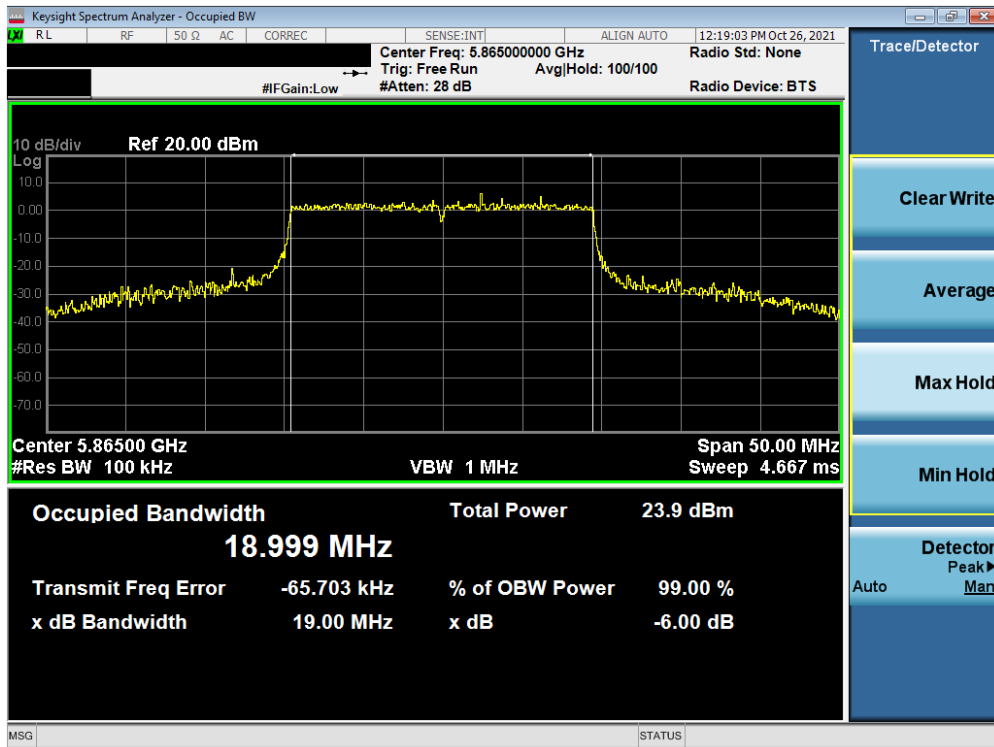
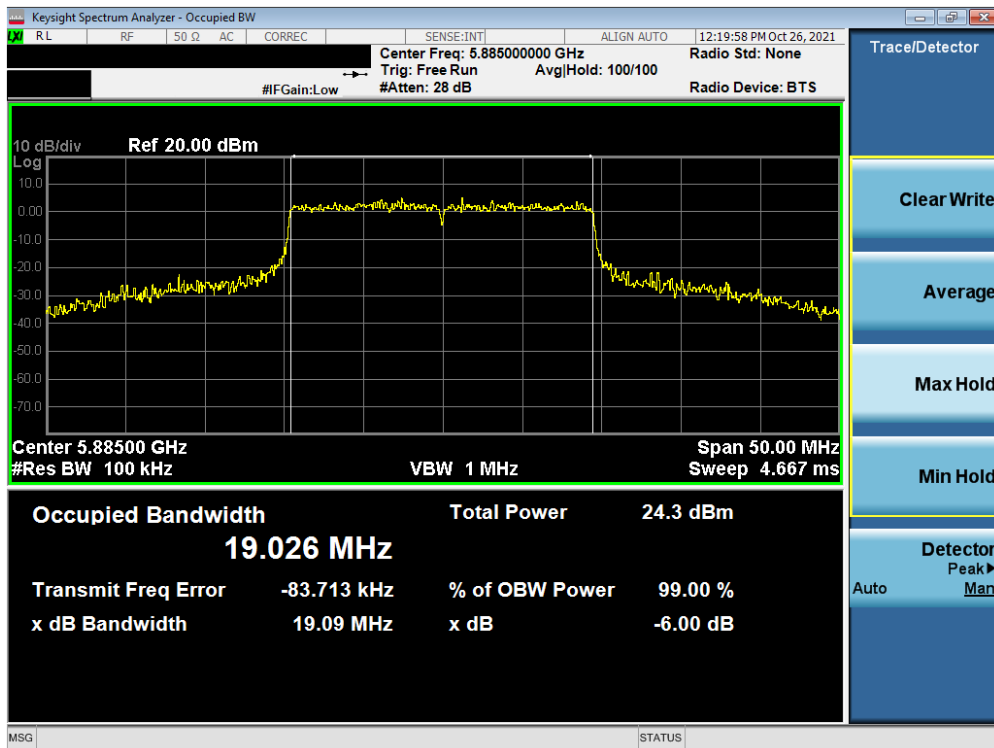


Plot 7-127. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3/4) – Ch. 169)

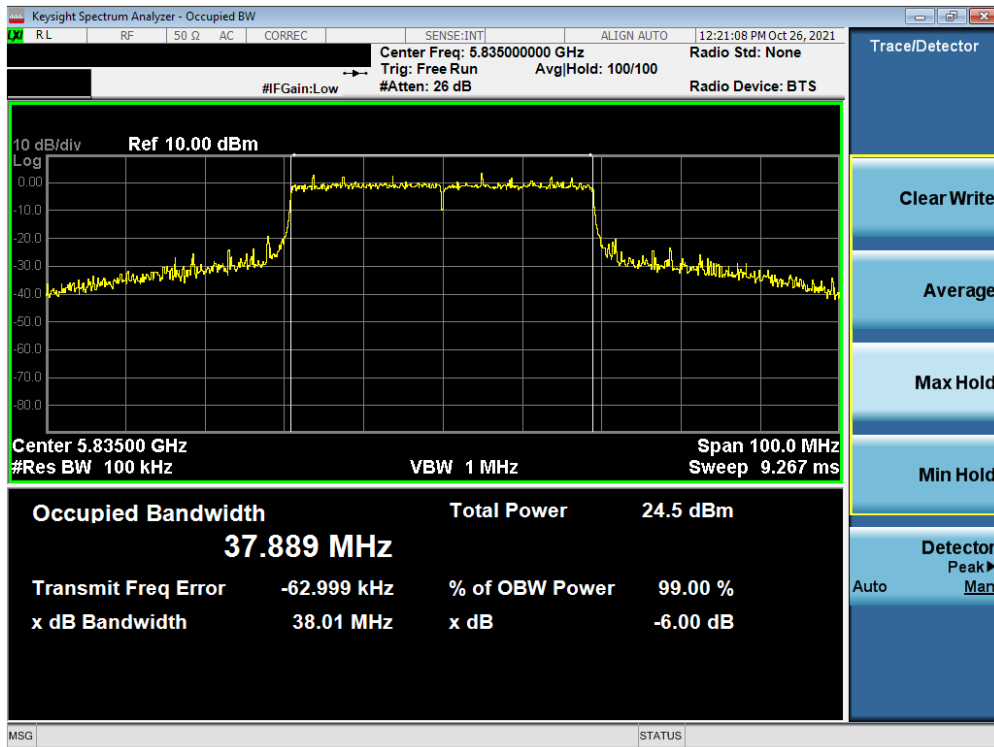


Plot 7-128. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 4) – Ch. 173)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 93 of 309

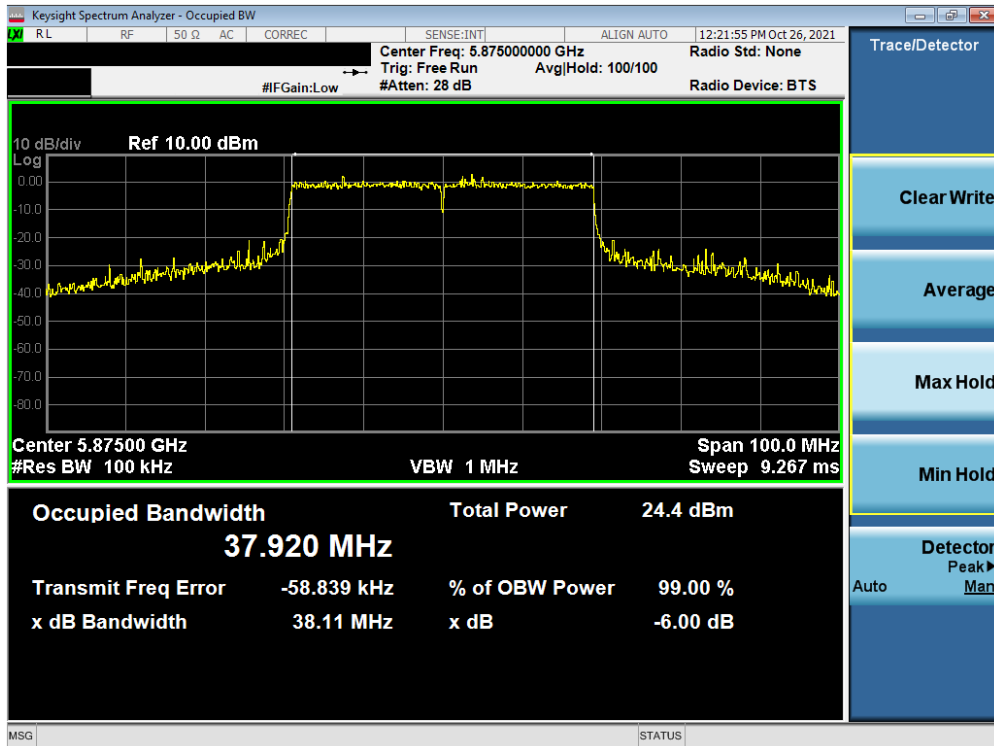


Plot 7-129. 6dB Bandwidth Plot SISO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 177)

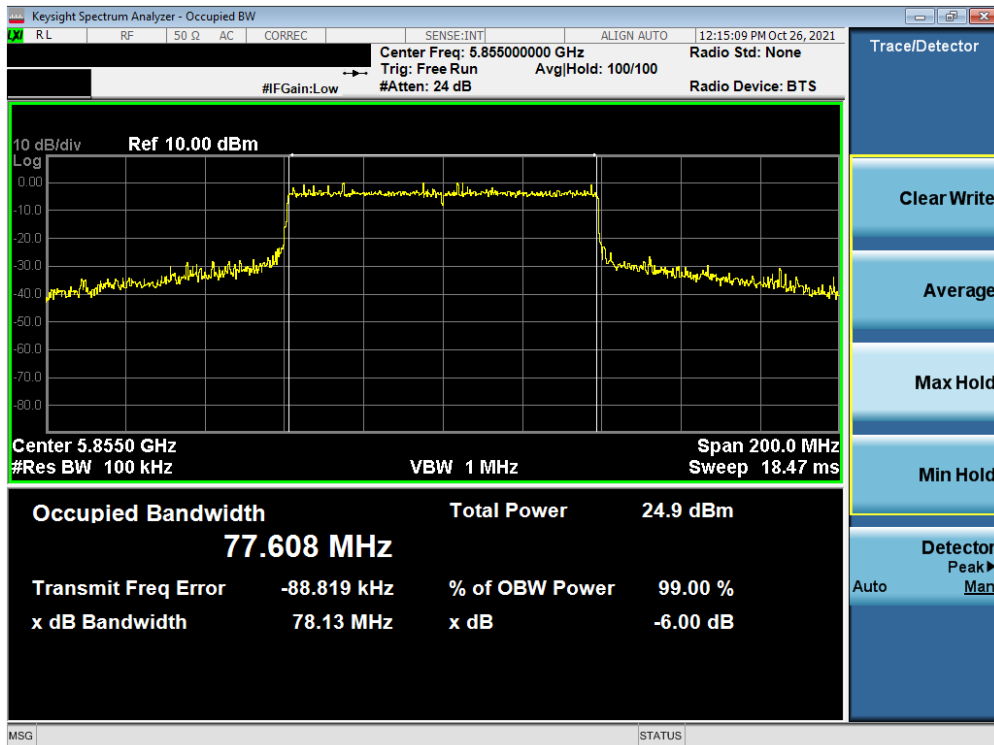


Plot 7-130. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3/4) – Ch. 167)

FCC ID: A3LSMS901U	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 94 of 309



Plot 7-131. 6dB Bandwidth Plot SISO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 175)



Plot 7-132. 6dB Bandwidth Plot SISO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 3/4) – Ch. 171)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 95 of 309

7.4 UNII Output Power Measurement – 802.11ax OFDMA

§15.407(a.1.iv) §15.407(a.2) §15.407(a.3); RSS-247 [6.2]

Test Overview and Limits

A transmitter antenna terminal of the EUT is connected to the input of an RF pulse power sensor. Measurement is made using a broadband average power meter 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.

In the 5.15 – 5.25GHz band, the maximum permissible conducted output power is 250mW (23.98dBm). The maximum e.i.r.p. shall not exceed the lesser of 200 mW or $10 + 10 \log_{10}B$, dBm.

In the 5.25 – 5.35GHz band, the maximum permissible conducted output power is the lesser of 250mW (23.98dBm) or $11 \text{ dBm} + 10\log_{10}(26\text{dB BW}) = 11 \text{ dBm} + 10\log_{10}(17.99) = 23.55 \text{ dBm}$. The maximum e.i.r.p. shall not exceed the lesser of 1.0 W or $17 + 10 \log_{10}B$, dBm.

In the 5.47 – 5.725GHz band, the maximum permissible conducted output power is the lesser of 250mW (23.98dBm) or $11 \text{ dBm} + 10\log_{10}(26\text{dB BW}) = 11 \text{ dBm} + 10\log_{10}(17.99) = 23.55 \text{ dBm}$. The maximum e.i.r.p. shall not exceed the lesser of 1.0 W or $17 + 10 \log_{10}B$, dBm.

In the 5.725 – 5.850GHz band, the maximum permissible conducted output power is 1W (30dBm). The maximum e.i.r.p. is 36 dBm.

In the 5.850 – 5.895 GHz band, the maximum permissible e.i.r.p is 30dBm.

Test Procedure Used

ANSI C63.10-2013 – Section 12.3.3.2 Method PM-G
KDB 789033 D02 v02r01 – Section E)3)b) Method PM-G
ANSI C63.10-2013 – Section 14.2 Measure-and-Sum Technique
KDB 662911 v02r01 – Section E)1) Measure-and-Sum Technique

Test Settings

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

Test Setup

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



Figure 7-3. Test Instrument & Measurement Setup

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 96 of 309

SISO Antenna-1 Conducted Output Power Measurements (26 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					0	4	8		
	5180	36	AVG	26T	10.76	10.61	10.75	23.98	-13.22
5200	40	AVG	26T	10.71	10.97	10.98	23.98	-13.00	
5240	48	AVG	26T	10.88	10.96	10.59	23.98	-13.02	
5260	52	AVG	26T	10.45	10.57	10.61	23.47	-12.86	
5280	56	AVG	26T	10.46	10.56	10.53	23.47	-12.91	
5320	64	AVG	26T	10.56	10.67	10.60	23.47	-12.80	
5500	100	AVG	26T	10.87	10.97	10.57	22.80	-11.83	
5600	120	AVG	26T	10.75	10.89	10.88	22.80	-11.91	
5720	144	AVG	26T	10.85	10.94	10.95	22.80	-11.85	
5745	149	AVG	26T	10.60	10.75	10.72	30.00	-19.25	
5785	157	AVG	26T	10.57	10.73	10.71	30.00	-19.27	
5825	165	AVG	26T	10.57	10.71	10.66	30.00	-19.29	

Table 7-14. SISO ANT1 20MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					0	8	17		
	5190	38	AVG	26T	10.59	10.82	10.53	23.98	-13.16
5230	46	AVG	26T	10.85	10.89	10.52	23.98	-13.09	
5270	54	AVG	26T	10.93	10.99	10.58	23.47	-12.48	
5310	62	AVG	26T	10.98	10.94	10.97	23.47	-12.49	
5510	102	AVG	26T	10.64	10.82	10.62	22.80	-11.98	
5590	118	AVG	26T	10.80	10.89	10.51	22.80	-11.91	
5710	142	AVG	26T	10.55	10.99	10.63	22.80	-11.81	
5755	151	AVG	26T	10.76	10.86	10.91	30.00	-19.09	
5795	159	AVG	26T	10.58	10.86	10.71	30.00	-19.14	

Table 7-15. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					0	18	36		
	5210	42	AVG	26T	10.96	10.89	10.71	23.98	-13.02
5290	58	AVG	26T	10.75	10.84	10.49	23.47	-12.63	
5530	106	AVG	26T	10.69	10.83	10.51	22.80	-11.97	
5610	122	AVG	26T	10.98	10.54	10.62	22.80	-11.82	
5690	138	AVG	26T	10.92	10.47	10.51	22.80	-11.88	
5775	155	AVG	26T	10.81	10.98	10.73	30.00	-19.02	

Table 7-16. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 97 of 309

SISO Antenna-1 Conducted Output Power Measurements (52 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					37	39	40		
	5180	36	AVG	52T	13.16	13.45	13.48	23.98	-10.50
5200	40	AVG	52T	13.17	13.34	13.38	23.98	-10.60	
5240	48	AVG	52T	13.32	13.42	13.39	23.98	-10.56	
5260	52	AVG	52T	13.41	13.47	13.48	23.47	-9.99	
5280	56	AVG	52T	13.39	13.46	13.43	23.47	-10.01	
5320	64	AVG	52T	13.18	13.24	13.18	23.47	-10.23	
5500	100	AVG	52T	13.42	13.04	13.01	22.80	-9.38	
5600	120	AVG	52T	13.01	13.10	13.03	22.80	-9.70	
5720	144	AVG	52T	13.32	13.42	13.31	22.80	-9.38	
5745	149	AVG	52T	13.45	13.05	13.01	30.00	-16.55	
5785	157	AVG	52T	13.28	13.38	13.33	30.00	-16.62	
5825	165	AVG	52T	13.33	13.44	13.43	30.00	-16.56	

Table 7-17. SISO ANT1 20MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					37	40	44		
	5190	38	AVG	52T	13.13	13.22	13.49	23.98	-10.49
5230	46	AVG	52T	13.19	13.29	13.34	23.98	-10.64	
5270	54	AVG	52T	13.37	13.31	13.33	23.47	-10.10	
5310	62	AVG	52T	13.16	13.48	13.16	23.47	-9.99	
5510	102	AVG	52T	13.06	13.10	13.26	22.80	-9.54	
5590	118	AVG	52T	13.18	13.15	13.29	22.80	-9.51	
5710	142	AVG	52T	13.14	13.16	13.19	22.80	-9.61	
5755	151	AVG	52T	13.32	13.29	13.39	30.00	-16.61	
5795	159	AVG	52T	13.16	13.18	13.25	30.00	-16.75	

Table 7-18. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					37	44	52		
	5210	42	AVG	52T	13.38	13.49	13.17	23.98	-10.49
5290	58	AVG	52T	13.21	13.47	12.99	23.47	-10.00	
5530	106	AVG	52T	13.22	13.48	13.05	22.80	-9.32	
5610	122	AVG	52T	13.32	12.97	13.00	22.80	-9.48	
5690	138	AVG	52T	13.02	13.15	13.08	22.80	-9.65	
5775	155	AVG	52T	13.34	13.11	13.27	30.00	-16.66	

Table 7-19. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 98 of 309

SISO Antenna-1 Conducted Output Power Measurements (106 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index		Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					53	54		
	5180	36	AVG	106T	16.21	16.03	23.98	-7.77
	5200	40	AVG	106T	16.23	16.31	23.98	-7.67
	5240	48	AVG	106T	16.13	16.11	23.98	-7.85
	5260	52	AVG	106T	16.44	16.49	23.47	-6.98
	5280	56	AVG	106T	15.93	16.24	23.47	-7.23
	5320	64	AVG	106T	16.11	16.20	23.47	-7.27
	5500	100	AVG	106T	16.26	16.39	22.80	-6.41
	5600	120	AVG	106T	16.29	16.27	22.80	-6.51
5720	144	AVG	106T	16.39	16.38	22.80	-6.41	
5745	149	AVG	106T	16.35	16.48	30.00	-13.52	
5785	157	AVG	106T	16.33	16.43	30.00	-13.57	
5825	165	AVG	106T	16.37	16.39	30.00	-13.61	

Table 7-20. SISO ANT1 20MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					53	54	56		
	5190	38	AVG	106T	16.41	16.22	16.07	23.98	-7.57
	5230	46	AVG	106T	16.43	16.17	16.31	23.98	-7.55
	5270	54	AVG	106T	16.06	16.32	16.03	23.47	-7.15
	5310	62	AVG	106T	16.06	16.27	16.42	23.47	-7.05
	5510	102	AVG	106T	16.24	16.48	16.19	22.80	-6.32
	5590	118	AVG	106T	16.13	16.35	16.47	22.80	-6.33
	5710	142	AVG	106T	16.23	16.41	16.05	22.80	-6.39
	5755	151	AVG	106T	16.22	16.45	16.17	30.00	-13.55
5795	159	AVG	106T	16.04	16.31	16.03	30.00	-13.69	

Table 7-21. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					53	56	60		
	5210	42	AVG	106T	16.27	16.20	15.95	23.98	-7.71
	5290	58	AVG	106T	16.16	16.36	16.09	23.47	-7.11
	5530	106	AVG	106T	16.15	16.35	15.98	22.80	-6.45
	5610	122	AVG	106T	16.05	16.19	16.18	22.80	-6.61
5690	138	AVG	106T	16.21	16.28	16.28	22.80	-6.52	
5775	155	AVG	106T	16.14	16.37	16.05	30.00	-13.63	

Table 7-22. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 99 of 309

SISO Antenna-1 Conducted Output Power Measurements (242 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index	Conducted Power Limit [dBm]	Conducted Power Margin [dB]	
						61		
	5180	36	AVG	242T	16.79	23.98	-7.19	
	5200	40	AVG	242T	17.97	23.98	-6.01	
	5240	48	AVG	242T	17.86	23.98	-6.12	
	5260	52	AVG	242T	17.81	23.47	-5.66	
	5280	56	AVG	242T	17.71	23.47	-5.76	
	5320	64	AVG	242T	17.63	23.47	-5.84	
	5500	100	AVG	242T	17.51	22.80	-5.29	
	5600	120	AVG	242T	17.55	22.80	-5.25	
5720	144	AVG	242T	17.79	22.80	-5.01		
5745	149	AVG	242T	17.87	30.00	-12.13		
5785	157	AVG	242T	17.73	30.00	-12.27		
5825	165	AVG	242T	17.79	30.00	-12.21		

Table 7-23. SISO ANT1 20MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index		Conducted Power Limit [dBm]	Conducted Power Margin [dB]	
						61	62		
	5190	38	AVG	242T	17.68	17.85	23.98	-6.13	
	5230	46	AVG	242T	17.65	17.72	23.98	-6.26	
	5270	54	AVG	242T	17.66	17.61	23.47	-5.81	
	5310	62	AVG	242T	17.73	17.77	23.47	-5.70	
	5510	102	AVG	242T	17.68	17.82	22.80	-4.98	
	5590	118	AVG	242T	17.50	17.84	22.80	-4.96	
	5710	142	AVG	242T	17.83	17.89	22.80	-4.91	
	5755	151	AVG	242T	17.58	17.62	30.00	-12.38	
5795	159	AVG	242T	17.95	17.97	30.00	-12.03		

Table 7-24. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]	
						61	62	64		
	5210	42	AVG	242T	17.54	17.79	17.70	23.98	-6.19	
	5290	58	AVG	242T	17.61	17.76	17.72	23.47	-5.71	
	5530	106	AVG	242T	17.70	17.86	17.95	22.80	-4.85	
	5610	122	AVG	242T	17.69	17.87	17.82	22.80	-4.93	
	5690	138	AVG	242T	17.64	17.75	17.65	22.80	-5.05	
	5775	155	AVG	242T	17.69	17.92	17.84	30.00	-12.08	

Table 7-25. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 100 of 309	

SISO Antenna-1 Conducted Output Power Measurements (484 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index	Conducted Power Limit [dBm]	Conducted Power Margin [dB]
						65	
	5190	38	AVG	484T	16.34	23.98	-7.64
	5230	46	AVG	484T	17.82	23.98	-6.16
	5270	54	AVG	484T	17.65	23.47	-5.82
	5310	62	AVG	484T	16.46	23.47	-7.01
	5510	102	AVG	484T	15.97	22.80	-6.83
	5590	118	AVG	484T	17.83	22.80	-4.97
	5710	142	AVG	484T	17.75	22.80	-5.05
	5755	151	AVG	484T	17.99	30.00	-12.01
5795	159	AVG	484T	17.88	30.00	-12.12	

Table 7-26. SISO ANT1 40MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index		Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					65	66		
	5210	42	AVG	484T	17.61	17.92	23.98	-6.06
	5290	58	AVG	484T	17.69	17.80	23.47	-5.67
	5530	106	AVG	484T	17.85	17.97	22.80	-4.83
	5610	122	AVG	484T	17.82	17.80	22.80	-4.98
	5690	138	AVG	484T	17.60	17.69	22.80	-5.11
	5775	155	AVG	484T	17.82	17.83	30.00	-12.17

Table 7-27. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 101 of 309

SISO Antenna-1 Conducted Output Power Measurements (996 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index	Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					67		
	5210	42	AVG	996T	16.21	23.98	-7.77
	5290	58	AVG	996T	16.20	23.47	-7.27
	5530	106	AVG	996T	15.98	22.80	-6.82
	5610	122	AVG	996T	17.80	22.80	-5.00
	5690	138	AVG	996T	17.61	22.80	-5.19
5775	155	AVG	996T	17.77	30.00	-12.23	

Table 7-28. SISO ANT1 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)

FCC ID: A3LSMS901U	 PCTEST Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 102 of 309

Frequency	Bandwidth	Channel	Mode	Tone	RU index	Detector	Conducted Power [dBm]	Ant. Gain [dBi]	Max e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
5845	20MHz	169	ax RU	26T	0	Average	10.82	-6.2	4.62	30.00	-25.38
5845	20MHz	169	ax RU	26T	4	Average	10.92	-6.2	4.72	30.00	-25.28
5845	20MHz	169	ax RU	26T	8	Average	10.78	-6.2	4.58	30.00	-25.42
5845	20MHz	169	ax RU	52T	37	Average	13.10	-6.2	6.90	30.00	-23.10
5845	20MHz	169	ax RU	52T	39	Average	13.12	-6.2	6.92	30.00	-23.08
5845	20MHz	169	ax RU	52T	40	Average	13.49	-6.2	7.29	30.00	-22.71
5845	20MHz	169	ax RU	106T	53	Average	16.48	-6.2	10.28	30.00	-19.72
5845	20MHz	169	ax RU	106T	54	Average	16.46	-6.2	10.26	30.00	-19.74
5845	20MHz	169	ax RU	242T	61	Average	17.95	-6.2	11.75	30.00	-18.25
5865	20MHz	173	ax RU	26T	0	Average	10.97	-6.2	4.77	30.00	-25.23
5865	20MHz	173	ax RU	26T	4	Average	10.88	-6.2	4.68	30.00	-25.32
5865	20MHz	173	ax RU	26T	8	Average	10.98	-6.2	4.78	30.00	-25.22
5865	20MHz	173	ax RU	52T	37	Average	13.49	-6.2	7.29	30.00	-22.71
5865	20MHz	173	ax RU	52T	39	Average	13.14	-6.2	6.94	30.00	-23.06
5865	20MHz	173	ax RU	52T	40	Average	13.49	-6.2	7.29	30.00	-22.71
5865	20MHz	173	ax RU	106T	53	Average	16.46	-6.2	10.26	30.00	-19.74
5865	20MHz	173	ax RU	106T	54	Average	16.43	-6.2	10.23	30.00	-19.77
5865	20MHz	173	ax RU	242T	61	Average	17.99	-6.2	11.79	30.00	-18.21
5885	20MHz	177	ax RU	26T	0	Average	10.82	-6.2	4.62	30.00	-25.38
5885	20MHz	177	ax RU	26T	4	Average	10.95	-6.2	4.75	30.00	-25.25
5885	20MHz	177	ax RU	26T	8	Average	10.76	-6.2	4.56	30.00	-25.44
5885	20MHz	177	ax RU	52T	37	Average	13.35	-6.2	7.15	30.00	-22.85
5885	20MHz	177	ax RU	52T	39	Average	13.41	-6.2	7.21	30.00	-22.79
5885	20MHz	177	ax RU	52T	40	Average	13.33	-6.2	7.13	30.00	-22.87
5885	20MHz	177	ax RU	106T	53	Average	16.48	-6.2	10.28	30.00	-19.72
5885	20MHz	177	ax RU	106T	54	Average	16.39	-6.2	10.19	30.00	-19.81
5885	20MHz	177	ax RU	242T	61	Average	17.82	-6.2	11.62	30.00	-18.38
5835	40MHz	167	ax RU	26T	0	Average	10.97	-6.2	4.77	30.00	-25.23
5835	40MHz	167	ax RU	26T	8	Average	10.66	-6.2	4.46	30.00	-25.54
5835	40MHz	167	ax RU	26T	17	Average	10.91	-6.2	4.71	30.00	-25.29
5835	40MHz	167	ax RU	52T	37	Average	13.49	-6.2	7.29	30.00	-22.71
5835	40MHz	167	ax RU	52T	40	Average	13.45	-6.2	7.25	30.00	-22.75
5835	40MHz	167	ax RU	52T	44	Average	13.46	-6.2	7.26	30.00	-22.74
5835	40MHz	167	ax RU	106T	53	Average	16.21	-6.2	10.01	30.00	-19.99
5835	40MHz	167	ax RU	106T	54	Average	16.49	-6.2	10.29	30.00	-19.71
5835	40MHz	167	ax RU	106T	56	Average	16.22	-6.2	10.02	30.00	-19.98
5835	40MHz	167	ax RU	242T	61	Average	17.29	-6.2	11.09	30.00	-18.91
5835	40MHz	167	ax RU	242T	62	Average	17.30	-6.2	11.10	30.00	-18.90
5835	40MHz	167	ax RU	484T	65	Average	17.28	-6.2	11.08	30.00	-18.92
5875	40MHz	175	ax RU	26T	0	Average	10.96	-6.2	4.76	30.00	-25.24
5875	40MHz	175	ax RU	26T	8	Average	10.99	-6.2	4.79	30.00	-25.21
5875	40MHz	175	ax RU	26T	17	Average	10.86	-6.2	4.66	30.00	-25.34
5875	40MHz	175	ax RU	52T	37	Average	13.43	-6.2	7.23	30.00	-22.77
5875	40MHz	175	ax RU	52T	40	Average	13.46	-6.2	7.26	30.00	-22.74
5875	40MHz	175	ax RU	52T	44	Average	13.44	-6.2	7.24	30.00	-22.76
5875	40MHz	175	ax RU	106T	53	Average	16.12	-6.2	9.92	30.00	-20.08
5875	40MHz	175	ax RU	106T	54	Average	16.36	-6.2	10.16	30.00	-19.84
5875	40MHz	175	ax RU	106T	56	Average	16.10	-6.2	9.90	30.00	-20.10
5875	40MHz	175	ax RU	242T	61	Average	17.26	-6.2	11.06	30.00	-18.94
5875	40MHz	175	ax RU	242T	62	Average	17.27	-6.2	11.07	30.00	-18.93
5875	40MHz	175	ax RU	484T	65	Average	17.25	-6.2	11.05	30.00	-18.95
5855	80MHz	171	ax RU	26T	0	Average	10.85	-6.2	4.65	30.00	-25.35
5855	80MHz	171	ax RU	26T	18	Average	10.90	-6.2	4.70	30.00	-25.30
5855	80MHz	171	ax RU	26T	36	Average	10.87	-6.2	4.67	30.00	-25.33
5855	80MHz	171	ax RU	52T	37	Average	13.16	-6.2	6.96	30.00	-23.04
5855	80MHz	171	ax RU	52T	44	Average	13.47	-6.2	7.27	30.00	-22.73
5855	80MHz	171	ax RU	52T	52	Average	13.42	-6.2	7.22	30.00	-22.78
5855	80MHz	171	ax RU	106T	53	Average	16.20	-6.2	10.00	30.00	-20.00
5855	80MHz	171	ax RU	106T	56	Average	16.32	-6.2	10.12	30.00	-19.88
5855	80MHz	171	ax RU	106T	60	Average	16.42	-6.2	10.22	30.00	-19.78
5855	80MHz	171	ax RU	242T	61	Average	17.25	-6.2	11.05	30.00	-18.95
5855	80MHz	171	ax RU	242T	62	Average	17.39	-6.2	11.19	30.00	-18.81
5855	80MHz	171	ax RU	242T	64	Average	17.29	-6.2	11.09	30.00	-18.91
5855	80MHz	171	ax RU	484T	65	Average	17.25	-6.2	11.05	30.00	-18.95
5855	80MHz	171	ax RU	484T	66	Average	17.23	-6.2	11.03	30.00	-18.97
5855	80MHz	171	ax RU	996T	67	Average	17.70	-6.2	11.50	30.00	-18.50

Table 7-29. SISO ANT1 UNII-4 Maximum e.i.r.p (All Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 103 of 309

SISO Antenna-2 Conducted Output Power Measurements (26 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					0	4	8		
	5180	36	AVG	26T	10.52	10.54	10.67	23.98	-13.31
5200	40	AVG	26T	10.53	10.54	10.59	23.98	-13.39	
5240	48	AVG	26T	10.61	10.57	10.65	23.98	-13.33	
5260	52	AVG	26T	10.96	10.93	10.93	23.47	-12.51	
5280	56	AVG	26T	10.93	10.87	10.93	23.47	-12.54	
5320	64	AVG	26T	10.69	10.65	10.68	23.47	-12.78	
5500	100	AVG	26T	10.71	10.64	10.67	22.80	-12.09	
5600	120	AVG	26T	10.67	10.56	10.61	22.80	-12.13	
5720	144	AVG	26T	10.51	10.96	10.44	22.80	-11.84	
5745	149	AVG	26T	10.83	10.78	10.87	30.00	-19.13	
5785	157	AVG	26T	10.84	10.81	10.88	30.00	-19.12	
5825	165	AVG	26T	10.48	10.92	10.94	30.00	-19.06	

Table 7-30. SISO ANT2 20MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					0	8	17		
	5190	38	AVG	26T	10.85	10.88	10.49	23.98	-13.10
5230	46	AVG	26T	10.87	10.89	10.98	23.98	-13.00	
5270	54	AVG	26T	10.79	10.76	10.77	23.47	-12.68	
5310	62	AVG	26T	10.57	10.54	10.46	23.47	-12.90	
5510	102	AVG	26T	10.57	10.95	10.91	22.80	-11.85	
5590	118	AVG	26T	10.55	10.98	10.81	22.80	-11.82	
5710	142	AVG	26T	10.89	10.79	10.79	22.80	-11.91	
5755	151	AVG	26T	10.51	10.99	10.52	30.00	-19.01	
5795	159	AVG	26T	10.66	10.77	10.68	30.00	-19.23	

Table 7-31. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					0	18	36		
	5210	42	AVG	26T	10.51	10.55	10.44	23.98	-13.43
5290	58	AVG	26T	10.52	10.68	10.94	23.47	-12.53	
5530	106	AVG	26T	10.87	10.87	10.97	22.80	-11.83	
5610	122	AVG	26T	10.91	10.89	10.55	22.80	-11.89	
5690	138	AVG	26T	10.79	10.80	10.55	22.80	-12.00	
5775	155	AVG	26T	10.88	10.70	10.95	30.00	-19.05	

Table 7-32. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 104 of 309

SISO Antenna-2 Conducted Output Power Measurements (52 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					37	39	40		
	5180	36	AVG	52T	13.19	13.39	13.31	23.98	-10.59
5200	40	AVG	52T	13.18	13.37	13.26	23.98	-10.61	
5240	48	AVG	52T	12.99	13.12	12.98	23.98	-10.86	
5260	52	AVG	52T	13.45	12.97	13.43	23.47	-10.02	
5280	56	AVG	52T	13.45	12.96	13.41	23.47	-10.02	
5320	64	AVG	52T	13.37	13.45	13.32	23.47	-10.02	
5500	100	AVG	52T	13.48	13.09	13.40	22.80	-9.32	
5600	120	AVG	52T	13.30	13.38	13.22	22.80	-9.42	
5720	144	AVG	52T	13.17	13.25	13.13	22.80	-9.55	
5745	149	AVG	52T	13.18	13.31	13.22	30.00	-16.69	
5785	157	AVG	52T	13.30	13.41	13.32	30.00	-16.59	
5825	165	AVG	52T	13.21	13.32	13.18	30.00	-16.68	

Table 7-33. SISO ANT2 20MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					37	40	44		
	5190	38	AVG	52T	13.15	13.17	13.38	23.98	-10.60
5230	46	AVG	52T	13.01	13.45	13.05	23.98	-10.53	
5270	54	AVG	52T	13.48	13.31	13.45	23.47	-9.99	
5310	62	AVG	52T	13.01	13.36	13.35	23.47	-10.11	
5510	102	AVG	52T	13.05	13.39	13.33	22.80	-9.41	
5590	118	AVG	52T	13.39	13.19	13.20	22.80	-9.41	
5710	142	AVG	52T	13.24	13.08	13.13	22.80	-9.56	
5755	151	AVG	52T	13.11	13.04	13.16	30.00	-16.84	
5795	159	AVG	52T	13.37	13.28	13.42	30.00	-16.58	

Table 7-34. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					37	44	52		
	5210	42	AVG	52T	13.48	12.86	13.25	23.98	-10.50
5290	58	AVG	52T	13.03	13.32	13.43	23.47	-10.04	
5530	106	AVG	52T	13.22	13.38	13.29	22.80	-9.42	
5610	122	AVG	52T	13.04	13.20	13.19	22.80	-9.60	
5690	138	AVG	52T	13.48	13.21	13.23	22.80	-9.32	
5775	155	AVG	52T	13.40	13.28	13.45	30.00	-16.55	

Table 7-35. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 105 of 309

SISO Antenna-2 Conducted Output Power Measurements (106 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index		Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					53	54		
	5180	36	AVG	106T	16.22	16.34	23.98	-7.64
5200	40	AVG	106T	16.19	16.26	23.98	-7.72	
5240	48	AVG	106T	16.17	16.19	23.98	-7.79	
5260	52	AVG	106T	16.13	16.15	23.47	-7.32	
5280	56	AVG	106T	16.08	16.03	23.47	-7.39	
5320	64	AVG	106T	16.08	16.05	23.47	-7.39	
5500	100	AVG	106T	16.11	16.02	22.80	-6.69	
5600	120	AVG	106T	16.30	16.25	22.80	-6.50	
5720	144	AVG	106T	16.26	16.23	22.80	-6.54	
5745	149	AVG	106T	16.17	16.18	30.00	-13.82	
5785	157	AVG	106T	15.96	16.01	30.00	-13.99	
5825	165	AVG	106T	16.13	16.12	30.00	-13.87	

Table 7-36. SISO ANT2 20MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					53	54	56		
	5190	38	AVG	106T	16.12	16.48	16.31	23.98	-7.50
5230	46	AVG	106T	16.14	16.42	16.16	23.98	-7.56	
5270	54	AVG	106T	16.17	16.43	16.11	23.47	-7.04	
5310	62	AVG	106T	16.03	16.30	15.95	23.47	-7.17	
5510	102	AVG	106T	16.09	16.32	15.94	22.80	-6.48	
5590	118	AVG	106T	16.22	16.41	16.03	22.80	-6.39	
5710	142	AVG	106T	16.39	16.06	16.25	22.80	-6.41	
5755	151	AVG	106T	16.24	16.47	16.21	30.00	-13.53	
5795	159	AVG	106T	15.96	16.22	15.94	30.00	-13.78	

Table 7-37. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					53	56	60		
	5210	42	AVG	106T	15.92	16.45	16.27	23.98	-7.53
5290	58	AVG	106T	16.10	16.37	16.43	23.47	-7.04	
5530	106	AVG	106T	16.11	16.26	15.96	22.80	-6.54	
5610	122	AVG	106T	16.43	16.06	16.06	22.80	-6.37	
5690	138	AVG	106T	16.49	16.11	16.23	22.80	-6.31	
5775	155	AVG	106T	16.47	16.17	16.48	30.00	-13.52	

Table 7-38. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 106 of 309

SISO Antenna-2 Conducted Output Power Measurements (242 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index	Conducted Power Limit [dBm]	Conducted Power Margin [dB]	
						61		
	5180	36	AVG	242T	16.88	23.98	-7.10	
	5200	40	AVG	242T	17.90	23.98	-6.08	
	5240	48	AVG	242T	17.89	23.98	-6.09	
	5260	52	AVG	242T	17.89	23.47	-5.58	
	5280	56	AVG	242T	17.88	23.47	-5.59	
	5320	64	AVG	242T	17.99	23.47	-5.48	
	5500	100	AVG	242T	17.80	22.80	-5.00	
	5600	120	AVG	242T	17.86	22.80	-4.94	
5720	144	AVG	242T	17.95	22.80	-4.85		
5745	149	AVG	242T	17.85	30.00	-12.15		
5785	157	AVG	242T	17.76	30.00	-12.24		
5825	165	AVG	242T	17.83	30.00	-12.17		

Table 7-39. SISO ANT2 20MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index		Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					61	62		
	5190	38	AVG	242T	17.85	17.99	23.98	-5.99
	5230	46	AVG	242T	17.80	17.87	23.98	-6.11
	5270	54	AVG	242T	17.98	17.96	23.47	-5.49
	5310	62	AVG	242T	17.92	17.89	23.47	-5.55
	5510	102	AVG	242T	17.87	17.86	22.80	-4.93
	5590	118	AVG	242T	17.80	17.80	22.80	-5.00
	5710	142	AVG	242T	17.71	17.75	22.80	-5.05
	5755	151	AVG	242T	17.66	17.67	30.00	-12.33
5795	159	AVG	242T	17.99	17.97	30.00	-12.01	

Table 7-40. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					61	62	64		
	5210	42	AVG	242T	17.90	17.79	17.77	23.98	-6.08
	5290	58	AVG	242T	17.97	17.63	17.53	23.47	-5.50
	5530	106	AVG	242T	17.95	17.58	17.91	22.80	-4.85
	5610	122	AVG	242T	17.81	17.97	17.82	22.80	-4.83
	5690	138	AVG	242T	17.92	17.97	17.92	22.80	-4.83
	5775	155	AVG	242T	17.50	17.72	17.92	30.00	-12.08

Table 7-41. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 107 of 309

SISO Antenna-2 Conducted Output Power Measurements (484 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index	Conducted Power Limit [dBm]	Conducted Power Margin [dB]	
						65		
	5190	38	AVG	484T	16.43	23.98	-7.55	
	5230	46	AVG	484T	17.87	23.98	-6.11	
	5270	54	AVG	484T	17.98	23.47	-5.49	
	5310	62	AVG	484T	16.41	23.47	-7.06	
	5510	102	AVG	484T	15.83	22.80	-6.97	
	5590	118	AVG	484T	17.76	22.80	-5.04	
	5710	142	AVG	484T	17.75	22.80	-5.05	
	5755	151	AVG	484T	17.68	30.00	-12.32	
5795	159	AVG	484T	17.99	30.00	-12.01		

Table 7-42. SISO ANT2 40MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index		Conducted Power Limit [dBm]	Conducted Power Margin [dB]	
						65	66		
	5210	42	AVG	484T	17.95	17.74	23.98	-6.03	
5290	58	AVG	484T	17.94	17.92	23.47	-5.53		
5530	106	AVG	484T	17.92	17.84	22.80	-4.88		
5610	122	AVG	484T	17.76	17.83	22.80	-4.97		
5690	138	AVG	484T	17.93	17.91	22.80	-4.87		
5775	155	AVG	484T	17.93	17.96	30.00	-12.04		

Table 7-43. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 108 of 309

SISO Antenna-2 Conducted Output Power Measurements (996 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index	Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					67		
	5210	42	AVG	996T	16.47	23.98	-7.51
	5290	58	AVG	996T	16.32	23.47	-7.15
	5530	106	AVG	996T	15.88	22.80	-6.92
	5610	122	AVG	996T	17.62	22.80	-5.18
	5690	138	AVG	996T	17.81	22.80	-4.99
5775	155	AVG	996T	17.69	30.00	-12.31	

