

7.5 Maximum Power Spectral Density – 802.11a/n/ac §15.407(a.1)(2.5)

Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in KDB 789033 D02 v01, and at the appropriate frequencies. Method SA-1, as defined in KDB 789033 D02 v01, was used to measure the power spectral density.

In the 5.15 – 5.25GHz, 5.25 – 5.35GHz, 5.47 – 5.725GHz bands, the maximum permissible power spectral density is 11dBm/MHz.

In the 5.725 – 5.850GHz band, the maximum permissible power spectral density is 30dBm/500kHz.

Test Procedure Used

KDB 789033 D02 v01 – Section F
KDB 662911 v02r01 – Section E)2) Measure-and-Sum Technique

Test Settings

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire emission bandwidth of the signal
3. RBW = 1MHz
4. VBW = 3MHz
5. Number of sweep points $\geq 2 \times$ (span/RBW)
6. Sweep time = auto
7. Detector = power averaging (RMS)
8. Trigger was set to free run for all modes
9. Trace was averaged over 100 sweeps
10. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

Test Setup

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

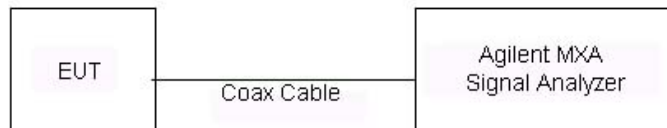




Figure 7-4. Test Instrument & Measurement Setup

Test Notes



None

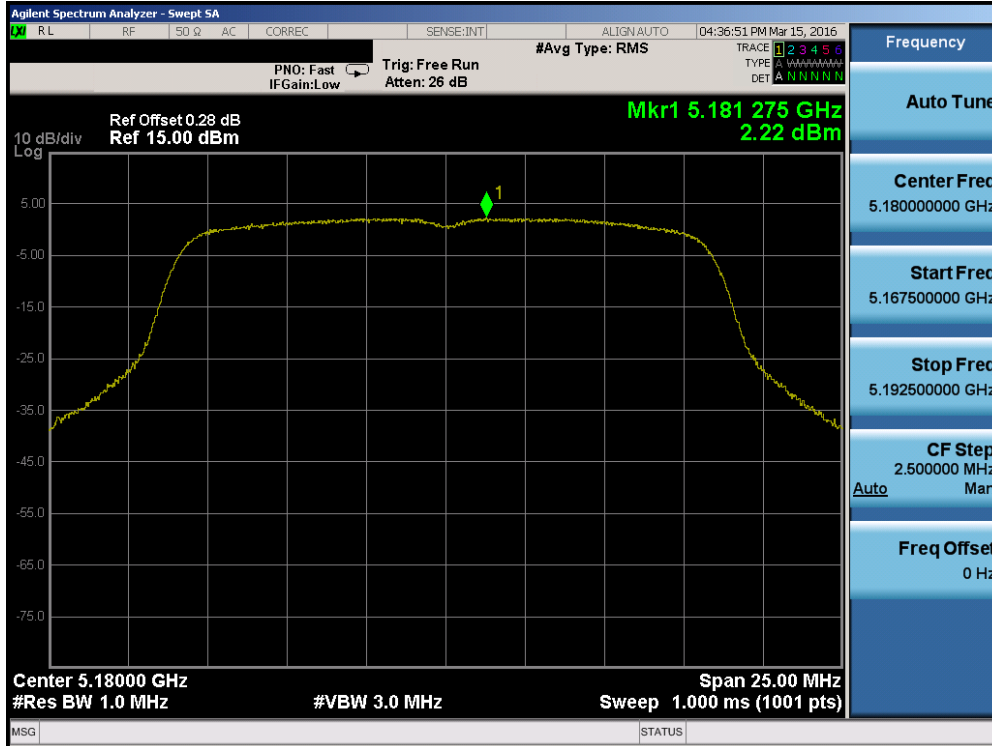
FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 66 of 215	

Antenna-1 Power Spectral Density Measurements

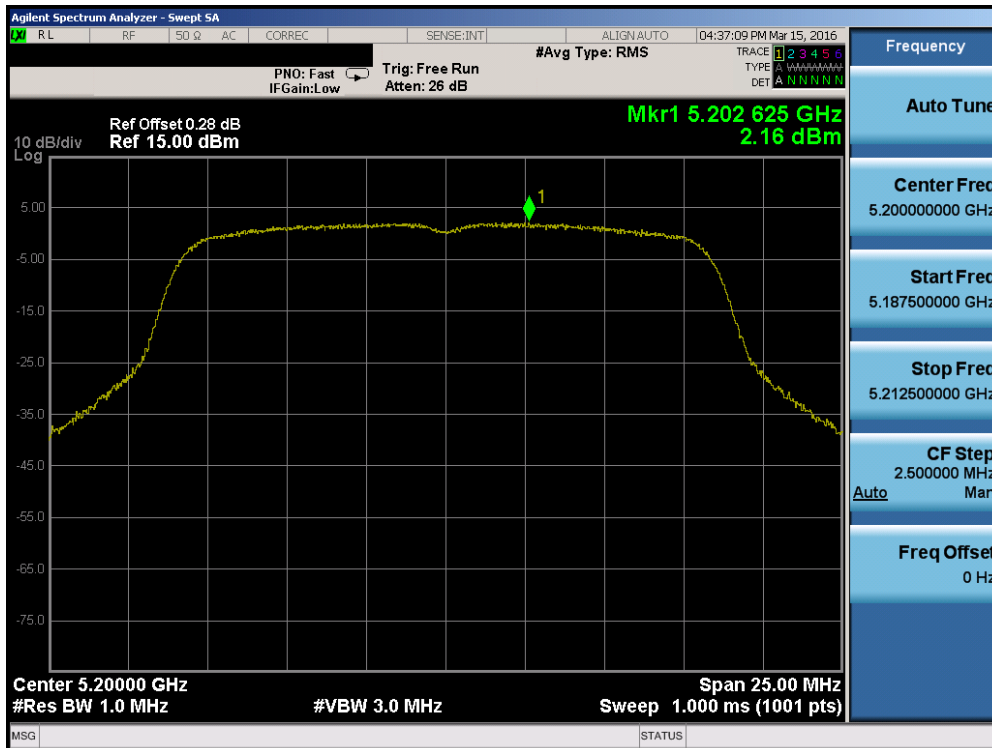
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	2.22	11.0	-8.78	Pass
	5200	40	a	6	2.16	11.0	-8.84	Pass
	5240	48	a	6	2.03	11.0	-8.97	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	2.14	11.0	-8.86	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	1.70	11.0	-9.30	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	1.54	11.0	-9.46	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-0.73	11.0	-11.73	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-0.79	11.0	-11.79	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-4.58	11.0	-15.58	Pass
Band 2A	5260	52	a	6	2.37	11.0	-8.63	Pass
	5280	56	a	6	2.82	11.0	-8.18	Pass
	5320	64	a	6	2.41	11.0	-8.59	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	1.83	11.0	-9.17	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	2.59	11.0	-8.41	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	1.21	11.0	-9.79	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-0.24	11.0	-11.24	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-0.99	11.0	-11.99	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-3.99	11.0	-14.99	Pass
Band 2C	5500	100	a	6	3.05	11.0	-7.95	Pass
	5600	120	a	6	3.03	11.0	-7.97	Pass
	5720	144	a	6	3.69	11.0	-7.31	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	2.60	11.0	-8.40	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	2.92	11.0	-8.08	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	3.44	11.0	-7.56	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-0.10	11.0	-11.10	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	0.14	11.0	-10.87	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	1.02	11.0	-9.98	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-3.20	11.0	-14.20	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-2.66	11.0	-13.66	Pass
5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-5.60	11.0	-16.60	Pass	

Table 7-17. Bands 1, 2A, 2C Conducted Power Spectral Density Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 67 of 215	

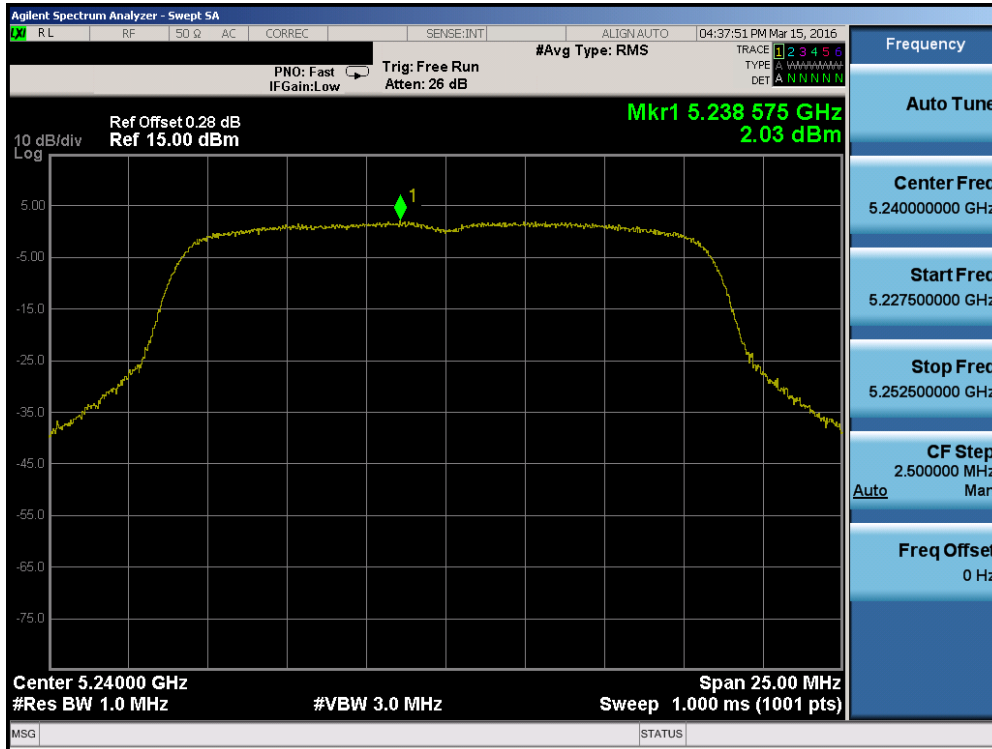


Plot 7-79. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)

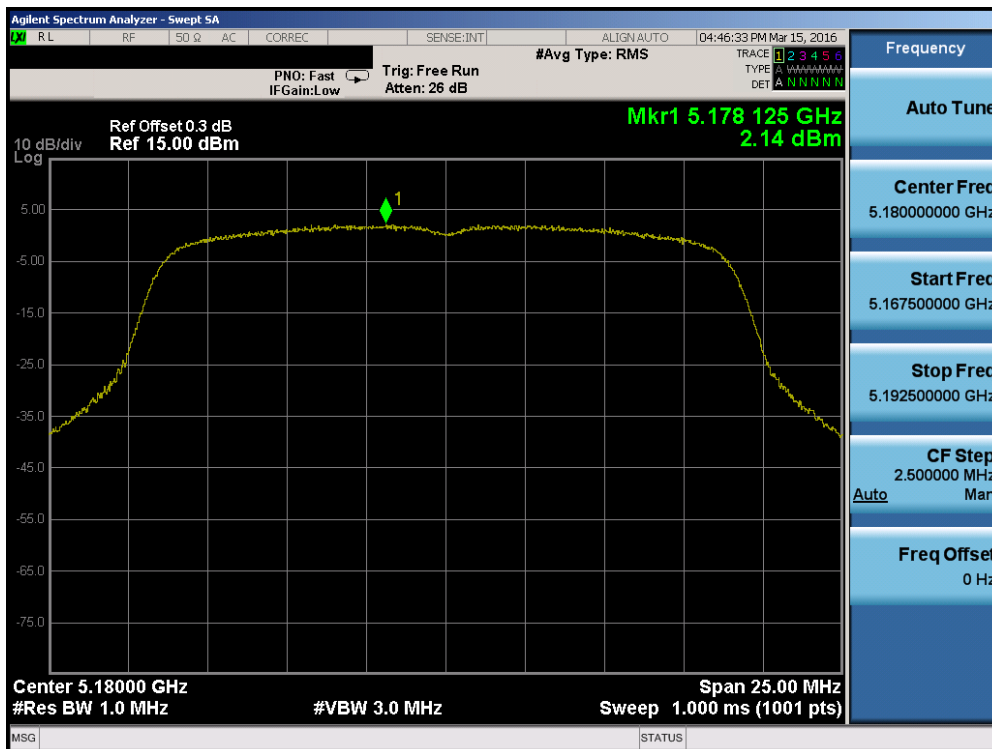


Plot 7-80. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 68 of 215

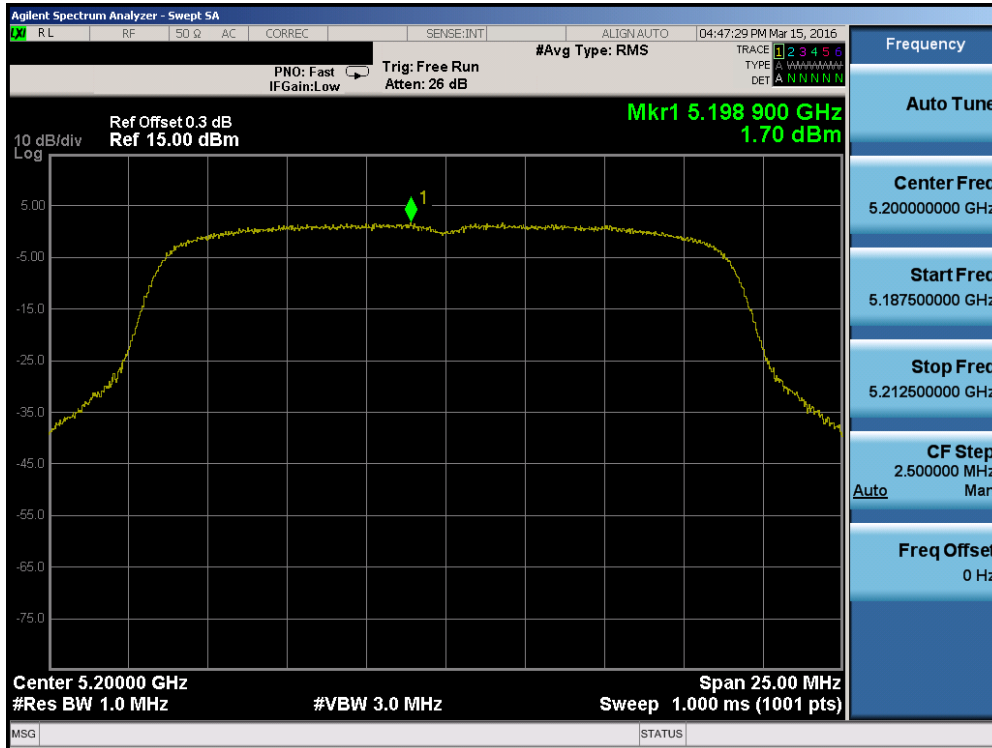


Plot 7-81. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)

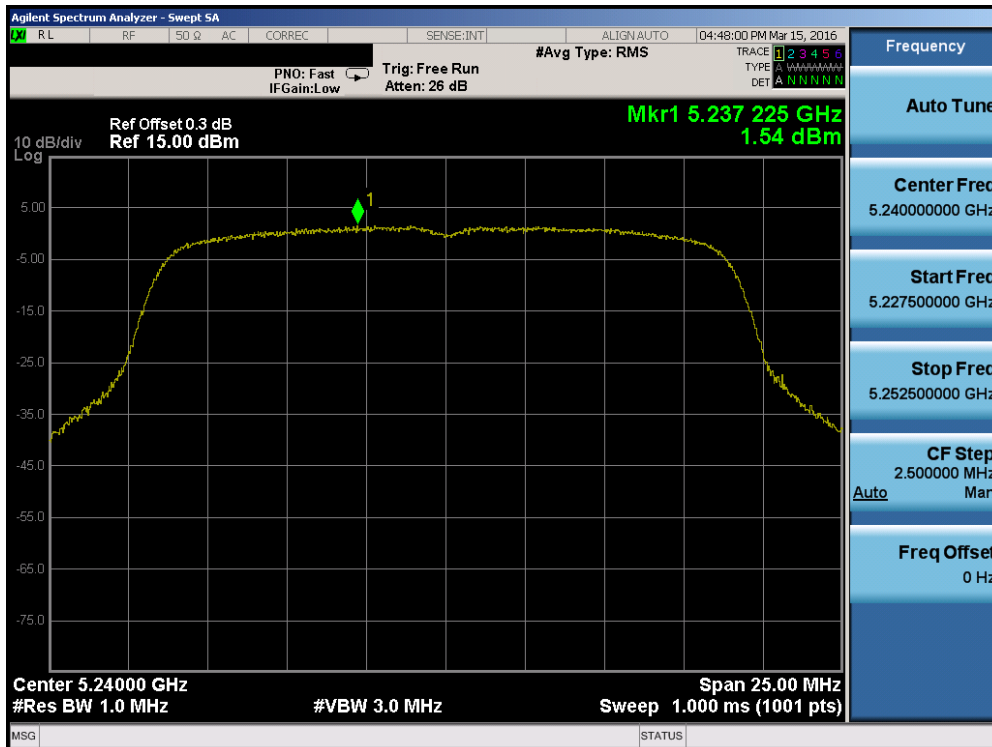


Plot 7-82. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 69 of 215

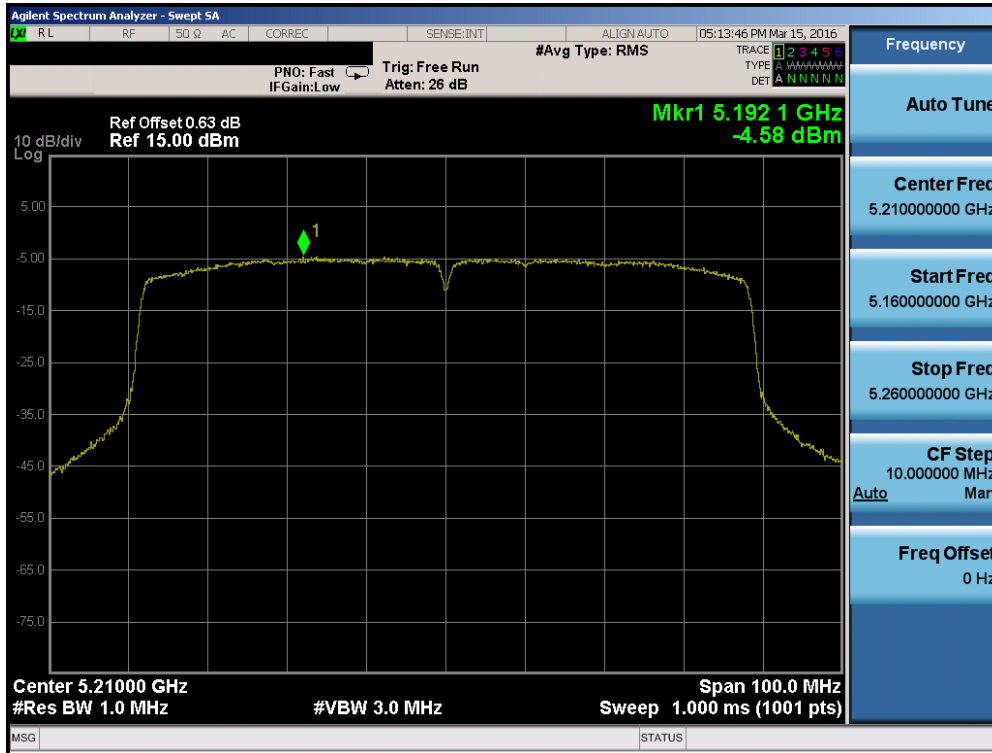


Plot 7-83. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

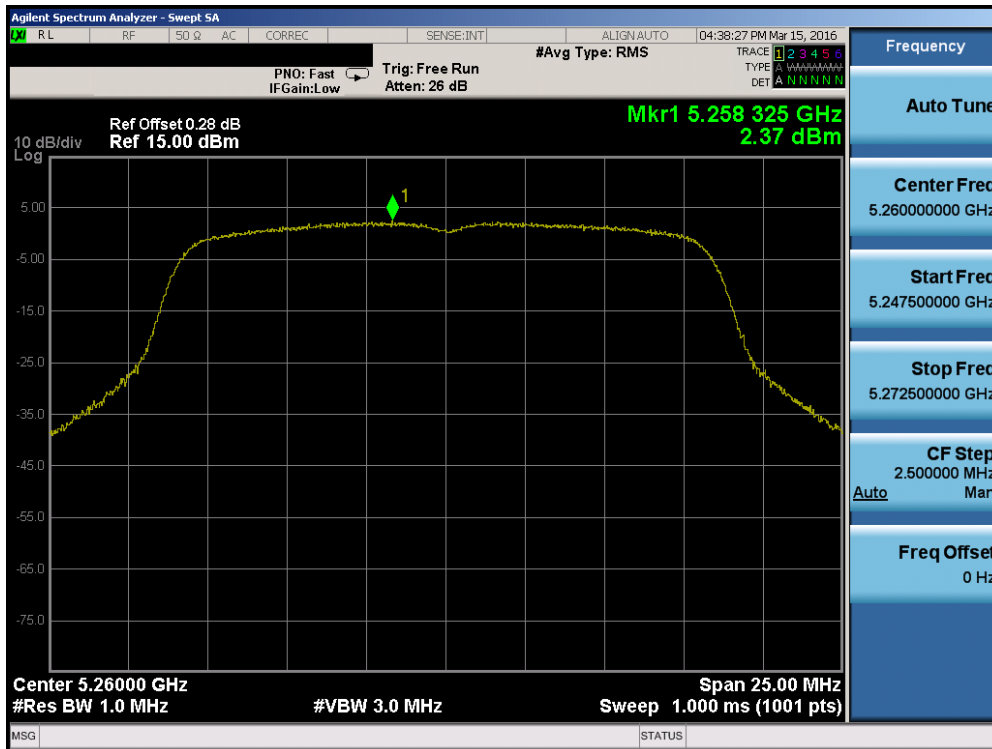


Plot 7-84. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 70 of 215

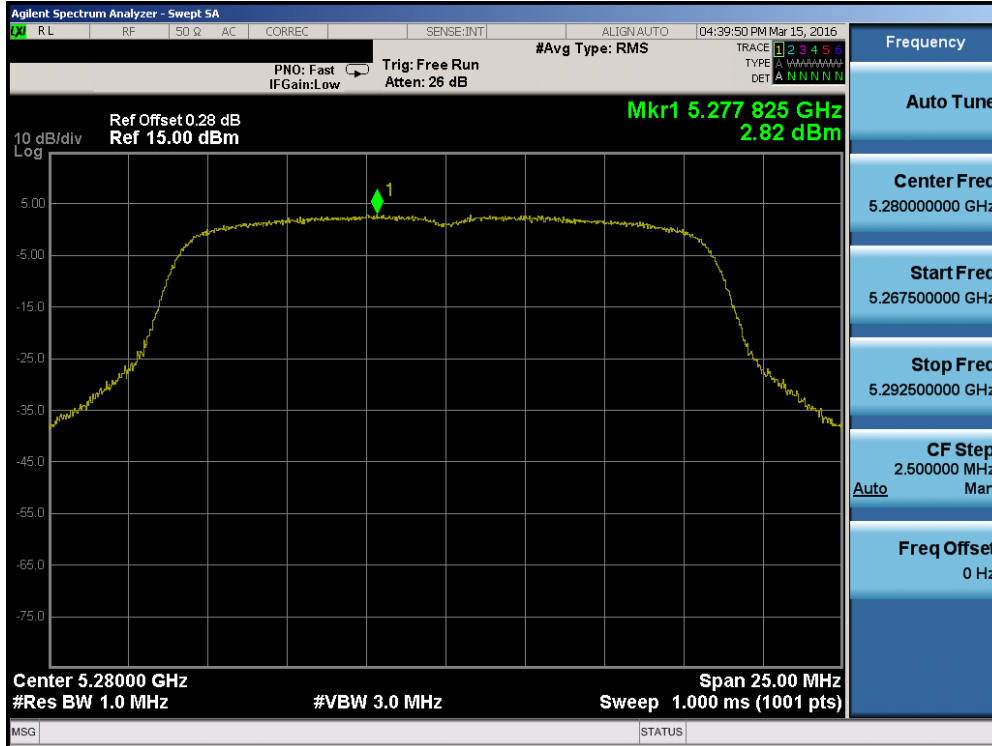


Plot 7-87. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

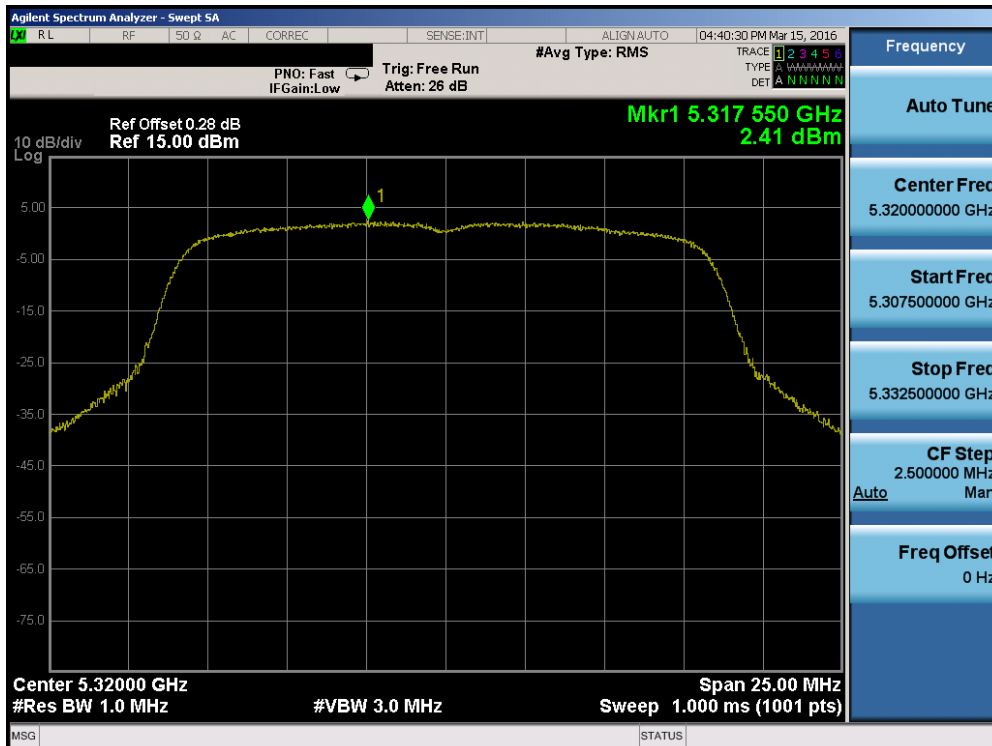


Plot 7-88. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 72 of 215



Plot 7-89. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)

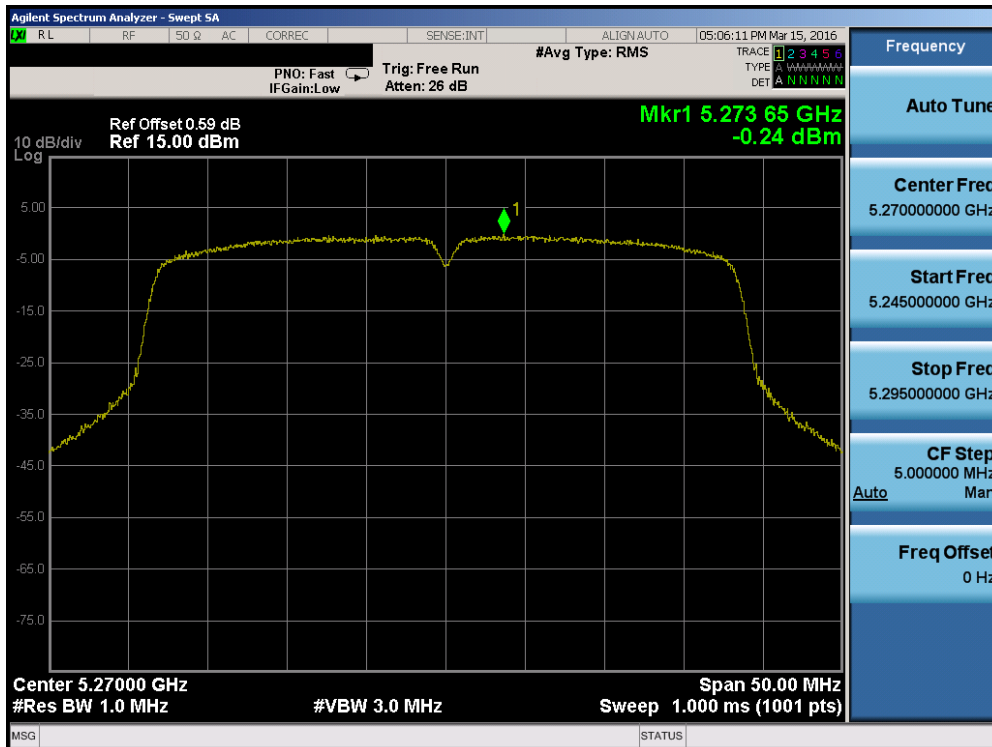


Plot 7-90. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 73 of 215

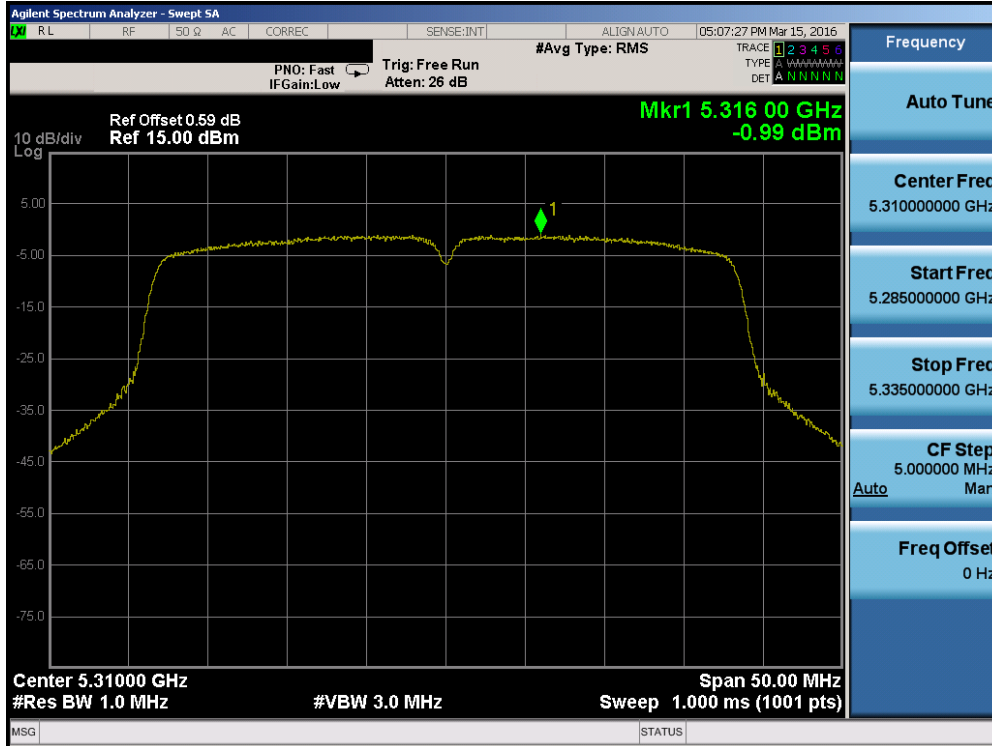


Plot 7-93. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)

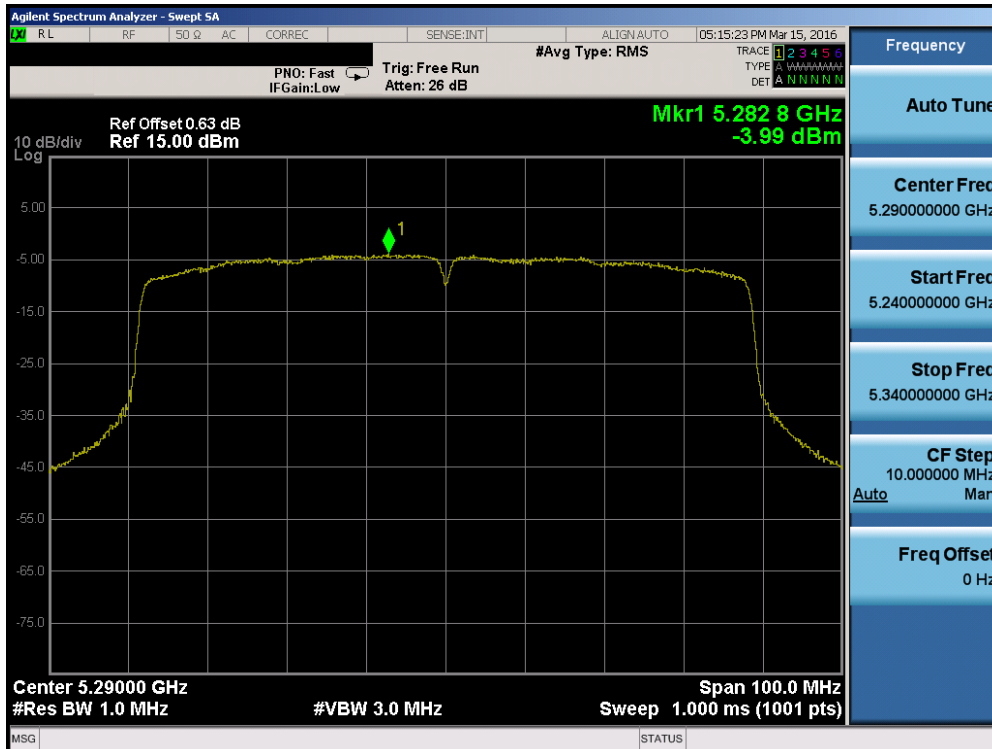


Plot 7-94. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 75 of 215

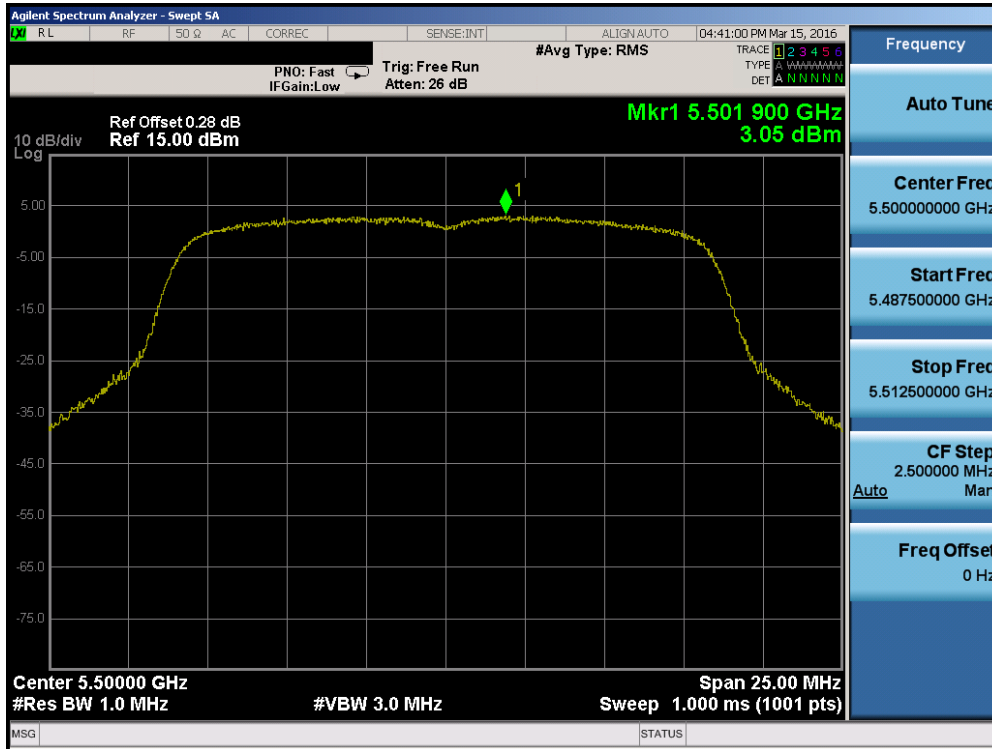


Plot 7-95. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

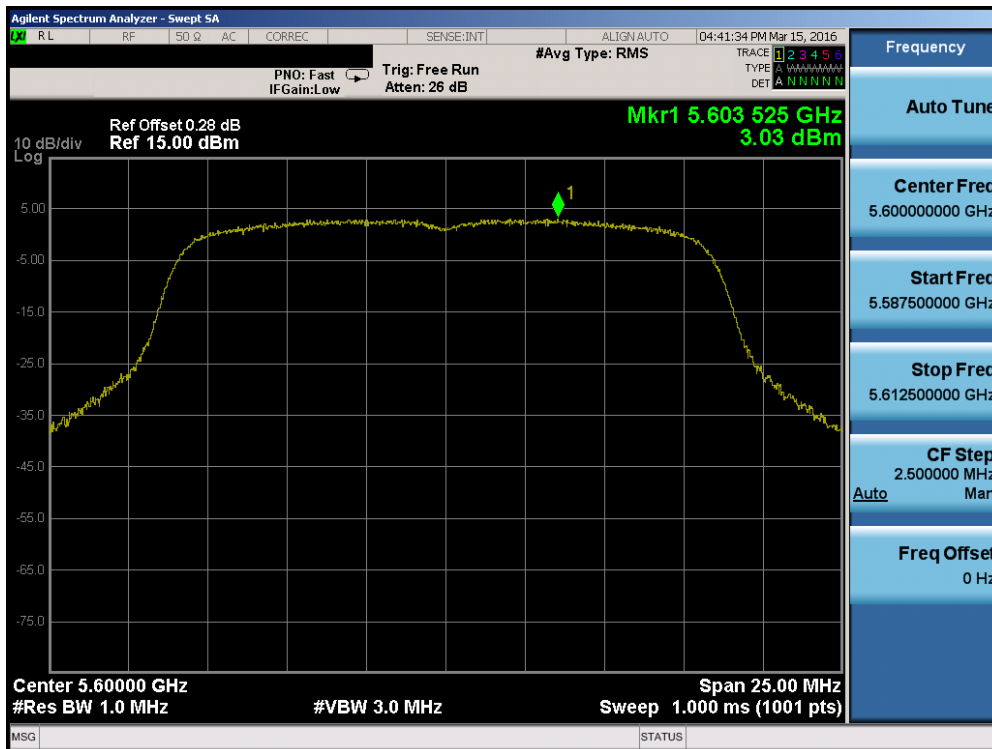


Plot 7-96. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 76 of 215

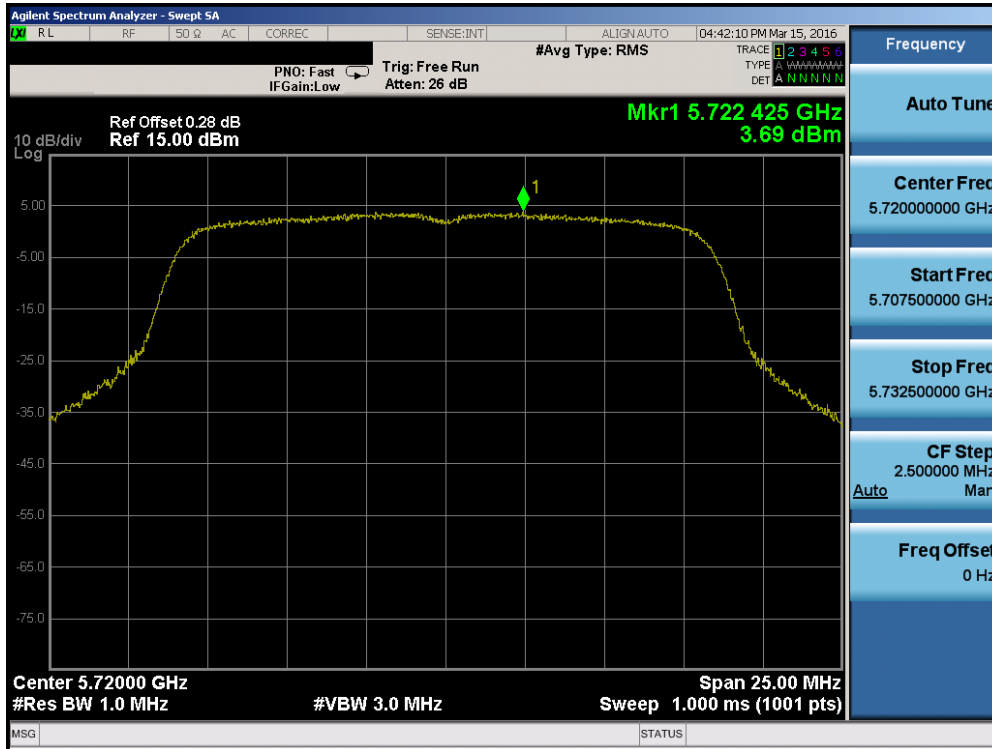


Plot 7-97. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)

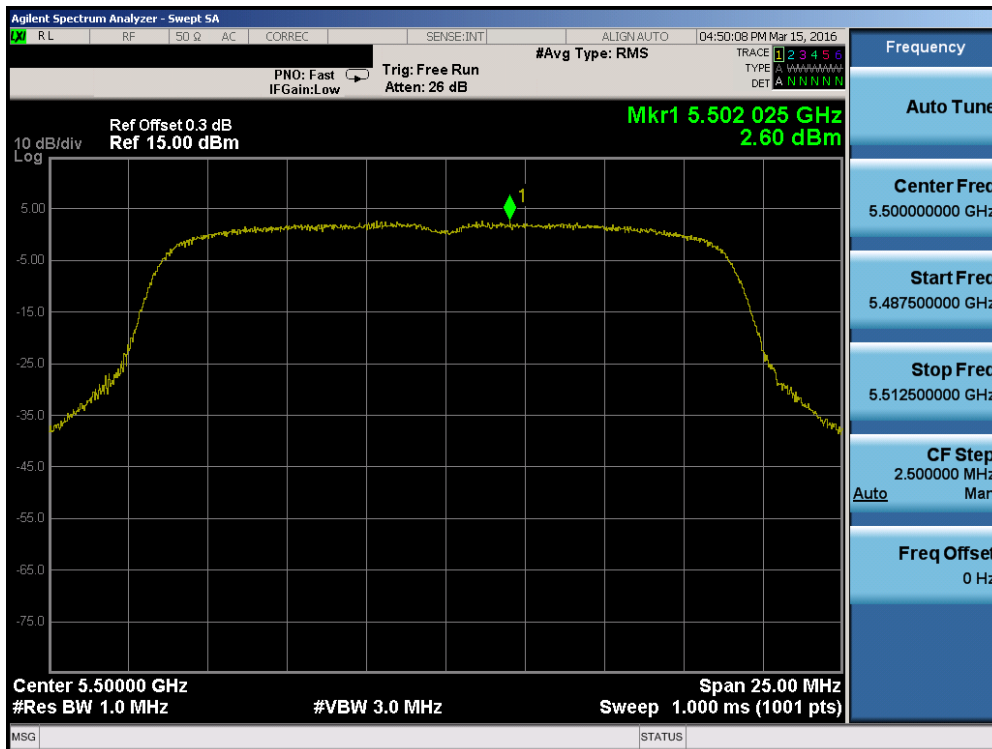


Plot 7-98. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 120)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 77 of 215

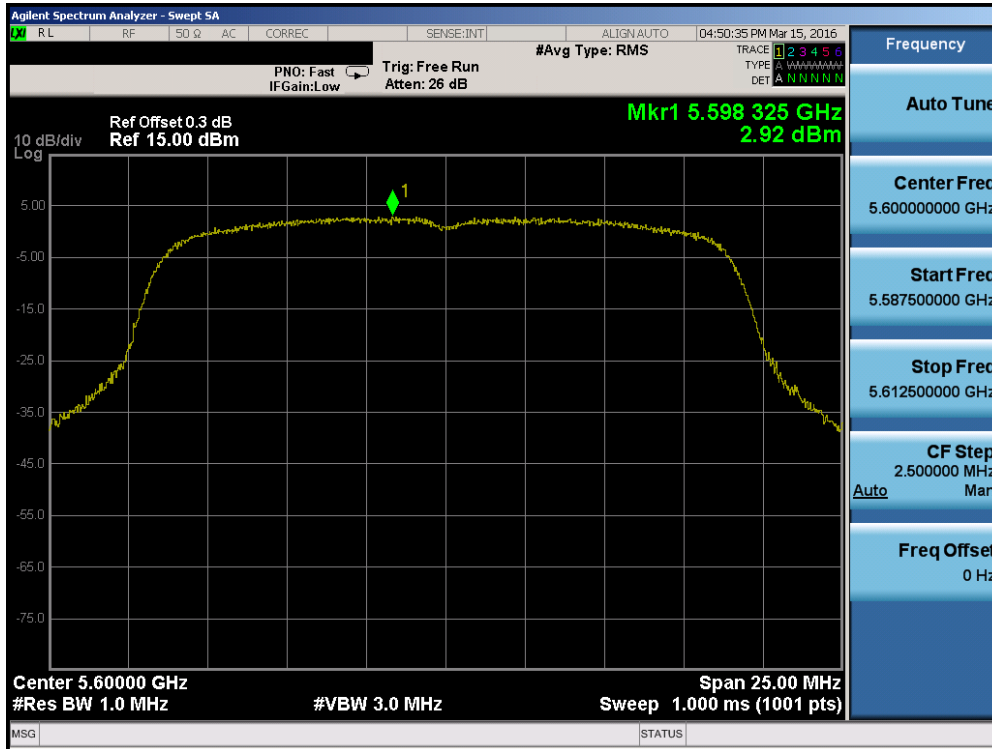


Plot 7-99. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)

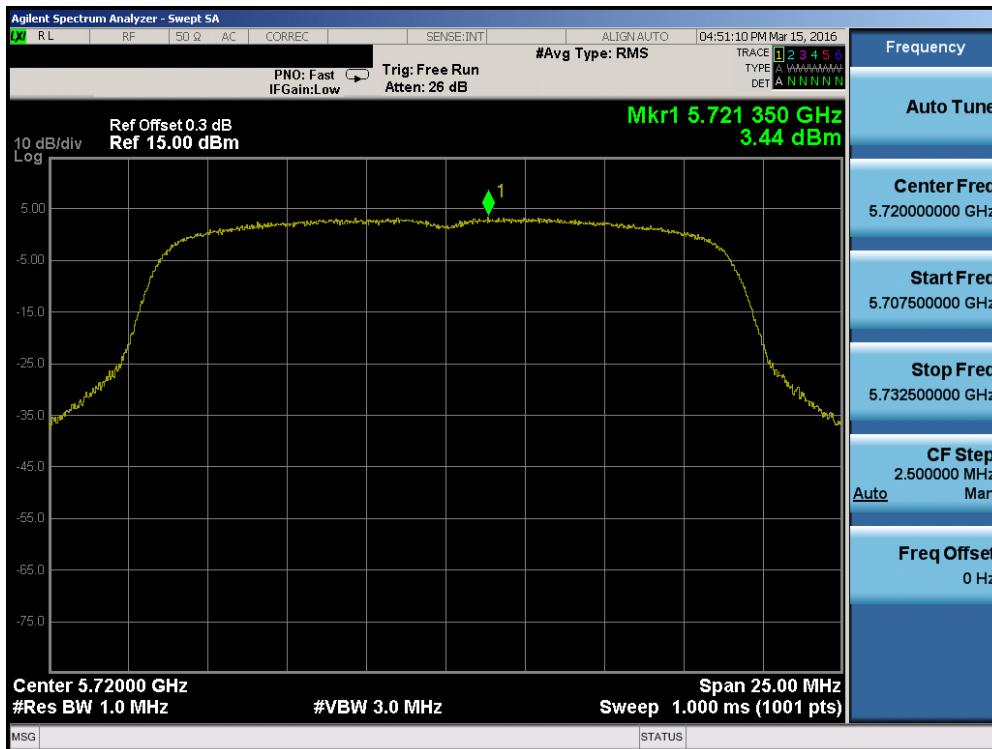


Plot 7-100. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 78 of 215

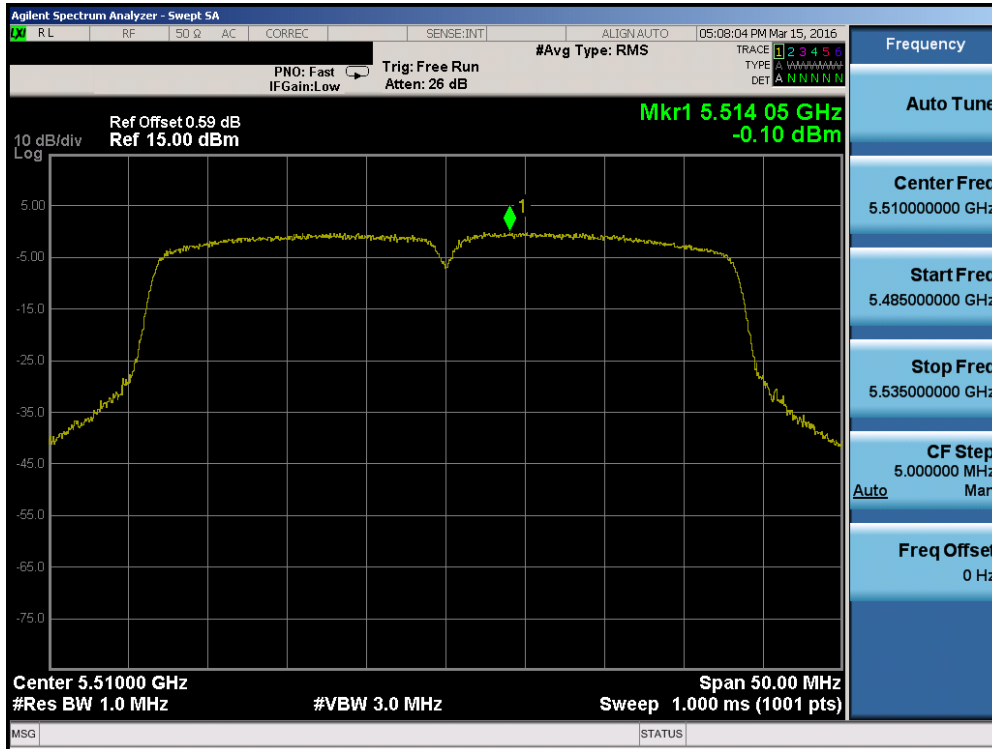


Plot 7-101. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)

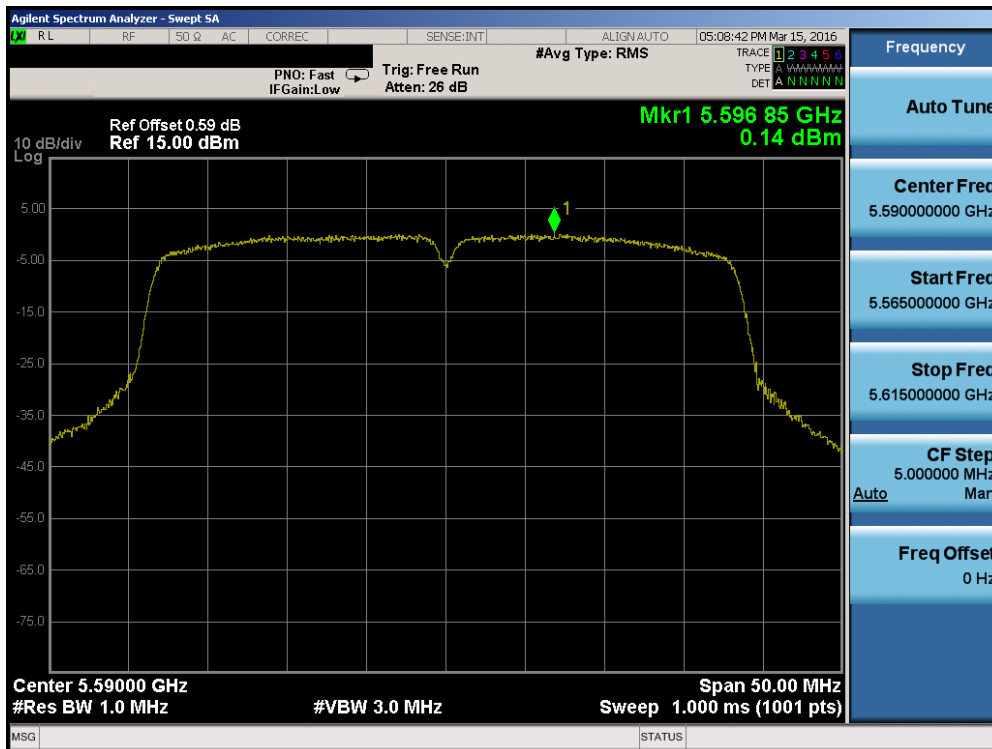


Plot 7-102. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 79 of 215

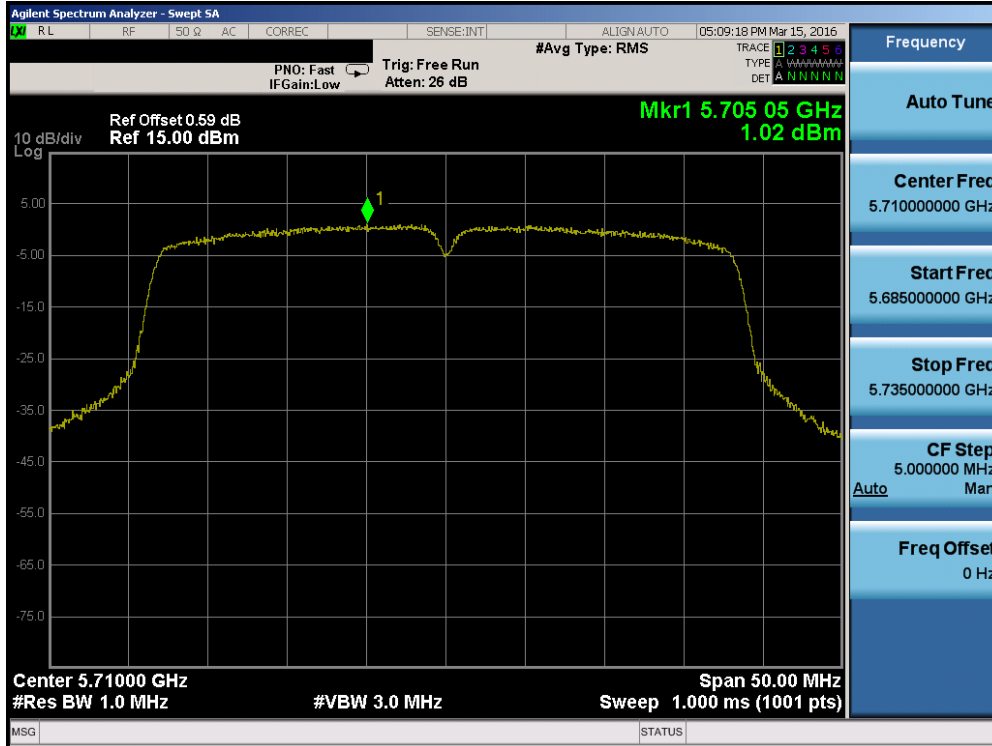


Plot 7-103. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)

