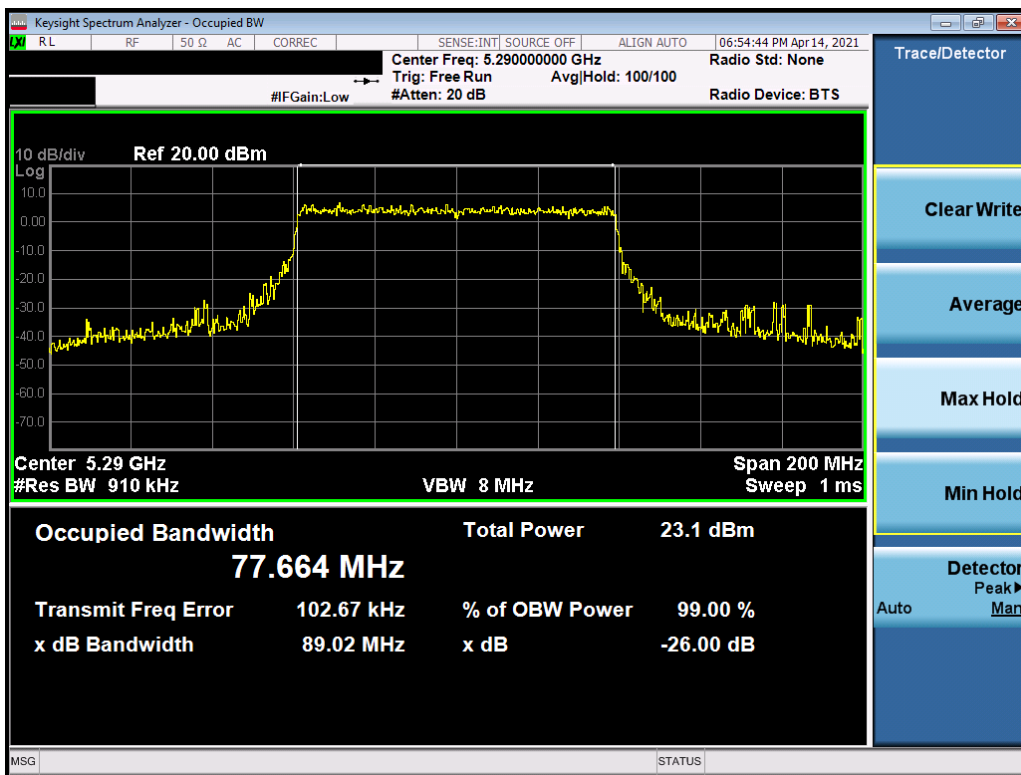
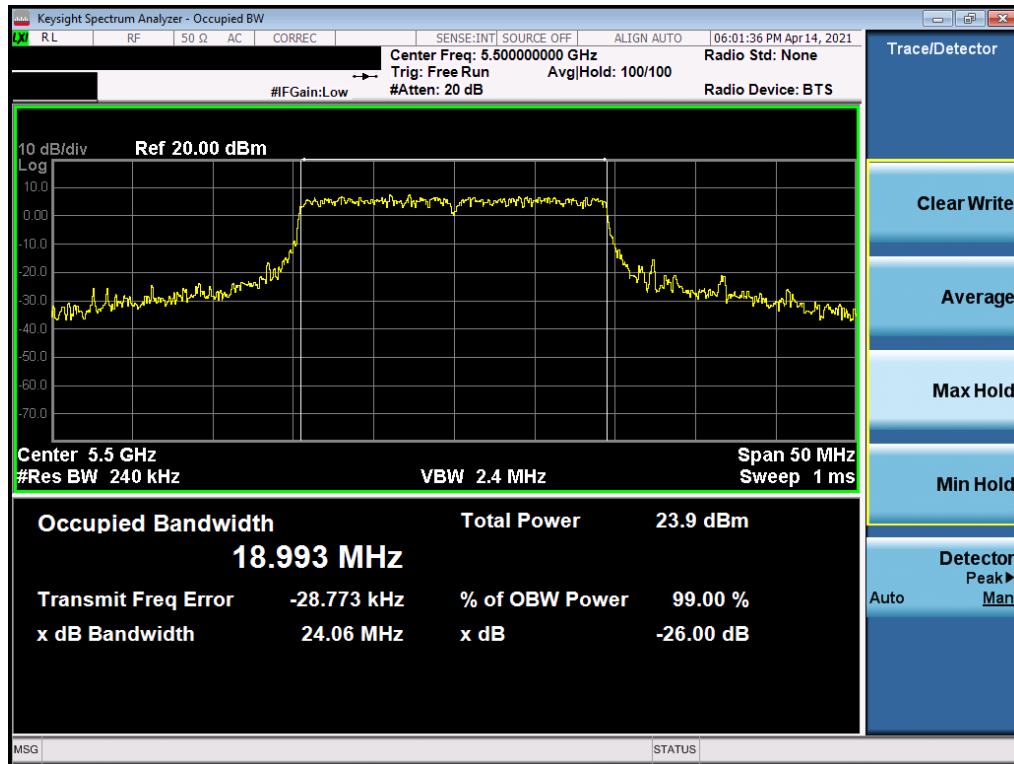


Plot 7-88. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2A) – Ch. 62)

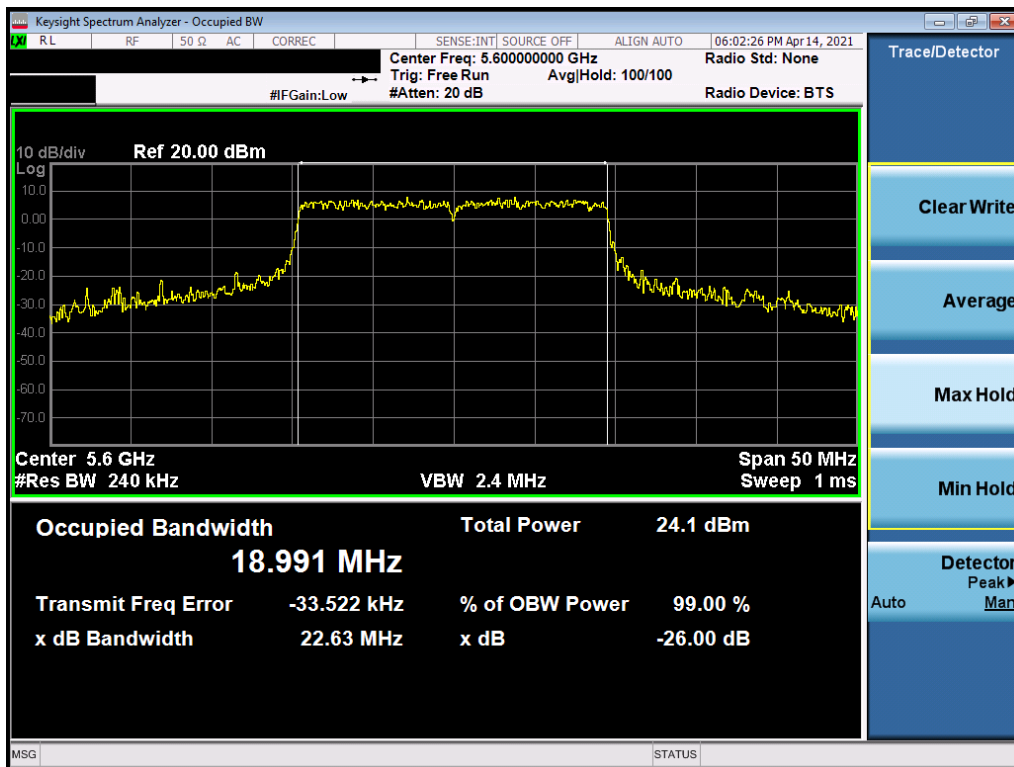


Plot 7-89. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 64 of 204

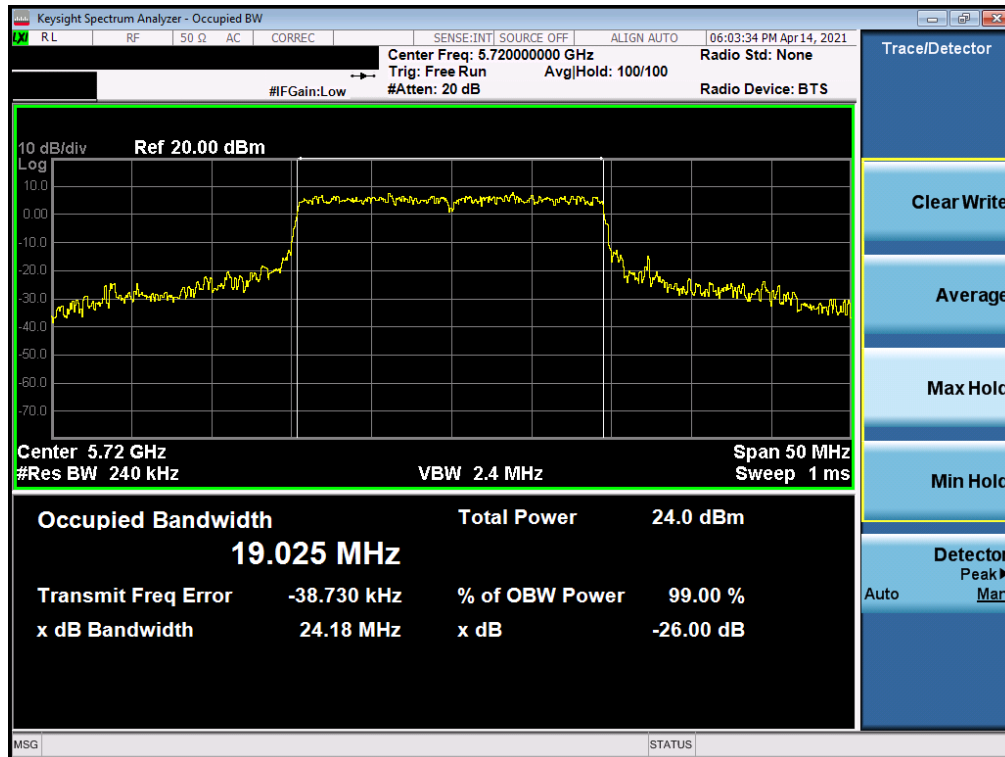


Plot 7-90. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 2C) – Ch. 100)

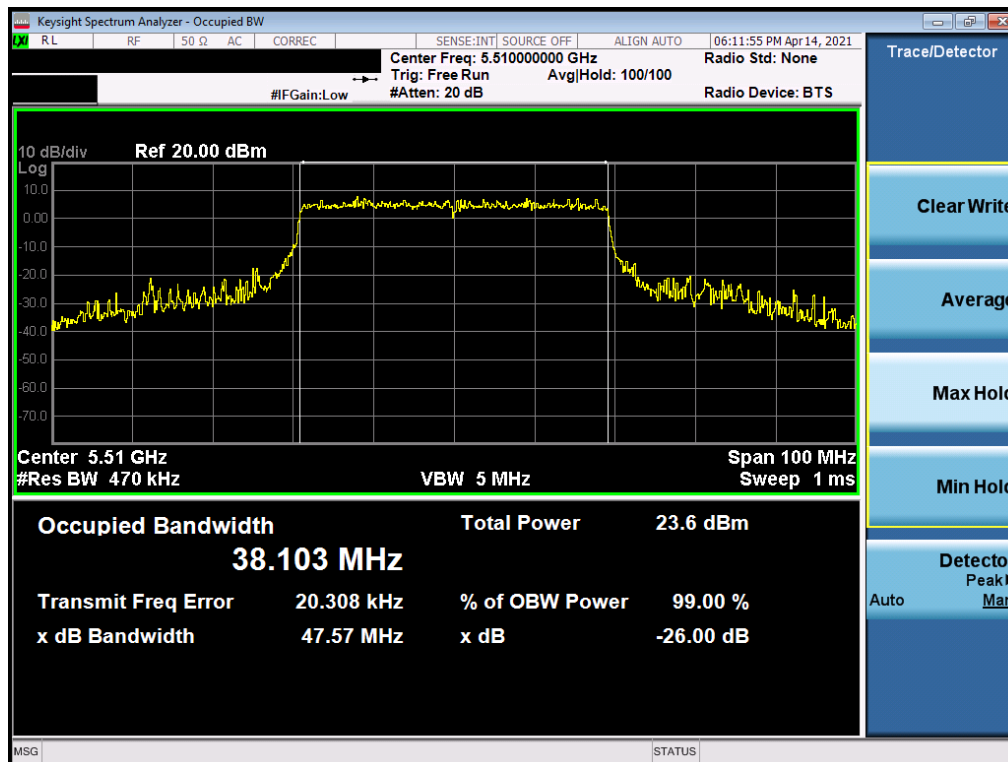


Plot 7-91. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 65 of 204

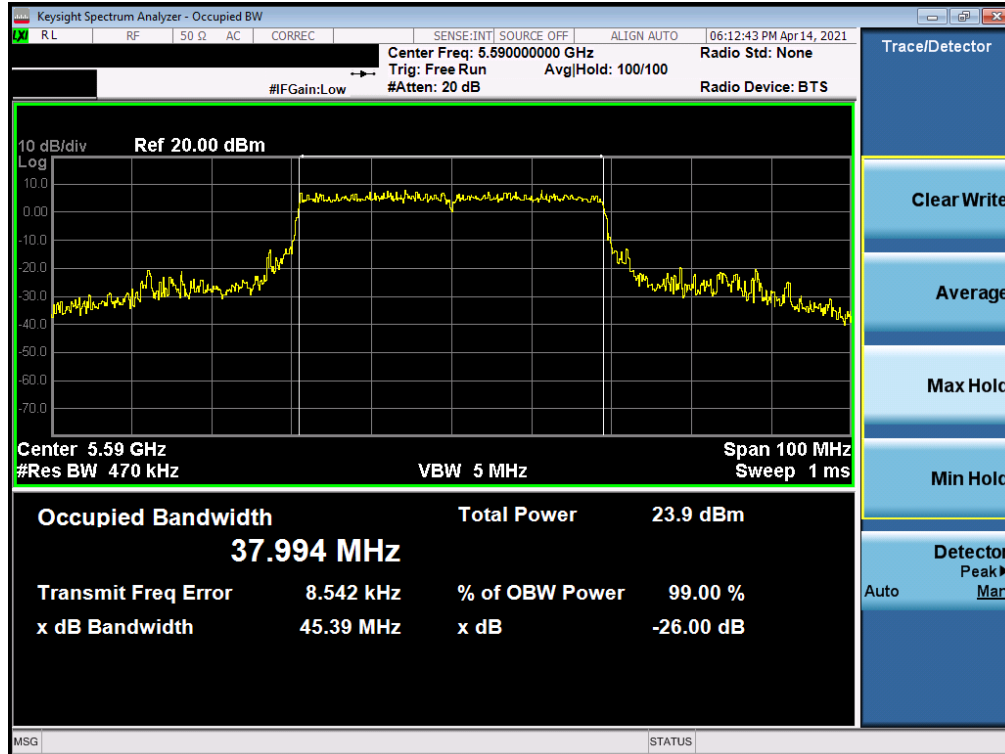


Plot 7-92. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 2C) – Ch. 144)

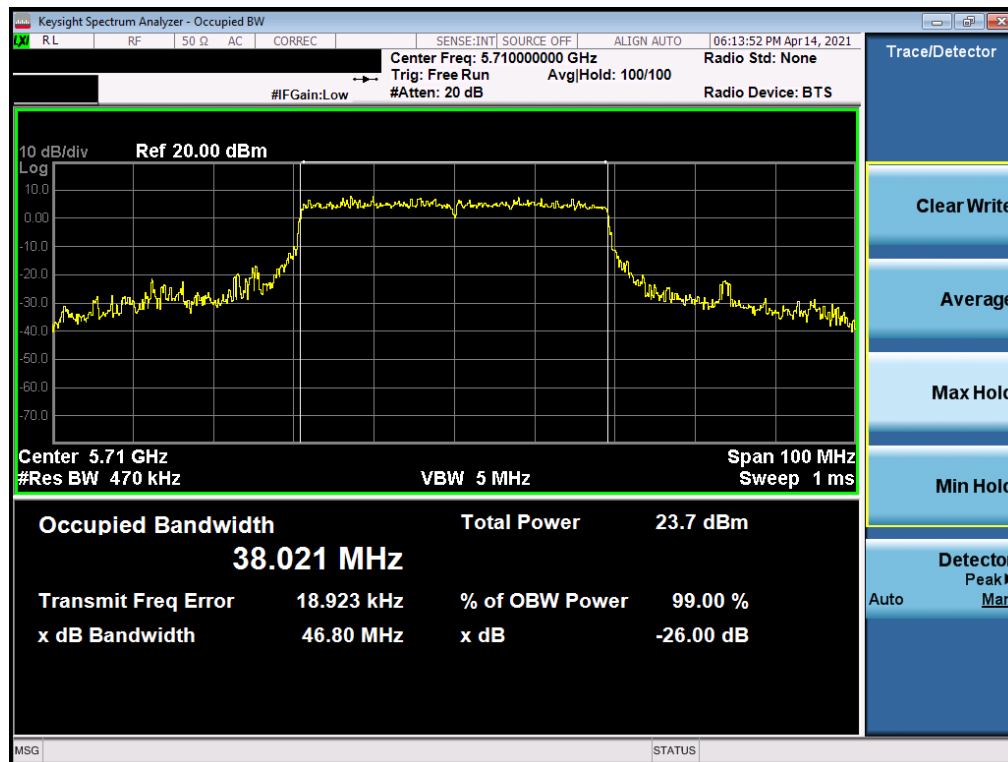


Plot 7-93. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 66 of 204

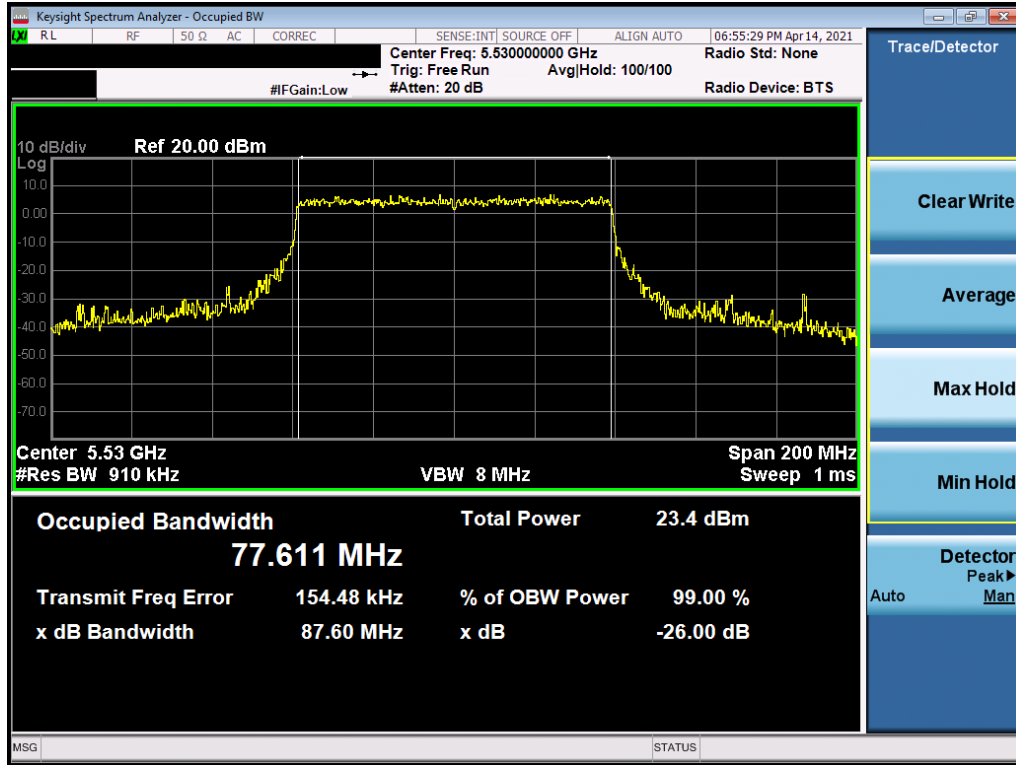


Plot 7-94. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 118)



Plot 7-95. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 67 of 204

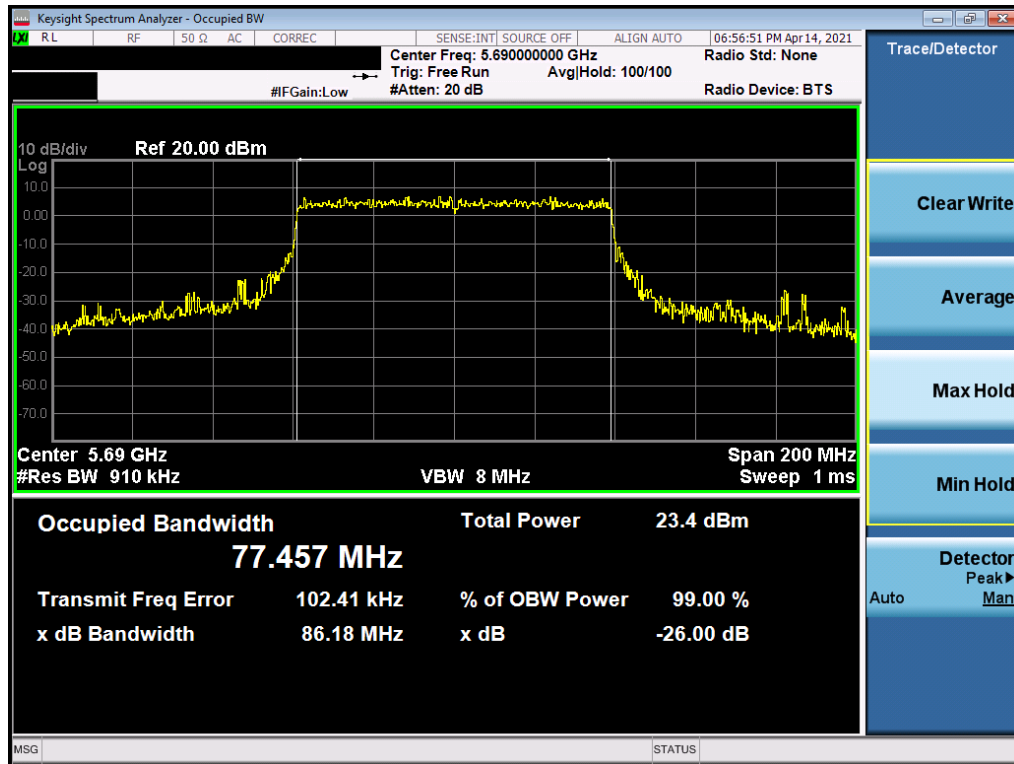


Plot 7-96. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 106)

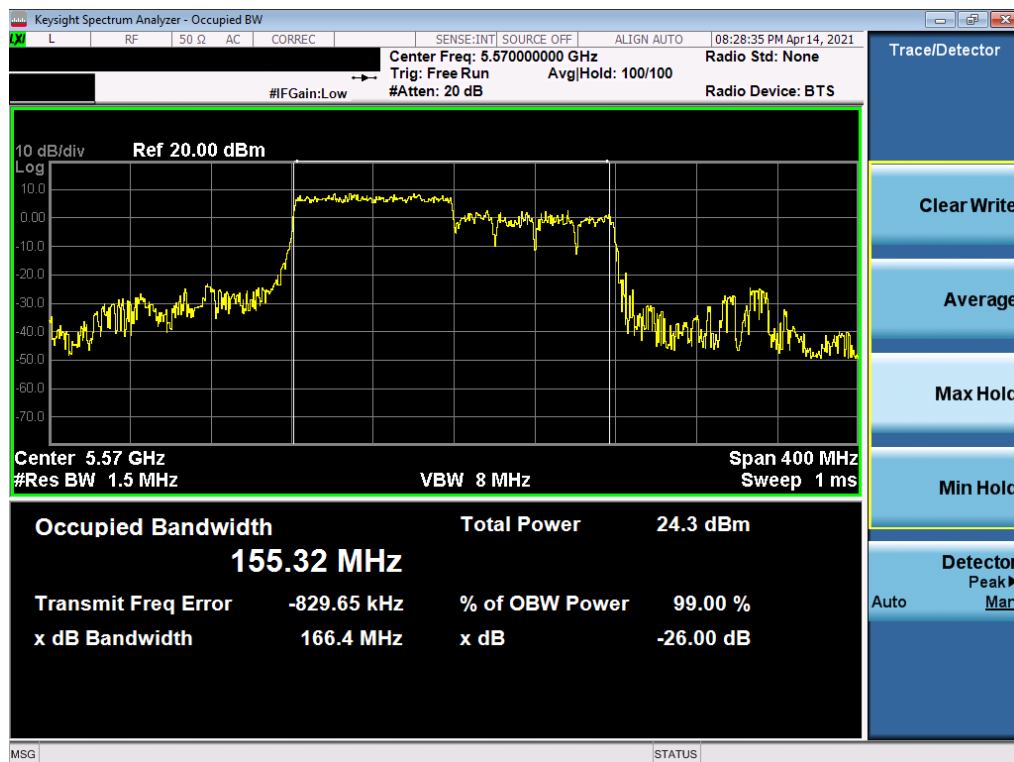


Plot 7-97. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 68 of 204

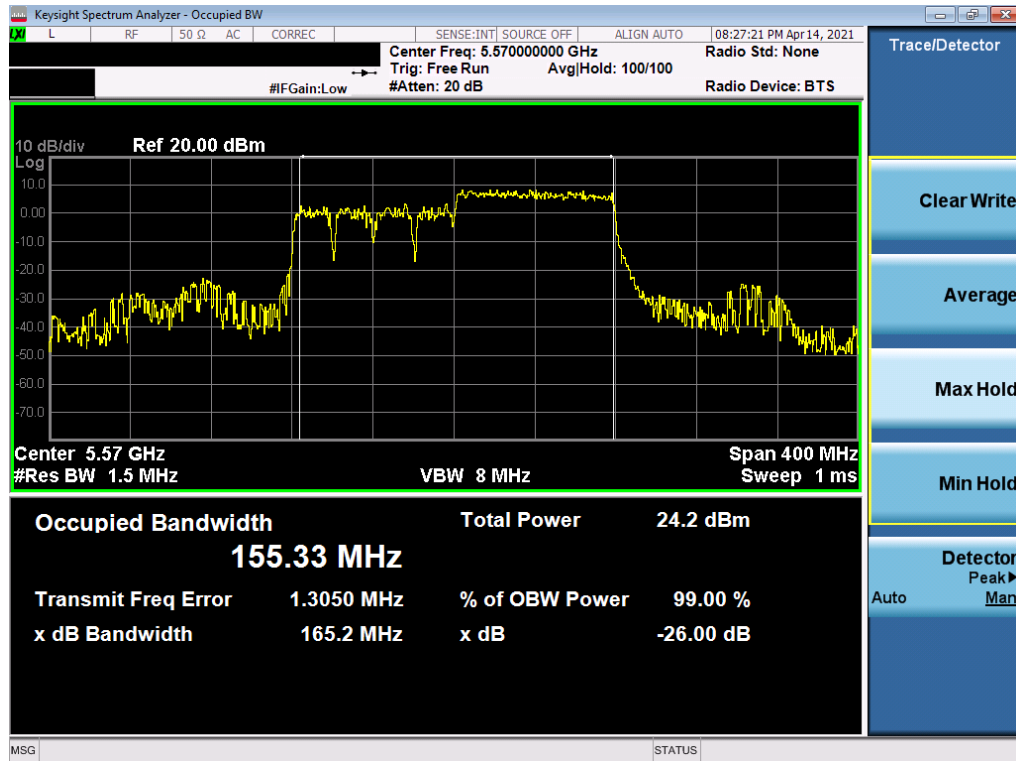


Plot 7-98. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 2C) – Ch. 138)



Plot 7-99. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW(L) 802.11ax – 996 Tones (UNII Band 2C) – Ch. 114)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 69 of 204



Plot 7-100. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW(U) 802.11ax – 996 Tones (UNII Band 2C) – Ch. 114)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 70 of 204

7.3 6dB Bandwidth Measurement – 802.11ax OFDMA §15.407 (e); RSS-Gen [6.7]

Test Overview and Limit

The bandwidth at 6dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal 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. The spectrum analyzer's bandwidth measurement function is configured to measure the 6dB bandwidth.

In the 5.725 – 5.850GHz band, the 6dB bandwidth must be ≥ 500 kHz.

Test Procedure Used

ANSI C63.10-2013 – Section 6.9.2
KDB 789033 D02 v02r01 – Section C

Test Settings

1. The signal analyzers' automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to $X = 6$. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 100 kHz
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple

Test Setup

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



Figure 7-2. Test Instrument & Measurement Setup

Test Notes

The 6dB Bandwidth measurement for each channel was measured with the RU index showing the highest conducted power.

