

7.4.5 CDD/SDM Diversity Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Mode	Data Rate [Mbps]	Antenna 5T Measured Power Density [dBm/MHz]	Antenna 1b Measured Power Density [dBm/MHz]	Summed Power Density [dBm/MHz]	Directional Gain [dBi]	e.i.r.p Density [dBm/MHz]	Max EIRP Density [dBm/MHz]	Margin [dB]
Band 5	5955	1	ax (20MHz)	SDM	270/286.8 (MCS11)	-8.15	-8.28	-5.20	2.49	-2.71	-1	-1.71
	6175	45	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.68	-7.56	-4.61	2.49	-2.12	-1	-1.12
	6415	93	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.68	-8.16	-4.90	2.49	-2.42	-1	-1.42
	5965	3	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.94	-7.06	-4.47	2.49	-1.98	-1	-0.98
	6165	43	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.32	-7.01	-4.15	2.49	-1.66	-1	-0.66
	6405	91	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.33	-6.52	-3.89	2.49	-1.40	-1	-0.40
	5985	7	ax (80MHz)	SDM	1134/1201 (MCS11)	-7.76	-8.10	-4.92	2.49	-2.43	-1	-1.43
	6145	39	ax (80MHz)	SDM	1134/1201 (MCS11)	-6.73	-7.57	-4.12	2.49	-1.63	-1	-0.63
	6385	87	ax (80MHz)	SDM	1134/1201 (MCS11)	-7.01	-7.84	-4.40	2.49	-1.91	-1	-0.91
	6025	15	ax (160MHz)	SDM	2041.7/2402 (MCS11)	-7.49	-7.98	-4.71	2.49	-2.23	-1	-1.23
	6185	47	ax (160MHz)	SDM	2041.7/2402 (MCS11)	-7.31	-7.21	-4.25	2.49	-1.76	-1	-0.76
	6345	79	ax (160MHz)	SDM	2041.7/2402 (MCS11)	-6.92	-7.51	-4.20	2.49	-1.71	-1	-0.71
Band 6	6435	97	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.84	-8.24	-5.02	2.37	-2.65	-1	-1.65
	6475	105	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.97	-8.39	-5.17	2.37	-2.79	-1	-1.79
	6515	113	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.64	-7.99	-4.80	2.37	-2.43	-1	-1.43
	6445	99	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.71	-6.97	-4.31	2.37	-1.94	-1	-0.94
	6485	107	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.59	-7.21	-4.38	2.37	-2.01	-1	-1.01
	6525	115	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.40	-6.77	-4.06	2.37	-1.69	-1	-0.69
	6465	103	ax (80MHz)	SDM	1134/1201 (MCS11)	-7.21	-8.19	-4.67	2.37	-2.29	-1	-1.29
	6505	111	ax (80MHz)	SDM	2041.7/2402 (MCS11)	-7.07	-7.79	-4.41	2.37	-2.03	-1	-1.03
Band 7	6535	117	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.52	-7.87	-4.68	2.25	-2.43	-1	-1.43
	6695	149	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.39	-7.79	-4.57	2.25	-2.32	-1	-1.32
	6875	185	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.61	-7.94	-4.76	2.25	-2.51	-1	-1.51
	6565	123	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.49	-6.90	-4.18	2.25	-1.92	-1	-0.92
	6725	155	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.09	-6.61	-3.83	2.25	-1.58	-1	-0.58
	6845	179	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.22	-7.17	-4.19	2.25	-1.93	-1	-0.93
	6545	119	ax (80MHz)	SDM	1134/1201 (MCS11)	-7.37	-7.48	-4.41	2.25	-2.16	-1	-1.16
	6705	151	ax (80MHz)	SDM	1134/1201 (MCS11)	-6.67	-7.34	-3.98	2.25	-1.73	-1	-0.73
	6865	183	ax (80MHz)	SDM	1134/1201 (MCS11)	-6.97	-7.56	-4.25	2.25	-1.99	-1	-0.99
	6665	143	ax (160MHz)	SDM	2041.7/2402 (MCS11)	-7.10	-7.08	-4.08	2.25	-1.82	-1	-0.82
	6825	175	ax (160MHz)	SDM	2041.7/2402 (MCS11)	-7.73	-6.88	-4.28	2.25	-2.02	-1	-1.02
	6895	189	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.97	-7.99	-4.97	1.83	-3.14	-1	-2.14
Band 8	6995	209	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.84	-8.14	-4.98	1.83	-3.14	-1	-2.14
	7115	233	ax (20MHz)	SDM	270/286.8 (MCS11)	-7.70	-7.97	-4.82	1.83	-2.99	-1	-1.99
	6885	187	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.54	-6.43	-3.94	1.83	-2.11	-1	-1.11
	7005	211	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.68	-6.73	-4.17	1.83	-2.34	-1	-1.34
	7085	227	ax (40MHz)	SDM	540/573.5 (MCS11)	-7.53	-7.02	-4.26	1.83	-2.43	-1	-1.43
	6945	199	ax (80MHz)	SDM	1134/1201 (MCS11)	-7.30	-7.34	-4.31	1.83	-2.48	-1	-1.48
	7025	215	ax (80MHz)	SDM	1134/1201 (MCS11)	-7.65	-7.60	-4.61	1.83	-2.78	-1	-1.78
	6985	207	ax (160MHz)	SDM	2041.7/2402 (MCS11)	-7.12	-7.15	-4.13	1.83	-2.29	-1	-1.29

Table 7-83. Power Spectral Density Measurements SDM Diversity LPI

	Frequency [MHz]	Channel No.	802.11 Mode	Mode	Data Rate [MHz]	Antenna 5T Measured Power Density [dBm/MHz]	Antenna 1b Measured Power Density [dBm/MHz]	Summed Power Density [dBm/MHz]	Directional Gain [dBi]	e.i.r.p Density [dBm/MHz]	Max EIRP Density [dBm/MHz]	Margin [dB]
Band 5	5955	1	ax (20MHz)	CDD	270/286.8 (MCS11)	6.69	6.89	9.80	5.38	15.18	17	-1.82
	6175	45	ax (20MHz)	CDD	270/286.8 (MCS11)	6.92	7.20	10.07	5.38	15.45	17	-1.55
	6415	93	ax (20MHz)	CDD	270/286.8 (MCS11)	6.87	6.89	9.89	5.38	15.27	17	-1.73
	5965	3	ax (40MHz)	CDD	540/573.5 (MCS11)	4.13	3.90	7.02	5.38	12.41	17	-4.59
	6165	43	ax (40MHz)	CDD	540/573.5 (MCS11)	4.17	3.67	6.94	5.38	12.32	17	-4.68
	6405	91	ax (40MHz)	CDD	540/573.5 (MCS11)	4.53	3.67	7.13	5.38	12.51	17	-4.49
	5985	7	ax (80MHz)	CDD	1134/1201 (MCS11)	1.09	0.80	3.96	5.38	9.34	17	-7.66
	6145	39	ax (80MHz)	CDD	1134/1201 (MCS11)	0.98	0.77	3.88	5.38	9.26	17	-7.74
	6385	87	ax (80MHz)	CDD	1134/1201 (MCS11)	1.76	1.17	4.49	5.38	9.87	17	-7.13
	6025	15	ax (160MHz)	CDD	2041.7/2402 (MCS11)	-0.79	-1.31	1.96	5.38	7.35	17	-9.65
	6185	47	ax (160MHz)	CDD	2041.7/2402 (MCS11)	-1.73	-1.32	1.49	5.38	6.87	17	-10.13
	6345	79	ax (160MHz)	CDD	2041.7/2402 (MCS11)	-0.92	-1.22	1.95	5.38	7.33	17	-9.67
Band 7	6535	117	ax (20MHz)	CDD	270/286.8 (MCS11)	7.11	6.99	10.06	5.14	15.20	17	-1.80
	6695	149	ax (20MHz)	CDD	270/286.8 (MCS11)	7.33	7.06	10.21	5.14	15.35	17	-1.65
	6855	181	ax (20MHz)	CDD	270/286.8 (MCS11)	7.57	7.26	10.43	5.14	15.57	17	-1.43
	6565	123	ax (40MHz)	CDD	540/573.5 (MCS11)	4.28	3.87	7.09	5.14	12.23	17	-4.77
	6725	155	ax (40MHz)	CDD	540/573.5 (MCS11)	4.64	3.87	7.28	5.14	12.42	17	-4.58
	6845	179	ax (40MHz)	CDD	540/573.5 (MCS11)	4.82	4.21	7.54	5.14	12.68	17	-4.32
	6625	135	ax (80MHz)	CDD	1134/1201 (MCS11)	1.56	1.38	4.48	5.14	9.62	17	-7.38
	6705	151	ax (80MHz)	CDD	1134/1201 (MCS11)	1.74	1.10	4.44	5.14	9.58	17	-7.42
	6785	167	ax (80MHz)	CDD	1134/1201 (MCS11)	2.21	1.09	4.70	5.14	9.84	17	-7.16
	6665	143	ax (160MHz)	CDD	2041.7/2402 (MCS11)	-0.44	-1.05	2.28	5.14	7.42	17	-9.58

Table 7-84. Power Spectral Density Measurements CDD Diversity SP

FCC ID: BCGA2995	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 119 of 317

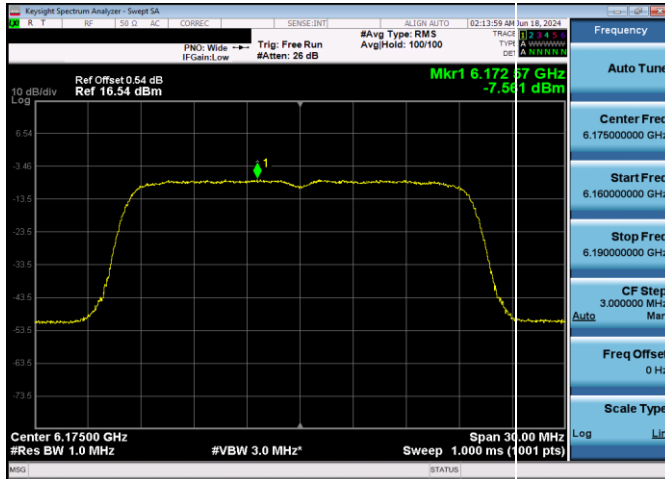
	Frequency [MHz]	Channel No.	802.11 Mode	Mode	Data Rate [MHz]	Antenna 5T Measured Power Density [dBm/MHz]	Antenna 1b Measured Power Density [dBm/MHz]	Summed Power Density [dBm/MHz]	Directional Gain [dBi]	e.i.r.p Density [dBm/MHz]	Max EIRP Density [dBm/MHz]	Margin [dB]
Band 5	6115	33	ax (20MHz)	SDM	270/286.8 (MCS11)	-12.17	-12.92	-9.52	2.49	-7.03	-5	-2.03
	6255	61	ax (20MHz)	SDM	270/286.8 (MCS11)	-12.02	-12.81	-9.39	2.49	-6.90	-5	-1.90
	6415	93	ax (20MHz)	SDM	270/286.8 (MCS11)	-12.96	-13.61	-10.26	2.49	-7.77	-5	-2.77
	6125	35	ax (40MHz)	SDM	540/573.5 (MCS11)	-12.76	-12.41	-9.57	2.49	-7.09	-5	-2.09
	6245	59	ax (40MHz)	SDM	540/573.5 (MCS11)	-12.26	-12.43	-9.33	2.49	-6.84	-5	-1.84
	6405	91	ax (40MHz)	SDM	540/573.5 (MCS11)	-12.77	-12.78	-9.77	2.49	-7.28	-5	-2.28
	6145	39	ax (80MHz)	SDM	1134/1201 (MCS11)	-12.28	-12.12	-9.19	2.49	-6.70	-5	-1.70
	6225	55	ax (80MHz)	SDM	1134/1201 (MCS11)	-11.90	-11.84	-8.86	2.49	-6.37	-5	-1.37
	6385	87	ax (80MHz)	SDM	1134/1201 (MCS11)	-11.71	-12.81	-9.22	2.49	-6.73	-5	-1.73
	6185	47	ax (160MHz)	SDM	2041.7/2402 (MCS11)	-11.89	-11.50	-8.68	2.49	-6.20	-5	-1.20
Band 7	6345	79	ax (160MHz)	SDM	2041.7/2402 (MCS11)	-11.92	-12.63	-9.25	2.49	-6.76	-5	-1.76
	6535	117	ax (20MHz)	SDM	270/286.8 (MCS11)	-12.50	-12.90	-9.68	2.25	-7.43	-5	-2.43
	6695	149	ax (20MHz)	SDM	270/286.8 (MCS11)	-12.15	-12.97	-9.53	2.25	-7.27	-5	-2.27
	6855	181	ax (20MHz)	SDM	270/286.8 (MCS11)	-11.88	-12.75	-9.28	2.25	-7.03	-5	-2.03
	6565	123	ax (40MHz)	SDM	540/573.5 (MCS11)	-12.31	-12.89	-9.58	2.25	-7.33	-5	-2.33
	6725	155	ax (40MHz)	SDM	540/573.5 (MCS11)	-12.51	-12.43	-9.46	2.25	-7.20	-5	-2.20
	6845	179	ax (40MHz)	SDM	540/573.5 (MCS11)	-11.95	-12.22	-9.07	2.25	-6.81	-5	-1.81
	6625	135	ax (80MHz)	SDM	1134/1201 (MCS11)	-11.94	-12.23	-9.07	2.25	-6.82	-5	-1.82
	6705	151	ax (80MHz)	SDM	1134/1201 (MCS11)	-12.35	-12.31	-9.32	2.25	-7.06	-5	-2.06
	6785	167	ax (80MHz)	SDM	1134/1201 (MCS11)	-11.82	-12.15	-8.97	2.25	-6.72	-5	-1.72
	6665	143	ax (160MHz)	SDM	2041.7/2402 (MCS11)	-11.67	-11.90	-8.77	2.25	-6.52	-5	-1.52

