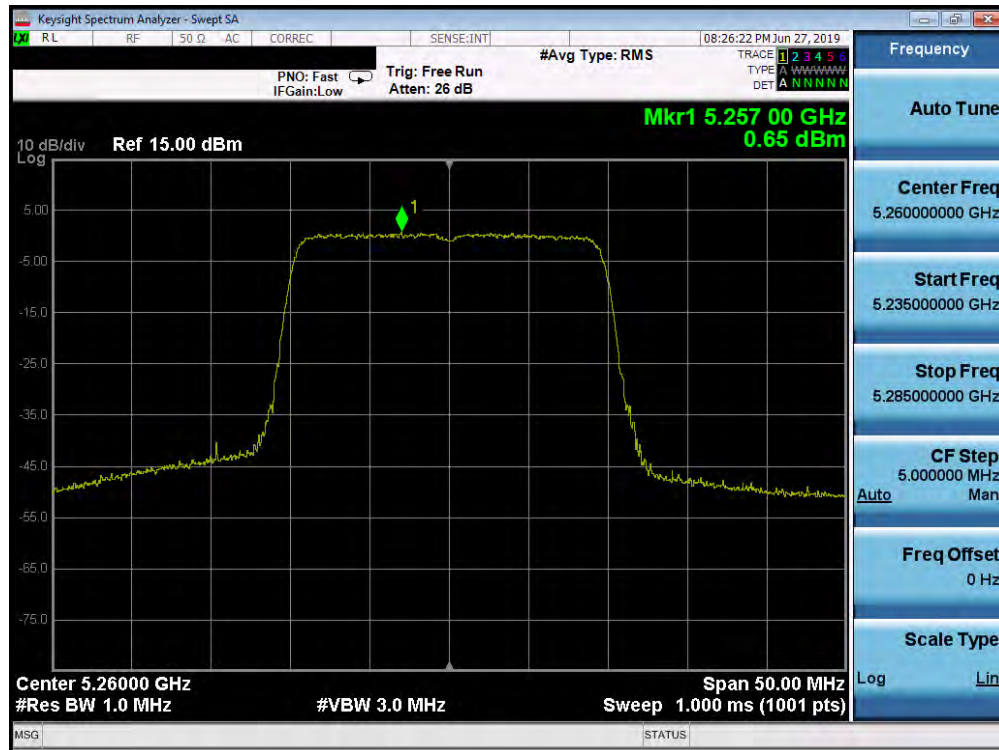
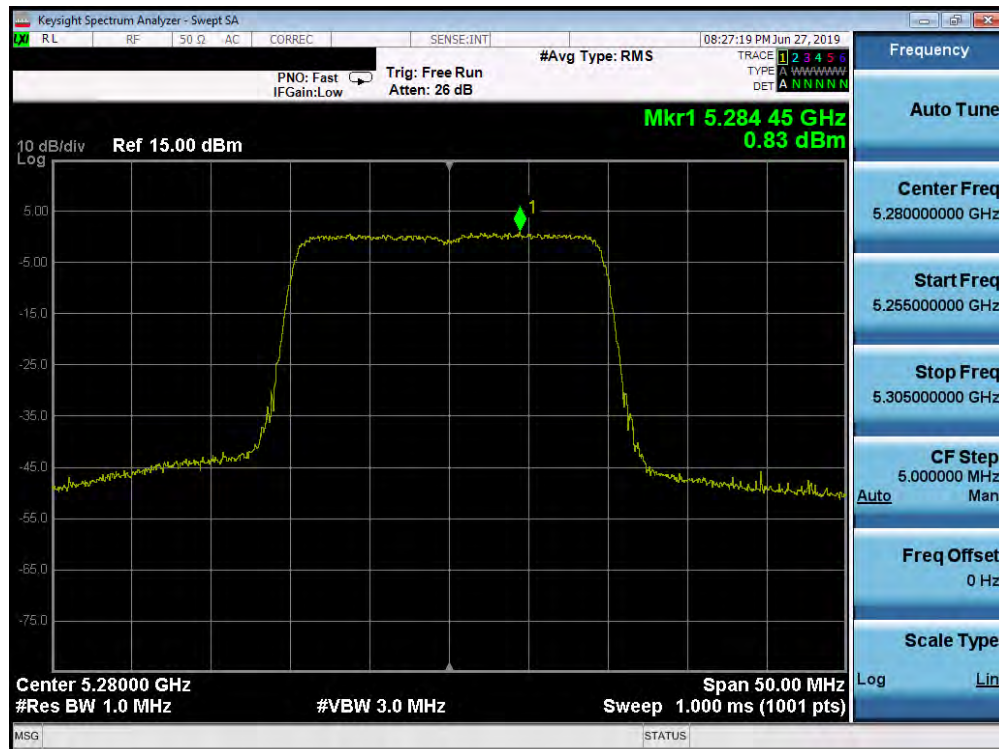


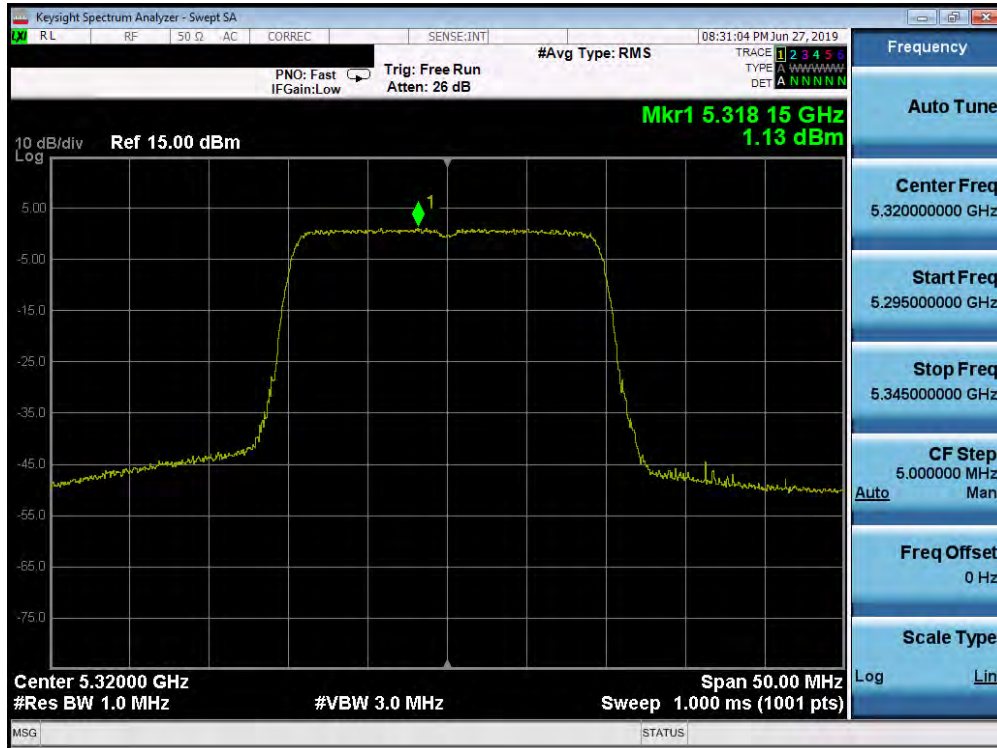


Plot 7-88. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)

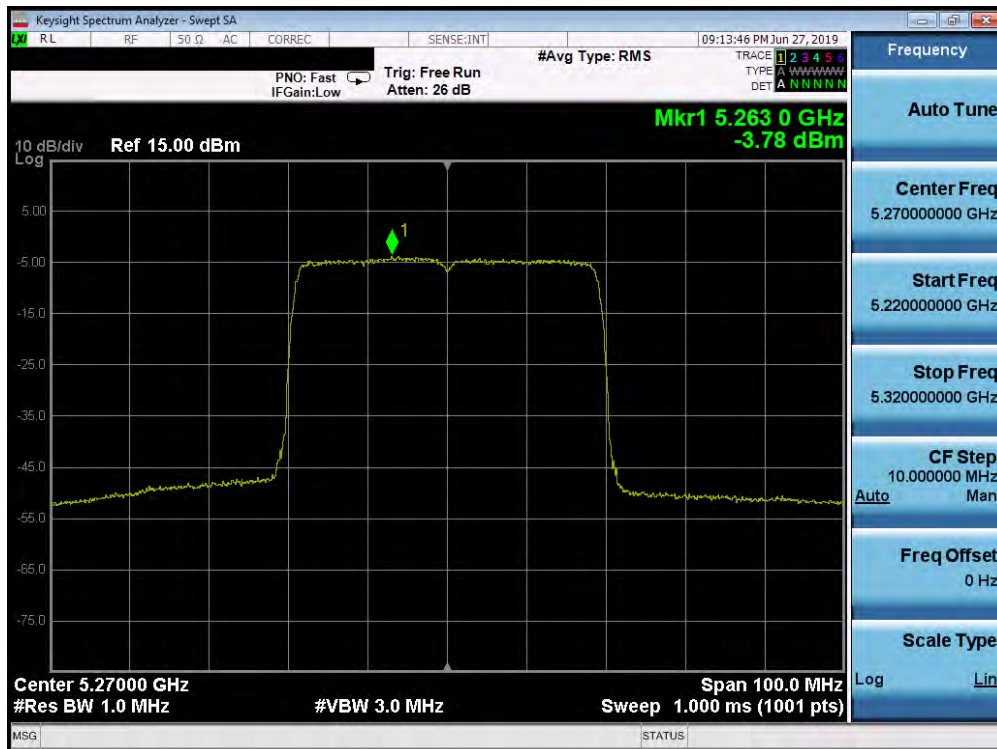


Plot 7-89. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 89 of 269

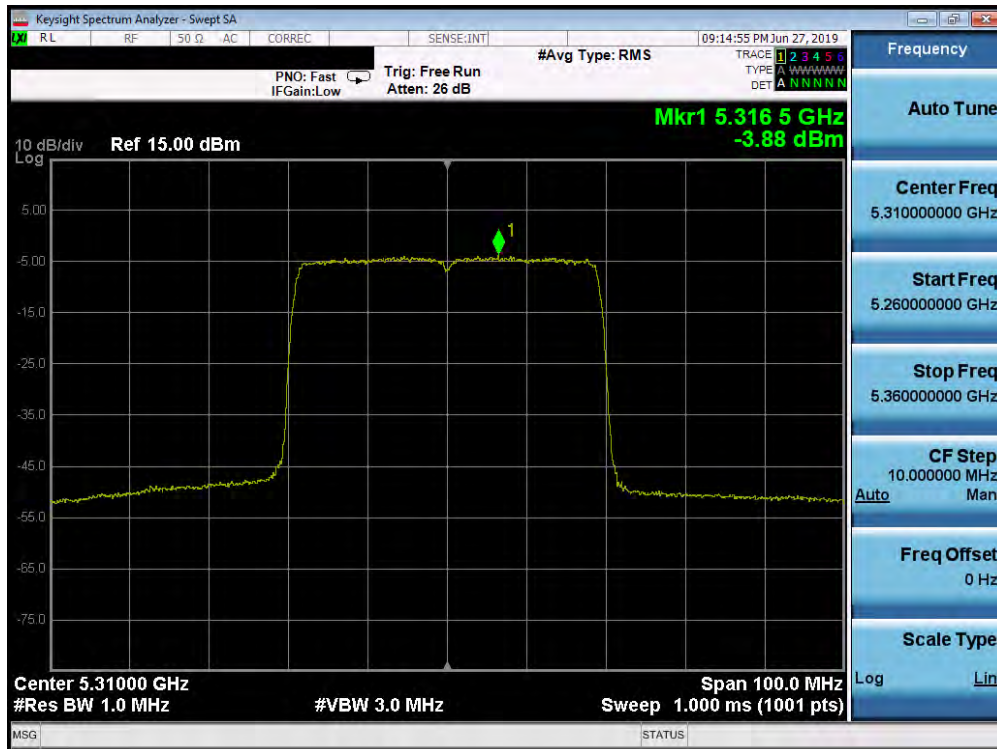


Plot 7-90. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)

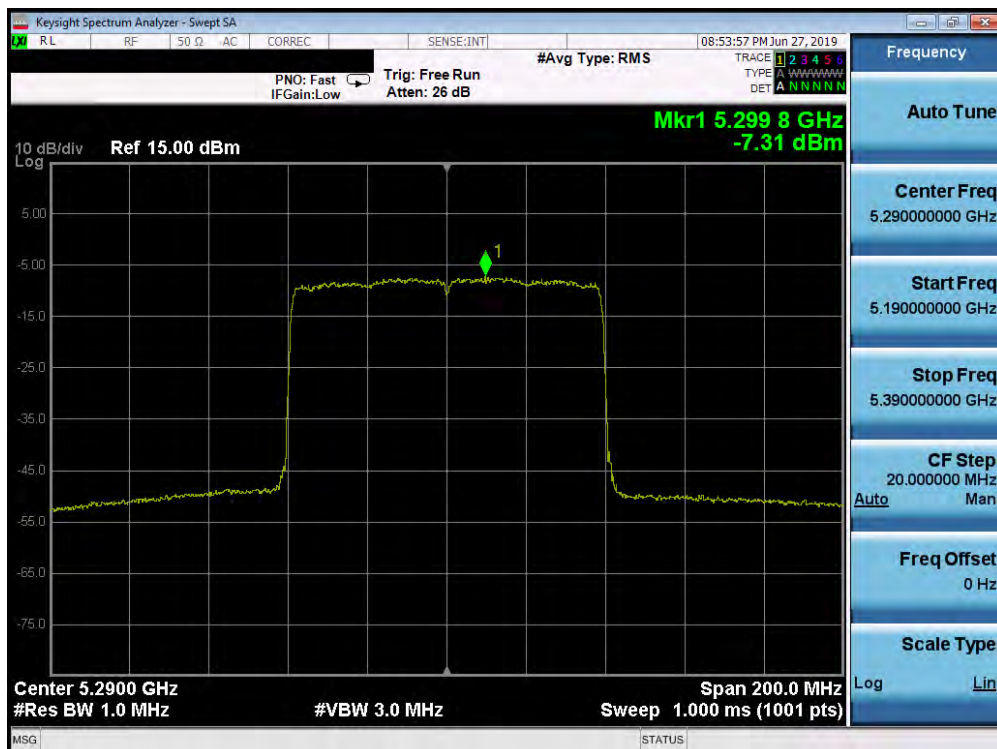


Plot 7-91. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 90 of 269

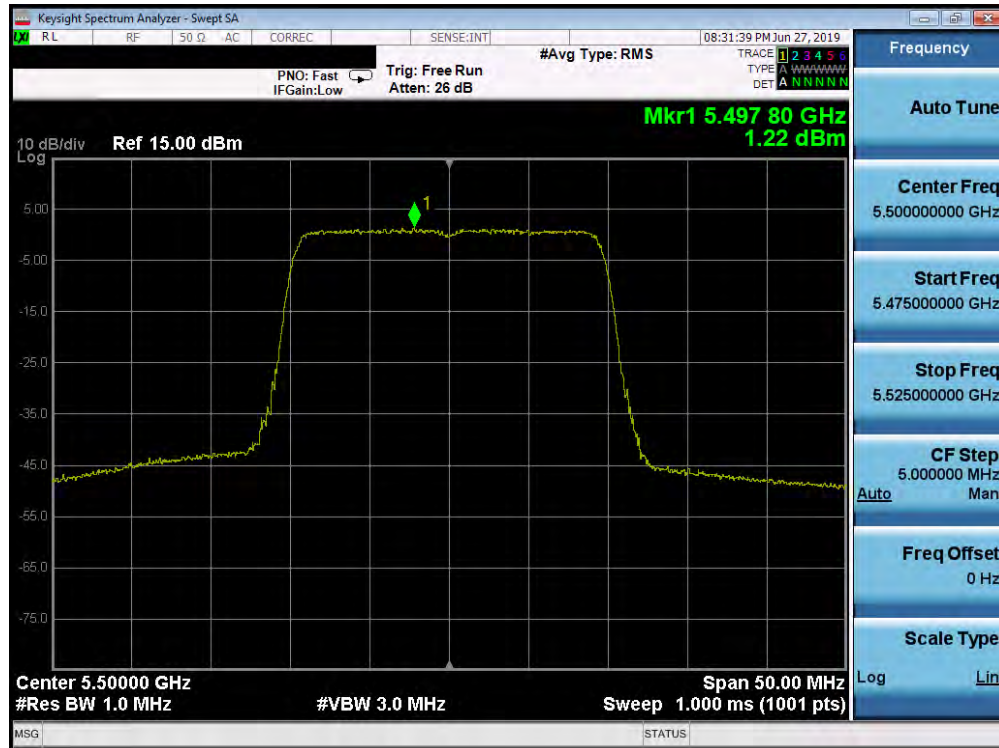


Plot 7-92. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 62)

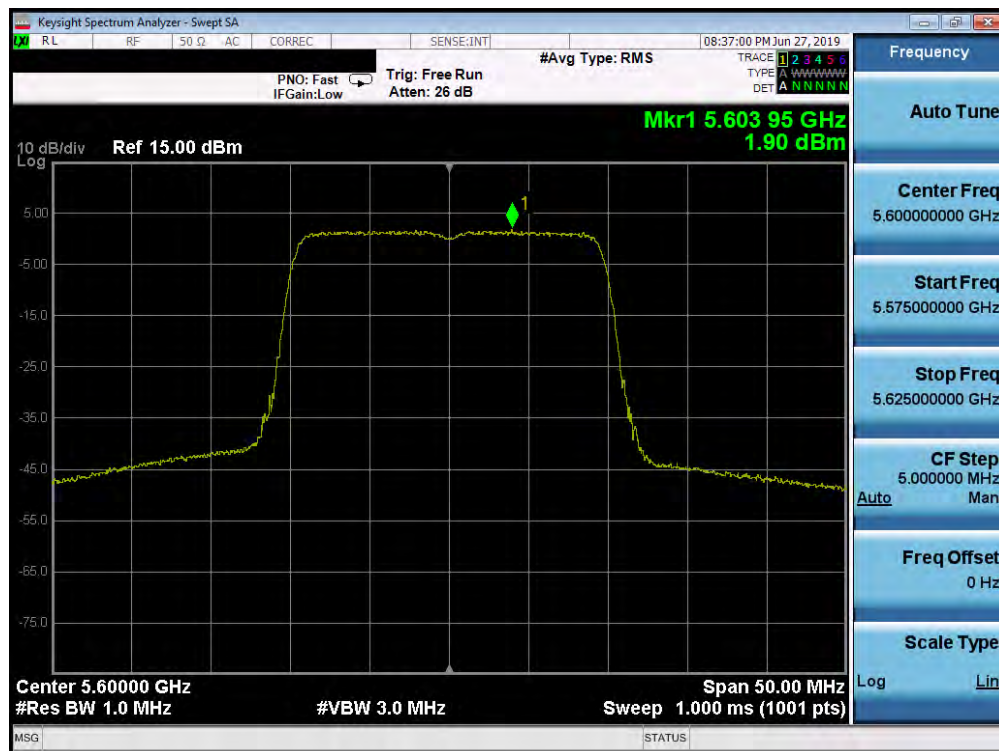


Plot 7-93. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 91 of 269

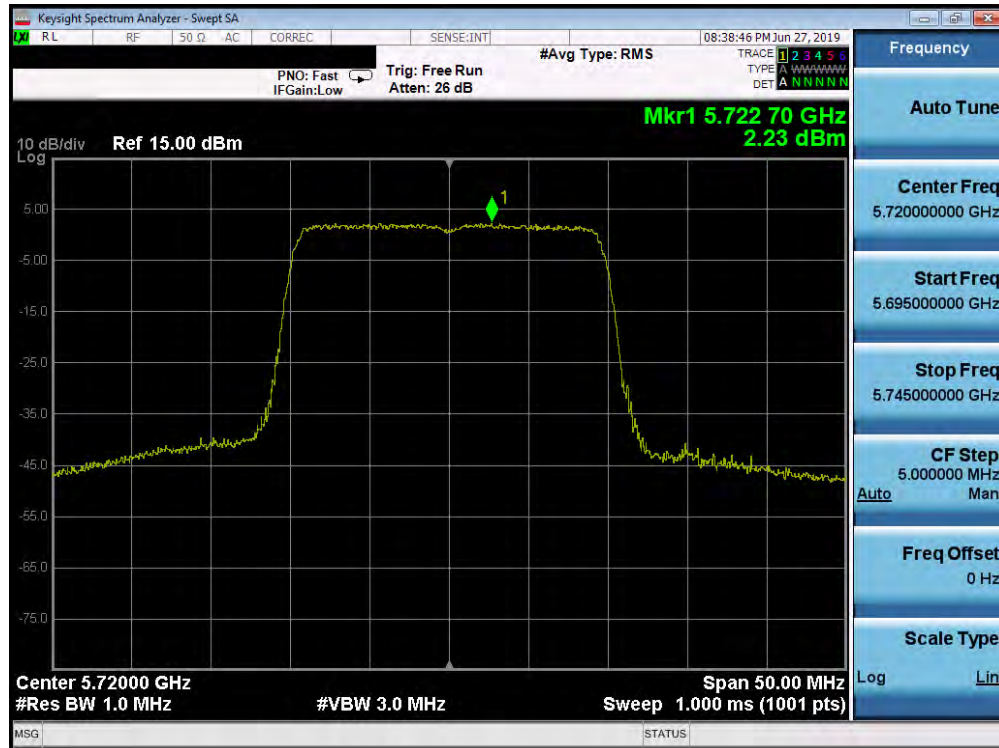


Plot 7-94. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 100)

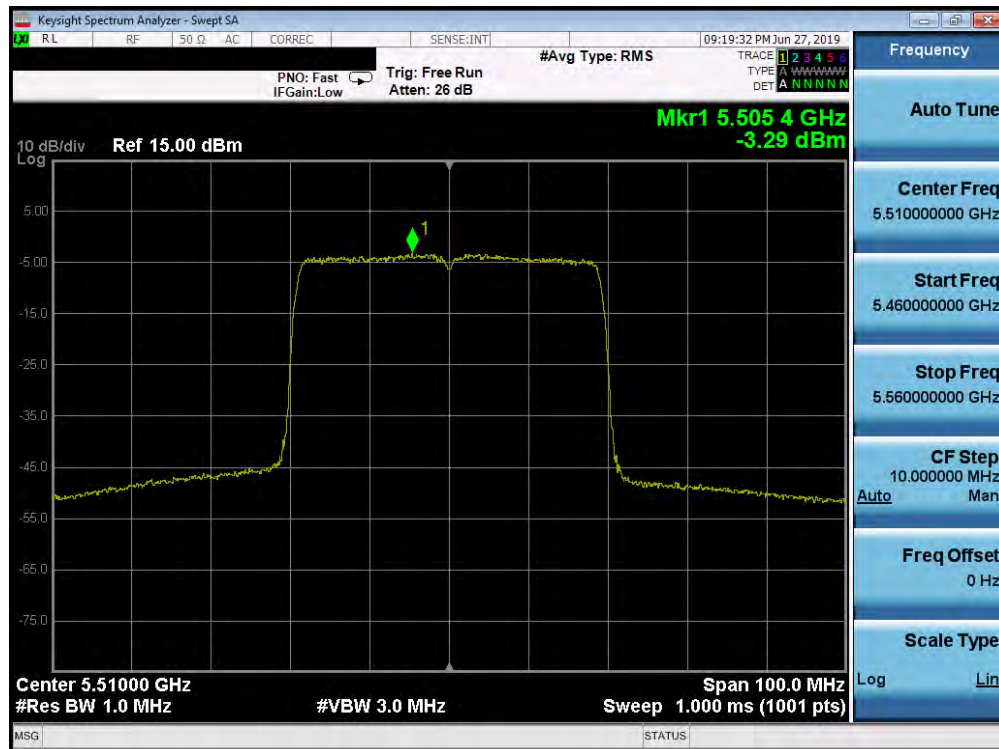


Plot 7-95. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 92 of 269

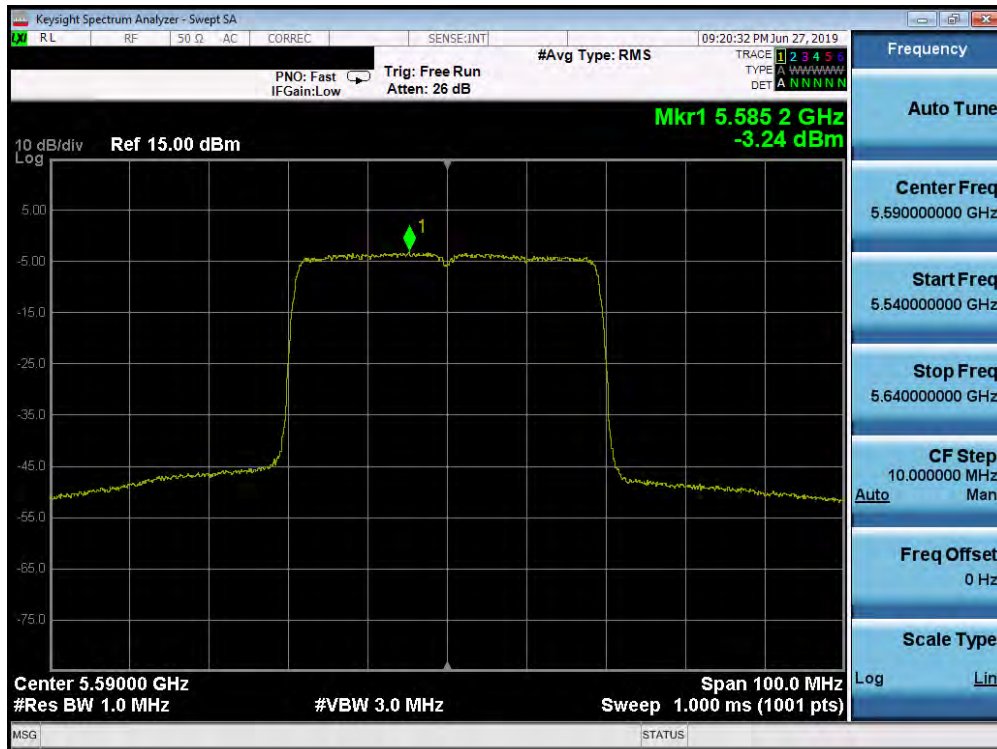


Plot 7-96. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 144)

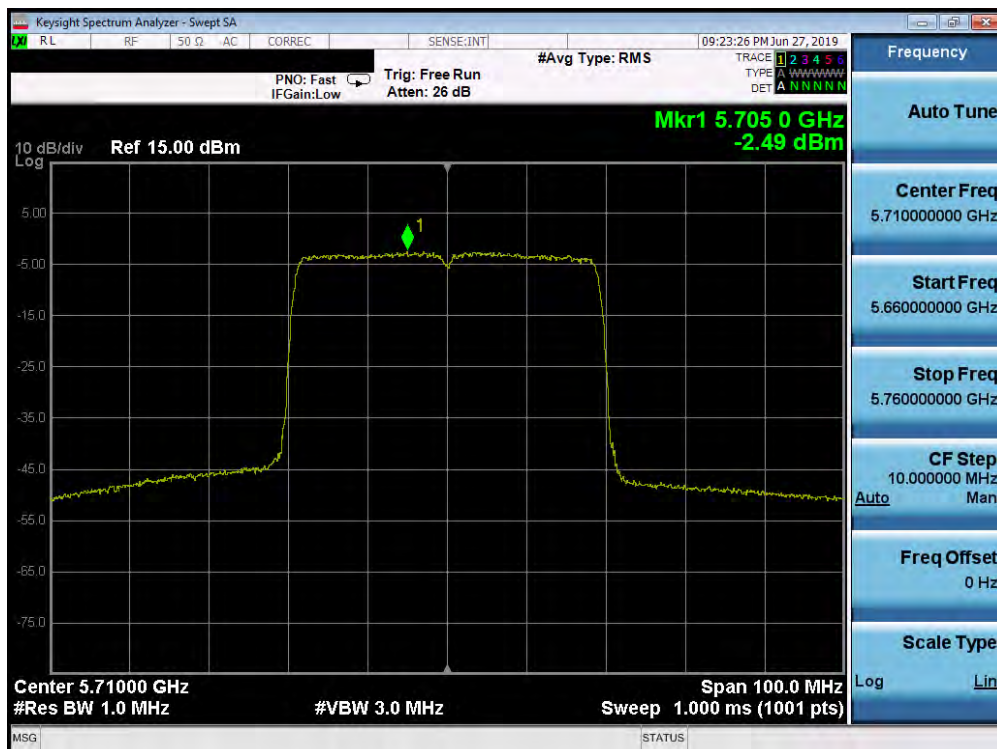


Plot 7-97. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 93 of 269

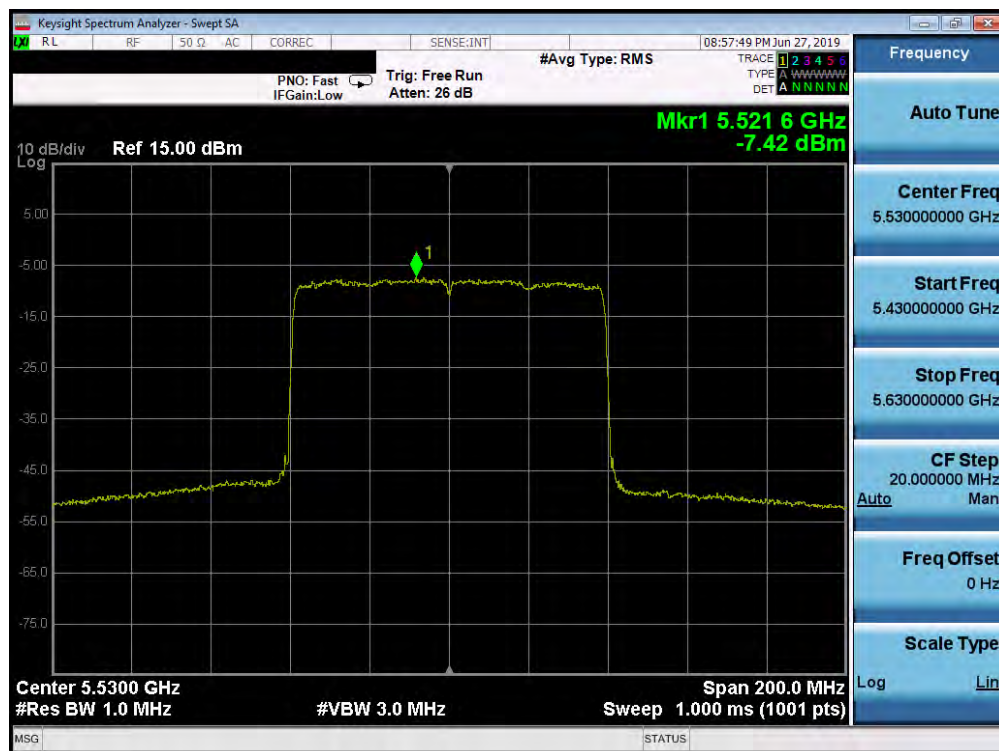


Plot 7-98. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)

