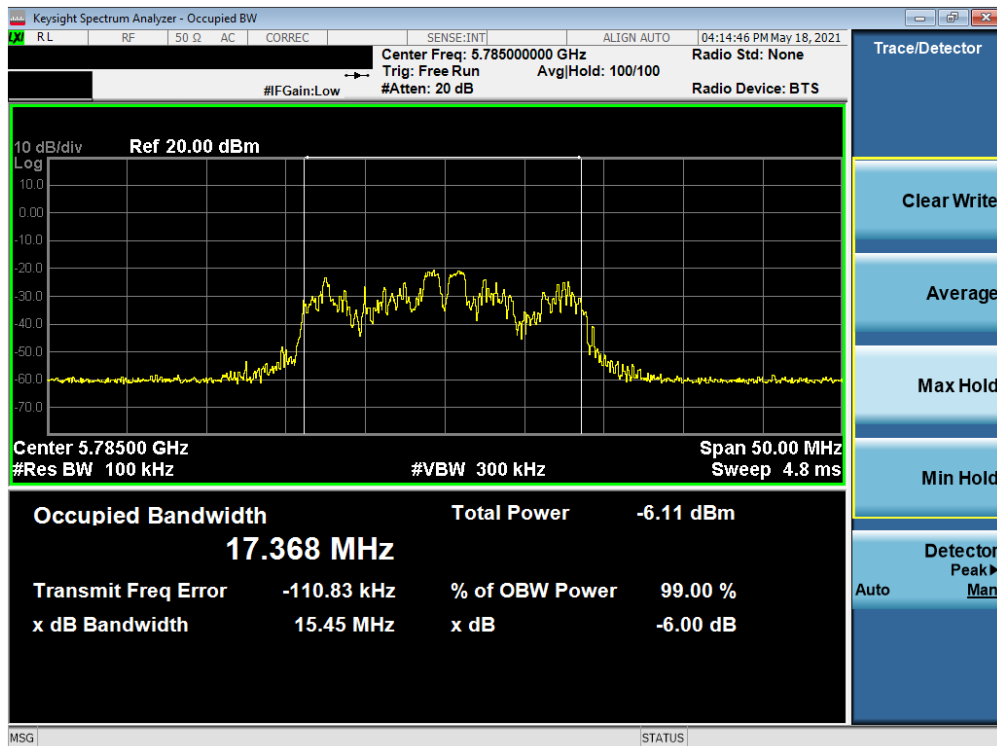


Plot 7-97. 6dB Bandwidth Plot MIMO (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

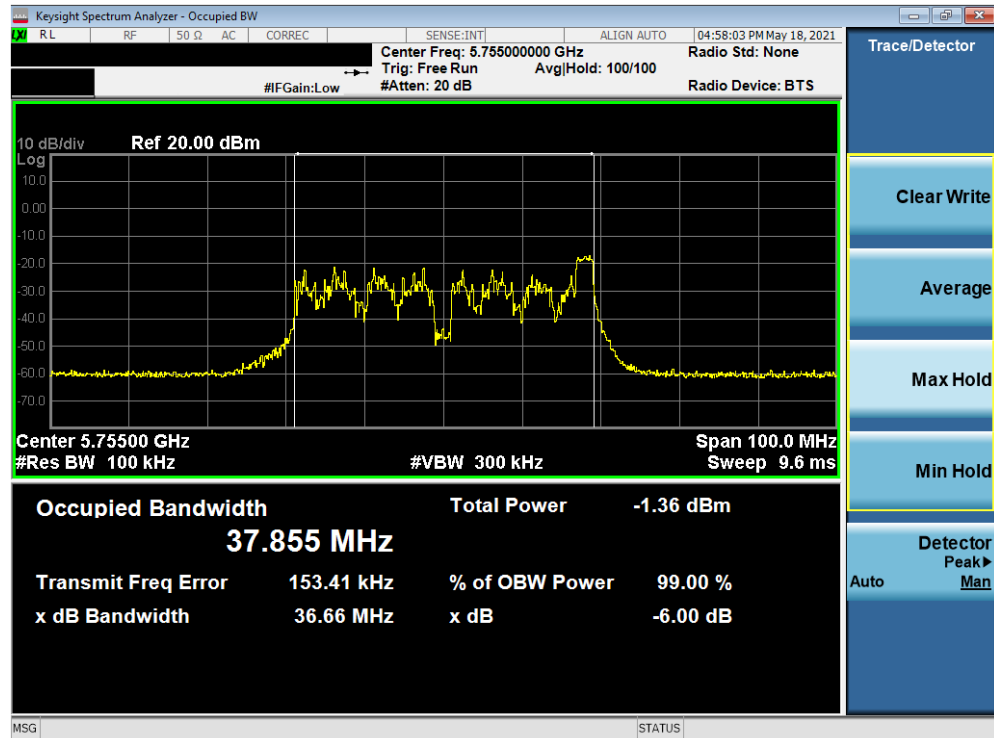


Plot 7-98. 6dB Bandwidth Plot MIMO (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 72 of 216

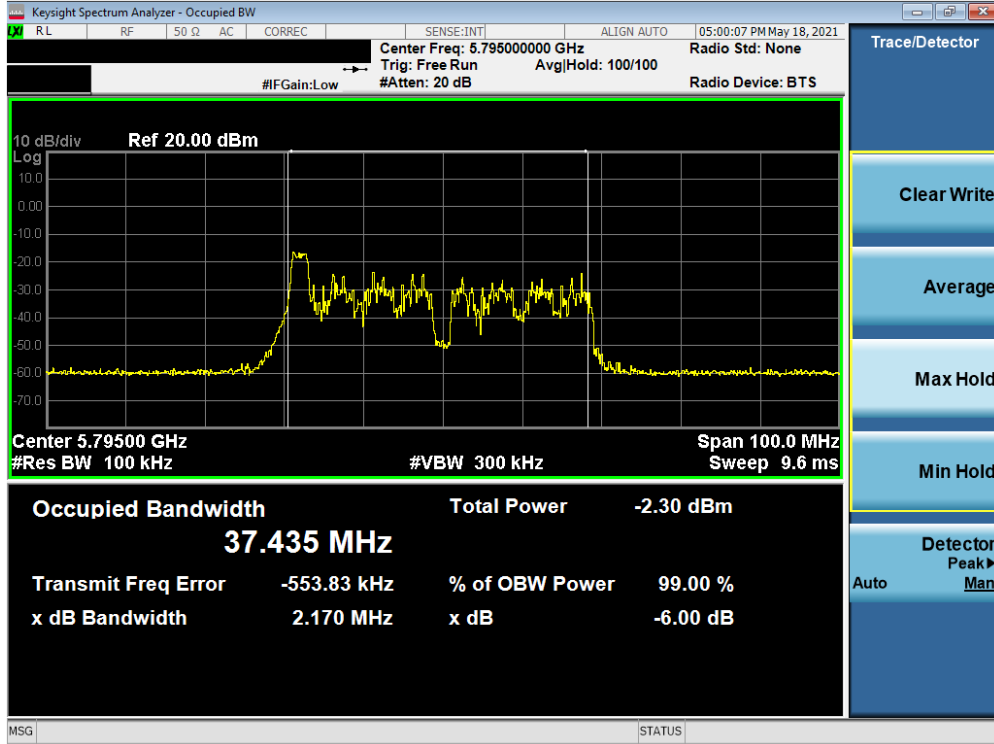


Plot 7-99. 6dB Bandwidth Plot MIMO (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

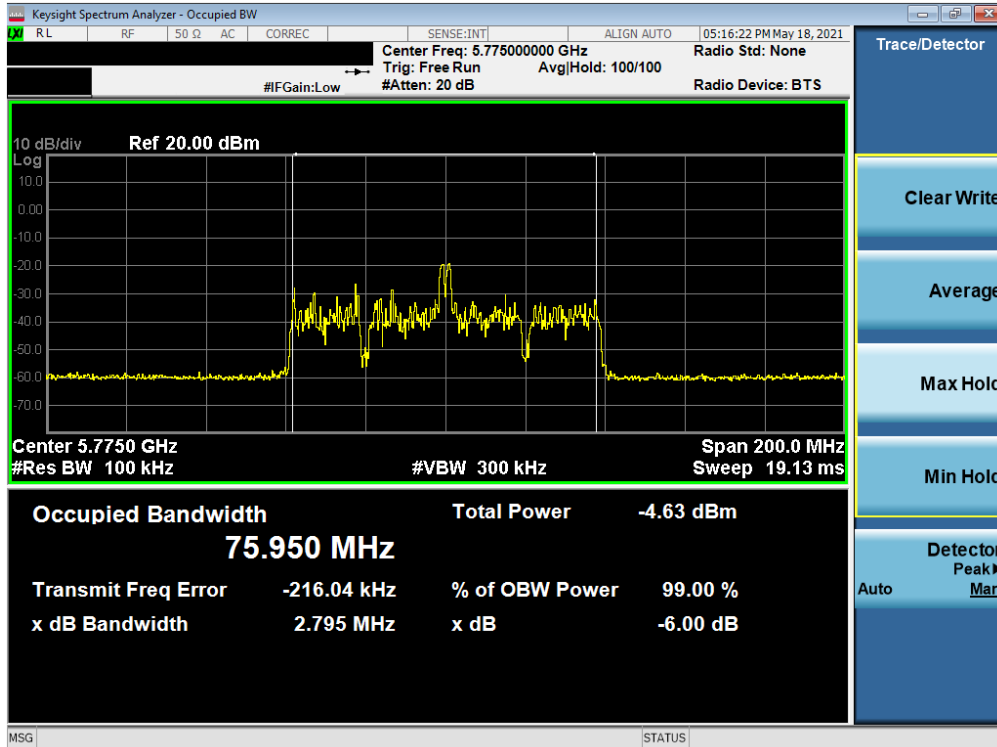


Plot 7-100. 6dB Bandwidth Plot MIMO (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 73 of 216



Plot 7-101. 6dB Bandwidth Plot MIMO (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)



Plot 7-102. 6dB Bandwidth Plot MIMO (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

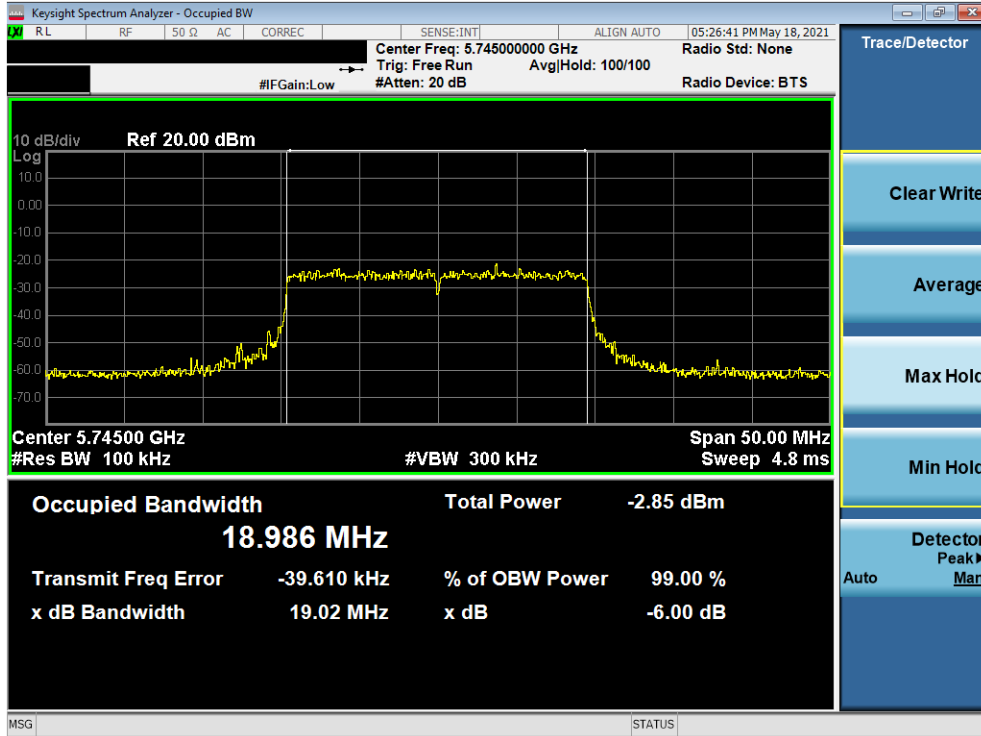
FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 74 of 216

### MIMO 6dB Bandwidth Measurements (Full Tones)

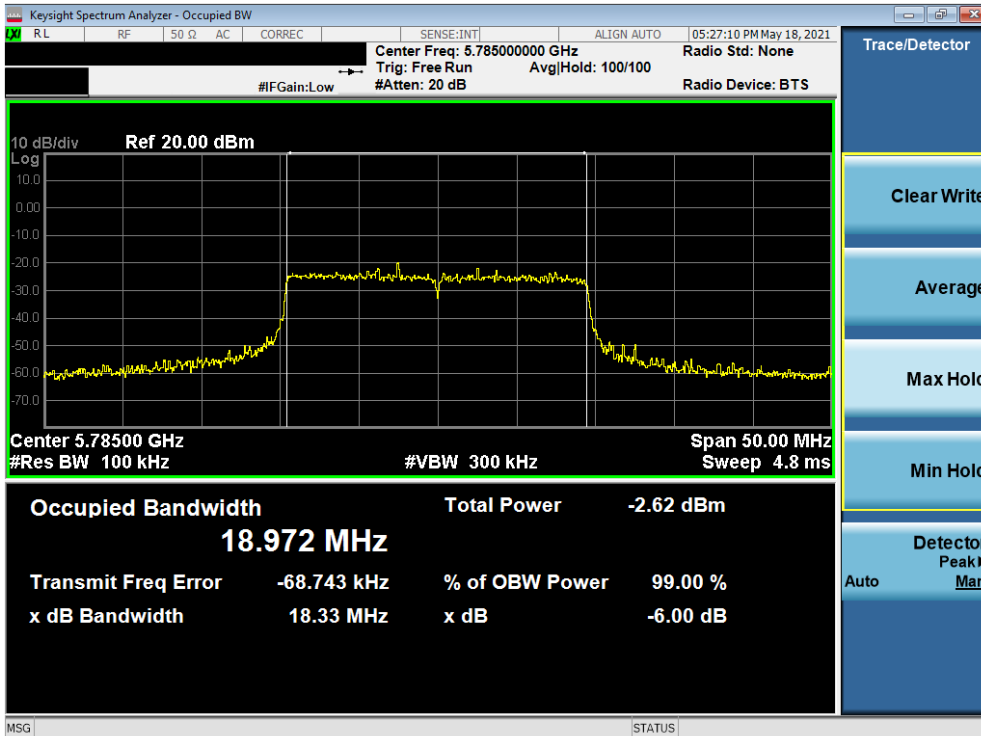
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
<b>Band 3</b>	5745	149	ax (20MHz)	MCS0	19.02
	5785	157	ax (20MHz)	MCS0	18.33
	5825	165	ax (20MHz)	MCS0	18.88
	5755	151	ax (40MHz)	MCS0	36.70
	5795	159	ax (40MHz)	MCS0	37.71
	5775	155	ax (80MHz)	MCS0	77.91

**Table 7-9. Conducted Bandwidth Measurements MIMO (Full Tones)**

FCC ID: A3LSMF711B1		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2108160097-10.A3L	<b>Test Dates:</b> 04/12/2021 – 06/04/2021	<b>EUT Type:</b> Portable Handset		Page 75 of 216

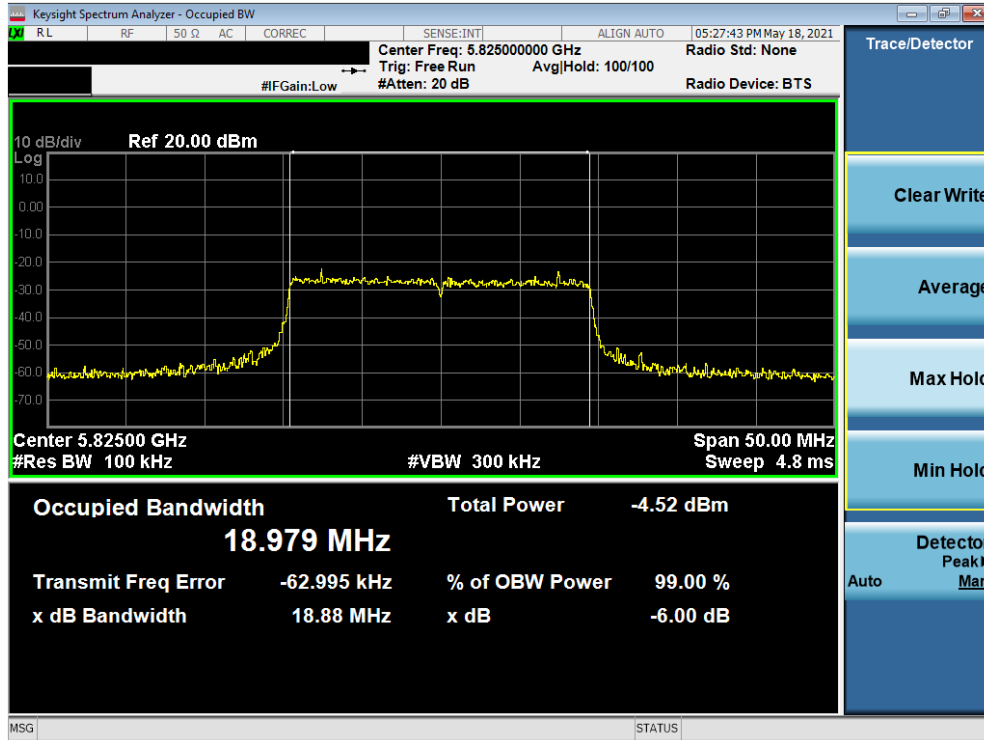


Plot 7-103. 6dB Bandwidth Plot MIMO (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 149)

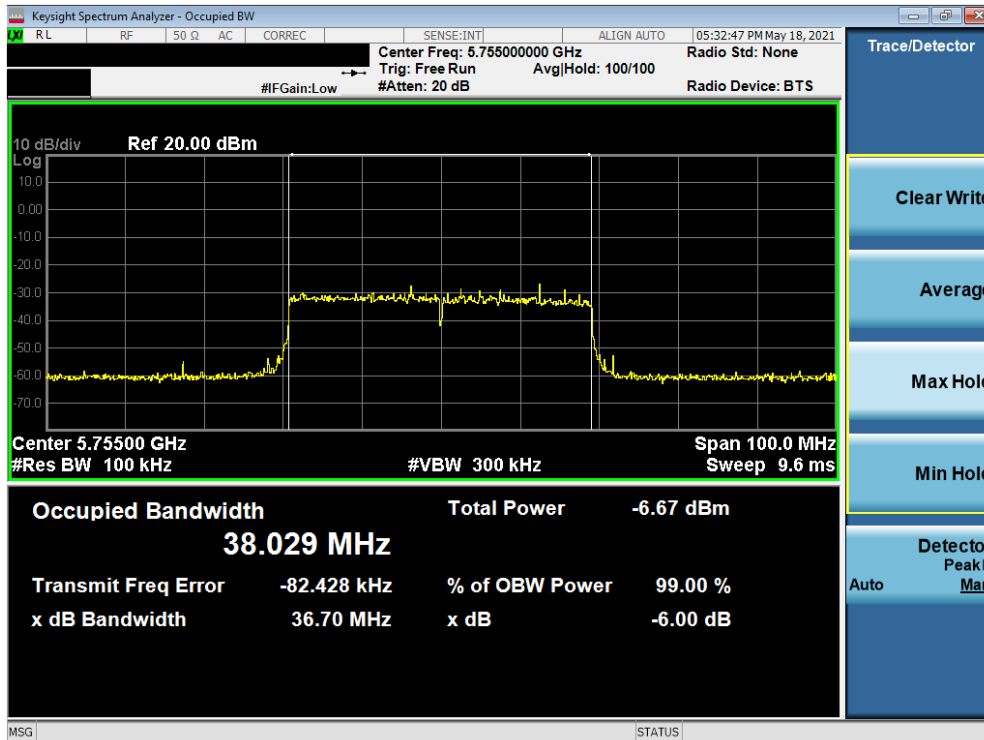


Plot 7-104. 6dB Bandwidth Plot MIMO (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 76 of 216

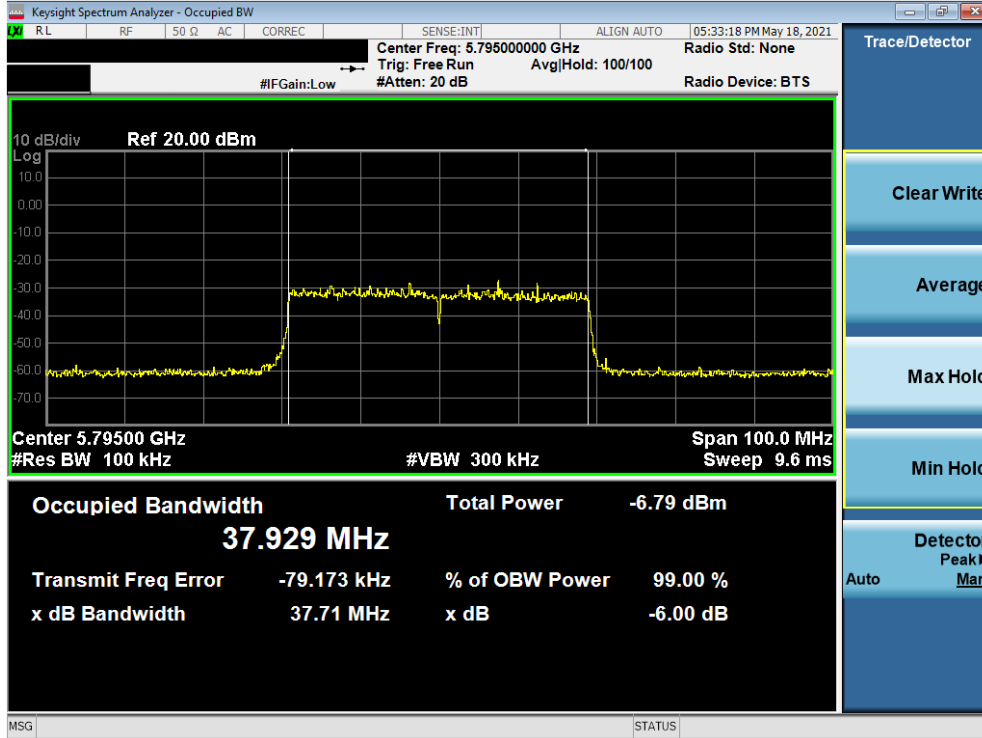


Plot 7-105. 6dB Bandwidth Plot MIMO (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 165)

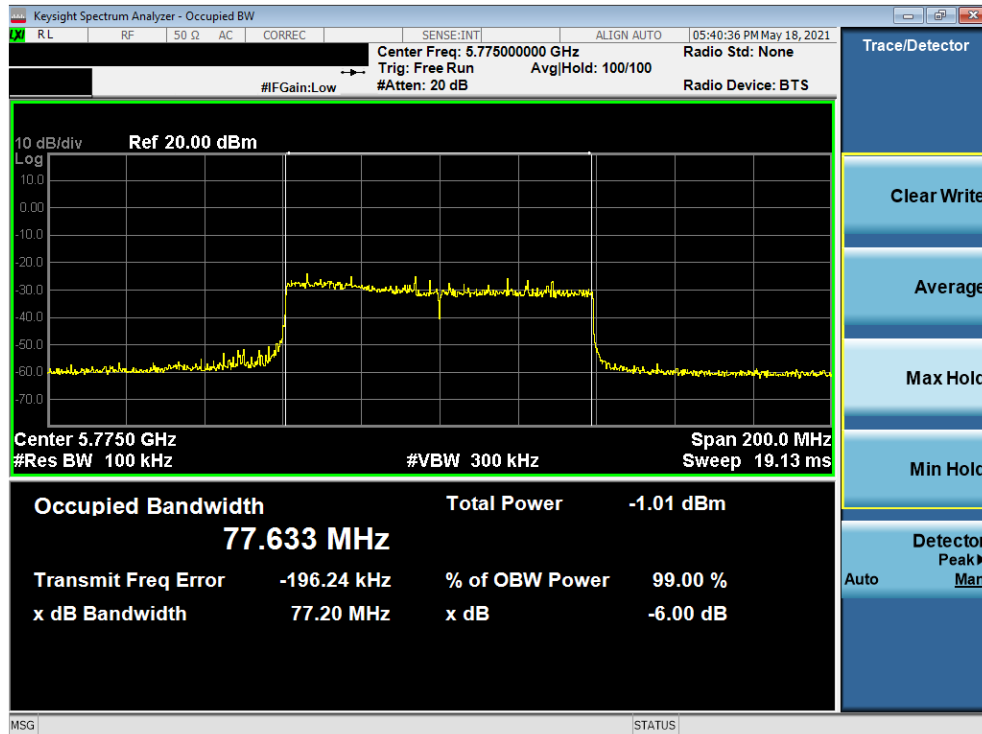


Plot 7-106. 6dB Bandwidth Plot MIMO (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 77 of 216



Plot 7-107. 6dB Bandwidth Plot MIMO (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 159)



Plot 7-108. 6dB Bandwidth Plot MIMO (80MHz BW 802.11ax – 996 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 78 of 216

## 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  $11 \text{ dBm} + 10\log_{10}(26\text{dB BW}) = 11 \text{ dBm} + 10\log_{10}(17.93) = 23.54\text{dBm}$ . 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  $11 \text{ dBm} + 10\log_{10}(26\text{dB BW}) = 11 \text{ dBm} + 10\log_{10}(17.98) = 23.55 \text{ dBm}$ . 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.***

### 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: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 79 of 216



## SISO ANT 1 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		
	5180	36	AVG	26T	10.34	10.39	10.33	23.98	-13.59
5200	40	AVG	26T	10.18	10.27	10.21	23.98	-13.71	
5240	48	AVG	26T	10.15	10.23	10.18	23.98	-13.75	
5260	52	AVG	26T	10.26	10.32	10.25	23.47	-13.15	
5280	56	AVG	26T	10.09	10.16	10.13	23.47	-13.31	
5320	64	AVG	26T	10.38	10.42	10.31	23.47	-13.05	
5500	100	AVG	26T	10.16	10.18	10.08	22.80	-12.62	
5600	120	AVG	26T	10.34	10.33	10.25	22.80	-12.46	
5720	144	AVG	26T	10.39	10.35	10.26	22.80	-12.41	
5745	149	AVG	26T	10.11	10.14	10.09	30.00	-19.86	
5785	157	AVG	26T	10.48	10.46	10.35	30.00	-19.52	
5825	165	AVG	26T	10.28	10.33	10.24	30.00	-19.67	

Table 7-10. 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	10.36	10.43	10.39	23.98	-13.55
5230	46	AVG	26T	10.44	10.08	10.48	23.98	-13.50	
5270	54	AVG	26T	10.45	10.12	10.43	23.47	-13.02	
5310	62	AVG	26T	10.11	10.49	10.48	23.47	-12.98	
5510	102	AVG	26T	10.05	10.41	10.47	22.80	-12.33	
5590	118	AVG	26T	10.41	9.98	10.49	22.80	-12.31	
5710	142	AVG	26T	10.18	10.48	10.45	22.80	-12.32	
5755	151	AVG	26T	10.28	10.49	10.48	30.00	-19.51	
5795	159	AVG	26T	10.47	10.26	10.41	30.00	-19.53	

Table 7-11. 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	10.49	10.45	10.32	23.98	-13.49
5290	58	AVG	26T	10.48	10.47	10.31	23.47	-12.99	
5530	106	AVG	26T	10.43	10.48	10.34	22.80	-12.32	
5610	122	AVG	26T	10.46	10.49	10.31	22.80	-12.31	
5690	138	AVG	26T	10.15	10.48	10.08	22.80	-12.32	
5775	155	AVG	26T	10.23	10.45	10.43	30.00	-19.55	

Table 7-12. 80MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 80 of 216

### SISO ANT 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		
5200	40	AVG	52T	10.83	10.92	10.85	23.98	-13.06	
5240	48	AVG	52T	10.91	10.98	10.93	23.98	-13.00	
5260	52	AVG	52T	10.31	10.39	10.33	23.47	-13.08	
5280	56	AVG	52T	10.83	10.88	10.81	23.47	-12.59	
5320	64	AVG	52T	10.97	10.97	10.94	23.47	-12.50	
5500	100	AVG	52T	10.89	10.87	10.79	22.80	-11.91	
5600	120	AVG	52T	10.96	10.97	10.89	22.80	-11.83	
5720	144	AVG	52T	10.93	10.94	10.85	22.80	-11.86	
5745	149	AVG	52T	10.82	10.81	10.74	30.00	-19.18	
5785	157	AVG	52T	10.98	10.99	10.97	30.00	-19.01	
5825	165	AVG	52T	10.73	10.62	10.67	30.00	-19.27	

Table 7-13. 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		
5230	46	AVG	52T	10.45	10.92	10.66	23.98	-13.06	
5270	54	AVG	52T	10.51	10.93	10.65	23.47	-12.54	
5310	62	AVG	52T	10.69	10.98	10.78	23.47	-12.49	
5510	102	AVG	52T	10.68	10.99	10.98	22.80	-11.81	
5590	118	AVG	52T	10.76	10.98	10.97	22.80	-11.82	
5710	142	AVG	52T	10.95	10.79	10.93	22.80	-11.85	
5755	151	AVG	52T	10.98	10.82	10.96	30.00	-19.02	
5795	159	AVG	52T	10.61	10.87	10.95	30.00	-19.05	

Table 7-14. 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		
5290	58	AVG	52T	10.65	10.98	10.89	23.47	-12.49	
5530	106	AVG	52T	10.83	10.97	10.98	22.80	-11.82	
5610	122	AVG	52T	10.93	10.98	10.73	22.80	-11.82	
5690	138	AVG	52T	10.86	10.55	10.78	22.80	-11.94	
5775	155	AVG	52T	10.94	10.98	10.67	30.00	-19.02	

Table 7-15. 80MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 81 of 216

## SISO ANT 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	14.43	14.45	23.98	-9.53
	5200	40	AVG	106T	14.36	14.35	23.98	-9.62
	5240	48	AVG	106T	14.39	14.41	23.98	-9.57
	5260	52	AVG	106T	14.48	14.49	23.47	-8.98
	5280	56	AVG	106T	13.89	13.92	23.47	-9.55
	5320	64	AVG	106T	13.81	13.83	23.47	-9.64
	5500	100	AVG	106T	13.88	13.84	22.80	-8.92
	5600	120	AVG	106T	13.71	13.66	22.80	-9.09
5720	144	AVG	106T	14.48	14.39	22.80	-8.32	
5745	149	AVG	106T	13.76	13.73	30.00	-16.24	
5785	157	AVG	106T	14.21	14.15	30.00	-15.79	
5825	165	AVG	106T	14.23	14.17	30.00	-15.77	

Table 7-16. 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	14.33	14.48	14.47	23.98	-9.50
	5230	46	AVG	106T	14.49	14.11	14.05	23.98	-9.49
	5270	54	AVG	106T	14.45	14.12	14.08	23.47	-9.02
	5310	62	AVG	106T	14.48	14.26	14.18	23.47	-8.99
	5510	102	AVG	106T	14.27	14.43	14.21	22.80	-8.37
	5590	118	AVG	106T	14.41	14.49	14.22	22.80	-8.31
	5710	142	AVG	106T	14.46	14.48	14.44	22.80	-8.32
	5755	151	AVG	106T	14.32	14.47	14.25	30.00	-15.53
5795	159	AVG	106T	13.81	13.93	14.48	30.00	-15.52	

