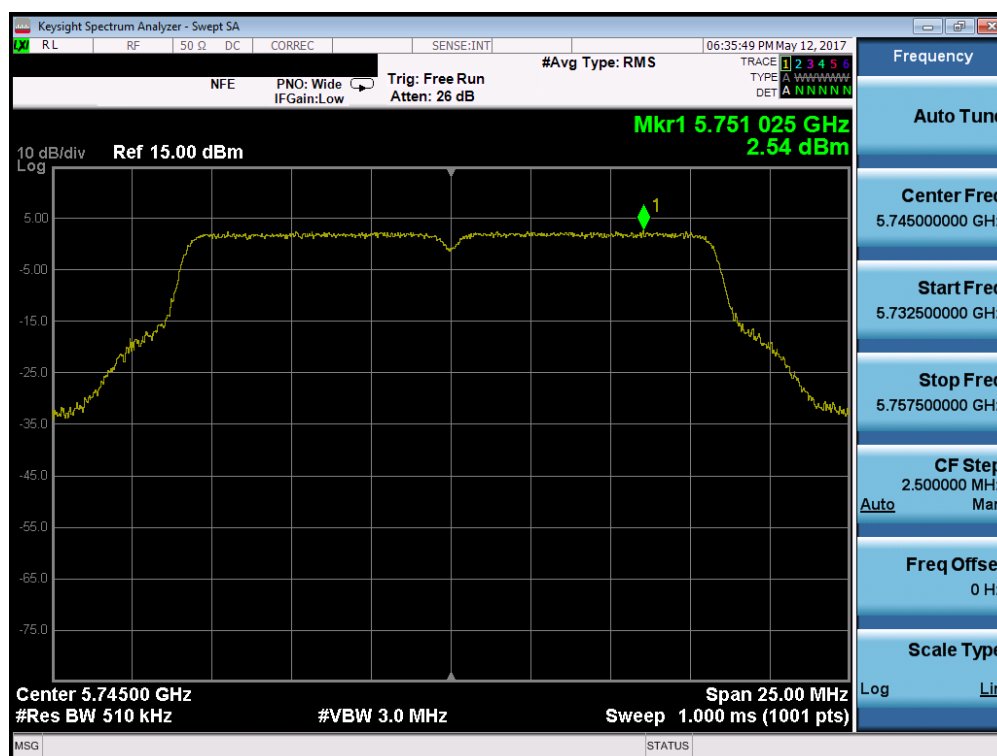


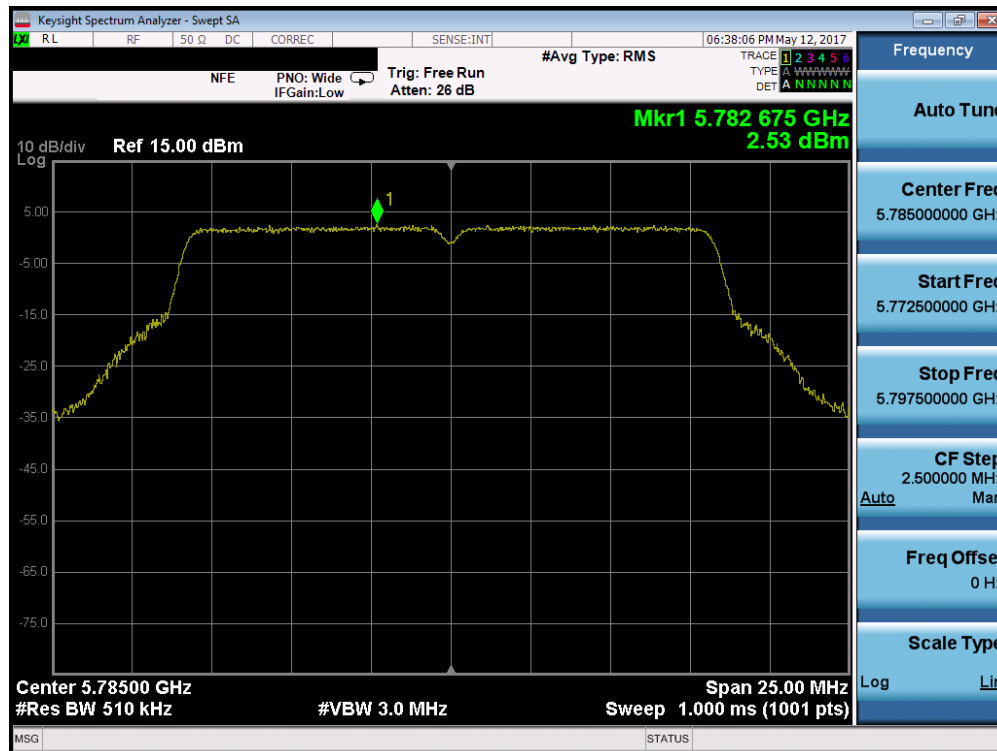
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Pass / Fail
Band 3	5745	149	a	6	2.54	30.0	-27.46	Pass
	5785	157	a	6	2.53	30.0	-27.47	Pass
	5825	165	a	6	2.69	30.0	-27.31	Pass
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	1.34	30.0	-28.66	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	1.42	30.0	-28.58	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	1.56	30.0	-28.44	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-3.15	30.0	-33.15	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-3.29	30.0	-33.29	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-5.14	30.0	-35.14	Pass

Table 7-19. Band 3 Conducted Power Spectral Density Measurements

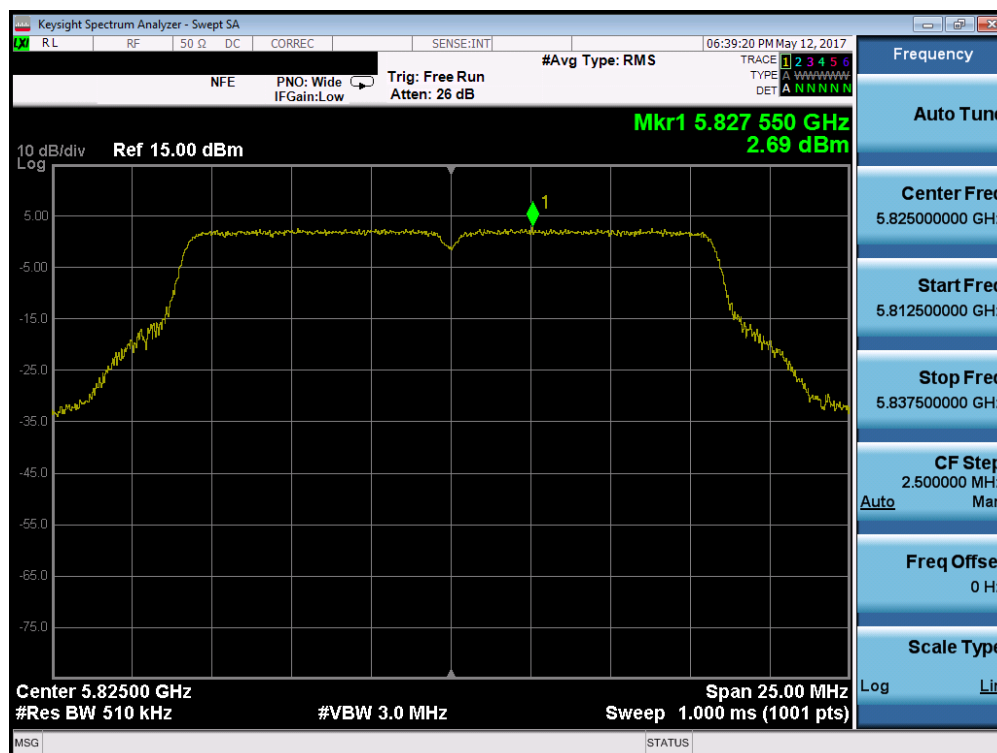


Plot 7-109. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 81 of 228

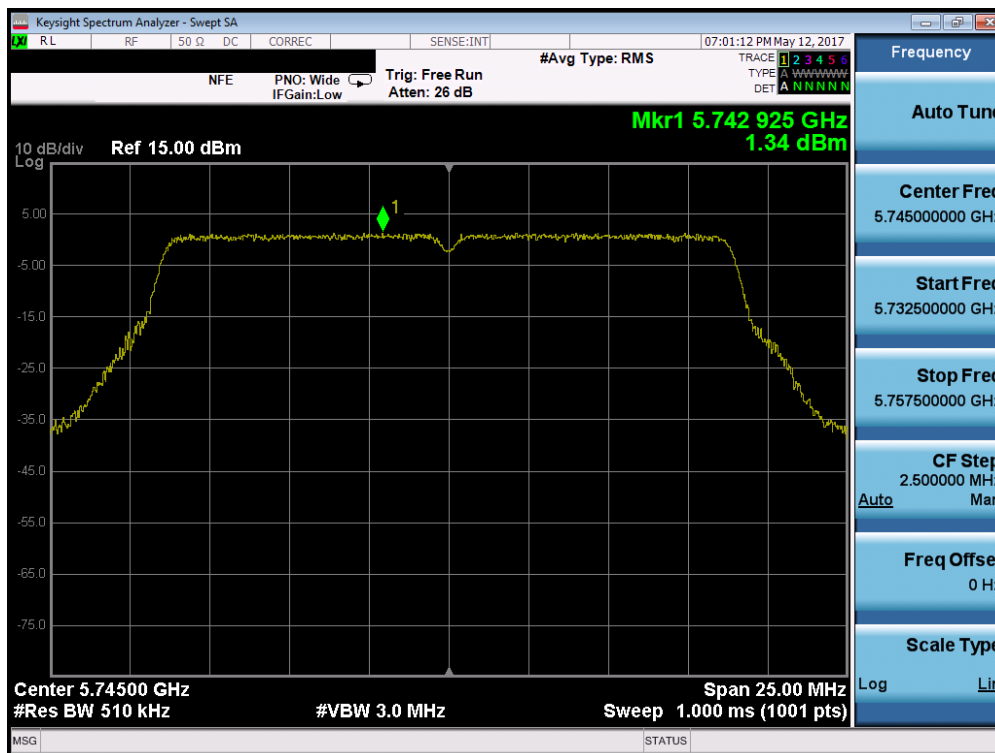


Plot 7-110. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 157)

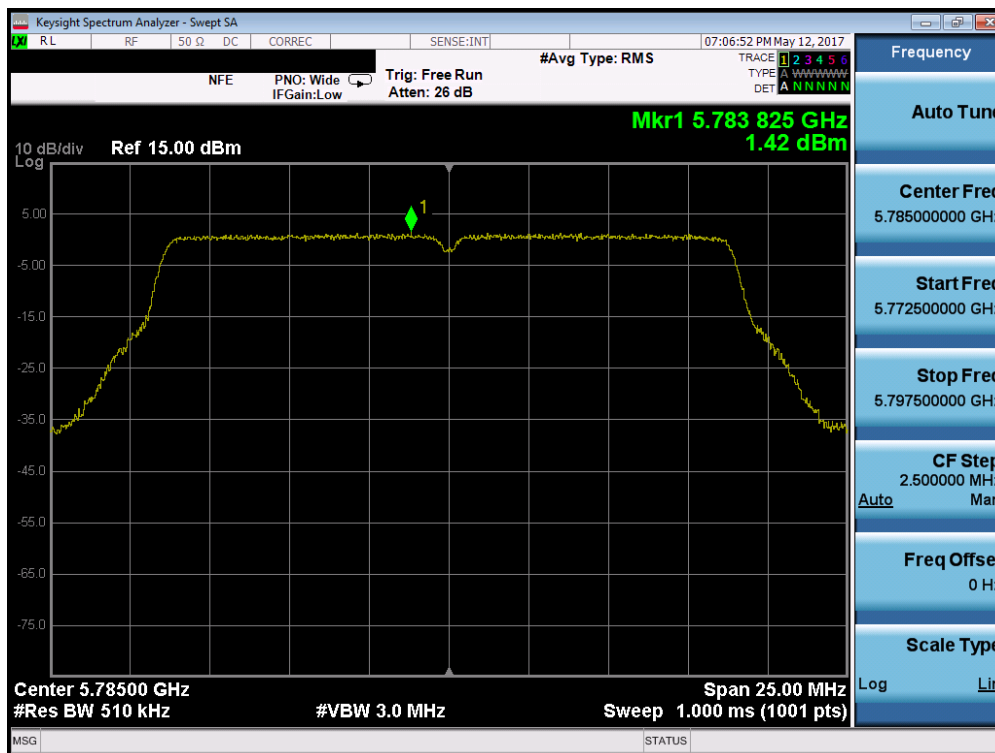


Plot 7-111. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 82 of 228

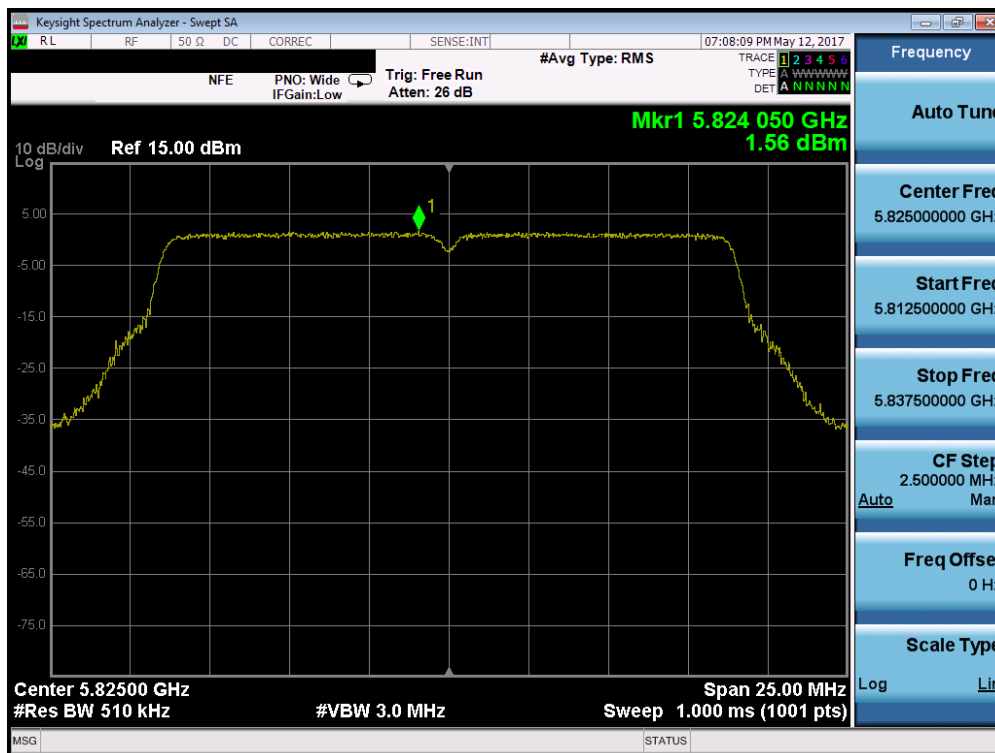


Plot 7-112. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 149)

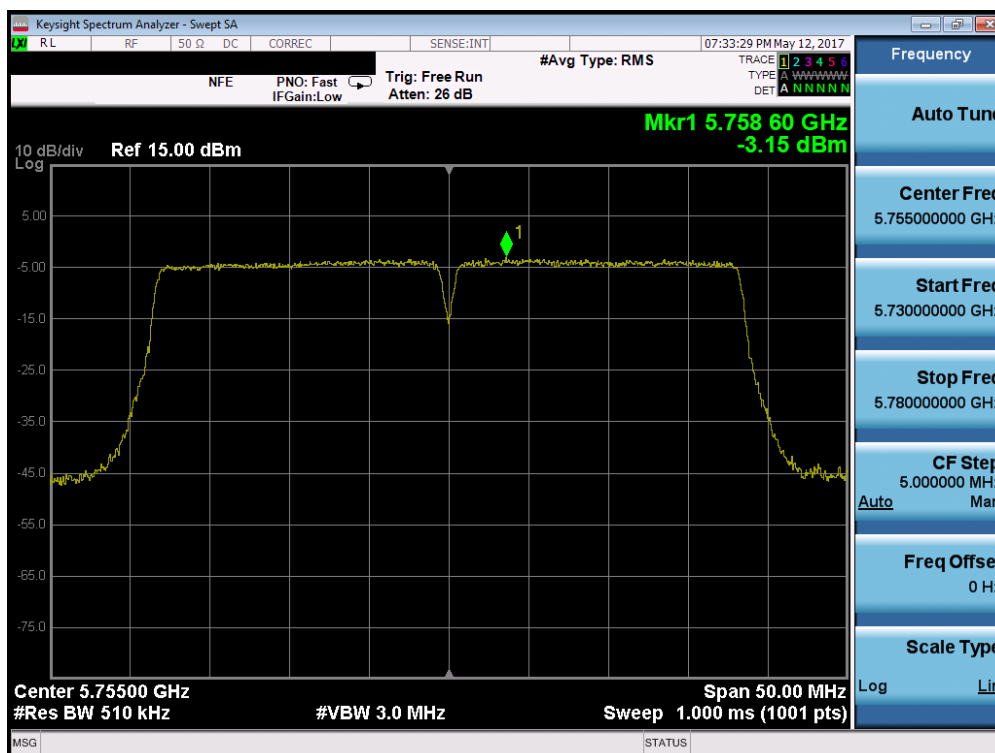


Plot 7-113. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 83 of 228

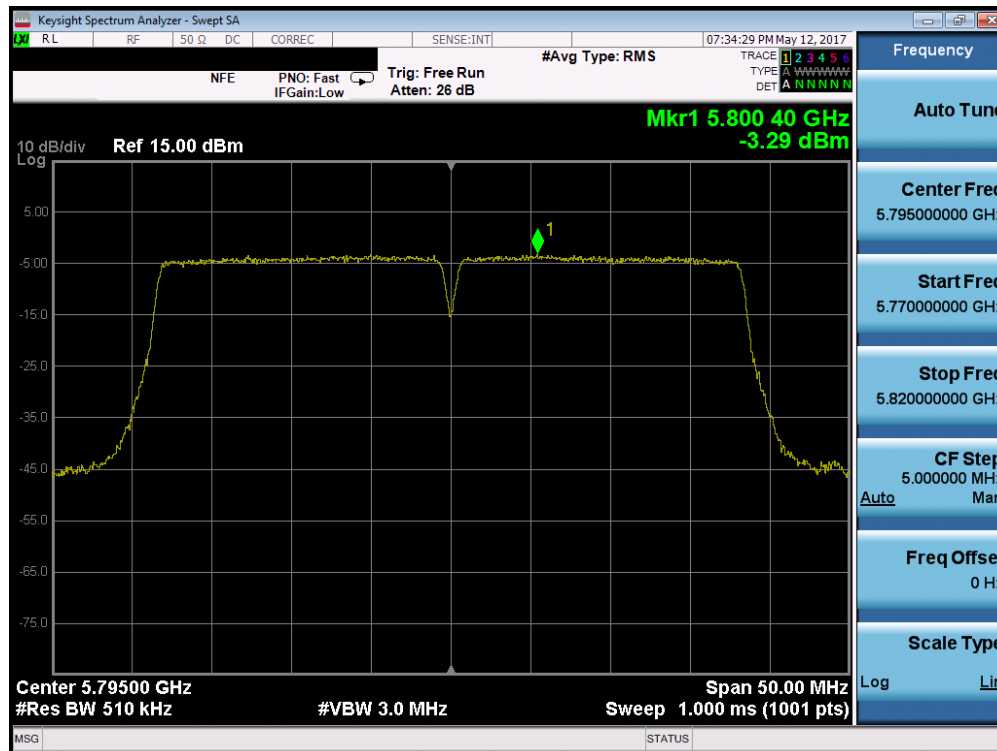


Plot 7-114. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

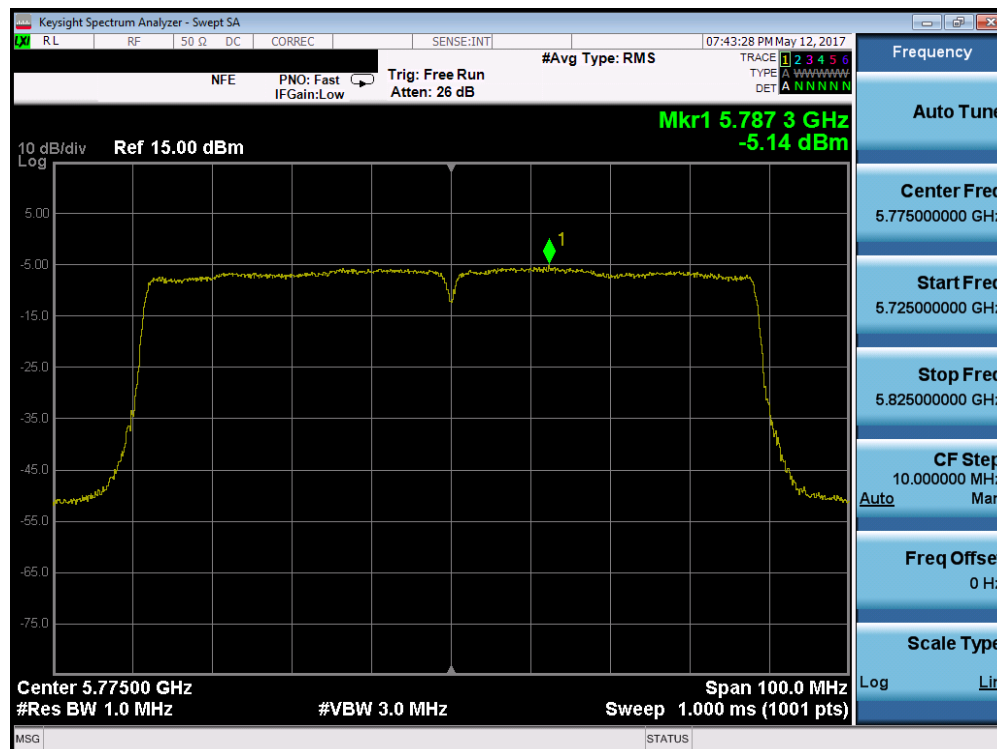


Plot 7-115. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 84 of 228



Plot 7-116. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 159)



Plot 7-117. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

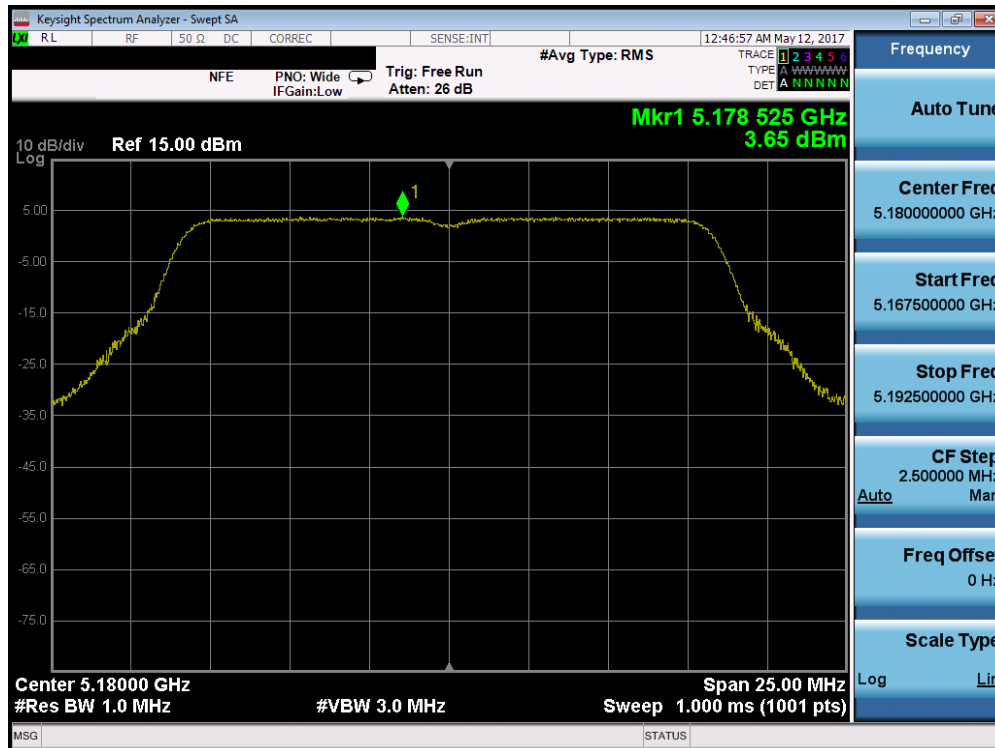
FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 85 of 228

Antenna-2 Power Spectral Density Measurements

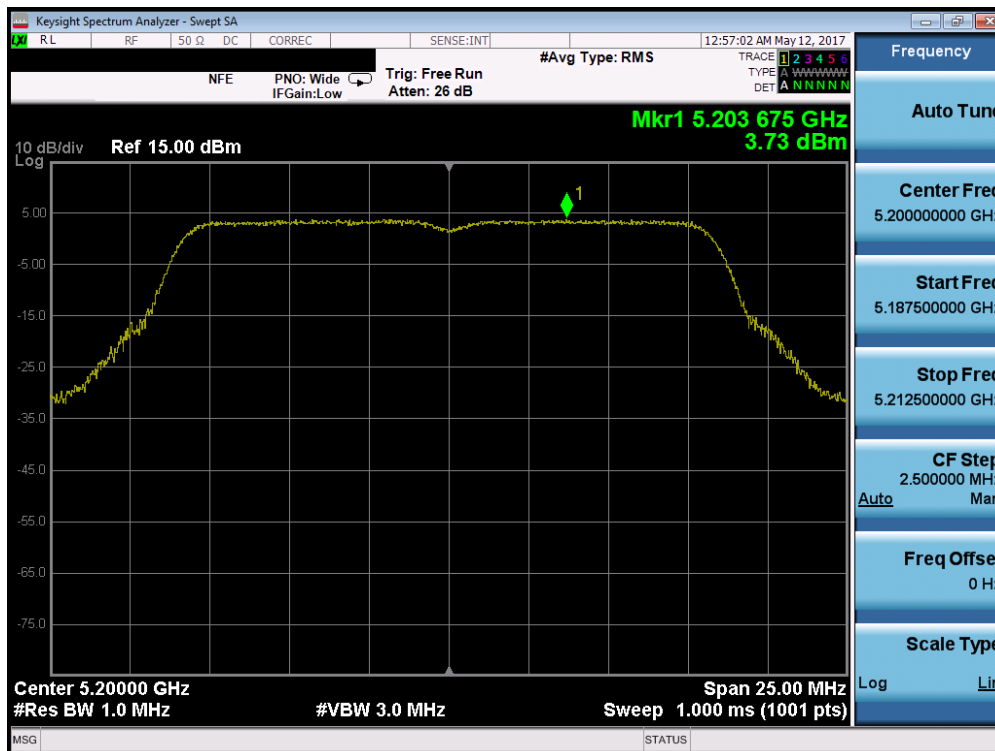
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	3.65	11.0	-7.35	Pass
	5200	40	a	6	3.73	11.0	-7.27	Pass
	5240	48	a	6	4.10	11.0	-6.90	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	4.47	11.0	-6.53	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	3.88	11.0	-7.12	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	4.05	11.0	-6.95	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-0.80	11.0	-11.80	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-0.10	11.0	-11.10	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-5.27	11.0	-16.27	Pass
Band 2A	5260	52	a	6	4.12	11.0	-6.88	Pass
	5280	56	a	6	4.24	11.0	-6.76	Pass
	5320	64	a	6	4.00	11.0	-7.00	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	4.32	11.0	-6.68	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	4.22	11.0	-6.78	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	4.22	11.0	-6.78	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	0.25	11.0	-10.75	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	0.00	11.0	-11.00	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-5.24	11.0	-16.24	Pass
Band 2C	5500	100	a	6	3.33	11.0	-7.67	Pass
	5600	120	a	6	3.32	11.0	-7.68	Pass
	5720	144	a	6	4.50	11.0	-6.50	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	3.62	11.0	-7.38	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	3.32	11.0	-7.68	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	3.54	11.0	-7.46	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-0.46	11.0	-11.46	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	-1.55	11.0	-12.55	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	-1.82	11.0	-12.82	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-5.61	11.0	-16.61	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-6.36	11.0	-17.36	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-9.41	11.0	-20.41	Pass

Table 7-20. Conducted Power Spectral Density Measurements

FCC ID: A3LSMN950KOR				FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset				Page 86 of 228	

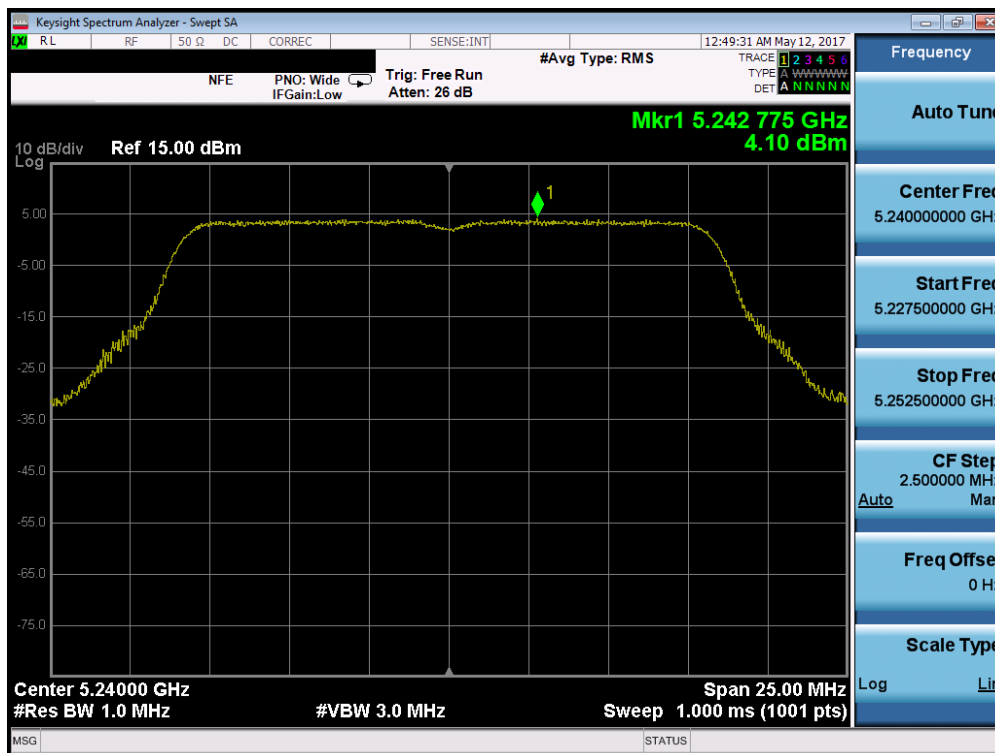


Plot 7-118. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)

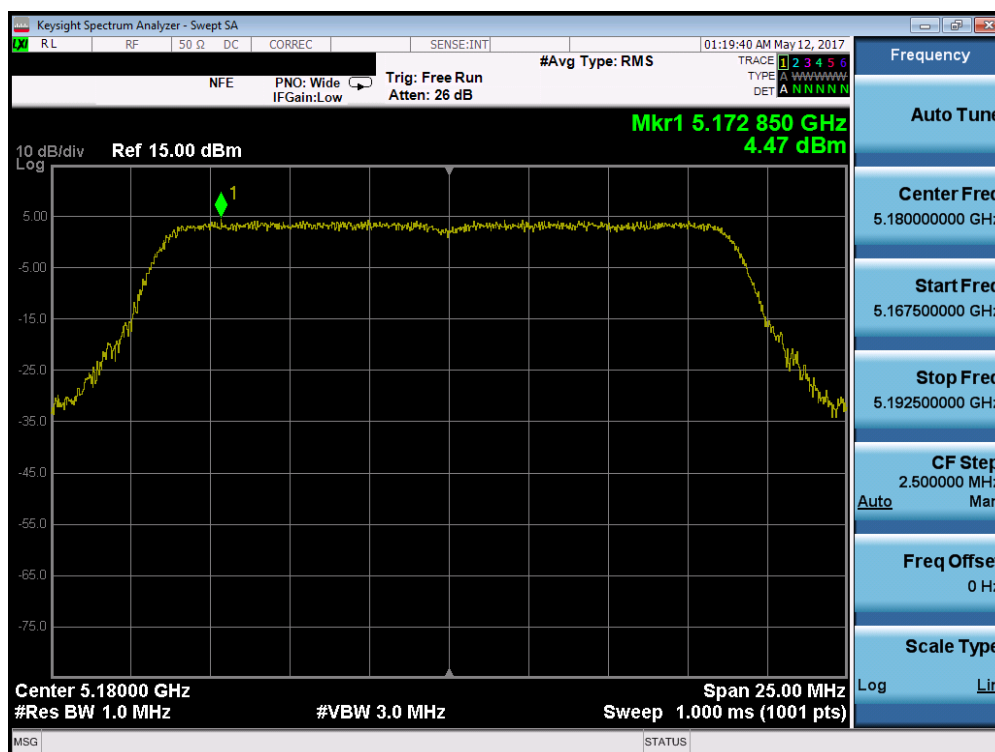


Plot 7-119. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 87 of 228

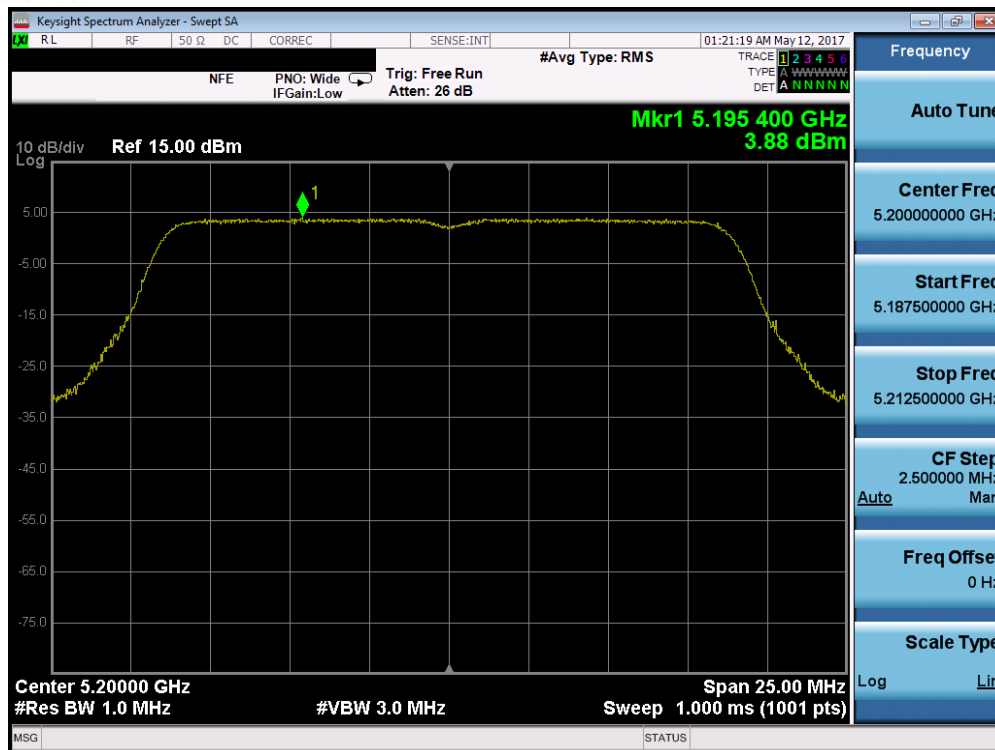


Plot 7-120. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)

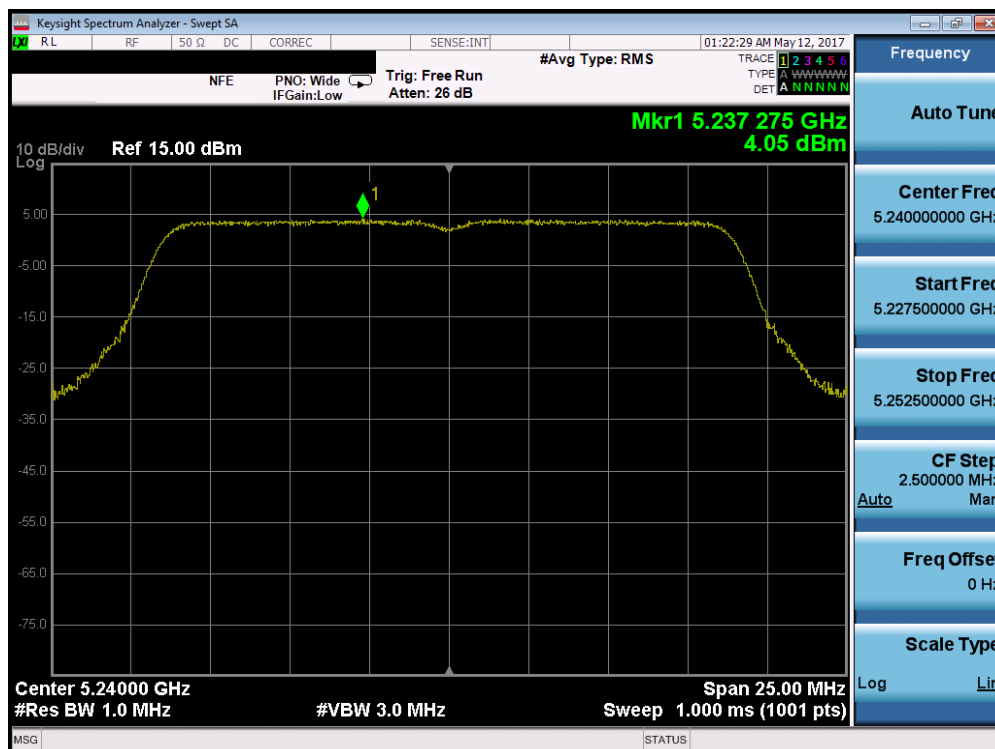


Plot 7-121. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 88 of 228

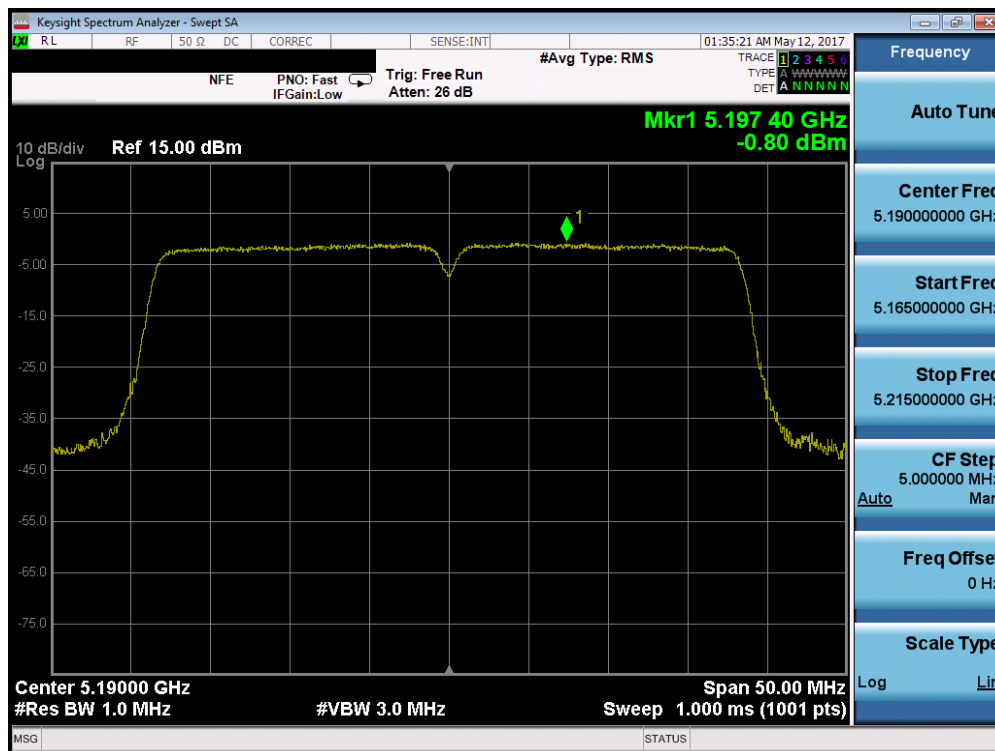


Plot 7-122. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

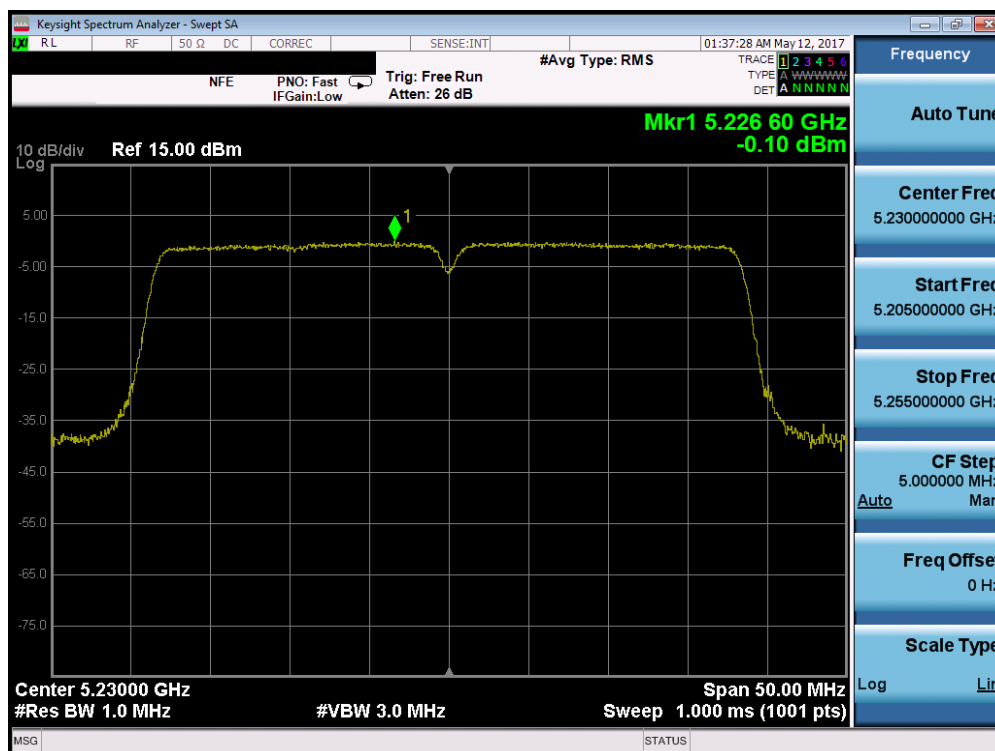


Plot 7-123. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 89 of 228

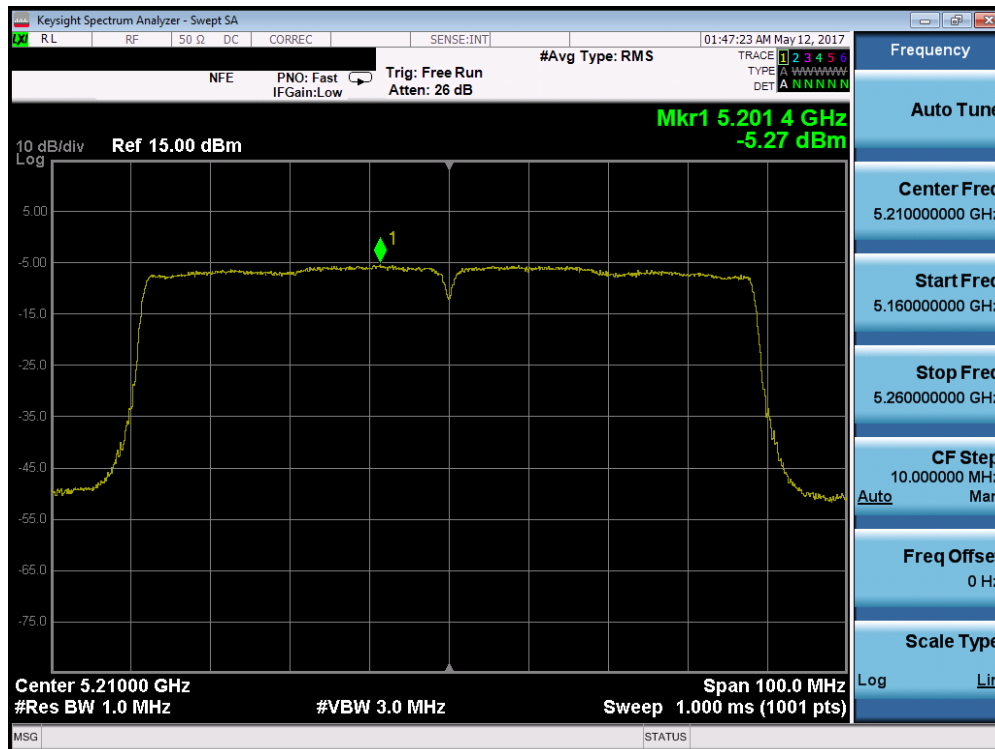


Plot 7-124. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)



Plot 7-125. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset			Page 90 of 228

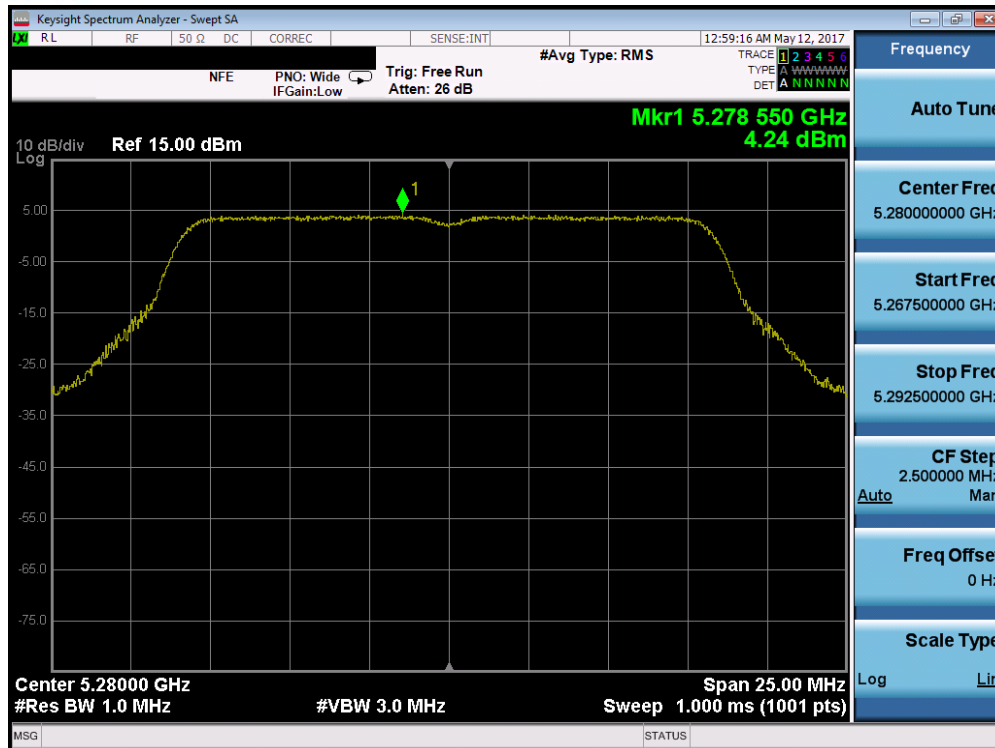


Plot 7-126. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

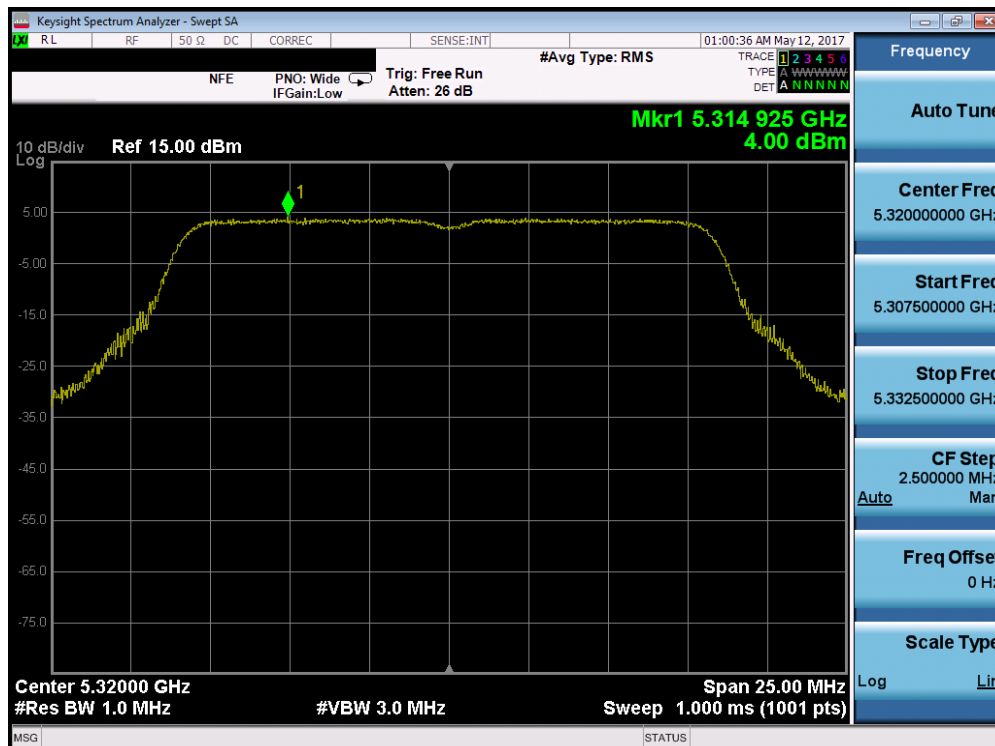


Plot 7-127. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 91 of 228

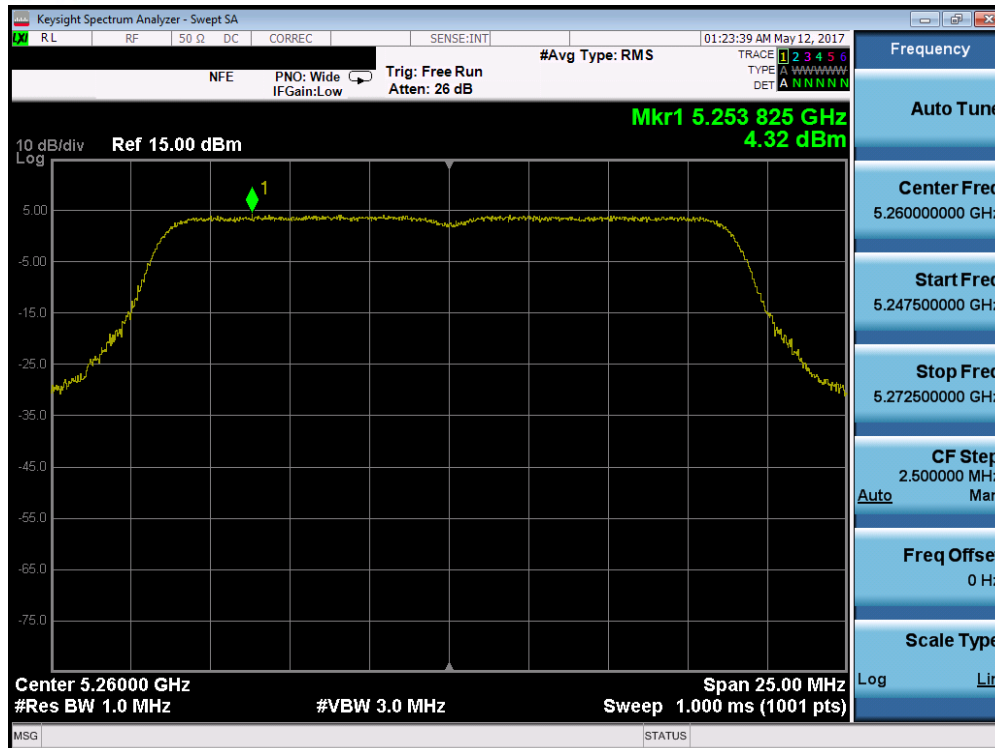


Plot 7-128. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)