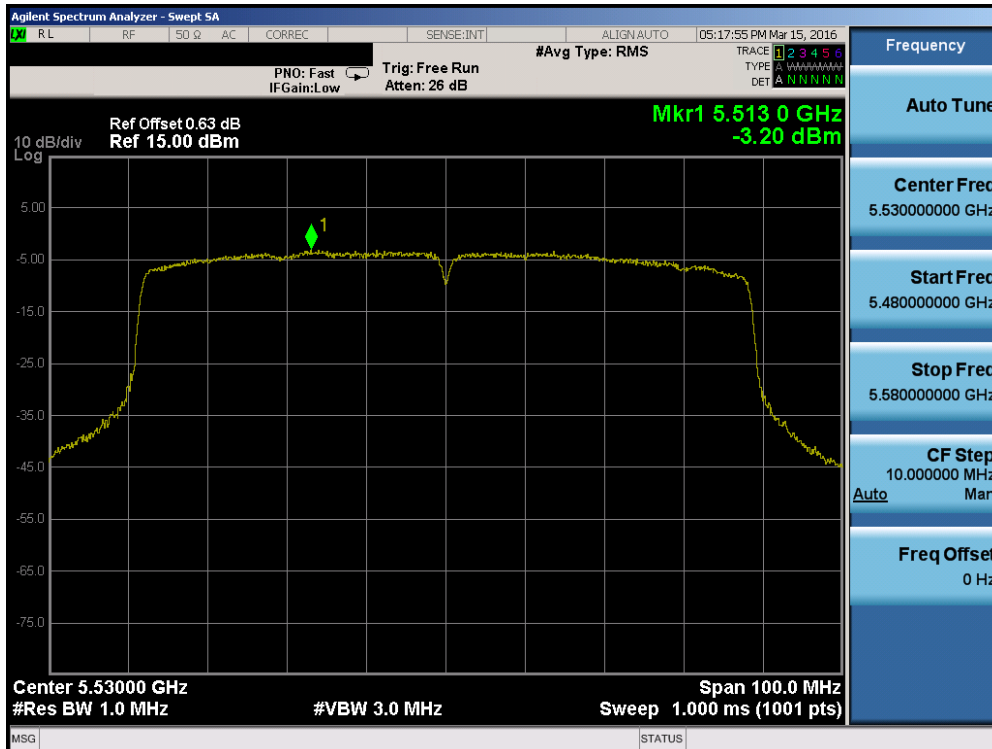


Plot 7-104. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 80 of 215

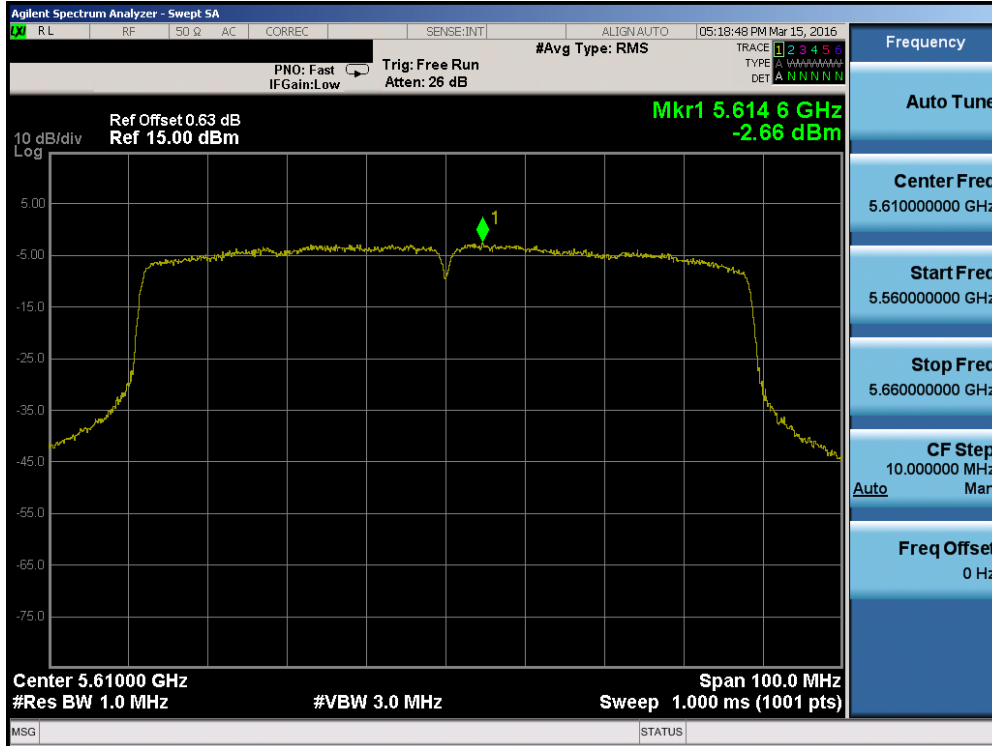


Plot 7-105. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

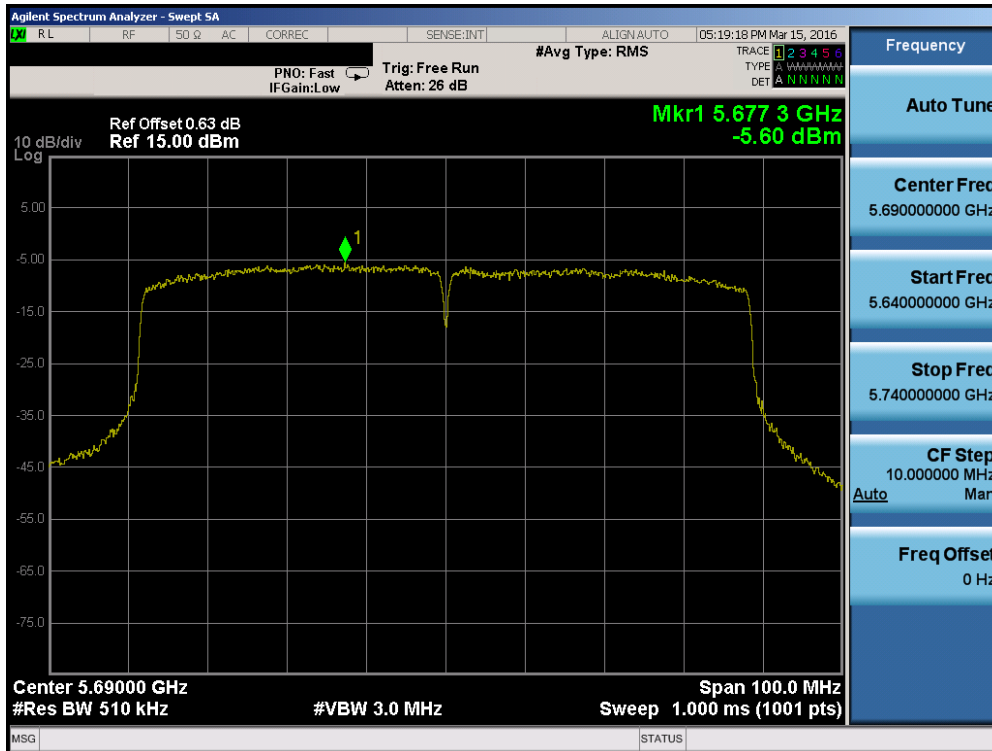


Plot 7-106. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
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Plot 7-107. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

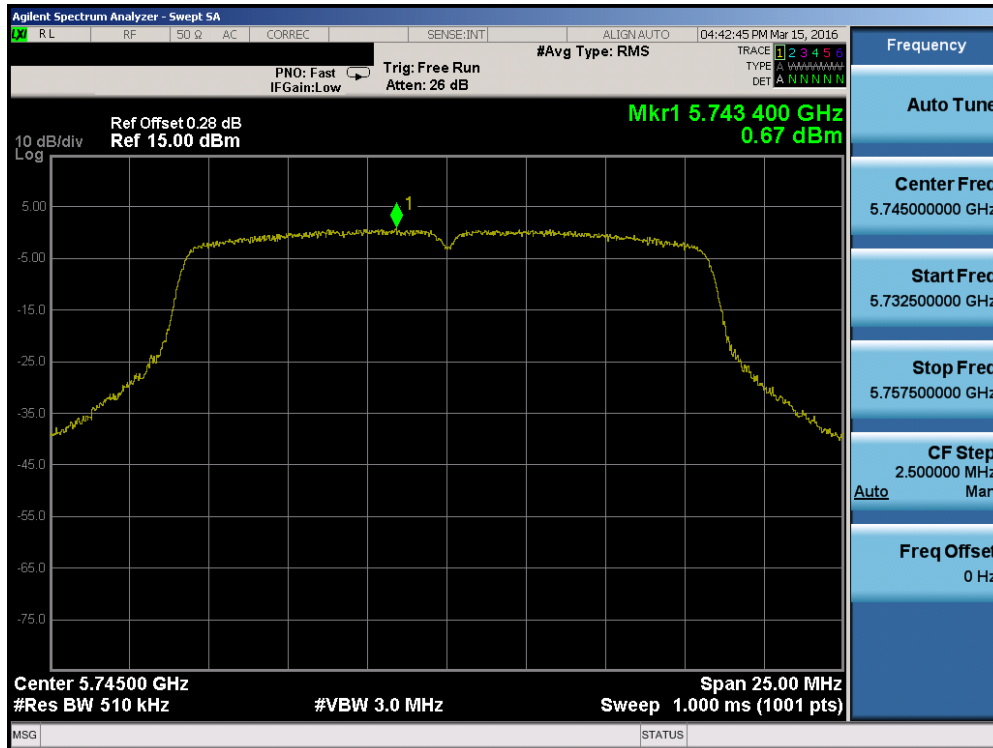


Plot 7-108. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 82 of 215

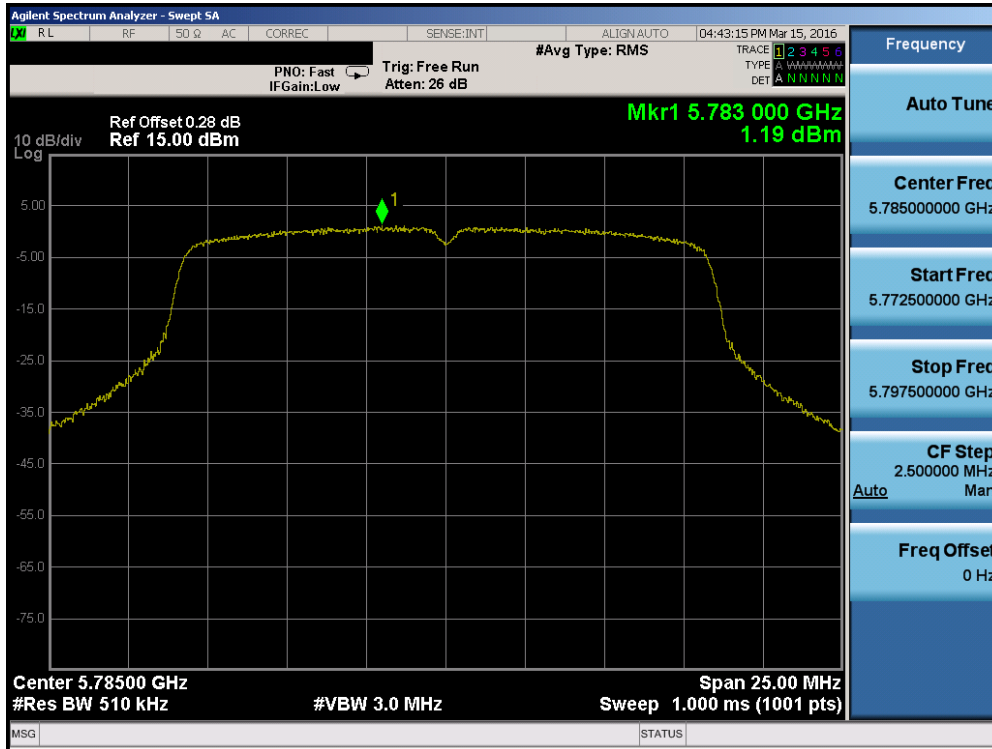
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Pass / Fail
Band 3	5745	149	a	6	0.67	30.0	-29.33	Pass
	5785	157	a	6	1.19	30.0	-28.81	Pass
	5825	165	a	6	1.15	30.0	-28.85	Pass
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	0.27	30.0	-29.73	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	0.95	30.0	-29.05	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	1.15	30.0	-28.85	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-2.17	30.0	-32.17	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-1.34	30.0	-31.34	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-3.08	30.0	-33.08	Pass

Table 7-18. Band 3 Conducted Power Spectral Density Measurements

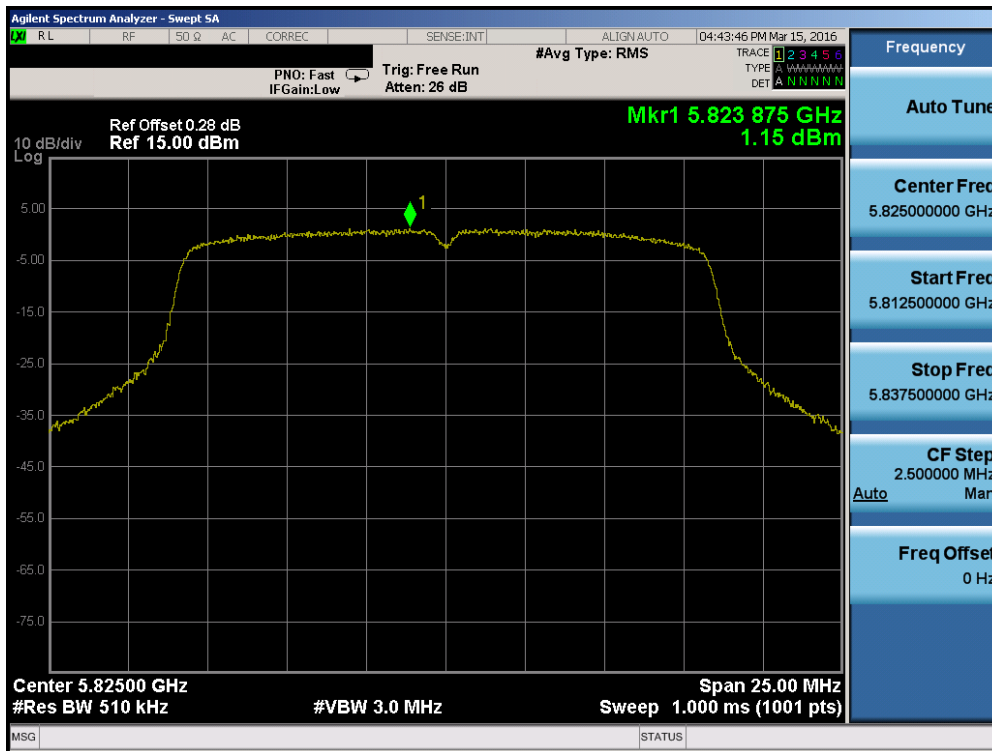


Plot 7-109. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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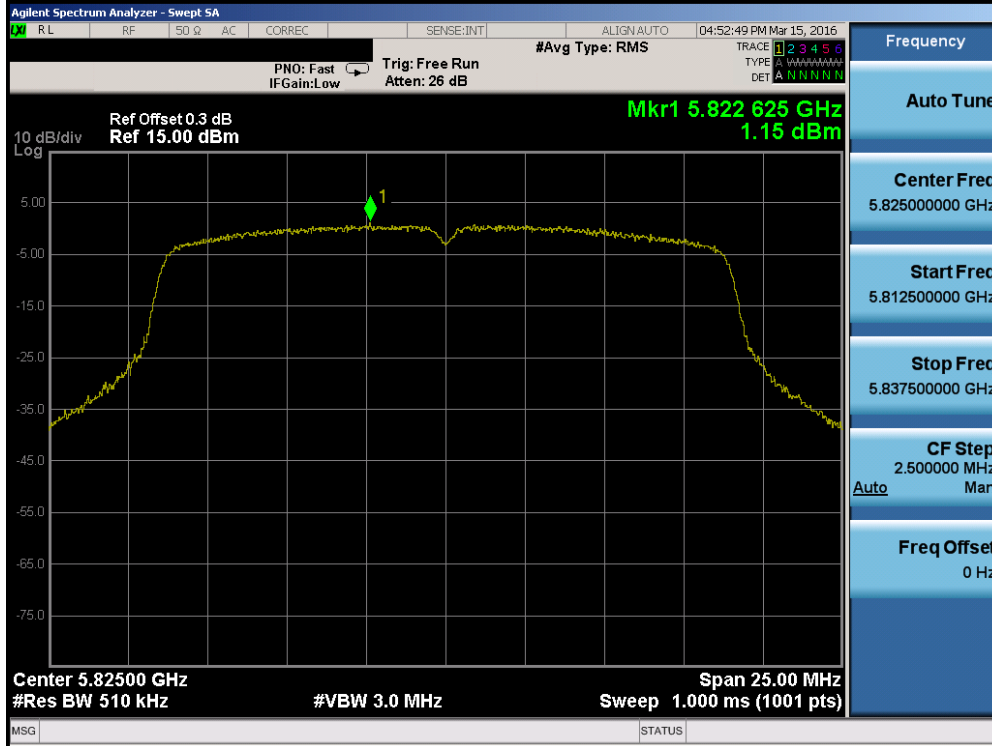


Plot 7-110. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 157)

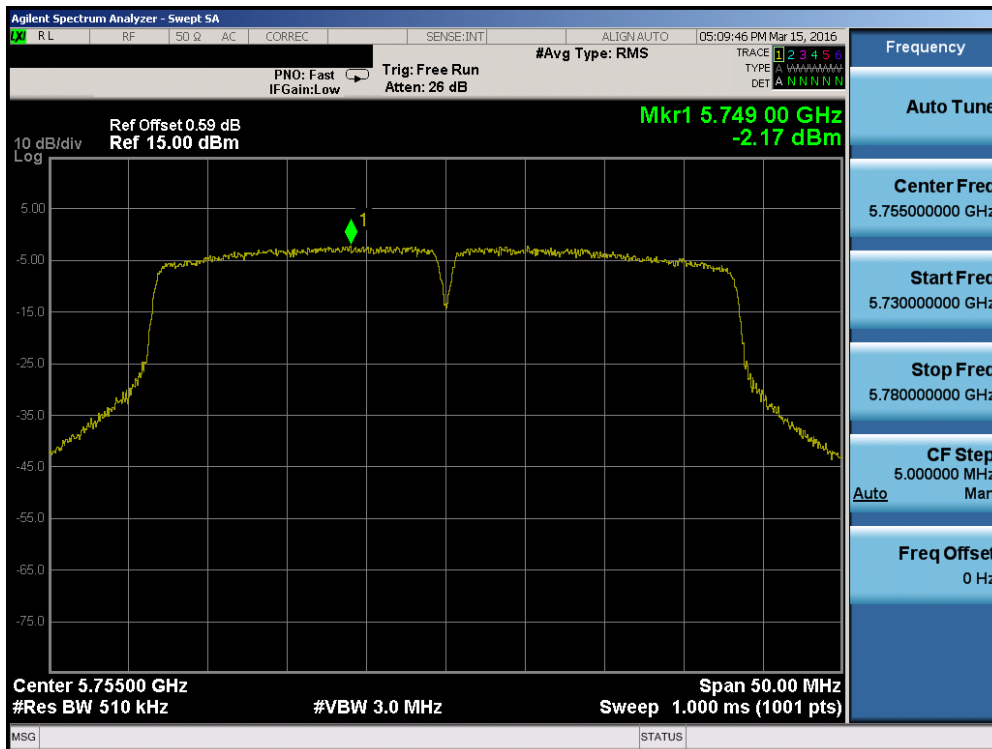


Plot 7-111. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 84 of 215

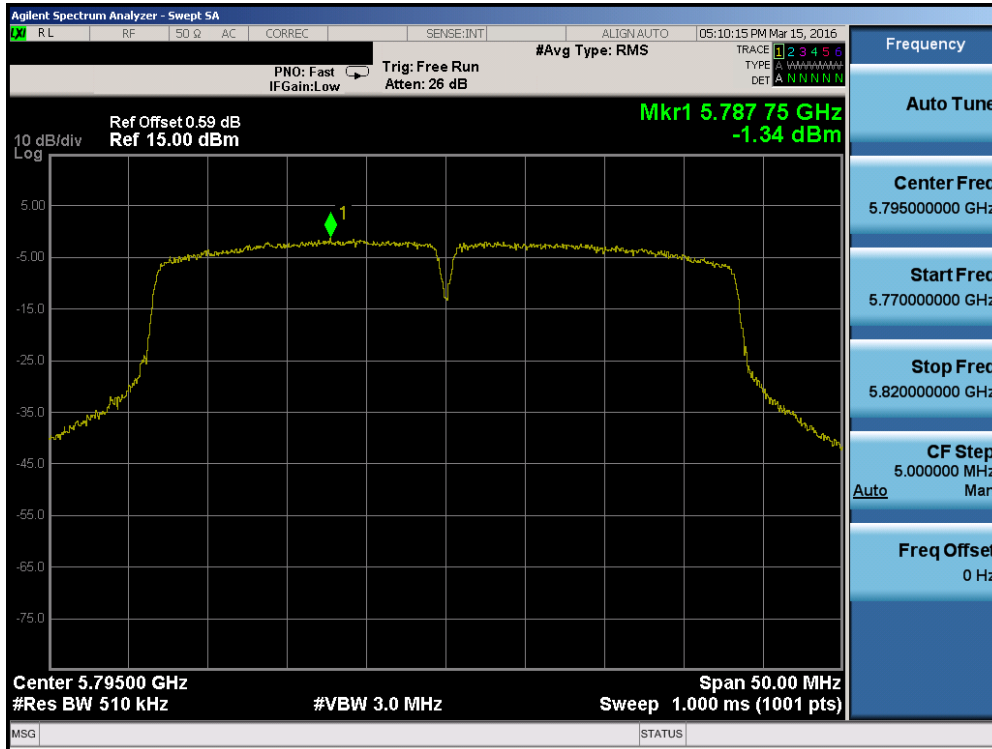


Plot 7-114. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

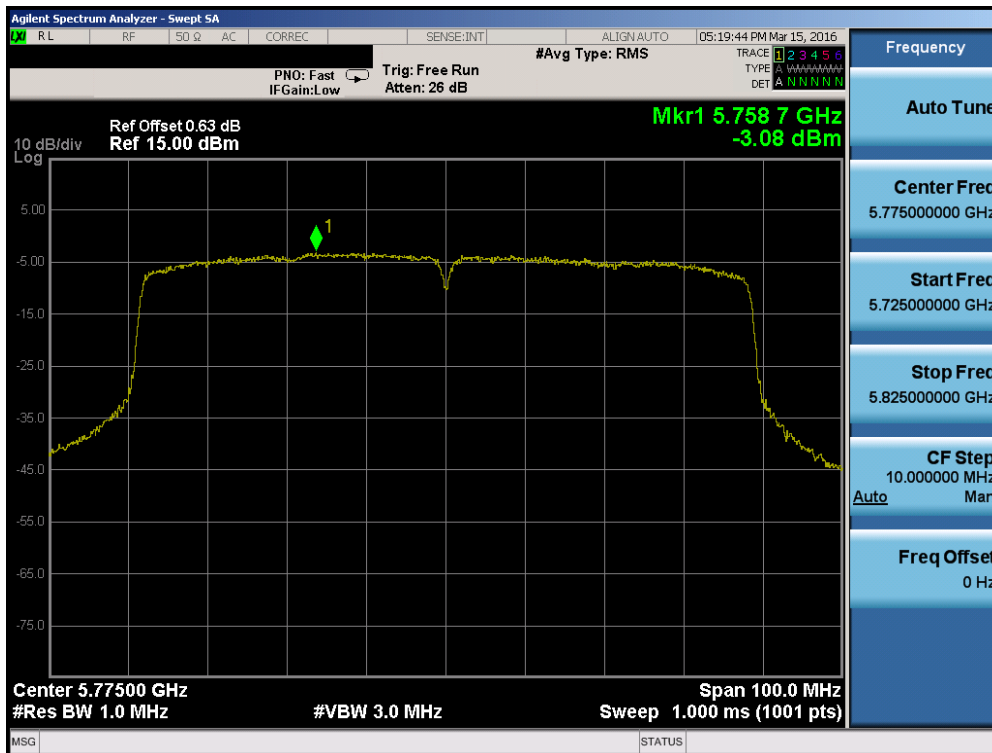


Plot 7-115. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 86 of 215



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)

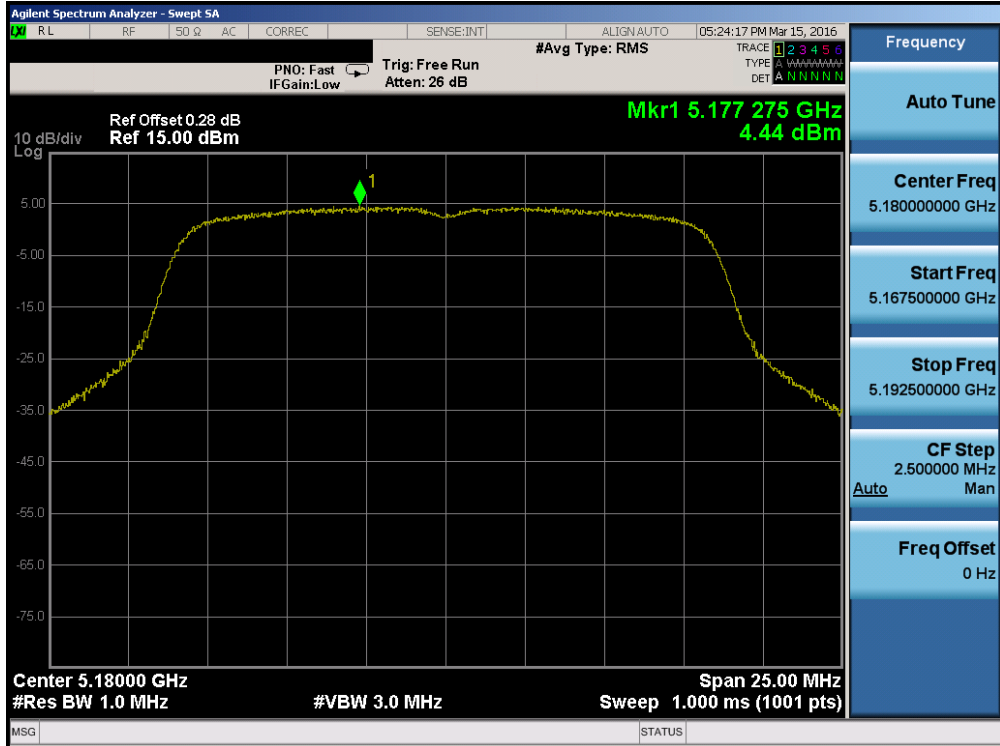
FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 87 of 215

Antenna-2 Power Spectral Density Measurements

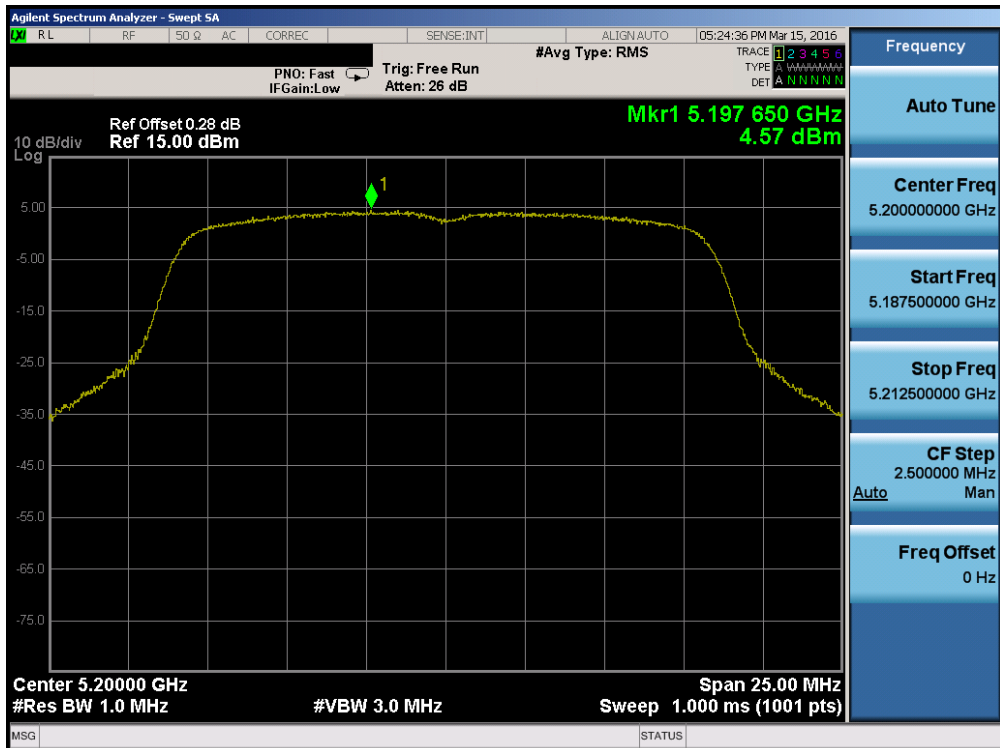
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Margin [dB]	Pass / Fail
Band 1	5180	36	a	6	4.44	11.0	-6.56	Pass
	5200	40	a	6	4.57	11.0	-6.43	Pass
	5240	48	a	6	4.25	11.0	-6.75	Pass
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	4.01	11.0	-6.99	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)	3.94	11.0	-7.06	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-0.44	11.0	-11.44	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-0.48	11.0	-11.48	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-4.14	11.0	-15.14	Pass
Band 2A	5260	52	a	6	4.62	11.0	-6.38	Pass
	5280	56	a	6	4.55	11.0	-6.45	Pass
	5320	64	a	6	4.24	11.0	-6.76	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	3.98	11.0	-7.02	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	4.40	11.0	-6.60	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	4.31	11.0	-6.69	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-0.39	11.0	-11.39	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-0.17	11.0	-11.17	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-3.40	11.0	-14.40	Pass
Band 2C	5500	100	a	6	4.79	11.0	-6.21	Pass
	5600	120	a	6	4.90	11.0	-6.10	Pass
	5720	144	a	6	4.89	11.0	-6.11	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	4.35	11.0	-6.65	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	4.59	11.0	-6.41	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	4.59	11.0	-6.41	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-0.29	11.0	-11.29	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	-0.23	11.0	-11.23	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	0.15	11.0	-10.85	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-3.68	11.0	-14.68	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-3.80	11.0	-14.80	Pass
5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-6.69	11.0	-17.69	Pass	

Table 7-19. Conducted Power Spectral Density Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 88 of 215	

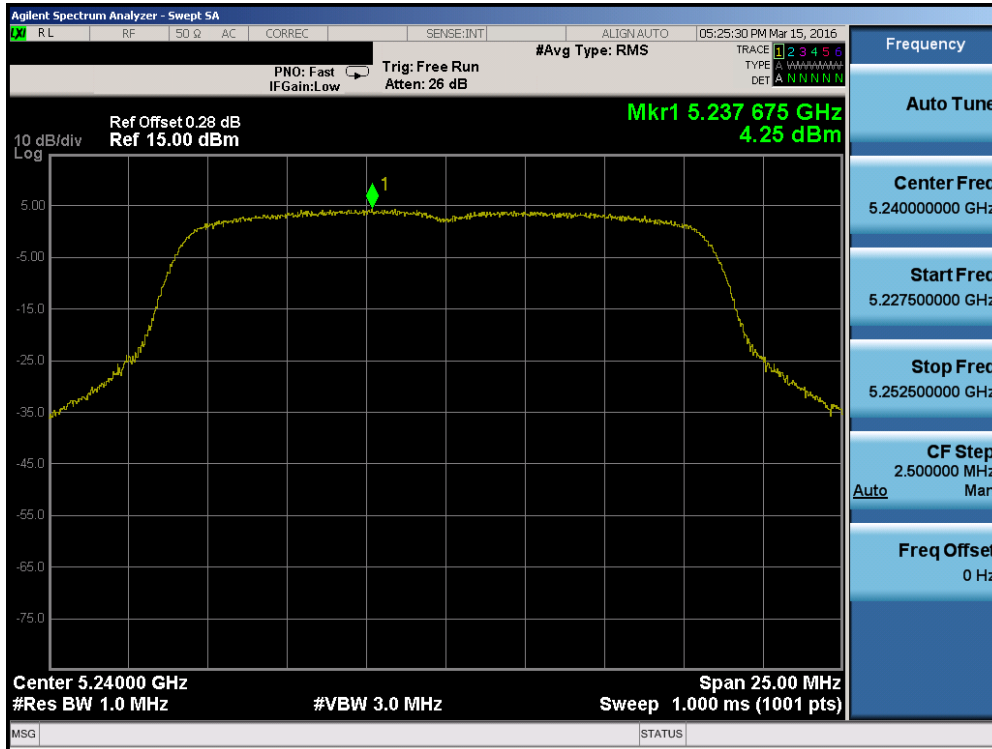


Plot 7-118. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)

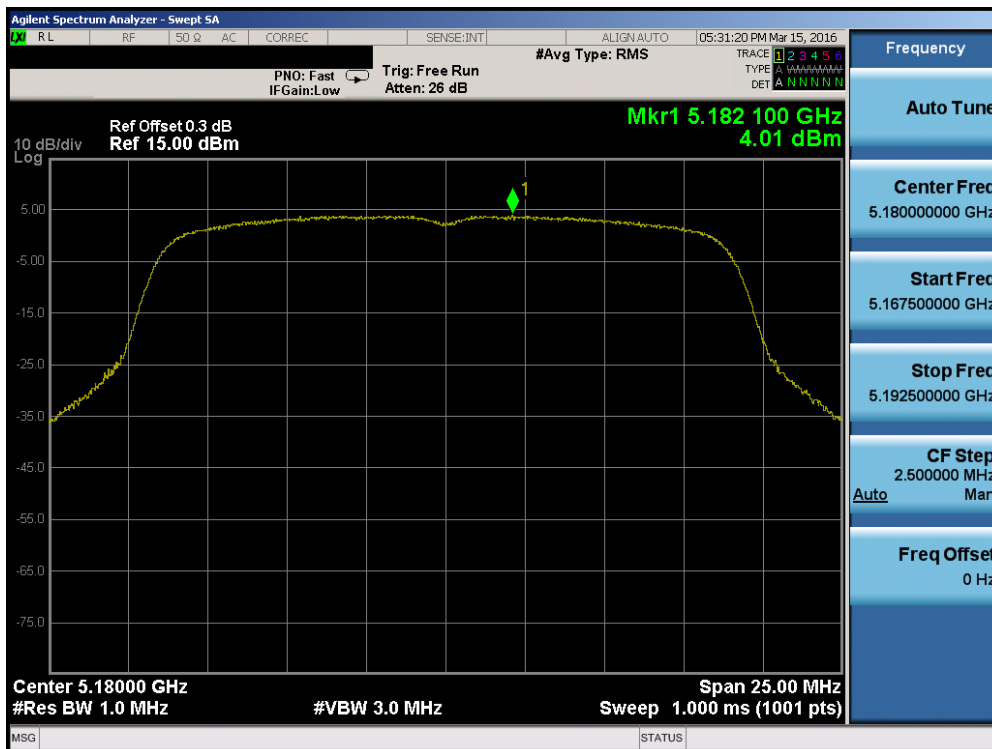


Plot 7-119. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 89 of 215

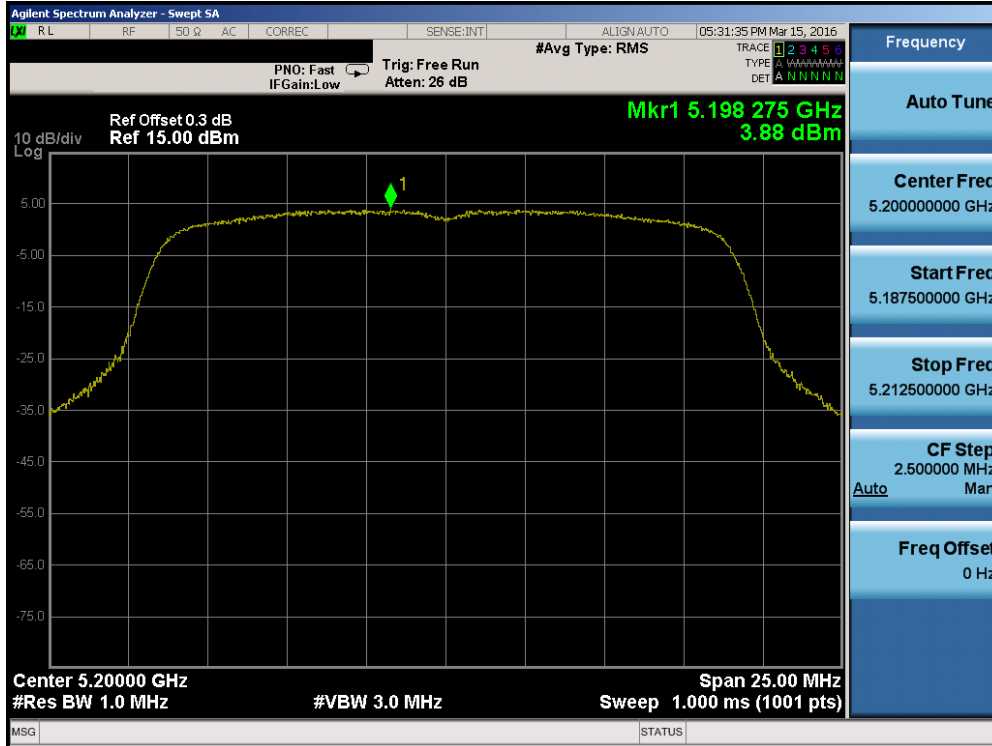


Plot 7-120. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)

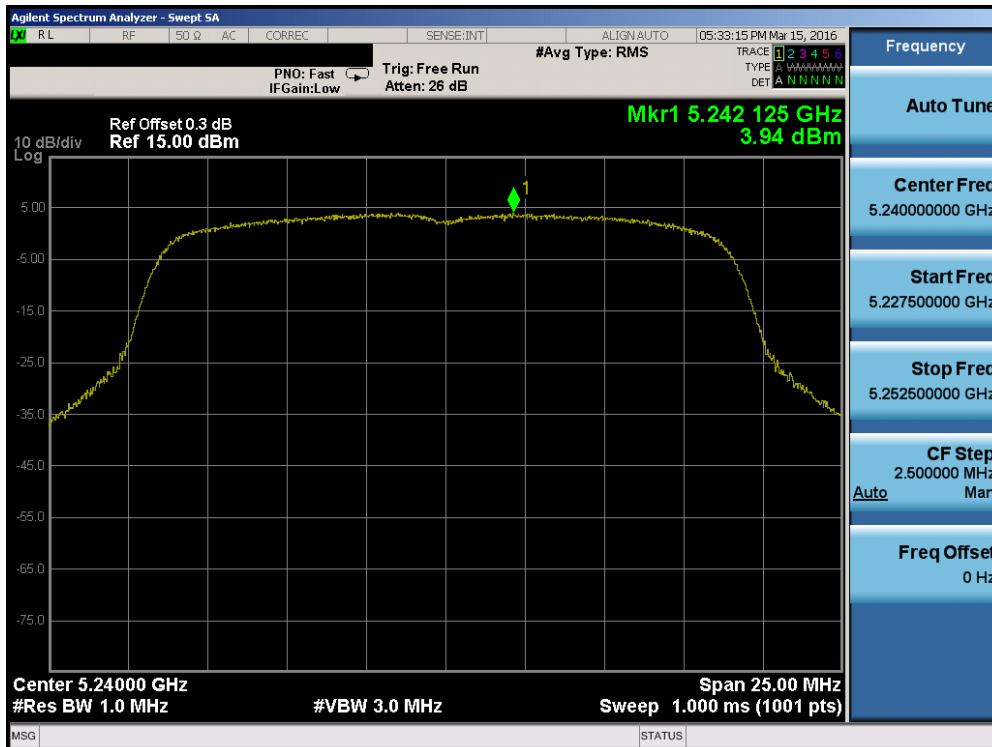


Plot 7-121. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 90 of 215

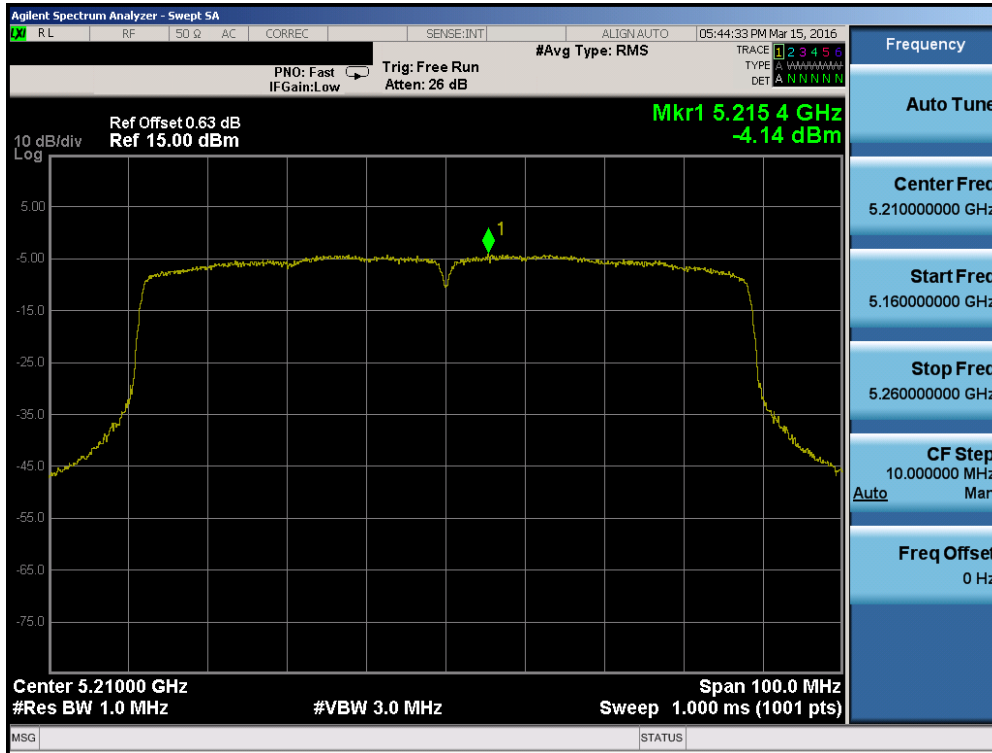


Plot 7-122. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)

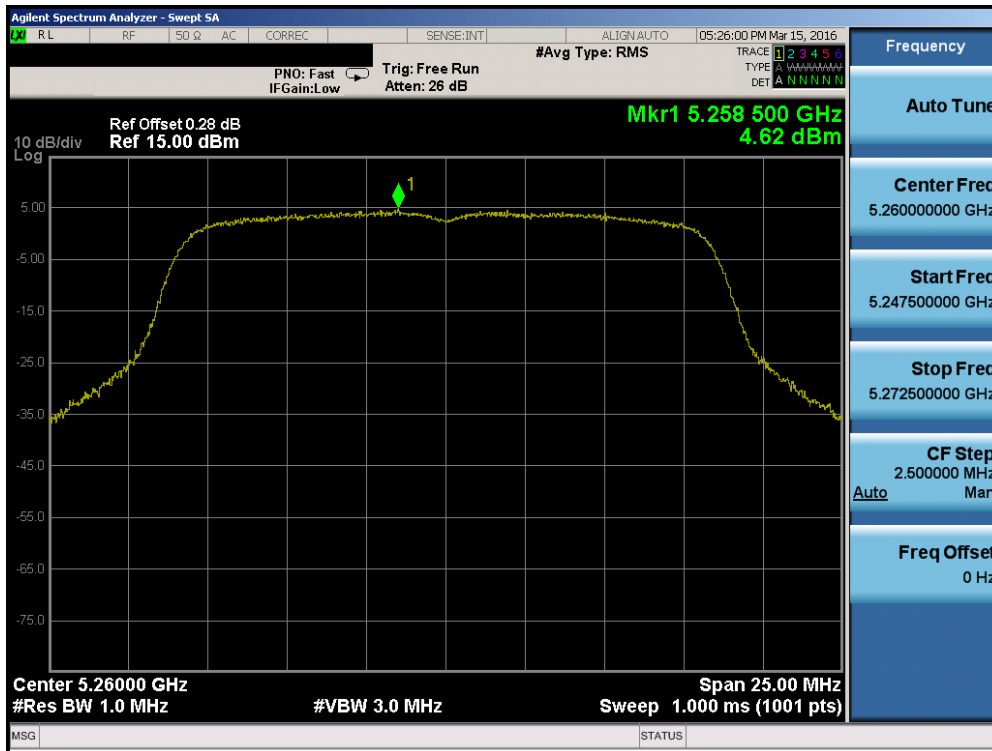


Plot 7-123. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 91 of 215

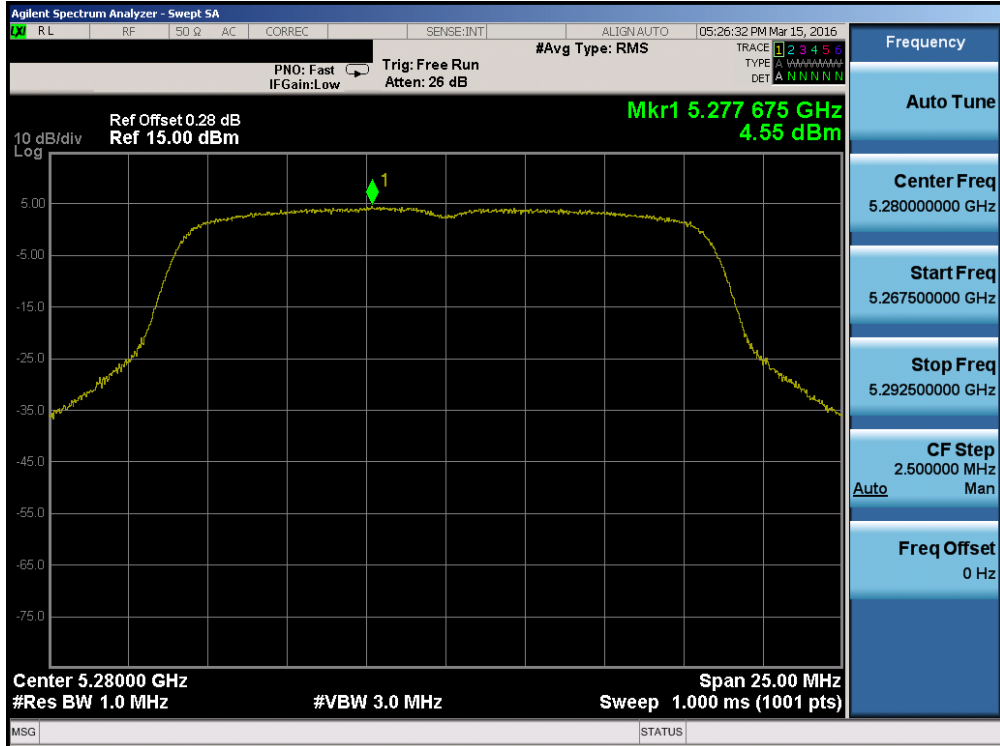


Plot 7-126. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

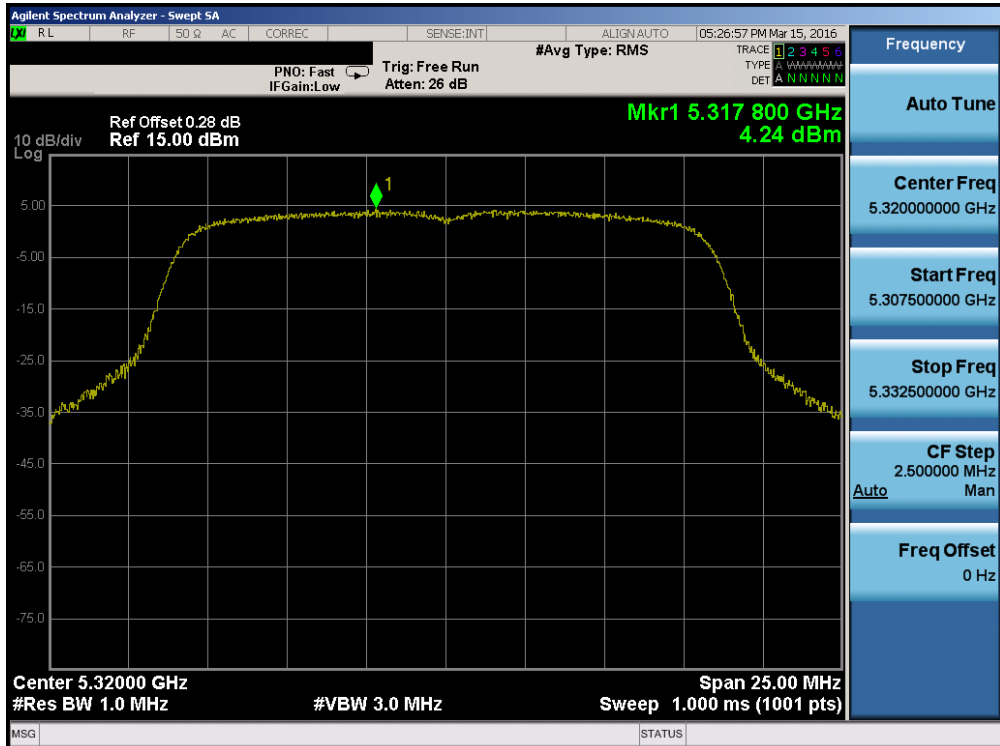


Plot 7-127. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 93 of 215

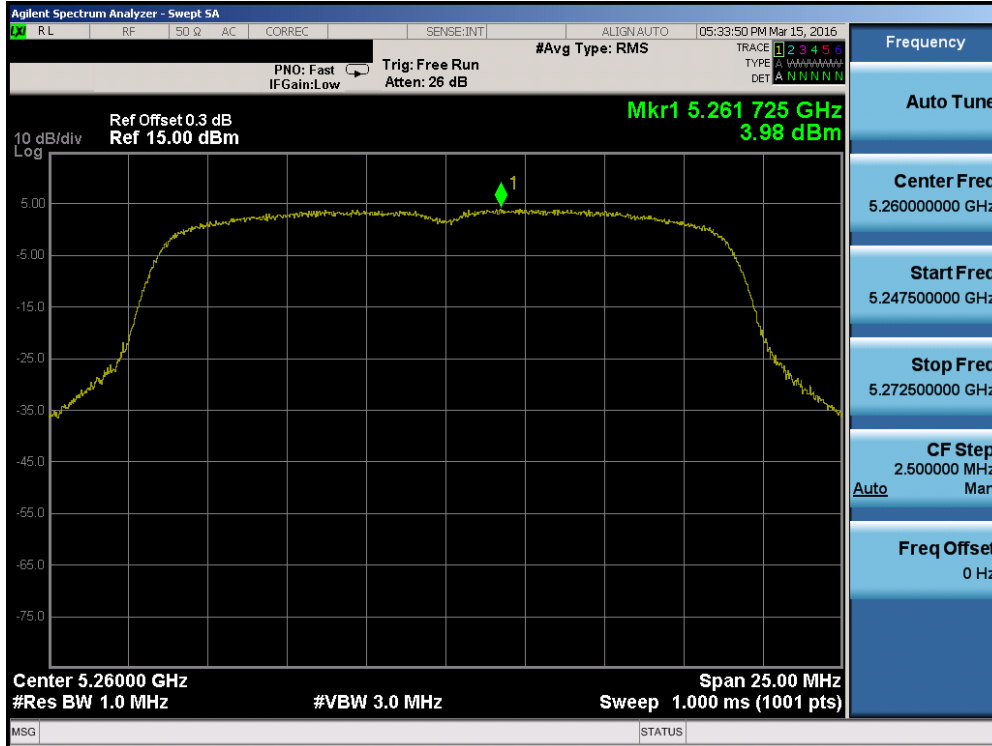


Plot 7-128. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)

