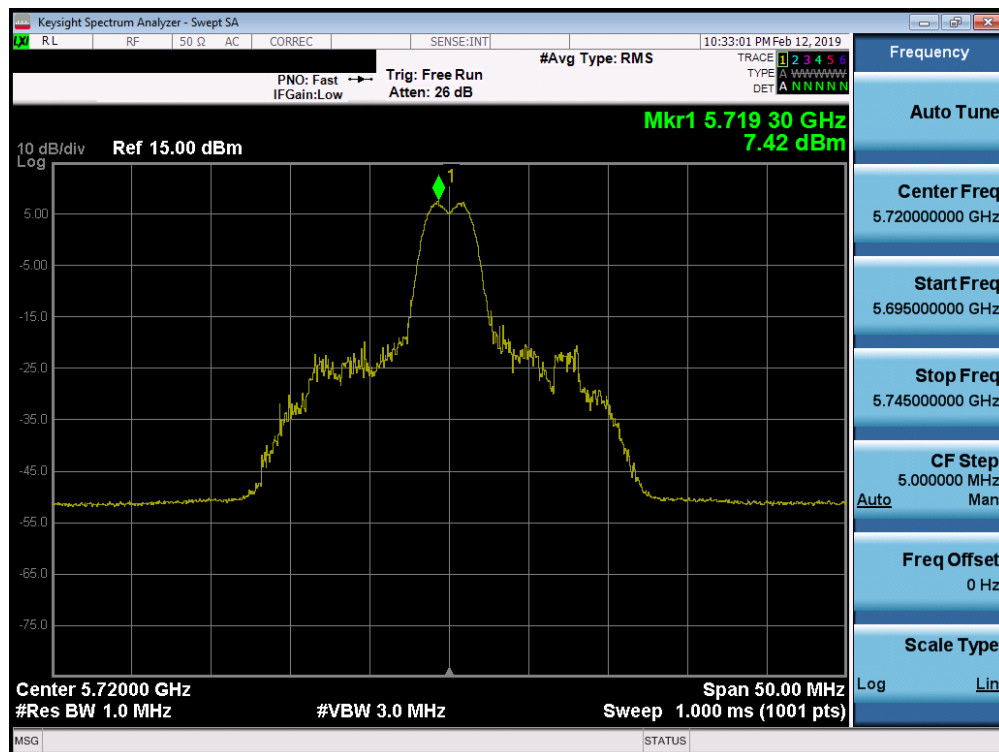
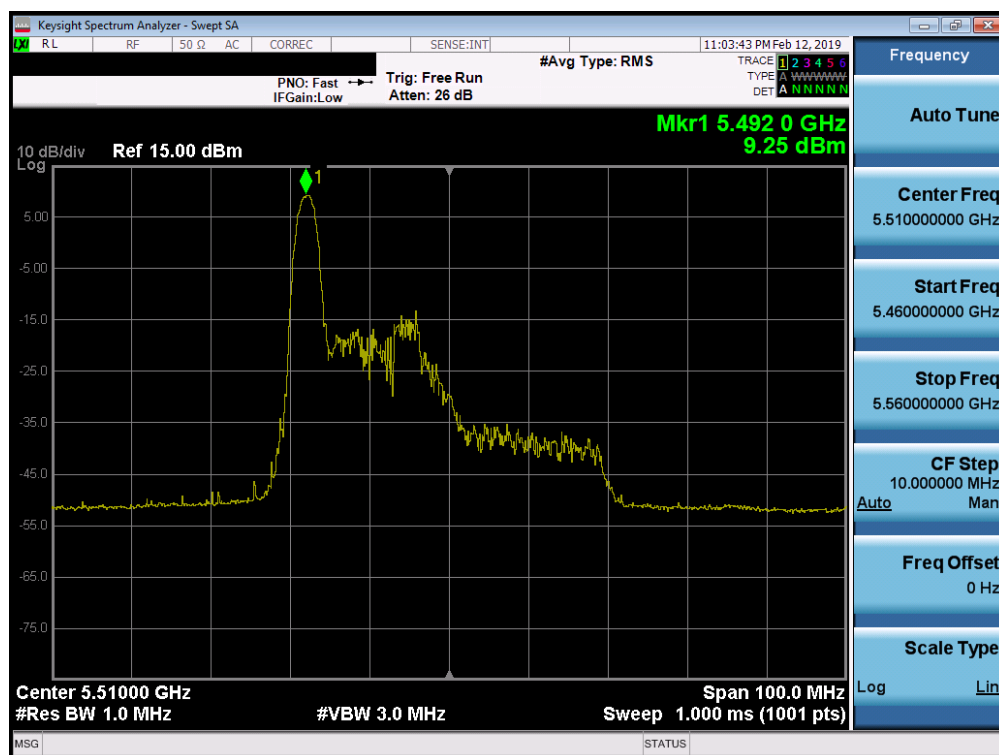


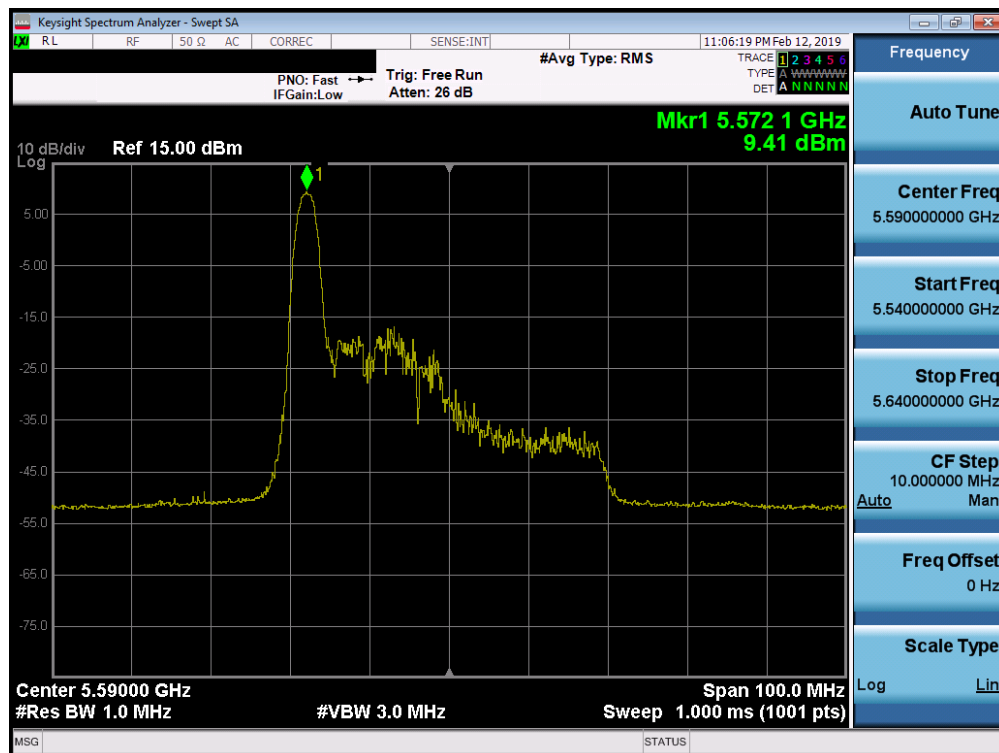


Plot 7-96. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

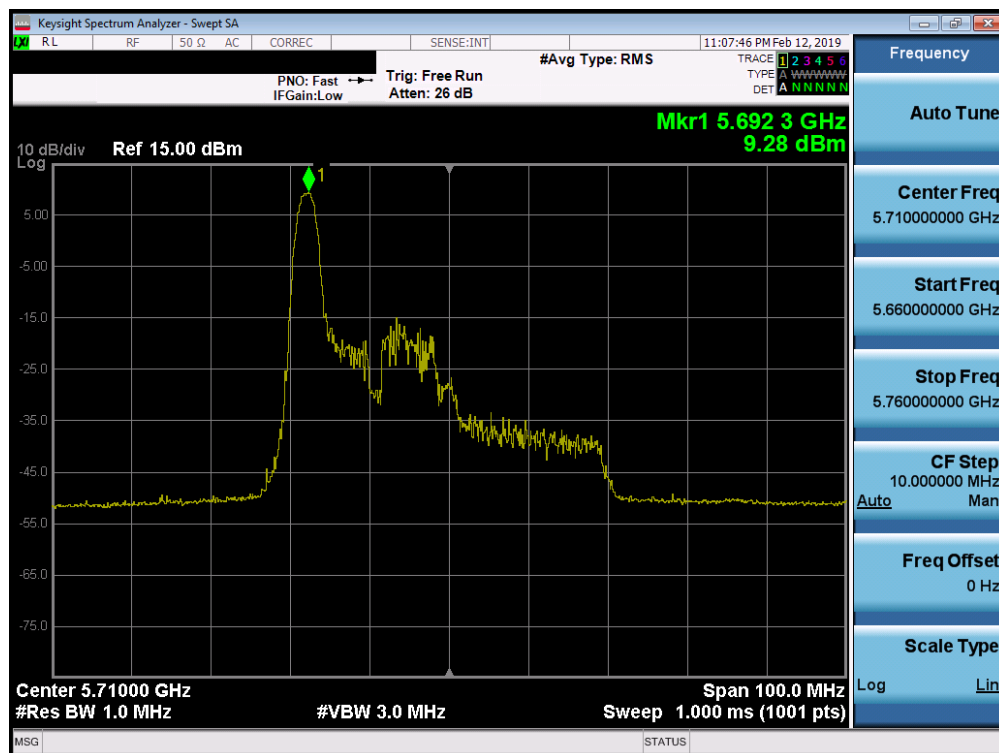


Plot 7-97. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 93 of 194

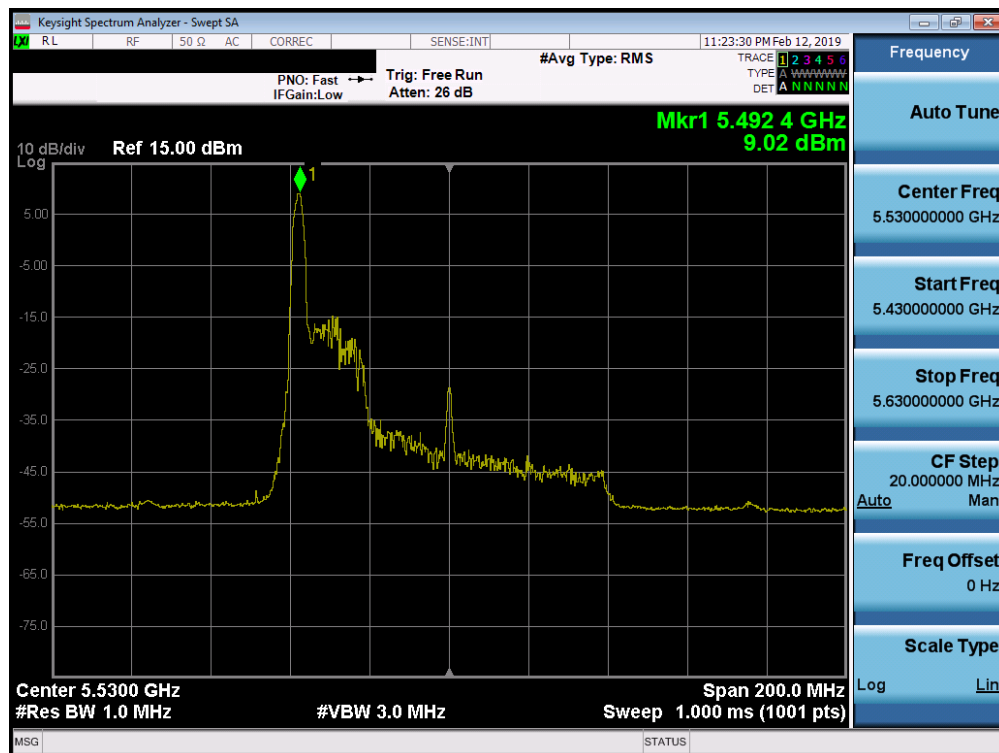


Plot 7-98. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

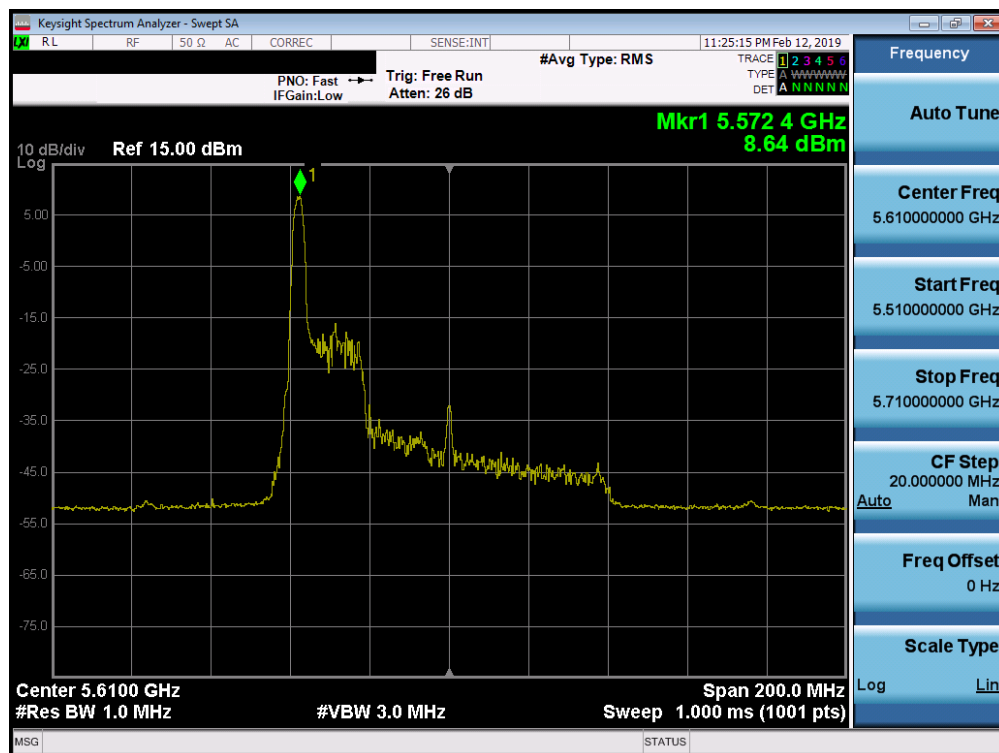


Plot 7-99. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 94 of 194

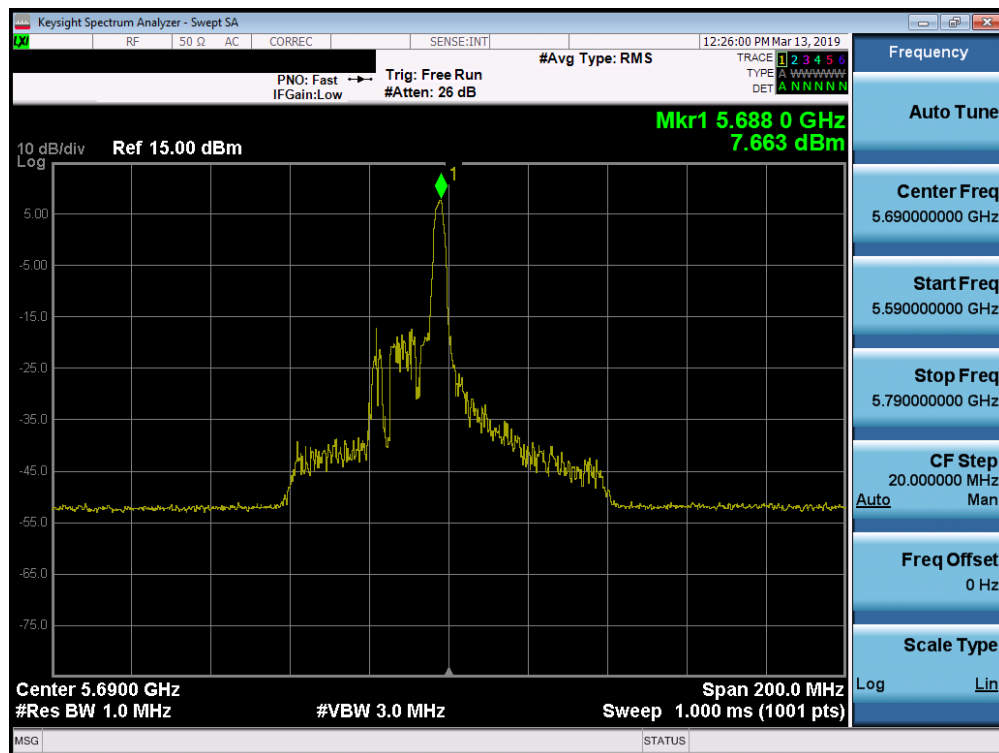


Plot 7-100. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)



Plot 7-101. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 95 of 194



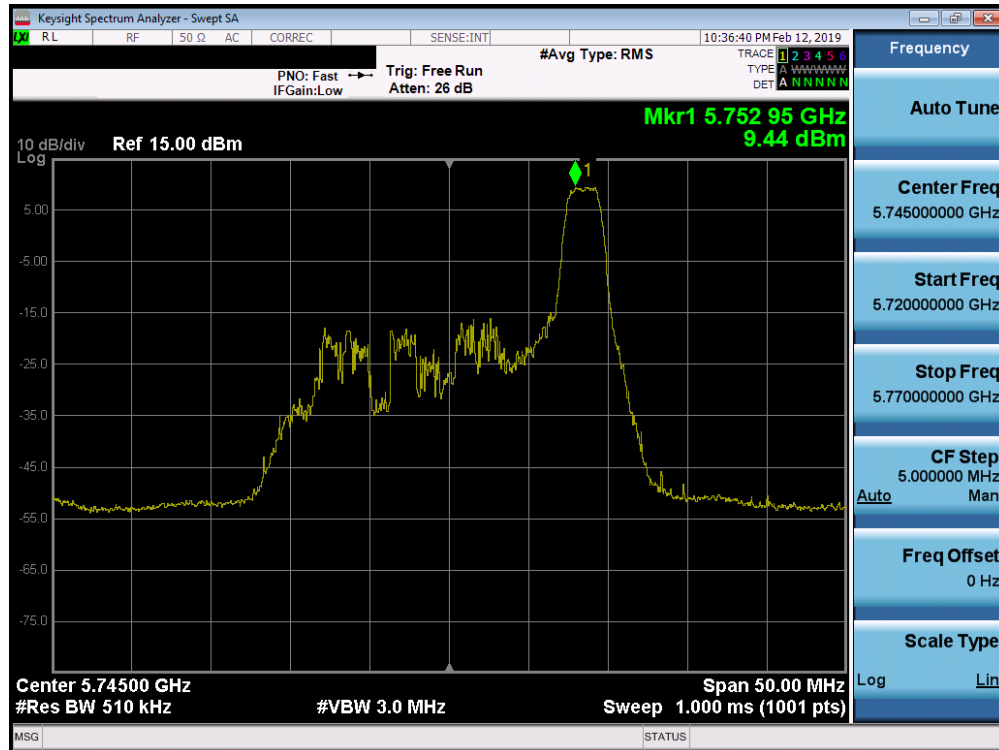
Plot 7-102. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 96 of 194

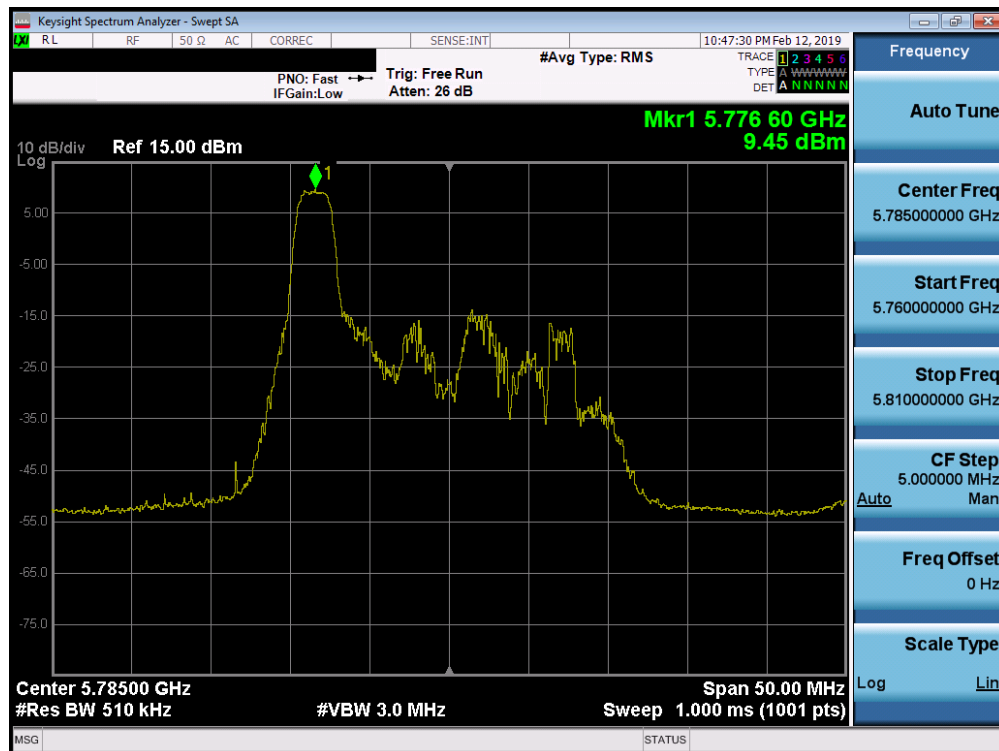
	Frequency [MHz]	Channel No.	802.11 Mode	Tones	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density	Margin [dB]
Band 3	5745	149	ax (20MHz)	26T	MCS0	9.44	30.00	-20.56
	5785	157	ax (20MHz)	26T	MCS0	9.45	30.00	-20.55
	5825	165	ax (20MHz)	26T	MCS0	9.60	30.00	-20.40
	5755	151	ax (40MHz)	26T	MCS0	11.10	30.00	-18.90
	5795	159	ax (40MHz)	26T	MCS0	10.92	30.00	-19.08
	5775	155	ax (80MHz)	26T	MCS0	13.48	30.00	-16.52

Table 7-54. Band 3 Conducted Power Spectral Density Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	
			Page 97 of 194



Plot 7-103. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

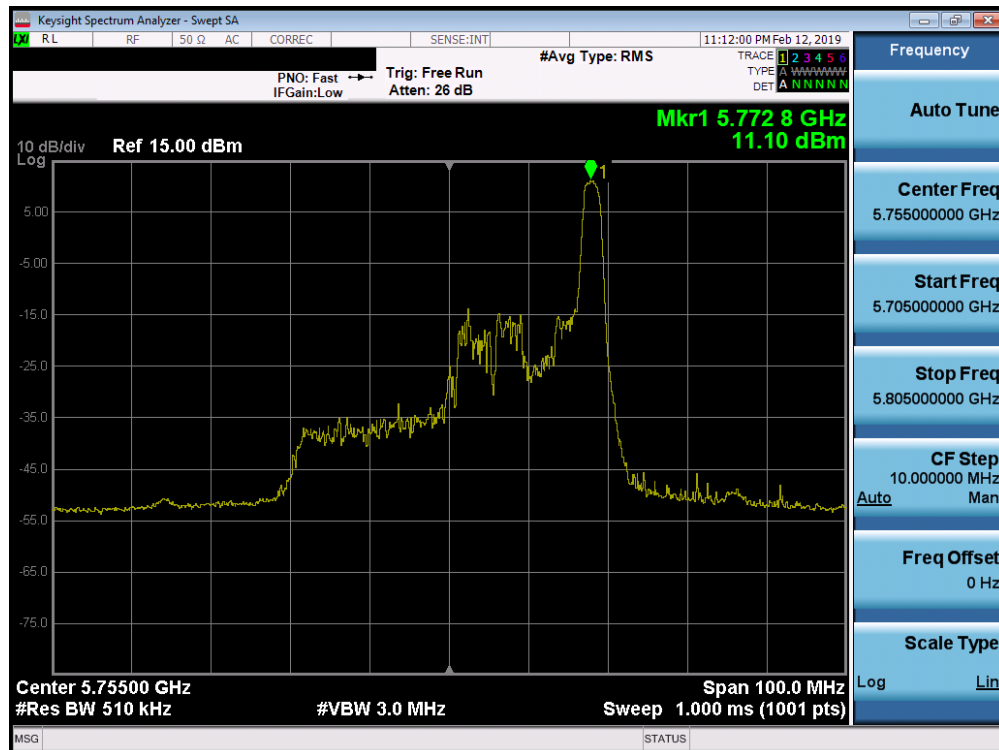


Plot 7-104. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 98 of 194



Plot 7-105. Power Spectral Density Plot SISO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

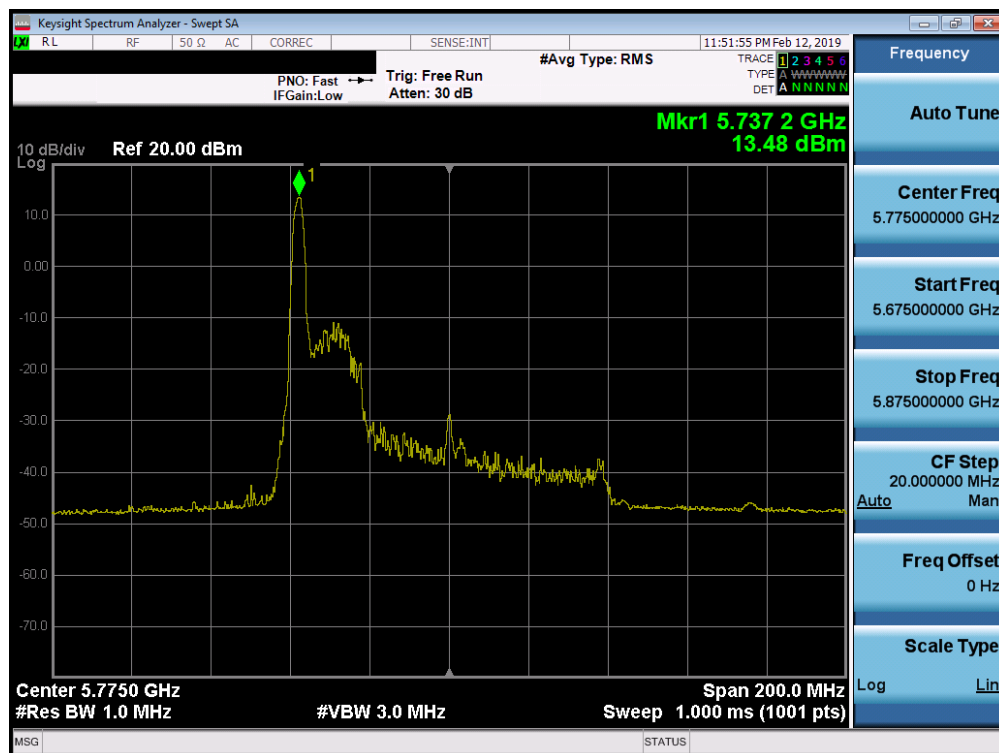


Plot 7-106. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 99 of 194



Plot 7-107. Power Spectral Density Plot SISO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)



Plot 7-108. Power Spectral Density Plot SISO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 100 of 194

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	4.41	4.73	7.58	11.00	-3.42
	5200	40	ax (20MHz)	26T	MCS0	6.15	5.74	8.96	11.00	-2.04
	5240	48	ax (20MHz)	26T	MCS0	4.77	5.22	8.01	11.00	-2.99
	5190	38	ax (40MHz)	26T	MCS0	6.99	4.66	8.99	11.00	-2.01
	5230	46	ax (40MHz)	26T	MCS0	7.05	5.04	9.17	11.00	-1.83
	5210	42	ax (80MHz)	26T	MCS0	5.21	3.29	7.37	11.00	-3.63
Band 2A	5260	52	ax (20MHz)	26T	MCS0	4.96	4.46	7.73	11.00	-3.27
	5280	56	ax (20MHz)	26T	MCS0	4.74	4.88	7.82	11.00	-3.18
	5320	64	ax (20MHz)	26T	MCS0	4.26	4.75	7.52	11.00	-3.48
	5270	54	ax (40MHz)	26T	MCS0	6.21	4.42	8.42	11.00	-2.58
	5310	62	ax (40MHz)	26T	MCS0	6.08	4.80	8.50	11.00	-2.50
	5290	58	ax (80MHz)	26T	MCS0	6.94	5.04	9.10	11.00	-1.90
Band 2C	5500	100	ax (20MHz)	26T	MCS0	4.13	4.52	7.34	11.00	-3.66
	5600	120	ax (20MHz)	26T	MCS0	5.04	5.49	8.28	11.00	-2.72
	5720	144	ax (20MHz)	26T	MCS0	4.94	5.77	8.39	11.00	-2.61
	5510	102	ax (40MHz)	26T	MCS0	5.33	4.84	8.10	11.00	-2.90
	5590	118	ax (40MHz)	26T	MCS0	4.84	5.01	7.94	11.00	-3.06
	5710	142	ax (40MHz)	26T	MCS0	5.48	5.92	8.72	11.00	-2.28
	5530	106	ax (80MHz)	26T	MCS0	5.03	5.15	8.10	11.00	-2.90
	5610	122	ax (80MHz)	26T	MCS0	3.28	3.33	6.31	11.00	-4.69
	5690	138	ax (80MHz)	26T	MCS0	5.85	6.19	9.03	11.00	-1.97

Table 7-55. 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	10.14	9.44	12.81	30.00	-17.19
	5785	157	ax (20MHz)	26T	MCS0	10.78	9.45	13.18	30.00	-16.82
	5825	165	ax (20MHz)	26T	MCS0	10.21	9.60	12.93	30.00	-17.07
	5755	151	ax (40MHz)	26T	MCS0	10.59	11.10	13.86	30.00	-16.14
	5795	159	ax (40MHz)	26T	MCS0	10.50	10.92	13.73	30.00	-16.27
	5775	155	ax (80MHz)	26T	MCS0	13.77	13.48	16.64	30.00	-13.36

Table 7-56. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

FCC ID: A3LSMG977KOR			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset			Page 101 of 194

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 MIMO Calculation:

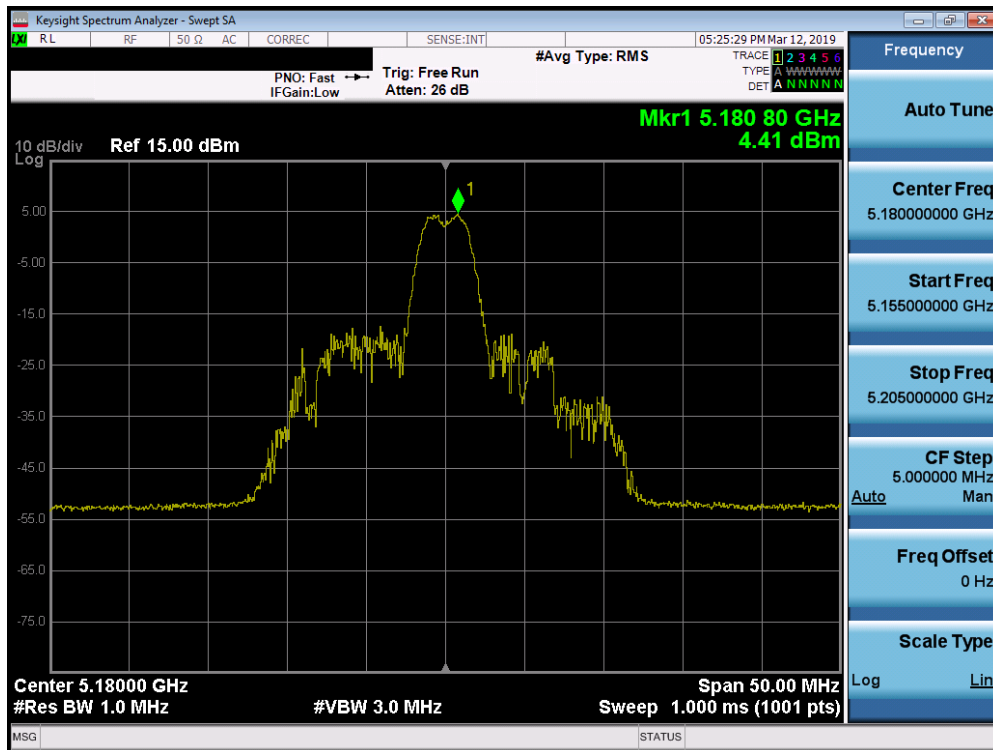
Assuming the average conducted power spectral density was measured to be 4.41 dBm for Antenna-1 and 4.73 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

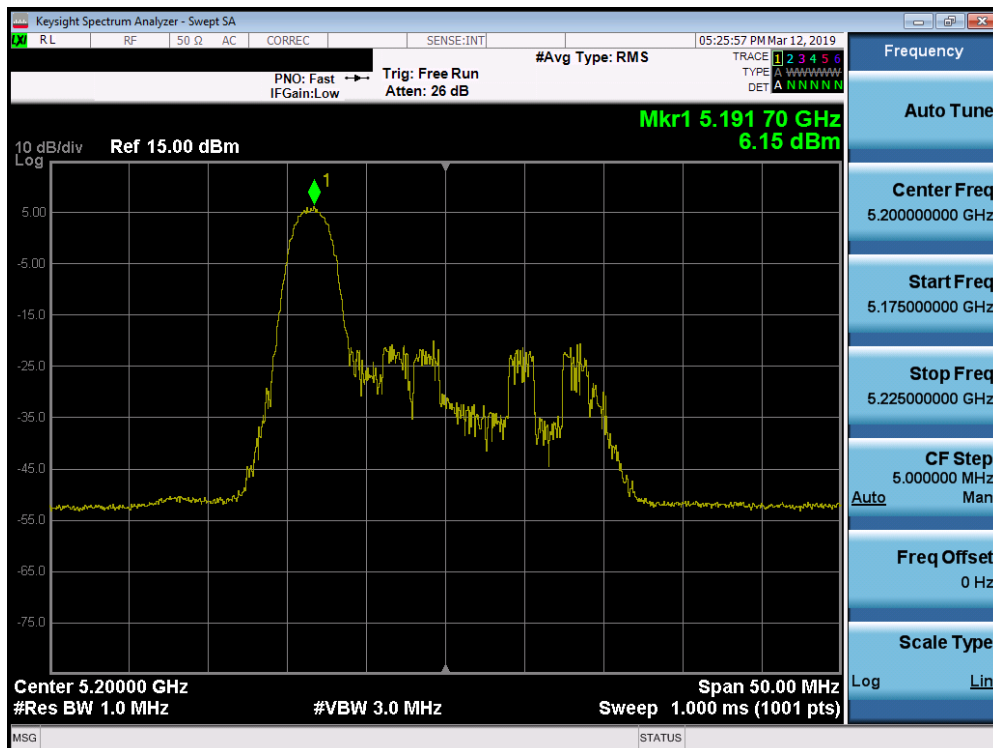
$$(4.41 \text{ dBm} + 4.73 \text{ dBm}) = (2.76 \text{ mW} + 2.97 \text{ mW}) = 5.73 \text{ mW} = 7.58 \text{ dBm}$$

