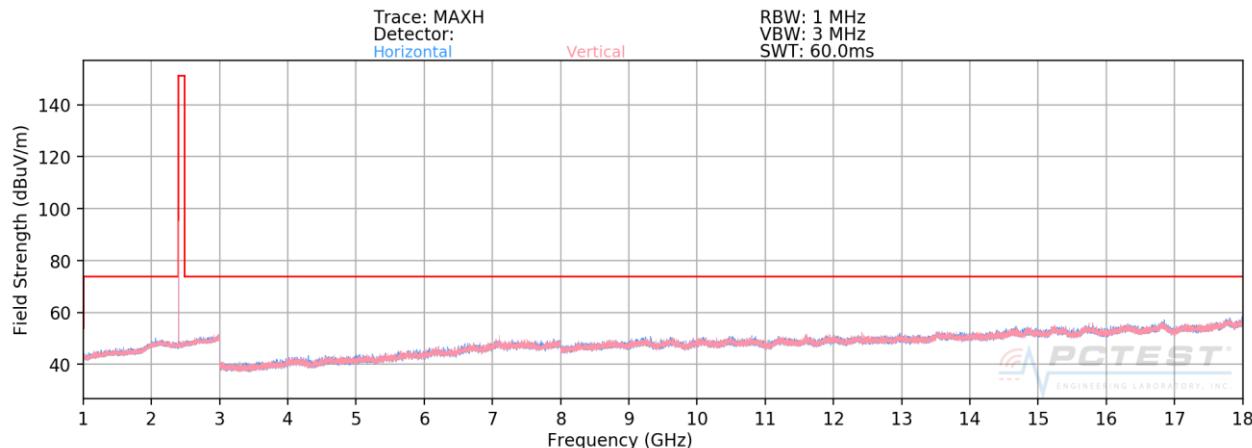


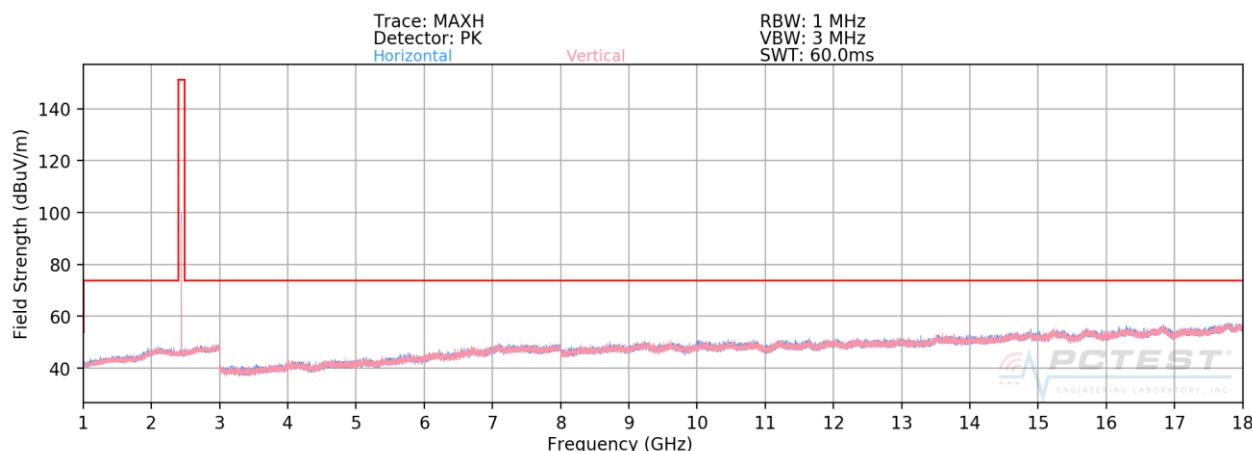
## Radiated Spurious Emission Measurements

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

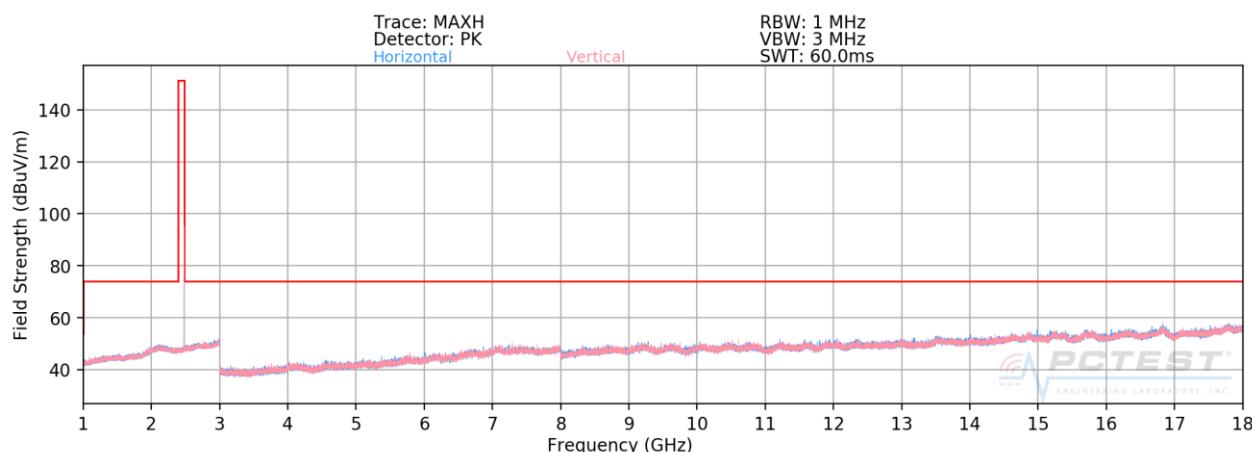
### Antenna 2



Plot 7-91. Radiated Spurious Plot above 1GHz ANT2 (BT GFSK ePA – Ch. 0)



Plot 7-92. Radiated Spurious Plot above 1GHz ANT2 (BT GFSK ePA – Ch. 39)



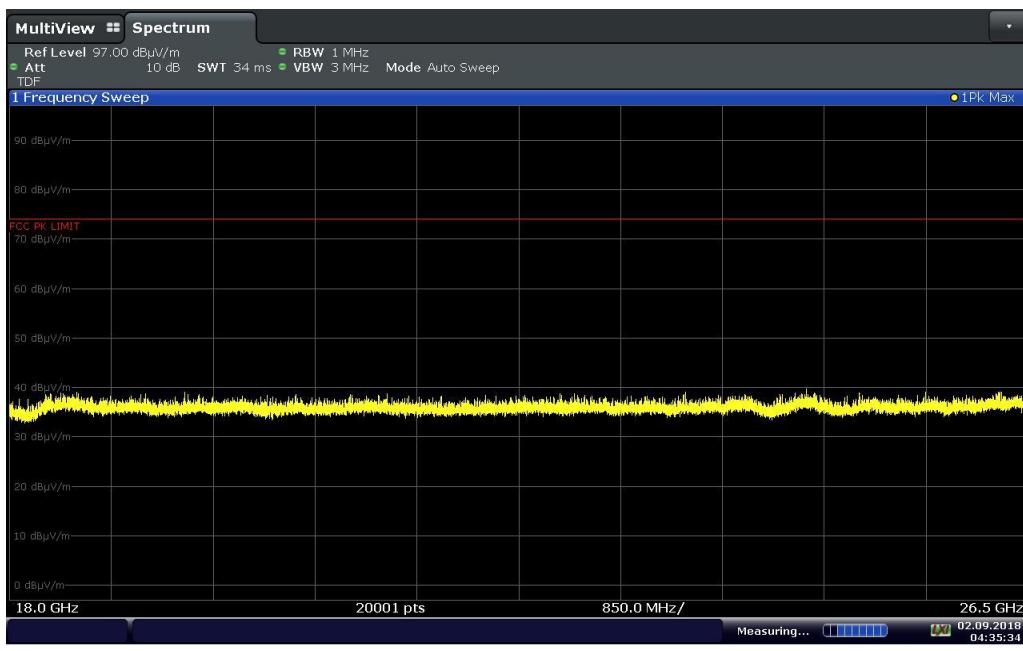
FCC ID: BCGA1934	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 81 of 117	

**Plot 7-93. Radiated Spurious Plot above 1GHz ANT2 (BT GFSK ePA – Ch. 78)**

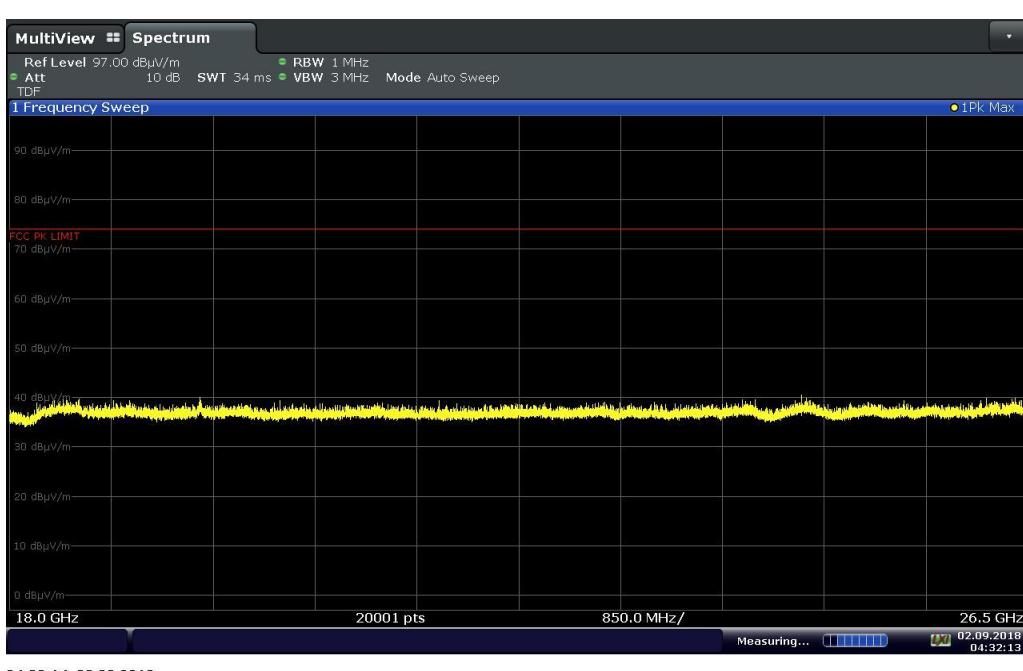
FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 82 of 117

## Radiated Spurious Emissions Measurements (Above 18GHz)

§15.209; RSS-Gen [8.9]



**Plot 7-94. Radiated Spurious Plot above 18GHz (GFSK ePA, Pol. H)**



**Plot 7-95. Radiated Spurious Plot above 18GHz (GFSK ePA, Pol. V)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 83 of 117

