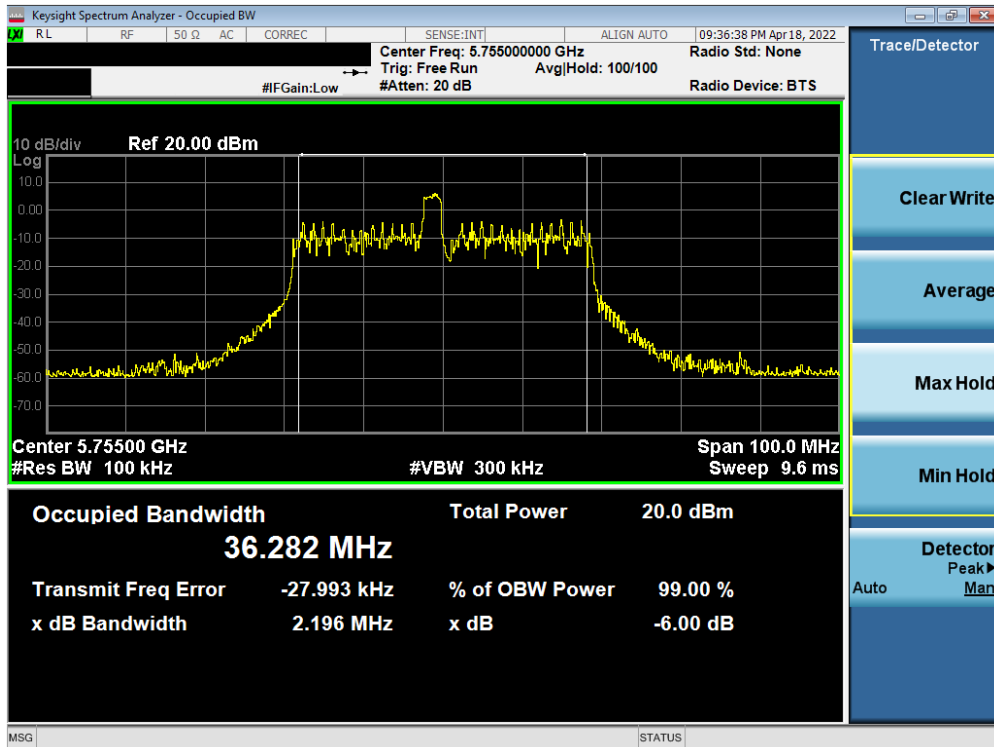
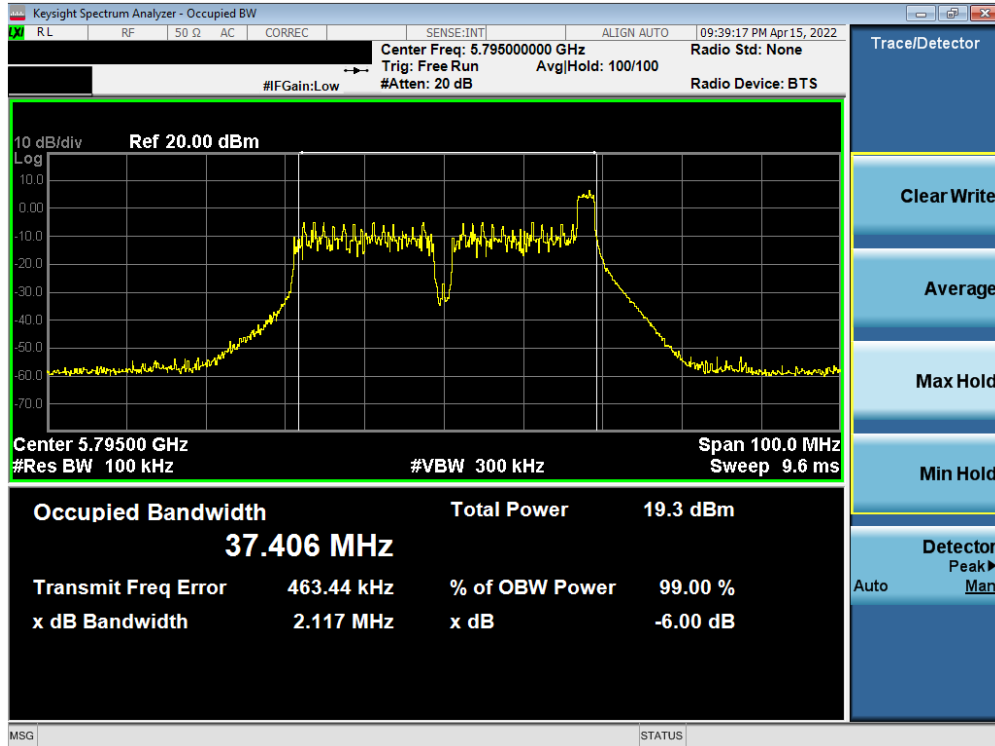


Plot 7-123. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

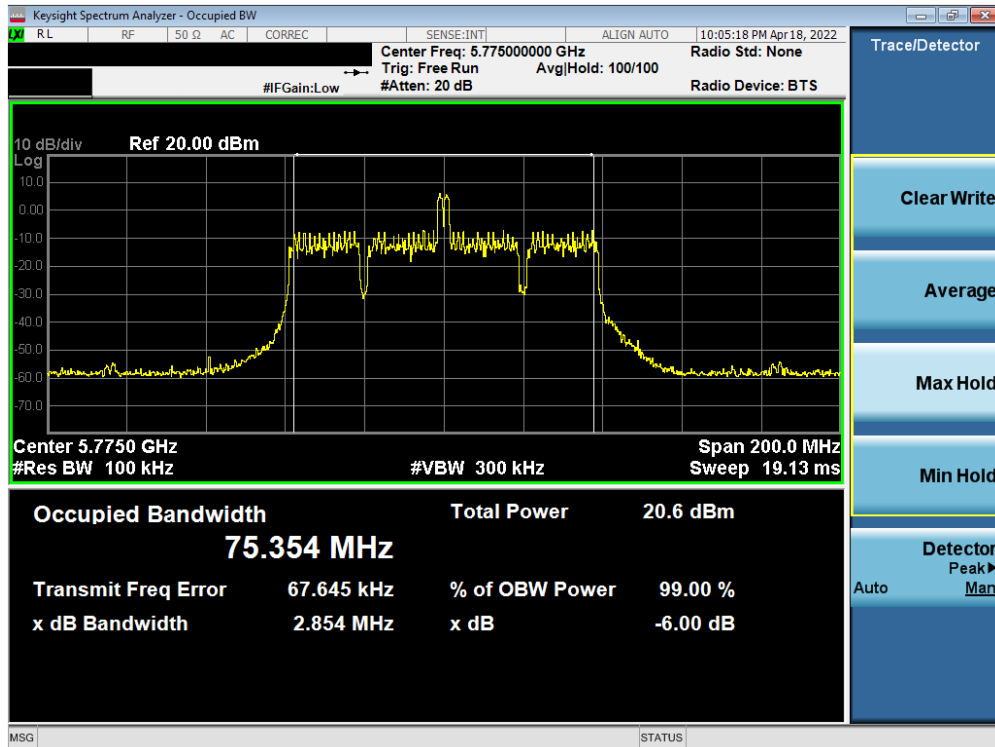


Plot 7-124. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 89 of 236



Plot 7-125. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

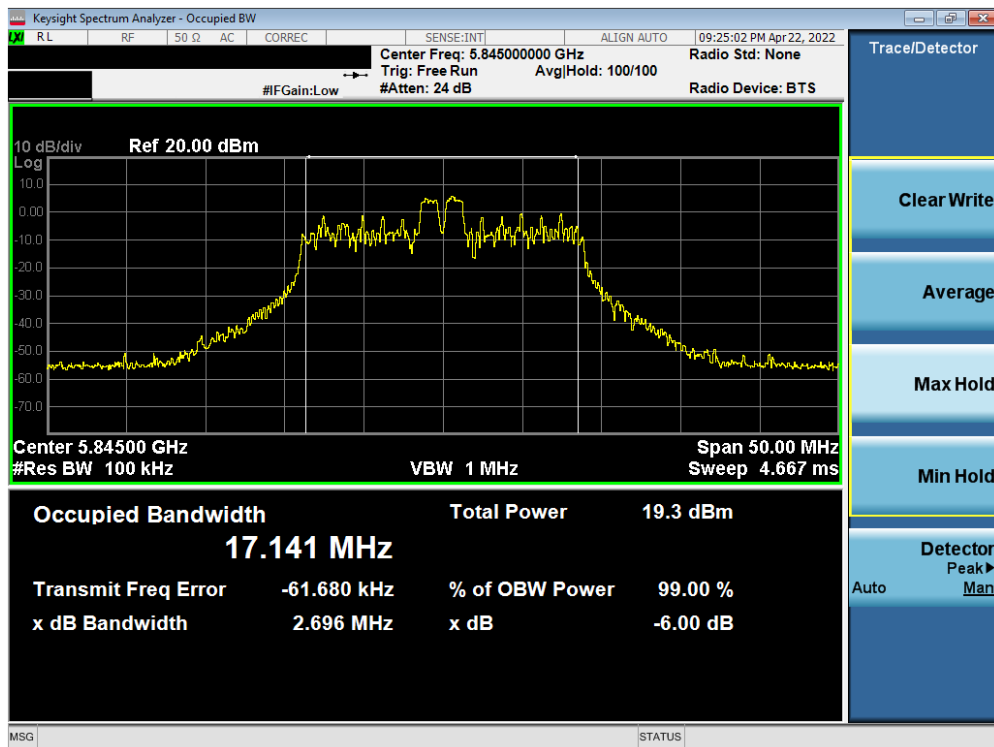


Plot 7-126. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 90 of 236

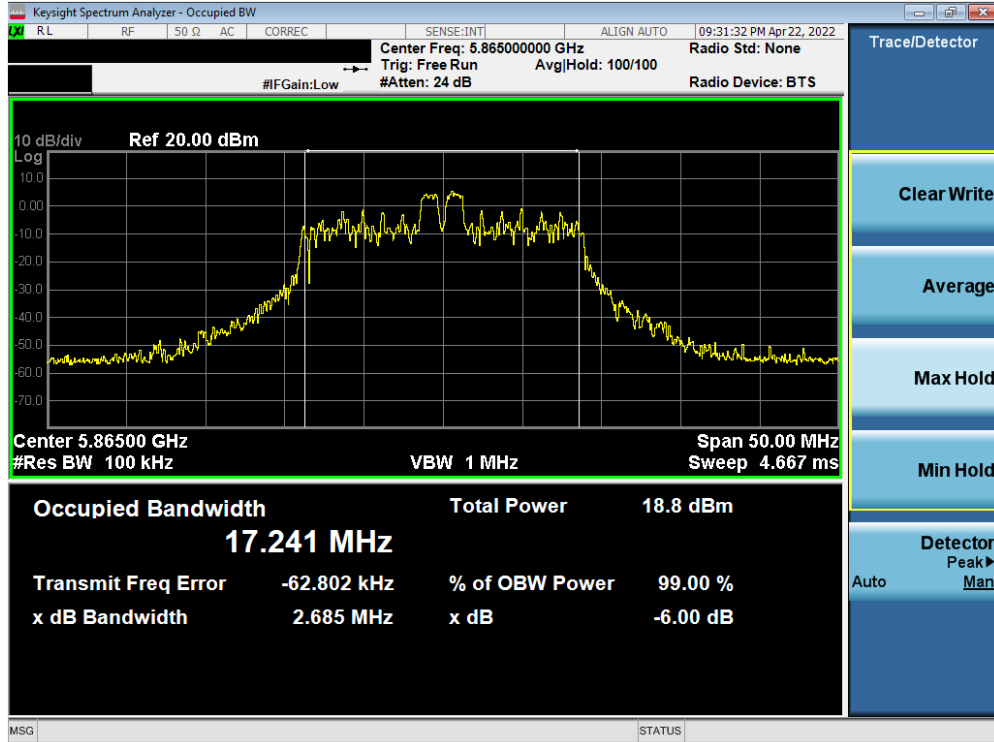
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3/4	5845	169	ax (20MHz)	26T	MCS0	2.70
Band 4	5865	173	ax (20MHz)	26T	MCS0	2.68
	5885	177	ax (20MHz)	26T	MCS0	2.13
Band 3/4	5835	167	ax (40MHz)	26T	MCS0	2.14
Band 4	5875	175	ax (40MHz)	26T	MCS0	2.16
Band 3/4	5855	171	ax (80MHz)	26T	MCS0	2.37
	5815	163	ax (160MHz L)	26T	MCS0	2.49
	5815	163	ax (160MHz U)	26T	MCS0	3.00

Table 7-11. Conducted Bandwidth Measurements MIMO ANT2 (26 Tones)

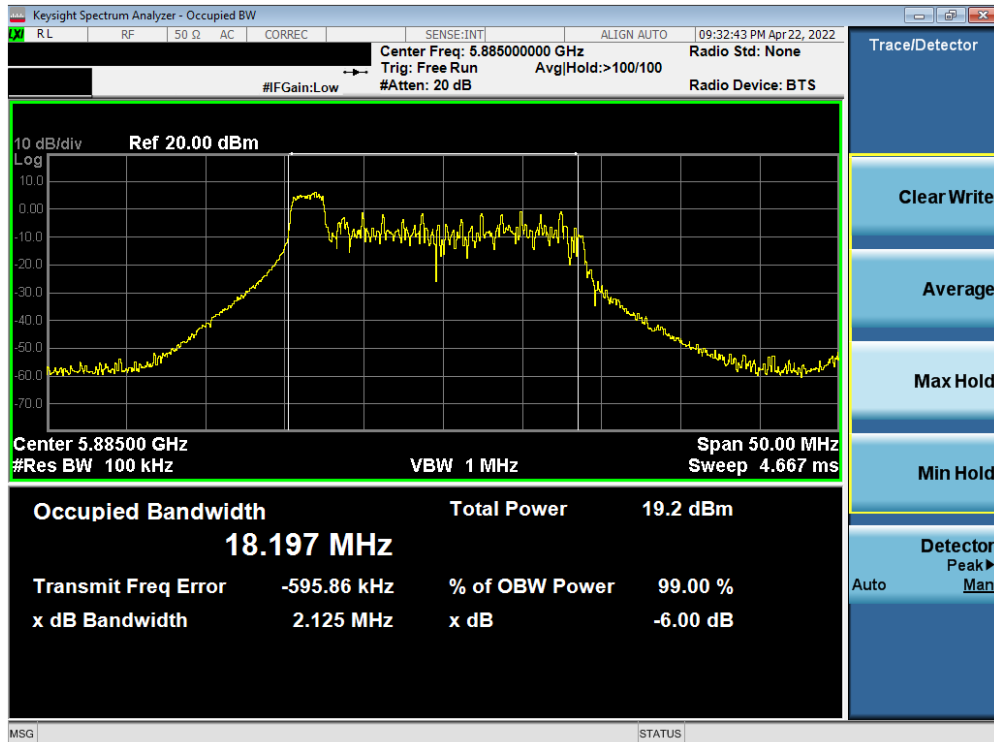


Plot 7-127. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 169)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 91 of 236

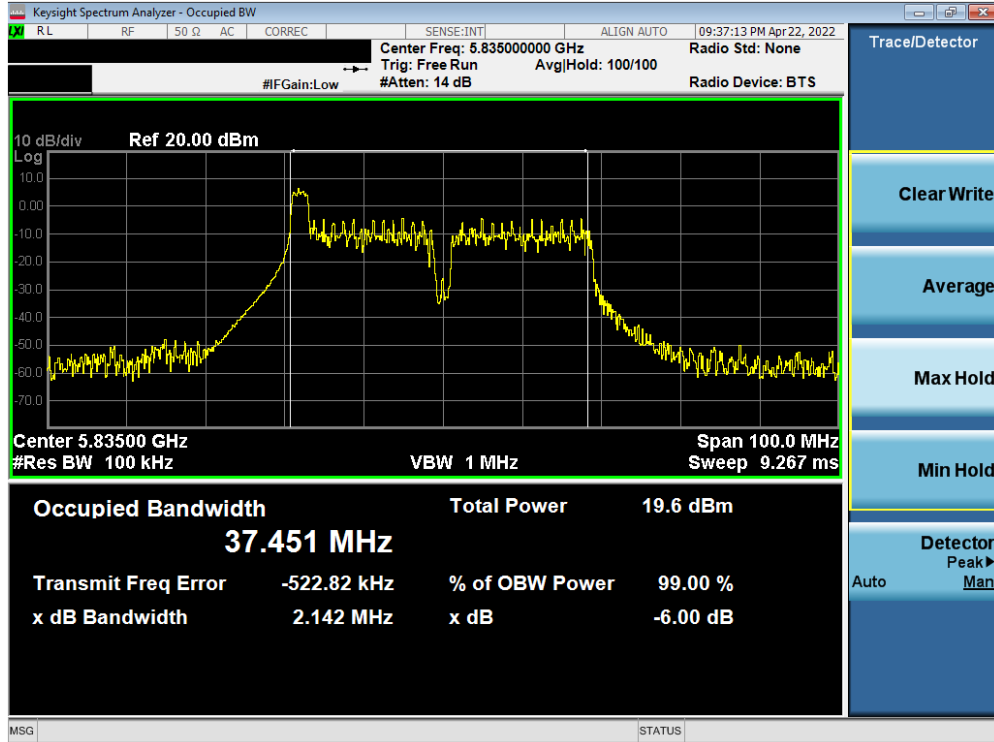


Plot 7-128. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 173)

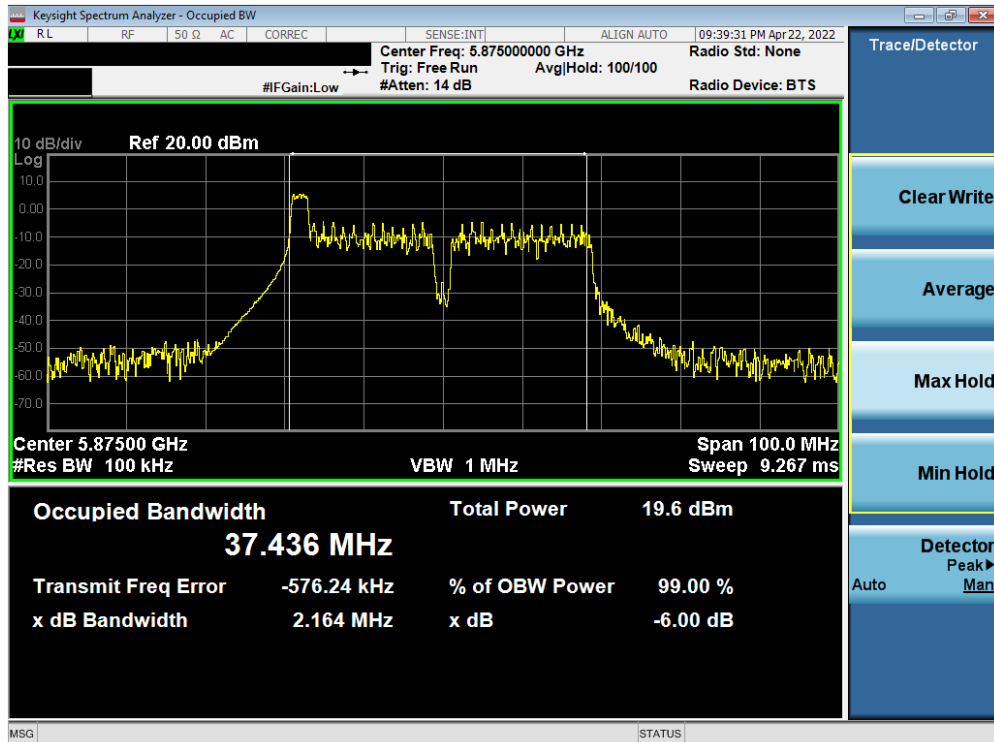


Plot 7-129. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 177)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 92 of 236

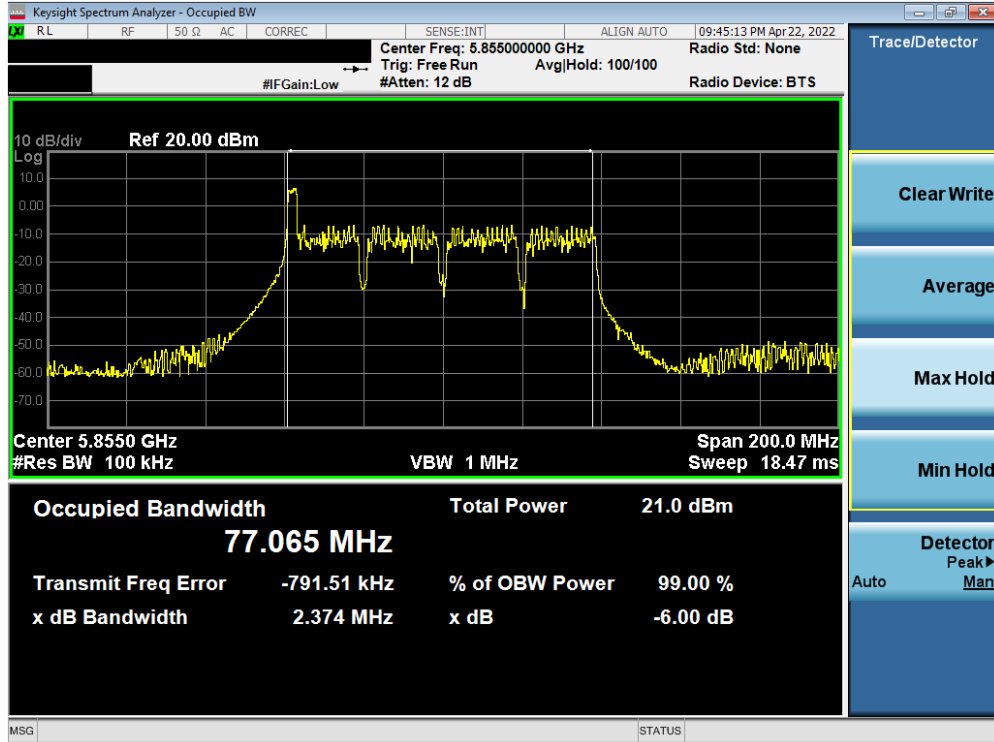


Plot 7-130. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 167)

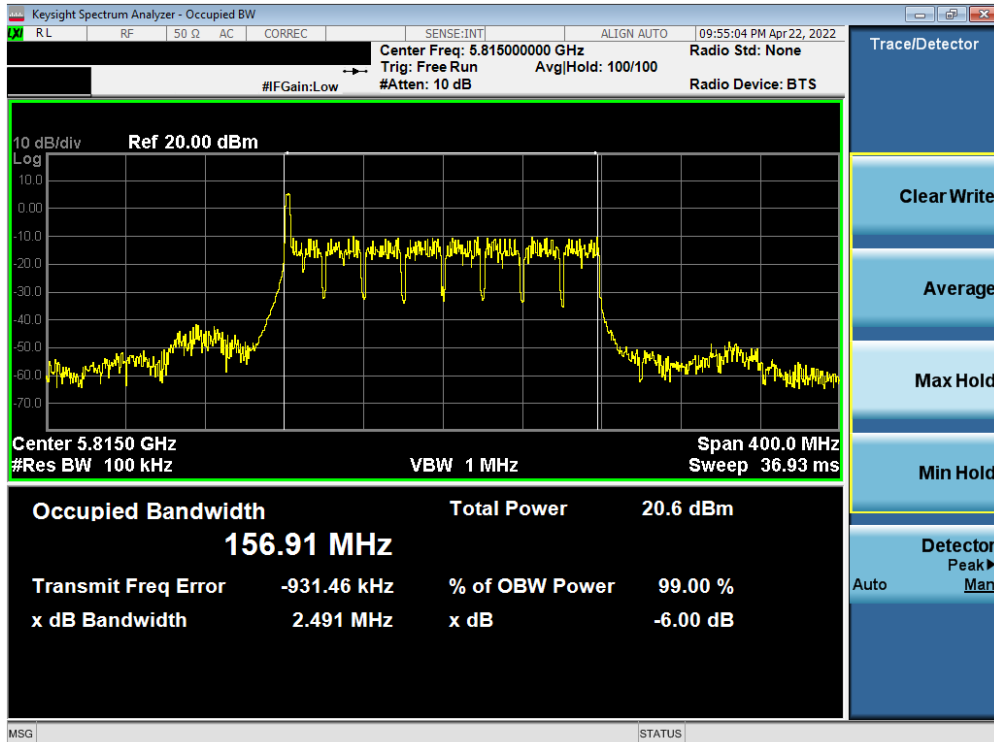


Plot 7-131. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 175)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 93 of 236

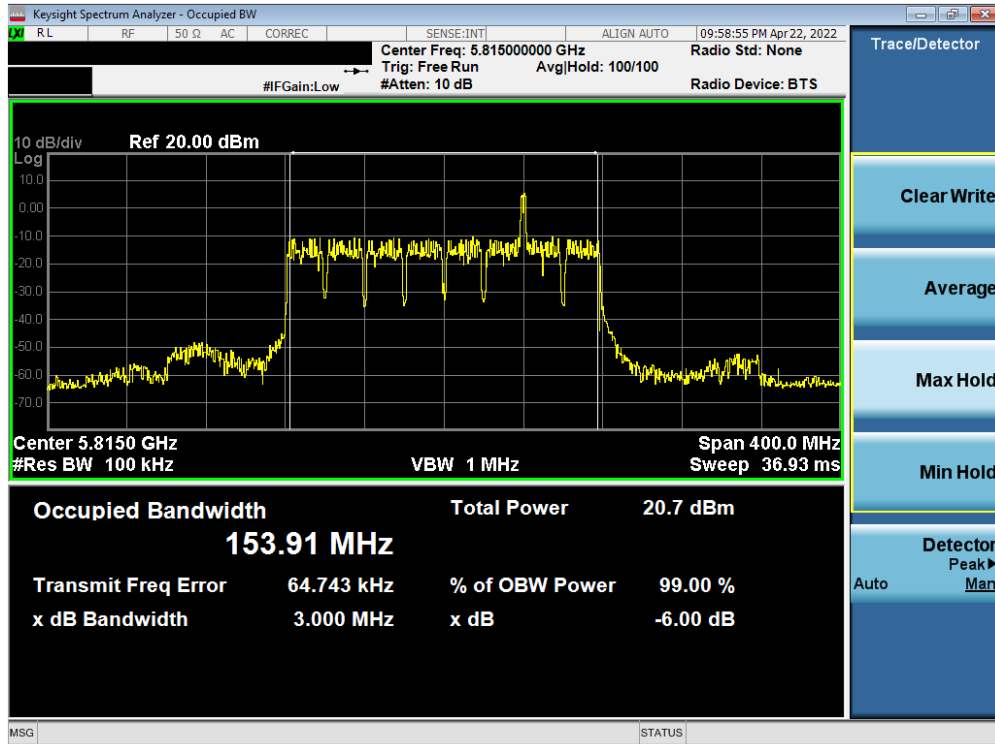


Plot 7-132. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 171)



Plot 7-133. 6dB Bandwidth Plot MIMO ANT2 (160MHz BW (L) 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 163)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 94 of 236



Plot 7-134. 6dB Bandwidth Plot MIMO ANT2 (160MHz BW (U) 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 163)

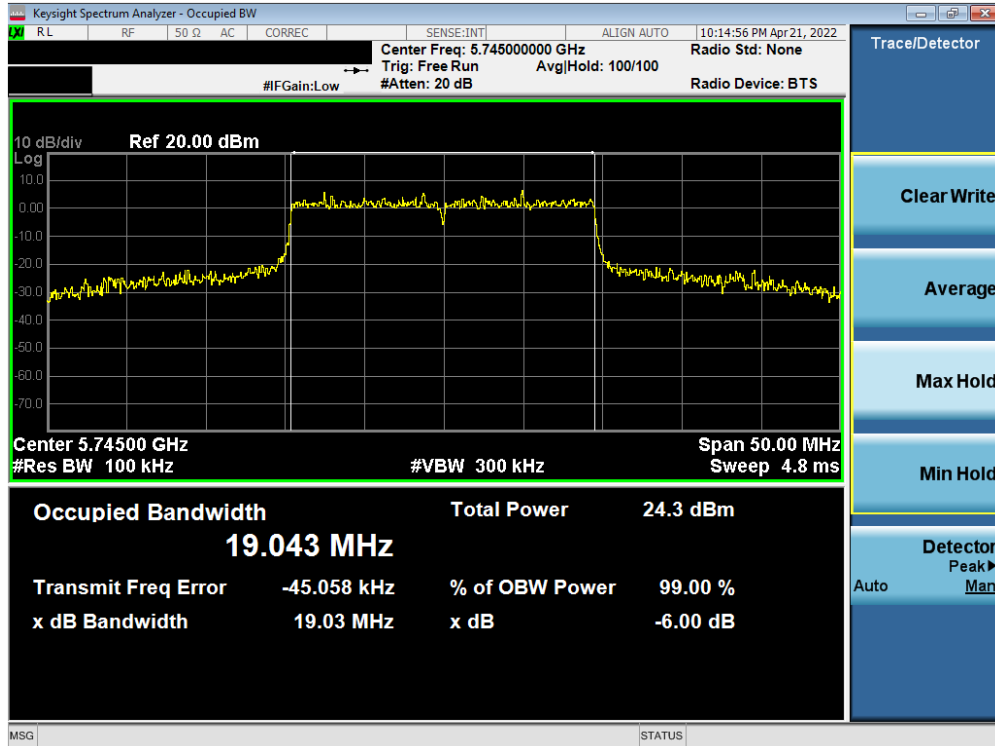
FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 95 of 236

MIMO Antenna-2 6dB Bandwidth Measurements (Full Tones)

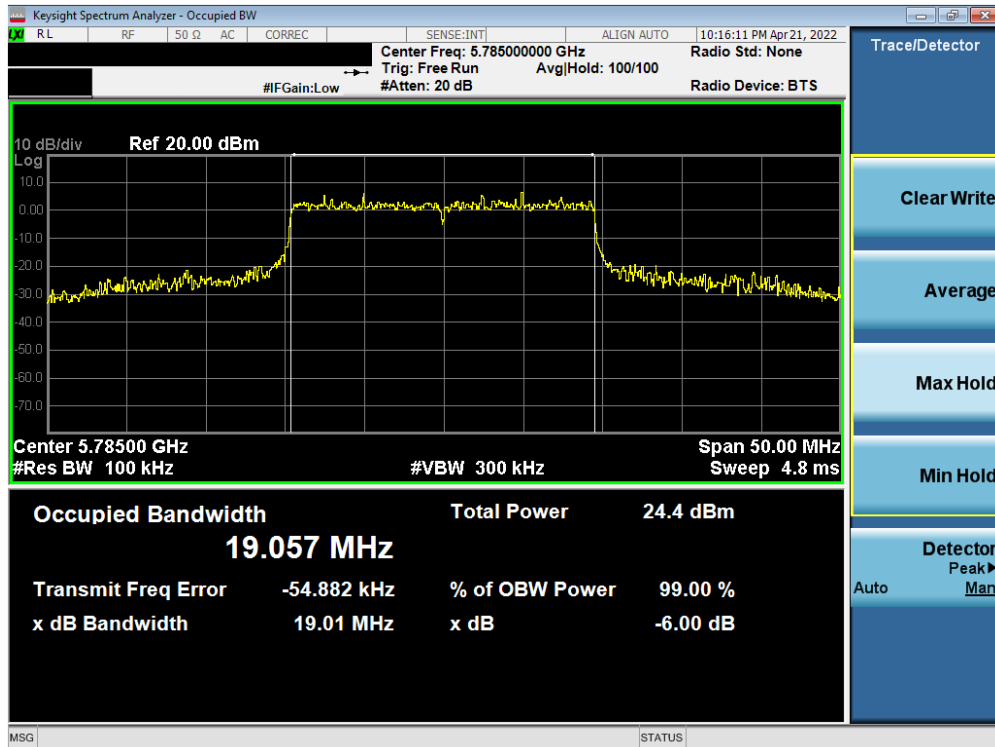
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3	5745	149	ax (20MHz)	242T	MCS0	19.03
	5785	157	ax (20MHz)	242T	MCS0	19.01
	5825	165	ax (20MHz)	242T	MCS0	18.85
	5755	151	ax (40MHz)	484T	MCS0	38.17
	5795	159	ax (40MHz)	484T	MCS0	38.15
	5775	155	ax (80MHz)	996T	MCS0	78.20

Table 7-12. Conducted Bandwidth Measurements MIMO ANT2 (Full Tones)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 96 of 236

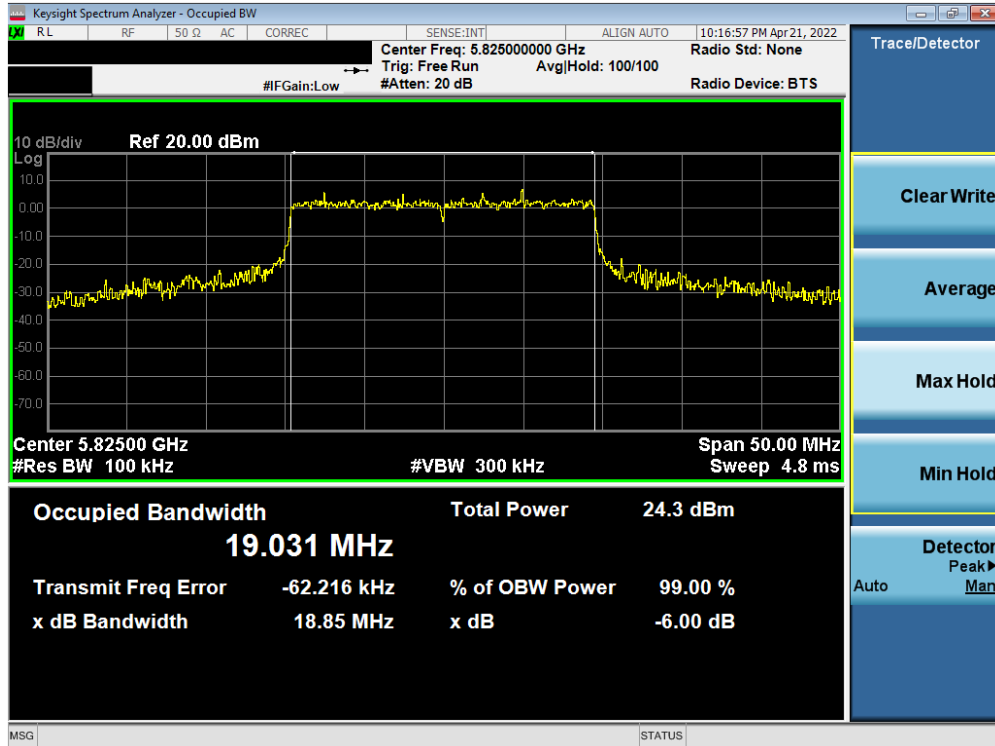


Plot 7-135. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 149)

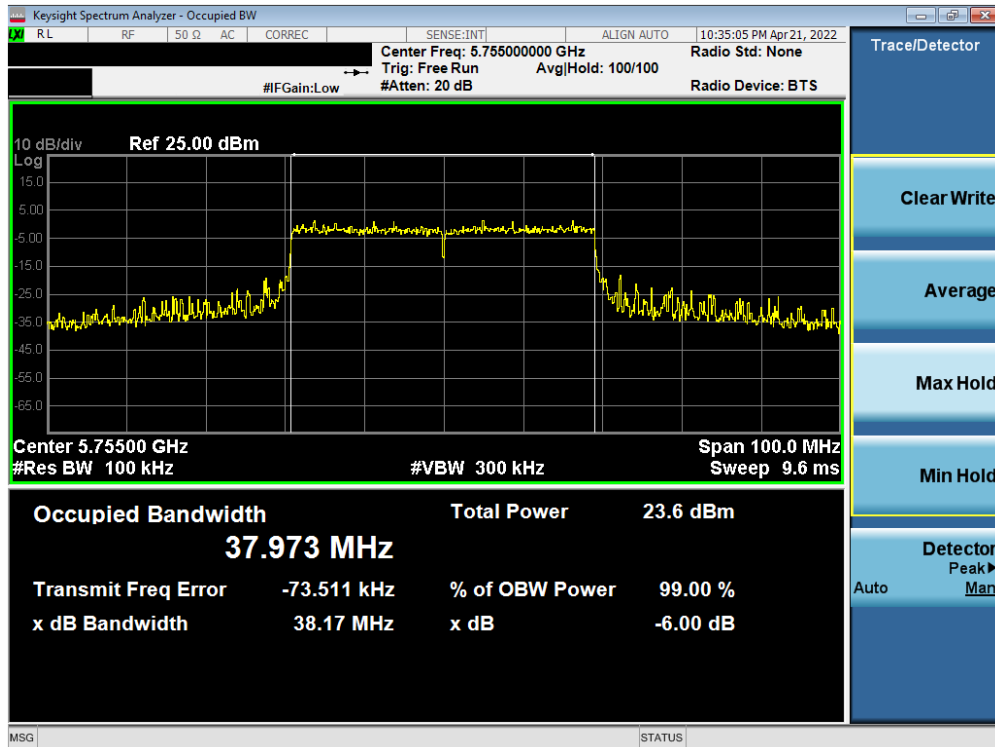


Plot 7-136. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 97 of 236

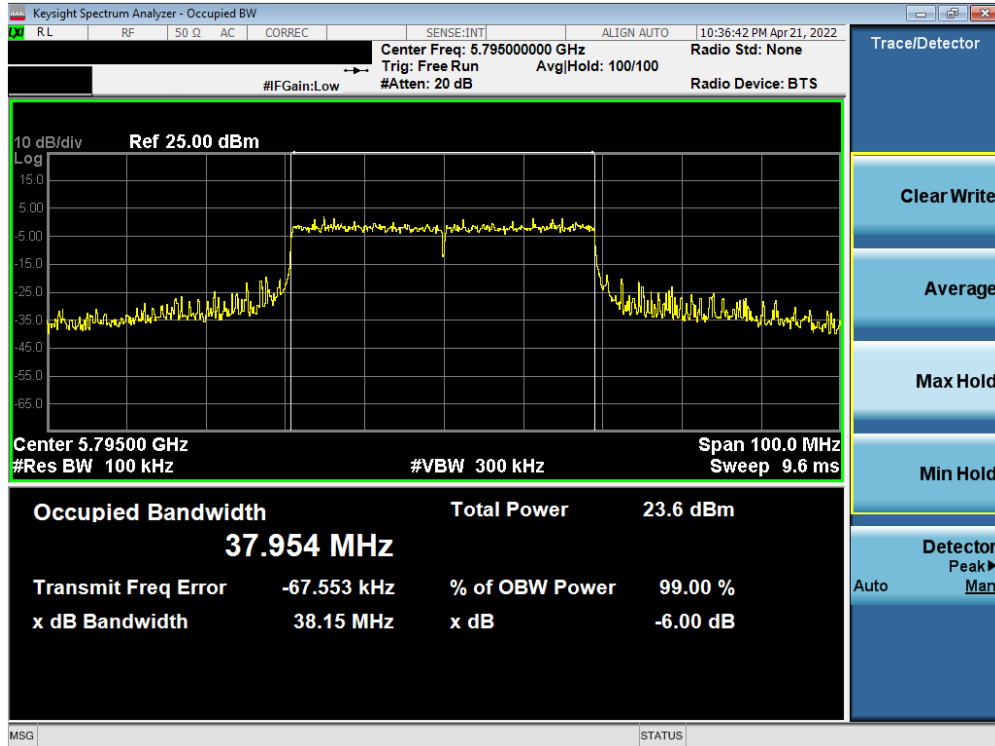


Plot 7-137. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 165)

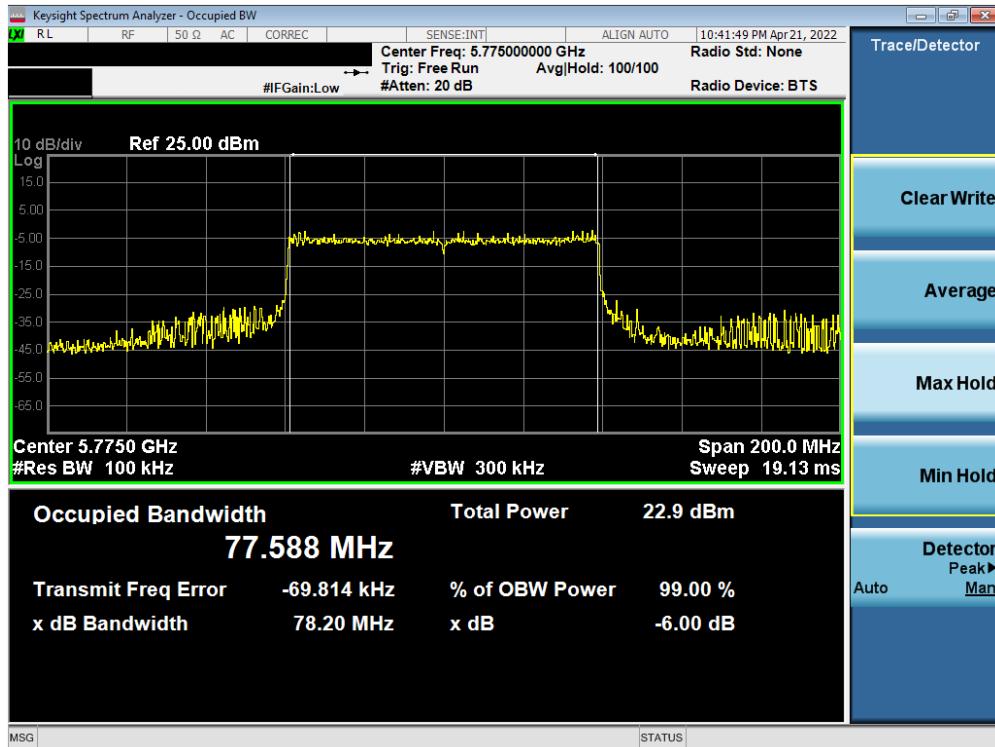


Plot 7-138. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 98 of 236



Plot 7-139. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 159)