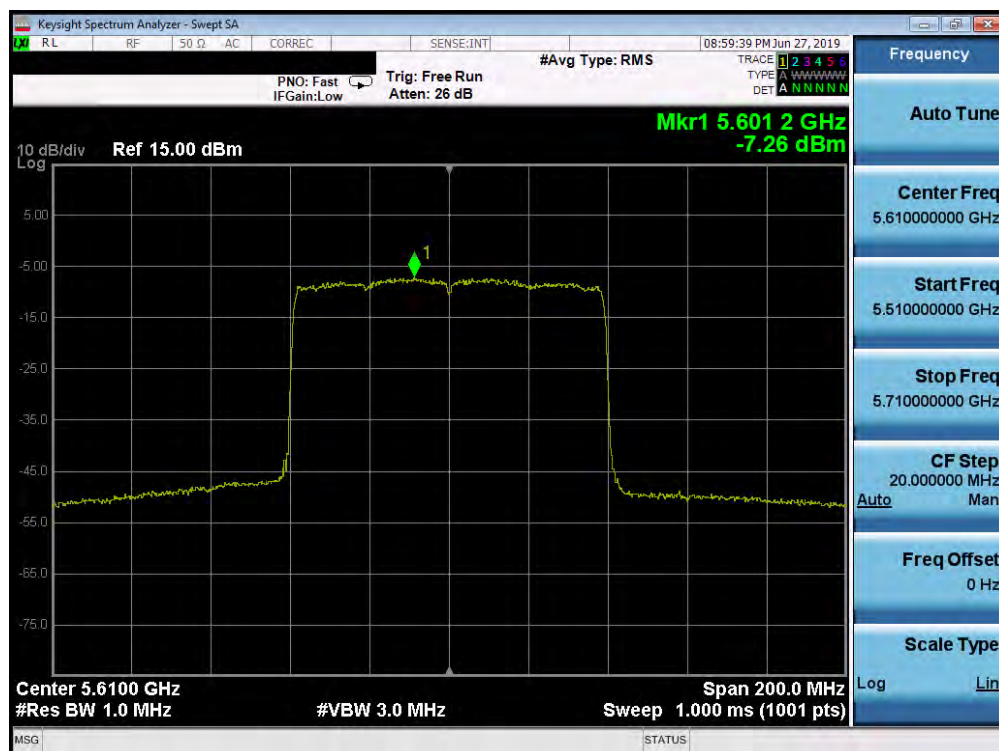


Plot 7-99. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 94 of 269

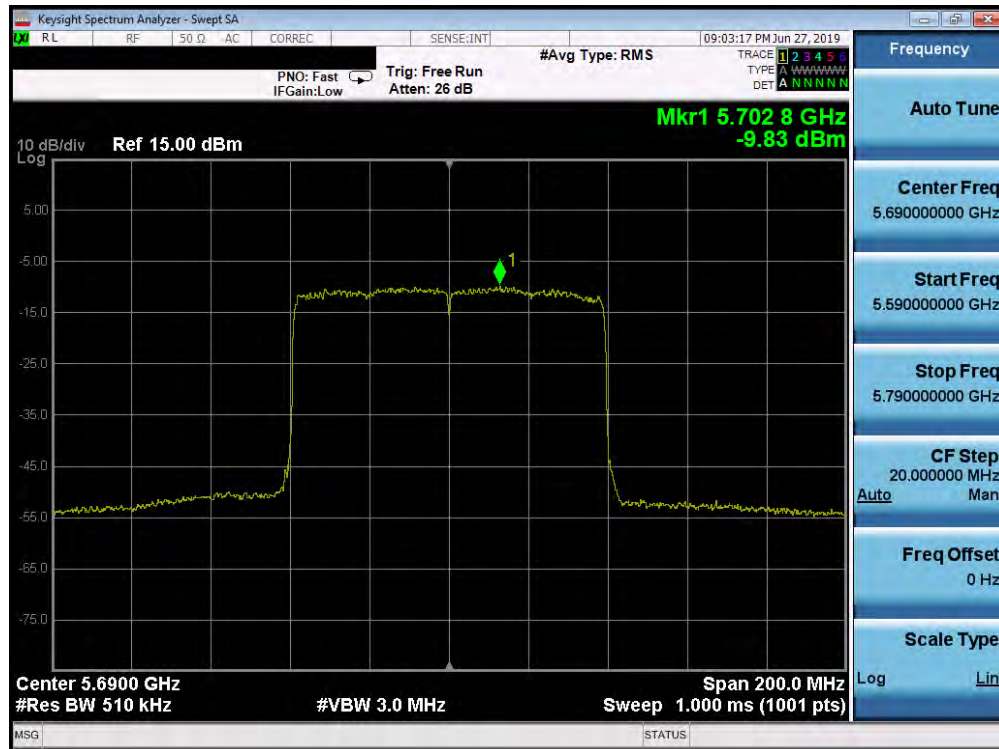


Plot 7-100. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 106)



Plot 7-101. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 95 of 269



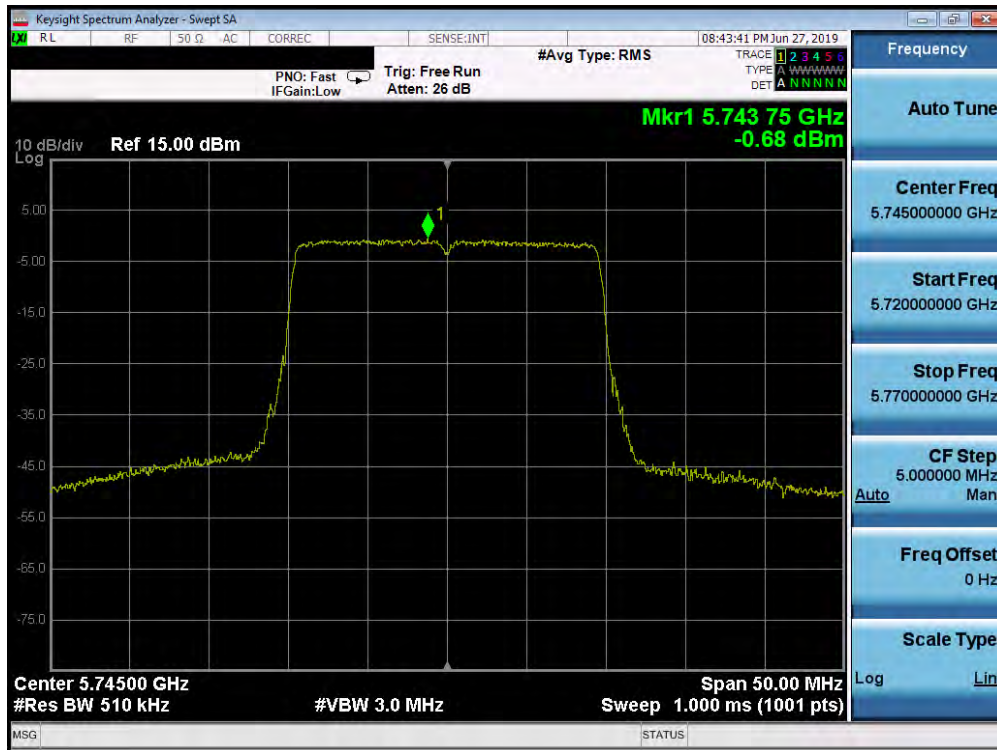
Plot 7-102. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMN970U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 96 of 269

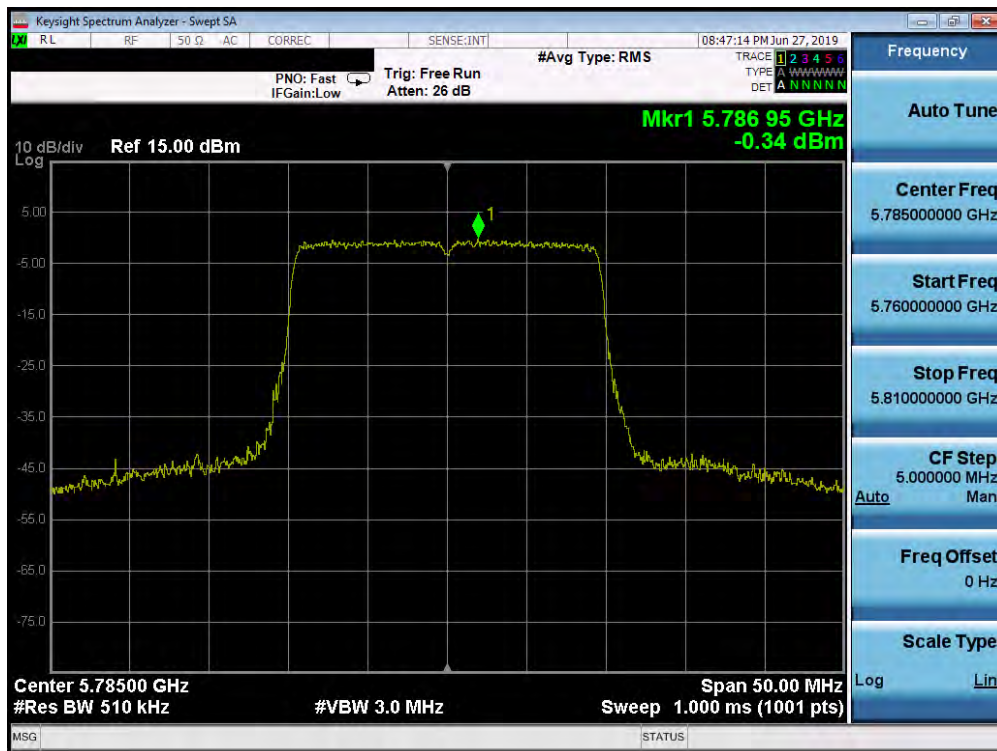
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density	Margin [dB]
Band 3	5745	149	ax (20MHz)	242T	MCS0	-0.68	30.00	-30.68
	5785	157	ax (20MHz)	242T	MCS0	-0.34	30.00	-30.34
	5825	165	ax (20MHz)	242T	MCS0	-0.44	30.00	-30.44
	5755	151	ax (40MHz)	484T	MCS0	-5.37	30.00	-35.37
	5795	159	ax (40MHz)	484T	MCS0	-5.37	30.00	-35.37
	5775	155	ax (80MHz)	996T	MCS0	-6.83	30.00	-36.83

Table 7-56. Band 3 Conducted Power Spectral Density Measurements SISO ANT1 (Full Tones)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	
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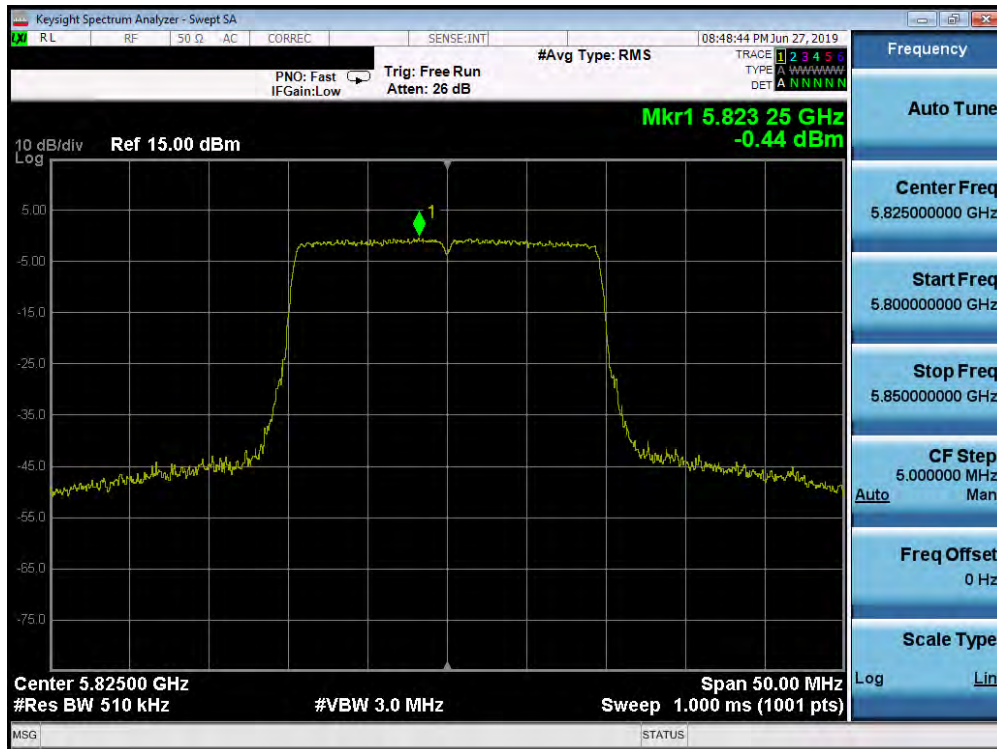


Plot 7-103. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 149)

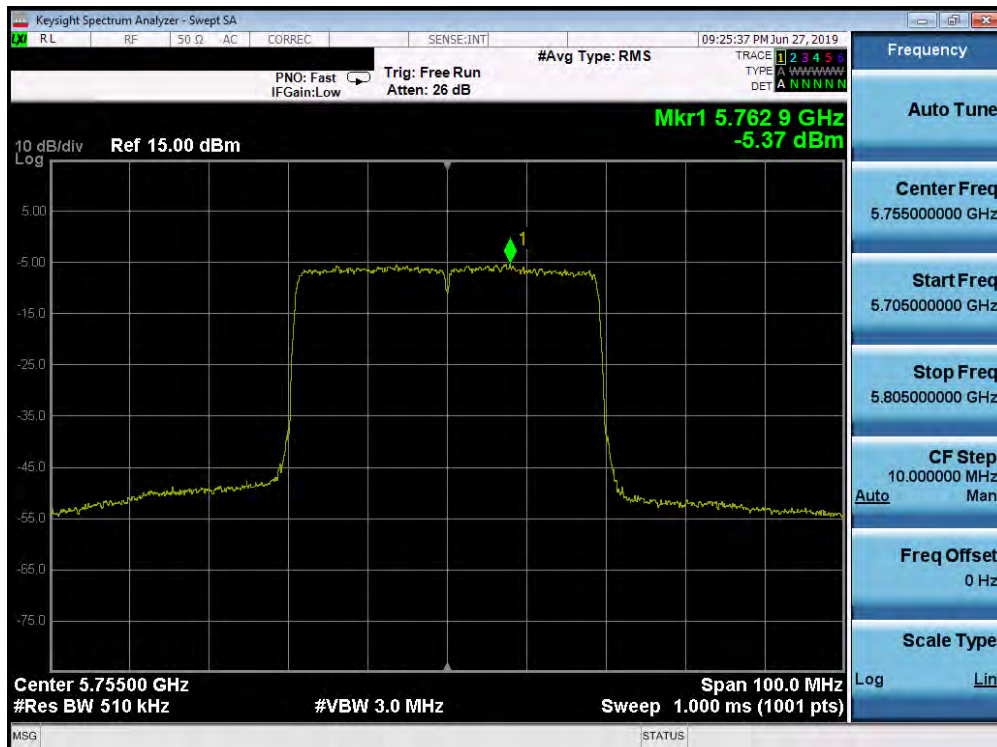


Plot 7-104. Power Spectral Density Plot SISO ANT1 (20MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 98 of 269

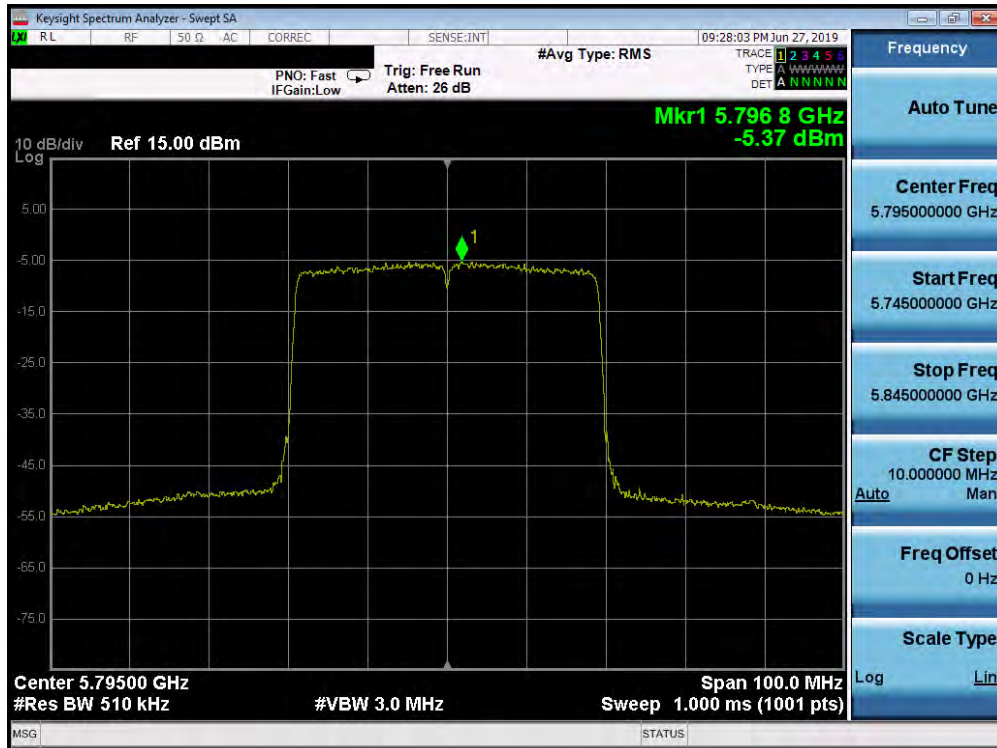


Plot 7-105. Power Spectral Density Plot SISO ANT1 (20 MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 165)

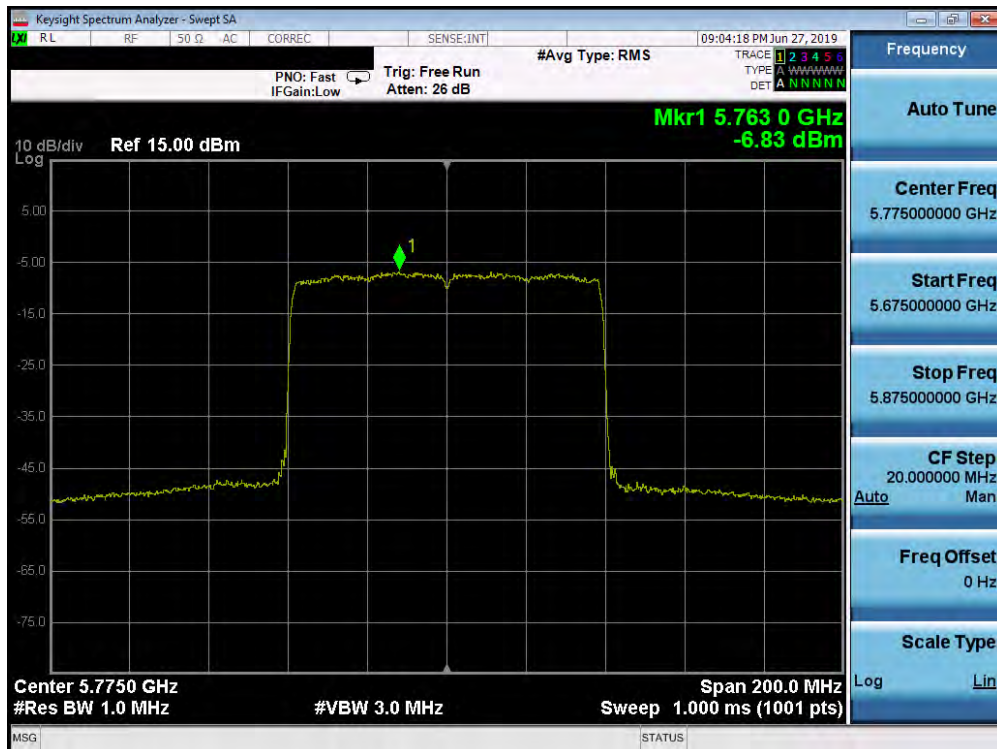


Plot 7-106. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMN970U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 99 of 269



Plot 7-107. Power Spectral Density Plot SISO ANT1 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 159)



Plot 7-108. Power Spectral Density Plot SISO ANT1 (80MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 100 of 269

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

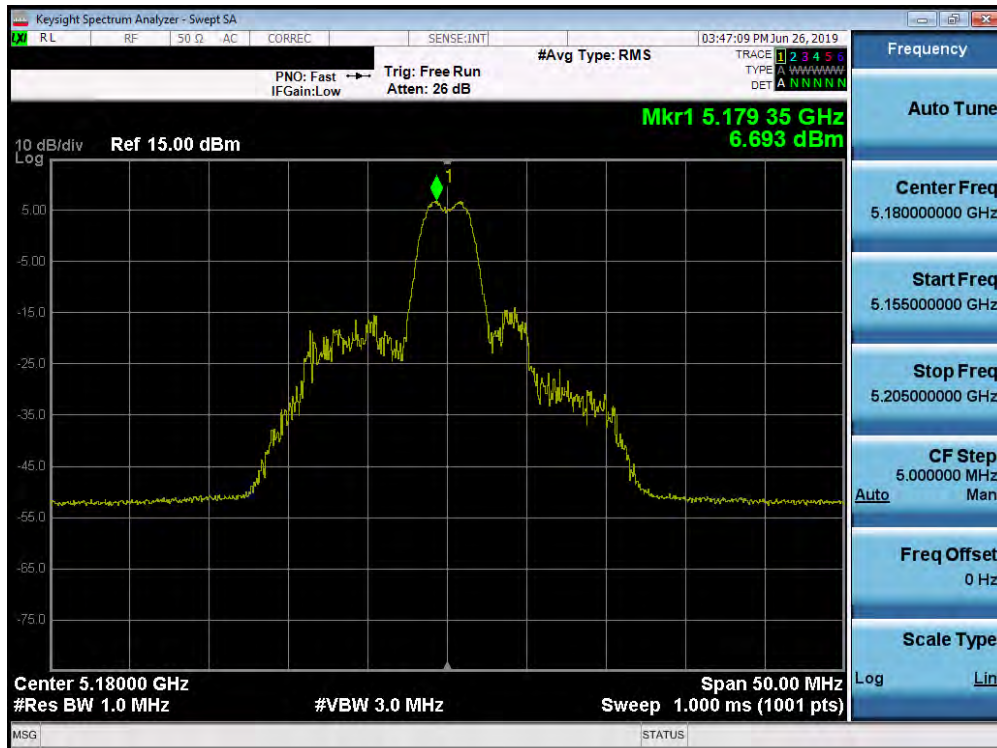
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	26T	MCS0	6.69	11.0	-4.31
	5200	40	ax (20MHz)	26T	MCS0	7.04	11.0	-3.96
	5240	48	ax (20MHz)	26T	MCS0	8.85	11.0	-2.15
	5190	38	ax (40MHz)	26T	MCS0	8.67	11.0	-2.33
	5230	46	ax (40MHz)	26T	MCS0	9.24	11.0	-1.76
	5210	42	ax (80MHz)	26T	MCS0	7.24	11.0	-3.76
Band 2A	5260	52	ax (20MHz)	26T	MCS0	6.75	11.0	-4.25
	5280	56	ax (20MHz)	26T	MCS0	6.65	11.0	-4.35
	5320	64	ax (20MHz)	26T	MCS0	7.28	11.0	-3.72
	5270	54	ax (40MHz)	26T	MCS0	9.01	11.0	-1.99
	5310	62	ax (40MHz)	26T	MCS0	8.79	11.0	-2.21
	5290	58	ax (80MHz)	26T	MCS0	8.11	11.0	-2.89
Band 2C	5500	100	ax (20MHz)	26T	MCS0	7.59	11.0	-3.41
	5600	120	ax (20MHz)	26T	MCS0	7.43	11.0	-3.57
	5720	144	ax (20MHz)	26T	MCS0	7.69	11.0	-3.31
	5510	102	ax (40MHz)	26T	MCS0	9.41	11.0	-1.59
	5590	118	ax (40MHz)	26T	MCS0	9.37	11.0	-1.63
	5710	142	ax (40MHz)	26T	MCS0	8.54	11.0	-2.46
	5530	106	ax (80MHz)	26T	MCS0	7.04	11.0	-3.96
	5610	122	ax (80MHz)	26T	MCS0	5.04	11.0	-5.96
	5690	138	ax (80MHz)	26T	MCS0	6.57	11.0	-4.43

Table 7-57. Conducted Power Spectral Density Measurements SISO ANT2 (26 Tones)

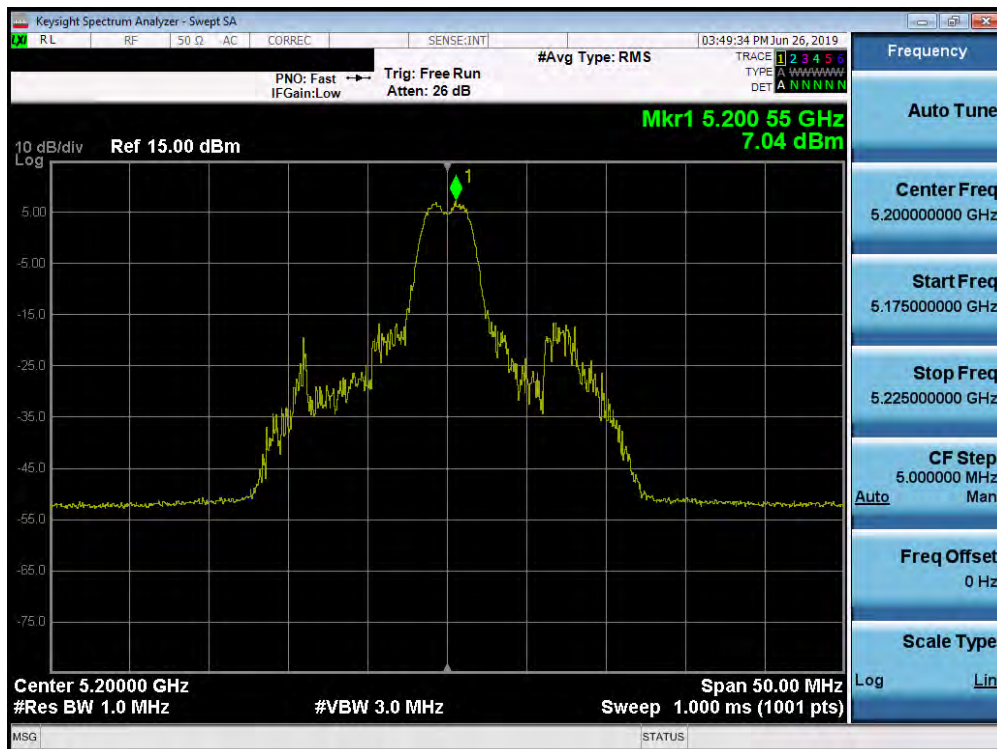
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	26T	MCS0	6.69	-6.44	0.25	10.0	-9.75
	5200	40	ax (20MHz)	26T	MCS0	7.04	-6.44	0.60	10.0	-9.40
	5240	48	ax (20MHz)	26T	MCS0	8.85	-6.44	2.41	10.0	-7.59
	5190	38	ax (40MHz)	26T	MCS0	8.67	-6.44	2.23	10.0	-7.77
	5230	46	ax (40MHz)	26T	MCS0	9.24	-6.44	2.80	10.0	-7.20
	5210	42	ax (80MHz)	26T	MCS0	7.24	-6.44	0.80	10.0	-9.20

