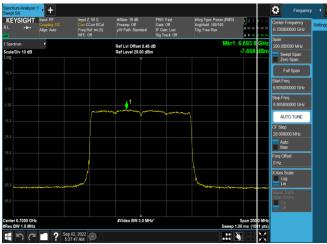
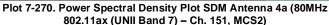


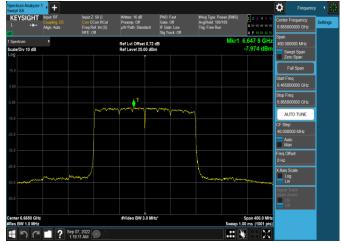
Plot 7-268. Power Spectral Density Plot SDM Antenna 4a (40MHz 802.11ax (UNII Band 7) – Ch. 155, MCS2)



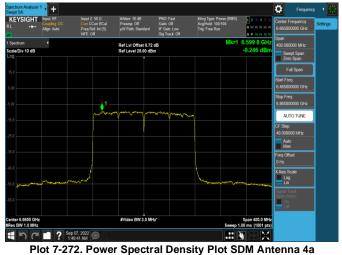
Plot 7-269. Power Spectral Density Plot SDM Antenna 5b (80MHz 802.11ax (UNII Band 7) – Ch. 151, MCS2)







Plot 7-271. Power Spectral Density Plot SDM Antenna 5b (160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS2)

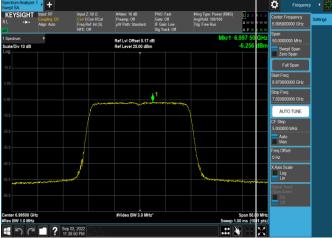


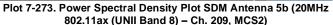
(160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS2)

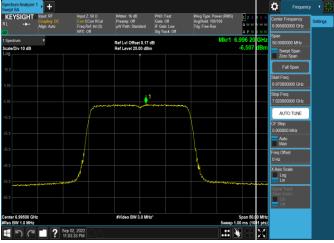
FCC ID: BCGA2764 IC: 579C-A2764	element MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 101 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 101 of 282

V 10.5 12/15/2021

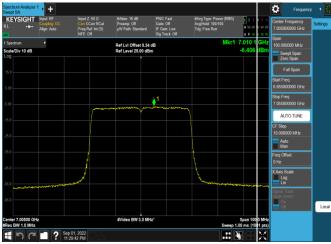




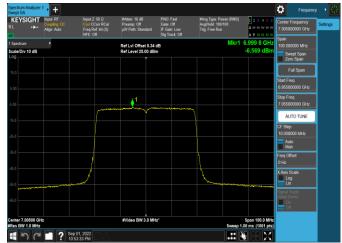


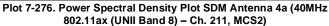


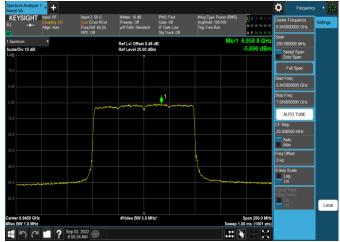
Plot 7-274. Power Spectral Density Plot SDM Antenna 4a (20MHz 802.11ax (UNII Band 8) – Ch. 209, MCS2)



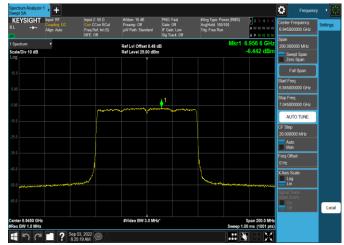
Plot 7-275. Power Spectral Density Plot SDM Antenna 5b (40MHz 802.11ax (UNII Band 8) – Ch. 211, MCS2)







Plot 7-277. Power Spectral Density Plot SDM Antenna 5b (80MHz 802.11ax (UNII Band 8) – Ch. 199, MCS2)



Plot 7-278. Power Spectral Density Plot SDM Antenna 4a (80MHz 802.11ax (UNII Band 8) – Ch. 199, MCS2)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 102 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 102 of 282





Plot 7-279. Power Spectral Density Plot SDM Antenna 5b (160MHz 802.11ax (UNII Band 8) – Ch. 207, MCS2)