Table 7-17. 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	14.23	14.15	14.16	23.98	-9.75
	5290	58	AVG	106T	14.29	13.95	14.48	23.47	-8.99
	5530	106	AVG	106T	14.47	14.49	14.48	22.80	-8.31
	5610	122	AVG	106T	14.24	14.21	14.49	22.80	-8.31
5690	138	AVG	106T	14.22	14.43	14.11	22.80	-8.37	
5775	155	AVG	106T	14.47	14.48	14.17	30.00	-15.52	

Table 7-18. 80MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 82 of 216

## SISO ANT 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	14.87	23.98	-9.11	
	5200	40	AVG	242T	14.96	23.98	-9.02	
	5240	48	AVG	242T	14.93	23.98	-9.05	
	5260	52	AVG	242T	14.73	23.47	-8.74	
	5280	56	AVG	242T	14.92	23.47	-8.55	
	5320	64	AVG	242T	14.94	23.47	-8.53	
	5500	100	AVG	242T	14.98	22.80	-7.82	
	5600	120	AVG	242T	14.83	22.80	-7.97	
5720	144	AVG	242T	14.99	22.80	-7.81		
5745	149	AVG	242T	14.82	30.00	-15.18		
5785	157	AVG	242T	14.98	30.00	-15.02		
5825	165	AVG	242T	14.89	30.00	-15.11		

Table 7-19. 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	13.36	13.40	23.98	-10.58	
	5230	46	AVG	242T	14.98	14.76	23.98	-9.00	
	5270	54	AVG	242T	14.97	14.99	23.47	-8.48	
	5310	62	AVG	242T	12.60	12.66	23.47	-10.81	
	5510	102	AVG	242T	12.98	12.74	22.80	-9.82	
	5590	118	AVG	242T	14.97	14.94	22.80	-7.83	
	5710	142	AVG	242T	14.99	14.98	22.80	-7.81	
	5755	151	AVG	242T	14.89	14.84	30.00	-15.11	
5795	159	AVG	242T	14.65	14.53	30.00	-15.35		

Table 7-20. 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	12.82	12.97	12.67	23.98	-11.01	
	5290	58	AVG	242T	11.33	11.46	10.98	23.47	-12.01	
	5530	106	AVG	242T	11.09	11.24	11.15	22.80	-11.56	
	5610	122	AVG	242T	14.91	14.86	14.69	22.80	-7.89	
5690	138	AVG	242T	14.82	14.94	14.73	22.80	-7.86		
5775	155	AVG	242T	14.45	14.48	14.85	30.00	-15.15		

Table 7-21. 80MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 83 of 216	

### SISO ANT 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	13.21	23.98	-10.77	
	5230	46	AVG	484T	14.73	23.98	-9.25	
	5270	54	AVG	484T	14.98	23.47	-8.49	
	5310	62	AVG	484T	12.69	23.47	-10.78	
	5510	102	AVG	484T	12.64	22.80	-10.16	
	5590	118	AVG	484T	14.97	22.80	-7.83	
	5710	142	AVG	484T	14.48	22.80	-8.32	
	5755	151	AVG	484T	14.87	30.00	-15.13	
5795	159	AVG	484T	14.57	30.00	-15.43		

Table 7-22. 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	12.85	12.65	23.98	-11.13	
5290	58	AVG	484T	11.39	10.96	23.47	-12.08		
5530	106	AVG	484T	11.22	11.28	22.80	-11.52		
5610	122	AVG	484T	14.84	14.72	22.80	-7.96		
5690	138	AVG	484T	14.83	14.77	22.80	-7.97		
5775	155	AVG	484T	14.98	14.91	30.00	-15.02		

Table 7-23. 80MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 84 of 216	

### SISO ANT 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	12.78	23.98	-11.20
	5290	58	AVG	996T	11.47	23.47	-12.00
	5530	106	AVG	996T	11.46	22.80	-11.34
	5610	122	AVG	996T	14.96	22.80	-7.84
	5690	138	AVG	996T	14.98	22.80	-7.82
	5775	155	AVG	996T	14.76	30.00	-15.24

**Table 7-24. 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)**

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 85 of 216

## 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	10.31	10.33	13.33	10.46	10.37	13.43	10.45	10.21	13.34	23.98	-10.55	
5200	40	AVG	26T	10.46	9.54	13.03	10.47	9.61	13.07	10.46	9.56	13.04	23.98	-10.91	
5240	48	AVG	26T	10.35	10.15	13.26	10.26	10.32	13.30	10.23	10.02	13.14	23.98	-10.68	
5260	52	AVG	26T	10.45	10.06	13.27	10.44	9.97	13.22	10.46	9.67	13.09	23.47	-10.20	
5280	56	AVG	26T	10.49	9.58	13.07	10.48	9.61	13.08	10.43	9.52	13.01	23.47	-10.39	
5320	64	AVG	26T	10.45	10.48	13.48	10.03	10.21	13.13	10.38	10.45	13.43	23.47	-9.99	
5500	100	AVG	26T	10.23	10.43	13.34	10.08	10.45	13.28	10.18	10.49	13.35	22.80	-9.45	
5600	120	AVG	26T	10.49	9.74	13.14	10.48	9.86	13.19	10.47	9.81	13.16	22.80	-9.61	
5720	144	AVG	26T	9.86	10.01	12.95	10.01	10.03	13.03	9.93	10.13	13.04	22.80	-9.76	
5745	149	AVG	26T	10.43	10.04	13.25	10.36	10.05	13.22	10.23	10.13	13.19	30.00	-16.75	
5785	157	AVG	26T	9.77	10.15	12.97	9.65	10.25	12.97	9.63	9.98	12.82	30.00	-17.03	
5825	165	AVG	26T	10.37	10.26	13.33	9.93	10.72	13.35	9.96	10.34	13.16	30.00	-16.65	

Table 7-25. 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	10.49	9.65	13.10	10.48	10.02	13.27	10.43	9.75	13.11	23.98	-10.71	
5230	46	AVG	26T	10.48	10.08	13.29	10.35	10.06	13.22	10.47	9.65	13.09	23.98	-10.68	
5270	54	AVG	26T	10.45	9.94	13.21	10.25	9.64	12.97	10.46	9.61	13.07	23.47	-10.26	
5310	62	AVG	26T	10.46	10.19	13.34	10.49	10.08	13.30	10.42	9.88	13.17	23.47	-10.13	
5510	102	AVG	26T	10.47	10.48	13.49	10.13	10.47	13.31	10.38	10.49	13.45	22.80	-9.31	
5590	118	AVG	26T	10.28	9.76	13.04	10.48	10.33	13.42	10.25	10.18	13.23	22.80	-9.38	
5710	142	AVG	26T	10.43	10.21	13.33	10.05	9.88	12.98	10.18	10.45	13.33	22.80	-9.47	
5755	151	AVG	26T	10.31	9.67	13.01	10.49	10.08	13.30	10.48	10.25	13.38	30.00	-16.62	
5795	159	AVG	26T	9.77	10.45	13.13	9.61	10.28	12.97	9.58	10.43	13.04	30.00	-16.87	

Table 7-26. 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	10.49	10.13	13.32	10.45	9.53	13.02	10.48	9.56	13.05	23.98	-10.66	
5290	58	AVG	26T	10.17	10.03	13.11	10.38	8.95	12.73	10.49	9.12	12.87	23.47	-10.36	
5530	106	AVG	26T	10.48	9.86	13.19	10.39	10.36	13.39	10.35	10.47	13.42	22.80	-9.38	
5610	122	AVG	26T	10.46	9.65	13.08	10.48	10.23	13.37	10.15	10.32	13.25	22.80	-9.43	
5690	138	AVG	26T	10.31	9.57	12.97	10.45	10.04	13.26	10.35	9.99	13.19	22.80	-9.54	
5775	155	AVG	26T	10.43	9.61	13.05	10.47	9.89	13.20	10.41	9.71	13.08	30.00	-16.80	

Table 7-27. 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	10.95	10.02	13.52	10.99	10.04	13.55	10.98	10.03	13.54	23.98	-10.43	
5200	40	AVG	52T	10.91	9.35	13.21	10.89	9.45	13.24	10.88	9.42	13.22	23.98	-10.74	
5240	48	AVG	52T	10.98	10.21	13.62	10.96	10.17	13.59	10.99	10.09	13.57	23.98	-10.36	
5260	52	AVG	52T	10.56	10.18	13.38	10.65	10.07	13.38	10.63	10.03	13.35	23.47	-10.09	
5280	56	AVG	52T	10.96	9.73	13.40	10.97	9.67	13.38	10.91	9.48	13.26	23.47	-10.07	
5320	64	AVG	52T	10.78	10.86	13.83	10.64	10.75	13.71	10.65	10.71	13.69	23.47	-9.64	
5500	100	AVG	52T	10.83	10.98	13.92	10.21	10.92	13.59	10.82	10.95	13.90	22.80	-8.88	
5600	120	AVG	52T	10.96	10.04	13.53	10.91	10.05	13.51	10.95	10.07	13.54	22.80	-9.26	
5720	144	AVG	52T	10.62	10.89	13.77	10.66	10.98	13.83	10.67	10.93	13.81	22.80	-8.97	
5745	149	AVG	52T	10.98	10.82	13.91	10.97	10.82	13.91	10.99	10.77	13.89	30.00	-16.09	
5785	157	AVG	52T	10.13	10.83	13.50	10.12	10.83	13.50	10.08	10.85	13.49	30.00	-16.50	
5825	165	AVG	52T	10.05	10.98	13.55	10.04	10.92	13.51	10.03	10.98	13.54	30.00	-16.45	

Table 7-28. 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	10.95	10.24	13.62	10.98	10.05	13.55	10.96	10.33	13.67	23.98	-10.31	
5230	46	AVG	52T	10.77	10.23	13.52	10.97	10.35	13.68	10.87	10.11	13.52	23.98	-10.30	
5270	54	AVG	52T	10.84	10.18	13.53	10.94	10.06	13.53	10.99	10.02	13.54	23.47	-9.93	
5310	62	AVG	52T	10.85	10.27	13.58	10.98	10.43	13.72	10.83	10.05	13.47	23.47	-9.75	
5510	102	AVG	52T	10.56	10.74	13.66	10.71	10.98	13.86	10.38	10.93	13.67	22.80	-8.94	
5590	118	AVG	52T	10.97	10.35	13.68	10.85	10.28	13.58	10.98	10.71	13.86	22.80	-8.94	
5710	142	AVG	52T	10.55	10.83	13.70	10.52	10.84	13.69	10.14	10.75	13.47	22.80	-9.10	
5755	151	AVG	52T	10.95	10.43	13.71	10.98	10.65	13.83	10.98	10.95	13.98	30.00	-16.02	
5795	159	AVG	52T	10.34	10.91	13.64	10.35	10.98	13.69	10.06	10.89	13.51	30.00	-16.31	

Table 7-29. 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	10.97	10.12	13.58	10.98	10.04	13.55	10.81	10.03	13.45	23.98	-10.40	
5290	58	AVG	52T	10.81	10.56	13.70	10.98	10.21	13.62	10.85	10.11	13.51	23.47	-9.77	
5530	106	AVG	52T	10.96	10.36	13.68	10.98	10.63	13.82	10.95	10.83	13.90	22.80	-8.90	
5610	122	AVG	52T	10.98	10.24	13.64	10.93	10.15	13.57	10.99	10.52	13.77	22.80	-9.03	
5690	138	AVG	52T	10.96	10.21	13.61	10.98	10.36	13.69	10.71	10.62	13.68	22.80	-9.11	
5775	155	AVG	52T	10.98	10.04	13.55	10.95	10.47	13.73	10.91	10.32	13.64	30.00	-16.27	

Table 7-30. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 87 of 216



## 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	14.35	13.61	17.01	14.47	13.72	17.12	23.98	-6.86	
5200	40	AVG	106T	14.47	13.53	17.04	14.47	13.54	17.04	23.98	-6.94	
5240	48	AVG	106T	14.47	14.15	17.32	14.49	14.21	17.36	23.98	-6.62	
5260	52	AVG	106T	14.48	14.25	17.38	14.49	14.09	17.30	23.47	-6.09	
5280	56	AVG	106T	14.46	13.61	17.07	14.45	13.08	16.83	23.47	-6.40	
5320	64	AVG	106T	14.25	13.89	17.08	14.35	13.96	17.17	23.47	-6.30	
5500	100	AVG	106T	14.13	14.48	17.32	13.94	14.49	17.23	22.80	-5.48	
5600	120	AVG	106T	14.48	14.02	17.27	14.49	14.08	17.30	22.80	-5.50	
5720	144	AVG	106T	14.11	14.15	17.14	14.21	14.28	17.26	22.80	-5.54	
5745	149	AVG	106T	14.32	14.24	17.29	14.46	14.07	17.28	30.00	-12.71	
5785	157	AVG	106T	14.02	14.46	17.26	13.96	14.36	17.17	30.00	-12.74	
5825	165	AVG	106T	13.62	14.49	17.09	13.96	14.43	17.21	30.00	-12.79	

Table 7-31. 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	14.45	13.13	16.85	14.35	13.09	16.78	14.37	13.08	16.78	23.98	-7.13	
5230	46	AVG	106T	14.26	13.82	17.06	14.36	13.95	17.17	14.25	13.65	16.97	23.98	-6.81	
5270	54	AVG	106T	14.49	13.61	17.08	14.48	13.59	17.07	14.43	13.22	16.88	23.47	-6.39	
5310	62	AVG	106T	14.48	14.05	17.28	14.39	13.62	17.03	14.47	13.65	17.09	23.47	-6.19	
5510	102	AVG	106T	14.11	14.45	17.29	14.15	14.47	17.32	13.59	14.45	17.05	22.80	-5.48	
5590	118	AVG	106T	14.48	14.05	17.28	14.49	14.29	17.40	14.48	14.13	17.32	22.80	-5.40	
5710	142	AVG	106T	14.37	13.78	17.10	14.49	14.18	17.35	14.41	14.04	17.24	22.80	-5.45	
5755	151	AVG	106T	14.32	13.62	16.99	14.35	13.76	17.08	14.49	13.91	17.22	30.00	-12.78	
5795	159	AVG	106T	14.02	14.46	17.26	14.21	14.48	17.36	13.75	14.39	17.09	30.00	-12.64	

Table 7-32. 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	14.35	13.89	17.14	14.48	13.72	17.13	14.45	13.86	17.18	23.98	-6.80	
5290	58	AVG	106T	14.49	14.46	17.49	14.45	13.89	17.19	14.41	13.57	17.02	23.47	-5.98	
5530	106	AVG	106T	14.46	13.89	17.19	14.31	14.38	17.36	14.25	14.46	17.37	22.80	-5.43	
5610	122	AVG	106T	14.45	13.62	17.07	14.48	13.87	17.20	14.21	13.59	16.92	22.80	-5.60	
5690	138	AVG	106T	14.35	13.72	17.06	14.18	14.26	17.23	14.11	14.46	17.30	22.80	-5.50	
5775	155	AVG	106T	14.45	13.63	17.07	14.42	13.87	17.16	14.49	13.64	17.10	30.00	-12.84	

Table 7-33. 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	14.95	13.34	17.23	23.98	-6.75	
5200	40	AVG	242T	14.92	13.53	17.29	23.98	-6.69	
5240	48	AVG	242T	14.67	14.68	17.69	23.98	-6.29	
5260	52	AVG	242T	14.99	14.26	17.65	23.47	-5.82	
5280	56	AVG	242T	14.97	13.75	17.41	23.47	-6.06	
5320	64	AVG	242T	14.97	14.72	17.86	23.47	-5.61	
5500	100	AVG	242T	14.01	14.56	17.30	22.80	-5.50	
5600	120	AVG	242T	14.89	14.17	17.56	22.80	-5.24	
5720	144	AVG	242T	14.95	14.98	17.98	22.80	-4.82	
5745	149	AVG	242T	14.51	14.47	17.50	30.00	-12.50	
5785	157	AVG	242T	14.43	14.92	17.69	30.00	-12.31	
5825	165	AVG	242T	14.02	14.98	17.54	30.00	-12.46	

Table 7-34. 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	13.24	13.22	16.24	13.31	13.03	16.18	23.98	-7.74	
5230	46	AVG	242T	14.75	14.27	17.53	14.97	14.49	17.75	23.98	-6.23	
5270	54	AVG	242T	14.93	13.75	17.39	14.98	13.42	17.28	23.47	-6.08	
5310	62	AVG	242T	12.51	12.90	15.72	12.56	12.52	15.55	23.47	-7.75	
5510	102	AVG	242T	11.94	12.55	15.27	12.10	12.46	15.29	22.80	-7.51	
5590	118	AVG	242T	14.98	14.55	17.78	14.97	14.78	17.89	22.80	-4.91	
5710	142	AVG	242T	14.93	14.61	17.78	14.82	14.75	17.80	22.80	-5.00	
5755	151	AVG	242T	14.94	14.08	17.54	14.93	14.63	17.79	30.00	-12.21	
5795	159	AVG	242T	14.65	14.98	17.83	14.43	14.97	17.72	30.00	-12.17	

Table 7-35. 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	12.24	12.98	15.64	12.38	12.91	15.66	12.50	12.35	15.44	23.98	-8.32	
5290	58	AVG	242T	10.56	11.23	13.92	11.44	11.22	14.34	11.45	10.59	14.05	23.47	-9.13	
5530	106	AVG	242T	11.25	11.10	14.19	11.46	11.30	14.39	11.06	11.25	14.17	22.80	-8.41	
5610	122	AVG	242T	14.95	14.14	17.57	14.98	14.43	17.72	14.68	14.96	17.83	22.80	-4.97	
5690	138	AVG	242T	14.98	14.08	17.56	14.96	14.25	17.63	14.86	14.41	17.65	22.80	-5.15	
5775	155	AVG	242T	14.75	14.07	17.43	14.91	14.73	17.83	14.95	14.63	17.80	30.00	-12.17	

Table 7-36. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 89 of 216

## 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		
5230	46	AVG	484T	14.86	14.15	17.53	23.98	-6.45	
5270	54	AVG	484T	14.93	13.56	17.31	23.47	-6.16	
5310	62	AVG	484T	11.92	12.99	15.50	23.47	-7.97	
5510	102	AVG	484T	12.04	12.66	15.37	22.80	-7.43	
5590	118	AVG	484T	14.98	14.56	17.79	22.80	-5.01	
5710	142	AVG	484T	14.96	14.84	17.91	22.80	-4.89	
5755	151	AVG	484T	14.85	14.08	17.49	30.00	-12.51	
5795	159	AVG	484T	14.57	14.95	17.77	30.00	-12.23	

Table 7-37. 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	12.15	13.17		
5290	58	AVG	484T	10.75	11.03	13.90	11.45	10.52	14.02	23.47	-9.45	
5530	106	AVG	484T	11.34	11.13	14.25	11.35	11.41	14.39	22.80	-8.41	
5610	122	AVG	484T	14.93	14.02	17.51	14.93	14.25	17.61	22.80	-5.19	
5690	138	AVG	484T	14.95	14.25	17.62	14.87	14.52	17.71	22.80	-5.09	
5775	155	AVG	484T	14.99	14.56	17.79	14.87	14.66	17.78	30.00	-12.21	

Table 7-38. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 90 of 216

## 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	996T	12.16	12.87	15.54	23.98	-8.44
	5290	58	AVG	996T	11.21	11.27	14.25	23.47	-9.22
	5530	106	AVG	996T	11.27	11.20	14.25	22.80	-8.55
	5610	122	AVG	996T	14.96	14.15	17.58	22.80	-5.22
	5690	138	AVG	996T	14.89	14.12	17.53	22.80	-5.27
	5775	155	AVG	996T	14.98	14.16	17.60	30.00	-12.40

Table 7-39. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)

### Note:

#### Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted output power was measured to be 17.97 dBm for Antenna-1 and 17.15 dBm for Antenna-2.

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

$$(17.97 \text{ dBm} + 17.15 \text{ dBm}) = (62.66 \text{ mW} + 51.88 \text{ mW}) = 114.54 \text{ mW} = 20.59 \text{ dBm}$$

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 91 of 216

## 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.***

### 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: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 92 of 216

## SISO ANT 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	6.20	11.0	-4.80
	5200	40	ax (20MHz)	26T	MCS0	6.01	11.0	-5.00
	5240	48	ax (20MHz)	26T	MCS0	6.31	11.0	-4.69
	5190	38	ax (40MHz)	26T	MCS0	6.61	11.0	-4.39
	5230	46	ax (40MHz)	26T	MCS0	7.28	11.0	-3.72
	5210	42	ax (80MHz)	26T	MCS0	6.89	11.0	-4.11
Band 2A	5260	52	ax (20MHz)	26T	MCS0	6.03	11.0	-4.97
	5280	56	ax (20MHz)	26T	MCS0	6.20	11.0	-4.80
	5320	64	ax (20MHz)	26T	MCS0	6.29	11.0	-4.71
	5270	54	ax (40MHz)	26T	MCS0	7.17	11.0	-3.83
	5310	62	ax (40MHz)	26T	MCS0	7.47	11.0	-3.53
	5290	58	ax (80MHz)	26T	MCS0	7.58	11.0	-3.42
Band 2C	5500	100	ax (20MHz)	26T	MCS0	6.18	11.0	-4.82
	5600	120	ax (20MHz)	26T	MCS0	7.32	11.0	-3.68
	5720	144	ax (20MHz)	26T	MCS0	8.01	11.0	-2.99
	5510	102	ax (40MHz)	26T	MCS0	7.46	11.0	-3.54
	5590	118	ax (40MHz)	26T	MCS0	7.36	11.0	-3.64
	5710	142	ax (40MHz)	26T	MCS0	8.21	11.0	-2.79
	5530	106	ax (80MHz)	26T	MCS0	6.21	11.0	-4.79
	5610	122	ax (80MHz)	26T	MCS0	5.58	11.0	-5.42
	5690	138	ax (80MHz)	26T	MCS0	6.15	11.0	-4.85

Table 7-40. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density	Margin [dB]
Band 3	5745	149	ax (20MHz)	26T	MCS0	4.69	30.00	-25.31
	5785	157	ax (20MHz)	26T	MCS0	5.03	30.00	-24.97
	5825	165	ax (20MHz)	26T	MCS0	4.97	30.00	-25.03
	5755	151	ax (40MHz)	26T	MCS0	5.65	30.00	-24.35
	5795	159	ax (40MHz)	26T	MCS0	5.08	30.00	-24.92
	5775	155	ax (80MHz)	26T	MCS0	4.54	30.00	-25.46

Table 7-41. Band 3 Conducted Power Spectral Density Measurements (26 Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 93 of 216

## SISO ANT 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	2.49	11.0	-8.51
	5200	40	ax (20MHz)	242T	MCS0	2.96	11.0	-8.05
	5240	48	ax (20MHz)	242T	MCS0	2.98	11.0	-8.02
	5190	38	ax (40MHz)	484T	MCS0	-0.19	11.0	-11.19
	5230	46	ax (40MHz)	484T	MCS0	-0.26	11.0	-11.26
	5210	42	ax (80MHz)	996T	MCS0	-3.46	11.0	-14.46
Band 2A	5260	52	ax (20MHz)	242T	MCS0	2.48	11.0	-8.52
	5280	56	ax (20MHz)	242T	MCS0	2.72	11.0	-8.28
	5320	64	ax (20MHz)	242T	MCS0	2.78	11.0	-8.22
	5270	54	ax (40MHz)	484T	MCS0	-0.21	11.0	-11.21
	5310	62	ax (40MHz)	484T	MCS0	-0.45	11.0	-11.45
	5290	58	ax (80MHz)	996T	MCS0	-3.72	11.0	-14.72
Band 2C	5500	100	ax (20MHz)	242T	MCS0	2.86	11.0	-8.14
	5600	120	ax (20MHz)	242T	MCS0	2.63	11.0	-8.37
	5720	144	ax (20MHz)	242T	MCS0	3.79	11.0	-7.21
	5510	102	ax (40MHz)	484T	MCS0	-0.08	11.0	-11.08
	5590	118	ax (40MHz)	484T	MCS0	-0.33	11.0	-11.33
	5710	142	ax (40MHz)	484T	MCS0	0.40	11.0	-10.60
	5530	106	ax (80MHz)	996T	MCS0	-3.72	11.0	-14.72
	5610	122	ax (80MHz)	996T	MCS0	-3.68	11.0	-14.68
	5690	138	ax (80MHz)	996T	MCS0	-3.08	11.0	-14.08

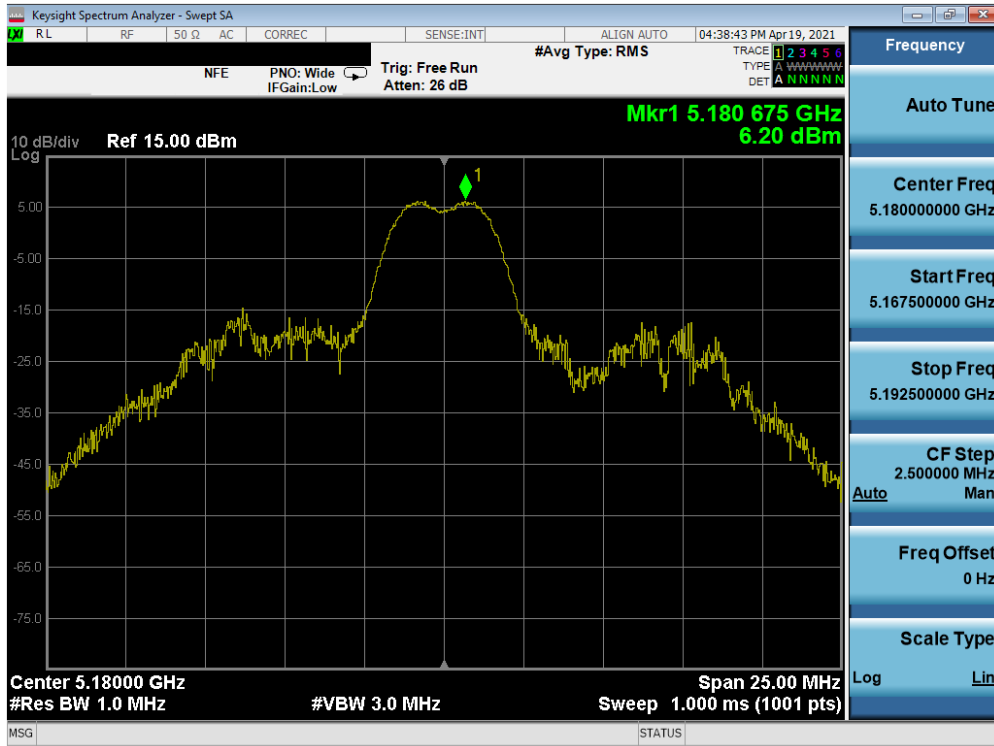
Table 7-42. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements (Full Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density	Margin [dB]
Band 3	5745	149	ax (20MHz)	242T	MCS0	0.63	30.00	-29.37
	5785	157	ax (20MHz)	242T	MCS0	0.70	30.00	-29.30
	5825	165	ax (20MHz)	242T	MCS0	0.53	30.00	-29.47
	5755	151	ax (40MHz)	484T	MCS0	-2.62	30.00	-32.62
	5795	159	ax (40MHz)	484T	MCS0	-3.09	30.00	-33.09
	5775	155	ax (80MHz)	996T	MCS0	-5.53	30.00	-35.53

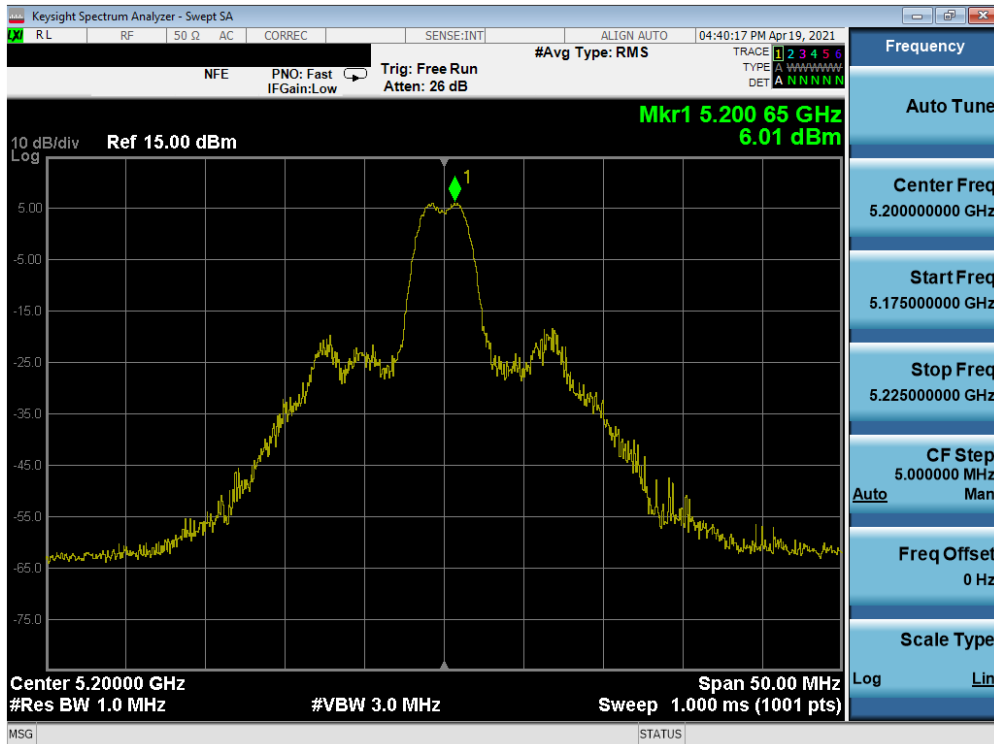
Table 7-43. Band 3 Conducted Power Spectral Density Measurements (Full Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 94 of 216

### SISO ANT 1 Power Spectral Density Measurements (26 Tones)



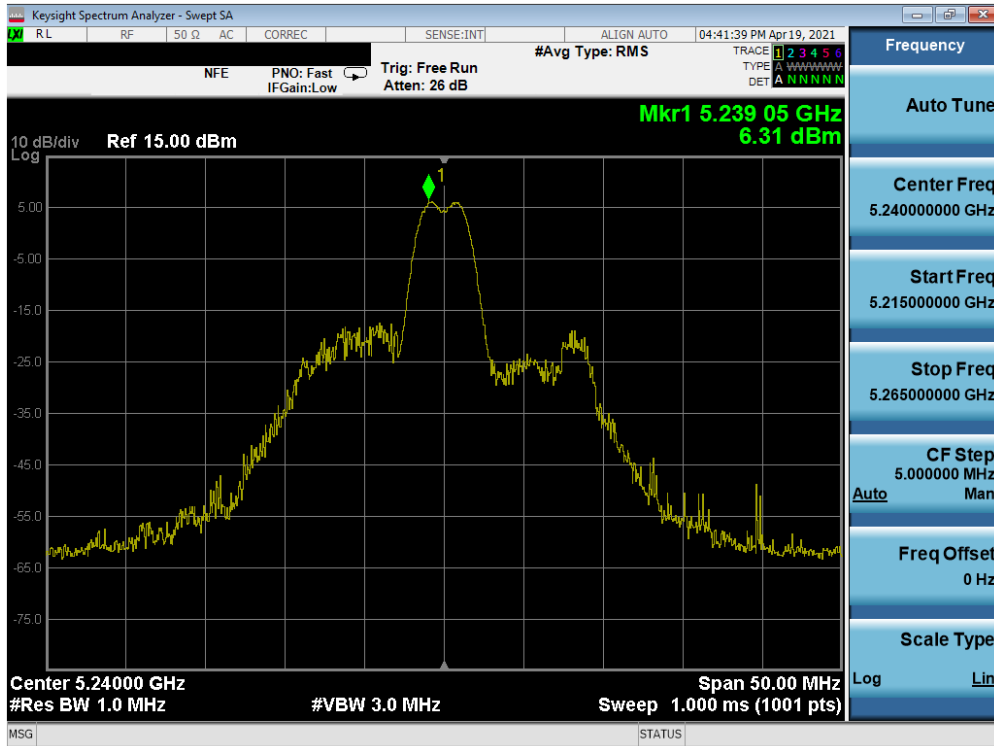
Plot 7-109. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)