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 71 of 204

MIMO Antenna 1 - 6dB Bandwidth Measurements (26 Tones)

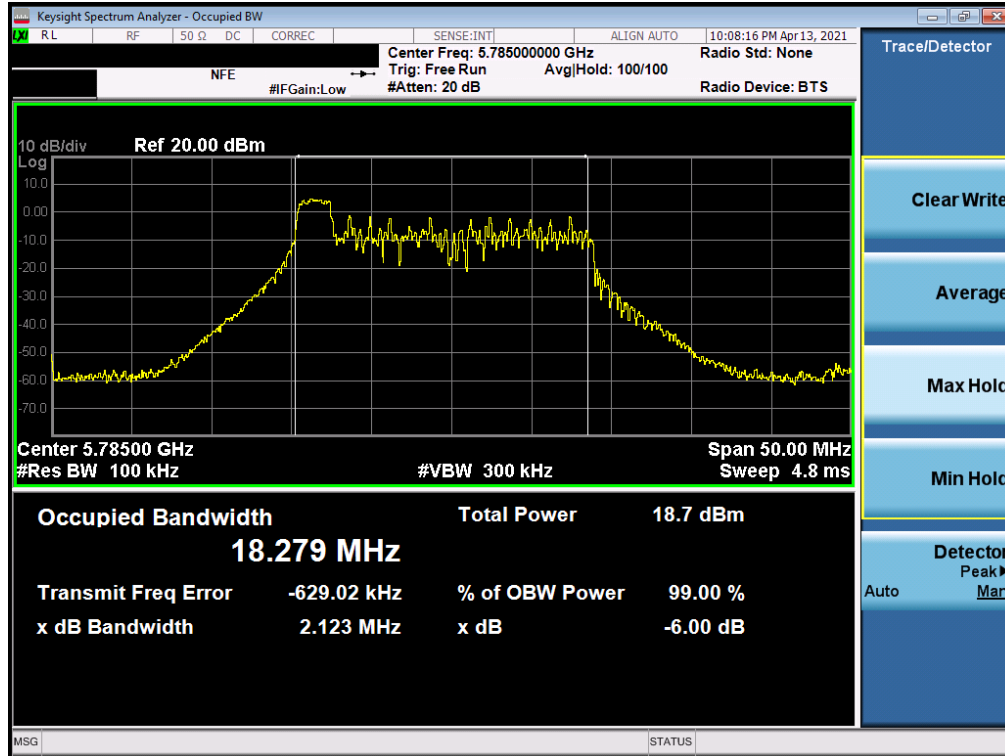
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3	5745	149	ax (20MHz)	26T	MCS0	2.14
	5785	157	ax (20MHz)	26T	MCS0	2.12
	5825	165	ax (20MHz)	26T	MCS0	2.72
	5755	151	ax (40MHz)	26T	MCS0	2.16
	5795	159	ax (40MHz)	26T	MCS0	2.15
	5775	155	ax (80MHz)	26T	MCS0	2.88

Table 7-6. Conducted Bandwidth Measurements MIMO ANT1 (26 Tones)

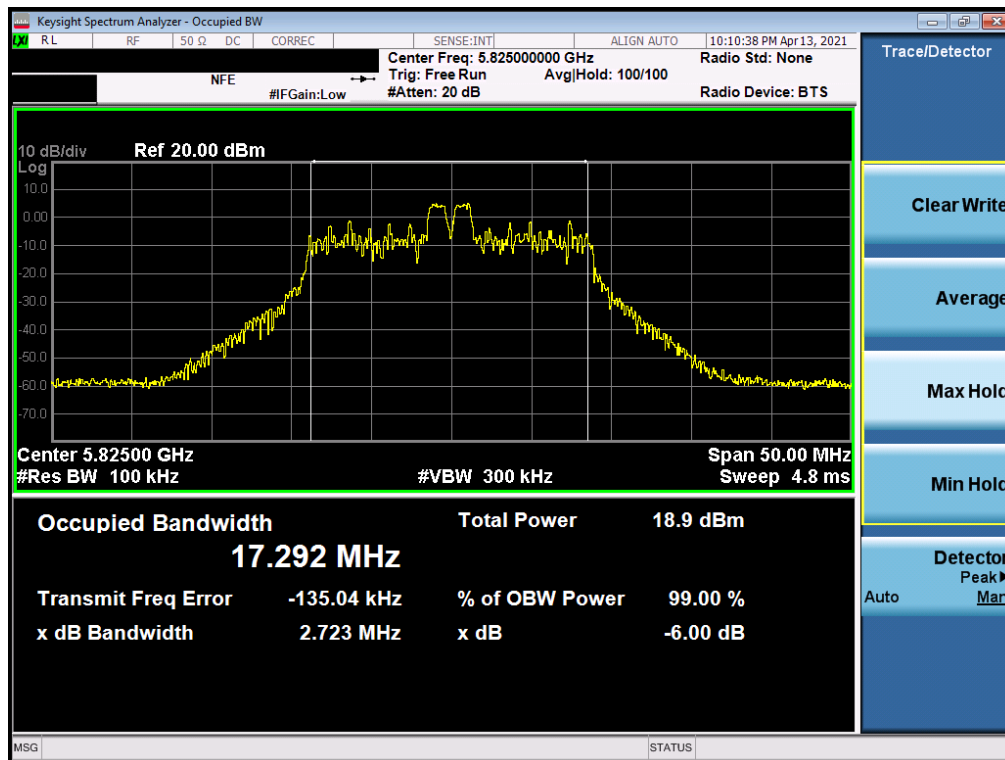


Plot 7-101. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 72 of 204

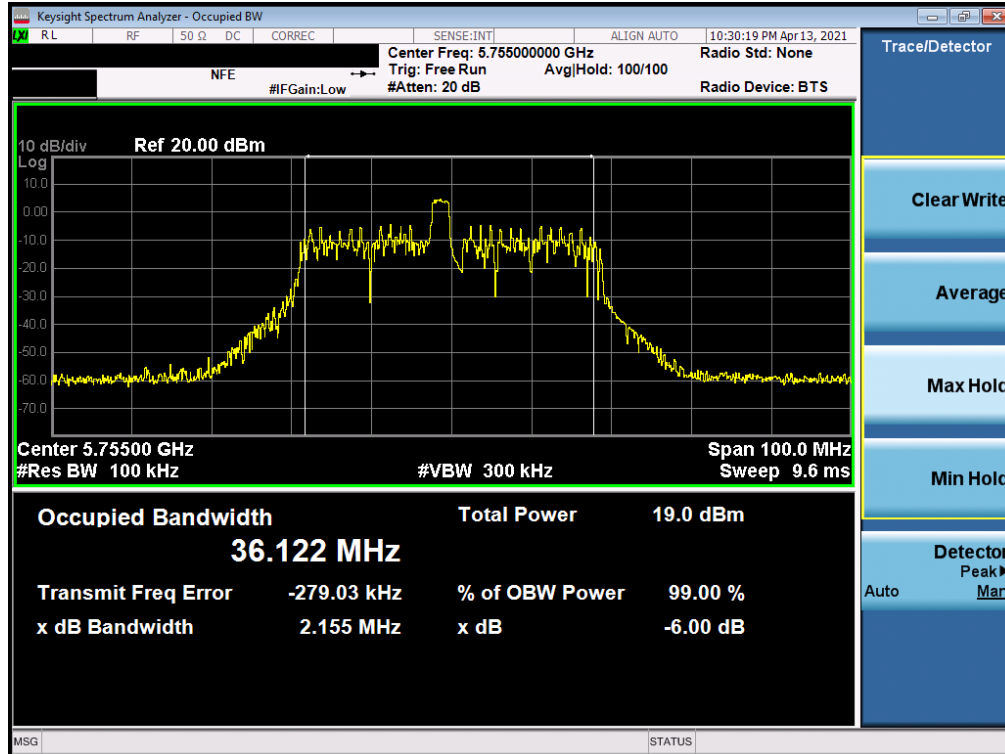


Plot 7-102. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

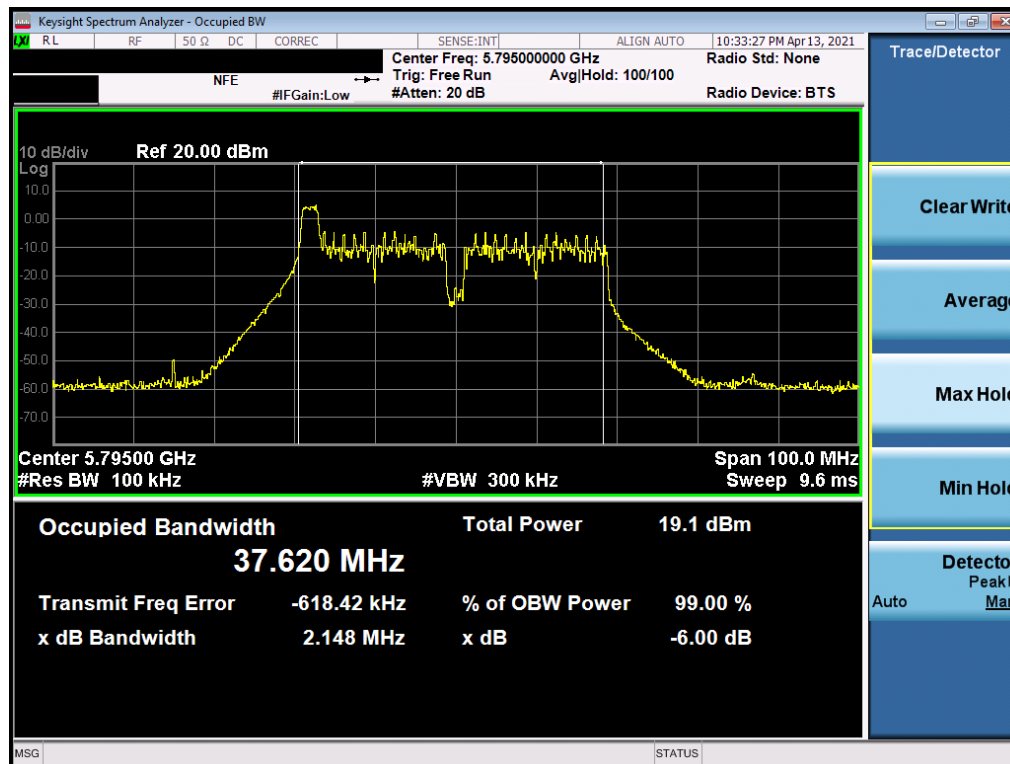


Plot 7-103. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 73 of 204

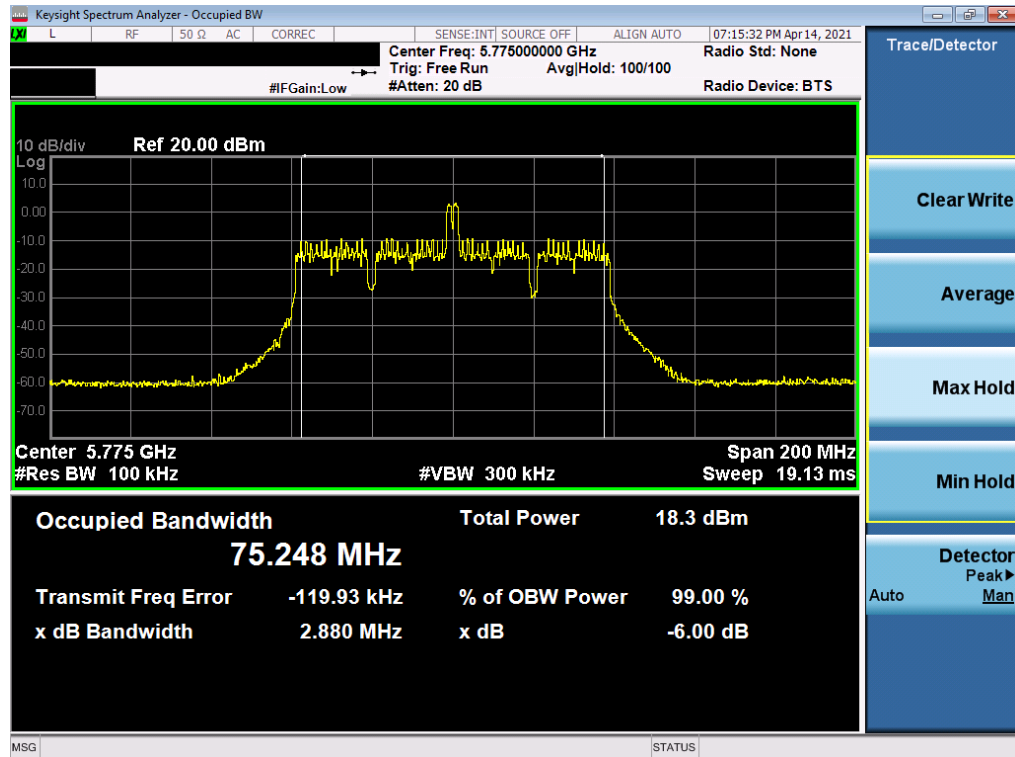


Plot 7-104. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)



Plot 7-105. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 74 of 204



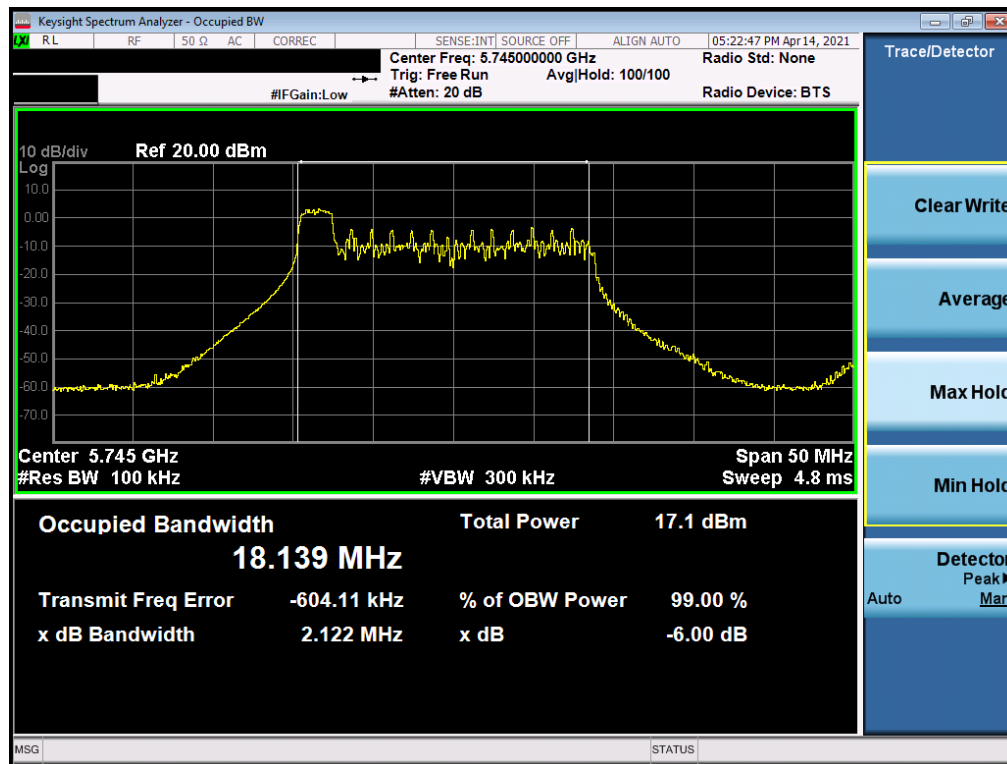
Plot 7-106. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 75 of 204

MIMO Antenna 2 - 6dB Bandwidth Measurements (26 Tones)

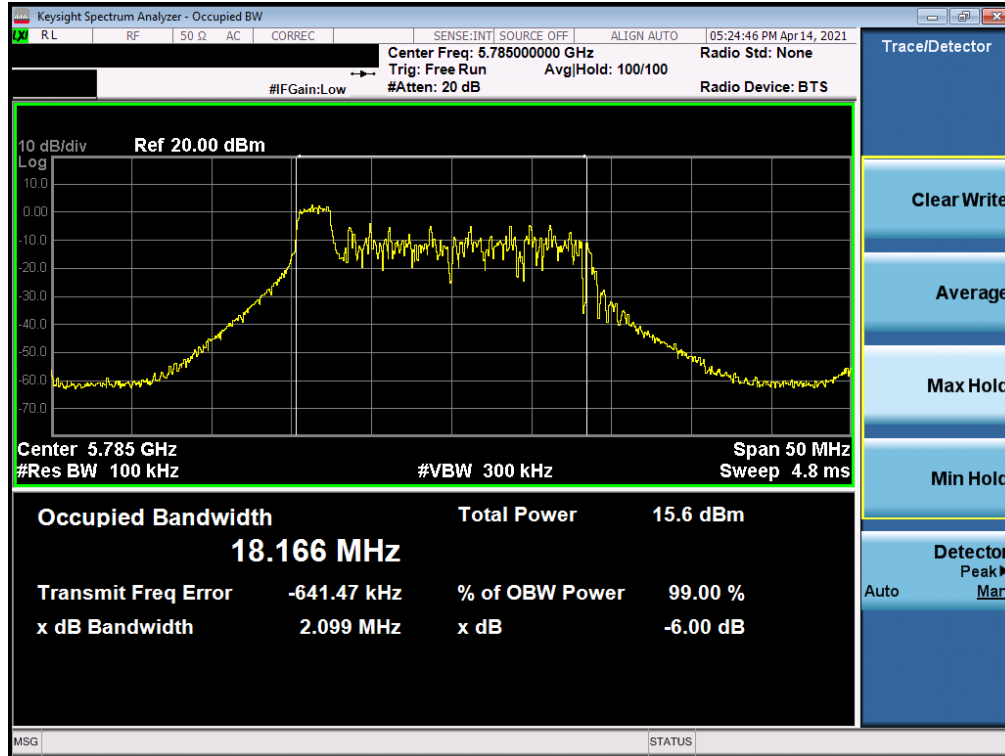
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3	5745	149	ax (20MHz)	26T	MCS0	2.12
	5785	157	ax (20MHz)	26T	MCS0	2.10
	5825	165	ax (20MHz)	26T	MCS0	6.34
	5755	151	ax (40MHz)	26T	MCS0	2.18
	5795	159	ax (40MHz)	26T	MCS0	2.20
	5775	155	ax (80MHz)	26T	MCS0	2.90

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

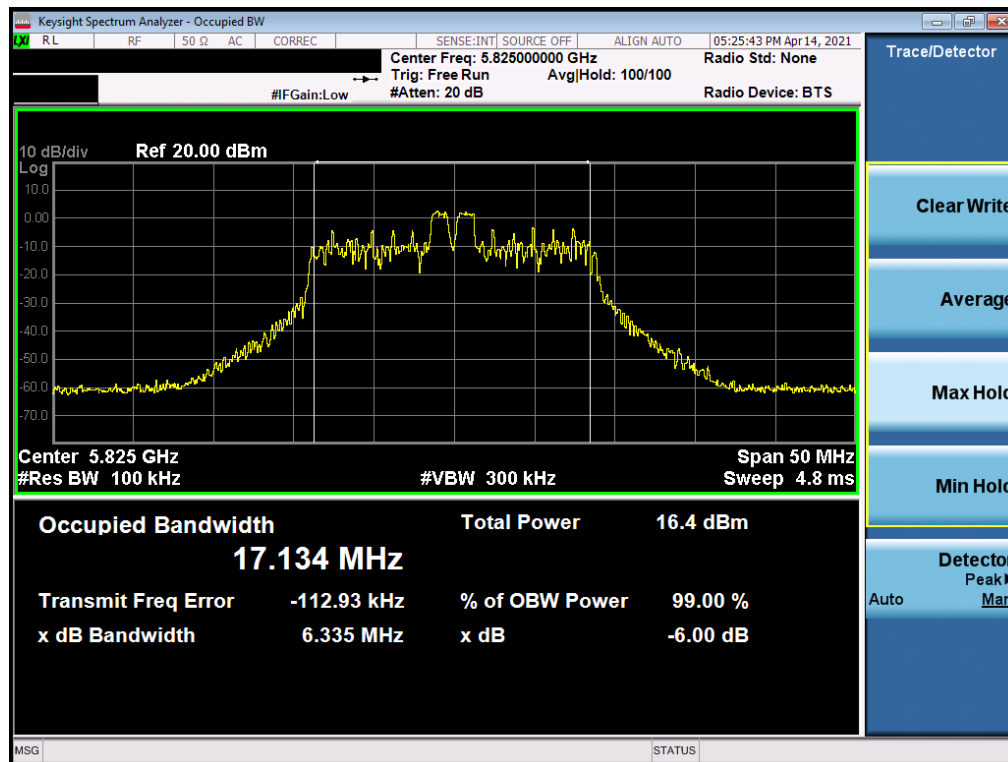


Plot 7-107. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 76 of 204

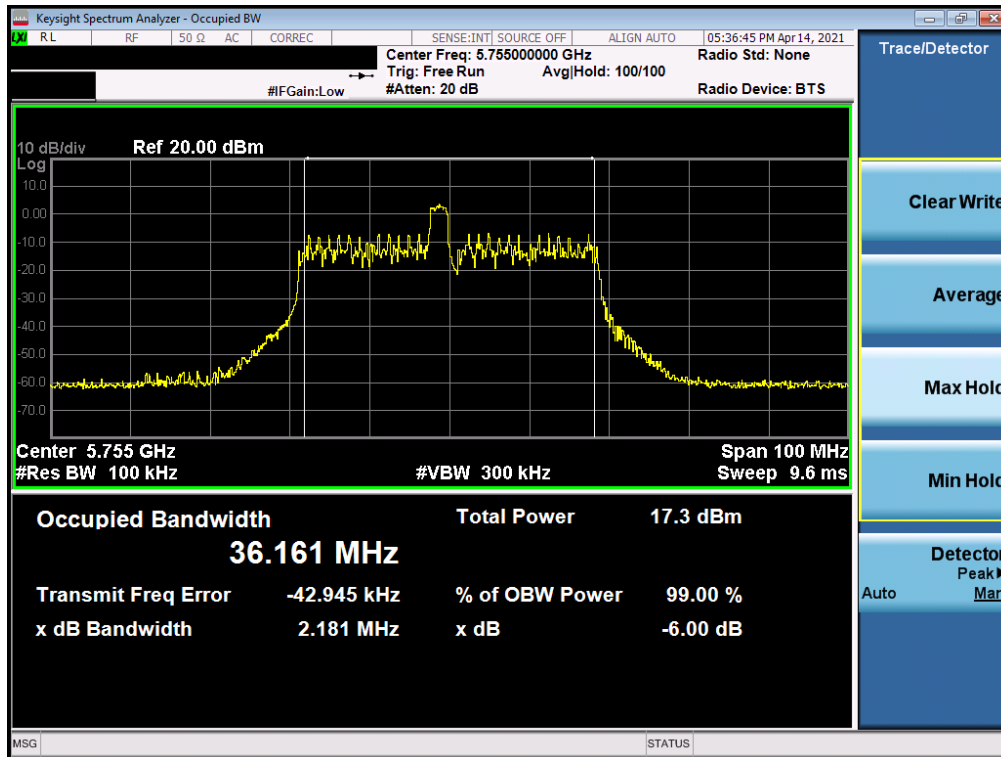


Plot 7-108. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

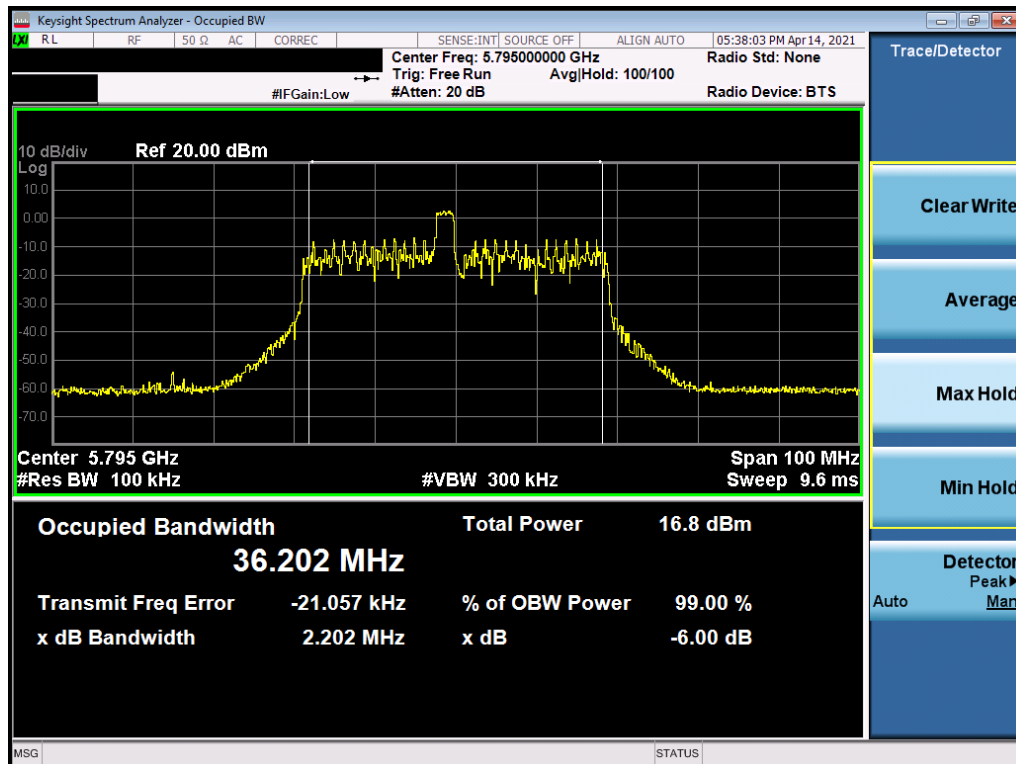


Plot 7-109. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 77 of 204

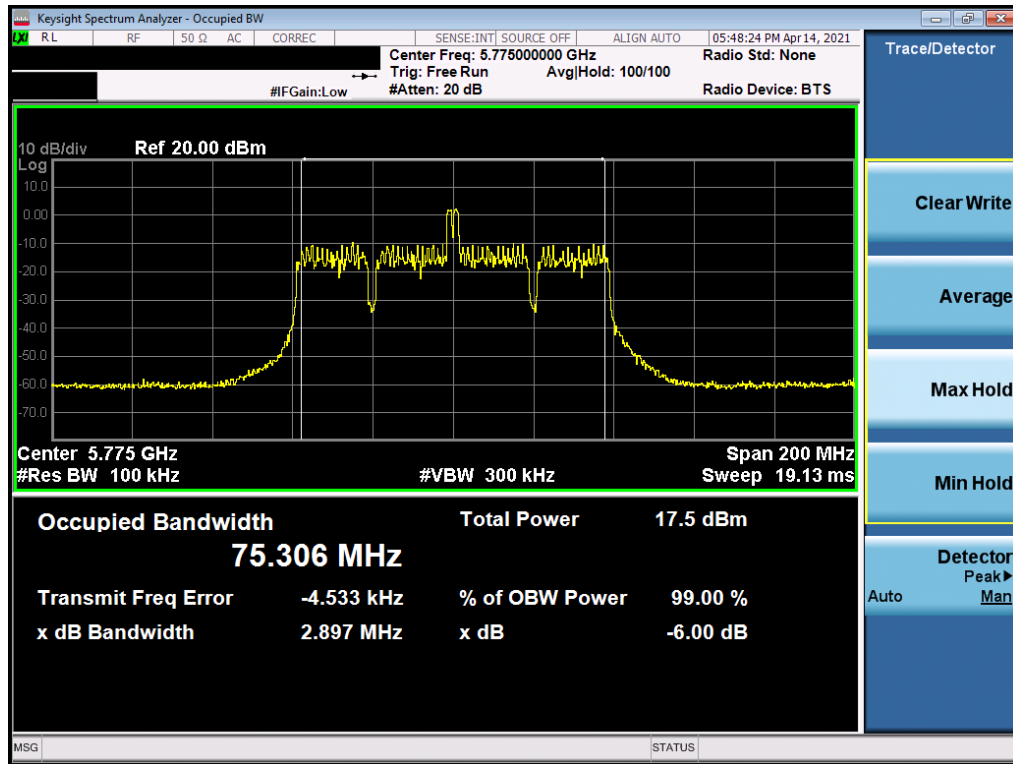


Plot 7-110. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)



Plot 7-111. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 78 of 204



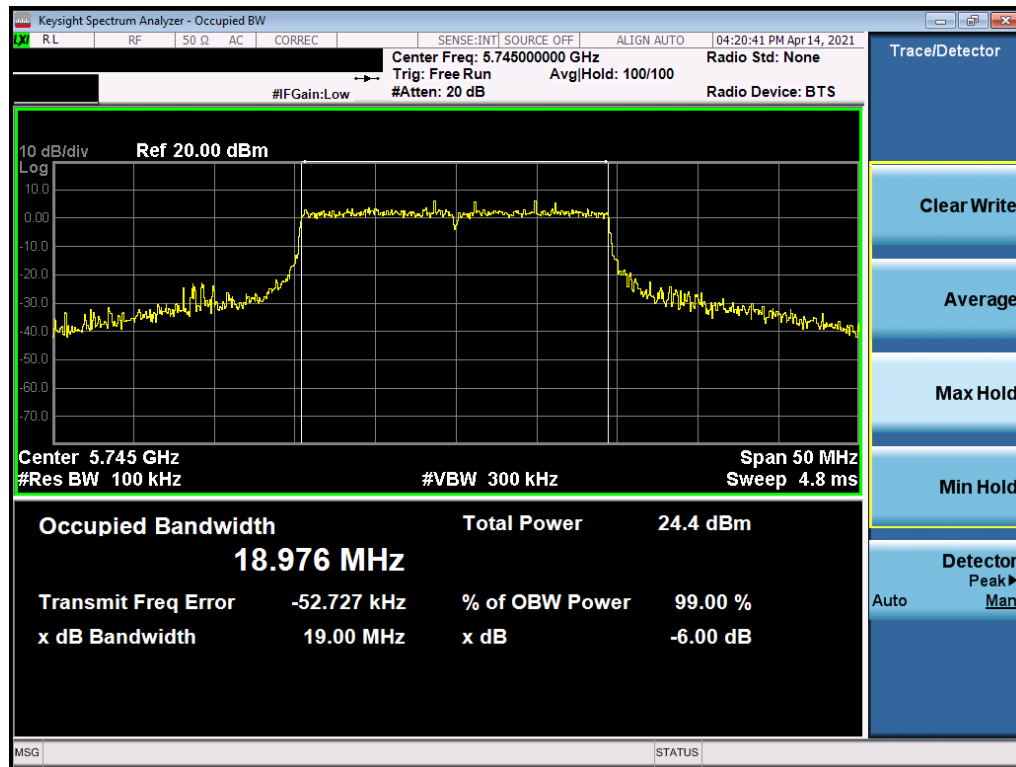
Plot 7-112. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 79 of 204

MIMO Antenna 1 - 6dB Bandwidth Measurements (Full Tones)

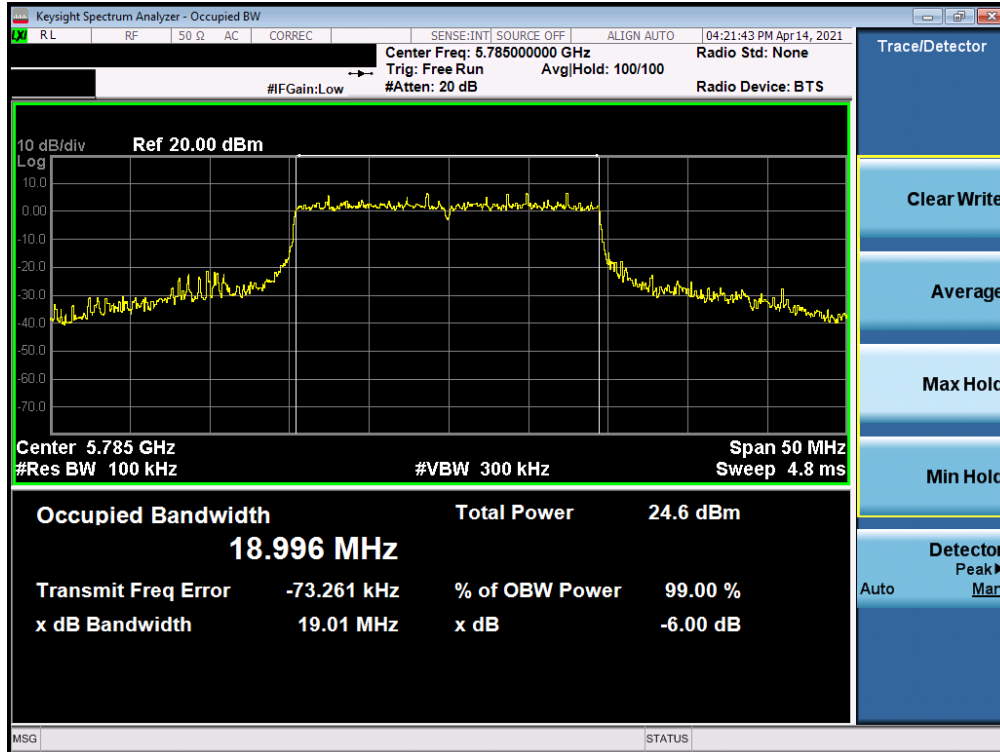
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3	5745	149	ax (20MHz)	242T	MCS0	19.00
	5785	157	ax (20MHz)	242T	MCS0	19.01
	5825	165	ax (20MHz)	242T	MCS0	19.04
	5755	151	ax (40MHz)	484T	MCS0	38.02
	5795	159	ax (40MHz)	484T	MCS0	37.88
	5775	155	ax (80MHz)	996T	MCS0	78.08

