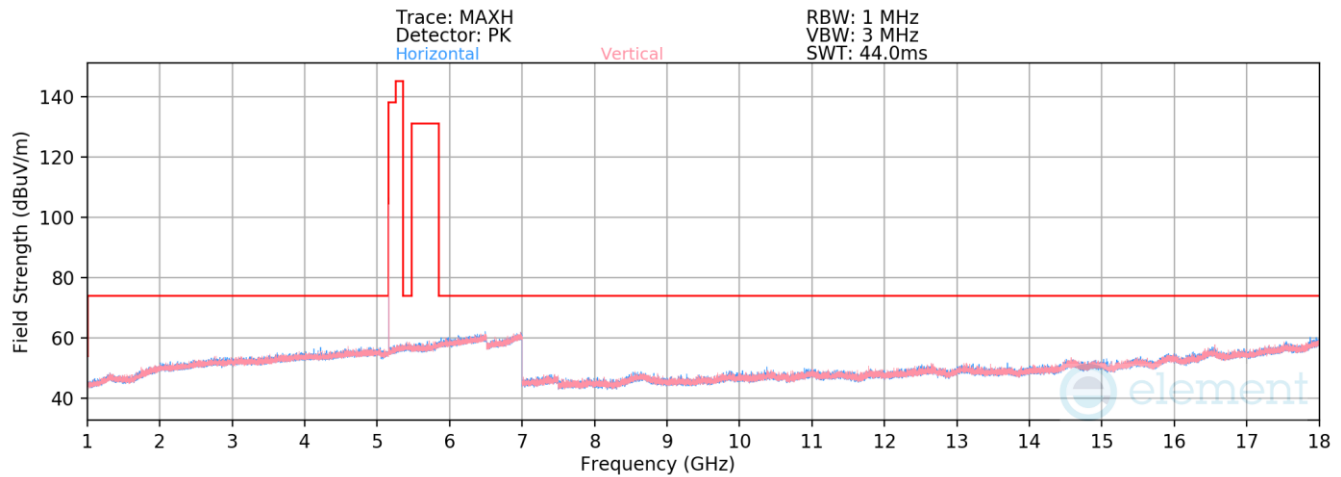


7.6.3 Antenna 1b Radiated Spurious Emission (1-18GHz)



Plot 7-106. Radiated Spurious Emissions 1-18GHz Antenna 1b (BDR GFSK ePA – 5162MHz)

Mode:	BDR
Data Rate:	1Mbps
Power Scheme:	ePA
Distance of Measurements:	3 Meters
Operating Frequency:	5162MHz

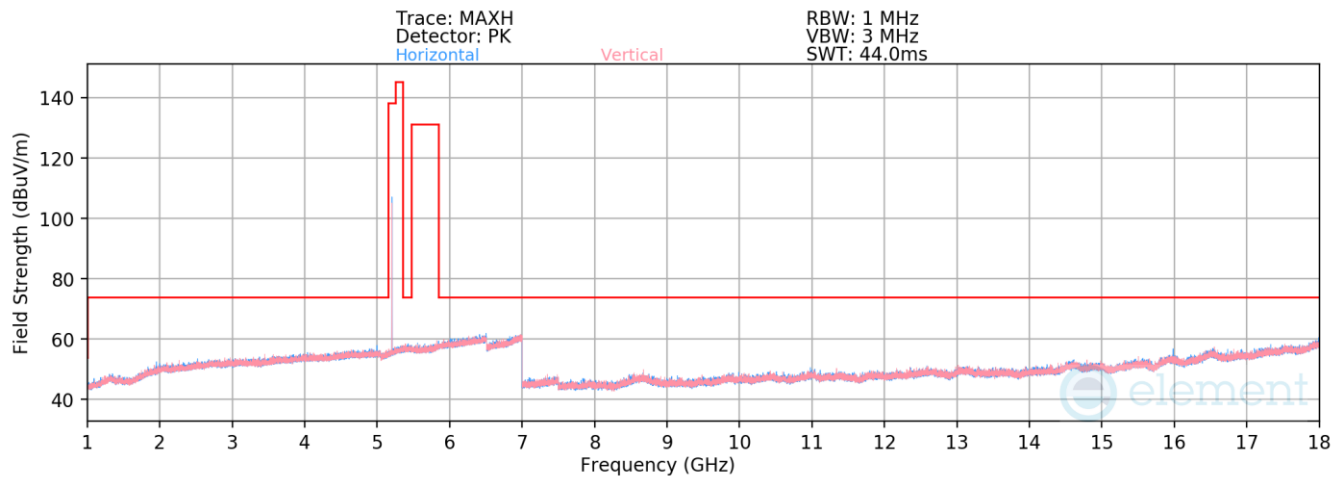
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
	10324.00	Peak	H	-	-	-68.76	10.89	49.13	68.20	-19.07
*	15486.00	Average	H	-	-	-82.01	17.60	42.59	53.98	-11.39
*	15486.00	Peak	H	-	-	-70.39	17.60	54.21	73.98	-19.77

Table 7-41. Radiated Spurious Emissions Measurements Antenna 1b

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 99 of 130

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Plot 7-107. Radiated Spurious Emissions 1-18GHz Antenna 1b (BDR GFSK ePA – 5204MHz)

Mode: BDR

Data Rate: 1Mbps

Power Scheme: ePA

Distance of Measurements: 3 Meters

Operating Frequency: 5204MHz

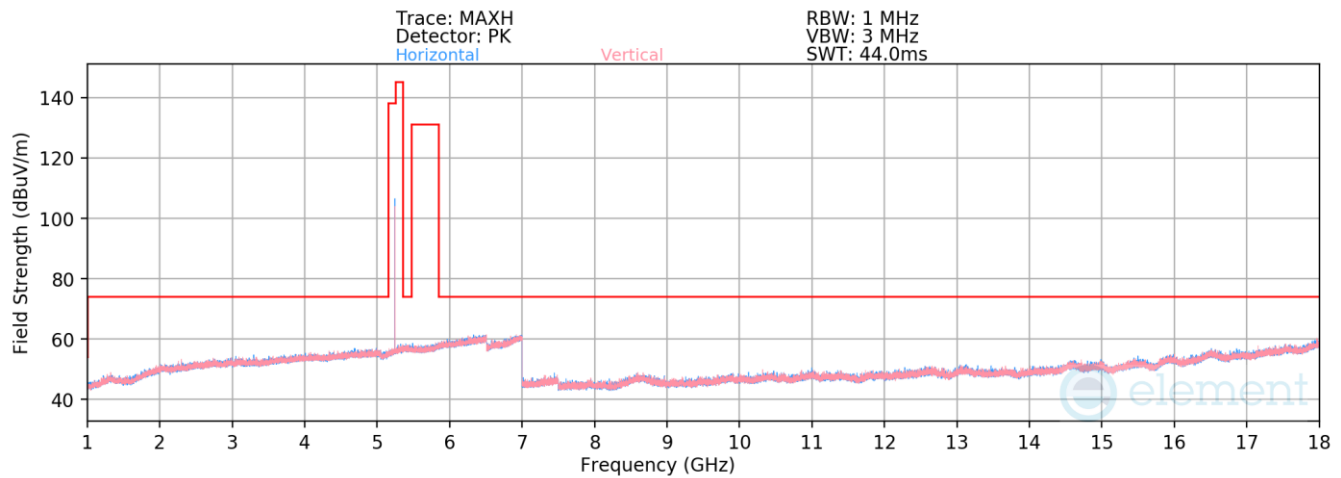
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10408.00	Peak	H	-	-	-68.61	11.22	49.61	68.20	-18.59
* 15612.00	Average	H	-	-	-81.75	17.12	42.37	53.98	-11.61
* 15612.00	Peak	H	-	-	-70.06	17.12	54.06	73.98	-19.92

Table 7-42. Radiated Spurious Emissions Measurements Antenna 1b

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 100 of 130

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Plot 7-108. Radiated Spurious Emissions 1-18GHz Antenna 1b (BDR GFSK ePA – 5245MHz)

Mode: BDR

Data Rate: 1Mbps

Power Scheme: ePA

Distance of Measurements: 3 Meters

Operating Frequency: 5245MHz

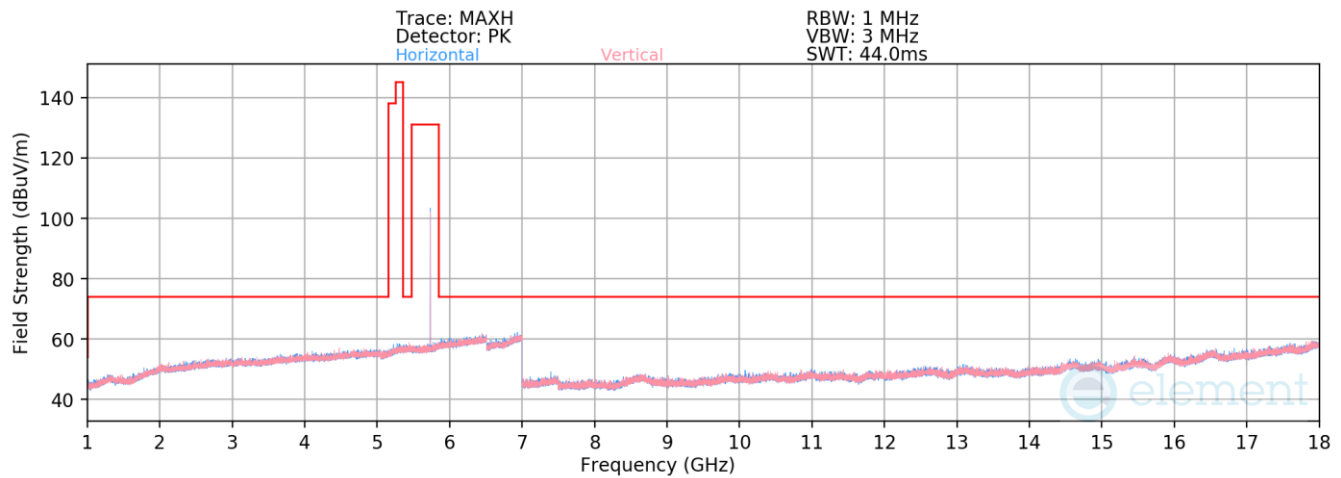
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
10490.00	Peak	H	-	-	-68.84	11.32	49.48	68.20	-18.72
* 15735.00	Average	H	-	-	-82.05	16.83	41.78	53.98	-12.20
* 15735.00	Peak	H	-	-	-70.07	16.83	53.76	73.98	-20.22