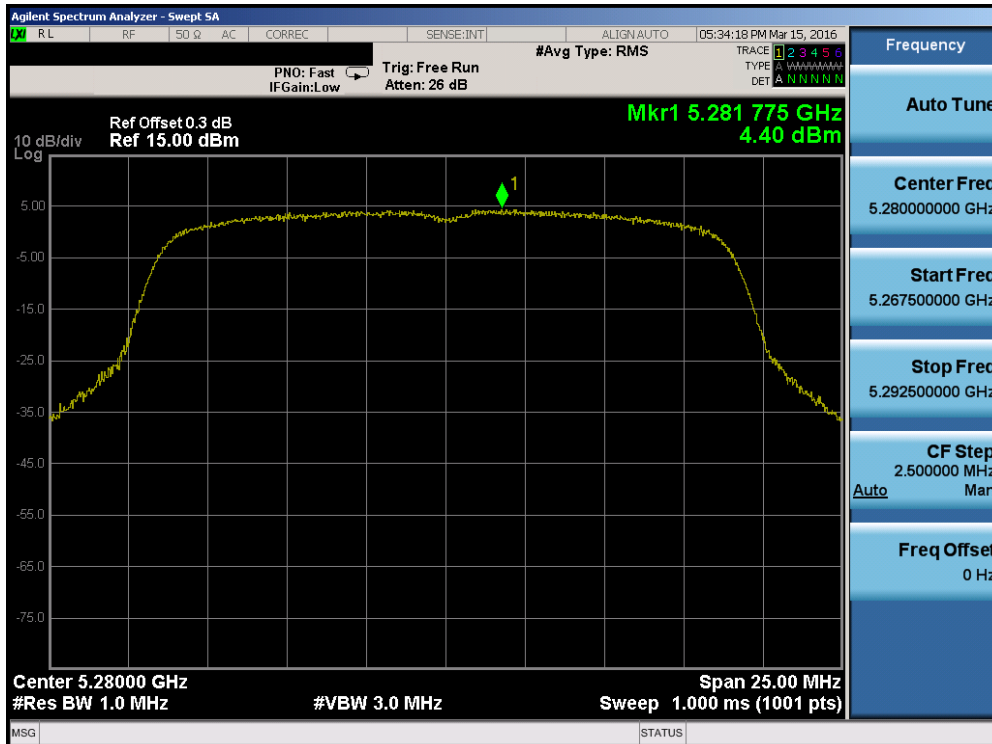


Plot 7-129. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 94 of 215

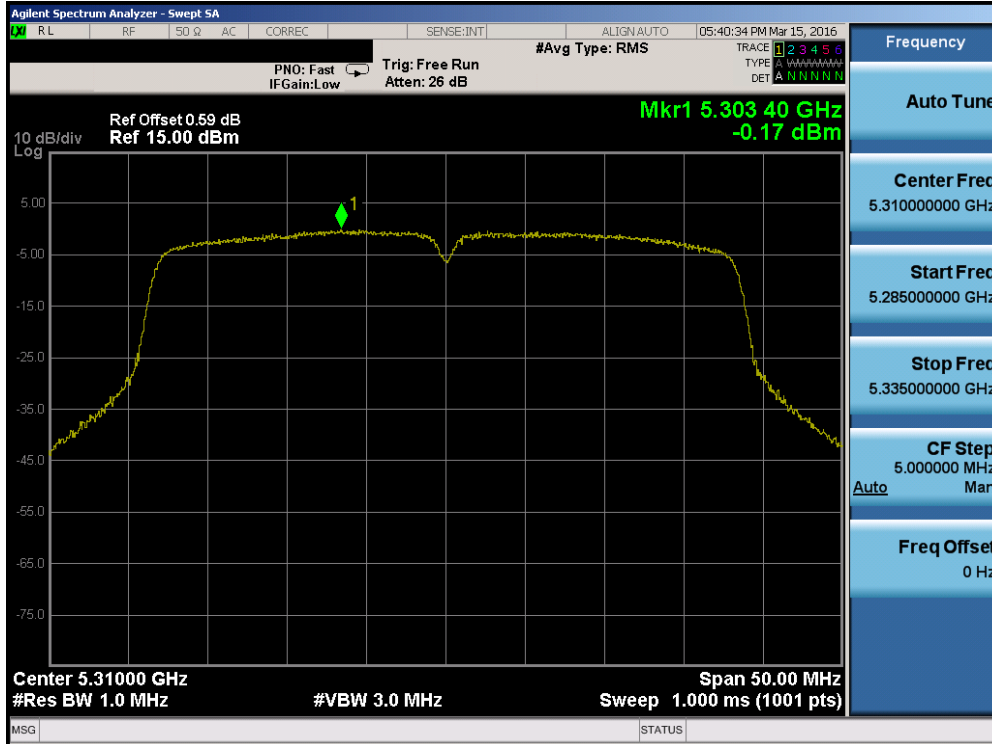


Plot 7-130. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

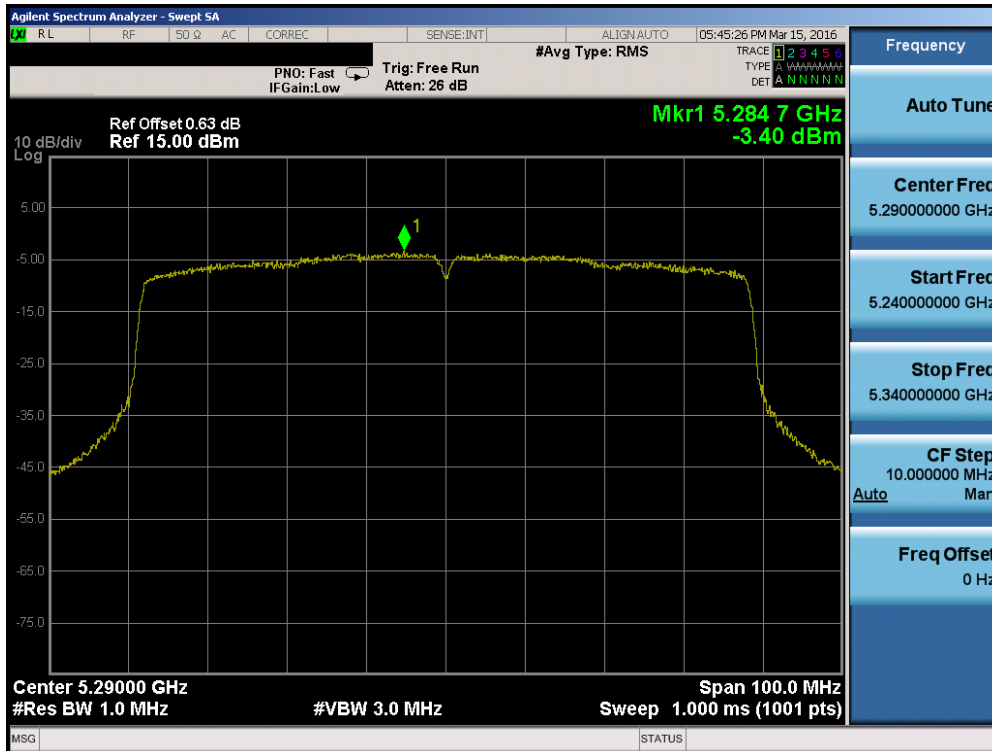


Plot 7-131. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 95 of 215

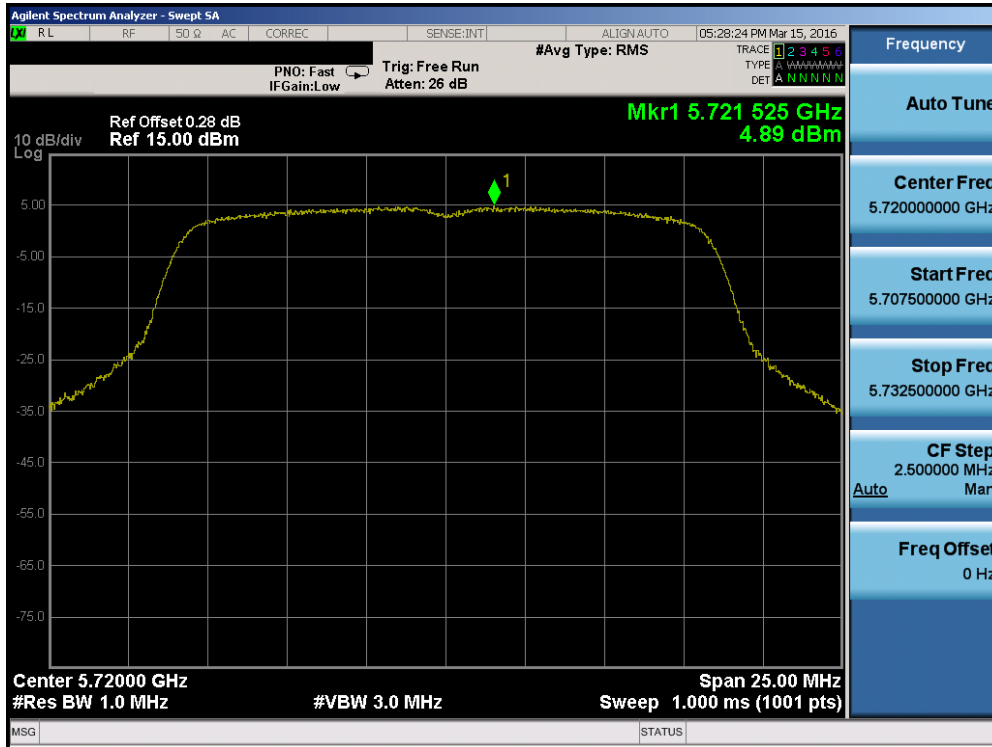


Plot 7-134. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)

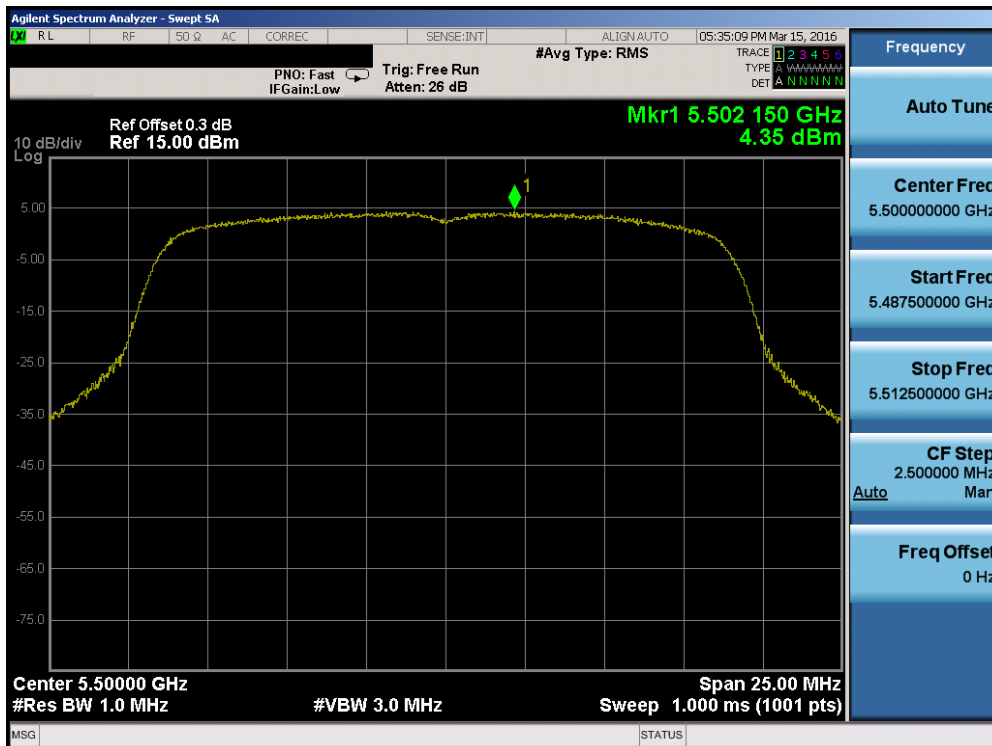


Plot 7-135. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 97 of 215

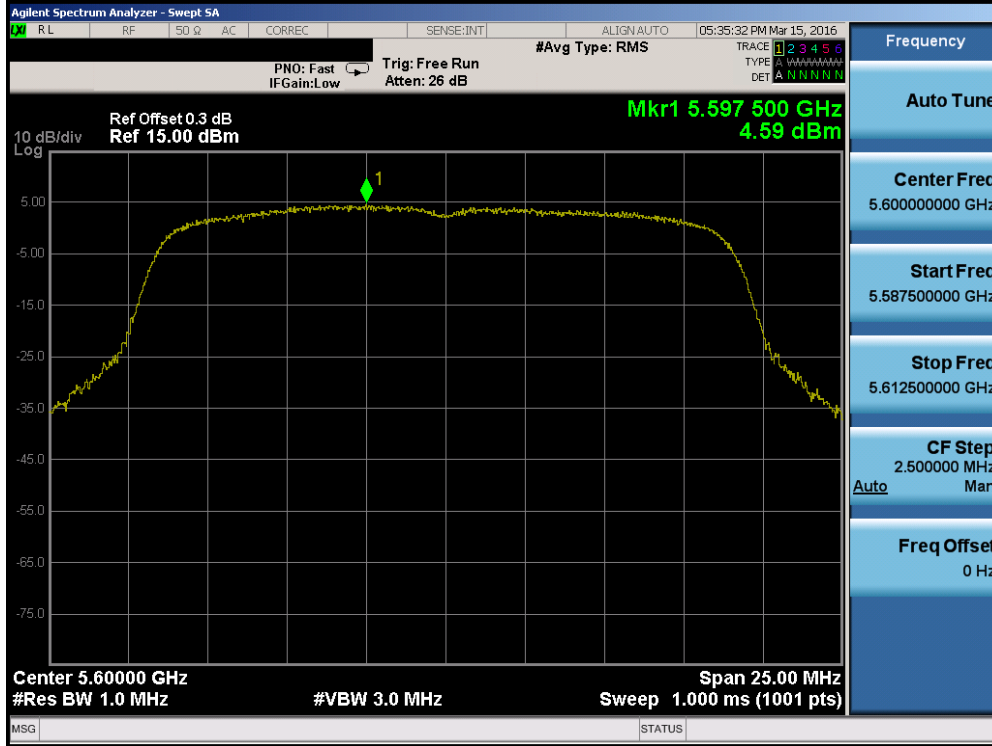


Plot 7-138. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)

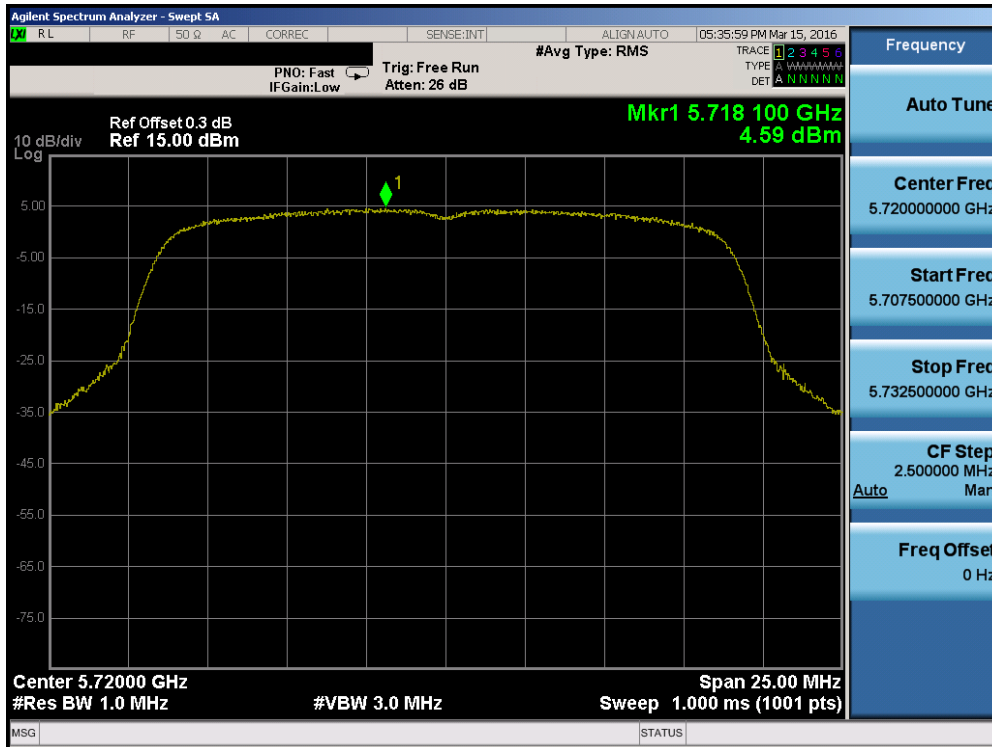


Plot 7-139. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 99 of 215

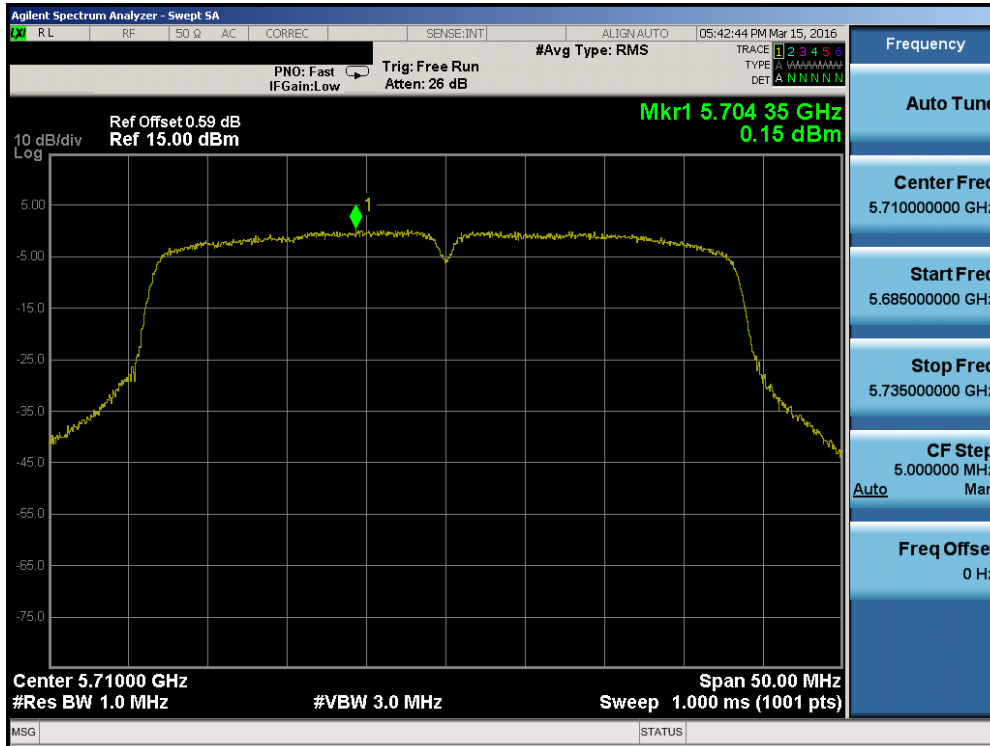


Plot 7-140. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)

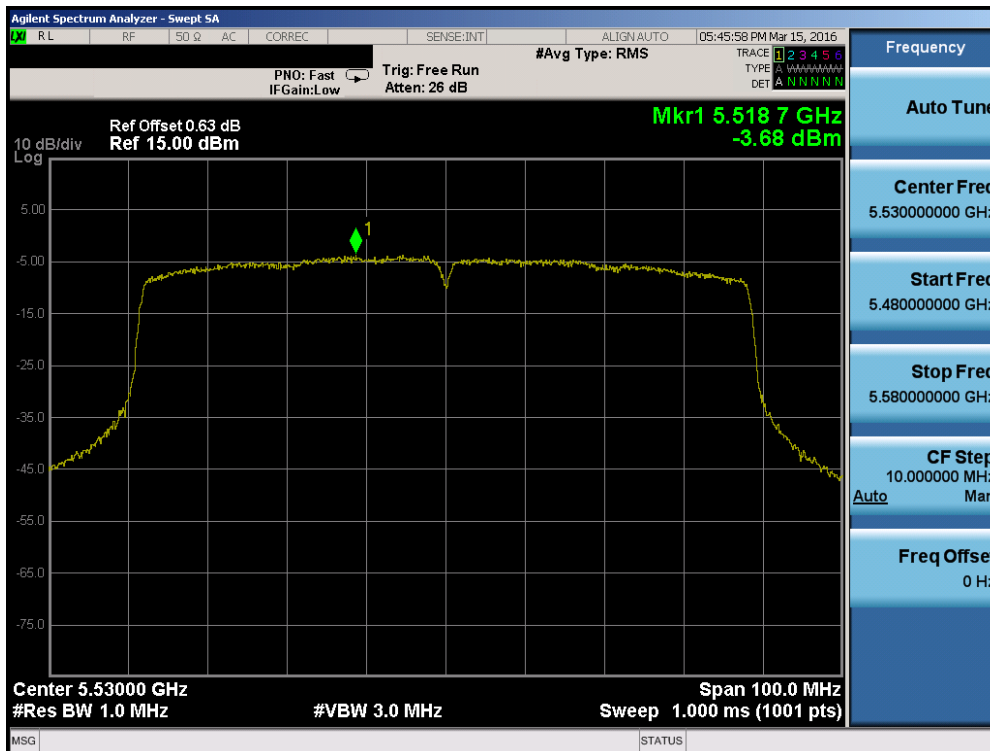


Plot 7-141. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 100 of 215

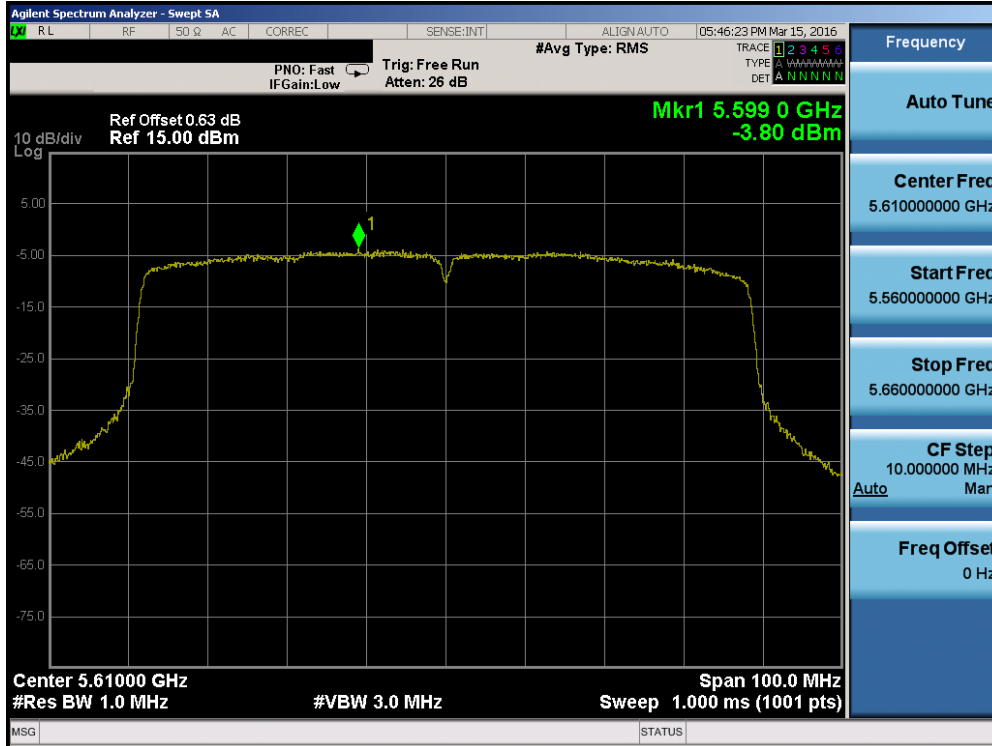


Plot 7-144. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

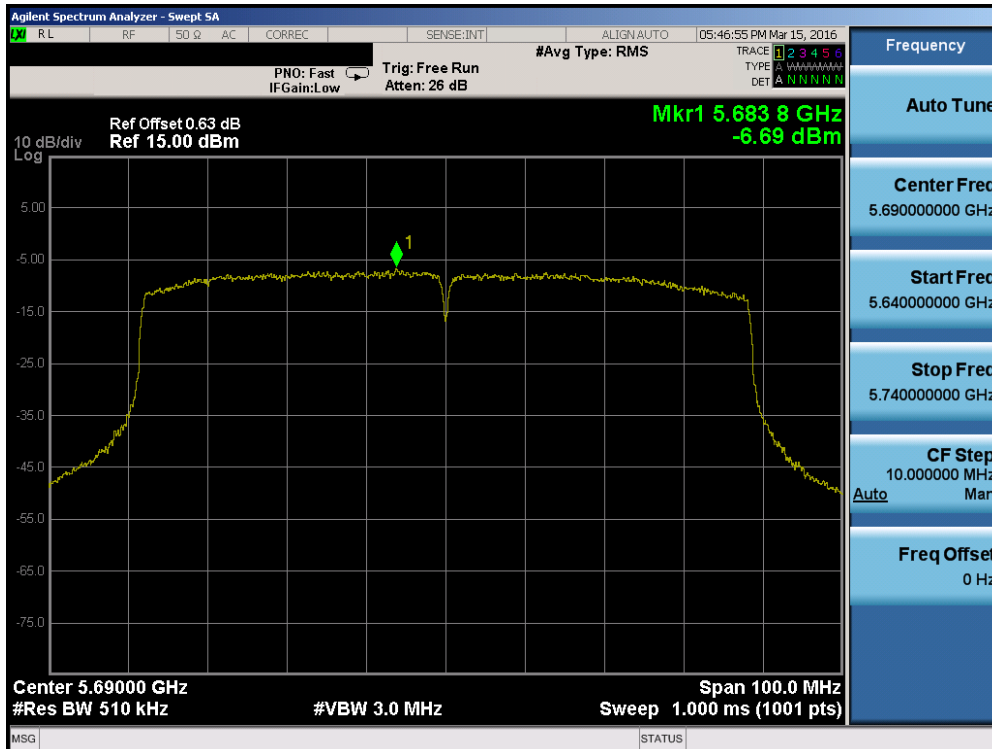


Plot 7-145. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 102 of 215



Plot 7-146. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

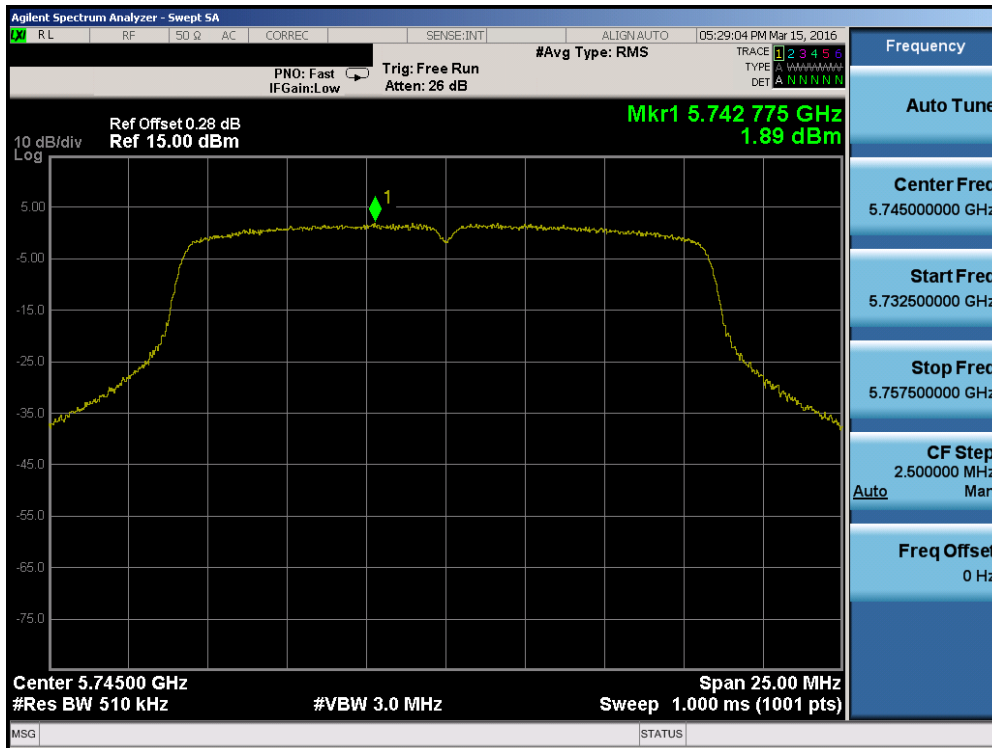


Plot 7-147. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 103 of 215

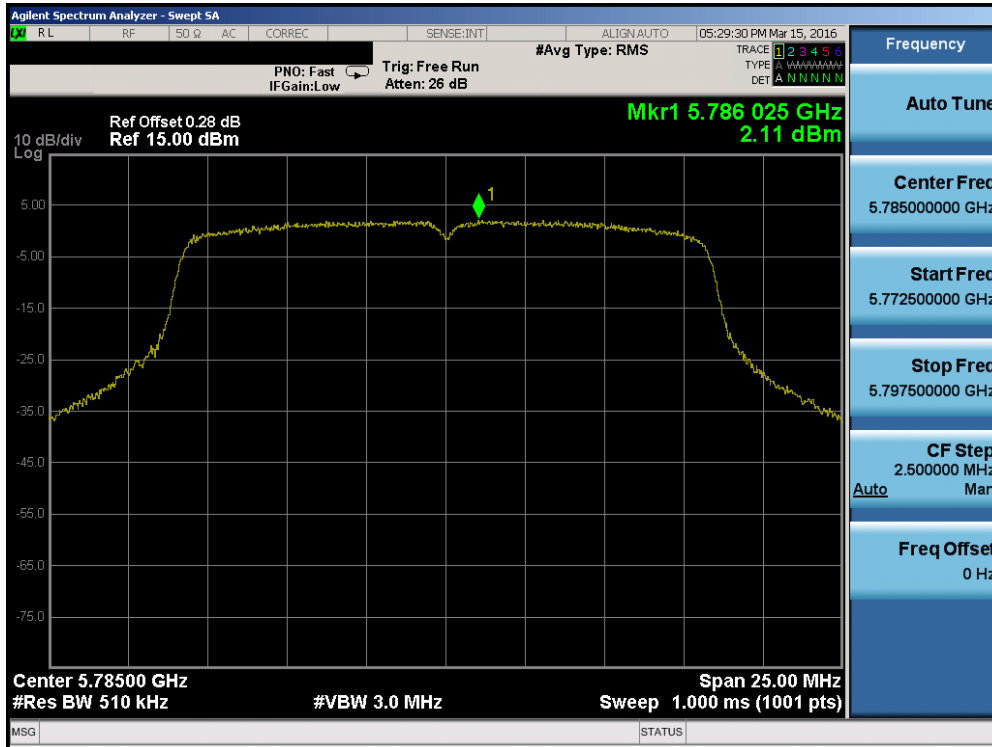
	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]	Pass / Fail
Band 3	5745	149	a	6	1.89	30.0	-28.11	Pass
	5785	157	a	6	2.11	30.0	-27.90	Pass
	5825	165	a	6	2.17	30.0	-27.83	Pass
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	1.72	30.0	-28.28	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	2.33	30.0	-27.67	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	1.66	30.0	-28.34	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-2.69	30.0	-32.69	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-2.49	30.0	-32.49	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-3.94	30.0	-33.94	Pass

Table 7-20. Band 3 Conducted Power Spectral Density Measurements

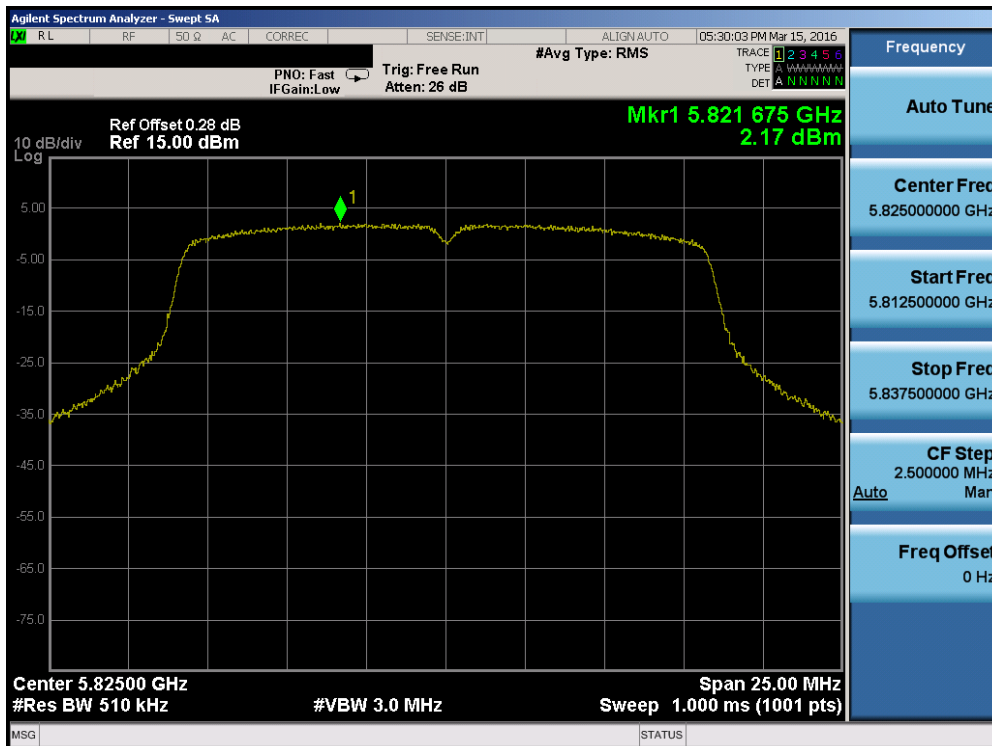


Plot 7-148. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 149)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 104 of 215	

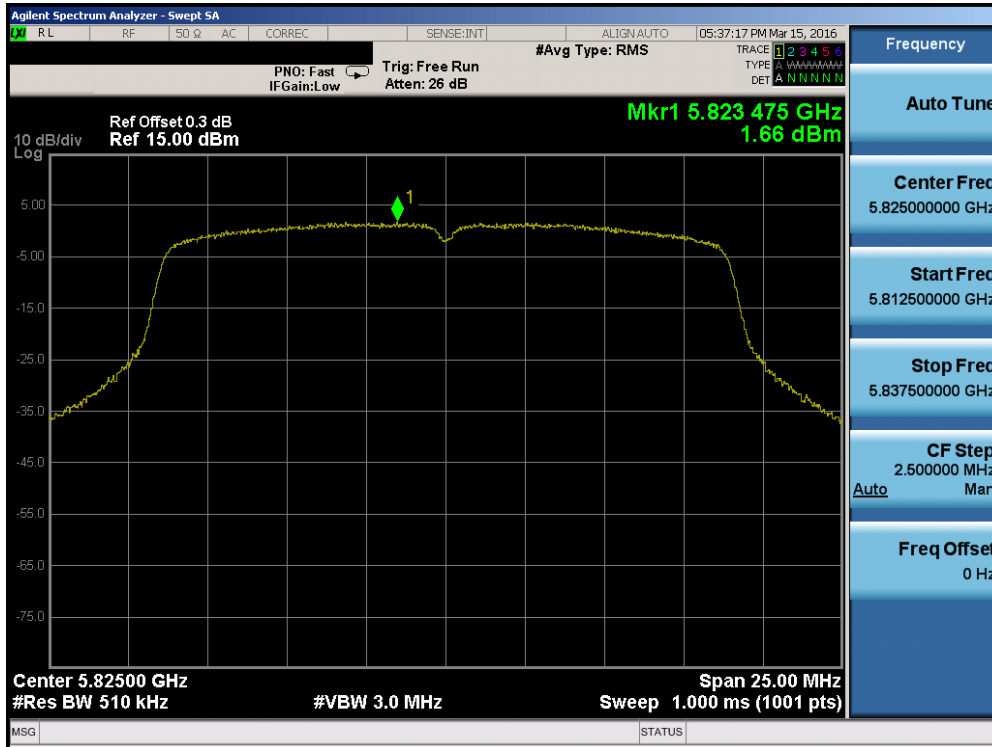


Plot 7-149. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 157)

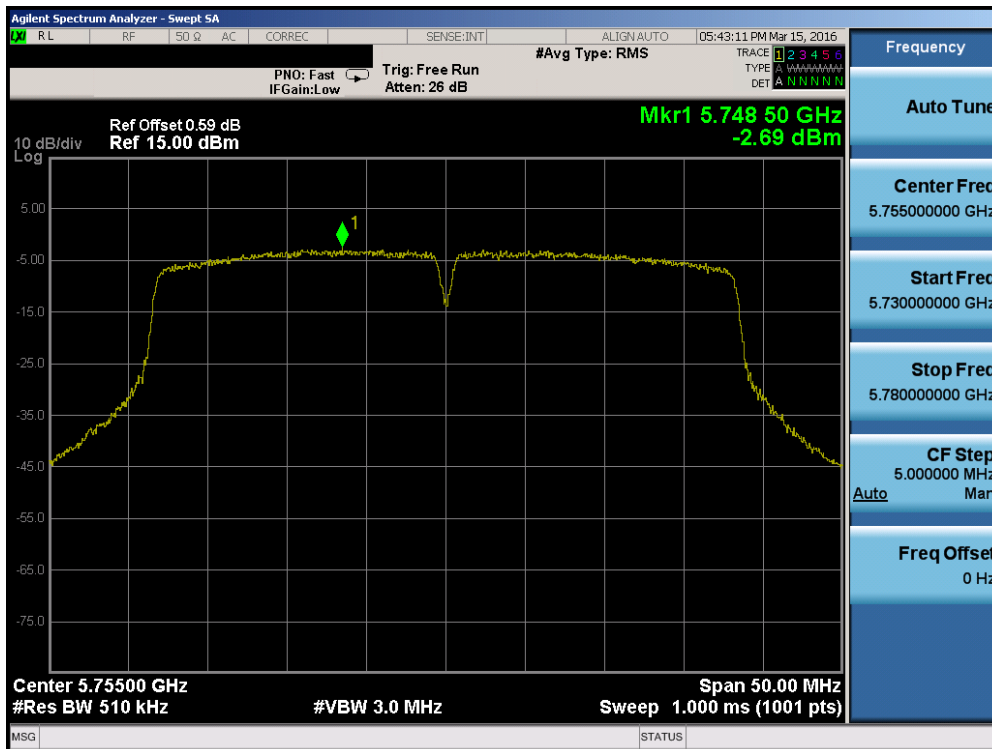


Plot 7-150. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 105 of 215

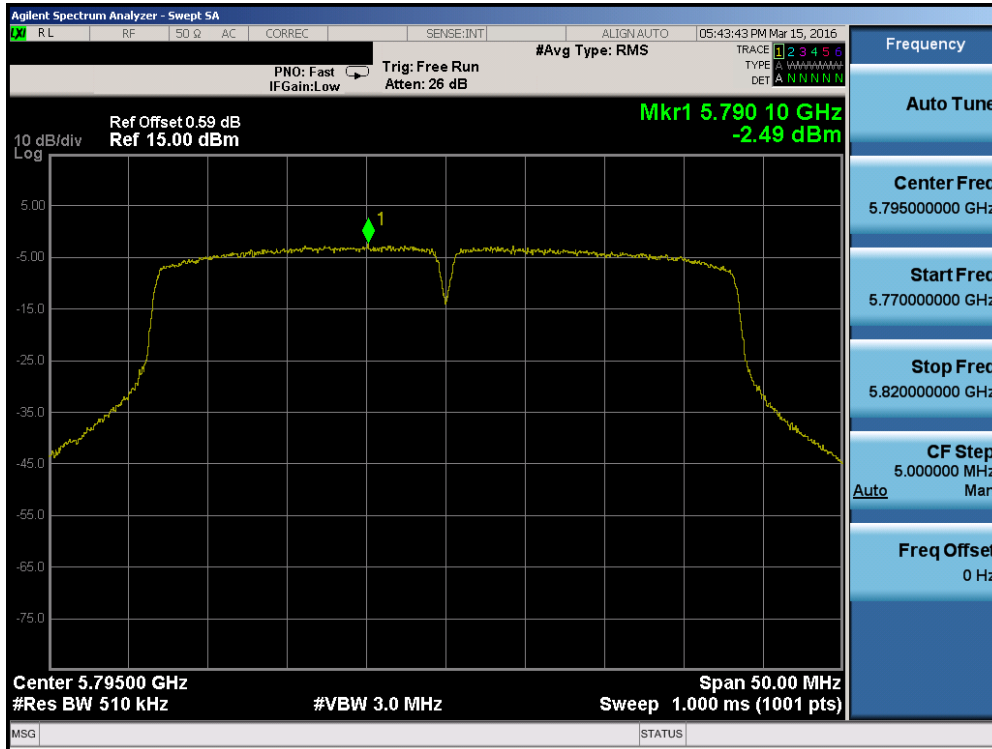


Plot 7-153. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 165)

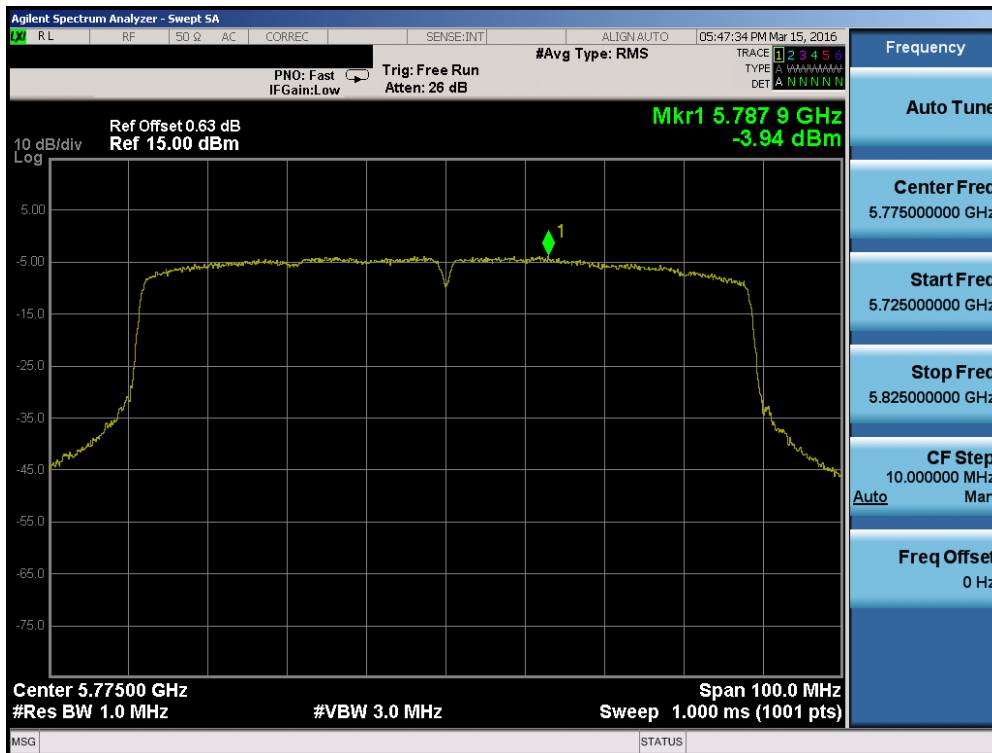


Plot 7-154. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 107 of 215



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: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 108 of 215

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	n (20MHz)	6.5/7.2 (MCS0)	2.14	4.01	6.18	11.0	-4.82	Pass
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	1.70	3.88	5.94	11.0	-5.06	Pass
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	1.54	3.94	5.91	11.0	-5.09	Pass
	5190	38	n (40MHz)	13.5/15 (MCS0)	-0.73	-0.44	2.43	11.0	-8.57	Pass
	5230	46	n (40MHz)	13.5/15 (MCS0)	-0.79	-0.49	2.38	11.0	-8.62	Pass
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-4.58	-4.14	-1.34	11.0	-12.34	Pass
Band 2A	5260	52	n (20MHz)	6.5/7.2 (MCS0)	1.83	3.98	6.05	11.0	-4.95	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	2.59	4.40	6.60	11.0	-4.40	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	1.21	4.31	6.04	11.0	-4.96	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	-0.24	-0.39	2.70	11.0	-8.30	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	-0.99	-0.17	2.45	11.0	-8.55	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-3.99	-3.40	-0.67	11.0	-11.67	Pass
Band 2C	5500	100	n (20MHz)	6.5/7.2 (MCS0)	2.60	4.35	6.57	11.0	-4.43	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	2.92	4.59	6.84	11.0	-4.16	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	3.44	4.59	7.06	11.0	-3.94	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	-0.10	-0.29	2.81	11.0	-8.19	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	0.14	-0.23	2.97	11.0	-8.03	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	1.02	0.15	3.62	11.0	-7.38	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-3.20	-3.68	-0.42	11.0	-11.42	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-2.66	-3.80	-0.18	11.0	-11.18	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-5.60	-6.69	-3.10	11.0	-14.10	Pass

Table 7-21. 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	n (20MHz)	6.5/7.2 (MCS0)	0.27	1.72	4.07	30.0	-25.93	Pass
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	0.95	2.33	4.71	30.0	-25.29	Pass
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	1.15	1.66	4.42	30.0	-25.58	Pass
	5755	151	n (40MHz)	13.5/15 (MCS0)	-2.17	-2.69	0.59	30.0	-29.41	Pass
	5795	159	n (40MHz)	13.5/15 (MCS0)	-1.34	-2.49	1.14	30.0	-28.86	Pass
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-3.08	-3.94	-0.48	30.0	-30.48	Pass

Table 7-22. 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 2.14 dBm for Antenna-1 and 4.01 dBm for Antenna-2.

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

$$(2.14 \text{ dBm} + 4.01 \text{ dBm}) = (1.64 \text{ mW} + 2.52 \text{ mW}) = 4.15 \text{ mW} = 6.18 \text{ dBm}$$

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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)	5,179,999,959	-41	-0.00000079
100 %		- 30	5,179,999,988	-12	-0.00000023
100 %		- 20	5,179,999,764	-236	-0.00000456
100 %		- 10	5,180,000,115	115	0.00000222
100 %		0	5,179,999,897	-103	-0.00000199
100 %		+ 10	5,179,999,977	-23	-0.00000044
100 %		+ 20	5,179,999,908	-92	-0.00000178
100 %		+ 30	5,180,000,325	325	0.00000627
100 %		+ 40	5,180,000,176	176	0.00000340
100 %		+ 50	5,179,999,822	-178	-0.00000344
BATT. ENDPOINT	3.45	+ 20	5,179,999,944	-56	-0.00000108

Table 7-23. 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)	5,259,999,684	-316	-0.00000601
100 %		- 30	5,260,000,083	83	0.00000158
100 %		- 20	5,260,000,260	260	0.00000494
100 %		- 10	5,260,000,343	343	0.00000652
100 %		0	5,260,000,141	141	0.00000268
100 %		+ 10	5,259,999,991	-9	-0.00000017
100 %		+ 20	5,260,000,029	29	0.00000055
100 %		+ 30	5,259,999,641	-359	-0.00000683
100 %		+ 40	5,259,999,872	-128	-0.00000243
100 %		+ 50	5,259,999,808	-192	-0.00000365
BATT. ENDPOINT		3.45	+ 20	5,260,000,216	216

Table 7-24. 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 §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: 5,500,000,000 Hz
 CHANNEL: 100
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,500,000,079	79	0.00000144
100 %		- 30	5,500,000,172	172	0.00000313
100 %		- 20	5,499,999,570	-430	-0.00000782
100 %		- 10	5,500,000,046	46	0.00000084
100 %		0	5,500,000,003	3	0.00000005
100 %		+ 10	5,500,000,028	28	0.00000051
100 %		+ 20	5,500,000,242	242	0.00000440
100 %		+ 30	5,500,000,382	382	0.00000695
100 %		+ 40	5,499,999,879	-121	-0.00000220
100 %		+ 50	5,499,999,966	-34	-0.00000062
BATT. ENDPOINT		3.45	+ 20	5,499,999,879	-121

Table 7-25. 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 §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: 5,745,000,000 Hz
 CHANNEL: 149
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,745,000,045	45	0.00000078
100 %		- 30	5,744,999,910	-90	-0.00000157
100 %		- 20	5,744,999,984	-16	-0.00000028
100 %		- 10	5,745,000,130	130	0.00000226
100 %		0	5,745,000,141	141	0.00000245
100 %		+ 10	5,744,999,756	-244	-0.00000425
100 %		+ 20	5,744,999,868	-132	-0.00000230
100 %		+ 30	5,744,999,768	-232	-0.00000404
100 %		+ 40	5,744,999,989	-11	-0.00000019
100 %		+ 50	5,745,000,158	158	0.00000275
BATT. ENDPOINT	3.45	+ 20	5,745,000,331	331	0.00000576

Table 7-26. 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.1)(b.6) §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 v01, 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.

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 7-27 per Section 15.209.

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

Table 7-27. Radiated Limits

Test Procedures Used

KDB 789033 D02 v01 – 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 $\geq 2 \times \text{span}/\text{RBW}$)
6. Averaging type = power (RMS)
7. Sweep time = auto couple
8. Trace was averaged over 100 sweeps

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

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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.

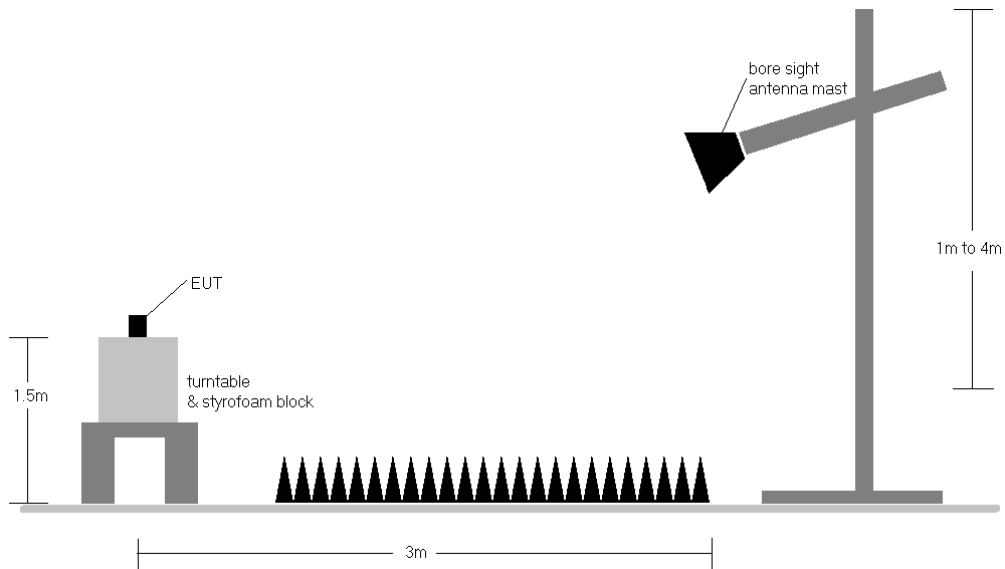




Figure 7-5. Test Instrument & Measurement Setup

Test Notes

1. All radiated spurious emissions levels were measured in a radiated test setup per the guidance of KDB 789033 D02 v01 Section H.
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 7-27.
3. All spurious emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 6-11. 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.

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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 RSE tables below are used to denote noise floor measurements.