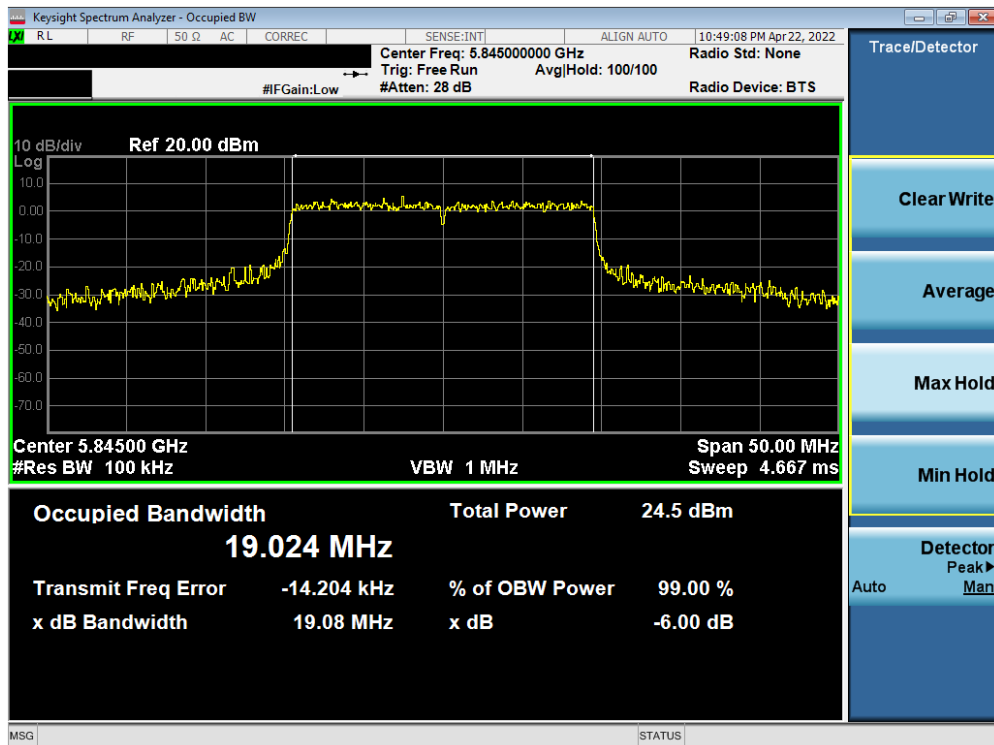


Plot 7-140. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 99 of 236

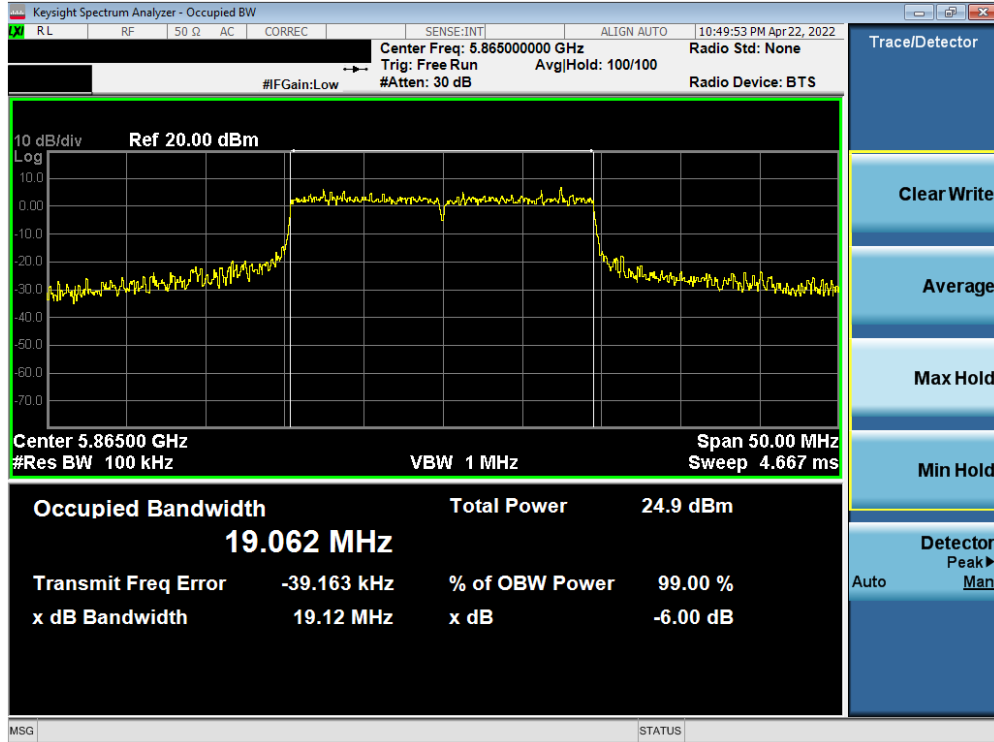
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3/4	5845	169	ax (20MHz)	242T	MCS0	19.08
Band 4	5865	173	ax (20MHz)	242T	MCS0	19.12
	5885	177	ax (20MHz)	242T	MCS0	19.12
Band 3/4	5835	167	ax (40MHz)	484T	MCS0	38.15
Band 4	5875	175	ax (40MHz)	484T	MCS0	38.11
Band 3/4	5855	171	ax (80MHz)	996T	MCS0	78.22
	5815	163	ax (160MHz L)	996T	MCS0	156.08
	5815	163	ax (160MHz U)	996T	MCS0	157.13

Table 7-13. Conducted Bandwidth Measurements MIMO ANT2 (Full Tones)

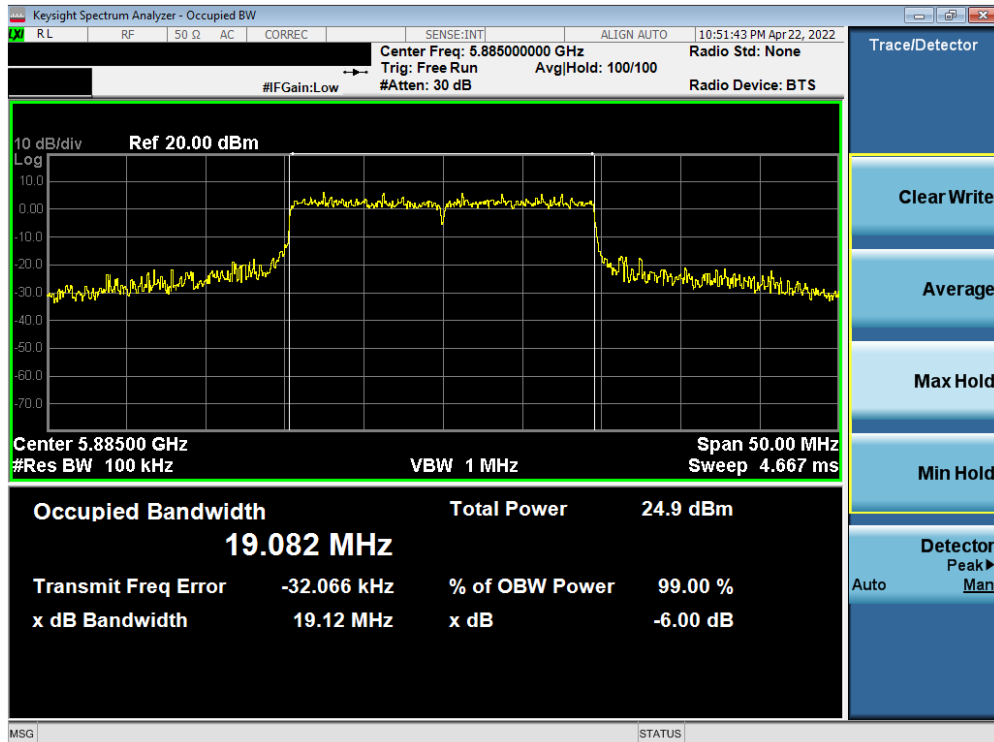


Plot 7-141. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3/4) – Ch. 169)

FCC ID: A3LSMF936U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 100 of 236	

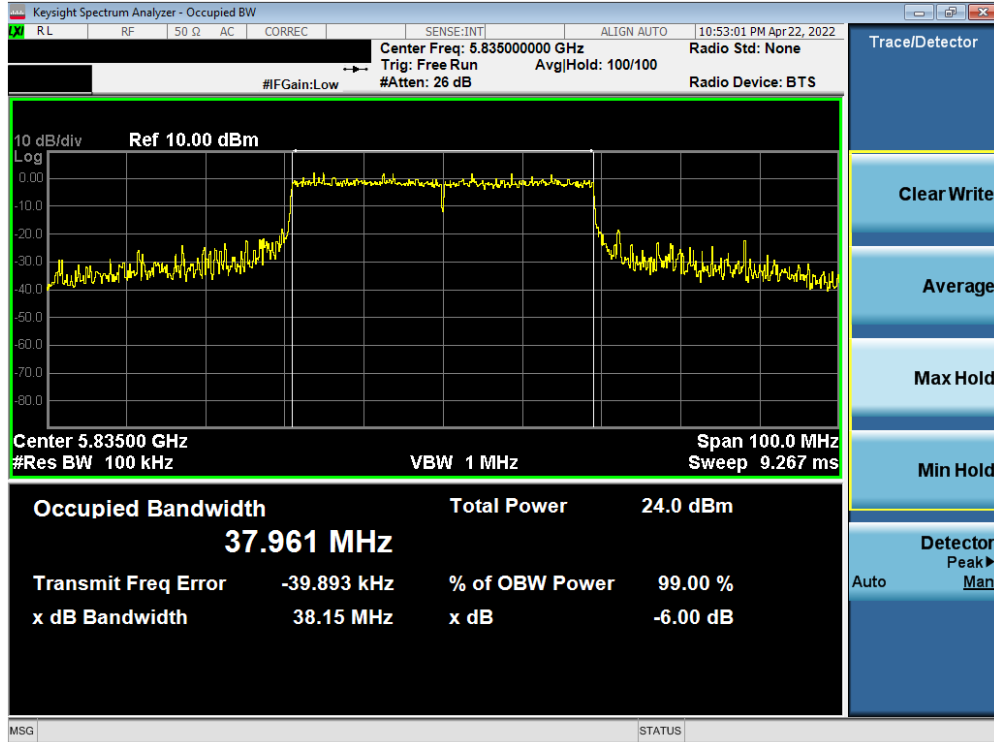


Plot 7-142. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 4) – Ch. 173)

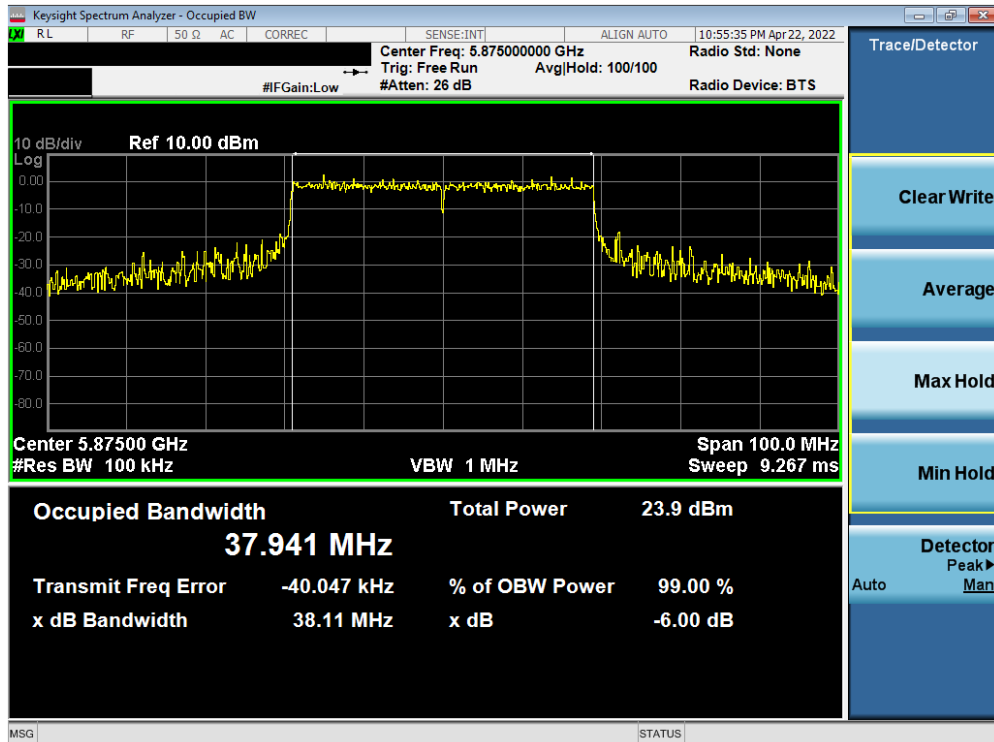


Plot 7-143. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 4) – Ch. 177)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 101 of 236

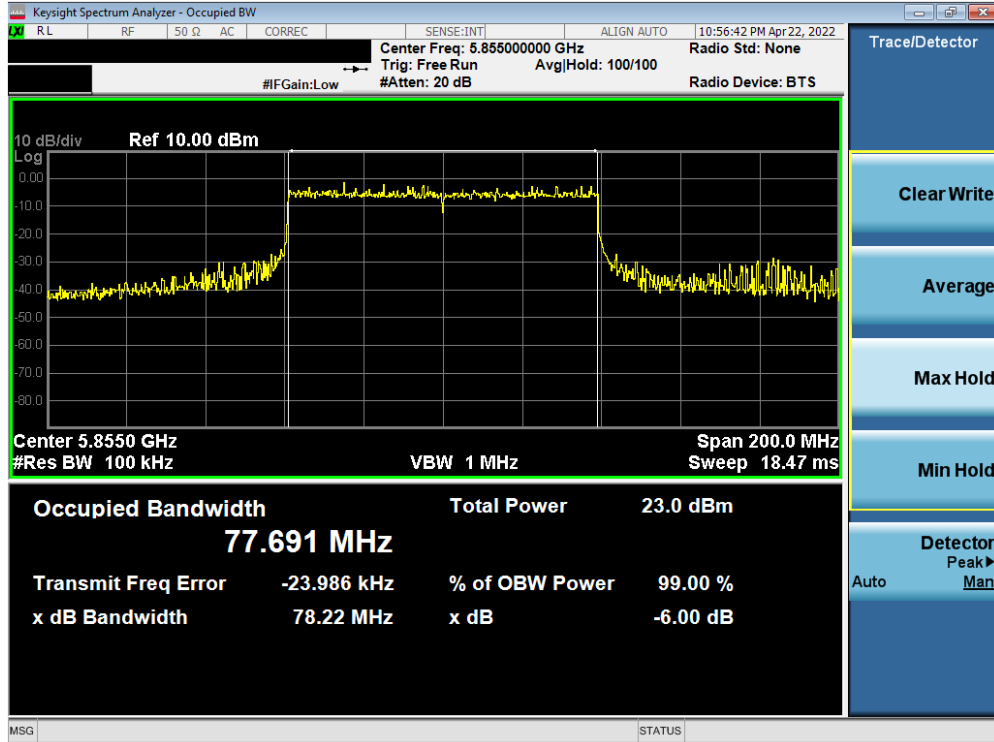


Plot 7-144. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3/4) – Ch. 167)

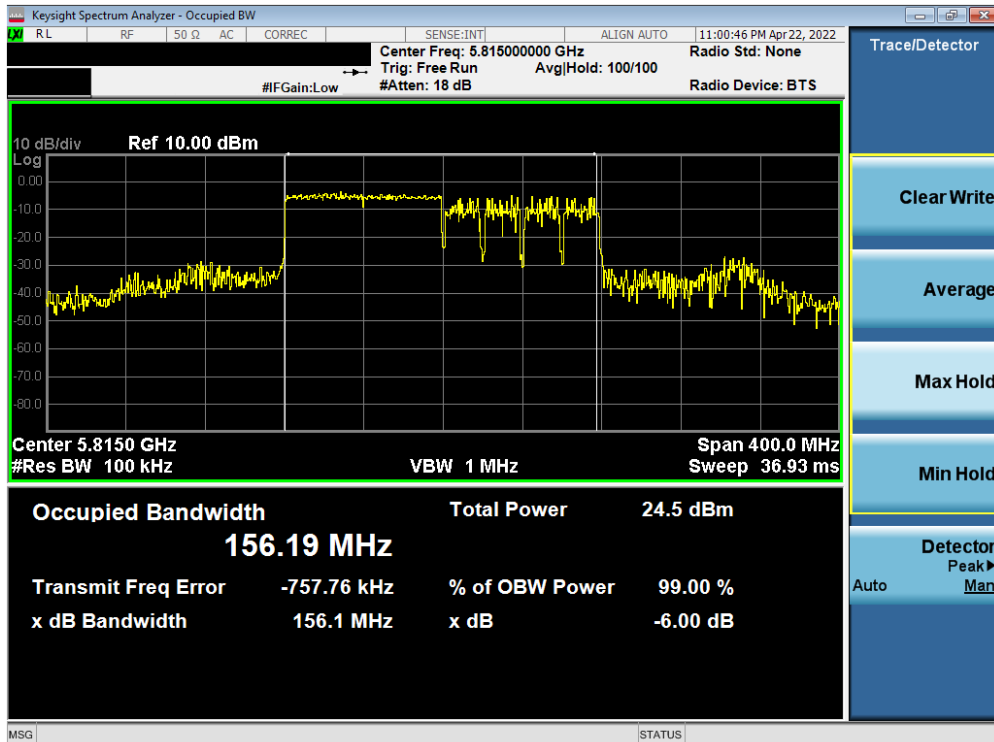


Plot 7-145. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 4) – Ch. 175)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 102 of 236

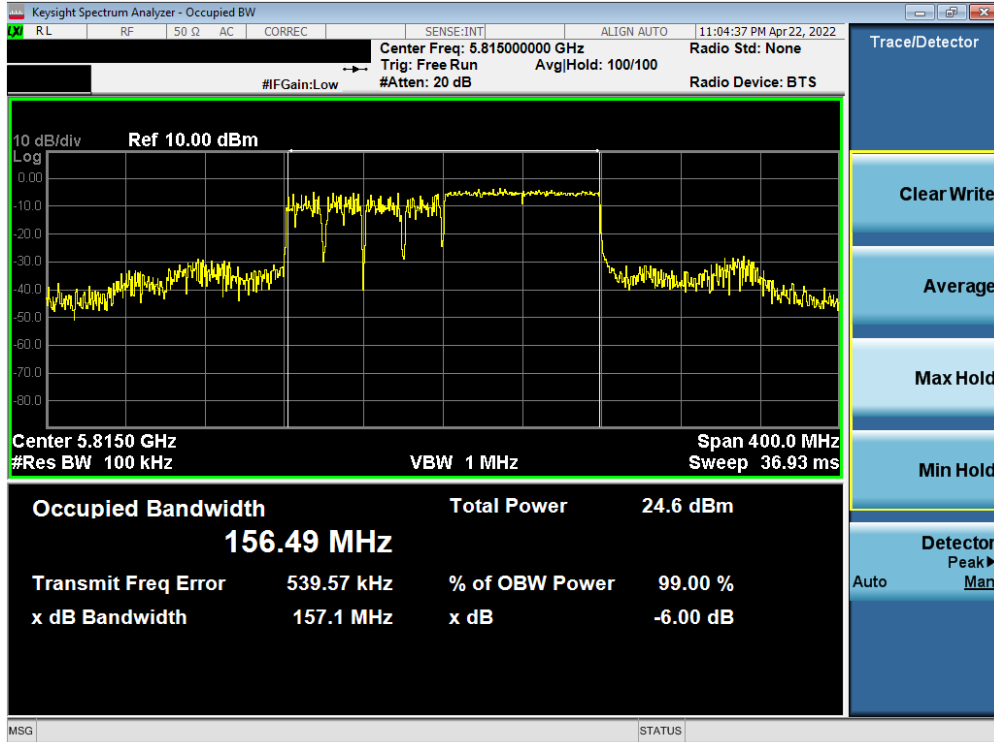


Plot 7-146. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 3/4) – Ch. 171)



Plot 7-147. 6dB Bandwidth Plot MIMO ANT2 (160MHz BW (L) 802.11ax – 996 Tones (UNII Band 3/4) – Ch. 163)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 103 of 236



Plot 7-148. 6dB Bandwidth Plot MIMO ANT2 (160MHz BW (U) 802.11ax – 996 Tones (UNII Band 3/4) – Ch. 163)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 104 of 236

7.4 UNII Output Power Measurement – 802.11ax OFDMA

§15.407(a.1.iv) §15.407(a.2) §15.407(a.3)

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 $11 \text{ dBm} + 10\log_{10}(26\text{dB BW}) = 11 \text{ dBm} + 10\log_{10}(18.81) = 23.74\text{dBm}$. 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 $11 \text{ dBm} + 10\log_{10}(26\text{dB BW}) = 11 \text{ dBm} + 10\log_{10}(18.74) = 23.73\text{dBm}$. 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: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 105 of 236

V 9.0 02/01/2019

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]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					53			54			55								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5180	36	AVG	106T	15.35	15.55	18.46	15.75	15.99	18.88	23.98	-5.10	-0.96	17.92	22.39	-4.47				
5200	40	AVG	106T	15.7	15.99	18.86	15.68	15.86	18.78	23.98	-5.12	-0.96	17.90	22.39	-4.49				
5240	48	AVG	106T	15.61	15.68	18.66	15.85	15.99	18.93	23.98	-5.05	-0.96	17.97	22.39	-4.42				
5260	52	AVG	106T	15.65	15.99	18.83	15.60	15.92	18.77	23.47	-4.64	-0.91	17.92	29.47	-11.55				
5280	56	AVG	106T	15.61	15.99	18.81	15.62	15.91	18.78	23.47	-4.66	-0.91	17.90	29.47	-11.57				
5320	64	AVG	106T	15.53	15.94	18.75	15.49	15.88	18.70	23.47	-4.72	-0.91	17.84	29.47	-11.63				
5500	100	AVG	106T	15.79	15.80	18.81	15.78	15.82	18.81	22.80	-3.99	-1.91	16.90	28.80	-11.90				
5600	120	AVG	106T	15.76	15.99	18.89	15.80	15.98	18.90	22.80	-3.90	-1.91	16.99	28.80	-11.81				
5720	144	AVG	106T	15.8	15.78	18.80	15.79	15.74	18.78	22.80	-4.00	-1.91	16.89	28.80	-11.91				
5745	149	AVG	106T	15.78	15.57	18.69	15.73	15.62	18.69	30.00	-11.31	-0.75	17.94	-	-				
5785	157	AVG	106T	15.77	15.78	18.79	15.72	15.85	18.80	30.00	-11.20	-0.75	18.05	-	-				
5825	165	AVG	106T	15.83	15.79	18.82	15.82	15.73	18.79	30.00	-11.18	-0.75	18.07	-	-				
5845	169	AVG	106T	15.80	15.69	18.76	15.77	15.65	18.72	30.00	-11.24	-0.75	18.01	30.00	-11.99				
5865	173	AVG	106T	15.75	15.39	18.58	15.73	15.40	18.58	30.00	-11.42	-0.75	17.83	30.00	-12.17				
5885	177	AVG	106T	15.07	15.75	18.43	15.07	15.66	18.39	30.00	-11.57	-0.75	17.68	30.00	-12.32				

Table 7-24. 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]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					53			54			56								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5190	38	AVG	106T	15.78	15.93	18.87	15.62	15.74	18.69	15.76	15.78	18.78	23.98	-5.11	-0.96	17.91	22.39	-4.48	
5230	46	AVG	106T	15.55	15.65	18.61	15.65	15.91	18.79	15.73	15.97	18.86	23.98	-5.12	-0.96	17.90	22.39	-4.49	
5270	54	AVG	106T	15.65	15.98	18.83	15.56	15.79	18.69	15.54	15.84	18.70	23.47	-4.64	-0.91	17.92	29.47	-11.55	
5310	62	AVG	106T	15.55	15.85	18.71	15.41	15.70	18.57	15.49	15.80	18.66	23.47	-4.76	-0.91	17.80	29.47	-11.67	
5510	102	AVG	106T	15.83	15.73	18.79	15.62	15.55	18.60	15.68	15.83	18.77	22.80	-4.01	-1.91	16.88	28.80	-11.92	
5590	118	AVG	106T	15.92	15.96	18.95	15.68	15.83	18.77	15.41	15.63	18.53	22.80	-3.85	-1.91	17.04	28.80	-11.76	
5710	142	AVG	106T	15.92	15.72	18.83	15.72	15.62	18.68	15.84	15.94	18.90	22.80	-3.90	-1.91	16.99	28.80	-11.81	
5755	151	AVG	106T	15.89	15.91	18.91	15.73	15.80	18.78	15.78	15.96	18.88	30.00	-11.09	-0.75	18.16	-	-	
5795	159	AVG	106T	15.86	15.70	18.79	15.66	15.53	18.61	15.76	15.75	18.77	30.00	-11.21	-0.75	18.04	-	-	
5755	151	AVG	106T	15.86	15.81	18.85	15.63	15.62	18.64	15.72	15.80	18.77	30.00	-11.15	-0.75	18.10	30.00	-11.90	
5795	159	AVG	106T	15.93	15.99	18.97	15.71	15.73	18.73	15.83	15.85	18.85	30.00	-11.03	-0.75	18.22	30.00	-11.78	

Table 7-25. 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]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					53			56			60								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5210	42	AVG	106T	15.65	15.86	18.77	15.67	15.99	18.84	15.76	15.95	18.87	23.98	-5.11	-0.96	17.91	22.39	-4.48	
5290	58	AVG	106T	15.50	15.79	18.66	15.55	15.85	18.71	15.56	15.88	18.73	23.47	-4.74	-0.96	17.77	29.47	-11.70	
5530	106	AVG	106T	15.68	15.49	18.60	15.77	15.88	18.64	15.45	15.78	18.63	22.80	-3.96	-1.91	16.93	28.80	-11.87	
5610	122	AVG	106T	15.96	15.80	18.89	15.61	15.83	18.73	15.31	15.84	18.59	22.80	-3.91	-1.91	16.98	28.80	-11.82	
5690	138	AVG	106T	15.85	15.35	18.62	15.99	15.92	18.97	15.55	15.81	18.69	22.80	-3.83	-1.91	17.06	28.80	-11.74	
5775	155	AVG	106T	15.94	15.77	18.87	15.67	15.72	18.71	15.73	15.97	18.86	30.00	-11.13	-0.75	18.12	-	-	
5855	171	AVG	106T	15.85	15.65	18.76	15.60	15.41	18.52	15.66	15.48	18.58	30.00	-11.24	-0.75	18.01	30.00	-11.99	

Table 7-26. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

160MHz BW (L)	Freq [MHz]	Channel	Tones	Average Conducted Power (dBm)									Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				RU Index: 53			RU Index: 56			RU Index: 60								
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5250	50	106T	15.85	15.99	18.93	15.91	15.97	18.95	15.67	15.69	18.69	23.98	-5.03	-0.96	17.99	22.39	-4.40	
5570	114	106T	15.99	15.02	18.54	15.91	15.10	18.53	15.70	15.03	18.39	23.47	-4.93	-0.75	17.79	28.80	-11.01	
5815	163	106T	15.82	15.18	18.52	15.75	15.36	18.57	15.56	15.35	18.47	-	-	-0.75	17.82	36.00	-18.18	

Table 7-27. MIMO 160MHz BW L (UNII) Maximum Conducted Output Power (106 Tones)

160MHz BW (U)	Freq [MHz]	Channel	Tones	Average Conducted Power (dBm)									Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				RU Index: 53			RU Index: 56			RU Index: 60								
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5250	50	106T	15.73	15.76	18.76	15.65	15.82	18.75	15.52	15.88	18.71	23.98	-5.22	-0.96	17.80	22.39	-4.59	
5570	114	106T	15.65	15.11	18.40	15.71	15.40	18.57	15.51	15.66	18.60	23.47	-4.87	-0.75	17.85	28.80	-10.95	
5815	163	106T	15.57	15.44	18.52	15.69	15.54	18.63	15.68	15.55	18.63	-	-	-0.75	17.88	36.00	-18.12	

Table 7-28. MIMO 160MHz BW U (UNII) Maximum Conducted Output Power (106 Tones)

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Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 108 of 236

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]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					61								
					ANT1	ANT2	MIMO						
5180	36	AVG	242T	17.45	17.99	20.74	23.98	-3.24	-0.96	19.78	22.39	-2.61	
5200	40	AVG	242T	17.42	17.97	20.71	23.98	-3.27	-0.96	19.75	22.39	-2.64	
5240	48	AVG	242T	17.28	17.61	20.46	23.98	-3.52	-0.96	19.50	22.39	-2.89	
5260	52	AVG	242T	17.05	17.58	20.33	23.47	-3.14	-0.91	19.42	29.47	-10.05	
5280	56	AVG	242T	17.03	17.59	20.33	23.47	-3.14	-0.91	19.42	29.47	-10.05	
5320	64	AVG	242T	17.2	17.98	20.62	23.47	-2.85	-0.91	19.71	29.47	-9.76	
5500	100	AVG	242T	17.61	17.80	20.72	22.80	-2.08	-1.91	18.81	28.80	-9.99	
5600	120	AVG	242T	17.54	17.94	20.75	22.80	-2.05	-1.91	18.84	28.80	-9.96	
5720	144	AVG	242T	17.62	17.78	20.71	22.80	-2.09	-1.91	18.80	28.80	-10.00	
5745	149	AVG	242T	17.52	17.66	20.60	30.00	-9.40	-0.75	19.85	-	-	
5785	157	AVG	242T	17.66	17.82	20.75	30.00	-9.25	-0.75	20.00	-	-	
5825	165	AVG	242T	17.68	17.76	20.73	30.00	-9.27	-0.75	19.98	-	-	
5845	169	AVG	242T	17.57	17.66	20.63	30.00	-9.37	-0.75	19.88	30.00	-10.12	
5865	173	AVG	242T	17.79	17.88	20.85	30.00	-9.15	-0.75	20.10	30.00	-9.90	
5885	177	AVG	242T	17.08	17.94	20.54	30.00	-9.46	-0.75	19.79	30.00	-10.21	

Table 7-29. 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]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					61			62								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5190	38	AVG	242T	16.56	16.76	19.67	16.50	16.70	19.61	23.98	-4.31	-0.96	18.71	22.39	-3.68	
5230	46	AVG	242T	16.53	16.82	19.69	16.50	16.71	19.62	23.98	-4.29	-0.96	18.73	22.39	-3.66	
5270	54	AVG	242T	16.47	16.80	19.65	16.43	16.73	19.59	23.47	-3.82	-0.91	18.74	29.47	-10.73	
5310	62	AVG	242T	16.32	16.85	19.60	16.27	16.74	19.52	23.47	-3.87	-0.91	18.69	29.47	-10.78	
5510	102	AVG	242T	16.54	16.65	19.61	16.46	16.68	19.58	22.80	-3.19	-1.91	17.70	28.80	-11.10	
5590	118	AVG	242T	16.57	16.73	19.66	16.45	16.82	19.65	22.80	-3.14	-1.91	17.75	28.80	-11.05	
5710	142	AVG	242T	16.59	16.67	19.64	16.53	16.82	19.69	22.80	-3.11	-1.91	17.78	28.80	-11.02	
5755	151	AVG	242T	16.65	16.75	19.71	16.58	16.80	19.70	30.00	-10.29	-0.75	18.96	-	-	
5795	159	AVG	242T	16.54	16.66	19.61	16.52	16.72	19.63	30.00	-10.37	-0.75	18.88	-	-	
5755	151	AVG	242T	16.55	16.70	19.64	16.51	16.67	19.60	30.00	-10.36	-0.75	18.89	30.00	-11.11	
5795	159	AVG	242T	16.64	16.82	19.74	16.57	16.75	19.67	30.00	-10.26	-0.75	18.99	30.00	-11.01	

Table 7-30. 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]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					61			62			64								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5210	42	AVG	242T	14.98	14.87	17.94	14.98	14.57	17.79	14.67	14.69	17.69	23.98	-6.04	-0.96	16.98	22.39	-5.41	
5290	58	AVG	242T	15.44	15.76	18.61	15.50	15.89	18.71	15.53	15.83	18.69	23.47	-4.76	-0.96	17.75	29.47	-11.72	
5530	106	AVG	242T	15.99	15.89	18.95	15.85	15.87	18.87	15.43	15.69	18.57	22.80	-3.85	-1.91	17.04	28.80	-11.76	
5810	122	AVG	242T	15.91	15.73	18.83	15.69	15.78	18.75	15.65	15.99	18.83	22.80	-3.97	-1.91	16.92	28.80	-11.88	
5890	138	AVG	242T	15.78	15.32	18.57	15.99	15.77	18.89	15.59	15.63	18.62	22.80	-3.91	-1.91	16.98	28.80	-11.82	
5775	155	AVG	242T	15.97	15.65	18.77	15.63	15.68	18.67	15.68	15.77	18.74	30.00	-11.23	-0.75	18.02	-	-	
5855	171	AVG	242T	15.78	15.55	18.68	15.62	15.43	18.54	15.64	15.33	18.50	30.00	-11.32	-0.75	17.93	30.00	-12.07	

Table 7-31. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

160MHz BW (L)	Freq [MHz]	Channel	Tones	Average Conducted Power (dBm)									Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				RU Index: 61			RU Index: 62			RU Index: 64								
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5250	50	242T	15.74	15.72	18.74	15.98	15.97	18.99	15.77	15.74	18.77	23.98	-4.99	-0.96	18.03	22.39	-4.36	
5570	114	242T	15.68	14.76	18.25	15.65	14.71	18.22	15.71	15.05	18.40	23.47	-5.07	-0.75	17.65	28.80	-11.15	
5815	163	242T	15.92	15.31	18.64	15.89	15.39	18.66	15.50	15.39	18.46	-	18.66	-0.75	17.91	36.00	-18.09	

Table 7-32. MIMO 160MHz BW L (UNII) Maximum Conducted Output Power (242 Tones)

160MHz BW (U)	Freq [MHz]	Channel	Tones	Average Conducted Power (dBm)									Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				RU Index: 61			RU Index: 62			RU Index: 64								
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5250	50	242T	15.64	15.84	18.75	15.55	15.86	18.72	15.71	15.92	18.83	23.98	-5.15	-0.96	17.87	22.39	-4.52	
5570	114	242T	15.73	15.20	18.48	15.68	15.37	18.54	15.65	15.68	18.68	23.47	-4.79	-0.75	17.93	28.80	-10.87	
5815	163	242T	15.80	15.47	18.55	15.68	15.56	18.63	15.70	15.61	18.67	-	-0.75	17.92	36.00	-18.08		

Table 7-33. MIMO 160MHz BW U (UNII) Maximum Conducted Output Power (242 Tones)

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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]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					65								
					ANT1	ANT2	MIMO						
5190	38	AVG	484T	14.72	14.45	17.60	23.98	-6.38	-0.96	16.64	22.39	-5.75	
5230	46	AVG	484T	16.58	16.87	19.74	23.98	-4.24	-0.96	18.78	22.39	-3.61	
5270	54	AVG	484T	16.51	16.81	19.67	23.47	-3.80	-0.91	18.76	29.47	-10.71	
5310	62	AVG	484T	16.20	16.70	19.47	23.47	-4.00	-0.91	18.56	29.47	-10.91	
5510	102	AVG	484T	16.56	16.77	19.68	22.80	-3.12	-1.91	17.77	28.80	-11.03	
5590	118	AVG	484T	16.59	16.87	19.74	22.80	-3.06	-1.91	17.83	28.80	-10.97	
5710	142	AVG	484T	16.60	16.80	19.71	22.80	-3.09	-1.91	17.80	28.80	-11.00	
5755	151	AVG	484T	16.65	16.78	19.73	30.00	-10.27	-0.75	18.98	-	-	
5795	159	AVG	484T	16.58	16.70	19.65	30.00	-10.35	-0.75	18.90	-	-	
5755	151	AVG	484T	16.56	16.69	19.64	30.00	-10.36	-0.75	18.89	30.00	-11.11	
5795	159	AVG	484T	16.63	16.75	19.70	30.00	-10.30	-0.75	18.95	30.00	-11.05	

Table 7-34. 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]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					65			66								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5210	42	AVG	484T	15.45	15.36	18.42	15.39	15.40	18.41	23.98	-5.56	-0.96	17.46	22.39	-4.93	
5290	58	AVG	484T	15.58	15.93	18.77	15.46	15.75	18.62	23.47	-4.70	-0.96	17.81	29.47	-11.66	
5530	106	AVG	484T	15.90	15.86	18.89	15.68	15.97	18.84	22.80	-3.91	-1.91	16.98	28.80	-11.82	
5610	122	AVG	484T	15.78	15.73	18.77	15.59	15.96	18.79	22.80	-4.01	-1.91	16.88	28.80	-11.92	
5690	138	AVG	484T	15.66	15.31	18.50	15.51	15.54	18.54	22.80	-4.26	-1.91	16.63	28.80	-12.17	
5775	155	AVG	484T	15.76	15.62	18.70	15.60	15.73	18.68	30.00	-11.30	-0.75	17.95	-	-	
5855	171	AVG	484T	15.67	15.51	18.60	15.99	15.92	18.97	30.00	-11.03	-0.75	18.22	30.00	-11.78	

Table 7-35. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

160MHz BW (L)	Freq [MHz]	Channel	Tones	Average Conducted Power (dBm)						Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				RU Index: 65			RU Index: 66								
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5250	50	484T	15.93	15.98	18.97	15.78	15.75	18.78	23.98	-5.01	-0.96	18.01	22.39	-4.38	
5570	114	484T	15.99	15.11	18.58	15.73	15.01	18.40	23.47	-4.89	-0.75	17.83	28.80	-10.97	
5815	163	484T	15.80	15.26	18.55	15.53	15.30	18.43			-0.75	17.80	36.00	-18.20	

Table 7-36. MIMO 160MHz BW L (UNII) Maximum Conducted Output Power (484 Tones)

160MHz BW (U)	Freq [MHz]	Channel	Tones	Average Conducted Power (dBm)						Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				RU Index: 65			RU Index: 66								
				ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5250	50	484T	15.53	15.81	18.68	15.63	15.89	18.77	23.98	-5.21	-0.96	17.81	22.39	-4.58	
5570	114	484T	15.63	15.21	18.44	15.58	15.54	18.57	23.47	-4.90	-0.75	17.82	28.80	-10.98	
5815	163	484T	15.52	15.53	18.54	15.70	15.56	18.64			-0.75	17.89	36.00	-18.11	

Table 7-37. MIMO 160MHz BW U (UNII) Maximum Conducted Output Power (484 Tones)

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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]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					67								
					ANT1	ANT2	MIMO						
	5210	42	AVG	996T	15.75	15.97	18.87	23.98	-5.11	-0.96	17.91	22.39	-4.48
	5290	58	AVG	996T	15.51	15.85	18.69	23.47	-4.78	-0.96	17.73	29.47	-11.74
	5530	106	AVG	996T	15.83	15.81	18.83	22.80	-3.97	-1.91	16.92	28.80	-11.88
	5610	122	AVG	996T	15.69	15.76	18.74	22.80	-4.06	-1.91	16.83	28.80	-11.97
	5690	138	AVG	996T	15.99	15.89	18.95	22.80	-3.85	-1.91	17.04	28.80	-11.76
	5775	155	AVG	996T	15.69	15.63	18.67	30.00	-11.33	-0.75	17.92	-	-
	5855	171	AVG	996T	15.58	15.30	18.45	30.00	-11.55	-0.75	17.70	30.00	-12.30

Table 7-38. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)

160MHz BW (L)	Freq [MHz]	Channel	Tones	Average Conducted Power (dBm)			Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				RU Index: 67								
				ANT1	ANT2	MIMO						
	5250	50	996T	15.82	15.72	18.78	23.98	-5.20	-0.96	17.82	22.39	-4.57
	5570	114	996T	15.78	14.90	18.37	23.47	-5.10	-0.75	17.62	28.80	-11.18
	5815	163	996T	15.63	15.15	18.41			-0.75	17.66	36.00	-18.34

Table 7-39. MIMO 160MHz BW L (UNII) Maximum Conducted Output Power (996 Tones)

160MHz BW (U)	Freq [MHz]	Channel	Tones	Average Conducted Power (dBm)			Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Directional Ant. Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
				RU Index: 67								
				ANT1	ANT2	MIMO						
	5250	50	996T	15.53	15.71	18.63	23.98	-5.35	-0.96	17.67	22.39	-4.72
	5570	114	996T	15.61	15.24	18.44	23.47	-5.03	-0.75	17.69	28.80	-11.11
	5815	163	996T	15.60	15.34	18.48			-0.75	17.73	36.00	-18.27

Table 7-40. MIMO 160MHz BW U (UNII) Maximum Conducted Output Power (996 Tones)

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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 17.45 dBm for Antenna 1 and 17.99 dBm for Antenna 2.

Antenna 1 + Antenna 2 = MIMO

$$(17.45 \text{ dBm} + 17.99 \text{ dBm}) = (55.59 \text{ mW} + 62.95 \text{ mW}) = 118.54 \text{ mW} = 20.74 \text{ dBm}$$

Sample e.i.r.p. Calculation:

At 5180MHz in 802.11ax (20MHz BW) mode, the average MIMO conducted power was calculated to be 20.74 dBm with directional gain of -1.98 dBi.

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

$$20.74 \text{ dBm} + -1.98 \text{ dBi} = 18.76 \text{ dBm}$$

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7.5 Maximum Power Spectral Density – 802.11ax OFDMA
§15.407(a.1.iv) §15.407(a.2) §15.407(a.3)

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 band, the maximum permissible power spectral density is 11dBm/MHz. For ISED operation, the maximum e.i.r.p. spectral density is 10dBm/MHz.

In the 5.25 – 5.35GHz and 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 – 5.855GHz band, the maximum permissible power spectral density is 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.

