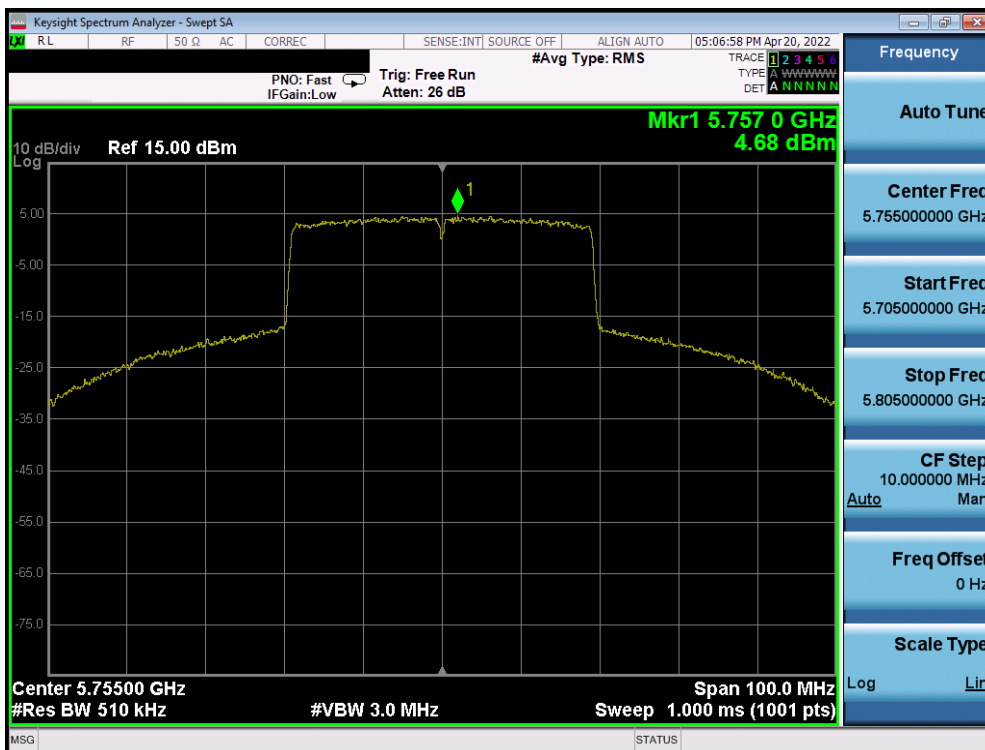


Plot 7-276. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11n (UNII Band 3) – Ch. 159)

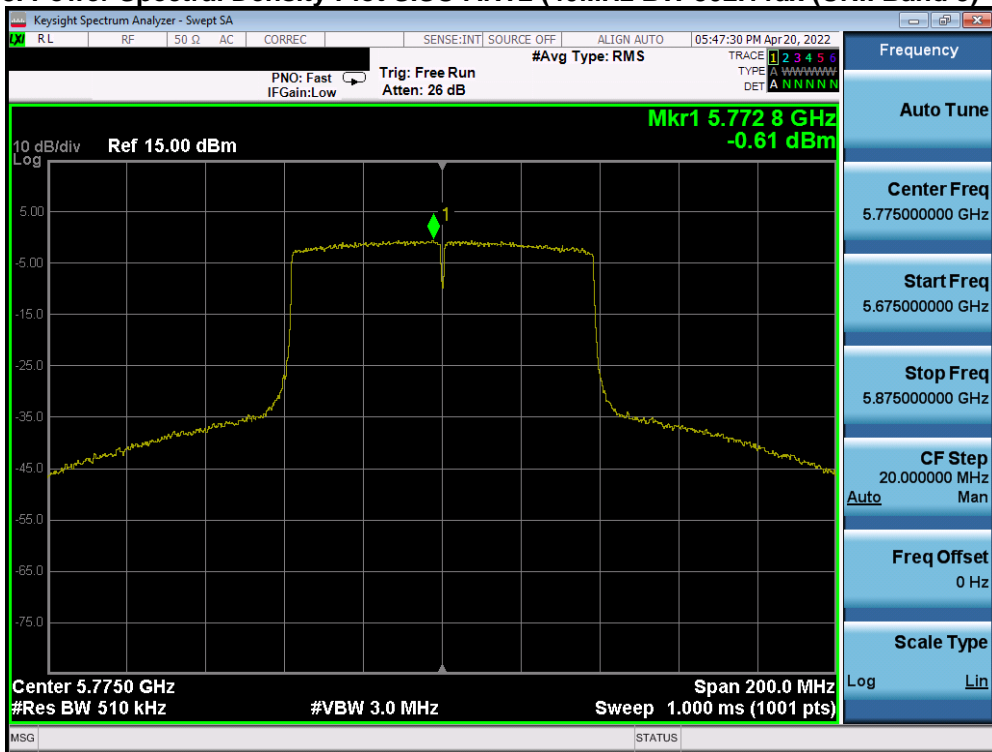


Plot 7-277. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) – Ch. 151)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 174 of 284

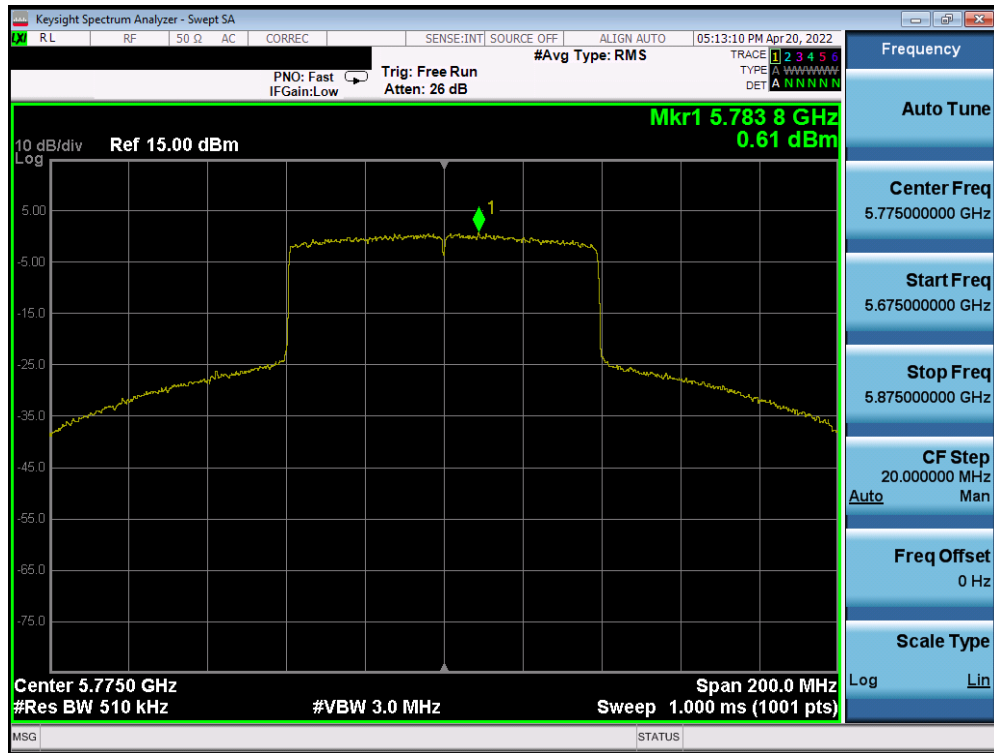


Plot 7-278. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax (UNII Band 3) – Ch. 159)



Plot 7-279. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 175 of 284



Plot 7-280. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax (UNII Band 3) – Ch. 155)

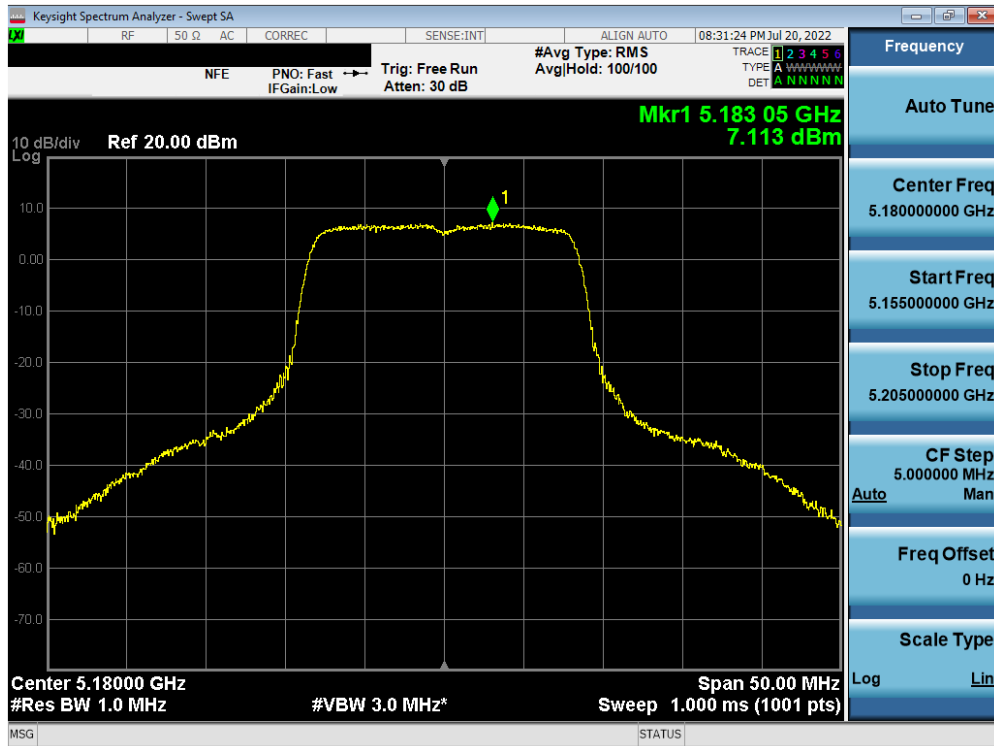
FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 176 of 284

## MIMO Power Spectral Density Measurements – 20MHz

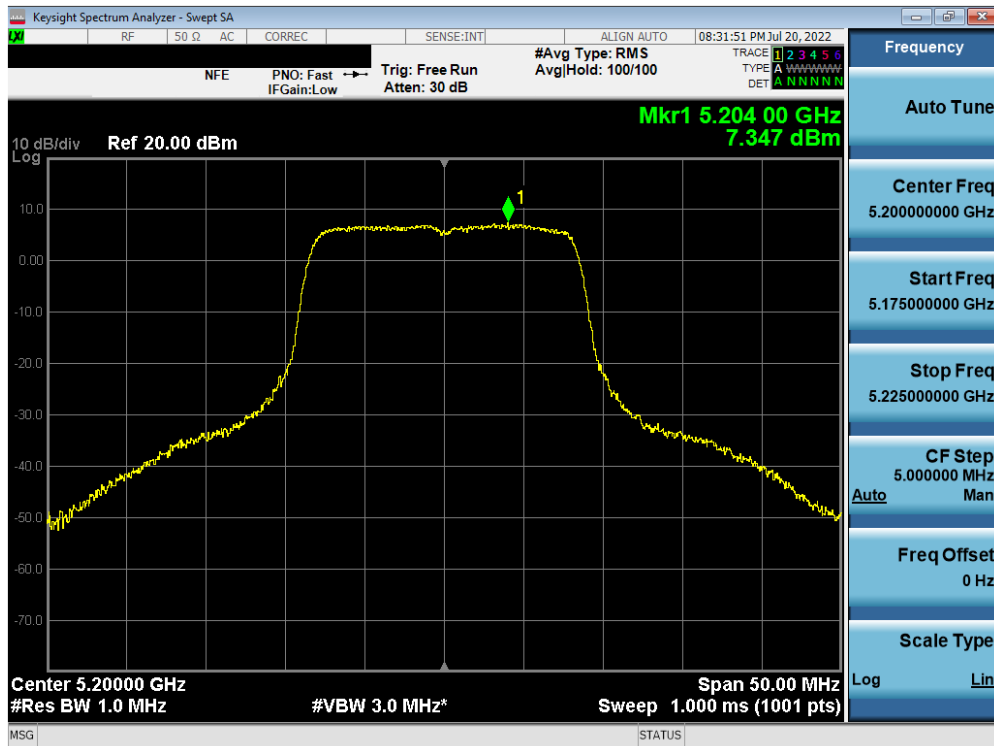
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	a	6	7.11	6.68	9.91	11.0	-1.09
	5200	40	a	6	7.35	6.79	10.09	11.0	-0.91
	5240	48	a	6	7.17	6.97	10.08	11.0	-0.92
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	6.65	6.59	9.63	11.0	-1.37
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	6.76	6.52	9.65	11.0	-1.35
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	6.91	6.67	9.80	11.0	-1.20
	5180	36	ax (20MHz)	6.5/7.2 (MCS0)	6.34	6.22	9.29	11.0	-1.71
	5200	40	ax (20MHz)	6.5/7.2 (MCS0)	6.95	6.34	9.67	11.0	-1.33
	5240	48	ax (20MHz)	6.5/7.2 (MCS0)	6.82	6.57	9.71	11.0	-1.29
Band 2A	5260	52	a	6	7.31	7.00	10.17	11.0	-0.83
	5280	56	a	6	7.17	6.82	10.01	11.0	-0.99
	5320	64	a	6	7.13	6.70	9.93	11.0	-1.07
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	6.95	6.73	9.85	11.0	-1.15
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	6.75	6.50	9.64	11.0	-1.36
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	6.85	6.35	9.62	11.0	-1.38
	5260	52	ax (20MHz)	6.5/7.2 (MCS0)	6.97	6.34	9.68	11.0	-1.32
	5280	56	ax (20MHz)	6.5/7.2 (MCS0)	6.50	6.20	9.36	11.0	-1.64
	5320	64	ax (20MHz)	6.5/7.2 (MCS0)	6.85	6.27	9.58	11.0	-1.42
Band 2C	5500	100	a	6	7.41	7.06	10.25	10.89	-0.64
	5600	120	a	6	7.43	6.91	10.19	10.89	-0.70
	5720	144	a	6	7.50	6.58	10.07	10.89	-0.82
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	7.38	6.54	9.99	10.89	-0.90
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	6.89	6.34	9.63	10.89	-1.26
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	7.00	6.39	9.72	10.89	-1.17
	5500	100	ax (20MHz)	6.5/7.2 (MCS0)	7.33	6.19	9.81	10.89	-1.08
	5600	120	ax (20MHz)	6.5/7.2 (MCS0)	7.10	6.17	9.67	10.89	-1.22
	5720	144	ax (20MHz)	6.5/7.2 (MCS0)	6.93	6.08	9.54	10.89	-1.35

**Table 7-29. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 177 of 284

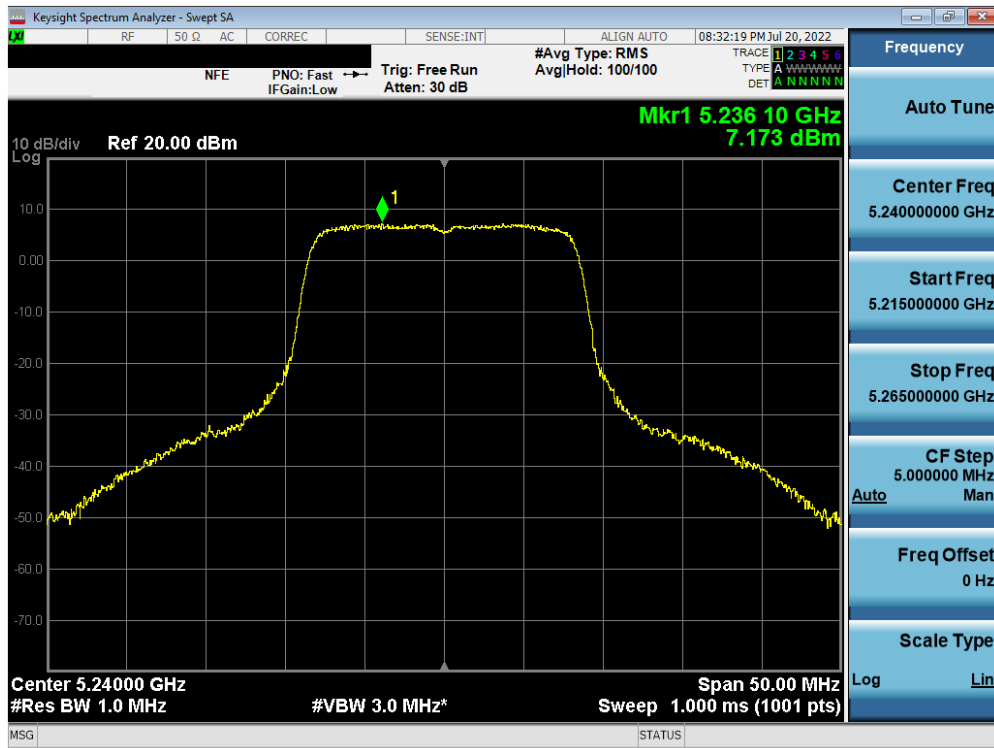


Plot 7-281. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 1) – Ch. 36)

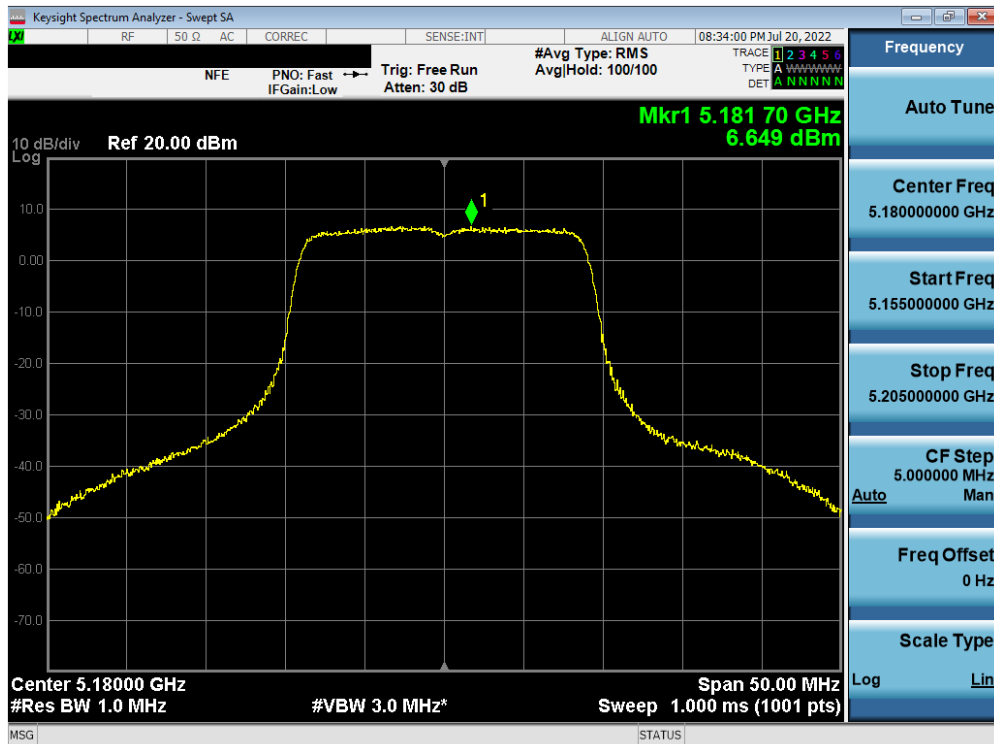


Plot 7-282. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 1) – Ch. 40)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 178 of 284

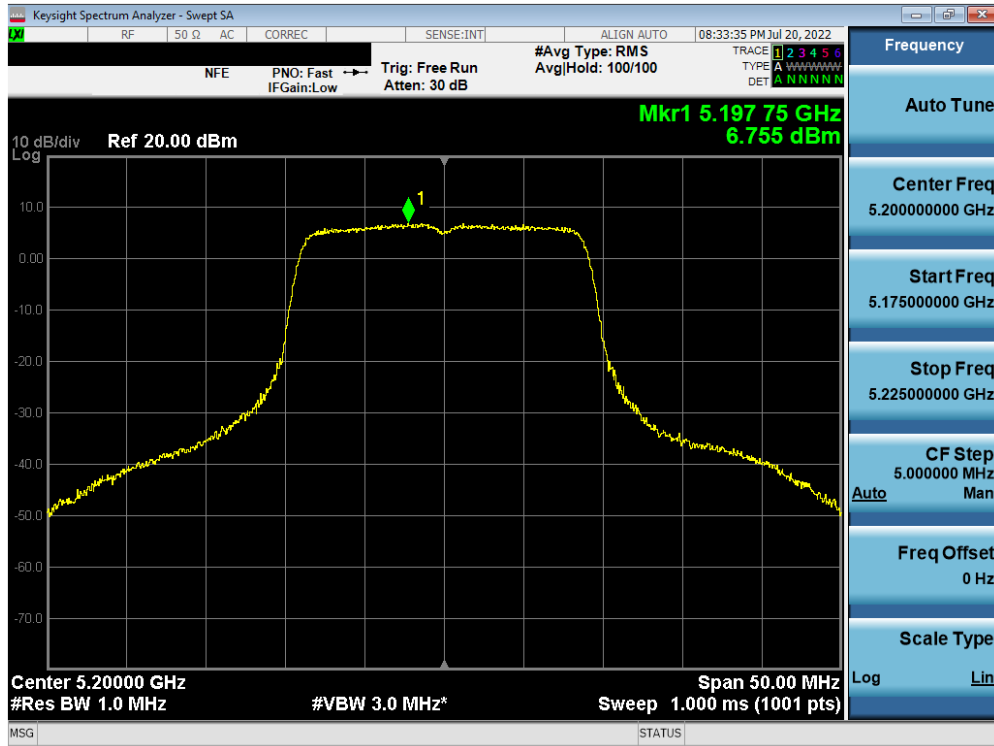


Plot 7-283. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 1) – Ch. 48)

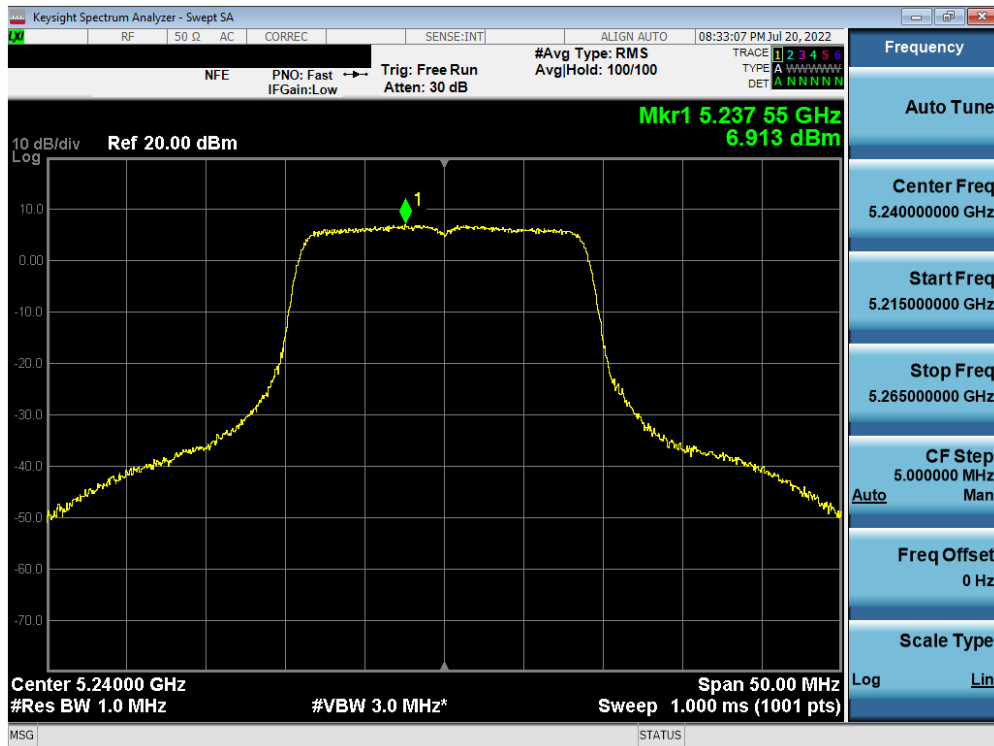


Plot 7-284. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 179 of 284

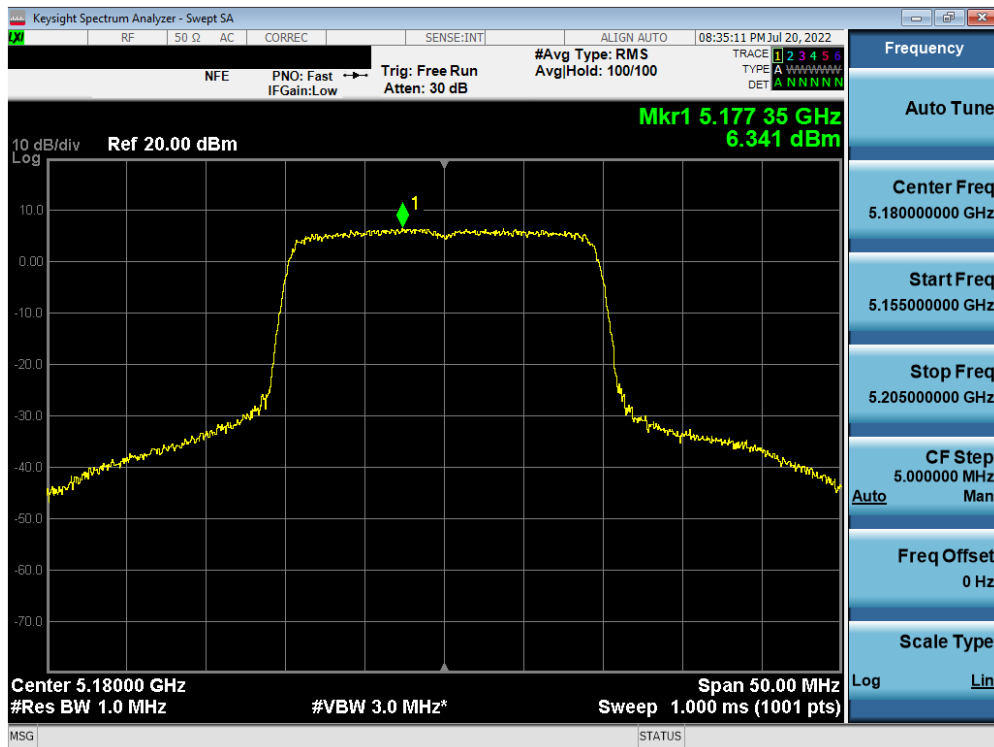


Plot 7-285. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

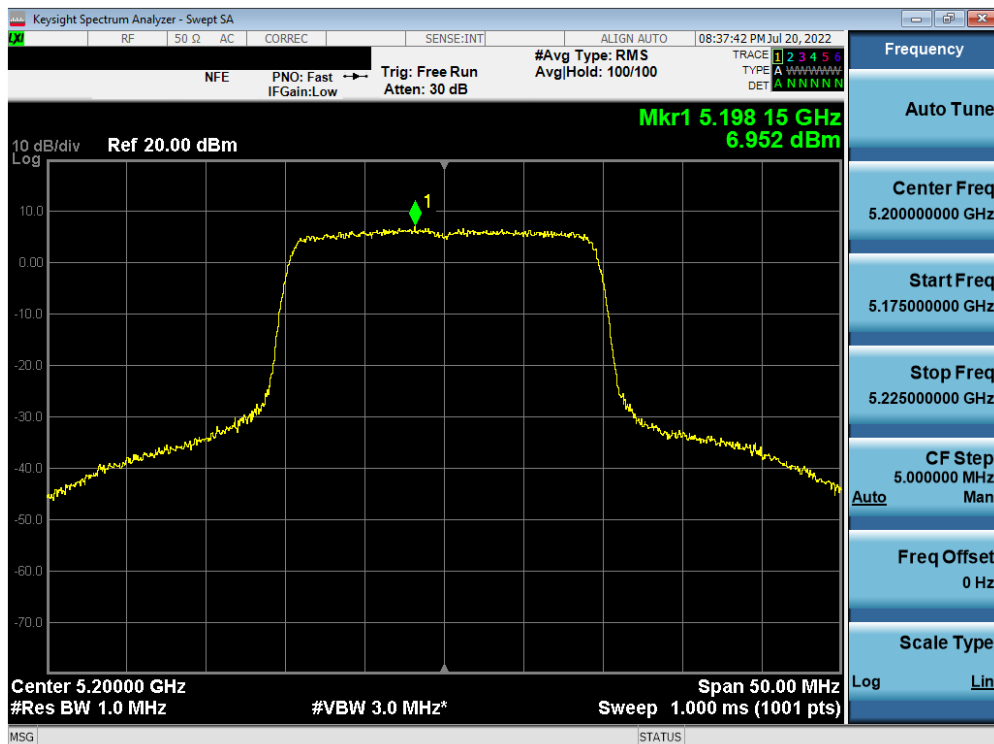


Plot 7-286. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 180 of 284



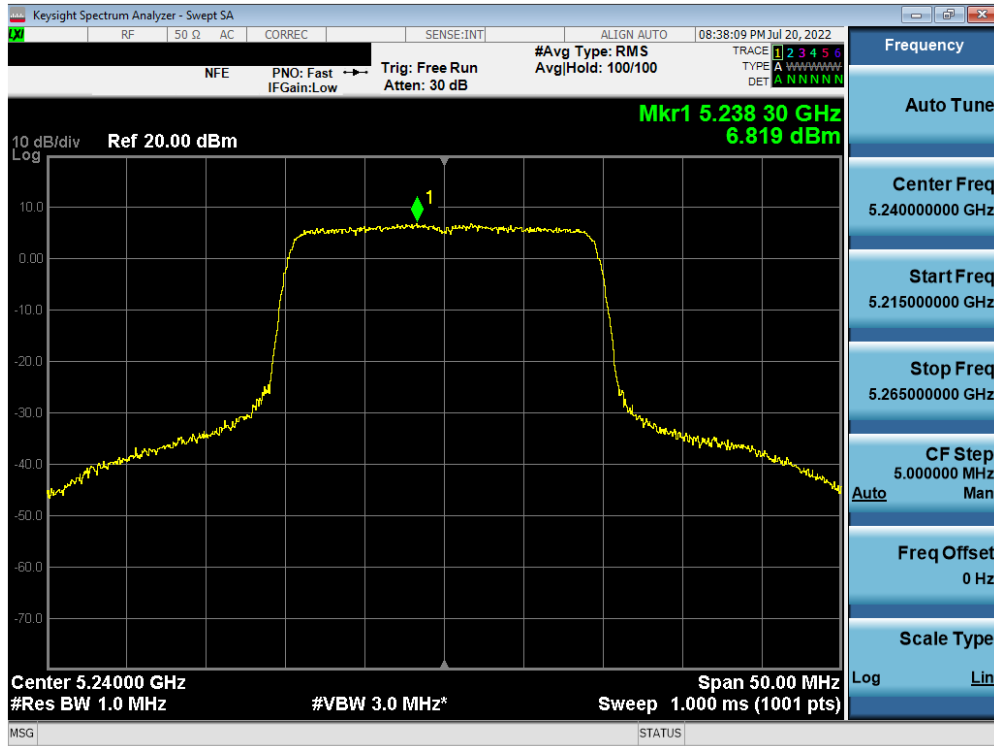
Plot 7-287. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 1) – Ch. 36)