Table 7-43. Radiated Spurious Emissions Measurements Antenna 1b

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 101 of 130

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Plot 7-109. Radiated Spurious Emissions 1-18GHz Antenna 1b (BDR GFSK ePA – 5733MHz)

Mode: BDR

Data Rate: 1Mbps

Power Scheme: ePA

Distance of Measurements: 3 Meters

Operating Frequency: 5733MHz

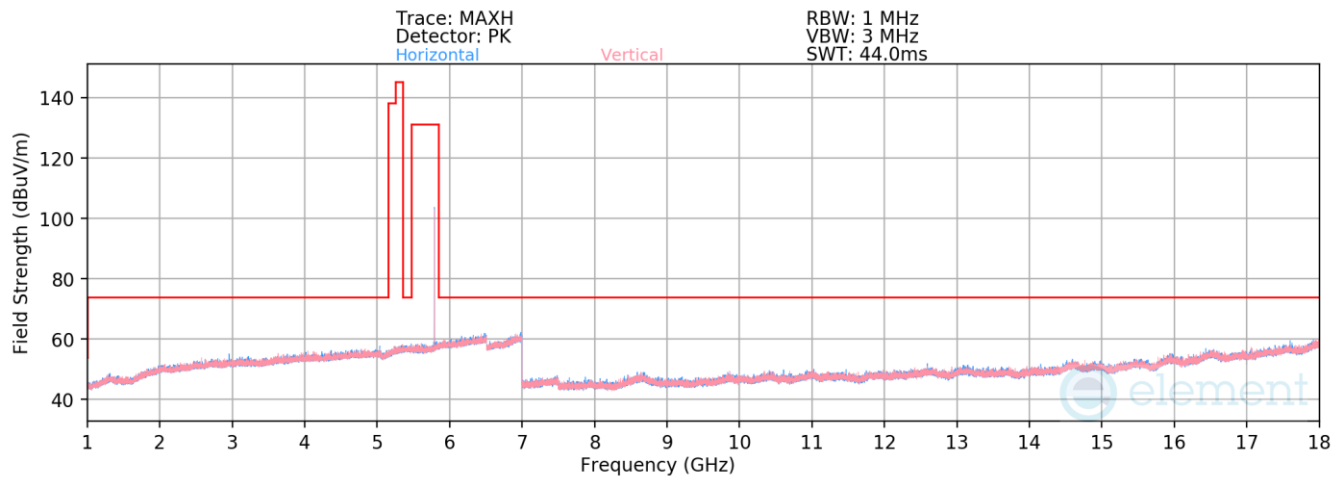
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11466.00	Average	H	-	-	-80.81	12.01	38.20	53.98	-15.78
*	11466.00	Peak	H	-	-	-69.42	12.01	49.59	73.98	-24.39
	17199.00	Peak	H	-	-	-70.16	20.85	57.69	68.20	-10.51

Table 7-44. Radiated Spurious Emissions Measurements Antenna 1b

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 102 of 130

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Plot 7-110. Radiated Spurious Emissions 1-18GHz Antenna 1b (BDR GFSK ePA – 5789MHz)

Mode: BDR

Data Rate: 1Mbps

Power Scheme: ePA

Distance of Measurements: 3 Meters

Operating Frequency: 5789MHz

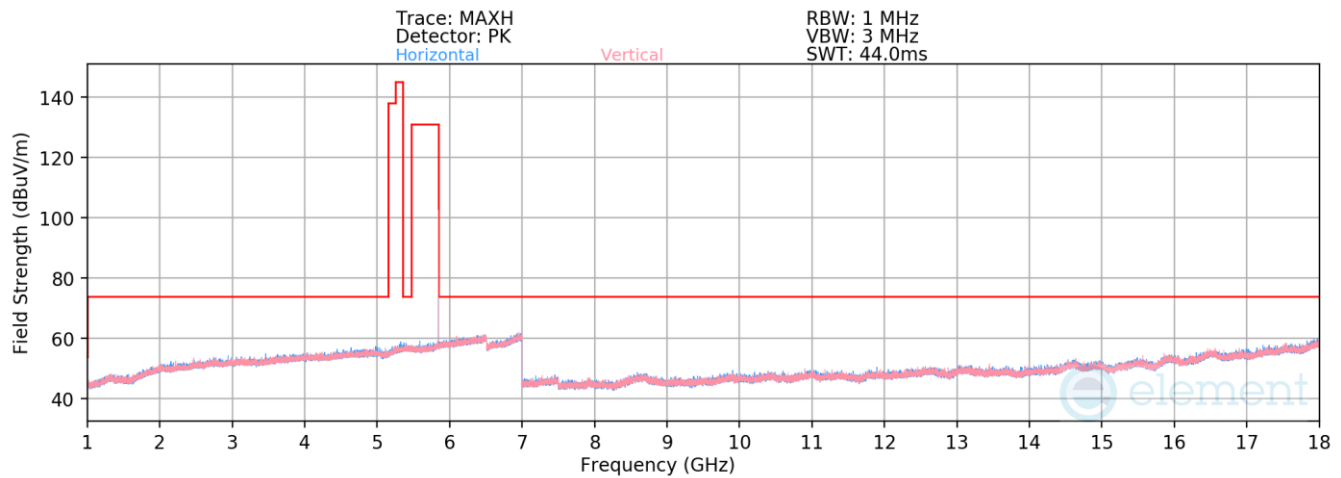
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11578.00	Average	H	-	-	-80.86	12.04	38.18	53.98	-15.80
*	11578.00	Peak	H	-	-	-68.92	12.04	50.12	73.98	-23.86
	17367.00	Peak	H	-	-	-70.97	21.09	57.12	68.20	-11.08

Table 7-45. Radiated Spurious Emissions Measurements Antenna 1b

FCC ID: BCGA2903 IC: 579C-A2903			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device		Page 103 of 130

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Plot 7-111. Radiated Spurious Emissions 1-18GHz Antenna 1b (BDR GFSK ePA – 5844MHz)

Mode: BDR

Data Rate: 1Mbps

Power Scheme: ePA

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	H	-	-	-81.38	12.05	37.67	53.98	-16.31
*	11688.00	Peak	H	-	-	-69.80	12.05	49.25	73.98	-24.73
	17532.00	Peak	H	-	-	-70.61	22.29	58.68	68.20	-9.52

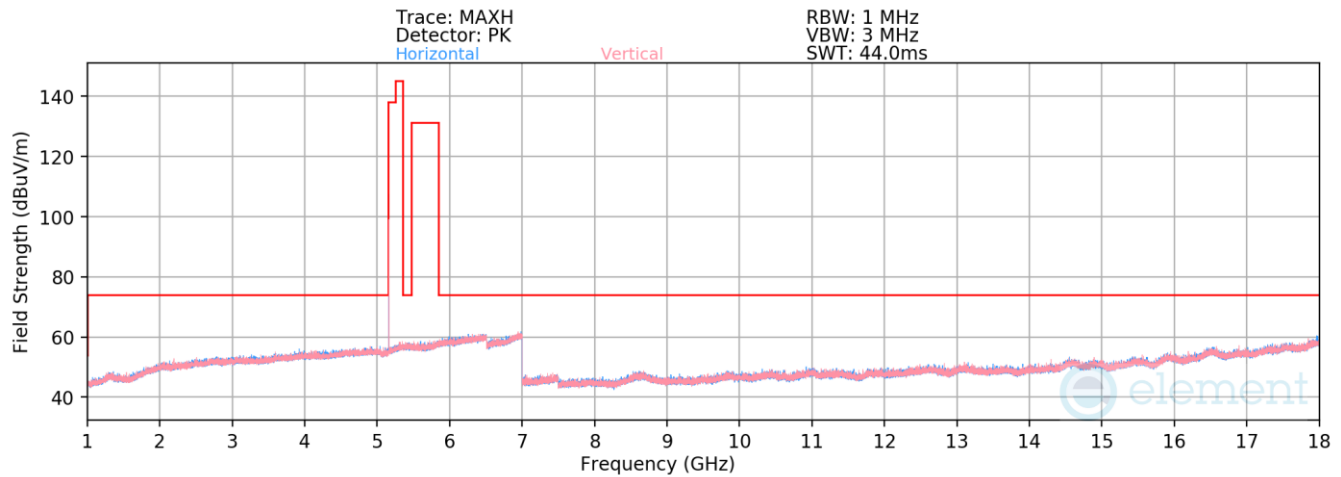
Table 7-46. Radiated Spurious Emissions Measurements Antenna 1b

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 104 of 130

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7.6.4 TxBF Radiated Spurious Emission (Above 1GHz)



Plot 7-112. Radiated Spurious Emissions 1-18GHz TxBF (BDR GFSK ePA – 5162MHz)

Mode:	BDR
Data Rate:	1Mbps
Power Scheme:	ePA
Distance of Measurements:	3 Meters
Operating Frequency:	5162MHz