Table 7-85. Power Spectral Density Measurements SDM Diversity VLP

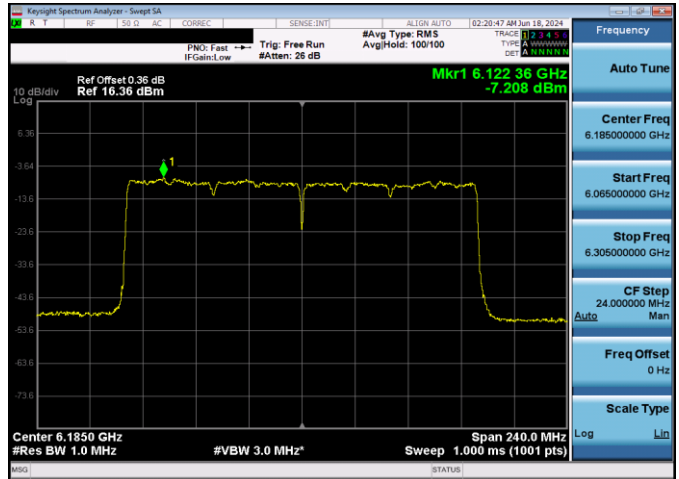
FCC ID: BCGA2995	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 120 of 317

V 10.50.40 12/15/2021

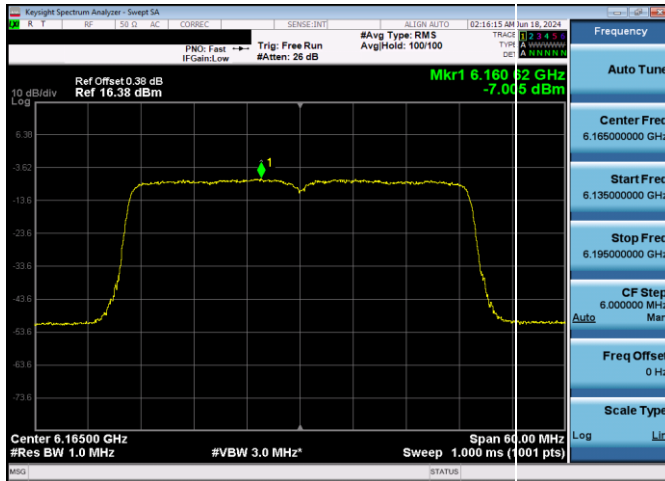
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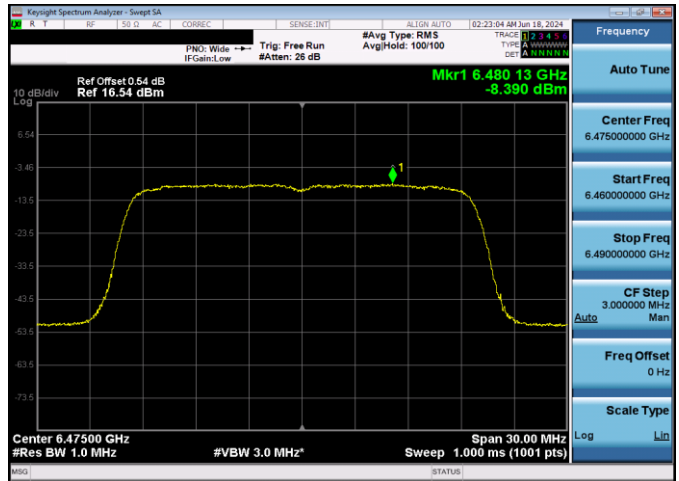
Plot 7-305. Power Spectral Density Plot SDM Antenna 1b LPI (20MHz 802.11ax (UNII Band 5) – Ch. 45, MCS11)



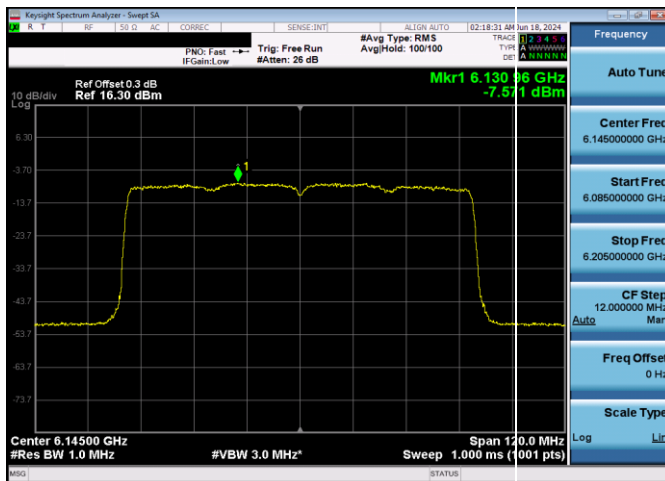
Plot 7-308. Power Spectral Density Plot SDM Antenna 1b LPI (160MHz 802.11ax (UNII Band 5) – Ch. 47, MCS11)



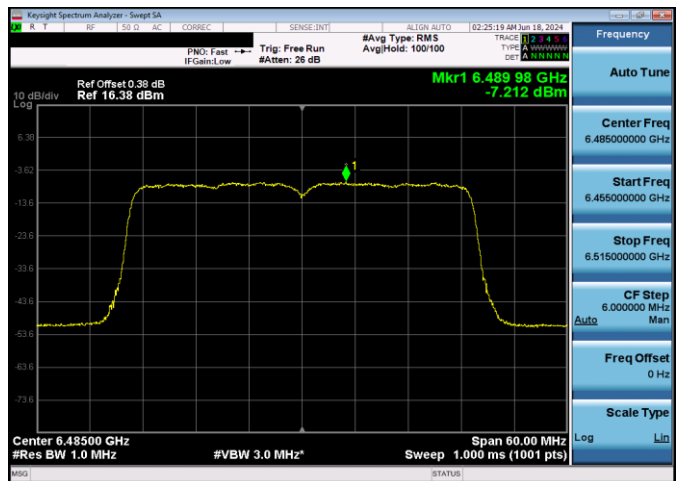
Plot 7-306. Power Spectral Density Plot SDM Antenna 1b LPI (40MHz 802.11ax (UNII Band 5) – Ch. 43, MCS11)



Plot 7-309. Power Spectral Density Plot SDM Antenna 1b LPI (20MHz 802.11ax (UNII Band 6) – Ch. 105, MCS11)

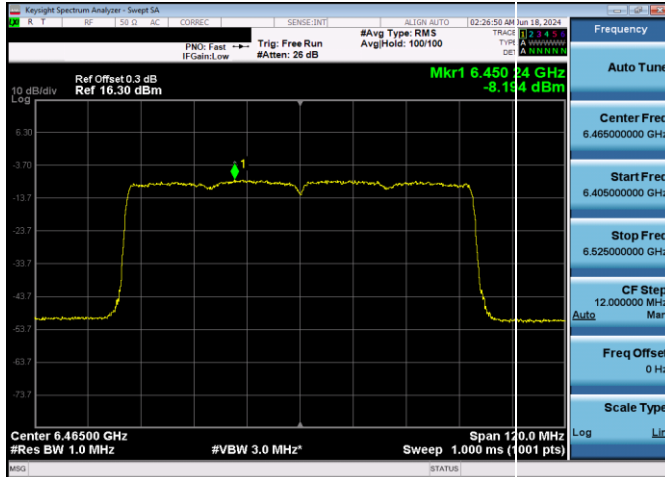


Plot 7-307. Power Spectral Density Plot SDM Antenna 1b LPI (80MHz 802.11ax (UNII Band 5) – Ch. 39, MCS11)

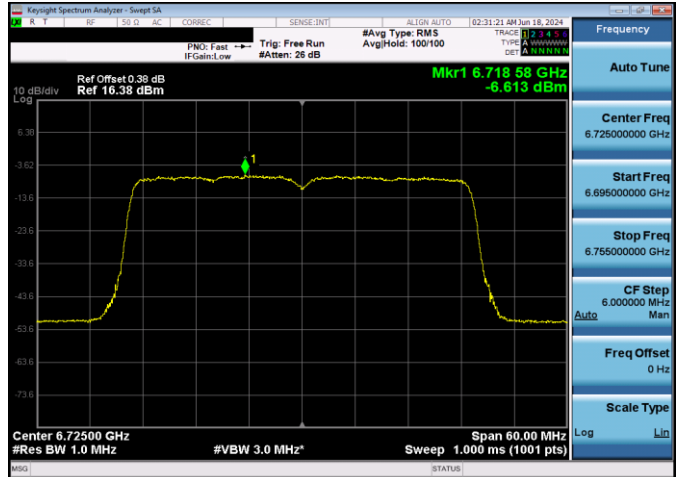


Plot 7-310. Power Spectral Density Plot SDM Antenna 1b LPI (40MHz 802.11ax (UNII Band 6) – Ch. 107, MCS11)

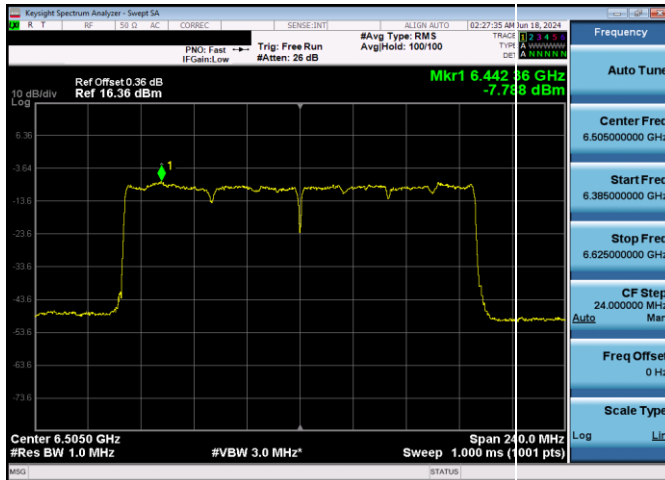
FCC ID: BCGA2995	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 121 of 317



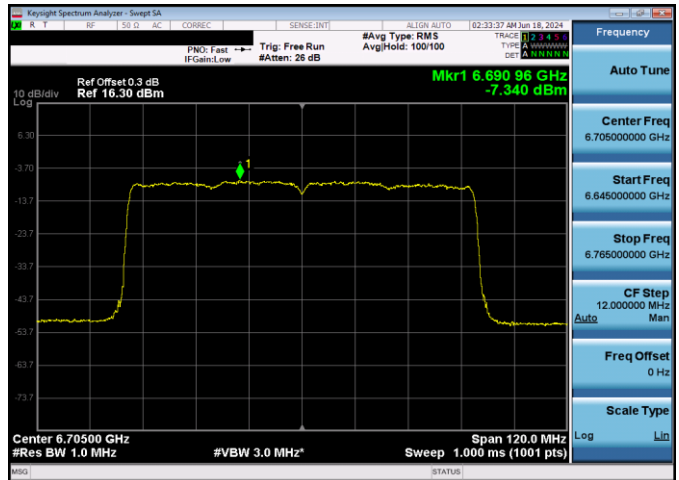
Plot 7-311. Power Spectral Density Plot SDM Antenna 1b LPI (80MHz 802.11ax (UNII Band 6) – Ch. 103, MCS11)



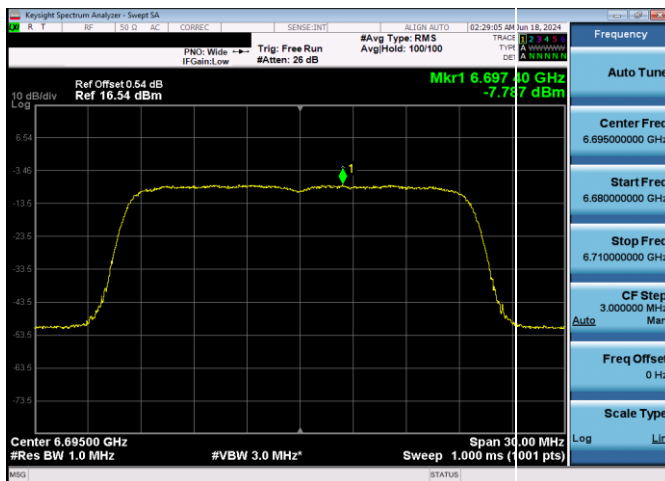
Plot 7-314. Power Spectral Density Plot SDM Antenna 1b LPI (40MHz 802.11ax (UNII Band 7) – Ch. 155, MCS11)



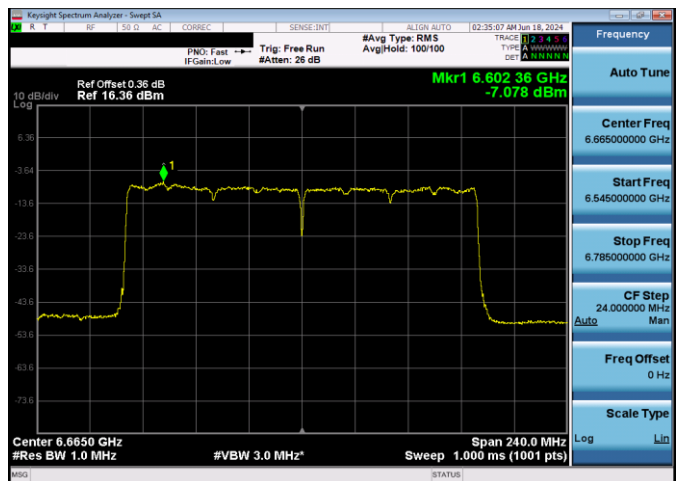
Plot 7-312. Power Spectral Density Plot SDM Antenna 1b LPI (160MHz 802.11ax (UNII Band 6) – Ch. 111, MCS11)



Plot 7-315. Power Spectral Density Plot SDM Antenna 1b LPI (80MHz 802.11ax (UNII Band 7) – Ch. 151, MCS11)

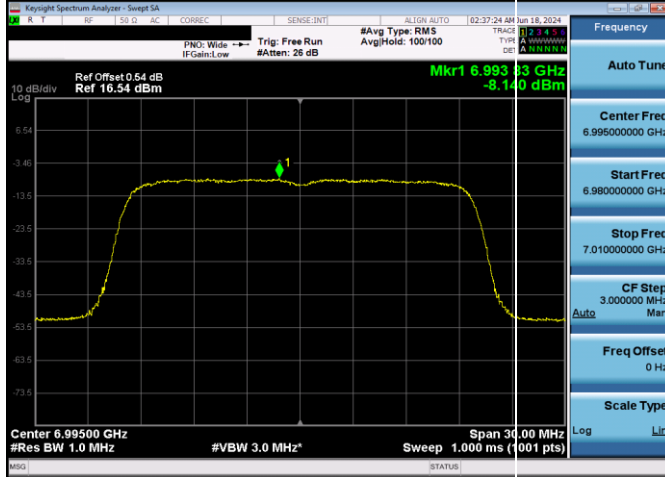


Plot 7-313. Power Spectral Density Plot SDM Antenna 1b LPI (20MHz 802.11ax (UNII Band 7) – Ch. 149, MCS11)