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Test Setup

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



Figure 7-4. Test Instrument & Measurement Setup

Test Notes

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

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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	8.12	7.71	10.93	11.00	-0.07
	5200	40	ax (20MHz)	26T	MCS0	8.04	7.77	10.92	11.00	-0.08
	5240	48	ax (20MHz)	26T	MCS0	8.01	7.53	10.79	11.00	-0.21
	5190	38	ax (40MHz)	26T	MCS0	7.30	6.96	10.14	11.00	-0.86
	5230	46	ax (40MHz)	26T	MCS0	7.11	7.35	10.24	11.00	-0.76
Band 1/2A	5210	42	ax (80MHz)	26T	MCS0	5.49	5.92	8.72	11.00	-2.28
	5210	50	ax (160MHz L)	26T	MCS0	8.21	7.09	10.70	11.00	-0.30
Band 2A	5210	50	ax (160MHz U)	26T	MCS0	5.93	6.83	9.41	11.00	-1.59
	5260	52	ax (20MHz)	26T	MCS0	7.00	6.64	9.83	11.00	-1.17
	5280	56	ax (20MHz)	26T	MCS0	7.72	7.46	10.60	11.00	-0.40
	5320	64	ax (20MHz)	26T	MCS0	7.68	7.20	10.45	11.00	-0.55
	5270	54	ax (40MHz)	26T	MCS0	6.83	7.24	10.05	11.00	-0.95
Band 2C	5310	62	ax (40MHz)	26T	MCS0	6.44	7.26	9.88	11.00	-1.12
	5290	58	ax (80MHz)	26T	MCS0	6.63	7.67	10.19	11.00	-0.81
	5500	100	ax (20MHz)	26T	MCS0	8.04	7.85	10.95	11.00	-0.05
	5600	120	ax (20MHz)	26T	MCS0	8.12	7.61	10.88	11.00	-0.12
	5720	144	ax (20MHz)	26T	MCS0	7.84	7.84	10.85	11.00	-0.15
	5510	102	ax (40MHz)	26T	MCS0	6.94	7.39	10.18	11.00	-0.82
	5590	118	ax (40MHz)	26T	MCS0	7.17	7.26	10.22	11.00	-0.78
	5710	142	ax (40MHz)	26T	MCS0	6.65	7.55	10.14	11.00	-0.86
	5530	106	ax (80MHz)	26T	MCS0	6.52	8.30	10.51	11.00	-0.49
	5610	122	ax (80MHz)	26T	MCS0	6.60	7.92	10.32	11.00	-0.68
5690	138	ax (80MHz)	26T	MCS0	5.93	7.95	10.07	11.00	-0.93	
5570	114	ax (160MHz L)	26T	MCS0	8.65	6.77	10.82	11.00	-0.18	
5570	114	ax (160MHz U)	26T	MCS0	6.46	6.16	9.32	11.00	-1.68	

Table 7-41. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements MIMO (26 Tones)

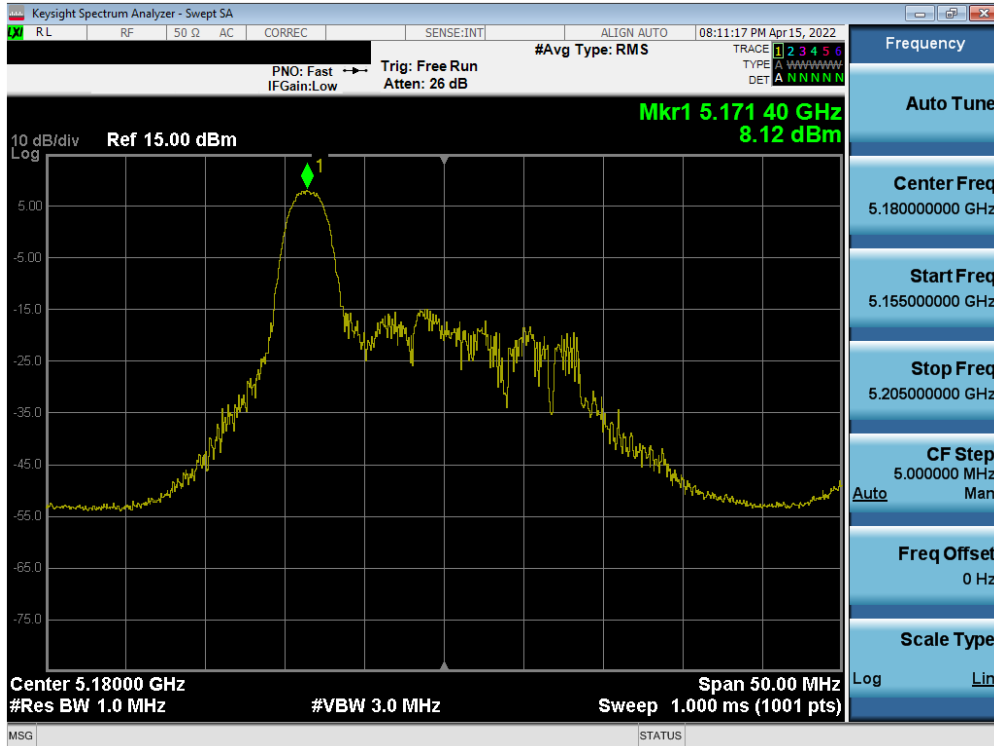
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density	Margin [dB]
Band 3	5745	149	ax (20MHz)	26T	MCS0	5.08	5.23	8.16	30.00	-21.84
	5785	157	ax (20MHz)	26T	MCS0	5.19	5.01	8.11	30.00	-21.89
	5825	165	ax (20MHz)	26T	MCS0	5.50	5.15	8.34	30.00	-21.66
	5755	151	ax (40MHz)	26T	MCS0	4.34	4.67	7.52	30.00	-22.48
	5795	159	ax (40MHz)	26T	MCS0	4.80	4.82	7.82	30.00	-22.18
5775	155	ax (80MHz)	26T	MCS0	3.45	4.15	6.82	30.00	-23.18	

Table 7-42. Band 3 Conducted Power Spectral Density Measurements MIMO (26 Tones)

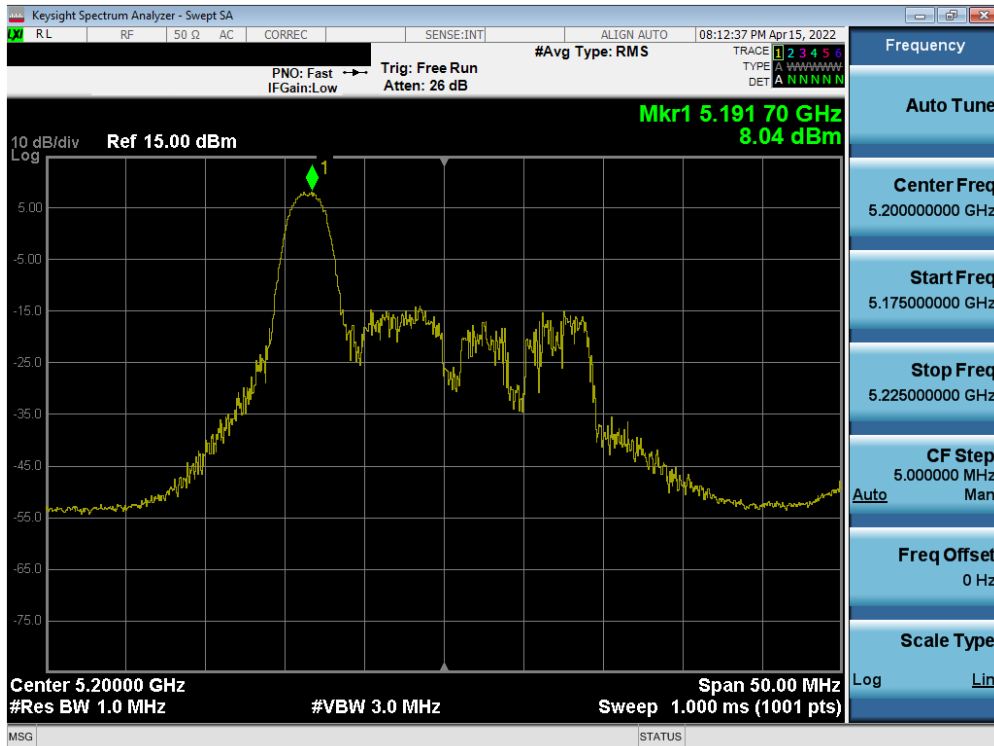
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm/MHz]	Antenna-2 Power Density [dBm/MHz]	MIMO Summed Power Density [dBm/MHz]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Directional Antenna Gain [dB]	EIRP Power Density [dBm/MHz]	Max EIRP Power Density [dBm/MHz]	Margin [dB]
Band 3/4	5845	169	ax (20MHz)	26T	MCS0	7.03	6.72	9.89	30.00	-20.11	-0.75	9.14	14.00	-4.86
Band 4	5865	173	ax (20MHz)	26T	MCS0	6.93	6.40	9.69			-0.75	8.94	14.00	-5.06
	5885	177	ax (20MHz)	26T	MCS0	7.82	8.05	10.94			-0.75	10.19	14.00	-3.81
Band 3/4	5835	167	ax (40MHz)	26T	MCS0	7.54	7.86	10.71	30.00	-19.29	-0.75	9.96	14.00	-4.04
Band 4	5875	175	ax (40MHz)	26T	MCS0	7.50	7.74	10.63			-0.75	9.88	14.00	-3.70
Band 3/4	5855	171	ax (80MHz)	26T	MCS0	7.82	8.24	11.05	30.00	-18.95	-0.75	10.30	14.00	-3.99
	5815	163	ax (160MHz L)	26T	MCS0	8.11	7.37	10.76	30.00	-19.24	-0.75	10.01	14.00	-3.99
	5815	163	ax (160MHz U)	26T	MCS0	6.84	6.19	9.54	30.00	-20.46	-0.75	8.79	14.00	-5.21

Table 7-43. Band 4 MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

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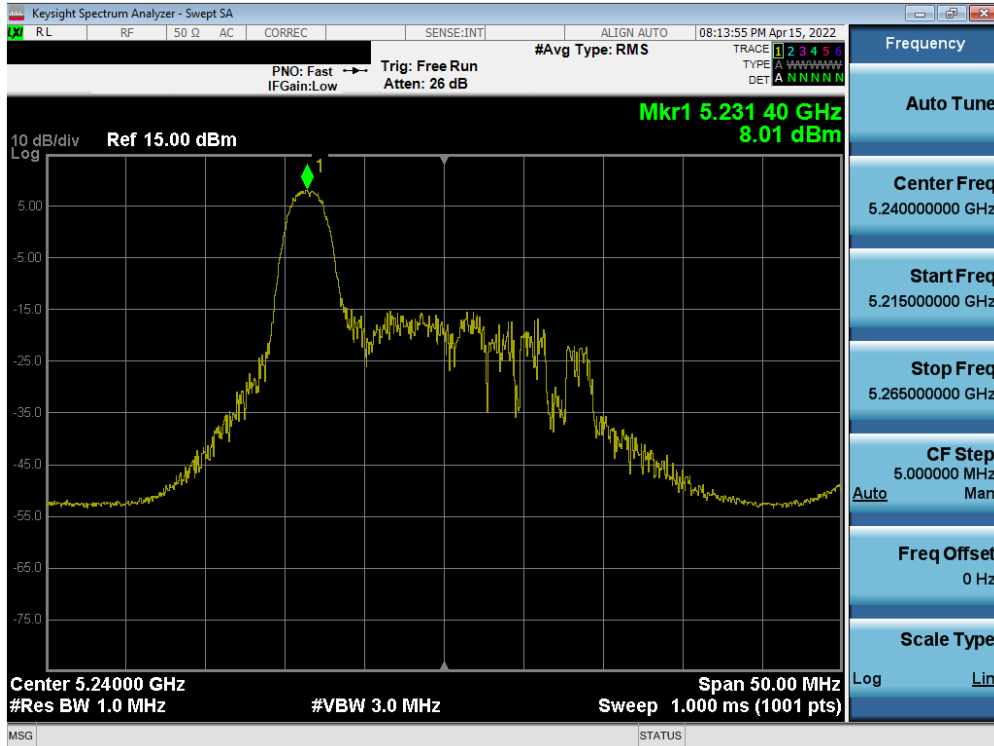


Plot 7-149. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

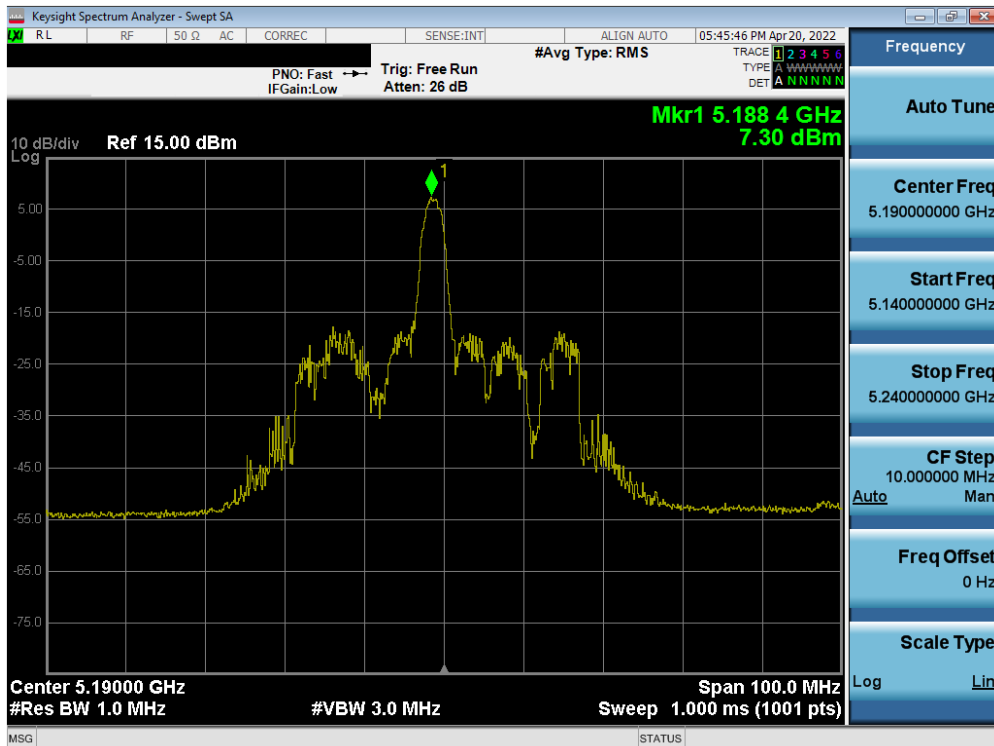


Plot 7-150. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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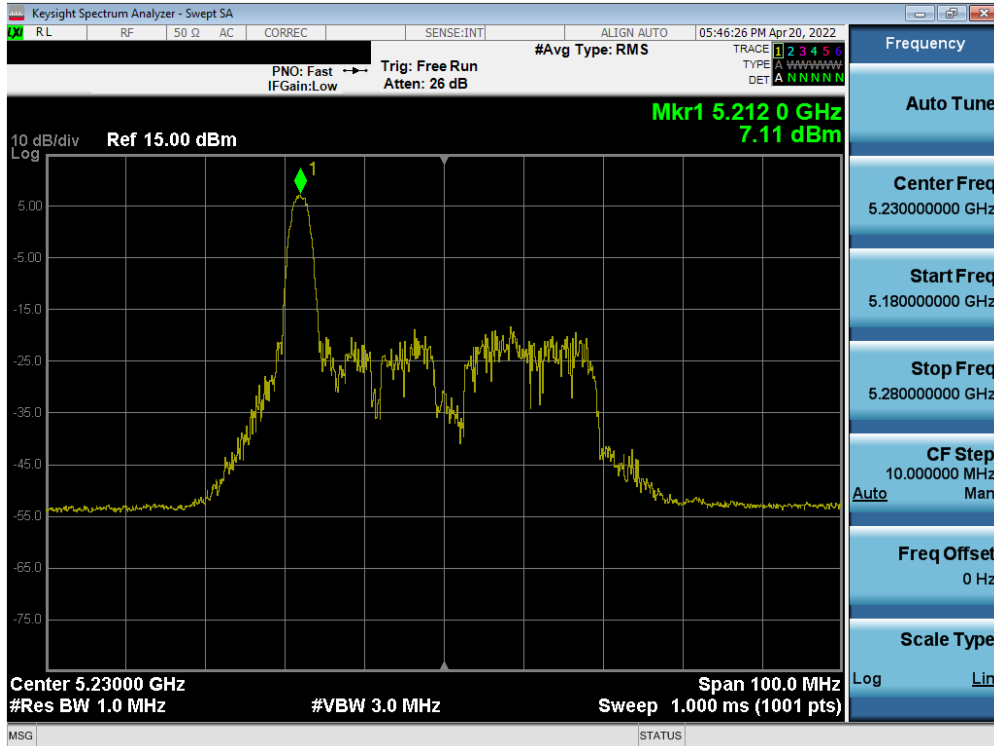


Plot 7-151. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

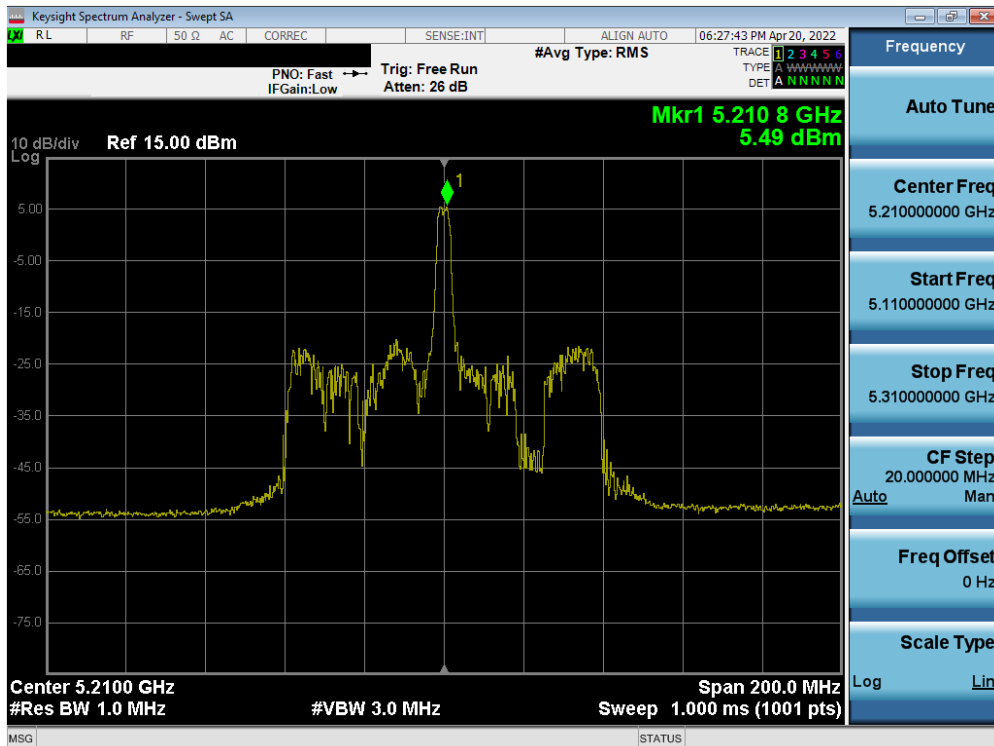


Plot 7-152. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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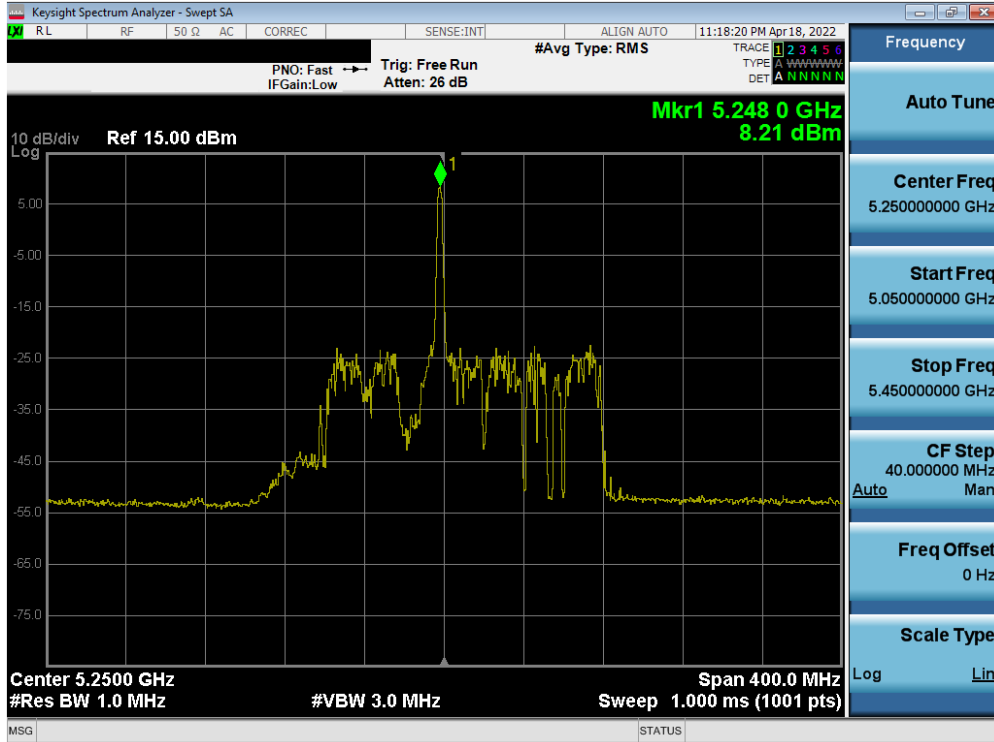


Plot 7-153. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

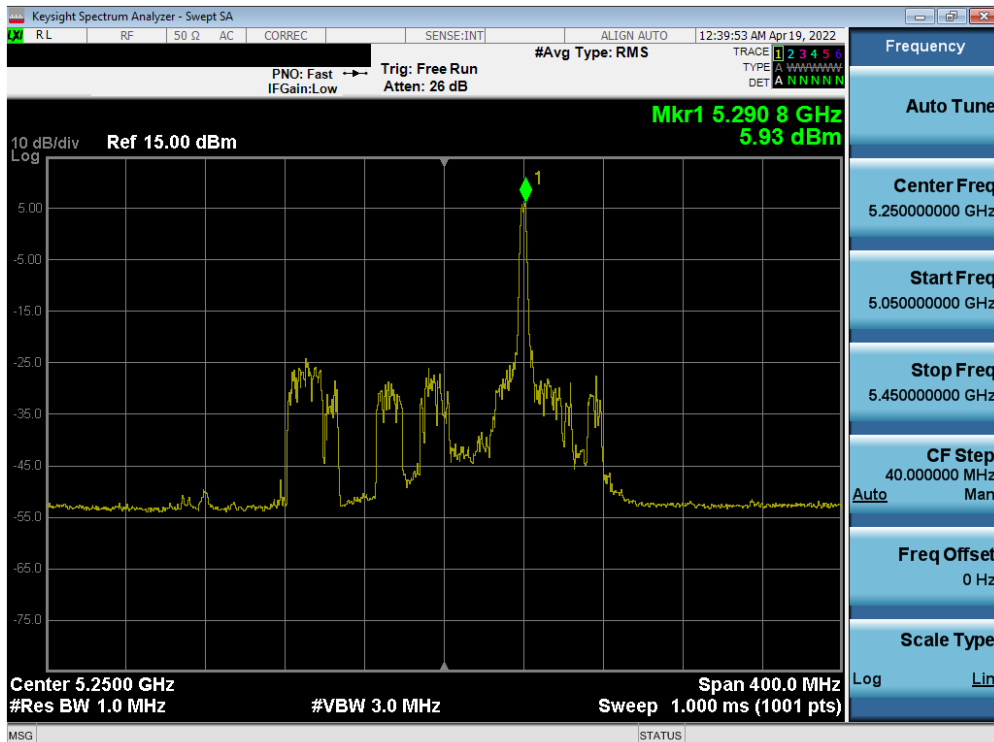


Plot 7-154. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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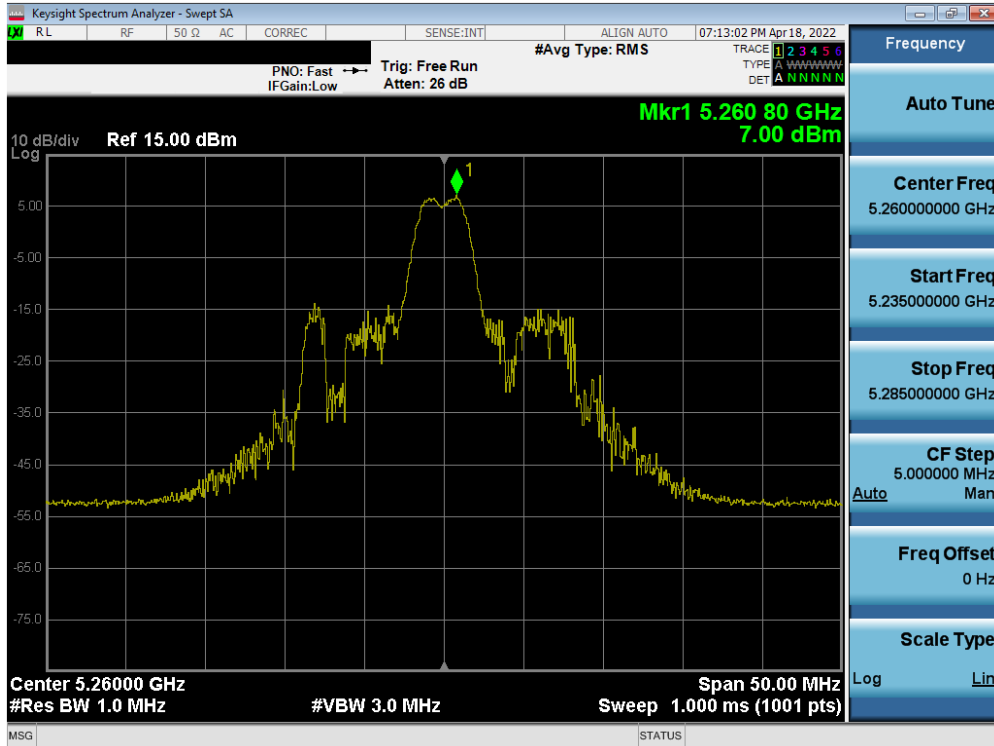


Plot 7-155. Power Spectral Density Plot MIMO ANT1 (160MHz (L) BW 802.11ax – 26 Tones (UNII Band 1/2A) – Ch. 50)

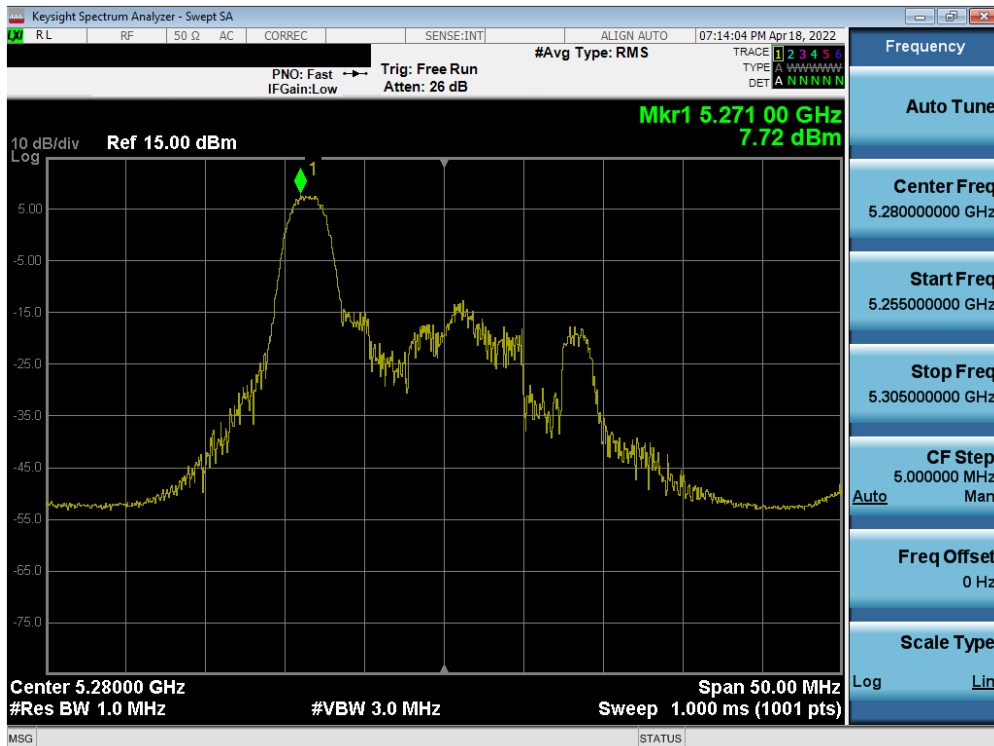


Plot 7-156. Power Spectral Density Plot MIMO ANT1 (160MHz (U) BW 802.11ax – 26 Tones (UNII Band 1/2A) – Ch. 50)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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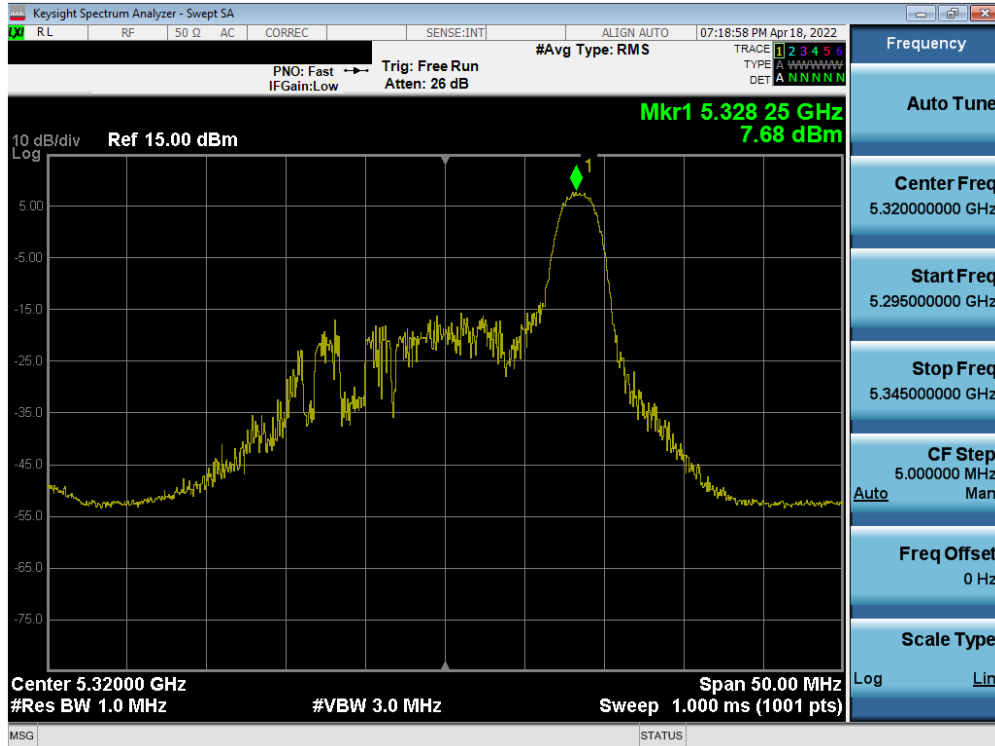


Plot 7-157. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

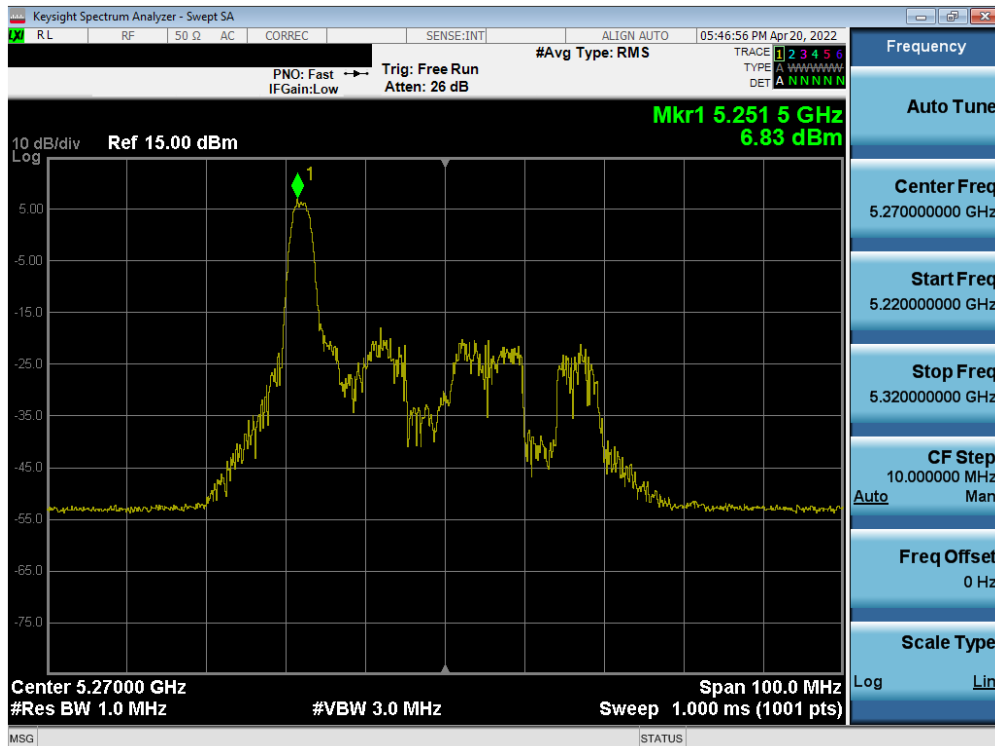


Plot 7-158. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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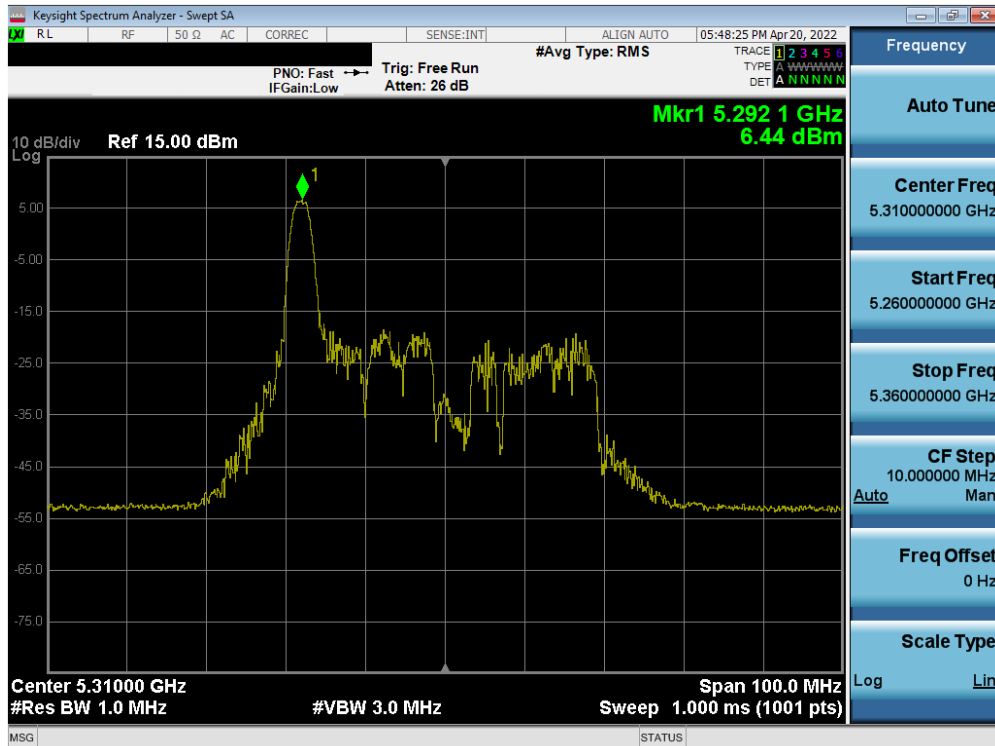


Plot 7-159. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

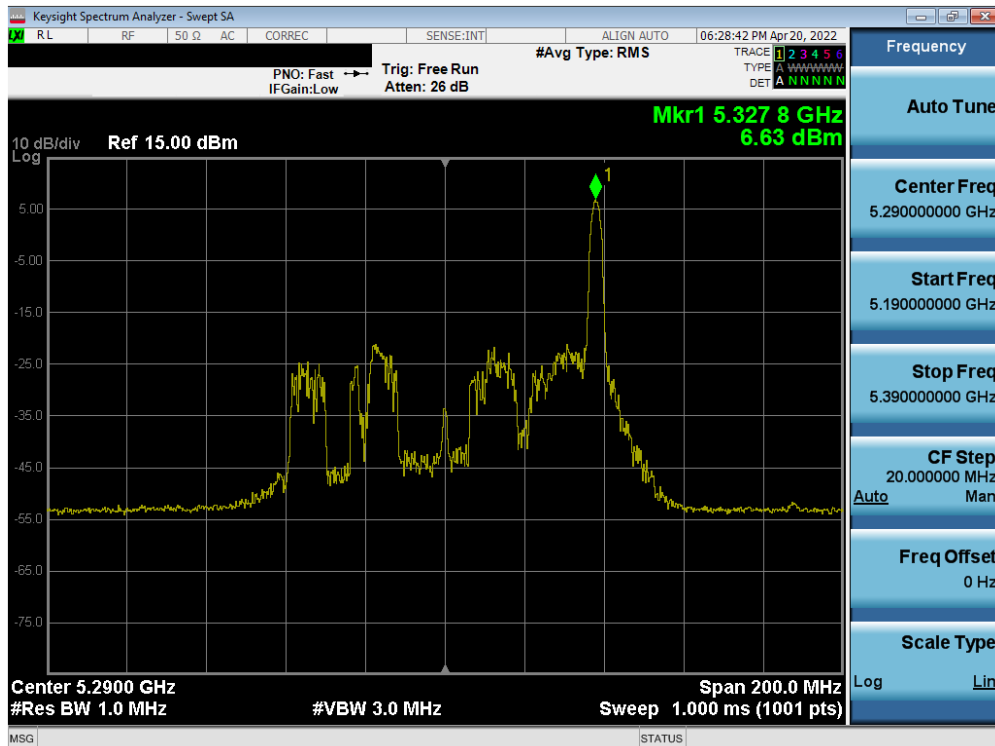


Plot 7-160. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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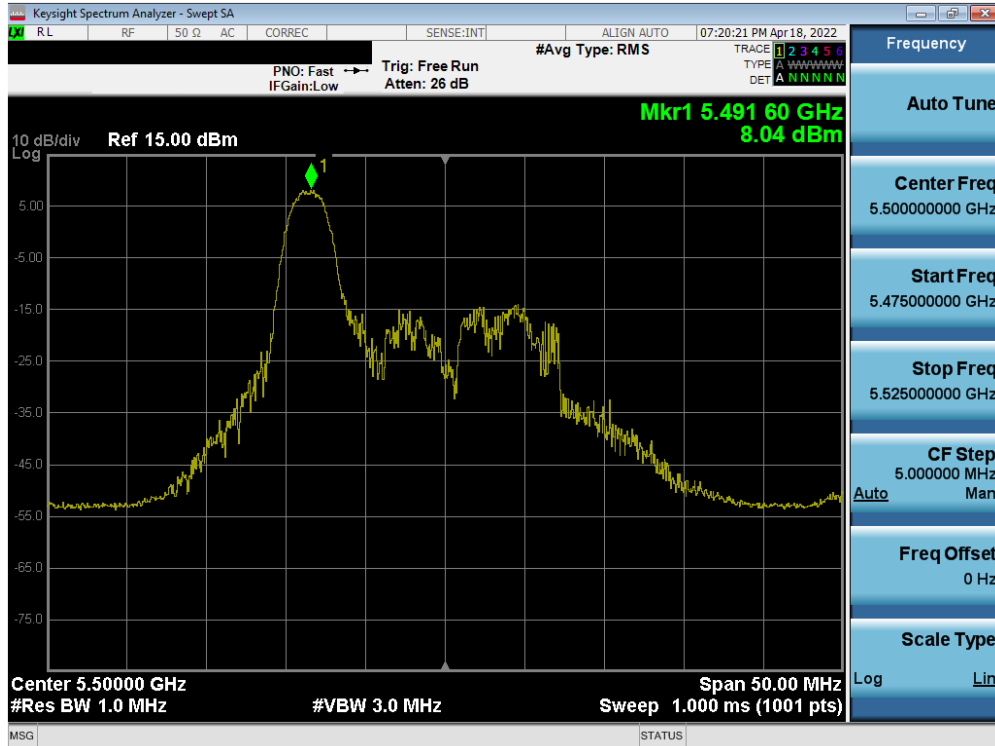