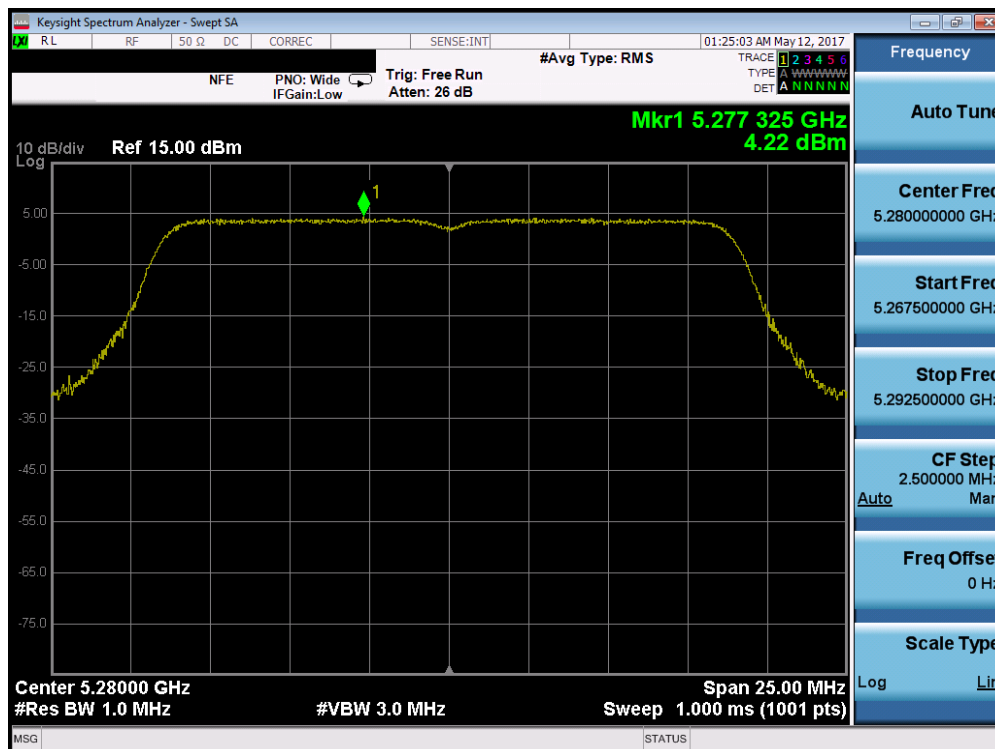


Plot 7-129. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 92 of 228

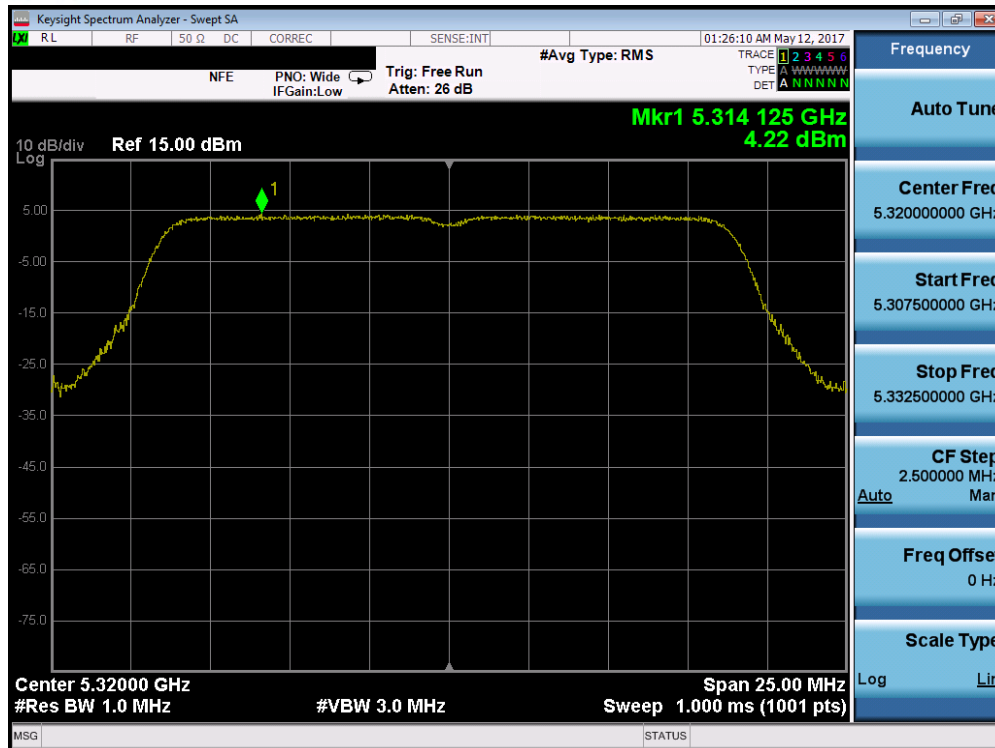


Plot 7-130. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

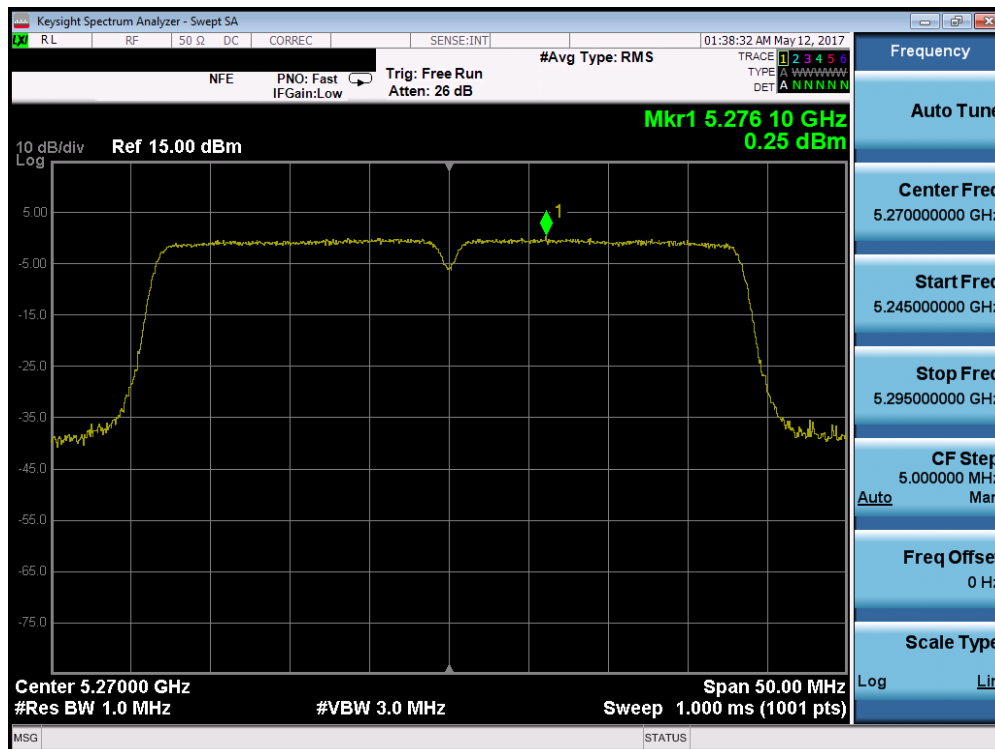


Plot 7-131. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 93 of 228

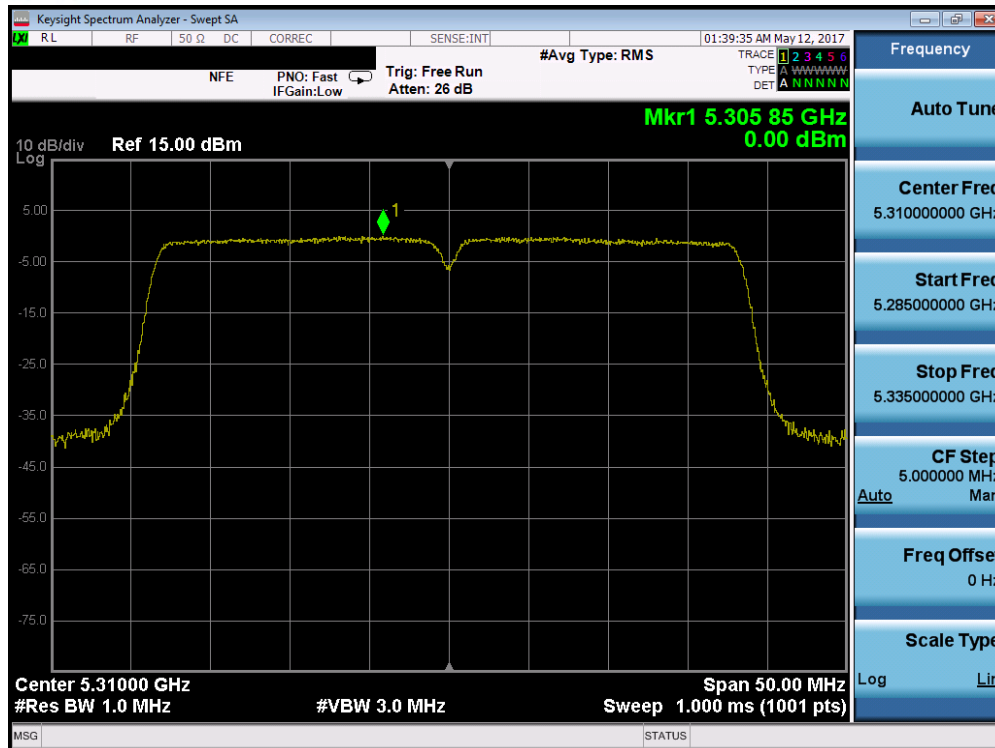


Plot 7-132. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

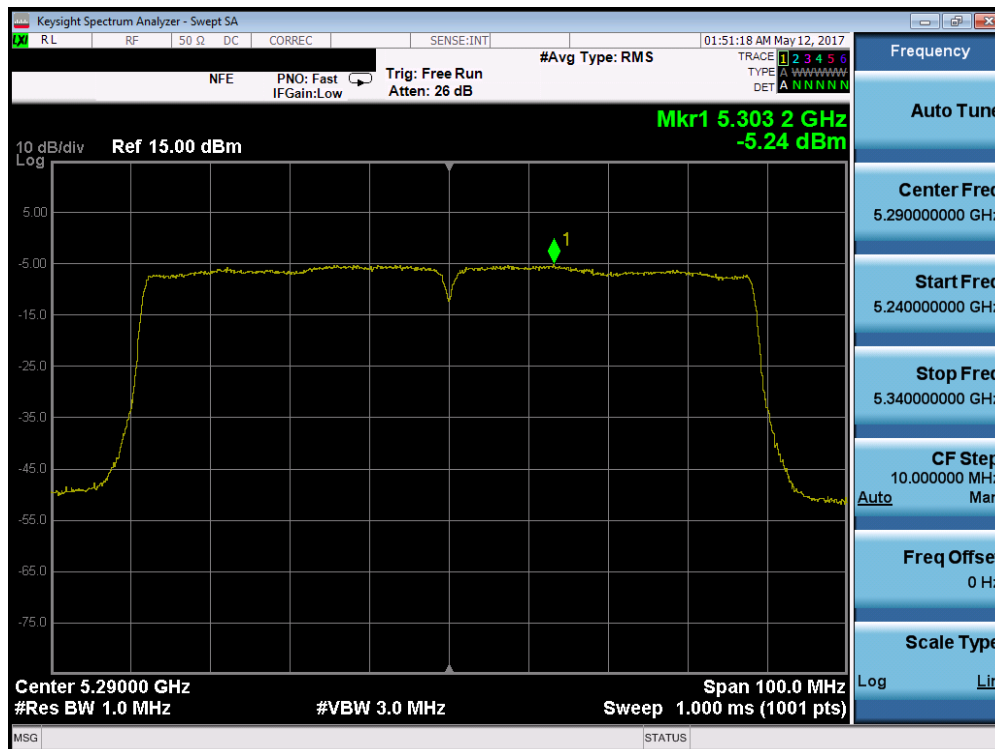


Plot 7-133. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 94 of 228

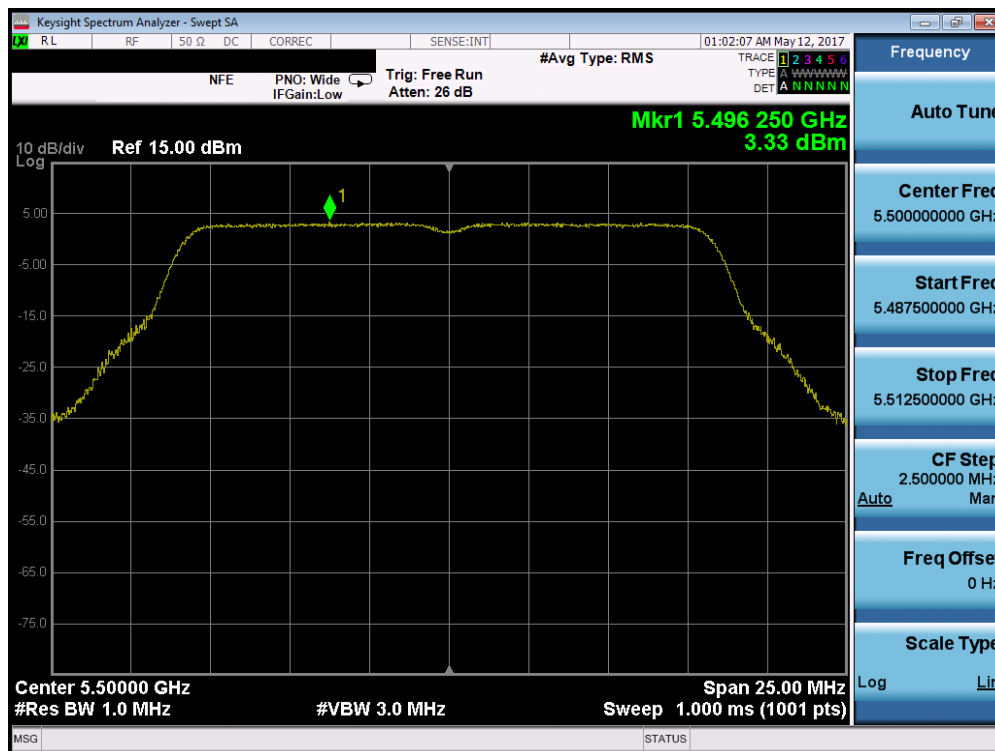


Plot 7-134. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



Plot 7-135. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 95 of 228

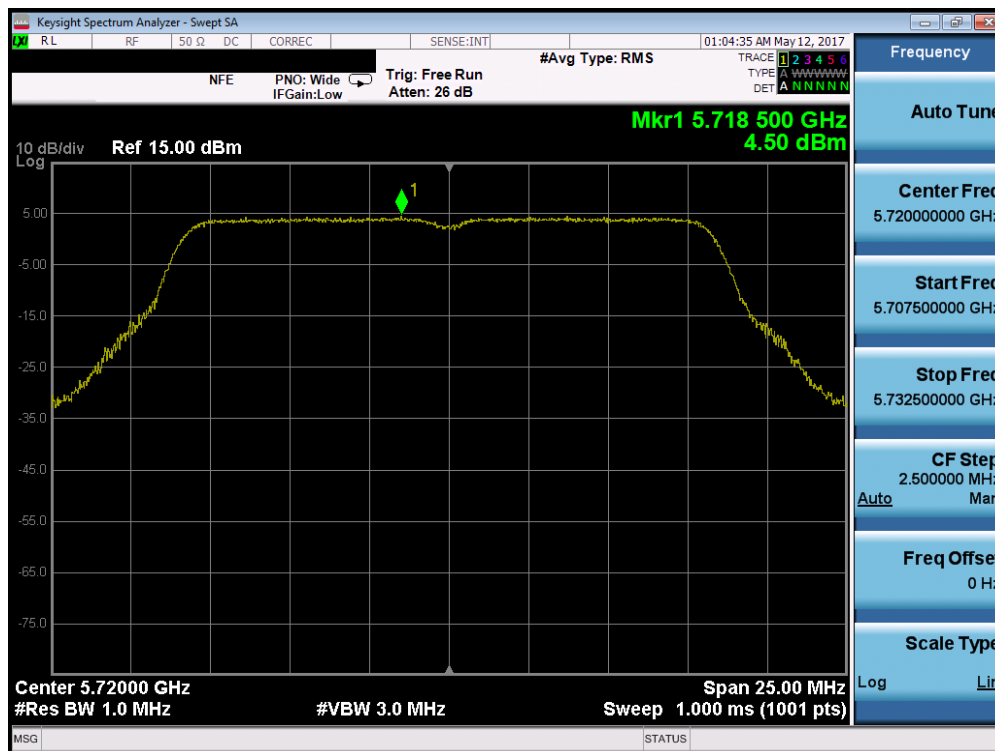


Plot 7-136. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)

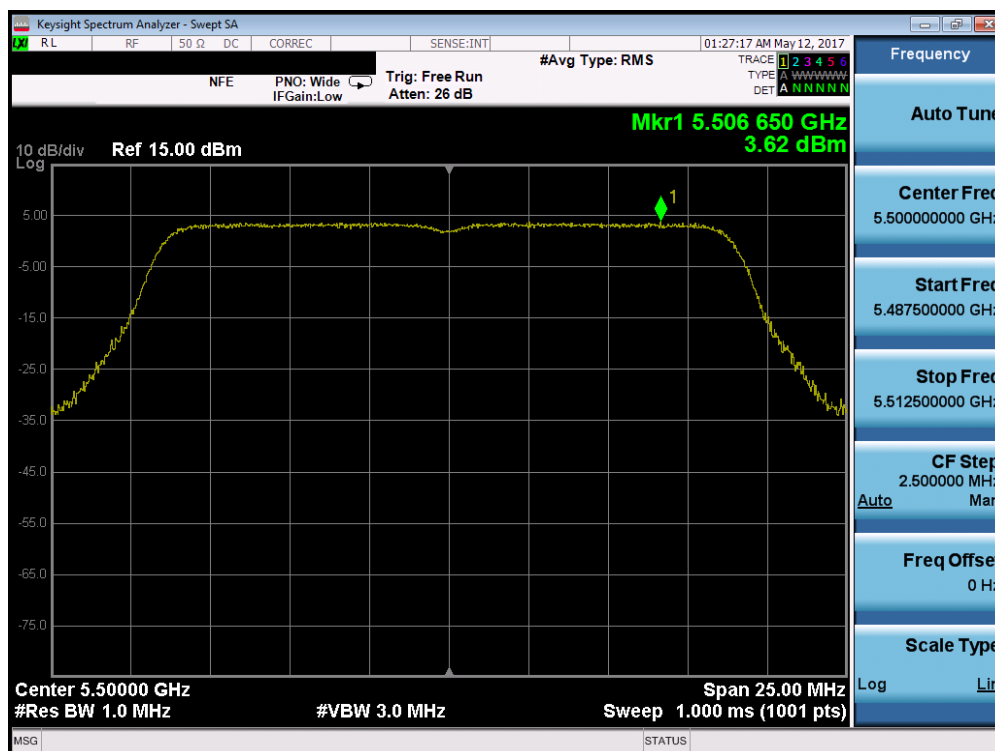


Plot 7-137. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 96 of 228

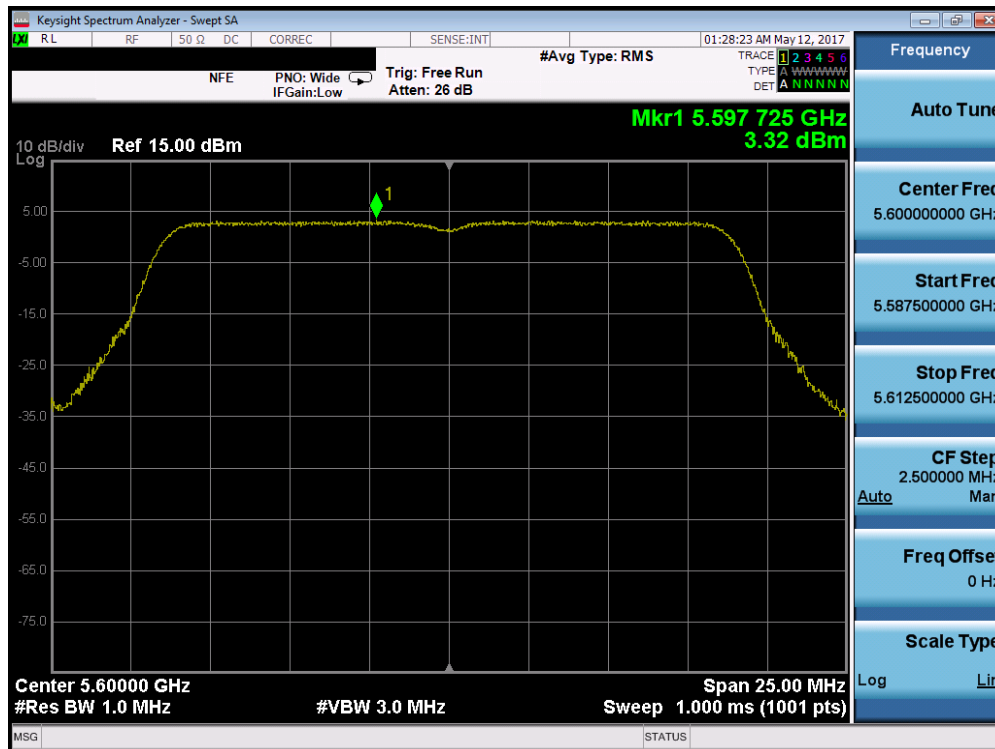


Plot 7-138. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)

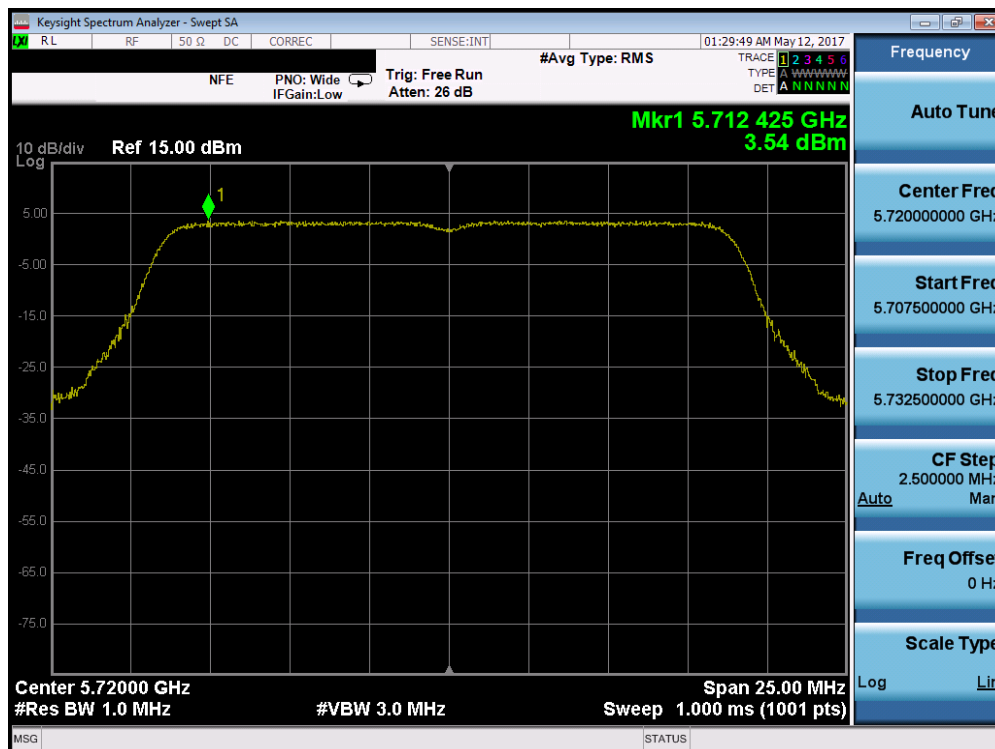


Plot 7-139. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 97 of 228

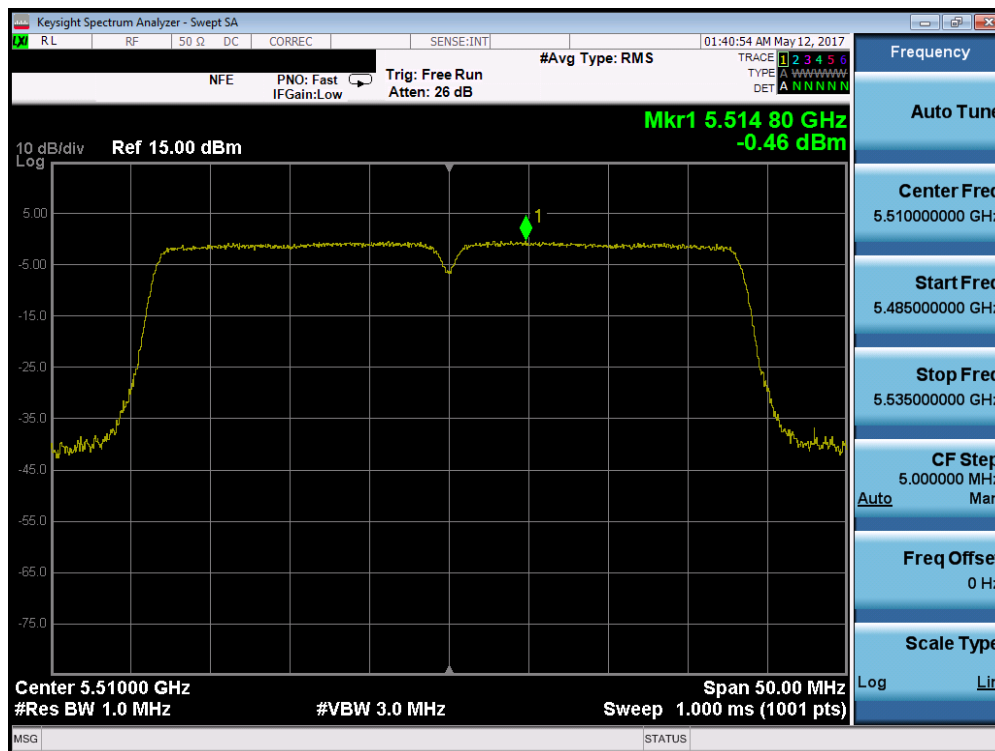


Plot 7-140. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)

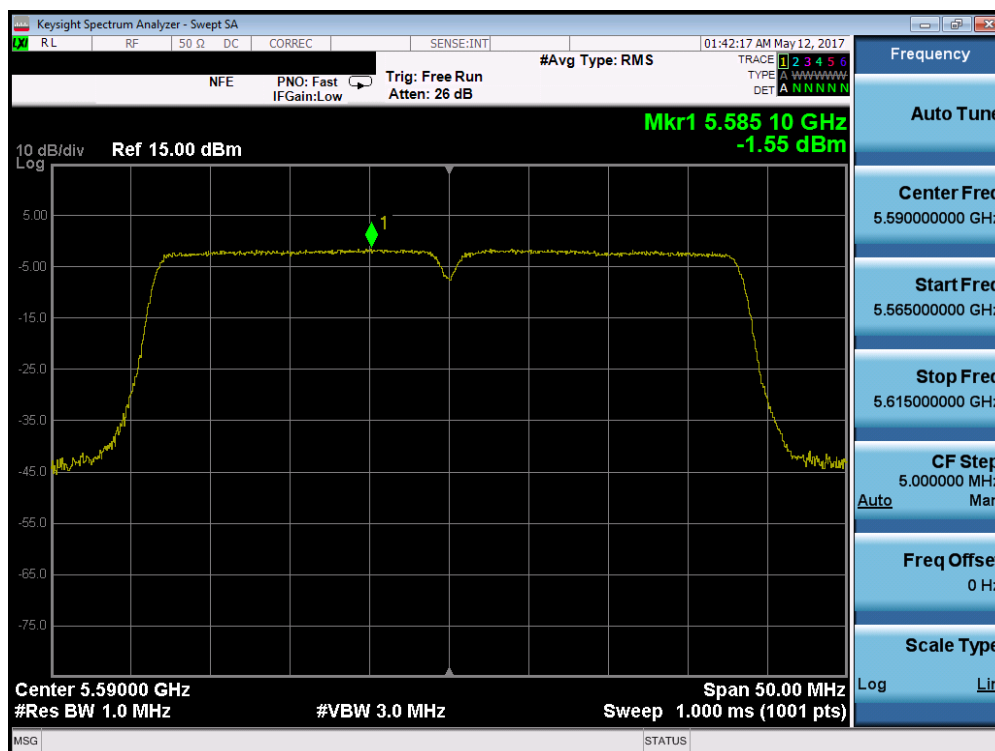


Plot 7-141. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 98 of 228

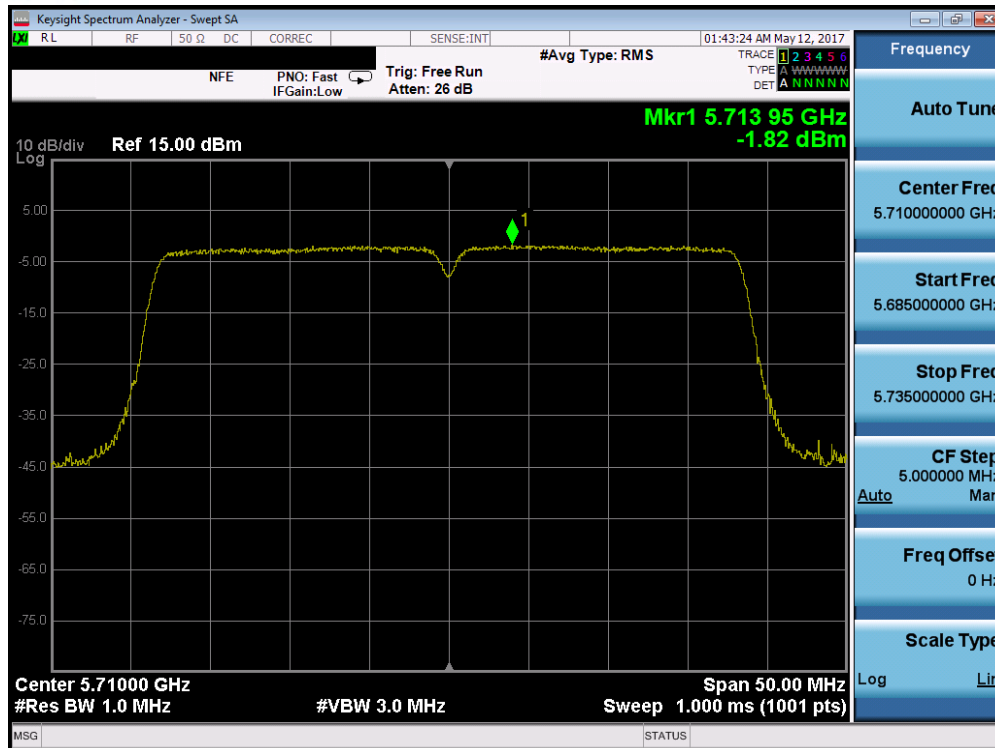


Plot 7-142. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

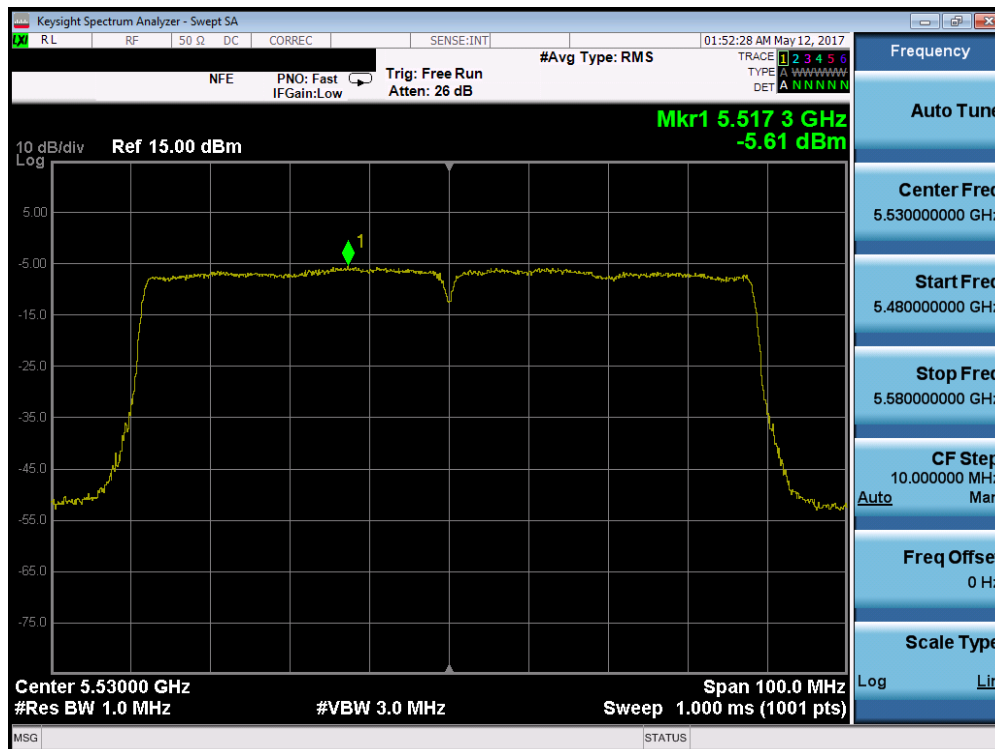


Plot 7-143. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 99 of 228

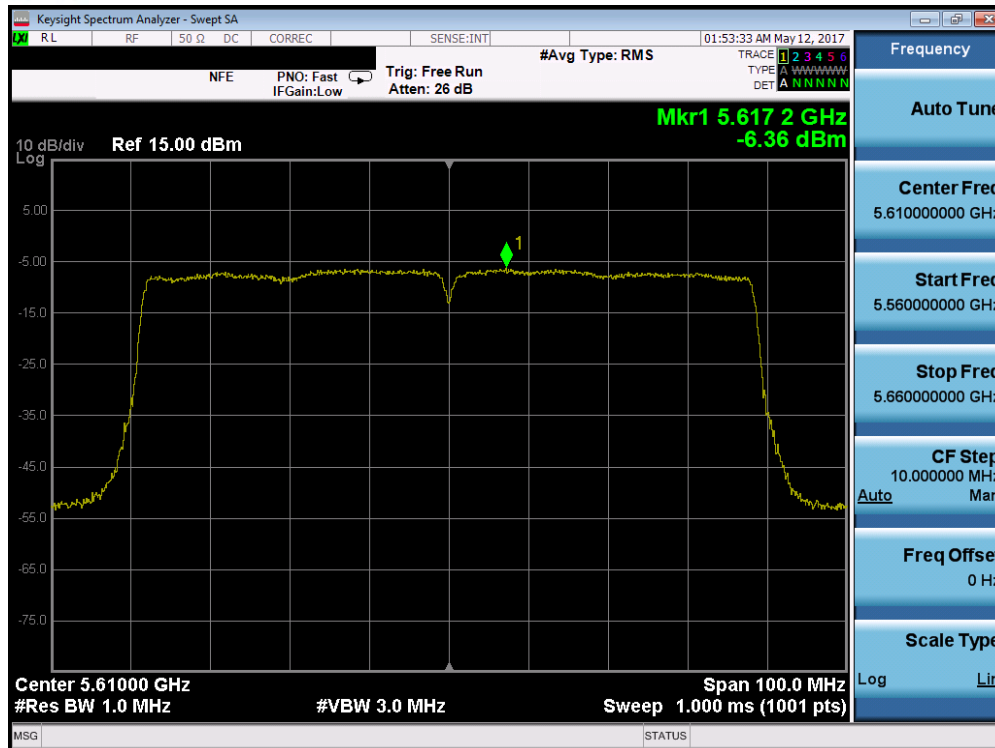


Plot 7-144. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

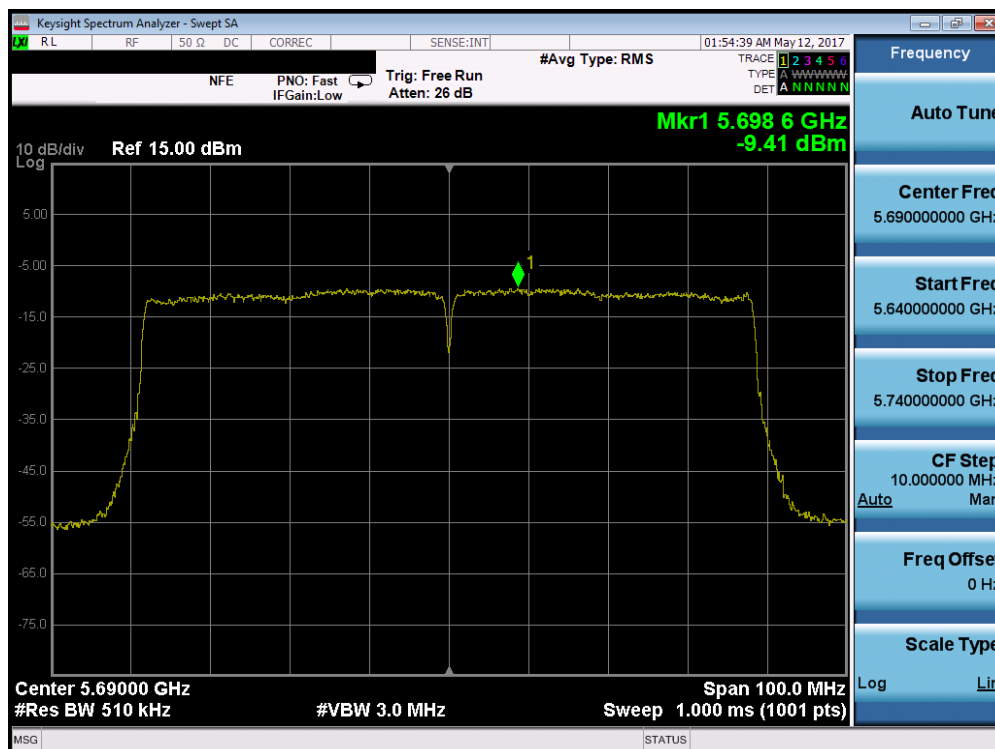


Plot 7-145. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-146. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

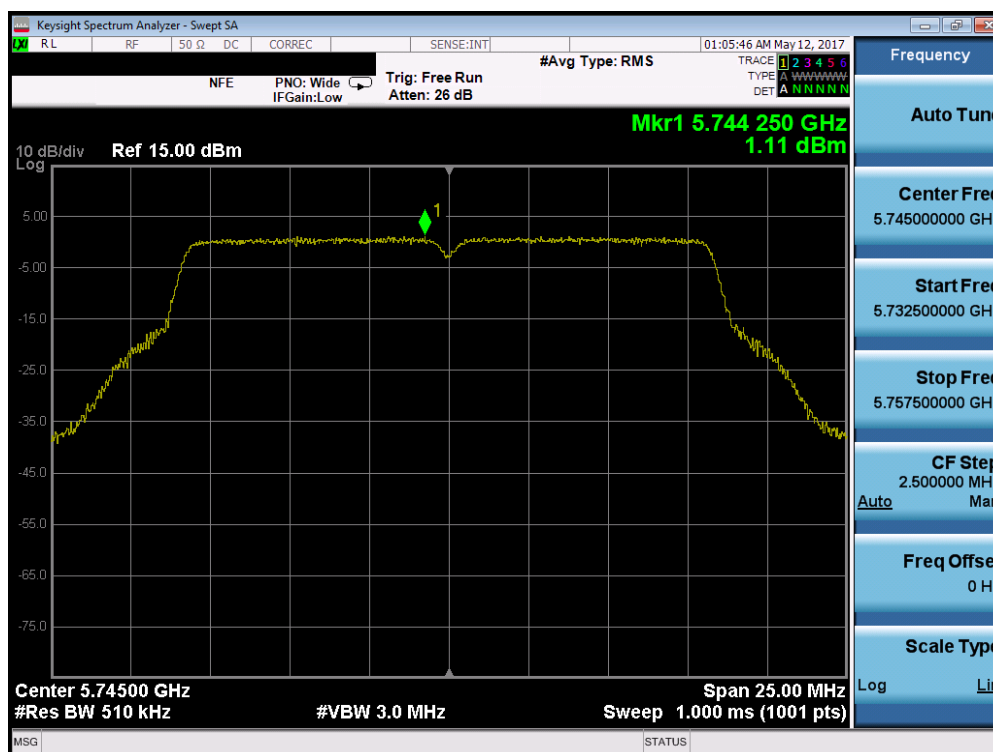


Plot 7-147. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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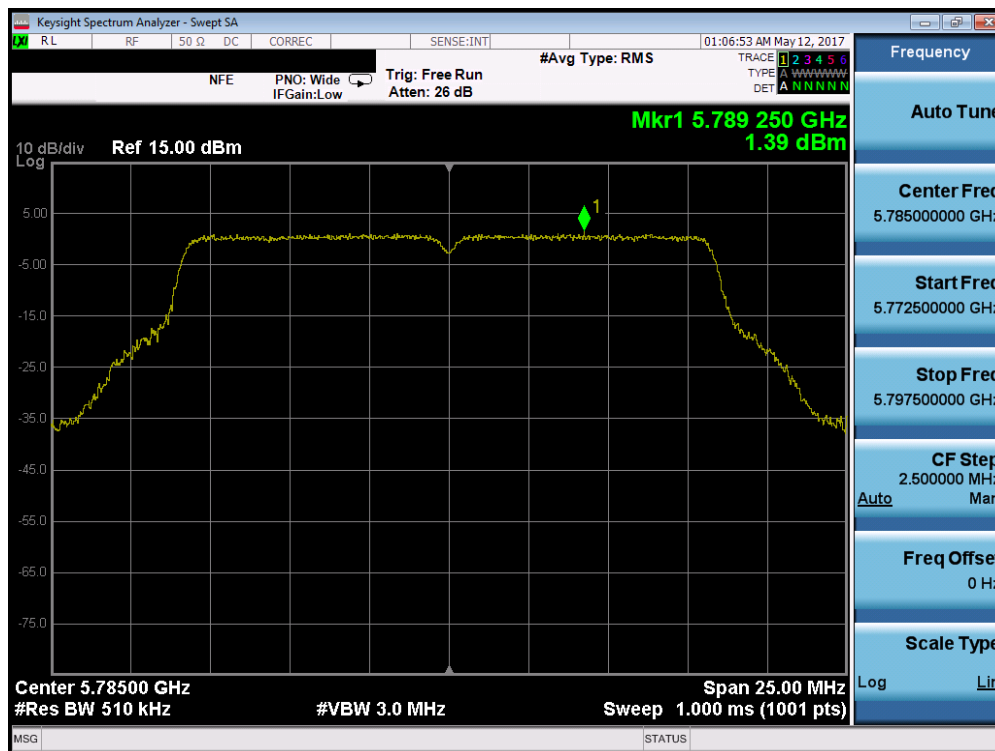
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Pass / Fail
Band 3	5745	149	a	6	1.11	30.0	-28.89	Pass
	5785	157	a	6	1.39	30.0	-28.61	Pass
	5825	165	a	6	1.49	30.0	-28.51	Pass
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	0.46	30.0	-29.54	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	0.56	30.0	-29.44	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	0.63	30.0	-29.37	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-4.17	30.0	-34.17	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-4.28	30.0	-34.28	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-6.14	30.0	-36.14	Pass

Table 7-21. Band 3 Conducted Power Spectral Density Measurements

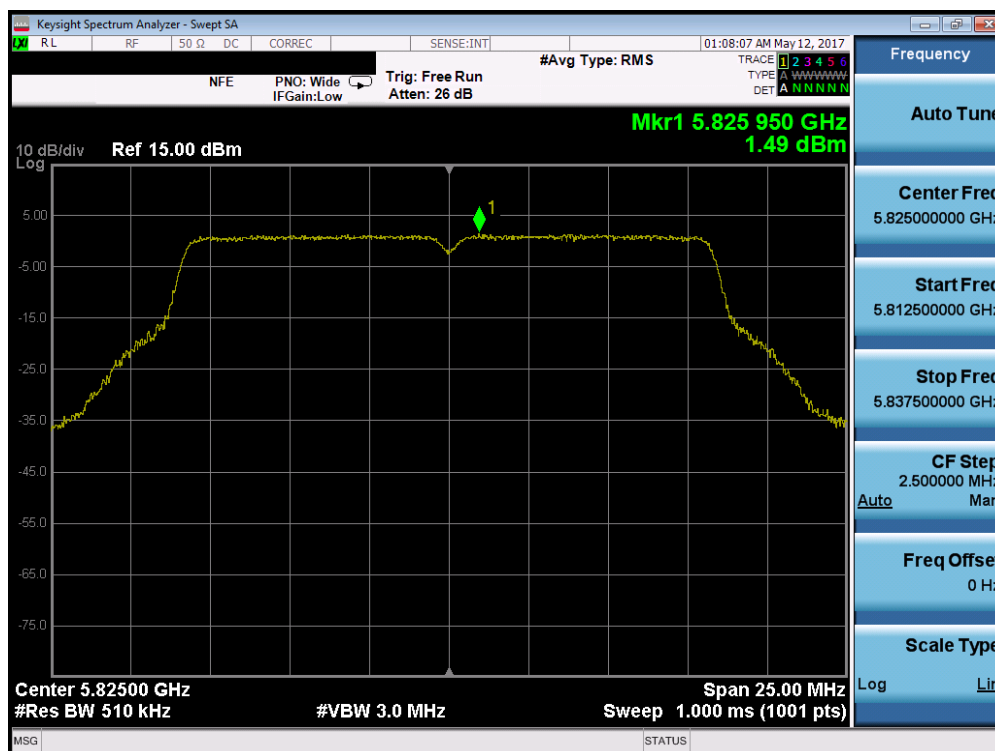


Plot 7-148. Power Spectral Density Plot (802.11a (UNII Band 3) - Ch. 149)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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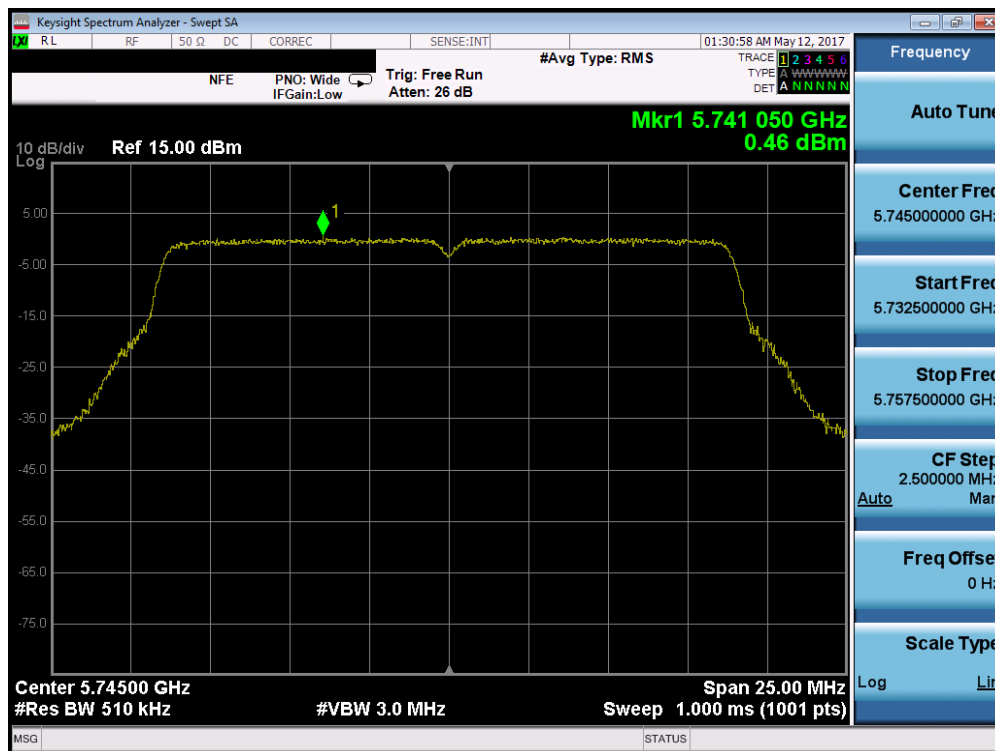


Plot 7-149. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 157)

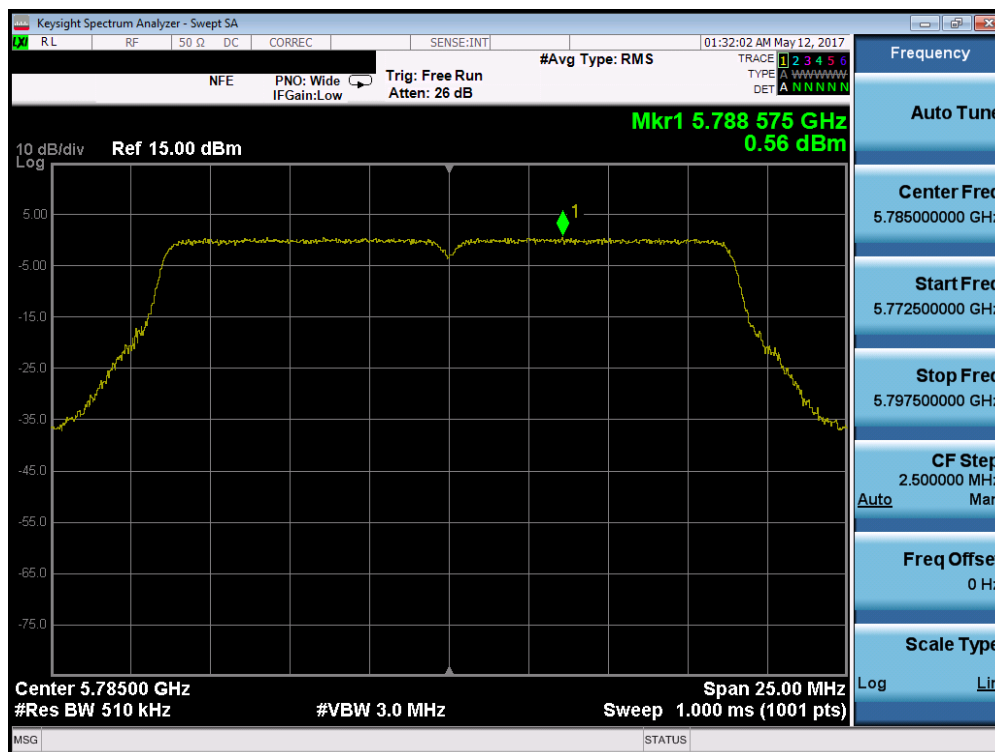


Plot 7-150. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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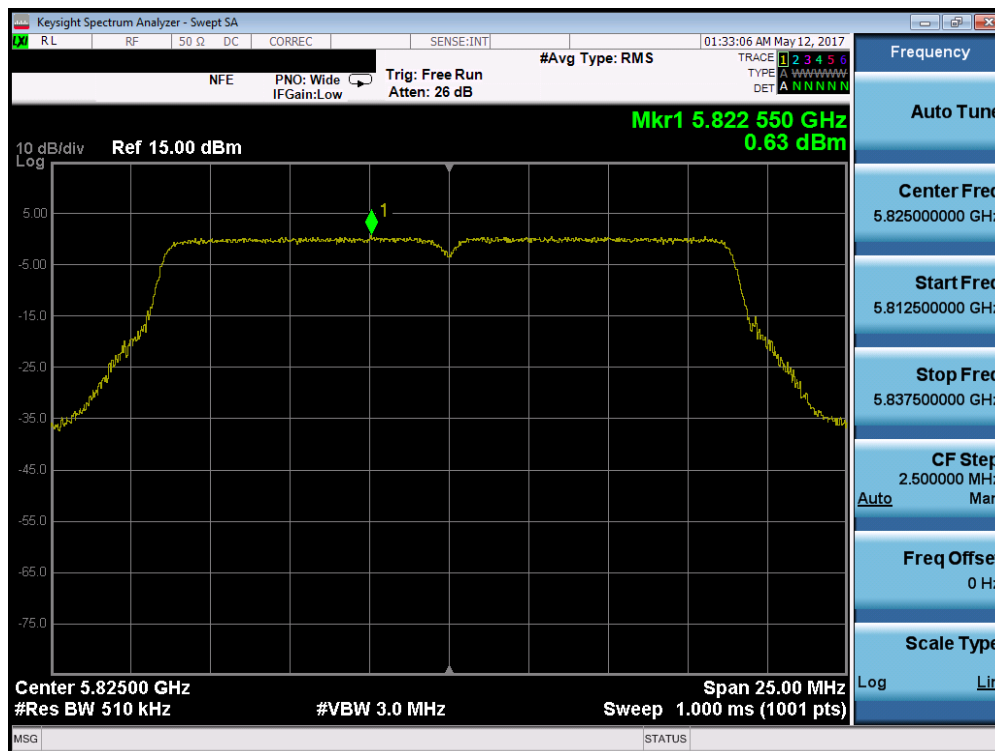


Plot 7-151. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 149)

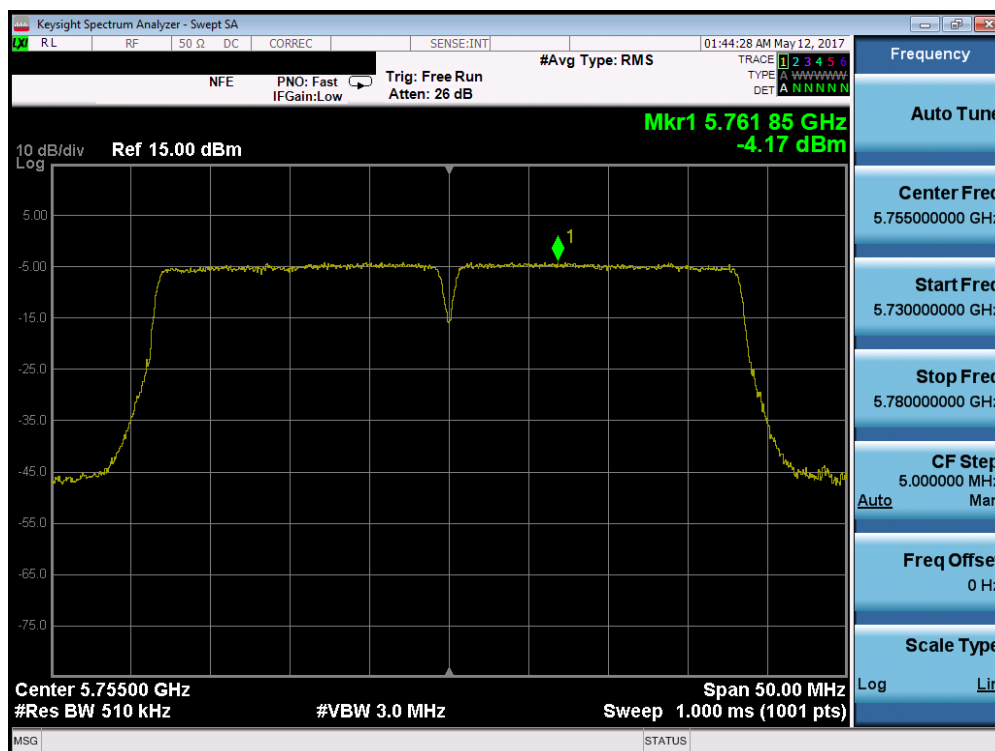


Plot 7-152. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 157)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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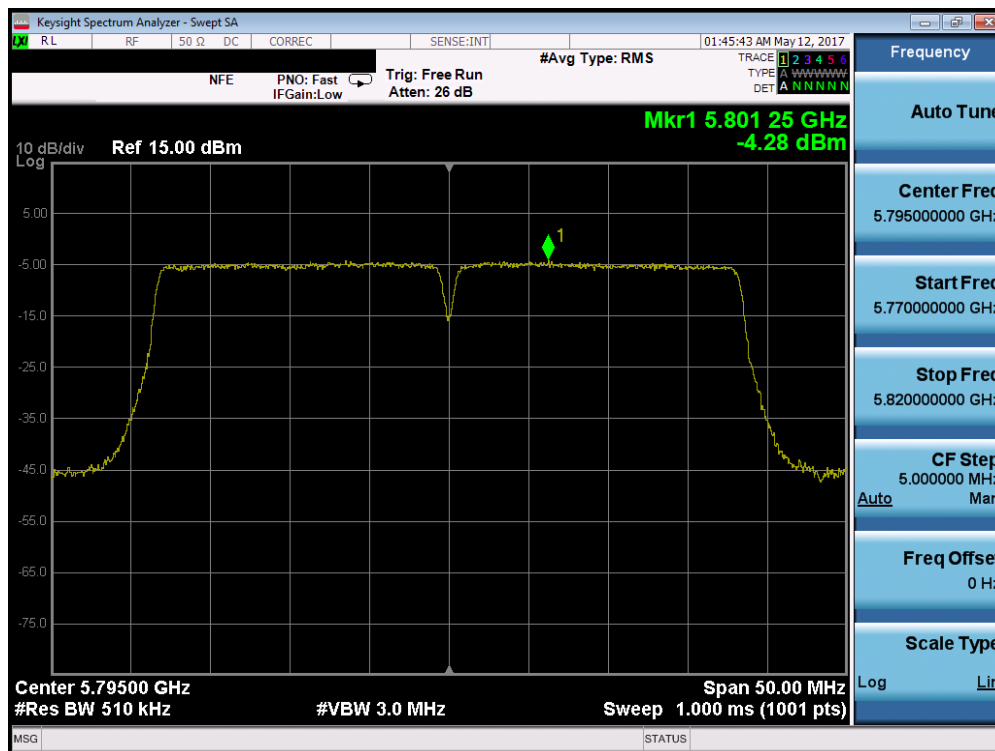


Plot 7-153. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

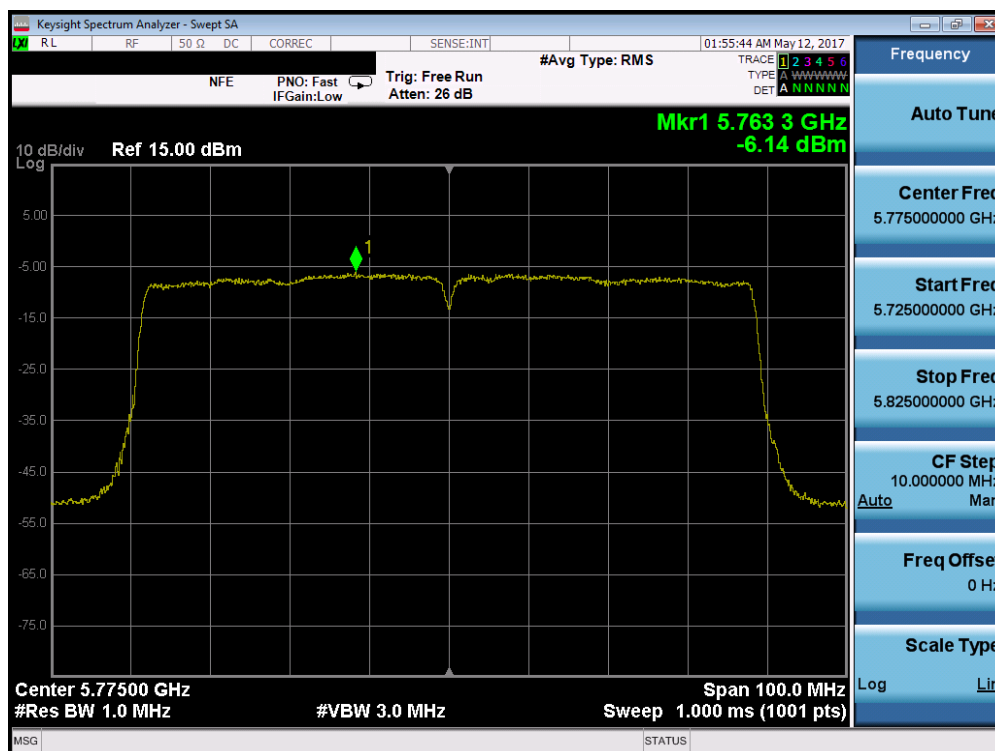


Plot 7-154. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-155. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 159)



Plot 7-156. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Summed MIMO Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6.5/7.2 (MCS0)	4.95	3.65	7.36	11.0	-3.64	Pass
	5200	40	a	6.5/7.2 (MCS0)	5.07	3.73	7.46	11.0	-3.54	Pass
	5240	48	a	6.5/7.2 (MCS0)	6.02	4.10	8.18	11.0	-2.82	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	4.42	4.47	7.46	11.0	-3.54	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	4.77	3.88	7.36	11.0	-3.64	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	4.63	4.05	7.36	11.0	-3.64	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-0.29	-0.80	2.47	11.0	-8.53	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-1.09	-0.10	2.44	11.0	-8.56	Pass
Band 2A	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-5.17	-5.27	-2.21	11.0	-13.21	Pass
	5260	52	a	6.5/7.2 (MCS0)	6.44	4.12	8.44	11.0	-2.56	Pass
	5280	56	a	6.5/7.2 (MCS0)	6.16	4.24	8.32	11.0	-2.68	Pass
	5320	64	a	6.5/7.2 (MCS0)	6.07	4.00	8.17	11.0	-2.83	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	4.74	4.32	7.55	11.0	-3.45	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	4.48	4.22	7.36	11.0	-3.64	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	4.65	4.22	7.45	11.0	-3.55	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-0.35	0.25	2.97	11.0	-8.03	Pass
Band 2C	5310	62	n (40MHz)	13.5/15 (MCS0)	-0.19	0.00	2.92	11.0	-8.08	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-5.33	-5.24	-2.27	11.0	-13.27	Pass
	5500	100	a	6.5/7.2 (MCS0)	6.22	3.33	8.02	11.0	-2.98	Pass
	5600	120	a	6.5/7.2 (MCS0)	5.71	3.32	7.69	11.0	-3.31	Pass
	5720	144	a	6.5/7.2 (MCS0)	5.59	4.50	8.09	11.0	-2.91	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	4.32	3.62	6.99	11.0	-4.01	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	3.97	3.32	6.67	11.0	-4.33	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	4.07	3.54	6.82	11.0	-4.18	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	0.07	-0.46	2.82	11.0	-8.18	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	-0.84	-1.55	1.83	11.0	-9.17	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	-0.40	-1.82	1.96	11.0	-9.04	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-5.00	-5.61	-2.28	11.0	-13.28	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-5.54	-6.36	-2.92	11.0	-13.92	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-8.42	-9.41	-5.88	11.0	-16.88	Pass

Table 7-22. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenn-1 Power Density [dBm]	Antenn-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Pass / Fail
Band 3	5745	149	a	6.5/7.2 (MCS0)	2.54	1.11	4.89	30.0	-25.11	Pass
	5785	157	a	6.5/7.2 (MCS0)	2.53	1.39	5.01	30.0	-24.99	Pass
	5825	165	a	6.5/7.2 (MCS0)	2.69	1.49	5.14	30.0	-24.86	Pass
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	1.34	0.46	3.93	30.0	-26.07	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	1.42	0.56	4.02	30.0	-25.98	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	1.56	0.63	4.13	30.0	-25.87	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-3.15	-4.17	-0.62	30.0	-30.62	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-3.29	-4.28	-0.75	30.0	-30.75	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-5.14	-6.14	-2.60	30.0	-32.60	Pass

Table 7-23. Band 3 MIMO Conducted Power Spectral Density Measurements

Note:

Per KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 1 and Antenna 2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Sample MIMO Calculation:

At 5180MHz the average conducted power spectral density was measured to be 4.42 dBm for Antenna-1 and 4.47 dBm for Antenna-2.

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

$$(4.42 \text{ dBm} + 4.47 \text{ dBm}) = (2.77 \text{ mW} + 2.80 \text{ mW}) = 5.57 \text{ mW} = 7.46 \text{ dBm}$$

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7.6 Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,180,000,000 Hz
 CHANNEL: 36
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,180,000,024	24	0.00000046
100 %		- 30	5,179,999,950	-50	-0.00000097
100 %		- 20	5,179,999,564	-436	-0.00000842
100 %		- 10	5,179,999,954	-46	-0.00000089
100 %		0	5,179,999,992	-8	-0.00000015
100 %		+ 10	5,179,999,710	-290	-0.00000560
100 %		+ 20	5,179,999,822	-178	-0.00000344
100 %		+ 30	5,179,999,829	-171	-0.00000330
100 %		+ 40	5,180,000,375	375	0.00000724
100 %		+ 50	5,179,999,860	-140	-0.00000270
BATT. ENDPOINT	3.45	+ 20	5,180,000,182	182	0.00000351

Table 7-24. Frequency Stability Measurements for UNII Band 1 (Ch. 36)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,260,000,000 Hz
 CHANNEL: 52
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,260,000,156	156	0.00000297
100 %		- 30	5,259,999,755	-245	-0.00000466
100 %		- 20	5,259,999,993	-7	-0.00000013
100 %		- 10	5,260,000,113	113	0.00000215
100 %		0	5,259,999,927	-73	-0.00000139
100 %		+ 10	5,260,000,381	381	0.00000724
100 %		+ 20	5,259,999,993	-7	-0.00000013
100 %		+ 30	5,260,000,371	371	0.00000705
100 %		+ 40	5,260,000,172	172	0.00000327
100 %		+ 50	5,260,000,295	295	0.00000561
BATT. ENDPOINT	3.45	+ 20	5,259,999,766	-234	-0.00000445

Table 7-25. Frequency Stability Measurements for UNII Band 2A (Ch. 52)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Frequency Stability

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The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,500,000,000 Hz
 CHANNEL: 100
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,499,999,744	-256	-0.00000465
100 %		- 30	5,500,000,086	86	0.00000156
100 %		- 20	5,500,000,224	224	0.00000407
100 %		- 10	5,499,999,968	-32	-0.00000058
100 %		0	5,499,999,653	-347	-0.00000631
100 %		+ 10	5,499,999,887	-113	-0.00000205
100 %		+ 20	5,499,999,881	-119	-0.00000216
100 %		+ 30	5,499,999,950	-50	-0.00000091
100 %		+ 40	5,499,999,961	-39	-0.00000071
100 %		+ 50	5,499,999,726	-274	-0.00000498
BATT. ENDPOINT	3.45	+ 20	5,499,999,877	-123	-0.00000224

Table 7-26. Frequency Stability Measurements for UNII Band 2C (Ch. 100)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Frequency Stability

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The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30°C and +50°C. The temperature was incremented by 10° intervals and the unit was allowed to stabilize at each temperature before each measurement. The center frequency of the transmitting channel was evaluated at each temperature and the frequency deviation from the channel's center frequency was recorded. Data for the worst case channel is shown below.