Table 7-44. SISO ANT2 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)

FCC ID: A3LSMS901U	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 109 of 309

Frequency	Bandwidth	Channel	Mode	Tone	RU index	Detector	Conducted Power [dBm]	Ant. Gain [dBi]	Max e.i.r.p [dBm]	Max e.i.r.p Limit [dBm]	e.i.r.p Margin [dB]
5845	20MHz	169	ax RU	26T	0	Average	10.91	-7.8	3.11	30.00	-26.89
5845	20MHz	169	ax RU	26T	4	Average	10.94	-7.8	3.14	30.00	-26.86
5845	20MHz	169	ax RU	26T	8	Average	10.95	-7.8	3.15	30.00	-26.85
5845	20MHz	169	ax RU	52T	37	Average	13.49	-7.8	5.69	30.00	-24.31
5845	20MHz	169	ax RU	52T	39	Average	13.47	-7.8	5.67	30.00	-24.33
5845	20MHz	169	ax RU	52T	40	Average	13.43	-7.8	5.63	30.00	-24.37
5845	20MHz	169	ax RU	106T	53	Average	16.22	-7.8	8.42	30.00	-21.58
5845	20MHz	169	ax RU	106T	54	Average	16.20	-7.8	8.40	30.00	-21.60
5845	20MHz	169	ax RU	242T	61	Average	17.49	-7.8	9.69	30.00	-20.31
5865	20MHz	173	ax RU	26T	0	Average	10.86	-7.8	3.06	30.00	-26.94
5865	20MHz	173	ax RU	26T	4	Average	10.95	-7.8	3.15	30.00	-26.85
5865	20MHz	173	ax RU	26T	8	Average	10.93	-7.8	3.13	30.00	-26.87
5865	20MHz	173	ax RU	52T	37	Average	13.47	-7.8	5.67	30.00	-24.33
5865	20MHz	173	ax RU	52T	39	Average	13.11	-7.8	5.31	30.00	-24.69
5865	20MHz	173	ax RU	52T	40	Average	13.49	-7.8	5.69	30.00	-24.31
5865	20MHz	173	ax RU	106T	53	Average	16.13	-7.8	8.33	30.00	-21.67
5865	20MHz	173	ax RU	106T	54	Average	16.14	-7.8	8.34	30.00	-21.66
5865	20MHz	173	ax RU	242T	61	Average	17.47	-7.8	9.67	30.00	-20.33
5885	20MHz	177	ax RU	26T	0	Average	10.84	-7.8	3.04	30.00	-26.96
5885	20MHz	177	ax RU	26T	4	Average	10.92	-7.8	3.12	30.00	-26.88
5885	20MHz	177	ax RU	26T	8	Average	10.99	-7.8	3.19	30.00	-26.81
5885	20MHz	177	ax RU	52T	37	Average	13.14	-7.8	5.34	30.00	-24.66
5885	20MHz	177	ax RU	52T	39	Average	13.22	-7.8	5.42	30.00	-24.58
5885	20MHz	177	ax RU	52T	40	Average	13.11	-7.8	5.31	30.00	-24.69
5885	20MHz	177	ax RU	106T	53	Average	16.31	-7.8	8.51	30.00	-21.49
5885	20MHz	177	ax RU	106T	54	Average	16.29	-7.8	8.49	30.00	-21.51
5885	20MHz	177	ax RU	242T	61	Average	17.78	-7.8	9.98	30.00	-20.02
5835	40MHz	167	ax RU	26T	0	Average	10.99	-7.8	3.19	30.00	-26.81
5835	40MHz	167	ax RU	26T	8	Average	10.90	-7.8	3.10	30.00	-26.90
5835	40MHz	167	ax RU	26T	17	Average	10.89	-7.8	3.09	30.00	-26.91
5835	40MHz	167	ax RU	52T	37	Average	13.49	-7.8	5.69	30.00	-24.31
5835	40MHz	167	ax RU	52T	40	Average	13.35	-7.8	5.55	30.00	-24.45
5835	40MHz	167	ax RU	52T	44	Average	13.48	-7.8	5.68	30.00	-24.32
5835	40MHz	167	ax RU	106T	53	Average	16.29	-7.8	8.49	30.00	-21.51
5835	40MHz	167	ax RU	106T	54	Average	16.48	-7.8	8.68	30.00	-21.32
5835	40MHz	167	ax RU	106T	56	Average	16.25	-7.8	8.45	30.00	-21.55
5835	40MHz	167	ax RU	242T	61	Average	17.58	-7.8	9.78	30.00	-20.22
5835	40MHz	167	ax RU	242T	62	Average	17.60	-7.8	9.80	30.00	-20.20
5835	40MHz	167	ax RU	484T	65	Average	17.58	-7.8	9.78	30.00	-20.22
5875	40MHz	175	ax RU	26T	0	Average	10.75	-7.8	2.95	30.00	-27.05
5875	40MHz	175	ax RU	26T	8	Average	10.77	-7.8	2.97	30.00	-27.03
5875	40MHz	175	ax RU	26T	17	Average	10.75	-7.8	2.95	30.00	-27.05
5875	40MHz	175	ax RU	52T	37	Average	13.45	-7.8	5.65	30.00	-24.35
5875	40MHz	175	ax RU	52T	40	Average	13.30	-7.8	5.50	30.00	-24.50
5875	40MHz	175	ax RU	52T	44	Average	13.46	-7.8	5.66	30.00	-24.34
5875	40MHz	175	ax RU	106T	53	Average	16.21	-7.8	8.41	30.00	-21.59
5875	40MHz	175	ax RU	106T	54	Average	16.44	-7.8	8.64	30.00	-21.36
5875	40MHz	175	ax RU	106T	56	Average	16.21	-7.8	8.41	30.00	-21.59
5875	40MHz	175	ax RU	242T	61	Average	17.63	-7.8	9.83	30.00	-20.17
5875	40MHz	175	ax RU	242T	62	Average	17.55	-7.8	9.75	30.00	-20.25
5875	40MHz	175	ax RU	484T	65	Average	17.57	-7.8	9.77	30.00	-20.23
5855	80MHz	171	ax RU	26T	0	Average	10.86	-7.8	3.06	30.00	-26.94
5855	80MHz	171	ax RU	26T	18	Average	10.85	-7.8	3.05	30.00	-26.95
5855	80MHz	171	ax RU	26T	36	Average	10.89	-7.8	3.09	30.00	-26.91
5855	80MHz	171	ax RU	52T	37	Average	13.45	-7.8	5.65	30.00	-24.35
5855	80MHz	171	ax RU	52T	44	Average	13.40	-7.8	5.60	30.00	-24.40
5855	80MHz	171	ax RU	52T	52	Average	13.44	-7.8	5.64	30.00	-24.36
5855	80MHz	171	ax RU	106T	53	Average	16.20	-7.8	8.40	30.00	-21.60
5855	80MHz	171	ax RU	106T	56	Average	16.41	-7.8	8.61	30.00	-21.39
5855	80MHz	171	ax RU	106T	60	Average	16.43	-7.8	8.63	30.00	-21.37
5855	80MHz	171	ax RU	242T	61	Average	17.66	-7.8	9.86	30.00	-20.14
5855	80MHz	171	ax RU	242T	62	Average	17.76	-7.8	9.96	30.00	-20.04
5855	80MHz	171	ax RU	242T	64	Average	17.55	-7.8	9.75	30.00	-20.25
5855	80MHz	171	ax RU	484T	65	Average	17.62	-7.8	9.82	30.00	-20.18
5855	80MHz	171	ax RU	484T	66	Average	17.54	-7.8	9.74	30.00	-20.26
5855	80MHz	171	ax RU	996T	67	Average	17.49	-7.8	9.69	30.00	-20.31

Table 7-45. SISO ANT2 80MHz UNII-4 Maximum e.i.r.p. Power (All Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 110 of 309

MIMO Maximum Conducted Output Power Measurements (26 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					0			4			8				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5180	36	AVG	26T	10.76	10.52	13.65	10.61	10.54	13.59	10.75	10.67	13.72	23.98	-10.26	
5200	40	AVG	26T	10.71	10.53	13.63	10.97	10.54	13.77	10.98	10.59	13.80	23.98	-10.18	
5240	48	AVG	26T	10.88	10.61	13.76	10.96	10.57	13.78	10.59	10.65	13.63	23.98	-10.20	
5260	52	AVG	26T	10.45	10.96	13.72	10.57	10.93	13.76	10.61	10.93	13.78	23.47	-9.69	
5280	56	AVG	26T	10.46	10.93	13.71	10.56	10.87	13.73	10.53	10.93	13.74	23.47	-9.73	
5320	64	AVG	26T	10.56	10.69	13.64	10.67	10.65	13.67	10.60	10.68	13.65	23.47	-9.80	
5500	100	AVG	26T	10.87	10.71	13.80	10.97	10.64	13.82	10.57	10.67	13.63	22.80	-8.98	
5600	120	AVG	26T	10.75	10.67	13.72	10.89	10.56	13.74	10.88	10.61	13.76	22.80	-9.04	
5720	144	AVG	26T	10.85	10.51	13.69	10.94	10.96	13.96	10.95	10.44	13.71	22.80	-8.84	
5745	149	AVG	26T	10.60	10.83	13.73	10.75	10.78	13.78	10.72	10.87	13.81	30.00	-16.19	
5785	157	AVG	26T	10.57	10.84	13.72	10.73	10.81	13.78	10.71	10.88	13.81	30.00	-16.19	
5825	165	AVG	26T	10.57	10.48	13.54	10.71	10.92	13.83	10.66	10.94	13.81	30.00	-16.17	

Table 7-46. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					0			8			17				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5190	38	AVG	26T	10.59	10.85	13.73	10.82	10.88	13.86	10.53	10.49	13.52	23.98	-10.12	
5230	46	AVG	26T	10.85	10.87	13.87	10.89	10.89	13.90	10.52	10.98	13.77	23.98	-10.08	
5270	54	AVG	26T	10.93	10.79	13.87	10.99	10.76	13.89	10.58	10.77	13.69	23.47	-9.58	
5310	62	AVG	26T	10.98	10.57	13.79	10.94	10.54	13.75	10.46	10.97	13.73	23.47	-9.68	
5510	102	AVG	26T	10.64	10.57	13.62	10.82	10.95	13.90	10.62	10.91	13.78	22.80	-8.90	
5590	118	AVG	26T	10.80	10.55	13.69	10.89	10.98	13.95	10.51	10.81	13.67	22.80	-8.85	
5710	142	AVG	26T	10.55	10.89	13.73	10.99	10.79	13.90	10.63	10.79	13.72	22.80	-8.90	
5755	151	AVG	26T	10.76	10.51	13.65	10.86	10.99	13.94	10.91	10.52	13.73	30.00	-16.06	
5795	159	AVG	26T	10.58	10.66	13.63	10.86	10.77	13.83	10.71	10.68	13.71	30.00	-16.17	

Table 7-47. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					0			18			36				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5210	42	AVG	26T	10.96	10.51	13.75	10.89	10.55	13.73	10.71	10.44	13.59	23.98	-10.23	
5290	58	AVG	26T	10.75	10.52	13.65	10.84	10.68	13.77	10.49	10.94	13.73	23.47	-9.70	
5530	106	AVG	26T	10.69	10.87	13.79	10.83	10.87	13.86	10.51	10.97	13.76	22.80	-8.94	
5610	122	AVG	26T	10.98	10.91	13.96	10.54	10.89	13.73	10.62	10.55	13.60	22.80	-8.84	
5690	138	AVG	26T	10.92	10.79	13.87	10.47	10.80	13.65	10.51	10.55	13.54	22.80	-8.93	
5775	155	AVG	26T	10.81	10.88	13.86	10.98	10.70	13.85	10.73	10.95	13.85	30.00	-16.14	

Table 7-48. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

MIMO Conducted Output Power Measurements (52 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					37			39			40				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5180	36	AVG	52T	13.16	13.19	16.19	13.45	13.39	16.43	13.48	13.31	16.41	23.98	-7.55	
5200	40	AVG	52T	13.17	13.18	16.19	13.34	13.37	16.37	13.38	13.26	16.33	23.98	-7.61	
5240	48	AVG	52T	13.32	12.99	16.17	13.42	13.12	16.28	13.39	12.98	16.20	23.98	-7.70	
5260	52	AVG	52T	13.41	13.45	16.44	13.47	12.97	16.24	13.48	13.43	16.47	23.47	-7.00	
5280	56	AVG	52T	13.39	13.45	16.43	13.46	12.96	16.23	13.43	13.41	16.43	23.47	-7.04	
5320	64	AVG	52T	13.18	13.37	16.29	13.24	13.45	16.36	13.18	13.32	16.26	23.47	-7.11	
5500	100	AVG	52T	13.42	13.48	16.46	13.04	13.09	16.08	13.01	13.40	16.22	22.80	-6.34	
5600	120	AVG	52T	13.01	13.30	16.17	13.10	13.38	16.25	13.03	13.22	16.14	22.80	-6.55	
5720	144	AVG	52T	13.32	13.17	16.26	13.42	13.25	16.35	13.31	13.13	16.23	22.80	-6.45	
5745	149	AVG	52T	13.45	13.18	16.33	13.05	13.31	16.19	13.01	13.22	16.13	30.00	-13.67	
5785	157	AVG	52T	13.28	13.30	16.30	13.38	13.41	16.41	13.33	13.32	16.34	30.00	-13.59	
5825	165	AVG	52T	13.33	13.21	16.28	13.44	13.32	16.39	13.43	13.18	16.32	30.00	-13.61	

Table 7-49. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					37			40			44				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5190	38	AVG	52T	13.13	13.15	16.15	13.22	13.17	16.21	13.49	13.38	16.45	23.98	-7.53	
5230	46	AVG	52T	13.19	13.01	16.11	13.29	13.45	16.38	13.34	13.05	16.21	23.98	-7.60	
5270	54	AVG	52T	13.37	13.48	16.44	13.31	13.31	16.32	13.33	13.45	16.40	23.47	-7.03	
5310	62	AVG	52T	13.16	13.01	16.10	13.48	13.36	16.43	13.16	13.35	16.27	23.47	-7.04	
5510	102	AVG	52T	13.06	13.05	16.07	13.10	13.39	16.26	13.26	13.33	16.31	22.80	-6.49	
5590	118	AVG	52T	13.18	13.39	16.30	13.15	13.19	16.18	13.29	13.20	16.26	22.80	-6.50	
5710	142	AVG	52T	13.14	13.24	16.20	13.16	13.08	16.13	13.19	13.13	16.17	22.80	-6.60	
5755	151	AVG	52T	13.32	13.11	16.23	13.29	13.04	16.18	13.39	13.16	16.29	30.00	-13.71	
5795	159	AVG	52T	13.16	13.37	16.28	13.18	13.28	16.24	13.25	13.42	16.35	30.00	-13.65	

Table 7-50. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					37			44			52				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5210	42	AVG	52T	13.38	13.48	16.44	13.49	12.86	16.20	13.17	13.25	16.22	23.98	-7.54	
5290	58	AVG	52T	13.21	13.03	16.13	13.47	13.32	16.41	12.99	13.43	16.23	23.47	-7.06	
5530	106	AVG	52T	13.22	13.22	16.23	13.48	13.38	16.44	13.05	13.29	16.18	22.80	-6.36	
5610	122	AVG	52T	13.32	13.04	16.19	12.97	13.20	16.10	13.00	13.19	16.11	22.80	-6.61	
5690	138	AVG	52T	13.02	13.48	16.27	13.15	13.21	16.19	13.08	13.23	16.17	22.80	-6.53	
5775	155	AVG	52T	13.34	13.40	16.38	13.11	13.28	16.21	13.27	13.45	16.37	30.00	-13.62	

Table 7-51. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset	Page 112 of 309	

MIMO Conducted Output Power Measurements (106 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index						Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					53			54				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5180	36	AVG	106T	16.21	16.22	19.23	16.03	16.34	19.20	23.98	-4.75	
5200	40	AVG	106T	16.23	16.19	19.22	16.31	16.26	19.30	23.98	-4.68	
5240	48	AVG	106T	16.13	16.17	19.16	16.11	16.19	19.16	23.98	-4.82	
5260	52	AVG	106T	16.44	16.13	19.30	16.49	16.15	19.33	23.47	-4.14	
5280	56	AVG	106T	15.93	16.08	19.02	16.24	16.03	19.15	23.47	-4.32	
5320	64	AVG	106T	16.11	16.08	19.11	16.20	16.05	19.14	23.47	-4.33	
5500	100	AVG	106T	16.26	16.11	19.20	16.39	16.02	19.22	22.80	-3.58	
5600	120	AVG	106T	16.29	16.30	19.31	16.27	16.25	19.27	22.80	-3.49	
5720	144	AVG	106T	16.39	16.26	19.34	16.38	16.23	19.32	22.80	-3.46	
5745	149	AVG	106T	16.35	16.17	19.27	16.48	16.18	19.34	30.00	-10.66	
5785	157	AVG	106T	16.33	15.96	19.16	16.43	16.01	19.24	30.00	-10.76	
5825	165	AVG	106T	16.37	16.13	19.26	16.39	16.12	19.27	30.00	-10.73	

Table 7-52. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					53			54			56				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5190	38	AVG	106T	16.41	16.12	19.28	16.22	16.48	19.36	16.07	16.31	19.20	23.98	-4.62	
5230	46	AVG	106T	16.43	16.14	19.30	16.17	16.42	19.31	16.31	16.16	19.25	23.98	-4.67	
5270	54	AVG	106T	16.06	16.17	19.13	16.32	16.43	19.39	16.03	16.11	19.08	23.47	-4.08	
5310	62	AVG	106T	16.06	16.03	19.06	16.27	16.30	19.30	16.42	15.95	19.20	23.47	-4.17	
5510	102	AVG	106T	16.24	16.09	19.18	16.48	16.32	19.41	16.19	15.94	19.08	22.80	-3.39	
5590	118	AVG	106T	16.13	16.22	19.19	16.35	16.41	19.39	16.47	16.03	19.27	22.80	-3.41	
5710	142	AVG	106T	16.23	16.39	19.32	16.41	16.06	19.25	16.05	16.25	19.16	22.80	-3.48	
5755	151	AVG	106T	16.22	16.24	19.24	16.45	16.47	19.47	16.17	16.21	19.20	30.00	-10.53	
5795	159	AVG	106T	16.04	15.96	19.01	16.31	16.22	19.28	16.03	15.94	19.00	30.00	-10.72	

Table 7-53. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					53			56			60				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5210	42	AVG	106T	16.27	15.92	19.11	16.20	16.45	19.34	15.95	16.27	19.12	23.98	-4.64	
5290	58	AVG	106T	16.16	16.10	19.14	16.36	16.37	19.38	16.09	16.43	19.27	23.47	-4.09	
5530	106	AVG	106T	16.15	16.11	19.14	16.35	16.26	19.32	15.98	15.96	18.98	22.80	-3.48	
5610	122	AVG	106T	16.05	16.43	19.25	16.19	16.06	19.14	16.18	16.06	19.13	22.80	-3.55	
5690	138	AVG	106T	16.21	16.49	19.36	16.28	16.11	19.21	16.28	16.23	19.27	22.80	-3.44	
5775	155	AVG	106T	16.14	16.47	19.32	16.37	16.17	19.28	16.05	16.48	19.28	30.00	-10.68	

Table 7-54. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

MIMO Conducted Output Power Measurements (242 Tones)

5GHz (20MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					61				
					ANT1	ANT2	MIMO		
5180	36	AVG	242T	16.79	16.88	19.85	23.98	-4.13	
5200	40	AVG	242T	17.97	17.90	20.95	23.98	-3.03	
5240	48	AVG	242T	17.86	17.89	20.89	23.98	-3.09	
5260	52	AVG	242T	17.81	17.89	20.86	23.47	-2.61	
5280	56	AVG	242T	17.71	17.88	20.81	23.47	-2.66	
5320	64	AVG	242T	17.63	17.99	20.82	23.47	-2.65	
5500	100	AVG	242T	17.51	17.80	20.67	22.80	-2.13	
5600	120	AVG	242T	17.55	17.86	20.72	22.80	-2.08	
5720	144	AVG	242T	17.79	17.95	20.88	22.80	-1.92	
5745	149	AVG	242T	17.87	17.85	20.87	30.00	-9.13	
5785	157	AVG	242T	17.73	17.76	20.76	30.00	-9.24	
5825	165	AVG	242T	17.79	17.83	20.82	30.00	-9.18	

Table 7-55. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index						Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					61			62				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5190	38	AVG	242T	17.68	17.85	20.78	17.85	17.99	20.93	23.98	-3.05	
5230	46	AVG	242T	17.65	17.80	20.74	17.72	17.87	20.81	23.98	-3.17	
5270	54	AVG	242T	17.66	17.98	20.83	17.61	17.96	20.80	23.47	-2.64	
5310	62	AVG	242T	17.73	17.92	20.84	17.77	17.89	20.84	23.47	-2.63	
5510	102	AVG	242T	17.68	17.87	20.79	17.82	17.86	20.85	22.80	-1.95	
5590	118	AVG	242T	17.50	17.80	20.66	17.84	17.80	20.83	22.80	-1.97	
5710	142	AVG	242T	17.83	17.71	20.78	17.89	17.75	20.83	22.80	-1.97	
5755	151	AVG	242T	17.58	17.66	20.63	17.62	17.67	20.66	30.00	-9.34	
5795	159	AVG	242T	17.95	17.99	20.98	17.97	17.97	20.98	30.00	-9.02	

Table 7-56. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					61			62			64				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
5210	42	AVG	242T	17.54	17.90	20.73	17.79	17.79	20.80	17.70	17.77	20.75	23.98	-3.18	
5290	58	AVG	242T	17.61	17.97	20.80	17.76	17.63	20.71	17.72	17.53	20.64	23.47	-2.67	
5530	106	AVG	242T	17.70	17.95	20.84	17.86	17.58	20.73	17.95	17.91	20.94	22.80	-1.86	
5610	122	AVG	242T	17.69	17.81	20.76	17.87	17.97	20.93	17.82	17.82	20.83	22.80	-1.87	
5690	138	AVG	242T	17.64	17.92	20.79	17.75	17.97	20.87	17.65	17.92	20.80	22.80	-1.93	
5775	155	AVG	242T	17.69	17.50	20.61	17.92	17.72	20.83	17.84	17.92	20.89	30.00	-9.11	

Table 7-57. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset	Page 114 of 309	

MIMO Conducted Output Power Measurements (484 Tones)

5GHz (40MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					65				
					ANT1	ANT2	MIMO		
	5190	38	AVG	484T	16.34	16.43	19.40	23.98	-4.58
	5230	46	AVG	484T	17.82	17.87	20.86	23.98	-3.12
	5270	54	AVG	484T	17.65	17.98	20.83	23.47	-2.64
	5310	62	AVG	484T	16.46	16.41	19.45	23.47	-4.02
	5510	102	AVG	484T	15.97	15.83	18.91	22.80	-3.89
	5590	118	AVG	484T	17.83	17.76	20.81	22.80	-1.99
	5710	142	AVG	484T	17.75	17.75	20.76	22.80	-2.04
	5755	151	AVG	484T	17.99	17.68	20.85	30.00	-9.15
	5795	159	AVG	484T	17.88	17.99	20.95	30.00	-9.05

Table 7-58. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index						Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					65			66				
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO		
	5210	42	AVG	484T	17.61	17.95	20.79	17.92	17.74	20.84	23.98	-3.14
	5290	58	AVG	484T	17.69	17.94	20.83	17.80	17.92	20.87	23.47	-2.60
	5530	106	AVG	484T	17.85	17.92	20.90	17.97	17.84	20.92	22.80	-1.88
	5610	122	AVG	484T	17.82	17.76	20.80	17.80	17.83	20.83	22.80	-1.97
	5690	138	AVG	484T	17.60	17.93	20.78	17.69	17.91	20.81	22.80	-1.99
	5775	155	AVG	484T	17.82	17.93	20.89	17.83	17.96	20.91	30.00	-9.09

Table 7-59. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 115 of 309

MIMO Conducted Output Power Measurements (996 Tones)

5GHz (80MHz Bandwidth)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]
					67				
					ANT1	ANT2	MIMO		
					5210	42	AVG		
5290	58	AVG	996T	16.20	16.32	19.27	23.47	-4.20	
5530	106	AVG	996T	15.98	15.88	18.94	22.80	-3.86	
5610	122	AVG	996T	17.80	17.62	20.72	22.80	-2.08	
5690	138	AVG	996T	17.61	17.81	20.72	22.80	-2.08	
5775	155	AVG	996T	17.77	17.69	20.74	30.00	-9.26	

Table 7-60. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)

FCC ID: A3LSMS901U	 PCTEST Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset	Page 116 of 309	

Note:

Per ANSI C63.10-2013 and KDB 662911 v02r01 Section E)1), the conducted powers at Antenna-1 and Antenna-2 were first measured separately during MIMO transmission as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Per ANSI C63.10-2013 Section 14.4.3, the directional gain is calculated using the following formula, where G_N is the gain of the nth antenna and N_{ANT} , the total number of antennas used.

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

Sample MIMO Calculation:

At 5180MHz in 802.11ax (20MHz BW) mode, the average conducted output power was measured to be 16.89 dBm for Antenna-1 and 16.69 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

$$(16.89 \text{ dBm} + 16.69 \text{ dBm}) = (48.87 \text{ mW} + 46.67 \text{ mW}) = 95.53 \text{ mW} = 19.80 \text{ dBm}$$

Sample e.i.r.p. Calculation:

At 5180MHz in 802.11ax (20MHz BW) mode, the average MIMO conducted power was calculated to be 19.80 dBm with directional gain of -3.95 dBi.

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

$$19.80 \text{ dBm} + -3.95 \text{ dBi} = 15.85 \text{ dBm}$$

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset	Page 118 of 309	

7.5 Maximum Power Spectral Density – 802.11ax OFDMA §15.407(a.1.iv) §15.407(a.2) §15.407(a.3); RSS-247 [6.2]

Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. Method SA-1, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, was used to measure the power spectral density.

In the 5.15 – 5.25GHz, 5.25 – 5.35GHz, 5.47 – 5.725GHz bands, the maximum permissible power spectral density is 11dBm/MHz.

In the 5.725 – 5.850GHz band, the maximum permissible power spectral density is 30dBm/500kHz.

In the 5.850 – 5.855, the maximum power spectral density must not exceed 14dBm/MHz e.i.r.p.

Test Procedure Used

ANSI C63.10-2013 – Section 12.3.2.2
KDB 789033 D02 v02r01 – Section F
ANSI C63.10-2013 – Section 14.3.2.2 Measure-and-Sum Technique
KDB 662911 v02r01 – Section E)2) Measure-and-Sum Technique

Test Settings

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire emission bandwidth of the signal
3. RBW = 1MHz
4. VBW = 3MHz
5. Number of sweep points $\geq 2 \times$ (span/RBW)
6. Sweep time = auto
7. Detector = power averaging (RMS)
8. Trigger was set to free run for all modes
9. Trace was averaged over 100 sweeps
10. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

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


The power spectral density for each channel was measured with the RU index showing the highest conducted power.

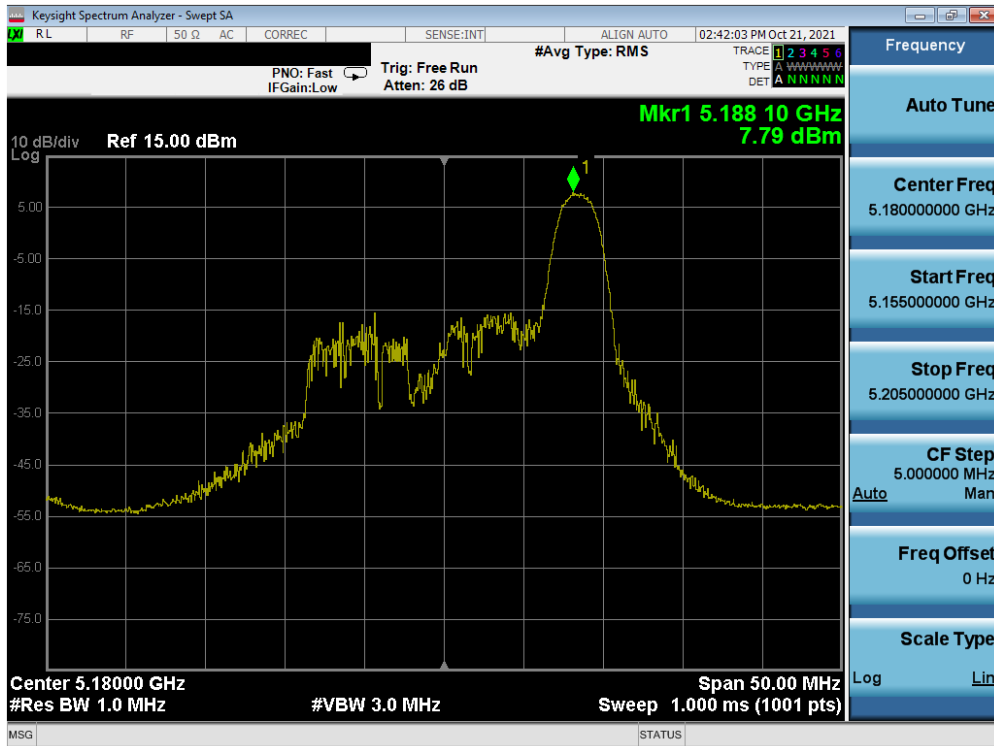
FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 119 of 309

SISO Antenna-1 Power Spectral Density Measurements (26 Tones)

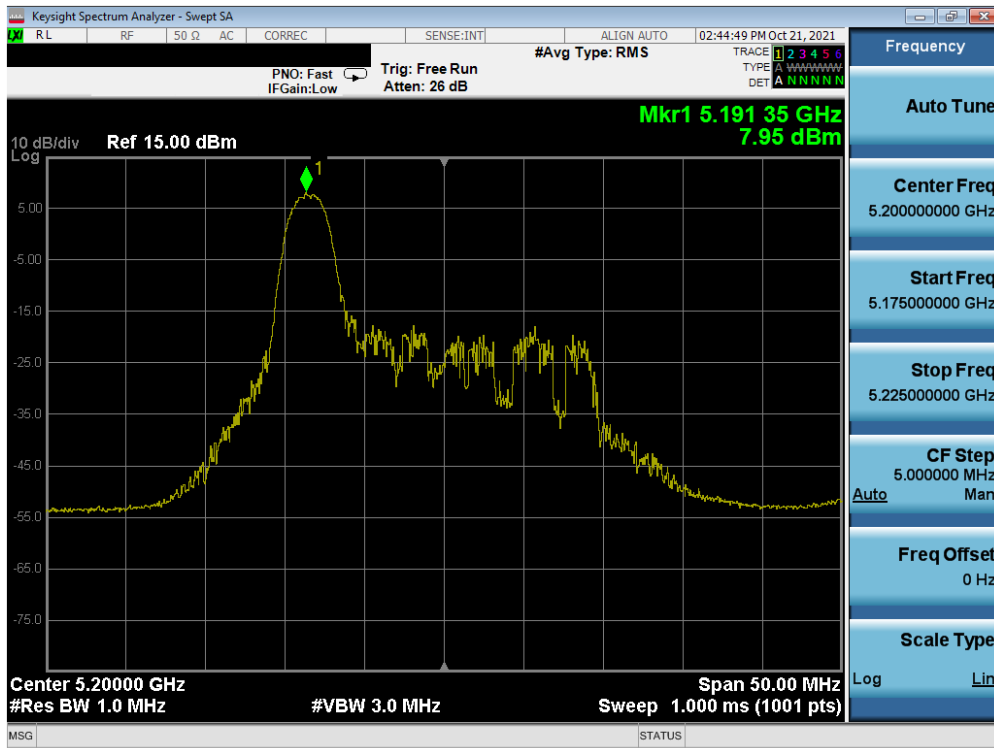
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	26T	MCS0	7.79	11.0	-3.21
	5200	40	ax (20MHz)	26T	MCS0	7.95	11.0	-3.05
	5240	48	ax (20MHz)	26T	MCS0	7.81	11.0	-3.19
	5190	38	ax (40MHz)	26T	MCS0	7.97	11.0	-3.03
	5230	46	ax (40MHz)	26T	MCS0	7.81	11.0	-3.19
	5210	42	ax (80MHz)	26T	MCS0	7.94	11.0	-3.06
Band 2A	5260	52	ax (20MHz)	26T	MCS0	8.00	11.0	-3.00
	5280	56	ax (20MHz)	26T	MCS0	7.89	11.0	-3.11
	5320	64	ax (20MHz)	26T	MCS0	7.97	11.0	-3.03
	5270	54	ax (40MHz)	26T	MCS0	7.84	11.0	-3.16
	5310	62	ax (40MHz)	26T	MCS0	7.97	11.0	-3.03
	5290	58	ax (80MHz)	26T	MCS0	7.85	11.0	-3.15
Band 2C	5500	100	ax (20MHz)	26T	MCS0	7.88	11.0	-3.12
	5600	120	ax (20MHz)	26T	MCS0	7.98	11.0	-3.02
	5720	144	ax (20MHz)	26T	MCS0	7.81	11.0	-3.19
	5510	102	ax (40MHz)	26T	MCS0	7.84	11.0	-3.16
	5590	118	ax (40MHz)	26T	MCS0	7.91	11.0	-3.09
	5710	142	ax (40MHz)	26T	MCS0	7.86	11.0	-3.14
	5530	106	ax (80MHz)	26T	MCS0	7.81	11.0	-3.19
	5610	122	ax (80MHz)	26T	MCS0	7.93	11.0	-3.07
	5690	138	ax (80MHz)	26T	MCS0	7.93	11.0	-3.07

Table 7-62. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 120 of 309

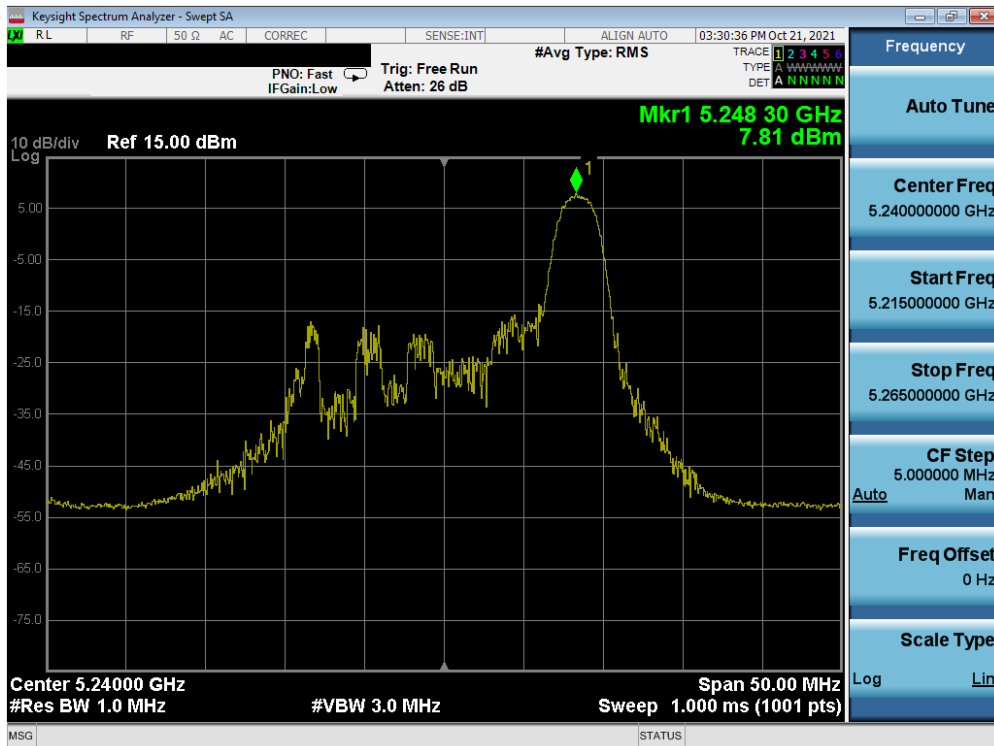


Plot 7-133. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

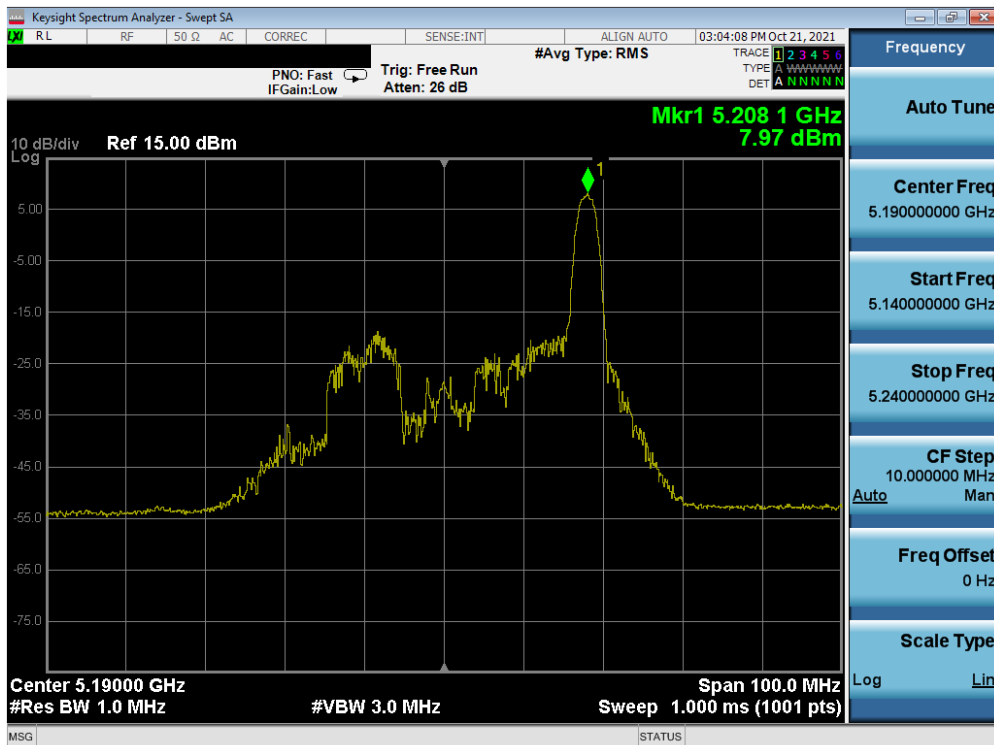


Plot 7-134. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 121 of 309

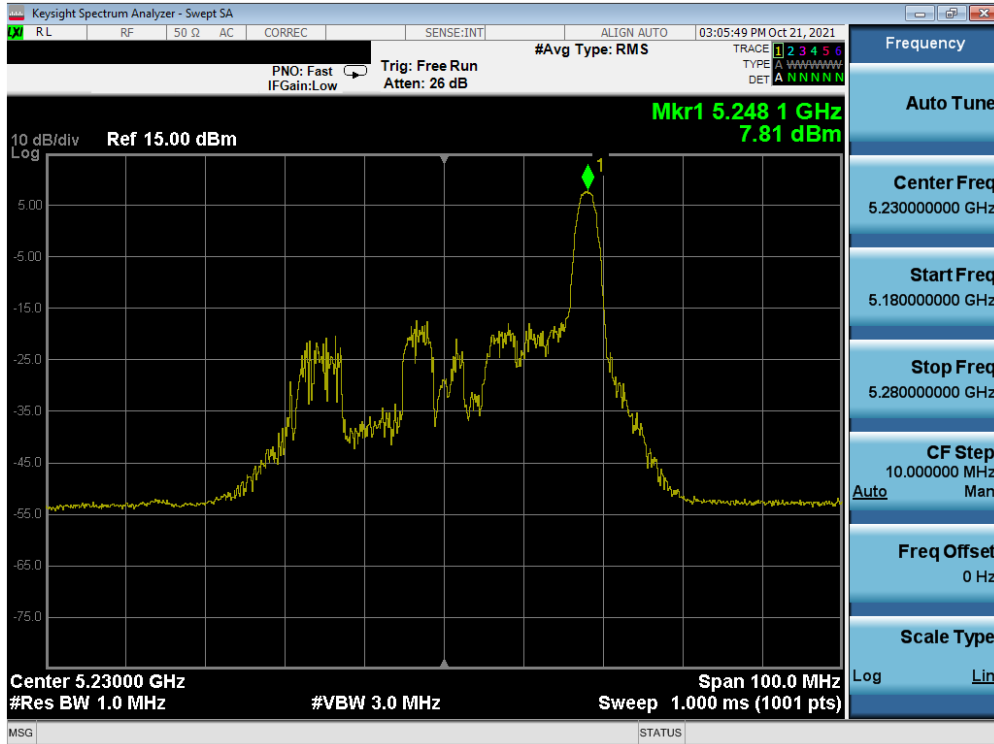


Plot 7-135. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

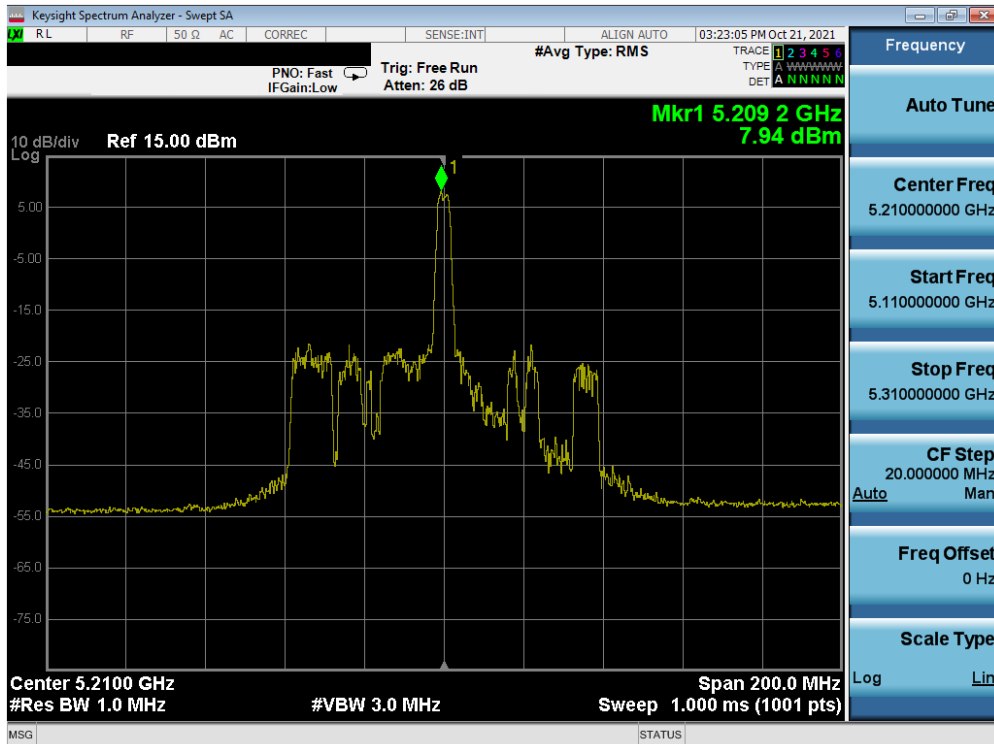


Plot 7-136. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 122 of 309

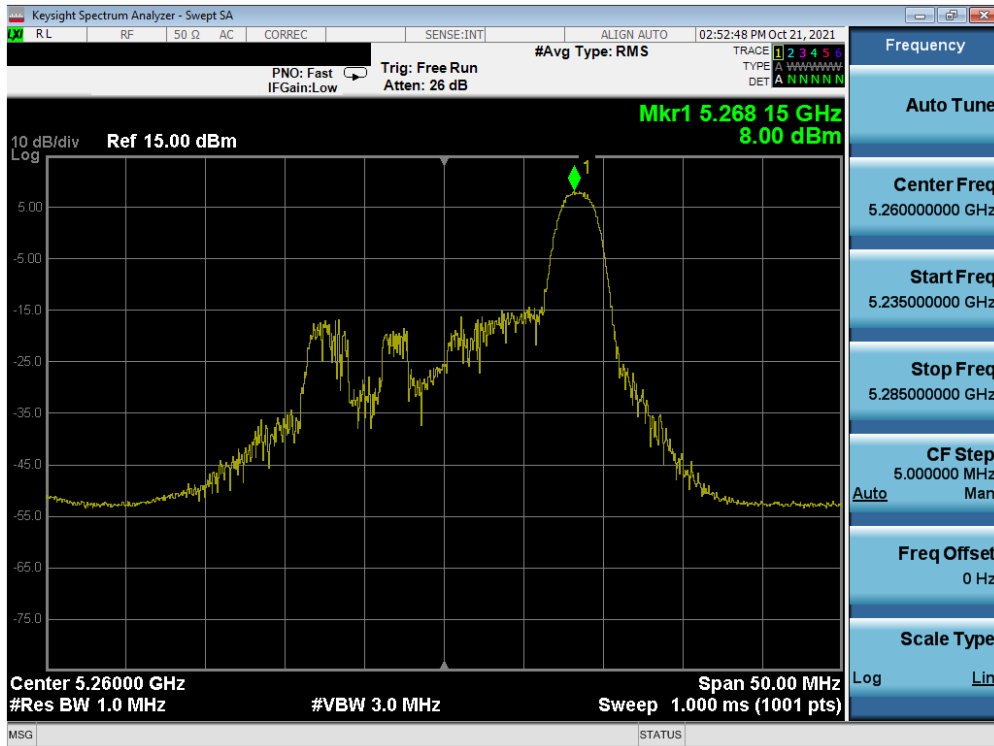


Plot 7-137. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

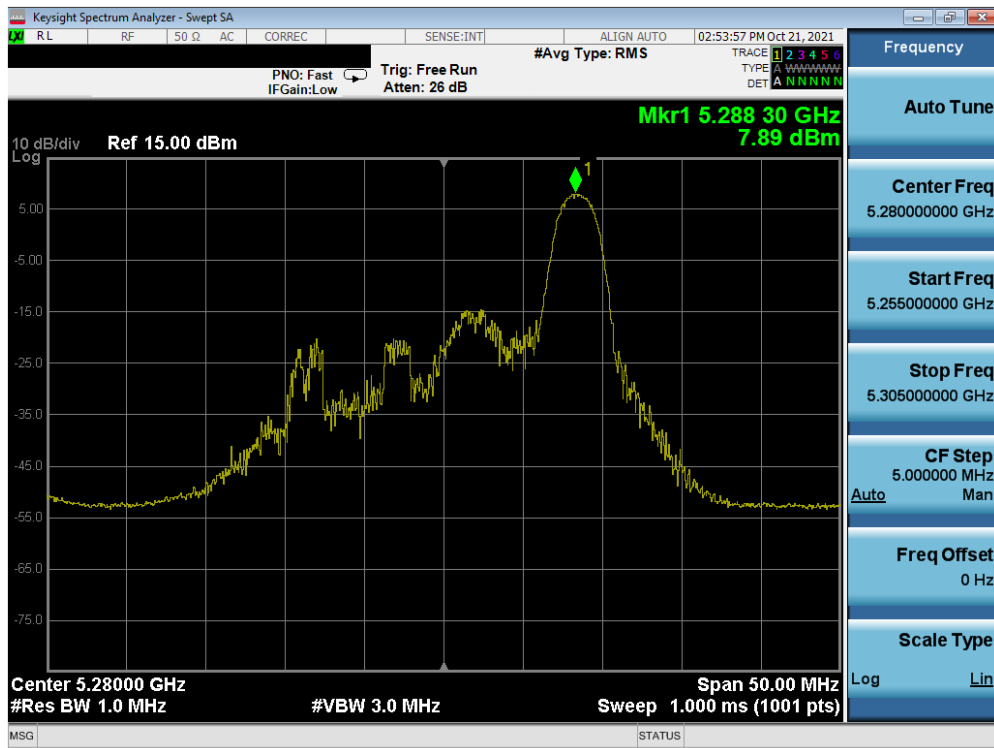


Plot 7-138. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMS901U	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 123 of 309

