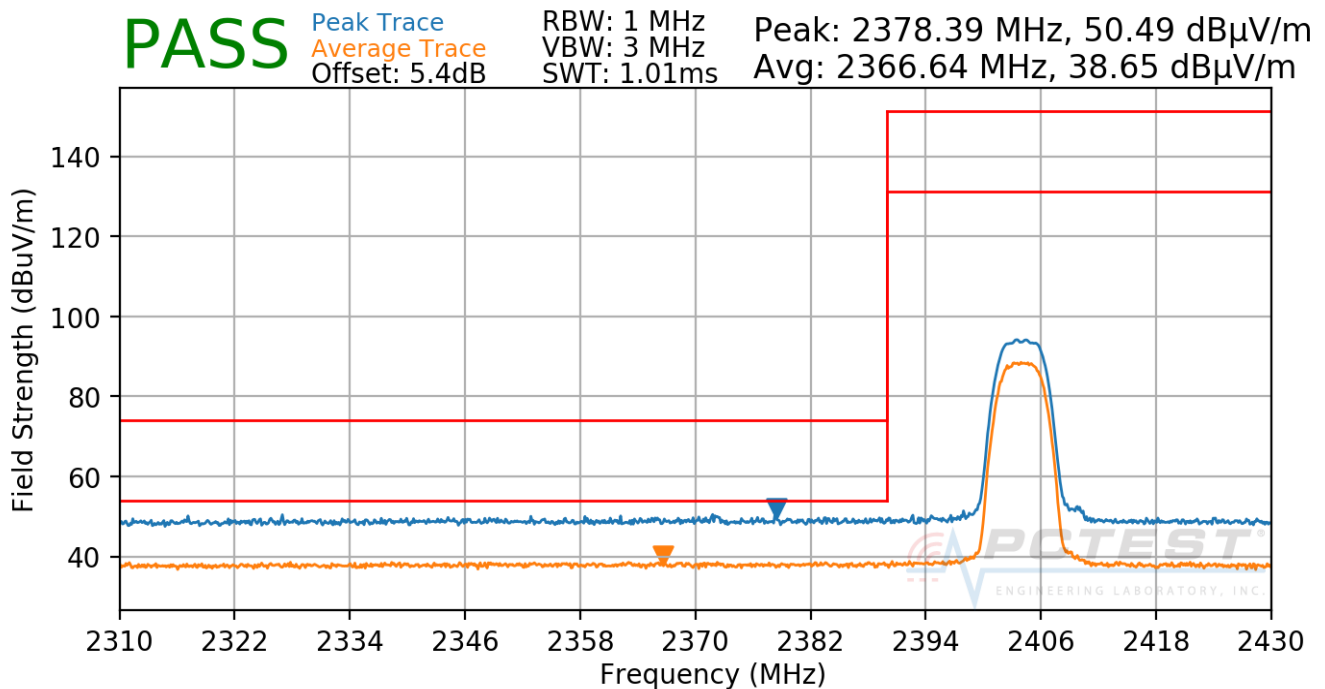
Bluetooth Mode: HDR8

Power Scheme: ePA

Measurement Distance: 3 Meters

Operating Frequency: 2404MHz

Channel: 1



Plot 7-110. Radiated Restricted Lower Band Edge Measurement ANT1 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 97 of 112

Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

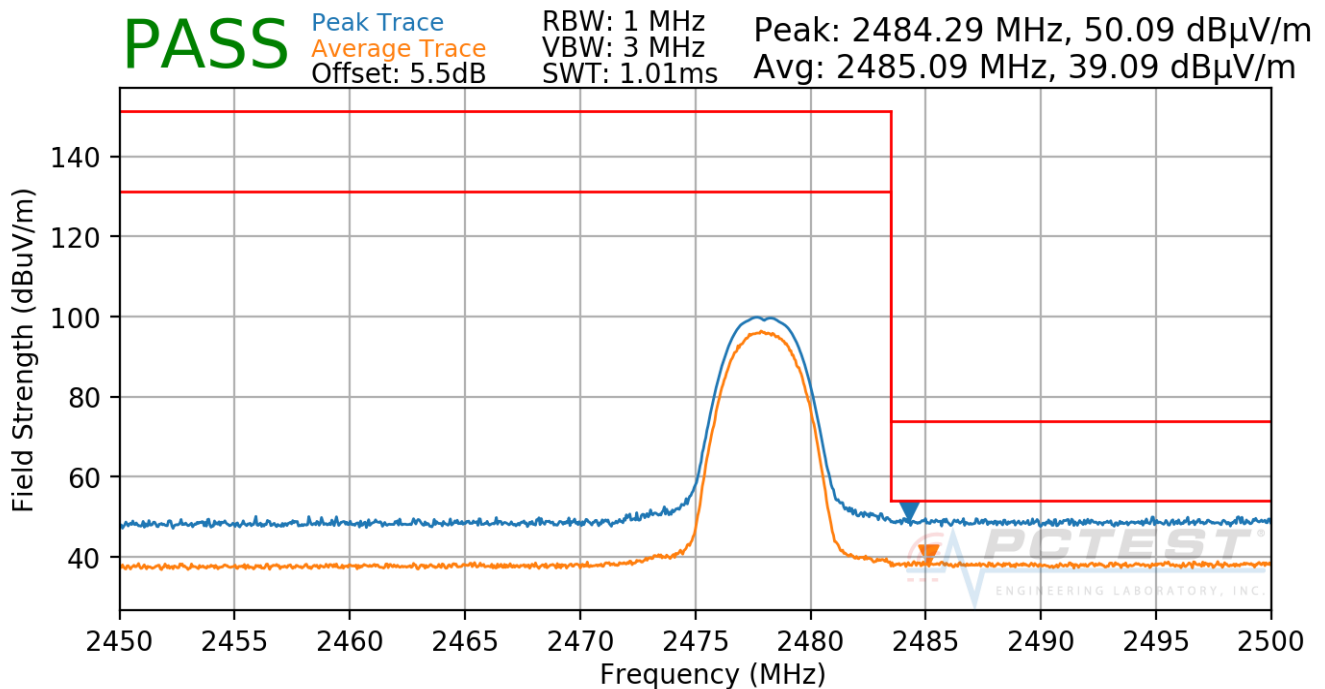
Bluetooth Mode: HDR4

Power Scheme: ePA

Measurement Distance: 3 Meters

Operating Frequency: 2478MHz

Channel: 75



Plot 7-111. Radiated Restricted Upper Band Edge Measurement ANT1 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 98 of 112

Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

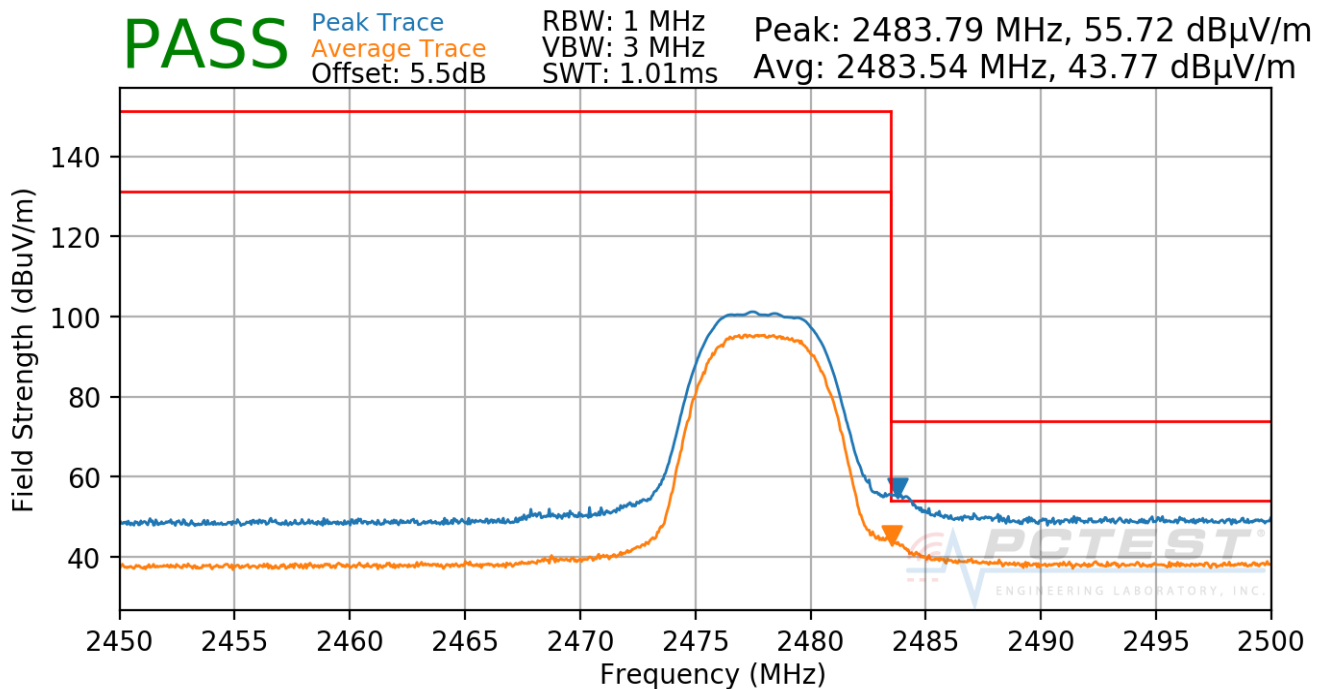
Bluetooth Mode: HDR8

Power Scheme: ePA

Measurement Distance: 3 Meters

Operating Frequency: 2478MHz

Channel: 75



Plot 7-112. Radiated Restricted Upper Band Edge Measurement ANT1 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 99 of 112