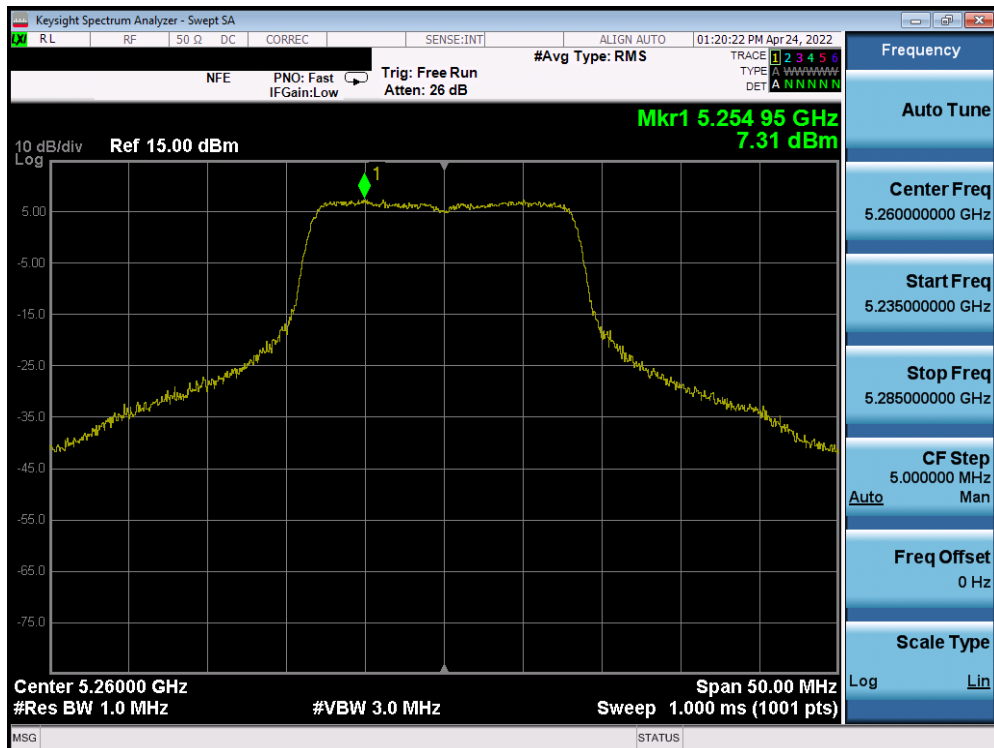
Plot 7-288. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 1) – Ch. 40)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 181 of 284



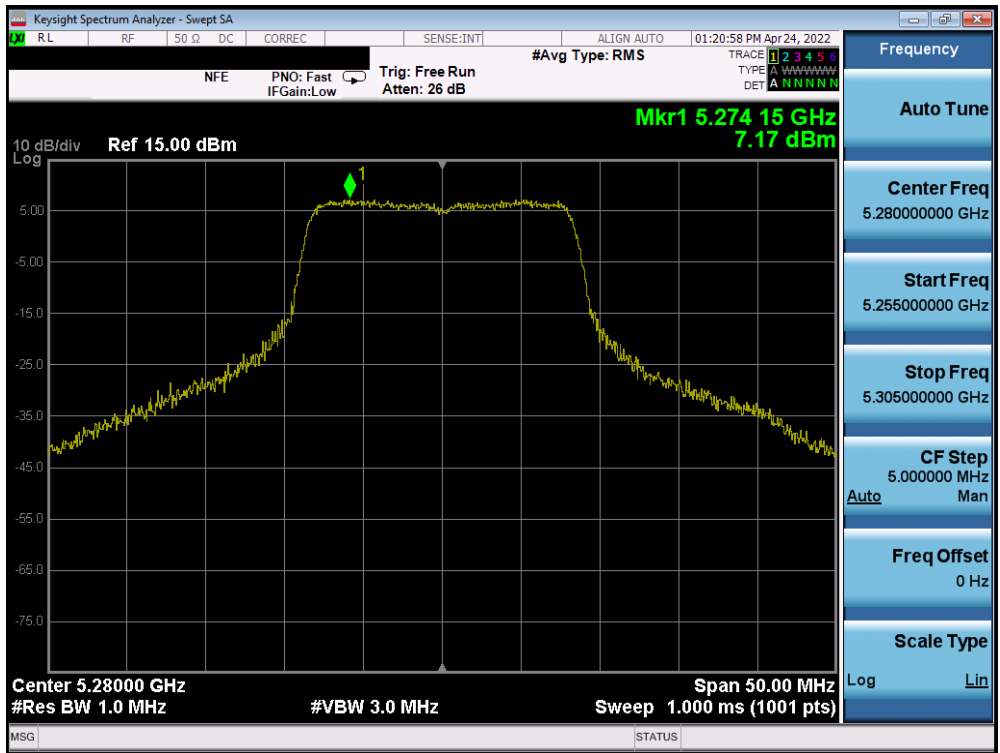


Plot 7-289. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 1) – Ch. 48)

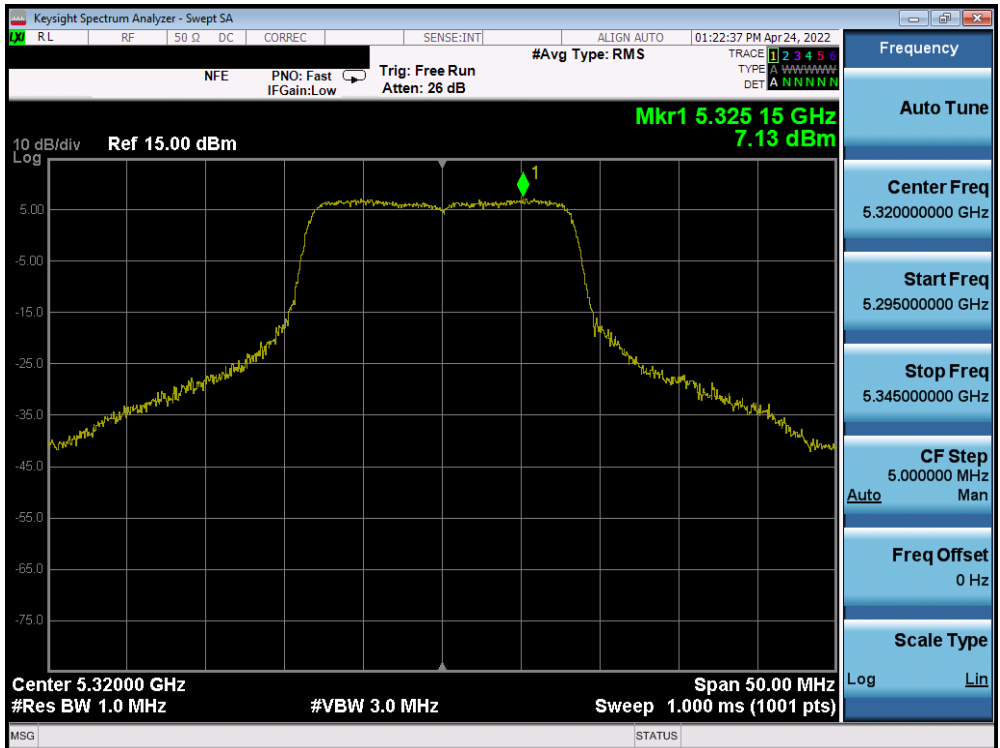


Plot 7-290. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 182 of 284

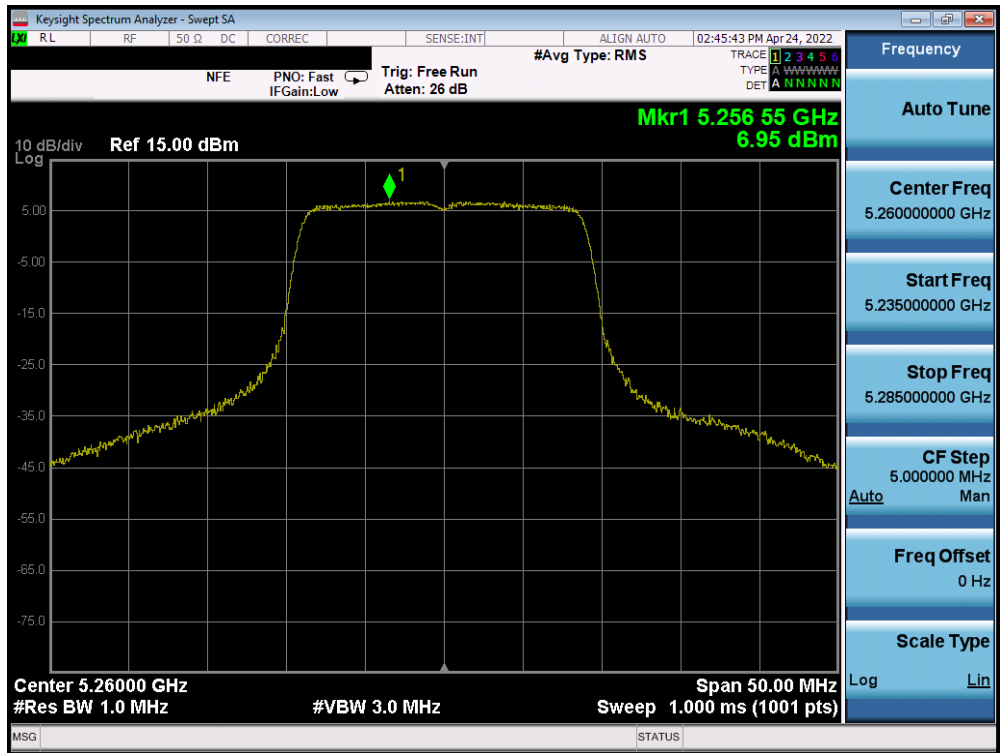


Plot 7-291. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) – Ch. 56)

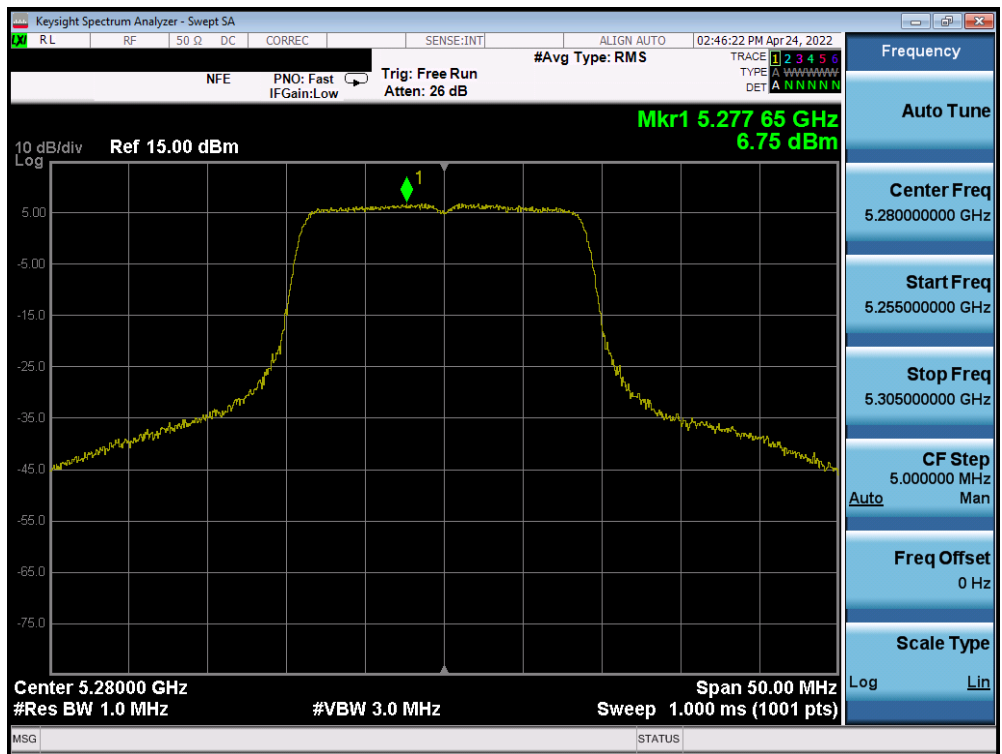


Plot 7-292. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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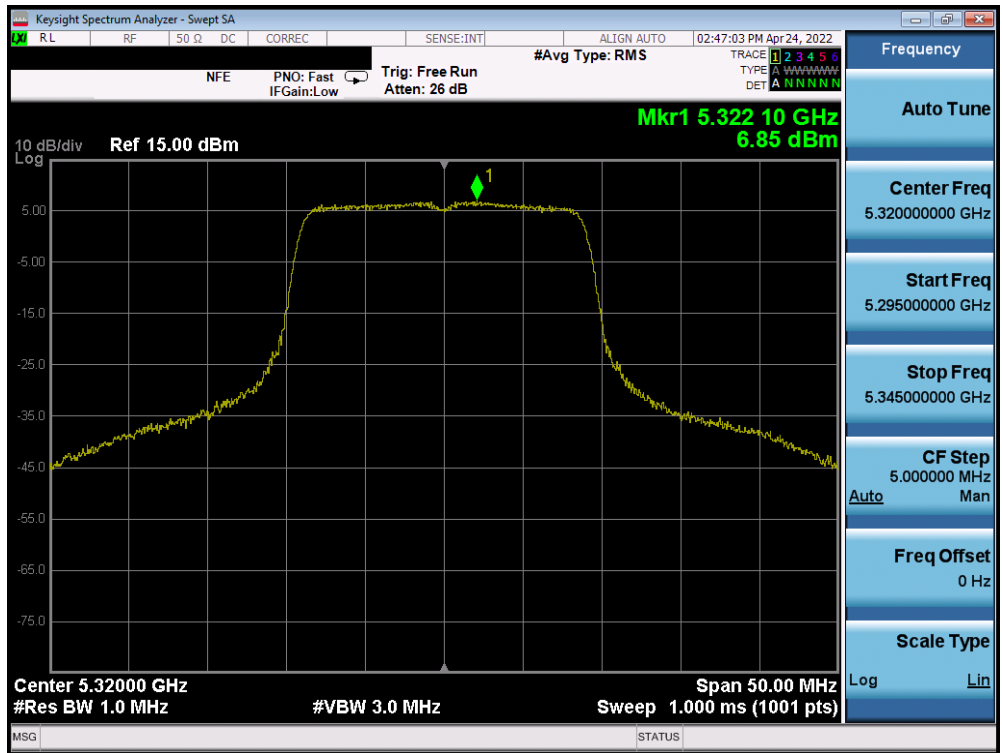


Plot 7-293. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

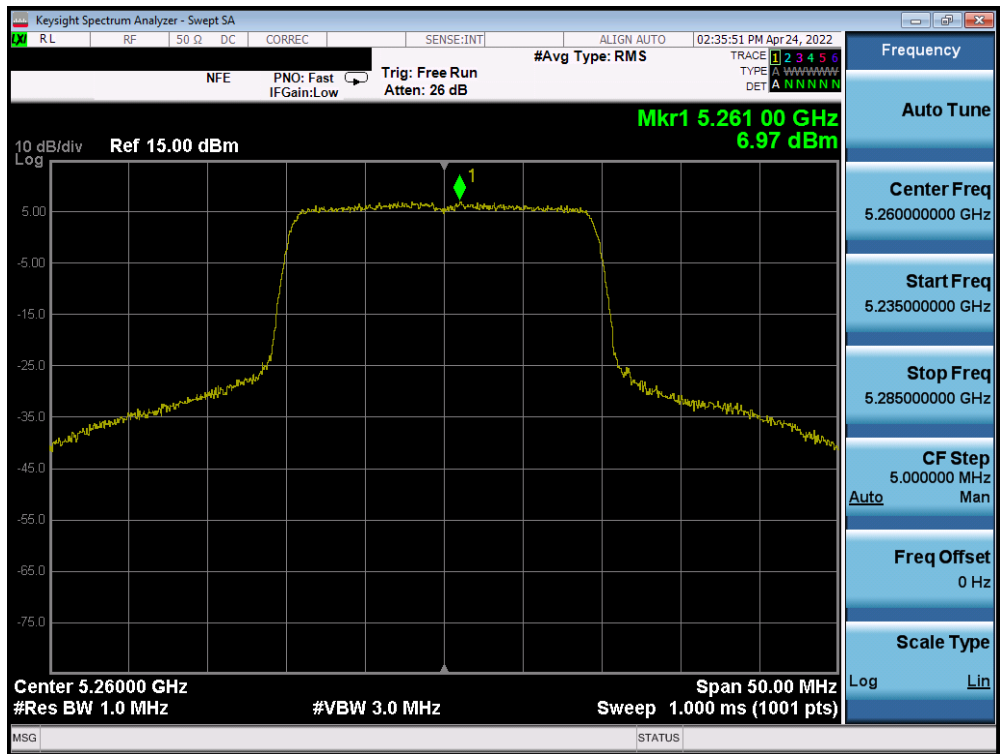


Plot 7-294. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 184 of 284

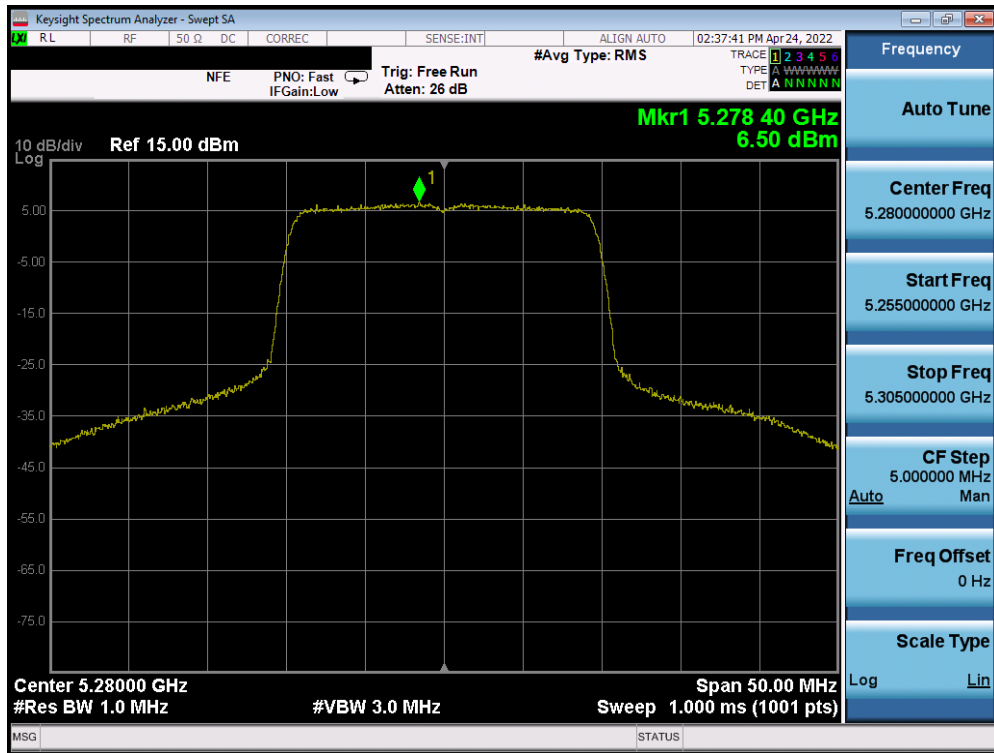


Plot 7-295. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

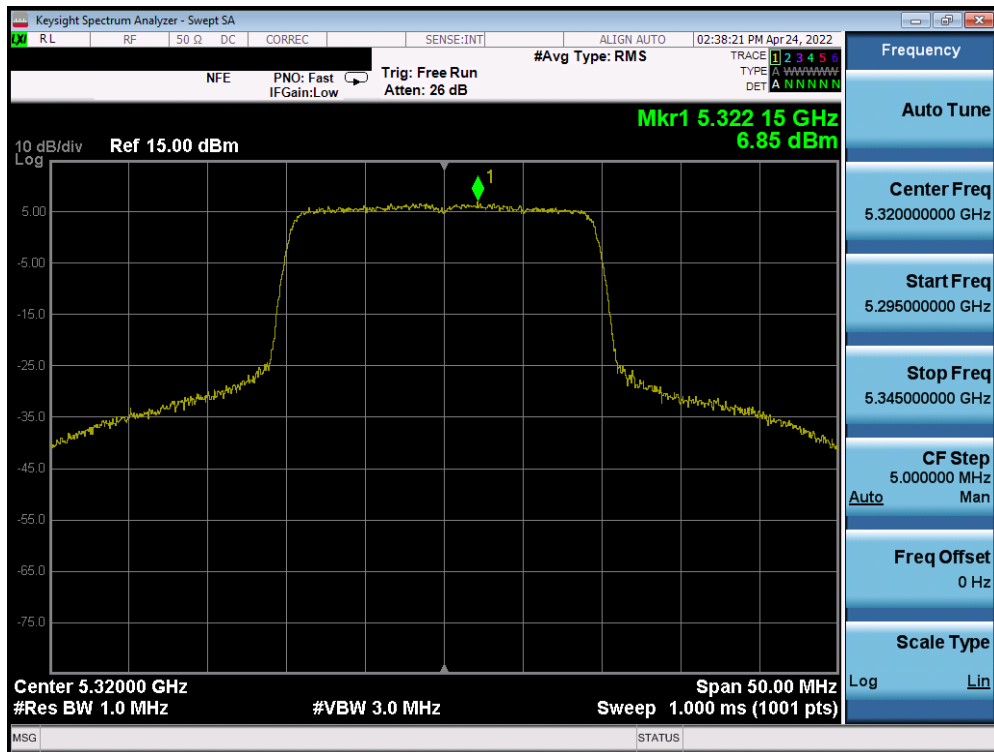


Plot 7-296. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 52)

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 185 of 284

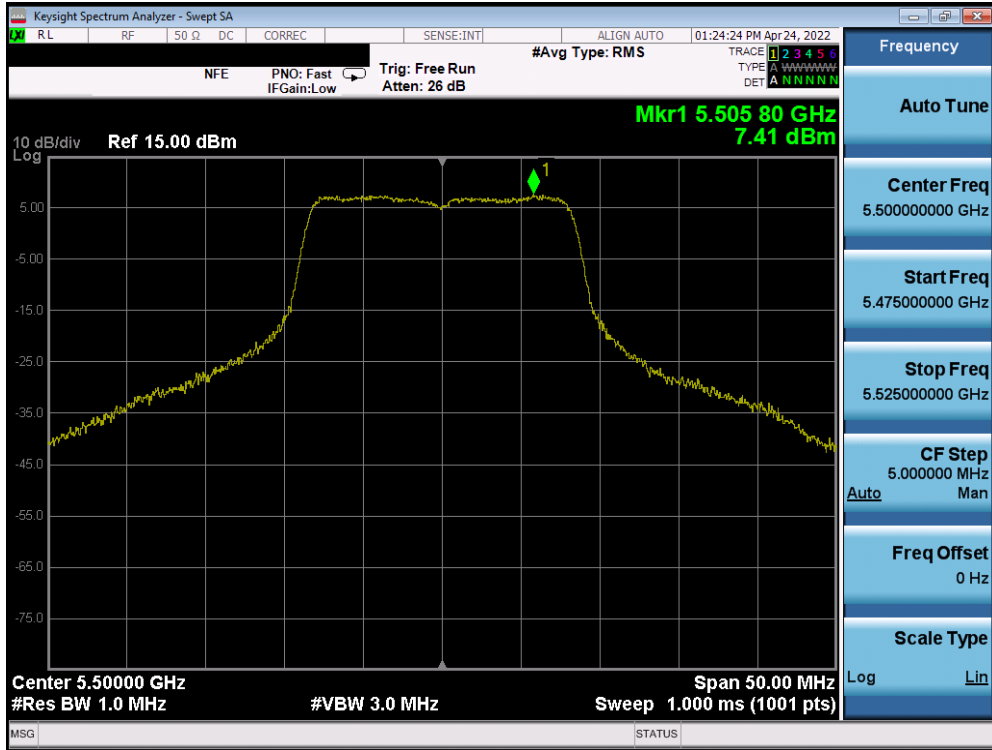


Plot 7-297. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 56)

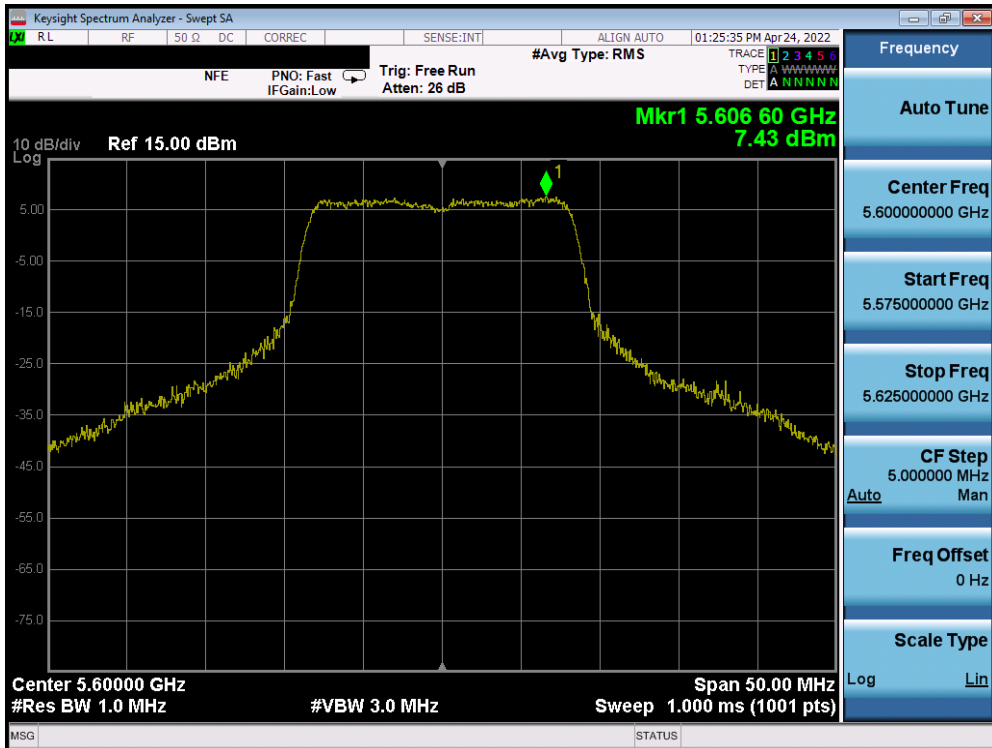


Plot 7-298. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 64)