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 102 of 194

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

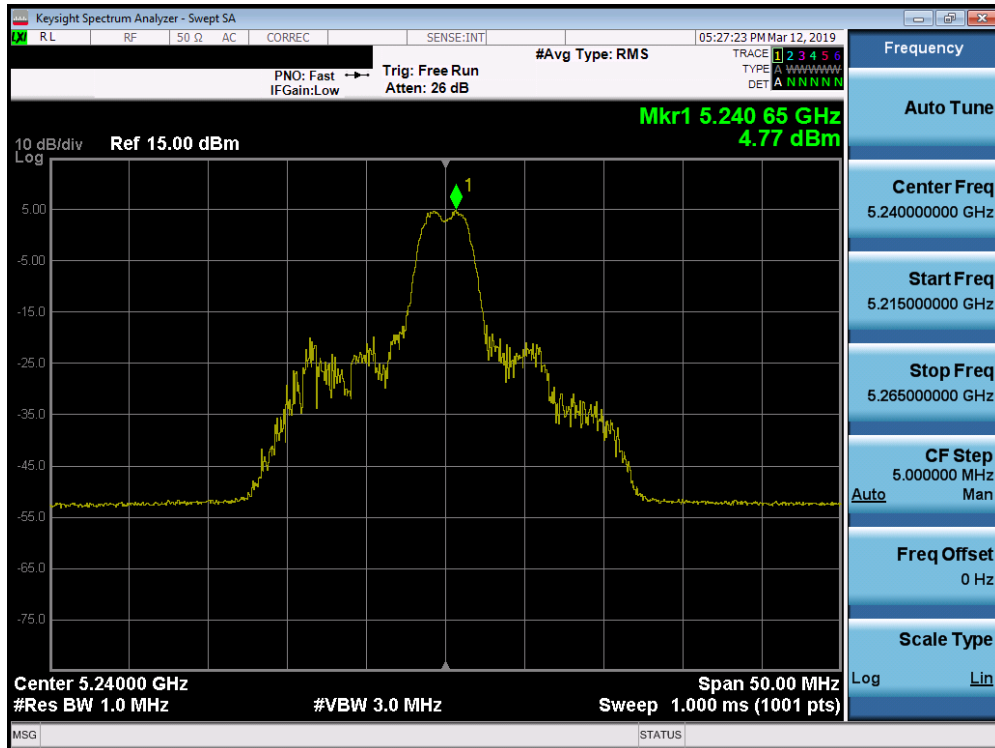


Plot 7-109. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

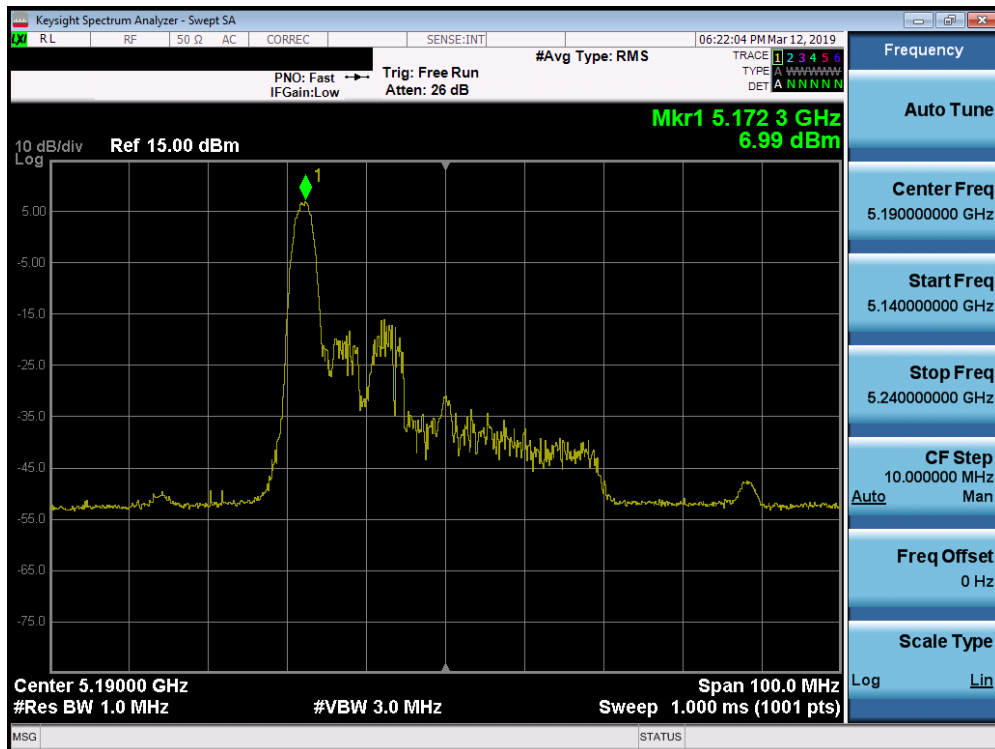


Plot 7-110. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 103 of 194

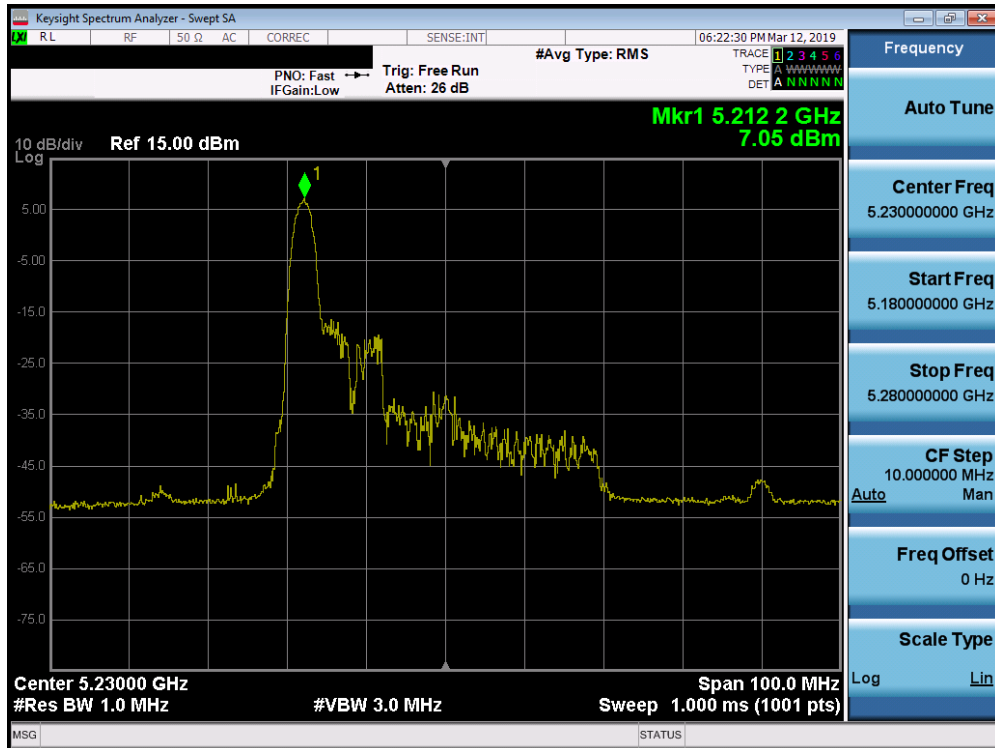


Plot 7-111. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

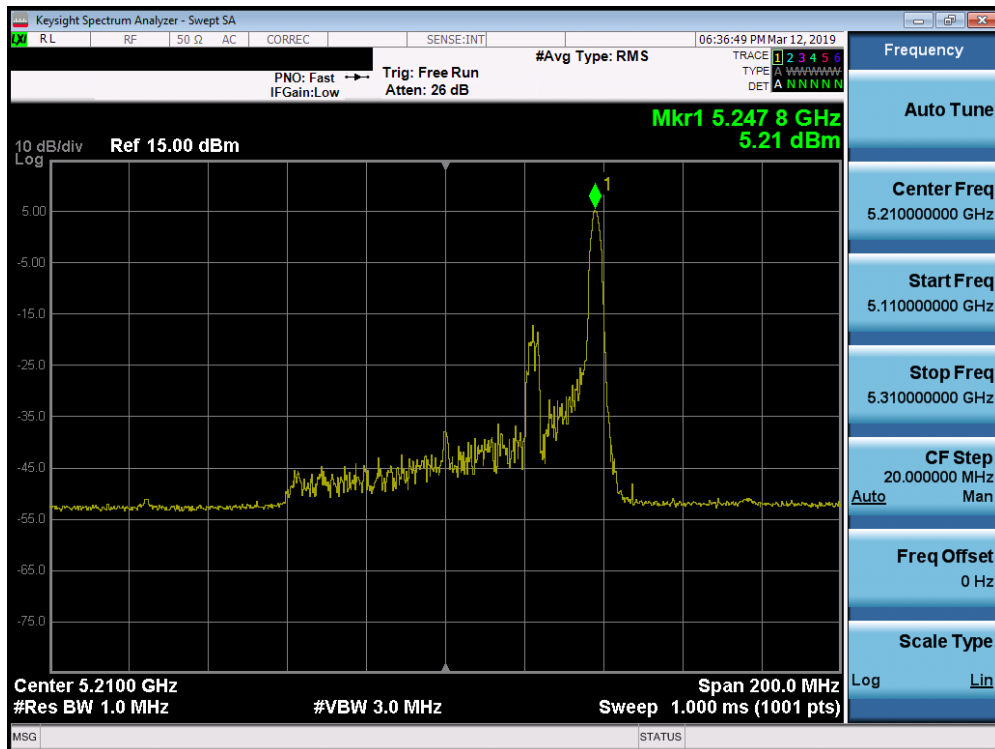


Plot 7-112. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 104 of 194

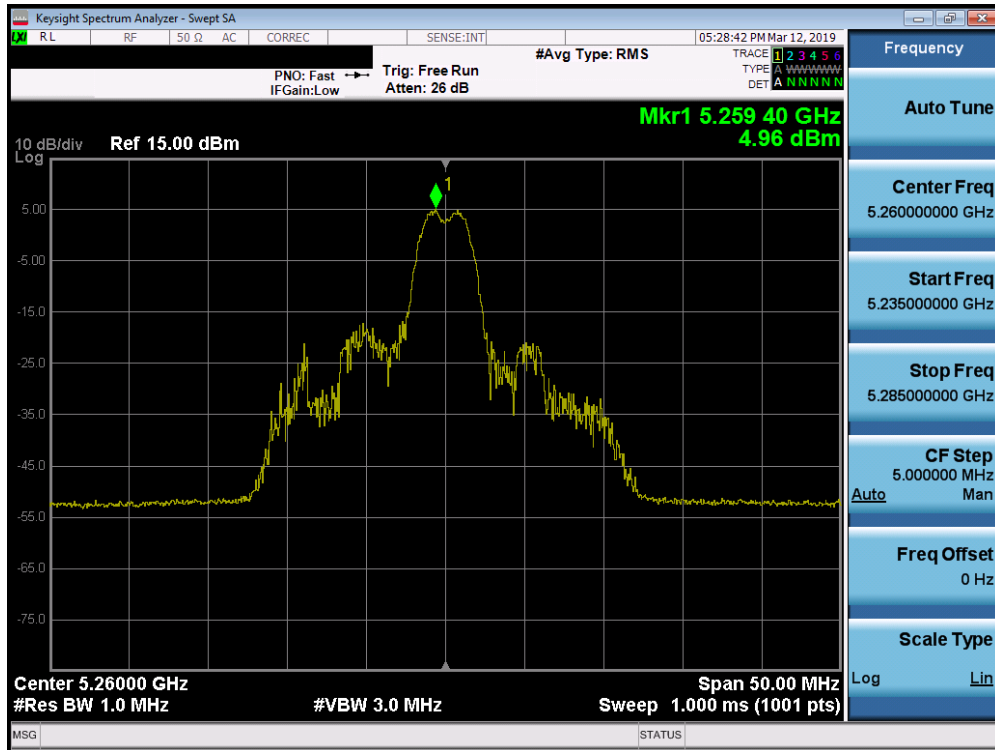


Plot 7-113. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 46)

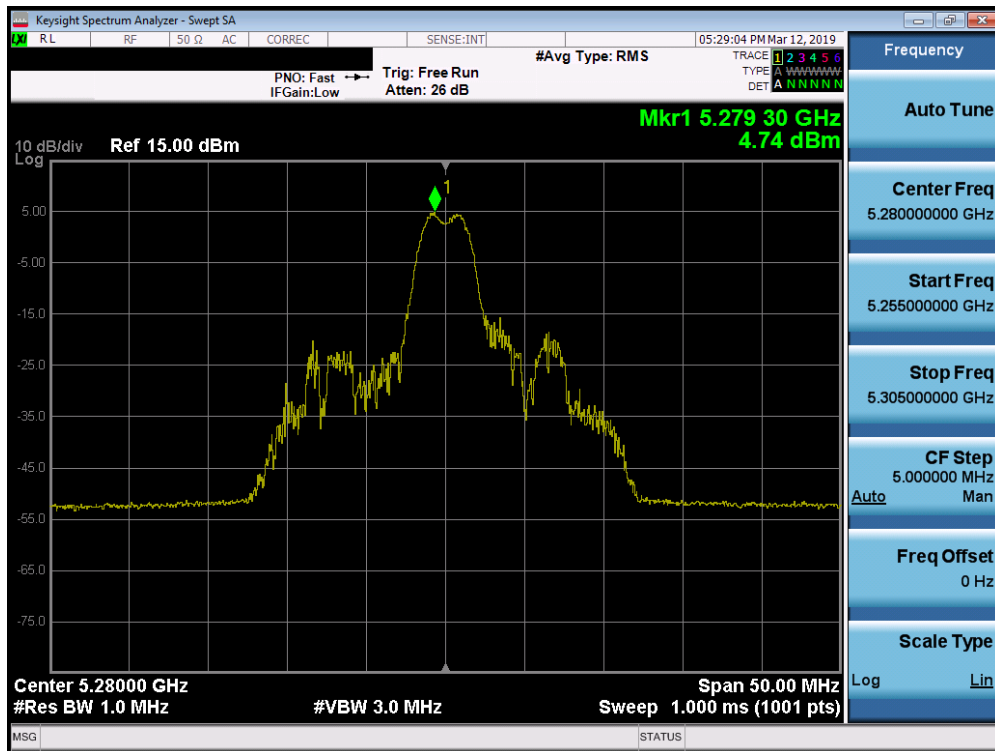


Plot 7-114. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 42)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 105 of 194