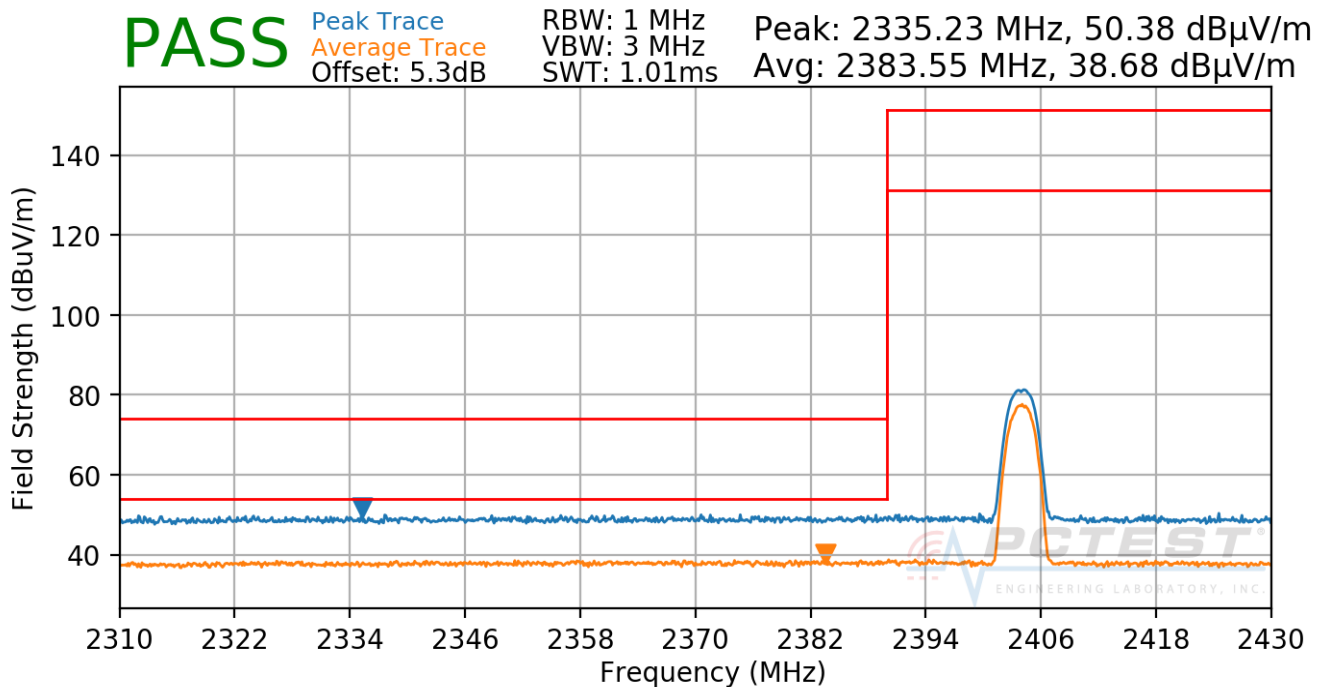
Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

Bluetooth Mode: HDR4
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 2404MHz
Channel: 0



Plot 7-113. Radiated Restricted Lower Band Edge Measurement ANT2 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 100 of 112

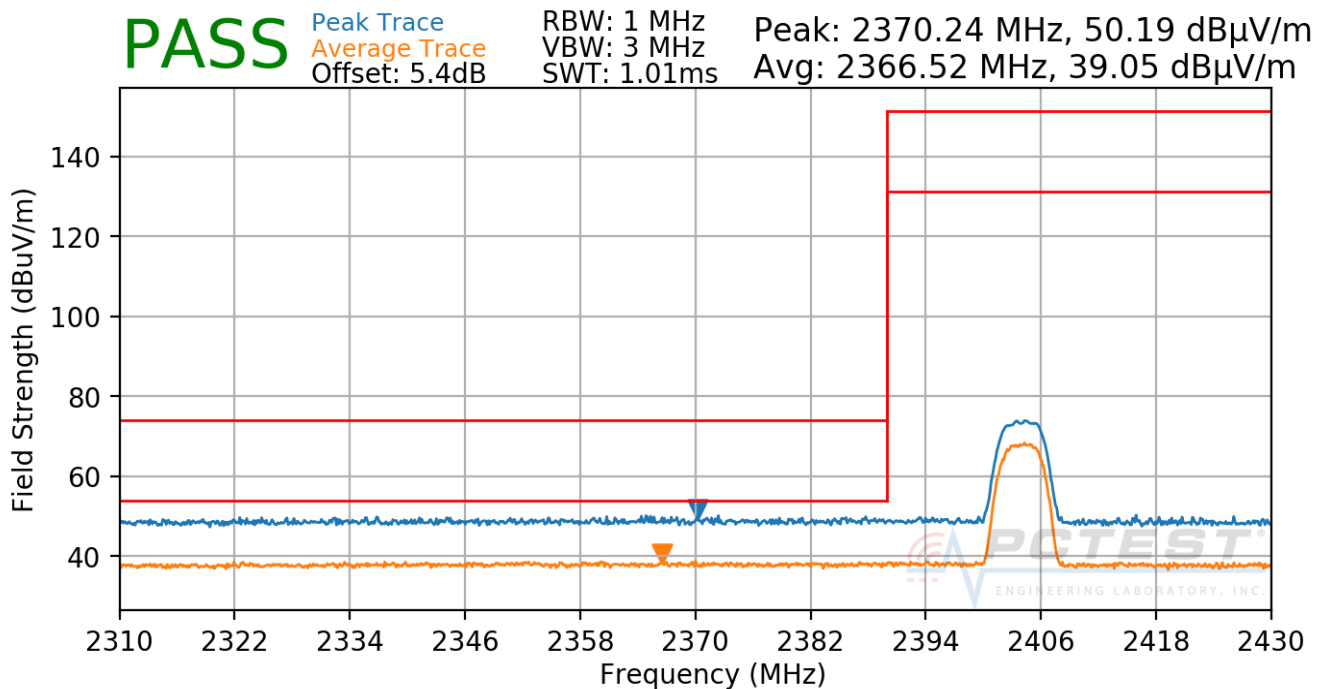
Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