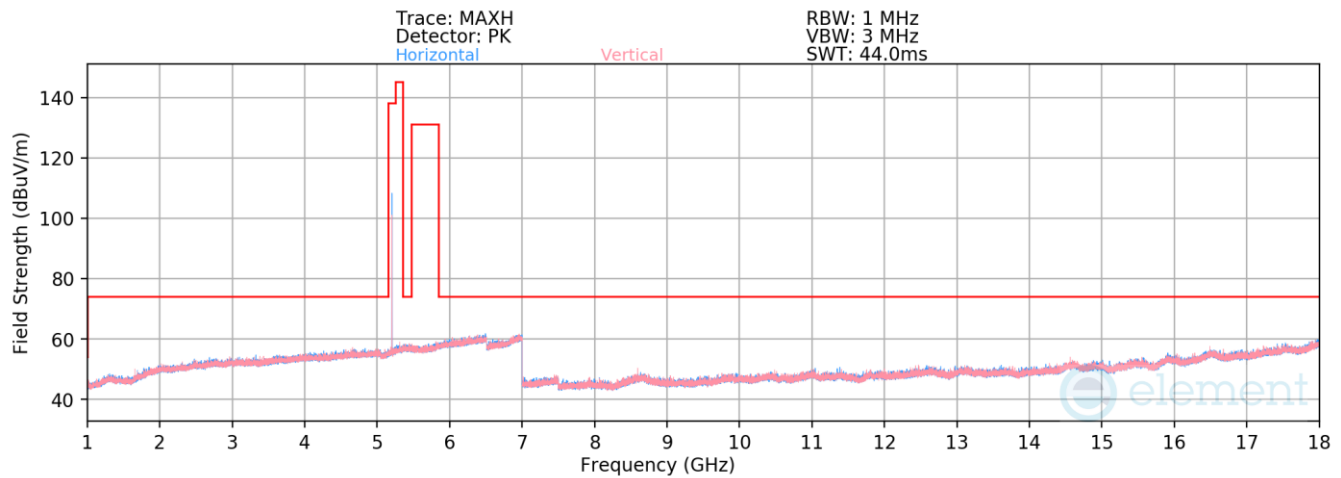
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
	10324.00	Peak	H	-	-	-68.73	10.89	49.16	68.20	-19.04
*	15486.00	Average	H	-	-	-81.98	17.60	42.62	53.98	-11.36
*	15486.00	Peak	H	-	-	-70.35	17.60	54.25	73.98	-19.73

Table 7-47. Radiated Spurious Emissions Measurements TxBF

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 105 of 130

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Plot 7-113. Radiated Spurious Emissions 1-18GHz TxBF (BDR GFSK ePA – 5204MHz)

Mode: BDR

Data Rate: 1Mbps

Power Scheme: ePA

Distance of Measurements: 3 Meters

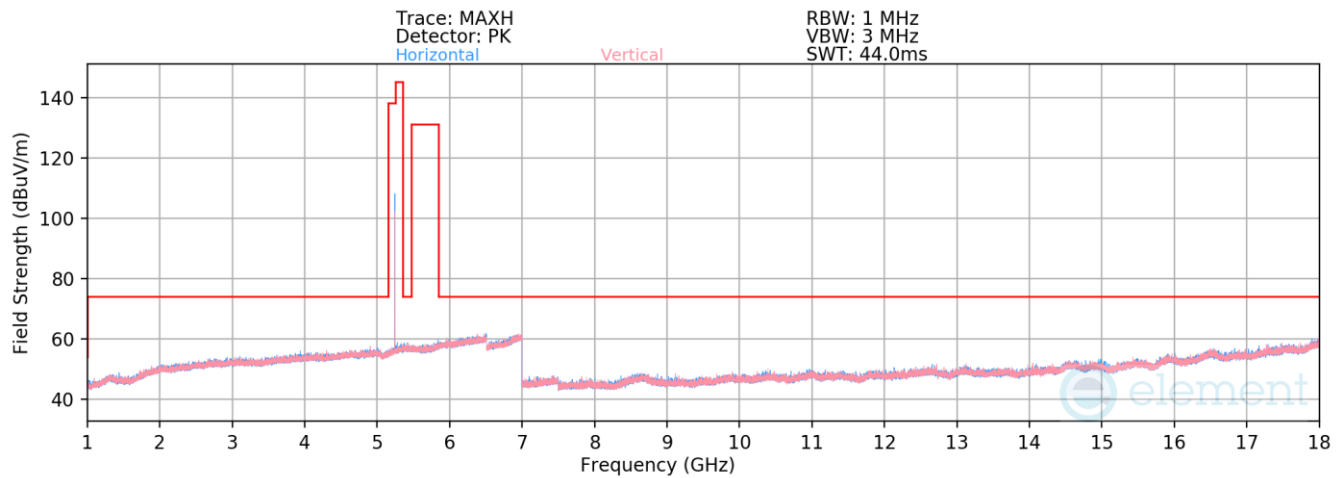
Operating Frequency: 5204MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
10408.00	Peak	H	-	-	-68.92	11.22	49.30	68.20	-18.90
* 15612.00	Average	H	-	-	-81.89	17.12	42.23	53.98	-11.75
* 15612.00	Peak	H	-	-	-69.98	17.12	54.14	73.98	-19.84

Table 7-48. Radiated Spurious Emissions Measurements TxBF

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 106 of 130

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Plot 7-114. Radiated Spurious Emissions 1-18GHz TxBF (BDR GFSK ePA – 5245MHz)

Mode: BDR

Data Rate: 1Mbps

Power Scheme: ePA

Distance of Measurements: 3 Meters

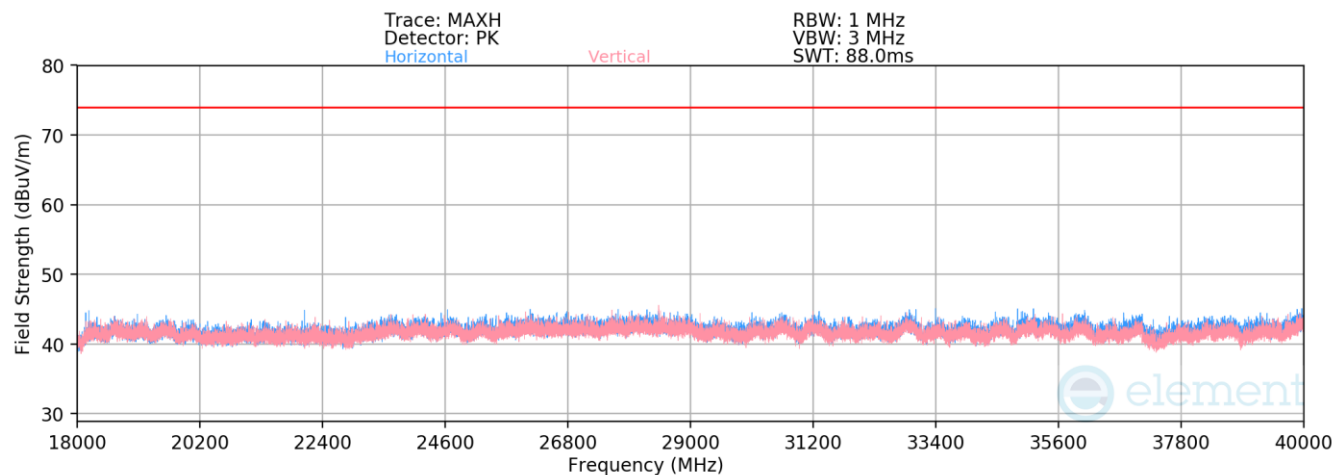
Operating Frequency: 5245MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
10490.00	Peak	H	-	-	-68.47	11.32	49.85	68.20	-18.35
* 15735.00	Average	H	-	-	-81.88	16.83	41.95	53.98	-12.03
* 15735.00	Peak	H	-	-	-69.94	16.83	53.89	73.98	-20.09

Table 7-49. Radiated Spurious Emissions Measurements TxBF

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 107 of 130

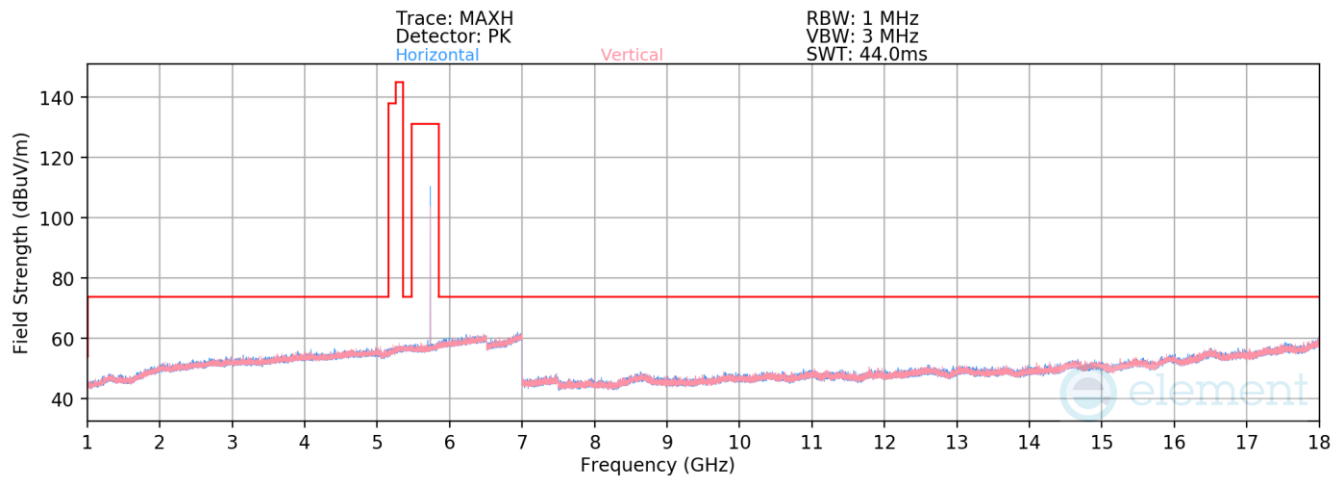
V 10.6 9/14/2023



Plot 7-115. Radiated Spurious Emissions Above 18GHz (BDR GFSK ePA – 5245MHz)

FCC ID: BCGA2903 IC: 579C-A2903	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 108 of 130

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Plot 7-116. Radiated Spurious Emissions 1-18GHz TxBF (BDR GFSK ePA - 5733MHz)