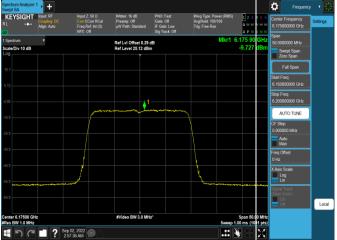
Plot 7-280. Power Spectral Density Plot SDM Antenna 4a (160MHz 802.11ax (UNII Band 8) – Ch. 207, MCS2)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 102 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 103 of 282
			V/ 10 5 12/15/2021

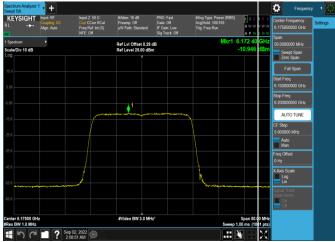


Mid Data Rate

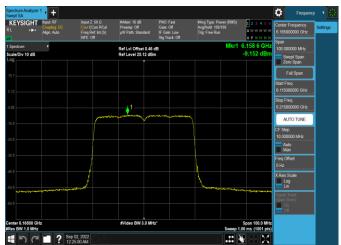
KEYSIGH



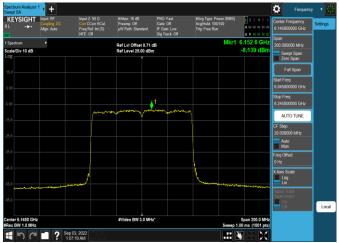
Plot 7-281. Power Spectral Density Plot SDM Antenna 5b (20MHz 802.11ax (UNII Band 5) – Ch. 45, MCS4)



Plot 7-282. Power Spectral Density Plot SDM Antenna 4a (20MHz 802.11ax (UNII Band 5) – Ch. 45, MCS4)



Plot 7-284. Power Spectral Density Plot SDM Antenna 4a (40MHz 802.11ax (UNII Band 5) – Ch. 43, MCS4)



Plot 7-285. Power Spectral Density Plot SDM Antenna 5b (80MHz 802.11ax (UNII Band 5) – Ch. 39, MCS4)





#Video BW 3.0 MHz

Plot 7-286. Power Spectral Density Plot SDM Antenna 4a (80MHz 802.11ax (UNII Band 5) – Ch. 39, MCS4)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 104 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 104 of 282

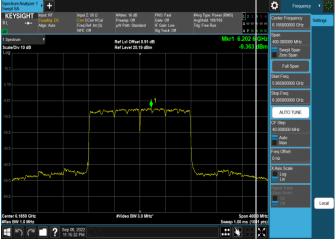
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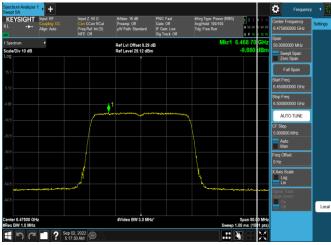




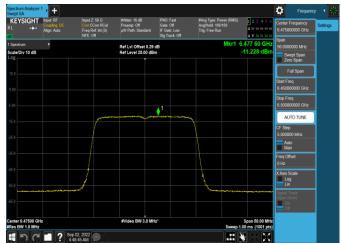


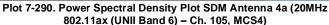


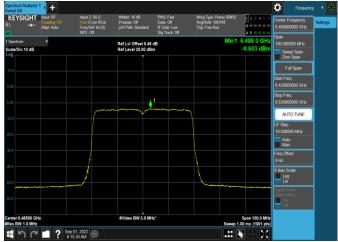
Plot 7-288. Power Spectral Density Plot SDM Antenna 4a (160MHz 802.11ax (UNII Band 5) – Ch. 47, MCS4)



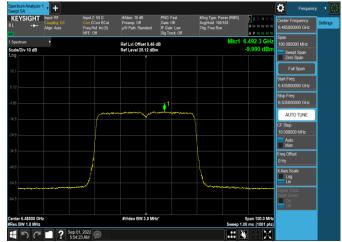
Plot 7-289. Power Spectral Density Plot SDM Antenna 5b (20MHz 802.11ax (UNII Band 6) – Ch. 105, MCS4)







Plot 7-291. Power Spectral Density Plot SDM Antenna 5b (40MHz 802.11ax (UNII Band 6) – Ch. 107, MCS4)