## Radiated Spurious Emission Measurements

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

### Antenna 0

Worst Case Mode:	Bluetooth
Worst Case Modulation:	GFSK
Worst Case Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2402MHz
Channel:	0

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4804.00	Avg	H	-	-	-80.22	5.34	32.12	53.98	-21.86
4804.00	Peak	H	-	-	-67.00	5.34	45.34	73.98	-28.64
12010.00	Avg	H	-	-	-83.84	15.18	38.34	53.98	-15.64
12010.00	Peak	H	-	-	-73.86	15.18	48.32	73.98	-25.66

Table 7-16. Radiated Measurements

Worst Case Mode:	Bluetooth
Worst Case Modulation:	GFSK
Worst Case Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2441MHz
Channel:	39

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 84 of 117	

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4882.00	Avg	H	-	-	-80.61	5.76	32.15	53.98	-21.83
4882.00	Peak	H	-	-	-70.31	5.76	42.45	73.98	-31.53
7323.00	Avg	H	-	-	-80.27	8.37	35.10	53.98	-18.88
7323.00	Peak	H	-	-	-70.34	8.37	45.03	73.98	-28.95
12205.00	Avg	H	-	-	-81.04	14.91	40.87	53.98	-13.11
12205.00	Peak	H	-	-	-71.39	14.91	50.52	73.98	-23.46

**Table 7-17. Radiated Measurements**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>				Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device			

## Radiated Spurious Emission Measurements

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

Worst Case Mode:	Bluetooth
Worst Case Modulation:	GFSK
Worst Case Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2480MHz
Channel:	78

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4960.00	Avg	H	-	-	-79.72	5.78	33.06	53.98	-20.92
4960.00	Peak	H	-	-	-70.40	5.78	42.38	73.98	-31.60
7440.00	Avg	H	-	-	-79.83	8.60	35.77	53.98	-18.21
7440.00	Peak	H	-	-	-69.32	8.60	46.28	73.98	-27.70
12400.00	Avg	H	-	-	-84.46	15.06	37.60	53.98	-16.38
12400.00	Peak	H	-	-	-74.34	15.06	47.72	73.98	-26.26

Table 7-18. Radiated Measurements

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>				Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device			

## Radiated Spurious Emission Measurements

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

### Antenna 1

Worst Case Mode:	Bluetooth
Worst Case Modulation:	GFSK
Worst Case Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2402MHz
Channel:	0

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4804.00	Avg	H	120	340	-77.53	5.34	34.81	53.98	-19.17
4804.00	Peak	H	120	340	-66.78	5.34	45.56	73.98	-28.42
12010.00	Avg	H	-	-	-81.58	15.18	40.60	53.98	-13.38
12010.00	Peak	H	-	-	-71.08	15.18	51.10	73.98	-22.88

Table 7-19. Radiated Measurements

Worst Case Mode:	Bluetooth
Worst Case Modulation:	GFSK
Worst Case Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2441MHz
Channel:	39

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 87 of 117	

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4882.00	Avg	H	-	-	-80.50	5.76	32.26	53.98	-21.72
4882.00	Peak	H	-	-	-67.70	5.76	45.06	73.98	-28.92
7323.00	Avg	H	-	-	-80.59	8.37	34.78	53.98	-19.20
7323.00	Peak	H	-	-	-70.90	8.37	44.47	73.98	-29.51
12205.00	Avg	H	-	-	-82.62	14.91	39.29	53.98	-14.69
12205.00	Peak	H	-	-	-72.64	14.91	49.27	73.98	-24.71

**Table 7-20. Radiated Measurements**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>				Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device			

## Radiated Spurious Emission Measurements

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

Worst Case Mode:	Bluetooth
Worst Case Modulation:	GFSK
Worst Case Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2480MHz
Channel:	78

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4960.00	Avg	H	-	-	-80.52	5.78	32.26	53.98	-21.72
4960.00	Peak	H	-	-	-68.28	5.78	44.50	73.98	-29.48
7440.00	Avg	H	-	-	-80.61	8.60	34.99	53.98	-18.99
7440.00	Peak	H	-	-	-71.08	8.60	44.52	73.98	-29.46
12400.00	Avg	H	-	-	-83.78	15.06	38.28	53.98	-15.70
12400.00	Peak	H	-	-	-73.26	15.06	48.80	73.98	-25.18

Table 7-21. Radiated Measurements

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>				Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device			

## Radiated Spurious Emission Measurements

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

### Antenna 2

Worst Case Mode:	Bluetooth
Worst Case Modulation:	GFSK
Worst Case Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2402MHz
Channel:	0

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4804.00	Avg	H	-	-	-79.12	5.34	33.22	53.98	-20.76
4804.00	Peak	H	-	-	-67.78	5.34	44.56	73.98	-29.42
12010.00	Avg	H	-	-	-83.05	15.18	39.13	53.98	-14.85
12010.00	Peak	H	-	-	-73.66	15.18	48.52	73.98	-25.46

Table 7-22. Radiated Measurements

Worst Case Mode:	Bluetooth
Worst Case Modulation:	GFSK
Worst Case Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2441MHz
Channel:	39

FCC ID: BCGA1934	PCTEST ENGINEERING LABORATORY, INC.			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device			

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4882.00	Avg	H	-	-	-80.19	5.76	32.57	53.98	-21.41
4882.00	Peak	H	-	-	-70.45	5.76	42.31	73.98	-31.67
7323.00	Avg	H	-	-	-80.88	8.37	34.49	53.98	-19.49
7323.00	Peak	H	-	-	-71.12	8.37	44.25	73.98	-29.73
12205.00	Avg	H	-	-	-82.86	14.91	39.05	53.98	-14.93
12205.00	Peak	H	-	-	-71.45	14.91	50.46	73.98	-23.52

**Table 7-23. Radiated Measurements**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>				Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device			

## Radiated Spurious Emission Measurements

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

Worst Case Mode:	Bluetooth
Worst Case Modulation:	GFSK
Worst Case Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2480MHz
Channel:	78

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
4960.00	Avg	H	-	-	-79.36	5.78	33.42	53.98	-20.56
4960.00	Peak	H	-	-	-70.57	5.78	42.21	73.98	-31.77
7440.00	Avg	H	-	-	-79.90	8.60	35.70	53.98	-18.28
7440.00	Peak	H	-	-	-69.11	8.60	46.49	73.98	-27.49
12400.00	Avg	H	-	-	-84.17	15.06	37.89	53.98	-16.09
12400.00	Peak	H	-	-	-74.60	15.06	47.46	73.98	-26.52

Table 7-24. Radiated Measurements

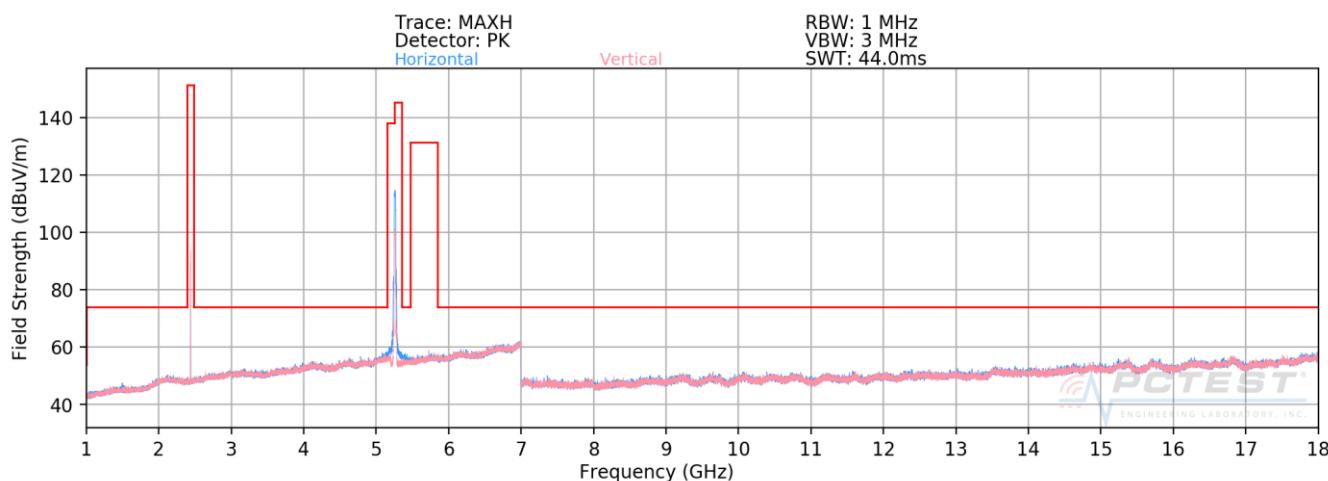
FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>				Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device			

## Simultaneous Tx Radiated Spurious Measurements

§15.247 §15.205 & §15.209; RSS-Gen [8.9]

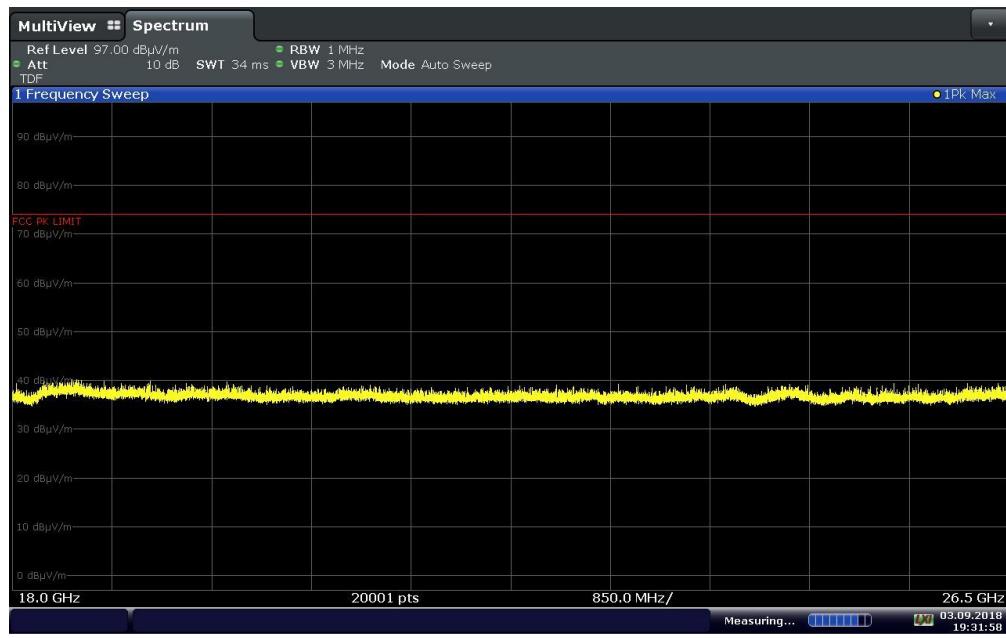
Description	2.4 GHz Emission	5 GHz Emission
Antenna	2	2
Channel	39	40
Operating Frequency (MHz)	2441	5200
Data Rate (Mbps)	GFSK/1Mbps	MCS0
Mode	Bluetooth	UNII

