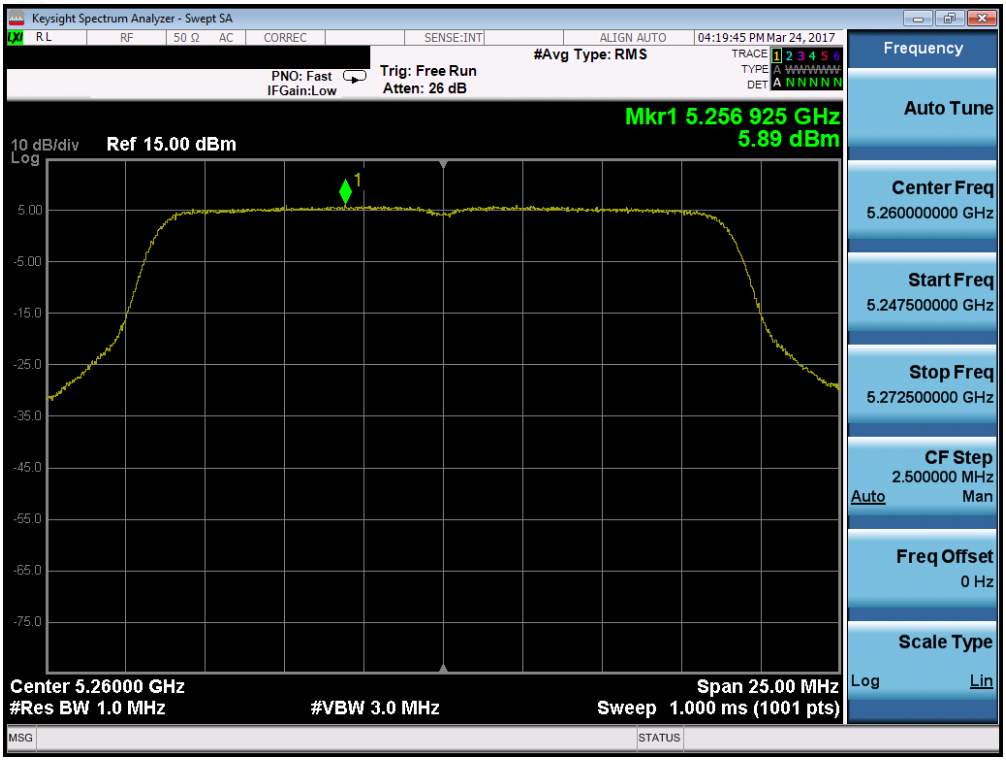
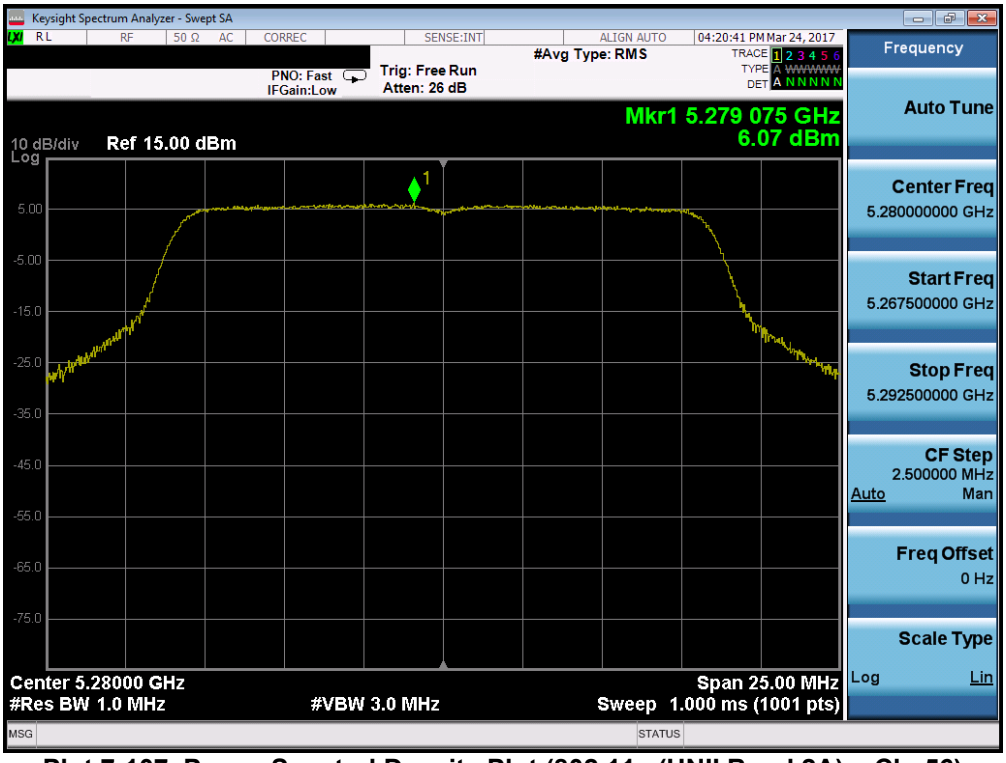
Antenna-2 Power Spectral Density Measurements

	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 2A	5260	52	a	6	5.89	11.0	-5.11	Pass
	5280	56	a	6	6.07	11.0	-4.93	Pass
	5320	64	a	6	8.23	11.0	-2.77	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	5.90	11.0	-5.10	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	5.96	11.0	-5.04	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	6.11	11.0	-4.89	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.84	11.0	-8.16	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	3.16	11.0	-7.84	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-0.72	11.0	-11.72	Pass
Band 2C	5500	100	a	6	6.65	11.0	-4.35	Pass
	5600	120	a	6	6.21	11.0	-4.79	Pass
	5720	144	a	6	6.57	11.0	-4.43	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	6.25	11.0	-4.75	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	6.09	11.0	-4.91	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	6.22	11.0	-4.78	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	3.20	11.0	-7.80	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	3.26	11.0	-7.74	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	3.35	11.0	-7.65	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-0.77	11.0	-11.77	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-0.99	11.0	-11.99	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-3.27	11.0	-14.27	Pass

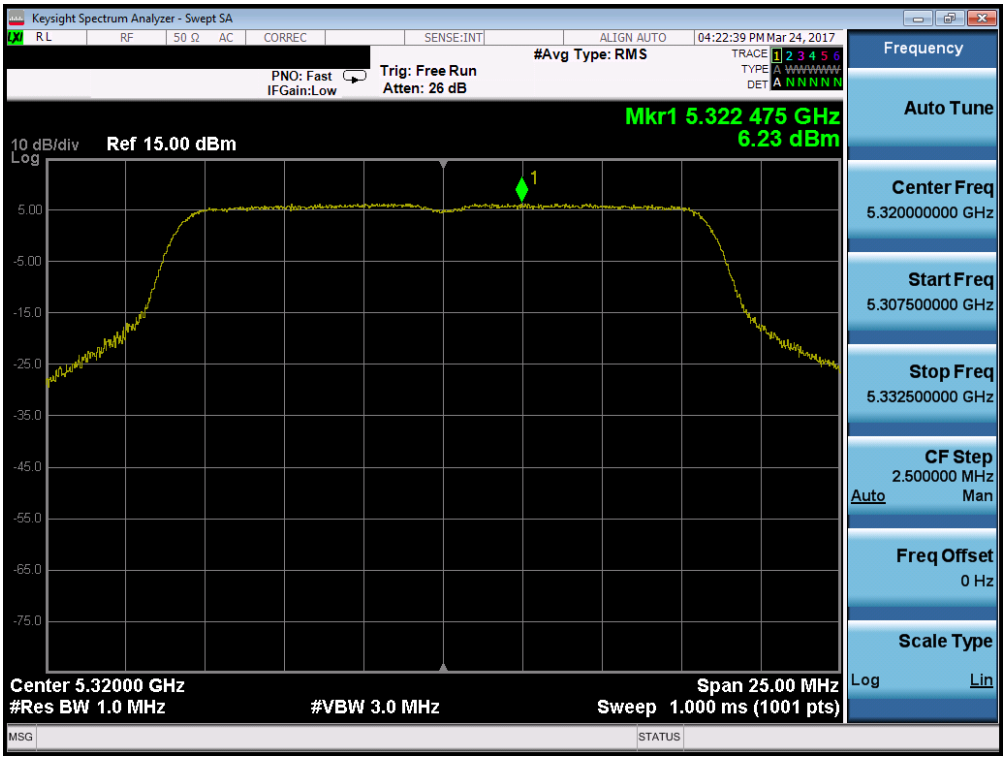
Table 7-24. Bands 2A & 2C Conducted Power Spectral Density Measurements



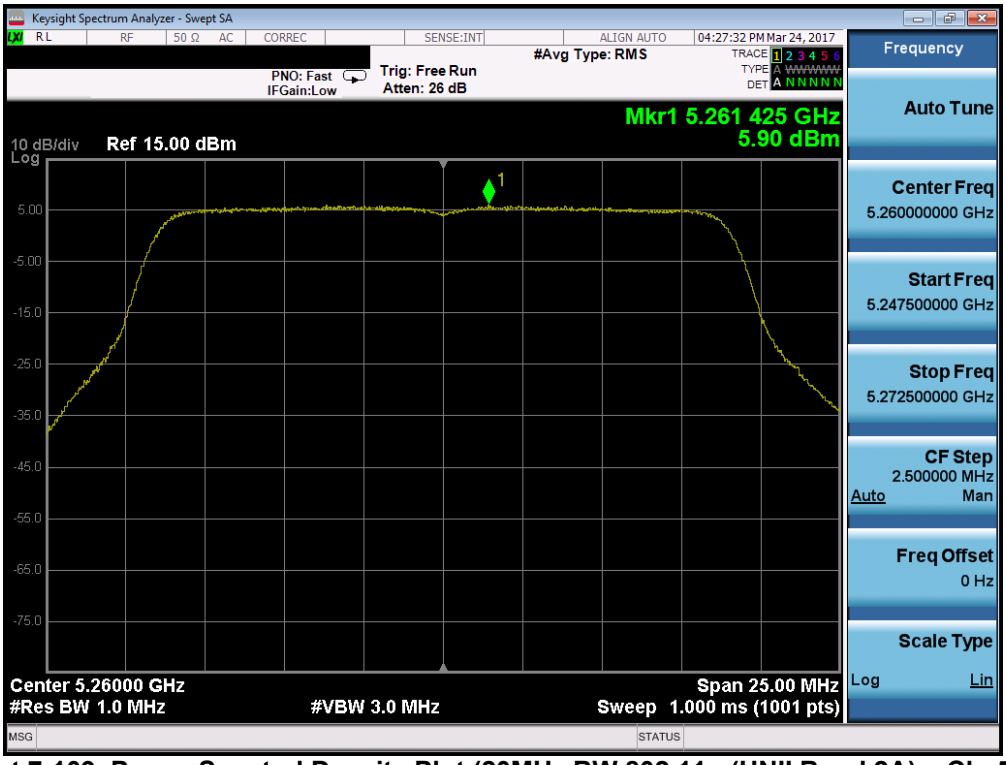
Plot 7-106. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)



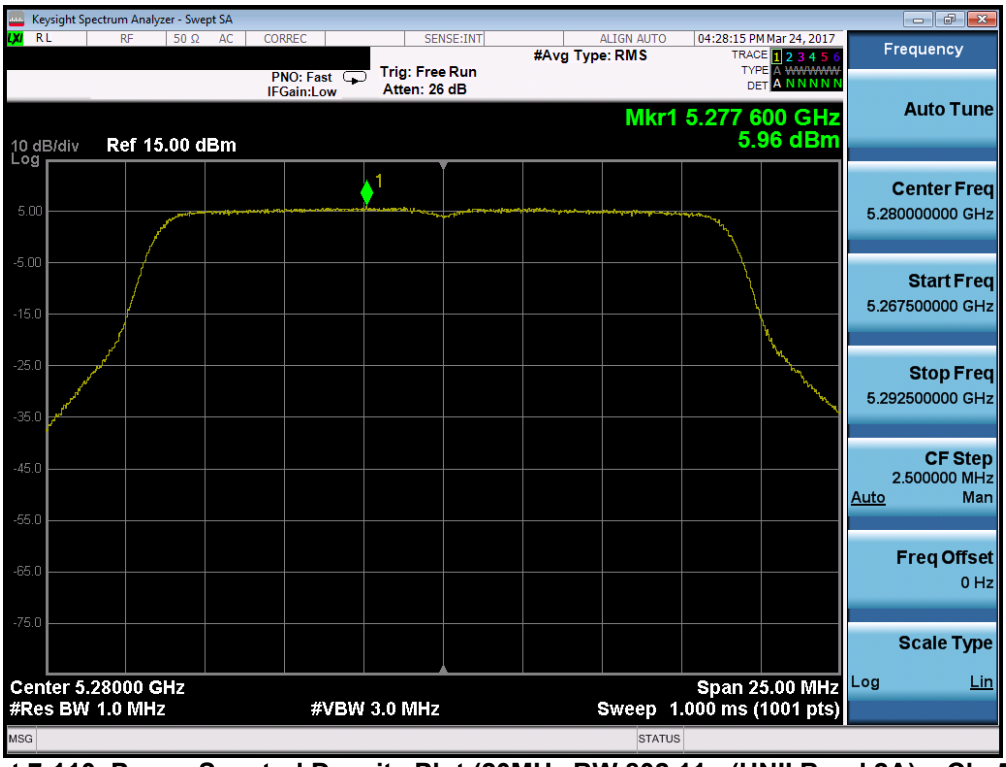
Plot 7-107. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)



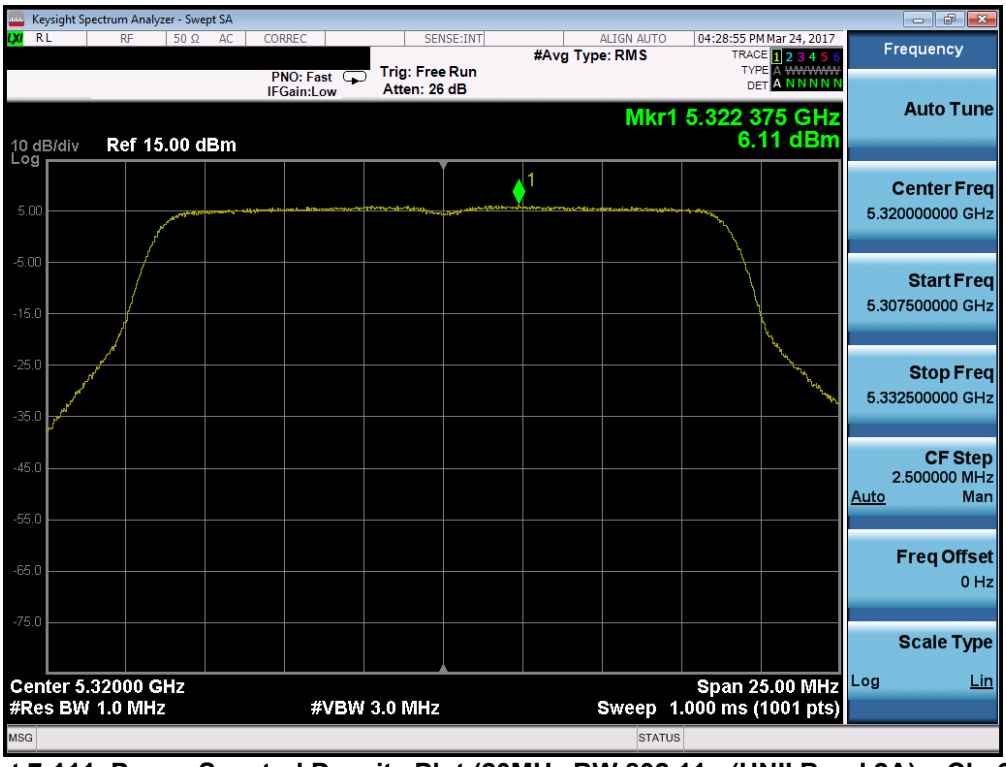
Plot 7-108. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)



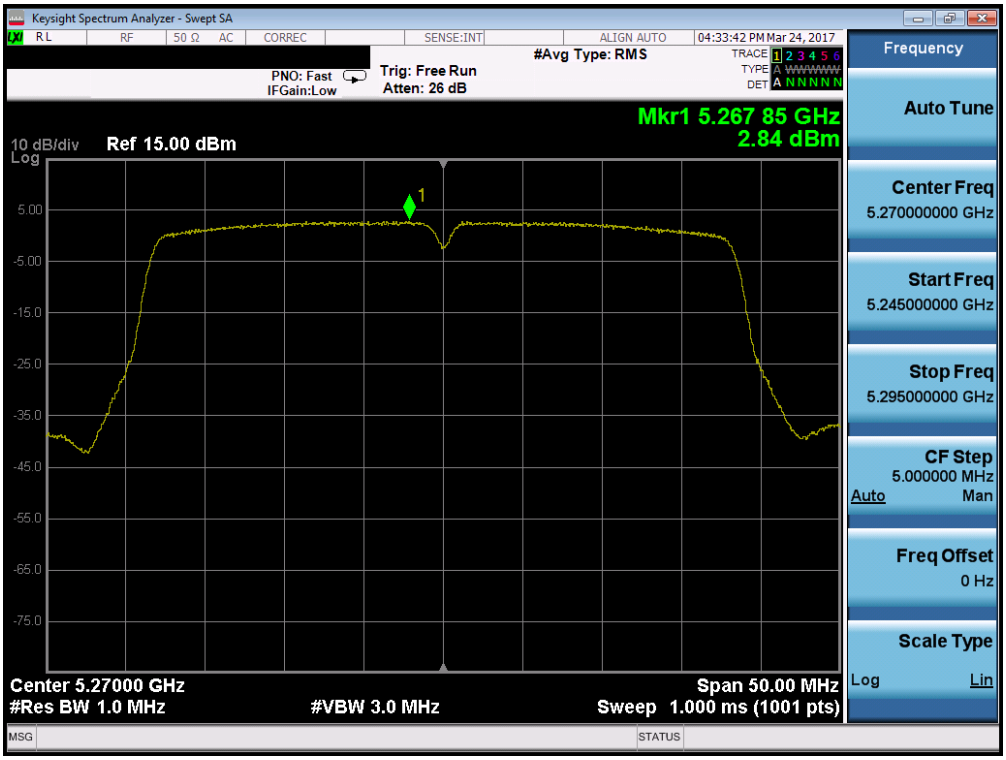
Plot 7-109. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)



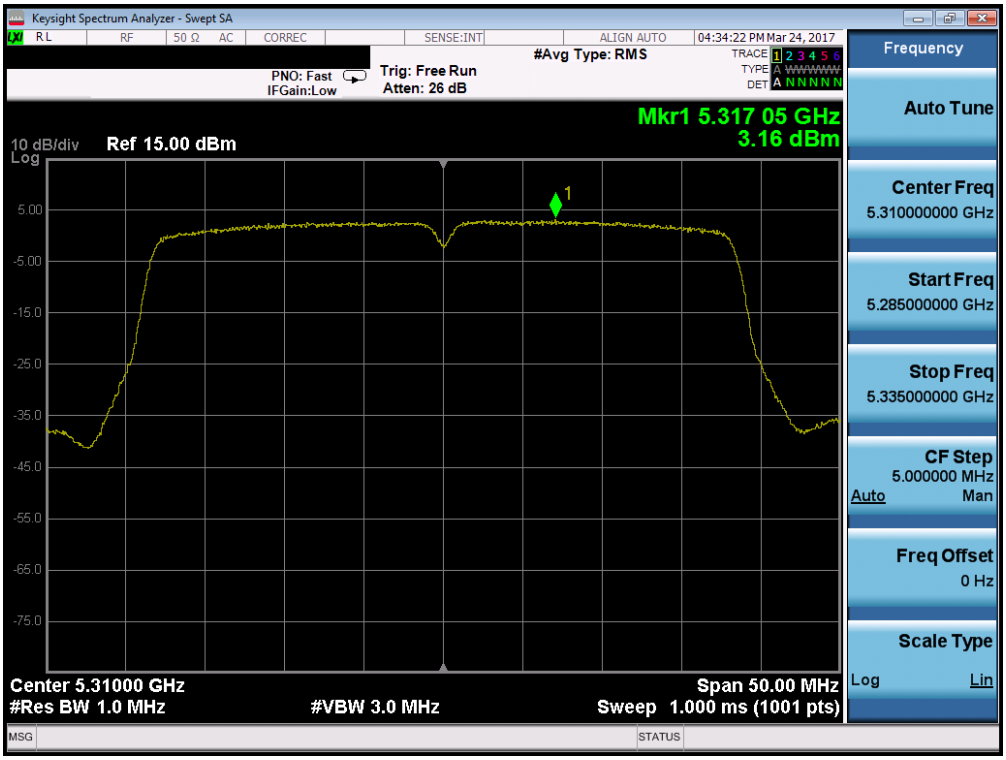
Plot 7-110. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)



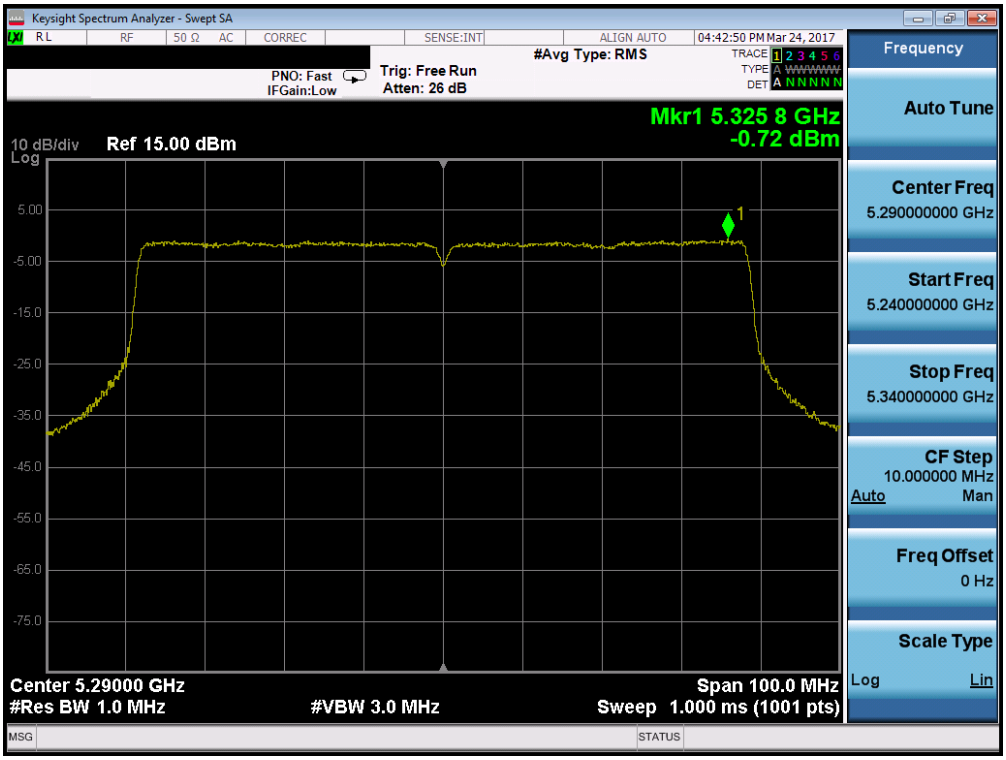
Plot 7-111. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)



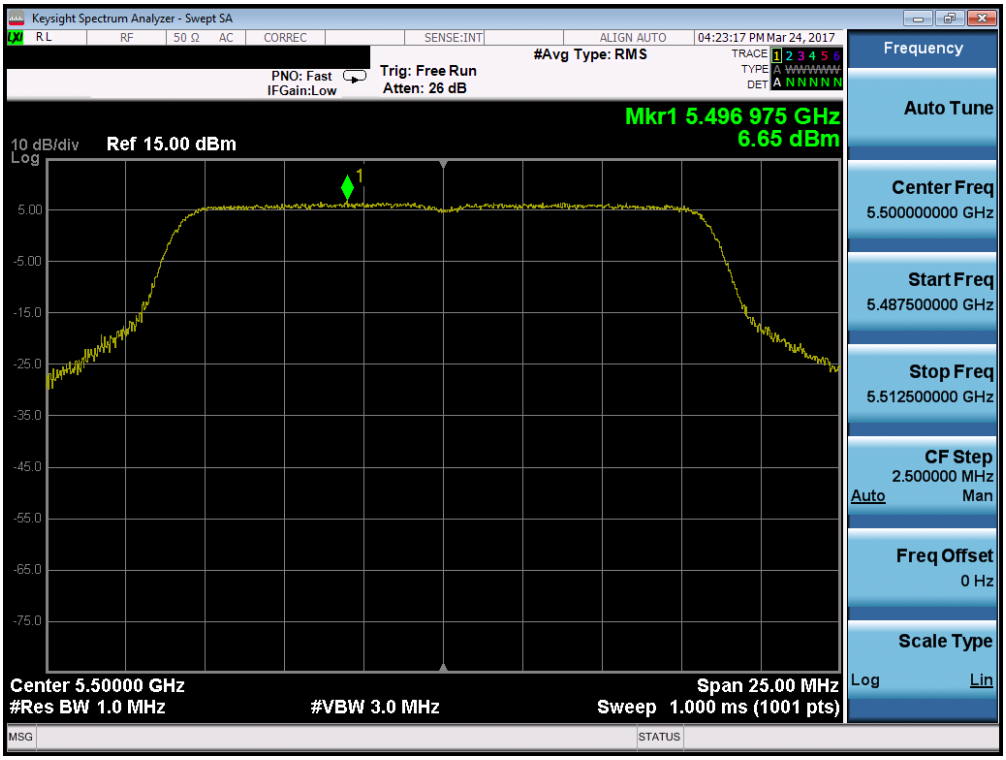
Plot 7-112. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)



Plot 7-113. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



Plot 7-114. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)



Plot 7-115. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)

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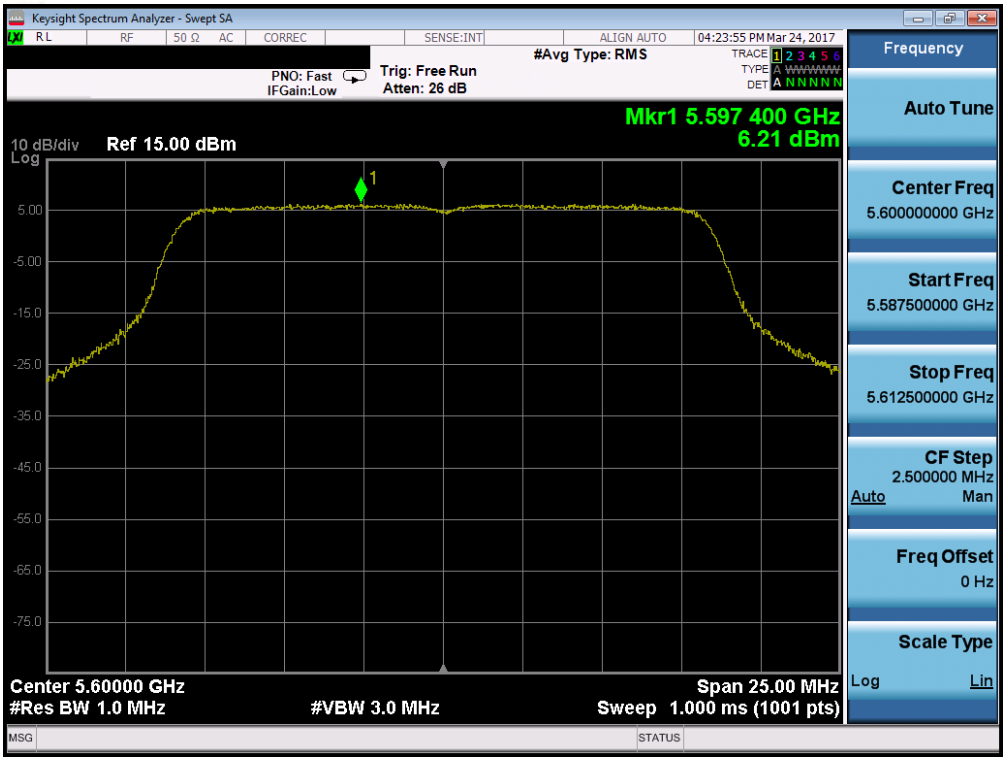
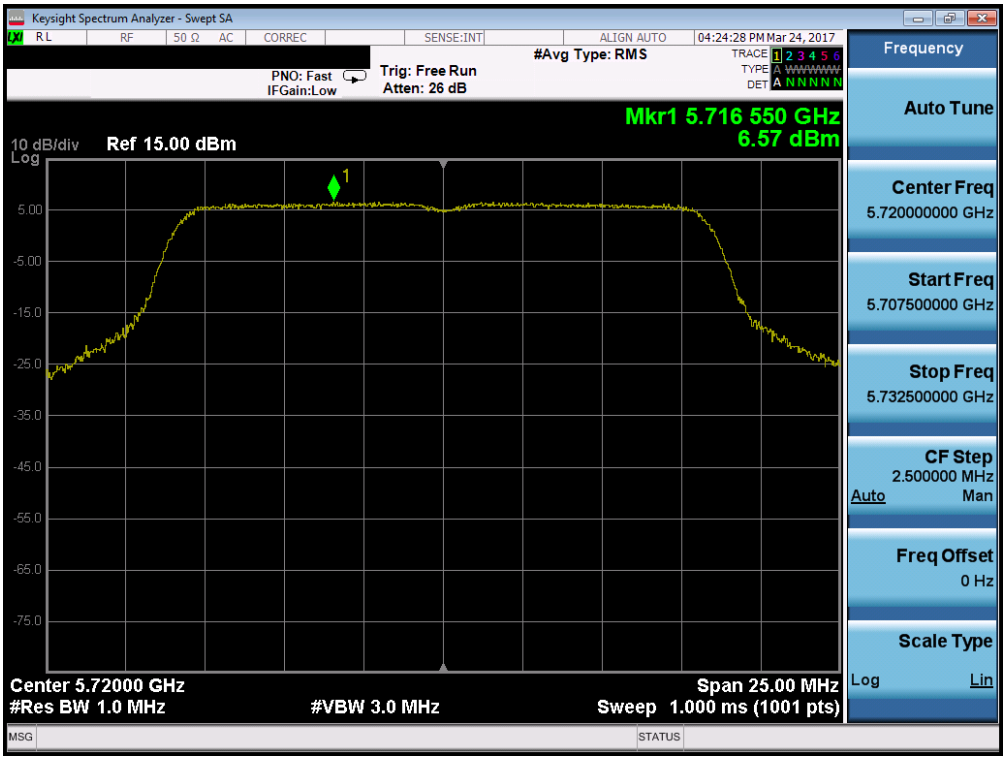
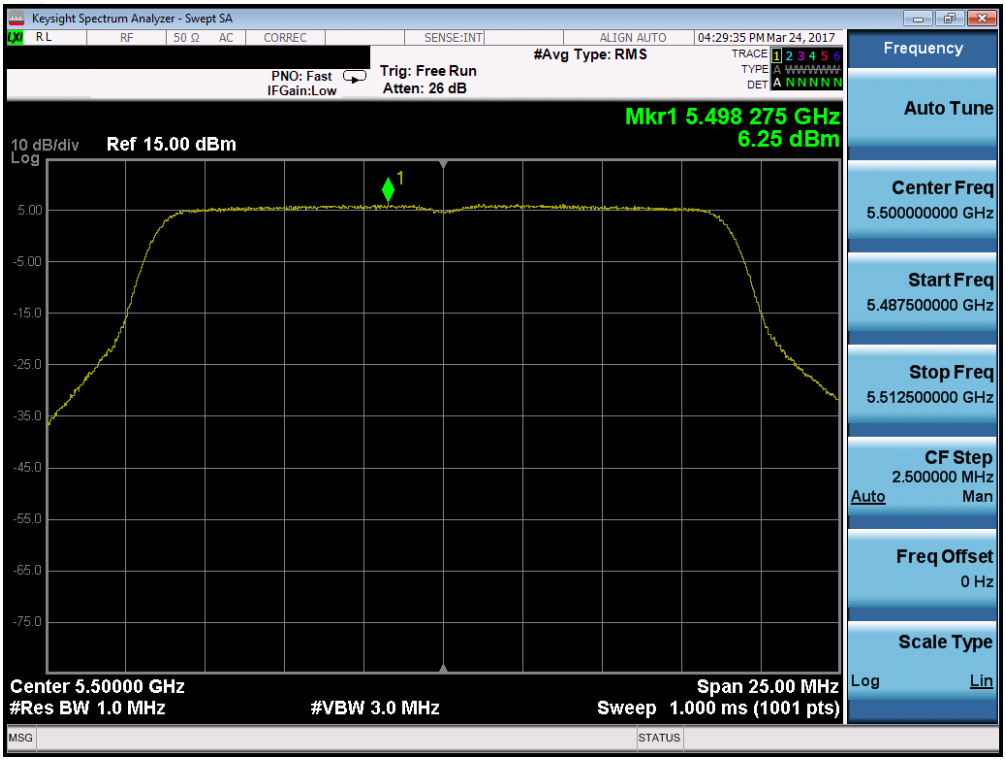


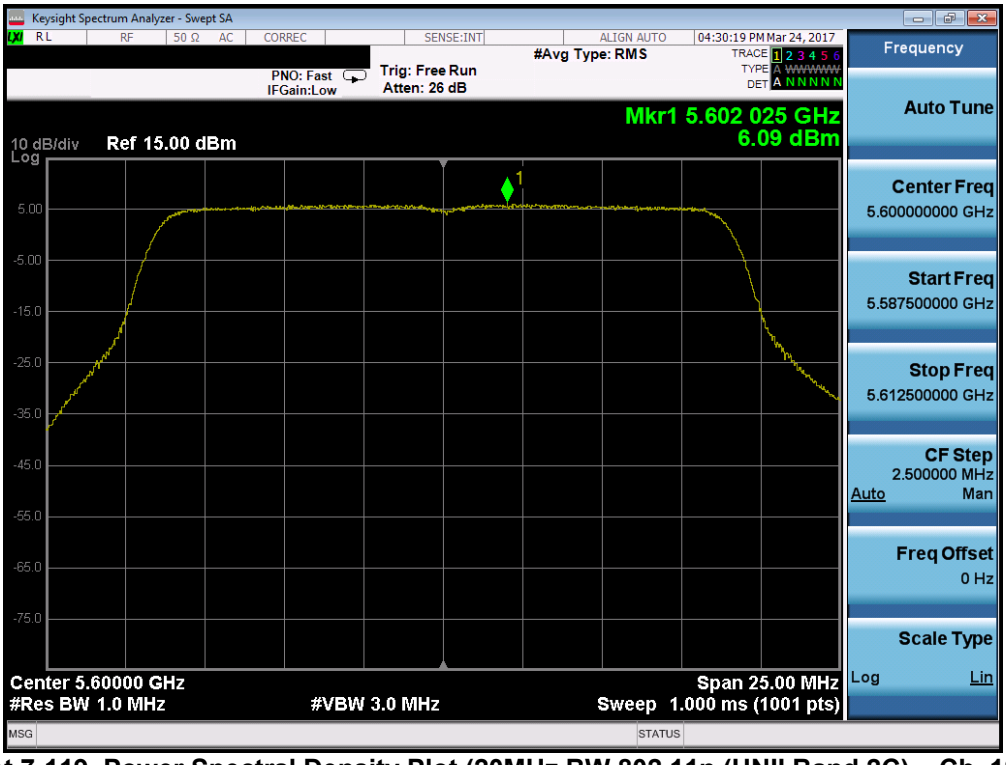
Plot 7-116. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 120)