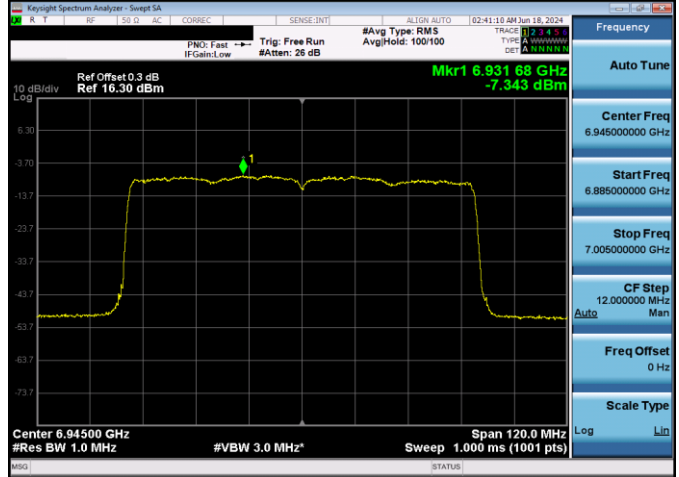


Plot 7-316. Power Spectral Density Plot SDM Antenna 1b LPI (160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS11)

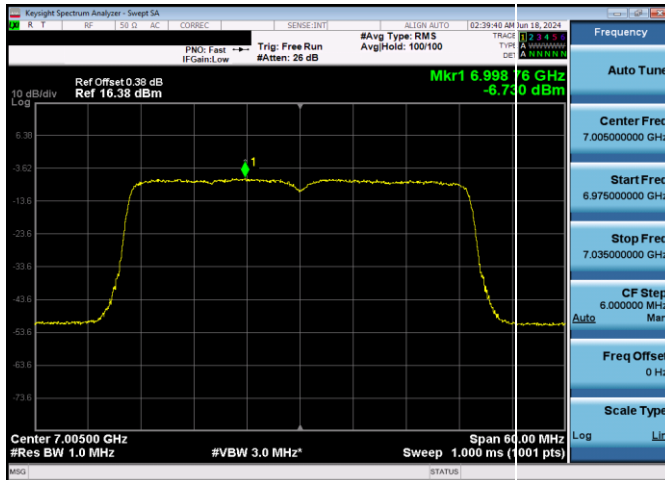
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Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 122 of 317



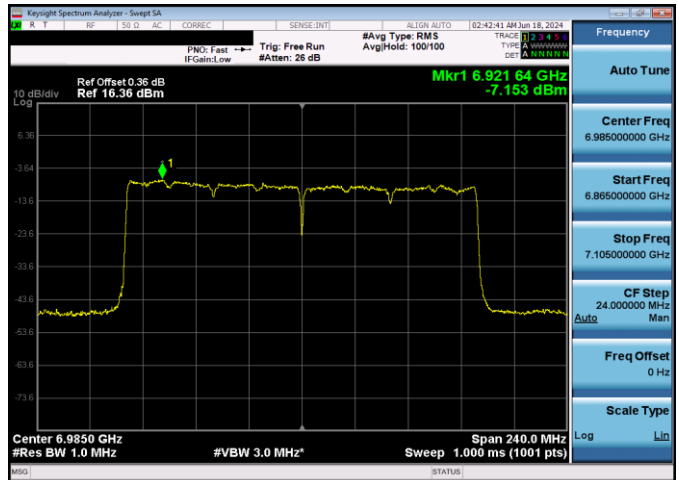
Plot 7-317. Power Spectral Density Plot SDM Antenna 1b LPI (20MHz 802.11ax (UNII Band 8) – Ch. 209, MCS11)



Plot 7-319. Power Spectral Density Plot SDM Antenna 1b LPI (80MHz 802.11ax (UNII Band 8) – Ch. 199, MCS11)

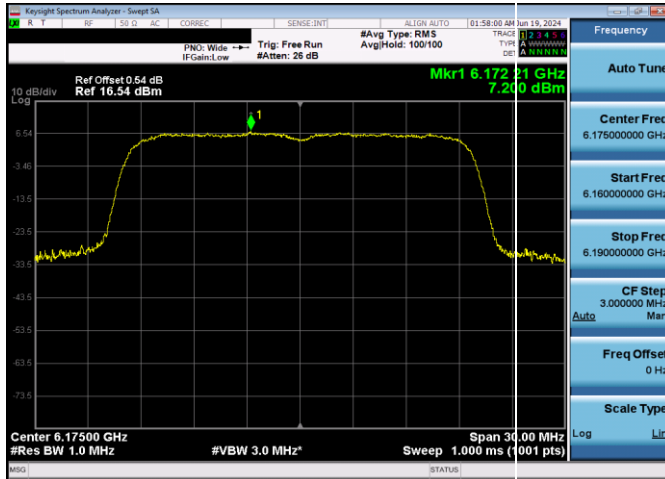


Plot 7-318. Power Spectral Density Plot SDM Antenna 1b LPI (40MHz 802.11ax (UNII Band 8) – Ch. 211, MCS11)

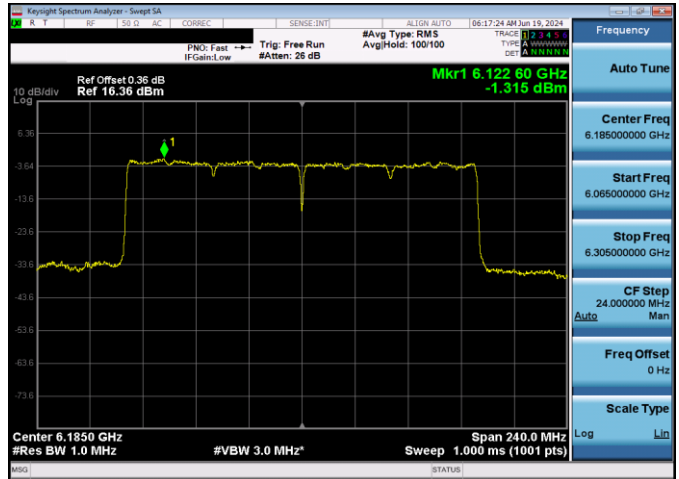


Plot 7-320. Power Spectral Density Plot SDM Antenna 1b LPI (160MHz 802.11ax (UNII Band 8) – Ch. 207, MCS11)

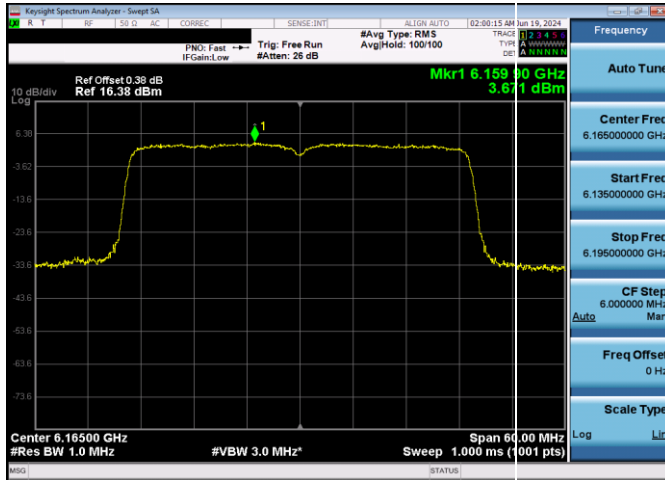
FCC ID: BCGA2995	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 123 of 317



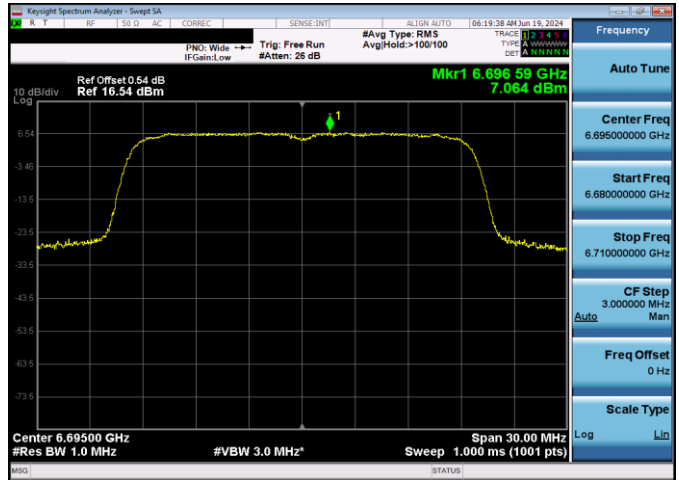
Plot 7-321. Power Spectral Density Plot SDM Antenna 1b SP (20MHz 802.11ax (UNII Band 5) – Ch. 45, MCS11)



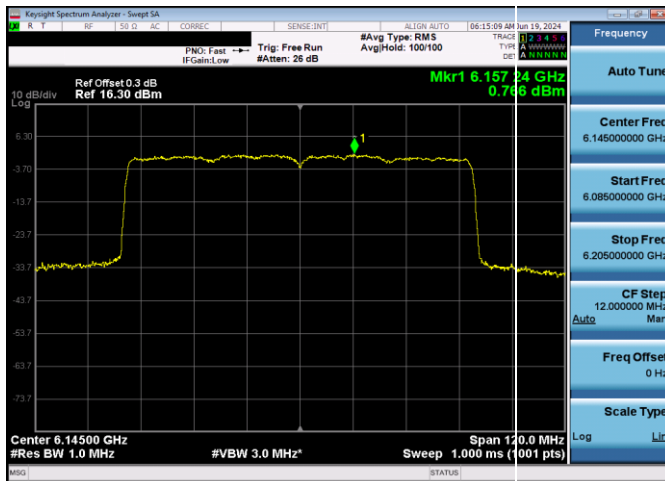
Plot 7-324. Power Spectral Density Plot CDD Antenna 1b SP (160MHz 802.11ax (UNII Band 5) – Ch. 47, MCS11)



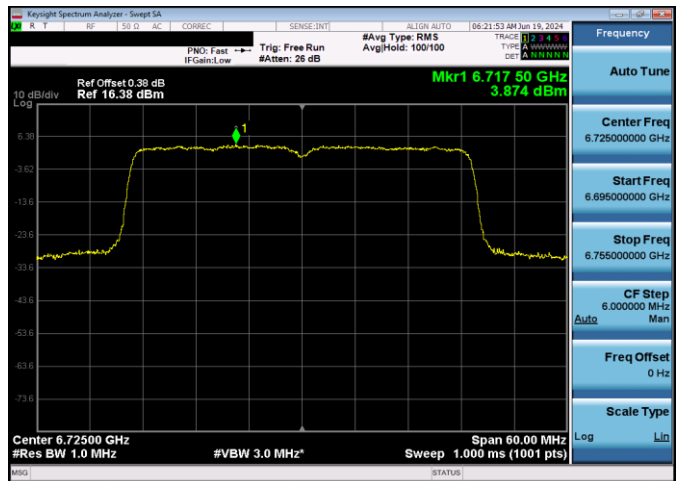
Plot 7-322. Power Spectral Density Plot CDD Antenna 1b SP (40MHz 802.11ax (UNII Band 5) – Ch. 43, MCS11)



Plot 7-325. Power Spectral Density Plot SDM Antenna 1b SP (20MHz 802.11ax (UNII Band 7) – Ch. 149, MCS11)

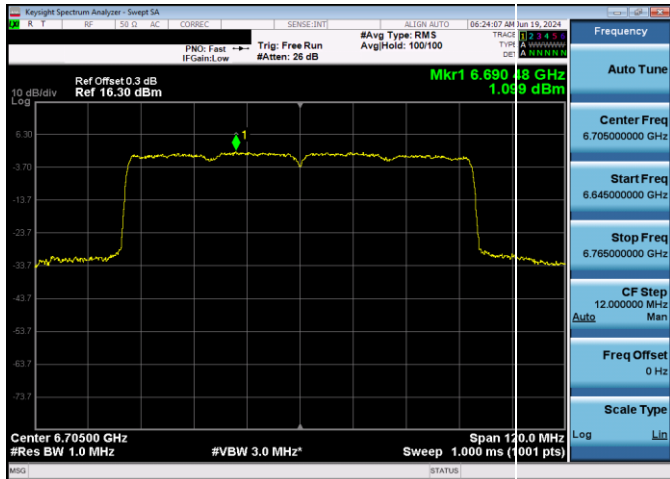


Plot 7-323. Power Spectral Density Plot CDD Antenna 1b SP (80MHz 802.11ax (UNII Band 5) – Ch. 39, MCS11)

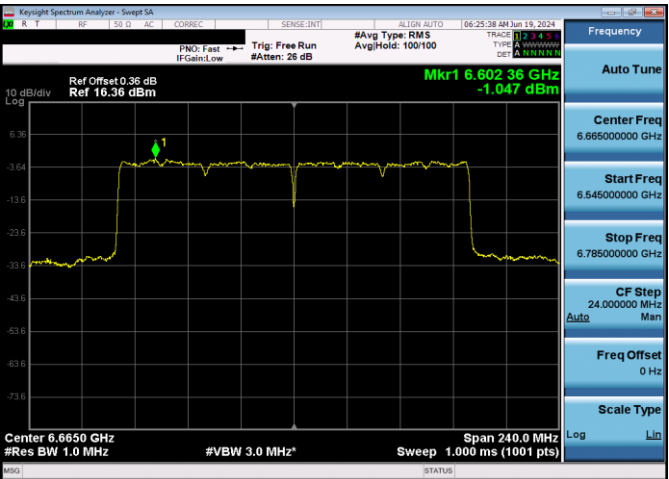


Plot 7-326. Power Spectral Density Plot CDD Antenna 1b SP (40MHz 802.11ax (UNII Band 7) – Ch. 155, MCS11)

FCC ID: BCGA2995	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 124 of 317