**Table 7-25. Worst Cast Simultaneous Transmission Config**



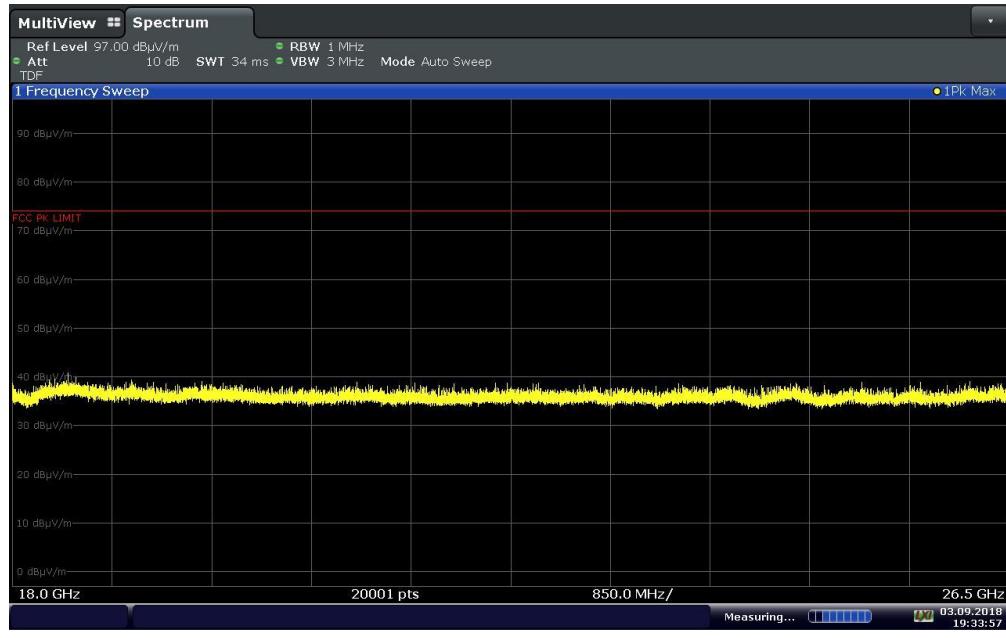
**Plot 7-96. Radiated Spurious Plot above 1GHz (2.4GHz – 5GHz)**

FCC ID: BCGA1934	 PCTEST®	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 93 of 117



19:31:58 03.09.2018

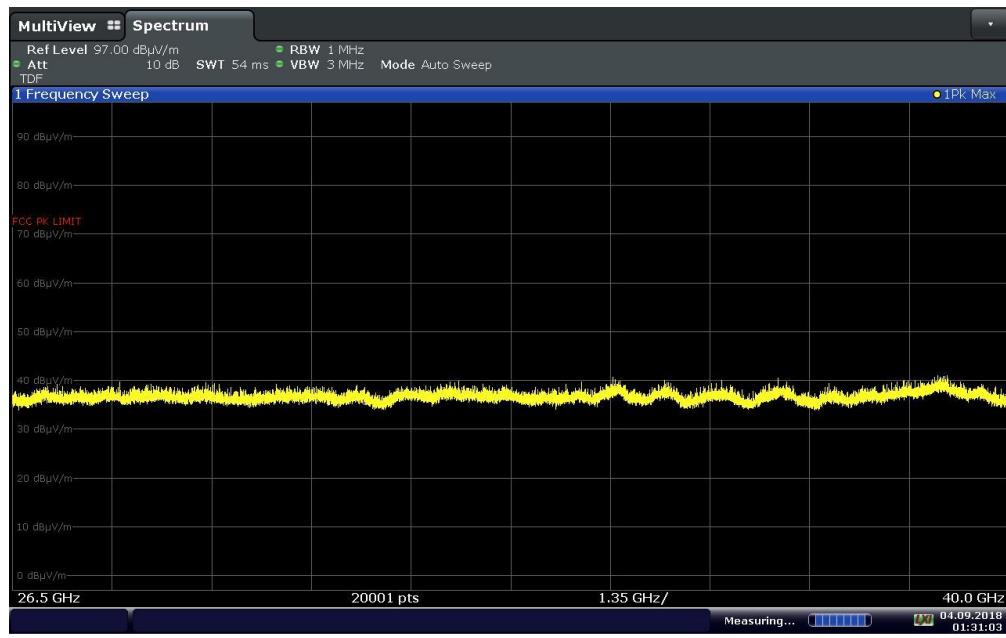
**Plot 7-97. Radiated Spurious Plot 18GHz – 26.5GHz (2.4GHz – 5GHz) Pol. H**



19:33:58 03.09.2018

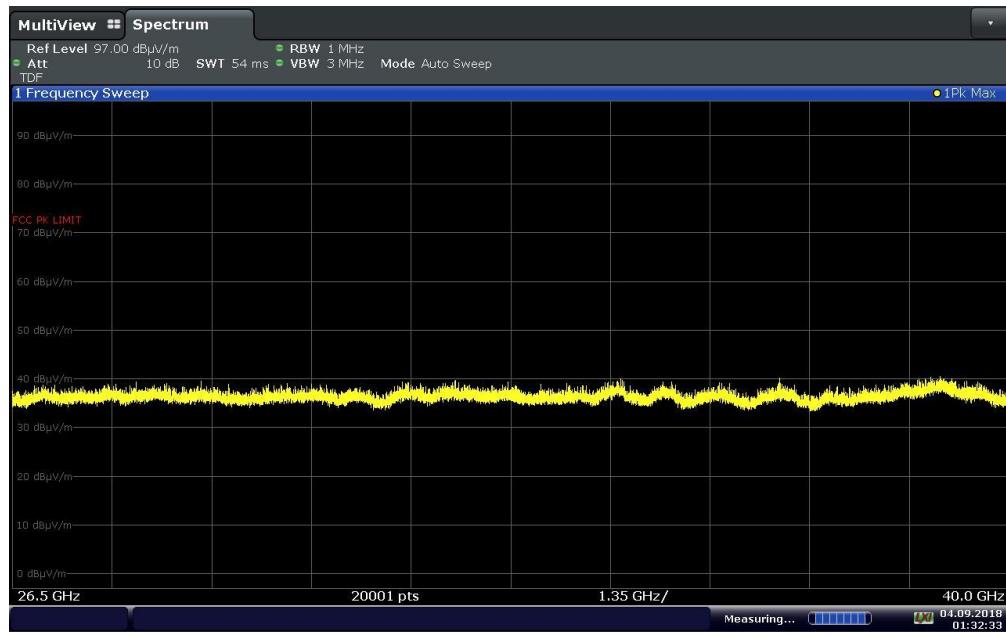
**Plot 7-98. Radiated Spurious Plot 18GHz – 26.5GHz (2.4GHz – 5GHz) Pol. V**

FCC ID: BCGA1934	<b>PCTEST®</b> ENGINEERING LABORATORY, INC.		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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01:31:04 04.09.2018

**Plot 7-99. Radiated Spurious Plot above 26.5GHz (2.4GHz – 5GHz) Pol. H**



01:32:34 04.09.2018

**Plot 7-100. Radiated Spurious Plot above 26.5GHz (2.4GHz – 5GHz) Pol. V**

FCC ID: BCGA1934	<b>PCTEST®</b> ENGINEERING LABORATORY, INC.		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 95 of 117	

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	-	-	-76.84	14.37	44.53	53.98	-9.45
4882.00	Peak	H	-	-	-65.24	14.37	56.13	73.98	-17.85
7323.00	Avg	H	-	-	-75.69	10.71	42.02	53.98	-11.96
7323.00	Peak	H	-	-	-63.82	10.71	53.89	73.98	-20.09
12205.00	Avg	H	-	-	-78.37	14.63	43.26	53.98	-10.72
12205.00	Peak	H	-	-	-66.09	14.63	55.54	73.98	-18.44
10400.00	Avg	H	-	-	-76.77	14.33	44.56	53.98	-9.41
10400.00	Peak	H	-	-	-64.56	14.33	56.77	73.98	-17.20
15600.00	Avg	H	-	-	-78.35	18.65	47.30	53.98	-6.68
15600.00	Peak	H	-	-	-66.79	18.65	58.86	73.98	-15.12
7959.00	Avg	H	-	-	-75.58	10.50	41.92	53.98	-12.06
7959.00	Peak	H	-	-	-63.45	10.50	54.05	73.98	-19.93
10718.00	Avg	H	-	-	-78.34	14.81	43.47	53.98	-10.51
10718.00	Peak	H	-	-	-66.61	14.81	55.20	73.98	-18.78
3077.00	Avg	H	-	-	-76.99	10.09	40.10	53.98	-13.87
3077.00	Peak	H	-	-	-64.47	10.09	52.62	73.98	-21.35

**Table 7-26. Radiated Measurements (ANT1 2.4GHz – ANT2 5GHz)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 96 of 117	