Table 7-58. Band 1 e.i.r.p. Conducted Power Spectral Density Measurements (ISED 26 Tones)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 101 of 269

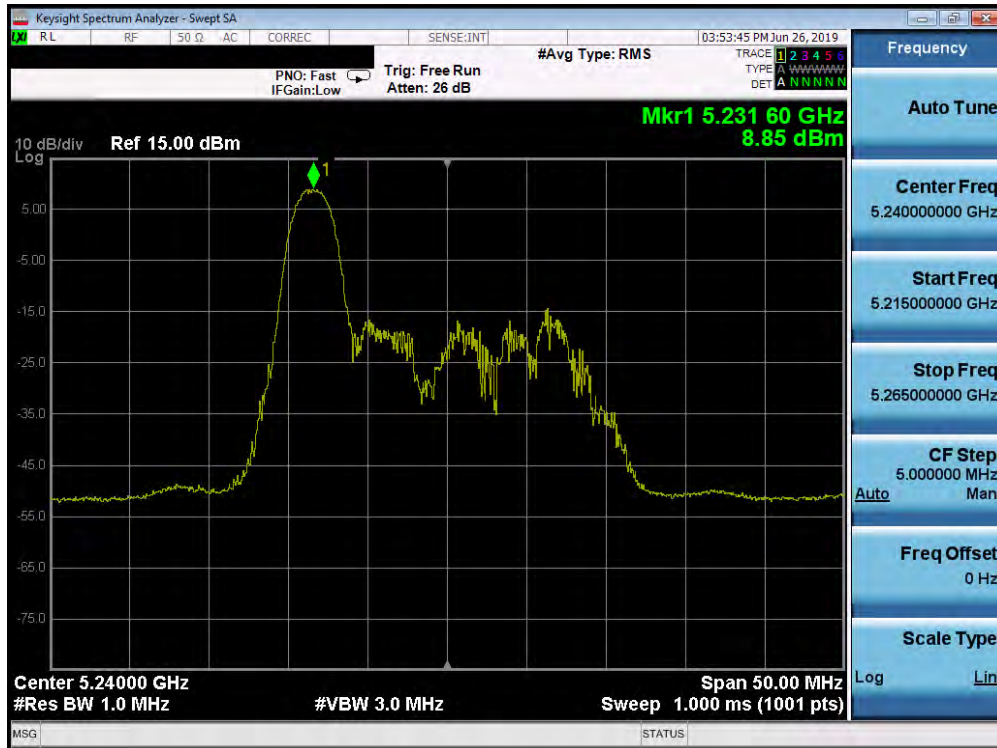


Plot 7-109. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

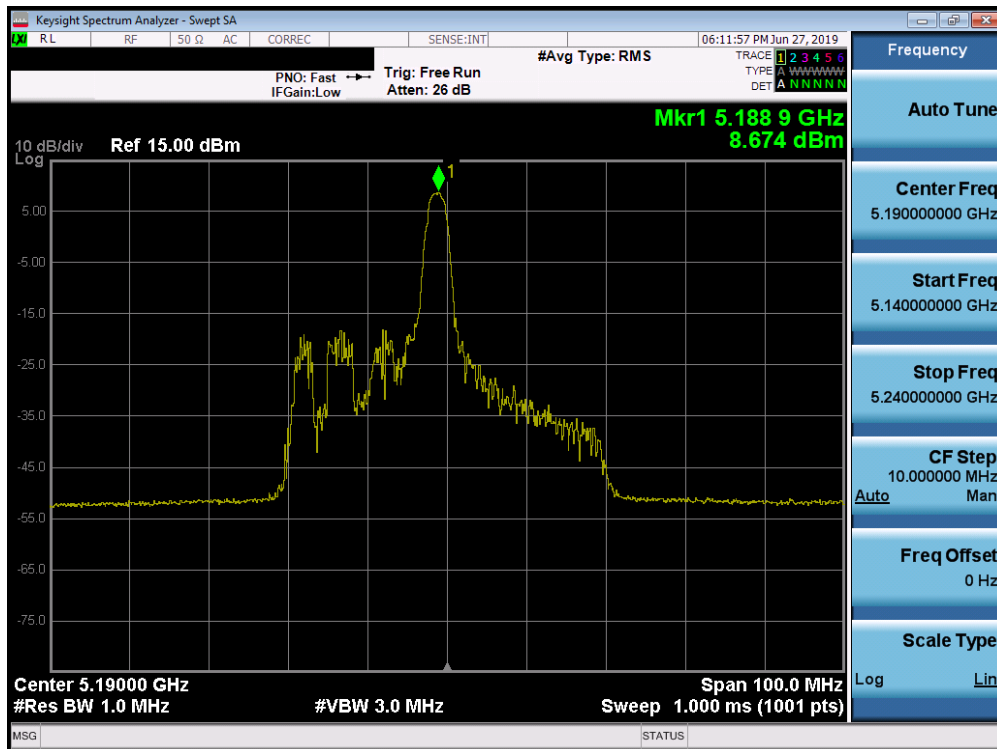


Plot 7-110. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 102 of 269

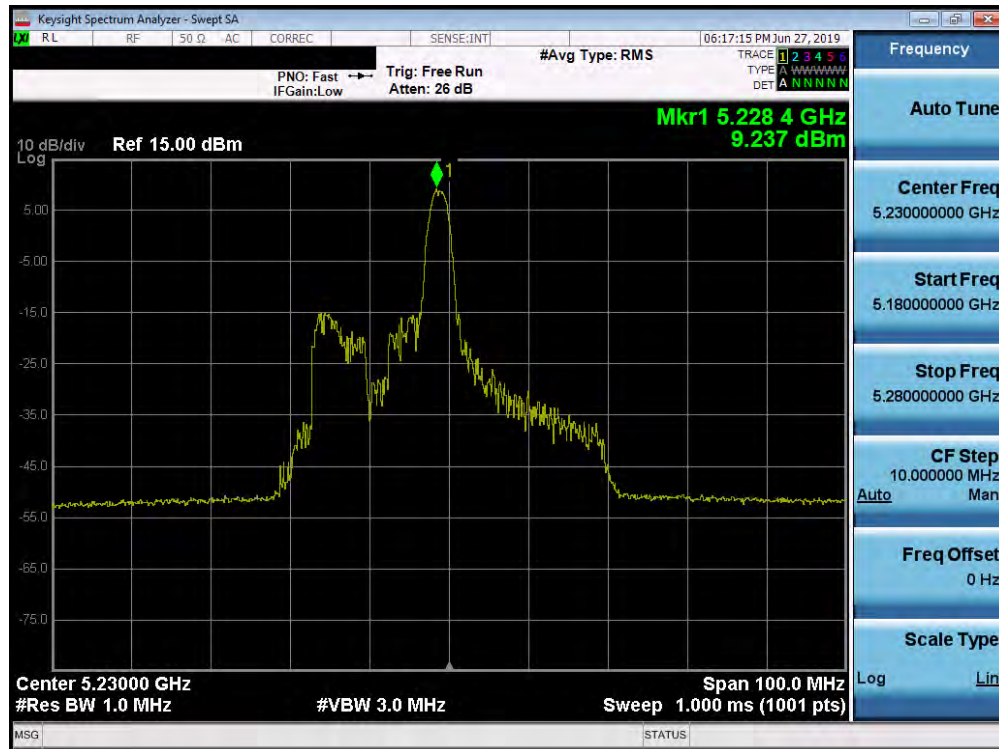


Plot 7-111. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)



Plot 7-112. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 103 of 269

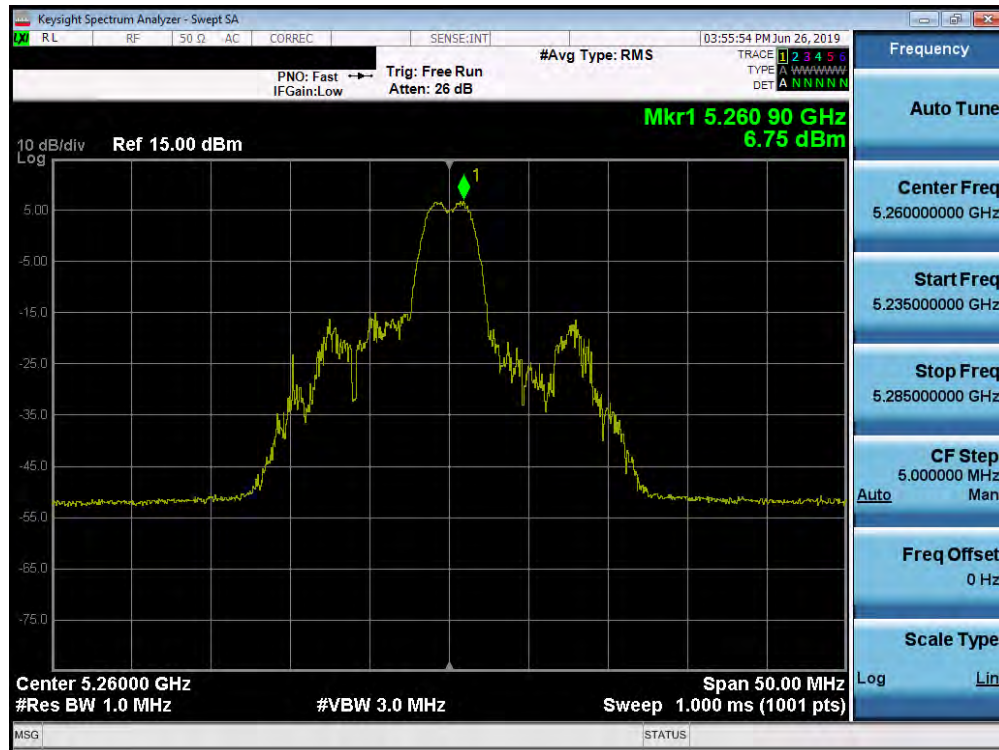


Plot 7-113. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

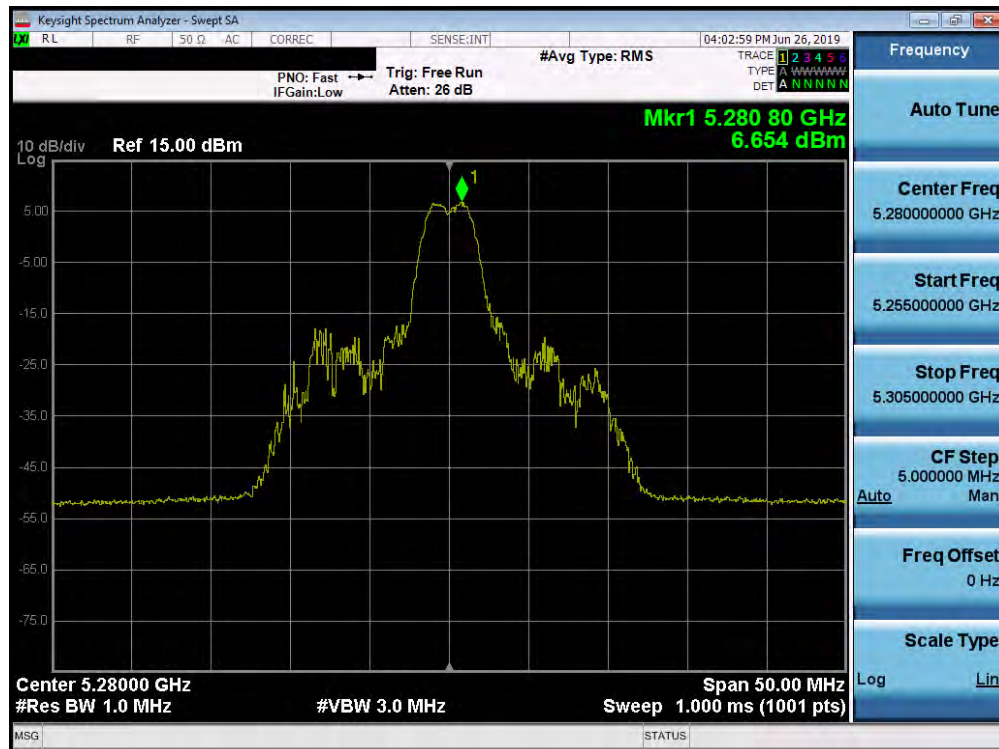


Plot 7-114. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 104 of 269



Plot 7-115. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

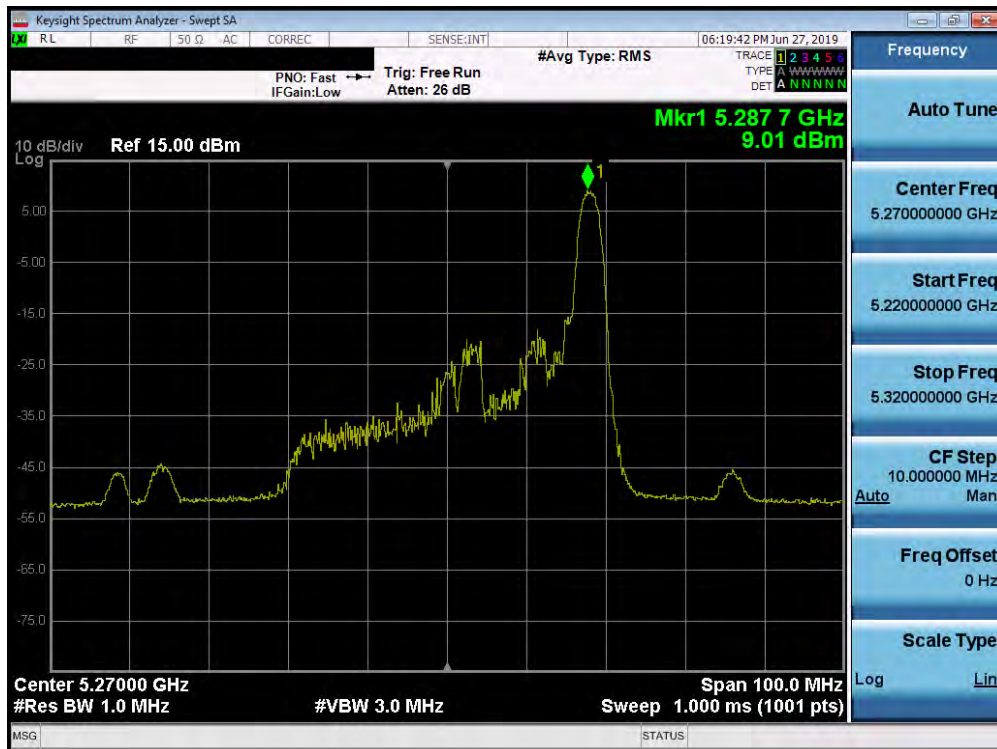


Plot 7-116. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 105 of 269

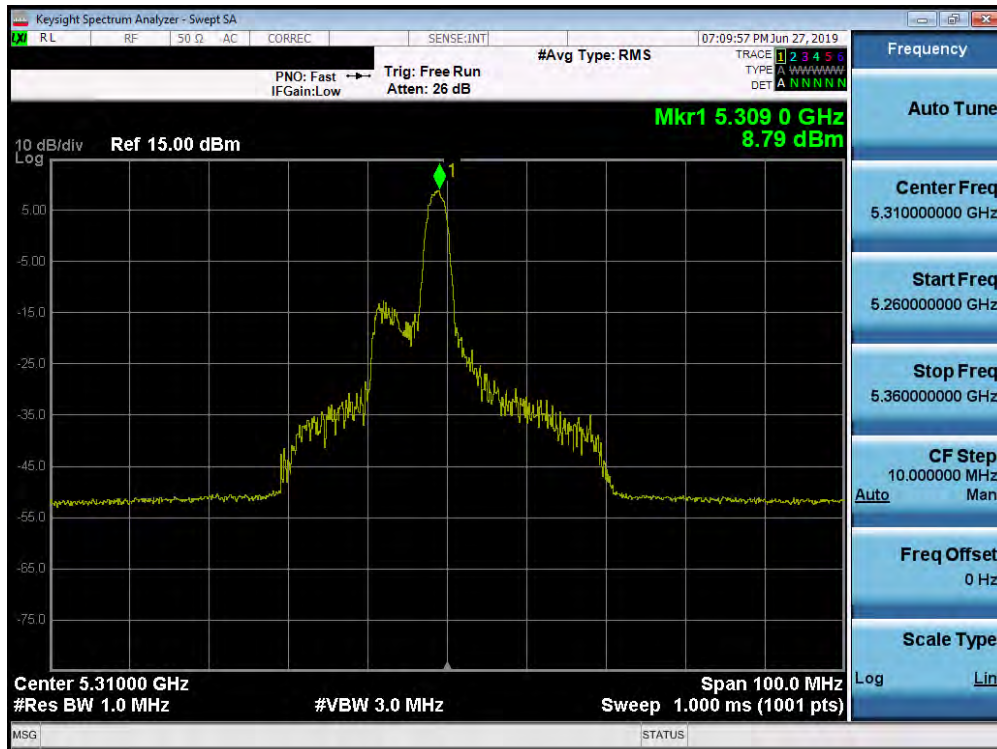


Plot 7-117. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

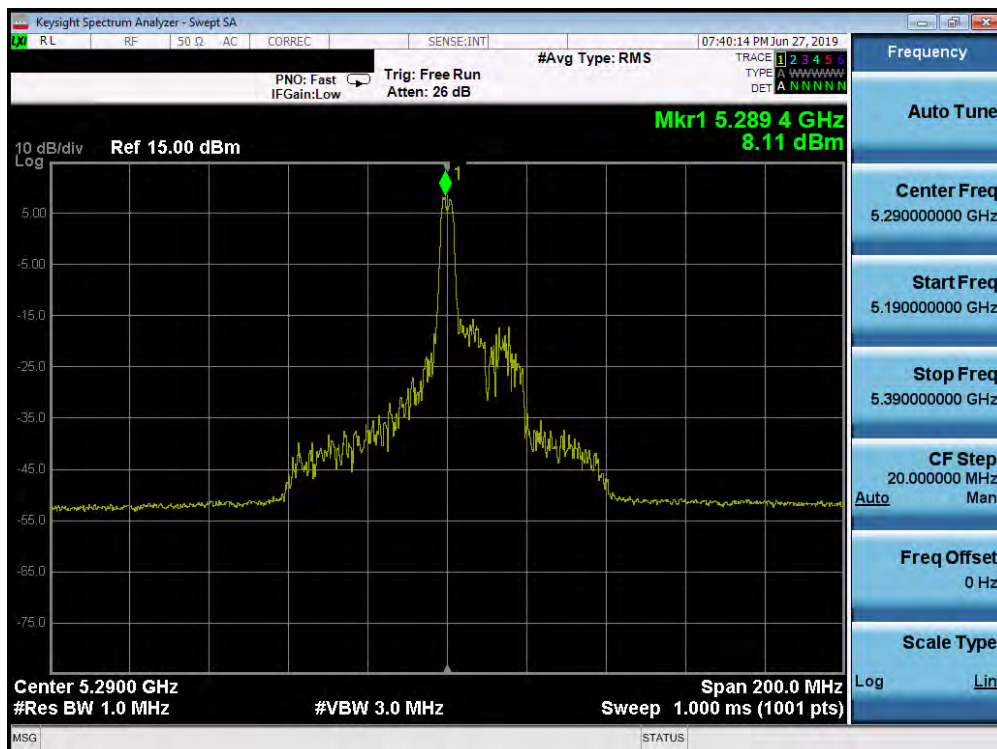


Plot 7-118. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 106 of 269

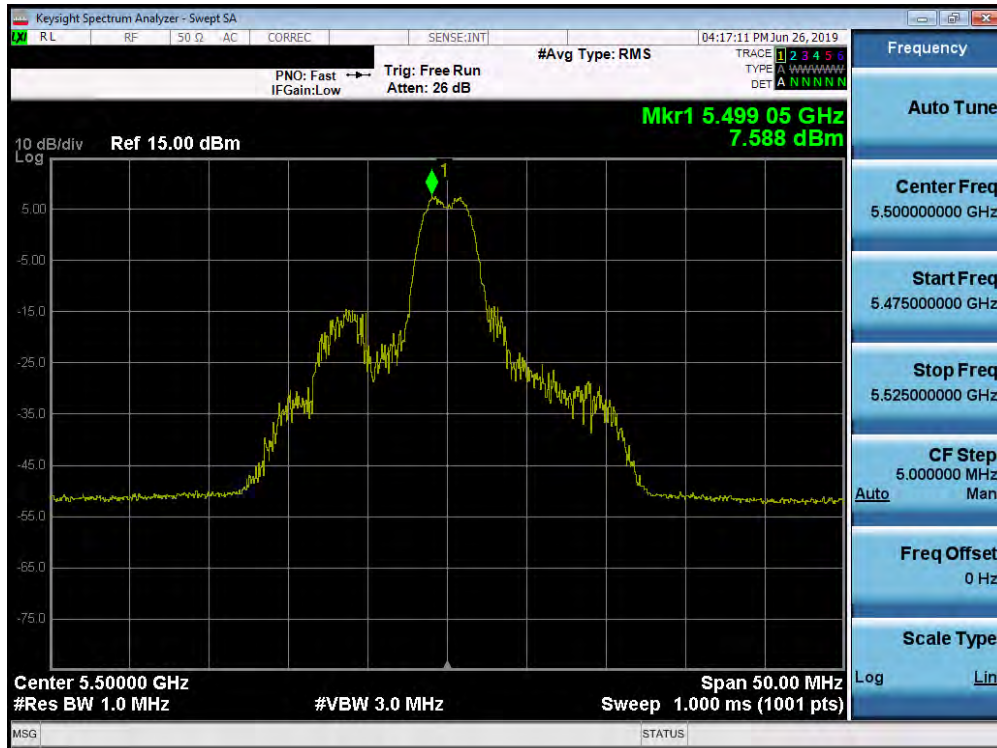


Plot 7-119. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

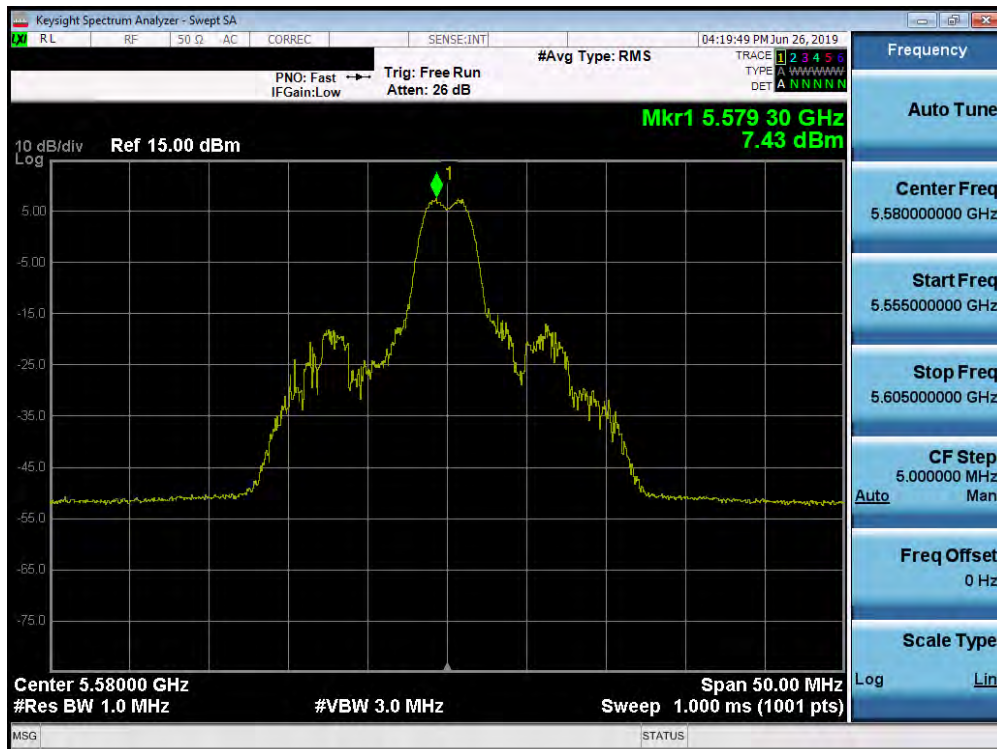


Plot 7-120. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 107 of 269

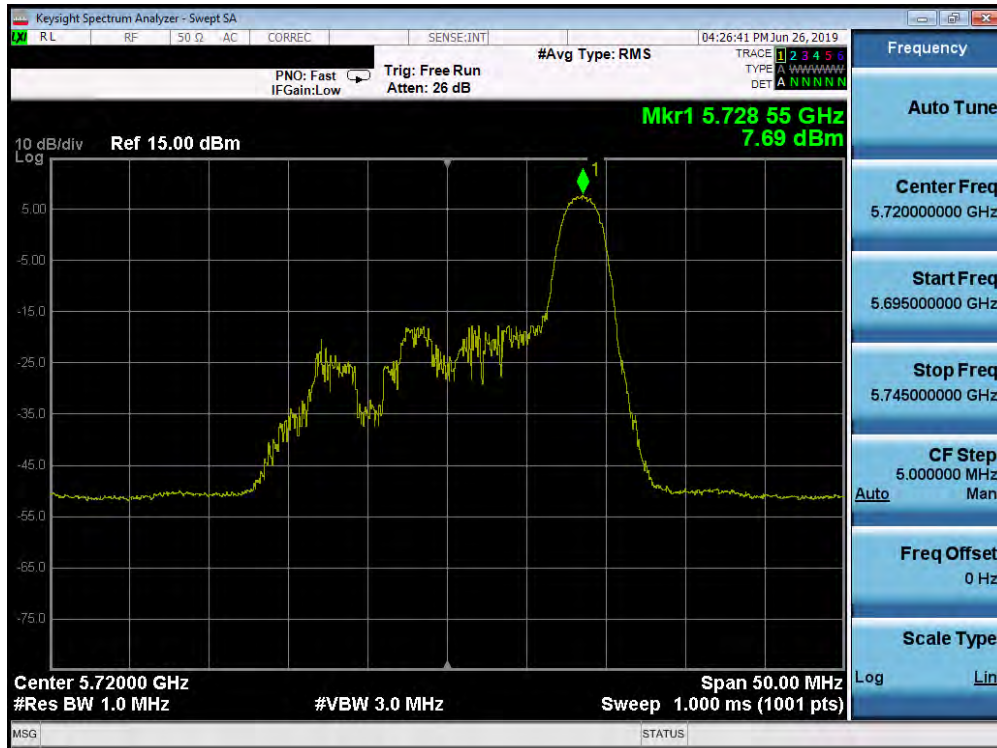


Plot 7-121. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 100)

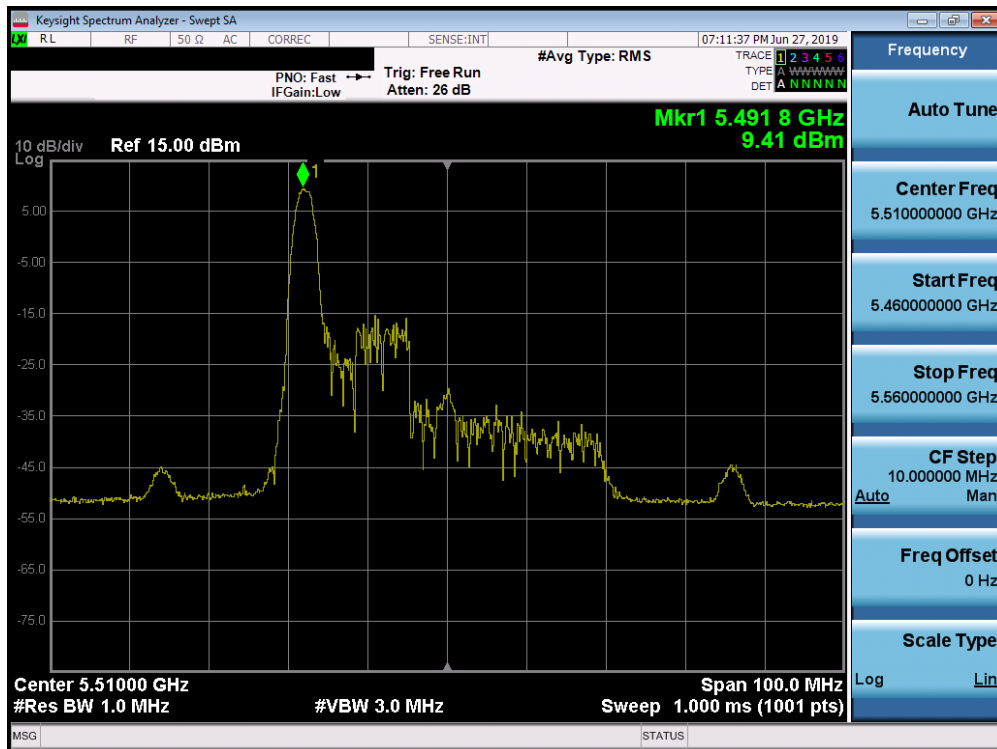


Plot 7-122. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 120)