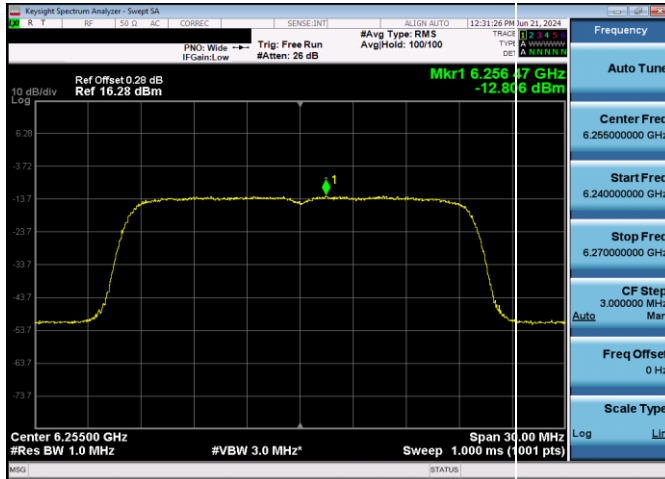


Plot 7-327. Power Spectral Density Plot CDD Antenna 1b SP (80MHz) 802.11ax (UNII Band 7) – Ch. 151, MCS11)

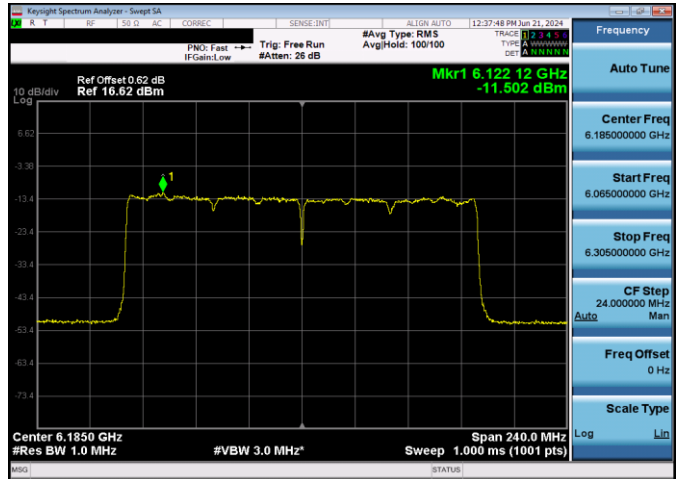


Plot 7-328. Power Spectral Density Plot CDD Antenna 1b SP (160MHz) 802.11ax (UNII Band 7) – Ch. 143, MCS11)

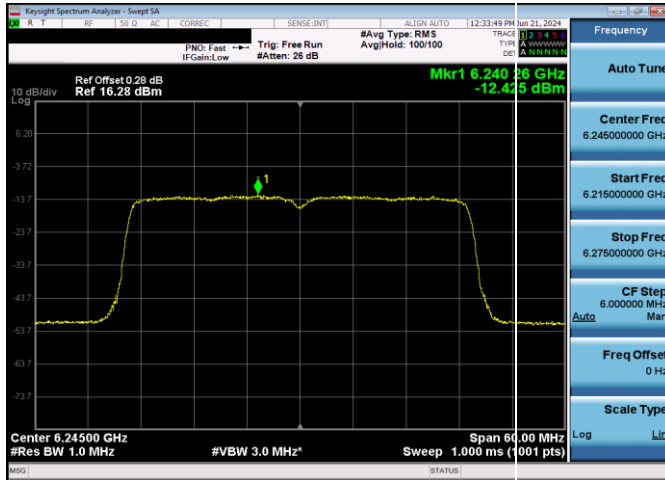
FCC ID: BCGA2995	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 125 of 317



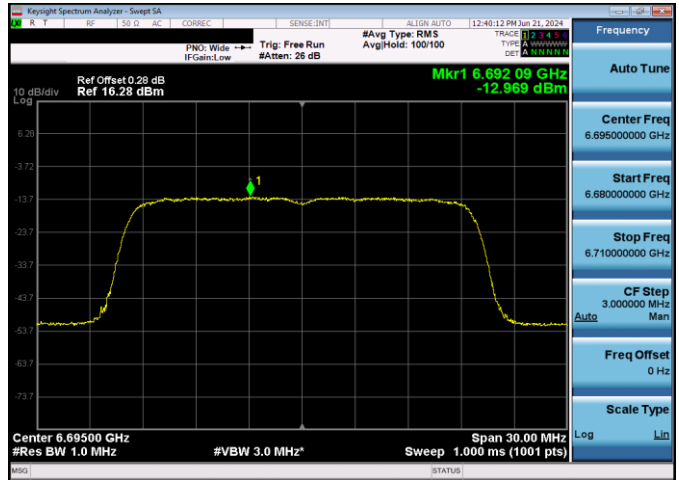
Plot 7-329. Power Spectral Density Plot SDM Antenna 1b VLP (20MHz 802.11ax (UNII Band 5) – Ch. 61, MCS11)



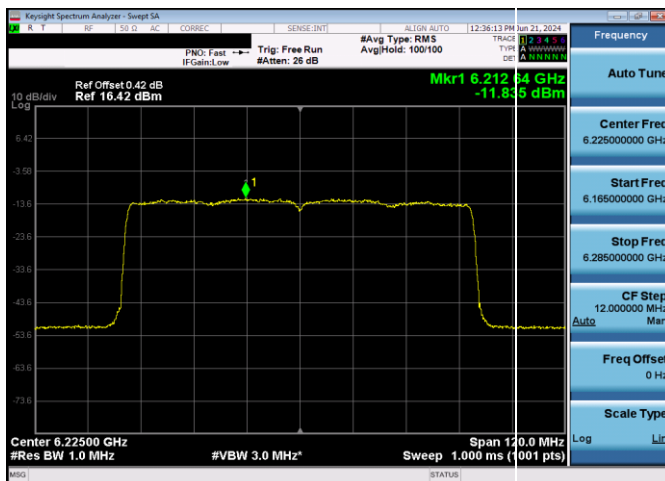
Plot 7-332. Power Spectral Density Plot CDD Antenna 1b VLP (160MHz 802.11ax (UNII Band 5) – Ch. 47, MCS11)



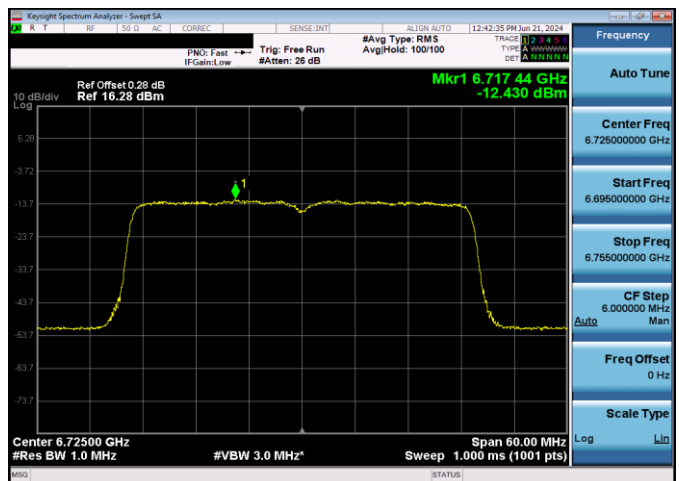
Plot 7-330. Power Spectral Density Plot CDD Antenna 1b VLP (40MHz 802.11ax (UNII Band 5) – Ch. 59, MCS11)



Plot 7-333. Power Spectral Density Plot SDM Antenna 1b VLP (20MHz 802.11ax (UNII Band 7) – Ch. 149, MCS11)

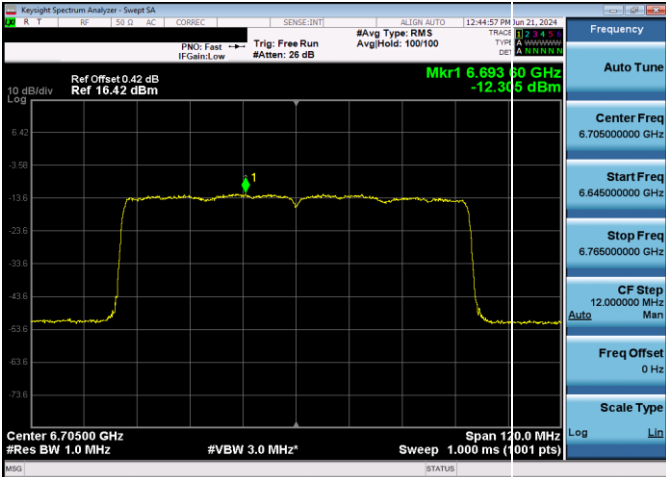


Plot 7-331. Power Spectral Density Plot CDD Antenna 1b VLP (80MHz 802.11ax (UNII Band 5) – Ch. 55, MCS11)

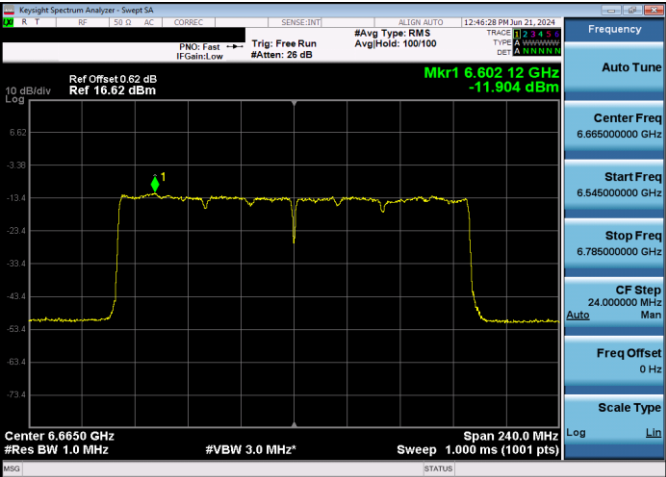


Plot 7-334. Power Spectral Density Plot CDD Antenna 1b VLP (40MHz 802.11ax (UNII Band 7) – Ch. 155, MCS11)

FCC ID: BCGA2995	element	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 126 of 317



Plot 7-335. Power Spectral Density Plot CDD Antenna 1b VLP (80MHz 802.11ax (UNII Band 7) – Ch. 151, MCS11)



Plot 7-336. Power Spectral Density Plot CDD Antenna 1b VLP (160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS11)

FCC ID: BCGA2995	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 127 of 317

Note:

Per ANSI C63.10-2020 Section 14.5.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 5T and Antenna 3b 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 3.7 dBi for Antenna 5T and 0.6 dBi for Antenna 3b.

$$\begin{aligned}\text{Directional gain} &= 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{\text{ANT}}] \text{ dBi} \\ &= 10 \log[(10^{3.7/20} + 10^{0.6/20})^2 / 2] \text{ dBi} \\ &= 5.30 \text{ dBi}\end{aligned}$$

For uncorrelated signals, assuming the antenna gain is 3.7 dBi for Antenna 5T and 0.6 dBi for Antenna 3b.

$$\begin{aligned}\text{Directional gain} &= 10 \log[(10^{G_1/10} + 10^{G_2/10} + \dots + 10^{G_N/10}) / N_{\text{ANT}}] \text{ dBi} \\ &= 10 \log[(10^{3.7/10} + 10^{0.6/10}) / 2] \text{ dBi} \\ &= 2.42 \text{ dBi}\end{aligned}$$

Sample CDD/SDM Calculation:

At 5955MHz in 802.11ax (20MHz BW) mode, the average conducted power spectral density was measured to be -8.15 dBm for Antenna 5T and -8.12 dBm for Antenna 3b.

$$\text{Antenna 5T} + \text{Antenna 3b} = \text{SDM}$$

$$(-8.15 \text{ dBm} + -8.12 \text{ dBm}) = (0.153 \text{ mW} + 0.154 \text{ mW}) = 0.307 \text{ mW} = -5.12 \text{ dBm}$$

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 -5.12 dBm with directional gain of 2.42 dBi.

$$\text{e.i.r.p. Power Spectral Density(dBm)} = \text{Power Spectral Density (dBm)} + \text{Ant gain (dBi)}$$

$$-5.12 \text{ dBm} + 2.42 \text{ dBi} = -2.7 \text{ dBm}$$

FCC ID: BCGA2995	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 128 of 317

V 10.50.40 12/15/2021

7.5 In-Band Emissions

§15.407(b)(7)

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 C63.10-2020 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- 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 C63.10-2020 – Section 12.4.2.2

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 4.1.6.2 of ANSI C63.10- 2020.
3. Measure the 26 dB EBW using the test procedure 12.5.2 of ANSI C63.10-2020. (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 $\geq 3 \times$ RBW
 - d) Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$.
 - 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: BCGA2995	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 129 of 317

V 10.50.40 12/15/2021

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Test Setup

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



Figure 7-4. Test Instrument & Measurement Setup

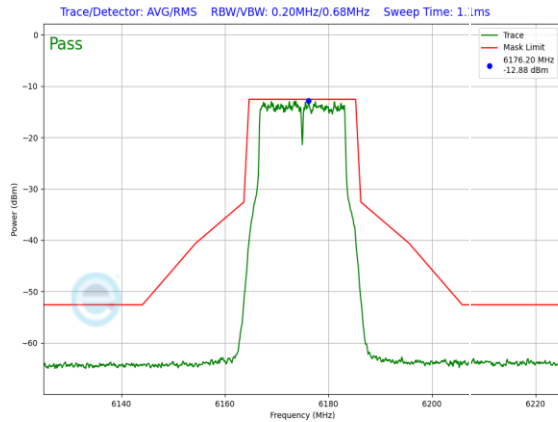
Test Notes

1. All data rates has been investigated and only the worst case data rate per group is reported
2. Low, mid, and high channels were tested and tabular data has been reported. Only mid channel psd plots have been reported.