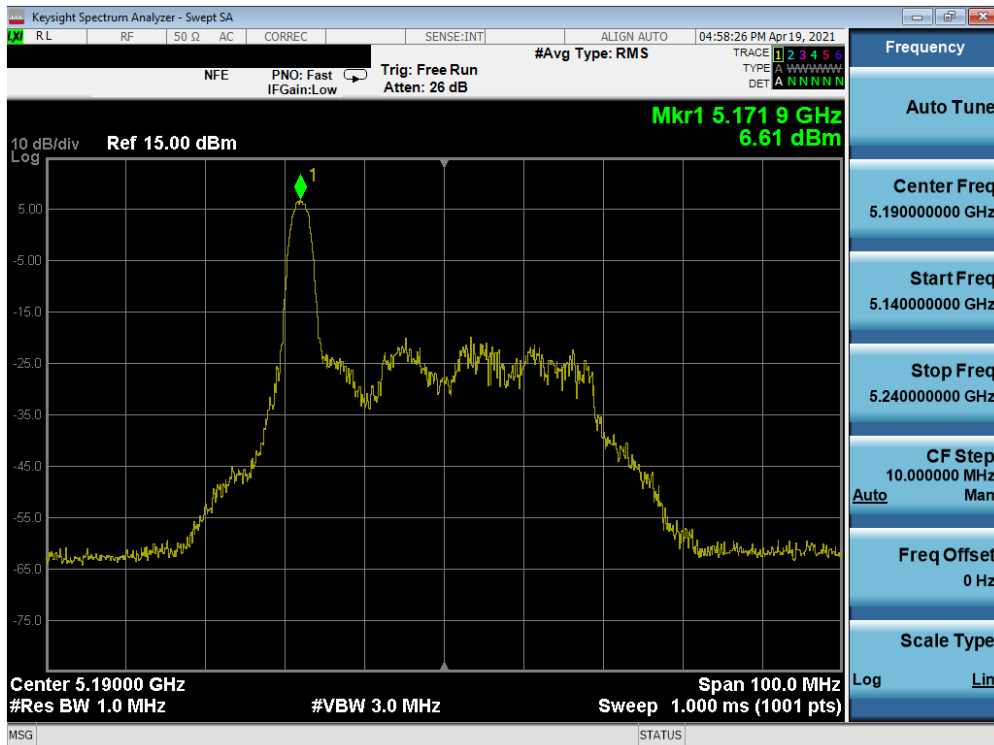
Plot 7-110. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 95 of 216



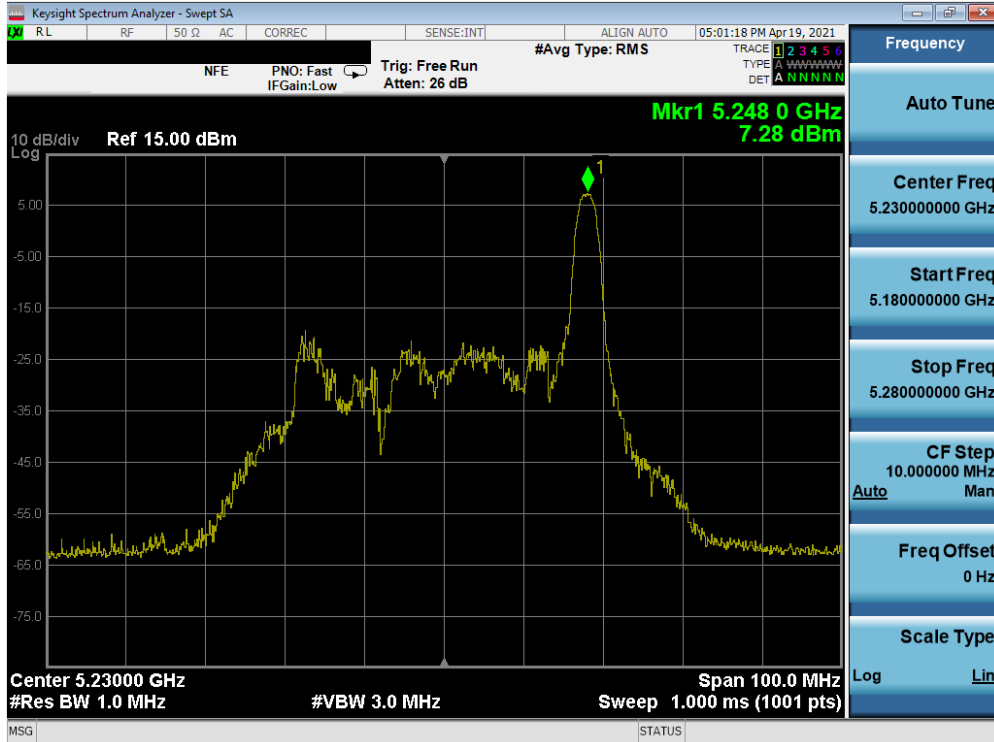


Plot 7-111. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

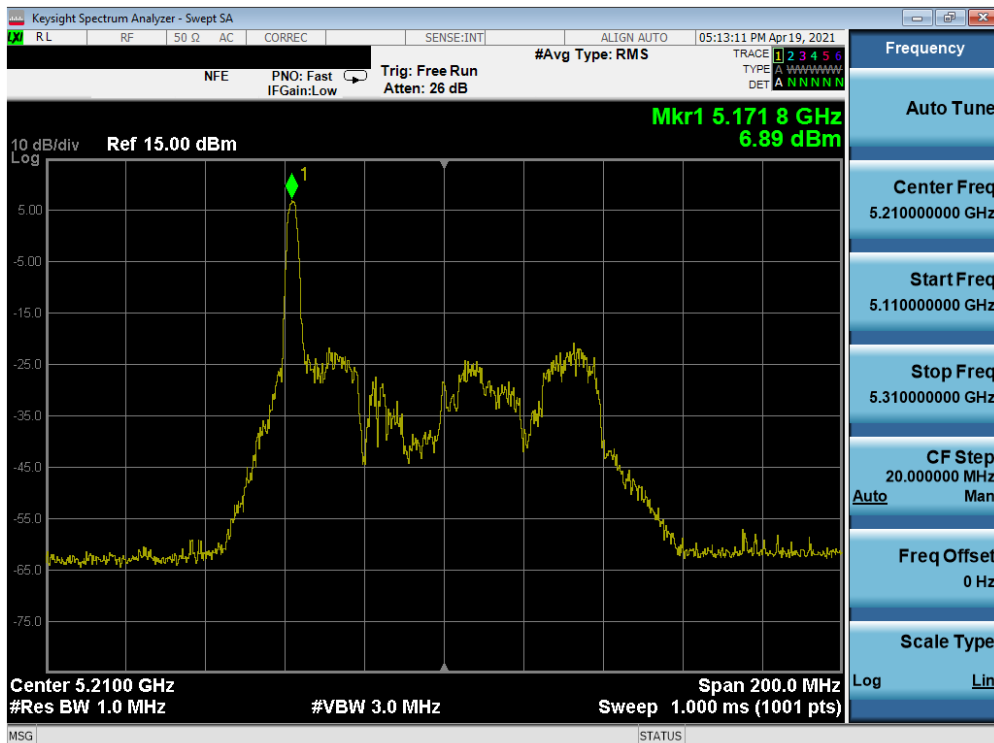


Plot 7-112. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF711B1	Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 96 of 216

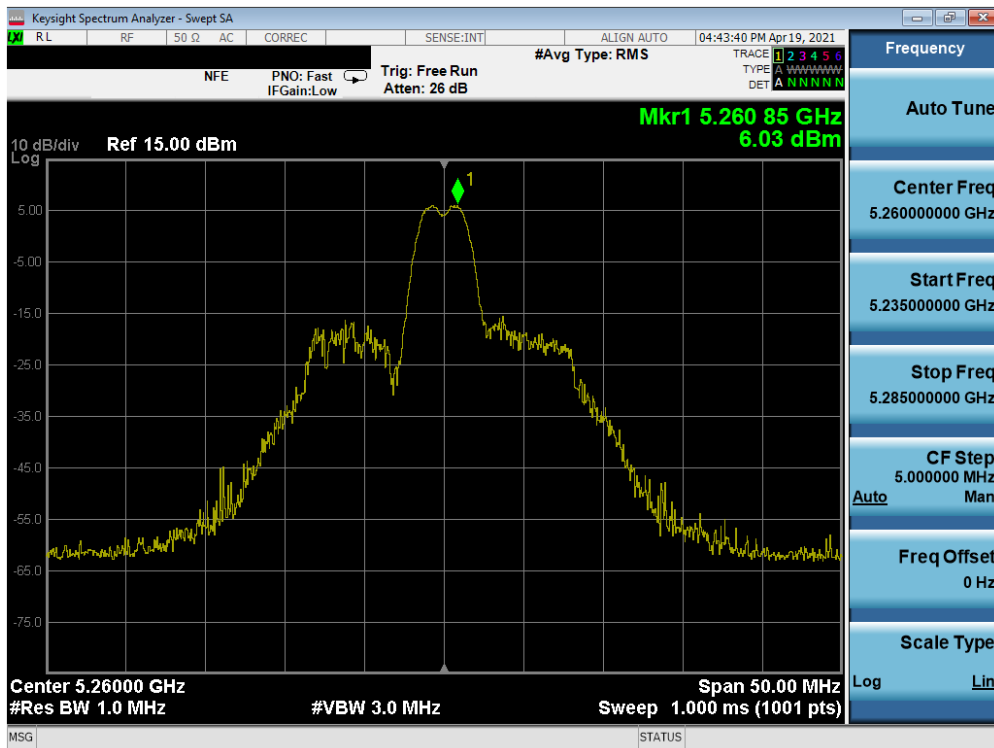


Plot 7-113. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

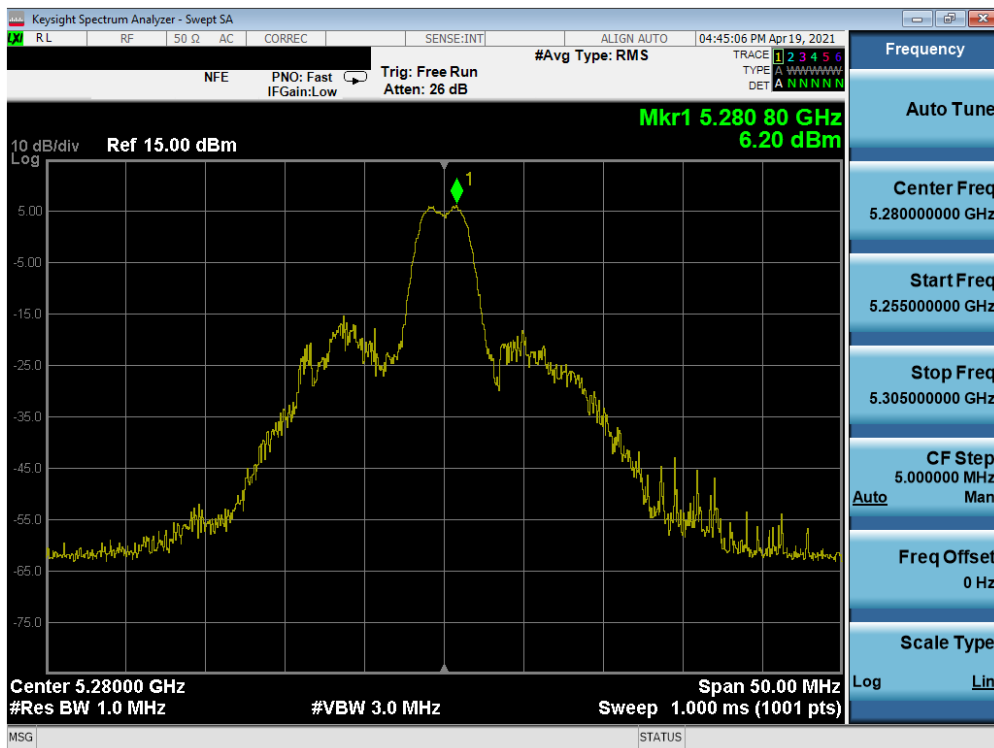


Plot 7-114. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 97 of 216

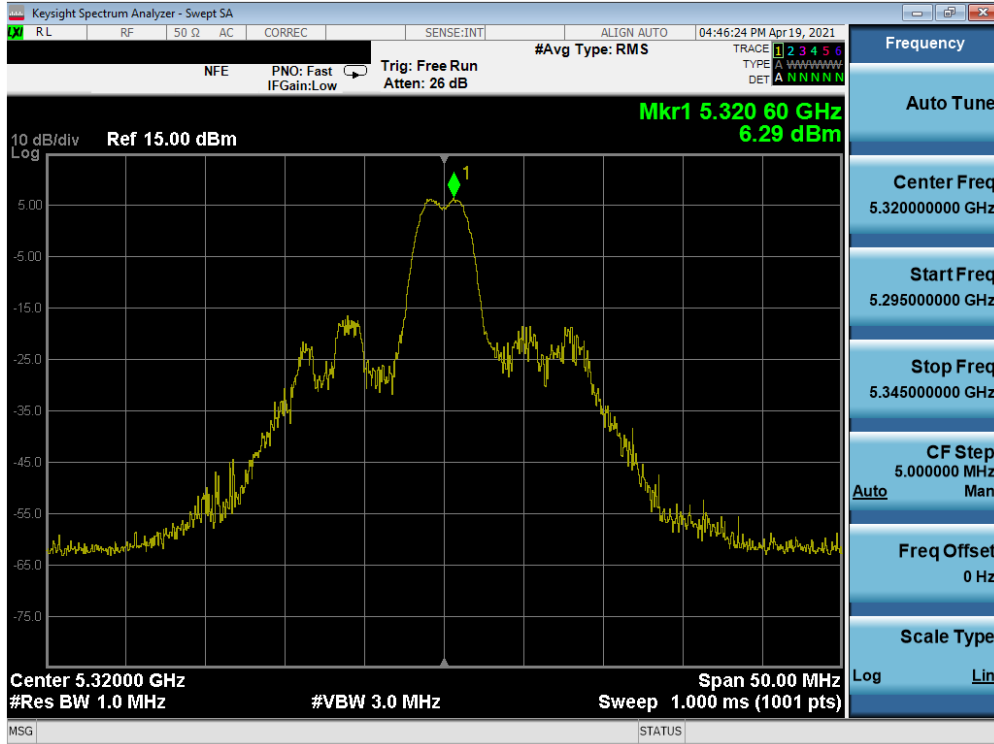


Plot 7-115. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

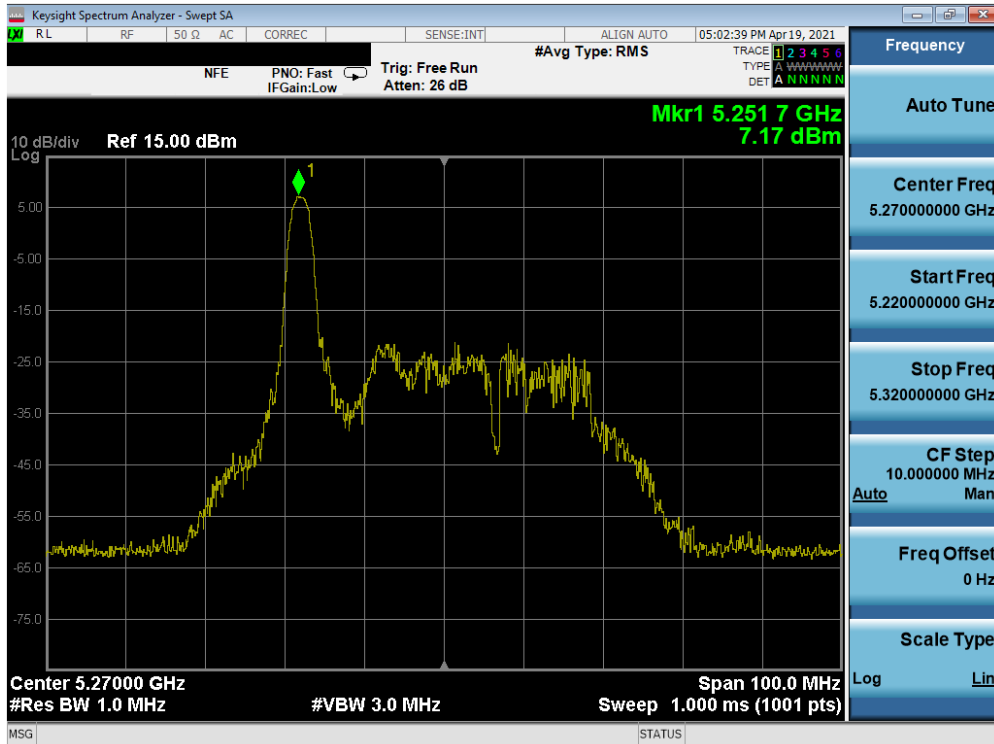


Plot 7-116. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMF711B1	Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 98 of 216