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 186 of 284

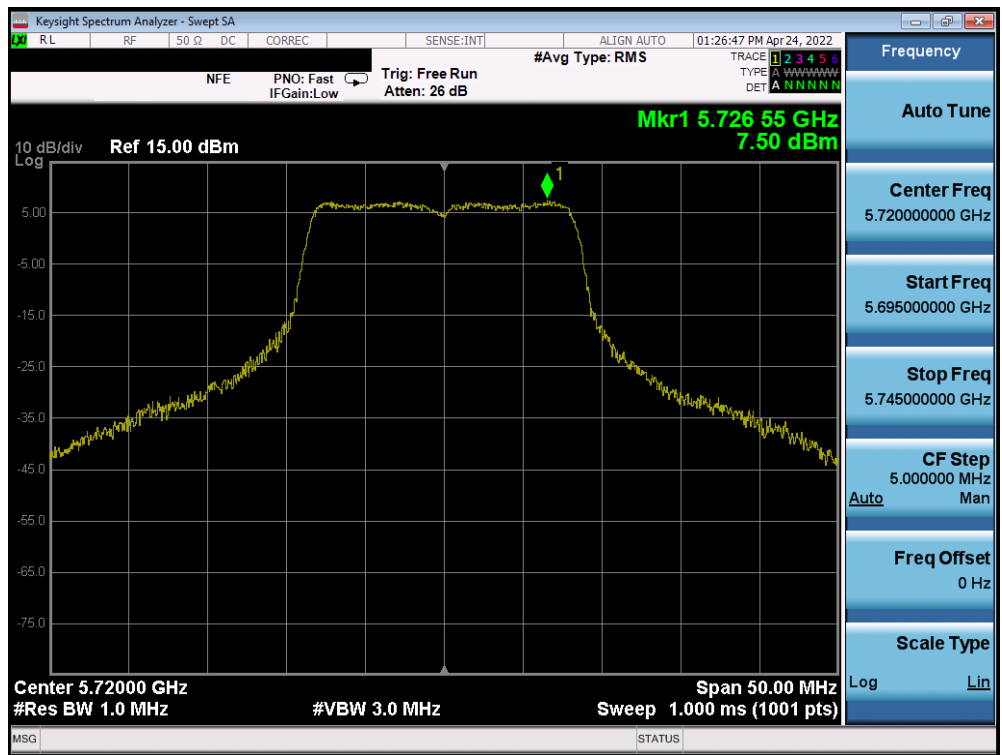


Plot 7-299. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) – Ch. 100)

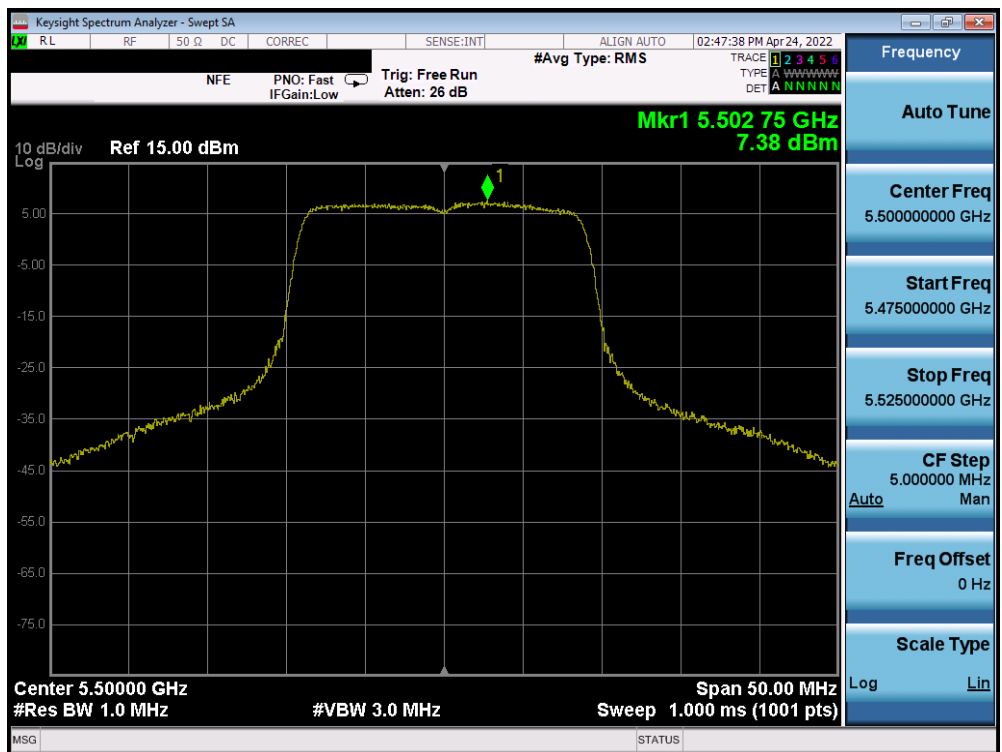


Plot 7-300. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) – Ch. 116)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 187 of 284



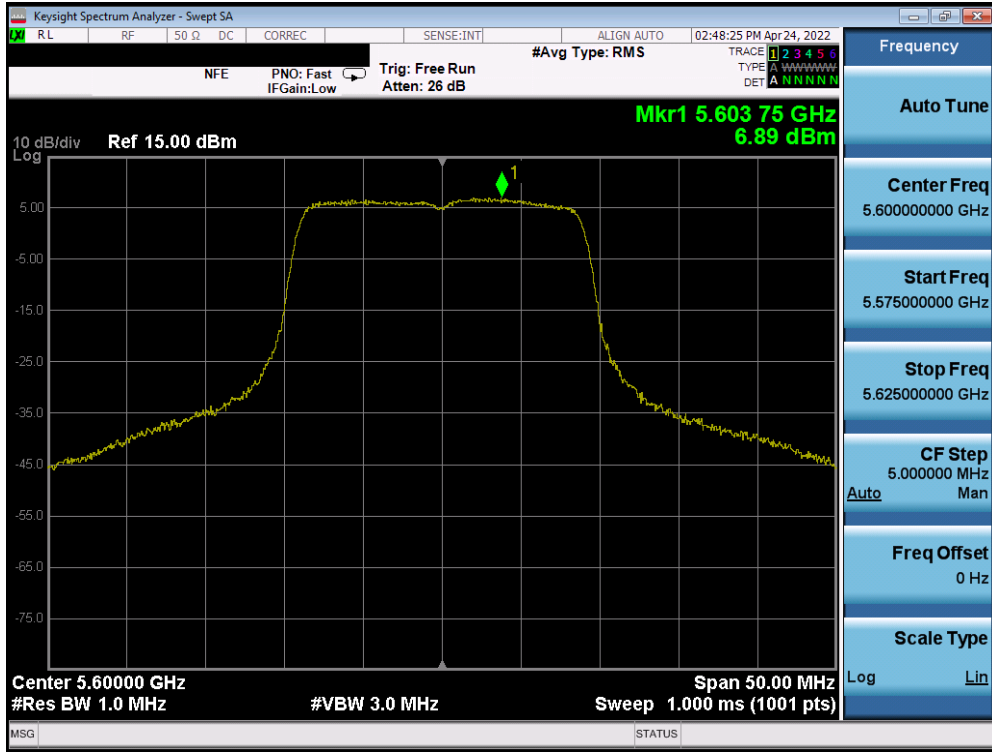
Plot 7-301. Power Spectral Density Plot MIMO ANT1 (802.11a (UNII Band 2C) – Ch. 140)



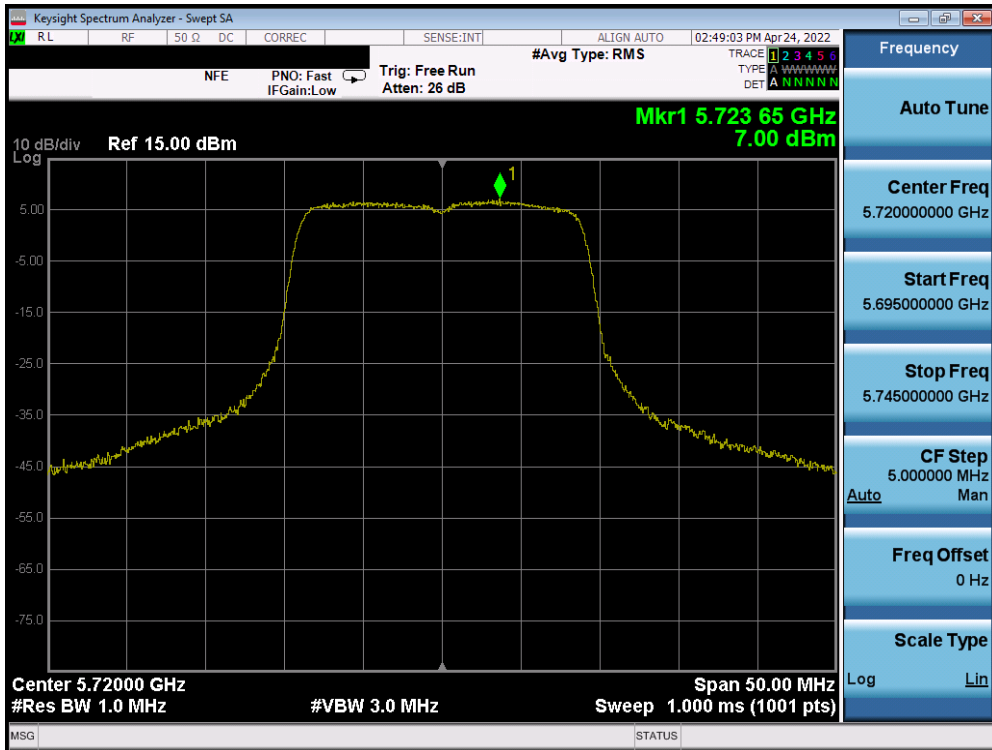
Plot 7-302. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 188 of 284





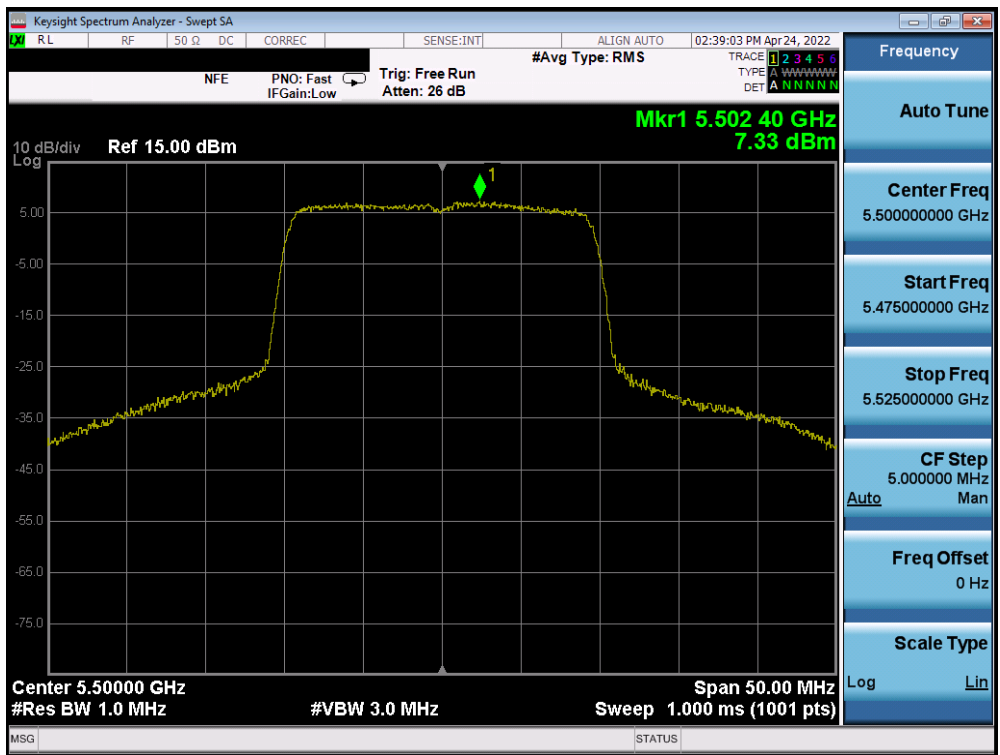
Plot 7-303. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)



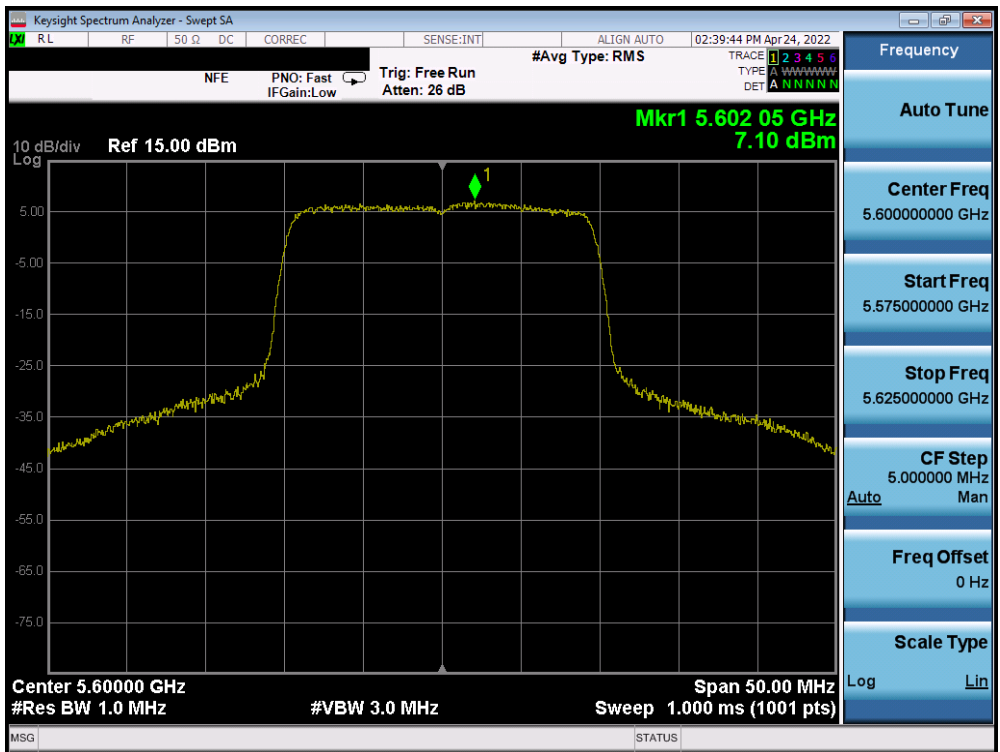
Plot 7-304. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11n (UNII Band 2C) – Ch. 140)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 189 of 284



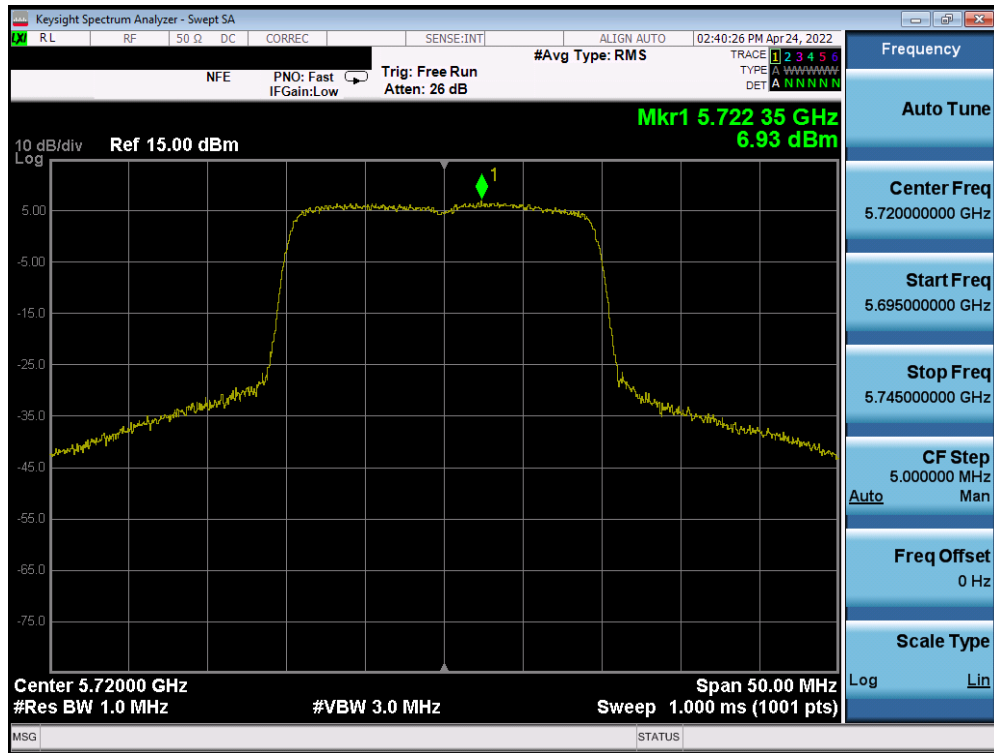


Plot 7-305. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 100)

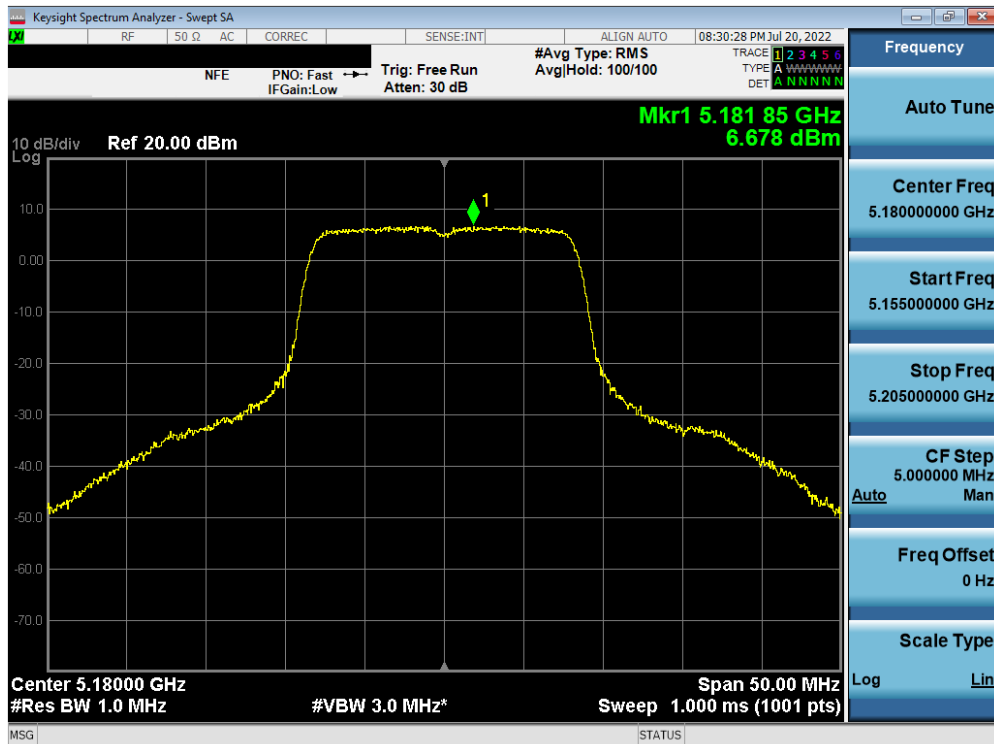


Plot 7-306. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 120)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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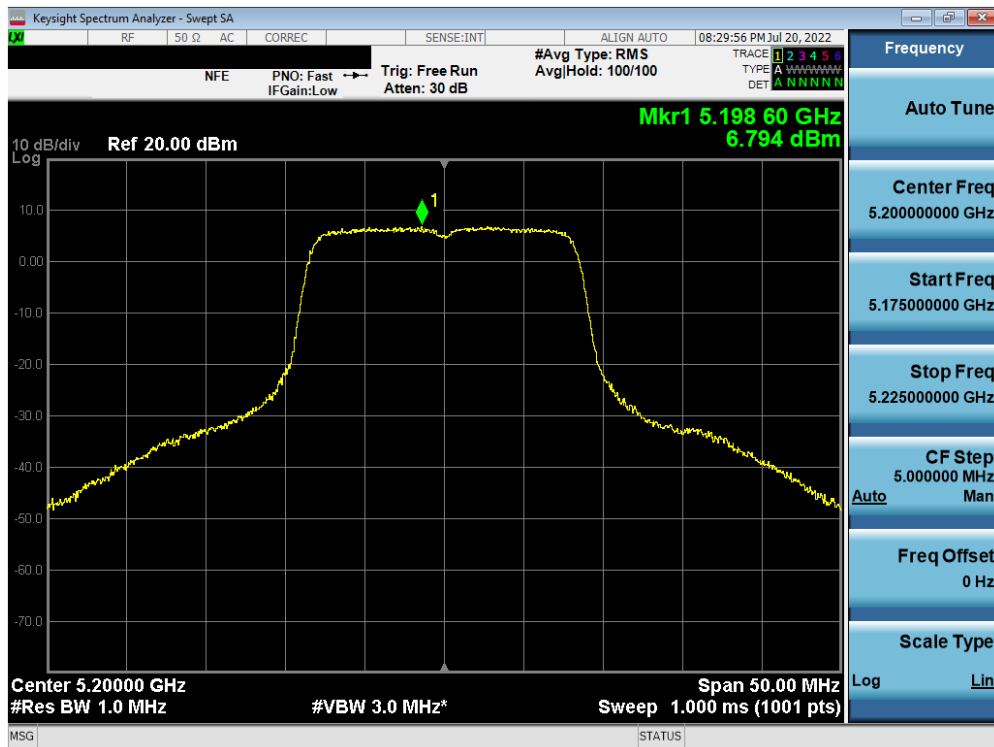


Plot 7-307. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 144)

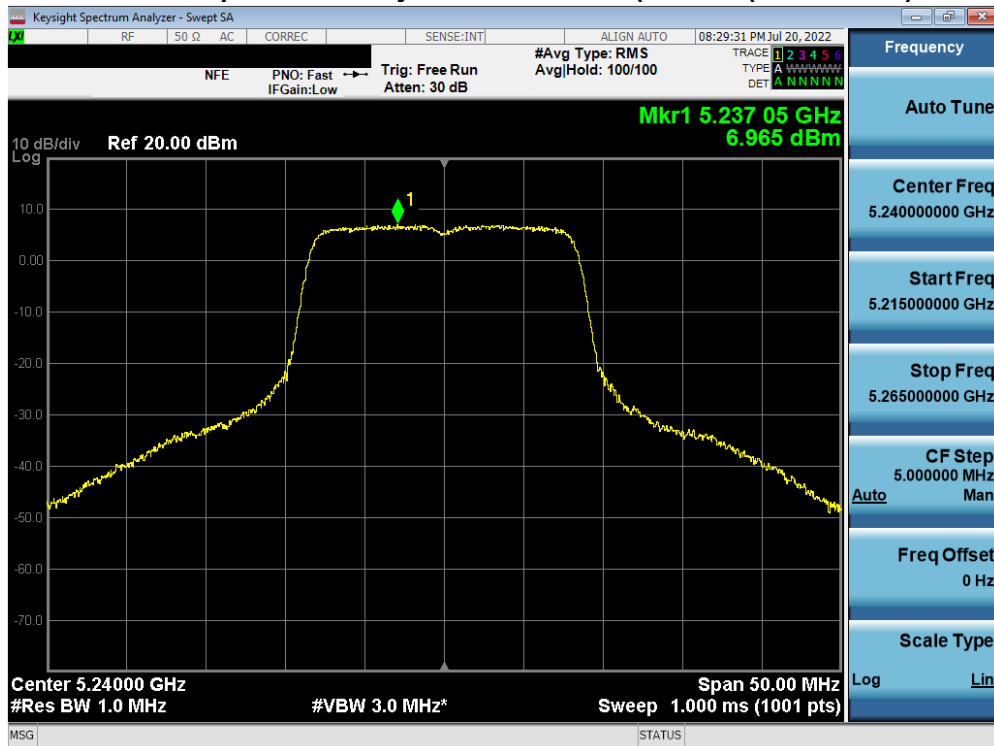


Plot 7-308. Power Spectral Density Plot MIMO ANT2 (802.11a (UNII Band 1) – Ch. 36)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 191 of 284

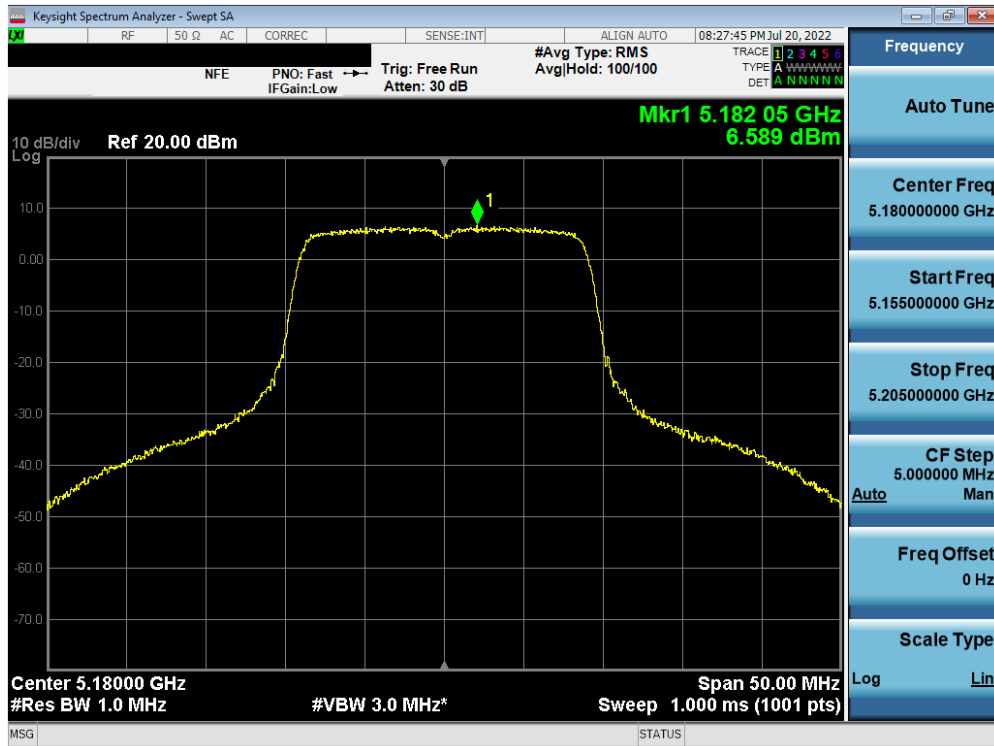


Plot 7-309. Power Spectral Density Plot MIMO ANT2 (802.11a (UNII Band 1) – Ch. 40)

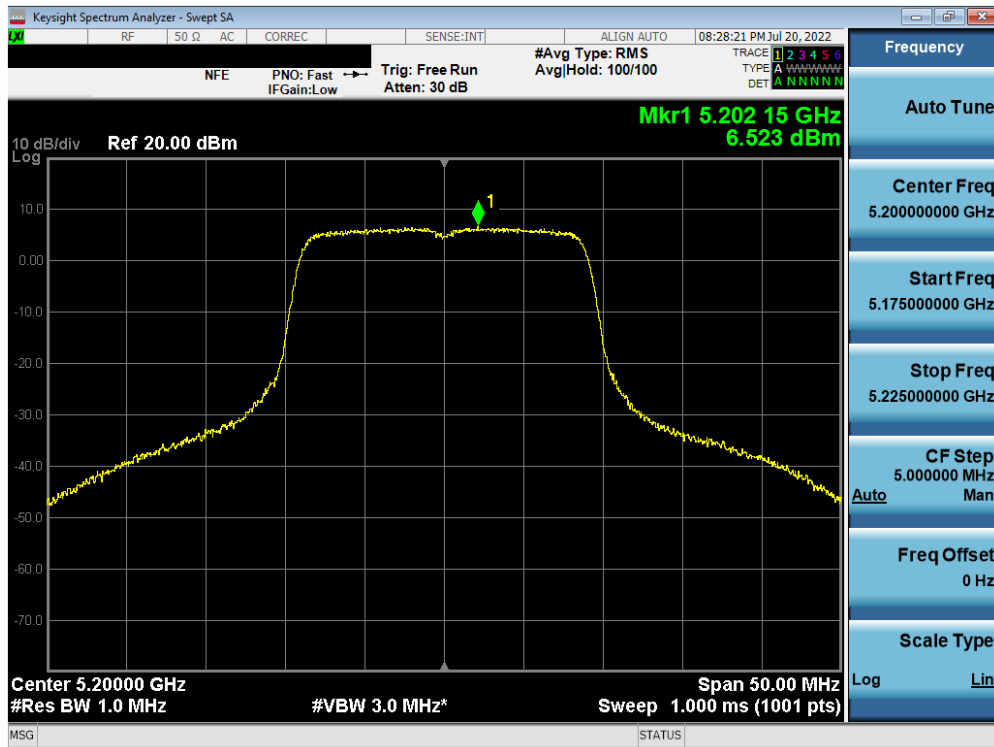


Plot 7-310. Power Spectral Density Plot MIMO ANT2 (802.11a (UNII Band 1) – Ch. 48)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 192 of 284