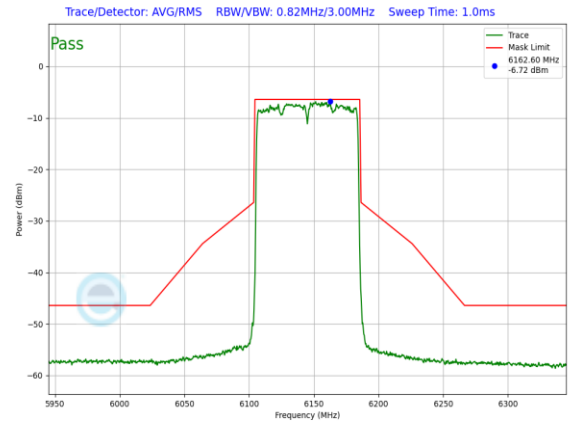
FCC ID: BCGA2995	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 130 of 317

V 10.50.40 12/15/2021

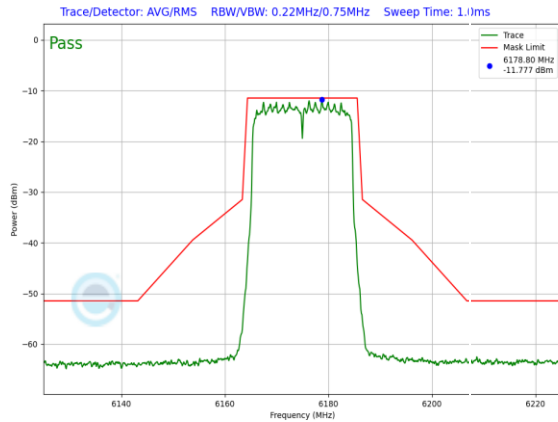
7.5.1 Antenna 5T In-Band Emission Measurements



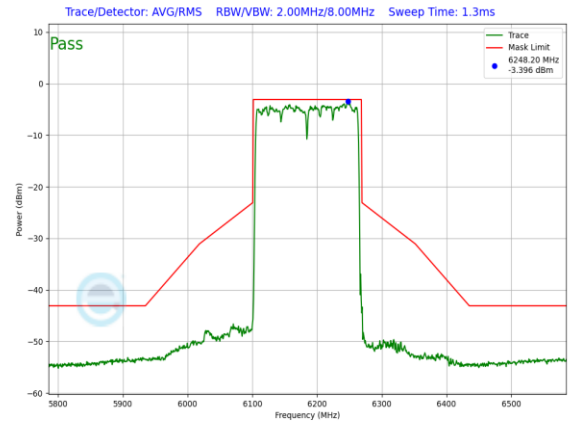
Plot 7-337. LPI In-Band Emission Plot Antenna 5T LPI (20MHz 802.11a (UNII Band 5) – Ch. 45, 54Mbps)



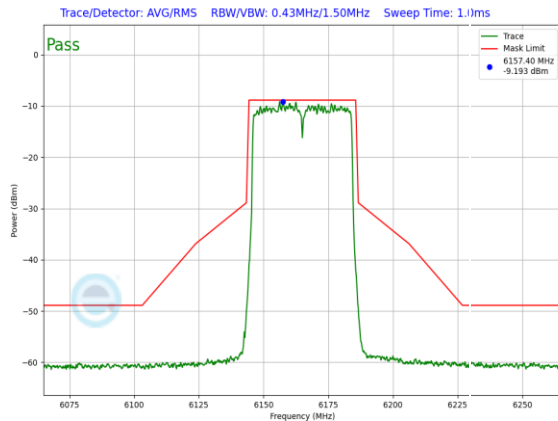
Plot 7-340. LPI In-Band Emission Plot Antenna 5T LPI (80MHz 802.11ax (UNII Band 5) – Ch. 39, MCS11)



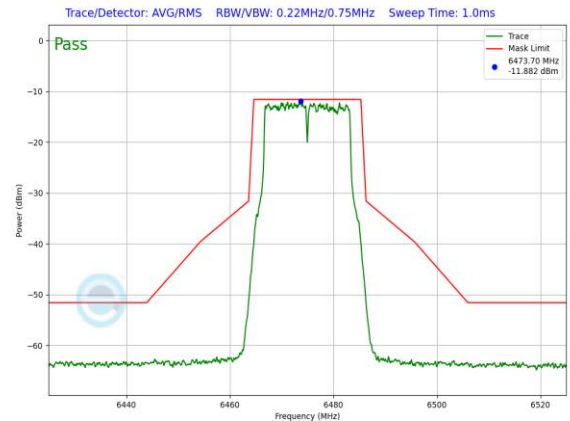
Plot 7-338. LPI In-Band Emission Plot Antenna 5T LPI (20MHz 802.11ax (UNII Band 5) – Ch. 45, MCS11)



Plot 7-341. LPI In-Band Emission Plot Antenna 5T LPI (160MHz 802.11ax (UNII Band 5) – Ch. 47, MCS11)



Plot 7-339. LPI In-Band Emission Plot Antenna 5T LPI (40MHz 802.11ax (UNII Band 5) – Ch. 43, MCS11)

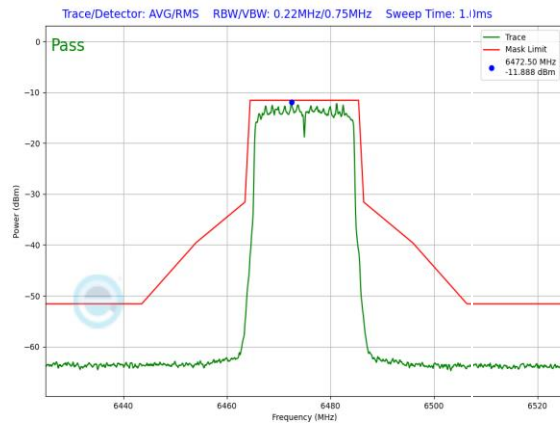


Plot 7-342. LPI In-Band Emission Plot Antenna 5T LPI (20MHz 802.11a (UNII Band 6) – Ch. 105, 54Mbps)

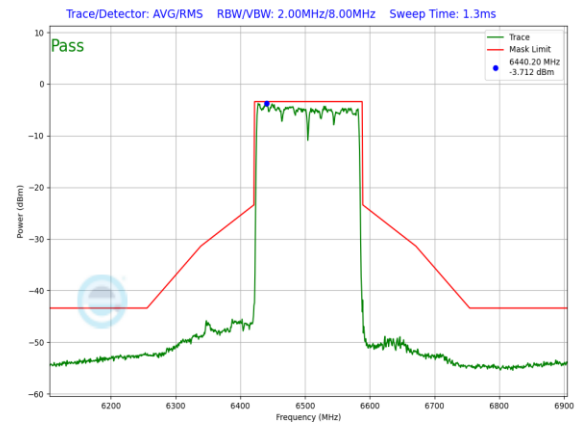
FCC ID: BCGA2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 131 of 317

V 10.50.40 12/15/2021

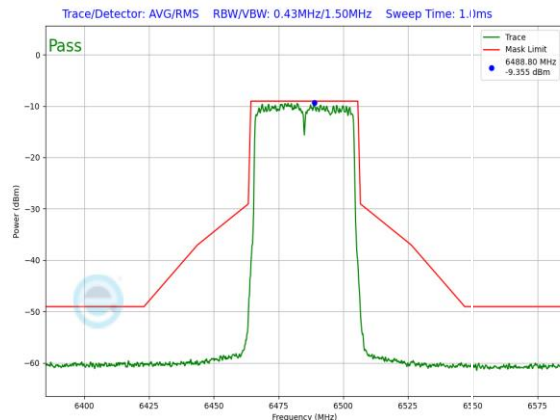
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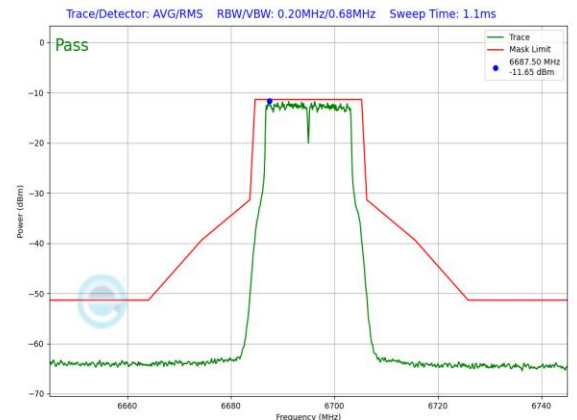
**Plot 7-343. LPI In-Band Emission Plot Antenna 5T LPI (20MHz)
802.11ax (UNII Band 6) – Ch. 105, MCS11)**



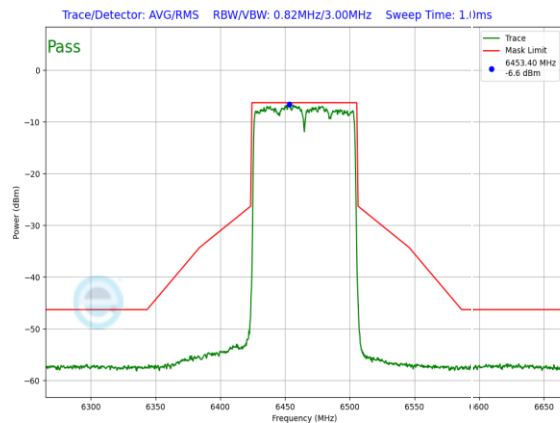
**Plot 7-346. LPI In-Band Emission Plot Antenna 5T LPI (160MHz)
802.11ax (UNII Band 6) – Ch. 111, MCS11)**



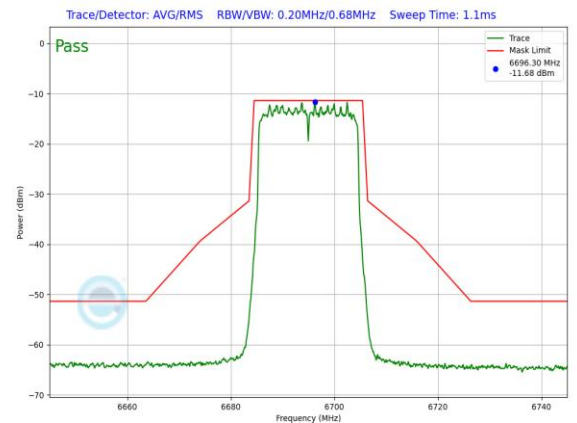
**Plot 7-344. LPI In-Band Emission Plot Antenna 5T LPI (40MHz)
802.11ax (UNII Band 6) – Ch. 107, MCS11)**



**Plot 7-347. LPI In-Band Emission Plot Antenna 5T LPI (20MHz)
802.11a (UNII Band 7) – Ch. 149, 54Mbps)**



**Plot 7-345. LPI In-Band Emission Plot Antenna 5T LPI (80MHz)
802.11ax (UNII Band 6) – Ch. 103, MCS11)**

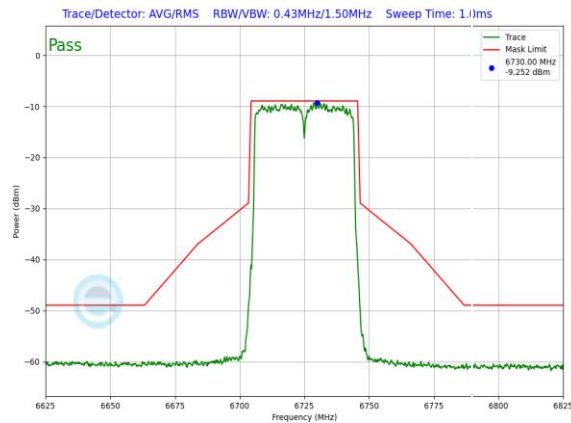


**Plot 7-348. LPI In-Band Emission Plot Antenna 5T LPI (20MHz)
802.11ax (UNII Band 7) – Ch. 149, MCS11)**

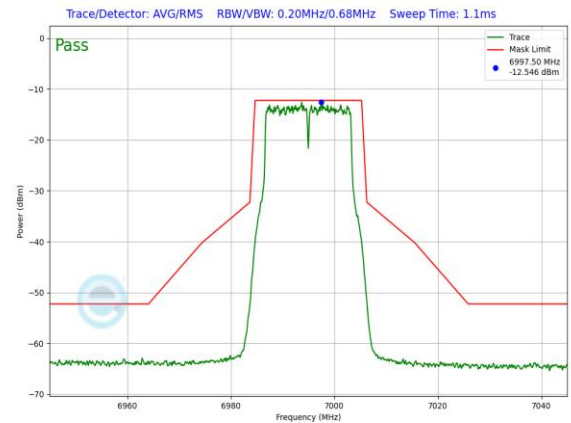
FCC ID: BCGA2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 132 of 317

V 10.50.40 12/15/2021

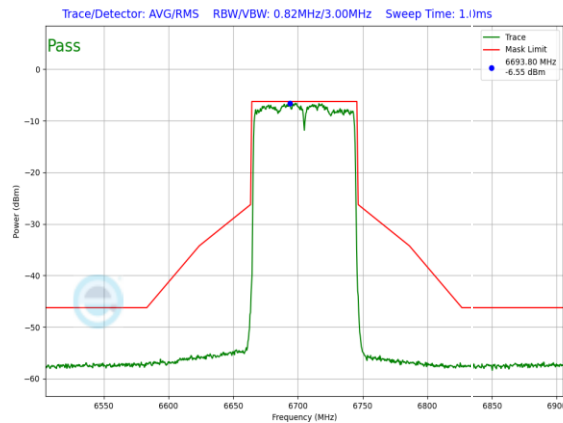
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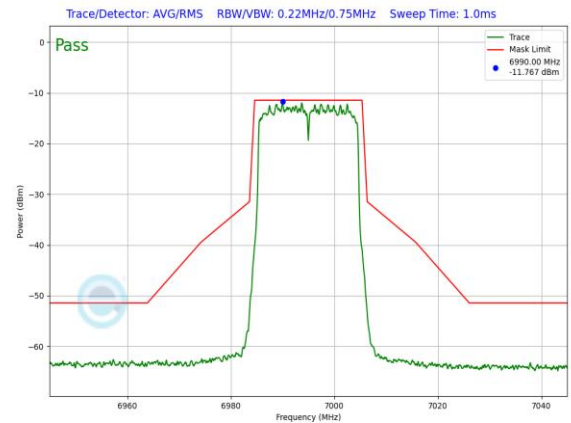
Plot 7-349. LPI In-Band Emission Plot Antenna 5T LPI (40MHz 802.11ax (UNII Band 7) – Ch. 155, MCS11)



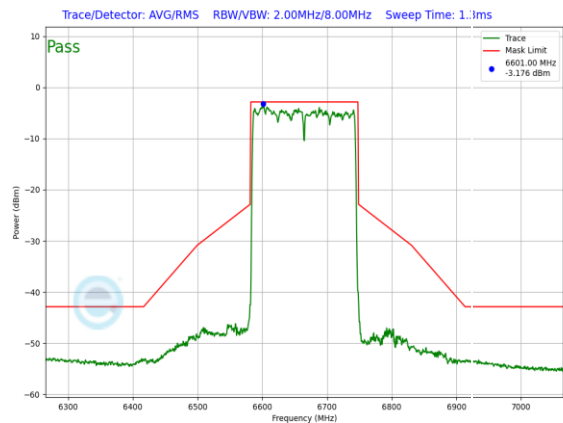
Plot 7-352. LPI In-Band Emission Plot Antenna 5T LPI (20MHz 802.11a (UNII Band 8) – Ch. 209, 54Mbps)