FCC ID: A3LSMN970U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 108 of 269

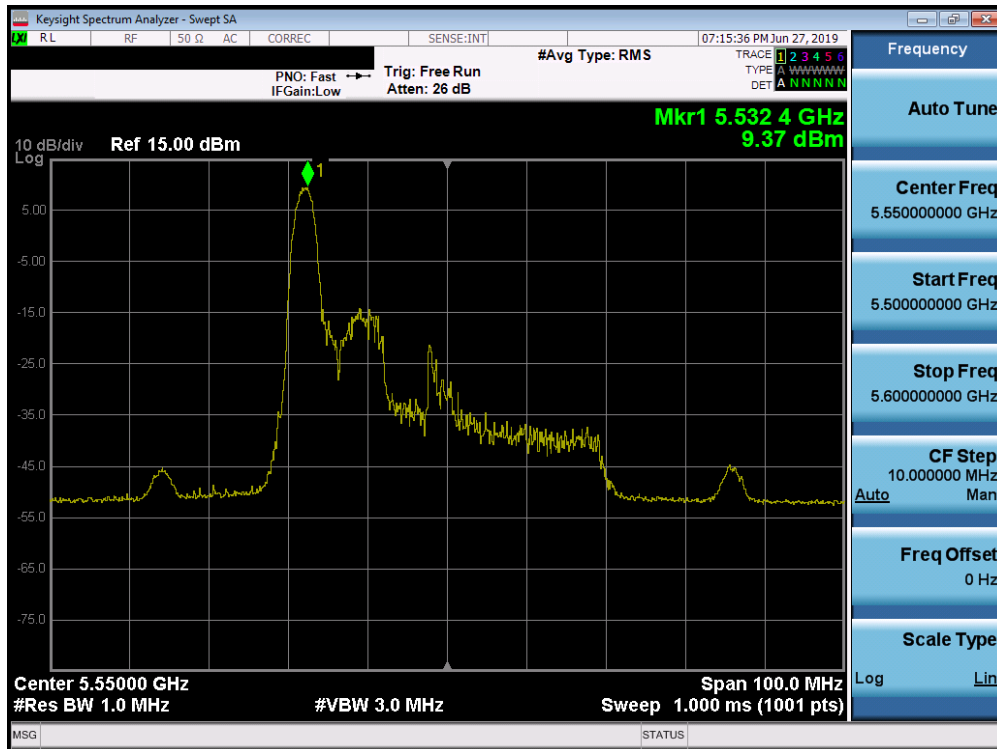


Plot 7-123. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

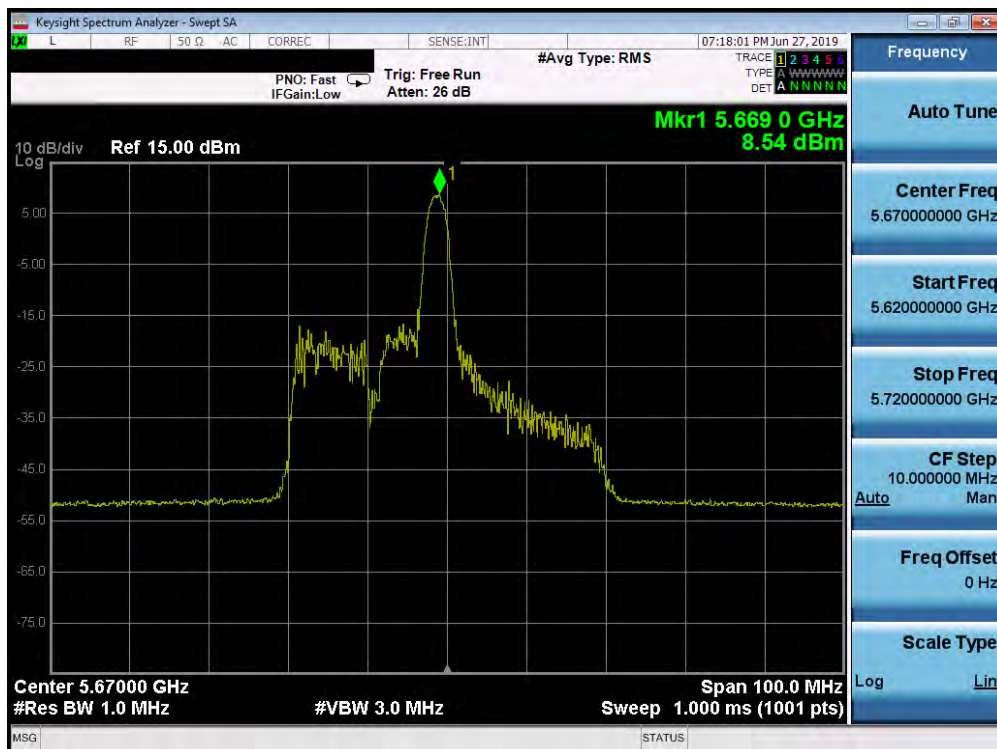


Plot 7-124. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 109 of 269

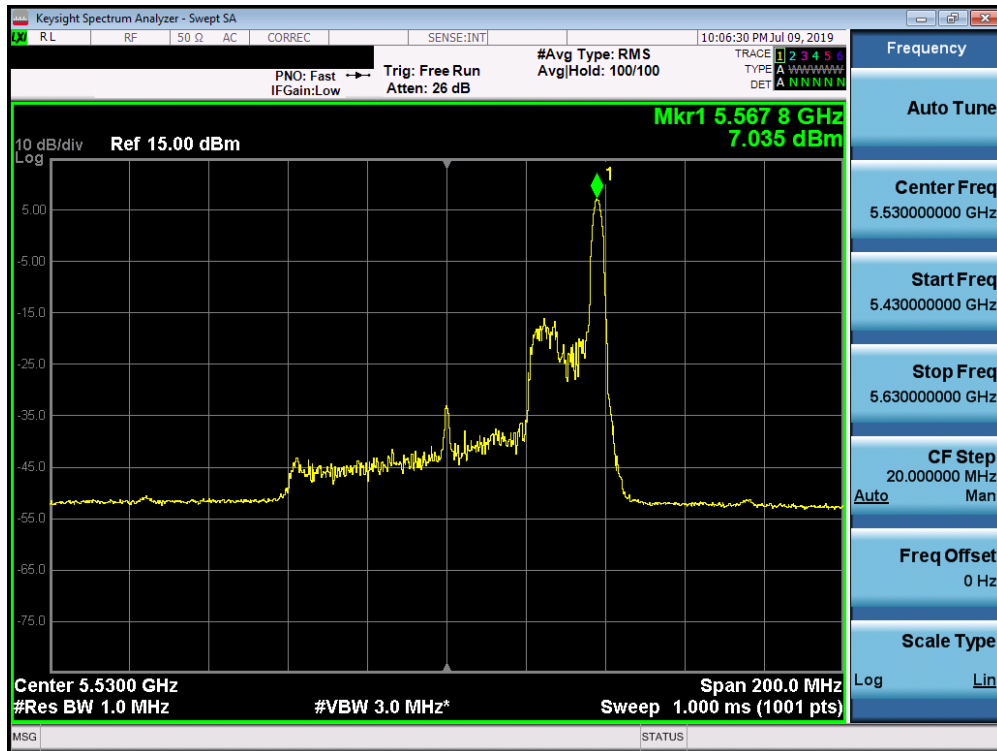


Plot 7-125. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

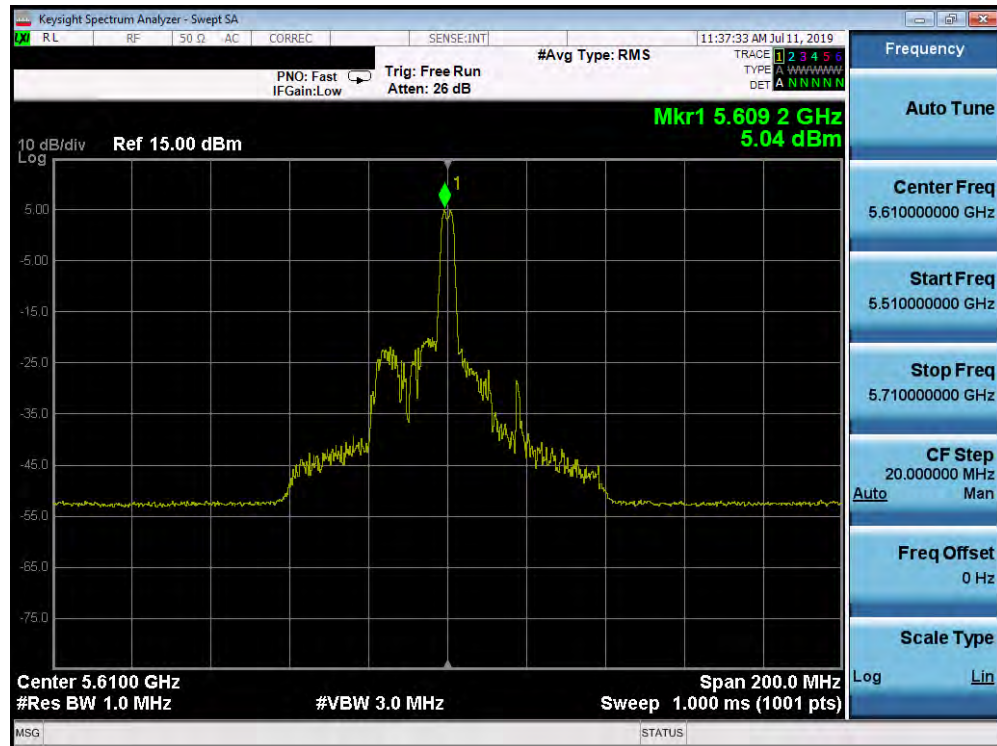


Plot 7-126. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMN970U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 110 of 269

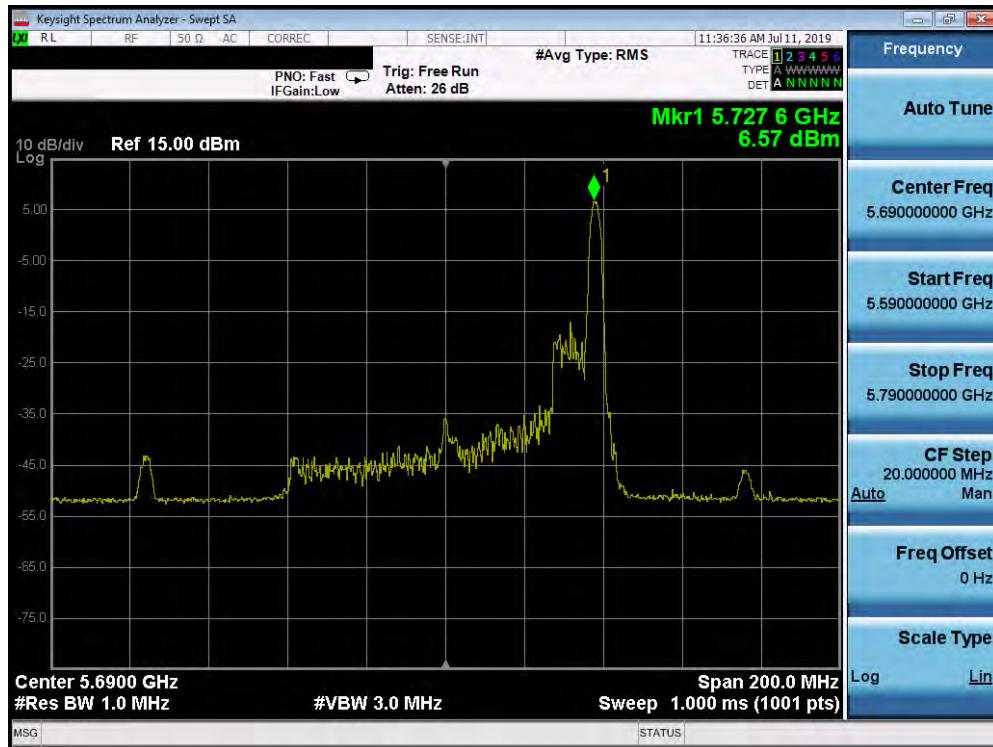


Plot 7-127. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)



Plot 7-128. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 111 of 269



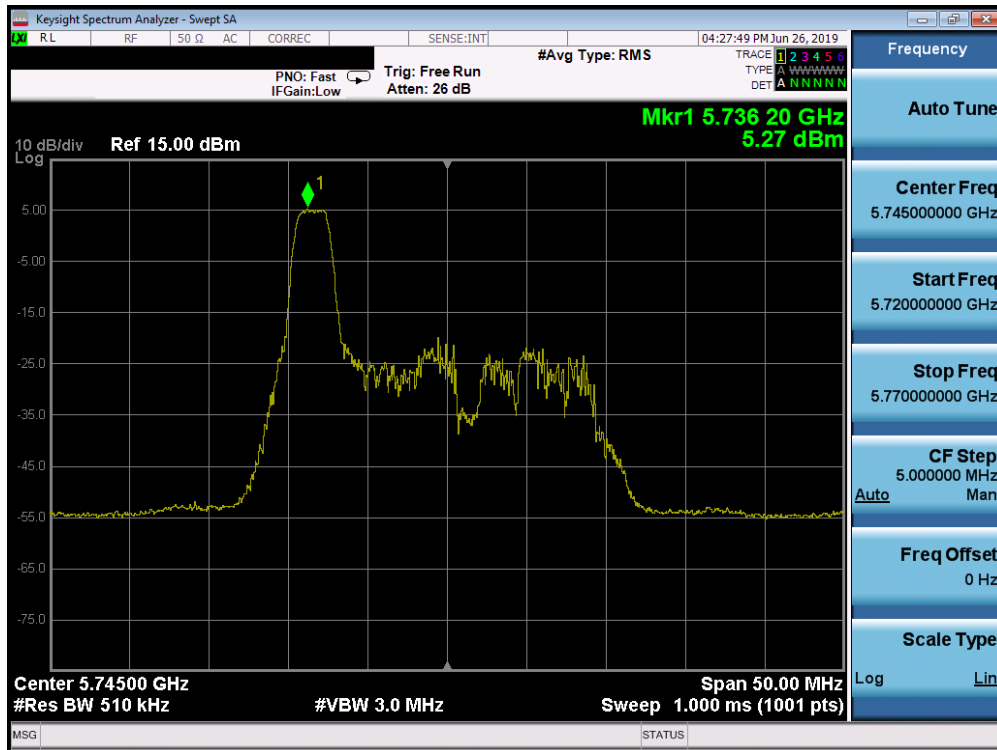
Plot 7-129. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 112 of 269

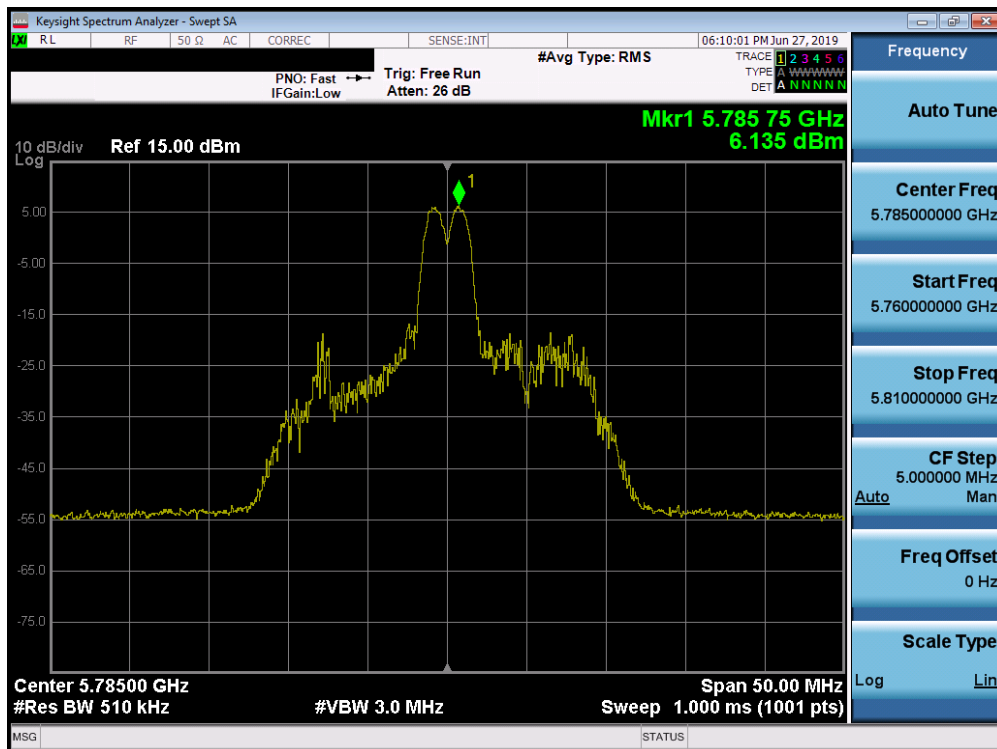
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density	Margin [dB]
Band 3	5745	149	ax (20MHz)	26T	MCS0	5.27	30.00	-24.73
	5785	157	ax (20MHz)	26T	MCS0	6.14	30.00	-23.87
	5825	165	ax (20MHz)	26T	MCS0	6.39	30.00	-23.61
	5755	151	ax (40MHz)	26T	MCS0	4.66	30.00	-25.34
	5795	159	ax (40MHz)	26T	MCS0	6.71	30.00	-23.29
	5775	155	ax (80MHz)	26T	MCS0	8.45	30.00	-21.55

Table 7-59. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 113 of 269

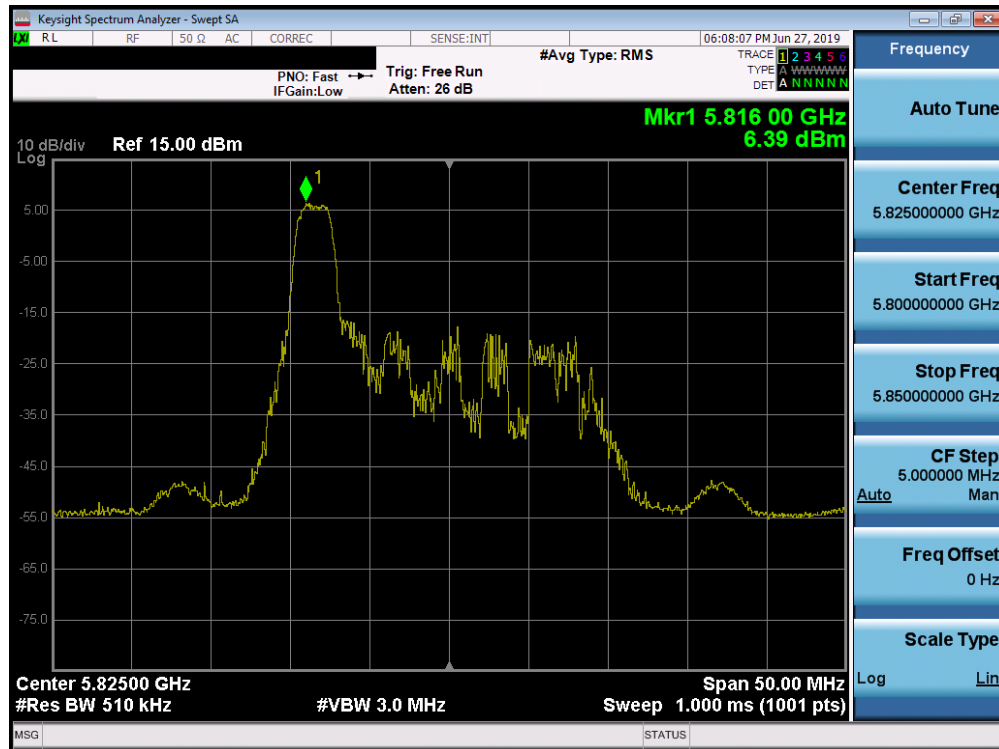


Plot 7-130. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

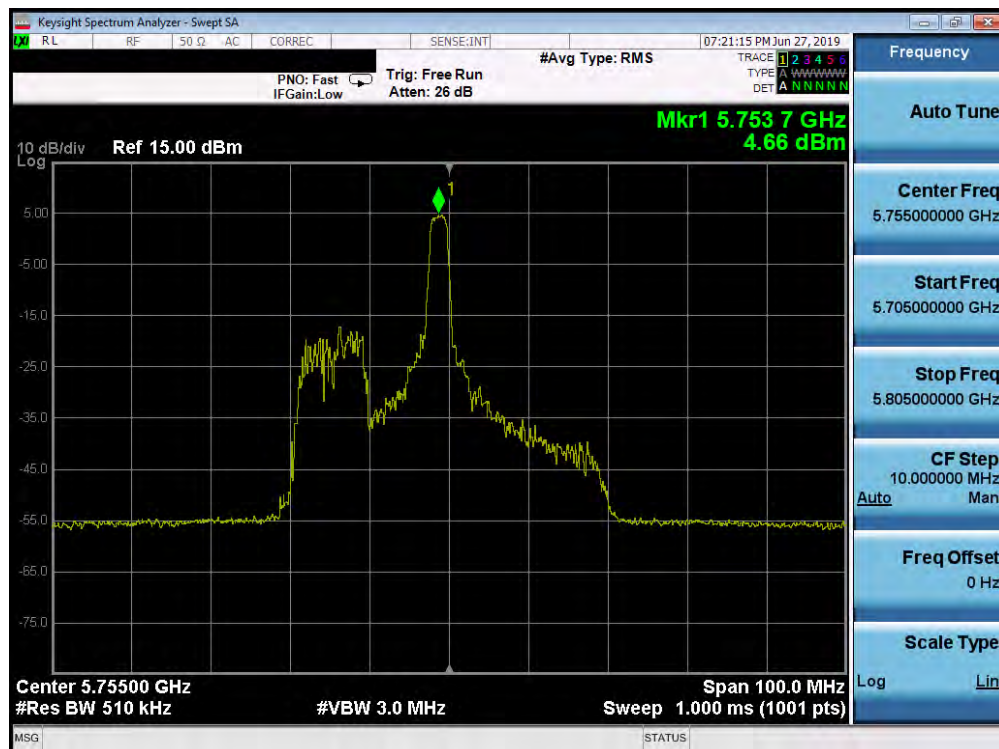


Plot 7-131. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMN970U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 114 of 269

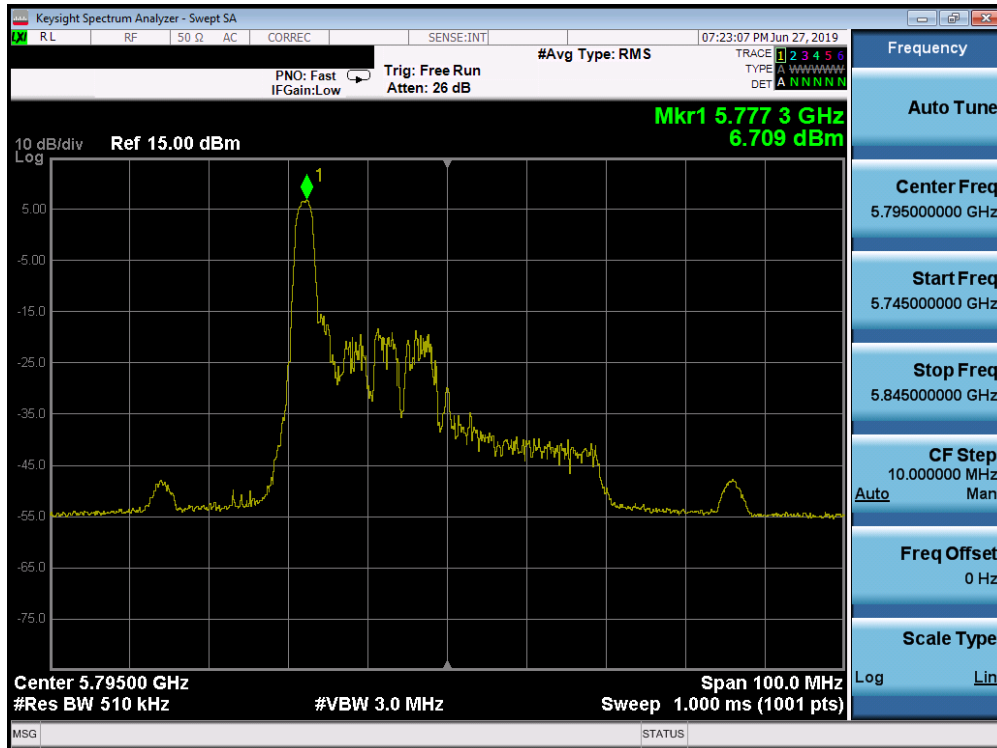


Plot 7-132. Power Spectral Density Plot SISO ANT2 (20 MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

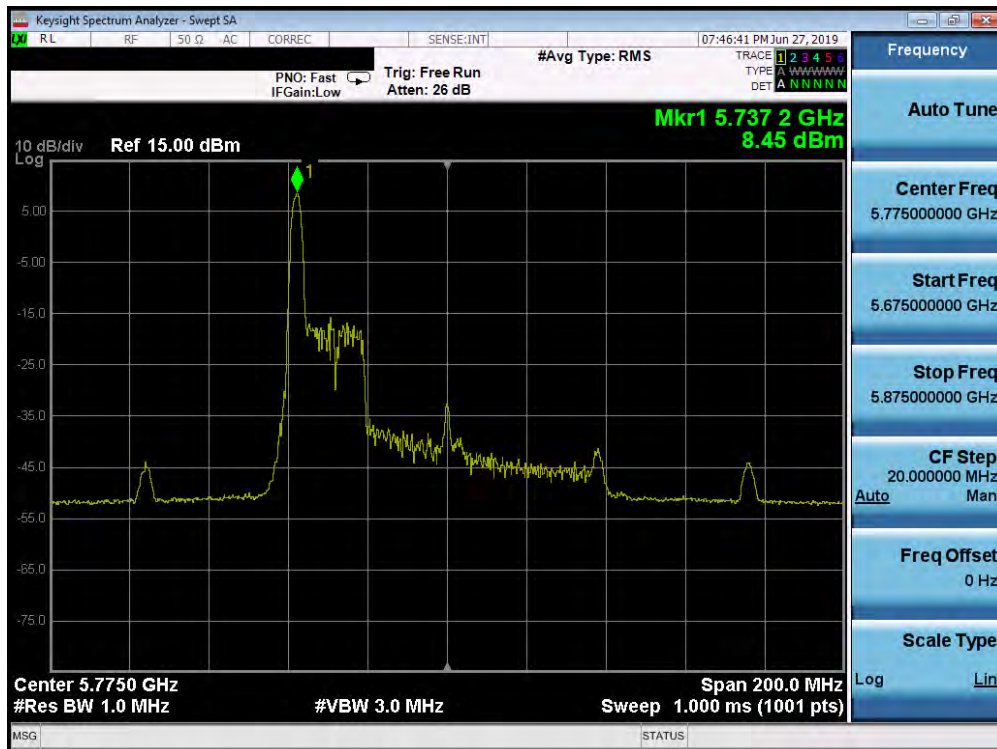


Plot 7-133. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 115 of 269



Plot 7-134. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)