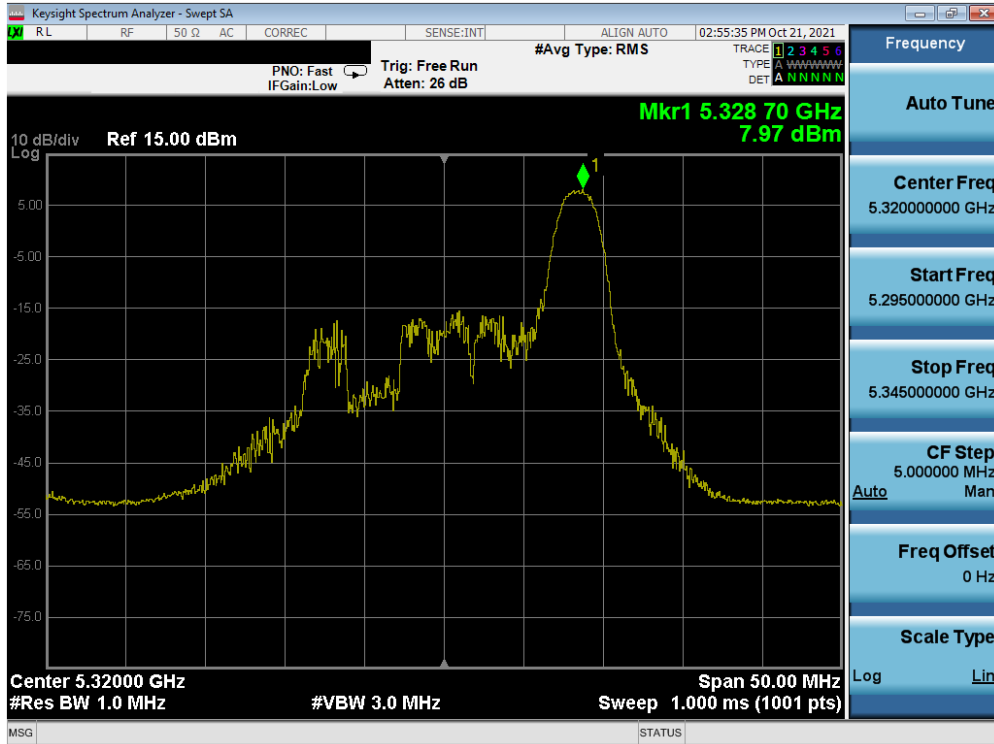


Plot 7-139. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

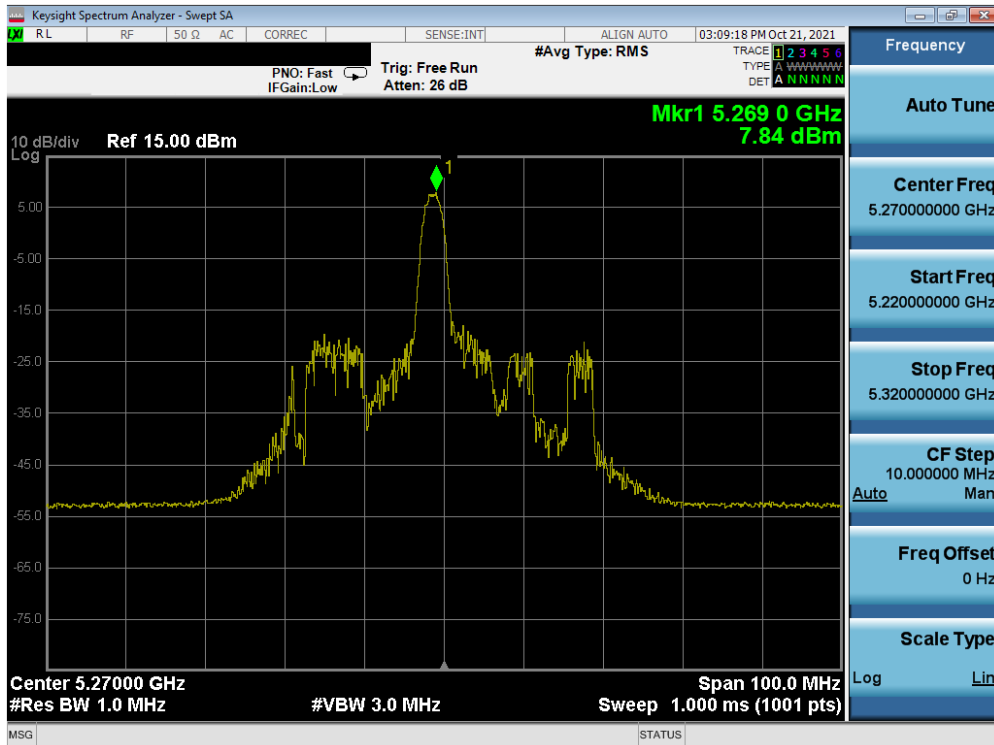


Plot 7-140. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 124 of 309

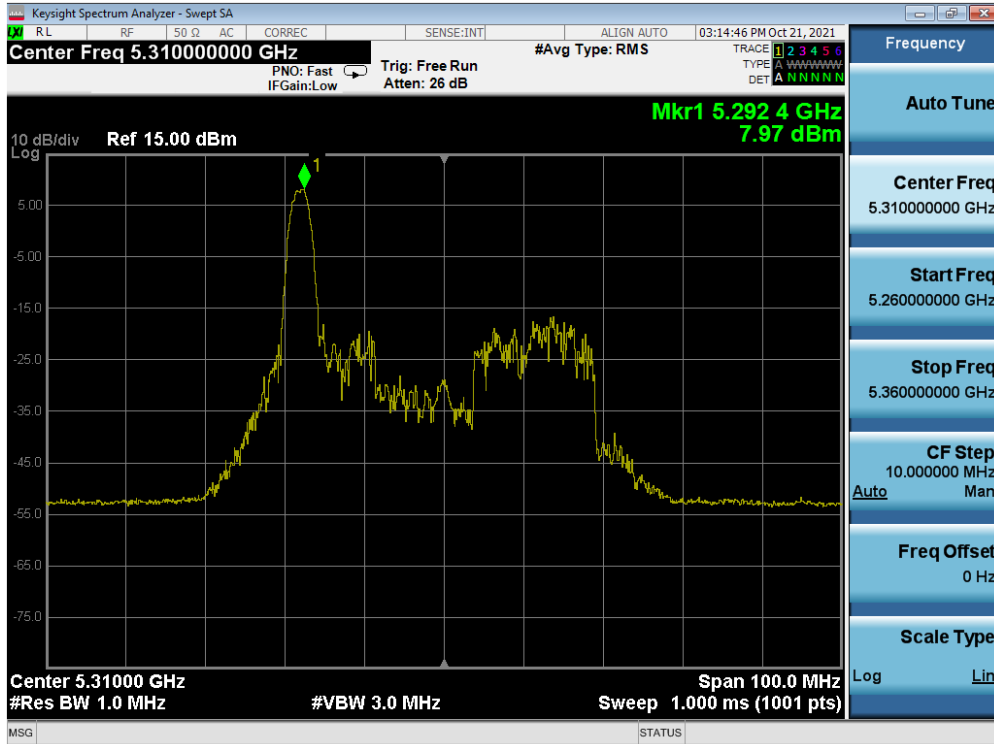


Plot 7-141. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

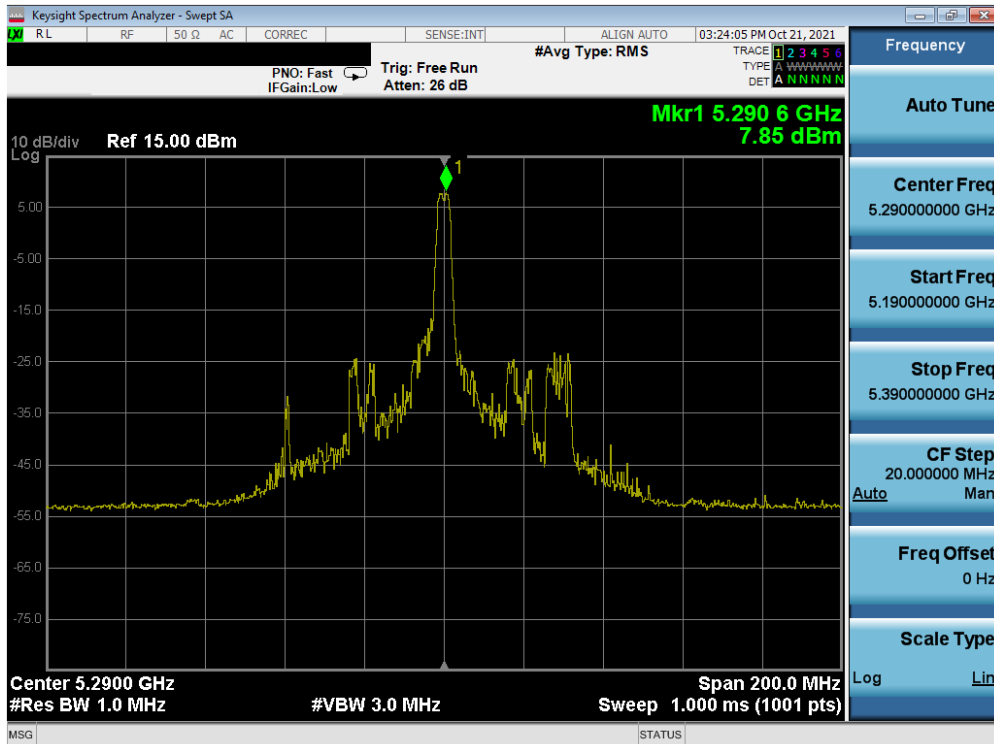


Plot 7-142. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 125 of 309

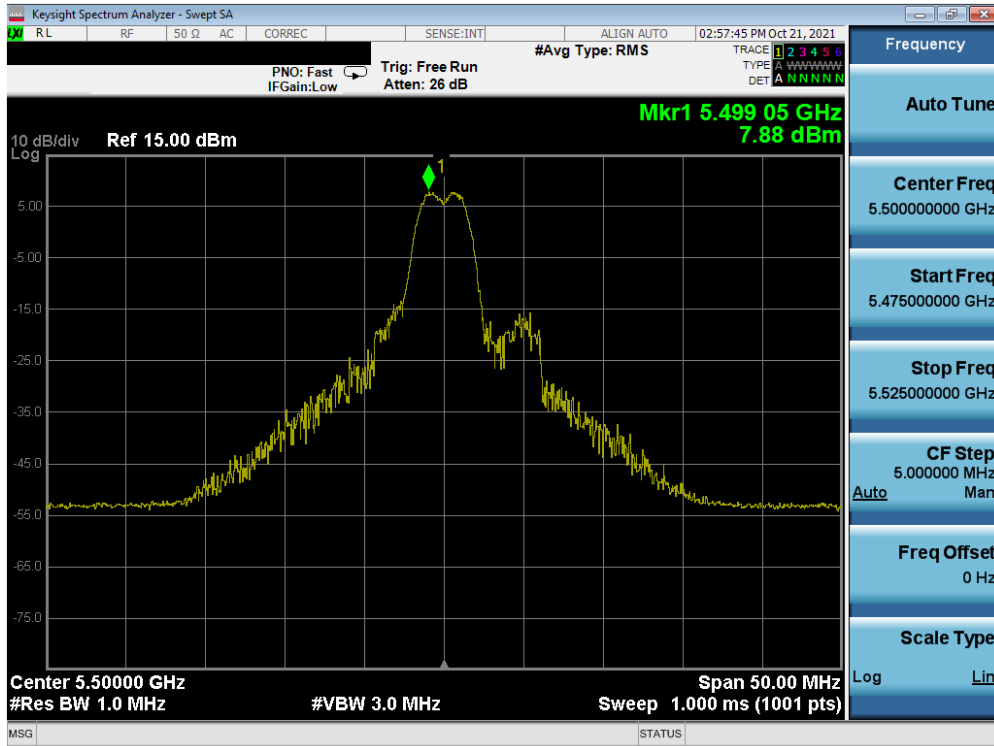


Plot 7-143. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

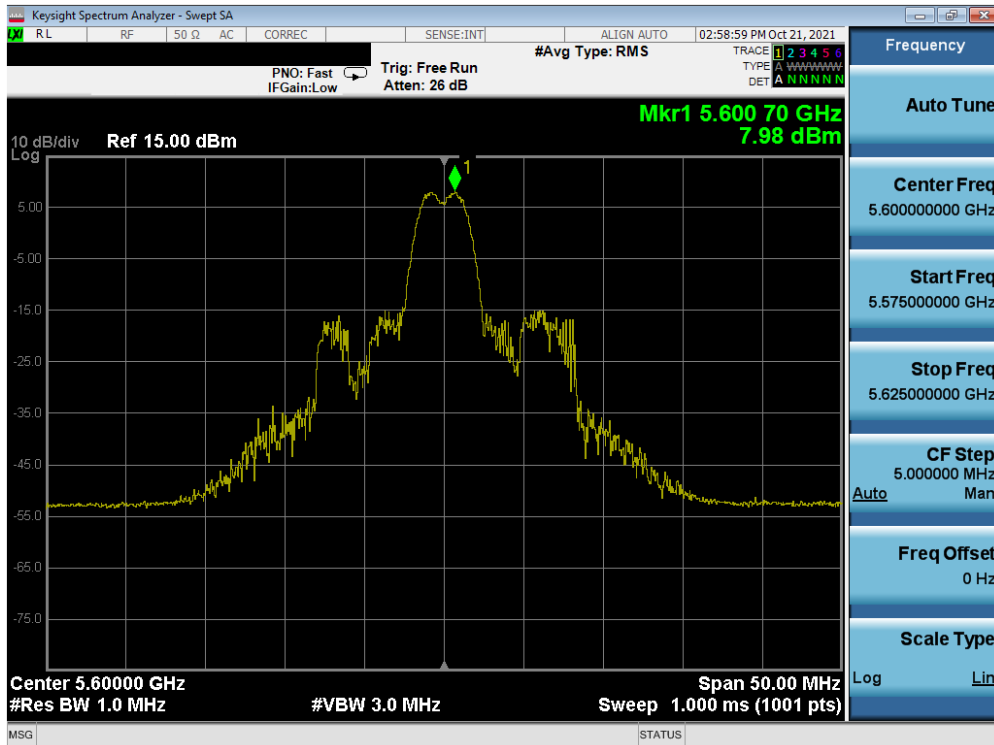


Plot 7-144. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 126 of 309

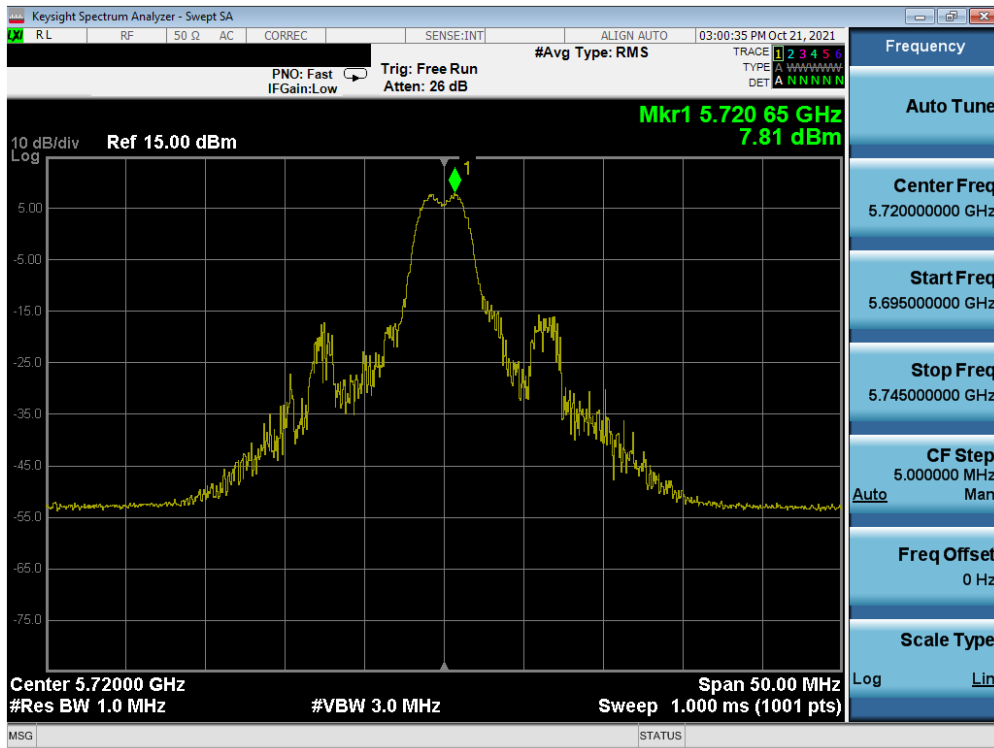


Plot 7-145. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

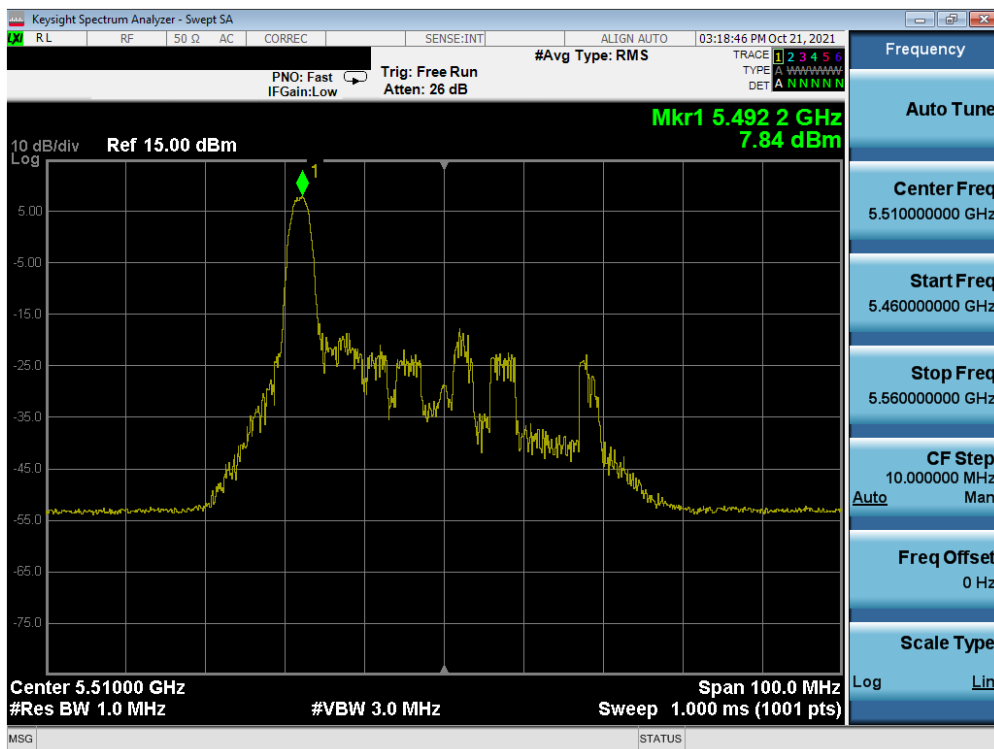


Plot 7-146. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 127 of 309

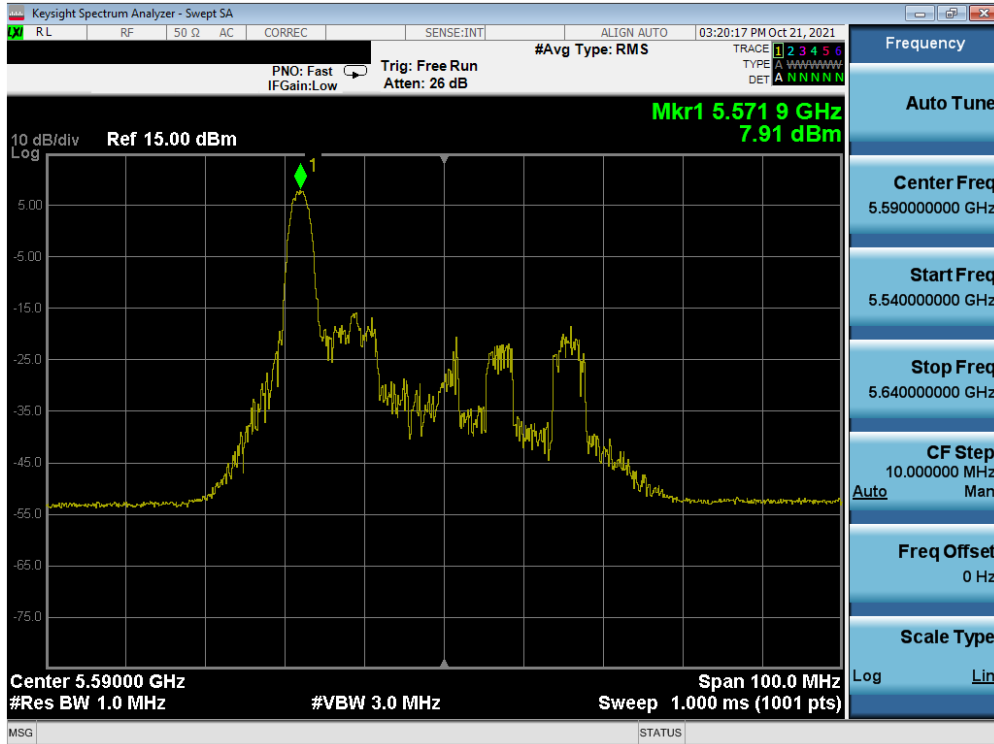


Plot 7-147. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

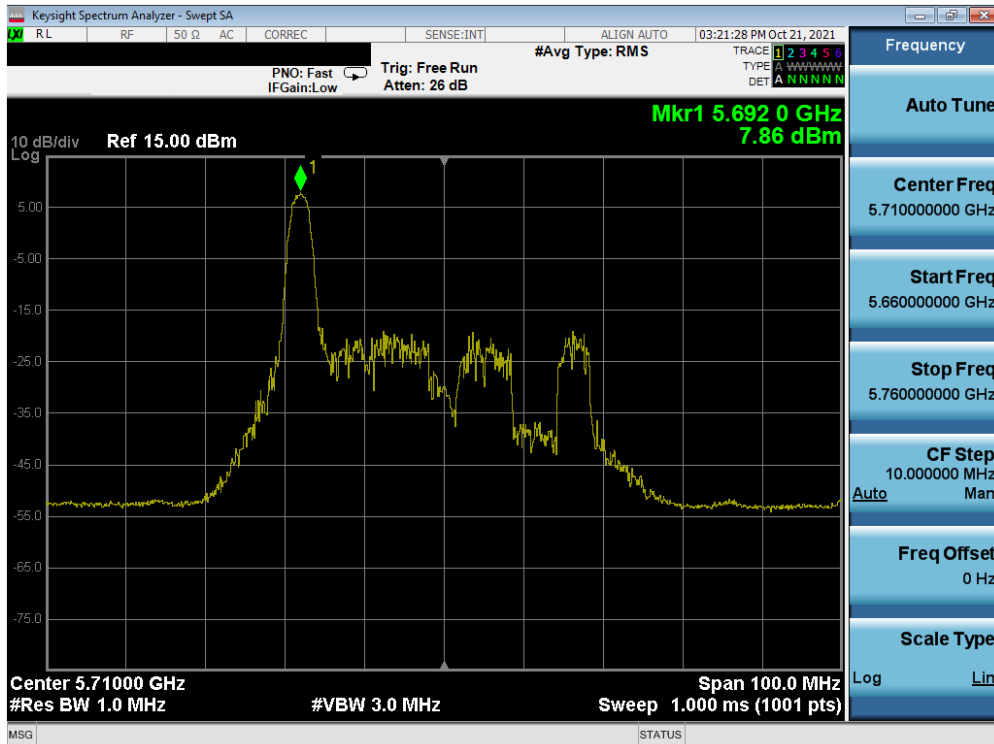


Plot 7-148. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 128 of 309

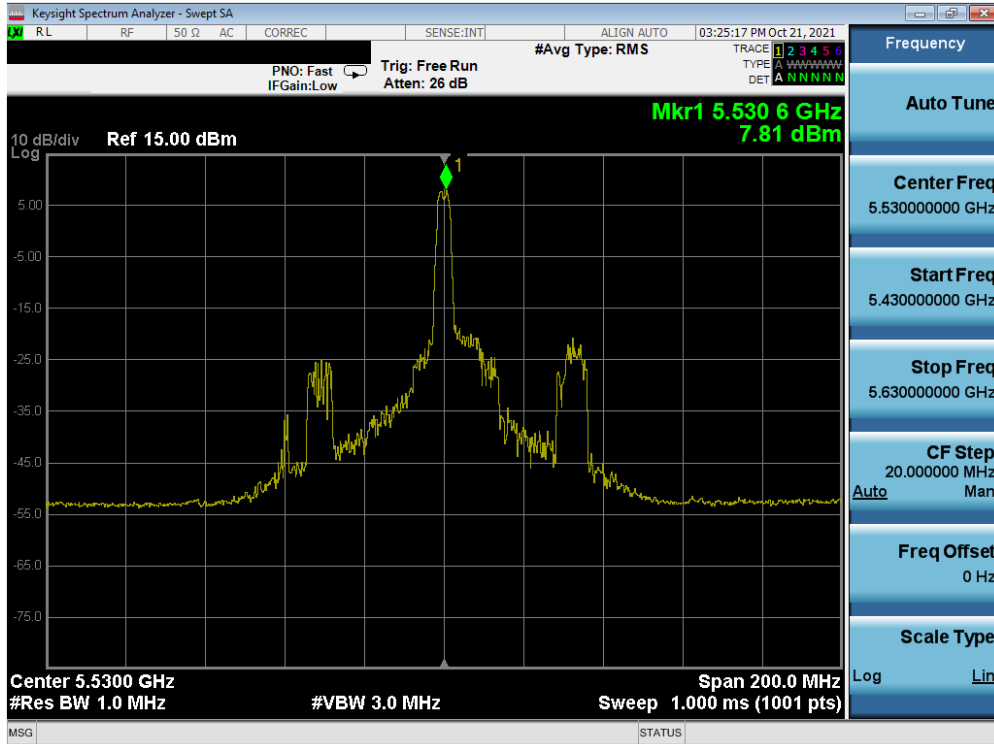


Plot 7-149. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

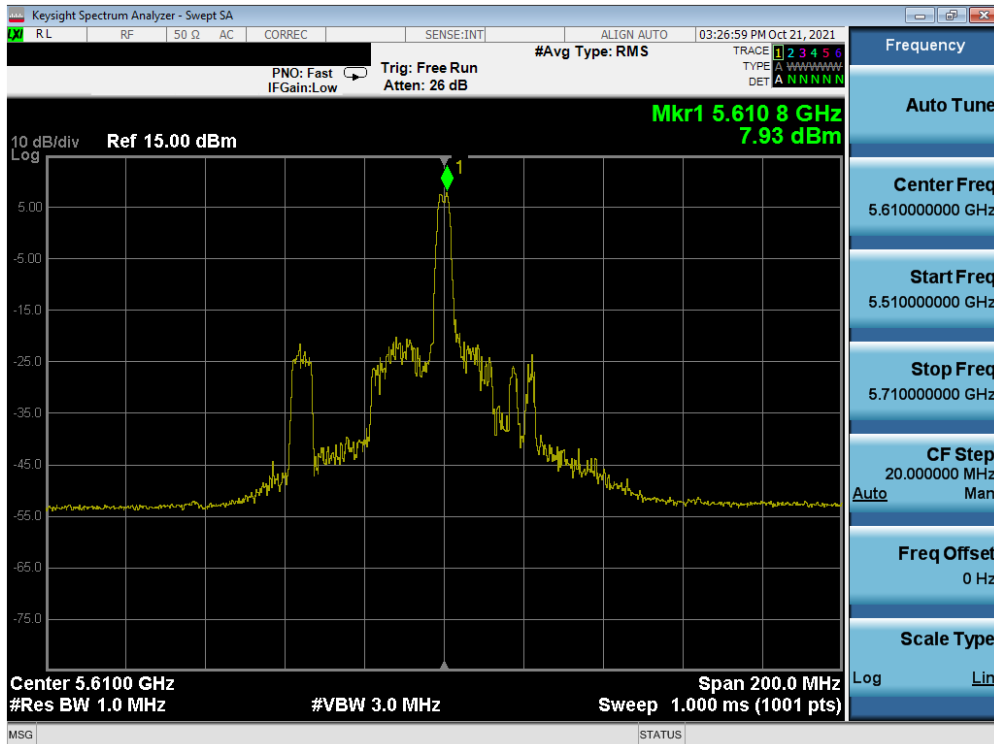


Plot 7-150. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 129 of 309

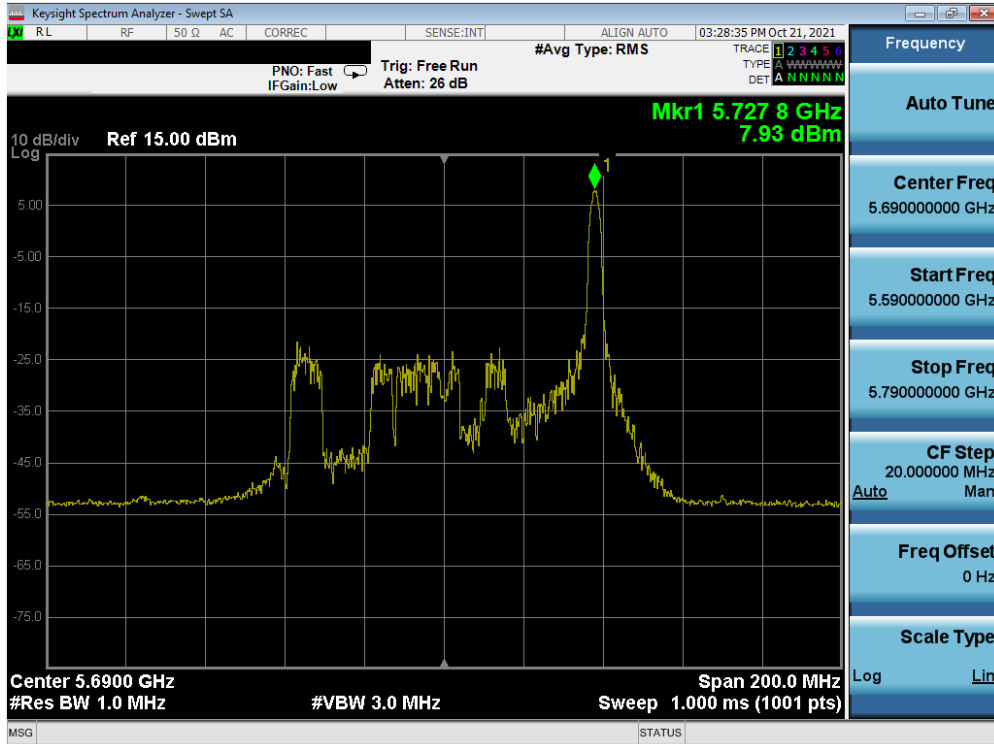


Plot 7-151. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)



Plot 7-152. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 130 of 309



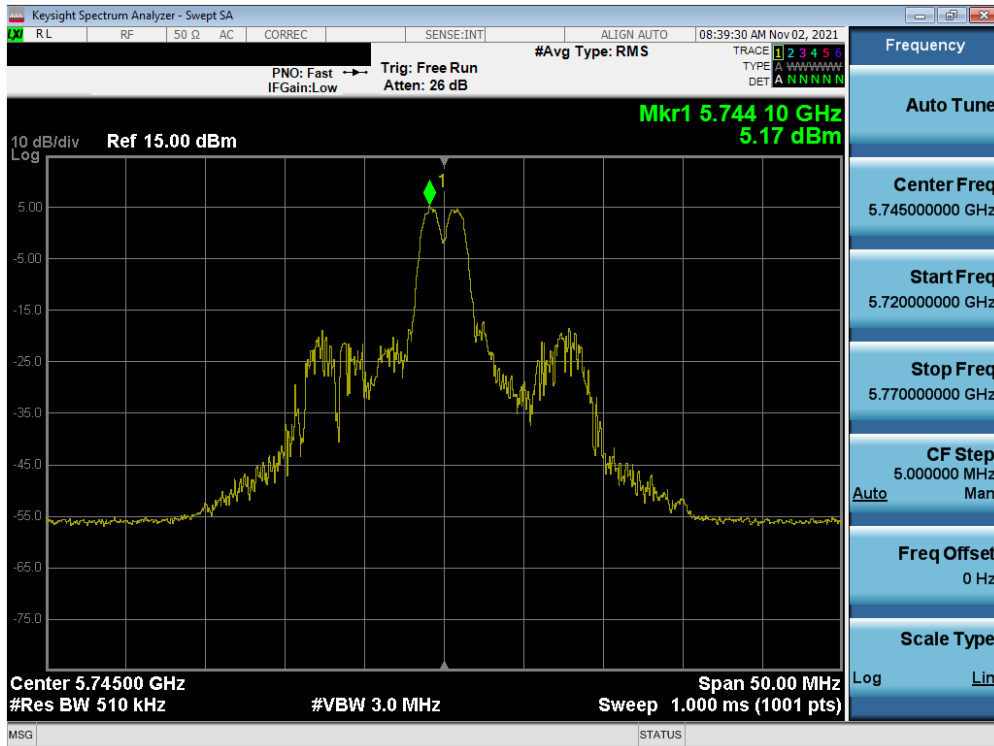
Plot 7-153. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 131 of 309

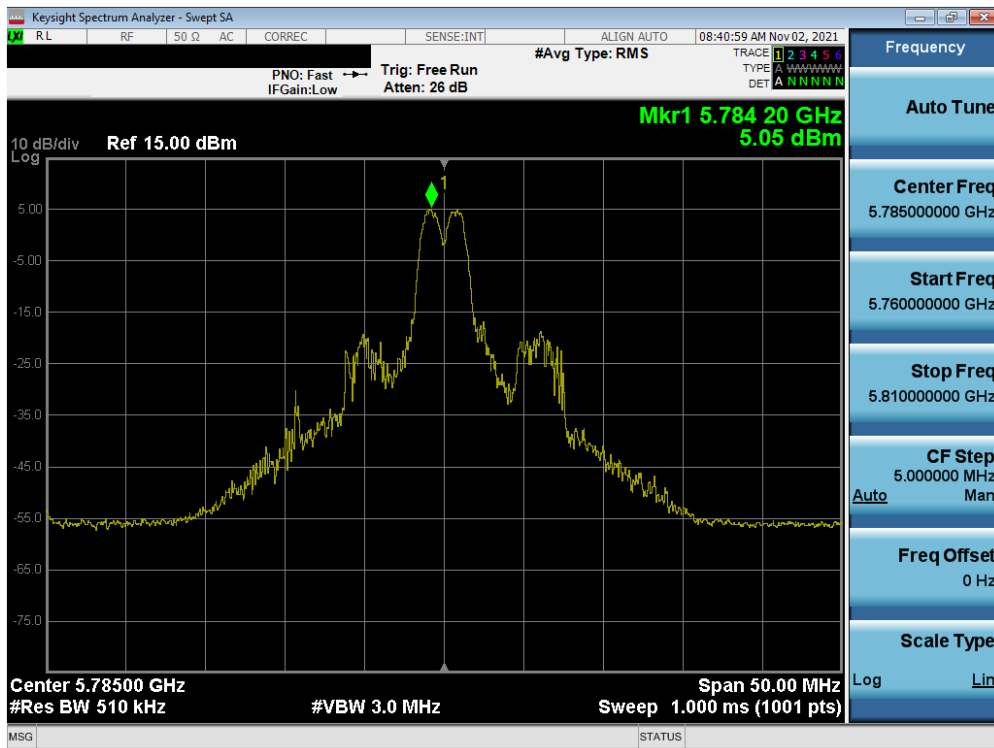
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	26T	MCS0	5.17	30.00	-24.83
	5785	157	ax (20MHz)	26T	MCS0	5.05	30.00	-24.95
	5825	165	ax (20MHz)	26T	MCS0	4.82	30.00	-25.18
	5755	151	ax (40MHz)	26T	MCS0	5.37	30.00	-24.63
	5795	159	ax (40MHz)	26T	MCS0	5.09	30.00	-24.91
	5775	155	ax (80MHz)	26T	MCS0	6.61	30.00	-23.39

Table 7-63. Band 3 Conducted Power Spectral Density Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMS901U	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 132 of 309

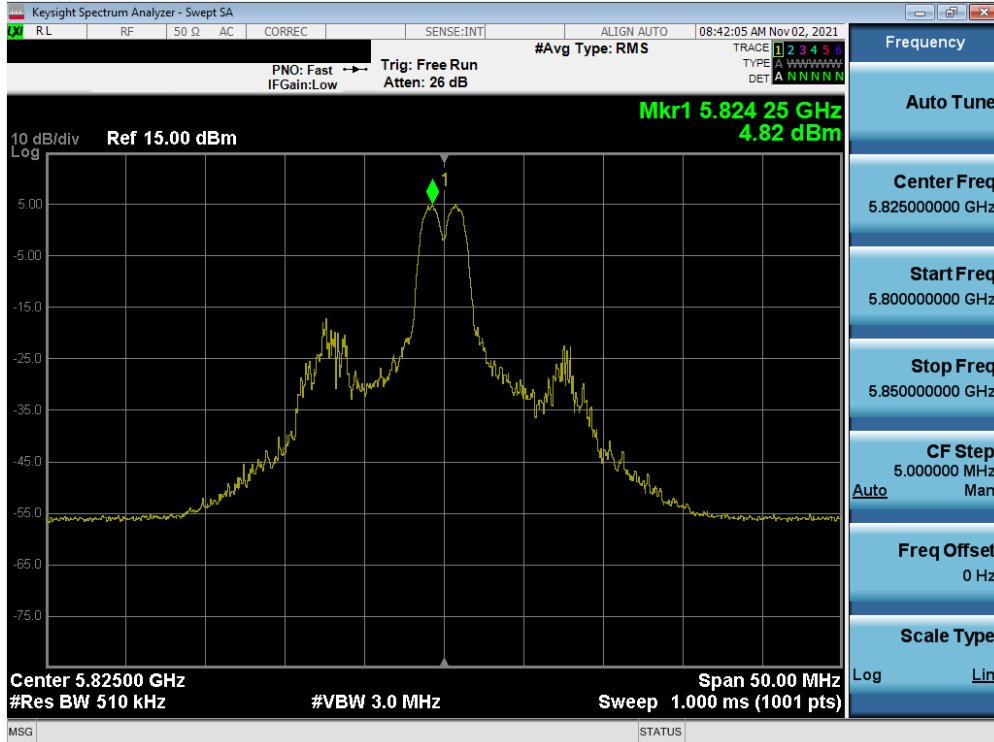


Plot 7-154. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

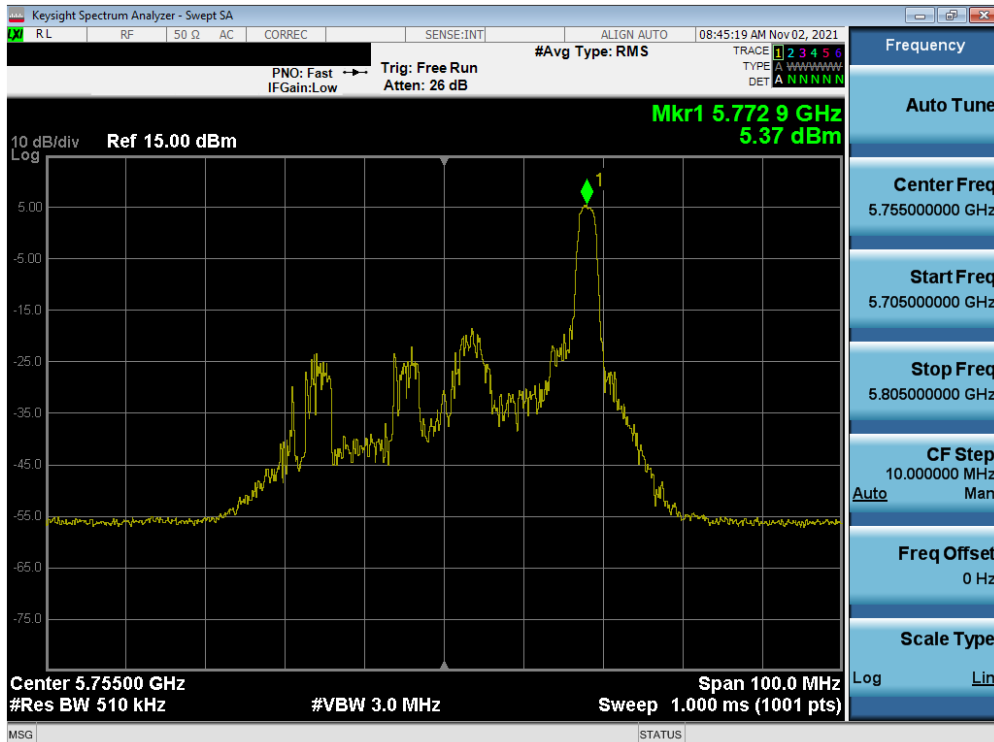


Plot 7-155. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 133 of 309

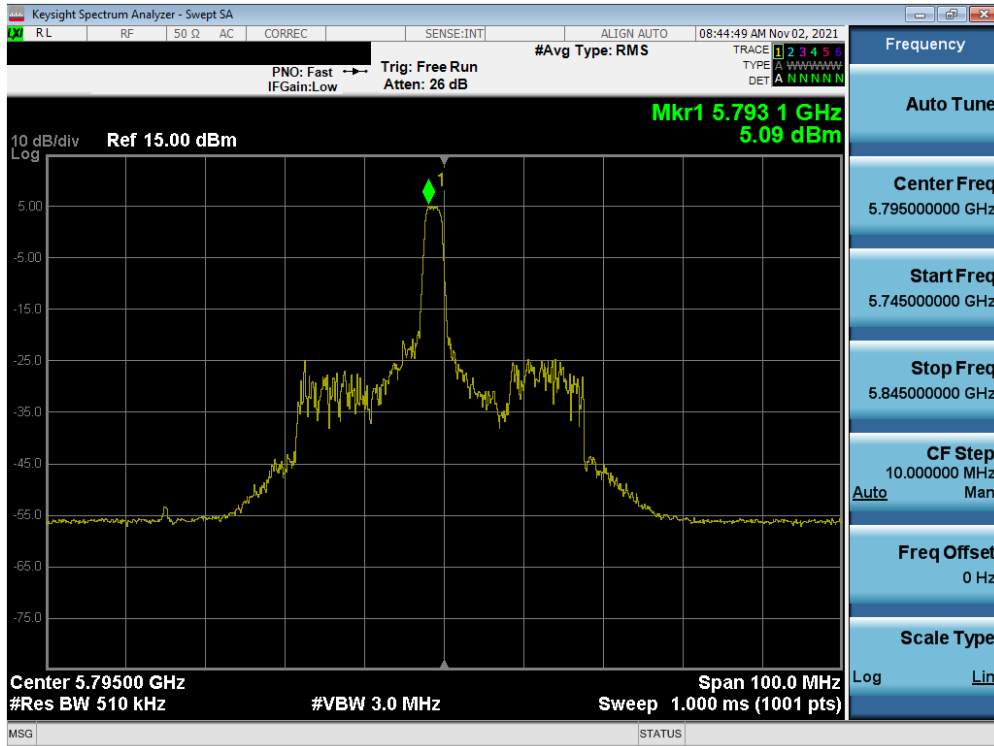


Plot 7-156. Power Spectral Density Plot SISO ANT1 (20 MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