## 7.10 Radiated Restricted Band Edge Measurements

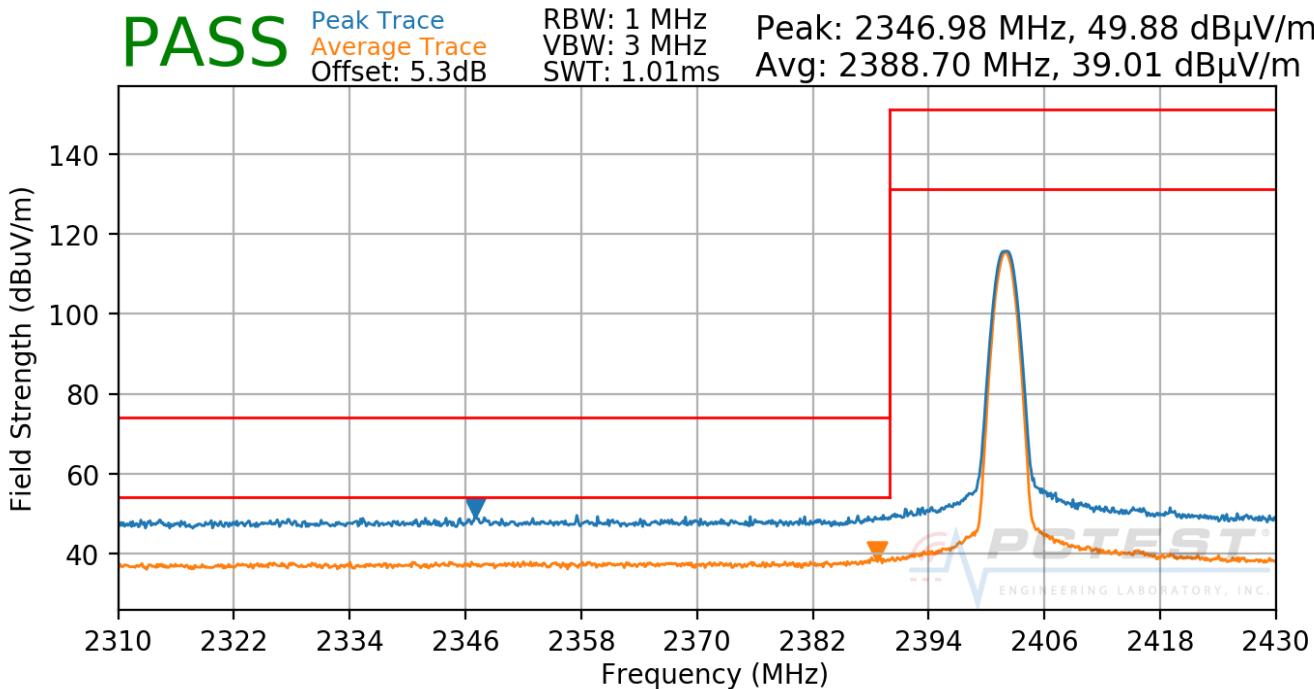
§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]

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:

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

Worst Case Mode:	Bluetooth
Worst Case Modulation:	GFSK
Worst Case Power Scheme:	ePA
Measurement Distance:	3 Meters
Operating Frequency:	2402MHz
Channel:	0



Plot 7-101. Radiated Restricted Lower Band Edge Measurement ANT0 (Average & Peak)

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 97 of 117

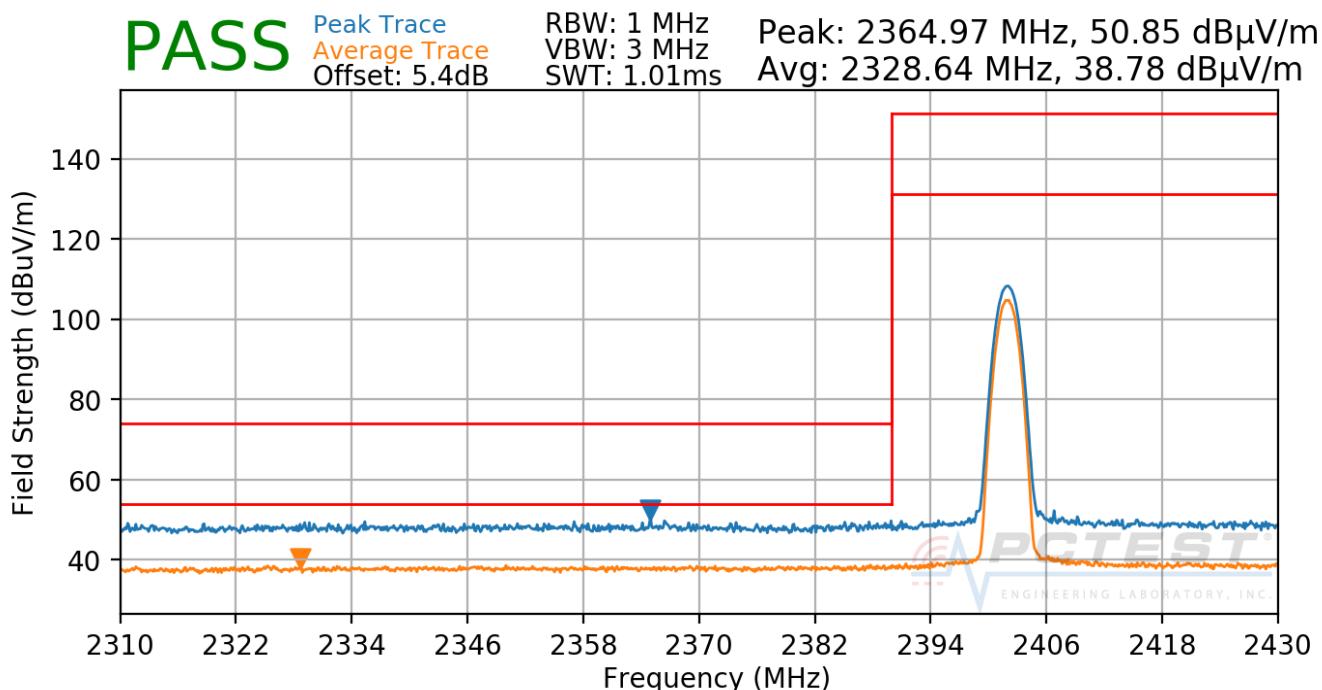
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: 8DPSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2402MHz  
 Channel: 0



**Plot 7-102. Radiated Restricted Lower Band Edge Measurement ANT0 (Average & Peak)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device		Page 98 of 117

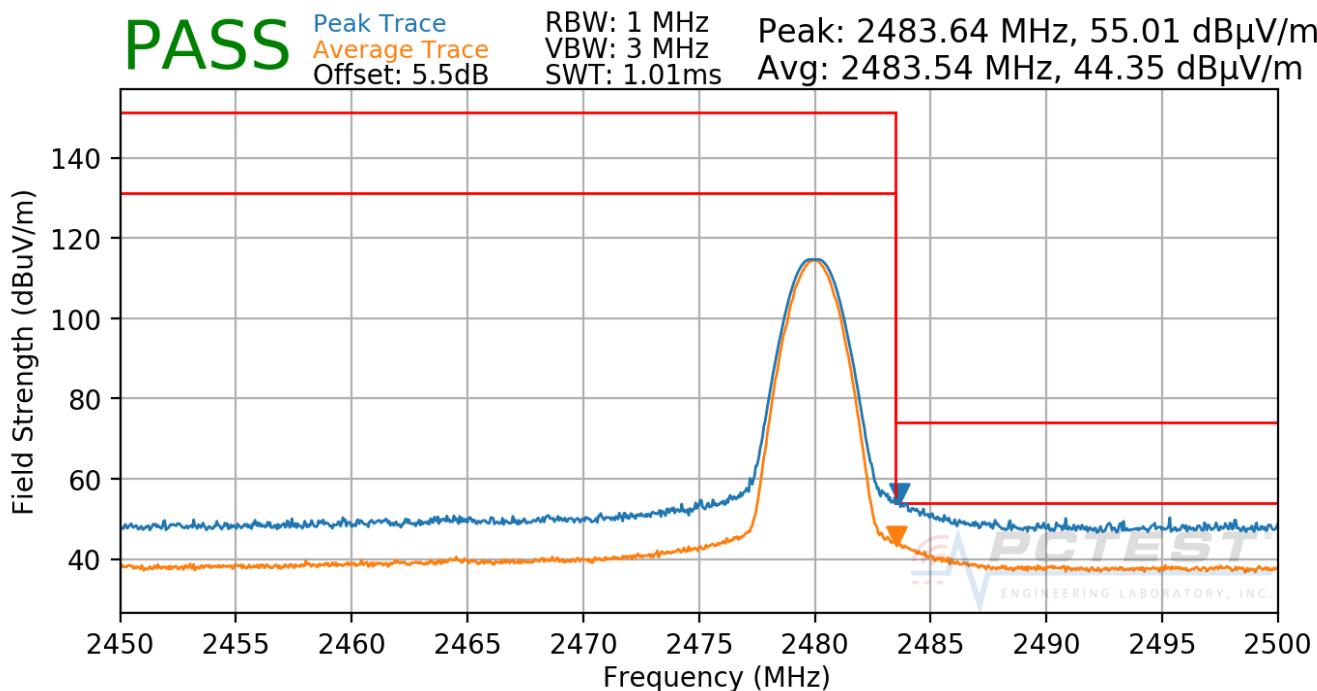
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: GFSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2480MHz  
 Channel: 78



**Plot 7-103. Radiated Restricted Upper Band Edge Measurement ANT0 (Average & Peak)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 99 of 117	

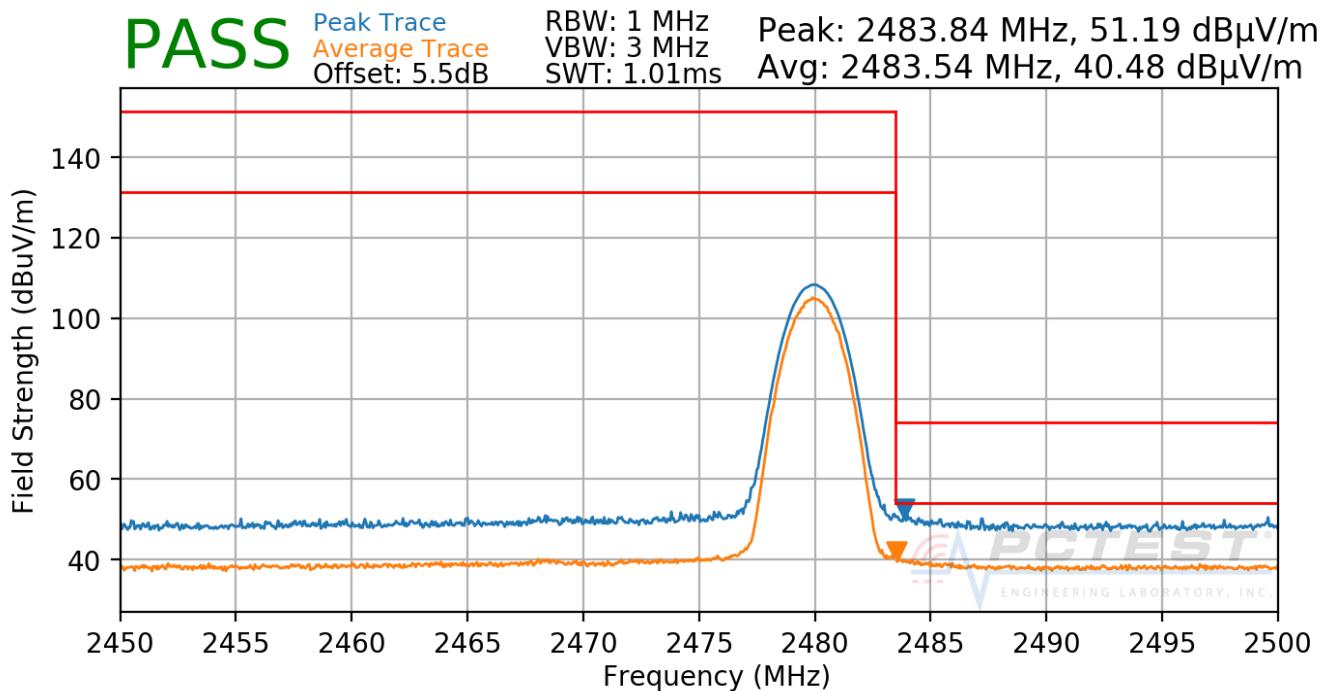
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: 8DPSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2480MHz  
 Channel: 78