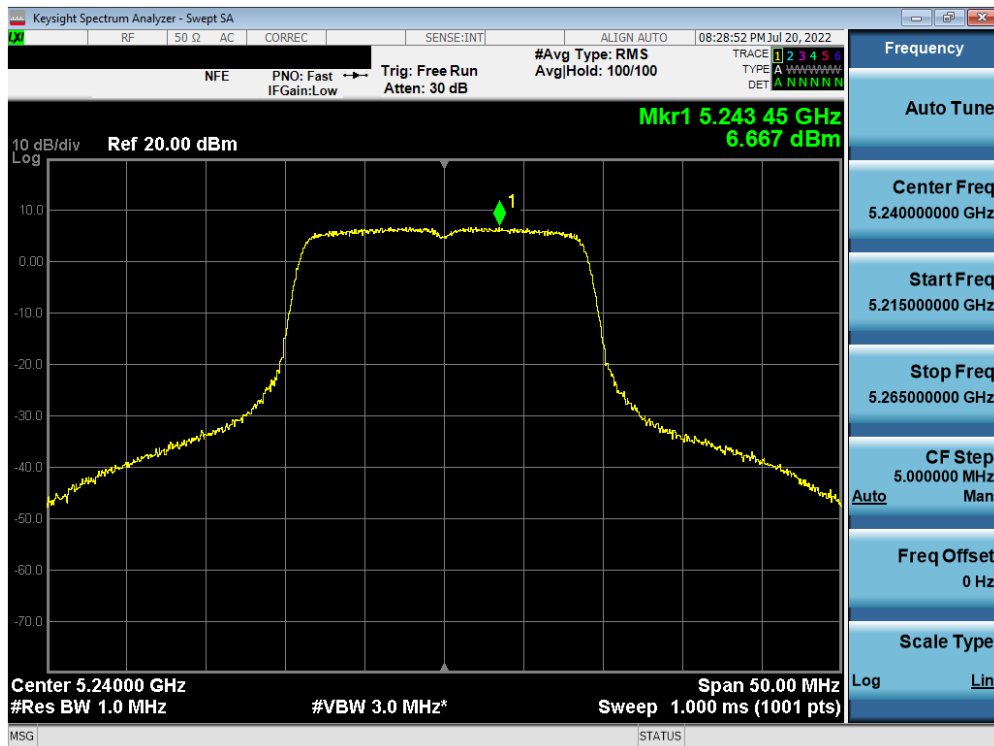


Plot 7-311. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

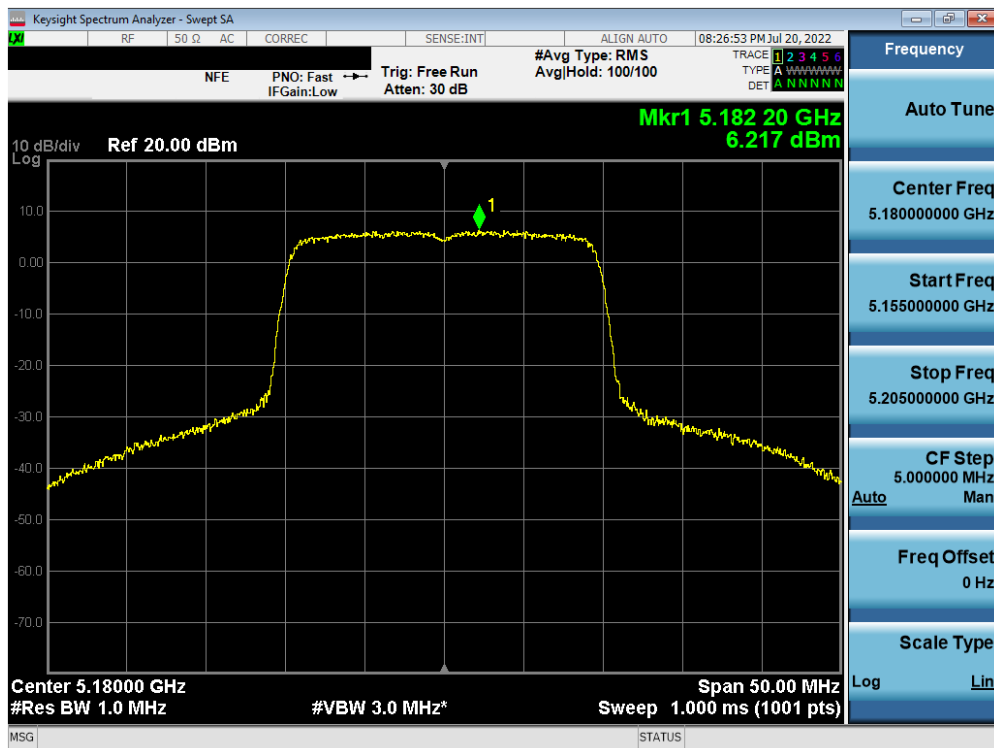


Plot 7-312. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 193 of 284

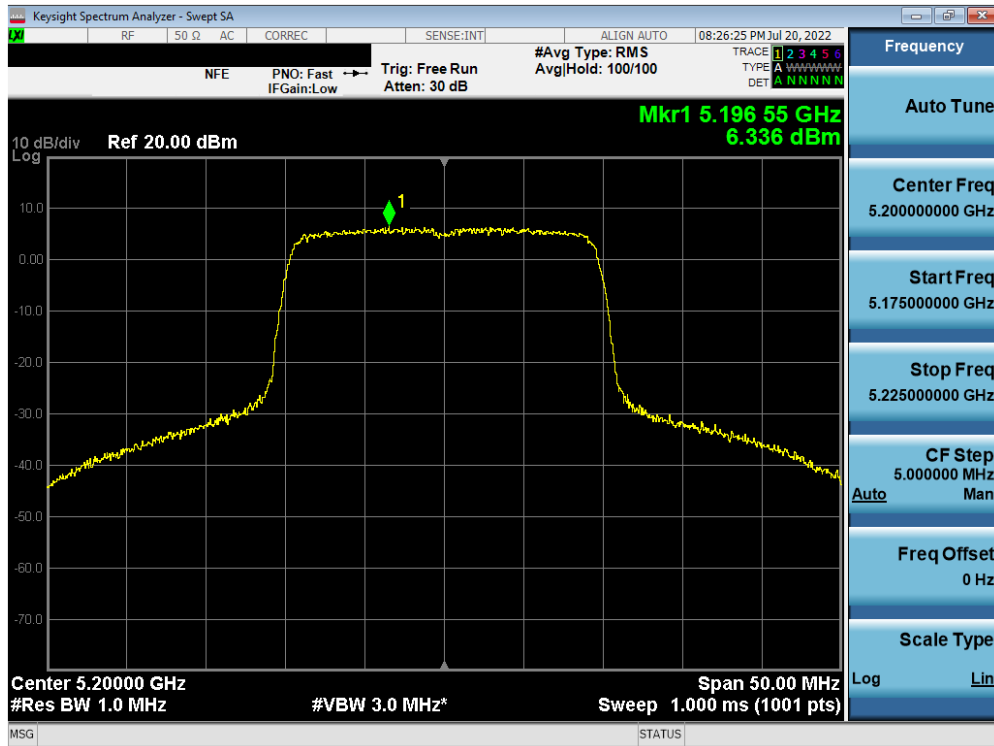


Plot 7-313. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

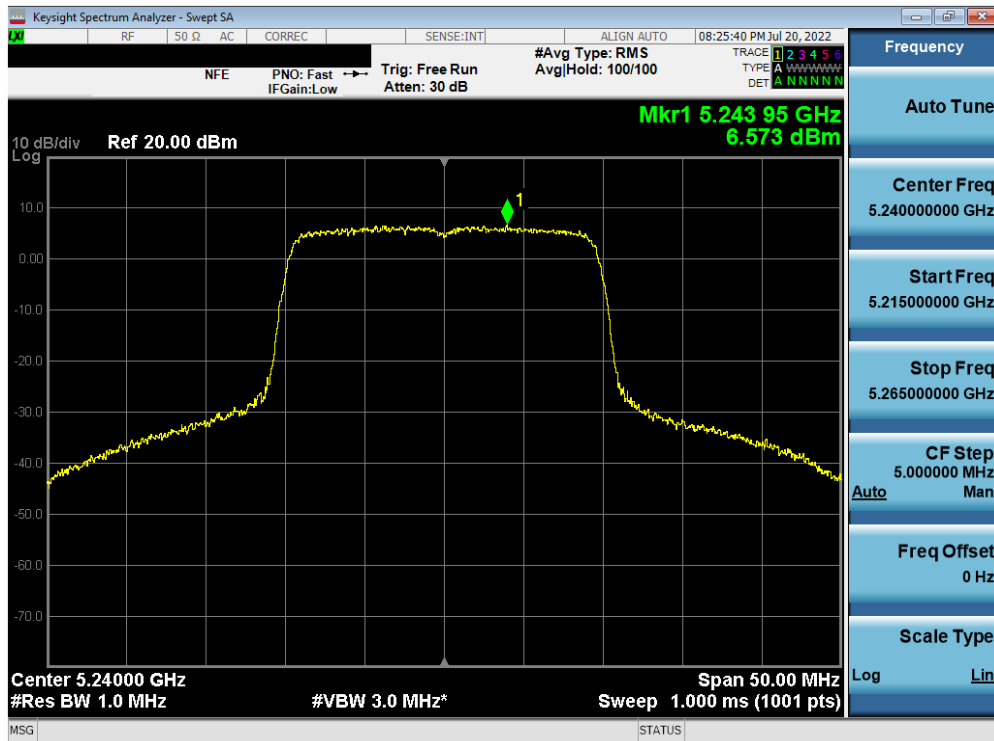


Plot 7-314. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 1) – Ch. 36)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 194 of 284

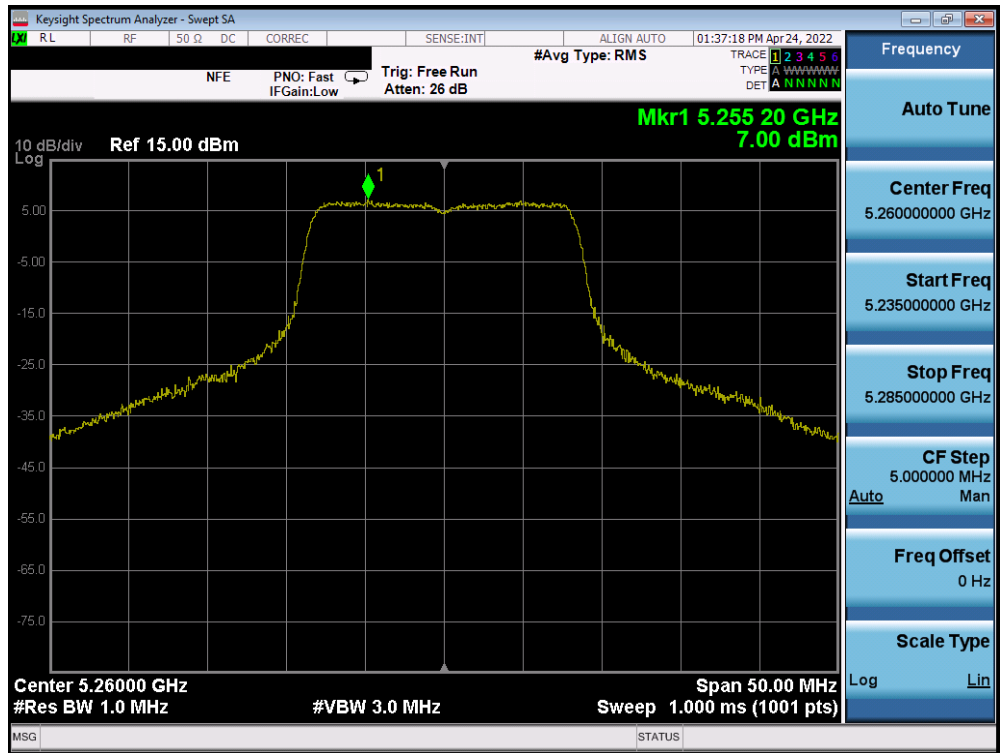


Plot 7-315. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 1) – Ch. 40)

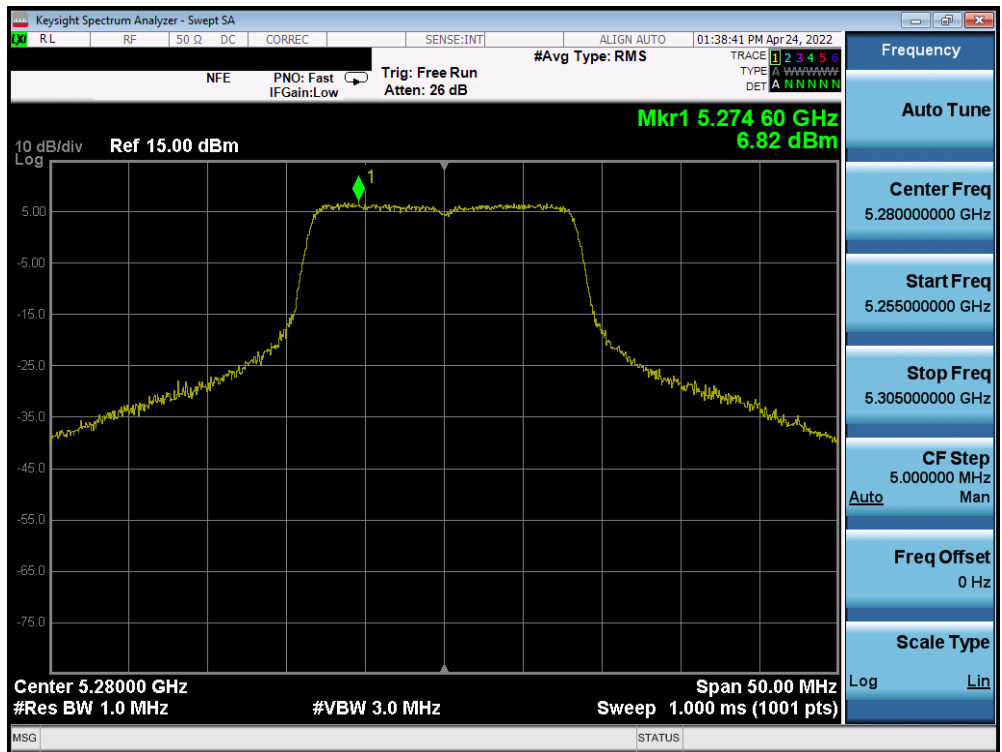


Plot 7-316. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 1) – Ch. 48)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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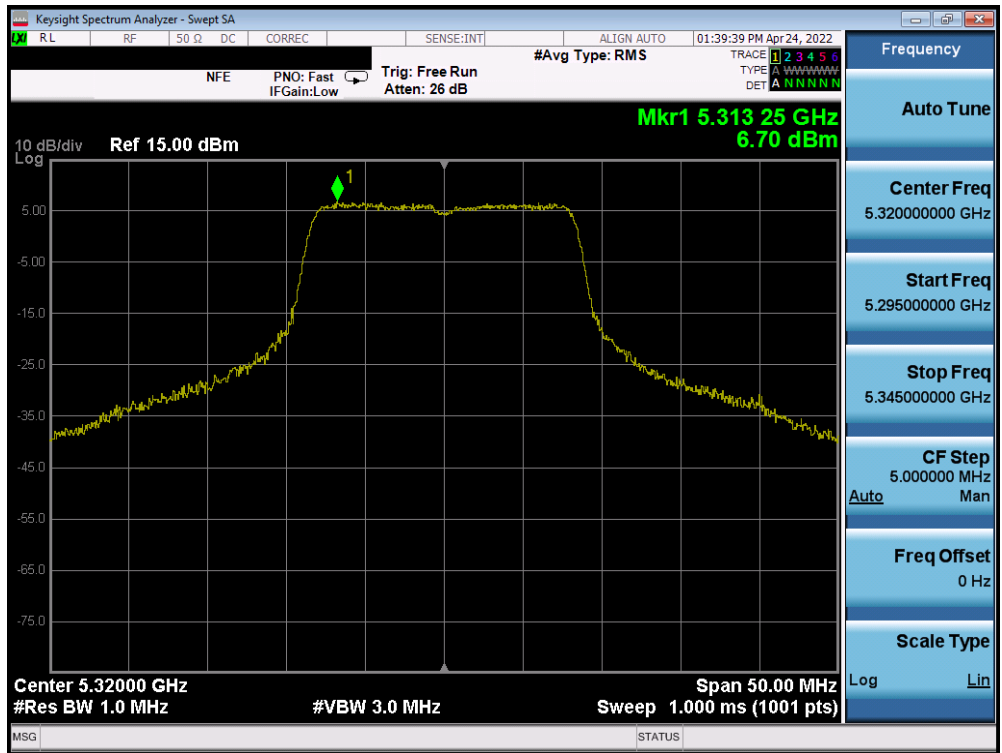


Plot 7-317. Power Spectral Density Plot MIMO ANT2 (802.11a (UNII Band 2A) – Ch. 52)

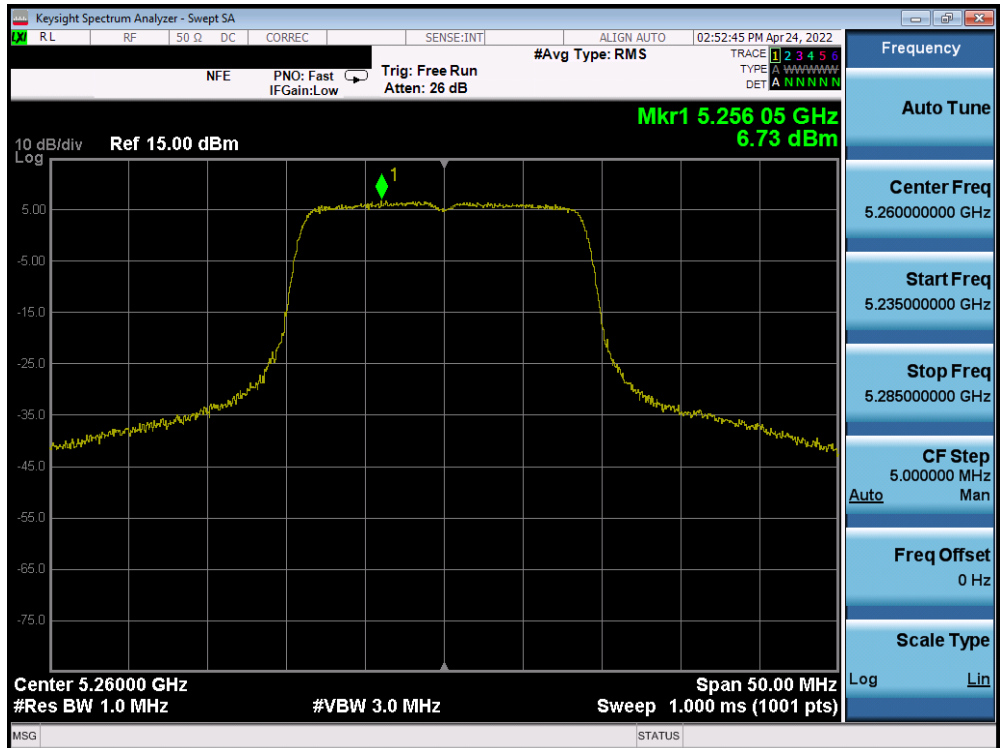


Plot 7-318. Power Spectral Density Plot MIMO ANT2 (802.11a (UNII Band 2A) – Ch. 56)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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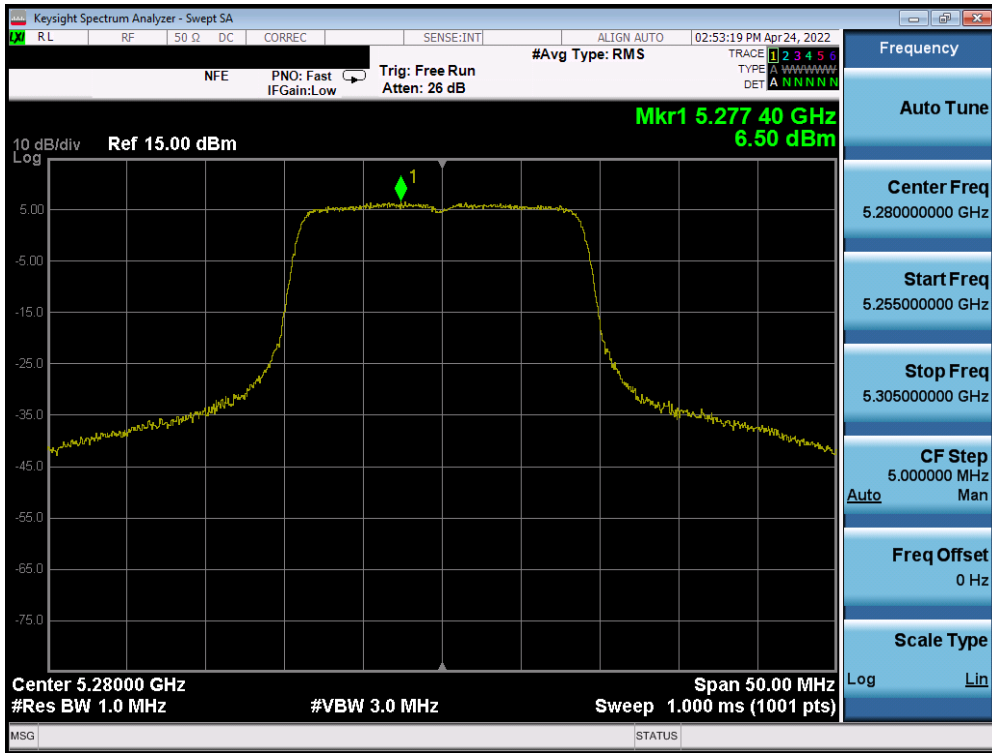
Plot 7-319. Power Spectral Density Plot MIMO ANT2 (802.11a (UNII Band 2A) – Ch. 64)



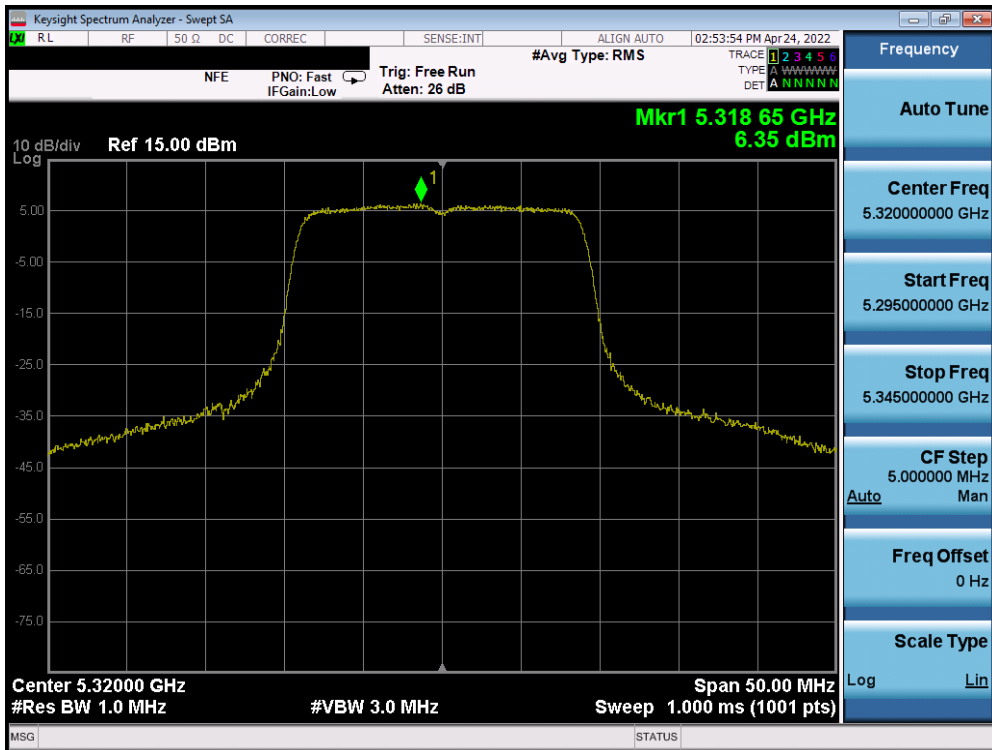
Plot 7-320. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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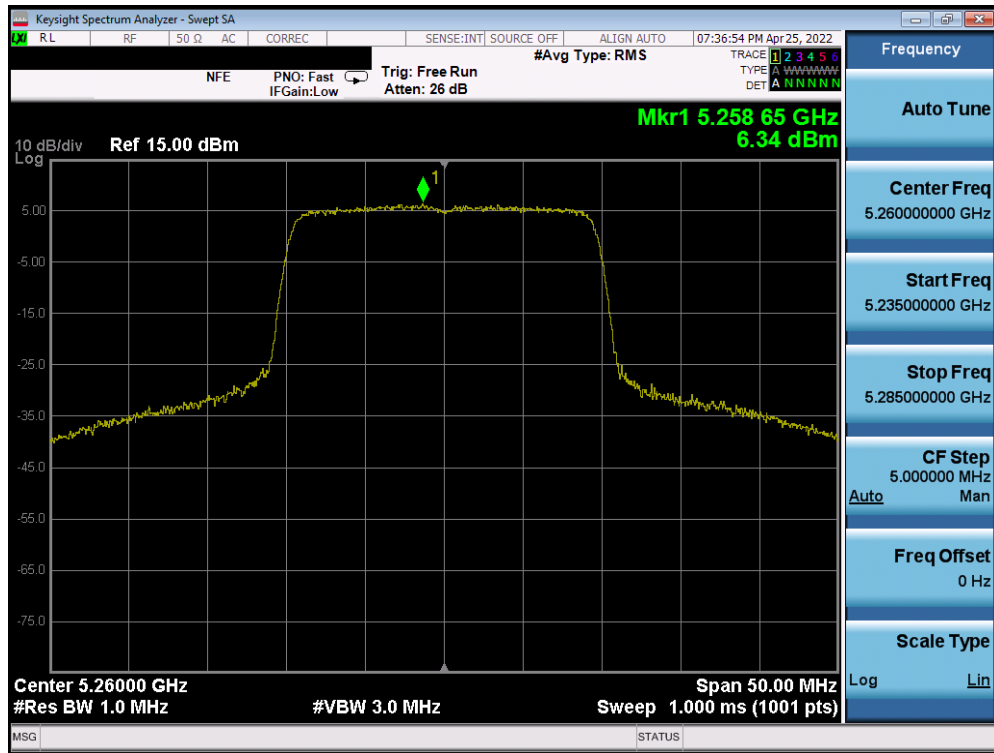


Plot 7-321. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

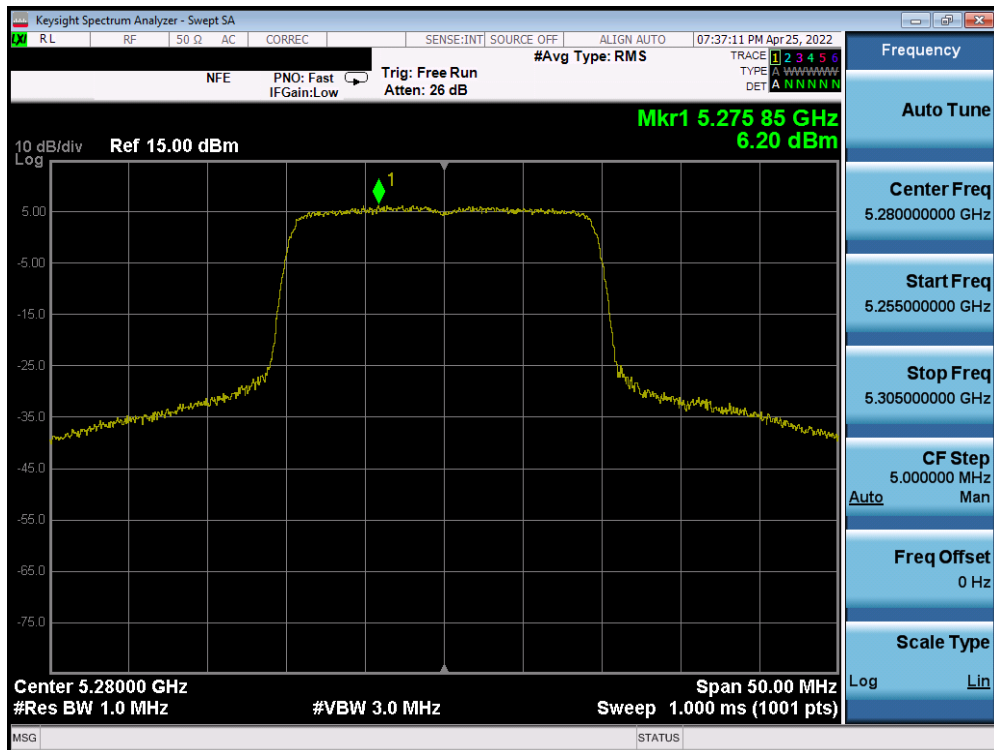


Plot 7-322. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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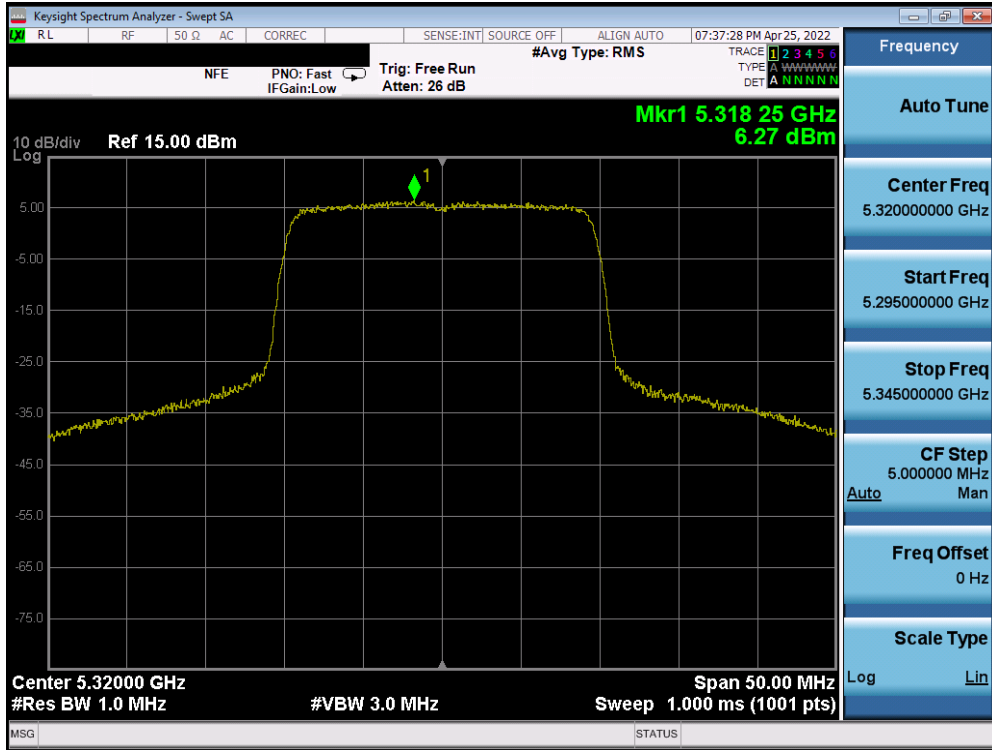