Table 7-8. Conducted Bandwidth Measurements MIMO ANT1 (Full Tones)

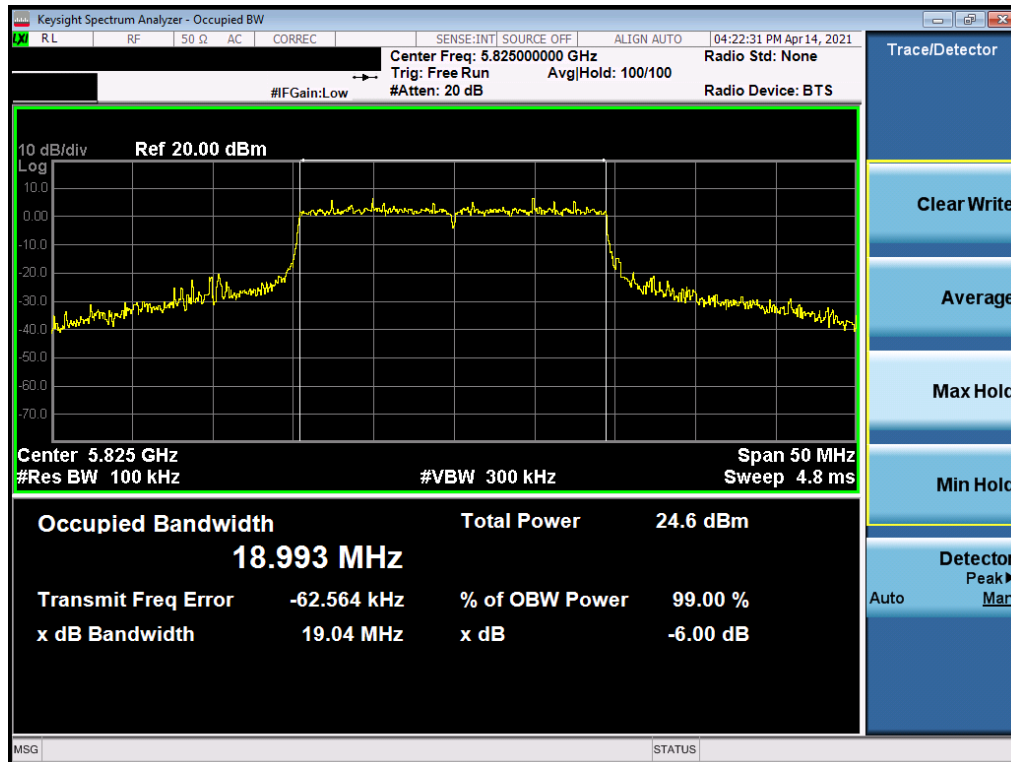


Plot 7-113. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 80 of 204

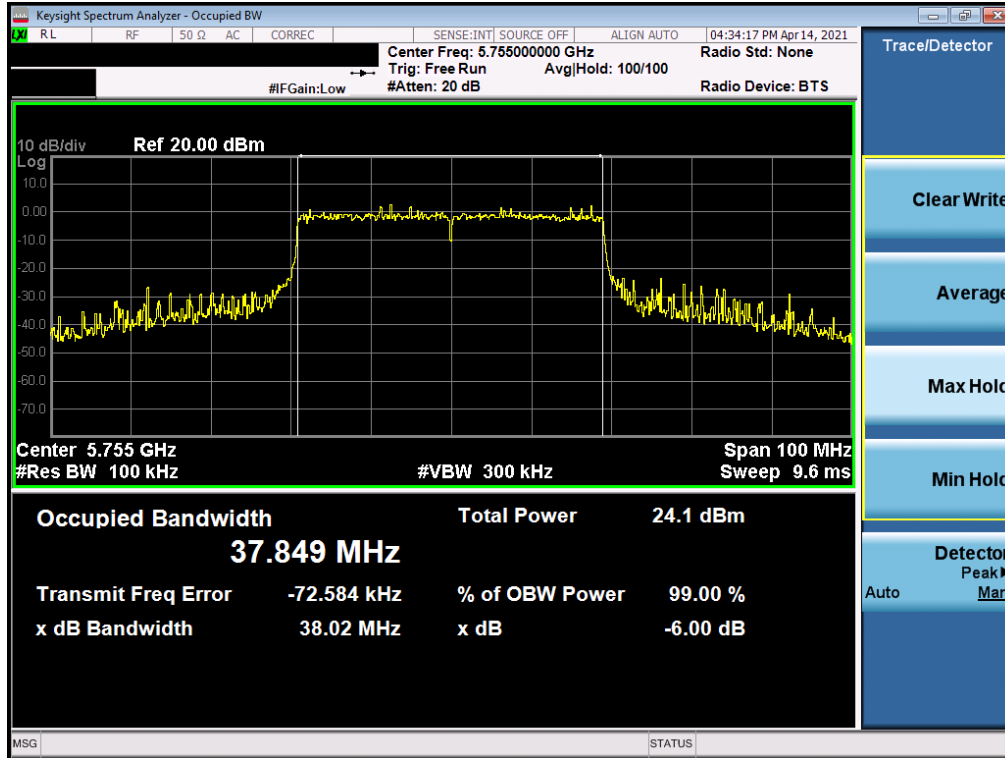


Plot 7-114. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 157)

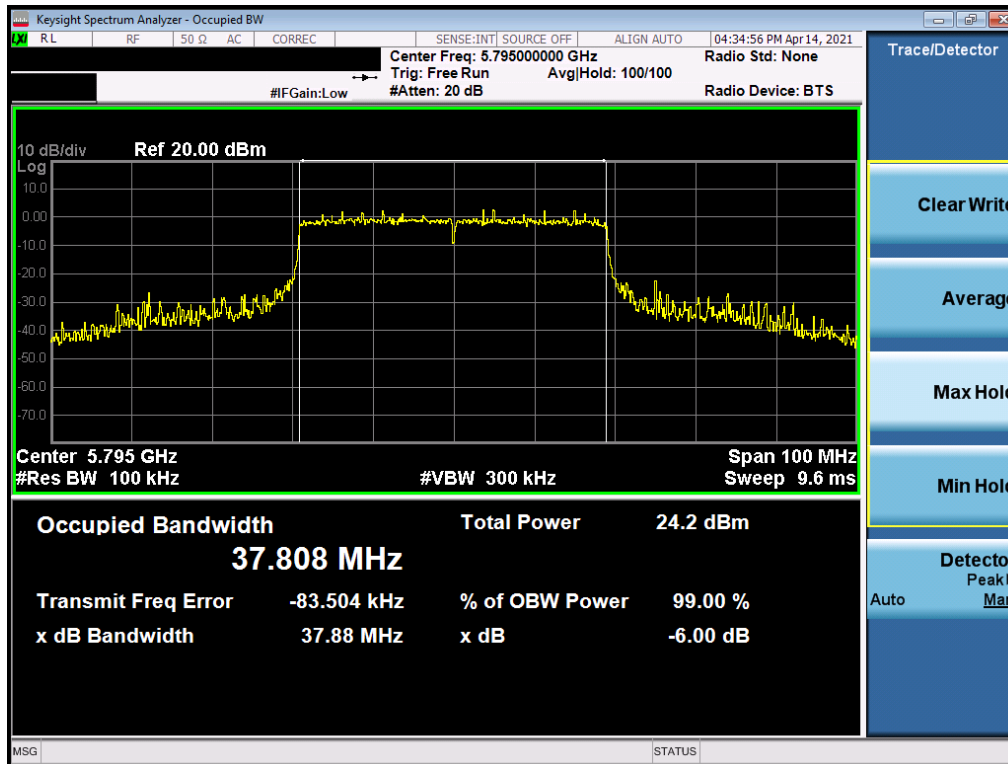


Plot 7-115. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 81 of 204

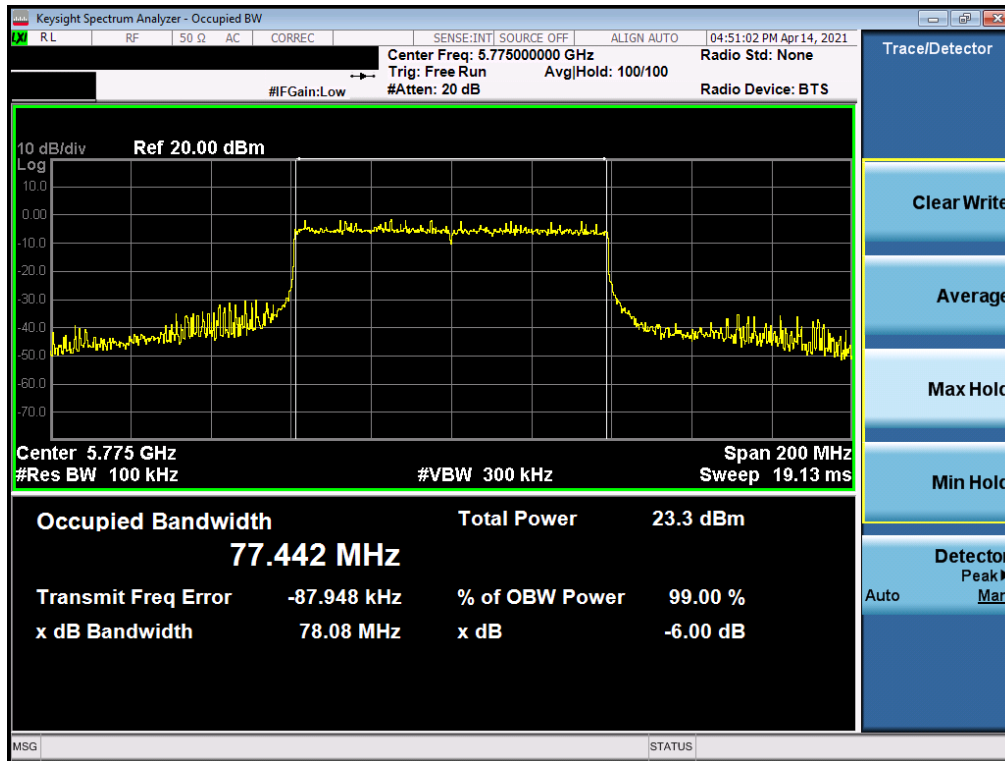


Plot 7-116. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 151)



Plot 7-117. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 82 of 204



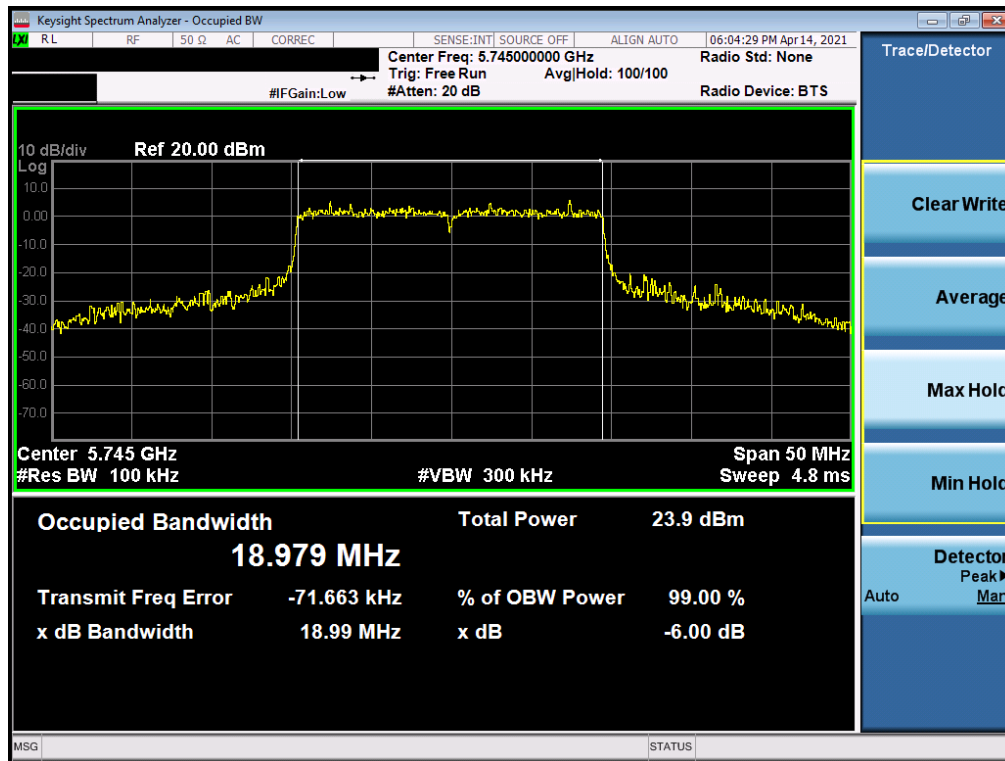
Plot 7-118. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11ax – 996 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 83 of 204

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

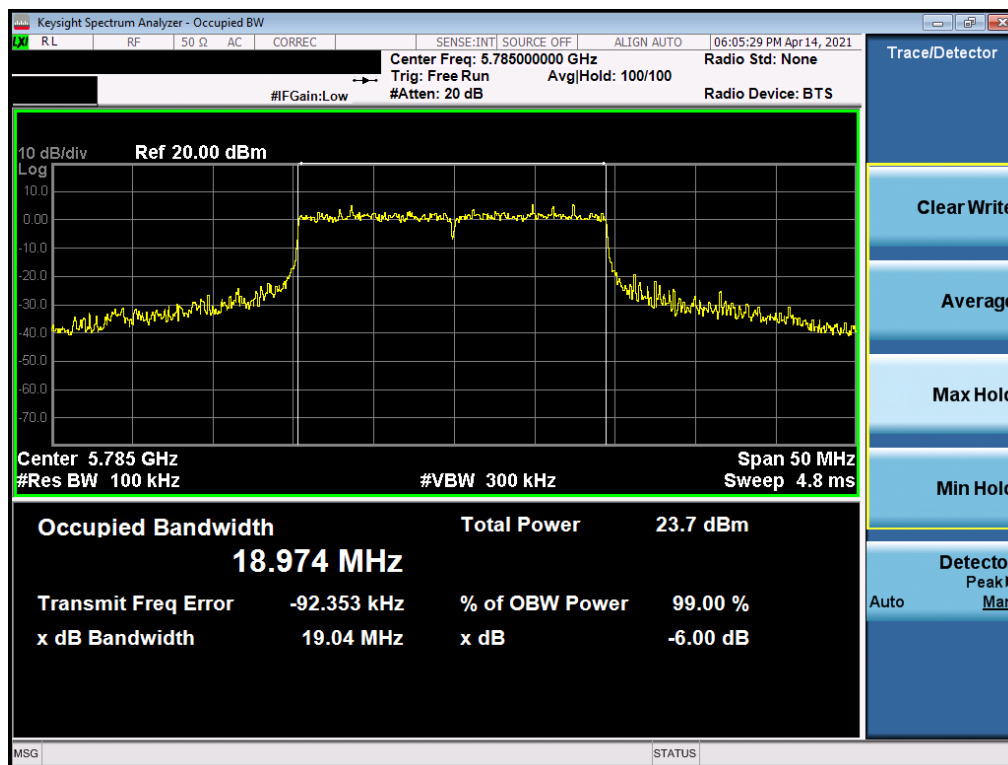
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured 6dB Bandwidth [MHz]
Band 3	5745	149	ax (20MHz)	242T	MCS0	19.00
	5785	157	ax (20MHz)	242T	MCS0	19.04
	5825	165	ax (20MHz)	242T	MCS0	18.88
	5755	151	ax (40MHz)	484T	MCS0	38.09
	5795	159	ax (40MHz)	484T	MCS0	37.98
	5775	155	ax (80MHz)	996T	MCS0	78.26

Table 7-9. Conducted Bandwidth Measurements MIMO ANT2 (Full Tones)

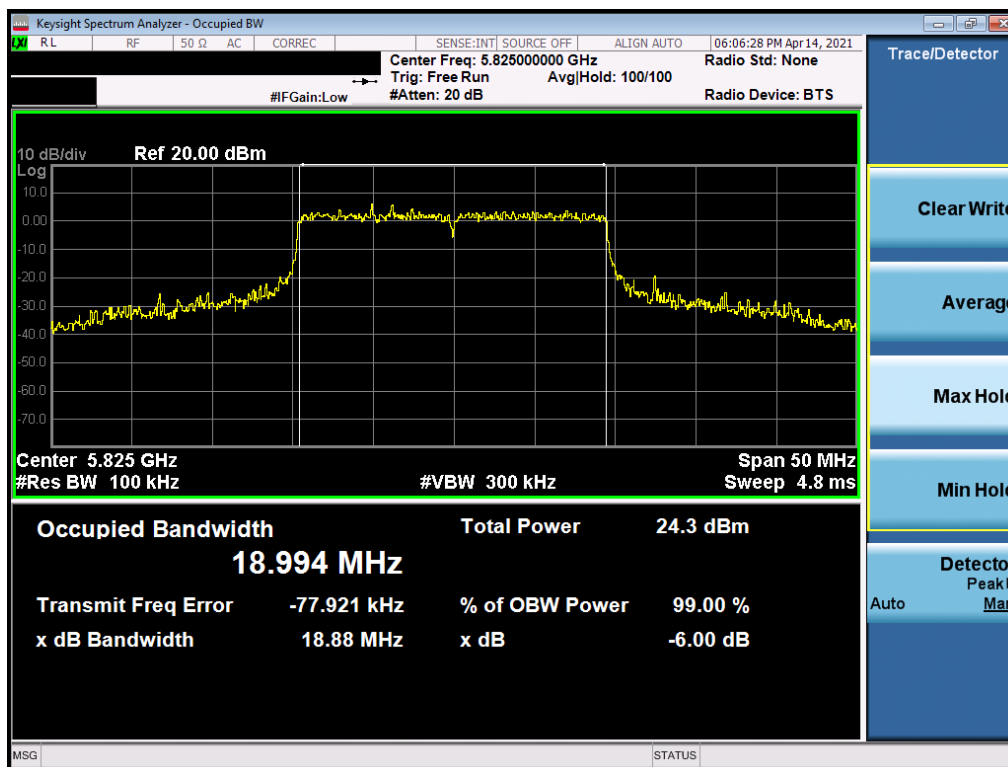


Plot 7-119. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 84 of 204

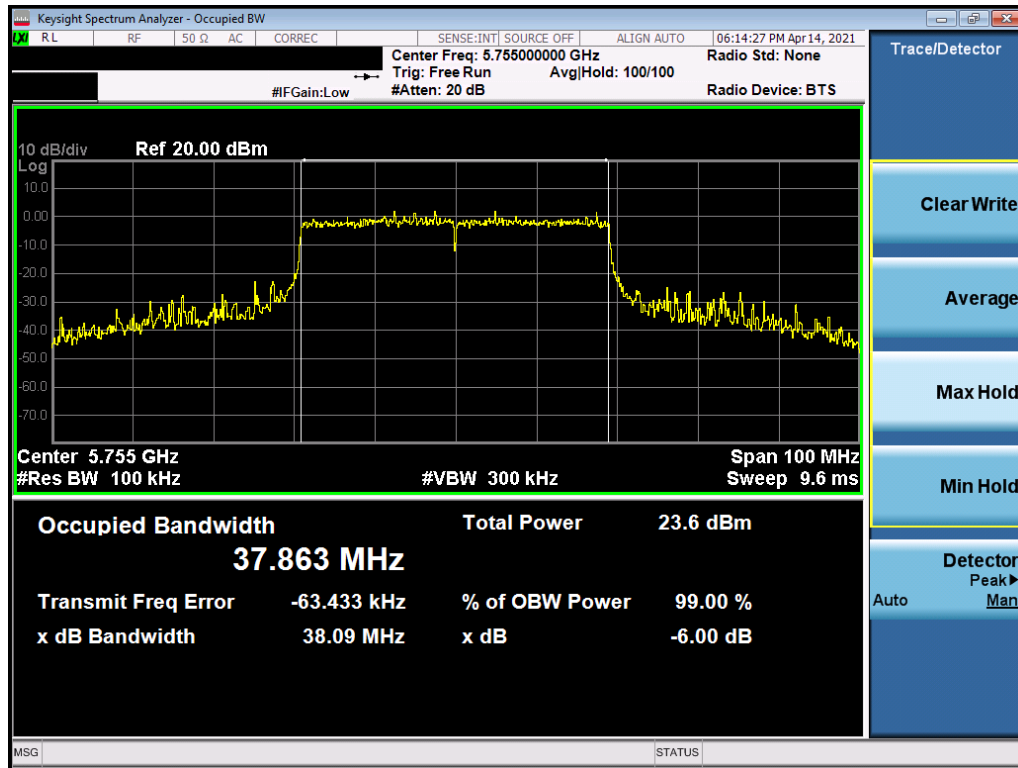


Plot 7-120. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 157)

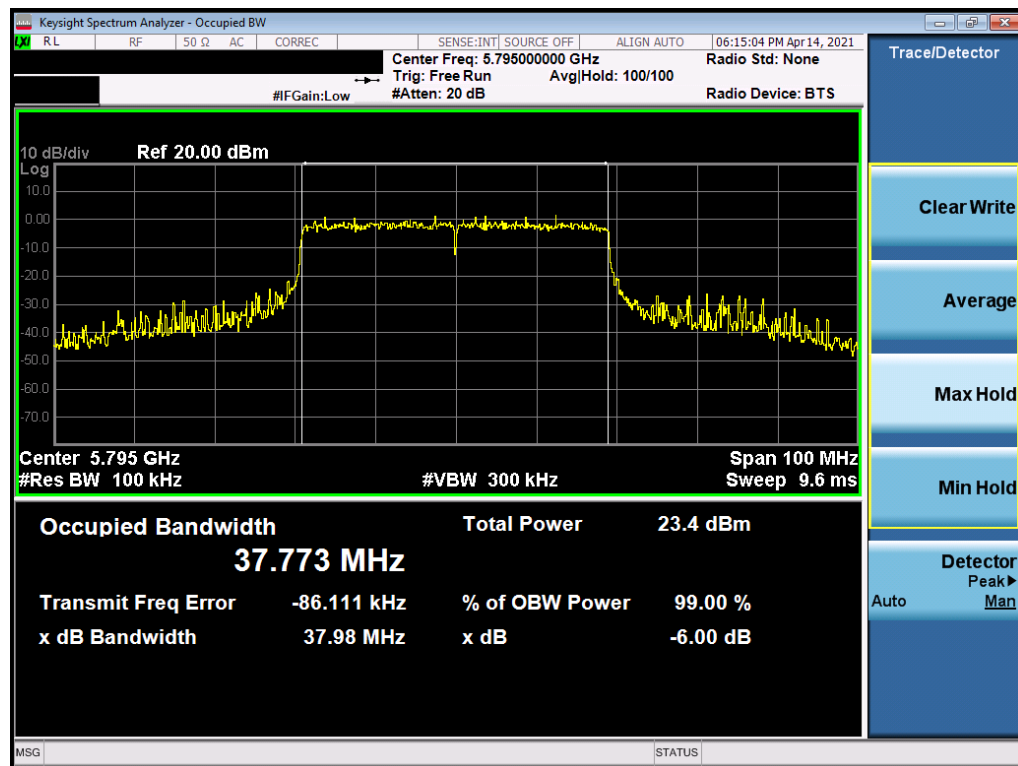


Plot 7-121. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11ax – 242 Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 85 of 204

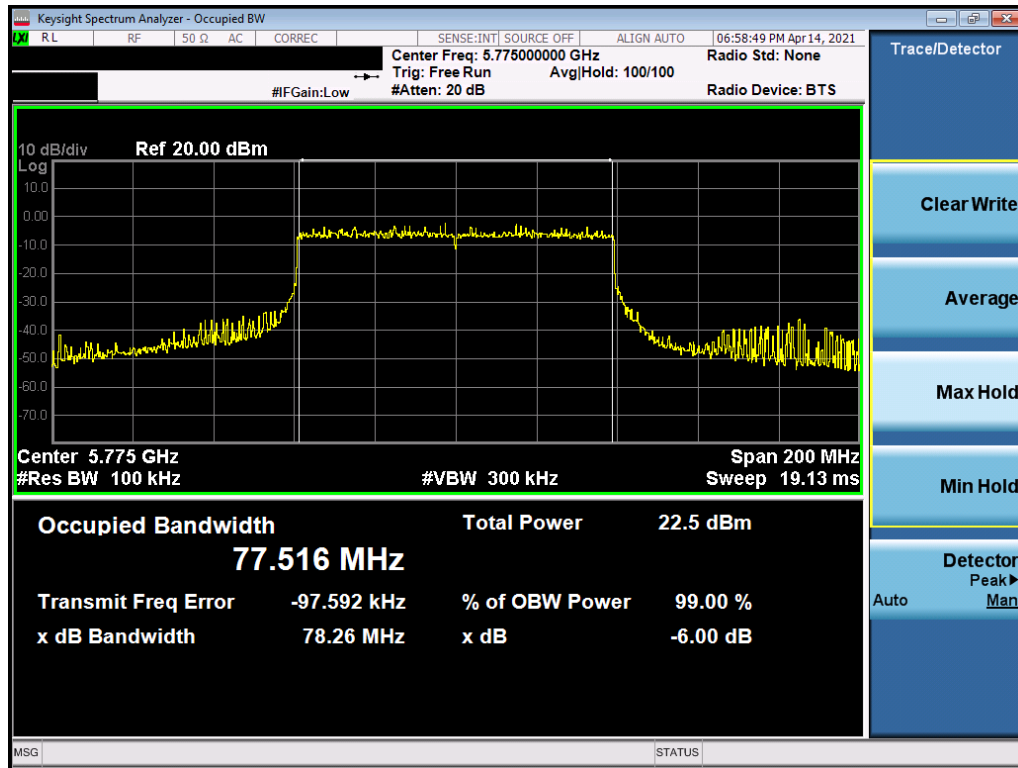


Plot 7-122. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 151)



Plot 7-123. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11ax – 484 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 86 of 204



Plot 7-124. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11ax – 996 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 87 of 204

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 $11 \text{ dBm} + 10\log_{10}(26\text{dB BW}) = 11 \text{ dBm} + 10\log_{10}(N/A) = N/\text{AdBm}$. 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 $11 \text{ dBm} + 10\log_{10}(26\text{dB BW}) = 11 \text{ dBm} + 10\log_{10}(N/A) = N/\text{AdBm}$. 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: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 88 of 204

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]	Directional Ant Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					0			4			8								
					ANT1	ANT2	MIMO	ANT	ANT2	MIMO	ANT1	ANT2	MIMO						
					ANT1	ANT2	MIMO	ANT	ANT2	MIMO	ANT1	ANT2	MIMO						
	5180	36	AVG	26T	7.95	7.47	10.73	7.94	7.44	10.71	7.79	7.34	10.58	23.98	-13.25	-0.22	10.51	23.01	-12.50
	5200	40	AVG	26T	7.86	7.45	10.67	7.86	7.39	10.64	7.73	7.28	10.52	23.98	-13.31	-0.22	10.45	23.01	-12.56
	5240	48	AVG	26T	7.98	7.31	10.67	7.95	7.35	10.67	7.82	7.27	10.56	23.98	-13.31	-0.22	10.45	23.01	-12.56
	5260	52	AVG	26T	8.11	7.24	10.71	8.08	7.26	10.70	7.93	7.17	10.58	23.47	-12.76	-0.51	10.20	30.00	-19.80
	5280	56	AVG	26T	7.97	7.17	10.60	8.01	7.21	10.64	7.89	7.10	10.52	23.47	-12.51	-0.51	10.13	30.00	-19.87
	5320	64	AVG	26T	7.87	7.05	10.49	7.87	7.11	10.52	7.74	6.98	10.39	23.47	-12.95	-0.51	10.01	30.00	-19.99
	5500	100	AVG	26T	7.73	7.72	10.74	7.81	7.76	10.80	7.60	7.64	10.63	22.80	-12.00	-0.76	10.04	30.00	-19.96
	5600	120	AVG	26T	7.82	7.78	10.81	7.91	7.68	10.81	7.85	7.83	10.85	22.80	-11.95	-0.76	10.09	-	-
	5720	144	AVG	26T	7.77	7.73	10.76	7.82	7.65	10.75	7.73	7.66	10.71	22.80	-12.04	-0.76	10.00	30.00	-20.00
	5745	149	AVG	26T	7.77	7.81	10.80	7.75	7.76	10.77	7.62	7.71	10.68	30.00	-19.20	-2.25	8.55	-	-
	5785	157	AVG	26T	7.85	7.36	10.62	7.84	7.31	10.59	7.75	7.27	10.53	30.00	-19.38	-2.25	8.37	-	-
	5825	165	AVG	26T	7.87	7.66	10.78	7.88	7.75	10.83	7.67	7.54	10.62	30.00	-19.17	-2.25	10.83	-	-

Table 7-10. 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]	Directional Ant Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					0			8			17								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
	5190	38	AVG	26T	7.62	7.28	10.46	8.05	7.60	10.84	7.51	7.16	10.35	23.98	-13.14	-0.22	10.62	23.01	-12.39
	5230	46	AVG	26T	8.01	7.30	10.68	8.22	7.43	10.85	7.55	7.01	10.30	23.98	-13.13	-0.22	10.63	23.01	-12.38
	5270	54	AVG	26T	7.80	6.91	10.39	8.18	7.30	10.77	7.62	6.84	10.26	23.47	-12.70	-0.51	10.26	30.00	-19.74
	5310	62	AVG	26T	7.71	6.83	10.30	8.11	7.20	10.69	7.49	6.69	10.12	23.47	-12.78	-0.51	10.18	30.00	-19.82
	5510	102	AVG	26T	7.55	7.47	10.52	7.90	7.81	10.87	7.34	7.33	10.35	22.80	-11.93	-0.76	10.11	30.00	-19.89
	5590	118	AVG	26T	7.66	7.53	10.61	8.01	7.94	10.99	7.56	7.46	10.52	22.80	-11.81	-0.73	10.26	-	-
	5710	142	AVG	26T	7.64	7.57	10.62	7.94	7.85	10.91	7.37	7.23	10.31	22.80	-11.89	-0.76	10.15	30.00	-19.85
	5755	151	AVG	26T	7.60	7.46	10.54	7.83	7.83	10.84	7.31	7.36	10.35	30.00	-19.16	-2.25	8.59	-	-
	5795	159	AVG	26T	7.62	7.08	10.37	7.99	7.48	10.75	7.46	6.97	10.23	30.00	-19.25	-2.25	8.50	-	-

