

Plot 7-192. Radiated Spurious Emissions 1-18GHz Antenna WF7b (HDR4, ePA – 5245MHz)

Mode: HDR4

Data Rate: 4Mbps

Distance of Measurements: 3 Meters

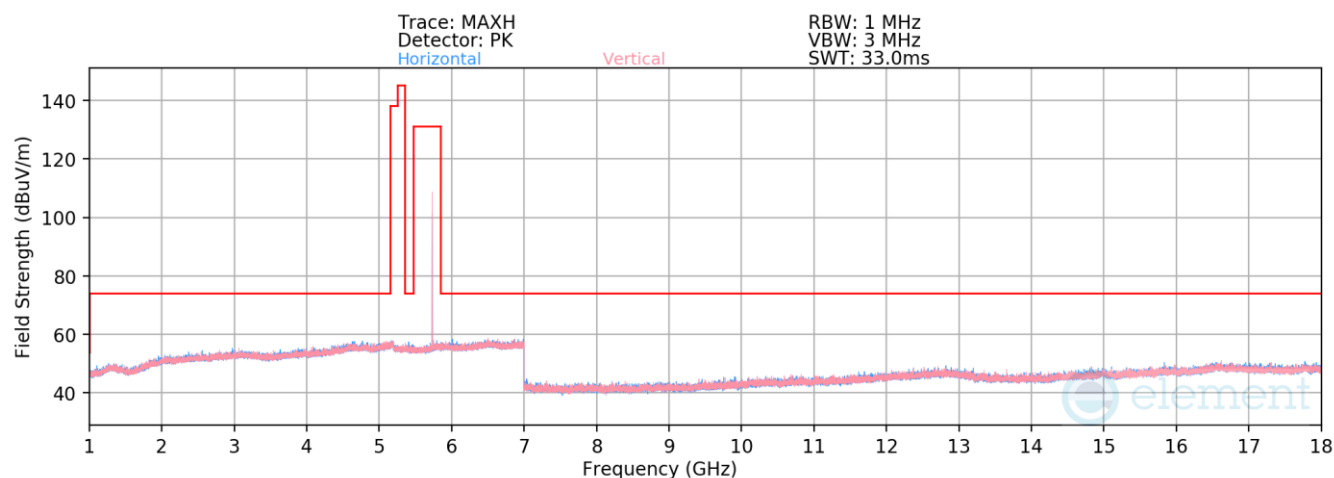
Operating Frequency: 5245MHz

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]
10490.00	Peak	V	250	69	-67.40	6.51	46.11	68.20	-22.09
* 15735.00	Average	V	-	-	-81.97	13.10	38.13	53.98	-15.85
* 15735.00	Peak	V	-	-	-70.62	13.10	49.48	73.98	-24.50

Table 7-43. Radiated Spurious Emissions Measurements Antenna WF7b

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 150 of 185

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Plot 7-193. Radiated Spurious Emissions 1-18GHz Antenna WF7b (HDR4, ePA – 5733MHz)

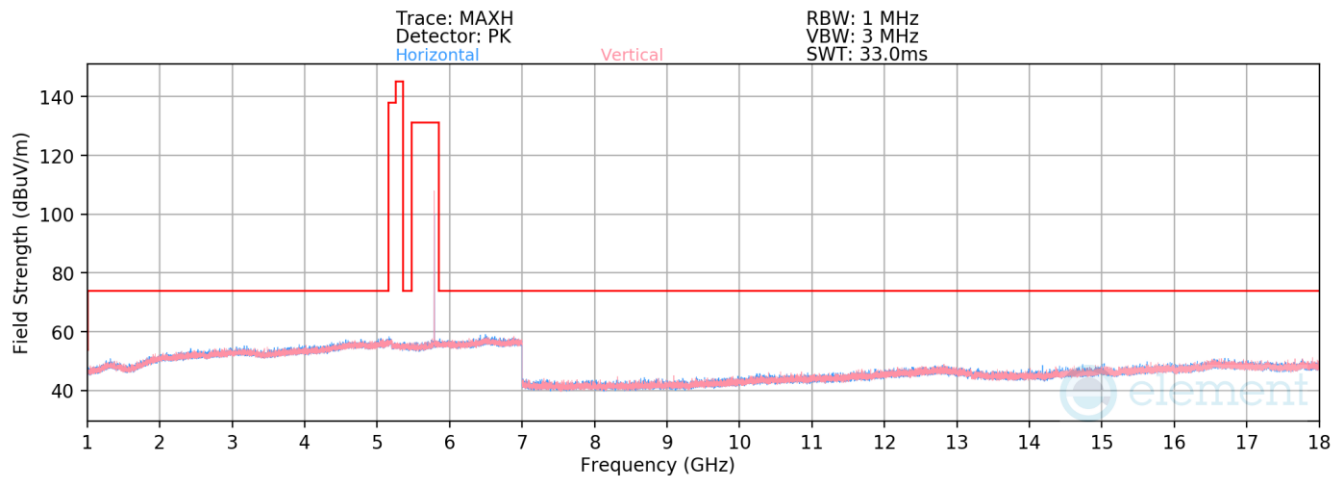
Mode: HDR4
Data Rate: 4Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 5733MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
* 11466.00	Average	V	-	-	-79.50	7.47	34.97	53.98	-19.01
* 11466.00	Peak	V	-	-	-68.14	7.47	46.33	73.98	-27.65
17199.00	Peak	V	-	-	-71.02	14.96	50.94	68.20	-17.26

Table 7-44. Radiated Spurious Emissions Measurements Antenna WF7b

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 151 of 185

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Plot 7-194. Radiated Spurious Emissions 1-18GHz Antenna WF7b (HDR4, ePA – 5789MHz)

Mode: HDR4

Data Rate: 4Mbps

Distance of Measurements: 3 Meters

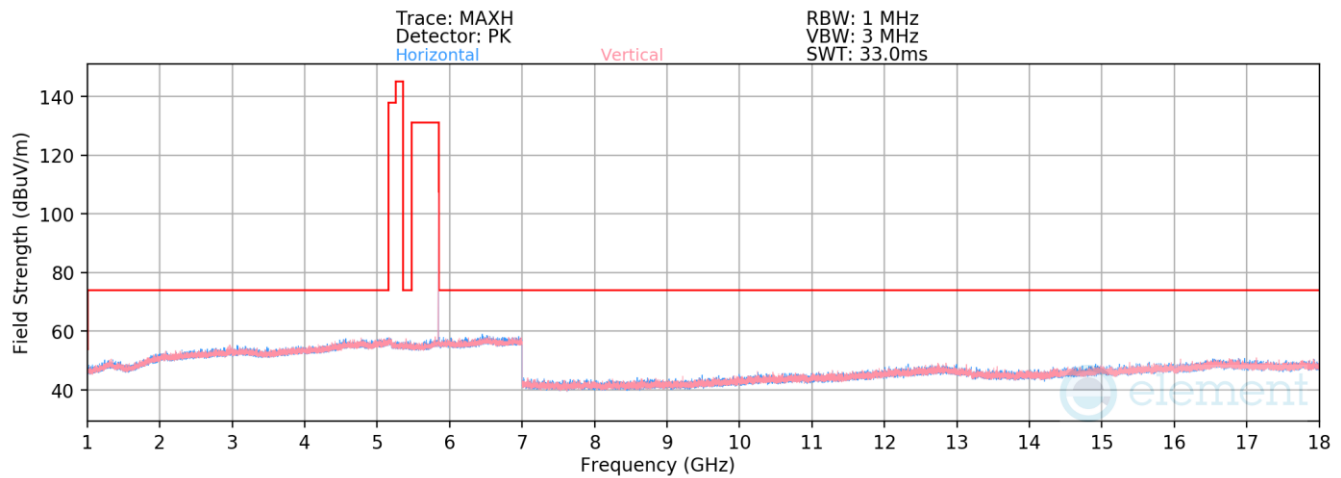
Operating Frequency: 5789MHz

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]
* 11578.00	Average	V	-	-	-79.28	7.44	35.16	53.98	-18.82
* 11578.00	Peak	V	-	-	-67.67	7.44	46.77	73.98	-27.21
17367.00	Peak	V	-	-	-71.75	14.88	50.13	68.20	-18.07

Table 7-45. Radiated Spurious Emissions Measurements Antenna WF7b

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 152 of 185

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Plot 7-195. Radiated Spurious Emissions 1-18GHz Antenna WF7b (HDR4, ePA – 5844MHz)

Mode: HDR4

Data Rate: 4Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5844MHz

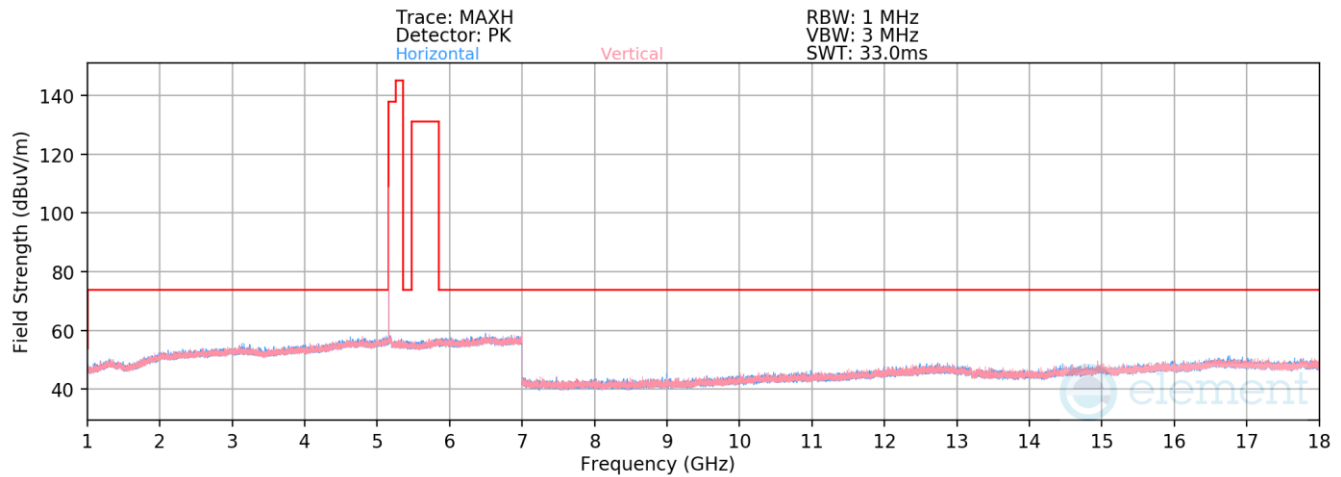
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11688.00	Average	V	243	75	-76.80	7.86	38.06	53.98	-15.92
* 11688.00	Peak	V	243	75	-66.91	7.86	47.95	73.98	-26.03
17532.00	Peak	V	-	-	-71.58	15.50	50.92	68.20	-17.28

Table 7-46. Radiated Spurious Emissions Measurements Antenna WF7b

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 153 of 185

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7.6.4 TxBF Radiated Spurious Emission (Above 1GHz)



Plot 7-196. Radiated Spurious Emissions 1-18GHz TxBF (HDR4, ePA – 5162MHz)