Bluetooth Mode: HDR8
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 2404MHz
Channel: 0



Plot 7-114. Radiated Restricted Lower Band Edge Measurement ANT2 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

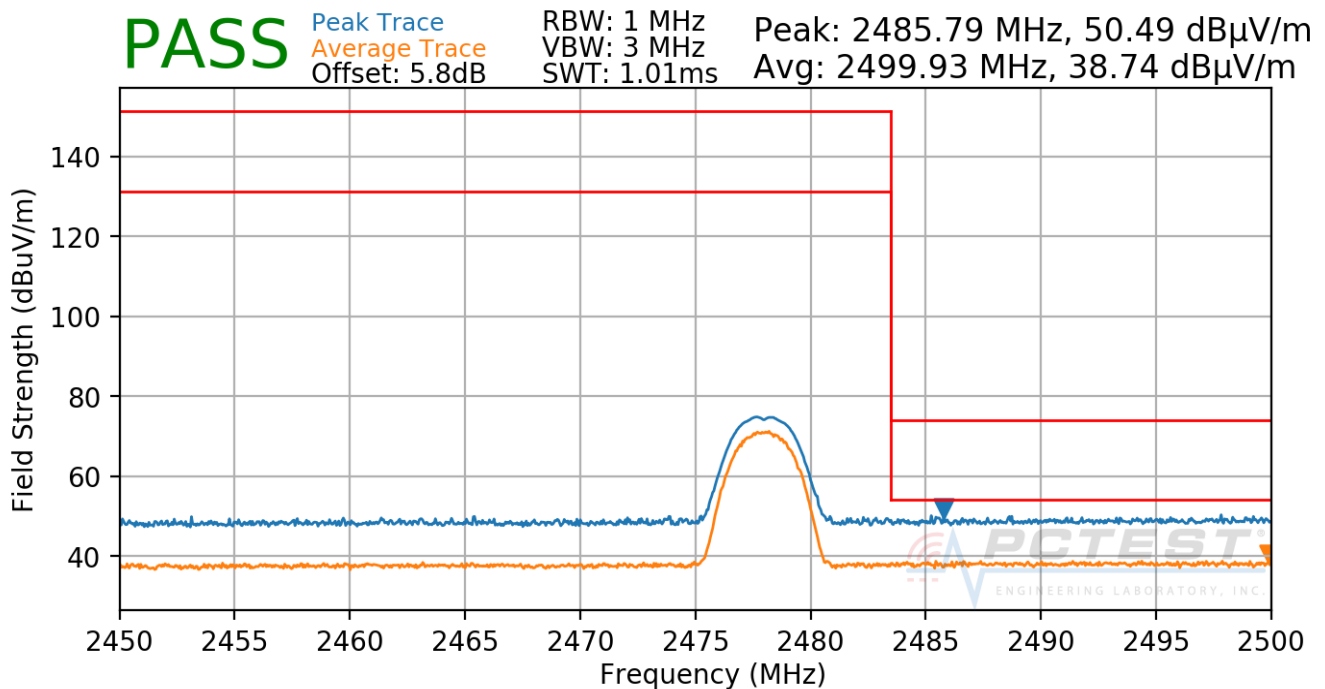
Bluetooth Mode: HDR4

Power Scheme: ePA

Measurement Distance: 3 Meters

Operating Frequency: 2478MHz

Channel: 75



Plot 7-115. Radiated Restricted Upper Band Edge Measurement ANT2 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 102 of 112

Radiated Restricted Band Edge Measurements

§15.205 §15.209; RSS-Gen [8.9]

The amplitude offset shown in the following plots for average measurements was calculated using the formula:

$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

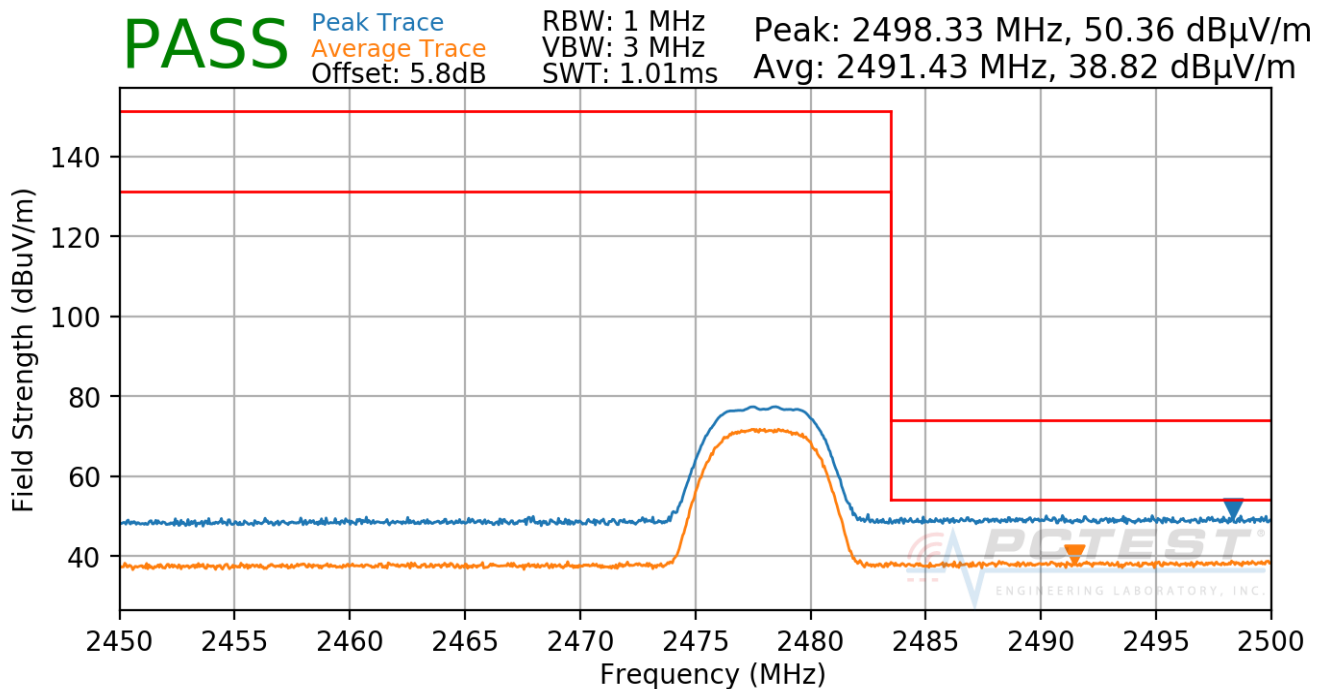
Bluetooth Mode: HDR8

Power Scheme: ePA

Measurement Distance: 3 Meters

Operating Frequency: 2478MHz

Channel: 75



Plot 7-116. Radiated Restricted Upper Band Edge Measurement ANT2 (Average & Peak)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 103 of 112

7.9 Radiated Spurious Emissions Measurements – 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 must not exceed the limits shown in Table 7-34 per Section 15.209.

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 7-34. 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

FCC ID: BCGA1934		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Test Setup