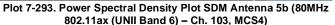


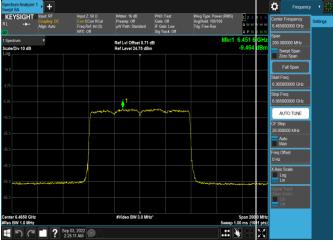
Plot 7-292. Power Spectral Density Plot SDM Antenna 4a (40MHz 802.11ax (UNII Band 6) – Ch. 107, MCS4)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 105 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 105 of 282

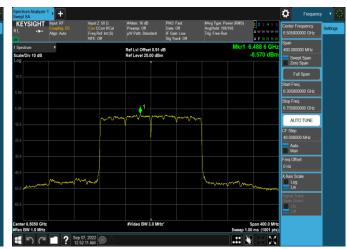


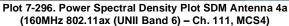


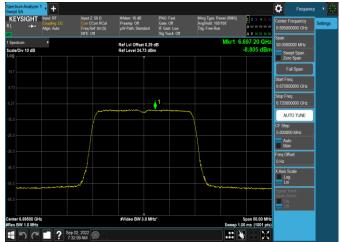


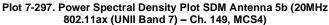


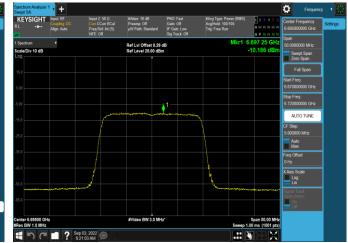
Plot 7-294. Power Spectral Density Plot SDM Antenna 4a (80MHz 802.11ax (UNII Band 6) - Ch. 103, MCS4)











Plot 7-298. Power Spectral Density Plot SDM Antenna 4a (20MHz 802.11ax (UNII Band 7) - Ch. 149, MCS4)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	D 400 (000
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 106 of 282
	•		V 10.5 12/15/2021

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Plot 7-295. Power Spectral Density Plot SDM Antenna 5b

(160MHz 802.11ax (UNII Band 6) - Ch. 111, MCS4)

KEYSIGHT

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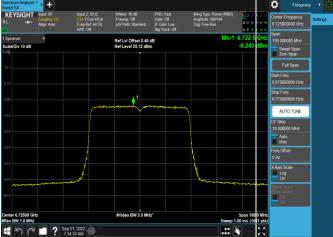
? Sep 07, 2022

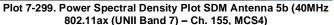
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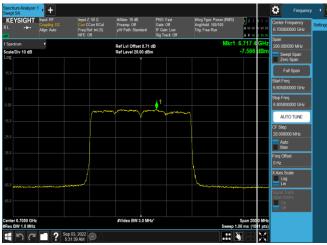






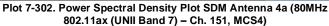


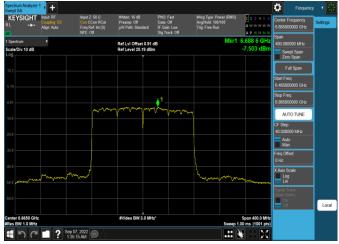
Plot 7-300. Power Spectral Density Plot SDM Antenna 4a (40MHz 802.11ax (UNII Band 7) – Ch. 155, MCS4)



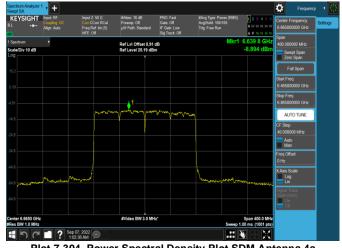
Plot 7-301. Power Spectral Density Plot SDM Antenna 5b (80MHz 802.11ax (UNII Band 7) – Ch. 151, MCS4)







Plot 7-303. Power Spectral Density Plot SDM Antenna 5b (160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS4)



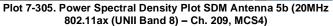
Plot 7-304. Power Spectral Density Plot SDM Antenna 4a (160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS4)

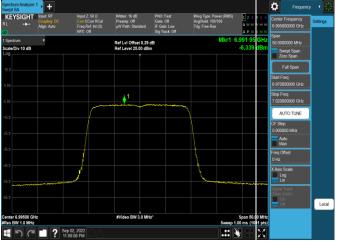
FCC ID: BCGA2764 IC: 579C-A2764	element MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 107 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 107 of 282