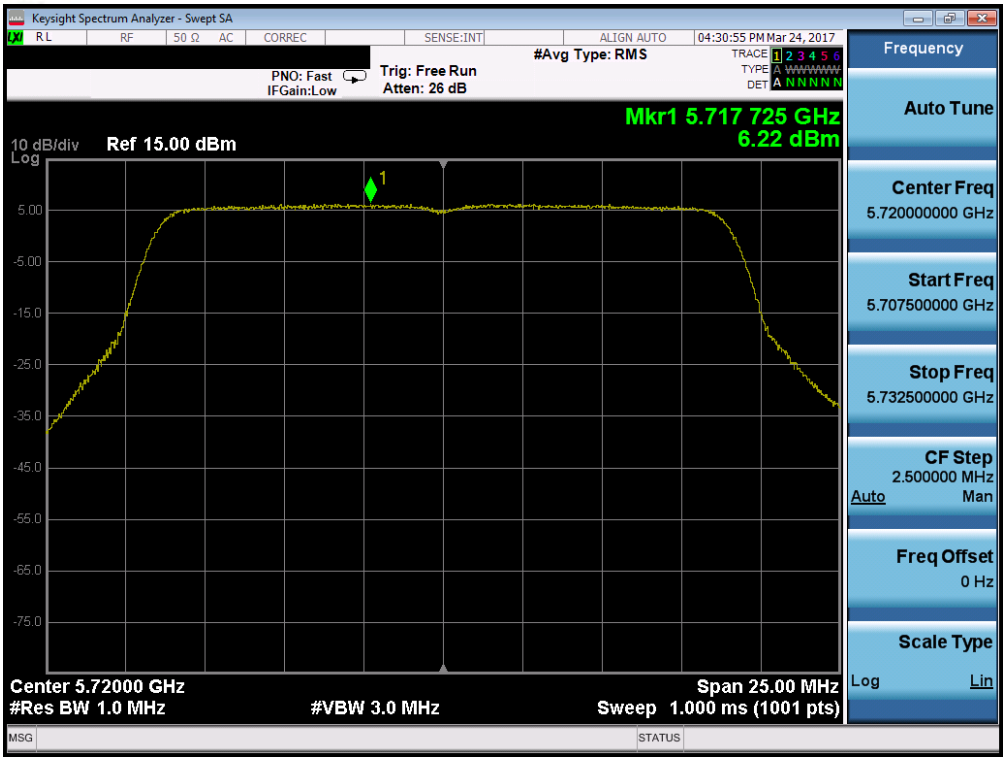
Plot 7-117. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)



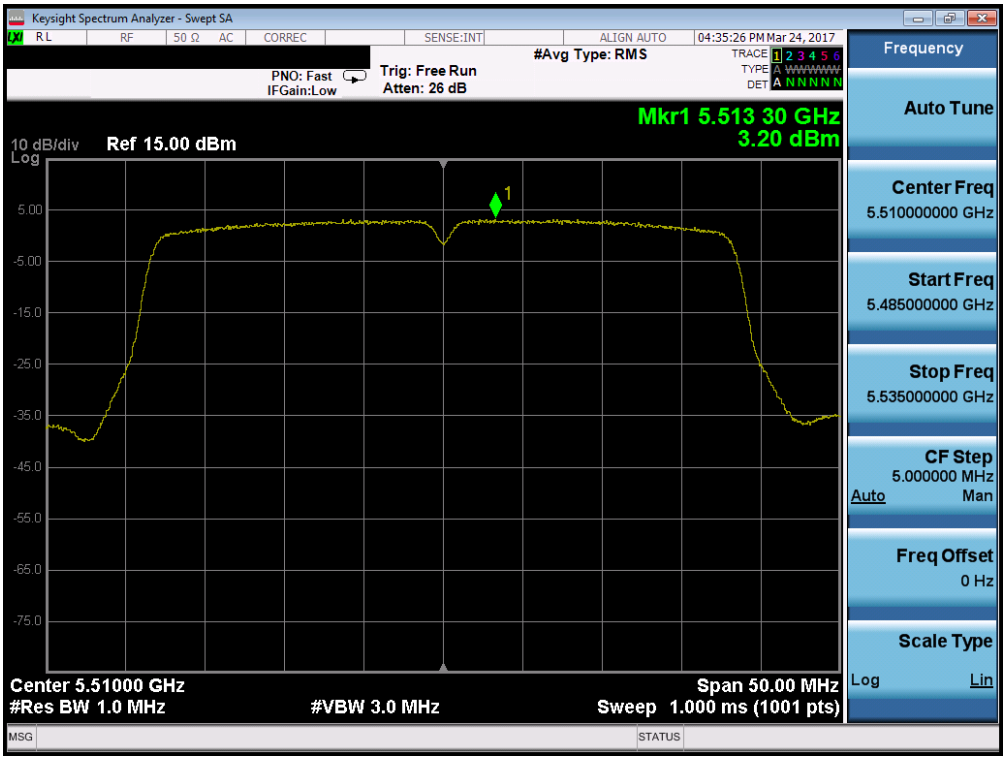
Plot 7-118. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)



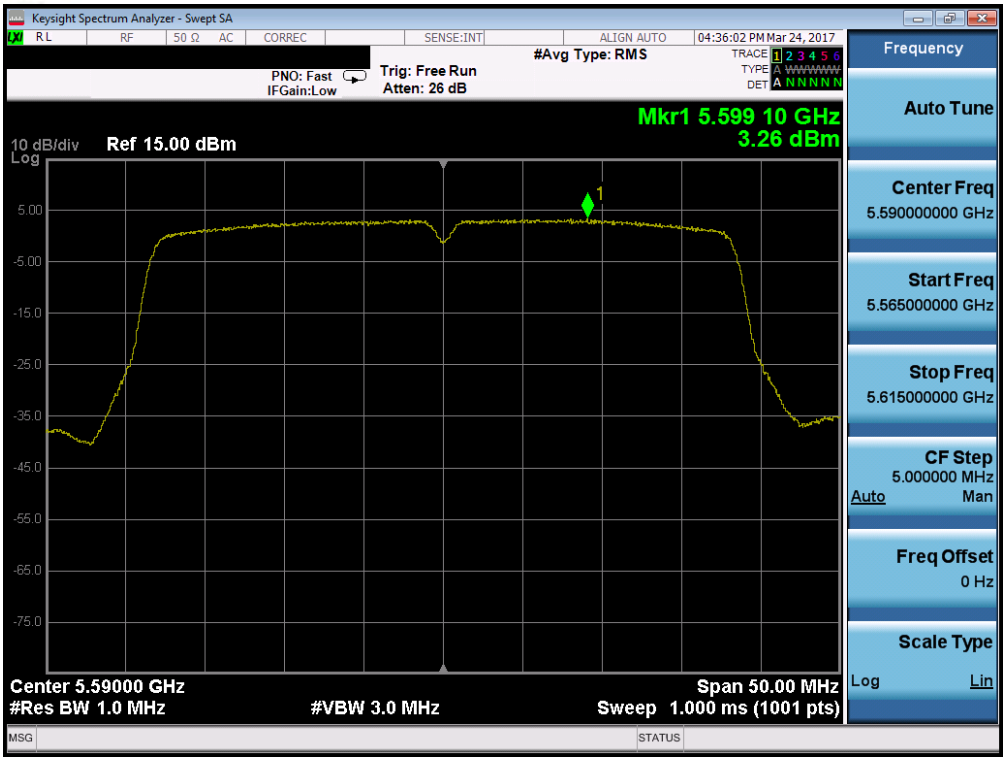
Plot 7-119. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)



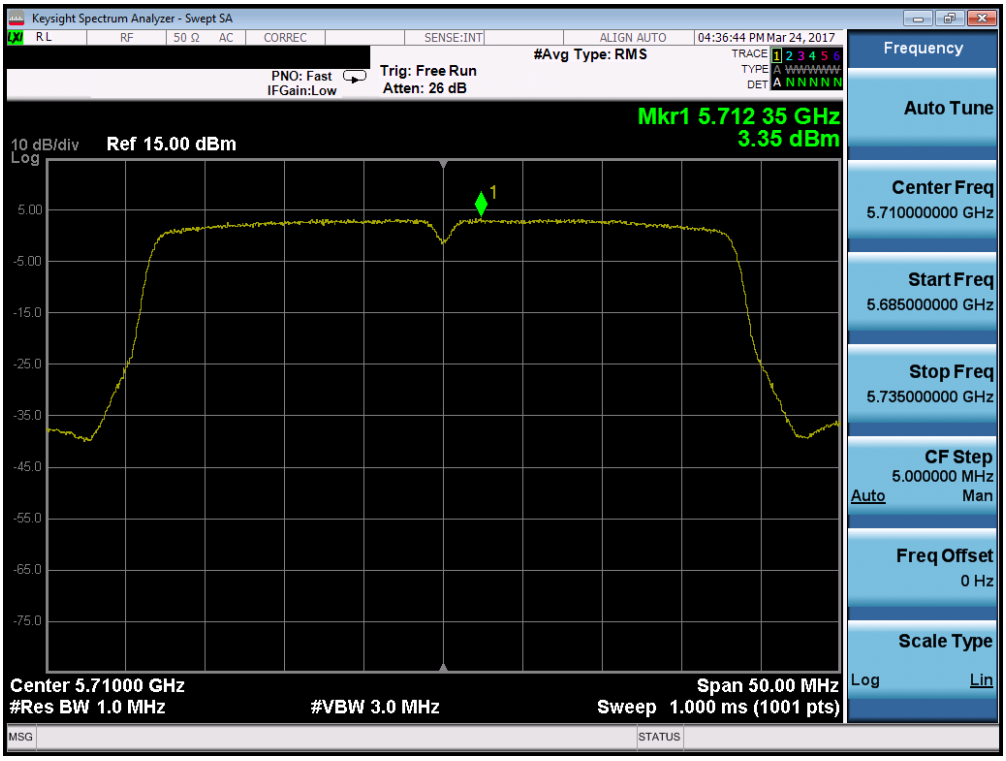
Plot 7-120. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)



Plot 7-121. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)



Plot 7-122. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)



Plot 7-123. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

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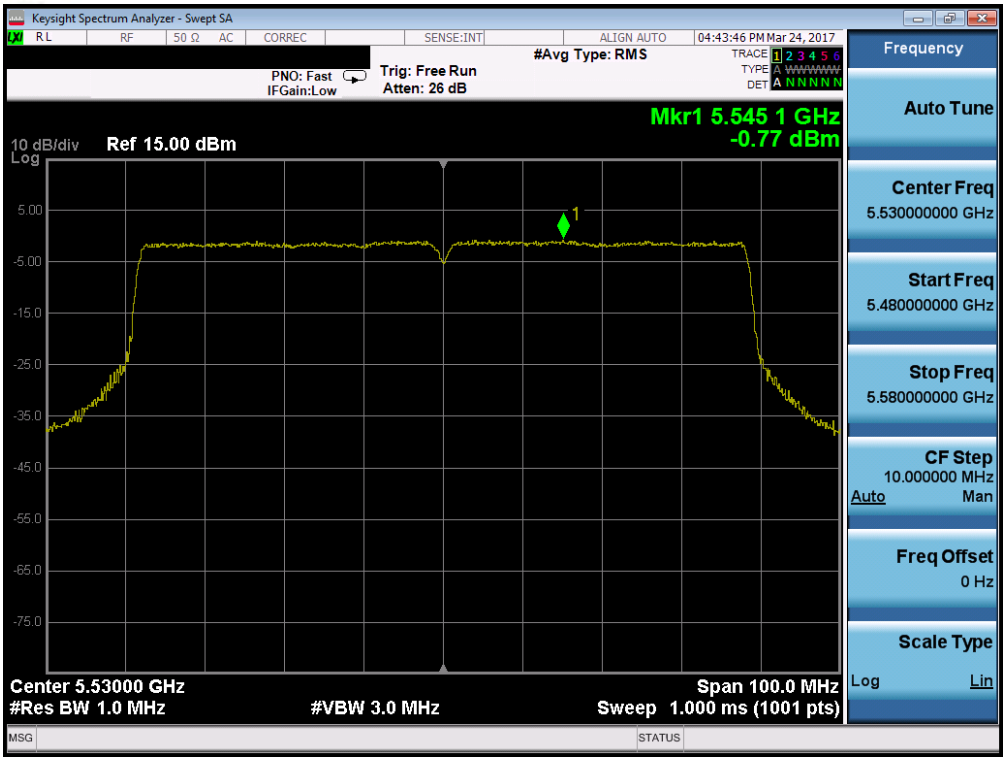
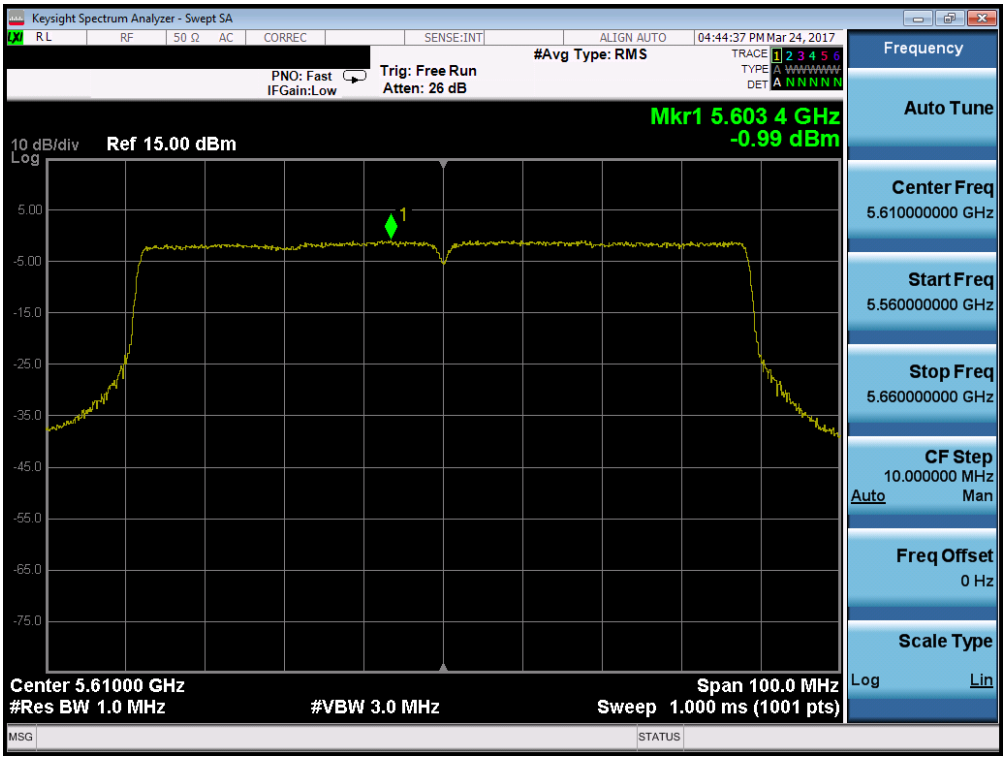
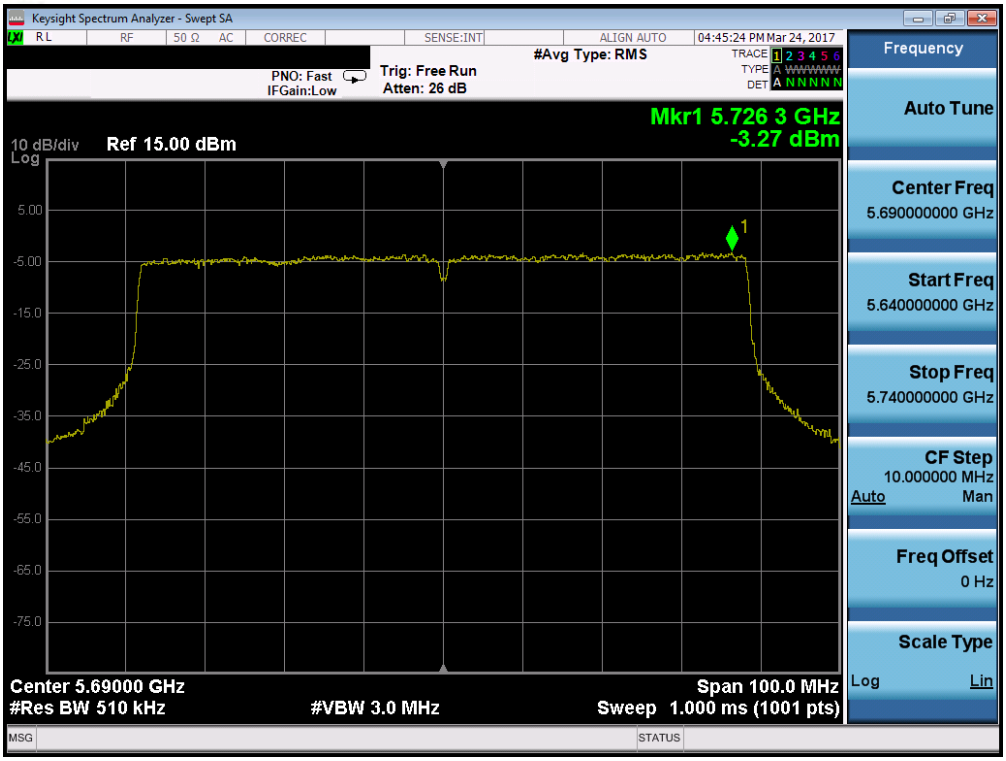


Plot 7-124. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)



Plot 7-125. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)

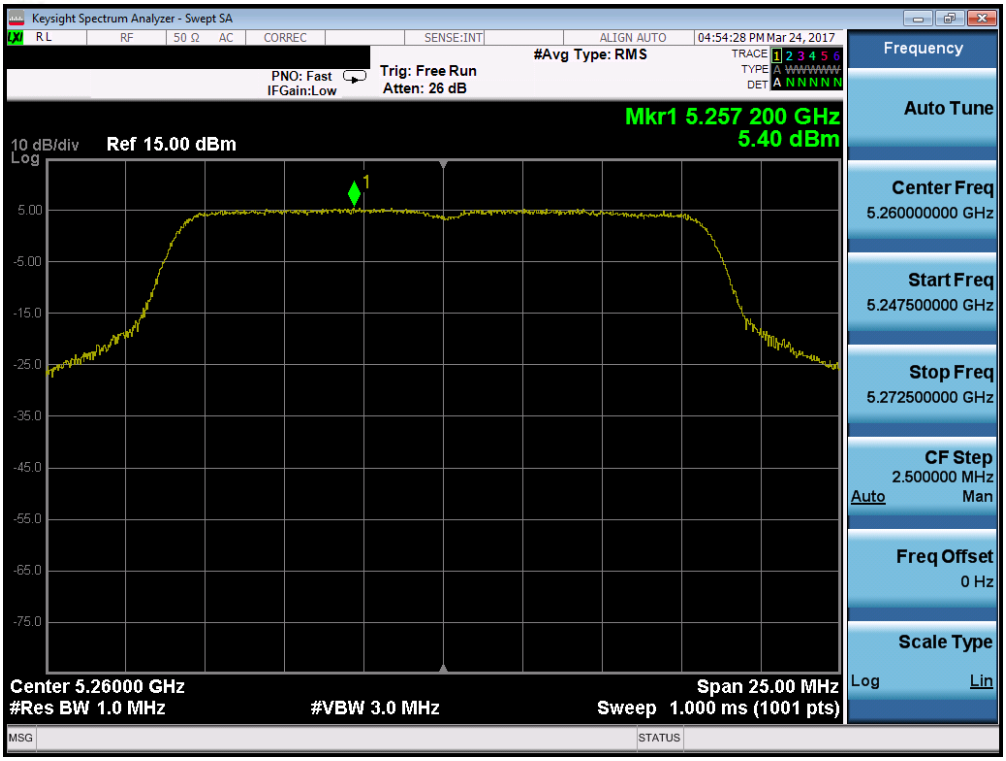


Plot 7-126. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

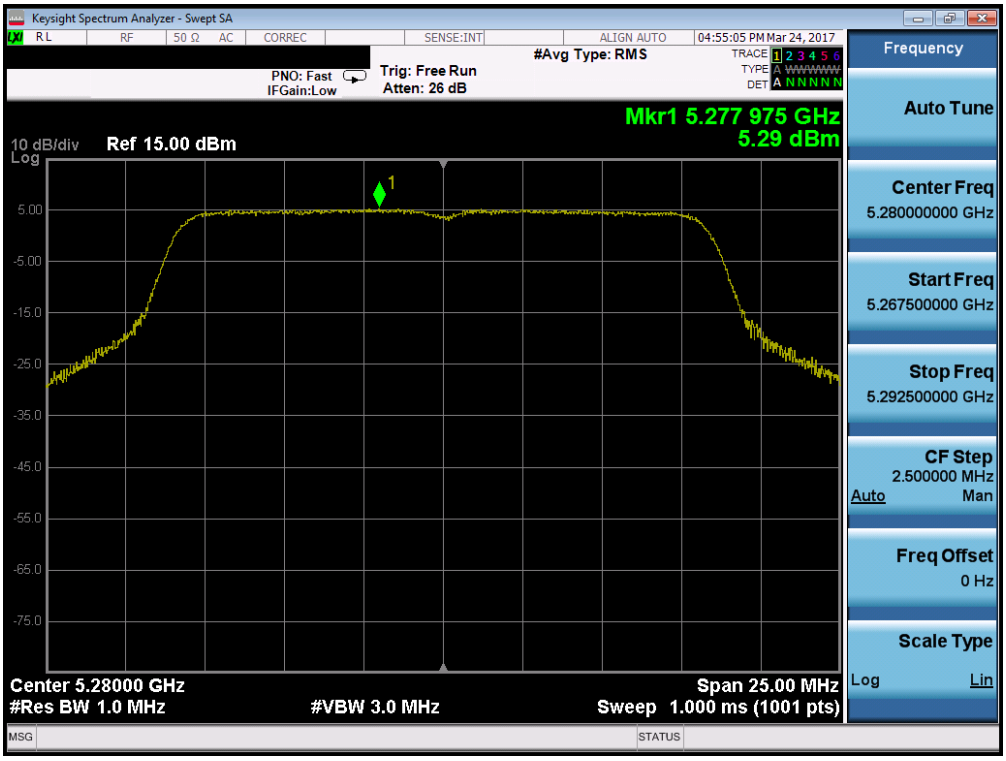
Antenna-3 Power Spectral Density Measurements

	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 2A	5260	52	a	6	5.40	11.0	-5.60	Pass
	5280	56	a	6	5.29	11.0	-5.71	Pass
	5320	64	a	6	5.97	11.0	-5.03	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	5.32	11.0	-5.68	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	5.16	11.0	-5.84	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	5.61	11.0	-5.39	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.19	11.0	-8.81	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	2.61	11.0	-8.39	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-0.59	11.0	-11.59	Pass
Band 2C	5500	100	a	6	6.52	11.0	-4.48	Pass
	5600	120	a	6	6.28	11.0	-4.72	Pass
	5720	144	a	6	6.40	11.0	-4.60	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	6.35	11.0	-4.65	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	5.91	11.0	-5.09	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	6.17	11.0	-4.83	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	3.15	11.0	-7.85	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	3.03	11.0	-7.97	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	3.20	11.0	-7.80	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-0.12	11.0	-11.12	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	-0.02	11.0	-11.02	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-2.67	11.0	-13.67	Pass

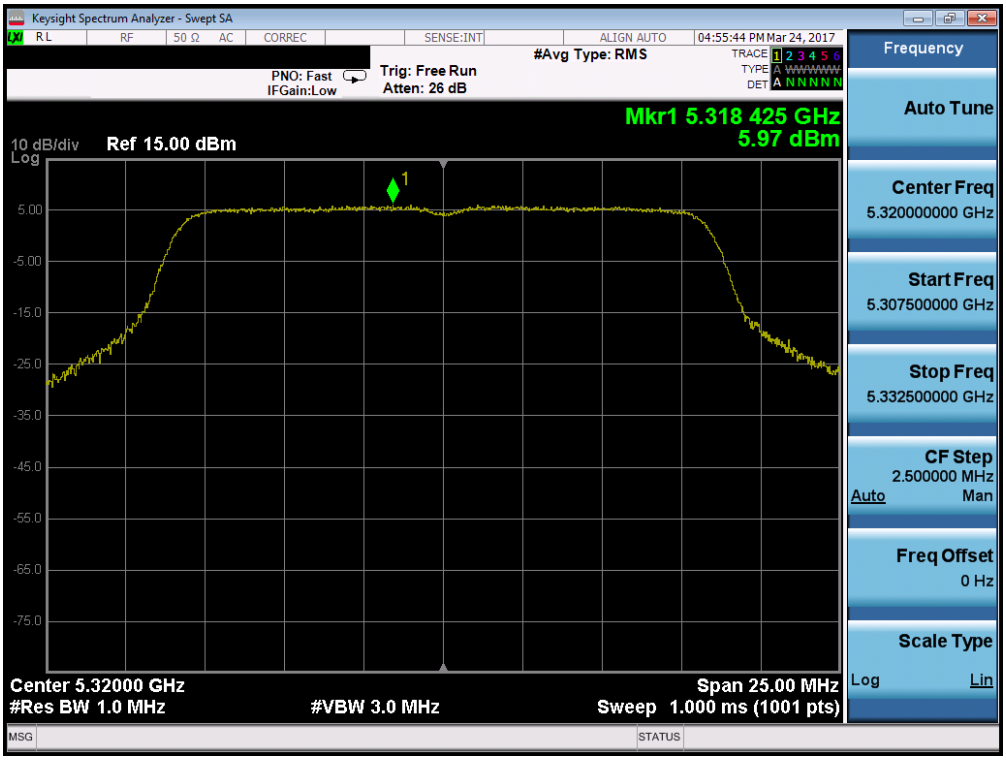
Table 7-25. Bands 2A & 2C Conducted Power Spectral Density Measurements



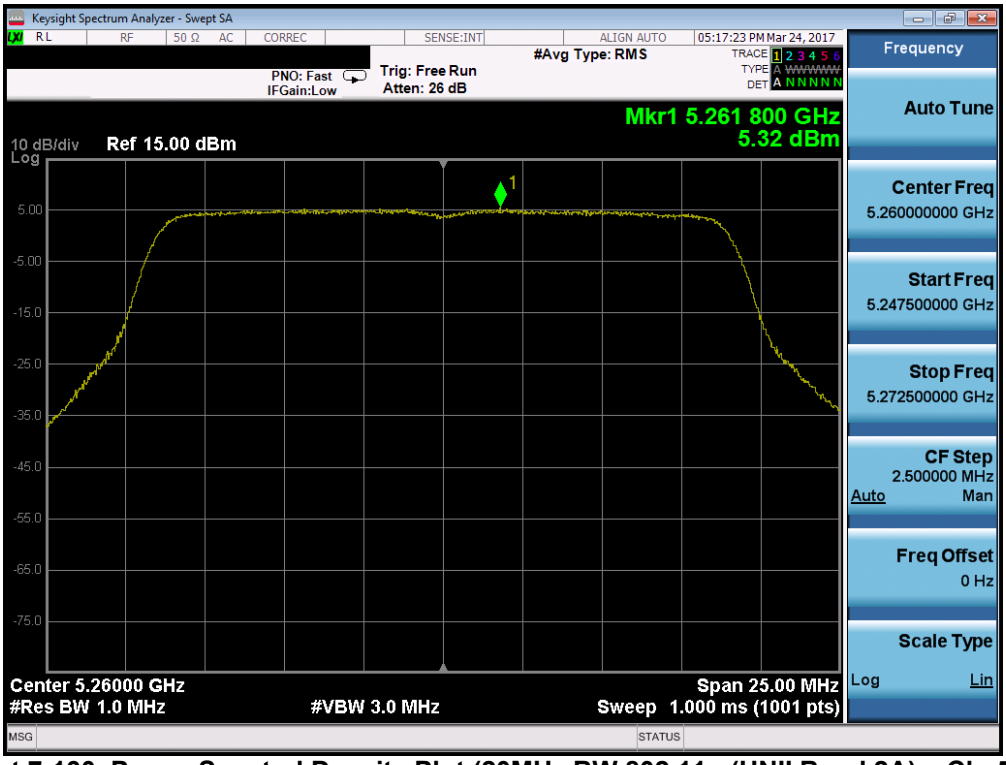
Plot 7-127. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)



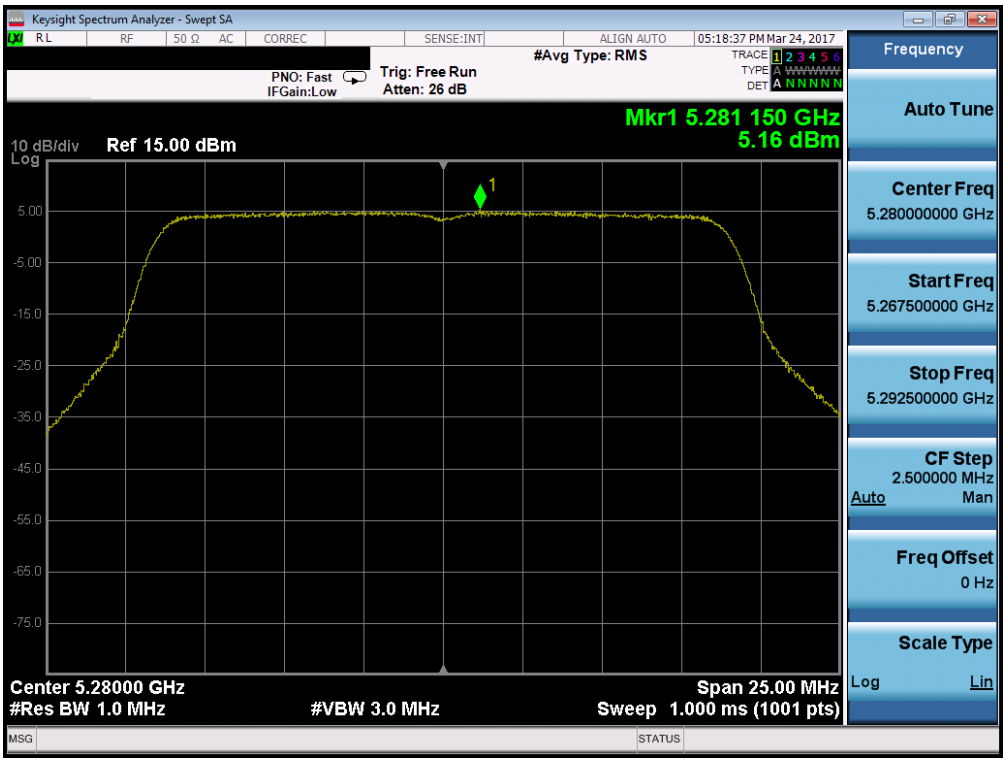
Plot 7-128. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)



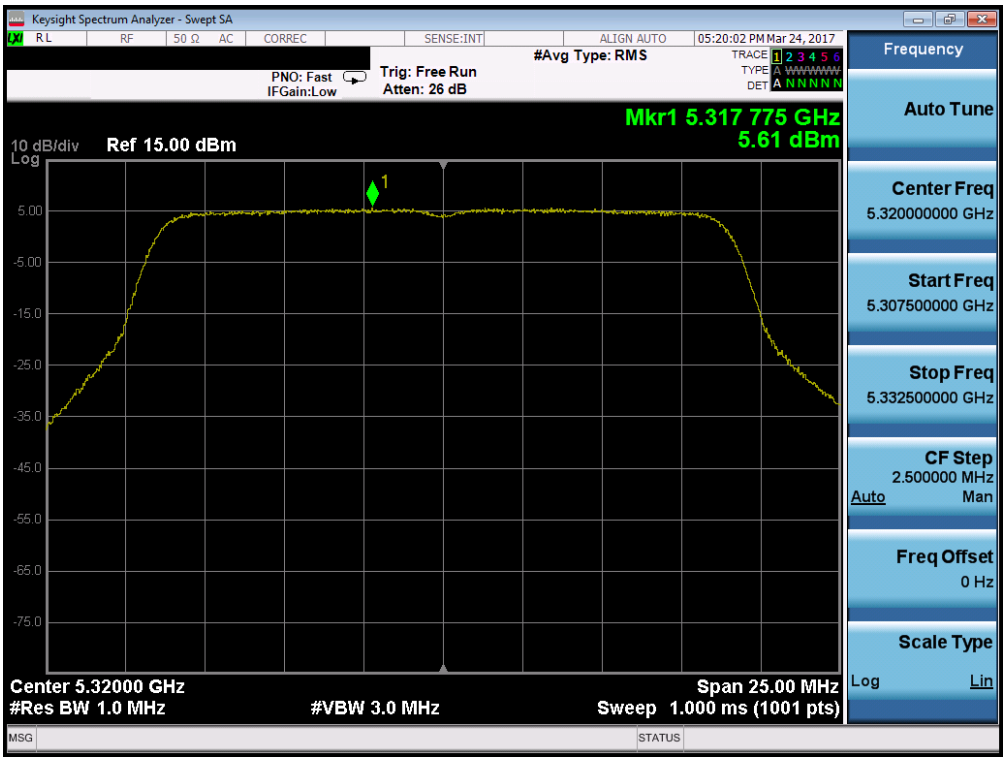
Plot 7-129. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)



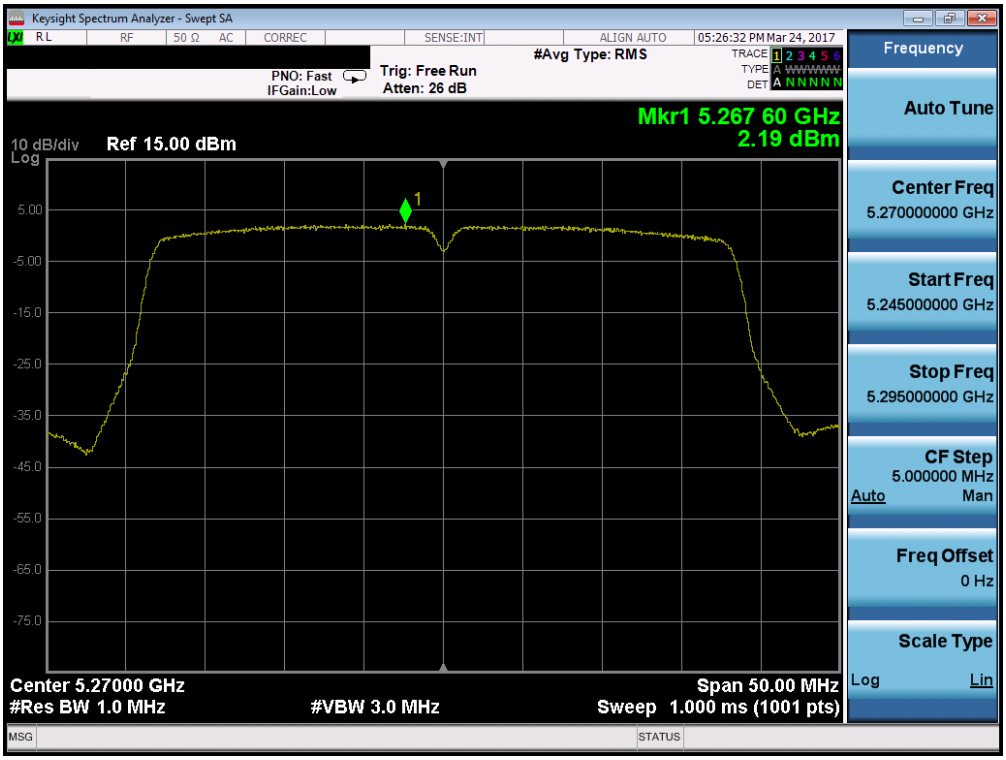
Plot 7-130. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)



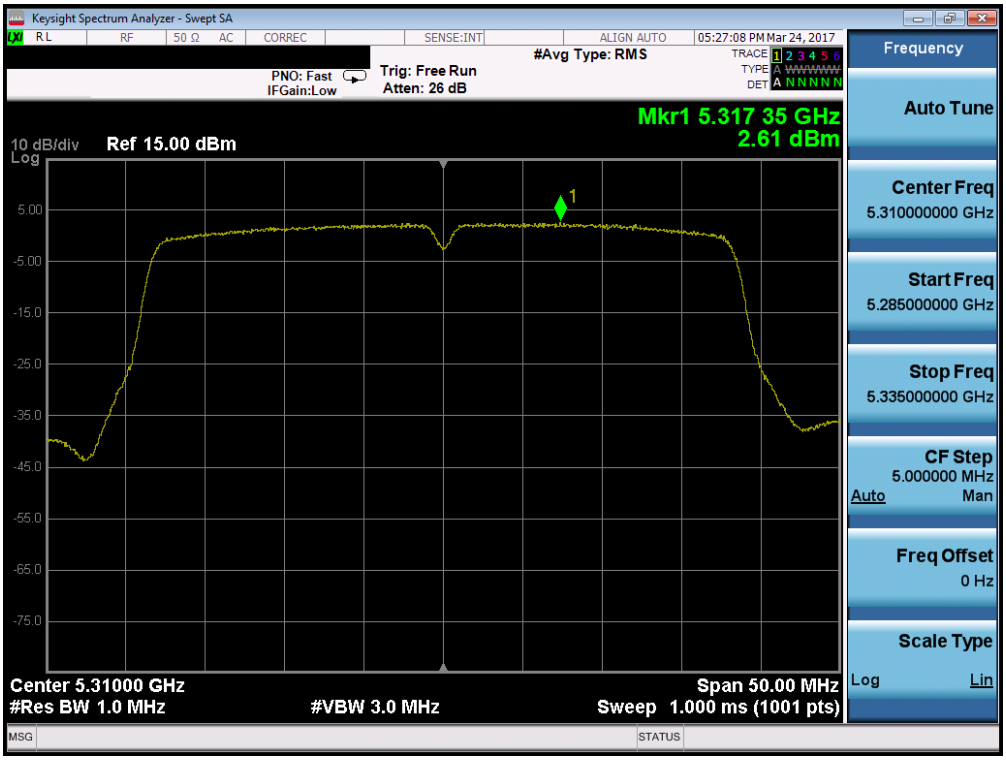
Plot 7-131. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)