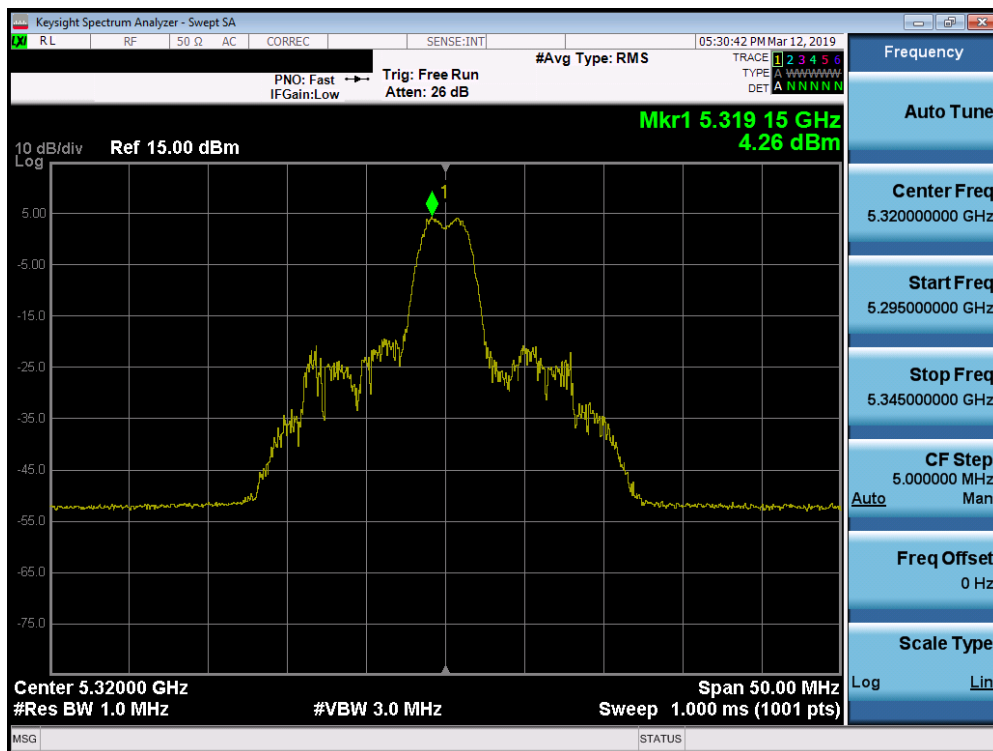


Plot 7-115. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

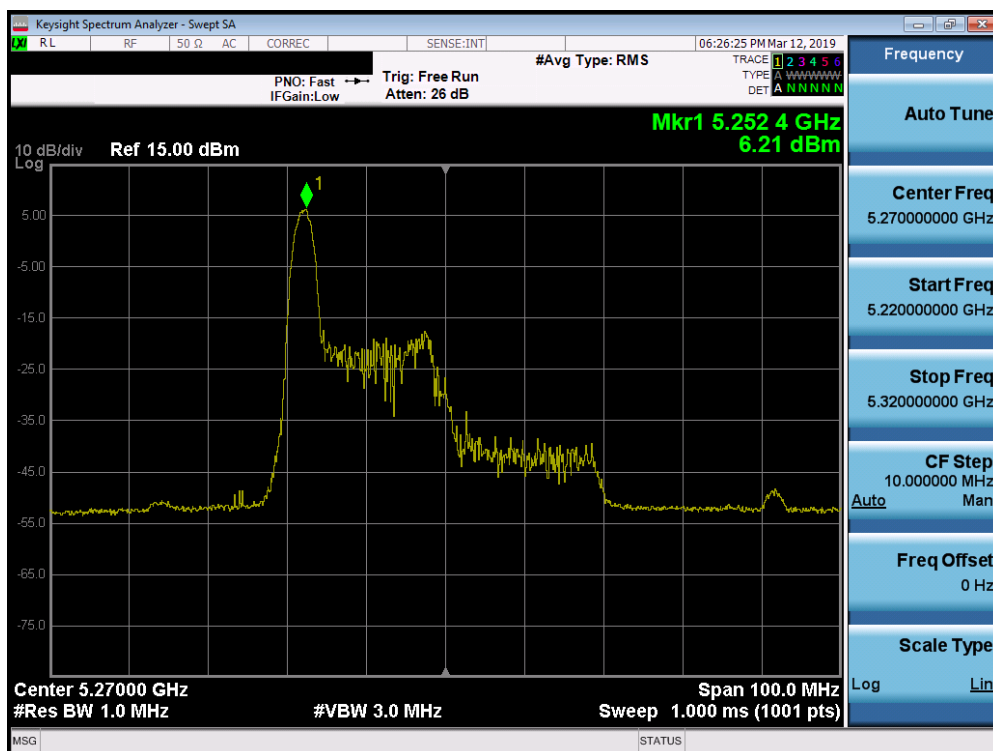


Plot 7-116. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 106 of 194

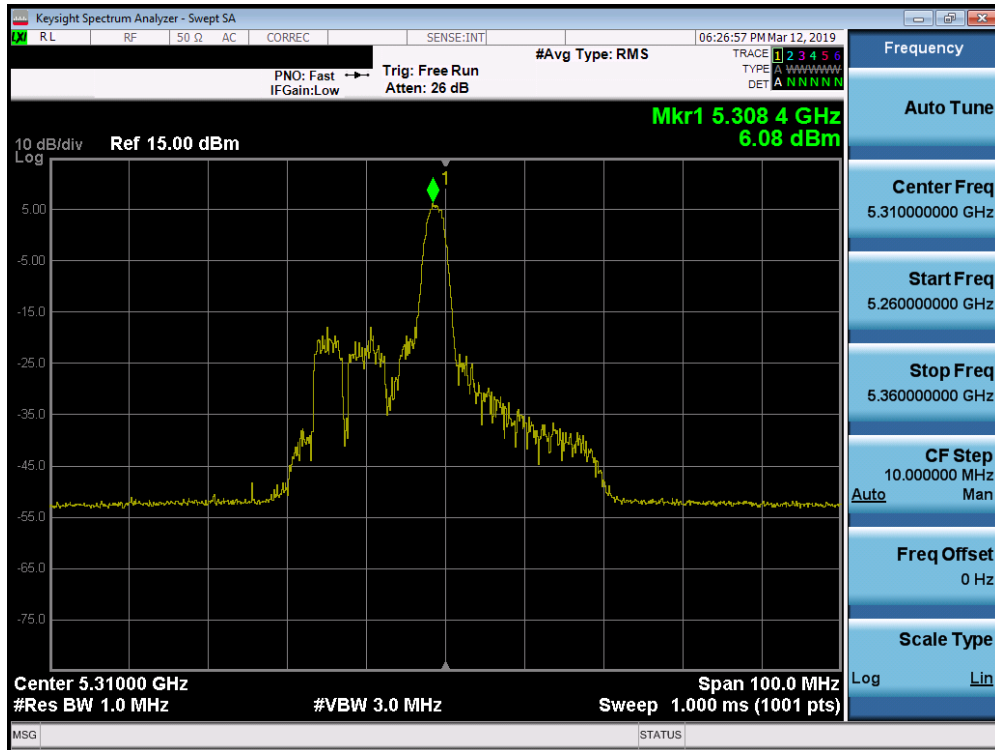


Plot 7-117. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

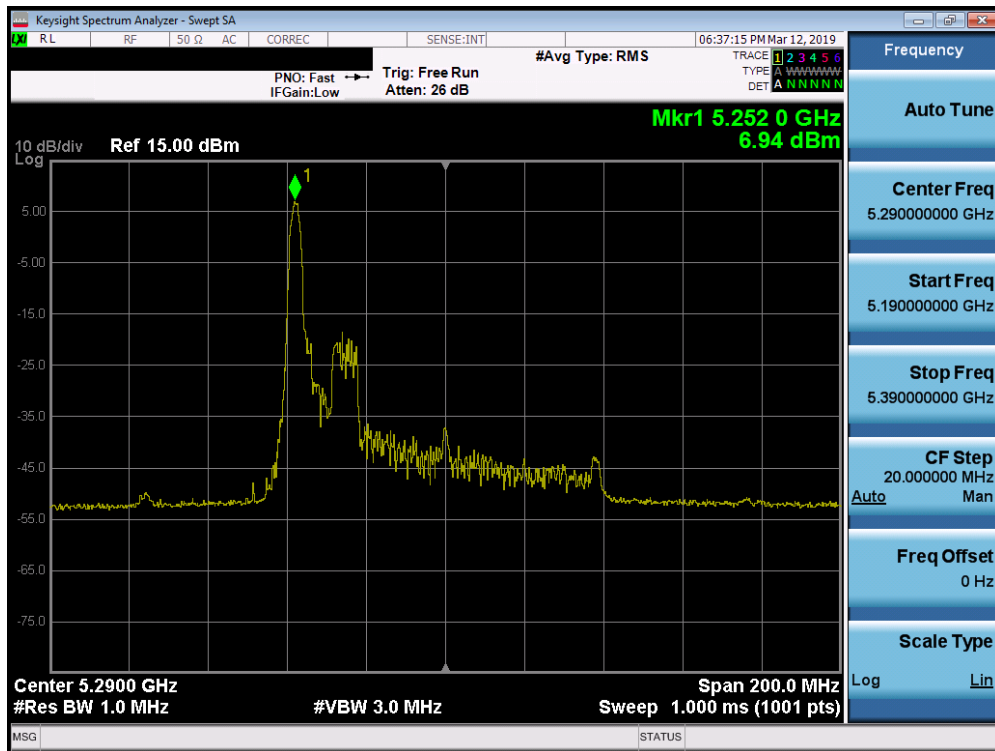


Plot 7-118. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 107 of 194

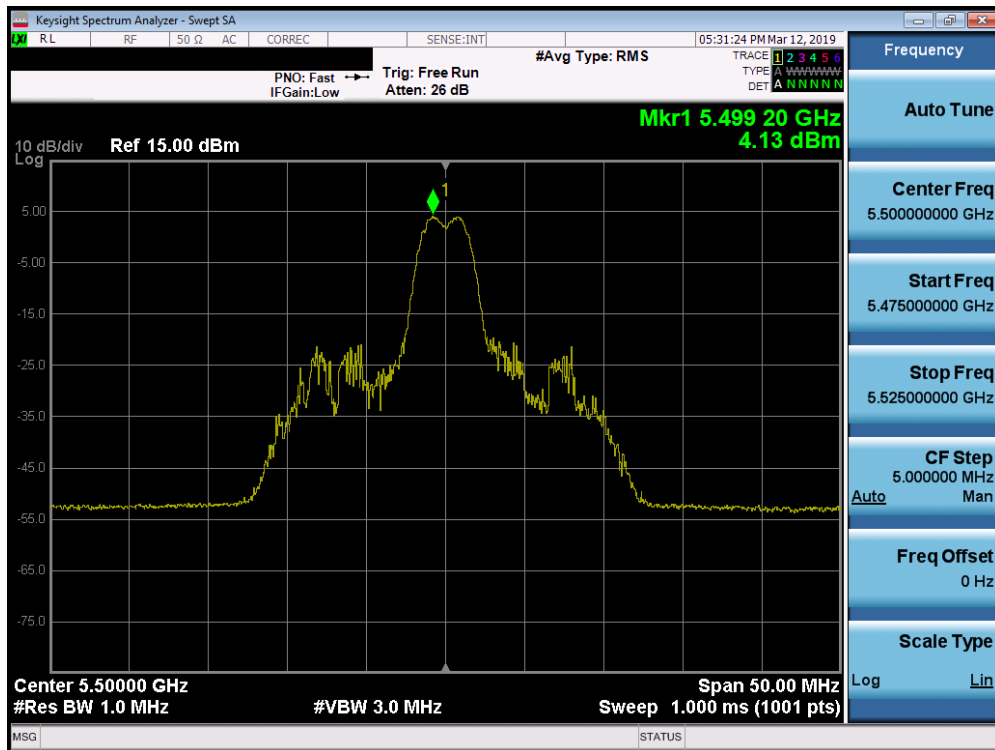


Plot 7-119. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

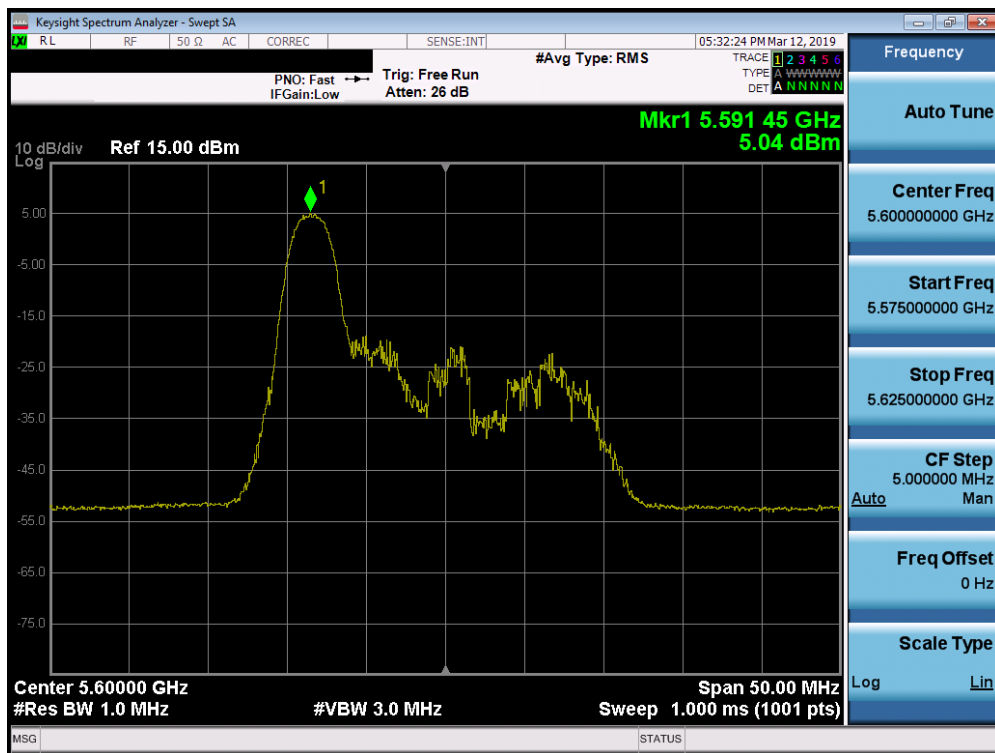


Plot 7-120. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 108 of 194

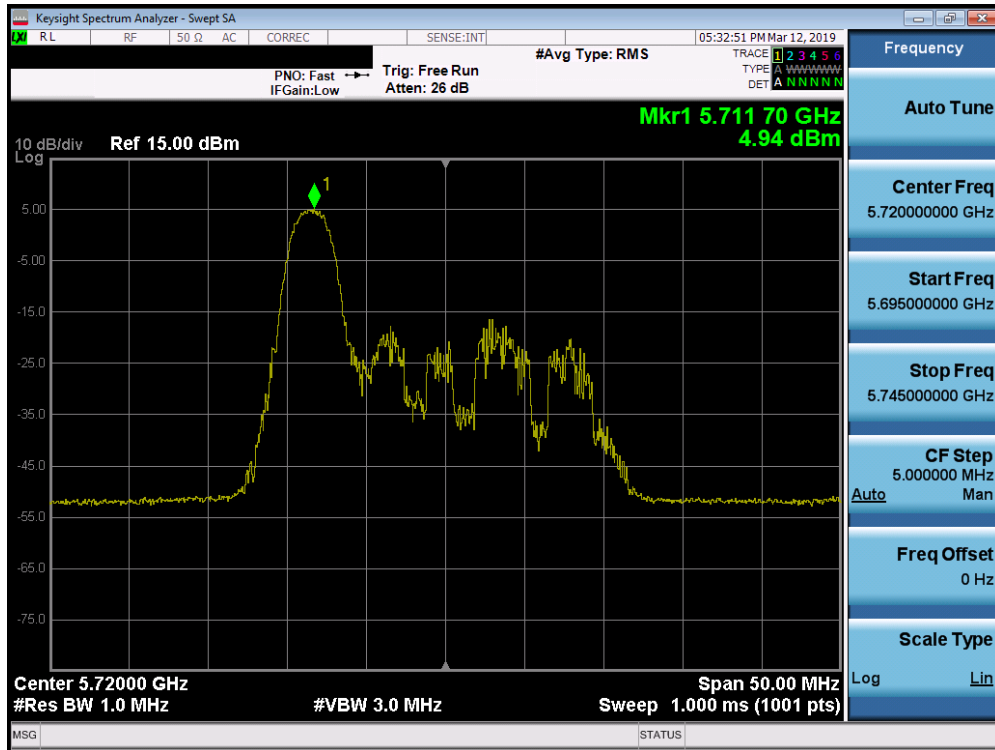


Plot 7-121. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

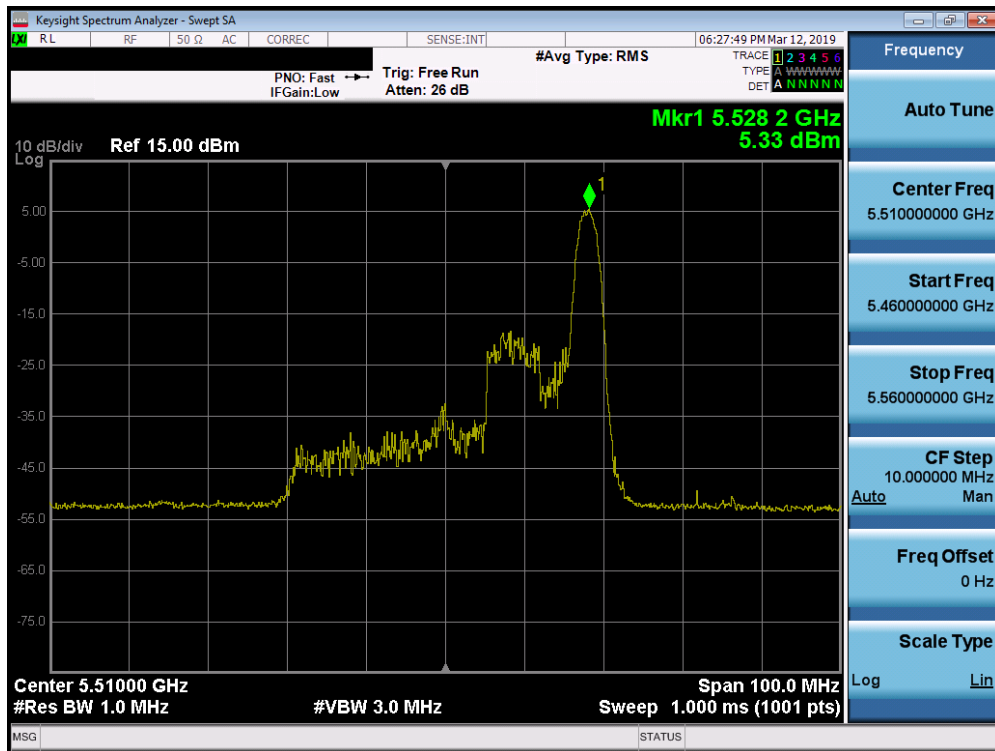


Plot 7-122. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 109 of 194

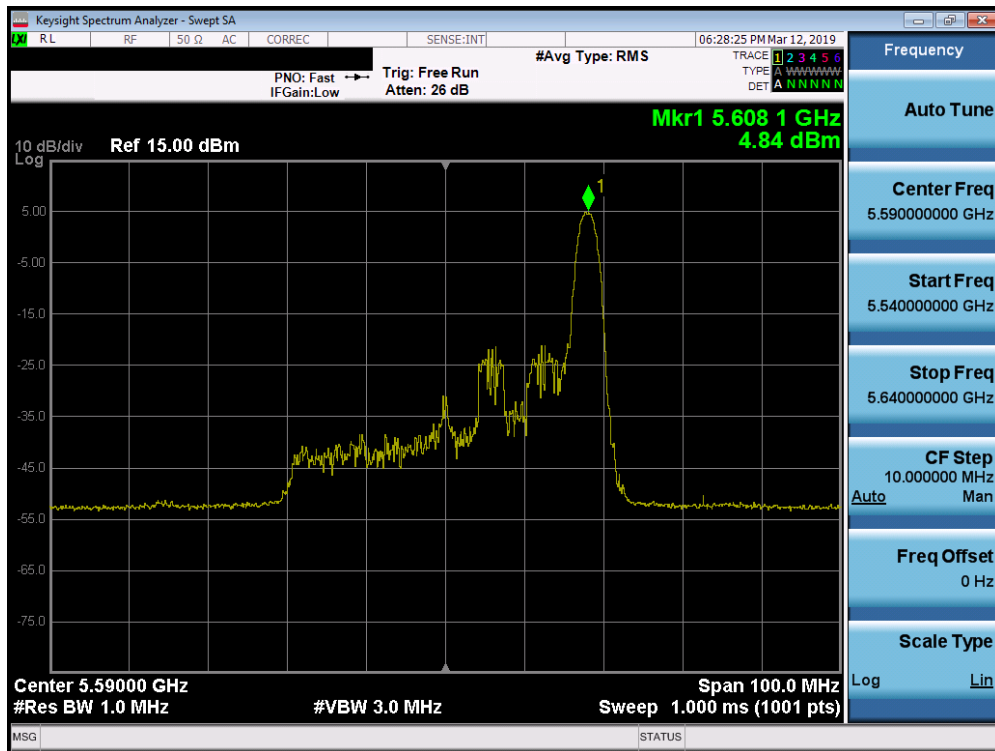


Plot 7-123. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

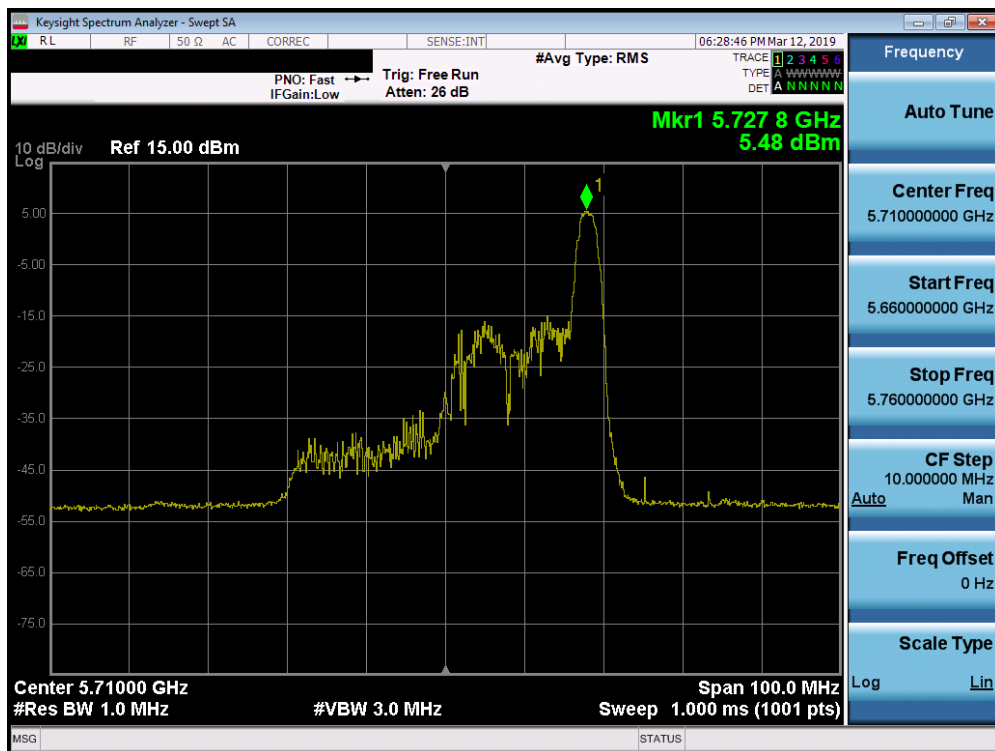


Plot 7-124. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 110 of 194

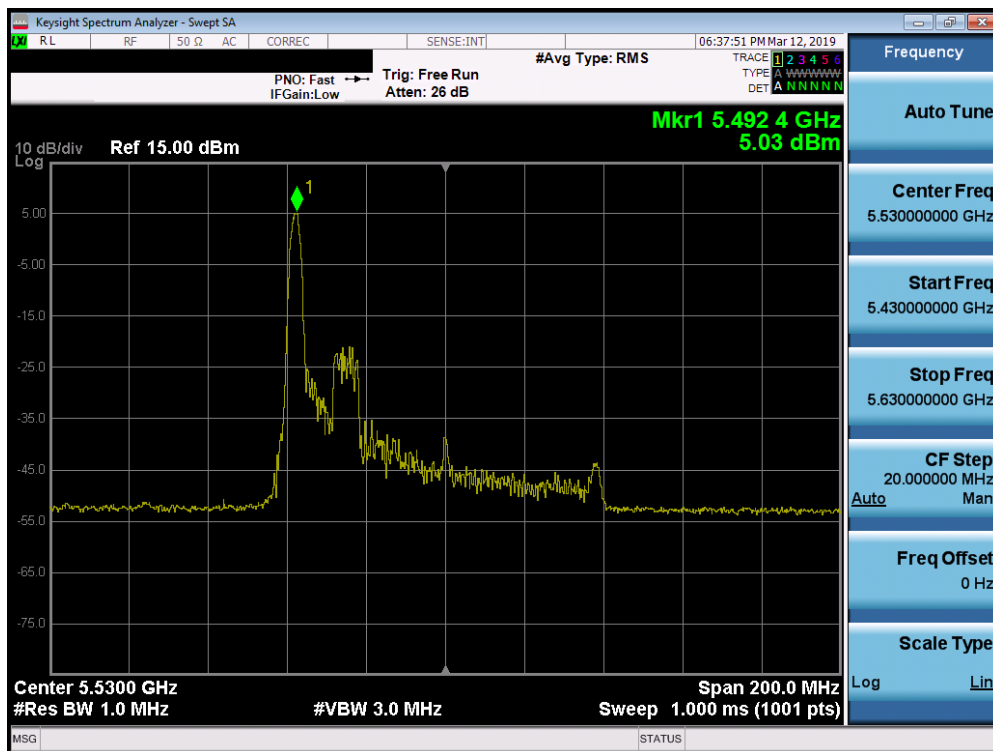


Plot 7-125. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

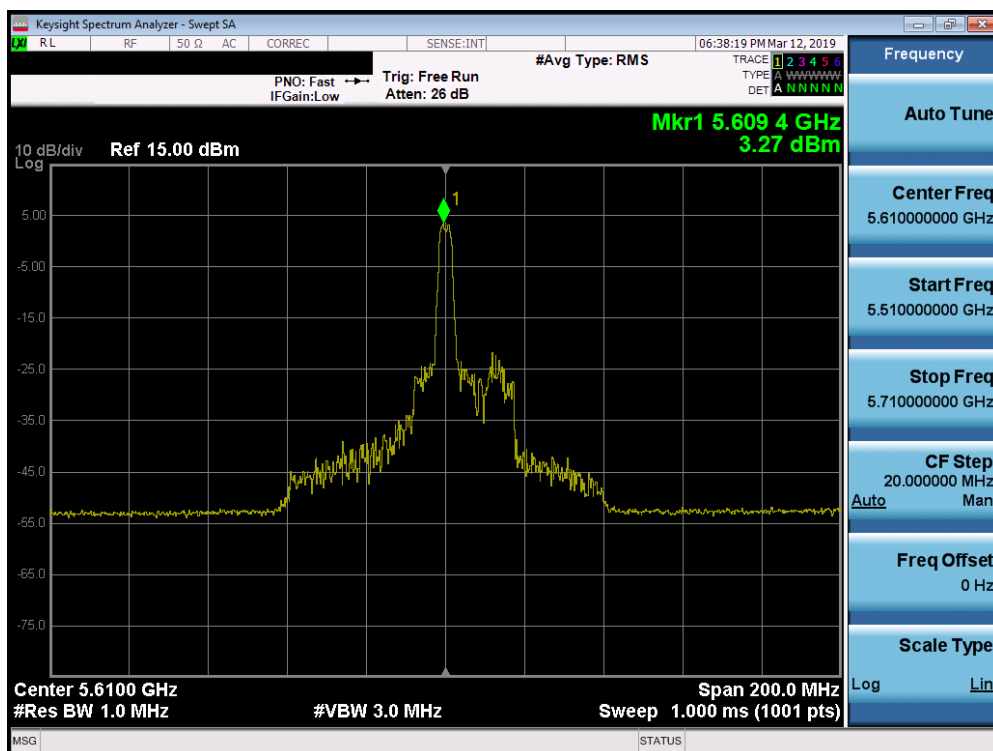


Plot 7-126. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 111 of 194	

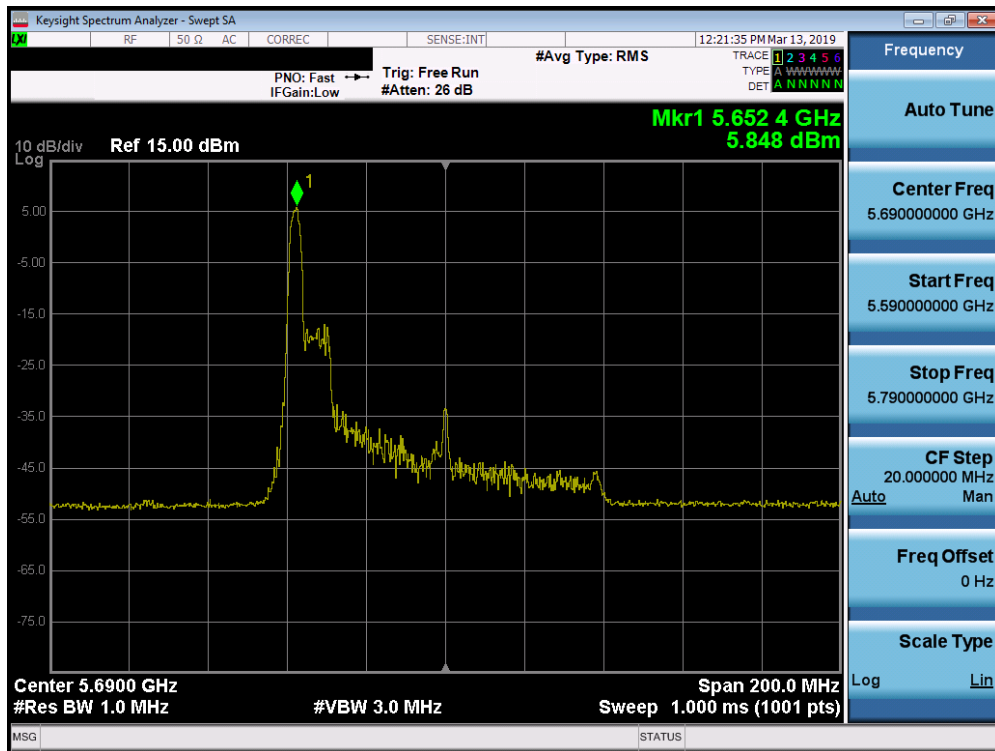


Plot 7-127. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)

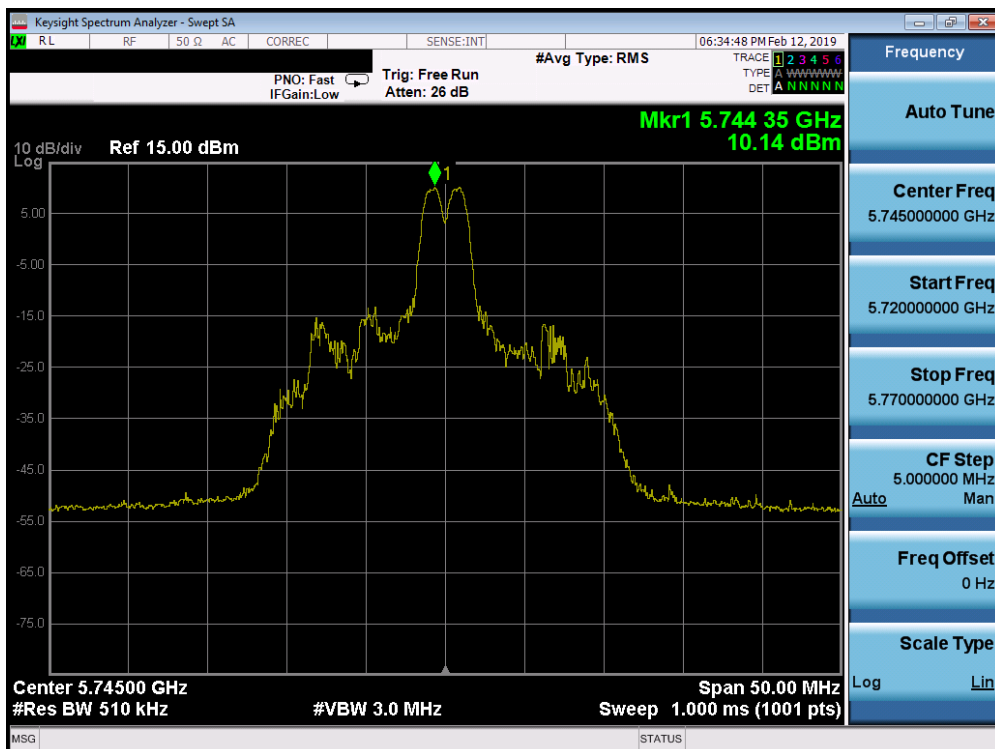


Plot 7-128. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 112 of 194	

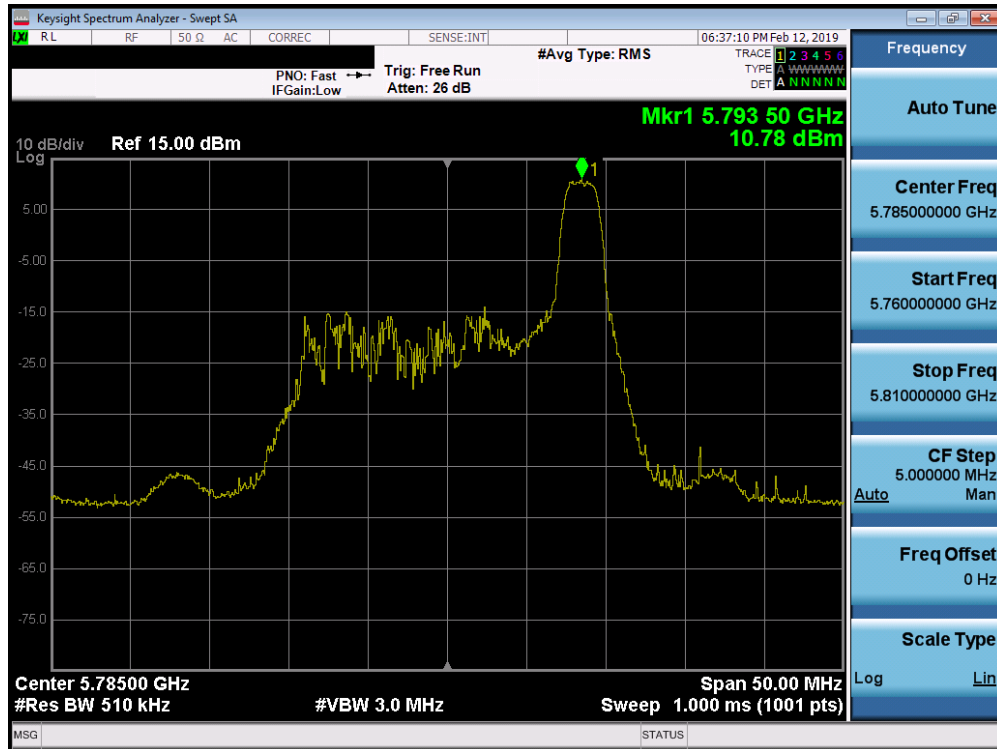


Plot 7-129. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

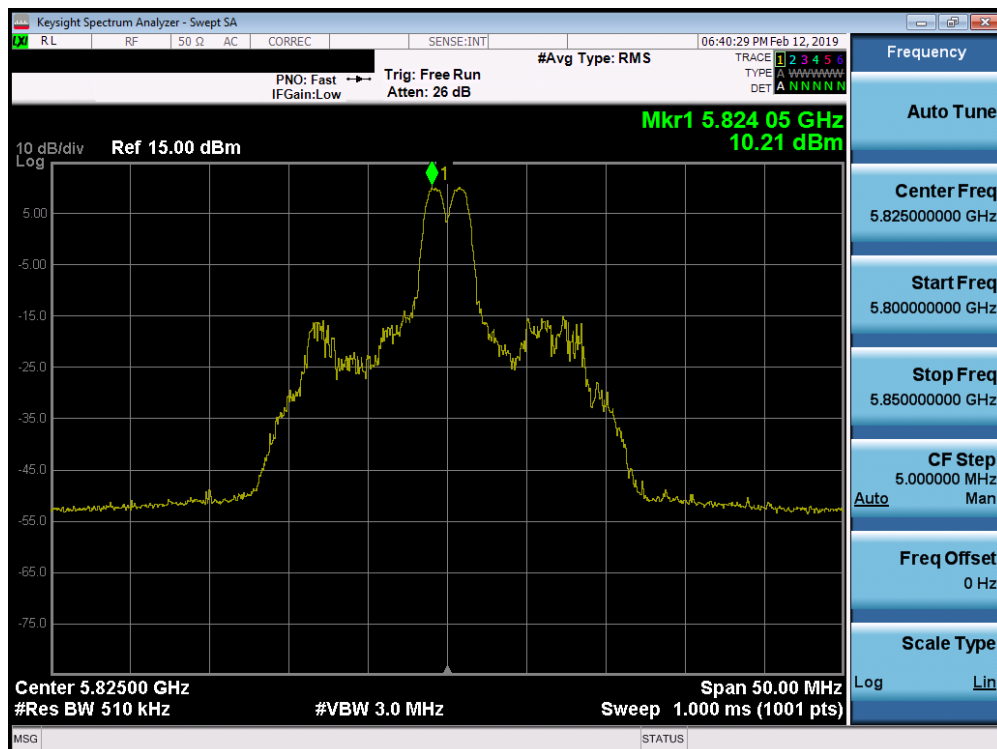


Plot 7-130. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 113 of 194

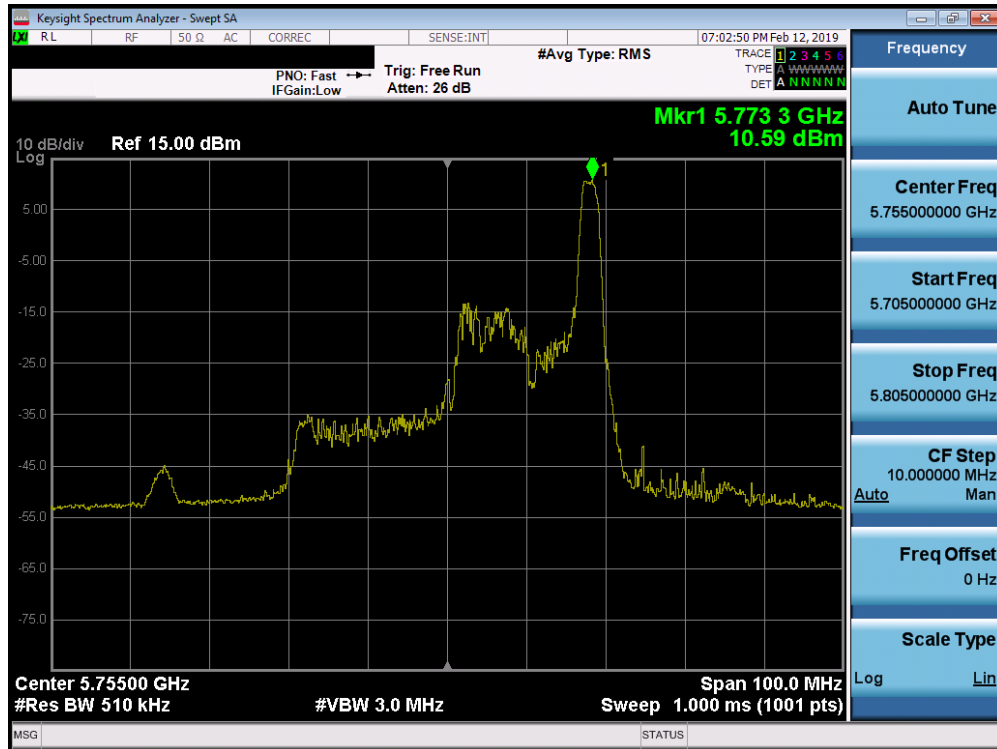


Plot 7-131. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 157)

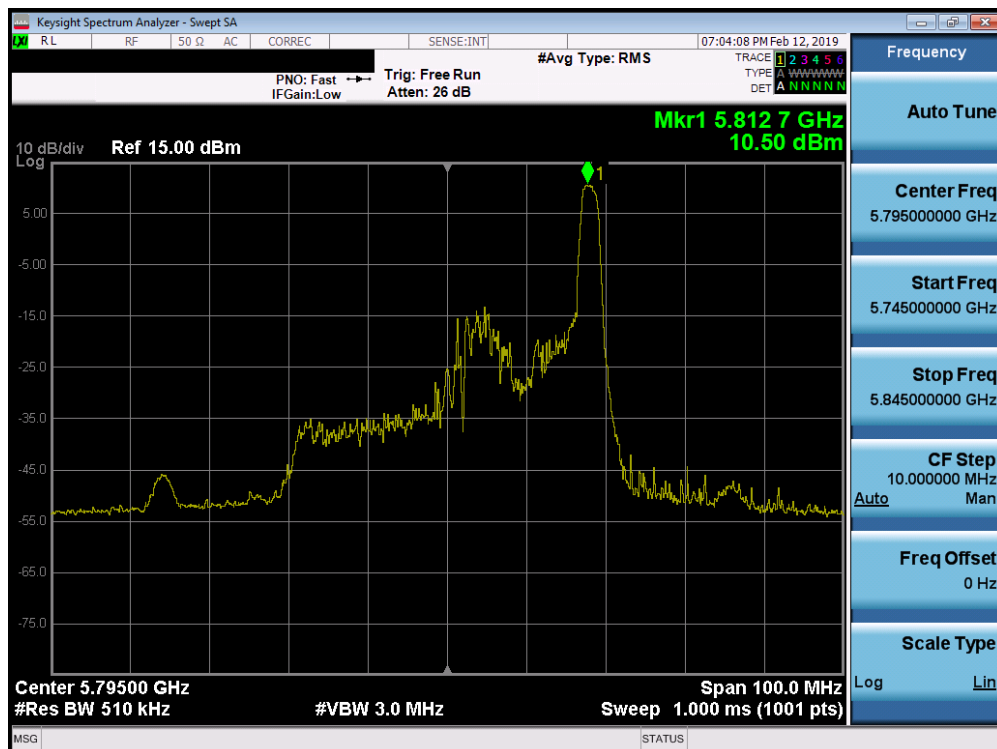


Plot 7-132. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11ax - 26 Tones (UNII Band 3) - Ch. 165)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 114 of 194

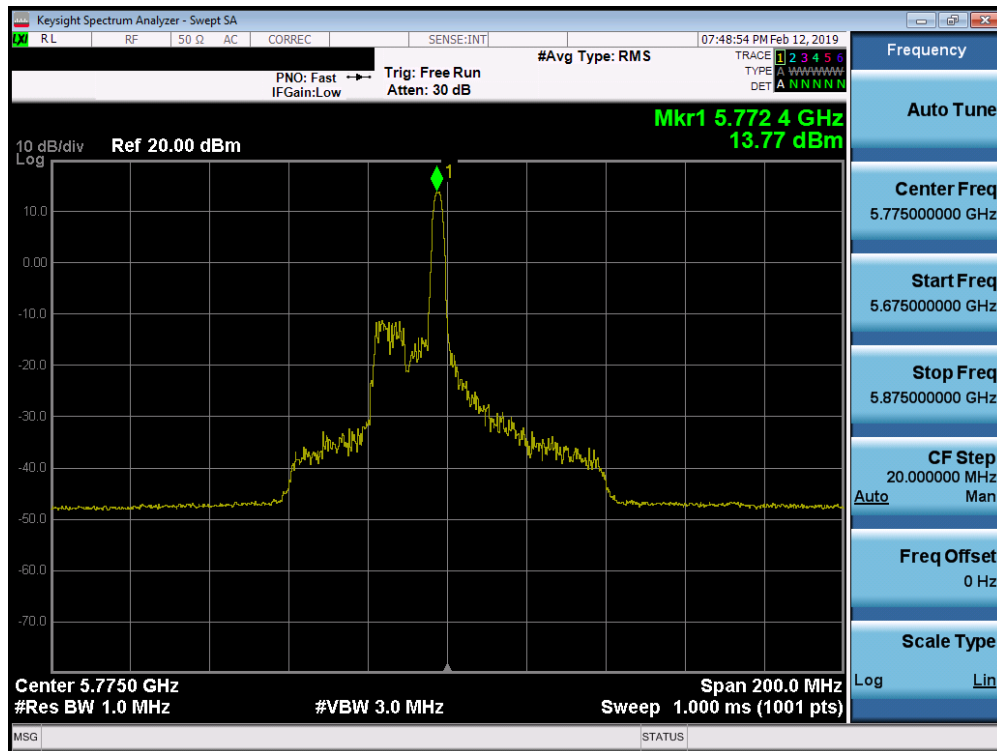


Plot 7-133. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)



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

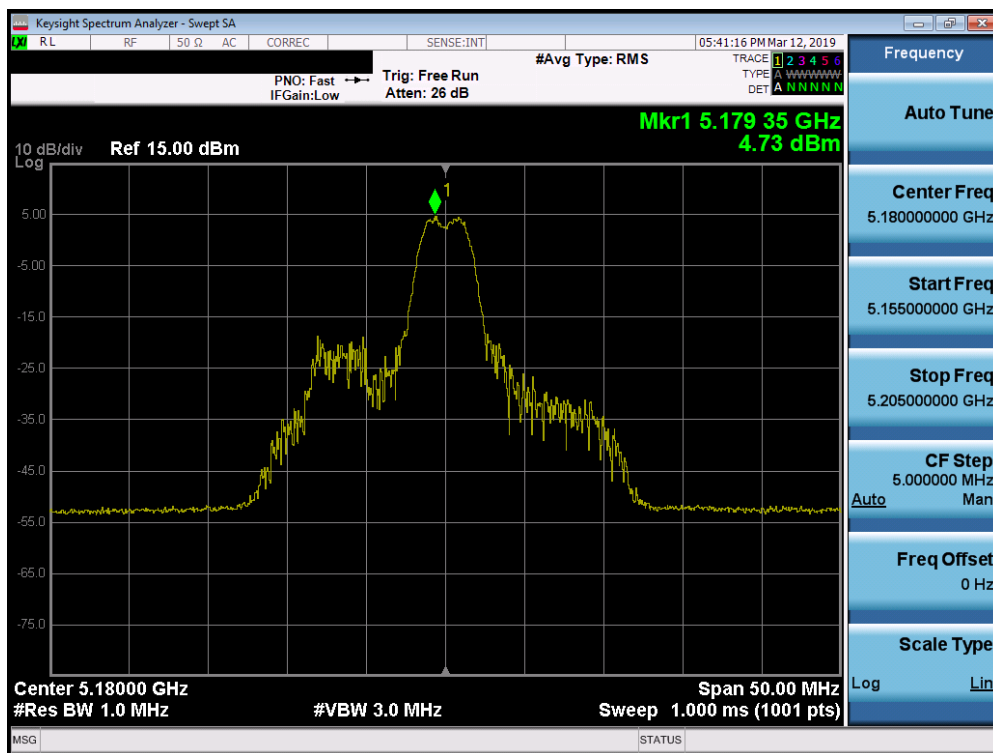
FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 115 of 194



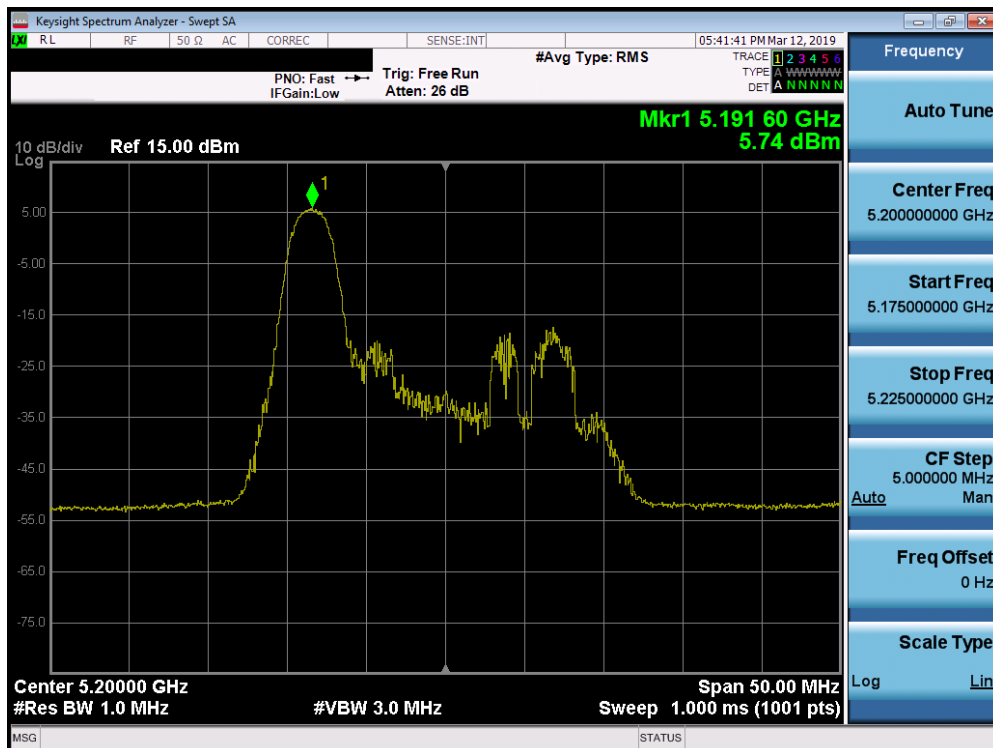
Plot 7-135. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 116 of 194

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

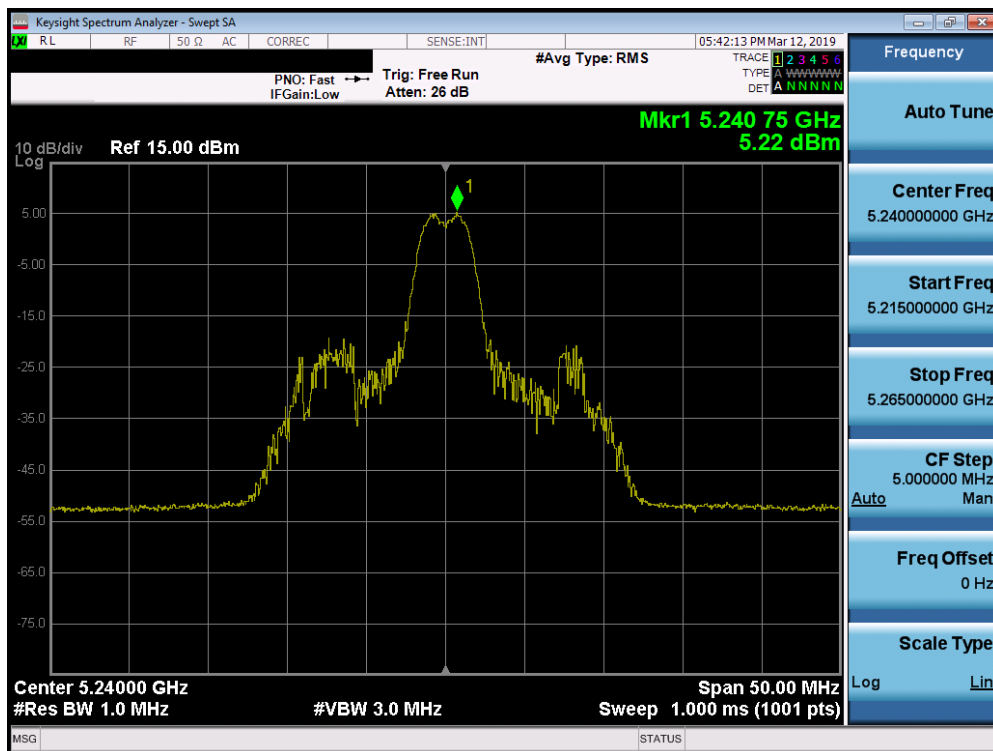


Plot 7-136. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 36)

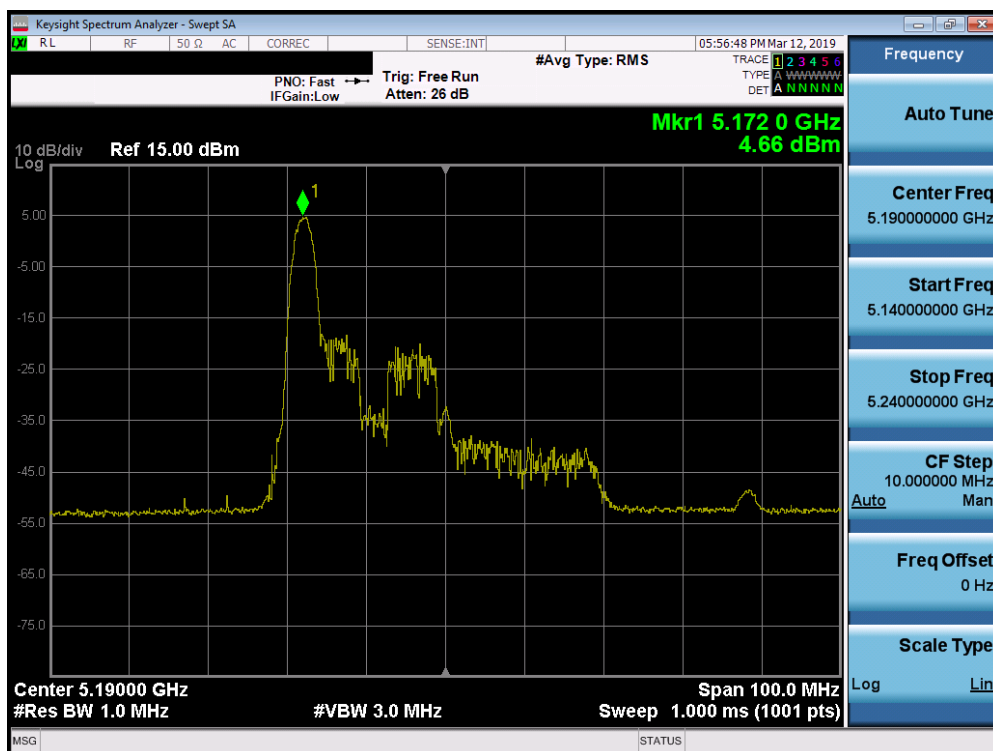


Plot 7-137. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 40)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 117 of 194

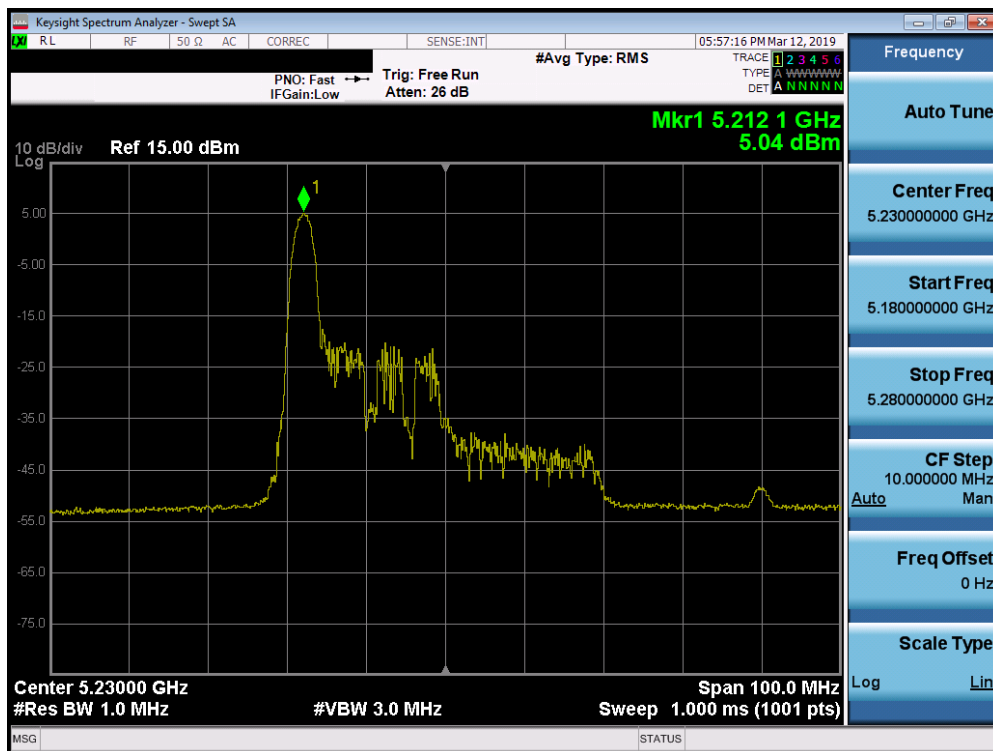


Plot 7-138. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 48)

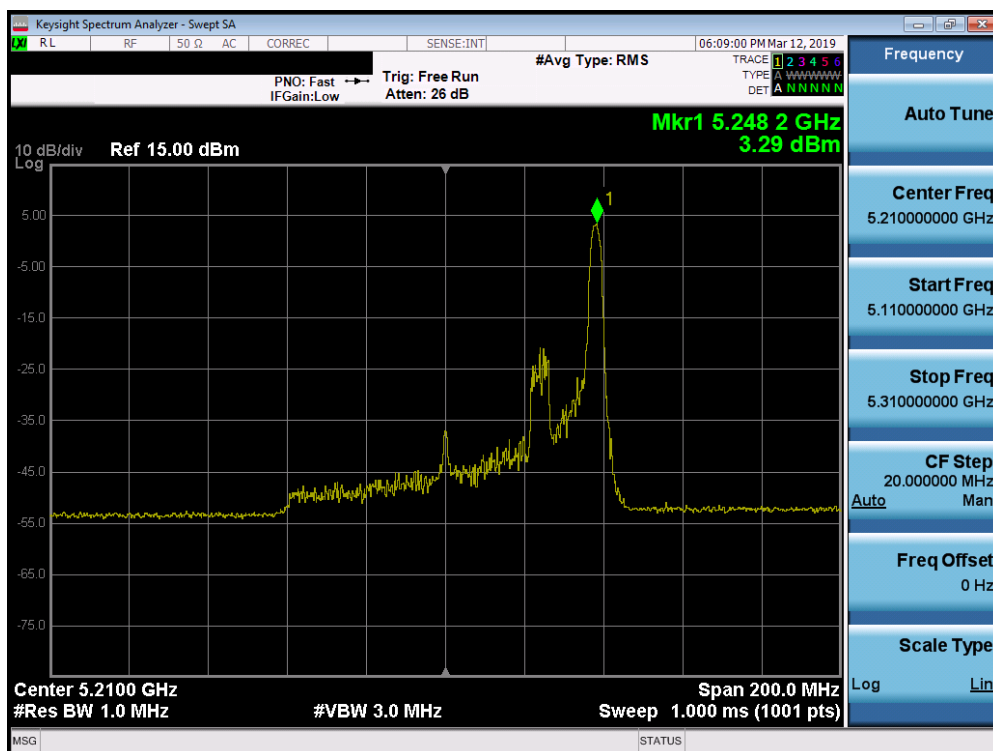


Plot 7-139. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 1) – Ch. 38)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 118 of 194