Plot 7-135. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 116 of 269

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

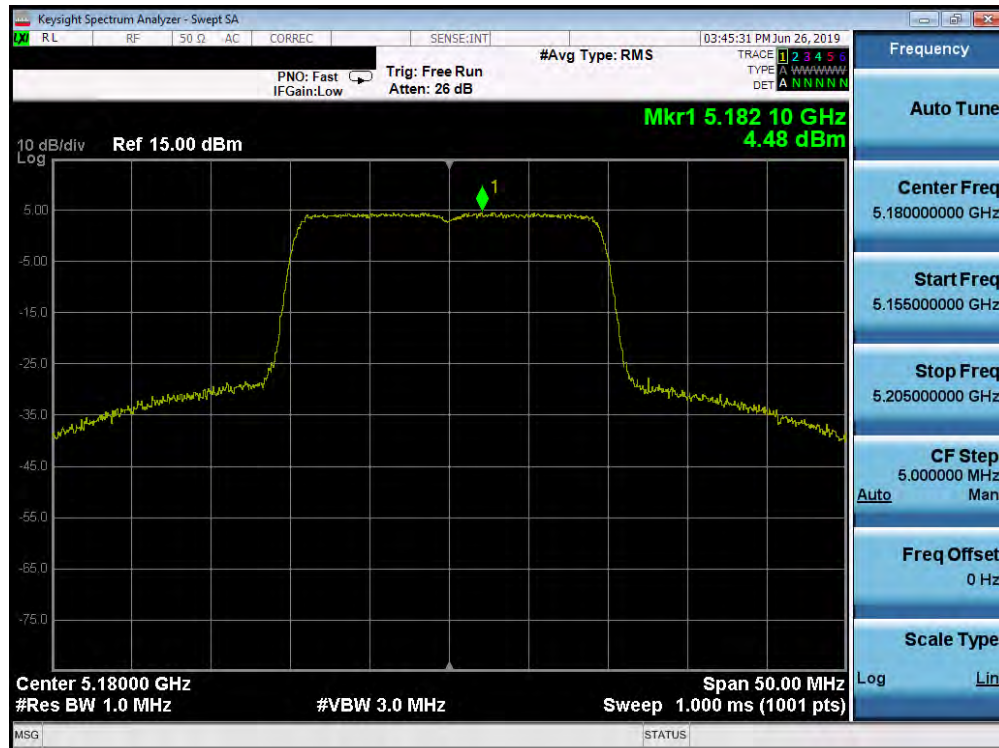
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	242T	MCS0	4.48	11.0	-6.52
	5200	40	ax (20MHz)	242T	MCS0	4.42	11.0	-6.58
	5240	48	ax (20MHz)	242T	MCS0	4.75	11.0	-6.25
	5190	38	ax (40MHz)	484T	MCS0	0.07	11.0	-10.93
	5230	46	ax (40MHz)	484T	MCS0	-0.12	11.0	-11.12
	5210	42	ax (80MHz)	996T	MCS0	-4.04	11.0	-15.04
Band 2A	5260	52	ax (20MHz)	242T	MCS0	4.47	11.0	-6.53
	5280	56	ax (20MHz)	242T	MCS0	4.57	11.0	-6.43
	5320	64	ax (20MHz)	242T	MCS0	4.62	11.0	-6.38
	5270	54	ax (40MHz)	484T	MCS0	-0.47	11.0	-11.47
	5310	62	ax (40MHz)	484T	MCS0	-0.52	11.0	-11.52
	5290	58	ax (80MHz)	996T	MCS0	-3.86	11.0	-14.86
Band 2C	5500	100	ax (20MHz)	242T	MCS0	5.27	11.0	-5.73
	5600	120	ax (20MHz)	242T	MCS0	5.07	11.0	-5.93
	5720	144	ax (20MHz)	242T	MCS0	4.48	11.0	-6.52
	5510	102	ax (40MHz)	484T	MCS0	0.35	11.0	-10.65
	5590	118	ax (40MHz)	484T	MCS0	-0.04	11.0	-11.04
	5710	142	ax (40MHz)	484T	MCS0	-0.25	11.0	-11.25
	5530	106	ax (80MHz)	996T	MCS0	-5.34	11.0	-16.34
	5610	122	ax (80MHz)	996T	MCS0	-6.40	11.0	-17.40
	5690	138	ax (80MHz)	996T	MCS0	-9.39	11.0	-20.39

Table 7-60. Conducted Power Spectral Density Measurements SISO ANT2 (Full Tones)

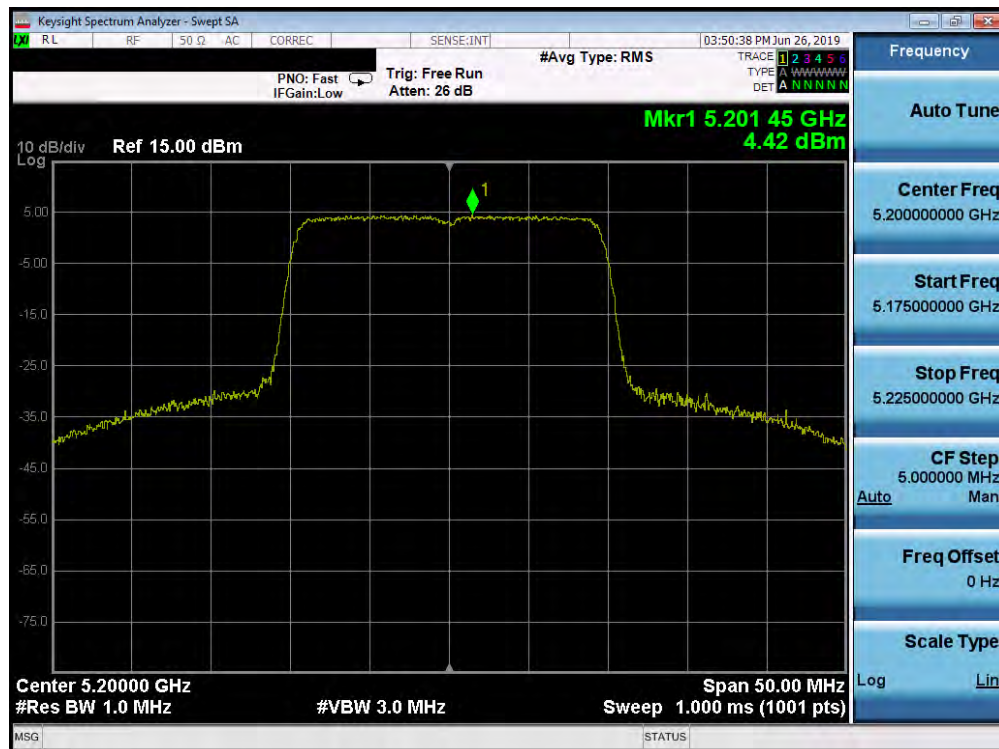
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	242T	MCS0	4.48	-6.44	-1.96	10.0	-11.96
	5200	40	ax (20MHz)	242T	MCS0	4.42	-6.44	-2.02	10.0	-12.02
	5240	48	ax (20MHz)	242T	MCS0	4.75	-6.44	-1.69	10.0	-11.69
	5190	38	ax (40MHz)	484T	MCS0	0.07	-6.44	-6.37	10.0	-16.37
	5230	46	ax (40MHz)	484T	MCS0	-0.12	-6.44	-6.56	10.0	-16.56
	5210	42	ax (80MHz)	996T	MCS0	-4.04	-6.44	-10.48	10.0	-20.48

Table 7-61. Band 1 e.i.r.p. Conducted Power Spectral Density Measurements (ISED Full Tones)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 117 of 269

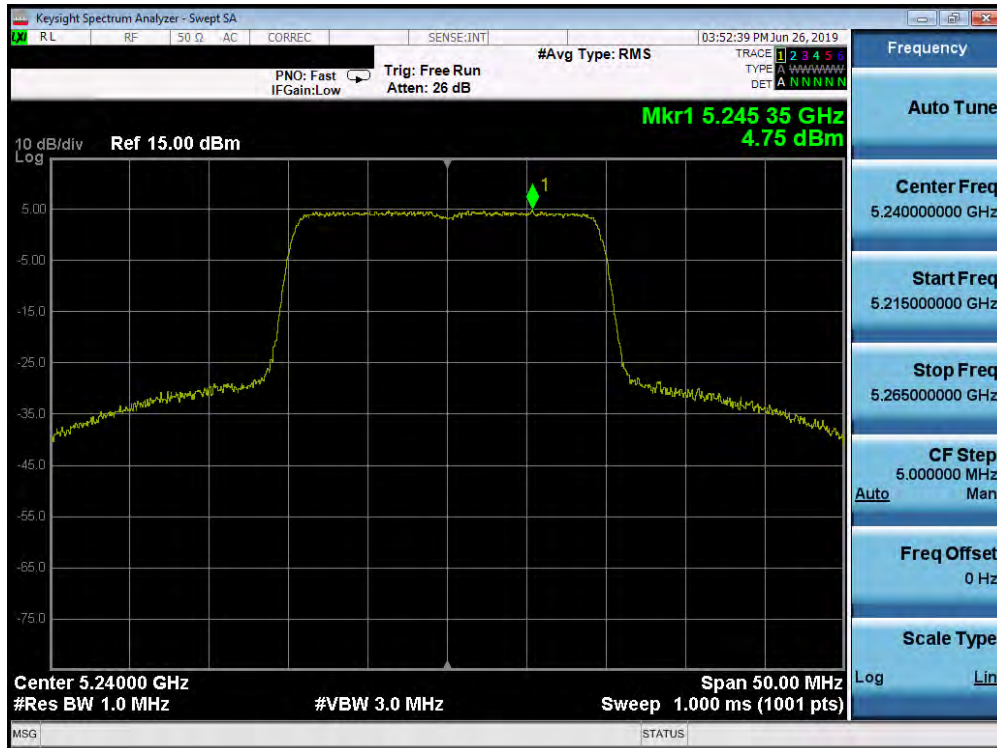


Plot 7-136. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 36)

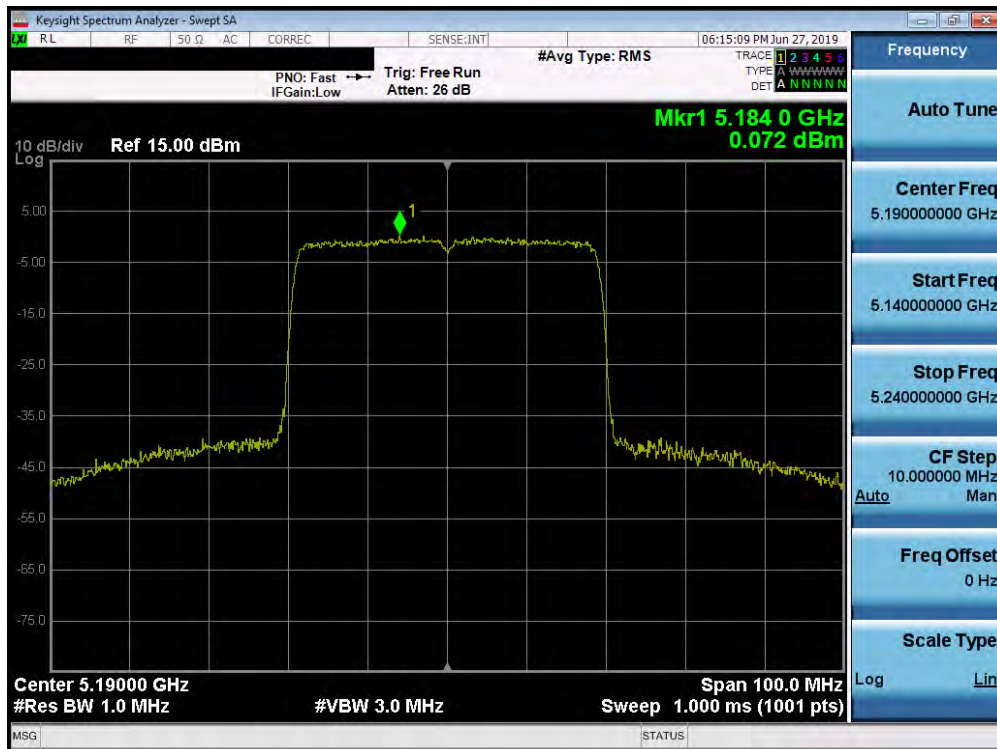


Plot 7-137. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 118 of 269

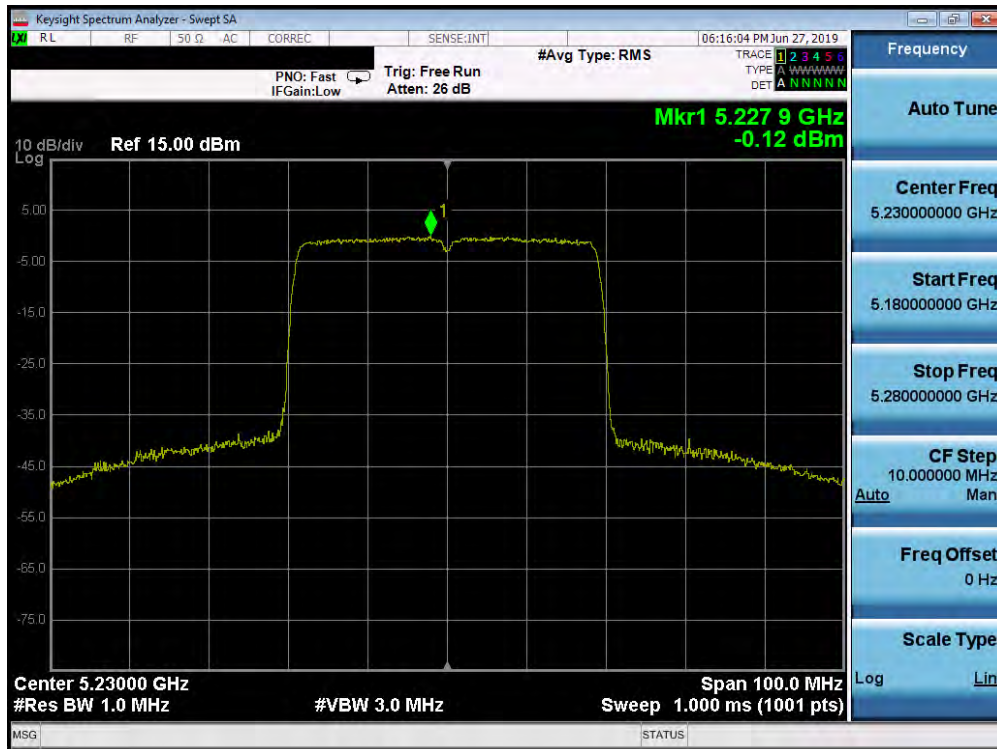


Plot 7-138. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 48)

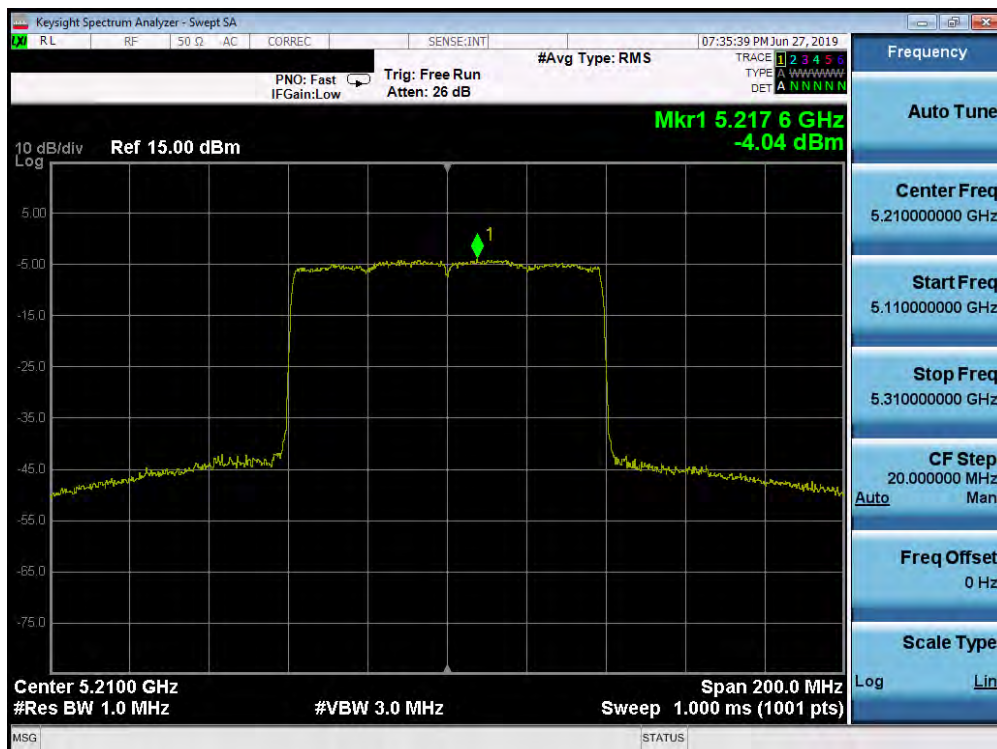


Plot 7-139. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 119 of 269

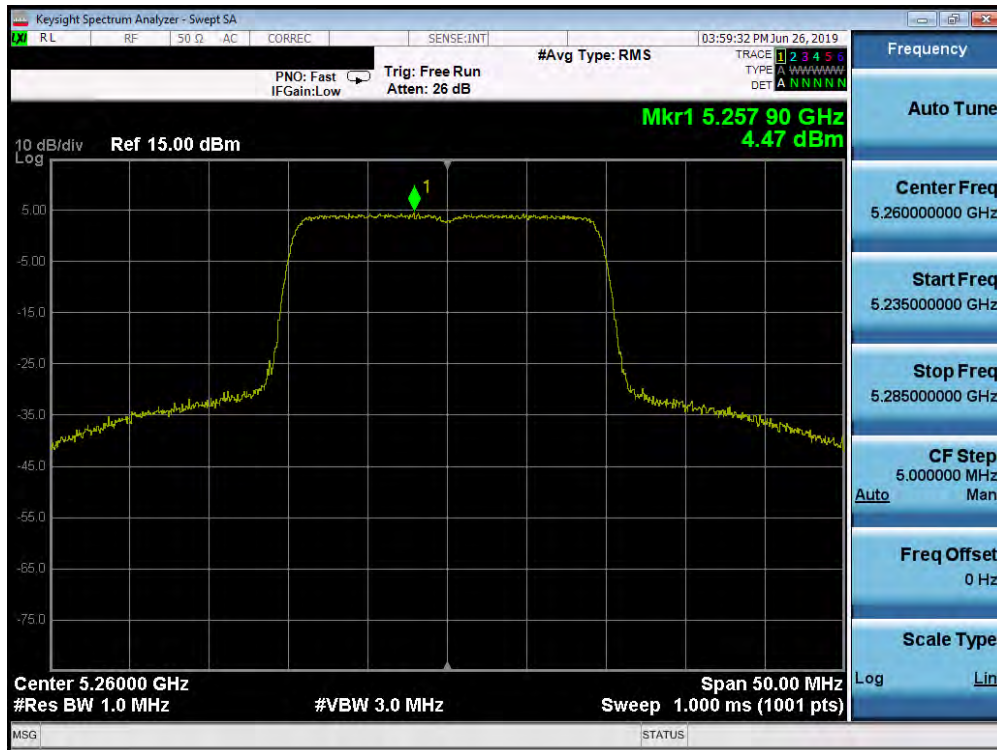


Plot 7-140. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 46)

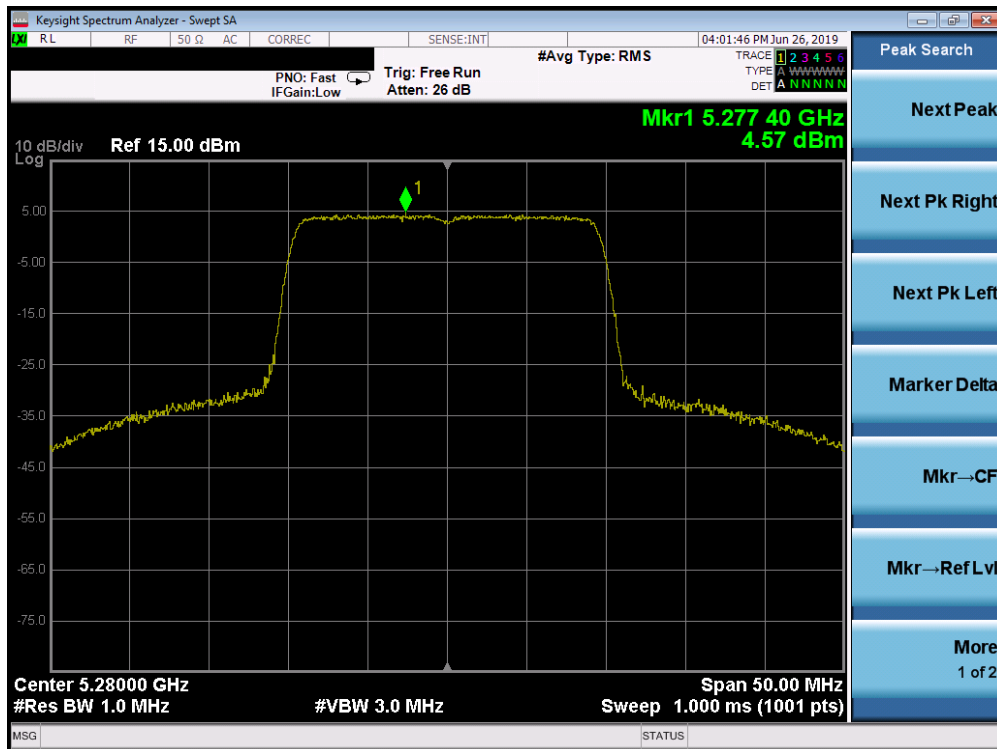


Plot 7-141. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 120 of 269

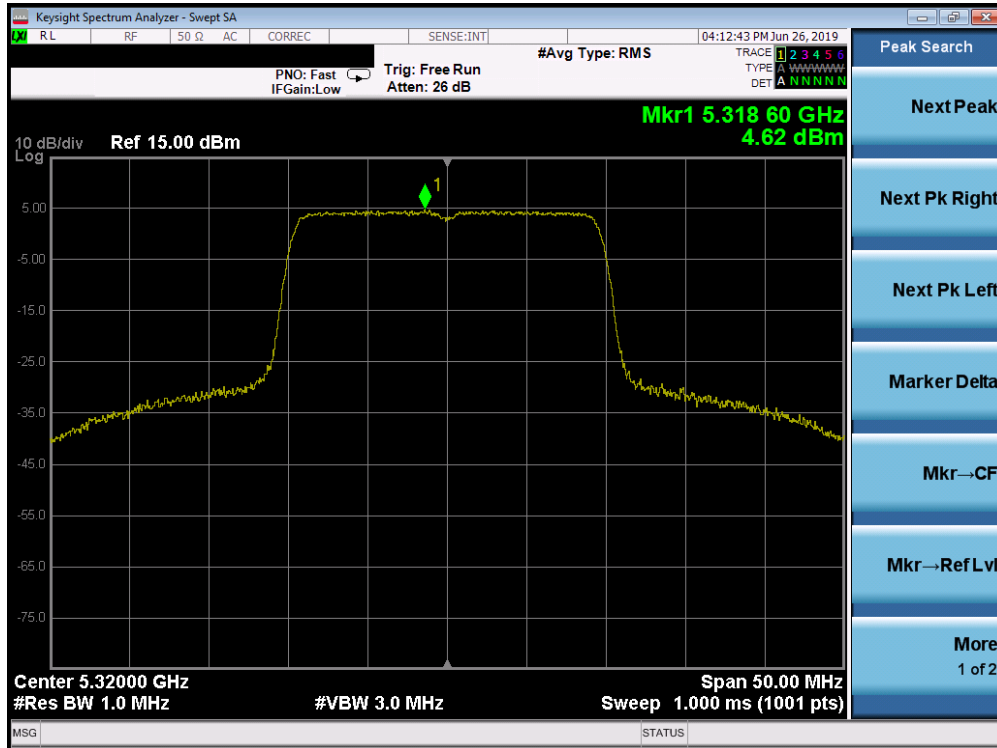


Plot 7-142. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 52)

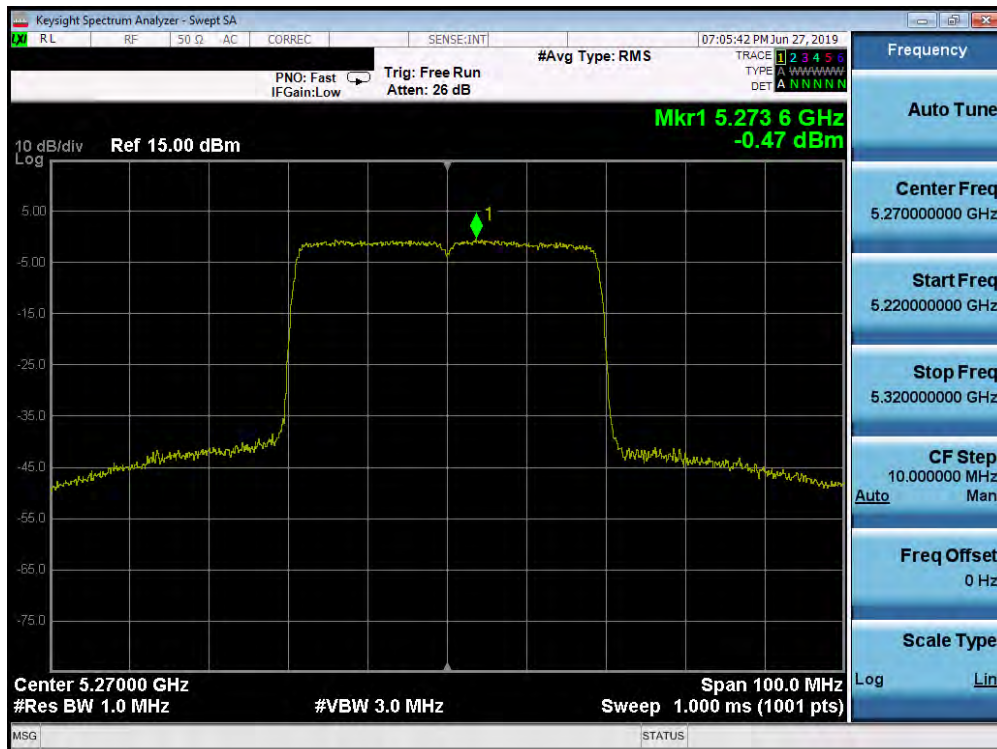


Plot 7-143. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 121 of 269

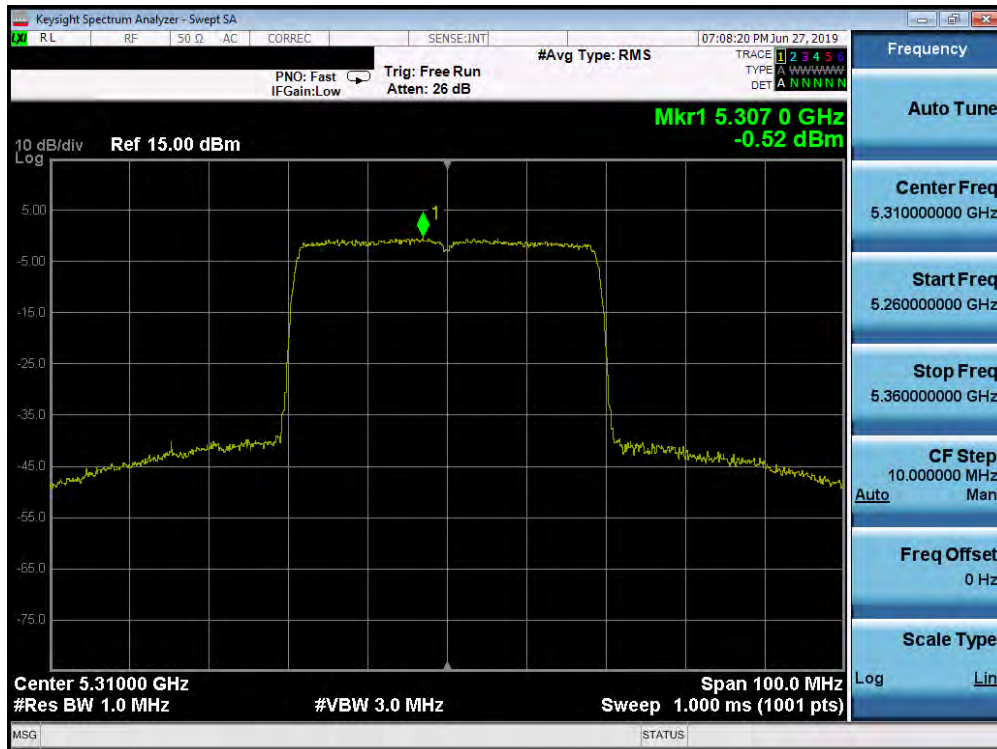


Plot 7-144. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 64)