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

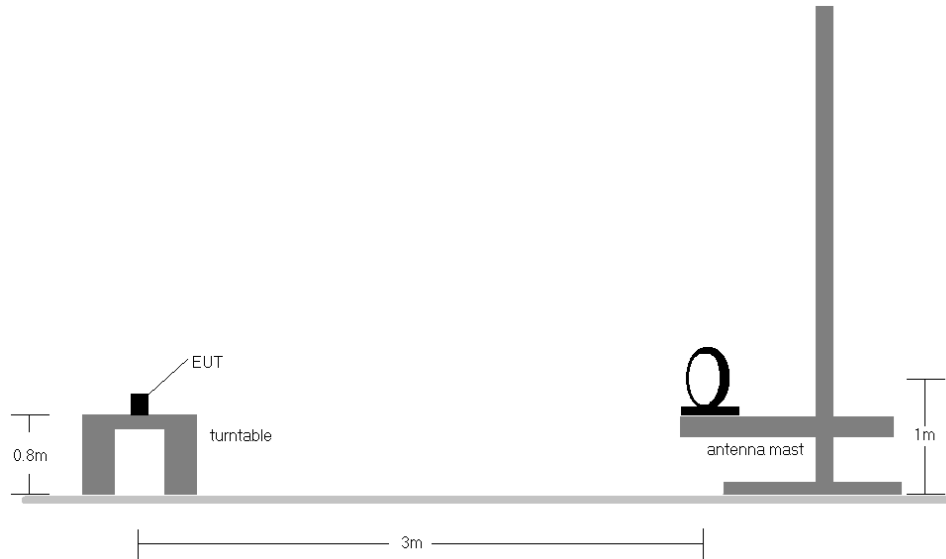


Figure 7-7. Radiated Test Setup < 30Mhz

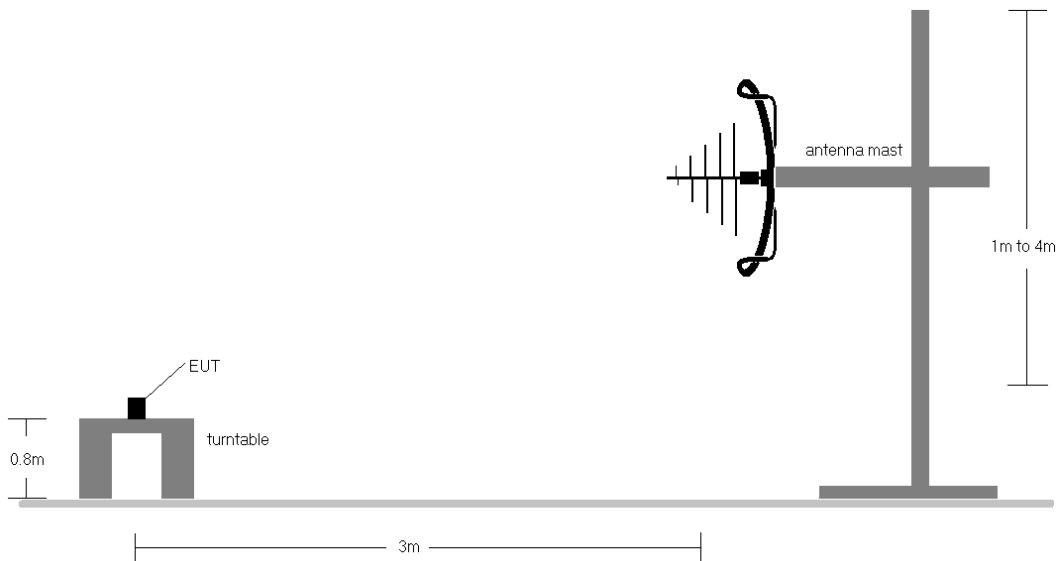


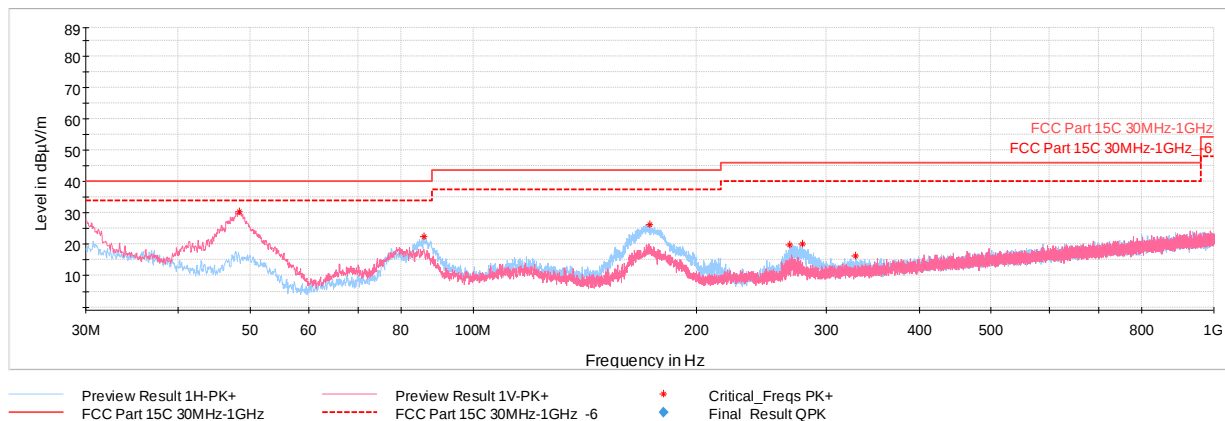
Figure 7-8. Radiated Test Setup < 1GHz

FCC ID: BCGA1934	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Test Notes

1. All emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 7-34.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
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. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
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. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.
10. The unit was tested with all possible mode and power schemes and only the highest emission is reported.

FCC ID: BCGA1934		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Plot 7-117. Radiated Spurious Plot below 1GHz (4Mbps, HDR4 ePA, Pol. H & V, 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]
48.33	Max Peak	V	100	30	-55.75	-20.98	30.27	40.00	-9.73
85.82	Max Peak	H	250	347	-65.36	-19.10	22.54	40.00	-17.46
173.12	Max Peak	H	100	171	-63.91	-16.71	26.38	43.52	-17.14
267.36	Max Peak	H	100	247	-70.12	-17.00	19.88	46.02	-26.14
278.66	Max Peak	H	100	53	-70.24	-16.77	19.99	46.02	-26.03
328.18	Max Peak	H	100	15	-75.58	-15.11	16.31	46.02	-29.71

Table 7-35. Radiated Spurious Emissions Below 1GHz (4Mbps, HDR4 ePA, with AC/DC Adapter)

FCC ID: BCGA1934	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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7.10 Line-Conducted Test Data

§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 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 7-36. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2013, Section 6.2

Test Settings

Quasi-Peak Field Strength Measurements

- Analyzer center frequency was set to the frequency of the spurious emission of interest
- RBW = 9kHz (for emissions from 150kHz – 30MHz)
- Detector = quasi-peak
- Sweep time = auto couple
- Trace mode = max hold
- Trace was allowed to stabilize

Average Field Strength Measurements

- Analyzer center frequency was set to the frequency of the spurious emission of interest
- RBW = 9kHz (for emissions from 150kHz – 30MHz)
- Detector = RMS
- Sweep time = auto couple
- Trace mode = max hold
- Trace was allowed to stabilize