Plot 7-323. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 52)

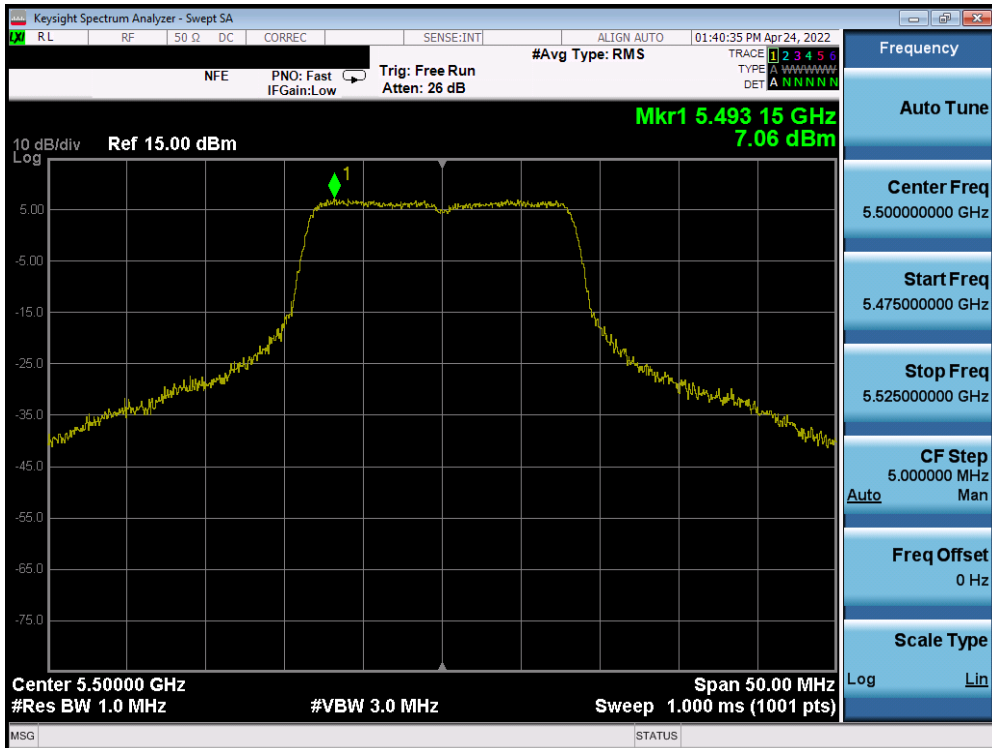


Plot 7-324. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 56)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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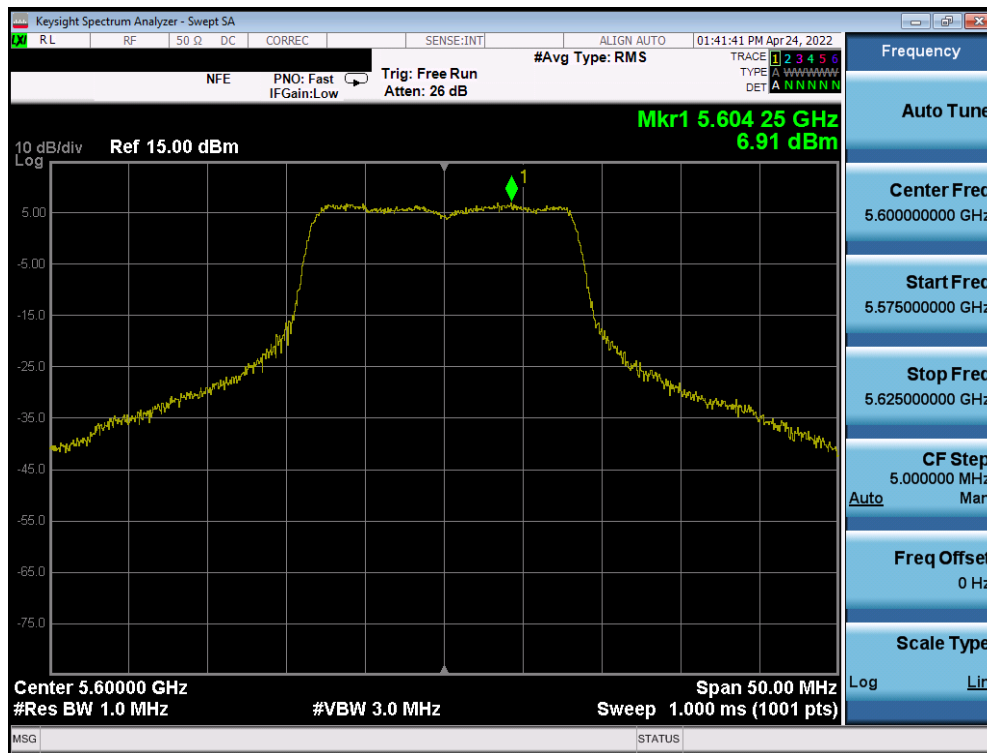


Plot 7-325. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2A) – Ch. 64)

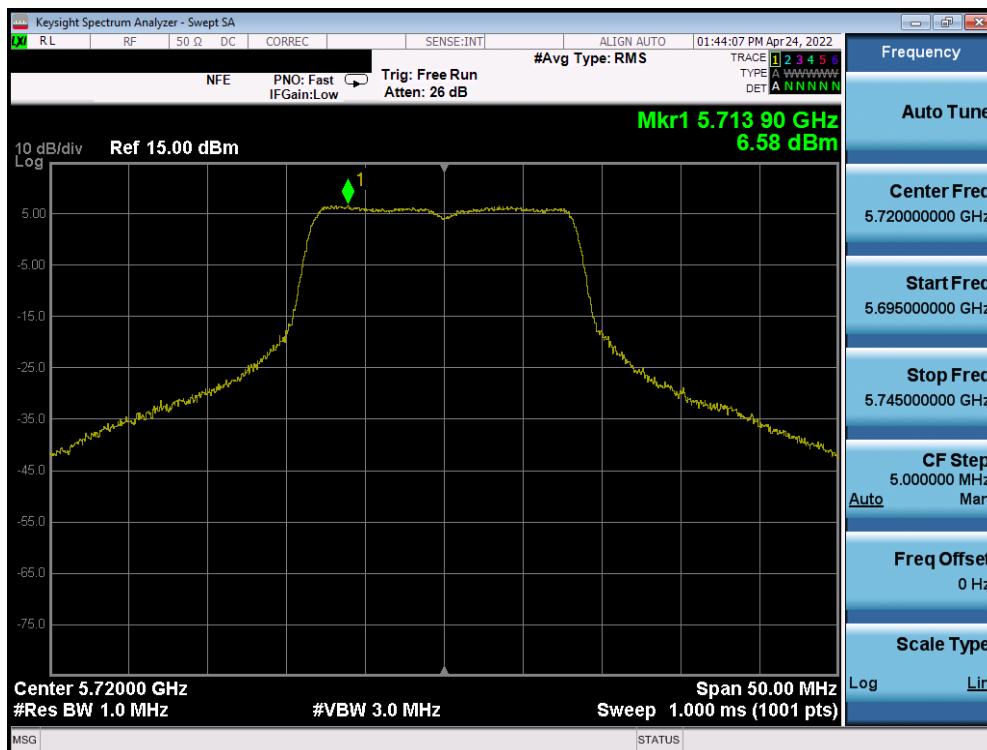


Plot 7-326. Power Spectral Density Plot MIMO ANT2 (802.11a (UNII Band 2C) – Ch. 100)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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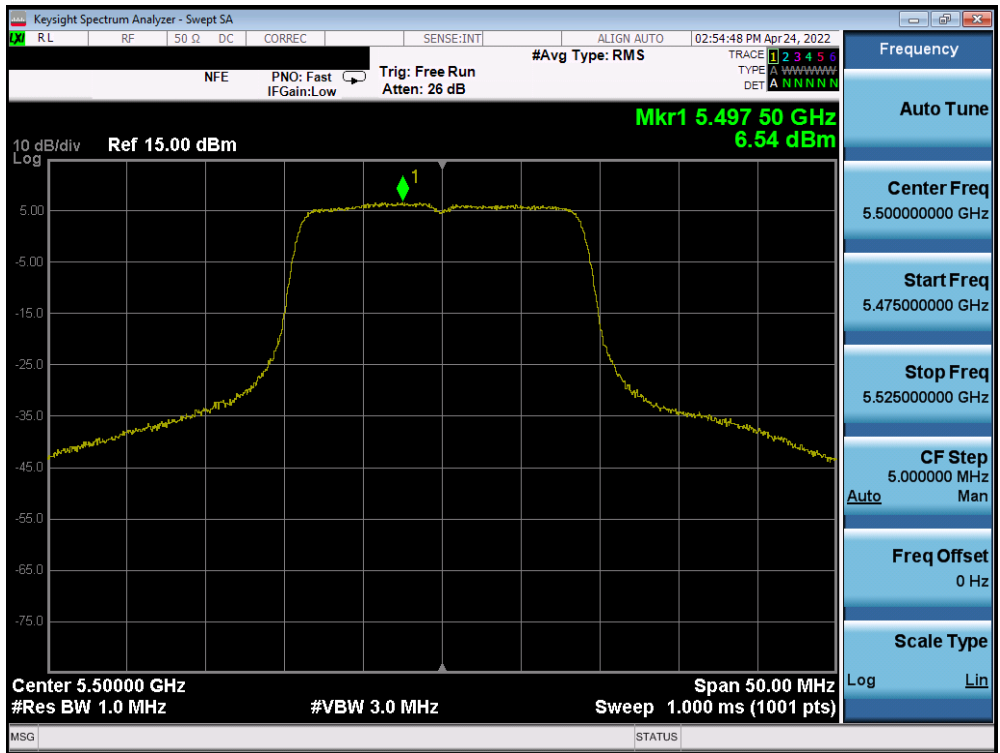


Plot 7-327. Power Spectral Density Plot MIMO ANT2 (802.11a (UNII Band 2C) – Ch. 120)

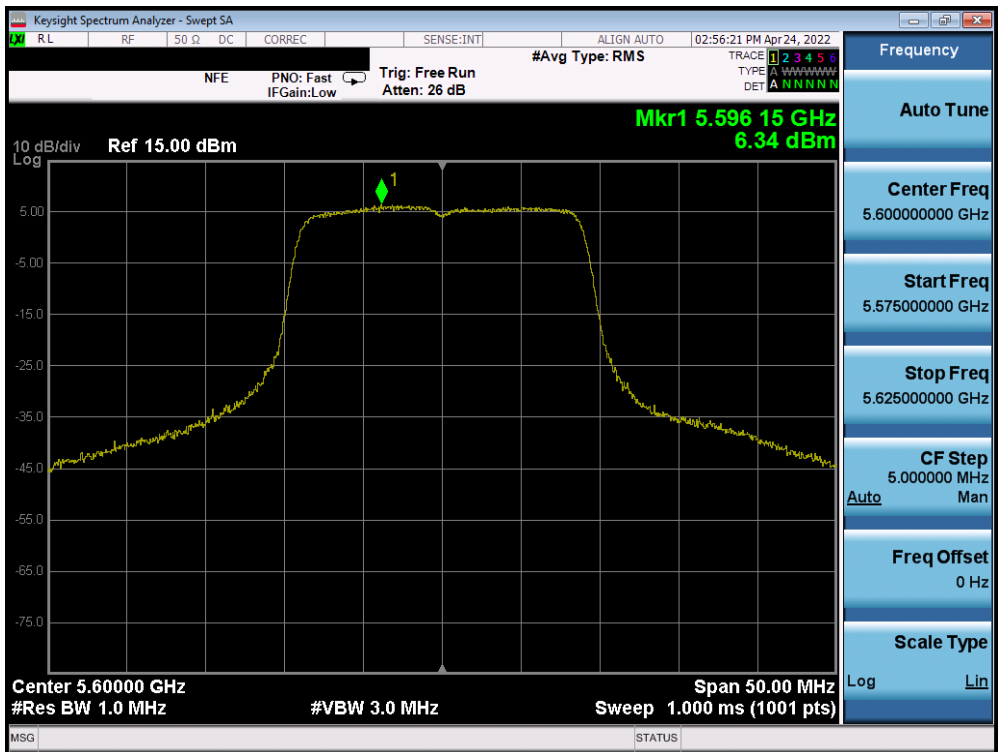


Plot 7-328. Power Spectral Density Plot MIMO ANT2 (802.11a (UNII Band 2C) – Ch. 144)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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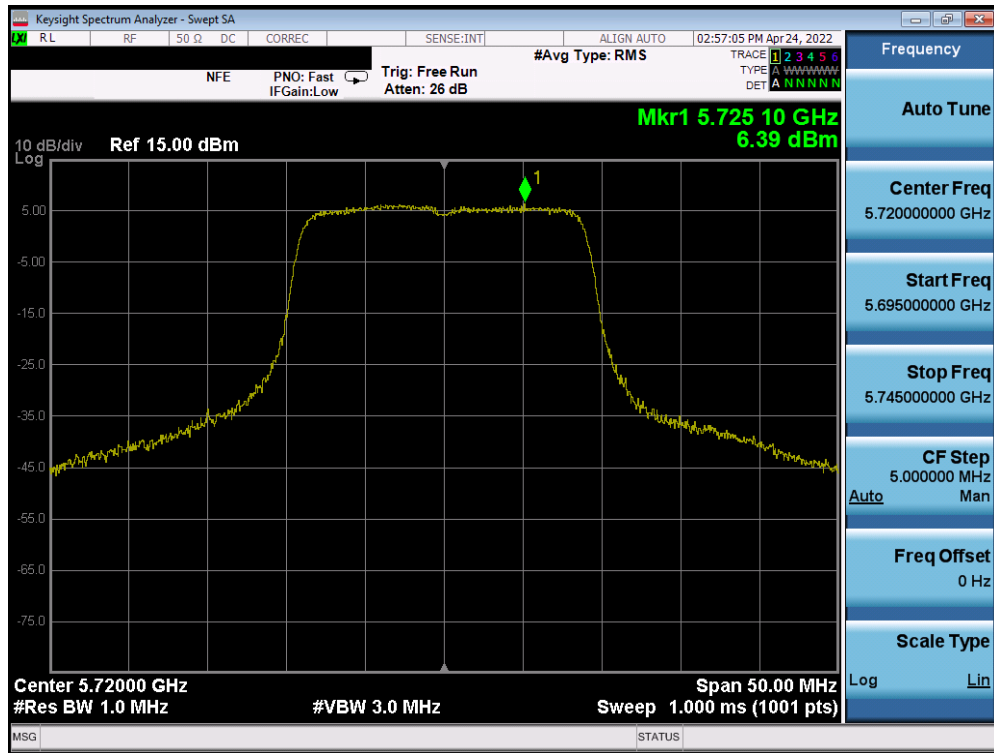


Plot 7-329. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

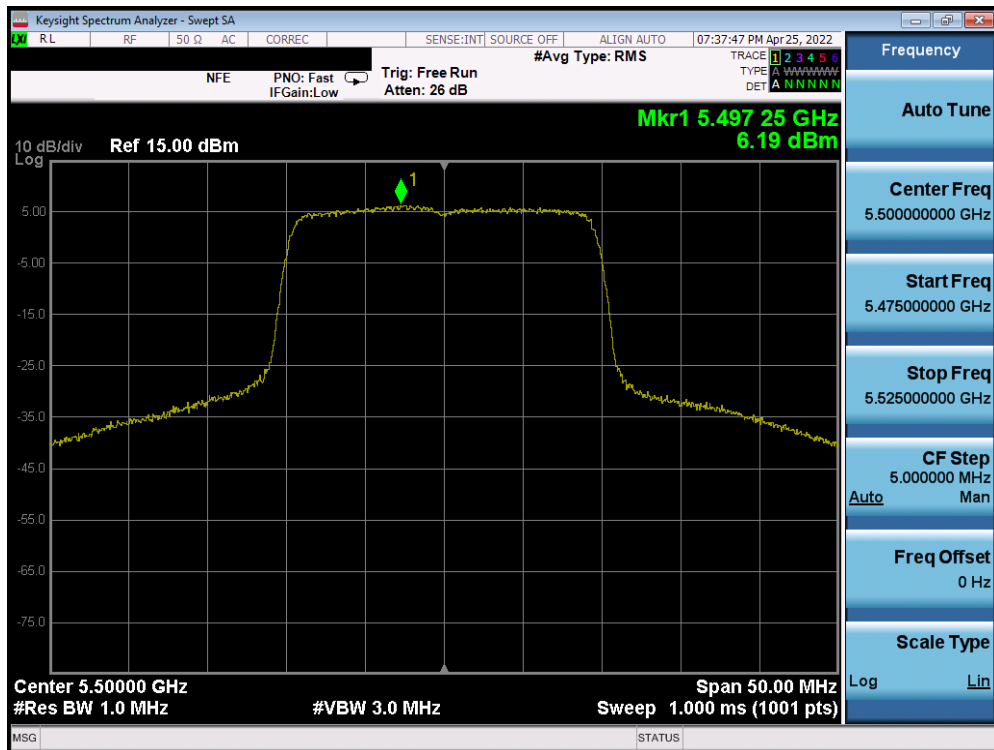


Plot 7-330. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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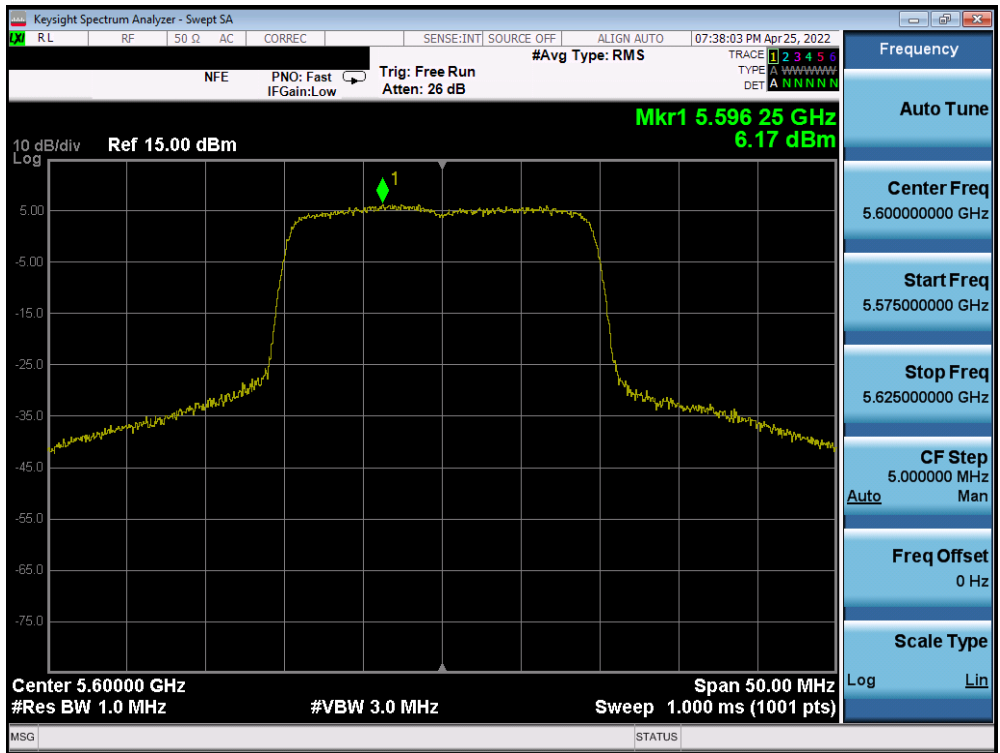


Plot 7-331. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

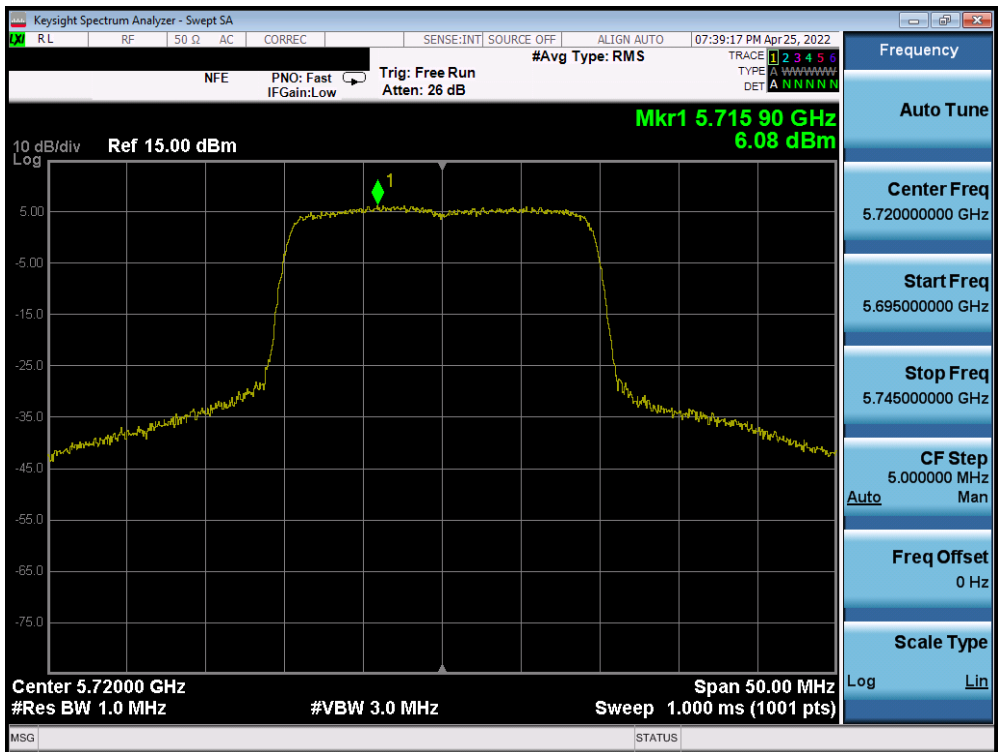


Plot 7-332. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 100)

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 7-333. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 120)



Plot 7-334. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (UNII Band 2C) – Ch. 144)

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## Summed MIMO Power Spectral Density Measurements – 40/80/160MHz

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5190	38	n (40MHz)	13.5/15 (MCS0)	2.57	2.10	5.35	11.0	-5.65
	5230	46	n (40MHz)	13.5/15 (MCS0)	2.64	2.30	5.49	11.0	-5.51
	5190	38	ax (40MHz)	13.5/15 (MCS0)	2.42	2.55	5.50	11.0	-5.50
	5230	46	ax (40MHz)	13.5/15 (MCS0)	2.61	2.56	5.60	11.0	-5.40
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-0.86	-0.96	2.10	11.0	-8.90
Band 1/2A	5210	42	ax (80MHz)	29.3/32.5 (MCS0)	-0.53	-0.28	2.61	11.0	-8.39
	5250	50	ac (160MHz)	58.5/65 (MCS0)	0.69	-3.34	2.13	11.0	-8.87
Band 2A	5250	50	ax (160MHz)	58.5/65 (MCS0)	-1.99	-1.71	1.17	11.0	-9.83
	5270	54	n (40MHz)	13.5/15 (MCS0)	6.28	6.06	9.18	11.0	-1.82
	5310	62	n (40MHz)	13.5/15 (MCS0)	3.65	3.38	6.53	11.0	-4.47
	5270	54	ax (40MHz)	13.5/15 (MCS0)	5.94	6.07	9.02	11.0	-1.98
	5310	62	ax (40MHz)	13.5/15 (MCS0)	3.91	3.56	6.75	11.0	-4.25
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	0.69	0.69	3.70	11.0	-7.30
	5290	58	ax (80MHz)	29.3/32.5 (MCS0)	0.82	0.75	3.80	11.0	-7.20
Band 2C	5510	102	n (40MHz)	13.5/15 (MCS0)	5.23	4.70	7.98	10.89	-2.91
	5590	118	n (40MHz)	13.5/15 (MCS0)	6.08	5.69	8.90	10.89	-1.99
	5710	142	n (40MHz)	13.5/15 (MCS0)	6.50	6.04	9.28	10.89	-1.61
	5510	102	ax (40MHz)	13.5/15 (MCS0)	3.98	3.94	6.97	10.89	-3.92
	5590	118	ax (40MHz)	13.5/15 (MCS0)	6.61	5.58	9.14	10.89	-1.75
	5710	142	ax (40MHz)	13.5/15 (MCS0)	6.59	5.62	9.14	10.89	-1.75
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	1.86	1.62	4.75	10.89	-6.14
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	2.99	3.10	6.06	10.89	-4.83
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	2.63	3.24	5.96	10.89	-4.93
	5530	106	ax (80MHz)	29.3/32.5 (MCS0)	-0.14	0.01	2.95	10.89	-7.94
	5610	122	ax (80MHz)	29.3/32.5 (MCS0)	2.92	2.61	5.78	10.89	-5.11
	5690	138	ax (80MHz)	29.3/32.5 (MCS0)	2.78	2.50	5.65	10.89	-5.24
	5570	114	ac (160MHz)	58.5/65 (MCS0)	3.97	-1.57	5.04	10.89	-5.85
5570	114	ax (160MHz)	58.5/65 (MCS0)	-1.74	-2.77	0.79	10.89	-10.10	

Table 7-30. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	a	6	7.19	7.43	10.32	30.0	-19.68
	5785	157	a	6	7.78	7.10	10.46	30.0	-19.54
	5825	165	a	6	7.52	6.91	10.23	30.0	-19.77
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	7.87	6.02	10.05	30.0	-19.95
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	7.41	6.02	9.78	30.0	-20.22
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	7.40	6.15	9.83	30.0	-20.17
	5745	149	ax (20MHz)	6.5/7.2 (MCS0)	7.35	6.96	10.17	30.0	-19.83
	5785	157	ax (20MHz)	6.5/7.2 (MCS0)	7.08	6.48	9.80	30.0	-20.20
	5825	165	ax (20MHz)	6.5/7.2 (MCS0)	7.15	6.46	9.83	30.0	-20.17
	5755	151	n (40MHz)	13.5/15 (MCS0)	3.66	6.96	8.63	30.0	-21.37
	5795	159	n (40MHz)	13.5/15 (MCS0)	3.63	3.92	6.78	30.0	-23.22
	5755	151	ax (40MHz)	13.5/15 (MCS0)	4.44	3.75	7.12	30.0	-22.88
	5795	159	ax (40MHz)	13.5/15 (MCS0)	4.29	4.68	7.50	30.0	-22.50
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-0.22	3.75	5.21	30.0	-24.79
	5775	155	ax (80MHz)	29.3/32.5 (MCS0)	-0.30	0.61	3.19	30.0	-26.81

Table 7-31. Band 3 MIMO Conducted Power Spectral Density Measurements

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**Note:**

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna-1 and Antenna-2 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 MIMO Calculation:**

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted power spectral density was measured to be 1.32 dBm for Antenna 1 and 1.23 dBm for Antenna 2.

$$\text{Antenna 1} + \text{Antenna 2} = \text{MIMO}$$

$$(1.32 \text{ dBm} + 1.23 \text{ dBm}) = (1.36 \text{ mW} + 1.33 \text{ mW}) = 2.68 \text{ mW} = 4.29 \text{ dBm}$$

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## 7.6 Radiated Spurious Emission Measurements – Above 1GHz

§15.407(b) §15.205 §15.209

### 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 its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

**For transmitters operating in the 5.15-5.25 GHz and 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.**

**For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.**

**For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.**

**All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-32 per Section 15.209 and RSS-Gen (8.9).**

Frequency	Field Strength [ $\mu\text{V/m}$ ]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-32. Radiated Limits

### Test Procedures Used

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5  
KDB 789033 D02 v02r01 – Section G

### Test Settings

#### Average Measurements above 1GHz (Method AD)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be  $\geq 2 \times \text{span/RBW}$ )
6. Averaging type = power (RMS)
7. Sweep time = auto couple

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8. Trace was averaged over 100 sweeps

**Peak Measurements above 1GHz**

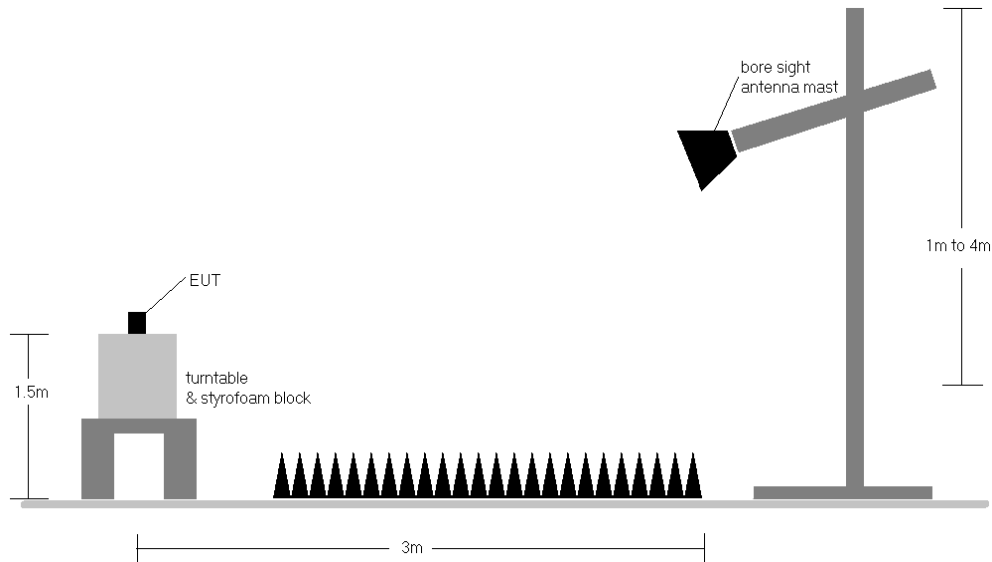
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