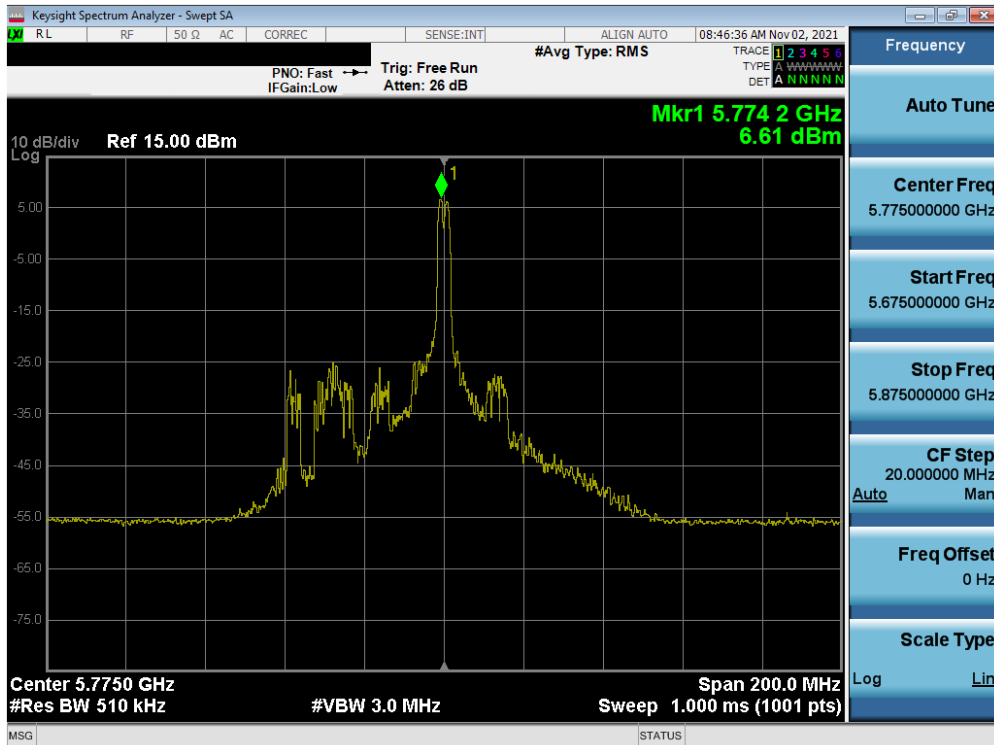


Plot 7-157. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 134 of 309

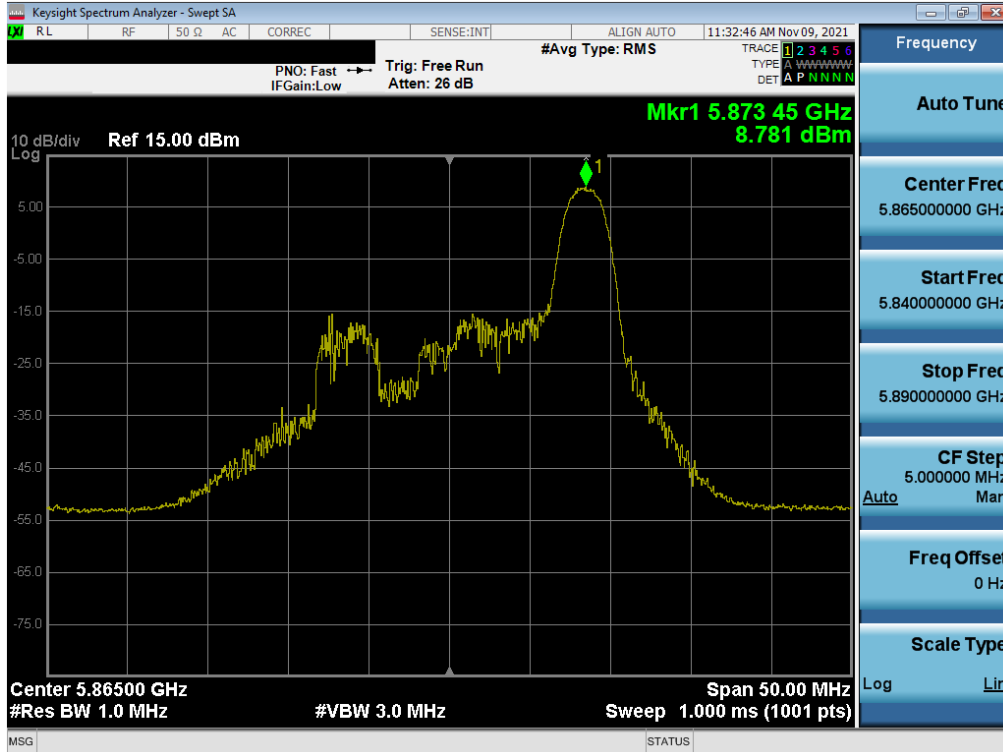


Plot 7-158. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

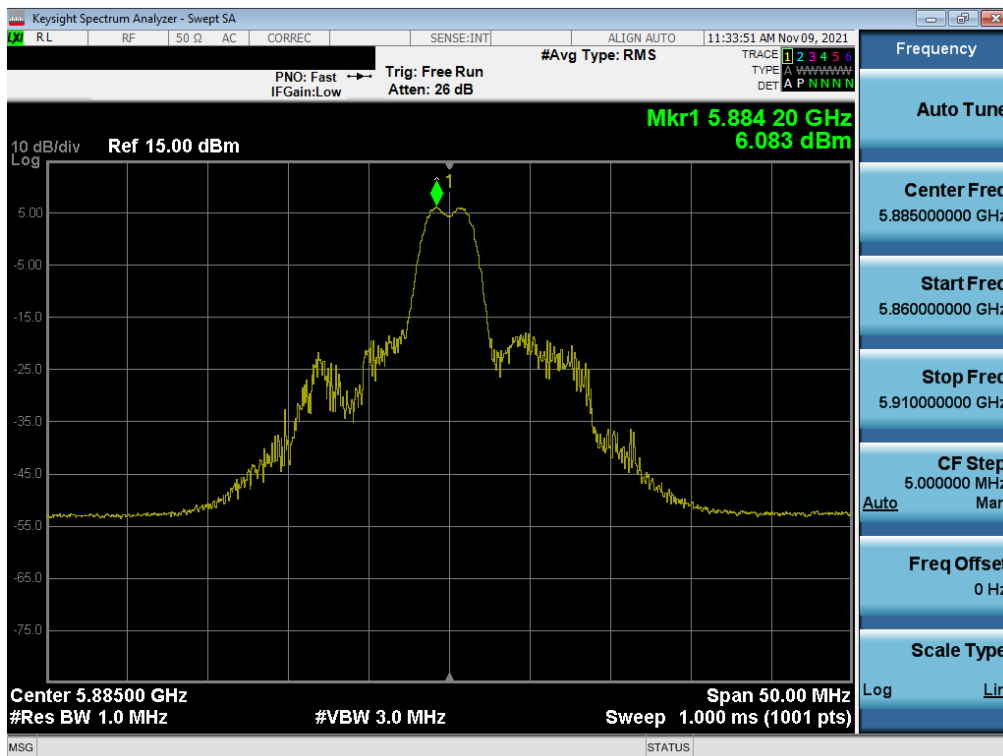


Plot 7-159. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 135 of 309



Plot 7-161. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 173)



Plot 7-162. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 177)

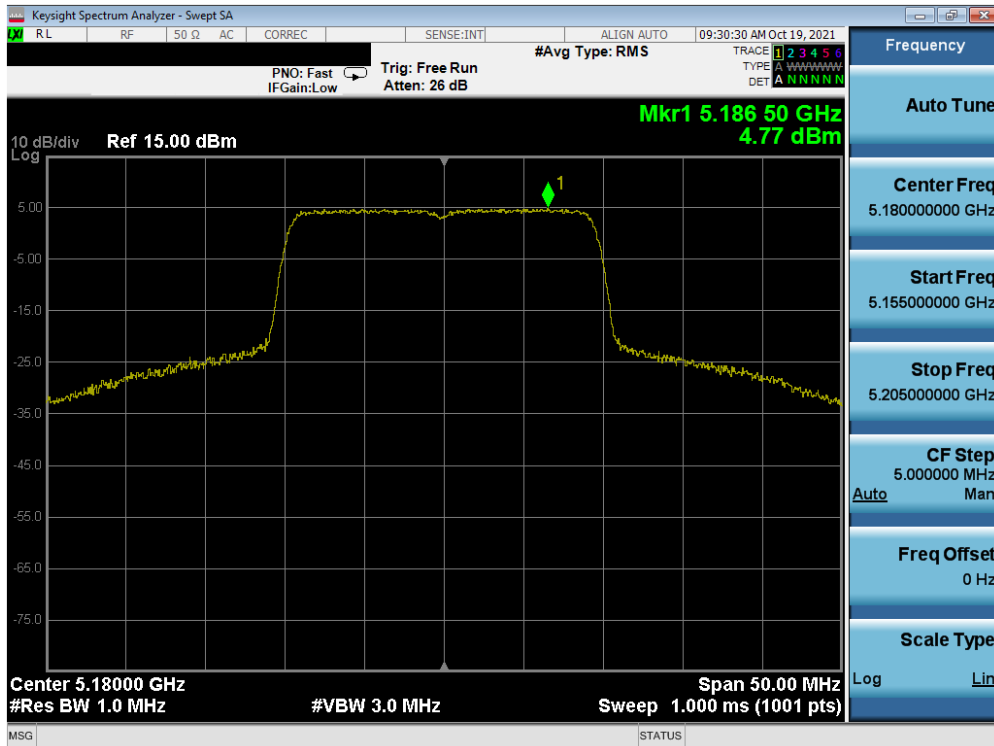
FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 137 of 309

SISO Antenna-1 Power Spectral Density Measurements (Full Tones)

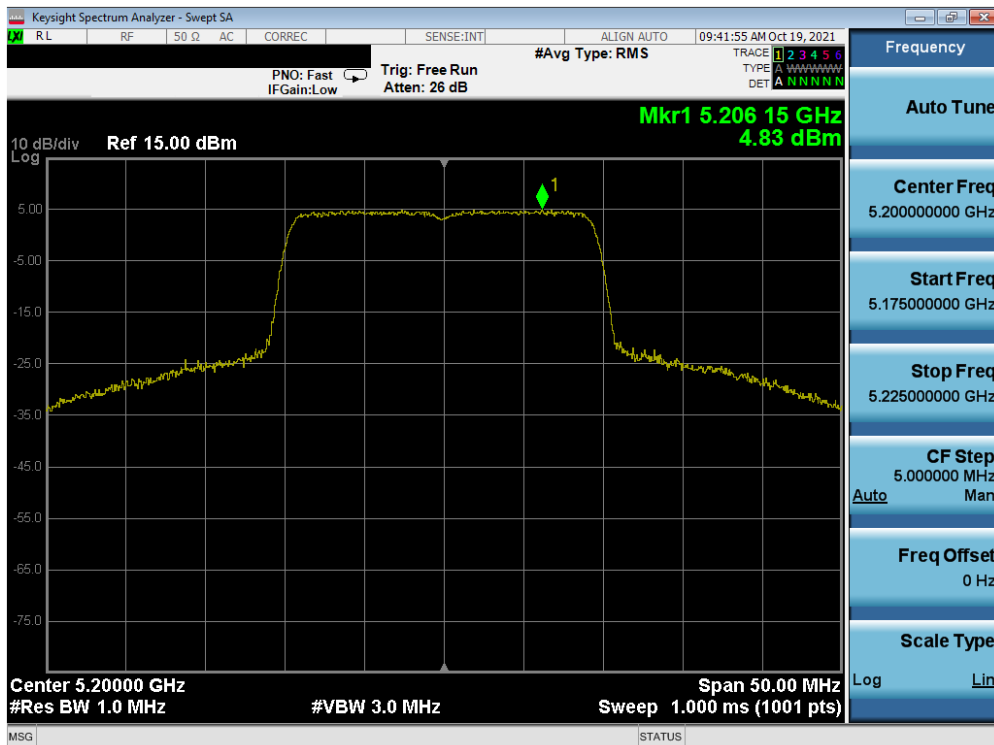
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	242T	MCS0	4.77	11.0	-6.23
	5200	40	ax (20MHz)	242T	MCS0	4.83	11.0	-6.17
	5240	48	ax (20MHz)	242T	MCS0	4.87	11.0	-6.13
	5190	38	ax (40MHz)	484T	MCS0	3.91	11.0	-7.09
	5230	46	ax (40MHz)	484T	MCS0	4.16	11.0	-6.84
	5210	42	ax (80MHz)	996T	MCS0	0.76	11.0	-10.24
Band 2A	5260	52	ax (20MHz)	242T	MCS0	4.98	11.0	-6.02
	5280	56	ax (20MHz)	242T	MCS0	4.84	11.0	-6.16
	5320	64	ax (20MHz)	242T	MCS0	4.76	11.0	-6.24
	5270	54	ax (40MHz)	484T	MCS0	3.98	11.0	-7.02
	5310	62	ax (40MHz)	484T	MCS0	3.84	11.0	-7.16
	5290	58	ax (80MHz)	996T	MCS0	0.57	11.0	-10.43
Band 2C	5500	100	ax (20MHz)	242T	MCS0	4.27	11.0	-6.73
	5600	120	ax (20MHz)	242T	MCS0	5.19	11.0	-5.81
	5720	144	ax (20MHz)	242T	MCS0	4.34	11.0	-6.66
	5510	102	ax (40MHz)	484T	MCS0	3.50	11.0	-7.50
	5590	118	ax (40MHz)	484T	MCS0	3.41	11.0	-7.59
	5710	142	ax (40MHz)	484T	MCS0	3.14	11.0	-7.86
	5530	106	ax (80MHz)	996T	MCS0	0.52	11.0	-10.48
	5610	122	ax (80MHz)	996T	MCS0	0.20	11.0	-10.80
	5690	138	ax (80MHz)	996T	MCS0	0.13	11.0	-10.87

Table 7-65. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements SISO ANT1 (Full Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 140 of 309

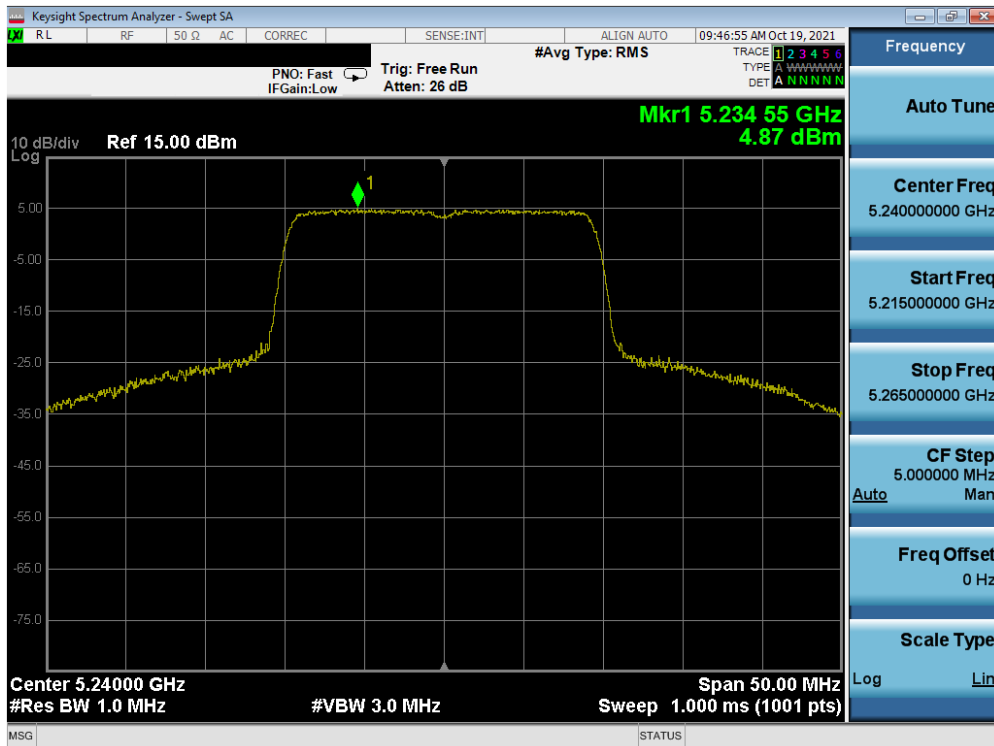


Plot 7-166. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 36)

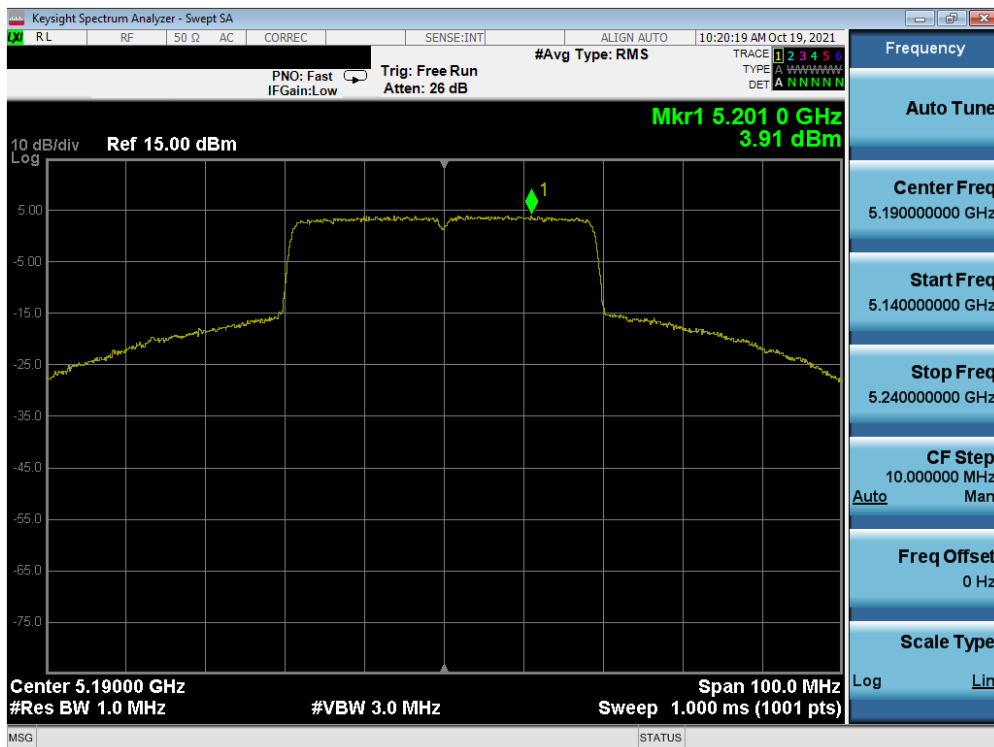


Plot 7-167. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 141 of 309



Plot 7-168. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 48)

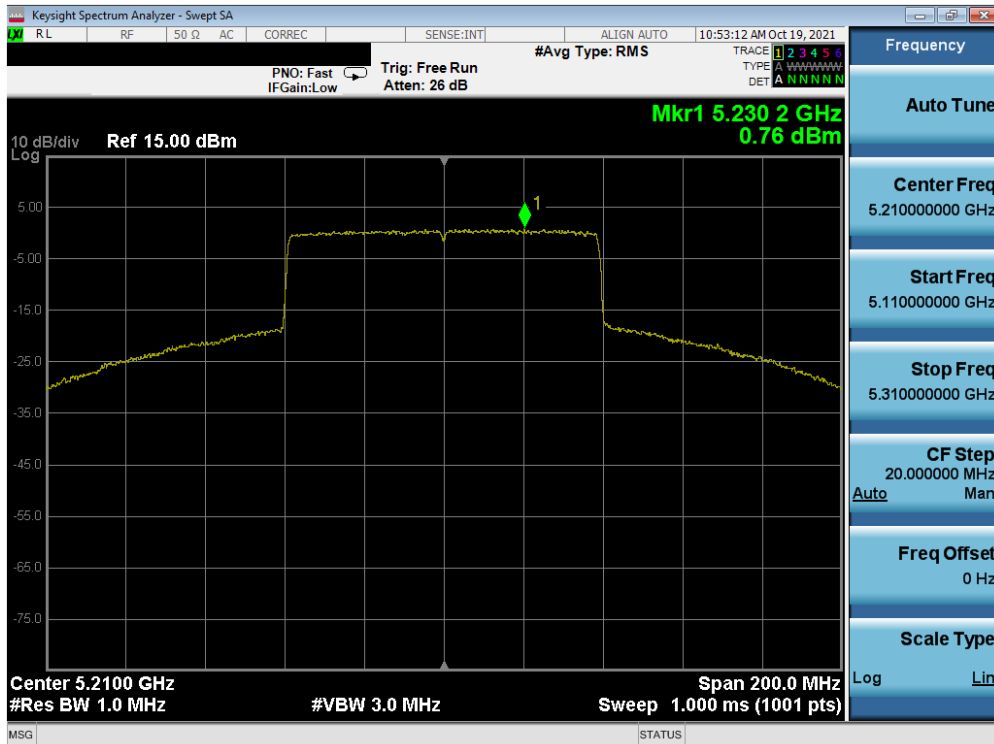


Plot 7-169. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 142 of 309

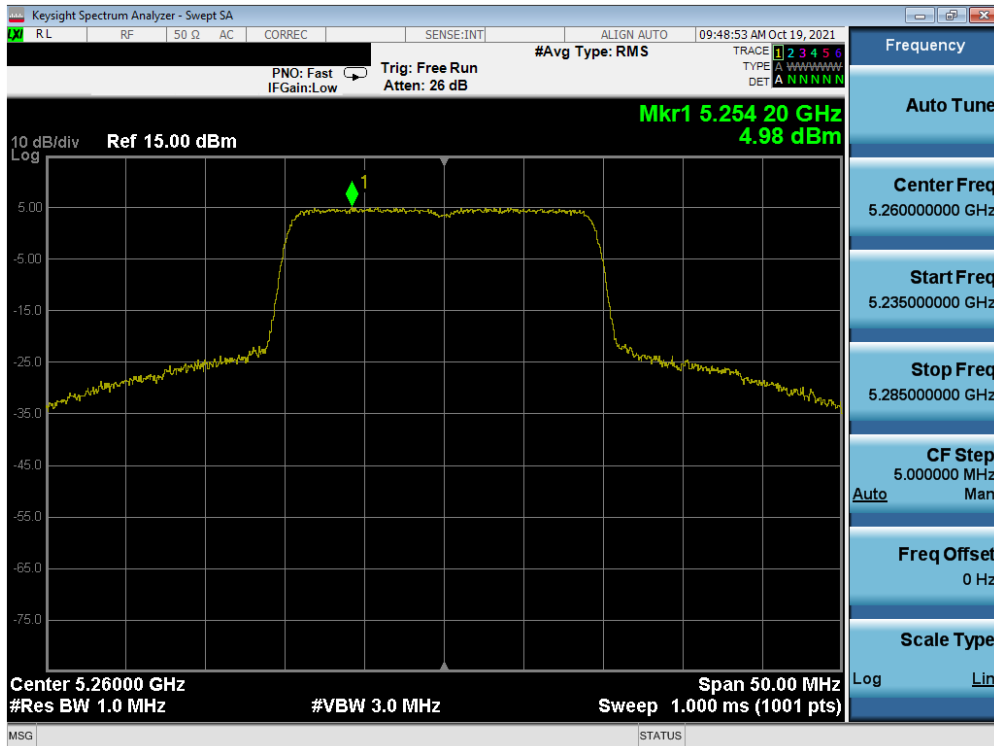


Plot 7-170. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 46)

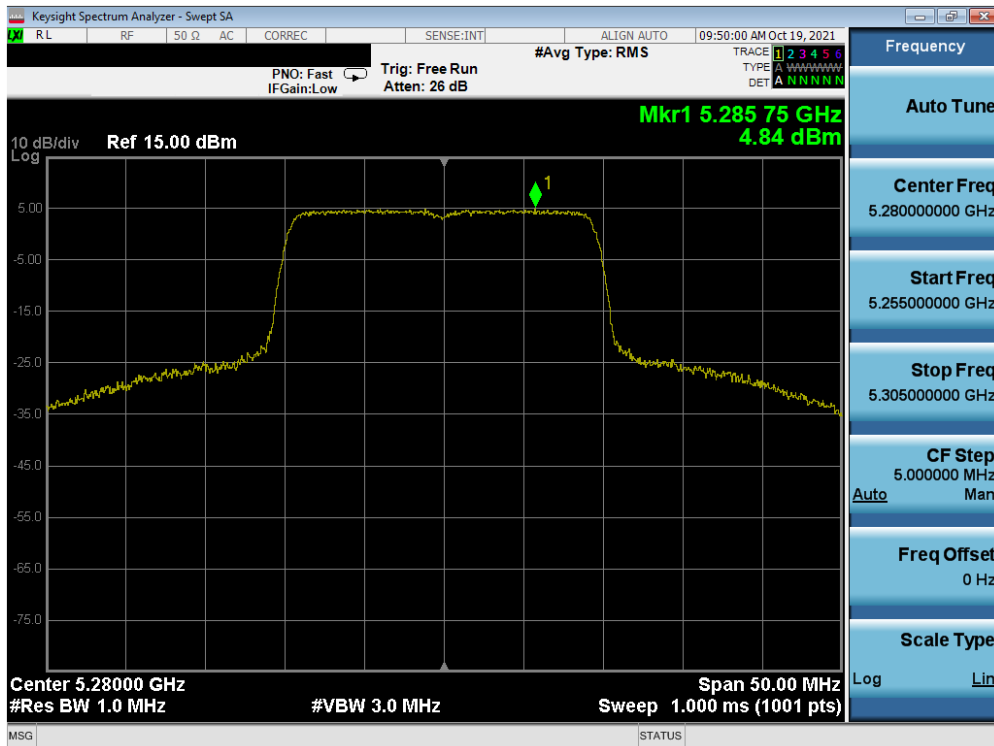


Plot 7-171. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 143 of 309

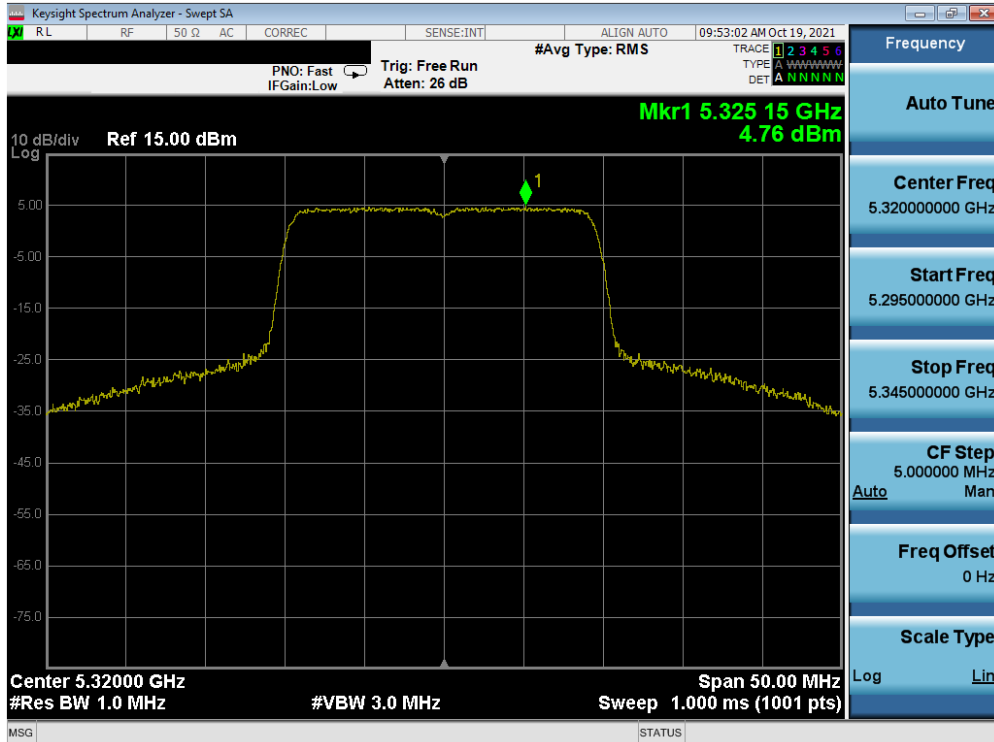


Plot 7-172. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)

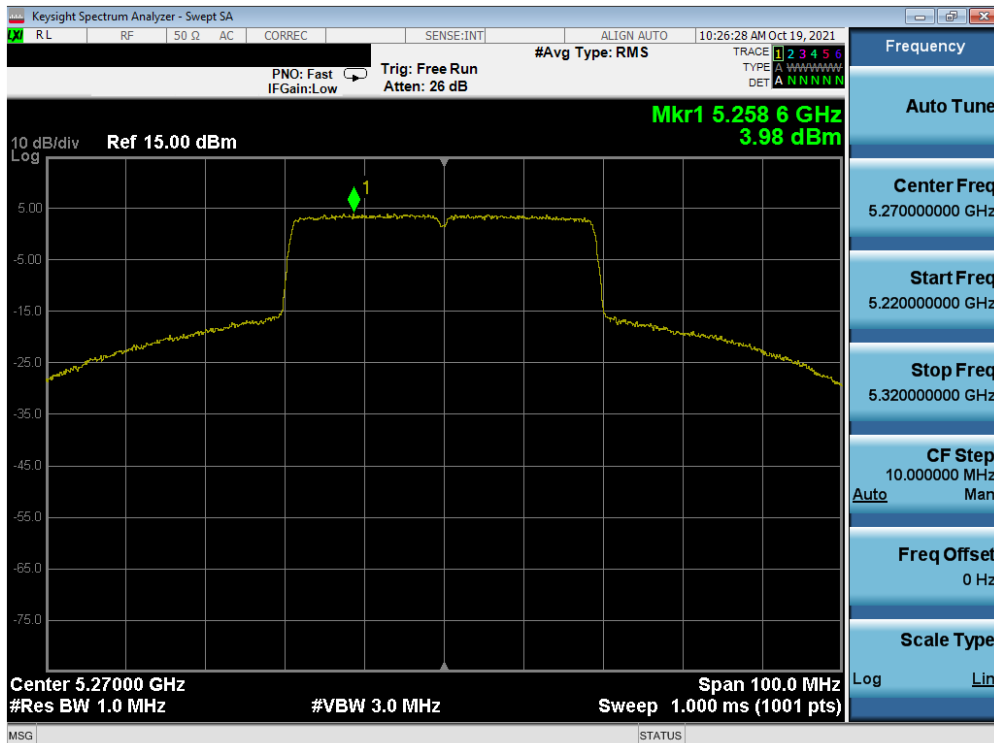


Plot 7-173. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 144 of 309

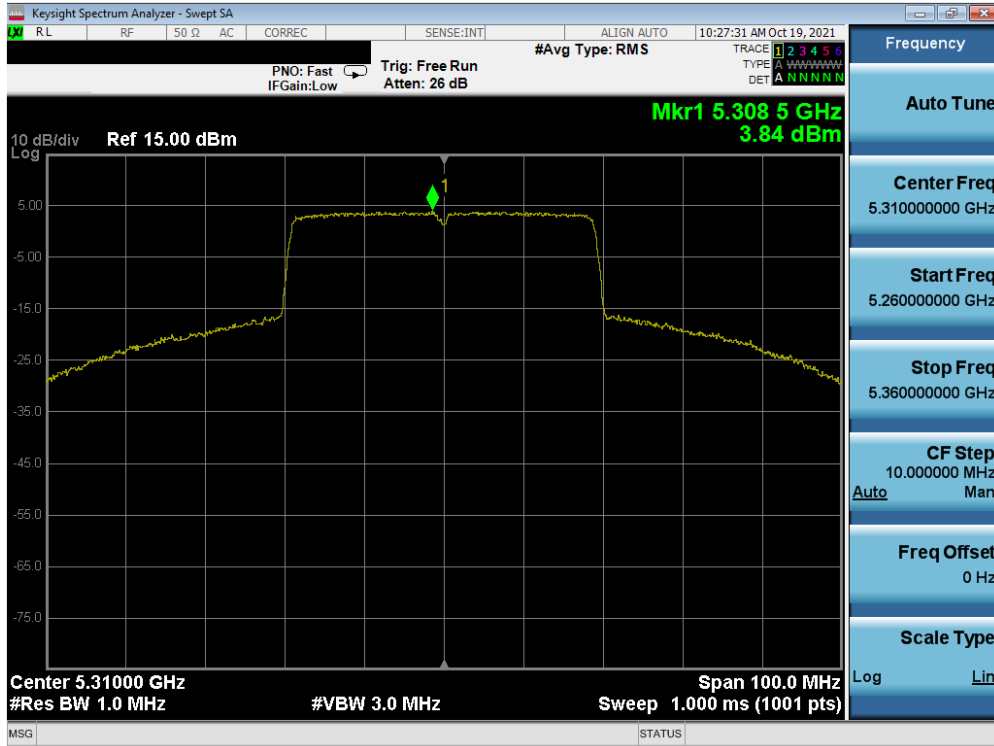


Plot 7-174. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)

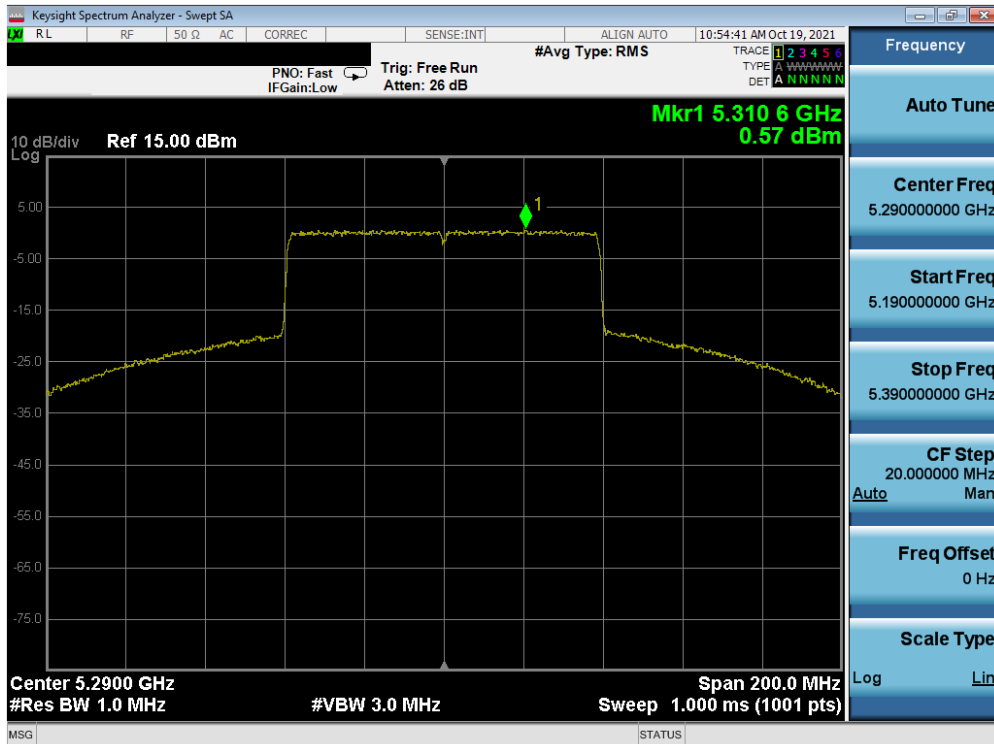


Plot 7-175. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 145 of 309

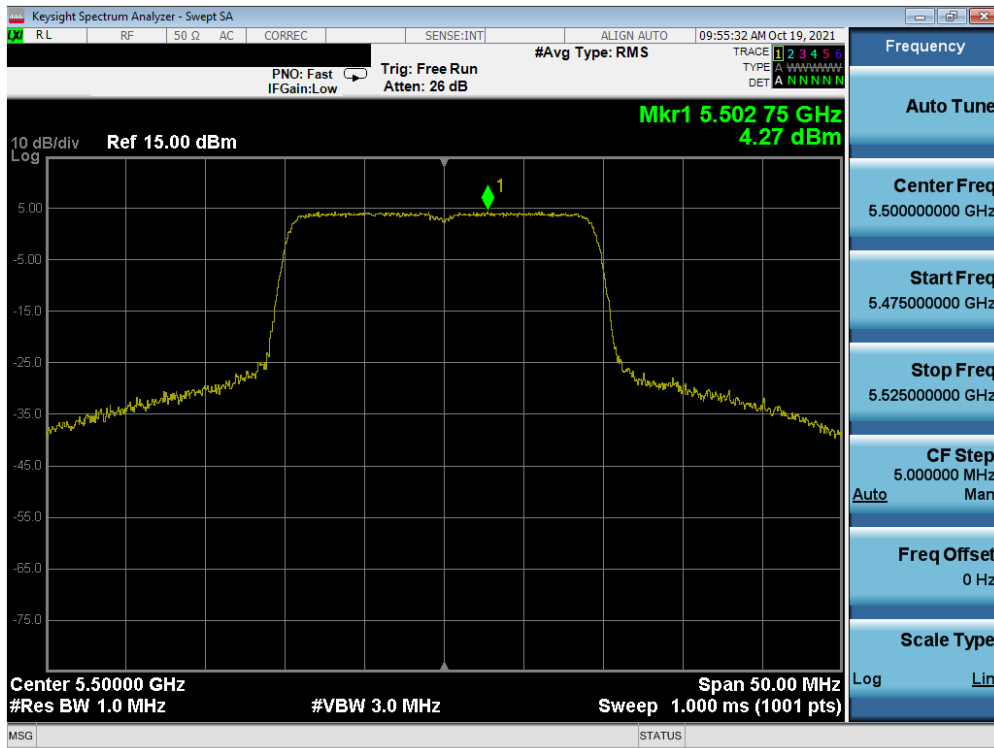


Plot 7-176. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 62)

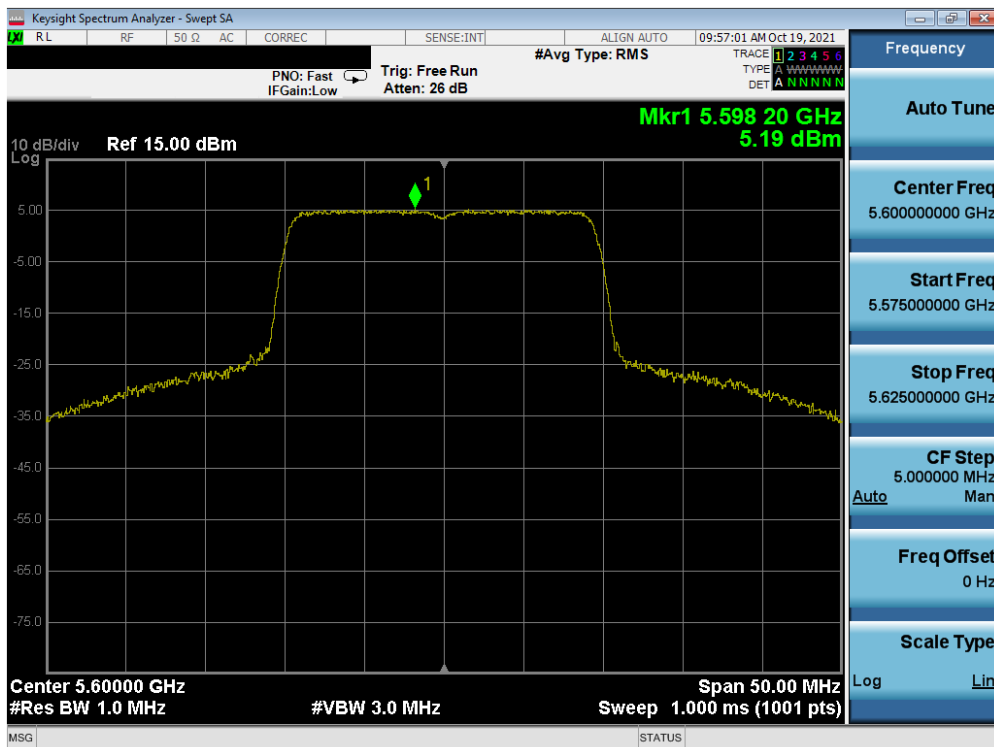


Plot 7-177. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 146 of 309

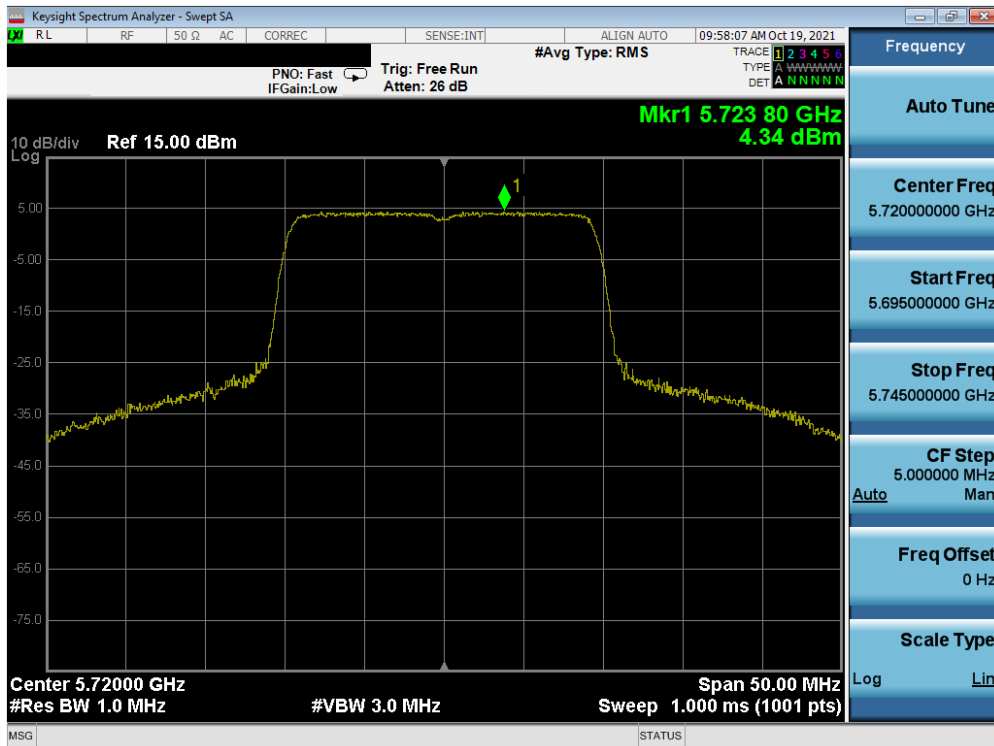


Plot 7-178. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 100)