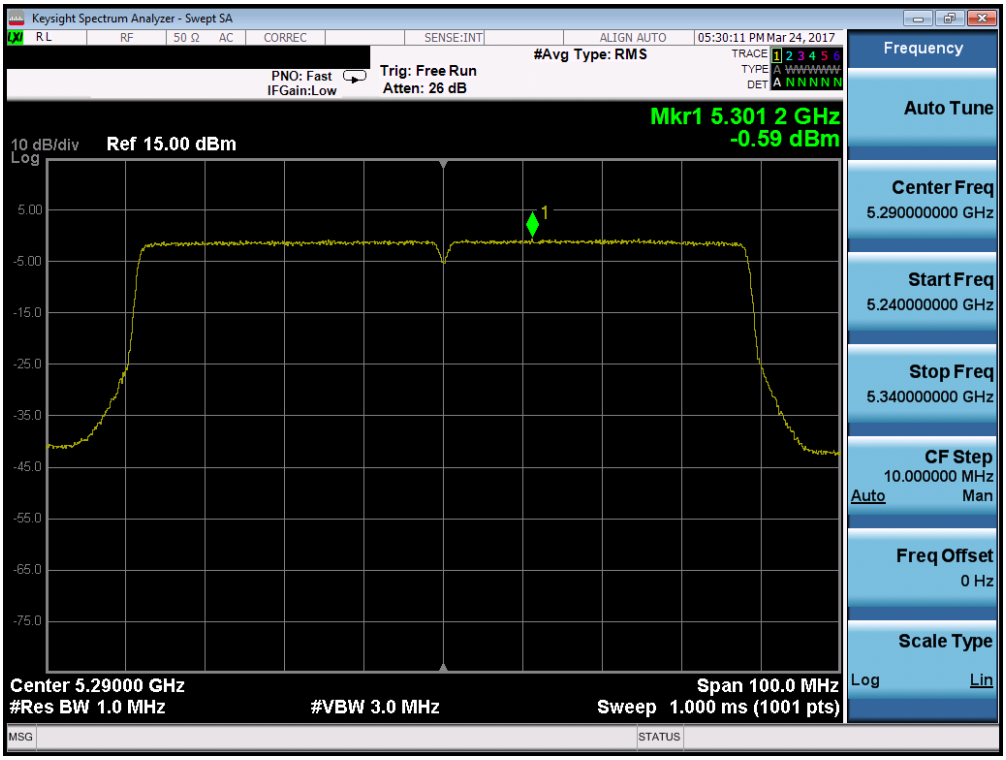
Plot 7-132. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)



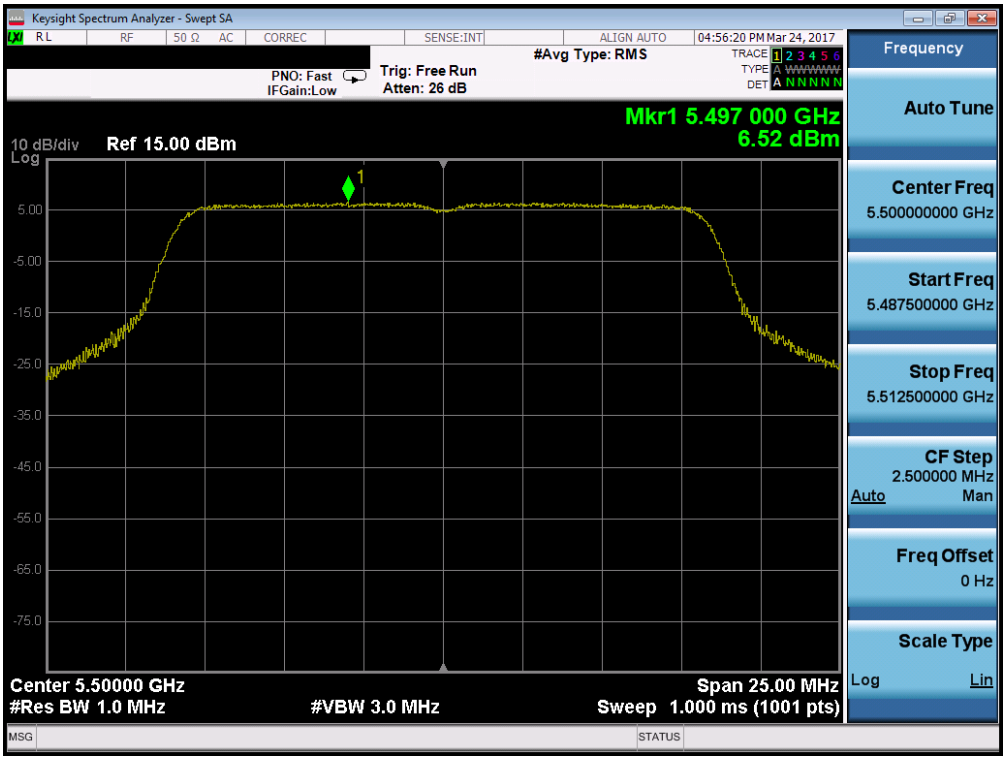
Plot 7-133. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)



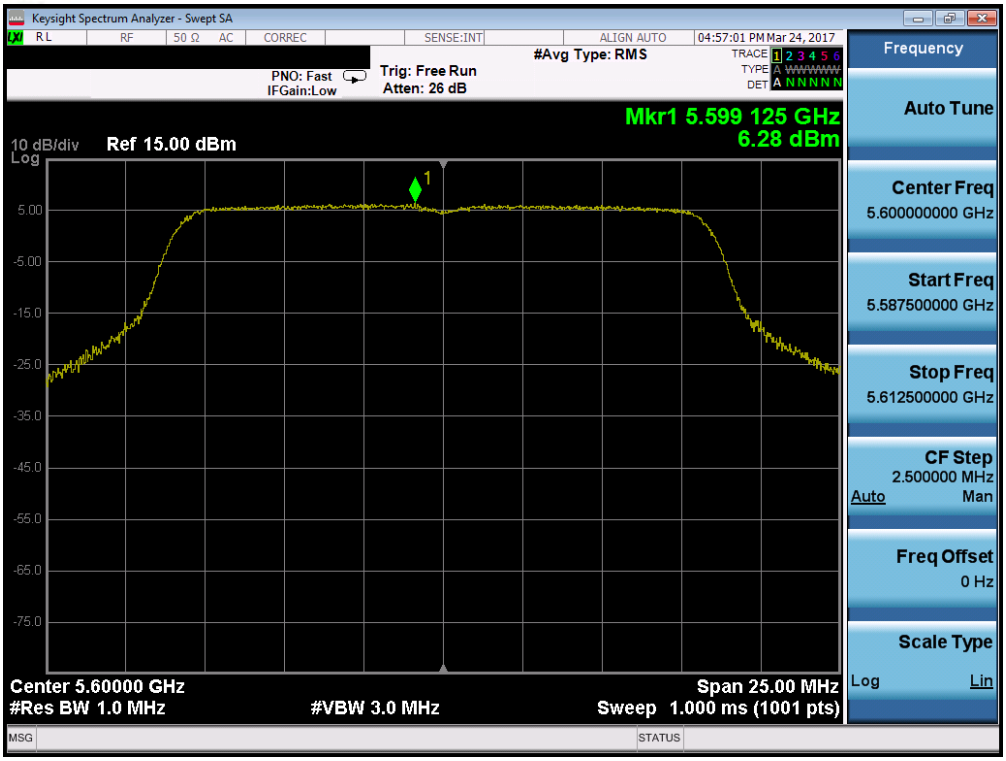
Plot 7-134. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



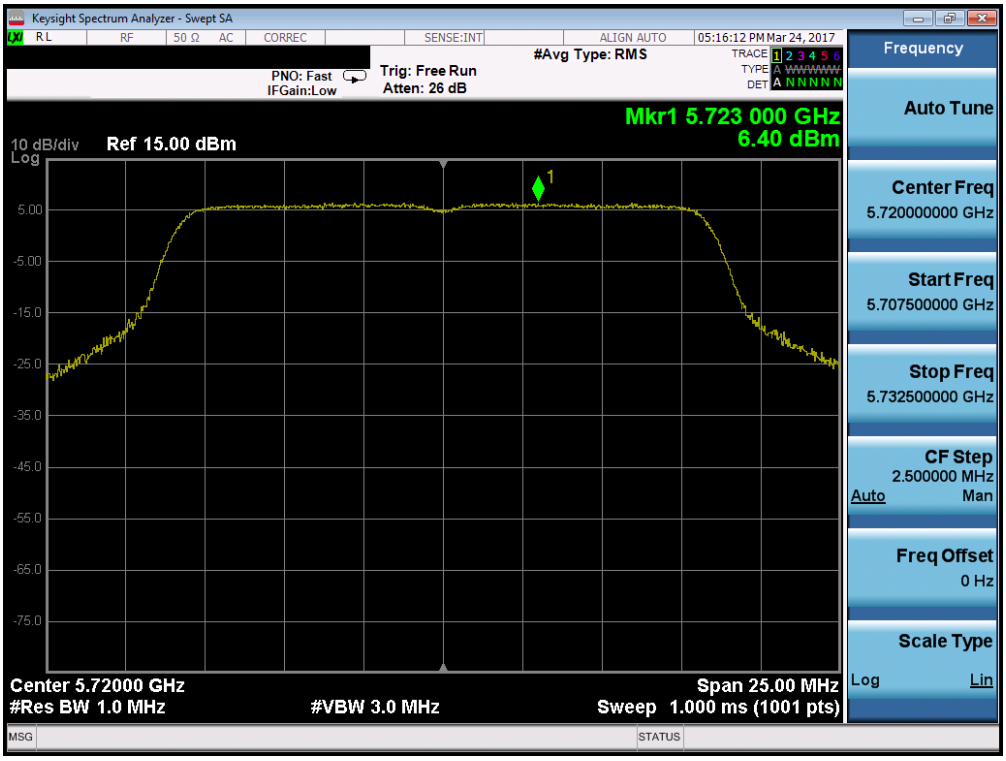
Plot 7-135. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)



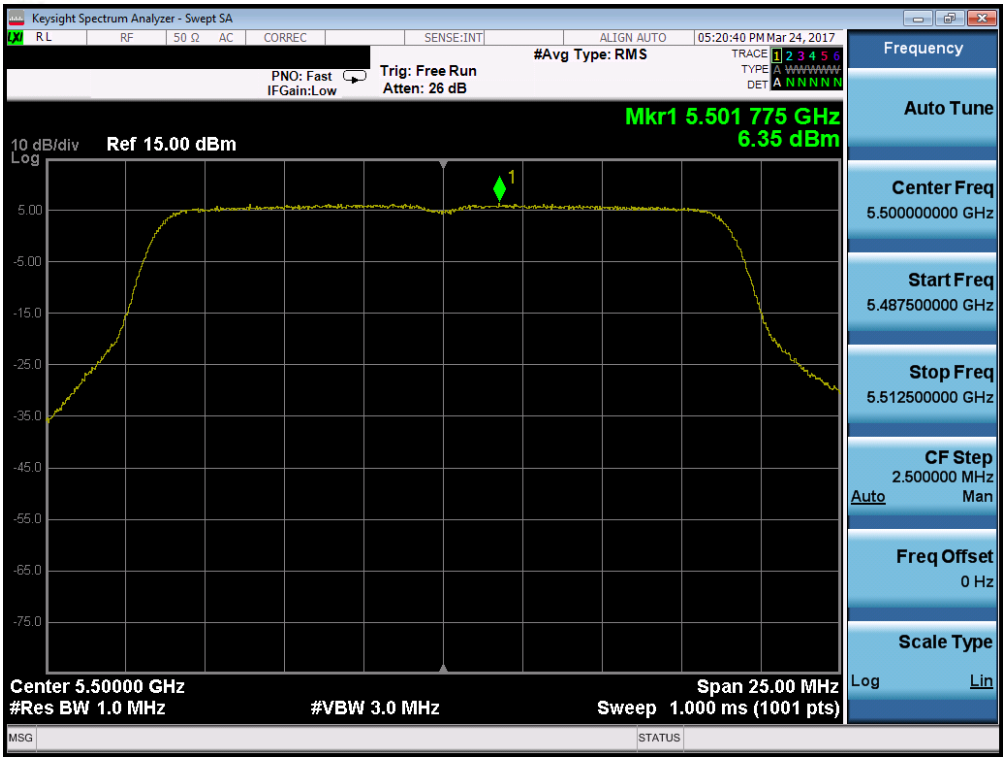
Plot 7-136. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)



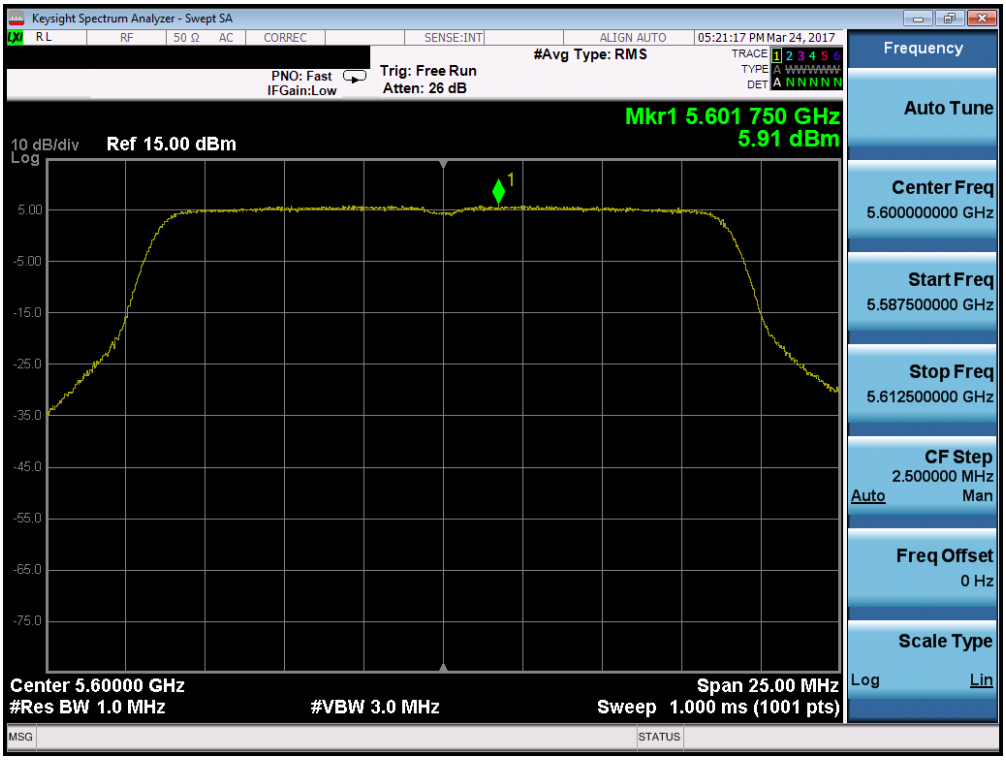
Plot 7-137. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 120)



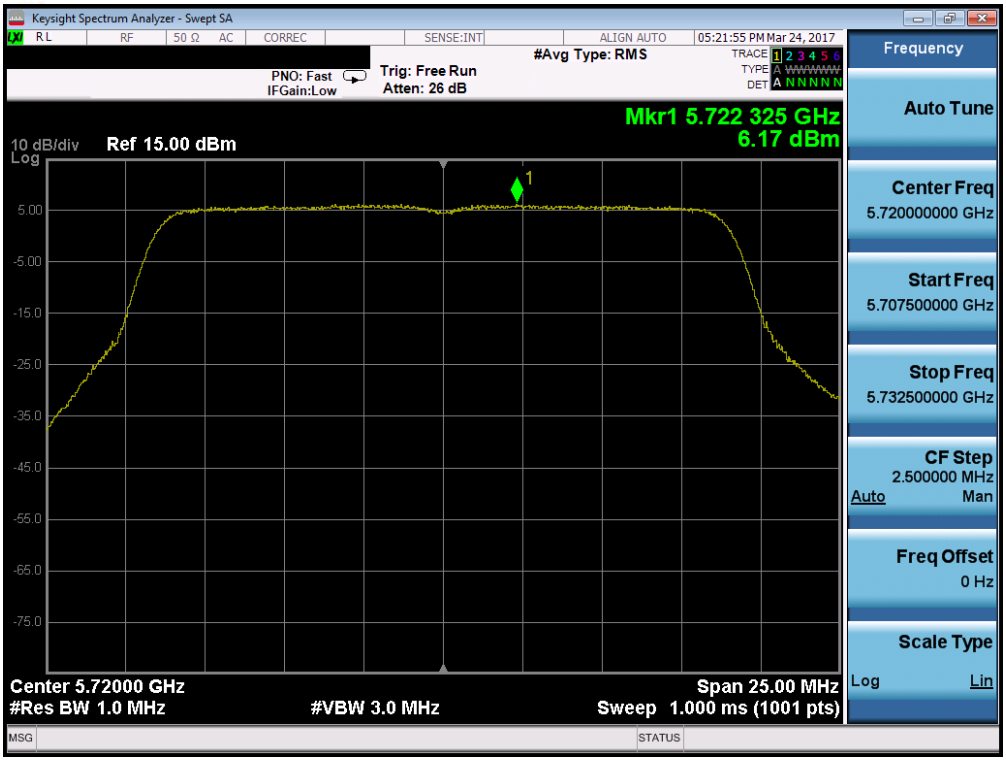
Plot 7-138. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)



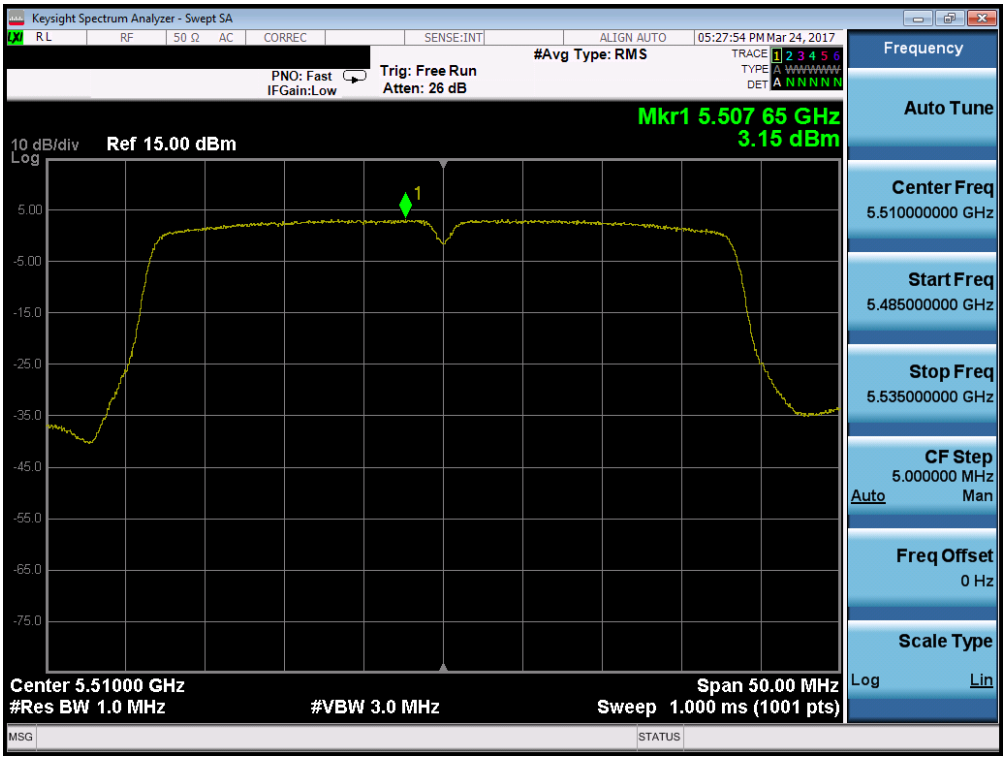
Plot 7-139. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)



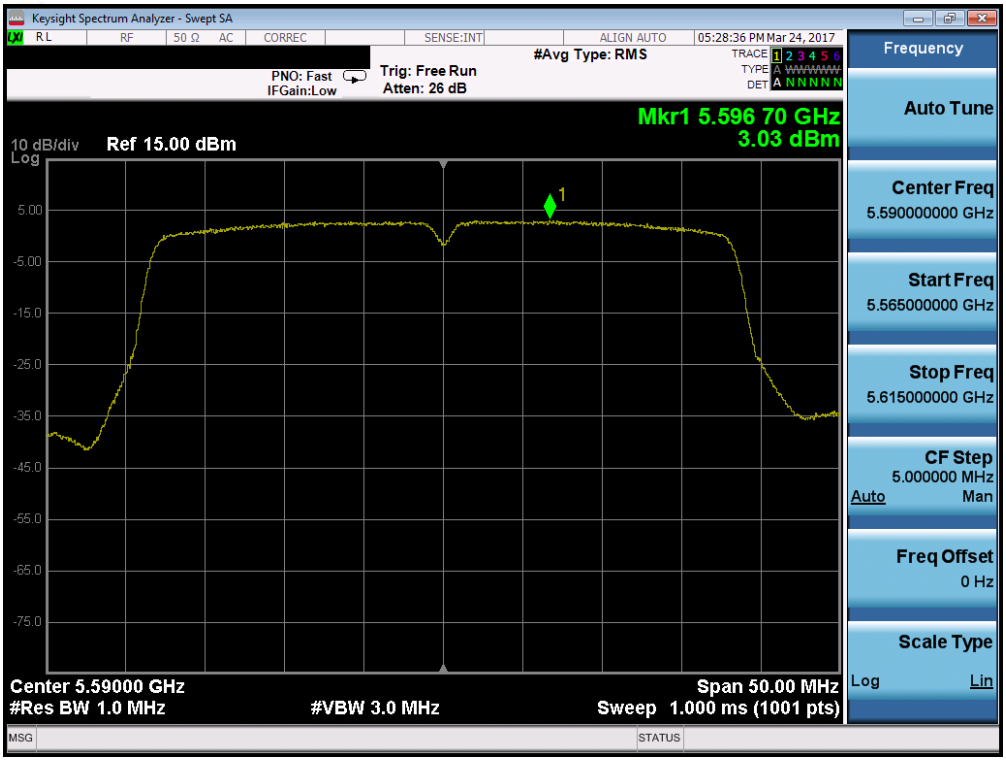
Plot 7-140. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)



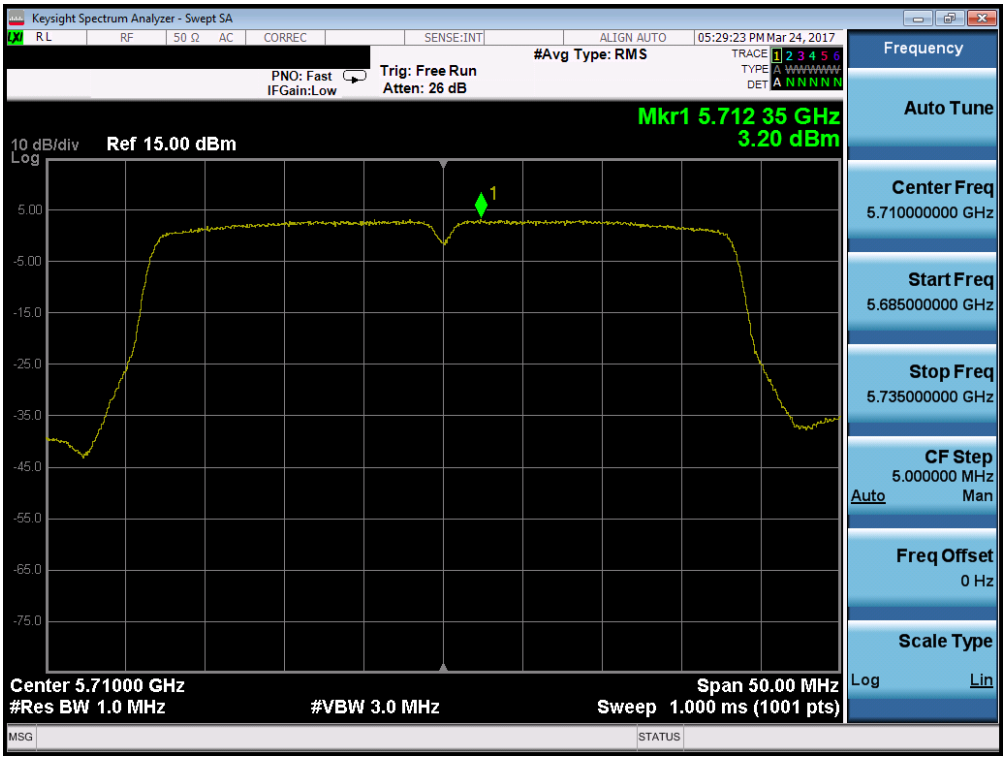
Plot 7-141. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)



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

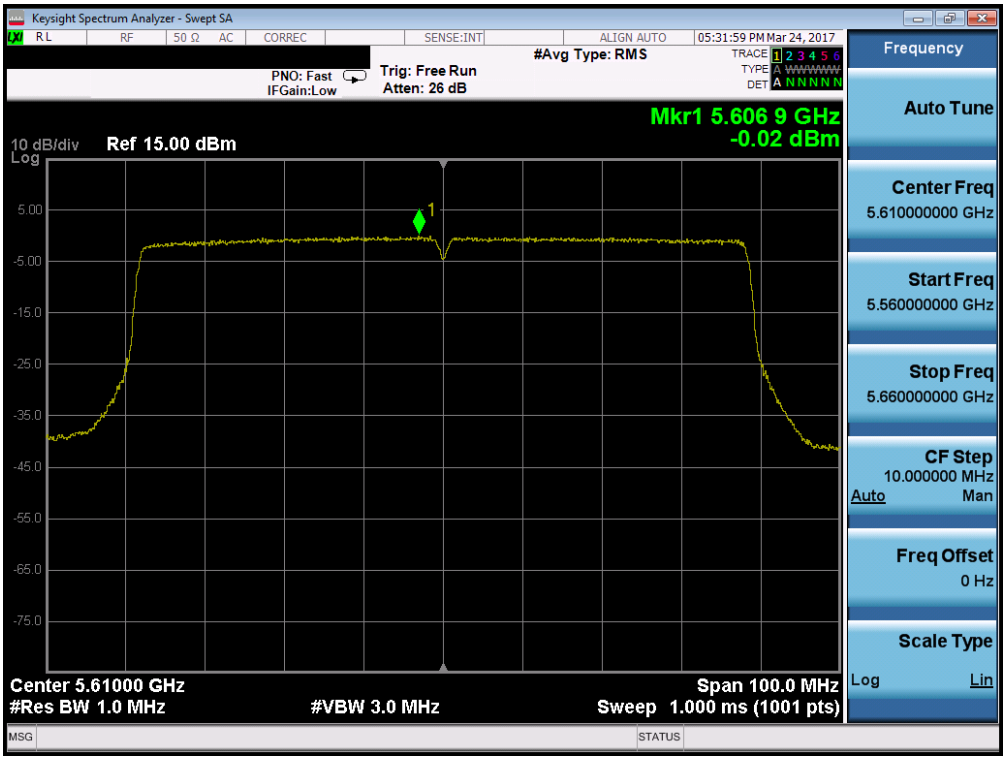


Plot 7-143. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)

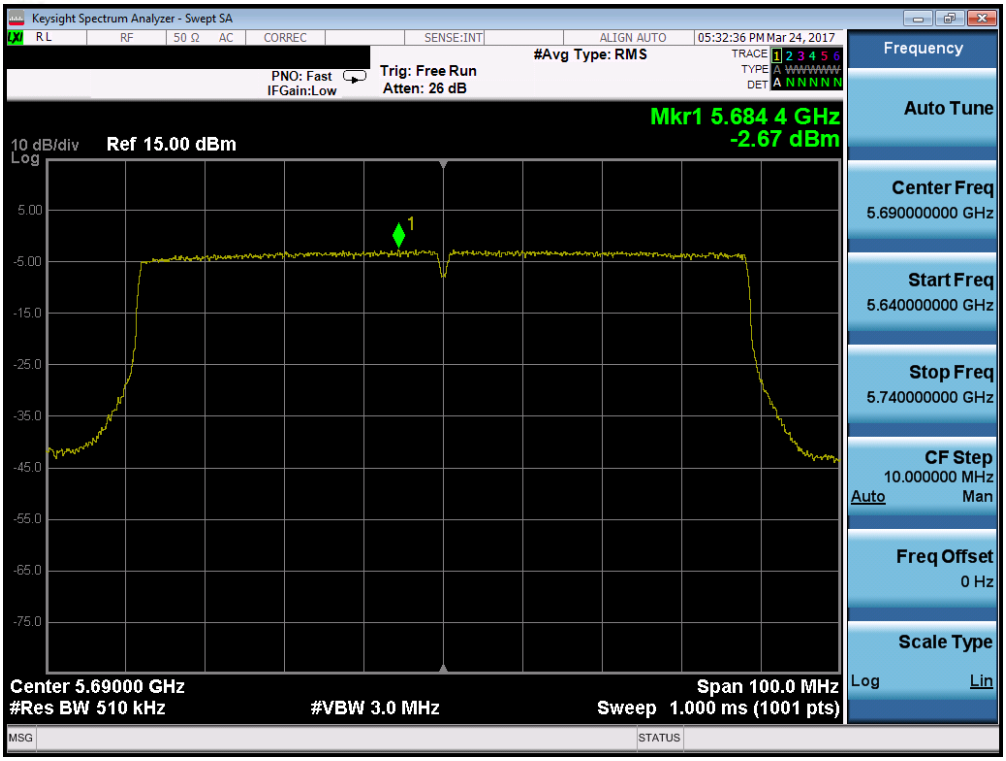


Plot 7-144. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

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



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

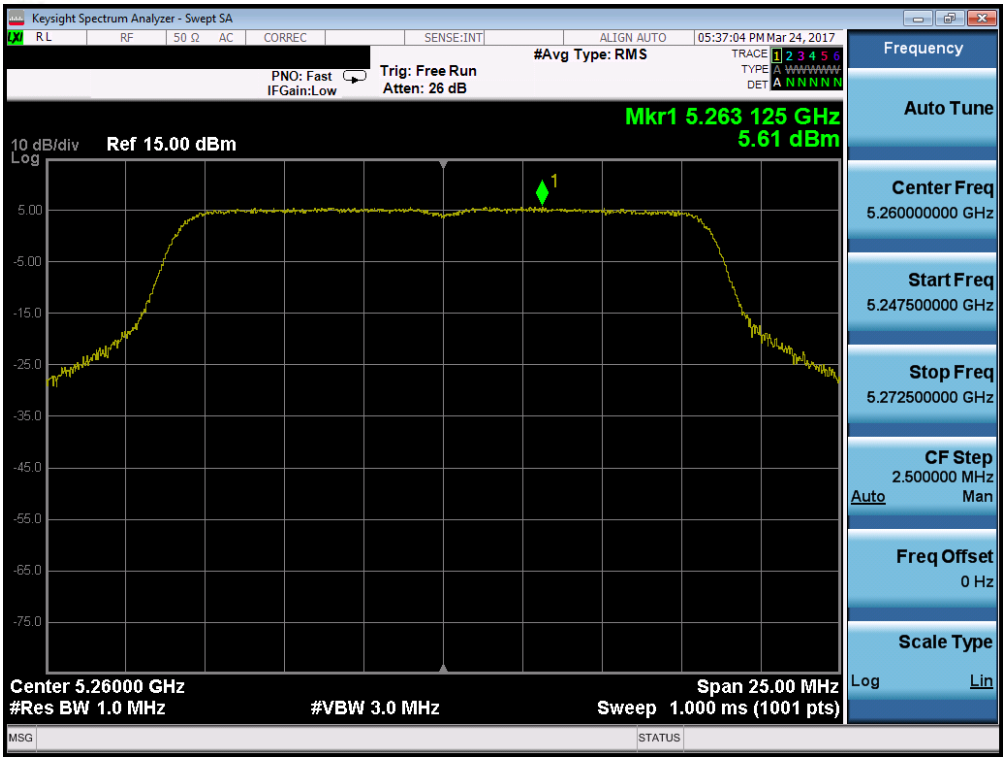


Plot 7-147. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

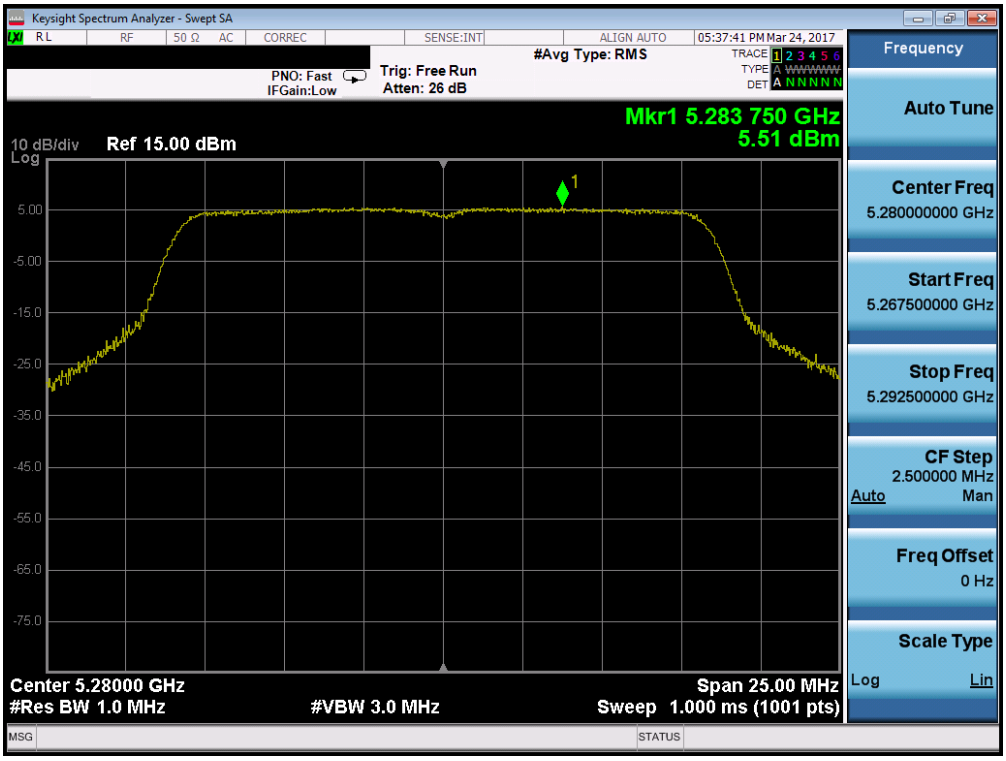
Antenna-4 Power Spectral Density Measurements

	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 2A	5260	52	a	6	5.61	11.0	-5.39	Pass
	5280	56	a	6	5.51	11.0	-5.49	Pass
	5320	64	a	6	6.06	11.0	-4.94	Pass
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	5.48	11.0	-5.52	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	5.36	11.0	-5.64	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	5.65	11.0	-5.35	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.52	11.0	-8.48	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	2.98	11.0	-8.02	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	0.28	11.0	-10.72	Pass
Band 2C	5500	100	a	6	6.45	11.0	-4.55	Pass
	5600	120	a	6	6.59	11.0	-4.41	Pass
	5720	144	a	6	6.99	11.0	-4.01	Pass
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	5.91	11.0	-5.09	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	6.11	11.0	-4.89	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	6.51	11.0	-4.49	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	3.17	11.0	-7.83	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	3.58	11.0	-7.42	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	3.30	11.0	-7.70	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	0.48	11.0	-10.52	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	0.36	11.0	-10.64	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-2.58	11.0	-13.58	Pass