**Peak Measurements below 1GHz**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

**Test Setup**

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



**Figure 7-5. Test Instrument & Measurement Setup**

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**Test Notes**

1. All emissions that lie in the restricted bands (denoted by a \* next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-32.
2. All spurious emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-32. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
6. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.
8. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
9. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

**Sample Calculations**

**Determining Spurious Emissions Levels**

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

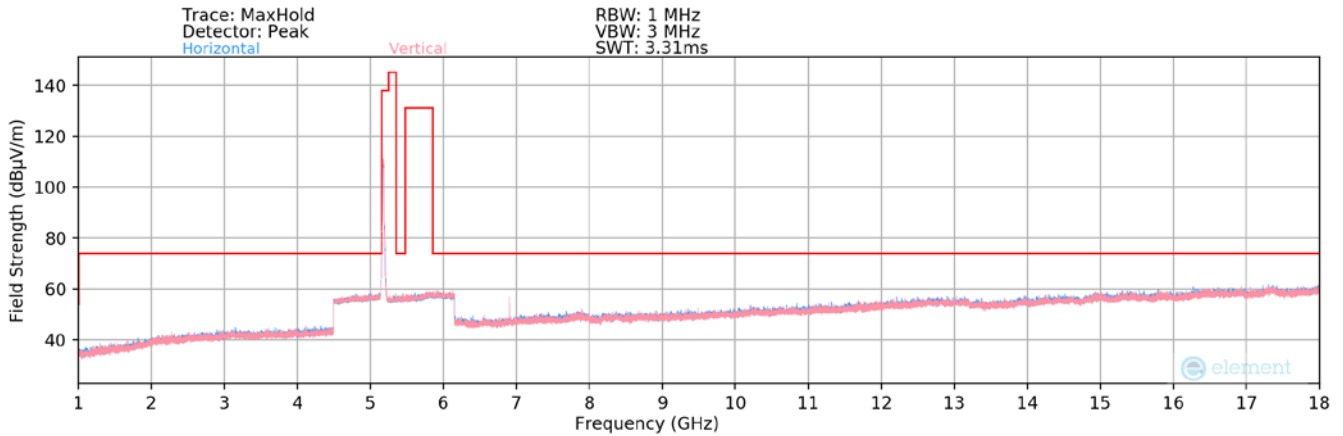
**Radiated Band Edge Measurement Offset**

- The amplitude offset shown in the radiated restricted band edge plots was calculated using the formula:

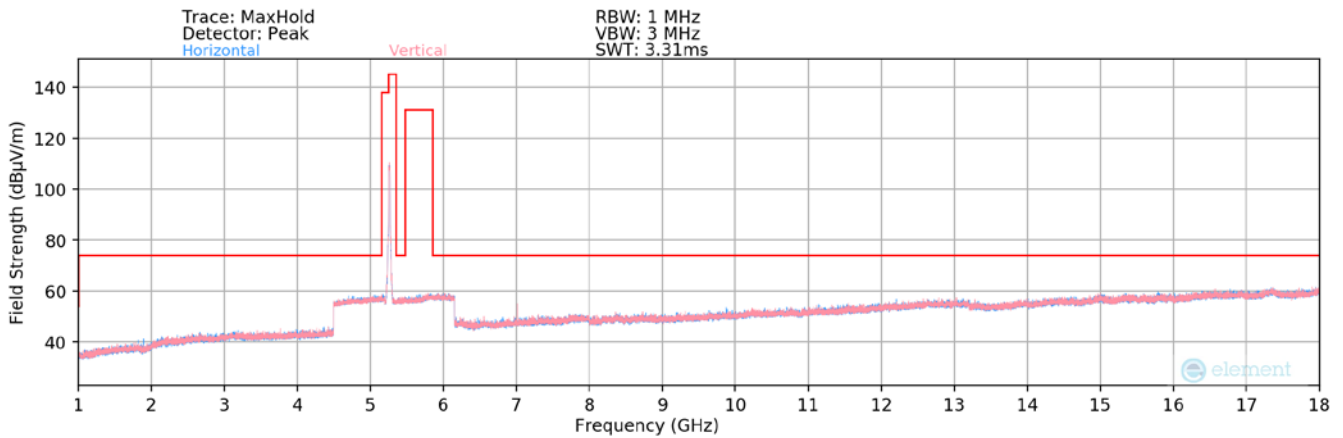
$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

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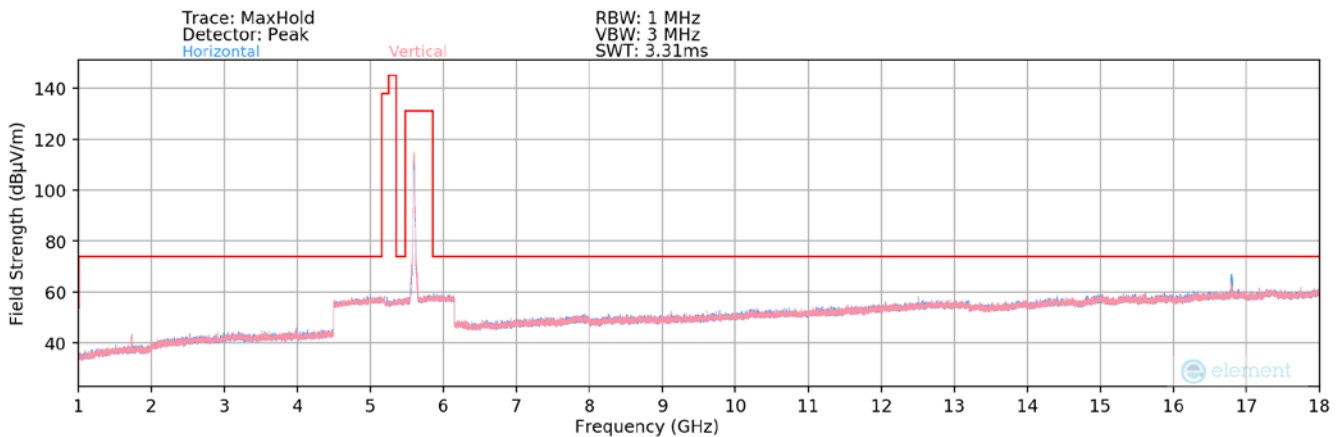
### 7.6.1 SISO Antenna-1 Radiated Spurious Emission Measurements



**Plot 7-335. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U1 Ch. 40)**

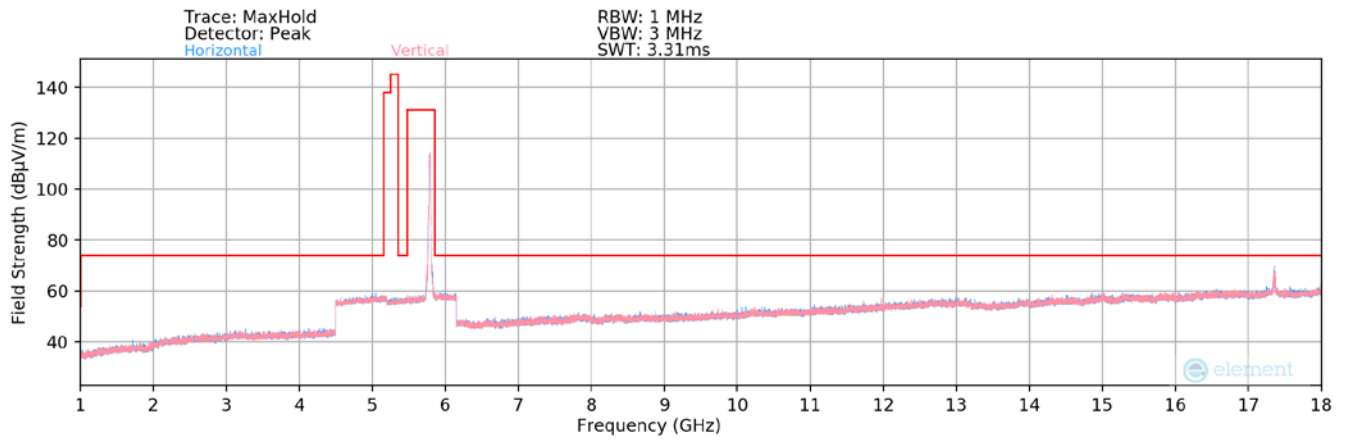


**Plot 7-336. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U2A Ch. 56)**



**Plot 7-337. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U2C Ch. 120)**

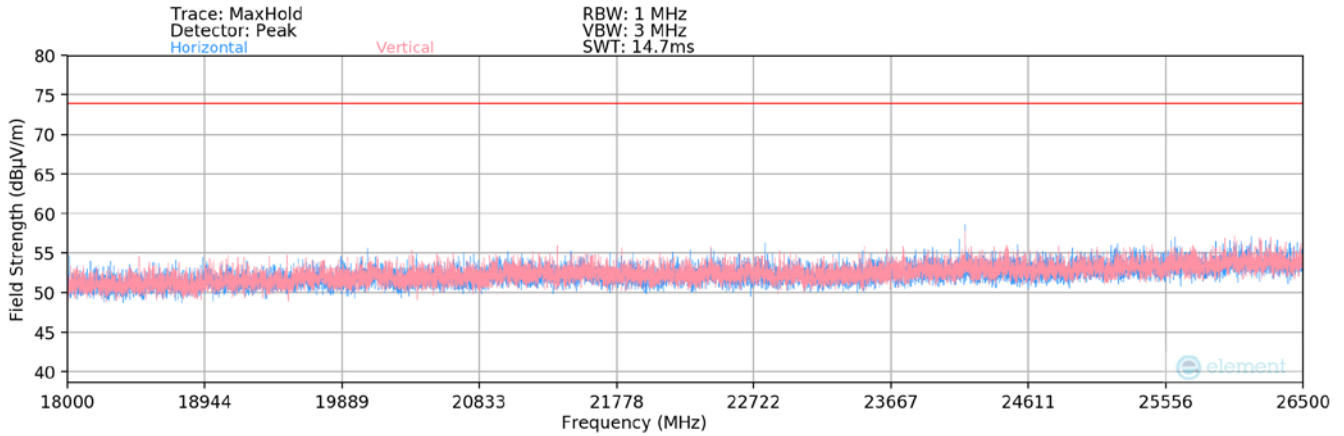
FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
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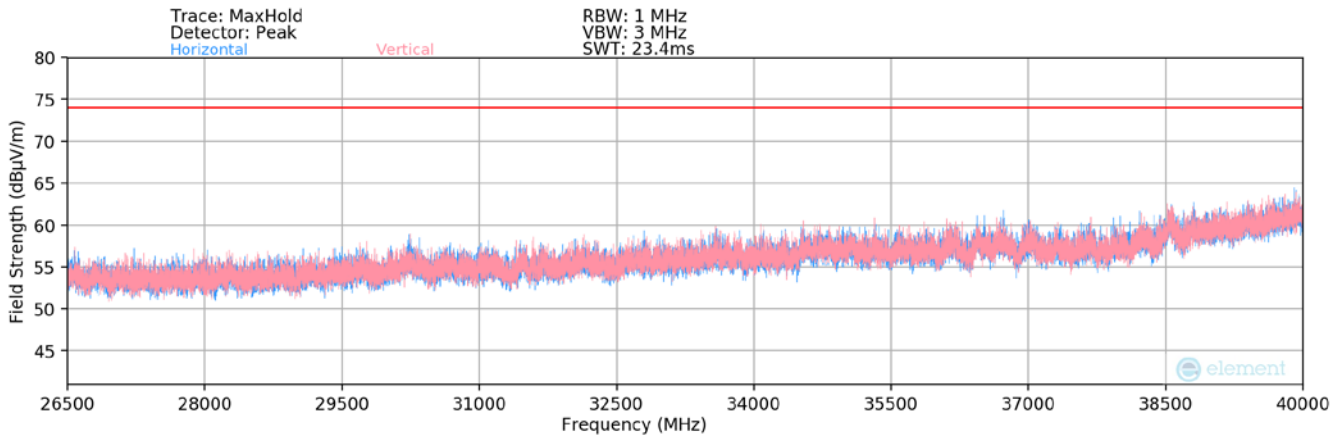
**Plot 7-338. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11a – U3 Ch. 157)**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 211 of 284

## SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)



**Plot 7-339. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11a)**



**Plot 7-340. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11a)**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 212 of 284



## SISO Antenna-1 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5180MHz  
 Channel: 36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10360.00	Peak	V	-	-	-70.41	16.24	0.00	52.83	68.20	-15.37
* 15540.00	Average	V	192	202	-80.15	23.23	0.00	50.08	53.98	-3.90
* 15540.00	Peak	V	192	202	-67.89	23.23	0.00	62.34	73.98	-11.64
* 20720.00	Average	V	-	-	-66.82	3.16	-9.54	33.79	53.98	-20.19
* 20720.00	Peak	V	-	-	-56.59	3.16	-9.54	44.02	73.98	-29.96
25900.00	Peak	V	-	-	-57.01	4.77	-9.54	45.22	68.20	-22.98

**Table 7-33. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5200MHz  
 Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10400.00	Peak	V	-	-	-70.53	16.36	0.00	52.83	68.20	-15.37
* 15600.00	Average	V	159	151	-82.41	23.44	0.00	48.03	53.98	-5.95
* 15600.00	Peak	V	159	151	-70.25	23.44	0.00	60.19	73.98	-13.79
* 20800.00	Average	V	-	-	-66.22	3.48	-9.54	34.72	53.98	-19.26
* 20800.00	Peak	V	-	-	-55.29	3.48	-9.54	45.65	73.98	-28.33
26000.00	Peak	V	-	-	-57.06	5.16	-9.54	45.56	68.20	-22.64

**Table 7-34. Radiated Measurements SISO ANT1**

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 213 of 284

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Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5240MHz  
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	V	-	-	-70.02	16.30	0.00	53.28	68.20	-14.92
* 15720.00	Average	V	-	-	-82.17	23.38	0.00	48.21	53.98	-5.77
* 15720.00	Peak	V	-	-	-71.43	23.38	0.00	58.95	73.98	-15.03
* 20960.00	Average	V	-	-	-66.22	3.47	-9.54	34.71	53.98	-19.27
* 20960.00	Peak	V	-	-	-55.29	3.47	-9.54	45.64	73.98	-28.34
26200.00	Peak	V	-	-	-57.06	4.78	-9.54	45.18	68.20	-23.02

**Table 7-35. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5260MHz  
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	V	-	-	-70.12	16.30	0.00	53.18	68.20	-15.02
* 15780.00	Average	V	112	203	-82.38	23.72	0.00	48.34	53.98	-5.64
* 15780.00	Peak	V	112	203	-71.94	23.72	0.00	58.78	73.98	-15.20
* 21040.00	Average	V	-	-	-65.64	3.53	-9.54	35.35	53.98	-18.63
* 21040.00	Peak	V	-	-	-54.82	3.53	-9.54	46.17	73.98	-27.81
26300.00	Peak	V	-	-	-52.35	4.64	-9.54	49.75	68.20	-18.45

**Table 7-36. Radiated Measurements SISO ANT1**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 214 of 284



Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5280MHz  
 Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	V	-	-	-71.11	16.64	0.00	52.53	68.20	-15.67
* 15840.00	Average	V	182	203	-78.06	23.70	0.00	52.64	53.98	-1.34
* 15840.00	Peak	V	182	203	-67.24	23.70	0.00	63.46	73.98	-10.52
* 21120.00	Average	V	-	-	-65.66	3.68	-9.54	35.48	53.98	-18.50
* 21120.00	Peak	V	-	-	-54.02	3.68	-9.54	47.12	73.98	-26.86
26400.00	Peak	V	-	-	-54.65	4.78	-9.54	47.58	68.20	-20.62

Table 7-37. Radiated Measurements SISO ANT1

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5320MHz  
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	V	-	-	-80.85	16.76	0.00	42.91	53.98	-11.07
* 10640.00	Peak	V	-	-	-70.38	16.76	0.00	53.38	73.98	-20.60
* 15960.00	Average	V	121	205	-82.08	24.33	0.00	49.25	53.98	-4.73
* 15960.00	Peak	V	121	205	-72.36	24.33	0.00	58.97	73.98	-15.01
* 21280.00	Average	V	-	-	-65.52	3.72	-9.54	35.66	53.98	-18.32
* 21280.00	Peak	V	-	-	-54.68	3.72	-9.54	46.50	73.98	-27.48
26600.00	Peak	V	-	-	-54.99	4.72	-9.54	47.18	68.20	-21.02

Table 7-38. Radiated Measurements SISO ANT1

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 215 of 284

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5500MHz  
Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	V	108	215	-80.71	17.47	0.00	43.76	53.98	-10.22
* 11000.00	Peak	V	108	215	-70.22	17.47	0.00	54.25	73.98	-19.73
16500.00	Peak	V	118	203	-66.41	25.25	0.00	65.84	68.20	-2.36
22000.00	Peak	V	-	-	-54.91	3.83	-9.54	46.39	68.20	-21.81
27500.00	Peak	V	-	-	-54.42	4.97	-9.54	48.01	68.20	-20.19

**Table 7-39. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5600MHz  
Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	V	115	188	-80.60	17.38	0.00	43.78	53.98	-10.20
* 11200.00	Peak	V	115	188	-70.19	17.38	0.00	54.19	73.98	-19.79
16800.00	Peak	V	166	182	-65.42	24.94	0.00	66.52	68.20	-1.68
* 22400.00	Average	V	-	-	-65.60	3.79	-9.54	35.65	53.98	-18.33
* 22400.00	Peak	V	-	-	-55.62	3.79	-9.54	45.63	73.98	-28.35
28000.00	Peak	V	-	-	-55.02	4.94	-9.54	47.38	68.20	-20.82

**Table 7-40. Radiated Measurements SISO ANT1**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 216 of 284

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5720MHz  
 Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	V	176	213	-80.25	17.81	0.00	44.56	53.98	-9.41
* 11440.00	Peak	V	176	213	-70.14	17.81	0.00	54.67	73.98	-19.30
17160.00	Peak	V	113	80	-72.68	25.10	0.00	59.42	68.20	-8.78
* 22880.00	Average	V	-	-	-65.86	3.79	-9.54	35.39	53.98	-18.59
* 22880.00	Peak	V	-	-	-55.65	3.79	-9.54	45.61	73.98	-28.37
28600.00	Peak	V	-	-	-54.92	5.28	-9.54	47.81	68.20	-20.39

**Table 7-41. Radiated Measurements SISO ANT1**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5745MHz  
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	V	185	213	-80.88	18.15	0.00	44.27	53.98	-9.71
* 11490.00	Peak	V	185	213	-70.15	18.15	0.00	55.00	73.98	-18.98
17235.00	Peak	V	290	196	-72.81	25.47	0.00	59.66	68.20	-8.54
* 22980.00	Average	V	-	-	-66.30	3.79	-9.54	34.95	53.98	-19.03
* 22980.00	Peak	V	-	-	-54.63	3.79	-9.54	46.61	73.98	-27.37
28725.00	Peak	V	-	-	-55.42	5.41	-9.54	47.45	68.20	-20.75

**Table 7-42. Radiated Measurements SISO ANT1**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 217 of 284

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5785MHz  
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	V	177	168	-78.72	17.88	0.00	46.16	53.98	-7.82
* 11570.00	Peak	V	177	168	-69.13	17.88	0.00	55.75	73.98	-18.23
17355.00	Peak	V	153	137	-71.02	26.69	0.00	62.67	68.20	-5.53
23140.00	Peak	V	-	-	-54.88	3.75	-9.54	46.33	68.20	-21.87
28925.00	Peak	V	-	-	-54.73	5.46	-9.54	48.20	68.20	-20.00

**Table 7-43. Radiated Measurements SISO ANT1**

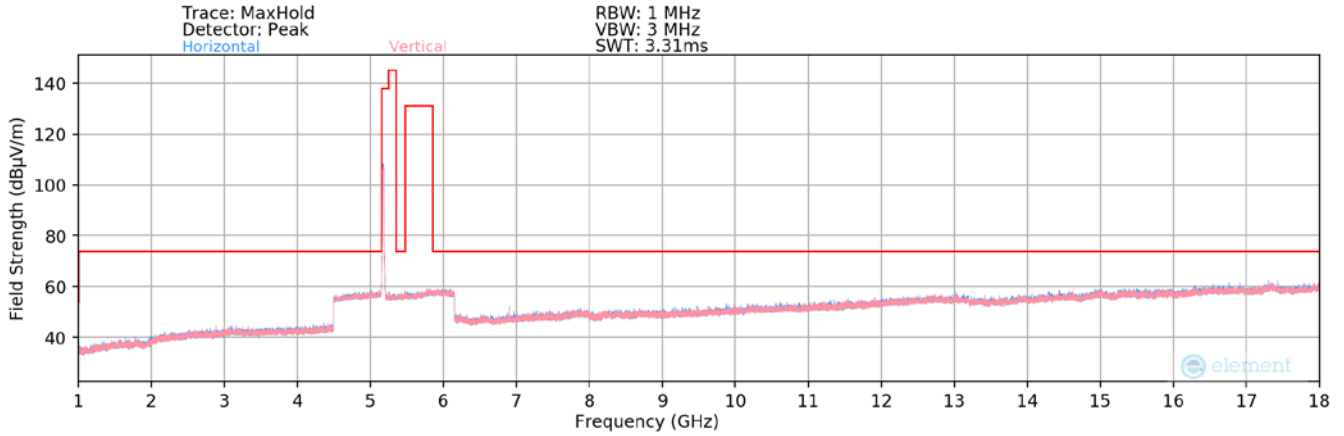
Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5825MHz  
 Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	V	155	168	-79.99	18.01	0.00	45.02	53.98	-8.96
* 11650.00	Peak	V	155	168	-71.03	18.01	0.00	53.98	73.98	-20.00
17475.00	Peak	V	143	137	-69.61	26.08	0.00	63.47	68.20	-4.73
23300.00	Peak	V	-	-	-54.67	3.76	-9.54	46.55	68.20	-21.65
29125.00	Peak	V	-	-	-55.26	5.54	-9.54	47.74	68.20	-20.46

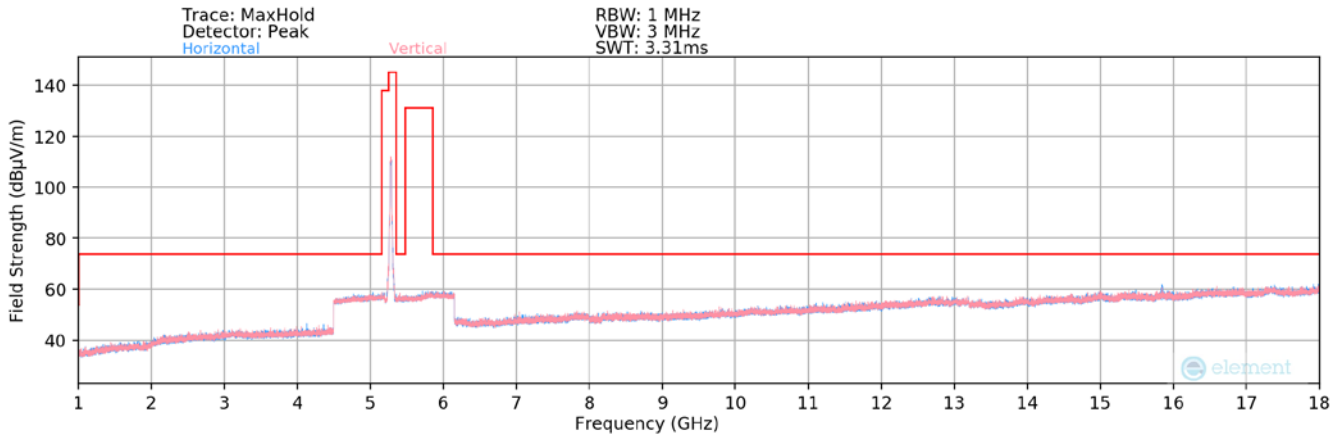
**Table 7-44. Radiated Measurements SISO ANT1**

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 218 of 284

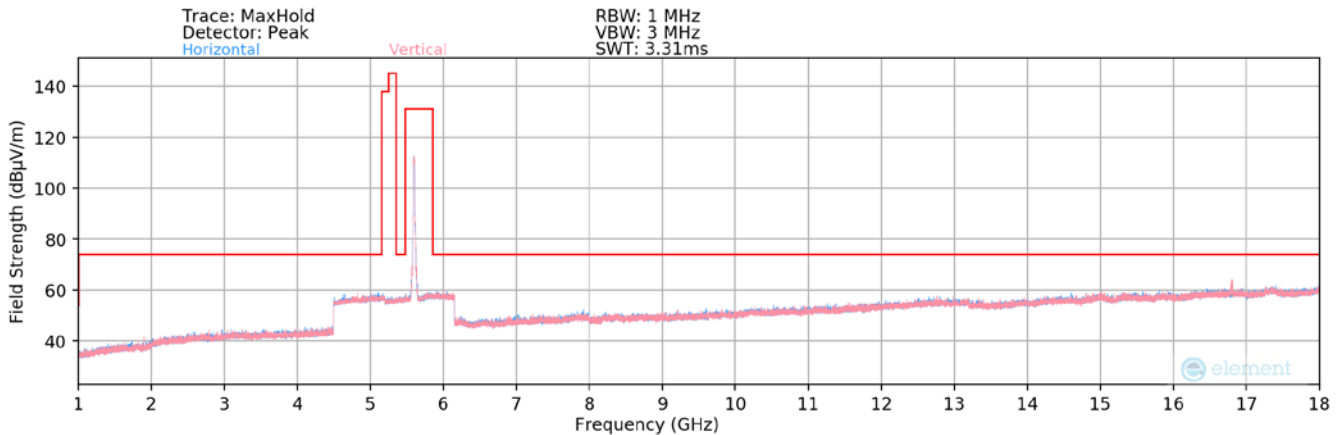
## 7.6.2 SISO Antenna-2 Radiated Spurious Emission Measurements



**Plot 7-341. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U1 Ch. 40)**

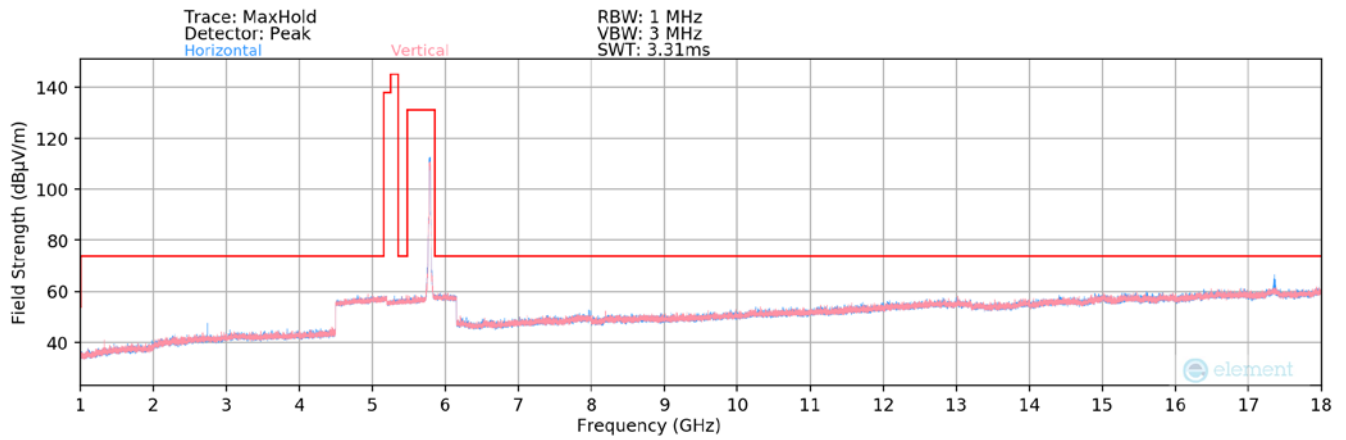


**Plot 7-342. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U2A Ch. 56)**



**Plot 7-343. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U2C Ch. 120)**

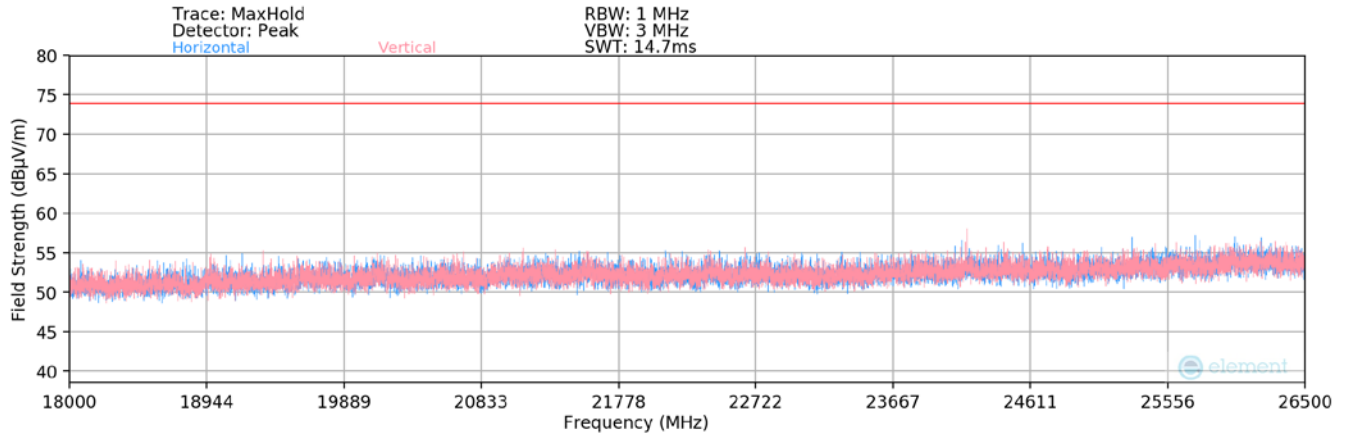
FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 219 of 284