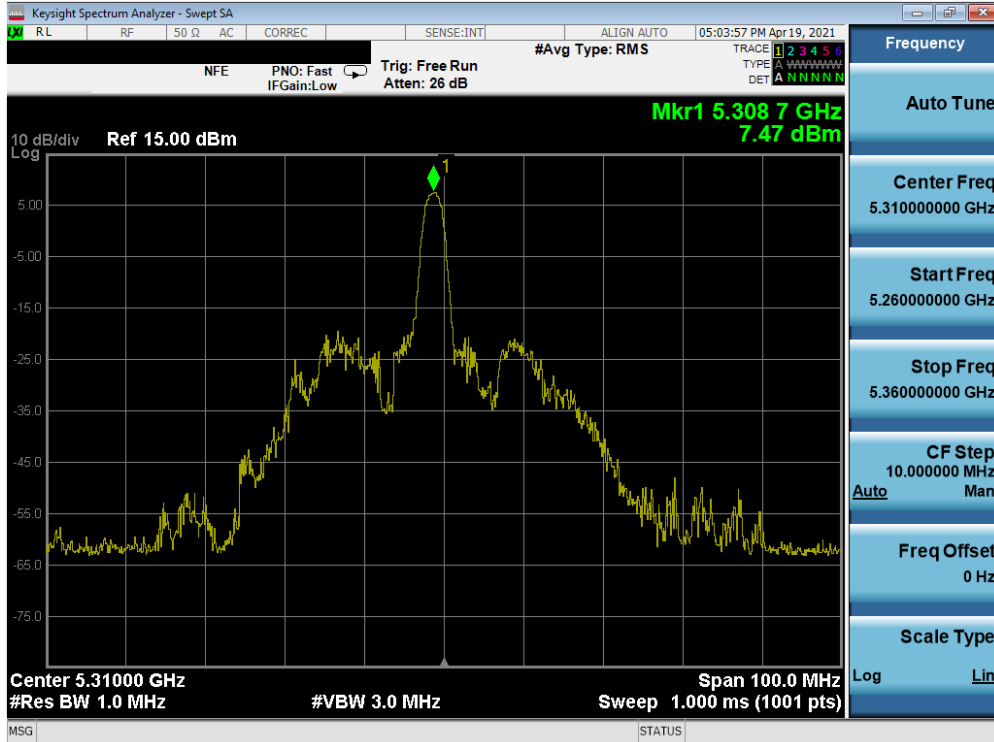


Plot 7-117. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

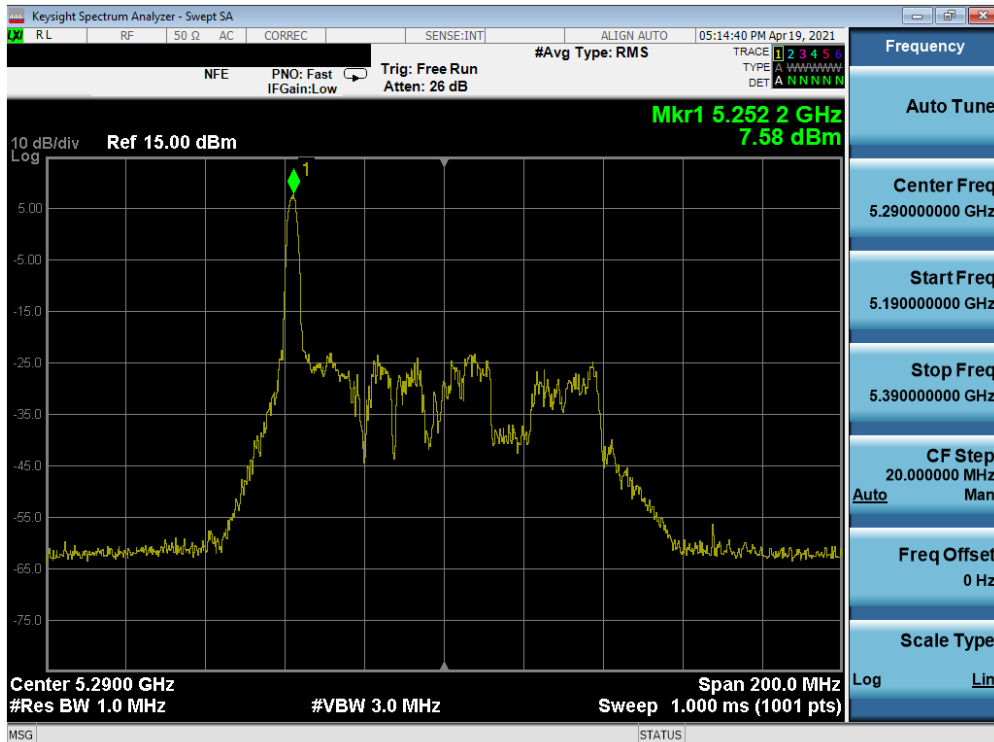


Plot 7-118. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 99 of 216

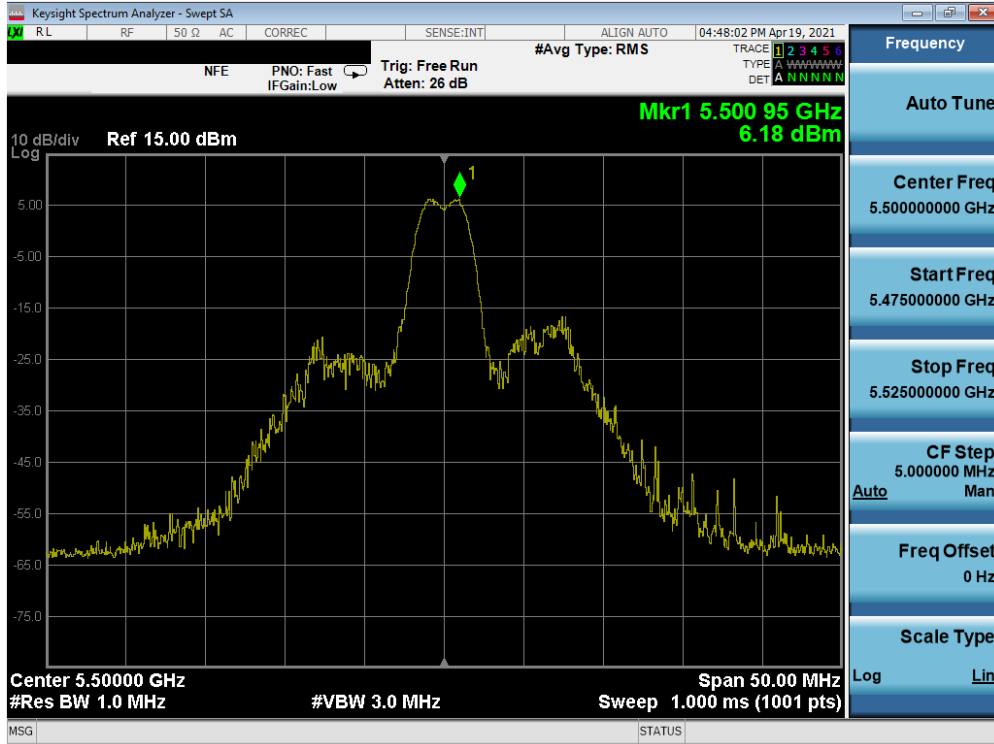


Plot 7-119. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

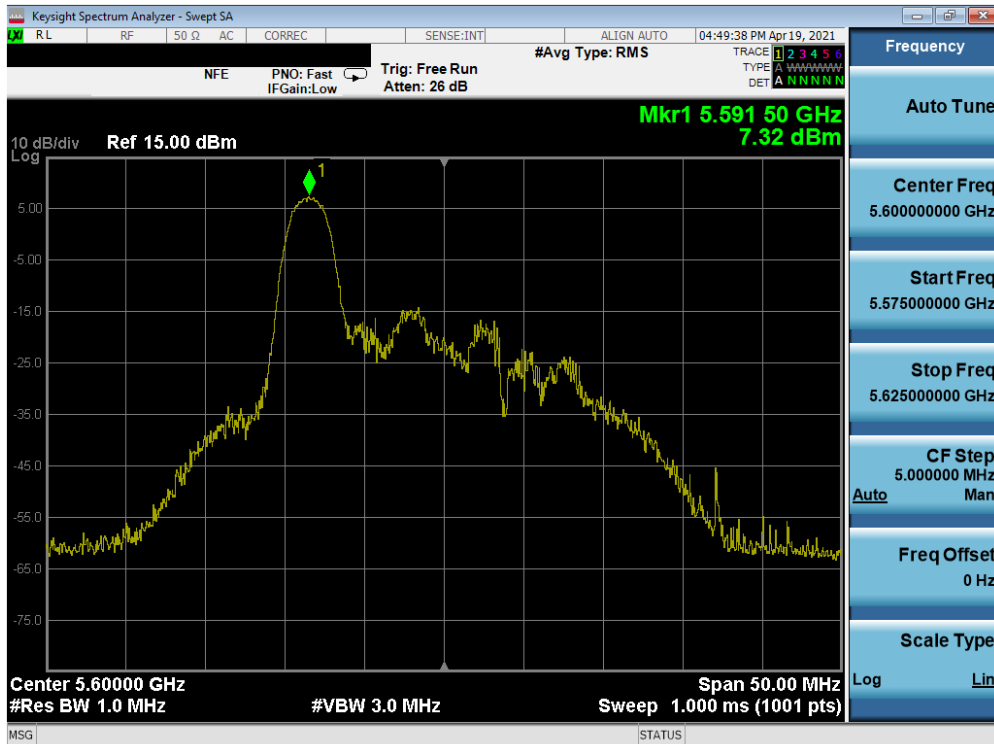


Plot 7-120. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 100 of 216

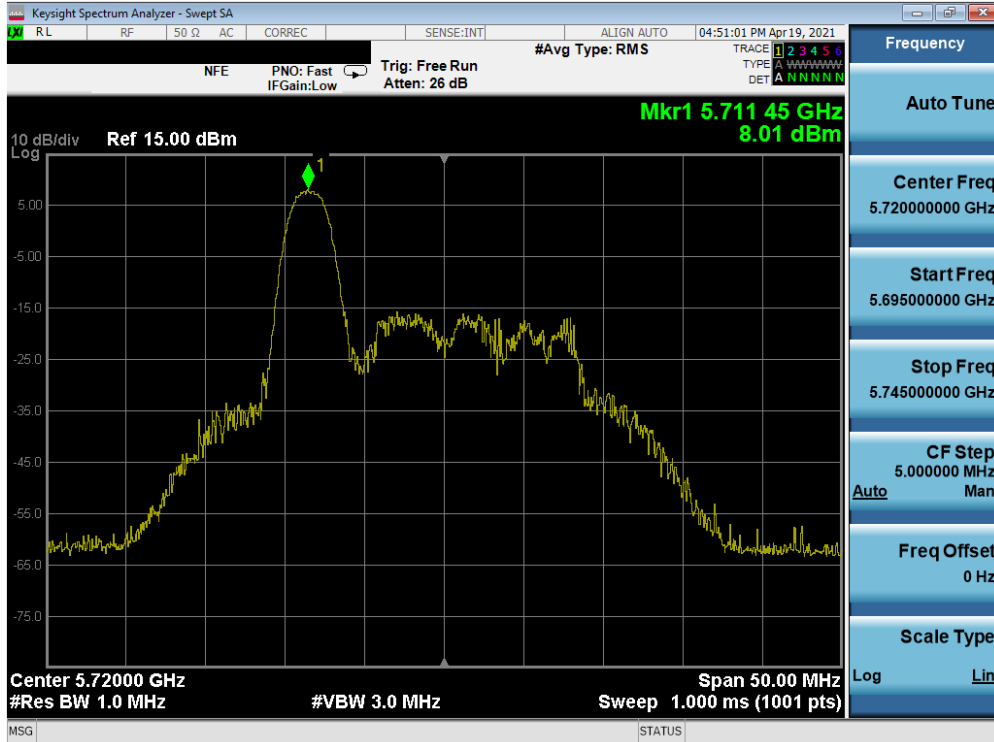


Plot 7-121. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

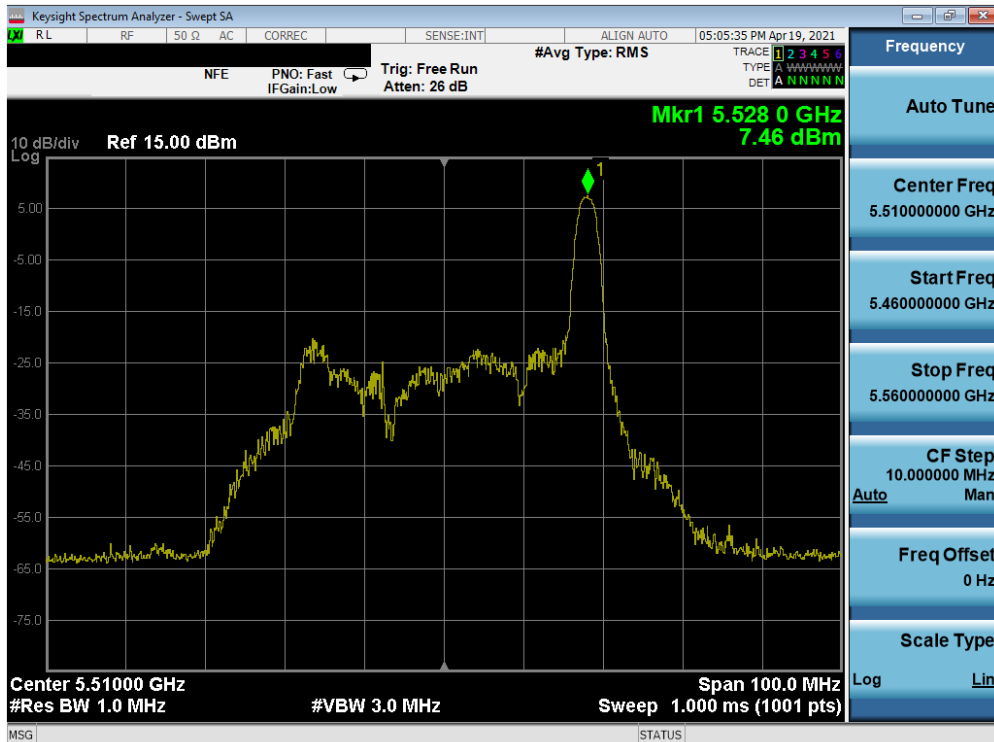


Plot 7-122. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 101 of 216

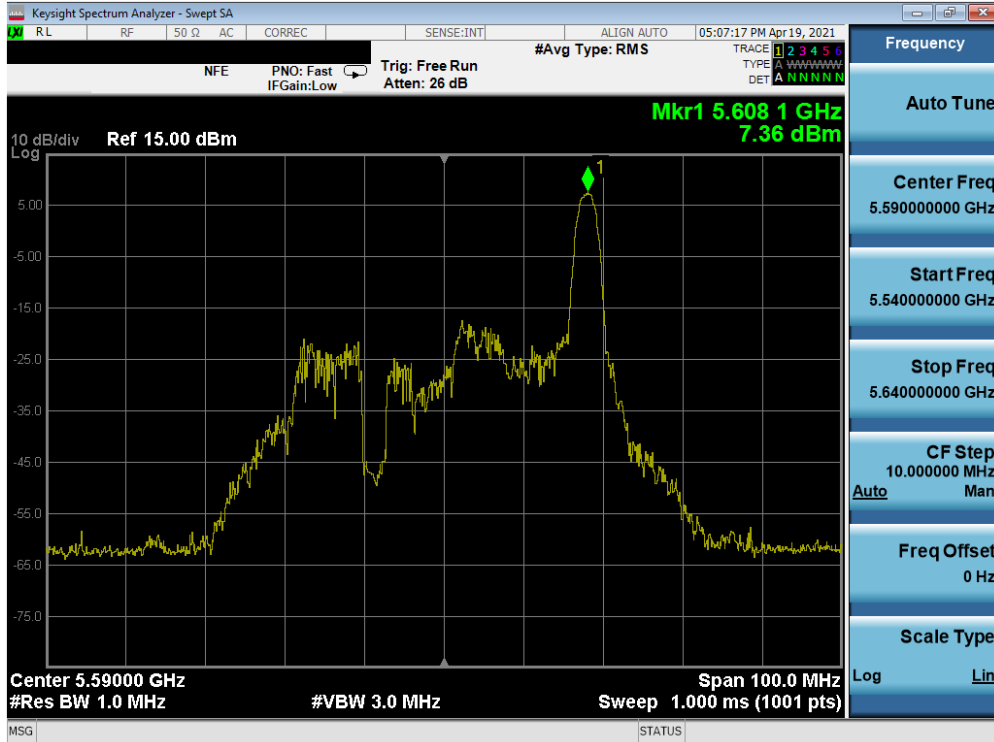


Plot 7-123. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

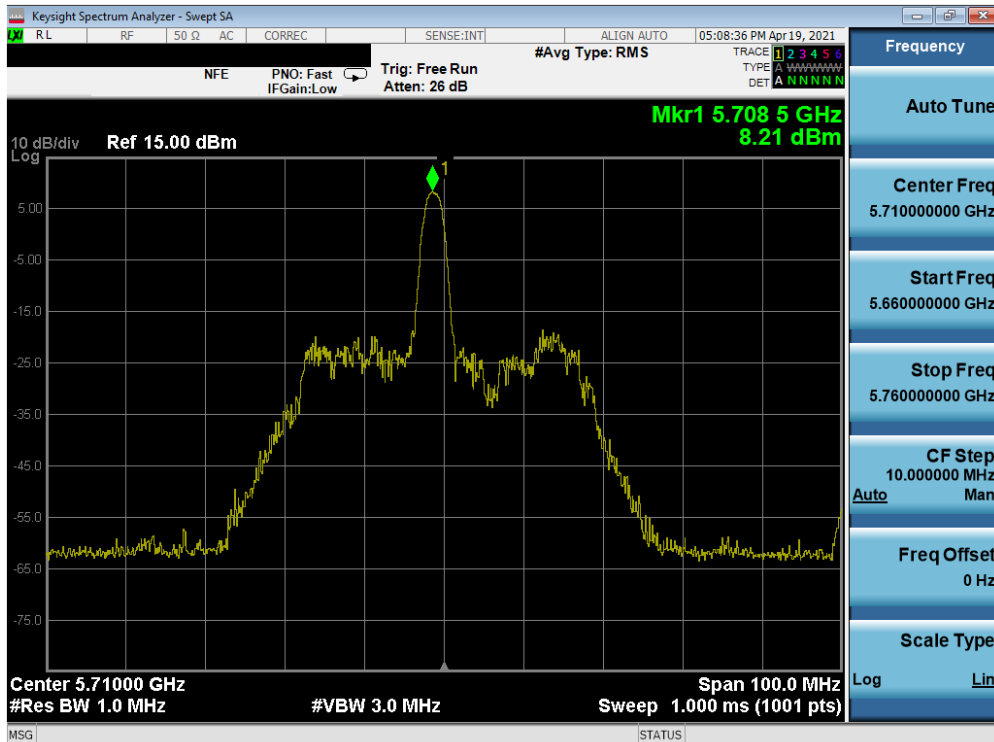


Plot 7-124. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 102 of 216



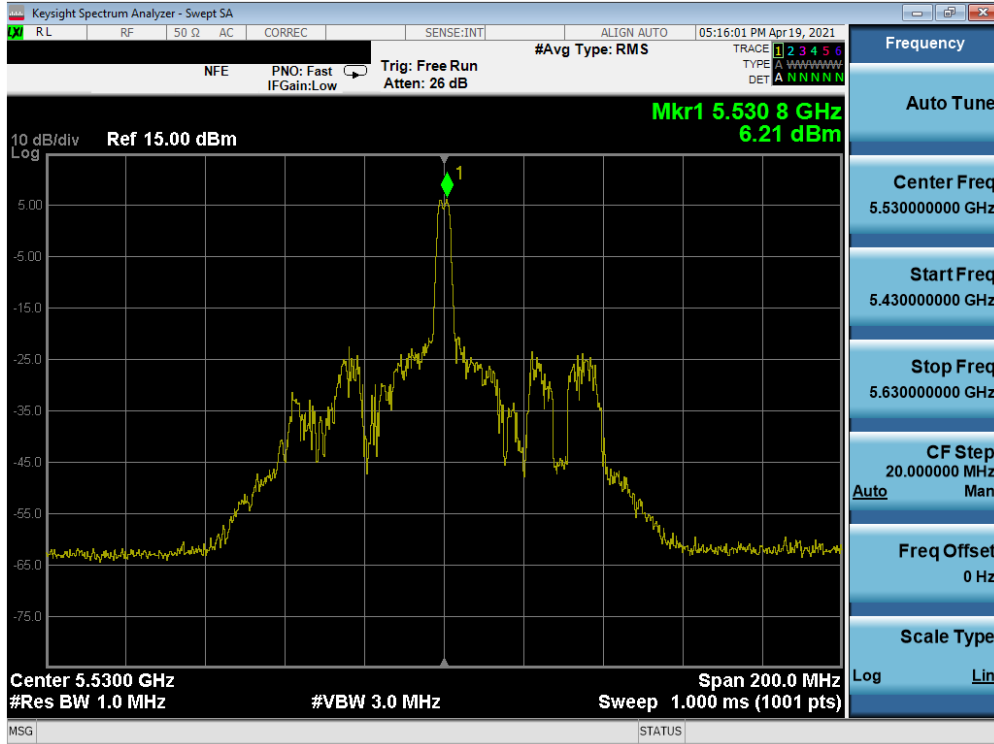
Plot 7-125. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)



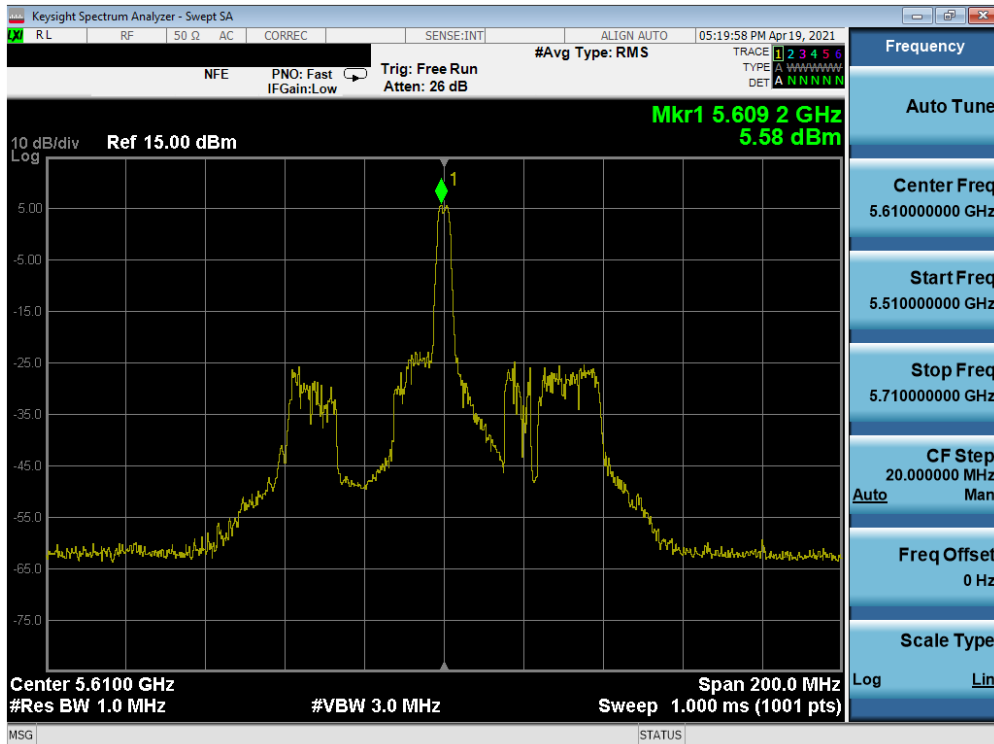
Plot 7-126. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMF711B1	 Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 103 of 216



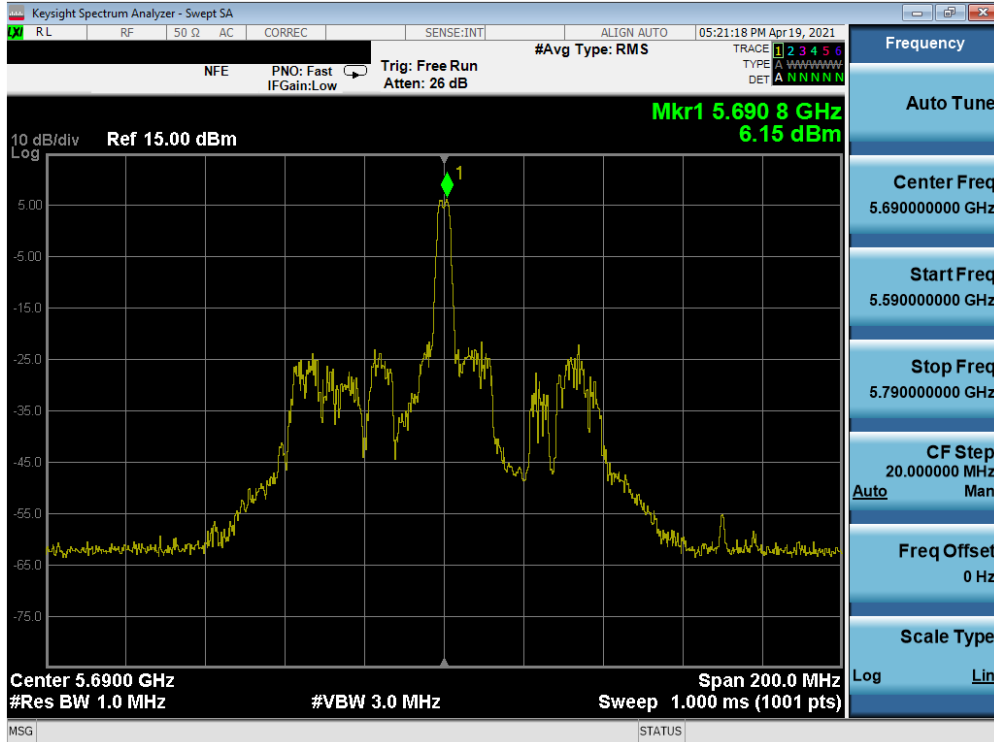


Plot 7-127. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)

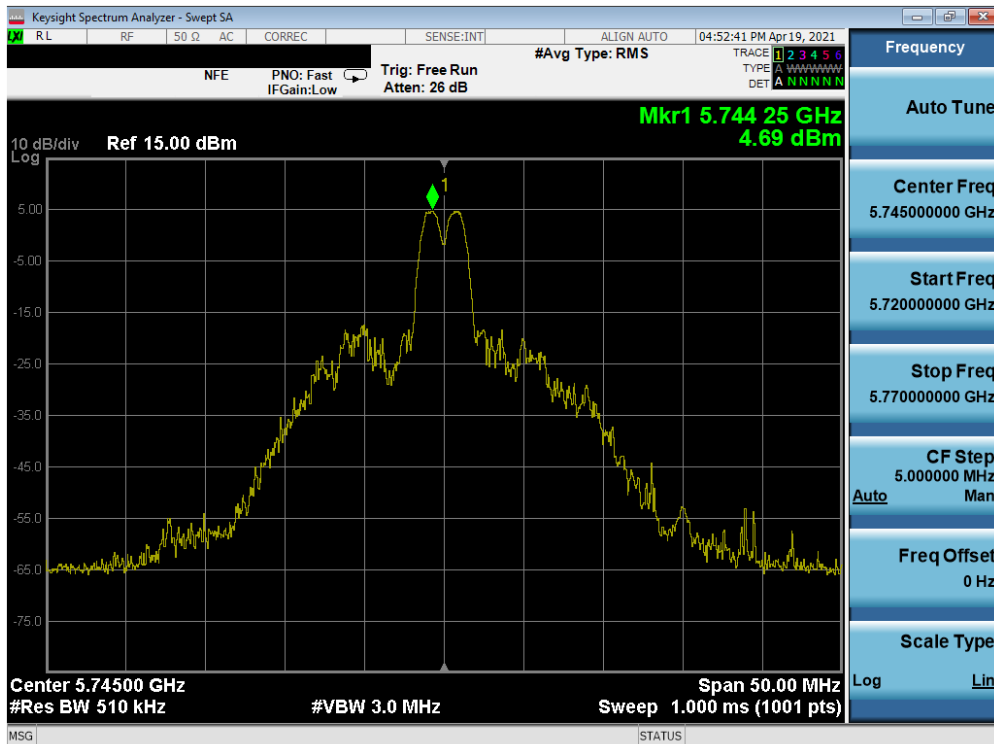


Plot 7-128. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 104 of 216

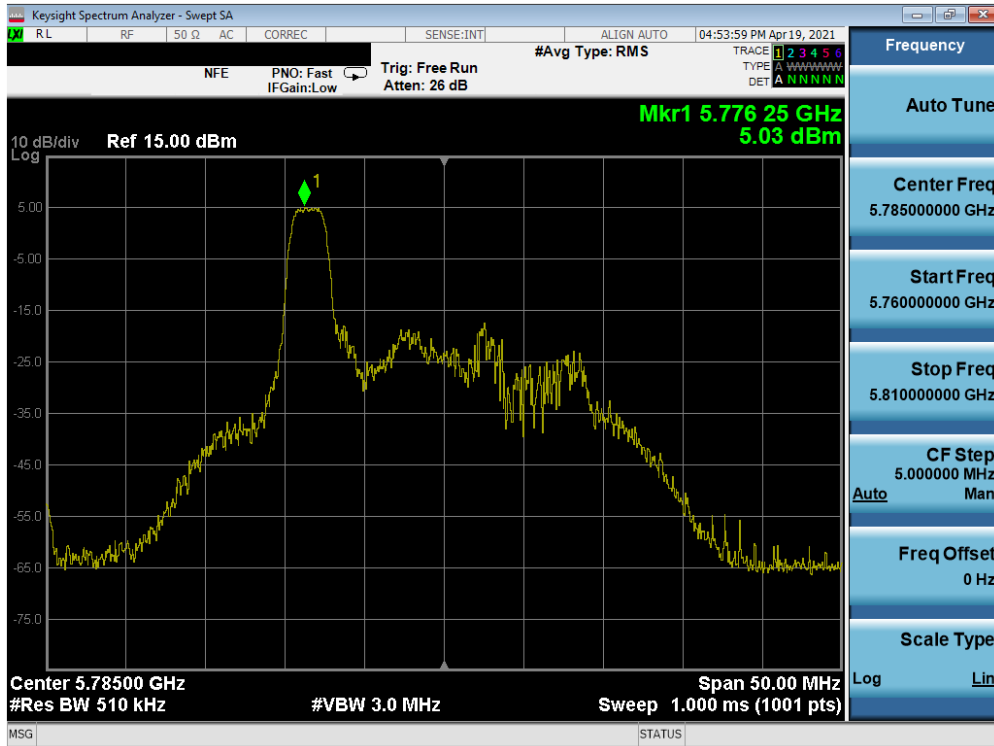


Plot 7-129. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

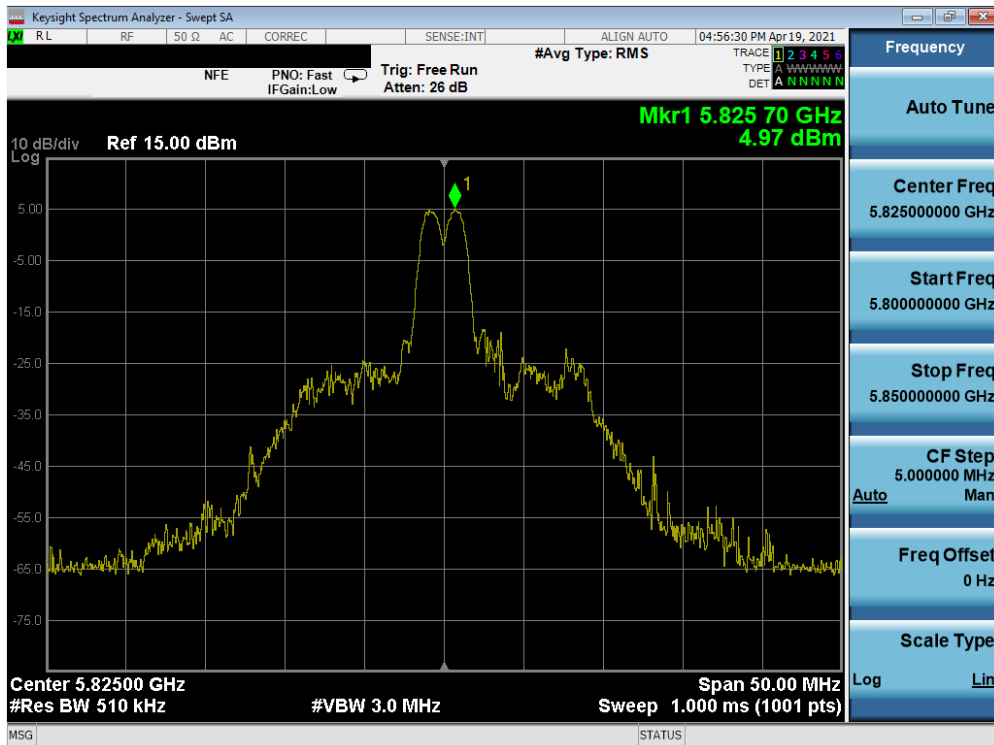


Plot 7-130. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 105 of 216

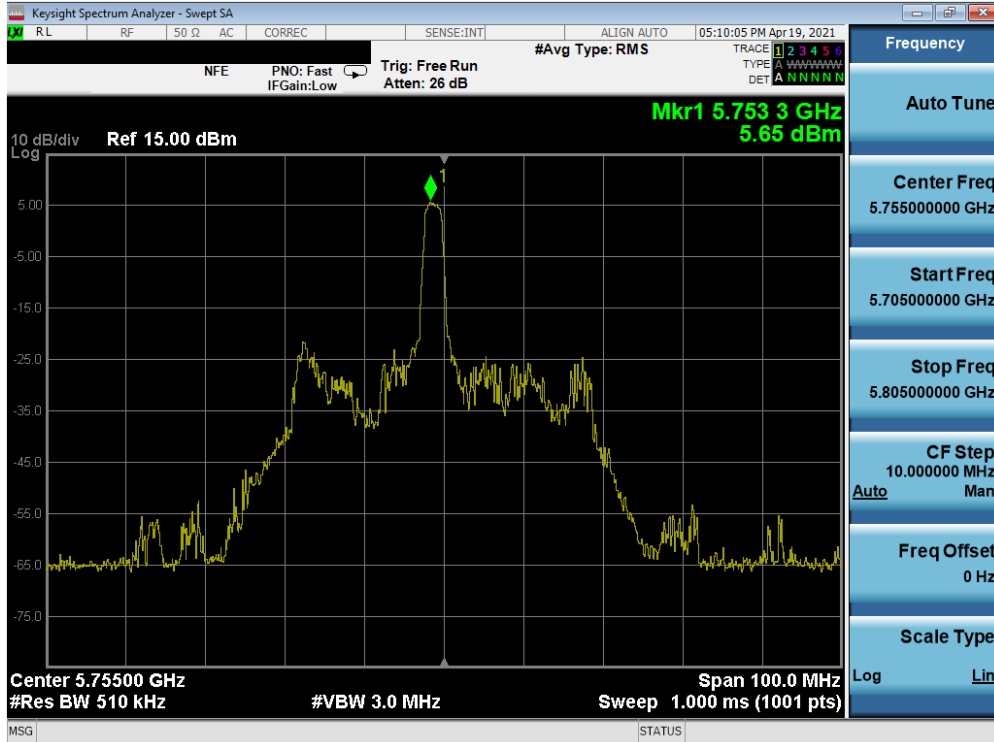


Plot 7-131. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

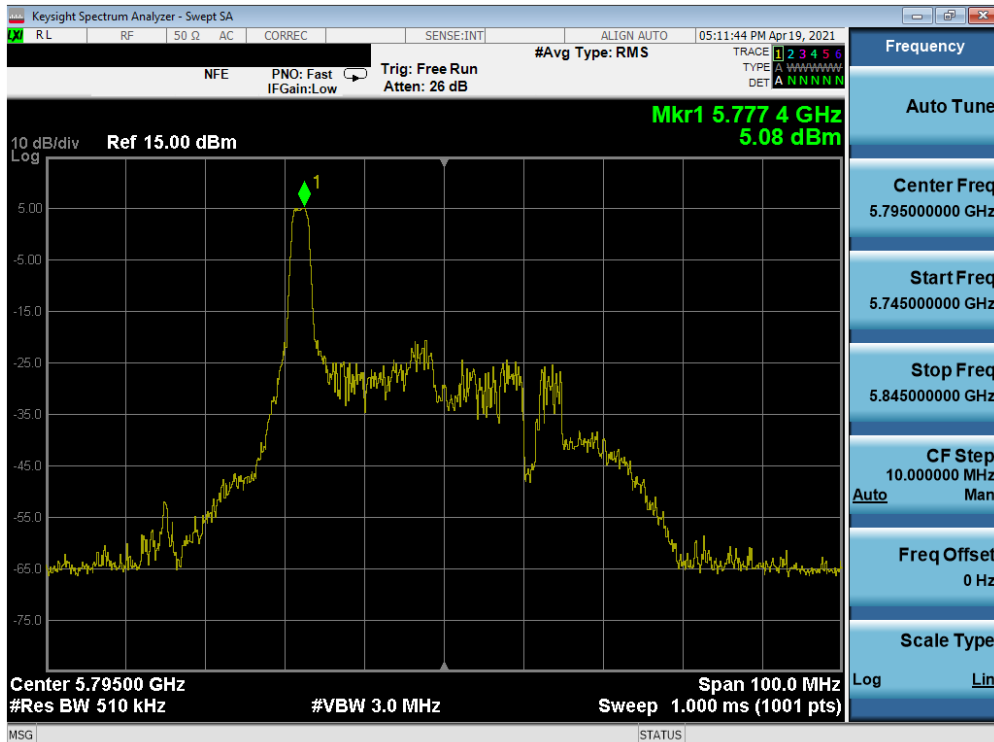


Plot 7-132. Power Spectral Density Plot SISO ANT1 (20 MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 106 of 216

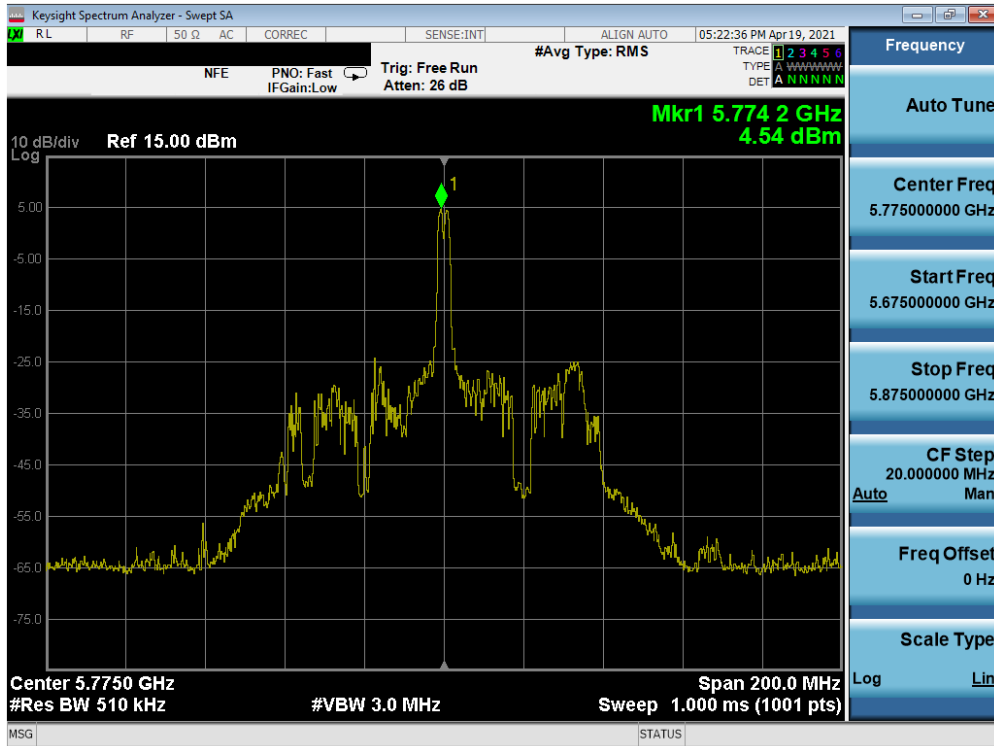


Plot 7-133. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)



Plot 7-134. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

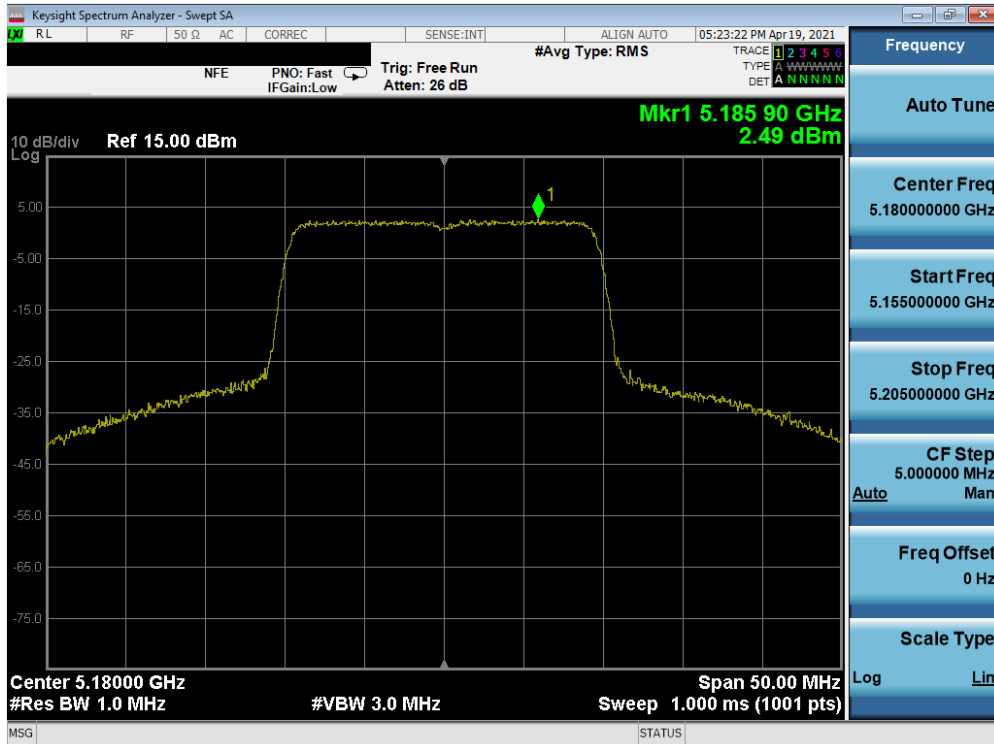
FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 107 of 216



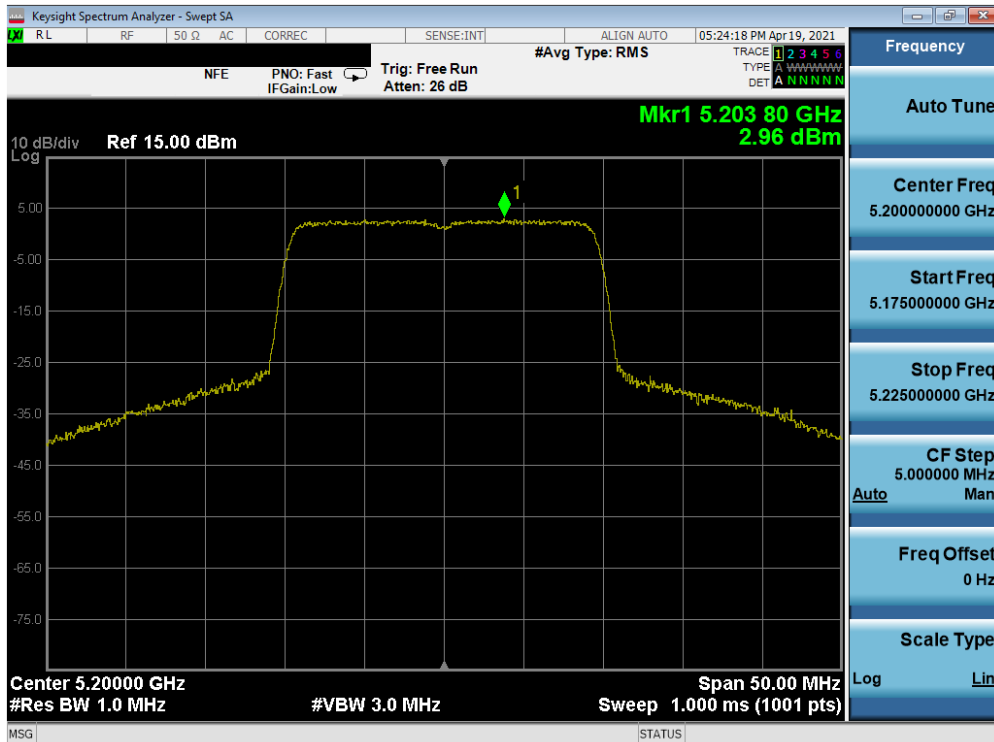
Plot 7-135. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 108 of 216

## SISO ANT 1 Power Spectral Density Measurements (Full Tones)

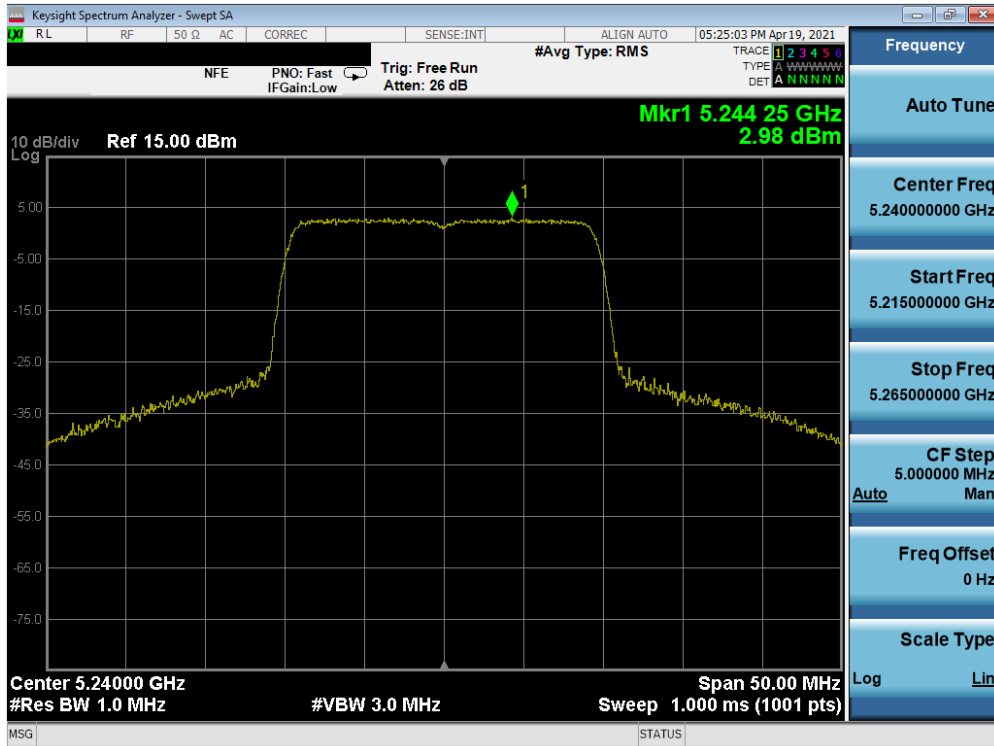


Plot 7-136. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 36)