Plot 7-104. Radiated Restricted Upper Band Edge Measurement ANT0 (Average & Peak)

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 100 of 117

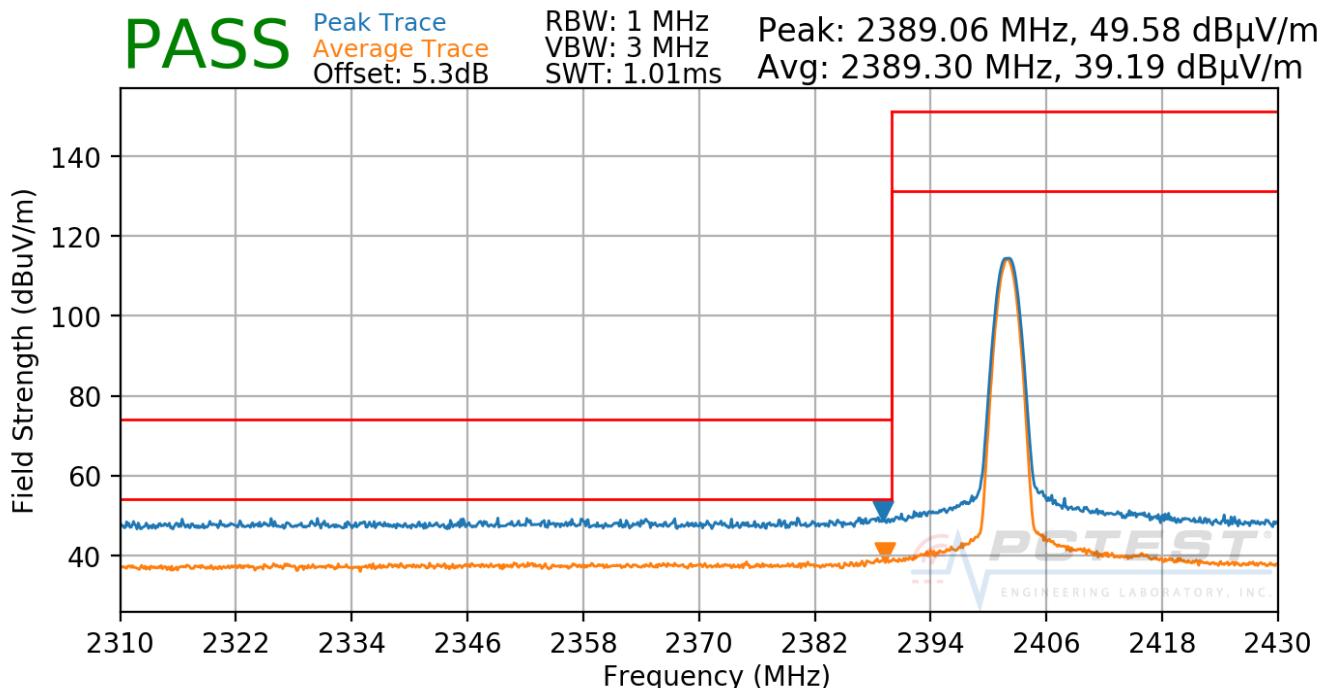
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: GFSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2402MHz  
 Channel: 0



**Plot 7-105. Radiated Restricted Lower Band Edge Measurement ANT1 (Average & Peak)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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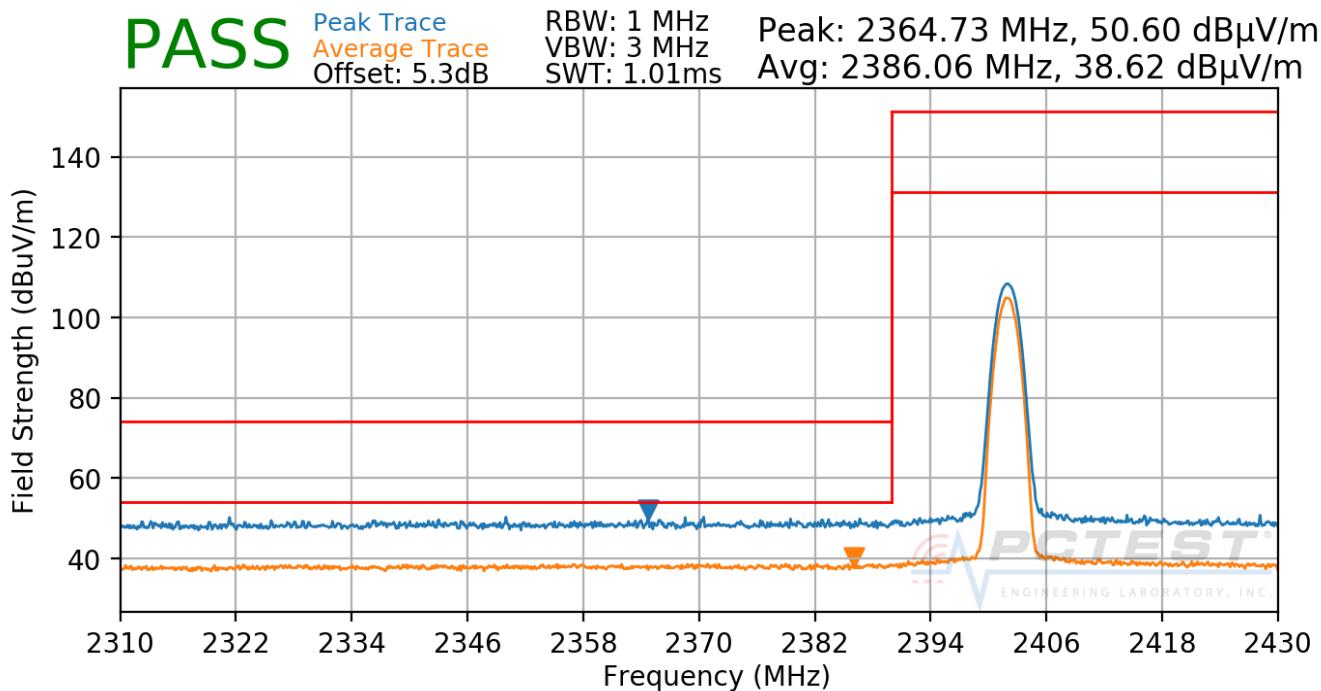
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: 8DPSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2402MHz  
 Channel: 0



**Plot 7-106. Radiated Restricted Lower Band Edge Measurement ANT1 (Average & Peak)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 102 of 117

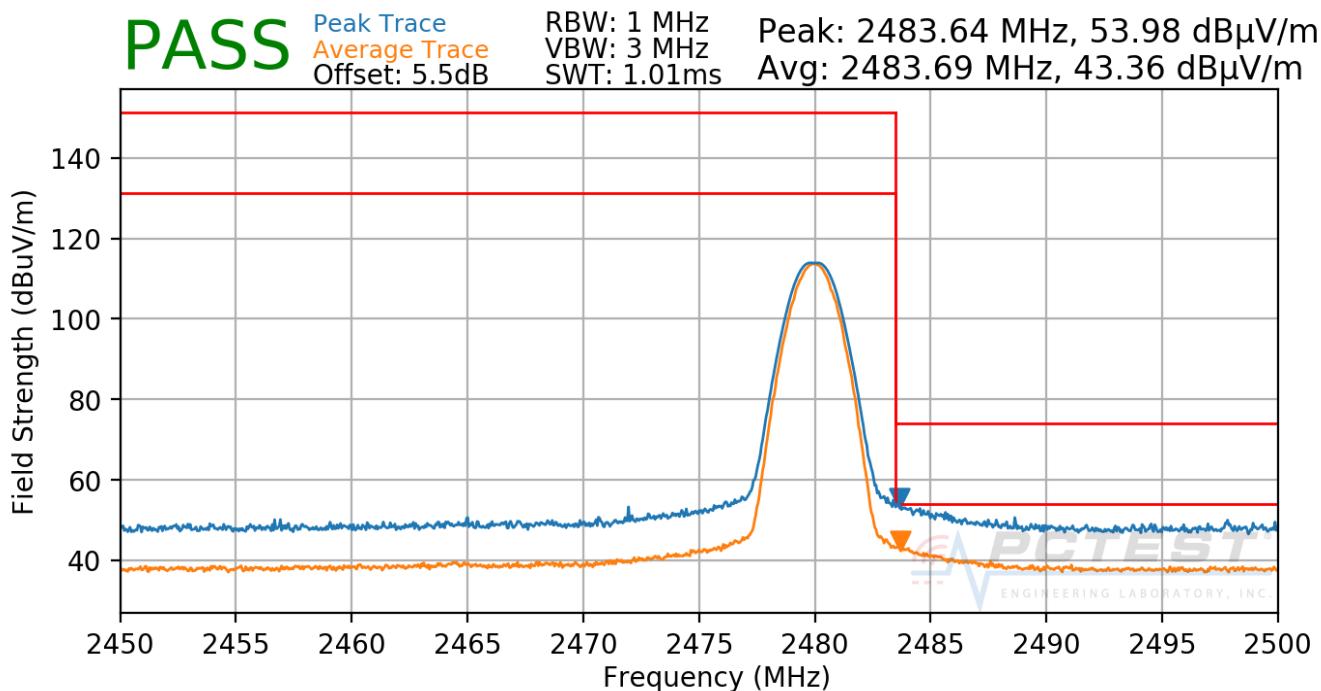
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: GFSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2480MHz  
 Channel: 78



**Plot 7-107. Radiated Restricted Upper Band Edge Measurement ANT1 (Average & Peak)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 103 of 117