Sample Calculations



Determining Spurious Emissions Levels

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

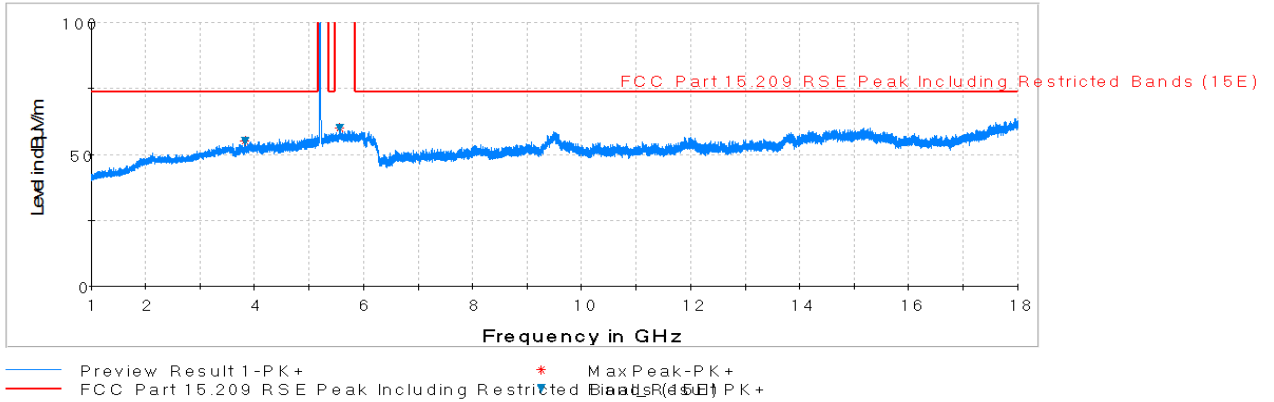
Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots in Section 6.8 was calculated using the formula:

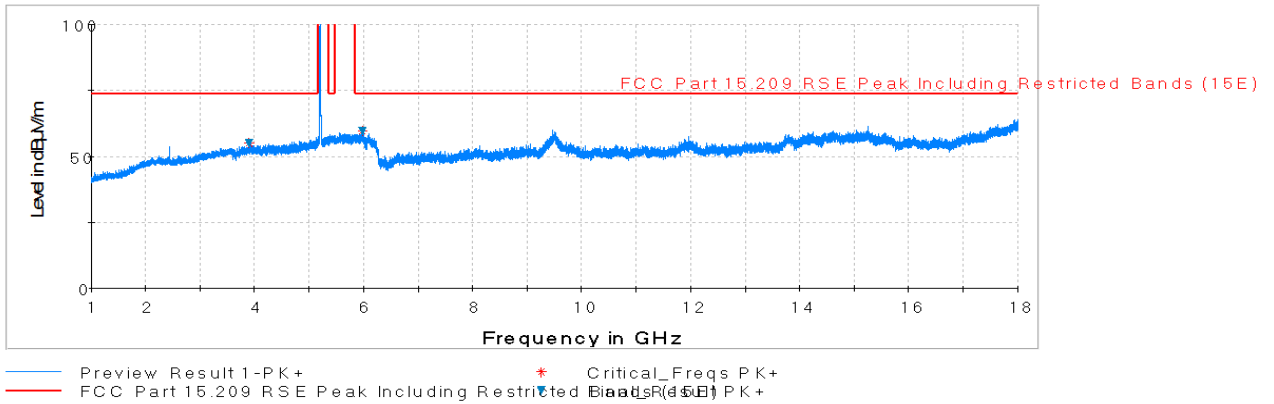
$$\text{Offset (dB)} = (\text{Antenna Factor} + \text{Cable Loss} + 10 \text{ dB Attenuator}) - \text{Preamplifier Gain}$$

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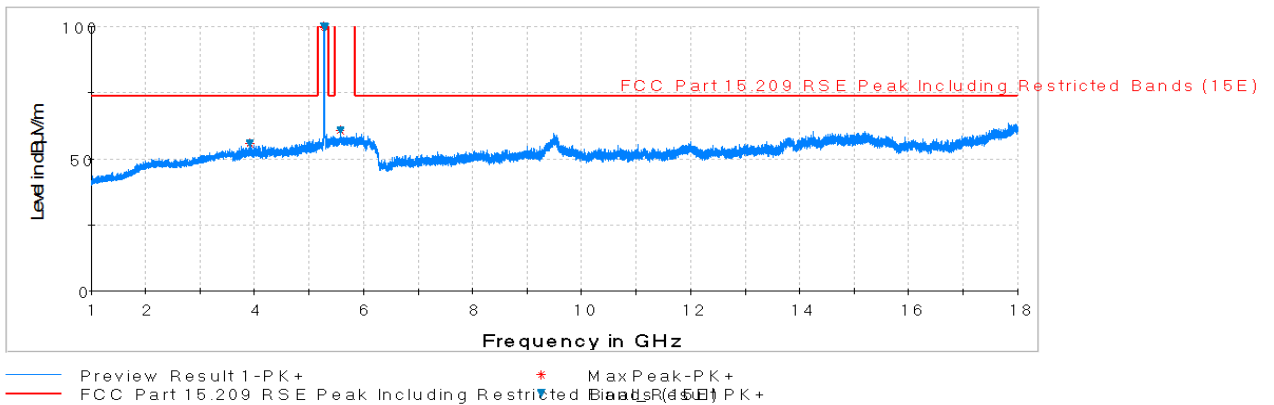
7.7.1 Antenna-1 Radiated Spurious Emission Measurements



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

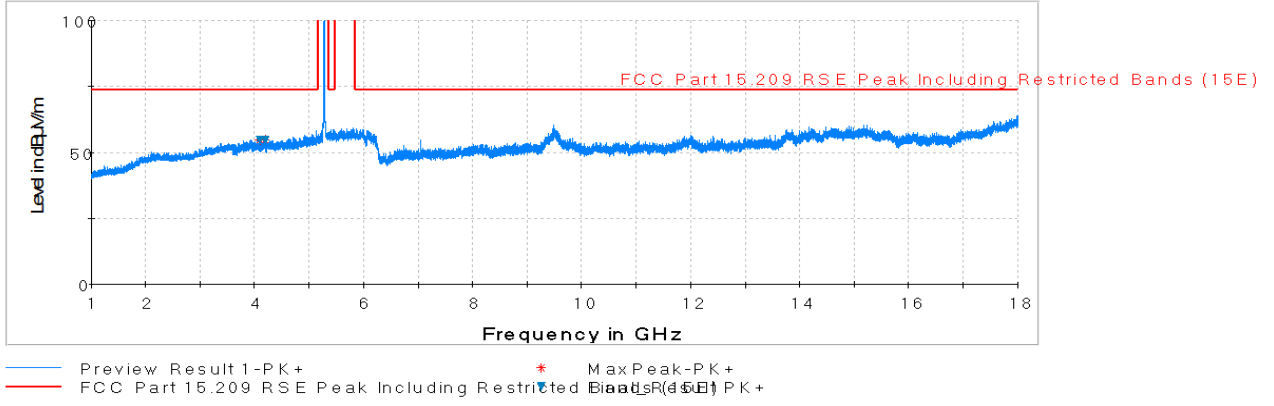


Plot 7-158. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. V)

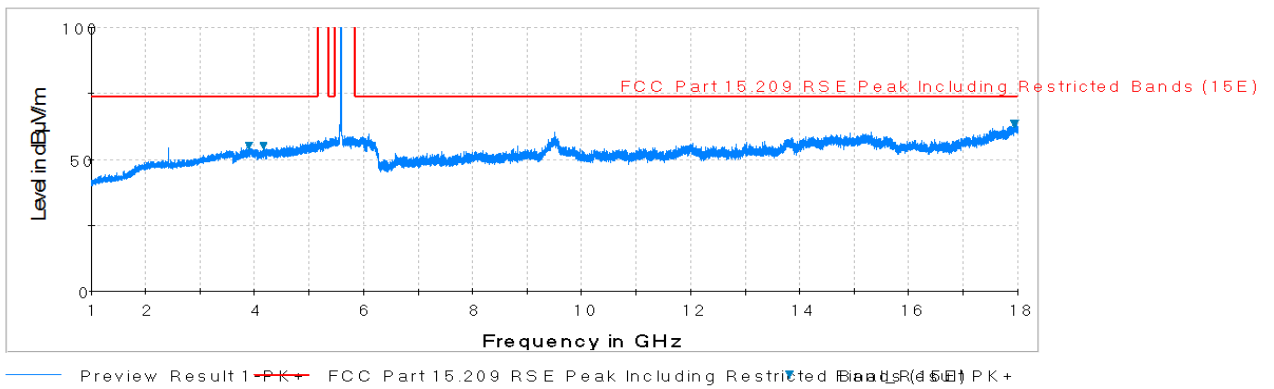


Plot 7-159. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)

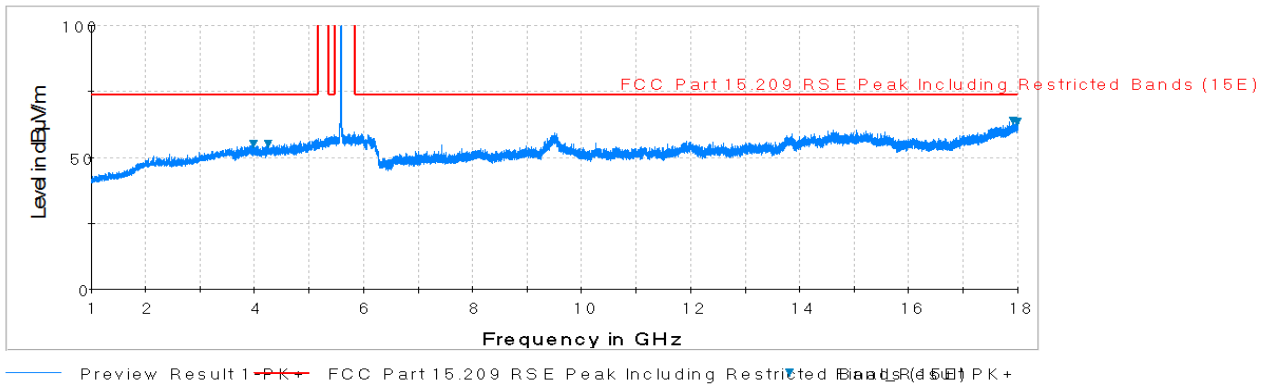
FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Plot 7-160. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)

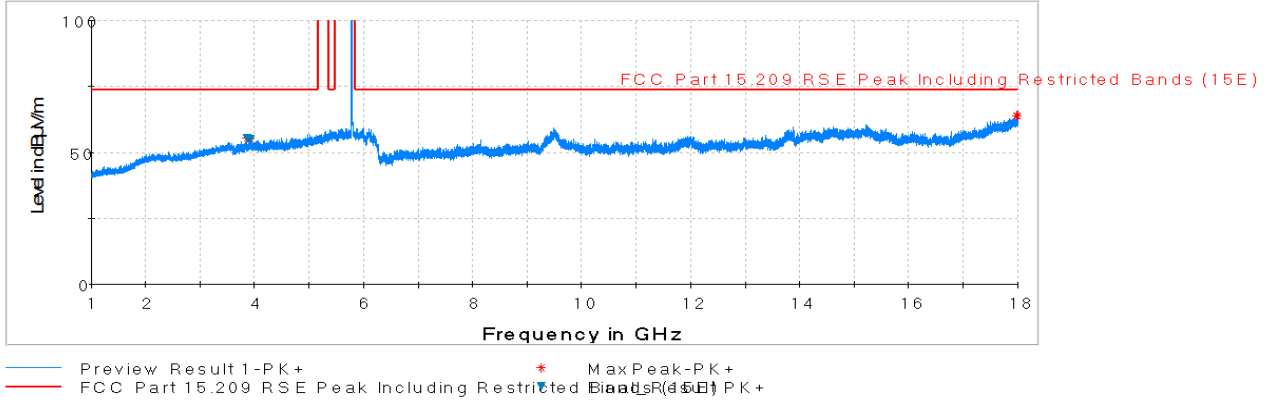


Plot 7-161. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. H)

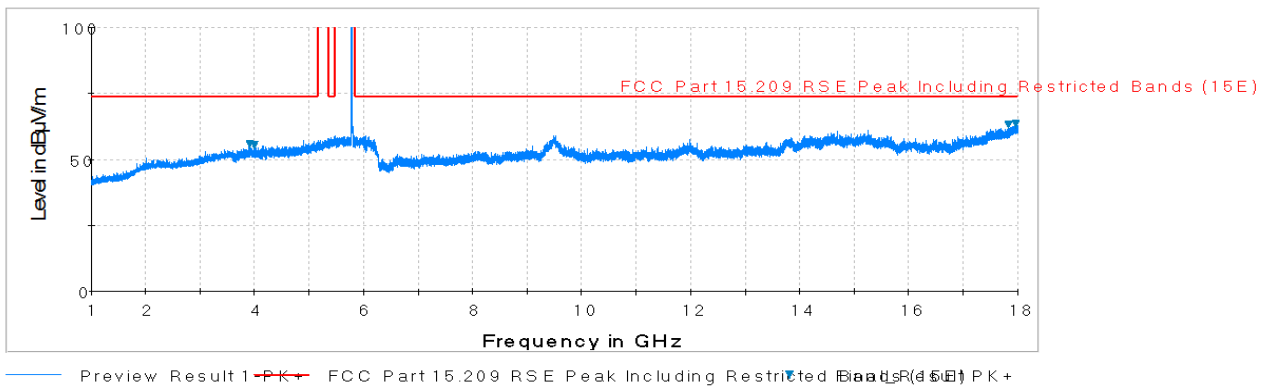


Plot 7-162. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. V)



FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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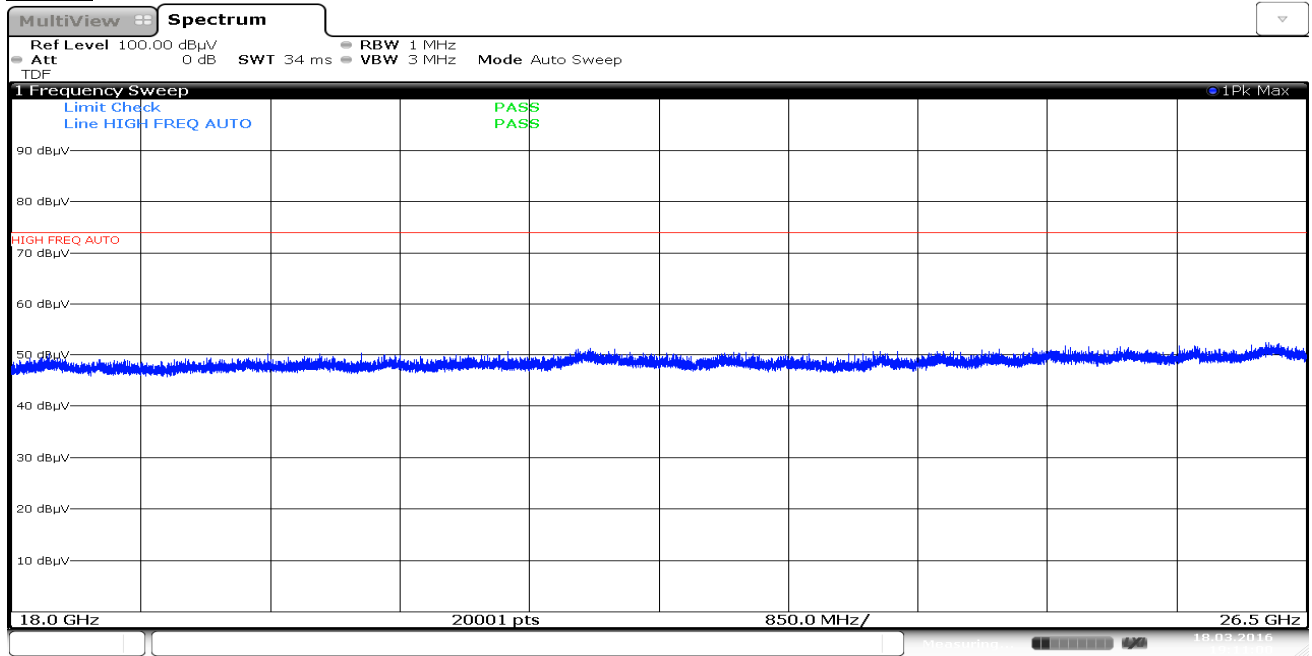
Plot 7-163. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



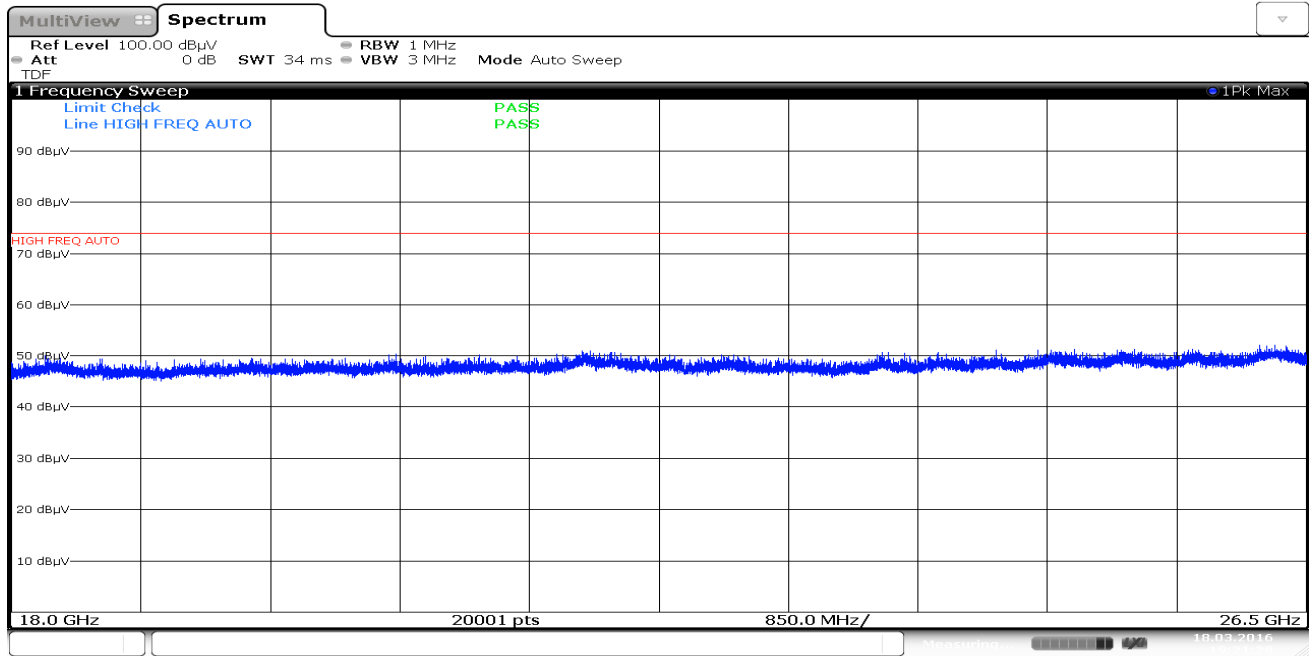
Plot 7-164. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Antenna-1 Radiated Spurious Emissions Measurements (Above 18GHz) §15.209



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



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

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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 & 3 Meters
 Operating Frequency: 5180MHz
 Channel: 36



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10360.00	Peak	H	-	-	-99.04	48.29	0.00	56.25	68.20	-11.95
* 15540.00	Average	H	-	-	-111.19	53.40	0.00	49.21	53.98	-4.77
* 15540.00	Peak	H	-	-	-97.54	53.40	0.00	62.86	73.98	-11.12
* 20720.00	Average	H	-	-	-112.57	44.39	-9.54	29.28	53.98	-24.70
* 20720.00	Peak	H	-	-	-100.88	44.39	-9.54	40.97	73.98	-33.01
25900.00	Peak	H	-	-	-100.12	45.11	-9.54	42.45	68.20	-25.75

Table 7-28. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5200MHz
 Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10400.00	Peak	H	-	-	-97.99	48.33	0.00	57.34	68.20	-10.86
* 15600.00	Average	H	-	-	-110.48	53.41	0.00	49.93	53.98	-4.05
* 15600.00	Peak	H	-	-	-98.88	53.41	0.00	61.53	73.98	-12.45
* 20800.00	Average	H	-	-	-112.03	44.39	-9.54	29.82	53.98	-24.16
* 20800.00	Peak	H	-	-	-100.56	44.39	-9.54	41.29	73.98	-32.69
26000.00	Peak	H	-	-	-100.56	45.12	-9.54	42.01	68.20	-26.19

Table 7-29. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10480.00	Peak	H	-	-	-98.55	48.42	0.00	56.87	68.20	-11.33
* 15720.00	Average	H	-	-	-110.53	53.65	0.00	50.12	53.98	-3.86
* 15720.00	Peak	H	-	-	-98.98	53.65	0.00	61.67	73.98	-12.31
* 20960.00	Average	H	-	-	-111.94	44.31	-9.54	29.83	53.98	-24.15
* 20960.00	Peak	H	-	-	-100.60	44.31	-9.54	41.17	73.98	-32.81
26200.00	Peak	H	-	-	-100.06	45.01	-9.54	42.41	68.20	-25.79

Table 7-30. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5260MHz
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10520.00	Peak	H	-	-	-98.39	48.42	0.00	57.03	68.20	-11.17
* 15780.00	Average	H	-	-	-111.29	53.73	0.00	49.43	53.98	-4.54
* 15780.00	Peak	H	-	-	-99.60	53.73	0.00	61.12	73.98	-12.85
* 21040.00	Average	H	-	-	-110.94	44.29	-9.54	30.80	53.98	-23.18
* 21040.00	Peak	H	-	-	-99.75	44.29	-9.54	41.99	73.98	-31.99
26300.00	Peak	H	-	-	-99.07	45.00	-9.54	43.39	68.20	-24.81

Table 7-31. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
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Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-98.45	48.38	0.00	56.92	68.20	-11.28
* 15840.00	Average	H	-	-	-111.58	53.91	0.00	49.33	53.98	-4.64
* 15840.00	Peak	H	-	-	-99.57	53.91	0.00	61.34	73.98	-12.63
* 21120.00	Average	H	-	-	-111.24	44.28	-9.54	30.50	53.98	-23.48
* 21120.00	Peak	H	-	-	-100.31	44.28	-9.54	41.43	73.98	-32.55
26400.00	Peak	H	-	-	-99.54	45.02	-9.54	42.94	68.20	-25.26

Table 7-32. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5320MHz
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	-	-	-110.27	48.32	0.00	45.05	53.98	-8.93
* 10640.00	Peak	H	-	-	-98.23	48.32	0.00	57.09	73.98	-16.89
* 15960.00	Average	H	-	-	-111.20	54.56	0.00	50.36	53.98	-3.62
* 15960.00	Peak	H	-	-	-99.24	54.56	0.00	62.32	73.98	-11.66
* 21280.00	Average	H	-	-	-110.29	44.26	-9.54	31.43	53.98	-22.55
* 21280.00	Peak	H	-	-	-100.13	44.26	-9.54	41.59	73.98	-32.39
26600.00	Peak	H	-	-	-101.95	47.61	-9.54	43.12	68.20	-25.08

Table 7-33. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 123 of 215	

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	-	-	-110.39	49.08	0.00	45.69	53.98	-8.29
* 11000.00	Peak	H	-	-	-98.13	49.08	0.00	57.95	73.98	-16.03
16500.00	Peak	H	-	-	-99.64	54.91	0.00	62.27	68.20	-5.93
22000.00	Peak	H	-	-	-99.32	44.50	-9.54	42.63	68.20	-25.57
27500.00	Peak	H	-	-	-101.60	47.97	-9.54	43.83	68.20	-24.37

Table 7-34. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5600MHz
 Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	-	-	-110.49	49.34	0.00	45.85	53.98	-8.13
* 11200.00	Peak	H	-	-	-98.37	49.34	0.00	57.97	73.98	-16.01
16800.00	Peak	H	-	-	-99.83	57.31	0.00	64.48	68.20	-3.72
* 22400.00	Average	H	-	-	-111.06	44.57	-9.54	30.97	53.98	-23.01
* 22400.00	Peak	H	-	-	-100.99	44.57	-9.54	41.04	73.98	-32.94
28000.00	Peak	H	-	-	-102.59	48.11	-9.54	42.98	68.20	-25.22

Table 7-35. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 124 of 215	

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5720MHz
 Channel: 144



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-110.36	49.86	0.00	46.50	53.98	-7.48
* 11440.00	Peak	H	-	-	-98.29	49.86	0.00	58.57	73.98	-15.41
17160.00	Peak	H	-	-	-99.06	57.12	0.00	65.06	68.20	-3.14
* 22880.00	Average	H	-	-	-110.97	44.61	-9.54	31.10	53.98	-22.88
* 22880.00	Peak	H	-	-	-99.43	44.61	-9.54	42.64	73.98	-31.34
28600.00	Peak	H	-	-	-102.63	48.29	-9.54	43.12	68.20	-25.08

Table 7-36. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5745MHz
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	-	-	-110.99	50.02	0.00	46.03	53.98	-7.95
* 11490.00	Peak	H	-	-	-98.93	50.02	0.00	58.09	73.98	-15.89
17235.00	Peak	H	-	-	-99.52	57.31	0.00	64.80	68.20	-3.40
* 22980.00	Average	H	-	-	-110.61	44.68	-9.54	31.53	53.98	-22.45
* 22980.00	Peak	H	-	-	-99.59	44.68	-9.54	42.55	73.98	-31.43
28725.00	Peak	H	-	-	-102.21	48.26	-9.54	43.51	68.20	-24.69

Table 7-37. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 125 of 215	

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5785MHz
 Channel: 157



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	-	-	-110.63	50.27	0.00	46.65	53.98	-7.33
* 11570.00	Peak	H	-	-	-98.39	50.27	0.00	58.89	73.98	-15.09
17355.00	Peak	H	-	-	-99.88	57.92	0.00	65.04	68.20	-3.16
23140.00	Peak	H	-	-	-96.69	44.75	-9.54	45.52	68.20	-22.68
28925.00	Peak	H	-	-	-102.14	48.29	-9.54	43.61	68.20	-24.59

Table 7-38. Radiated Measurements

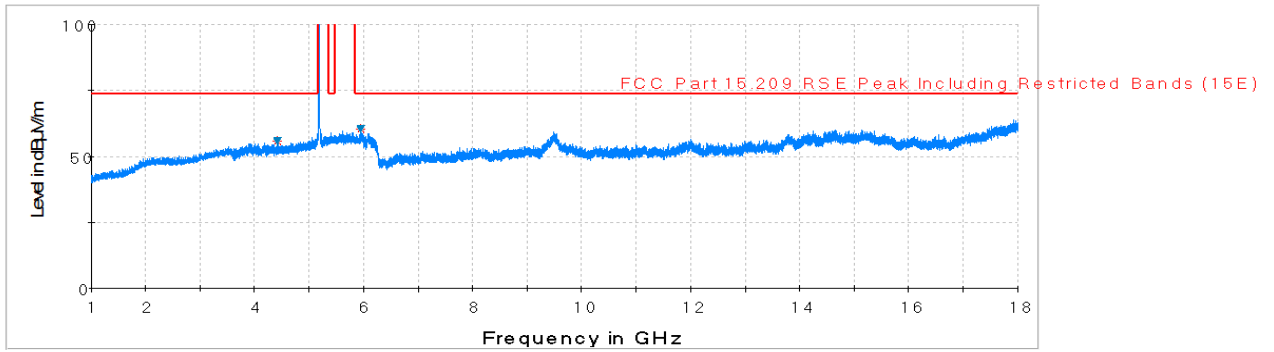
Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	-	-	-111.06	50.39	0.00	46.33	53.98	-7.65
* 11650.00	Peak	H	-	-	-98.28	50.39	0.00	59.11	73.98	-14.87
17475.00	Peak	H	-	-	-100.80	58.96	0.00	65.16	68.20	-3.04
23300.00	Peak	H	-	-	-100.58	44.75	-9.54	41.62	68.20	-26.58
29125.00	Peak	H	-	-	-102.11	48.28	-9.54	43.64	68.20	-24.56

Table 7-39. Radiated Measurements

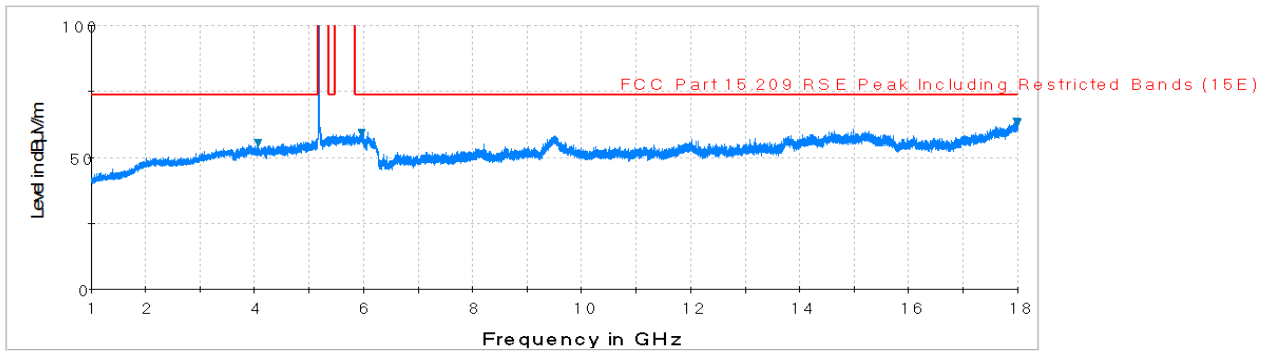
FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 126 of 215	

7.7.2 Antenna-2 Radiated Spurious Emission Measurements



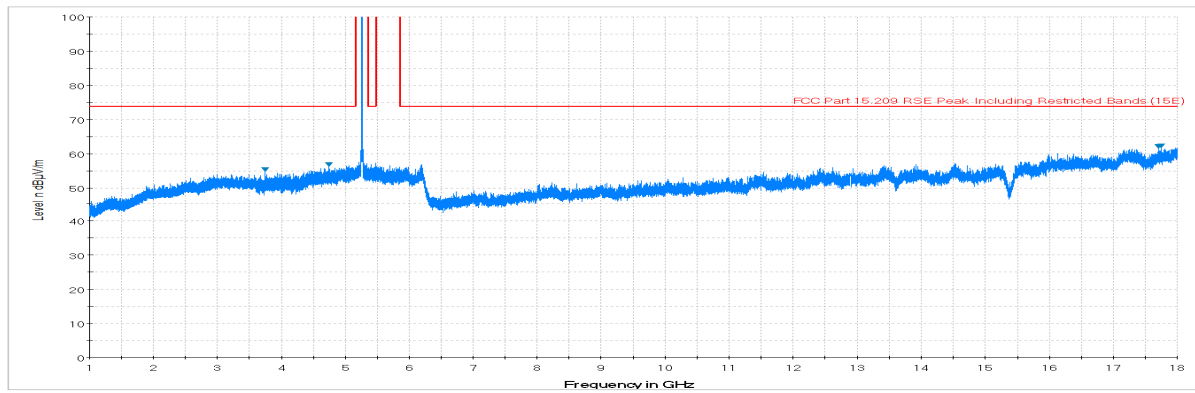
— Preview Result 1-PK+ * Max Peak-PK+
— FCC Part 15.209 RSE Peak Including Restricted Bands (15E) (45dB) PK+

Plot 7-167. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. H)



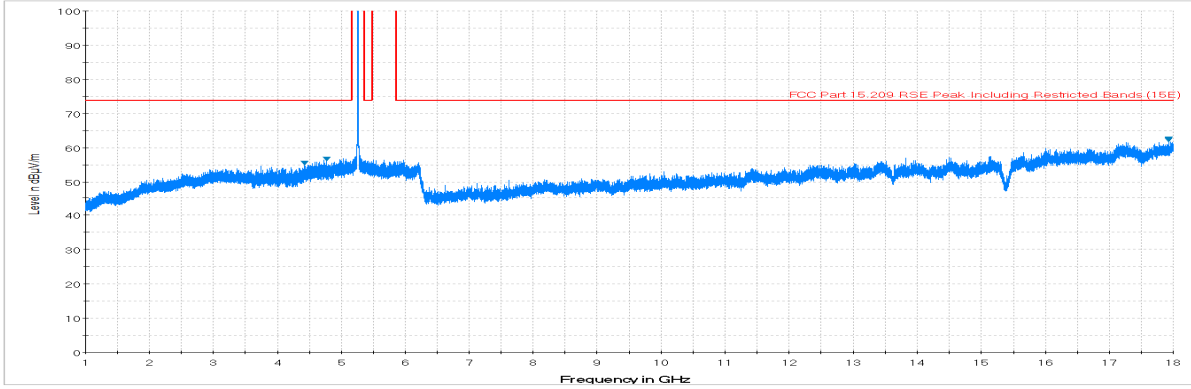
— Preview Result 1-PK+ * Max Peak-PK+
— FCC Part 15.209 RSE Peak Including Restricted Bands (15E) (45dB) PK+

Plot 7-168. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. V)

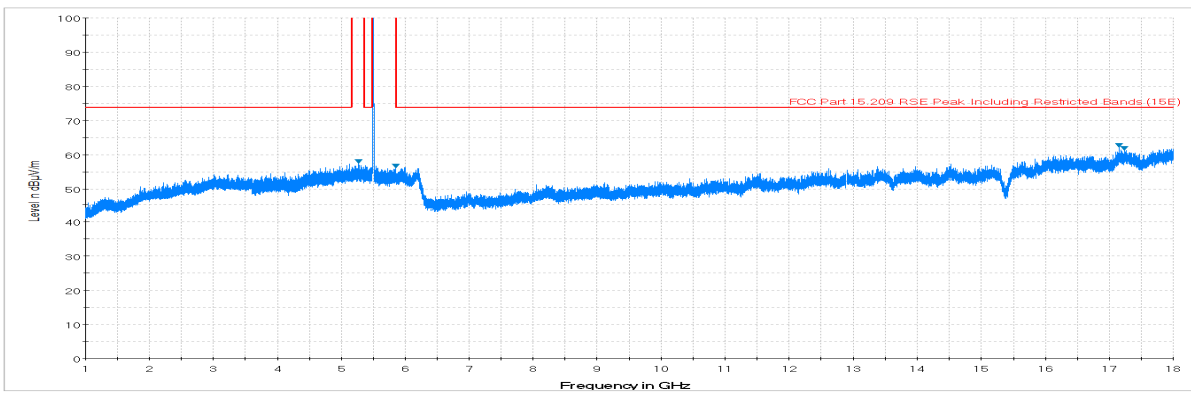


Plot 7-169. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)

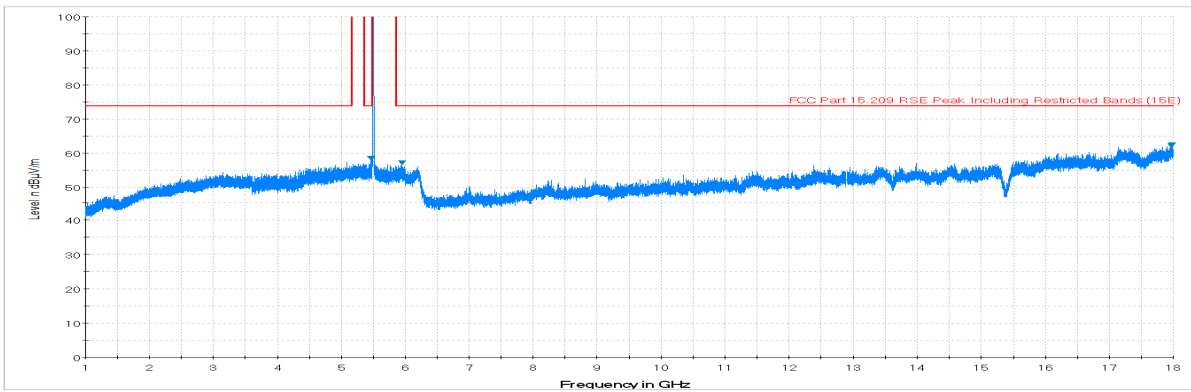
FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 127 of 215



Plot 7-170. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)

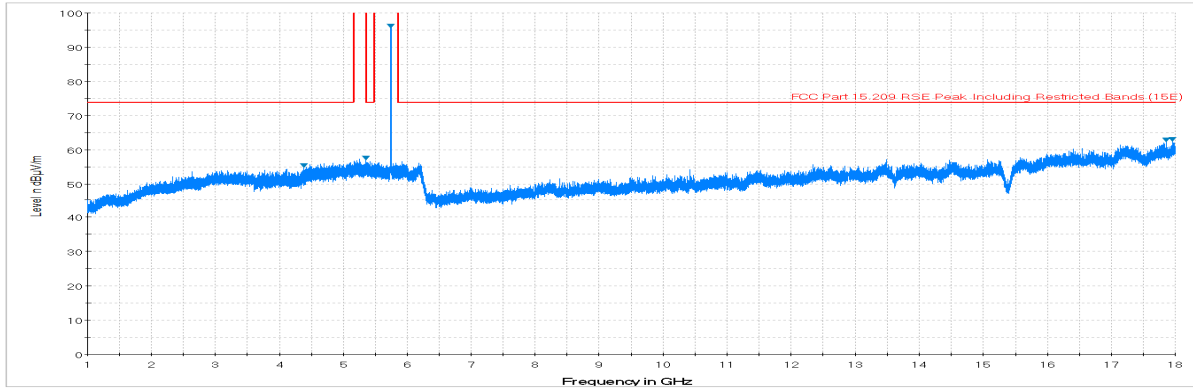


Plot 7-171. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. H)

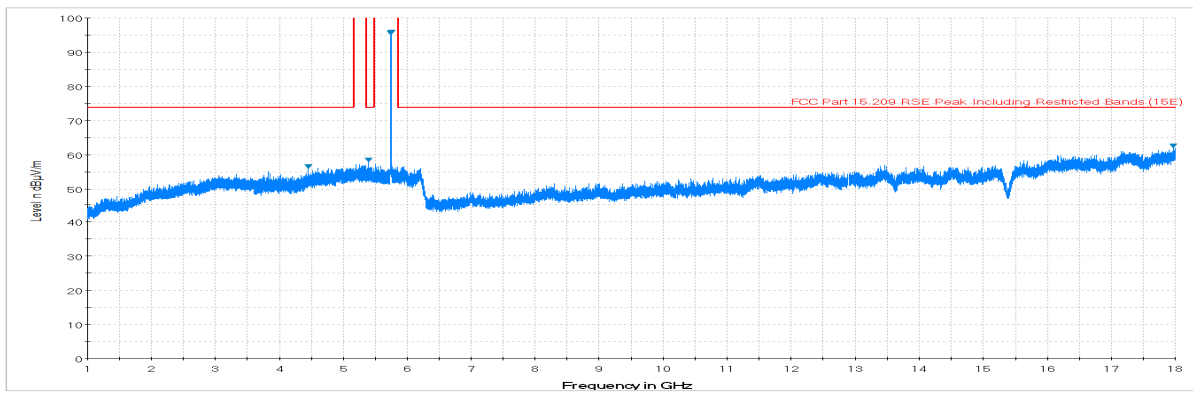


Plot 7-172. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. V)



FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 128 of 215	



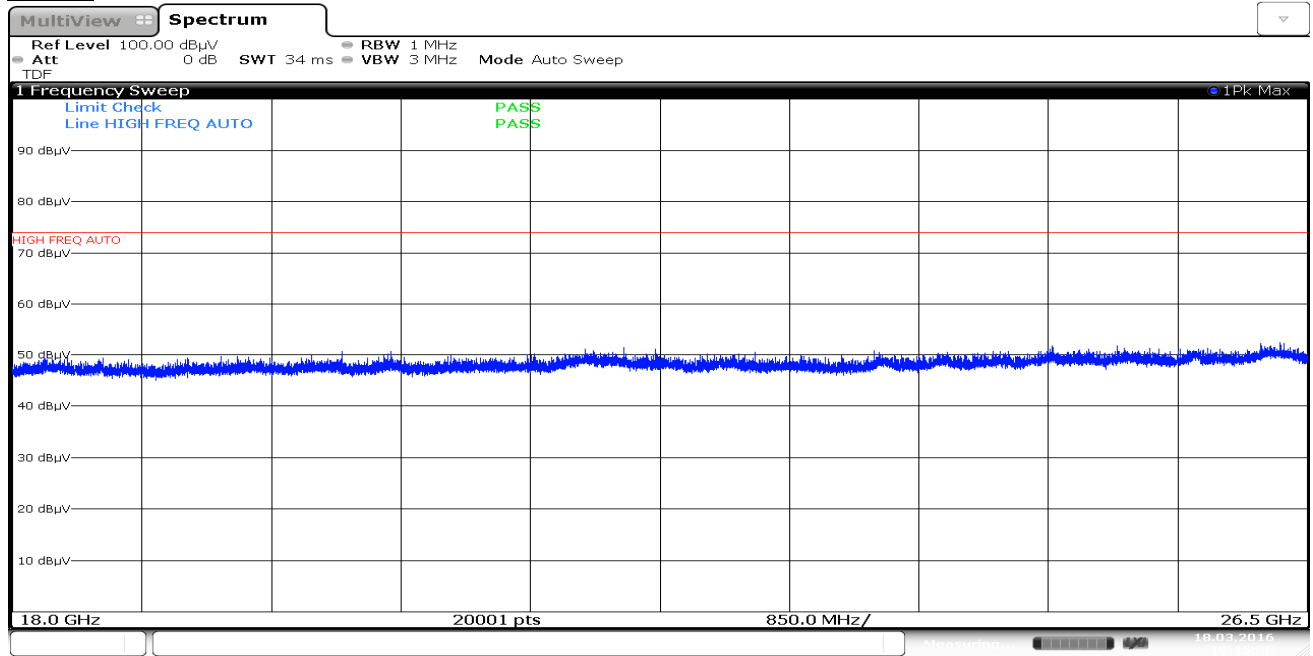
Plot 7-173. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



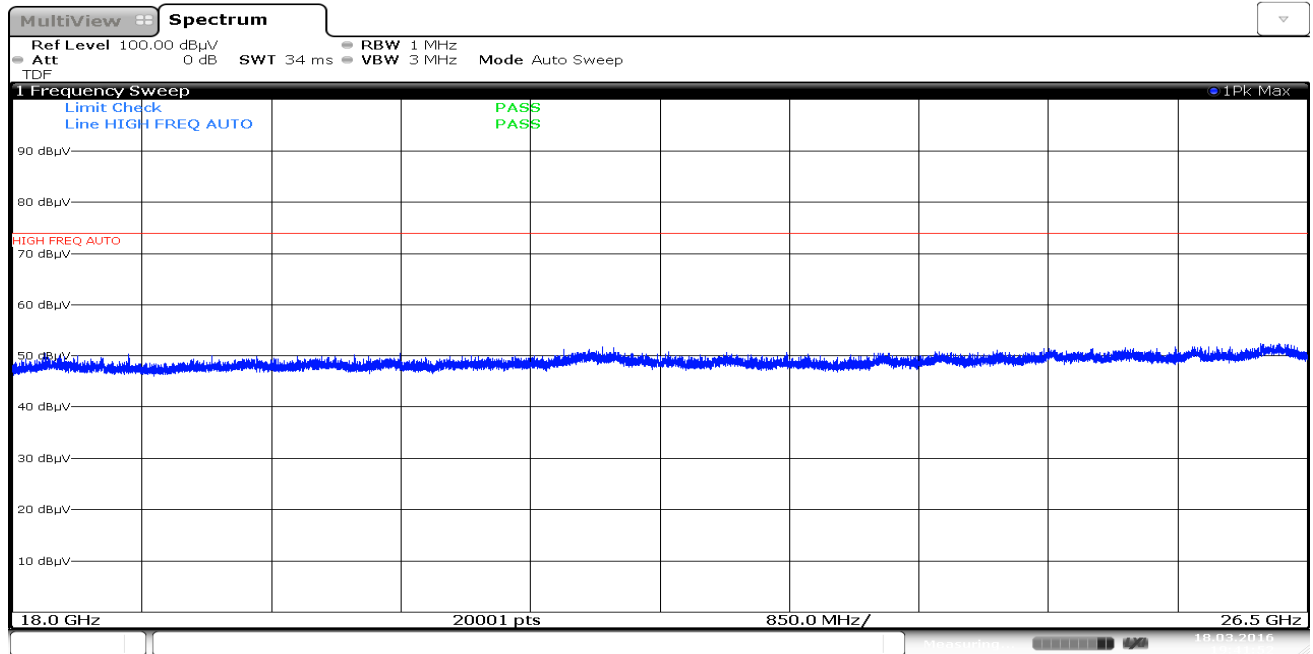
Plot 7-174. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 129 of 215	

Antenna-2 Radiated Spurious Emissions Measurements (Above 18GHz) §15.209



Plot 7-175. Radiated Spurious Plot above 18GHz (802.11a – Ant. Pol. H)



Plot 7-176. Radiated Spurious Plot above 18GHz (802.11a – Ant. Pol. V)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 130 of 215	

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 & 3 Meters
 Operating Frequency: 5180MHz
 Channel: 36



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10360.00	Peak	H	-	-	-98.49	48.29	0.00	56.80	68.20	-11.40
* 15540.00	Average	H	-	-	-111.09	53.40	0.00	49.31	53.98	-4.67
* 15540.00	Peak	H	-	-	-99.41	53.40	0.00	60.99	73.98	-12.99
* 20720.00	Average	H	-	-	-111.21	44.39	-9.54	30.64	53.98	-23.34
* 20720.00	Peak	H	-	-	-101.05	44.39	-9.54	40.80	73.98	-33.18
25900.00	Peak	H	-	-	-99.98	45.11	-9.54	42.59	68.20	-25.61

Table 7-40. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5200MHz
 Channel: 40

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
10400.00	Peak	H	-	-	-98.55	48.33	0.00	56.78	68.20	-11.42
* 15600.00	Average	H	-	-	-111.08	53.41	0.00	49.33	53.98	-4.65
* 15600.00	Peak	H	-	-	-97.97	53.41	0.00	62.44	73.98	-11.54
* 20800.00	Average	H	-	-	-111.14	44.39	-9.54	30.71	53.98	-23.27
* 20800.00	Peak	H	-	-	-100.72	44.39	-9.54	41.13	73.98	-32.85
26000.00	Peak	H	-	-	-100.30	45.12	-9.54	42.27	68.20	-25.93

Table 7-41. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 131 of 215	

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5240MHz
 Channel: 48

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10480.00	Peak	H	-	-	-99.18	48.42	0.00	56.24	68.20	-11.96
* 15720.00	Average	H	-	-	-111.03	53.65	0.00	49.62	53.98	-4.36
* 15720.00	Peak	H	-	-	-99.24	53.65	0.00	61.41	73.98	-12.57
* 20960.00	Average	H	-	-	-110.92	44.31	-9.54	30.85	53.98	-23.13
* 20960.00	Peak	H	-	-	-100.12	44.31	-9.54	41.65	73.98	-32.33
26200.00	Peak	H	-	-	-99.78	45.01	-9.54	42.69	68.20	-25.51

Table 7-42. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5260MHz
 Channel: 52

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10520.00	Peak	H	-	-	-99.67	48.42	0.00	55.75	68.20	-12.45
* 15780.00	Average	H	-	-	-111.89	53.73	0.00	48.83	53.98	-5.14
* 15780.00	Peak	H	-	-	-99.61	53.73	0.00	61.11	73.98	-12.86
* 21040.00	Average	H	-	-	-110.58	44.29	-9.54	31.16	53.98	-22.82
* 21040.00	Peak	H	-	-	-100.30	44.29	-9.54	41.44	73.98	-32.54
26300.00	Peak	H	-	-	-99.17	45.00	-9.54	43.29	68.20	-24.91

Table 7-43. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 132 of 215	

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5280MHz
 Channel: 56



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
10560.00	Peak	H	-	-	-99.58	48.38	0.00	55.79	68.20	-12.41
* 15840.00	Average	H	-	-	-111.95	53.91	0.00	48.96	53.98	-5.01
* 15840.00	Peak	H	-	-	-99.45	53.91	0.00	61.46	73.98	-12.51
* 21120.00	Average	H	-	-	-111.46	44.28	-9.54	30.28	53.98	-23.70
* 21120.00	Peak	H	-	-	-99.38	44.28	-9.54	42.36	73.98	-31.62
26400.00	Peak	H	-	-	-99.33	45.02	-9.54	43.15	68.20	-25.05

Table 7-44. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5320MHz
 Channel: 64

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 10640.00	Average	H	-	-	-110.70	48.32	0.00	44.62	53.98	-9.36
* 10640.00	Peak	H	-	-	-98.53	48.32	0.00	56.79	73.98	-17.19
* 15960.00	Average	H	-	-	-111.58	54.56	0.00	49.98	53.98	-4.00
* 15960.00	Peak	H	-	-	-99.49	54.56	0.00	62.07	73.98	-11.91
* 21280.00	Average	H	-	-	-110.27	44.26	-9.54	31.45	53.98	-22.53
* 21280.00	Peak	H	-	-	-101.07	44.26	-9.54	40.65	73.98	-33.33
26600.00	Peak	H	-	-	-102.12	47.61	-9.54	42.95	68.20	-25.25

Table 7-45. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 133 of 215	

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5500MHz
 Channel: 100



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11000.00	Average	H	-	-	-110.72	49.08	0.00	45.36	53.98	-8.62
* 11000.00	Peak	H	-	-	-98.49	49.08	0.00	57.59	73.98	-16.39
16500.00	Peak	H	-	-	-99.99	54.91	0.00	61.92	68.20	-6.28
22000.00	Peak	H	-	-	-100.05	44.50	-9.54	41.90	68.20	-26.30
27500.00	Peak	H	-	-	-102.33	47.97	-9.54	43.10	68.20	-25.10

Table 7-46. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5600MHz
 Channel: 120

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11200.00	Average	H	-	-	-111.31	49.34	0.00	45.03	53.98	-8.95
* 11200.00	Peak	H	-	-	-98.47	49.34	0.00	57.87	73.98	-16.11
16800.00	Peak	H	-	-	-99.30	57.31	0.00	65.01	68.20	-3.19
* 22400.00	Average	H	-	-	-110.73	44.57	-9.54	31.30	53.98	-22.68
* 22400.00	Peak	H	-	-	-99.54	44.57	-9.54	42.49	73.98	-31.49
28000.00	Peak	H	-	-	-102.66	48.11	-9.54	42.91	68.20	-25.29

Table 7-47. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 134 of 215	

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5720MHz
 Channel: 144



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11440.00	Average	H	-	-	-111.36	49.86	0.00	45.50	53.98	-8.48
* 11440.00	Peak	H	-	-	-98.25	49.86	0.00	58.61	73.98	-15.37
17160.00	Peak	H	-	-	-98.92	57.12	0.00	65.20	68.20	-3.00
* 22880.00	Average	H	-	-	-110.48	44.61	-9.54	31.59	53.98	-22.39
* 22880.00	Peak	H	-	-	-100.64	44.61	-9.54	41.43	73.98	-32.55
28600.00	Peak	H	-	-	-102.24	48.29	-9.54	43.51	68.20	-24.69

Table 7-48. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5745MHz
 Channel: 149

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11490.00	Average	H	-	-	-111.05	50.02	0.00	45.97	53.98	-8.01
* 11490.00	Peak	H	-	-	-98.97	50.02	0.00	58.05	73.98	-15.93
17235.00	Peak	H	-	-	-99.12	57.31	0.00	65.20	68.20	-3.00
* 22980.00	Average	H	-	-	-110.64	44.68	-9.54	31.50	53.98	-22.48
* 22980.00	Peak	H	-	-	-100.64	44.68	-9.54	41.50	73.98	-32.48
28725.00	Peak	H	-	-	-102.08	48.26	-9.54	43.64	68.20	-24.56

Table 7-49. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 135 of 215	

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5785MHz
 Channel: 157



Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11570.00	Average	H	-	-	-110.62	50.27	0.00	46.66	53.98	-7.32
* 11570.00	Peak	H	-	-	-98.79	50.27	0.00	58.49	73.98	-15.49
17355.00	Peak	H	-	-	-99.73	57.92	0.00	65.19	68.20	-3.01
23140.00	Peak	H	-	-	-98.78	44.75	-9.54	43.43	68.20	-24.77
28925.00	Peak	H	-	-	-101.83	48.29	-9.54	43.92	68.20	-24.28

Table 7-50. Radiated Measurements

Worst Case Mode: 802.11a
 Worst Case Transfer Rate: 6 Mbps
 Distance of Measurements: 1 & 3 Meters
 Operating Frequency: 5825MHz
 Channel: 165

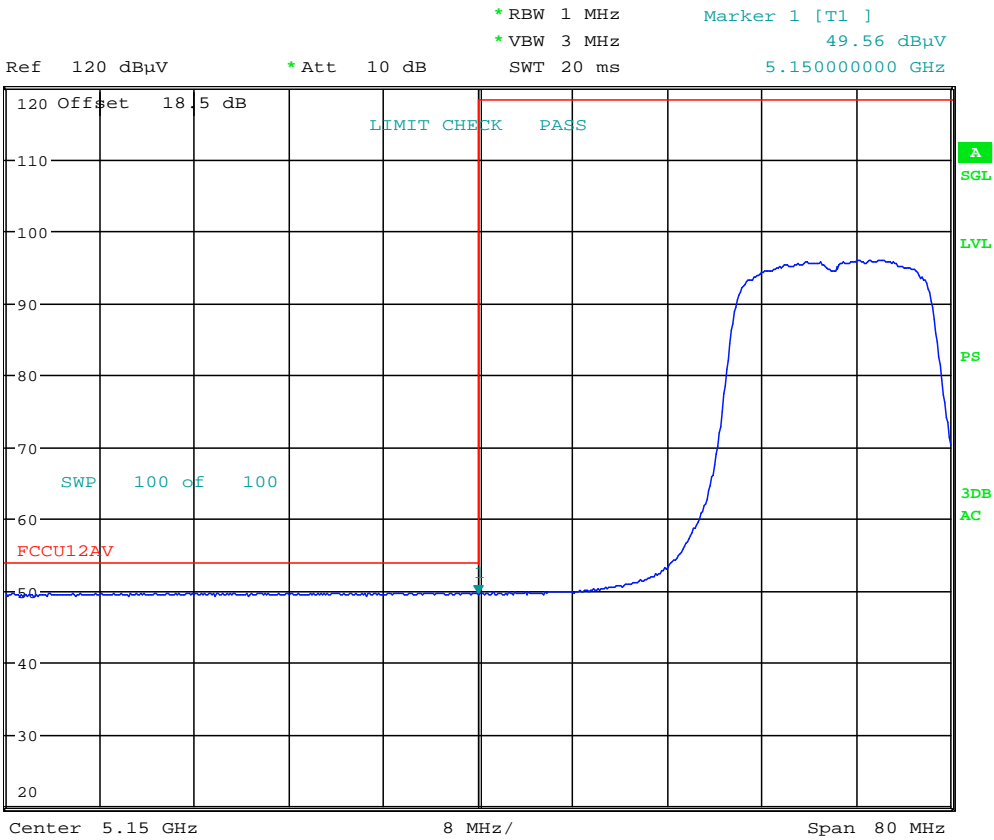
Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBμV/m]	Limit [dBμV/m]	Margin [dB]
* 11650.00	Average	H	-	-	-110.41	50.39	0.00	46.98	53.98	-7.00
* 11650.00	Peak	H	-	-	-98.23	50.39	0.00	59.16	73.98	-14.82
17475.00	Peak	H	-	-	-100.82	58.96	0.00	65.14	68.20	-3.06
23300.00	Peak	H	-	-	-99.78	44.75	-9.54	42.42	68.20	-25.78
29125.00	Peak	H	-	-	-101.43	48.28	-9.54	44.32	68.20	-23.88