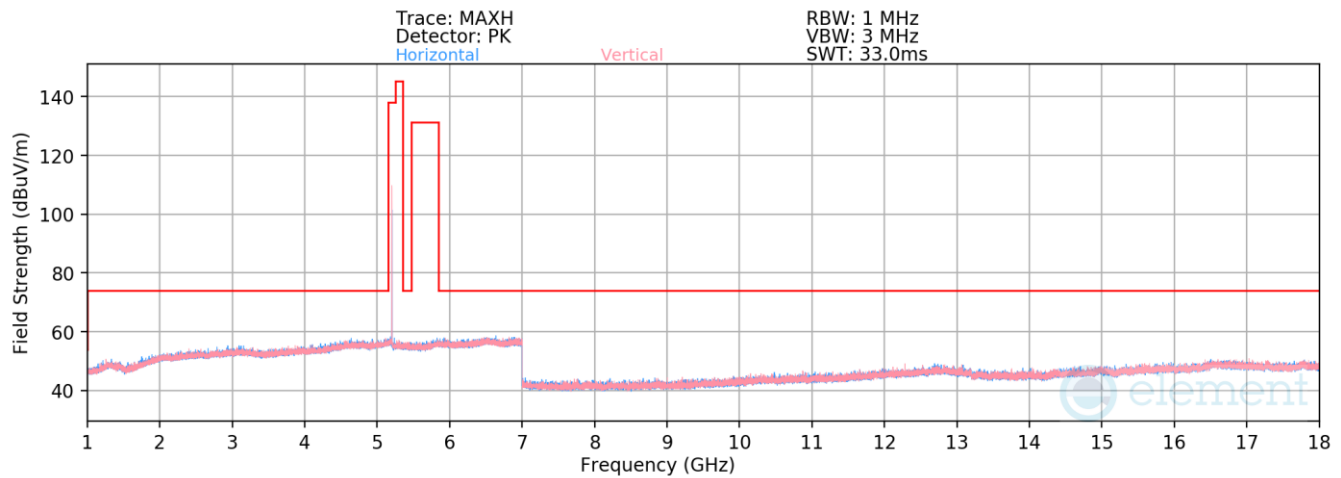
Mode:	HDR4
Data Rate:	4Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5162MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
10324.00	Peak	V	-	-	-67.31	5.91	45.60	68.20	-22.60
* 15486.00	Average	V	-	-	-81.67	12.24	37.57	53.98	-16.41
* 15486.00	Peak	V	-	-	-70.35	12.24	48.89	73.98	-25.09

Table 7-47. Radiated Spurious Emissions Measurements TxBF

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 154 of 185

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Plot 7-197. Radiated Spurious Emissions 1-18GHz TxBF (HDR4, ePA - 5204MHz)

Mode: HDR4

Data Rate: 4Mbps

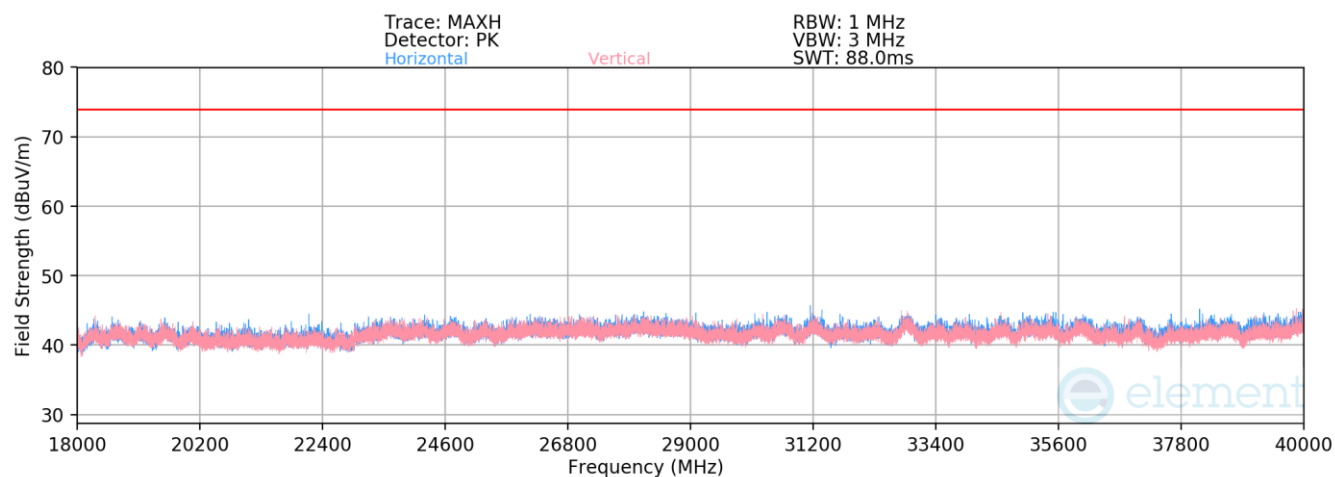
Distance of Measurements: 3 Meters

Operating Frequency: 5204MHz

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]
10408.00	Peak	V	-	-	-67.80	6.27	45.47	68.20	-22.73
* 15612.00	Average	V	-	-	-81.76	12.66	37.90	53.98	-16.08
* 15612.00	Peak	V	-	-	-69.64	12.66	50.02	73.98	-23.96

Table 7-48. Radiated Spurious Emissions Measurements TxBF

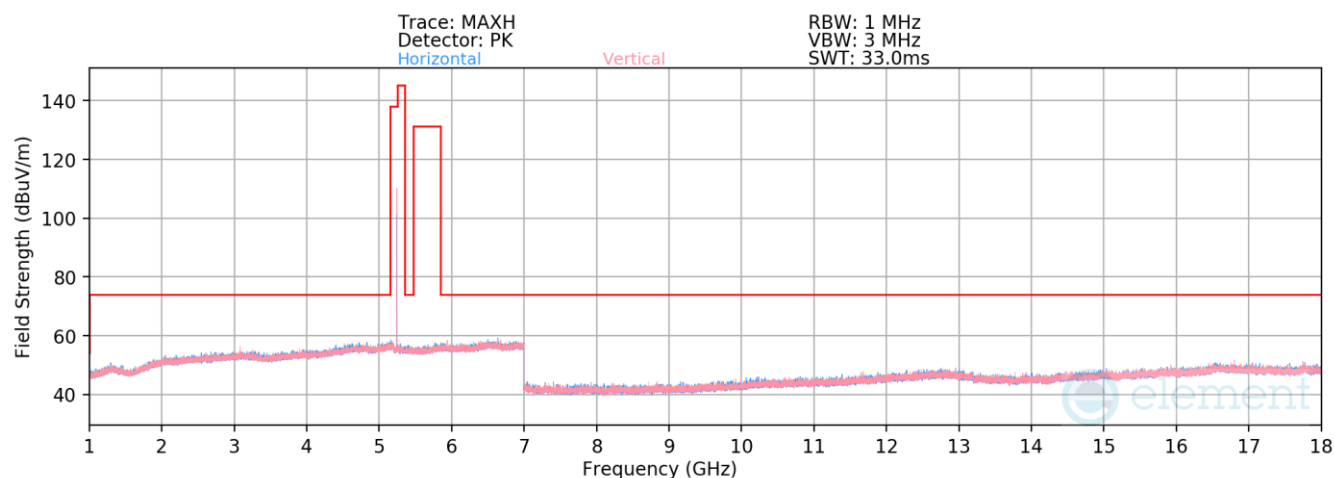
FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 155 of 185



Plot 7-198. Radiated Spurious Emissions Above 18GHz TxBF (HDR4, ePA – 5204MHz)

FCC ID: BCGA2898 IC: 579C-A2898	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 156 of 185

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Plot 7-199. Radiated Spurious Emissions 1-18GHz TxBF (HDR4, ePA - 5245MHz)

Mode: HDR4

Data Rate: 4Mbps

Distance of Measurements: 3 Meters

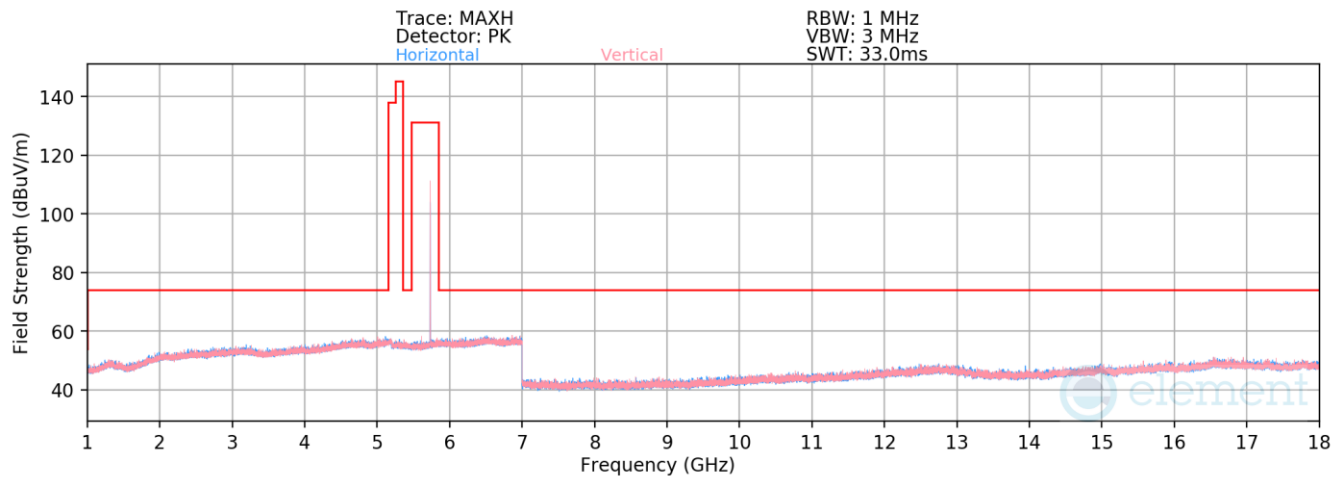
Operating Frequency: 5245MHz

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]
10490.00	Peak	V	-	-	-68.09	6.51	45.42	68.20	-22.78
* 15735.00	Average	V	-	-	-81.78	13.10	38.32	53.98	-15.66
* 15735.00	Peak	V	-	-	-70.09	13.10	50.01	73.98	-23.97

Table 7-49. Radiated Spurious Emissions Measurements TxBF

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 157 of 185

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Plot 7-200. Radiated Spurious Emissions 1-18GHz TxBF (HDR4, ePA - 5733MHz)

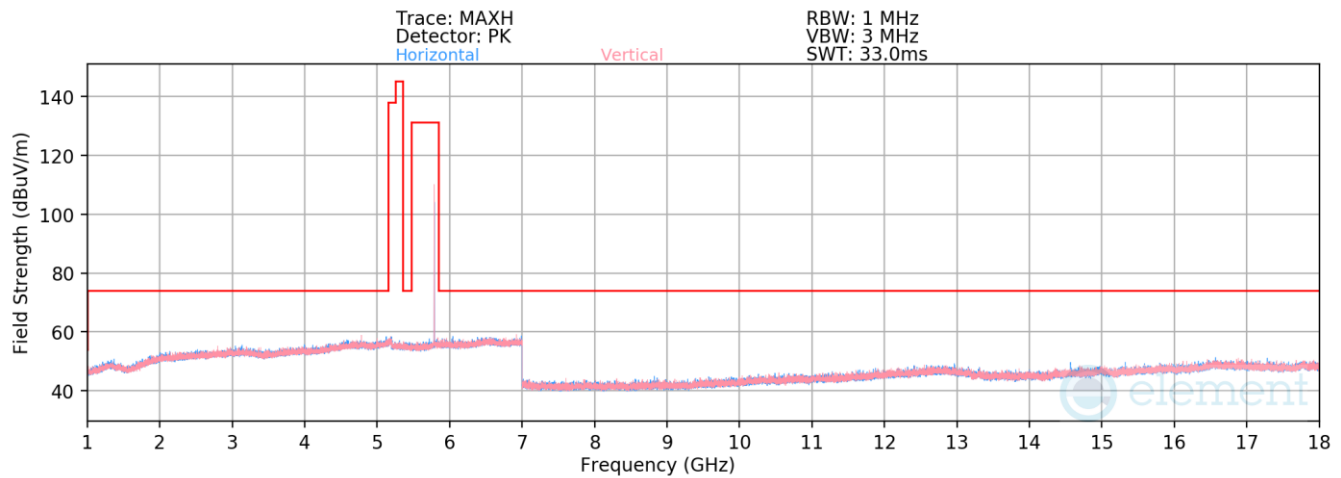
Mode: HDR4
Data Rate: 4Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 5733MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
* 11466.00	Average	V	-	-	-79.61	7.47	34.86	53.98	-19.12
* 11466.00	Peak	V	-	-	-68.01	7.47	46.46	73.98	-27.52
17199.00	Peak	V	-	-	-71.68	14.96	50.28	68.20	-17.92