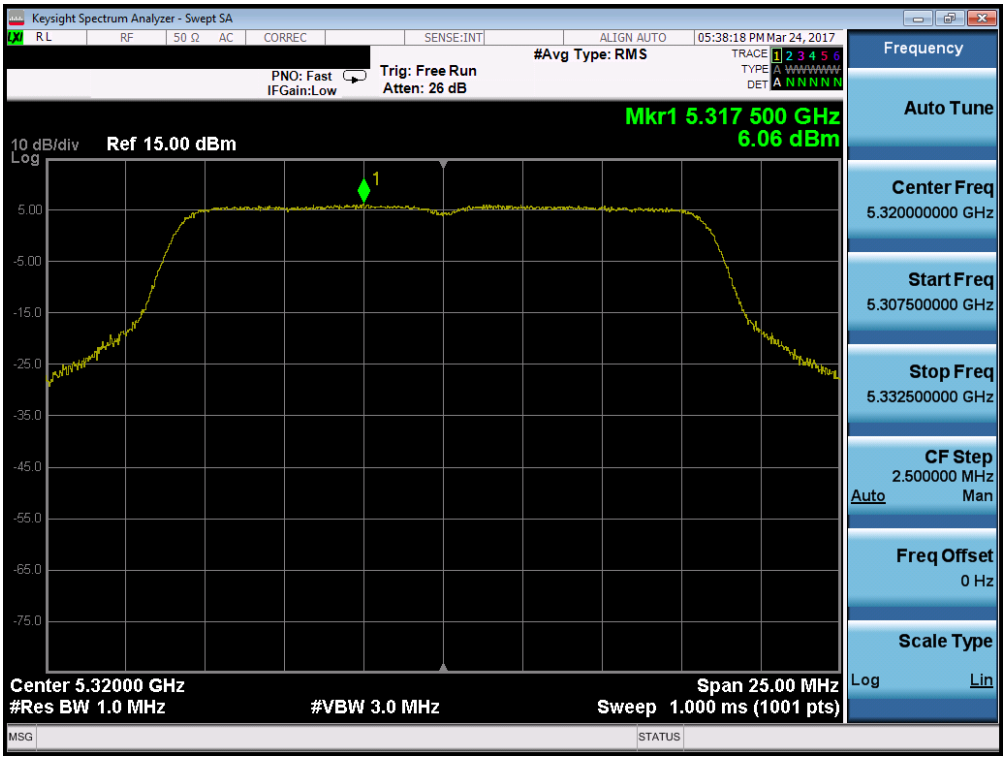
Table 7-26. Bands 2A & 2C Conducted Power Spectral Density Measurements



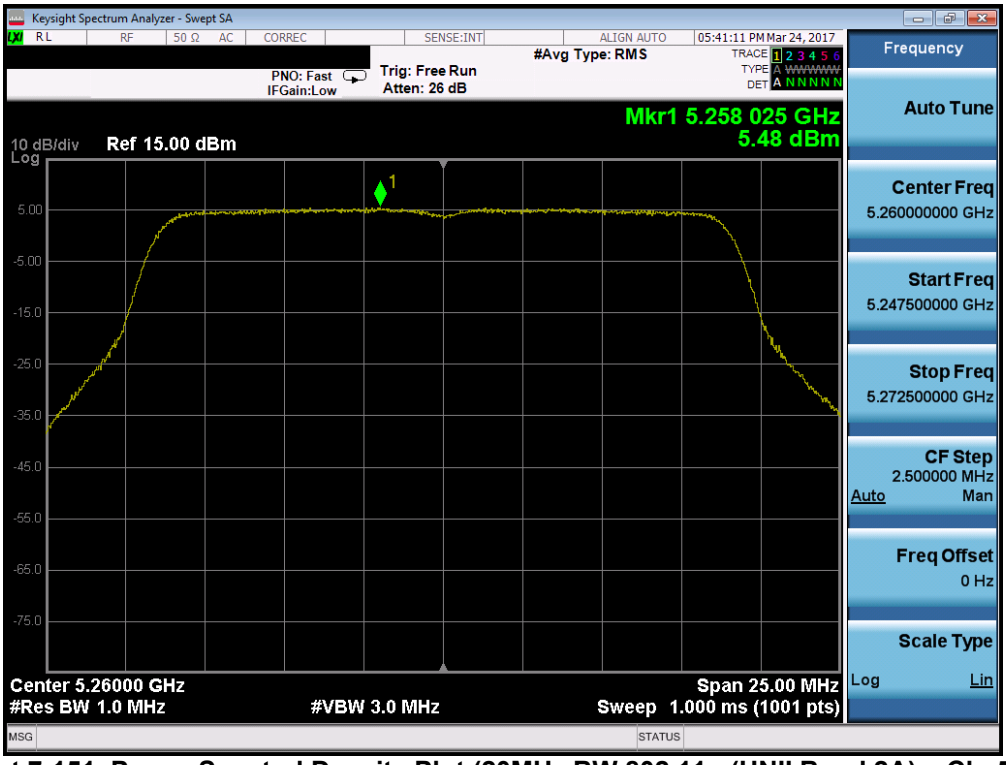
Plot 7-148. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)



Plot 7-149. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)



Plot 7-150. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)



Plot 7-151. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)

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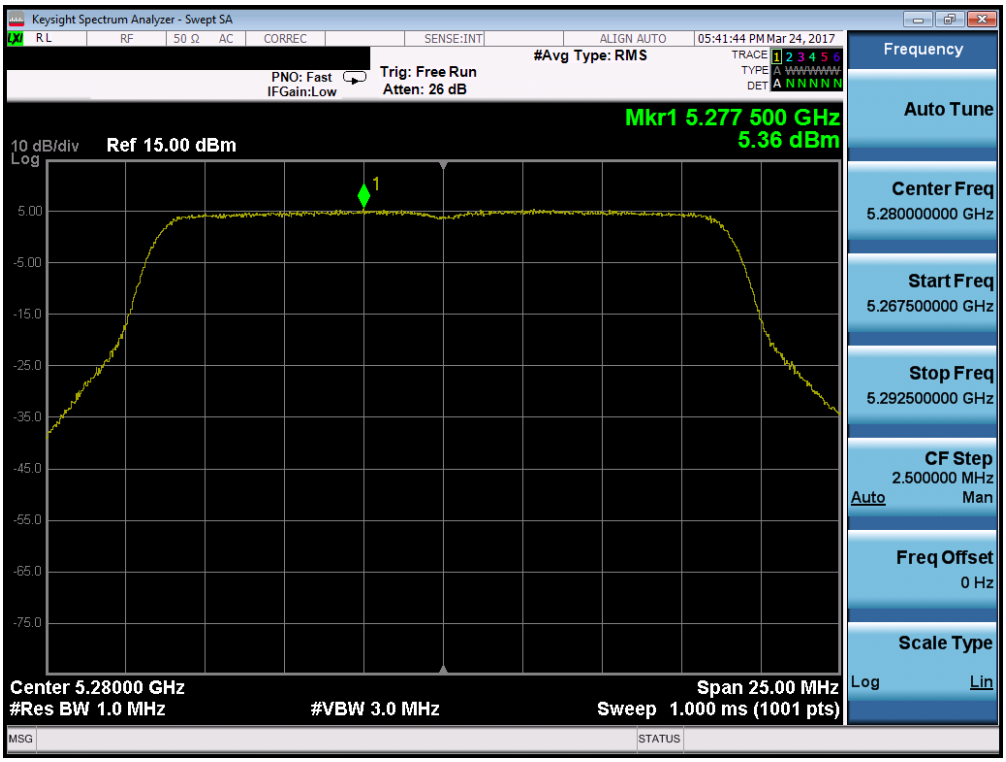
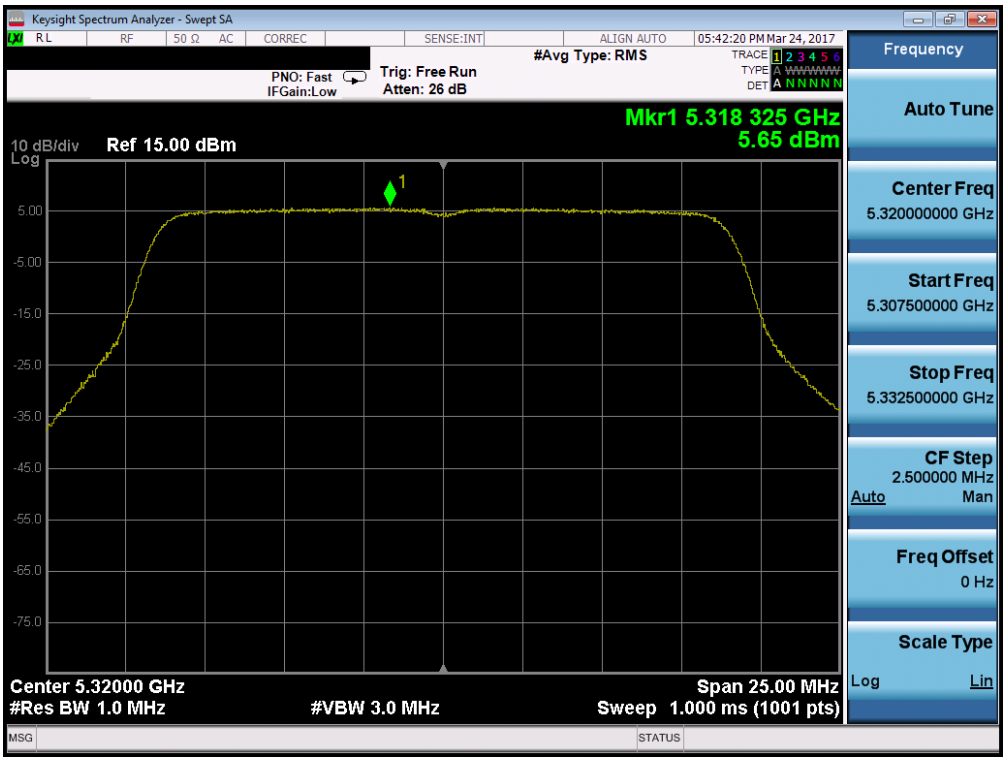
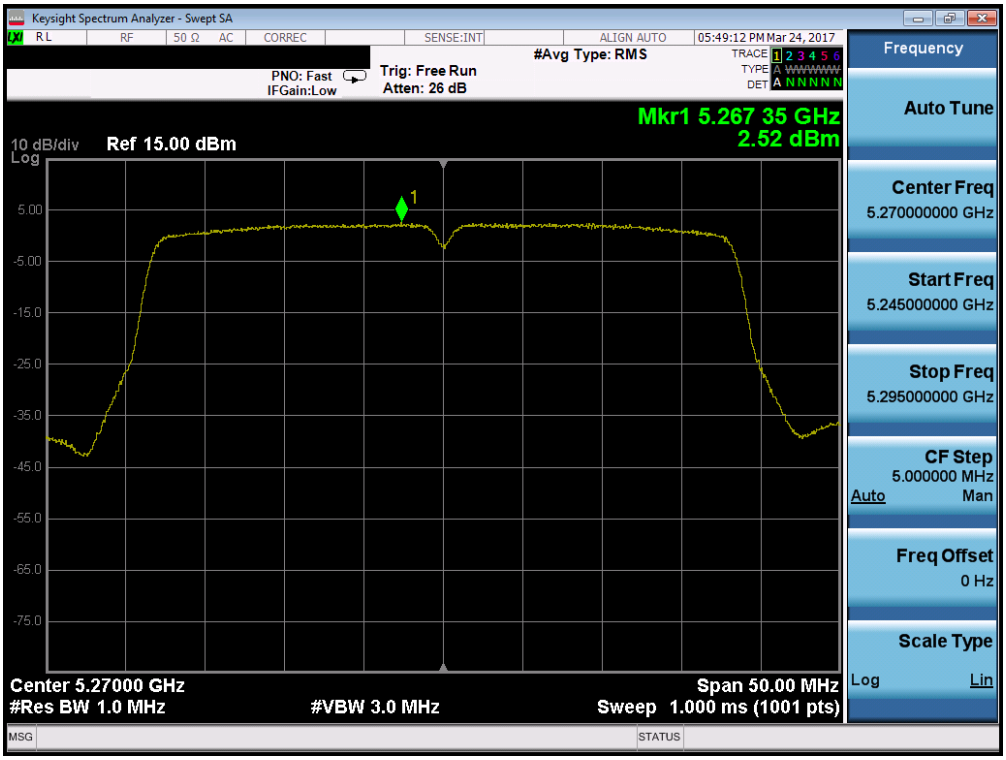


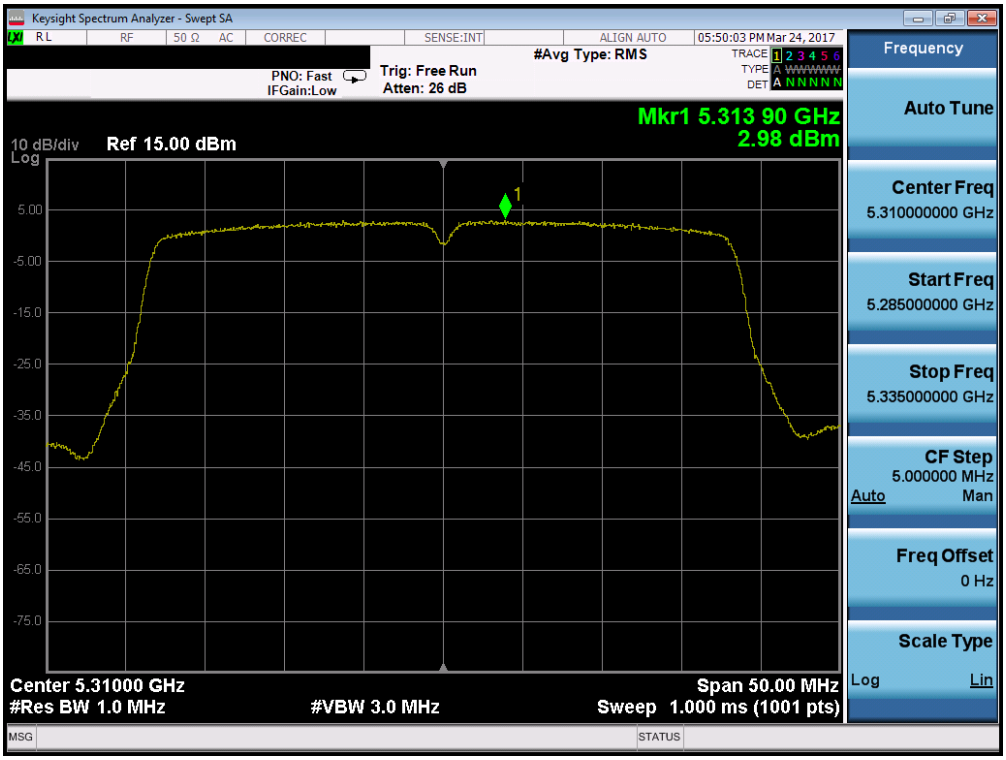
Plot 7-152. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)



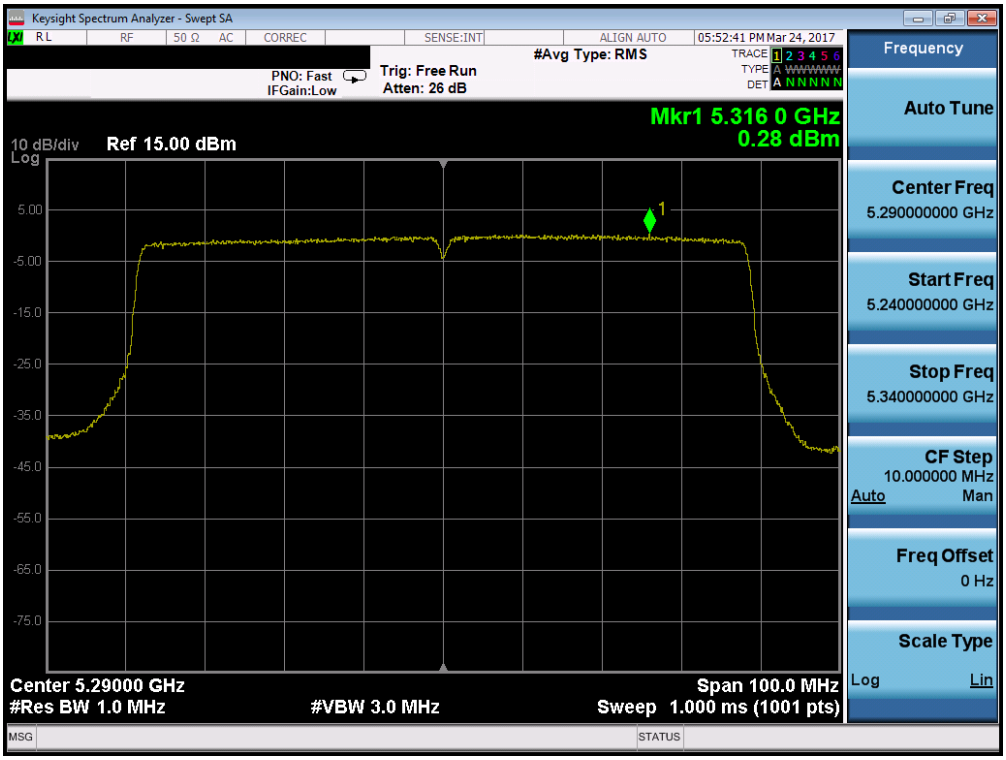
Plot 7-153. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)



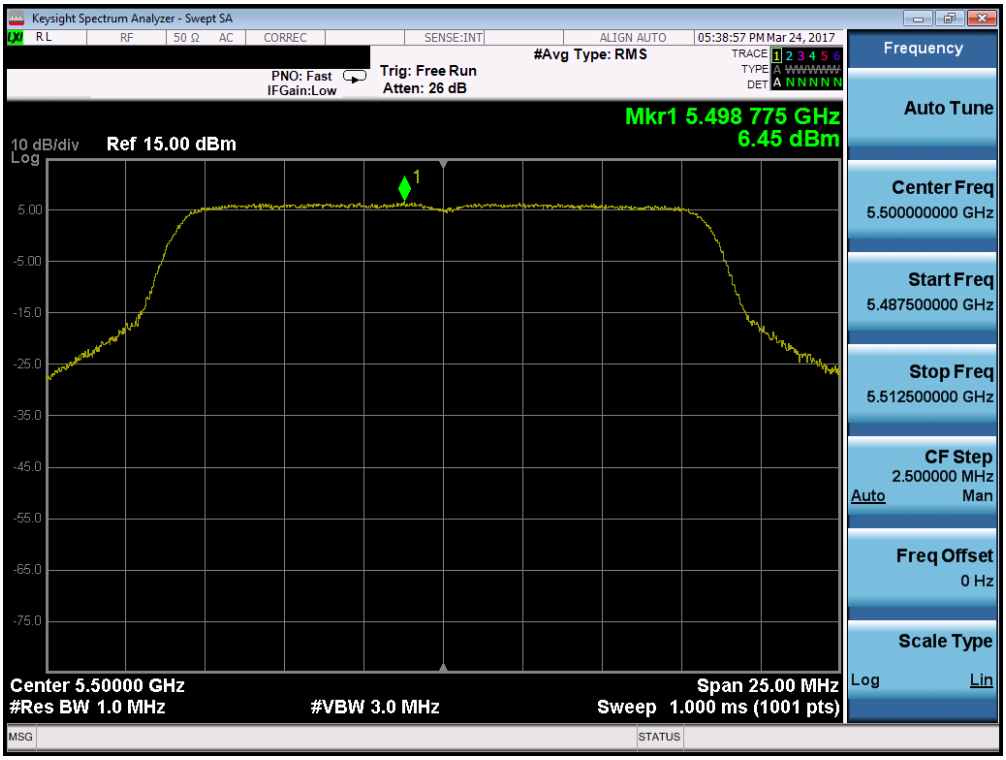
Plot 7-154. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)



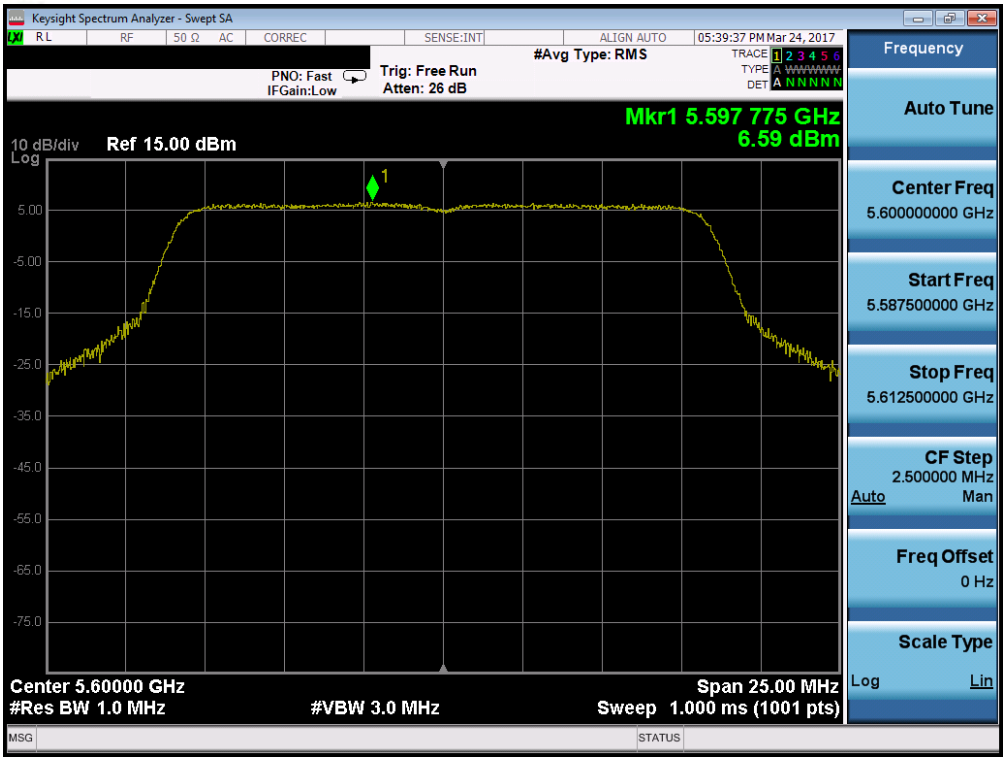
Plot 7-155. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



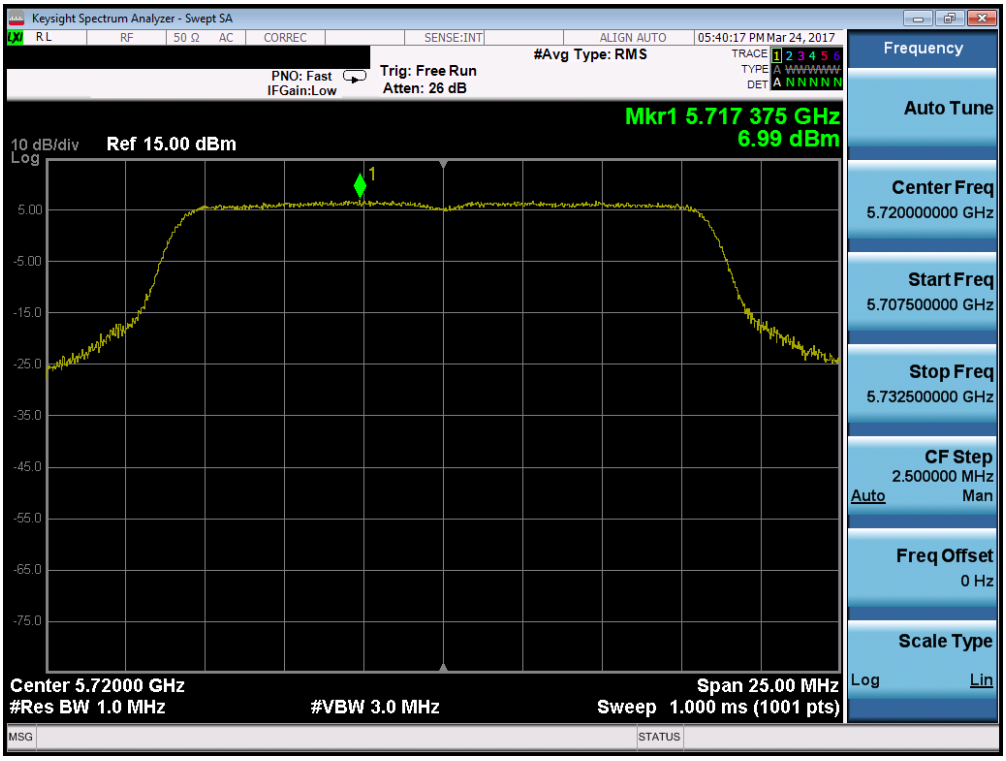
Plot 7-156. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)



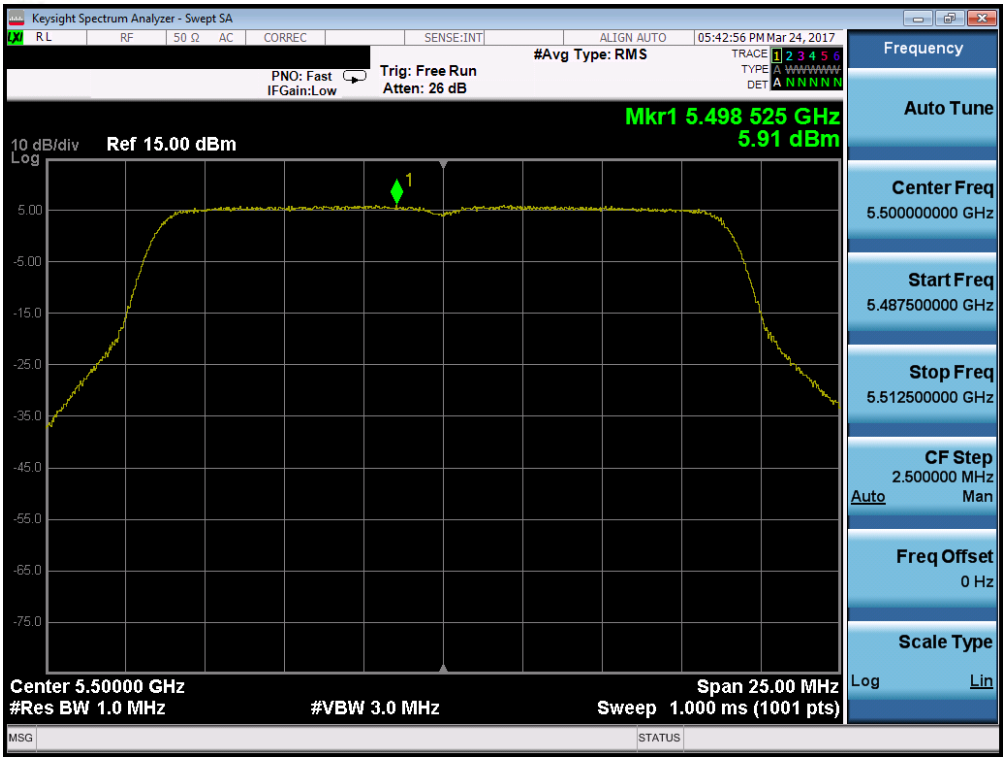
Plot 7-157. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)



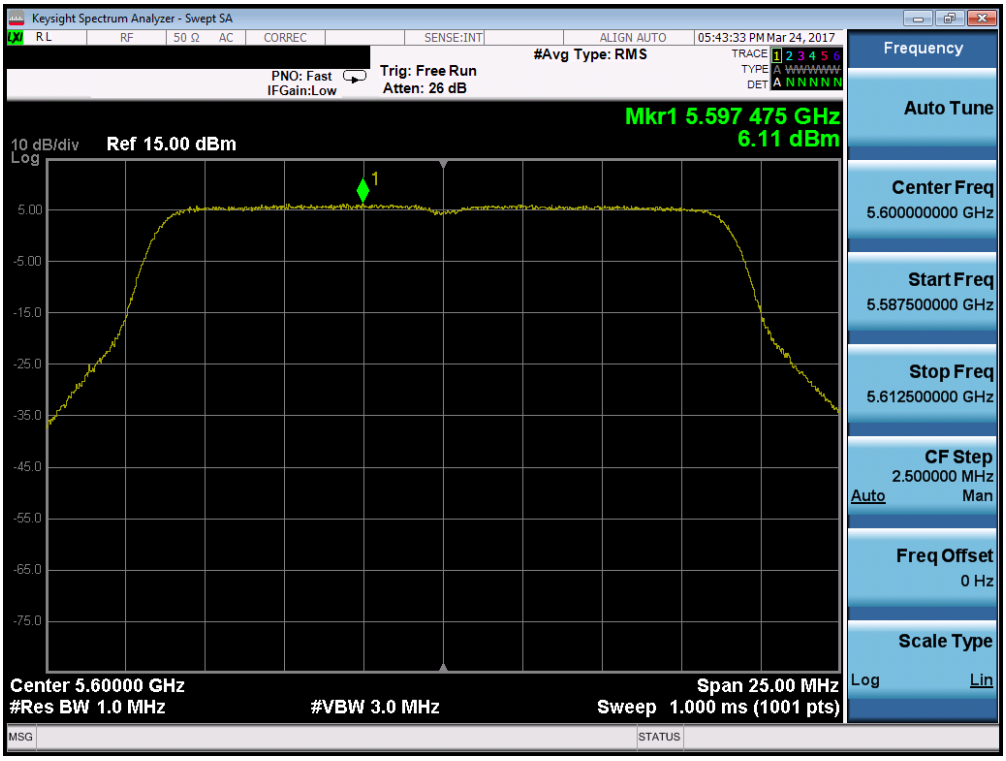
Plot 7-158. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 120)



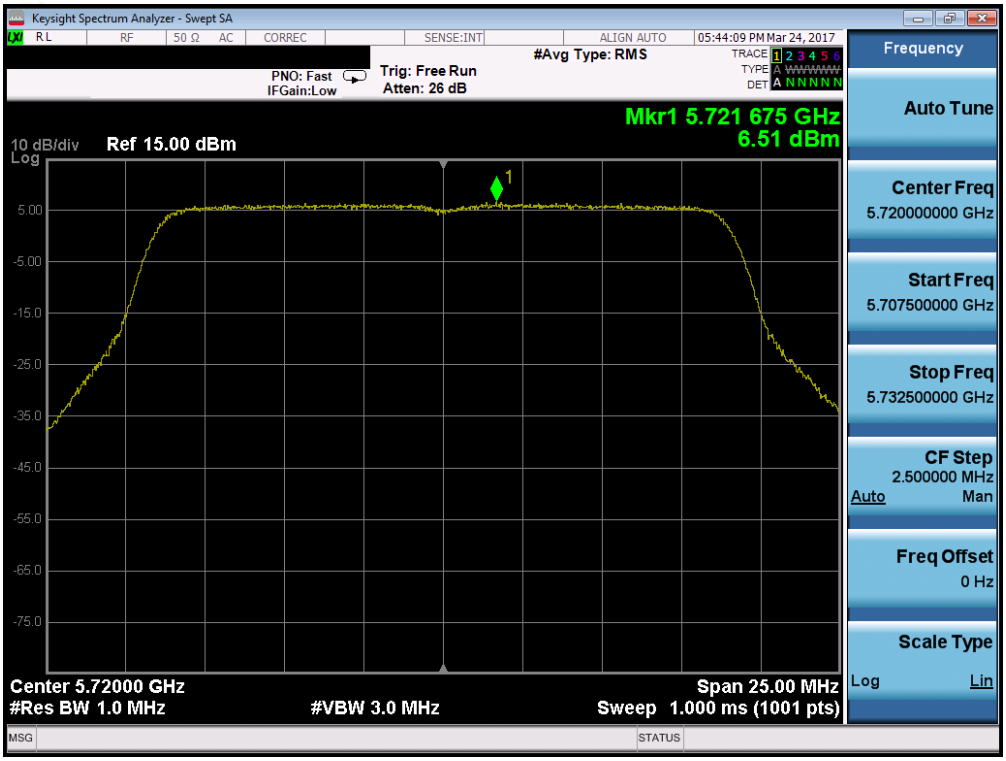
Plot 7-159. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)



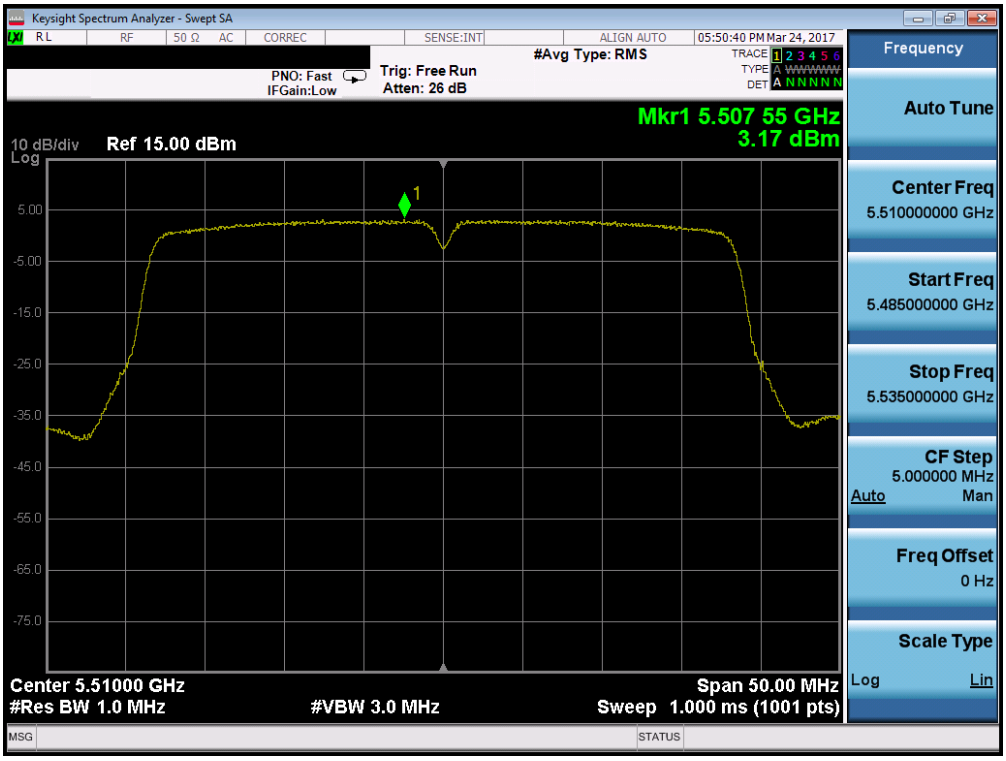
Plot 7-160. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)



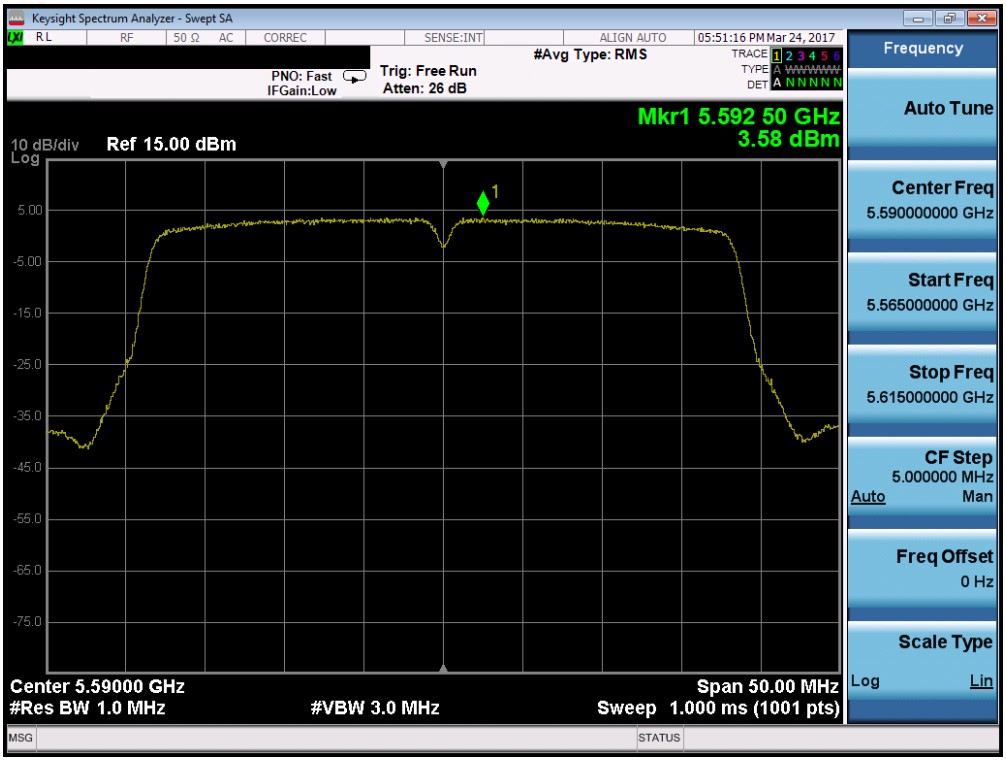
Plot 7-161. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 120)