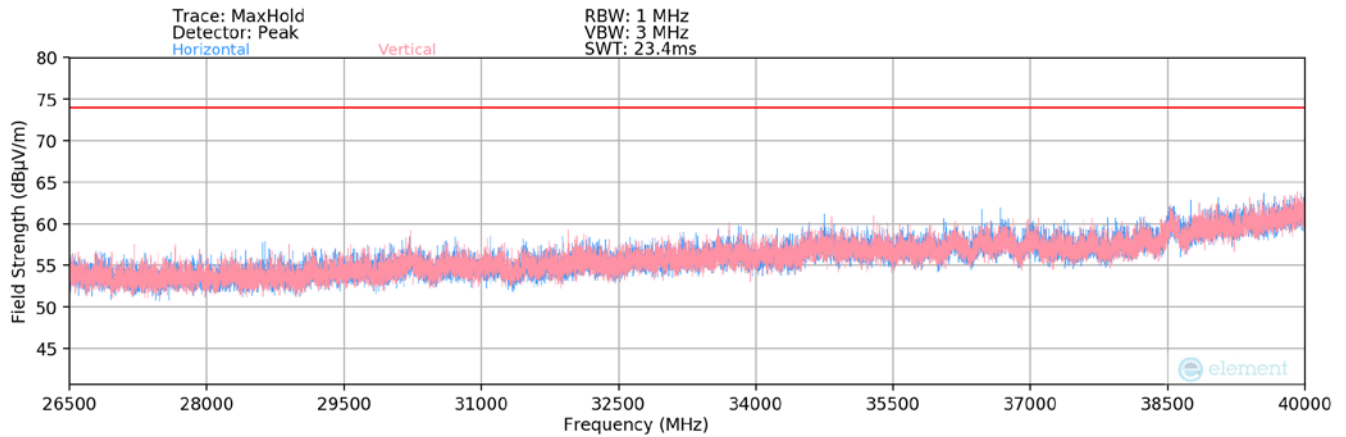
**Plot 7-344. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11a – U3 Ch. 157)**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 220 of 284

## SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)



**Plot 7-345. Radiated Spurious Plot above 18GHz - 26.5GHz SISO ANT2 (802.11a)**



**Plot 7-346. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11a)**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 221 of 284





## SISO Antenna-2 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5180MHz  
 Channel: 36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10360.00	Peak	V	-	-	-70.81	16.46	0.00	52.65	68.20	-15.55
* 15540.00	Average	V	-	-	-82.43	23.14	0.00	47.71	53.98	-6.27
* 15540.00	Peak	V	-	-	-71.60	23.14	0.00	58.54	73.98	-15.44
* 20720.00	Average	V	-	-	-66.70	3.16	-9.54	33.91	53.98	-20.06
* 20720.00	Peak	V	-	-	-58.23	3.16	-9.54	42.39	73.98	-31.59
25900.00	Peak	V	-	-	-57.22	4.77	-9.54	45.01	68.20	-23.19

Table 7-45. Radiated Measurements SISO ANT2

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5200MHz  
 Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10400.00	Peak	V	-	-	-69.82	16.62	0.00	53.80	68.20	-14.40
* 15600.00	Average	V	-	-	-82.07	23.37	0.00	48.30	53.98	-5.68
* 15600.00	Peak	V	-	-	-71.17	23.37	0.00	59.20	73.98	-14.78
* 20800.00	Average	V	-	-	-65.75	3.48	-9.54	35.19	53.98	-18.79
* 20800.00	Peak	V	-	-	-56.96	3.48	-9.54	43.98	73.98	-30.00
26000.00	Peak	V	-	-	-56.45	5.16	-9.54	46.17	68.20	-22.03

Table 7-46. Radiated Measurements SISO ANT2

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 222 of 284

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Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5240MHz  
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	V	-	-	-70.28	16.53	0.00	53.25	68.20	-14.95
* 15720.00	Average	V	-	-	-82.61	23.41	0.00	47.80	53.98	-6.18
* 15720.00	Peak	V	-	-	-71.05	23.41	0.00	59.36	73.98	-14.62
* 20960.00	Average	V	-	-	-66.77	3.47	-9.54	34.17	53.98	-19.81
* 20960.00	Peak	V	-	-	-57.80	3.47	-9.54	43.13	73.98	-30.85
26200.00	Peak	V	-	-	-56.89	4.78	-9.54	45.35	68.20	-22.85

**Table 7-47. Radiated Measurements SISO ANT2**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5260MHz  
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	V	-	-	-70.11	16.30	0.00	53.19	68.20	-15.01
* 15780.00	Average	V	198	8	-79.76	23.72	0.00	50.96	53.98	-3.02
* 15780.00	Peak	V	198	8	-66.84	23.72	0.00	63.88	73.98	-10.10
* 21040.00	Average	V	-	-	-66.74	3.53	-9.54	34.25	53.98	-19.73
* 21040.00	Peak	V	-	-	-56.67	3.53	-9.54	44.32	73.98	-29.66
26300.00	Peak	V	-	-	-56.38	4.64	-9.54	45.71	68.20	-22.49

**Table 7-48. Radiated Measurements SISO ANT2**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 223 of 284

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5280MHz  
 Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	V	-	-	-70.58	16.64	0.00	53.06	68.20	-15.14
* 15840.00	Average	V	162	6	-80.27	23.70	0.00	50.43	53.98	-3.55
* 15840.00	Peak	V	162	6	-68.45	23.70	0.00	62.25	73.98	-11.73
* 21120.00	Average	V	-	-	-66.45	3.68	-9.54	34.69	53.98	-19.29
* 21120.00	Peak	V	-	-	-56.35	3.68	-9.54	44.79	73.98	-29.19
26400.00	Peak	V	-	-	-56.30	4.78	-9.54	45.94	68.20	-22.26

**Table 7-49. Radiated Measurements SISO ANT2**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5320MHz  
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	V	-	-	-81.82	16.76	0.00	41.94	53.98	-12.04
* 10640.00	Peak	V	-	-	-70.57	16.76	0.00	53.19	73.98	-20.79
* 15960.00	Average	V	188	8	-80.09	24.33	0.00	51.24	53.98	-2.74
* 15960.00	Peak	V	188	8	-68.42	24.33	0.00	62.91	73.98	-11.07
* 21280.00	Average	V	-	-	-66.76	3.72	-9.54	34.42	53.98	-19.56
* 21280.00	Peak	V	-	-	-56.58	3.72	-9.54	44.60	73.98	-29.38
26600.00	Peak	V	-	-	-57.02	4.72	-9.54	45.15	68.20	-23.05

**Table 7-50. Radiated Measurements SISO ANT2**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 224 of 284

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5500MHz  
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	V	-	-	-82.22	17.47	0.00	42.25	53.98	-11.73
* 11000.00	Peak	V	-	-	-71.49	17.47	0.00	52.98	73.98	-21.00
16500.00	Peak	V	320	15	-70.17	25.25	0.00	62.08	68.20	-6.12
22000.00	Peak	V	-	-	-57.75	3.83	-9.54	43.55	68.20	-24.65
27500.00	Peak	V	-	-	-56.84	4.97	-9.54	45.58	68.20	-22.62

**Table 7-51. Radiated Measurements SISO ANT2**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5600MHz  
 Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	V	-	-	-81.71	17.38	0.00	42.67	53.98	-11.31
* 11200.00	Peak	V	-	-	-69.66	17.38	0.00	54.72	73.98	-19.26
16800.00	Peak	V	355	360	-68.93	24.94	0.00	63.01	68.20	-5.19
* 22400.00	Average	V	-	-	-66.02	3.79	-9.54	35.23	53.98	-18.75
* 22400.00	Peak	V	-	-	-56.92	3.79	-9.54	44.33	73.98	-29.65
28000.00	Peak	V	-	-	-57.19	4.94	-9.54	45.21	68.20	-22.99

**Table 7-52. Radiated Measurements SISO ANT2**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 225 of 284

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5720MHz  
Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	V	-	-	-80.91	17.81	0.00	43.90	53.98	-10.07
* 11440.00	Peak	V	-	-	-70.76	17.81	0.00	54.05	73.98	-19.92
17160.00	Peak	V	316	7	-66.67	25.10	0.00	65.43	68.20	-2.77
* 22880.00	Average	V	-	-	-66.10	3.79	-9.54	35.16	53.98	-18.82
* 22880.00	Peak	V	-	-	-56.42	3.79	-9.54	44.83	73.98	-29.15
28600.00	Peak	V	-	-	-55.65	5.28	-9.54	47.09	68.20	-21.11

**Table 7-53. Radiated Measurements SISO ANT2**

Worst Case Mode: 802.11a  
Worst Case Transfer Rate: 6Mbps  
Distance of Measurements: 1 & 3 Meters  
Operating Frequency: 5745MHz  
Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	V	-	-	-81.97	18.15	0.00	43.18	53.98	-10.80
* 11490.00	Peak	V	-	-	-70.95	18.15	0.00	54.20	73.98	-19.78
17235.00	Peak	V	329	5	-67.81	25.47	0.00	64.66	68.20	-3.54
* 22980.00	Average	V	-	-	-66.24	3.79	-9.54	35.01	53.98	-18.97
* 22980.00	Peak	V	-	-	-56.90	3.79	-9.54	44.34	73.98	-29.64
28725.00	Peak	V	-	-	-57.57	5.41	-9.54	45.30	68.20	-22.90

**Table 7-54. Radiated Measurements SISO ANT2**

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 226 of 284

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5785MHz  
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	V	-	-	-81.13	17.88	0.00	43.75	53.98	-10.23
* 11570.00	Peak	V	-	-	-71.01	17.88	0.00	53.87	73.98	-20.11
17355.00	Peak	V	322	5	-68.44	26.69	0.00	65.25	68.20	-2.95
23140.00	Peak	V	-	-	-55.70	3.75	-9.54	45.51	68.20	-22.69
28925.00	Peak	V	-	-	-55.82	5.46	-9.54	47.10	68.20	-21.10

**Table 7-55. Radiated Measurements SISO ANT2**

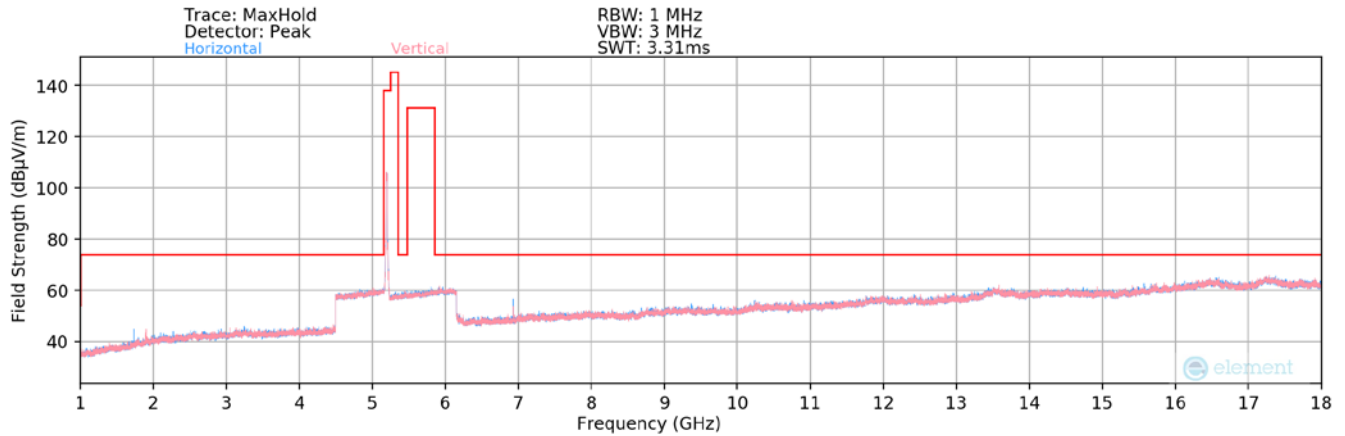
Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5825MHz  
 Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	V	-	-	-81.85	18.01	0.00	43.16	53.98	-10.82
* 11650.00	Peak	V	-	-	-70.31	18.01	0.00	54.70	73.98	-19.28
17475.00	Peak	V	331	3	-69.43	26.08	0.00	63.65	68.20	-4.55
23300.00	Peak	V	-	-	-55.32	3.76	-9.54	45.90	68.20	-22.30
29125.00	Peak	V	-	-	-55.88	5.54	-9.54	47.13	68.20	-21.07

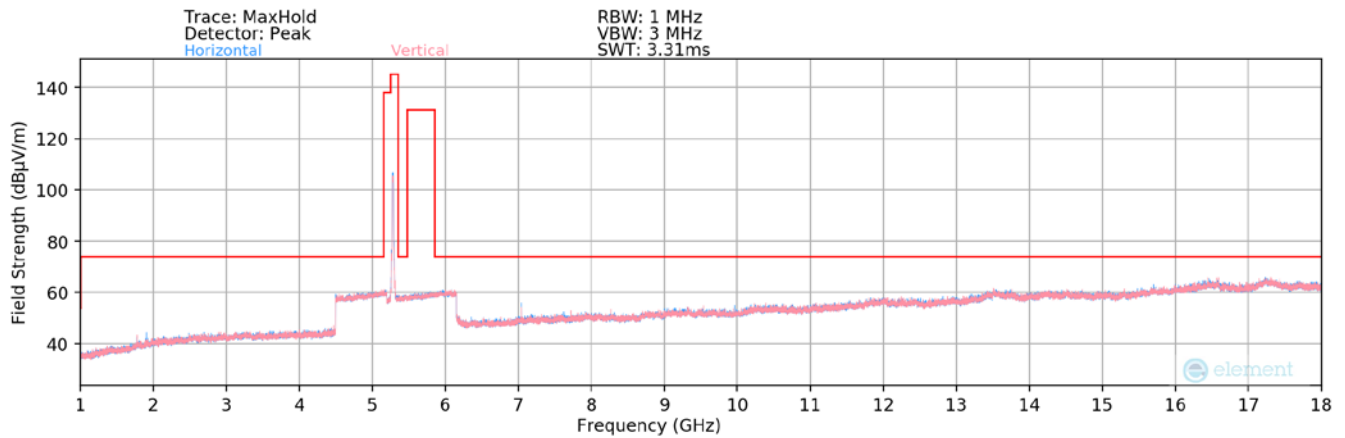
**Table 7-56. Radiated Measurements SISO ANT2**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 227 of 284

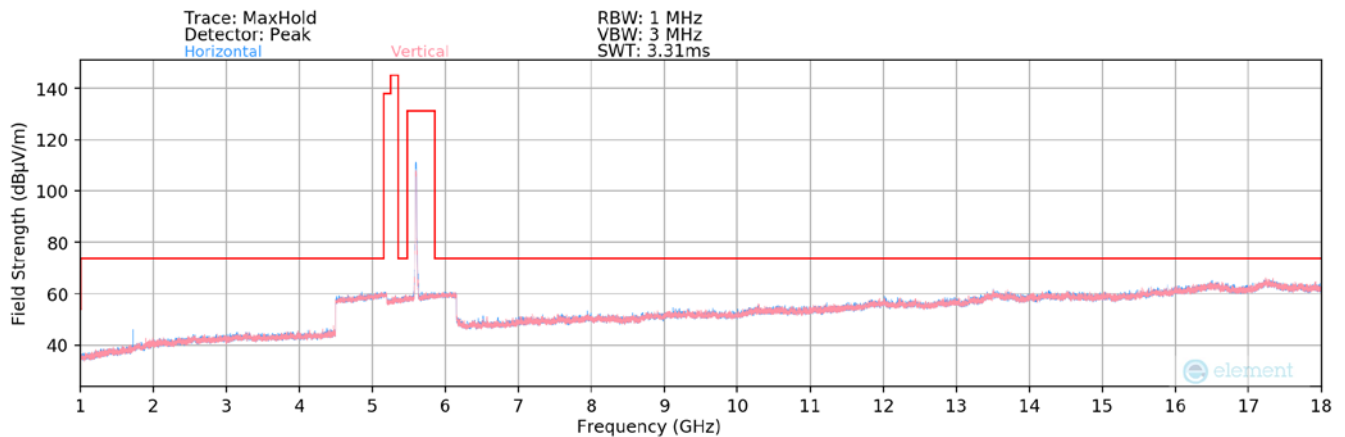
### 7.6.3 MIMO Radiated Spurious Emission Measurements



**Plot 7-347. Radiated Spurious Plot above 1GHz MIMO (802.11a – U1 Ch. 40)**

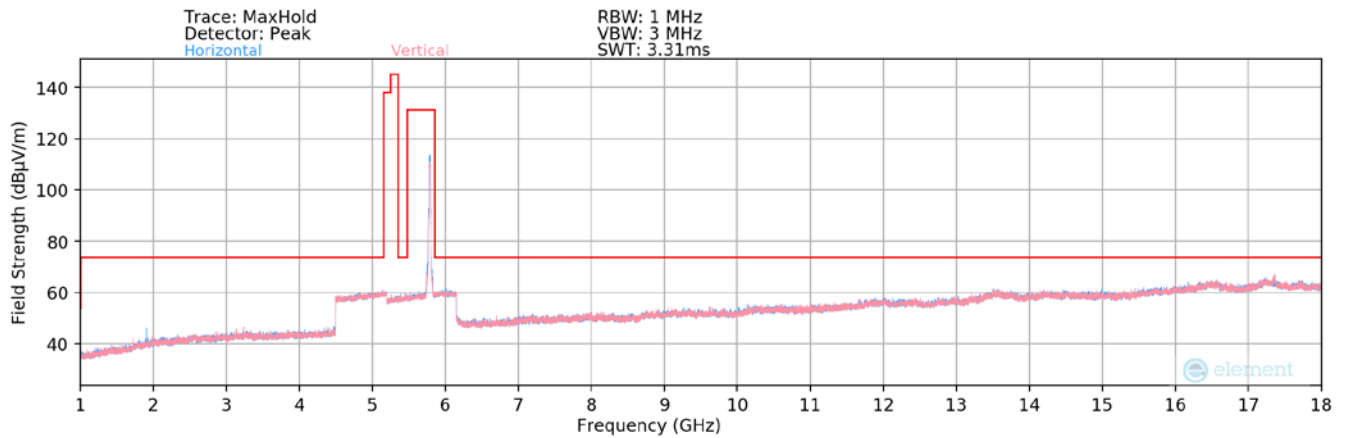


**Plot 7-348. Radiated Spurious Plot above 1GHz MIMO (802.11a – U2A Ch. 56)**



**Plot 7-349. Radiated Spurious Plot above 1GHz MIMO (802.11a – U2C Ch. 120)**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
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**Plot 7-350. Radiated Spurious Plot above 1GHz MIMO (802.11a – U3 Ch. 157)**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 229 of 284





**MIMO Radiated Spurious Emission Measurements**  
§15.407(b) §15.205 & §15.209

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5180MHz  
 Channel: 36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10360.00	Peak	V	-	-	-74.31	20.16	0.00	52.85	68.20	-15.35
* 15540.00	Average	V	-	-	-89.67	29.71	0.00	47.04	53.98	-6.94
* 15540.00	Peak	V	-	-	-78.56	29.71	0.00	58.15	73.98	-15.83
* 20720.00	Average	V	-	-	-65.42	3.16	-9.54	35.19	53.98	-18.79
* 20720.00	Peak	V	-	-	-53.70	3.16	-9.54	46.91	73.98	-27.06
25900.00	Peak	V	-	-	-54.60	4.77	-9.54	47.63	68.20	-20.57

**Table 7-57. Radiated Measurements MIMO**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5200MHz  
 Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10400.00	Peak	V	-	-	-74.62	20.83	0.00	53.21	68.20	-14.99
* 15600.00	Average	V	-	-	-89.76	28.68	0.00	45.92	53.98	-8.06
* 15600.00	Peak	V	-	-	-78.86	28.68	0.00	56.82	73.98	-17.16
* 20800.00	Average	V	-	-	-65.57	3.48	-9.54	35.37	53.98	-18.61
* 20800.00	Peak	V	-	-	-54.49	3.48	-9.54	46.44	73.98	-27.53
26000.00	Peak	V	-	-	-54.90	5.16	-9.54	47.72	68.20	-20.48

**Table 7-58. Radiated Measurements MIMO**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
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Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5240MHz  
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	V	-	-	-74.79	20.81	0.00	53.02	68.20	-15.18
* 15720.00	Average	V	-	-	-89.37	29.48	0.00	47.11	53.98	-6.87
* 15720.00	Peak	V	-	-	-77.72	29.48	0.00	58.76	73.98	-15.22
* 20960.00	Average	V	-	-	-65.47	3.47	-9.54	35.46	53.98	-18.52
* 20960.00	Peak	V	-	-	-56.02	3.47	-9.54	44.91	73.98	-29.07
26200.00	Peak	V	-	-	-55.74	4.78	-9.54	46.49	68.20	-21.71

**Table 7-59. Radiated Measurements MIMO**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5260MHz  
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	V	-	-	-75.10	20.70	0.00	52.60	68.20	-15.60
* 15780.00	Average	V	-	-	-88.79	28.85	0.00	47.06	53.98	-6.92
* 15780.00	Peak	V	-	-	-78.10	28.85	0.00	57.75	73.98	-16.23
* 21040.00	Average	V	-	-	-66.50	3.53	-9.54	34.49	53.98	-19.49
* 21040.00	Peak	V	-	-	-56.60	3.53	-9.54	44.39	73.98	-29.59
26300.00	Peak	V	-	-	-56.67	4.64	-9.54	45.43	68.20	-22.77

**Table 7-60. Radiated Measurements MIMO**

Worst Case Mode: 802.11a

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 231 of 284



Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5280MHz  
 Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10560.00	Peak	V	-	-	-75.09	20.89	0.00	52.80	68.20	-15.40
* 15840.00	Average	V	117	319	-88.25	29.33	0.00	48.08	53.98	-5.90
* 15840.00	Peak	V	117	319	-76.68	29.33	0.00	59.65	73.98	-14.33
* 21120.00	Average	V	-	-	-66.00	3.68	-9.54	35.13	53.98	-18.84
* 21120.00	Peak	V	-	-	-56.79	3.68	-9.54	44.34	73.98	-29.63
26400.00	Peak	V	-	-	-56.00	4.78	-9.54	46.24	68.20	-21.96

**Table 7-61. Radiated Measurements MIMO**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5320MHz  
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
* 10640.00	Average	V	-	-	-86.06	20.73	0.00	41.67	53.98	-12.31
* 10640.00	Peak	V	-	-	-74.57	20.73	0.00	53.16	73.98	-20.82
* 15960.00	Average	V	-	-	-89.38	29.29	0.00	46.91	53.98	-7.06
* 15960.00	Peak	V	-	-	-78.21	29.29	0.00	58.08	73.98	-15.89
* 21280.00	Average	V	-	-	-66.45	3.72	-9.54	34.73	53.98	-19.25
* 21280.00	Peak	V	-	-	-56.68	3.72	-9.54	44.50	73.98	-29.48
26600.00	Peak	V	-	-	-56.46	4.72	-9.54	45.71	68.20	-22.49

**Table 7-62. Radiated Measurements MIMO**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 232 of 284



Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5500MHz  
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	V	-	-	-86.88	21.48	0.00	41.60	53.98	-12.38
* 11000.00	Peak	V	-	-	-75.92	21.48	0.00	52.56	73.98	-21.42
16500.00	Peak	V	-	-	-78.49	30.98	0.00	59.49	68.20	-8.71
22000.00	Peak	V	-	-	-56.42	3.83	-9.54	44.87	68.20	-23.33
27500.00	Peak	V	-	-	-55.89	4.97	-9.54	46.53	68.20	-21.67

**Table 7-63. Radiated Measurements MIMO**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5580MHz  
 Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	V	-	-	-85.95	21.75	0.00	42.80	53.98	-11.18
* 11200.00	Peak	V	-	-	-75.07	21.75	0.00	53.68	73.98	-20.30
16800.00	Peak	V	-	-	-77.98	31.00	0.00	60.02	68.20	-8.18
* 22400.00	Average	V	-	-	-65.27	3.79	-9.54	35.98	53.98	-18.00
* 22400.00	Peak	V	-	-	-56.00	3.79	-9.54	45.25	73.98	-28.73
28000.00	Peak	V	-	-	-57.28	4.94	-9.54	45.12	68.20	-23.08

**Table 7-64. Radiated Measurements MIMO**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 233 of 284

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Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5720MHz  
 Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	V	-	-	-86.92	22.14	0.00	42.22	53.98	-11.76
* 11440.00	Peak	V	-	-	-75.05	22.14	0.00	54.09	73.98	-19.89
17160.00	Peak	V	-	-	-79.51	31.03	0.00	58.52	68.20	-9.68
* 22880.00	Average	V	-	-	-65.74	3.79	-9.54	35.51	53.98	-18.47
* 22880.00	Peak	V	-	-	-56.73	3.79	-9.54	44.52	73.98	-29.46
28600.00	Peak	V	-	-	-57.01	5.28	-9.54	45.73	68.20	-22.47

**Table 7-65. Radiated Measurements MIMO**

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5745MHz  
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	V	-	-	-86.54	22.12	0.00	42.58	53.98	-11.40
* 11490.00	Peak	V	-	-	-75.54	22.12	0.00	53.58	73.98	-20.40
17235.00	Peak	V	-	-	-78.94	31.14	0.00	59.20	68.20	-9.00
* 22980.00	Average	V	-	-	-66.16	3.79	-9.54	35.08	53.98	-18.90
* 22980.00	Peak	V	-	-	-56.35	3.79	-9.54	44.90	73.98	-29.08
28725.00	Peak	V	-	-	-57.21	5.41	-9.54	45.66	69.20	-23.54

**Table 7-66. Radiated Measurements MIMO**

FCC ID: C3K1997	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 234 of 284

Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5785MHz  
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
* 11570.00	Average	V	-	-	-86.29	22.50	0.00	43.21	53.98	-10.76
* 11570.00	Peak	V	-	-	-75.27	22.50	0.00	54.23	73.98	-19.74
17355.00	Peak	V	-	-	-78.28	31.16	0.00	59.88	68.20	-8.32
23140.00	Peak	V	-	-	-56.36	3.75	-9.54	44.84	68.20	-23.36
28925.00	Peak	V	-	-	-56.56	5.46	-9.54	46.36	68.20	-21.84

**Table 7-67. Radiated Measurements MIMO**

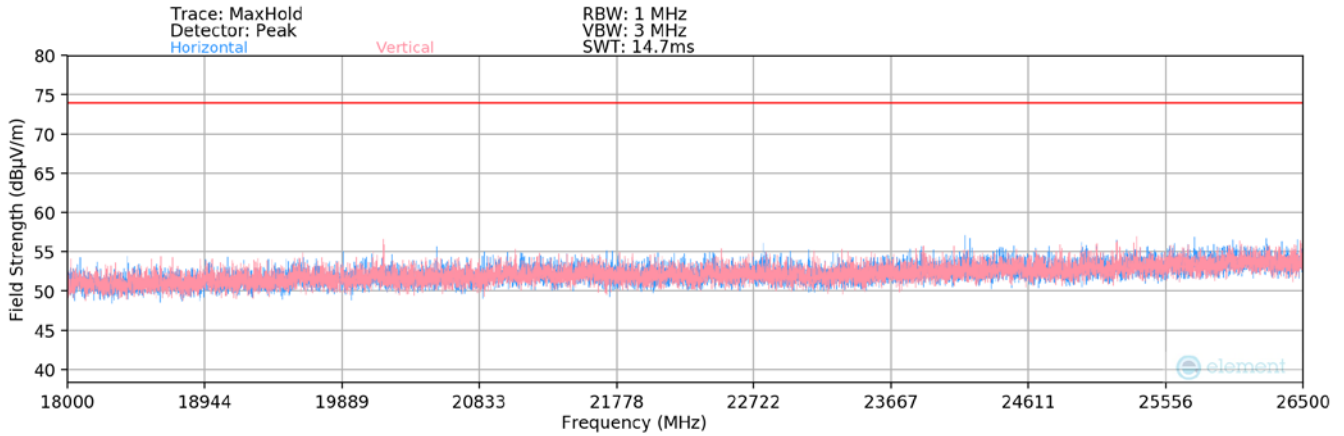
Worst Case Mode: 802.11a  
 Worst Case Transfer Rate: 6Mbps  
 Distance of Measurements: 1 & 3 Meters  
 Operating Frequency: 5825MHz  
 Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
* 11650.00	Average	V	-	-	-86.53	22.36	0.00	42.83	53.98	-11.15
* 11650.00	Peak	V	-	-	-75.20	22.36	0.00	54.16	73.98	-19.82
17475.00	Peak	V	-	-	-77.63	30.92	0.00	60.29	68.20	-7.91
23300.00	Peak	V	-	-	-56.09	3.76	-9.54	45.13	68.20	-23.07
29125.00	Peak	V	-	-	-56.25	5.54	-9.54	46.75	68.20	-21.45