Table 7-50. Radiated Spurious Emissions Measurements TxBF

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 158 of 185

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Plot 7-201. Radiated Spurious Emissions 1-18GHz TxBF (HDR4, ePA - 5789MHz)

Mode: HDR4

Data Rate: 4Mbps

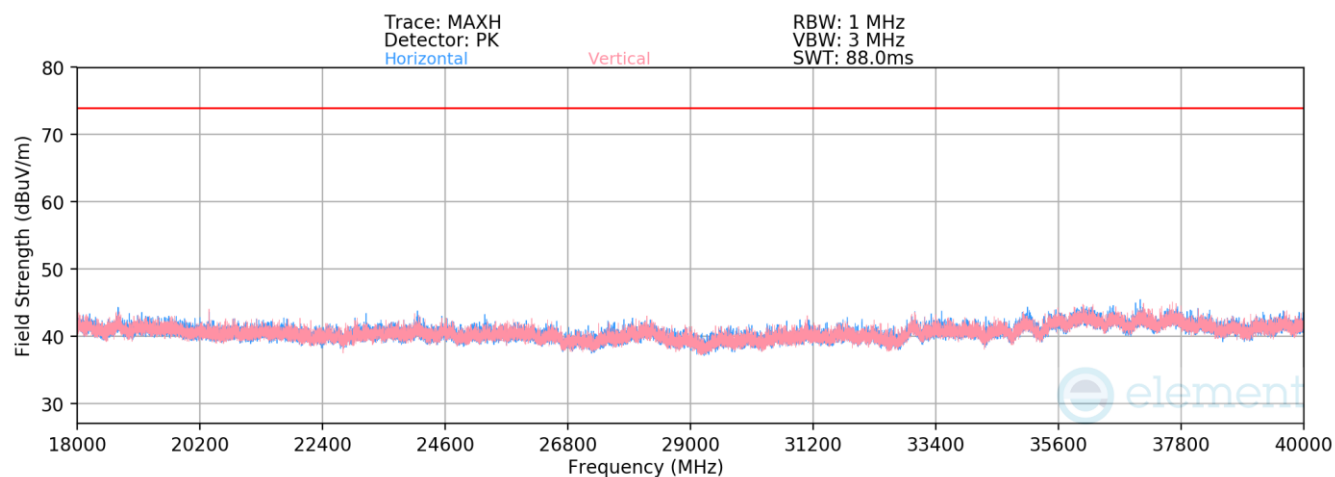
Distance of Measurements: 3 Meters

Operating Frequency: 5789MHz

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]
* 11578.00	Average	V	-	-	-79.28	7.44	35.16	53.98	-18.82
* 11578.00	Peak	V	-	-	-67.29	7.44	47.15	73.98	-26.83
17367.00	Peak	V	-	-	-71.66	14.88	50.22	68.20	-17.98

Table 7-51. Radiated Spurious Emissions Measurements TxBF

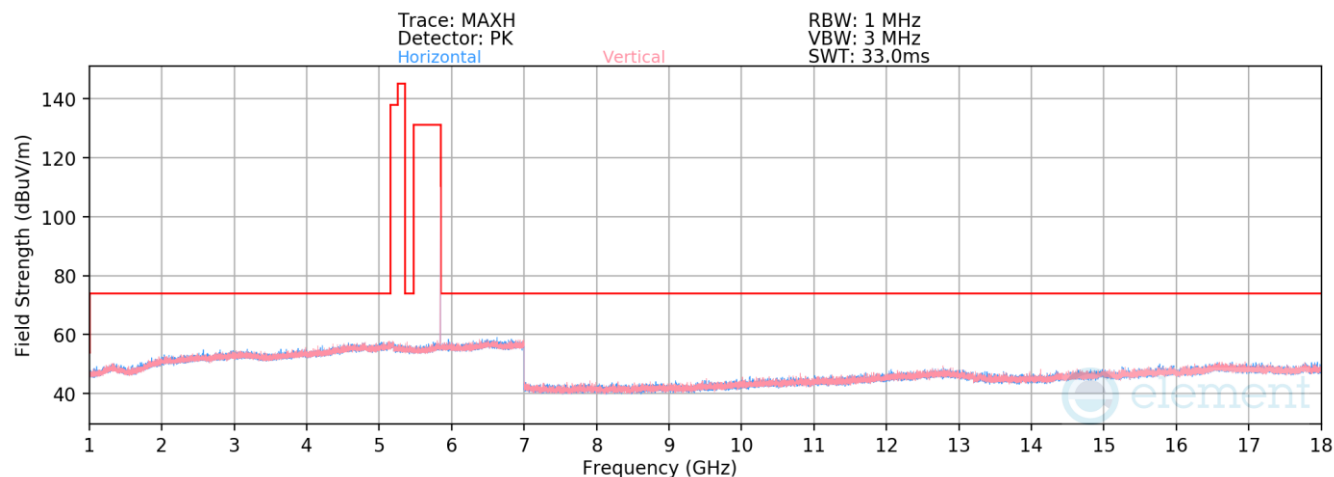
FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 159 of 185



Plot 7-202. Radiated Spurious Emissions Above 18GHz TxBF (HDR4, ePA – 5789MHz)

FCC ID: BCGA2898 IC: 579C-A2898	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 160 of 185

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Plot 7-203. Radiated Spurious Emissions 1-18GHz TxBF (HDR4, ePA – 5844MHz)

Mode: HDR4

Data Rate: 4Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5844MHz

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]
* 11688.00	Average	V	-	-	-79.52	7.86	35.34	53.98	-18.64
* 11688.00	Peak	V	-	-	-68.25	7.86	46.61	73.98	-27.37
17532.00	Peak	V	-	-	-72.35	15.50	50.15	68.20	-18.05

Table 7-52. Radiated Spurious Emissions Measurements TxBF

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 161 of 185

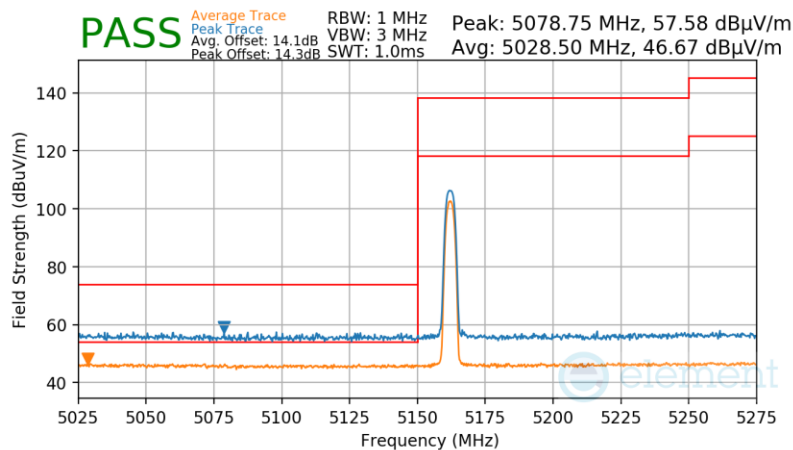
V 10.5 12/15/2021

7.6.5 Radiated Band Edge Measurements

§15.407(b.1) §15.205 §15.209; RSS-Gen [8.9]