Table 7-11. 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]	Direction al Ant Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					0			18			36											
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO									
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO									
5210	42	AVG	26T	8.30	7.40	10.88	8.30	7.34	10.86	7.75	6.95	10.38	23.98	-13.10	-0.22	10.66	23.01	-12.35				
5290	58	AVG	26T	8.16	7.11	10.68	8.30	7.21	10.80	7.71	6.72	10.25	23.47	-12.67	-0.51	10.29	23.01	-12.72				
5530	106	AVG	26T	7.90	7.62	10.77	8.05	7.84	10.96	7.46	7.24	10.36	22.80	-11.84	-0.76	10.20	30.00	-19.80				
5610	122	AVG	26T	8.01	7.71	10.87	8.11	7.83	10.98	7.98	7.73	10.87	22.80	-11.82	-0.76	10.22	-	-				
5690	138	AVG	26T	7.95	7.81	10.89	8.11	7.84	10.99	7.67	7.38	10.54	22.80	-11.81	-0.76	10.23	30.00	-19.77				
5775	155	AVG	26T	8.03	7.38	10.73	8.16	7.43	10.82	7.64	7.08	10.38	30.00	-19.18	-2.25	8.57	-	-				

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

5GHz (160MHz BW L)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Direction al Ant Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					0			18			36								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5250	50	AVG	26T	8.19	7.37	10.81	8.37	7.53	10.98	8.27	7.46	10.89	23.98	-13.00	-0.22	10.76	23.01	-12.25	
5570	114	AVG	26T	7.35	7.09	10.23	7.85	7.39	10.64	7.81	7.17	10.51	23.47	-12.83	-0.76	9.88	-	-	

Table 7-13. MIMO 160MHz BW(L) (UNII) Maximum Conducted Output Power (26 Tones)

5GHz (160MHz BW U)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducte d Power Limit [dBm]	Conducte d Power Margin [dB]	Direction al Ant Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					0			18			36								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
5250	50	AVG	26T		8.21	7.54	10.90	7.97	7.30	10.66	7.31	6.80	10.07	23.98	-13.08	-0.22	10.68	23.01	-12.33
5570	114	AVG	26T		8.24	7.68	10.98	8.09	7.57	10.85	7.52	7.02	10.29	23.47	-12.49	-0.76	10.22	-	-

Table 7-14. MIMO 160MHz BW(U) (UNII) Maximum Conducted Output Power (26 Tones)

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 89 of 204

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]	Directional Ant Gain [dBi]	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					37			39			40								
					ANT1	ANT2	MIMO	ANT	ANT2	MIMO	ANT1	ANT2	MIMO						
	5180	36	AVG	52T	10.54	10.17	13.37	10.48	10.19	13.35	10.42	10.16	13.30	23.98	-9.61	-0.22	13.15	23.01	-9.86
	5200	40	AVG	52T	10.53	10.21	13.38	10.49	10.19	13.35	10.43	10.20	13.33	23.98	-10.60	-0.22	13.16	23.01	-9.85
	5240	48	AVG	52T	10.55	10.05	13.32	10.67	10.13	13.42	10.53	9.95	13.26	23.98	-10.56	-0.22	13.20	23.01	-9.81
	5260	52	AVG	52T	10.67	10.00	13.36	10.68	10.05	13.39	10.65	10.09	13.39	23.47	-10.08	-0.51	12.88	30.00	-17.12
	5280	56	AVG	52T	10.63	9.99	13.33	10.75	10.08	13.44	10.54	10.02	13.30	23.47	-10.03	-0.51	12.93	30.00	-17.07
	5320	64	AVG	52T	10.63	9.98	13.33	10.61	10.03	13.34	10.51	9.89	13.22	23.47	-12.61	-0.51	12.83	30.00	-17.17
	5500	100	AVG	52T	10.37	9.99	13.19	10.37	10.04	13.22	10.40	10.08	13.25	22.80	-9.55	-0.76	12.49	30.00	-17.51
	5600	120	AVG	52T	10.55	10.18	13.38	10.60	10.12	13.38	10.64	10.26	13.46	22.80	-9.34	-0.76	12.70	-	-
	5720	144	AVG	52T	10.73	10.20	13.48	10.62	10.06	13.36	10.63	10.08	13.37	22.80	-9.32	-0.76	12.72	30.00	-17.28
	5745	149	AVG	52T	10.43	10.05	13.25	10.65	10.28	13.48	10.52	10.16	13.35	30.00	-16.52	-2.25	11.23	-	-
	5785	157	AVG	52T	10.72	9.79	13.29	10.68	9.71	13.23	10.54	9.61	13.11	30.00	-16.71	-2.25	11.04	-	-
	5825	165	AVG	52T	10.82	10.09	13.48	10.84	10.07	13.48	10.75	9.99	13.40	30.00	-16.52	-2.25	11.23	-	-

Table 7-15. 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]	Directional Ant Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					37			40			44								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
	5190	38	AVG	52T	10.01	9.65	12.84	10.30	9.93	13.13	9.86	9.44	12.67	23.98	-10.85	-0.22	12.91	23.01	-10.10
	5230	46	AVG	52T	10.08	9.46	12.79	10.41	9.73	13.09	9.77	9.35	12.58	23.98	-10.89	-0.22	12.87	23.01	-10.14
	5270	54	AVG	52T	10.13	9.43	12.80	10.41	9.73	13.09	9.83	9.34	12.60	23.47	-10.38	-0.51	12.58	30.00	-17.42
	5310	62	AVG	52T	10.01	9.51	12.78	10.39	9.73	13.08	9.85	9.29	12.59	23.47	-10.39	-0.51	12.57	30.00	-17.43
	5510	102	AVG	52T	10.38	9.98	13.19	10.68	10.25	13.48	10.22	9.87	13.06	22.80	-9.32	-0.76	12.72	30.00	-17.28
	5590	118	AVG	52T	10.57	10.02	13.31	10.69	10.25	13.49	10.42	9.94	13.20	22.80	-9.31	-0.73	12.76	-	-
	5710	142	AVG	52T	9.64	9.57	12.62	9.92	9.85	12.90	9.51	9.52	12.53	22.80	-9.90	-0.76	12.14	30.00	-17.86
	5755	151	AVG	52T	10.42	10.05	13.25	10.71	10.22	13.48	10.24	9.89	13.08	30.00	-16.52	-2.25	11.23	-	-
	5795	159	AVG	52T	10.63	9.62	13.16	10.91	10.00	13.49	10.43	9.48	12.99	30.00	-16.51	-2.25	11.24	-	-

Table 7-16. 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]	Direction al Ant Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					37			44			52											
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO									
	5210	42	AVG	52T	10.46	9.56	13.04	10.59	9.74	13.20	9.89	9.29	12.61	23.98	-10.78	-0.22	12.98	23.01	-10.03			
	5290	58	AVG	52T	10.38	9.57	13.00	10.50	9.67	13.12	9.89	9.23	12.58	23.47	-10.35	-0.51	12.61	23.01	-10.40			
	5530	106	AVG	52T	10.62	9.97	13.32	10.74	10.15	13.47	10.54	10.02	13.30	22.80	-9.33	-0.76	12.71	30.00	-17.29			
	5610	122	AVG	52T	9.79	9.54	12.68	9.99	9.79	12.90	9.62	9.64	12.64	22.80	-9.90	-0.76	11.92	-	-			
	5690	138	AVG	52T	9.91	9.74	12.84	10.21	10.04	13.14	9.56	9.47	12.53	22.80	-9.66	-0.76	12.38	30.00	-17.62			
	5775	155	AVG	52T	10.34	9.30	12.86	10.53	9.38	13.00	10.10	8.99	12.59	30.00	-17.00	-2.25	10.75	-	-			

Table 7-17. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

5GHz (160MHz BW L)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Direction al Ant Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					37			44			52								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
	5250	50	AVG	52T	10.06	9.31	12.71	10.24	9.49	12.89	10.07	9.34	12.73	23.98	-11.09	-0.22	12.67	23.01	-10.34
	5570	114	AVG	52T	9.63	9.53	12.59	10.03	9.58	12.82	10.01	9.51	12.78	23.47	-10.65	-0.76	12.06	-	-

Table 7-18. MIMO 160MHz BW(L) (UNII) Maximum Conducted Output Power (52 Tones)

5GHz (160MHz BW U)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducte d Power Limit [dBm]	Conducte d Power Margin [dB]	Direction al Ant Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					37			44			52								
					ANT1	ANT2	MIMO	ANT1	ANT2	MIMO	ANT1	ANT2	MIMO						
	5250	50	AVG	52T	10.40	9.73	13.09	10.10	9.53	12.83	9.59	9.41	12.51	23.98	-10.89	-0.22	12.87	23.01	-10.14
	5570	114	AVG	52T	11.00	9.85	13.47	10.94	9.80	13.42	10.39	9.36	12.92	23.47	-10.00	-0.76	12.71	-	-

Table 7-19. MIMO 160MHz BW(U) (UNII) Maximum Conducted Output Power (52 Tones)

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 90 of 204

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								
					ANT1	ANT2	MIMO	ANT	ANT2	MIMO						
	5180	36	AVG	106T	12.01	11.19	14.63	11.93	11.25	14.61	23.98	-9.35	-0.22	14.41	23.01	-8.60
	5200	40	AVG	106T	11.97	11.21	14.62	12.03	11.32	14.70	23.98	-9.28	-0.22	14.48	23.01	-8.53
	5240	48	AVG	106T	12.18	11.15	14.71	12.12	11.08	14.64	23.98	-9.27	-0.22	14.49	23.01	-8.52
	5260	52	AVG	106T	12.12	11.14	14.67	11.98	11.10	14.57	23.47	-8.80	-0.51	14.16	30.00	-15.84
	5280	56	AVG	106T	12.00	11.10	14.58	11.99	11.10	14.58	23.47	-8.89	-0.51	14.07	30.00	-15.93
	5320	64	AVG	106T	12.18	11.08	14.68	12.17	11.06	14.66	23.47	-8.79	-0.51	14.17	30.00	-15.83
	5500	100	AVG	106T	12.17	11.42	14.82	12.14	11.46	14.82	22.80	-7.98	-0.76	14.06	30.00	-15.94
5600	120	AVG	106T	12.18	11.75	14.98	12.14	11.76	14.96	22.80	-7.82	-0.76	14.22	-	-	
5720	144	AVG	106T	11.78	11.64	14.72	11.69	11.55	14.63	22.80	-8.08	-0.76	13.96	30.00	-16.04	
5745	149	AVG	106T	11.66	11.50	14.59	11.76	11.51	14.65	30.00	-15.35	-2.25	12.40	-	-	
5785	157	AVG	106T	11.74	11.42	14.59	11.85	11.51	14.69	30.00	-15.31	-2.25	12.44	-	-	
5825	165	AVG	106T	11.95	11.31	14.65	11.93	11.18	14.58	30.00	-15.35	-2.25	12.40	-	-	

Table 7-20. 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	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	11.96	11.27	14.64	12.04	11.33	14.71	11.73	11.13	14.45	23.98	-9.27	-0.22	14.49	23.01	-8.52
	5230	46	AVG	106T	12.15	11.09	14.66	12.39	11.42	14.94	12.06	11.06	14.60	23.98	-9.04	-0.22	14.72	23.01	-8.29
	5270	54	AVG	106T	12.04	11.09	14.60	12.14	11.19	14.70	11.78	10.87	14.36	23.47	-8.77	-0.51	14.19	30.00	-15.81
	5310	62	AVG	106T	12.25	11.02	14.69	12.39	11.24	14.86	12.02	10.89	14.50	23.47	-8.61	-0.51	14.35	30.00	-15.65
	5510	102	AVG	106T	12.15	11.39	14.80	12.35	11.49	14.95	12.00	11.29	14.67	22.80	-7.85	-0.76	14.19	30.00	-15.81
	5590	118	AVG	106T	11.61	11.34	14.49	11.86	11.54	14.71	11.78	11.60	14.70	22.80	-8.09	-0.73	13.98	-	-
	5710	142	AVG	106T	11.70	11.44	14.58	11.74	11.54	14.65	11.50	11.27	14.40	22.80	-8.15	-0.76	13.89	30.00	-16.11
5755	151	AVG	106T	11.59	11.24	14.43	11.91	11.63	14.78	11.55	11.18	14.38	30.00	-15.22	-2.25	12.53	-	-	
5795	159	AVG	106T	11.62	11.22	14.43	11.91	11.49	14.72	11.51	10.87	14.21	30.00	-15.28	-2.25	12.47	-	-	

Table 7-21. 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]	Direction al Ant Gain	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	12.19	11.07	14.68	12.34	11.19	14.81	11.83	10.80	14.36	23.98	-9.17	-0.22	14.59	23.01	-8.42
	5290	58	AVG	106T	12.25	11.14	14.74	12.26	11.13	14.74	11.61	10.81	14.24	23.47	-8.73	-0.51	14.23	23.01	-8.78
	5530	106	AVG	106T	12.30	11.29	14.83	12.36	11.36	14.90	11.81	10.98	14.43	22.80	-7.90	-0.76	14.14	30.00	-15.86
	5610	122	AVG	106T	12.26	11.42	14.87	12.40	11.51	14.99	11.99	11.30	14.67	22.80	-7.81	-0.76	14.23	-	-
	5690	138	AVG	106T	11.86	11.26	14.58	12.04	11.55	14.81	11.51	10.94	14.24	22.80	-7.99	-0.76	14.05	30.00	-15.95
	5775	155	AVG	106T	11.84	11.03	14.46	11.88	11.16	14.55	11.44	10.73	14.11	30.00	-15.45	-2.25	12.21	-	-

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

5GHz (160MHz BW L)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Direction al Ant Gain	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						
	5250	50	AVG	106T	12.27	11.15	14.76	12.47	11.34	14.95	12.42	11.29	14.90	23.98	-9.03	-0.22	14.73	23.01	-8.28
	5570	114	AVG	106T	12.11	11.29	14.73	12.42	11.37	14.94	12.41	11.18	14.85	23.47	-8.53	-0.76	14.18	-	-

Table 7-23. MIMO 160MHz BW(L) (UNII) Maximum Conducted Output Power (106 Tones)

5GHz (160MHz BWU)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducte d Power Limit [dBm]	Conducte d Power Margin [dB]	Direction al Ant Gain	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						
	5250	50	AVG	106T	12.26	11.22	14.78	12.05	11.02	14.58	11.44	10.61	14.06	23.98	-9.20	-0.22	14.56	23.01	-8.45
	5570	114	AVG	106T	12.37	11.20	14.83	12.23	11.08	14.70	11.67	10.63	14.19	23.47	-8.64	-0.76	14.07	-	-

Table 7-24. MIMO 160MHz BW(U) (UNII) Maximum Conducted Output Power (106 Tones)

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 91 of 204

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	106T	18.03	17.67	20.86	23.98	-3.12	-0.22	20.64	23.01	-2.37
	5200	40	AVG	106T	18.02	17.72	20.88	23.98	-3.10	-0.22	20.66	23.01	-2.35
	5240	48	AVG	106T	17.98	17.30	20.66	23.98	-3.32	-0.22	20.44	23.01	-2.57
	5260	52	AVG	106T	18.08	17.38	20.75	23.47	-2.72	-0.51	20.24	30.00	-9.76
	5280	56	AVG	106T	17.79	17.39	20.60	23.47	-2.87	-0.51	20.09	30.00	-9.91
	5320	64	AVG	106T	17.98	17.49	20.75	23.47	-2.72	-0.51	20.24	30.00	-9.76
	5500	100	AVG	106T	17.91	17.86	20.90	22.80	-1.90	-0.76	20.14	30.00	-9.86
	5600	120	AVG	106T	17.69	17.51	20.61	22.80	-2.19	-0.76	19.85	-	-
	5720	144	AVG	106T	17.77	17.56	20.68	22.80	-2.12	-0.76	19.92	30.00	-10.08
	5745	149	AVG	106T	17.81	17.56	20.70	30.00	-9.30	-2.25	18.45	-	-
	5785	157	AVG	106T	17.77	17.33	20.57	30.00	-9.43	-2.25	18.32	-	-
5825	165	AVG	106T	17.65	17.51	20.59	30.00	-9.41	-2.25	18.34	-	-	

Table 7-25. 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	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	17.01	16.53	19.79	16.86	16.39	19.64	23.98	-3.19	-0.22	19.57	23.01	-3.44
	5230	46	AVG	242T	17.26	16.62	19.96	16.97	16.27	19.64	23.98	-4.02	-0.22	19.74	23.01	-3.27
	5270	54	AVG	242T	17.05	16.16	19.64	16.83	16.10	19.49	23.47	-3.83	-0.51	19.13	30.00	-10.87
	5310	62	AVG	242T	17.08	16.26	19.70	16.79	16.10	19.47	23.47	-3.77	-0.51	19.19	30.00	-10.81
	5510	102	AVG	242T	16.81	16.59	19.71	16.71	16.52	19.63	22.80	-3.09	-0.76	18.95	30.00	-11.05
	5590	118	AVG	242T	17.07	16.67	19.88	17.15	16.80	19.99	22.80	-2.81	-0.73	19.26	-	-
	5710	142	AVG	242T	16.98	16.55	19.78	16.87	16.53	19.71	22.80	-3.02	-0.76	19.02	30.00	-10.98
5755	151	AVG	242T	16.94	16.71	19.84	16.74	16.47	19.62	30.00	-10.16	-2.25	17.59	-	-	
5795	159	AVG	242T	17.05	16.32	19.71	16.89	16.22	19.58	30.00	-10.29	-2.25	17.46	-	-	

Table 7-26. 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	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	ANT1	ANT2	MIMO						
	5210	42	AVG	242T	16.42	15.33	18.92	16.49	15.39	18.99	16.18	15.17	18.71	23.98	-4.99	-0.22	18.77	23.01	-4.24			
	5290	58	AVG	242T	16.41	15.19	18.85	16.43	15.21	18.87	16.03	14.93	18.53	23.47	-4.60	-0.51	18.36	23.01	-4.65			
	5530	106	AVG	242T	15.43	15.11	18.28	15.71	15.25	18.50	15.35	15.11	18.24	22.80	-4.30	-0.76	17.74	30.00	-12.26			
	5610	122	AVG	242T	15.70	15.21	18.47	15.64	15.27	18.47	15.63	15.05	18.36	22.80	-4.33	-0.76	17.71	-	-			
	5690	138	AVG	242T	15.70	15.28	18.51	16.16	15.72	18.96	15.53	15.10	18.33	22.80	-3.84	-0.76	18.20	30.00	-11.80			
	5775	155	AVG	242T	15.86	15.02	18.47	15.77	14.95	18.39	15.49	14.60	18.08	30.00	-11.53	-2.25	18.47	-	-			

Table 7-27. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

5GHz (160MHz BW L)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Direction al Ant Gain	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						
5250	50	AVG	242T	15.40	14.42	17.95	15.47	14.42	17.99	15.36	14.39	17.91	23.98	-5.99	-0.22	17.77	23.01	-5.24	
5570	114	AVG	242T	15.08	14.70	17.90	15.15	14.69	17.94	15.27	14.59	17.95	23.47	-5.52	-0.76	17.19	-	-	

Table 7-28. MIMO 160MHz BW(L) (UNII) Maximum Conducted Output Power (242 Tones)

5GHz (160MHz BW U)	Freq [MHz]	Channel	Detector	Tones	RU Index									Conducte d Power Limit [dBm]	Conducte d Power Margin [dB]	Direction al Ant Gain	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						
	5250	50	AVG	242T	15.30	14.36	17.87	15.18	14.21	17.73	14.55	13.86	17.23	23.98	-6.11	-0.22	17.65	23.01	-5.36
	5570	114	AVG	242T	15.27	14.58	17.95	15.16	14.46	17.83	14.74	14.12	17.45	23.47	-5.52	-0.76	17.19	-	-

Table 7-29. MIMO 160MHz BW(U) (UNII) Maximum Conducted Output Power (242 Tones)

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 92 of 204

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	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	16.34	16.19	19.28	23.98	-4.70	-0.22	19.06	23.01	-3.95
	5230	46	AVG	484T	17.13	16.43	19.80	23.98	-4.18	-0.22	19.58	23.01	-3.43
	5270	54	AVG	484T	17.06	16.34	19.73	23.47	-3.74	-0.51	19.22	30.00	-10.78
	5310	62	AVG	484T	16.89	16.22	19.58	23.47	-3.89	-0.51	19.07	30.00	-10.93
	5510	102	AVG	484T	16.83	16.56	19.71	22.80	-3.09	-0.76	18.95	30.00	-11.05
	5590	118	AVG	484T	17.01	16.72	19.88	22.80	-2.92	-0.73	19.15	-	-
	5710	142	AVG	484T	16.97	16.59	19.79	22.80	-3.01	-0.76	19.03	30.00	-10.97
5755	151	AVG	484T	16.83	16.56	19.71	30.00	-10.29	-2.25	17.46	-	-	
5795	159	AVG	484T	16.98	16.37	19.70	30.00	-10.30	-2.25	17.45	-	-	

Table 7-30. 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	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	15.91	14.92	18.45	15.63	14.69	18.20	23.98	-5.53	-0.22	18.23	23.01	-4.78
5290	58	AVG	484T	15.76	14.68	18.26	15.69	14.52	18.15	23.47	-5.21	-0.51	17.75	23.01	-5.26	
5530	106	AVG	484T	15.56	15.23	18.41	15.38	15.08	18.24	22.80	-4.39	-0.76	17.65	30.00	-12.35	
5610	122	AVG	484T	15.66	15.19	18.44	15.47	15.04	18.27	22.80	-4.36	-0.76	17.68	-	-	
5690	138	AVG	484T	15.75	15.26	18.52	15.59	15.21	18.41	22.80	-4.28	-0.76	17.76	30.00	-12.24	
5775	155	AVG	484T	15.77	14.87	18.35	15.51	14.60	18.09	30.00	-11.65	-2.25	16.10	-	-	

Table 7-31. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

5GHz (160MHz BW L)	Freq [MHz]	Channel	Detector	Tones	RU Index						Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Direction al Ant Gain	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						
	5250	50	AVG	484T	15.40	14.43	17.95	15.27	14.36	17.85	23.98	-6.03	-0.22	17.73	23.01	-5.28
5570	114	AVG	484T	15.12	14.57	17.86	15.23	14.55	17.91	23.47	-5.56	-0.76	17.15	-	-	

Table 7-32. MIMO 160MHz BW(L) (UNII) Maximum Conducted Output Power (484 Tones)

5GHz (160MHz BW U)	Freq [MHz]	Channel	Detector	Tones	RU Index						Conducte d Power Limit [dBm]	Conducte d Power Margin [dB]	Direction al Ant Gain	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						
	5250	50	AVG	484T	15.04	14.16	17.63	14.56	13.94	17.27	23.98	-6.35	-0.22	17.41	23.01	-5.60
5570	114	AVG	484T	15.15	14.40	17.80	14.72	14.15	17.45	23.47	-5.67	-0.76	17.04	-	-	

Table 7-33. MIMO 160MHz BW(U) (UNII) Maximum Conducted Output Power (484 Tones)

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 93 of 204

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	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	14.82	18.32	23.98	-5.66	-0.22	18.10	23.01	-4.91
	5290	58	AVG	996T	15.80	14.70	18.29	23.47	-5.18	-0.51	17.78	23.01	-5.23
	5530	106	AVG	996T	15.36	14.99	18.19	22.80	-4.61	-0.76	17.43	30.00	-12.57
	5610	122	AVG	996T	15.75	15.39	18.58	22.80	-4.22	-0.76	17.82	-	-
	5690	138	AVG	996T	15.77	15.13	18.47	22.80	-4.33	-0.76	17.71	30.00	-12.29
	5775	155	AVG	996T	15.65	14.82	18.27	30.00	-11.73	-2.25	16.02	-	-

Table 7-34. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)

5GHz (160MHz BW L)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducted Power Limit [dBm]	Conducted Power Margin [dB]	Direction al Ant Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					67								
					ANT1	ANT2	MIMO						
					5250	50	AVG	996T	15.25	14.29	17.81	23.98	-6.17
5570	114	AVG	996T		15.01	14.42	17.74	23.47	-5.73	-0.76	16.98	-	-

Table 7-35. MIMO 160MHz BW(L) (UNII) Maximum Conducted Output Power (996 Tones)

5GHz (160MHz BW U)	Freq [MHz]	Channel	Detector	Tones	RU Index			Conducte d Power Limit [dBm]	Conducte d Power Margin [dB]	Direction al Ant Gain	Max e.i.r.p. [dBm]	Max e.i.r.p. Limit [dBm]	e.i.r.p. Margin [dB]
					67								
					ANT1	ANT2	MIMO						
	5250	50	AVG	996T	14.81	13.92	17.40	23.98	-6.58	-0.22	17.18	23.01	-5.83
	5570	114	AVG	996T	14.84	14.14	17.51	23.47	-5.96	-0.76	16.75	-	-

Table 7-36. MIMO 160MHz BW(U) (UNII) Maximum Conducted Output Power (996 Tones)

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset			Page 94 of 204

Note:

Per ANSI C63.10-2013 and KDB 662911 v02r01 Section E1), 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 802.11n (20MHz BW) mode, the average conducted output power was measured to be 17.59 dBm for Antenna-1 and 17.53 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

$$(17.59 \text{ dBm} + 17.53 \text{ dBm}) = (57.41 \text{ mW} + 56.62 \text{ mW}) = 114.04 \text{ mW} = 20.57 \text{ dBm}$$

Sample e.i.r.p. Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average MIMO conducted power was calculated to be 20.57 dBm with directional gain of -0.22 dBi.

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

$$20.57 \text{ dBm} + -0.22 \text{ dBi} = 20.35 \text{ dBm}$$

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 95 of 204

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 $\geq 2 \times (\text{span}/\text{RBW})$
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: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 96 of 204

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	6.78	4.18	8.68	11.00	-2.32
	5200	40	ax (20MHz)	26T	MCS0	3.06	4.21	6.68	11.00	-4.32
	5240	48	ax (20MHz)	26T	MCS0	3.25	4.02	6.66	11.00	-4.34
	5190	38	ax (40MHz)	26T	MCS0	5.89	3.97	8.04	11.00	-2.96
	5230	46	ax (40MHz)	26T	MCS0	6.17	4.20	8.31	11.00	-2.69
Band 1/2A	5210	42	ax (80MHz)	26T	MCS0	6.21	3.95	8.23	11.00	-2.77
	5210	50	ax (160MHz L)	26T	MCS0	6.68	3.13	8.27	11.00	-2.73
Band 2A	5210	50	ax (160MHz U)	26T	MCS0	7.46	4.40	9.20	11.00	-1.80
	5260	52	ax (20MHz)	26T	MCS0	2.94	3.88	6.45	11.00	-4.55
	5280	56	ax (20MHz)	26T	MCS0	1.81	3.14	5.54	11.00	-5.46
	5320	64	ax (20MHz)	26T	MCS0	0.91	2.91	5.03	11.00	-5.97
	5270	54	ax (40MHz)	26T	MCS0	4.94	3.97	7.49	11.00	-3.51
Band 2C	5310	62	ax (40MHz)	26T	MCS0	6.81	4.20	8.71	11.00	-2.29
	5290	58	ax (80MHz)	26T	MCS0	6.16	3.02	7.88	11.00	-3.12
	5500	100	ax (20MHz)	26T	MCS0	1.49	3.80	5.81	11.00	-5.19
	5600	120	ax (20MHz)	26T	MCS0	1.17	4.83	6.38	11.00	-4.62
	5720	144	ax (20MHz)	26T	MCS0	5.65	4.60	8.17	11.00	-2.83
	5510	102	ax (40MHz)	26T	MCS0	5.86	4.59	8.29	11.00	-2.71
	5590	118	ax (40MHz)	26T	MCS0	6.67	4.94	8.90	11.00	-2.10
	5710	142	ax (40MHz)	26T	MCS0	6.93	4.88	9.04	11.00	-1.96
	5530	106	ax (80MHz)	26T	MCS0	5.69	3.69	7.82	11.00	-3.18
	5610	122	ax (80MHz)	26T	MCS0	6.07	3.75	8.07	11.00	-2.93
	5690	138	ax (80MHz)	26T	MCS0	5.60	5.58	8.60	11.00	-2.40
	5610	114	ax (160MHz L)	26T	MCS0	6.91	3.17	8.44	11.00	-2.56
	5690	114	ax (160MHz U)	26T	MCS0	7.96	4.60	9.61	11.00	-1.39

Table 7-37. 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	Margin [dB]
Band 3	5745	149	ax (20MHz)	26T	MCS0	2.85	2.45	5.67	30.00	-24.33
	5785	157	ax (20MHz)	26T	MCS0	3.40	1.70	5.64	30.00	-24.36
	5825	165	ax (20MHz)	26T	MCS0	3.35	2.40	5.91	30.00	-24.09
	5755	151	ax (40MHz)	26T	MCS0	3.59	2.45	6.07	30.00	-23.93
	5795	159	ax (40MHz)	26T	MCS0	3.14	1.91	5.58	30.00	-24.42
	5775	155	ax (80MHz)	26T	MCS0	2.32	1.69	5.03	30.00	-24.97

Table 7-38. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 97 of 204

	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	6.40	5.13	8.82	11.00	-2.18
	5200	40	ax (20MHz)	242T	MCS0	6.41	5.30	8.90	11.00	-2.10
	5240	48	ax (20MHz)	242T	MCS0	6.55	5.05	8.88	11.00	-2.12
	5190	38	ax (40MHz)	484T	MCS0	1.98	0.99	4.53	11.00	-6.47
	5230	46	ax (40MHz)	484T	MCS0	2.77	1.10	5.02	11.00	-5.98
	5210	42	ax (80MHz)	996T	MCS0	-1.57	-2.49	1.00	11.00	-10.00
Band 1/2A	5210	42	ax (80MHz)	26T	MCS0	-3.22	-3.79	-0.49	11.00	-11.49
	5210	42	ax (80MHz)	26T	MCS0	-3.00	-4.44	-0.65	11.00	-11.65
Band 2A	5260	52	ax (20MHz)	242T	MCS0	6.57	4.82	8.79	11.00	-2.21
	5280	56	ax (20MHz)	242T	MCS0	6.30	4.87	8.66	11.00	-2.34
	5320	64	ax (20MHz)	242T	MCS0	6.32	4.94	8.69	11.00	-2.31
	5270	54	ax (40MHz)	484T	MCS0	2.63	1.12	4.95	11.00	-6.05
	5310	62	ax (40MHz)	484T	MCS0	2.46	1.09	4.84	11.00	-6.16
	5290	58	ax (80MHz)	996T	MCS0	-1.86	-2.98	0.63	11.00	-10.37
Band 2C	5500	100	ax (20MHz)	242T	MCS0	6.17	5.17	8.71	11.00	-2.29
	5600	120	ax (20MHz)	242T	MCS0	6.13	5.19	8.70	11.00	-2.30
	5720	144	ax (20MHz)	242T	MCS0	5.84	4.99	8.45	11.00	-2.55
	5510	102	ax (40MHz)	484T	MCS0	2.51	1.51	5.05	11.00	-5.95
	5590	118	ax (40MHz)	484T	MCS0	2.60	1.76	5.21	11.00	-5.79
	5710	142	ax (40MHz)	484T	MCS0	2.32	1.50	4.94	11.00	-6.06
	5530	106	ax (80MHz)	996T	MCS0	-2.11	-2.66	0.63	11.00	-10.37
	5610	122	ax (80MHz)	996T	MCS0	-1.73	-2.39	0.96	11.00	-10.04
	5690	138	ax (80MHz)	996T	MCS0	-1.86	-2.73	0.74	11.00	-10.26
	5610	114	ax (160MHz L)	26T	MCS0	-2.27	-3.70	0.08	11.00	-10.92
	5690	114	ax (160MHz U)	26T	MCS0	-3.03	-3.49	-0.24	11.00	-11.24

Table 7-39. 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	Margin [dB]
Band 3	5745	149	ax (20MHz)	242T	MCS0	3.05	2.27	5.69	30.00	-24.31
	5785	157	ax (20MHz)	242T	MCS0	3.21	2.18	5.74	30.00	-24.26
	5825	165	ax (20MHz)	242T	MCS0	3.18	2.78	5.99	30.00	-24.01
	5755	151	ax (40MHz)	484T	MCS0	-0.40	-1.04	2.30	30.00	-27.70
	5795	159	ax (40MHz)	484T	MCS0	-0.32	-1.20	2.27	30.00	-27.73
	5775	155	ax (80MHz)	996T	MCS0	-4.92	-5.52	-2.20	30.00	-32.20

Table 7-40. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

FCC ID: A3LSMF926B	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 98 of 204

Note:

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 1 and Antenna 2 were first measured separately with reduced Antenna 1 and Antenna 2 powers per manufacture's tune-up document. The measured values were then summed in linear power units then converted back to dBm.