OPERATING FREQUENCY: 5,745,000,000 Hz
 CHANNEL: 149
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,745,000,313	313	0.00000545
100 %		- 30	5,745,000,185	185	0.00000322
100 %		- 20	5,744,999,969	-31	-0.00000054
100 %		- 10	5,745,000,244	244	0.00000425
100 %		0	5,744,999,773	-227	-0.00000395
100 %		+ 10	5,745,000,041	41	0.00000071
100 %		+ 20	5,744,999,966	-34	-0.00000059
100 %		+ 30	5,744,999,627	-373	-0.00000649
100 %		+ 40	5,744,999,832	-168	-0.00000292
100 %		+ 50	5,745,000,039	39	0.00000068
BATT. ENDPOINT	3.45	+ 20	5,744,999,711	-289	-0.00000503

Table 7-27. Frequency Stability Measurements for UNII Band 3 (Ch. 149)

Note:

Based on the results of the frequency stability test shown above the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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7.7 Radiated Spurious Emission Measurements – Above 1GHz

§15.407(b) §15.205 §15.209

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 KDB 789033 D02 v01r04, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz)), 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 must not exceed the limits shown in Table 7-28 per Section 15.209.

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-28. Radiated Limits

Test Procedures Used

KDB 789033 D02 v01r04 – 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

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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.

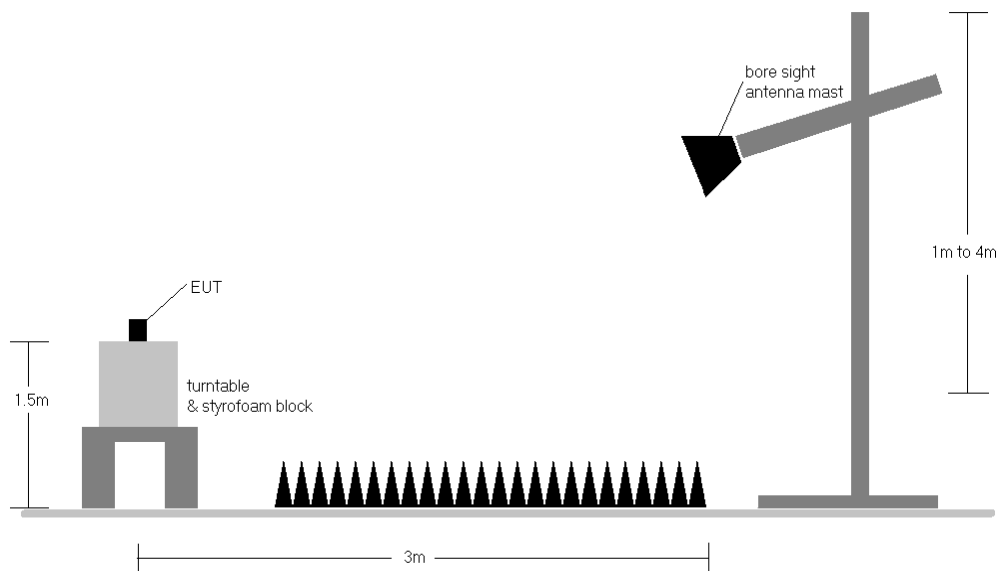


Figure 7-5. Test Instrument & Measurement Setup

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Test Notes

1. All radiated spurious emissions levels were measured in a radiated test setup per the guidance of KDB 789033 D02 v01r04 Section G.
2. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 are below the limit shown in Table 7-28.
3. All spurious emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 7-28. 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 dB μ V/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 68.2dB μ V/m.
4. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
5. This unit was tested with its standard battery.
6. 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.
7. 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.
8. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.
9. 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. Rohde & Schwarz EMC32, Version 9.15.00 automated test software was used to perform the Radiated Spurious Emissions Pre-Scan testing.
10. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

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Sample Calculations

Determining Spurious Emissions Levels

- o Field Strength Level $_{\text{[dB}\mu\text{V/m]}} = \text{Analyzer Level}_{\text{[dBm]}} + 107 + \text{AFCL}_{\text{[dB/m]}}$
- o $\text{AFCL}_{\text{[dB/m]}} = \text{Antenna Factor}_{\text{[dB/m]}} + \text{Cable Loss}_{\text{[dB]}}$
- o $\text{Margin}_{\text{[dB]}} = \text{Field Strength Level}_{\text{[dB}\mu\text{V/m]}} - \text{Limit}_{\text{[dB}\mu\text{V/m]}}$

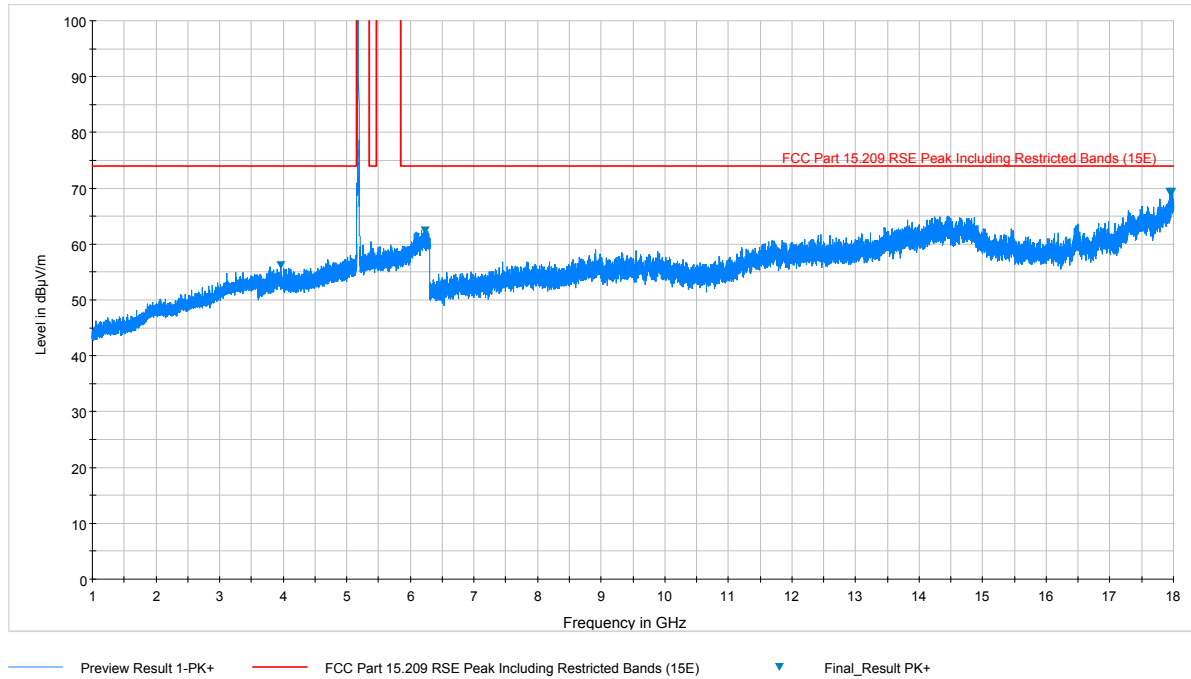
Radiated Band Edge Measurement Offset

- o The amplitude offset shown in the radiated restricted band edge plots in Section 7.7 was calculated using the formula:

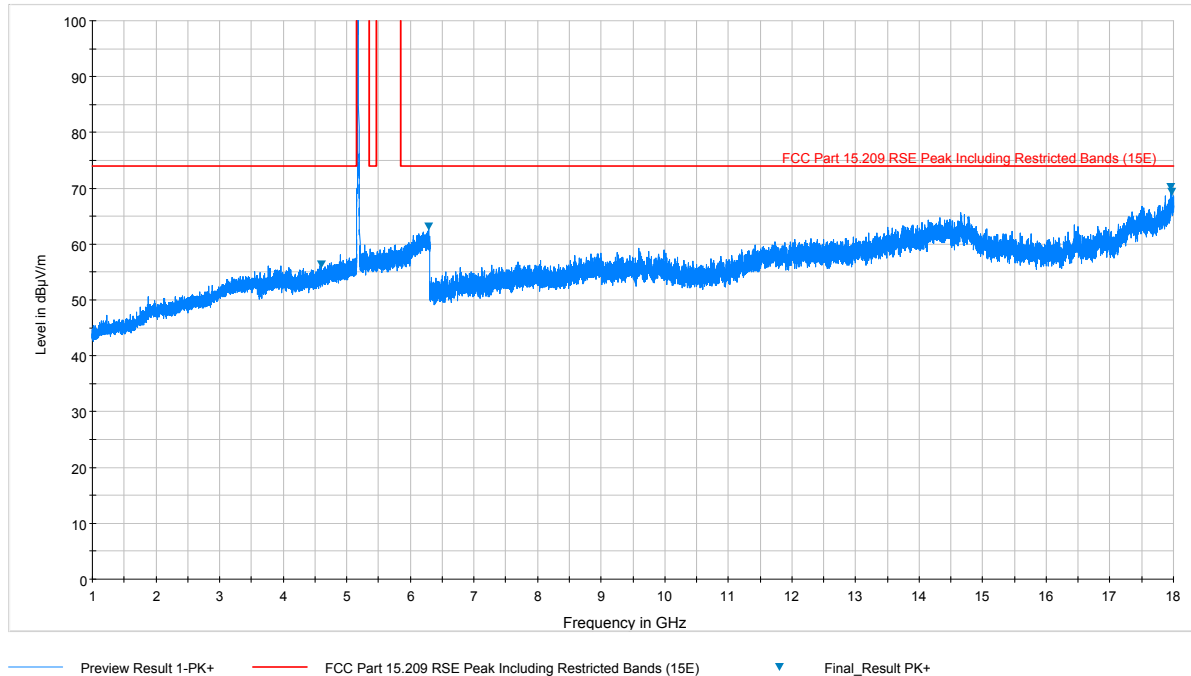
$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + \text{Attenuator}) - \text{Preamplifier Gain}$$

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7.7.1 Antenna-1 Radiated Spurious Emission Measurements

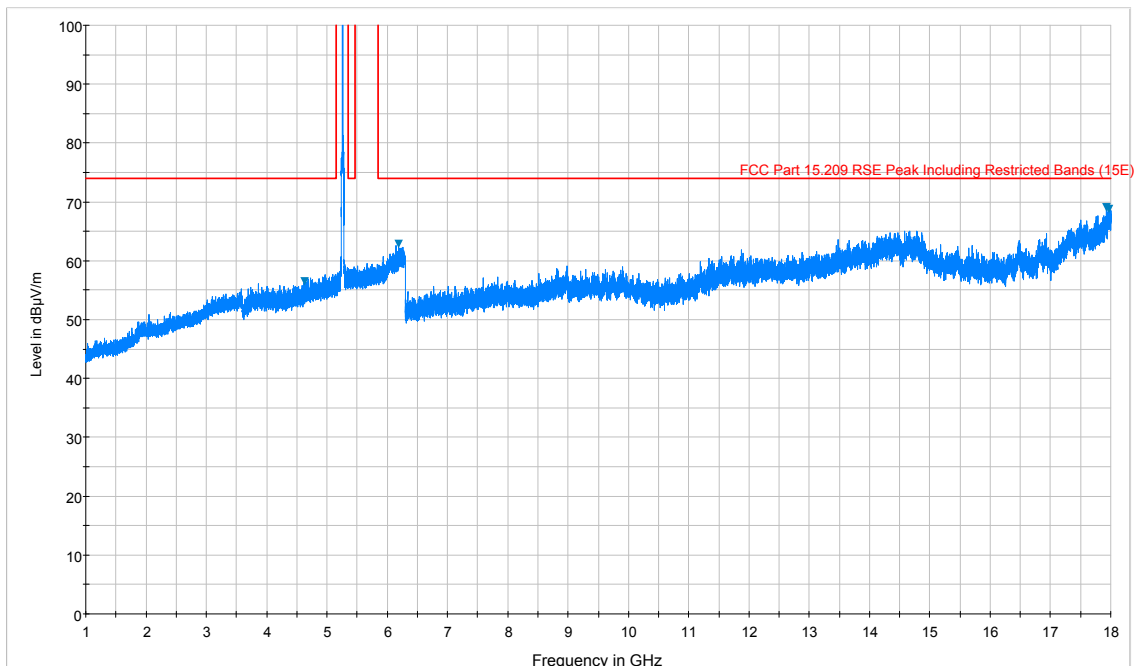


Plot 7-157. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. H)



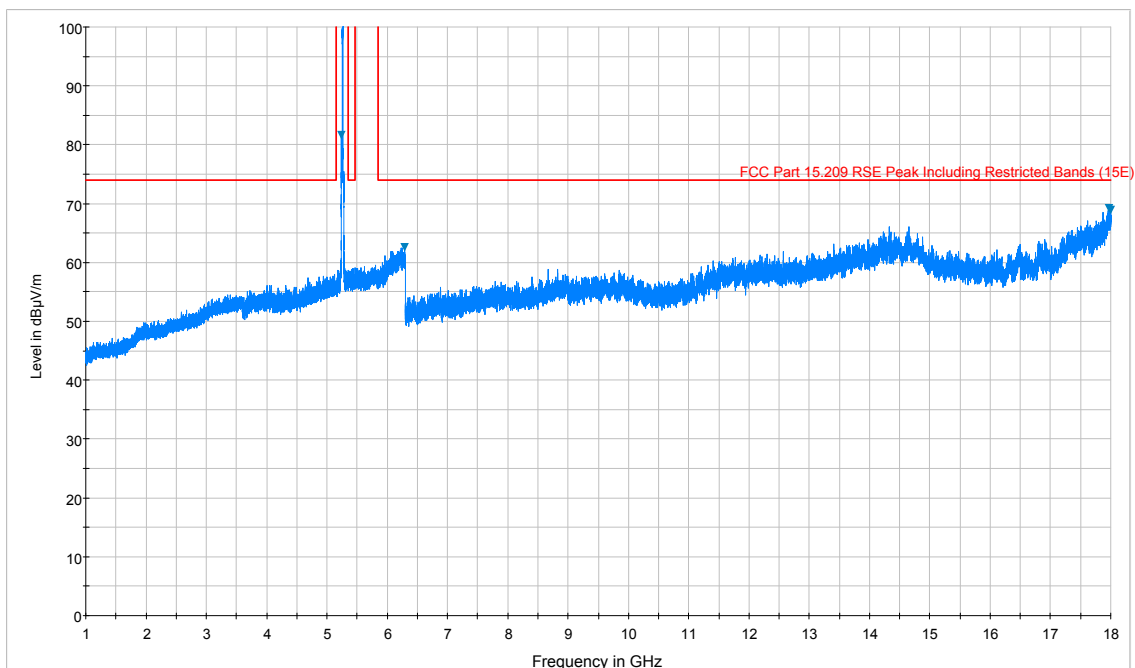
Plot 7-158. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. V)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Preview Result 1-PK+ FCC Part 15.209 RSE Peak Including Restricted Bands (15E) Final_Result PK+

Plot 7-159. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)



Preview Result 1-PK+ FCC Part 15.209 RSE Peak Including Restricted Bands (15E) Final_Result PK+

Plot 7-160. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)

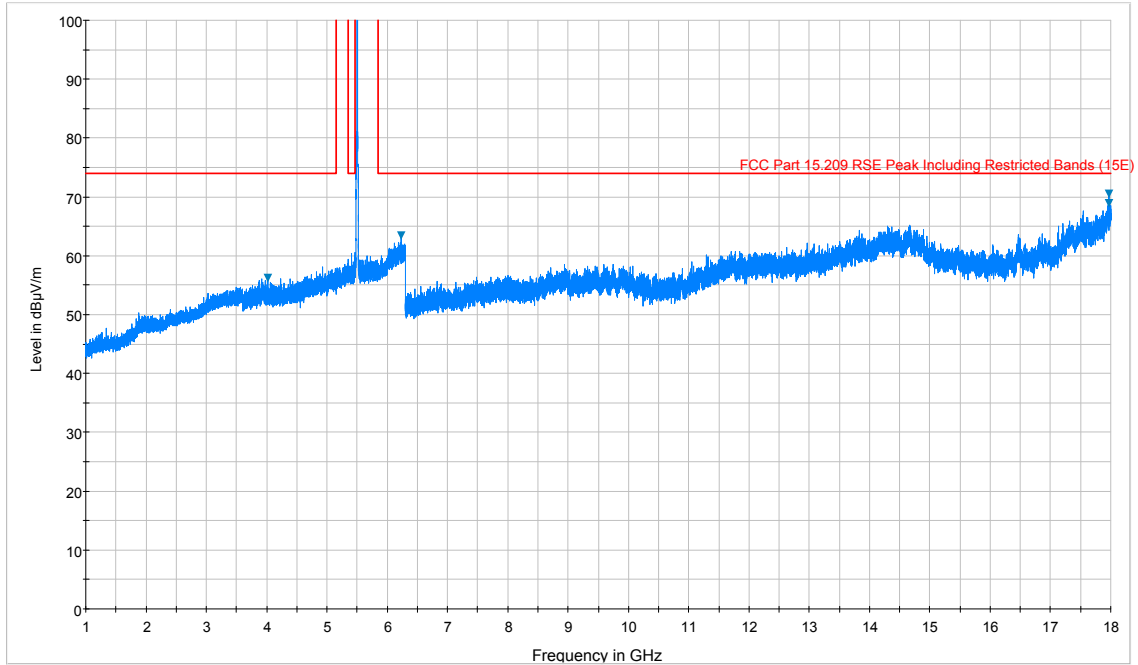
FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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V 6.5

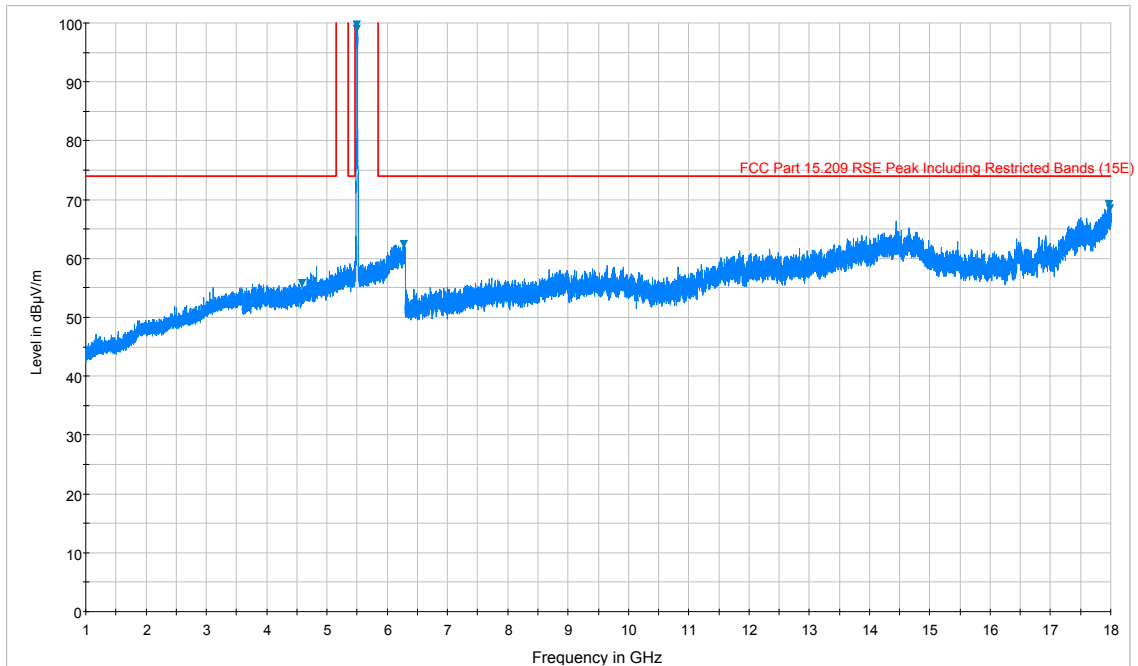
05/19/2017

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Preview Result 1-PK+ FCC Part 15.209 RSE Peak Including Restricted Bands (15E) Final_Result PK+

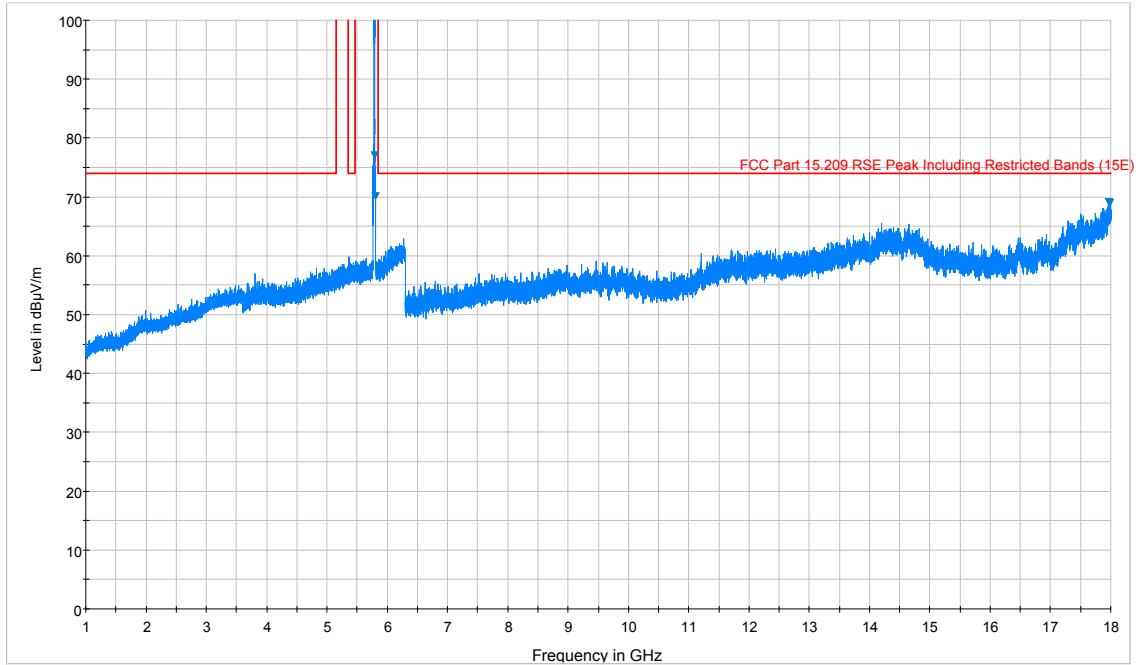
Plot 7-161. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. H)



Preview Result 1-PK+ FCC Part 15.209 RSE Peak Including Restricted Bands (15E) Final_Result PK+

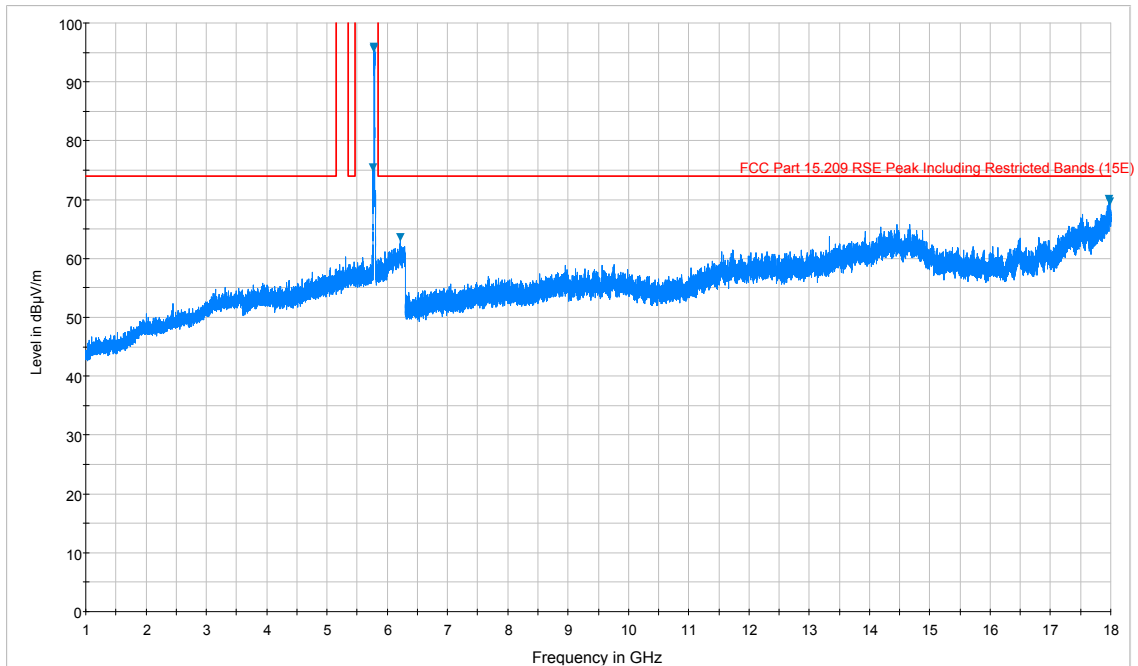
Plot 7-162. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. V)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
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Preview Result 1-PK+ FCC Part 15.209 RSE Peak Including Restricted Bands (15E) Final_Result PK+

Plot 7-163. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



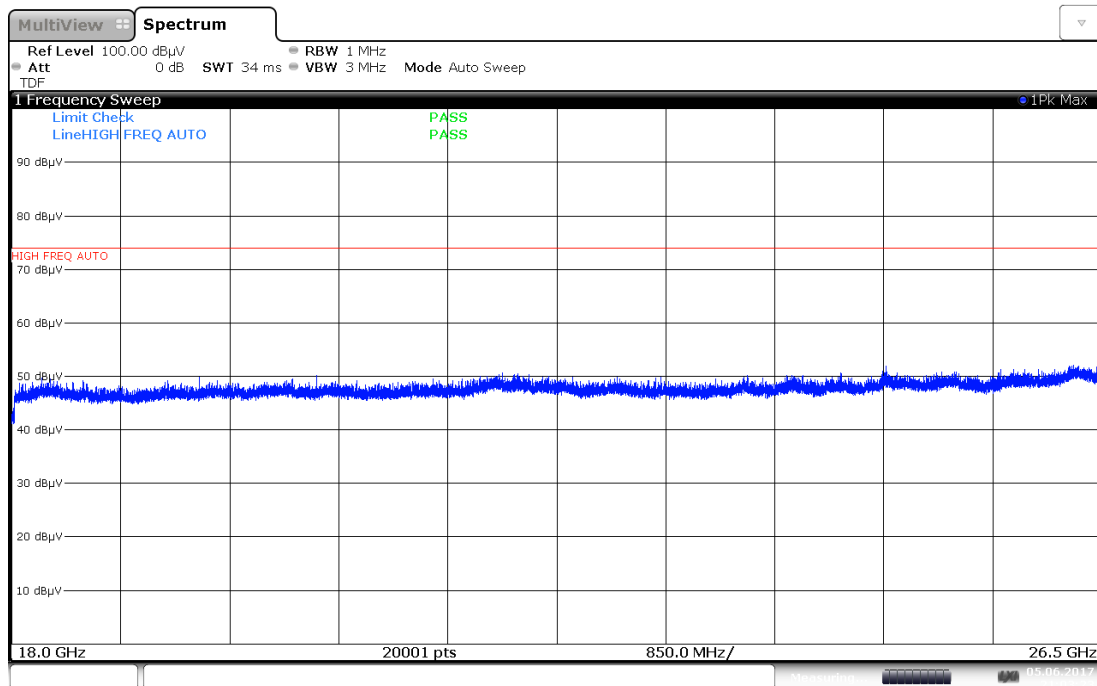
Preview Result 1-PK+ FCC Part 15.209 RSE Peak Including Restricted Bands (15E) Final_Result PK+

Plot 7-164. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

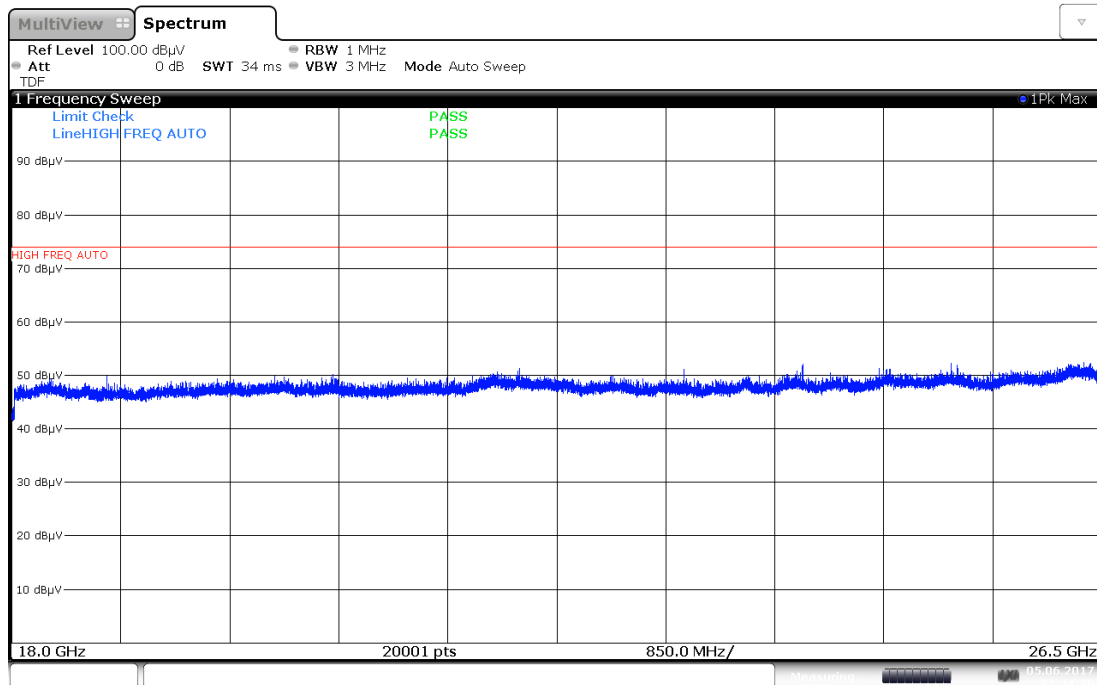
FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 119 of 228

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

\$15.209



Plot 7-165. Radiated Spurious Plot 18GHz - 26.5GHz (802.11a – Ant. Pol. H)

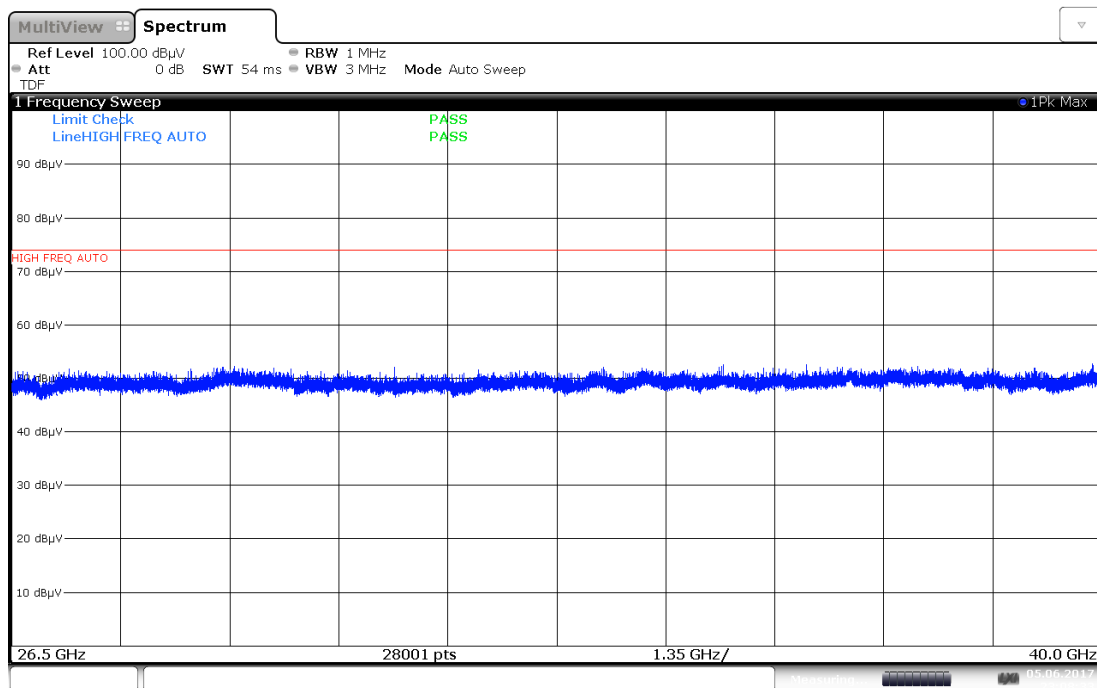


Plot 7-166. Radiated Spurious Plot above 18GHz - 26.5GHz (802.11a – Ant. Pol. V)

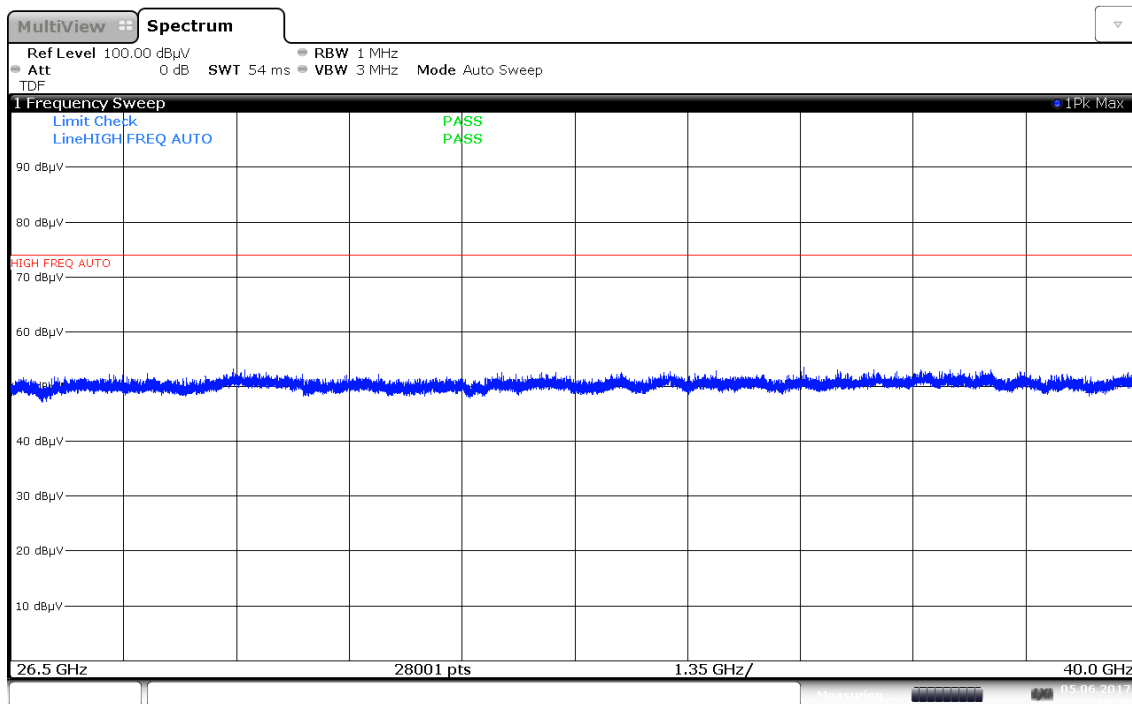
FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz)

\$15.209



Plot 7-167. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a – Ant. Pol. H)



Plot 7-168. Radiated Spurious Plot above 26.5GHz - 40GHz (802.11a – Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Antenna-1 Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
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	V	100	120	-59.30	9.29	-9.54	47.45	68.20	-20.75
* 15540.00	Average	V	-	-	-80.21	11.72	-9.54	28.97	53.98	-25.01
* 15540.00	Peak	V	-	-	-68.20	11.72	-9.54	40.98	73.98	-33.00
* 20720.00	Average	V	100	321	-77.21	8.13	-9.54	28.38	53.98	-25.60
* 20720.00	Peak	V	100	321	-65.62	8.13	-9.54	39.97	73.98	-34.01
25900.00	Peak	V	-	-	-64.13	8.50	-9.54	41.83	68.20	-26.37

Table 7-29. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
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	V	100	235	-61.40	9.33	-9.54	45.39	68.20	-22.81
* 15600.00	Average	V	-	-	-79.58	11.80	-9.54	29.68	53.98	-24.30
* 15600.00	Peak	V	-	-	-67.74	11.80	-9.54	41.52	73.98	-32.46
* 20800.00	Average	V	-	-	-77.15	8.16	-9.54	28.46	53.98	-25.52
* 20800.00	Peak	V	-	-	-65.32	8.16	-9.54	40.29	73.98	-33.69
26000.00	Peak	V	-	-	-63.73	8.52	-9.54	42.25	68.20	-25.95

Table 7-30. Radiated Measurements

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	V	100	230	-61.60	9.39	-9.54	45.25	68.20	-22.95
* 15720.00	Average	V	-	-	-79.33	11.99	-9.54	30.12	53.98	-23.86
* 15720.00	Peak	V	-	-	-68.53	11.99	-9.54	40.92	73.98	-33.06
* 20960.00	Average	V	100	340	-77.07	8.12	-9.54	28.51	53.98	-25.47
* 20960.00	Peak	V	100	340	-65.73	8.12	-9.54	39.85	73.98	-34.13
26200.00	Peak	V	-	-	-64.12	8.62	-9.54	41.96	68.20	-26.24

Table 7-31. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	V	-	-	-66.89	9.29	-9.54	39.86	68.20	-28.34
* 15540.00	Average	V	-	-	-80.16	11.72	-9.54	29.02	53.98	-24.96
* 15540.00	Peak	V	-	-	-68.39	11.72	-9.54	40.79	73.98	-33.19
* 20720.00	Average	V	100	340	-77.21	8.13	-9.54	28.38	53.98	-25.60
* 20720.00	Peak	V	100	340	-65.60	8.13	-9.54	39.99	73.98	-33.99
25900.00	Peak	V	-	-	-64.08	8.50	-9.54	41.88	68.20	-26.32

Table 7-32. Radiated Measurements with WCP

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	V	100	346	-60.82	9.32	-9.54	45.95	68.20	-22.25
* 15780.00	Average	V	-	-	-79.53	11.92	-9.54	29.85	53.98	-24.13
* 15780.00	Peak	V	-	-	-67.39	11.92	-9.54	41.99	73.98	-31.99
* 21040.00	Average	V	100	352	-77.11	8.10	-9.54	28.45	53.98	-25.53
* 21040.00	Peak	V	100	352	-65.48	8.10	-9.54	40.08	73.98	-33.90
26300.00	Peak	V	-	-	-63.40	8.76	-9.54	42.82	68.20	-25.38

Table 7-33. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	V	100	343	-60.84	9.32	-9.54	45.94	68.20	-22.26
* 15840.00	Average	V	-	-	-79.44	12.08	-9.54	30.10	53.98	-23.88
* 15840.00	Peak	V	-	-	-66.80	12.08	-9.54	42.74	73.98	-31.24
* 21120.00	Average	V	-	-	-76.94	8.09	-9.54	28.60	53.98	-25.38
* 21120.00	Peak	V	-	-	-64.45	8.09	-9.54	41.09	73.98	-32.89
26400.00	Peak	V	-	-	-64.20	8.99	-9.54	42.25	68.20	-25.95

Table 7-34. Radiated Measurements

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 124 of 228

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
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	V	100	343	-76.93	9.34	-9.54	29.87	53.98	-24.11
* 10640.00	Peak	V	100	343	-62.40	9.34	-9.54	44.40	73.98	-29.58
* 15960.00	Average	V	-	-	-79.74	12.19	-9.54	29.90	53.98	-24.08
* 15960.00	Peak	V	-	-	-67.79	12.19	-9.54	41.85	73.98	-32.13
* 21280.00	Average	V	-	-	-76.92	8.07	-9.54	28.61	53.98	-25.37
* 21280.00	Peak	V	-	-	-64.40	8.07	-9.54	41.13	73.98	-32.85
26600.00	Peak	V	-	-	-46.11	-8.30	-9.54	43.05	68.20	-25.15

Table 7-35. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
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	V	100	340	-63.42	9.32	-9.54	43.35	68.20	-24.85
* 15780.00	Average	V	-	-	-78.71	11.92	-9.54	30.67	53.98	-23.31
* 15780.00	Peak	V	-	-	-66.66	11.92	-9.54	42.72	73.98	-31.26
* 21040.00	Average	V	100	302	-76.91	8.10	-9.54	28.65	53.98	-25.33
* 21040.00	Peak	V	100	302	-65.16	8.10	-9.54	40.40	73.98	-33.58
26300.00	Peak	V	-	-	-63.50	8.76	-9.54	42.72	68.20	-25.48

Table 7-36. Radiated Measurements with WCP

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	V	100	342	-75.21	9.50	-9.54	31.75	53.98	-22.23
* 11000.00	Peak	V	100	342	-63.71	9.50	-9.54	43.25	73.98	-30.73
16500.00	Peak	V	-	-	-67.47	12.94	-9.54	42.92	68.20	-25.28
22000.00	Peak	V	-	-	-64.90	8.35	-9.54	40.90	68.20	-27.30
27500.00	Peak	V	-	-	-46.46	-8.93	-9.54	42.07	68.20	-26.13

Table 7-37. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	V	100	339	-73.38	10.02	-9.54	34.09	53.98	-19.89
* 11200.00	Peak	V	100	339	-61.64	10.02	-9.54	45.83	73.98	-28.15
16800.00	Peak	V	-	-	-66.34	13.60	-9.54	44.72	68.20	-23.48
* 22400.00	Average	V	-	-	-77.27	8.20	-9.54	28.39	53.98	-25.59
* 22400.00	Peak	V	-	-	-65.58	8.20	-9.54	40.08	73.98	-33.90
28000.00	Peak	V	-	-	-45.95	-9.24	-9.54	42.27	68.20	-25.93

Table 7-38. Radiated Measurements

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 126 of 228

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	V	100	34	-74.90	10.52	-9.54	33.08	53.98	-20.90
* 11440.00	Peak	V	100	34	-62.58	10.52	-9.54	45.40	73.98	-28.58
17160.00	Peak	V	-	-	-66.85	13.06	-9.54	43.67	68.20	-24.53
* 22880.00	Average	V	-	-	-77.69	8.29	-9.54	28.05	53.98	-25.93
* 22880.00	Peak	V	-	-	-65.63	8.29	-9.54	40.11	73.98	-33.87
28600.00	Peak	V	-	-	-46.33	-9.03	-9.54	42.10	68.20	-26.10

Table 7-39. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	V	100	340	-79.92	10.02	-9.54	27.55	53.98	-26.43
* 11200.00	Peak	V	100	340	-68.31	10.02	-9.54	39.16	73.98	-34.82
16800.00	Peak	V	-	-	-67.10	13.60	-9.54	43.96	68.20	-24.24
* 22400.00	Average	V	-	-	-77.34	8.20	-9.54	28.32	53.98	-25.66
* 22400.00	Peak	V	-	-	-65.40	8.20	-9.54	40.26	73.98	-33.72
28000.00	Peak	V	-	-	-46.29	-9.24	-9.54	41.93	68.20	-26.27

Table 7-40. Radiated Measurements with WCP

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 127 of 228

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
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	V	100	330	-75.08	10.61	-9.54	32.98	53.98	-21.00
* 11490.00	Peak	V	100	330	-61.86	10.61	-9.54	46.20	73.98	-27.78
17235.00	Peak	V	-	-	-67.37	13.01	-9.54	43.09	68.20	-25.11
* 22980.00	Average	V	-	-	-77.70	8.19	-9.54	27.95	53.98	-26.03
* 22980.00	Peak	V	-	-	-65.55	8.19	-9.54	40.10	73.98	-33.88
28725.00	Peak	V	-	-	-44.58	-9.45	-9.54	43.43	68.20	-24.77

Table 7-41. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
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	V	100	349	-75.51	10.76	-9.54	32.71	53.98	-21.27
* 11570.00	Peak	V	100	349	-62.84	10.76	-9.54	45.38	73.98	-28.60
17355.00	Peak	V	-	-	-78.46	12.61	-9.54	31.61	68.20	-36.59
23140.00	Peak	V	100	182	-65.08	8.47	-9.54	40.84	68.20	-27.36
28925.00	Peak	V	-	-	-44.26	-9.71	-9.54	43.49	68.20	-24.71

Table 7-42. Radiated Measurements

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 128 of 228

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	V	100	345	-75.97	10.74	-9.54	32.23	53.98	-21.75
* 11650.00	Peak	V	100	345	-62.19	10.74	-9.54	46.01	73.98	-27.97
17475.00	Peak	V	-	-	-67.34	12.57	-9.54	42.69	68.20	-25.51
23300.00	Peak	V	100	332	-65.00	8.60	-9.54	41.06	68.20	-27.14
29125.00	Peak	V	-	-	-44.71	-9.93	-9.54	42.82	68.20	-25.38

Table 7-43. Radiated Measurements

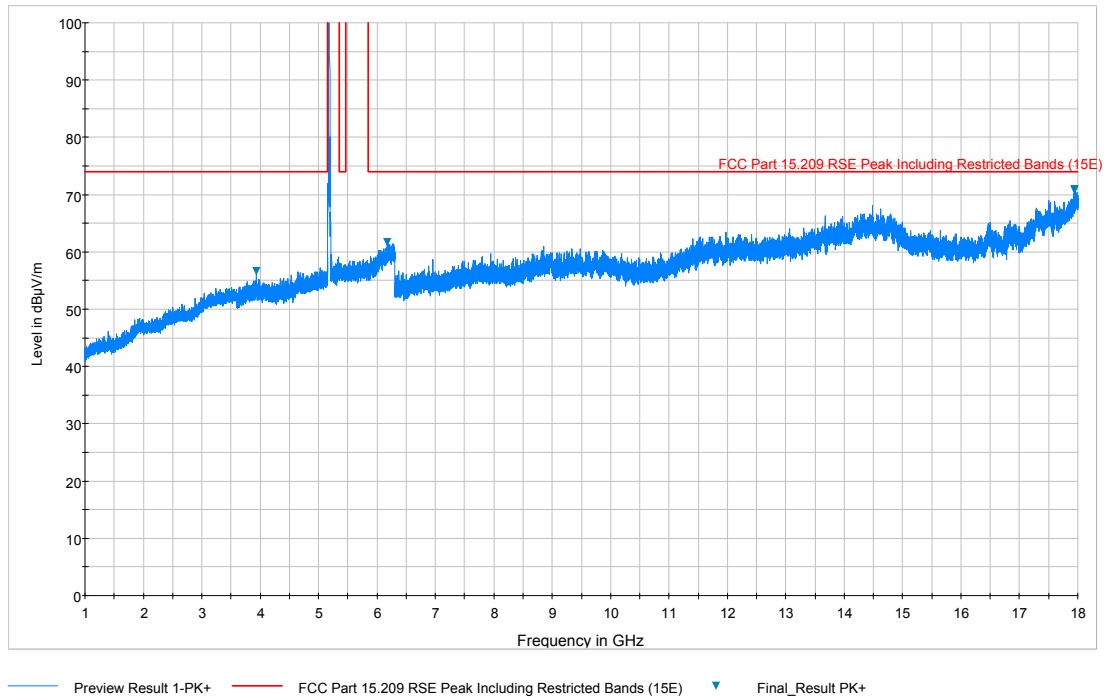
Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 Operating Frequency: 5745MHz
 Channel: 149

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	V	100	344	-78.55	10.61	-9.54	29.51	53.98	-24.47
* 11490.00	Peak	V	100	344	-66.79	10.61	-9.54	41.27	73.98	-32.71
17235.00	Peak	V	-	-	-67.73	13.01	-9.54	42.73	68.20	-25.47
* 22980.00	Average	V	-	-	-77.51	8.19	-9.54	28.14	53.98	-25.84
* 22980.00	Peak	V	-	-	-64.90	8.19	-9.54	40.75	73.98	-33.23
28725.00	Peak	V	-	-	-45.48	-9.45	-9.54	42.53	68.20	-25.67

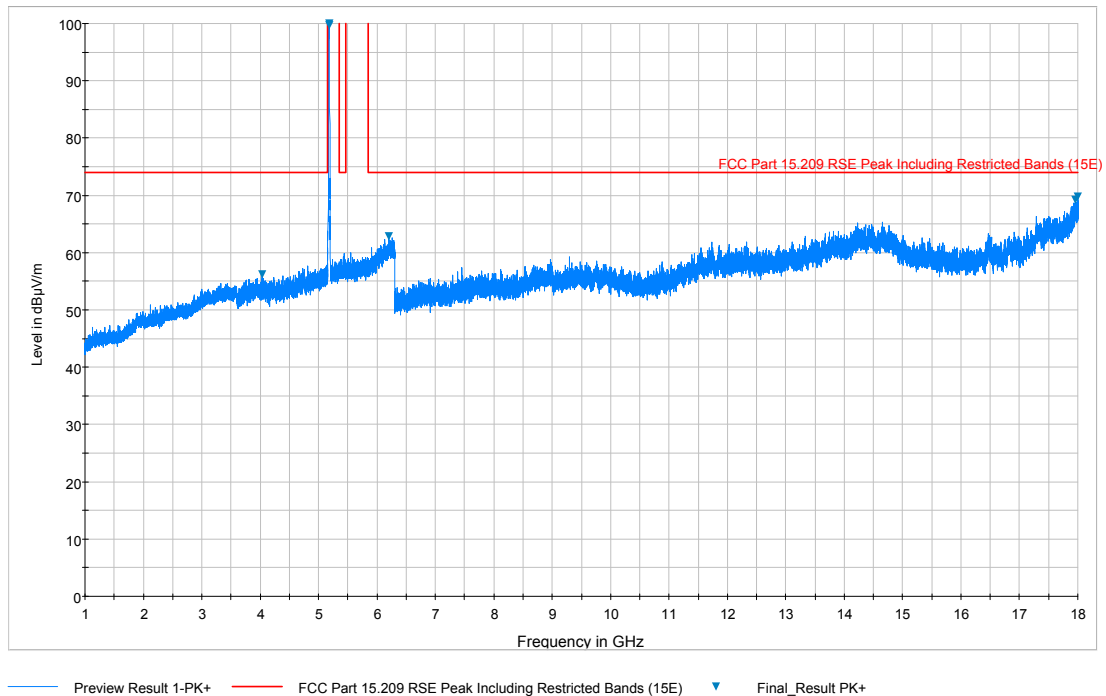
Table 7-44. Radiated Measurements with WCP

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 129 of 228

7.7.2 Antenna-2 Radiated Spurious Emission Measurements

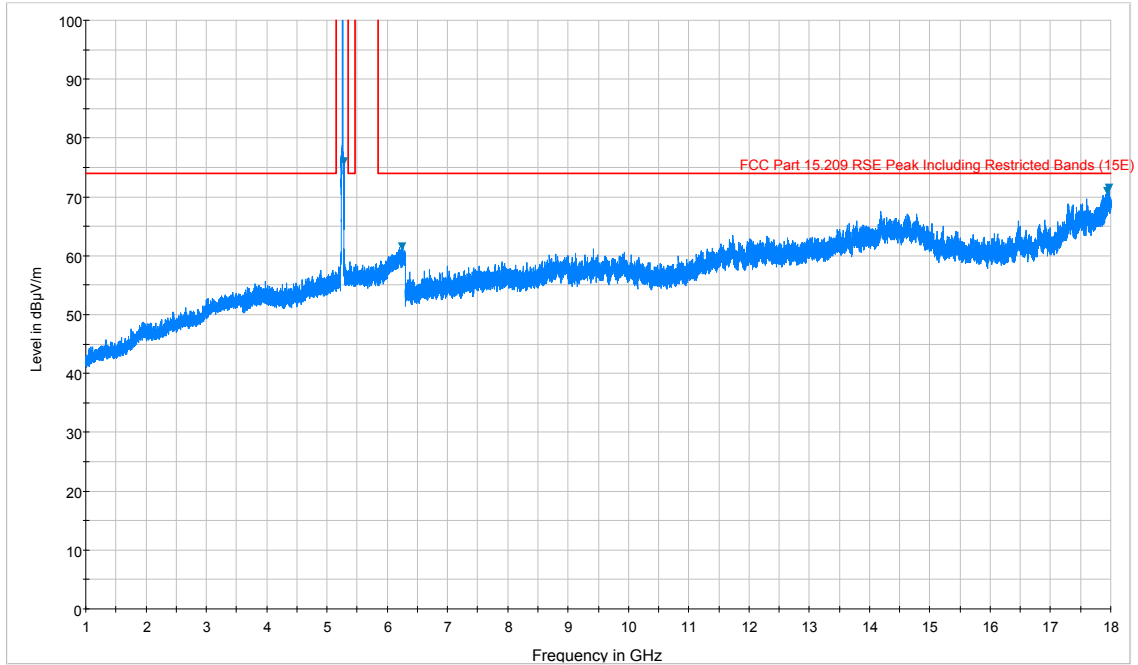


Plot 7-169. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. H)



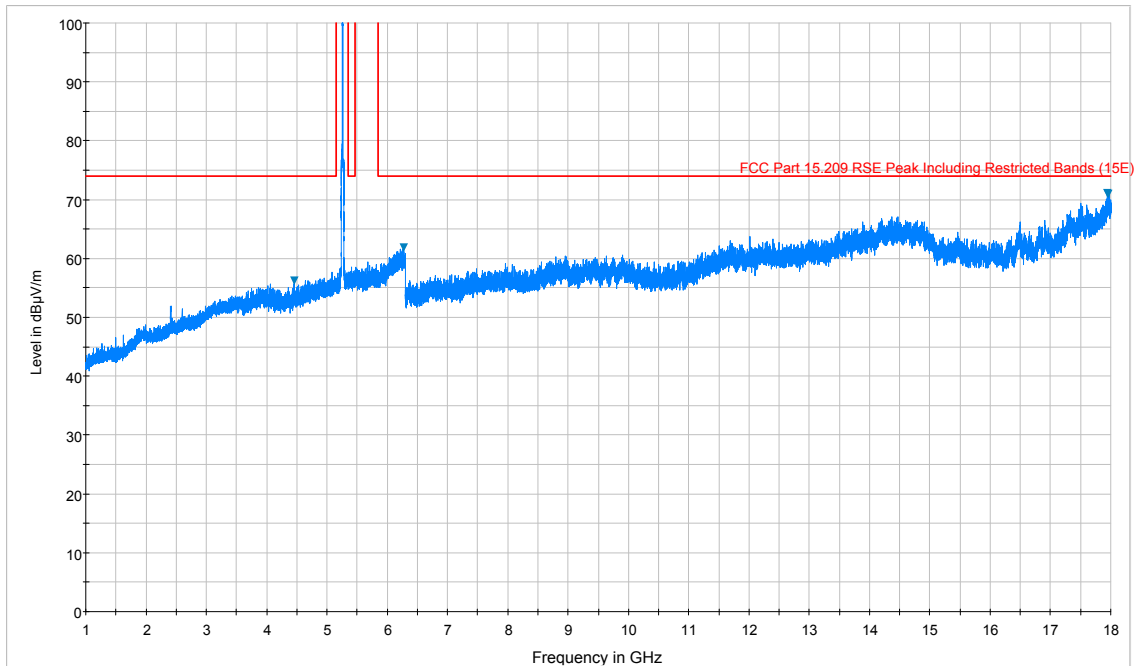
Plot 7-170. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 130 of 228



Preview Result 1-PK+ FCC Part 15.209 RSE Peak Including Restricted Bands (15E) Final_Result PK+

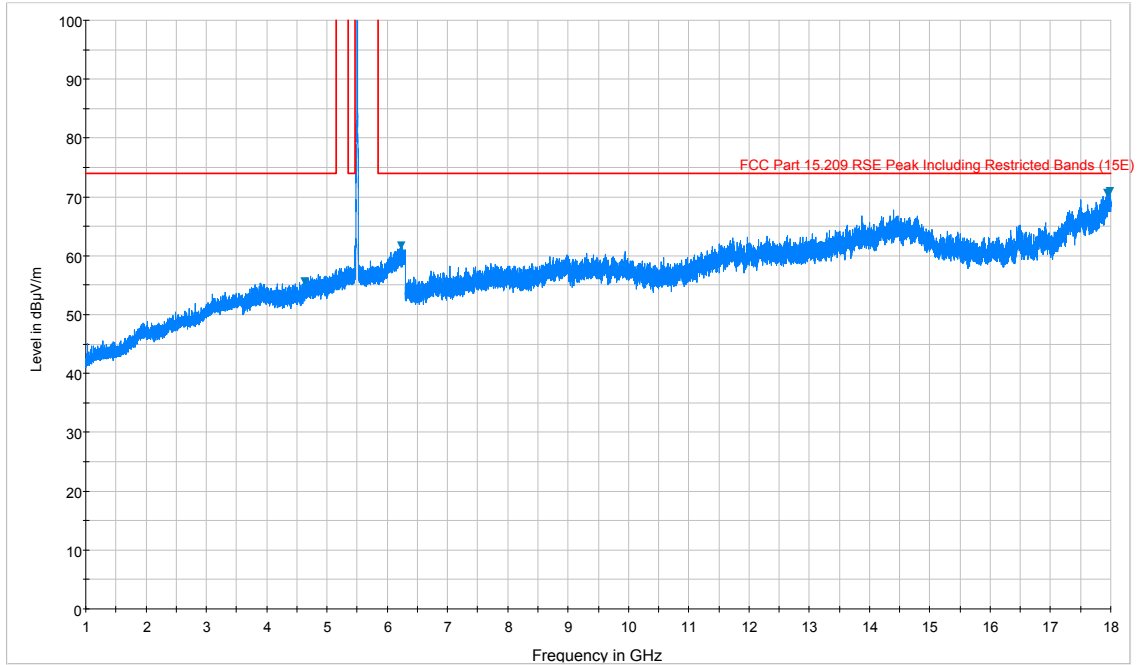
Plot 7-171. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)