V 10.5 12/15/2021

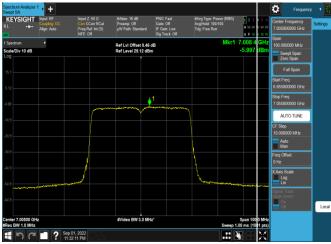




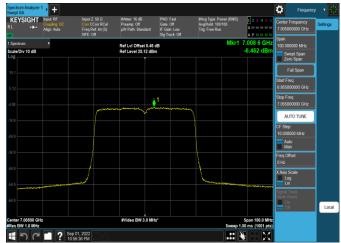


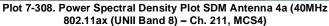


Plot 7-306. Power Spectral Density Plot SDM Antenna 4a (20MHz 802.11ax (UNII Band 8) – Ch. 209, MCS4)



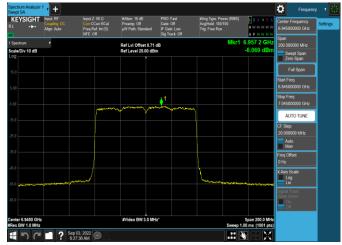
Plot 7-307. Power Spectral Density Plot SDM Antenna 5b (40MHz 802.11ax (UNII Band 8) – Ch. 211, MCS4)







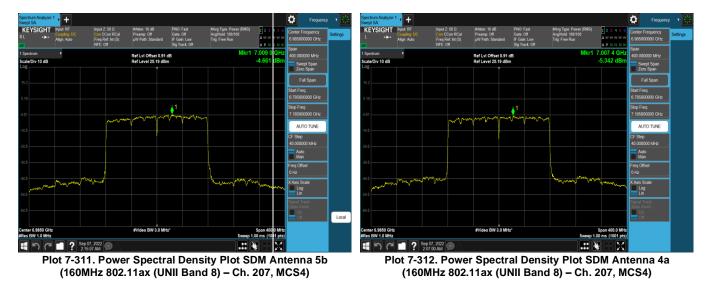
Plot 7-309. Power Spectral Density Plot SDM Antenna 5b (80MHz 802.11ax (UNII Band 8) – Ch. 199, MCS4)



Plot 7-310. Power Spectral Density Plot SDM Antenna 4a (80MHz 802.11ax (UNII Band 8) – Ch. 199, MCS4)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 100 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 108 of 282





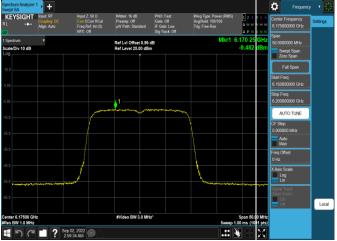
FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 400 at 000
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 109 of 282
			V 10 5 12/15/2021



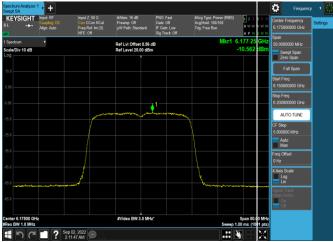
High Data Rate

KEYSIGH

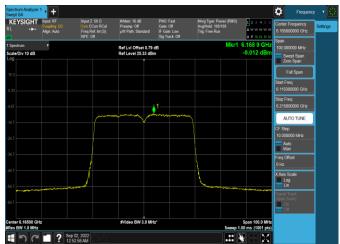
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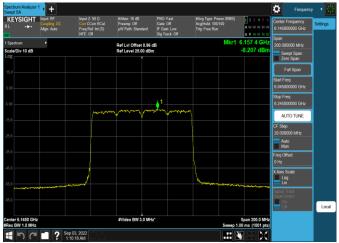
Plot 7-313. Power Spectral Density Plot SDM Antenna 5b (20MHz 802.11ax (UNII Band 5) – Ch. 45, MCS11)



Plot 7-314. Power Spectral Density Plot SDM Antenna 4a (20MHz 802.11ax (UNII Band 5) – Ch. 45, MCS11)