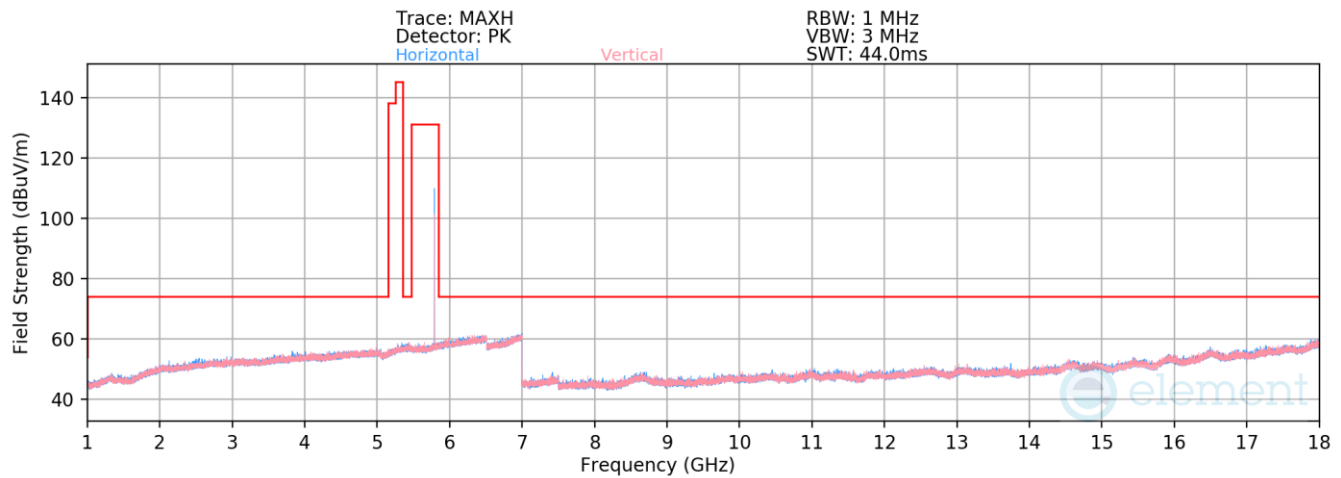
Mode: BDR
Data Rate: 1Mbps
Power Scheme: ePA
Distance of Measurements: 3 Meters
Operating Frequency: 5733MHz

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11466.00	Average	H	-	-	-80.94	12.01	38.07	53.98	-15.91
*	11466.00	Peak	H	-	-	-69.12	12.01	49.89	73.98	-24.09
	17199.00	Peak	H	-	-	-70.64	20.85	57.21	68.20	-10.99

Table 7-50. Radiated Spurious Emissions Measurements TxBF

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 109 of 130

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Plot 7-117. Radiated Spurious Emissions 1-18GHz TxBF (BDR GFSK ePA - 5789MHz)

Mode: BDR

Data Rate: 1Mbps

Power Scheme: ePA

Distance of Measurements: 3 Meters

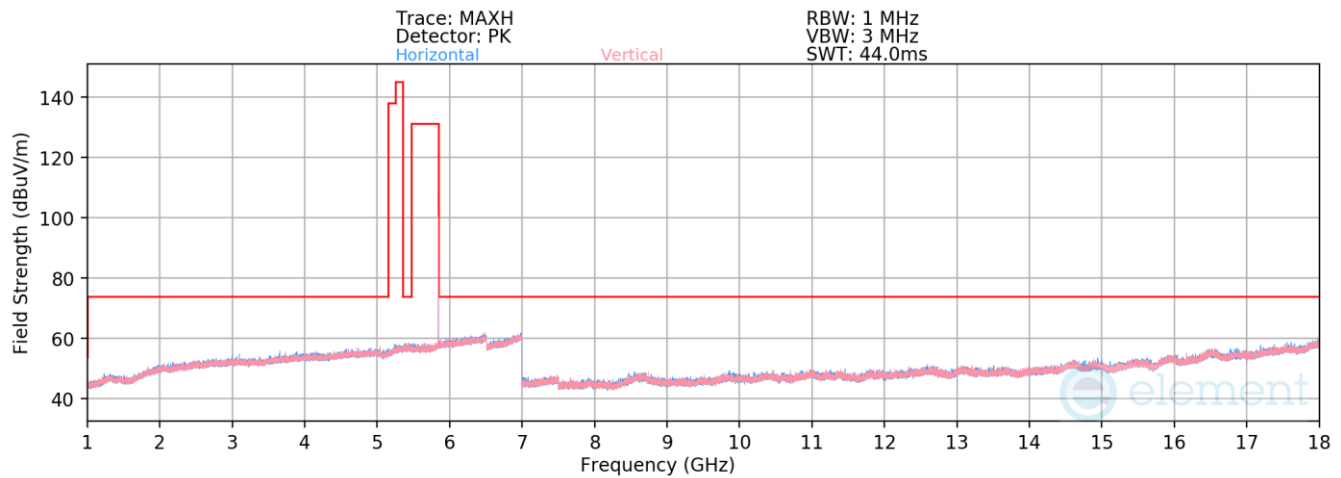
Operating Frequency: 5789MHz

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	Limit [dBuV/m]	Margin [dB]
*	11578.00	Average	H	-	-	-81.05	12.04	37.99	53.98	-15.99
*	11578.00	Peak	H	-	-	-69.11	12.04	49.93	73.98	-24.05
	17367.00	Peak	H	-	-	-70.67	21.09	57.42	68.20	-10.78

Table 7-51. Radiated Spurious Emissions Measurements TxBF

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 110 of 130

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Plot 7-118. Radiated Spurious Emissions 1-18GHz TxBF (BDR GFSK ePA – 5844MHz)

Mode: BDR

Data Rate: 1Mbps

Power Scheme: ePA

Distance of Measurements: 3 Meters

Operating Frequency: 5844MHz

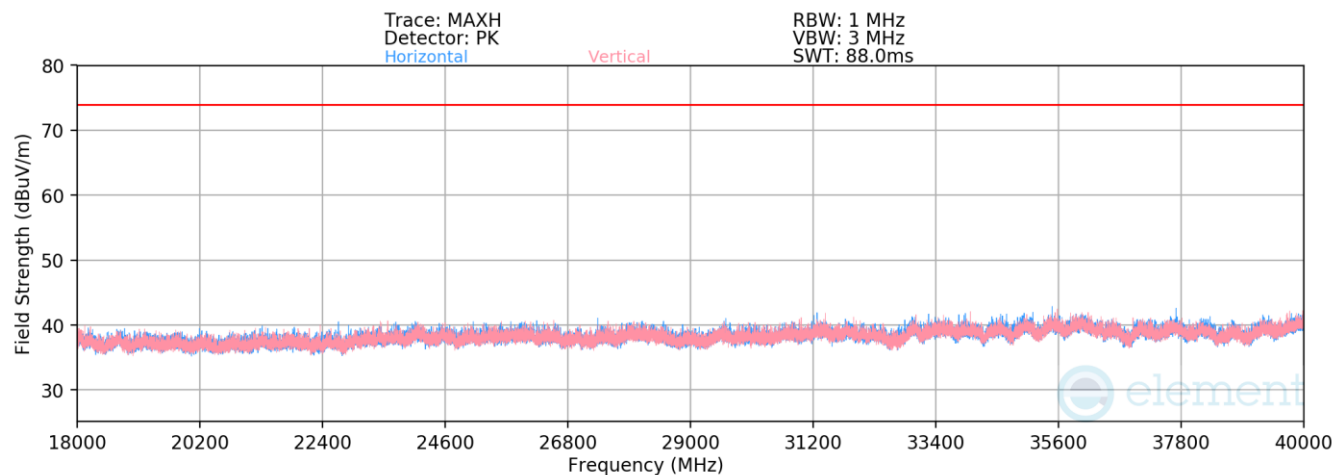
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
*	11688.00	Average	H	-	-	-81.16	12.05	37.89	53.98	-16.09
*	11688.00	Peak	H	-	-	-69.74	12.05	49.31	73.98	-24.67
	17532.00	Peak	H	-	-	-71.03	22.29	58.26	68.20	-9.94

Table 7-52. Radiated Spurious Emissions Measurements TxBF

FCC ID: BCGA2903 IC: 579C-A2903	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 111 of 130

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Plot 7-119. Radiated Spurious Emissions Above 18GHz (BDR GFSK ePA – 5844MHz)

FCC ID: BCGA2903 IC: 579C-A2903	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 112 of 130