Table 7-51. Radiated Measurements

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 136 of 215	

7.7.3 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

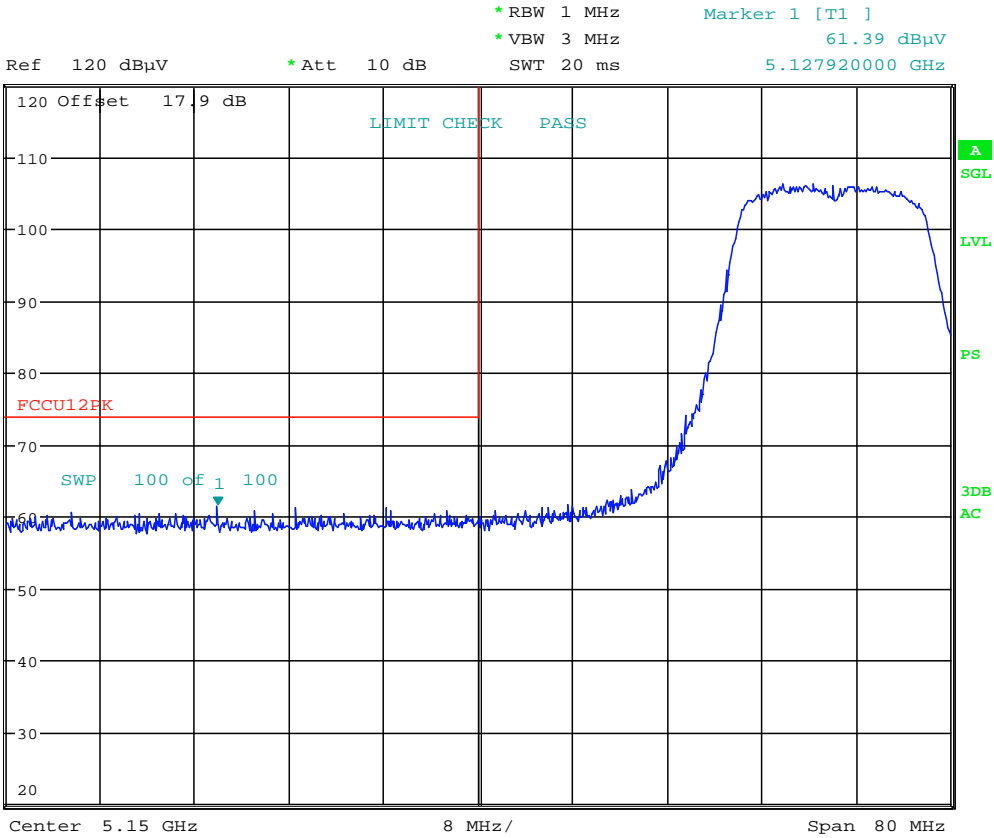


Date: 10.MAR.2016 12:25:17

Plot 7-177. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 137 of 215	

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



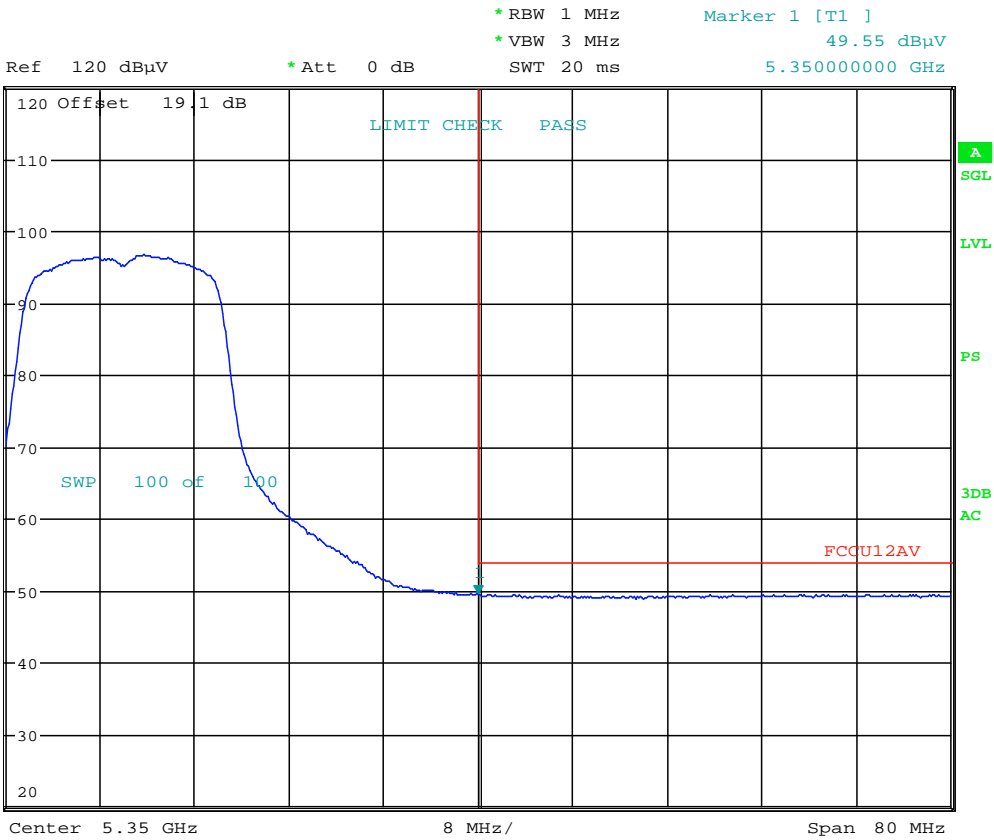
Date: 10.MAR.2016 11:53:28

Plot 7-178. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 138 of 215	

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

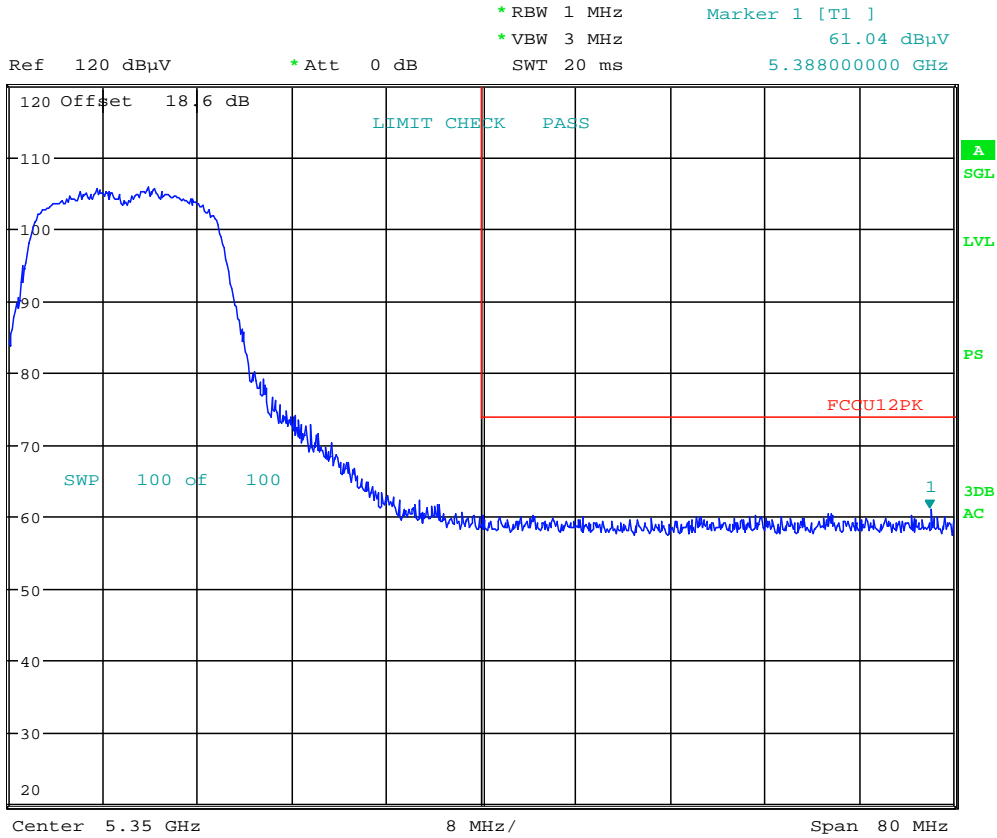


Date: 10.MAR.2016 13:33:14

Plot 7-179. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)



FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 139 of 215

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



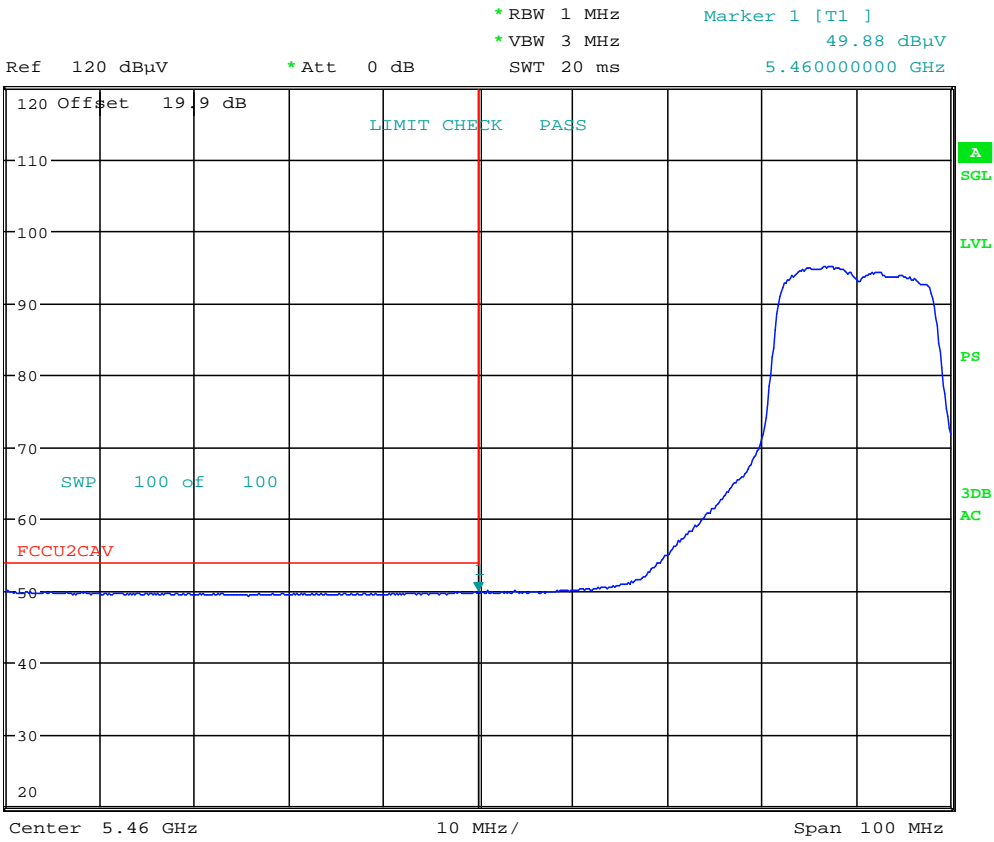
Date: 10.MAR.2016 13:29:21

Plot 7-180. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 140 of 215	

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

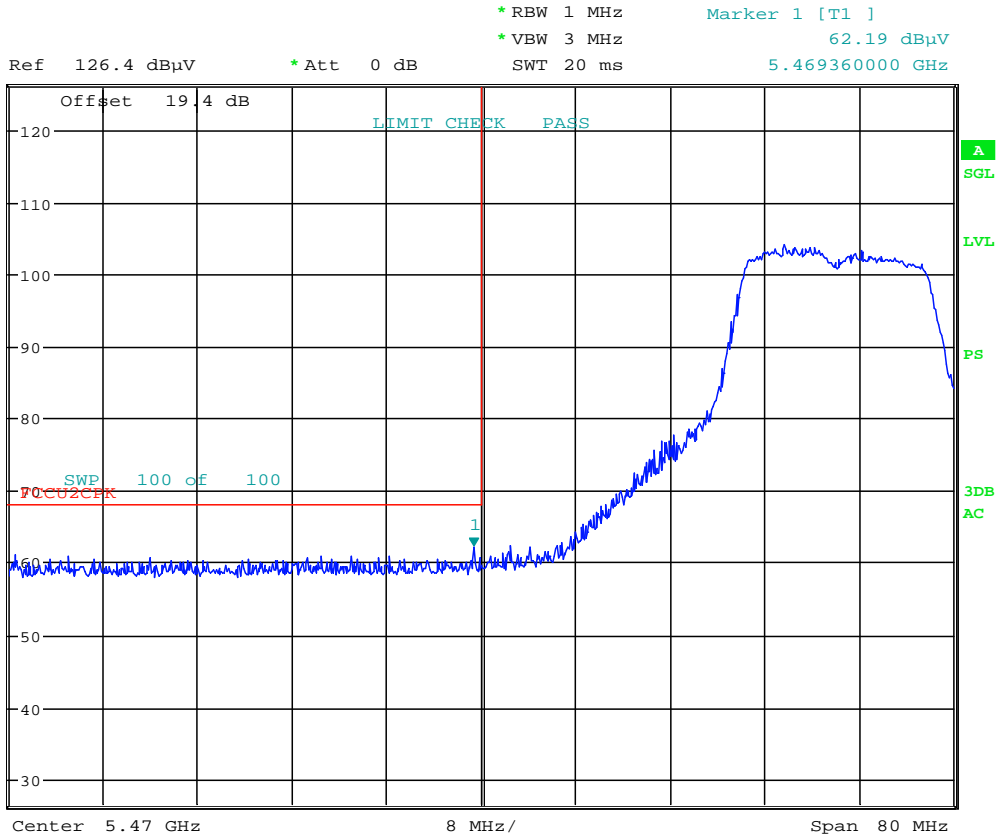


Date: 10.MAR.2016 14:42:26

Plot 7-181. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 141 of 215	

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



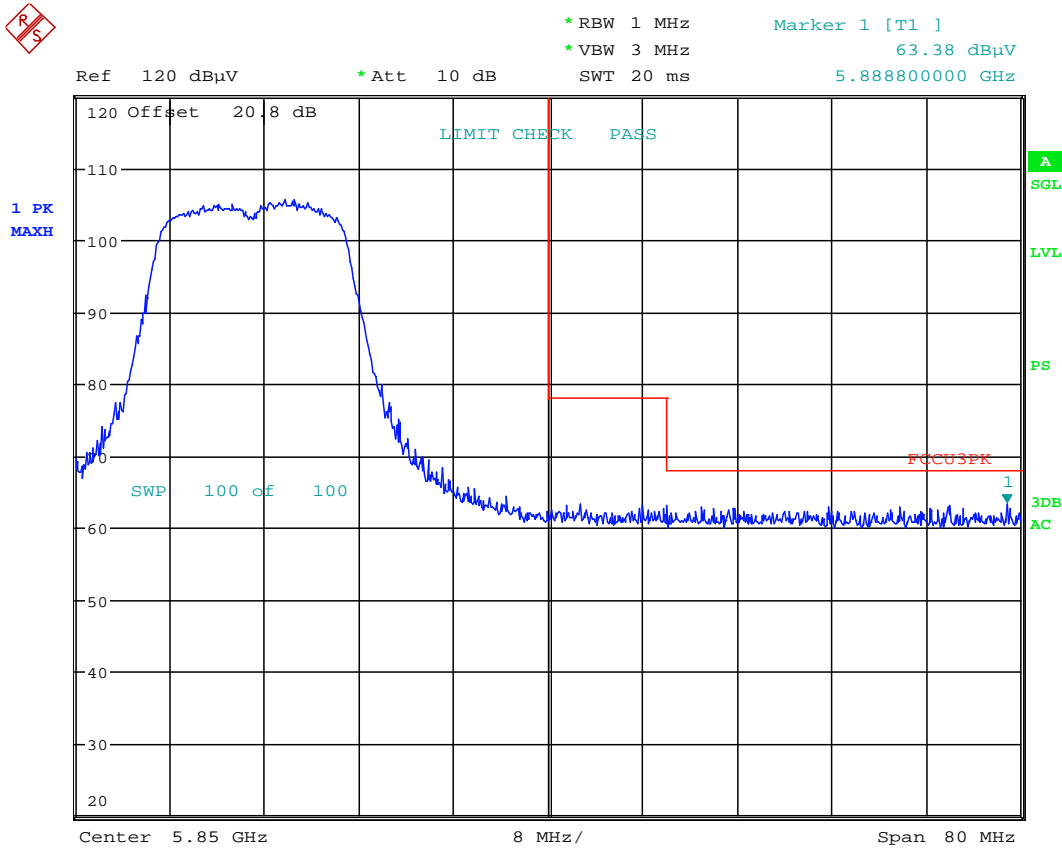
Date: 10.MAR.2016 14:27:07

Plot 7-182. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 142 of 215	

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



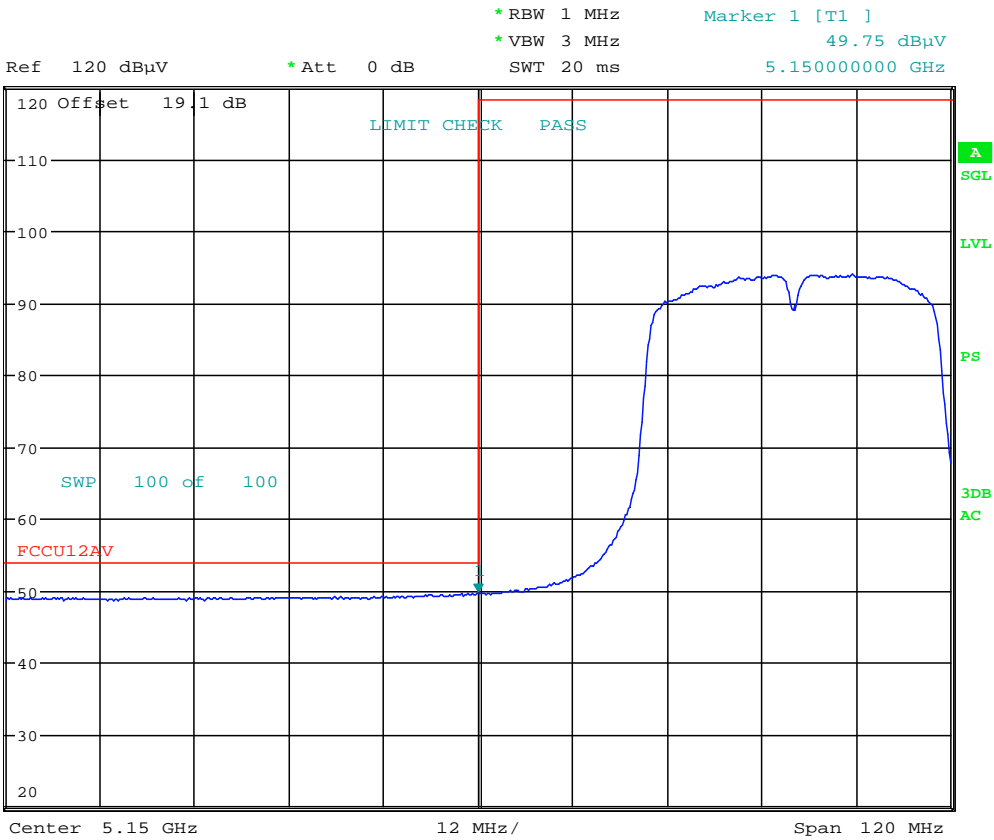
Date: 10.MAR.2016 15:41:30

Plot 7-183. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 143 of 215	

7.7.4 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

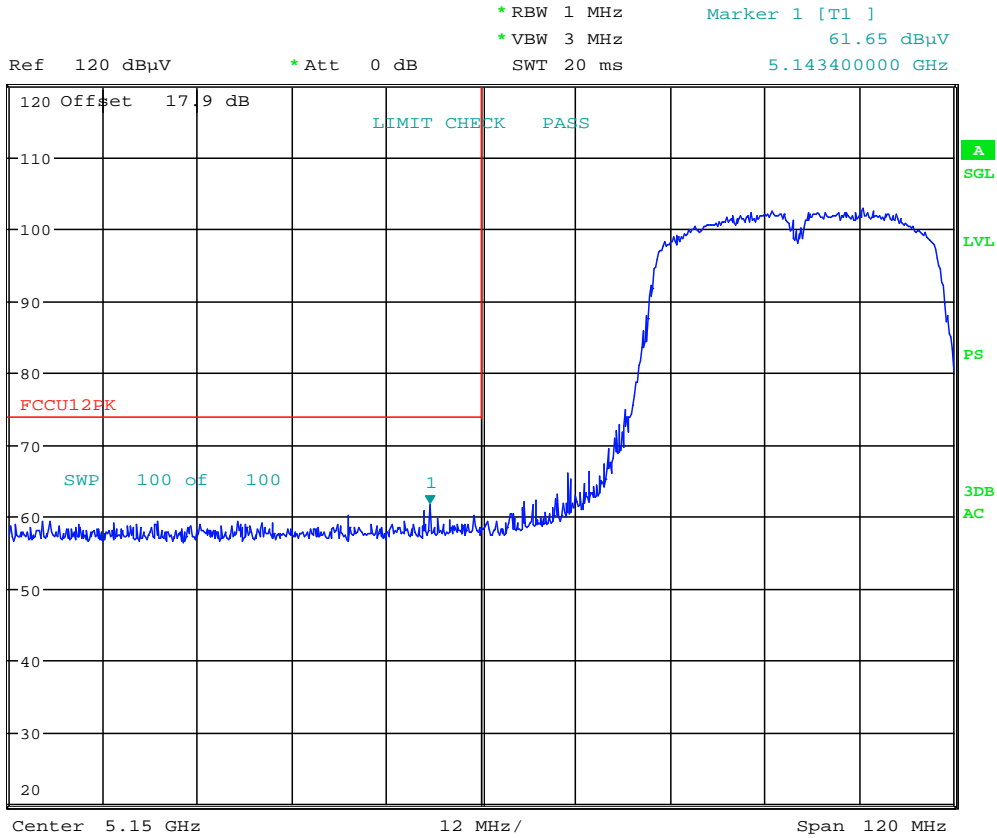


Date: 10.MAR.2016 12:40:34

Plot 7-184. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 144 of 215	

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



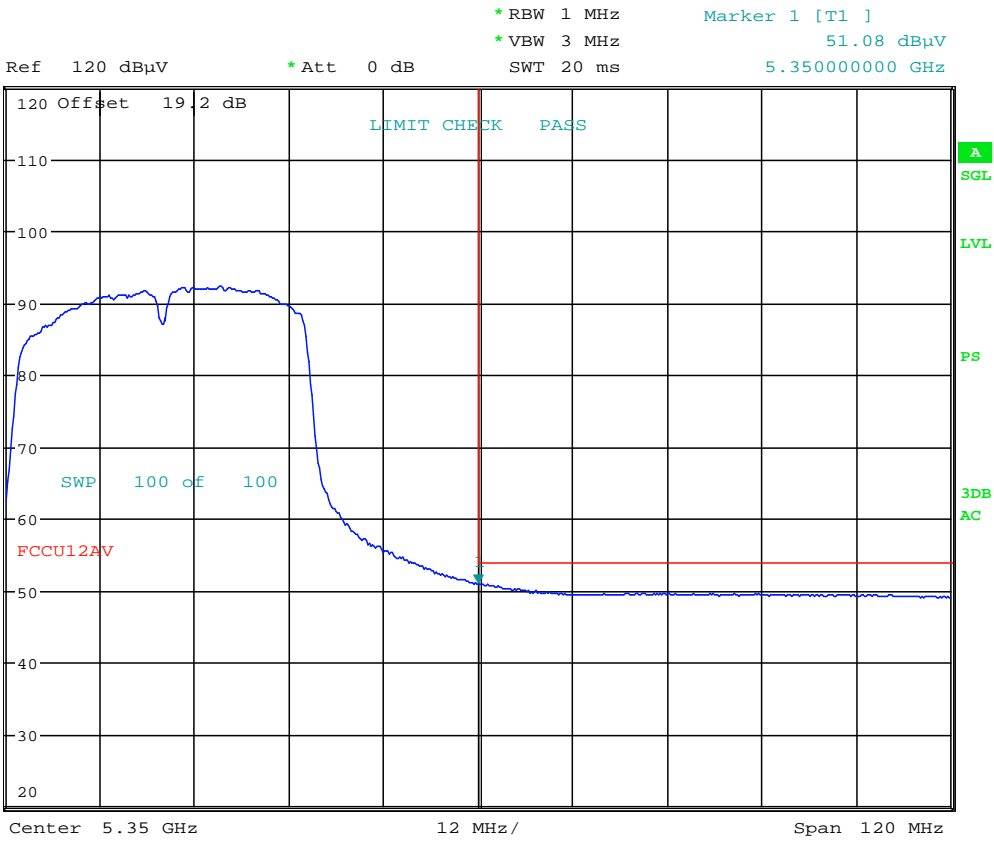
Date: 10.MAR.2016 12:41:43

Plot 7-185. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 145 of 215	

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

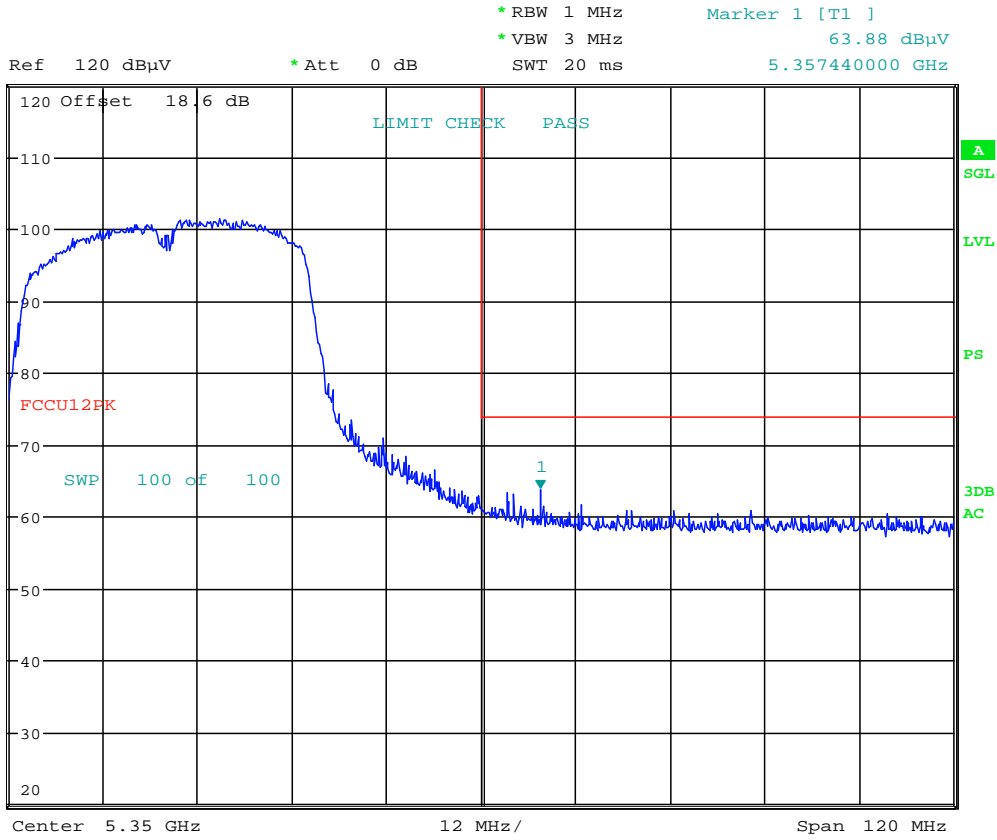


Date: 10.MAR.2016 13:40:31

Plot 7-186. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 146 of 215	

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



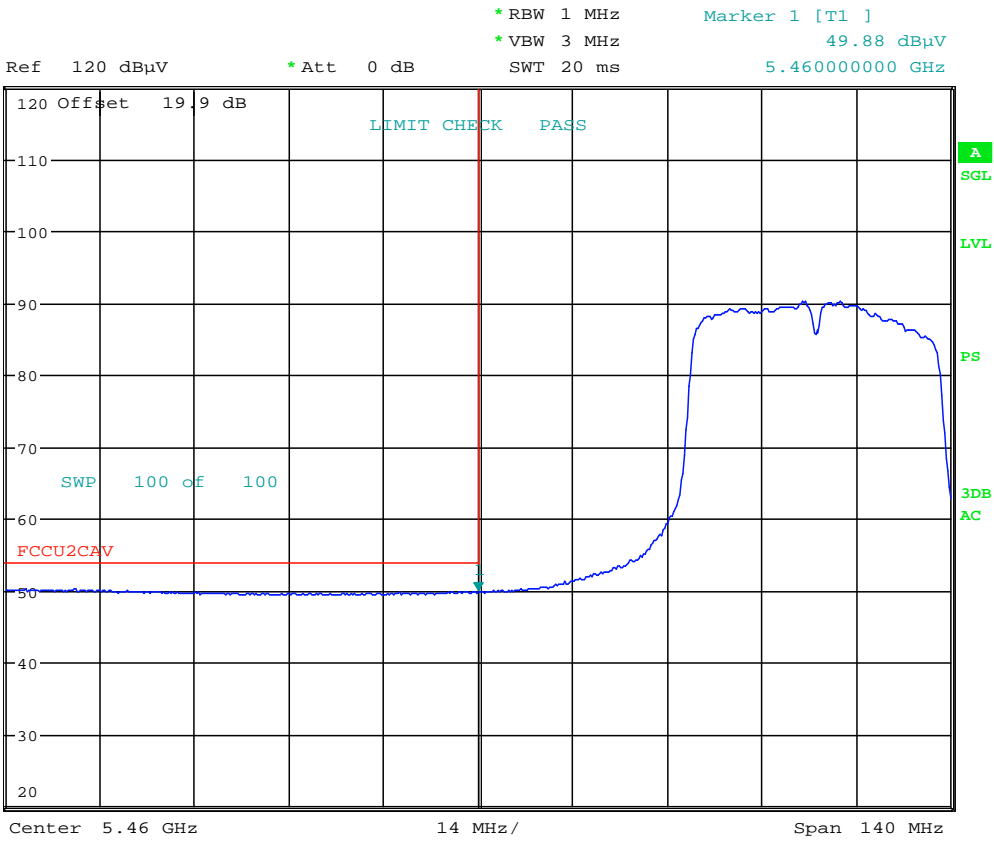
Date: 10.MAR.2016 13:42:33

Plot 7-187. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 147 of 215	

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

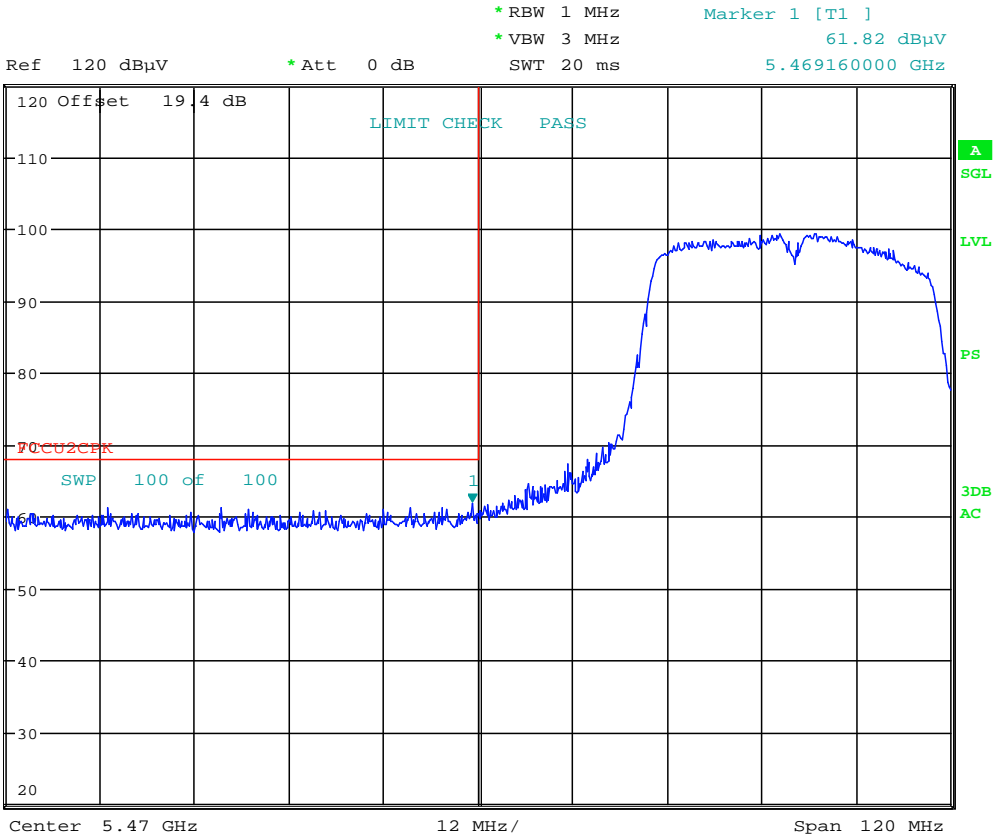


Date: 10.MAR.2016 14:51:18

Plot 7-188. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 148 of 215	

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



Date: 10.MAR.2016 14:49:40

Plot 7-189. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 149 of 215	

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

§15.407(b.1)(b.2) §15.205 §15.209

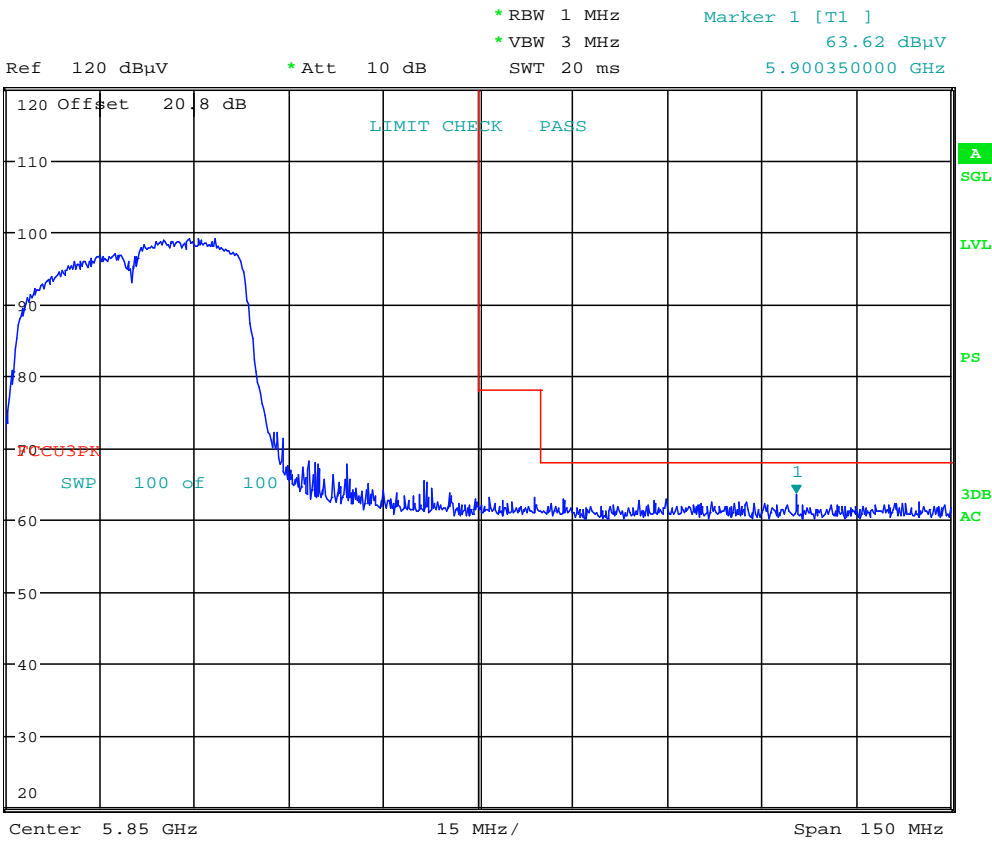
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5795MHz

Channel: 159



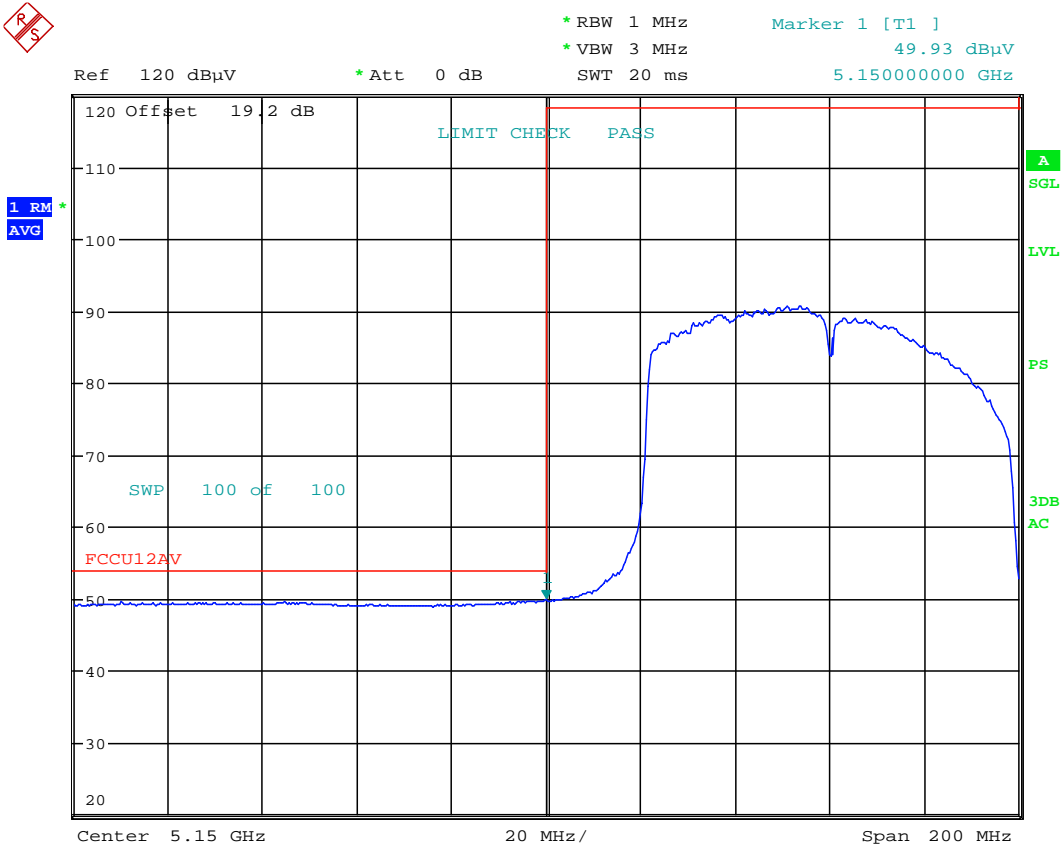
Date: 10.MAR.2016 15:43:16

Plot 7-190. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 150 of 215	

7.7.5 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

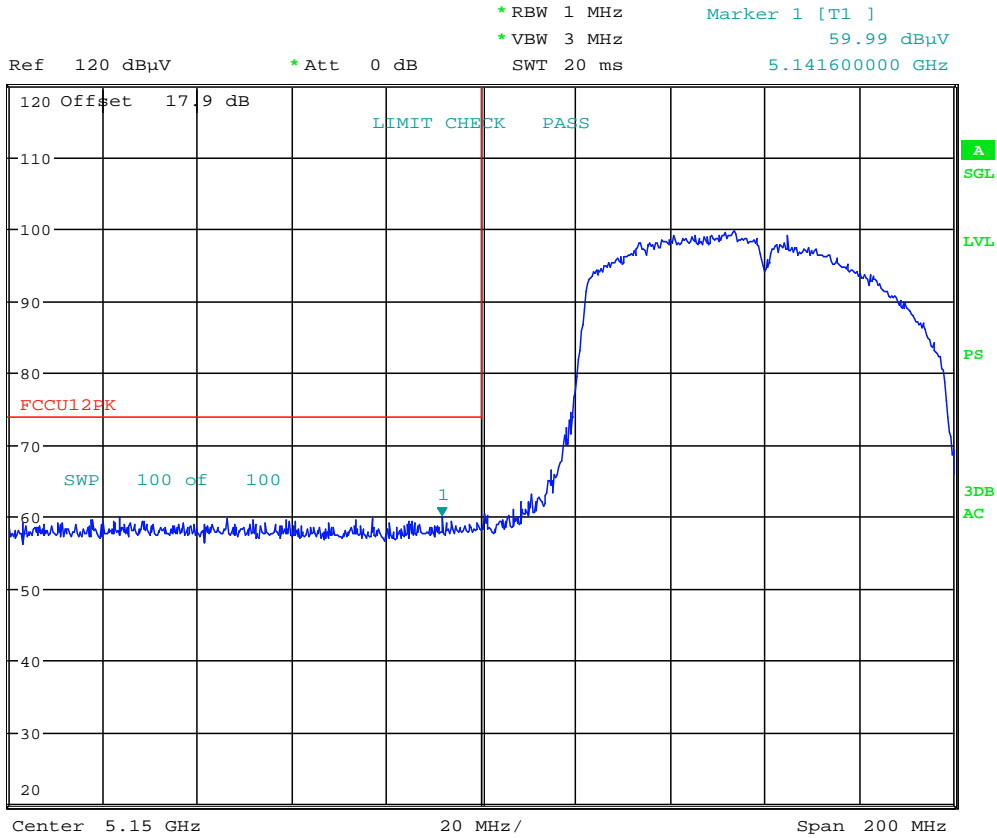


Date: 10.MAR.2016 12:47:45

Plot 7-191. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 151 of 215	

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



Date: 10.MAR.2016 12:46:17

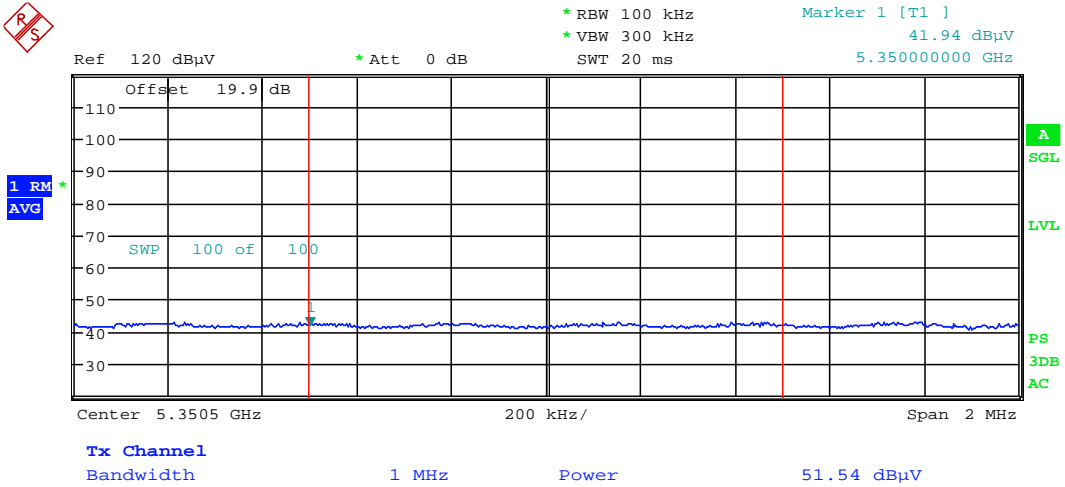
Plot 7-192. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 152 of 215	

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

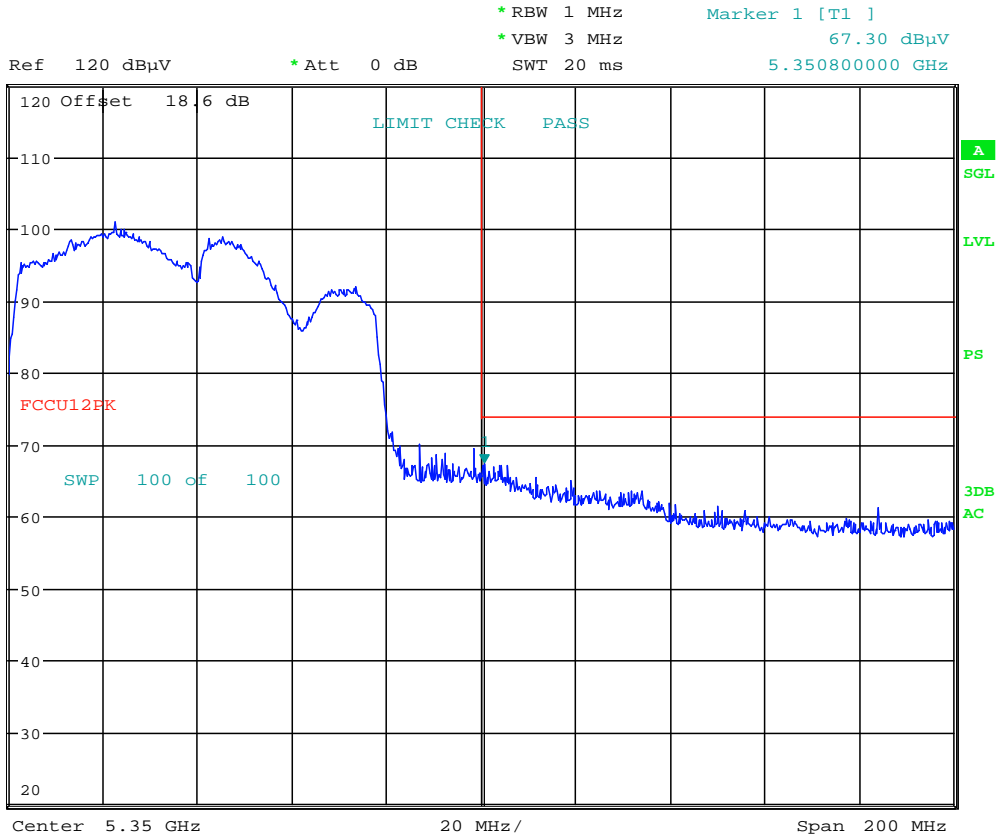


Date: 10.MAR.2016 14:09:35

Plot 7-193. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 153 of 215	

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



Date: 10.MAR.2016 13:51:57

Plot 7-194. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 154 of 215	

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

§15.407(b.1)(b.2) §15.205 §15.209

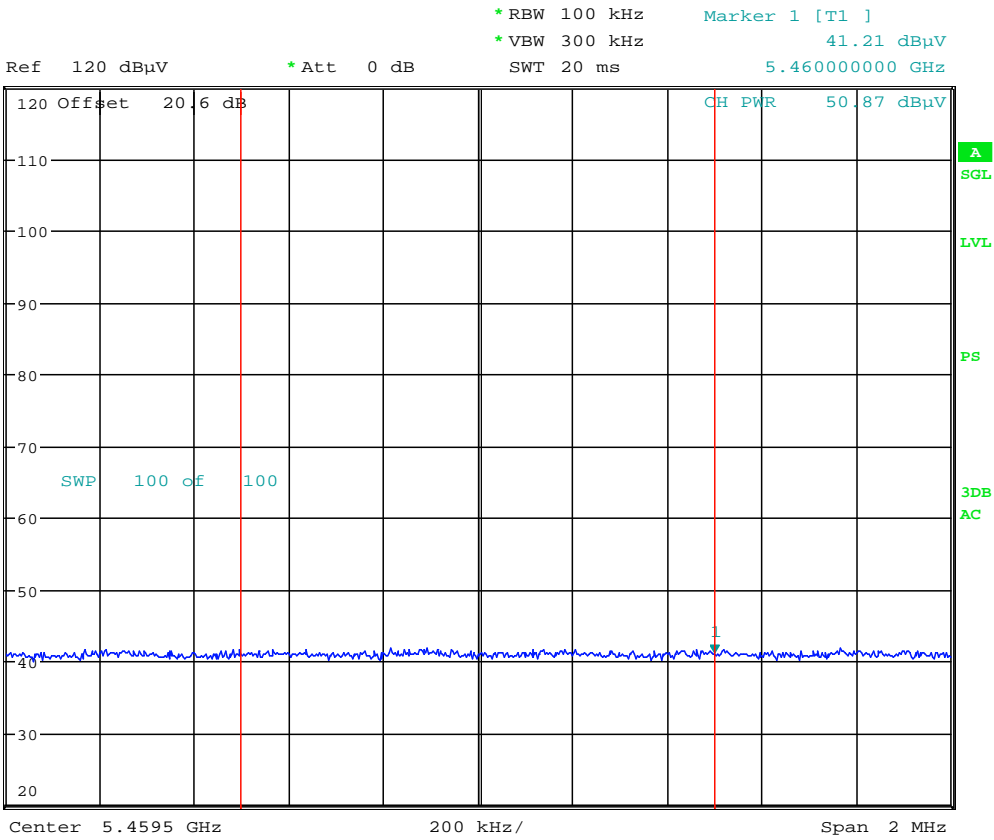
Worst Case Mode: 802.11ac (80MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5530MHz