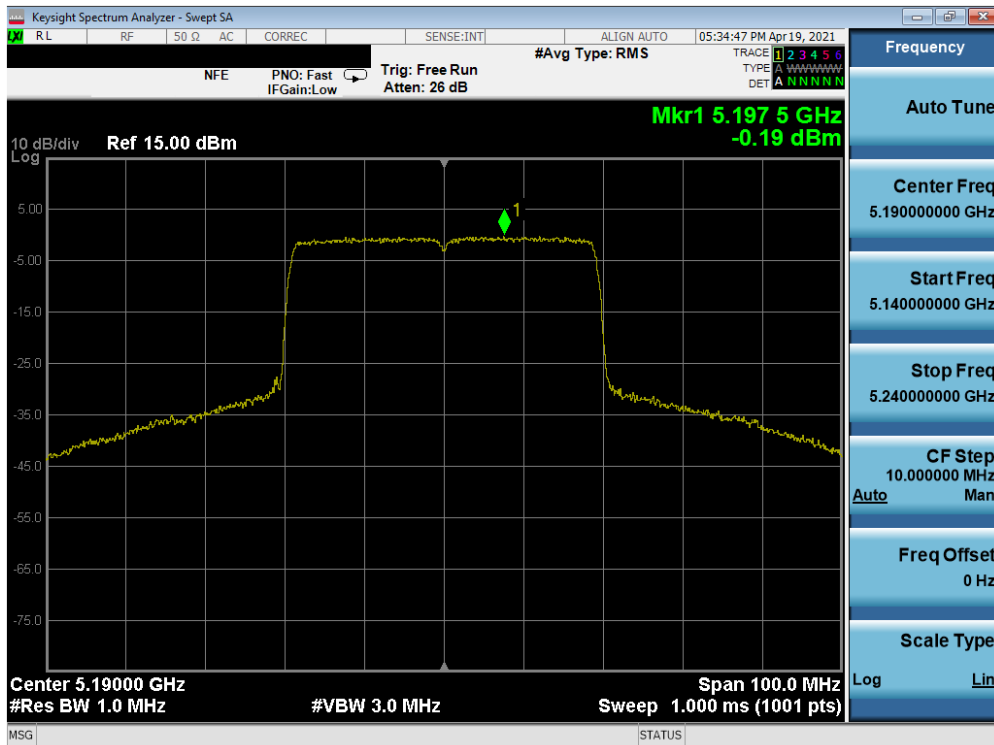


Plot 7-137. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 109 of 216

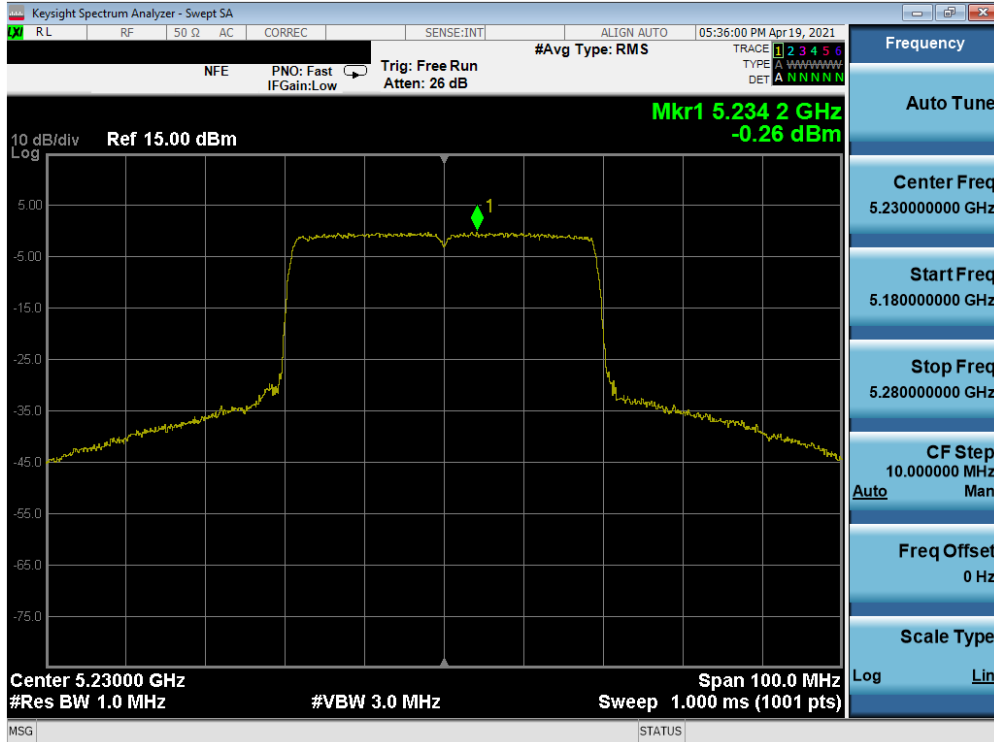


Plot 7-138. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 48)

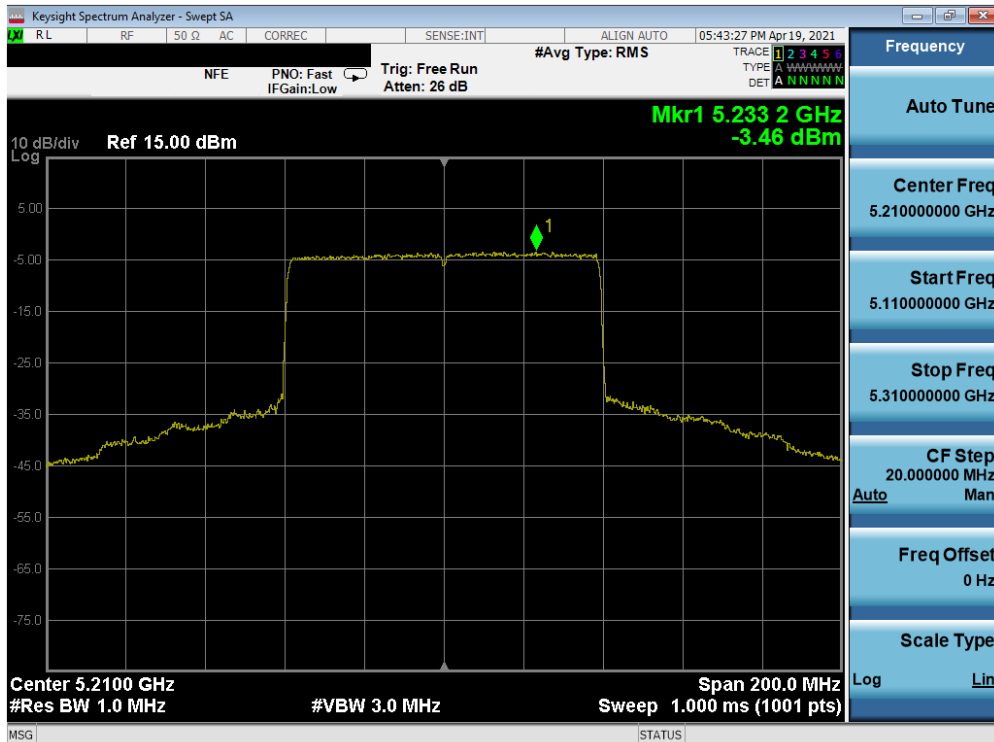


Plot 7-139. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF711B1	Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 110 of 216



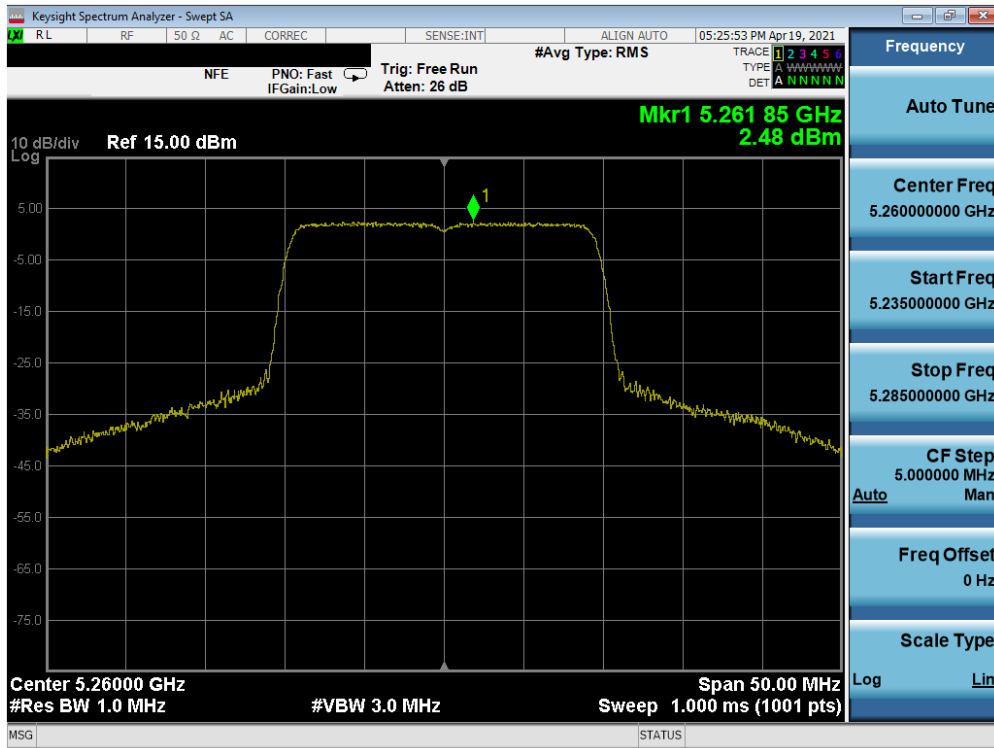
Plot 7-140. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 46)



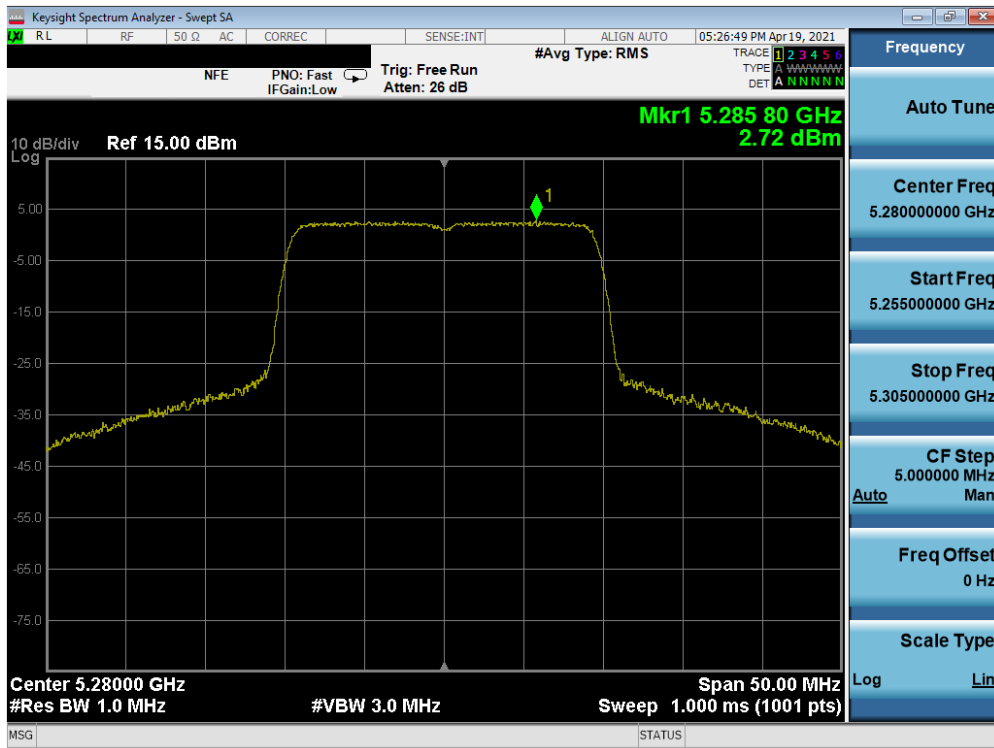
Plot 7-141. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 111 of 216



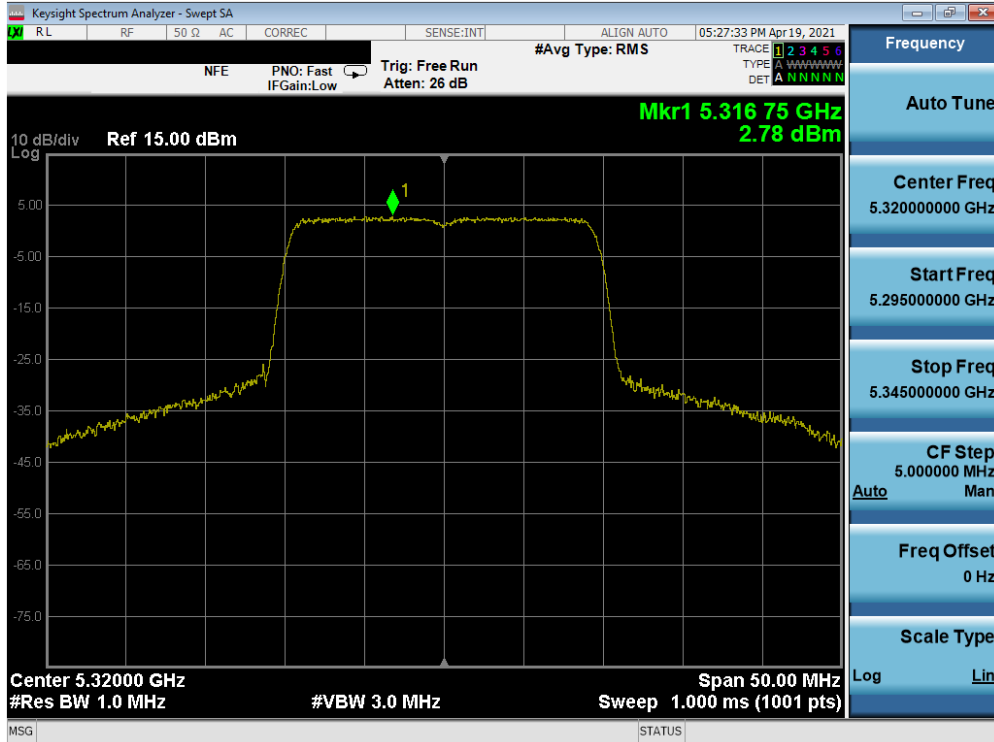


Plot 7-142. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)

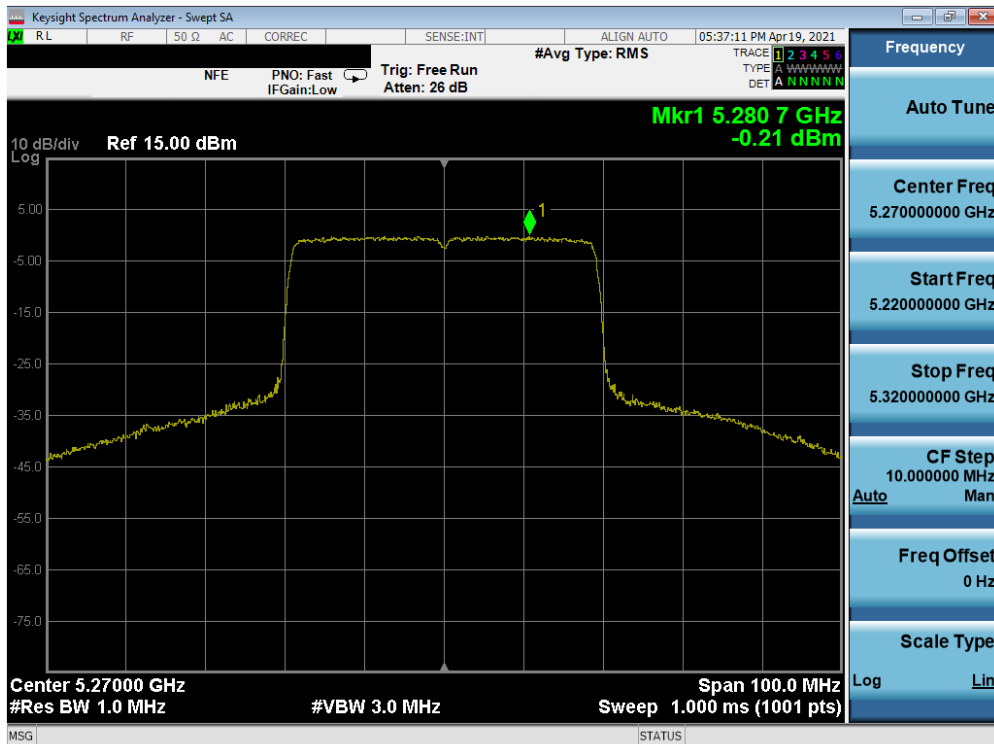


Plot 7-143. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 112 of 216

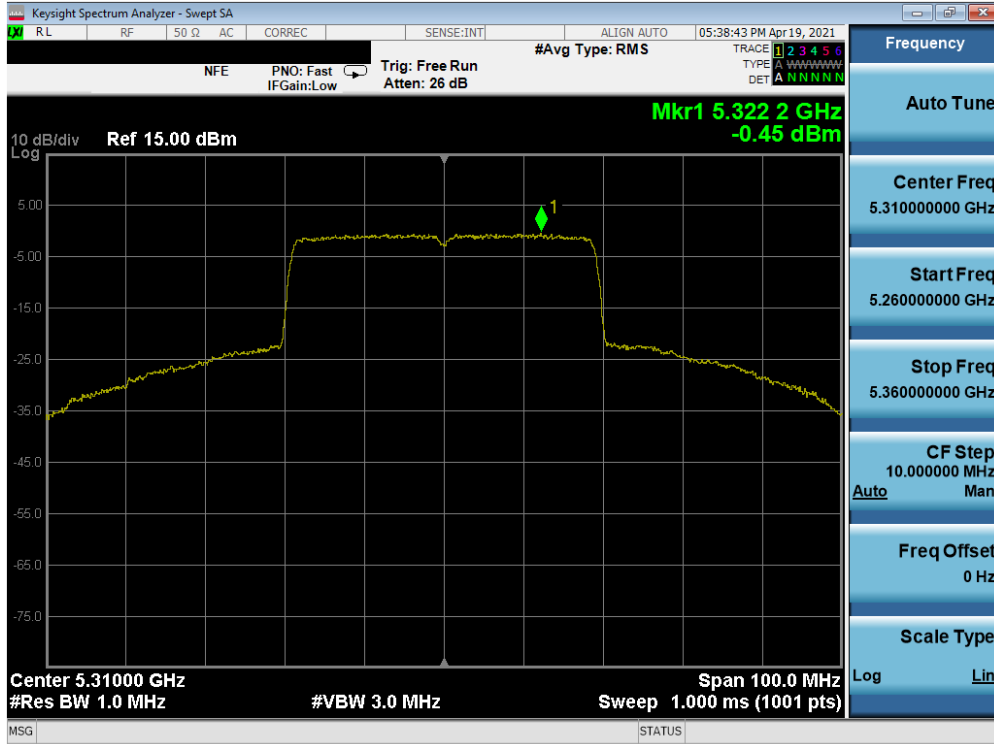


Plot 7-144. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)

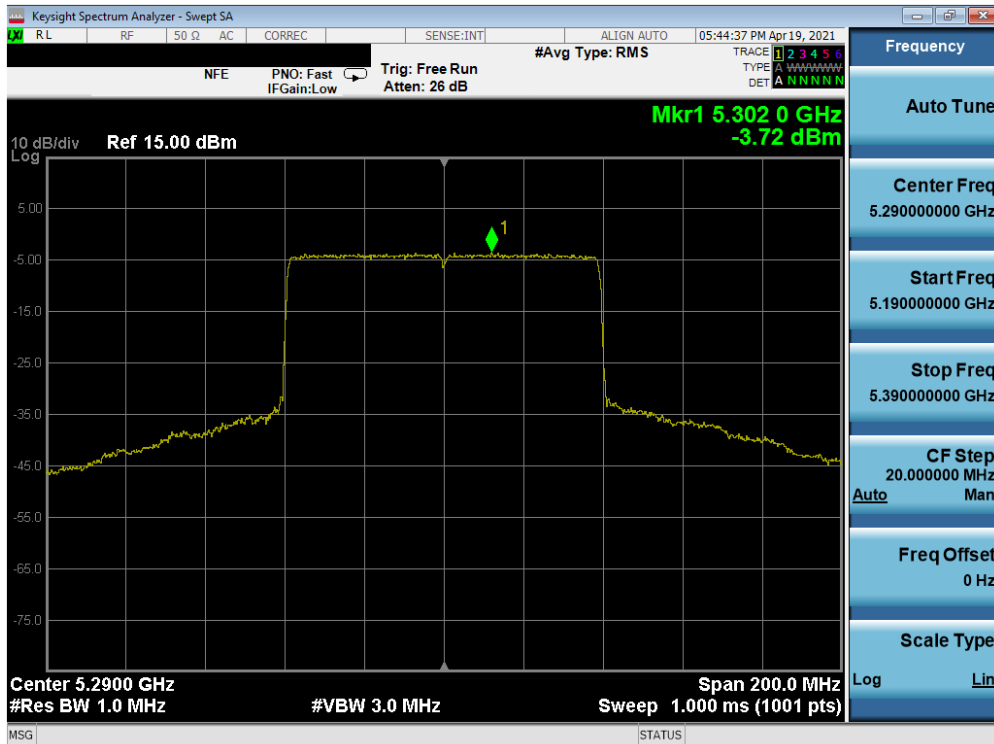


Plot 7-145. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 113 of 216

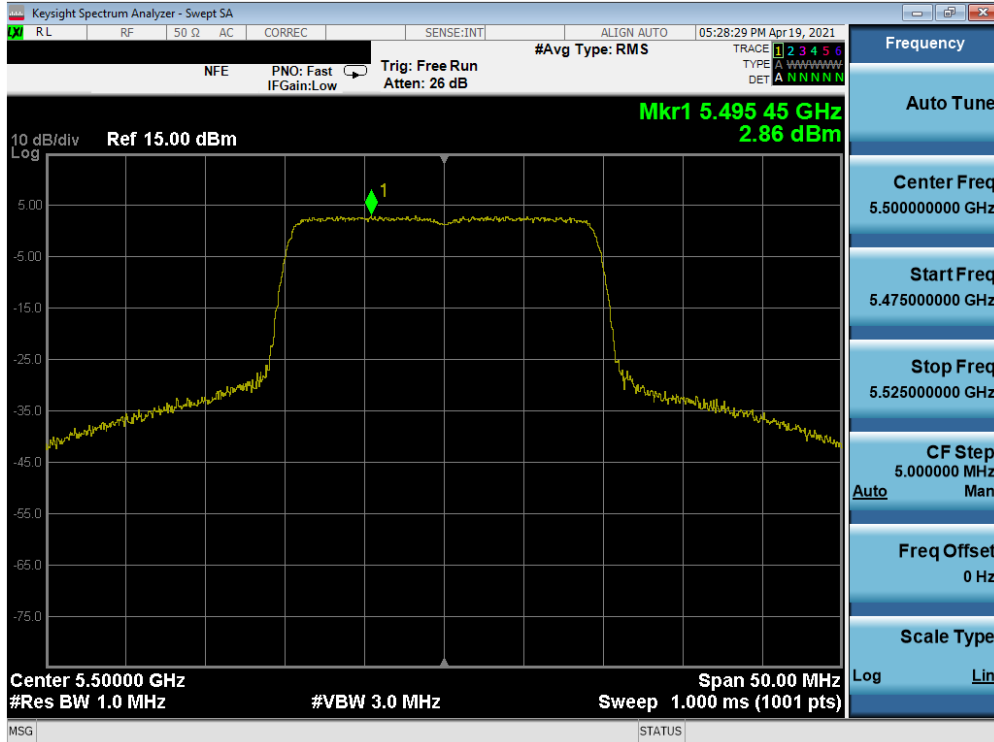


Plot 7-146. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 62)

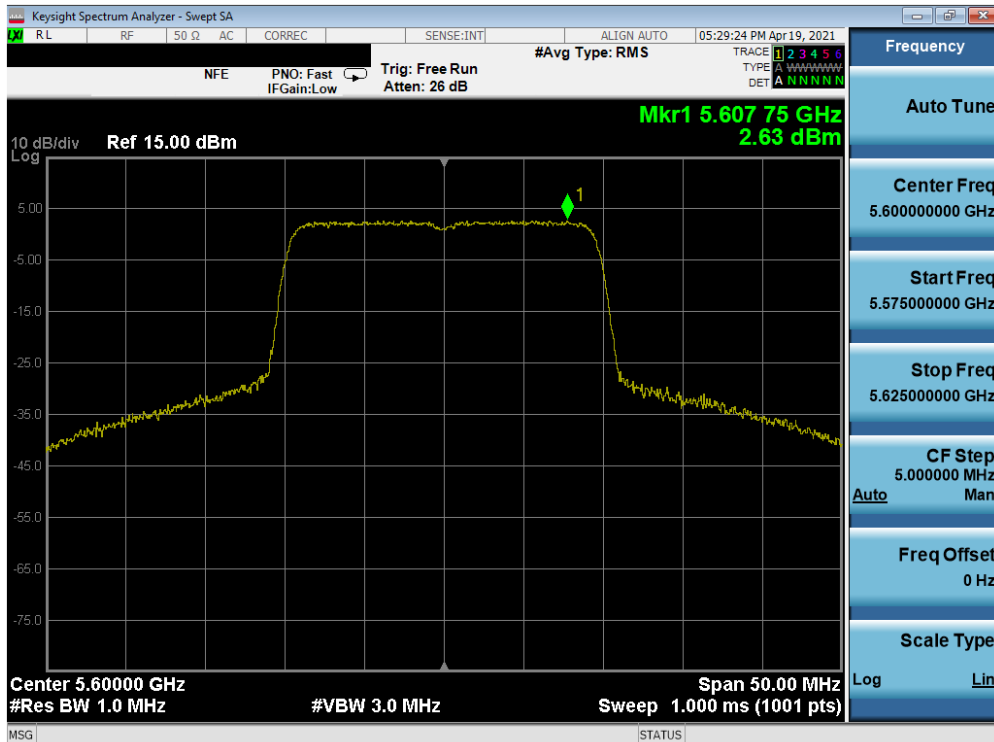


Plot 7-147. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 114 of 216

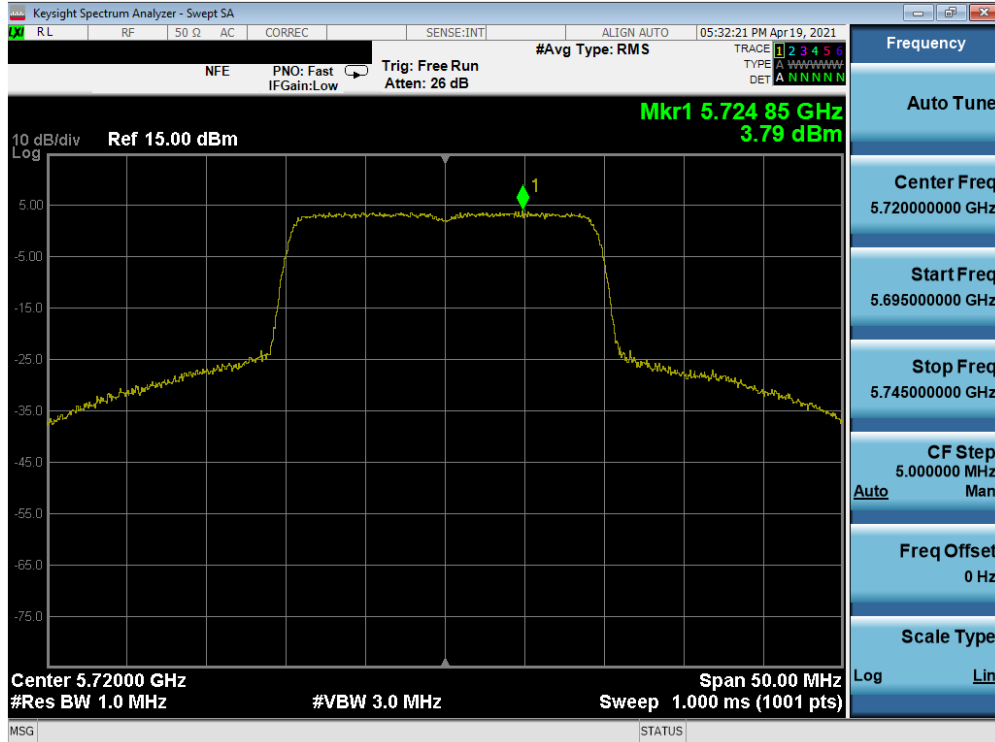


Plot 7-148. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 100)