Plot 7-316. Power Spectral Density Plot SDM Antenna 4a (40MHz 802.11ax (UNII Band 5) – Ch. 43, MCS11)



Plot 7-317. Power Spectral Density Plot SDM Antenna 5b (80MHz 802.11ax (UNII Band 5) – Ch. 39, MCS11)



Plot 7-315. Power Spectral Density Plot SDM Antenna 5b (40MHz 802.11ax (UNII Band 5) – Ch. 43, MCS11)

#Video BW 3.0 MHz

Plot 7-318. Power Spectral Density Plot SDM Antenna 4a (80MHz 802.11ax (UNII Band 5) – Ch. 39, MCS11)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dogo 110 of 282
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 110 of 282

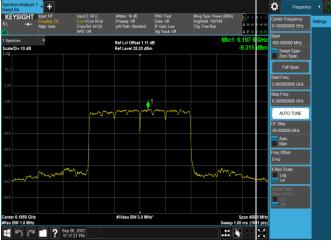
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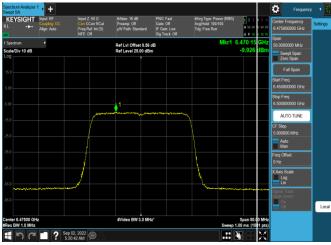




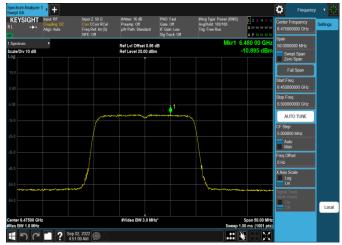
Plot 7-319. Power Spectral Density Plot SDM Antenna 5b (160MHz 802.11ax (UNII Band 5) - Ch. 47, MCS11)

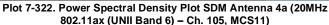


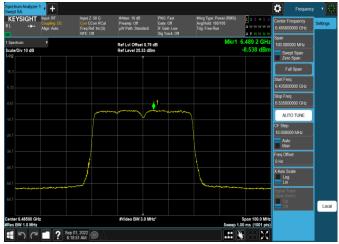
Plot 7-320. Power Spectral Density Plot SDM Antenna 4a (160MHz 802.11ax (UNII Band 5) - Ch. 47, MCS11)



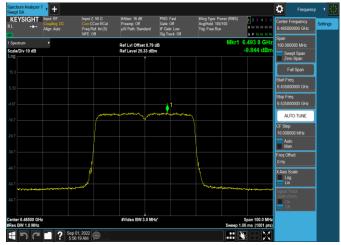
Plot 7-321. Power Spectral Density Plot SDM Antenna 5b (20MHz 802.11ax (UNII Band 6) - Ch. 105, MCS11)







Plot 7-323. Power Spectral Density Plot SDM Antenna 5b (40MHz 802.11ax (UNII Band 6) - Ch. 107, MCS11)

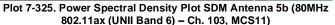


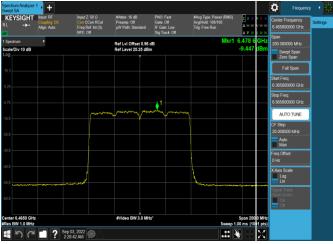
Plot 7-324. Power Spectral Density Plot SDM Antenna 4a (40MHz 802.11ax (UNII Band 6) – Ch. 107, MCS11)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 111 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 111 of 282
			V 10.5 12/15/2021









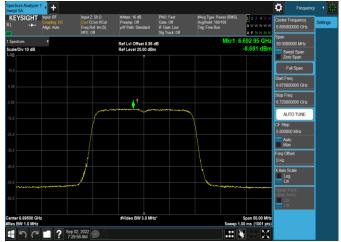
Plot 7-326. Power Spectral Density Plot SDM Antenna 4a (80MHz 802.11ax (UNII Band 6) – Ch. 103, MCS11)