Sample Directional Gain Calculation:

The antenna gain is -4.75 dBi for Antenna-1 and -2.57 dBi for Antenna-2.

$$\begin{aligned}\text{Directional gain} &= 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{\text{ANT}}] \text{ dBi} \\ &= 10 \log[(10^{-4.75/20} + 10^{-2.57/20} / 2] \text{ dBi} \\ &= (-0.22) \text{ dBi}\end{aligned}$$

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.

Antenna 1 + Antenna 2 = MIMO

$$(6.78 \text{ dBm} + 4.18 \text{ dBm}) = (4.76 \text{ mW} + 2.61 \text{ mW}) = 7.37 \text{ mW} = 8.68 \text{ dBm}$$

Sample e.i.r.p Power Spectral Density Calculation:

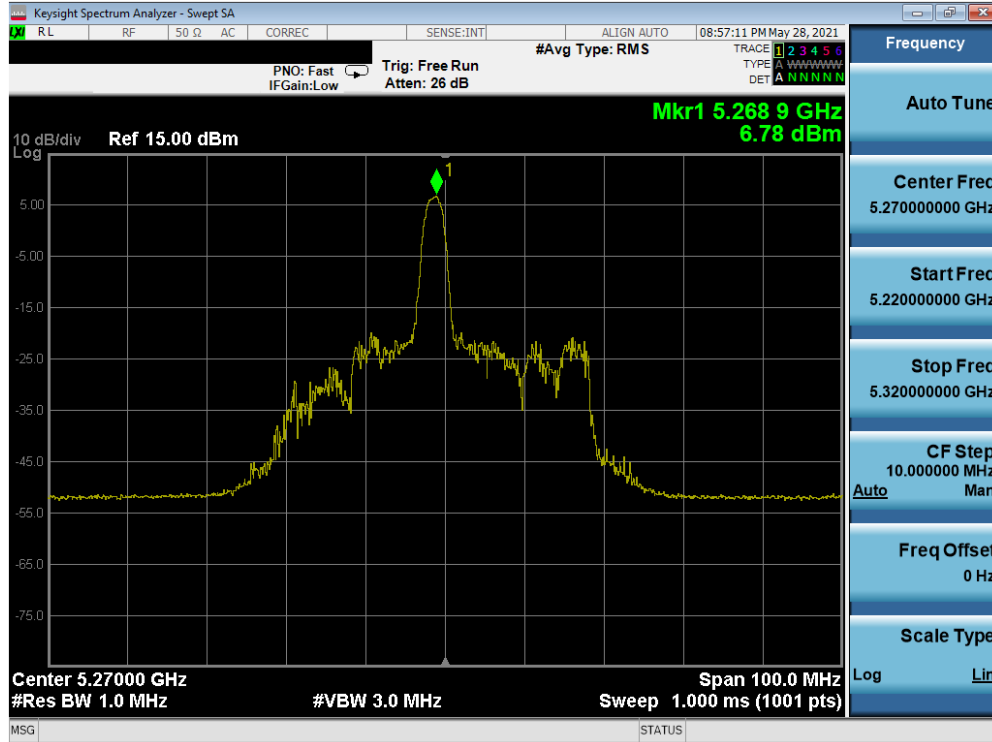
Assuming the average MIMO power density was calculated to be 9.09 dBm with directional gain of -5.12 dBi.

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

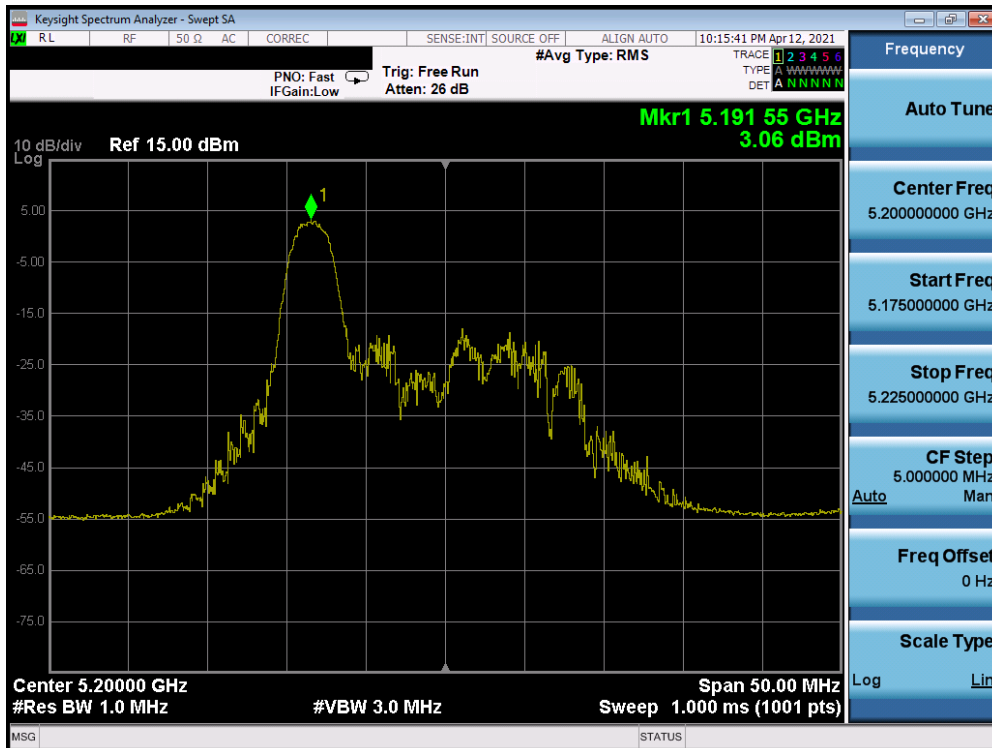
$$8.68 \text{ dBm} + (-0.22) \text{ dBi} = 8.46 \text{ dBm}$$

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 99 of 204

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

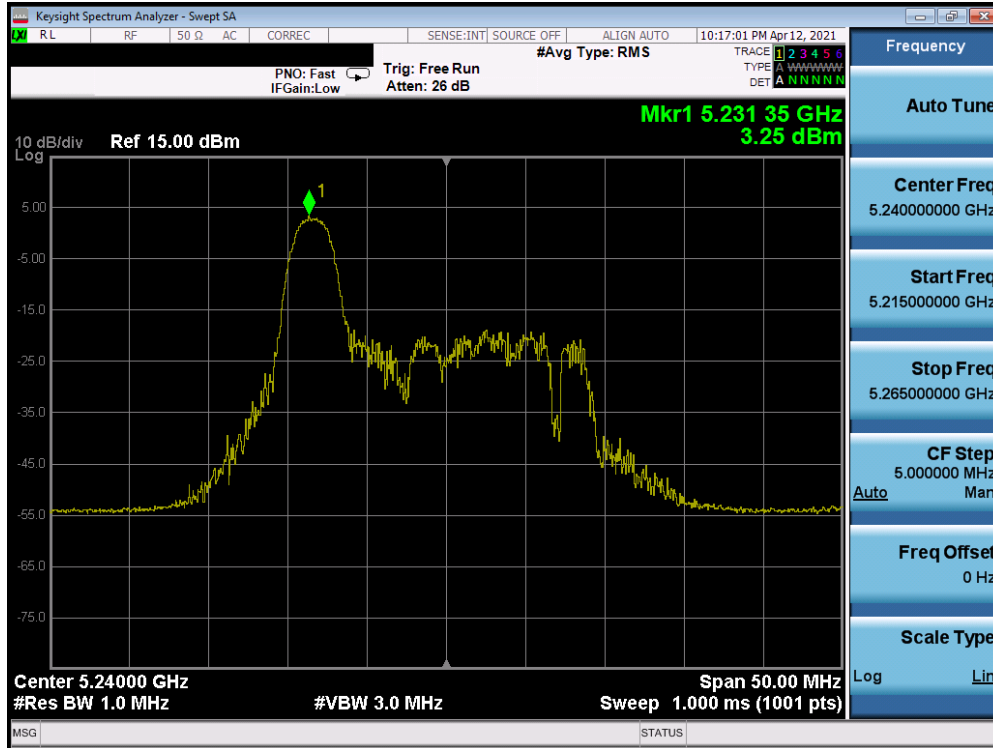


Plot 7-125. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

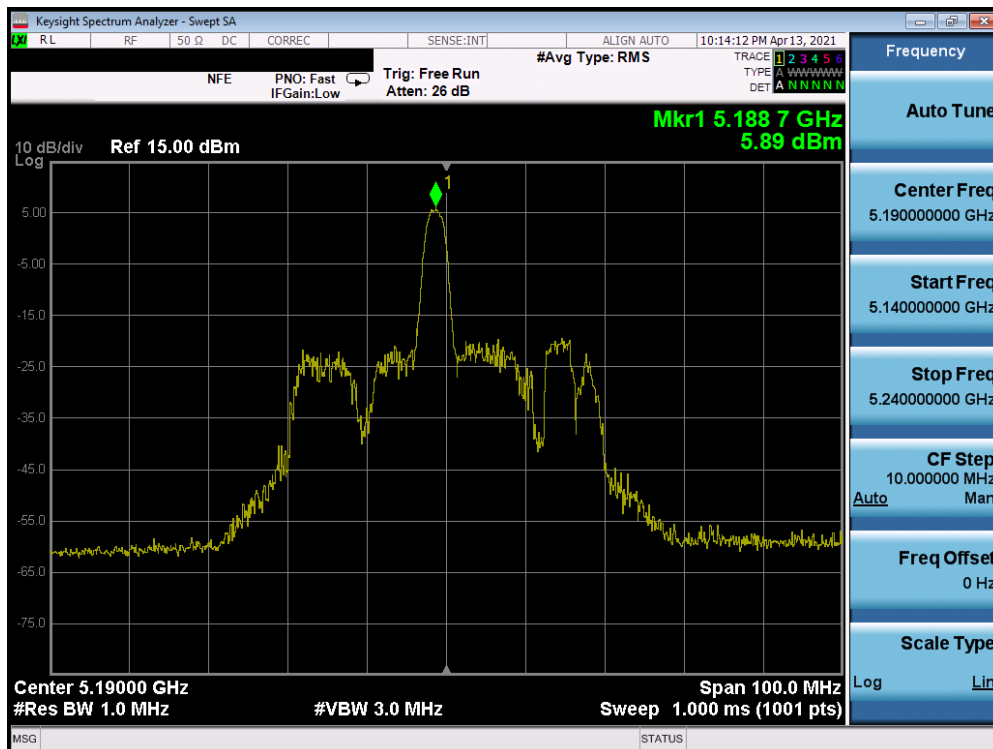


Plot 7-126. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 100 of 204

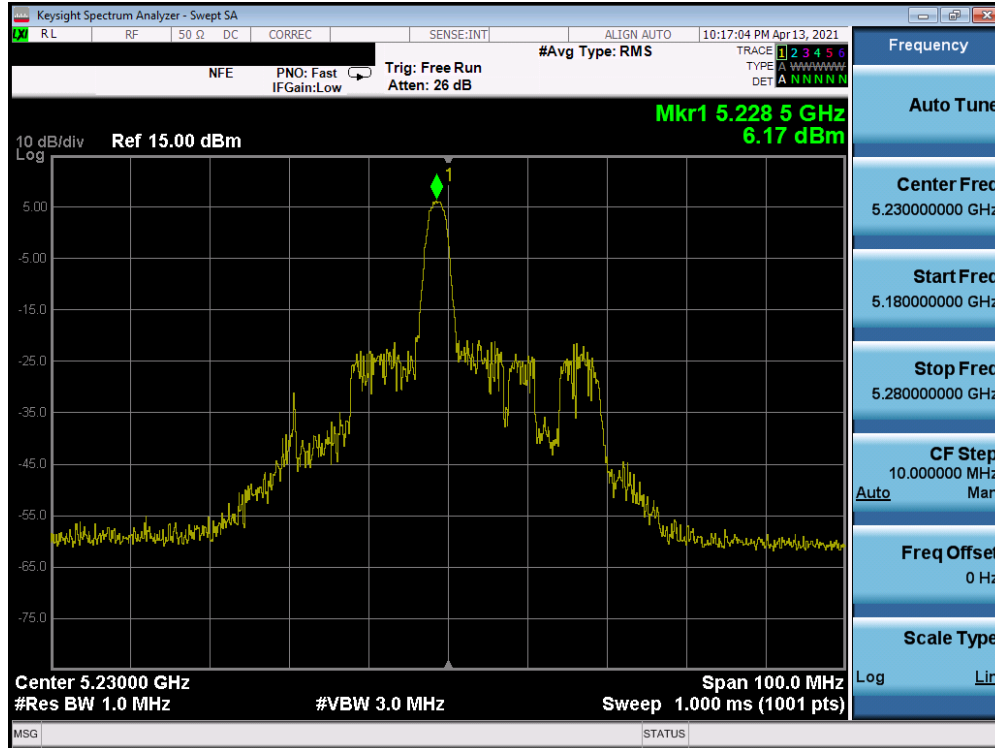


Plot 7-127. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

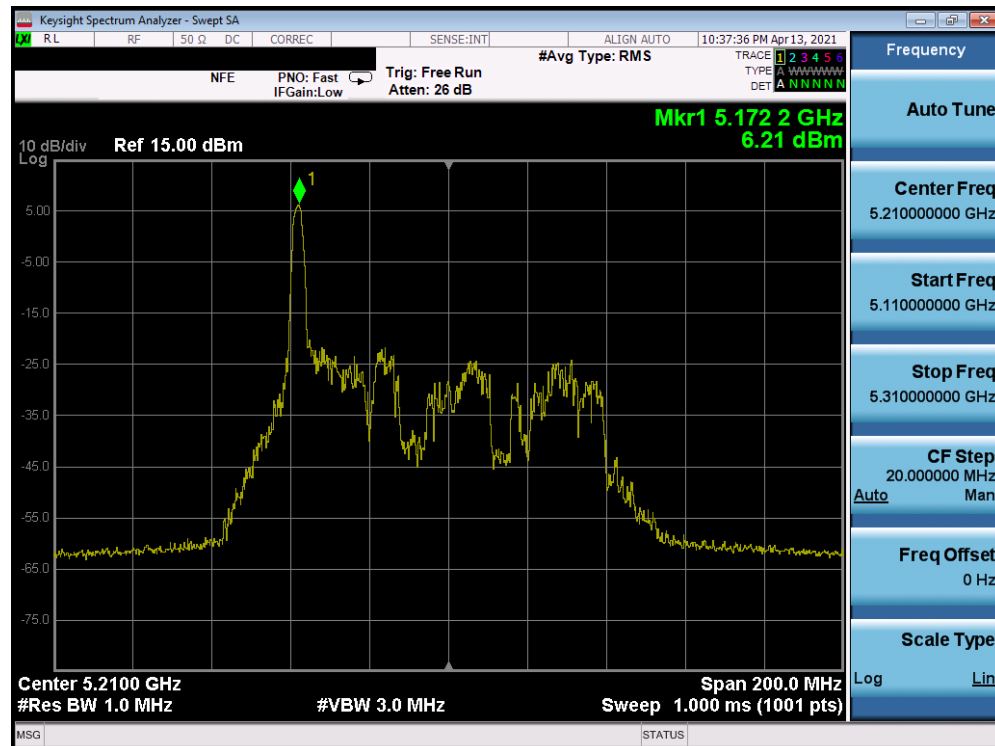


Plot 7-128. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 101 of 204

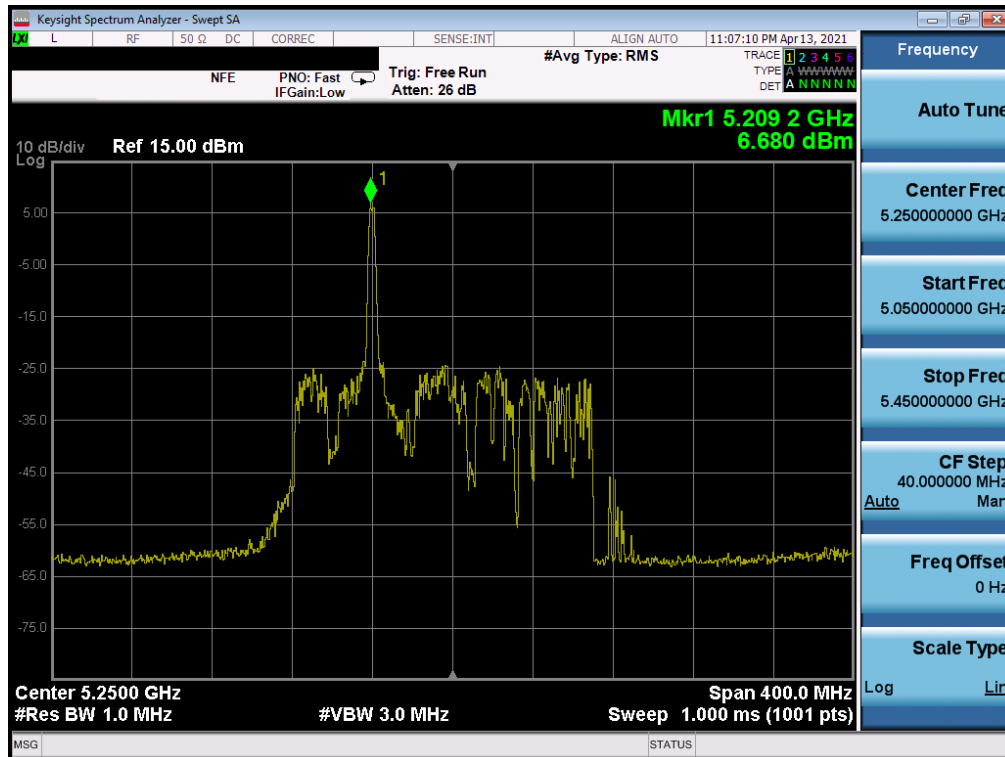


Plot 7-129. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

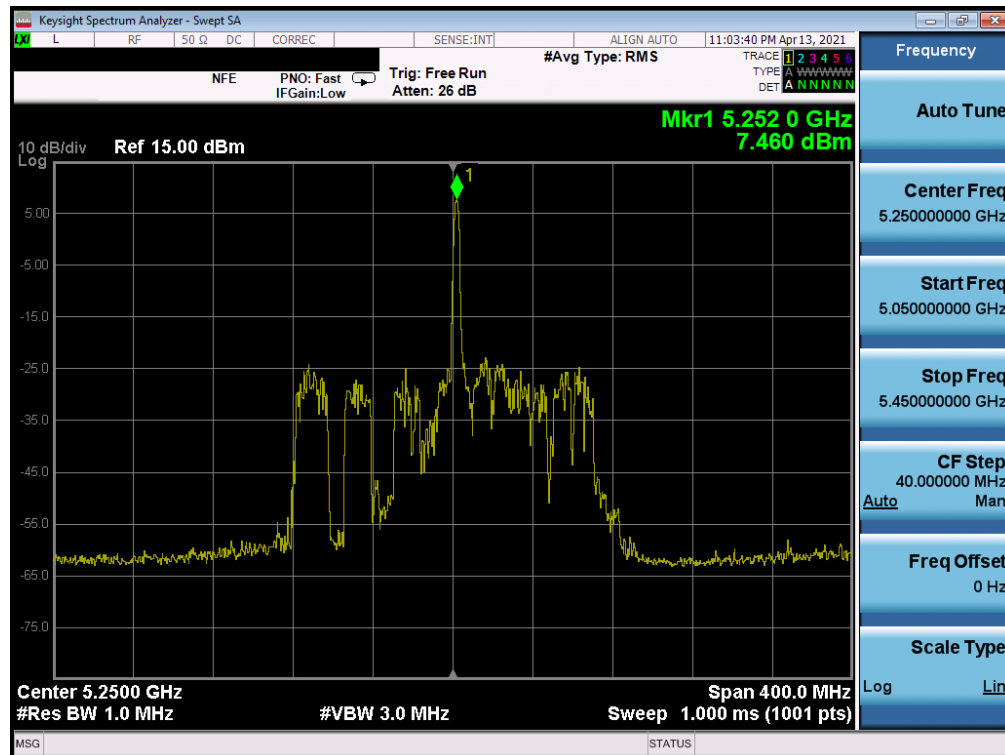


Plot 7-130. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 102 of 204

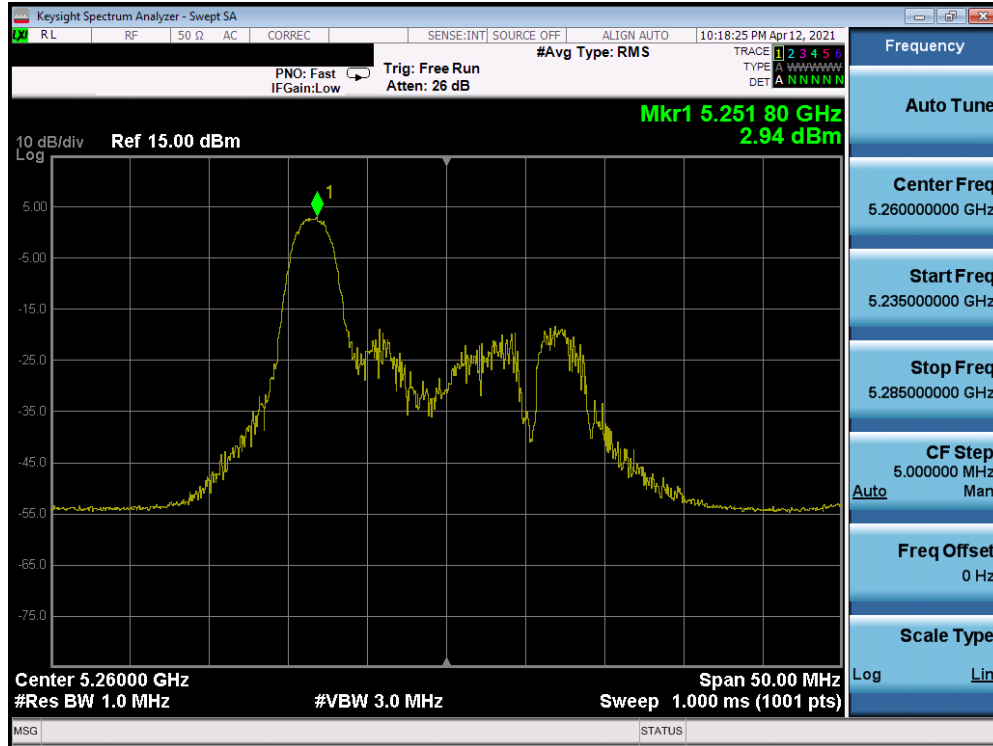


Plot 7-131. Power Spectral Density Plot MIMO ANT1 (160MHz BW(L) 802.11ax – 26 Tones (UNII Band 1/2A) – Ch. 50)

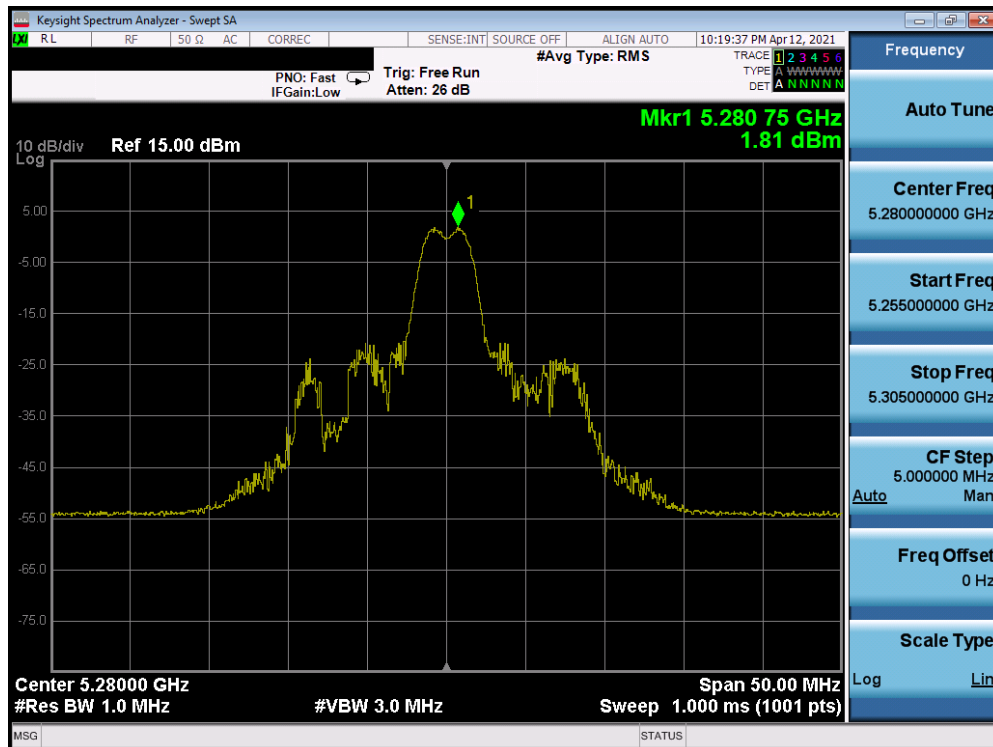


Plot 7-132. Power Spectral Density Plot MIMO ANT1 (160MHz BW(U) 802.11ax – 26 Tones (UNII Band 1/2A) – Ch. 50)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 103 of 204