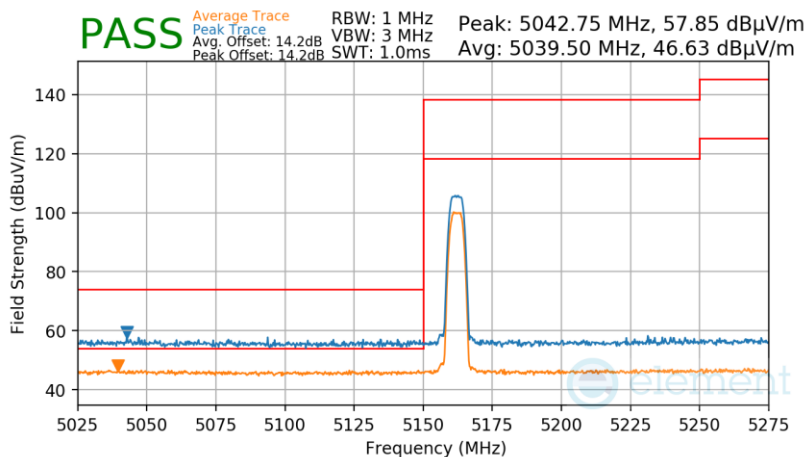
Antenna WF7a

Mode: HDR4
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5162MHz



Plot 7-204. Radiated Lower Band Edge Measurement Antenna WF7a

Mode: HDR8
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5162MHz

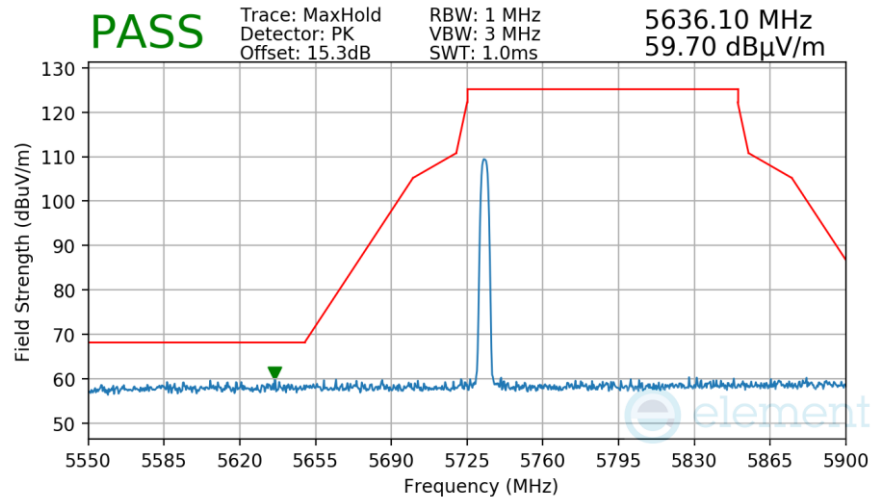


Plot 7-205. Radiated Lower Band Edge Measurement Antenna WF7a

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 162 of 185

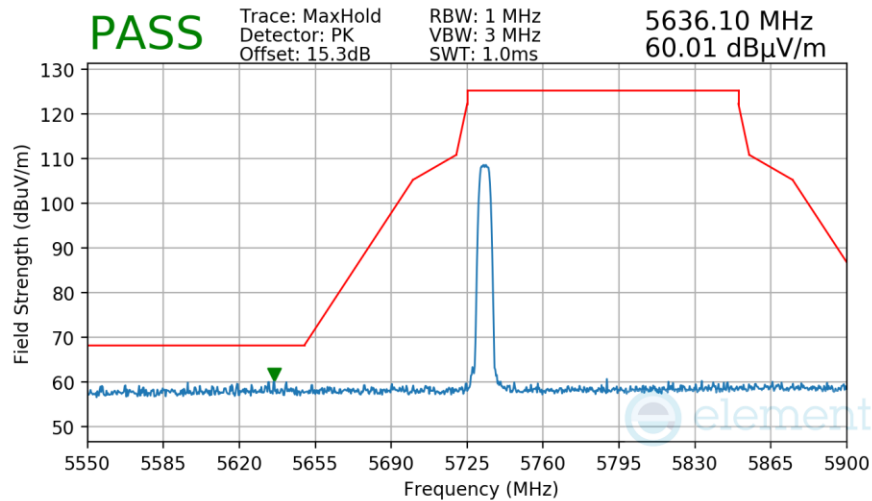
V 10.5 12/15/2021

Mode: HDR4
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5733MHz



Plot 7-206. Radiated Lower Band Edge Measurement Antenna WF7a

Mode: HDR8
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5733MHz

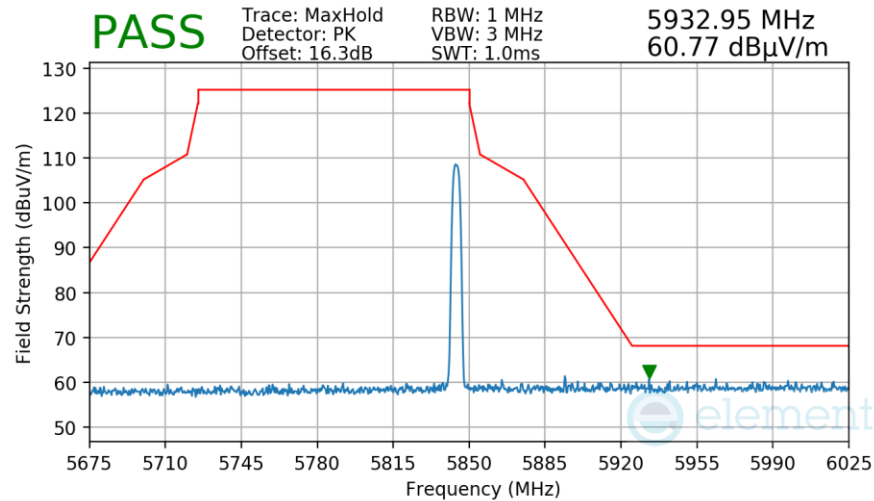


Plot 7-207. Radiated Lower Band Edge Measurement Antenna WF7a

FCC ID: BCGA2898 IC: 579C-A2898	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 163 of 185

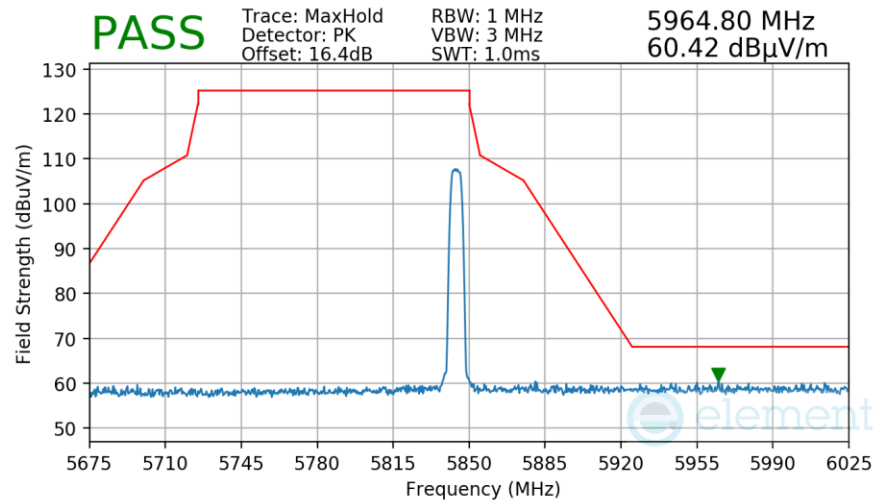
V 10.5 12/15/2021

Mode: HDR4
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5844MHz



Plot 7-208. Radiated Upper Band Edge Measurement Antenna WF7a

Mode: HDR8
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5844MHz



Plot 7-209. Radiated Upper Band Edge Measurement Antenna WF7a

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 164 of 185

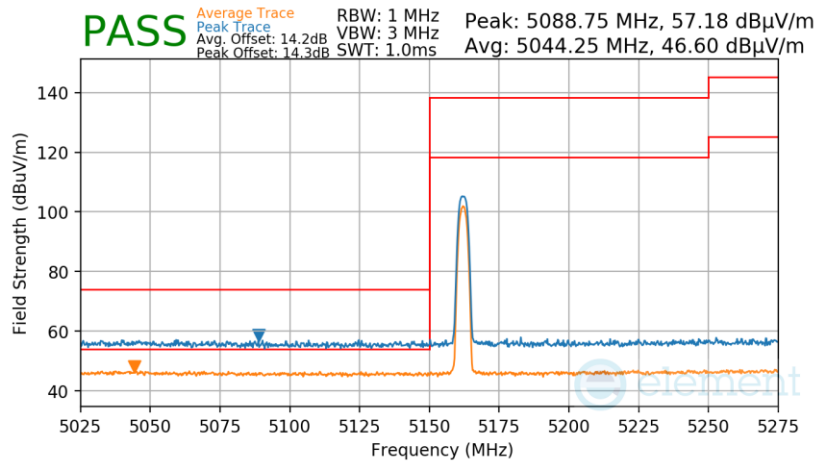
V 10.5 12/15/2021

Radiated Band Edge Measurements

§15.407(b.1) §15.205 §15.209; RSS-Gen [8.9]

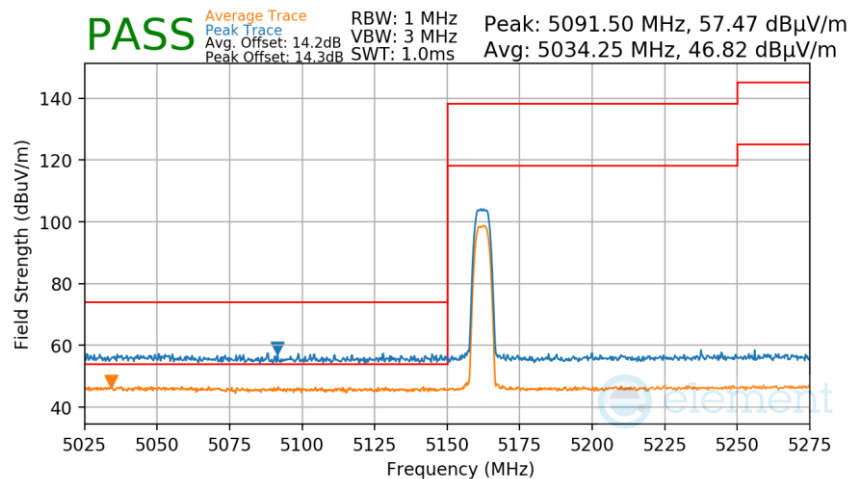
Antenna WF2a

Mode: HDR4
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5162MHz



Plot 7-210. Radiated Lower Band Edge Measurement Antenna WF2a

Mode: HDR8
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5162MHz

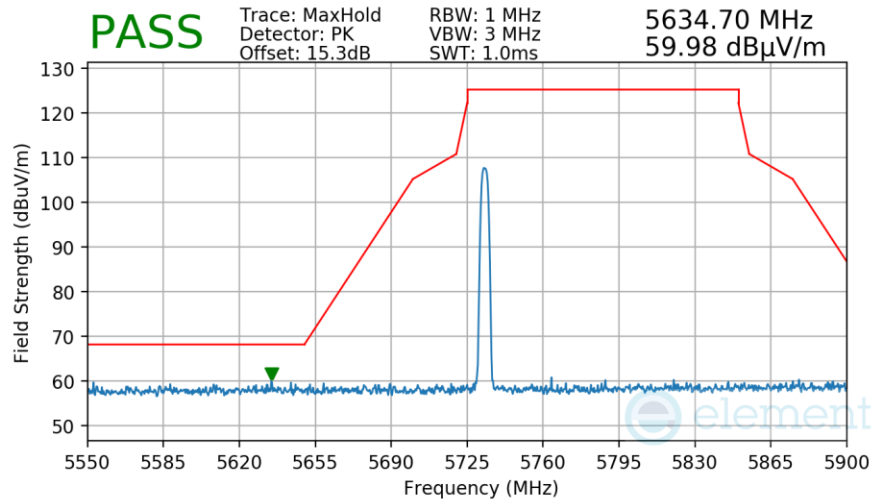


Plot 7-211. Radiated Lower Band Edge Measurement Antenna WF2a

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 165 of 185

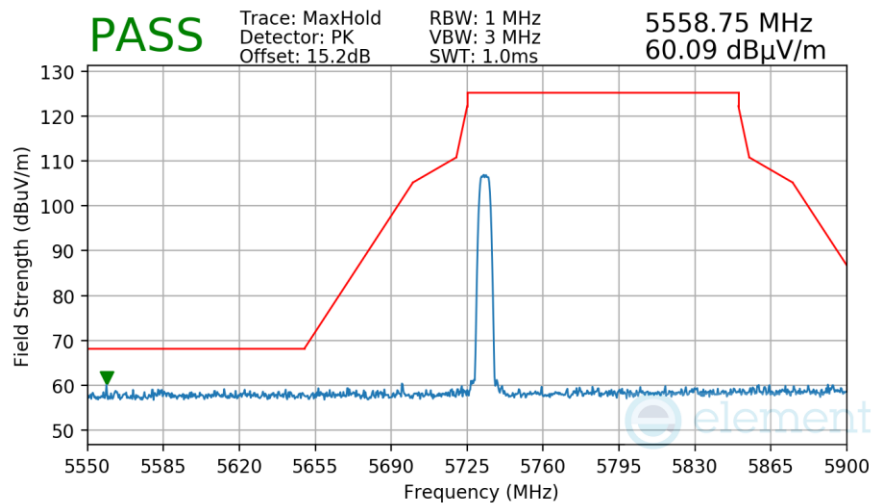
V 10.5 12/15/2021

Mode: HDR4
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5733MHz



Plot 7-212. Radiated Lower Band Edge Measurement Antenna WF2a

Mode: HDR8
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5733MHz

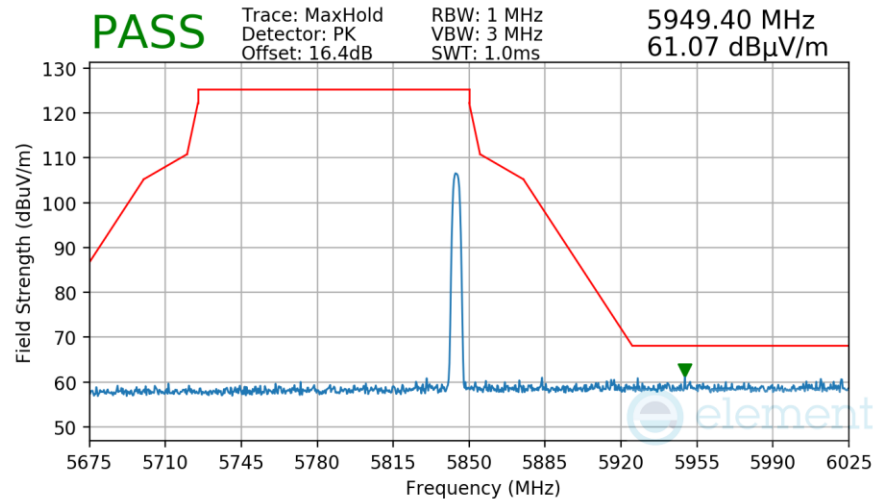


Plot 7-213. Radiated Lower Band Edge Measurement Antenna WF2a

FCC ID: BCGA2898 IC: 579C-A2898			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device		Page 166 of 185