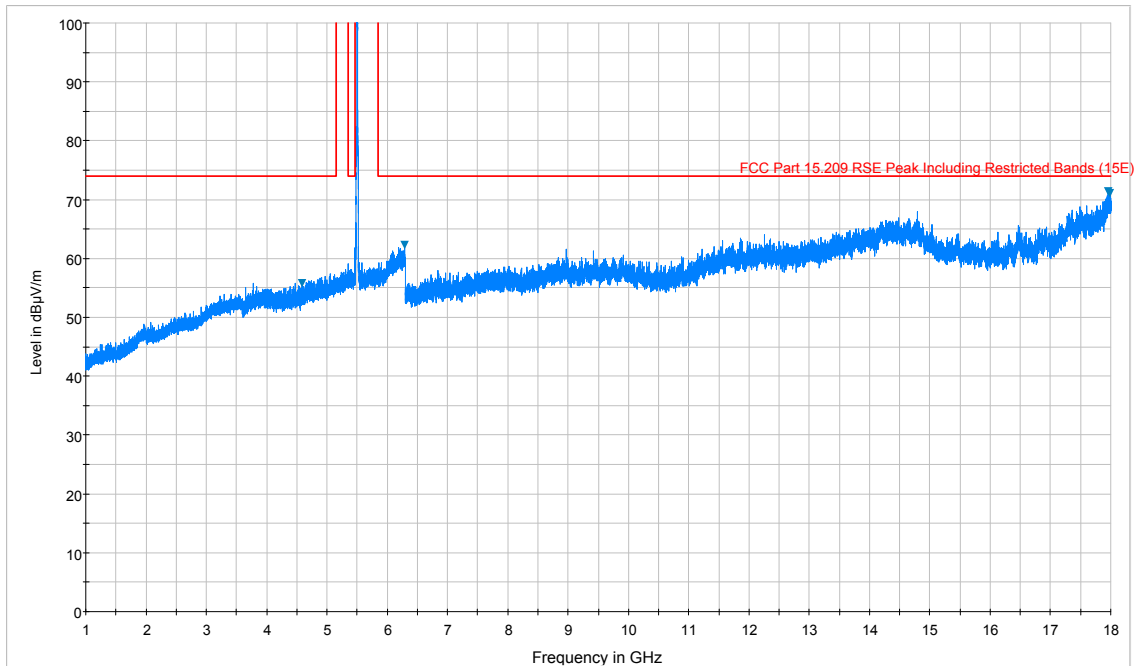
Preview Result 1-PK+ FCC Part 15.209 RSE Peak Including Restricted Bands (15E) Final_Result PK+

Plot 7-172. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 131 of 228

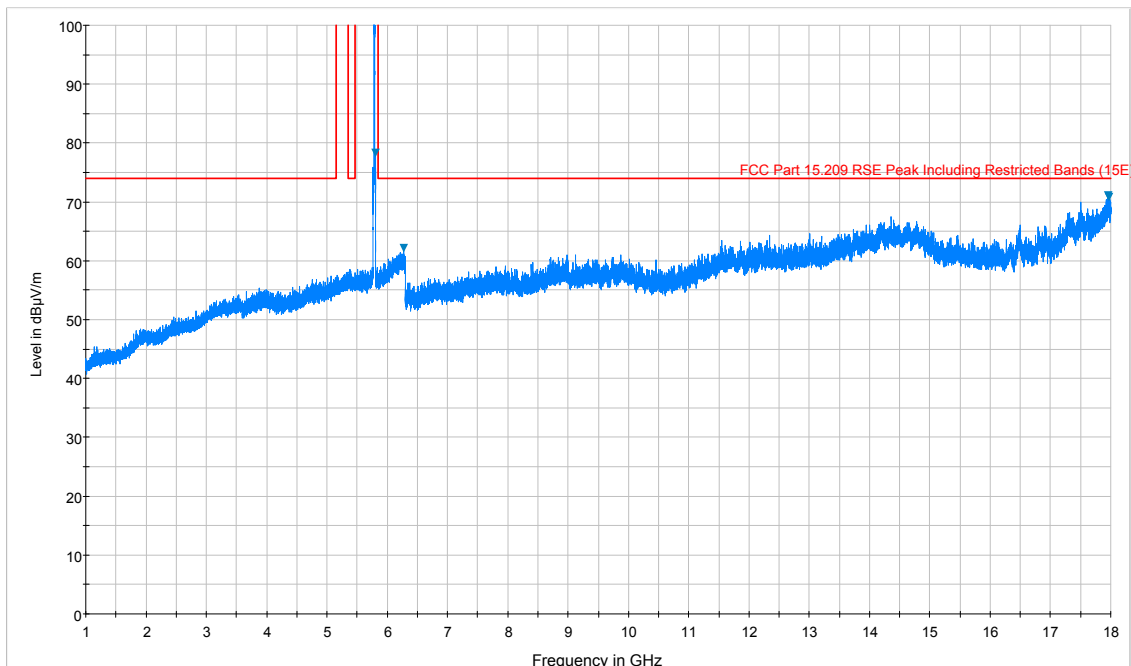


Plot 7-173. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. H)

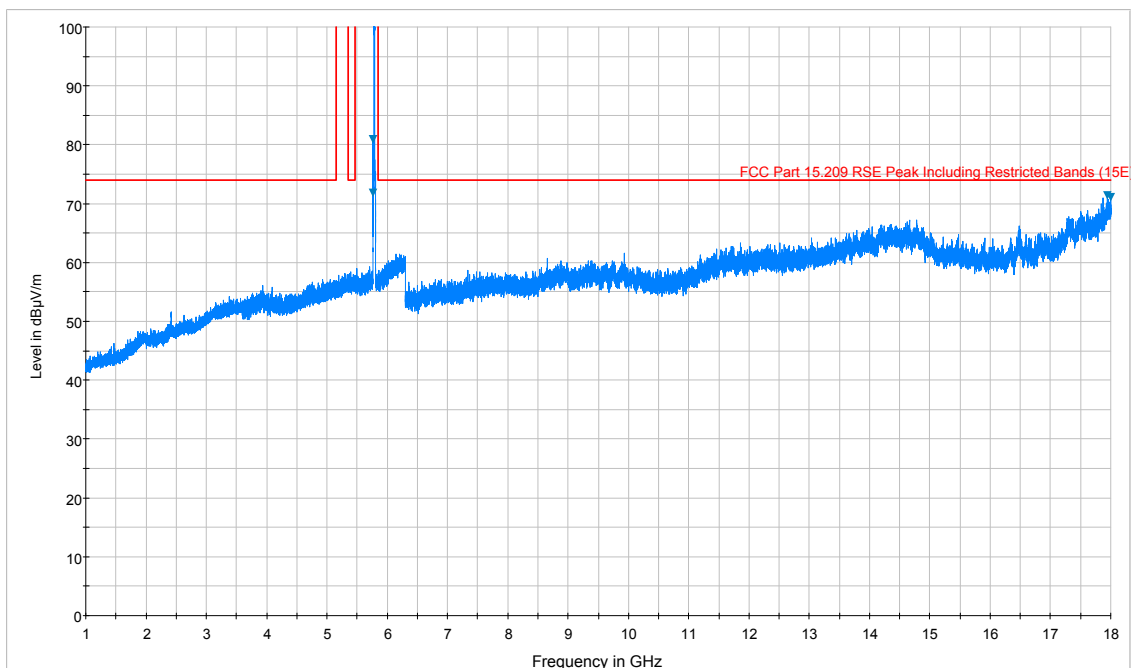


Plot 7-174. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. V)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 132 of 228



Plot 7-175. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)

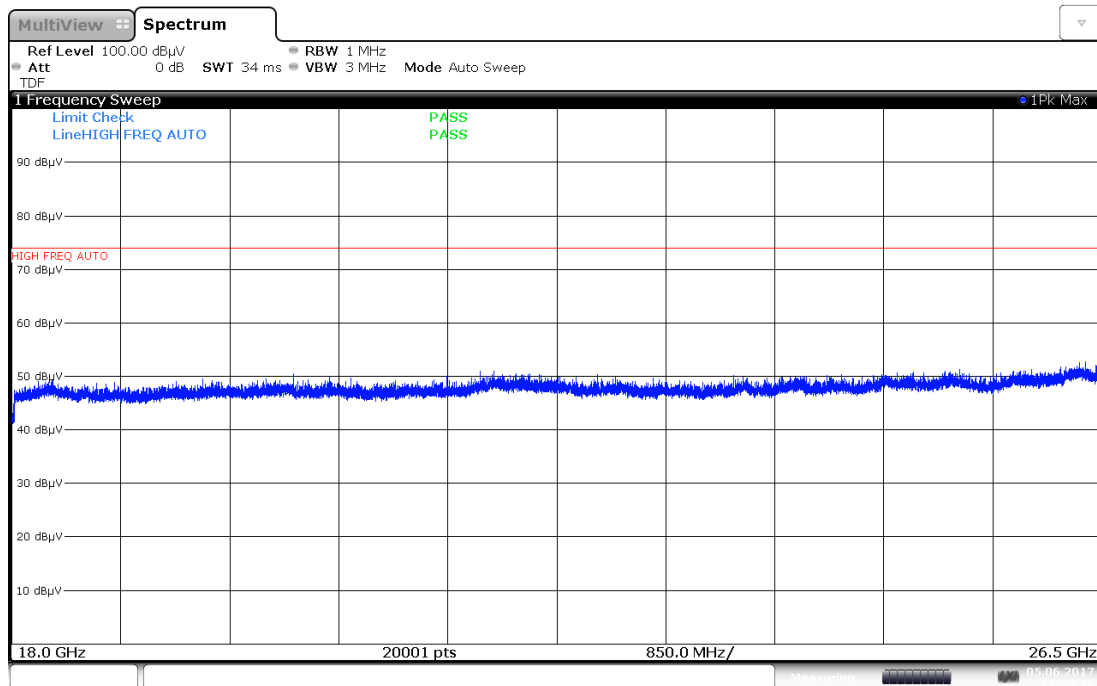


Plot 7-176. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

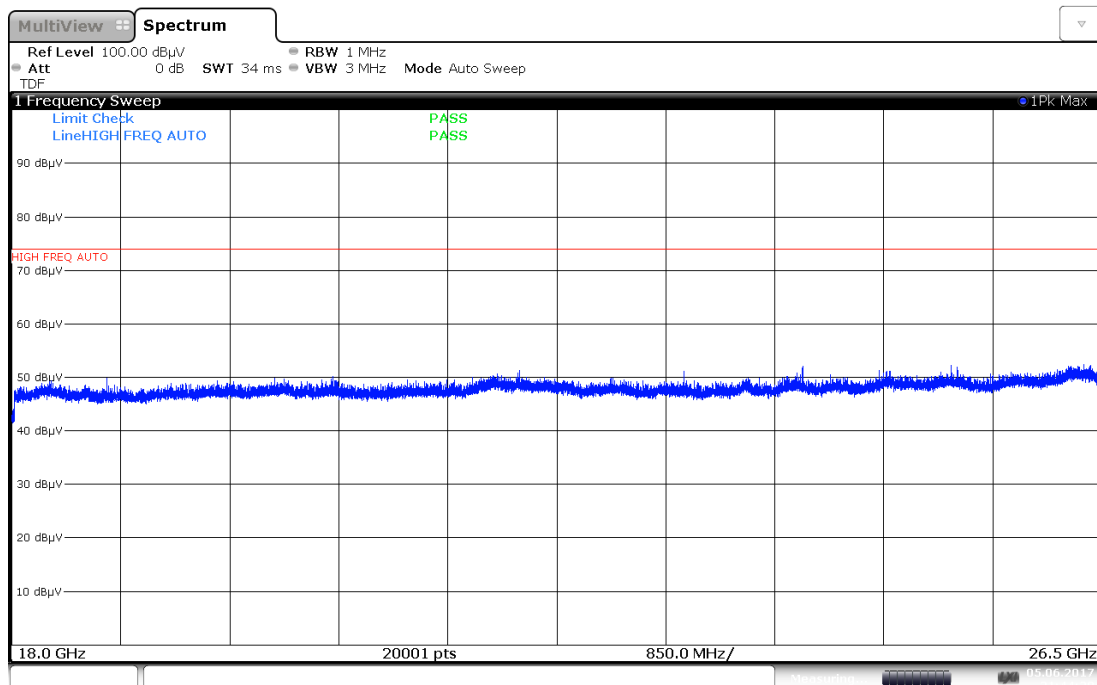
FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 133 of 228

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

\$15.209



Plot 7-177. Radiated Spurious Plot above 18GHz - 26.5GHz (802.11a – Ant. Pol. H)

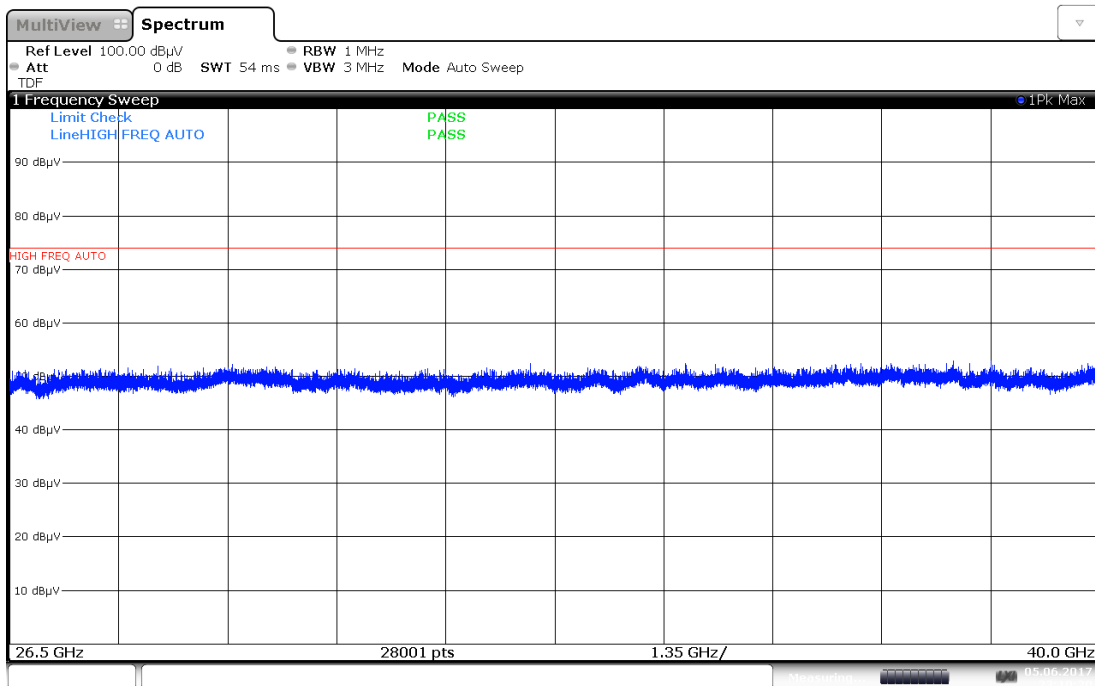


Plot 7-178. Radiated Spurious Plot above 18GHz - 26.5GHz (802.11a – Ant. Pol. V)

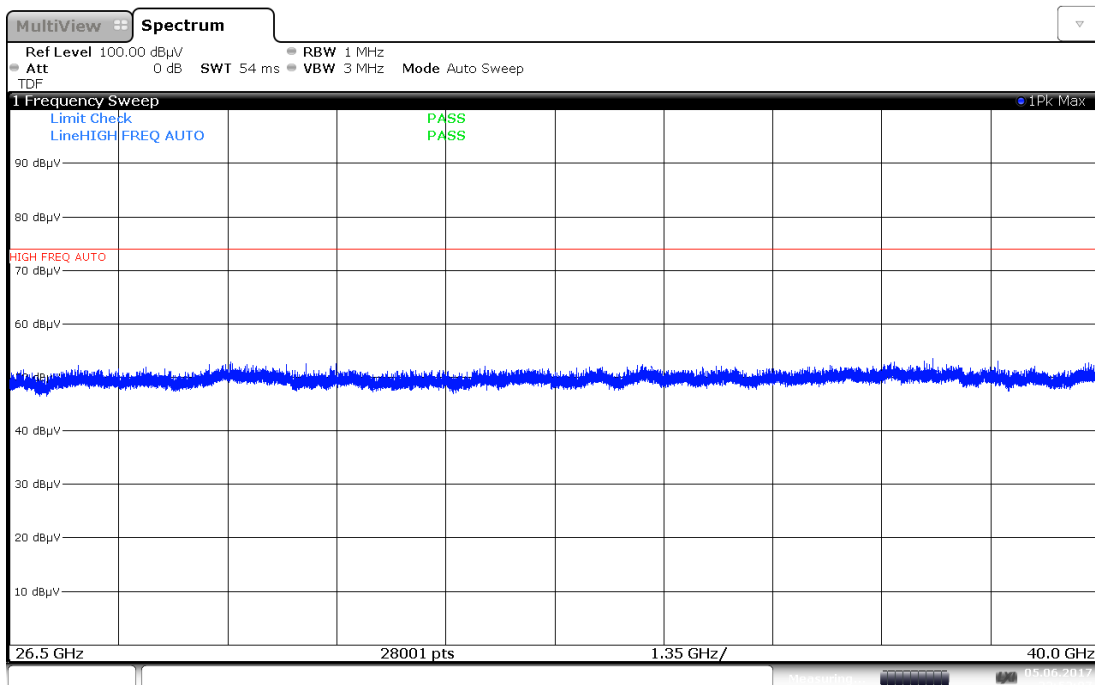
FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 134 of 228

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

\$15.209



Plot 7-179. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a – Ant. Pol. H)



Plot 7-180. Radiated Spurious Plot above 26.5GHz - 40GHz (802.11a – Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 135 of 228

Antenna-2 Radiated Spurious Emission Measurements

§15.247(d) §15.205 & §15.209

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
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	100	114	-66.57	9.30	-9.54	40.18	68.20	-28.02
* 15540.00	Average	H	-	-	-80.12	11.73	-9.54	29.07	53.98	-24.91
* 15540.00	Peak	H	-	-	-68.45	11.73	-9.54	40.74	73.98	-33.24
* 20720.00	Average	H	-	-	-77.60	8.13	-9.54	27.99	53.98	-25.99
* 20720.00	Peak	H	-	-	-65.46	8.13	-9.54	40.13	73.98	-33.85
25900.00	Peak	H	-	-	-64.80	8.50	-9.54	41.16	68.20	-27.04

Table 7-45. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
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	100	115	-65.98	9.34	-9.54	40.82	68.20	-27.38
* 15600.00	Average	H	-	-	-80.32	11.80	-9.54	28.93	53.98	-25.05
* 15600.00	Peak	H	-	-	-69.22	11.80	-9.54	40.03	73.98	-33.95
* 20800.00	Average	H	-	-	-77.43	8.16	-9.54	28.18	53.98	-25.80
* 20800.00	Peak	H	-	-	-66.03	8.16	-9.54	39.58	73.98	-34.40
26000.00	Peak	H	-	-	-63.53	8.52	-9.54	42.45	68.20	-25.75

Table 7-46. Radiated Measurements

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 136 of 228

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
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	100	110	-65.82	9.38	-9.54	41.02	68.20	-27.18
* 15720.00	Average	H	-	-	-79.93	12.01	-9.54	29.54	53.98	-24.44
* 15720.00	Peak	H	-	-	-68.67	12.01	-9.54	40.80	73.98	-33.18
* 20960.00	Average	H	-	-	-77.78	8.12	-9.54	27.80	53.98	-26.18
* 20960.00	Peak	H	-	-	-66.11	8.12	-9.54	39.47	73.98	-34.51
26200.00	Peak	H	-	-	-64.19	8.62	-9.54	41.89	68.20	-26.31

Table 7-47. Radiated Measurements

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6 Mbps
Distance of Measurements: 1 Meter
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	100	120	-68.80	9.38	-9.54	38.04	68.20	-30.16
* 15720.00	Average	H	-	-	-80.32	12.01	-9.54	29.15	53.98	-24.83
* 15720.00	Peak	H	-	-	-68.26	12.01	-9.54	41.21	73.98	-32.77
* 20960.00	Average	H	-	-	-78.17	8.12	-9.54	27.41	53.98	-26.57
* 20960.00	Peak	H	-	-	-66.12	8.12	-9.54	39.46	73.98	-34.52
26200.00	Peak	H	-	-	-64.39	8.62	-9.54	41.69	68.20	-26.51

Table 7-48. Radiated Measurements with WCP

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 137 of 228

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	324	-65.92	9.31	-9.54	40.84	68.20	-27.36
* 15780.00	Average	H	-	-	-79.60	11.91	-9.54	29.77	53.98	-24.21
* 15780.00	Peak	H	-	-	-68.01	11.91	-9.54	41.36	73.98	-32.62
* 21040.00	Average	H	-	-	-77.79	8.10	-9.54	27.77	53.98	-26.21
* 21040.00	Peak	H	-	-	-66.81	8.10	-9.54	38.75	73.98	-35.23
26300.00	Peak	H	-	-	-64.37	8.76	-9.54	41.85	68.20	-26.35

Table 7-49. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	165	-66.06	9.32	-9.54	40.72	68.20	-27.48
* 15840.00	Average	H	-	-	-79.51	12.08	-9.54	30.03	53.98	-23.95
* 15840.00	Peak	H	-	-	-67.54	12.08	-9.54	42.00	73.98	-31.98
* 21120.00	Average	H	-	-	-77.33	8.09	-9.54	28.21	53.98	-25.77
* 21120.00	Peak	H	-	-	-65.66	8.09	-9.54	39.88	73.98	-34.10
26400.00	Peak	H	-	-	-62.97	8.99	-9.54	43.48	68.20	-24.72

Table 7-50. Radiated Measurements

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 138 of 228

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	331	-79.37	9.36	-9.54	27.45	53.98	-26.53
* 10640.00	Peak	H	100	331	-67.92	9.36	-9.54	38.90	73.98	-35.08
* 15960.00	Average	H	-	-	-79.74	12.18	-9.54	29.90	53.98	-24.08
* 15960.00	Peak	H	-	-	-67.98	12.18	-9.54	41.66	73.98	-32.32
* 21280.00	Average	H	-	-	-77.37	8.07	-9.54	28.16	53.98	-25.82
* 21280.00	Peak	H	-	-	-64.26	8.07	-9.54	41.27	73.98	-32.71
26600.00	Peak	H	-	-	-46.90	-8.30	-9.54	42.26	68.20	-25.94

Table 7-51. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	345	-79.62	9.36	-9.54	27.20	53.98	-26.78
* 10640.00	Peak	H	100	345	-67.89	9.36	-9.54	38.93	73.98	-35.05
* 15960.00	Average	H	-	-	-79.51	12.18	-9.54	30.13	53.98	-23.85
* 15960.00	Peak	H	-	-	-67.15	12.18	-9.54	42.49	73.98	-31.49
* 21280.00	Average	H	-	-	-77.09	8.07	-9.54	28.44	53.98	-25.54
* 21280.00	Peak	H	-	-	-65.00	8.07	-9.54	40.53	73.98	-33.45
26600.00	Peak	H	-	-	-47.26	-8.30	-9.54	41.90	68.20	-26.30

Table 7-52. Radiated Measurements with WCP

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 139 of 228

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	-	-	-80.55	9.46	-9.54	26.36	53.98	-27.62
* 11000.00	Peak	H	-	-	-68.48	9.46	-9.54	38.43	73.98	-35.55
16500.00	Peak	H	-	-	-68.04	12.90	-9.54	42.32	68.20	-25.88
22000.00	Peak	H	-	-	-64.43	8.35	-9.54	41.37	68.20	-26.83
27500.00	Peak	H	-	-	-46.98	-8.93	-9.54	41.55	68.20	-26.65

Table 7-53. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	318	-76.31	9.97	-9.54	31.12	53.98	-22.86
* 11200.00	Peak	H	100	318	-61.45	9.97	-9.54	45.98	73.98	-28.00
16800.00	Peak	H	-	-	-67.70	13.58	-9.54	43.33	68.20	-24.87
* 22400.00	Average	H	-	-	-77.67	8.20	-9.54	27.99	53.98	-25.99
* 22400.00	Peak	H	-	-	-66.28	8.20	-9.54	39.38	73.98	-34.60
28000.00	Peak	H	-	-	-46.44	-9.24	-9.54	41.78	68.20	-26.42

Table 7-54. Radiated Measurements

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 140 of 228

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	325	-76.26	10.34	-9.54	31.54	53.98	-22.44
* 11440.00	Peak	H	100	325	-62.24	10.34	-9.54	45.56	73.98	-28.42
17160.00	Peak	H	-	-	-67.64	13.23	-9.54	43.05	68.20	-25.15
* 22880.00	Average	H	-	-	-77.93	8.29	-9.54	27.81	53.98	-26.17
* 22880.00	Peak	H	-	-	-65.57	8.29	-9.54	40.17	73.98	-33.81
28600.00	Peak	H	-	-	-45.54	-9.03	-9.54	42.89	68.20	-25.31

Table 7-55. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	325	-79.91	10.34	-9.54	27.89	53.98	-26.09
* 11440.00	Peak	H	100	325	-66.98	10.34	-9.54	40.82	73.98	-33.16
17160.00	Peak	H	-	-	-67.91	13.23	-9.54	42.78	68.20	-25.42
* 22880.00	Average	H	-	-	-78.10	8.29	-9.54	27.64	53.98	-26.34
* 22880.00	Peak	H	-	-	-65.87	8.29	-9.54	39.87	73.98	-34.11
28600.00	Peak	H	-	-	-44.94	-9.03	-9.54	43.49	68.20	-24.71

Table 7-56. Radiated Measurements with WCP

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 141 of 228

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	332	-75.79	10.51	-9.54	32.18	53.98	-21.80
* 11490.00	Peak	H	100	332	-62.15	10.51	-9.54	45.82	73.98	-28.16
17235.00	Peak	H	-	-	-67.49	13.09	-9.54	43.05	68.20	-25.15
* 22980.00	Average	H	-	-	-77.66	8.19	-9.54	27.99	53.98	-25.99
* 22980.00	Peak	H	-	-	-65.65	8.19	-9.54	40.00	73.98	-33.98
28725.00	Peak	H	-	-	-45.66	-9.45	-9.54	42.35	68.20	-25.85

Table 7-57. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	145	-75.70	10.60	-9.54	32.36	53.98	-21.62
* 11570.00	Peak	H	100	145	-63.35	10.60	-9.54	44.71	73.98	-29.27
17355.00	Peak	H	-	-	-67.25	12.68	-9.54	42.89	68.20	-25.31
23140.00	Peak	H	-	-	-65.86	8.47	-9.54	40.06	68.20	-28.14
28925.00	Peak	H	-	-	-45.38	-9.71	-9.54	42.37	68.20	-25.83

Table 7-58. Radiated Measurements

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 142 of 228

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	144	-76.75	10.62	-9.54	31.33	53.98	-22.65
* 11650.00	Peak	H	100	144	-64.88	10.62	-9.54	43.20	73.98	-30.78
17475.00	Peak	H	-	-	-68.36	12.60	-9.54	41.70	68.20	-26.50
23300.00	Peak	H	-	-	-66.09	8.60	-9.54	39.97	68.20	-28.23
29125.00	Peak	H	-	-	-45.33	-9.93	-9.54	42.20	68.20	-26.00

Table 7-59. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 Meter
 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	100	145	-79.36	10.62	-9.54	28.72	53.98	-25.26
* 11650.00	Peak	H	100	145	-68.00	10.62	-9.54	40.08	73.98	-33.90
17475.00	Peak	H	-	-	-68.20	12.60	-9.54	41.86	68.20	-26.34
23300.00	Peak	H	-	-	-65.65	8.60	-9.54	40.41	68.20	-27.79
29125.00	Peak	H	-	-	-45.36	-9.93	-9.54	42.17	68.20	-26.03

Table 7-60. Radiated Measurements with WCP

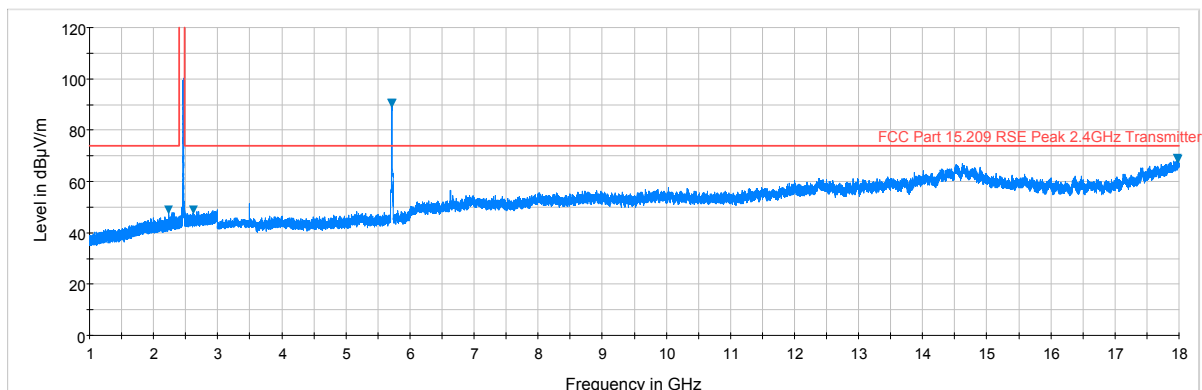
FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 143 of 228

7.7.3 Simultaneous Tx Radiated Spurious Emissions Measurements

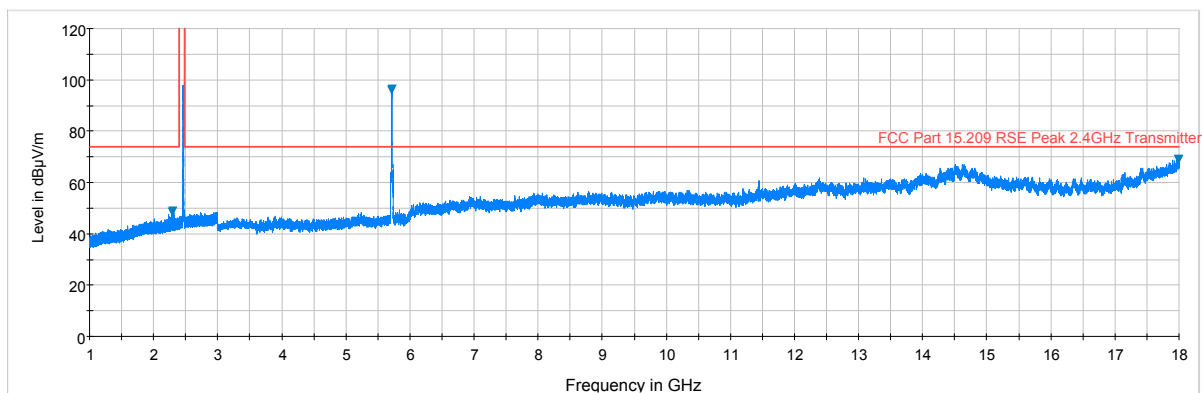
§15.247(d) §15.205 & §15.209

Description	2.4 GHz Emission	5 GHz Emission
Antenna	1	2
Channel	11	149
Operating Frequency (MHz)	2462	5745
Data Rate (Mbps)	6	6
Mode	802.11g	802.11a

Table 7-61. Simultaneous Transmission Config-1

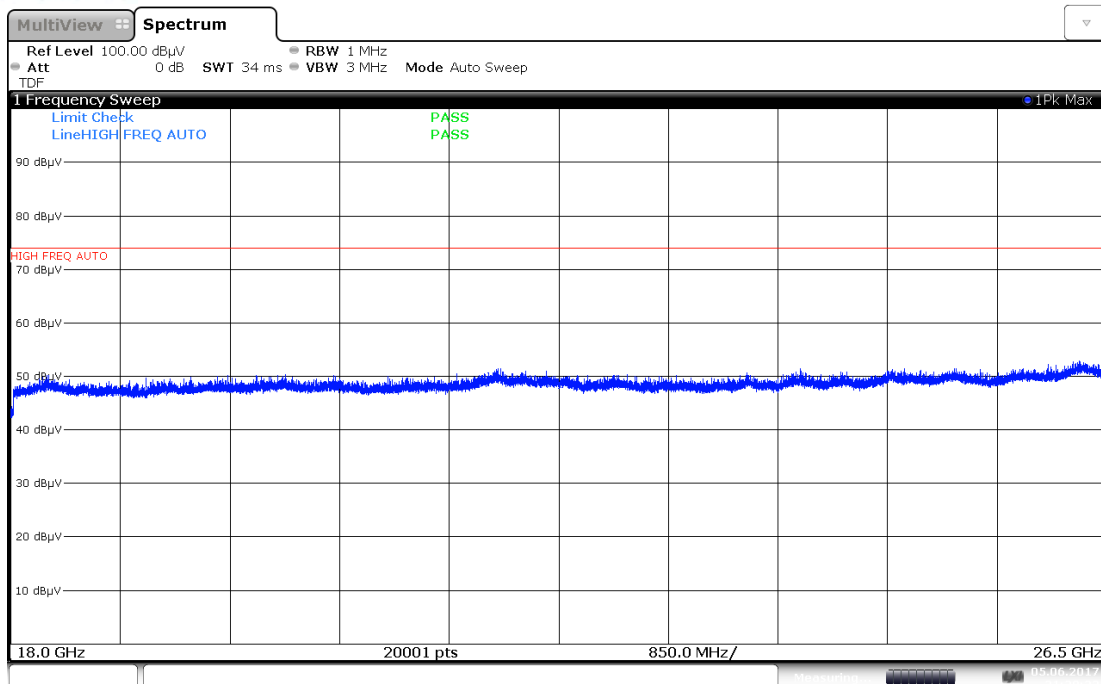


Plot 7-181. Radiated Spurious Plot above 1GHz (2.4GHz – 5GHz, Ant. Pol. H)

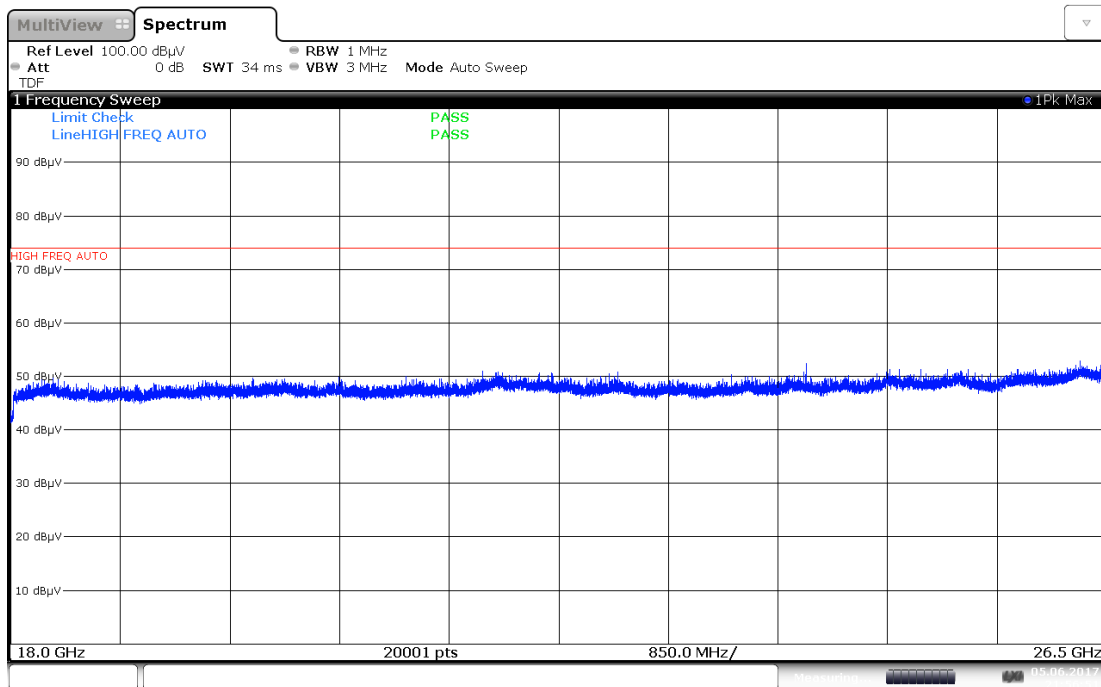


Plot 7-182. Radiated Spurious Plot above 1GHz (2.4GHz – 5GHz, Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 144 of 228	

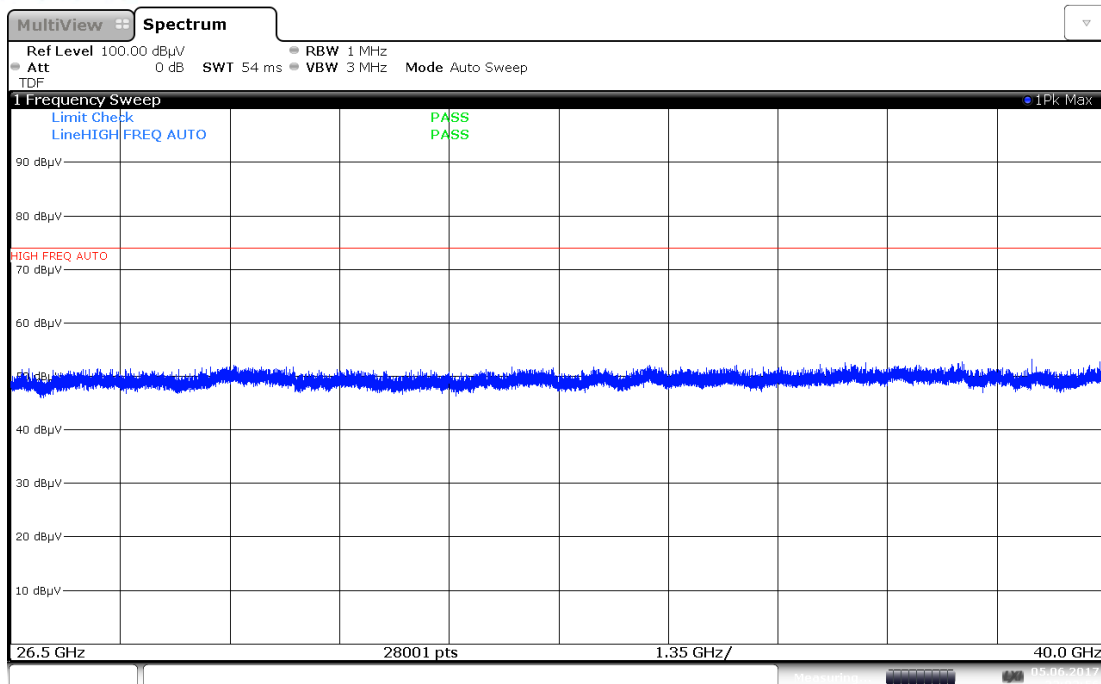


Plot 7-183. Radiated Spurious Plot 18GHz – 26.5GHz (2.4GHz – 5GHz, Ant. Pol. H)



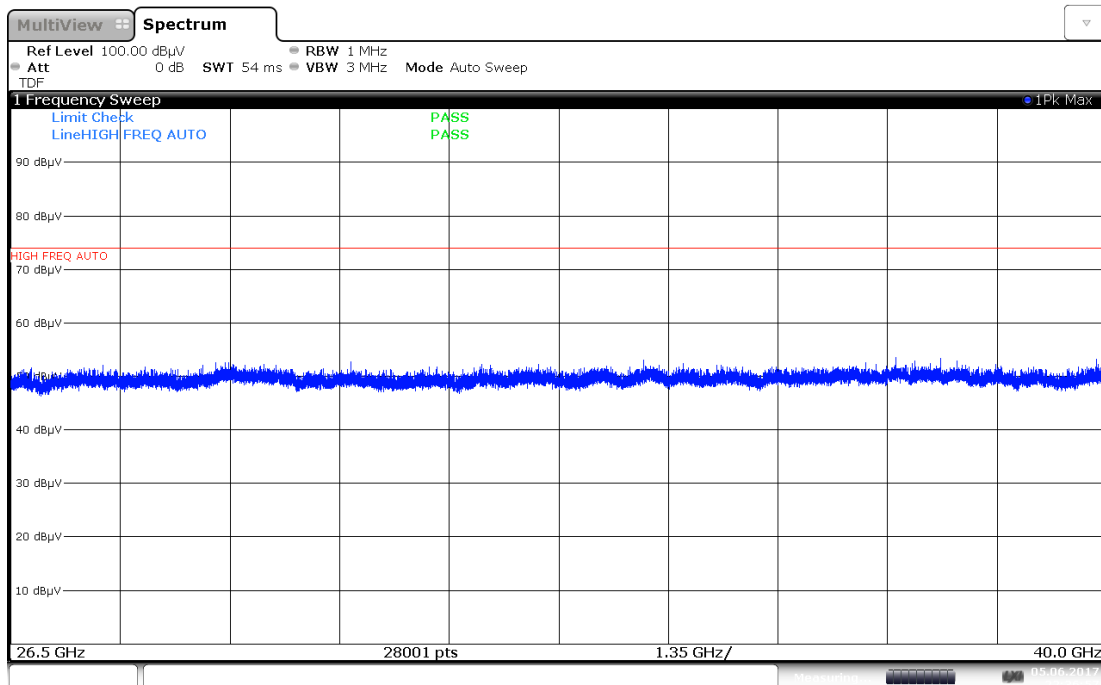
Plot 7-184. Radiated Spurious Plot 18GHz – 26.5GHz (2.4GHz – 5GHz, Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 145 of 228



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Plot 7-185. Radiated Spurious Plot above 26.5GHz (2.4GHz – 5GHz, Ant. Pol. H)



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Plot 7-186. Radiated Spurious Plot above 26.5GHz (2.4GHz – 5GHz, Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 146 of 228

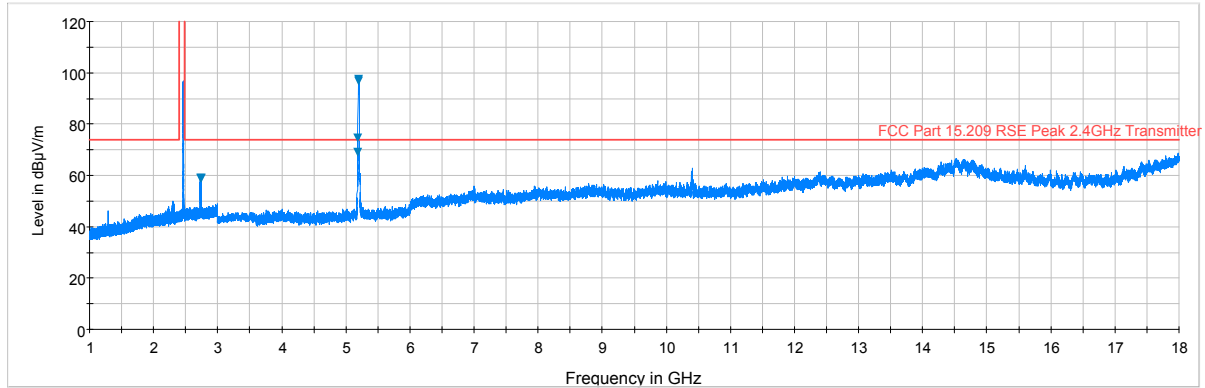
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V 6.5
05/19/2017

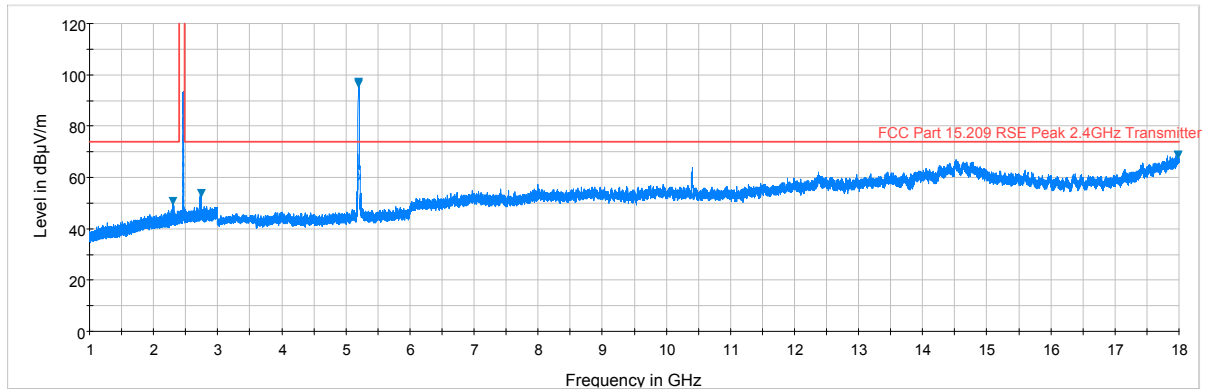
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Description	2.4 GHz Emission	5 GHz Emission
Antenna	2	1
Channel	11	36
Operating Frequency (MHz)	2462	5180
Data Rate (Mbps)	6	6
Mode	802.11g	802.11a

Table 7-62. Simultaneous Transmission Config-2

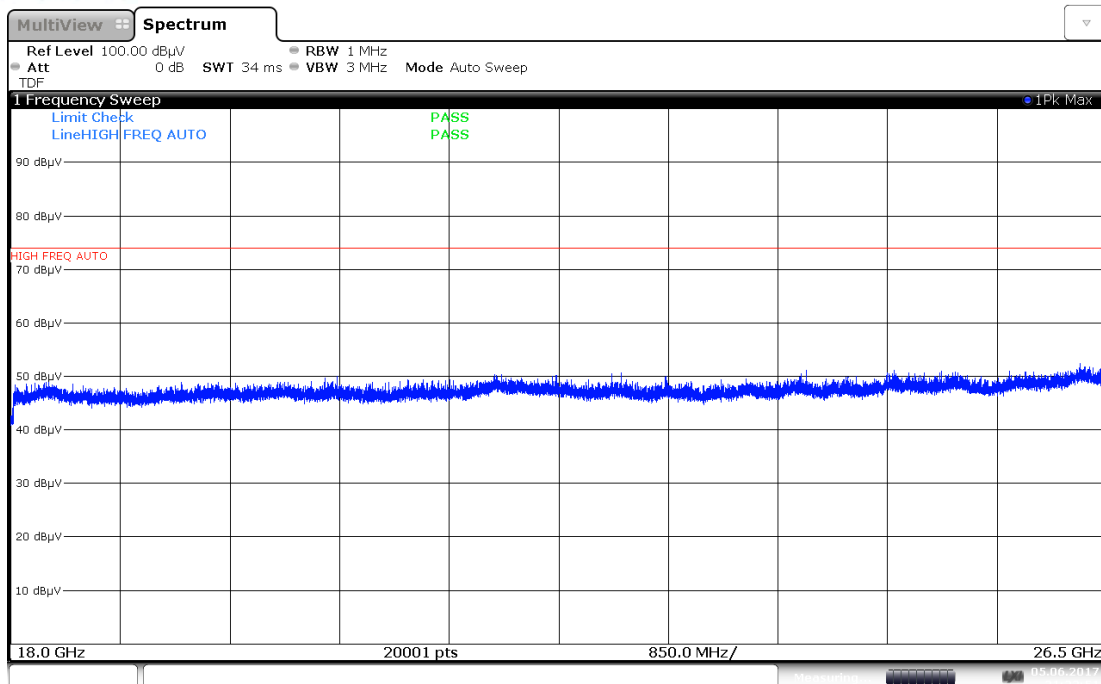


Plot 7-187. Radiated Spurious Plot above 1GHz (5GHz – 2.4 GHz, Ant. Pol. H)

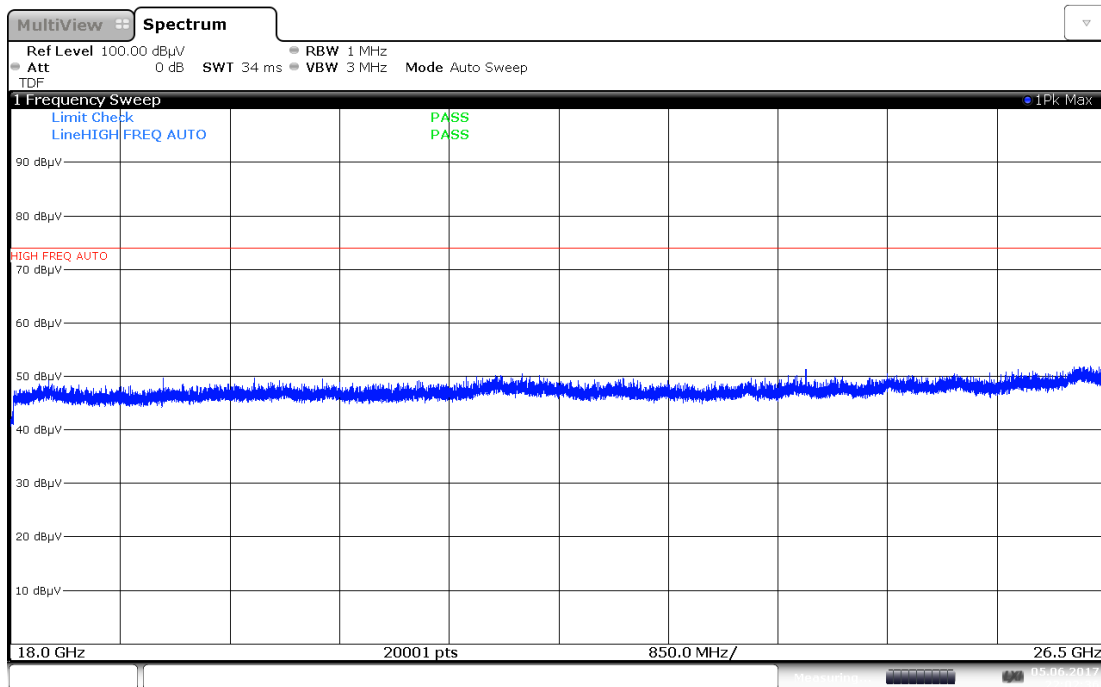


Plot 7-188. Radiated Spurious Plot above 1GHz (5GHz – 2.4 GHz, Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 147 of 228	

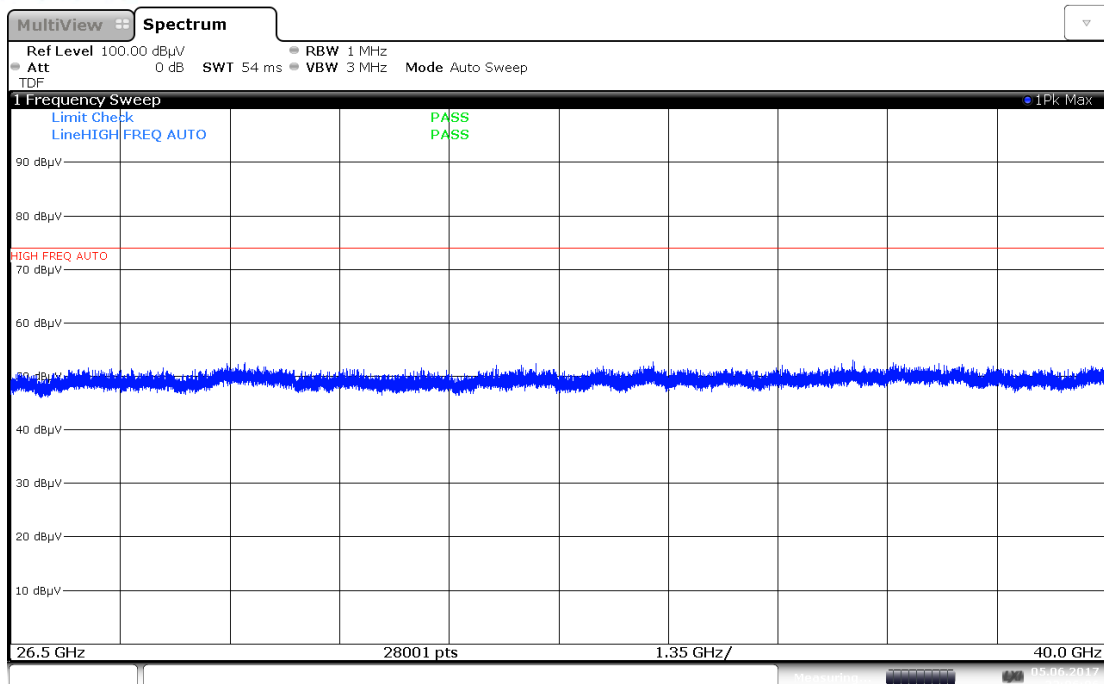


Plot 7-189. Radiated Spurious Plot 18GHz – 26.5GHz (5GHz – 2.4 GHz, Ant. Pol. H)



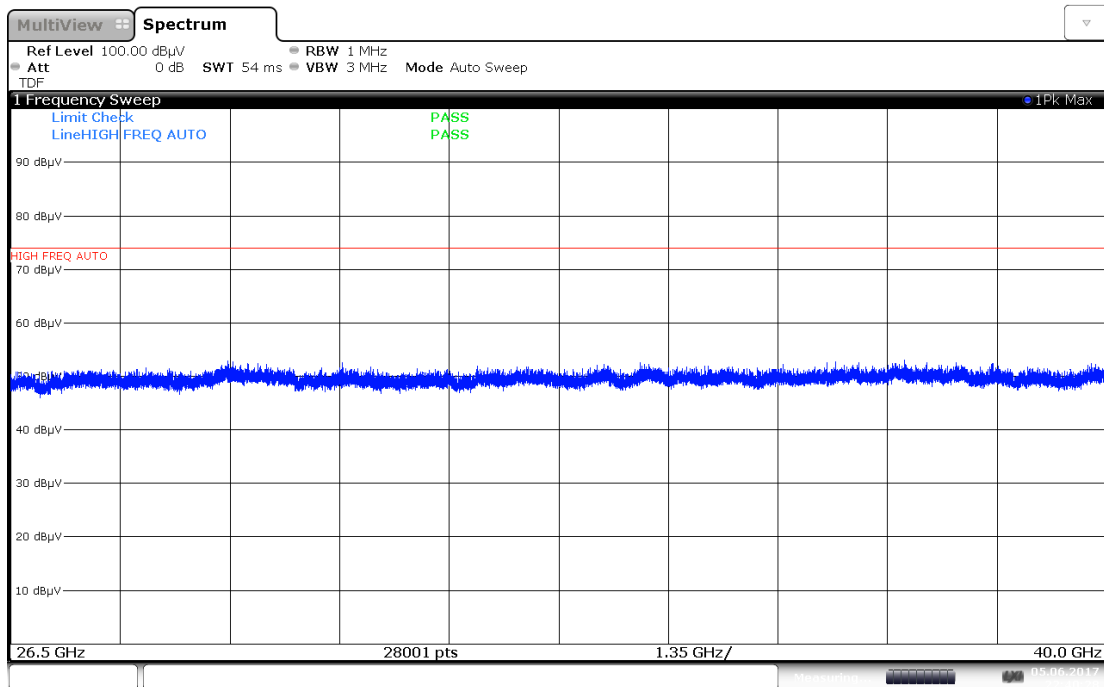
Plot 7-190. Radiated Spurious Plot 18GHz – 26.5GHz (5GHz – 2.4 GHz, Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 148 of 228



23:06:06 05.06.2017

Plot 7-191. Radiated Spurious Plot above 26.5GHz (5GHz – 2.4 GHz, Ant. Pol. H)



22:40:28 05.06.2017

Plot 7-192. Radiated Spurious Plot above 26.5GHz (5GHz – 2.4 GHz, Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 149 of 228

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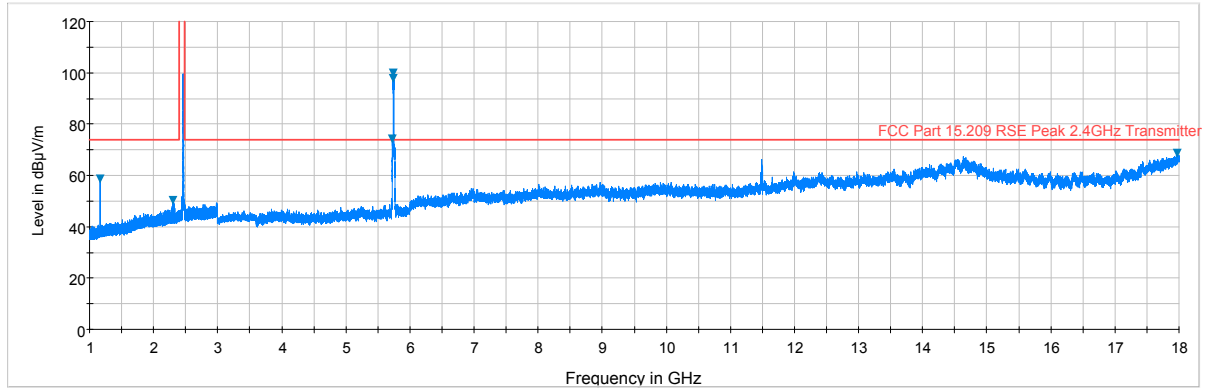
V 6.5

05/19/2017

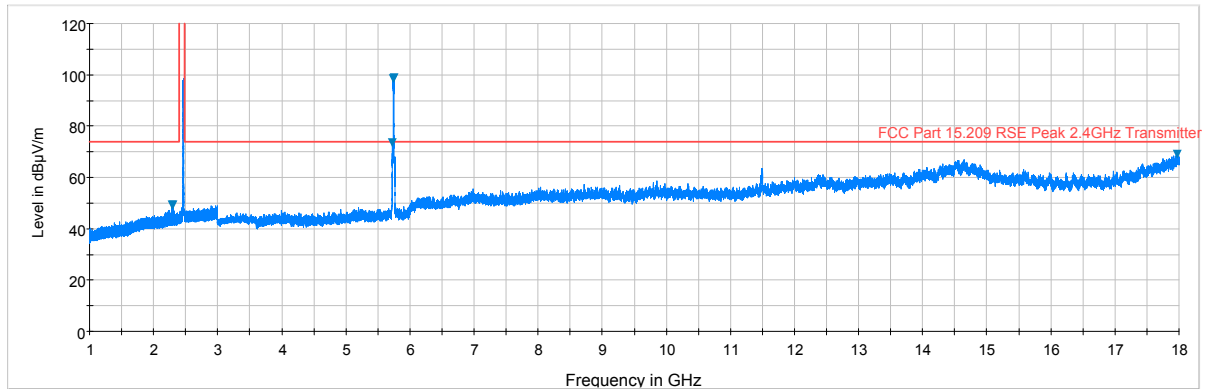
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Description	2.4 GHz Emission	5 GHz Emission
Antenna	ALL	ALL
Channel	11	165
Operating Frequency (MHz)	2462	5825
Data Rate (Mbps)	6	6
Mode	802.11g	802.11a