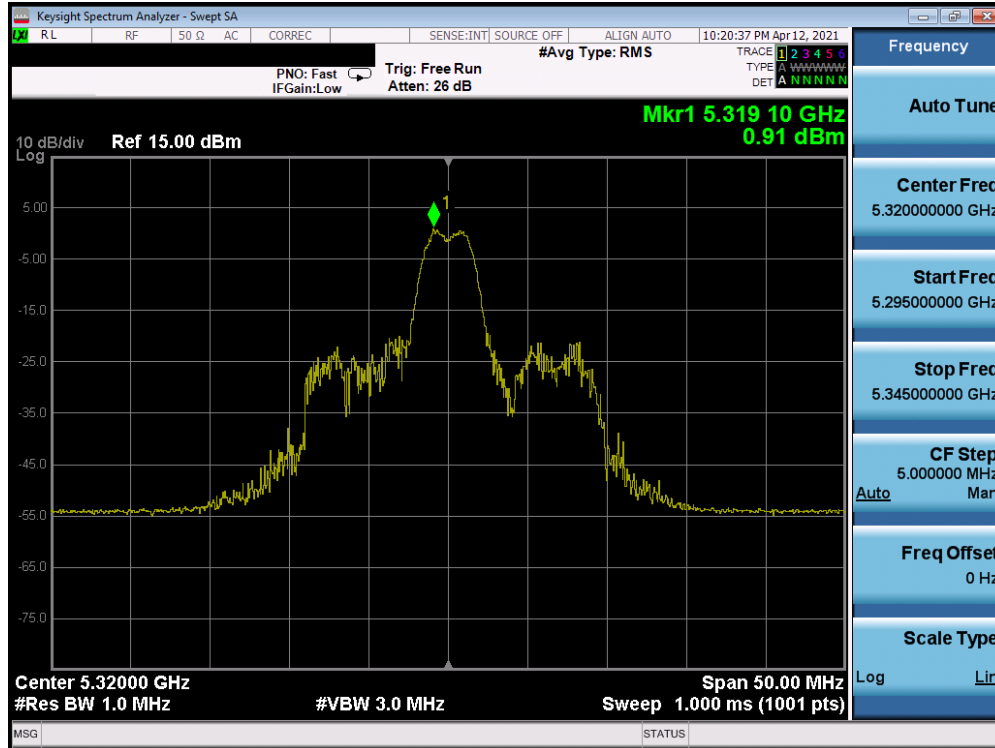


Plot 7-133. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

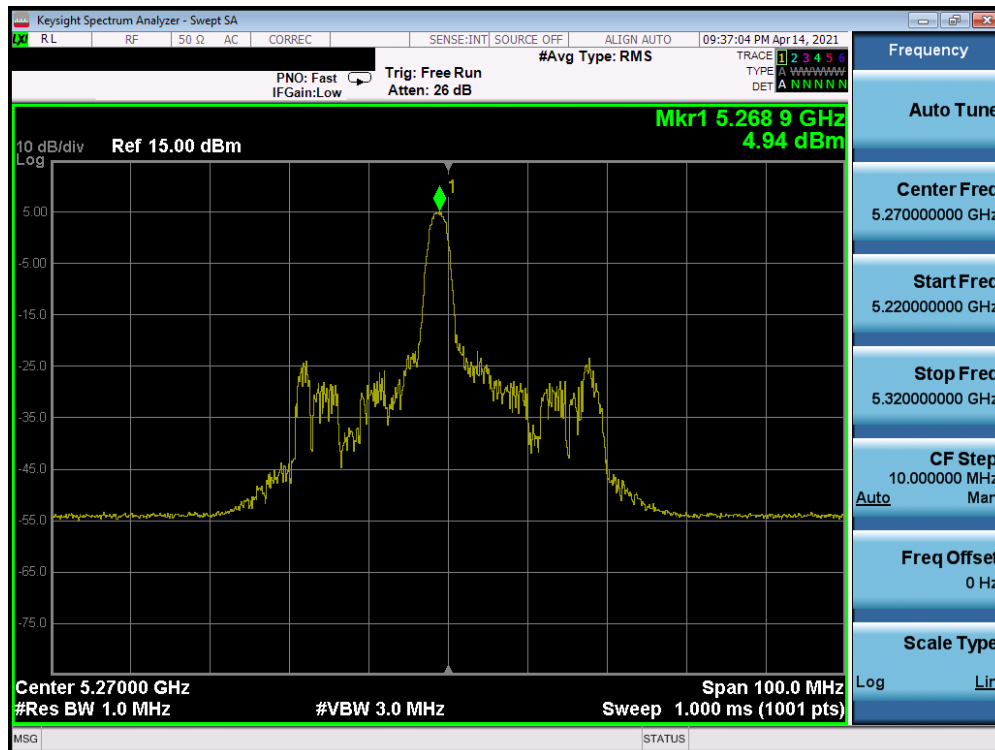


Plot 7-134. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 104 of 204

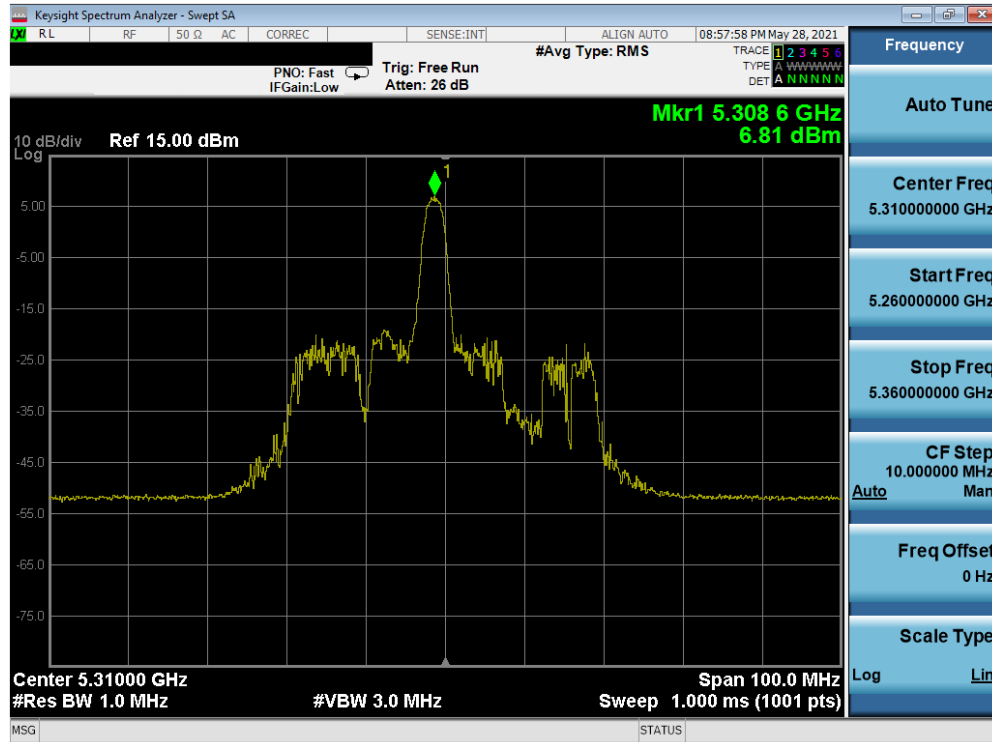


Plot 7-135. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

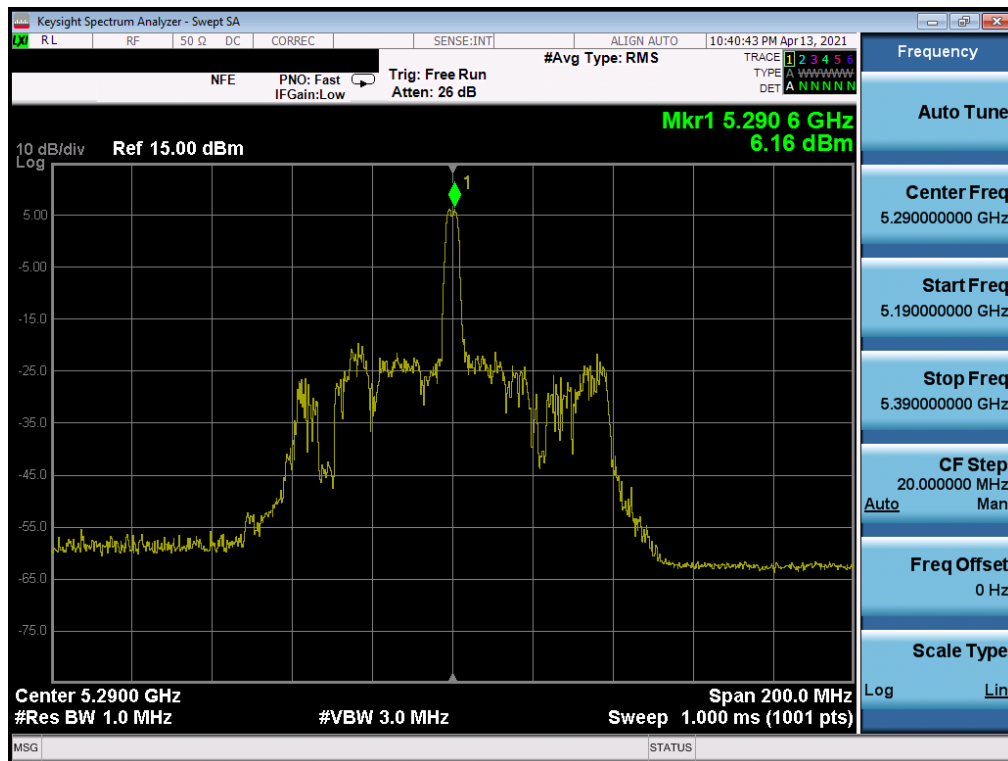


Plot 7-136. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 105 of 204

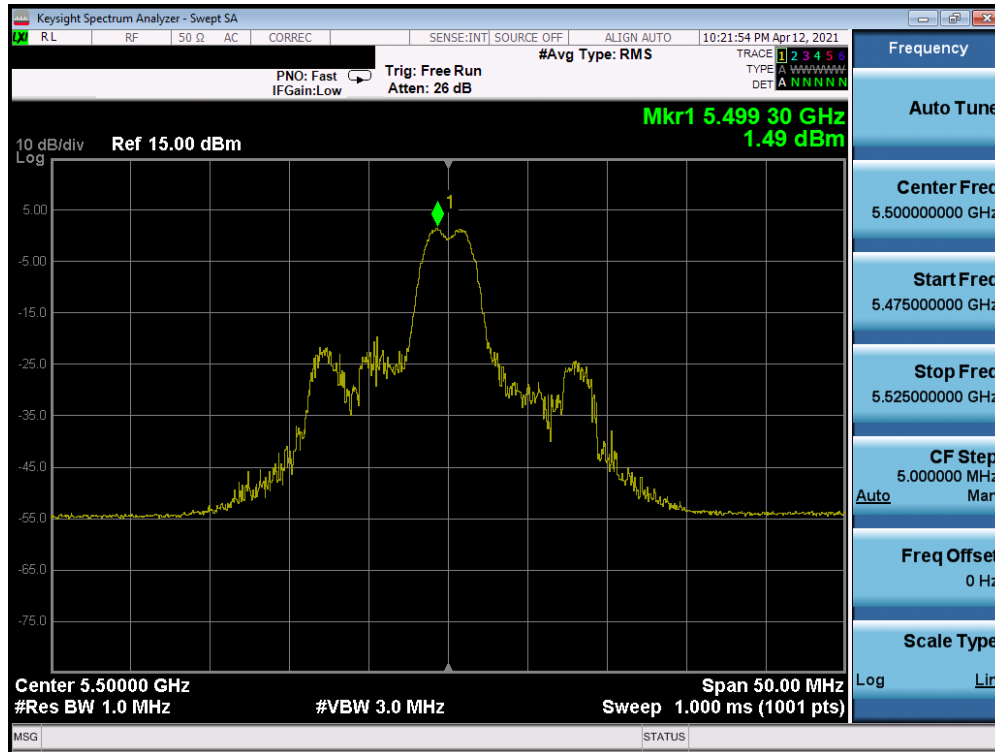


Plot 7-137. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

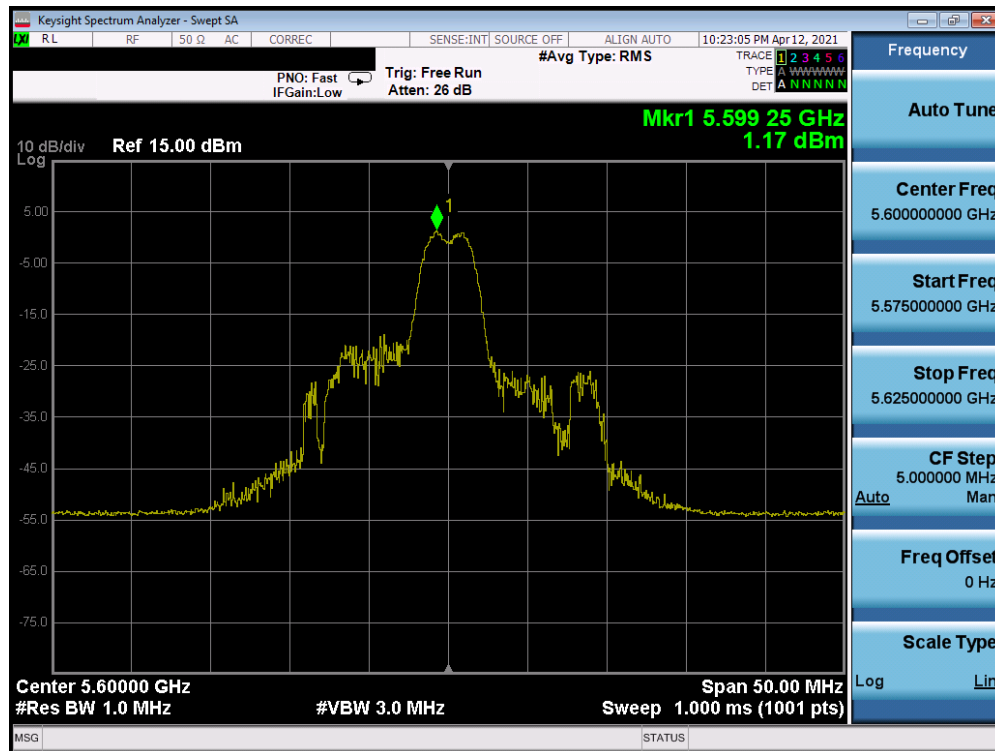


Plot 7-138. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 106 of 204

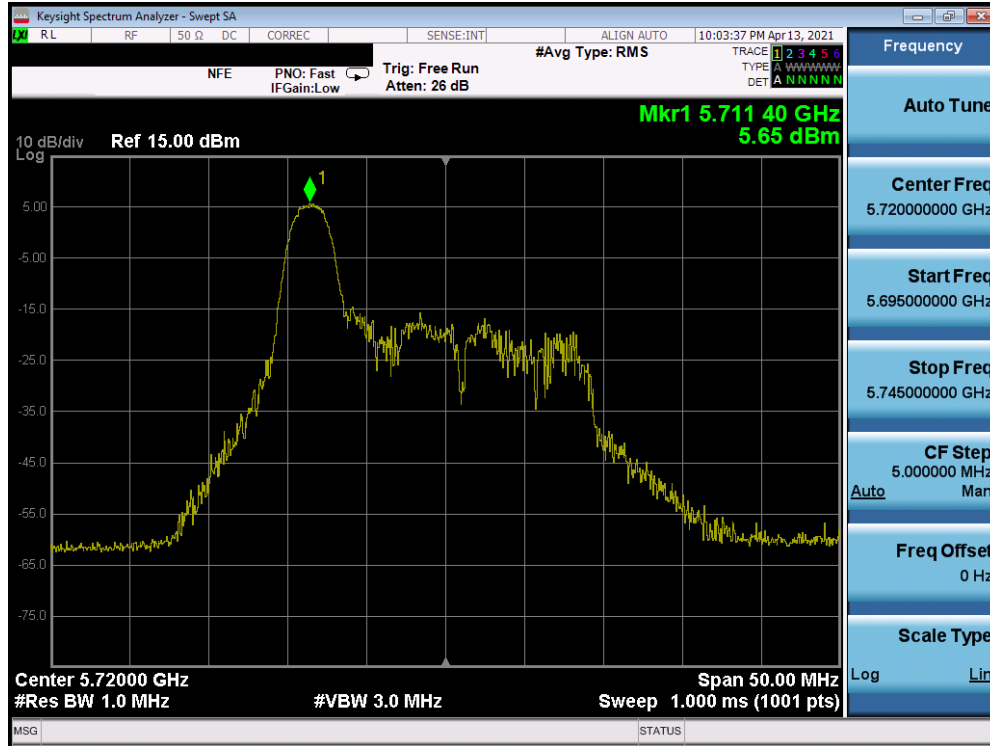


Plot 7-139. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

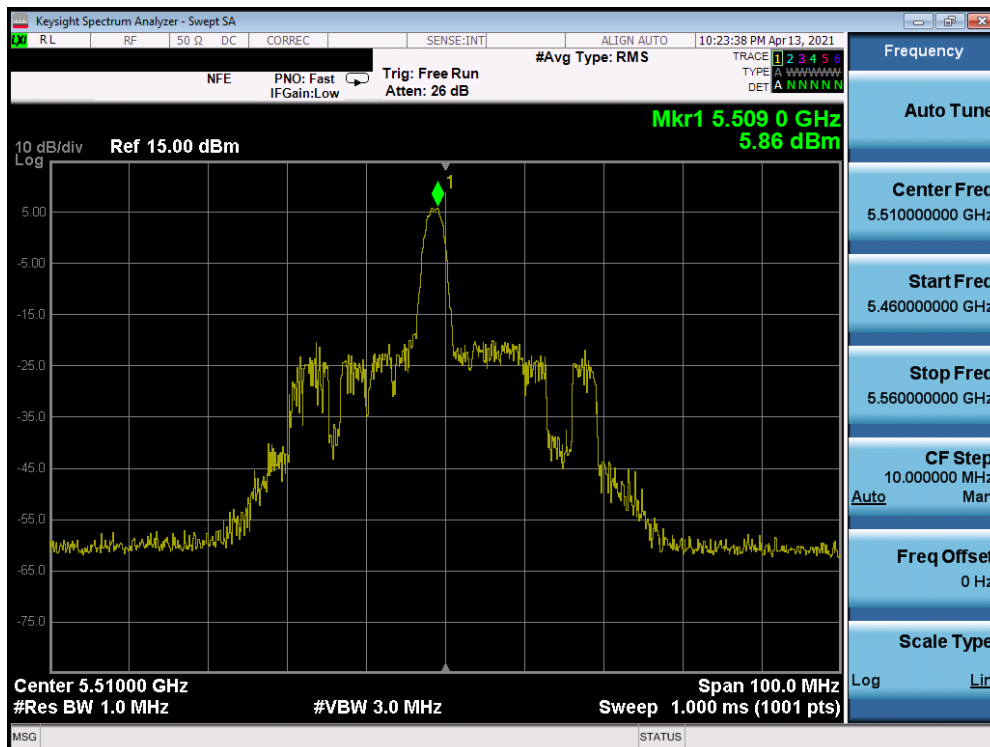


Plot 7-140. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 107 of 204

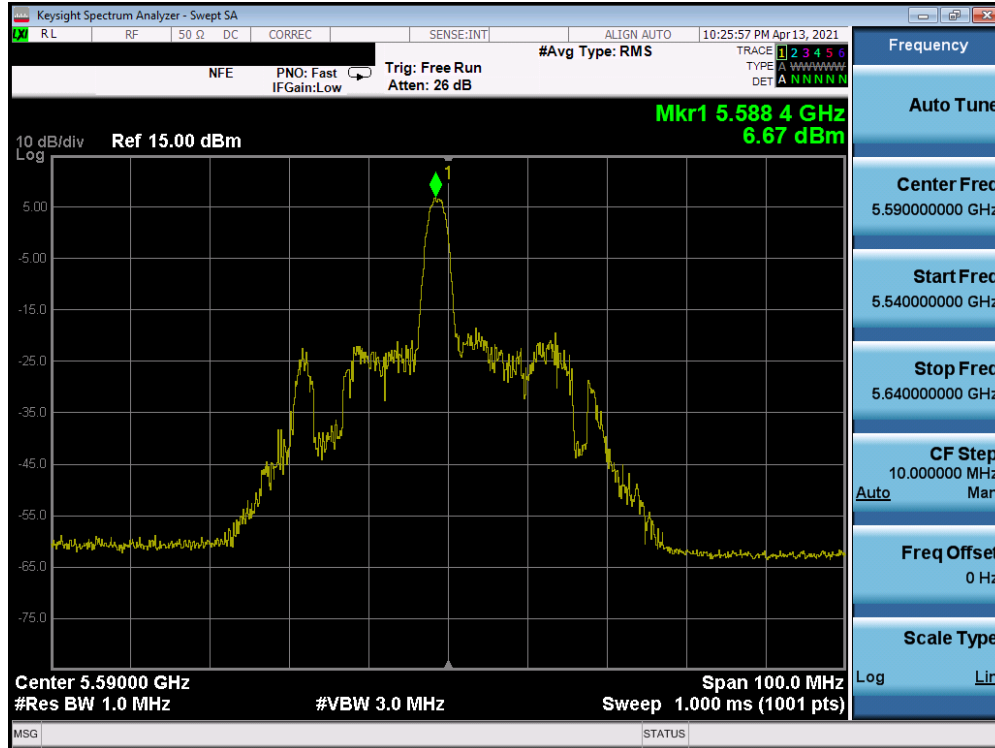


Plot 7-141. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

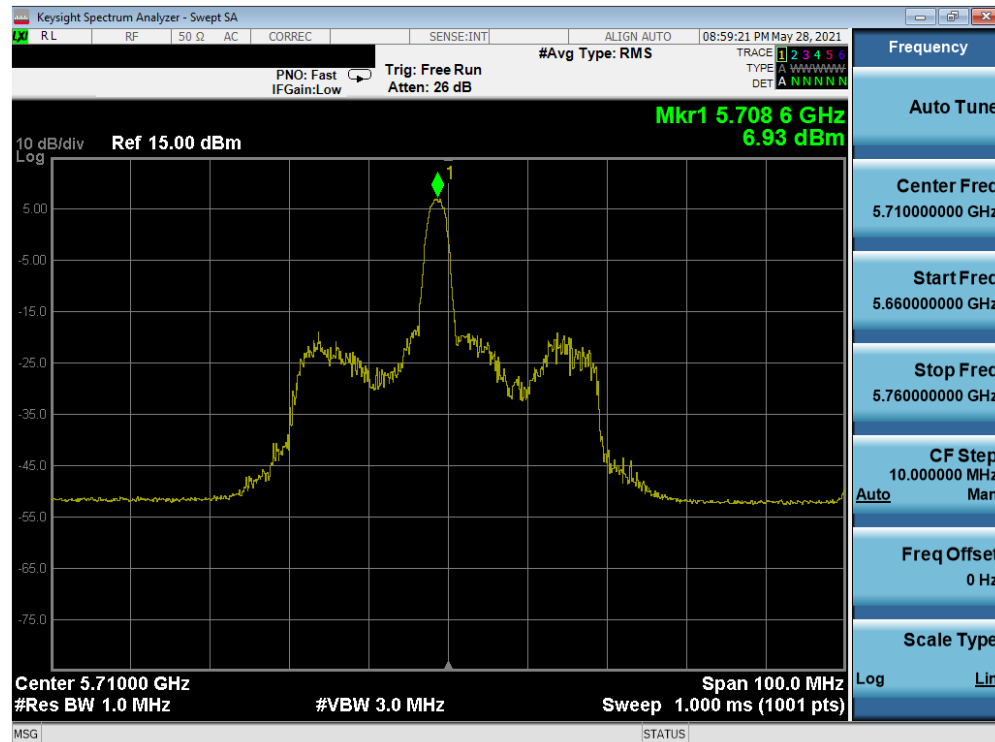


Plot 7-142. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 108 of 204

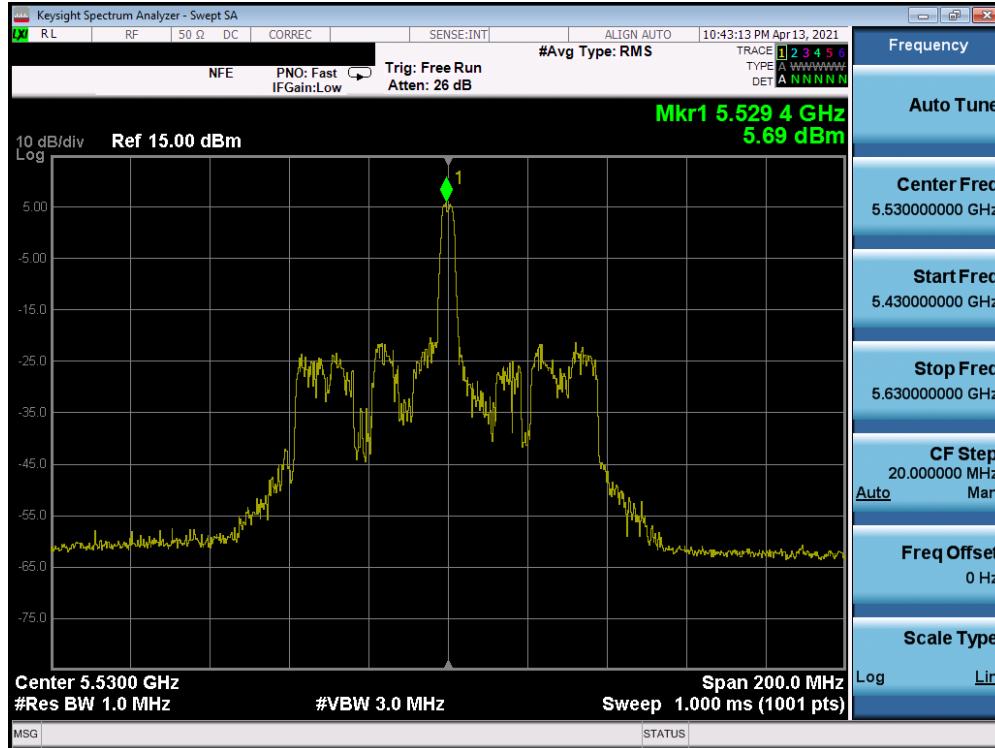


Plot 7-143. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

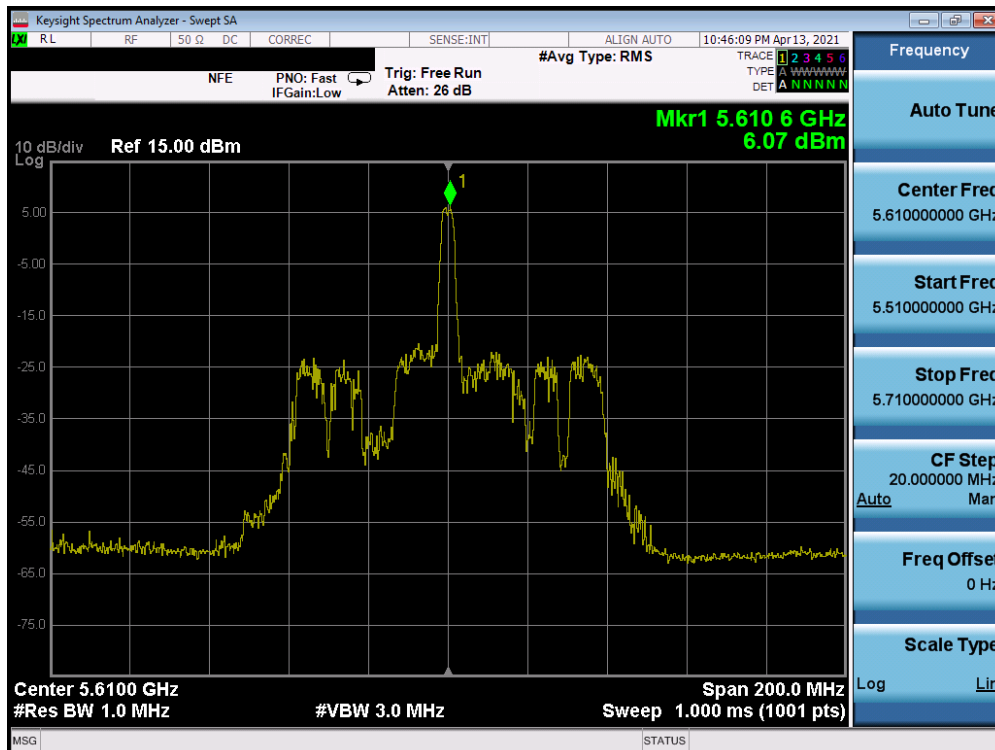


Plot 7-144. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 109 of 204

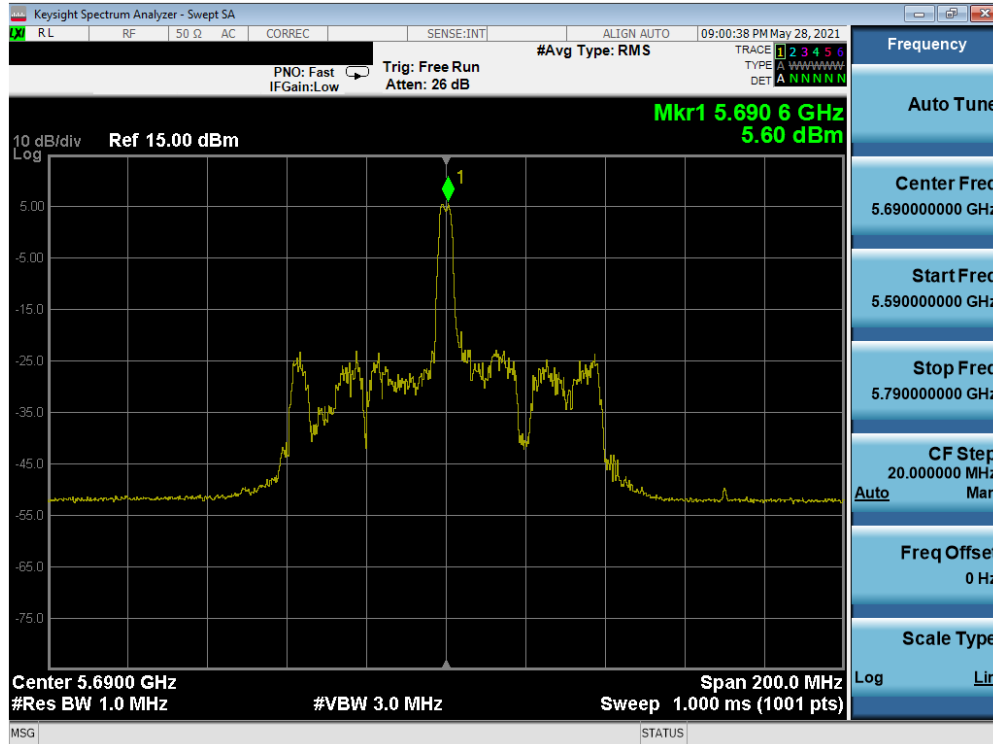


Plot 7-145. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)