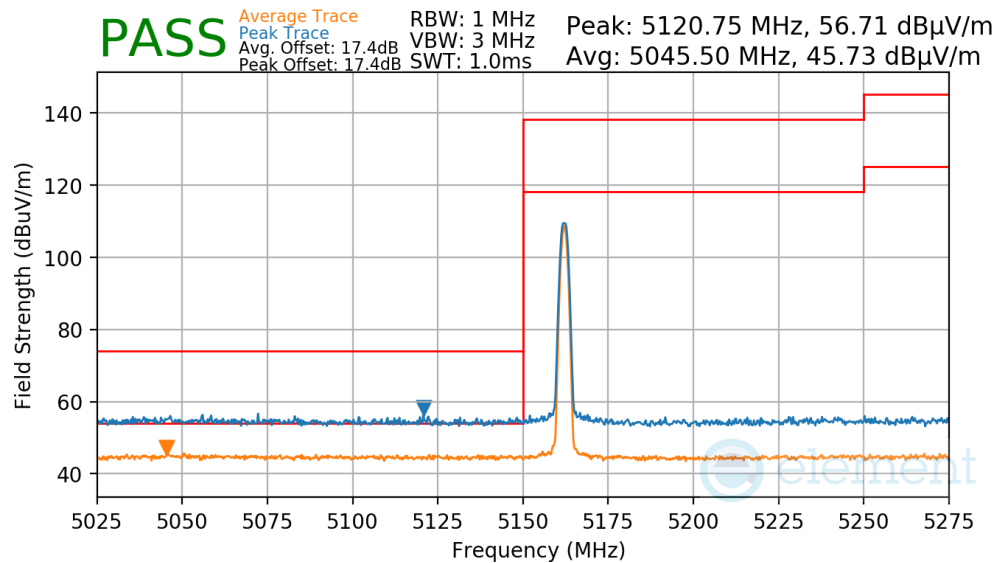
V 10.6 9/14/2023

7.6.5 Radiated Band Edge Measurements

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

Antenna 3c

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

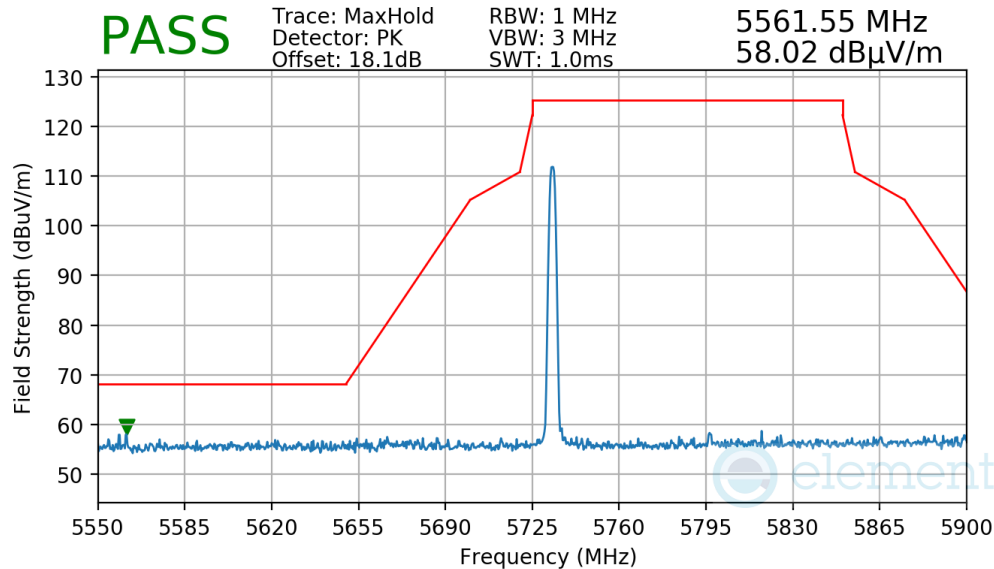


Plot 7-120. Radiated Lower Band Edge Measurement Antenna 3c

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 113 of 130

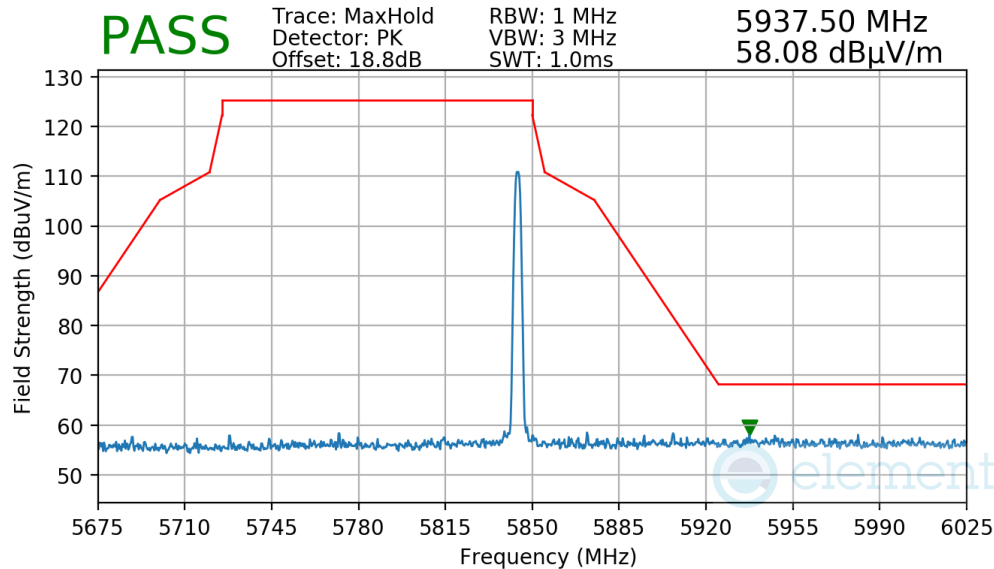
V 10.6 9/14/2023

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



Plot 7-121. Radiated Lower Band Edge Measurement Antenna 3c

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



Plot 7-122. Radiated Upper Band Edge Measurement Antenna 3c

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 114 of 130

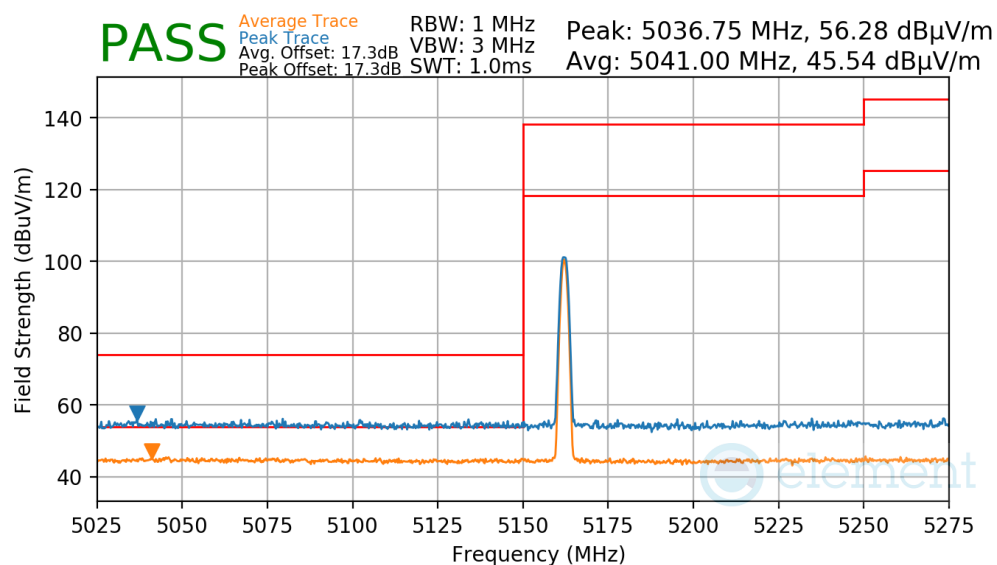
V 10.6 9/14/2023

Radiated Band Edge Measurements

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

Antenna 3a

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



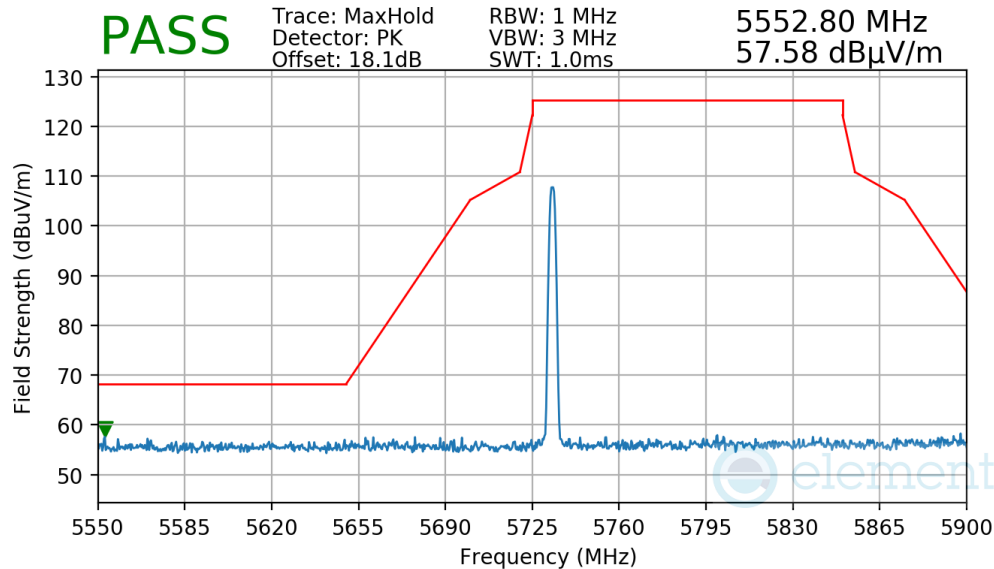
Plot 7-123. Radiated Lower Band Edge Measurement Antenna 3a

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 115 of 130

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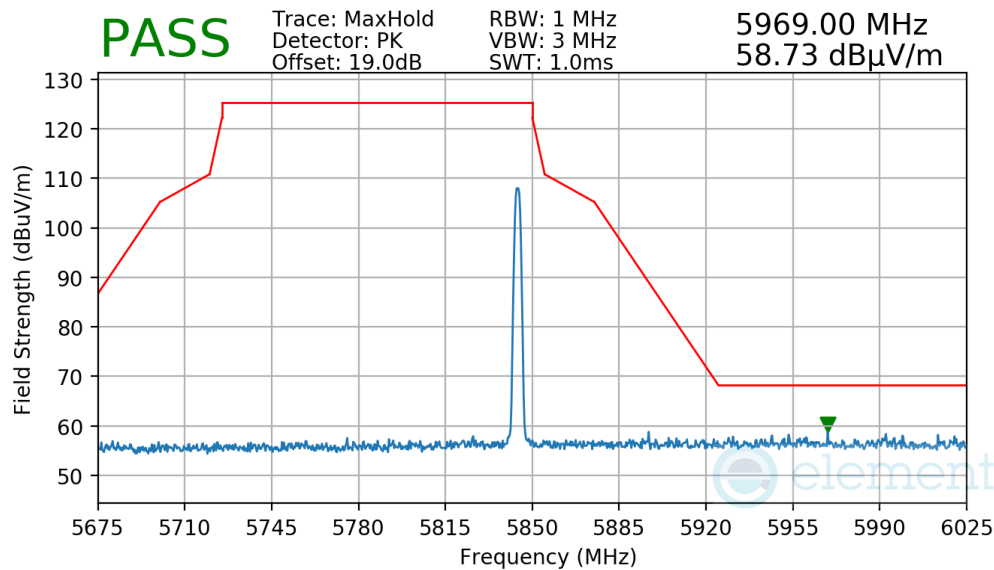
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Mode: BDR
 Power Scheme: ePA
 Measurement Distance: 3 Meters
 Operating Frequency: 5733MHz