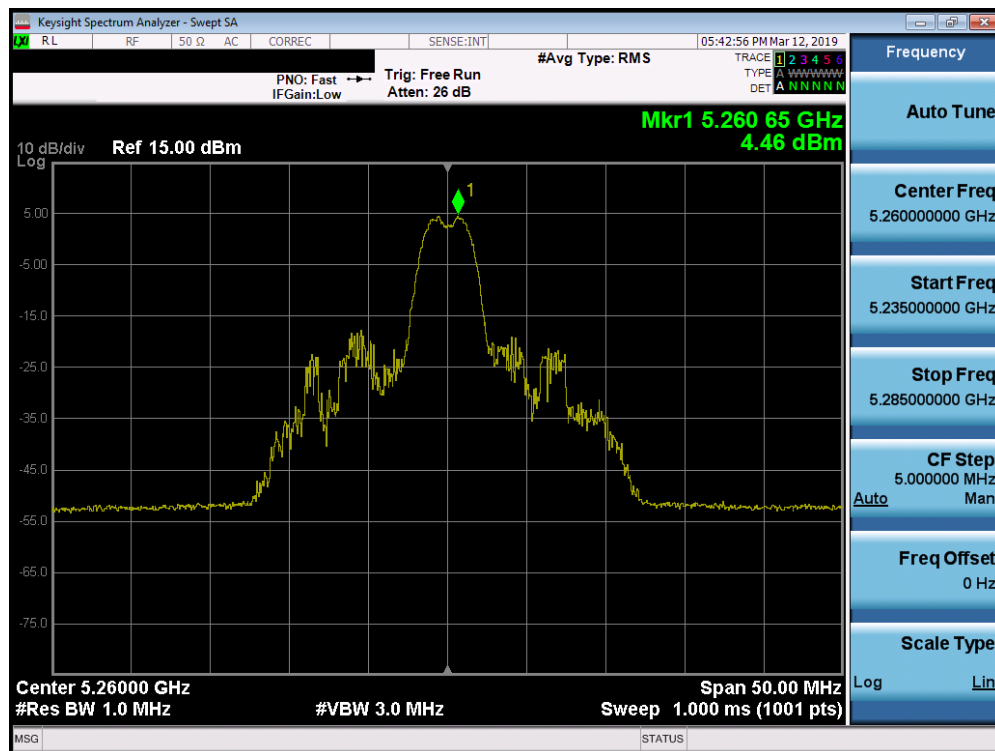


Plot 7-140. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 46)

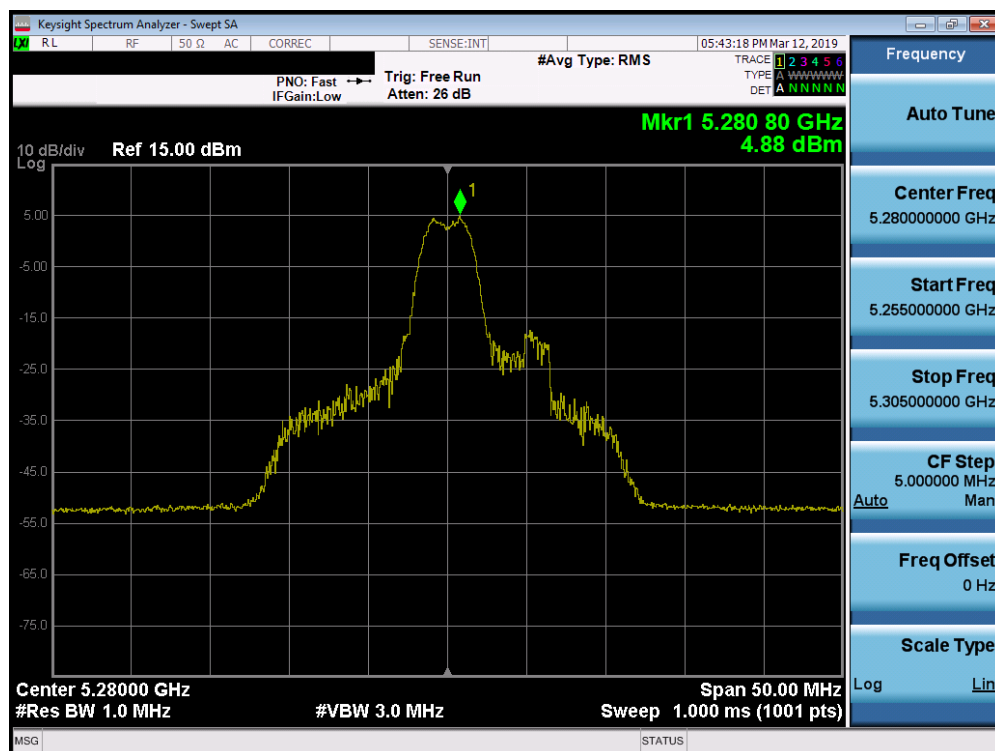


Plot 7-141. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax - 26 Tones (UNII Band 1) - Ch. 42)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 119 of 194

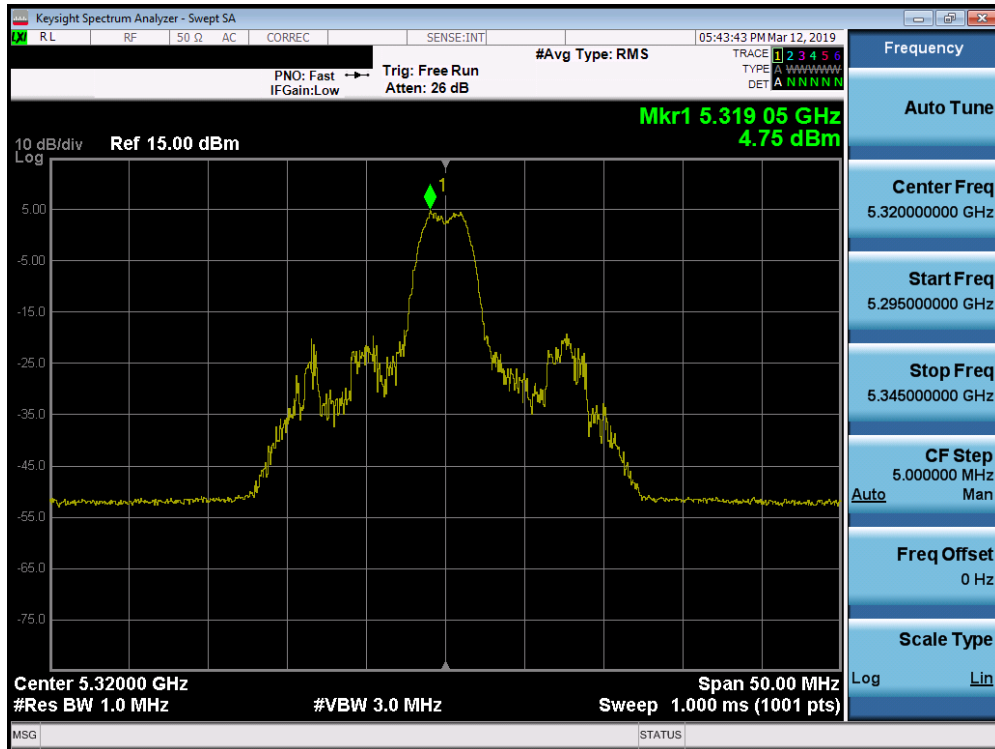


Plot 7-142. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 52)

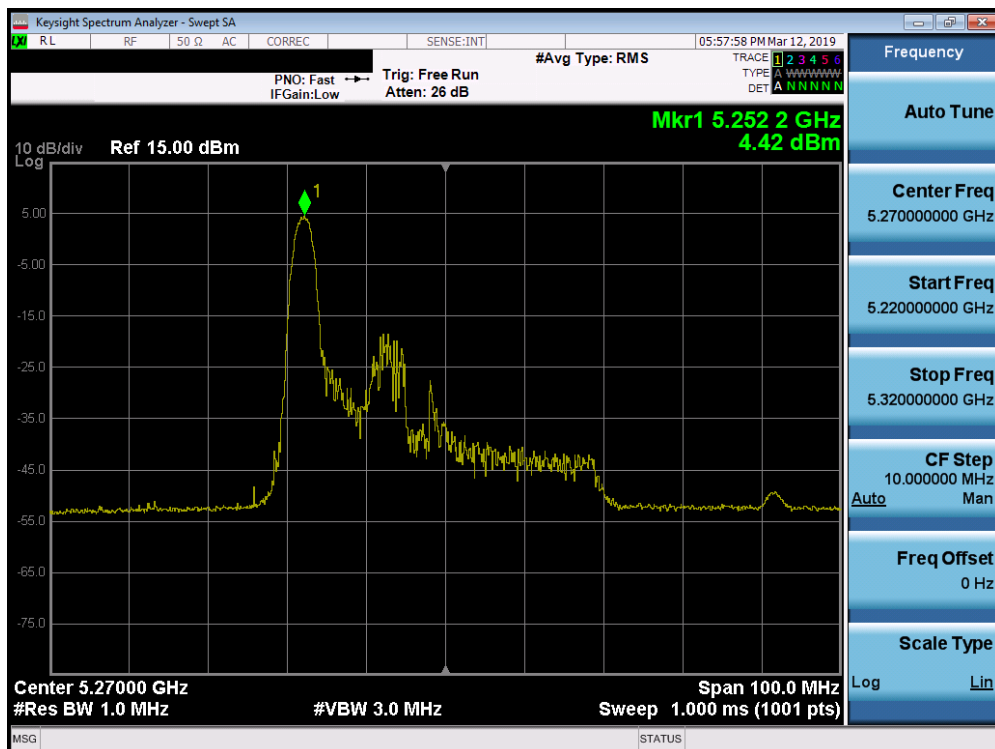


Plot 7-143. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 120 of 194

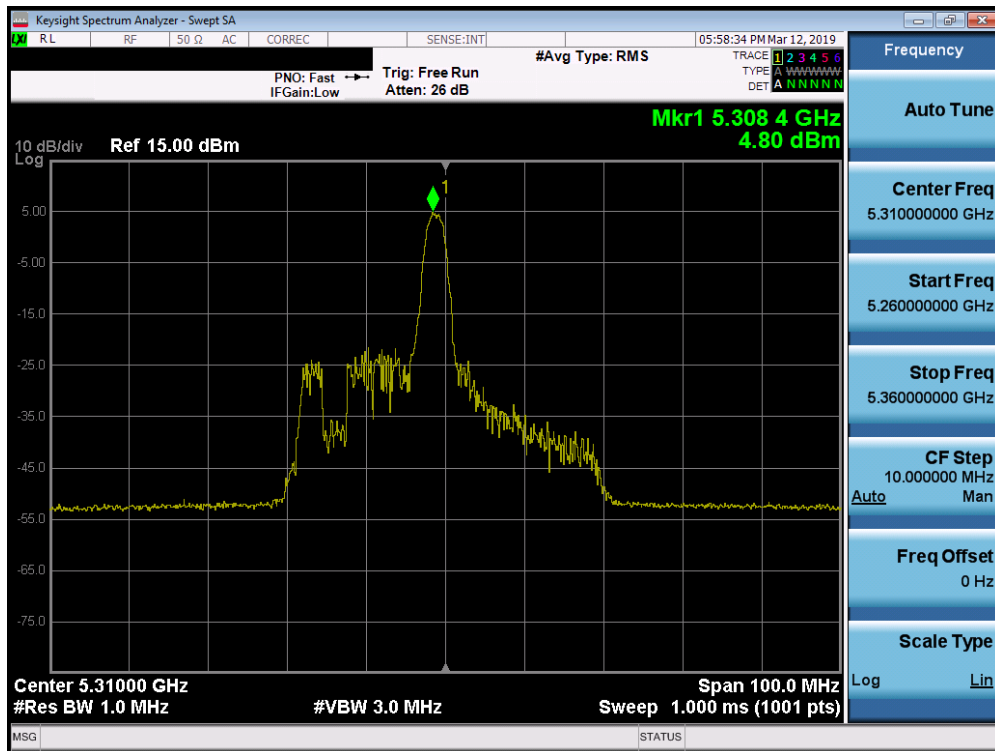


Plot 7-144. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 64)

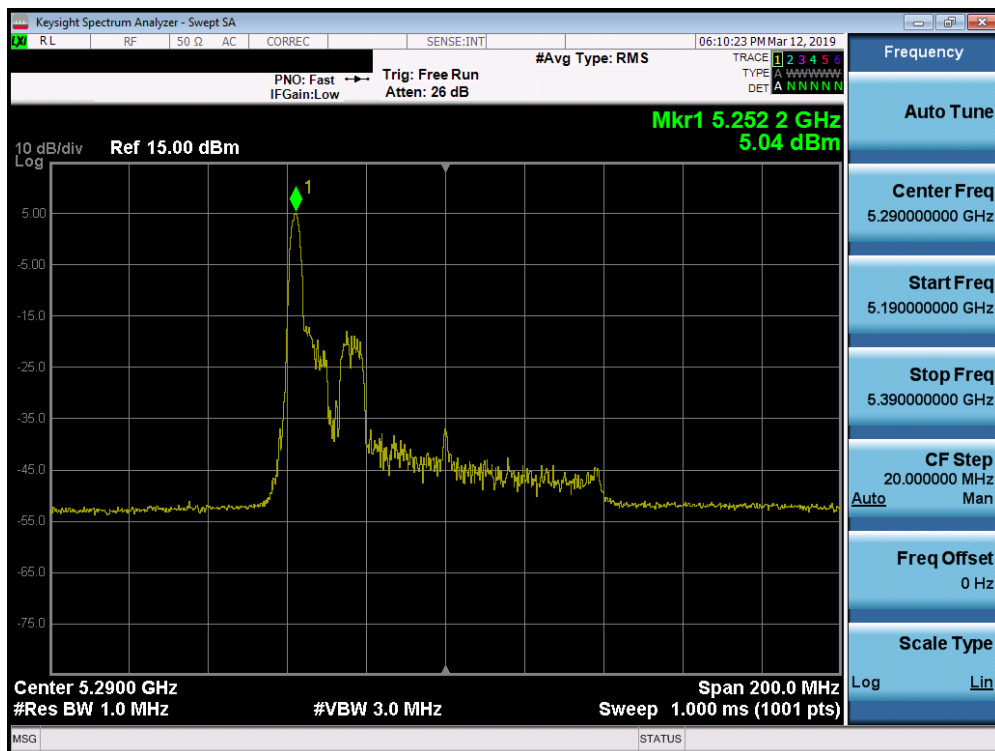


Plot 7-145. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 121 of 194

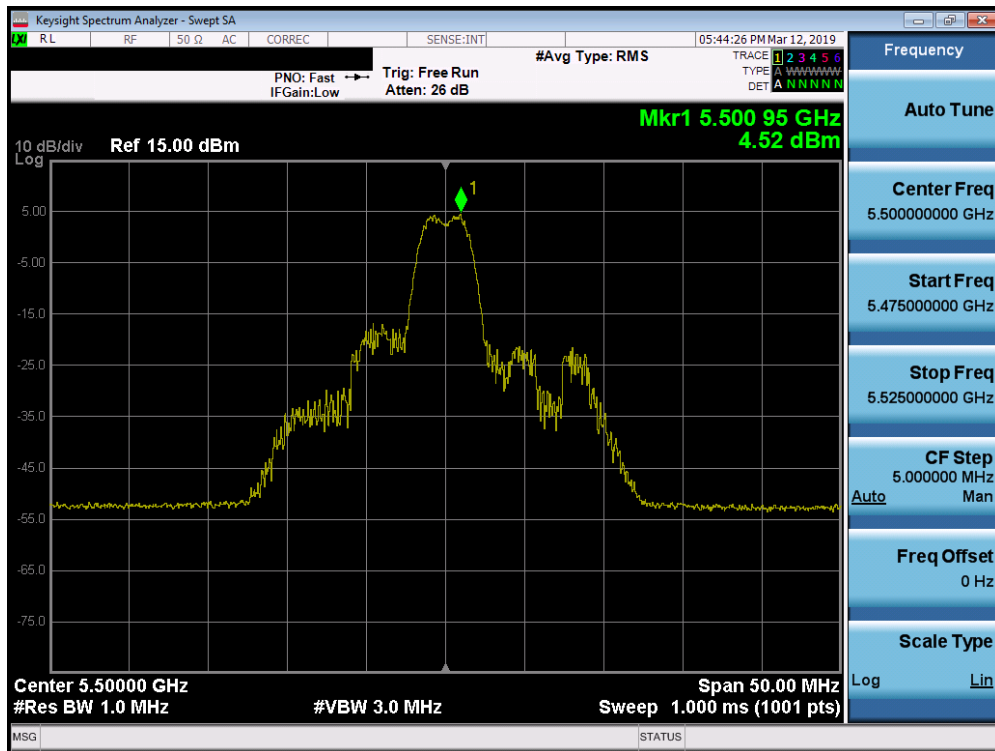


Plot 7-146. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 62)

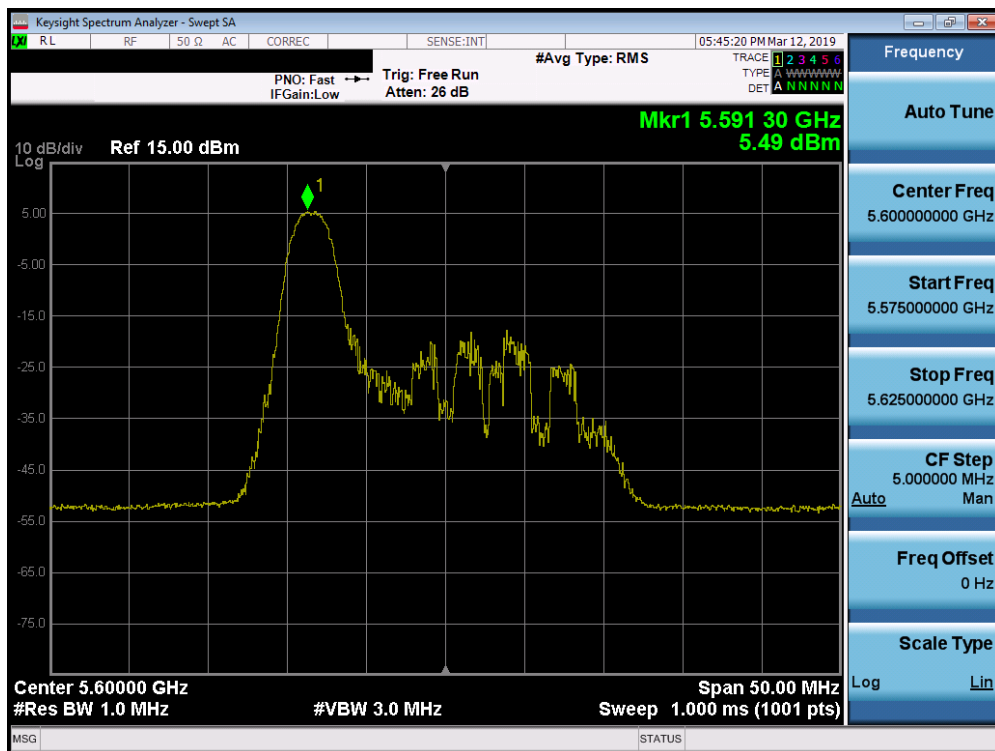


Plot 7-147. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 122 of 194

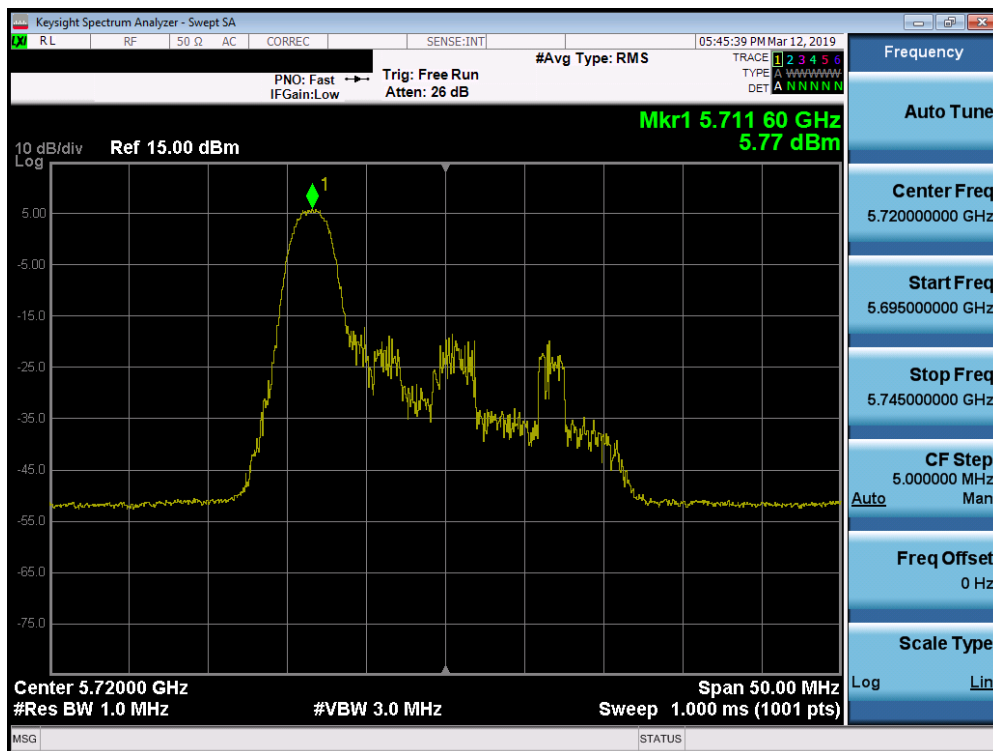


Plot 7-148. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 100)

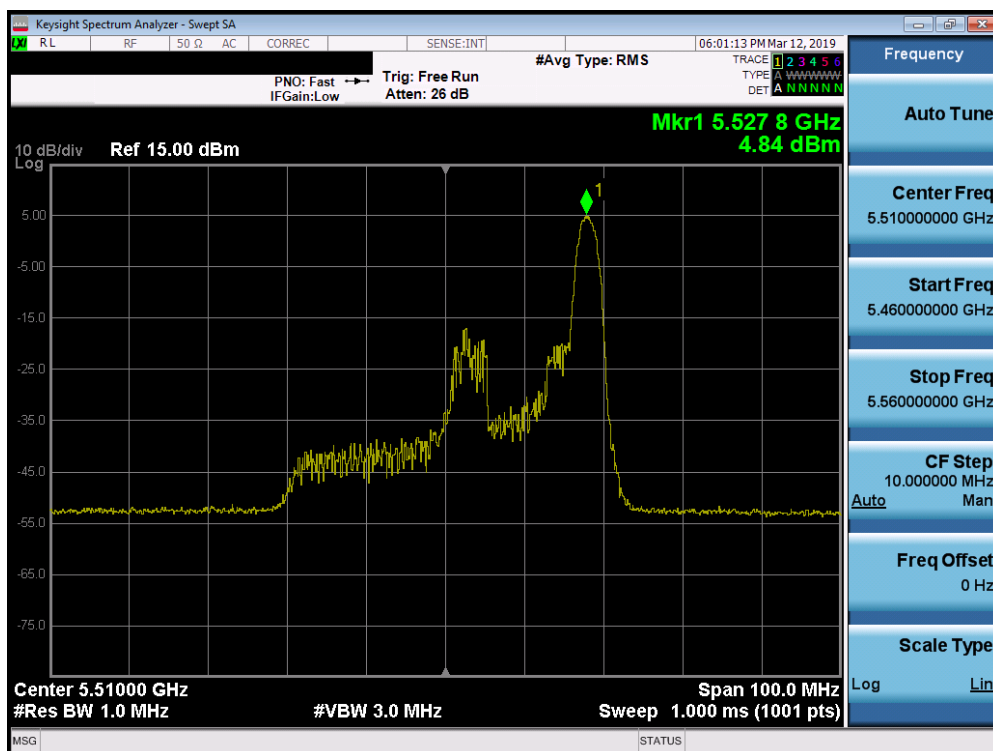


Plot 7-149. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 123 of 194

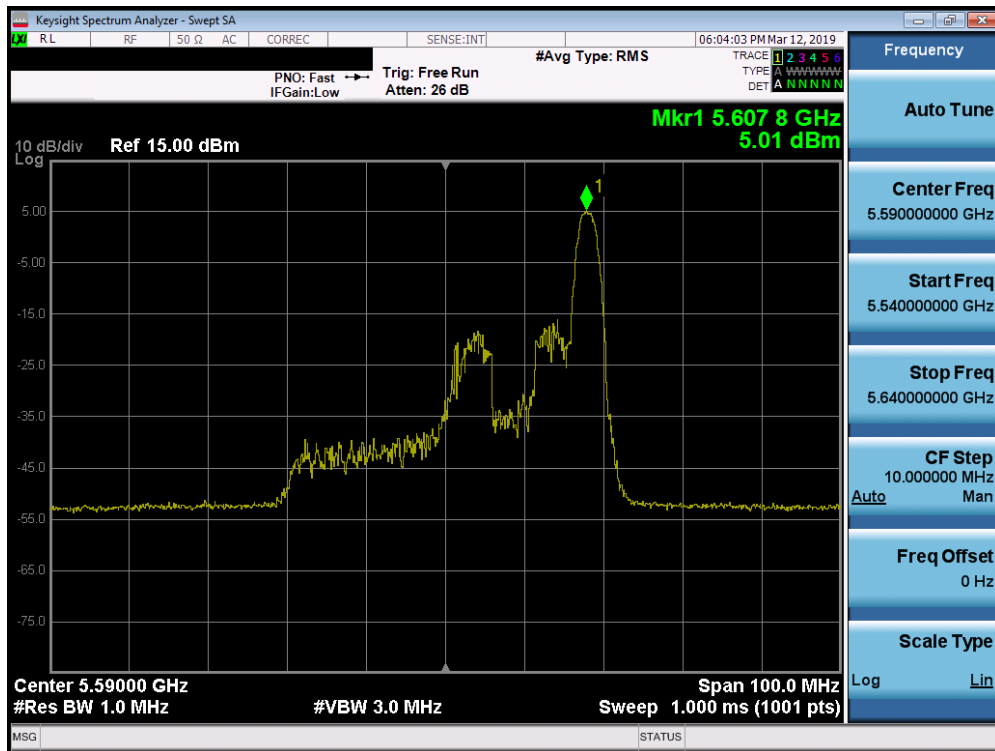


Plot 7-150. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 144)

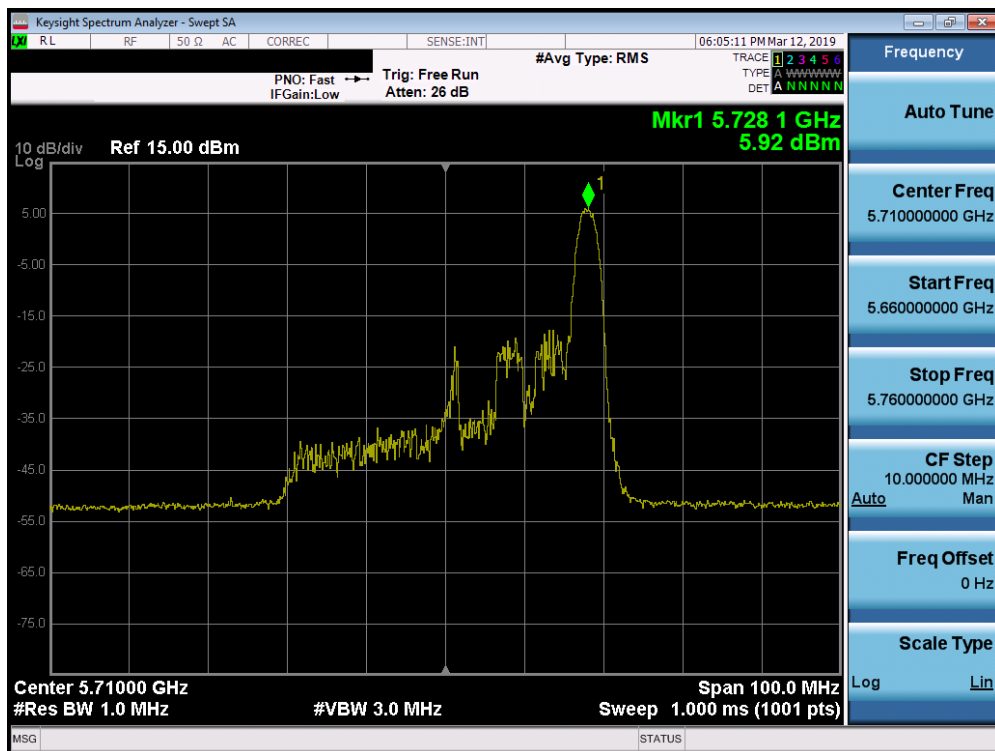


Plot 7-151. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 102)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 124 of 194

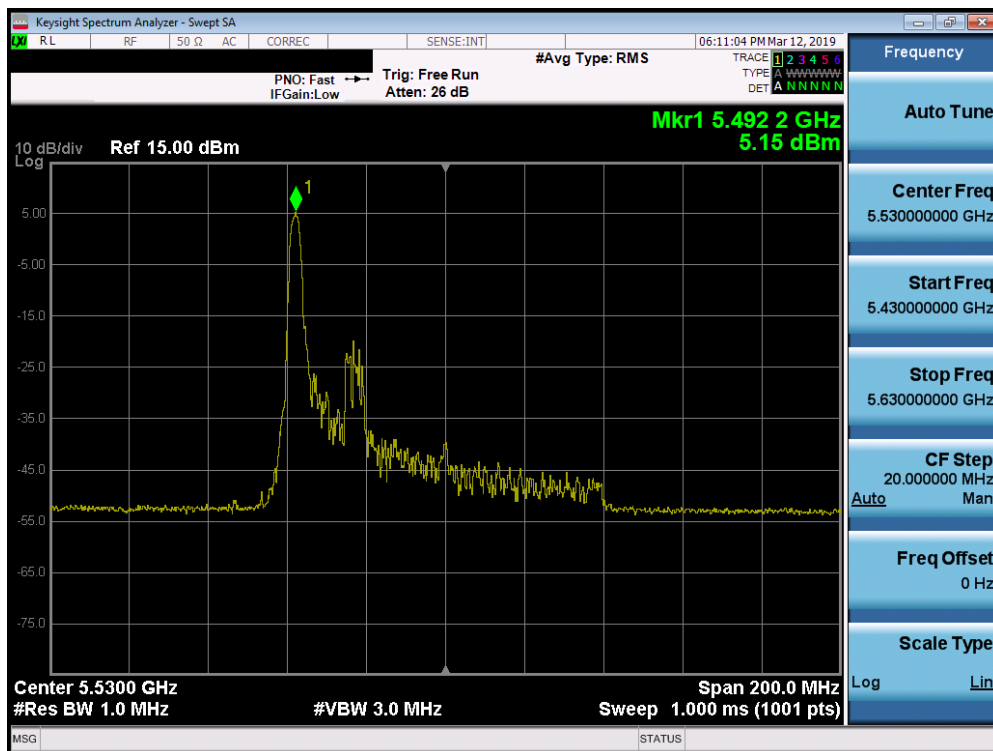


Plot 7-152. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 118)

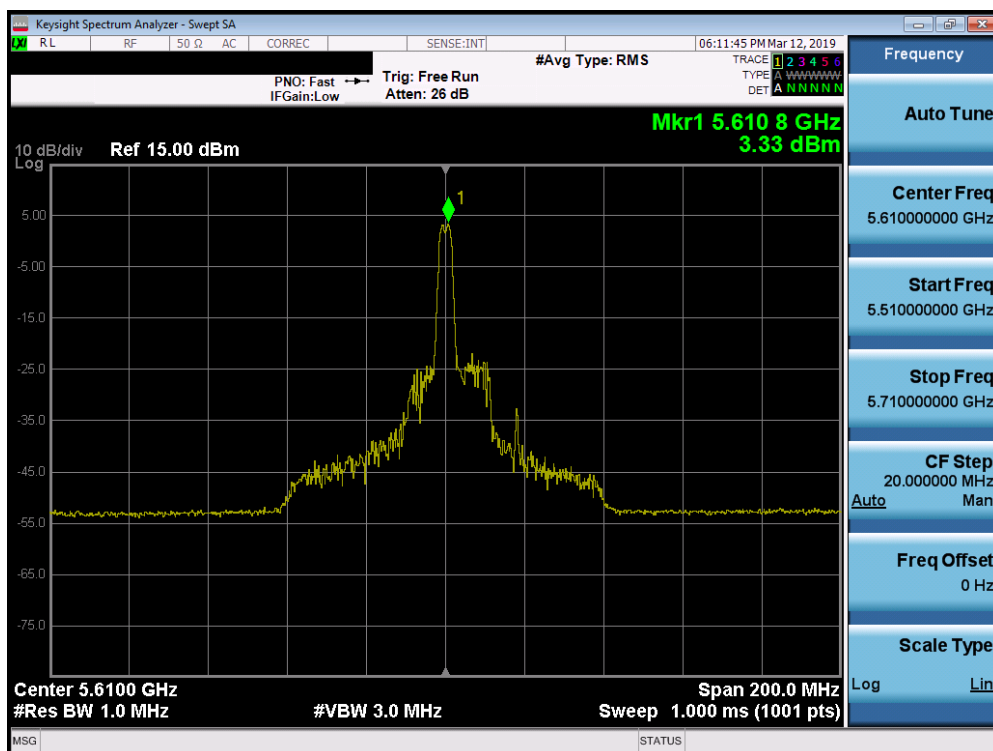


Plot 7-153. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 142)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 125 of 194

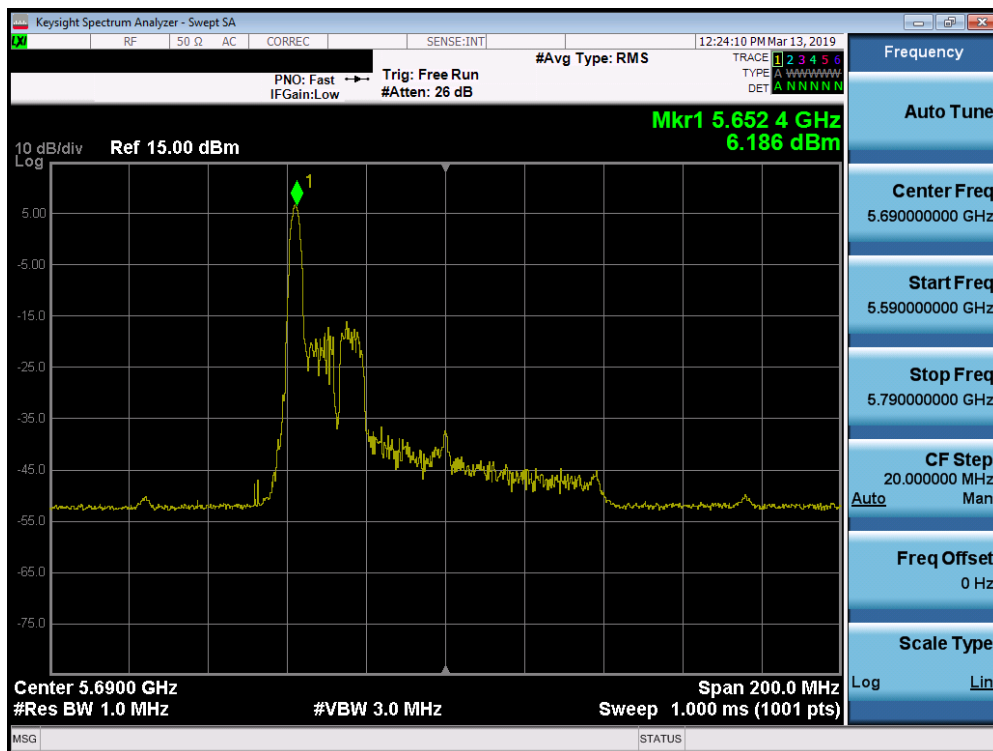


Plot 7-154. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 106)