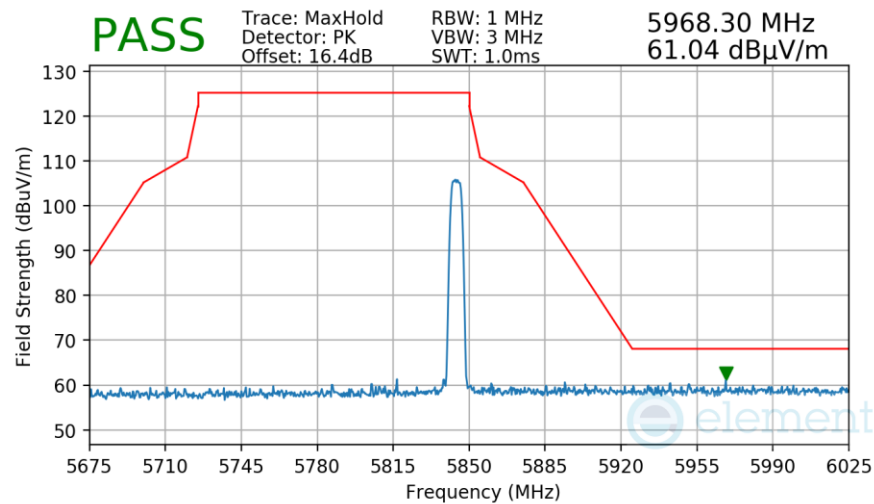
V 10.5 12/15/2021

Mode: HDR4
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5844MHz



Plot 7-214. Radiated Upper Band Edge Measurement Antenna WF2a

Mode: HDR8
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5844MHz



Plot 7-215. Radiated Upper Band Edge Measurement Antenna WF2a

FCC ID: BCGA2898 IC: 579C-A2898			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device		Page 167 of 185

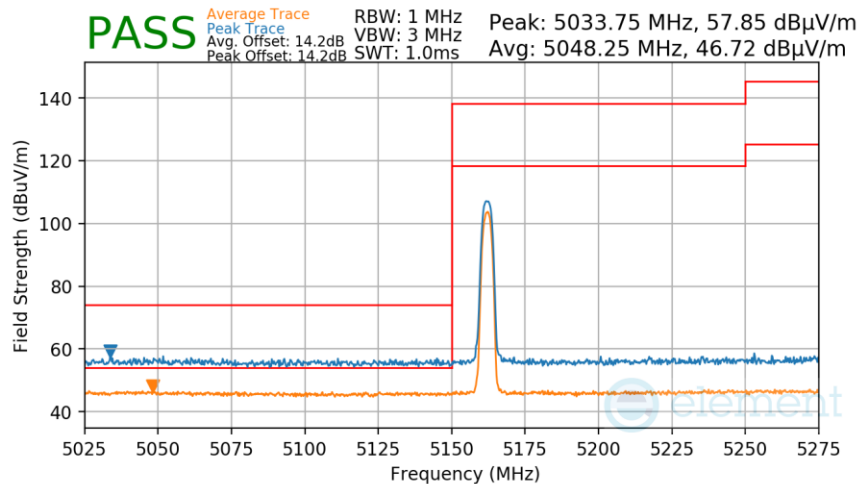
V 10.5 12/15/2021

Radiated Band Edge Measurements

§15.407(b.1) §15.205 §15.209; RSS-Gen [8.9]

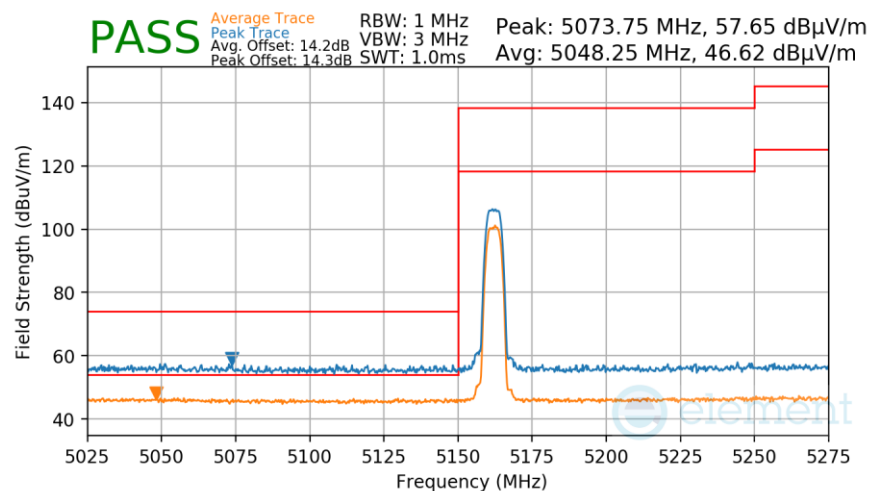
Antenna WF7b

Mode: HDR4
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5162MHz



Plot 7-216. Radiated Lower Band Edge Measurement Antenna WF7b

Mode: HDR8
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5162MHz

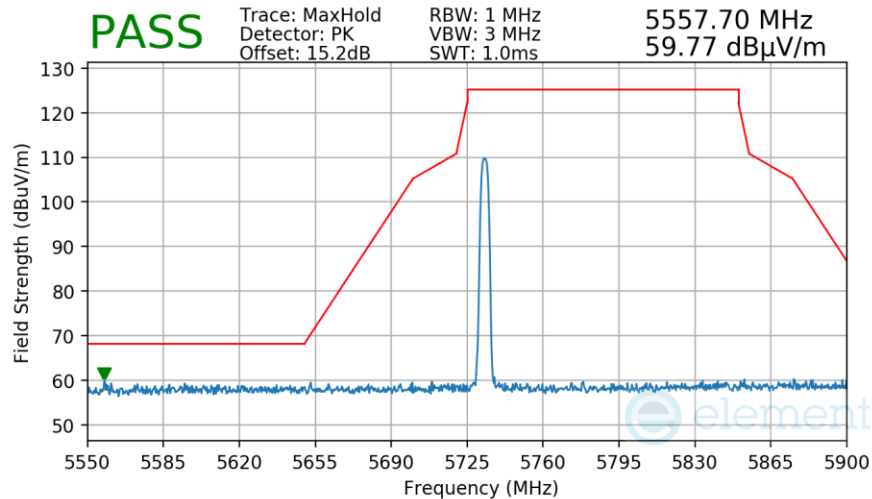


Plot 7-217. Radiated Lower Band Edge Measurement Antenna WF7b

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 168 of 185

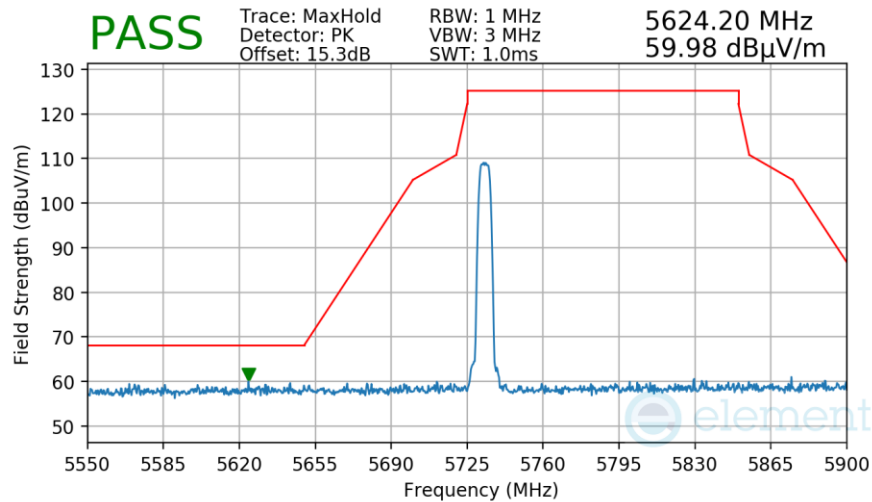
V 10.5 12/15/2021

Mode: HDR4
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5733MHz



Plot 7-218. Radiated Lower Band Edge Measurement Antenna WF7b

Mode: HDR8
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5733MHz

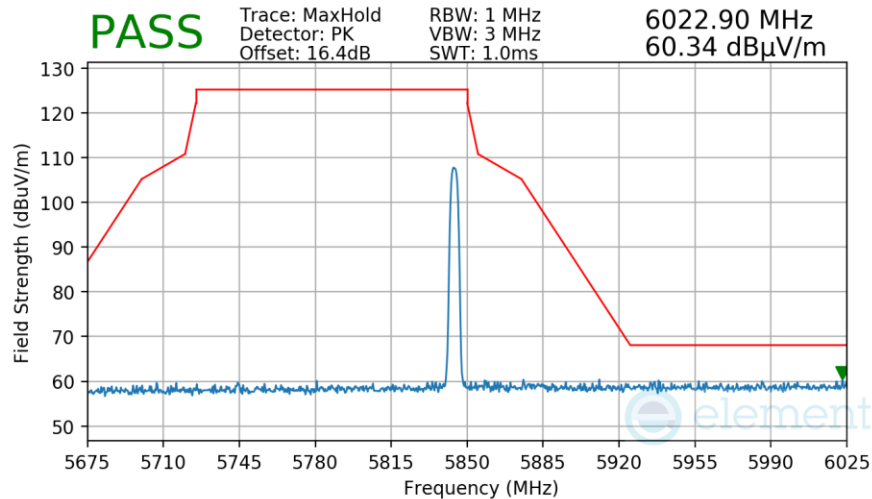


Plot 7-219. Radiated Lower Band Edge Measurement Antenna WF7b

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270065-09.BCG	Test Dates: 11/29/2023 - 3/8/2024	EUT Type: Tablet Device	Page 169 of 185

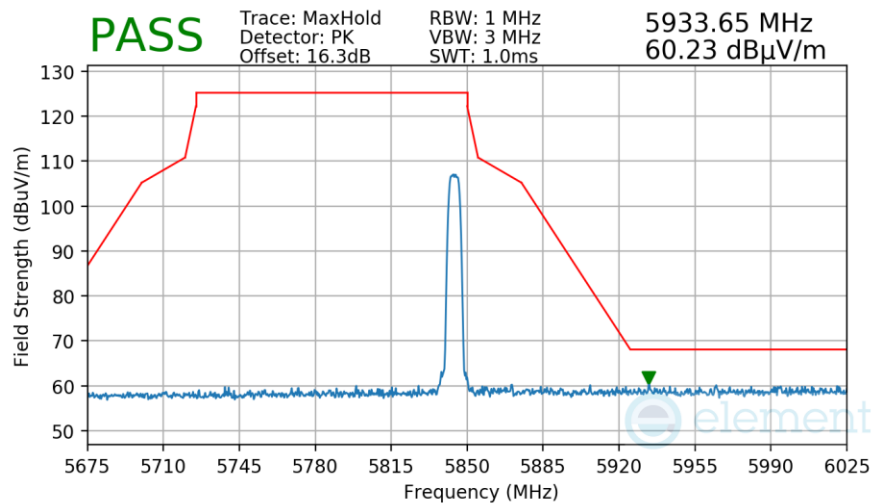
V 10.5 12/15/2021

Mode: HDR4
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5844MHz



Plot 7-220. Radiated Upper Band Edge Measurement Antenna WF7b

Mode: HDR8
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5844MHz



Plot 7-221. Radiated Upper Band Edge Measurement Antenna WF7b

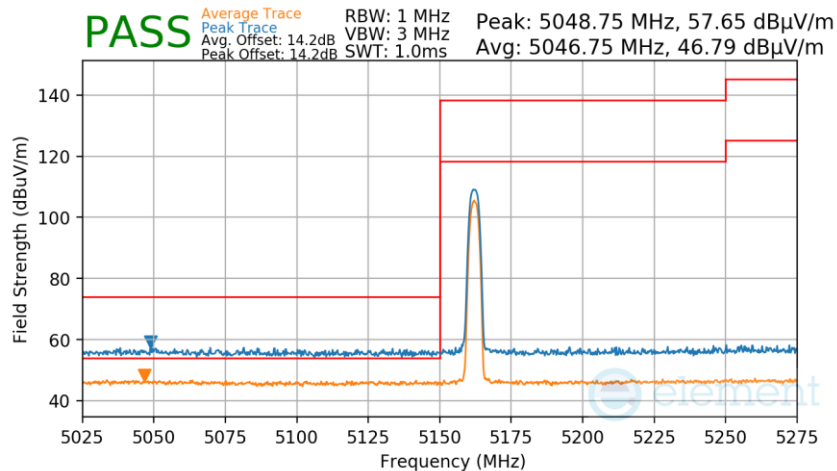
FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Radiated Band Edge Measurements