Plot 7-161. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

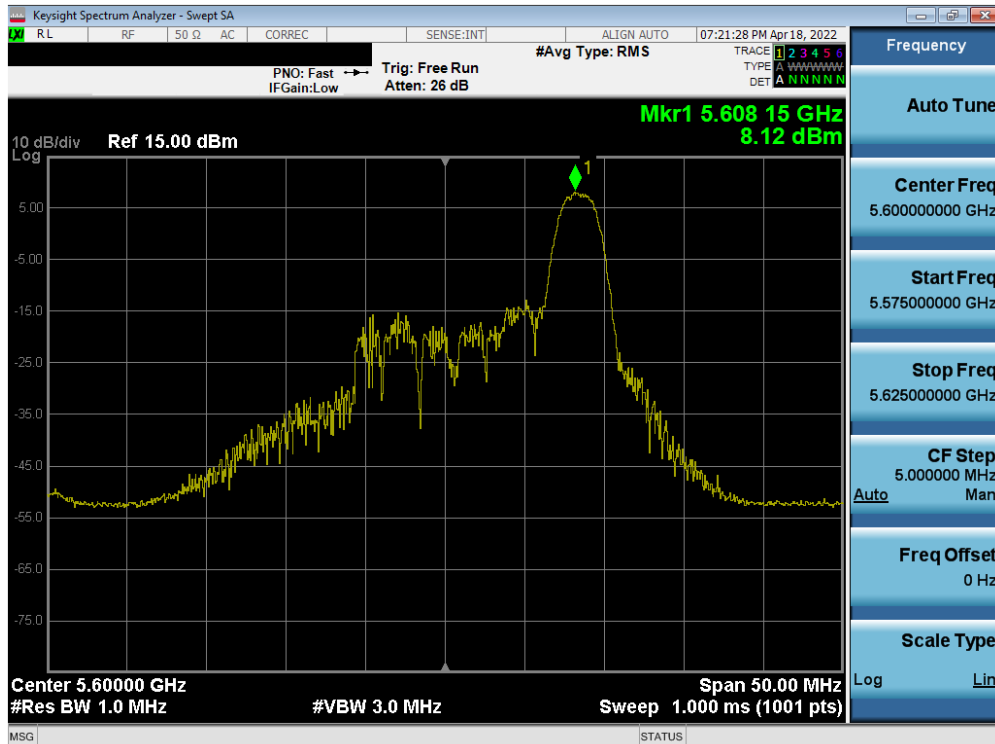


Plot 7-162. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
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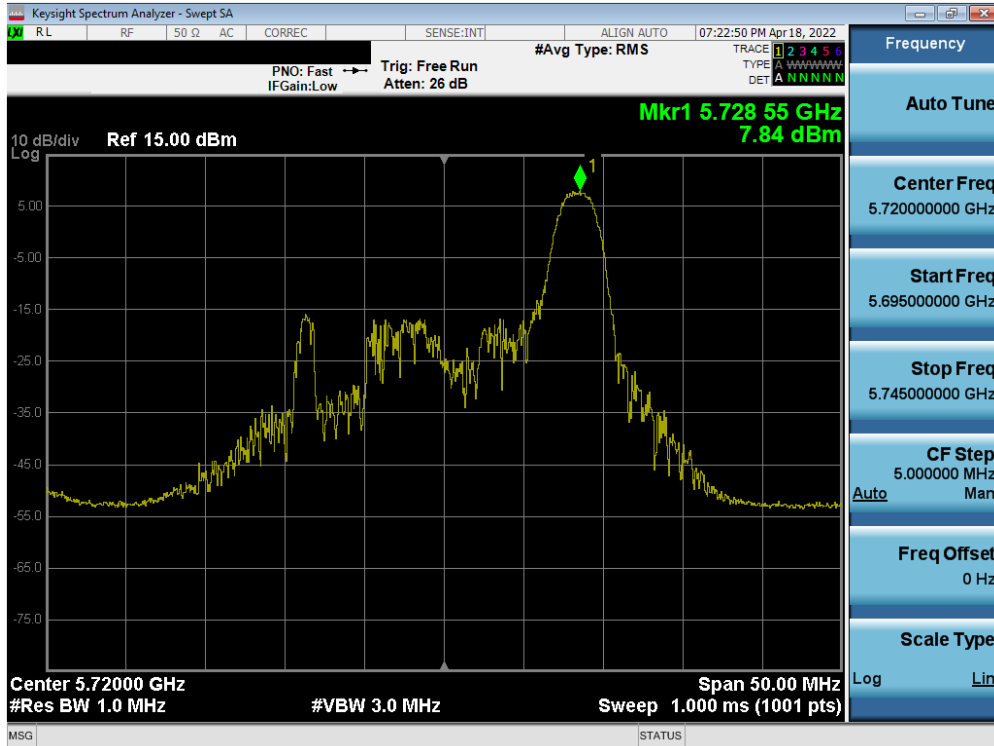


Plot 7-163. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

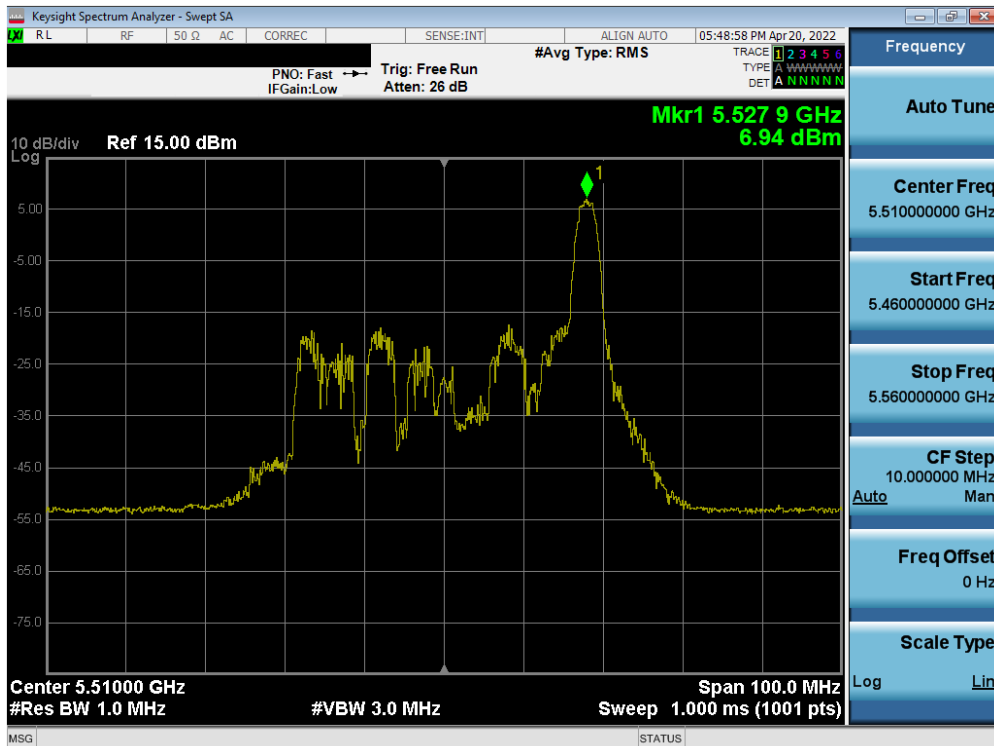


Plot 7-164. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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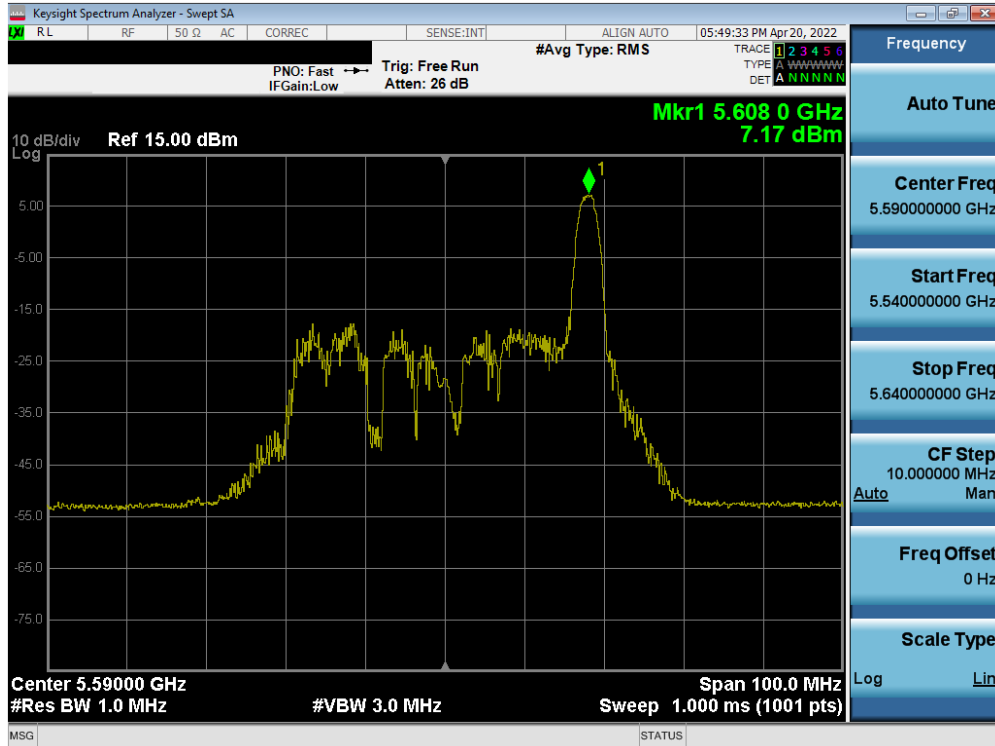


Plot 7-165. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

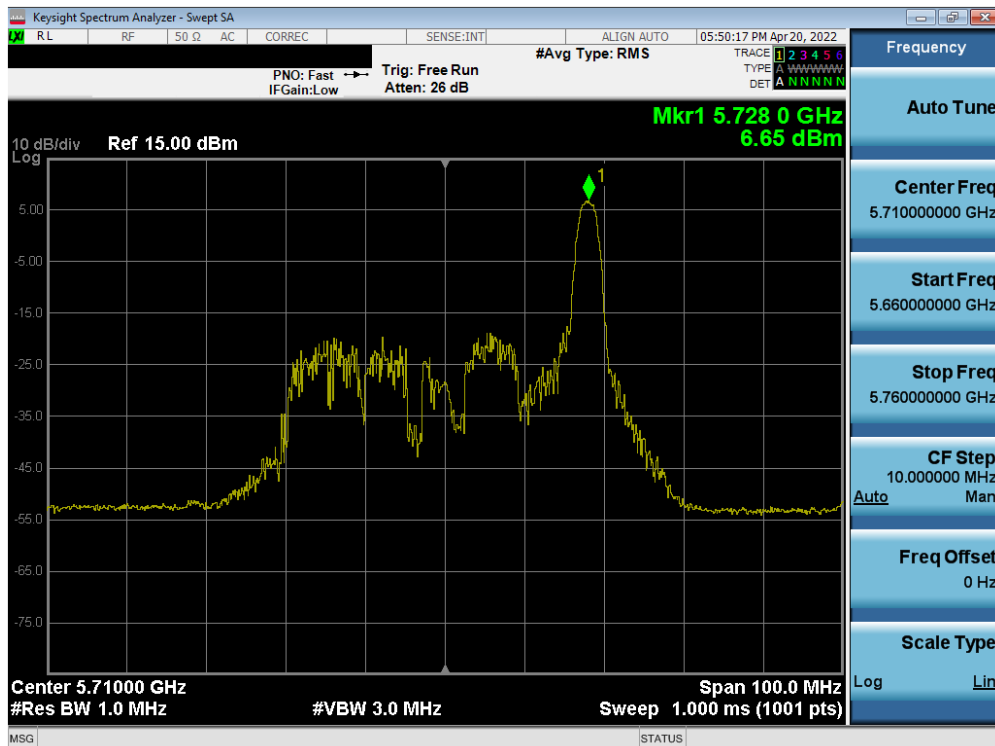


Plot 7-166. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 124 of 236

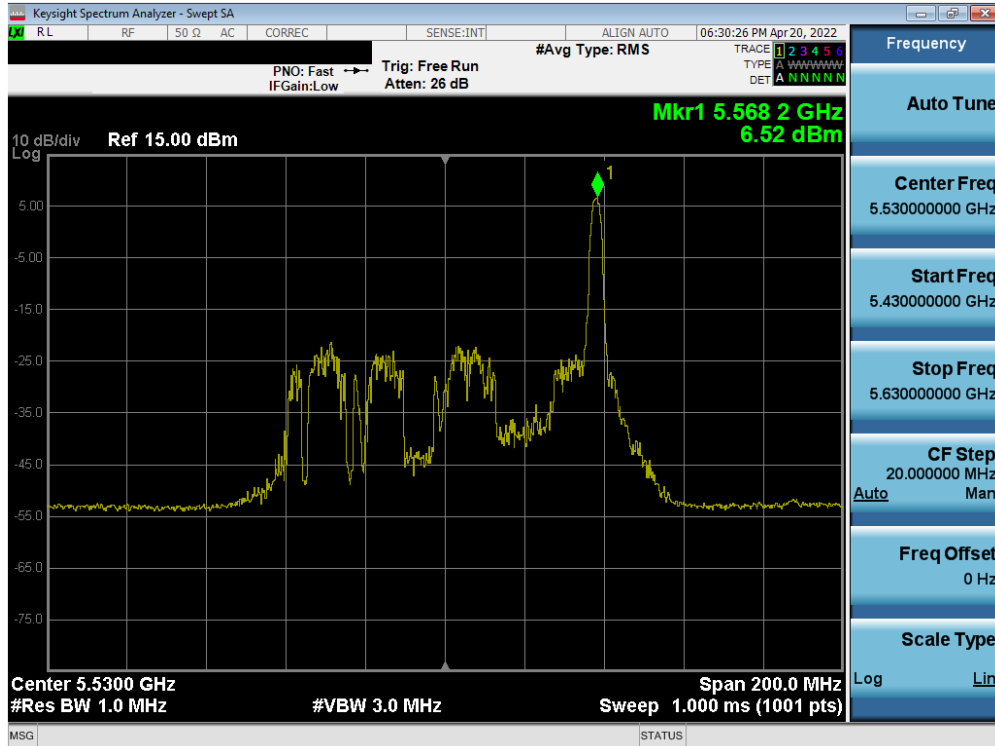


Plot 7-167. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

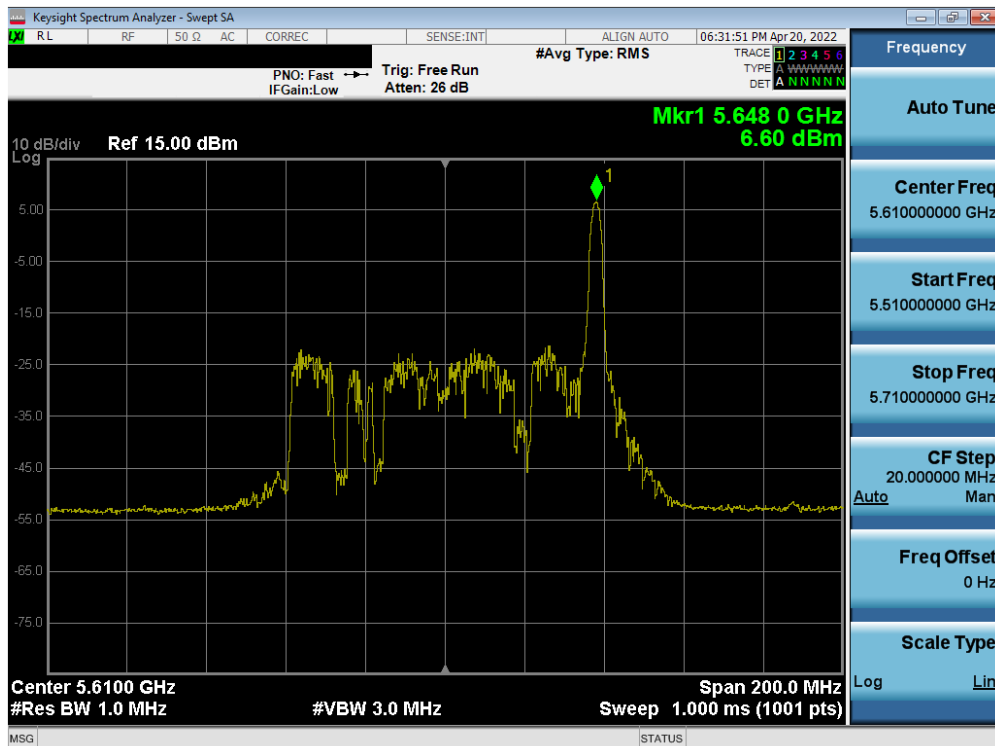


Plot 7-168. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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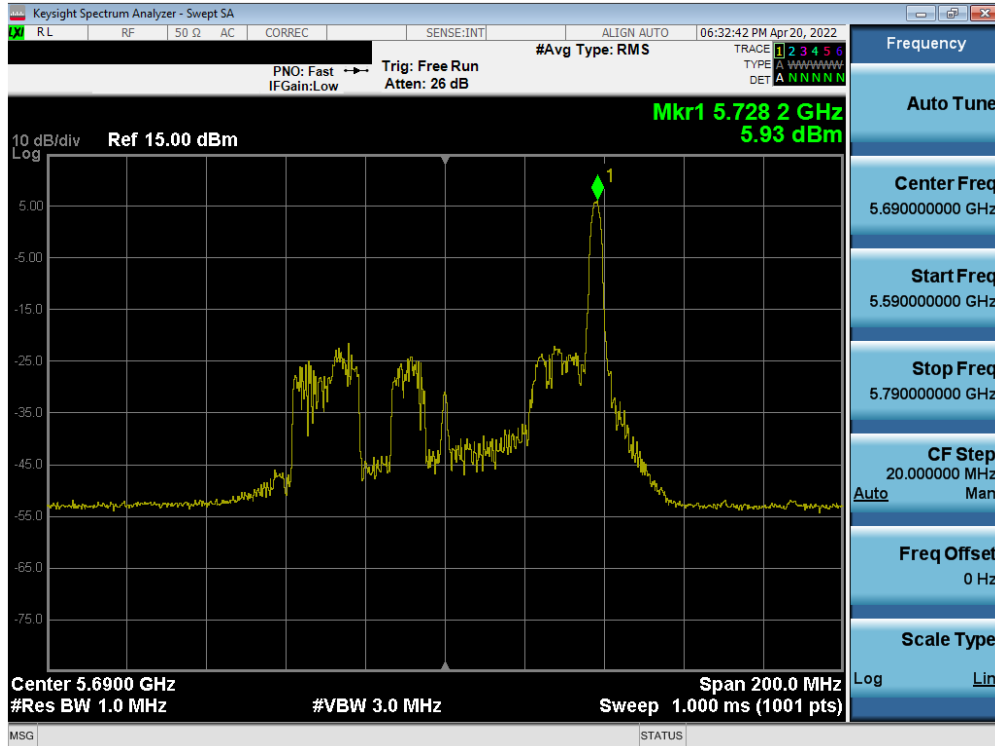


Plot 7-169. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)

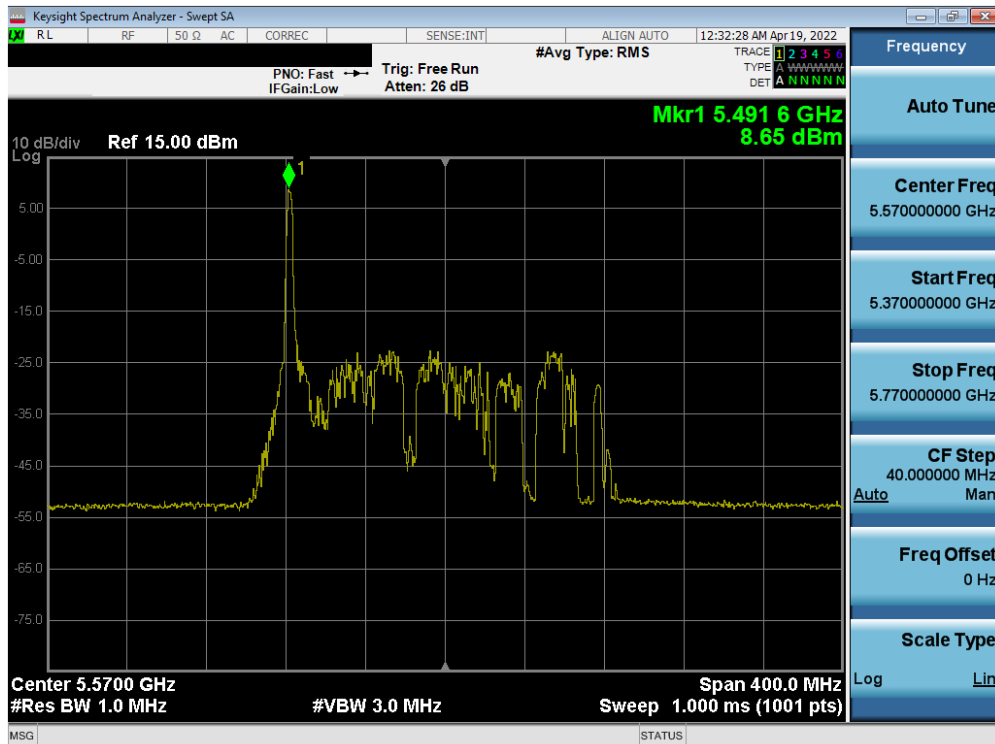


Plot 7-170. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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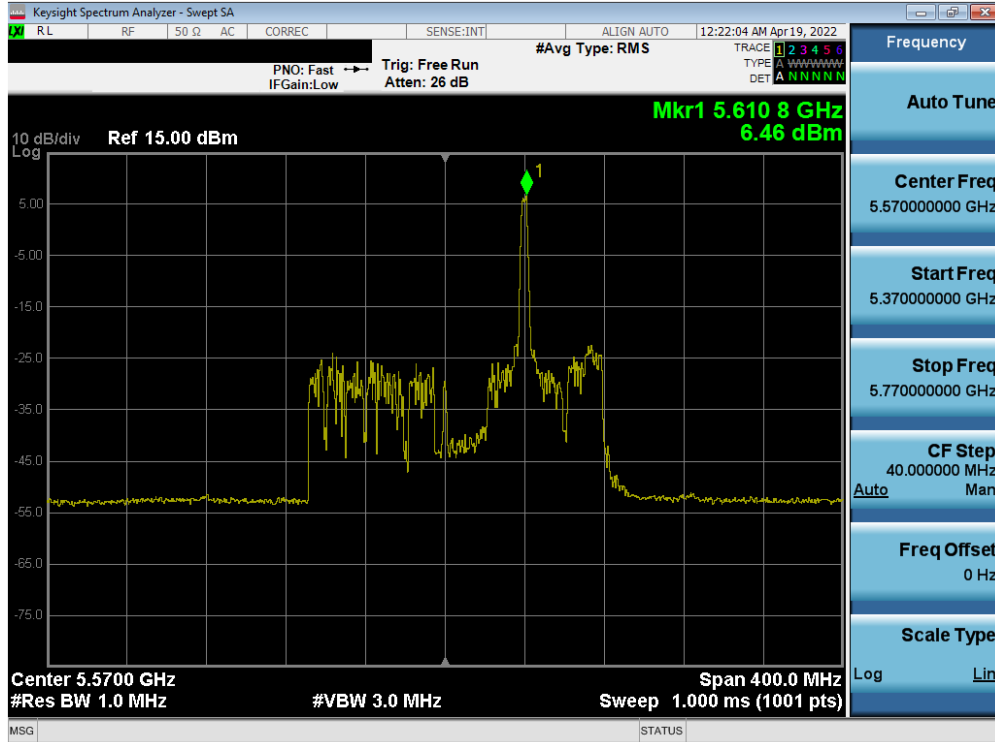


Plot 7-171. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

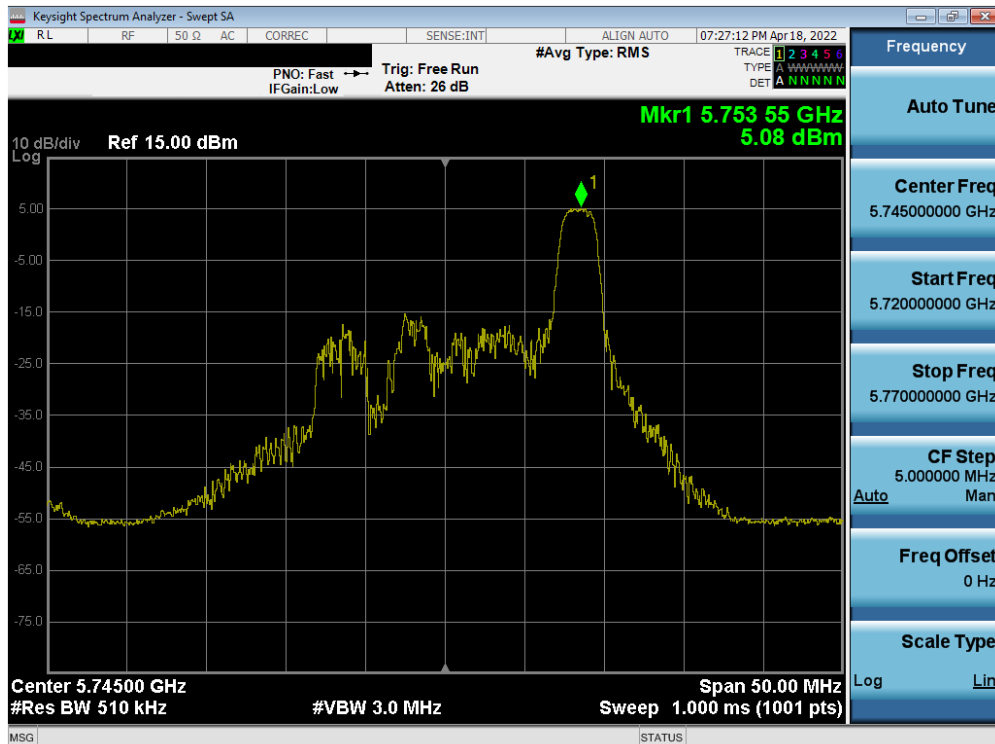


Plot 7-172. Power Spectral Density Plot MIMO ANT1 (160MHz (L) BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 114)

FCC ID: A3LSMF936U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 127 of 236	

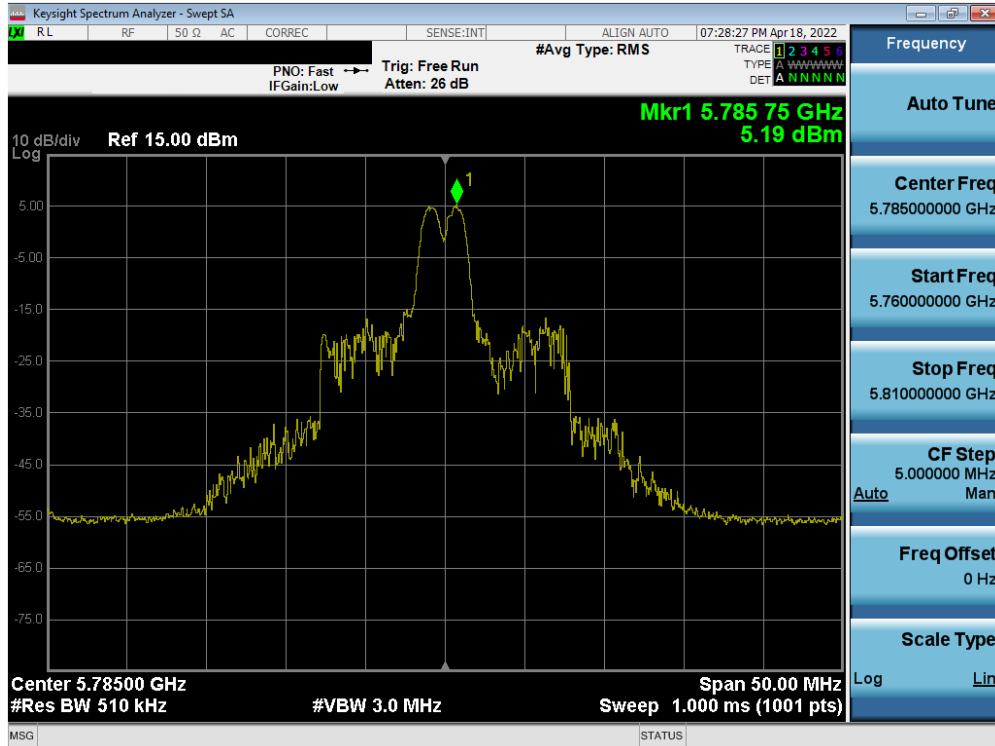


Plot 7-173. Power Spectral Density Plot MIMO ANT1 (160MHz (U) BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 114)

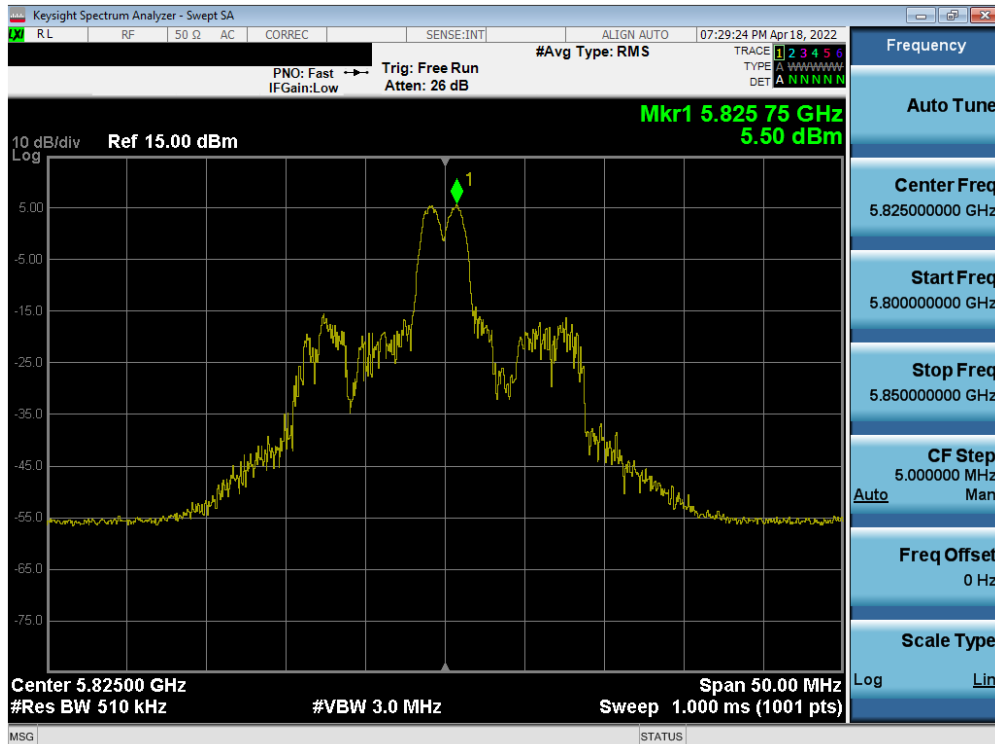


Plot 7-174. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 128 of 236

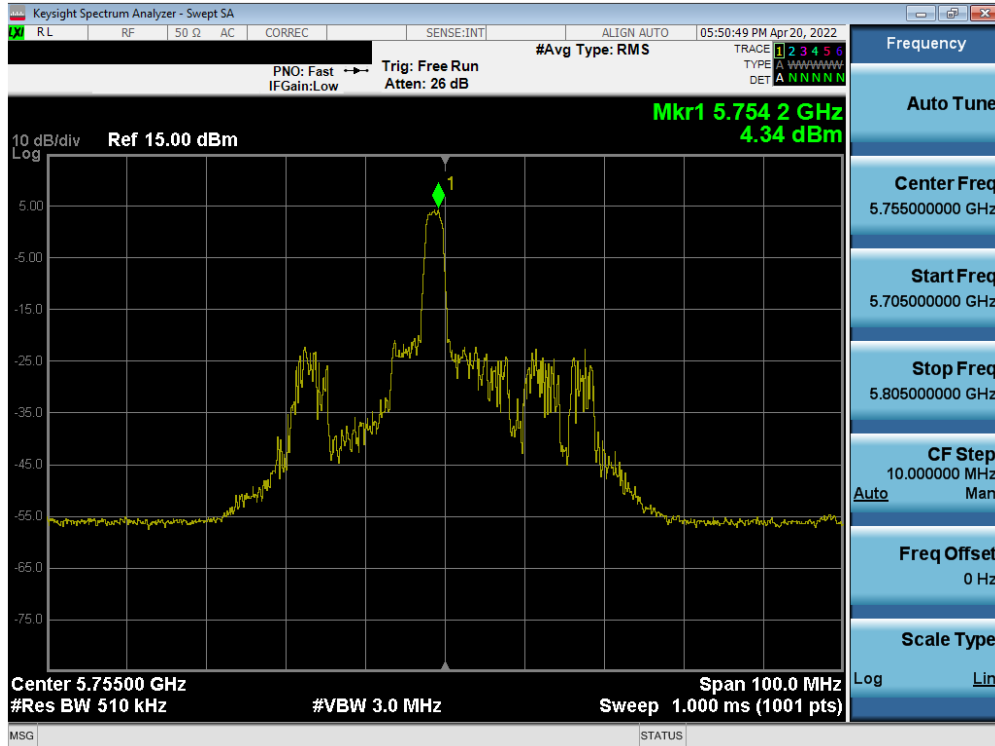


Plot 7-175. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

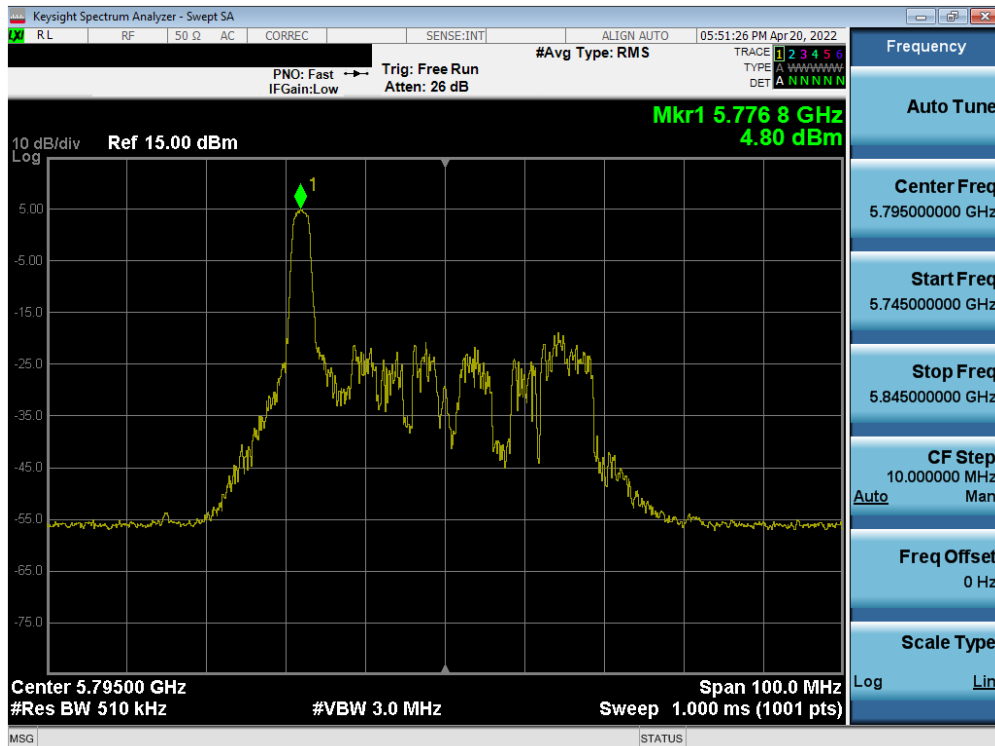


Plot 7-176. Power Spectral Density Plot MIMO ANT1 (20 MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 129 of 236

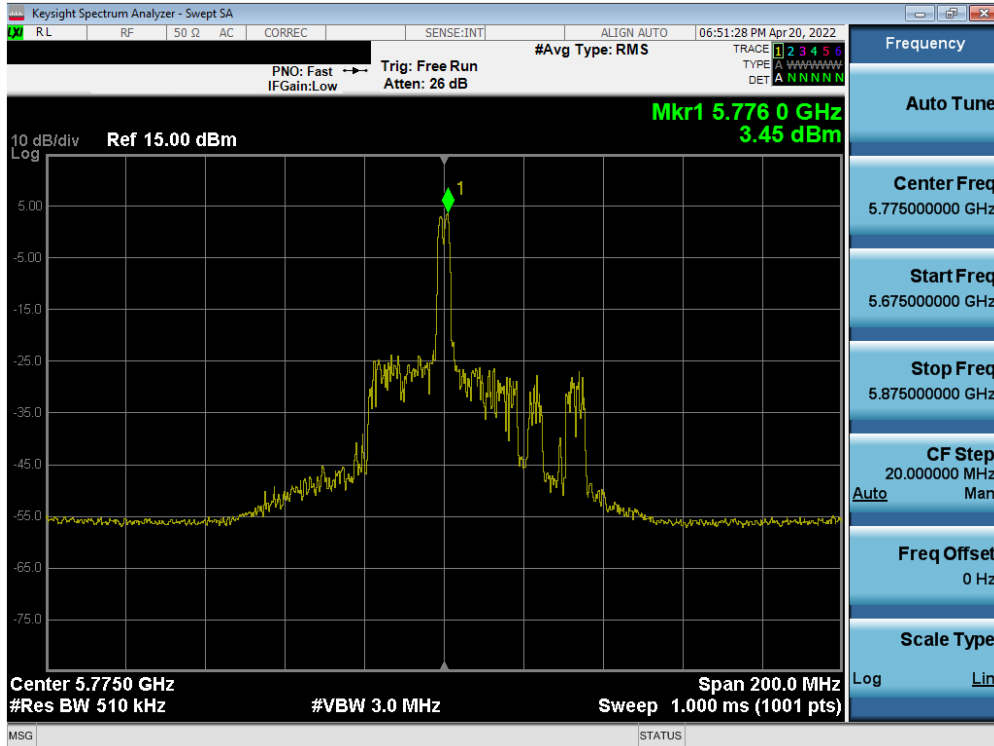


Plot 7-177. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

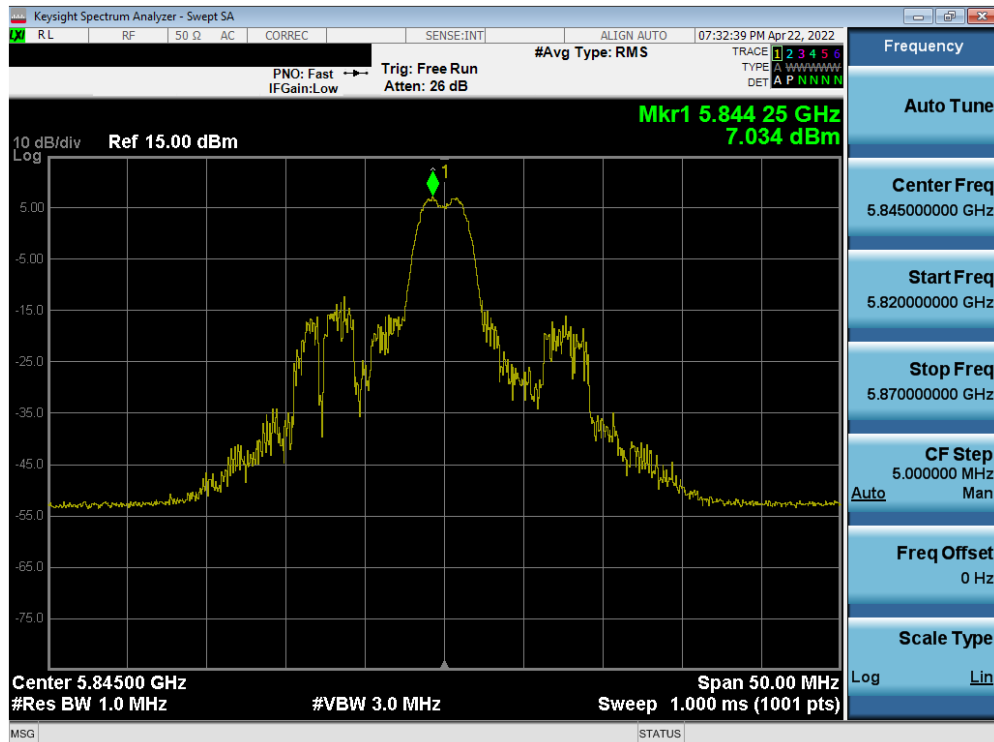


Plot 7-178. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 130 of 236

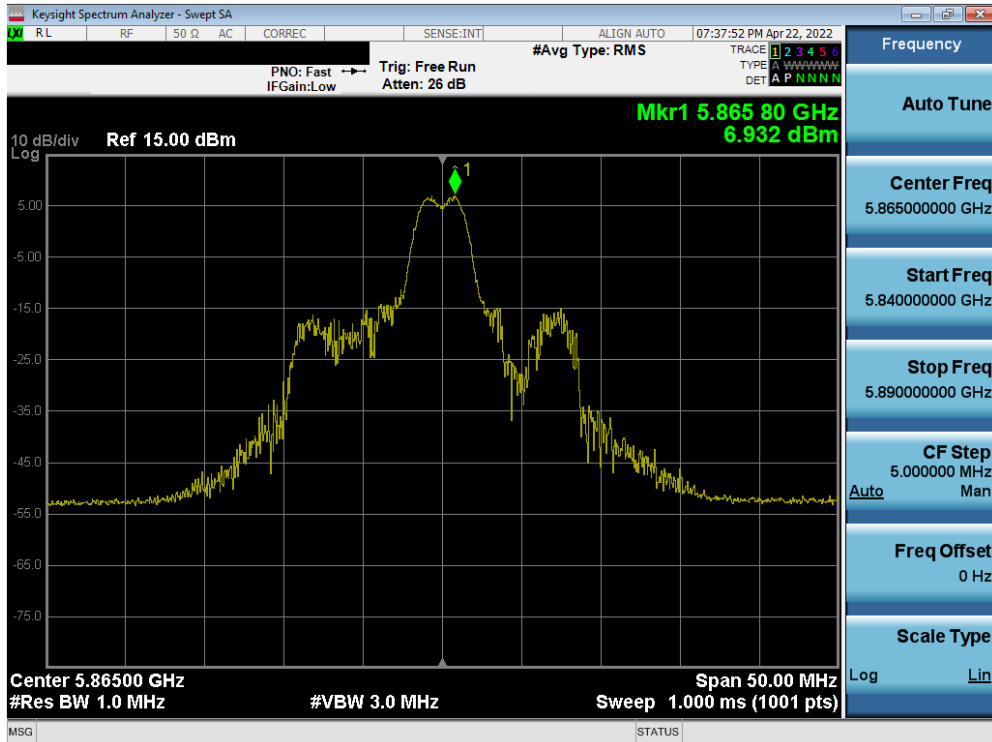


Plot 7-179. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

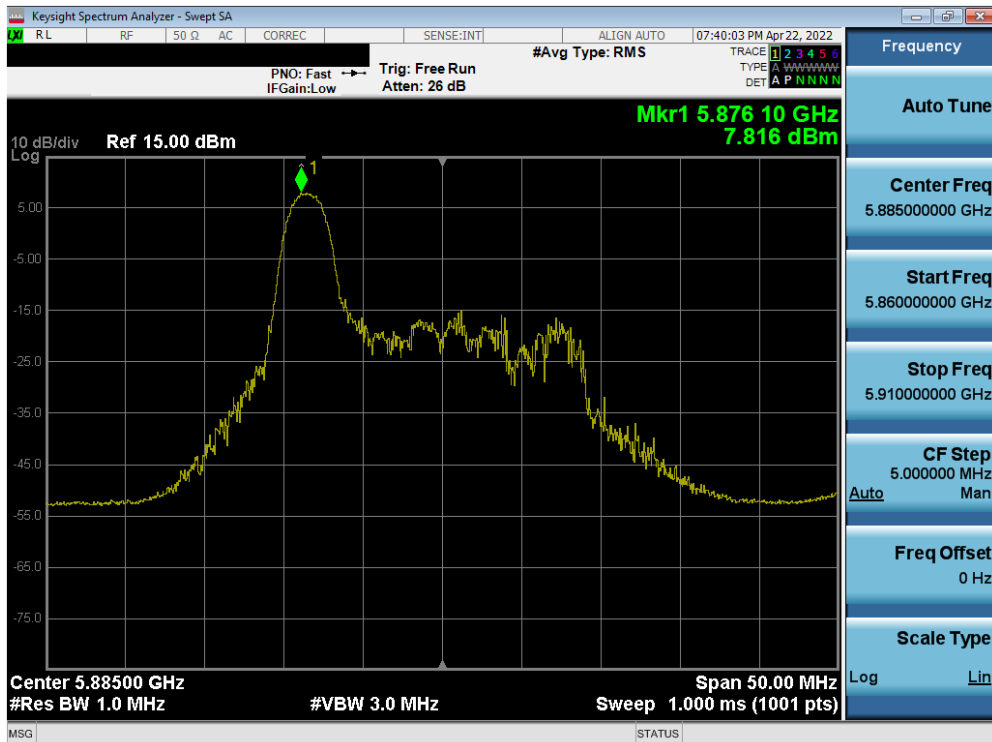


Plot 7-180. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 169)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 131 of 236