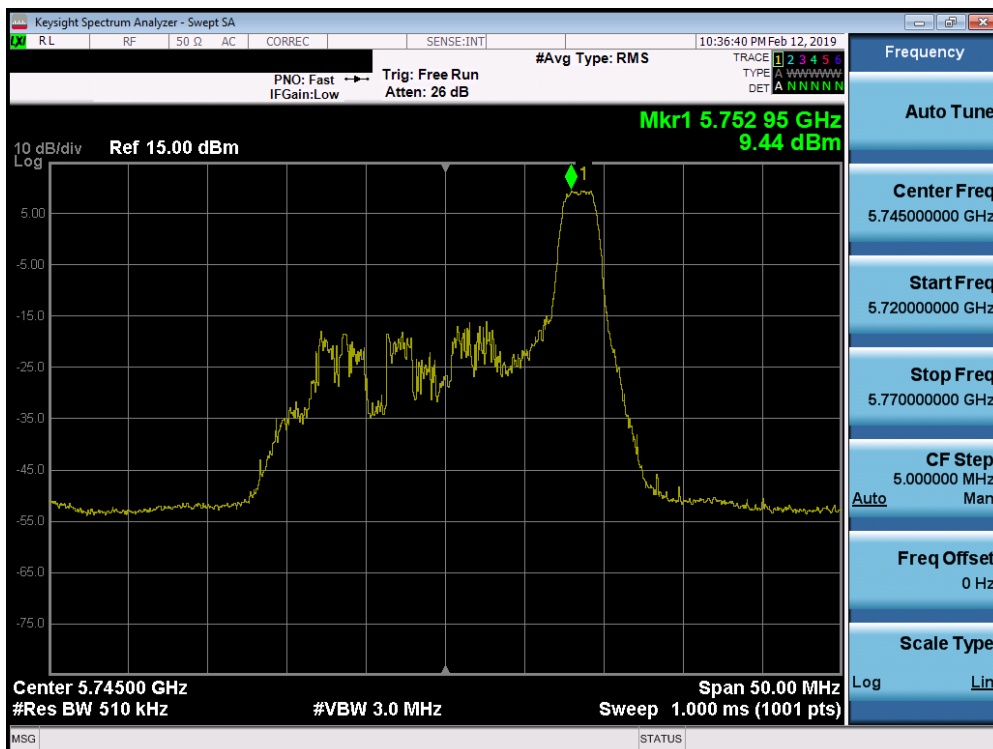


Plot 7-155. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 122)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 126 of 194

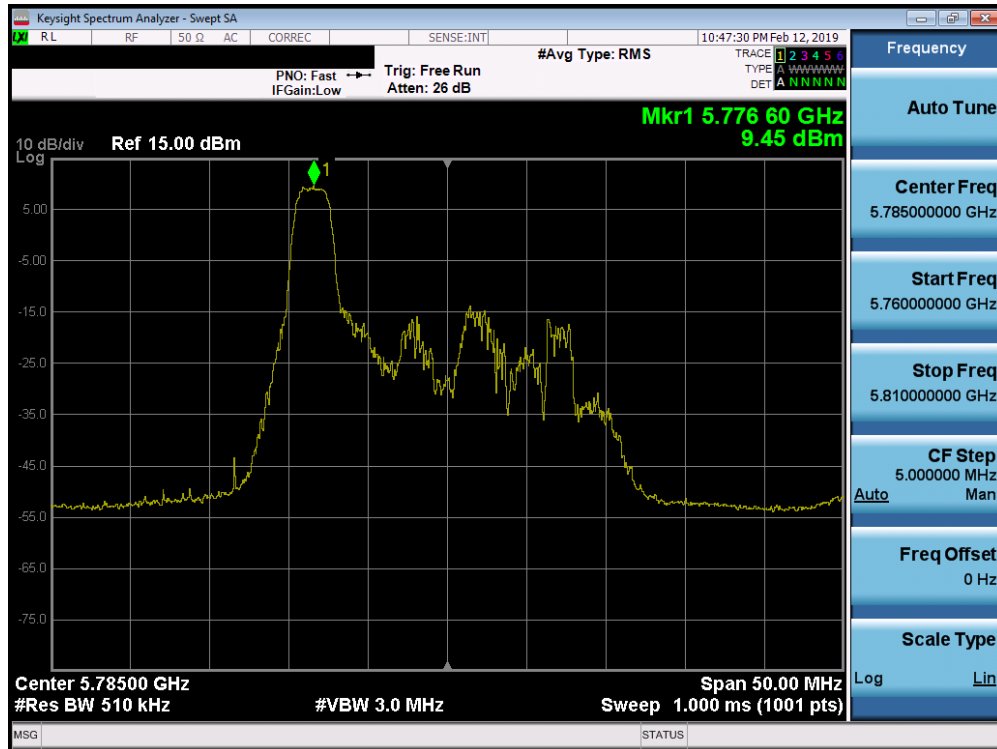


Plot 7-156. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 2C) – Ch. 138)

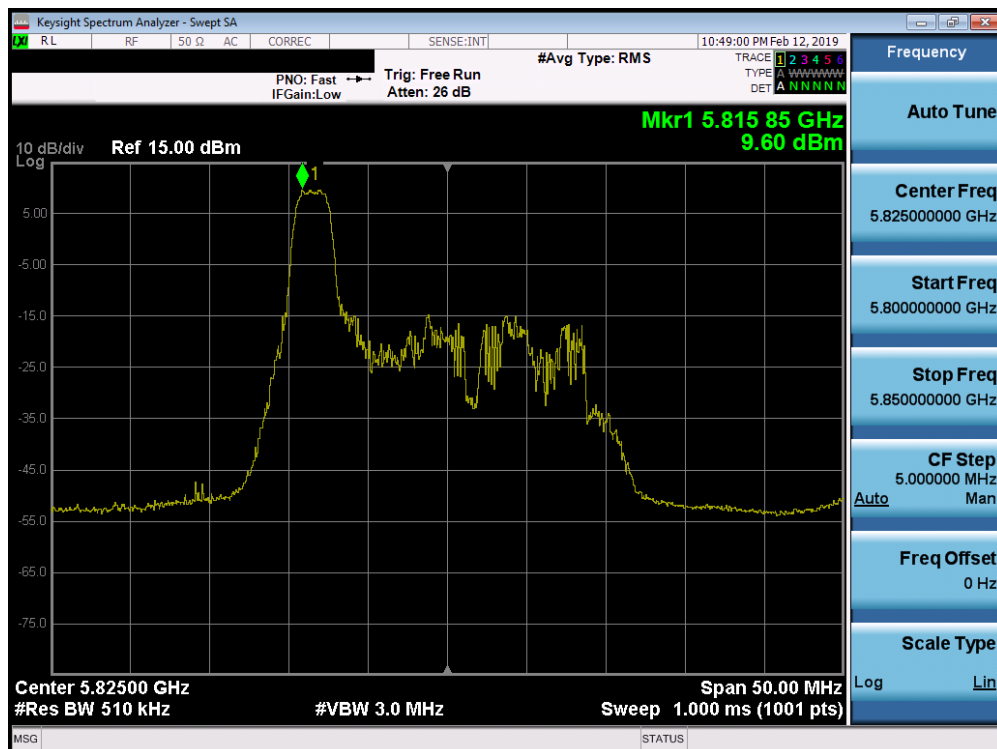


Plot 7-157. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 149)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 127 of 194

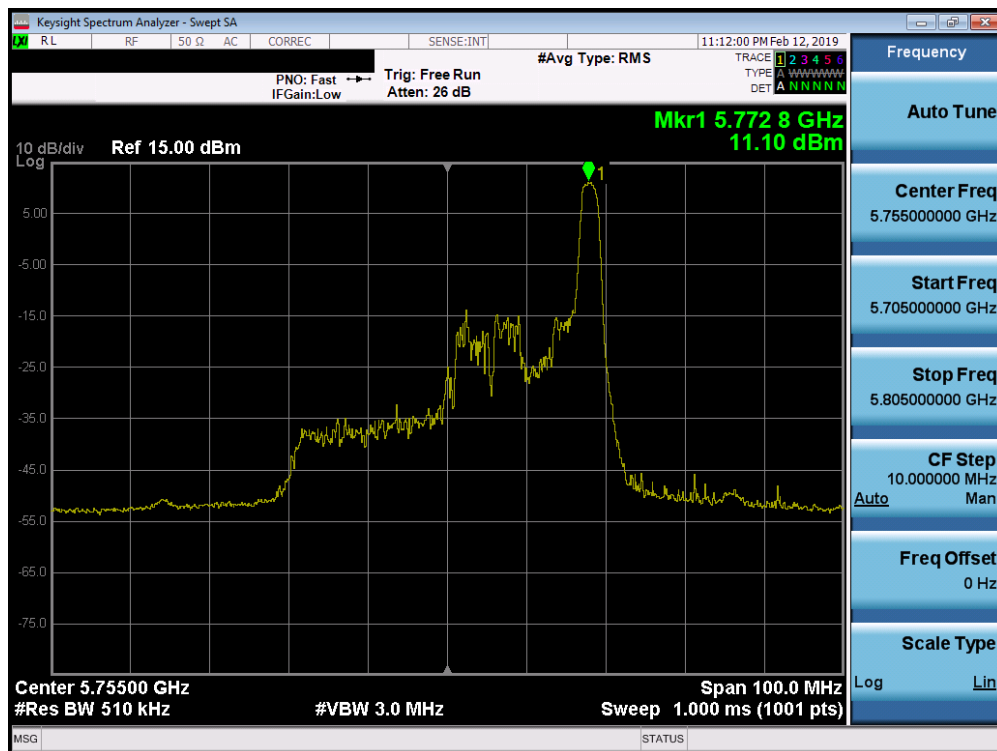


Plot 7-158. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 157)



Plot 7-159. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 165)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 128 of 194

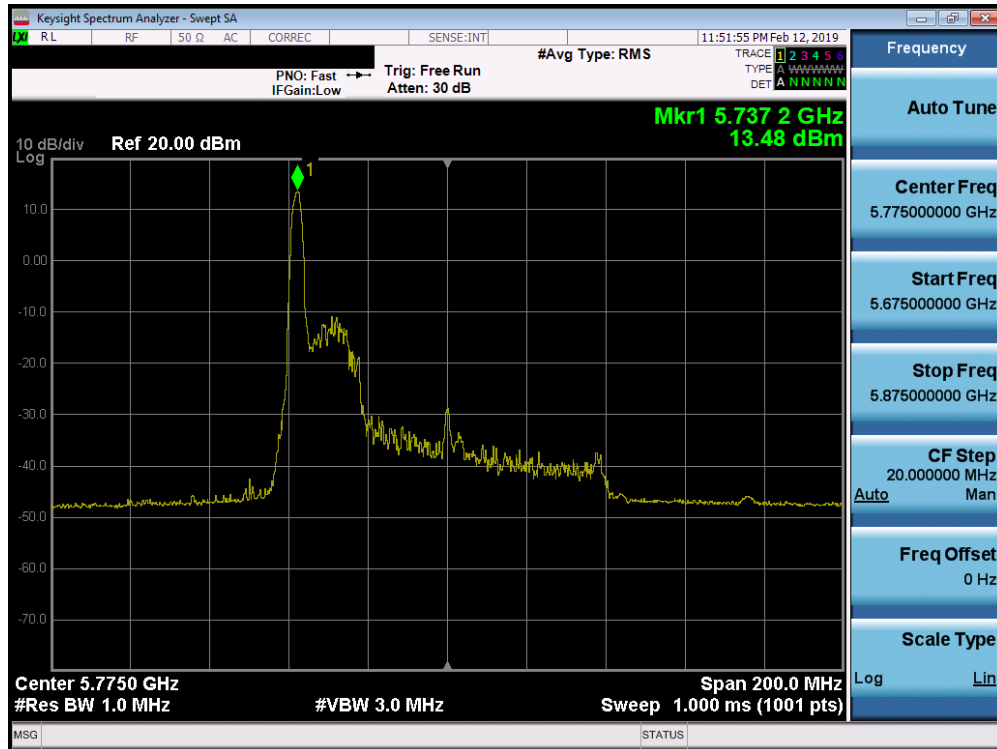


Plot 7-160. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 151)



Plot 7-161. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 159)

FCC ID: A3LSMG977KOR	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 129 of 194	



Plot 7-162. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax – 26 Tones (UNII Band 3) – Ch. 155)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 130 of 194

7.6 Radiated Spurious Emission Measurements – Above 1GHz

§15.407(b) §15.205 §15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna 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. All channels, modes (e.g. 26 Tones, 52 Tones, 106 Tones, 242 Tones, 484 Tones and 996 Tones), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

For transmitters operating in the 5.15-5.25 GHz and 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR -and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-57 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [$\mu\text{V/m}$]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-57. Radiated Limits

Test Procedures Used

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5
KDB 789033 D02 v02r01 – Section G

Test Settings

Average Measurements above 1GHz (Method AD)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be $\geq 2 \times \text{span/RBW}$)
6. Averaging type = power (RMS)
7. Sweep time = auto couple
8. Trace was averaged over 100 sweeps

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 131 of 194

Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = 120kHz
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Test Setup

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

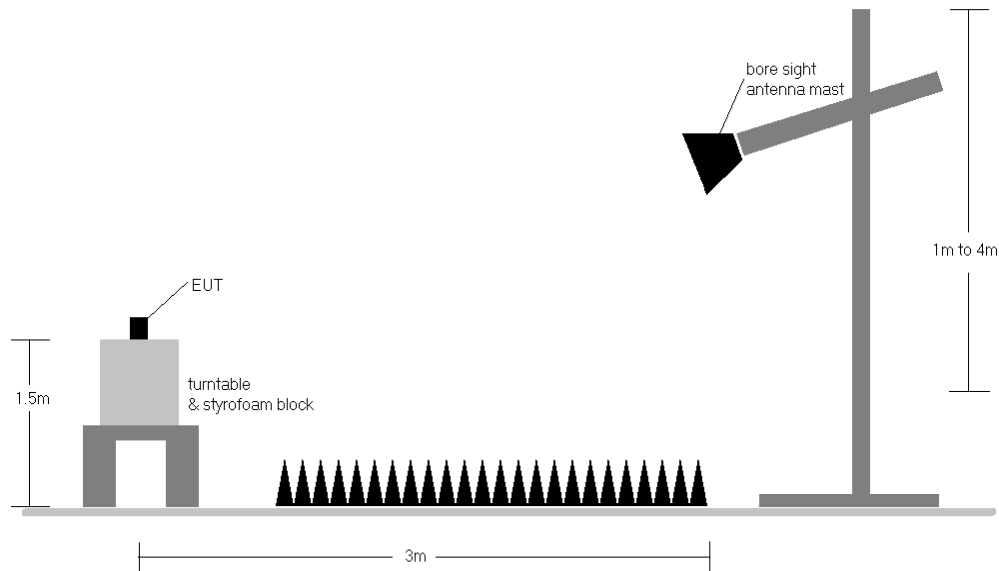


Figure 7-5. Test Instrument & Measurement Setup

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 132 of 194

Test Notes

1. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-57
2. All spurious emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-60. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
6. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
8. The “-” shown in the following RSE tables are used to denote a noise floor measurement.
9. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all of the partially-loaded RU configurations. Among all of the available partially-loaded RU configurations, only the configuration with the worst case emissions is reported.

Sample Calculations

Determining Spurious Emissions Levels

- o Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- o AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- o Margin [dB] = Field Strength Level [dBμV/m] – Limit [dBμV/m]

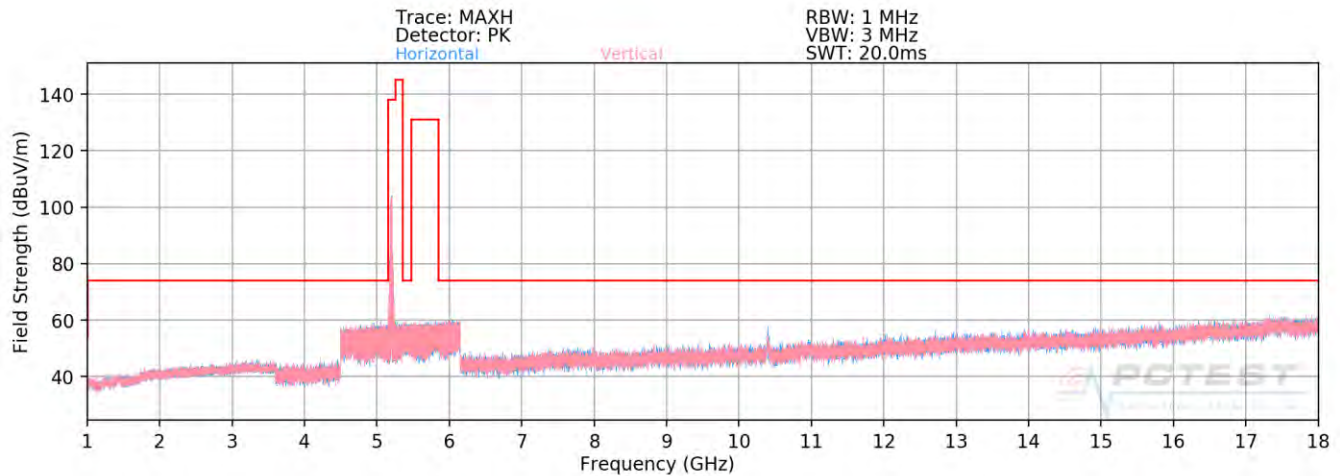
Radiated Band Edge Measurement Offset

- o The amplitude offset shown in the radiated restricted band edge plots in Section Radiated Spurious Emission Measurements – Above 1GHz was calculated using the formula:
Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

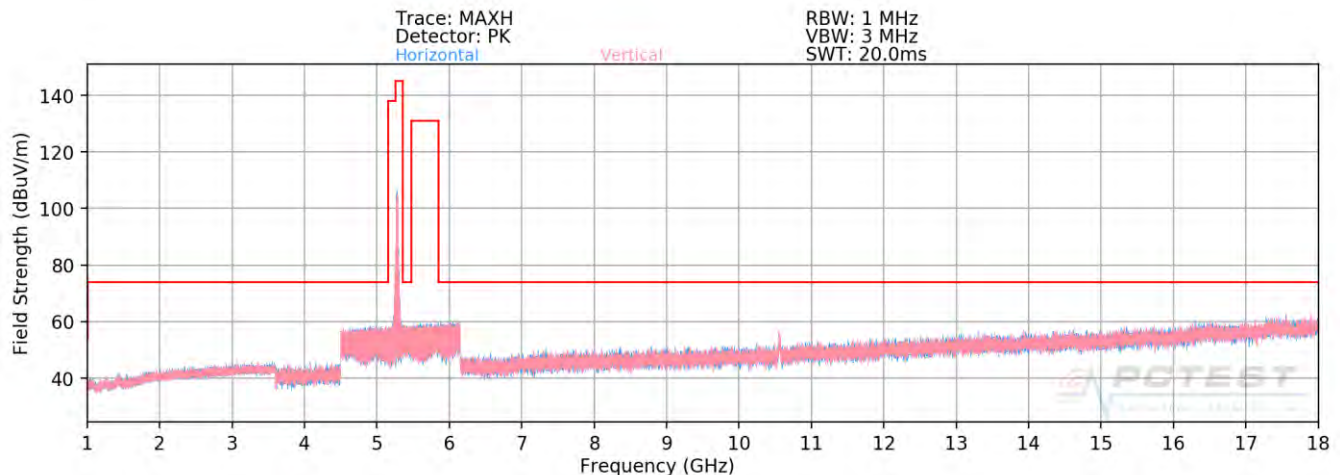
FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 133 of 194

6.6.1 SISO Antenna-1 Radiated Spurious Emission Measurements

26 Tones

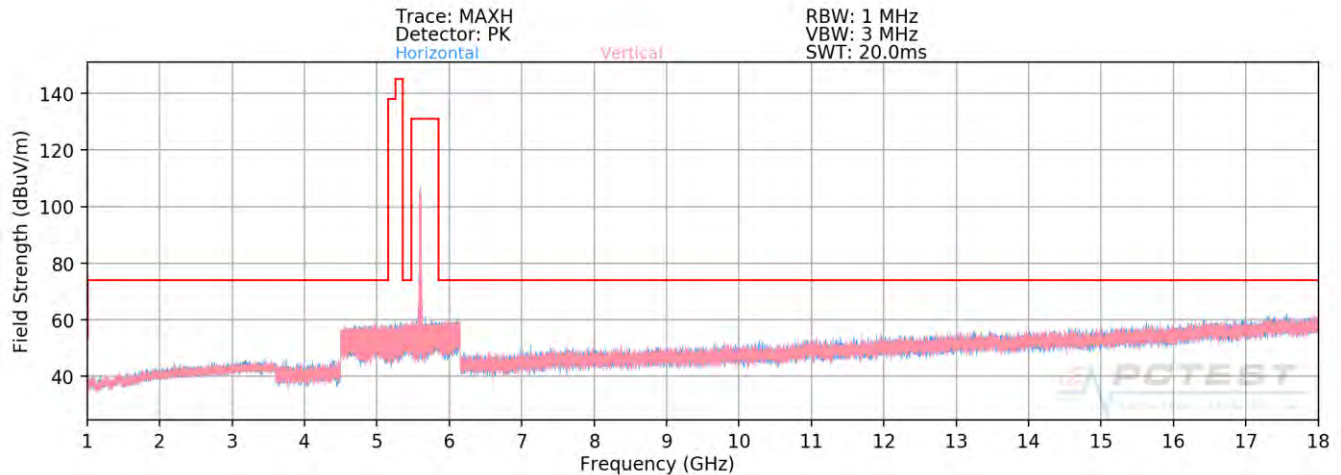


Plot 7-163. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U1 Ch. 40 – 26 Tones)

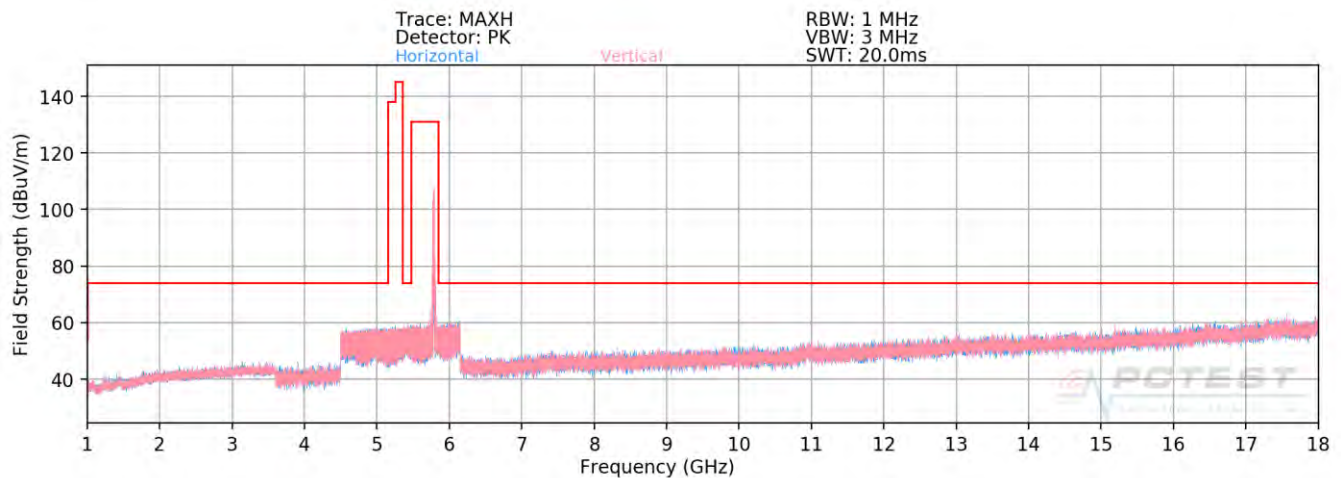


Plot 7-164. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2A Ch. 56 – 26 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 134 of 194



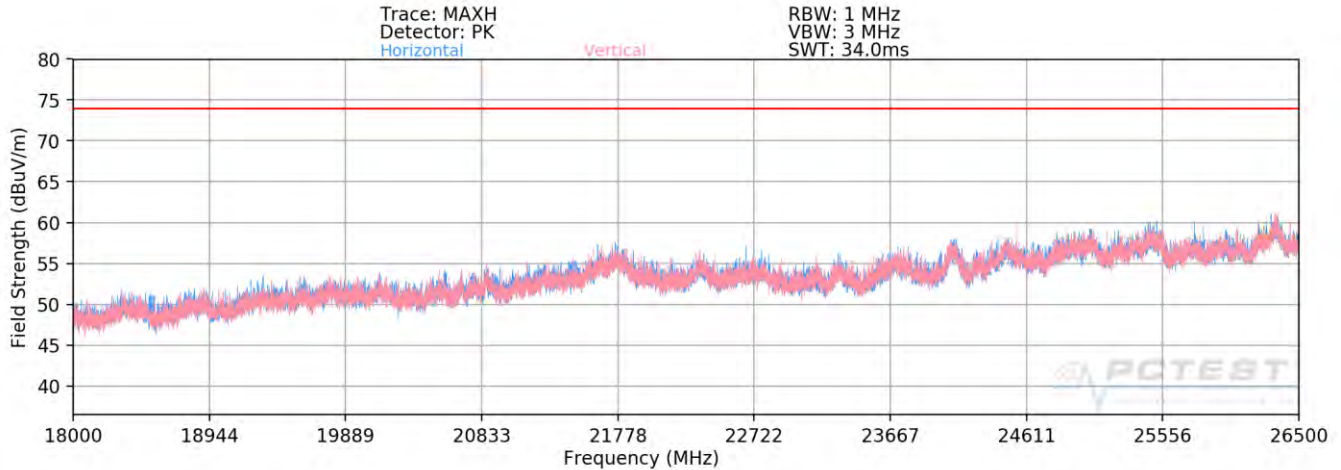
Plot 7-165. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2C Ch. 120 – 26 Tones)



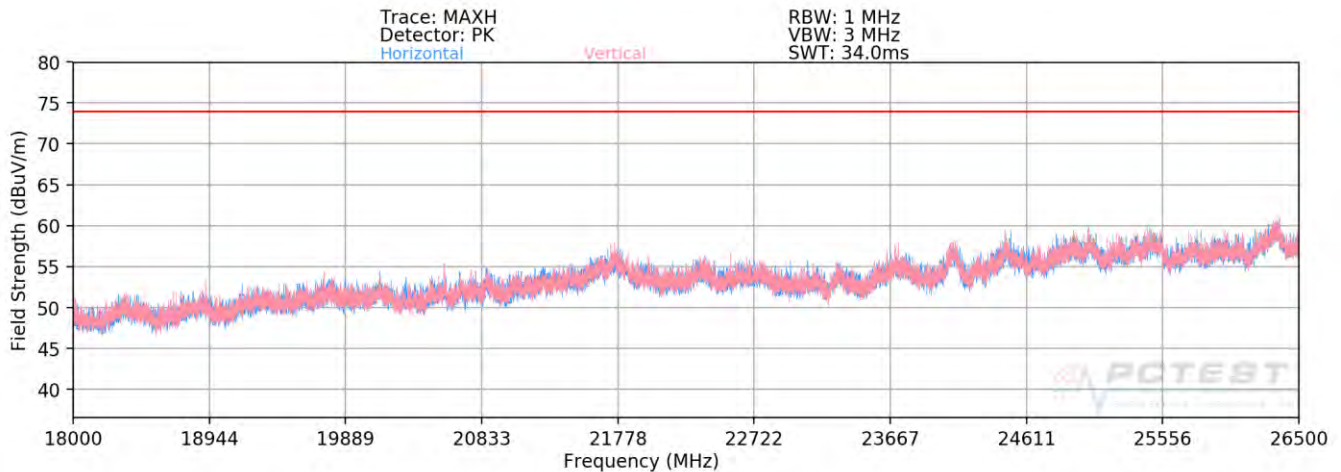
Plot 7-166. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U3 Ch. 157 – 26 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 135 of 194

SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-167. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11ax – 26 Tones)



Plot 7-168. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11ax – 26 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 136 of 194

SISO Antenna-1 Radiated Spurious Emission Measurements (26 Tones)

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5180MHz
Channel: 36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	115	15	-64.83	12.74	0.00	54.91	68.20	-13.29
* 15540.00	Average	H	-	-	-77.07	15.28	0.00	45.21	53.98	-8.77
* 15540.00	Peak	H	-	-	-66.23	15.28	0.00	56.05	73.98	-17.93
* 20720.00	Average	H	-	-	-77.71	17.17	-9.54	36.91	53.98	-17.07
* 20720.00	Peak	H	-	-	-66.33	17.17	-9.54	48.29	73.98	-25.69
25900.00	Peak	H	-	-	-65.33	19.93	-9.54	52.05	68.20	-16.15

Table 7-58. Radiated Measurements SISO ANT1 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	123	21	-61.80	12.24	0.00	57.44	68.20	-10.76
* 15600.00	Average	H	-	-	-77.44	15.40	0.00	44.96	53.98	-9.01
* 15600.00	Peak	H	-	-	-66.24	15.40	0.00	56.16	73.98	-17.81
* 20800.00	Average	H	-	-	-77.85	17.65	-9.54	37.26	53.98	-16.72
* 20800.00	Peak	H	-	-	-65.80	17.65	-9.54	49.31	73.98	-24.67
26000.00	Peak	H	-	-	-65.25	20.68	-9.54	52.89	68.20	-15.31

Table 7-59. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 137 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	118	19	-63.78	12.41	0.00	55.63	68.20	-12.57
* 15720.00	Average	H	-	-	-77.20	16.70	0.00	46.50	53.98	-7.48
* 15720.00	Peak	H	-	-	-65.79	16.70	0.00	57.91	73.98	-16.07
* 20960.00	Average	H	-	-	-77.95	17.53	-9.54	37.04	53.98	-16.94
* 20960.00	Peak	H	-	-	-65.66	17.53	-9.54	49.33	73.98	-24.65
* 26200.00	Peak	H	-	-	-65.71	20.23	-9.54	51.98	68.20	-16.22

Table 7-60. Radiated Measurements SISO ANT1 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5260MHz
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	114	47	-64.39	13.16	0.00	55.77	68.20	-12.43
* 15780.00	Average	H	-	-	-77.49	16.21	0.00	45.72	53.98	-8.26
* 15780.00	Peak	H	-	-	-66.09	16.21	0.00	57.12	73.98	-16.86
* 21040.00	Average	H	-	-	-77.67	17.48	-9.54	37.26	53.98	-16.72
* 21040.00	Peak	H	-	-	-66.26	17.48	-9.54	48.67	73.98	-25.31
26300.00	Peak	H	-	-	-64.64	20.33	-9.54	53.15	68.20	-15.05

Table 7-61. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 138 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	124	22	-64.55	13.66	0.00	56.11	68.20	-12.09
* 15840.00	Average	H	-	-	-78.44	15.64	0.00	44.20	53.98	-9.78
* 15840.00	Peak	H	-	-	-65.92	15.64	0.00	56.72	73.98	-17.26
* 21120.00	Average	H	-	-	-77.42	17.27	-9.54	37.30	53.98	-16.67
* 21120.00	Peak	H	-	-	-66.02	17.27	-9.54	48.70	73.98	-25.27
26400.00	Peak	H	-	-	-65.40	20.27	-9.54	52.33	68.20	-15.87

Table 7-62. Radiated Measurements SISO ANT1 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5320MHz
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	120	30	-78.47	14.15	0.00	42.68	53.98	-11.30
* 10640.00	Peak	H	120	30	-64.93	14.15	0.00	56.22	73.98	-17.76
* 15960.00	Average	H	-	-	-77.68	15.01	0.00	44.33	53.98	-9.65
* 15960.00	Peak	H	-	-	-65.17	15.01	0.00	56.84	73.98	-17.14
* 21280.00	Average	H	-	-	-76.80	17.58	-9.54	38.24	53.98	-15.74
* 21280.00	Peak	H	-	-	-66.07	17.58	-9.54	48.97	73.98	-25.01
26600.00	Peak	H	-	-	-51.97	3.11	-9.54	48.60	68.20	-19.60

Table 7-63. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 139 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	116	34	-79.97	13.55	0.00	40.58	53.98	-13.40
* 11000.00	Peak	H	116	34	-65.21	13.55	0.00	55.34	73.98	-18.64
16500.00	Peak	H	-	-	-64.82	16.10	0.00	58.28	68.20	-9.92
22000.00	Peak	H	-	-	-66.15	18.05	-9.54	49.36	68.20	-18.84
27500.00	Peak	H	-	-	-50.40	2.08	-9.54	49.14	68.20	-19.06

Table 7-64. Radiated Measurements SISO ANT1 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5600MHz
 Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	121	33	-78.25	13.31	0.00	42.06	53.98	-11.92
* 11200.00	Peak	H	121	33	-66.06	13.31	0.00	54.25	73.98	-19.73
16800.00	Peak	H	-	-	-65.26	17.53	0.00	59.27	68.20	-8.93
* 22400.00	Average	H	-	-	-77.47	19.05	-9.54	39.04	53.98	-14.94
* 22400.00	Peak	H	-	-	-66.65	19.05	-9.54	49.86	73.98	-24.12
28000.00	Peak	H	-	-	-50.12	3.19	-9.54	50.52	68.20	-17.68

Table 7-65. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 140 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5720MHz
 Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	123	17	-78.00	15.10	0.00	44.10	53.98	-9.88
* 11440.00	Peak	H	123	17	-64.23	15.10	0.00	57.87	73.98	-16.11
17160.00	Peak	H	-	-	-64.81	18.83	0.00	61.02	68.20	-7.18
* 22880.00	Average	H	-	-	-77.79	18.60	-9.54	38.26	53.98	-15.72
* 22880.00	Peak	H	-	-	-66.65	18.60	-9.54	49.40	73.98	-24.58
28600.00	Peak	H	-	-	-50.29	1.74	-9.54	48.90	68.20	-19.30

Table 7-66. Radiated Measurements SISO ANT1 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5745MHz
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	136	21	-78.94	15.22	0.00	43.28	53.98	-10.70
* 11490.00	Peak	H	136	21	-65.54	15.22	0.00	56.68	73.98	-17.30
17235.00	Peak	H	-	-	-65.08	19.54	0.00	61.46	68.20	-6.74
* 22980.00	Average	H	-	-	-77.42	18.46	-9.54	38.50	53.98	-15.48
* 22980.00	Peak	H	-	-	-66.78	18.46	-9.54	49.14	73.98	-24.84
28725.00	Peak	H	-	-	-50.33	2.47	-9.54	49.60	68.20	-18.60

Table 7-67. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 141 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5785MHz
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	127	37	-78.81	15.02	0.00	43.21	53.98	-10.77
* 11570.00	Peak	H	127	37	-66.30	15.02	0.00	55.72	73.98	-18.26
17355.00	Peak	H	-	-	-65.29	23.41	0.00	65.12	68.20	-3.08
23140.00	Peak	H	-	-	-66.91	18.84	-9.54	49.39	68.20	-18.81
28925.00	Peak	H	-	-	-50.55	2.80	-9.54	49.71	68.20	-18.49

Table 7-68. Radiated Measurements SISO ANT1 (26 Tones)