§15.407(b.1) §15.205 §15.209; RSS-Gen [8.9]

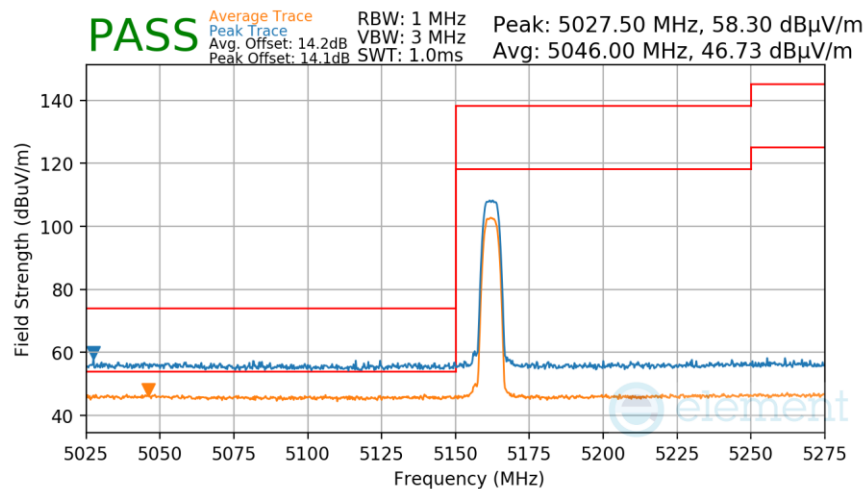
Antenna TxBF

Mode: HDR4
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5162MHz



Plot 7-222. Radiated Lower Band Edge Measurement TxBF

Mode: HDR8
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5162MHz

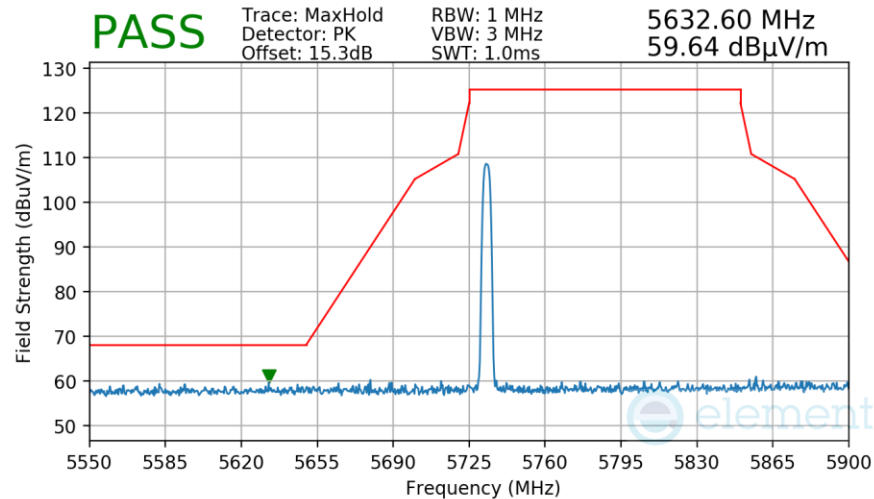


Plot 7-223. Radiated Lower Band Edge Measurement TxBF

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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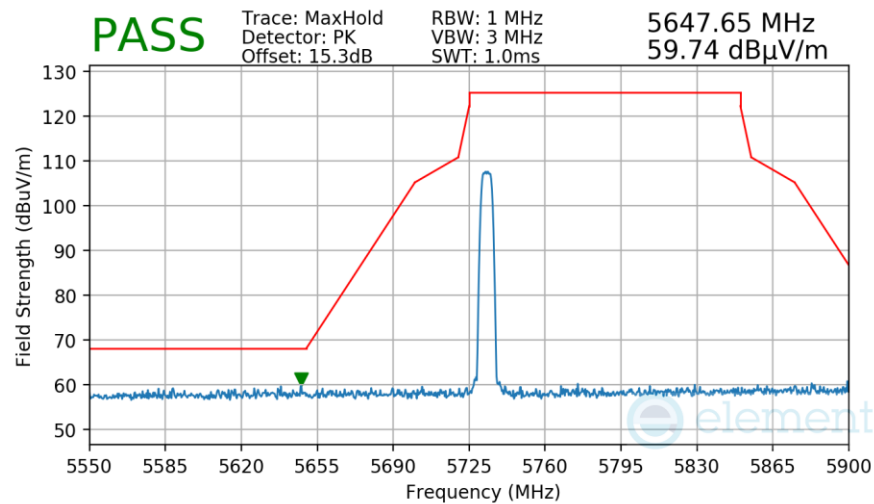
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Mode: HDR4
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5733MHz



Plot 7-224. Radiated Lower Band Edge Measurement TxBF

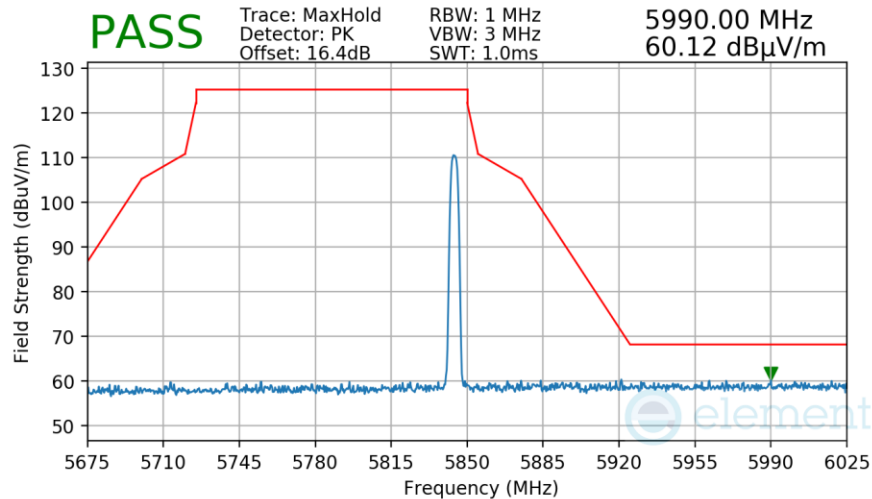
Mode: HDR8
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5733MHz



Plot 7-225. Radiated Lower Band Edge Measurement TxBF

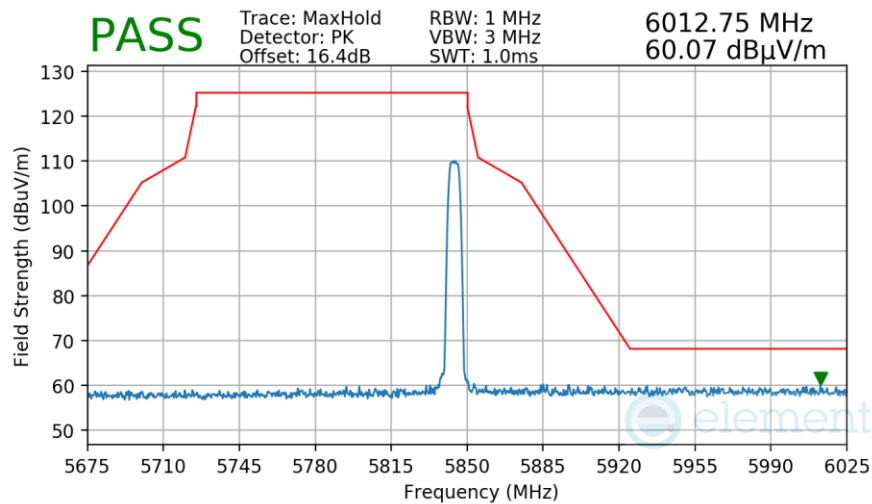
FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Mode: HDR4
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5844MHz



Plot 7-226. Radiated Upper Band Edge Measurement TxBF

Mode: HDR8
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5844MHz



Plot 7-227. Radiated Upper Band Edge Measurement TxBF

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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7.7 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 must not exceed the limits shown in Table 7-53 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 7-53. 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
7. Trace was allowed to stabilize

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Test Setup

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

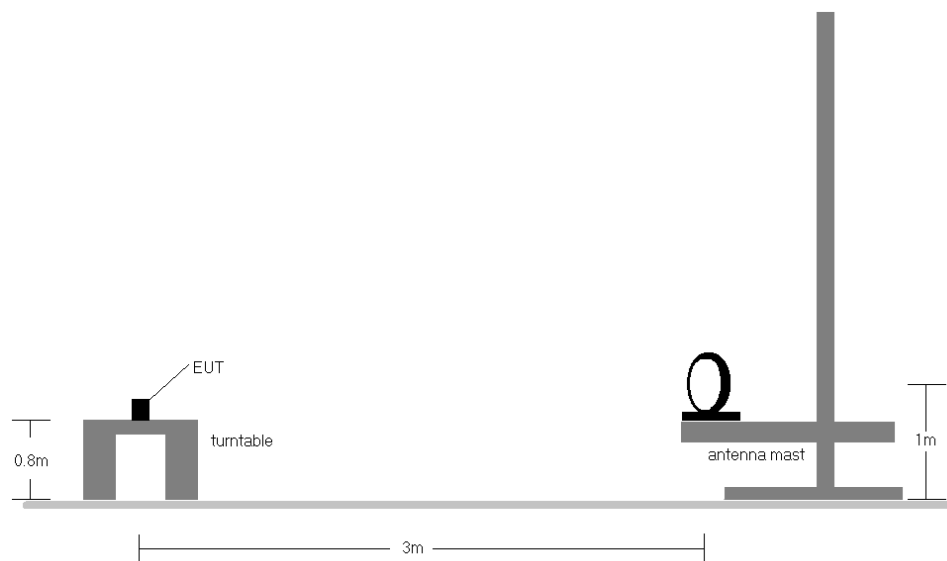


Figure 7-6. Radiated Test Setup < 30MHz

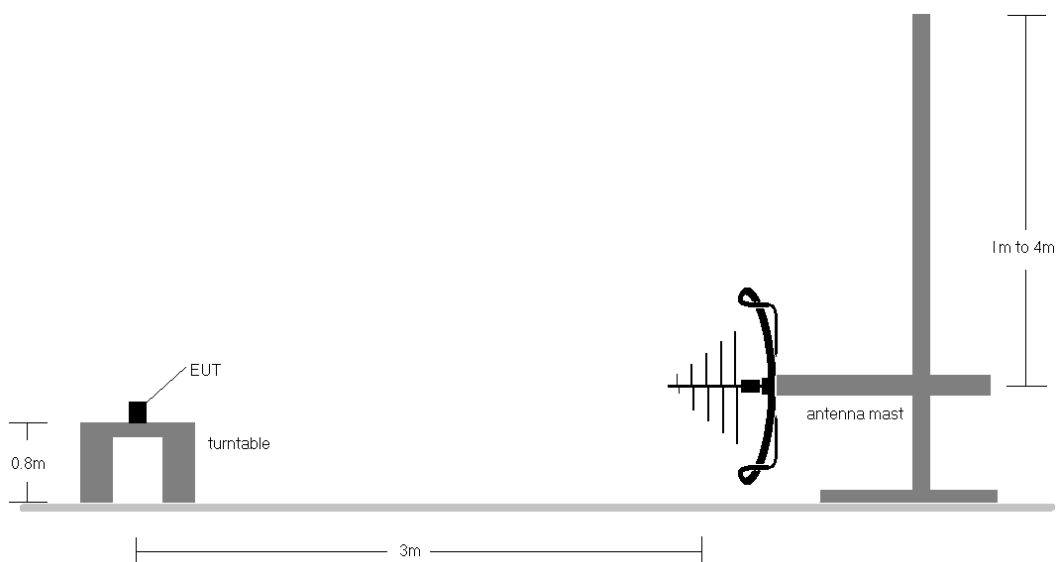


Figure 7-7. Radiated Test Setup < 1GHz

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Test Notes

1. All emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 7-53.
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. 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. All supported modulation and power schemes have been tested on the unit and only worst case configuration is reported.
10. Both configurations below were investigated, and the worst case has been reported.
 - a. EUT powered by AC/DC adaptor to USB-C cable with wire charger
 - b. EUT powered by host PC via USB-C cable with wire charger