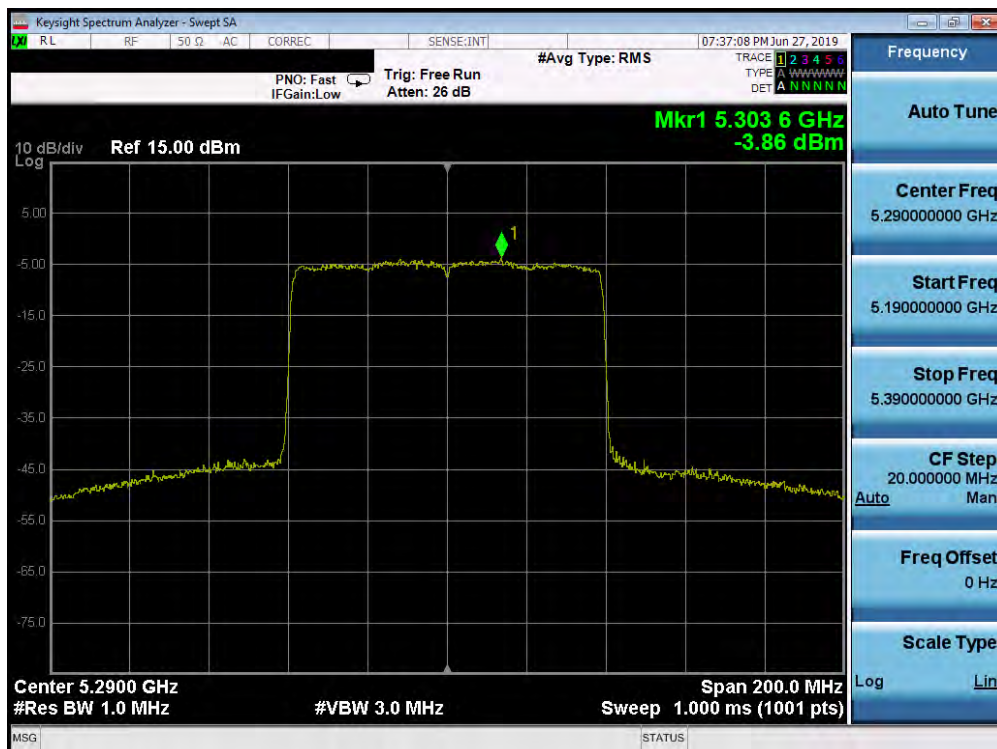


Plot 7-145. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 122 of 269

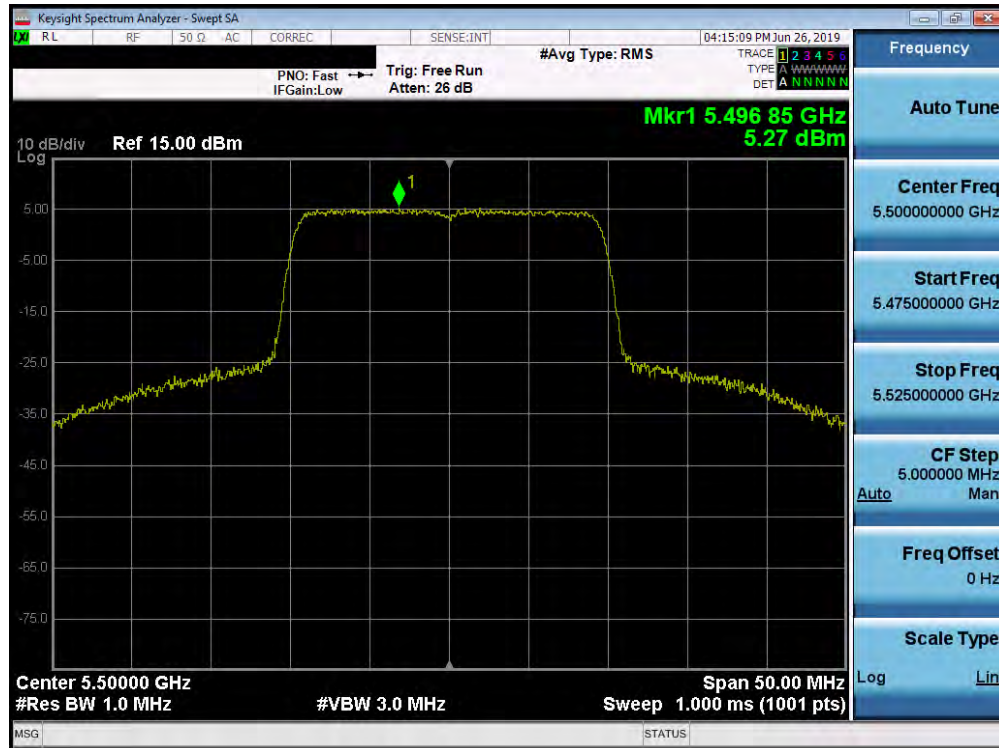


Plot 7-146. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 62)

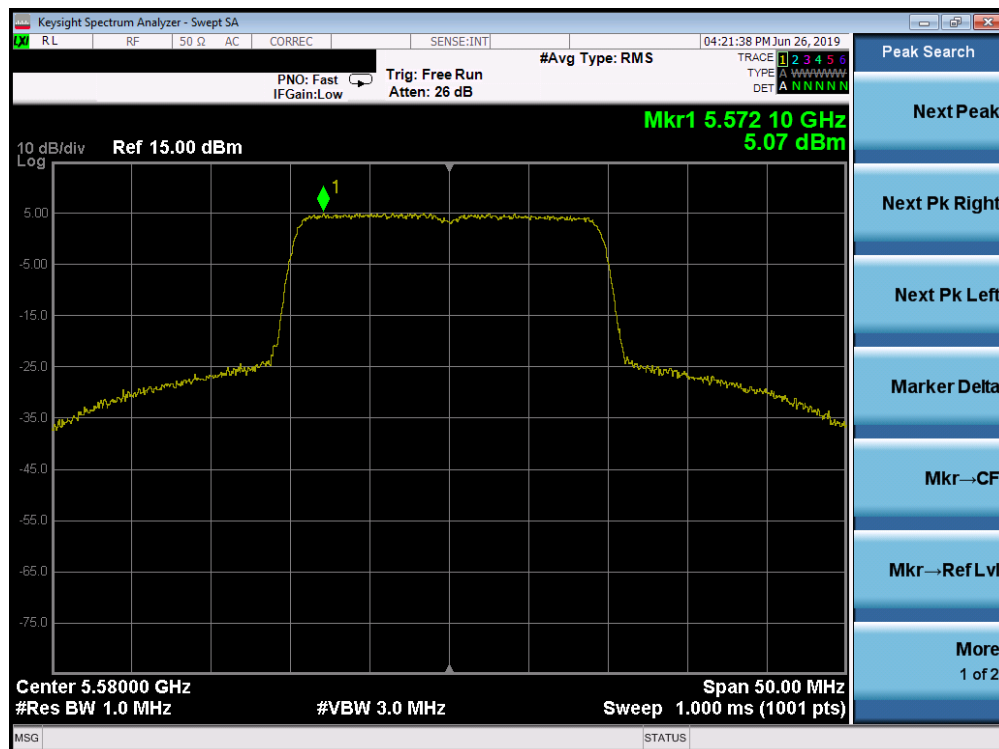


Plot 7-147. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 123 of 269

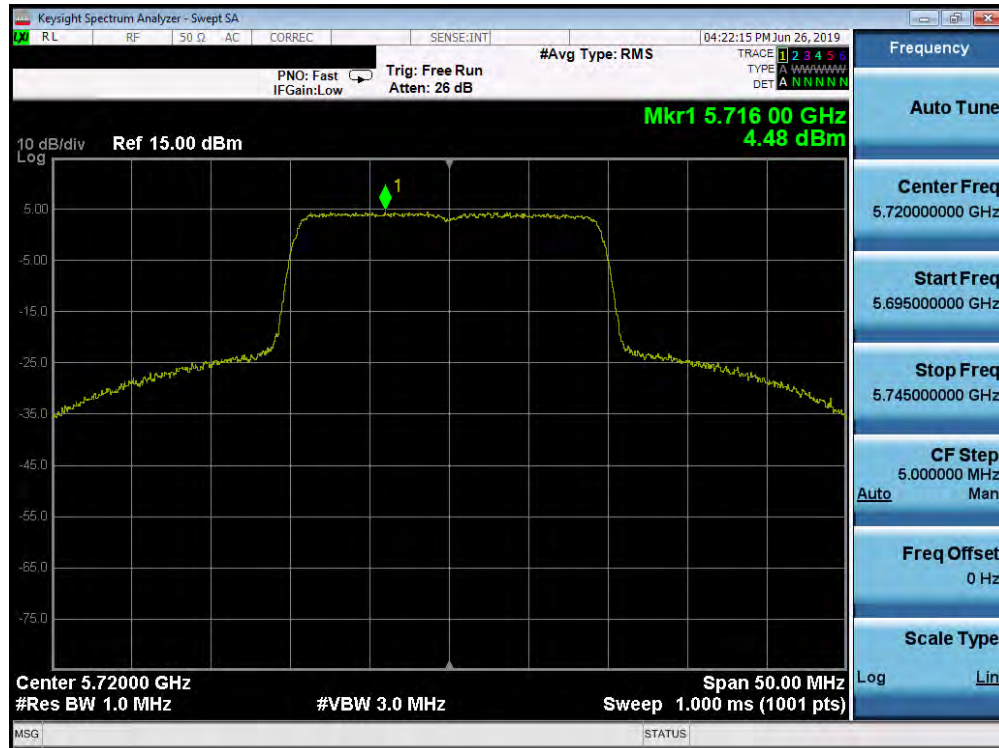


Plot 7-148. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 100)

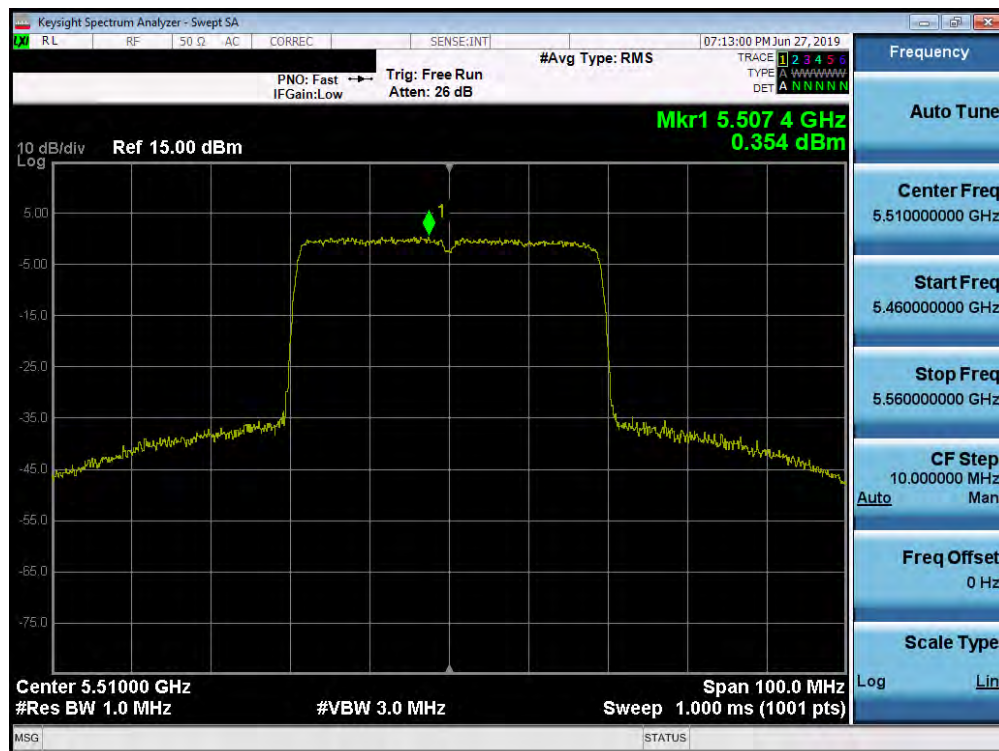


Plot 7-149. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 124 of 269

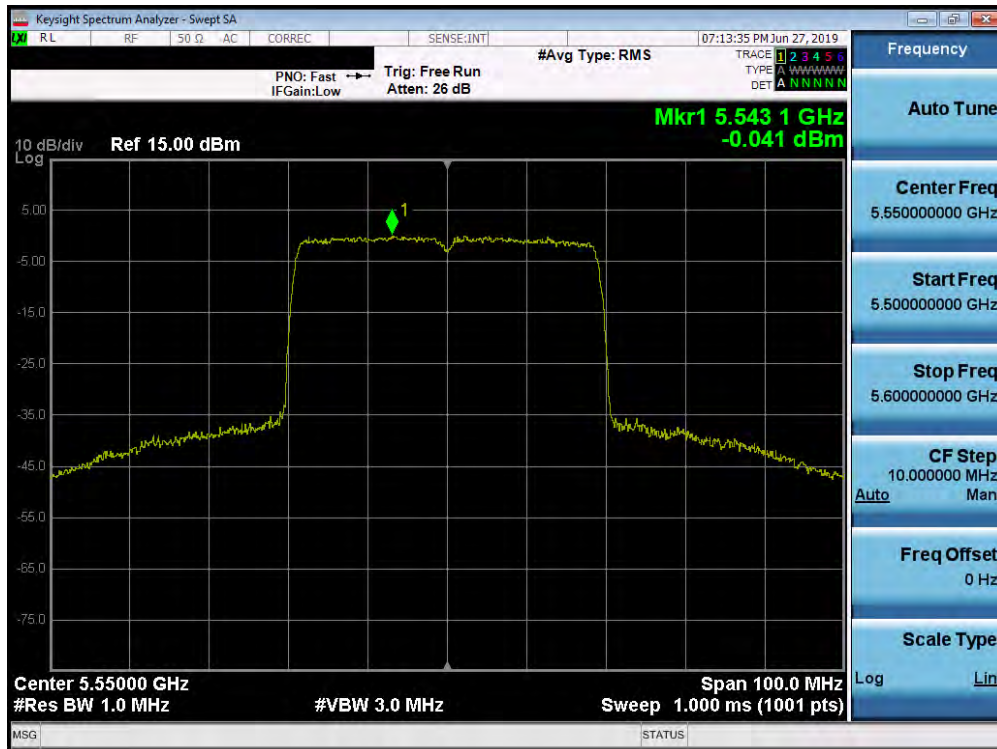


Plot 7-150. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 144)

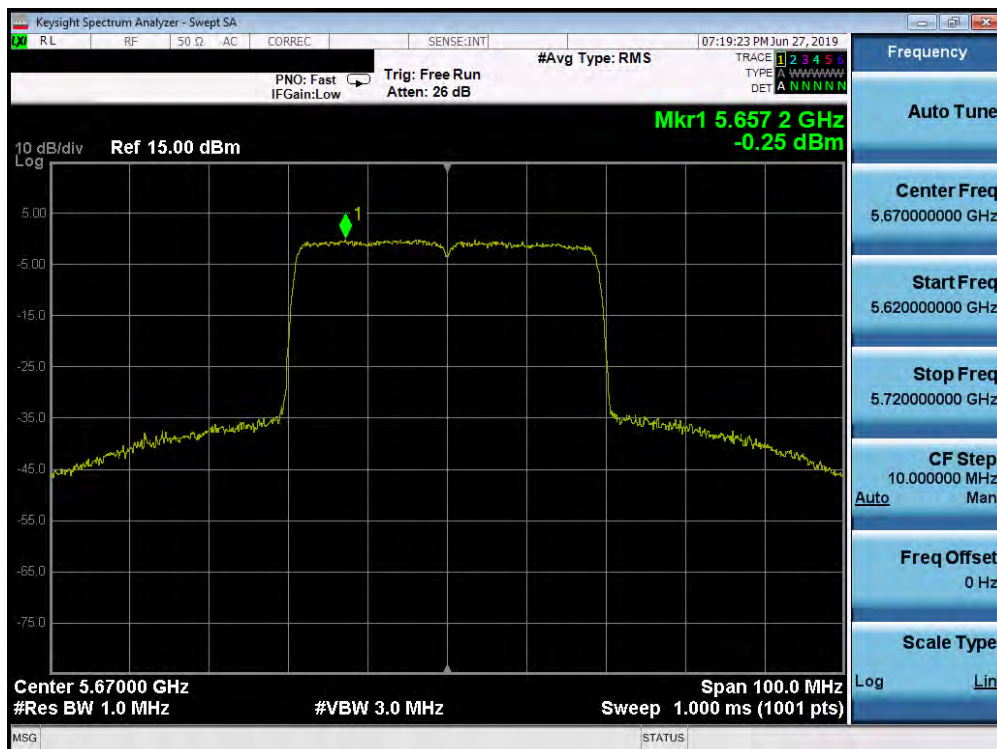


Plot 7-151. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 125 of 269

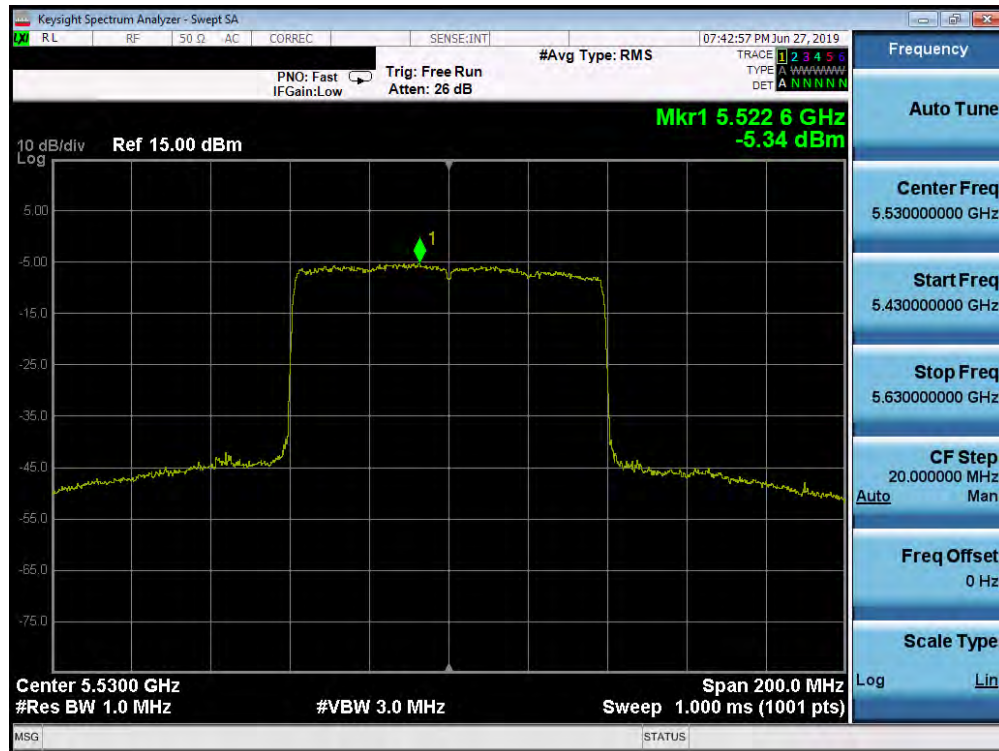


Plot 7-152. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 118)

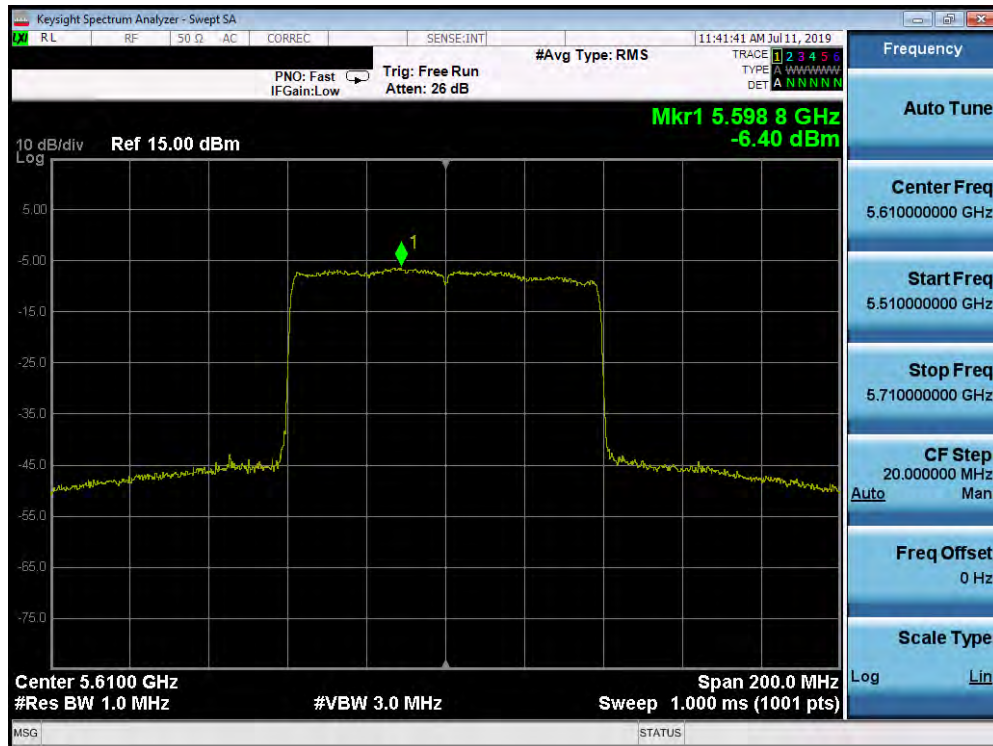


Plot 7-153. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMN970U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 126 of 269



Plot 7-154. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 106)



Plot 7-155. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 127 of 269



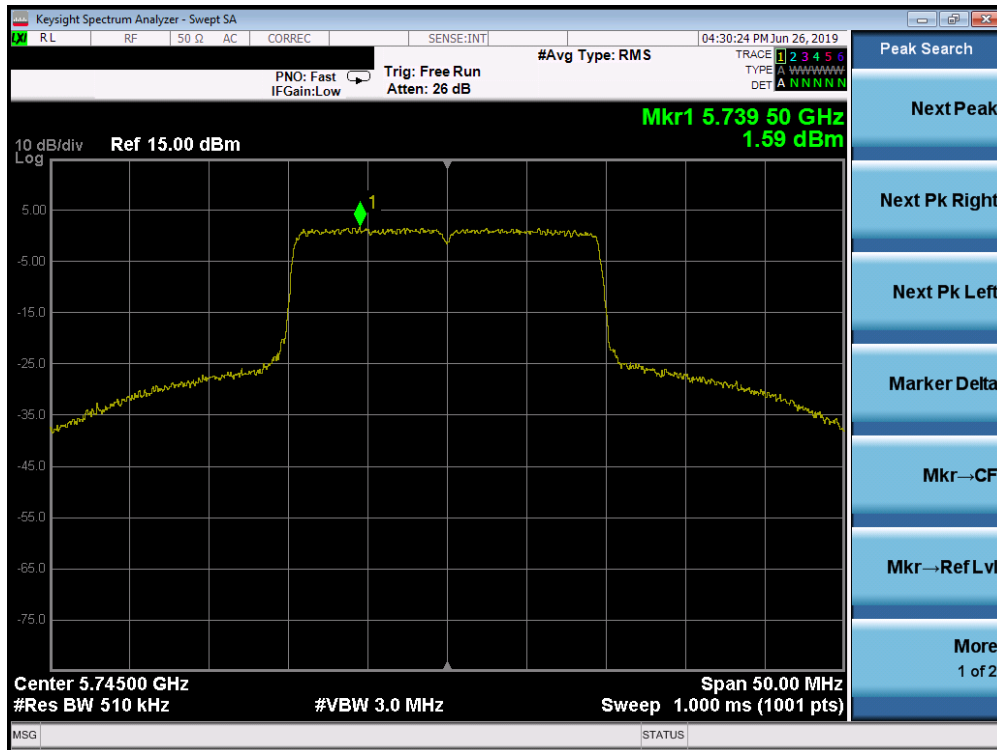
Plot 7-156. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMN970U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 128 of 269

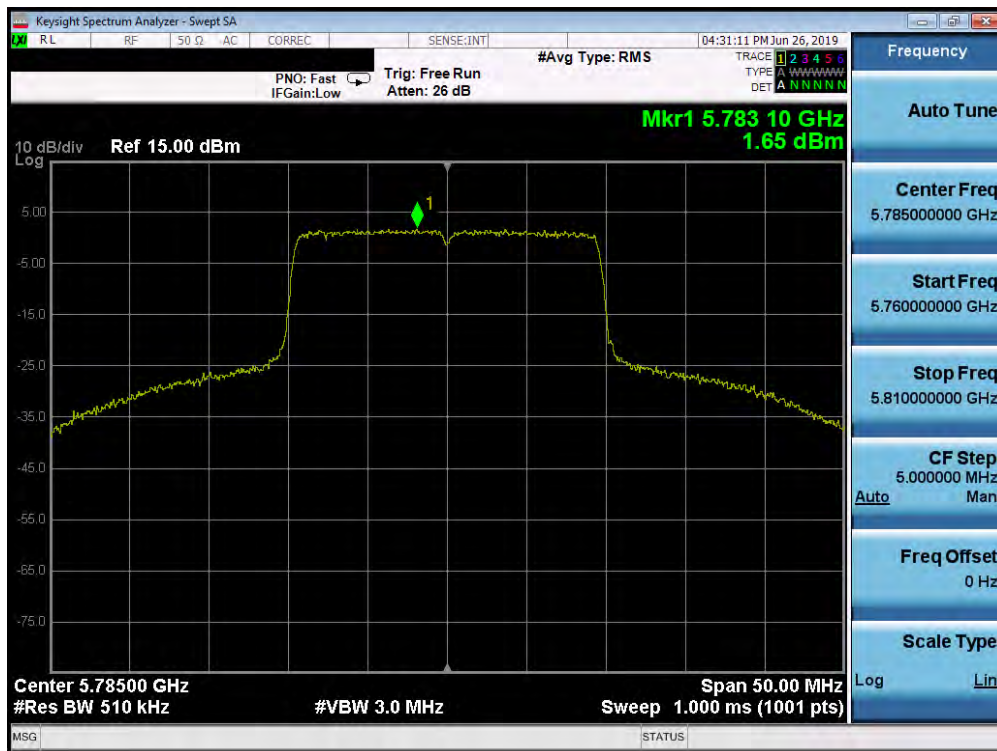
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density	Margin [dB]
Band 3	5745	149	ax (20MHz)	242T	MCS0	1.59	30.00	-28.41
	5785	157	ax (20MHz)	242T	MCS0	1.65	30.00	-28.35
	5825	165	ax (20MHz)	242T	MCS0	1.45	30.00	-28.55
	5755	151	ax (40MHz)	484T	MCS0	-2.19	30.00	-32.19
	5795	159	ax (40MHz)	484T	MCS0	-2.64	30.00	-32.64
	5775	155	ax (80MHz)	996T	MCS0	-4.85	30.00	-34.85

Table 7-62. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (Full Tones)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 129 of 269

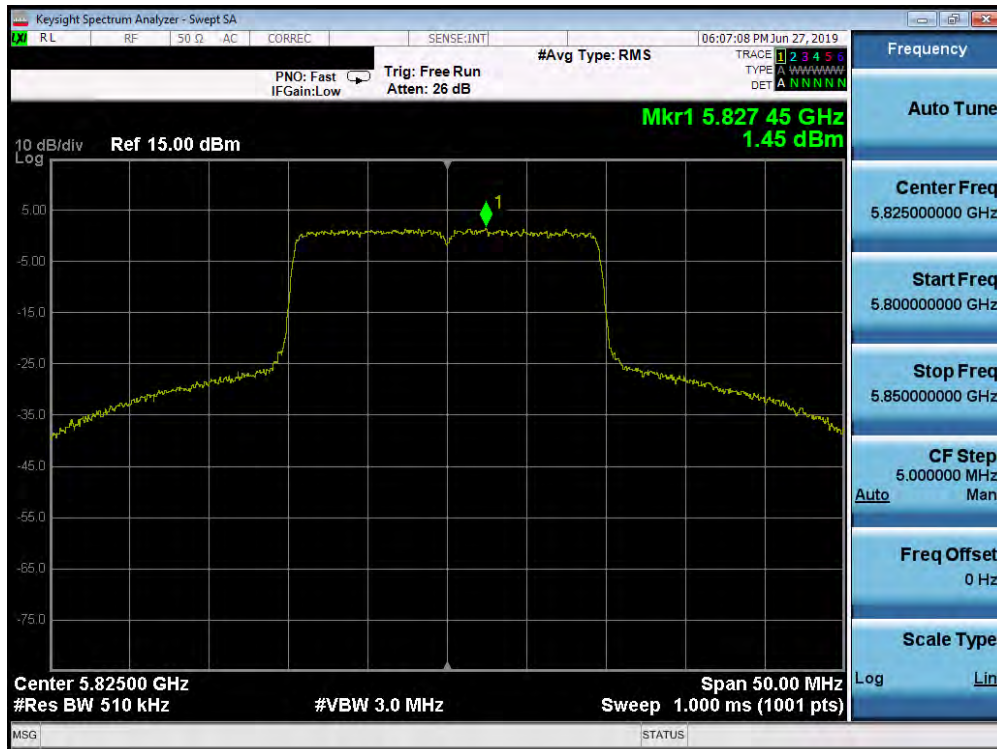


Plot 7-157. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 149)