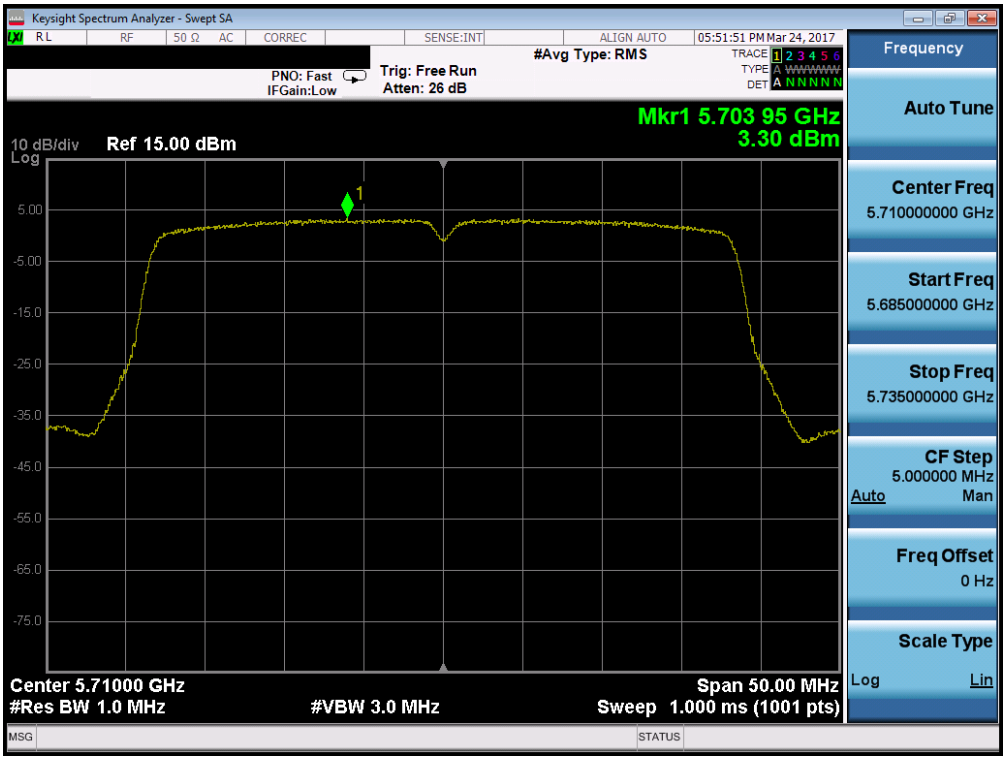
Plot 7-162. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)



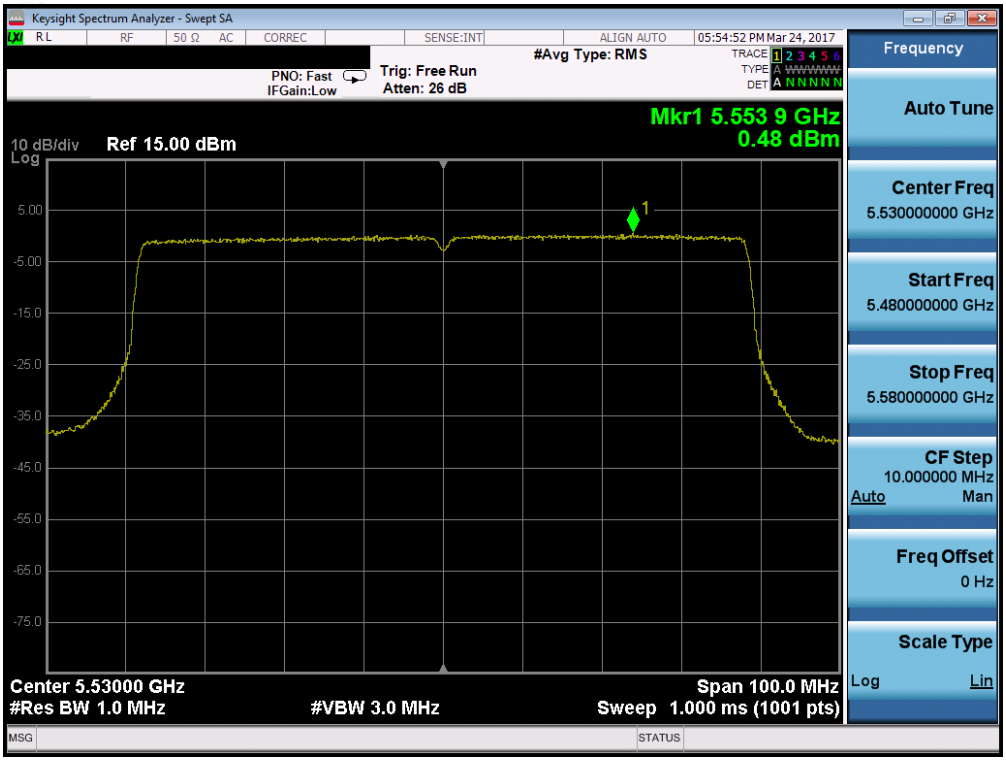
Plot 7-163. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)



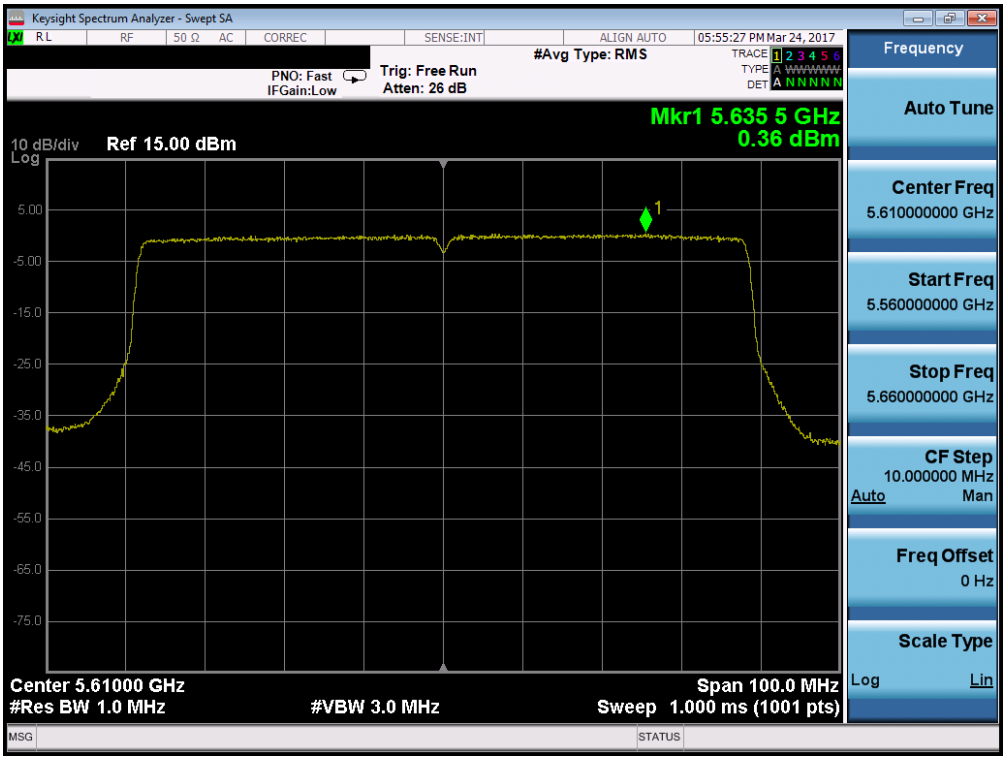
Plot 7-164. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 118)



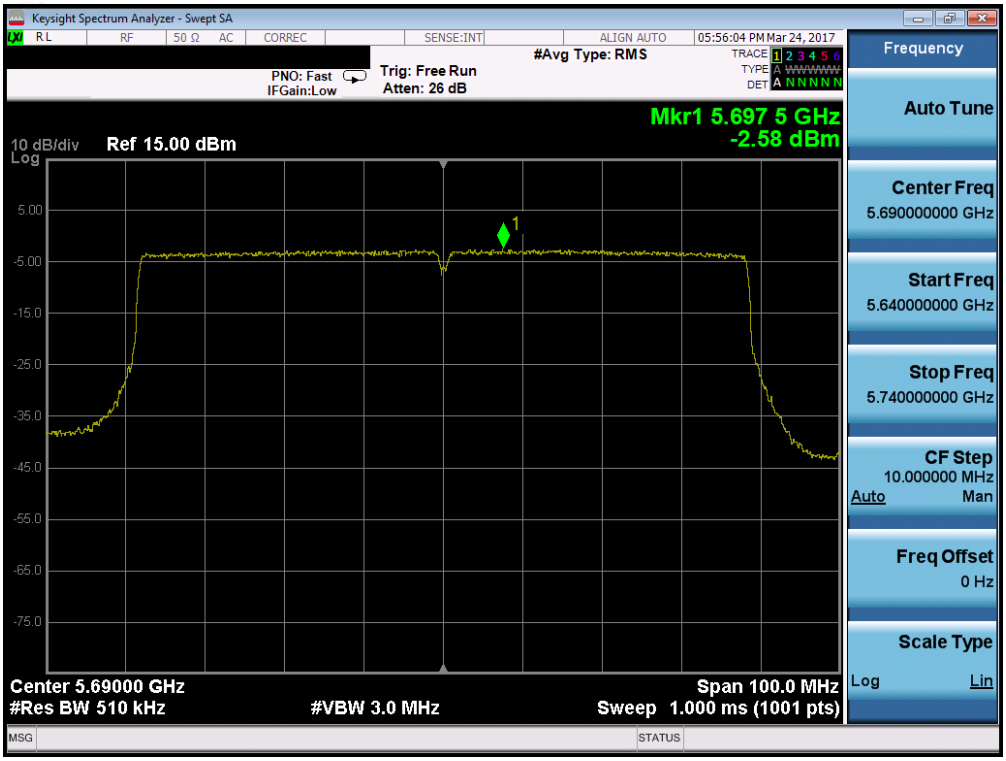
Plot 7-165. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)



Plot 7-166. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)



Plot 7-167. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 122)



Plot 7-168. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

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Summed MIMO Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Directional Gain [dBi]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Antenna-3 Power Density [dBm]	Antenna-4 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Adjusted Limit [dBm/MHz]	Margin [dB]	Pass / Fail
Band 2A	5260	52	n (20MHz)	6.5/7.2 (MCS0)	9.19	0.87	0.69	0.43	1.33	6.86	11.0	7.81	-0.95	Pass
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	9.19	0.55	0.59	0.40	1.15	6.70	11.0	7.81	-1.11	Pass
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	9.19	0.51	1.03	0.15	0.56	6.59	11.0	7.81	-1.22	Pass
	5270	54	n (40MHz)	13.5/15 (MCS0)	9.19	0.94	0.54	0.85	1.19	6.91	11.0	7.81	-0.90	Pass
	5310	62	n (40MHz)	13.5/15 (MCS0)	9.19	0.99	0.87	0.52	0.81	6.82	11.0	7.81	-0.99	Pass
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	9.19	1.37	1.15	0.99	1.24	7.21	11.0	7.81	-0.60	Pass
Band 2C	5500	100	n (20MHz)	6.5/7.2 (MCS0)	9.40	0.01	0.34	0.34	0.79	6.40	11.0	7.60	-1.20	Pass
	5600	120	n (20MHz)	6.5/7.2 (MCS0)	9.40	0.25	-0.28	-0.13	0.70	6.17	11.0	7.60	-1.43	Pass
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	9.48	0.26	0.12	0.14	0.55	6.29	11.0	7.52	-1.23	Pass
	5510	102	n (40MHz)	13.5/15 (MCS0)	9.40	0.56	1.04	1.28	1.20	7.05	11.0	7.60	-0.55	Pass
	5590	118	n (40MHz)	13.5/15 (MCS0)	9.40	0.81	0.97	0.99	1.62	7.13	11.0	7.60	-0.47	Pass
	5710	142	n (40MHz)	13.5/15 (MCS0)	9.48	1.00	0.94	1.01	1.26	7.07	11.0	7.52	-0.45	Pass
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	9.40	1.02	1.15	0.96	1.33	7.14	11.0	7.60	-0.46	Pass
	5610	122	ac (80MHz)	29.3/32.5 (MCS0)	9.40	1.18	0.87	1.09	1.42	7.17	11.0	7.60	-0.43	Pass
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	9.48	-1.98	-1.67	-1.73	-1.32	4.35	11.0	7.52	-3.17	Pass

Table 7-27. Bands 2A & 2C MIMO Conducted Power Spectral Density Measurements

Note:

Per KDB 662911 v02r01 Section E)2), the power spectral density at all antennas 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.

Per KDB 662911 v02r01, Section F)2), the directional gain is calculated using the following formula, where Gn is the gain of the nth antenna and Nant, the total number of antennas used.

$$\text{Directional gain} = 10\log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}]\ \text{dBi}$$

The Power Density limits were then adjusted using the following formula:

Max permissible power density – [6-(Directional gain)]

Sample MIMO Calculation:

At 5260MHz in 802.11n (20MHz BW) mode, the average conducted power spectral density was measured to be 0.87 dBm for Antenna-1, 0.69 dBm for Antenna-2, 0.43 dBm for Antenna-3 and 1.33 dBm for Antenna-4.

Antenna 1 + Antenna 2 + Antenna 3 + Antenna 4 = MIMO

(0.87 dBm + 0.69 dBm + 0.43 dBm + 1.33 dBm) = (1.22 mW + 1.17 mW + 1.10 mW + 1.36 mW) = 4.85 mW = 6.86 dBm

7.5 Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30ºC and +50ºC. The temperature was incremented by 10º 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: 120 VAC

VOLTAGE (%)	POWER (VAC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	120	+ 20 (Ref)	5260012899	0	0.00000000
100 %		- 30	5260013432	-532	-0.00001012
100 %		- 20	5260117891	-104,991	-0.00199603
100 %		- 10	5260028358	-15,459	-0.00029389
100 %		0	5260027182	-14,283	-0.00027154
100 %		+ 10	5260013261	-362	-0.00000688
100 %		+ 20	5260021884	-8,985	-0.00017082
100 %		+ 30	5260021774	-8,875	-0.00016873
100 %		+ 40	5260025011	-12,112	-0.00023026
100 %		+ 50	5260038574	-25,675	-0.00048811
115 %	138	+ 20	5260027571	-14,672	-0.00027893
85 %	102	+ 20	5260018443	-5,544	-0.00010539

Table 7-28. 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.

Frequency Stability

§15.407(g)

The EUT was placed inside of an environmental chamber as the temperature in the chamber was varied between -30ºC and +50ºC. The temperature was incremented by 10º 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: 120 VAC

VOLTAGE (%)	POWER (VAC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	120	+ 20 (Ref)	5500023687	0	0.00000000
100 %		- 30	5500012322	11,366	0.00020665
100 %		- 20	5500106191	-82,503	-0.00150006
100 %		- 10	5500017247	6,440	0.00011710
100 %		0	5500016071	7,616	0.00013847
100 %		+ 10	5500012151	11,536	0.00020975
100 %		+ 20	5500030771	-7,084	-0.00012880
100 %		+ 30	5500011651	12,036	0.00021884
100 %		+ 40	5500014207	9,480	0.00017237
100 %		+ 50	5500017463	6,224	0.00011317
115 %	138	+ 20	5500016469	7,218	0.00013124
85 %	102	+ 20	5500017212	6,475	0.00011773

Table 7-29. 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.

7.6 Radiated Spurious Emission Measurements – Above 1GHz

§15.407(b) §15.205 §15.209

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in KDB 789033 D02 v01r04, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

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

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

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 7-30 per Section 15.209.

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

Table 7-30. Radiated Limits

Test Procedures Used

KDB 789033 D02 v01r04 – Section G

Test Settings

Average Measurements above 1GHz (Method AD)

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be ≥ 2 x span/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

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.

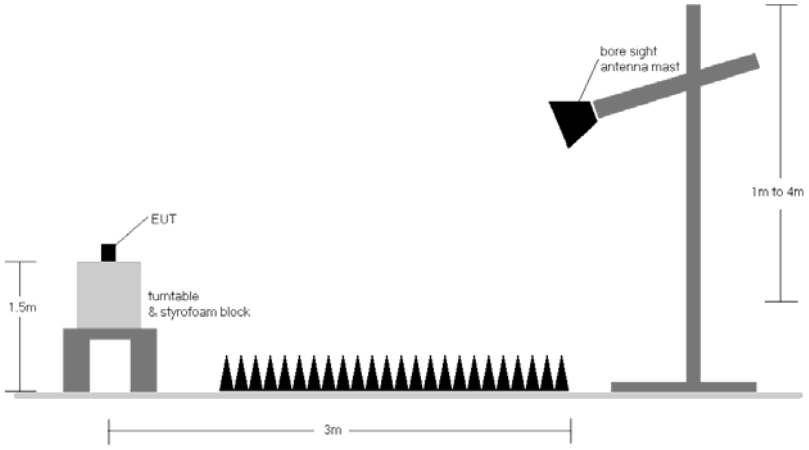


Figure 7-4. Test Instrument & Measurement Setup

Test Notes

1. All radiated spurious emissions levels were measured in a radiated test setup per the guidance of KDB 789033 D02 v01r04 Section G.
2. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 are below the limit shown in Table 7-30.
3. All spurious emissions lying in restricted bands specified in §15.205 are below the limit shown in Table 7-30. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
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 while powered by a DC power source.
6. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
7. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
8. Radiated spurious emissions were investigated while operating in MIMO mode, however, it was determined that single antenna operation produced the worst case emissions. Since the emissions produced from MIMO operation were found to be more than 20dB below the limit, the MIMO emissions are not reported.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section. Rohde & Schwarz EMC32, Version 9.15.00 automated test software was used to perform the Radiated Spurious Emissions Pre-Scan testing.
10. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

Sample Calculations

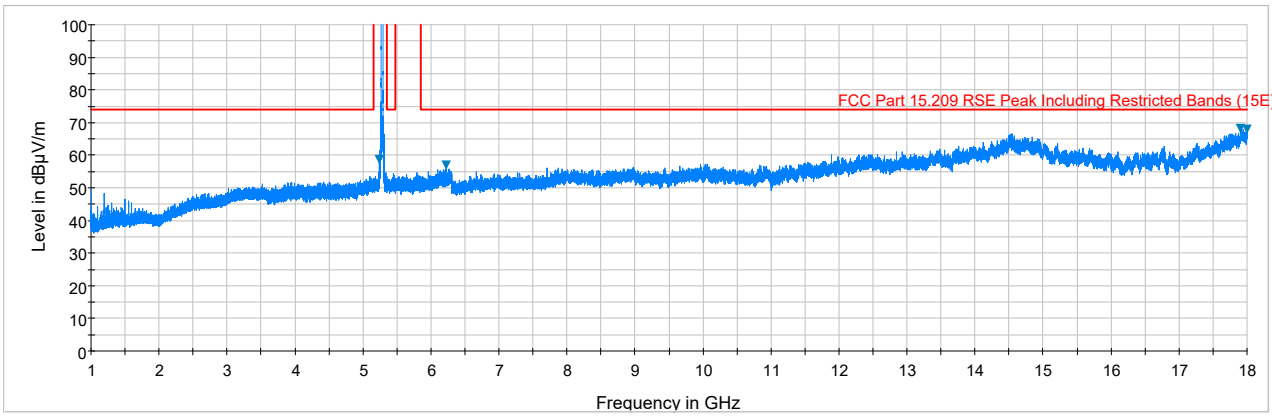
Determining Spurious Emissions Levels

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

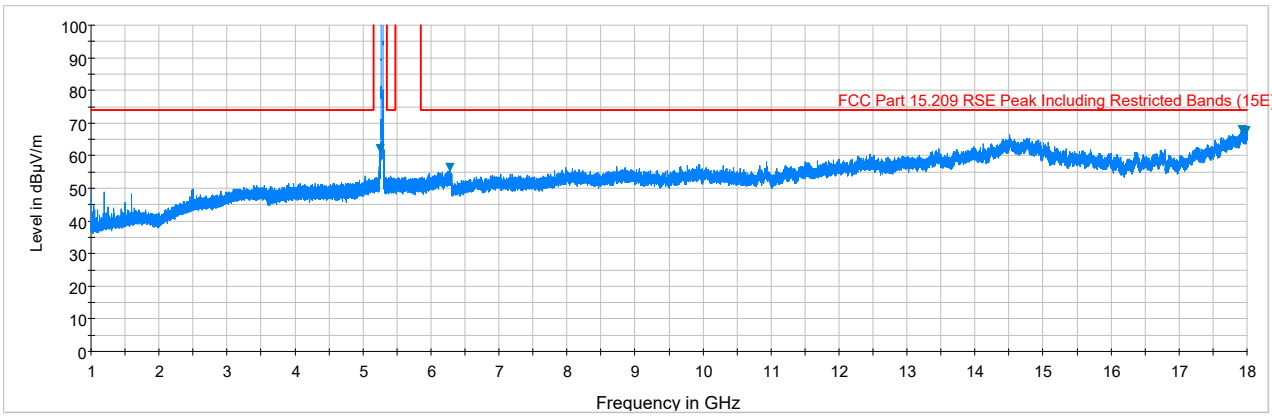
Radiated Band Edge Measurement Offset

- The amplitude offset shown in the radiated restricted band edge plots in Section 7.6 was calculated using the formula:
  Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

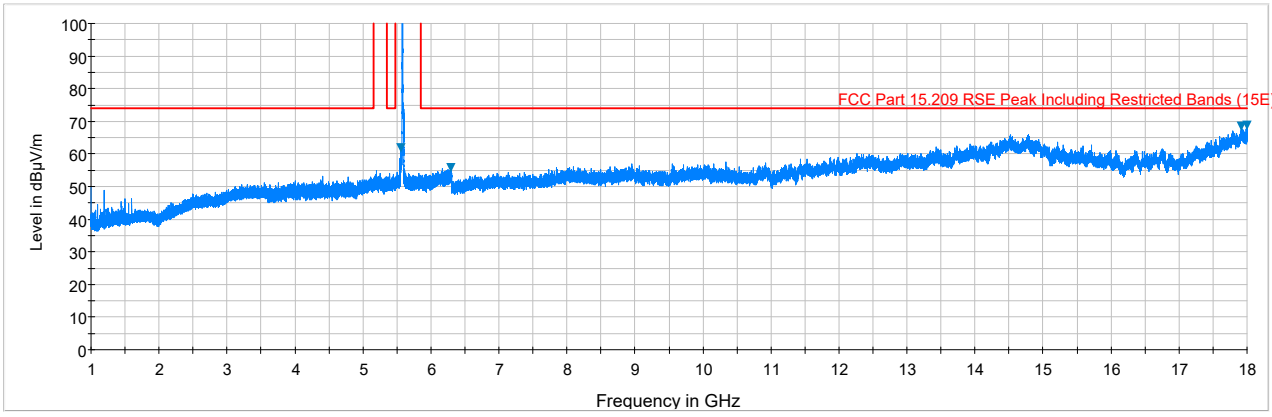
7.6.1 Antenna-1 Radiated Spurious Emission Measurements



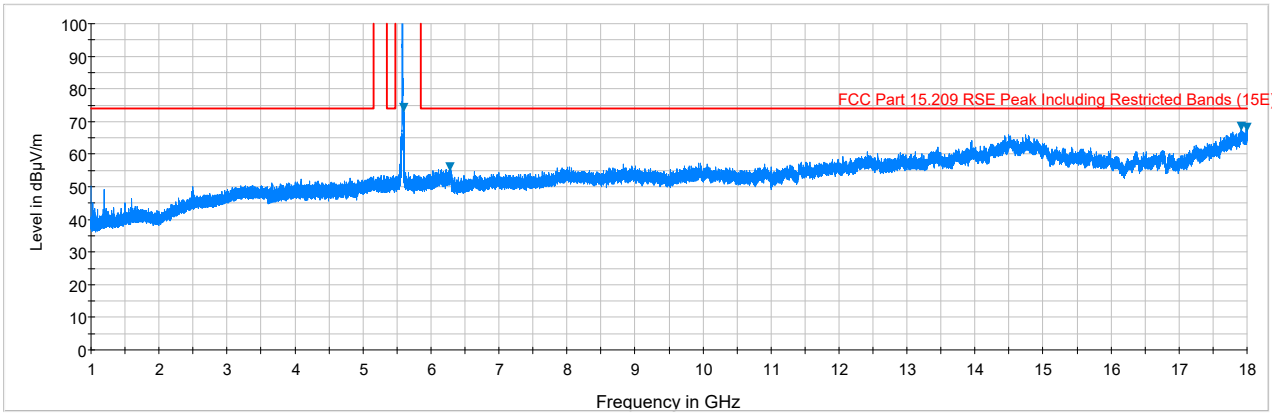
Plot 7-169. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)



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



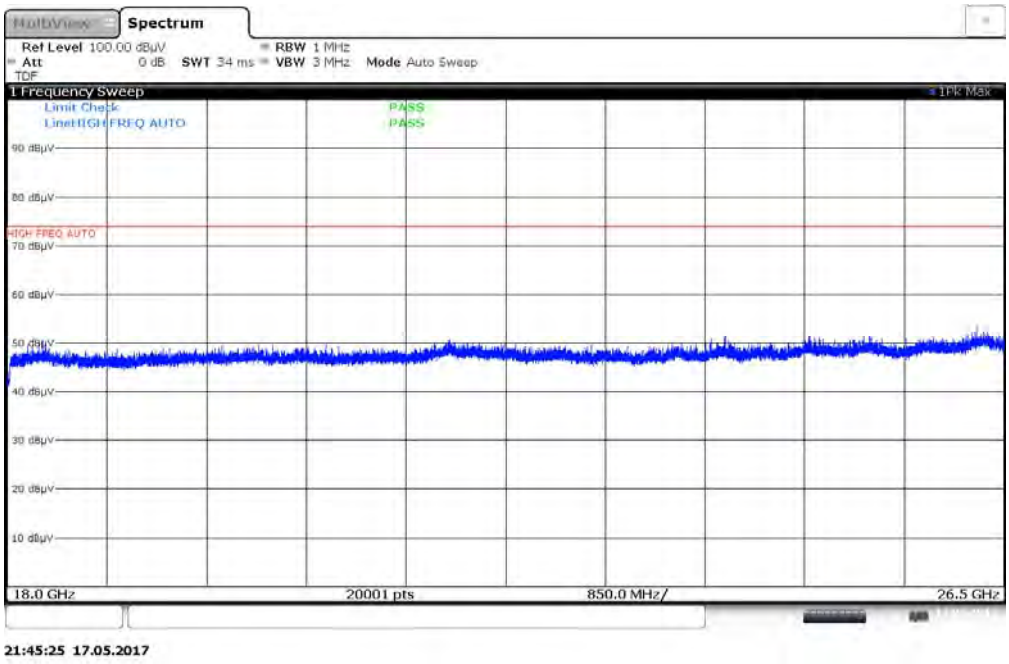
Plot 7-171. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. H)



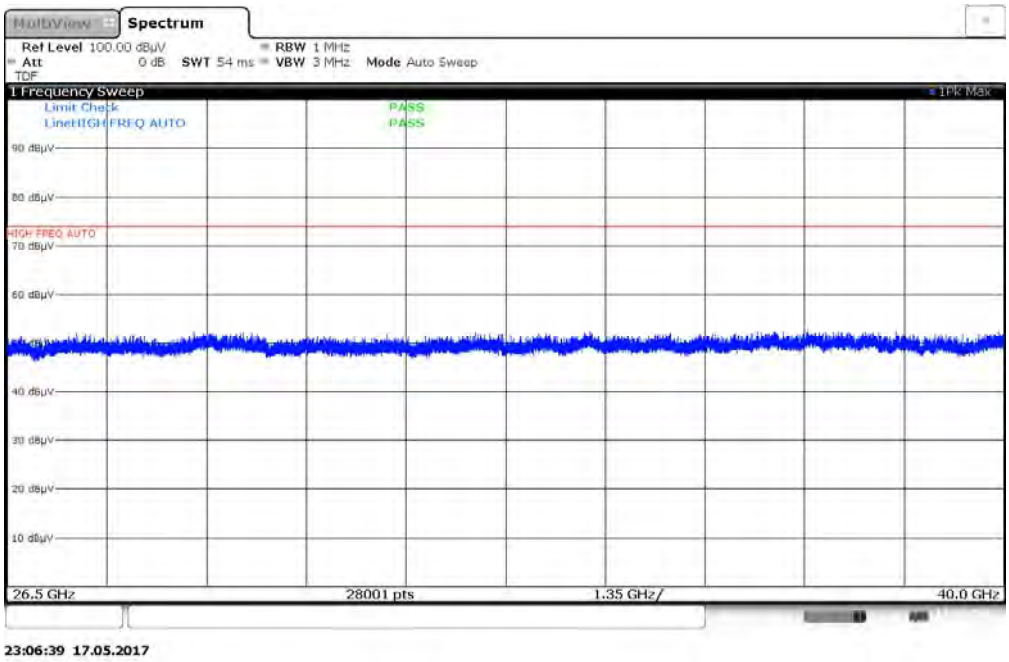
Plot 7-172. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. V)

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

§15.209



Plot 7-173. Radiated Spurious Plot 18GHz - 26.5GHz (802.11a – Ant. Pol. H)



Plot 7-174. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a – Ant. Pol. H)

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:	5260MHz
Channel:	52

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	-	-	-59.70	12.59	-9.54	50.35	68.20	-17.85
*	15780.00	Average	V	-	-	-73.34	16.20	-9.54	40.31	53.98	-13.67
*	15780.00	Peak	V	-	-	-59.14	16.20	-9.54	54.51	73.98	-19.47
*	21040.00	Average	V	-	-	-70.77	8.10	-9.54	34.79	53.98	-19.19
*	21040.00	Peak	V	-	-	-61.12	8.10	-9.54	44.44	73.98	-29.54
	26300.00	Peak	V	-	-	-58.66	8.76	-9.54	47.56	68.20	-20.64

Table 7-31. Radiated Measurements

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	V	-	-	-59.43	12.54	-9.54	50.57	68.20	-17.63
*	15840.00	Average	V	-	-	-73.02	16.18	-9.54	40.62	53.98	-13.36
*	15840.00	Peak	V	-	-	-58.34	16.18	-9.54	55.30	73.98	-18.68
*	21120.00	Average	V	-	-	-70.81	8.09	-9.54	34.73	53.98	-19.25
*	21120.00	Peak	V	-	-	-59.44	8.09	-9.54	46.10	73.98	-27.88
	26400.00	Peak	V	-	-	-58.10	8.99	-9.54	48.35	68.20	-19.85

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	V	-	-	-71.29	12.88	-9.54	39.05	53.98	-14.93
*	10640.00	Peak	V	-	-	-60.16	12.88	-9.54	50.18	73.98	-23.80
*	15960.00	Average	V	-	-	-73.12	16.29	-9.54	40.63	53.98	-13.35
*	15960.00	Peak	V	-	-	-58.19	16.29	-9.54	55.56	73.98	-18.42
*	21280.00	Average	V	-	-	-70.66	8.07	-9.54	34.87	53.98	-19.11
*	21280.00	Peak	V	-	-	-59.44	8.07	-9.54	46.09	73.98	-27.89
	26600.00	Peak	V	-	-	-50.32	-8.30	-9.54	38.84	68.20	-29.36

Table 7-33. Radiated Measurements

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	V	-	-	-71.60	12.79	-9.54	38.65	53.98	-15.33
11000.00	Peak	V	-	-	-59.51	12.79	-9.54	50.74	73.98	-23.24
16500.00	Peak	V	-	-	-58.23	15.58	-9.54	54.81	68.20	-13.39
22000.00	Peak	V	-	-	-58.81	8.35	-9.54	46.99	68.20	-21.21
27500.00	Peak	V	-	-	-49.34	-8.93	-9.54	39.19	68.20	-29.01

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	V	-	-	-71.68	12.99	-9.54	38.76	53.98	-15.22
*	11200.00	Peak	V	-	-	-59.56	12.99	-9.54	50.88	73.98	-23.10
	16800.00	Peak	V	-	-	-58.88	16.19	-9.54	54.77	68.20	-13.43
*	22400.00	Average	V	-	-	-70.14	8.20	-9.54	35.52	53.98	-18.46
*	22400.00	Peak	V	-	-	-59.61	8.20	-9.54	46.05	73.98	-27.93
	28000.00	Peak	V	-	-	-49.22	-9.24	-9.54	39.00	68.20	-29.20

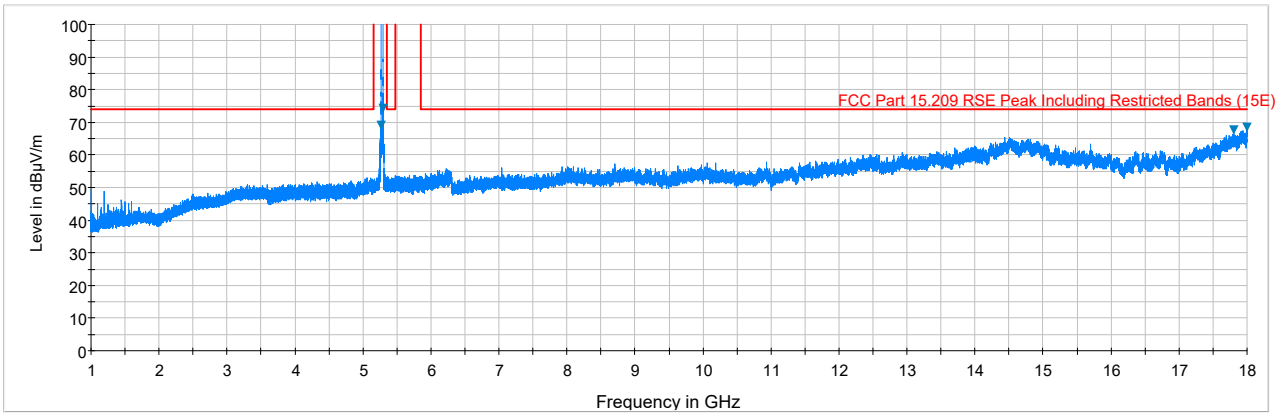
Table 7-35. Radiated Measurements

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

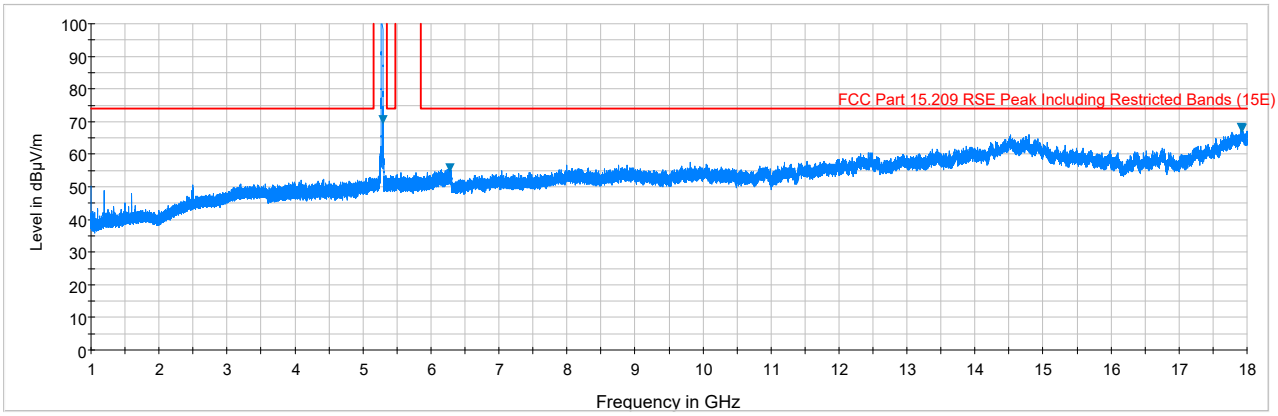
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	V	-	-	-71.05	14.12	-9.54	40.53	53.98	-13.45
*	11440.00	Peak	V	-	-	-59.11	14.12	-9.54	52.47	73.98	-21.51
	17160.00	Peak	V	-	-	-61.43	19.30	-9.54	55.33	68.20	-12.87
*	22880.00	Average	V	-	-	-71.24	8.29	-9.54	34.50	53.98	-19.48
*	22880.00	Peak	V	-	-	-60.53	8.29	-9.54	45.21	73.98	-28.77
	28600.00	Peak	V	-	-	-49.69	-9.03	-9.54	38.74	68.20	-29.46