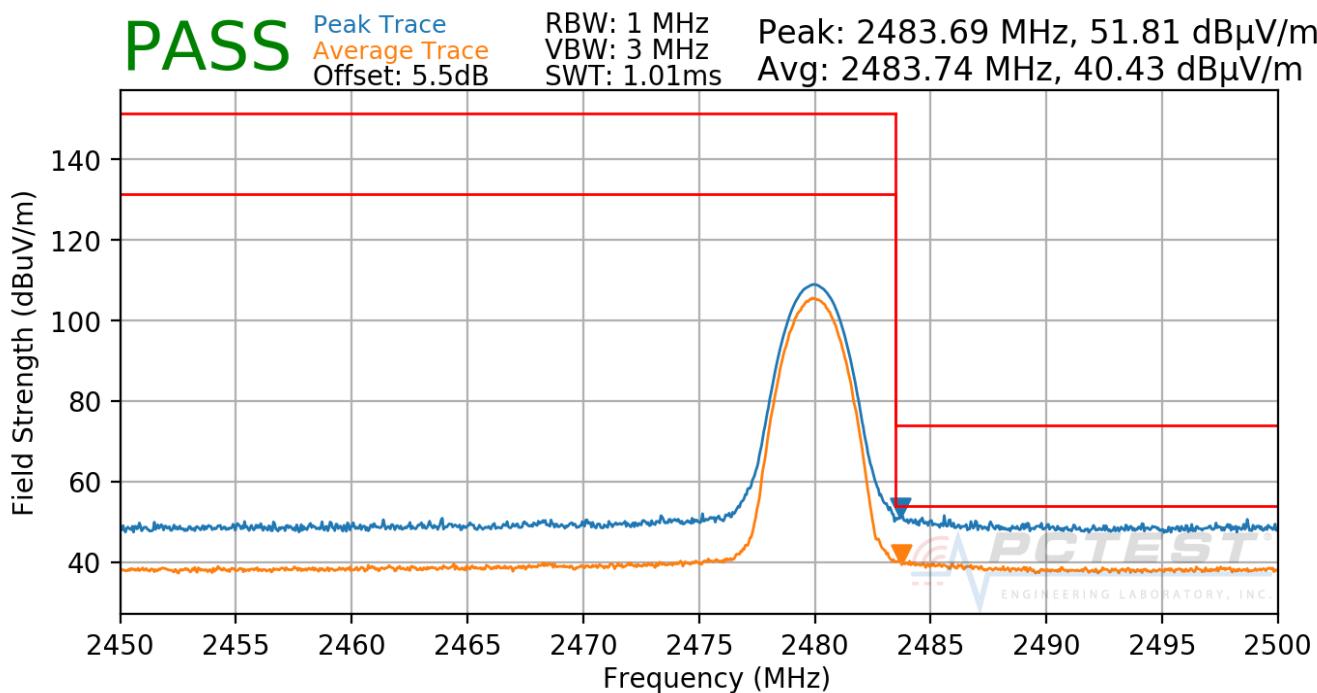
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: 8DPSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2480MHz  
 Channel: 78



**Plot 7-108. Radiated Restricted Upper Band Edge Measurement ANT1 (Average & Peak)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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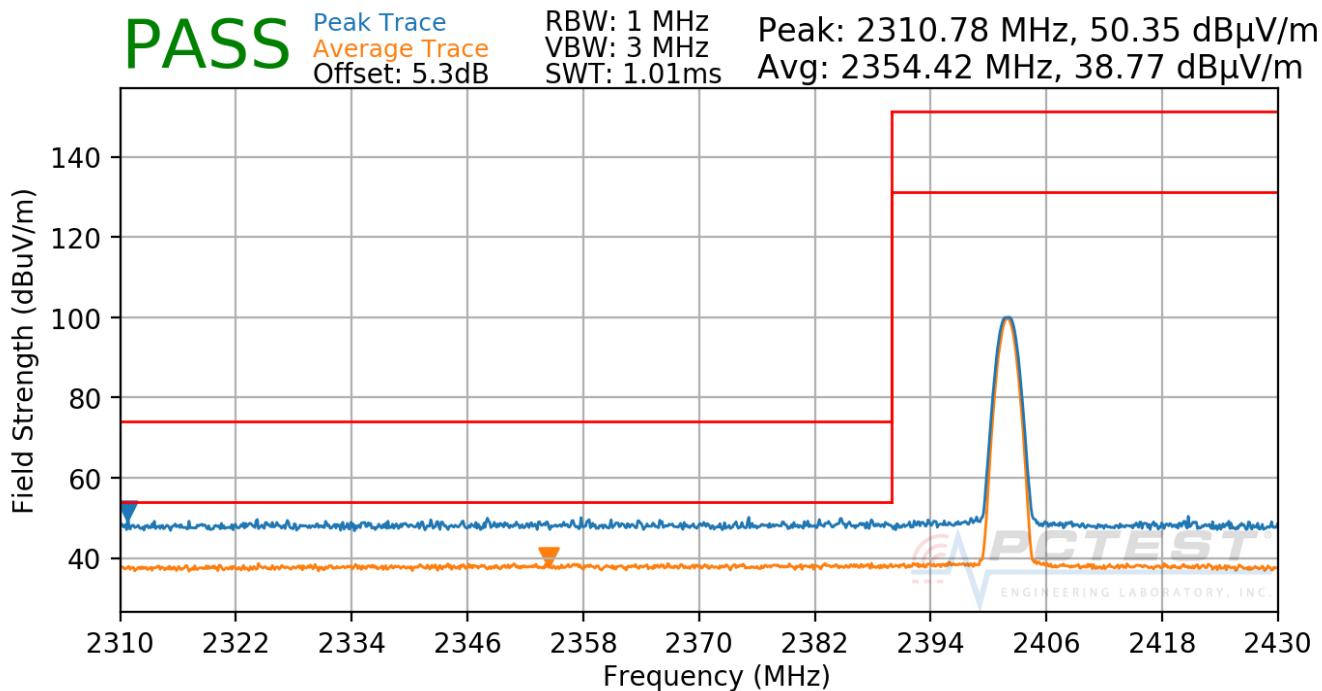
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: GFSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2402MHz  
 Channel: 0



**Plot 7-109. Radiated Restricted Lower Band Edge Measurement ANT2 (Average & Peak)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
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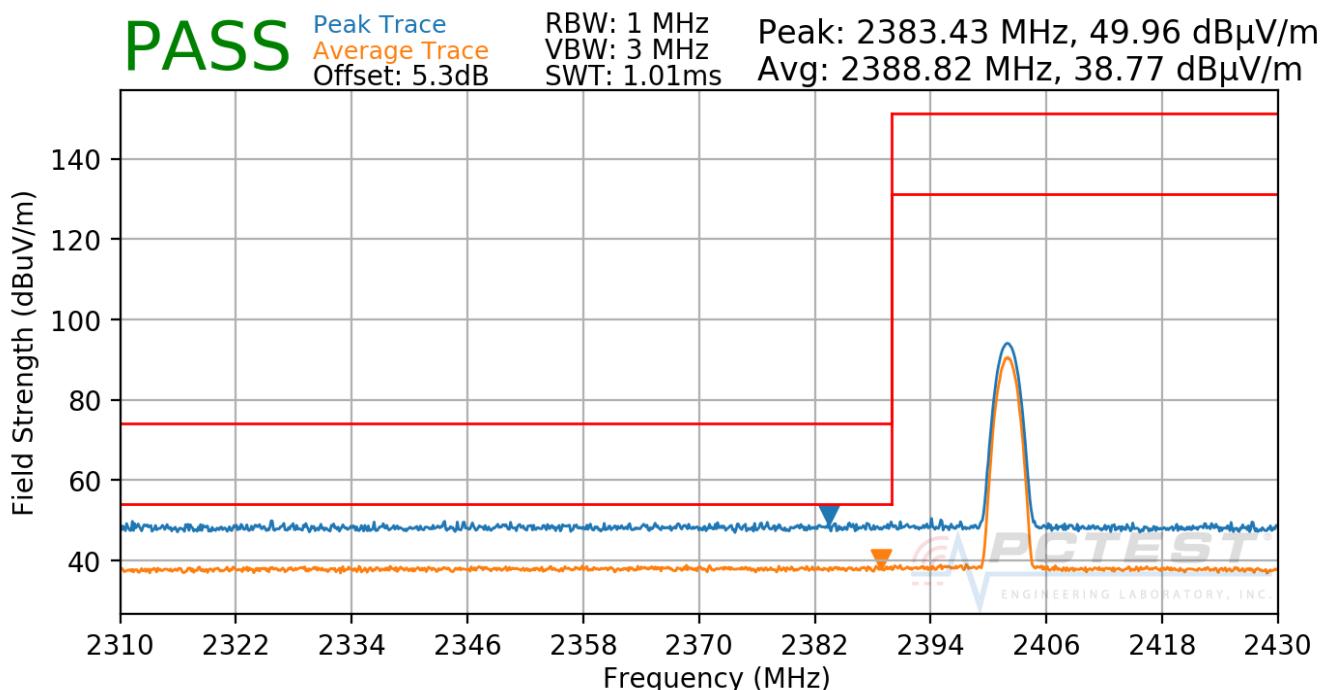
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: 8DPSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2402MHz  
 Channel: 0



**Plot 7-110. Radiated Restricted Lower Band Edge Measurement ANT2 (Average & Peak)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
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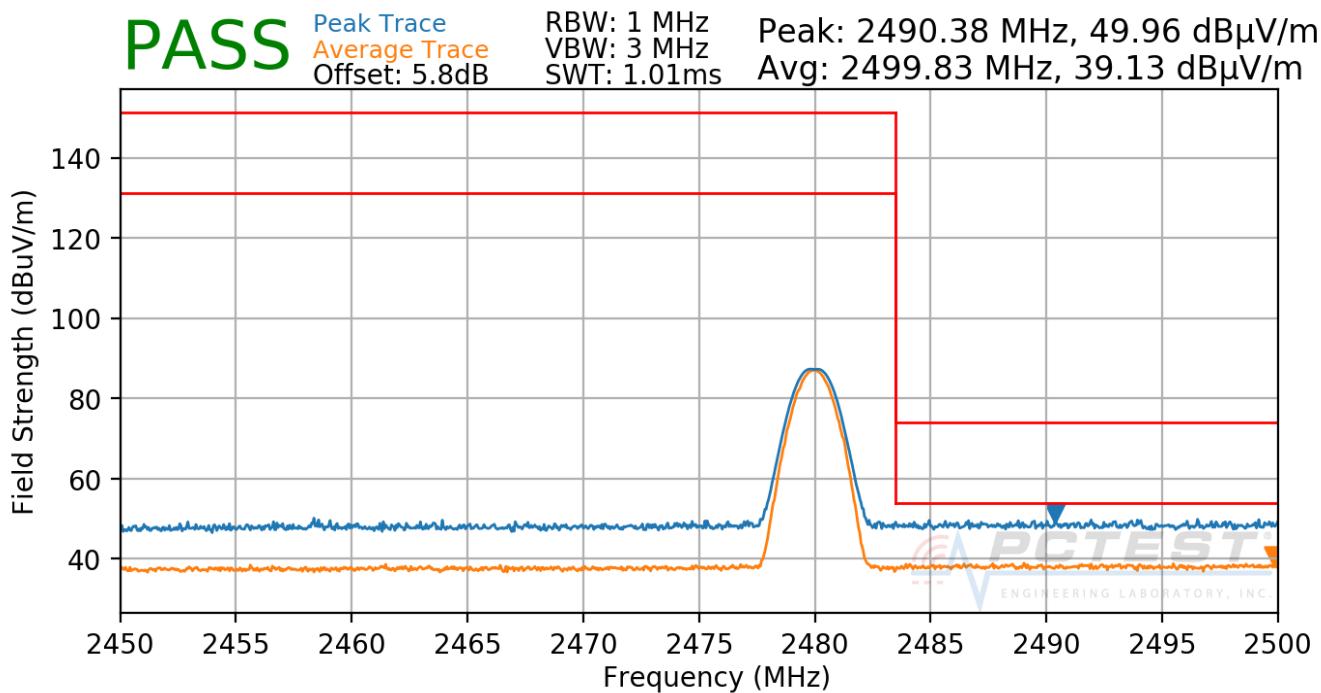
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: GFSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2480MHz  
 Channel: 78