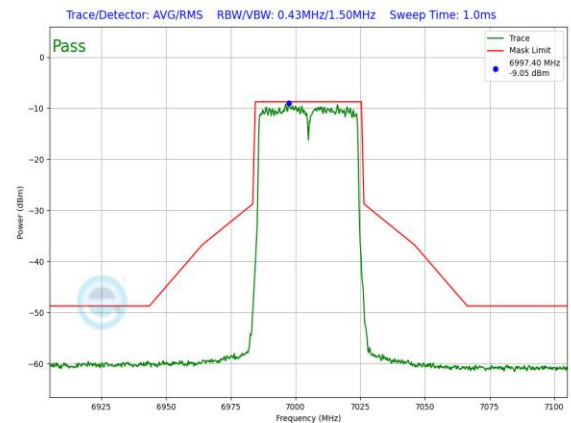
Plot 7-350. LPI In-Band Emission Plot Antenna 5T LPI (80MHz 802.11ax (UNII Band 7) – Ch. 151, MCS11)



Plot 7-353. LPI In-Band Emission Plot Antenna 5T LPI (20MHz 802.11ax (UNII Band 8) – Ch. 209, MCS11)



Plot 7-351. LPI In-Band Emission Plot Antenna 5T LPI (160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS11)

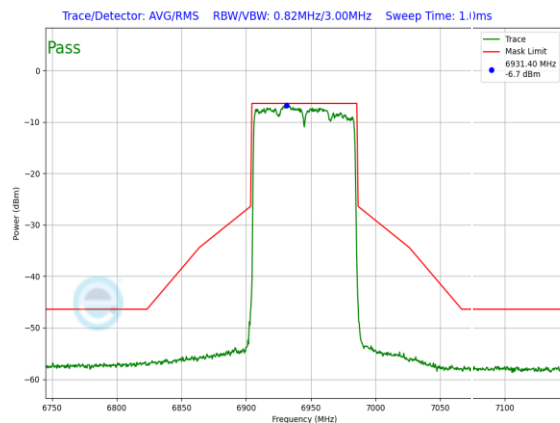


Plot 7-354. LPI In-Band Emission Plot Antenna 5T LPI (40MHz 802.11ax (UNII Band 8) – Ch. 211, MCS11)

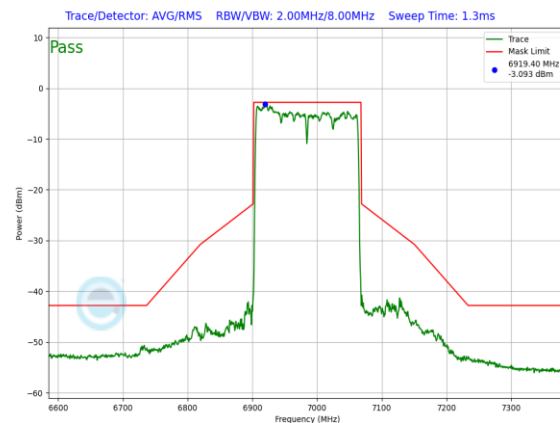
FCC ID: BCGA2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 133 of 317

V 10.50.40 12/15/2021

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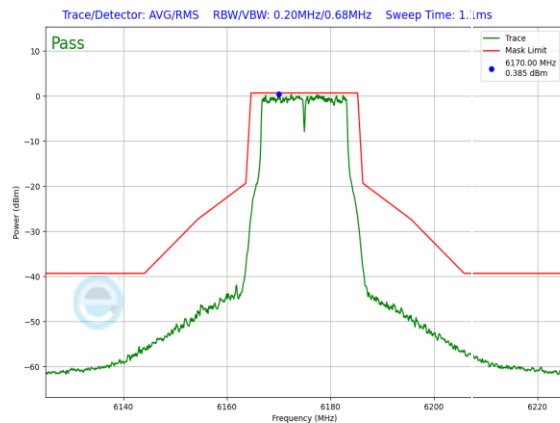
Plot 7-355. LPI In-Band Emission Plot Antenna 5T LPI (80MHz
802.11ax (UNII Band 8) – Ch. 199, MCS11)



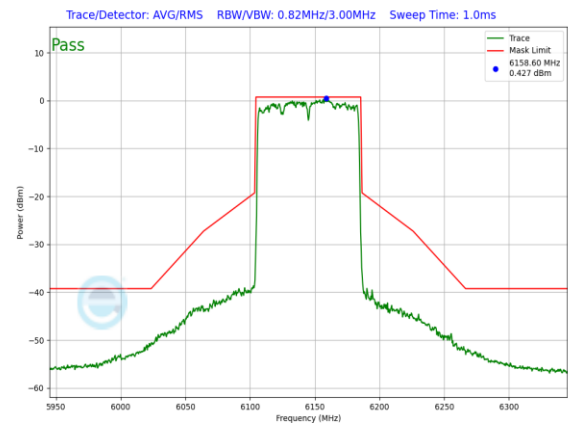
Plot 7-356. LPI In-Band Emission Plot Antenna 5T LPI (160MHz
802.11ax (UNII Band 8) – Ch. 207, MCS11)

FCC ID: BCGA2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 134 of 317

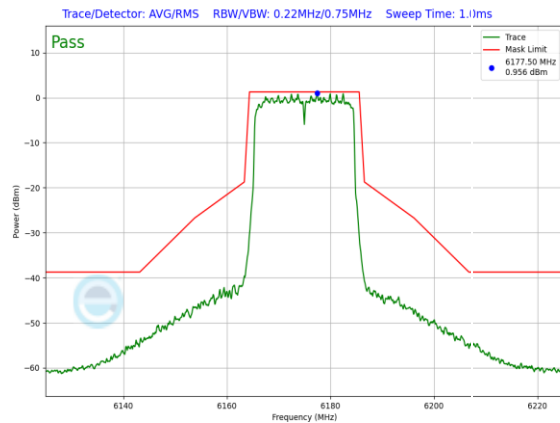
V 10.50.40 12/15/2021



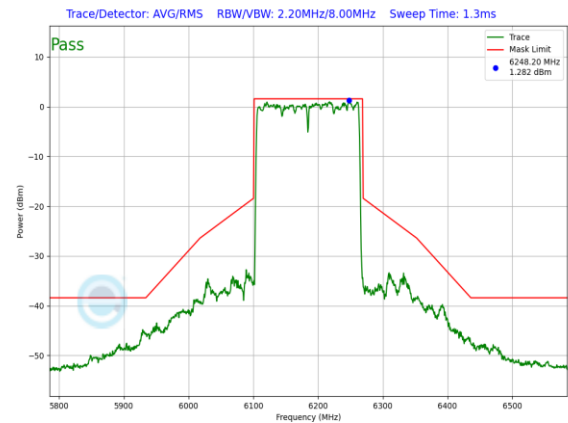
Plot 7-357. In-Band Emission Plot Antenna 5T SP (20MHz 802.11a (UNII Band 5) – Ch. 45, 54Mbps)



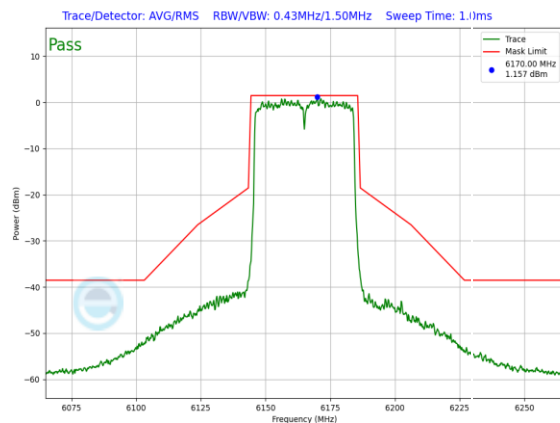
Plot 7-360. In-Band Emission Plot Antenna 5T SP (80MHz 802.11ax (UNII Band 5) – Ch. 39, MCS11)



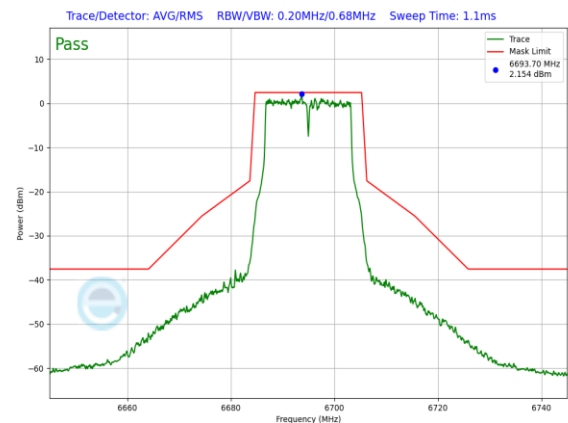
Plot 7-358. In-Band Emission Plot Antenna 5T SP (20MHz 802.11ax (UNII Band 5) – Ch. 45, MCS11)



Plot 7-361. In-Band Emission Plot Antenna 5T SP (160MHz 802.11ax (UNII Band 5) – Ch. 47, MCS11)



Plot 7-359. In-Band Emission Plot Antenna 5T SP (40MHz 802.11ax (UNII Band 5) – Ch. 43, MCS11)

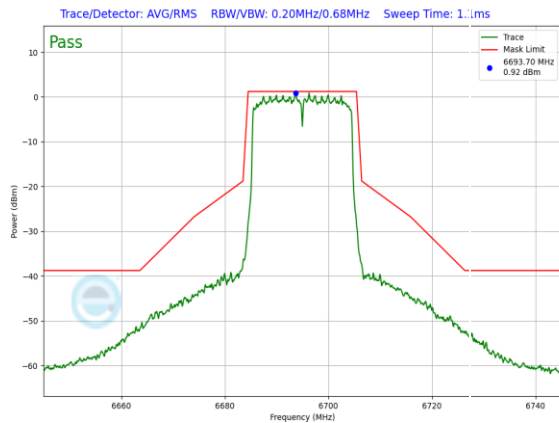


Plot 7-362. In-Band Emission Plot Antenna 5T SP (20MHz 802.11a (UNII Band 7) – Ch. 149, 54Mbps)

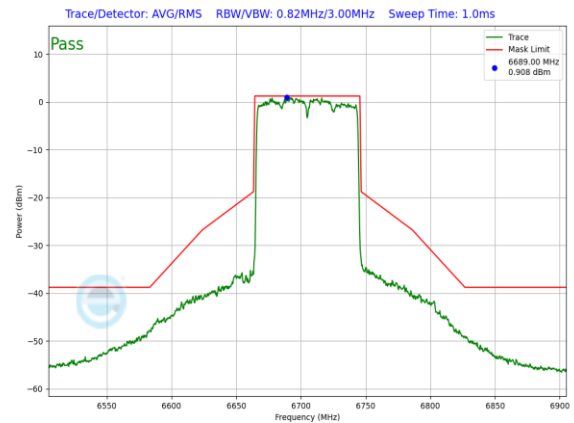
FCC ID: BCGA2995			MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 135 of 317	

V 10.50.40 12/15/2021

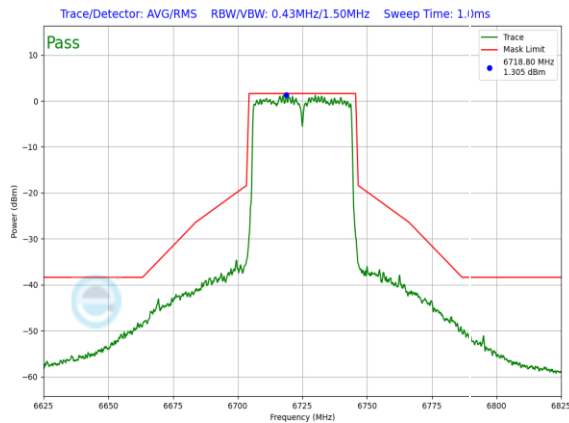
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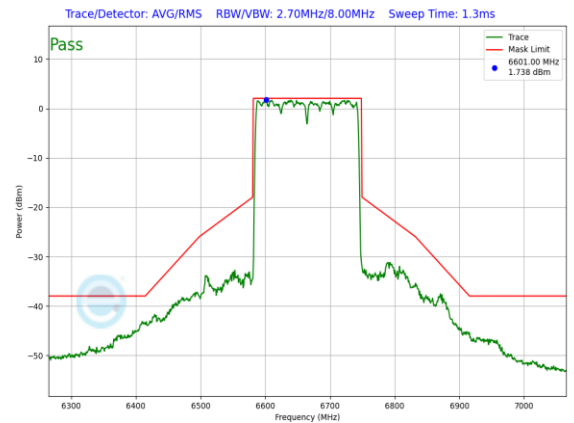
Plot 7-363. In-Band Emission Plot Antenna 5T SP (20MHz 802.11ax (UNII Band 7) – Ch. 149, MCS11)



Plot 7-365. In-Band Emission Plot Antenna 5T SP (80MHz 802.11ax (UNII Band 7) – Ch. 151, MCS11)



Plot 7-364. In-Band Emission Plot Antenna 5T SP (40MHz 802.11ax (UNII Band 7) – Ch. 155, MCS11)

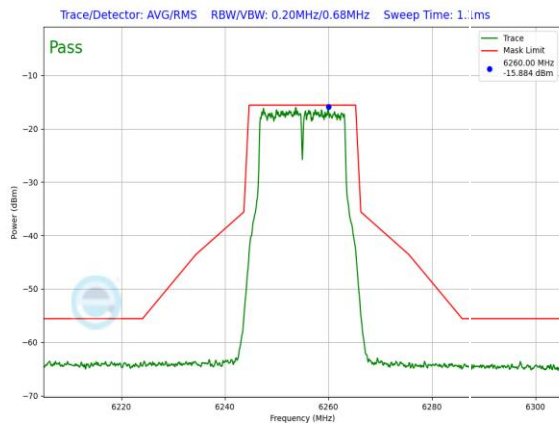


Plot 7-366. In-Band Emission Plot Antenna 5T SP (160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS11)