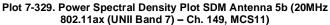


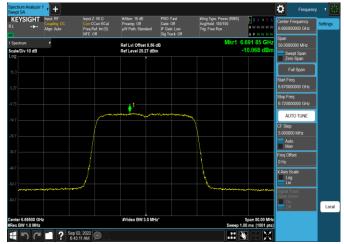










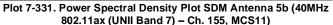


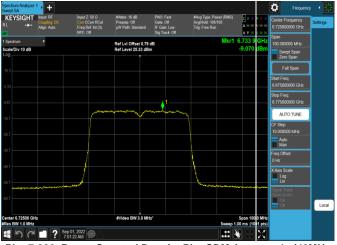
Plot 7-330. Power Spectral Density Plot SDM Antenna 4a (20MHz 802.11ax (UNII Band 7) – Ch. 149, MCS11)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 112 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 112 of 282

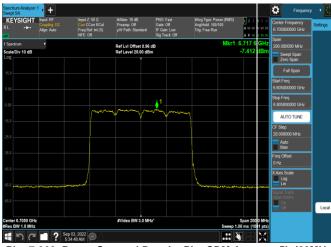




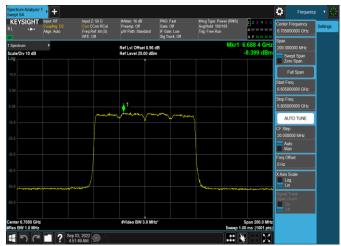


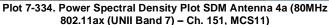


Plot 7-332. Power Spectral Density Plot SDM Antenna 4a (40MHz 802.11ax (UNII Band 7) – Ch. 155, MCS11)



Plot 7-333. Power Spectral Density Plot SDM Antenna 5b (80MHz 802.11ax (UNII Band 7) – Ch. 151, MCS11)







Plot 7-335. Power Spectral Density Plot SDM Antenna 5b (160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS11)

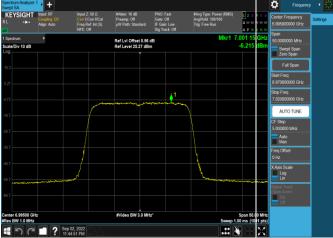


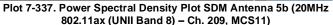
Plot 7-336. Power Spectral Density Plot SDM Antenna 4a (160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS11)

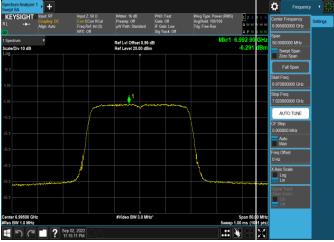
FCC ID: BCGA2764 IC: 579C-A2764	element MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 112 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 113 of 282

V 10.5 12/15/2021

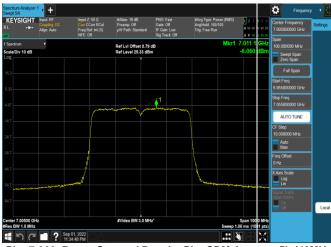




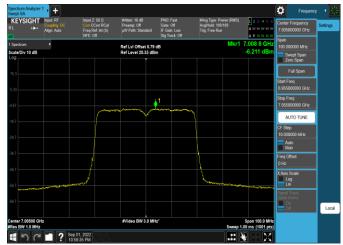


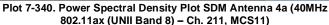


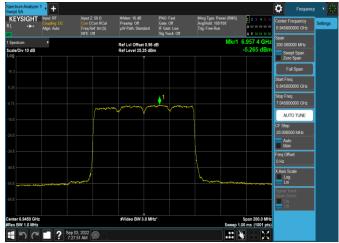
Plot 7-338. Power Spectral Density Plot SDM Antenna 4a (20MHz 802.11ax (UNII Band 8) – Ch. 209, MCS11)



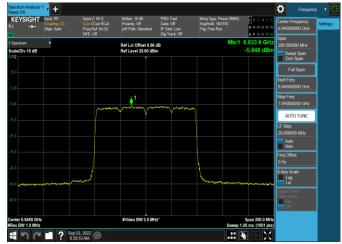
Plot 7-339. Power Spectral Density Plot SDM Antenna 5b (40MHz 802.11ax (UNII Band 8) – Ch. 211, MCS11)







Plot 7-341. Power Spectral Density Plot SDM Antenna 5b (80MHz 802.11ax (UNII Band 8) – Ch. 199, MCS11)

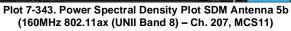


Plot 7-342. Power Spectral Density Plot SDM Antenna 4a (80MHz 802.11ax (UNII Band 8) – Ch. 199, MCS11)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 111 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 114 of 282









(160MHz 802.11ax (UNII Band 8) – Ch. 207, MCS11)

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 115 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 115 of 282
			V 10 5 12/15/2021



Note:

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 5b and Antenna 4a were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Sample Directional Gain Calculation:

For correlated signals, assuming the antenna gain is 1.3 dBi for Antenna 5b and 2.2 dBi for Antenna 4a.