**Plot 7-111. Radiated Restricted Upper Band Edge Measurement ANT2 (Average & Peak)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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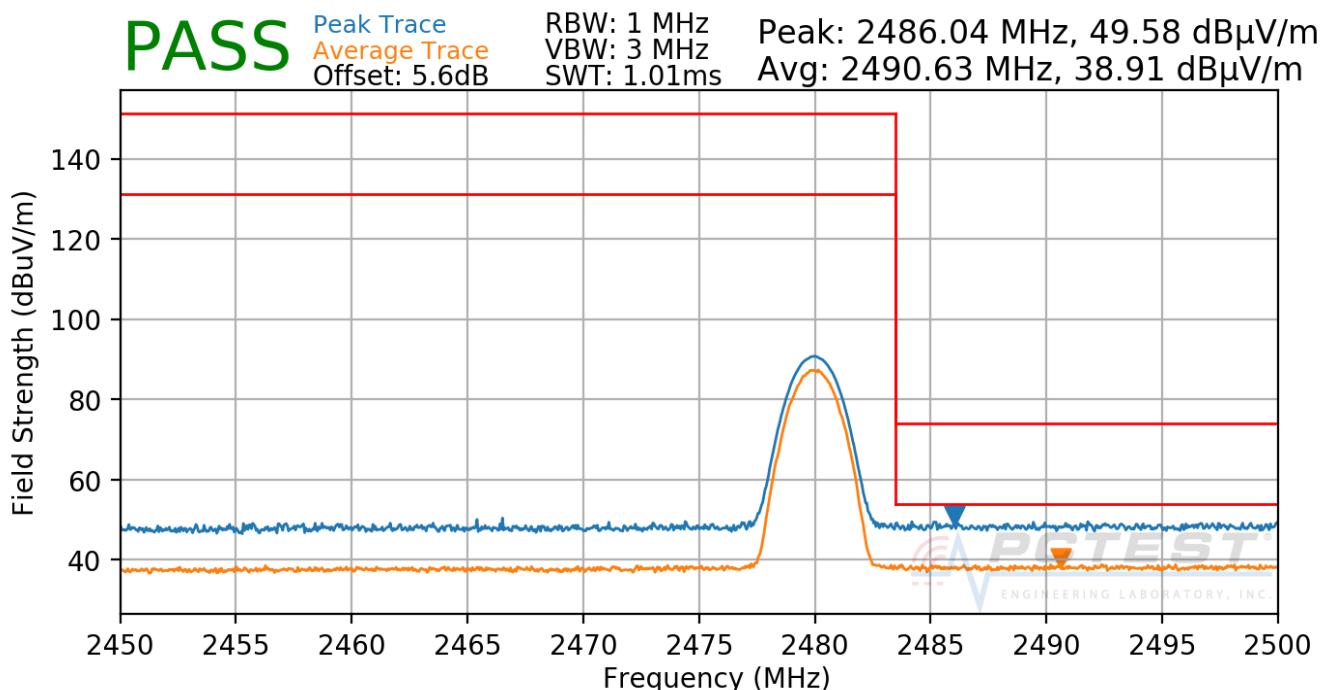
## Radiated Restricted Band Edge Measurements

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

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

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

Worst Case Mode: Bluetooth  
 Worst Case Modulation: 8DPSK  
 Worst Case Power Scheme: ePA  
 Measurement Distance: 3 Meters  
 Operating Frequency: 2480MHz  
 Channel: 78



**Plot 7-112. Radiated Restricted Upper Band Edge Measurement ANT2 (Average & Peak)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
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## 7.11 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 and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-27 per Section 15.209 and RSS-Gen (8.9).***

Frequency	Field Strength [ $\mu$ V/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 7-27. Radiated Limits**

### Test Procedures Used

ANSI C63.10-2013

### Test Settings

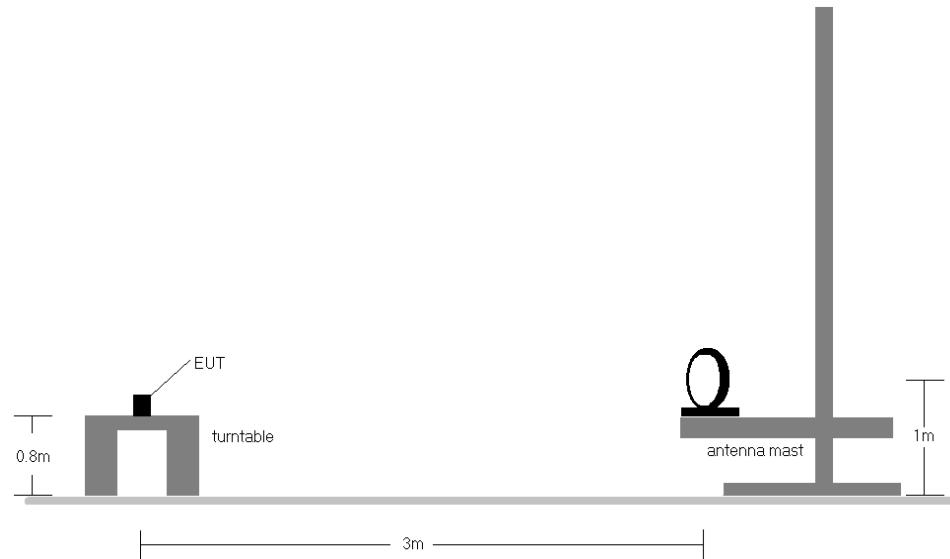
#### Quasi-Peak Field Strength Measurements

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

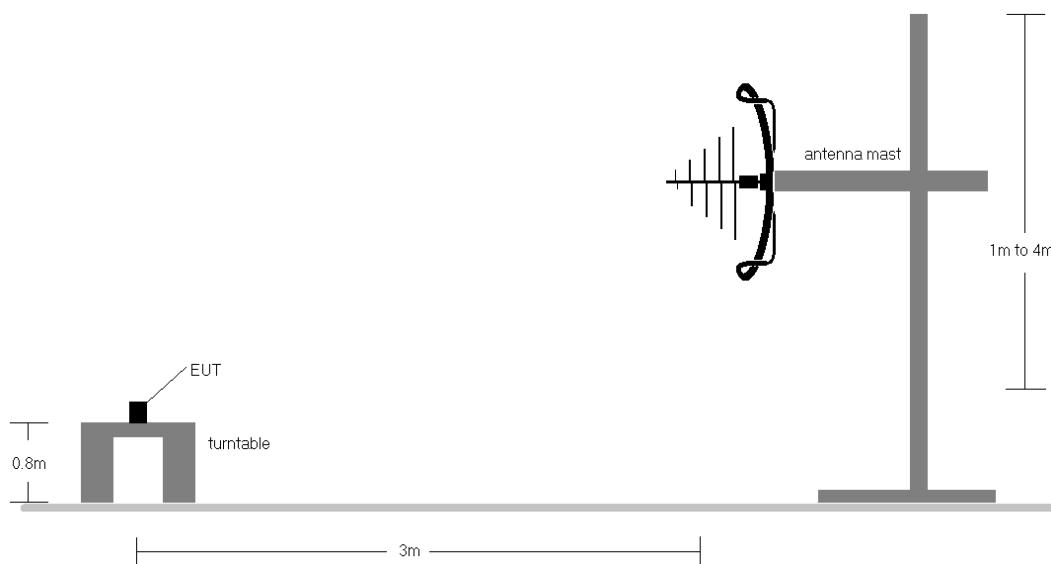
FCC ID: BCGA1934	 <b>PCTEST</b> ENGINEERING LABORATORY, INC.		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1C1806220015-08.BCG	Test Dates: 07/27/2018-09/29/2018	EUT Type: Tablet Device	Page 109 of 117	

## Test Setup

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



**Figure 7-9. Radiated Test Setup < 30Mhz**



**Figure 7-10. Radiated Test Setup < 1GHz**

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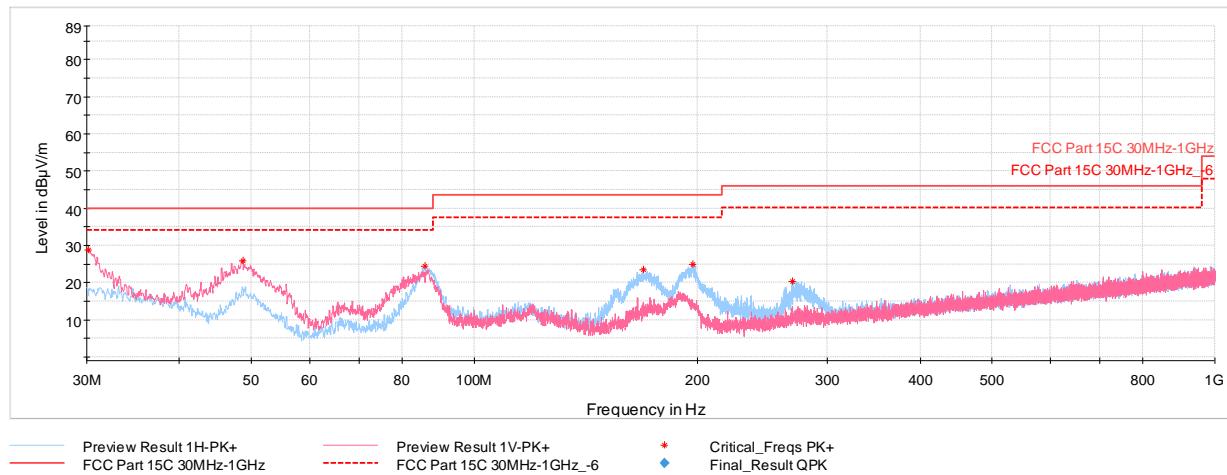
## Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-27.
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.