Channel: 106

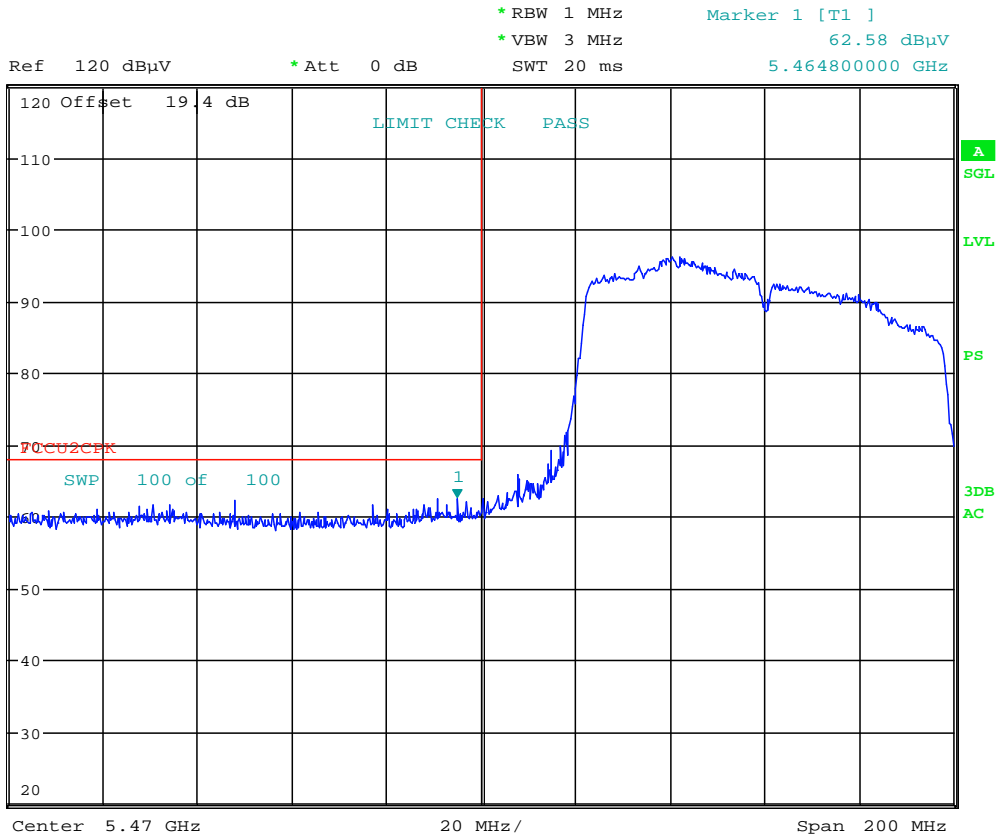


Date: 10.MAR.2016 15:22:55

Plot 7-195. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 155 of 215	

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



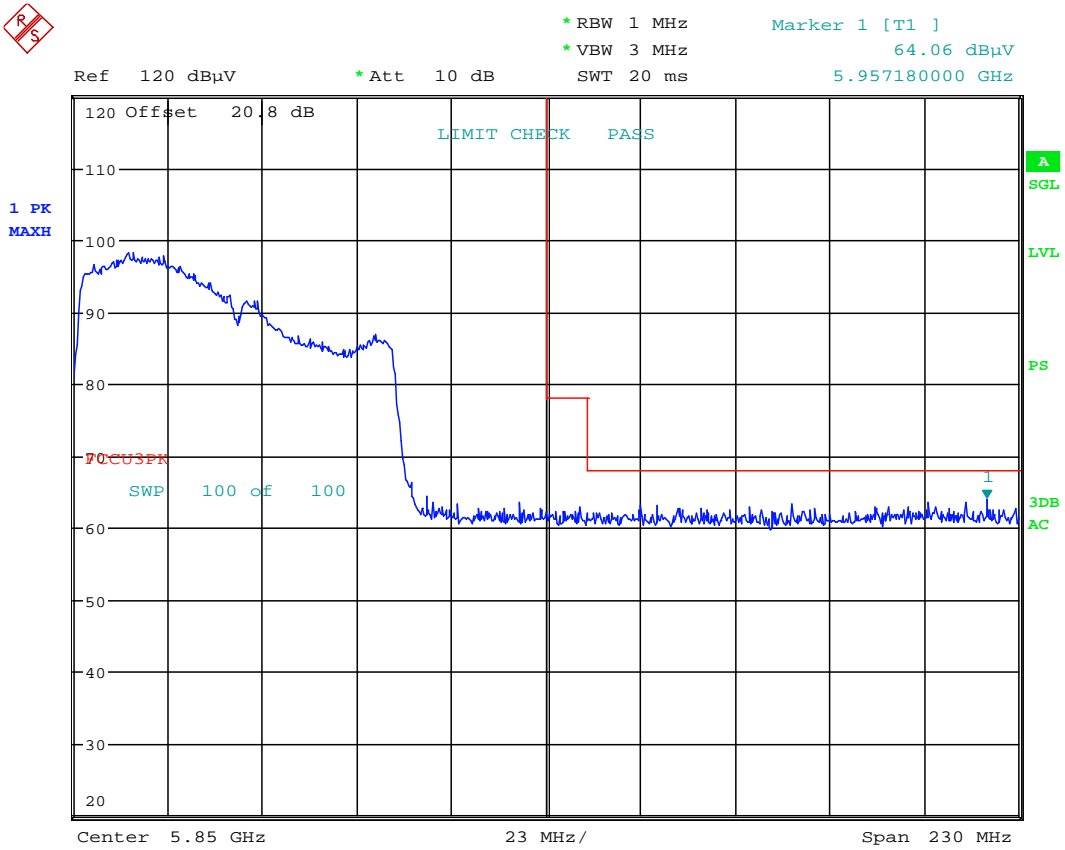
Date: 10.MAR.2016 15:24:43

Plot 7-196. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 156 of 215	

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



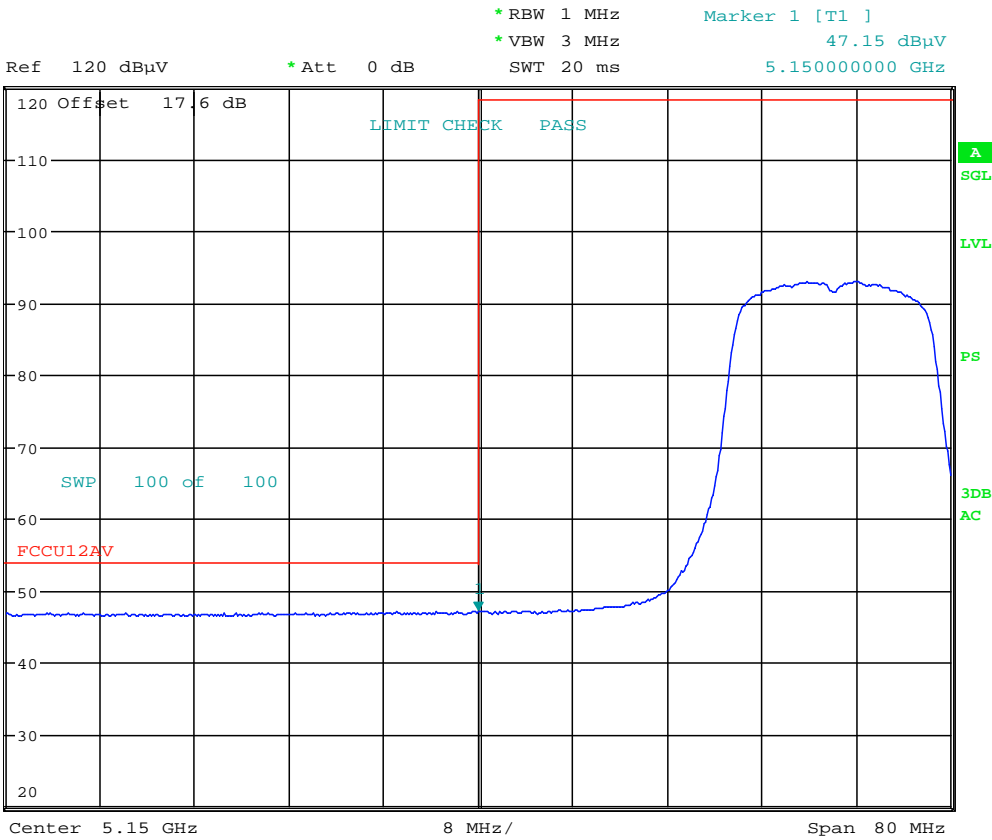
Date: 10.MAR.2016 15:50:30

Plot 7-197. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 157 of 215	

7.7.6 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

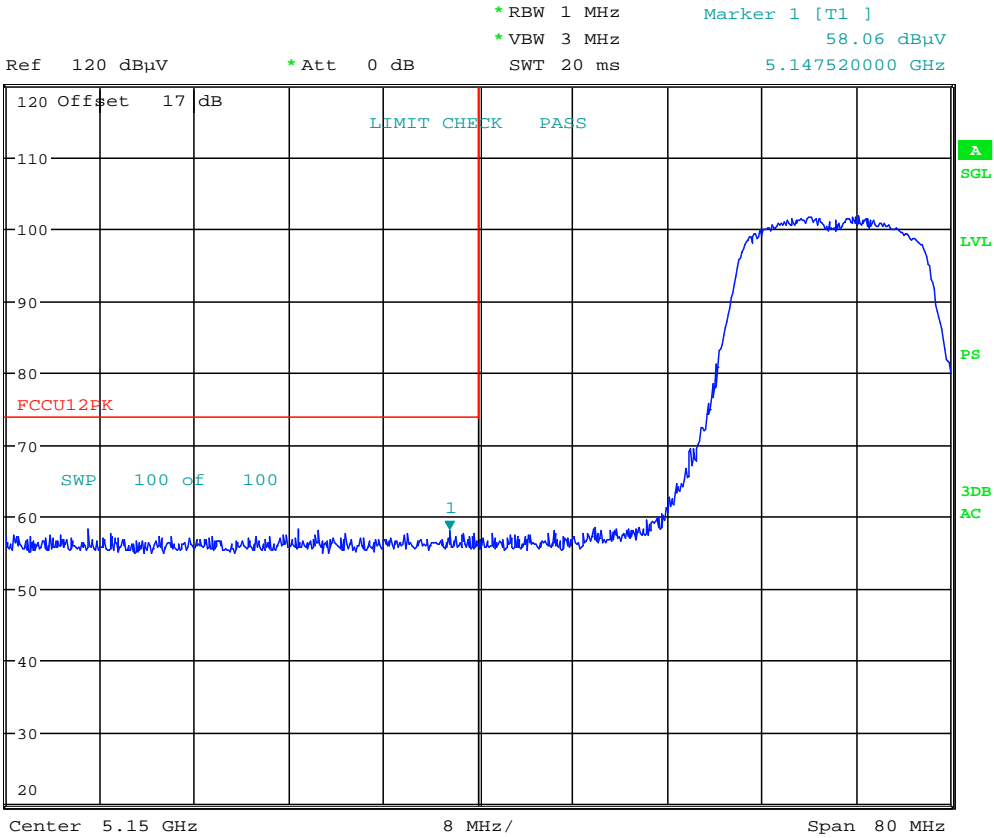


Date: 15.MAR.2016 16:26:35

Plot 7-198. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 158 of 215	

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



Date: 15.MAR.2016 16:25:24

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

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 159 of 215	

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

§15.407(b.1)(b.2) §15.205 §15.209

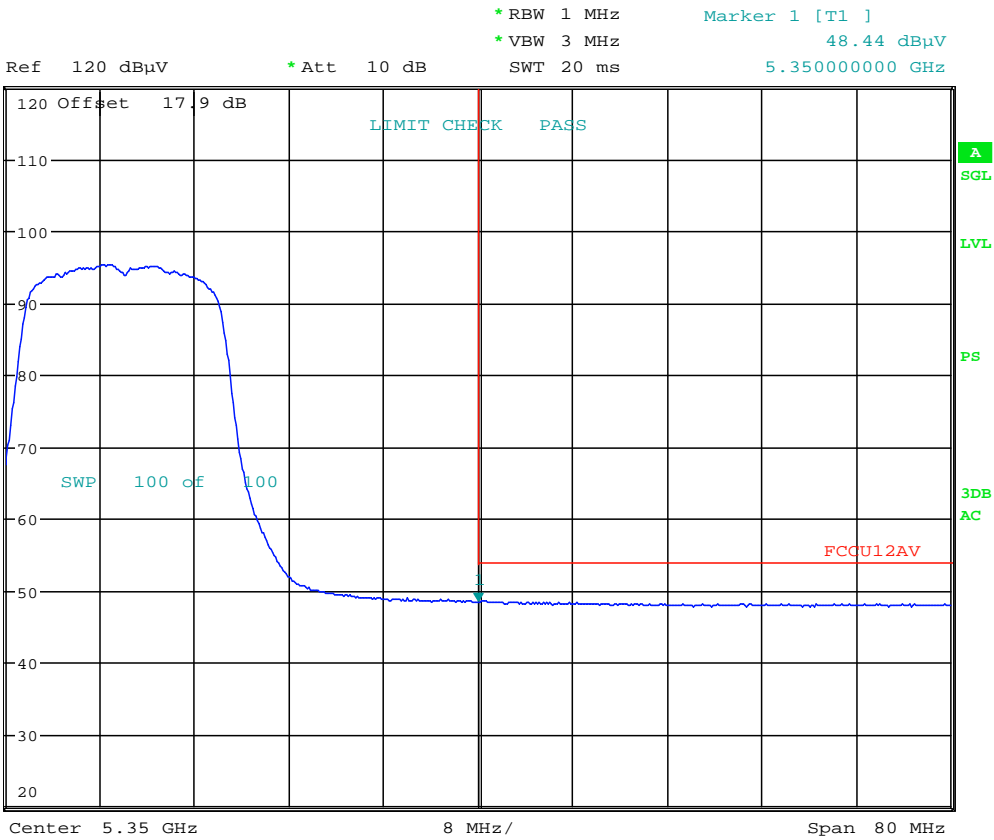
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64

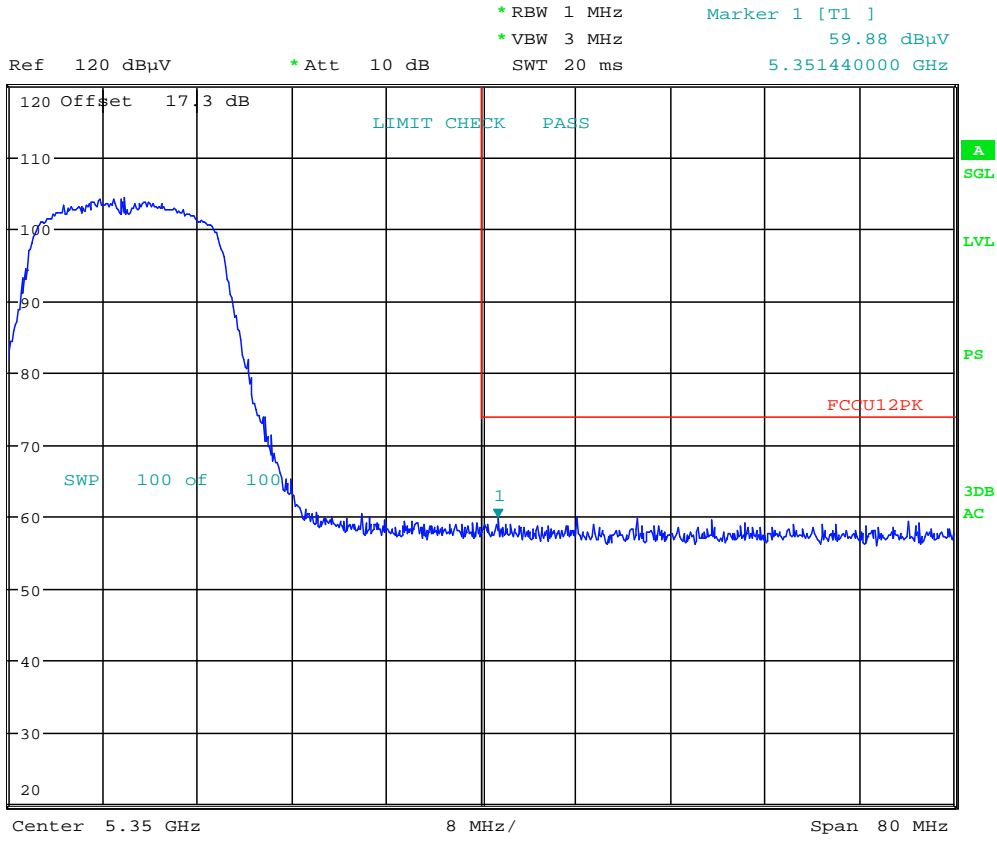


Date: 15.MAR.2016 16:55:33

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

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 160 of 215	

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



Date: 15.MAR.2016 16:56:16

Plot 7-201. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 161 of 215	

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

§15.407(b.1)(b.2) §15.205 §15.209

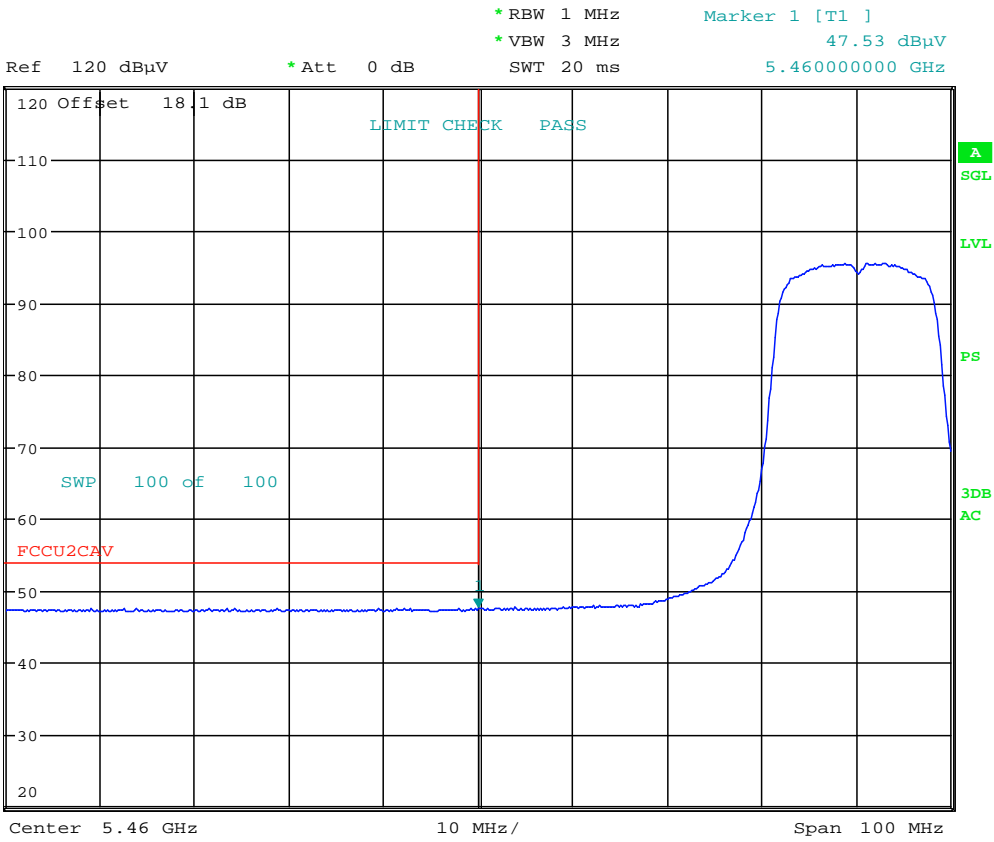
Worst Case Mode: 802.11a

Worst Case Transfer Rate: 6 Mbps

Distance of Measurements: 3 Meters

Operating Frequency: 5500MHz

Channel: 100

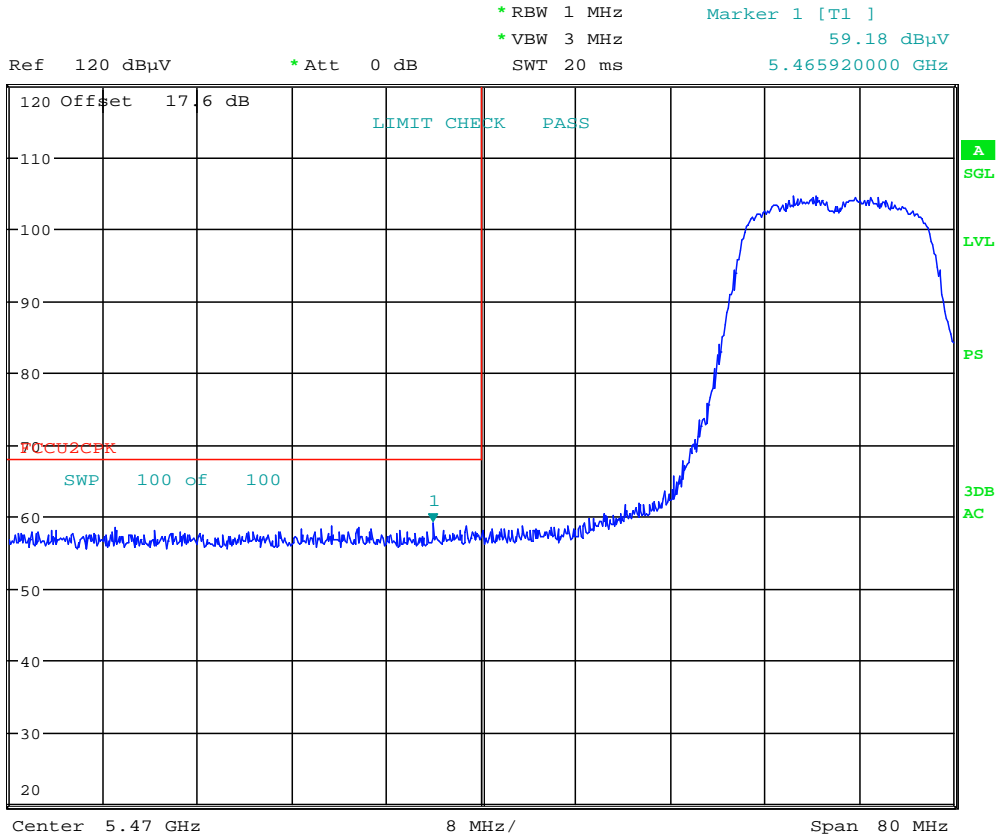


Date: 15.MAR.2016 17:11:50

Plot 7-202. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 162 of 215	

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



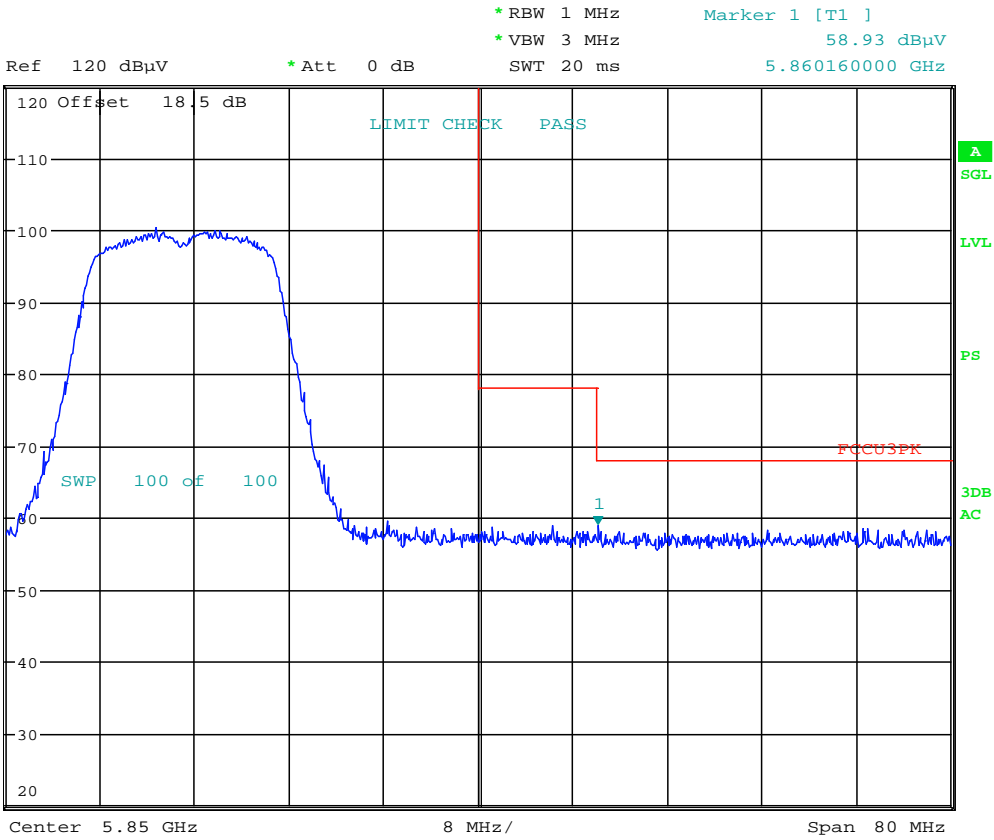
Date: 15.MAR.2016 17:10:34

Plot 7-203. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 163 of 215	

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



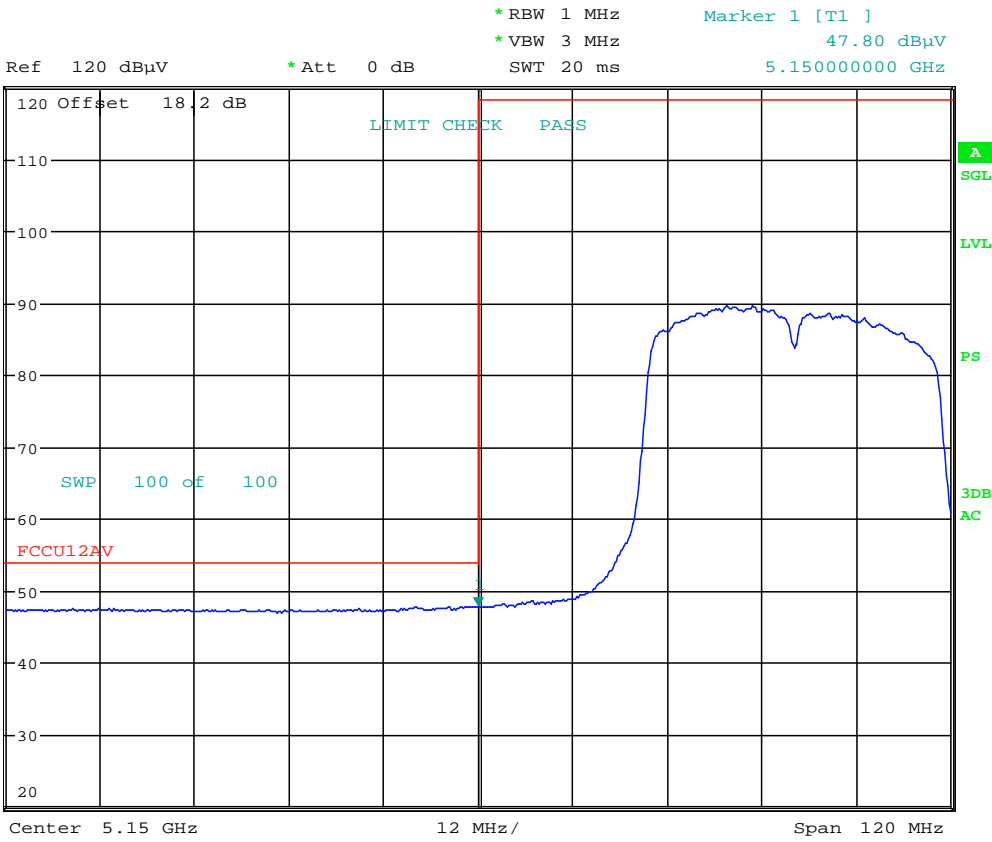
Date: 15.MAR.2016 17:25:09

Plot 7-204. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 164 of 215

7.7.7 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

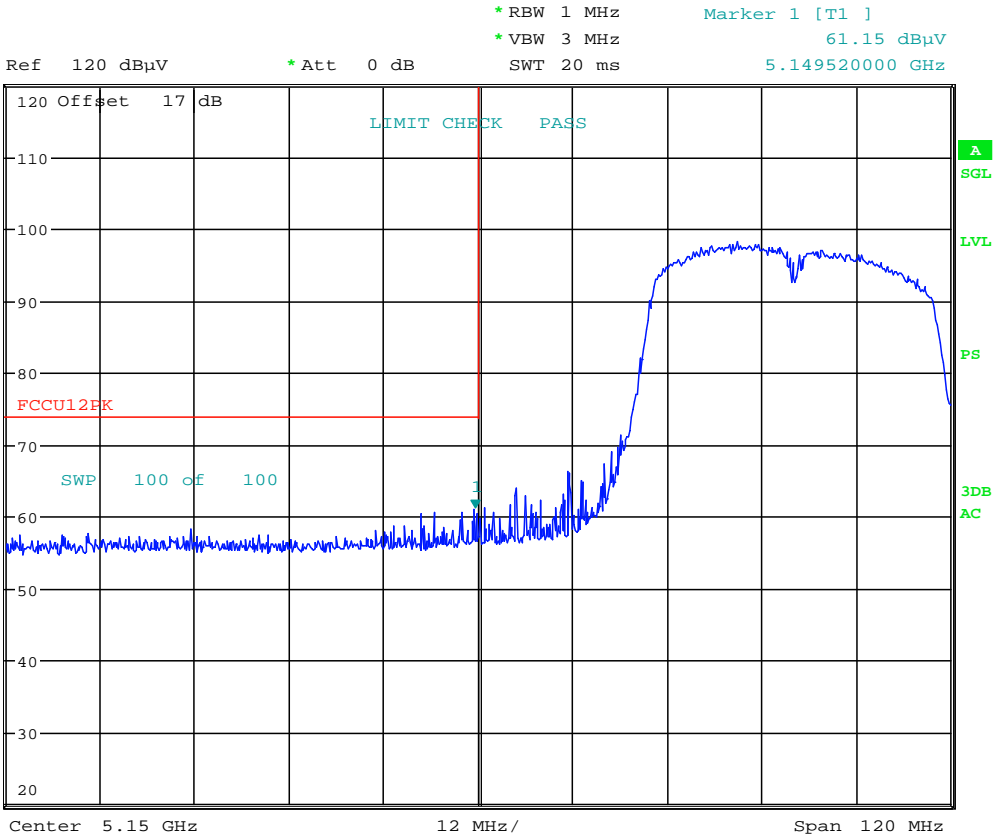


Date: 15.MAR.2016 16:29:36

Plot 7-205. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 165 of 215	

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



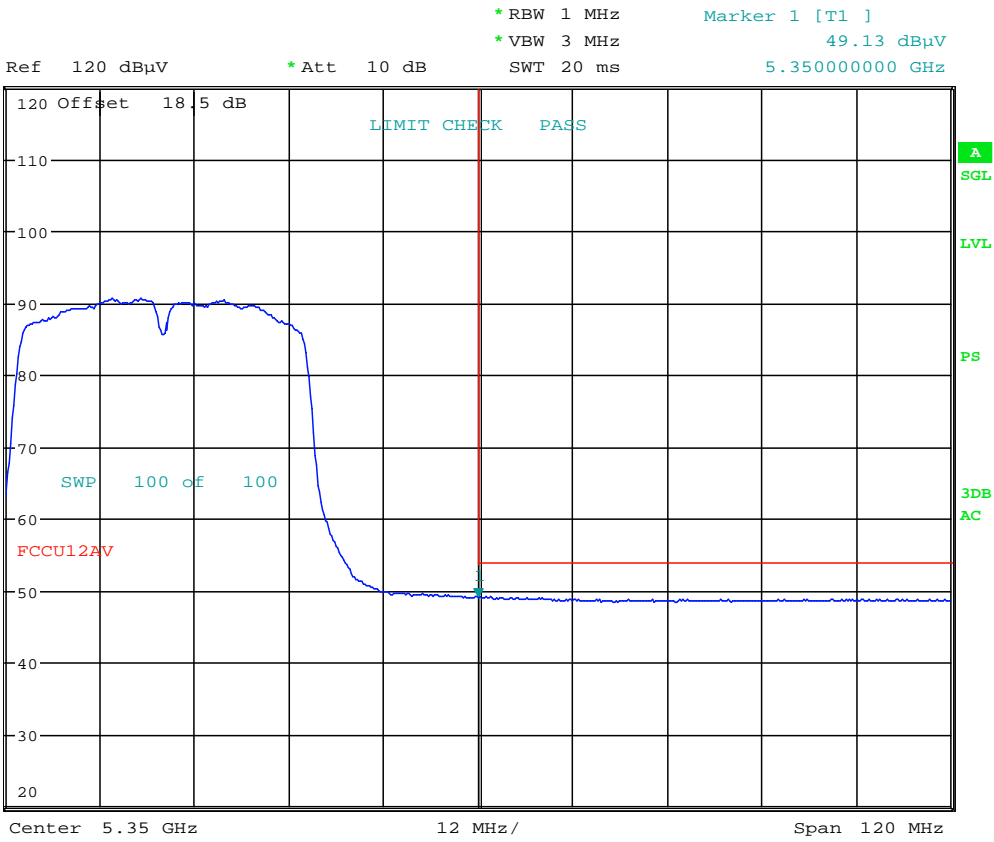
Date: 15.MAR.2016 16:32:49

Plot 7-206. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 166 of 215	

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

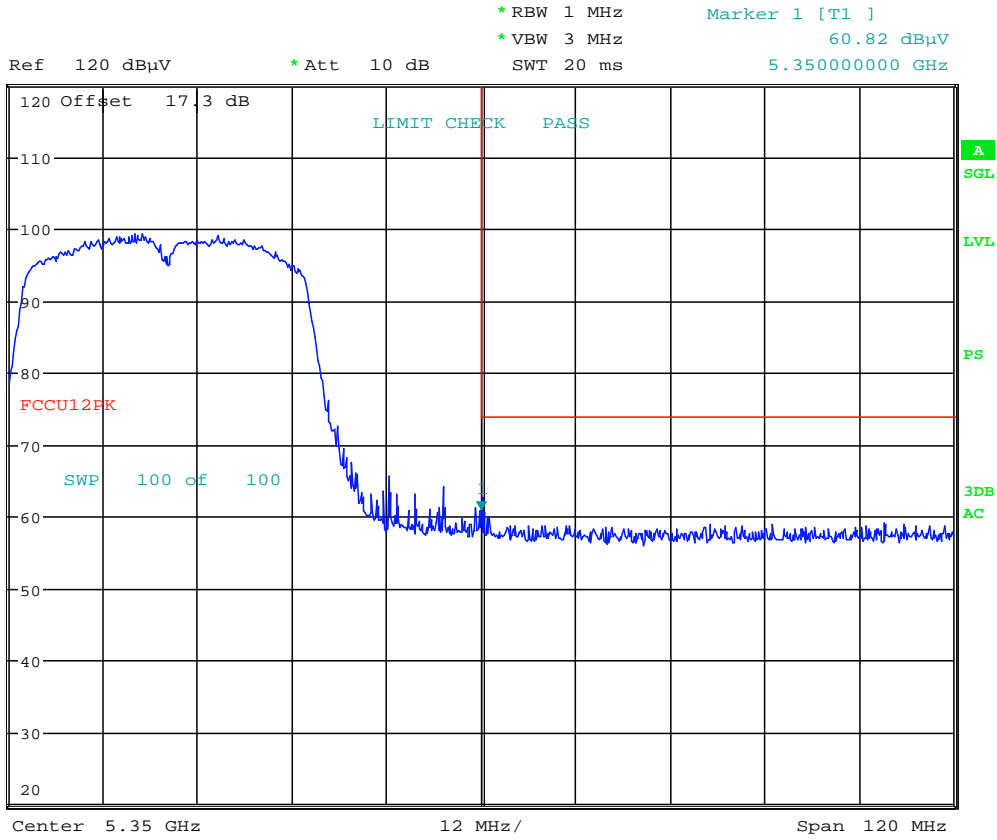


Date: 15.MAR.2016 16:59:02

Plot 7-207. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)



FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 167 of 215	

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



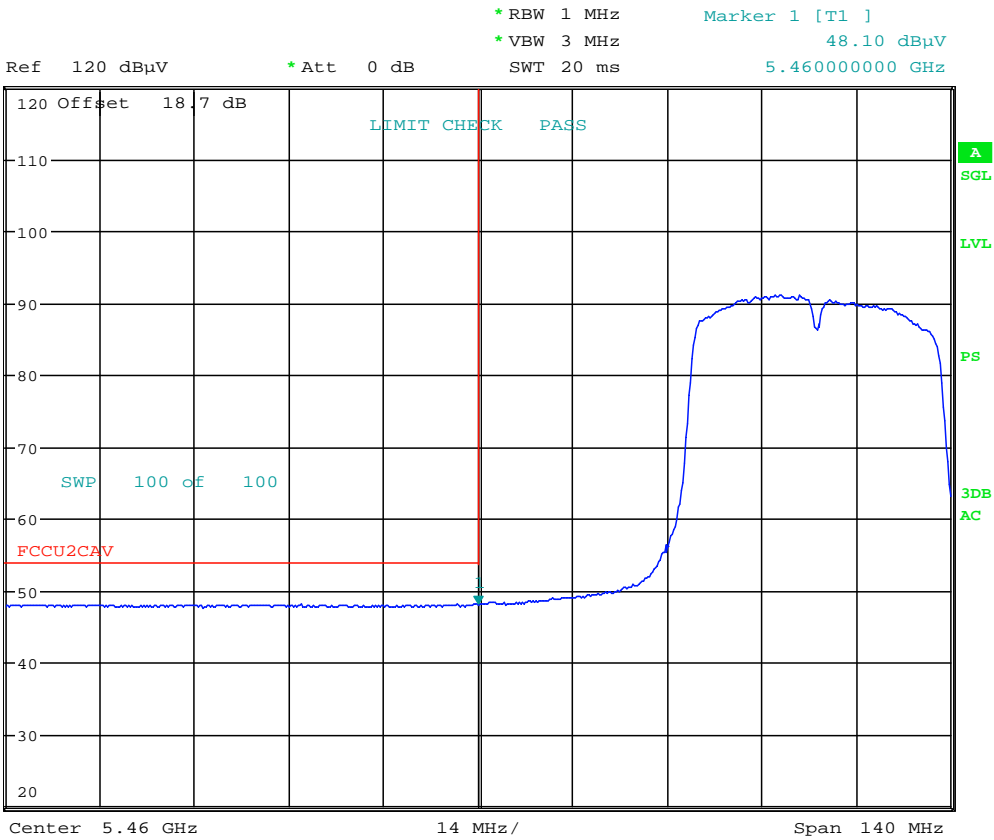
Date: 15.MAR.2016 16:58:26

Plot 7-208. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 168 of 215	

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

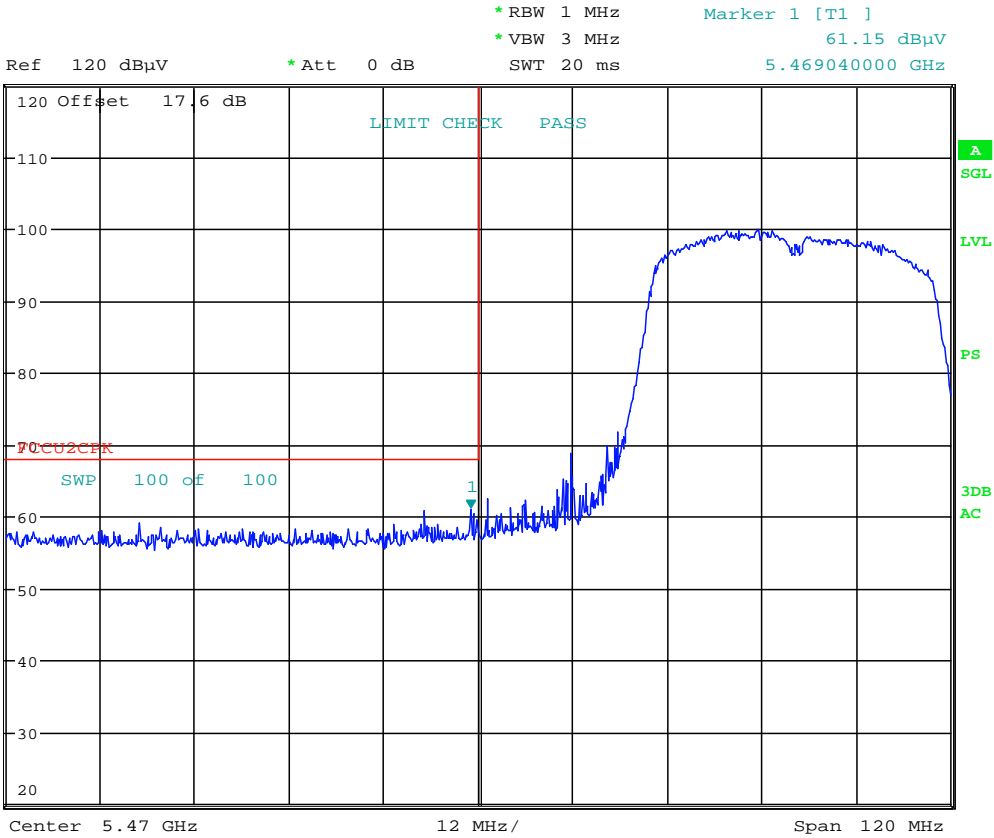


Date: 15.MAR.2016 17:13:27

Plot 7-209. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 169 of 215	

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



Date: 15.MAR.2016 17:15:37

Plot 7-210. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 170 of 215	

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

§15.407(b.1)(b.2) §15.205 §15.209

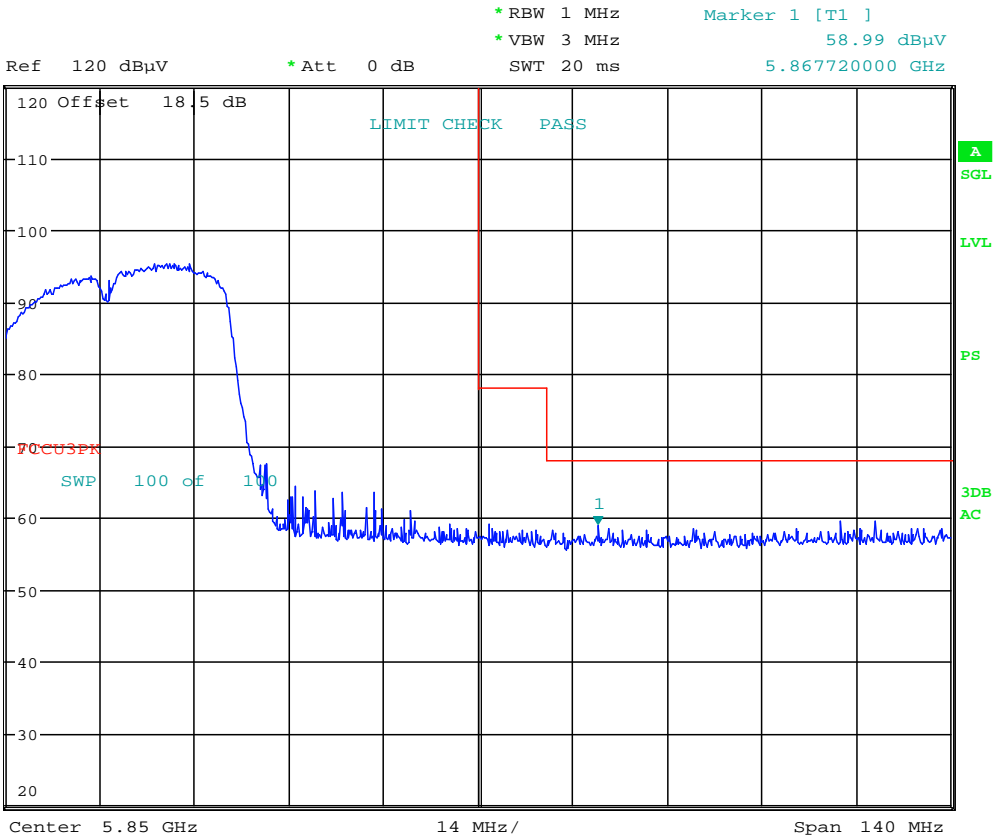
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS0