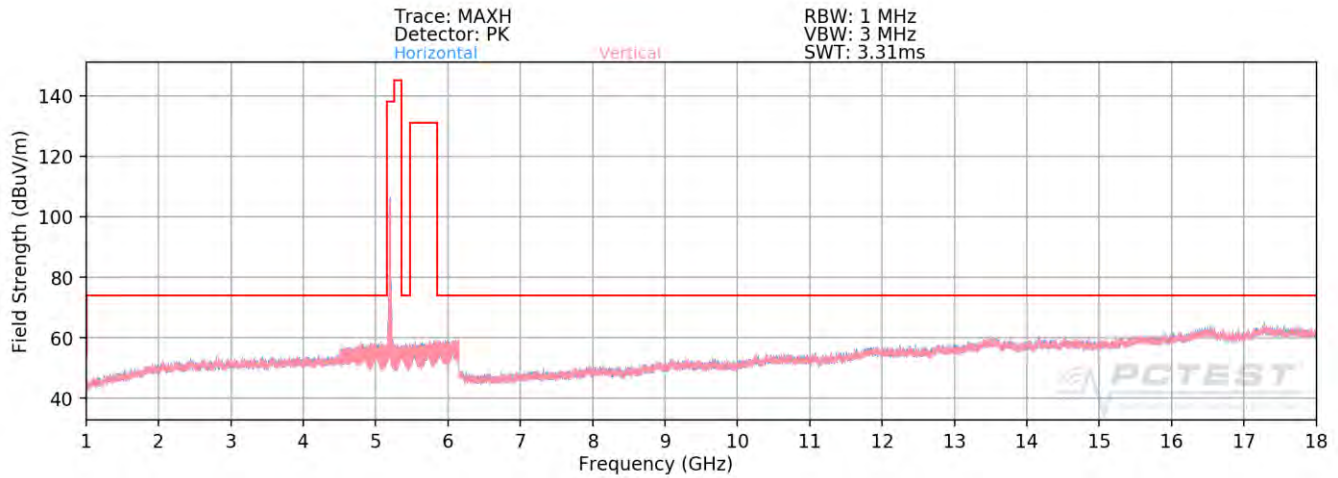
Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	123	30	-77.04	14.92	0.00	44.88	53.98	-9.10
* 11650.00	Peak	H	123	30	-64.28	14.92	0.00	57.64	73.98	-16.34
17475.00	Peak	H	-	-	-64.17	21.86	0.00	64.69	68.20	-3.51
23300.00	Peak	H	-	-	-66.94	19.55	-9.54	50.06	68.20	-18.14
29125.00	Peak	H	-	-	-50.18	1.07	-9.54	48.35	68.20	-19.85

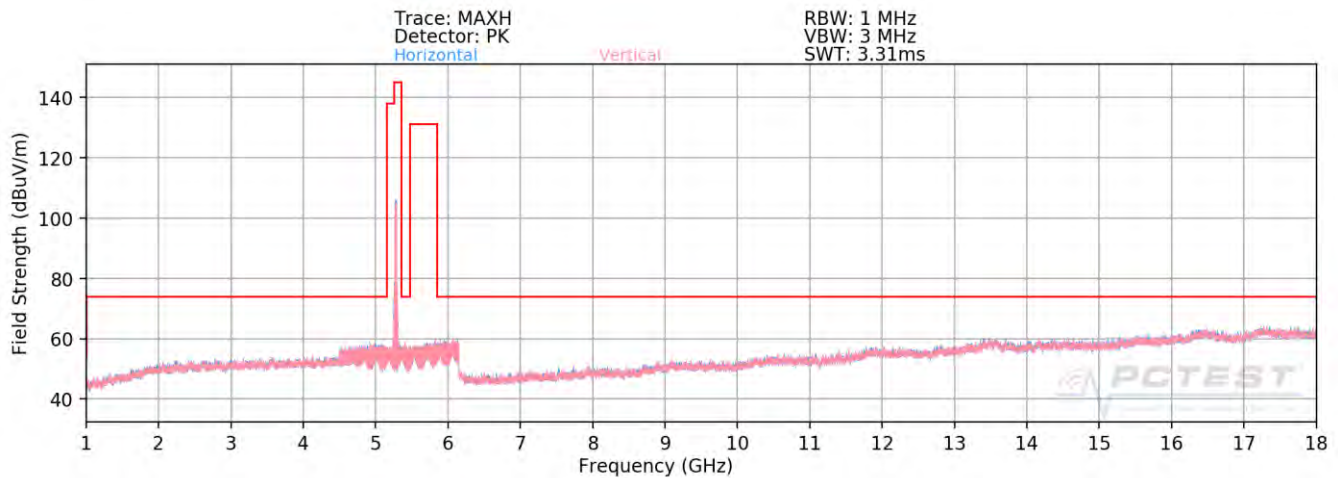
Table 7-69. Radiated Measurements SISO ANT1 (26 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 142 of 194

242 Tones

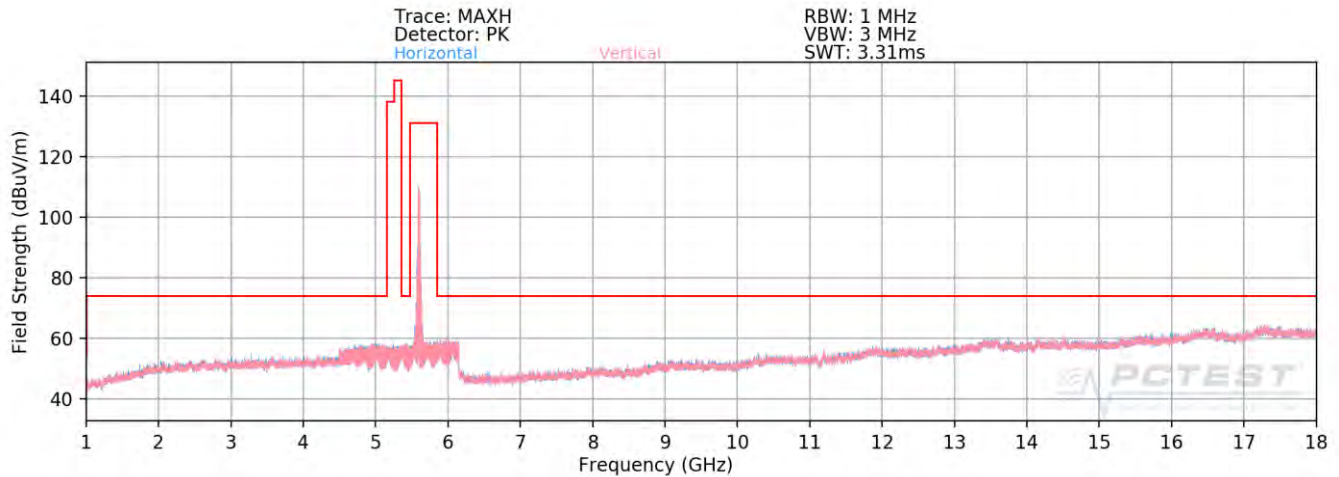


Plot 7-169. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U1 Ch. 40 – 242 Tones)

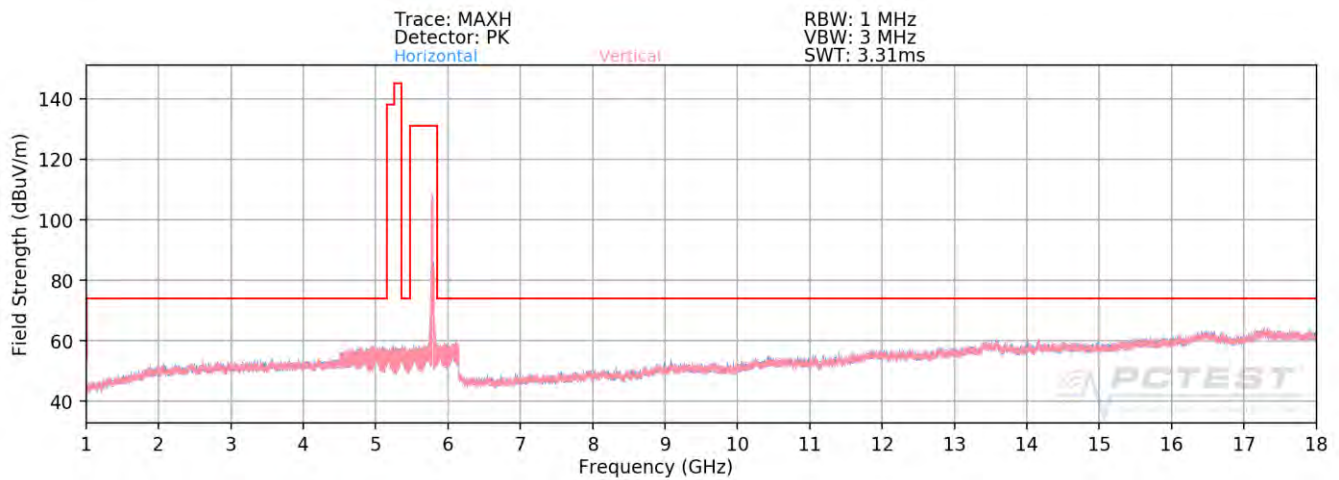


Plot 7-170. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2A Ch. 56 – 242 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 143 of 194



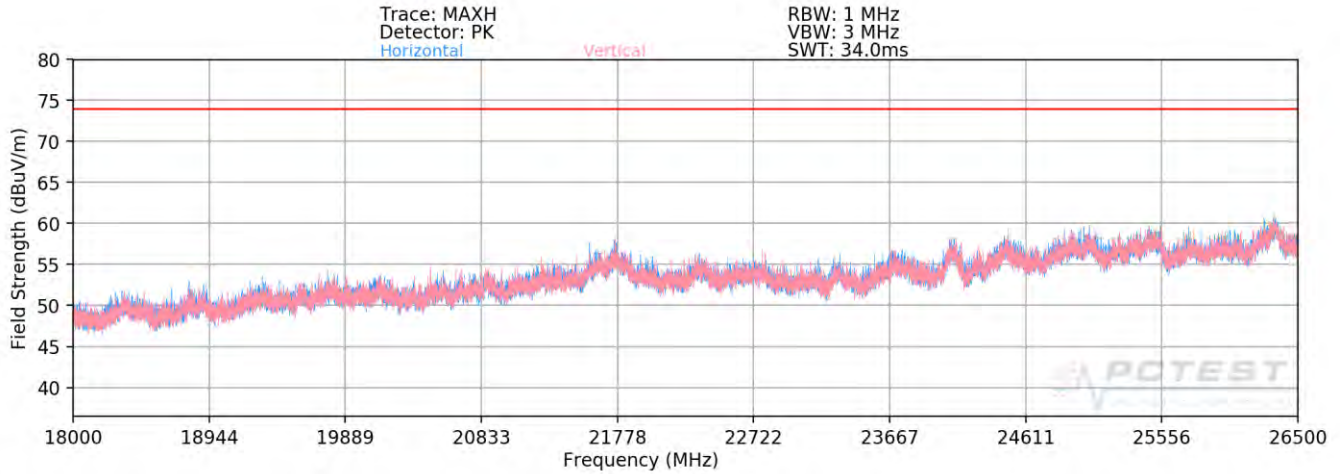
Plot 7-171. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U2C Ch. 120 – 242 Tones)



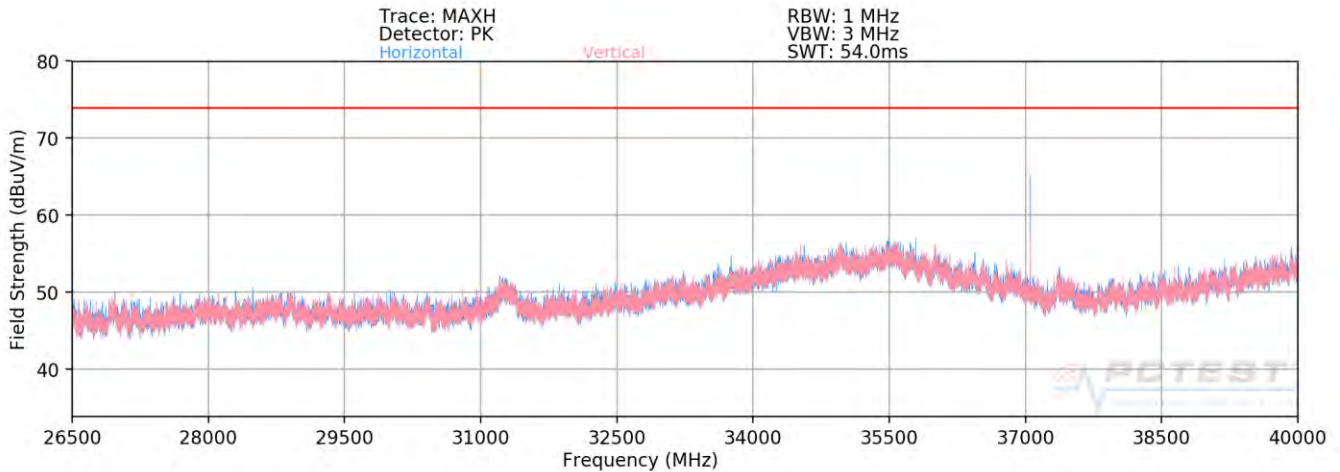
Plot 7-172. Radiated Spurious Plot above 1GHz SISO ANT1 (802.11ax – U3 Ch. 157 – 242 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 144 of 194

SISO Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-173. Radiated Spurious Plot 18GHz - 26.5GHz SISO ANT1 (802.11ax – 242 Tones)



Plot 7-174. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT1 (802.11ax – 242 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 145 of 194

SISO Antenna-1 Radiated Spurious Emission Measurements (242 Tones)

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5180MHz
Channel:	36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	115	15	-64.84	12.74	0.00	54.90	68.20	-13.30
* 15540.00	Average	H	-	-	-77.27	15.28	0.00	45.01	53.98	-8.97
* 15540.00	Peak	H	-	-	-66.43	15.28	0.00	55.85	73.98	-18.13
* 20720.00	Average	H	-	-	-77.89	17.17	-9.54	36.73	53.98	-17.25
* 20720.00	Peak	H	-	-	-66.46	17.17	-9.54	48.16	73.98	-25.82
25900.00	Peak	H	-	-	-65.41	19.93	-9.54	51.97	68.20	-16.23

Table 7-70. Radiated Measurements SISO ANT1 (242 Tones)

Worst Case Mode:	802.11ax (20MHz BW)
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	1 & 3 Meters
Operating Frequency:	5200MHz
Channel:	40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	123	21	-62.22	12.24	0.00	57.02	68.20	-11.18
* 15600.00	Average	H	-	-	-77.50	15.40	0.00	44.90	53.98	-9.07
* 15600.00	Peak	H	-	-	-66.29	15.40	0.00	56.11	73.98	-17.86
* 20800.00	Average	H	-	-	-77.95	17.65	-9.54	37.16	53.98	-16.82
* 20800.00	Peak	H	-	-	-65.86	17.65	-9.54	49.25	73.98	-24.73
26000.00	Peak	H	-	-	-65.40	20.68	-9.54	52.74	68.20	-15.46

Table 7-71. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 146 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	118	19	-64.18	12.41	0.00	55.23	68.20	-12.97
* 15720.00	Average	H	-	-	-77.20	16.70	0.00	46.50	53.98	-7.48
* 15720.00	Peak	H	-	-	-65.80	16.70	0.00	57.90	73.98	-16.08
* 20960.00	Average	H	-	-	-78.05	17.53	-9.54	36.94	53.98	-17.04
* 20960.00	Peak	H	-	-	-65.75	17.53	-9.54	49.24	73.98	-24.74
26200.00	Peak	H	-	-	-65.88	20.23	-9.54	51.81	68.20	-16.39

Table 7-72. Radiated Measurements SISO ANT1 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5260MHz
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	114	47	-64.41	13.16	0.00	55.75	68.20	-12.45
* 15780.00	Average	H	-	-	-77.55	16.21	0.00	45.66	53.98	-8.32
* 15780.00	Peak	H	-	-	-66.24	16.21	0.00	56.97	73.98	-17.01
* 21040.00	Average	H	-	-	-77.68	17.48	-9.54	37.25	53.98	-16.73
* 21040.00	Peak	H	-	-	-66.30	17.48	-9.54	48.63	73.98	-25.35
26300.00	Peak	H	-	-	-64.65	20.33	-9.54	53.14	68.20	-15.06

Table 7-73. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 147 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	124	22	-64.93	13.66	0.00	55.73	68.20	-12.47
* 15840.00	Average	H	-	-	-78.60	15.64	0.00	44.04	53.98	-9.94
* 15840.00	Peak	H	-	-	-66.02	15.64	0.00	56.62	73.98	-17.36
* 21120.00	Average	H	-	-	-77.57	17.27	-9.54	37.15	53.98	-16.82
* 21120.00	Peak	H	-	-	-66.22	17.27	-9.54	48.50	73.98	-25.47
26400.00	Peak	H	-	-	-65.49	20.27	-9.54	52.24	68.20	-15.96

Table 7-74. Radiated Measurements SISO ANT1 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5320MHz
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	120	30	-78.60	14.15	0.00	42.55	53.98	-11.43
* 10640.00	Peak	H	-	-	-65.07	14.15	0.00	56.08	73.98	-17.90
* 15960.00	Average	H	-	-	-77.76	15.01	0.00	44.25	53.98	-9.73
* 15960.00	Peak	H	-	-	-65.36	15.01	0.00	56.65	73.98	-17.33
* 21280.00	Average	H	-	-	-77.00	17.58	-9.54	38.04	53.98	-15.94
* 21280.00	Peak	H	-	-	-66.19	17.58	-9.54	48.85	73.98	-25.13
26600.00	Peak	H	-	-	-51.98	3.11	-9.54	48.59	68.20	-19.61

Table 7-75. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 148 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	116	34	-79.99	13.55	0.00	40.56	53.98	-13.42
* 11000.00	Peak	H	116	34	-65.52	13.55	0.00	55.03	73.98	-18.95
16500.00	Peak	H	-	-	-64.97	16.10	0.00	58.13	68.20	-10.07
22000.00	Peak	H	-	-	-66.16	18.05	-9.54	49.35	68.20	-18.85
27500.00	Peak	H	-	-	-50.60	2.08	-9.54	48.94	68.20	-19.26

Table 7-76. Radiated Measurements SISO ANT1 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5600MHz
 Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	121	33	-78.74	13.31	0.00	41.57	53.98	-12.41
* 11200.00	Peak	H	121	33	-66.27	13.31	0.00	54.04	73.98	-19.94
16800.00	Peak	H	-	-	-65.30	17.53	0.00	59.23	68.20	-8.97
* 22400.00	Average	H	-	-	-77.53	19.05	-9.54	38.98	53.98	-15.00
* 22400.00	Peak	H	-	-	-66.71	19.05	-9.54	49.80	73.98	-24.18
28000.00	Peak	H	-	-	-50.20	3.19	-9.54	50.44	68.20	-17.76

Table 7-77. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 149 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5720MHz
 Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	123	17	-78.49	15.10	0.00	43.61	53.98	-10.37
* 11440.00	Peak	H	123	17	-64.36	15.10	0.00	57.74	73.98	-16.24
17160.00	Peak	H	-	-	-64.85	18.83	0.00	60.98	68.20	-7.22
* 22880.00	Average	H	-	-	-77.89	18.60	-9.54	38.16	53.98	-15.82
* 22880.00	Peak	H	-	-	-66.81	18.60	-9.54	49.24	73.98	-24.74
28600.00	Peak	H	-	-	-50.41	1.74	-9.54	48.78	68.20	-19.42

Table 7-78. Radiated Measurements SISO ANT1 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5745MHz
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	136	21	-79.23	15.22	0.00	42.99	53.98	-10.99
* 11490.00	Peak	H	136	21	-65.92	15.22	0.00	56.30	73.98	-17.68
17235.00	Peak	H	-	-	-65.22	19.54	0.00	61.32	68.20	-6.88
* 22980.00	Average	H	-	-	-77.61	18.46	-9.54	38.31	53.98	-15.67
* 22980.00	Peak	H	-	-	-66.94	18.46	-9.54	48.98	73.98	-25.00
28725.00	Peak	H	-	-	-50.42	2.47	-9.54	49.51	68.20	-18.69

Table 7-79. Radiated Measurements SISO ANT1 (242 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 150 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5785MHz
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	127	37	-78.92	15.02	0.00	43.10	53.98	-10.88
* 11570.00	Peak	H	127	37	-66.50	15.02	0.00	55.52	73.98	-18.46
17355.00	Peak	H	-	-	-65.45	23.41	0.00	64.96	68.20	-3.24
23140.00	Peak	H	-	-	-66.96	18.84	-9.54	49.34	68.20	-18.86
28925.00	Peak	H	-	-	-50.65	2.80	-9.54	49.61	68.20	-18.59

Table 7-80. Radiated Measurements SISO ANT1 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

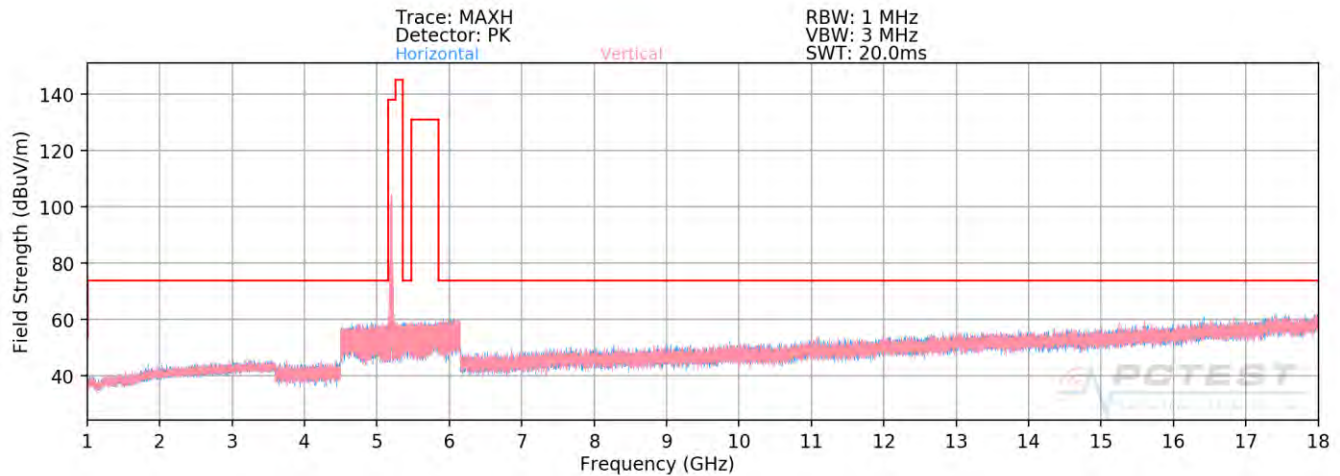
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	123	30	-77.41	14.92	0.00	44.51	53.98	-9.47
* 11650.00	Peak	H	123	30	-64.53	14.92	0.00	57.39	73.98	-16.59
17475.00	Peak	H	-	-	-64.28	21.86	0.00	64.58	68.20	-3.62
23300.00	Peak	H	-	-	-66.95	19.55	-9.54	50.05	68.20	-18.15
29125.00	Peak	H	-	-	-50.29	1.07	-9.54	48.24	68.20	-19.96

Table 7-81. Radiated Measurements SISO ANT1 (242 Tones)

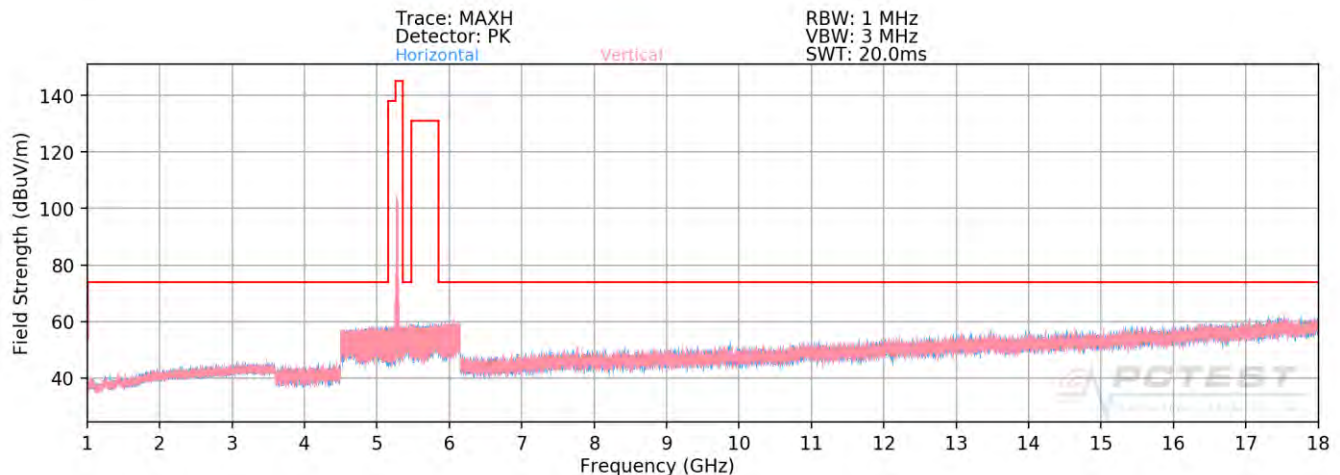
FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 151 of 194

6.6.2 SISO Antenna-2 Radiated Spurious Emission Measurements

26 Tones

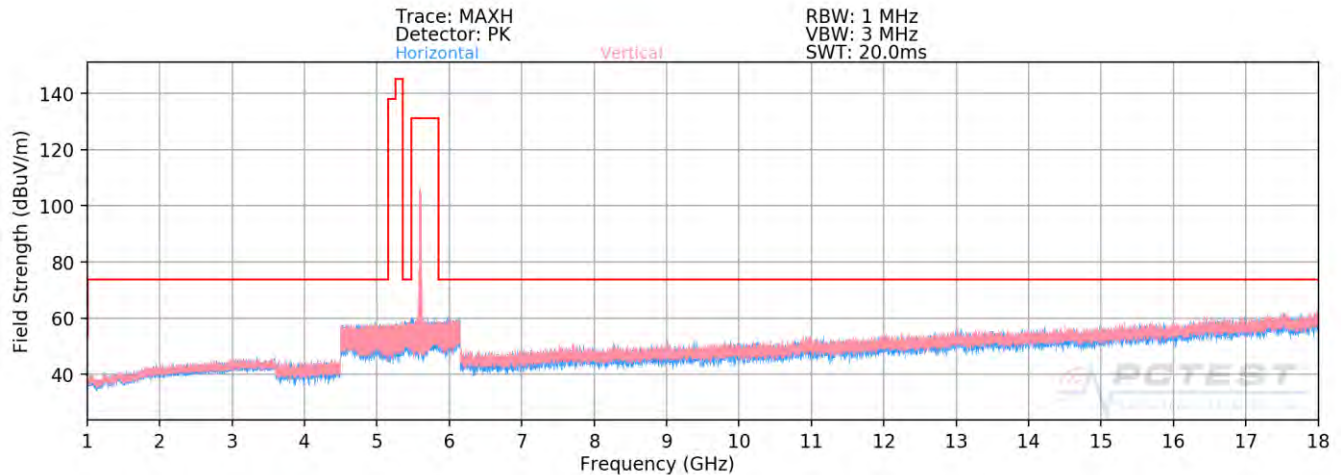


Plot 7-175. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U1 Ch. 40 – 26 Tones)

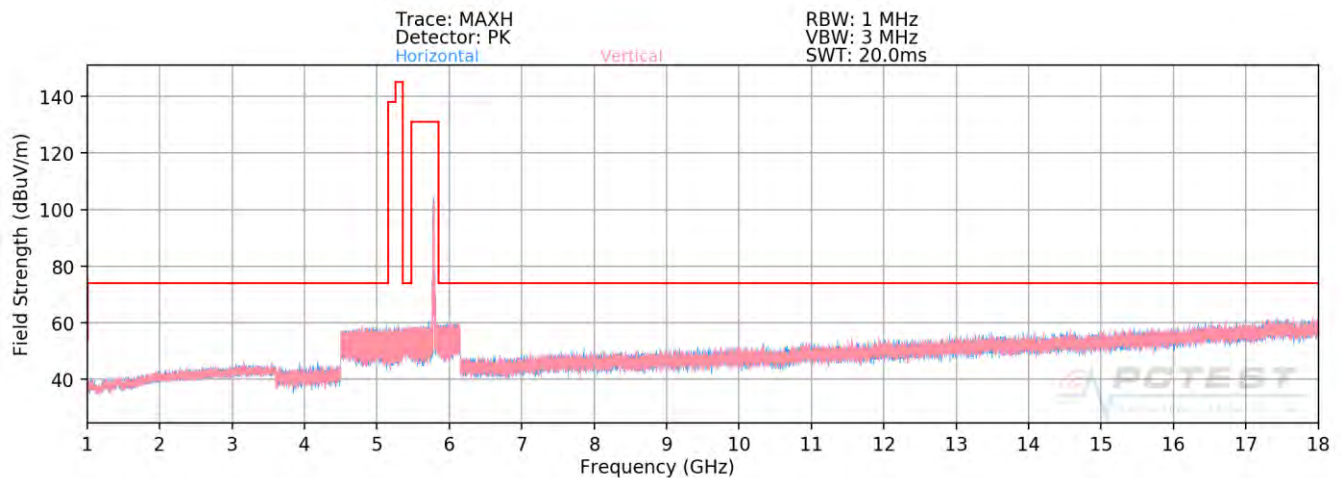


Plot 7-176. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2A Ch. 56 – 26 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 152 of 194



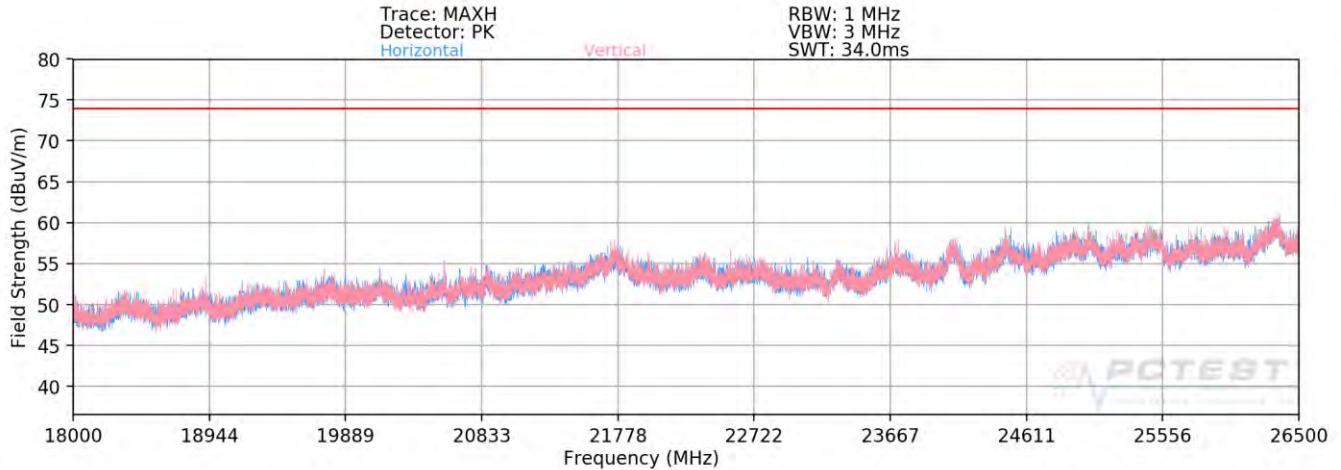
Plot 7-177. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2C Ch. 120 – 26 Tones)



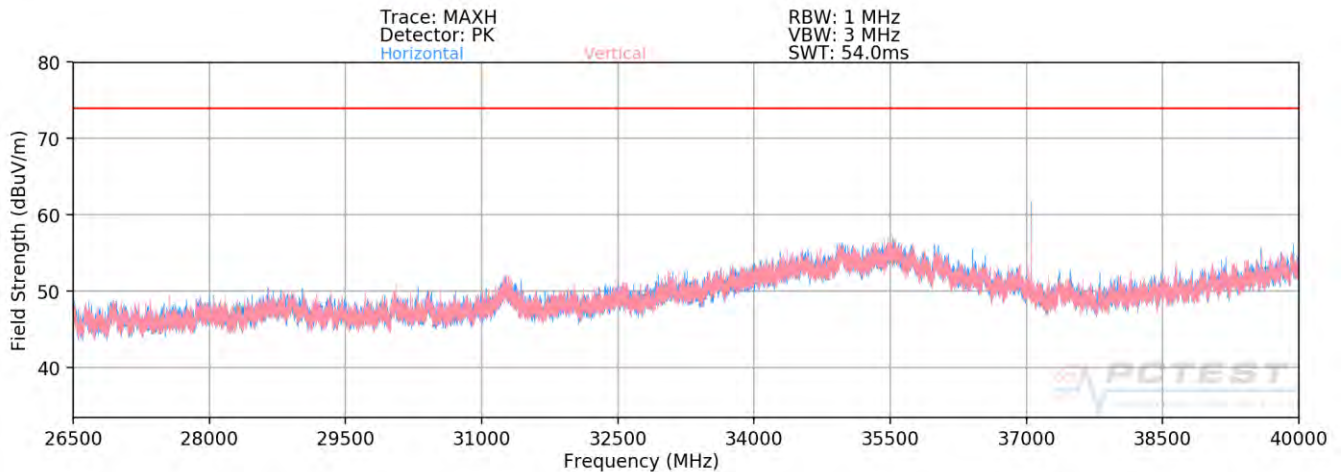
Plot 7-178. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U3 Ch. 157 – 26 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 153 of 194

SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-179. Radiated Spurious Plot above 18GHz - 26.5GHz SISO ANT2 (802.11ax – 26 Tones)



Plot 7-180. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax – 26 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 154 of 194

SISO Antenna-2 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5180MHz
Channel: 36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	115	15	-65.57	12.74	0.00	54.17	68.20	-14.03
* 15540.00	Average	H	-	-	-80.33	15.28	0.00	41.95	53.98	-12.03
* 15540.00	Peak	H	-	-	-66.28	15.28	0.00	56.00	73.98	-17.98
* 20720.00	Average	H	-	-	-77.73	17.17	-9.54	36.89	53.98	-17.09
* 20720.00	Peak	H	-	-	-66.53	17.17	-9.54	48.09	73.98	-25.89
25900.00	Peak	H	-	-	-65.33	19.93	-9.54	52.05	68.20	-16.15

Table 7-82. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 54
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	123	21	-63.02	12.24	0.00	56.22	68.20	-11.98
* 15600.00	Average	H	-	-	-80.39	15.40	0.00	42.01	53.98	-11.96
* 15600.00	Peak	H	-	-	-66.37	15.40	0.00	56.03	73.98	-17.94
* 20800.00	Average	H	-	-	-78.06	17.65	-9.54	37.05	53.98	-16.93
* 20800.00	Peak	H	-	-	-65.93	17.65	-9.54	49.18	73.98	-24.80
26000.00	Peak	H	-	-	-65.51	20.68	-9.54	52.63	68.20	-15.57

Table 7-83. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 155 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	118	19	-64.98	12.41	0.00	54.43	68.20	-13.77
* 15720.00	Average	H	-	-	-80.04	16.70	0.00	43.66	53.98	-10.32
* 15720.00	Peak	H	-	-	-66.04	16.70	0.00	57.66	73.98	-16.32
* 20960.00	Average	H	-	-	-77.98	17.53	-9.54	37.01	53.98	-16.97
* 20960.00	Peak	H	-	-	-65.83	17.53	-9.54	49.16	73.98	-24.82
* 26200.00	Peak	H	-	-	-66.11	20.23	-9.54	51.58	68.20	-16.62

Table 7-84. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5260MHz
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	114	47	-65.10	13.16	0.00	55.06	68.20	-13.14
* 15780.00	Average	H	-	-	-80.57	16.21	0.00	42.64	53.98	-11.34
* 15780.00	Peak	H	-	-	-66.12	16.21	0.00	57.09	73.98	-16.89
* 21040.00	Average	H	-	-	-77.63	17.48	-9.54	37.30	53.98	-16.68
* 21040.00	Peak	H	-	-	-66.46	17.48	-9.54	48.47	73.98	-25.51
* 26300.00	Peak	H	-	-	-64.59	20.33	-9.54	53.20	68.20	-15.00

Table 7-85. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 156 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	124	22	-65.83	13.66	0.00	54.83	68.20	-13.37
* 15840.00	Average	H	-	-	-81.45	15.64	0.00	41.19	53.98	-12.79
* 15840.00	Peak	H	-	-	-66.05	15.64	0.00	56.59	73.98	-17.39
* 21120.00	Average	H	-	-	-77.54	17.27	-9.54	37.18	53.98	-16.79
* 21120.00	Peak	H	-	-	-66.07	17.27	-9.54	48.65	73.98	-25.32
26400.00	Peak	H	-	-	-65.48	20.27	-9.54	52.25	68.20	-15.95

Table 7-86. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5320MHz
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	120	30	-79.49	14.15	0.00	41.66	53.98	-12.32
* 10640.00	Peak	H	120	30	-67.73	14.15	0.00	53.42	73.98	-20.56
* 15960.00	Average	H	-	-	-77.94	15.01	0.00	44.07	53.98	-9.91
* 15960.00	Peak	H	-	-	-65.49	15.01	0.00	56.52	73.98	-17.46
* 21280.00	Average	H	-	-	-76.90	17.58	-9.54	38.14	53.98	-15.84
* 21280.00	Peak	H	-	-	-66.27	17.58	-9.54	48.77	73.98	-25.21
26600.00	Peak	H	-	-	-52.07	3.11	-9.54	48.50	68.20	-19.70