Table 7-36. Radiated Measurements

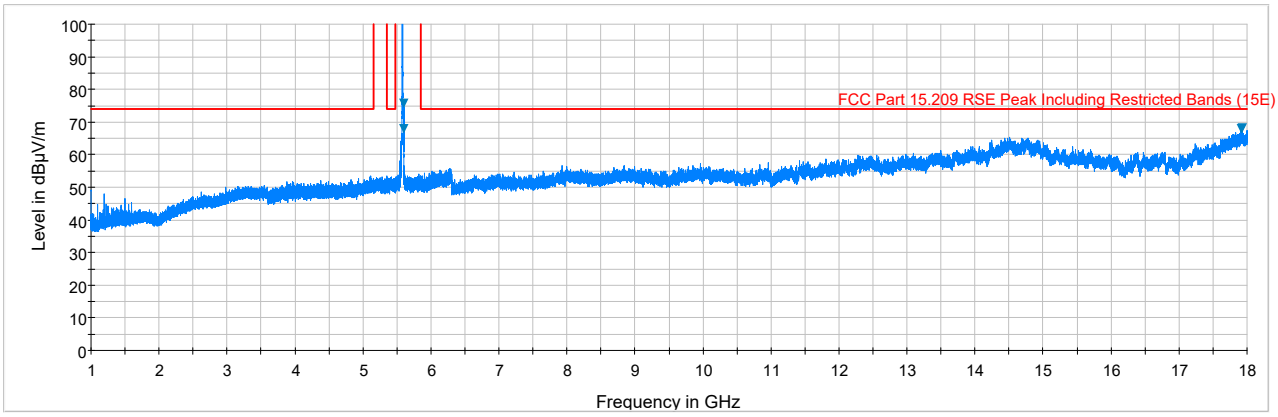
7.6.2 Antenna-2 Radiated Spurious Emission Measurements



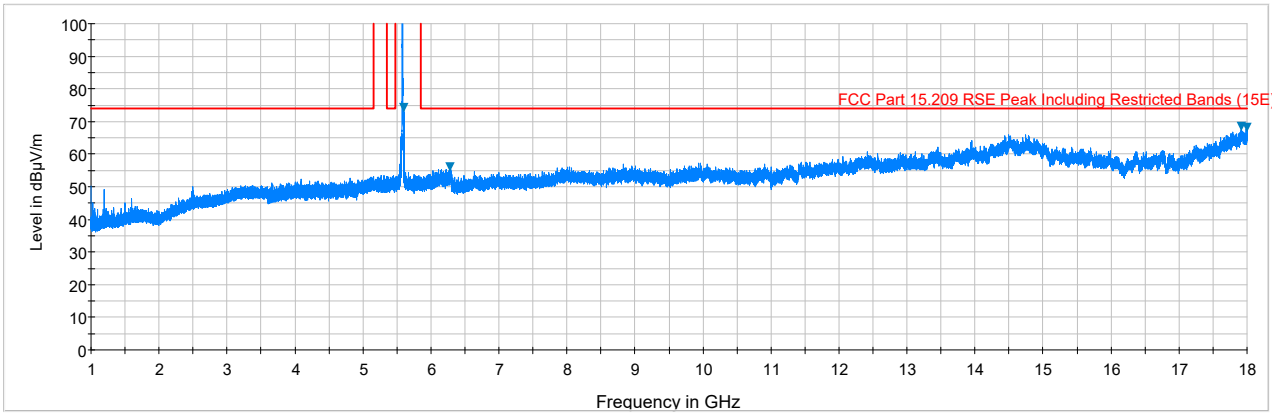
Plot 7-175. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)



Plot 7-176. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)



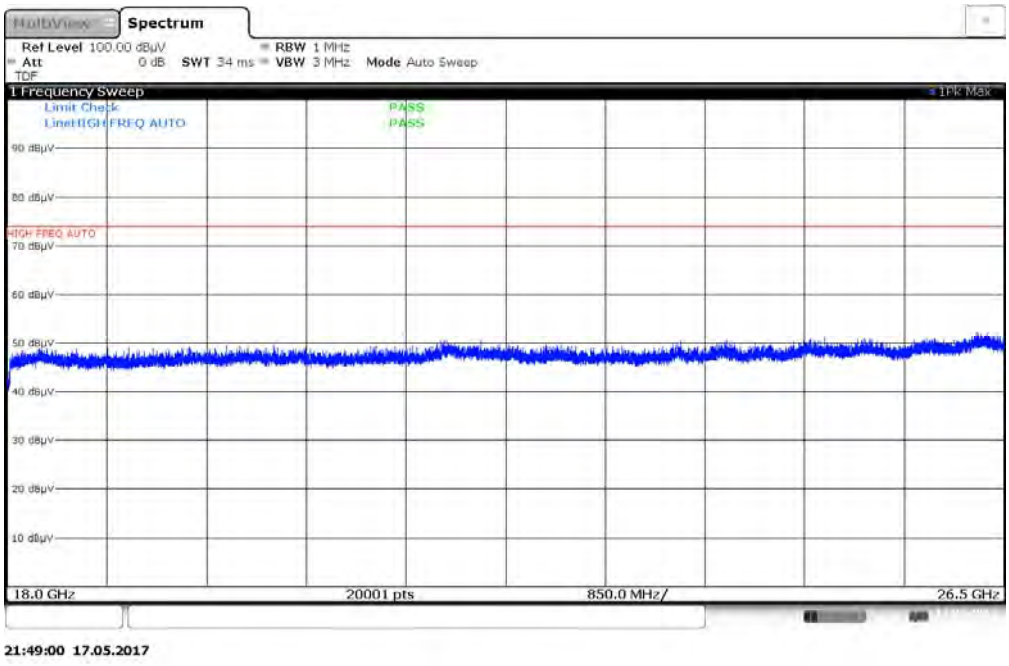
Plot 7-177. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. H)



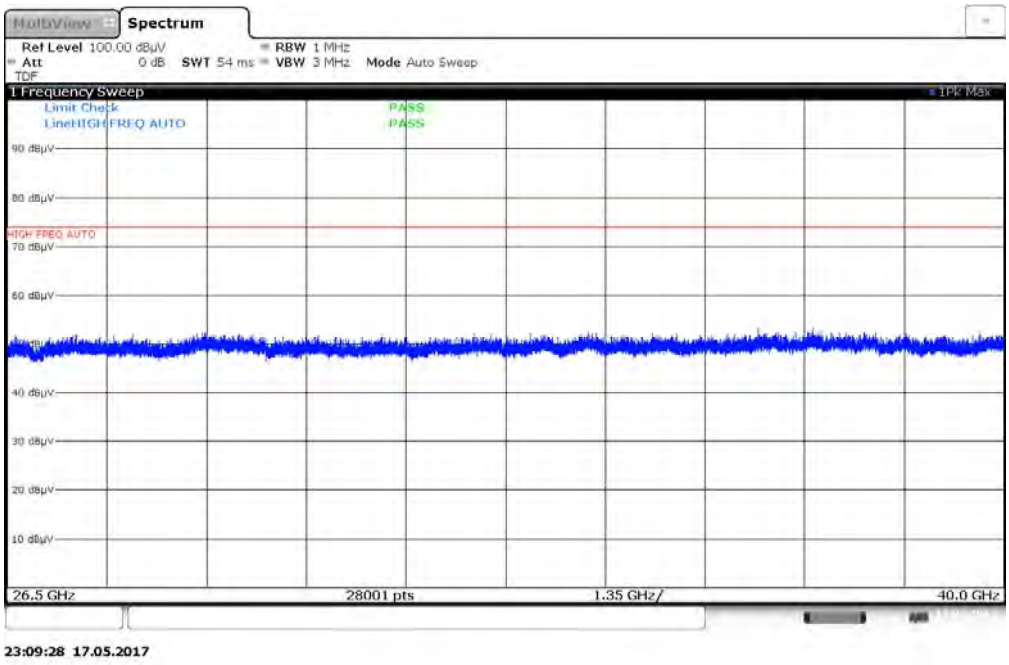
Plot 7-178. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. V)

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

§15.209



Plot 7-179. Radiated Spurious Plot 18GHz - 26.5GHz (802.11a – Ant. Pol. H)



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

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:	5260MHz
Channel:	52

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	-	-	-58.42	12.59	0.00	61.17	68.20	-7.03
*	15780.00	Average	V	-	-	-73.13	16.20	0.00	50.07	53.98	-3.91
*	15780.00	Peak	V	-	-	-58.12	16.20	0.00	65.08	73.98	-8.90
*	21040.00	Average	V	-	-	-70.74	8.10	-9.54	34.82	53.98	-19.16
*	21040.00	Peak	V	-	-	-60.22	8.10	-9.54	45.34	73.98	-28.64
	26300.00	Peak	V	-	-	-57.61	8.76	-9.54	48.61	68.20	-19.59

Table 7-37. Radiated Measurements

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	V	-	-	-59.36	12.54	-9.54	50.64	68.20	-17.56
*	15840.00	Average	V	-	-	-73.05	16.18	-9.54	40.59	53.98	-13.39
*	15840.00	Peak	V	-	-	-58.50	16.18	-9.54	55.14	73.98	-18.84
*	21120.00	Average	V	-	-	-70.90	8.09	-9.54	34.64	53.98	-19.34
*	21120.00	Peak	V	-	-	-59.41	8.09	-9.54	46.13	73.98	-27.85
	26400.00	Peak	V	-	-	-58.88	8.99	-9.54	47.57	68.20	-20.63

Table 7-38. 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	V	-	-	-71.20	12.88	-9.54	39.14	53.98	-14.84
*	10640.00	Peak	V	-	-	-58.89	12.88	-9.54	51.45	73.98	-22.53
*	15960.00	Average	V	-	-	-72.91	16.29	-9.54	40.84	53.98	-13.14
*	15960.00	Peak	V	-	-	-57.93	16.29	-9.54	55.82	73.98	-18.16
*	21280.00	Average	V	-	-	-70.60	8.07	-9.54	34.93	53.98	-19.05
*	21280.00	Peak	V	-	-	-59.42	8.07	-9.54	46.11	73.98	-27.87
	26600.00	Peak	V	-	-	-50.22	-8.30	-9.54	38.94	68.20	-29.26

Table 7-39. Radiated Measurements

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	V	-	-	-71.52	12.79	-9.54	38.73	53.98	-15.25
*	11000.00	Peak	V	-	-	-60.25	12.79	-9.54	50.00	73.98	-23.98
	16500.00	Peak	V	-	-	-58.62	15.58	-9.54	54.42	68.20	-13.78
	22000.00	Peak	V	-	-	-58.84	8.35	-9.54	46.96	68.20	-21.24
	27500.00	Peak	V	-	-	-49.37	-8.93	-9.54	39.16	68.20	-29.04

Table 7-40. 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	V	-	-	-71.43	12.99	-9.54	39.01	53.98	-14.97
*	11200.00	Peak	V	-	-	-60.23	12.99	-9.54	50.21	73.98	-23.77
	16800.00	Peak	V	-	-	-58.14	16.19	-9.54	55.51	68.20	-12.69
*	22400.00	Average	V	-	-	-70.21	8.20	-9.54	35.45	53.98	-18.53
*	22400.00	Peak	V	-	-	-59.61	8.20	-9.54	46.05	73.98	-27.93
	28000.00	Peak	V	-	-	-49.35	-9.24	-9.54	38.87	68.20	-29.33

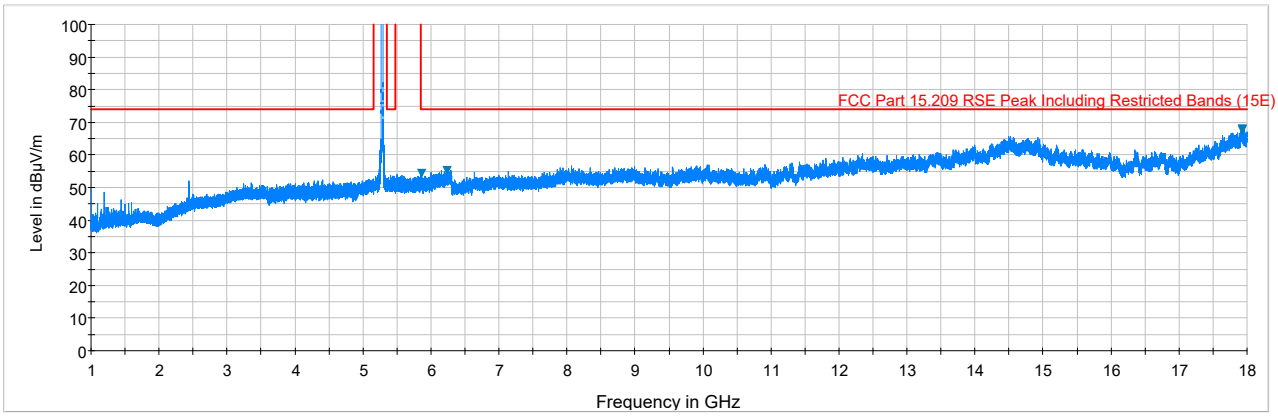
Table 7-41. Radiated Measurements

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

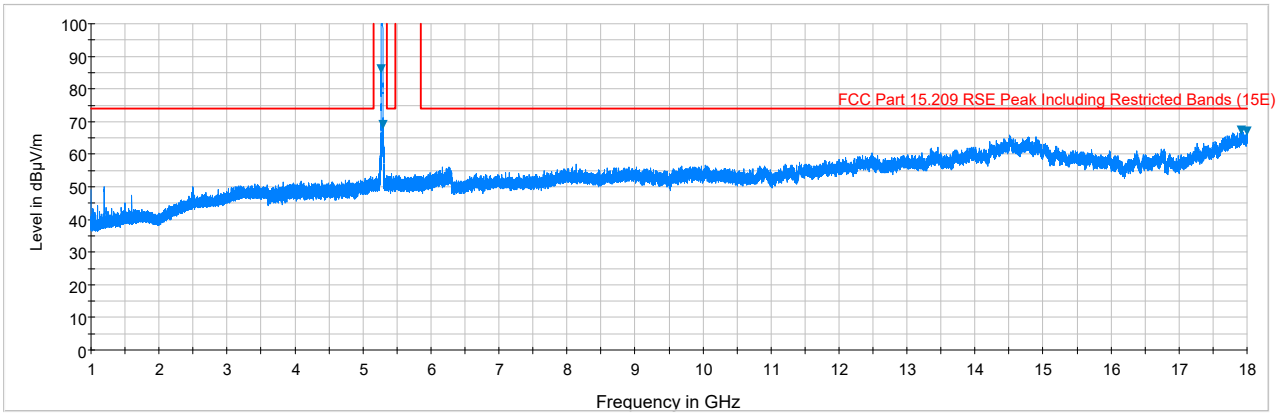
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	V	-	-	-70.83	14.12	-9.54	40.75	53.98	-13.23
*	11440.00	Peak	V	-	-	-60.05	14.12	-9.54	51.53	73.98	-22.45
	17160.00	Peak	V	-	-	-61.12	19.30	-9.54	55.64	68.20	-12.56
*	22880.00	Average	V	-	-	-71.28	8.29	-9.54	34.46	53.98	-19.52
*	22880.00	Peak	V	-	-	-60.26	8.29	-9.54	45.48	73.98	-28.50
	28600.00	Peak	V	-	-	-49.27	-9.03	-9.54	39.16	68.20	-29.04

Table 7-42. Radiated Measurements

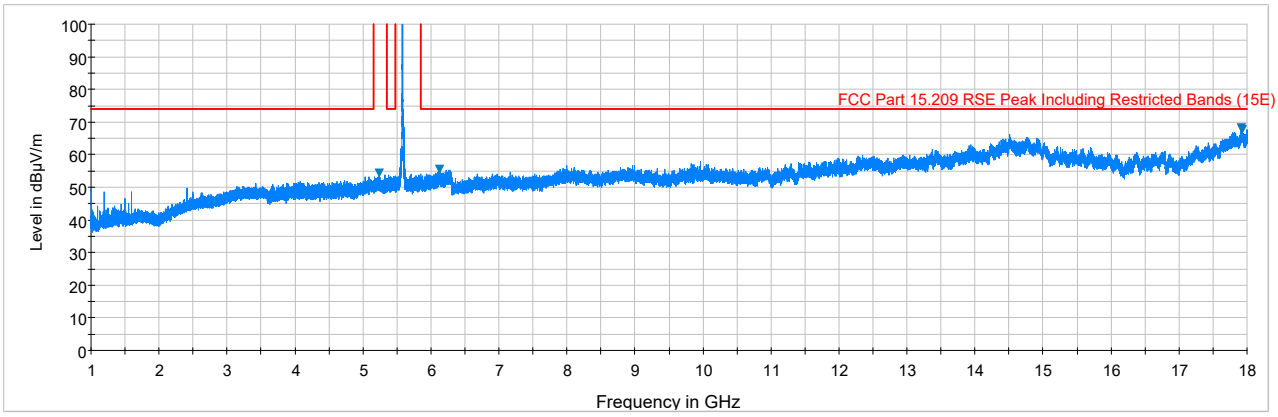
7.6.3 Antenna-3 Radiated Spurious Emission Measurements



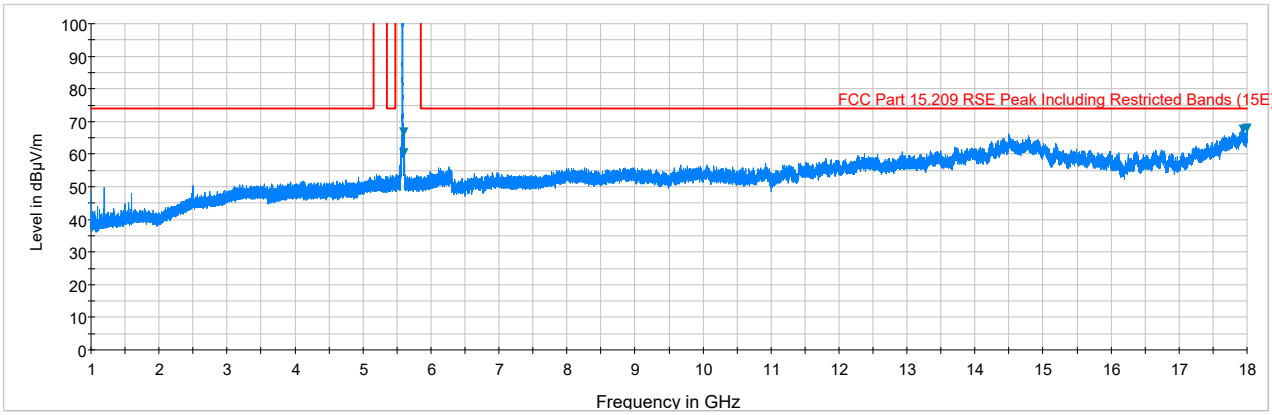
Plot 7-181. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)



Plot 7-182. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)



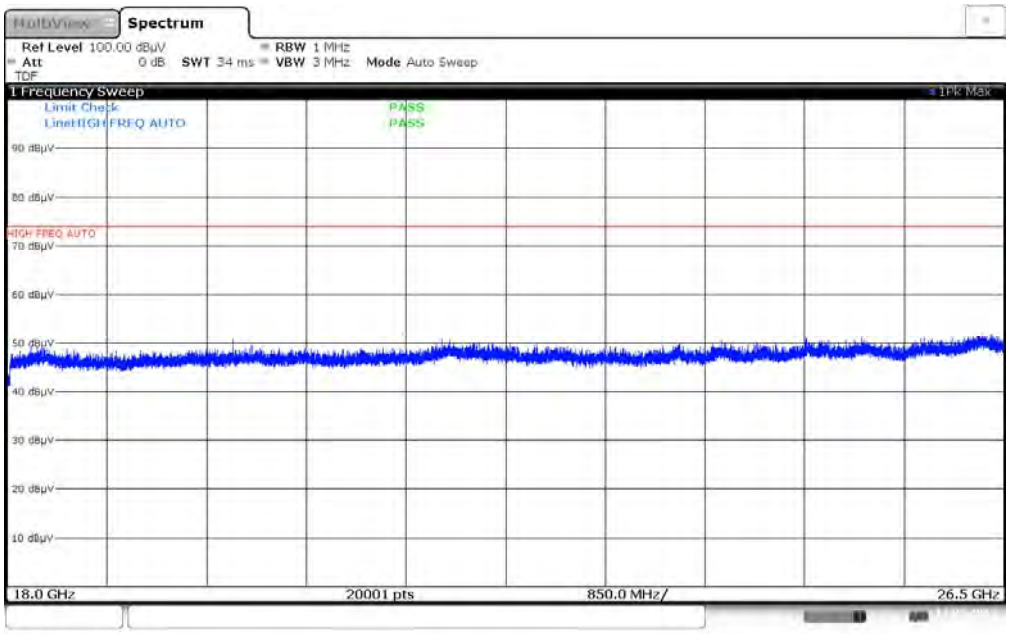
Plot 7-183. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. H)



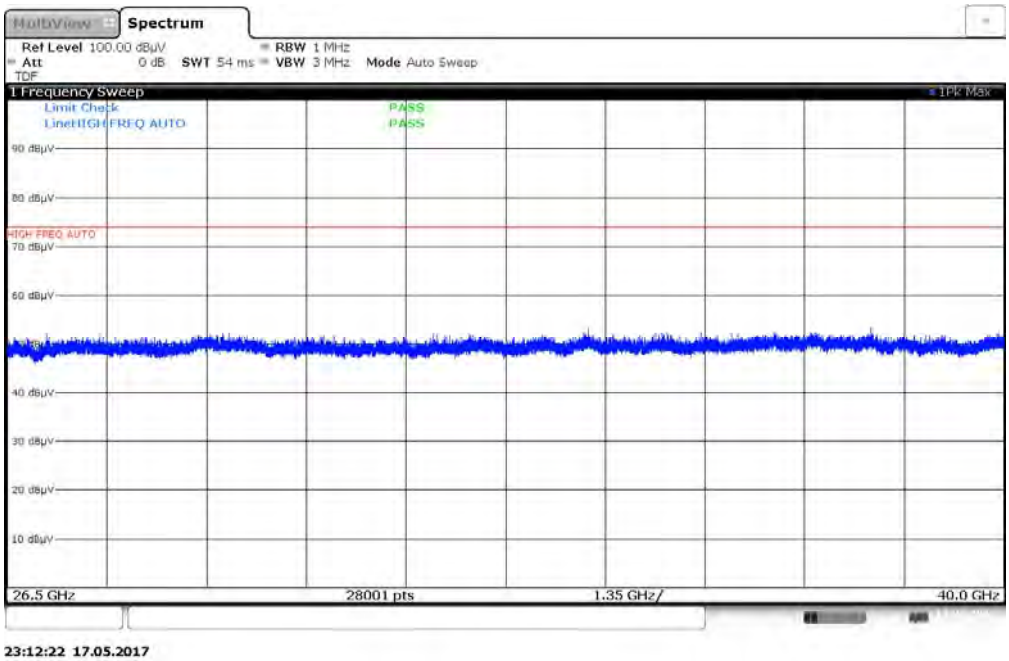
Plot 7-184. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. V)

Antenna-3 Radiated Spurious Emissions Measurements (Above 18GHz)

§15.209



Plot 7-185. Radiated Spurious Plot 18GHz - 26.5GHz (802.11a – Ant. Pol. H)



Plot 7-186. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a – Ant. Pol. H)

Antenna-3 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: 5260MHz
Channel: 52

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	-	-	-59.63	12.59	-9.54	50.42	68.20	-17.78
*	15780.00	Average	V	-	-	-73.32	16.20	-9.54	40.33	53.98	-13.65
*	15780.00	Peak	V	-	-	-59.11	16.20	-9.54	54.54	73.98	-19.44
*	21040.00	Average	V	-	-	-70.67	8.10	-9.54	34.89	53.98	-19.09
*	21040.00	Peak	V	-	-	-61.11	8.10	-9.54	44.45	73.98	-29.53
	26300.00	Peak	V	-	-	-58.64	8.76	-9.54	47.58	68.20	-20.62

Table 7-43. Radiated Measurements

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	V	-	-	-59.20	12.54	-9.54	50.80	68.20	-17.40
*	15840.00	Average	V	-	-	-73.03	16.18	-9.54	40.61	53.98	-13.37
*	15840.00	Peak	V	-	-	-58.83	16.18	-9.54	54.81	73.98	-19.17
*	21120.00	Average	V	-	-	-70.88	8.09	-9.54	34.66	53.98	-19.32
*	21120.00	Peak	V	-	-	-59.54	8.09	-9.54	46.00	73.98	-27.98
	26400.00	Peak	V	-	-	-58.21	8.99	-9.54	48.24	68.20	-19.96

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	V	-	-	-71.37	12.88	-9.54	38.97	53.98	-15.01
*	10640.00	Peak	V	-	-	-59.55	12.88	-9.54	50.79	73.98	-23.19
*	15960.00	Average	V	-	-	-74.15	16.29	-9.54	39.60	53.98	-14.38
*	15960.00	Peak	V	-	-	-58.85	16.29	-9.54	54.90	73.98	-19.08
*	21280.00	Average	V	-	-	-70.64	8.07	-9.54	34.89	53.98	-19.09
*	21280.00	Peak	V	-	-	-59.47	8.07	-9.54	46.06	73.98	-27.92
	26600.00	Peak	V	-	-	-50.34	-8.30	-9.54	38.82	68.20	-29.38

Table 7-45. Radiated Measurements

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	V	-	-	-71.53	12.79	-9.54	38.72	53.98	-15.26
*	11000.00	Peak	V	-	-	-60.80	12.79	-9.54	49.45	73.98	-24.53
	16500.00	Peak	V	-	-	-59.71	15.58	-9.54	53.33	68.20	-14.87
	22000.00	Peak	V	-	-	-58.88	8.35	-9.54	46.92	68.20	-21.28
	27500.00	Peak	V	-	-	-49.37	-8.93	-9.54	39.16	68.20	-29.04

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	V	-	-	-71.59	12.99	-9.54	38.85	53.98	-15.13
*	11200.00	Peak	V	-	-	-59.10	12.99	-9.54	51.34	73.98	-22.64
	16800.00	Peak	V	-	-	-59.71	16.19	-9.54	53.94	68.20	-14.26
*	22400.00	Average	V	-	-	-70.10	8.20	-9.54	35.56	53.98	-18.42
*	22400.00	Peak	V	-	-	-59.67	8.20	-9.54	45.99	73.98	-27.99
	28000.00	Peak	V	-	-	-49.27	-9.24	-9.54	38.95	68.20	-29.25

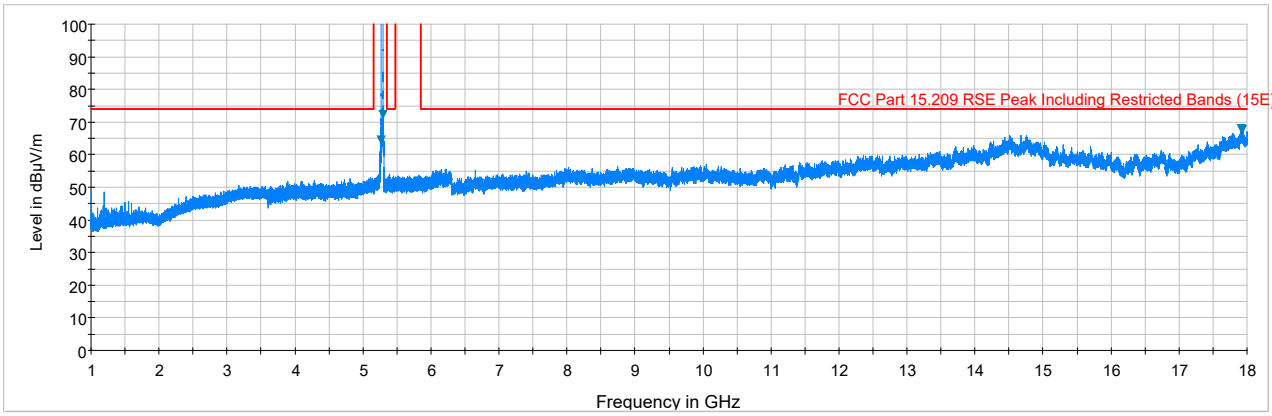
Table 7-47. Radiated Measurements

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

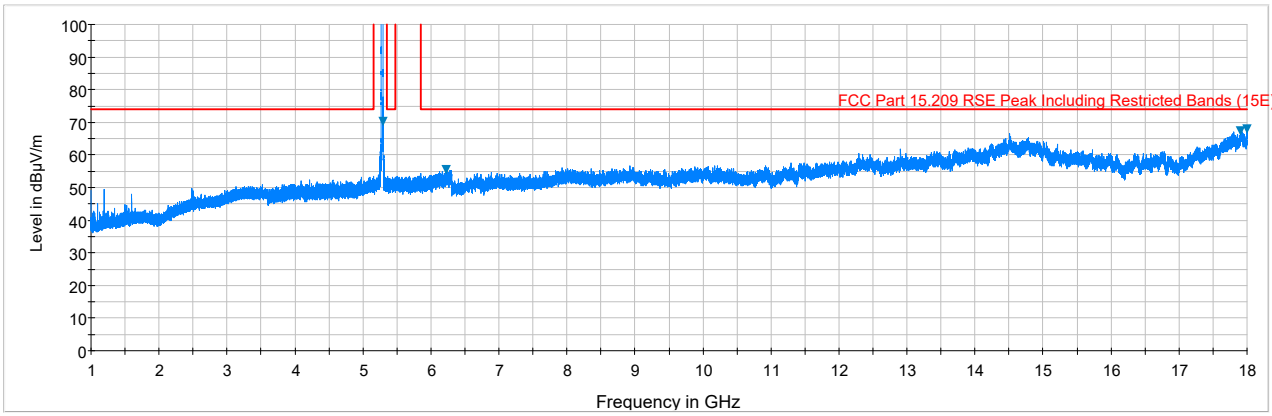
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	V	-	-	-71.03	14.12	-9.54	40.55	53.98	-13.43
*	11440.00	Peak	V	-	-	-59.97	14.12	-9.54	51.61	73.98	-22.37
	17160.00	Peak	V	-	-	-61.11	19.30	-9.54	55.65	68.20	-12.55
*	22880.00	Average	V	-	-	-71.22	8.29	-9.54	34.52	53.98	-19.46
*	22880.00	Peak	V	-	-	-60.42	8.29	-9.54	45.32	73.98	-28.66
	28600.00	Peak	V	-	-	-49.61	-9.03	-9.54	38.82	68.20	-29.38

Table 7-48. Radiated Measurements

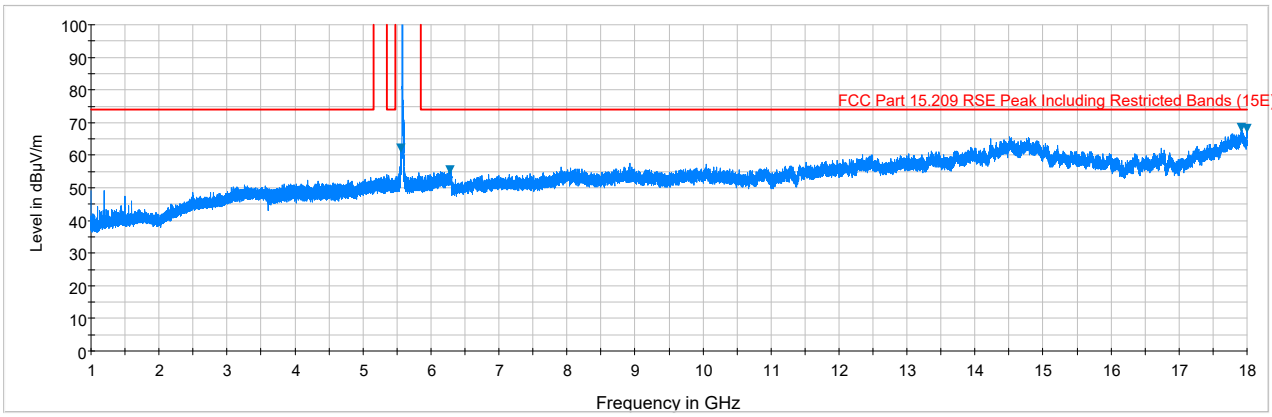
7.6.4 Antenna-4 Radiated Spurious Emission Measurements



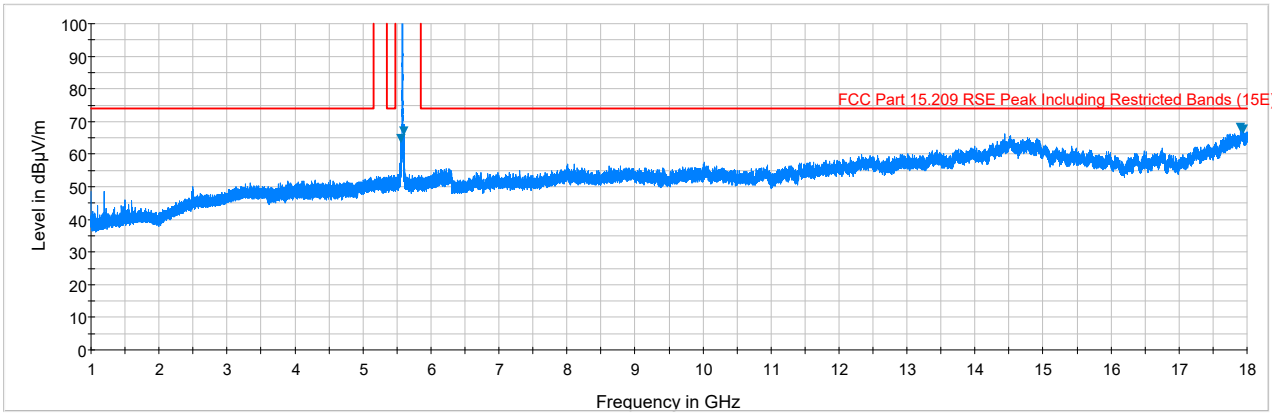
Plot 7-187. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)



Plot 7-188. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)



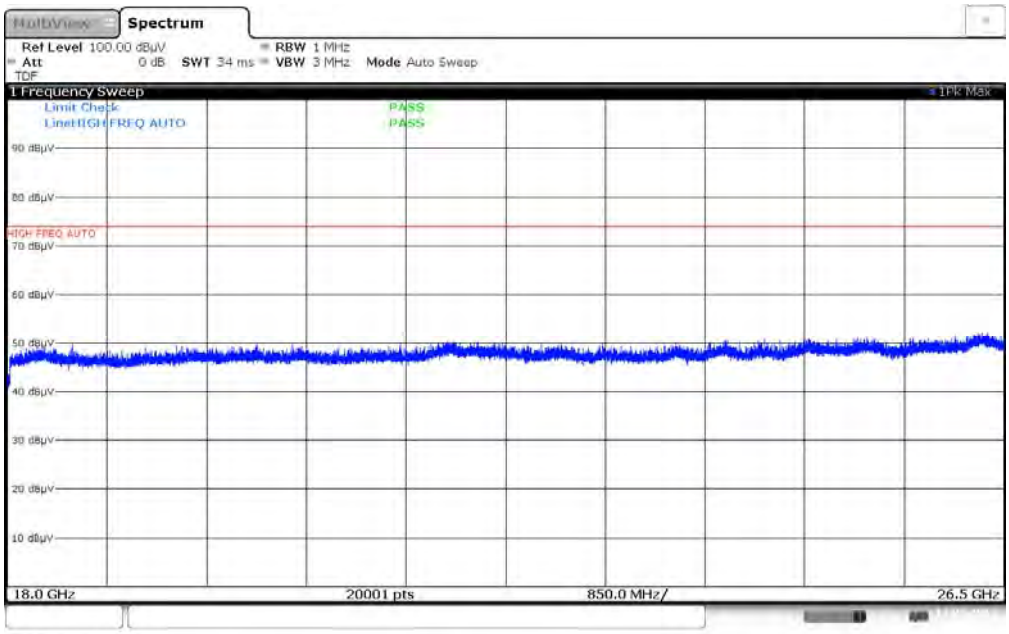
Plot 7-189. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. H)