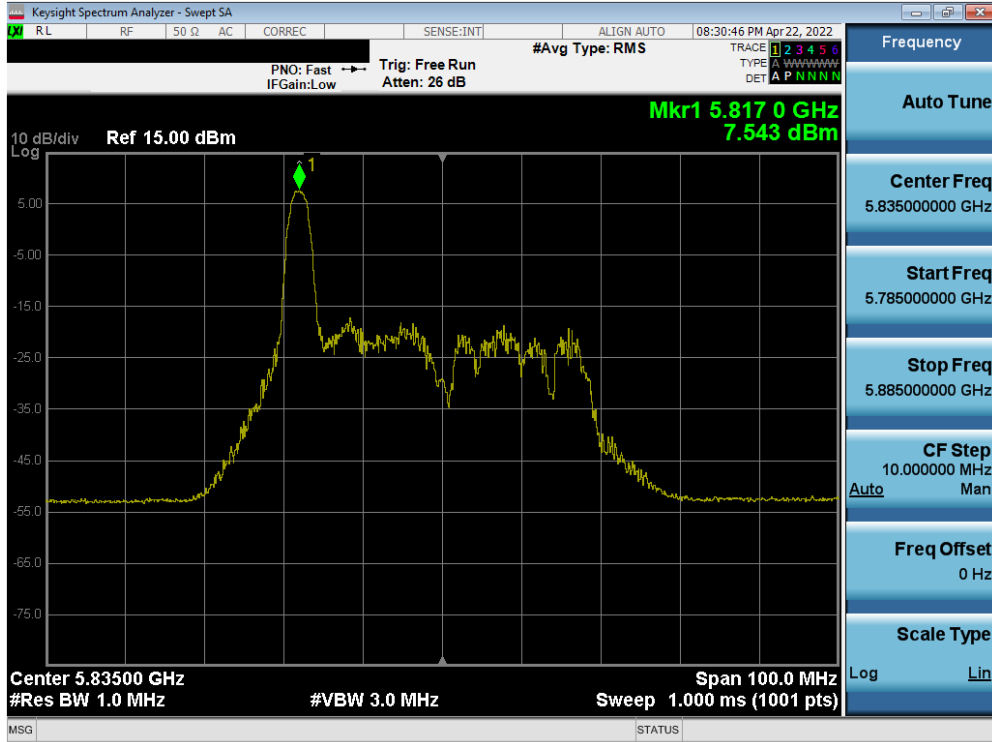


Plot 7-181. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 173)

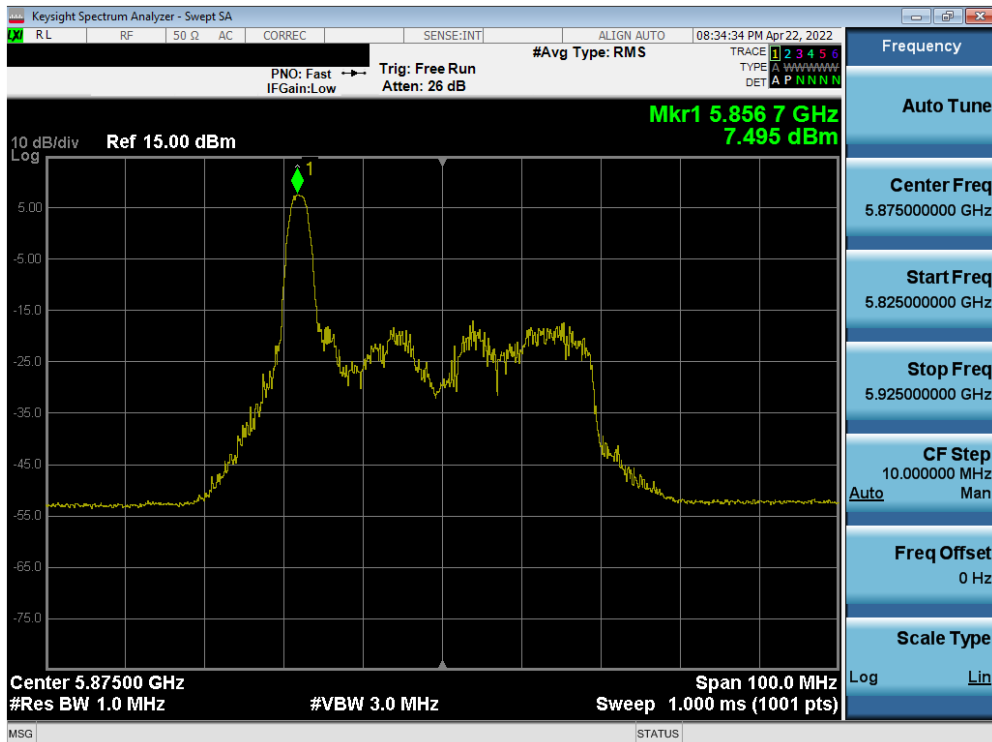


Plot 7-182. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 177)

FCC ID: A3LSMF936U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset		Page 132 of 236

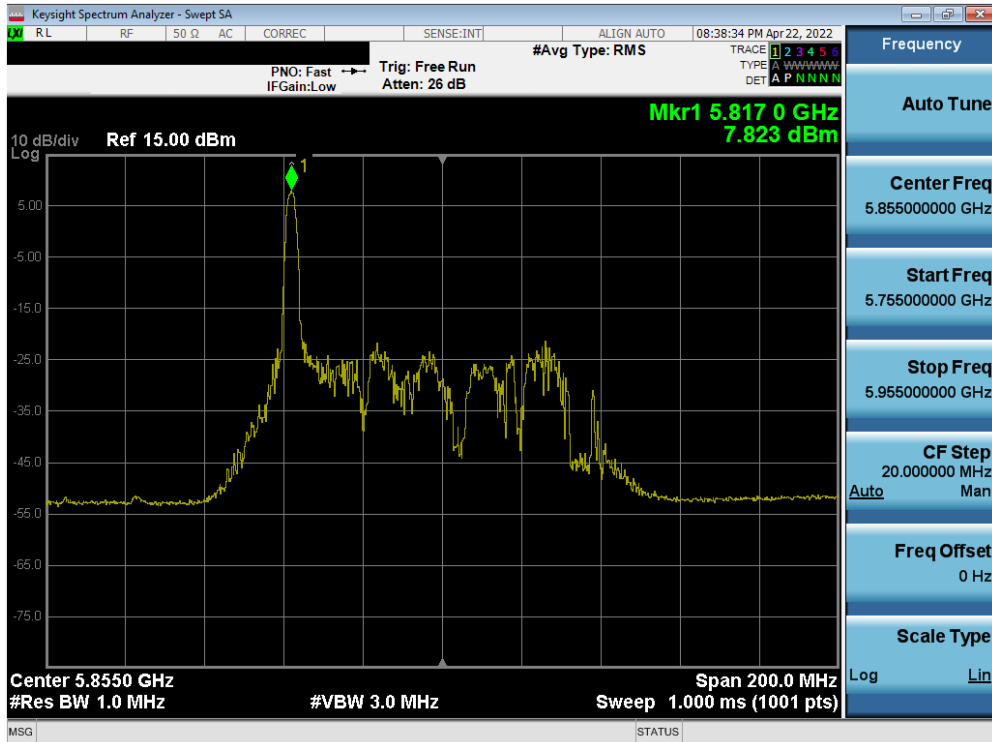


Plot 7-183. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 167)

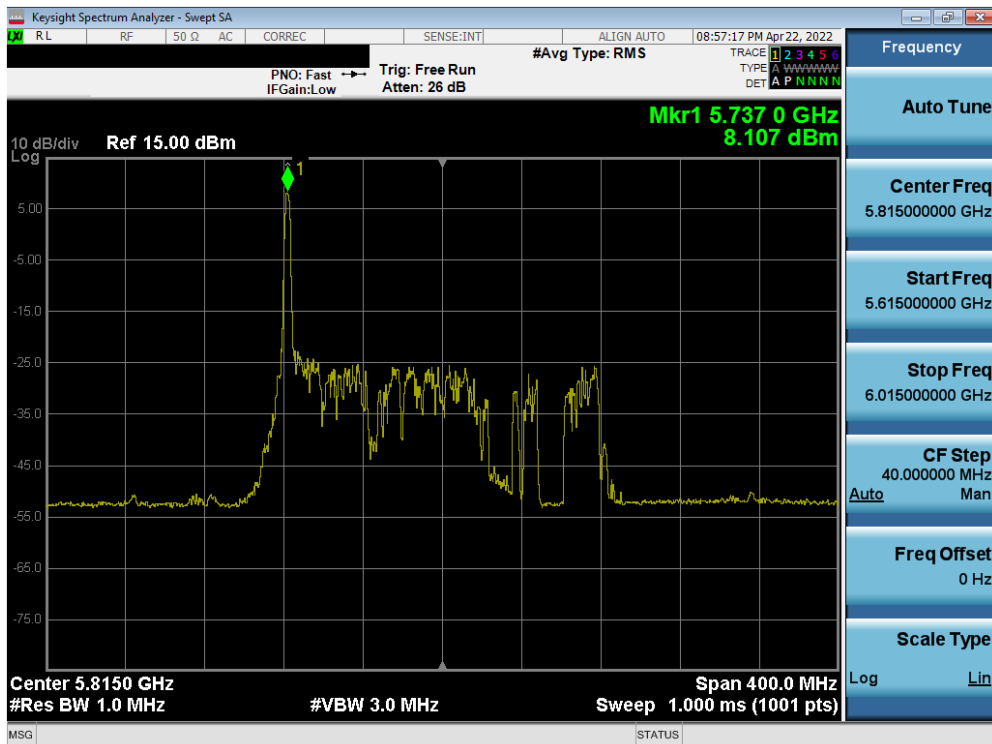


Plot 7-184. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 175)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 133 of 236

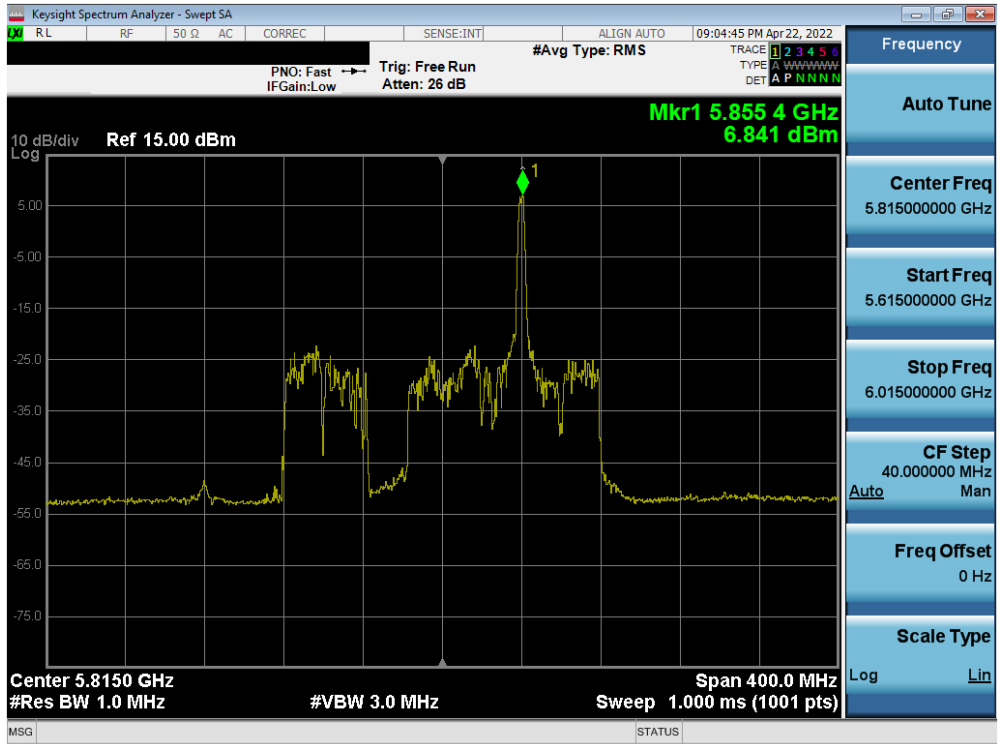


Plot 7-185. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 171)

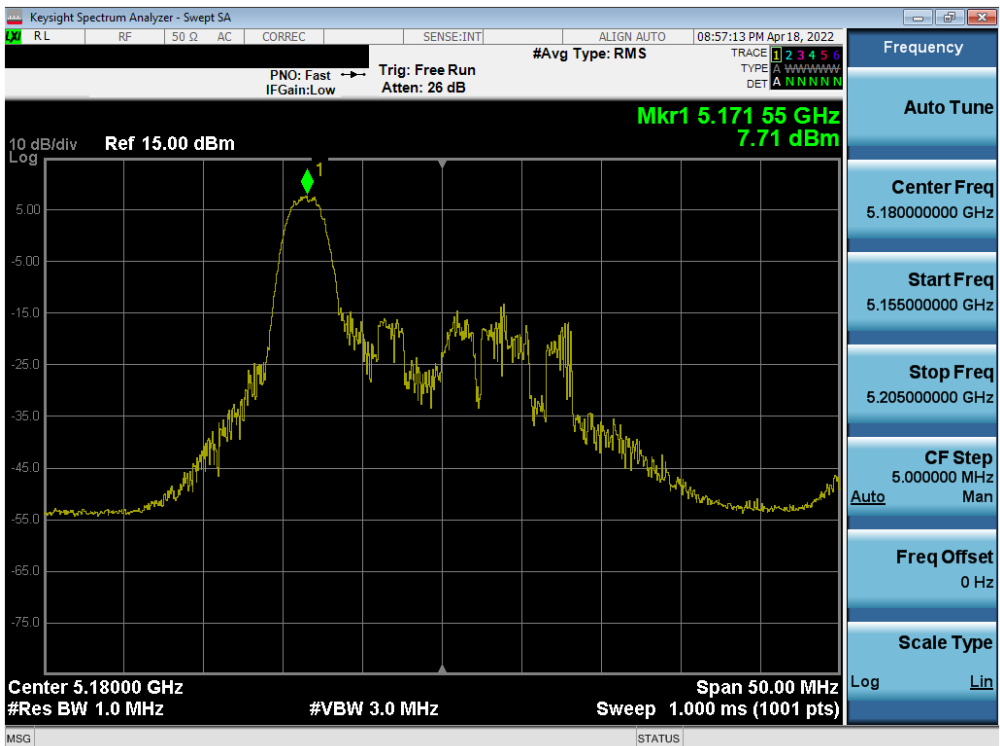


Plot 7-186. Power Spectral Density Plot MIMO ANT1 (160MHz BW (L) 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 163)

FCC ID: A3LSMF936U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 134 of 236	

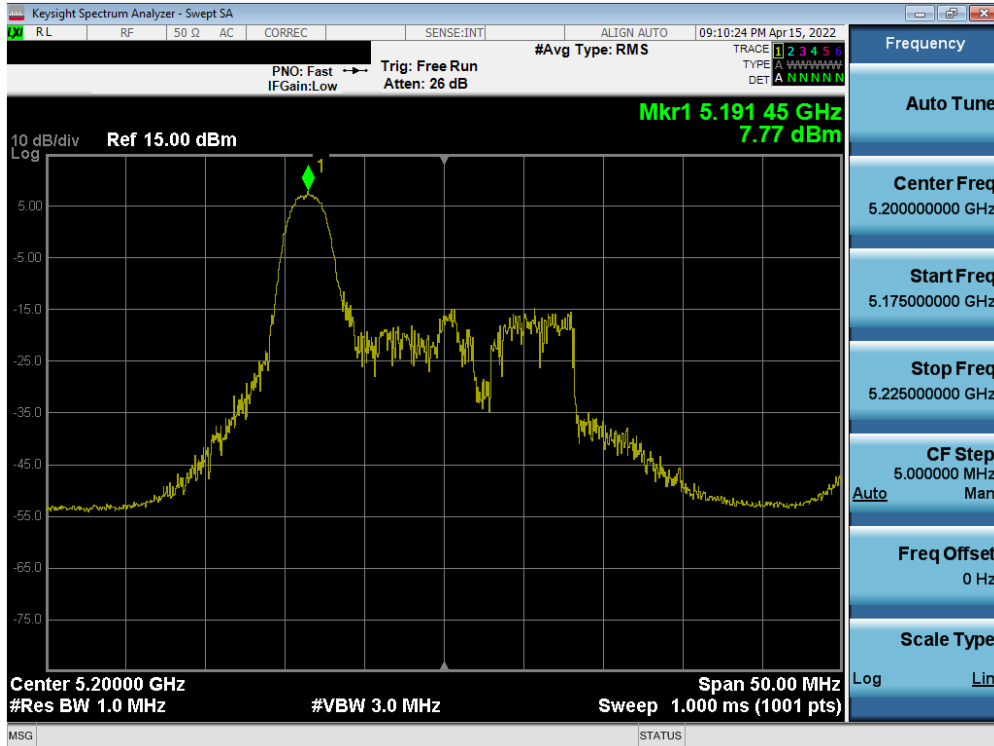


Plot 7-187. Power Spectral Density Plot MIMO ANT1 (160MHz BW (U) 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 163)

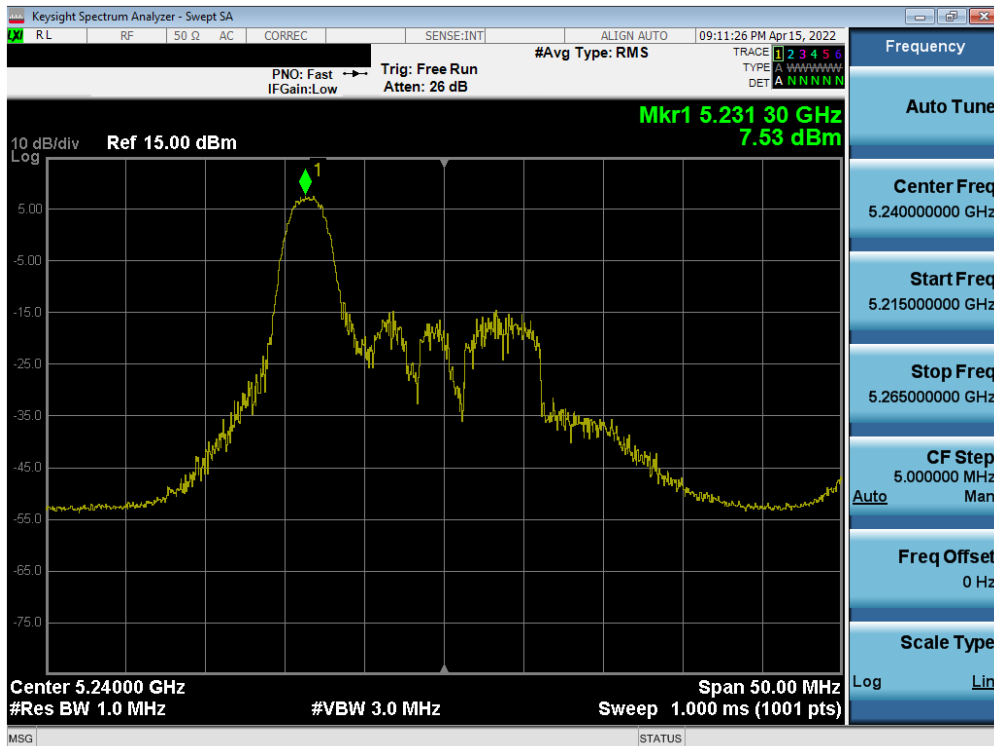


Plot 7-188. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 135 of 236

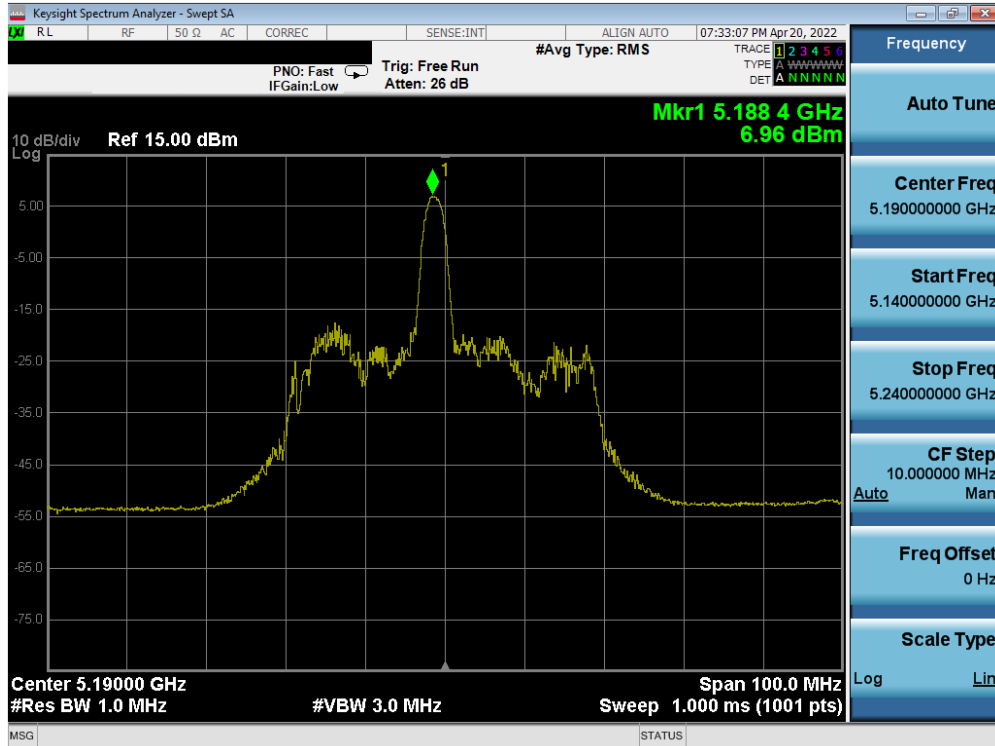


Plot 7-189. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

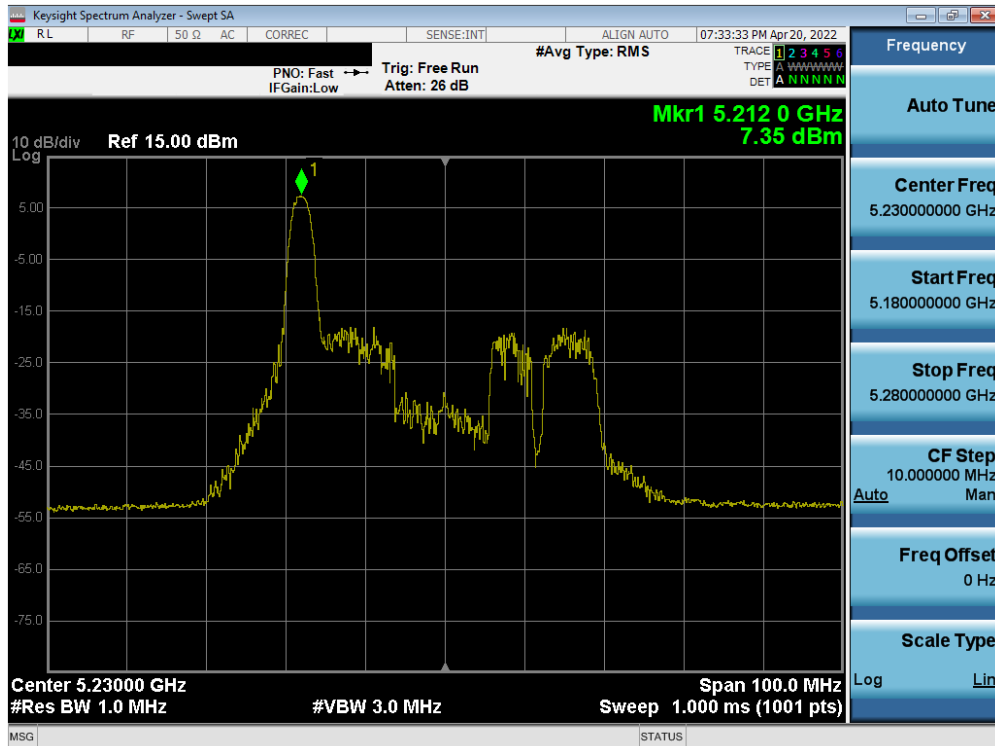


Plot 7-190. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 136 of 236

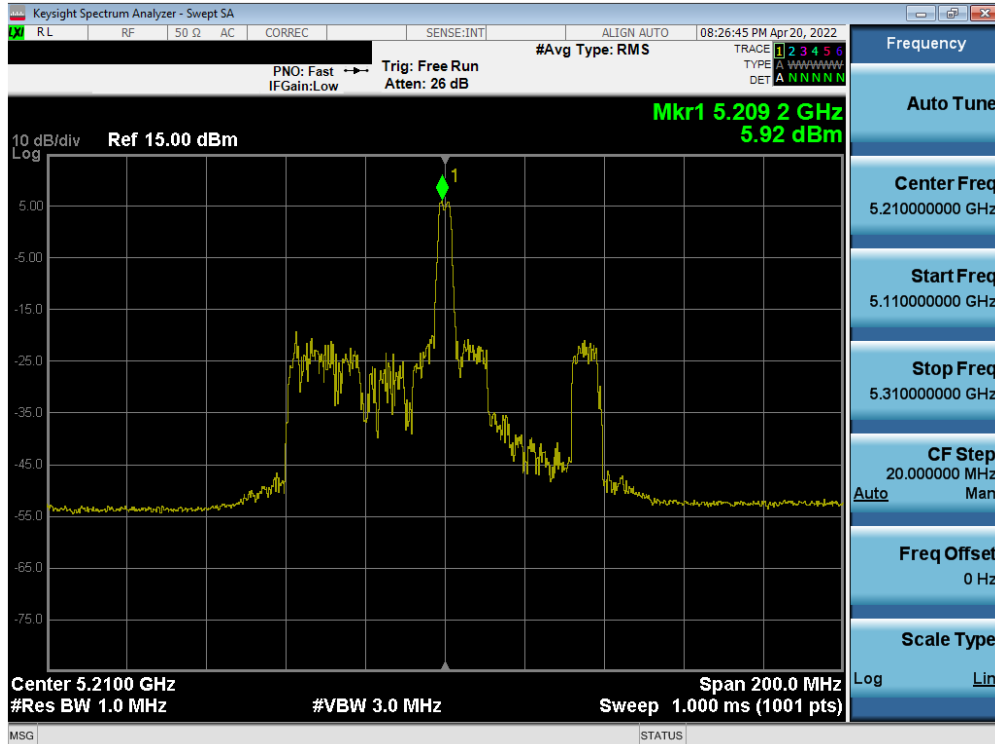


Plot 7-191. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

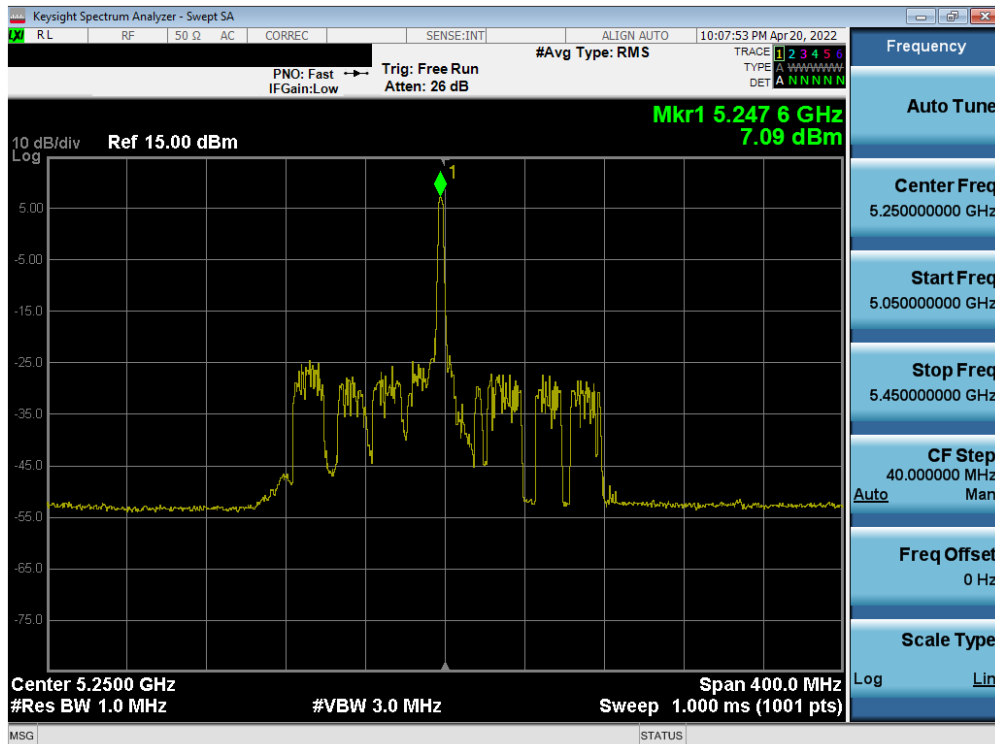


Plot 7-192. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

FCC ID: A3LSMF936U		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 137 of 236	

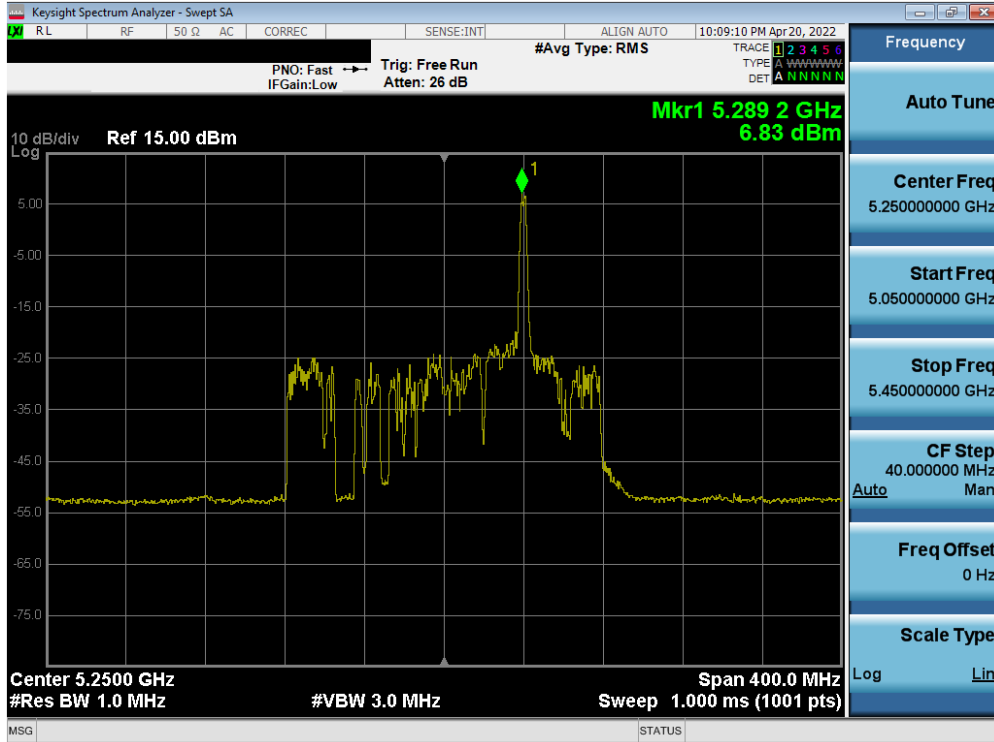


Plot 7-193. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

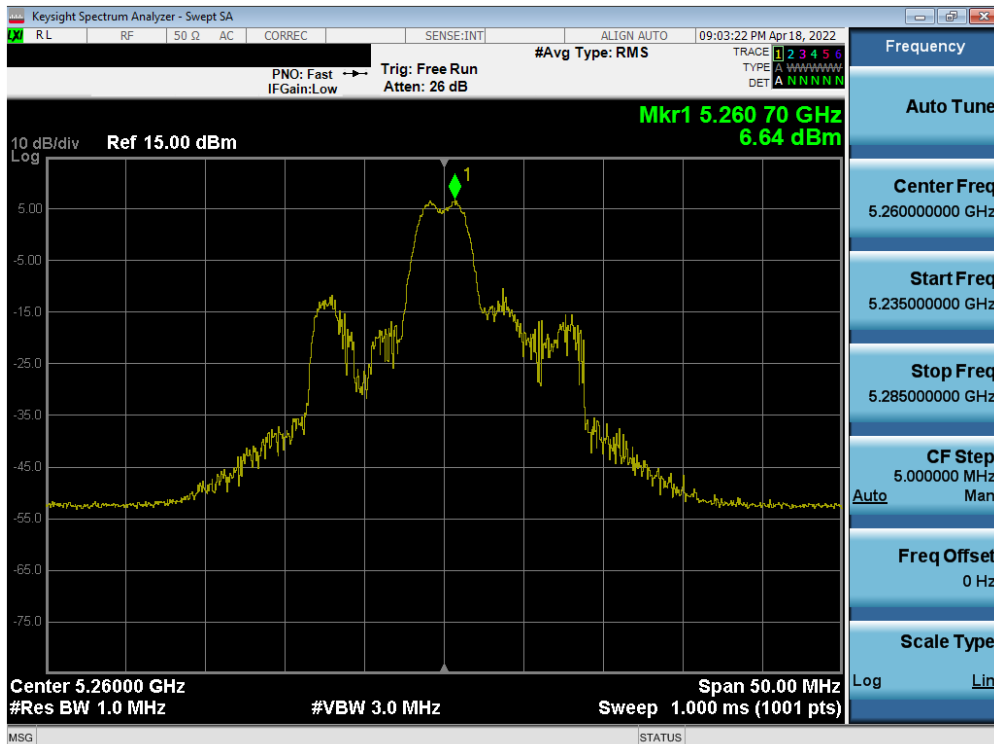


Plot 7-194. Power Spectral Density Plot MIMO ANT2 (160MHz (L) BW 802.11ax – 26 Tones (UNII Band 1/2A) – Ch. 50)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 138 of 236

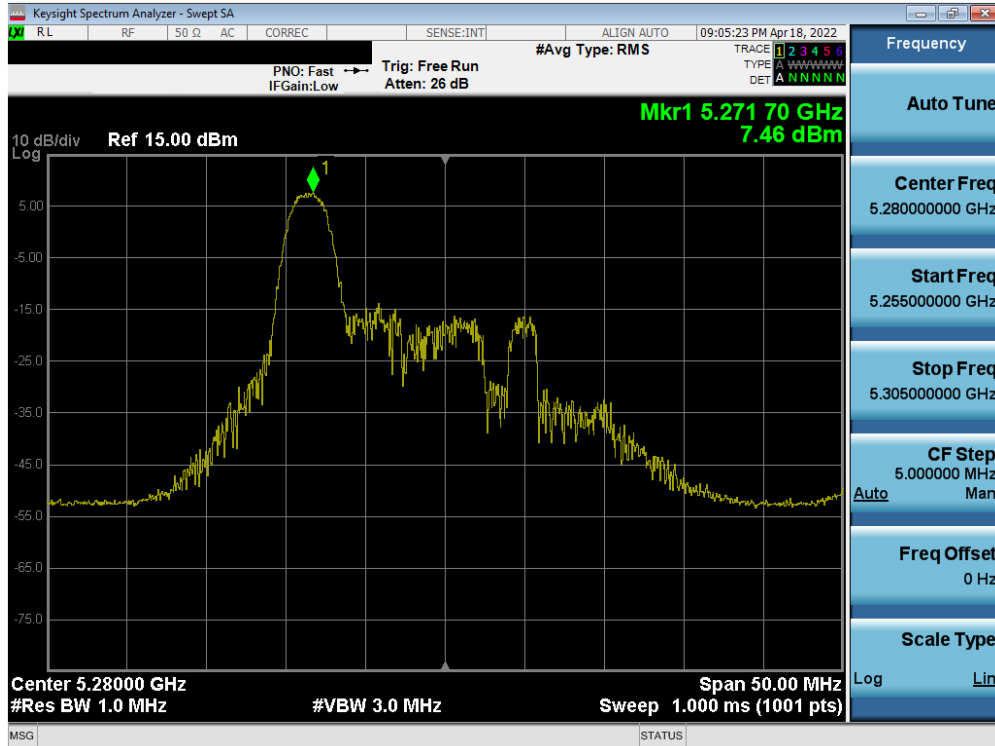


Plot 7-195. Power Spectral Density Plot MIMO ANT2 (160MHz (U) BW 802.11ax – 26 Tones (UNII Band 1/2A) – Ch. 50)