Table 7-87. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 157 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	116	34	-80.58	13.55	0.00	39.97	53.98	-14.01
* 11000.00	Peak	H	116	34	-68.28	13.55	0.00	52.27	73.98	-21.71
16500.00	Peak	H	-	-	-65.07	16.10	0.00	58.03	68.20	-10.17
22000.00	Peak	H	-	-	-66.09	18.05	-9.54	49.42	68.20	-18.78
27500.00	Peak	H	-	-	-50.67	2.08	-9.54	48.87	68.20	-19.33

Table 7-88. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5600MHz
 Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	121	33	-79.39	13.31	0.00	40.92	53.98	-13.06
* 11200.00	Peak	H	121	33	-69.10	13.31	0.00	51.21	73.98	-22.77
16800.00	Peak	H	-	-	-65.50	17.53	0.00	59.03	68.20	-9.17
* 22400.00	Average	H	-	-	-77.59	19.05	-9.54	38.92	53.98	-15.06
* 22400.00	Peak	H	-	-	-66.65	19.05	-9.54	49.86	73.98	-24.12
28000.00	Peak	H	-	-	-50.37	3.19	-9.54	50.27	68.20	-17.93

Table 7-89. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 158 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5720MHz
 Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	136	21	-79.35	15.10	0.00	42.75	53.98	-11.23
* 11440.00	Peak	H	136	21	-66.99	15.10	0.00	55.11	73.98	-18.87
17160.00	Peak	H	-	-	-64.84	18.83	0.00	60.99	68.20	-7.21
* 22880.00	Average	H	-	-	-77.87	18.60	-9.54	38.18	53.98	-15.80
* 22880.00	Peak	H	-	-	-67.01	18.60	-9.54	49.04	73.98	-24.94
28600.00	Peak	H	-	-	-50.50	1.74	-9.54	48.69	68.20	-19.51

Table 7-90. Radiated Measurements SISO ANT2 (26 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5745MHz
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	136	21	-79.95	15.22	0.00	42.27	53.98	-11.71
* 11490.00	Peak	H	136	21	-68.53	15.22	0.00	53.69	73.98	-20.29
17235.00	Peak	H	-	-	-65.35	19.54	0.00	61.19	68.20	-7.01
* 22980.00	Average	H	-	-	-77.70	18.46	-9.54	38.22	53.98	-15.76
* 22980.00	Peak	H	-	-	-66.90	18.46	-9.54	49.02	73.98	-24.96
28725.00	Peak	H	-	-	-50.52	2.47	-9.54	49.41	68.20	-18.79

Table 7-91. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 159 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5785MHz
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	127	37	-79.90	15.02	0.00	42.12	53.98	-11.86
* 11570.00	Peak	H	127	37	-69.26	15.02	0.00	52.76	73.98	-21.22
17355.00	Peak	H	-	-	-65.70	23.41	0.00	64.71	68.20	-3.49
23140.00	Peak	H	-	-	-67.11	18.84	-9.54	49.19	68.20	-19.01
28925.00	Peak	H	-	-	-50.91	2.80	-9.54	49.35	68.20	-18.85

Table 7-92. Radiated Measurements SISO ANT2 (26 Tones)

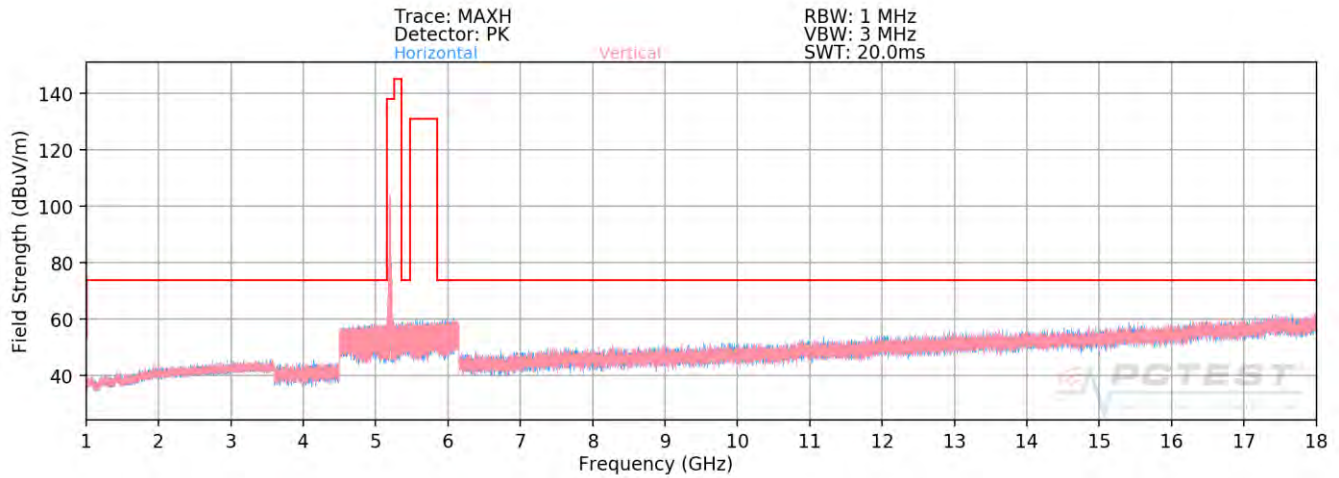
Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 54
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	123	30	-78.20	14.92	0.00	43.72	53.98	-10.26
* 11650.00	Peak	H	123	30	-67.42	14.92	0.00	54.50	73.98	-19.48
17475.00	Peak	H	-	-	-64.41	21.86	0.00	64.45	68.20	-3.75
23300.00	Peak	H	-	-	-66.84	19.55	-9.54	50.16	68.20	-18.04
29125.00	Peak	H	-	-	-50.41	1.07	-9.54	48.12	68.20	-20.08

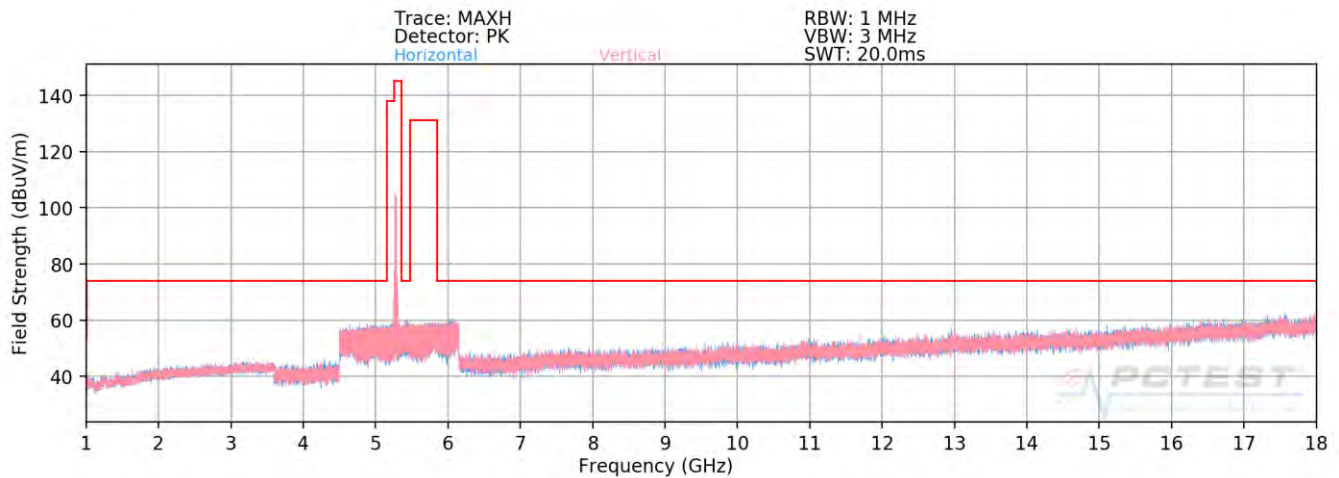
Table 7-93. Radiated Measurements SISO ANT2 (26 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 160 of 194

242 Tones

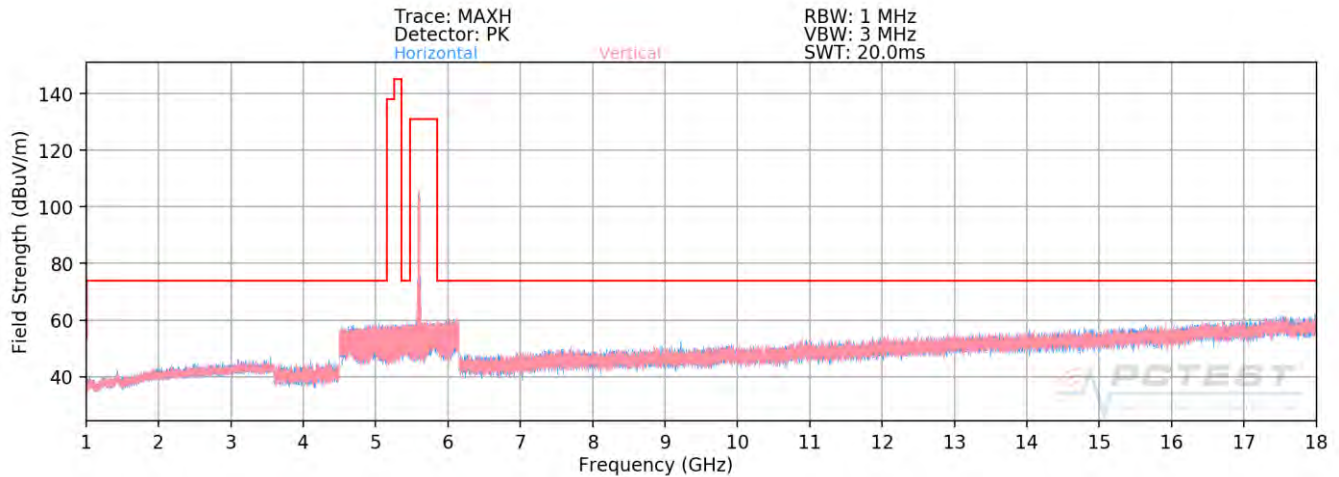


Plot 7-181. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U1 Ch. 40 – 242 Tones)

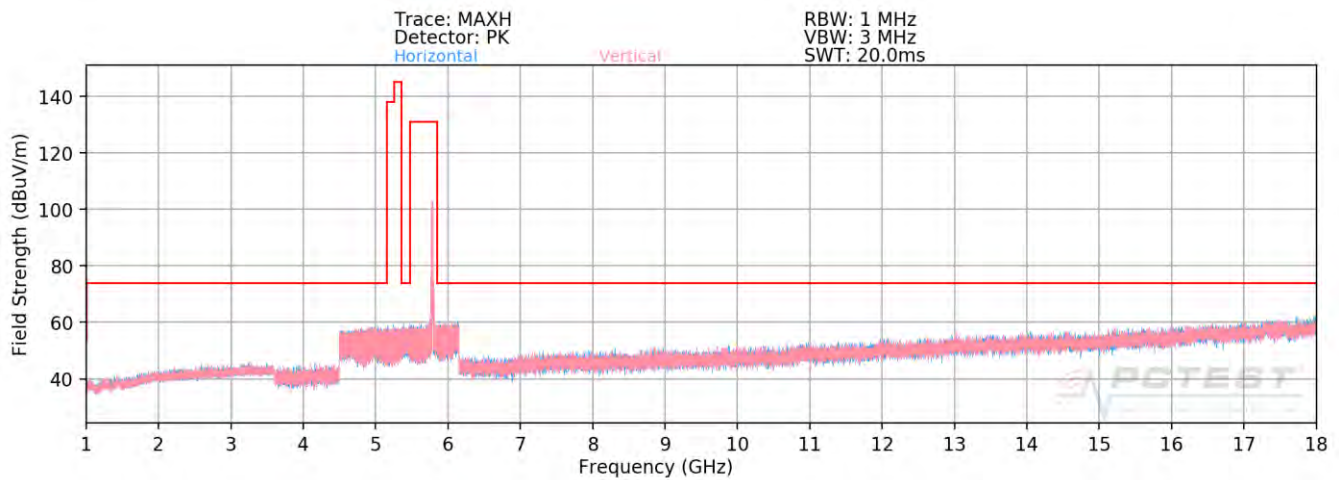


Plot 7-182. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2A Ch. 56 – 242 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 161 of 194



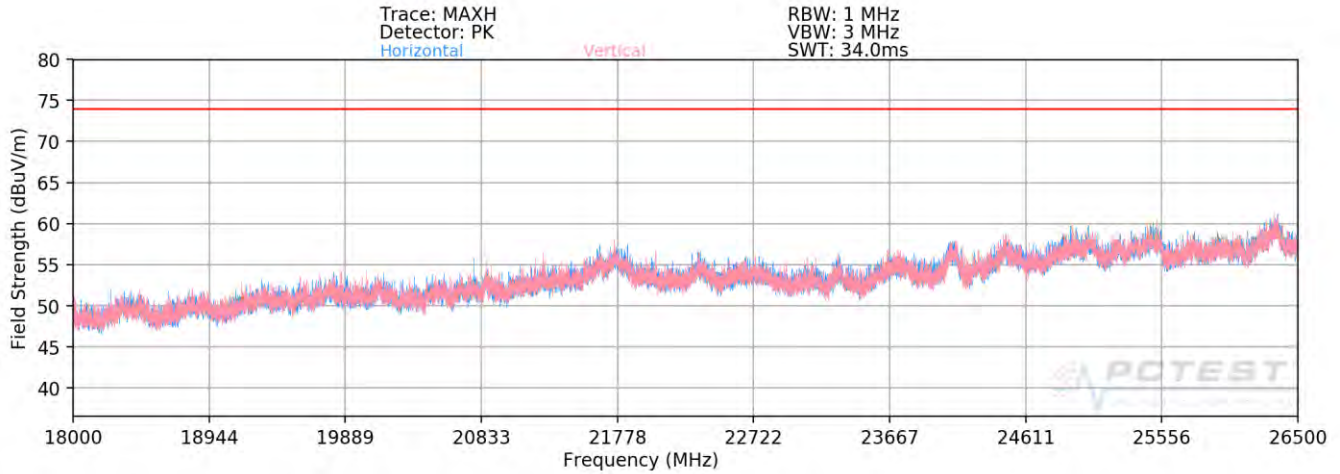
Plot 7-183. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U2C Ch. 120 – 242 Tones)



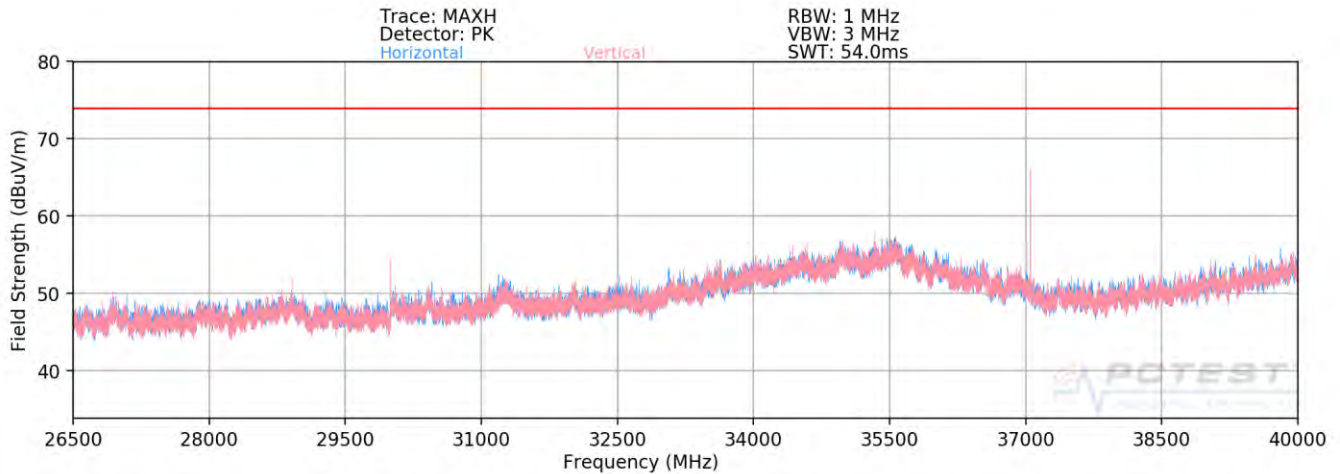
Plot 7-184. Radiated Spurious Plot above 1GHz SISO ANT2 (802.11ax – U3 Ch. 157 – 242 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 162 of 194

SISO Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz)



Plot 7-185. Radiated Spurious Plot above 18GHz - 26.5GHz SISO ANT2 (802.11ax – 242 Tones)



Plot 7-186. Radiated Spurious Plot 26.5GHz - 40GHz SISO ANT2 (802.11ax – 242 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 163 of 194

SISO Antenna-2 Radiated Spurious Emission Measurements

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5180MHz
Channel: 36

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10360.00	Peak	H	115	15	-65.87	12.74	0.00	53.87	68.20	-14.33
* 15540.00	Average	H	-	-	-80.35	15.28	0.00	41.93	53.98	-12.05
* 15540.00	Peak	H	-	-	-66.43	15.28	0.00	55.85	73.98	-18.13
* 20720.00	Average	H	-	-	-77.90	17.17	-9.54	36.72	53.98	-17.26
* 20720.00	Peak	H	-	-	-66.64	17.17	-9.54	47.98	73.98	-26.00
25900.00	Peak	H	-	-	-65.50	19.93	-9.54	51.88	68.20	-16.32

Table 7-94. Radiated Measurements SISO ANT2 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 1 & 3 Meters
Operating Frequency: 5200MHz
Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10400.00	Peak	H	123	21	-63.24	12.24	0.00	56.00	68.20	-12.20
* 15600.00	Average	H	-	-	-80.54	15.40	0.00	41.86	53.98	-12.11
* 15600.00	Peak	H	-	-	-66.47	15.40	0.00	55.93	73.98	-18.04
* 20800.00	Average	H	-	-	-78.23	17.65	-9.54	36.88	53.98	-17.10
* 20800.00	Peak	H	-	-	-66.09	17.65	-9.54	49.02	73.98	-24.96
26000.00	Peak	H	-	-	-65.67	20.68	-9.54	52.47	68.20	-15.73

Table 7-95. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 164 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	118	19	-65.18	12.41	0.00	54.23	68.20	-13.97
* 15720.00	Average	H	-	-	-80.22	16.70	0.00	43.48	53.98	-10.50
* 15720.00	Peak	H	-	-	-66.08	16.70	0.00	57.62	73.98	-16.36
* 20960.00	Average	H	-	-	-78.08	17.53	-9.54	36.91	53.98	-17.07
* 20960.00	Peak	H	-	-	-65.97	17.53	-9.54	49.02	73.98	-24.96
* 26200.00	Peak	H	-	-	-66.14	20.23	-9.54	51.55	68.20	-16.65

Table 7-96. Radiated Measurements SISO ANT2 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5260MHz
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	114	47	-65.46	13.16	0.00	54.70	68.20	-13.50
* 15780.00	Average	H	-	-	-80.65	16.21	0.00	42.56	53.98	-11.42
* 15780.00	Peak	H	-	-	-66.30	16.21	0.00	56.91	73.98	-17.07
* 21040.00	Average	H	-	-	-77.83	17.48	-9.54	37.10	53.98	-16.88
* 21040.00	Peak	H	-	-	-66.50	17.48	-9.54	48.43	73.98	-25.55
* 26300.00	Peak	H	-	-	-64.76	20.33	-9.54	53.03	68.20	-15.17

Table 7-97. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 165 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	124	22	-65.93	13.66	0.00	54.73	68.20	-13.47
* 15840.00	Average	H	-	-	-81.65	15.64	0.00	40.99	53.98	-12.99
* 15840.00	Peak	H	-	-	-66.21	15.64	0.00	56.43	73.98	-17.55
* 21120.00	Average	H	-	-	-77.63	17.27	-9.54	37.09	53.98	-16.88
* 21120.00	Peak	H	-	-	-66.24	17.27	-9.54	48.48	73.98	-25.49
26400.00	Peak	H	-	-	-65.65	20.27	-9.54	52.08	68.20	-16.12

Table 7-98. Radiated Measurements SISO ANT2 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5320MHz
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	120	30	-79.70	14.15	0.00	41.45	53.98	-12.53
* 10640.00	Peak	H	-	-	-68.10	14.15	0.00	53.05	73.98	-20.93
* 15960.00	Average	H	-	-	-78.05	15.01	0.00	43.96	53.98	-10.02
* 15960.00	Peak	H	-	-	-65.50	15.01	0.00	56.51	73.98	-17.47
* 21280.00	Average	H	-	-	-77.06	17.58	-9.54	37.98	53.98	-16.00
* 21280.00	Peak	H	-	-	-66.31	17.58	-9.54	48.73	73.98	-25.25
26600.00	Peak	H	-	-	-52.09	3.11	-9.54	48.48	68.20	-19.72

Table 7-99. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 166 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	116	34	-81.00	13.55	0.00	39.55	53.98	-14.43
* 11000.00	Peak	H	116	34	-68.61	13.55	0.00	51.94	73.98	-22.04
16500.00	Peak	H	-	-	-65.15	16.10	0.00	57.95	68.20	-10.25
22000.00	Peak	H	-	-	-66.22	18.05	-9.54	49.29	68.20	-18.91
27500.00	Peak	H	-	-	-50.76	2.08	-9.54	48.78	68.20	-19.42

Table 7-100. Radiated Measurements SISO ANT2 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5600MHz
 Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	121	33	-79.77	13.31	0.00	40.54	53.98	-13.44
* 11200.00	Peak	H	121	33	-69.30	13.31	0.00	51.01	73.98	-22.97
16800.00	Peak	H	-	-	-65.54	17.53	0.00	58.99	68.20	-9.21
* 22400.00	Average	H	-	-	-77.68	19.05	-9.54	38.83	53.98	-15.15
* 22400.00	Peak	H	-	-	-66.72	19.05	-9.54	49.79	73.98	-24.19
28000.00	Peak	H	-	-	-50.46	3.19	-9.54	50.18	68.20	-18.02

Table 7-101. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 167 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5720MHz
 Channel: 144

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	123	17	-79.53	15.10	0.00	42.57	53.98	-11.41
* 11440.00	Peak	H	123	17	-67.42	15.10	0.00	54.68	73.98	-19.30
17160.00	Peak	H	-	-	-64.95	18.83	0.00	60.88	68.20	-7.32
* 22880.00	Average	H	-	-	-78.04	18.60	-9.54	38.01	53.98	-15.97
* 22880.00	Peak	H	-	-	-67.06	18.60	-9.54	48.99	73.98	-24.99
28600.00	Peak	H	-	-	-50.55	1.74	-9.54	48.64	68.20	-19.56

Table 7-102. Radiated Measurements SISO ANT2 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5745MHz
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	136	21	-80.29	15.22	0.00	41.93	53.98	-12.05
* 11490.00	Peak	H	136	21	-68.92	15.22	0.00	53.30	73.98	-20.68
17235.00	Peak	H	-	-	-65.40	19.54	0.00	61.14	68.20	-7.06
* 22980.00	Average	H	-	-	-77.74	18.46	-9.54	38.18	53.98	-15.80
* 22980.00	Peak	H	-	-	-67.09	18.46	-9.54	48.83	73.98	-25.15
28725.00	Peak	H	-	-	-50.57	2.47	-9.54	49.36	68.20	-18.84

Table 7-103. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG977KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 168 of 194

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5785MHz
 Channel: 157

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	127	37	-79.93	15.02	0.00	42.09	53.98	-11.89
* 11570.00	Peak	H	127	37	-69.54	15.02	0.00	52.48	73.98	-21.50
17355.00	Peak	H	-	-	-65.71	23.41	0.00	64.70	68.20	-3.50
23140.00	Peak	H	-	-	-67.24	18.84	-9.54	49.06	68.20	-19.14
28925.00	Peak	H	-	-	-50.94	2.80	-9.54	49.32	68.20	-18.88

Table 7-104. Radiated Measurements SISO ANT2 (242 Tones)

Worst Case Mode: 802.11ax (20MHz BW)
 Worst Case Transfer Rate: MCS0
 RU Index: 61
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	123	30	-78.46	14.92	0.00	43.46	53.98	-10.52
* 11650.00	Peak	H	123	30	-67.58	14.92	0.00	54.34	73.98	-19.64
17475.00	Peak	H	-	-	-64.55	21.86	0.00	64.31	68.20	-3.89
23300.00	Peak	H	-	-	-67.03	19.55	-9.54	49.97	68.20	-18.23
29125.00	Peak	H	-	-	-50.56	1.07	-9.54	47.97	68.20	-20.23

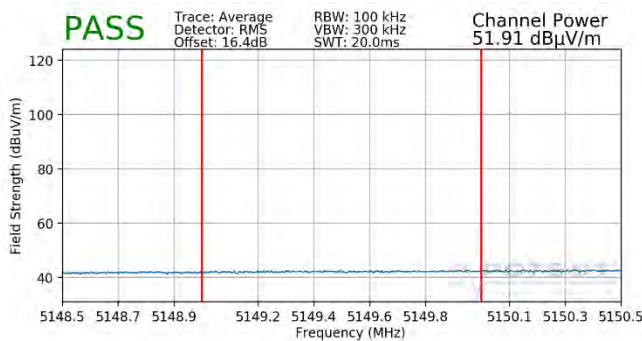
Table 7-105. Radiated Measurements SISO ANT2 (242 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 169 of 194

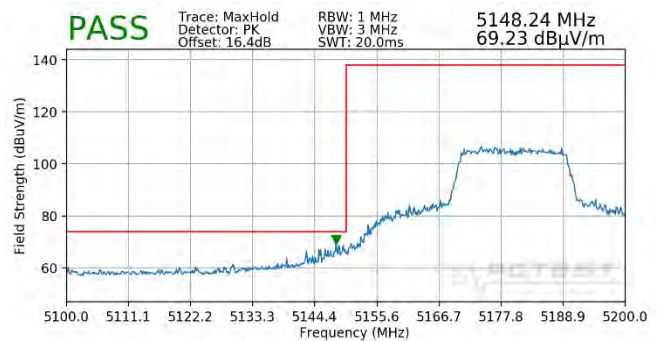
6.6.3 SISO Antenna-1 Radiated Band Edge Measurements (20MHz BW) §15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]; RSS-Gen [8.9]

242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

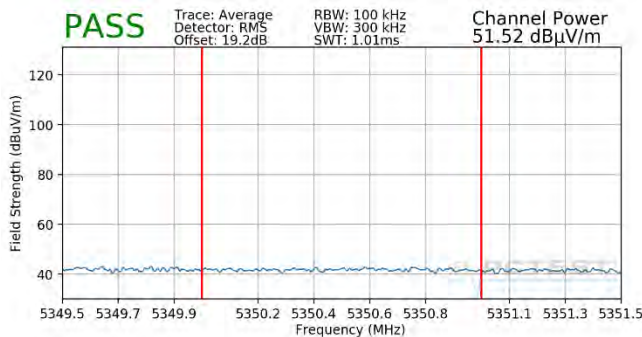


Plot 7-187. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 242 Tones)

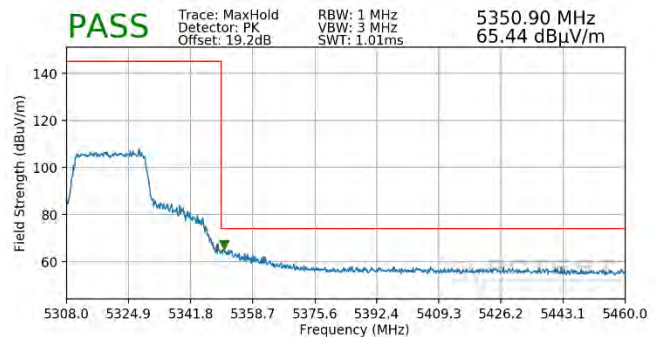


Plot 7-188. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 242 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



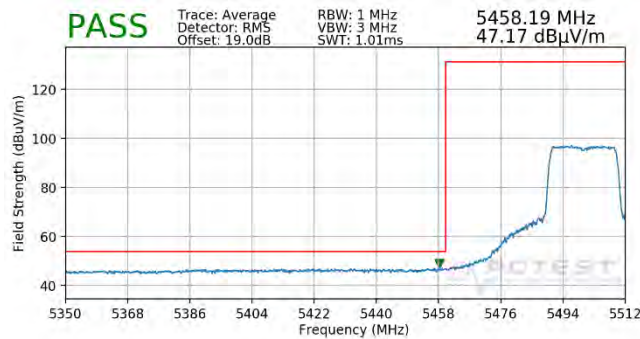
Plot 7-189. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 242 Tones)



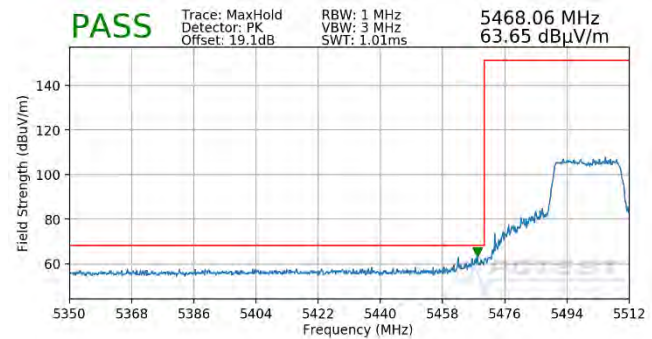
Plot 7-190. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 242 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 170 of 194

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5500MHz
Channel: 100

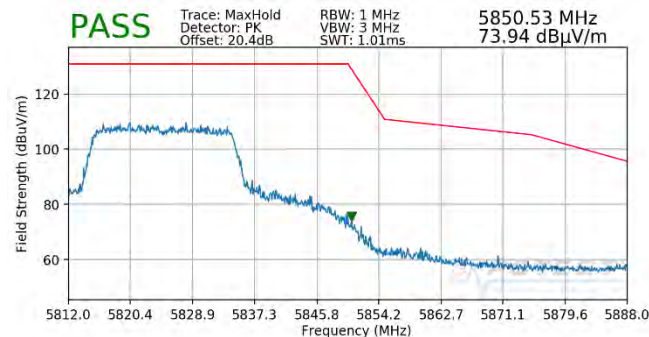


Plot 7-191. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 242 Tones)



Plot 7-192. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C – 242 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5825MHz
Channel: 165



Plot 7-193. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 242 Tones)

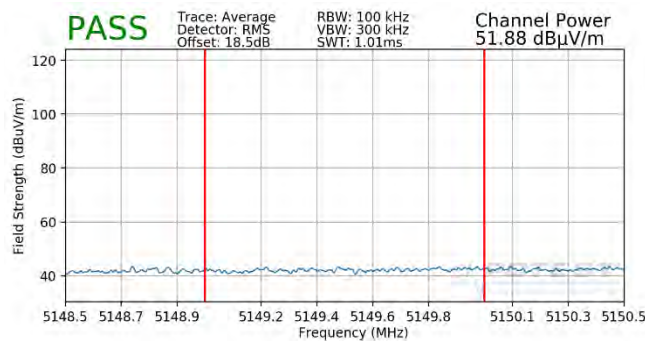
FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 171 of 194

6.6.4 SISO Antenna-1 Radiated Band Edge Measurements (40MHz BW)

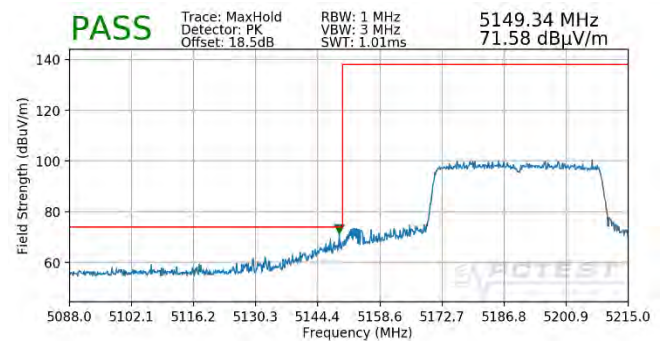
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

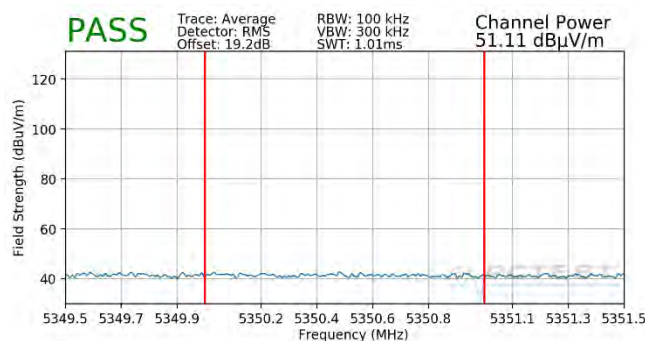


Plot 7-194. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 484 Tones)

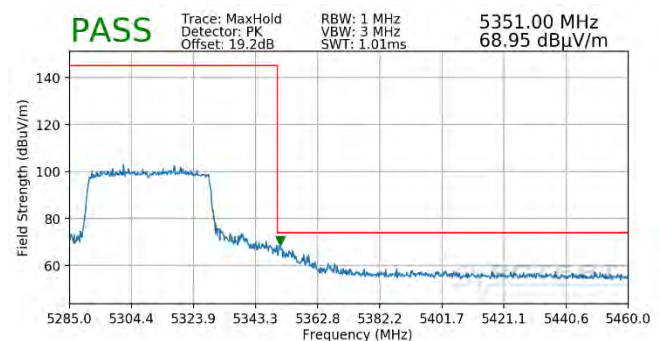


Plot 7-195. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 484 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	6



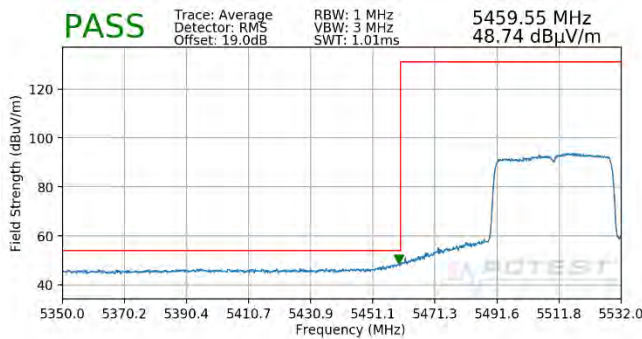
Plot 7-196. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 484 Tones)



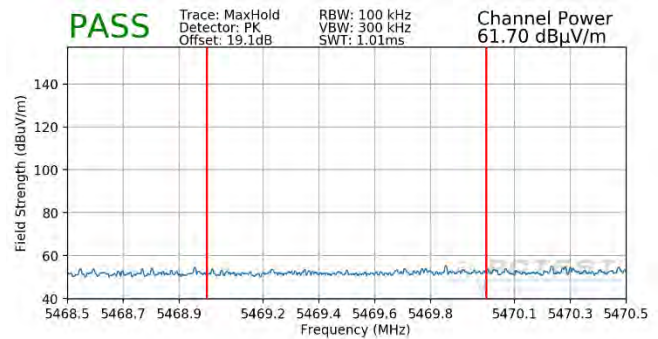
Plot 7-197. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 484 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 172 of 194

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

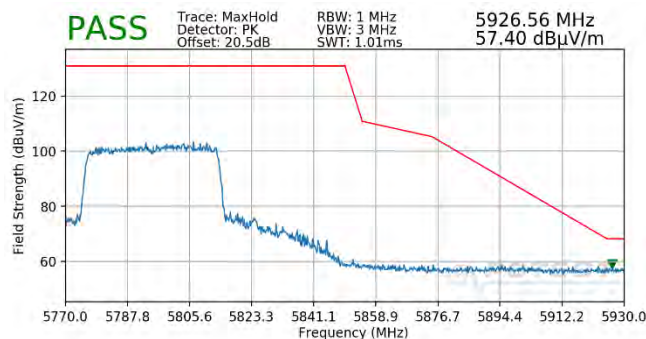


Plot 7-198. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 484 Tones)