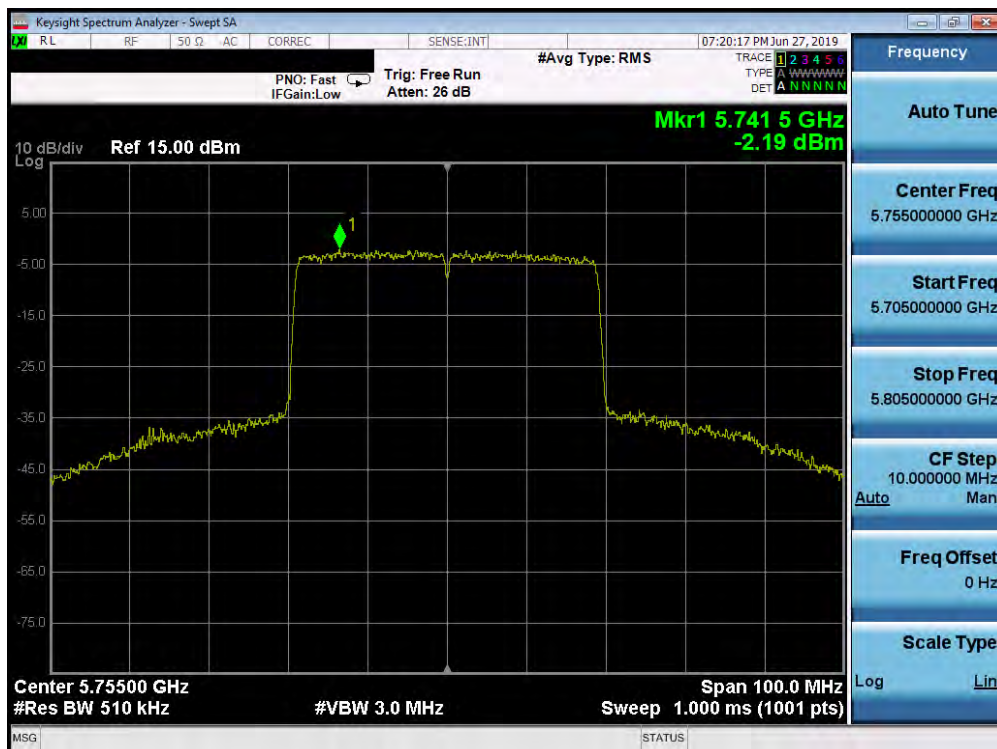


Plot 7-158. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax - Full Tones (UNII Band 3) - Ch. 157)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 130 of 269

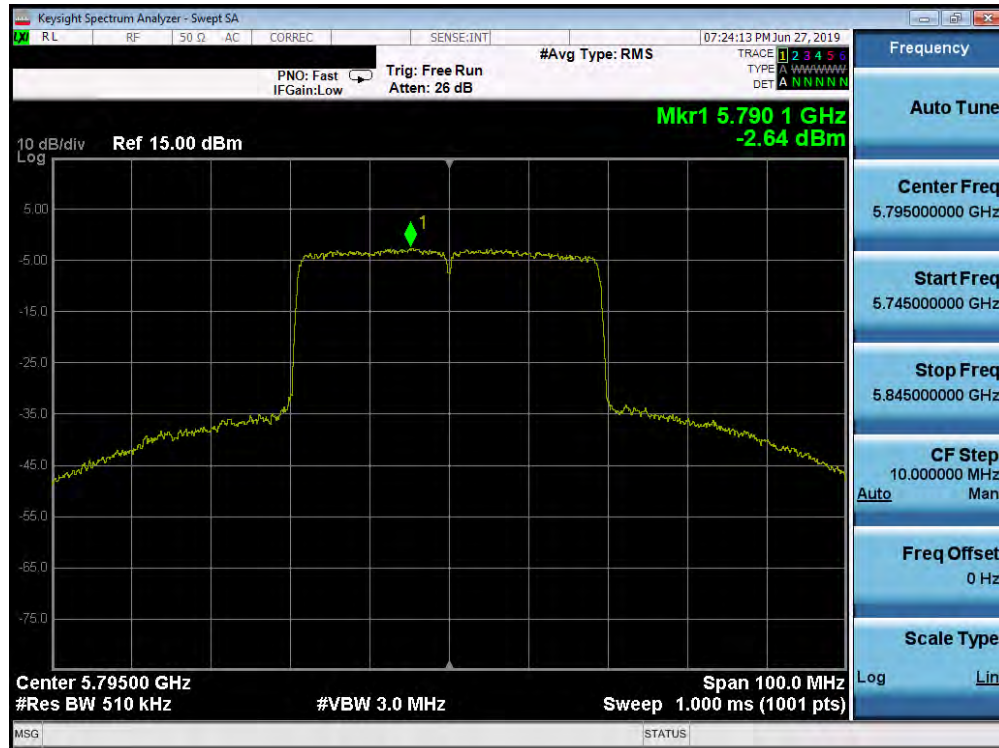


Plot 7-159. Power Spectral Density Plot SISO ANT2 (20 MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 165)

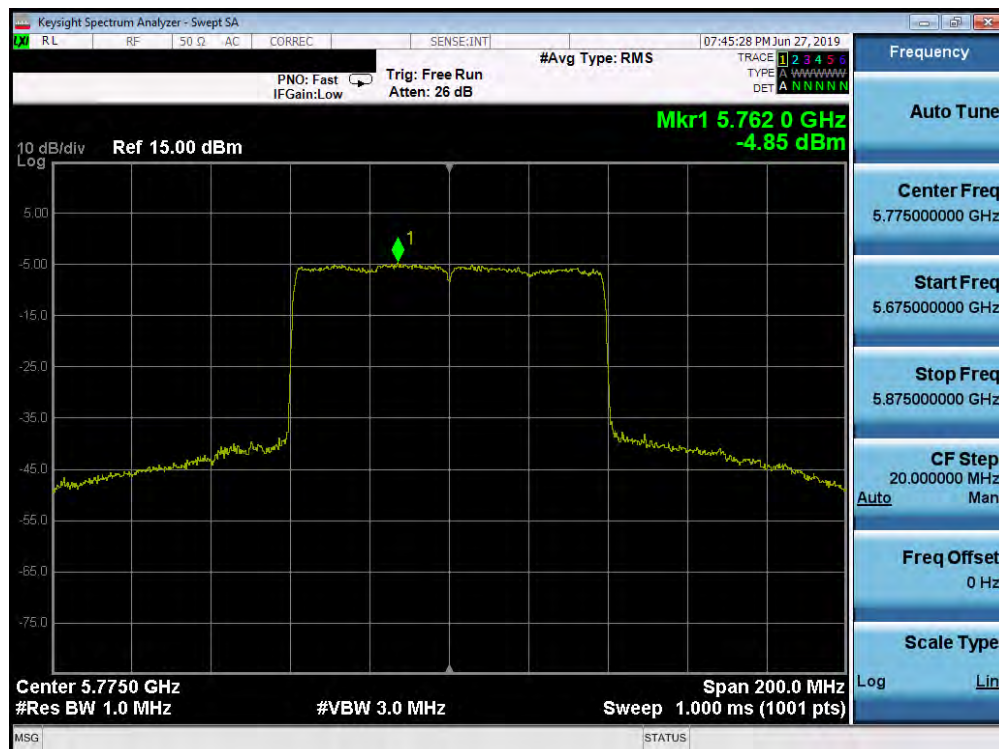


Plot 7-160. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 131 of 269



Plot 7-161. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 159)



Plot 7-162. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – Full Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 132 of 269

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	4.05	3.90	6.99	11.00	-4.01
	5200	40	ax (20MHz)	26T	MCS0	4.88	4.32	7.62	11.00	-3.38
	5240	48	ax (20MHz)	26T	MCS0	4.01	4.13	7.08	11.00	-3.92
	5190	38	ax (40MHz)	26T	MCS0	5.59	5.38	8.50	11.00	-2.50
	5230	46	ax (40MHz)	26T	MCS0	5.48	6.15	8.84	11.00	-2.16
	5210	42	ax (80MHz)	26T	MCS0	6.02	5.47	8.76	11.00	-2.24
Band 2A	5260	52	ax (20MHz)	26T	MCS0	4.54	3.88	7.23	11.00	-3.77
	5280	56	ax (20MHz)	26T	MCS0	4.62	3.88	7.28	11.00	-3.72
	5320	64	ax (20MHz)	26T	MCS0	4.75	4.22	7.50	11.00	-3.50
	5270	54	ax (40MHz)	26T	MCS0	6.33	5.55	8.97	11.00	-2.03
	5310	62	ax (40MHz)	26T	MCS0	5.80	5.51	8.67	11.00	-2.33
	5290	58	ax (80MHz)	26T	MCS0	6.15	5.24	8.73	11.00	-2.27
Band 2C	5500	100	ax (20MHz)	26T	MCS0	4.75	3.87	7.34	11.00	-3.66
	5600	120	ax (20MHz)	26T	MCS0	4.52	3.72	7.15	11.00	-3.85
	5720	144	ax (20MHz)	26T	MCS0	5.47	5.00	8.25	11.00	-2.75
	5510	102	ax (40MHz)	26T	MCS0	6.25	5.53	8.92	11.00	-2.08
	5590	118	ax (40MHz)	26T	MCS0	6.16	5.44	8.83	11.00	-2.17
	5710	142	ax (40MHz)	26T	MCS0	5.79	4.89	8.37	11.00	-2.63
	5530	106	ax (80MHz)	26T	MCS0	4.20	3.44	6.85	11.00	-4.15
	5610	122	ax (80MHz)	26T	MCS0	4.38	3.26	6.87	11.00	-4.13
	5690	138	ax (80MHz)	26T	MCS0	3.24	2.44	5.87	11.00	-5.13

Table 7-63. 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]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	26T	MCS0	4.05	3.90	6.99	-3.45	3.54	10.0	-6.46
	5200	40	ax (20MHz)	26T	MCS0	4.88	4.32	7.62	-3.45	4.17	10.0	-5.83
	5240	48	ax (20MHz)	26T	MCS0	4.01	4.13	7.08	-3.45	3.63	10.0	-6.37
	5190	38	ax (40MHz)	26T	MCS0	5.59	5.38	8.50	-3.45	5.05	10.0	-4.95
	5230	46	ax (40MHz)	26T	MCS0	5.48	6.15	8.84	-3.45	5.39	10.0	-4.61
	5210	42	ax (80MHz)	26T	MCS0	6.02	5.47	8.76	-3.45	5.31	10.0	-4.69

Table 7-64. Band 1 MIMO e.i.r.p. Conducted Power Spectral Density Measurements (ISED 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	1.51	2.79	5.21	30.00	-24.79
	5785	157	ax (20MHz)	26T	MCS0	2.37	2.54	5.47	30.00	-24.53
	5825	165	ax (20MHz)	26T	MCS0	2.27	2.95	5.63	30.00	-24.37
	5755	151	ax (40MHz)	26T	MCS0	3.09	2.88	6.00	30.00	-24.00
	5795	159	ax (40MHz)	26T	MCS0	2.78	2.74	5.77	30.00	-24.23
	5775	155	ax (80MHz)	26T	MCS0	4.85	4.69	7.78	30.00	-22.22

Table 7-65. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 133 of 269

	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	0.02	1.02	3.56	11.00	-7.44
	5200	40	ax (20MHz)	242T	MCS0	0.41	0.59	3.51	11.00	-7.49
	5240	48	ax (20MHz)	242T	MCS0	0.54	0.70	3.63	11.00	-7.37
	5190	38	ax (40MHz)	484T	MCS0	-3.88	-4.00	-0.93	11.00	-11.93
	5230	46	ax (40MHz)	484T	MCS0	-3.86	-4.02	-0.93	11.00	-11.93
	5210	42	ax (80MHz)	996T	MCS0	-6.80	-7.47	-4.11	11.00	-15.11
Band 2A	5260	52	ax (20MHz)	242T	MCS0	0.73	0.83	3.79	11.00	-7.21
	5280	56	ax (20MHz)	242T	MCS0	1.12	0.99	4.07	11.00	-6.93
	5320	64	ax (20MHz)	242T	MCS0	0.77	0.78	3.79	11.00	-7.21
	5270	54	ax (40MHz)	484T	MCS0	-3.56	-4.04	-0.78	11.00	-11.78
	5310	62	ax (40MHz)	484T	MCS0	-3.53	-4.13	-0.81	11.00	-11.81
	5290	58	ax (80MHz)	996T	MCS0	-6.57	-7.64	-4.06	11.00	-15.06
Band 2C	5500	100	ax (20MHz)	242T	MCS0	0.86	1.19	4.04	11.00	-6.96
	5600	120	ax (20MHz)	242T	MCS0	1.17	1.25	4.22	11.00	-6.78
	5720	144	ax (20MHz)	242T	MCS0	0.60	1.11	3.87	11.00	-7.13
	5510	102	ax (40MHz)	484T	MCS0	-3.19	-3.86	-0.50	11.00	-11.50
	5590	118	ax (40MHz)	484T	MCS0	-3.21	-3.84	-0.50	11.00	-11.50
	5710	142	ax (40MHz)	484T	MCS0	-3.64	-4.34	-0.97	11.00	-11.97
	5530	106	ax (80MHz)	996T	MCS0	-7.29	-7.29	-4.28	11.00	-15.28
	5610	122	ax (80MHz)	996T	MCS0	-7.00	-7.58	-4.27	11.00	-15.27
	5690	138	ax (80MHz)	996T	MCS0	-10.05	-10.24	-7.13	11.00	-18.13

Table 7-66. 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]	Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	ax (20MHz)	242T	MCS0	0.02	1.02	3.56	-3.45	0.11	10.0	-9.89
	5200	40	ax (20MHz)	242T	MCS0	0.41	0.59	3.51	-3.45	0.06	10.0	-9.94
	5240	48	ax (20MHz)	242T	MCS0	0.54	0.70	3.63	-3.45	0.18	10.0	-9.82
	5190	38	ax (40MHz)	484T	MCS0	-3.88	-4.00	-0.93	-3.45	-4.38	10.0	-14.38
	5230	46	ax (40MHz)	484T	MCS0	-3.86	-4.02	-0.93	-3.45	-4.38	10.0	-14.38
	5210	42	ax (80MHz)	996T	MCS0	-6.80	-7.47	-4.11	-3.45	-7.56	10.0	-17.56

Table 7-67. Band 1 MIMO e.i.r.p. Conducted Power Spectral Density Measurements (ISED 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	-2.33	-1.70	1.01	30.00	-28.99
	5785	157	ax (20MHz)	242T	MCS0	-2.50	-1.81	0.87	30.00	-29.13
	5825	165	ax (20MHz)	242T	MCS0	-7.55	-2.03	-0.96	30.00	-30.96
	5755	151	ax (40MHz)	484T	MCS0	-6.84	-6.46	-3.64	30.00	-33.64
	5795	159	ax (40MHz)	484T	MCS0	-6.75	-6.74	-3.73	30.00	-33.73
	5775	155	ax (80MHz)	996T	MCS0	-7.31	-6.67	-3.97	30.00	-33.97

Table 7-68. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)

FCC ID: A3LSMN970U			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset			Page 134 of 269

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:

Assuming the antenna gain is -8.61 dBi for Antenna-1 and -7.68 dBi for Antenna-2.

$$\begin{aligned} \text{Directional gain} &= 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{\text{ANT}}] \text{ dBi} \\ &= 10 \log[(10^{-8.61/20} + 10^{-7.68/20} / 2] \text{ dBi} \\ &= (-5.12) \text{ dBi} \end{aligned}$$

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.

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

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

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

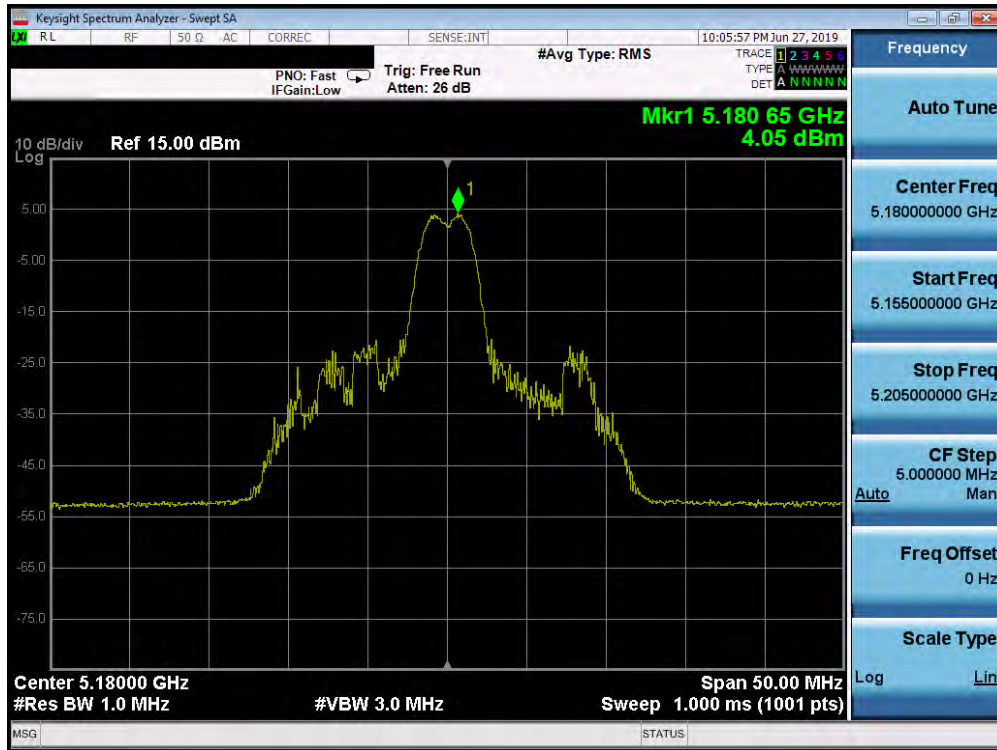
Assuming the average MIMO power density was calculated to be 9.09 dBm with directional gain of -5.12 dBi.

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

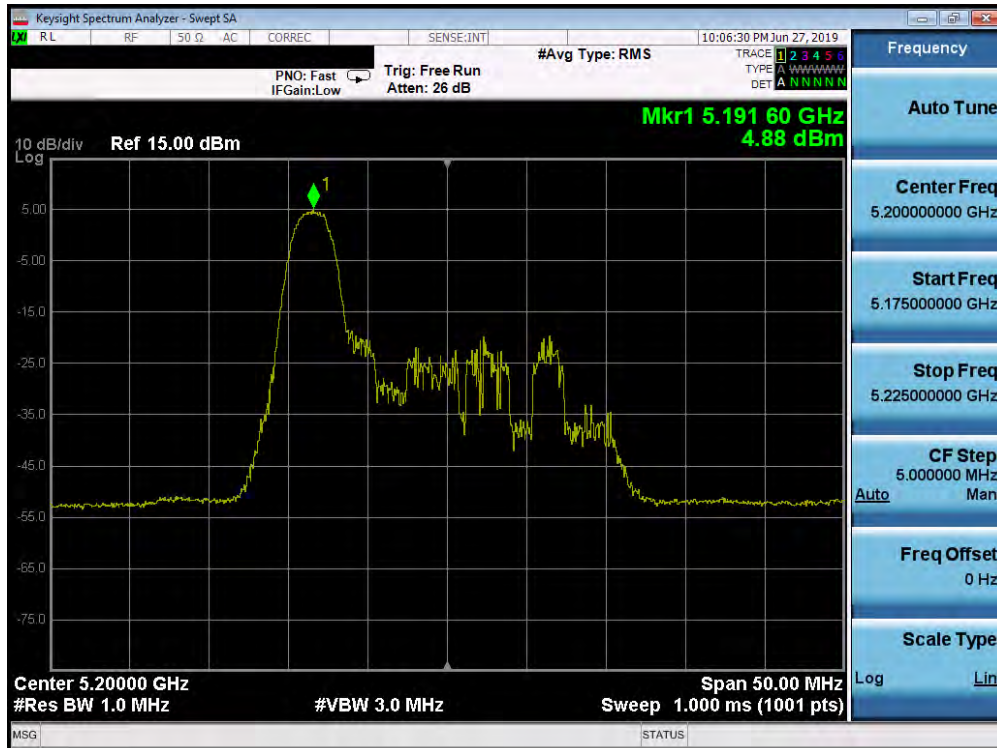
$$9.09 \text{ dBm} + (-5.12) \text{ dBi} = 3.97 \text{ dBm}$$