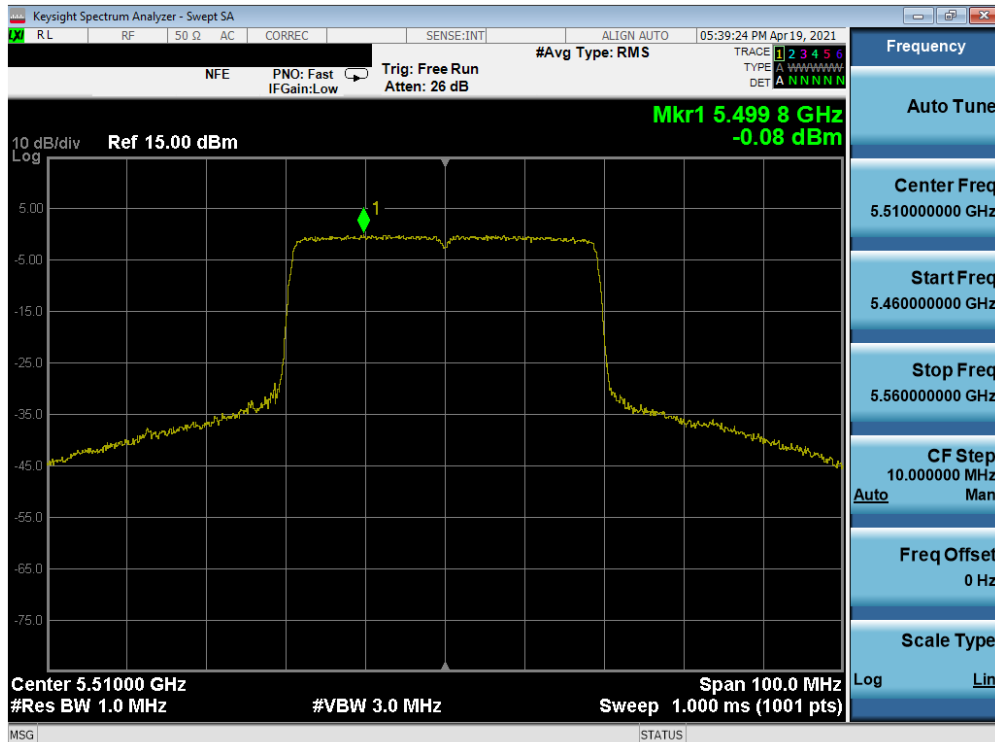


Plot 7-149. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 115 of 216

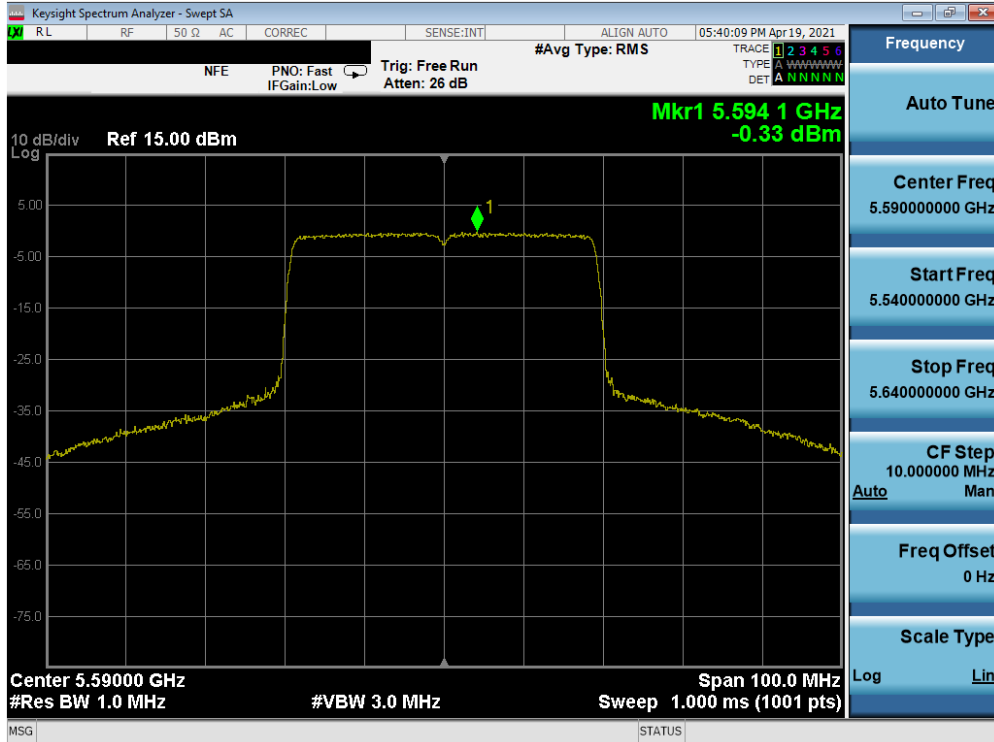


Plot 7-150. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 144)

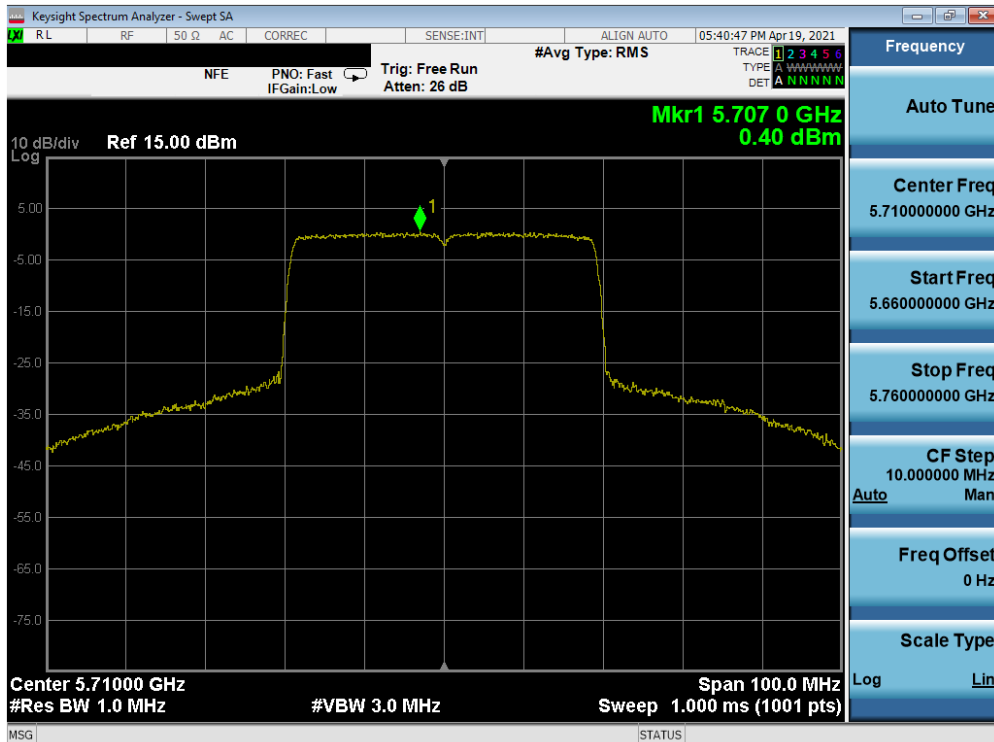


Plot 7-151. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 116 of 216

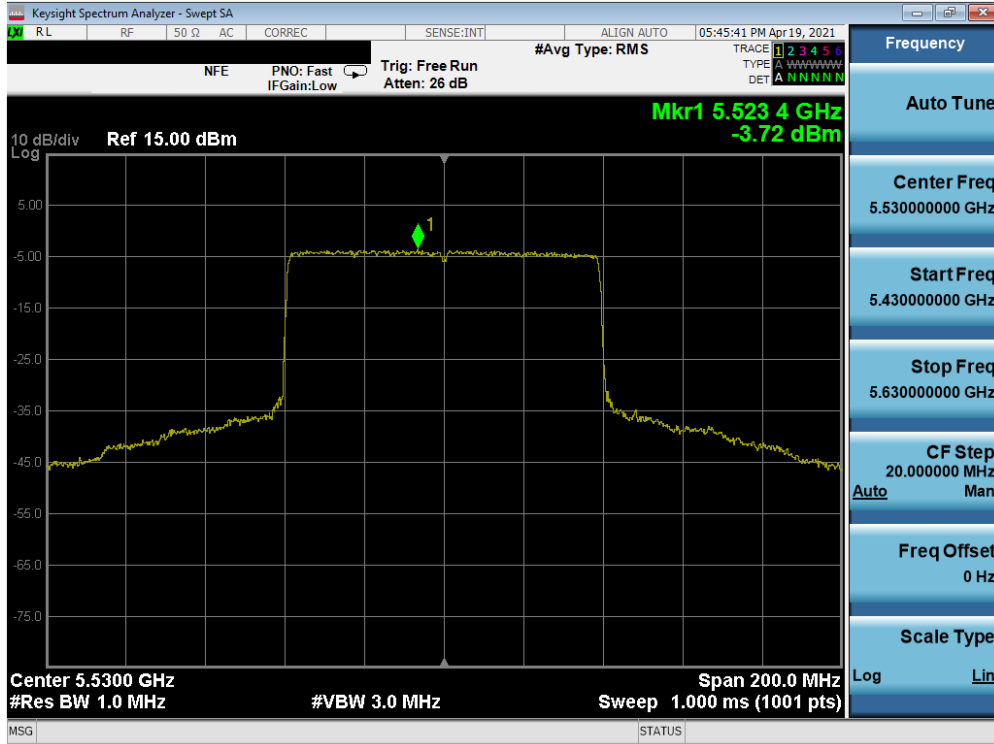


Plot 7-152. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)

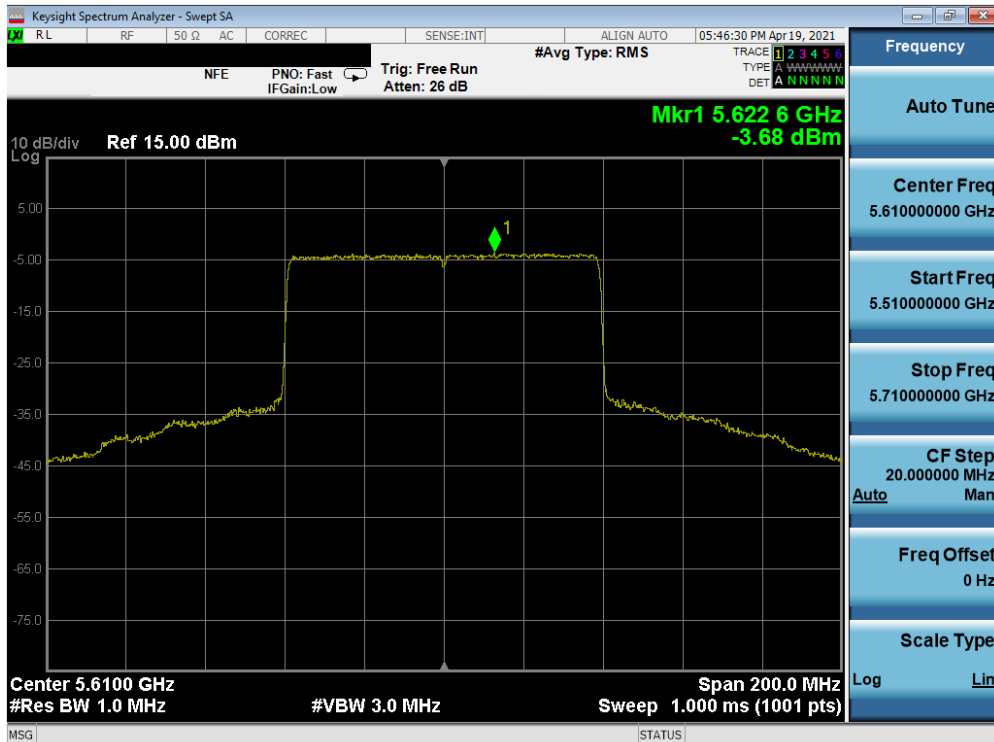


Plot 7-153. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 117 of 216

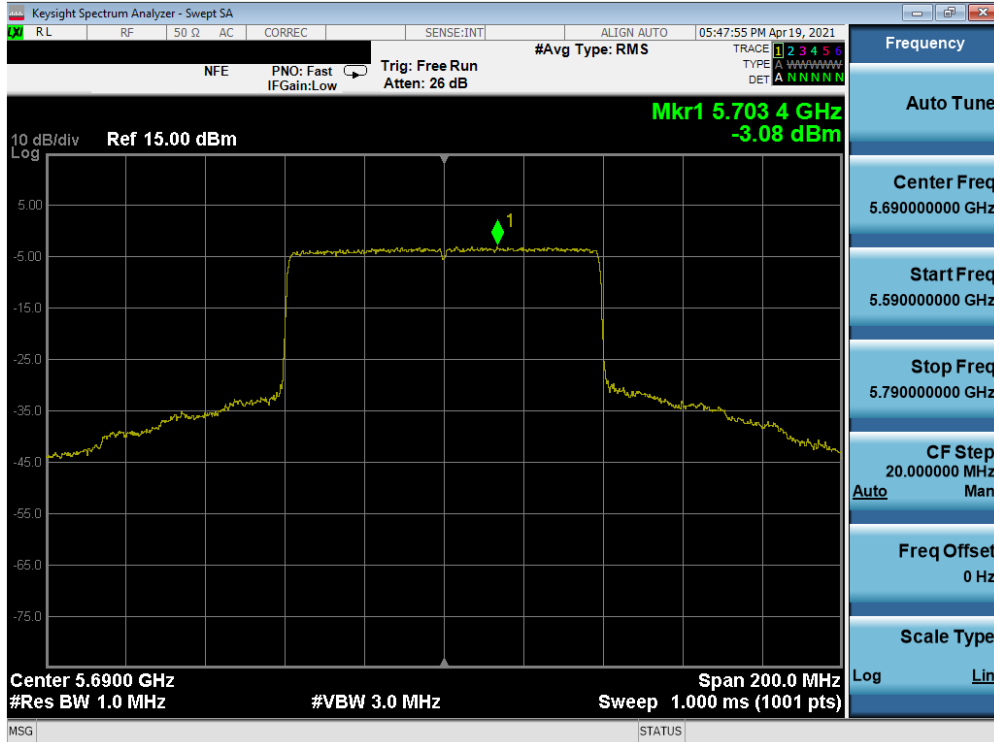


Plot 7-154. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 106)

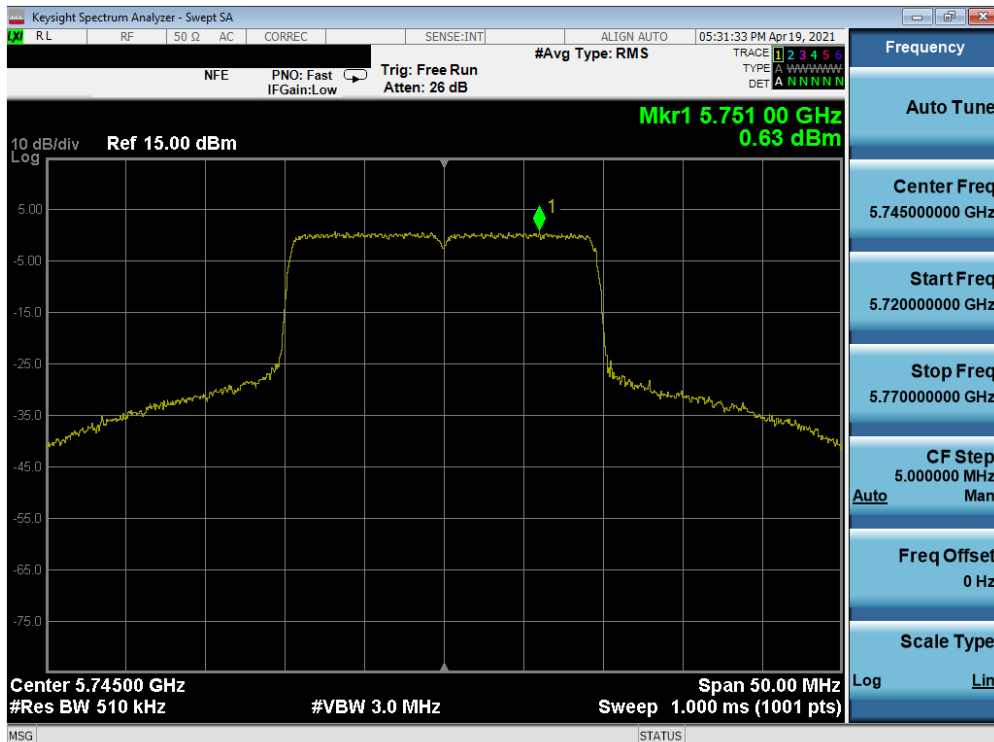


Plot 7-155. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 118 of 216



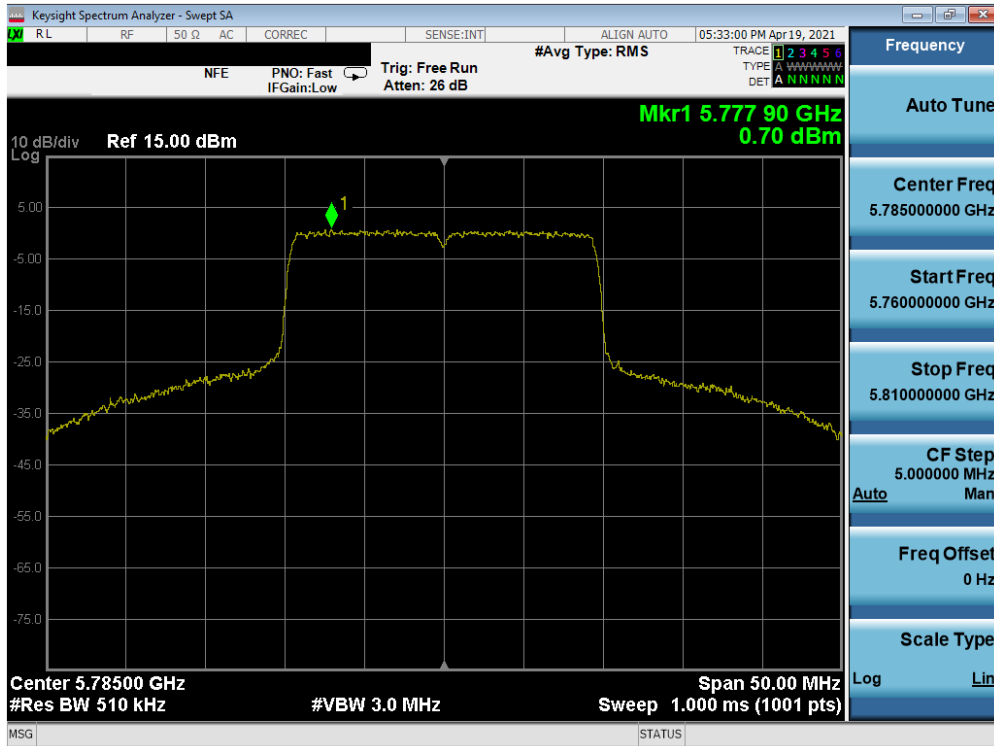
Plot 7-156. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 138)



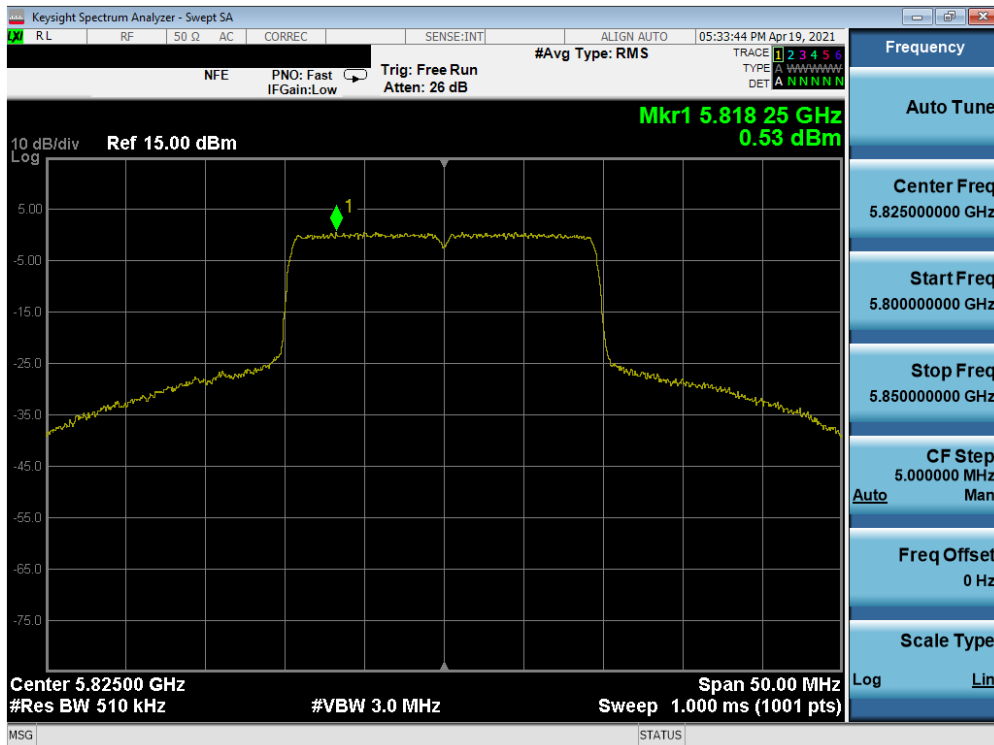
Plot 7-157. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 119 of 216



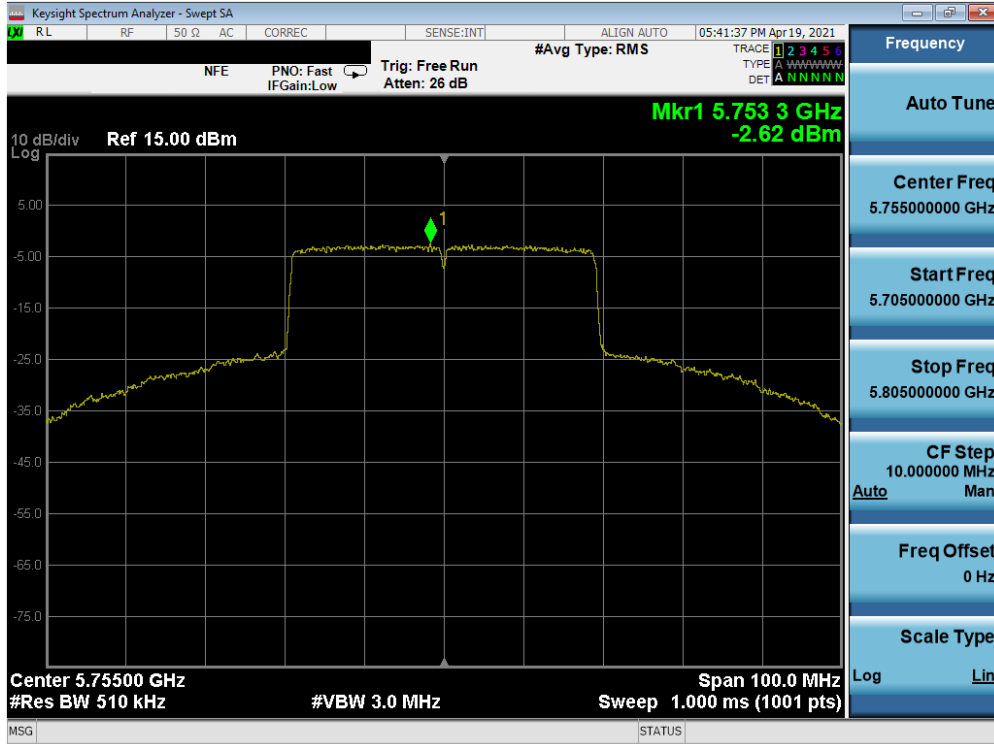


Plot 7-158. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 157)

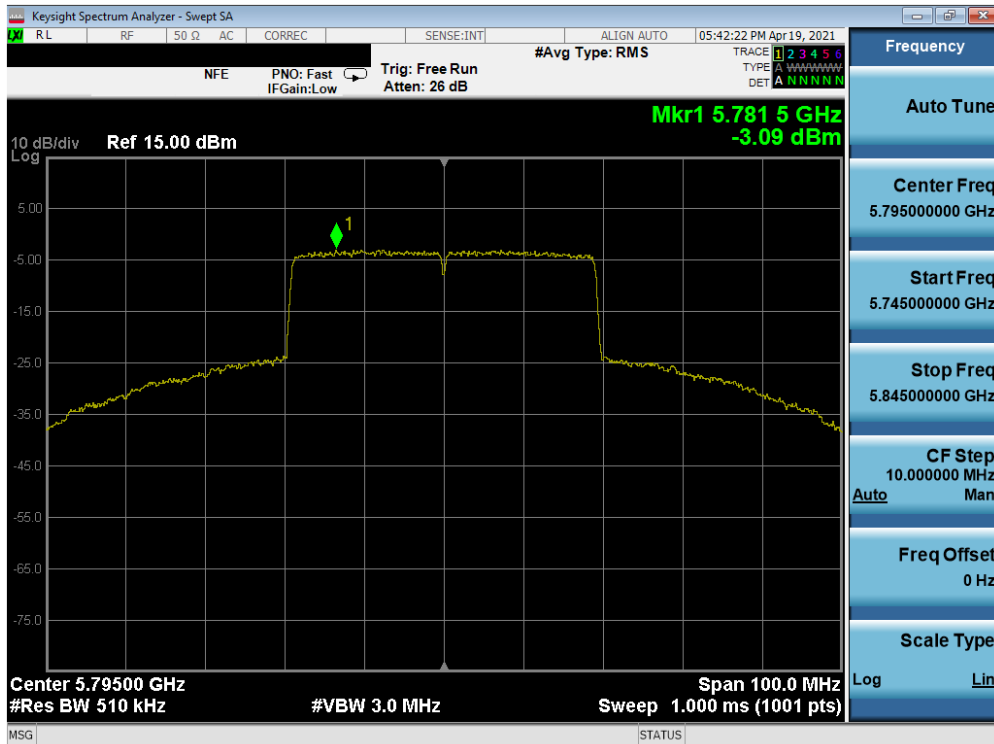


Plot 7-159. Power Spectral Density Plot SISO ANT1 (20 MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 120 of 216

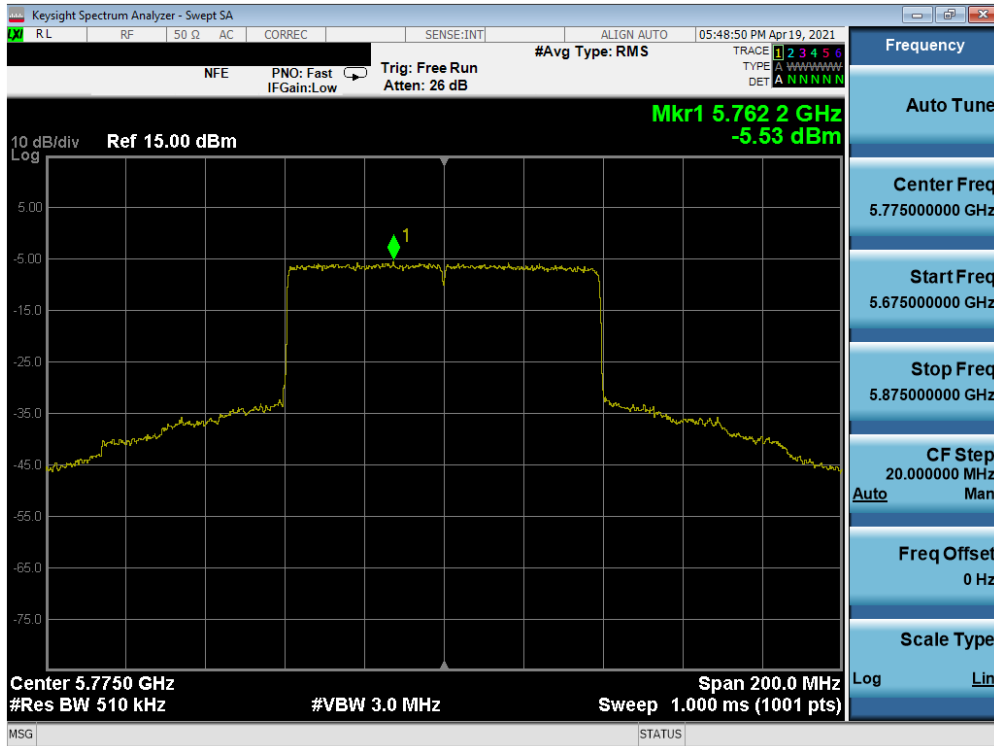


Plot 7-160. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 151)



Plot 7-161. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF711B1	PCTEST Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 121 of 216



Plot 7-162. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 122 of 216

## Summed MIMO Power Spectral Density Measurements (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	26T	MCS0	6.31	5.89	9.12	11.00	-1.88
	5200	40	ax (20MHz)	26T	MCS0	5.65	5.91	8.79	11.00	-2.21
	5240	48	ax (20MHz)	26T	MCS0	6.86	7.57	10.24	11.00	-0.76
	5190	38	ax (40MHz)	26T	MCS0	7.23	6.26	9.78	11.00	-1.22
	5230	46	ax (40MHz)	26T	MCS0	6.36	7.43	9.93	11.00	-1.07
	5210	42	ax (80MHz)	26T	MCS0	6.41	7.75	10.14	11.00	-0.86
Band 2A	5260	52	ax (20MHz)	26T	MCS0	6.84	7.65	10.27	11.00	-0.73
	5280	56	ax (20MHz)	26T	MCS0	6.37	5.99	9.20	11.00	-1.80
	5320	64	ax (20MHz)	26T	MCS0	6.09	7.80	10.04	11.00	-0.96
	5270	54	ax (40MHz)	26T	MCS0	7.21	7.53	10.38	11.00	-0.62
	5310	62	ax (40MHz)	26T	MCS0	6.67	7.68	10.21	11.00	-0.79
	5290	58	ax (80MHz)	26T	MCS0	6.26	7.07	9.69	11.00	-1.31
Band 2C	5500	100	ax (20MHz)	26T	MCS0	7.04	7.15	10.10	11.00	-0.90
	5600	120	ax (20MHz)	26T	MCS0	6.63	6.24	9.45	11.00	-1.55
	5720	144	ax (20MHz)	26T	MCS0	5.44	5.80	8.63	11.00	-2.37
	5510	102	ax (40MHz)	26T	MCS0	7.00	7.68	10.37	11.00	-0.63
	5590	118	ax (40MHz)	26T	MCS0	7.65	7.16	10.42	11.00	-0.58
	5710	142	ax (40MHz)	26T	MCS0	6.38	6.99	9.71	11.00	-1.29
	5530	106	ax (80MHz)	26T	MCS0	7.62	6.82	10.25	11.00	-0.75
	5610	122	ax (80MHz)	26T	MCS0	6.65	5.71	9.21	11.00	-1.79
5690	138	ax (80MHz)	26T	MCS0	5.97	6.04	9.01	11.00	-1.99	

Table 7-44. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	26T	MCS0	4.01	3.88	6.96	30.00	-23.04
	5785	157	ax (20MHz)	26T	MCS0	4.13	4.47	7.31	30.00	-22.69
	5825	165	ax (20MHz)	26T	MCS0	4.07	4.32	7.21	30.00	-22.79
	5755	151	ax (40MHz)	26T	MCS0	4.75	4.16	7.47	30.00	-22.53
	5795	159	ax (40MHz)	26T	MCS0	5.07	4.70	7.90	30.00	-22.10
	5775	155	ax (80MHz)	26T	MCS0	4.75	4.46	7.62	30.00	-22.38

Table 7-45. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 123 of 216

## Summed MIMO Power Spectral Density Measurements (Full Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	242T	MCS0	1.65	0.41	4.09	11.00	-6.91
	5200	40	ax (20MHz)	242T	MCS0	2.19	1.36	4.81	11.00	-6.19
	5240	48	ax (20MHz)	242T	MCS0	2.06	2.93	5.53	11.00	-5.47
	5190	38	ax (40MHz)	484T	MCS0	-2.56	-1.77	0.86	11.00	-10.14
	5230	46	ax (40MHz)	484T	MCS0	-0.69	0.38	2.88	11.00	-8.12
Band 2A	5210	42	ax (80MHz)	996T	MCS0	-5.62	-5.05	-2.31	11.00	-13.31
	5260	52	ax (20MHz)	242T	MCS0	2.12	3.54	5.90	11.00	-5.10
	5280	56	ax (20MHz)	242T	MCS0	2.25	2.54	5.41	11.00	-5.59
	5320	64	ax (20MHz)	242T	MCS0	2.65	3.71	6.22	11.00	-4.78
	5270	54	ax (40MHz)	484T	MCS0	-0.80	-0.86	2.18	11.00	-8.82
Band 2C	5310	62	ax (40MHz)	484T	MCS0	-0.79	-0.35	2.44	11.00	-8.56
	5290	58	ax (80MHz)	996T	MCS0	-6.77	-6.46	-3.60	11.00	-14.60
	5500	100	ax (20MHz)	242T	MCS0	3.41	2.20	5.86	11.00	-5.14
	5600	120	ax (20MHz)	242T	MCS0	2.13	1.95	5.05	11.00	-5.95
	5720	144	ax (20MHz)	242T	MCS0	1.25	1.16	4.22	11.00	-6.78
	5510	102	ax (40MHz)	484T	MCS0	-0.11	-0.60	2.66	11.00	-8.34
	5590	118	ax (40MHz)	484T	MCS0	-0.72	-0.95	2.18	11.00	-8.82
	5710	142	ax (40MHz)	484T	MCS0	-0.75	-1.18	2.05	11.00	-8.95
5530	106	ax (80MHz)	996T	MCS0	-2.84	-3.36	-0.08	11.00	-11.08	
5610	122	ax (80MHz)	996T	MCS0	-4.07	-4.01	-1.03	11.00	-12.03	
5690	138	ax (80MHz)	996T	MCS0	-3.64	-4.08	-0.84	11.00	-11.84	

Table 7-46. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	ax (20MHz)	242T	MCS0	-0.90	-1.05	2.04	30.00	-27.96
	5785	157	ax (20MHz)	242T	MCS0	0.43	-0.47	3.01	30.00	-26.99
	5825	165	ax (20MHz)	242T	MCS0	0.75	-0.30	3.27	30.00	-26.73
	5755	151	ax (40MHz)	484T	MCS0	-2.81	-2.02	0.61	30.00	-29.39
	5795	159	ax (40MHz)	484T	MCS0	-3.20	-2.36	0.25	30.00	-29.75
	5775	155	ax (80MHz)	996T	MCS0	-5.52	-6.65	-3.04	30.00	-33.04

Table 7-47. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

Note:

### Sample MIMO Calculation:

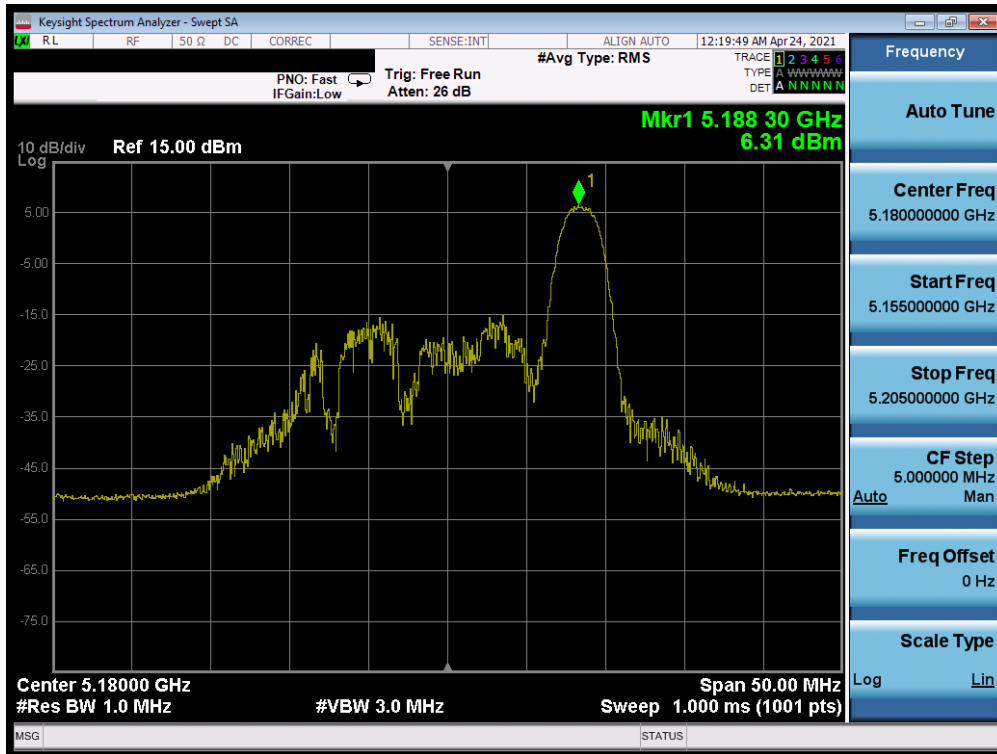
Assuming the average conducted power spectral density was measured to be 5.88 dBm for Antenna-1 and 6.27 dBm for Antenna-2.