Plot 7-199. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C – 484 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159



Plot 7-200. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 484 Tones)

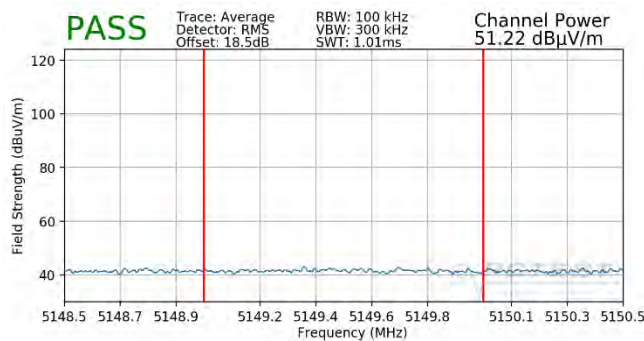
FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 173 of 194

6.6.5 SISO Antenna-1 Radiated Band Edge Measurements (80MHz BW)

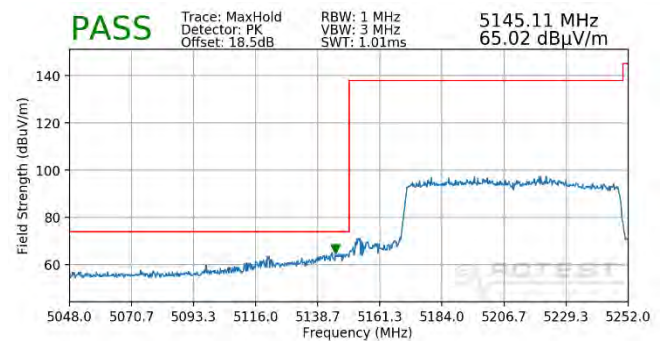
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

996 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

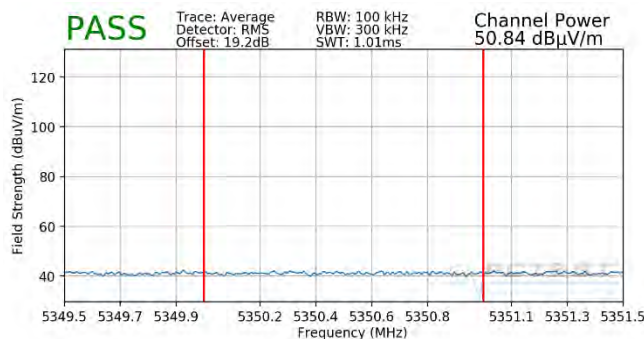


Plot 7-201. Radiated Lower Band Edge Plot SISO ANT1 (Average - UNII Band 1 - 996 Tones)

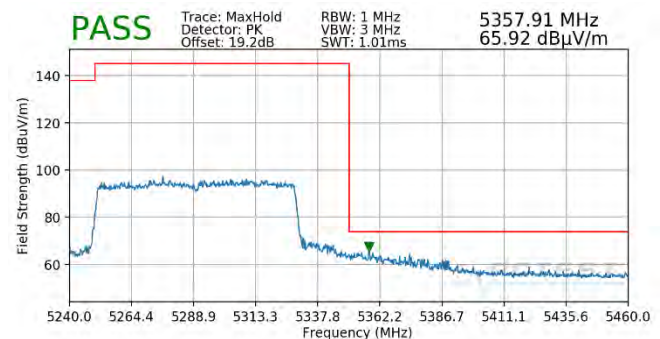


Plot 7-202. Radiated Lower Band Edge Plot SISO ANT1 (Peak - UNII Band 1 - 996 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



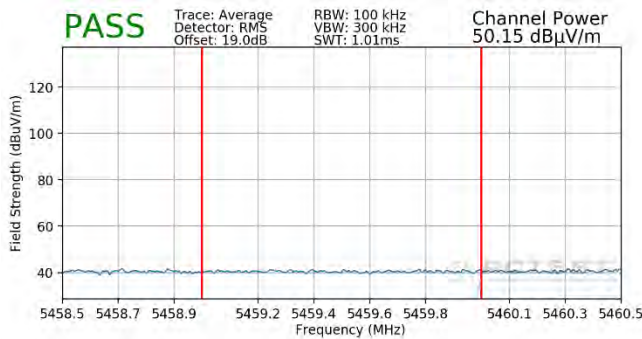
Plot 7-203. Radiated Upper Band Edge Plot SISO ANT1 (Average - UNII Band 2A - 996 Tones)



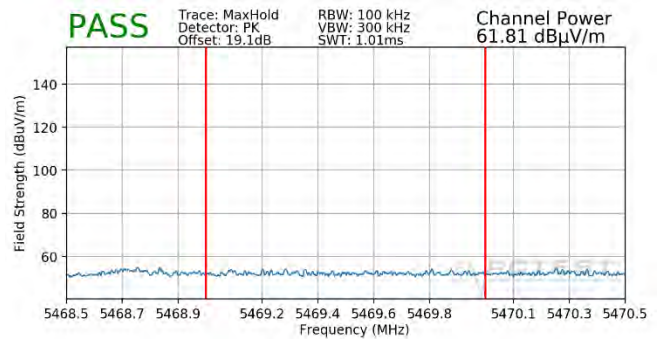
Plot 7-204. Radiated Upper Band Edge Plot SISO ANT1 (Peak - UNII Band 2A - 996 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 174 of 194

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 67
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106

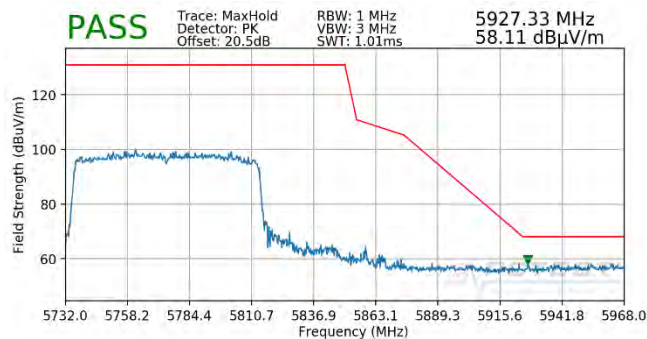


Plot 7-205. Radiated Lower Band Edge Plot SISO ANT1 (Average – UNII Band 2C – 996 Tones)



Plot 7-206. Radiated Lower Band Edge Plot SISO ANT1 (Peak – UNII Band 2C – 996 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 67
Distance of Measurements: 3 Meters
Operating Frequency: 5775MHz
Channel: 155



Plot 7-207. Radiated Upper Band Edge Plot SISO ANT1 (Peak – UNII Band 3 – 996 Tones)

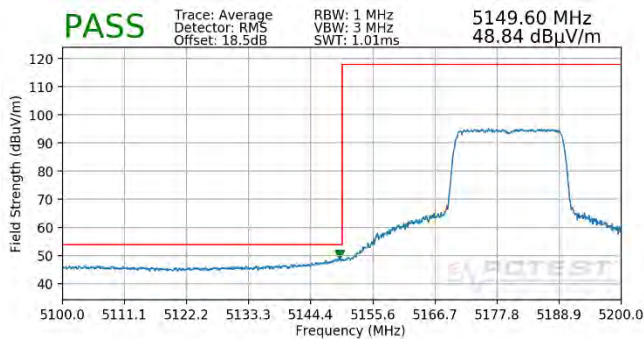
FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901160006-15.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset		Page 175 of 194

6.6.6 SISO Antenna-2 Radiated Band Edge Measurements (20MHz BW)

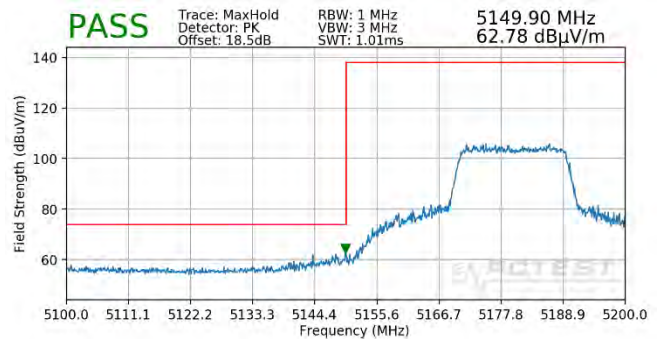
\$15.407(b.1)(b.2) \$15.205 \$15.209; RSS-Gen [8.9]

242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

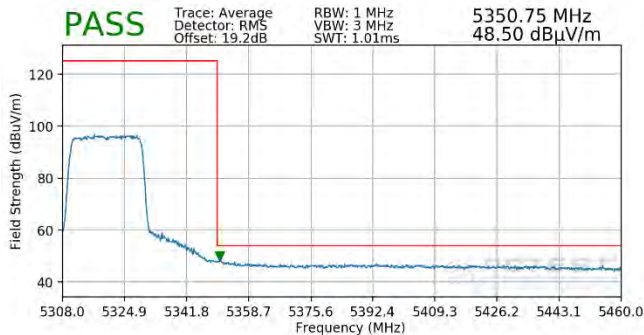


Plot 7-208. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 242 Tones)

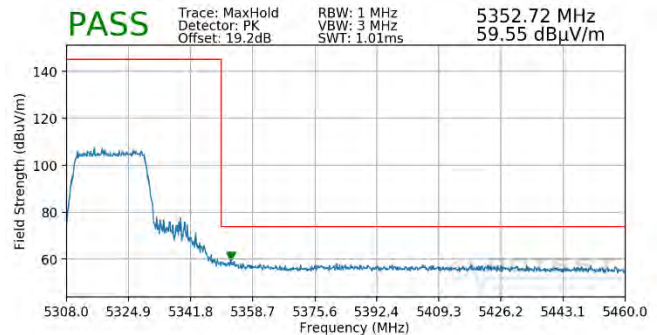


Plot 7-209. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 242 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Plot 7-210. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 242 Tones)



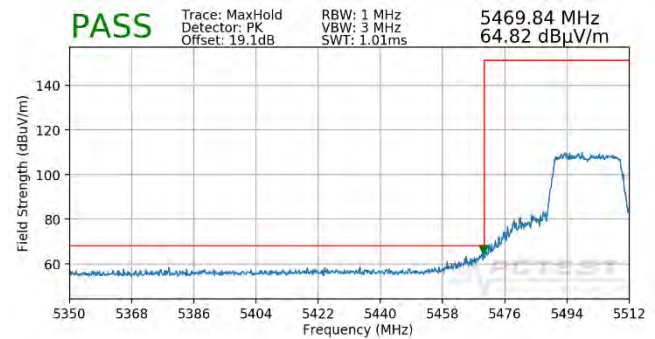
Plot 7-211. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 242 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901160006-06.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 176 of 194

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5500MHz
Channel: 100

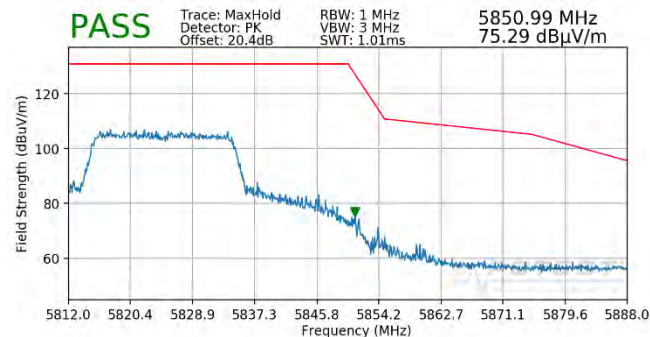


Plot 7-212. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 242 Tones)



Plot 7-213. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 242 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5825MHz
Channel: 165



Plot 7-214. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 242 Tones)

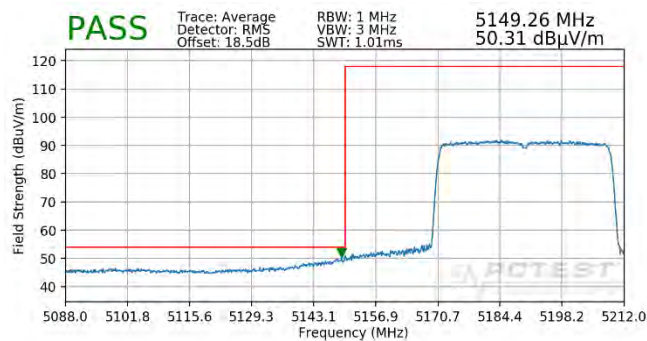
FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-06.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 177 of 194

6.6.7 SISO Antenna-2 Radiated Band Edge Measurements (40MHz BW)

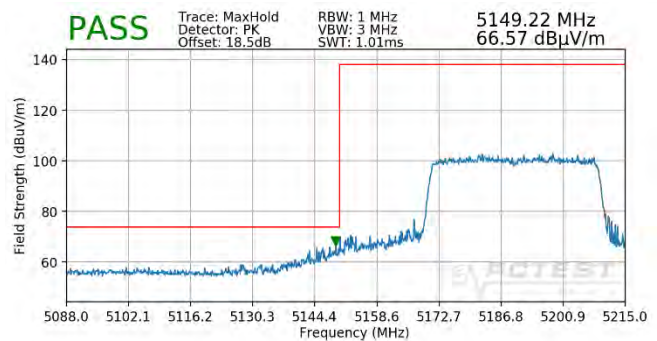
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

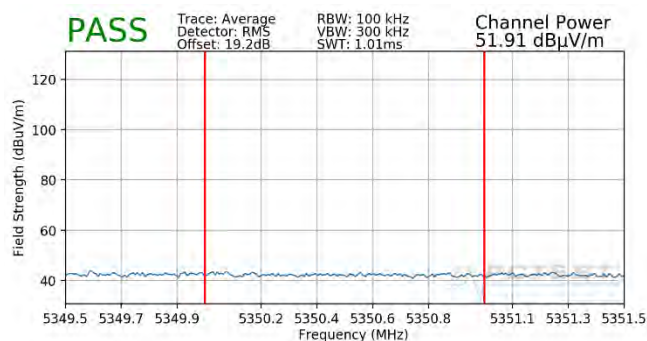


Plot 7-215. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 1 – 484 Tones)

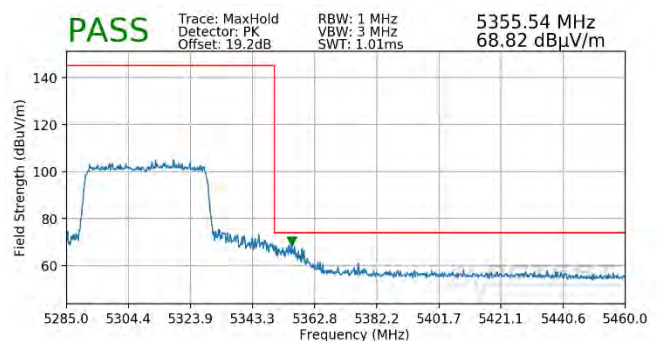


Plot 7-216. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 1 – 484 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



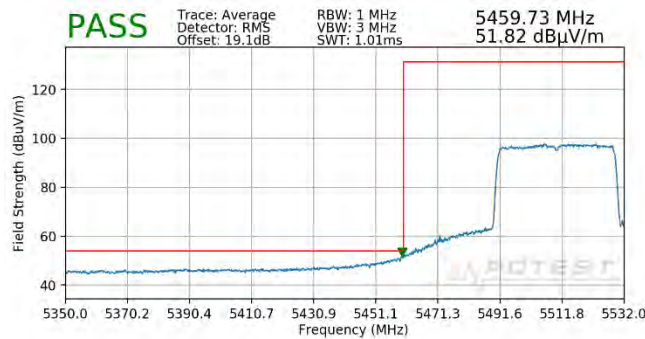
Plot 7-217. Radiated Upper Band Edge Plot SISO ANT2 (Average – UNII Band 2A – 484 Tones)



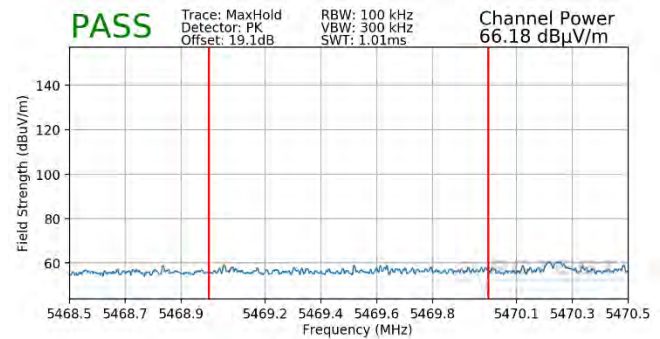
Plot 7-218. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 2A – 484 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-06.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 178 of 194

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

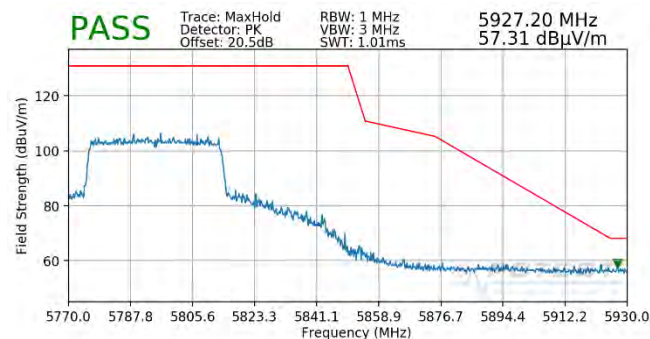


Plot 7-219. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 484 Tones)



Plot 7-220. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 484 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159



Plot 7-221. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 484 Tones)

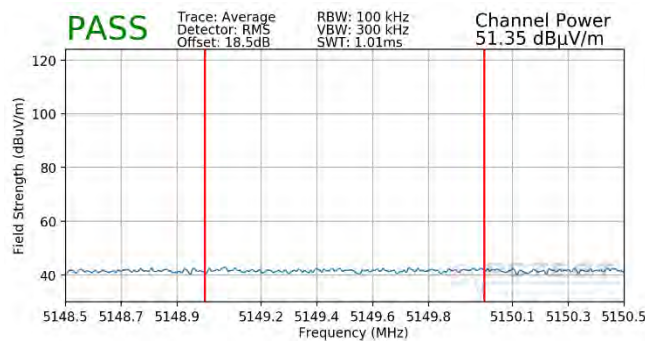
FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-06.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 179 of 194

6.6.8 SISO Antenna-2 Radiated Band Edge Measurements (80MHz BW)

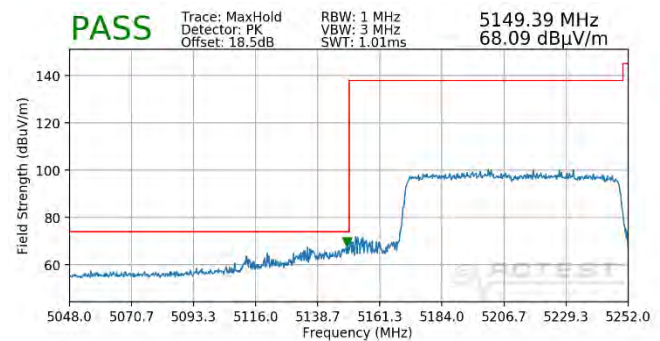
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5210MHz
Channel:	42

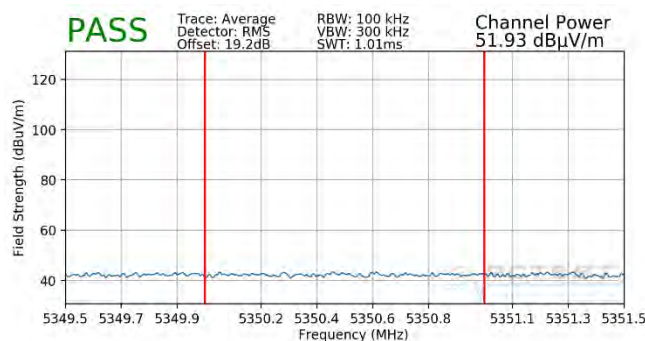


Plot 7-222. Radiated Lower Band Edge Plot SISO ANT2 (Average - UNII Band 1 - 996 Tones)

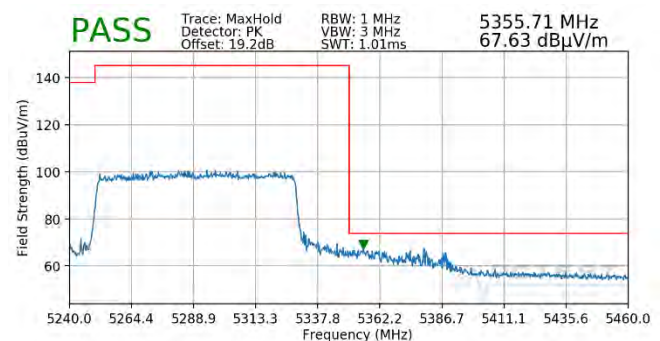


Plot 7-223. Radiated Lower Band Edge Plot SISO ANT2 (Peak - UNII Band 1 - 996 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	67
Distance of Measurements:	3 Meters
Operating Frequency:	5290MHz
Channel:	58



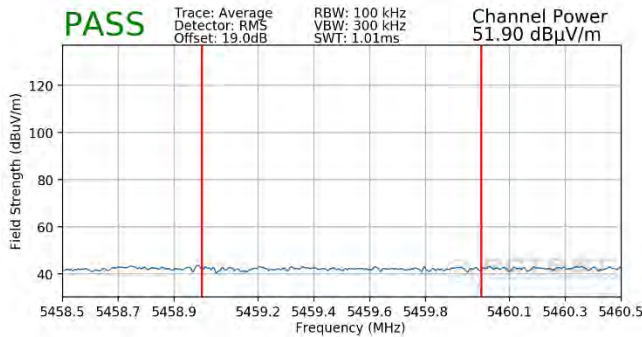
Plot 7-224. Radiated Upper Band Edge Plot SISO ANT2 (Average - UNII Band 2A - 996 Tones)



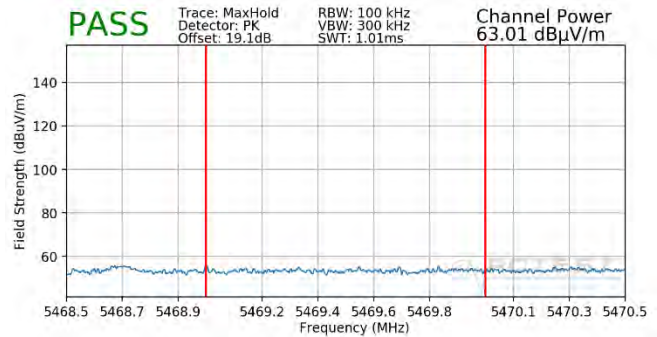
Plot 7-225. Radiated Upper Band Edge Plot SISO ANT2 (Peak - UNII Band 2A - 996 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-06.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 180 of 194

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 67
Distance of Measurements: 3 Meters
Operating Frequency: 5530MHz
Channel: 106

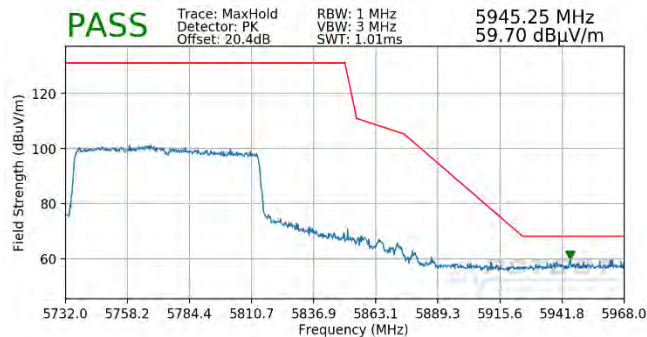


Plot 7-226. Radiated Lower Band Edge Plot SISO ANT2 (Average – UNII Band 2C – 996 Tones)



Plot 7-227. Radiated Lower Band Edge Plot SISO ANT2 (Peak – UNII Band 2C – 996 Tones)

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 67
Distance of Measurements: 3 Meters
Operating Frequency: 5775MHz
Channel: 155



Plot 7-228. Radiated Upper Band Edge Plot SISO ANT2 (Peak – UNII Band 3 – 996 Tones)

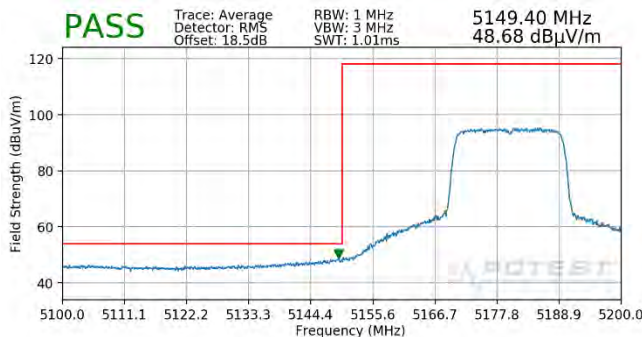
FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-06.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 181 of 194

6.6.9 MIMO Radiated Band Edge Measurements (20MHz BW)

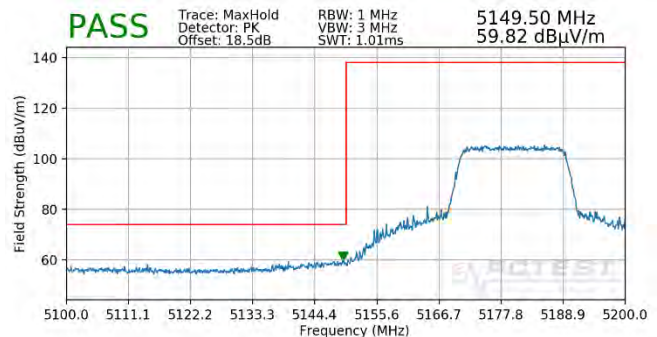
\$15.407(b.1)(b.2) \$15.205 \$15.209; RSS-Gen [8.9]

242 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

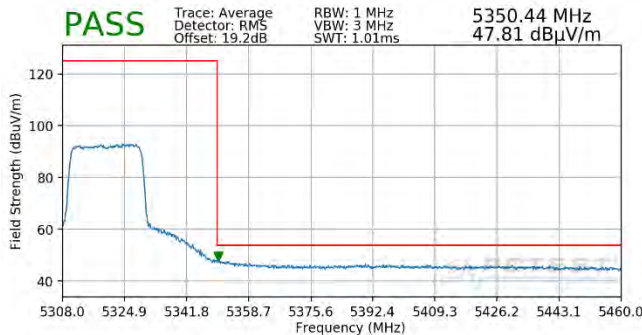


Plot 7-229. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 242 Tones)

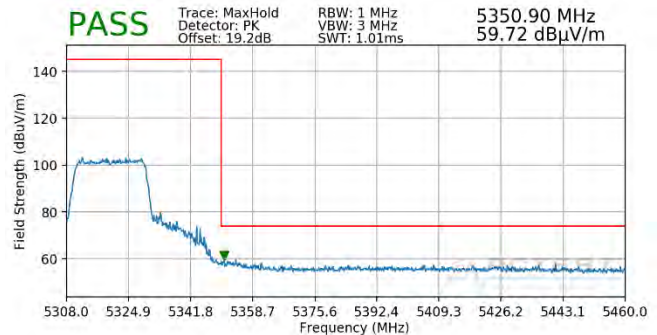


Plot 7-230. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1 – 242 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



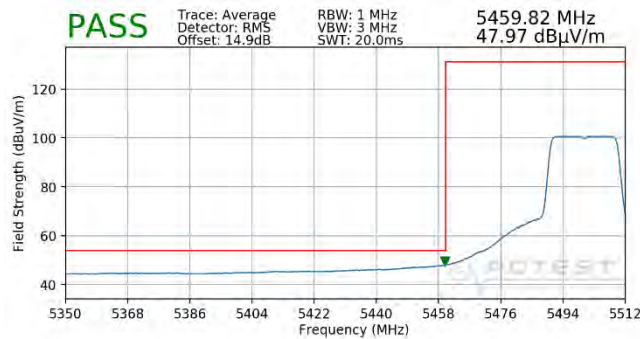
Plot 7-231. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A – 242 Tones)



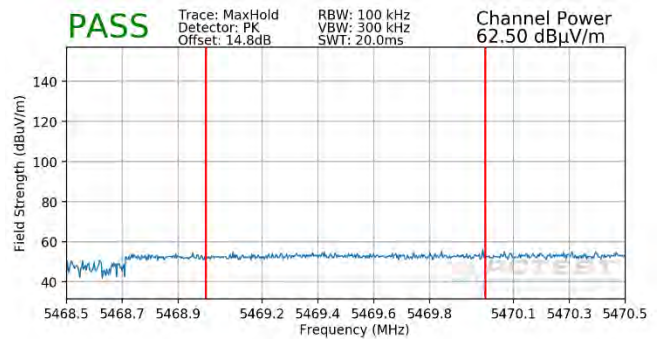
Plot 7-232. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 242 Tones)

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-06.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 182 of 194

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5500MHz
Channel: 100

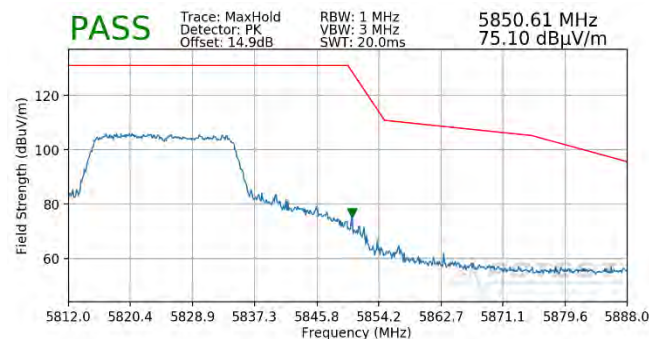


**Plot 7-233. Radiated Lower Band Edge Plot MIMO
(Average – UNII Band 2C – 242 Tones)**



**Plot 7-234. Radiated Lower Band Edge Plot MIMO
(Peak – UNII Band 2C – 242 Tones)**

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 61
Distance of Measurements: 3 Meters
Operating Frequency: 5825MHz
Channel: 165



**Plot 7-235. Radiated Upper Band Edge Plot MIMO
(Peak – UNII Band 3 – 242 Tones)**

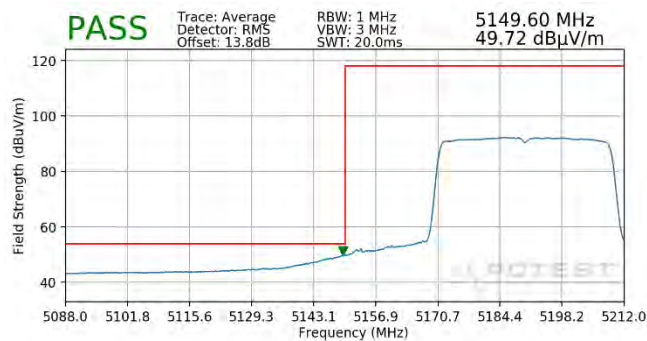
FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-06.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 183 of 194

6.6.10 MIMO Radiated Band Edge Measurements (40MHz BW)

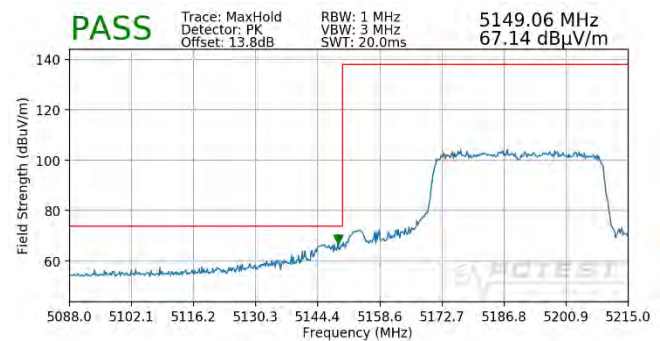
§15.407(b.1)(b.2) §15.205 §15.209; RSS-Gen [8.9]

484 Tones

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5190MHz
Channel:	38

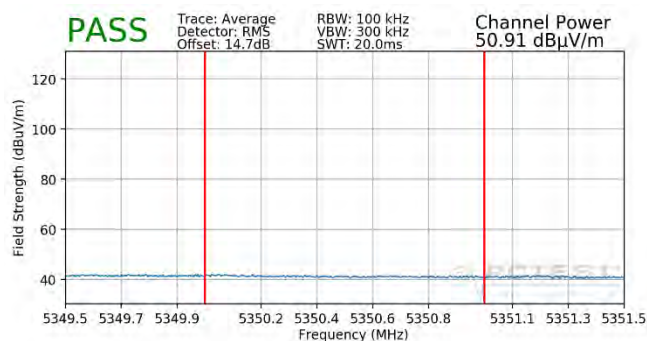


Plot 7-236. Radiated Lower Band Edge Plot MIMO (Average – UNII Band 1 – 484 Tones)

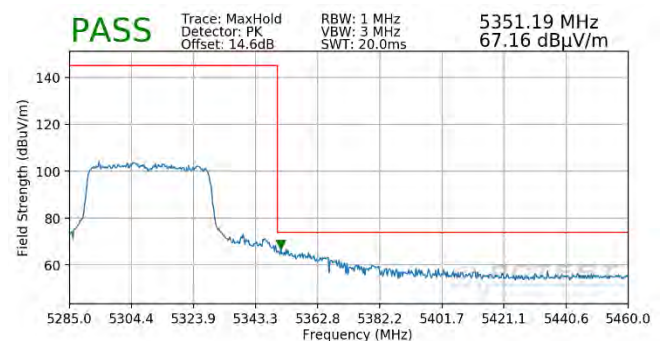


Plot 7-237. Radiated Lower Band Edge Plot MIMO (Peak – UNII Band 1 – 484 Tones)

Worst Case Mode:	802.11ax
Worst Case Transfer Rate:	MCS0
RU Index:	65
Distance of Measurements:	3 Meters
Operating Frequency:	5310MHz
Channel:	62



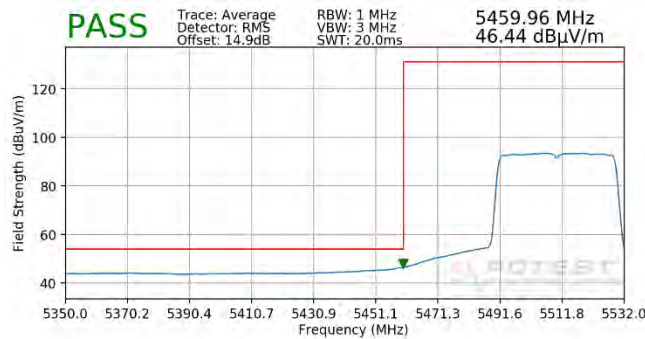
Plot 7-238. Radiated Upper Band Edge Plot MIMO (Average – UNII Band 2A – 484 Tones)



Plot 7-239. Radiated Upper Band Edge Plot MIMO (Peak – UNII Band 2A – 484 Tones)

FCC ID: A3LSMG977KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1901160006-06.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 184 of 194

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5510MHz
Channel: 102

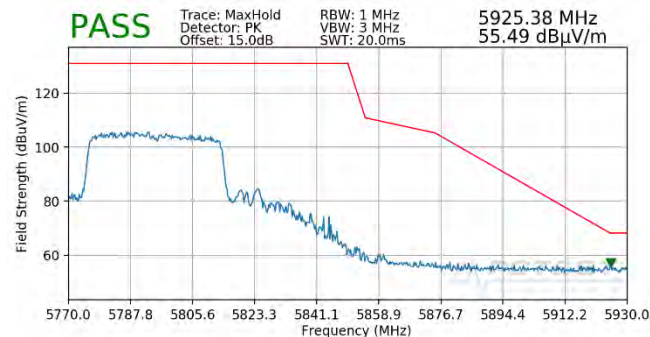


**Plot 7-240. Radiated Lower Band Edge Plot MIMO
(Average – UNII Band 2C – 484 Tones)**



**Plot 7-241. Radiated Lower Band Edge Plot MIMO
(Peak – UNII Band 2C – 484 Tones)**

Worst Case Mode: 802.11ax
Worst Case Transfer Rate: MCS0
RU Index: 65
Distance of Measurements: 3 Meters
Operating Frequency: 5795MHz
Channel: 159



**Plot 7-242. Radiated Upper Band Edge Plot MIMO
(Peak – UNII Band 3 – 484 Tones)**

FCC ID: A3LSMG977KOR	 MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901160006-06.A3L	Test Dates: 1/16-3/14/2019	EUT Type: Portable Handset	Page 185 of 194