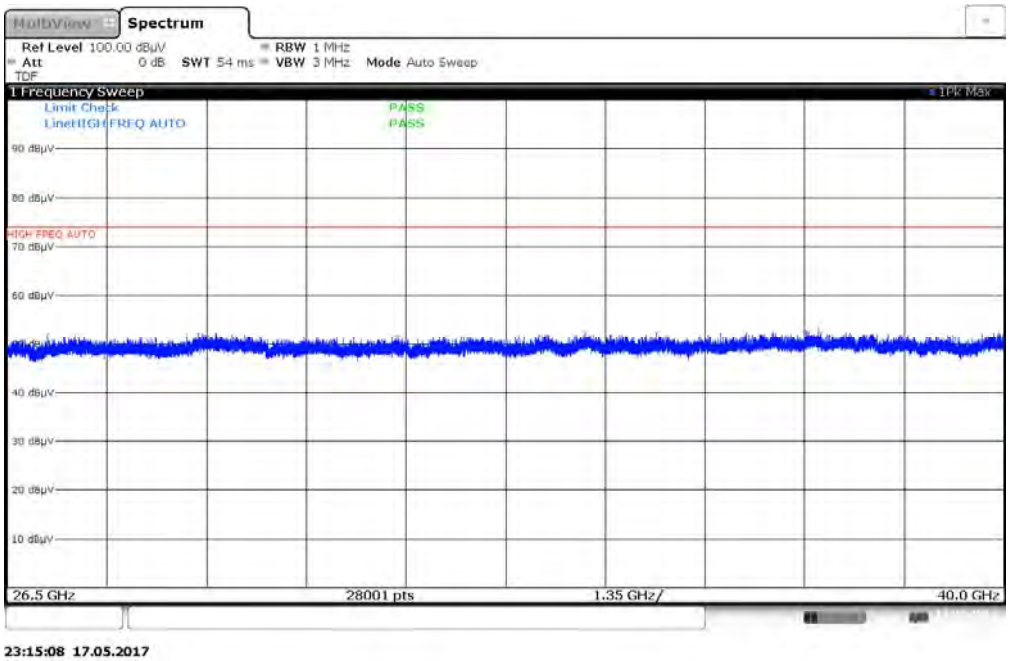
Plot 7-190. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 120, Ant. Pol. V)

Antenna-4 Radiated Spurious Emissions Measurements (Above 18GHz)

§15.209



Plot 7-191. Radiated Spurious Plot 18GHz - 26.5GHz (802.11a – Ant. Pol. H)



Plot 7-192. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a – Ant. Pol. H)

Antenna-4 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:	5260MHz
Channel:	52

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	-	-	-59.68	12.59	-9.54	50.37	68.20	-17.83
*	15780.00	Average	V	-	-	-73.24	16.20	-9.54	40.41	53.98	-13.57
*	15780.00	Peak	V	-	-	-58.13	16.20	-9.54	55.52	73.98	-18.46
*	21040.00	Average	V	-	-	-70.74	8.10	-9.54	34.82	53.98	-19.16
*	21040.00	Peak	V	-	-	-61.24	8.10	-9.54	44.32	73.98	-29.66
	26300.00	Peak	V	-	-	-58.67	8.76	-9.54	47.55	68.20	-20.65

Table 7-49. Radiated Measurements

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	V	-	-	-59.73	12.54	-9.54	50.27	68.20	-17.93
*	15840.00	Average	V	-	-	-73.19	16.18	-9.54	40.45	53.98	-13.53
*	15840.00	Peak	V	-	-	-58.28	16.18	-9.54	55.36	73.98	-18.62
*	21120.00	Average	V	-	-	-70.64	8.09	-9.54	34.90	53.98	-19.08
*	21120.00	Peak	V	-	-	-59.48	8.09	-9.54	46.06	73.98	-27.92
	26400.00	Peak	V	-	-	-58.21	8.99	-9.54	48.24	68.20	-19.96

Table 7-50. 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	V	-	-	-71.19	12.88	-9.54	39.15	53.98	-14.83
*	10640.00	Peak	V	-	-	-58.93	12.88	-9.54	51.41	73.98	-22.57
*	15960.00	Average	V	-	-	-73.12	16.29	-9.54	40.63	53.98	-13.35
*	15960.00	Peak	V	-	-	-58.60	16.29	-9.54	55.15	73.98	-18.83
*	21280.00	Average	V	-	-	-70.61	8.07	-9.54	34.92	53.98	-19.06
*	21280.00	Peak	V	-	-	-59.47	8.07	-9.54	46.06	73.98	-27.92
	26600.00	Peak	V	-	-	-50.31	-8.30	-9.54	38.85	68.20	-29.35

Table 7-51. Radiated Measurements

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	V	-	-	-71.72	12.79	-9.54	38.53	53.98	-15.45
*	11000.00	Peak	V	-	-	-60.61	12.79	-9.54	49.64	73.98	-24.34
	16500.00	Peak	V	-	-	-58.33	15.58	-9.54	54.71	68.20	-13.49
	22000.00	Peak	V	-	-	-58.27	8.35	-9.54	47.53	68.20	-20.67

Table 7-52. 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	V	-	-	-71.55	12.99	-9.54	38.89	53.98	-15.09
*	11200.00	Peak	V	-	-	-59.96	12.99	-9.54	50.48	73.98	-23.50
	16800.00	Peak	V	-	-	-58.02	16.19	-9.54	55.63	68.20	-12.57
*	22400.00	Average	V	-	-	-69.67	8.20	-9.54	35.99	53.98	-17.99
*	22400.00	Peak	V	-	-	-59.76	8.20	-9.54	45.90	73.98	-28.08
	28000.00	Peak	V	-	-	-49.24	-9.24	-9.54	38.98	68.20	-29.22

Table 7-53. Radiated Measurements

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

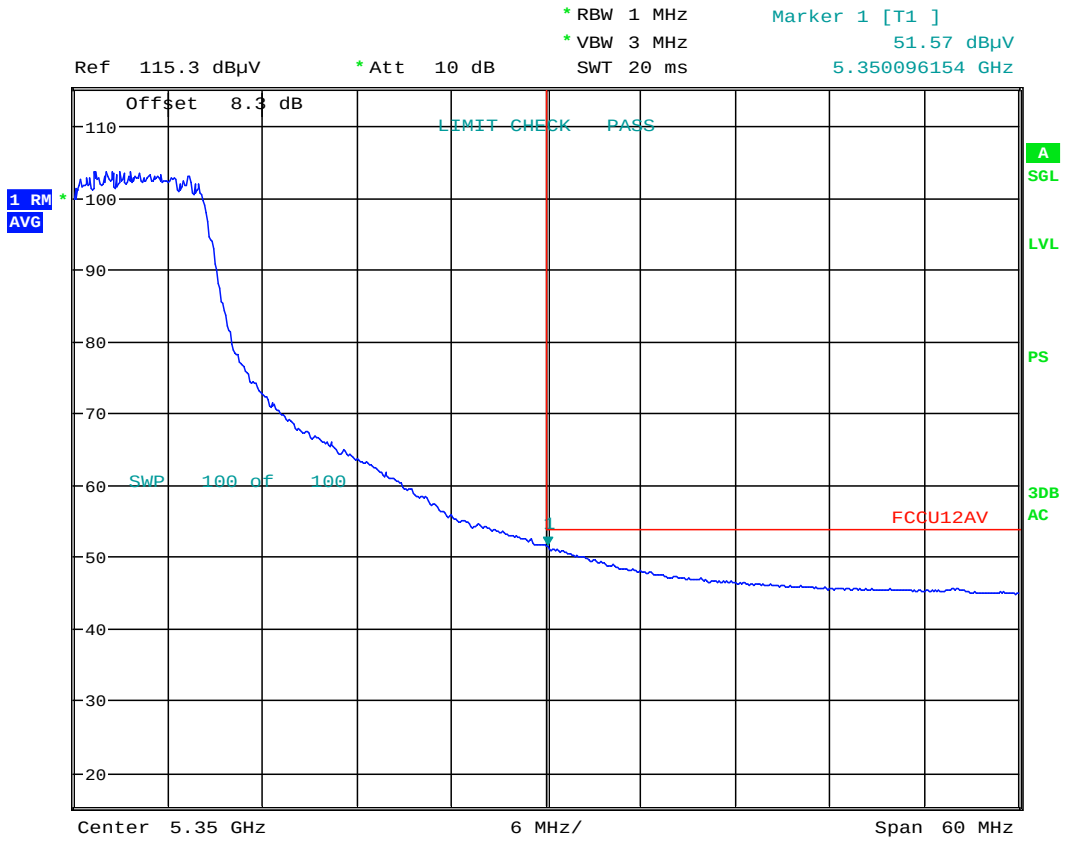
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	V	-	-	-71.10	14.12	-9.54	40.48	53.98	-13.50
*	11440.00	Peak	V	-	-	-60.19	14.12	-9.54	51.39	73.98	-22.59
	17160.00	Peak	V	-	-	-61.84	19.30	-9.54	54.92	68.20	-13.28
*	22880.00	Average	V	-	-	-71.22	8.29	-9.54	34.52	53.98	-19.46
*	22880.00	Peak	V	-	-	-60.57	8.29	-9.54	45.17	73.98	-28.81
	28600.00	Peak	V	-	-	-49.87	-9.03	-9.54	38.56	68.20	-29.64

Table 7-54. Radiated Measurements

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

§15.407(b.2)(b.3) §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

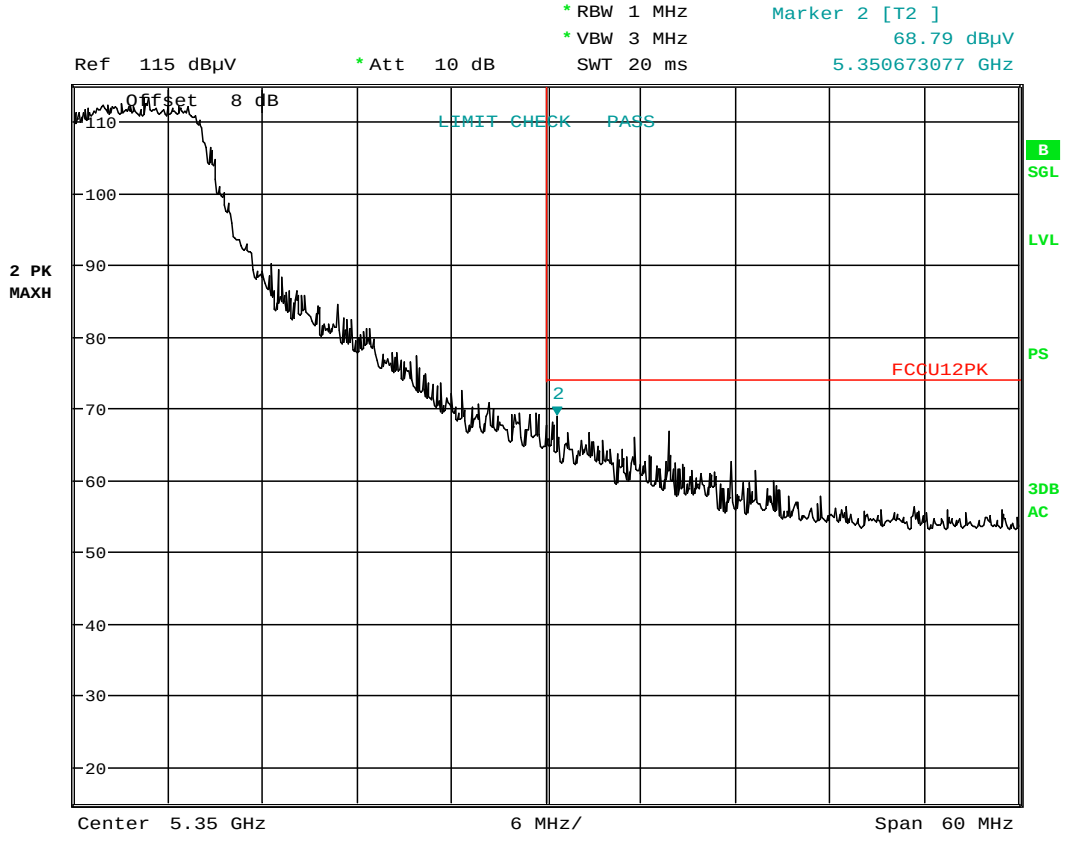


Date: 28.MAR.2017 09:29:58

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

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

§15.407(b.2)(b.3) §15.205 §15.209



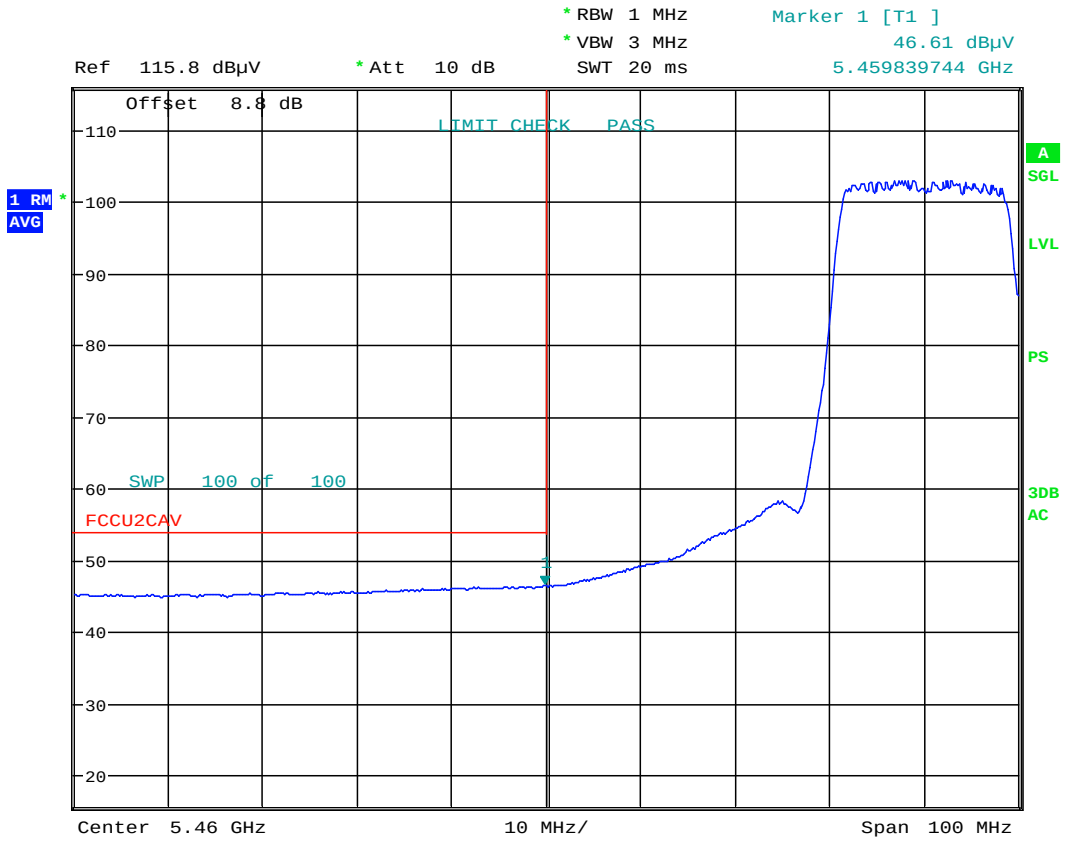
Date: 28.MAR.2017 09:30:19

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

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

§15.407(b.2)(b.3) §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

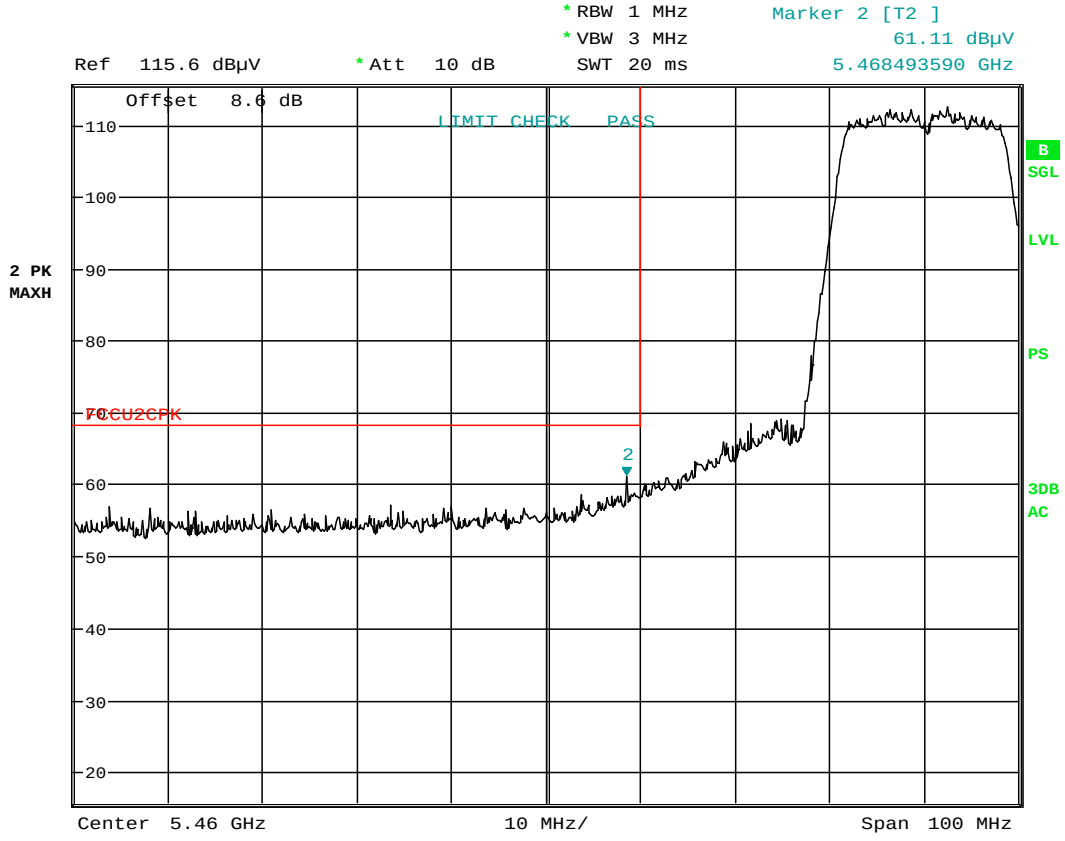


Date: 28.MAR.2017 10:37:31

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

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

§15.407(b.2)(b.3) §15.205 §15.209



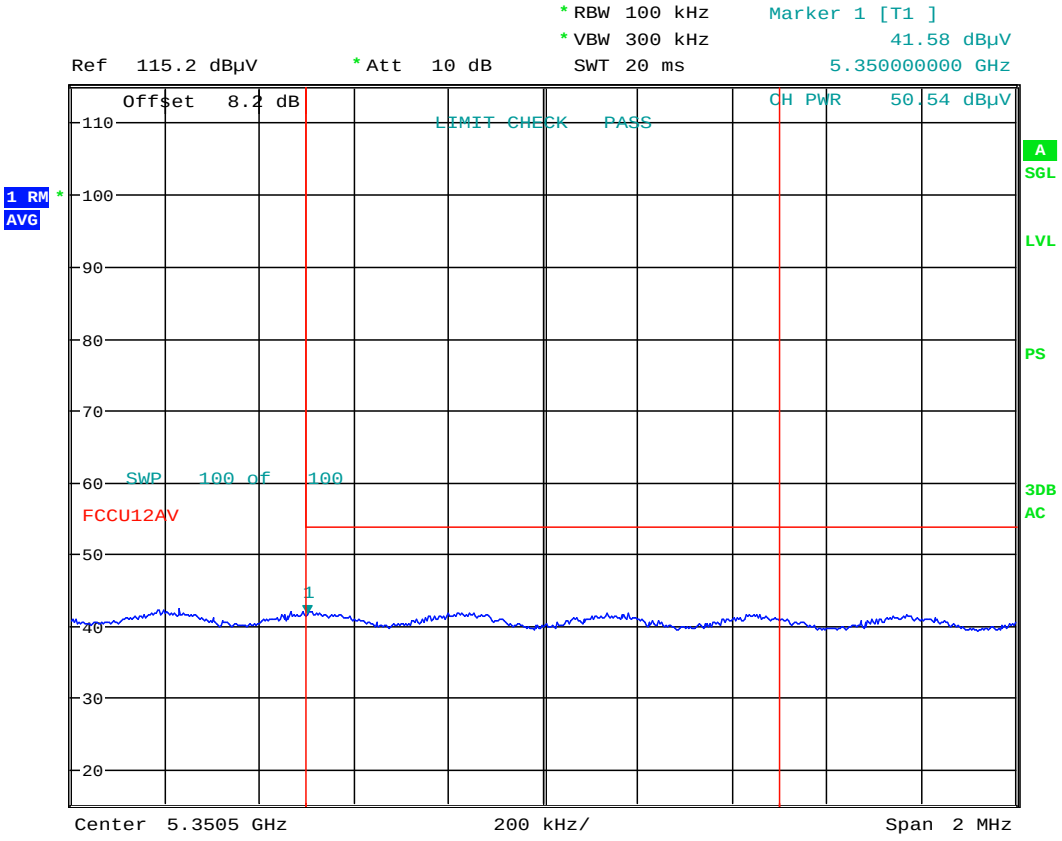
Date: 28.MAR.2017 10:37:51

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

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

§15.407(b.2)(b.3) §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

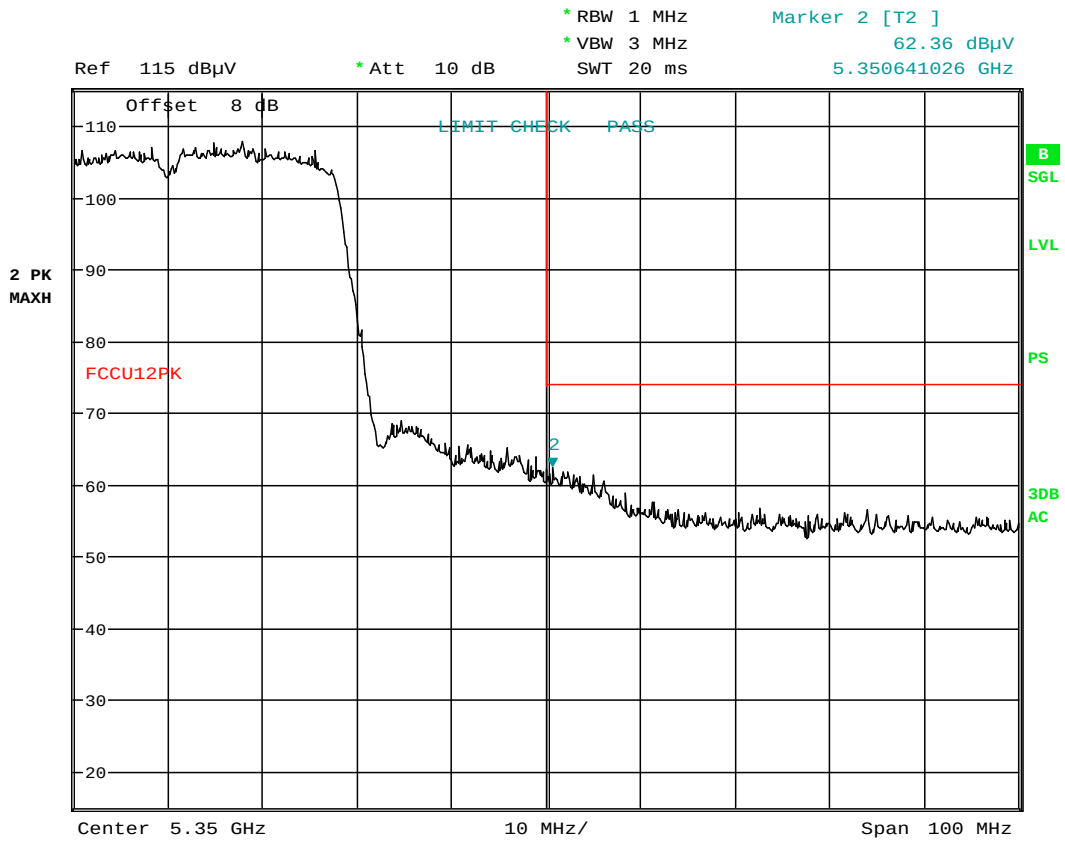


Date: 28.MAR.2017 10:03:38

Plot 7-197. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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

§15.407(b.2)(b.3) §15.205 §15.209



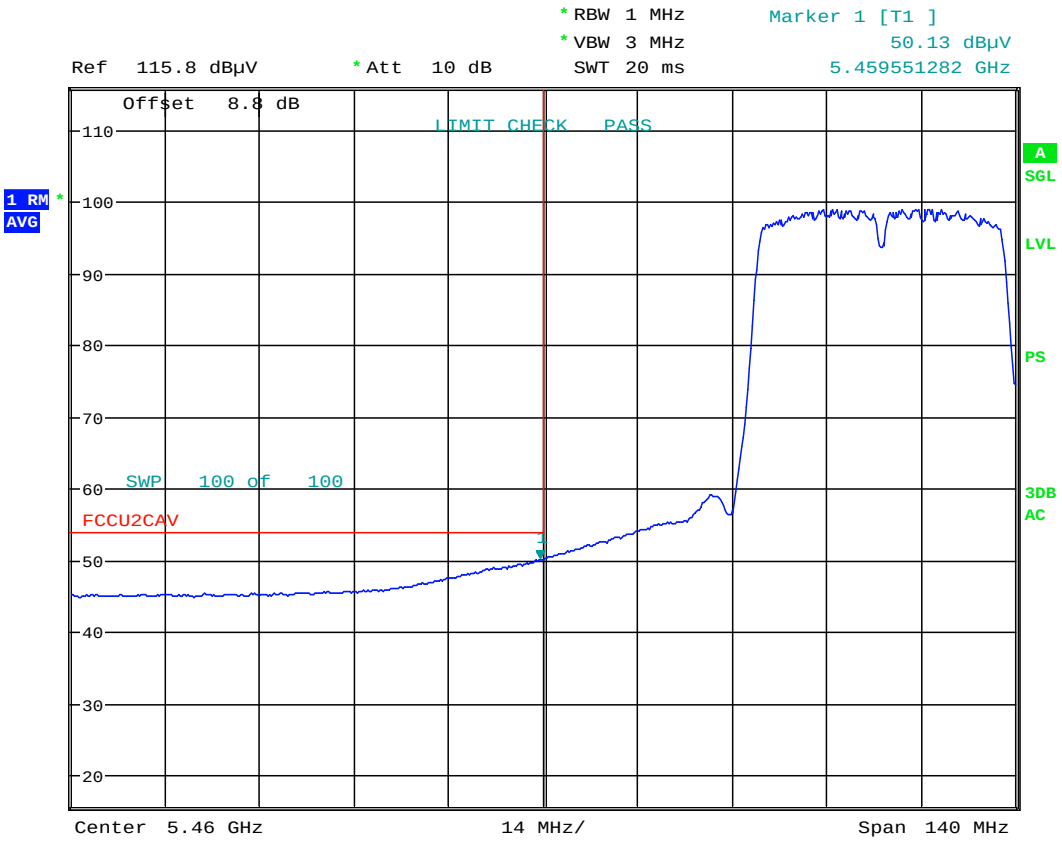
Date: 28.MAR.2017 10:03:50

Plot 7-198. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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

§15.407(b.2)(b.3) §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

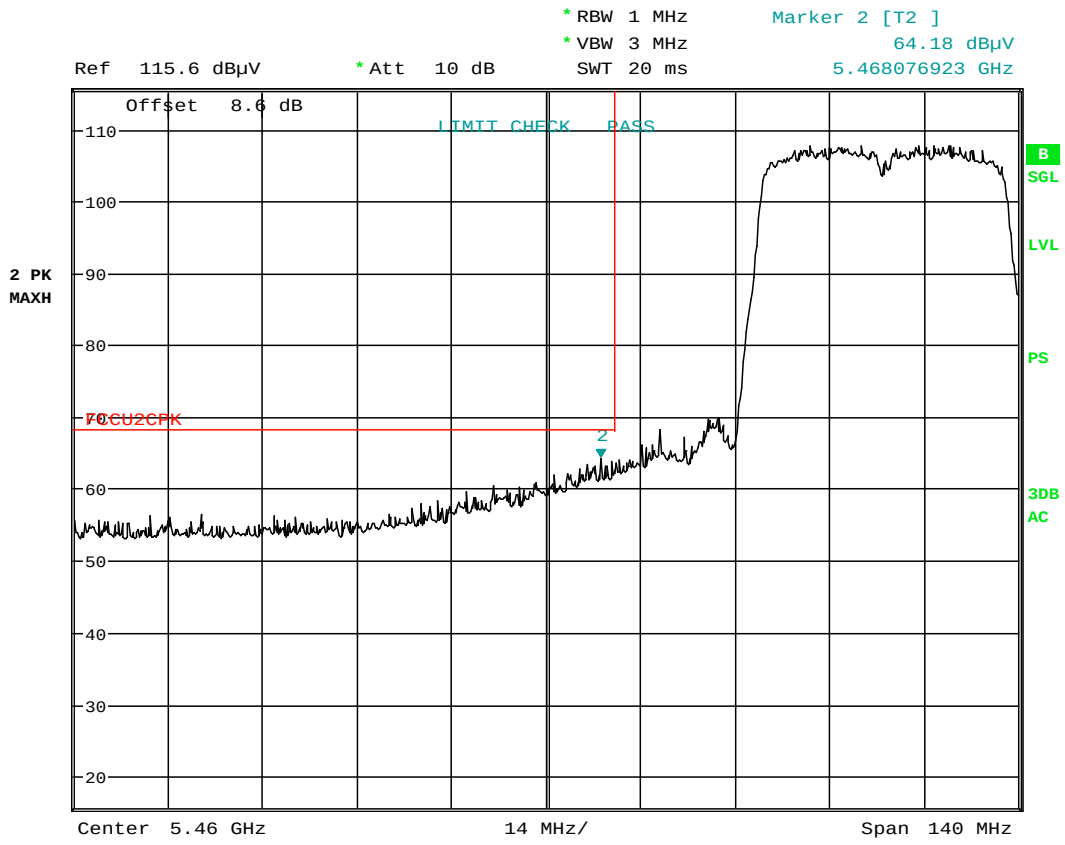


Date: 28.MAR.2017 10:32:18

Plot 7-199. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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

§15.407(b.2)(b.3) §15.205 §15.209



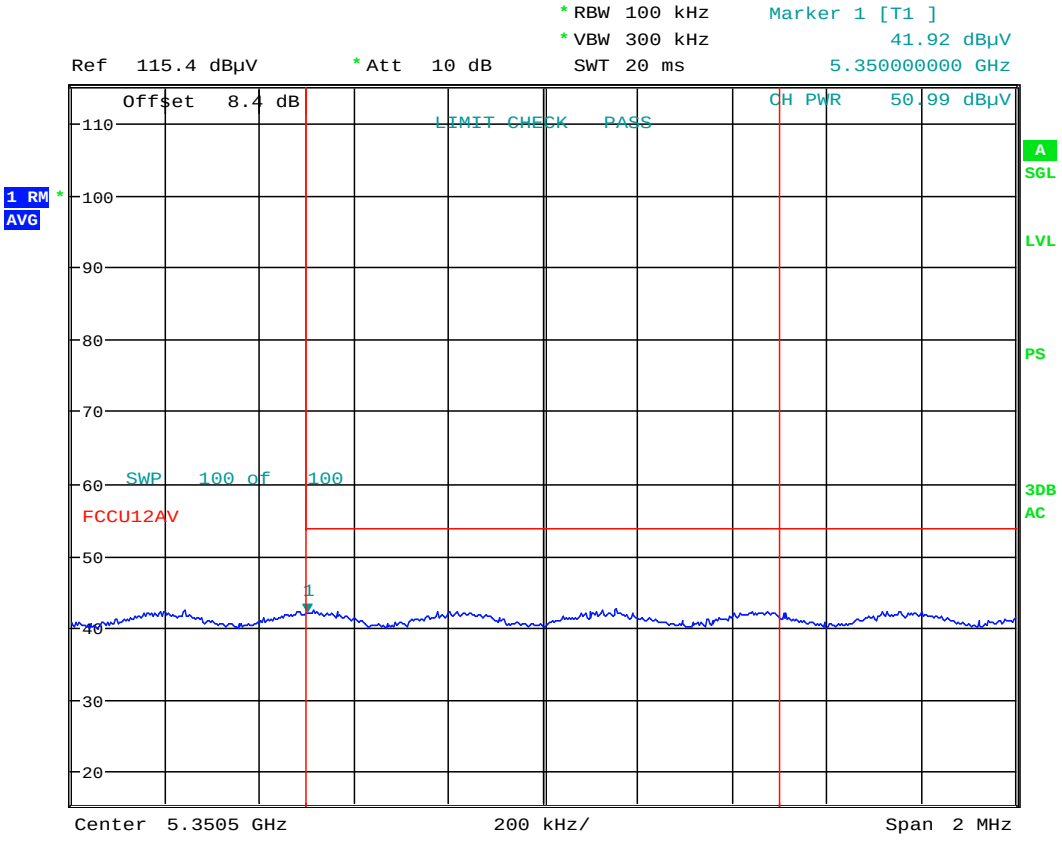
Date: 28.MAR.2017 10:32:36

Plot 7-200. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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