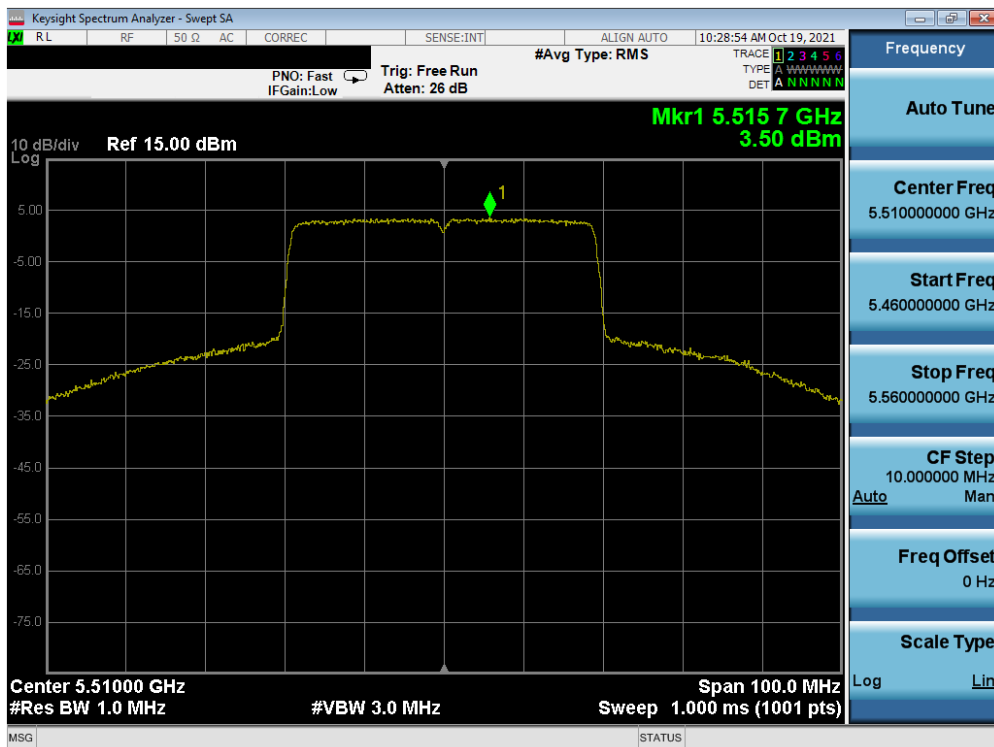


Plot 7-179. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 147 of 309

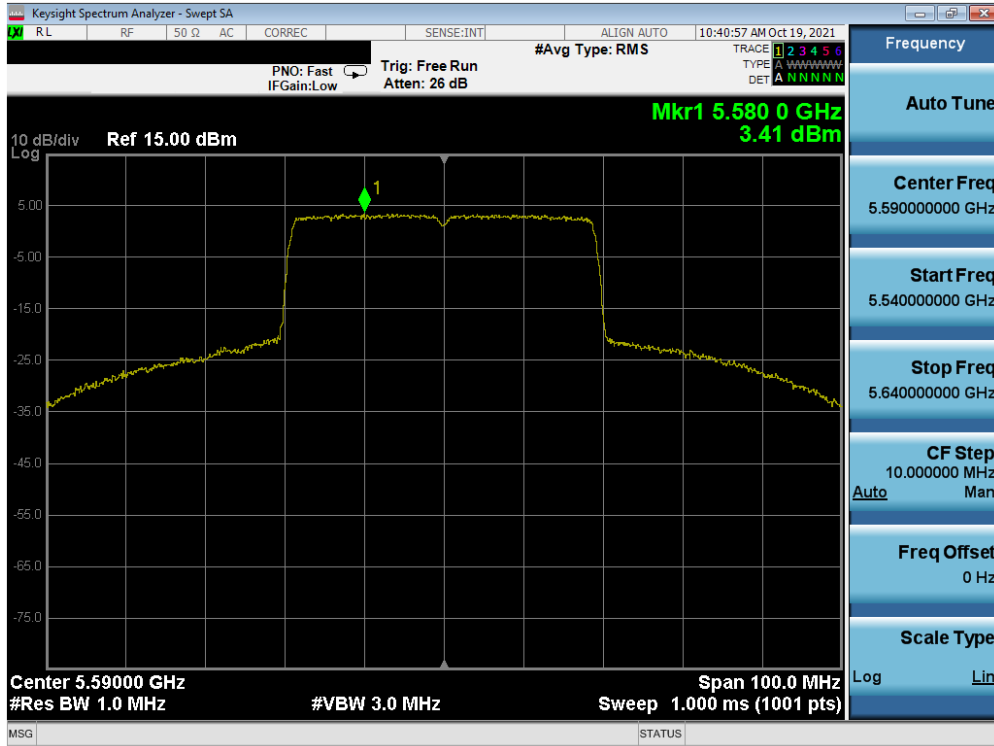


Plot 7-180. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 144)

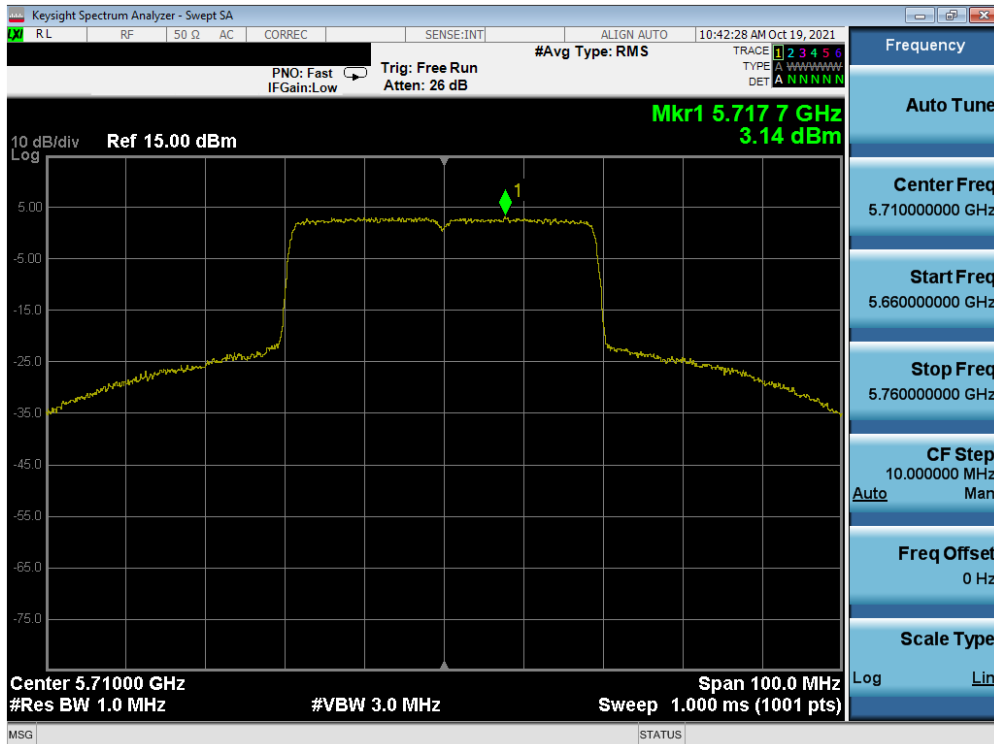


Plot 7-181. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 148 of 309

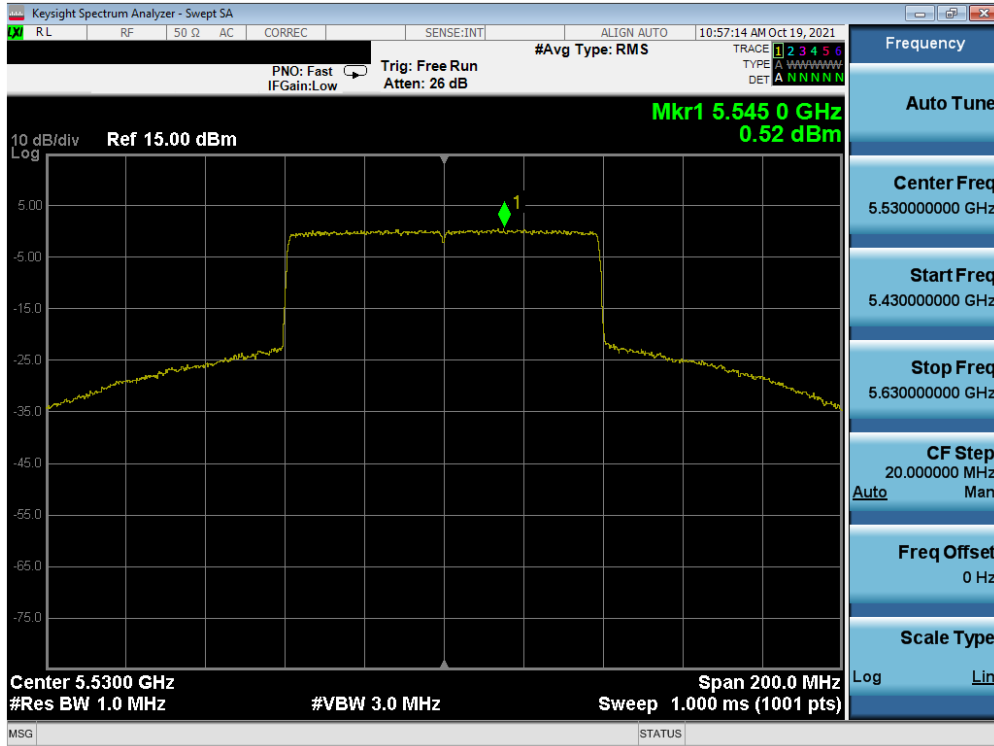


Plot 7-182. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)

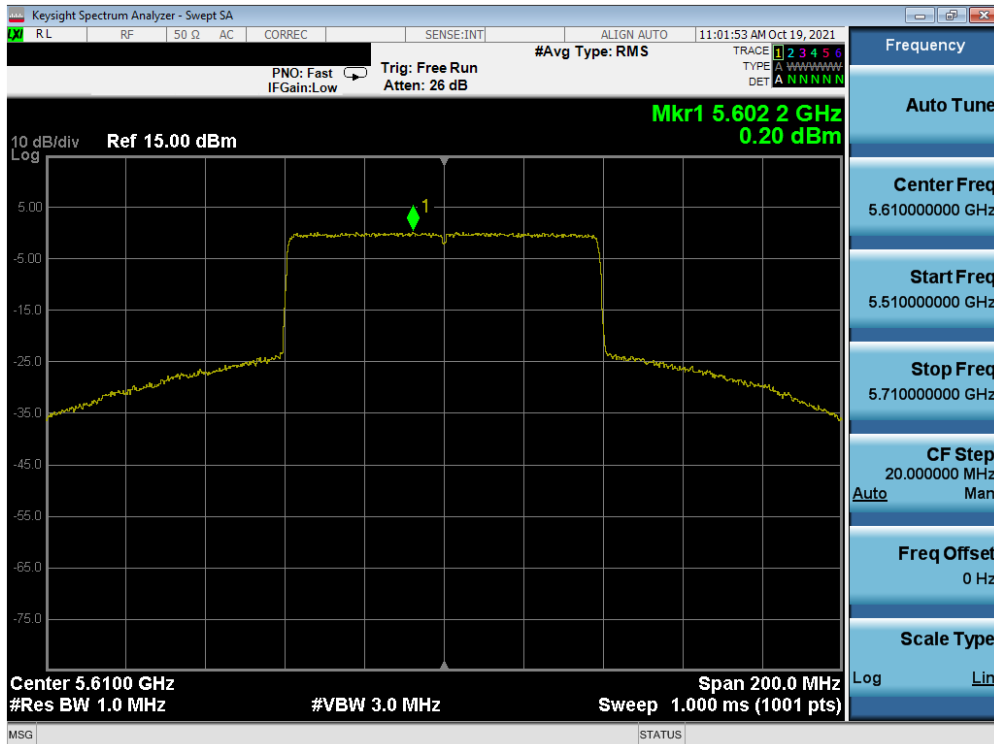


Plot 7-183. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 149 of 309

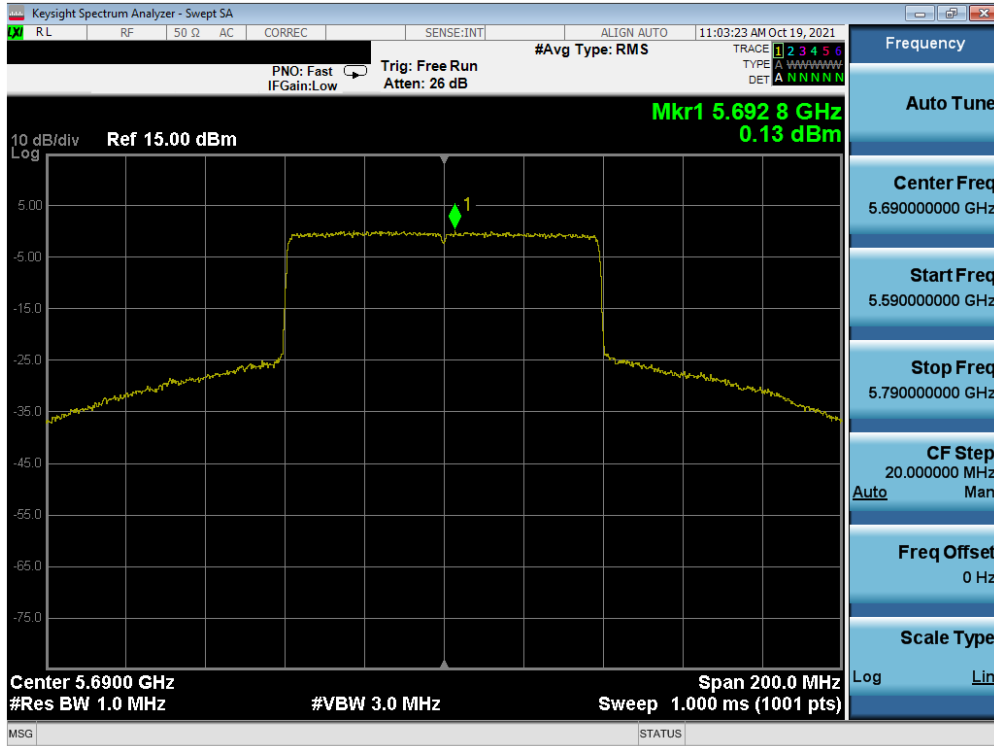


Plot 7-184. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 106)



Plot 7-185. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 150 of 309



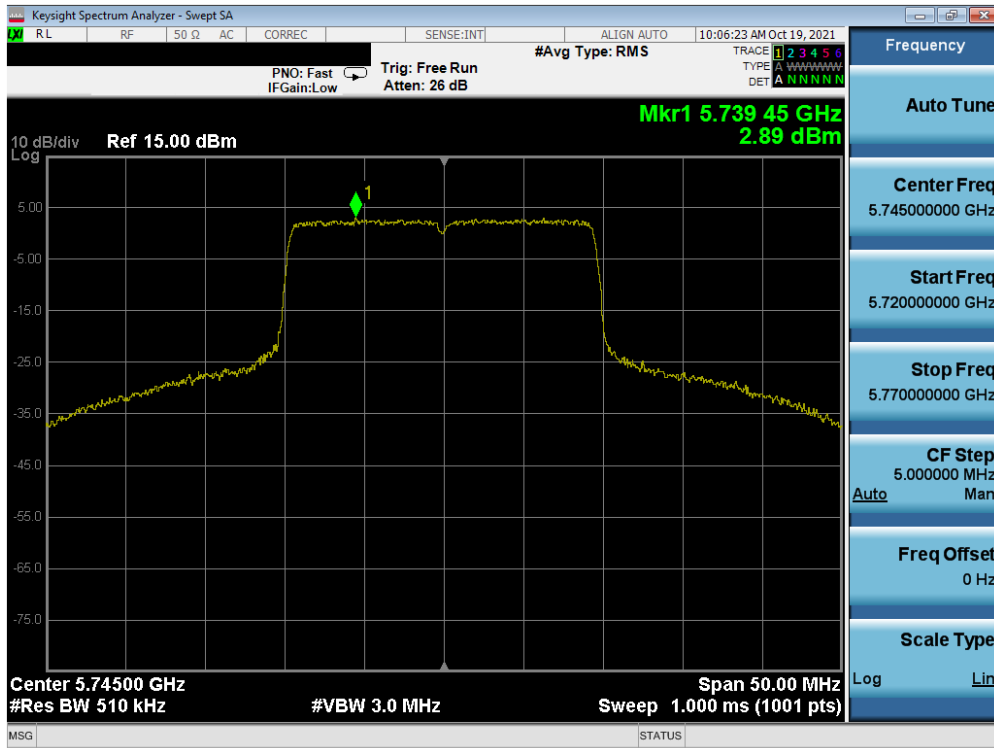
Plot 7-186. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 151 of 309

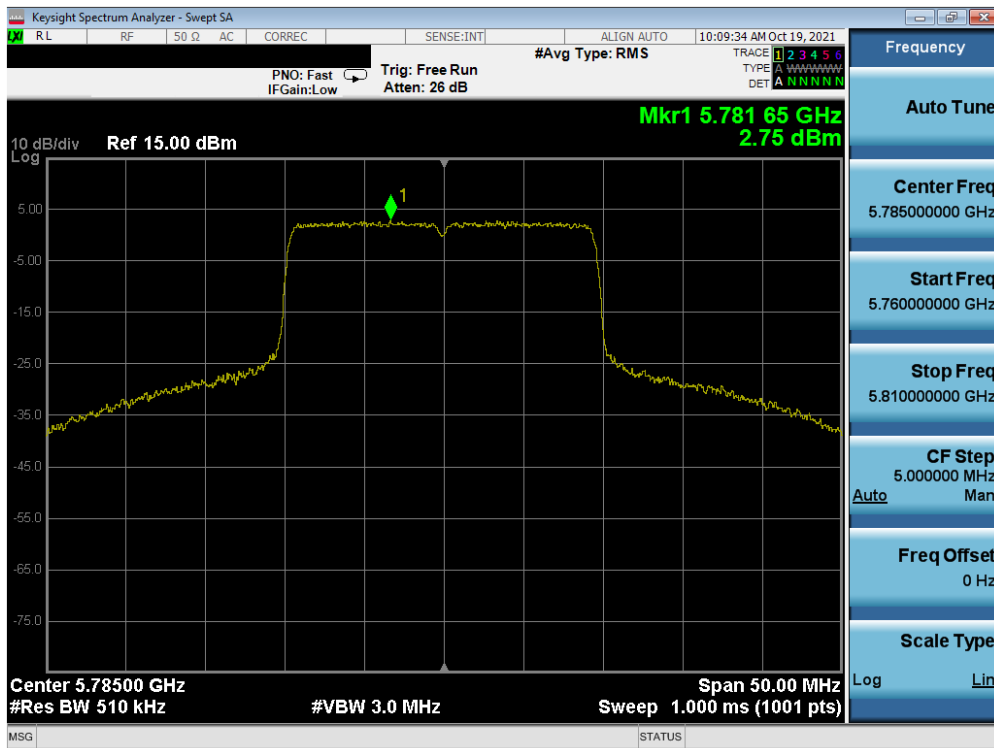
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	242T	MCS0	2.89	30.00	-27.11
	5785	157	ax (20MHz)	242T	MCS0	2.75	30.00	-27.25
	5825	165	ax (20MHz)	242T	MCS0	2.76	30.00	-27.24
	5755	151	ax (40MHz)	484T	MCS0	0.56	30.00	-29.44
	5795	159	ax (40MHz)	484T	MCS0	0.49	30.00	-29.51
	5775	155	ax (80MHz)	996T	MCS0	-2.92	30.00	-32.92

Table 7-66. Band 3 Conducted Power Spectral Density Measurements SISO ANT1 (Full Tones)

FCC ID: A3LSMS901U	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset	Page 152 of 309	

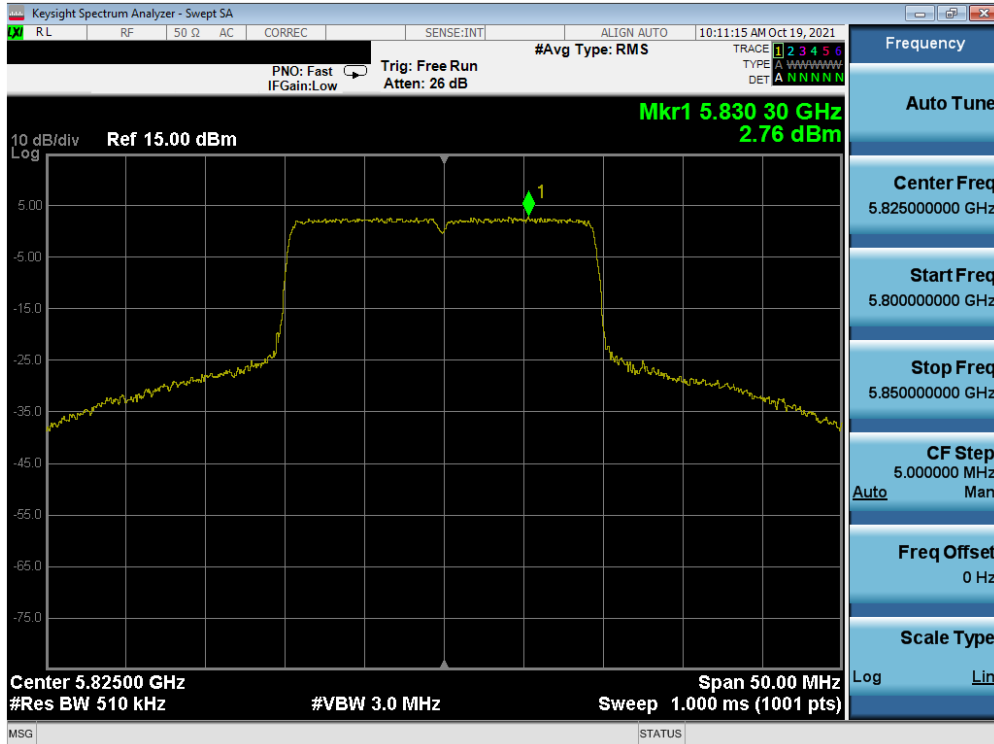


Plot 7-187. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 149)

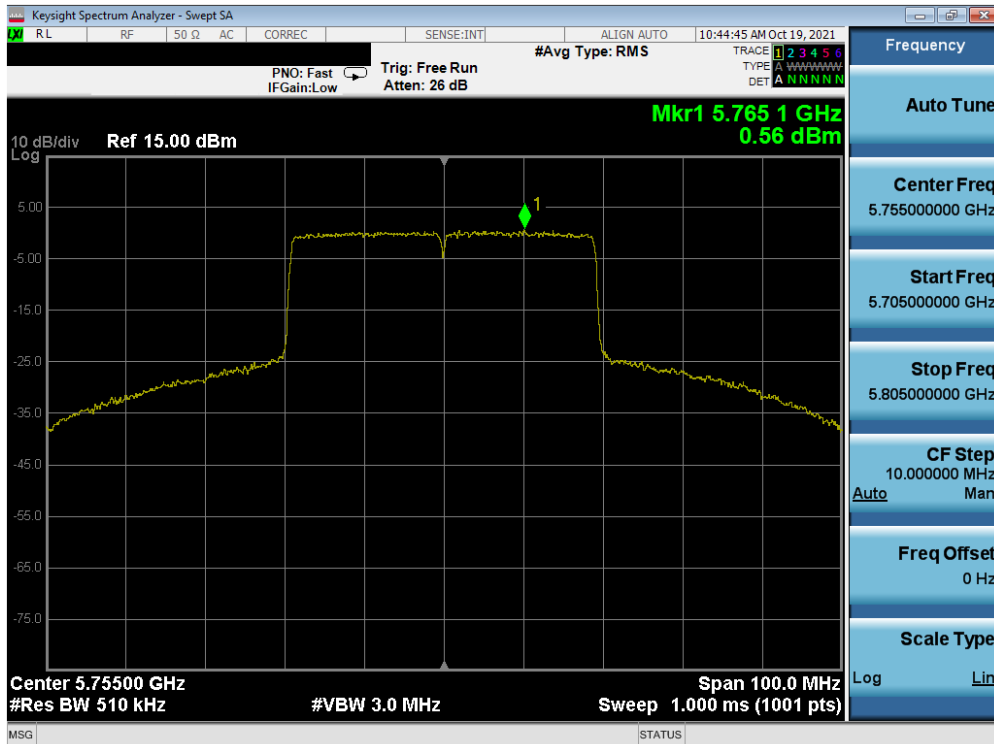


Plot 7-188. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 153 of 309

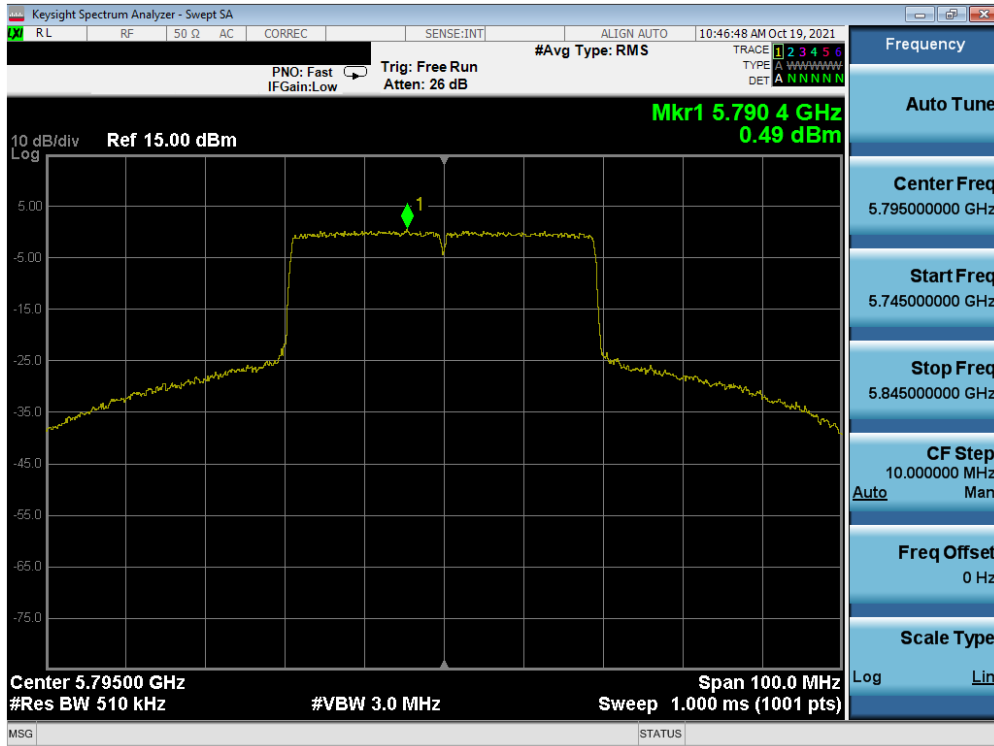


Plot 7-189. Power Spectral Density Plot SISO ANT1 (20 MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 165)

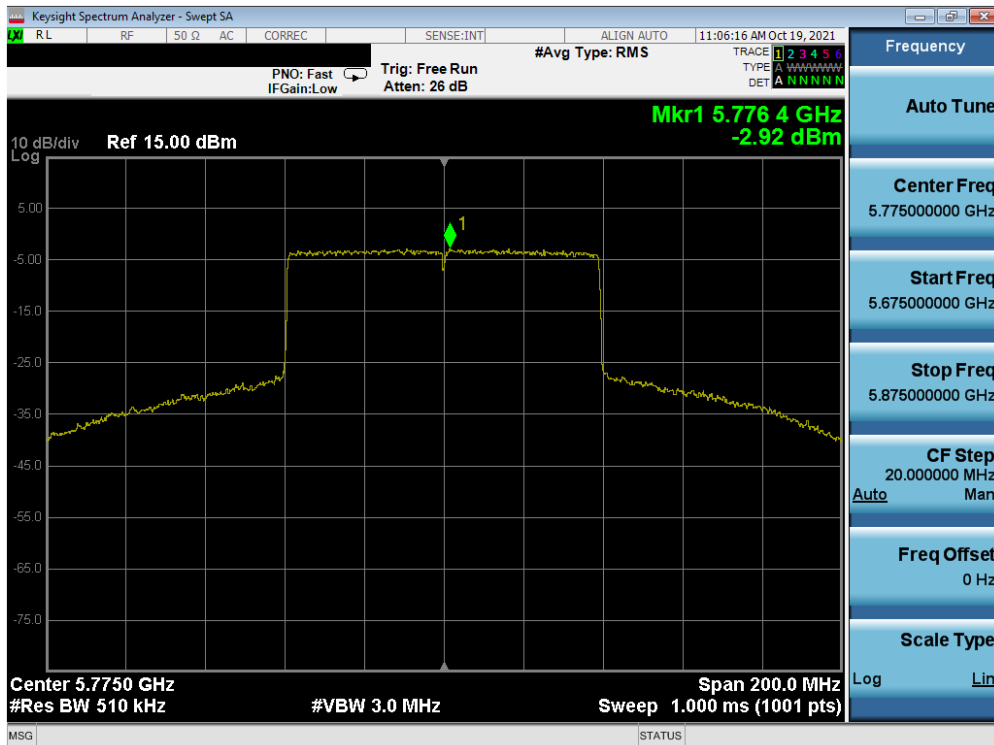


Plot 7-190. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 154 of 309



Plot 7-191. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 159)



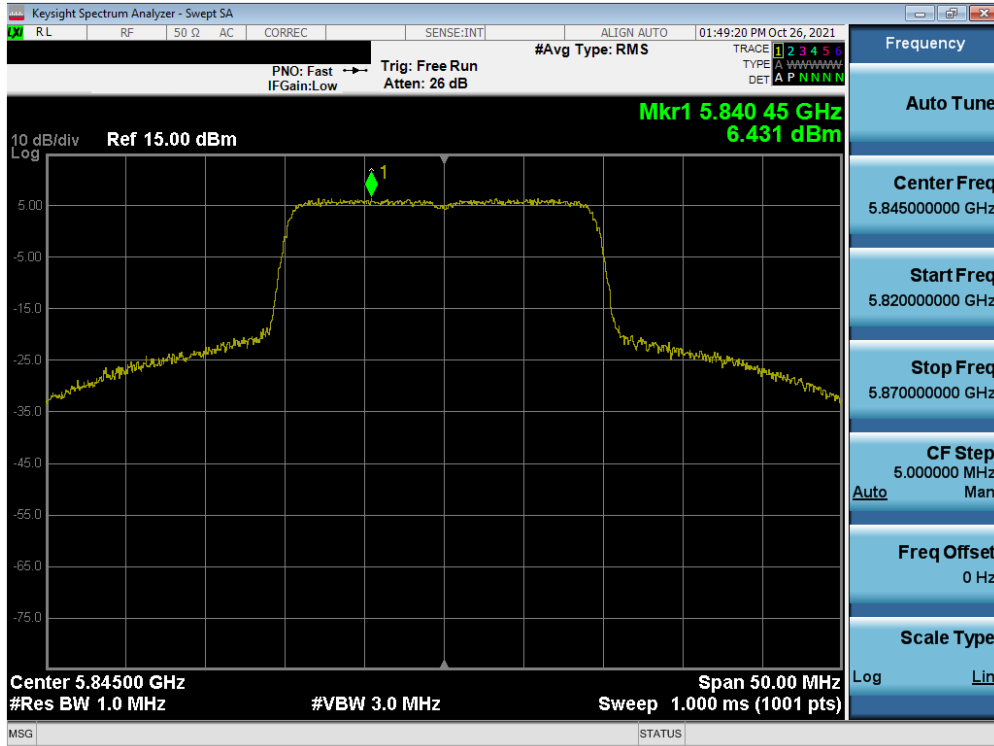
Plot 7-192. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 155 of 309

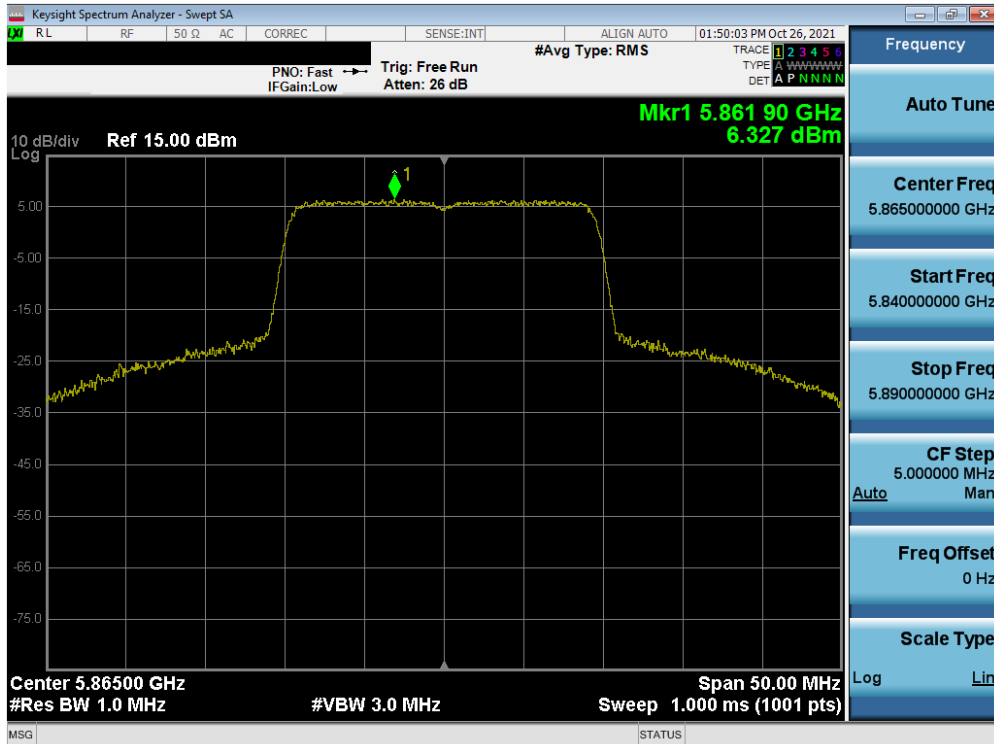
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm/MHz]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Antenna Gain [dBi]	EIRP Power Density [dBm/MHz]	Max EIRP Power Density [dBm/MHz]	Margin [dB]
Band 3/4	5845	169	ax (20MHz)	242T	MCS0	6.43	30.00	-23.57	-6.20	0.23	14.00	-13.77
Band 4	5865	173	ax (20MHz)	242T	MCS0	6.33			-6.20	0.13	14.00	-13.87
	5885	177	ax (20MHz)	242T	MCS0	6.15			-6.20	-0.05	14.00	-14.05
Band 3/4	5835	167	ax (40MHz)	484T	MCS0	2.53	30.00	-27.47	-6.20	-3.67	14.00	-17.67
Band 4	5875	175	ax (40MHz)	484T	MCS0	2.79			-6.20	-3.41	14.00	-17.41
Band 3/4	5855	171	ax (80MHz)	996T	MCS0	0.31	30.00	-29.69	-6.20	-5.89	14.00	-19.89

Table 7-67. Band 4 Conducted Power Spectral Density Measurements SISO ANT1 (Full Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 156 of 309

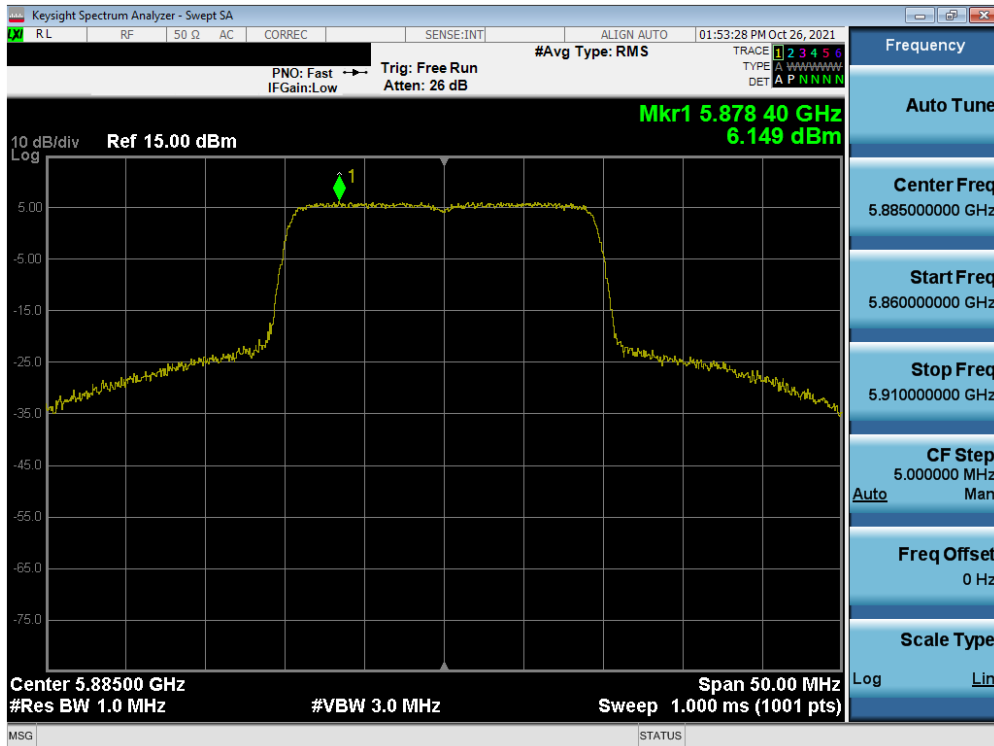


Plot 7-193. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 3/4) – Ch. 169)

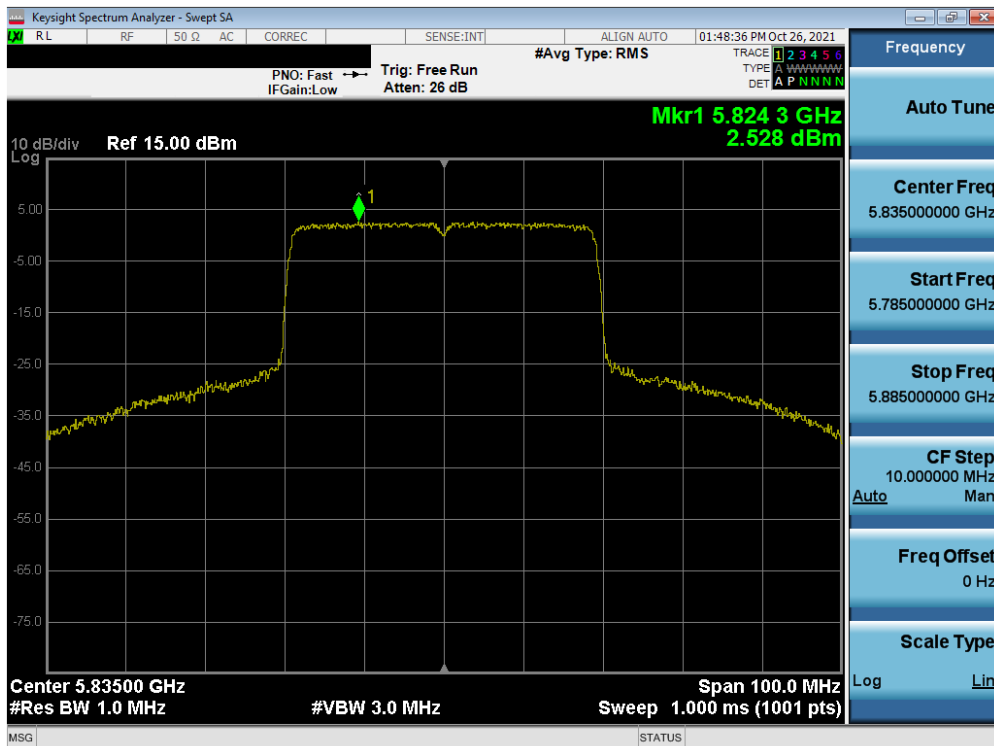


Plot 7-194. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 4) – Ch. 173)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 157 of 309

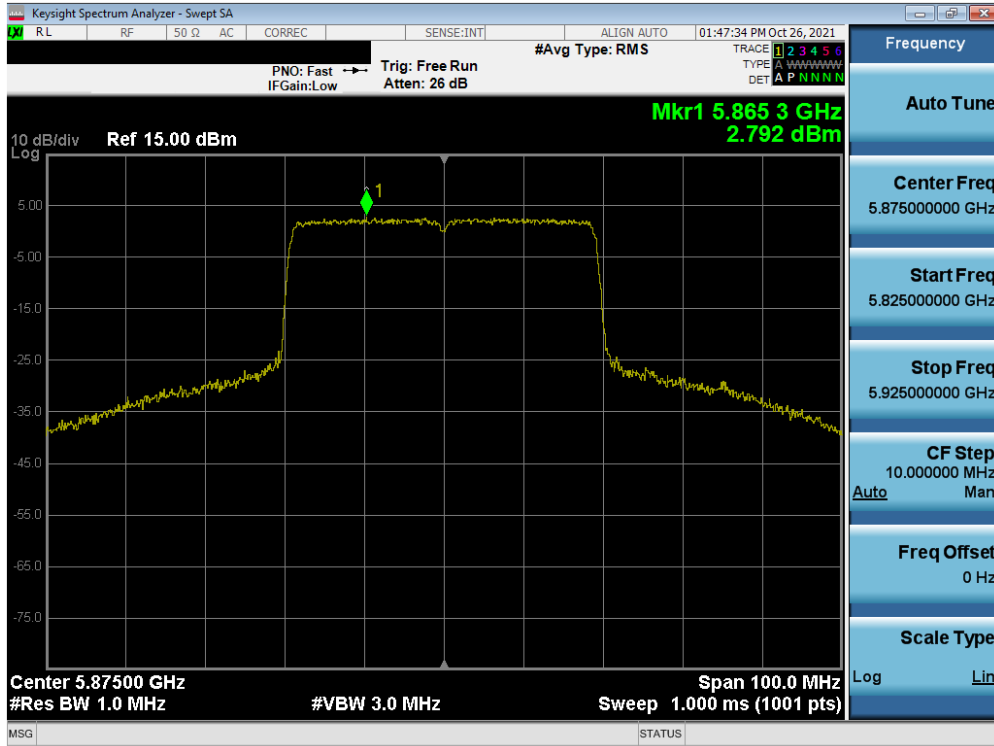


Plot 7-195. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 4) – Ch. 177)