Table 7-63. Dual Band Simultaneous Transmission

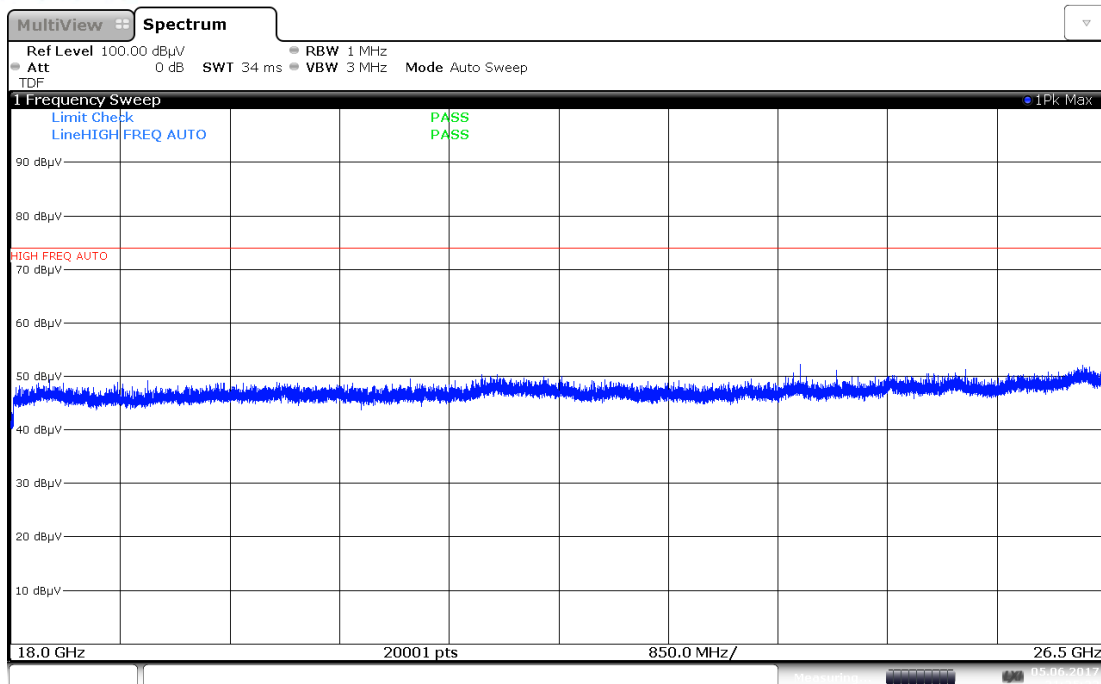


Plot 7-193. Radiated Spurious Plot above 1GHz (Dual Band Simult. Tx, Ant. Pol. H)



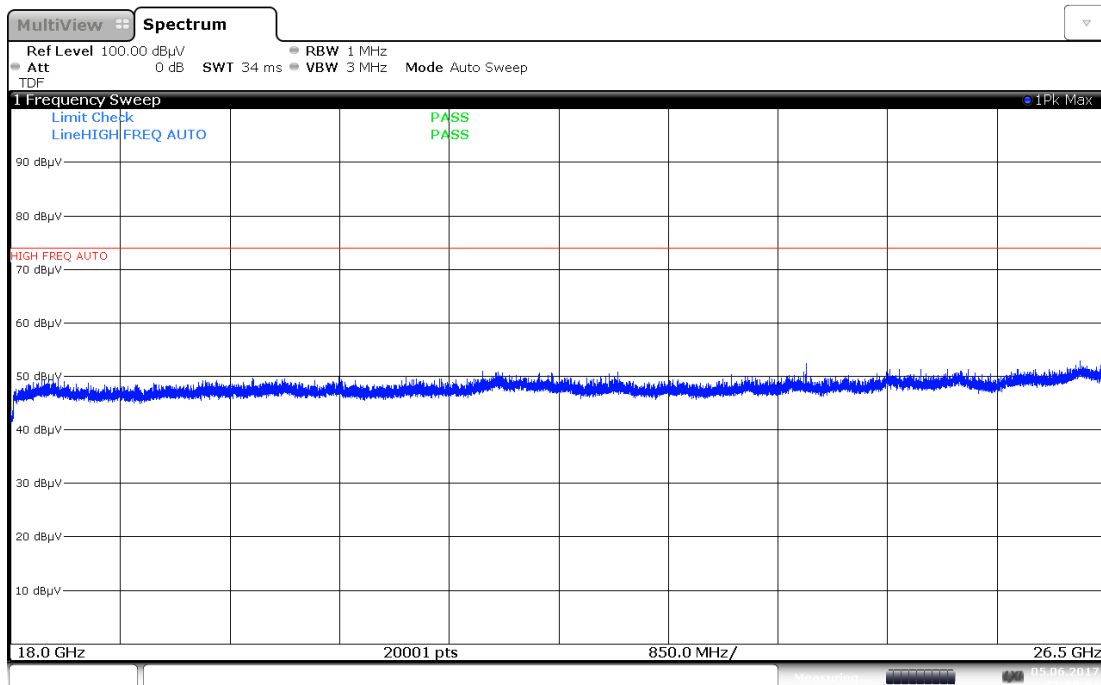
Plot 7-194. Radiated Spurious Plot above 1GHz (Dual Band Simult. Tx, Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 150 of 228



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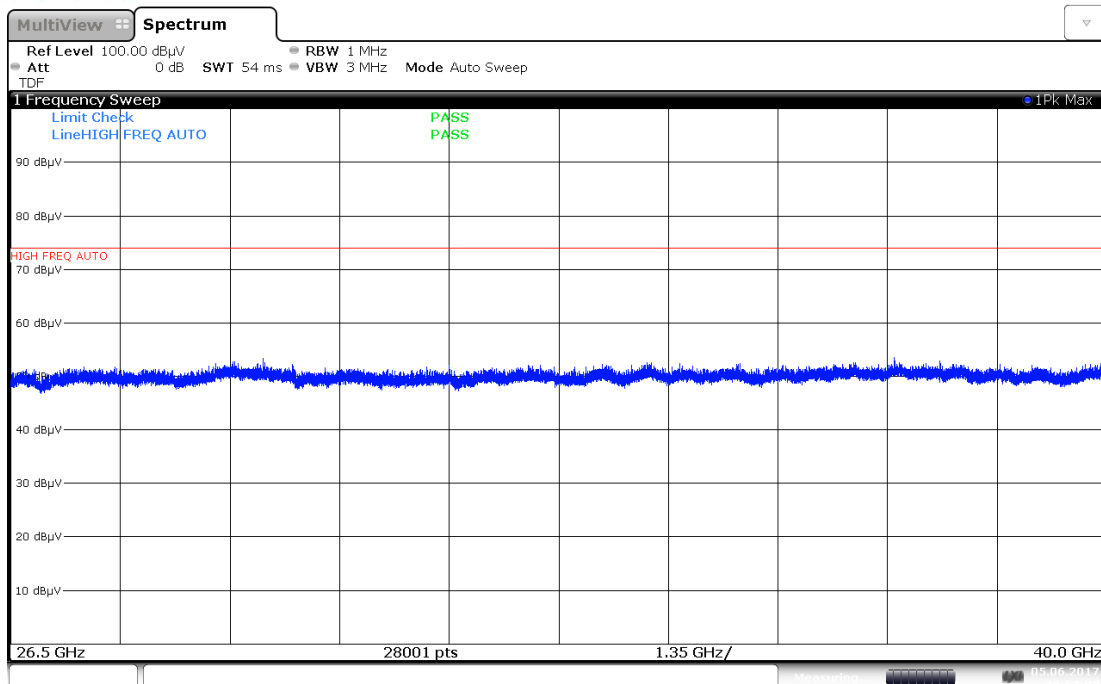
Plot 7-195. Radiated Spurious Plot 18GHz – 26.5GHz (Dual Band Simult. Tx, Ant. Pol. H)



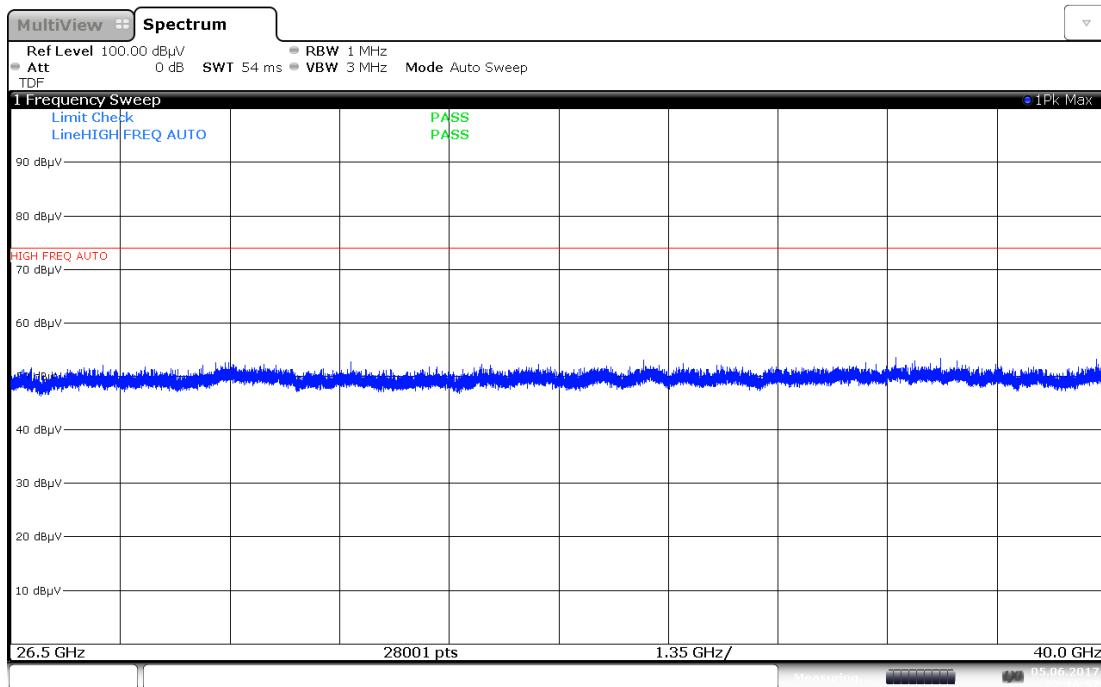
21:56:51 05.06.2017

Plot 7-196. Radiated Spurious Plot 18GHz – 26.5GHz (Dual Band Simult. Tx, Ant. Pol. V)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 151 of 228



Plot 7-197. Radiated Spurious Plot above 26.5GHz (Dual Band Simult. Tx, Ant. Pol. H)



Plot 7-198. Radiated Spurious Plot above 26.5GHz (Dual Band Simult. Tx, Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 152 of 228

7.7.4 Antenna-1 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

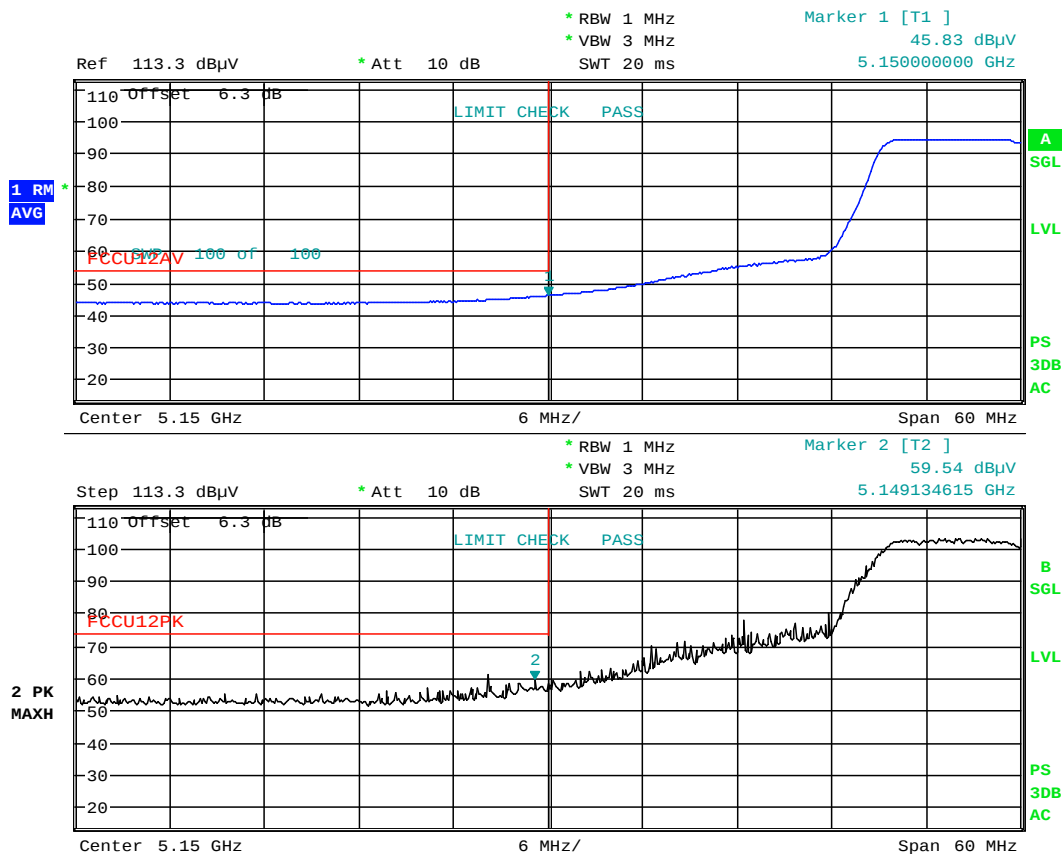
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36



Date: 7.JUN.2017 20:00:07

Plot 7-199. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 1)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 153 of 228

Antenna-1 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

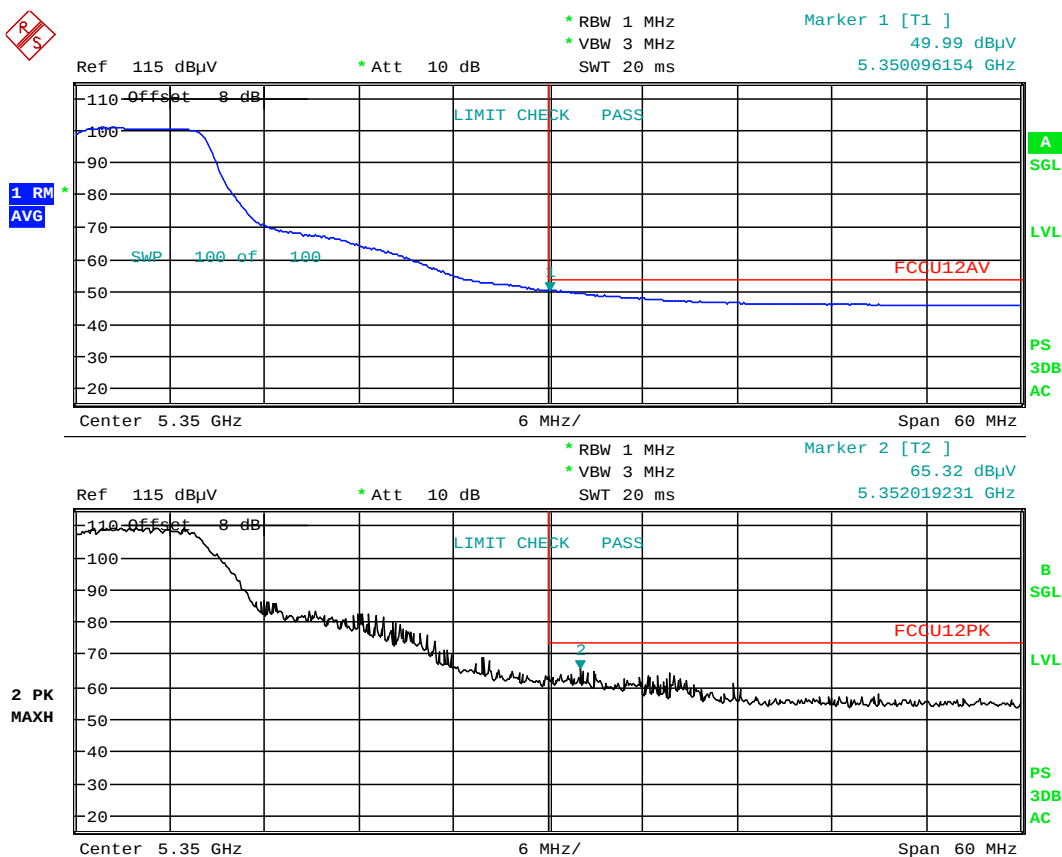
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



Date: 12.MAY.2017 15:47:28

Plot 7-200. Radiated Restricted Upper Band Edge Plot (Average & Peak – UNII Band 2A)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 154 of 228

Antenna-1 Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

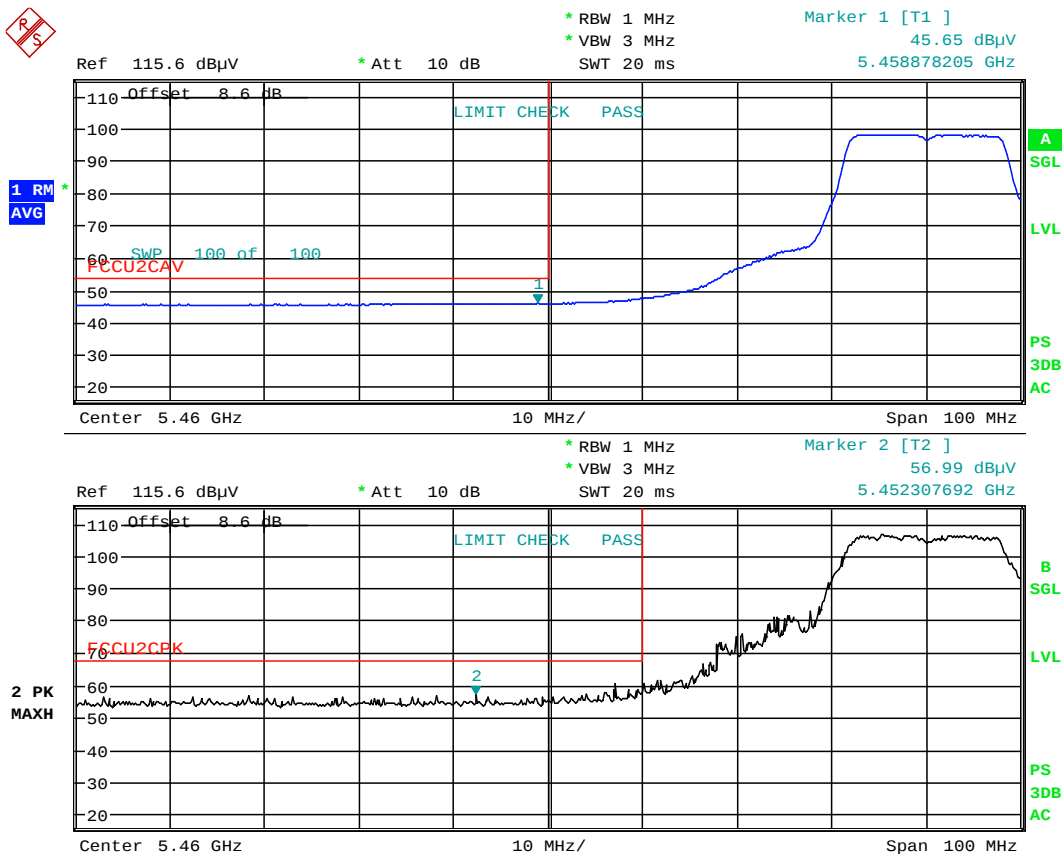
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100



Date: 12.MAY.2017 15:51:45

Plot 7-201. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 155 of 228

Antenna-1 Radiated Band Edge Measurements (20MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

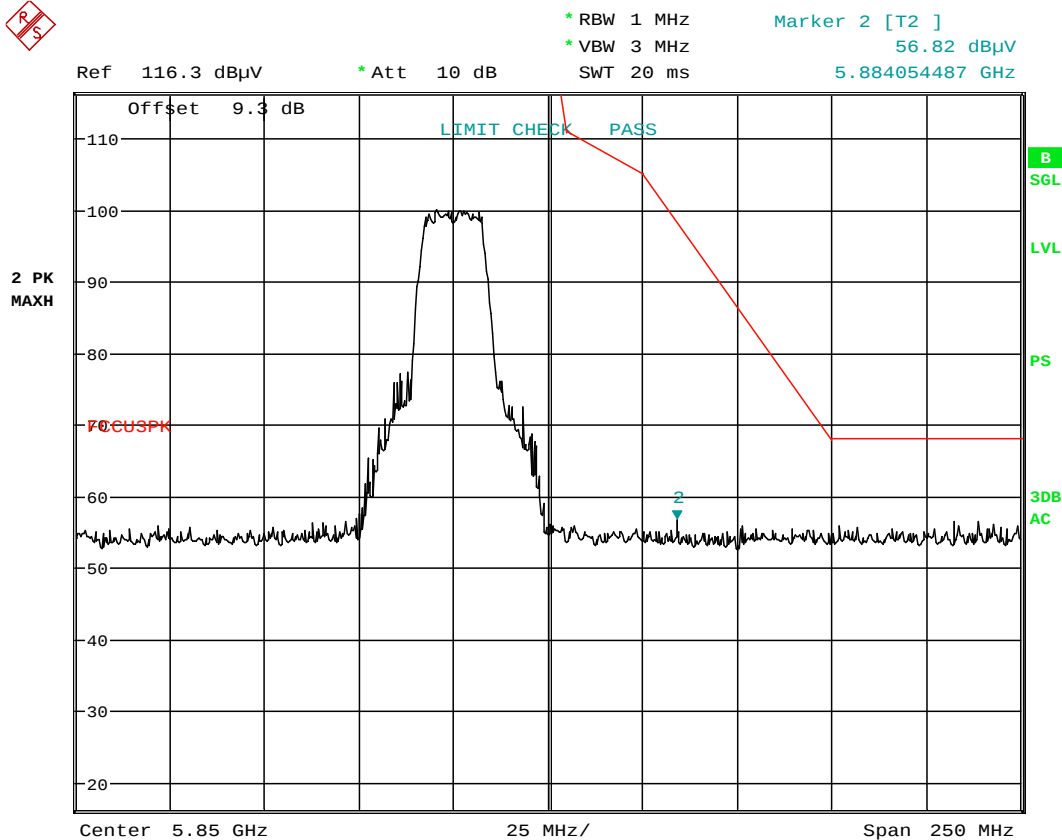
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5825MHz

Channel: 165



Date: 12.MAY.2017 15:56:38

Plot 7-202. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 156 of 228

Antenna-1 WCP Radiated Band Edge Measurements (20MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

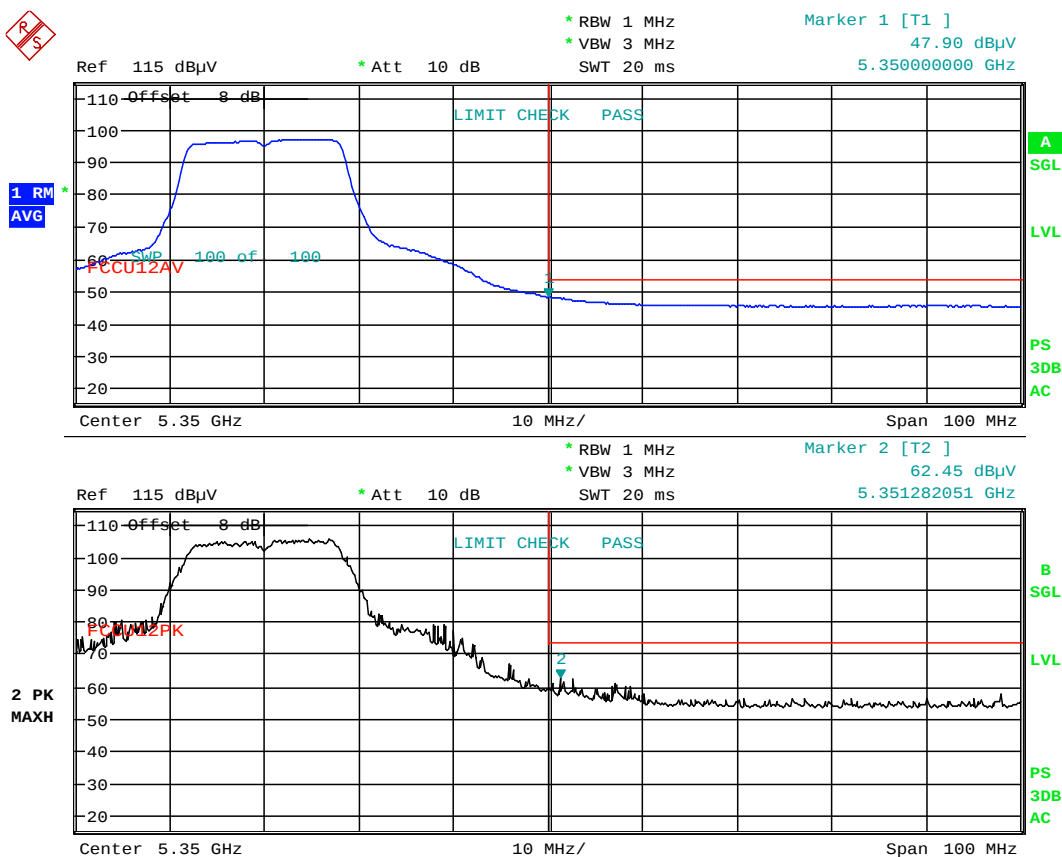
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



Date: 12.MAY.2017 17:18:57

Plot 7-203. Radiated Restricted Band Edge Plot with WCP

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset			Page 157 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

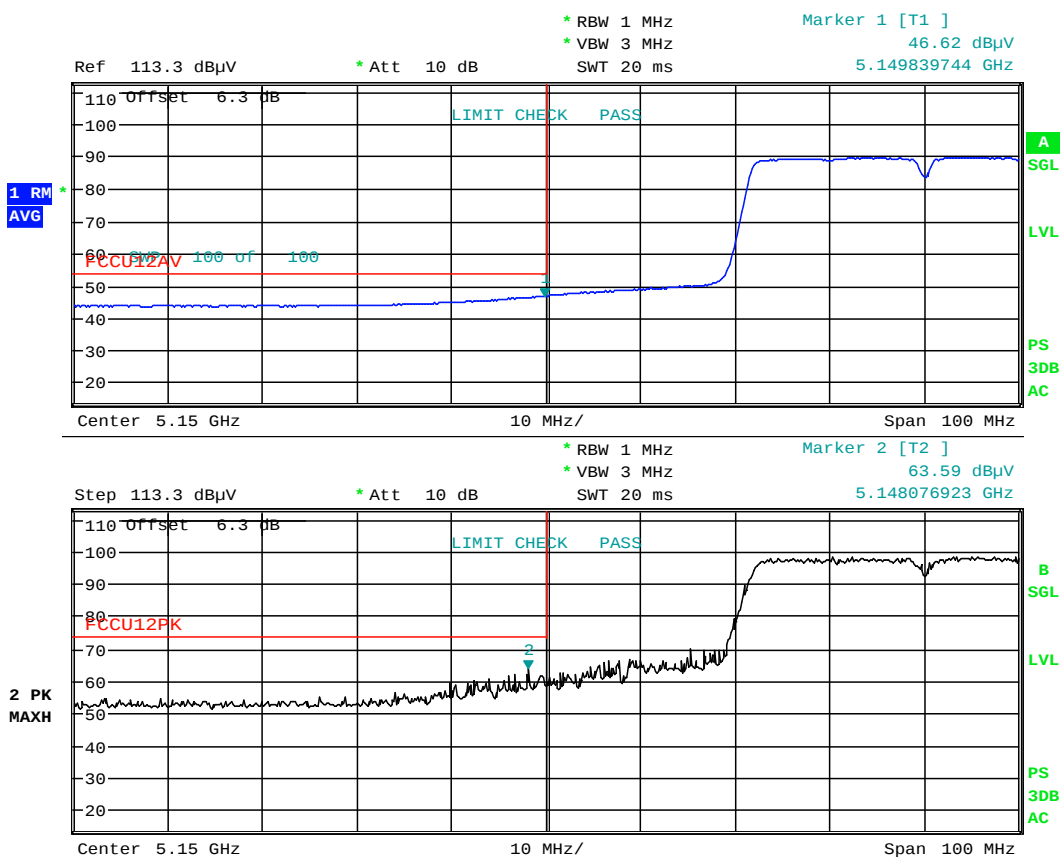
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



Date: 7.JUN.2017 20:02:40

Plot 7-204. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 1)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 158 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

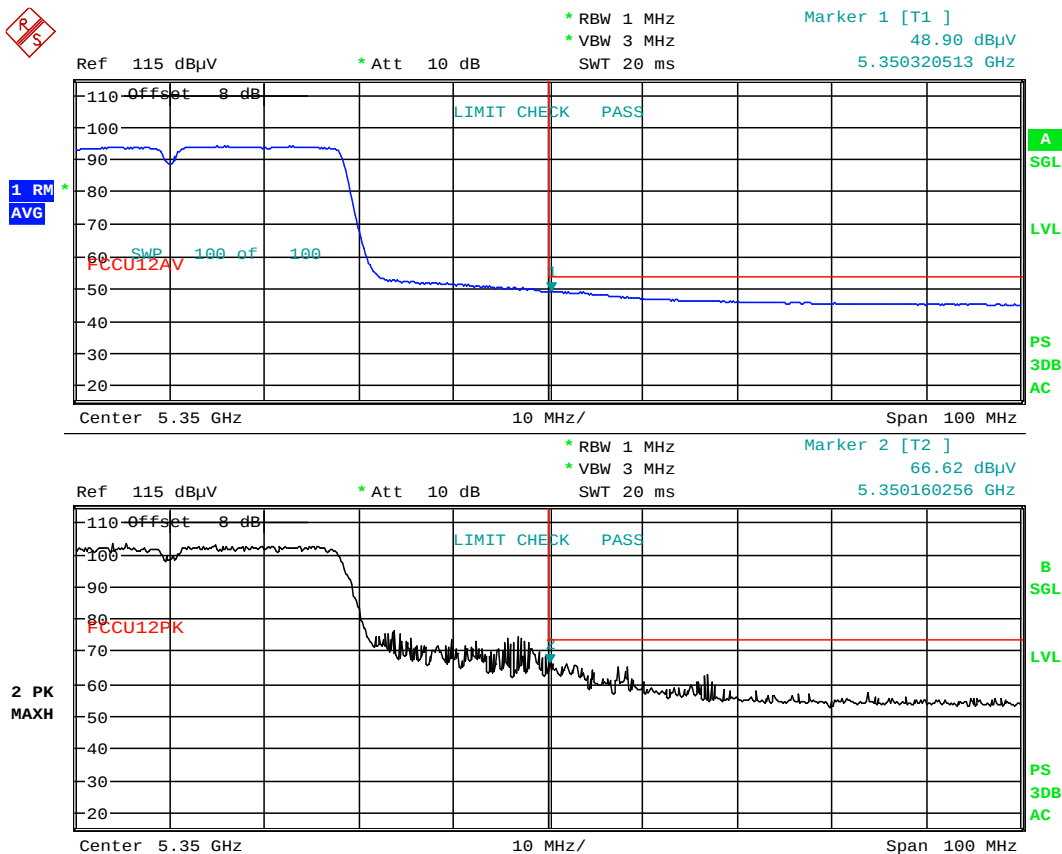
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



Date: 12.MAY.2017 16:26:03

Plot 7-205. Radiated Restricted Upper Band Edge Plot (Average & Peak – UNII Band 2A)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 159 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

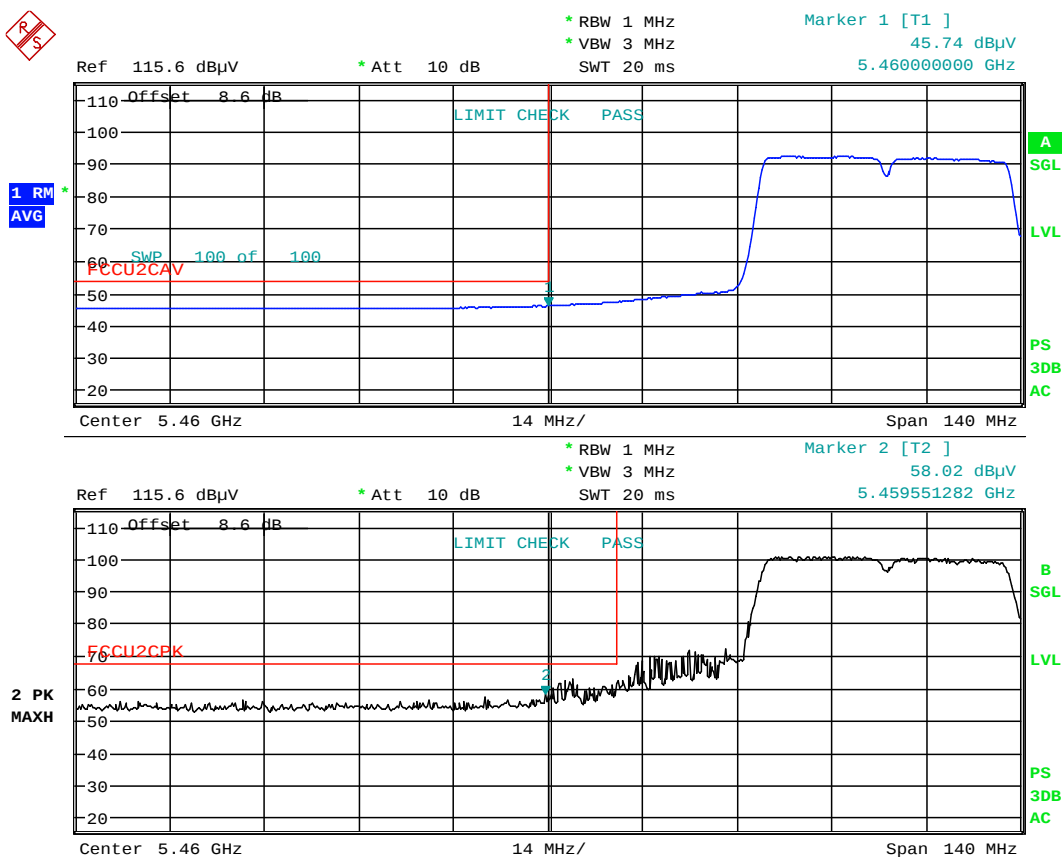
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102



Date: 12.MAY.2017 16:30:27

Plot 7-206. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 160 of 228

Antenna-1 Radiated Band Edge Measurements (40MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

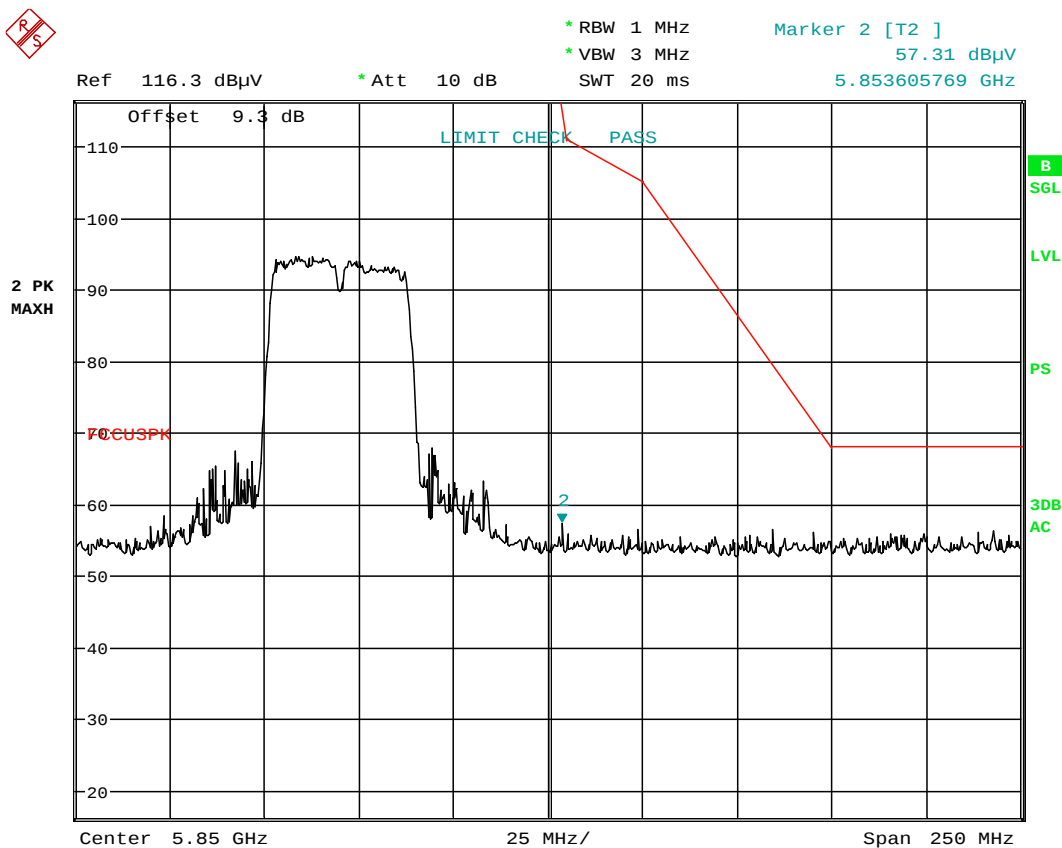
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5795MHz

Channel: 159



Date: 12.MAY.2017 16:37:07

Plot 7-207. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 161 of 228

Antenna-1 WCP Radiated Band Edge Measurements (40MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

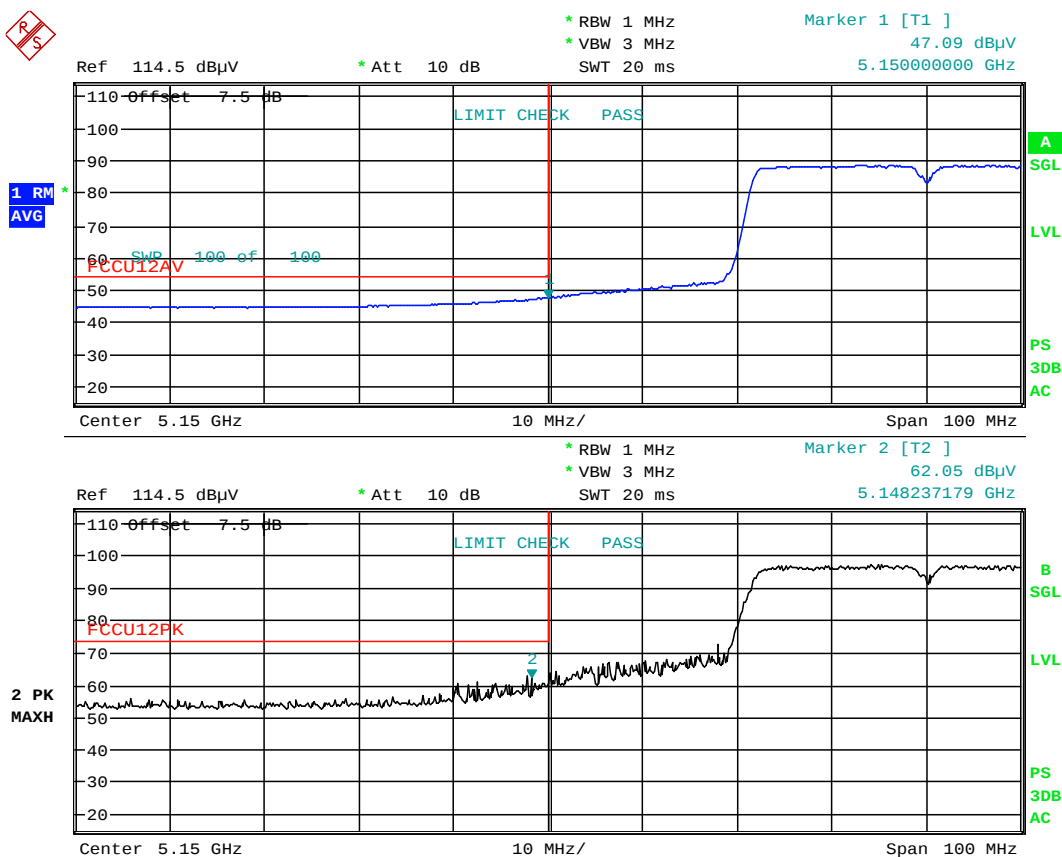
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



Date: 12.MAY.2017 17:13:00

Plot 7-208. Radiated Restricted Band Edge Plot with WCP

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 162 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

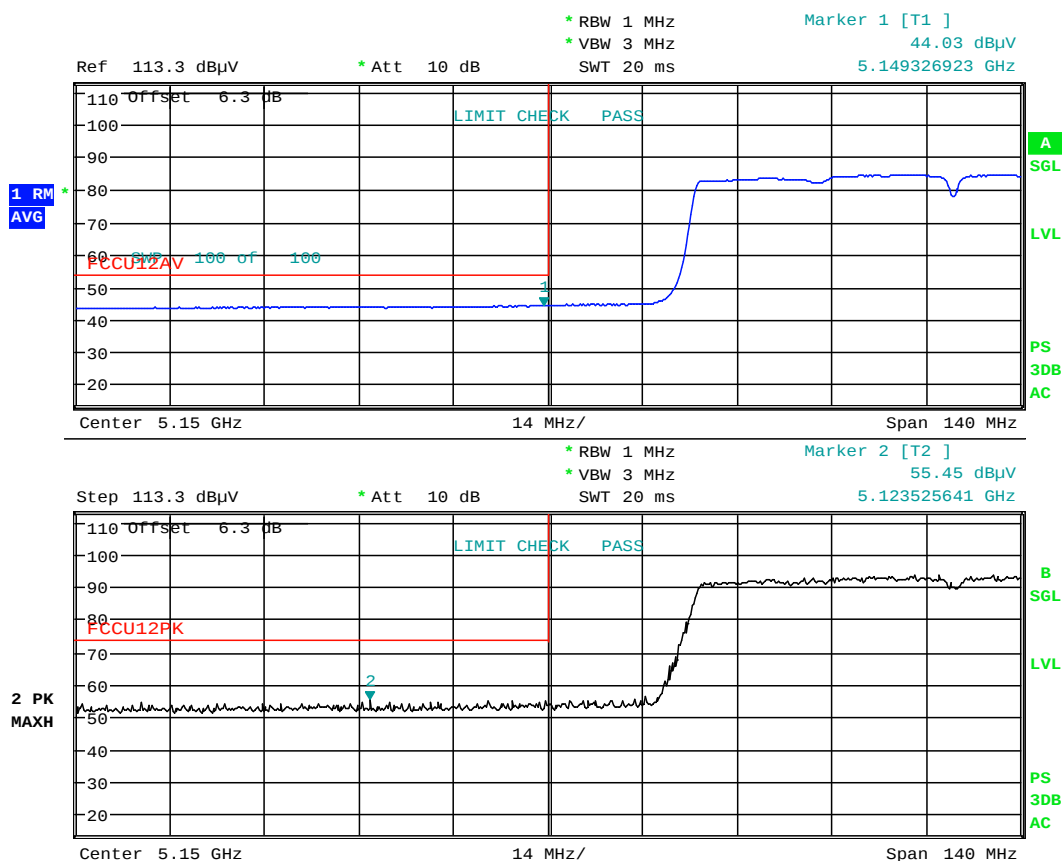
Worst Case Mode: 802.11n (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42



Date: 7.JUN.2017 20:06:33

Plot 7-209. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 1)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 163 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

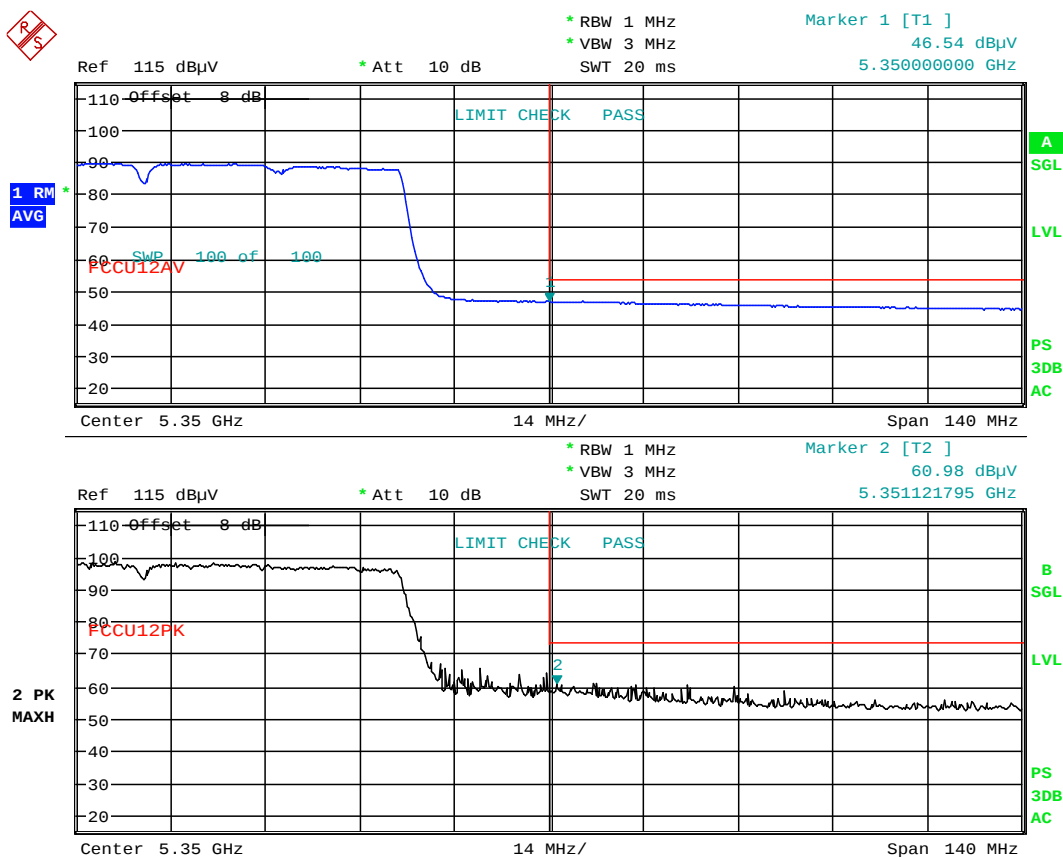
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58



Date: 12.MAY.2017 16:47:27

Plot 7-210. Radiated Restricted Upper Band Edge Plot (Average & Peak – UNII Band 2A)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 164 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

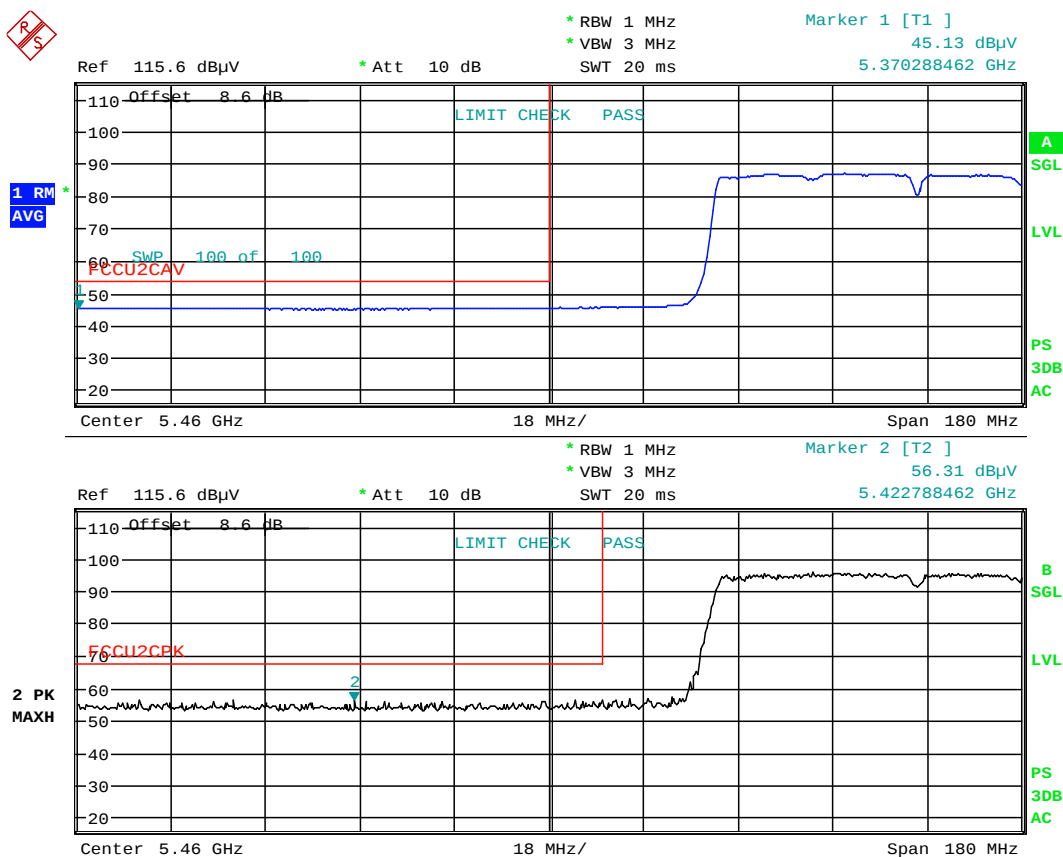
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

Channel: 106



Date: 12.MAY.2017 16:51:47

Plot 7-211. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 165 of 228

Antenna-1 Radiated Band Edge Measurements (80MHz BW) **§15.407(b.1)(b.2) §15.205 §15.209**

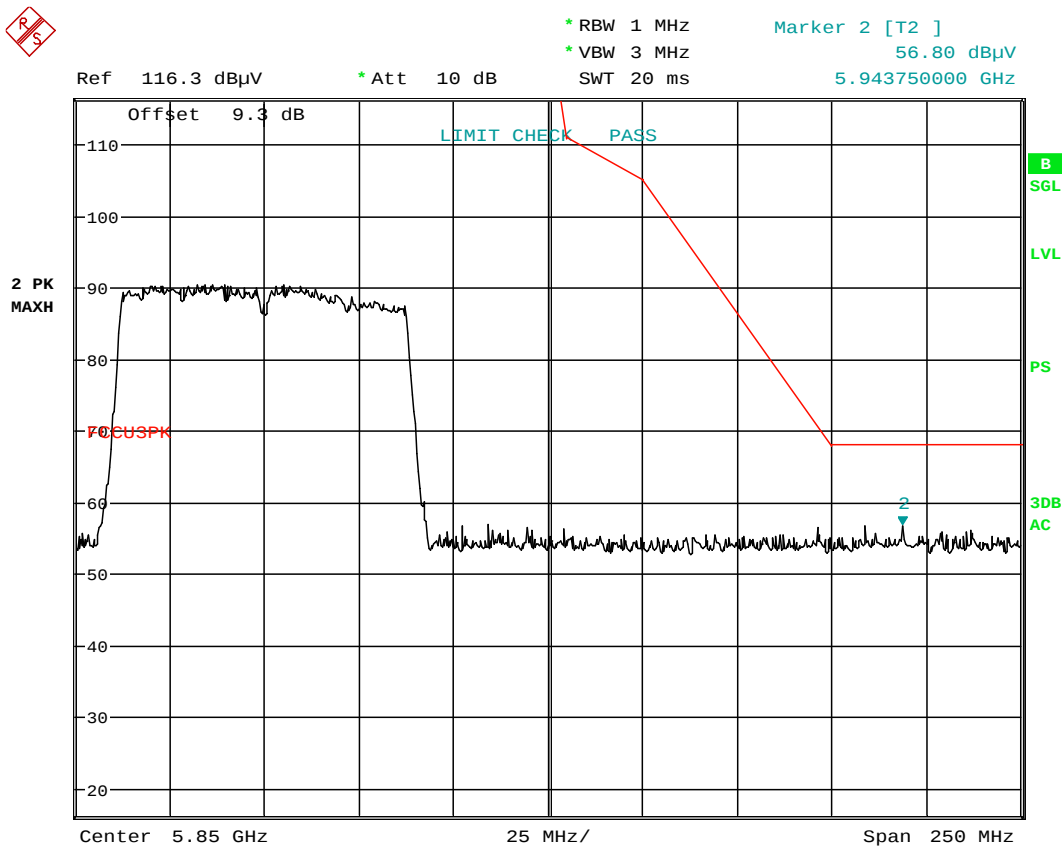
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5775MHz

Channel: 155



Date: 12.MAY.2017 16:56:07

Plot 7-212. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 166 of 228

Antenna-1 WCP Radiated Band Edge Measurements (80MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

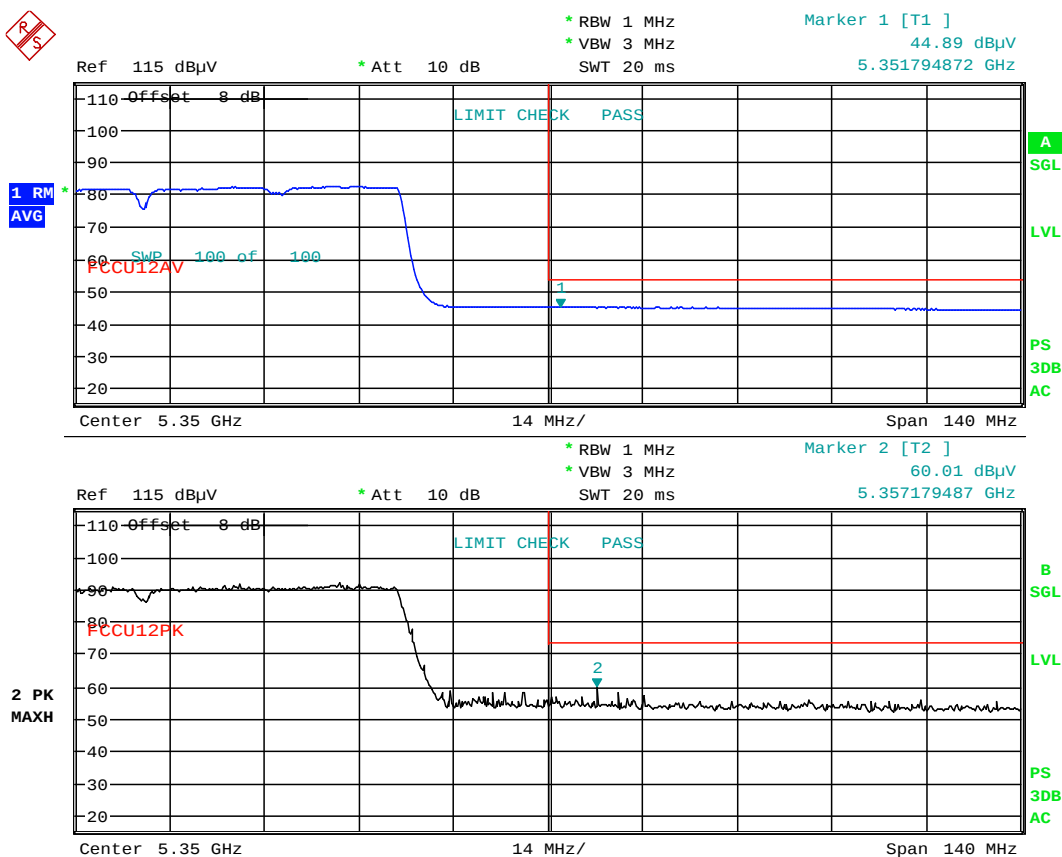
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58



Date: 12.MAY.2017 17:24:17

Plot 7-213. Radiated Restricted Band Edge Plot with WCP

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 167 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

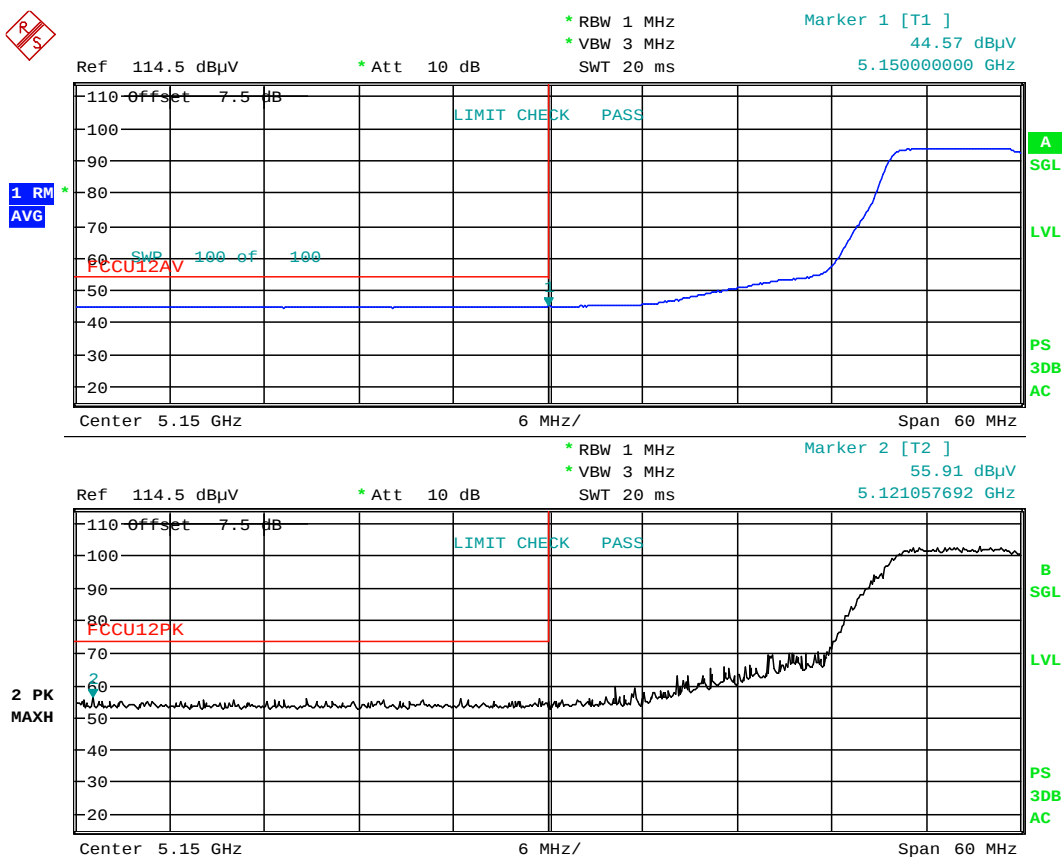
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5180MHz

Channel: 36



Date: 13.MAY.2017 15:48:44

Plot 7-214. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 1)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 168 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