Directional gain =
$$10 \log[(10^{G_1/20} + 10^{G_2/20} + ... + 10^{G_N/20})^2 / N_{ANT}] dBi$$

= $10 \log[(10^{4.7/20} + 10^{0.6/20} / 2] dBi$
= $4.05 dBi$

For uncorrelated signals, assuming the antenna gain is 1.3 dBi for Antenna 5b and 2.2 dBi for Antenna 4a.

Directional gain =
$$10 \log[(10^{G_1/10} + 10^{G_2/10} + ... + 10^{G_N/10}) / N_{ANT}] dBi$$

= $10 \log[(10^{4.7/10} + 10^{0.6/10} / 2] dBi$
= $1.31 dBi$

Sample SDM Calculation:

At 5955MHz in 802.11ax (20MHz BW) mode, the average conducted power spectral density was measured to be -10.26 dBm for Antenna 5b and -11.45 dBm for Antenna 4a.

Antenna 5b + Antenna 4a = SDM

(-10.26 dBm + -11.45 dBm) = (0.094 mW + 0.072 mW) = 0.166 mW = -7.8 dBm

Sample e.i.r.p Power Spectral Density Calculation:

At 5955MHz in 802.11ax (20MHz BW) mode, the average SDM power density was calculated to be –7.8dBm with directional gain of 1.79 dBi.

e.i.r.p. Power Spectral Density(dBm) = Power Spectral Density (dBm) + Ant gain (dBi)

-7.8 dBm + 1.79 dBi = -6.01 dBm

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dama 440 of 000
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 116 of 282
		·	V 10 5 12/15/2021



7.5 In-Band Emissions – 802.11a/ax(SU) §15.407(b)(7), RSS-248 [4.7.2]

Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies.

For transmitters operating within the 5.925-7.125 GHz bands: Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

Test Procedure Used

ANSI C63.10-2013 – Section 12.3.2.2 KDB 987594 D02 v01r01

Test Settings

- 1. Connect output of the antenna port to a spectrum analyzer or EMI receiver, with appropriate attenuation, as to not damage the instrumentation.
- 2. Set the reference level of the measuring equipment in accordance with procedure 4.1.5.2 of ANSI C63.10- 2013.
- 3. Measure the 26 dB EBW using the test procedure 12.4.1 of ANSI C63.10-2013. (This will be used to determine the channel edge.)
- 4. Measure the power spectral density (which will be used for emissions mask reference) using the following procedure:
 - a) Set the span to encompass the entire 26 dB EBW of the signal.
 - b) Set RBW = same RBW used for 26 dB EBW measurement.
 - c) Set VBW \geq 3 X RBW
 - d) Number of points in sweep \geq [2 X span / RBW].
 - e) Sweep time = auto.
 - f) Detector = RMS (i.e., power averaging)
 - g) Trace average at least 100 traces in power averaging (rms) mode.
 - h) Use the peak search function on the instrument to find the peak of the spectrum.
- 5. For the purposes of developing the emission mask, the channel bandwidth is defined as the 26 dB EBW.
- 6. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
 - i) Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)
 - j) Suppressed by 28 dB at one channel bandwidth from the channel center.
 - k) Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
- 7. Adjust the span to encompass the entire mask as necessary.
- 8. Clear trace.
- 9. Trace average at least 100 traces in power averaging (rms) mode.
- 10. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Page 117 of 282
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	
	•	·	V 10.5 12/15/2021



Test Setup

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



Figure 7-4. Test Instrument & Measurement Setup

Test Notes

None

FCC ID: BCGA2764 IC: 579C-A2764	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 110 of 202
1C2205090028-21-R3.BCG	5/30/2022 - 9/16/2022	Tablet Device	Page 118 of 282
			\/ 10 5 12/15/2021