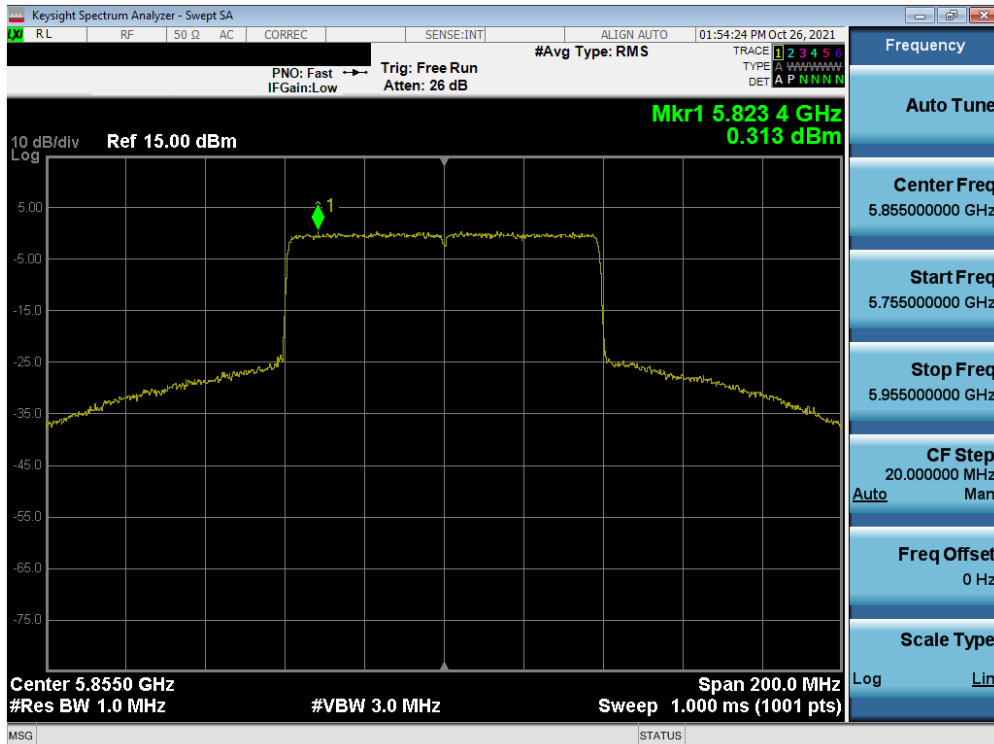


Plot 7-196. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 3/4) – Ch. 167)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 158 of 309



Plot 7-197. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 4) – Ch. 175)



Plot 7-198. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 3/4) – Ch. 171)

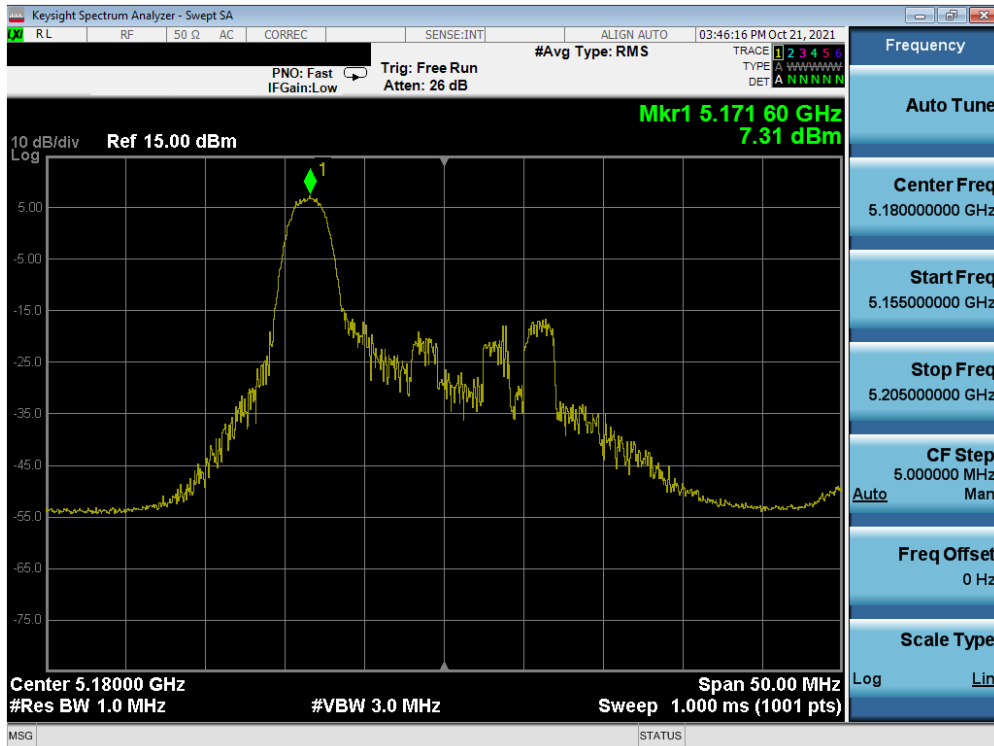
FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 159 of 309

SISO Antenna-2 Power Spectral Density Measurements (26 Tones)

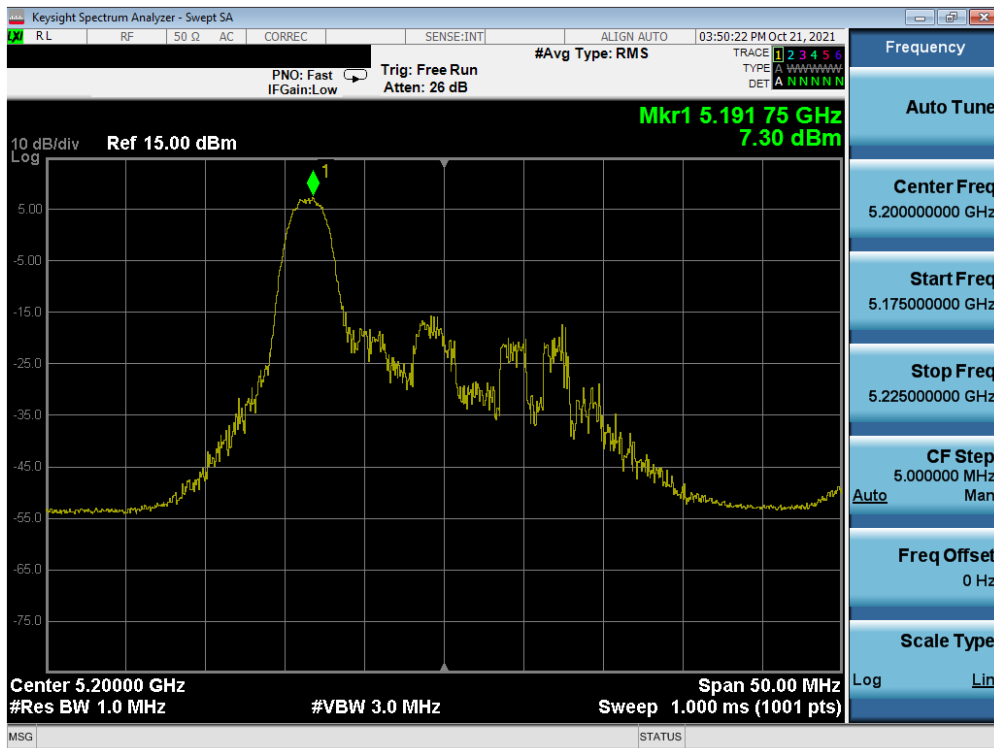
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	26T	MCS0	7.31	11.0	-3.69
	5200	40	ax (20MHz)	26T	MCS0	7.30	11.0	-3.70
	5240	48	ax (20MHz)	26T	MCS0	7.80	11.0	-3.20
	5190	38	ax (40MHz)	26T	MCS0	7.44	11.0	-3.56
	5230	46	ax (40MHz)	26T	MCS0	7.74	11.0	-3.26
	5210	42	ax (80MHz)	26T	MCS0	7.41	11.0	-3.59
Band 2A	5260	52	ax (20MHz)	26T	MCS0	7.91	11.0	-3.09
	5280	56	ax (20MHz)	26T	MCS0	8.02	11.0	-2.98
	5320	64	ax (20MHz)	26T	MCS0	7.82	11.0	-3.18
	5270	54	ax (40MHz)	26T	MCS0	7.62	11.0	-3.38
	5310	62	ax (40MHz)	26T	MCS0	7.72	11.0	-3.28
	5290	58	ax (80MHz)	26T	MCS0	7.86	11.0	-3.14
Band 2C	5500	100	ax (20MHz)	26T	MCS0	7.86	11.0	-3.14
	5600	120	ax (20MHz)	26T	MCS0	7.77	11.0	-3.23
	5720	144	ax (20MHz)	26T	MCS0	8.06	11.0	-2.94
	5510	102	ax (40MHz)	26T	MCS0	8.08	11.0	-2.92
	5590	118	ax (40MHz)	26T	MCS0	7.80	11.0	-3.20
	5710	142	ax (40MHz)	26T	MCS0	7.79	11.0	-3.21
	5530	106	ax (80MHz)	26T	MCS0	7.83	11.0	-3.17
	5610	122	ax (80MHz)	26T	MCS0	7.67	11.0	-3.33
	5690	138	ax (80MHz)	26T	MCS0	7.52	11.0	-3.48

Table 7-68. Conducted Power Spectral Density Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 160 of 309

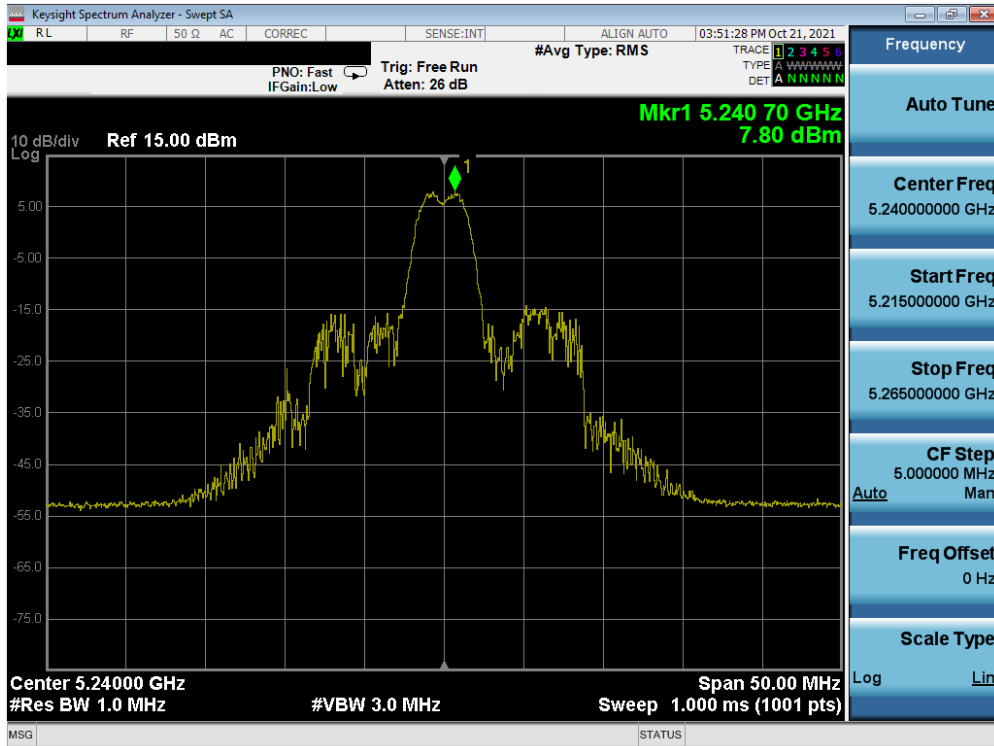


Plot 7-199. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

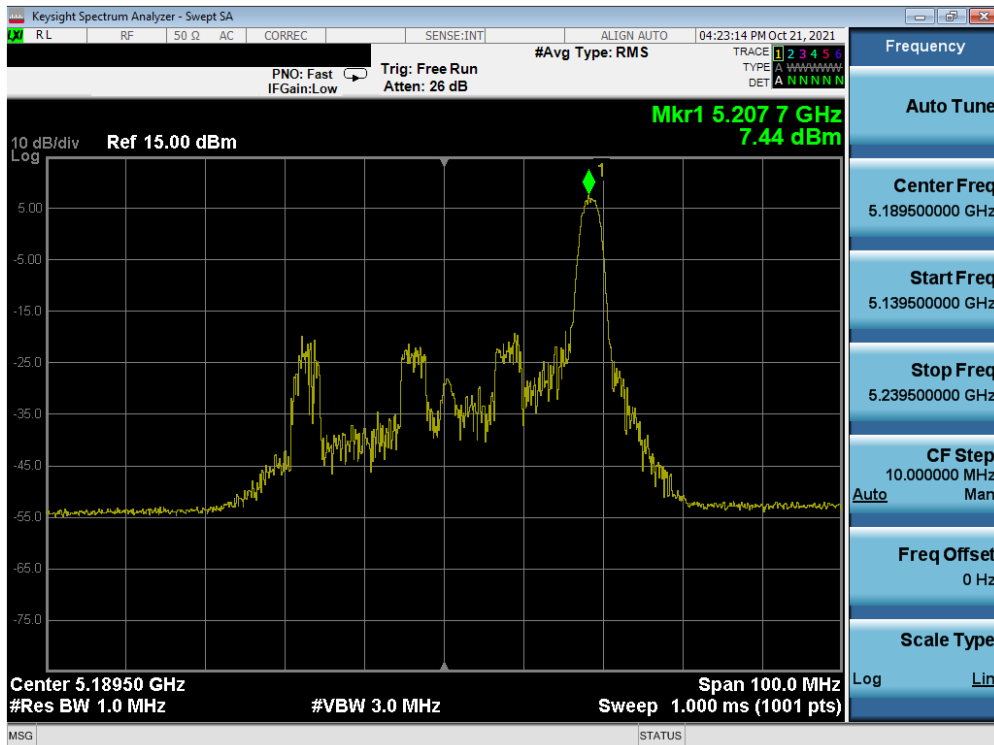


Plot 7-200. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 161 of 309

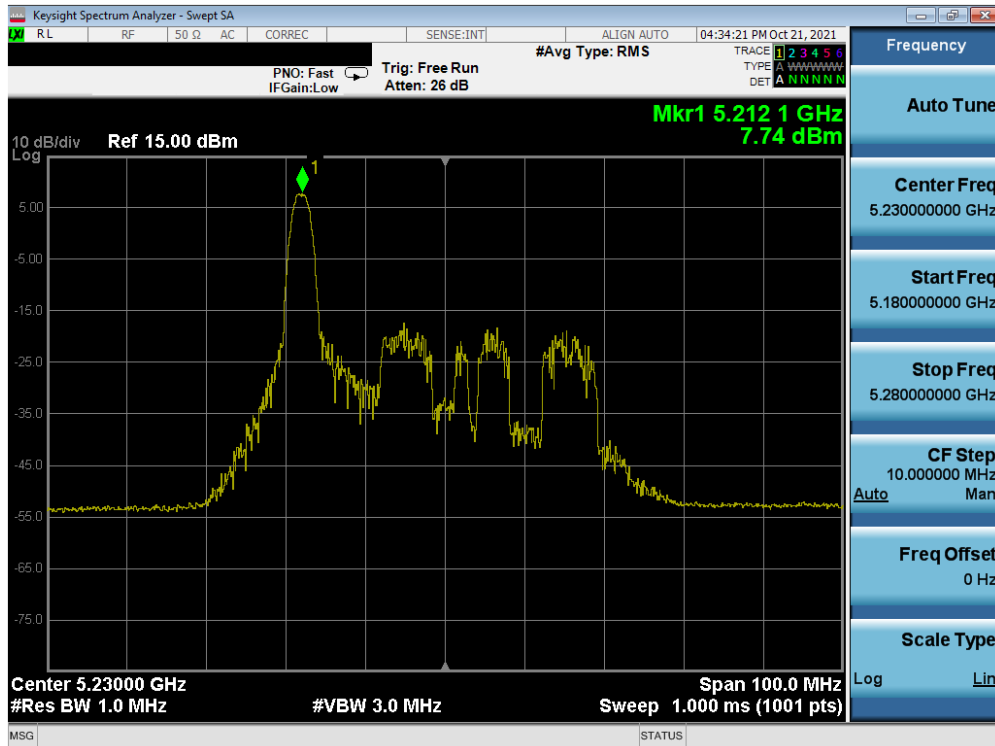


Plot 7-201. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

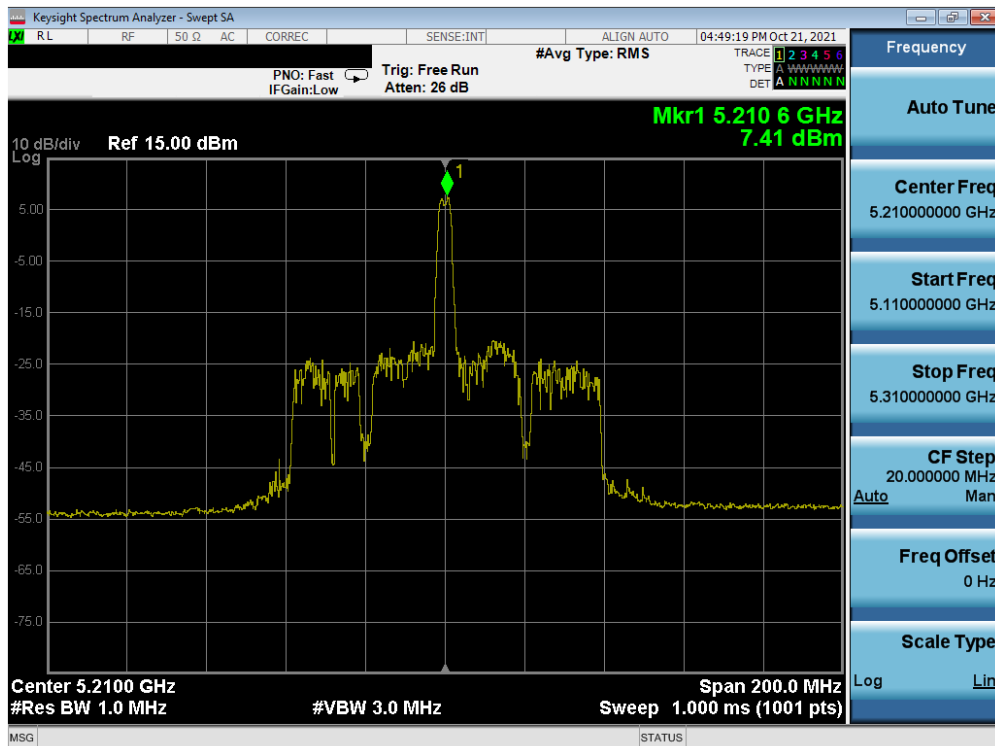


Plot 7-202. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 162 of 309

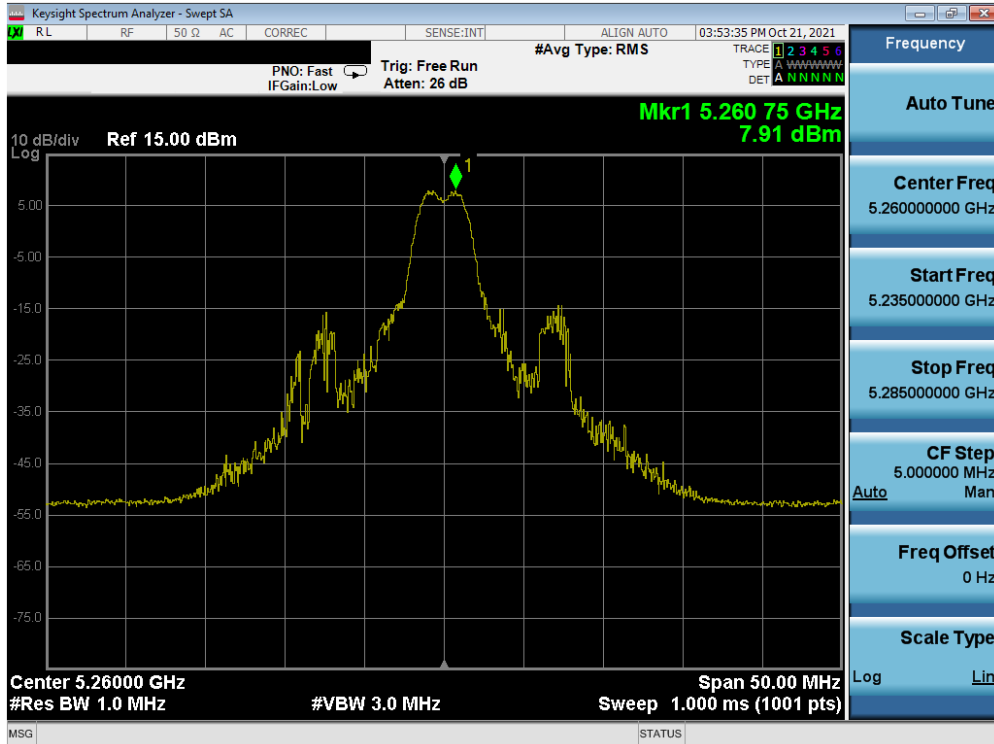


Plot 7-203. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

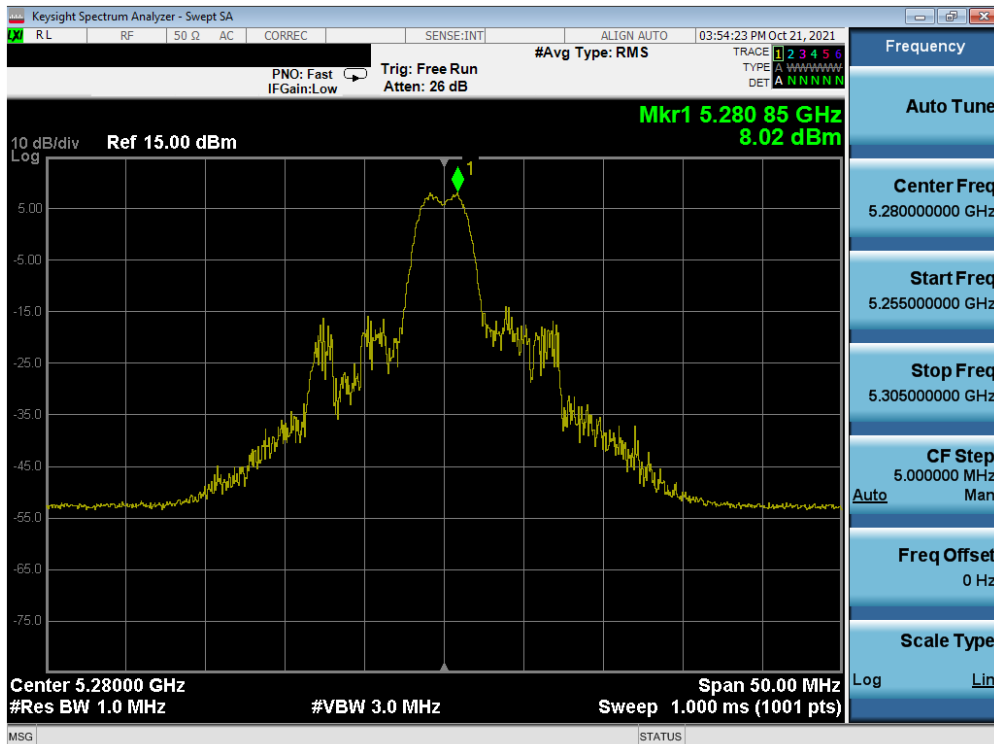


Plot 7-204. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMS901U	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 163 of 309

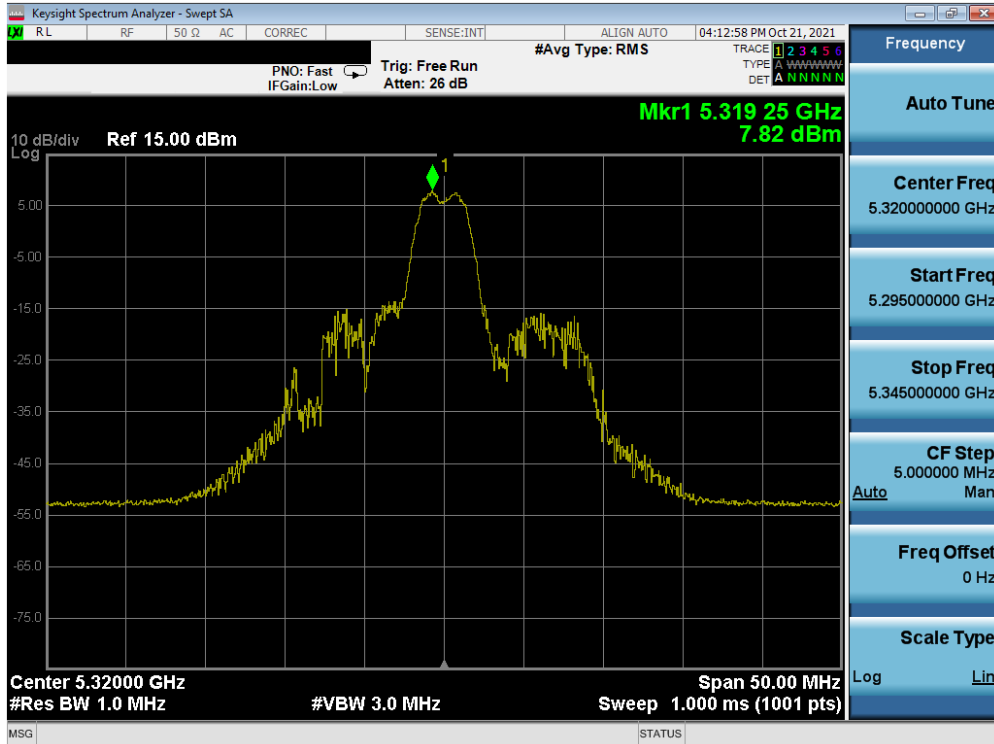


Plot 7-205. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

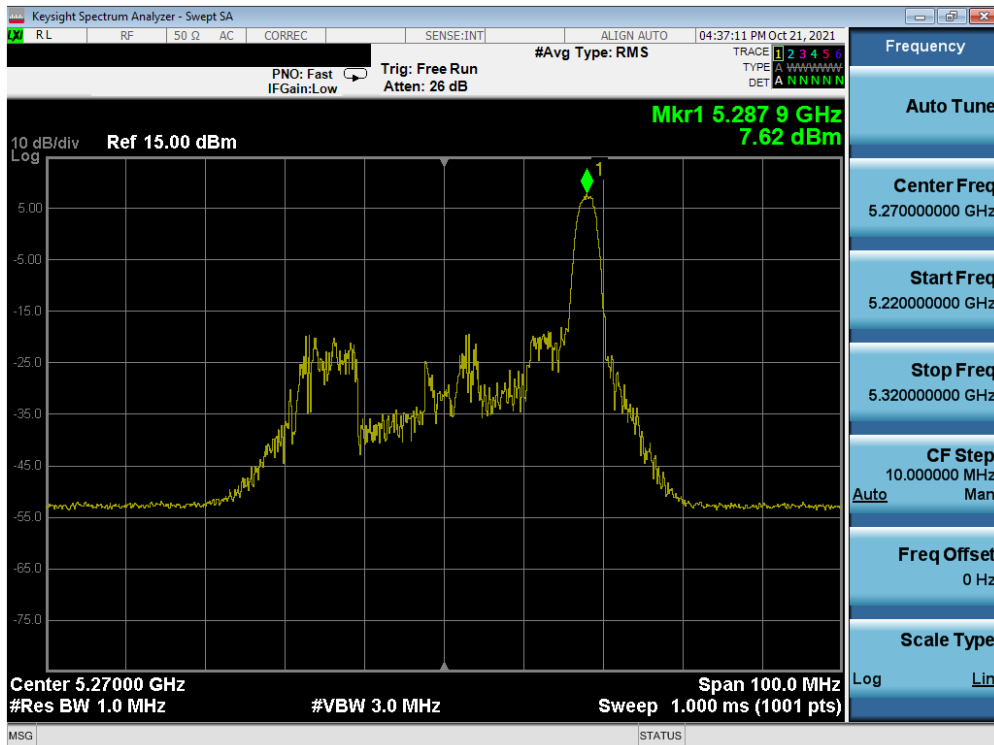


Plot 7-206. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 164 of 309

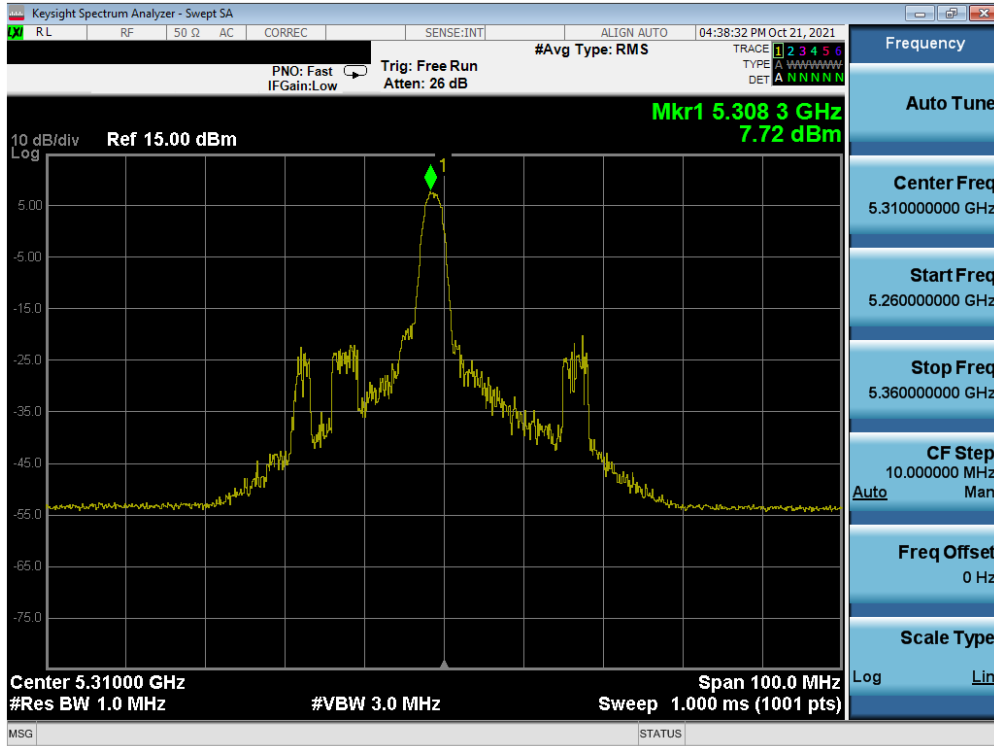


Plot 7-207. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)



Plot 7-208. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 165 of 309

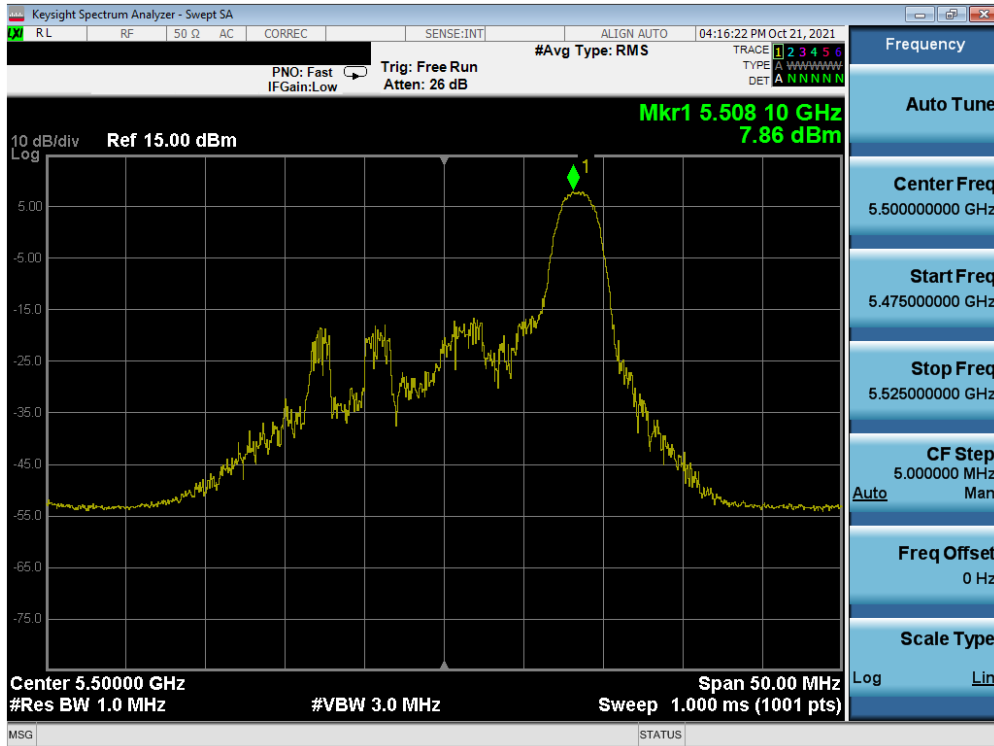


Plot 7-209. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

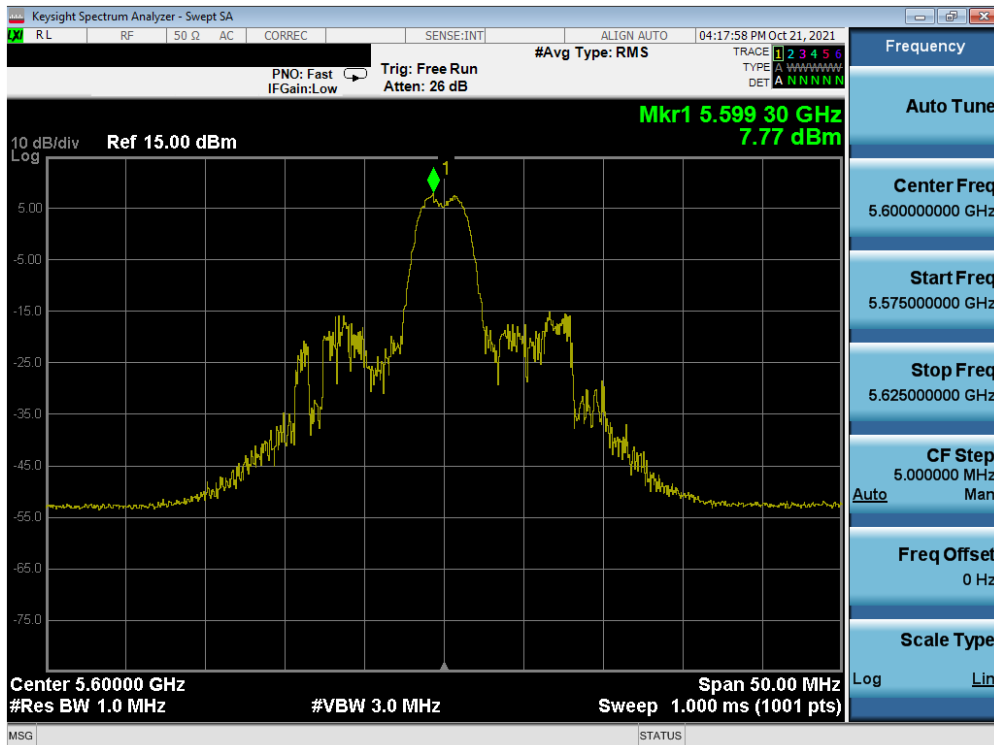


Plot 7-210. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMS901U	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 166 of 309