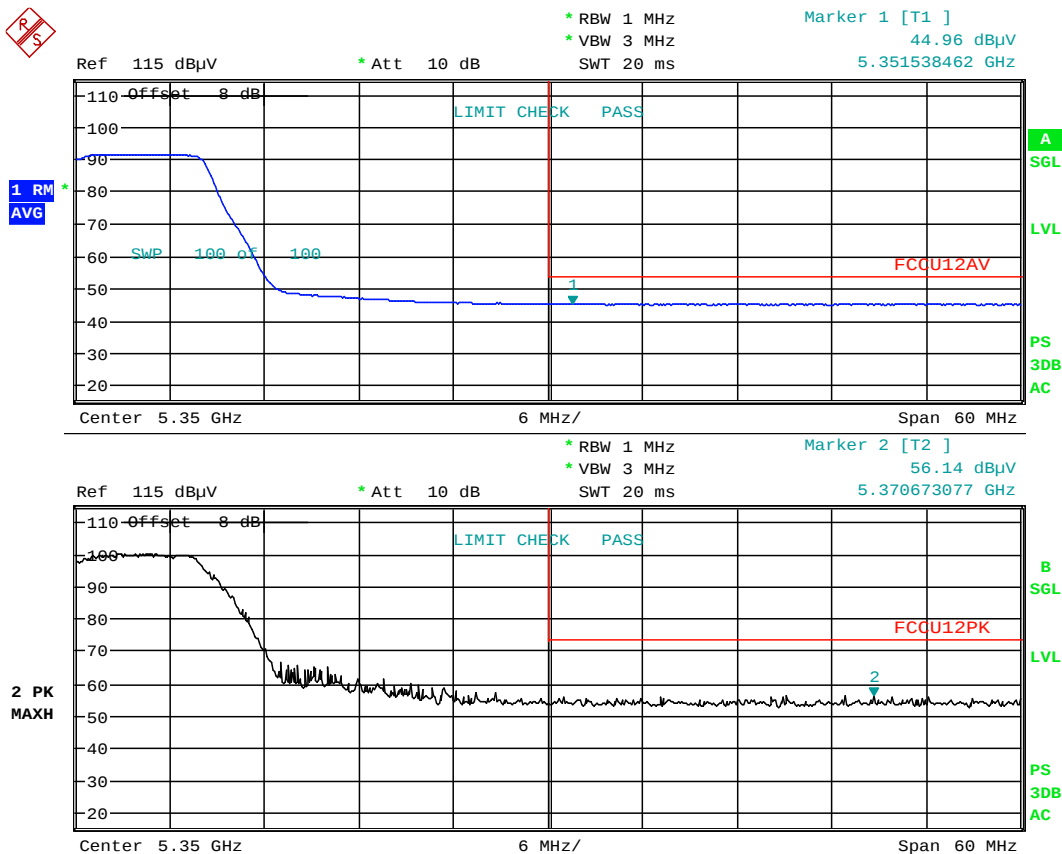
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



Date: 13.MAY.2017 15:54:06

Plot 7-215. Radiated Restricted Upper Band Edge Plot (Average & Peak – UNII Band 2A)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 169 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

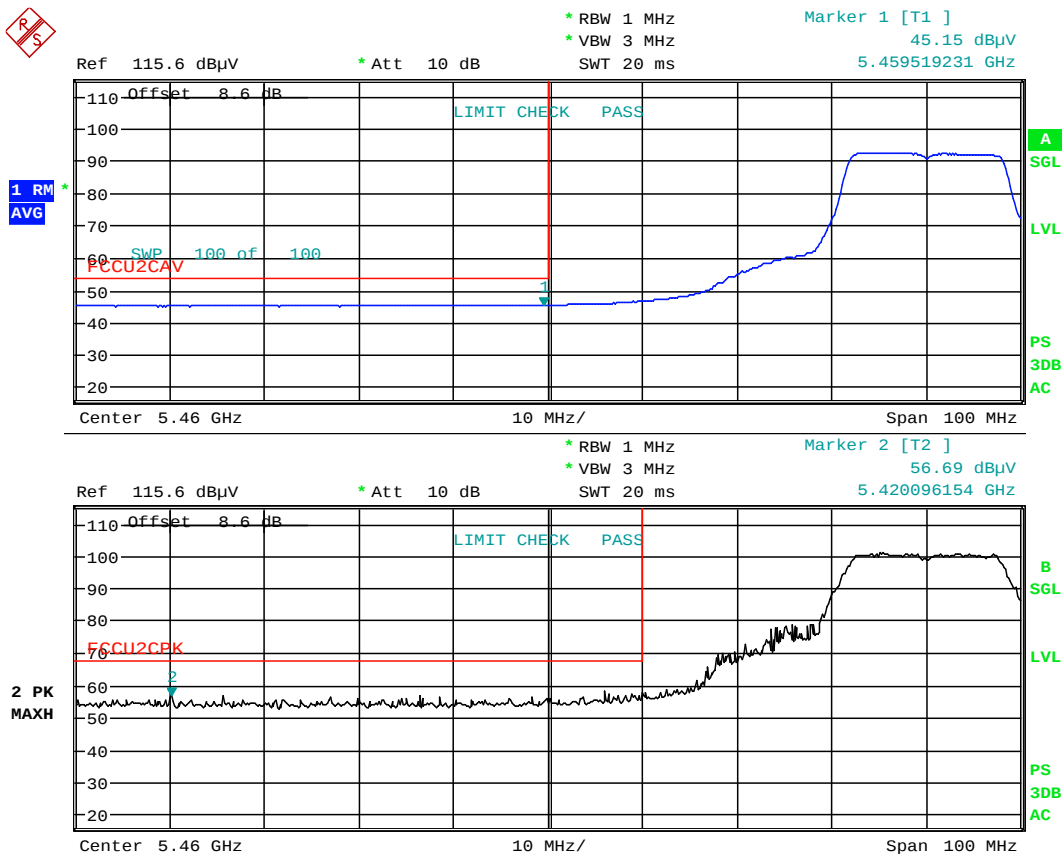
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100



Date: 13.MAY.2017 15:59:03

Plot 7-216. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 170 of 228

Antenna-2 Radiated Band Edge Measurements (20MHz BW) **§15.407(b.1)(b.2) §15.205 §15.209**

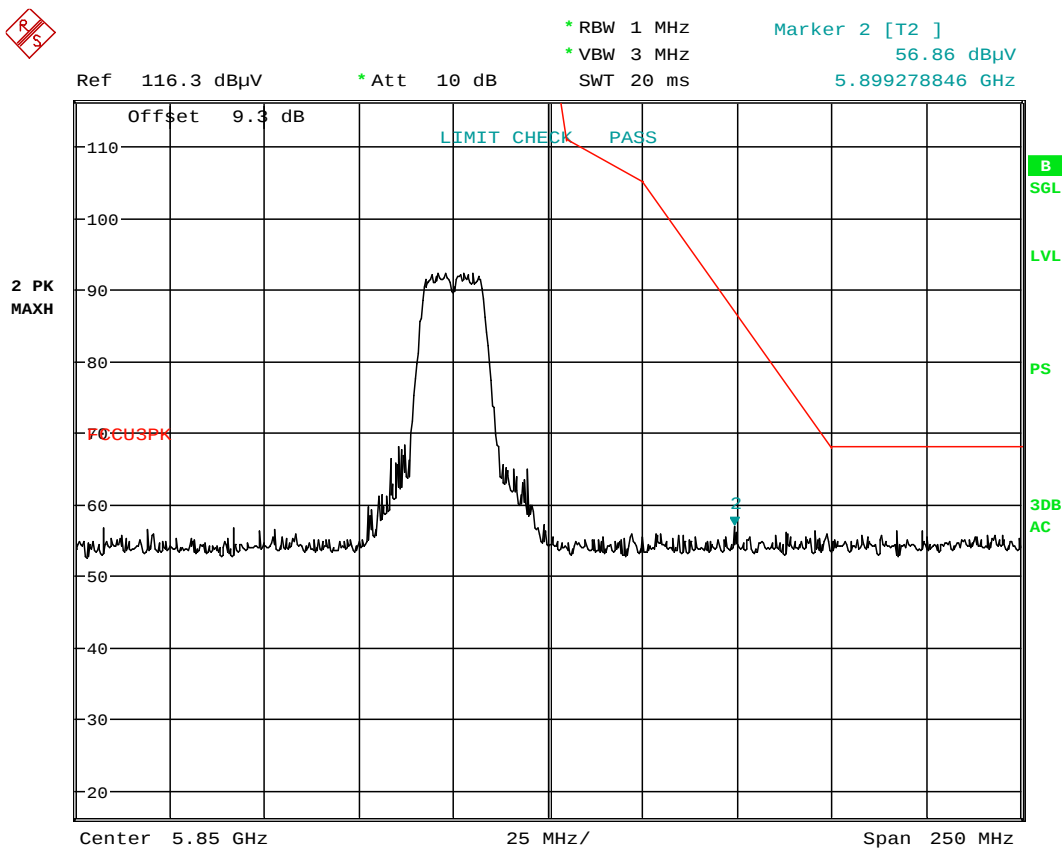
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5825MHz

Channel: 165



Date: 13.MAY.2017 16:03:24

Plot 7-217. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 171 of 228

Antenna-2 WCP Radiated Band Edge Measurements (20MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

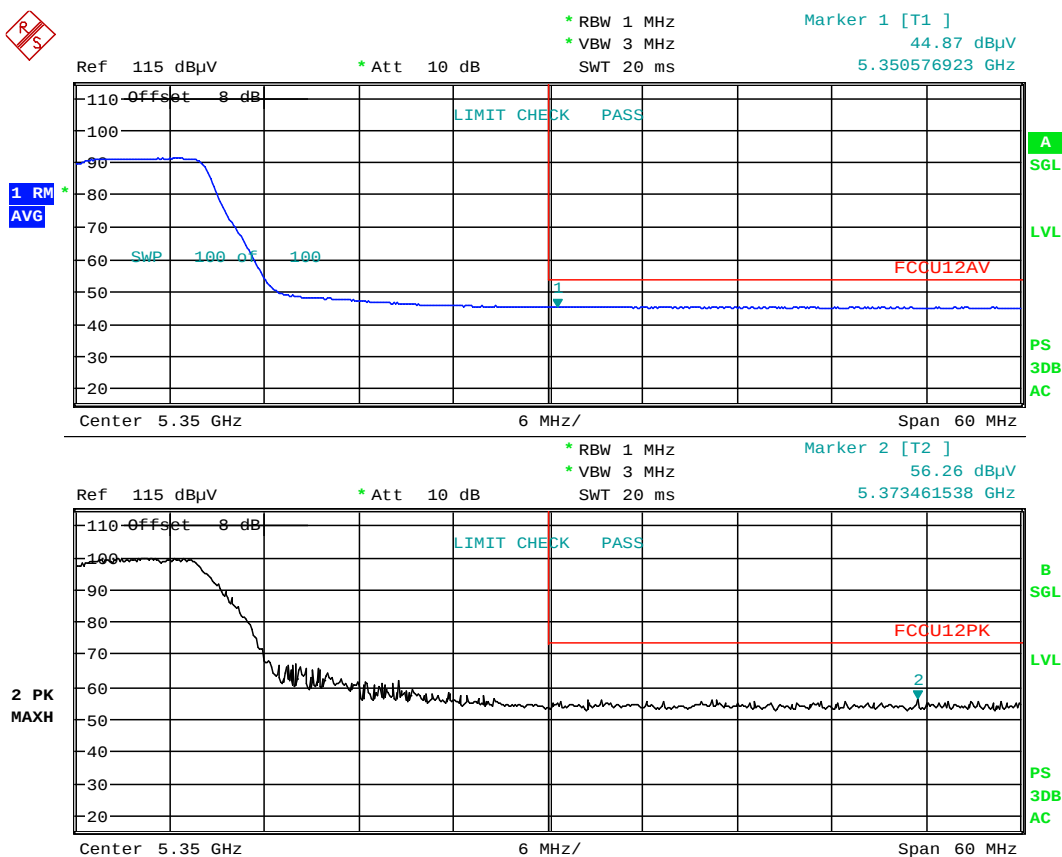
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



Date: 13.MAY.2017 19:01:34

Plot 7-218. Radiated Restricted Band Edge Plot with WCP

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 172 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

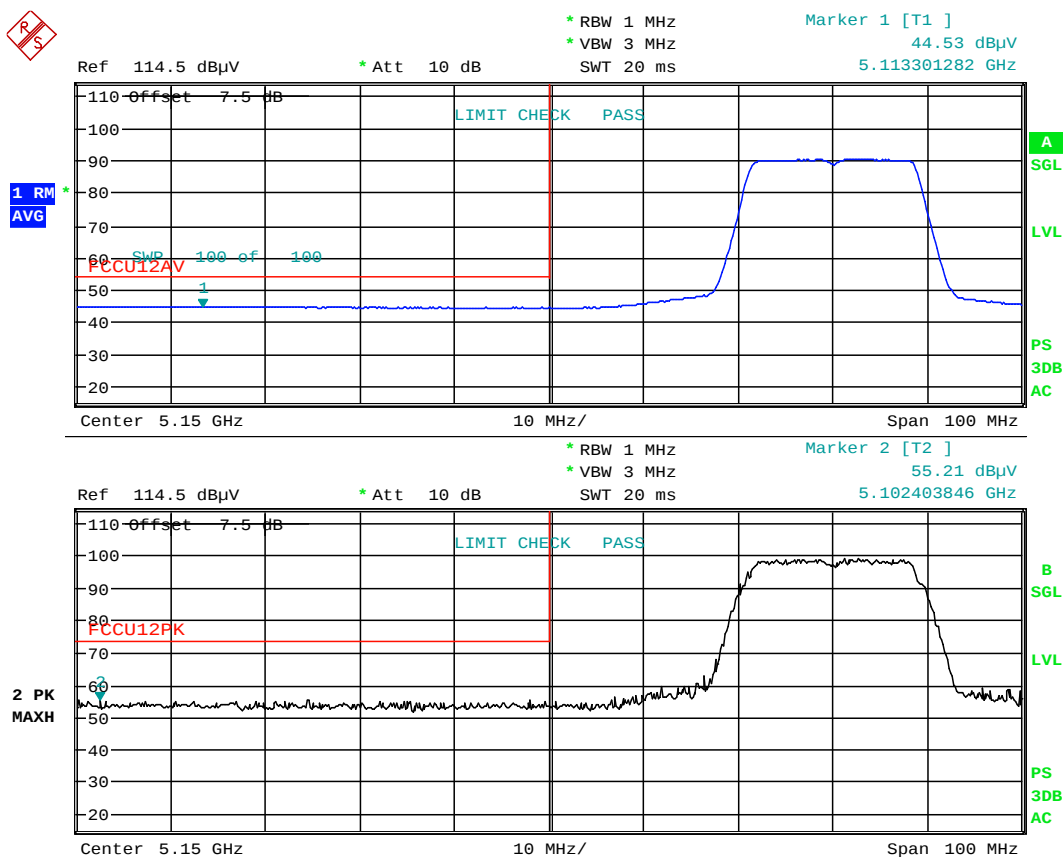
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



Date: 13.MAY.2017 17:40:44

Plot 7-219. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 1)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 173 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

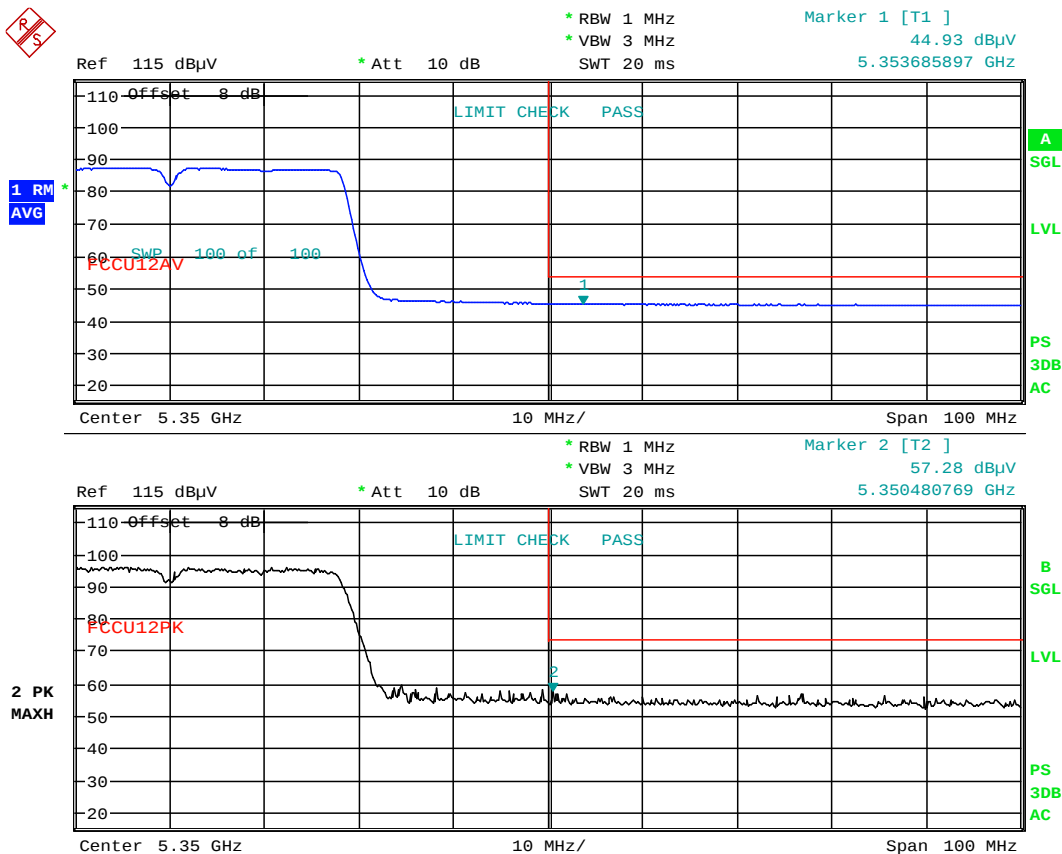
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



Date: 13.MAY.2017 17:48:52

Plot 7-220. Radiated Restricted Upper Band Edge Plot (Average & Peak – UNII Band 2A)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 174 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

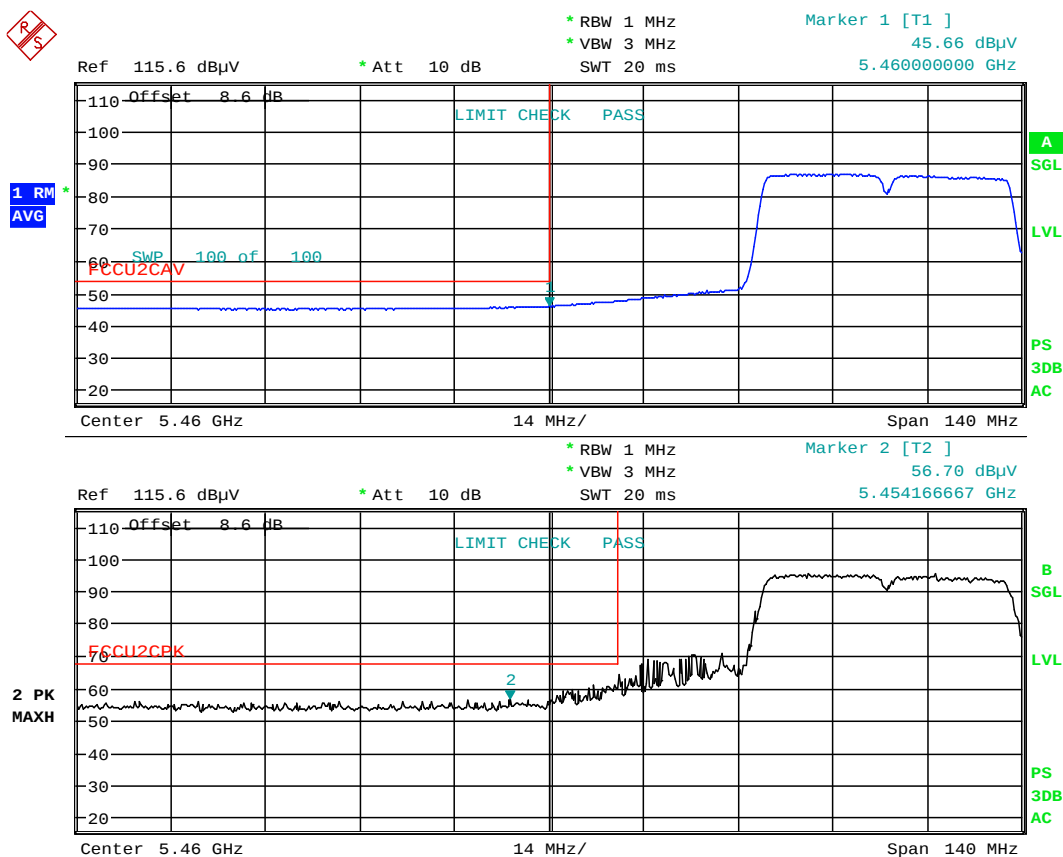
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102



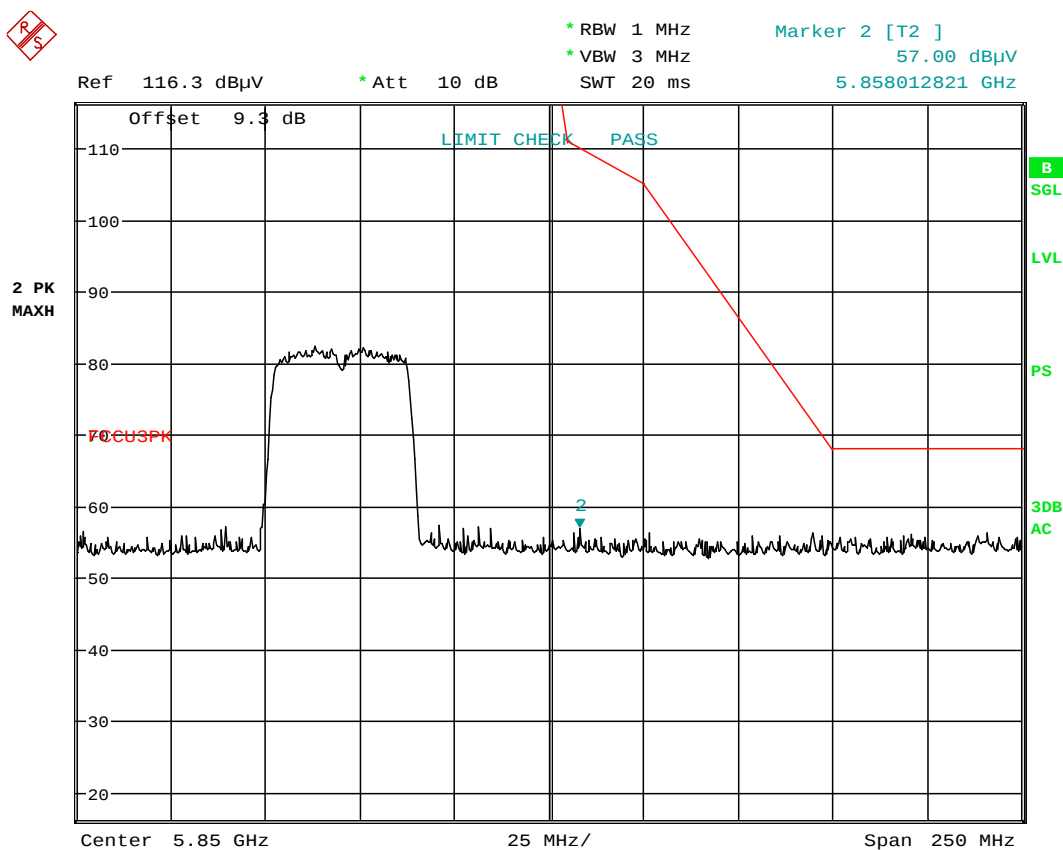
Date: 13.MAY.2017 17:54:45

Plot 7-221. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 175 of 228

Antenna-2 Radiated Band Edge Measurements (40MHz BW)
 §15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	<u>802.11n (40MHz)</u>
Worst Case Transfer Rate:	<u>MCS0</u>
Distance of Measurements:	<u>3 Meters</u>
Operating Frequency:	<u>5795MHz</u>
Channel:	159



Date: 13.MAY.2017 18:01:13

Plot 7-222. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 176 of 228	

Antenna-2 WCP Radiated Band Edge Measurements (40MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

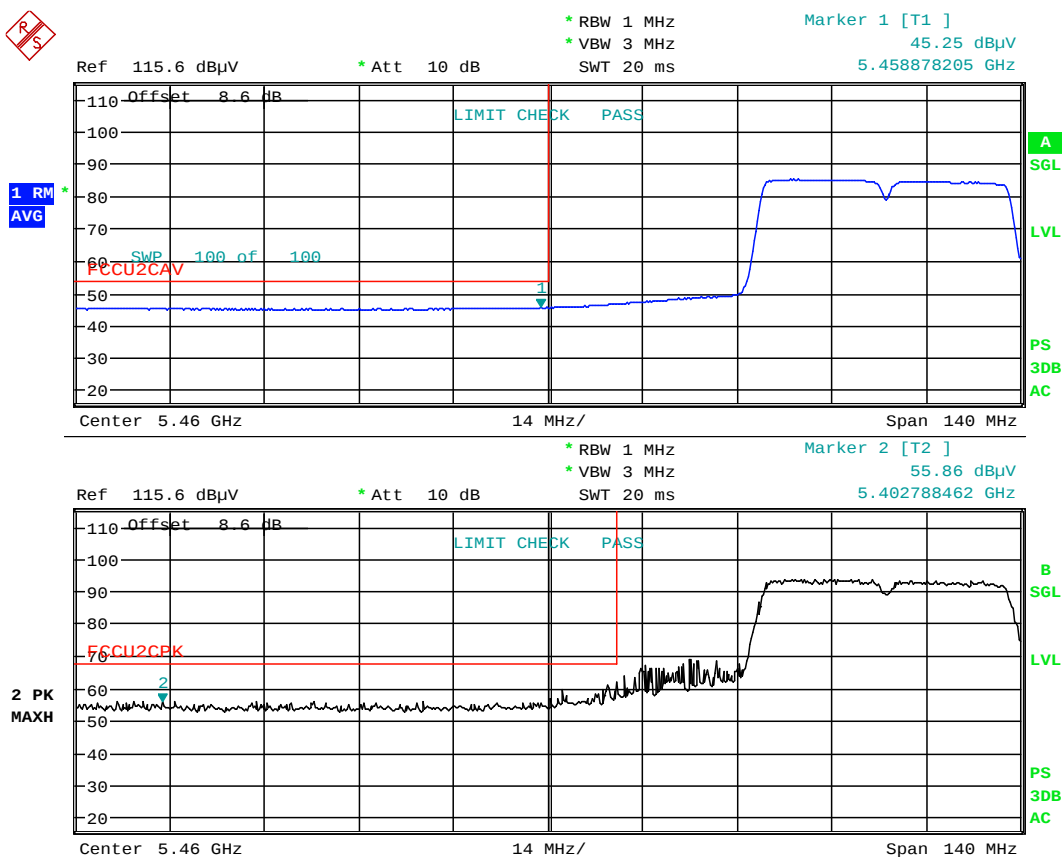
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102



Date: 13.MAY.2017 18:56:53

Plot 7-223. Radiated Restricted Band Edge Plot with WCP

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 177 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

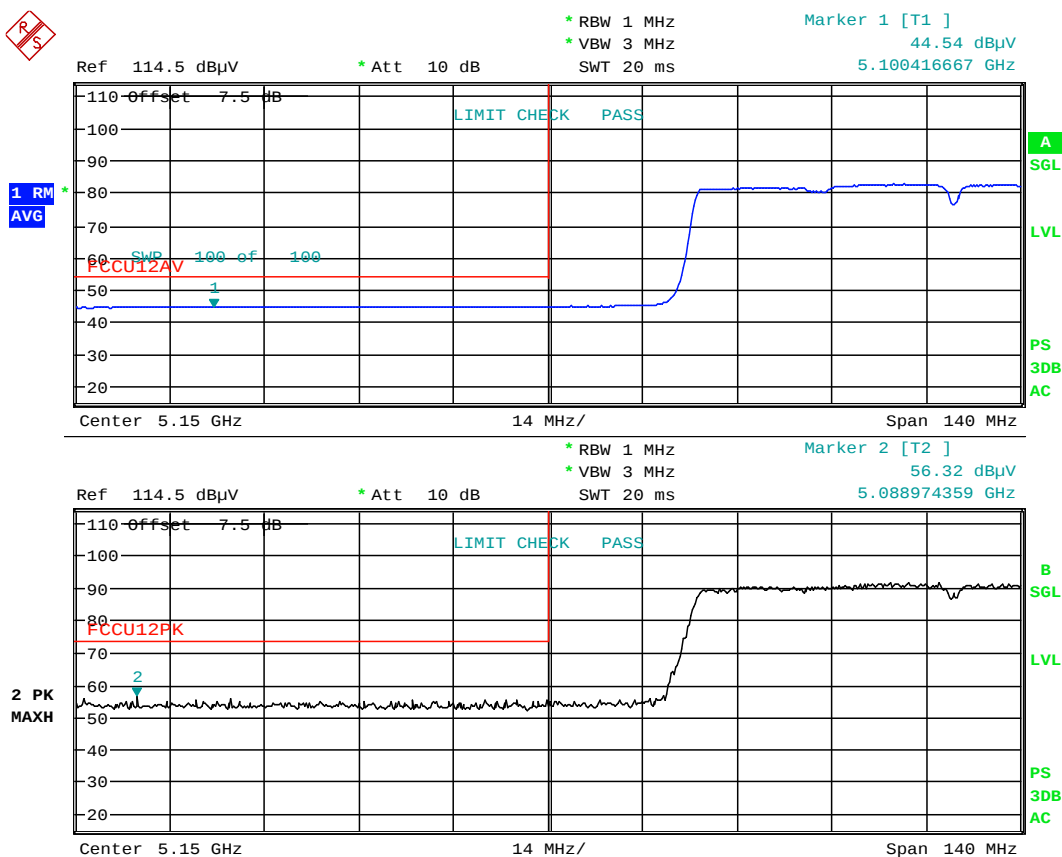
Worst Case Mode: 802.11n (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5210MHz

Channel: 42



Date: 13.MAY.2017 18:22:17

Plot 7-224. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 1)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 178 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

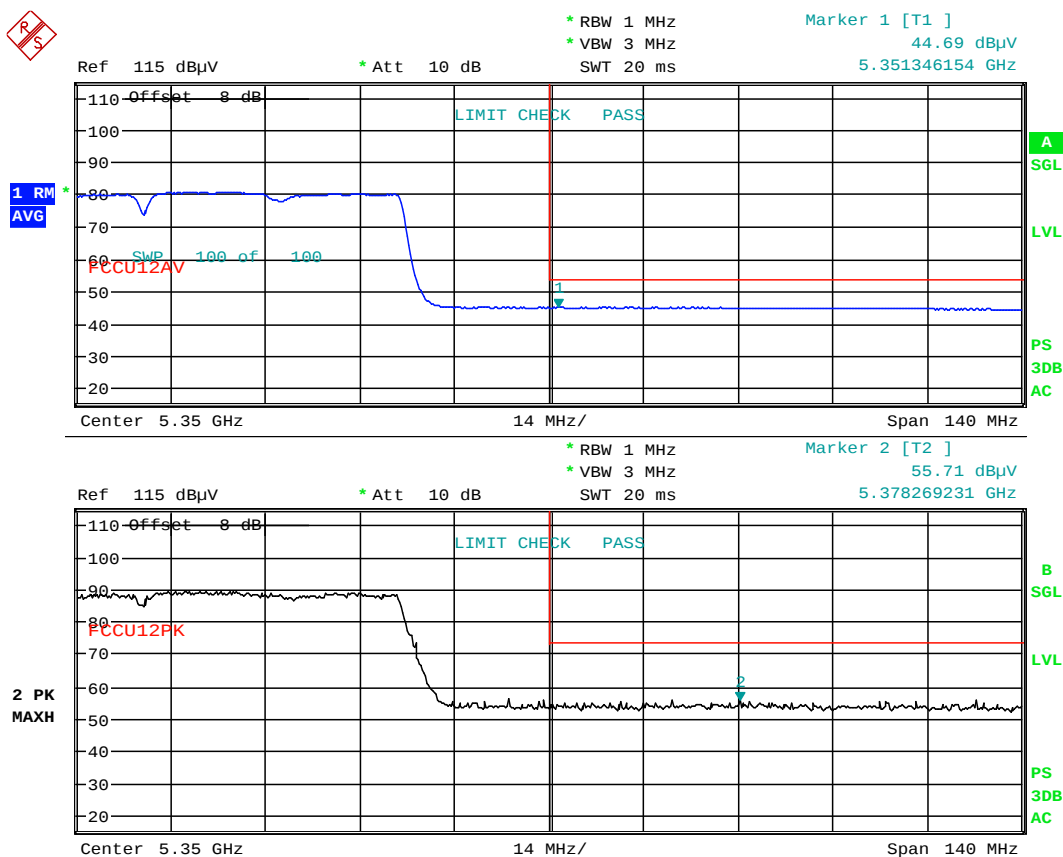
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58



Date: 13.MAY.2017 18:18:11

Plot 7-225. Radiated Restricted Upper Band Edge Plot (Average & Peak – UNII Band 2A)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 179 of 228

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

\$15.407(b.1)(b.2) \$15.205 \$15.209

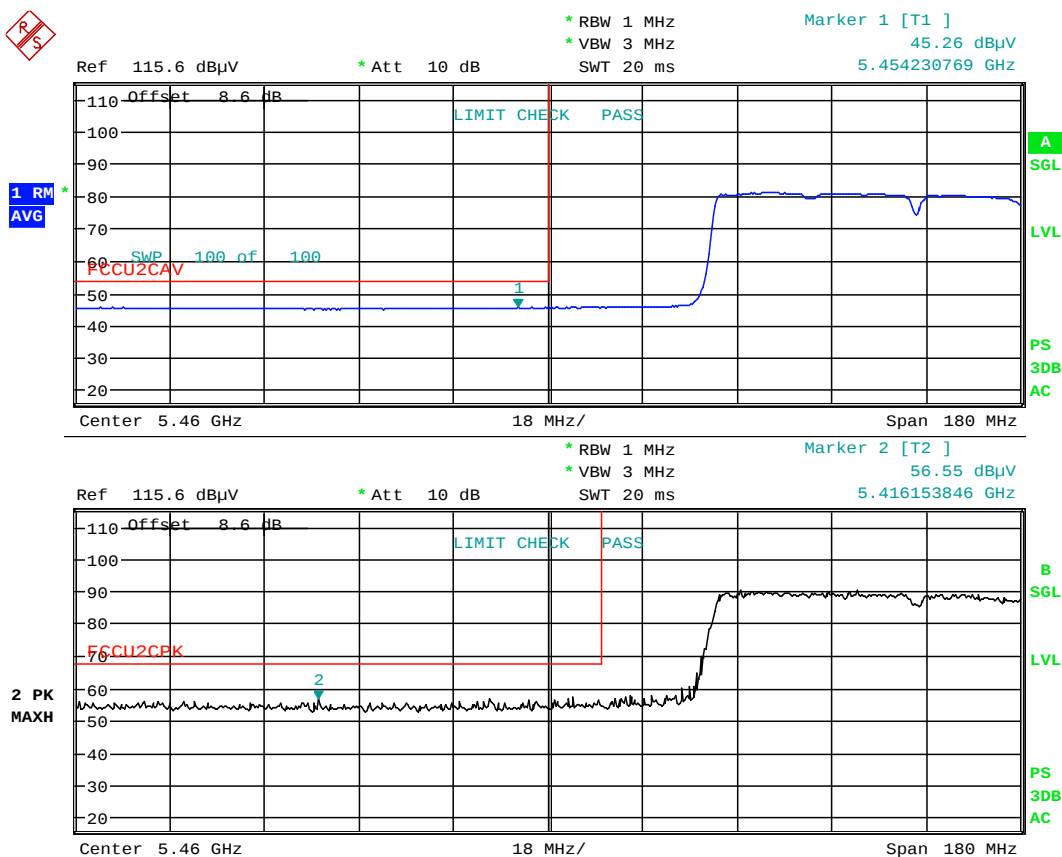
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

Channel: 106



Date: 13.MAY.2017 18:26:44

Plot 7-226. Radiated Restricted Lower Band Edge Plot (Average & Peak – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 180 of 228

Antenna-2 Radiated Band Edge Measurements (80MHz BW) **§15.407(b.1)(b.2) §15.205 §15.209**

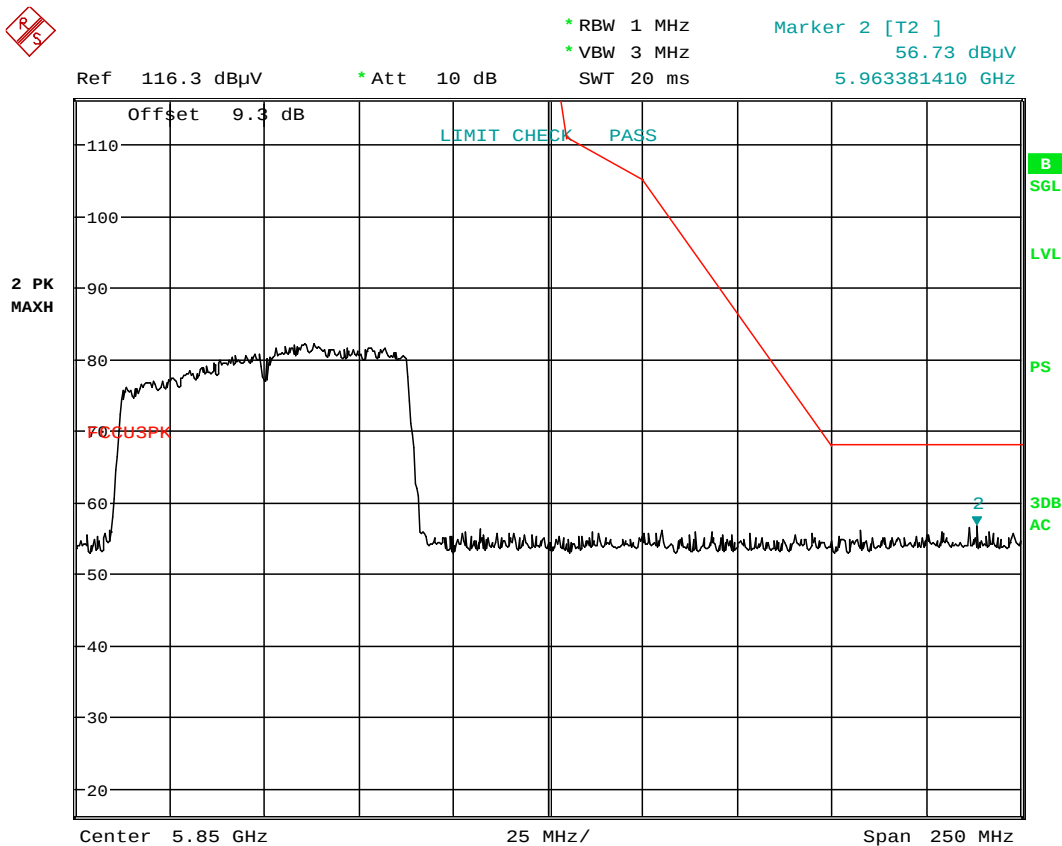
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5775MHz

Channel: 155



Date: 13.MAY.2017 18:37:36

Plot 7-227. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 181 of 228

Antenna-2 WCP Radiated Band Edge Measurements (80MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

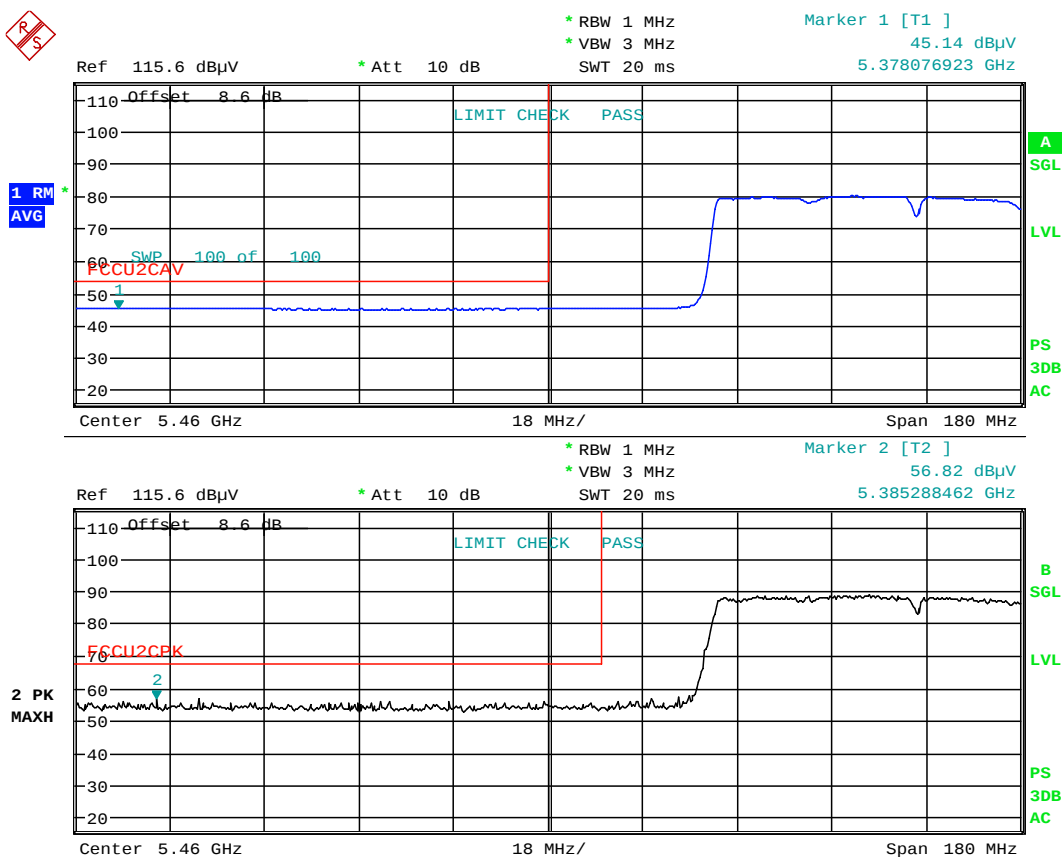
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MSC0

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

Channel: 106



Date: 13.MAY.2017 18:51:48

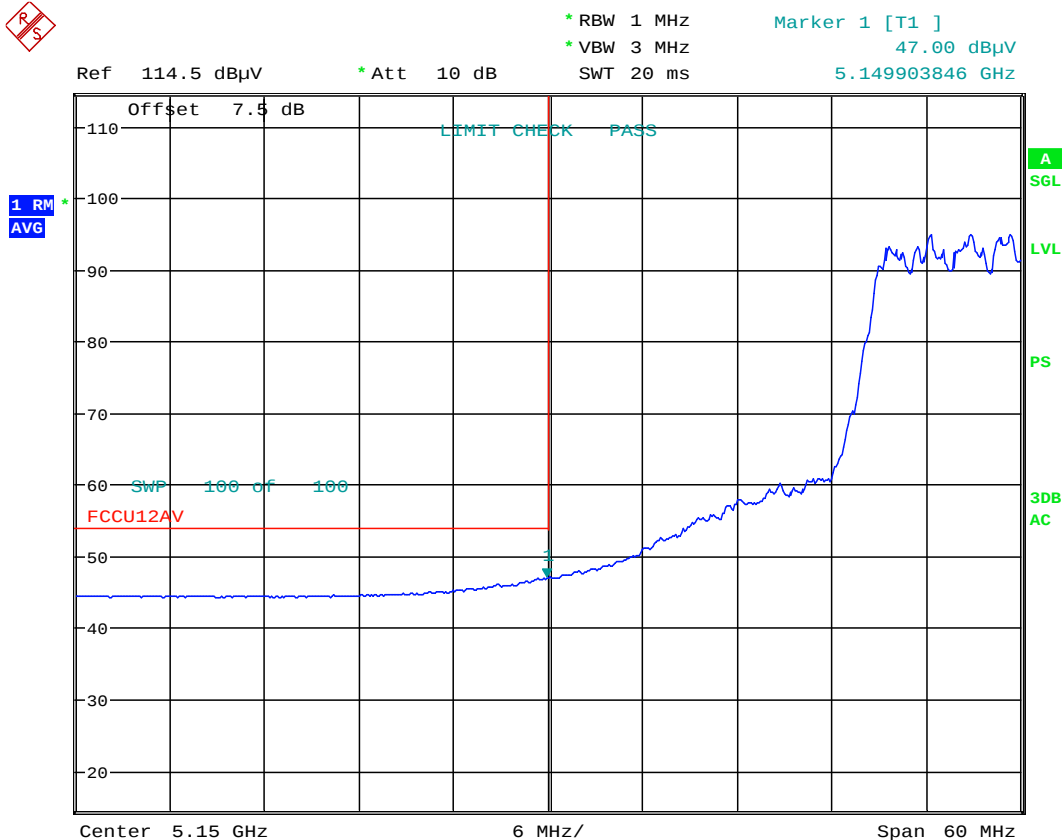
Plot 7-228. Radiated Restricted Band Edge Plot with WCP

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 182 of 228

7.7.10 MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode: 802.11n (20MHz)
Worst Case Transfer Rate: MCS8
Distance of Measurements: 3 Meters
Operating Frequency: 5180MHz
Channel: 36



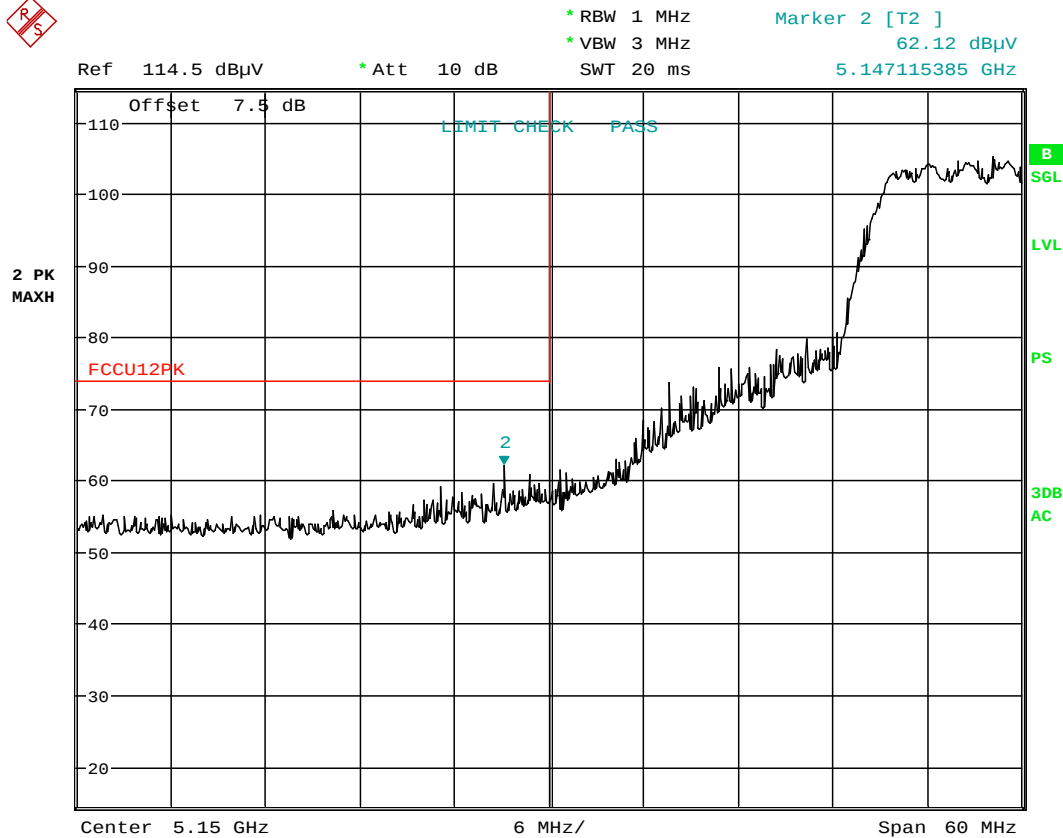
Date: 12.MAY.2017 23:11:33

Plot 7-229. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 183 of 228

MIMO Radiated Band Edge Measurements (20MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



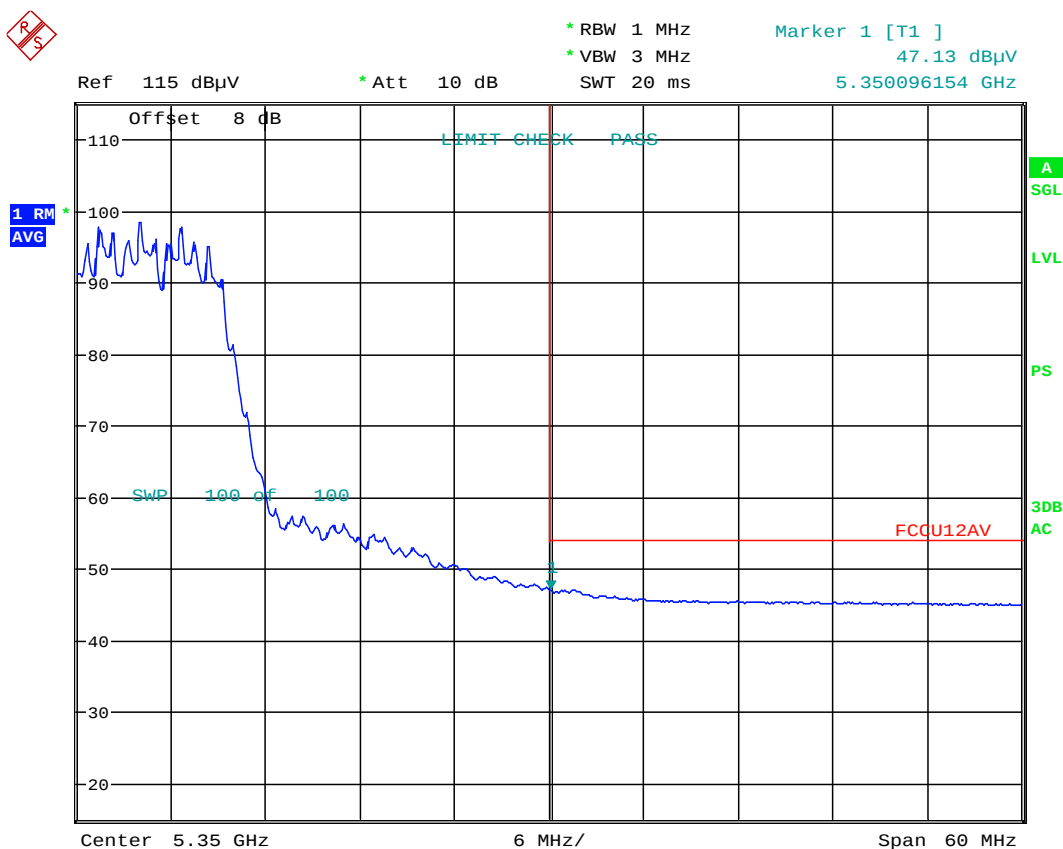
Date: 12.MAY.2017 23:11:49

Plot 7-230. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 184 of 228

MIMO Radiated Band Edge Measurements (20MHz BW)
 §15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	<u>802.11n (20MHz)</u>
Worst Case Transfer Rate:	<u>MCS8</u>
Distance of Measurements:	<u>3 Meters</u>
Operating Frequency:	<u>5320MHz</u>
Channel:	64

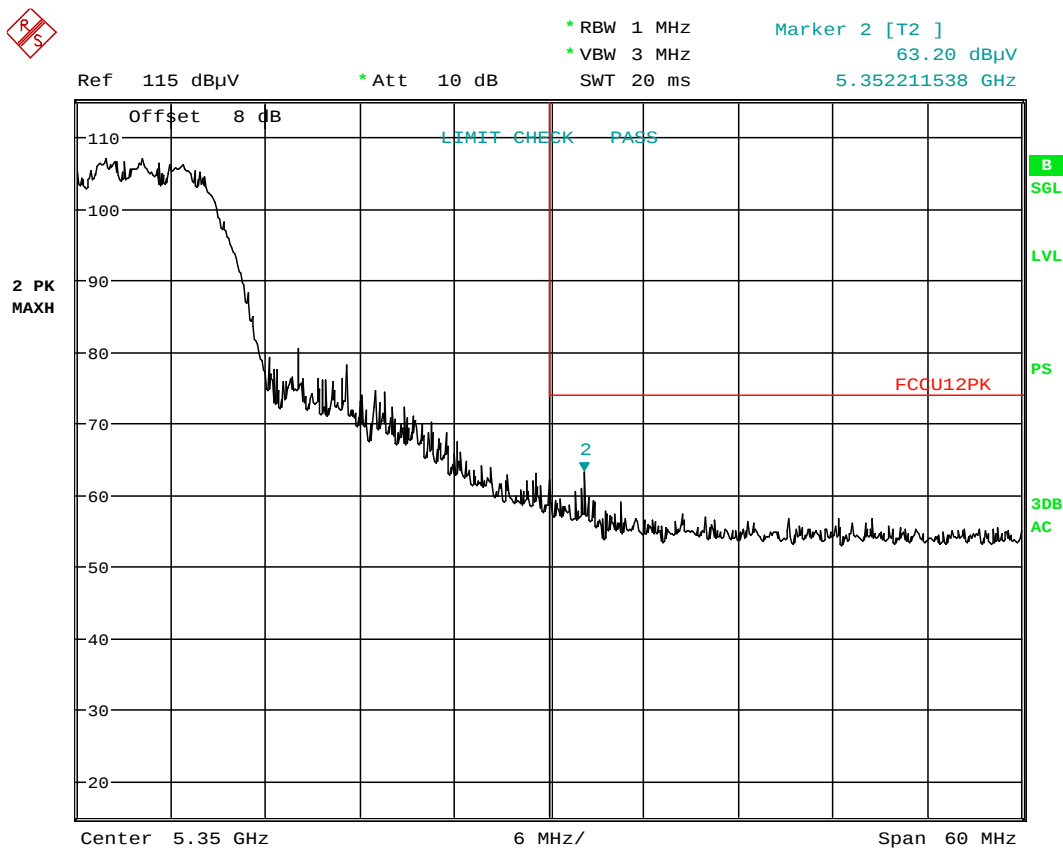


Date: 12.MAY.2017 23:23:52

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

FCC ID: A3LSMN950KOR	 FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 185 of 228

MIMO Radiated Band Edge Measurements (20MHz BW)
 §15.407(b.1)(b.2) §15.205 §15.209



Date: 12.MAY.2017 23:24:12

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

FCC ID: A3LSMN950KOR	 FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 186 of 228	

MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

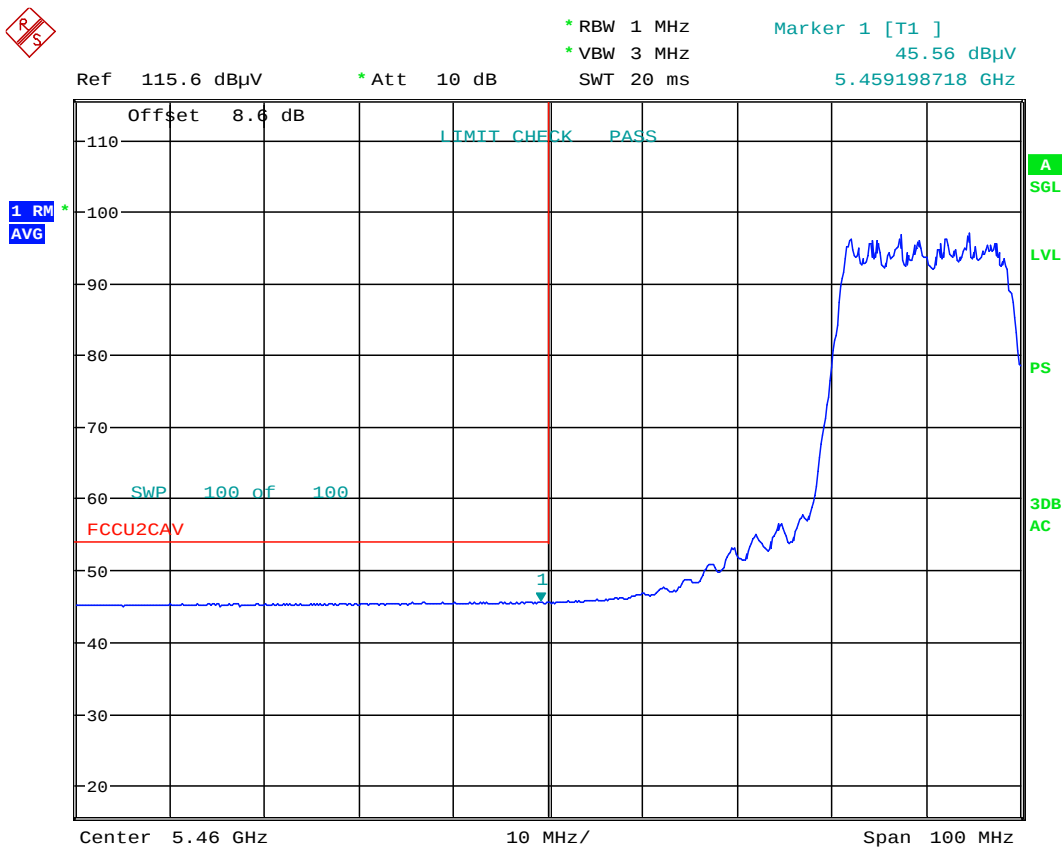
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100

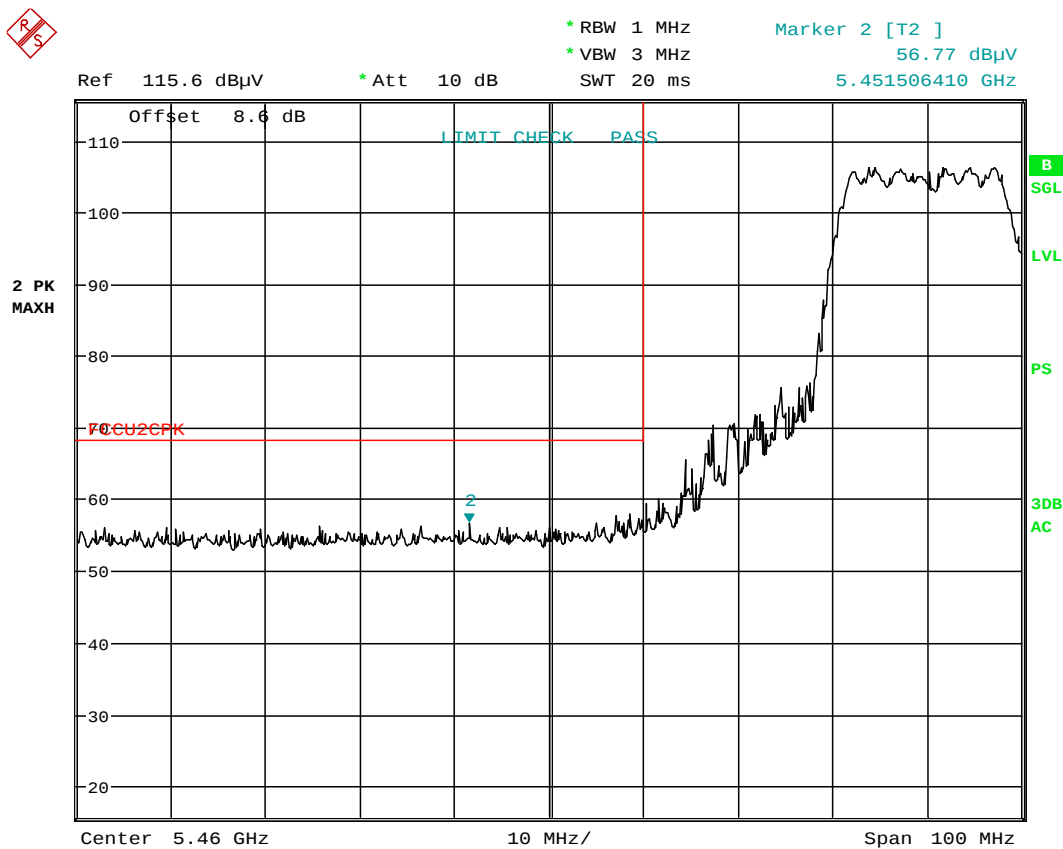


Date: 12.MAY.2017 23:34:11

Plot 7-233. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 187 of 228

MIMO Radiated Band Edge Measurements (20MHz BW)
 §15.407(b.1)(b.2) §15.205 §15.209