Distance of Measurements: 3 Meters

Operating Frequency: 5795MHz

Channel: 159



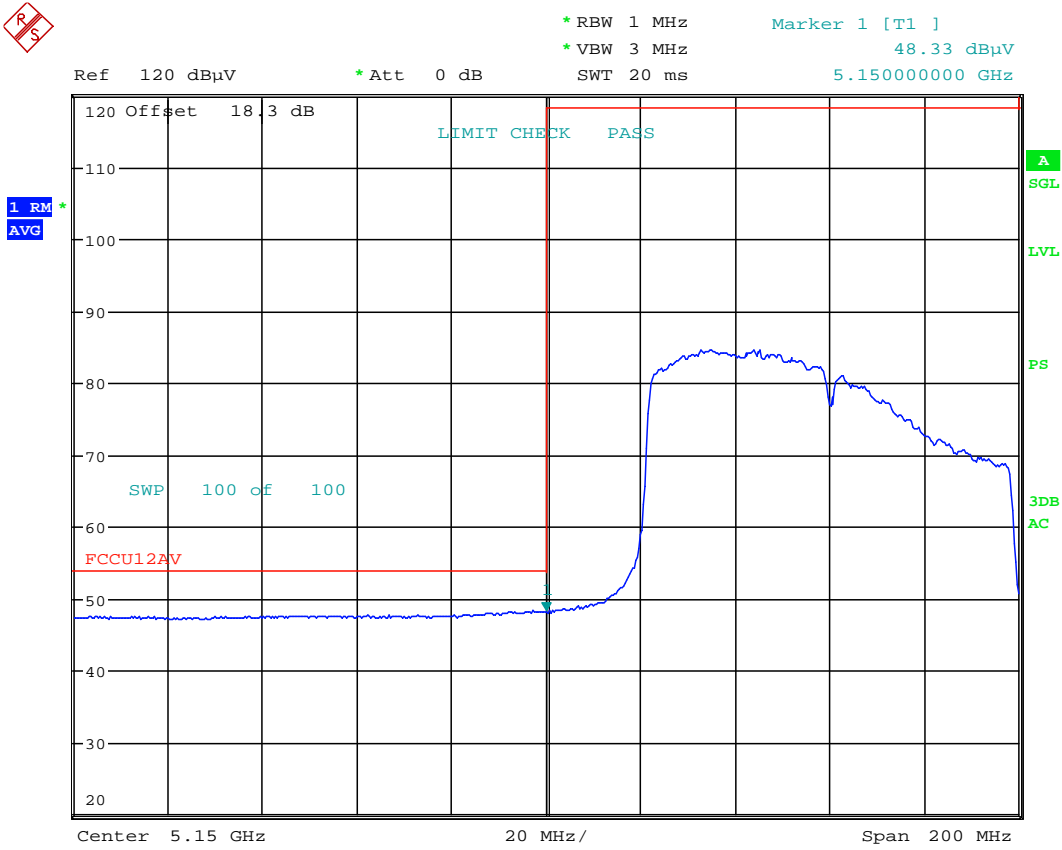
Date: 15.MAR.2016 17:29:46

Plot 7-211. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 171 of 215	

7.7.8 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

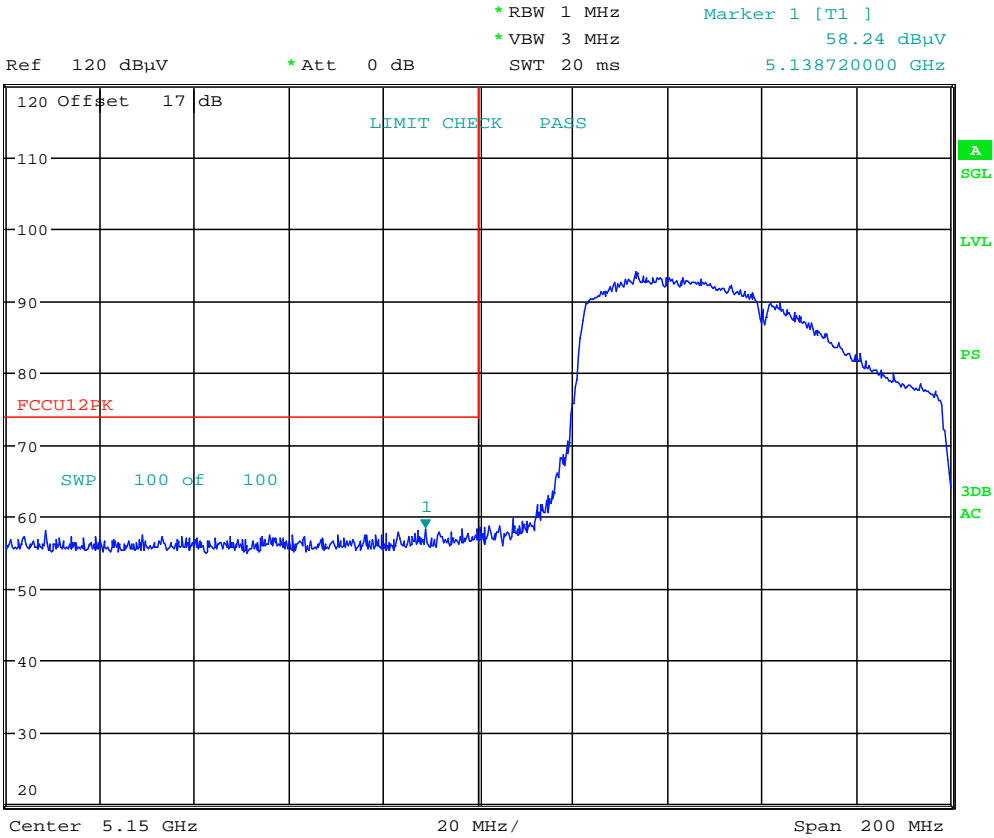


Date: 15.MAR.2016 16:36:01

Plot 7-212. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 172 of 215

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



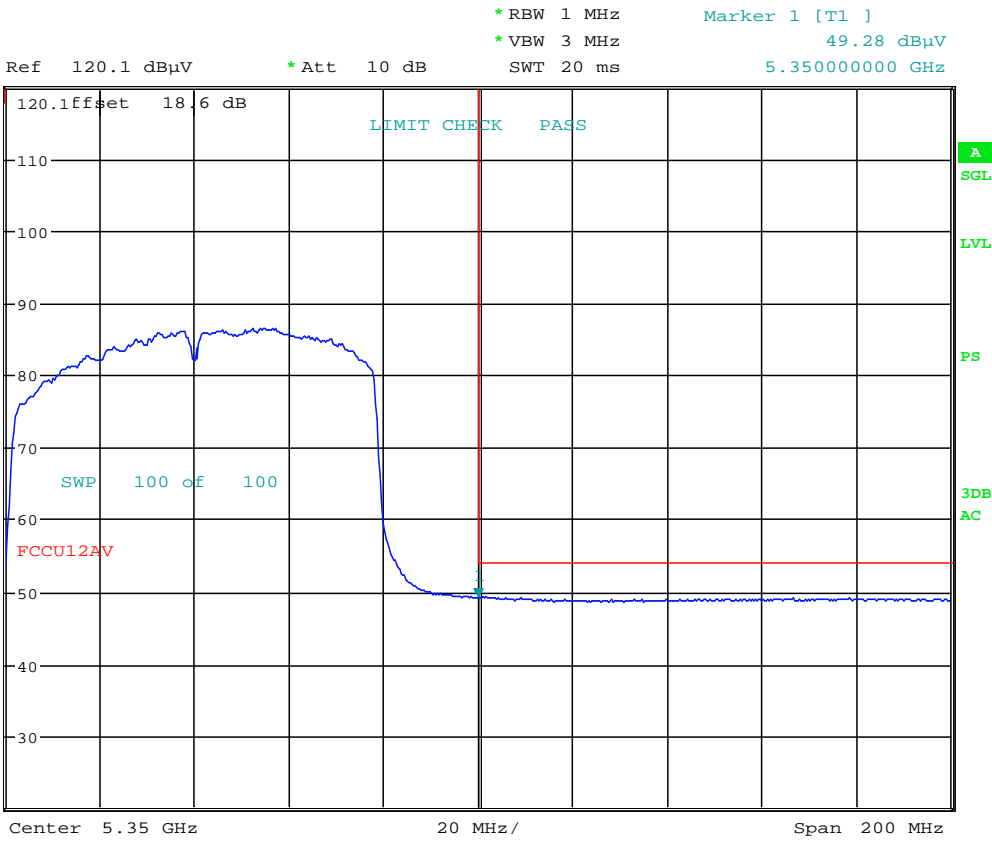
Date: 15.MAR.2016 16:35:02

Plot 7-213. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 173 of 215	

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

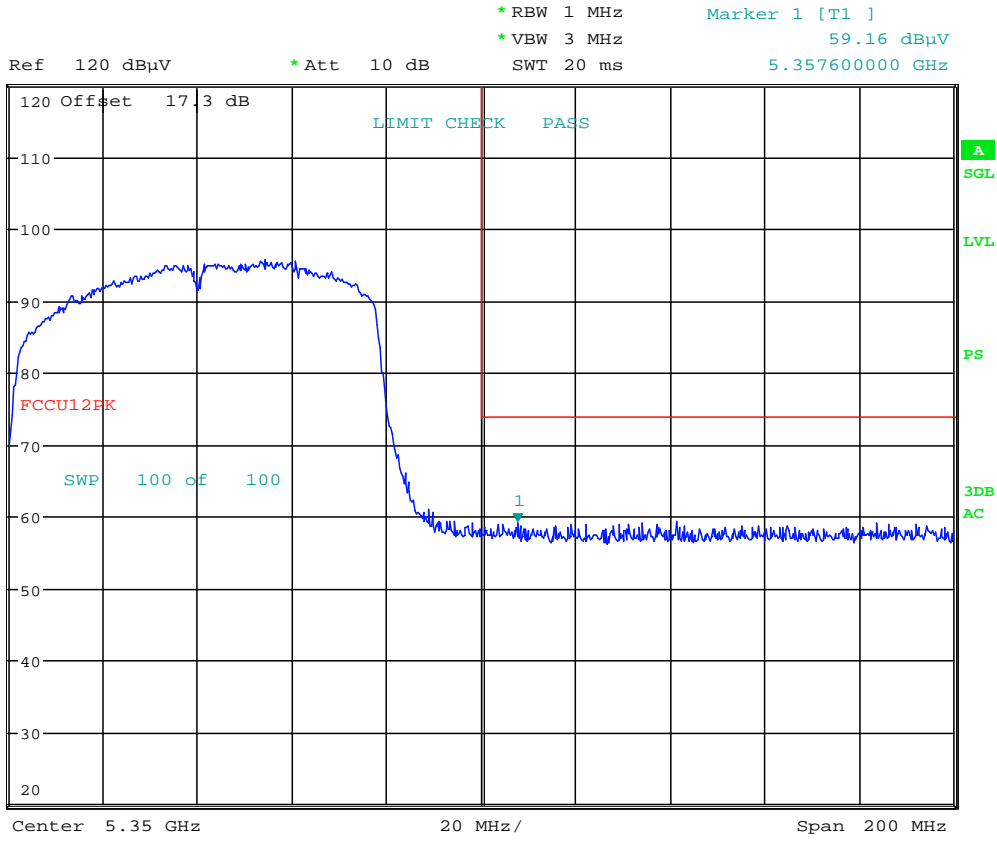


Date: 15.MAR.2016 17:00:20

Plot 7-214. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 174 of 215

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



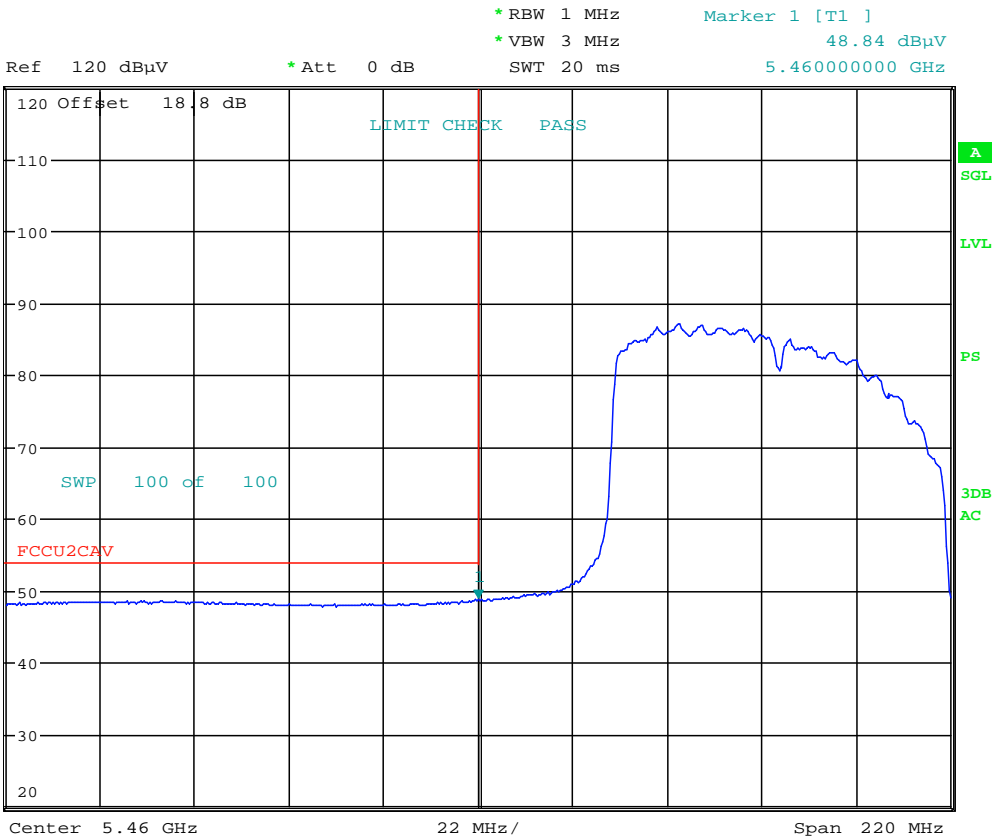
Date: 15.MAR.2016 17:01:16

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

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 175 of 215	

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

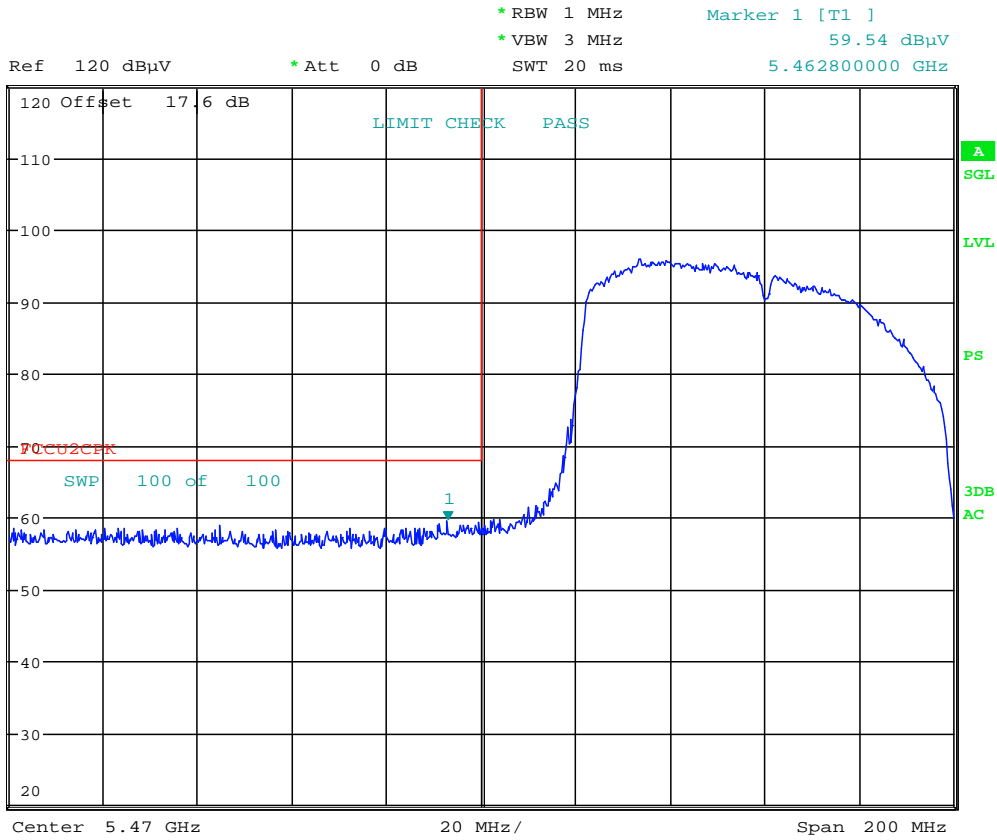


Date: 15.MAR.2016 17:18:48

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

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 176 of 215	

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



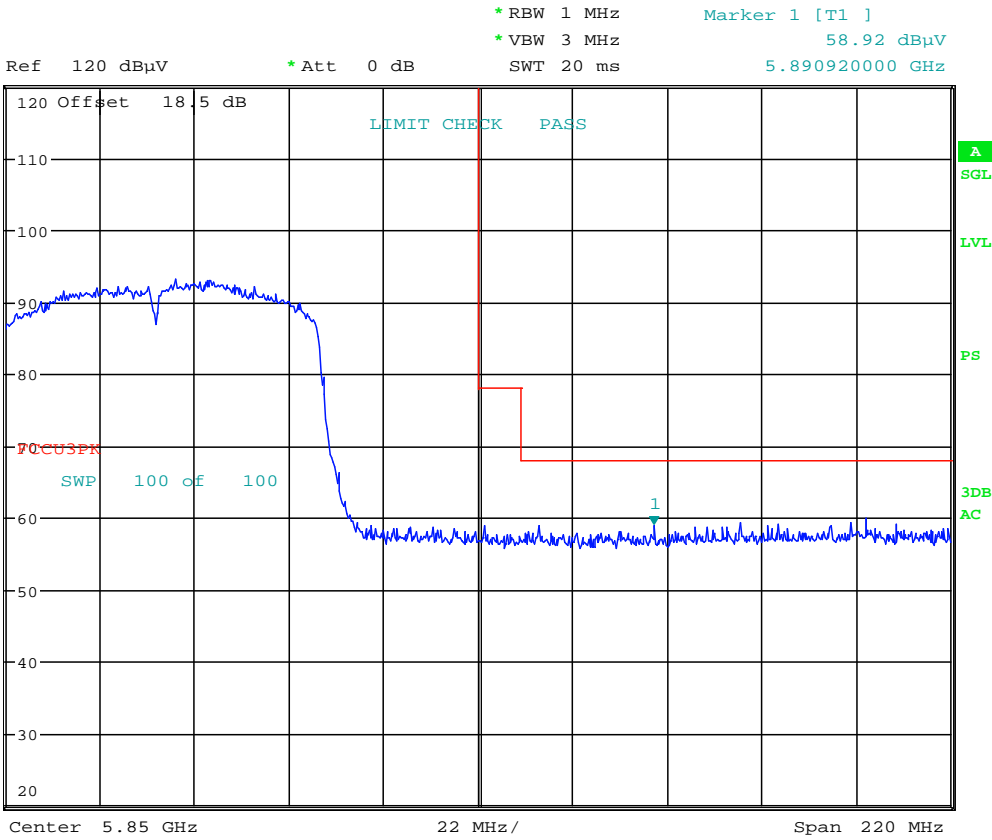
Date: 15.MAR.2016 17:17:12

Plot 7-217. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 177 of 215	

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



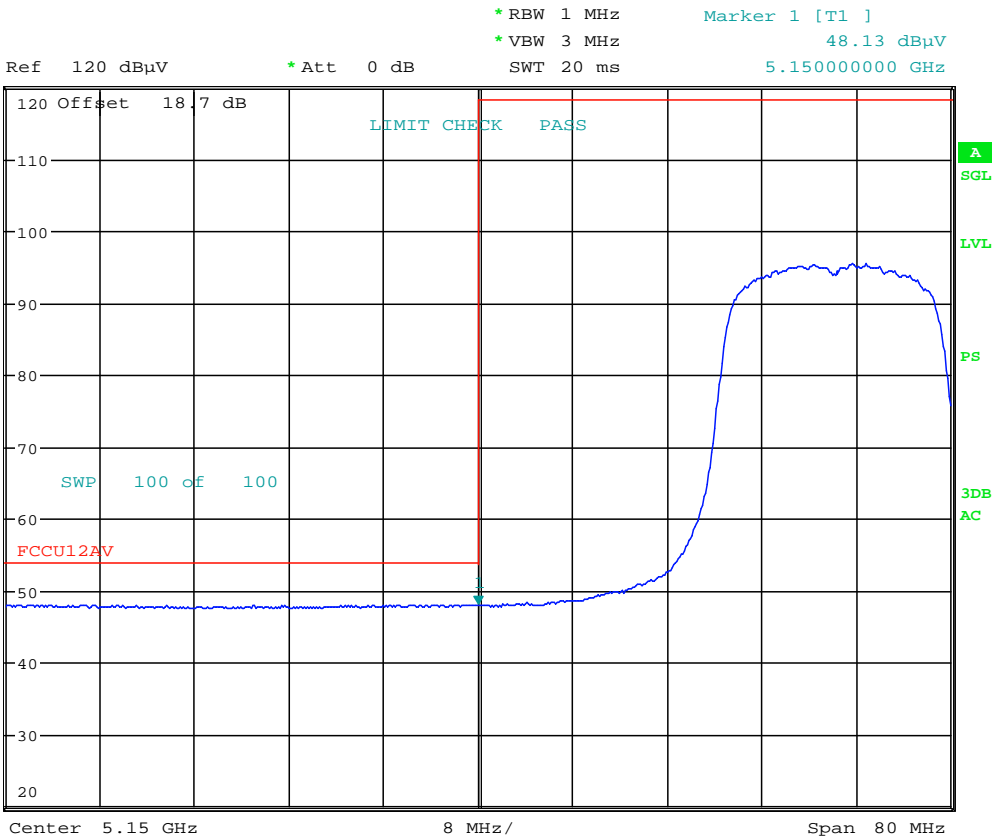
Date: 15.MAR.2016 17:33:13

Plot 7-218. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 178 of 215	

7.7.9 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

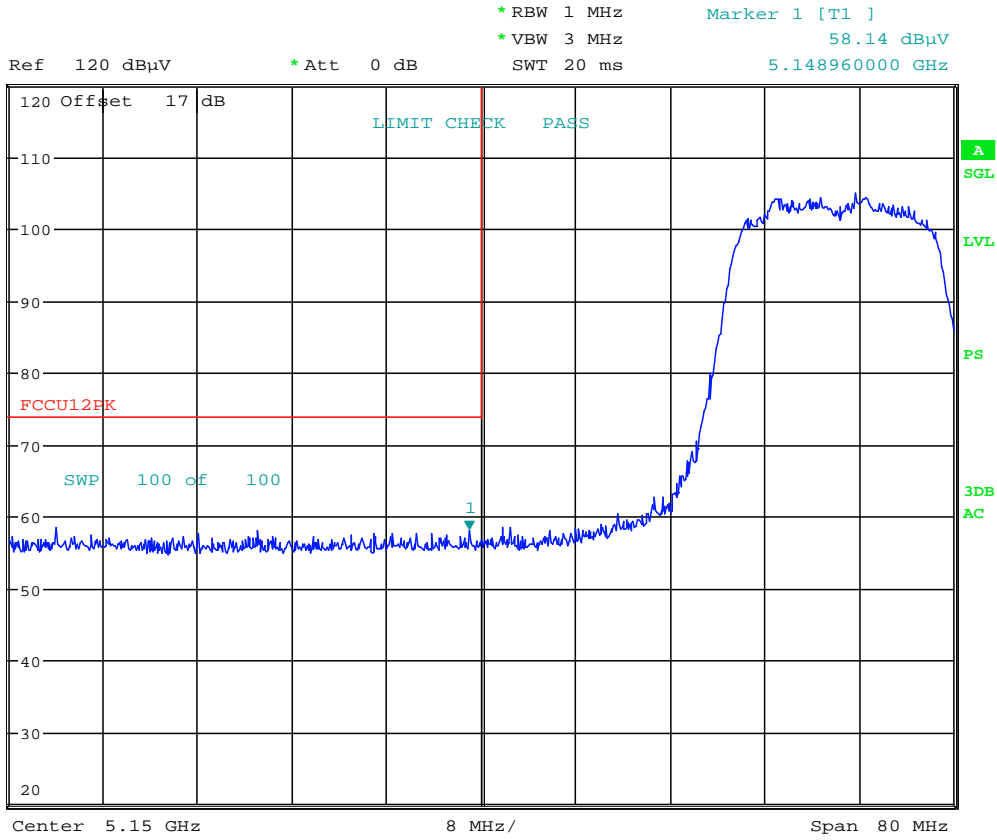


Date: 15.MAR.2016 18:12:27

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

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 179 of 215	

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



Date: 15.MAR.2016 18:11:25

Plot 7-220. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 180 of 215	

MIMO Radiated Band Edge Measurements (20MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

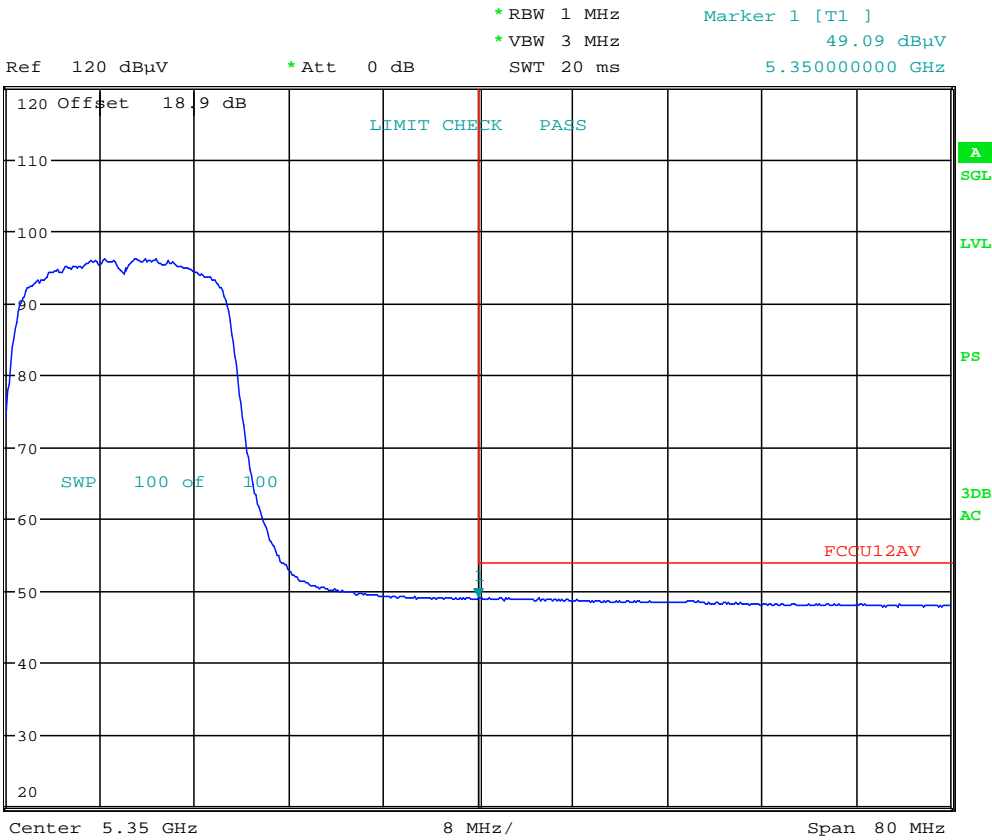
Worst Case Mode: 802.11n (20MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5320MHz

Channel: 64

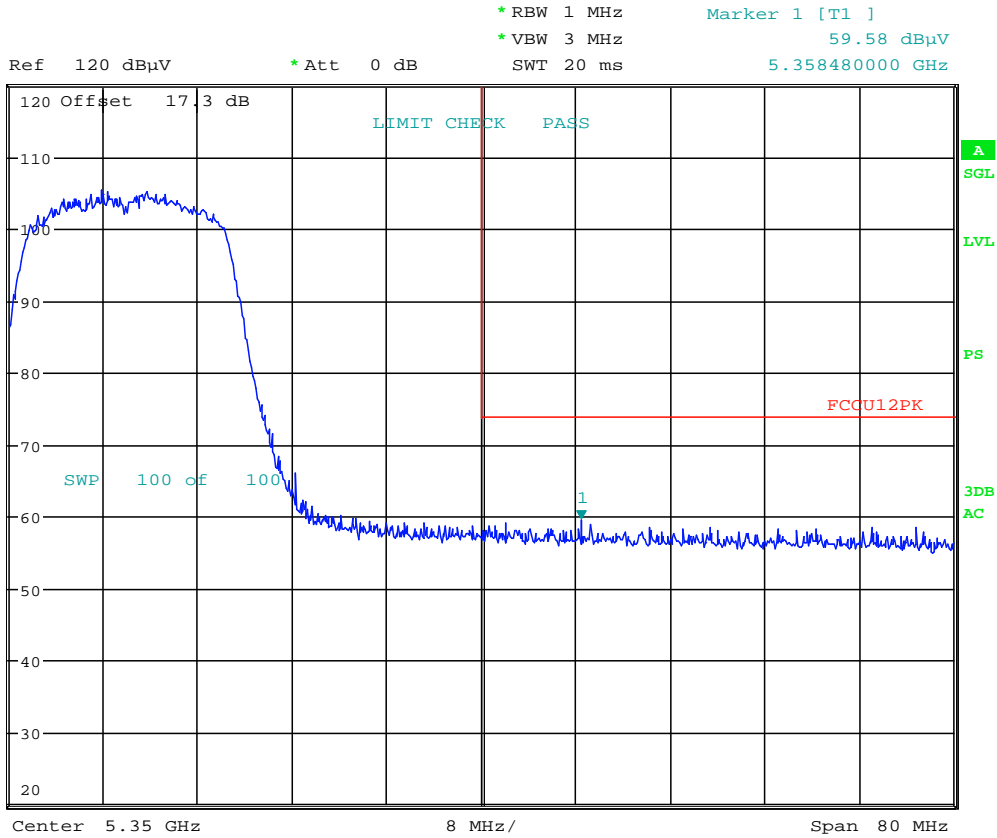


Date: 15.MAR.2016 18:26:57

Plot 7-221. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 181 of 215

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



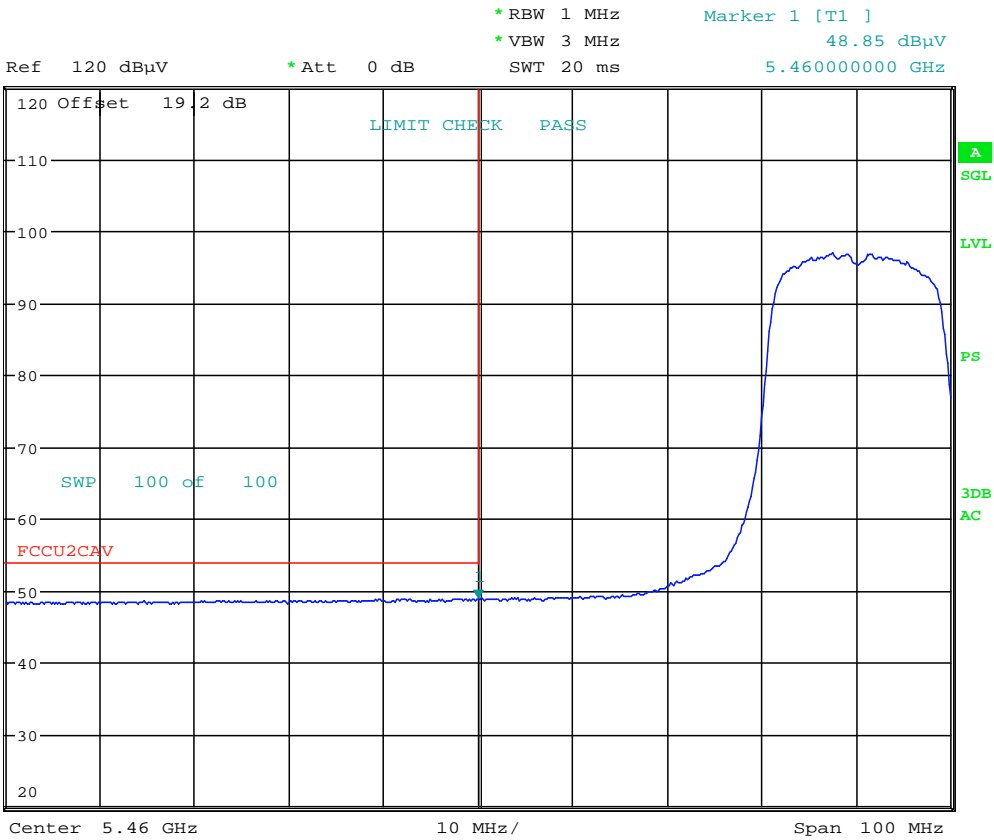
Date: 15.MAR.2016 18:25:52

Plot 7-222. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 182 of 215	

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

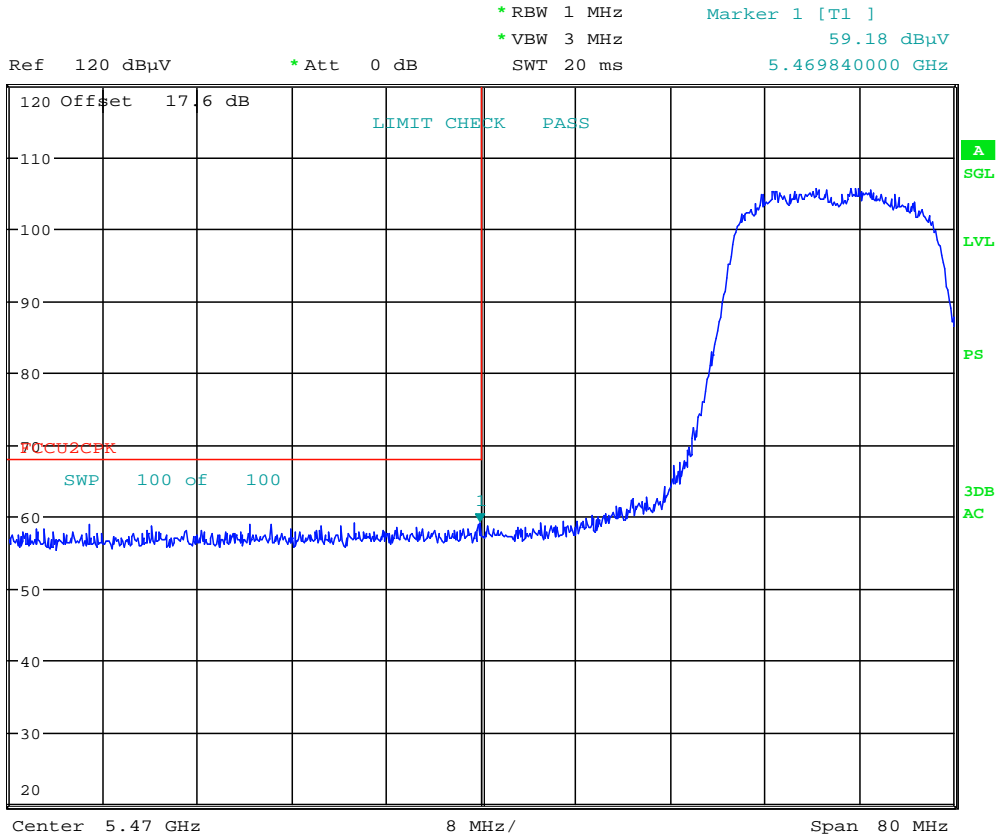


Date: 15.MAR.2016 18:47:12

Plot 7-223. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 183 of 215	

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



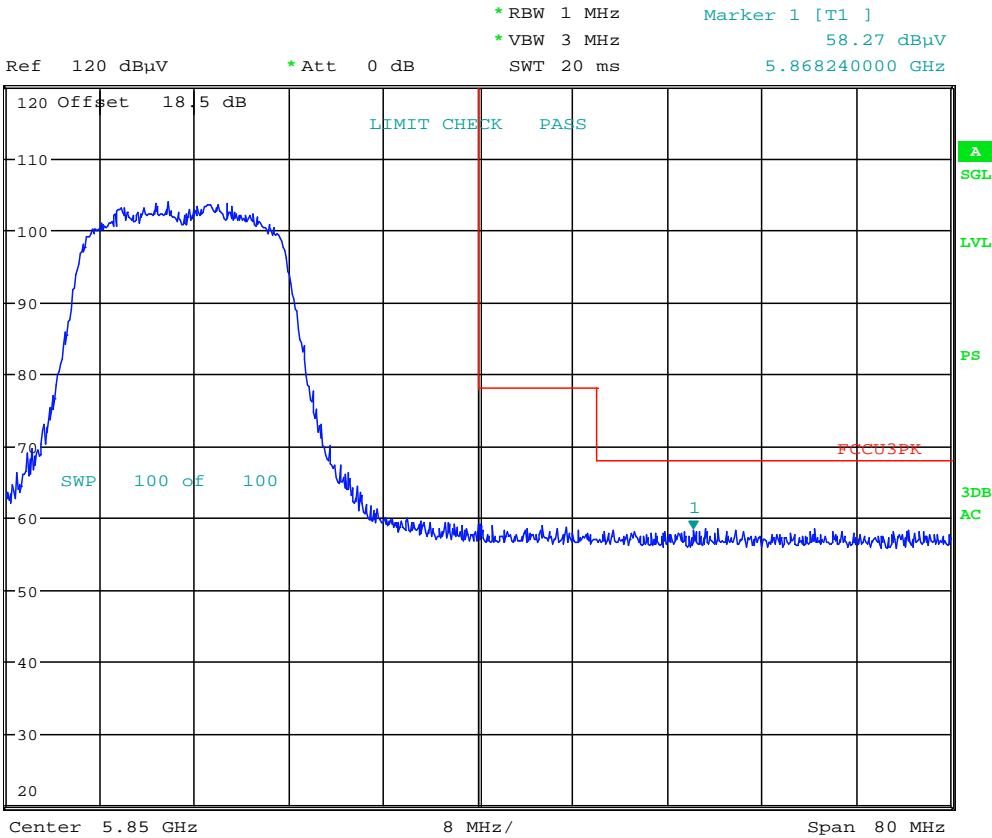
Date: 15.MAR.2016 18:43:50

Plot 7-224. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 184 of 215	

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



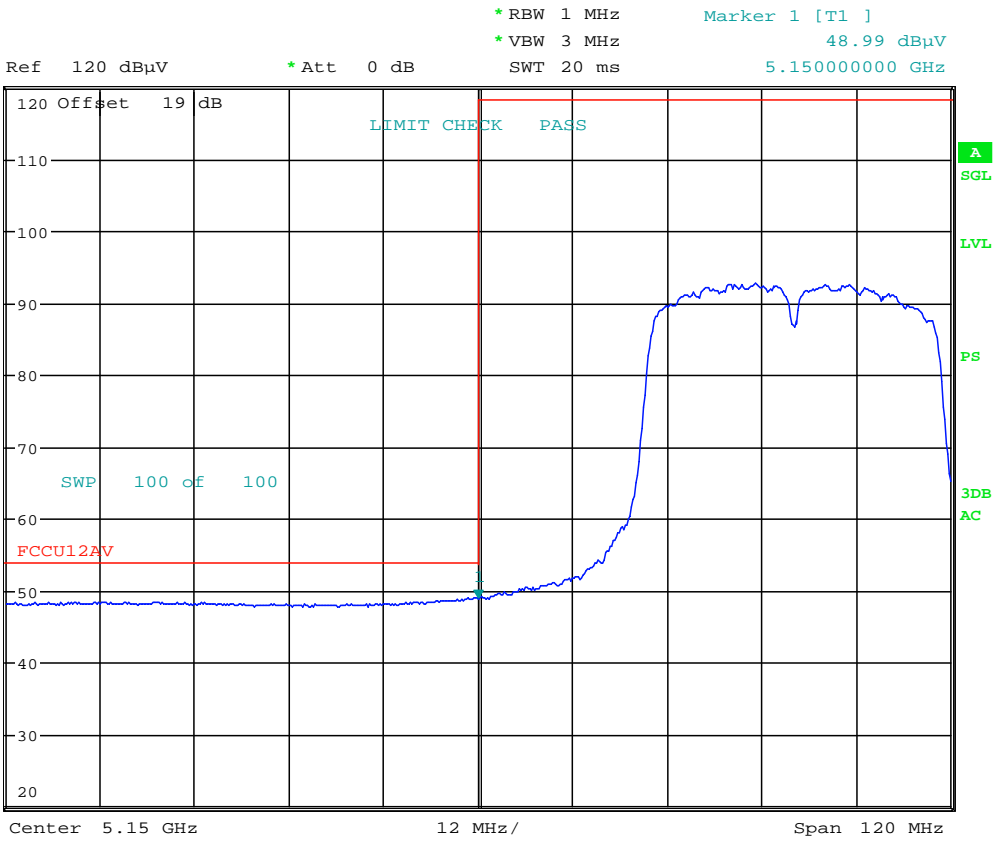
Date: 15.MAR.2016 19:00:20

Plot 7-225. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 185 of 215

7.7.10 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

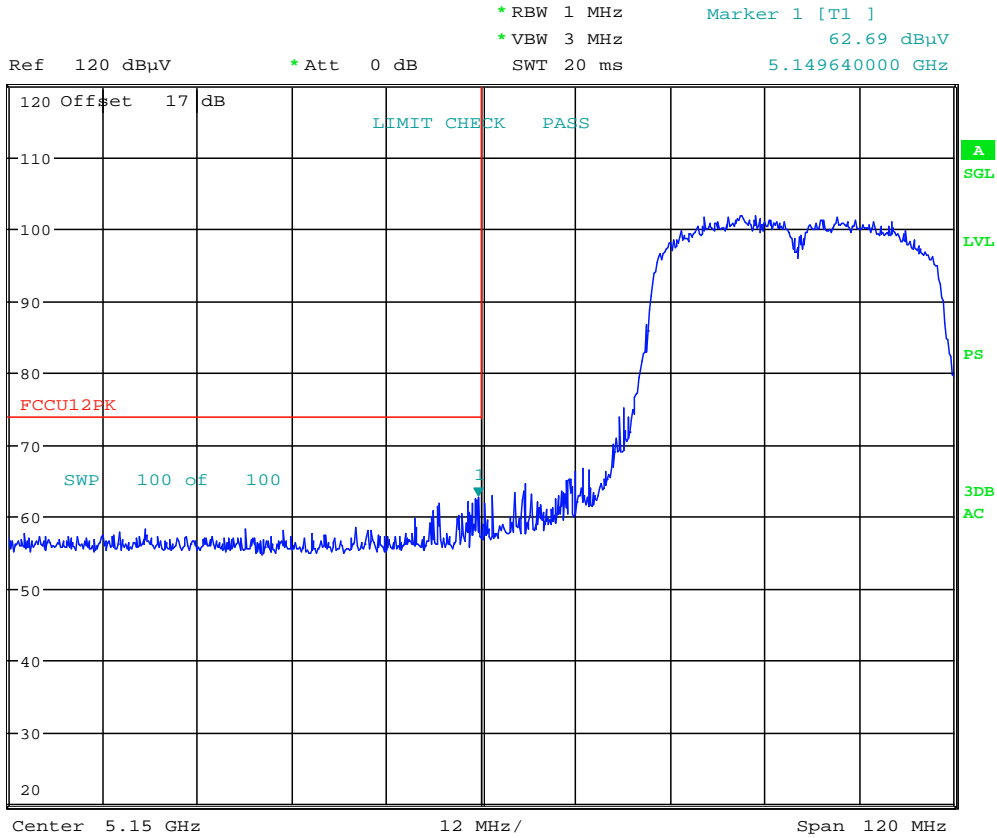


Date: 15.MAR.2016 18:14:11

Plot 7-226. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 186 of 215

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



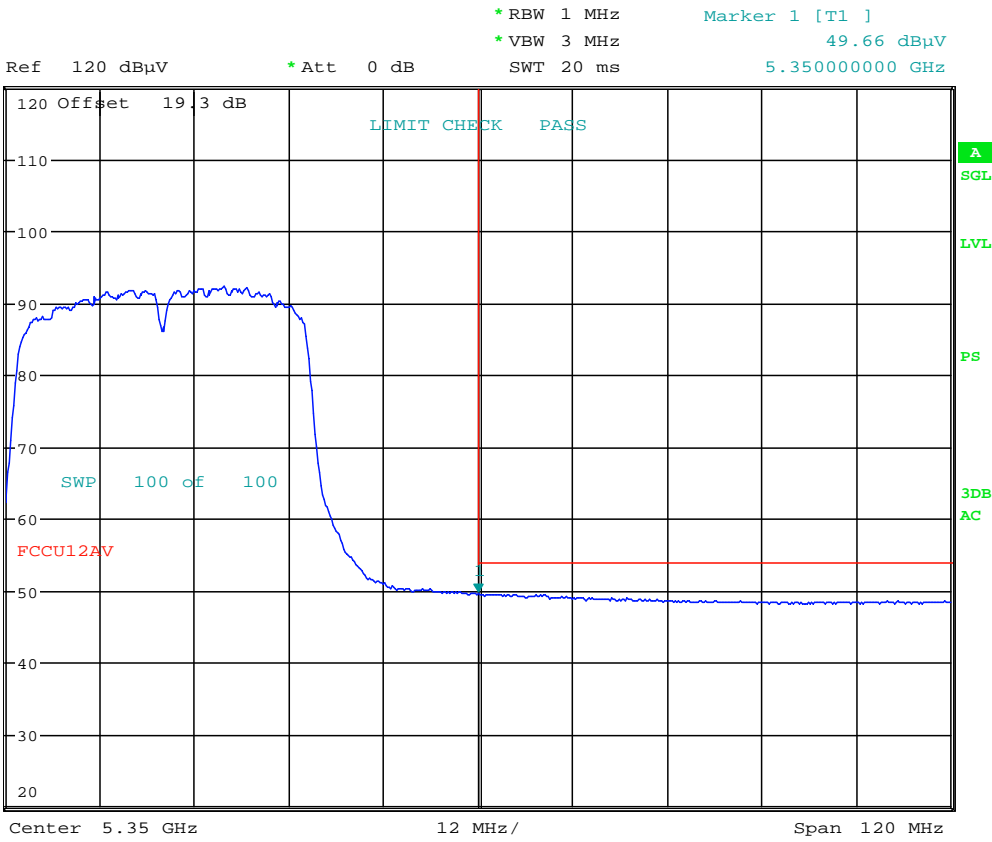
Date: 15.MAR.2016 18:14:52

Plot 7-227. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 187 of 215	

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: 5310MHz
 Channel: 62

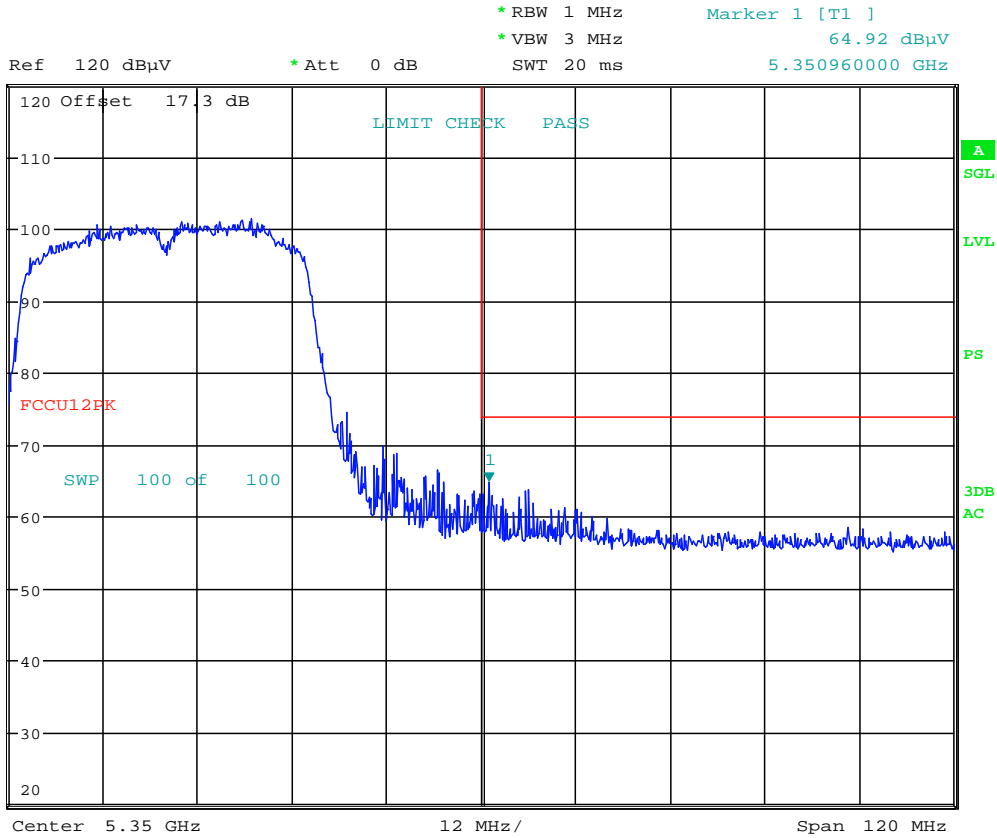


Date: 15.MAR.2016 18:29:12

Plot 7-228. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 188 of 215	

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



Date: 15.MAR.2016 18:31:07

Plot 7-229. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 189 of 215	

MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

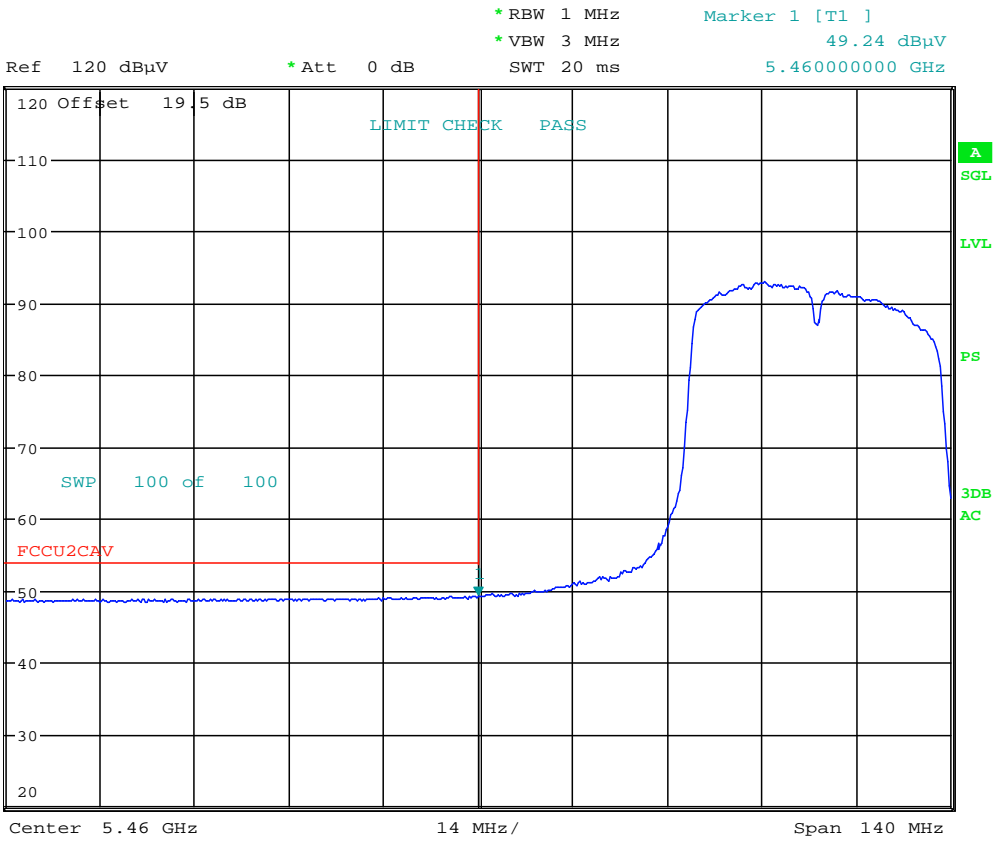
Worst Case Mode: 802.11n (40MHz)

Worst Case Transfer Rate: MCS8

Distance of Measurements: 3 Meters

Operating Frequency: 5510MHz

Channel: 102

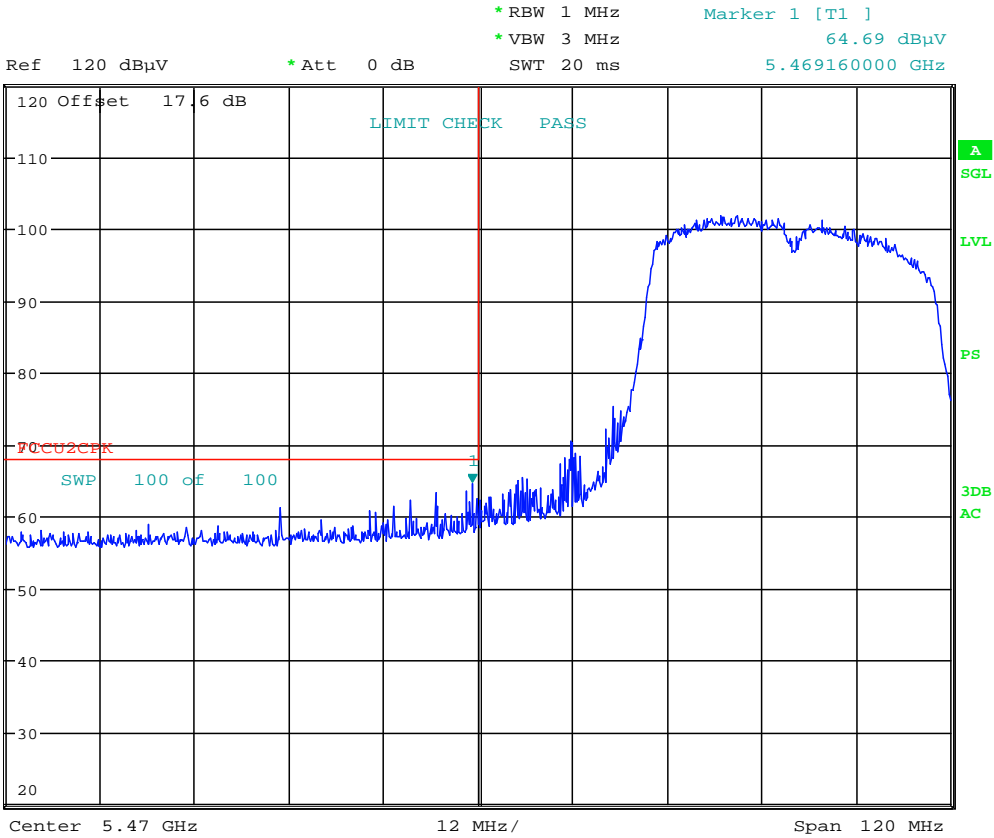


Date: 15.MAR.2016 18:49:11

Plot 7-230. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 190 of 215

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



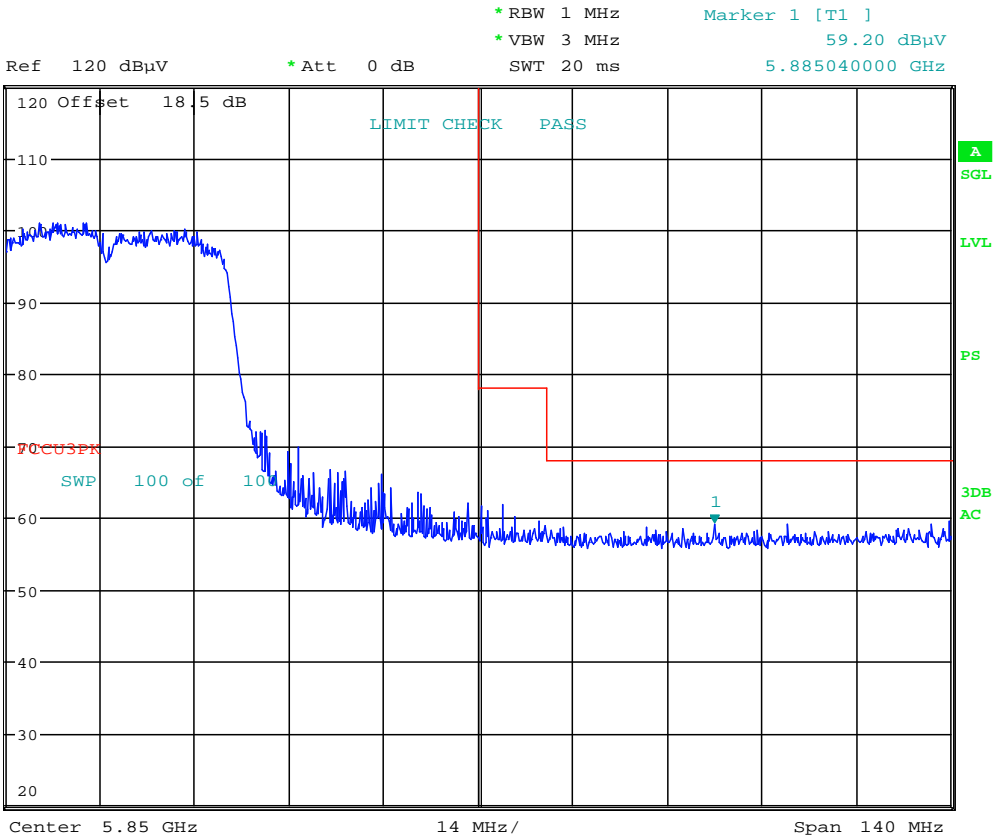
Date: 15.MAR.2016 18:50:22

Plot 7-231. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 191 of 215	

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



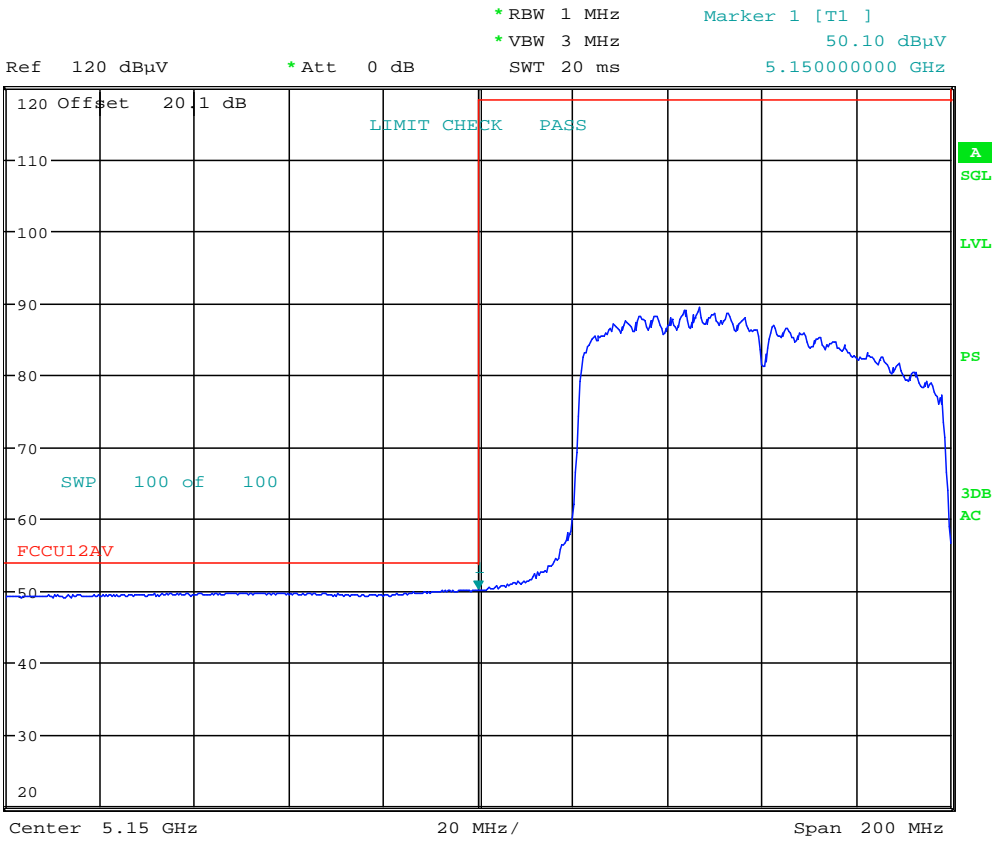
Date: 15.MAR.2016 19:01:42

Plot 7-232. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 192 of 215	

7.7.11 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

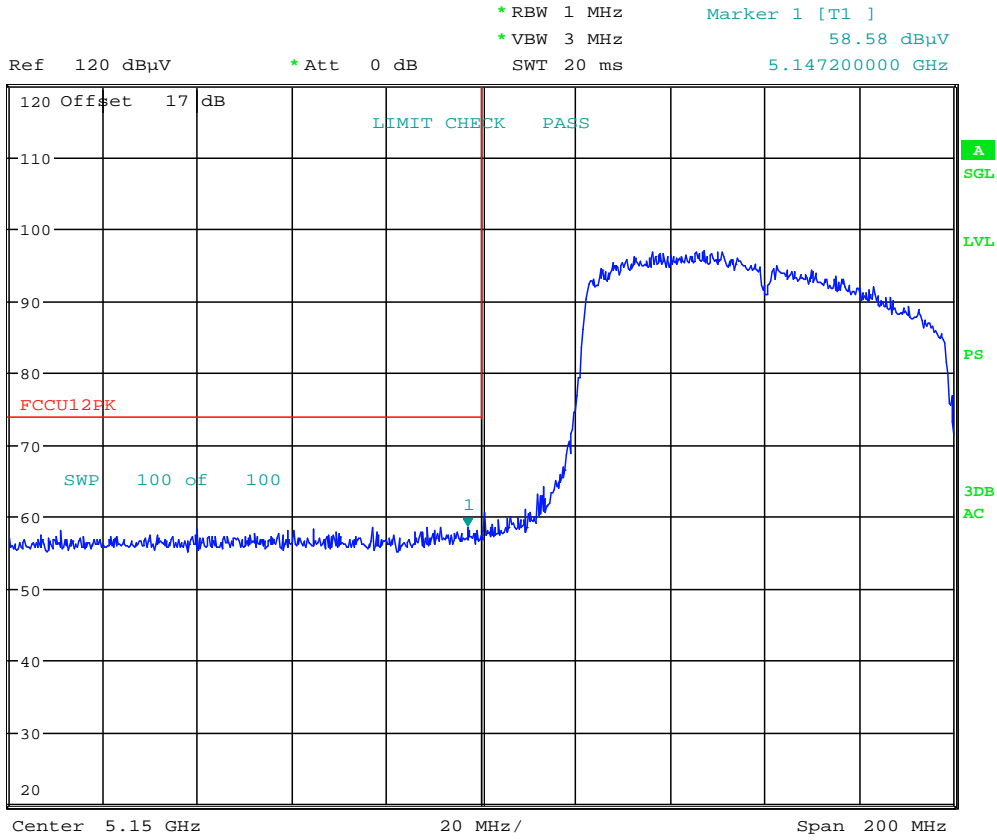


Date: 15.MAR.2016 18:18:25

Plot 7-233. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 1)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 193 of 215	