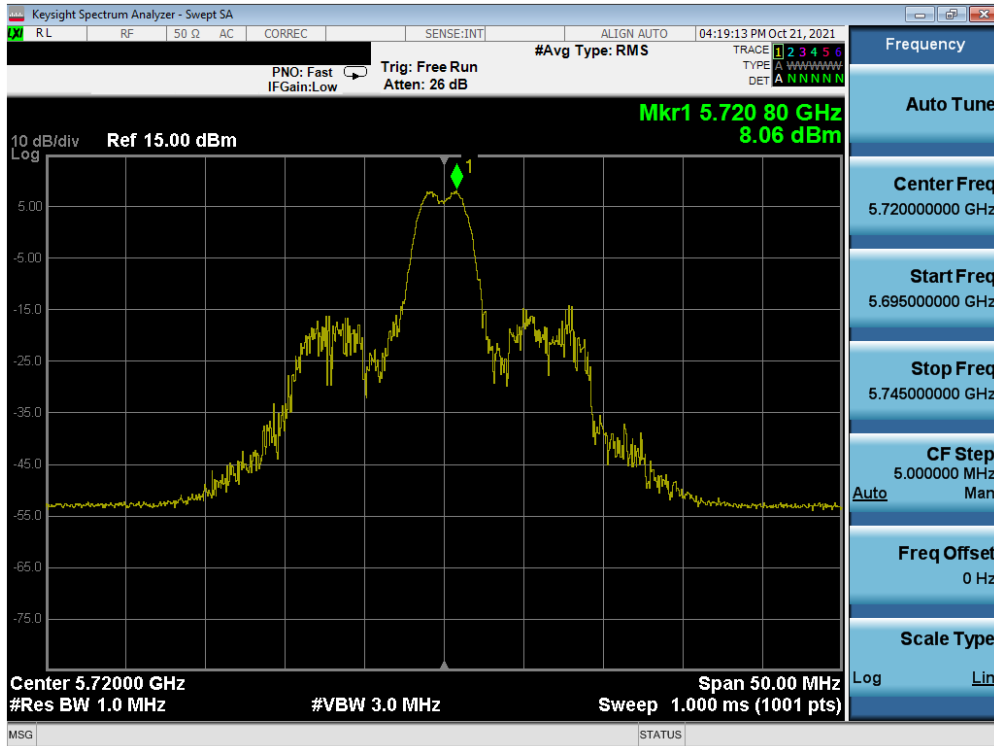


Plot 7-211. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

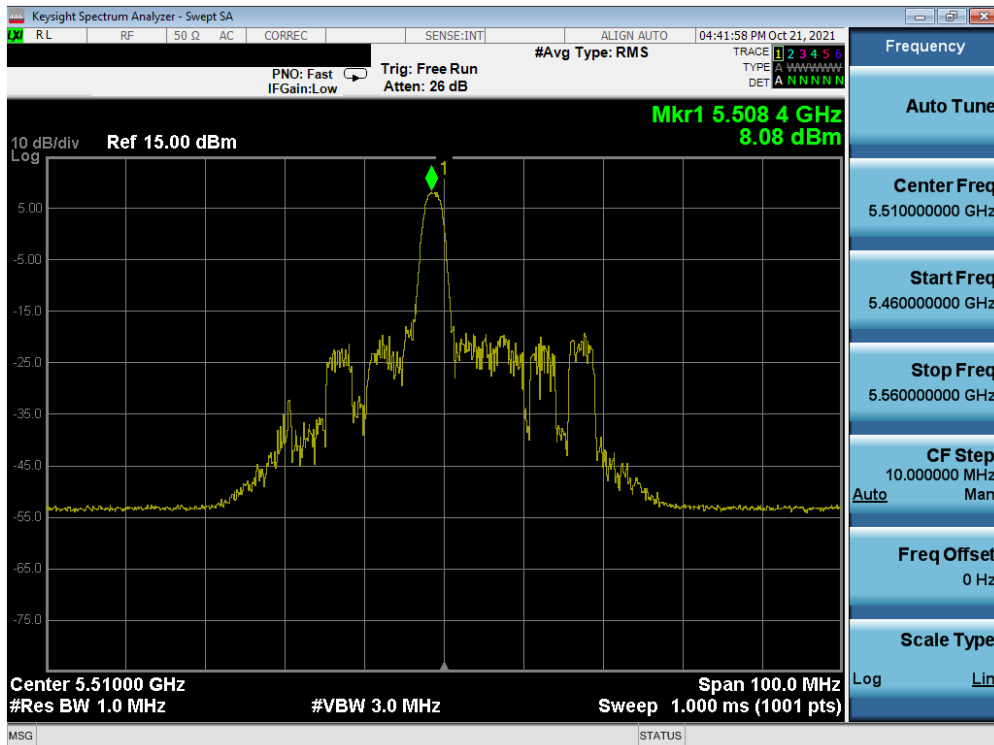


Plot 7-212. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 167 of 309

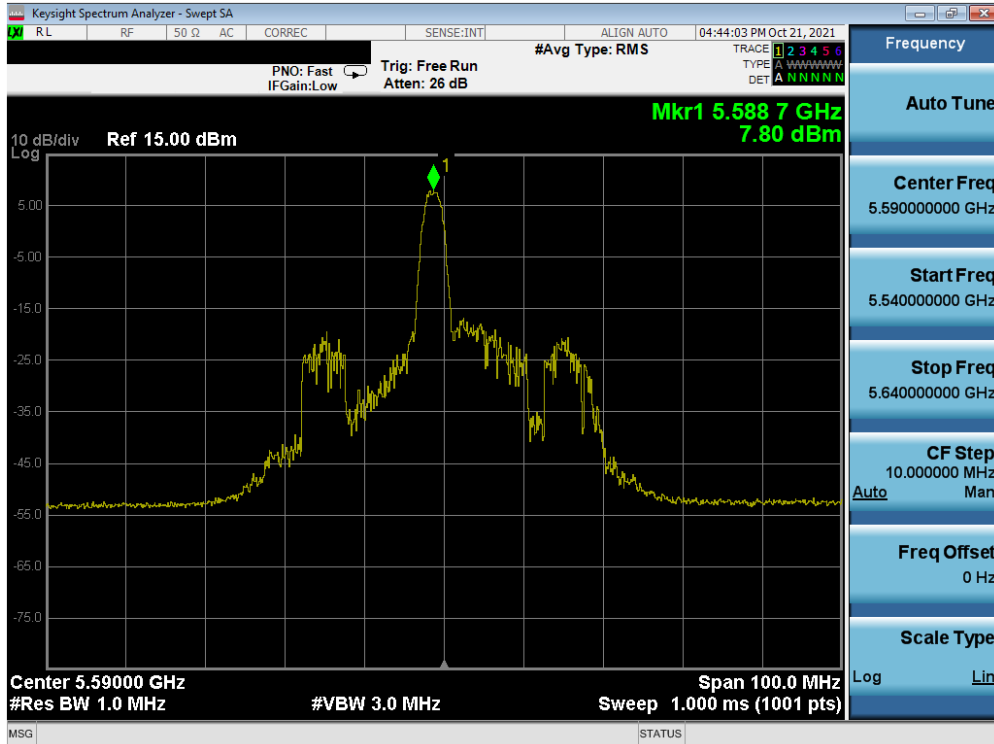


Plot 7-213. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

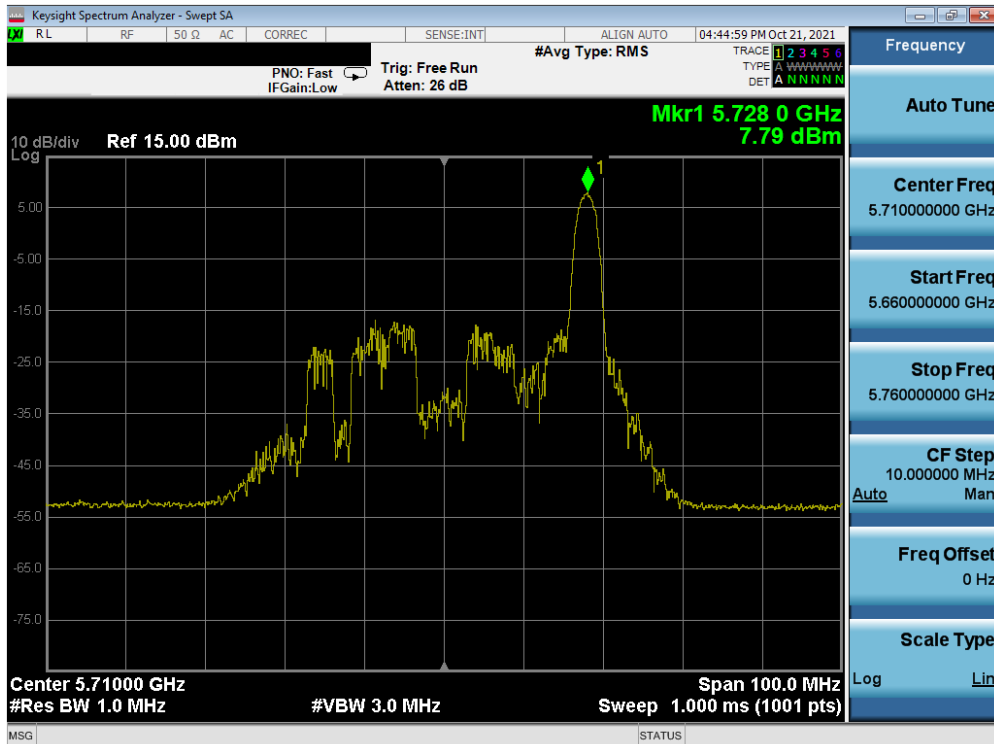


Plot 7-214. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 168 of 309

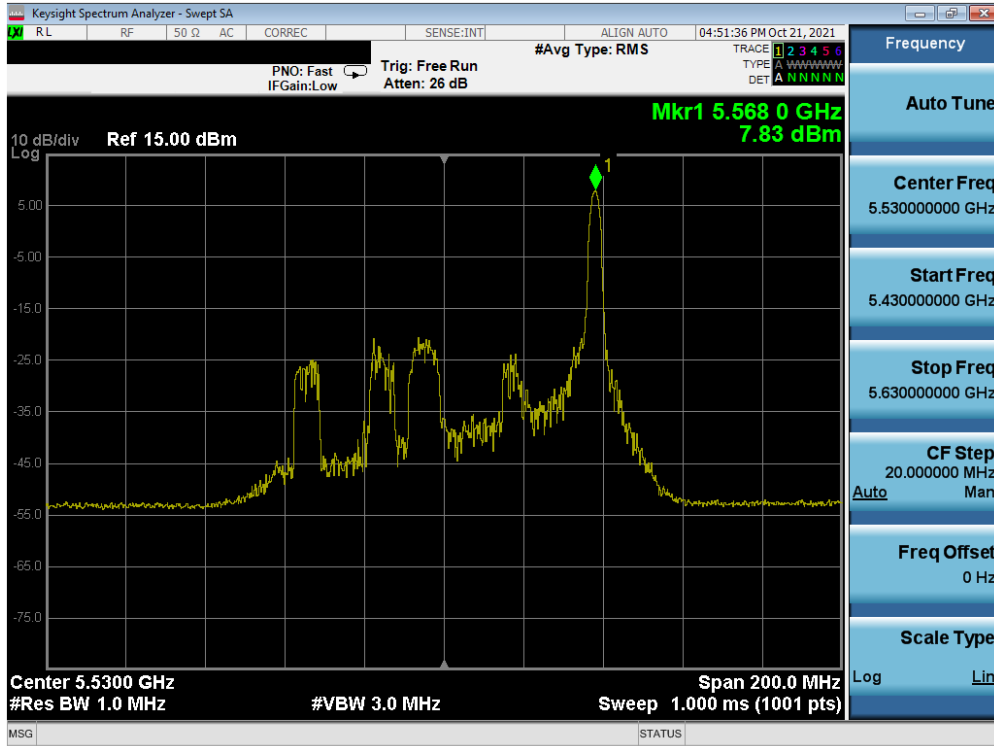


Plot 7-215. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

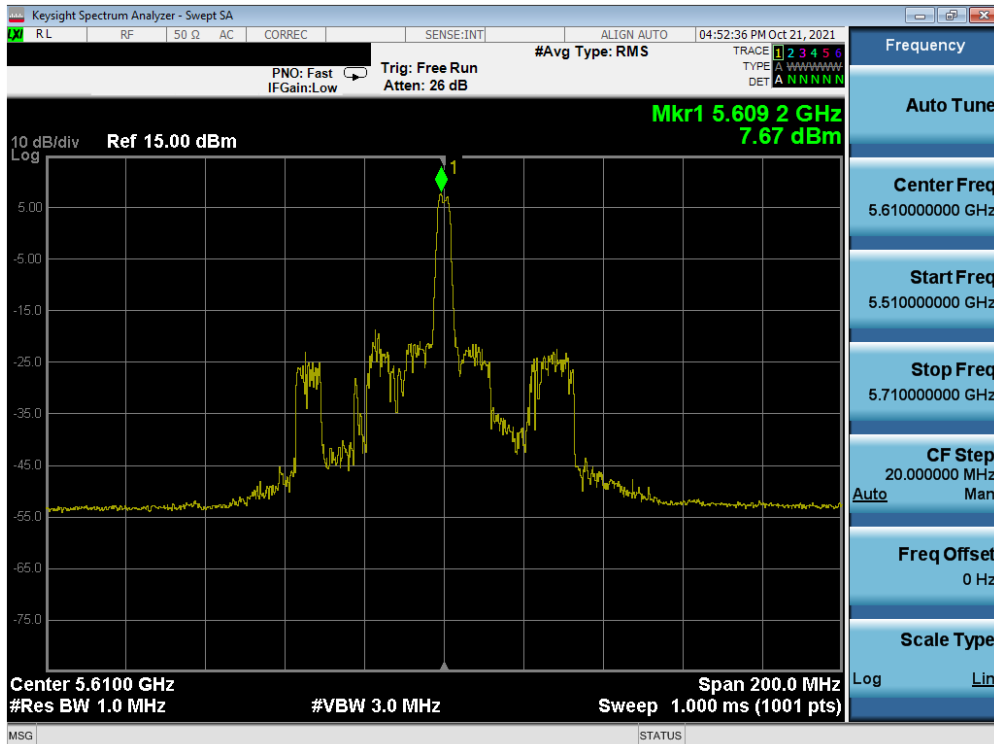


Plot 7-216. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 169 of 309

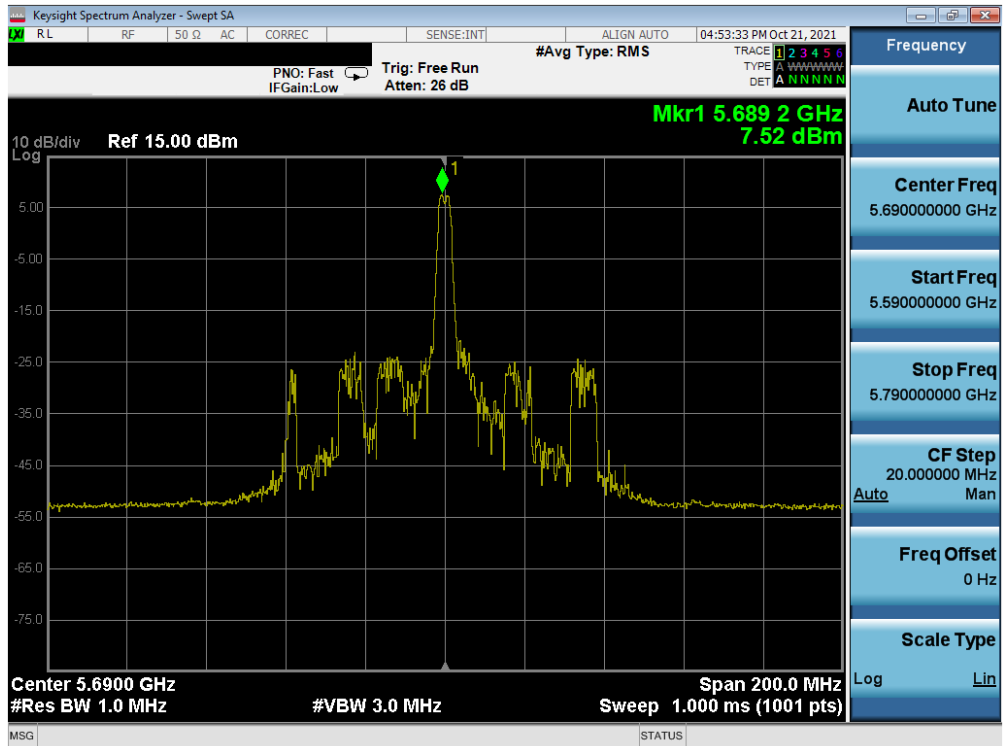


Plot 7-217. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)



Plot 7-218. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 170 of 309



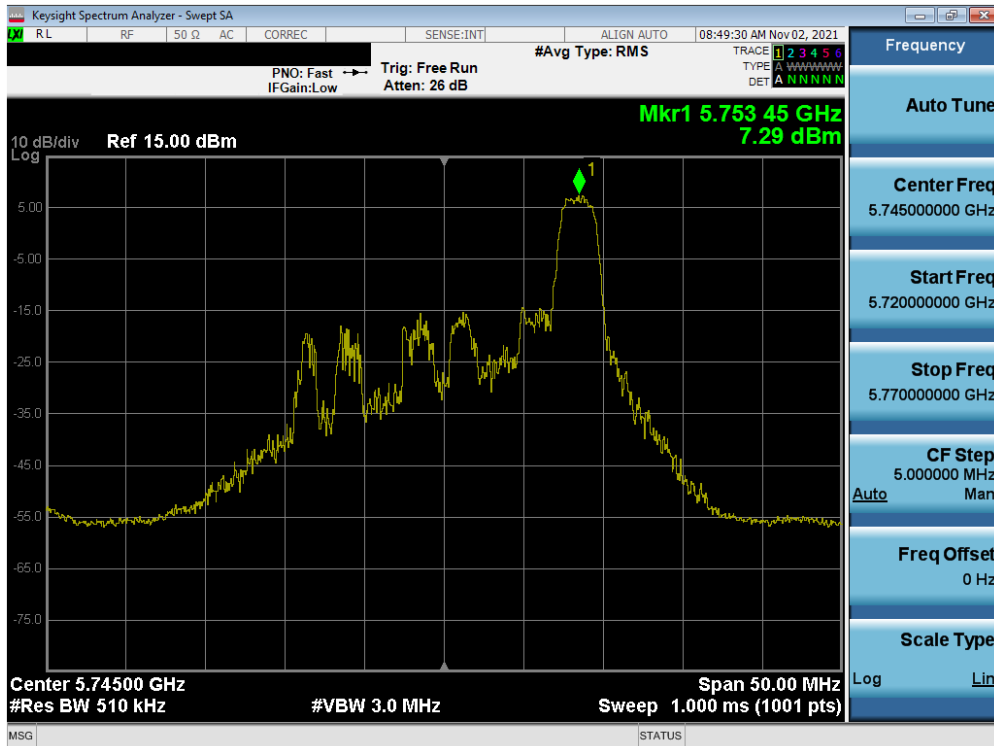
Plot 7-219. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 171 of 309

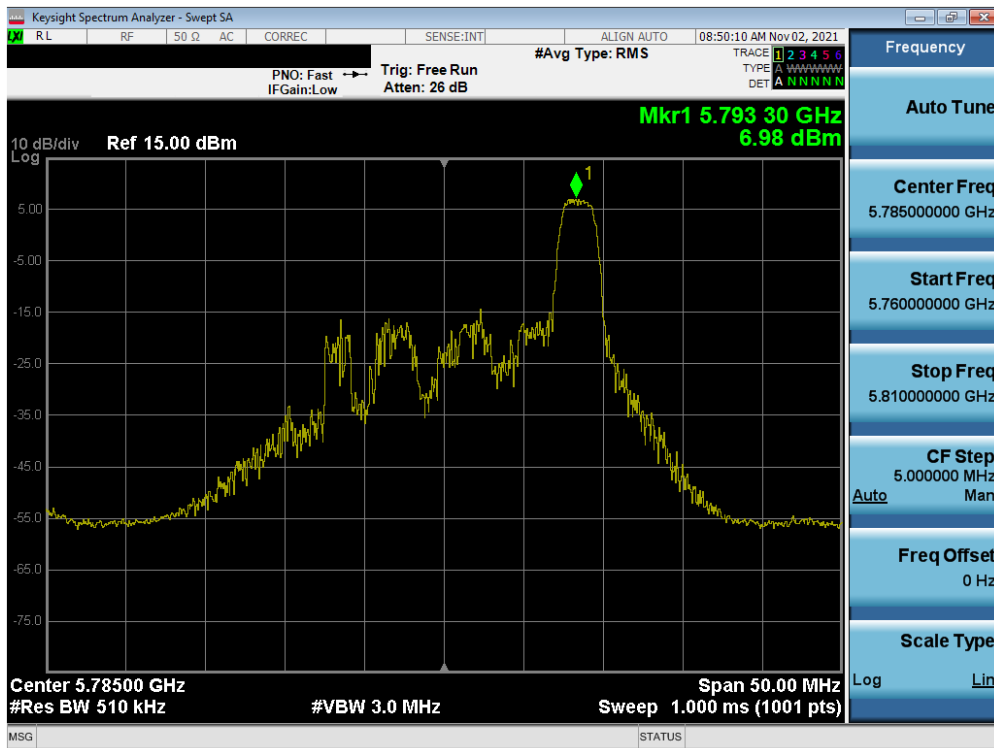
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	26T	MCS0	7.29	30.00	-22.71
	5785	157	ax (20MHz)	26T	MCS0	6.98	30.00	-23.02
	5825	165	ax (20MHz)	26T	MCS0	7.08	30.00	-22.92
	5755	151	ax (40MHz)	26T	MCS0	7.02	30.00	-22.98
	5795	159	ax (40MHz)	26T	MCS0	6.73	30.00	-23.27
	5775	155	ax (80MHz)	26T	MCS0	7.13	30.00	-22.87

Table 7-69. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset			Page 172 of 309

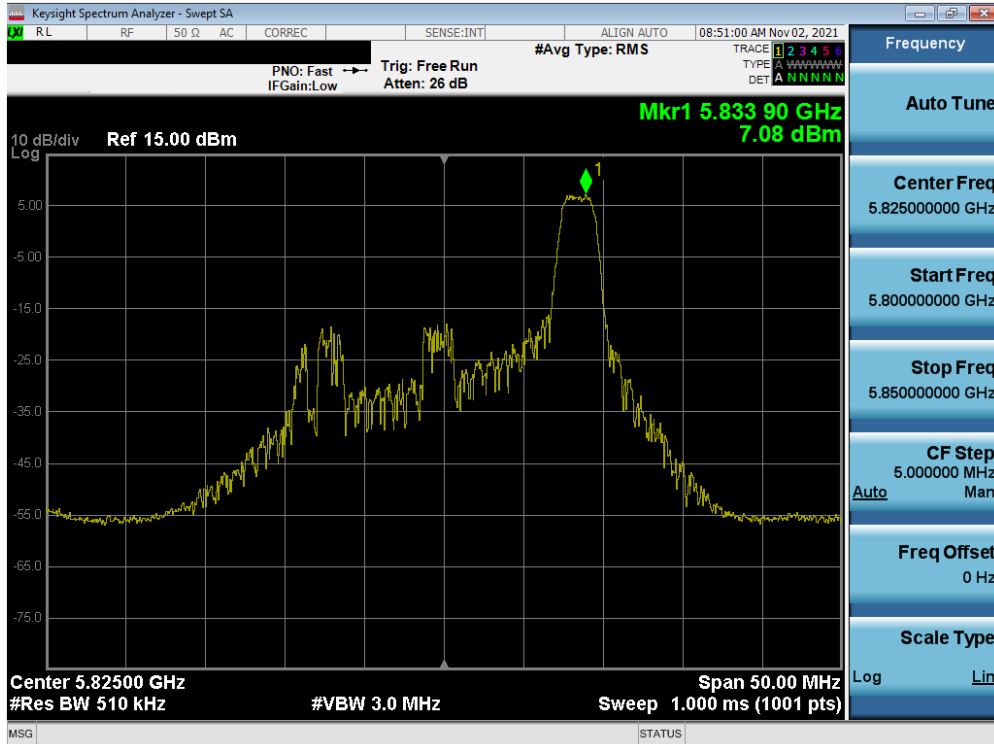


Plot 7-220. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

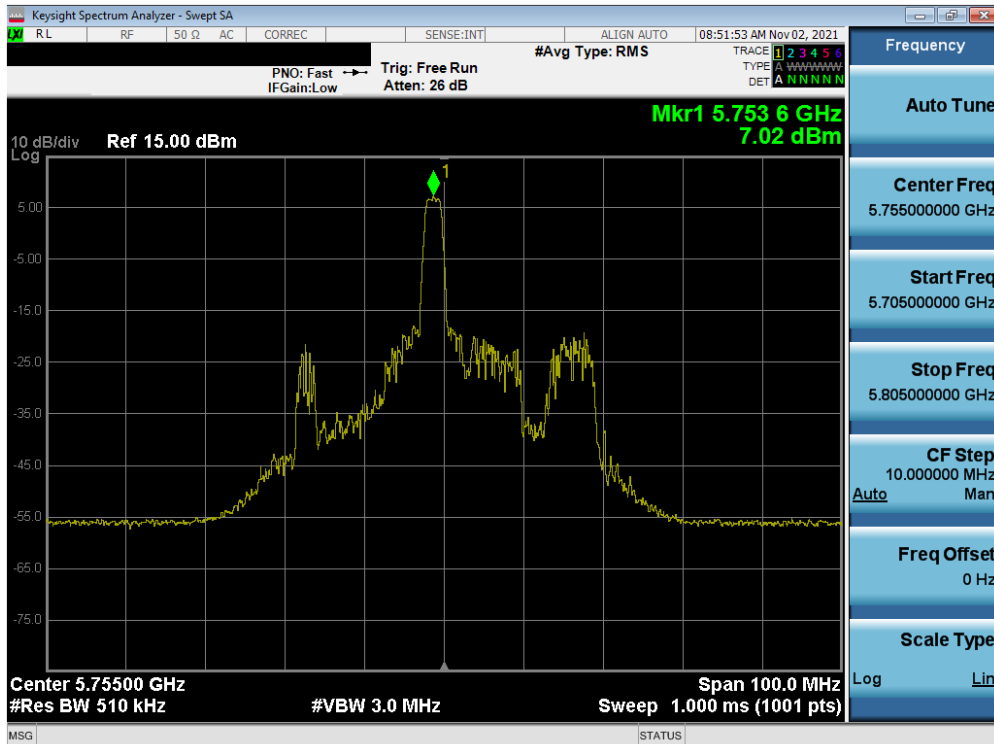


Plot 7-221. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 173 of 309

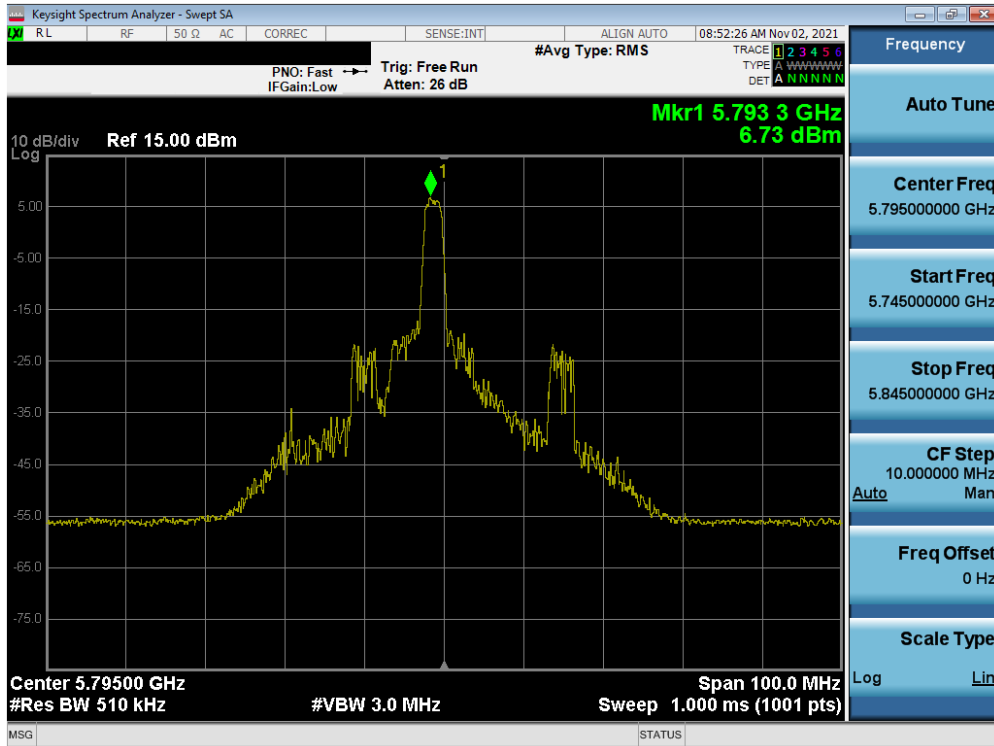


Plot 7-222. Power Spectral Density Plot SISO ANT2 (20 MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

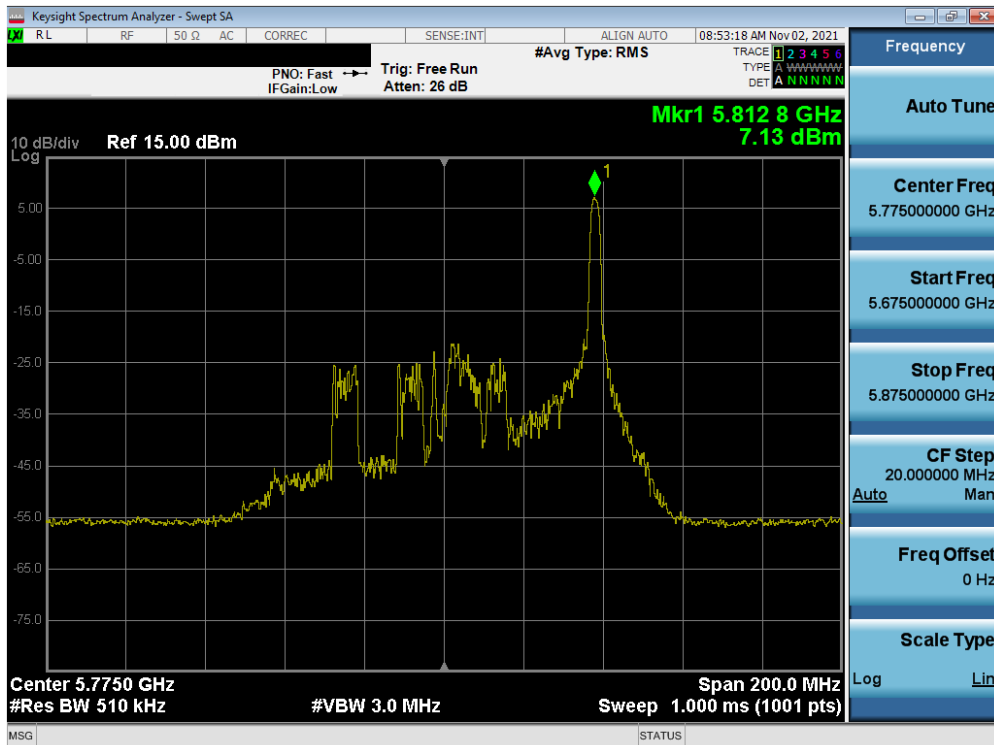


Plot 7-223. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 174 of 309



Plot 7-224. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

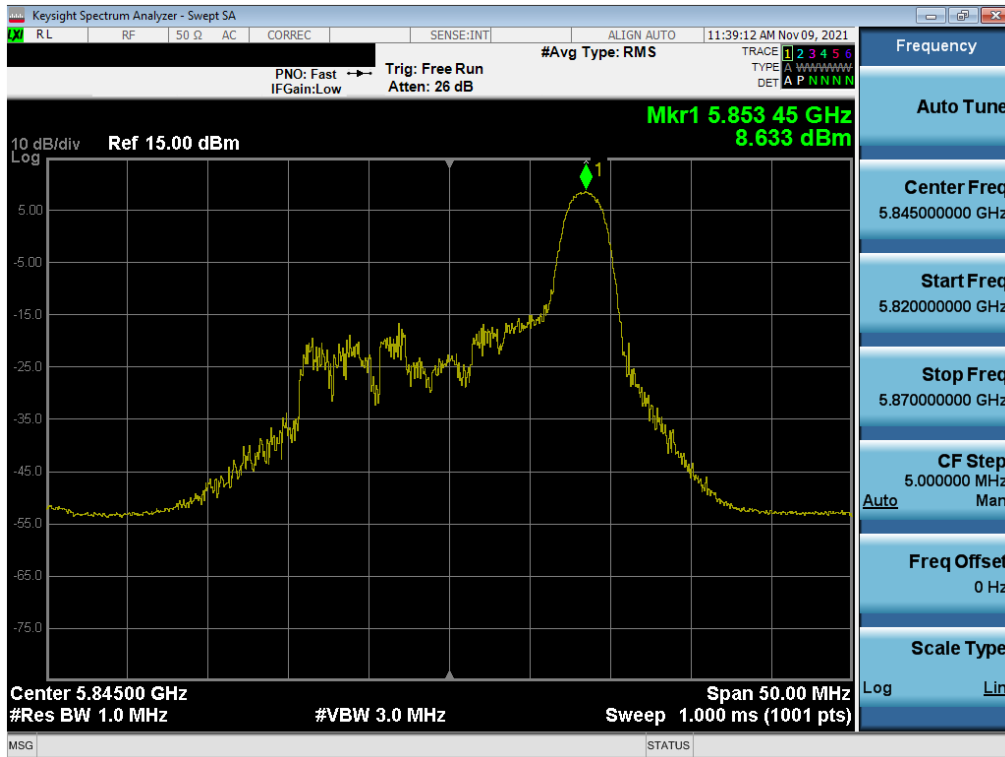


Plot 7-225. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)



FCC ID: A3LSMS901U	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 175 of 309

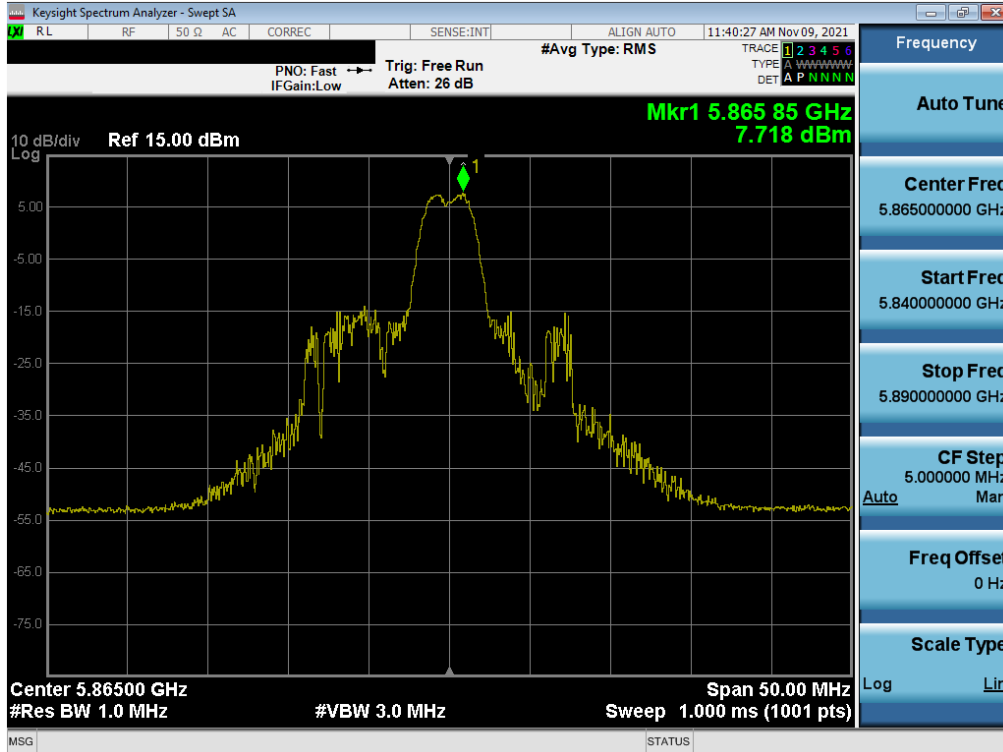
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm/MHz]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Antenna Gain [dBi]	EIRP Power Density [dBm/MHz]	Max EIRP Power Density [dBm/MHz]	Margin [dB]
Band 3/4	5845	169	ax (20MHz)	26T	MCS0	8.63	30.00	-21.37	-7.80	0.83	14.00	-13.17
Band 4	5865	173	ax (20MHz)	26T	MCS0	7.72			-7.80	-0.08	14.00	-14.08
	5885	177	ax (20MHz)	26T	MCS0	7.41			-7.80	-0.39	14.00	-14.39
Band 3/4	5835	167	ax (40MHz)	26T	MCS0	8.52	30.00	-21.48	-7.80	0.72	14.00	-13.28
Band 4	5875	175	ax (40MHz)	26T	MCS0	8.39			-7.80	0.59	14.00	-13.41
Band 3/4	5855	171	ax (80MHz)	26T	MCS0	8.31	30.00	-21.69	-7.80	0.51	14.00	-13.49

Table 7-70. Band 4 Conducted Power Spectral Density Measurements SISO ANT2 (26 Tones)

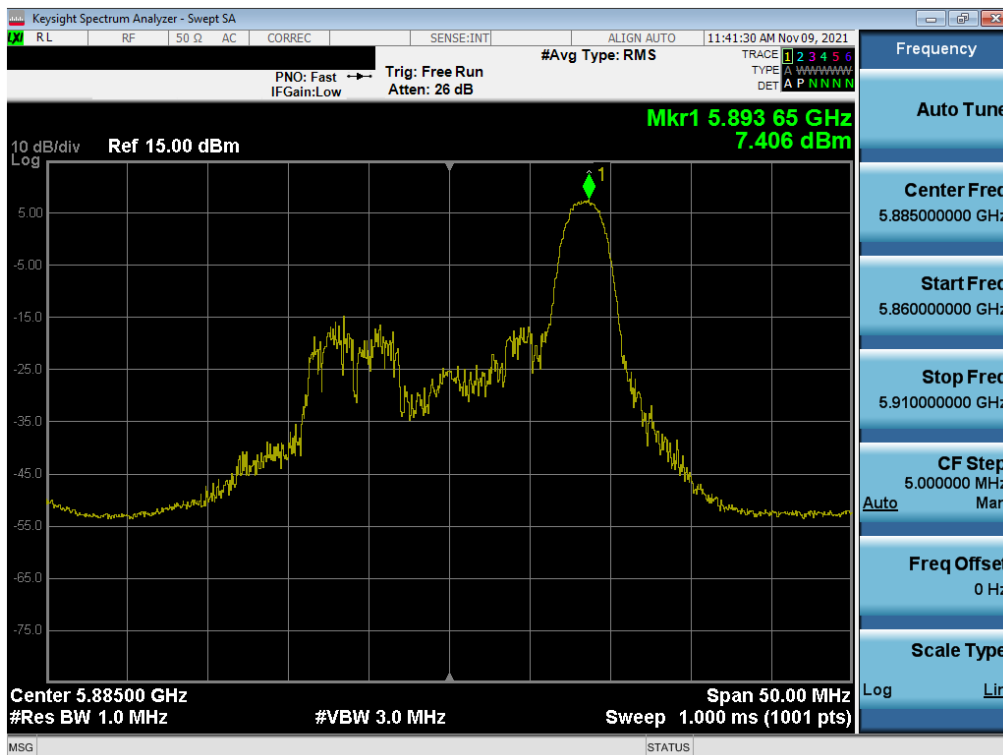


Plot 7-226. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 169)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 176 of 309

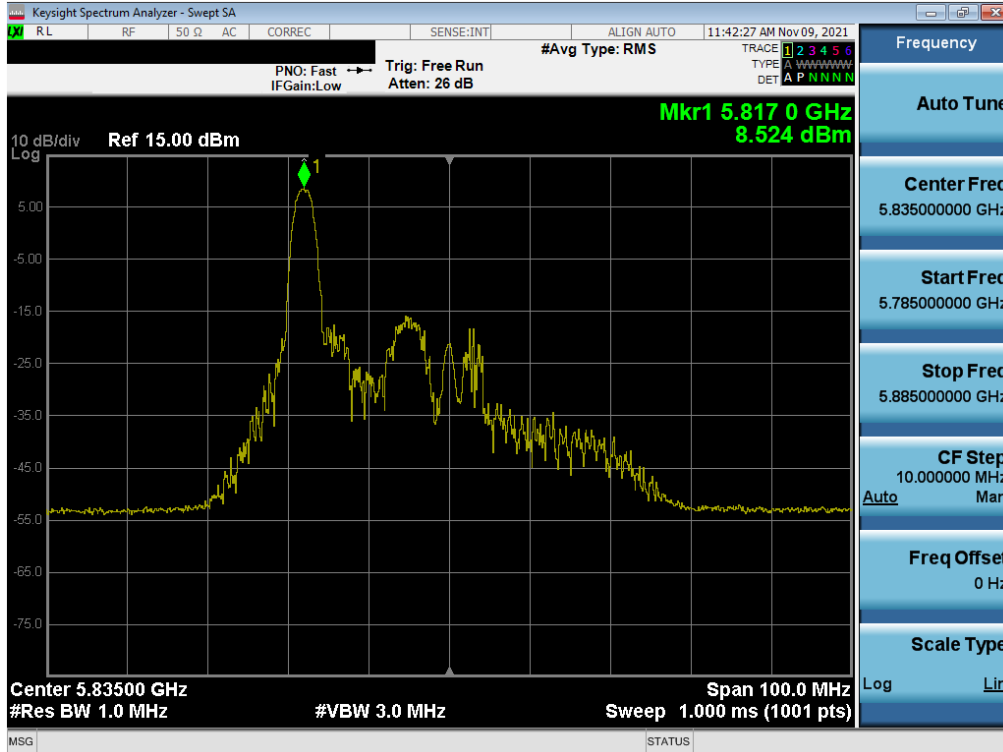


Plot 7-227. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 173)

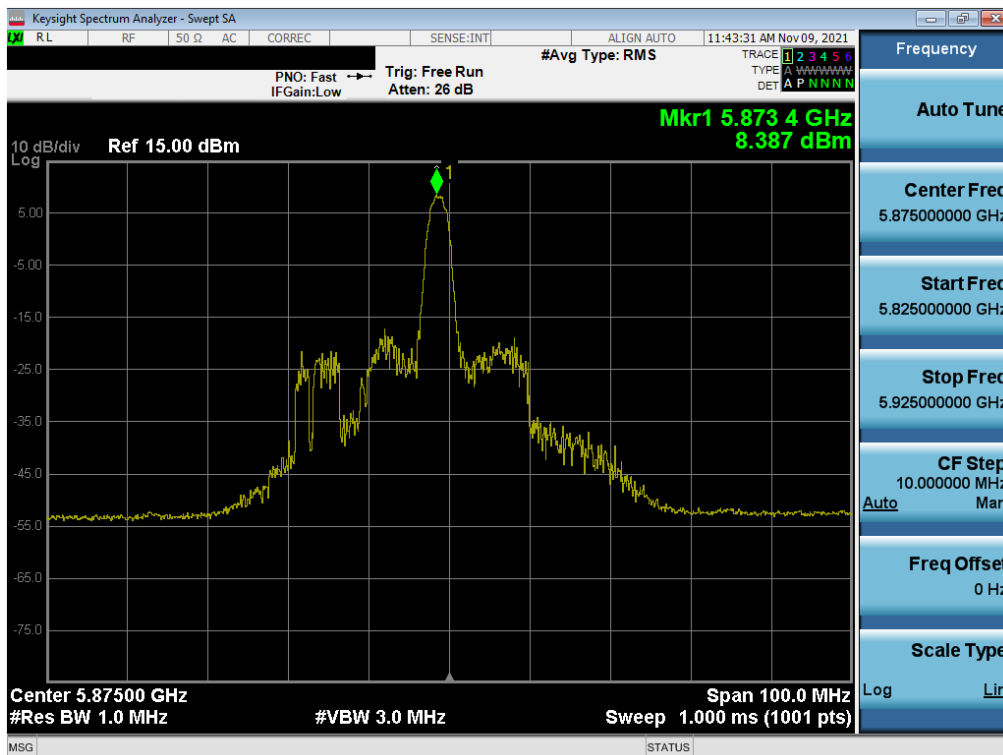


Plot 7-228. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 177)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 177 of 309

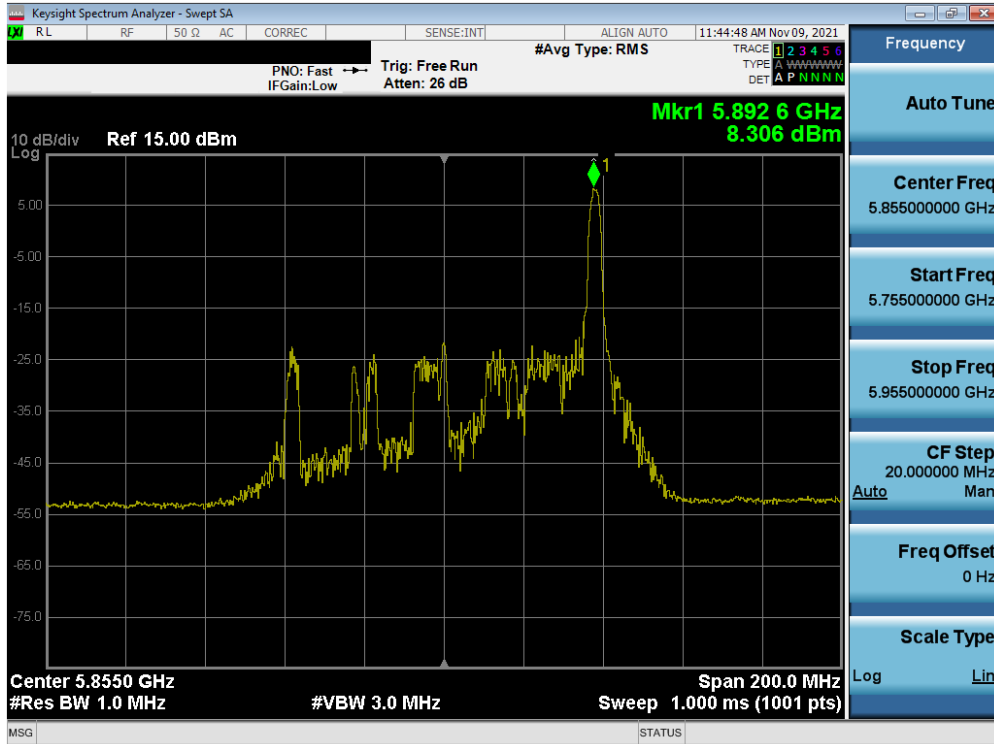


Plot 7-229. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 167)



Plot 7-230. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 175)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 178 of 309



Plot 7-231. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 171)

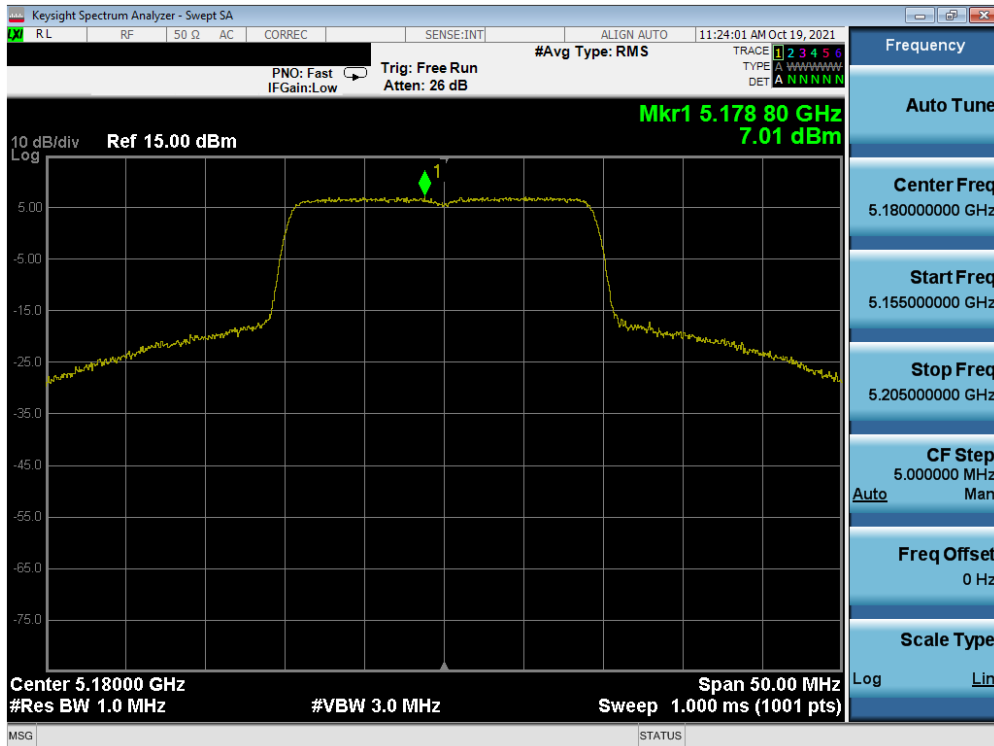
FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 179 of 309

SISO Antenna-2 Power Spectral Density Measurements (Full Tones)

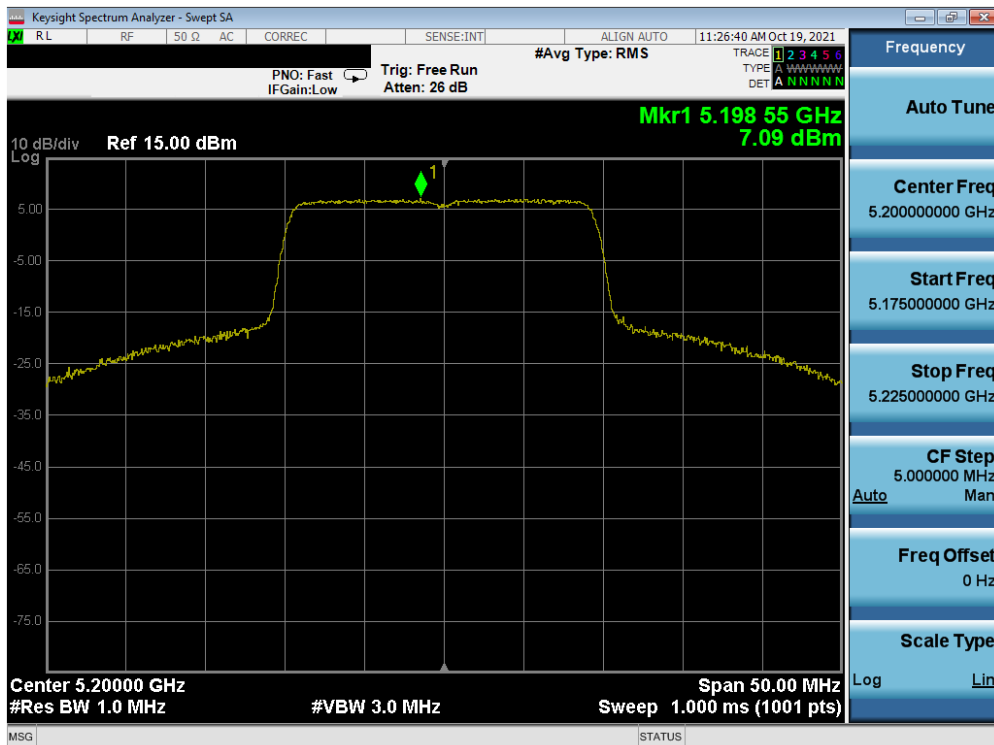
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	242T	MCS0	7.01	11.0	-3.99
	5200	40	ax (20MHz)	242T	MCS0	7.09	11.0	-3.91
	5240	48	ax (20MHz)	242T	MCS0	7.10	11.0	-3.90
	5190	38	ax (40MHz)	484T	MCS0	3.80	11.0	-7.20
	5230	46	ax (40MHz)	484T	MCS0	3.76	11.0	-7.24
	5210	42	ax (80MHz)	996T	MCS0	0.18	11.0	-10.82
Band 2A	5260	52	ax (20MHz)	242T	MCS0	6.87	11.0	-4.13
	5280	56	ax (20MHz)	242T	MCS0	6.77	11.0	-4.23
	5320	64	ax (20MHz)	242T	MCS0	6.26	11.0	-4.74
	5270	54	ax (40MHz)	484T	MCS0	3.49	11.0	-7.52
	5310	62	ax (40MHz)	484T	MCS0	3.13	11.0	-7.87
	5290	58	ax (80MHz)	996T	MCS0	-0.09	11.0	-11.09
Band 2C	5500	100	ax (20MHz)	242T	MCS0	6.17	11.0	-4.83
	5600	120	ax (20MHz)	242T	MCS0	6.54	11.0	-4.46
	5720	144	ax (20MHz)	242T	MCS0	6.47	11.0	-4.53
	5510	102	ax (40MHz)	484T	MCS0	2.95	11.0	-8.05
	5590	118	ax (40MHz)	484T	MCS0	3.60	11.0	-7.40
	5710	142	ax (40MHz)	484T	MCS0	3.29	11.0	-7.71
	5530	106	ax (80MHz)	996T	MCS0	0.17	11.0	-10.83
	5610	122	ax (80MHz)	996T	MCS0	-0.01	11.0	-11.01
	5690	138	ax (80MHz)	996T	MCS0	0.11	11.0	-10.89