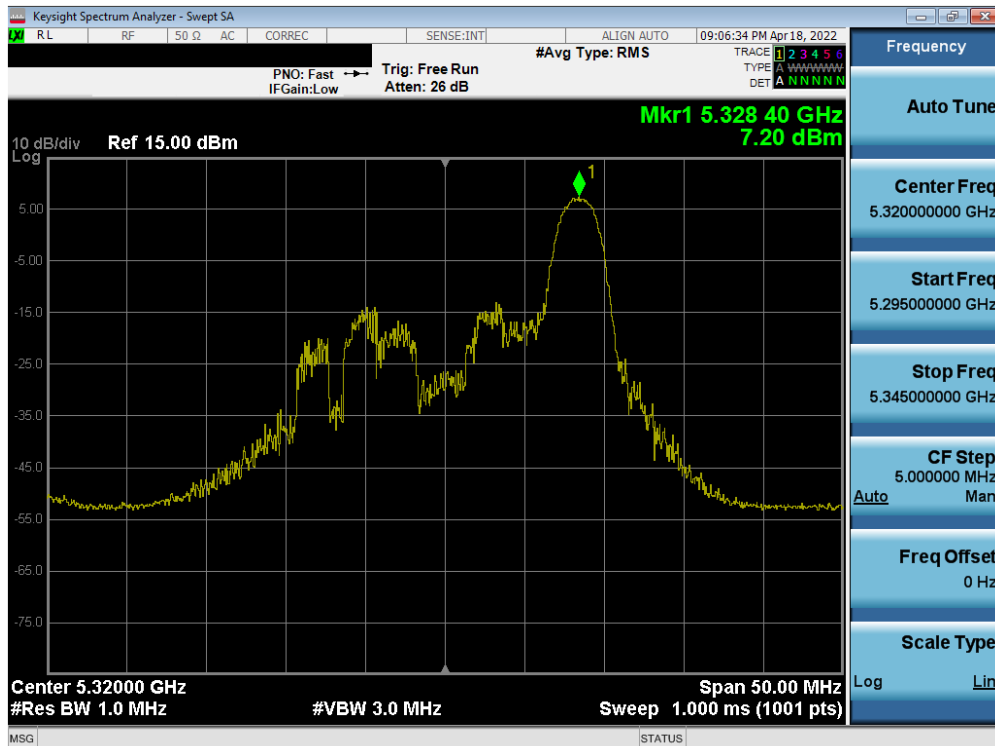


Plot 7-196. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 139 of 236

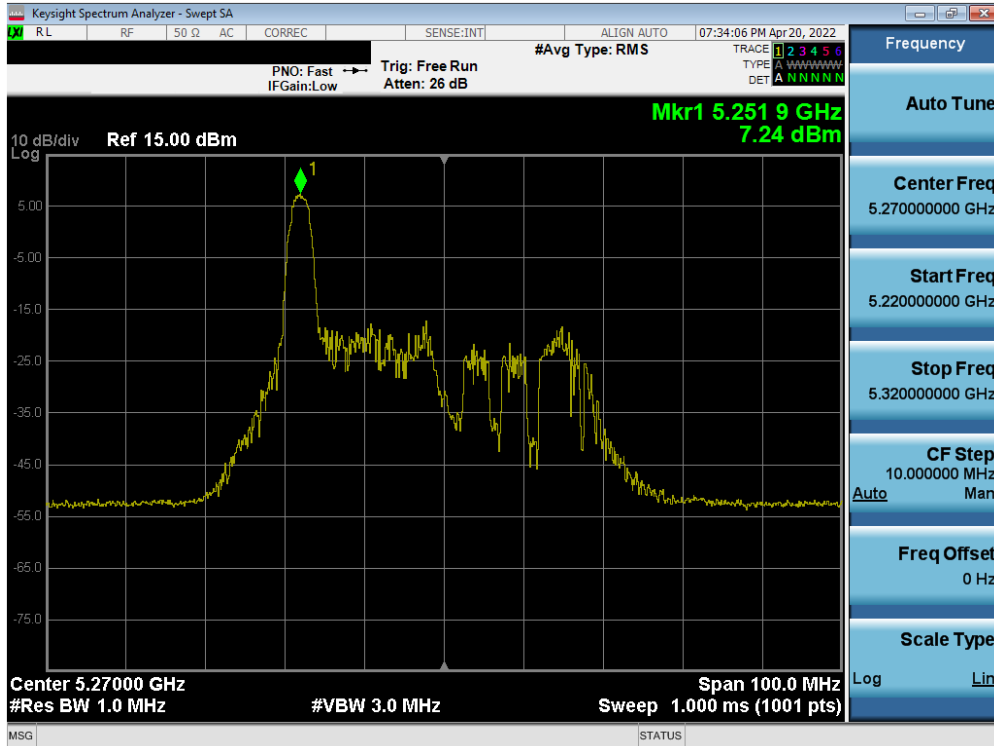


Plot 7-197. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

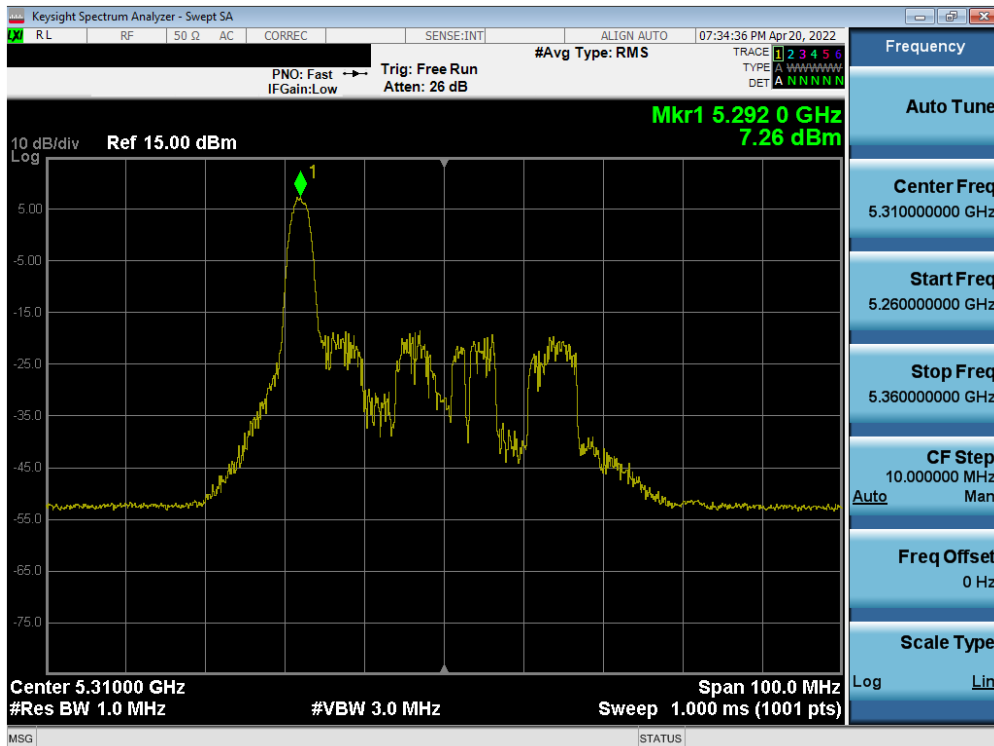


Plot 7-198. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 140 of 236

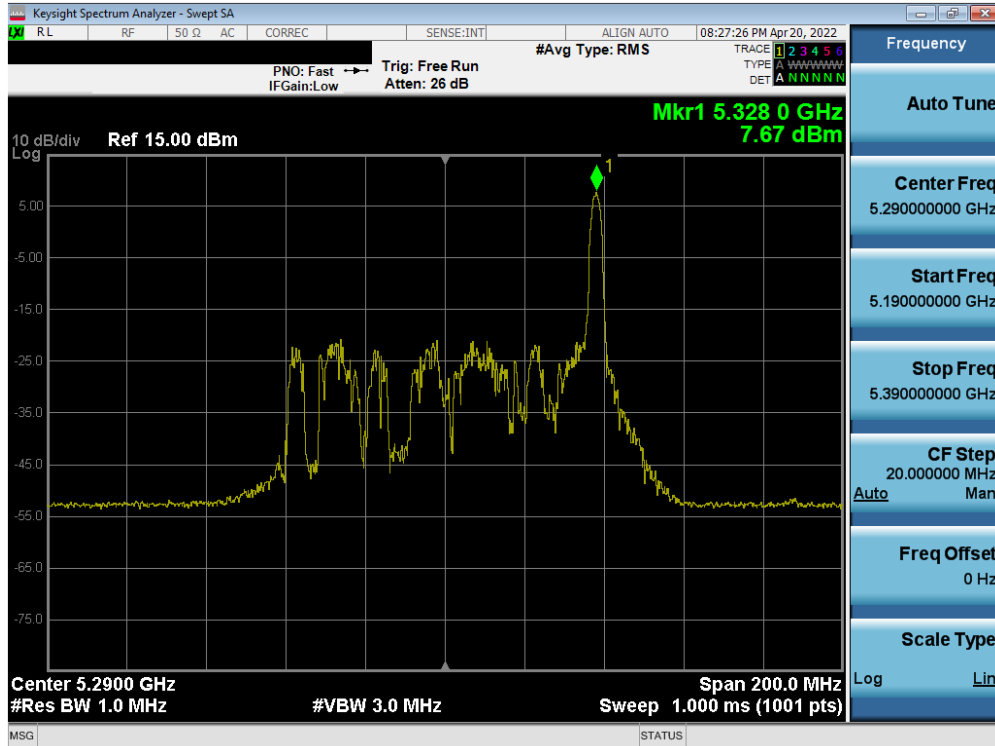


Plot 7-199. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

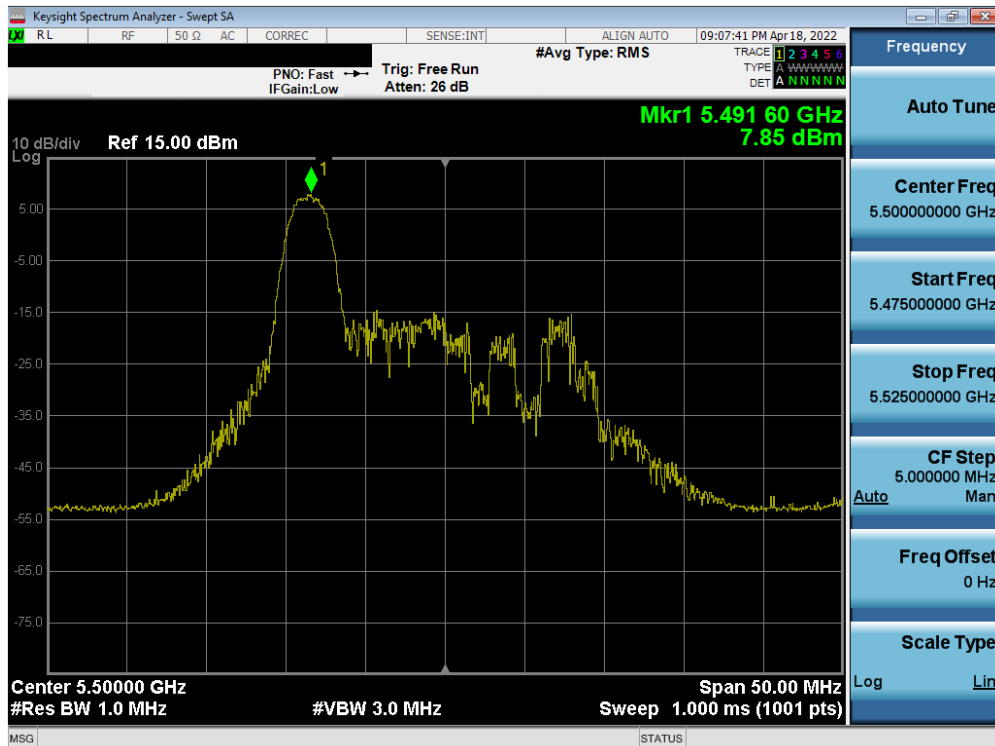


Plot 7-200. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 141 of 236

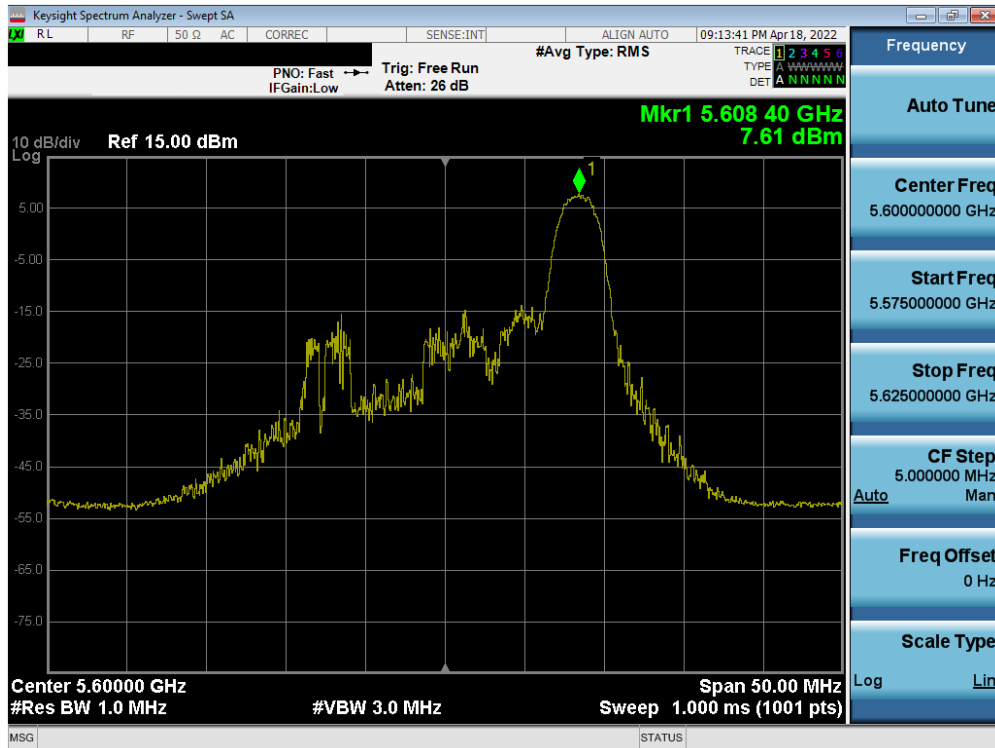


Plot 7-201. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

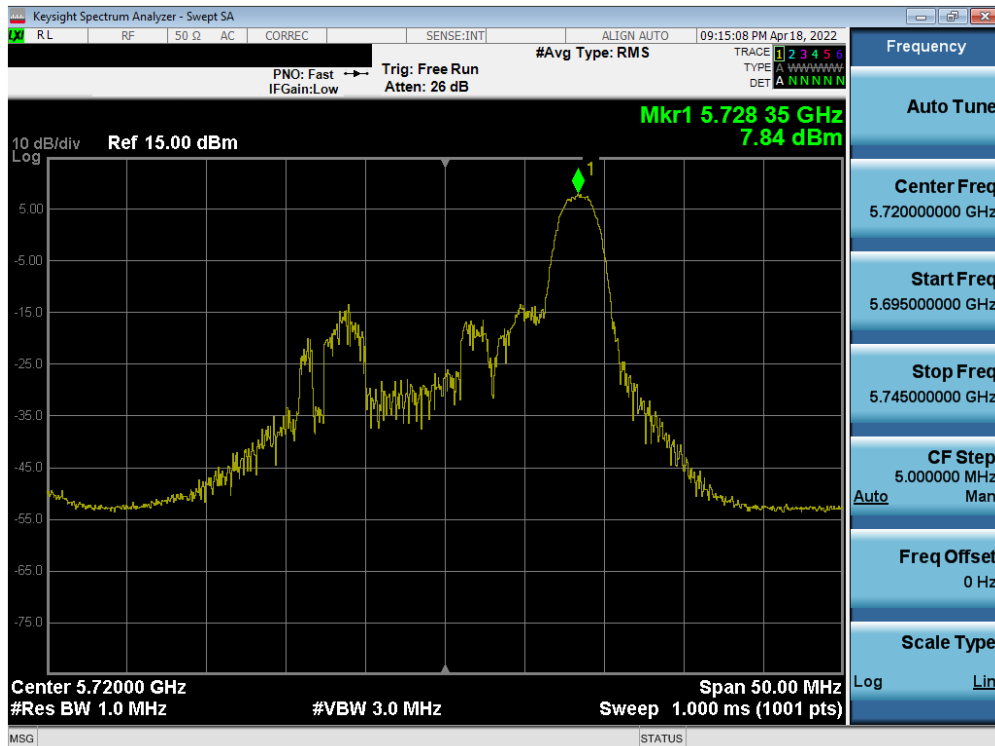


Plot 7-202. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 142 of 236

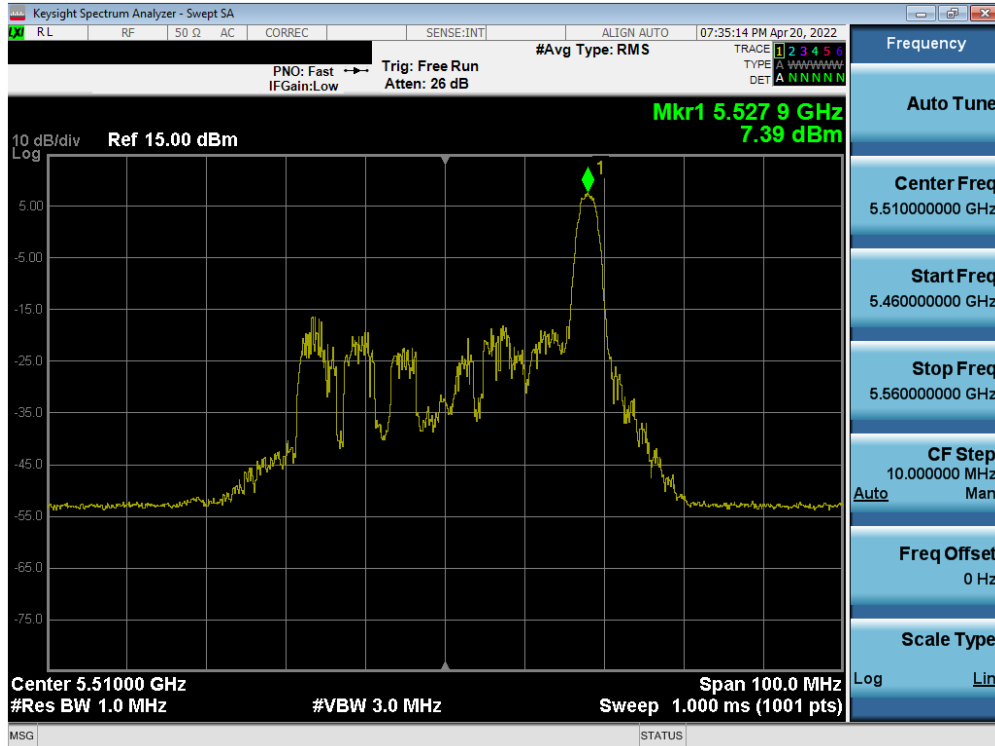


Plot 7-203. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

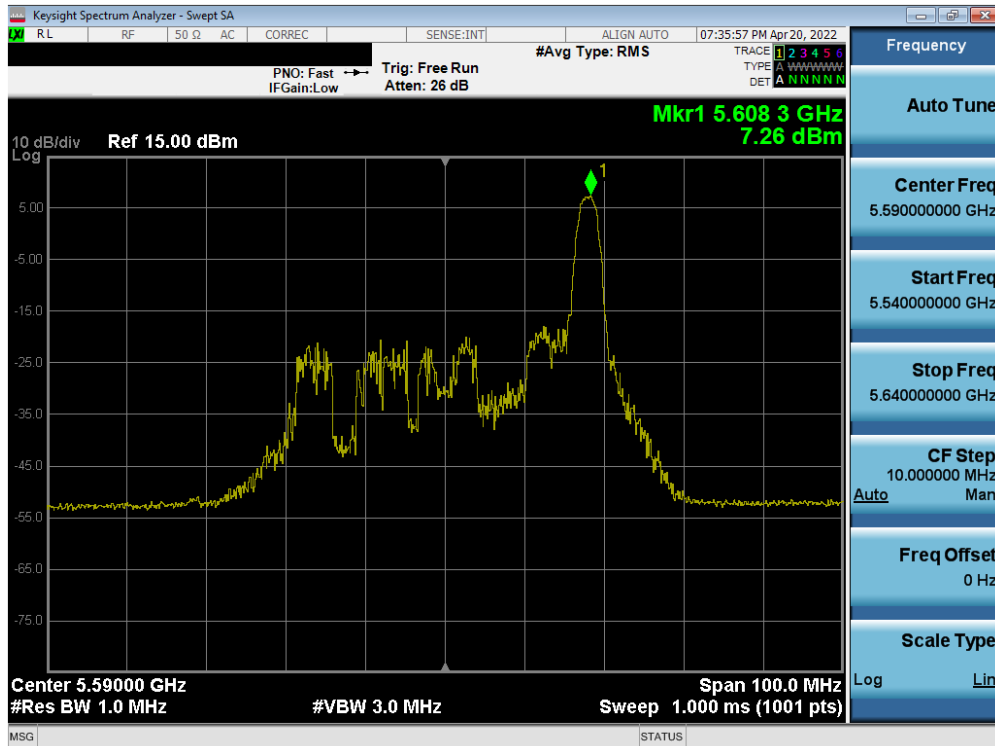


Plot 7-204. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 143 of 236

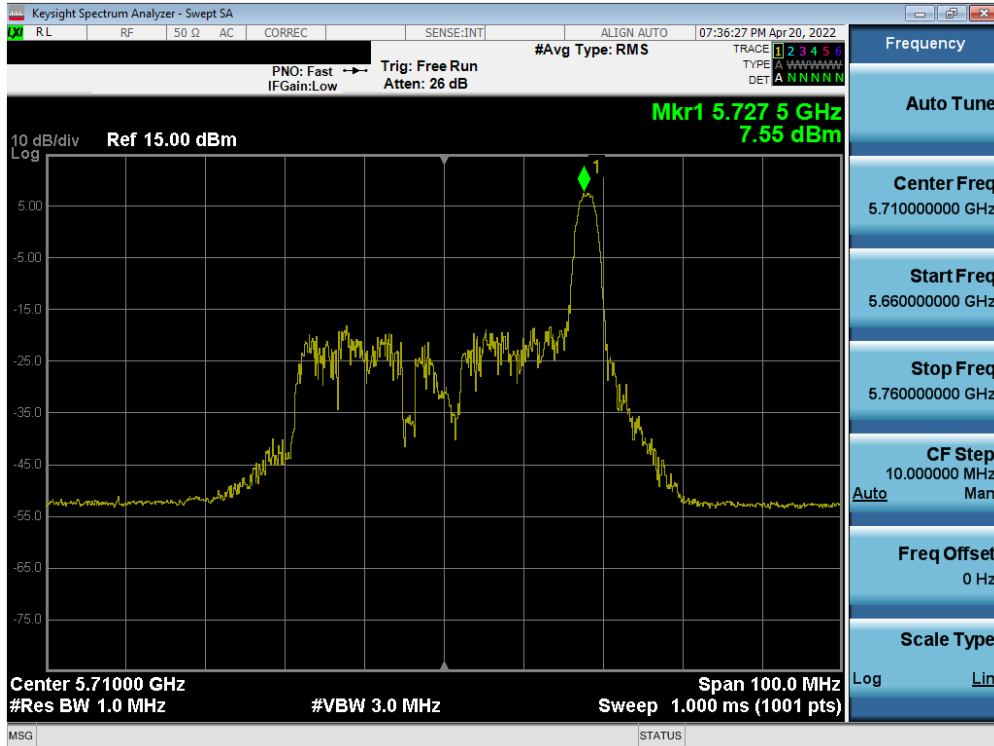


Plot 7-205. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

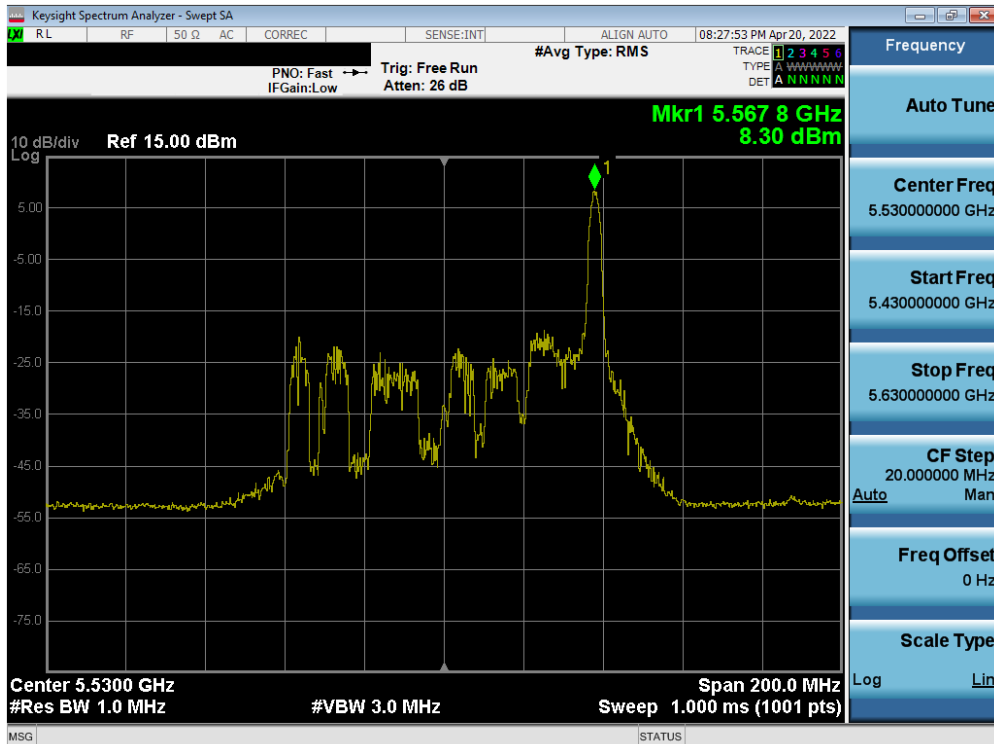


Plot 7-206. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 144 of 236

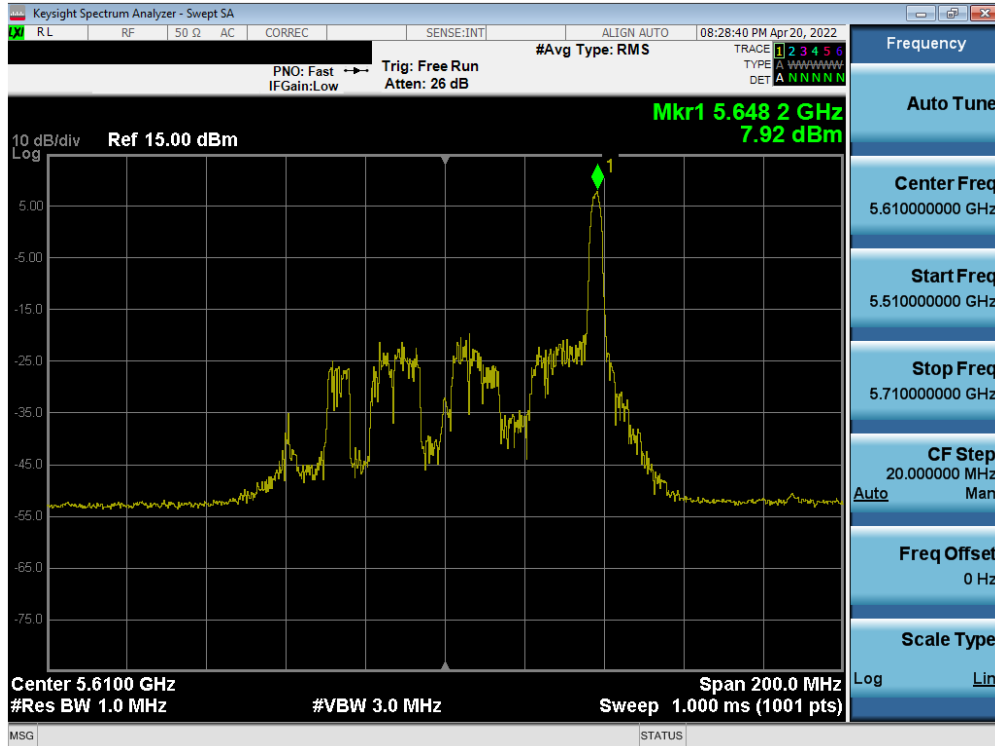


Plot 7-207. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

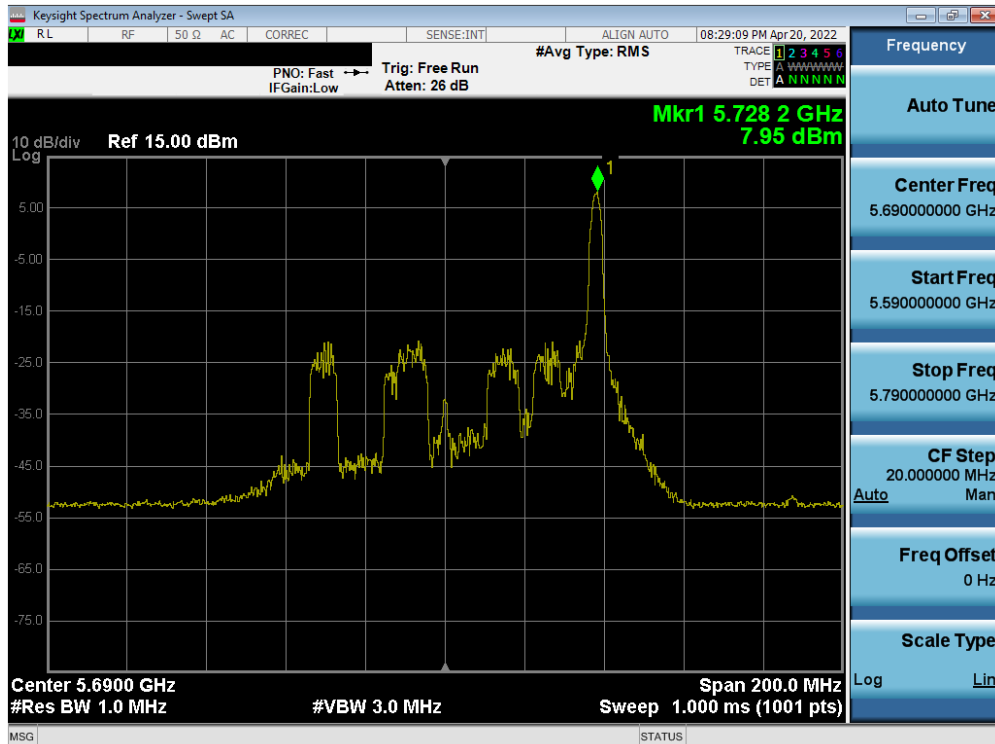


Plot 7-208. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 145 of 236

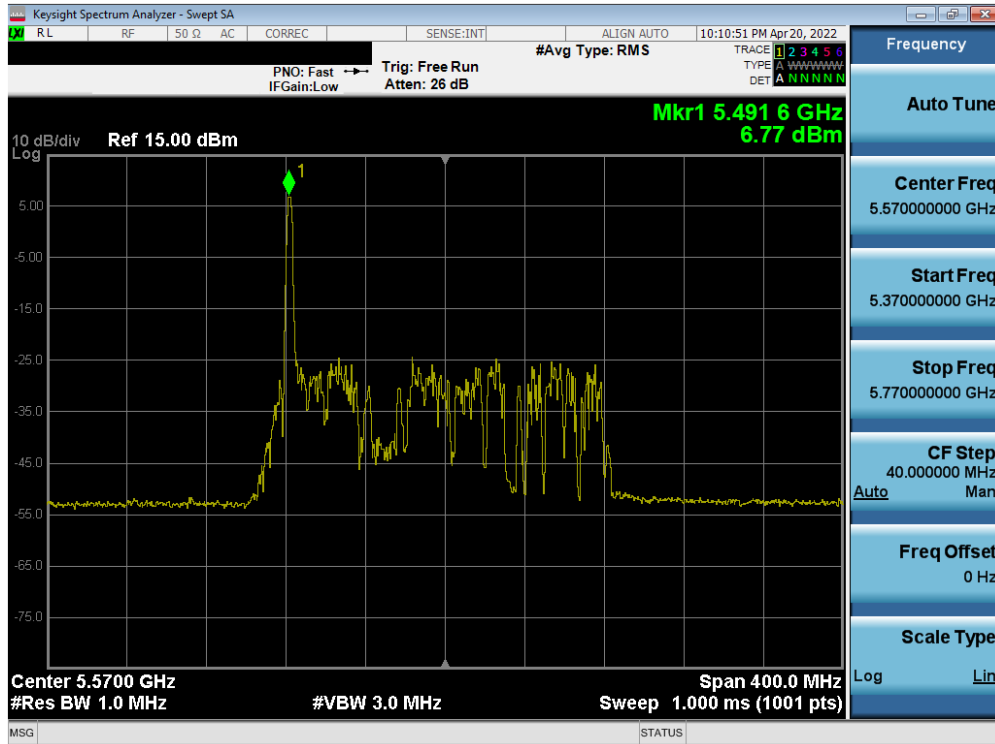


Plot 7-209. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

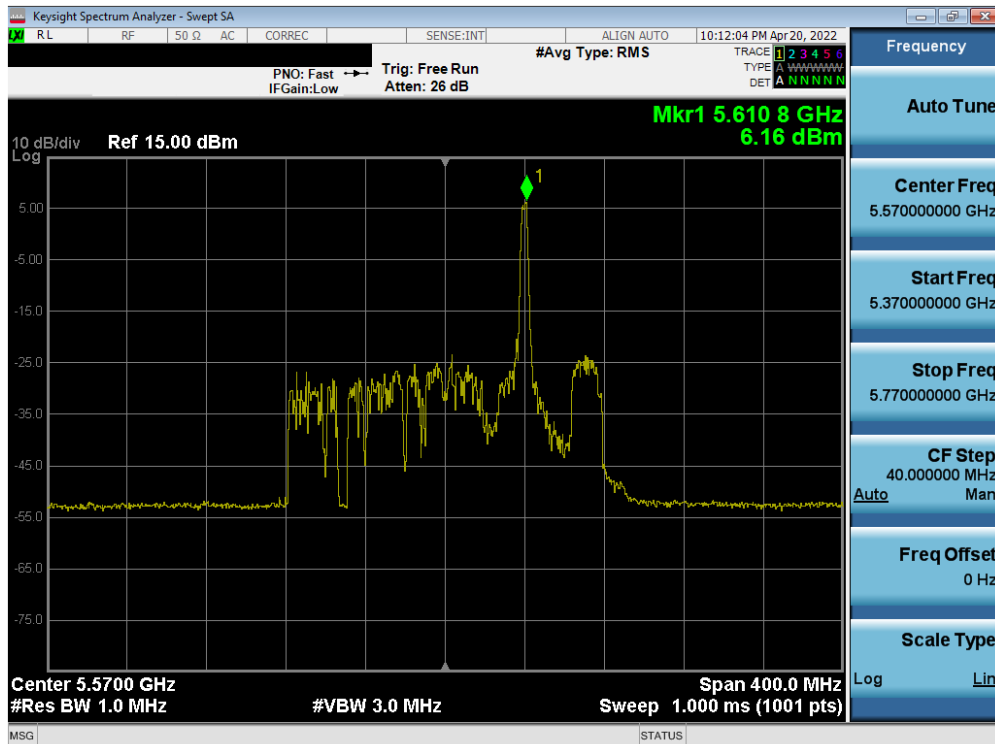


Plot 7-210. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 146 of 236

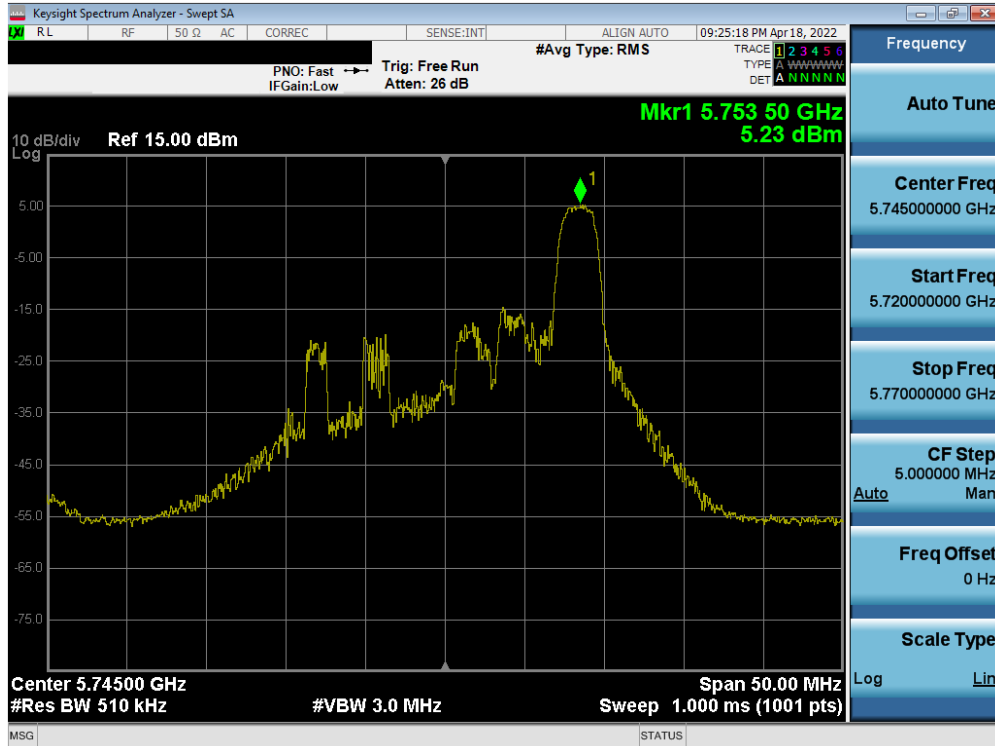


Plot 7-211. Power Spectral Density Plot MIMO ANT2 (160MHz (L) BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 114)

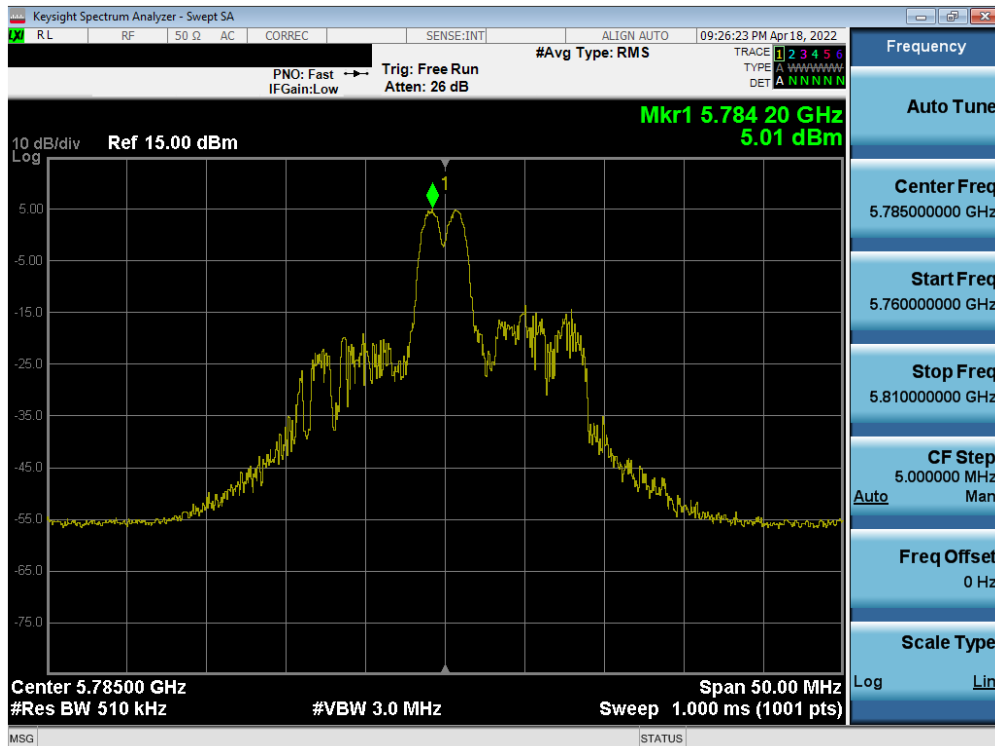


Plot 7-212. Power Spectral Density Plot MIMO ANT2 (160MHz (U) BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 114)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 147 of 236

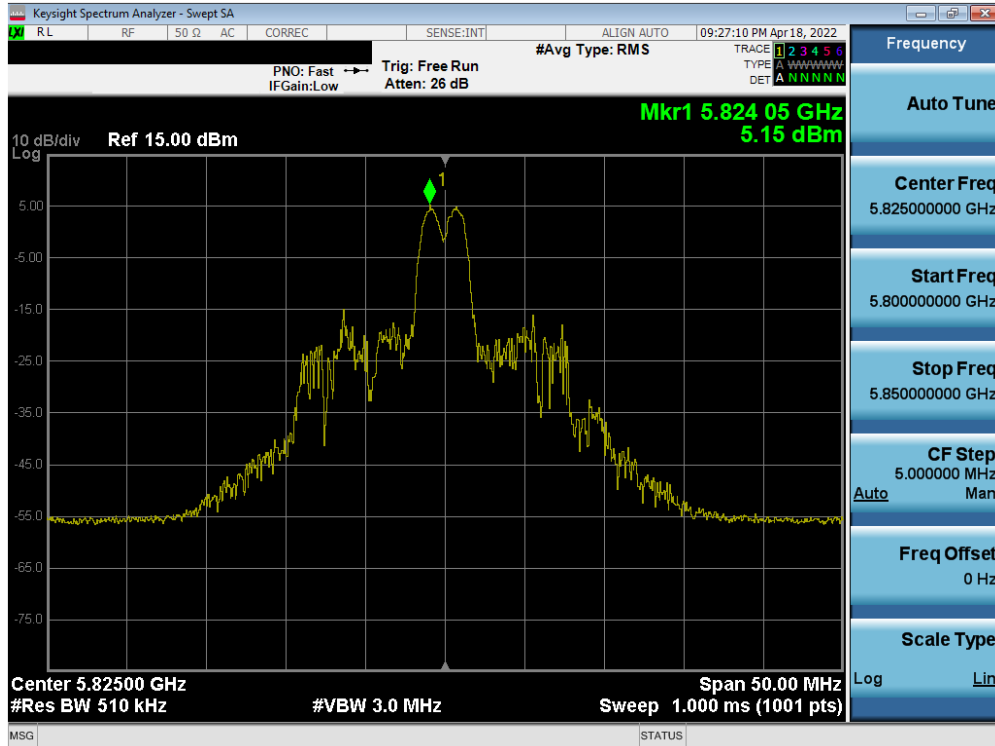


Plot 7-213. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

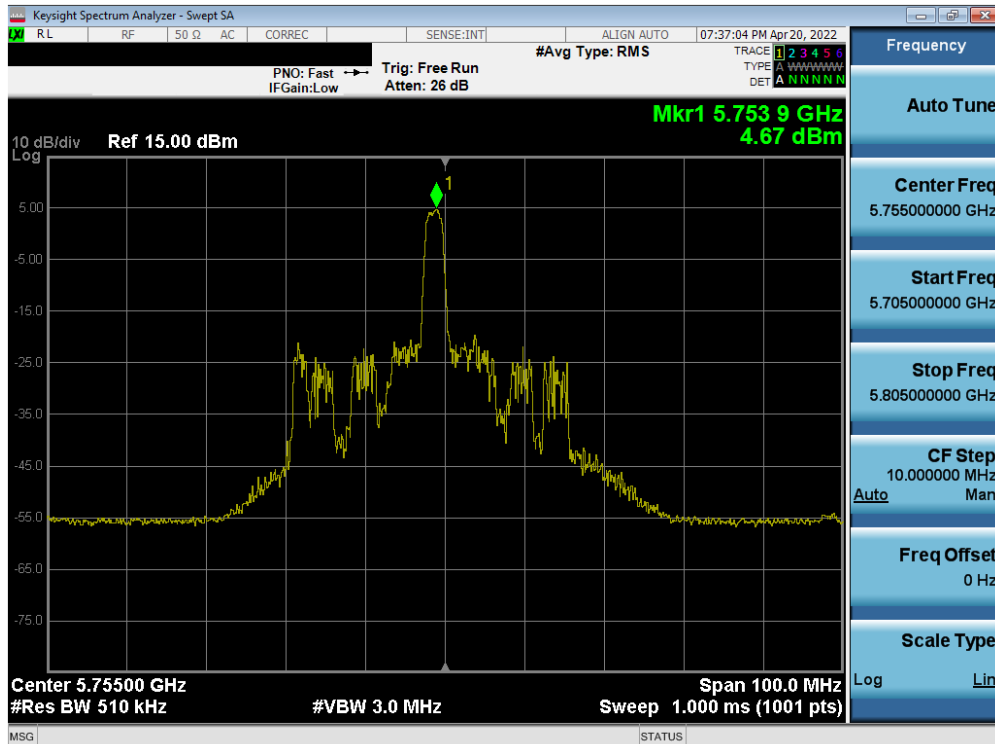


Plot 7-214. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 148 of 236

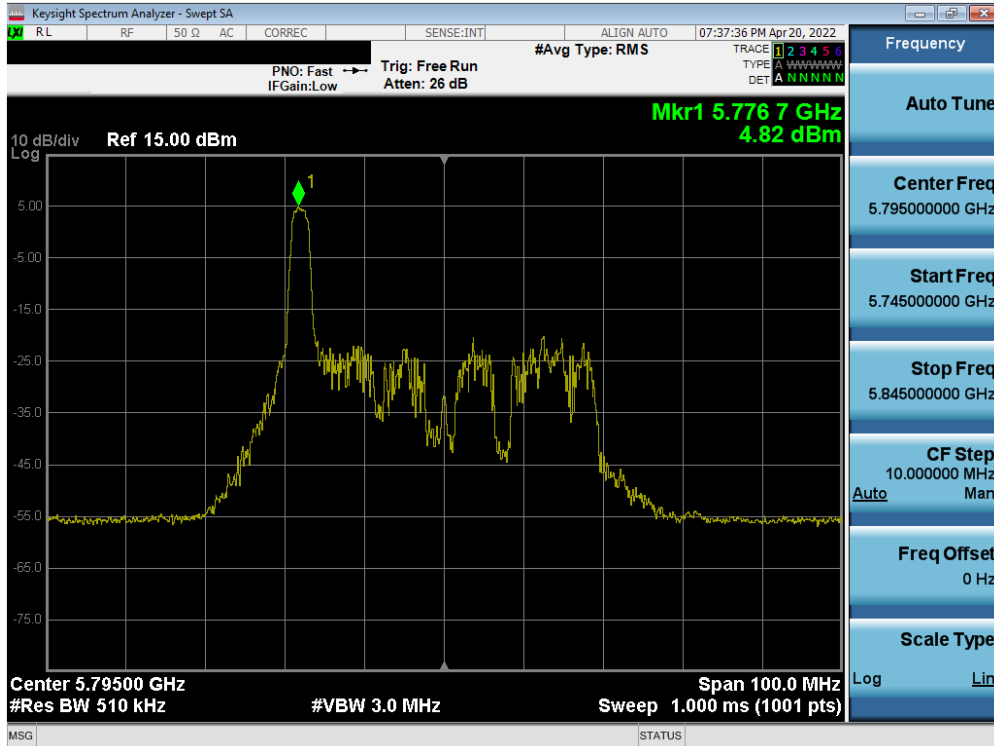


Plot 7-215. Power Spectral Density Plot MIMO ANT2 (20 MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