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 135 of 269

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

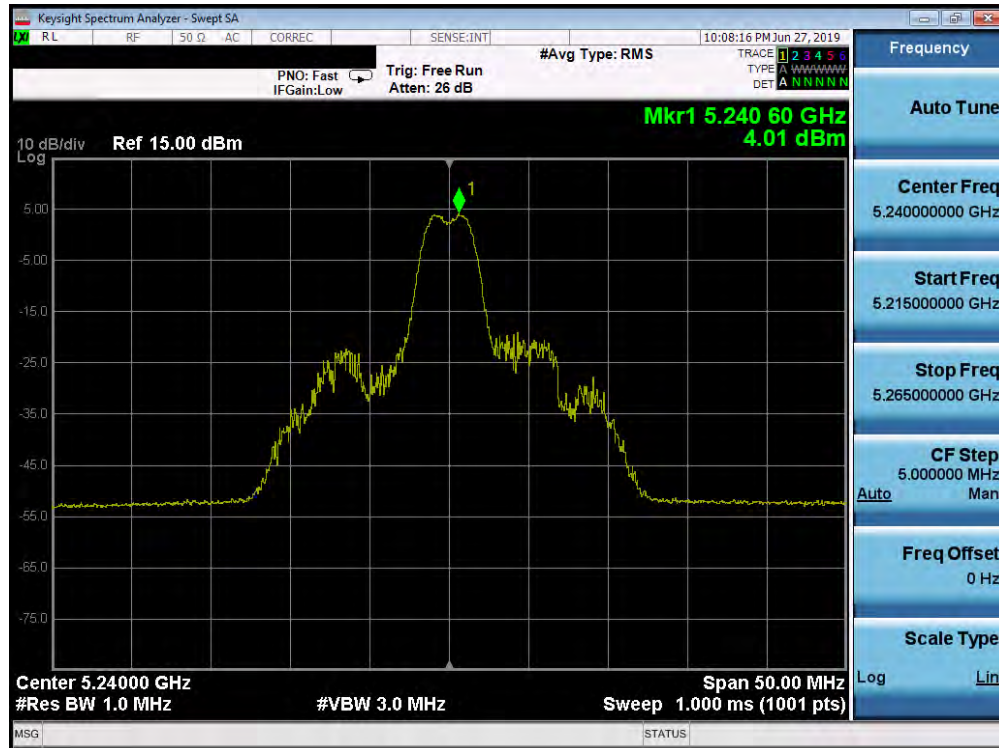


Plot 7-163. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

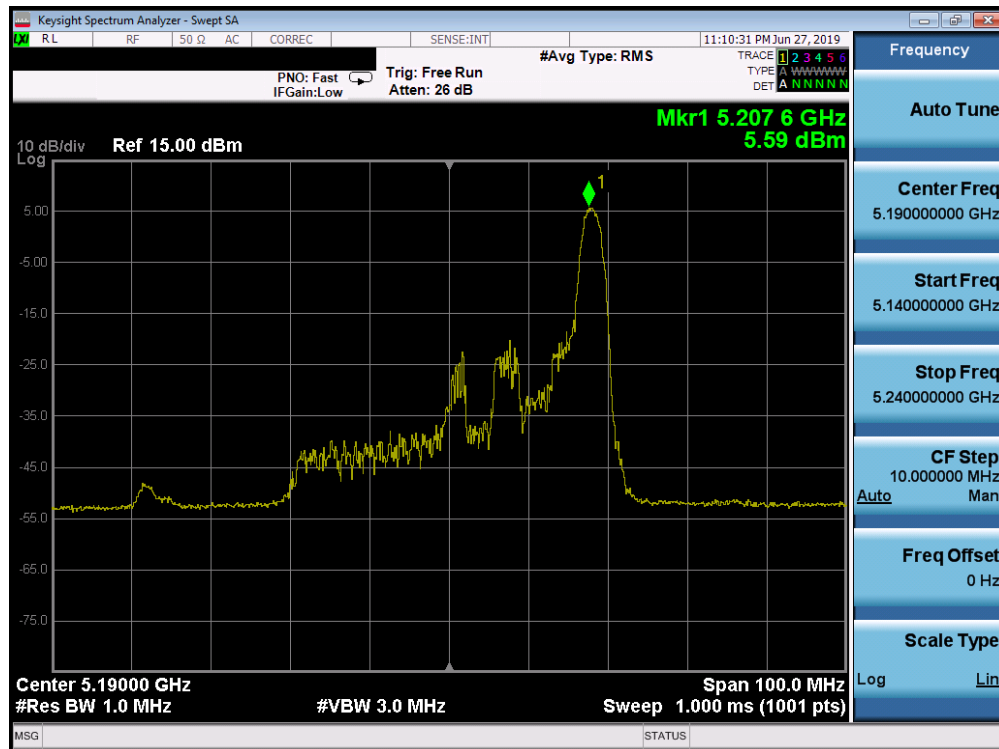


Plot 7-164. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 136 of 269

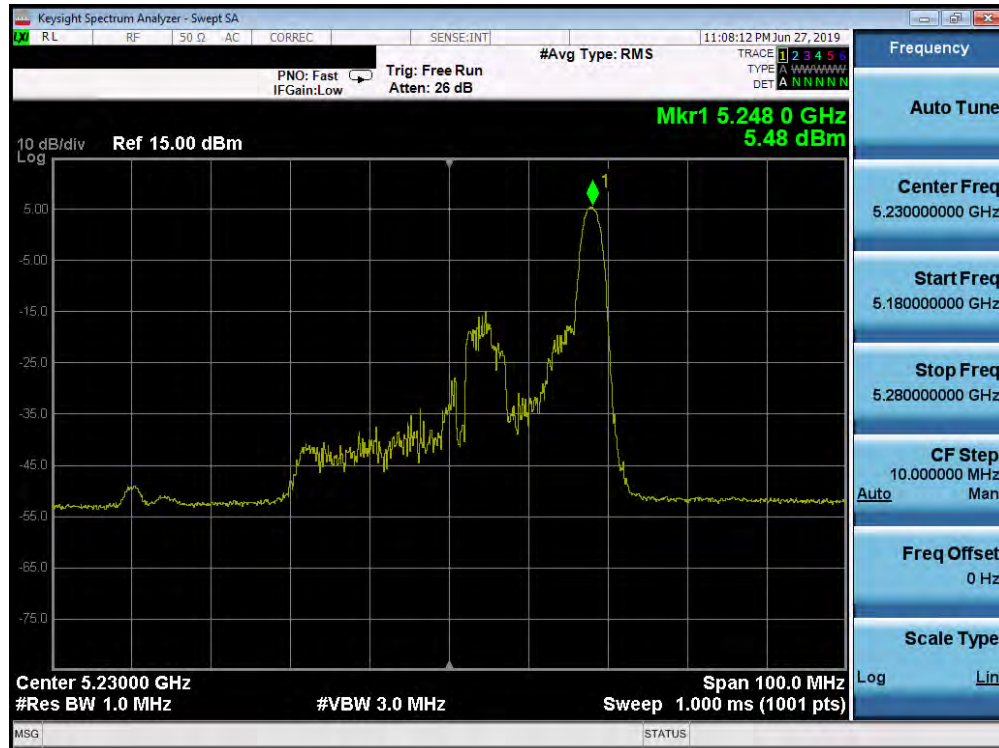


Plot 7-165. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

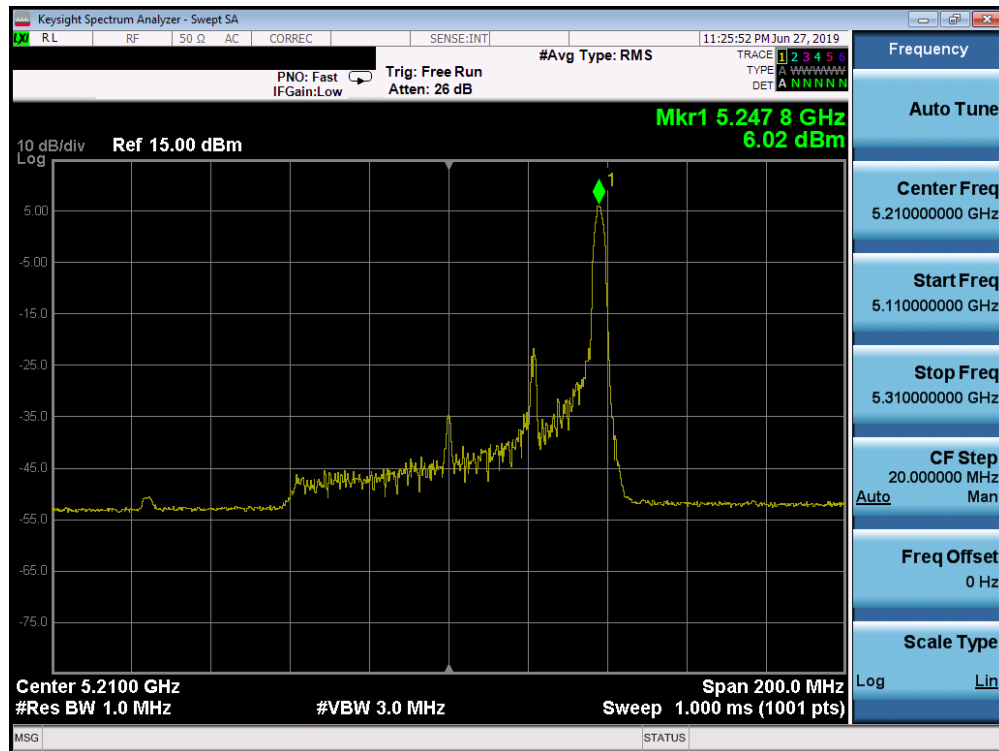


Plot 7-166. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 137 of 269

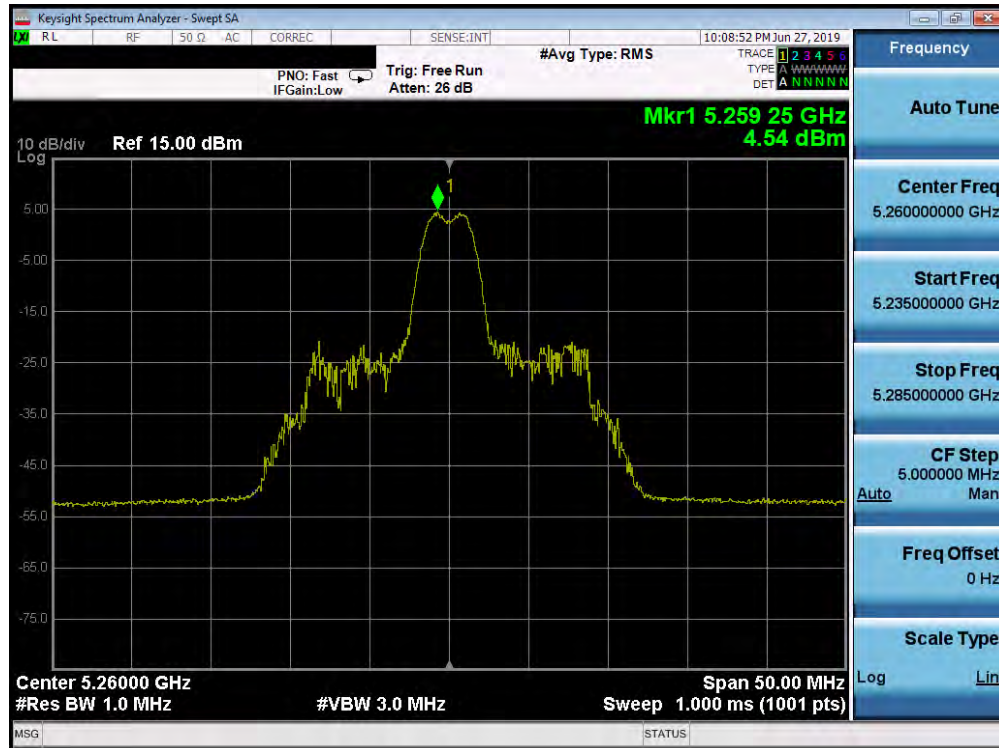


Plot 7-167. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

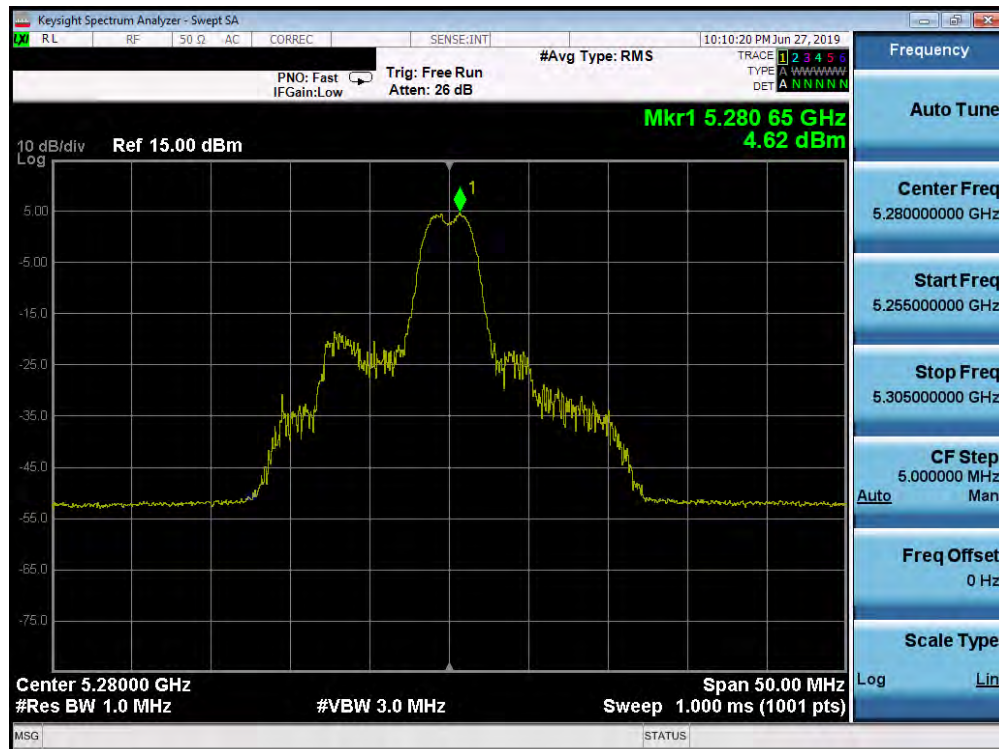


Plot 7-168. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 138 of 269

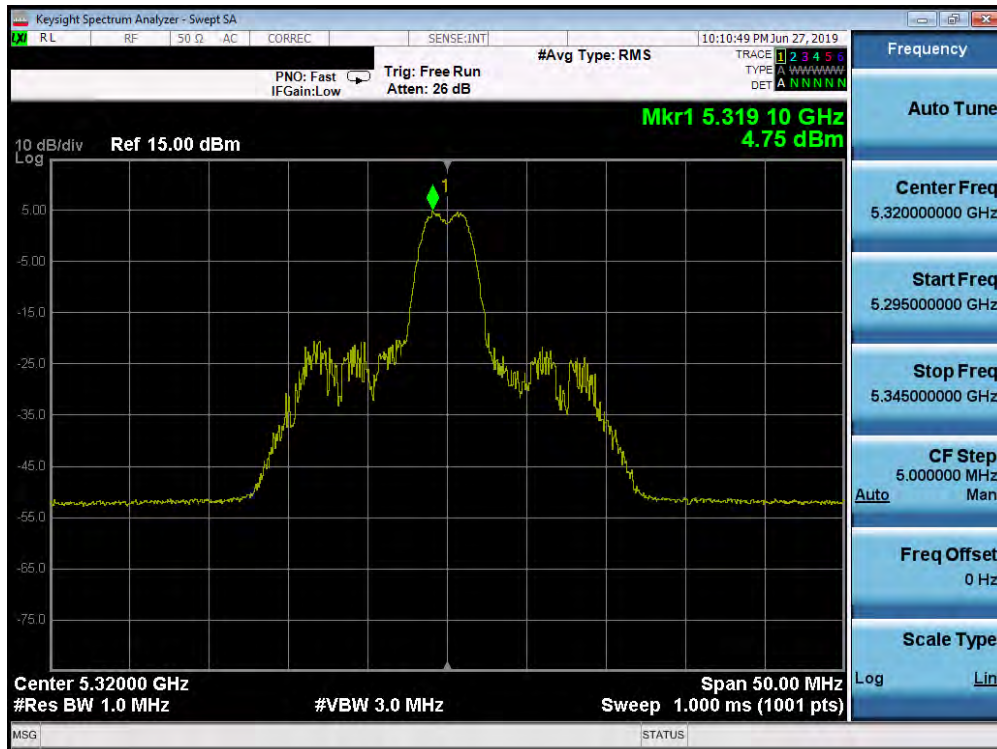


Plot 7-169. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

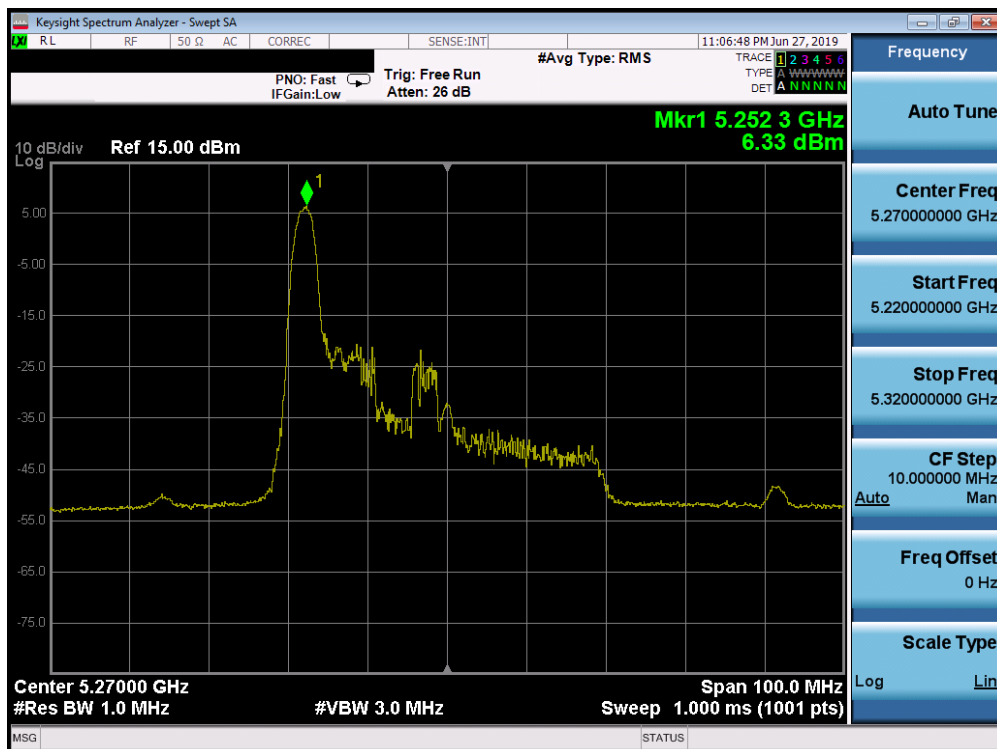


Plot 7-170. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 139 of 269

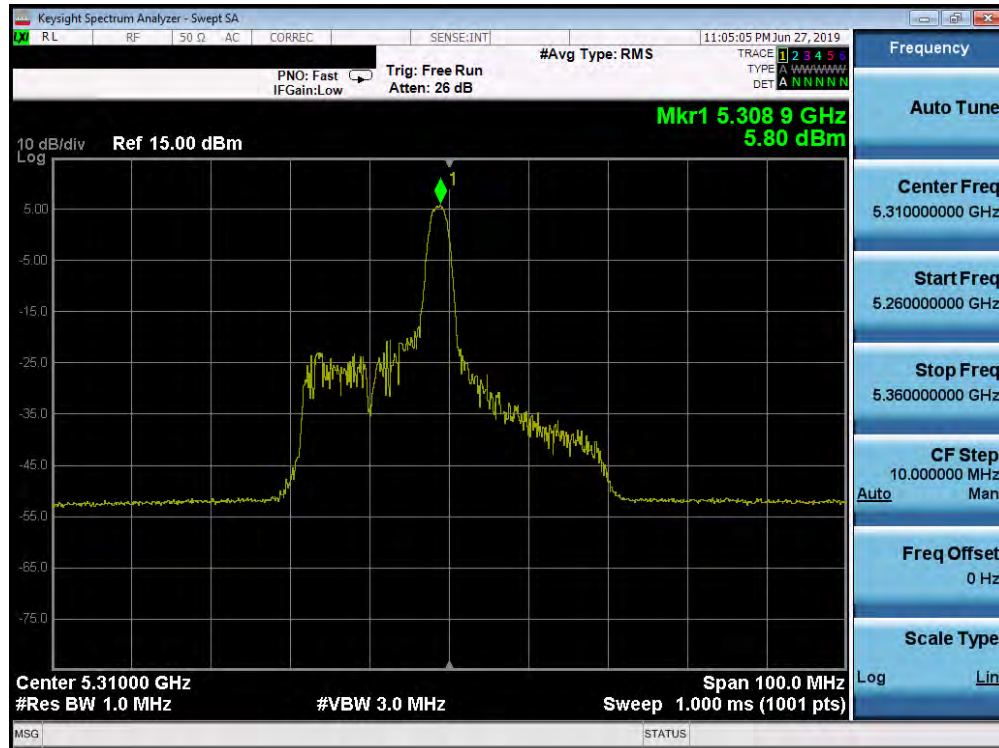


Plot 7-171. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

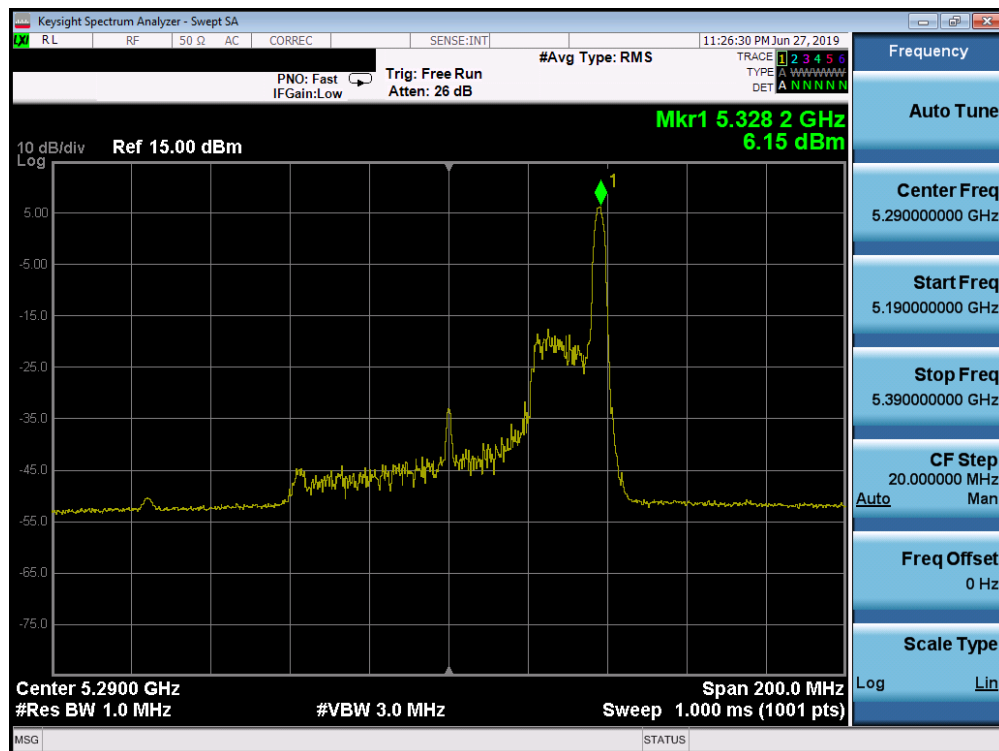


Plot 7-172. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 140 of 269

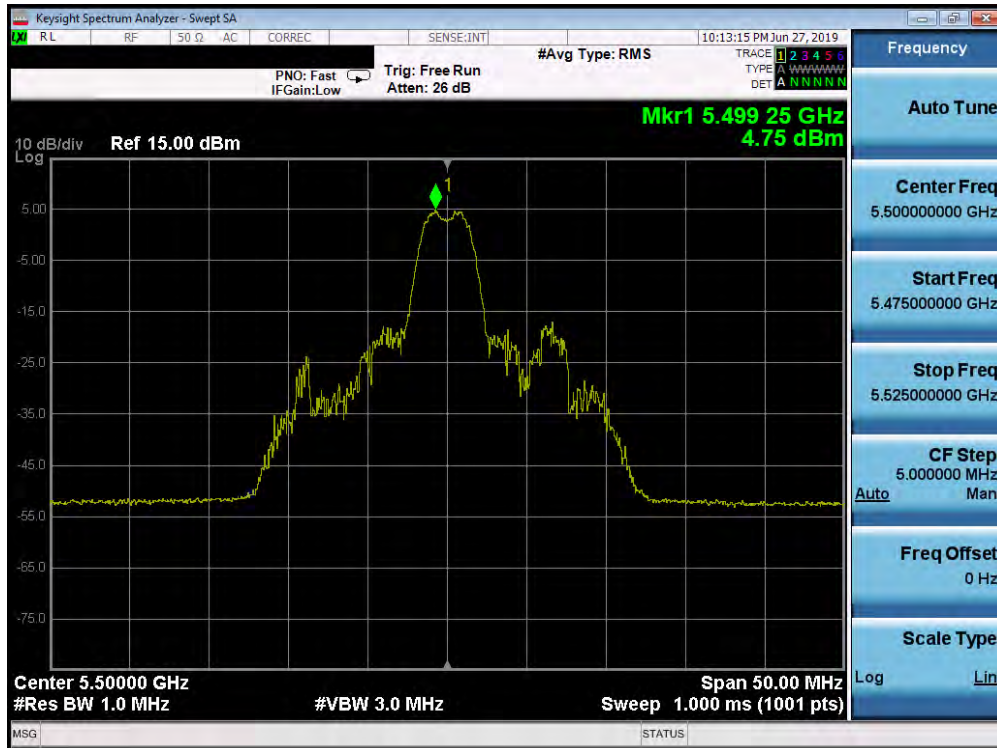


Plot 7-173. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

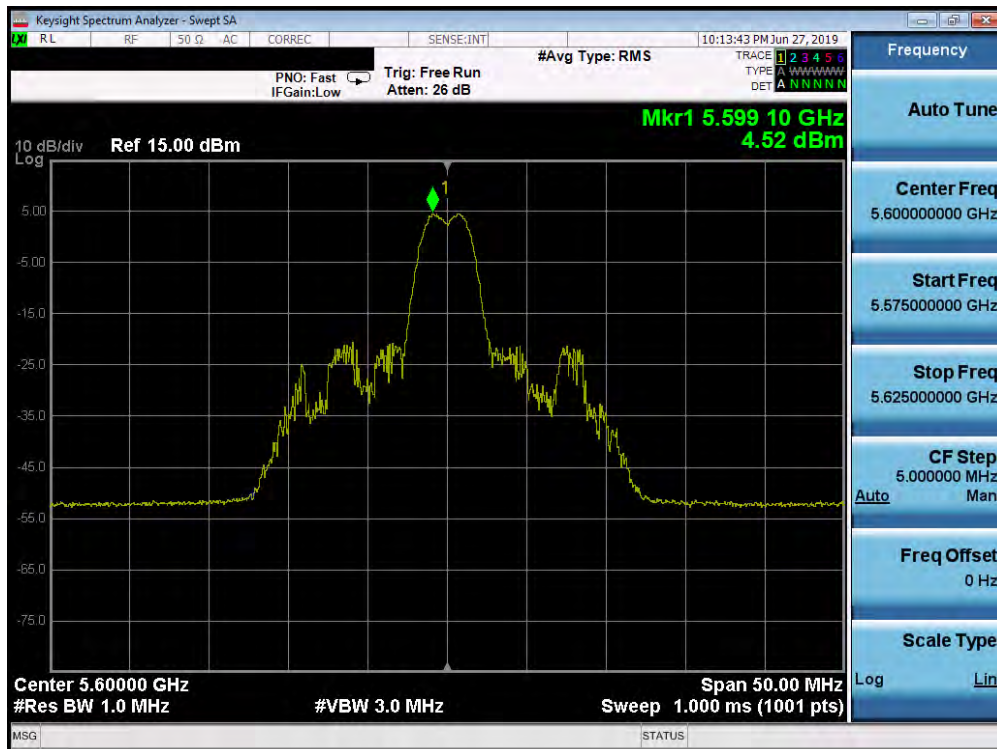


Plot 7-174. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMN970U	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 141 of 269

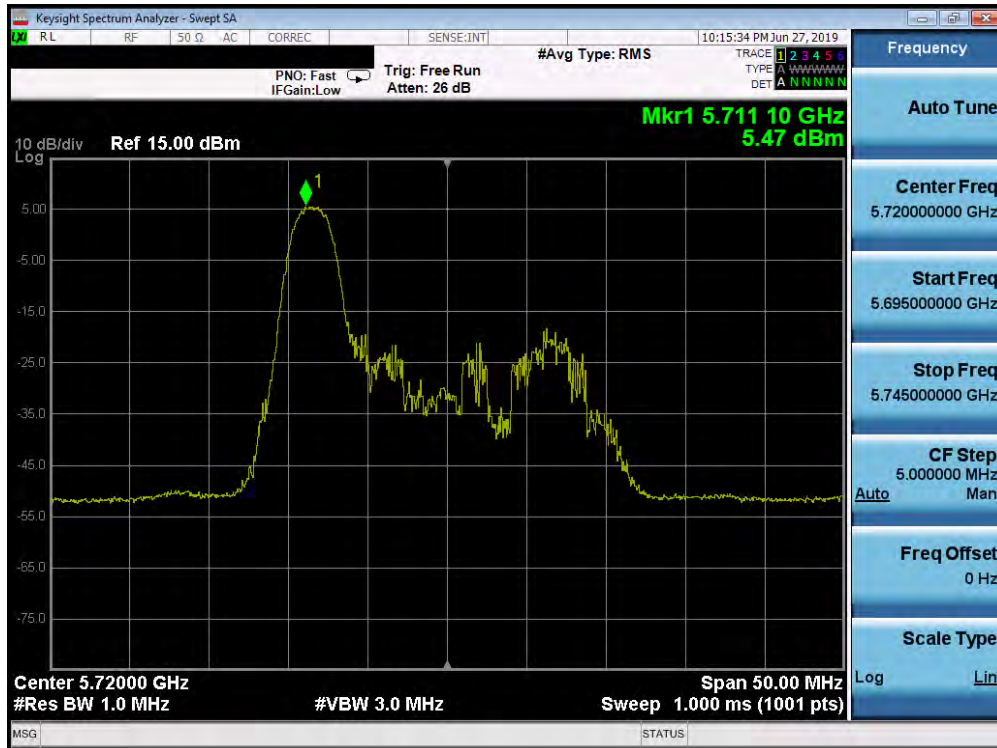


Plot 7-175. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

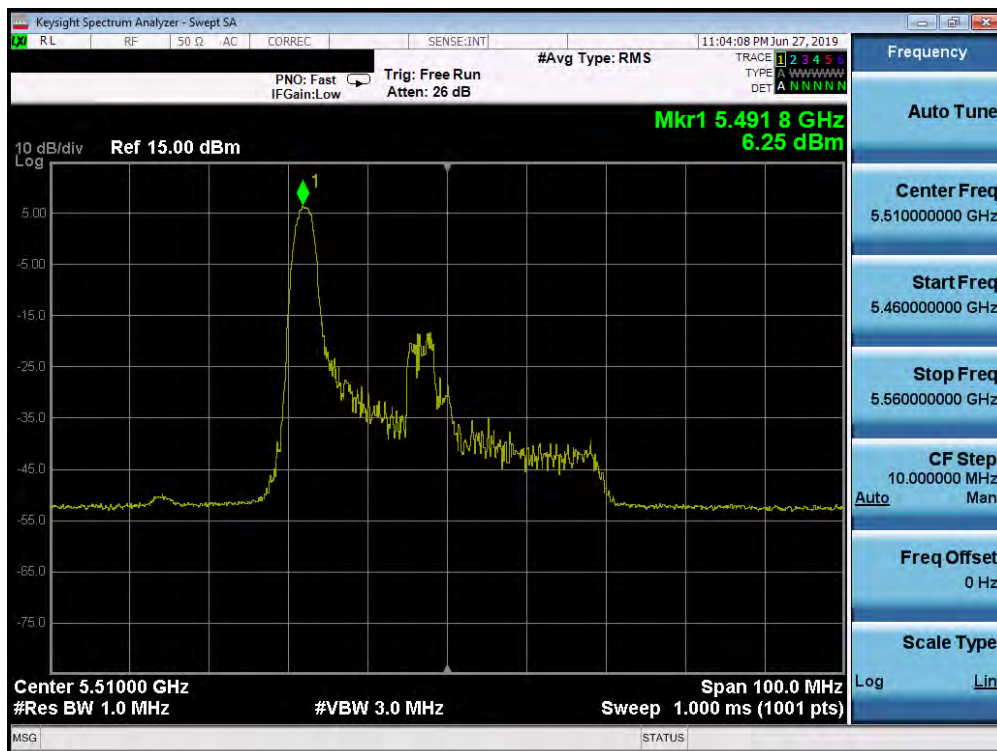


Plot 7-176. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 142 of 269

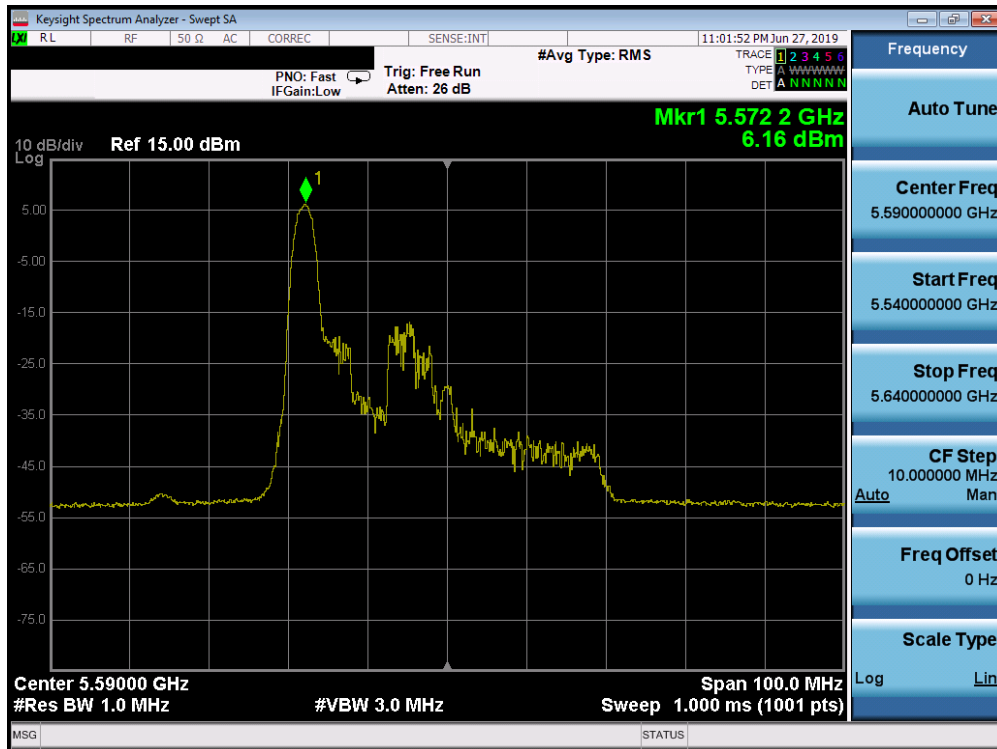


Plot 7-177. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 144)

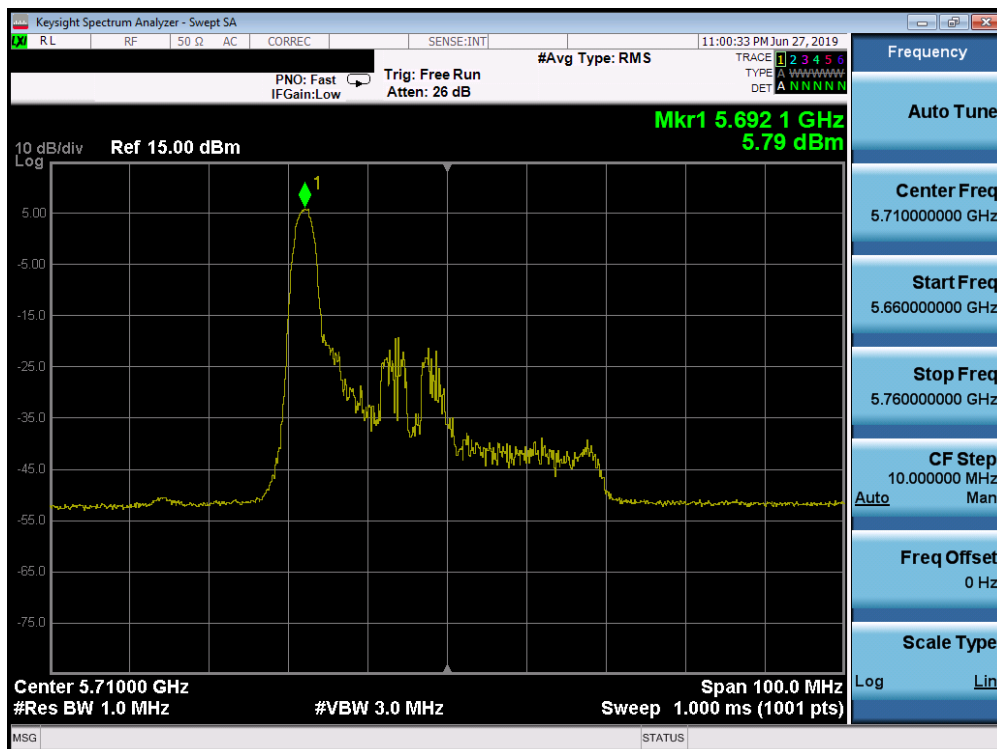


Plot 7-178. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax - 26 Tones (UNII Band 2C) - Ch. 102)

FCC ID: A3LSMN970U	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset	Page 143 of 269



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



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

FCC ID: A3LSMN970U	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1905220084-08.A3L	Test Dates: 05/22 - 07/10/2019	EUT Type: Portable Handset		Page 144 of 269