Date: 12.MAY.2017 23:34:30

Plot 7-234. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMN950KOR	 FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 188 of 228	

MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

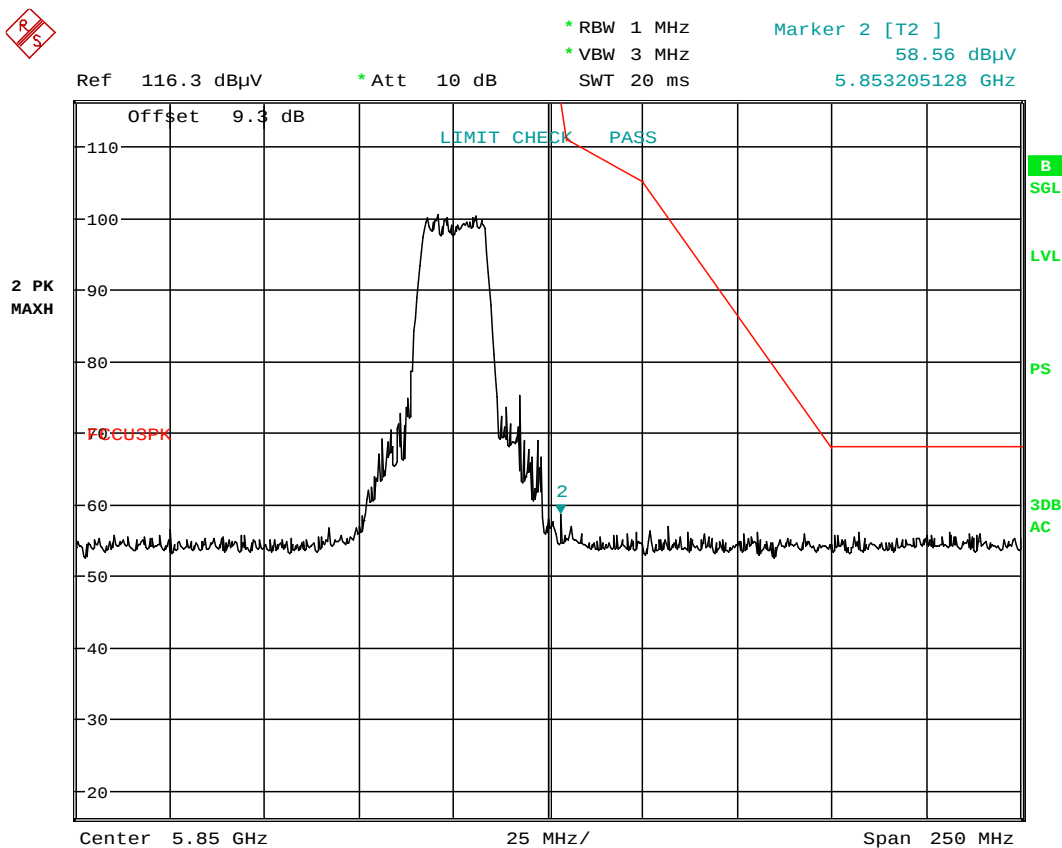
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5825MHz

Channel: 165



Date: 12.MAY.2017 23:56:05

Plot 7-235. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 189 of 228

MIMO WCP Radiated Band Edge Measurements (20MHz BW) **\$15.407(b.1)(b.2) \$15.205 \$15.209**

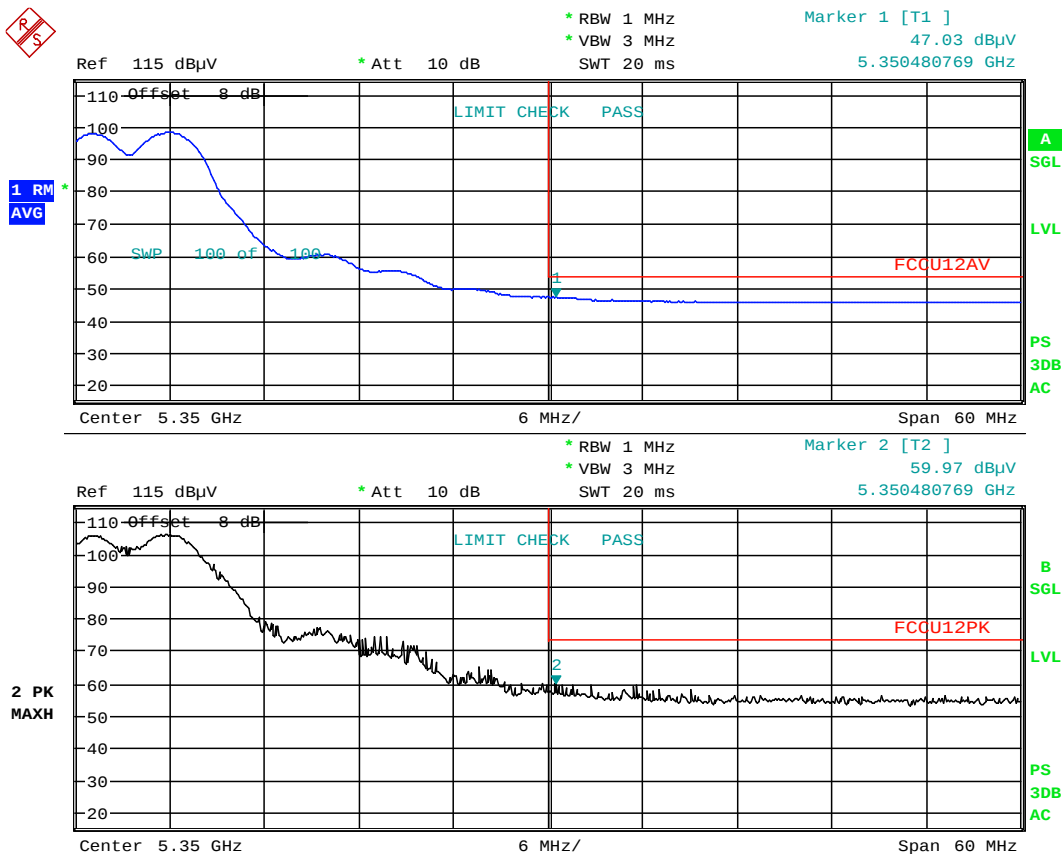
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



Date: 13.MAY.2017 19:08:38

Plot 7-236. Radiated Restricted Band Edge Plot with WCP

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 190 of 228

7.7.11 MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

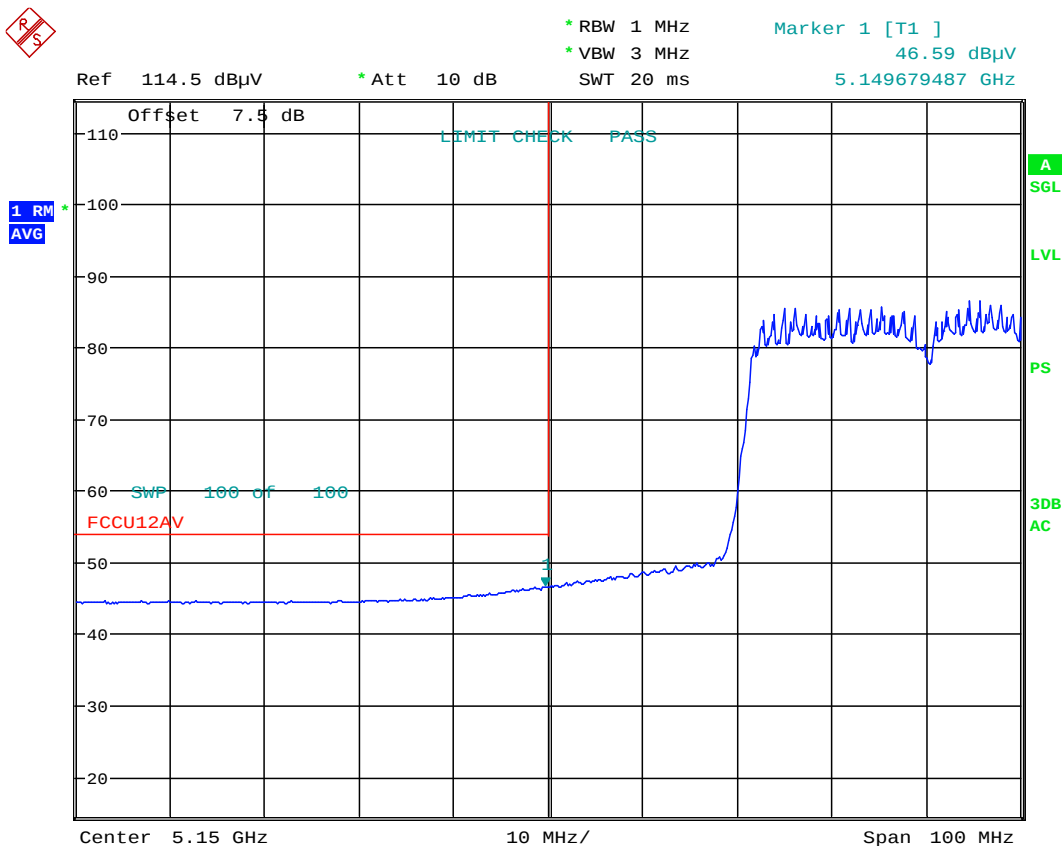
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5190MHz

Channel: 38



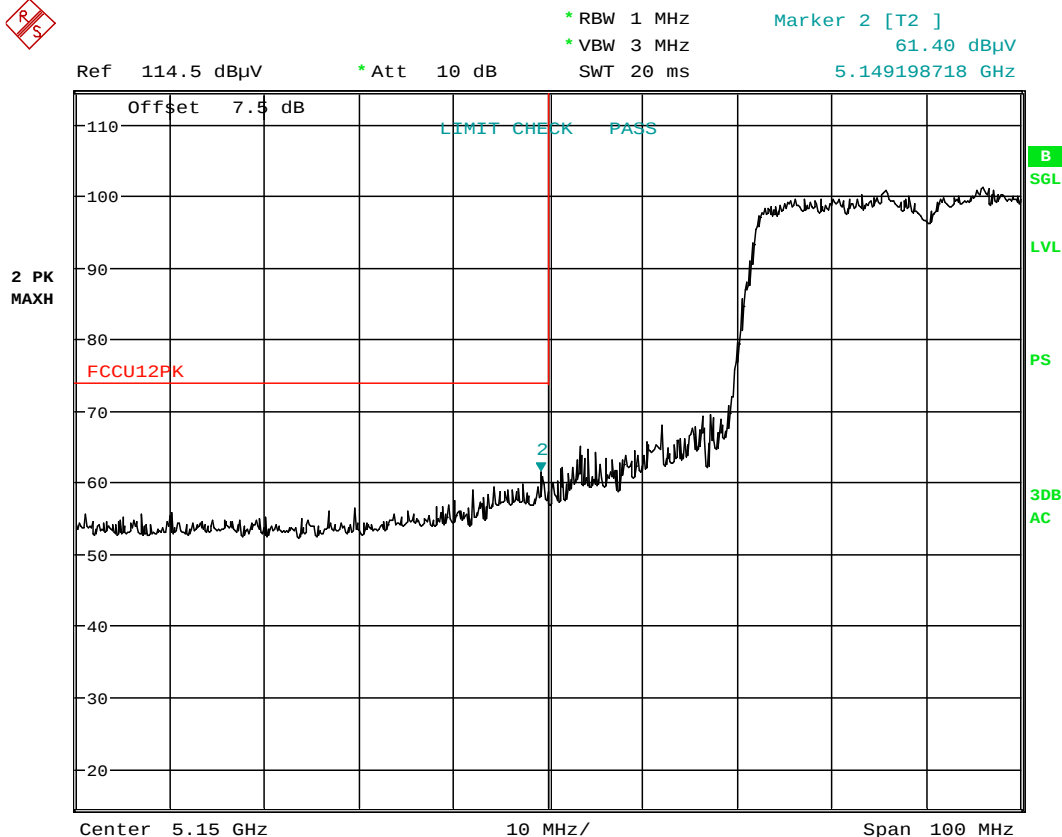
Date: 12.MAY.2017 23:14:11

Plot 7-237. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 191 of 228

MIMO Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



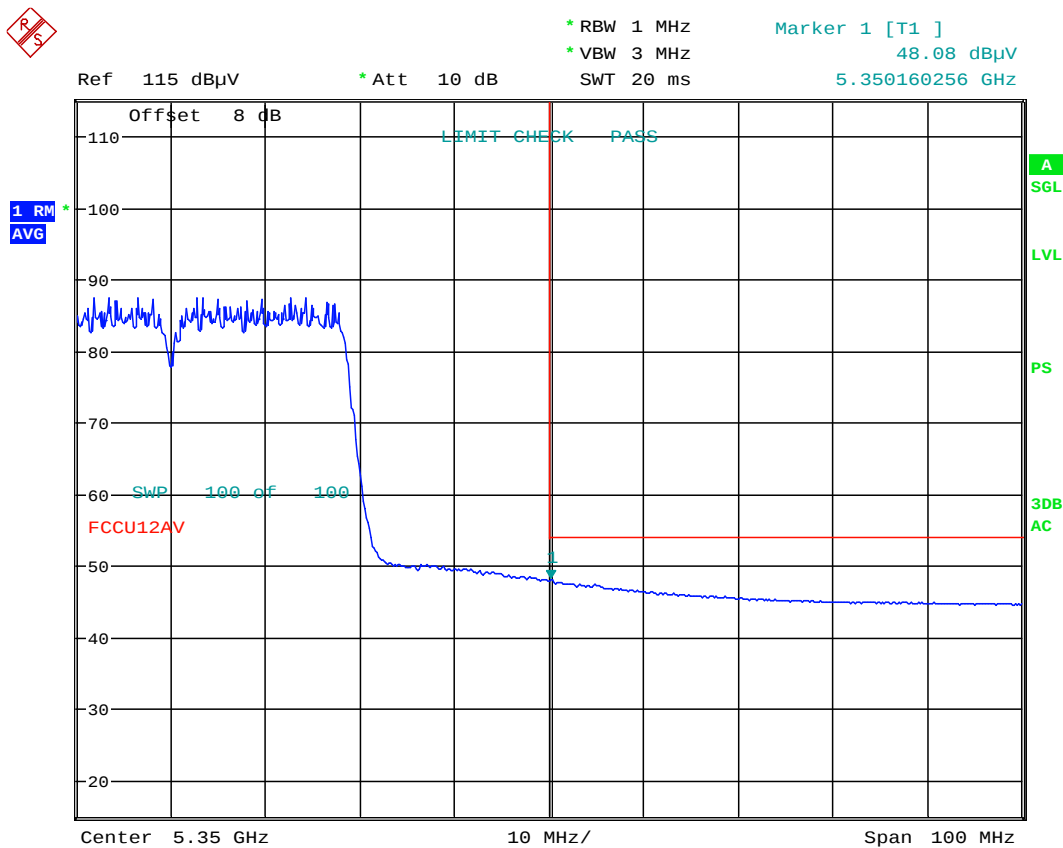
Date: 12.MAY.2017 23:14:44

Plot 7-238. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 192 of 228

MIMO Radiated Band Edge Measurements (40MHz BW)
§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode:	<u>802.11n (40MHz)</u>
Worst Case Transfer Rate:	<u>MCS8</u>
Distance of Measurements:	<u>3 Meters</u>
Operating Frequency:	<u>5310MHz</u>
Channel:	62



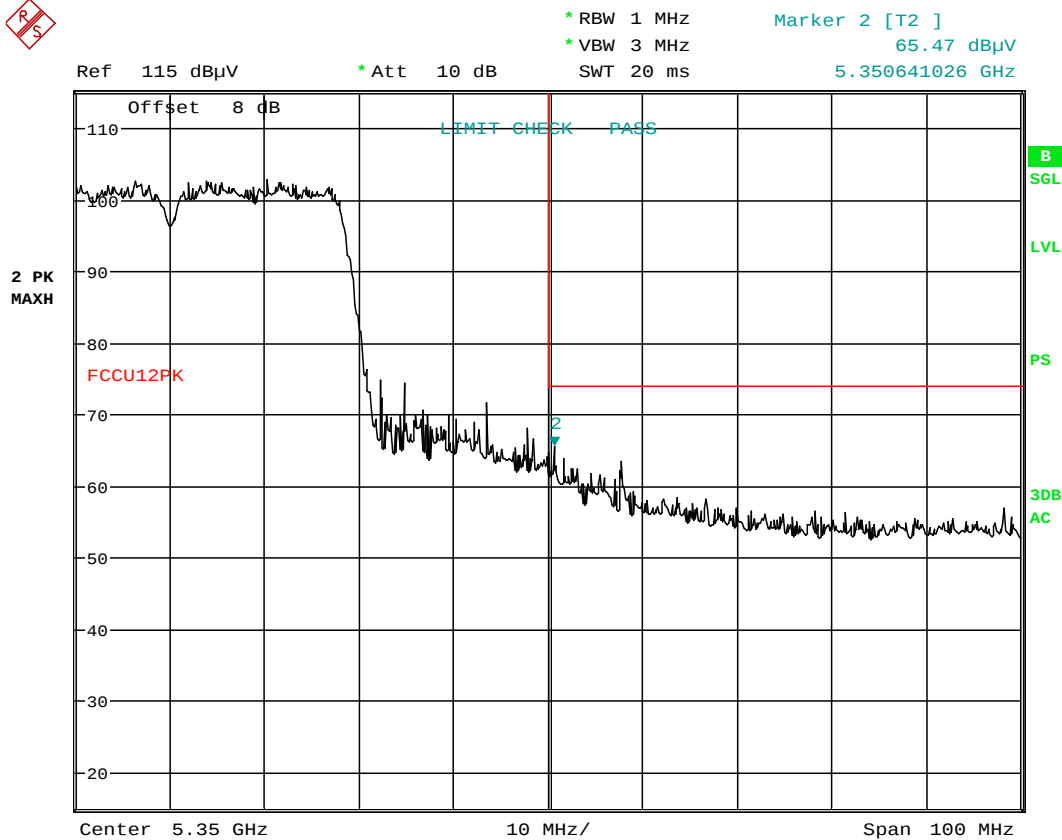
Date: 12.MAY.2017 23:25:59

Plot 7-239. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMN950KOR	 FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 193 of 228

MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 12.MAY.2017 23:26:17

Plot 7-240. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 194 of 228

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MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

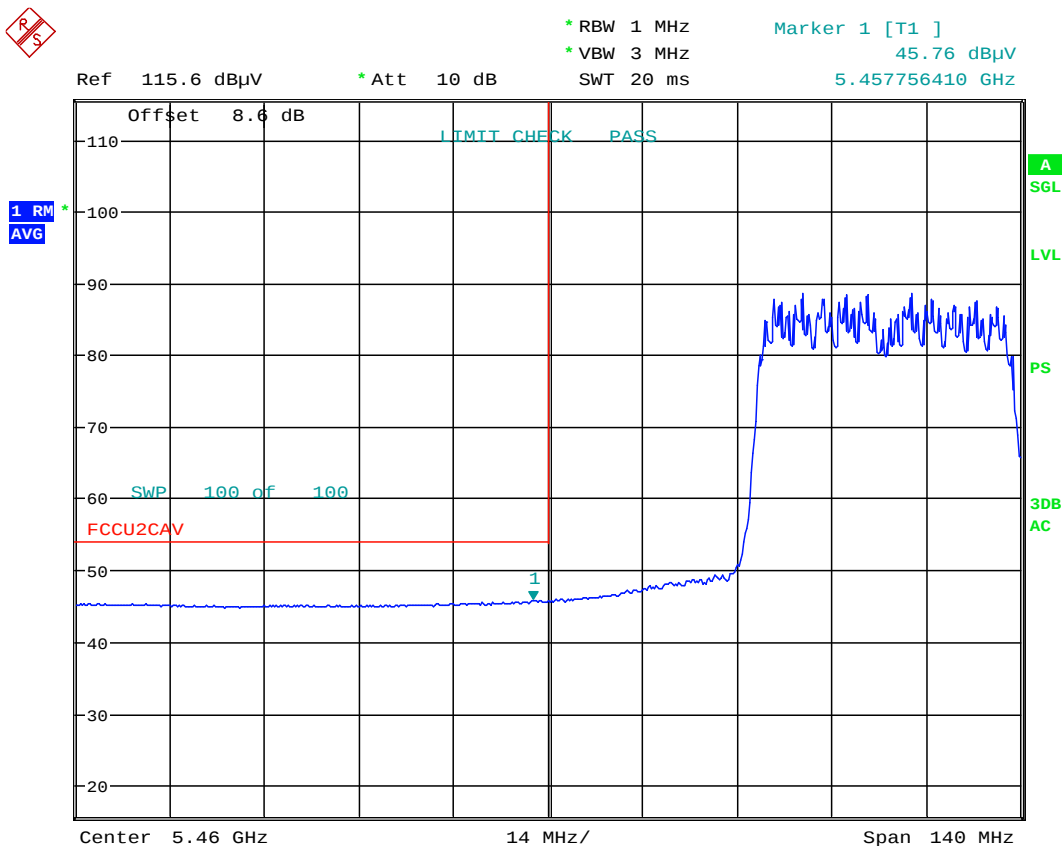
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102



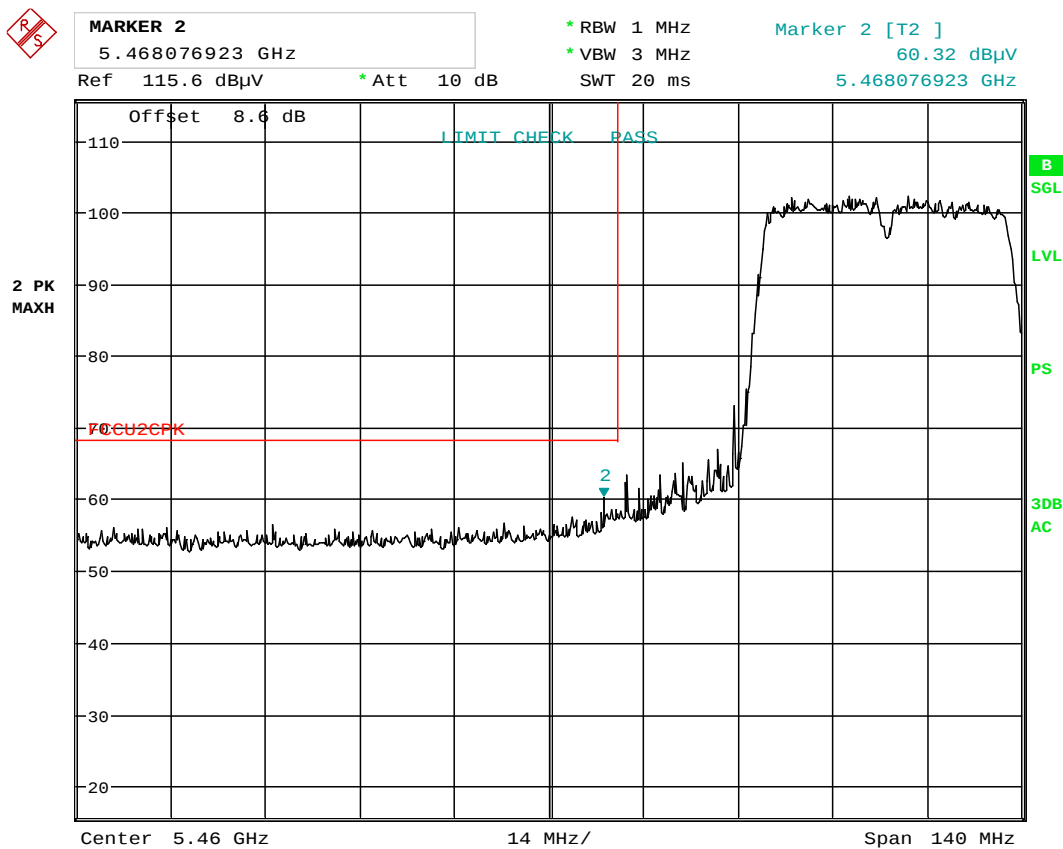
Date: 12.MAY.2017 23:46:42

Plot 7-241. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 195 of 228

MIMO Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 12.MAY.2017 23:47:25

Plot 7-242. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 196 of 228

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MIMO Radiated Band Edge Measurements (40MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

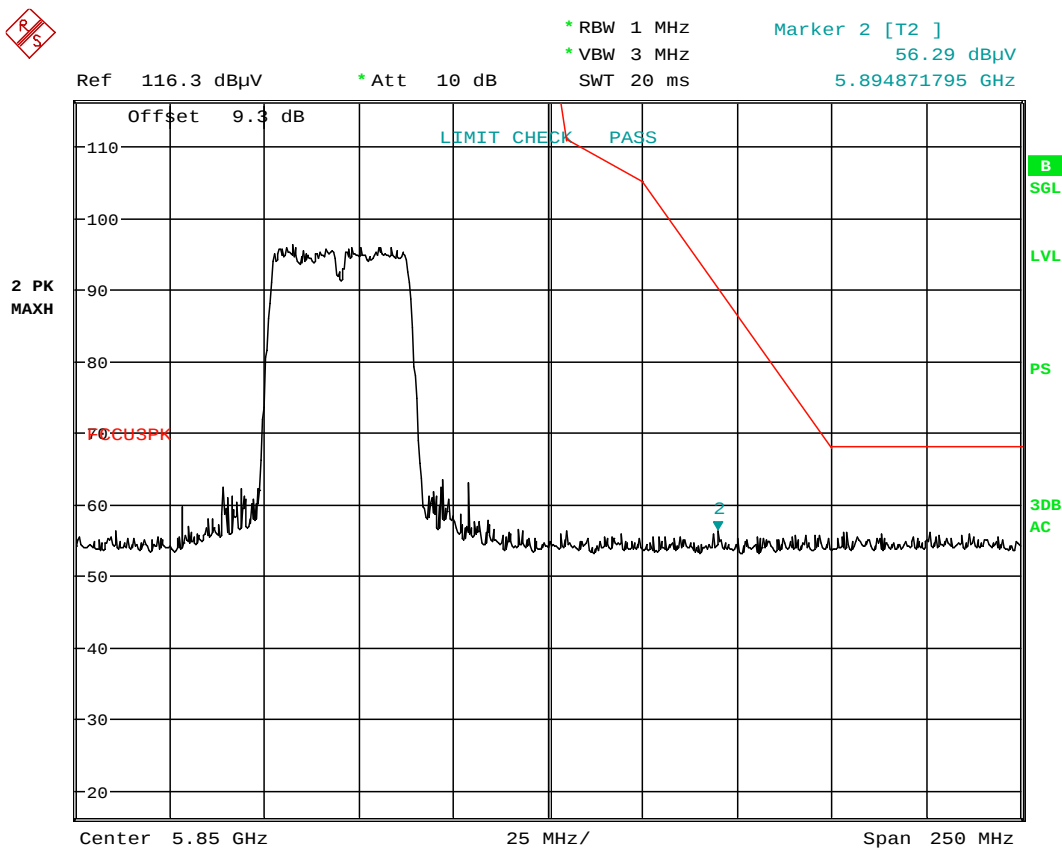
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5795MHz

Channel: 159



Date: 13.MAY.2017 00:48:01

Plot 7-243. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 197 of 228

MIMO WCP Radiated Band Edge Measurements (40MHz BW) **§15.407(b.1)(b.2) §15.205 §15.209**

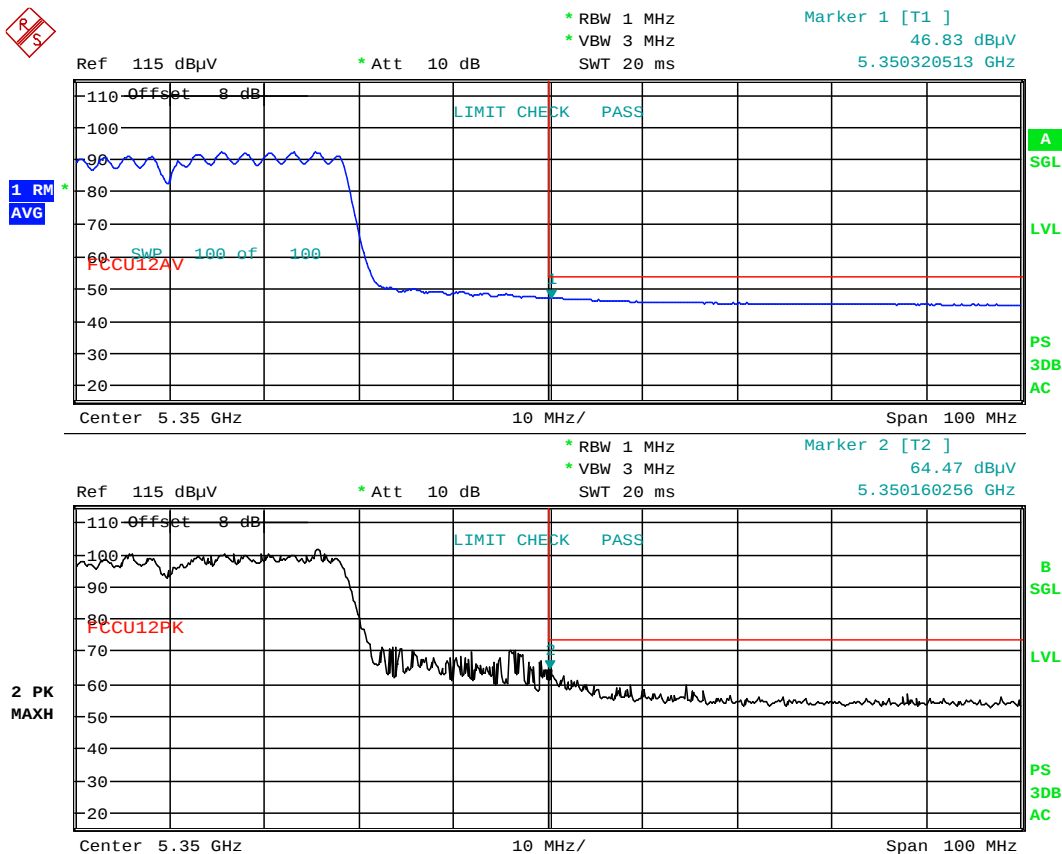
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5310MHz

Channel: 62



Date: 13.MAY.2017 19:17:42

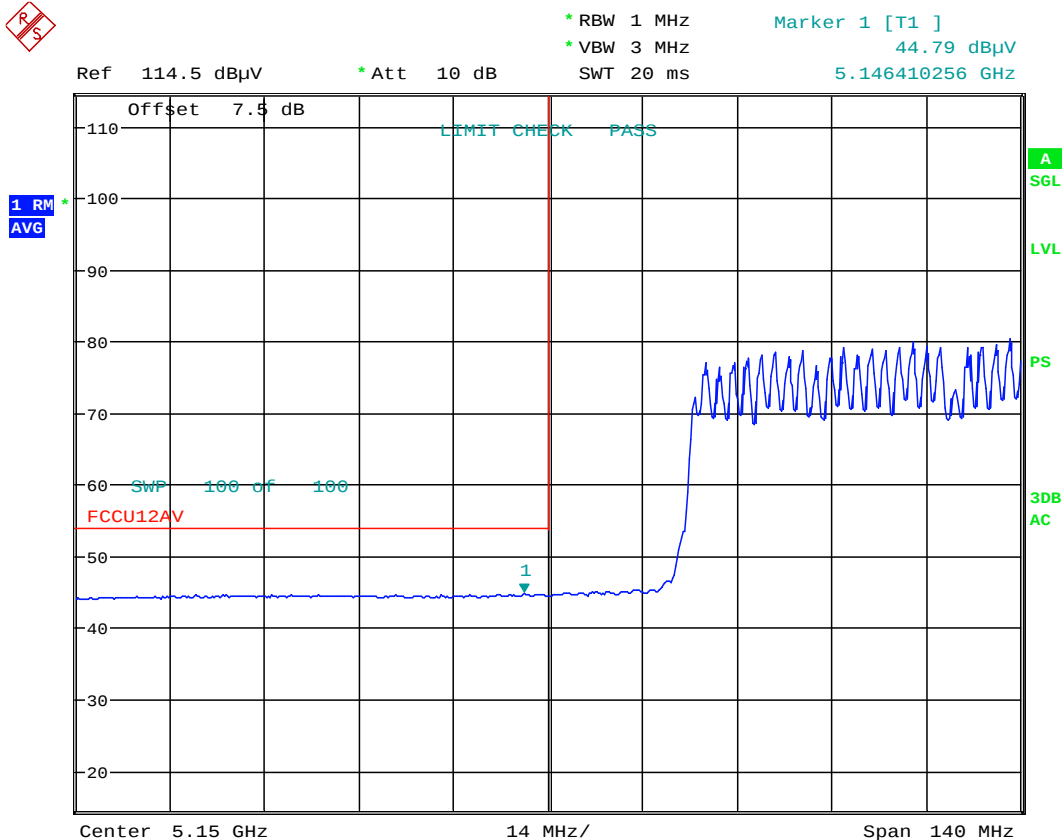
Plot 7-244. Radiated Restricted Band Edge Plot with WCP

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 198 of 228

7.7.12 MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

Worst Case Mode: 802.11ac (80MHz)
Worst Case Transfer Rate: MCS0
Distance of Measurements: 3 Meters
Operating Frequency: 5210MHz
Channel: 42



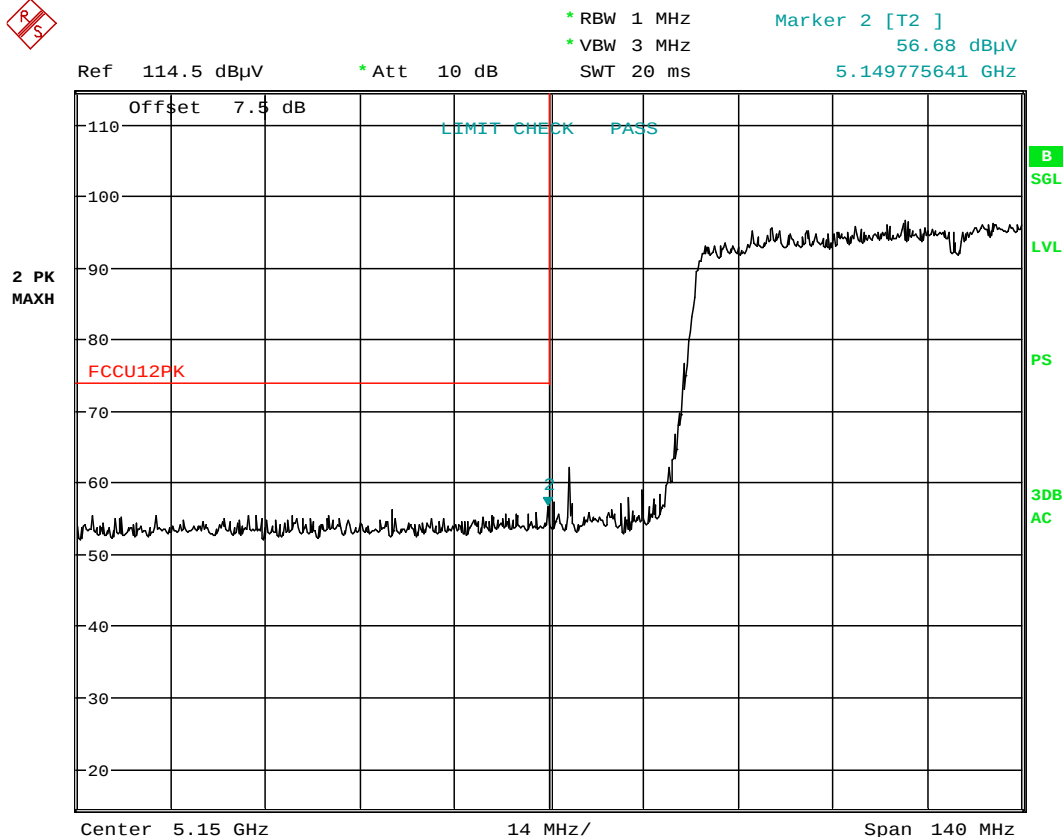
Date: 12.MAY.2017 23:16:26

Plot 7-245. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 199 of 228

MIMO Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 12.MAY.2017 23:16:50

Plot 7-246. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 200 of 228

MIMO Radiated Band Edge Measurements (80MHz BW) §15.407(b.1)(b.2) §15.205 §15.209

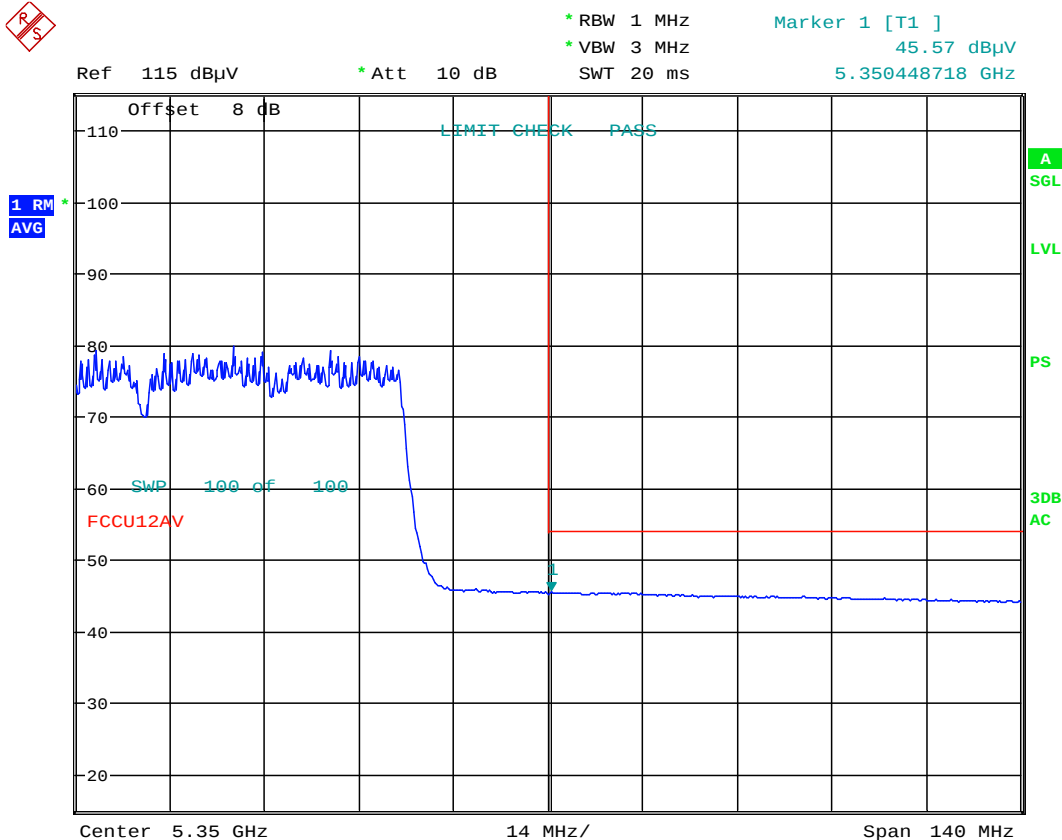
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58



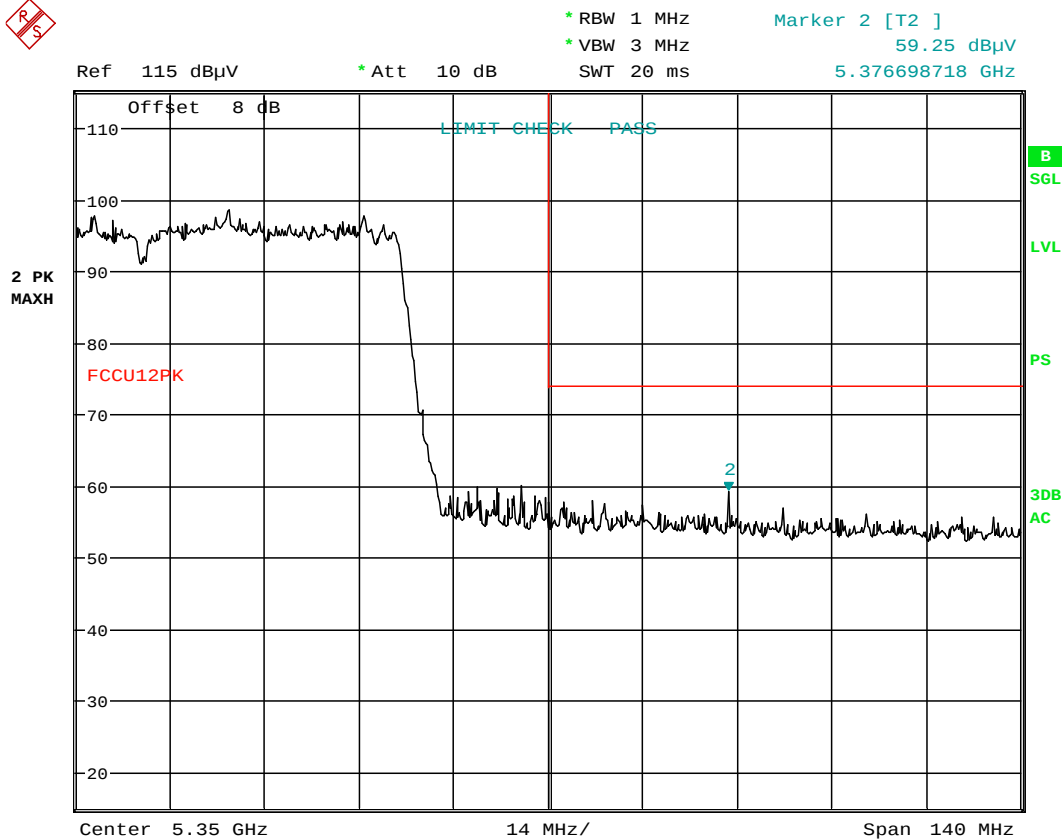
Date: 12.MAY.2017 23:28:04

Plot 7-247. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 201 of 228

MIMO Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 12.MAY.2017 23:28:22

Plot 7-248. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 202 of 228

MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

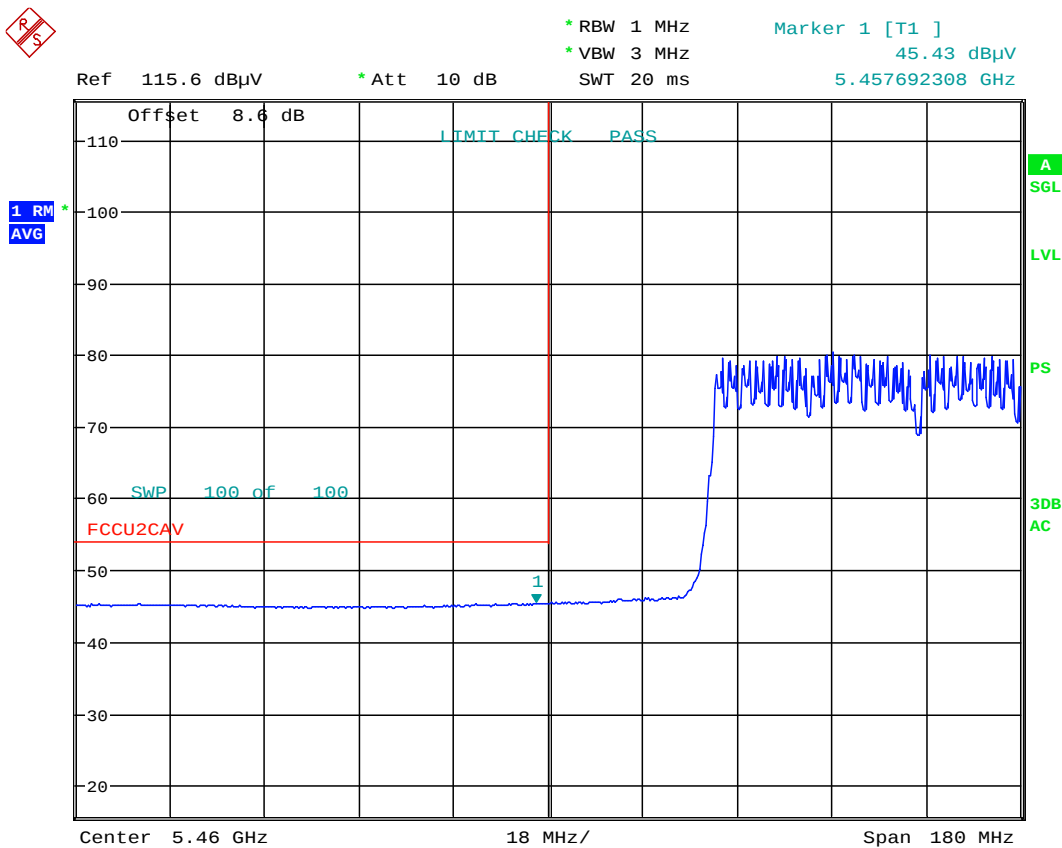
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

Channel: 106



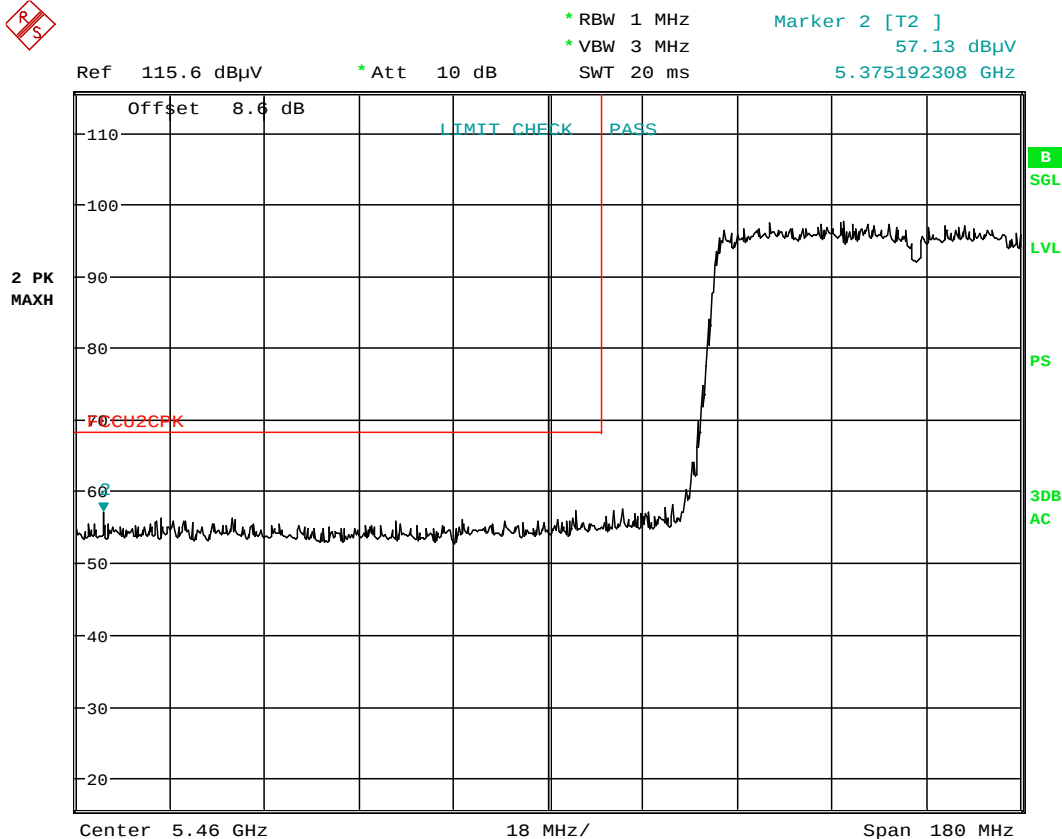
Date: 12.MAY.2017 23:49:24

Plot 7-249. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 203 of 228

MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 12.MAY.2017 23:49:44

Plot 7-250. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 204 of 228

MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

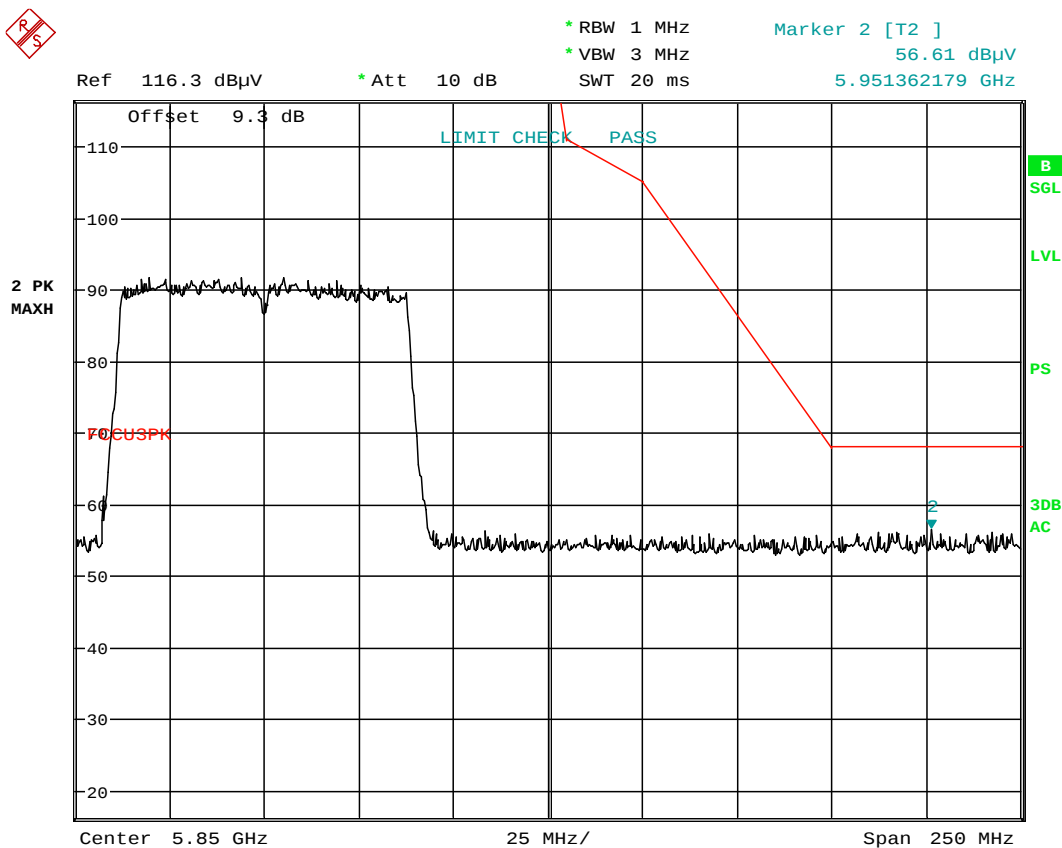
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5775MHz

Channel: 155



Date: 13.MAY.2017 00:49:38

Plot 7-251. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 205 of 228

MIMO WCP Radiated Band Edge Measurements (80MHz BW)

\$15.407(b.1)(b.2) \$15.205 \$15.209

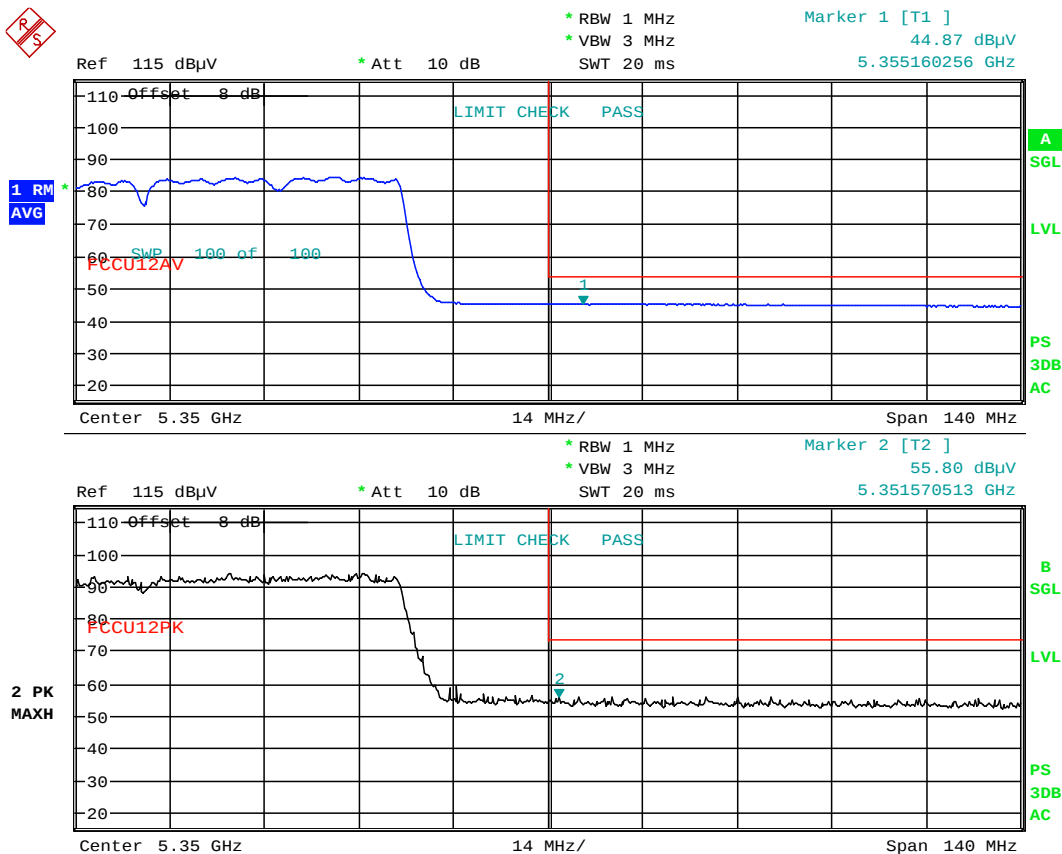
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5290MHz

Channel: 58



Date: 13.MAY.2017 19:22:24

Plot 7-252. Radiated Restricted Band Edge Plot with WCP

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 206 of 228

7.8 Radiated Spurious Emissions Measurements – Below 1GHz

§15.209

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 maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table 7-64 per Section 15.209.

Frequency	Field Strength [$\mu\text{V/m}$]	Measured Distance [Meters]
0.009 – 0.490 MHz	2400/F (kHz)	300
0.490 – 1.705 MHz	24000/F (kHz)	30
1.705 – 30.00 MHz	30	30
30.00 – 88.00 MHz	100	3
88.00 – 216.0 MHz	150	3
216.0 – 960.0 MHz	200	3
Above 960.0 MHz	500	3

Table 7-64. Radiated Limits

Test Procedures Used

ANSI C63.10-2013

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 207 of 228

Test Setup

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

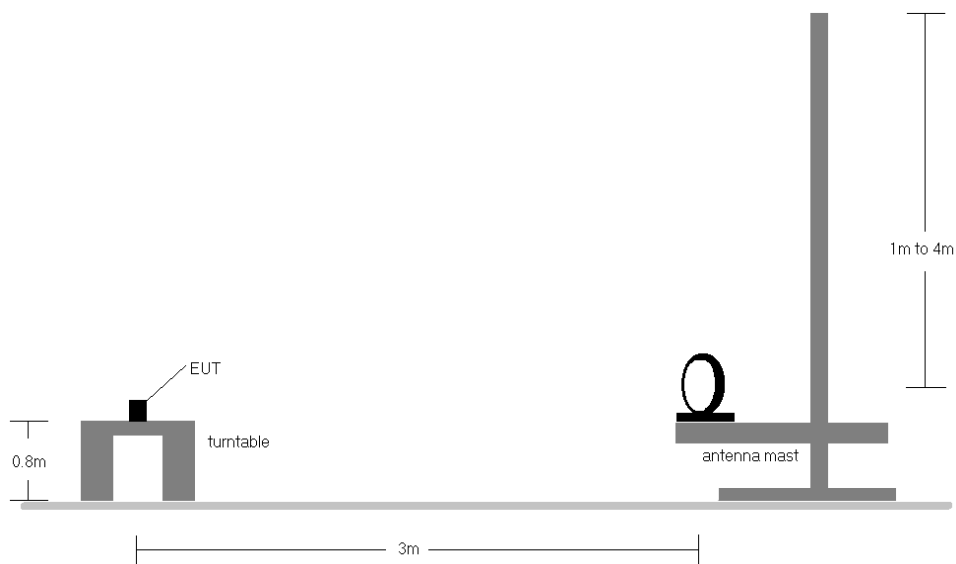


Figure 7-6. Radiated Test Setup < 30MHz

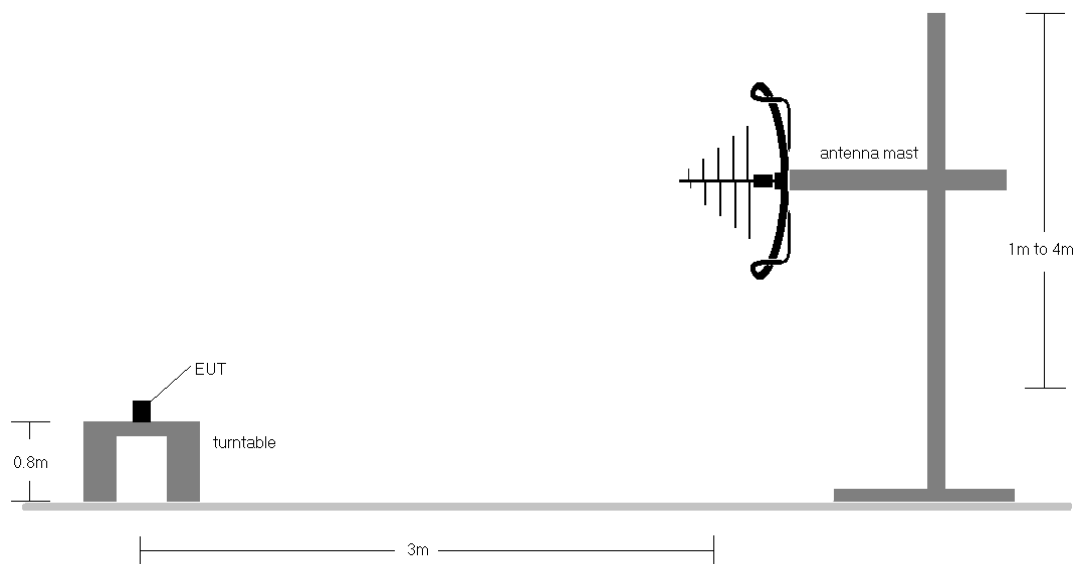


Figure 7-7. Radiated Test Setup < 1GHz

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 208 of 228

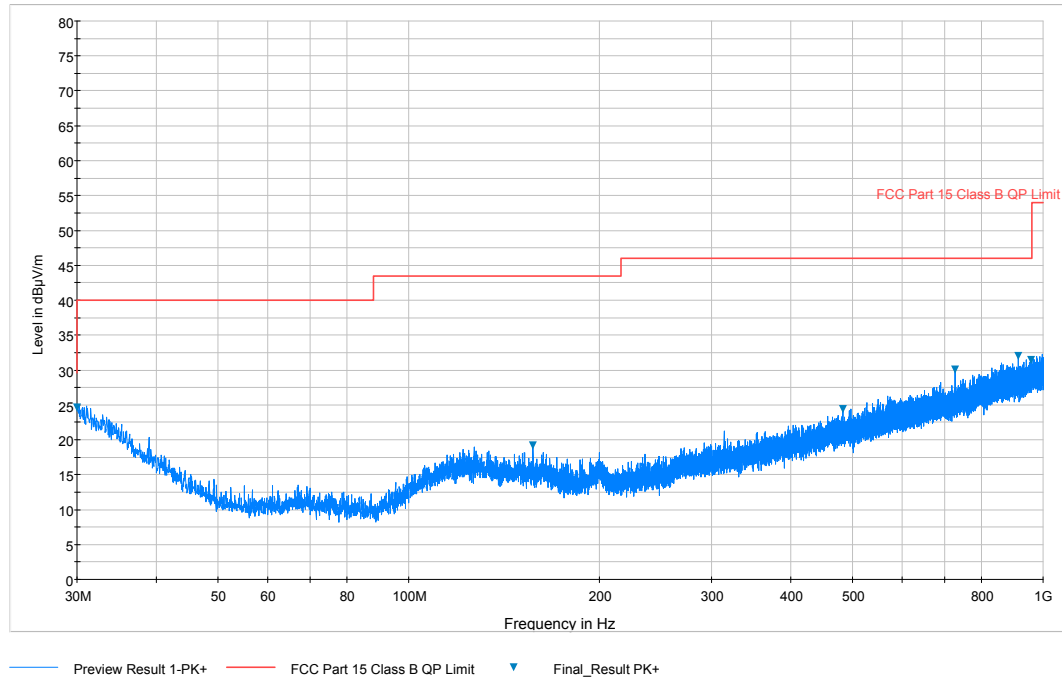
Test Notes

1. All emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 7-64.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.