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



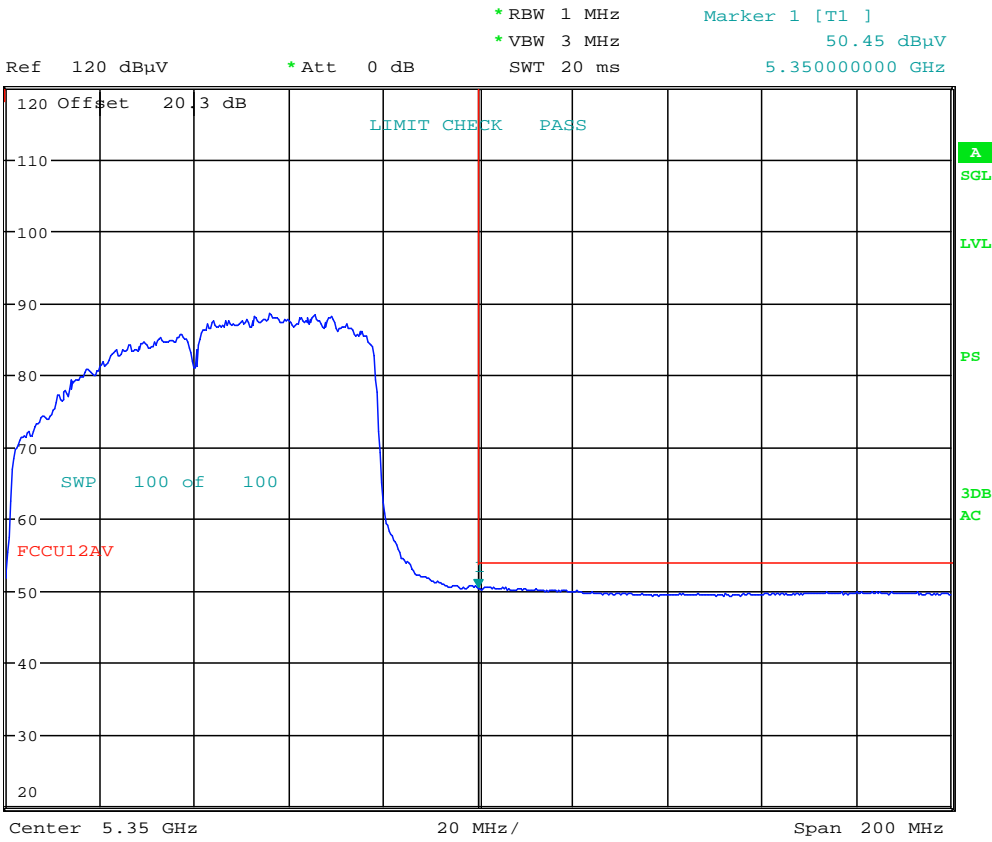
Date: 15.MAR.2016 18:17:14

Plot 7-234. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 194 of 215	

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

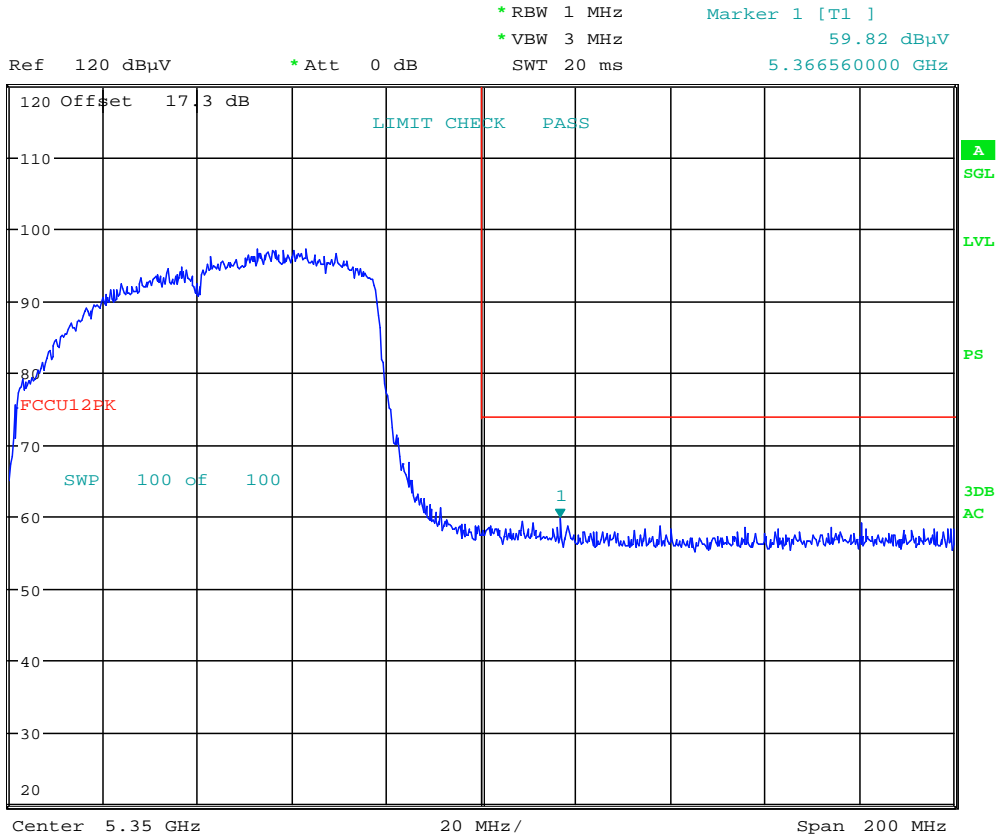


Date: 15.MAR.2016 18:33:27

Plot 7-235. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 195 of 215	

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



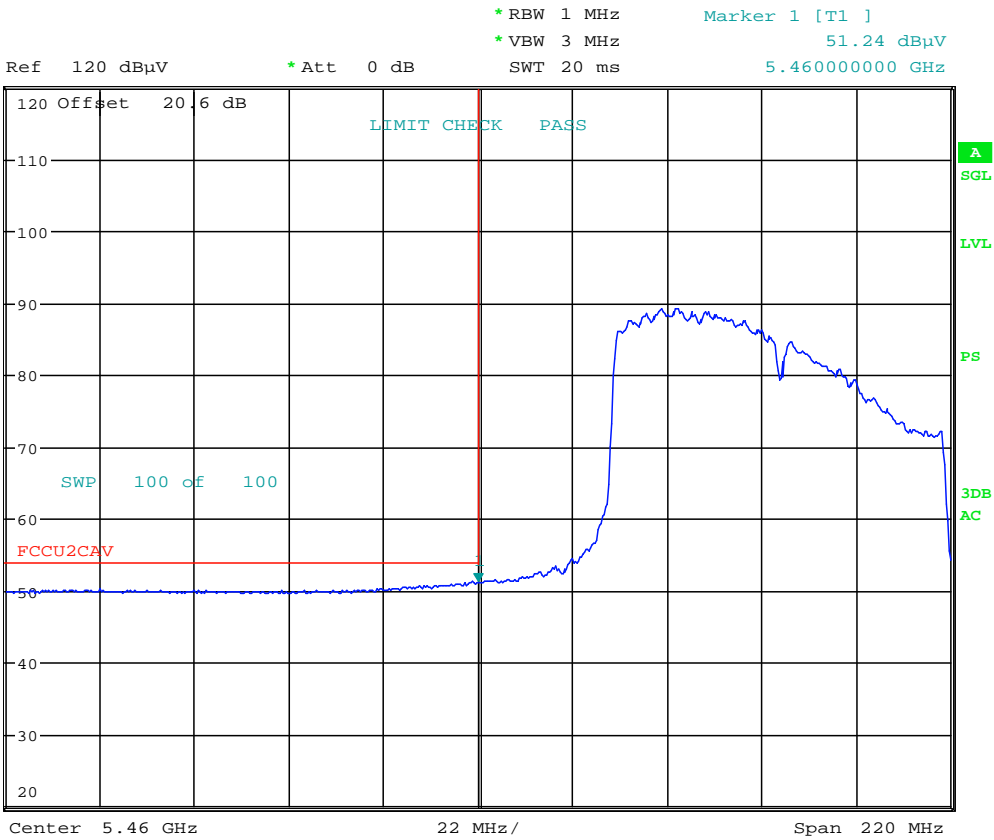
Date: 15.MAR.2016 18:32:38

Plot 7-236. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 196 of 215	

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

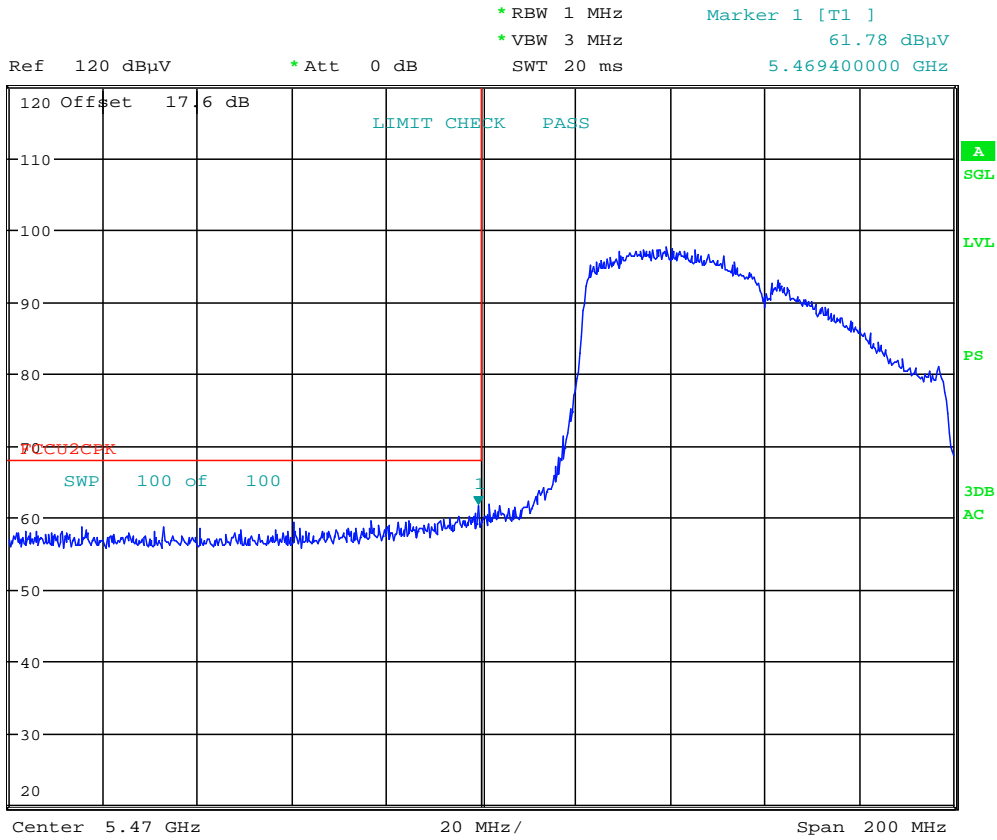


Date: 15.MAR.2016 18:52:49

Plot 7-237. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 197 of 215

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



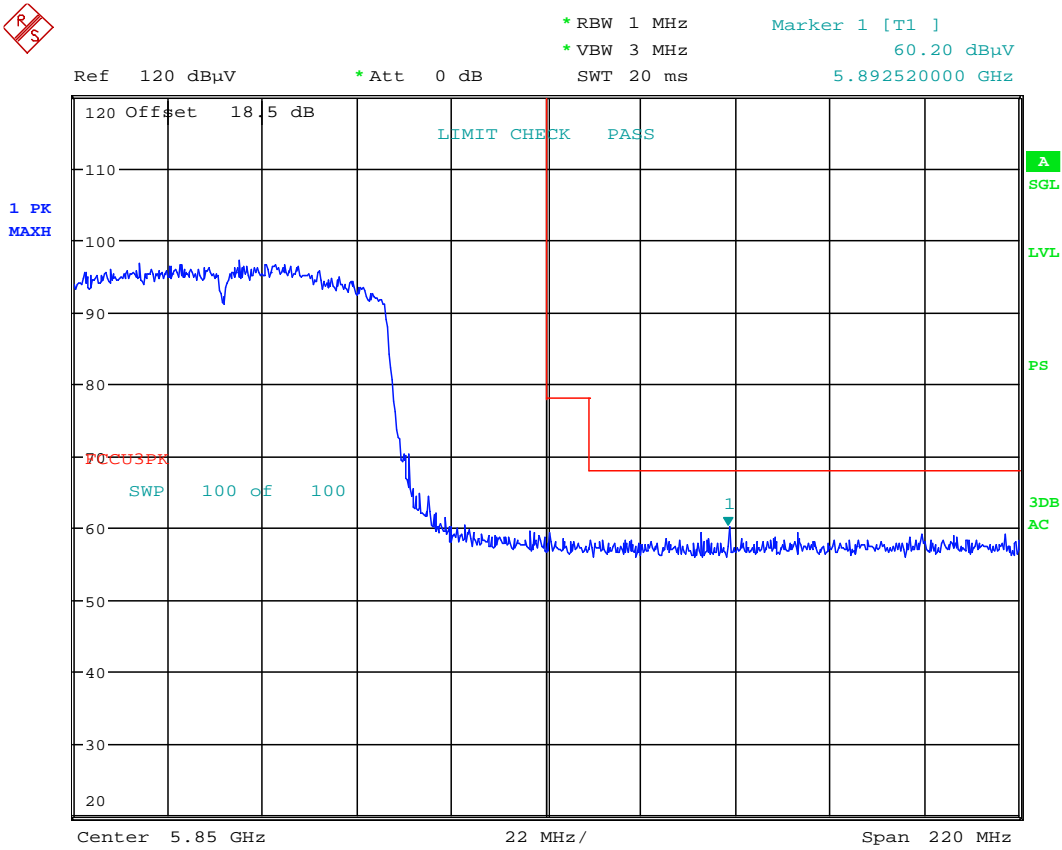
Date: 15.MAR.2016 18:51:46

Plot 7-238. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 198 of 215	

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: 15.MAR.2016 19:03:06

Plot 7-239. Radiated Upper Band Edge Plot (Peak – UNII Band 3)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 199 of 215	

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 7-52 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 7-52. 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: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 200 of 215	

Test Setup

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

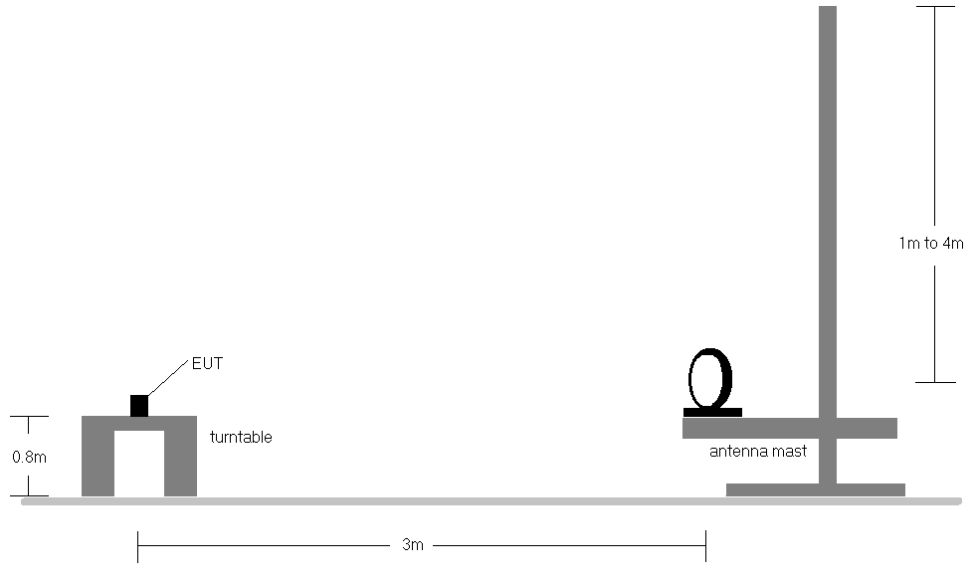


Figure 7-6. Radiated Test Setup < 30MHz

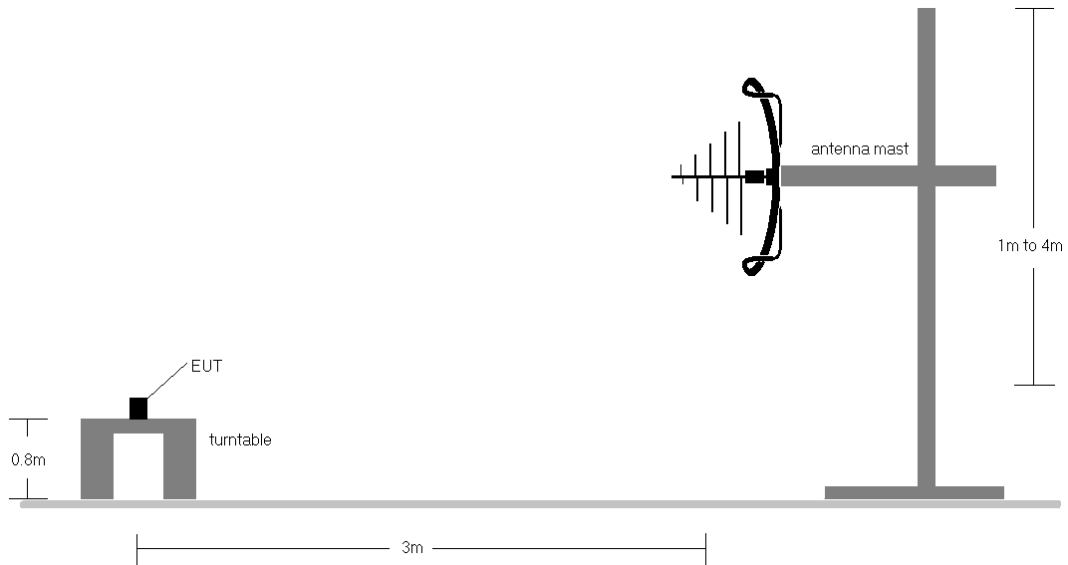






Figure 7-7. Radiated Test Setup < 1GHz

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 201 of 215	

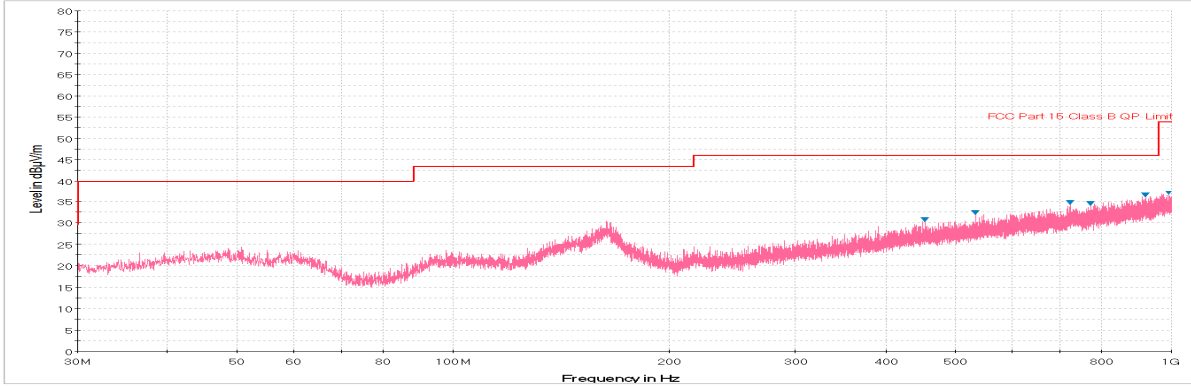
Test Notes

1. All emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 7-27.
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.

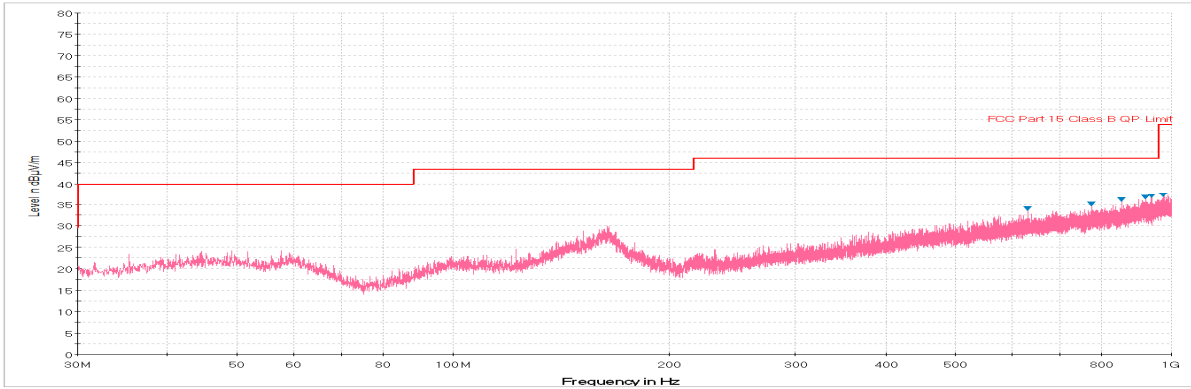
FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 202 of 215	

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



§15.209



Plot 7-240. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)

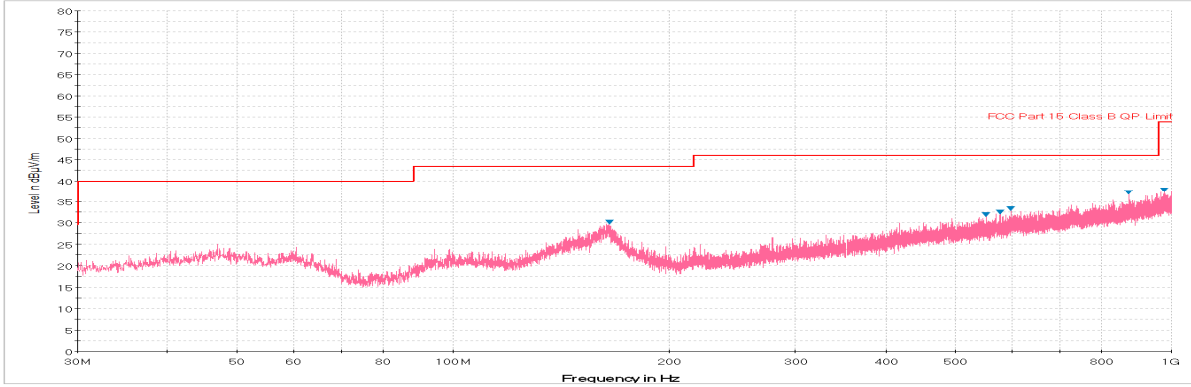


Plot 7-241. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

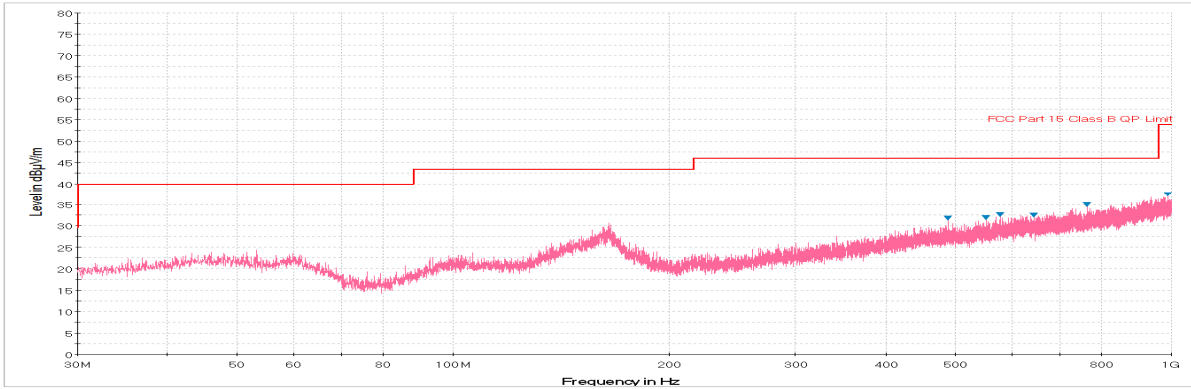
FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 203 of 215	

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



§15.209



Plot 7-242. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)



Plot 7-243. Radiated Spurious Plot below 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 204 of 215	

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 (dB μ V)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 7-53. 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

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 205 of 215	

Test Setup

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

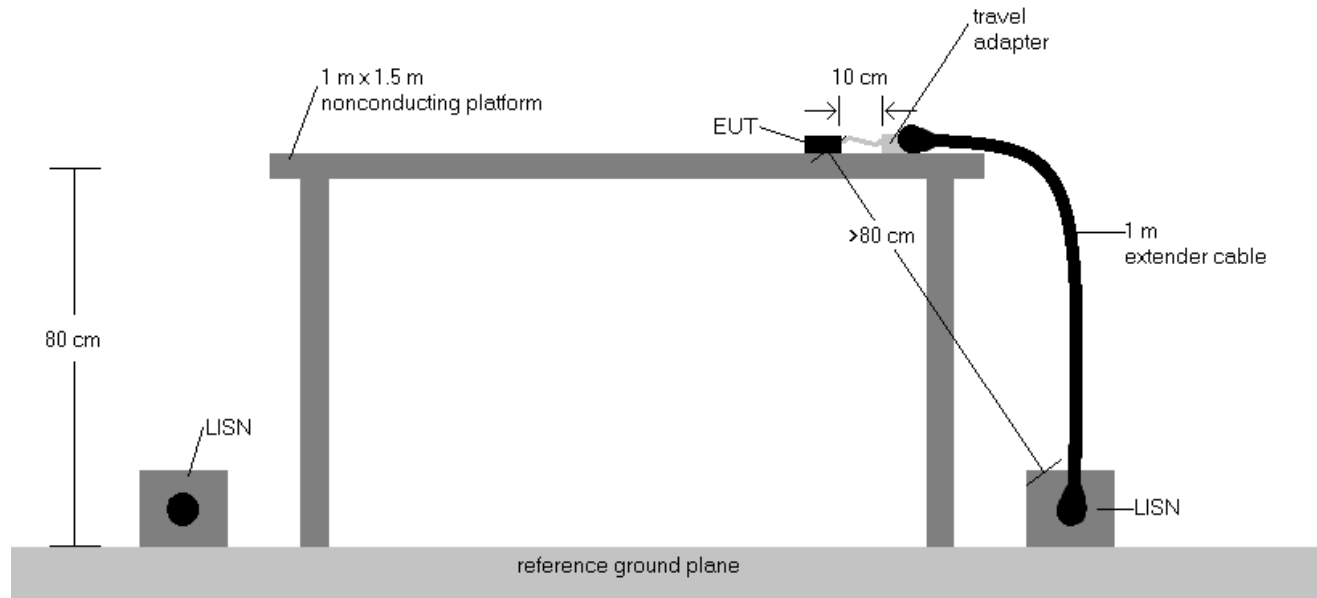




Figure 7-8. Test Instrument & Measurement Setup

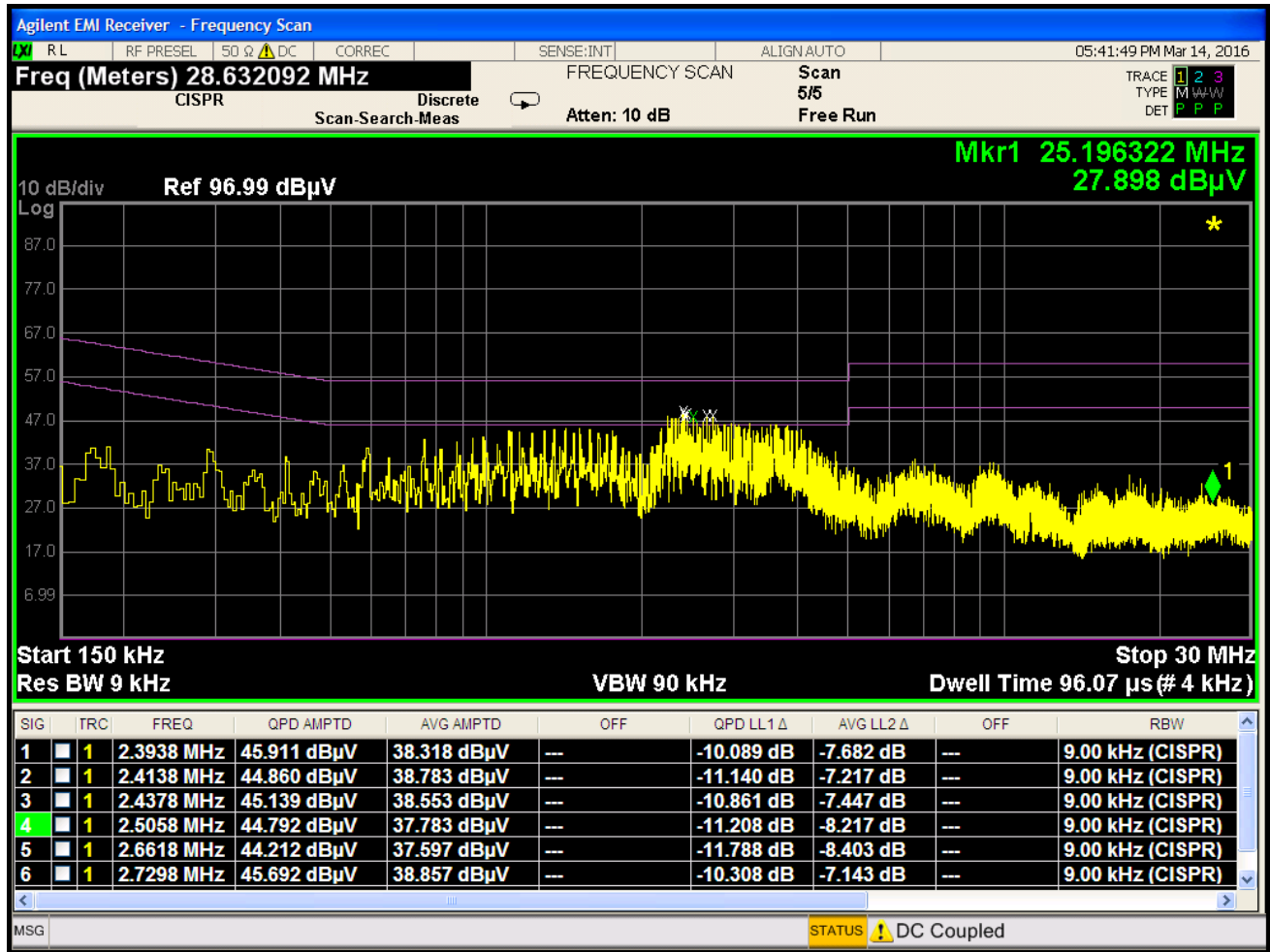
Test Notes

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: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 206 of 215	

Line-Conducted Test Data

§15.407

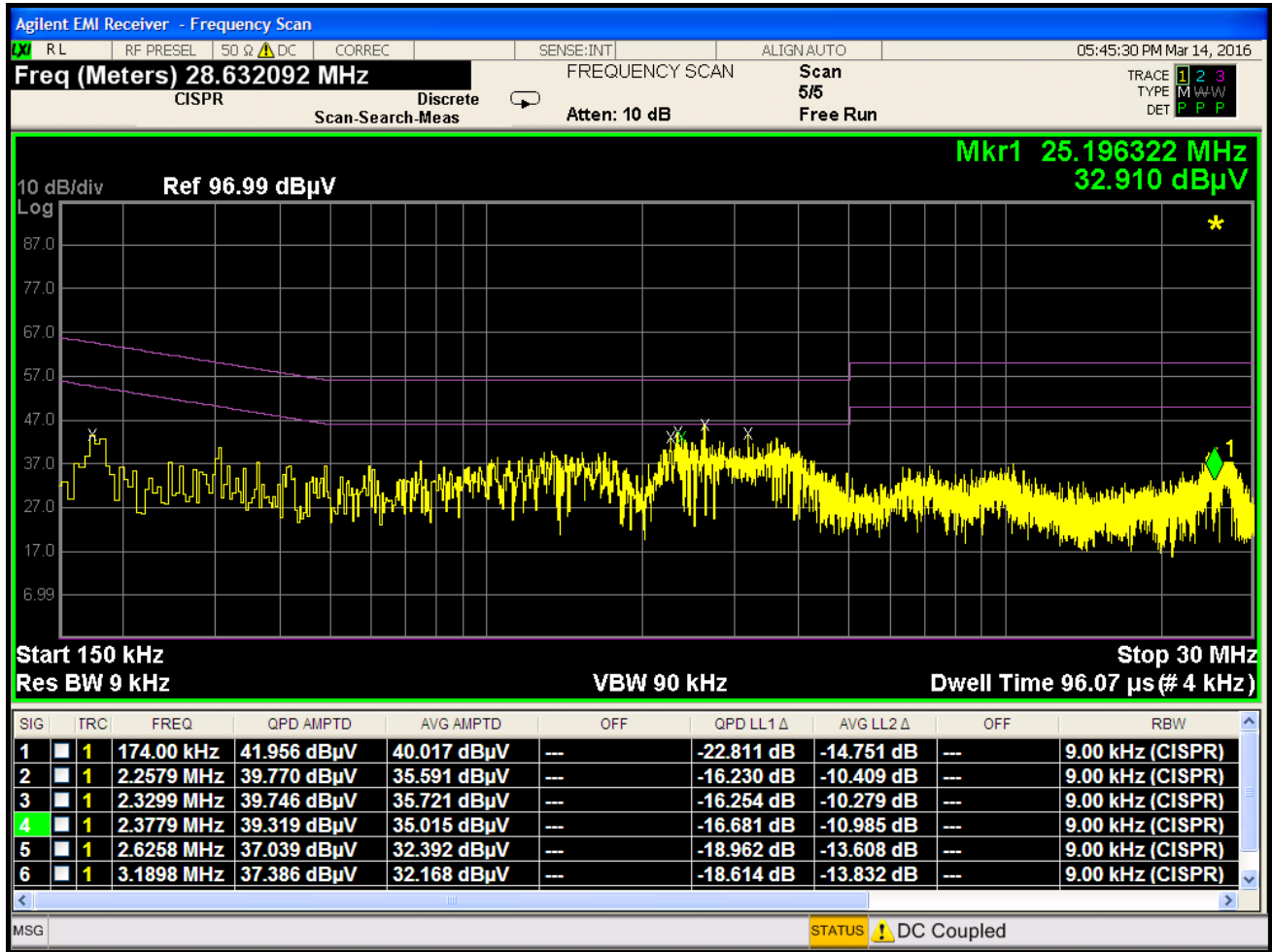


Plot 7-244. Line Conducted Plot with 802.11a UNII Band 1 (L1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 207 of 215

Line-Conducted Test Data

\$15.407

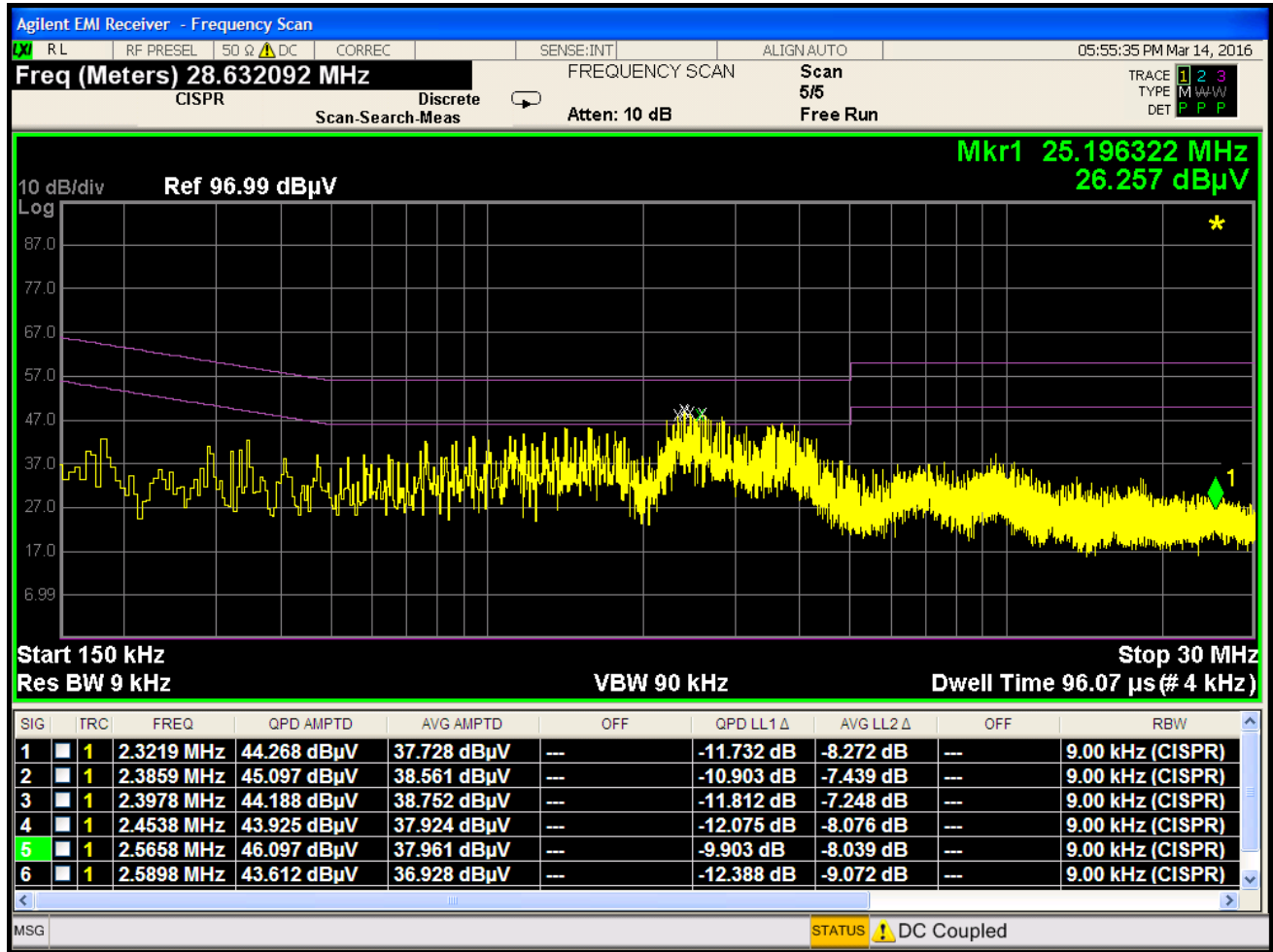


Plot 7-245. Line Conducted Plot with 802.11a UNII Band 1 (N)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 208 of 215

Line-Conducted Test Data

\$15.407

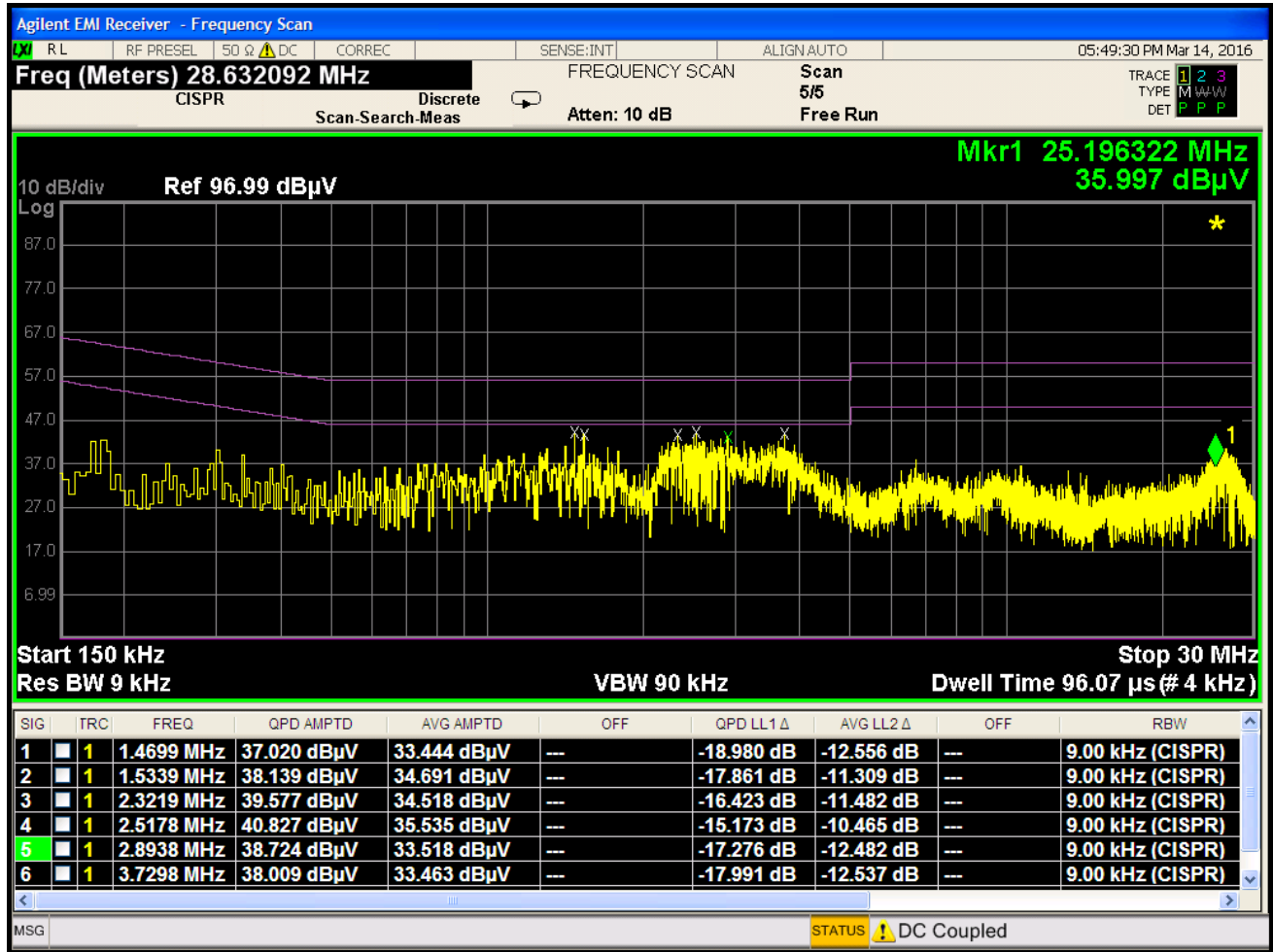


Plot 7-246. Line Conducted Plot with 802.11a UNII Band 2A (L1)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 209 of 215	

Line-Conducted Test Data

\$15.407

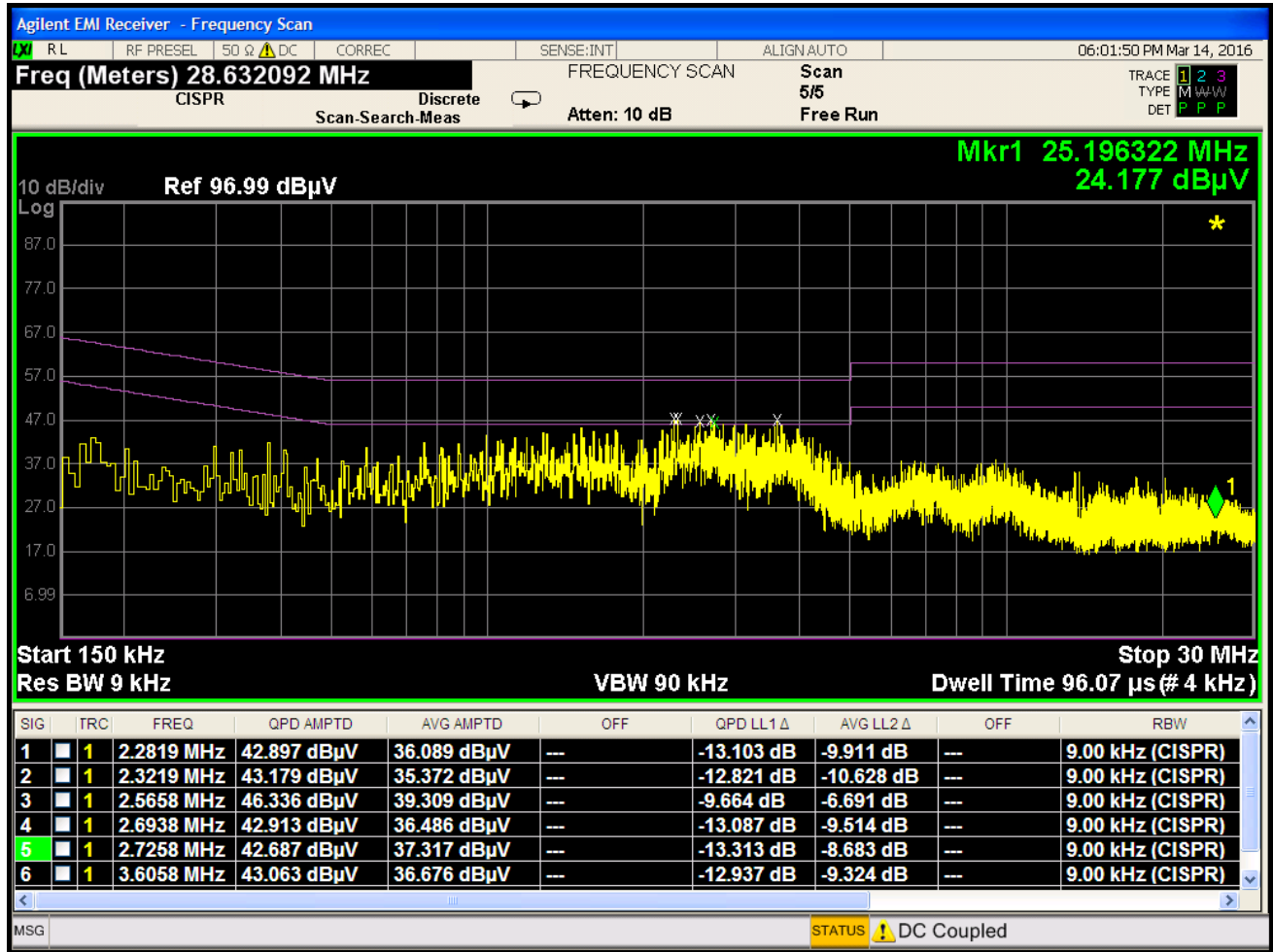


Plot 7-247. Line Conducted Plot with 802.11a UNII Band 2A (N)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 210 of 215

Line-Conducted Test Data

\$15.407

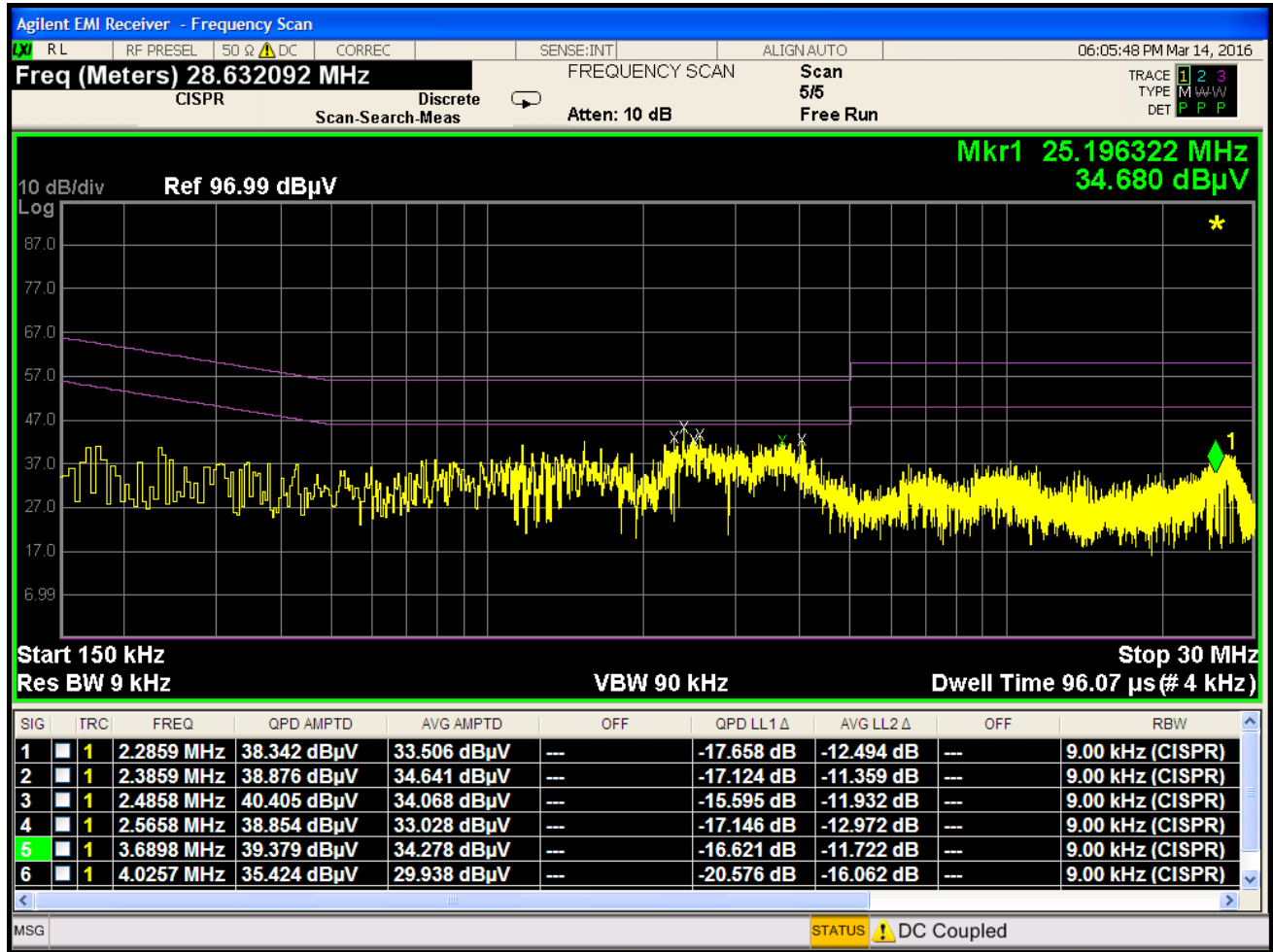


Plot 7-248. Line Conducted Plot with 802.11a UNII Band 2C (L1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 211 of 215

Line-Conducted Test Data

\$15.407

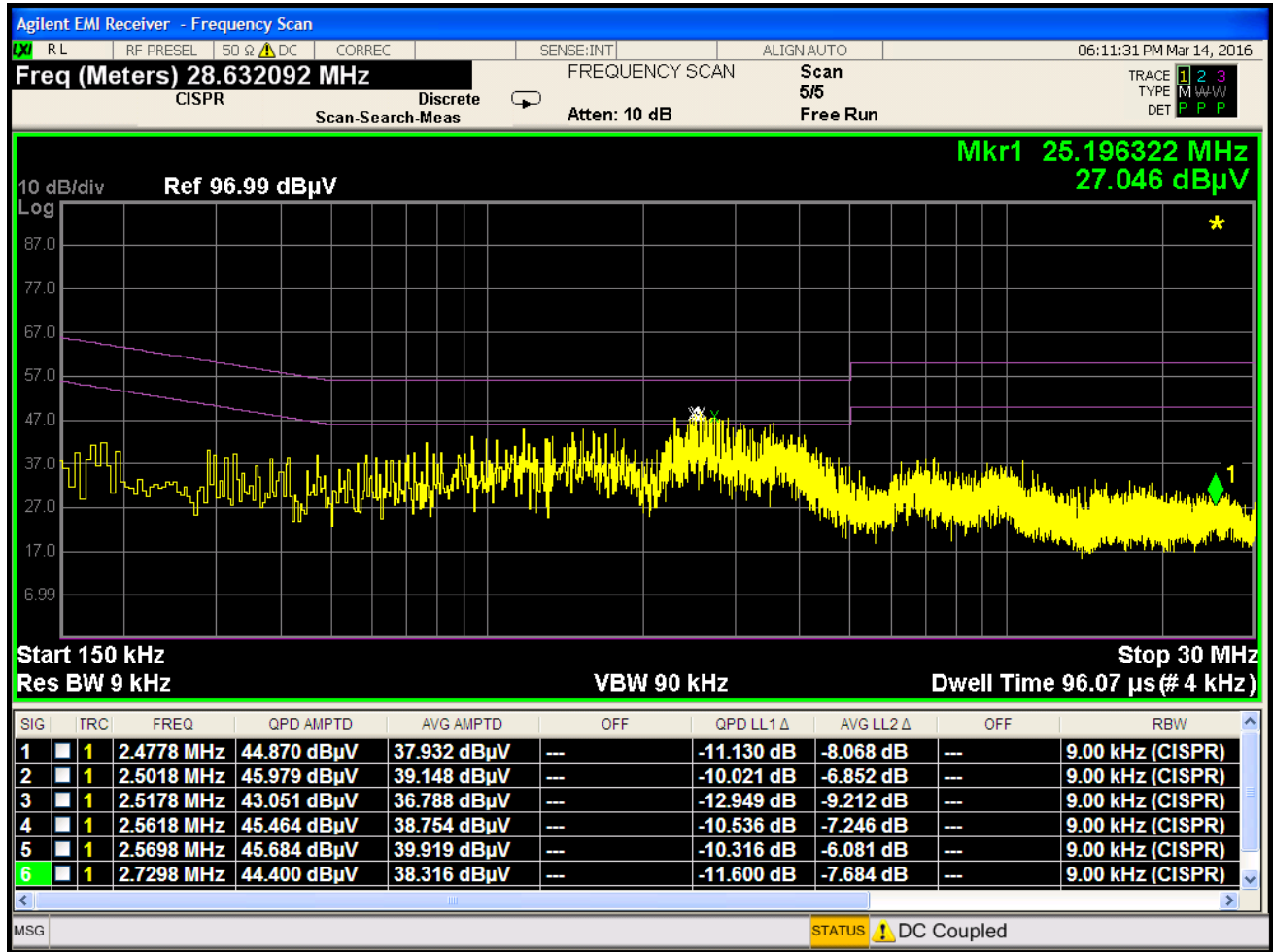


Plot 7-249. Line Conducted Plot with 802.11a UNII Band 2C (N)

FCC ID: A3LSMT813	PCTEST ENGINEERING LABORATORY, INC.	FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 212 of 215

Line-Conducted Test Data

\$15.407

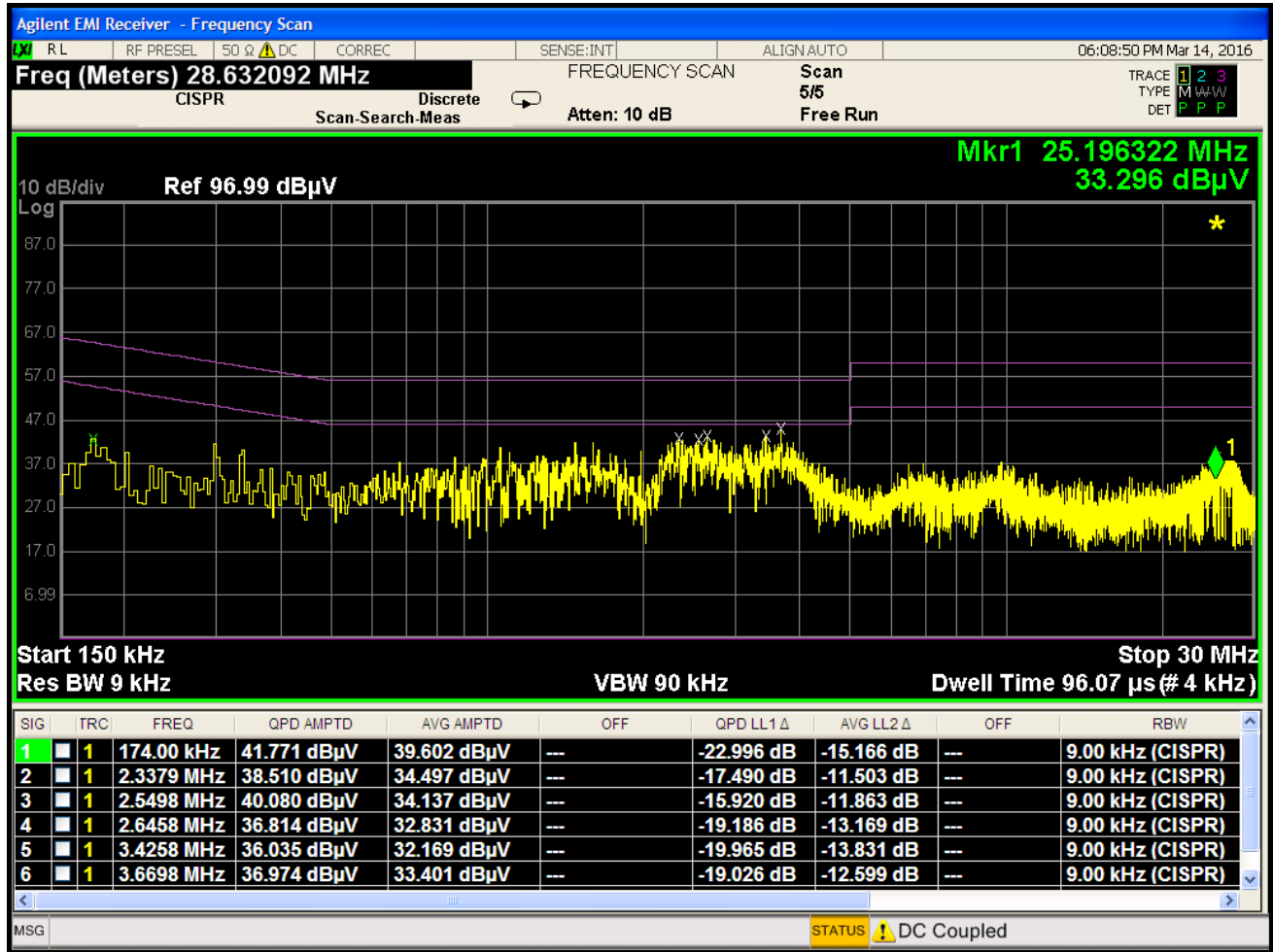


Plot 7-250. Line Conducted Plot with 802.11a UNII Band 3 (L1)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet		Page 213 of 215

Line-Conducted Test Data

\$15.407





Plot 7-251. Line Conducted Plot with 802.11a UNII Band 3 (N)

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 214 of 215	

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Tablet FCC ID: A3LSMT813** is in compliance with Part 15E of the FCC Rules.

FCC ID: A3LSMT813		FCC Pt. 15.407 802.11a/n/ac UNII MEASUREMENT REPORT (CERTIFICATION)		Reviewed by: Quality Manager
Test Report S/N: 0Y1603080480.A3L	Test Dates: 3/8 - 3/18/2016	EUT Type: Portable Tablet	Page 215 of 215	