Plot 7-124. Radiated Lower Band Edge Measurement Antenna 3a

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



Plot 7-125. Radiated Upper Band Edge Measurement Antenna 3a

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 116 of 130

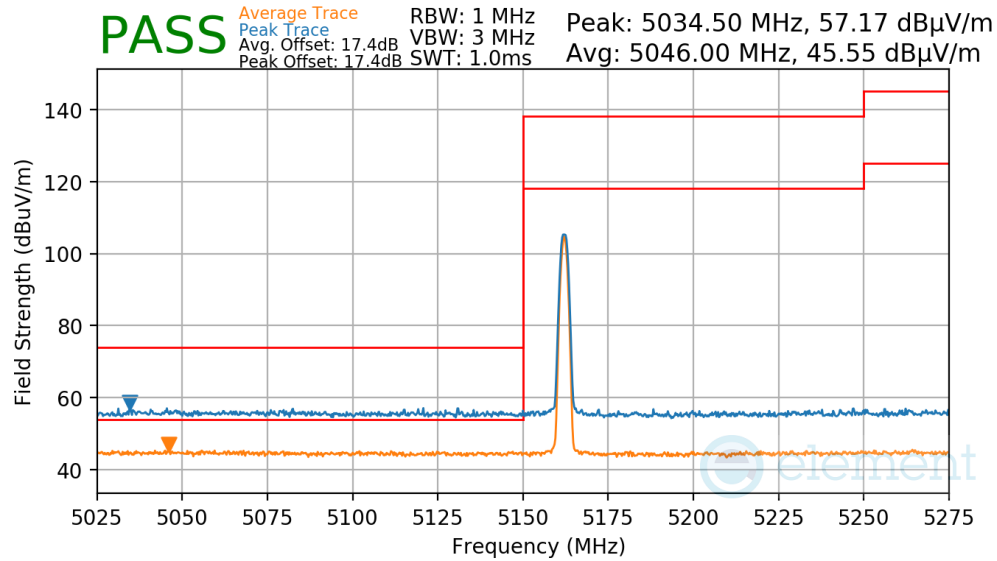
V 10.6 9/14/2023

Radiated Band Edge Measurements

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

Antenna 1b

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

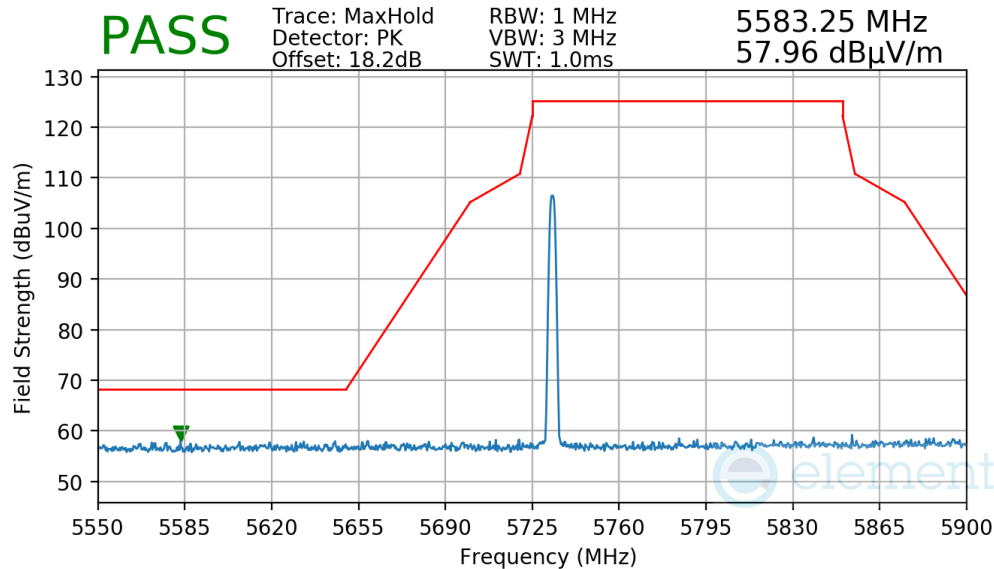


Plot 7-126. Radiated Lower Band Edge Measurement Antenna 1b

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2311270064-21.BCG	Test Dates: 11/28/2023 - 03/05/2024	EUT Type: Tablet Device	Page 117 of 130

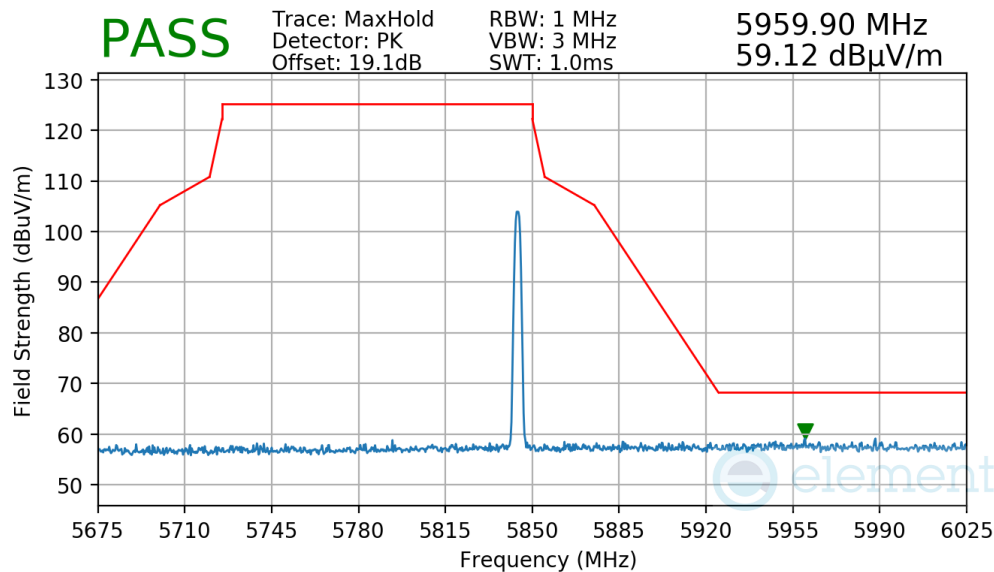
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Mode: BDR
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5733MHz



Plot 7-127. Radiated Lower Band Edge Measurement Antenna 1b

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



Plot 7-128. Radiated Upper Band Edge Measurement Antenna 1b

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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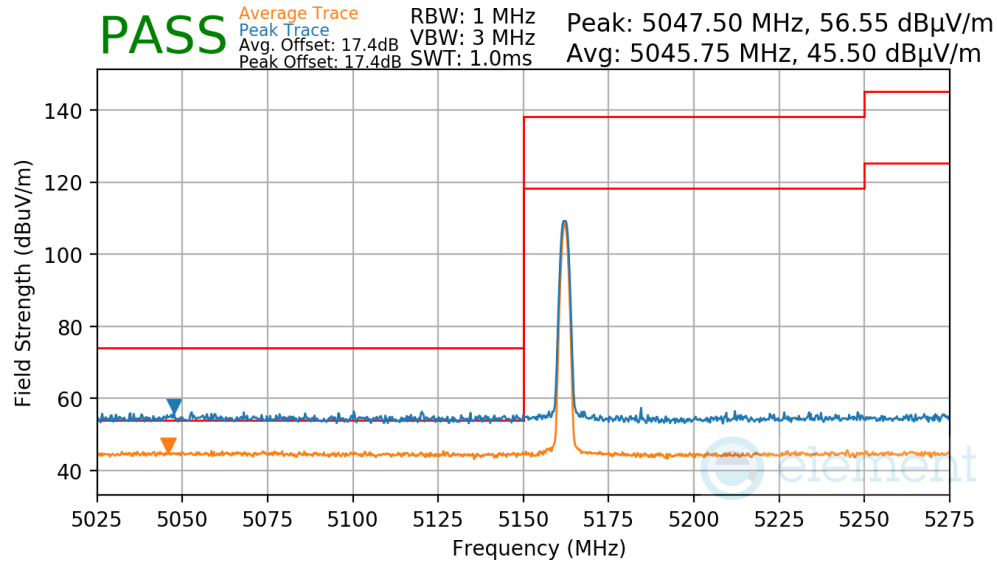
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Radiated Band Edge Measurements

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

TxBF

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

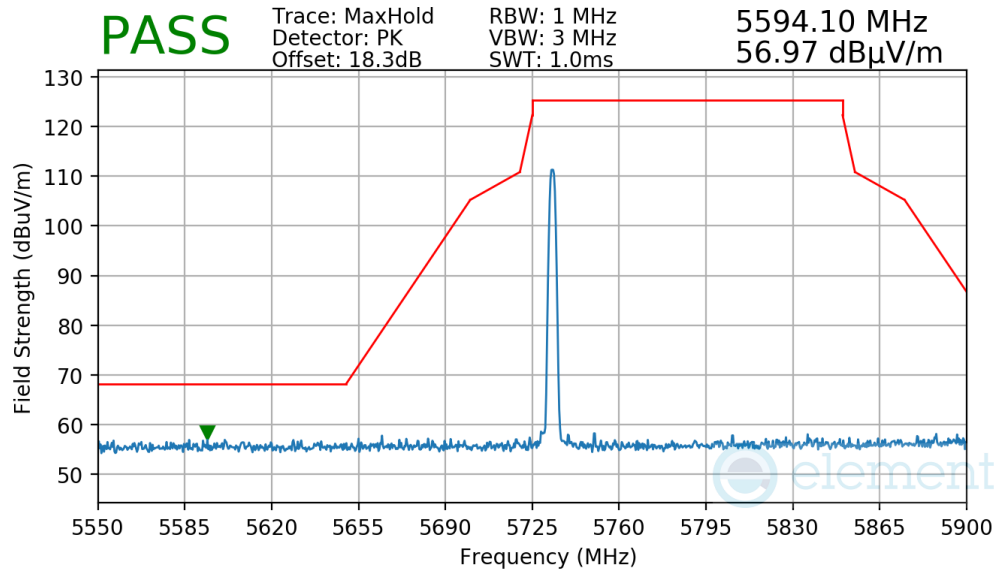


Plot 7-129. Radiated Lower Band Edge Measurement TxBF

FCC ID: BCGA2903 IC: 579C-A2903		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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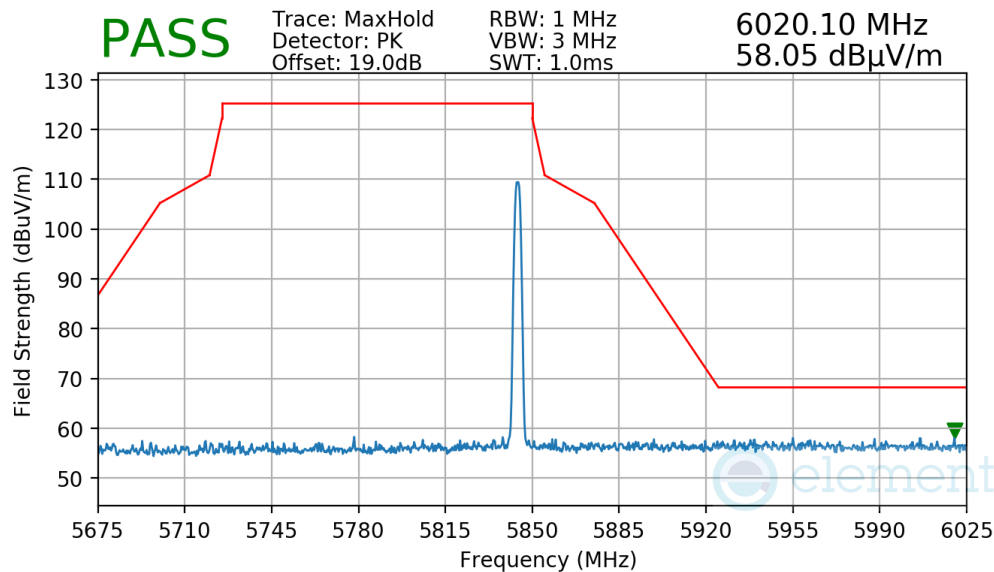
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Mode: BDR
Power Scheme: ePA
Measurement Distance: 3 Meters
Operating Frequency: 5733MHz



Plot 7-130. Radiated Lower Band Edge Measurement TxBF

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



Plot 7-131. Radiated Upper Band Edge Measurement TxBF

FCC ID: BCGA2903 IC: 579C-A2903		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.