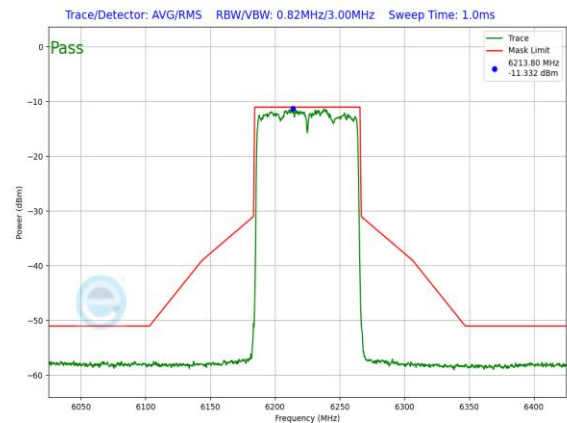
FCC ID: BCGA2995	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 136 of 317

V 10.50.40 12/15/2021

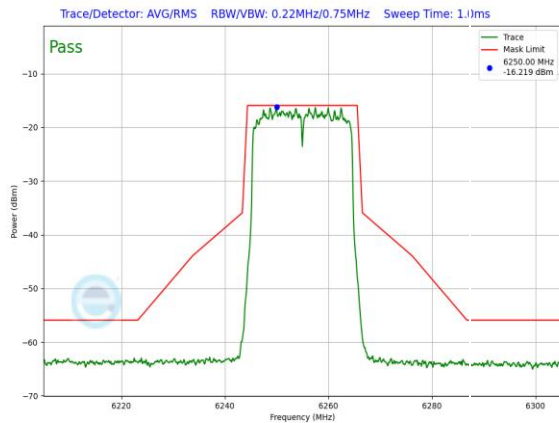
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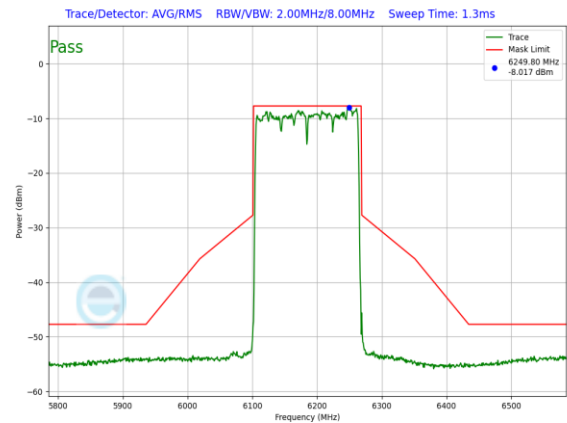
Plot 7-367. In-Band Emission Plot Antenna 5T VLP (20MHz 802.11a (UNII Band 5) – Ch. 61, 54Mbps)



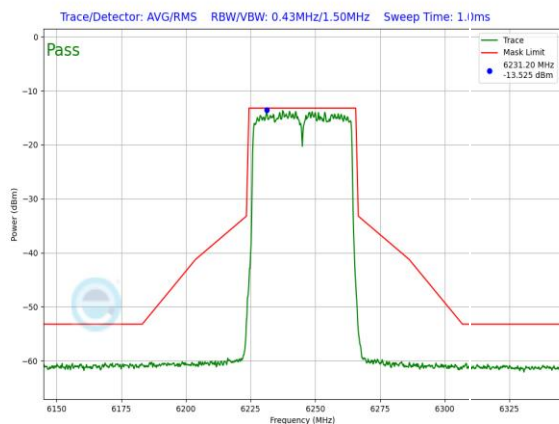
Plot 7-370. In-Band Emission Plot Antenna 5T VLP (80MHz 802.11ax (UNII Band 5) – Ch. 55, MCS11)



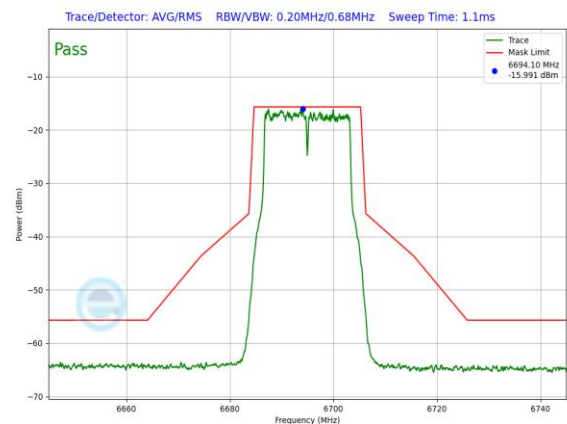
Plot 7-368. In-Band Emission Plot Antenna 5T VLP (20MHz 802.11ax (UNII Band 5) – Ch. 61, MCS11)



Plot 7-371. In-Band Emission Plot Antenna 5T VLP (160MHz 802.11ax (UNII Band 5) – Ch. 47, MCS11)



Plot 7-369. In-Band Emission Plot Antenna 5T VLP (40MHz 802.11ax (UNII Band 5) – Ch. 59, MCS11)

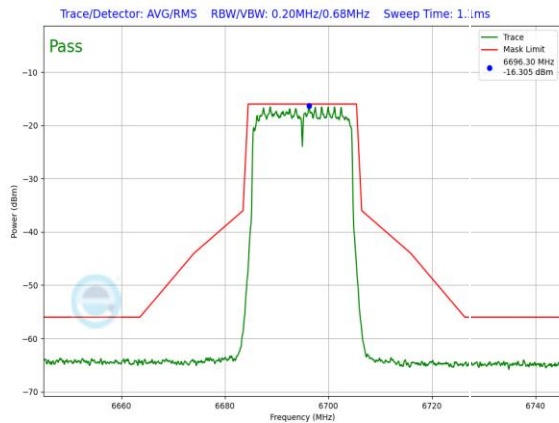


Plot 7-372. In-Band Emission Plot Antenna 5T VLP (20MHz 802.11a (UNII Band 7) – Ch. 149, 54Mbps)

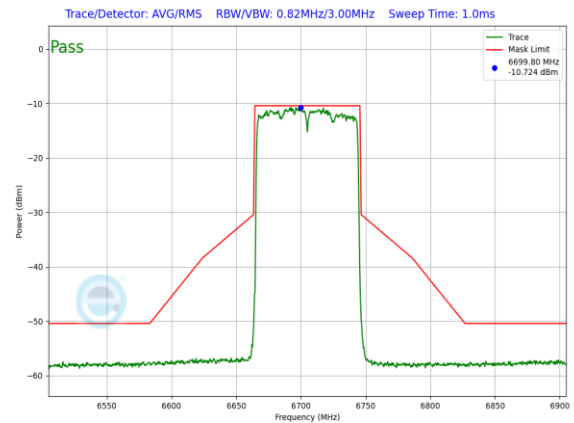
FCC ID: BCGA2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 137 of 317

V 10.50.40 12/15/2021

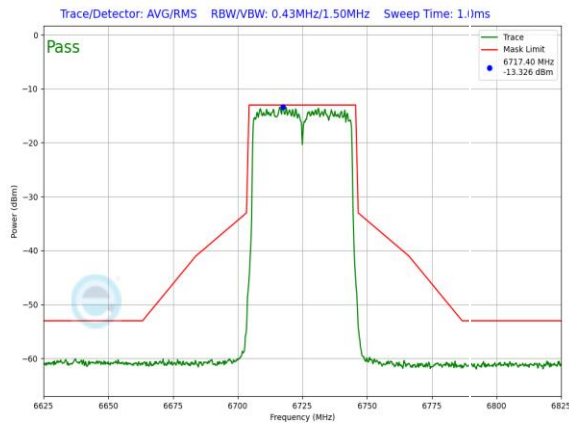
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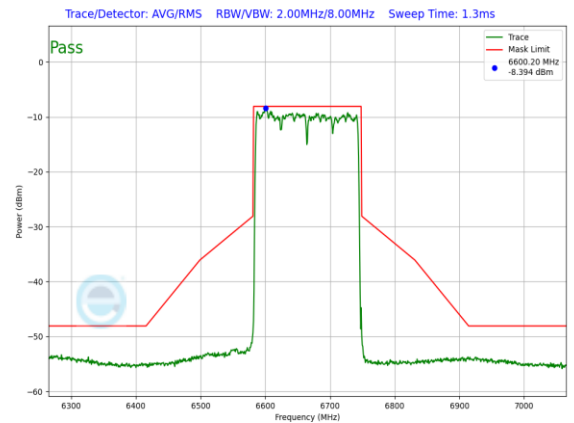
Plot 7-373. In-Band Emission Plot Antenna 5T VLP (20MHz 802.11ax (UNII Band 7) – Ch. 149, MCS11)



Plot 7-375. In-Band Emission Plot Antenna 5T VLP (80MHz 802.11ax (UNII Band 7) – Ch. 151, MCS11)



Plot 7-374. In-Band Emission Plot Antenna 5T VLP (40MHz 802.11ax (UNII Band 7) – Ch. 155, MCS11)



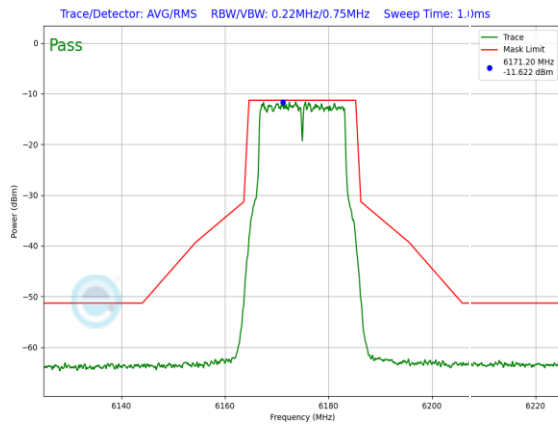
Plot 7-376. In-Band Emission Plot Antenna 5T VLP (160MHz 802.11ax (UNII Band 7) – Ch. 143, MCS11)

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Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 138 of 317

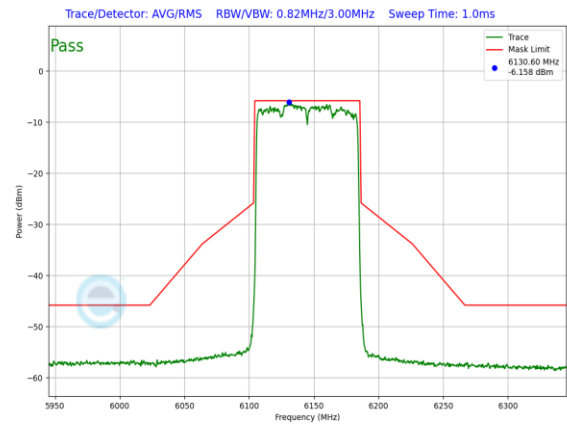
V 10.50.40 12/15/2021

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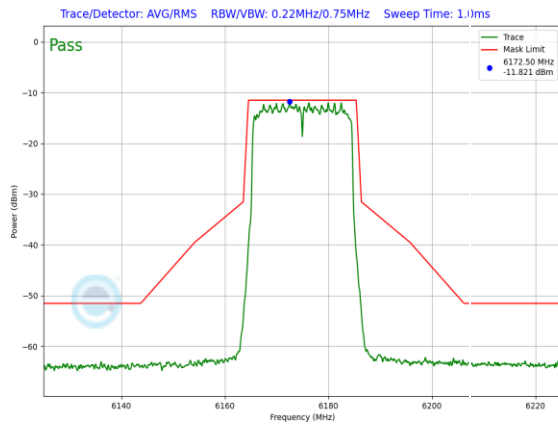
7.5.2 Antenna 3b In-Band Emission Measurements



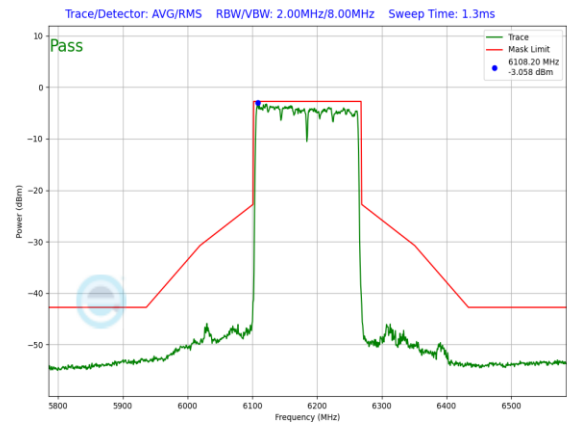
Plot 7-377. In-Band Emission Plot Antenna 3b LPI (20MHz) 802.11a (UNII Band 5) – Ch. 45, 54Mbps)



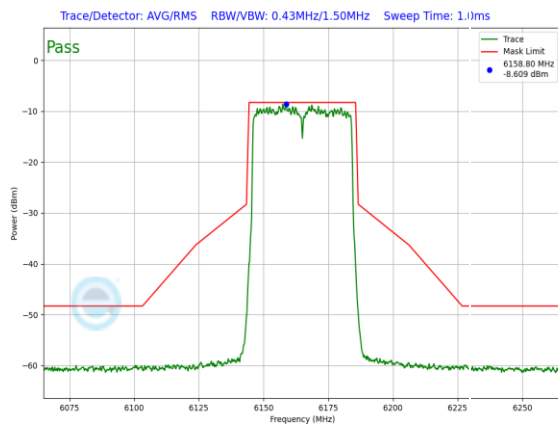
Plot 7-380. In-Band Emission Plot Antenna 3b LPI (80MHz) 802.11ax (UNII Band 5) – Ch. 39, MCS11)



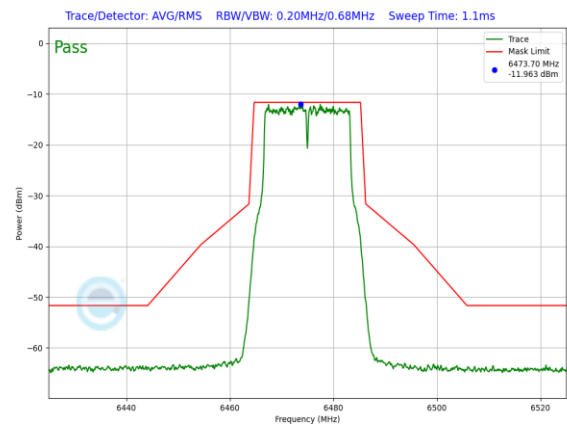
Plot 7-378. In-Band Emission Plot Antenna 3b LPI (20MHz) 802.11ax (UNII Band 5) – Ch. 45, MCS11)



Plot 7-381. In-Band Emission Plot Antenna 3b LPI (160MHz) 802.11ax (UNII Band 5) – Ch. 47, MCS11)



Plot 7-379. In-Band Emission Plot Antenna 3b LPI (40MHz) 802.11ax (UNII Band 5) – Ch. 43, MCS11)