Sample Calculations

Determining Spurious Emissions Levels

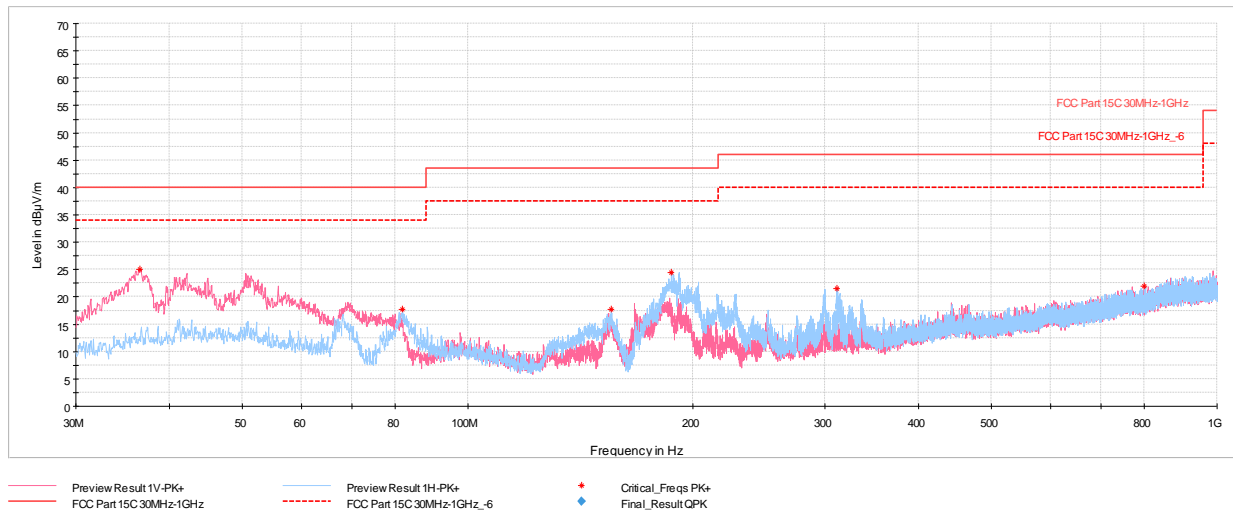
- Field Strength Level $_{[dB\mu V/m]} = \text{Analyzer Level }_{[dBm]} + 107 + \text{AFCL }_{[dB/m]}$
- $\text{AFCL }_{[dB/m]} = \text{Antenna Factor }_{[dB/m]} + \text{Cable Loss }_{[dB]} - \text{Preamplifier Gain }_{[dB]}$
- $\text{Margin }_{[dB]} = \text{Field Strength Level }_{[dB\mu V/m]} - \text{Limit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

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TxBF Radiated Spurious Emissions (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-228. Radiated Spurious Emissions Below 1GHz TxBF (HDR4, ePA – 5204MHz), 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]
36.55	Max-Peak	V	100	298	-66.58	-15.35	25.07	40.00	-14.93
81.90	Max-Peak	H	300	309	-68.45	-20.80	17.75	40.00	-22.25
155.47	Max-Peak	H	200	53	-69.36	-19.90	17.74	43.52	-25.78
187.14	Max-Peak	H	100	214	-64.68	-17.83	24.49	43.52	-19.03
311.01	Max-Peak	H	100	114	-71.21	-14.32	21.47	46.02	-24.55
799.65	Max-Peak	V	100	173	-80.40	-4.61	21.99	46.02	-24.03

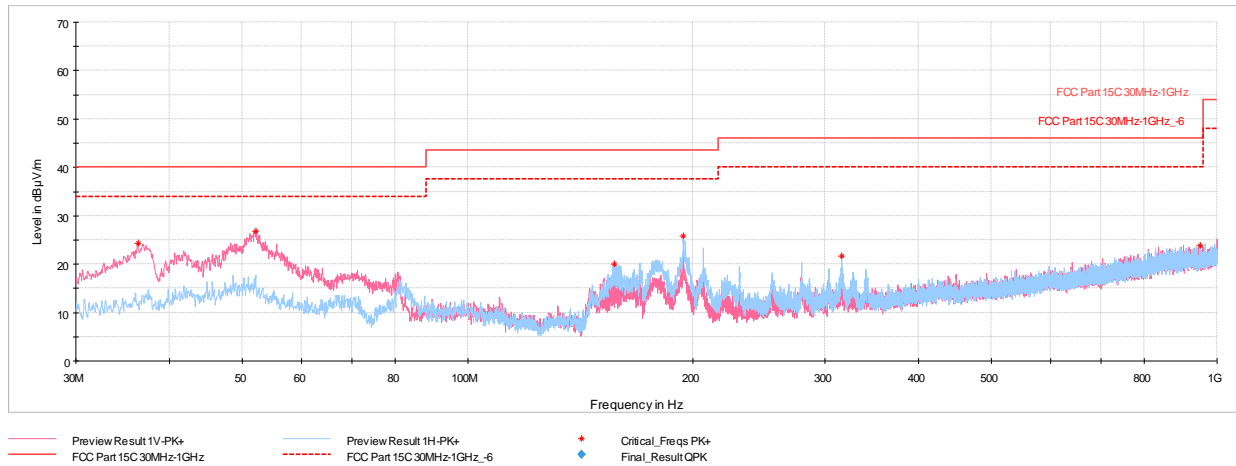
Table 7-54. Radiated Spurious Emissions Below 1GHz TxBF (HDR4, ePA – 5204MHz), with AC/DC Adapter

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TxBF Radiated Spurious Emissions (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-229. Radiated Spurious Emissions Below 1GHz TxBF (HDR4, ePA – 5844MHz), with AC/DC Adapter

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
36.31	Max-Peak	V	100	43	-67.22	-15.40	24.38	40.00	-15.62
52.21	Max-Peak	V	100	267	-67.04	-13.18	26.78	40.00	-13.22
156.83	Max-Peak	H	200	236	-67.19	-19.77	20.04	43.52	-23.48
194.08	Max-Peak	H	100	223	-64.21	-16.92	25.87	43.52	-17.65
315.37	Max-Peak	H	100	263	-71.25	-14.00	21.75	46.02	-24.27
948.88	Max-Peak	H	100	273	-80.80	-2.29	23.91	46.02	-22.11

Table 7-55. . Radiated Spurious Emissions Below 1GHz TxBF (HDR4, ePA – 5844MHz), with AC/DC Adapter

FCC ID: BCGA2898 IC: 579C-A2898		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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7.8 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. All data rates and modes were investigated for AC Line conducted spurious emissions.

All conducted emissions must not exceed the limits shown in the table below, per Section 15.207.

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 7-56. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2013, Subclause 6.2

Test Settings

Quasi-Peak Measurements

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

Average Measurements

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

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Test Setup

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

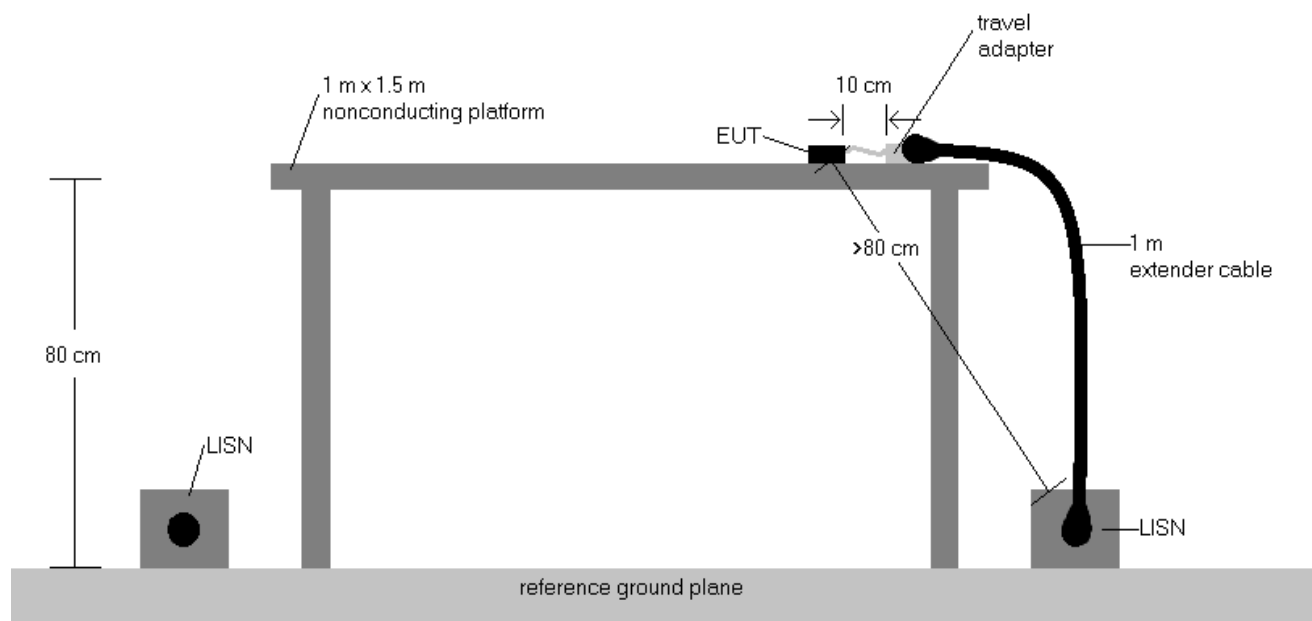


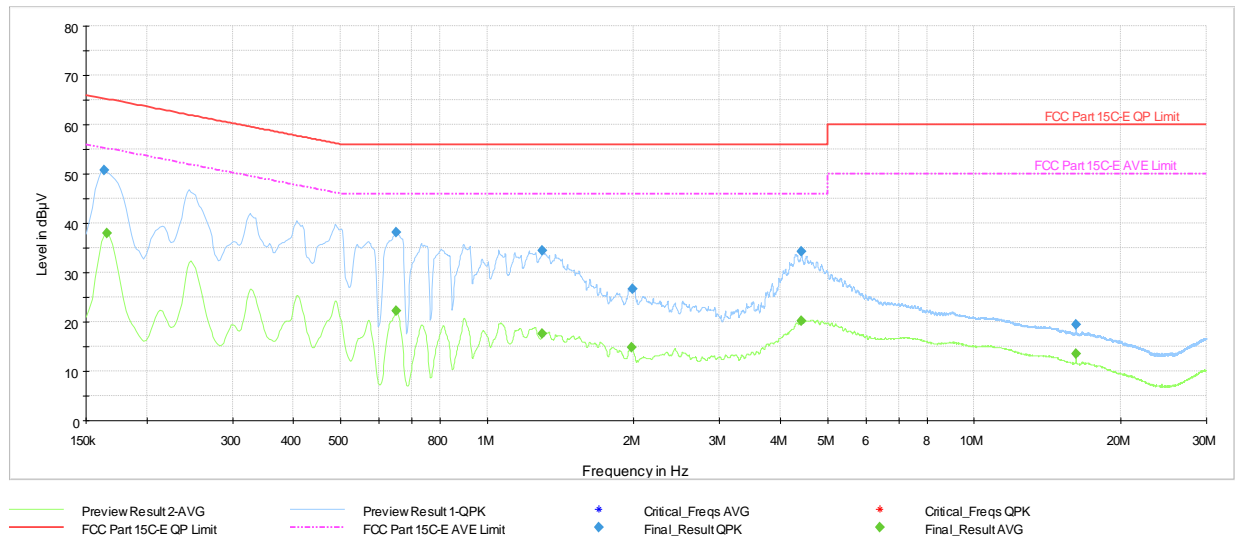
Figure 7-8. Test Instrument & Measurement Setup

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 to 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.
4. $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
5. $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Correction Factor (dB)}$
6. $\text{Margin (dB)} = \text{QP/AV Level (dB}\mu\text{V)} - \text{QP/AV Limit (dB}\mu\text{V)}$
7. Traces shown in plots are made using quasi-peak and average detectors.
8. Deviations to the Specifications: None.