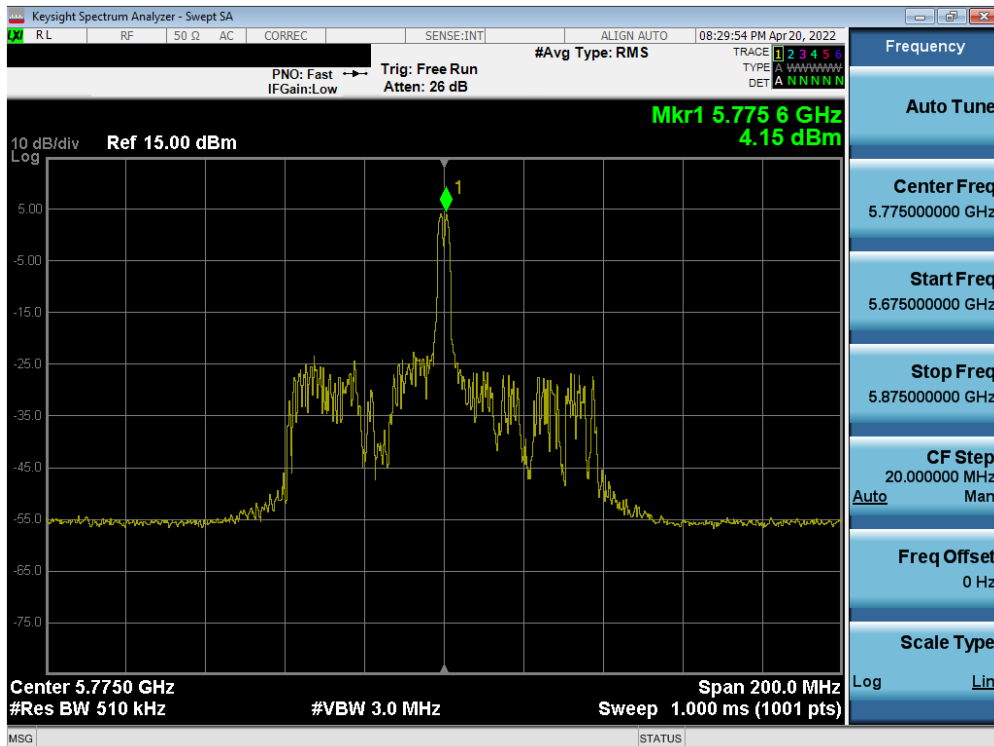


Plot 7-216. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 149 of 236

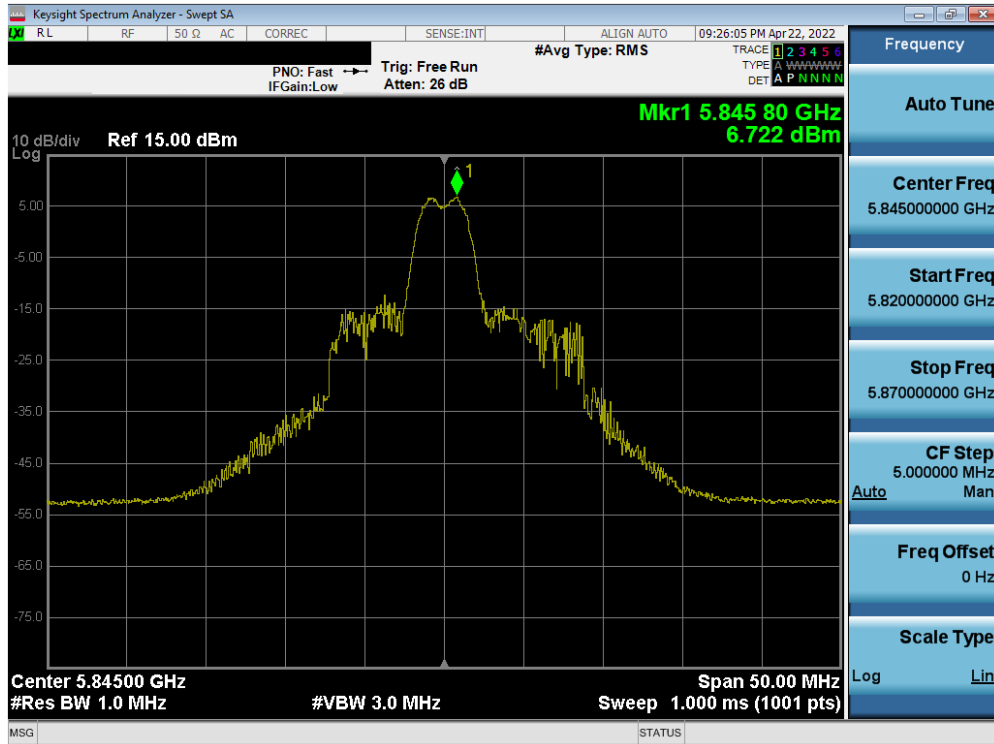


Plot 7-217. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

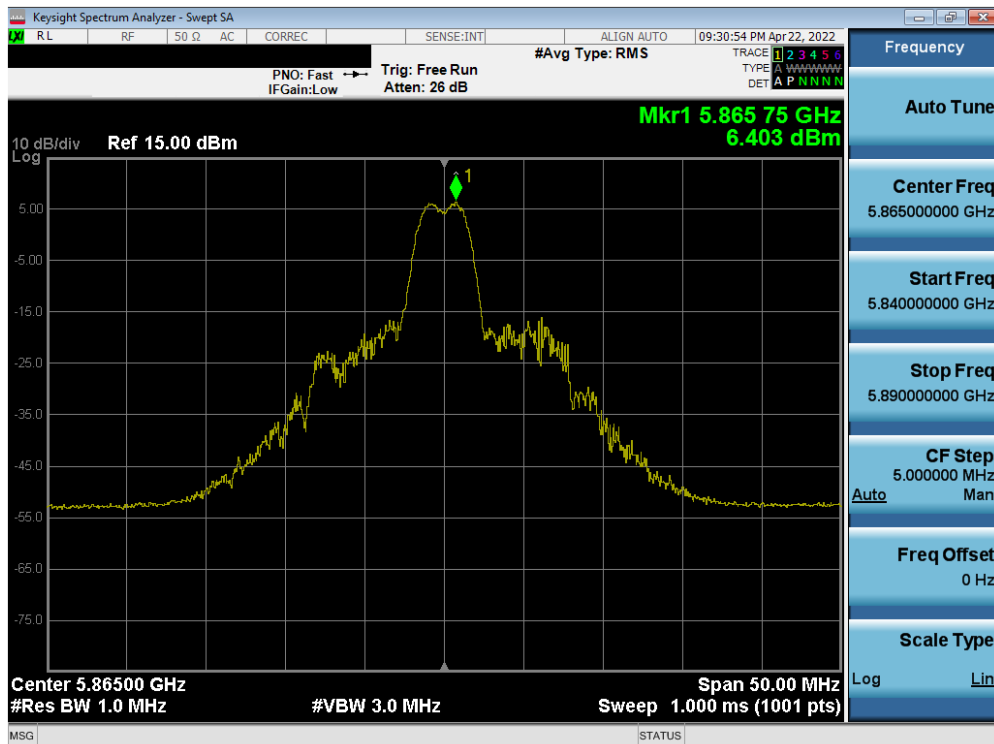


Plot 7-218. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 150 of 236



Plot 7-219. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 169)

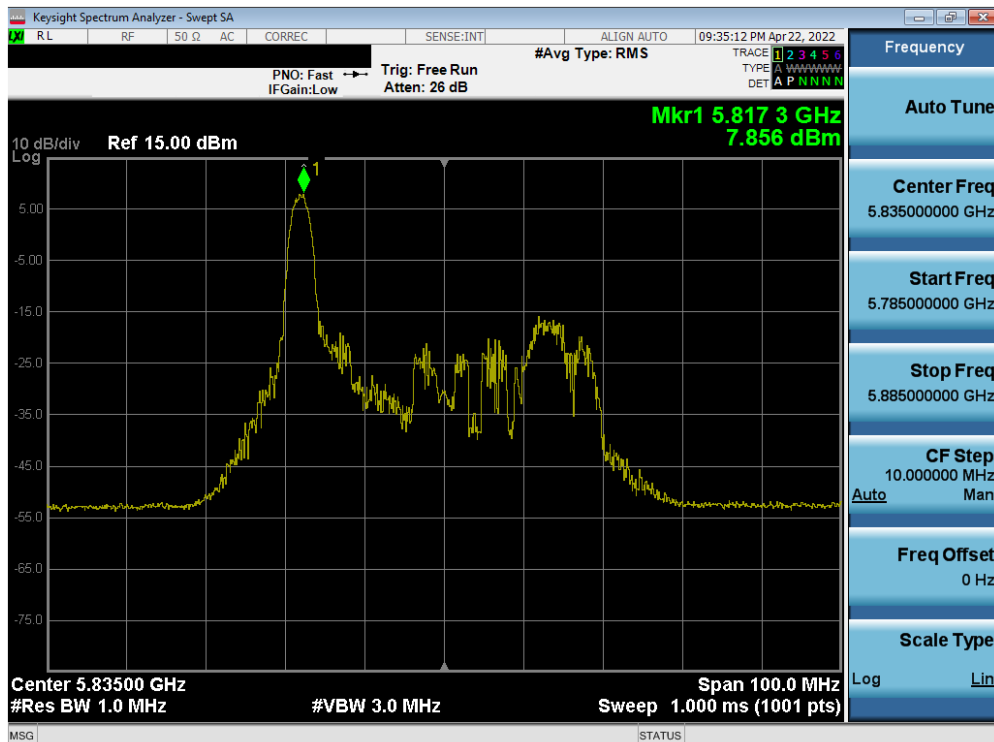


Plot 7-220. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 173)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 151 of 236

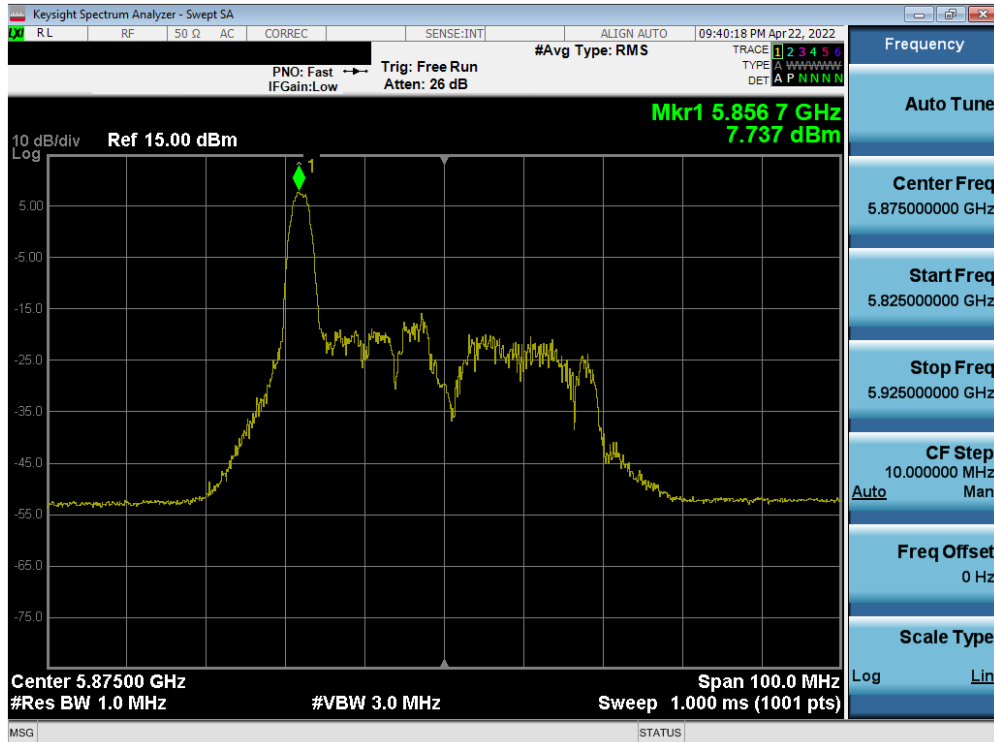


Plot 7-221. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 177)

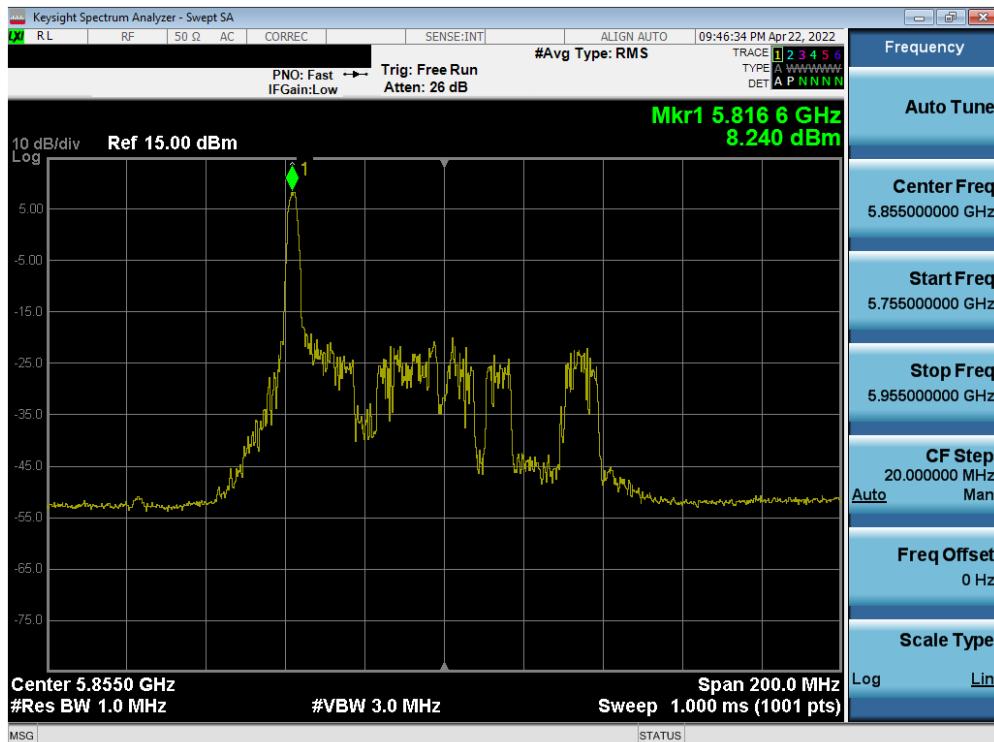


Plot 7-222. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 167)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 152 of 236

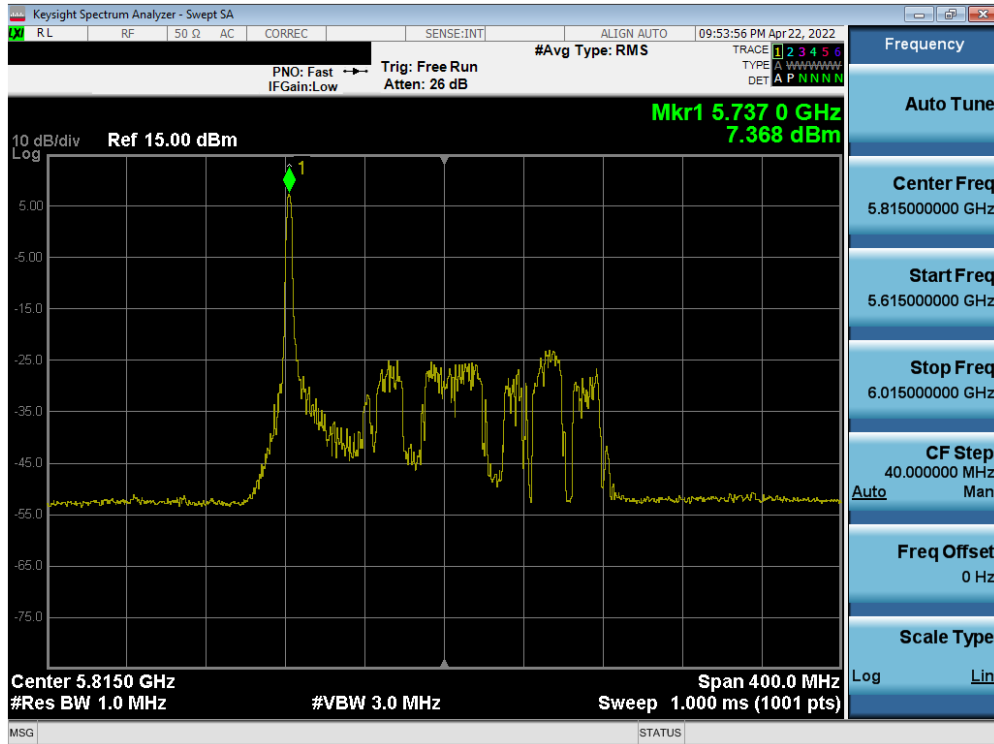


Plot 7-223. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 4) – Ch. 175)

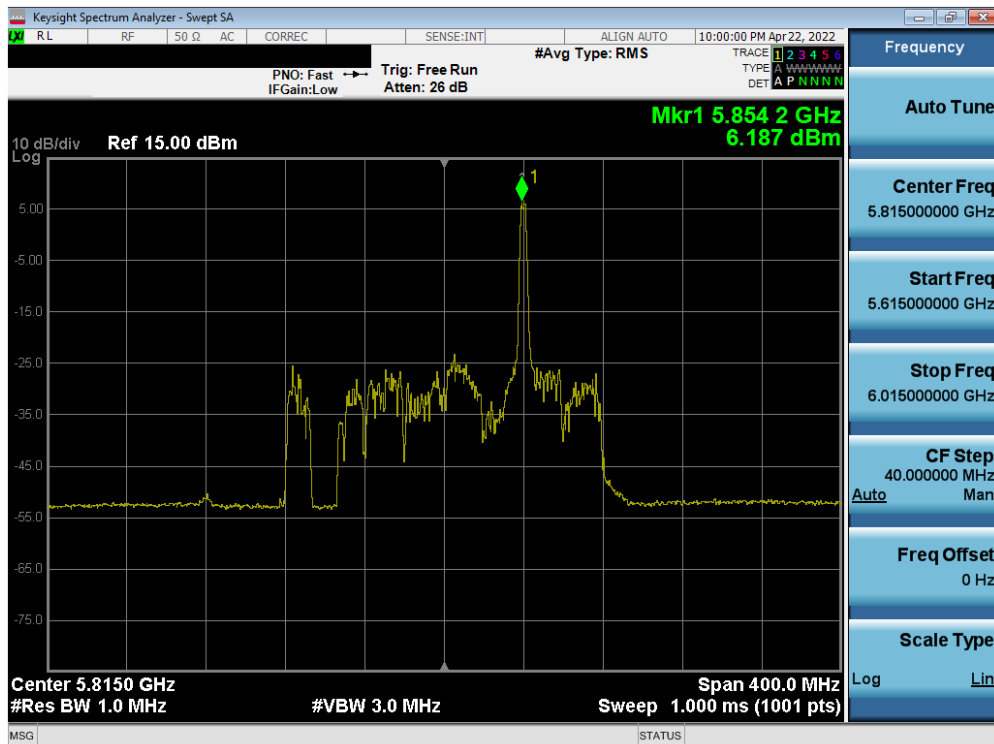


Plot 7-224. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 171)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 153 of 236



Plot 7-225. Power Spectral Density Plot MIMO ANT2 (160MHz BW (L) 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 163)



Plot 7-226. Power Spectral Density Plot MIMO ANT2 (160MHz BW (U) 802.11ax – 26 Tones (UNII Band 3/4) – Ch. 163)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 154 of 236

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	6.01	6.08	9.06	11.00	-1.94
	5200	40	ax (20MHz)	242T	MCS0	5.97	6.17	9.08	11.00	-1.92
	5240	48	ax (20MHz)	242T	MCS0	5.66	5.86	8.77	11.00	-2.23
	5190	38	ax (40MHz)	484T	MCS0	1.89	1.89	4.90	11.00	-6.10
	5230	46	ax (40MHz)	484T	MCS0	2.06	1.96	5.02	11.00	-5.98
	5210	42	ax (80MHz)	996T	MCS0	-1.69	-1.79	1.27	11.00	-9.73
Band 1/2A	5250	50	ax (160MHz L)	996T	MCS0	-1.97	-2.02	1.02	11.00	-9.98
	5250	50	ax (160MHz U)	996T	MCS0	-2.58	-2.62	0.41	11.00	-10.59
Band 2A	5260	52	ax (20MHz)	242T	MCS0	5.45	6.05	8.77	11.00	-2.23
	5280	56	ax (20MHz)	242T	MCS0	5.32	5.33	8.33	11.00	-2.67
	5320	64	ax (20MHz)	242T	MCS0	5.73	6.11	8.93	11.00	-2.07
	5270	54	ax (40MHz)	484T	MCS0	1.68	2.24	4.98	11.00	-6.02
	5310	62	ax (40MHz)	484T	MCS0	1.72	1.84	4.79	11.00	-6.21
	5290	58	ax (80MHz)	996T	MCS0	-2.24	-1.87	0.96	11.00	-10.04
Band 2C	5500	100	ax (20MHz)	242T	MCS0	5.72	5.84	8.79	11.00	-2.21
	5600	120	ax (20MHz)	242T	MCS0	6.01	6.06	9.05	11.00	-1.95
	5720	144	ax (20MHz)	242T	MCS0	5.97	6.11	9.05	11.00	-1.95
	5510	102	ax (40MHz)	484T	MCS0	1.85	1.74	4.81	11.00	-6.19
	5590	118	ax (40MHz)	484T	MCS0	2.42	2.10	5.27	11.00	-5.73
	5710	142	ax (40MHz)	484T	MCS0	1.98	2.05	5.03	11.00	-5.97
	5530	106	ax (80MHz)	996T	MCS0	-1.98	-1.96	1.04	11.00	-9.96
	5610	122	ax (80MHz)	996T	MCS0	-2.02	-1.94	1.03	11.00	-9.97
	5690	138	ax (80MHz)	996T	MCS0	-2.16	-2.18	0.84	11.00	-10.16
	5570	114	ax (160MHz L)	26T	MCS0	-1.97	-2.56	0.76	11.00	-10.24
5570	114	ax (160MHz U)	26T	MCS0	-2.40	-1.95	0.84	11.00	-10.16	

Table 7-44. Bands 1, 2A, 2C 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	Margin [dB]
Band 3	5745	149	ax (20MHz)	242T	MCS0	2.90	3.38	6.16	30.00	-23.84
	5785	157	ax (20MHz)	242T	MCS0	2.98	3.37	6.19	30.00	-23.81
	5825	165	ax (20MHz)	242T	MCS0	3.26	3.56	6.42	30.00	-23.58
	5755	151	ax (40MHz)	484T	MCS0	-0.81	-0.75	2.23	30.00	-27.77
	5795	159	ax (40MHz)	484T	MCS0	-0.96	-0.71	2.18	30.00	-27.82
	5775	155	ax (80MHz)	996T	MCS0	-2.17	-4.85	-0.30	30.00	-30.30

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

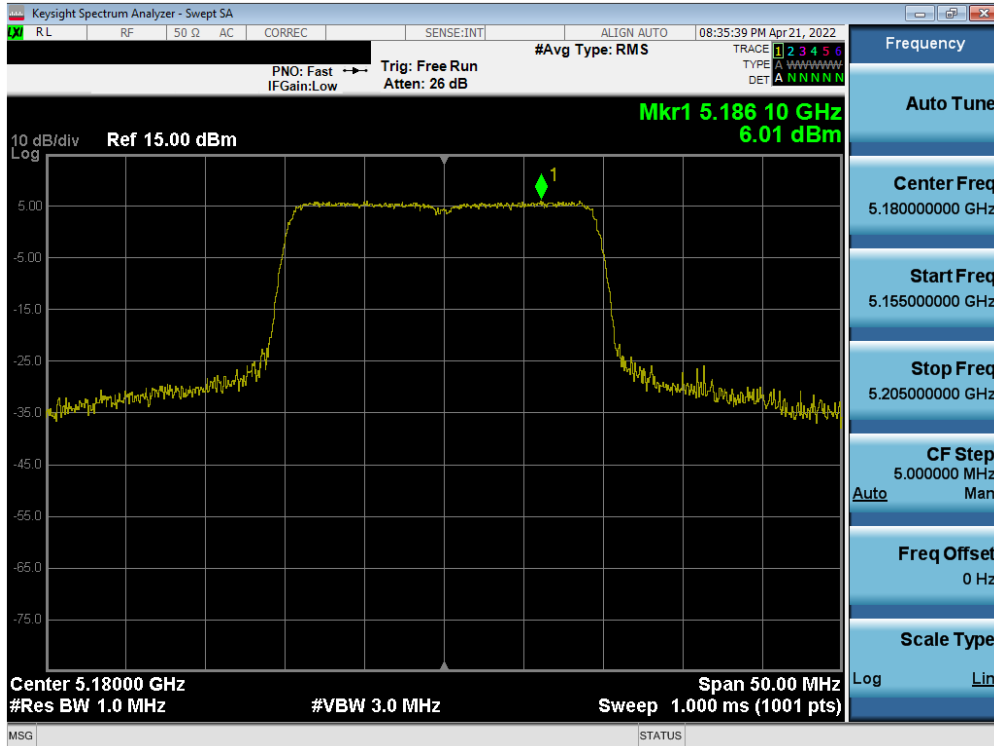
FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 155 of 236



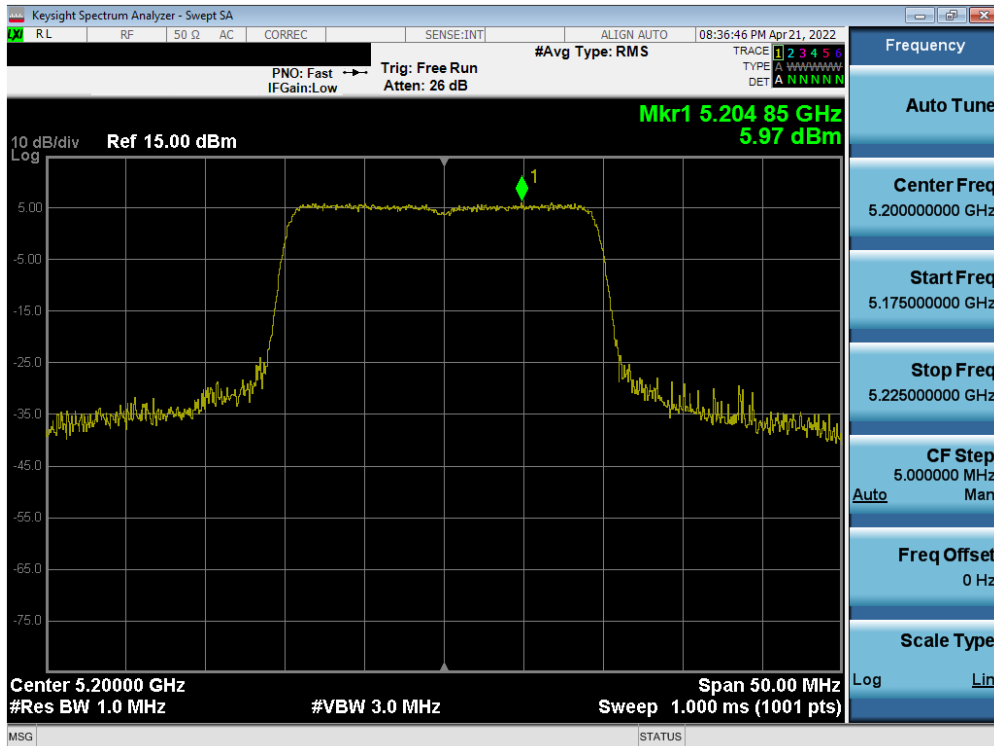
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Antenna-1 Power Density [dBm/MHz]	Antenna-2 Power Density [dBm/MHz]	MIMO Summed Power Density [dBm/MHz]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Directional Antenna Gain [dB]	EIRP Power Density [dBm/MHz]	Max EIRP Power Density [dBm/MHz]	Margin [dB]
Band 3/4	5845	169	ax (20MHz)	242T	MCS0	6.05	6.62	9.36	30.00	-20.64	-0.75	8.61	14.00	-5.39
Band 4	5865	173	ax (20MHz)	242T	MCS0	6.37	6.41	9.40			-0.75	8.65	14.00	-5.35
	5885	177	ax (20MHz)	242T	MCS0	5.72	6.41	9.09			-0.75	8.34	14.00	-5.66
Band 3/4	5835	167	ax (40MHz)	484T	MCS0	1.98	2.20	5.11	30.00	-24.89	-0.75	4.36	14.00	-9.64
Band 4	5875	175	ax (40MHz)	484T	MCS0	2.27	2.11	5.20			-0.75	4.45	14.00	-9.55
Band 3/4	5855	171	ax (80MHz)	996T	MCS0	-2.04	-2.27	0.85	30.00	-29.15	-0.75	0.11	14.00	-13.89
	5815	163	ax (160MHz L)	996T	MCS0	-2.11	-2.65	0.64	30.00	-29.36	-0.75	-0.11	14.00	-14.11
	5815	163	ax (160MHz U)	996T	MCS0	-2.34	-2.56	0.56	30.00	-29.44	-0.75	-0.19	14.00	-14.19

Table 7-46. Band 4 MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 156 of 236

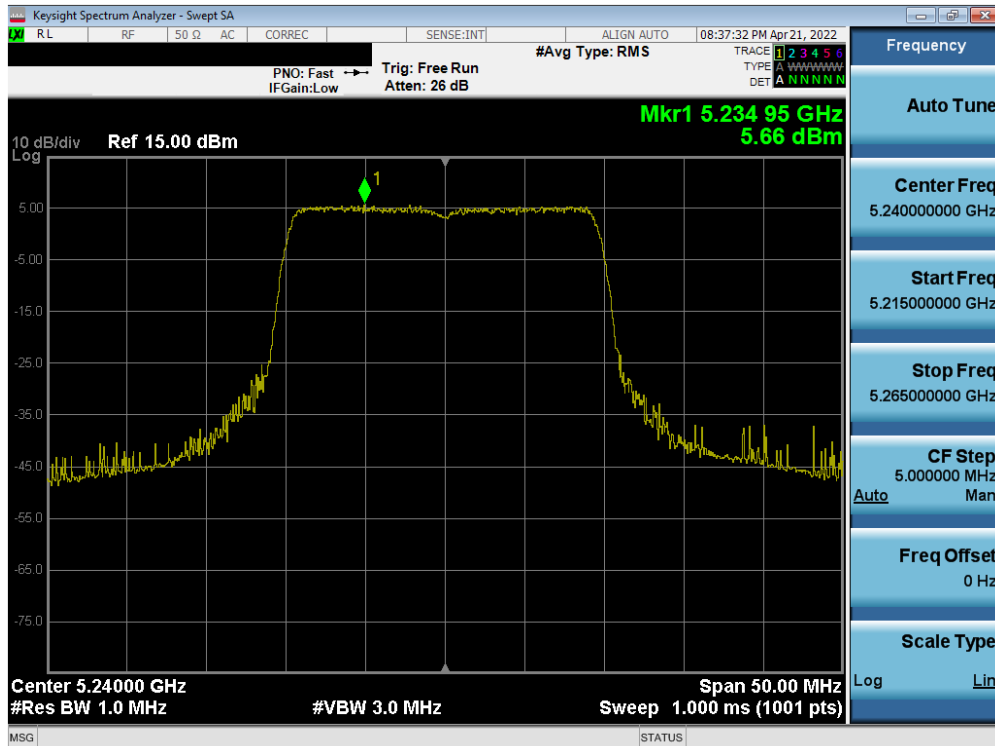


Plot 7-227. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 36)

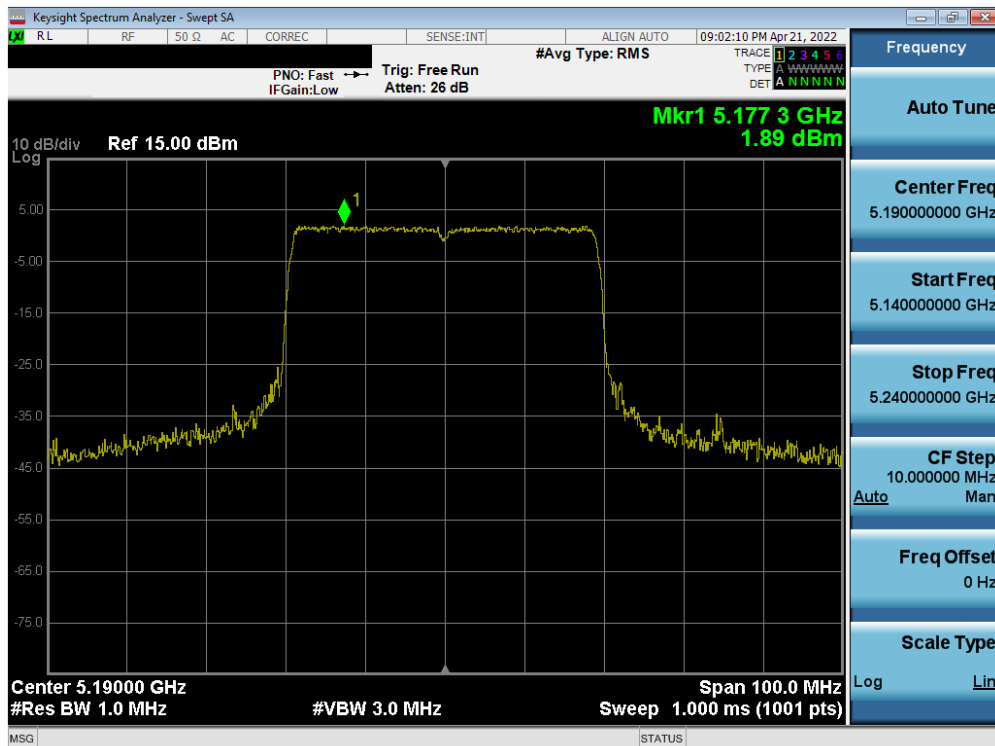


Plot 7-228. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 157 of 236

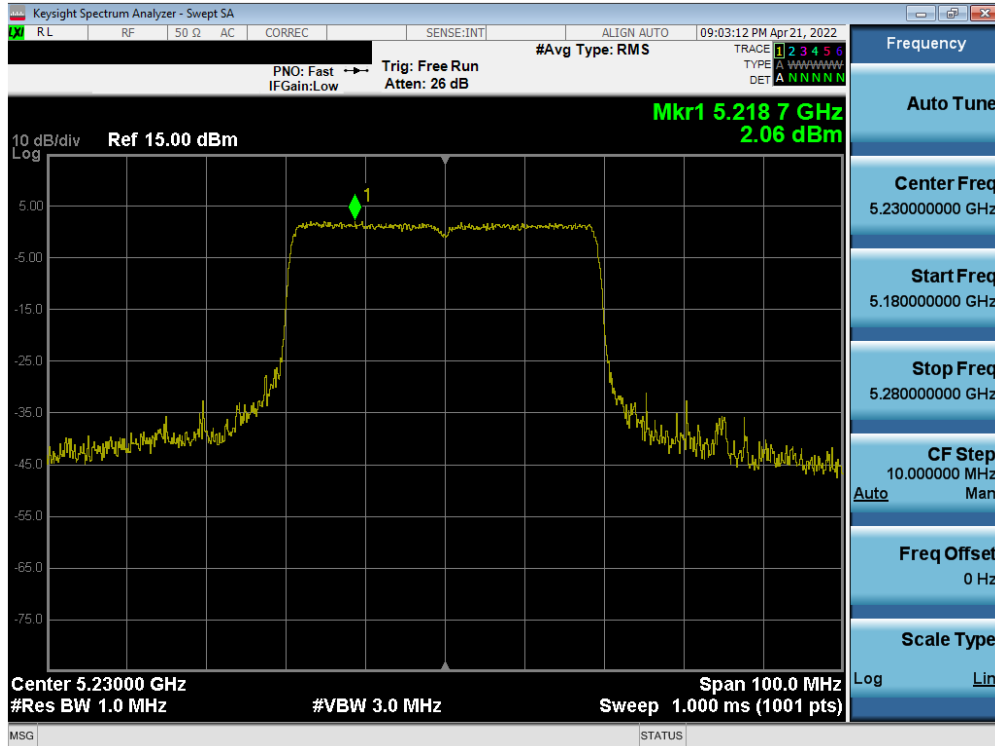


Plot 7-229. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 48)

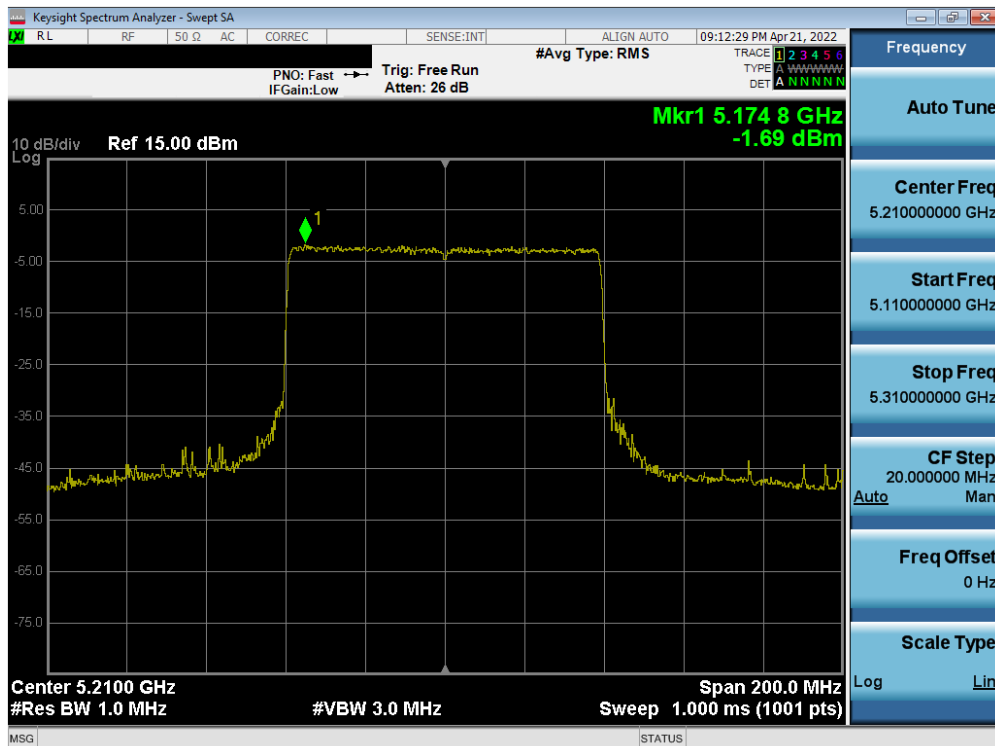


Plot 7-230. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 158 of 236

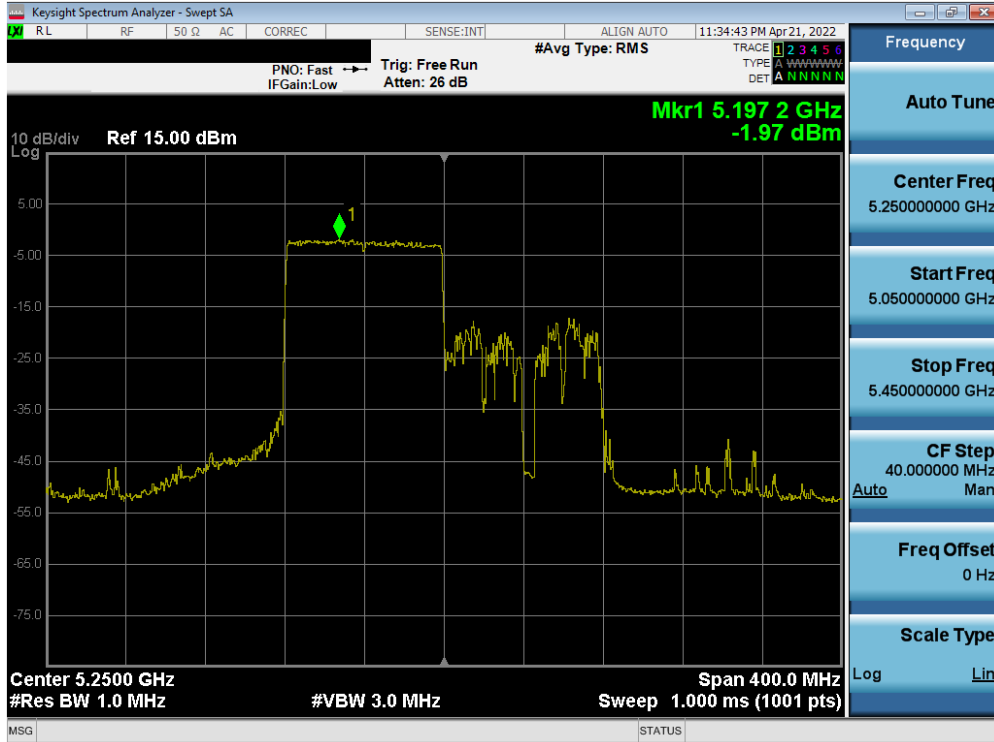


Plot 7-231. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 46)