FCC ID: BCGA1934	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Test Setup

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

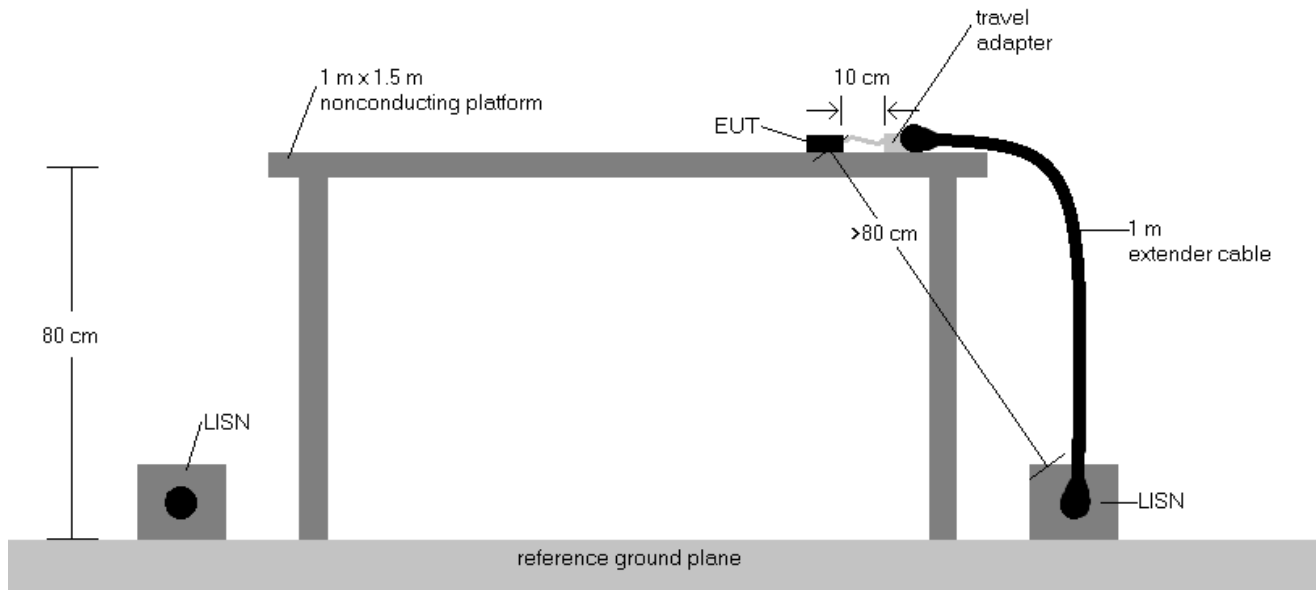
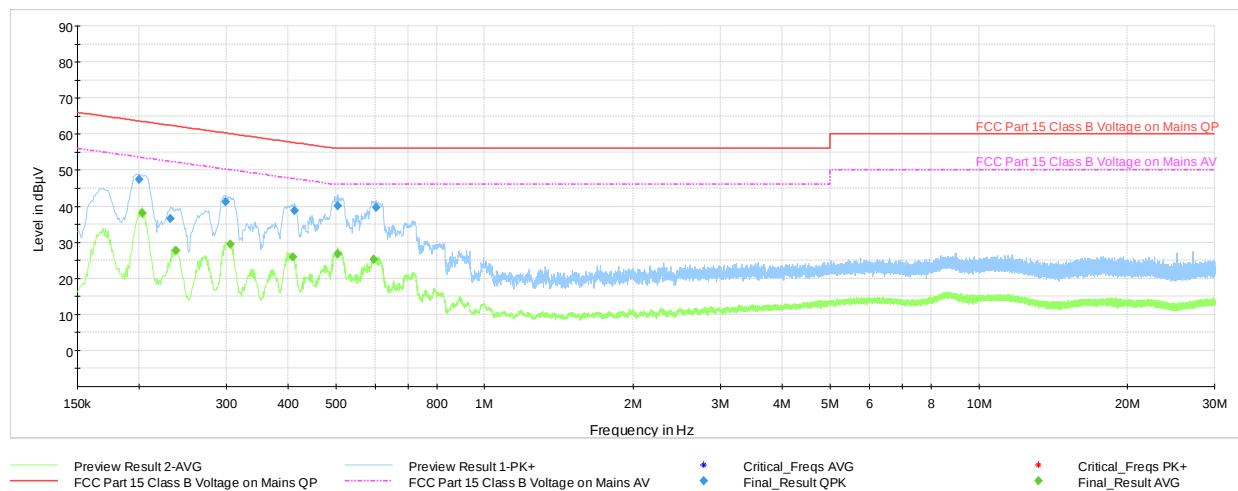