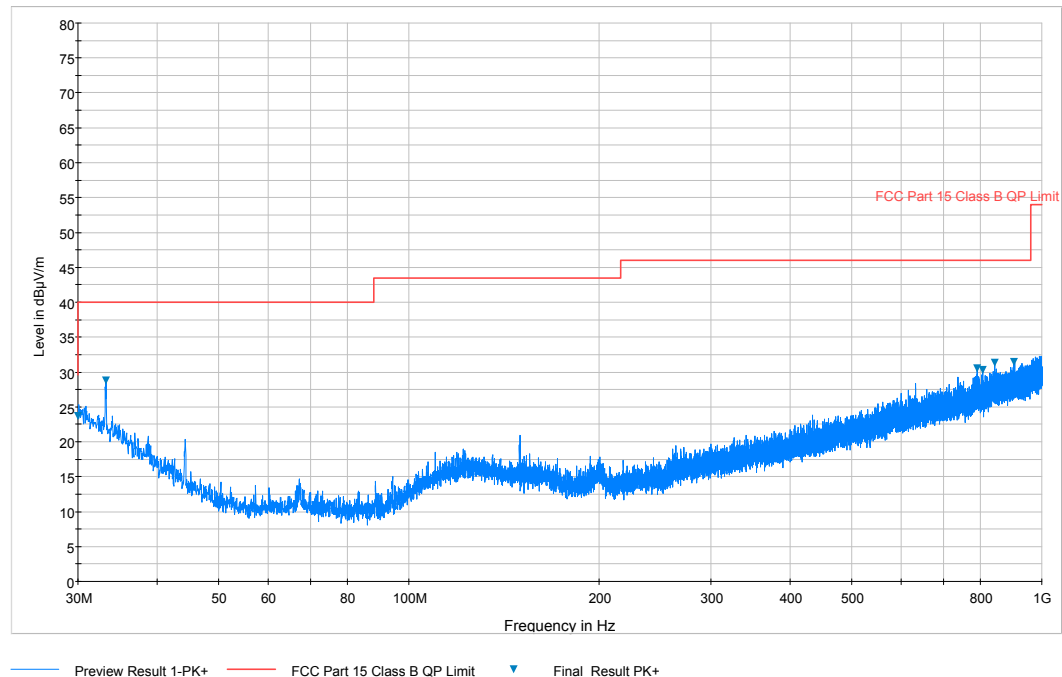
FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset	Page 209 of 228	

Antenna-1 Radiated Spurious Emissions Measurements (Below 1GHz)

\$15.209



Plot 7-253. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)

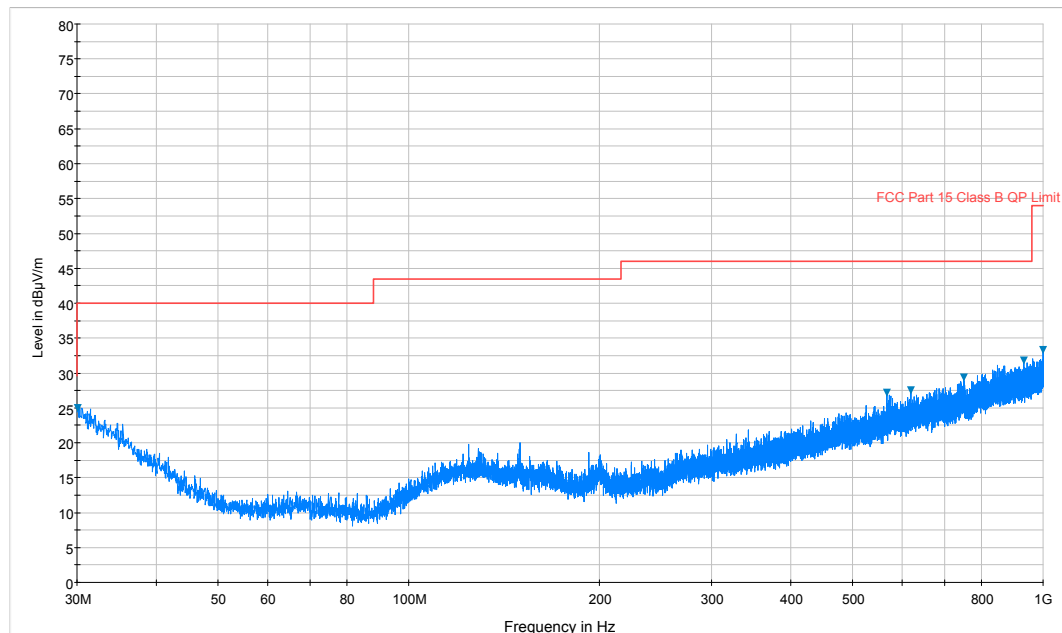


Plot 7-254. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

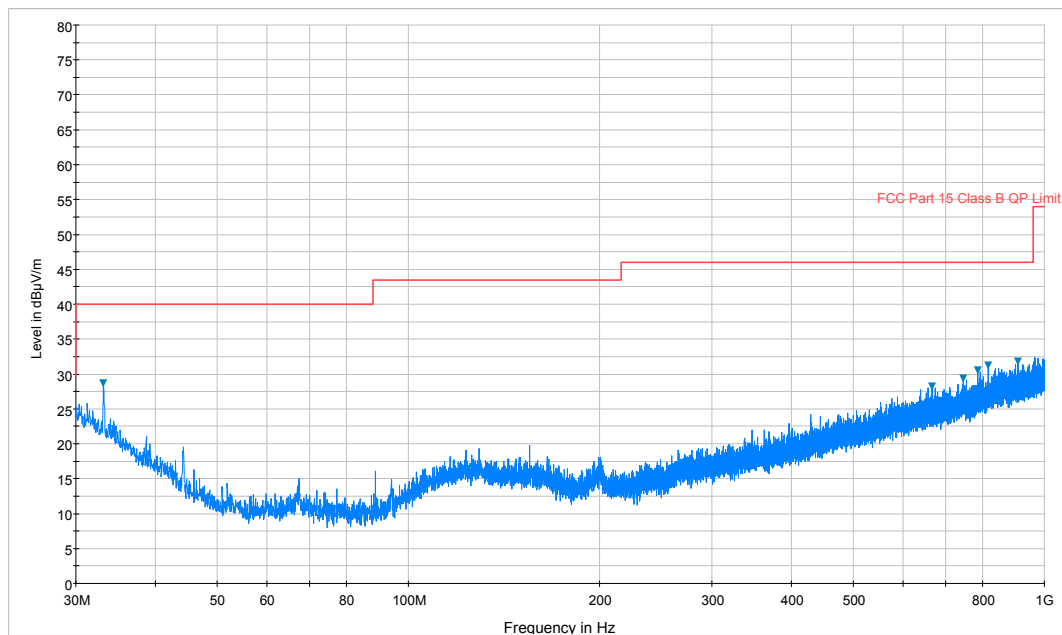
FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 210 of 228

Antenna-2 Radiated Spurious Emissions Measurements (Below 1GHz)

\$15.209



Plot 7-255. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



Plot 7-256. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 211 of 228

7.9 Line-Conducted Test Data

§15.407

Test Overview and Limit

All AC line conducted spurious emissions are measured with a receiver connected to a grounded LISN while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for conducted spurious emissions. Only the conducted emissions of the configuration that produced the worst case emissions are reported in this section.

All conducted emissions must not exceed the limits shown in the table below, per Section 15.207.

Frequency of emission (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-65. Conducted Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

ANSI C63.10-2013, Section 6.2

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

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Test Setup

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

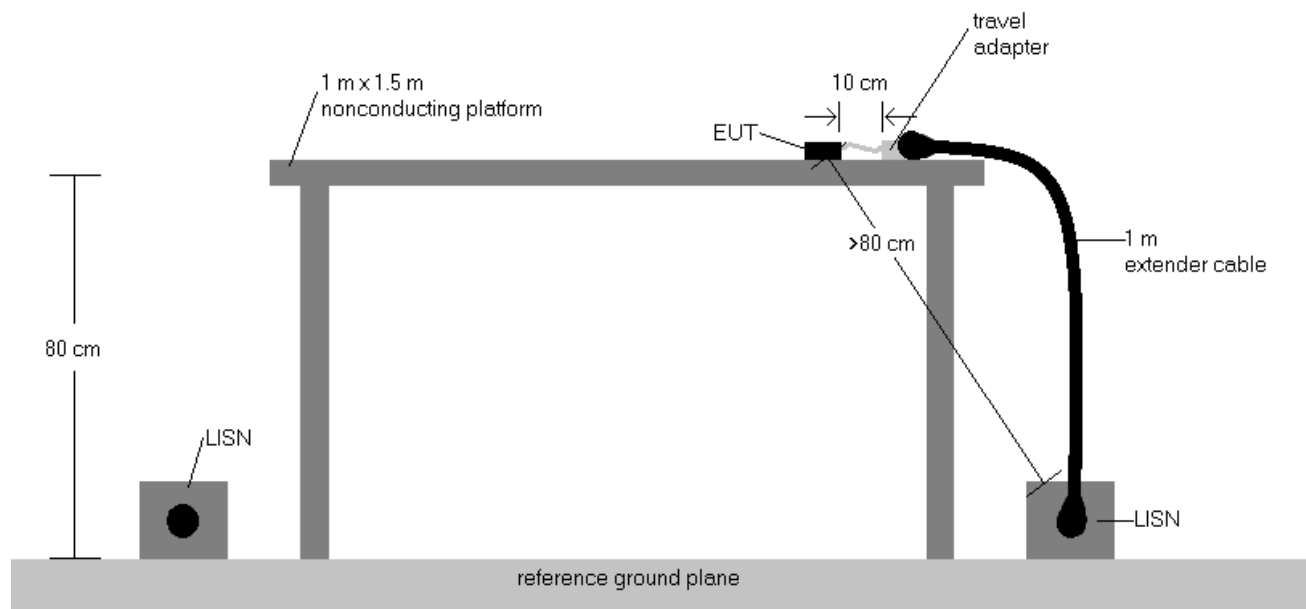
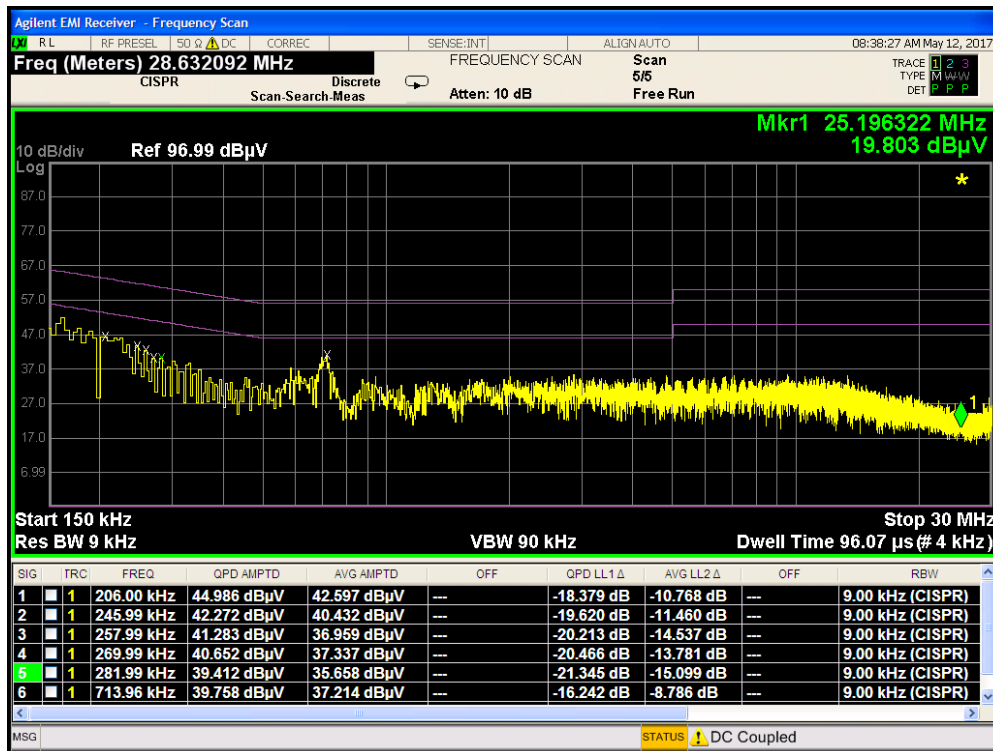


Figure 7-8. Test Instrument & Measurement Setup

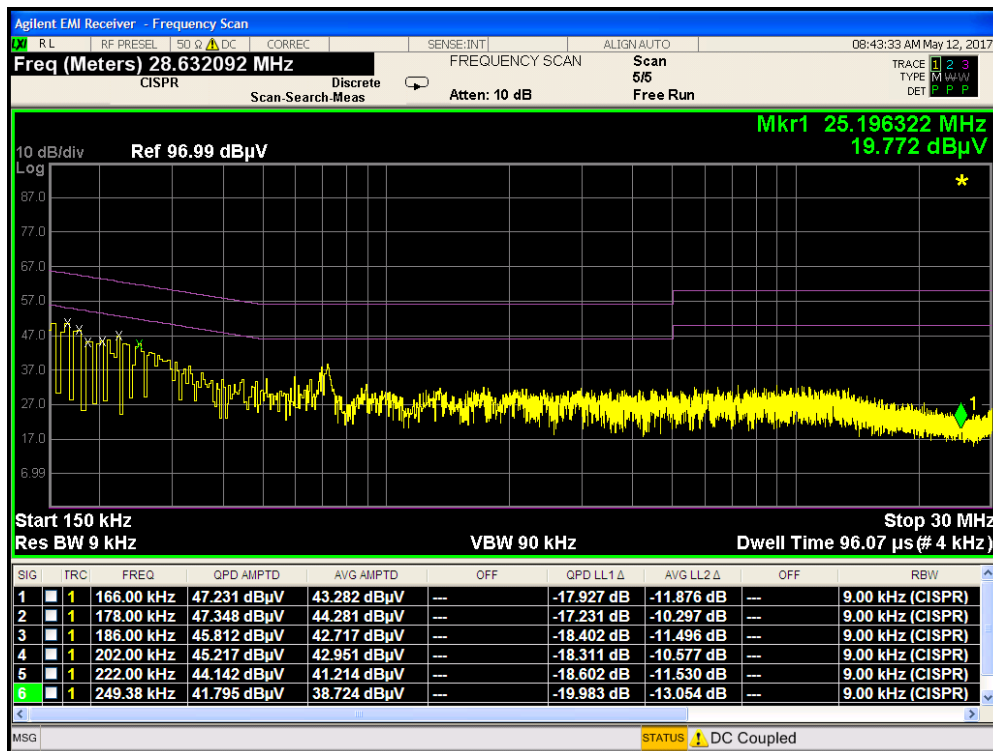
Test Notes

1. All modes of operation were investigated and the worst-case emissions are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz are specified in 15.207.
3. $\text{Corr. (dB)} = \text{Cable loss (dB)} + \text{LISN insertion factor (dB)}$
4. $\text{QP/AV Level (dB}\mu\text{V)} = \text{QP/AV Analyzer/Receiver Level (dB}\mu\text{V)} + \text{Corr. (dB)}$
5. $\text{Margin (dB)} = \text{QP/AV Limit (dB}\mu\text{V)} - \text{QP/AV Level (dB}\mu\text{V)}$
6. Traces shown in plot are made using a peak detector.
7. Deviations to the Specifications: None.

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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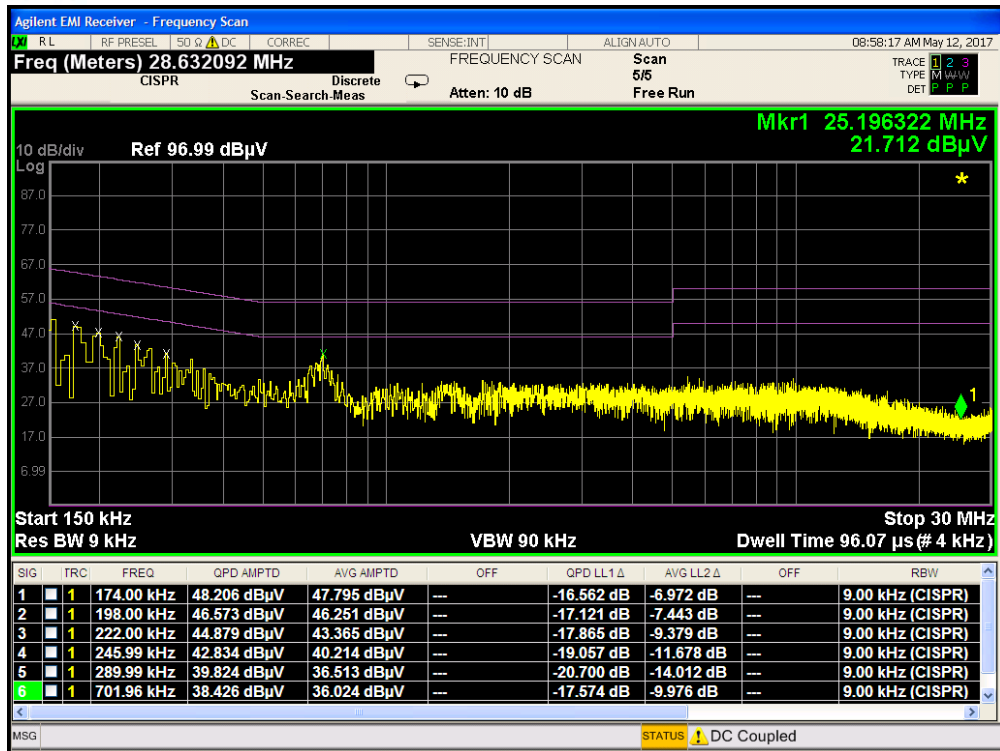


Plot 7-257. Line Conducted Plot with 802.11a UNII Band 1 (L1)

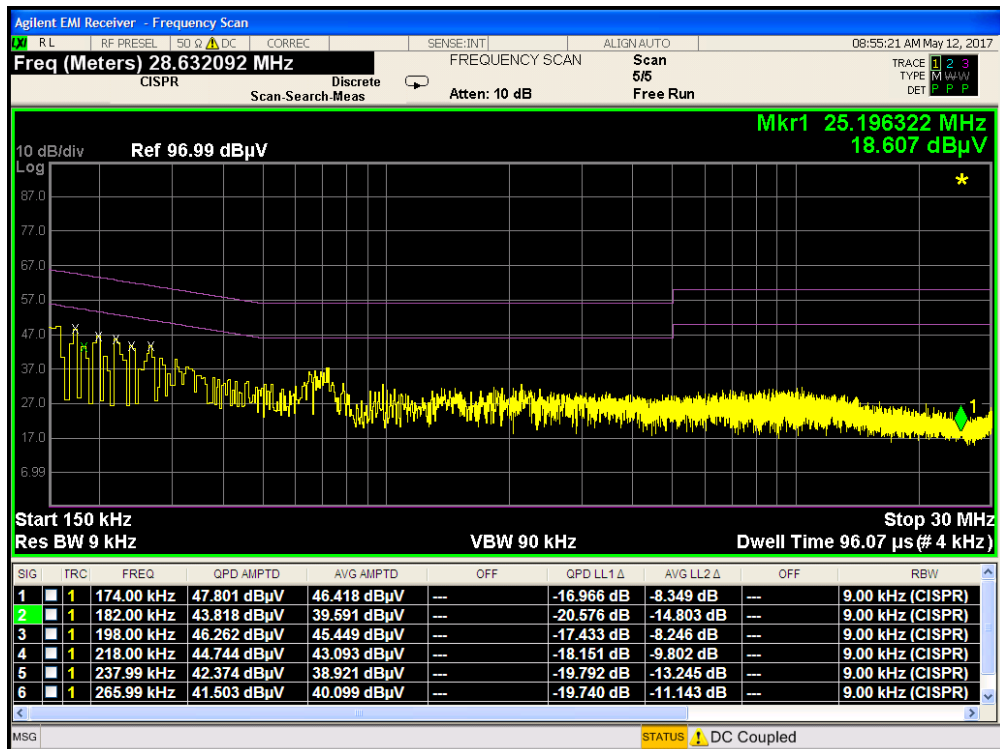


Plot 7-258. Line Conducted Plot with 802.11a UNII Band 1 (N)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 214 of 228

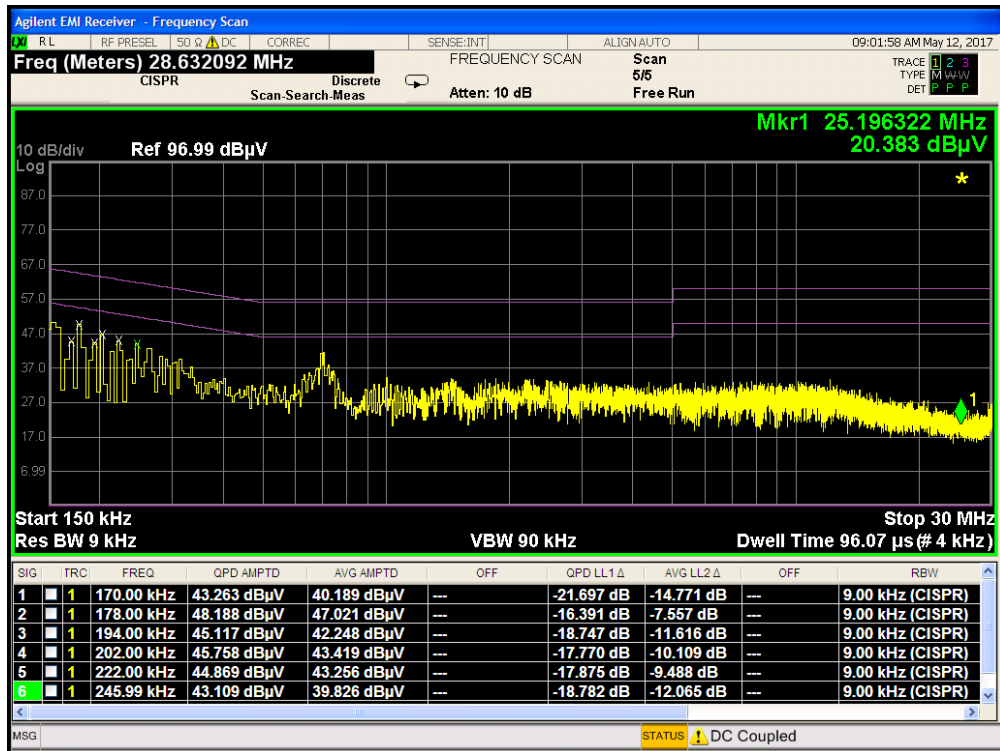


Plot 7-259. Line Conducted Plot with 802.11a UNII Band 2A (L1)

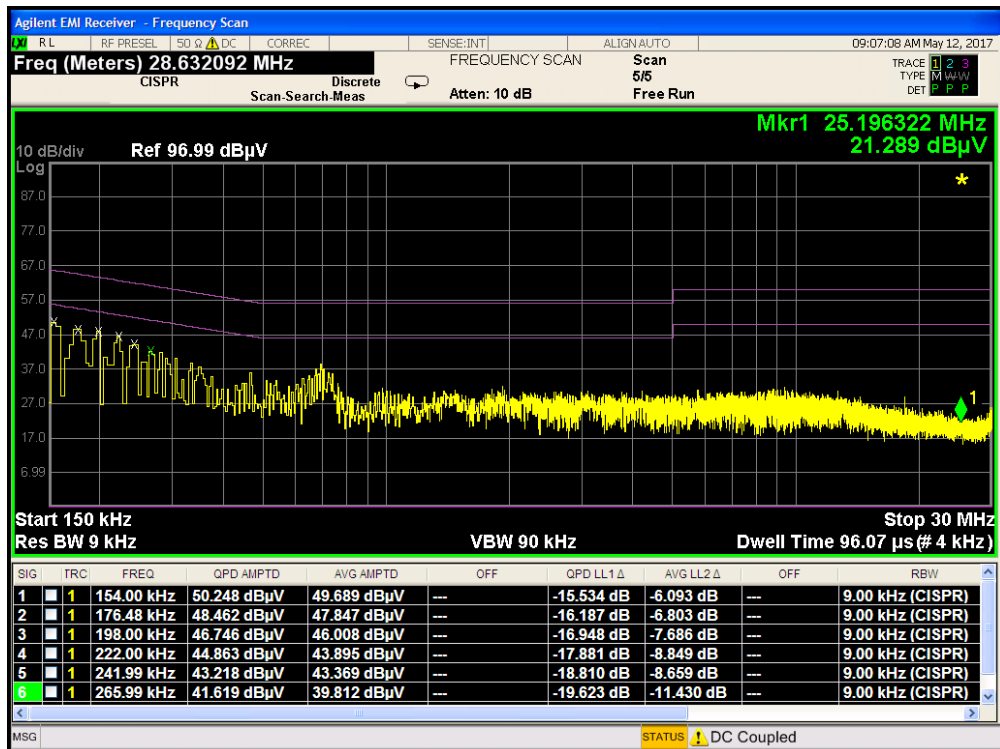


Plot 7-260. Line Conducted Plot with 802.11a UNII Band 2A (N)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 215 of 228



Plot 7-261. Line Conducted Plot with 802.11a UNII Band 2C (L1)

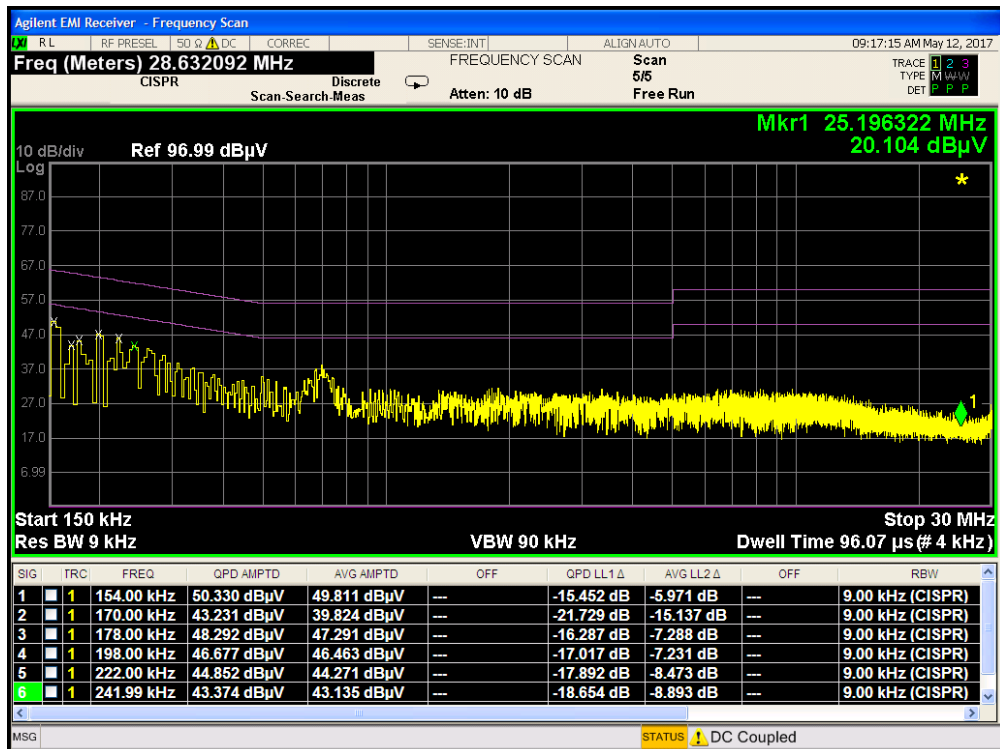


Plot 7-262. Line Conducted Plot with 802.11a UNII Band 2C (N)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-263. Line Conducted Plot with 802.11a UNII Band 3 (L1)



Plot 7-264. Line Conducted Plot with 802.11a UNII Band 3 (N)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 217 of 228

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMN950KOR** is in compliance with Part 15E of the FCC Rules.

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APPENDIX A. 802.11A DUAL TX

A.1 Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MODE (TX)					
15.205, 15.407(b.1),(5),(6)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	RADIATED	PASS	Section A.2

Table A.1-1. Summary of Test Results

Notes:

- 1) This device employs dual transmission in 802.11a and 802.11g modes using Cyclic Delay Diversity. For all test cases, the device was set to transmit from both antennas simultaneously. The data in this section demonstrates compliance to the dual-transmission requirements specified in KDB 662911 v02r01.
- 2) All data found in this section is compiled from plots found in the main body of this test report.
- 3) Since this device is able to transmit the same data through both of its antennas in a given symbol period, then, by the definition specified in KDB 662911 v02r01 Section F)1), the transmission symbols are correlated.
- 4) Since two antennas are supported in this device and a minimum of $N_{ss} = 1$ antenna can operate at any given time, the maximum array gain for two correlated signals is $10\log_{10}(N_{ant}/N_{ss}) = 3\text{dB}$, where N_{ss} is the number of spatial streams and N_{ant} is the total number of antennas.
- 5) For conducted spurious emissions, per KDB 662911 v02r01 Section E)3)b), the emissions on each individual output complied with its corresponding relative limit for that output, so additional testing was not required for dual transmission operation.

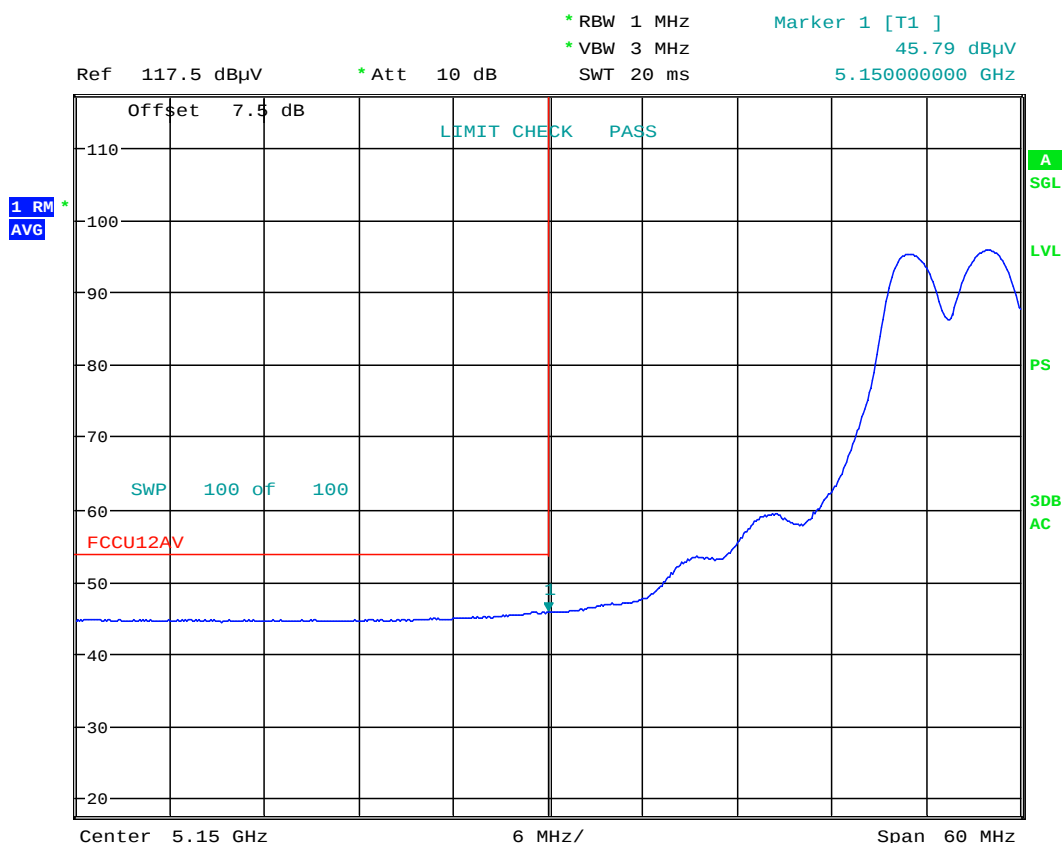
FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 219 of 228

A.2 Dual Tx Radiated Restricted Band Edge Measurements

§15.205 §15.209

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting on both outputs in 802.11a mode.

Worst Case Mode: 802.11a
Worst Case Transfer Rate: 6Mbps
Distance of Measurements: 3 Meters
Operating Frequency: 5180MHz
Channel: 36



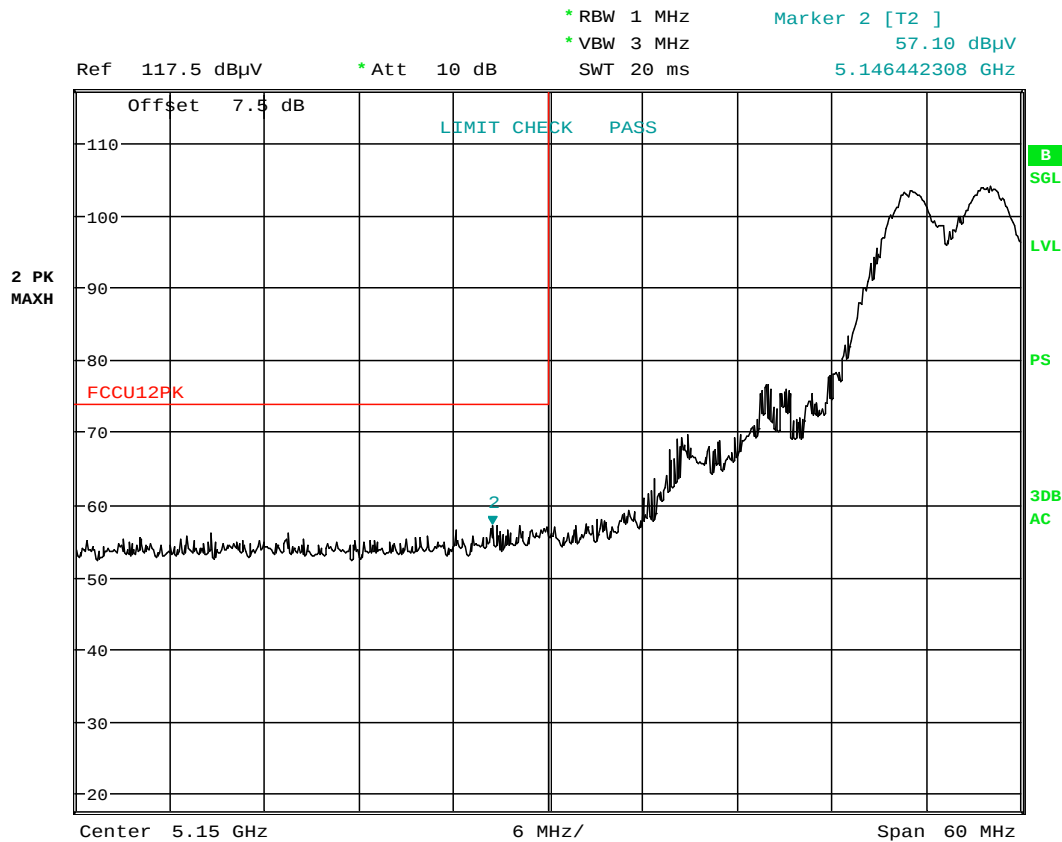
Date: 13.JUL.2017 12:15:03

Plot A.4-1. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 220 of 228

Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.1)(b.2) §15.205 §15.209



Date: 13.JUL.2017 12:15:22

Plot A.4-2. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 221 of 228

Dual Tx Radiated Restricted Band Edge Measurements

\$15.407(b.1)(b.2) \$15.205 \$15.209

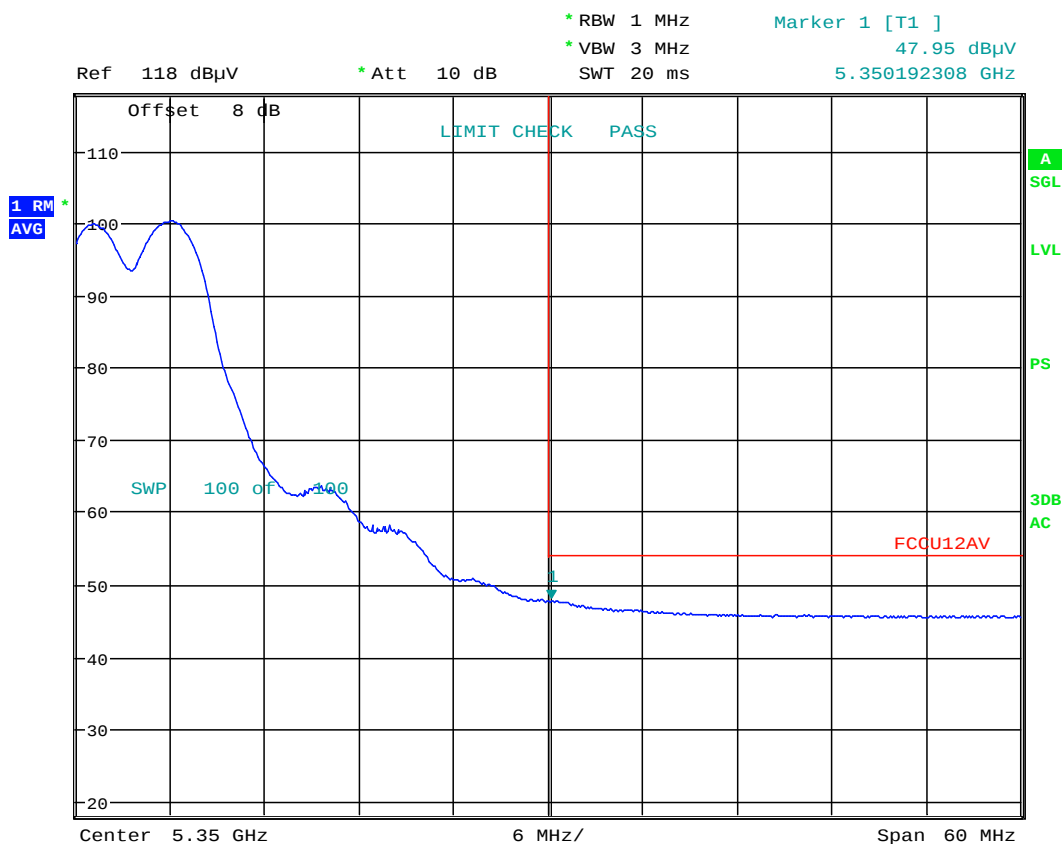
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



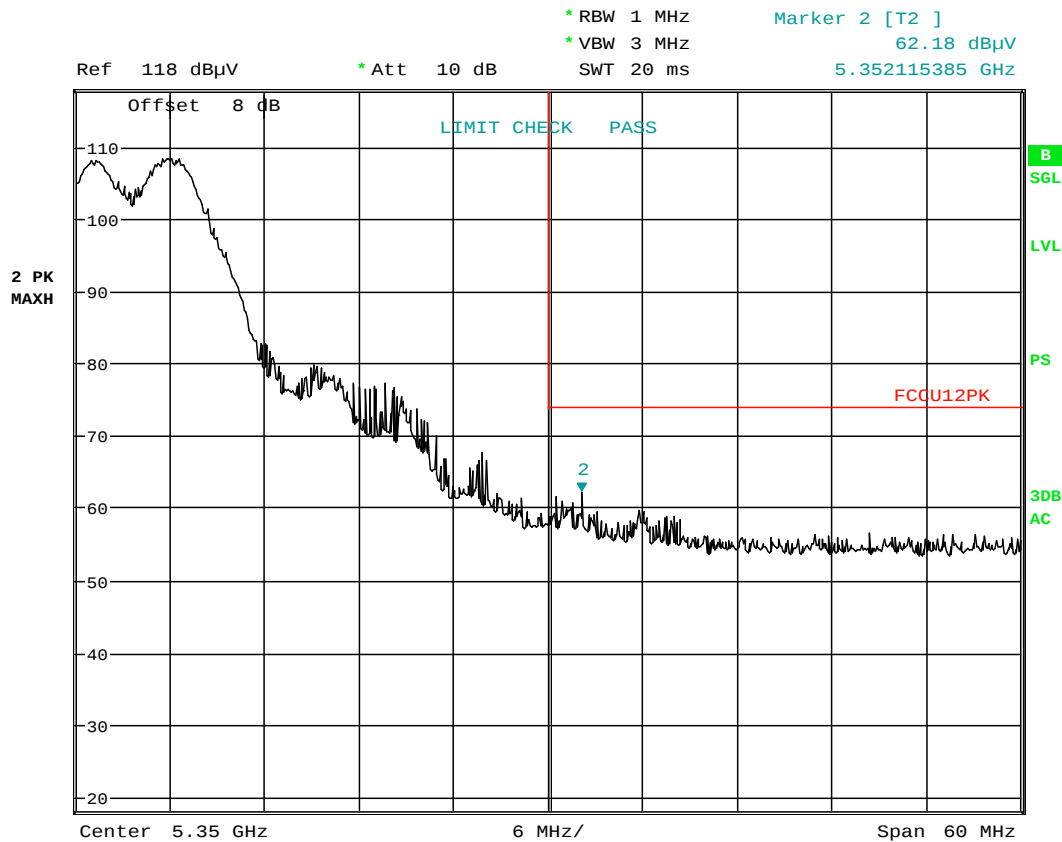
Date: 13.JUL.2017 12:23:29

Plot A.4-3. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.1)(b.2) §15.205 §15.209



Date: 13.JUL.2017 12:23:44

Plot A.4-4. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMN950KOR		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 223 of 228

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05/19/2017

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Dual Tx Radiated Restricted Band Edge Measurements

\$15.407(b.1)(b.2) \$15.205 \$15.209

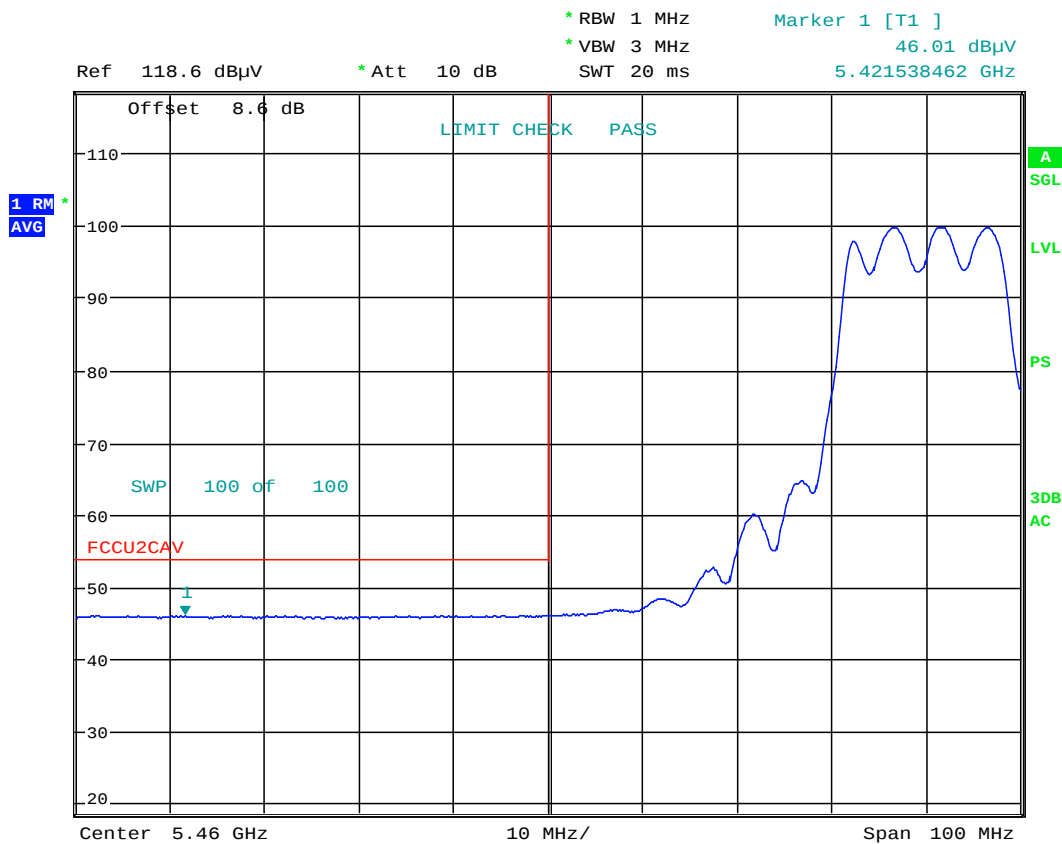
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100



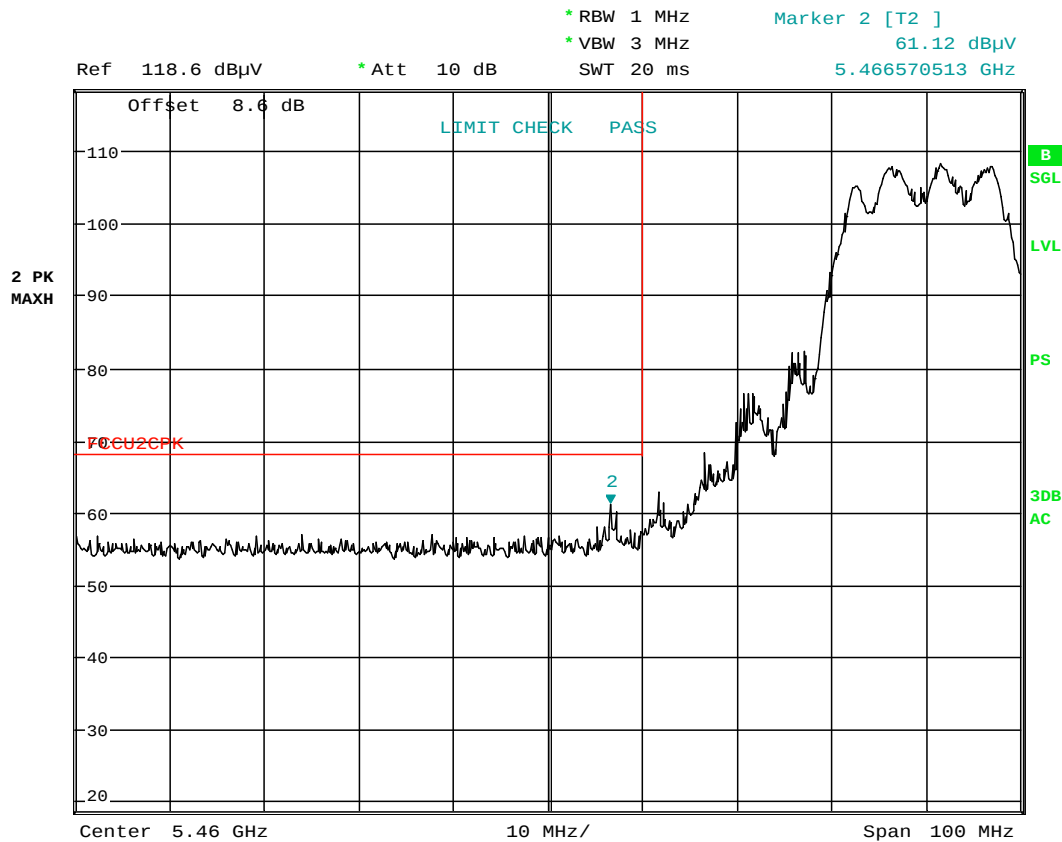
Date: 13.JUL.2017 12:32:17

Plot A.4-5. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 224 of 228

Dual Tx Radiated Restricted Band Edge Measurements

\$15.407(b.1)(b.2) \$15.205 \$15.209



Date: 13.JUL.2017 12:32:42

Plot A.4-6. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 225 of 228

Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.1)(b.2) §15.205 §15.209

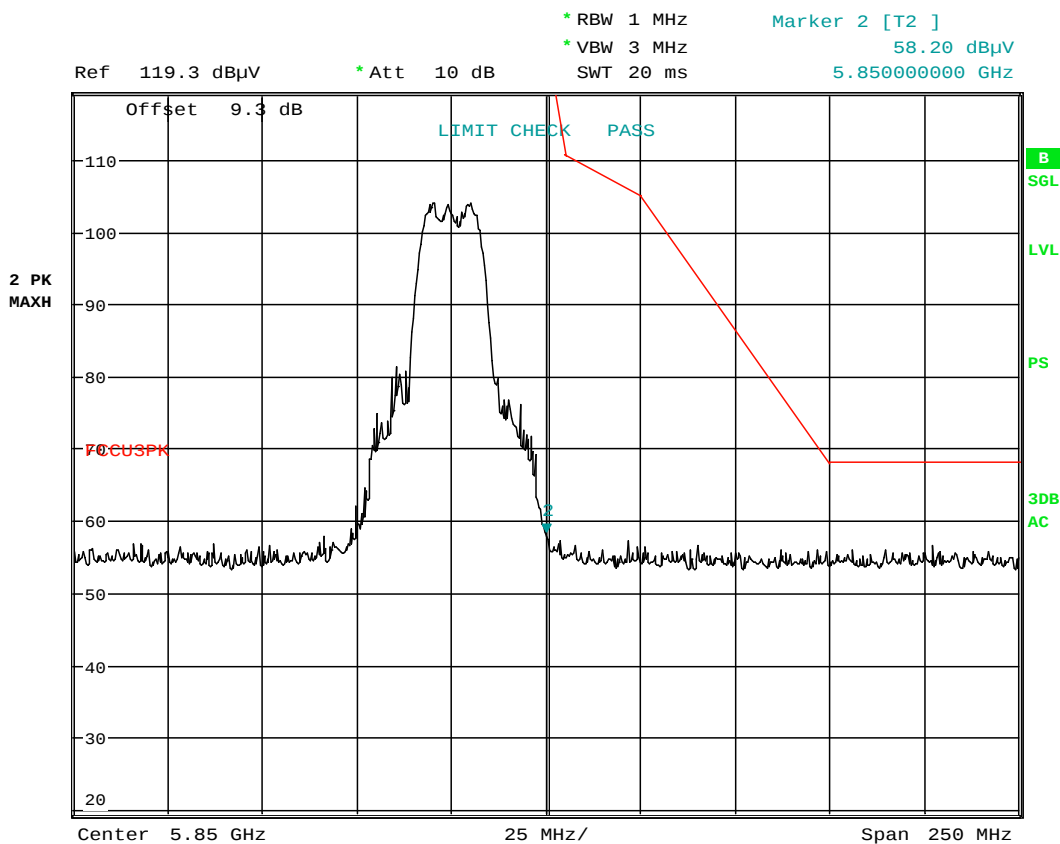
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5825MHz

Channel: 165



Date: 13.JUL.2017 12:41:01

Plot A.4-9. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 226 of 228

Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.1)(b.2) §15.205 §15.209

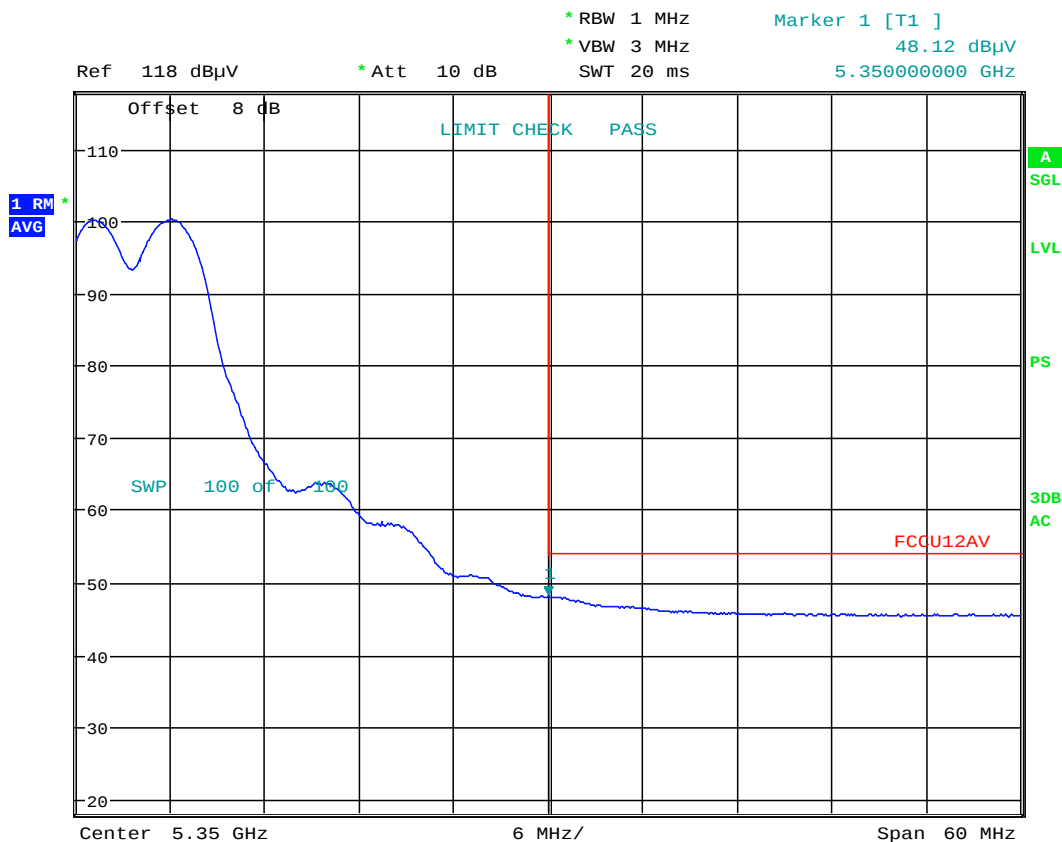
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64



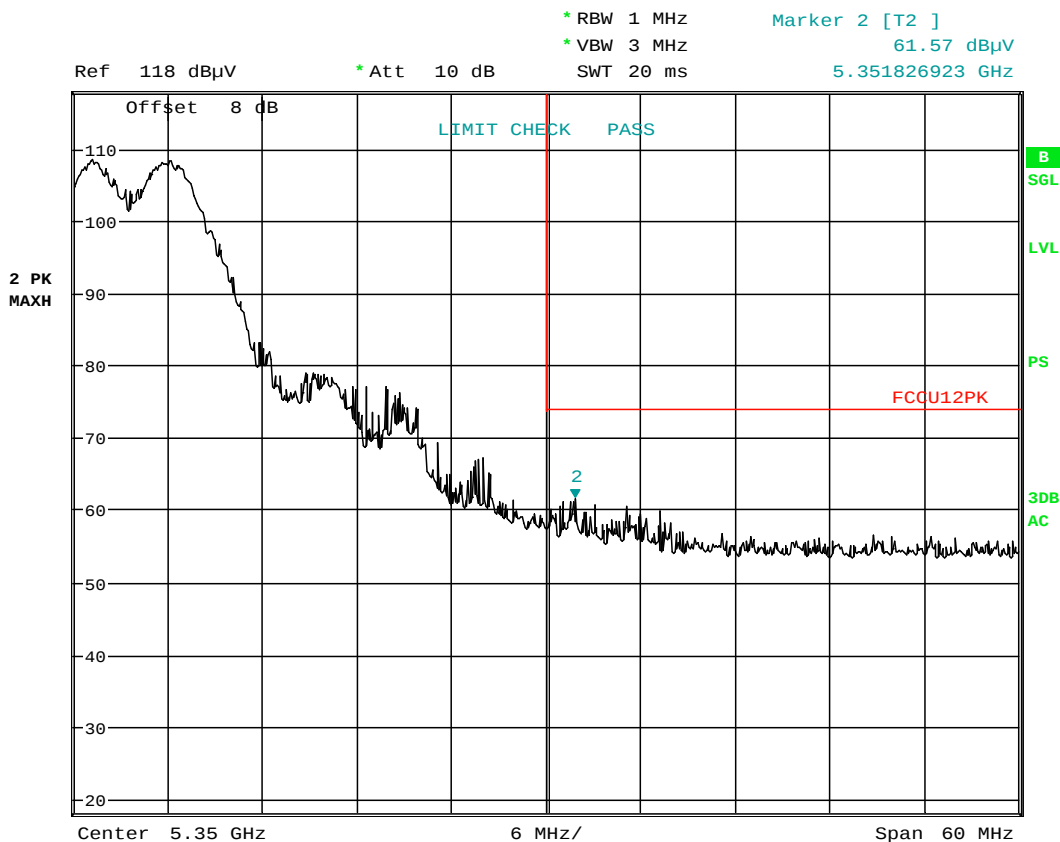
Date: 13.JUL.2017 13:00:36

Plot A.4-3. Radiated Restricted Upper Band Edge Plot with WCP (Average – UNII Band 2A)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 227 of 228

Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.1)(b.2) §15.205 §15.209



Date: 13.JUL.2017 13:00:55

Plot A.4-4. Radiated Restricted Upper Band Edge Plot with WCP (Peak – UNII Band 2A)

FCC ID: A3LSMN950KOR	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1705220173-06.A3L	Test Dates: 5/4 - 7/18/2017	EUT Type: Portable Handset		Page 228 of 228

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