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

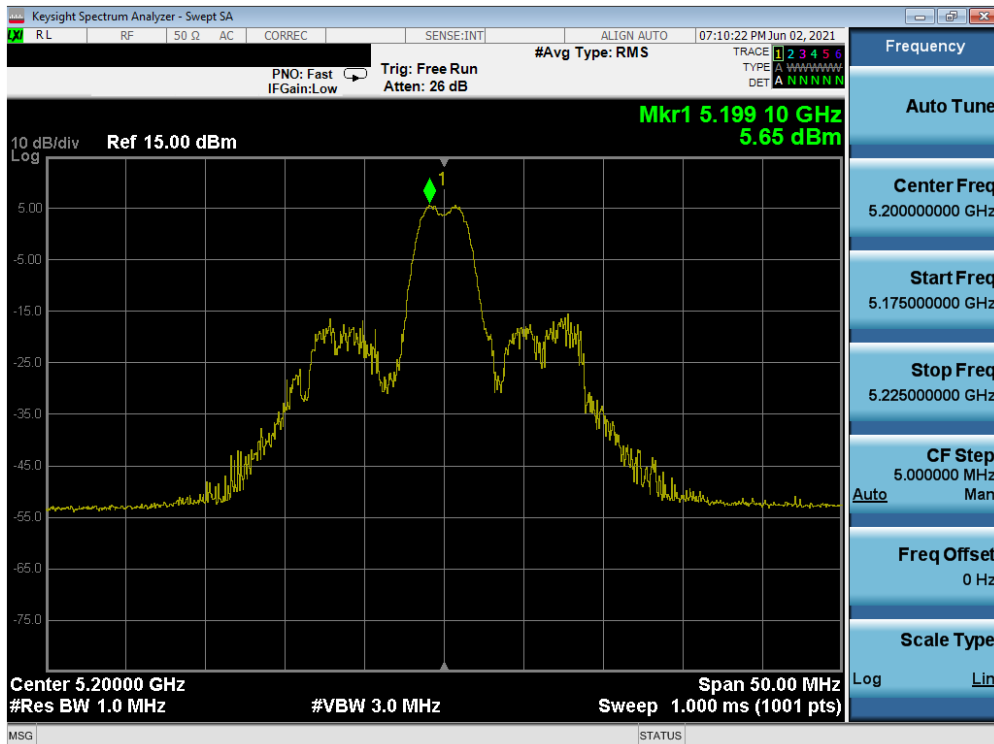
$$(5.88 \text{ dBm} + 6.27 \text{ dBm}) = (3.87 \text{ mW} + 4.24 \text{ mW}) = 8.11 \text{ mW} = 9.09 \text{ dBm}$$

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 124 of 216

## MIMO Antenna-1 Power Spectral Density Measurements (26 Tones)

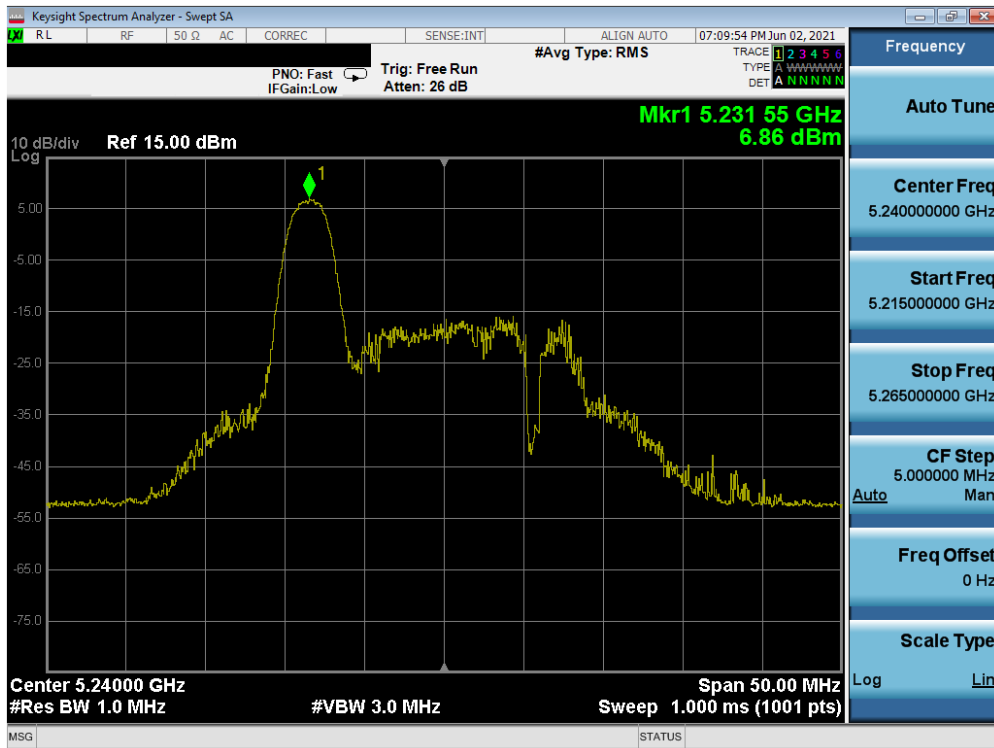


Plot 7-163. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

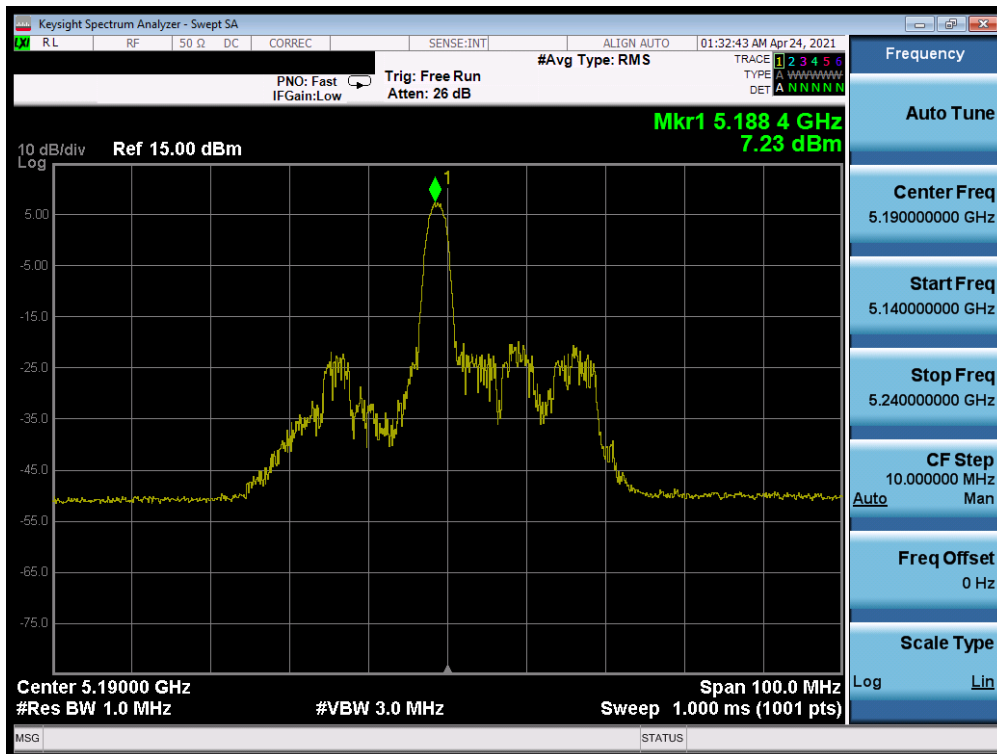


Plot 7-164. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 125 of 216

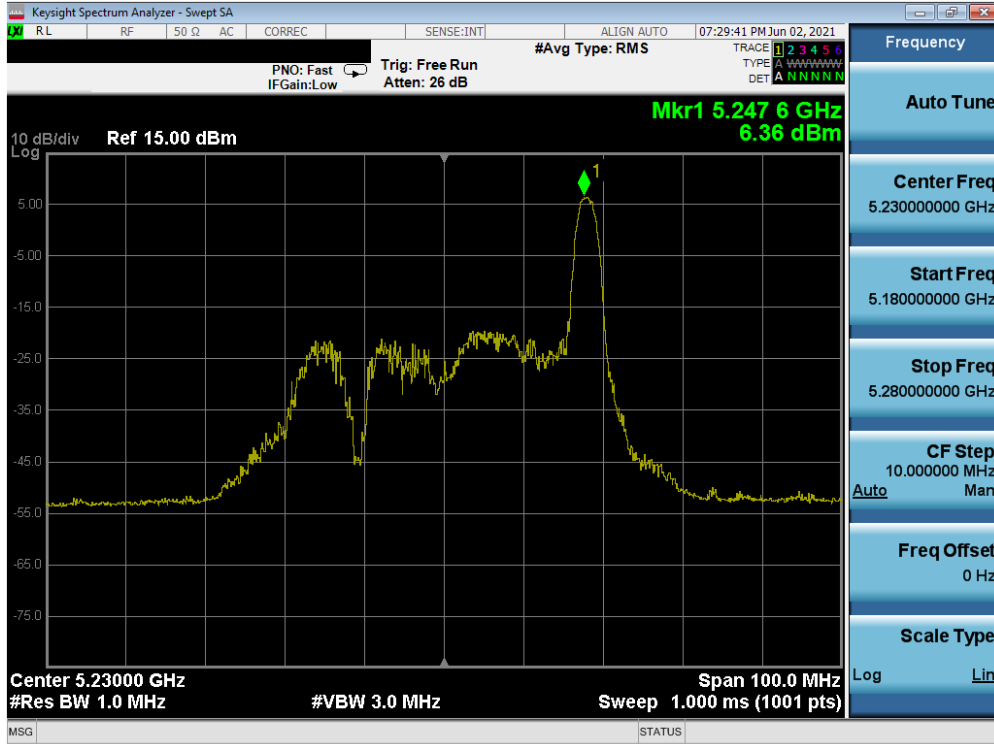


Plot 7-165. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

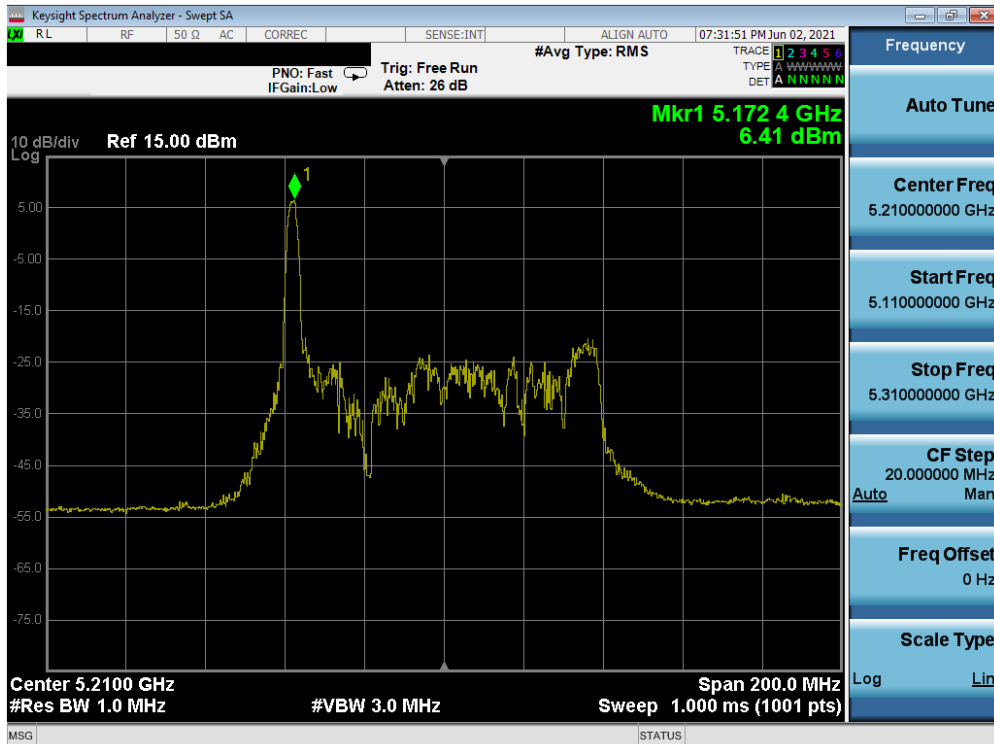


Plot 7-166. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF711B1	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 126 of 216



Plot 7-167. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)



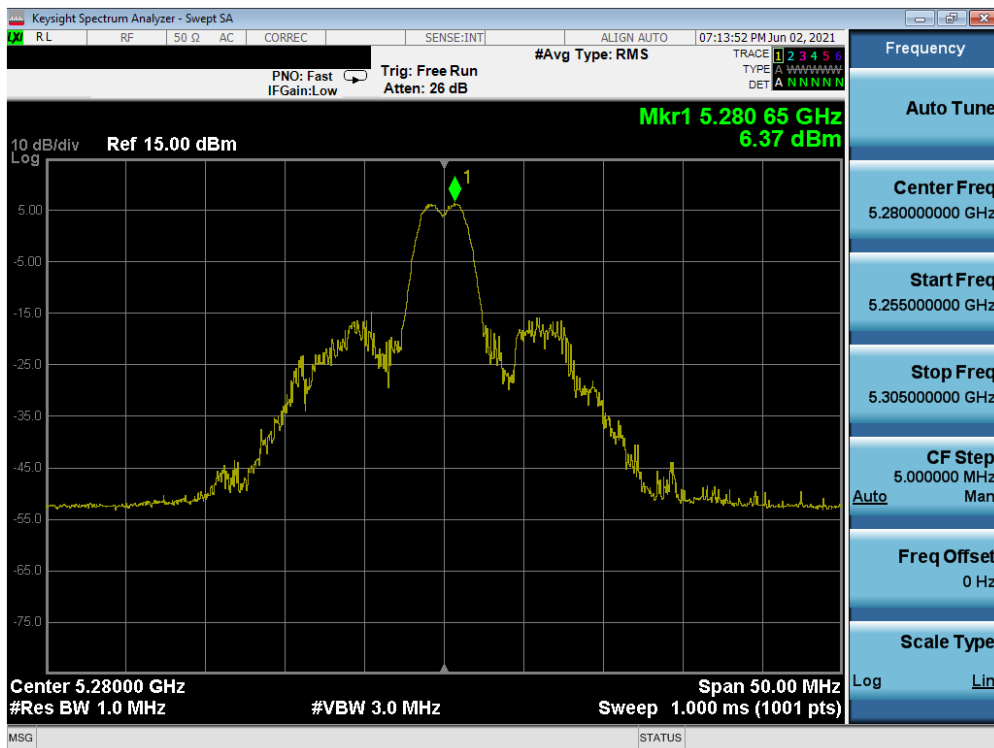
Plot 7-168. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMF711B1	Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 127 of 216



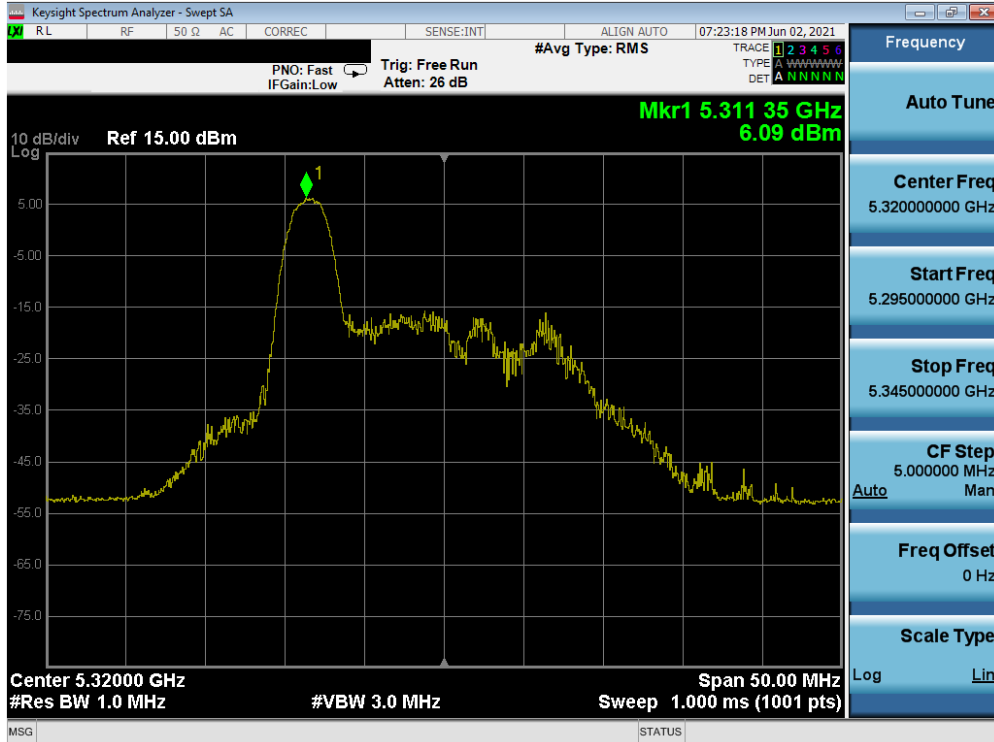


Plot 7-169. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

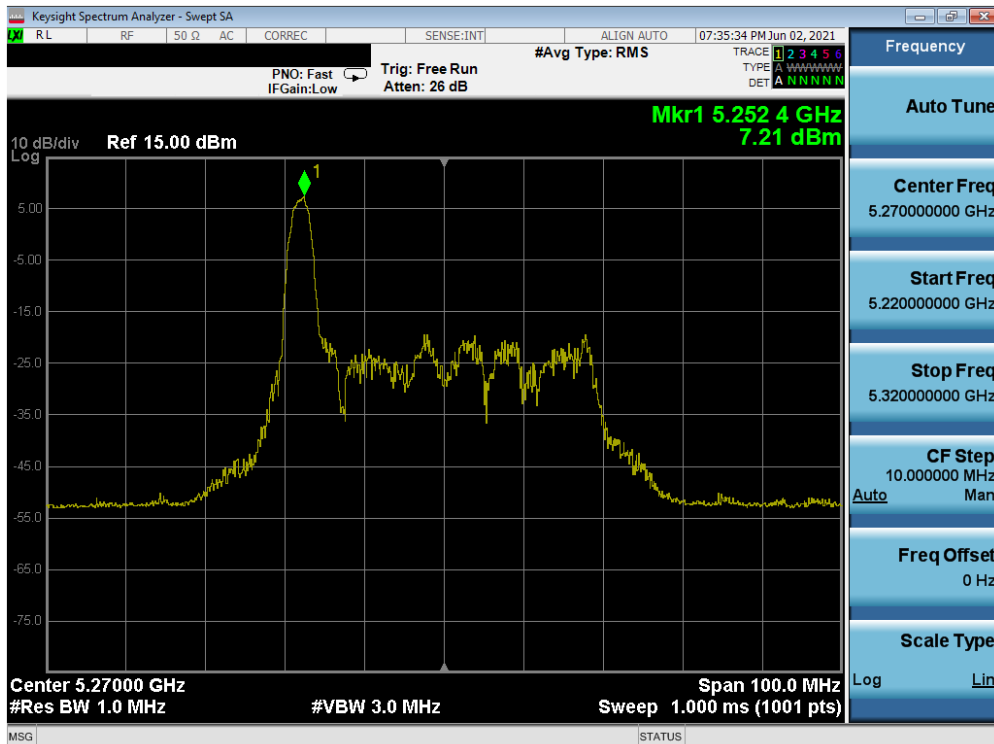


Plot 7-170. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 128 of 216

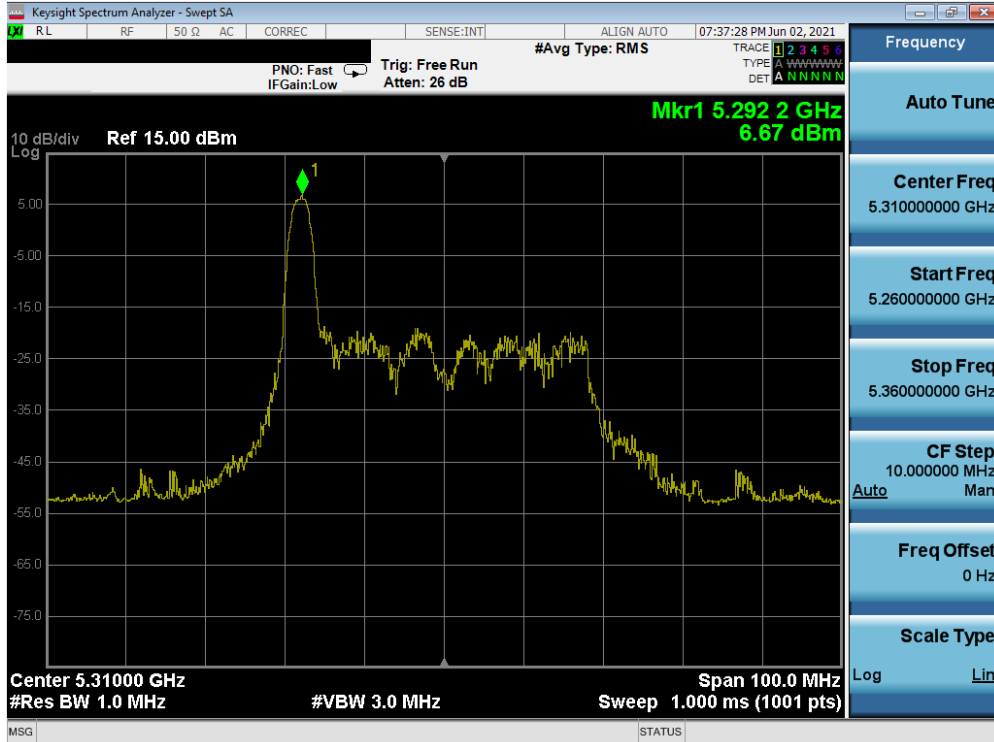


Plot 7-171. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

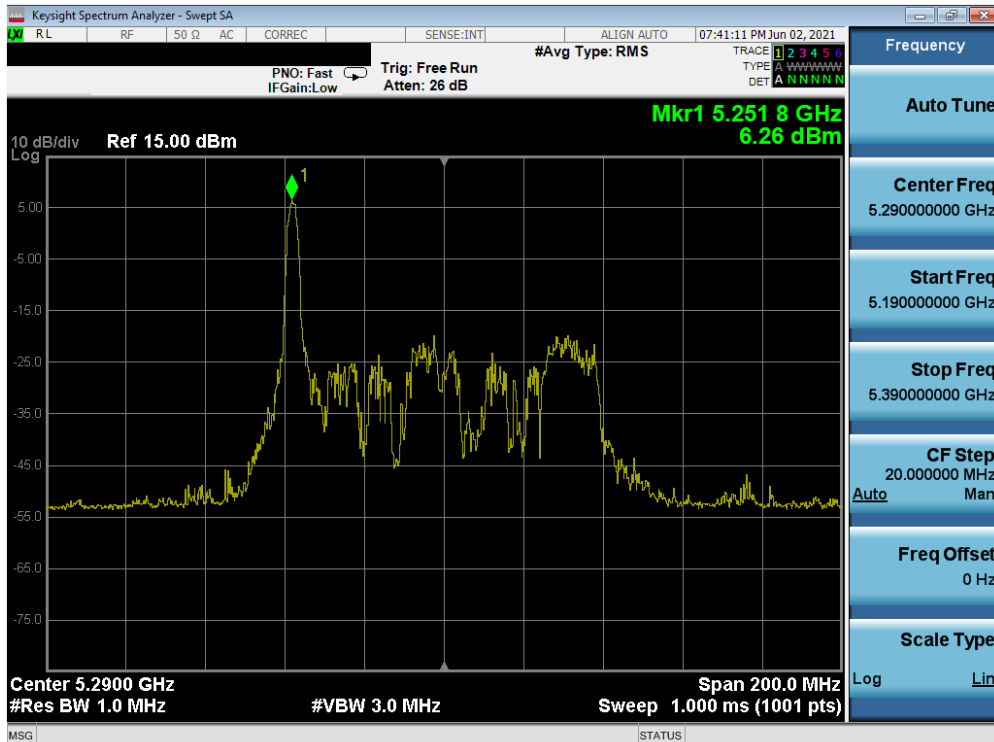


Plot 7-172. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMF711B1		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 129 of 216

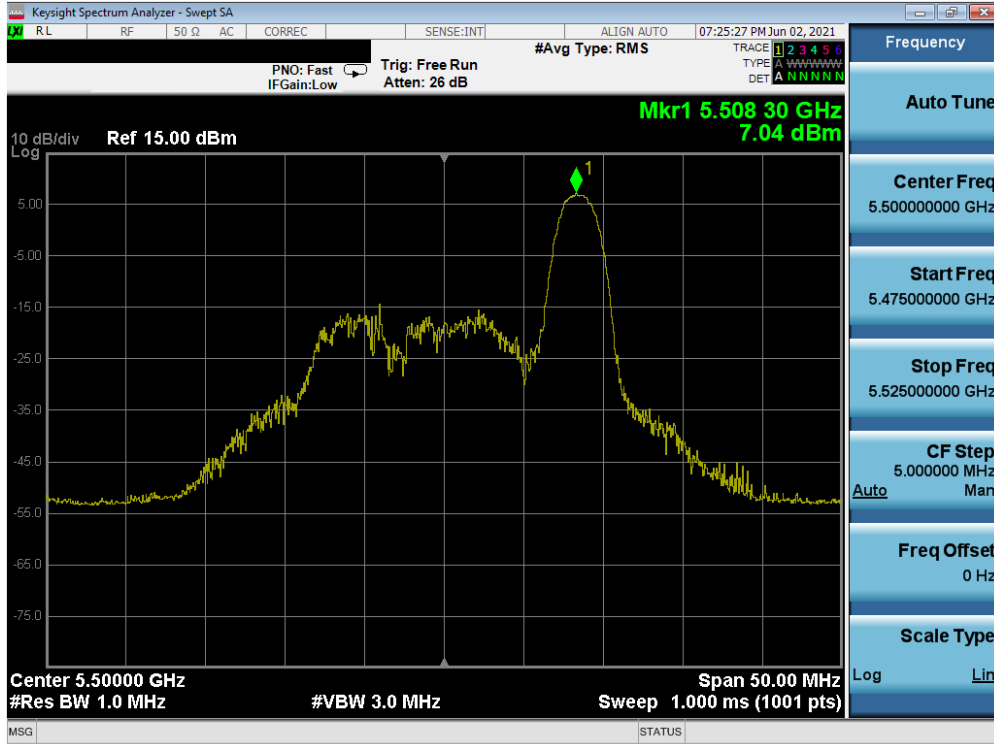


Plot 7-173. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

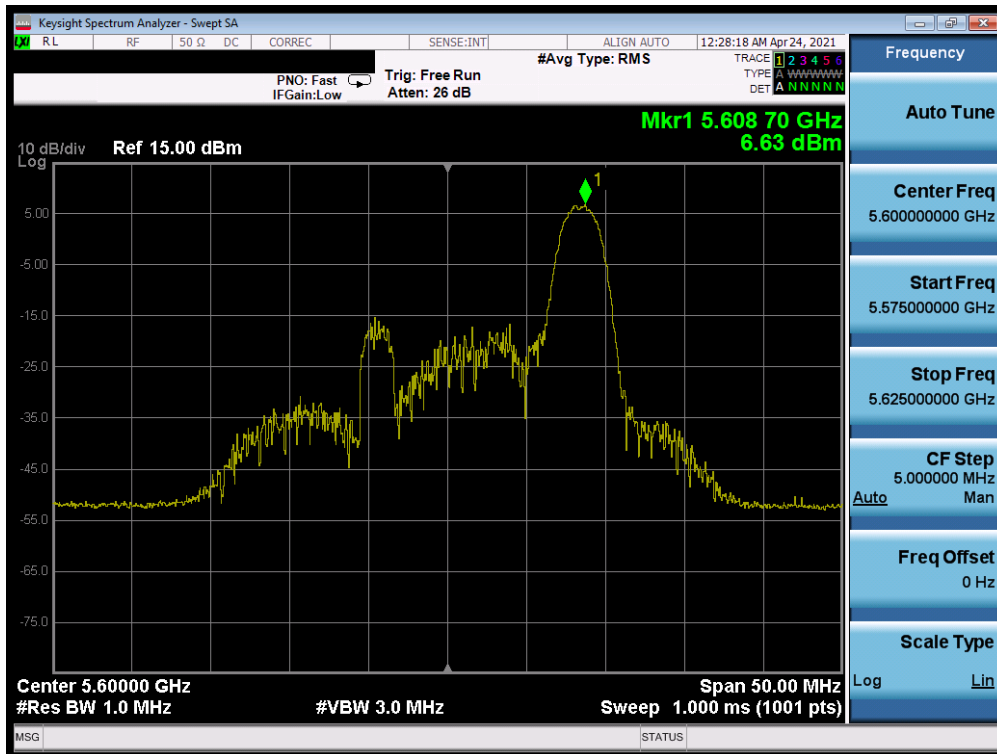


Plot 7-174. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMF711B1	 Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 130 of 216