Figure 7-9. Test Instrument & Measurement Setup

Test Notes

1. All modes of operation were investigated and the worst-case emissions are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz are specified in Part 15.207 and RSS-Gen (8.8).
3. $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
4. $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Corr. (dB)}$
5. $\text{Margin (dB)} = \text{QP/AV Limit (dB}\mu\text{V)} - \text{QP/AV Level (dB}\mu\text{V)}$
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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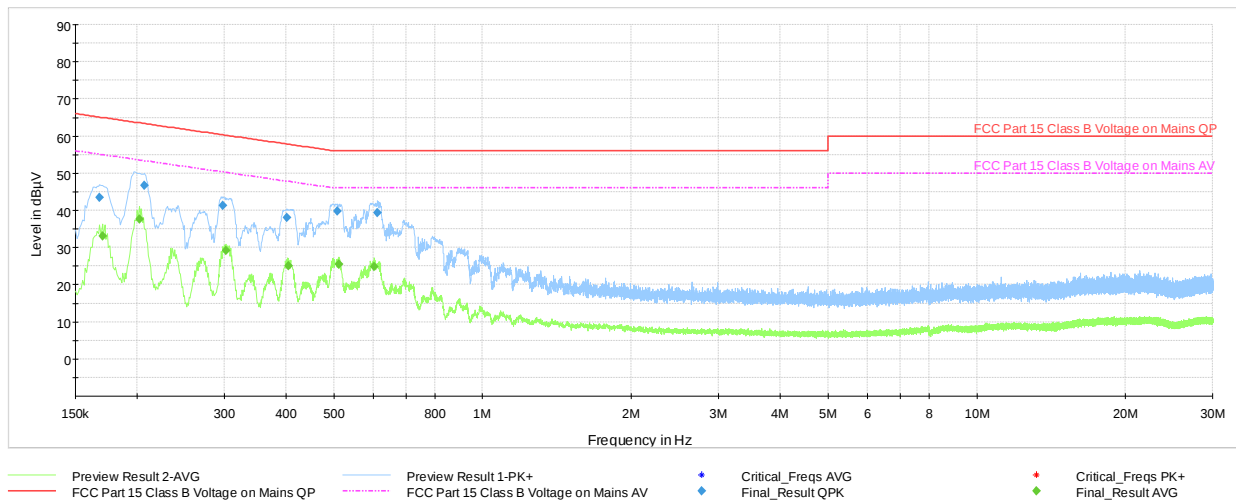


Plot 7-118. Line Conducted Plot with Bluetooth HDR (L1, with AC/DC Adapter)

Frequency MHz	Process State	QuasiPeak dBμV	Average dBμV	Limit dBμV	Margin dB	Bandwidth kHz	Line	PE
0.200000	FINAL	47.49	—	63.61	-16.12	9.000	L1	GND
0.203000	FINAL	—	38.01	53.49	-15.48	9.000	L1	GND
0.231000	FINAL	36.64	—	62.41	-25.77	9.000	L1	GND
0.237000	FINAL	—	27.62	52.20	-24.58	9.000	L1	GND
0.299000	FINAL	41.18	—	60.27	-19.09	9.000	L1	GND
0.306000	FINAL	—	29.37	50.08	-20.71	9.000	L1	GND
0.409000	FINAL	—	25.94	47.67	-21.73	9.000	L1	GND
0.413000	FINAL	38.80	—	57.59	-18.79	9.000	L1	GND
0.505000	FINAL	40.08	—	56.00	-15.92	9.000	L1	GND
0.505000	FINAL	—	26.76	46.00	-19.24	9.000	L1	GND
0.597000	FINAL	—	25.33	46.00	-20.67	9.000	L1	GND
0.603000	FINAL	39.59	—	56.00	-16.41	9.000	L1	GND

Table 7-37. Line Conducted Measurements with Bluetooth HDR (L1, with AC/DC Adapter)

FCC ID: BCGA1934	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Plot 7-119. Line Conducted Plot with Bluetooth HDR (N, with AC/DC Adapter)

Frequency MHz	Process State	QuasiPeak dBμV	Average dBμV	Limit dBμV	Margin dB	Bandwidth kHz	Line	PE
0.168000	FINAL	43.51	—	65.06	-21.55	9.000	N	GND
0.170000	FINAL	—	33.15	54.96	-21.81	9.000	N	GND
0.202000	FINAL	—	37.68	53.53	-15.85	9.000	N	GND
0.207000	FINAL	46.78	—	63.33	-16.55	9.000	N	GND
0.298000	FINAL	41.36	—	60.30	-18.94	9.000	N	GND
0.302000	FINAL	—	29.20	50.19	-20.99	9.000	N	GND
0.402000	FINAL	38.07	—	57.81	-19.74	9.000	N	GND
0.405000	FINAL	—	25.09	47.75	-22.66	9.000	N	GND
0.508000	FINAL	39.77	—	56.00	-16.23	9.000	N	GND
0.512000	FINAL	—	25.43	46.00	-20.57	9.000	N	GND
0.604000	FINAL	—	24.86	46.00	-21.14	9.000	N	GND
0.613000	FINAL	39.36	—	56.00	-16.64	9.000	N	GND

Table 7-38. Line Conducted Measurements with Bluetooth HDR (N, with AC/DC Adapter)

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 111 of 112

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Apple Tablet Device FCC ID: BCGA1934** 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: BCGA1934		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-07.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 112 of 112