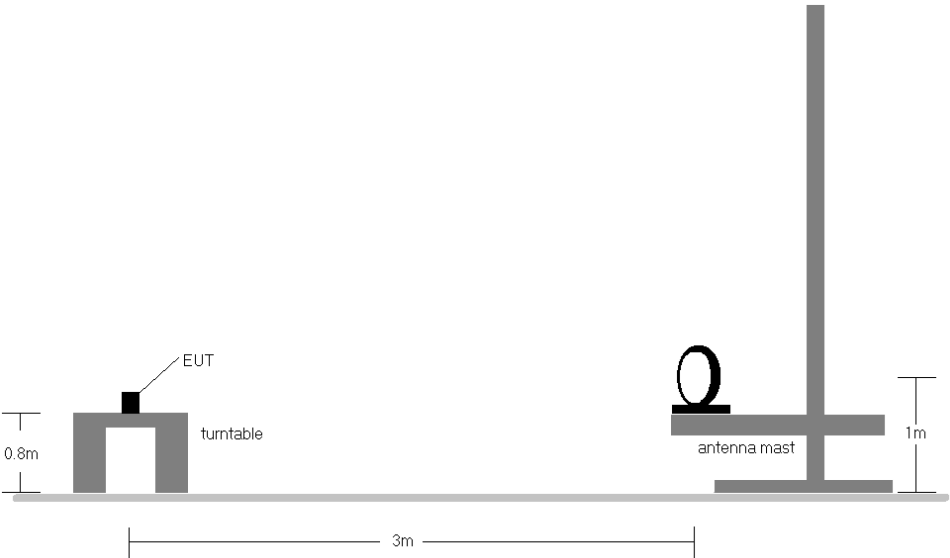


Figure 7-6. Radiated Test Setup < 30MHz

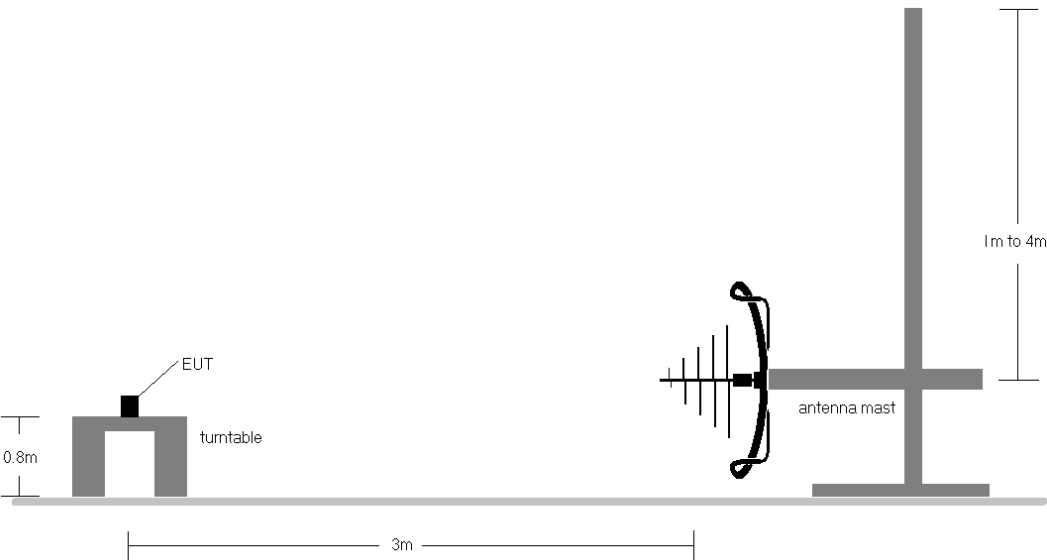


Figure 7-7. Radiated Test Setup < 1GHz

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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

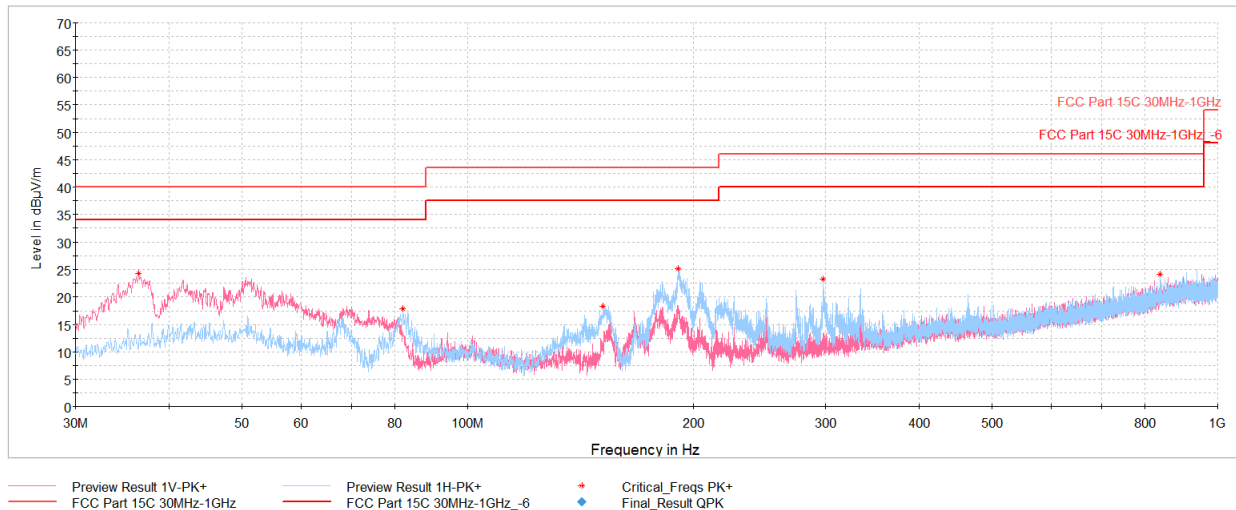
- Field Strength Level $_{[dB\mu V/m]} = \text{Analyzer Level }_{[dBm]} + 107 + \text{AFCL }_{[dB/m]}$
- $\text{AFCL }_{[dB/m]} = \text{Antenna Factor }_{[dB/m]} + \text{Cable Loss }_{[dB]} - \text{Preamplifier Gain }_{[dB]}$
- $\text{Margin }_{[dB]} = \text{Field Strength Level }_{[dB\mu V/m]} - \text{Limit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

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Radiated Spurious Emissions (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-132. Radiated Spurious Emissions Below 1GHz TxBF (BDR GFSK ePA – 5245MHz), with AC/DC Adapter

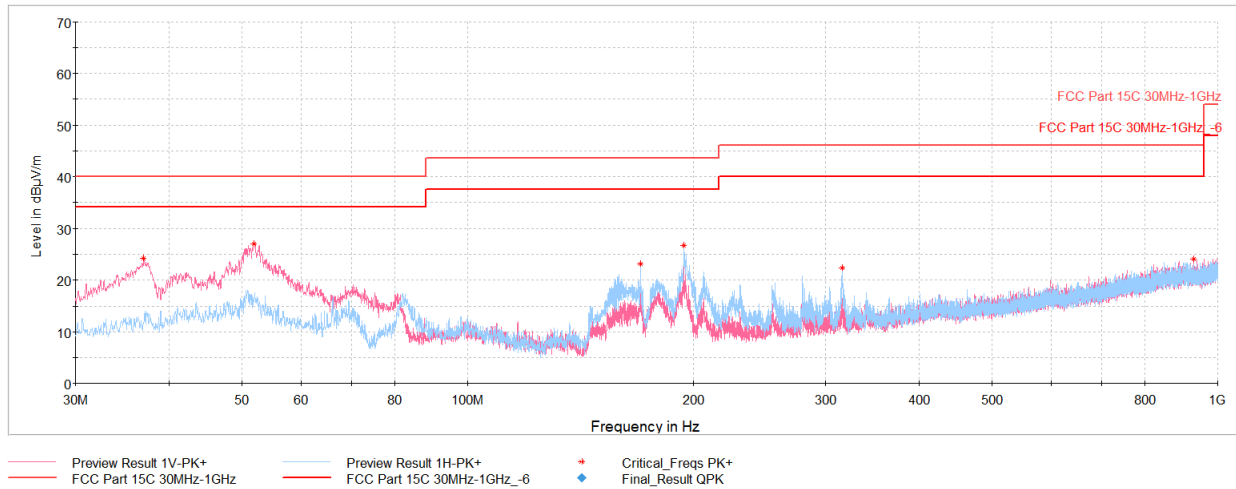
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
36.45	Max Peak	V	100	276	-67.39	-15.37	24.24	40.00	-15.76
82.04	Max Peak	H	200	292	-68.40	-20.76	17.84	40.00	-22.16
151.35	Max Peak	H	200	215	-68.49	-20.15	18.36	43.52	-25.16
190.54	Max Peak	H	100	347	-64.33	-17.43	25.24	43.52	-18.28
297.82	Max Peak	H	100	19	-69.22	-14.56	23.22	46.02	-22.80
837.09	Max Peak	H	200	0	-79.15	-3.62	24.23	46.02	-21.79

Table 7-54. Radiated Spurious Emissions Below 1GHz TxBF (BDR GFSK ePA – 5245MHz), with AC/DC Adapter

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Plot 7-133. Radiated Spurious Emissions Below 1GHz TxBF (BDR GFSK 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]
36.98	Max Peak	V	100	317	-67.54	-15.23	24.23	40.00	-15.77
51.92	Max Peak	V	100	9	-66.74	-13.13	27.13	40.00	-12.87
169.78	Max Peak	H	300	213	-64.56	-19.20	23.24	43.52	-20.28
194.08	Max Peak	H	100	0	-63.28	-16.92	26.80	43.52	-16.72
315.62	Max Peak	H	100	119	-70.64	-13.97	22.39	46.02	-23.63
929.97	Max Peak	V	300	50	-80.51	-2.31	24.18	46.02	-21.84

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

FCC ID: BCGA2903 IC: 579C-A2903		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.