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## Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



**Plot 7-113. Radiated Spurious Plot below 1GHz (GFSK ePA, Pol. H & V, with AC/DC Adapter)**

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turtable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]
30.15	Max Peak	V	250	15	-68.38	-9.86	28.76	40.00	-11.24
48.72	Max Peak	V	100	346	-59.90	-21.31	25.79	40.00	-14.21
85.87	Max Peak	H	250	184	-63.61	-19.10	24.29	40.00	-15.71
169.39	Max Peak	H	100	81	-65.72	-17.88	23.40	43.52	-20.12
197.42	Max Peak	H	100	270	-62.55	-19.59	24.86	43.52	-18.66
268.72	Max Peak	H	100	44	-69.61	-17.00	20.39	46.02	-25.63

**Table 7-28. Radiated Spurious Emissions Below 1GHz (GFSK Epa with AC/DC Adapter)**

FCC ID: BCGA1934	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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## 7.12 Line Conducted Measurement 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 (dB $\mu$ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

**Table 7-29. 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

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

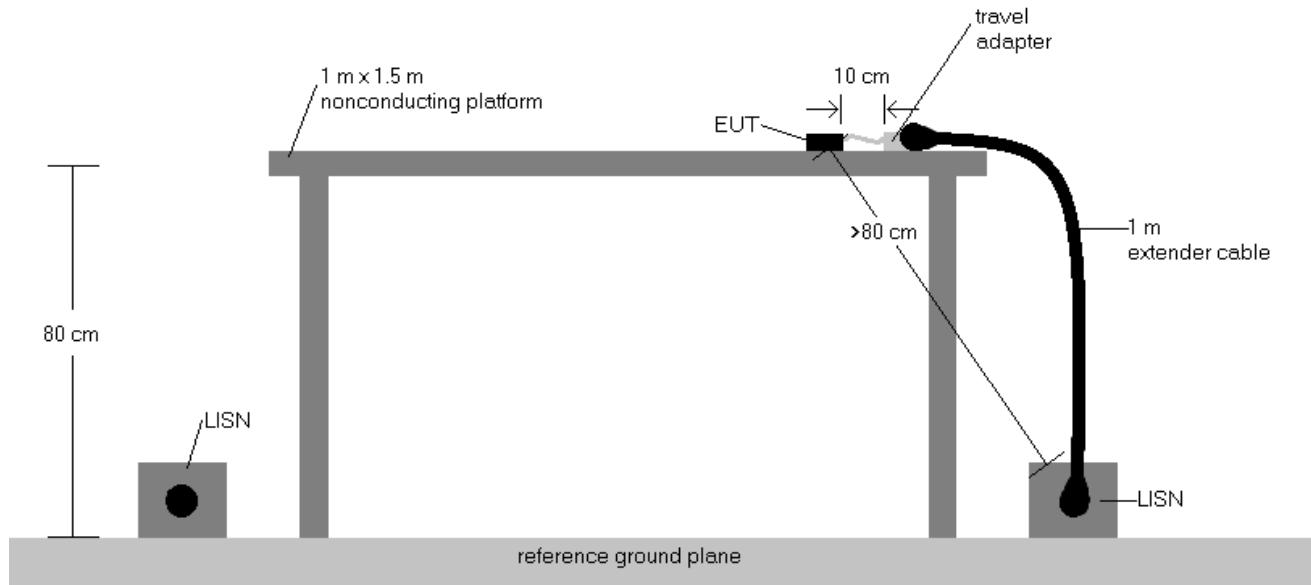
#### Average Field Strength Measurements

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.

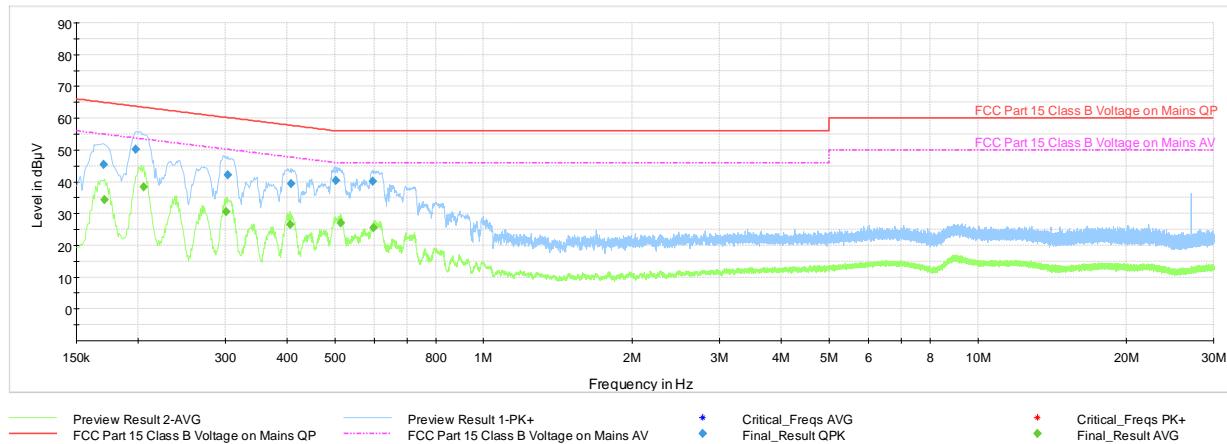


**Figure 7-11. Test Instrument & Measurement Setup**

## 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 15.207 and RSS-Gen (8.8).
3. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
4. QP/AV Level (dB $\mu$ V) = QP/AV Analyzer/Receiver Level (dB $\mu$ V) + Corr. (dB)
5. Margin (dB) = QP/AV Limit (dB $\mu$ V) - QP/AV Level (dB $\mu$ V)
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

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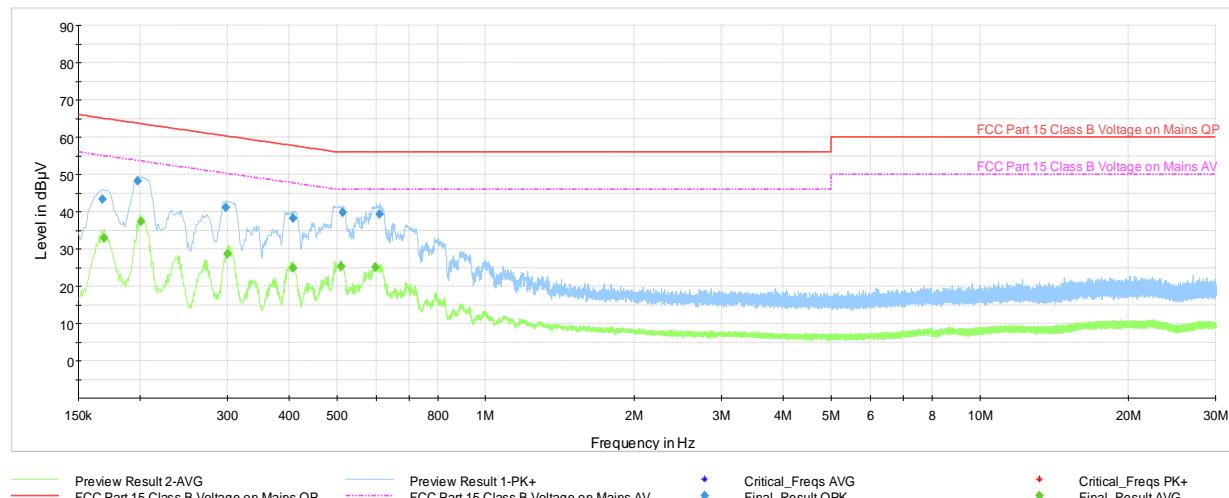


**Plot 7-114. Line-Conducted Test Plot (L1, with AC/DC Adapter)**

Frequency MHz	Process State	QuasiPeak dB $\mu$ V	Average dB $\mu$ V	Limit dB $\mu$ V	Margin dB	Bandwidth kHz	Line	PE
0.170000	FINAL	45.30	—	64.96	<b>-19.66</b>	9.000	L1	GND
0.171000	FINAL	—	34.43	54.91	<b>-20.48</b>	9.000	L1	GND
0.198000	FINAL	50.13	—	63.69	<b>-13.56</b>	9.000	L1	GND
0.205000	FINAL	—	38.33	53.41	<b>-15.08</b>	9.000	L1	GND
0.301000	FINAL	—	30.62	50.22	<b>-19.60</b>	9.000	L1	GND
0.304000	FINAL	42.25	—	60.13	<b>-17.88</b>	9.000	L1	GND
0.406000	FINAL	—	26.55	47.73	<b>-21.18</b>	9.000	L1	GND
0.407000	FINAL	39.46	—	57.71	<b>-18.25</b>	9.000	L1	GND
0.503000	FINAL	40.49	—	56.00	<b>-15.51</b>	9.000	L1	GND
0.513000	FINAL	—	27.15	46.00	<b>-18.85</b>	9.000	L1	GND
0.597000	FINAL	40.22	—	56.00	<b>-15.78</b>	9.000	L1	GND
0.599000	FINAL	—	25.43	46.00	<b>-20.57</b>	9.000	L1	GND

**Table 7-30. Line-Conducted Test Data (L1, with AC/DC Adapter)**

FCC ID: BCGA1934	 PCTEST®	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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**Plot 7-115. Line-Conducted Test Plot (N, with AC/DC Adapter)**

Frequency MHz	Process State	QuasiPeak dB $\mu$ V	Average dB $\mu$ V	Limit dB $\mu$ V	Margin dB	Bandwidth kHz	Line	PE
0.168000	FINAL	43.35	—	65.06	-21.71	9.000	N	GND
0.169000	FINAL	—	32.88	55.01	-22.13	9.000	N	GND
0.198000	FINAL	48.25	—	63.69	-15.44	9.000	N	GND
0.201000	FINAL	—	37.33	53.57	-16.24	9.000	N	GND
0.298000	FINAL	41.20	—	60.30	-19.10	9.000	N	GND
0.300000	FINAL	—	28.72	50.24	-21.52	9.000	N	GND
0.407000	FINAL	38.15	—	57.71	-19.56	9.000	N	GND
0.407000	FINAL	—	24.89	47.71	-22.82	9.000	N	GND
0.510000	FINAL	—	25.31	46.00	-20.69	9.000	N	GND
0.513000	FINAL	39.72	—	56.00	-16.28	9.000	N	GND
0.598000	FINAL	—	25.09	46.00	-20.91	9.000	N	GND
0.609000	FINAL	39.40	—	56.00	-16.60	9.000	N	GND

**Table 7-31. Line-Conducted Test Data (N, with AC/DC Adapter)**

FCC ID: BCGA1934	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
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## 8.0 CONCLUSION

The data collected relate only to 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.

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