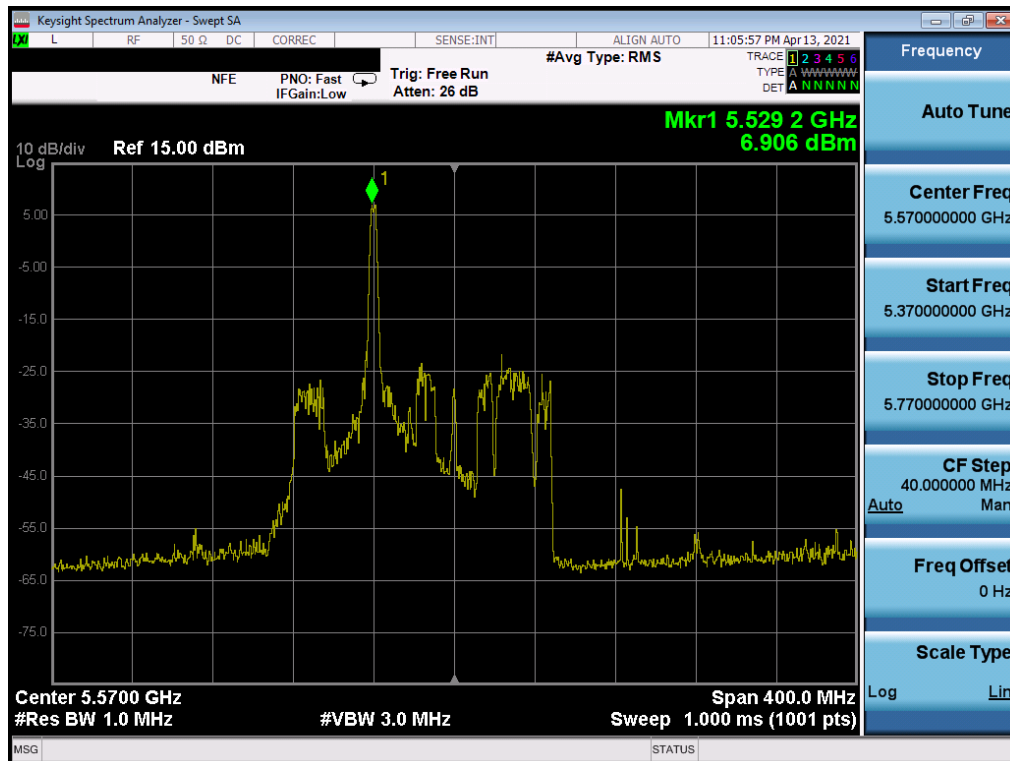


Plot 7-146. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 110 of 204

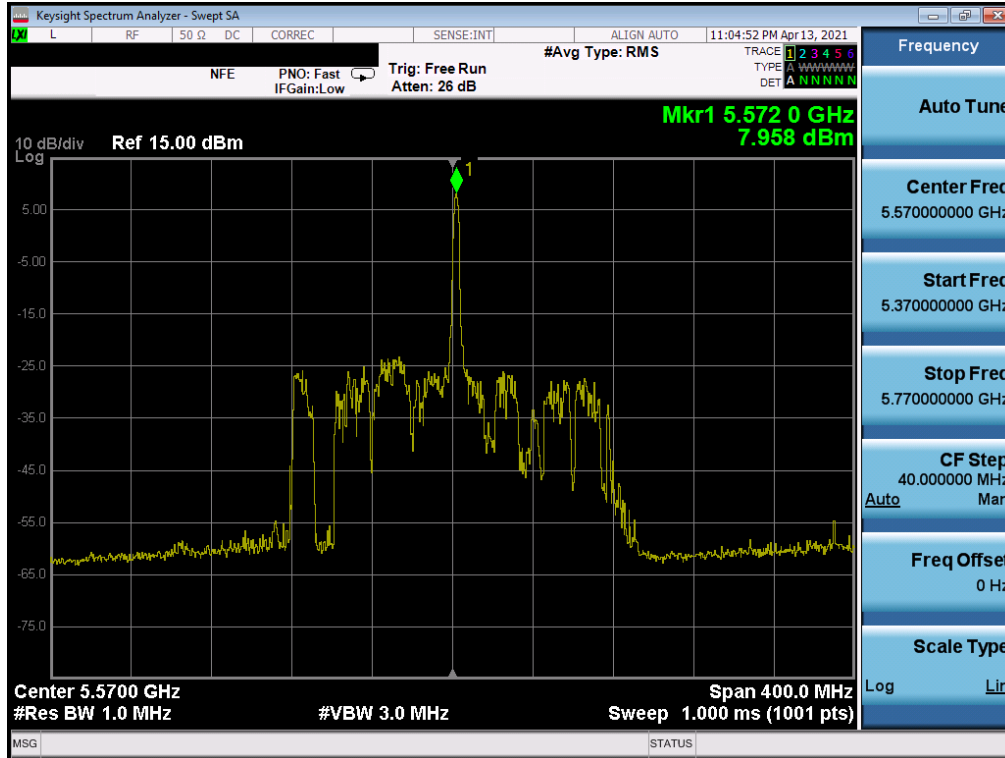


Plot 7-147. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

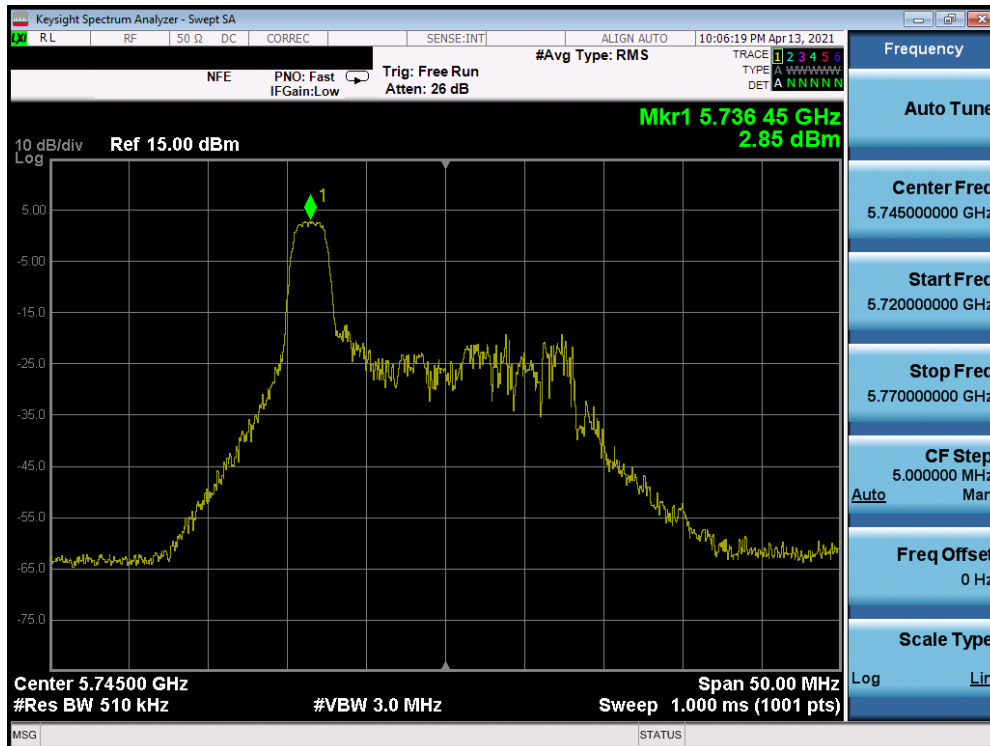


Plot 7-148. Power Spectral Density Plot MIMO ANT1 (160MHz BW(L) 802.11ax – 26 Tones (UNII Band 2C) – Ch. 114)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 111 of 204

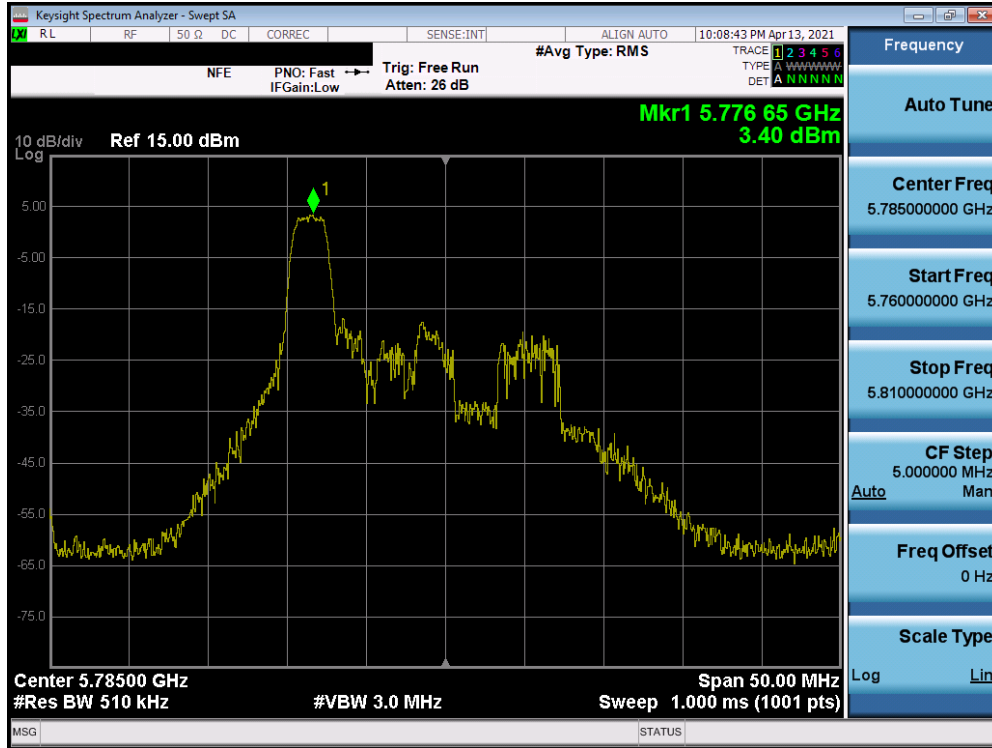


Plot 7-149. Power Spectral Density Plot MIMO ANT1 (160MHz BW(U) 802.11ax – 26 Tones (UNII Band 2C) – Ch. 114)

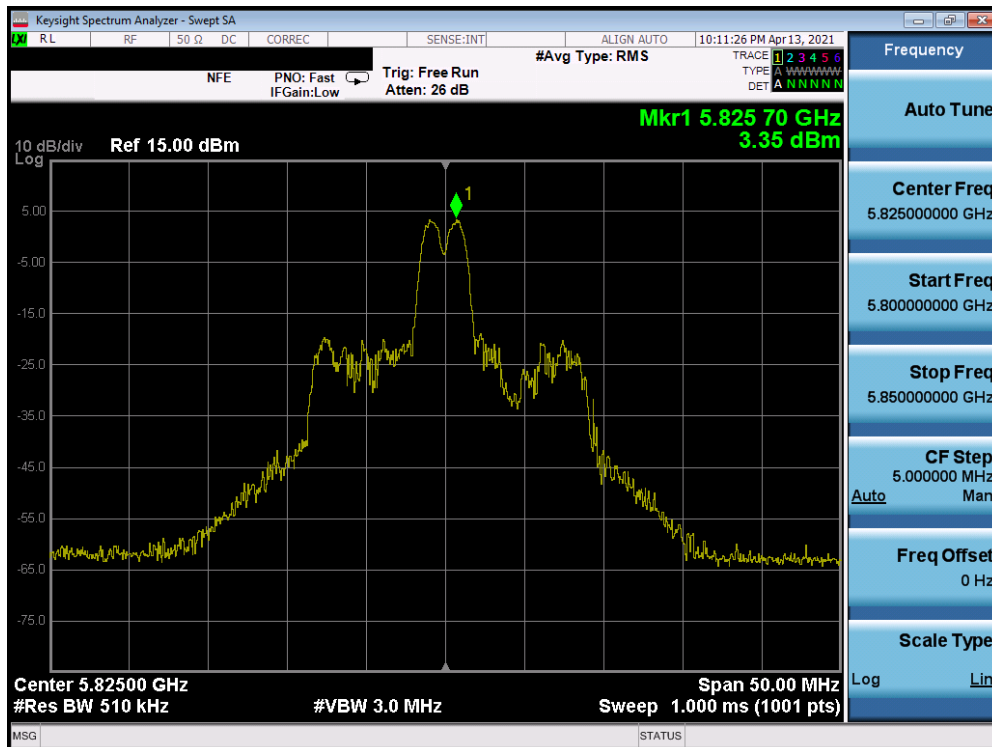


Plot 7-150. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 112 of 204

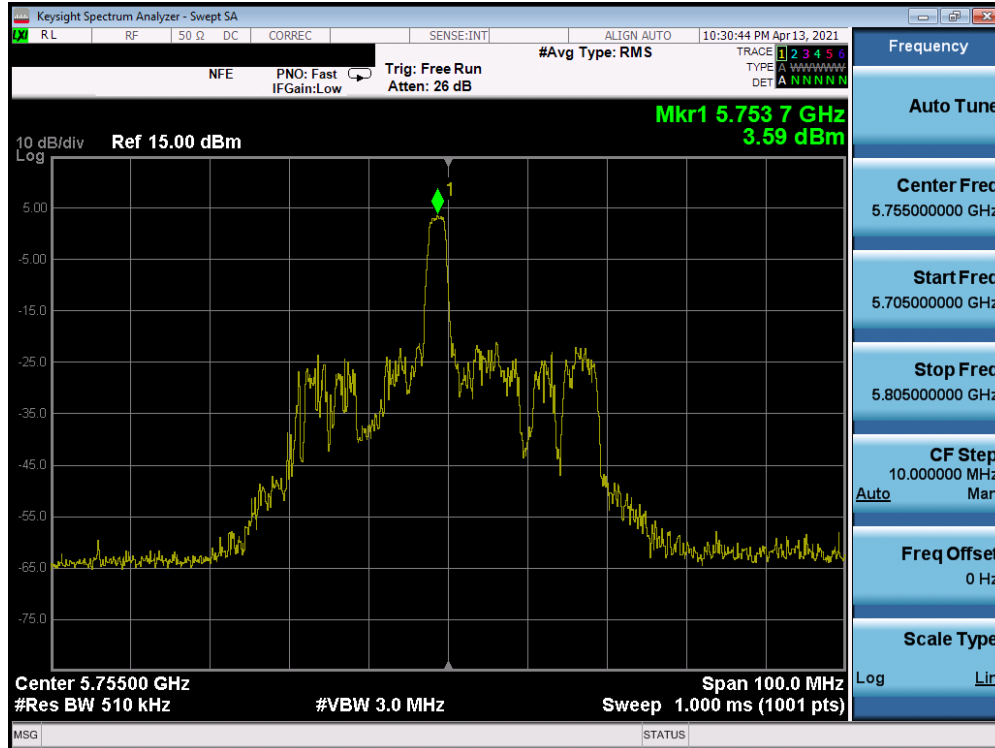


Plot 7-151. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

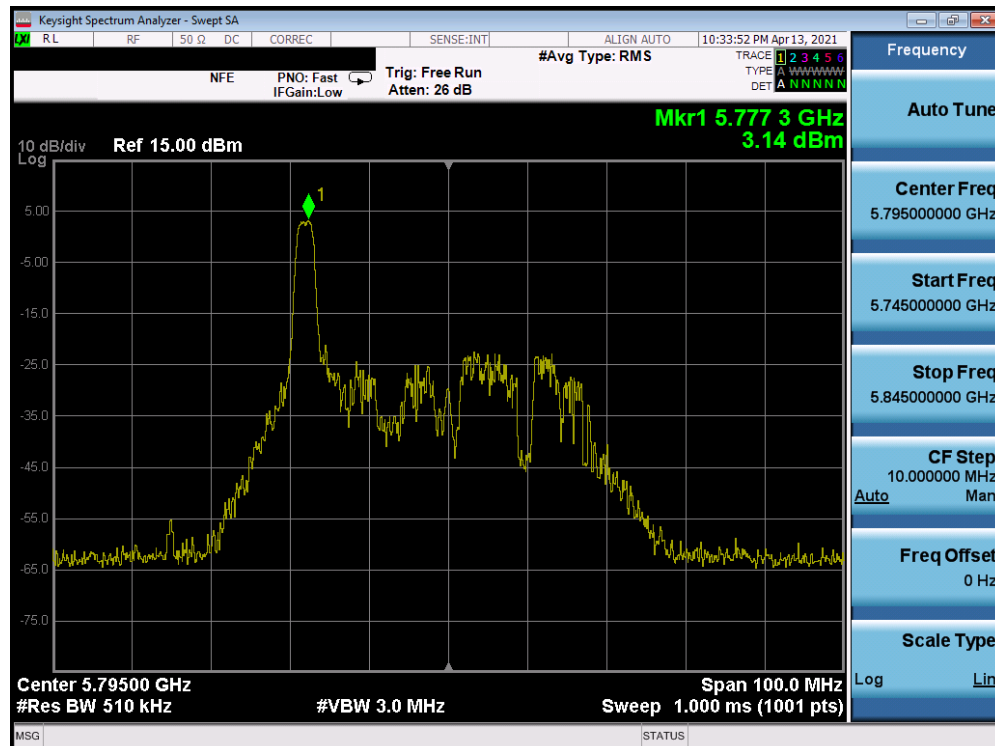


Plot 7-152. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 113 of 204

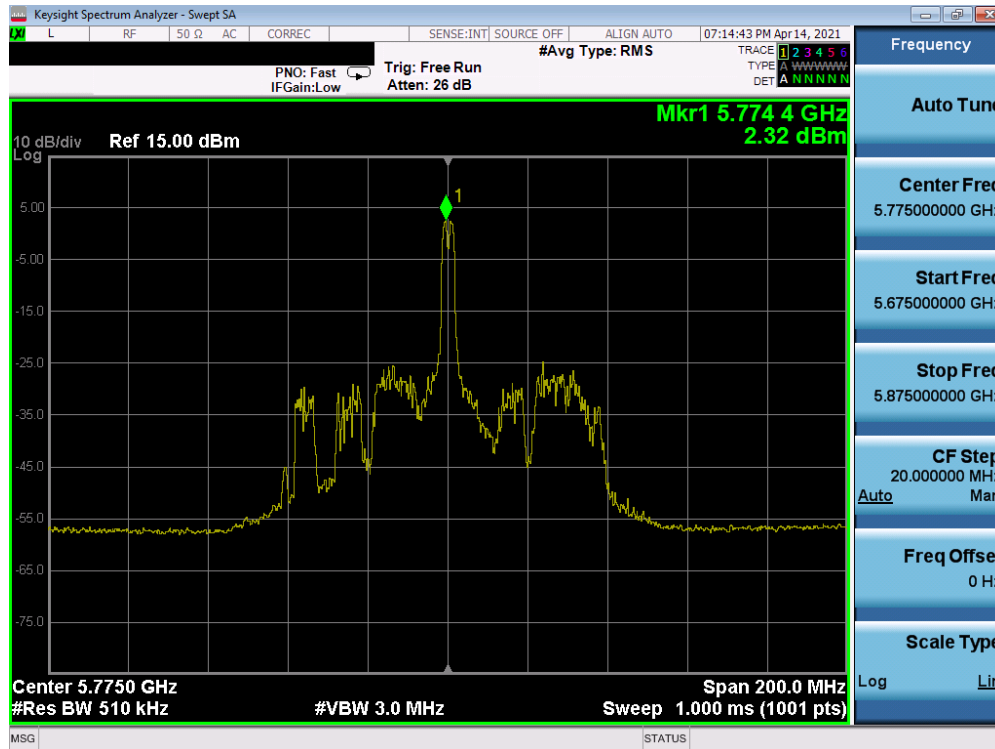


Plot 7-153. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

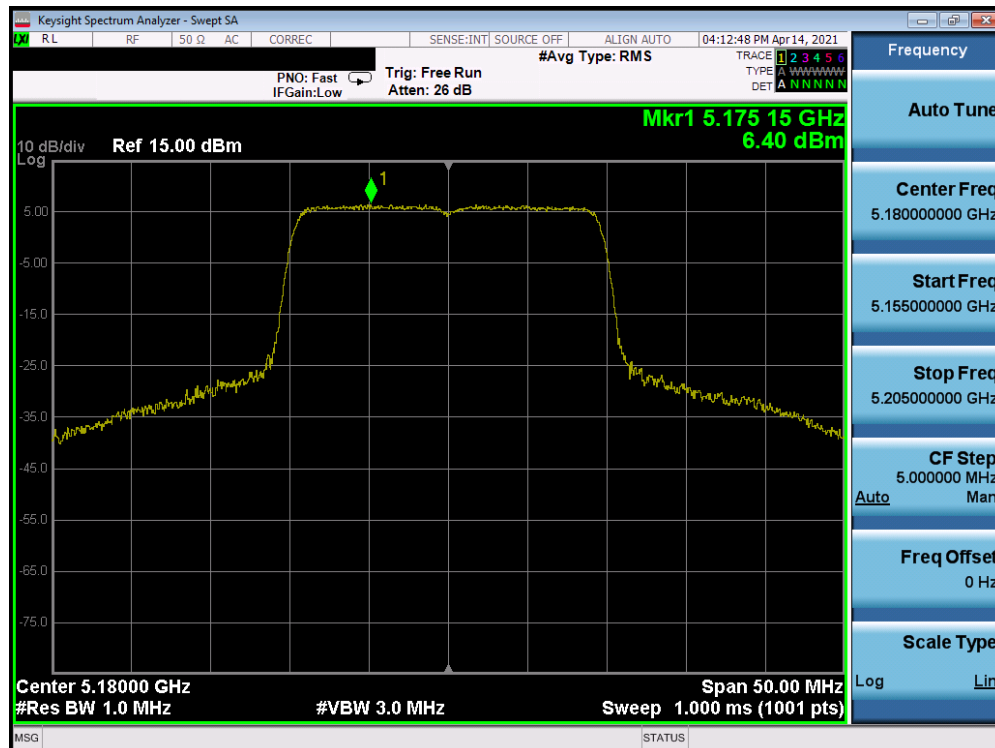


Plot 7-154. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 114 of 204

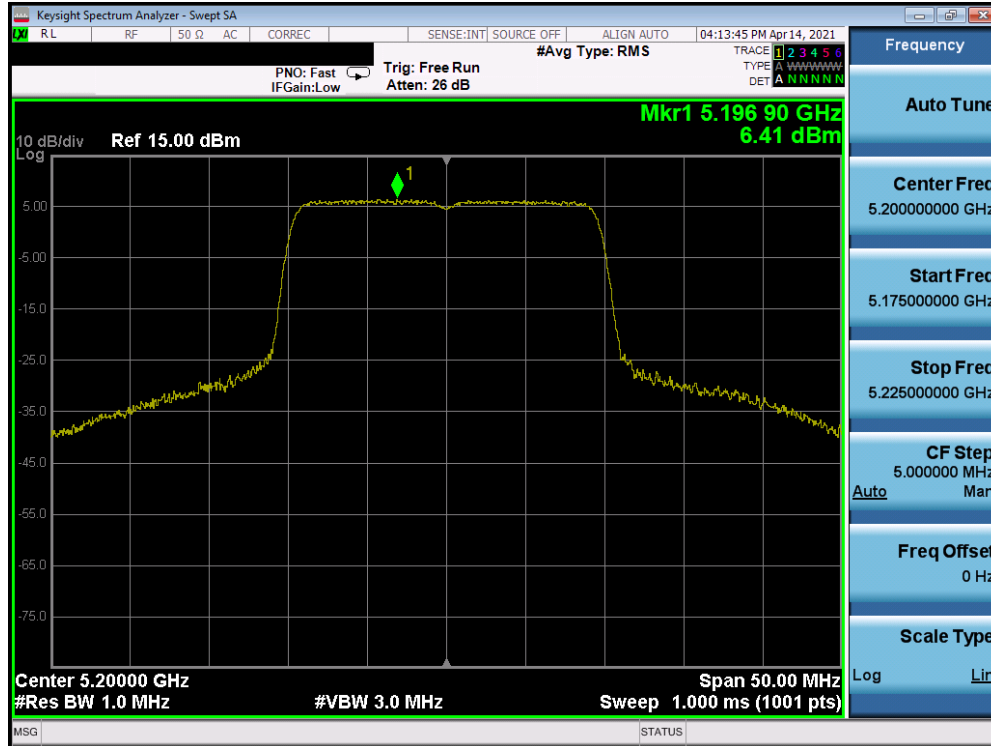


Plot 7-155. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

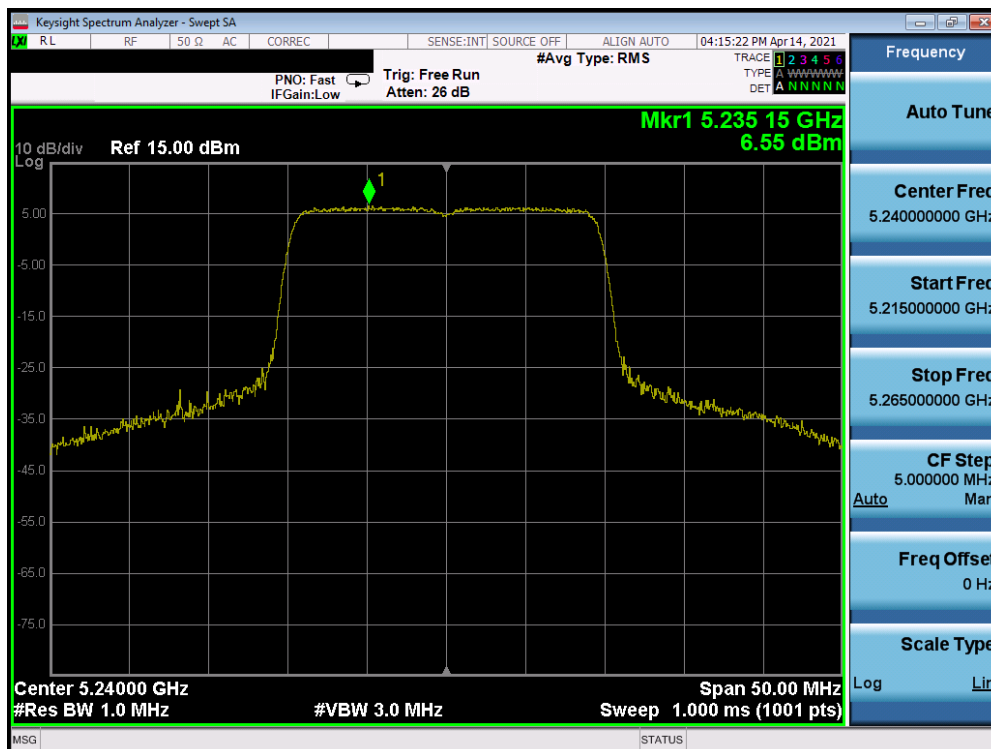


Plot 7-156. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 36)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 115 of 204

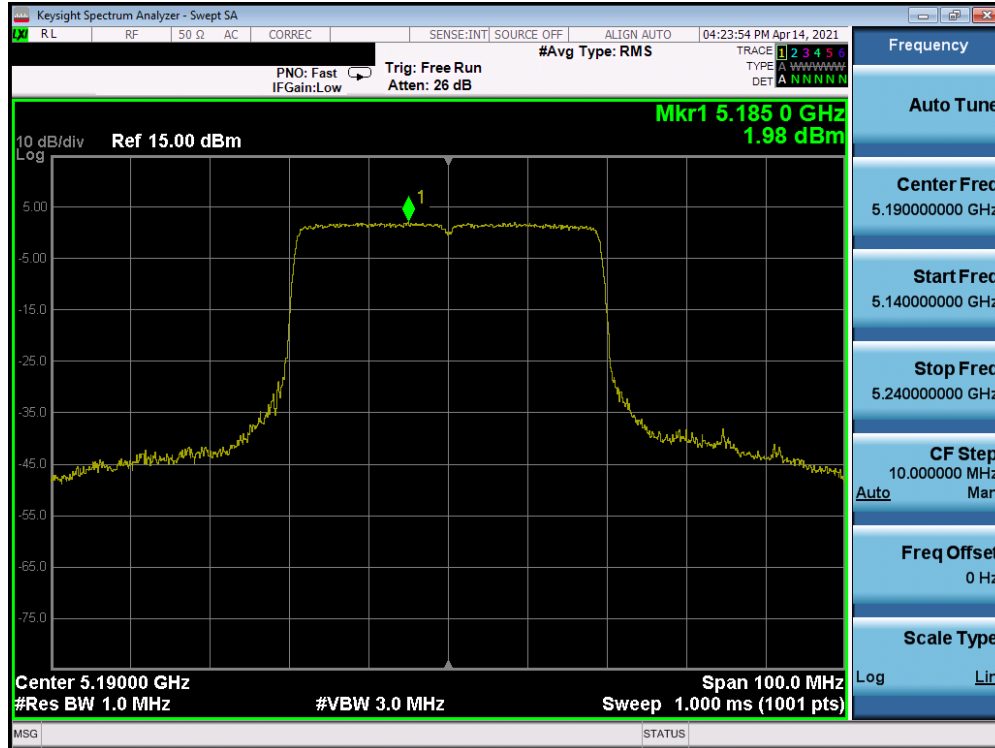


Plot 7-157. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 40)

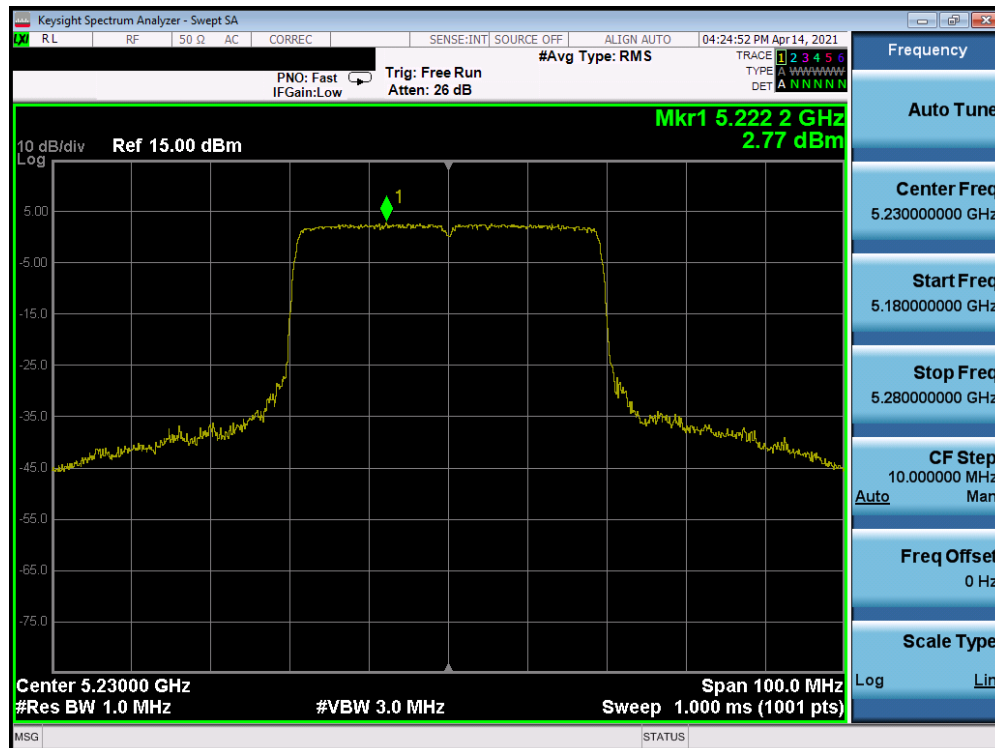


Plot 7-158. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 48)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 116 of 204

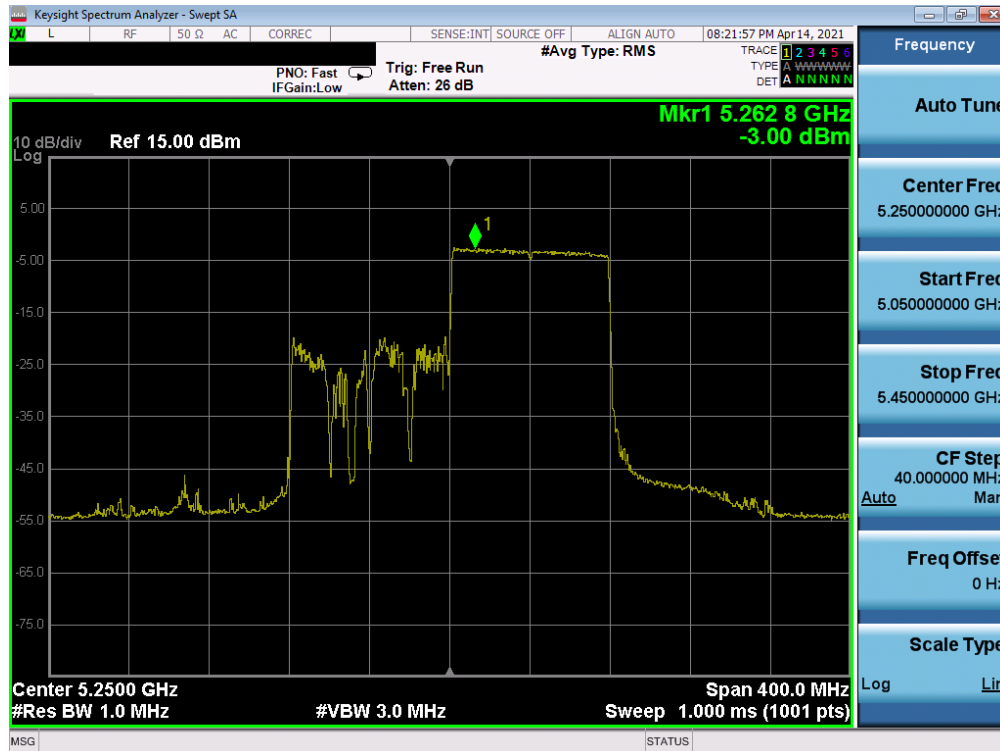


Plot 7-159. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 38)