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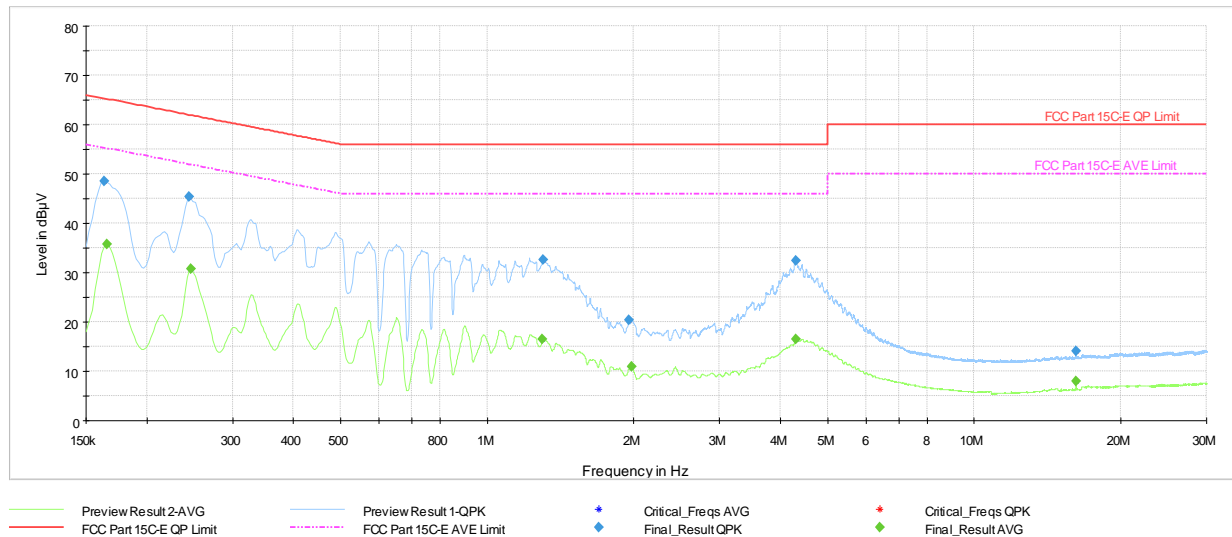
Plot 7-230. AC Line Conducted Plot TxBF (HDR4, ePA – 5204MHz) (L1) with AC/DC Adapter

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.164	FINAL	50.7	—	65.28	-14.59	L1	GND
0.166	FINAL	—	37.95	55.17	-17.22	L1	GND
0.650	FINAL	38.1	—	56.00	-17.93	L1	GND
0.652	FINAL	—	22.13	46.00	-23.87	L1	GND
1.300	FINAL	34.4	—	56.00	-21.56	L1	GND
1.300	FINAL	—	17.68	46.00	-28.32	L1	GND
1.977	FINAL	—	14.77	46.00	-31.23	L1	GND
1.986	FINAL	26.6	—	56.00	-29.42	L1	GND
4.421	FINAL	34.2	—	56.00	-21.78	L1	GND
4.423	FINAL	—	20.22	46.00	-25.78	L1	GND
16.175	FINAL	—	13.60	50.00	-36.40	L1	GND
16.175	FINAL	19.5	—	60.00	-40.52	L1	GND

Table 7-57. AC Line Conducted TxBF (HDR4, ePA – 5204MHz) (L1) with AC/DC Adapter

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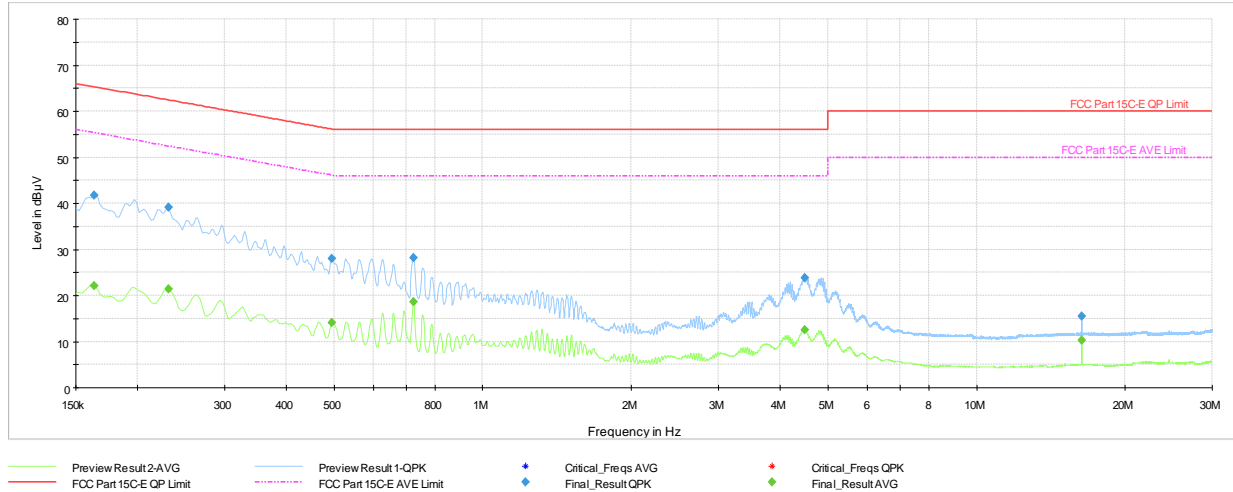
Plot 7-231. AC Line Conducted Plot TxBF (HDR4, ePA - 5204MHz) (N) with AC/DC Adapter

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.164	FINAL	48.6	—	65.28	-16.70	N	GND
0.166	FINAL	—	35.78	55.17	-19.40	N	GND
0.245	FINAL	45.3	—	61.94	-16.66	N	GND
0.247	FINAL	—	30.74	51.87	-21.13	N	GND
1.300	FINAL	—	16.39	46.00	-29.61	N	GND
1.302	FINAL	32.7	—	56.00	-23.34	N	GND
1.955	FINAL	20.3	—	56.00	-35.71	N	GND
1.977	FINAL	—	10.93	46.00	-35.07	N	GND
4.301	FINAL	32.4	—	56.00	-23.64	N	GND
4.306	FINAL	—	16.39	46.00	-29.61	N	GND
16.166	FINAL	—	7.94	50.00	-42.06	N	GND
16.168	FINAL	14.1	—	60.00	-45.91	N	GND

Table 7-58. AC Line Conducted TxBF (HDR4, ePA - 5204MHz) (N) with AC/DC Adapter

FCC ID: BCGA2898 IC: 579C-A2898			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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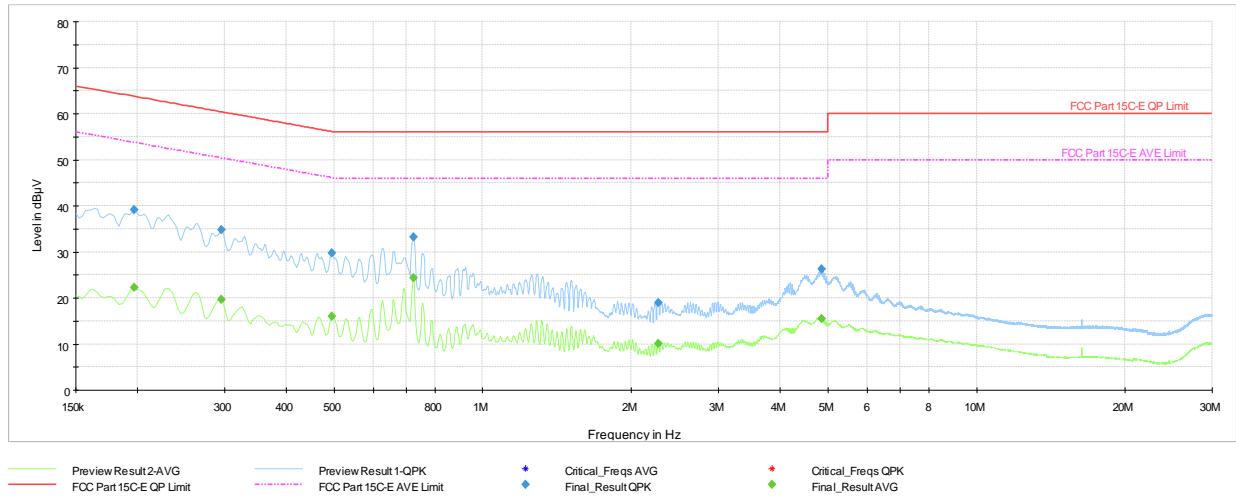
Plot 7-232. AC Line Conducted Plot TxBF (HDR4, ePA – 5844MHz) (L1) with AC/DC Adapter

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.164	FINAL	—	22.12	55.28	-33.17	L1	GND
0.164	FINAL	41.7	—	65.28	-23.63	L1	GND
0.231	FINAL	—	21.33	52.41	-31.09	L1	GND
0.231	FINAL	39.2	—	62.41	-23.25	L1	GND
0.494	FINAL	—	14.03	46.10	-32.07	L1	GND
0.494	FINAL	28.1	—	56.10	-28.04	L1	GND
0.724	FINAL	28.1	—	56.00	-27.91	L1	GND
0.724	FINAL	—	18.57	46.00	-27.43	L1	GND
4.495	FINAL	23.9	—	56.00	-32.12	L1	GND
4.495	FINAL	—	12.53	46.00	-33.47	L1	GND
16.334	FINAL	—	10.19	50.00	-39.81	L1	GND
16.334	FINAL	15.6	—	60.00	-44.45	L1	GND

Table 7-59. AC Line Conducted TxBF (HDR4, ePA – 5844MHz) (L1) with AC/DC Adapter

FCC ID: BCGA2898 IC: 579C-A2898			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-233. AC Line Conducted Plot TxBF (HDR4, ePA – 5844MHz) (N) with AC/DC Adapter

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.197	FINAL	—	22.25	53.73	-31.47	N	GND
0.197	FINAL	39.2	—	63.73	-24.51	N	GND
0.296	FINAL	—	19.66	50.35	-30.68	N	GND
0.296	FINAL	34.8	—	60.35	-25.51	N	GND
0.494	FINAL	—	15.93	46.10	-30.17	N	GND
0.494	FINAL	29.7	—	56.10	-26.42	N	GND
0.724	FINAL	33.3	—	56.00	-22.71	N	GND
0.724	FINAL	—	24.26	46.00	-21.74	N	GND
2.267	FINAL	18.9	—	56.00	-37.07	N	GND
2.267	FINAL	—	10.11	46.00	-35.89	N	GND
4.859	FINAL	—	15.53	46.00	-30.47	N	GND
4.859	FINAL	26.2	—	56.00	-29.81	N	GND

Table 7-60. AC Line Conducted TxBF (HDR4, ePA – 5844MHz) (N) with AC/DC Adapter

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8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Apple Tablet Device FCC ID: BCGA2898, IC: 579C-A2898** 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.

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