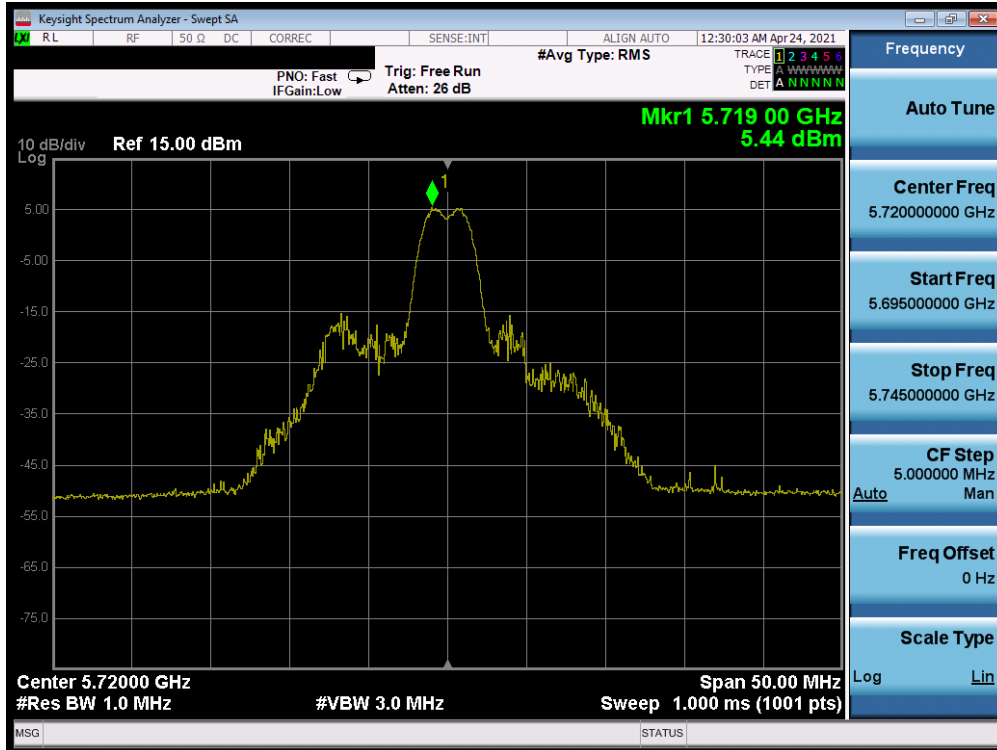


Plot 7-175. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

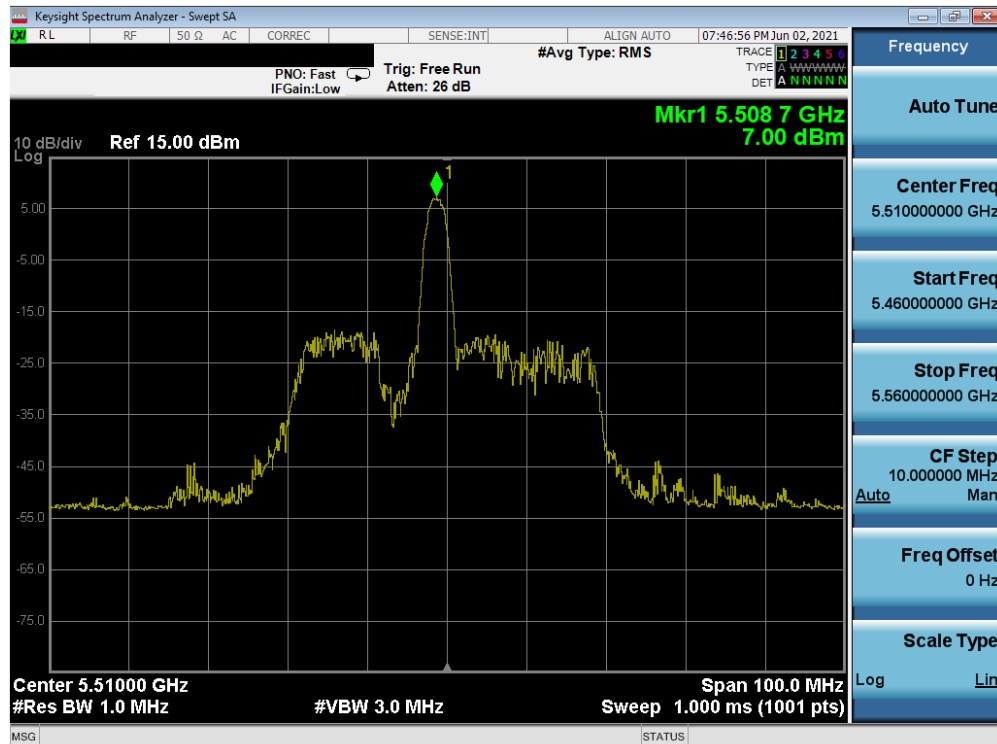


Plot 7-176. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 131 of 216

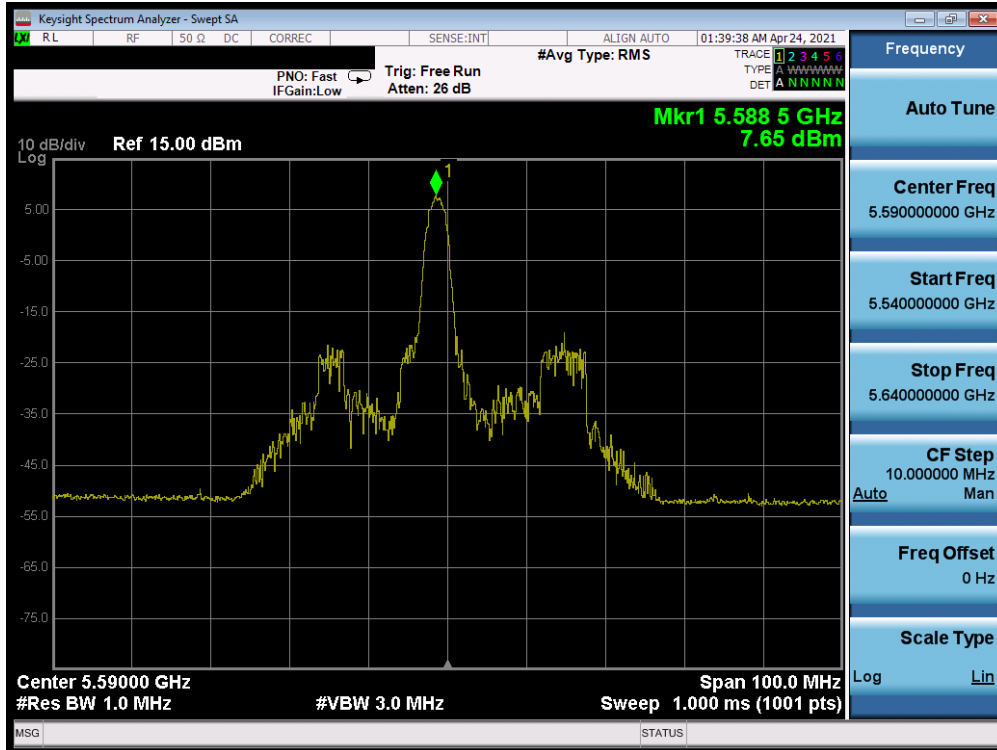


Plot 7-177. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

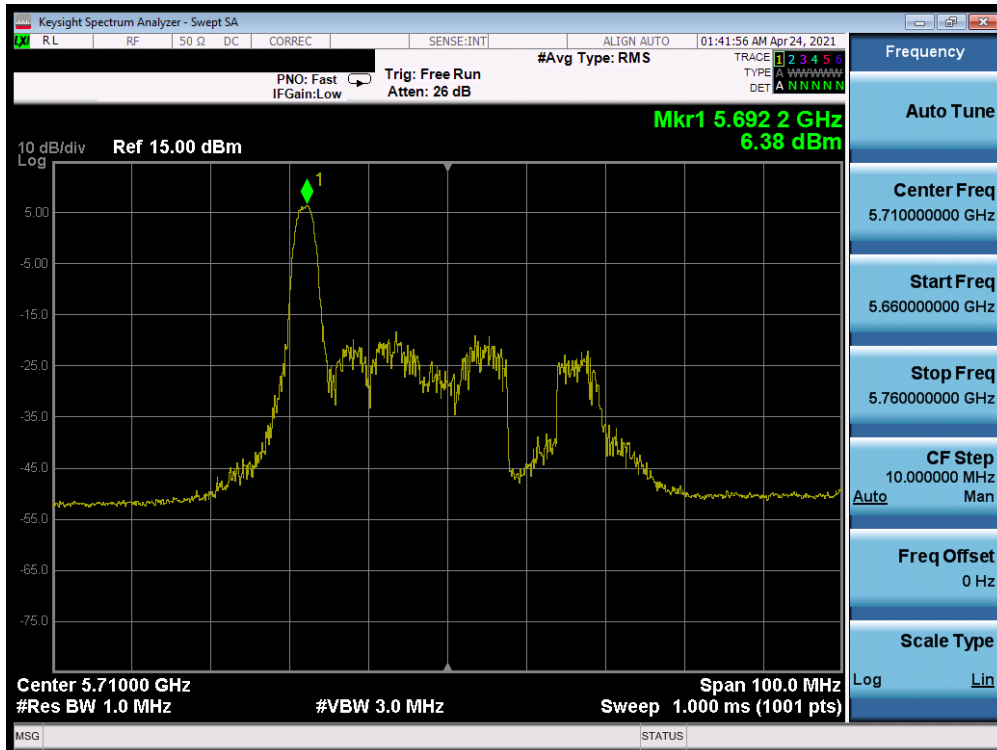


Plot 7-178. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMF711B1	Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 132 of 216

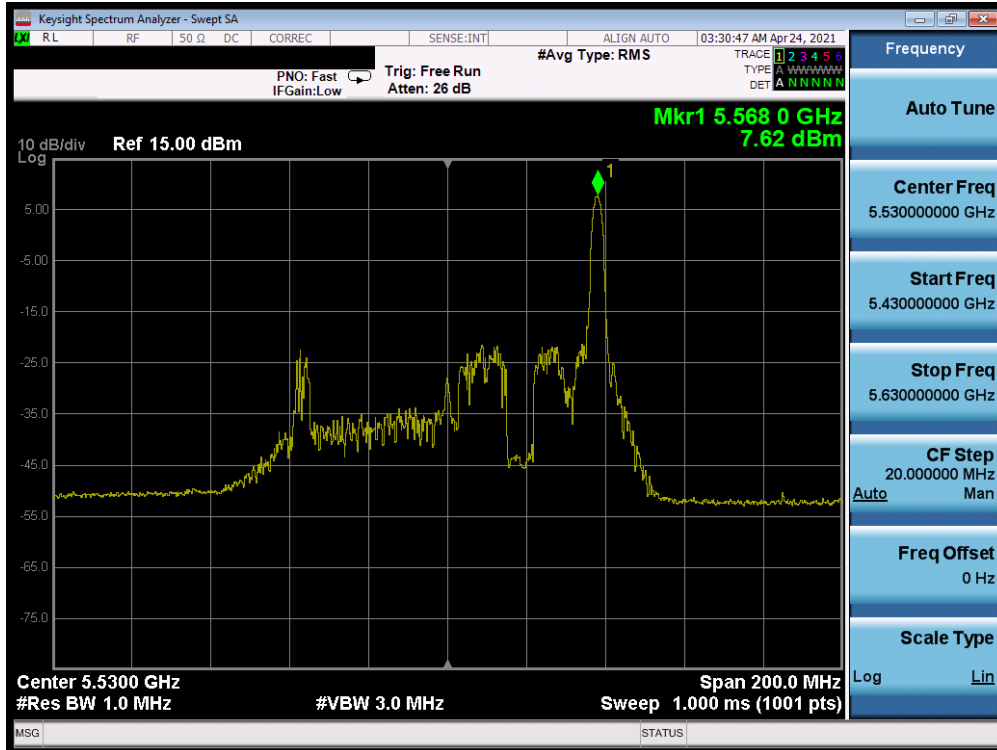


Plot 7-179. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

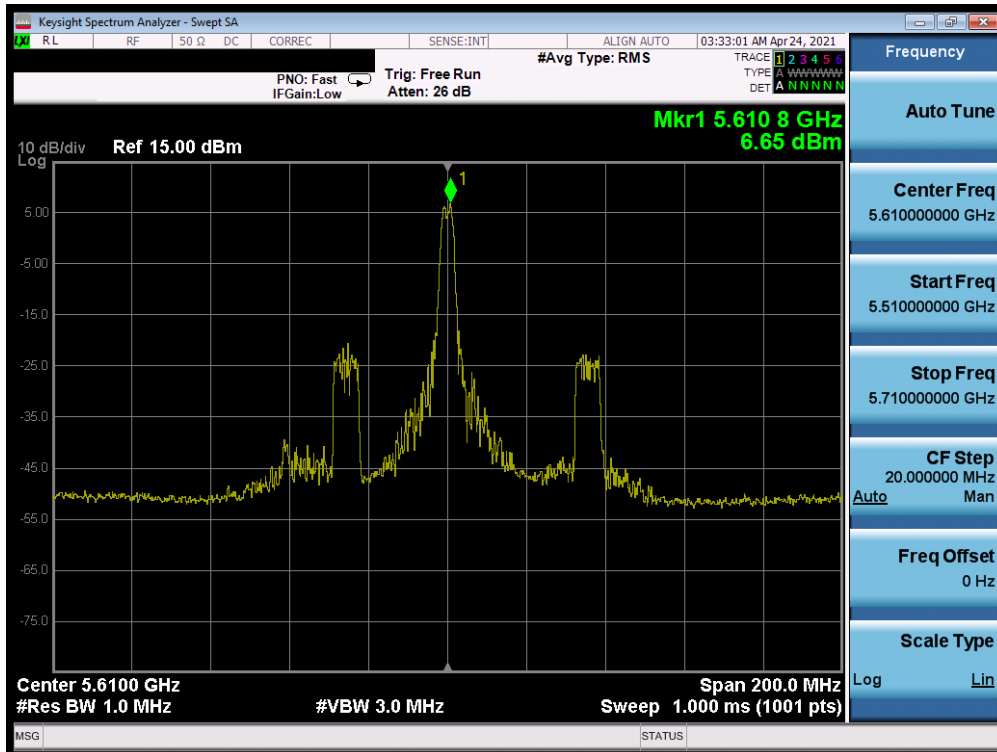


Plot 7-180. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 133 of 216

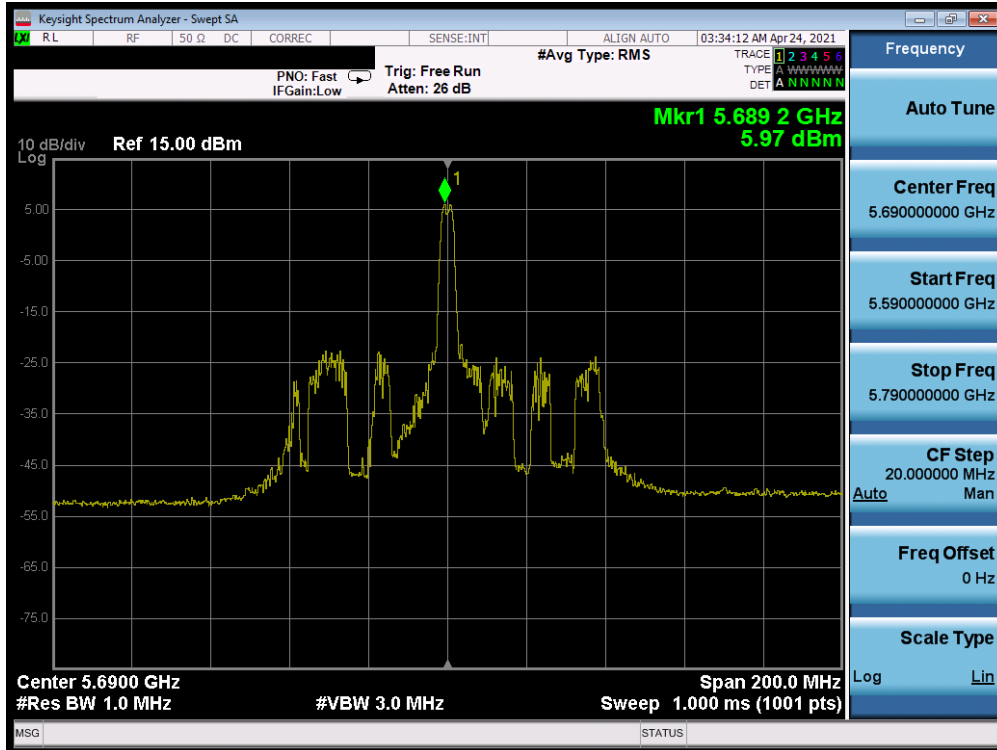


Plot 7-181. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)



Plot 7-182. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

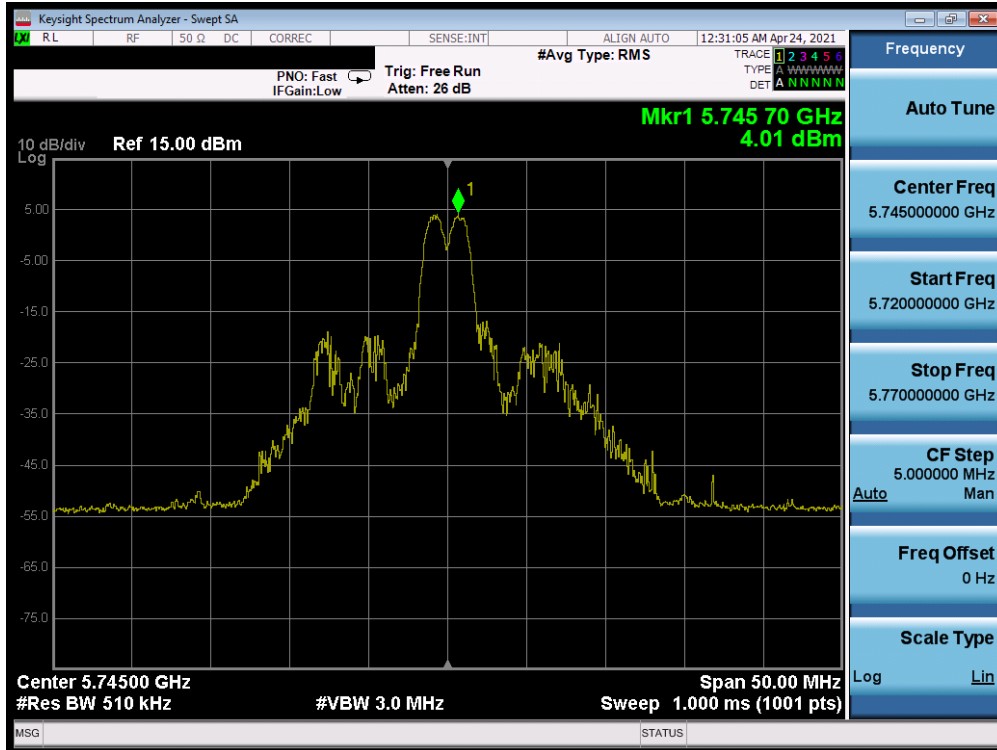
FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 134 of 216



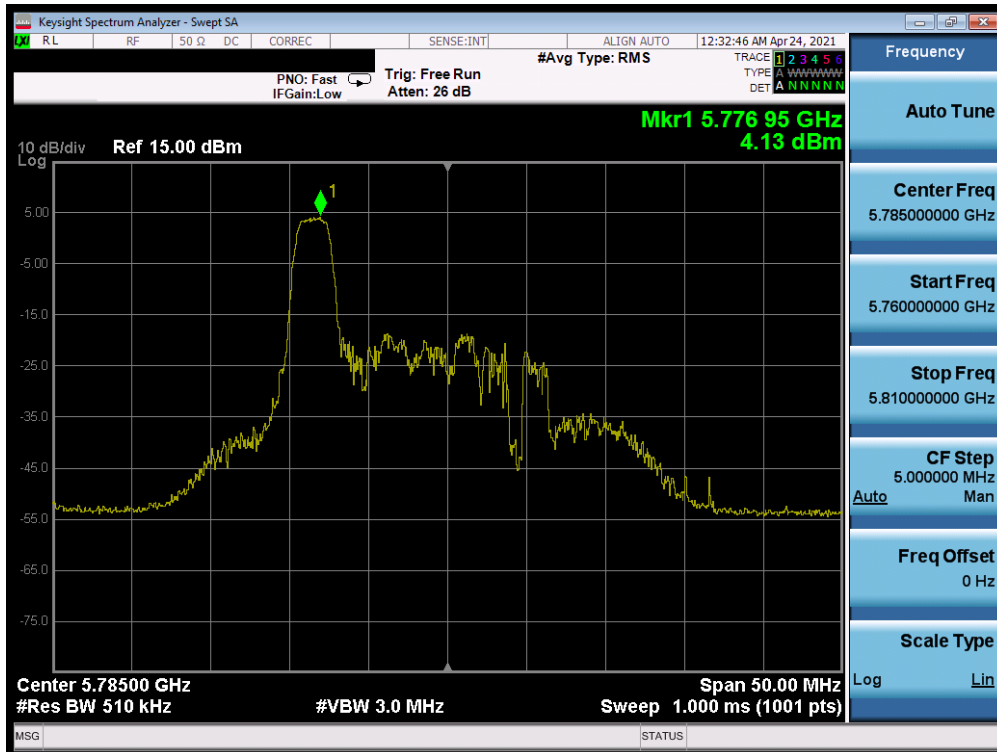
Plot 7-183. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 135 of 216



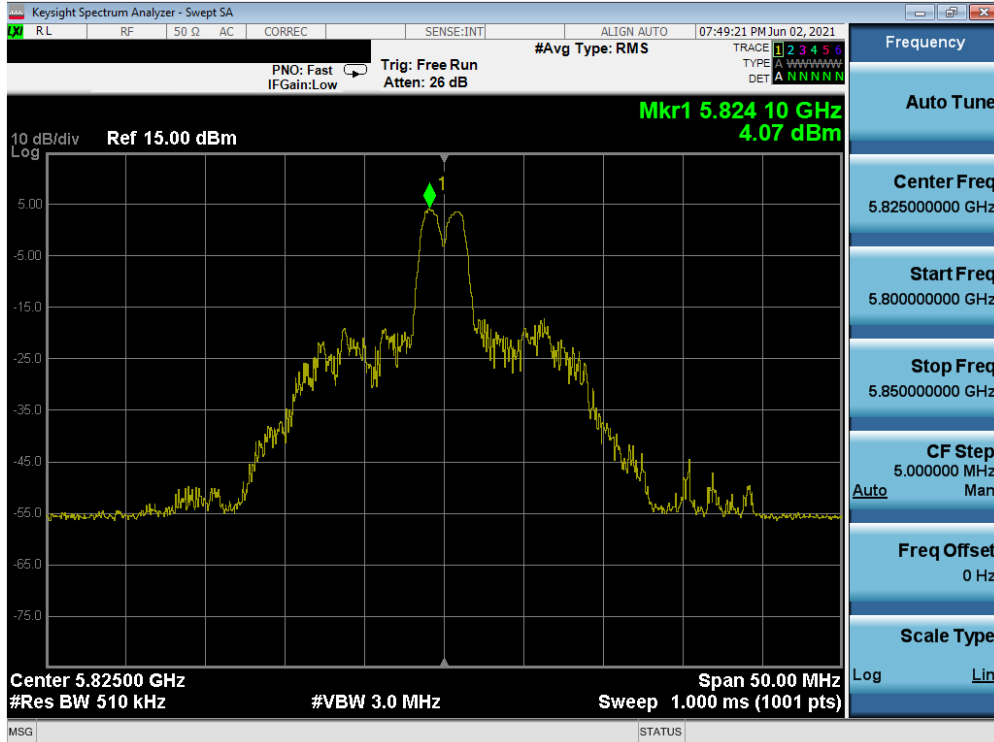


Plot 7-184. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

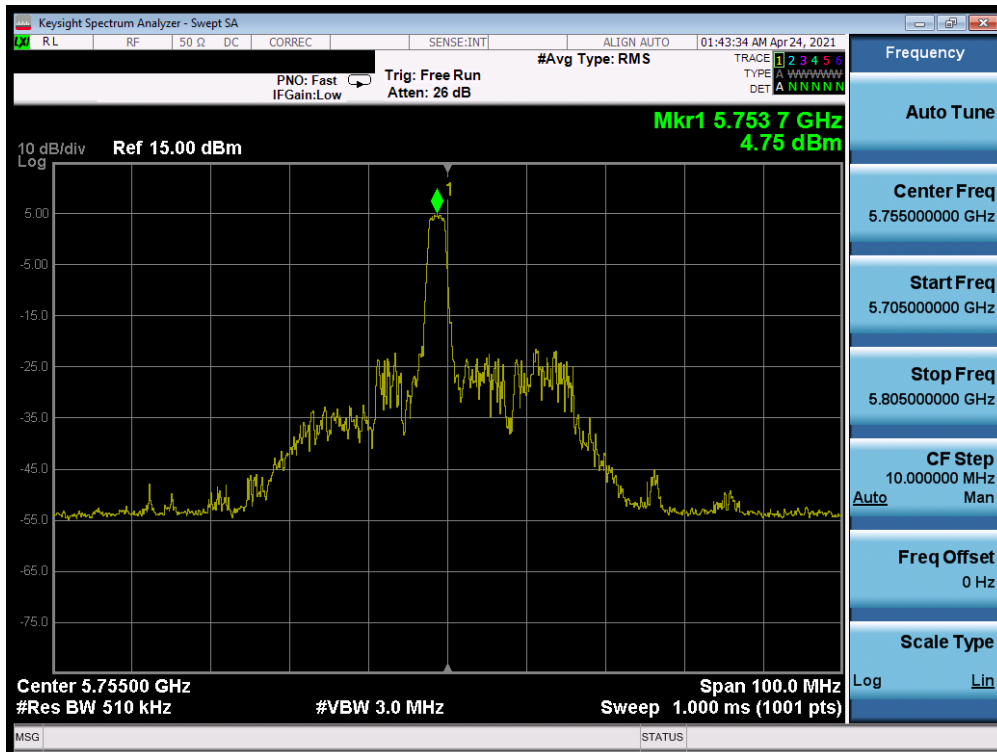


Plot 7-185. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMF711B1	PCTEST Proud to be part of  element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 136 of 216

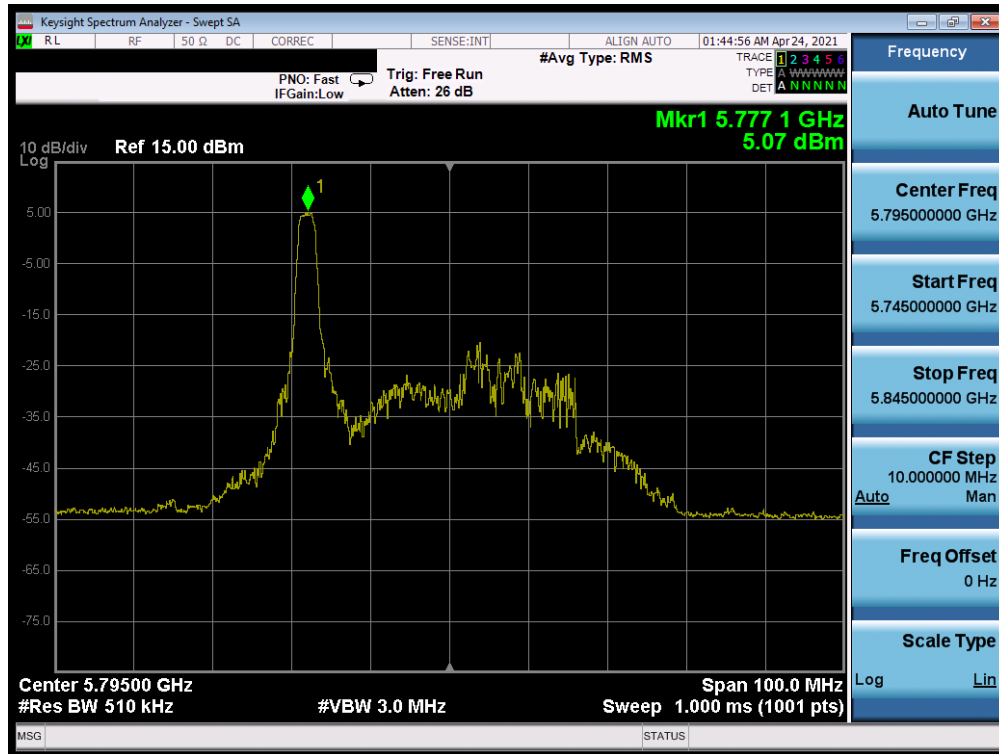


Plot 7-186. Power Spectral Density Plot MIMO ANT1 (20 MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

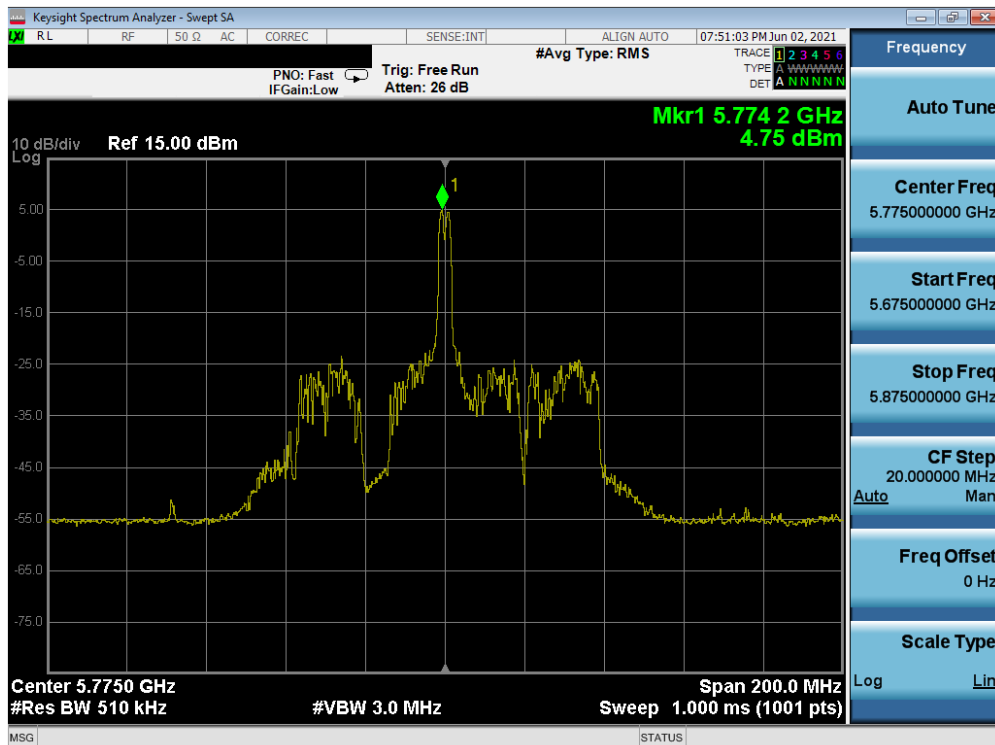


Plot 7-187. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMF711B1	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 137 of 216



Plot 7-188. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)



Plot 7-189. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF711B1	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2108160097-10.A3L	Test Dates: 04/12/2021 – 06/04/2021	EUT Type: Portable Handset		Page 138 of 216