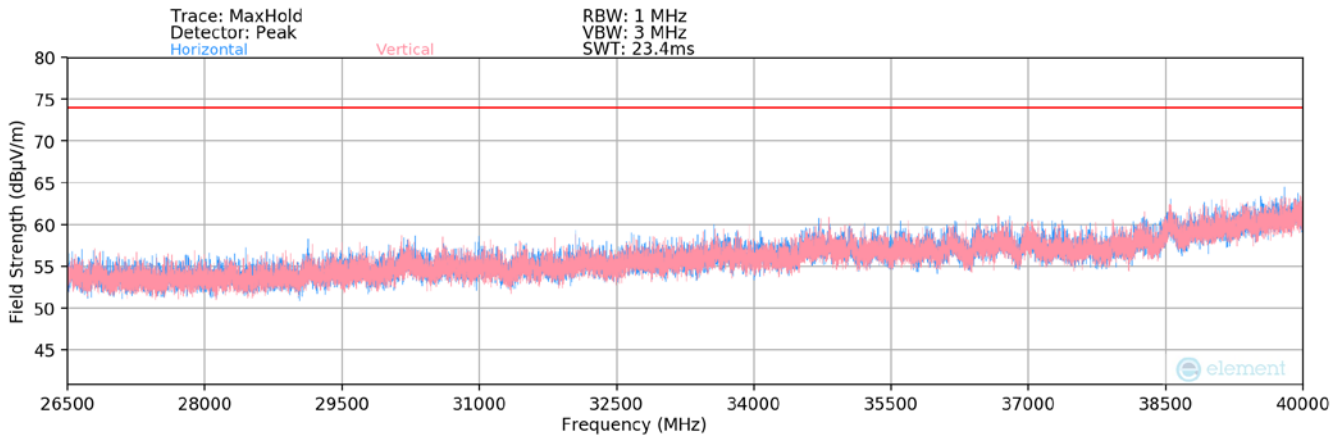
**Table 7-68. Radiated Measurements MIMO**

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 235 of 284

## MIMO Radiated Spurious Emissions Measurements (Above 18GHz)



**Plot 7-351. Radiated Spurious Plot above 18GHz - 26.5GHz MIMO (802.11a)**



**Plot 7-352. Radiated Spurious Plot 26.5GHz - 40GHz MIMO (802.11a)**

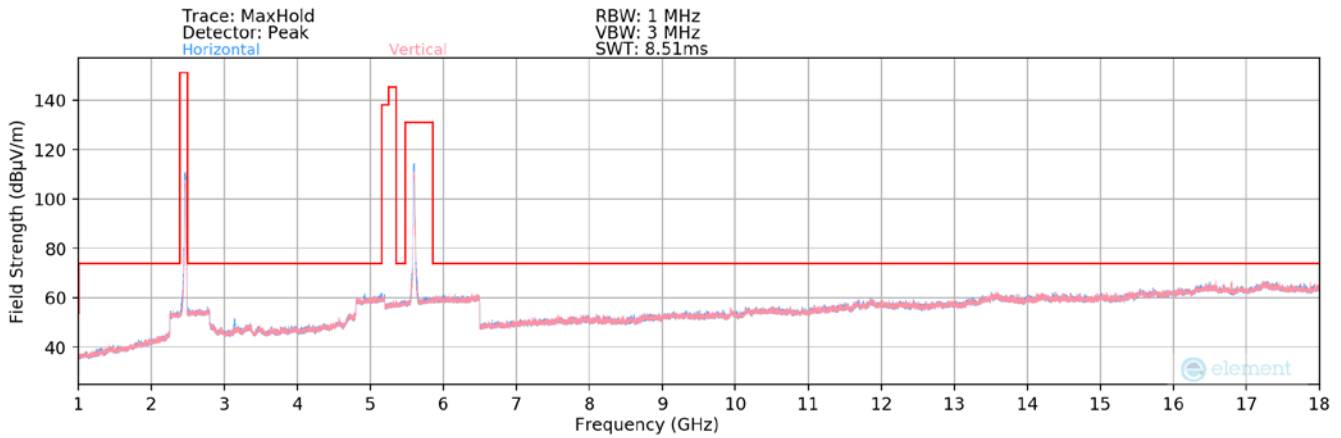
FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 236 of 284

### 7.6.4 Simultaneous Tx Radiated Spurious Emission Measurements

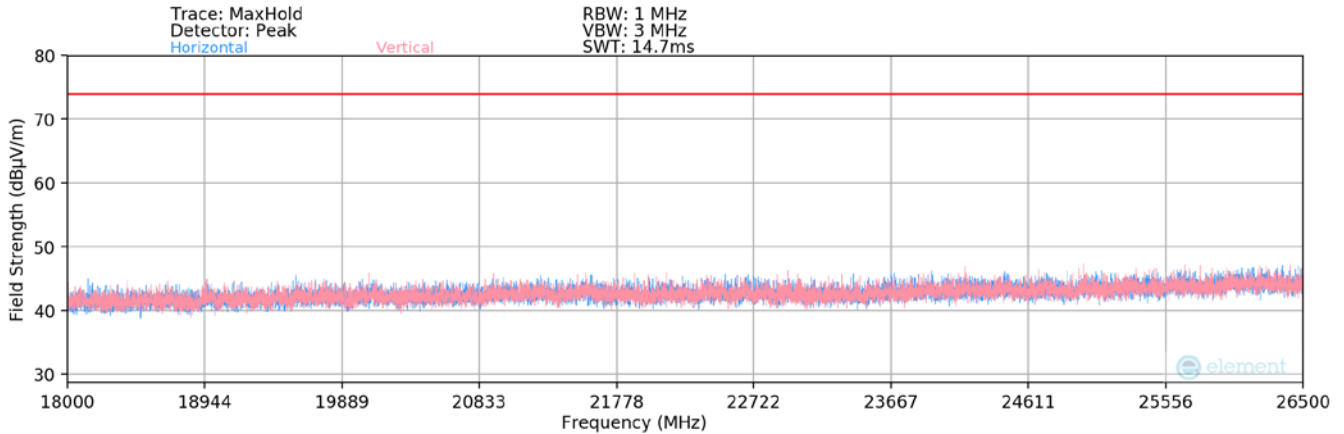
§15.407(b) §15.205 & §15.209

Description	2.4 GHz Emission	5 GHz Emission
Antenna	1	2
Channel	11	120
Operating Frequency (MHz)	2462	5600
Data Rate (Mbps)	1	6
Mode	b	a

Table 7-69. Config-1 (ANT1 2.4GHz & ANT2 5GHz)



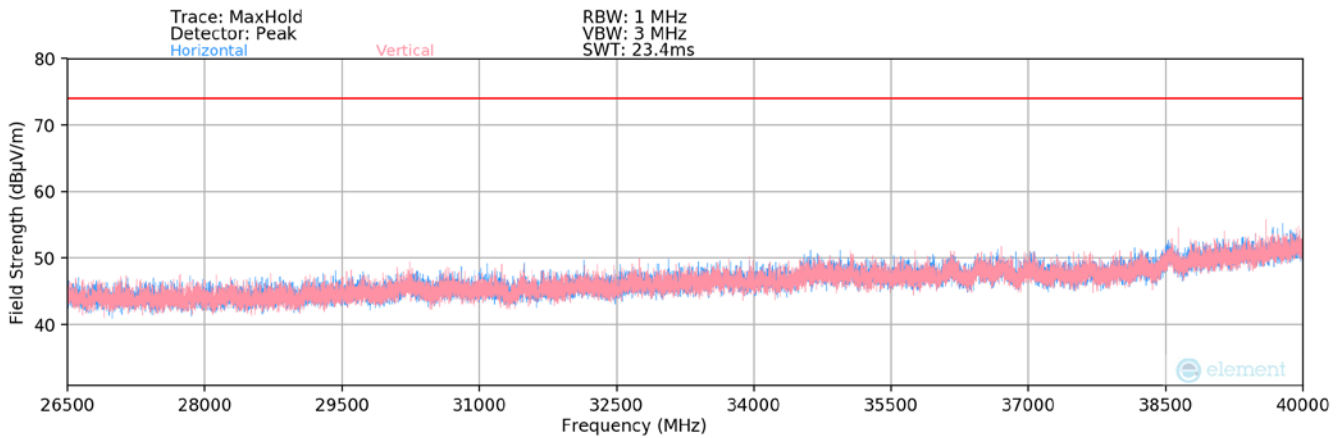
Plot 7-353. Radiated Spurious Plot above 1GHz Dual Band Sim. Tx (ANT1 2.4GHz & ANT2 5GHz)



Plot 7-354. Radiated Spurious Plot 18GHz - 26.5GHz Dual Band Sim. Tx (ANT1 2.4GHz & ANT2 5GHz)

FCC ID: C3K1997		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device		Page 237 of 284





**Plot 7-355. Radiated Spurious Plot 26.5GHz - 40GHz Dual Band Sim. Tx (ANT1 2.4GHz & ANT2 5GHz)**

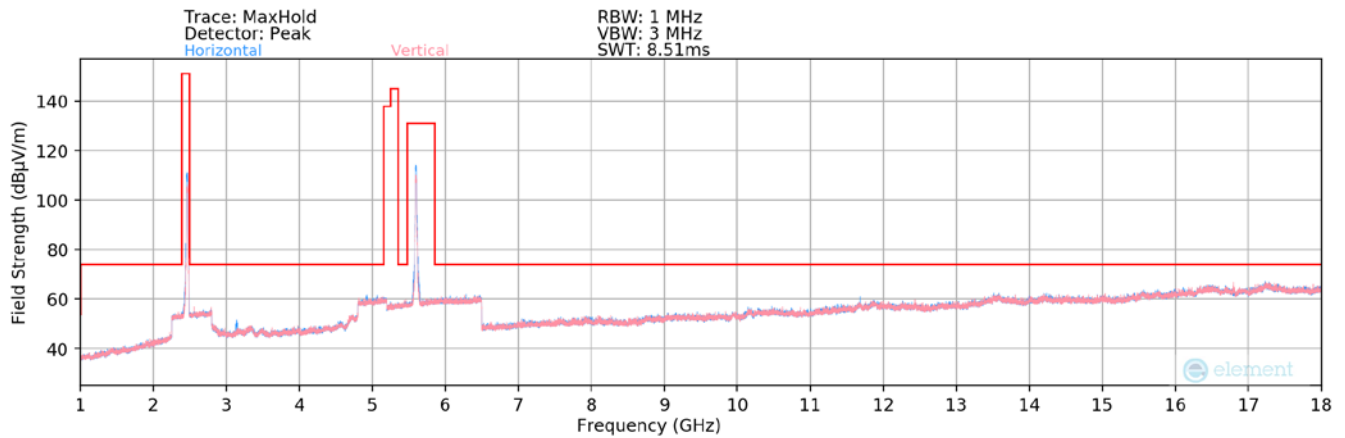
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
3814.00	Avg	V	-	-	-80.57	8.61	0.00	35.04	53.98	-18.94
3814.00	Peak	V	-	-	-70.05	8.61	0.00	45.56	73.98	-28.42
6952.00	Avg	V	-	-	-82.48	15.75	0.00	40.27	53.98	-13.71
6952.00	Peak	V	-	-	-72.70	15.75	0.00	50.05	73.98	-23.93
8738.00	Avg	V	-	-	-83.57	18.75	0.00	42.18	53.98	-11.80
8738.00	Peak	V	-	-	-73.23	18.75	0.00	52.52	73.98	-21.46
18152.00	Avg	V	-	-	-65.19	1.76	-9.54	34.03	53.98	-19.95
18152.00	Peak	V	-	-	-55.59	1.76	-9.54	43.63	73.98	-30.35

**Table 7-70. Radiated Measurements Dual Band Sim. Tx (ANT1 2.4GHz & ANT2 5GHz)**

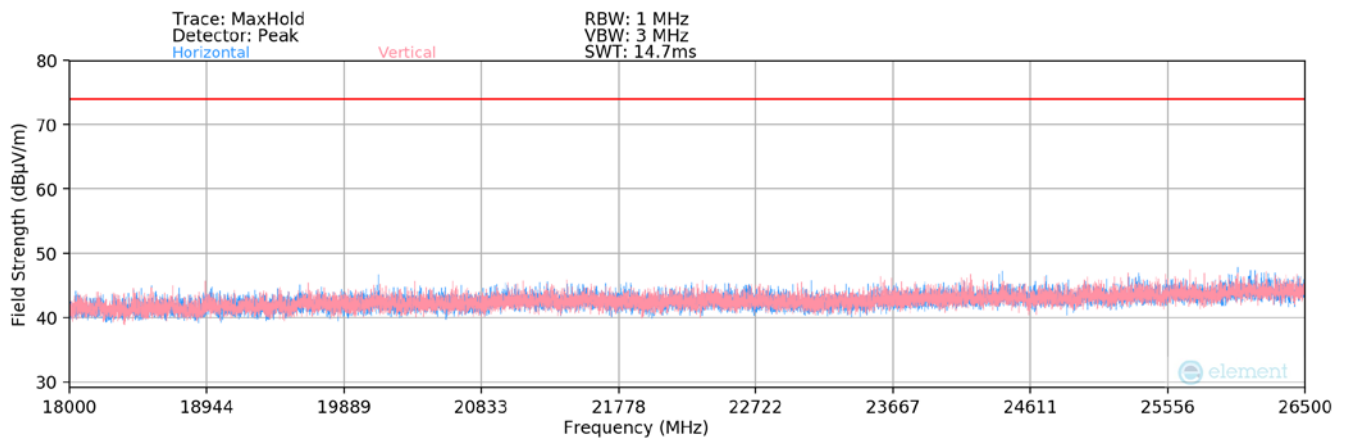
FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 238 of 284

Description	2.4 GHz Emission	5 GHz Emission
Antenna	2	1
Channel	11	120
Operating Frequency (MHz)	2462	5600
Data Rate (Mbps)	1	6
Mode	b	a

Table 7-71. Config-2 (ANT1 5GHz & ANT2 2.4GHz)

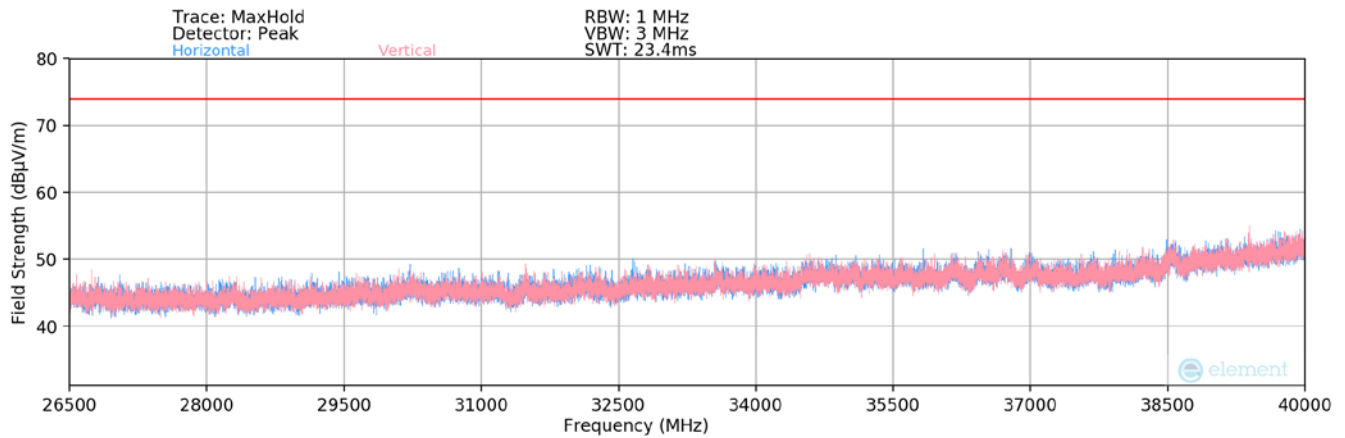


Plot 7-356. Radiated Spurious Plot above 1GHz MIMO (802.11a – U2A Ch. 56)



Plot 7-357. Radiated Spurious Plot 18GHz - 26.5GHz Dual Band Sim. Tx (ANT1 5GHz & ANT2 2.4GHz)

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 239 of 284



**Plot 7-358. Radiated Spurious Plot 26.5GHz - 40GHz Dual Band Sim. Tx (ANT1 5GHz & ANT2 2.4GHz)**

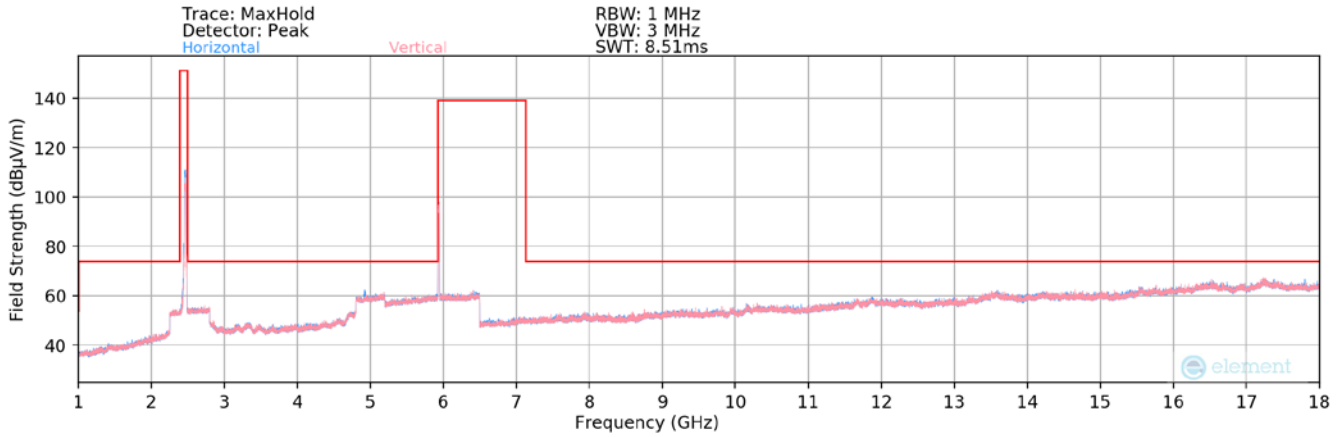
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
3814.00	Avg	V	-	-	-80.54	9.76	0.00	36.22	53.98	-17.76
3814.00	Peak	V	-	-	-69.85	9.76	0.00	46.91	73.98	-27.07
6952.00	Avg	V	-	-	-82.45	19.97	0.00	44.52	53.98	-9.46
6952.00	Peak	V	-	-	-72.22	19.97	0.00	54.75	73.98	-19.23
8738.00	Avg	V	-	-	-83.41	23.56	0.00	47.15	53.98	-6.83
8738.00	Peak	V	-	-	-73.10	23.56	0.00	57.46	73.98	-16.52
18152.00	Avg	V	-	-	-65.29	2.80	-9.54	34.97	53.98	-19.01
18152.00	Peak	V	-	-	-55.63	2.80	-9.54	44.63	73.98	-29.35

**Table 7-72. Radiated Measurements Dual Band Sim. Tx (ANT1 5GHz & ANT2 2.4GHz)**

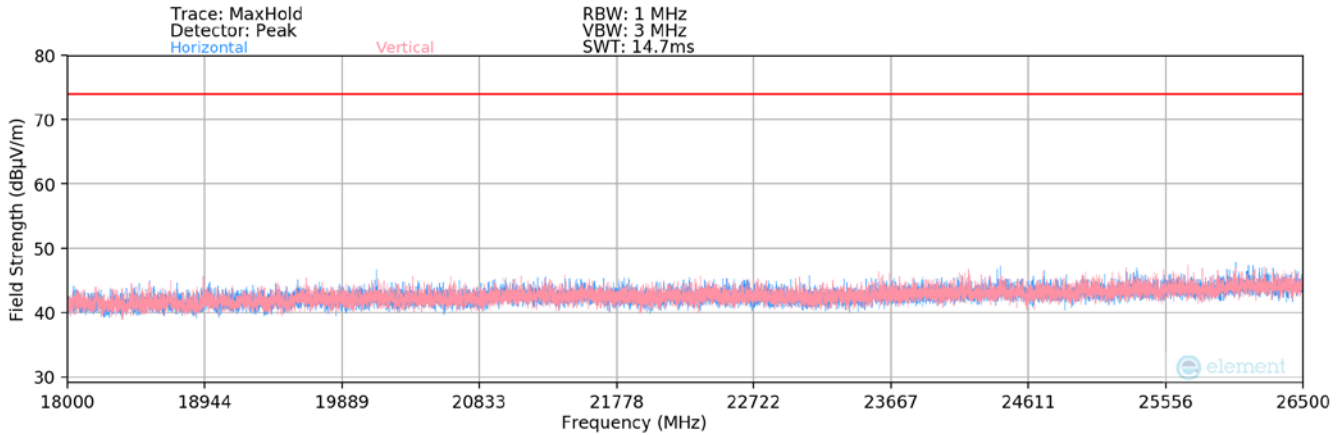
FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 240 of 284

Description	2.4 GHz Emission	6 GHz Emission
Antenna	1	2
Channel	11	2
Operating Frequency (MHz)	2462	5935
Data Rate (Mbps)	1	6
Mode	b	a

Table 7-73. Config-3 (ANT1 2.4GHz & ANT2 6GHz)

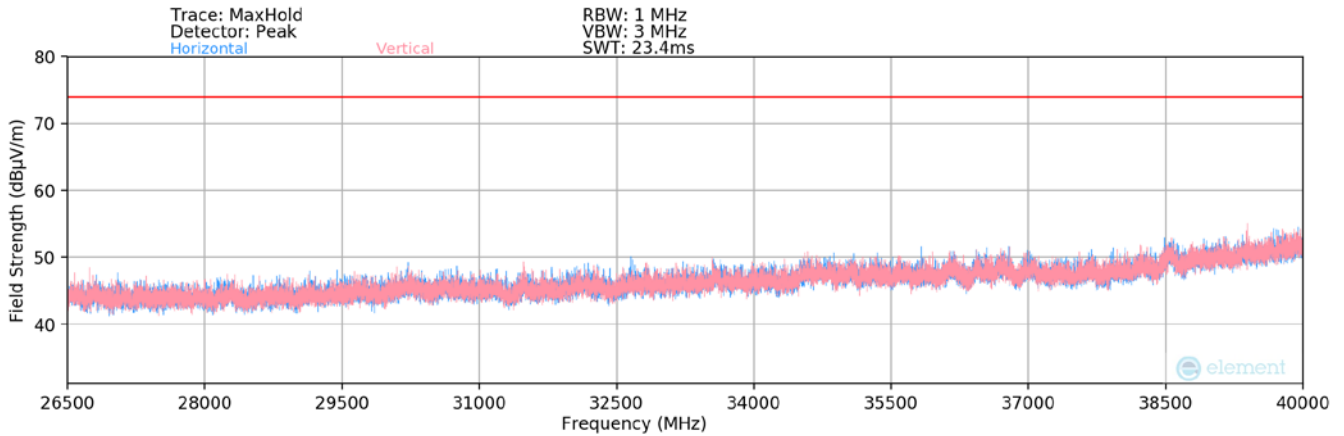


Plot 7-359. Radiated Spurious Plot above 1GHz Dual Band Sim. Tx (ANT1 2.4GHz & ANT2 6GHz)



Plot 7-360. Radiated Spurious Plot 18GHz - 26.5GHz Dual Band Sim. Tx (ANT1 2.4GHz & ANT2 6GHz)

FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 241 of 284



**Plot 7-361. Radiated Spurious Plot 26.5GHz - 40GHz Dual Band Sim. Tx (ANT1 2.4GHz & ANT2 6GHz)**

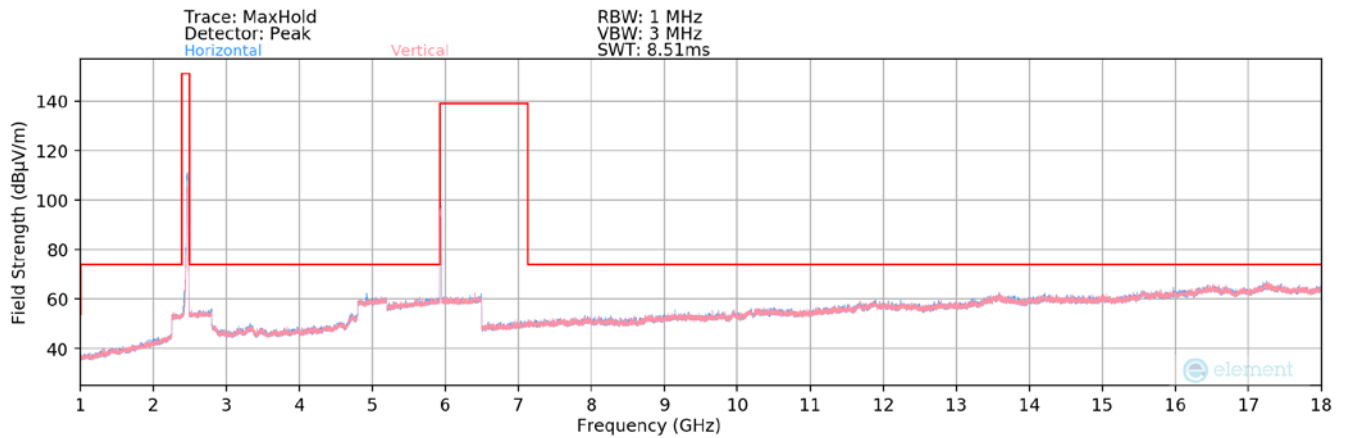
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4484.00	Avg	H	-	-	-80.52	9.76	0.00	36.24	53.98	-17.74
4484.00	Peak	H	-	-	-69.95	9.76	0.00	46.81	73.98	-27.17
9408.00	Avg	H	-	-	-83.49	19.97	0.00	43.48	53.98	-10.50
9408.00	Peak	H	-	-	-73.41	19.97	0.00	53.56	73.98	-20.42
11430.00	Avg	H	-	-	-84.48	23.56	0.00	46.08	53.98	-7.90
11430.00	Peak	H	-	-	-73.49	23.56	0.00	57.07	73.98	-16.91
19827.00	Avg	H	-	-	-65.93	2.80	-9.54	34.33	53.98	-19.65
19827.00	Peak	H	-	-	-56.66	2.80	-9.54	43.60	73.98	-30.38

**Table 7-74. Radiated Measurements Dual Band Sim. Tx (ANT1 2.4GHz & ANT2 6GHz)**

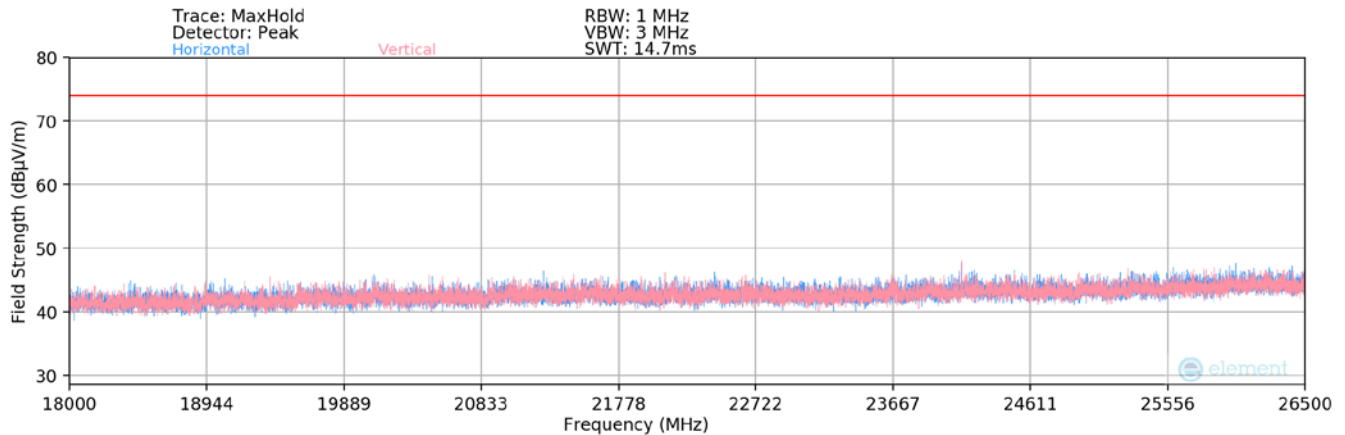
FCC ID: C3K1997	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 242 of 284

Description	2.4 GHz Emission	6 GHz Emission
Antenna	2	1
Channel	11	2
Operating Frequency (MHz)	2462	5935
Data Rate (Mbps)	1	6
Mode	b	a

Table 7-75. Config-4 (ANT1 6GHz & ANT2 2.4GHz)



Plot 7-362. Radiated Spurious Plot above 1GHz Dual Band Sim. Tx (ANT1 6GHz & ANT2 2.4GHz)



Plot 7-363. Radiated Spurious Plot 18GHz - 26.5GHz Dual Band Sim. Tx (ANT1 6GHz & ANT2 2.4GHz)

FCC ID: C3K1997		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204040049-15-R1.C3K	Test Dates: 3/14/2022-7/1/2022	EUT Type: Portable Computing Device	Page 243 of 284	