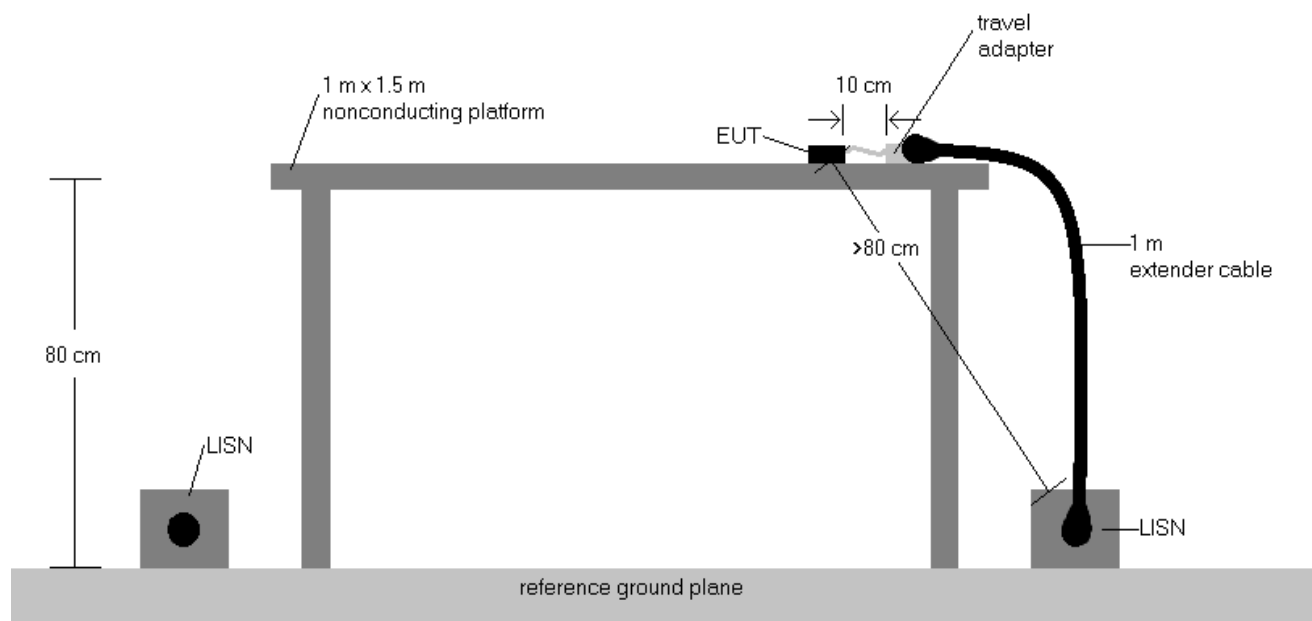


Figure 7-8. Test Instrument & Measurement Setup

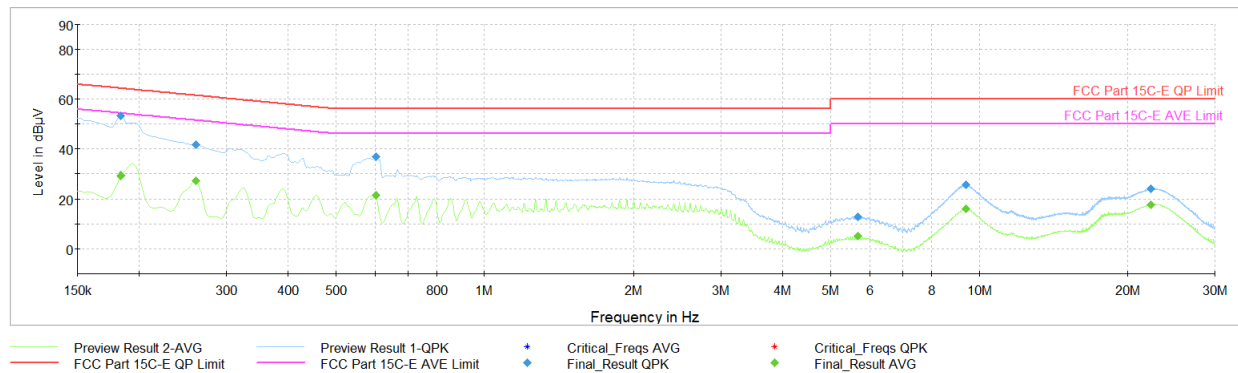
Test Notes

- 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.
- Both configurations below were investigated, and the worst case has been reported.
 - EUT powered by AC/DC adaptor to USB-C cable with wire charger
 - EUT powered by host PC via USB-C cable with wire charger
- The limit for an intentional radiator from 150kHz to 30MHz are specified in 15.207.
- $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
- $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Correction Factor (dB)}$
- $\text{Margin (dB)} = \text{QP/AV Level (dB}\mu\text{V)} - \text{QP/AV Limit (dB}\mu\text{V)}$
- Traces shown in plots are made using quasi-peak and average detectors.
- Deviations to the Specifications: None.

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Plot 7-134. AC Line Conducted Plot TxBF (BDR GFSK ePA – 5162MHz) (L1) with AC/DC Adapter

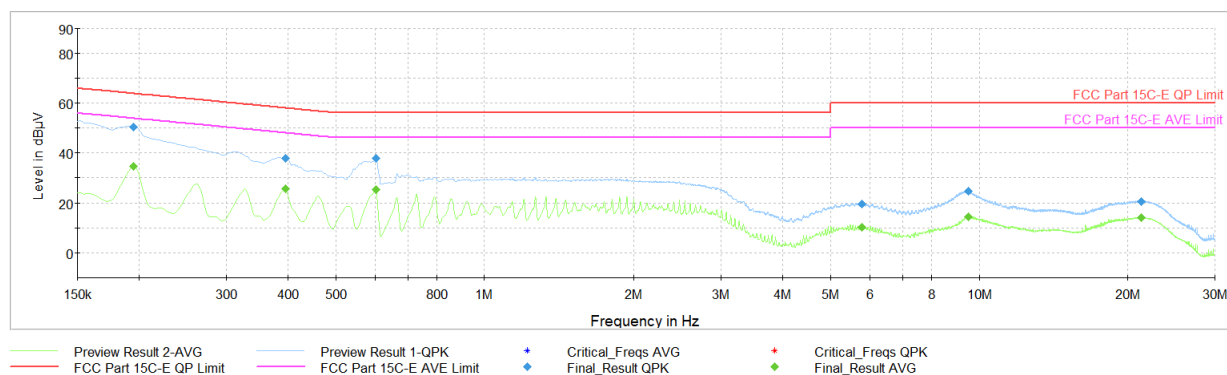
Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.180	FINAL	—	29.26	54.31	-25.06	L1	GND
0.180	FINAL	53.1	—	64.31	-11.21	L1	GND
0.260	FINAL	—	27.35	51.42	-24.08	L1	GND
0.260	FINAL	41.6	—	61.42	-19.78	L1	GND
0.600	FINAL	—	21.50	46.00	-24.50	L1	GND
0.600	FINAL	36.9	—	56.00	-19.13	L1	GND
5.680	FINAL	12.8	—	60.00	-47.16	L1	GND
5.680	FINAL	—	5.07	50.00	-44.93	L1	GND
9.400	FINAL	25.8	—	60.00	-34.22	L1	GND
9.400	FINAL	—	16.11	50.00	-33.89	L1	GND
22.250	FINAL	—	17.82	50.00	-32.18	L1	GND
22.250	FINAL	24.1	—	60.00	-35.93	L1	GND

Table 7-57. AC Line Conducted Data TxBF (BDR GFSK ePA– 5162MHz) (L1) with AC/DC Adapter

FCC ID: BCGA2903 IC: 579C-A2903			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
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Plot 7-135. AC Line Conducted Plot TxBF (BDR GFSK ePA – 5162MHz) (N) with AC/DC Adapter

Frequency [MHz]	Process State	QuasiPeak [dBμV]	Average [dBμV]	Limit [dBμV]	Margin [dB]	Line	PE
0.195	FINAL	—	34.64	53.82	-19.18	N	GND
0.195	FINAL	50.3	—	63.82	-13.53	N	GND
0.395	FINAL	—	25.71	47.95	-22.24	N	GND
0.395	FINAL	37.8	—	57.95	-20.12	N	GND
0.602	FINAL	—	25.48	46.00	-20.52	N	GND
0.602	FINAL	37.9	—	56.00	-18.14	N	GND
5.798	FINAL	19.8	—	60.00	-40.19	N	GND
5.798	FINAL	—	10.39	50.00	-39.61	N	GND
9.519	FINAL	24.7	—	60.00	-35.29	N	GND
9.519	FINAL	—	14.41	50.00	-35.59	N	GND
21.246	FINAL	—	14.13	50.00	-35.87	N	GND
21.246	FINAL	20.7	—	60.00	-39.36	N	GND

Table 7-58. AC Line Conducted Data TxBF (BDR GFSK ePA – 5162MHz) (N) with AC/DC Adapter

FCC ID: BCGA2903 IC: 579C-A2903	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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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: BCGA2903, IC: 579C-A2903** 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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