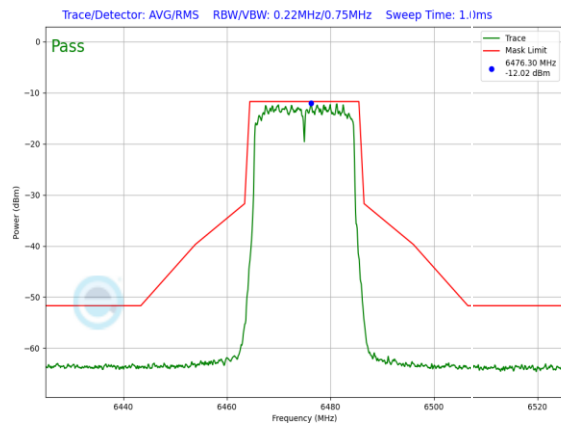


Plot 7-382. In-Band Emission Plot Antenna 3b LPI (20MHz) 802.11a (UNII Band 6) – Ch. 105, 54Mbps)

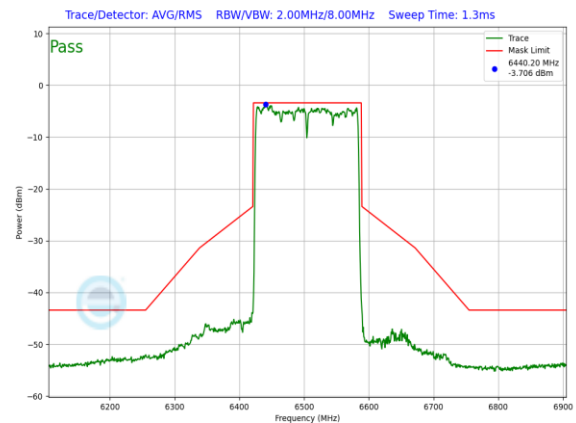
FCC ID: BCGA2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 139 of 317

V 10.50.40 12/15/2021

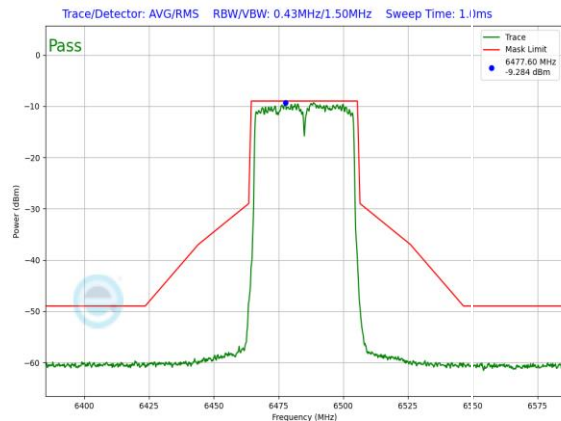
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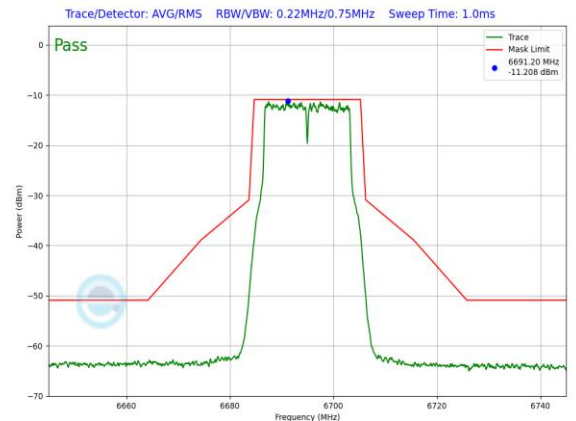
**Plot 7-383. In-Band Emission Plot Antenna 3b LPI (20MHz
802.11ax (UNII Band 6) – Ch. 105, MCS11)**



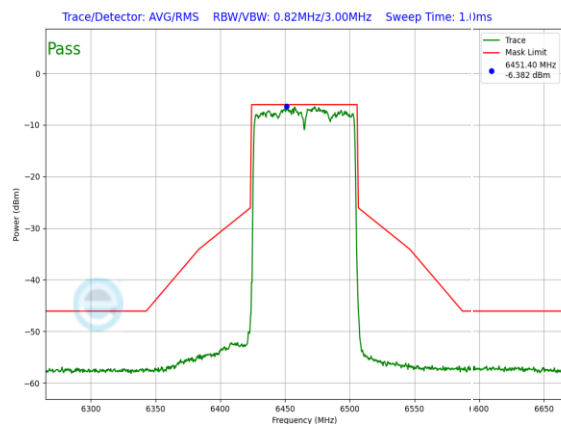
**Plot 7-386. In-Band Emission Plot Antenna 3b LPI (160MHz
802.11ax (UNII Band 6) – Ch. 111, MCS11)**



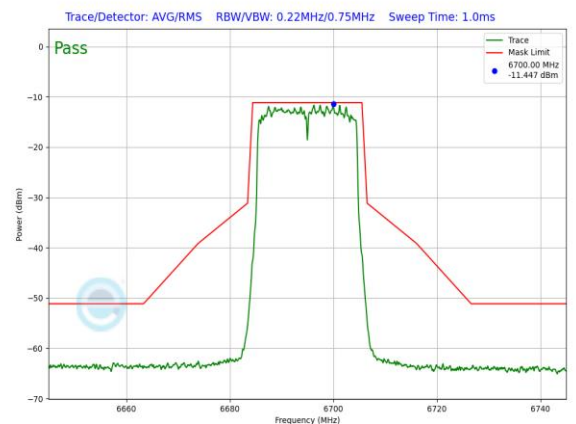
**Plot 7-384. In-Band Emission Plot Antenna 3b LPI (40MHz
802.11ax (UNII Band 6) – Ch. 107, MCS11)**



**Plot 7-387. In-Band Emission Plot Antenna 3b LPI (20MHz
802.11a (UNII Band 7) – Ch. 149, 54Mbps)**

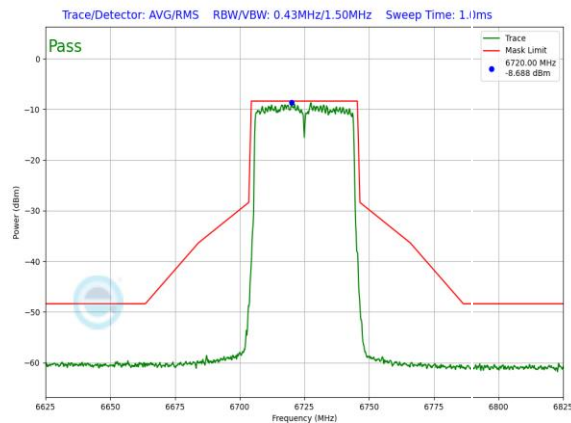


**Plot 7-385. In-Band Emission Plot Antenna 3b LPI (80MHz
802.11ax (UNII Band 6) – Ch. 103, MCS11)**

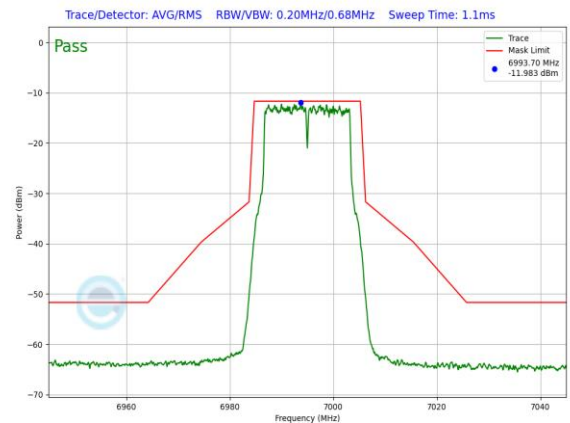


**Plot 7-388. In-Band Emission Plot Antenna 3b LPI (20MHz
802.11ax (UNII Band 7) – Ch. 149, MCS11)**

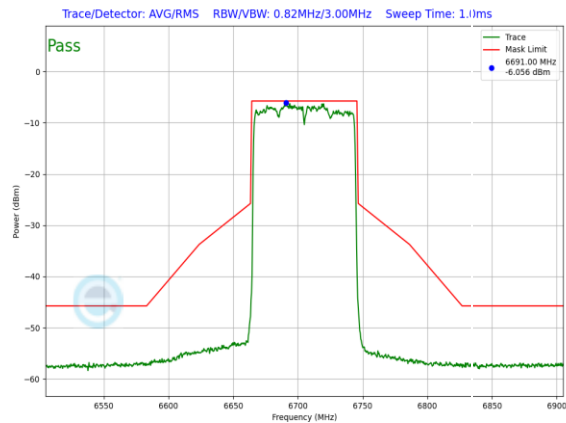
FCC ID: BCGA2995		MEASUREMENT REPORT (CERTIFICATION)	Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 140 of 317



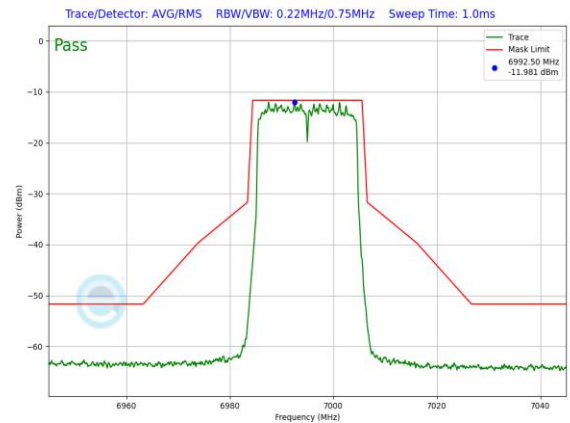
**Plot 7-389. In-Band Emission Plot Antenna 3b LPI (40MHz
802.11ax (UNII Band 7) – Ch. 155, MCS11)**



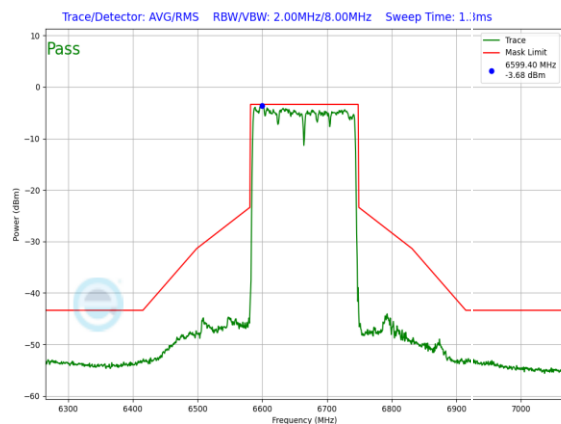
**Plot 7-392. In-Band Emission Plot Antenna 3b LPI (20MHz
802.11a (UNII Band 8) – Ch. 209, 54Mbps)**



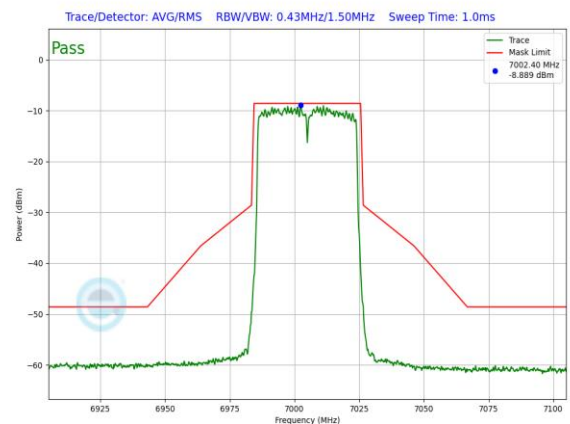
**Plot 7-390. In-Band Emission Plot Antenna 3b LPI (80MHz
802.11ax (UNII Band 7) – Ch. 151, MCS11)**



**Plot 7-393. In-Band Emission Plot Antenna 3b LPI (20MHz
802.11ax (UNII Band 8) – Ch. 209, MCS11)**



**Plot 7-391. In-Band Emission Plot Antenna 3b LPI (160MHz
802.11ax (UNII Band 7) – Ch. 143, MCS11)**

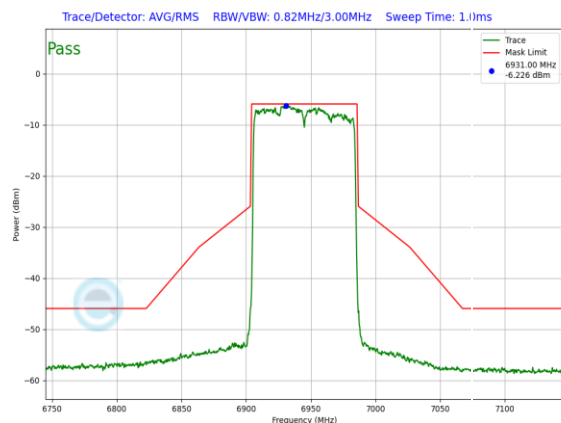


**Plot 7-394. In-Band Emission Plot Antenna 3b LPI (40MHz
802.11ax (UNII Band 8) – Ch. 211, MCS11)**

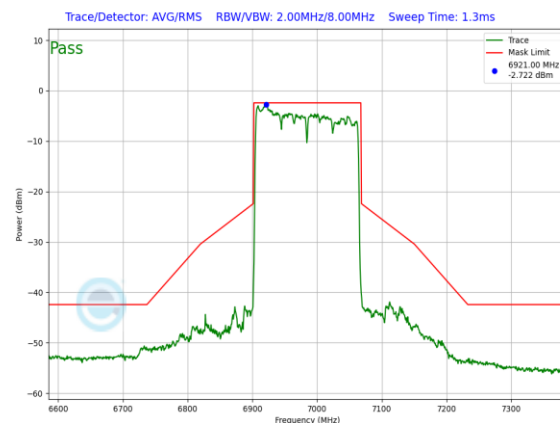
FCC ID: BCGA2995	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 141 of 317

V 10.50.40 12/15/2021

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**Plot 7-395. In-Band Emission Plot Antenna 3b LPI (80MHz
802.11ax (UNII Band 8) – Ch. 199, MCS11)**



**Plot 7-396. In-Band Emission Plot Antenna 3b LPI (160MHz
802.11ax (UNII Band 8) – Ch. 207, MCS11)**

FCC ID: BCGA2995	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1C2405200018-24-R2.BCG	Test Dates: 5/20/2024 - 10/1/2024	EUT Type: Tablet Device	Page 142 of 317

V 10.50.40 12/15/2021