Table 7-71. Conducted Power Spectral Density Measurements SISO ANT2 (Full Tones)

FCC ID: A3LSMS901U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 180 of 309

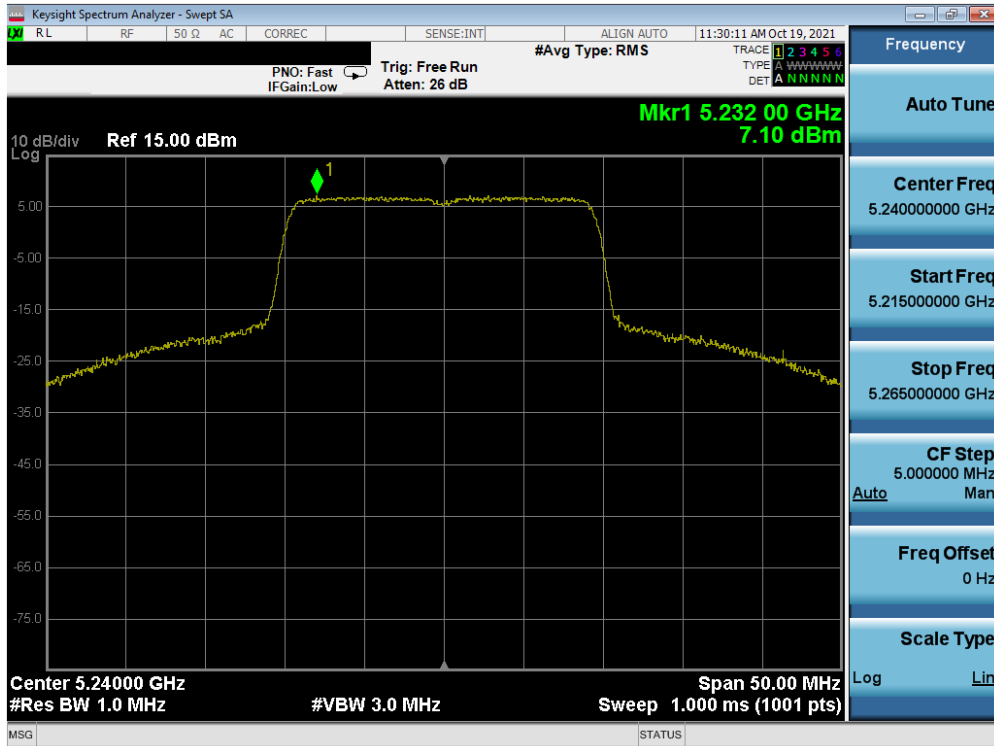


Plot 7-232. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 36)

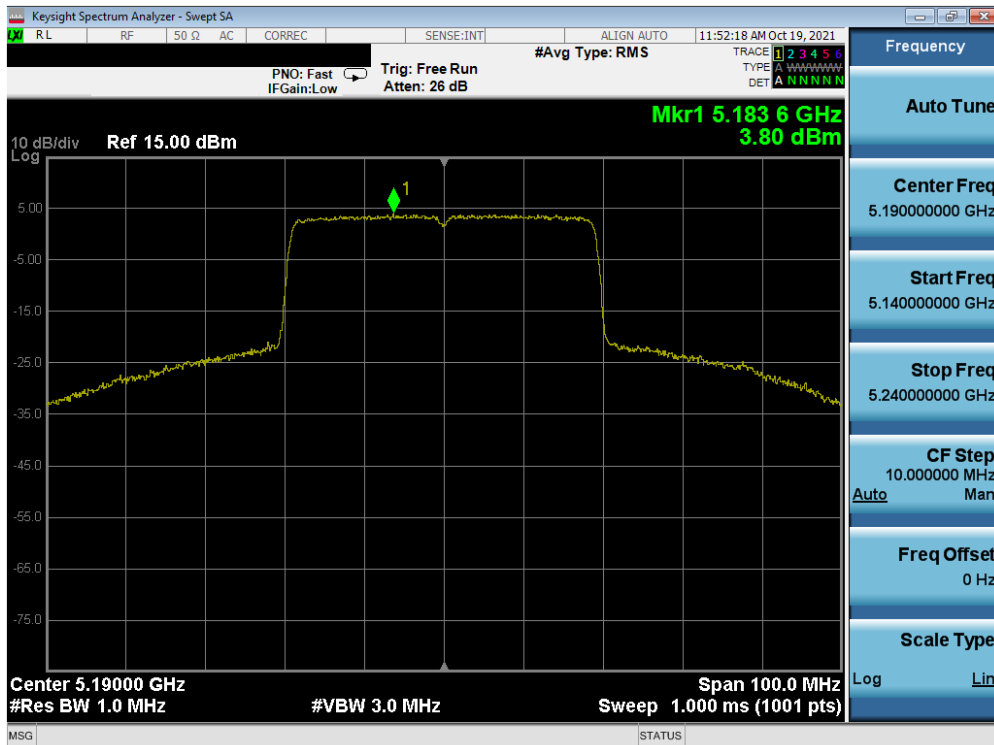


Plot 7-233. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 181 of 309

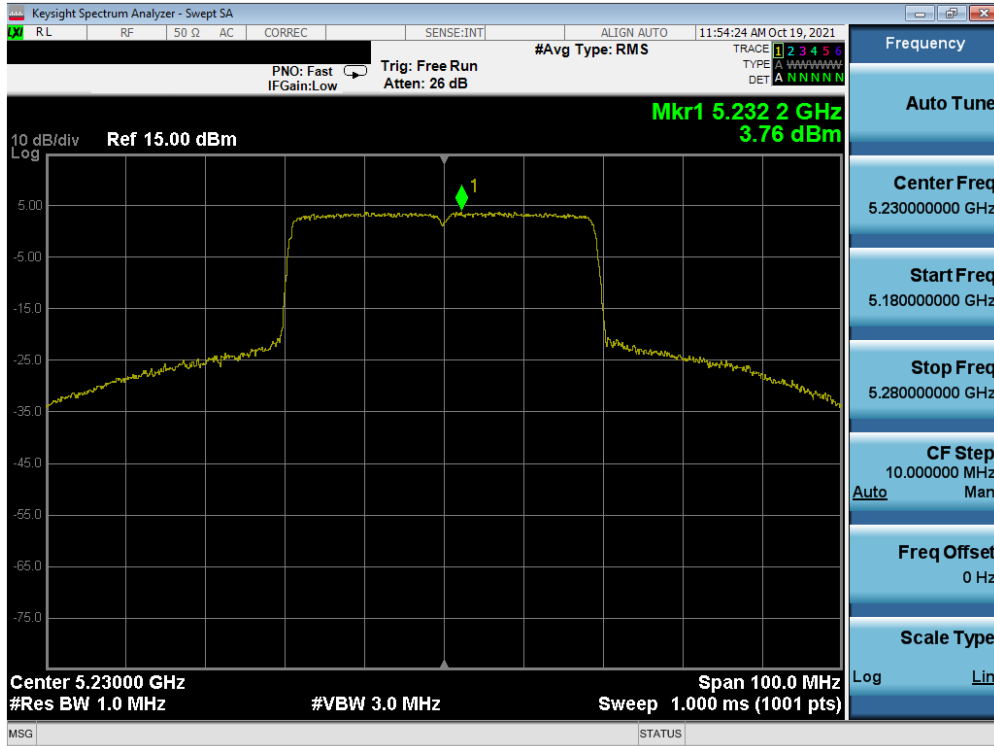


Plot 7-234. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 48)

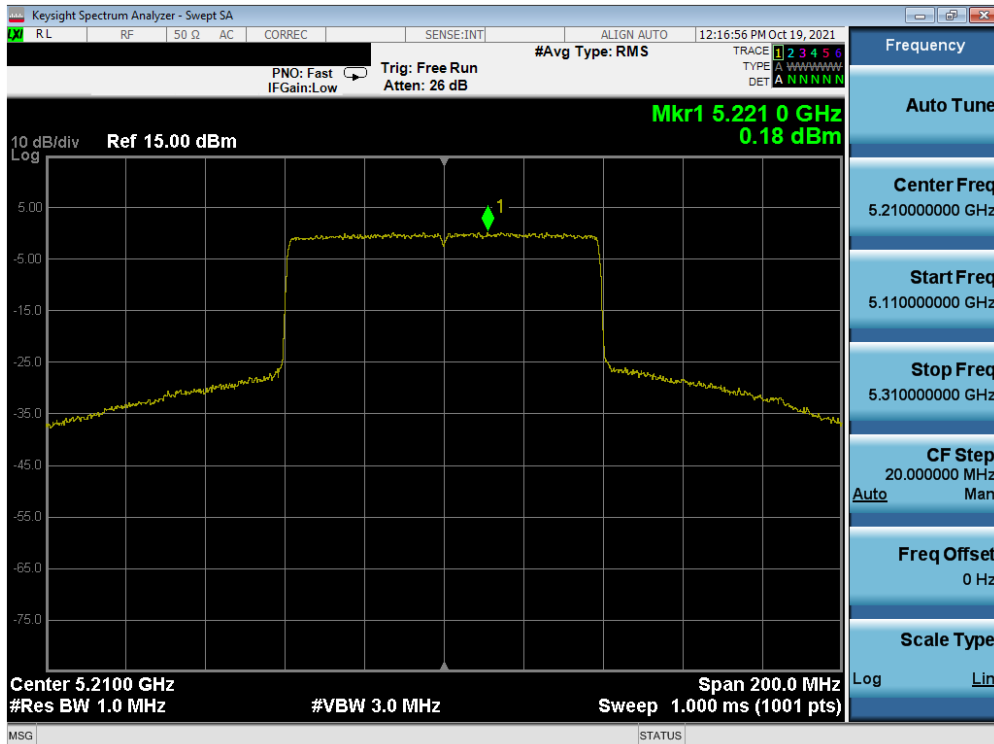


Plot 7-235. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 182 of 309

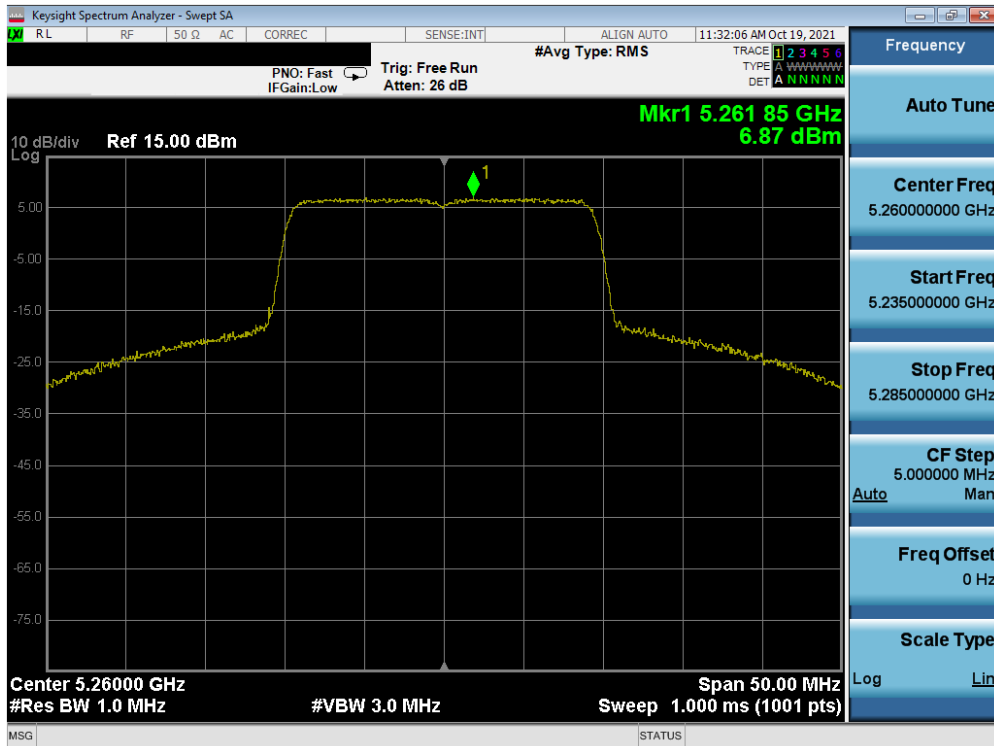


Plot 7-236. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 46)

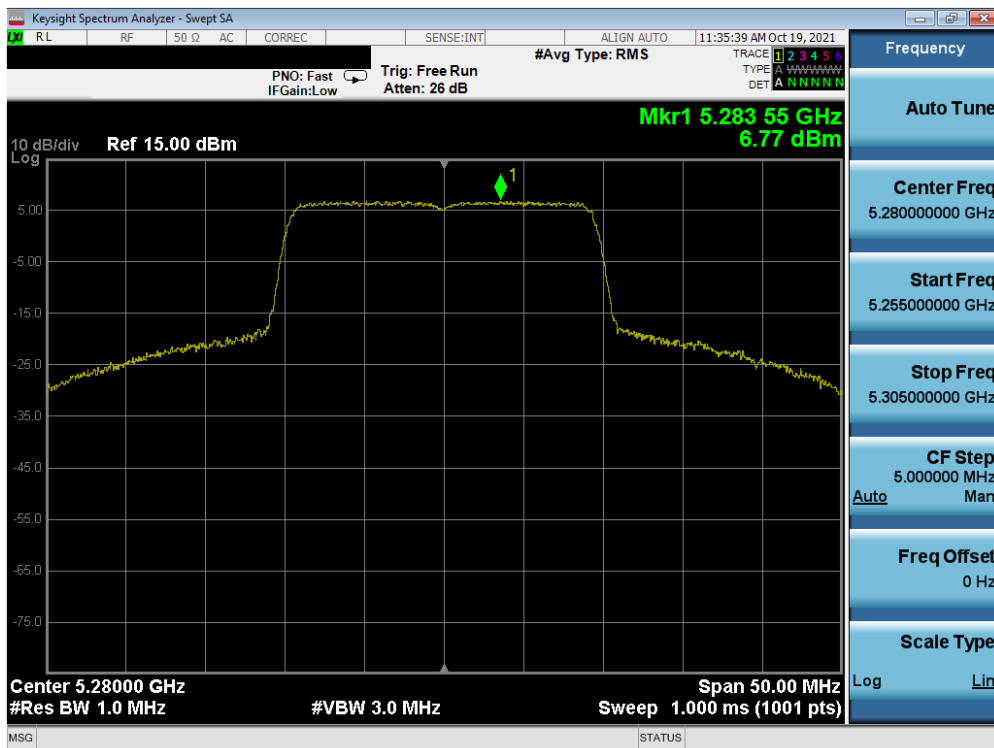


Plot 7-237. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMS901U	 Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 183 of 309

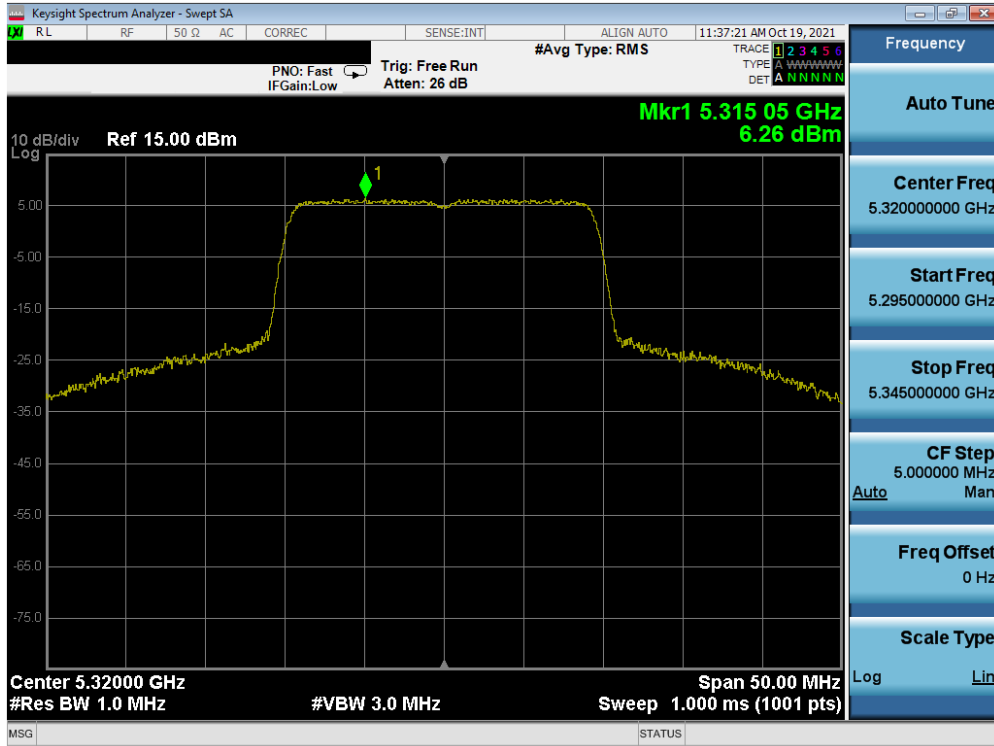


Plot 7-238. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)

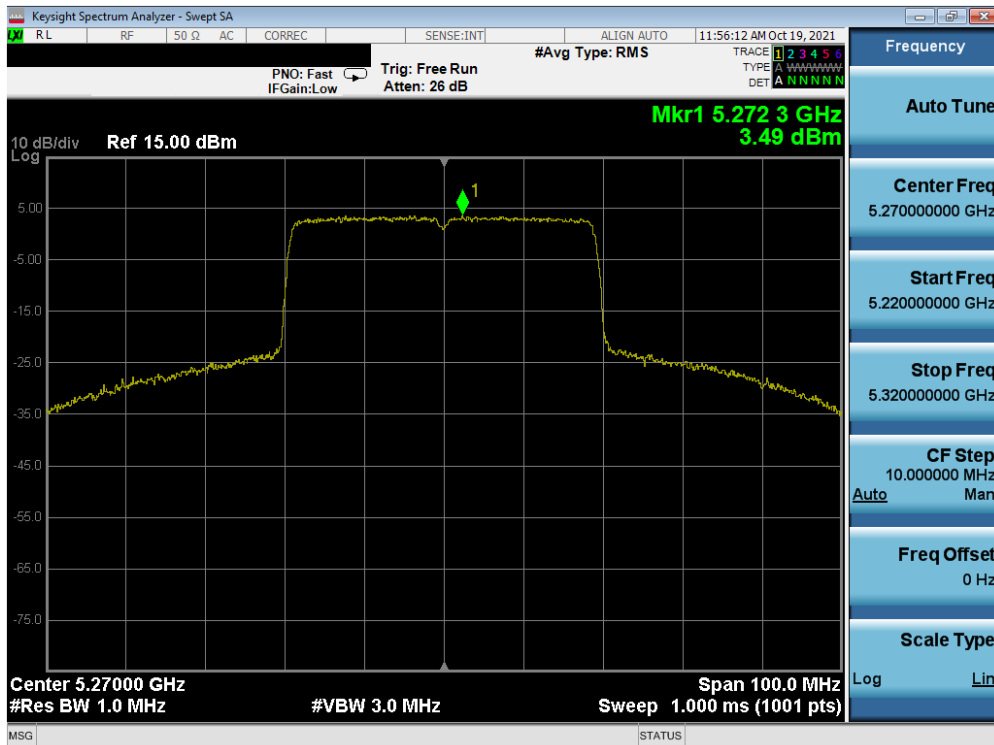


Plot 7-239. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 184 of 309

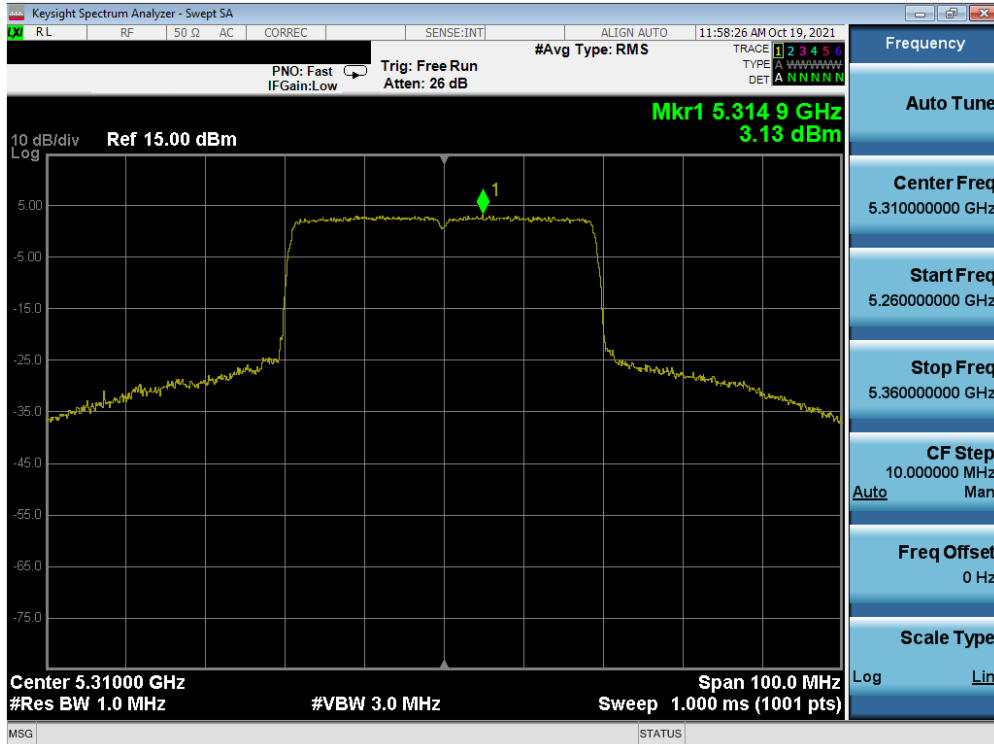


Plot 7-240. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)

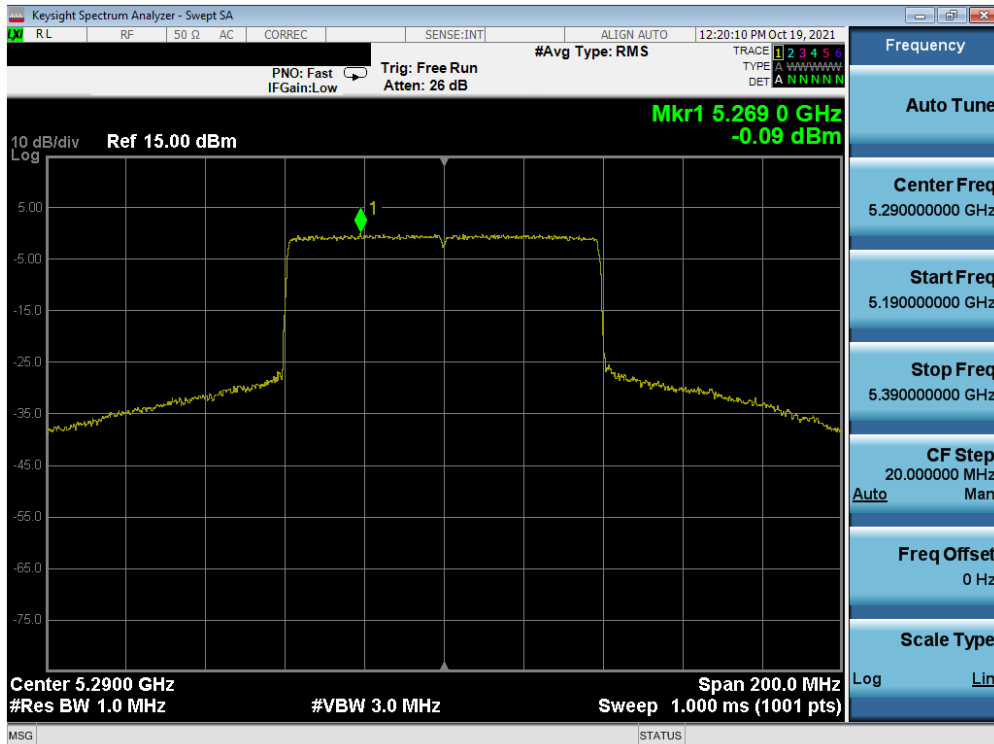


Plot 7-241. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 185 of 309

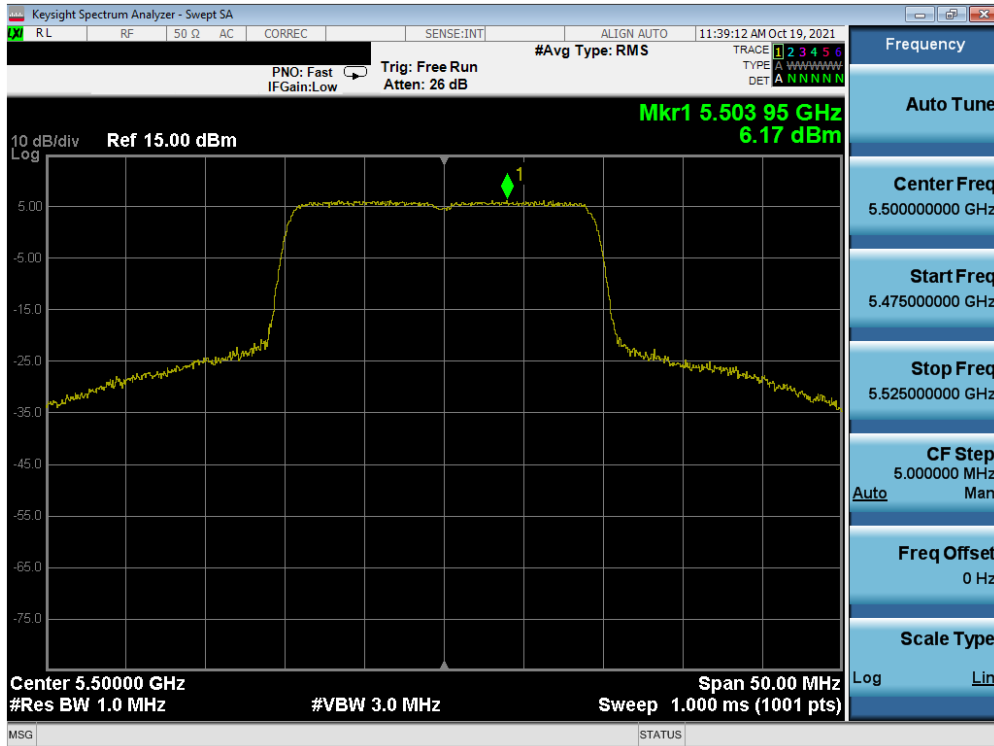


Plot 7-242. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 62)

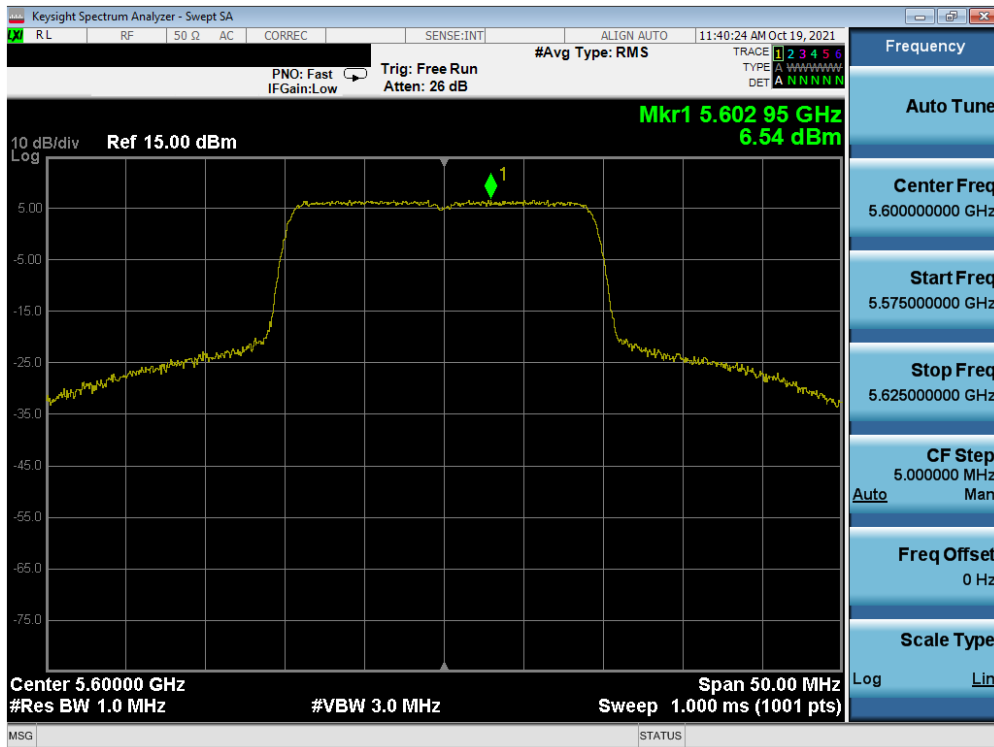


Plot 7-243. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 186 of 309

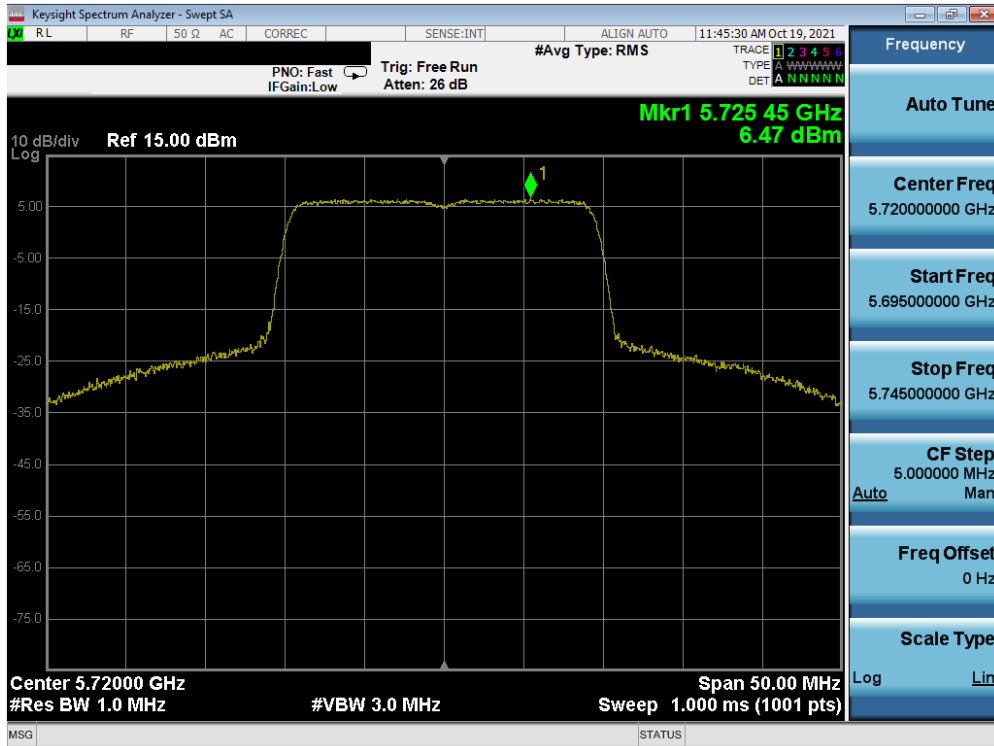


Plot 7-244. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 100)

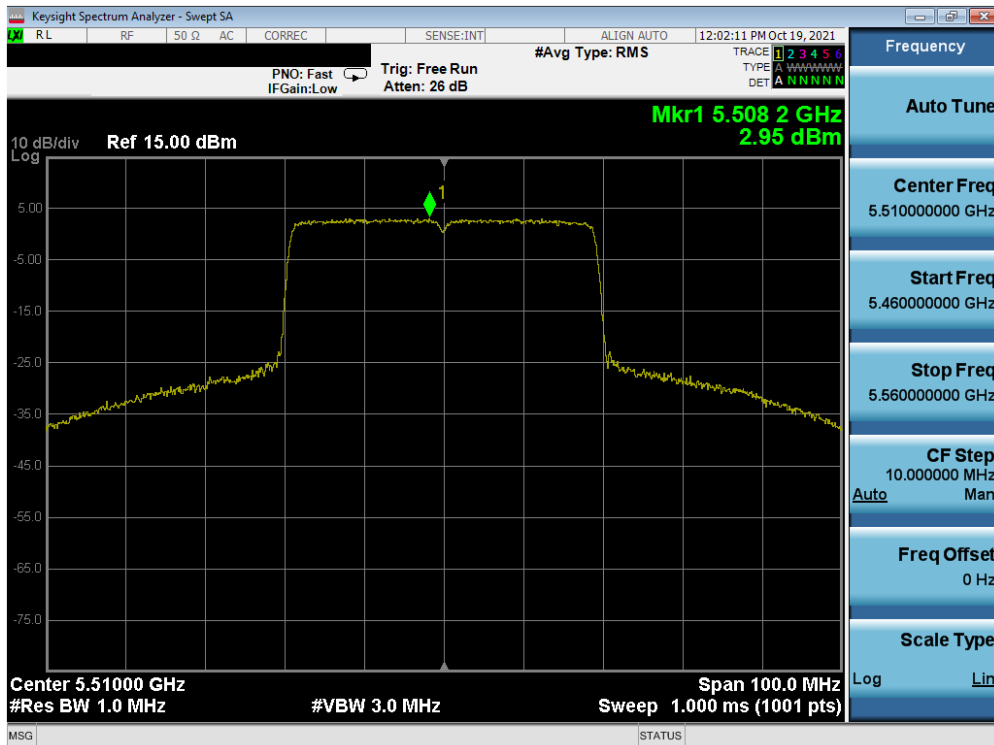


Plot 7-245. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 187 of 309

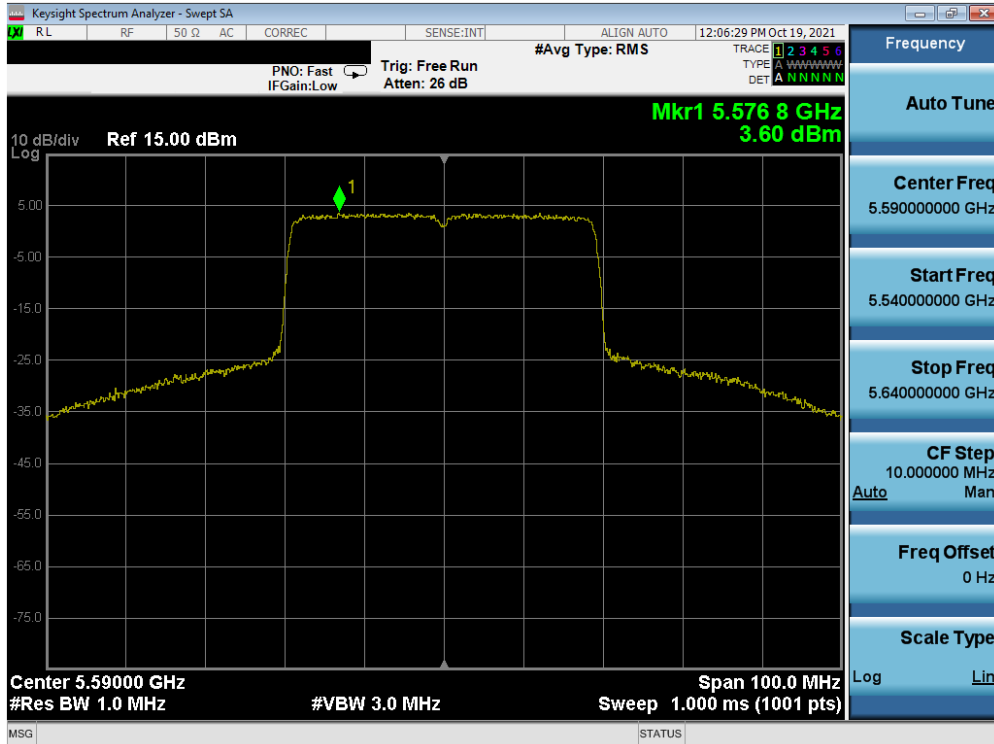


Plot 7-246. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 144)

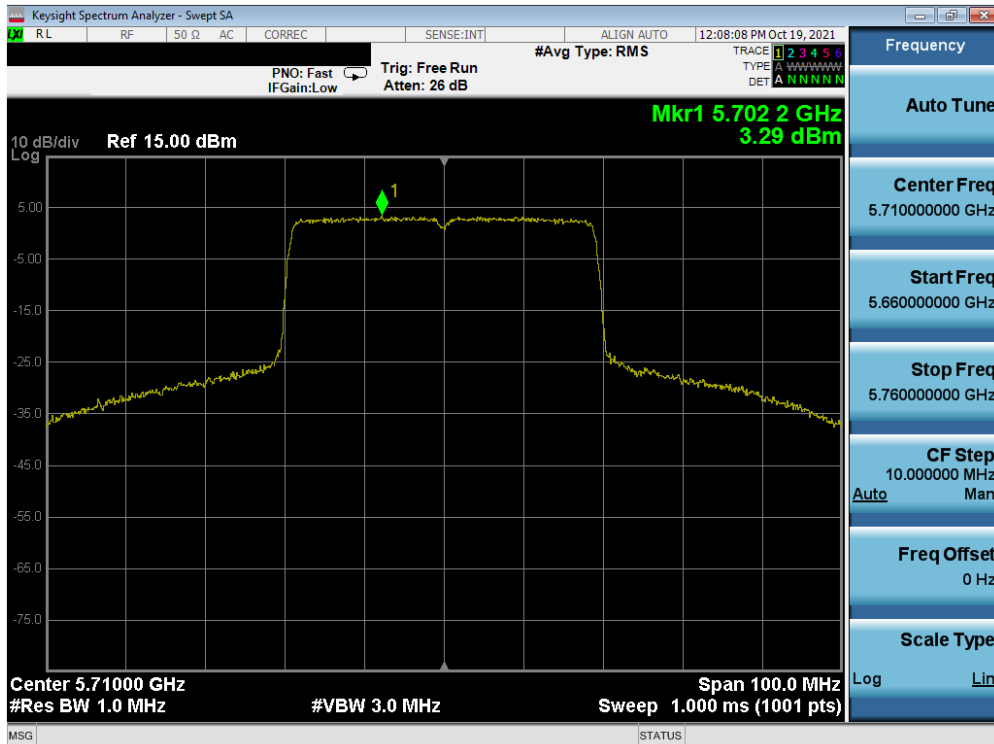


Plot 7-247. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 188 of 309

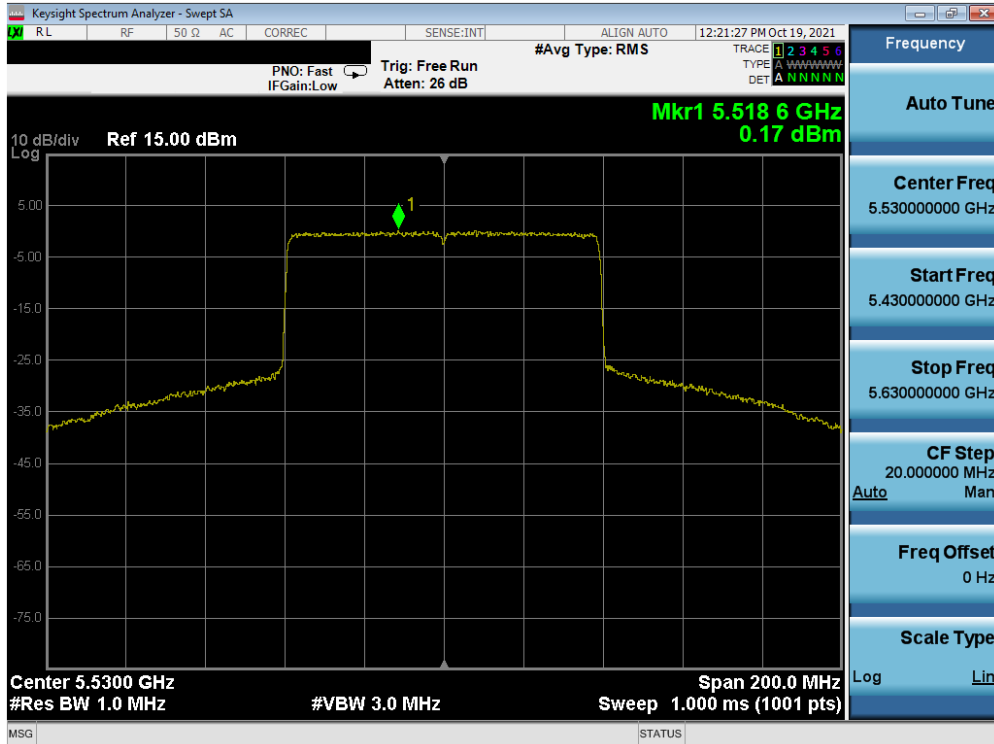


Plot 7-248. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)

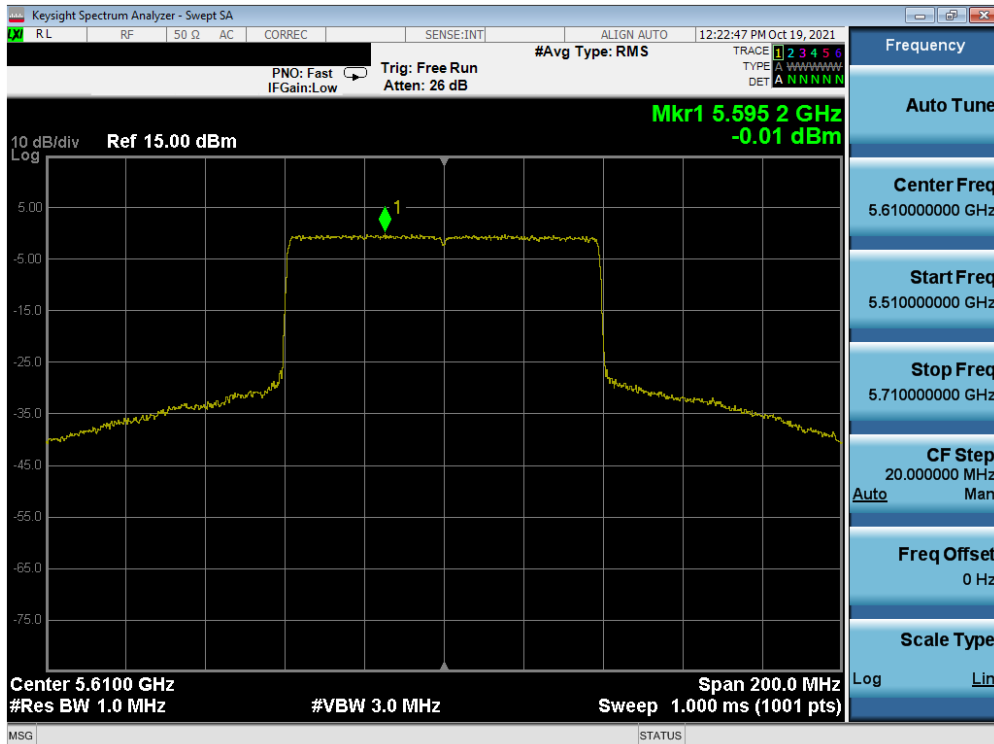


Plot 7-249. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 189 of 309



Plot 7-250. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 106)



Plot 7-251. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMS901U	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2109080099-12.A3L	Test Dates: 9/22/2021 - 11/9/2021	EUT Type: Portable Handset		Page 190 of 309