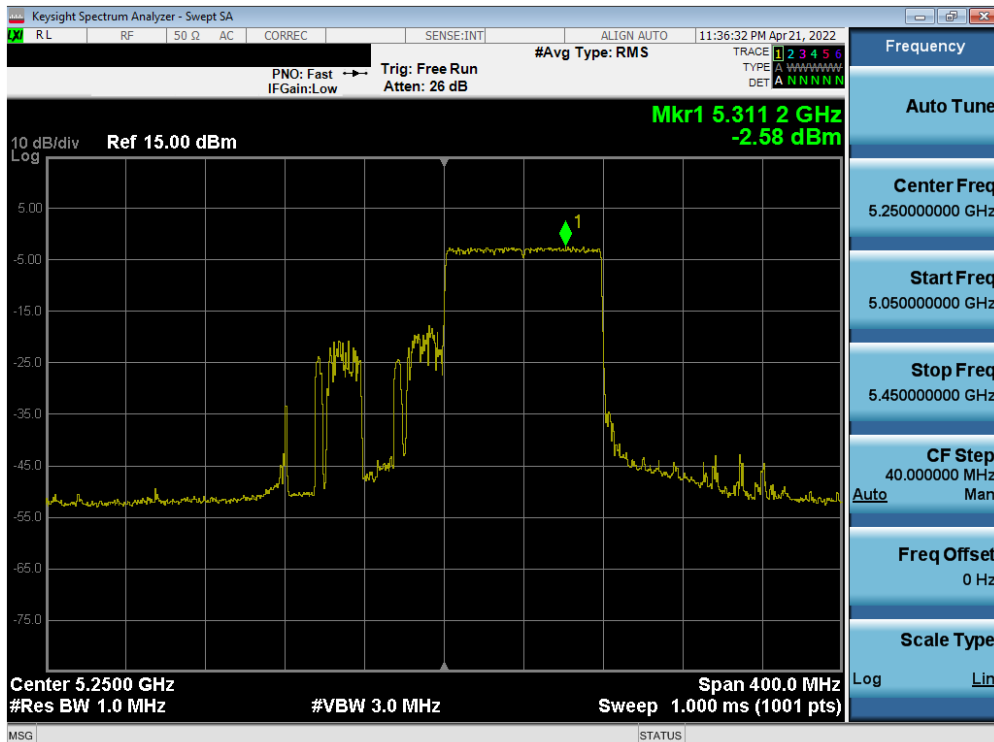


Plot 7-232. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 159 of 236

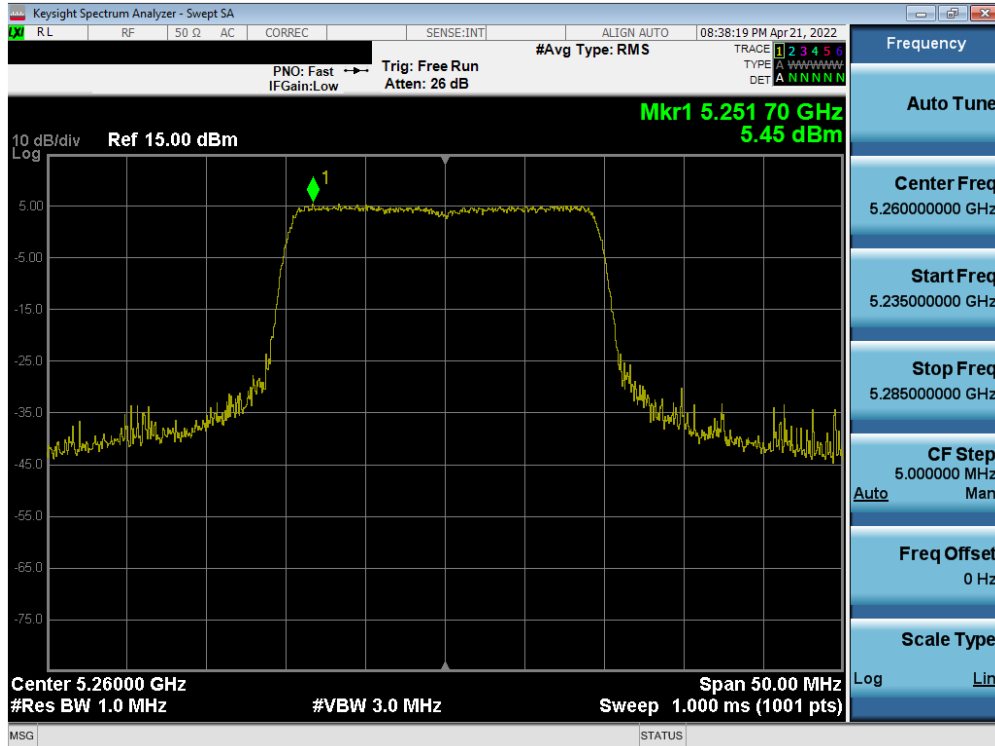


Plot 7-233. Power Spectral Density Plot MIMO ANT1 (160MHz (L) BW 802.11ax – Full Tones (UNII Band 1/2A) – Ch. 50)

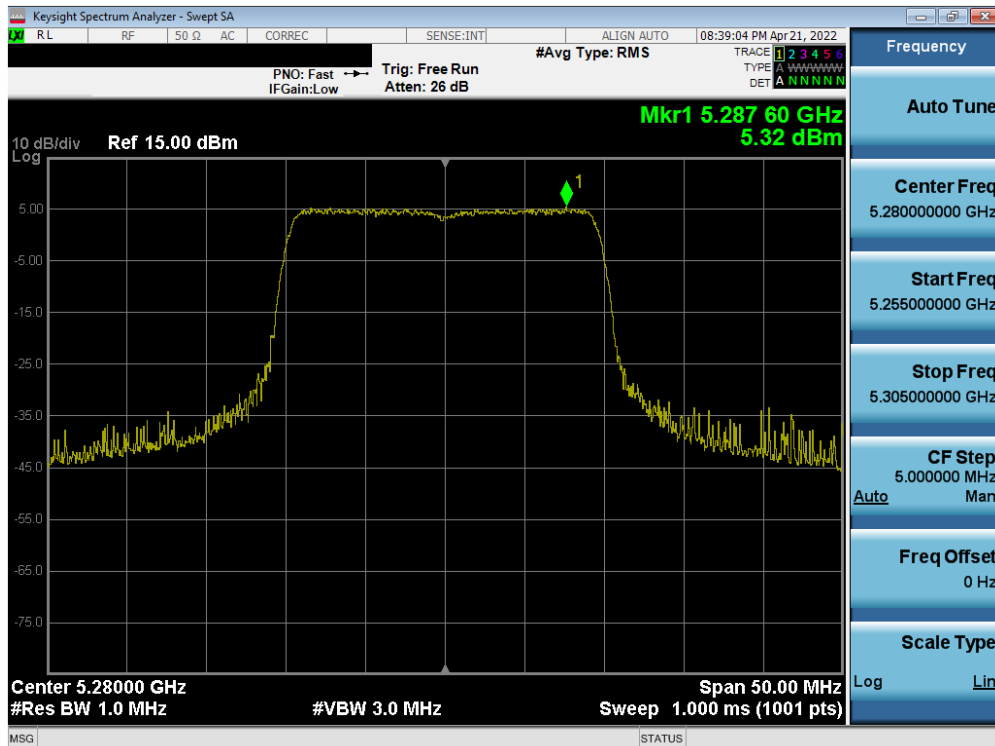


Plot 7-234. Power Spectral Density Plot MIMO ANT1 (160MHz (U) BW 802.11ax – Full Tones (UNII Band 1/2A) – Ch. 50)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 160 of 236

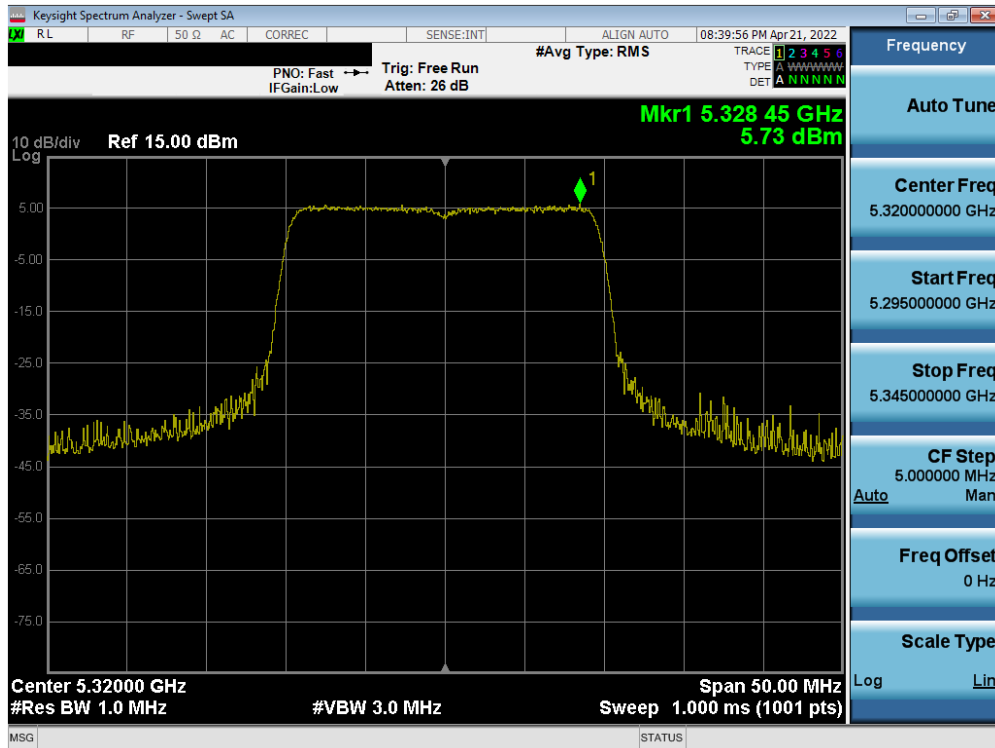


Plot 7-235. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)

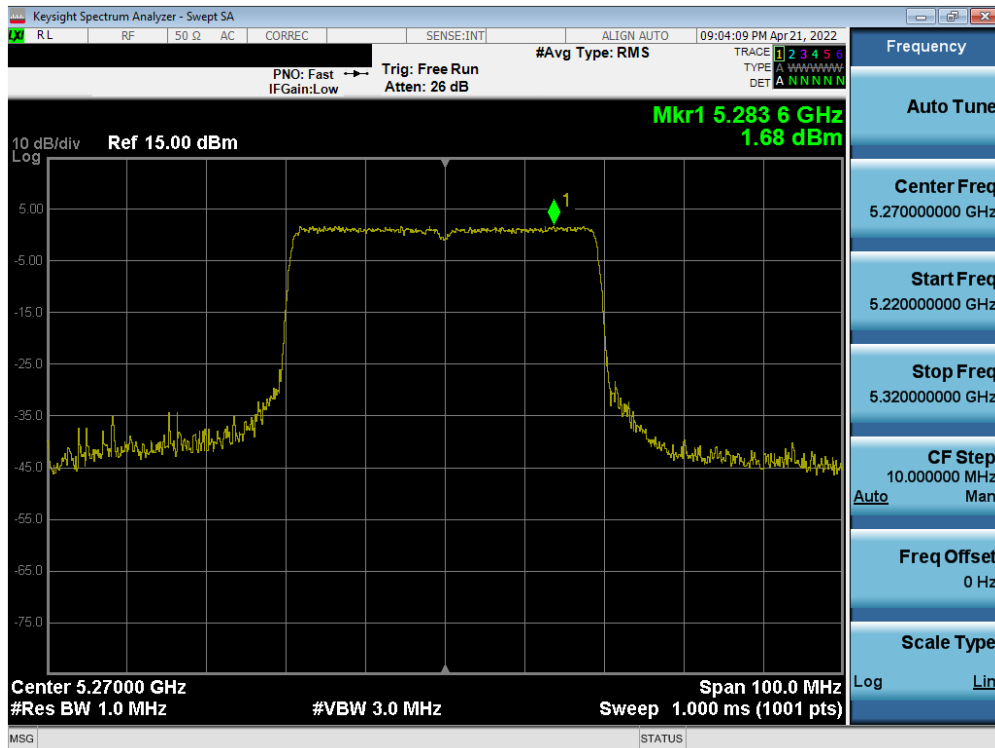


Plot 7-236. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 161 of 236

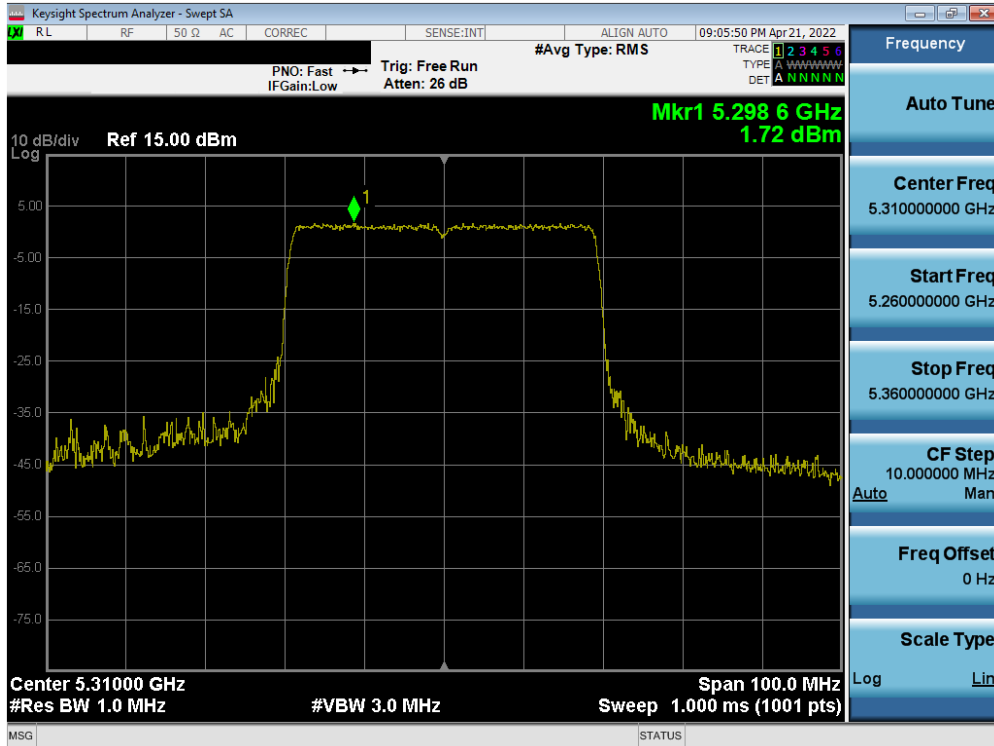


Plot 7-237. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)

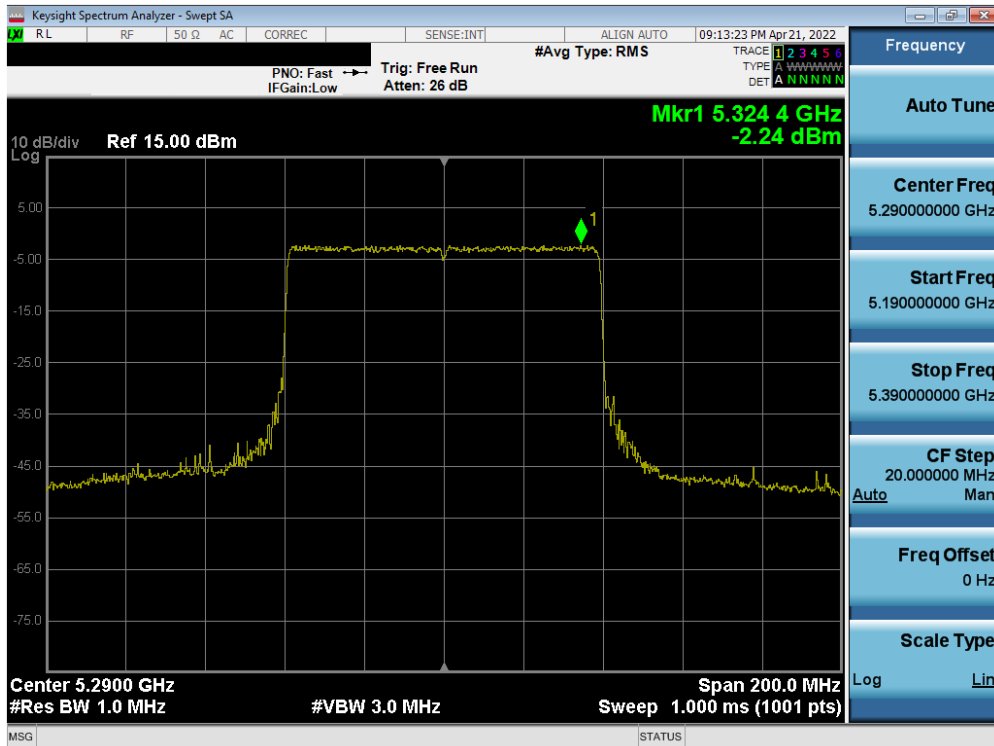


Plot 7-238. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 162 of 236

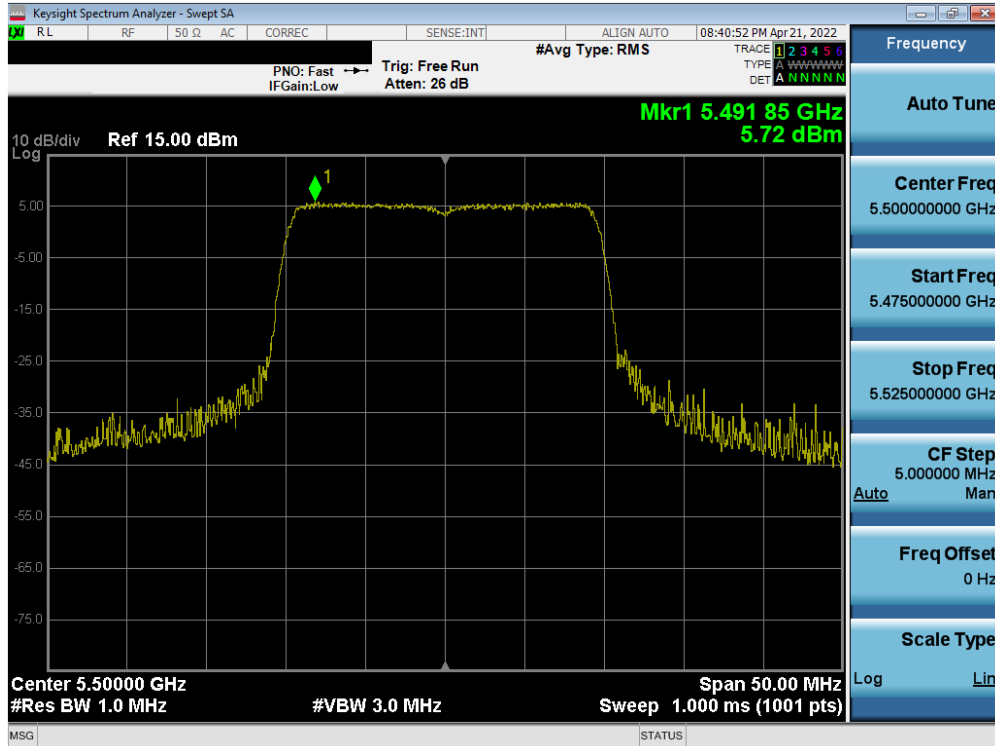


Plot 7-239. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 62)

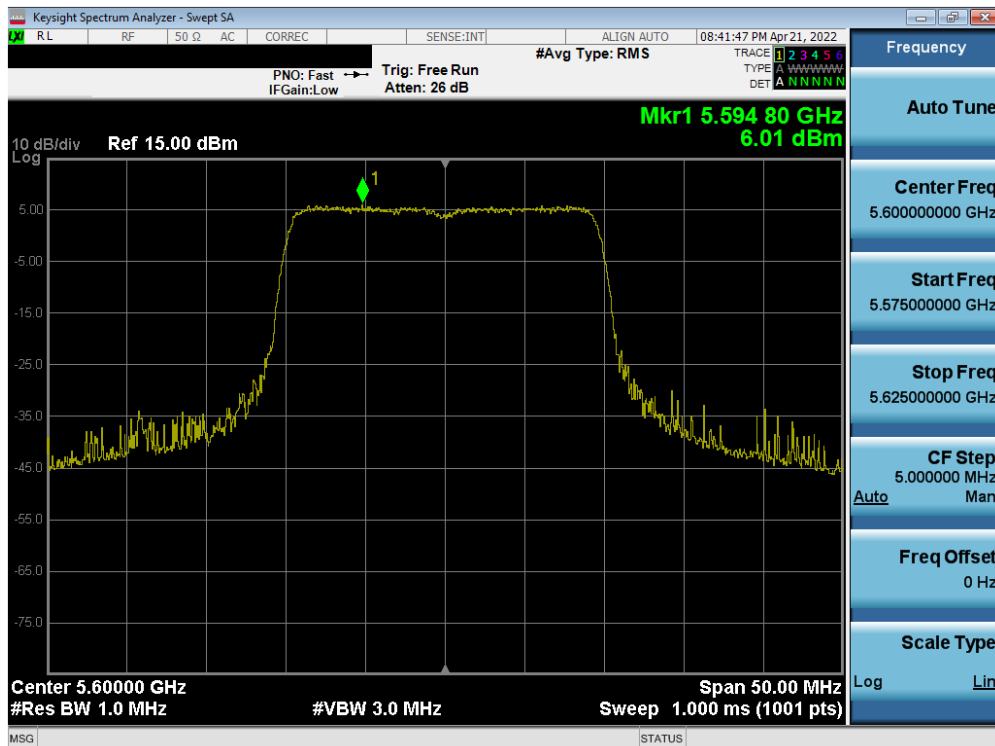


Plot 7-240. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 163 of 236

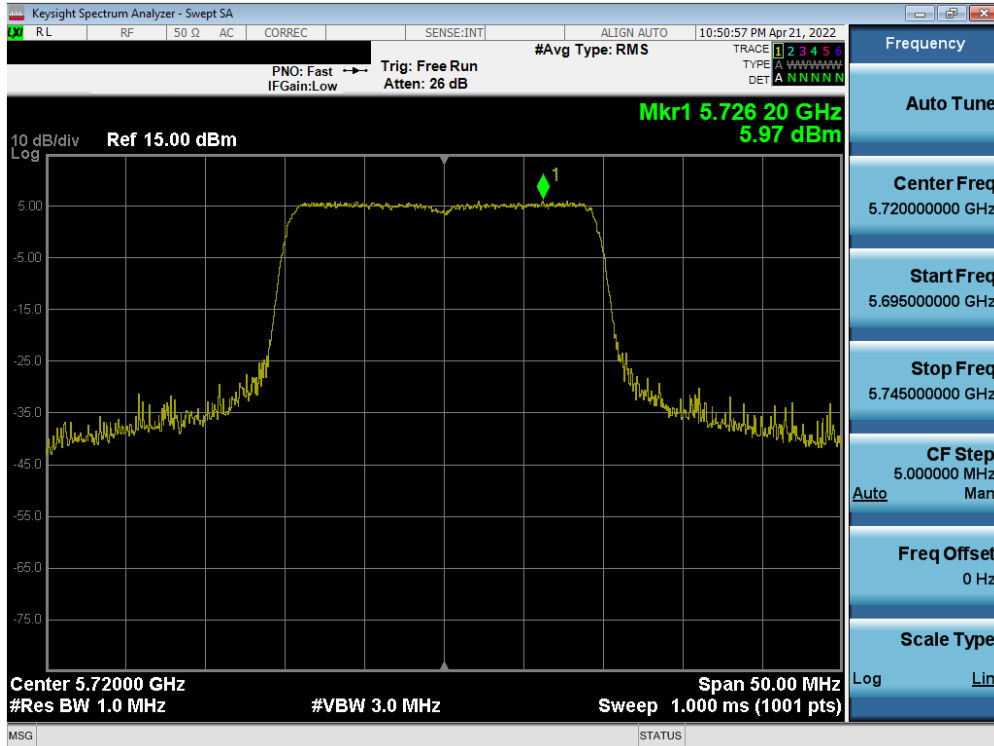


Plot 7-241. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 100)

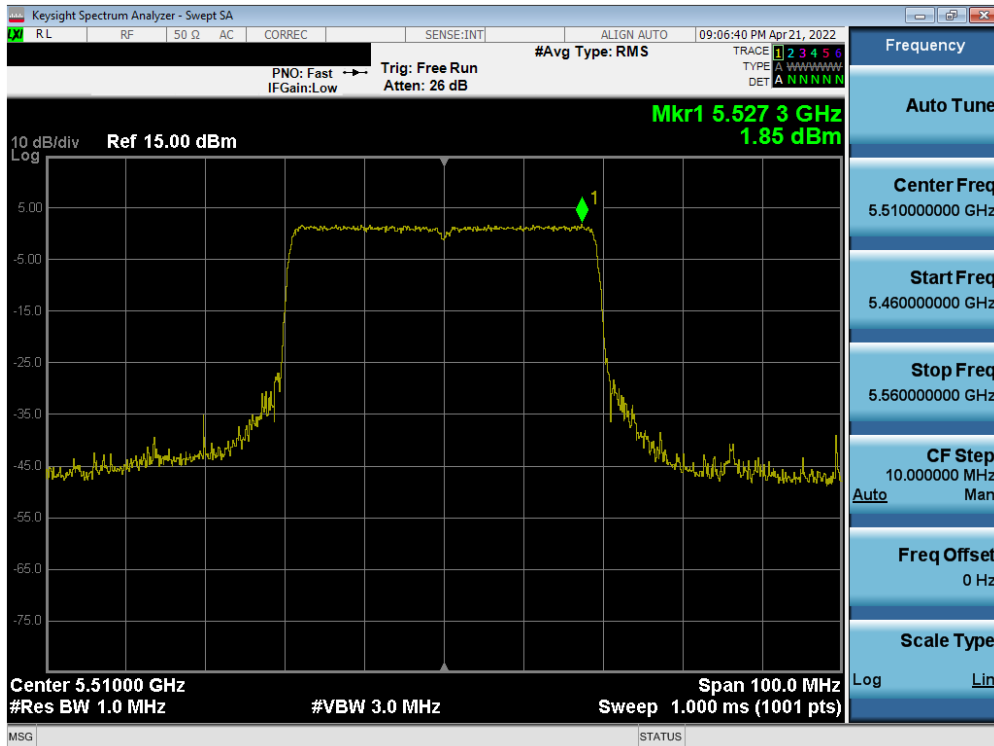


Plot 7-242. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 164 of 236

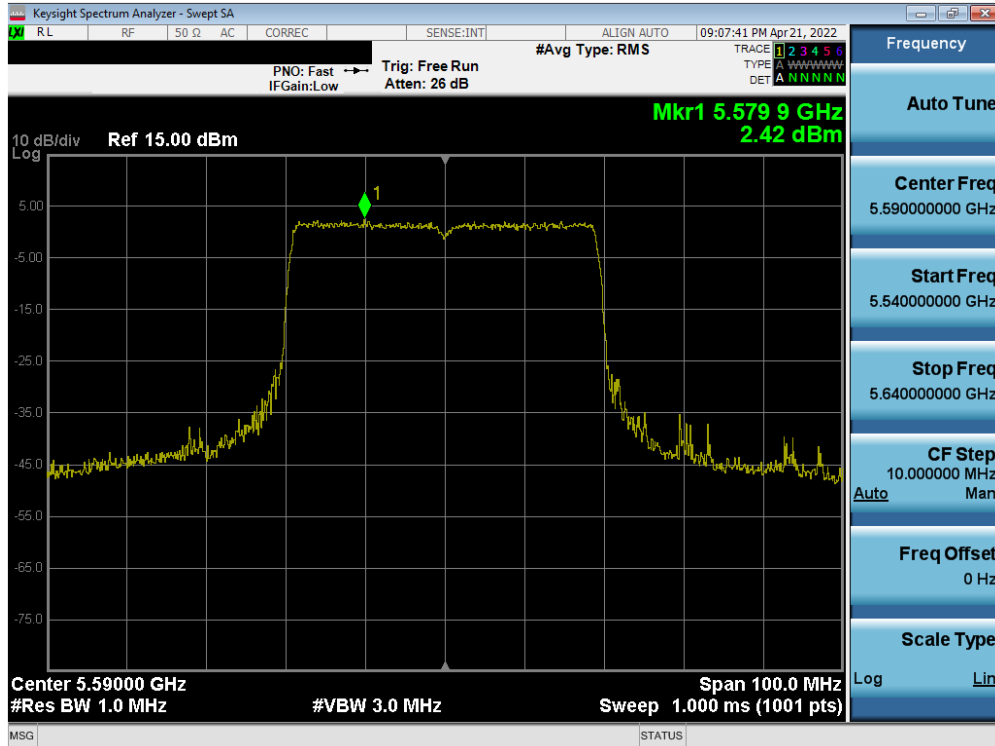


Plot 7-243. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 144)

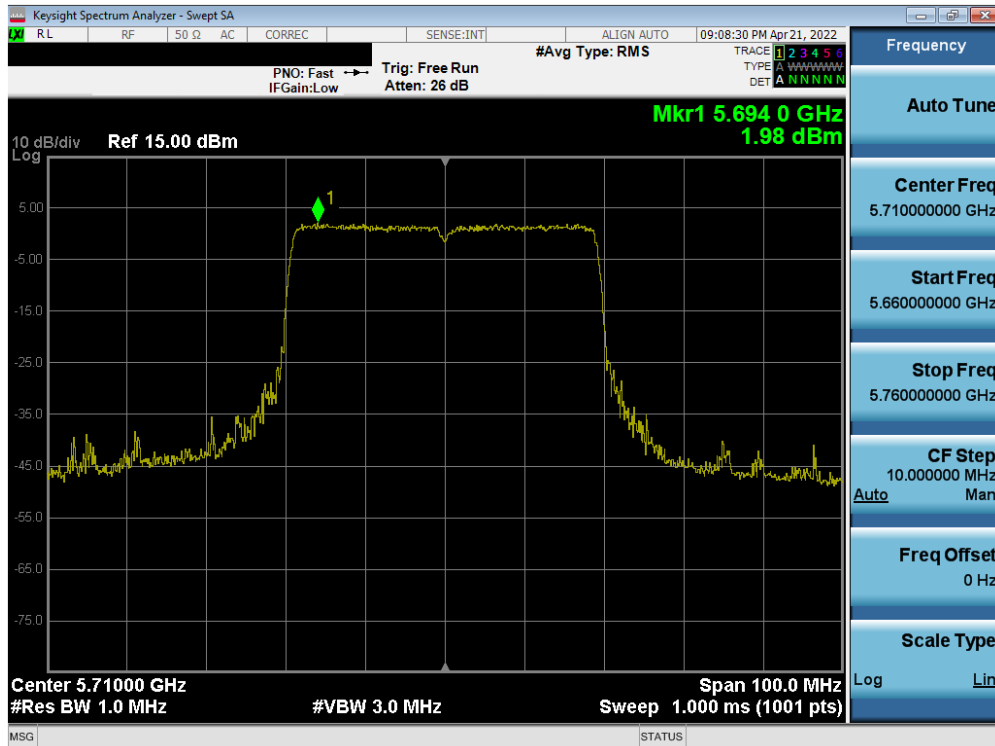


Plot 7-244. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 165 of 236

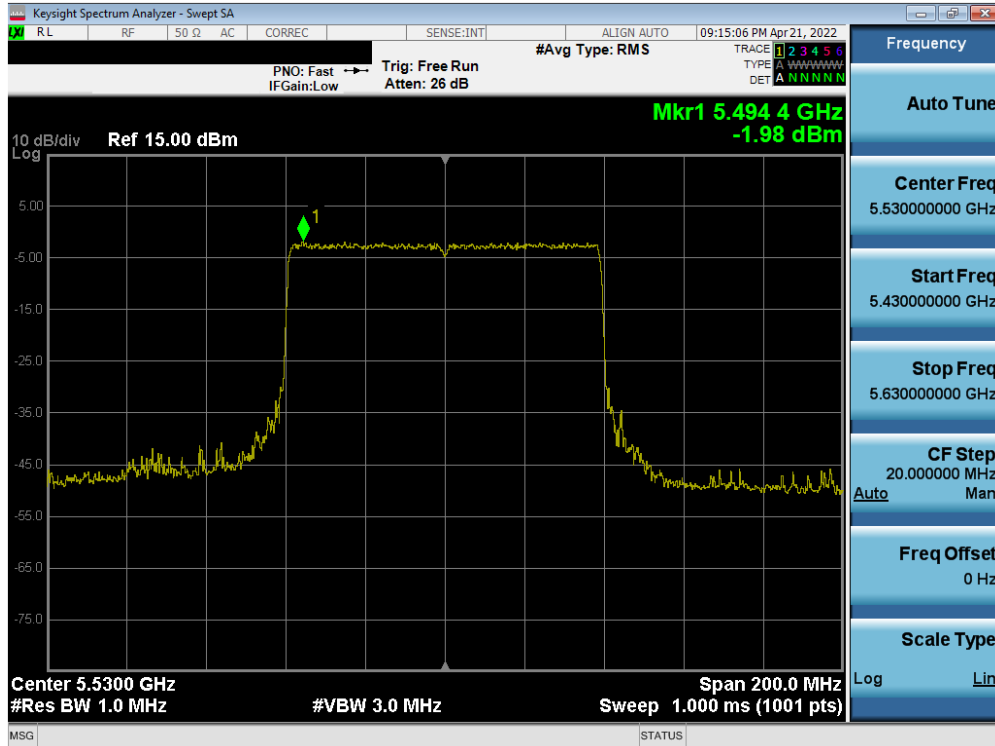


Plot 7-245. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)

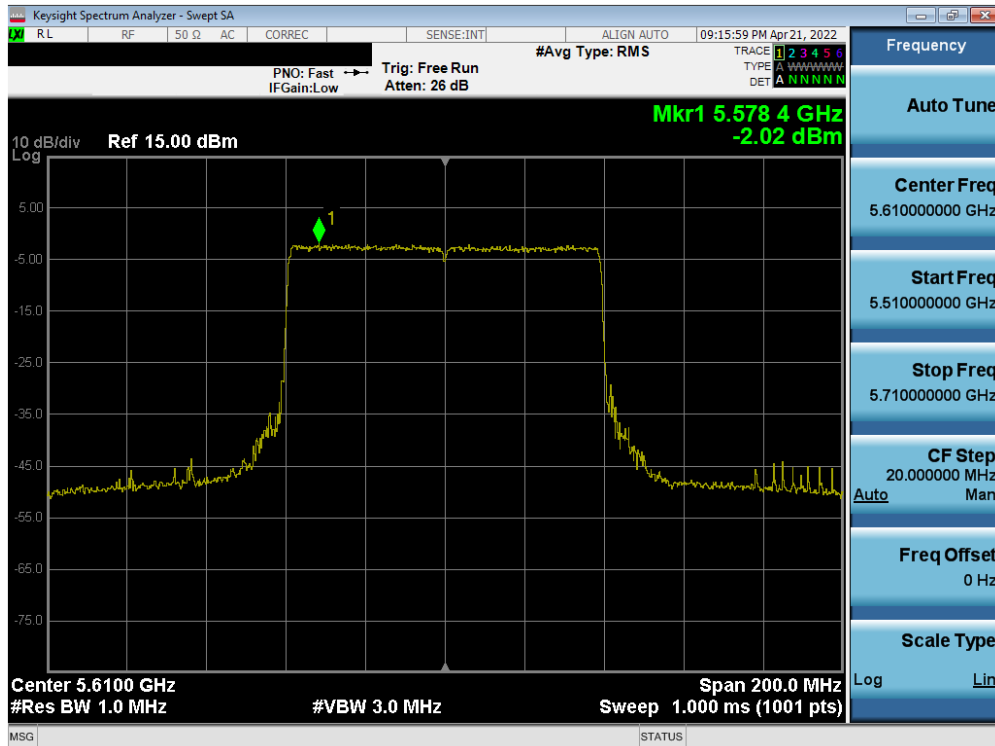


Plot 7-246. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 166 of 236

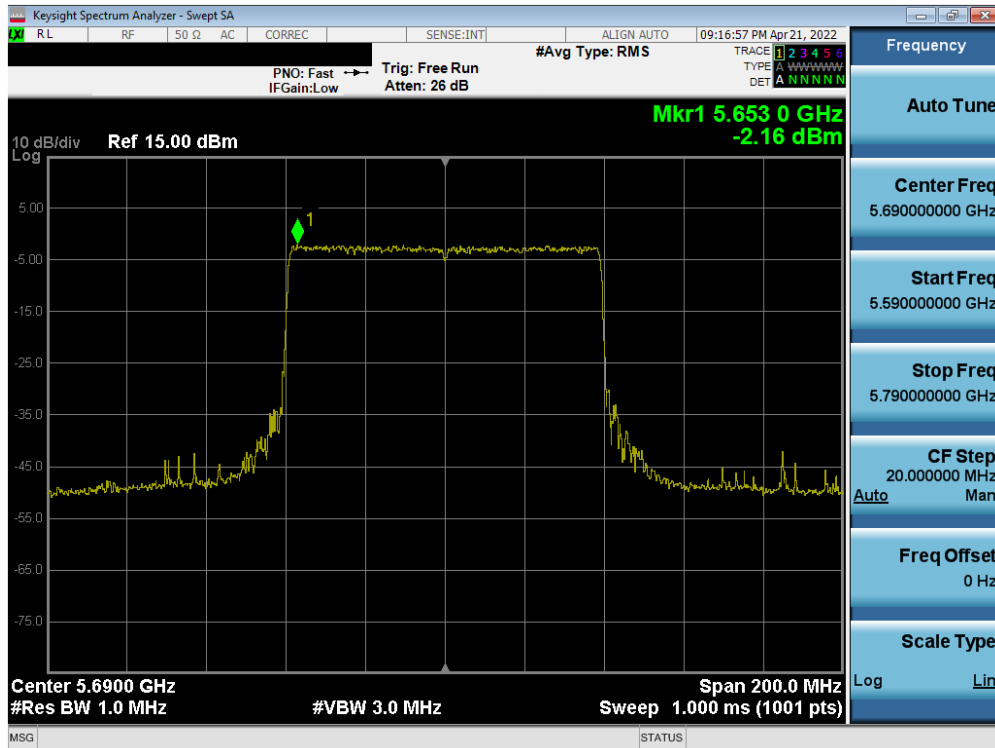


Plot 7-247. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 106)

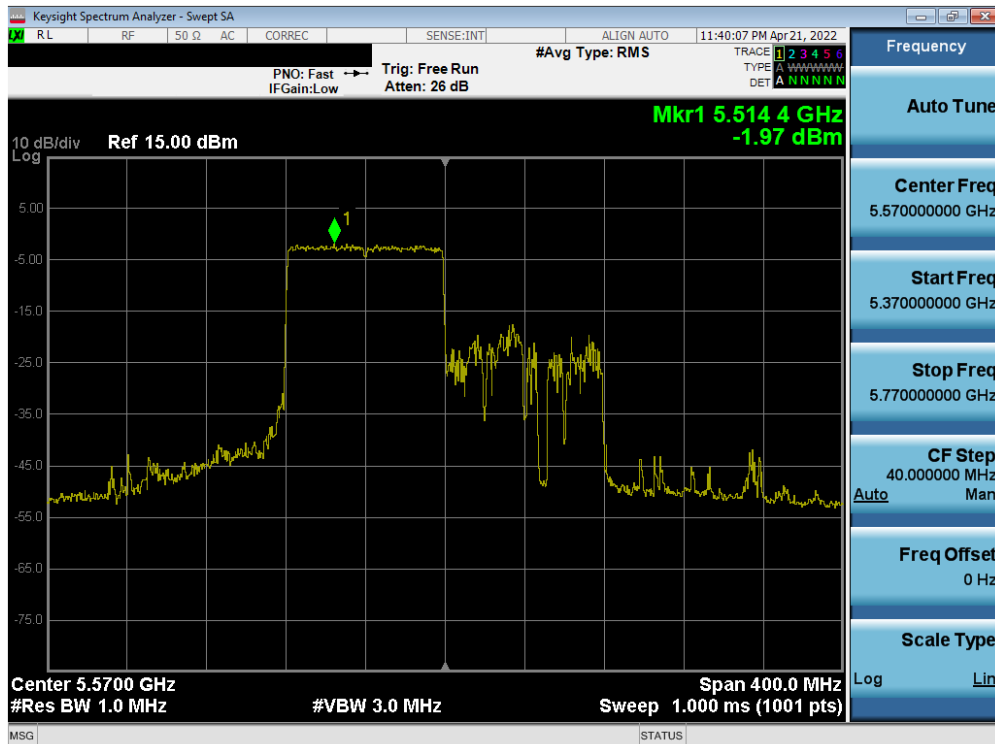


Plot 7-248. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 167 of 236



Plot 7-249. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 138)



Plot 7-250. Power Spectral Density Plot MIMO ANT1 (160MHz (L) BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 114)

FCC ID: A3LSMF936U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2204010046-16-R1.A3L	Test Dates: 04/01 - 6/10/2022	EUT Type: Portable Handset	Page 168 of 236