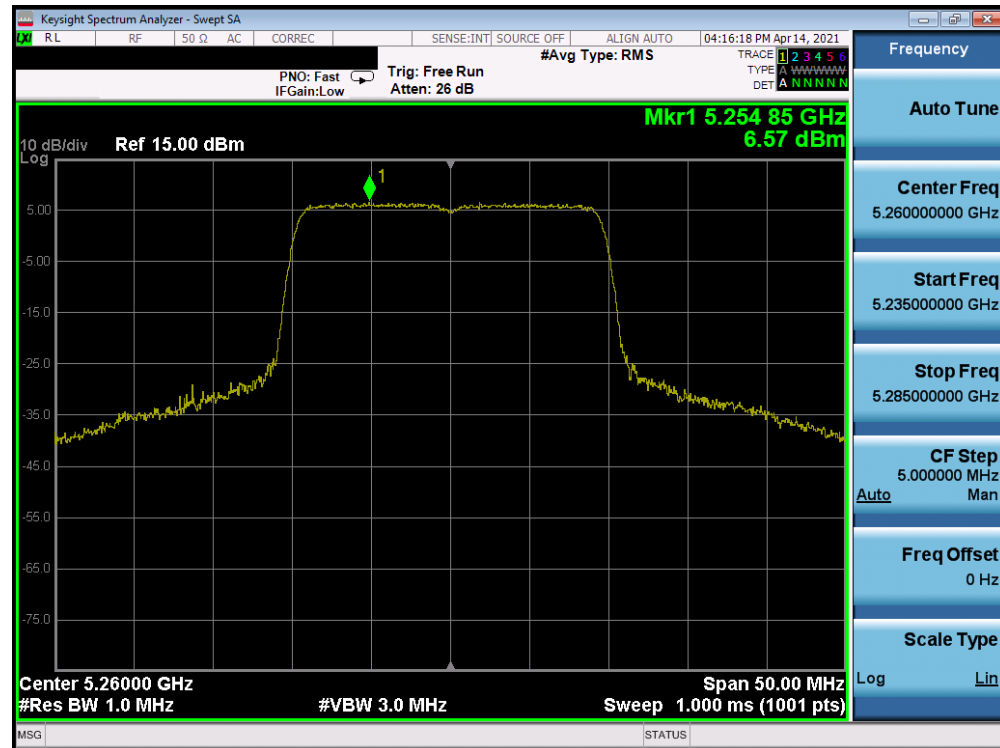


Plot 7-160. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 46)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 117 of 204

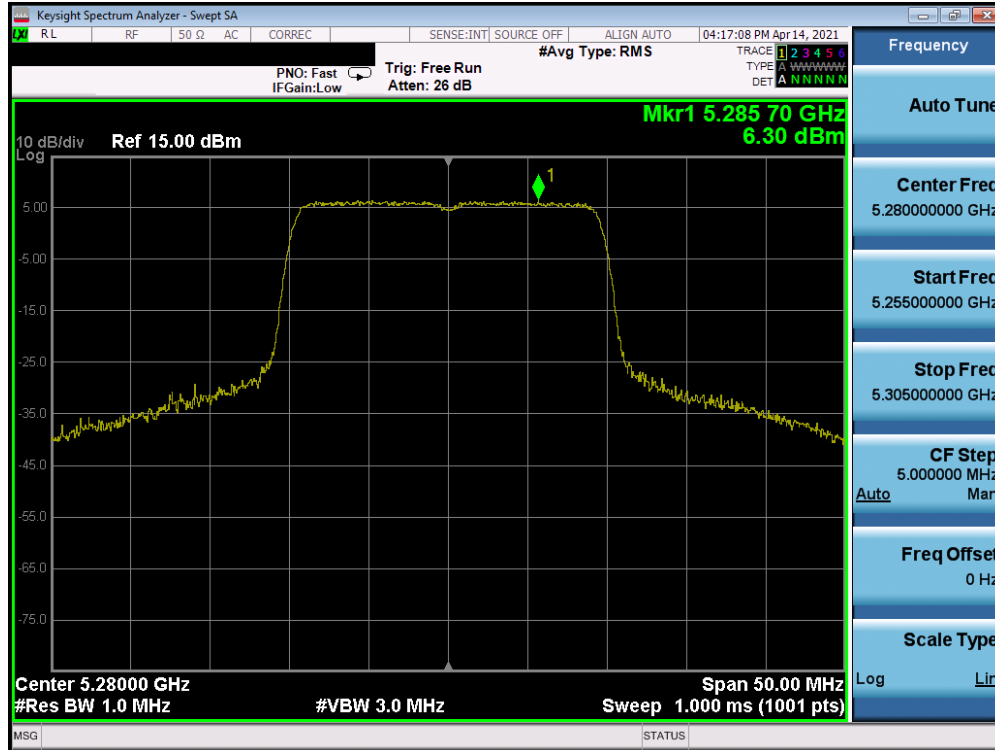


Plot 7-163. Power Spectral Density Plot MIMO ANT1 (160MHz BW(U) 802.11ax – Full Tones (UNII Band 1/2A) – Ch. 50)

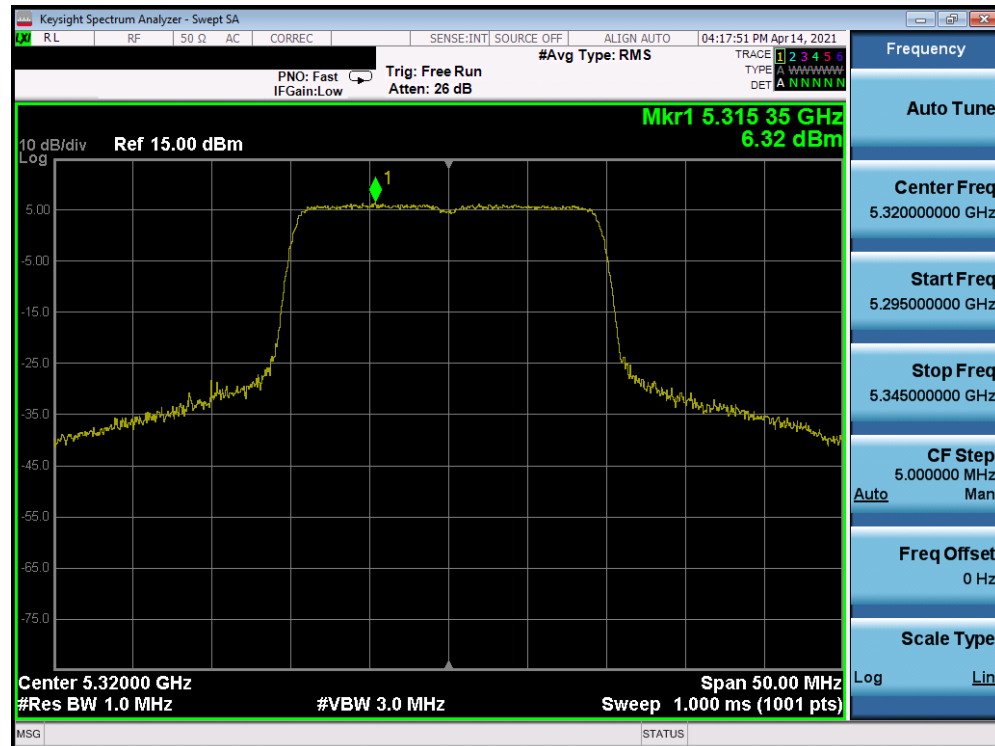


Plot 7-164. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 119 of 204

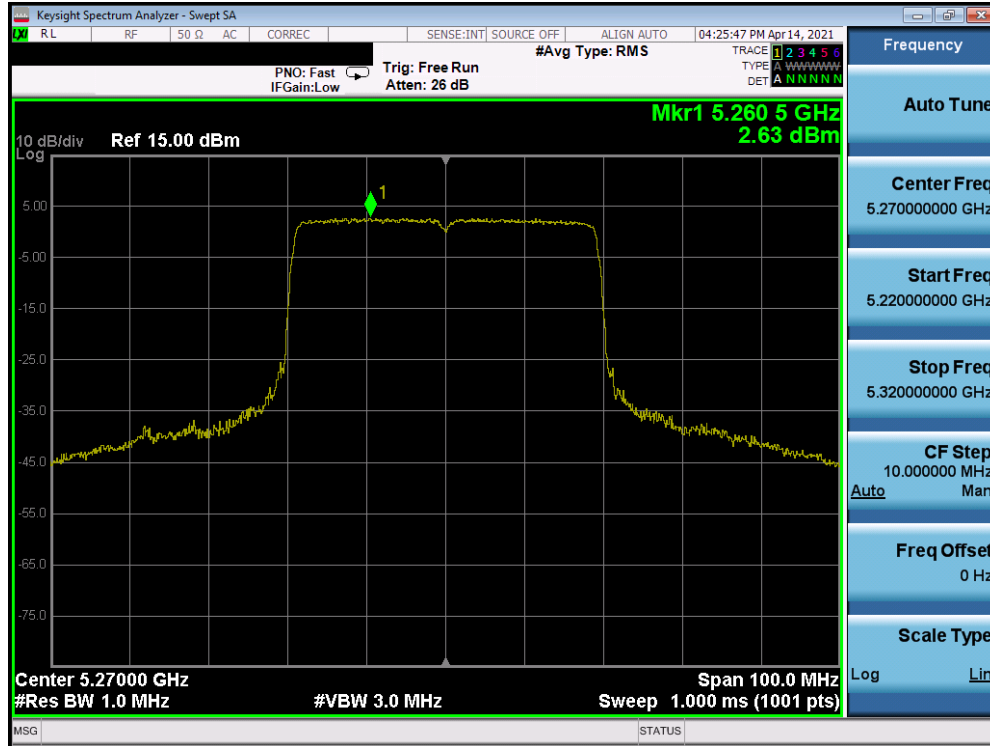


Plot 7-165. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 56)

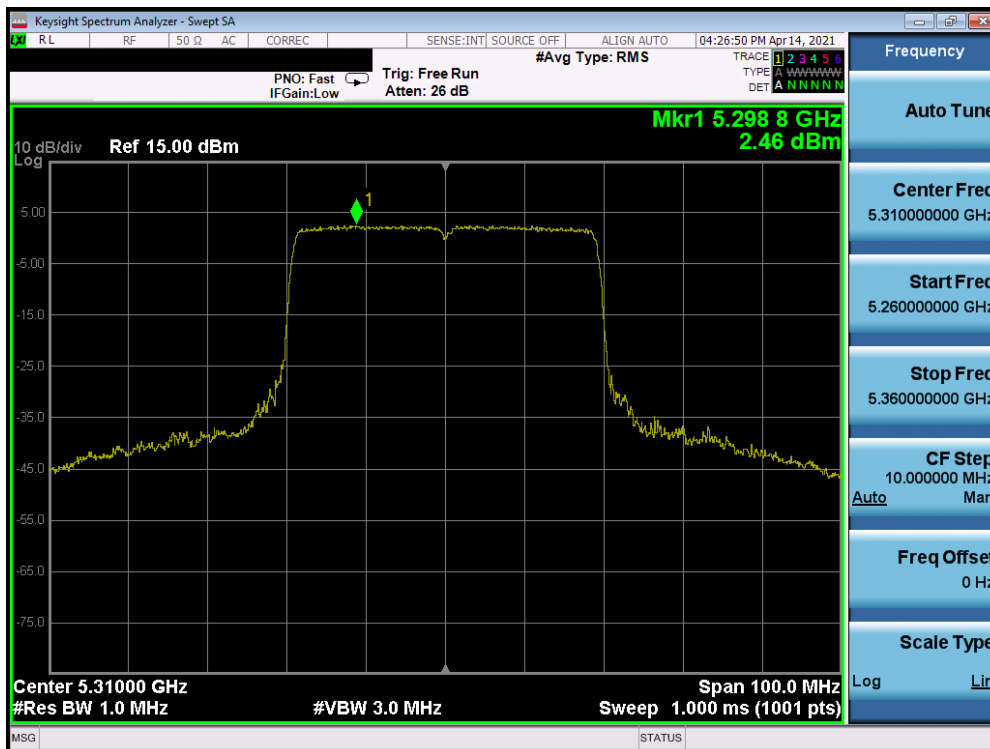


Plot 7-166. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 120 of 204

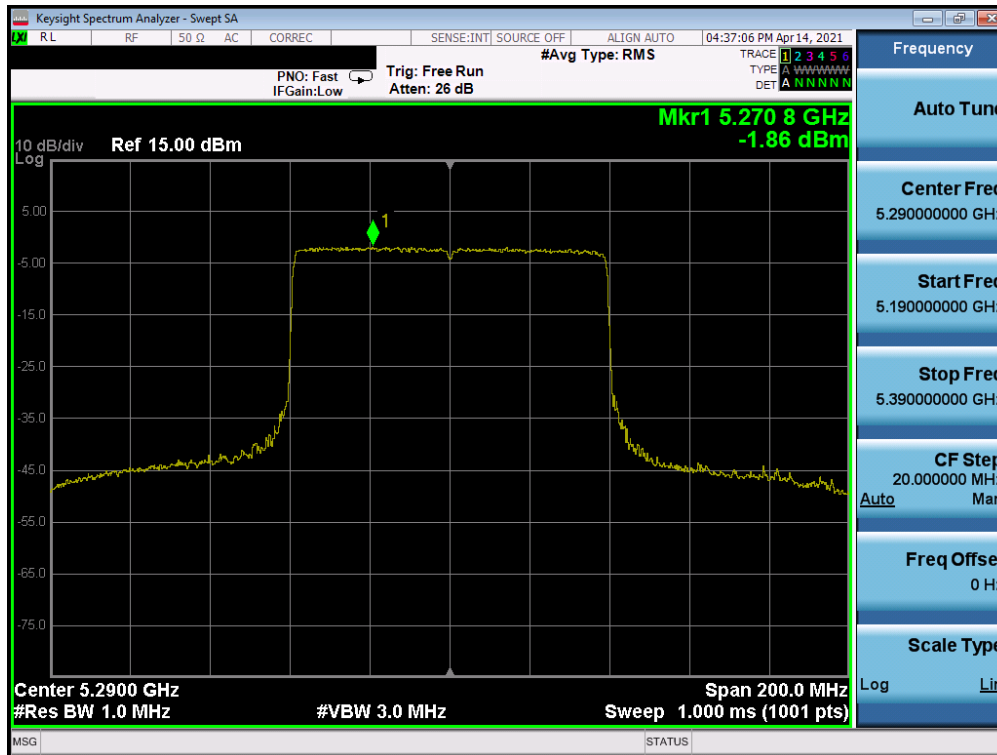


Plot 7-167. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 54)

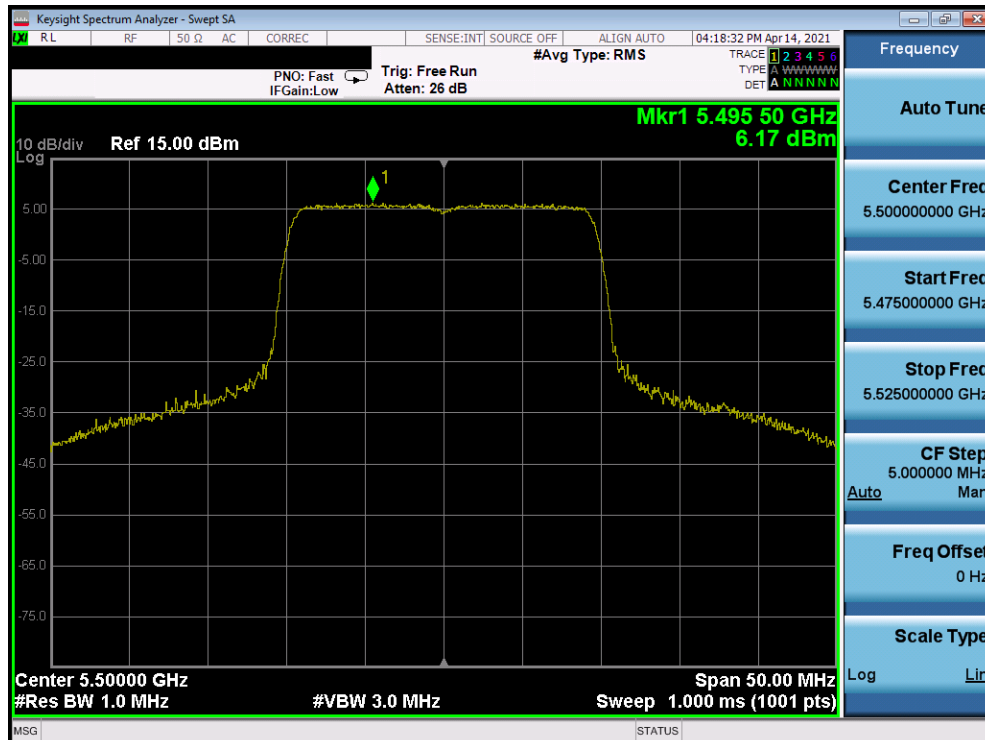


Plot 7-168. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 62)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 121 of 204

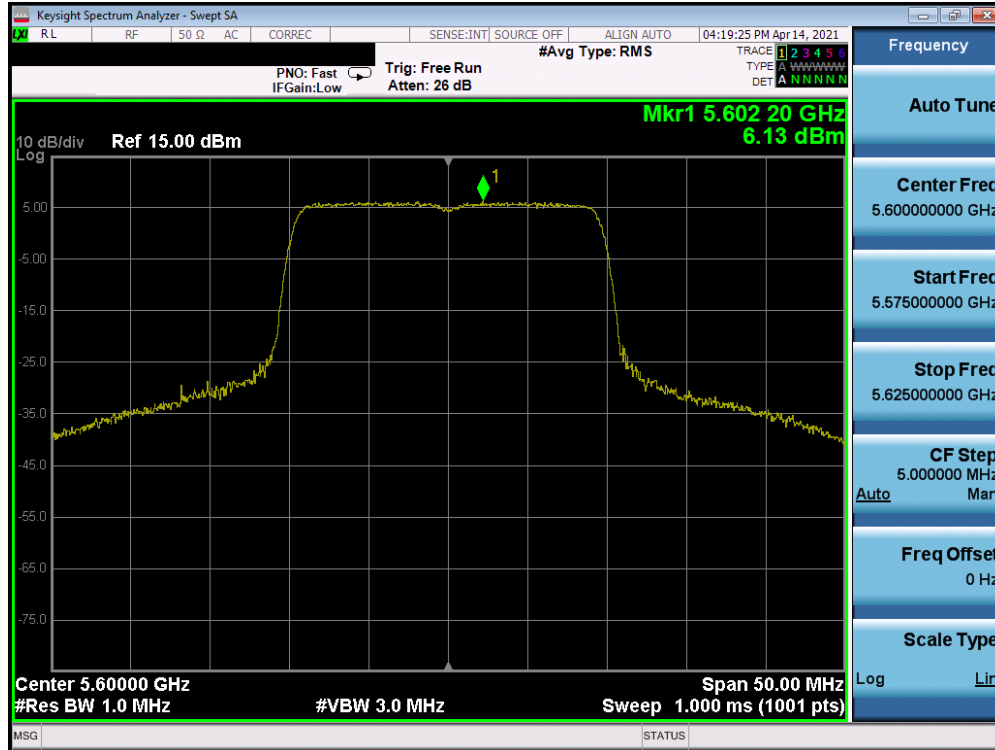


Plot 7-169. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

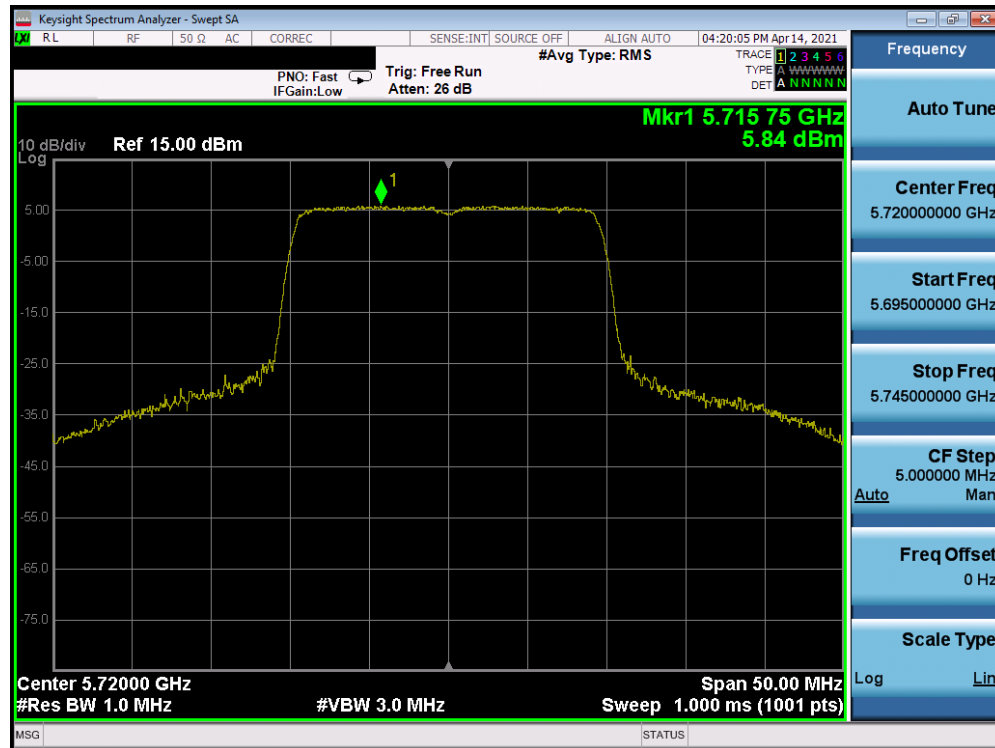


Plot 7-170. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 122 of 204

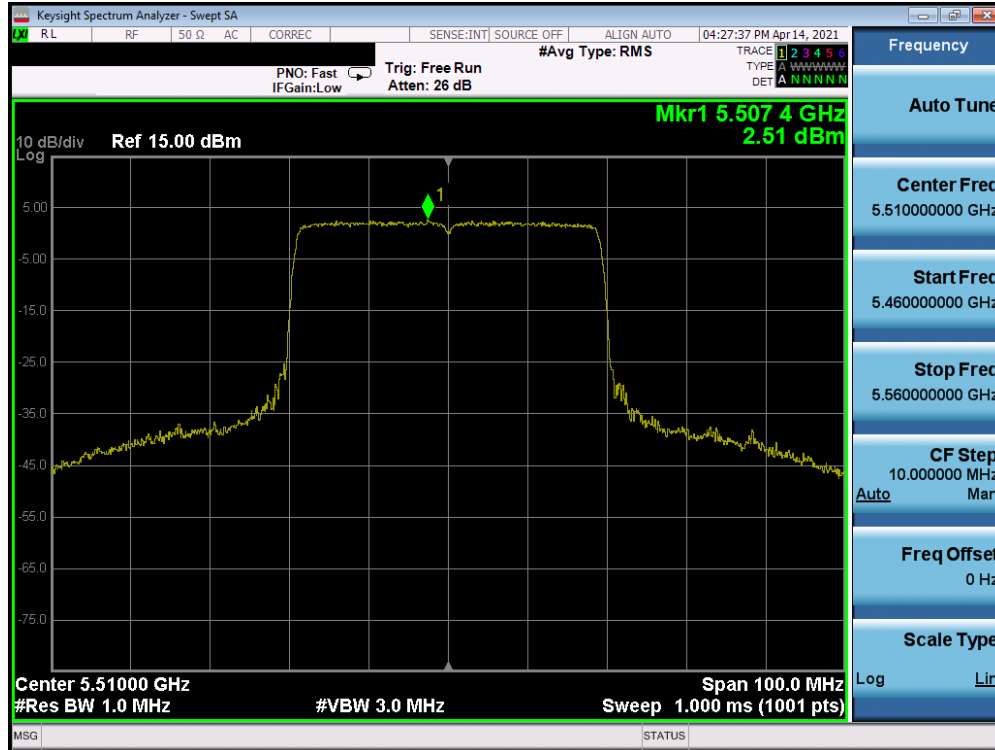


Plot 7-171. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 120)

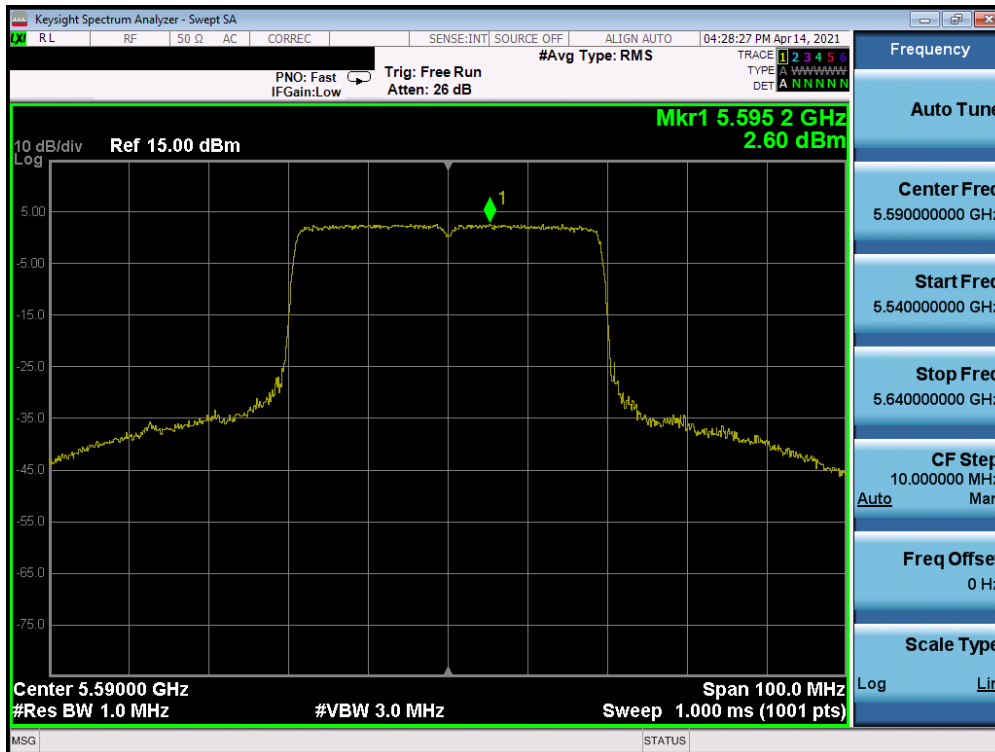


Plot 7-172. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 123 of 204

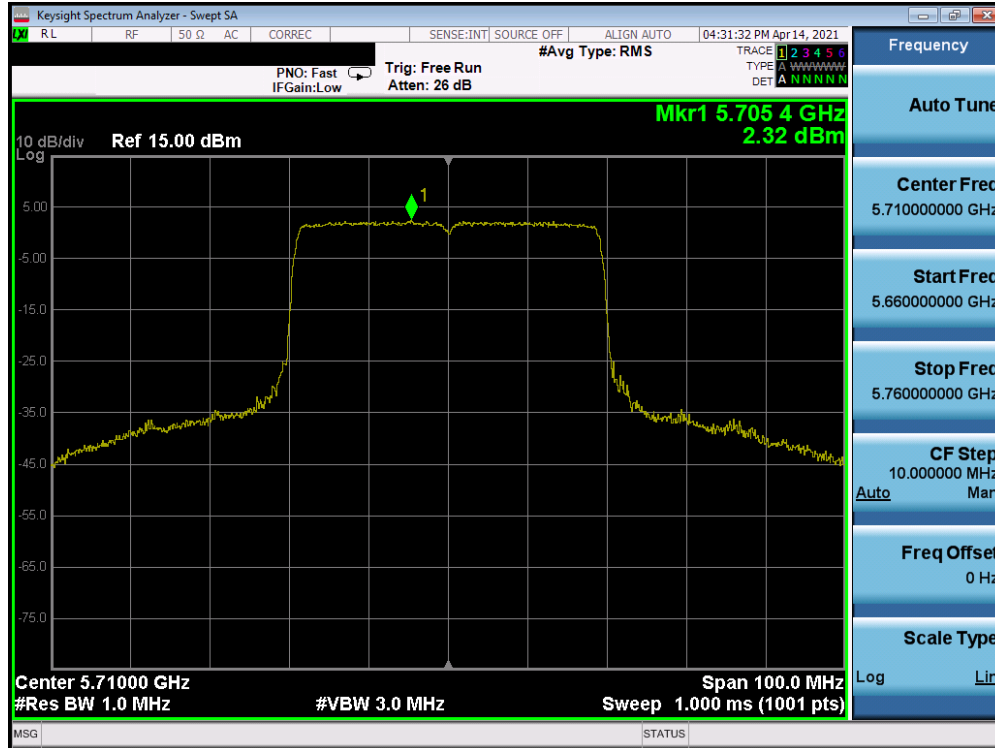


Plot 7-173. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 102)

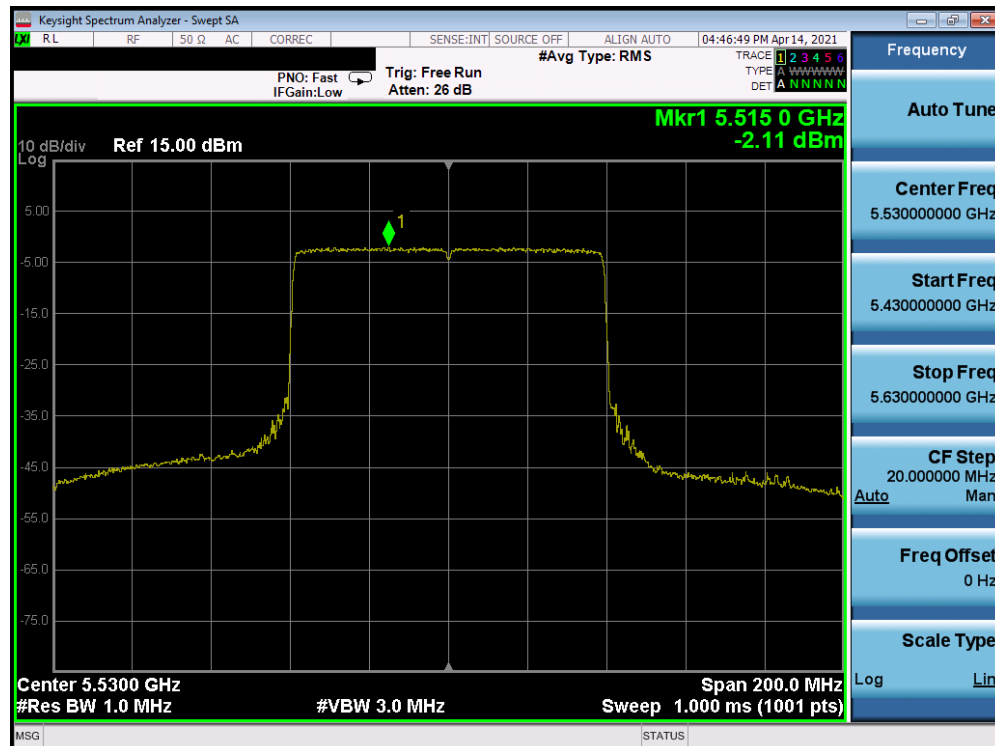


Plot 7-174. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 124 of 204



Plot 7-175. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 142)



Plot 7-176. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMF926B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2104190044-13.A3L	Test Dates: 04/22/21 - 06/22/21	EUT Type: Portable Handset		Page 125 of 204