§15.407(b.2)(b.3) §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

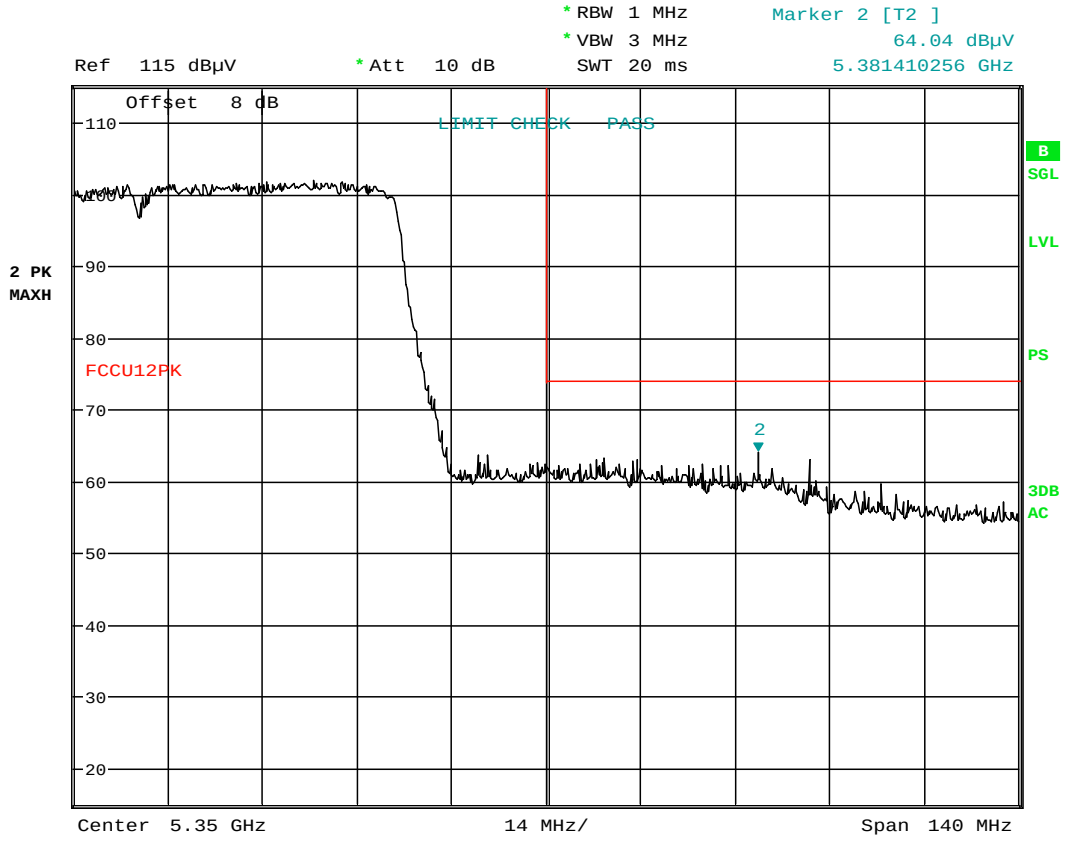


Date: 28.MAR.2017 10:08:09

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

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

§15.407(b.2)(b.3) §15.205 §15.209

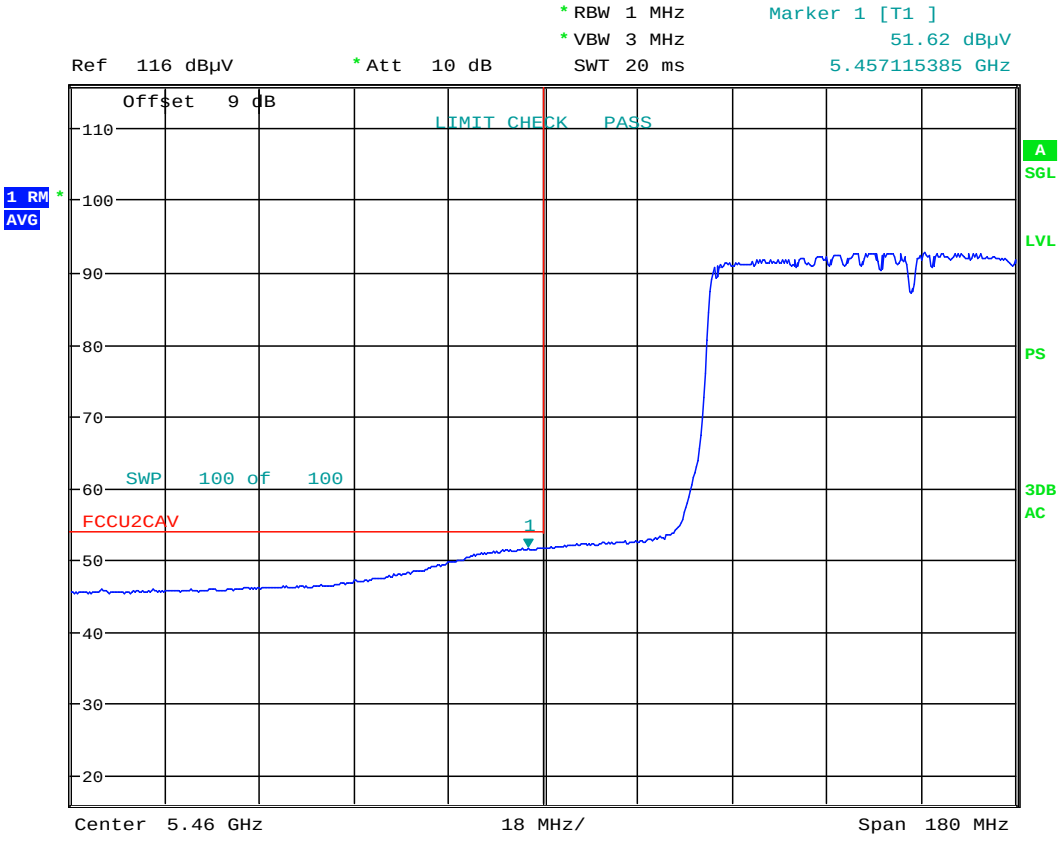


Plot 7-202. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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

§15.407(b.2)(b.3) §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

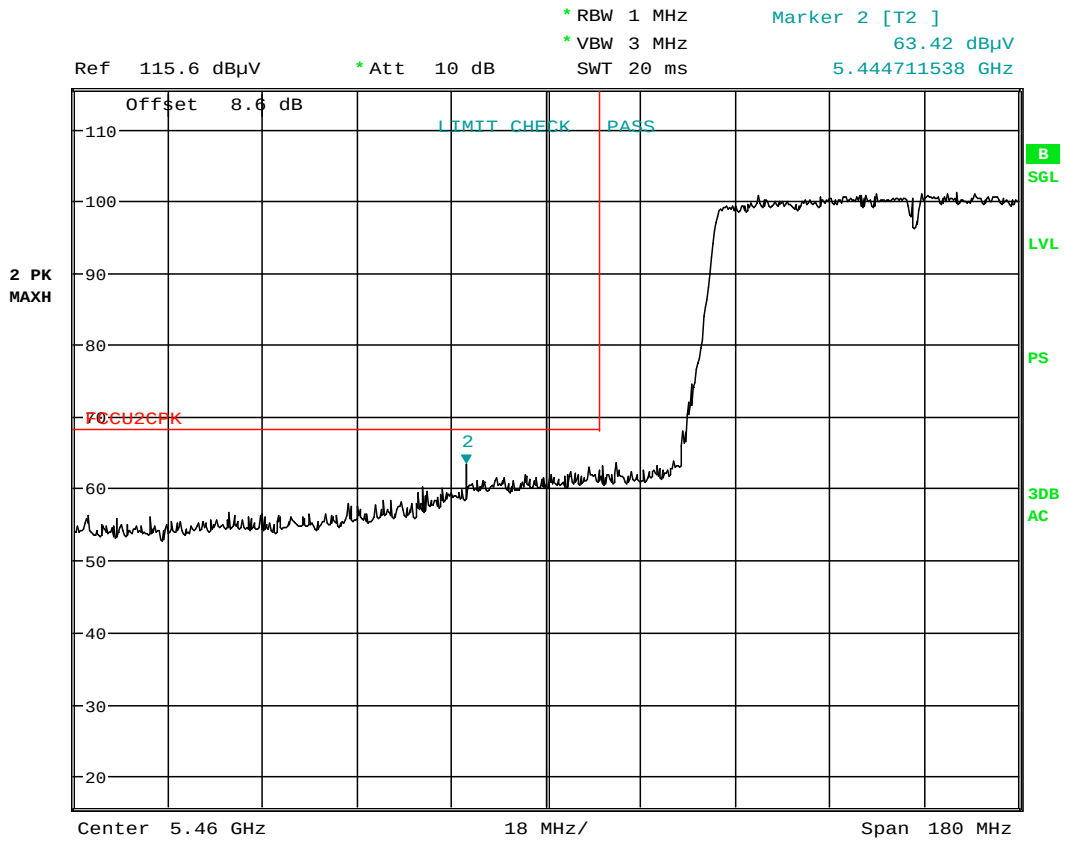


Date: 28.MAR.2017 10:15:30

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

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

§15.407(b.2)(b.3) §15.205 §15.209



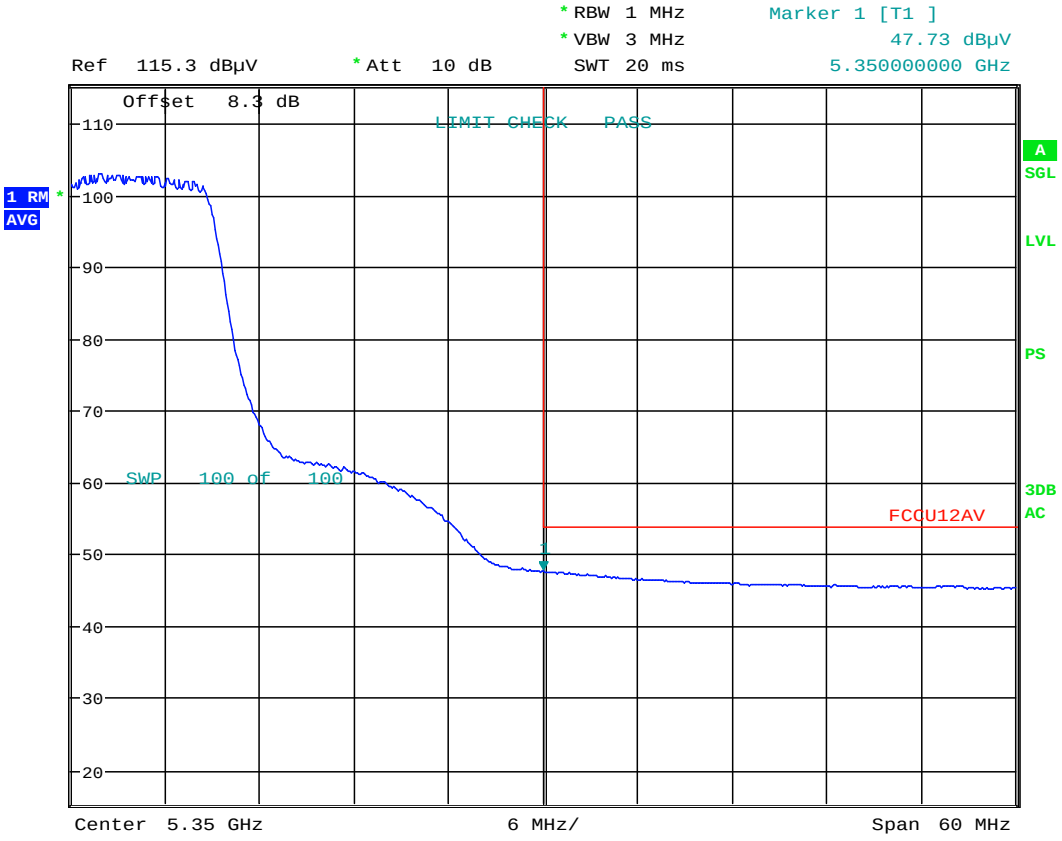
Date: 28.MAR.2017 10:15:49

Plot 7-204. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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

§15.407(b.2)(b.3) §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

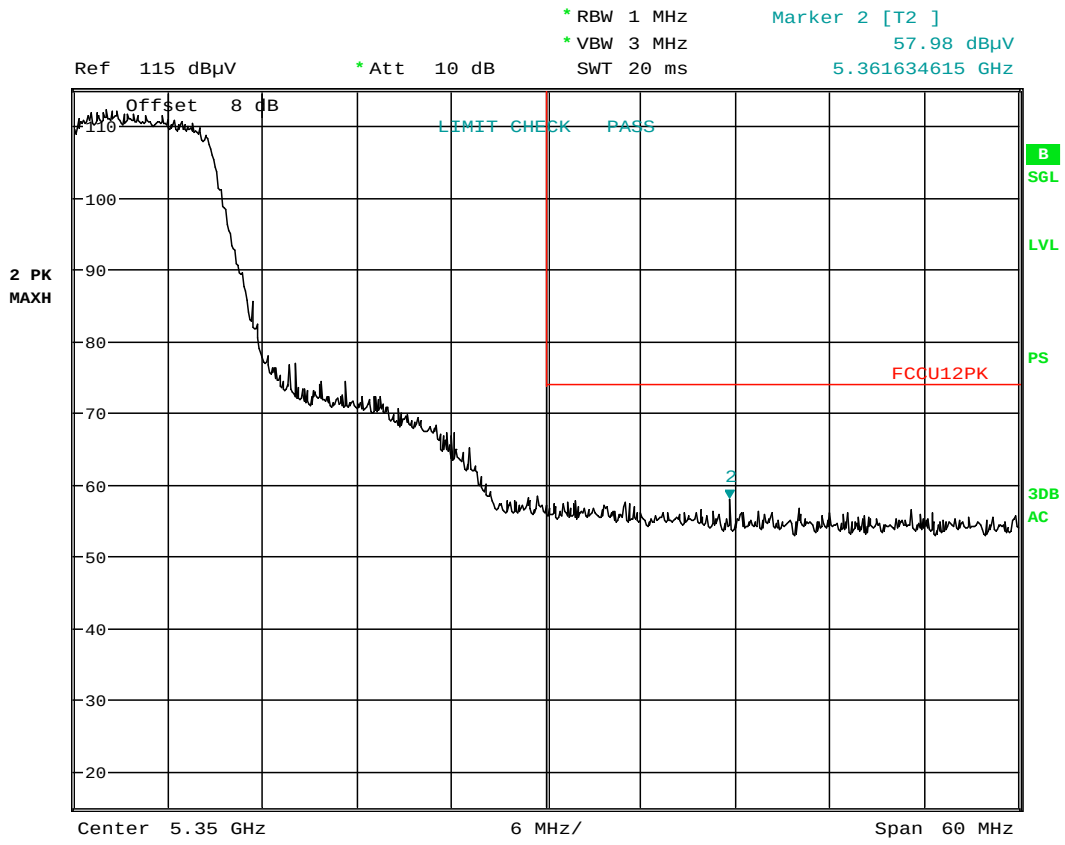


Date: 28.MAR.2017 11:53:16

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

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

§15.407(b.2)(b.3) §15.205 §15.209

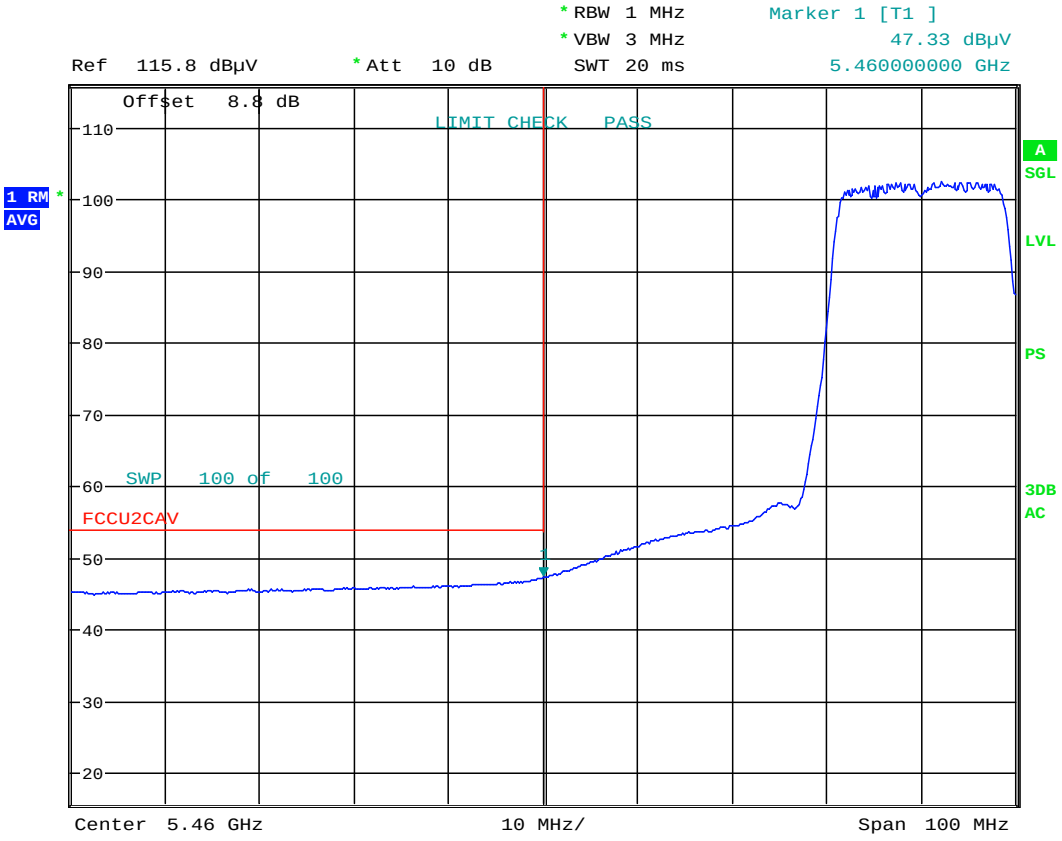


Plot 7-206. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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

§15.407(b.2)(b.3) §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

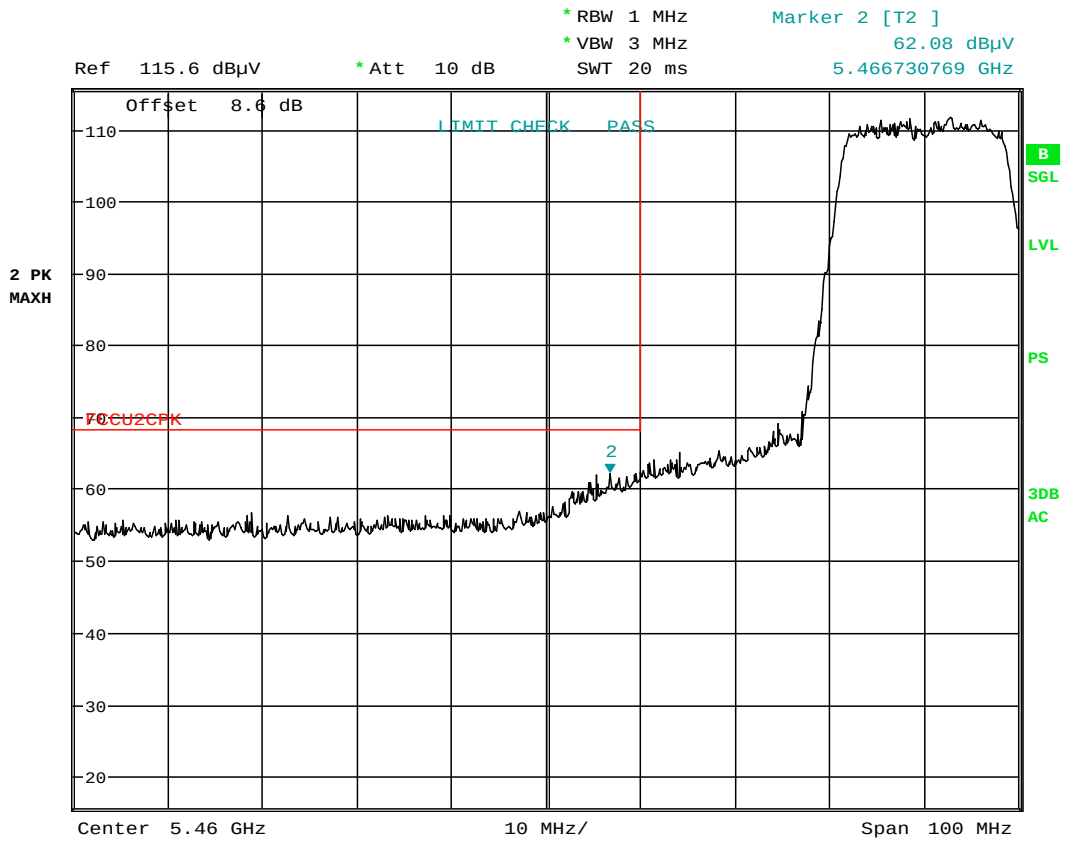


Date: 28.MAR.2017 10:50:36

Plot 7-207. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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

§15.407(b.2)(b.3) §15.205 §15.209



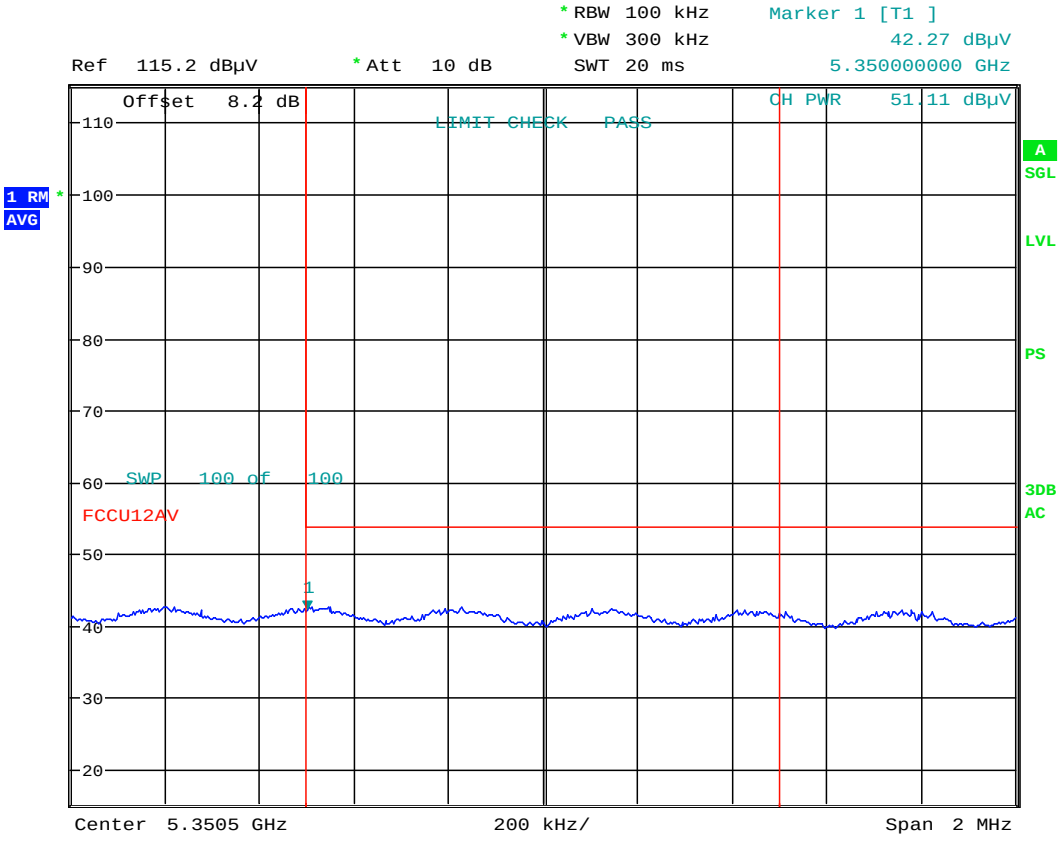
Date: 28.MAR.2017 10:51:32

Plot 7-208. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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

§15.407(b.2)(b.3) §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

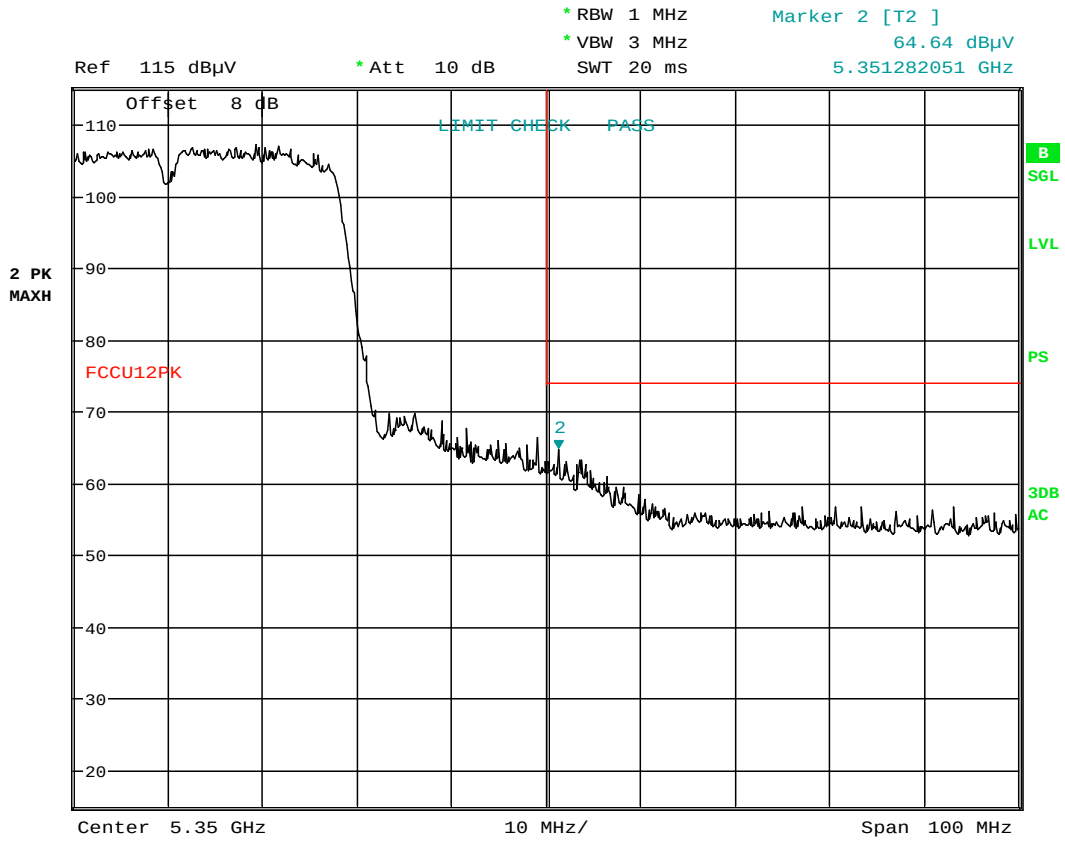


Date: 28.MAR.2017 11:50:26

Plot 7-209. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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

§15.407(b.2)(b.3) §15.205 §15.209



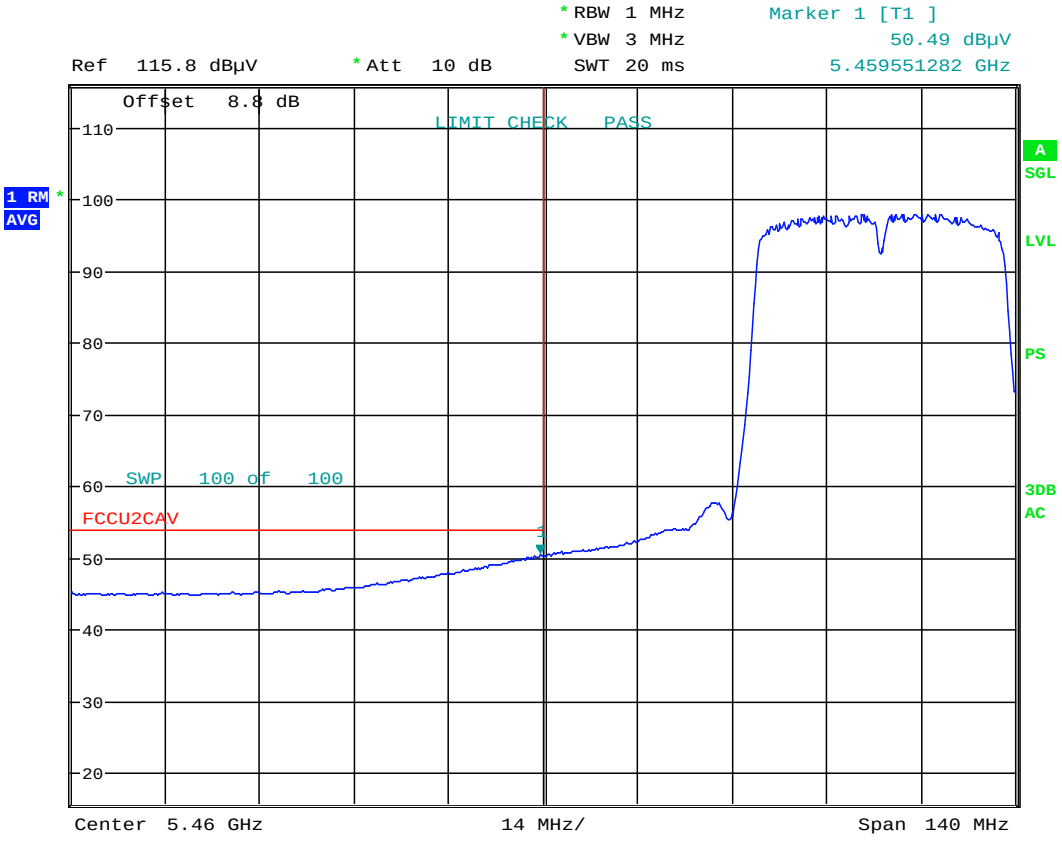
Date: 28.MAR.2017 11:50:55

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

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

§15.407(b.2)(b.3) §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

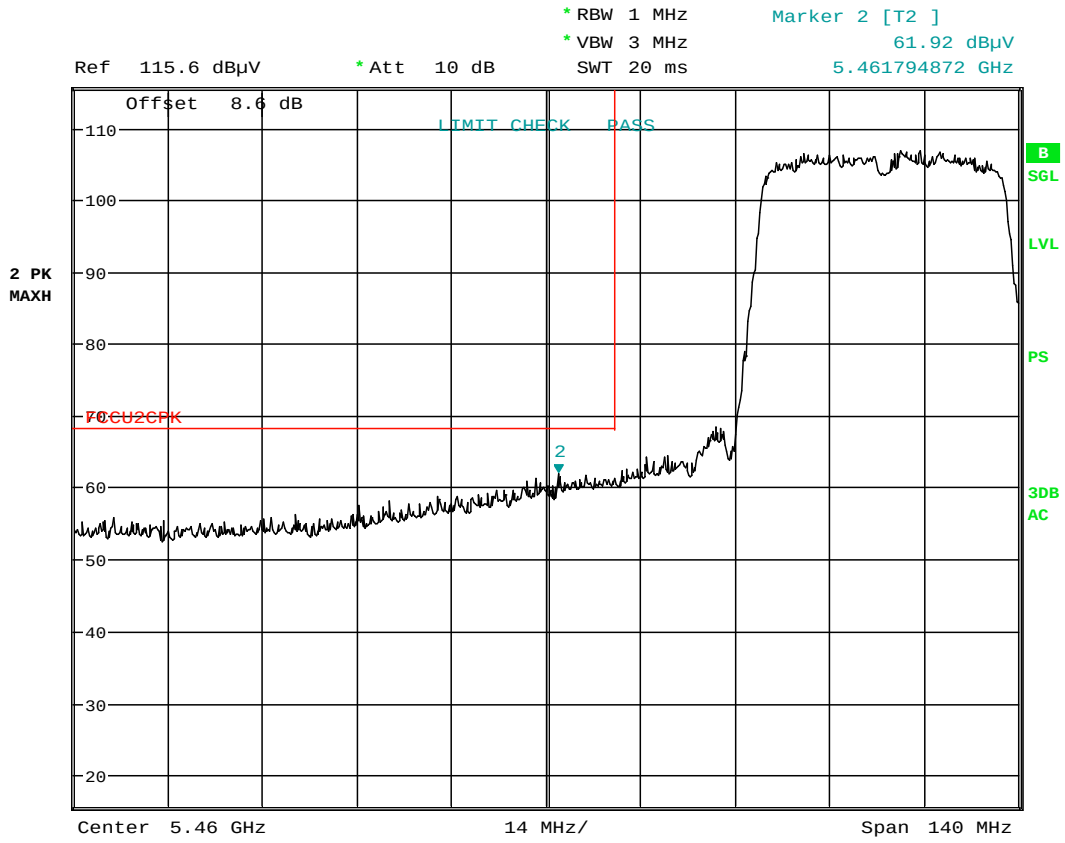


Date: 28.MAR.2017 11:08:06

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

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

§15.407(b.2)(b.3) §15.205 §15.209



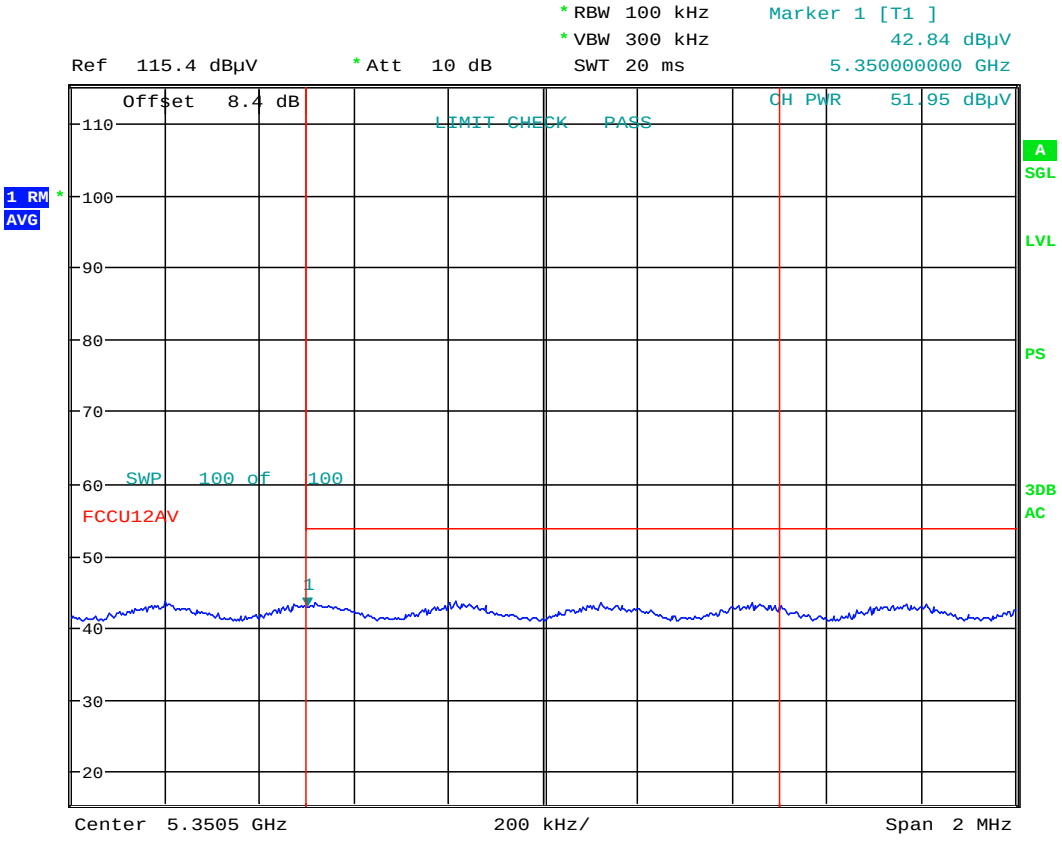
Date: 28.MAR.2017 11:08:31

Plot 7-212. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

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

§15.407(b.2)(b.3) §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

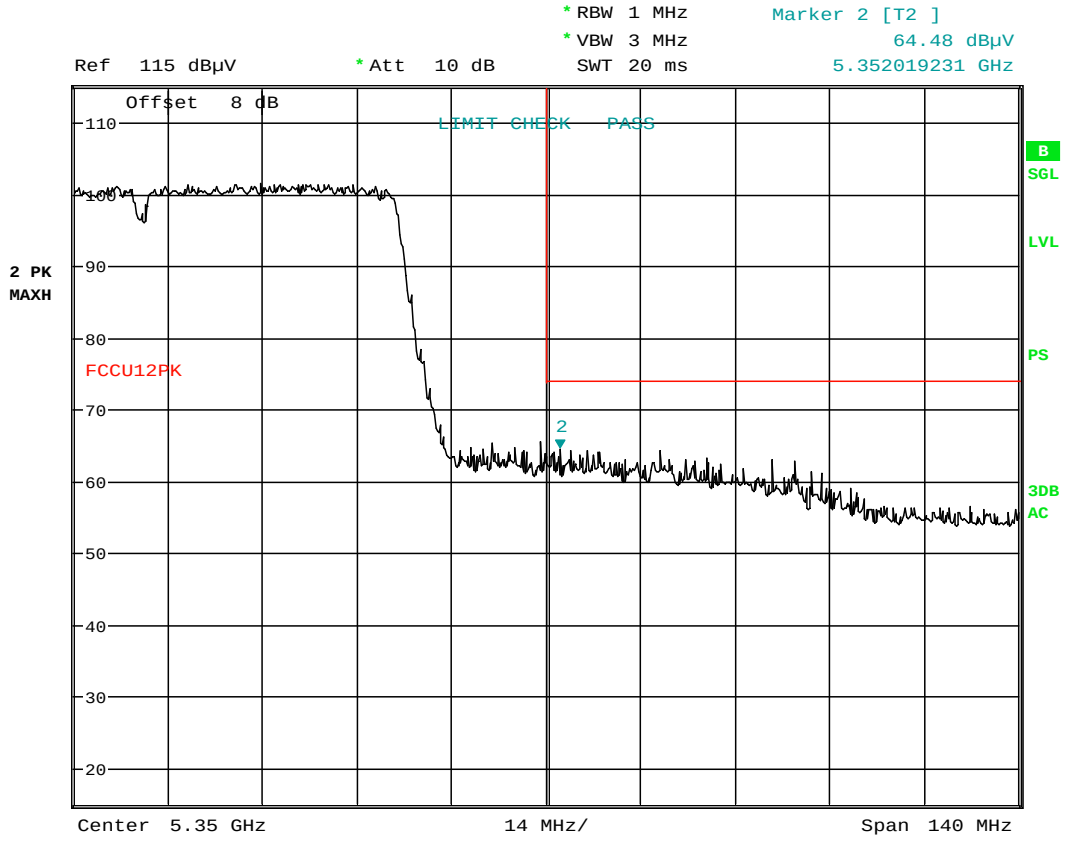


Date: 28.MAR.2017 11:46:42

Plot 7-213. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

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

§15.407(b.2)(b.3) §15.205 §15.209



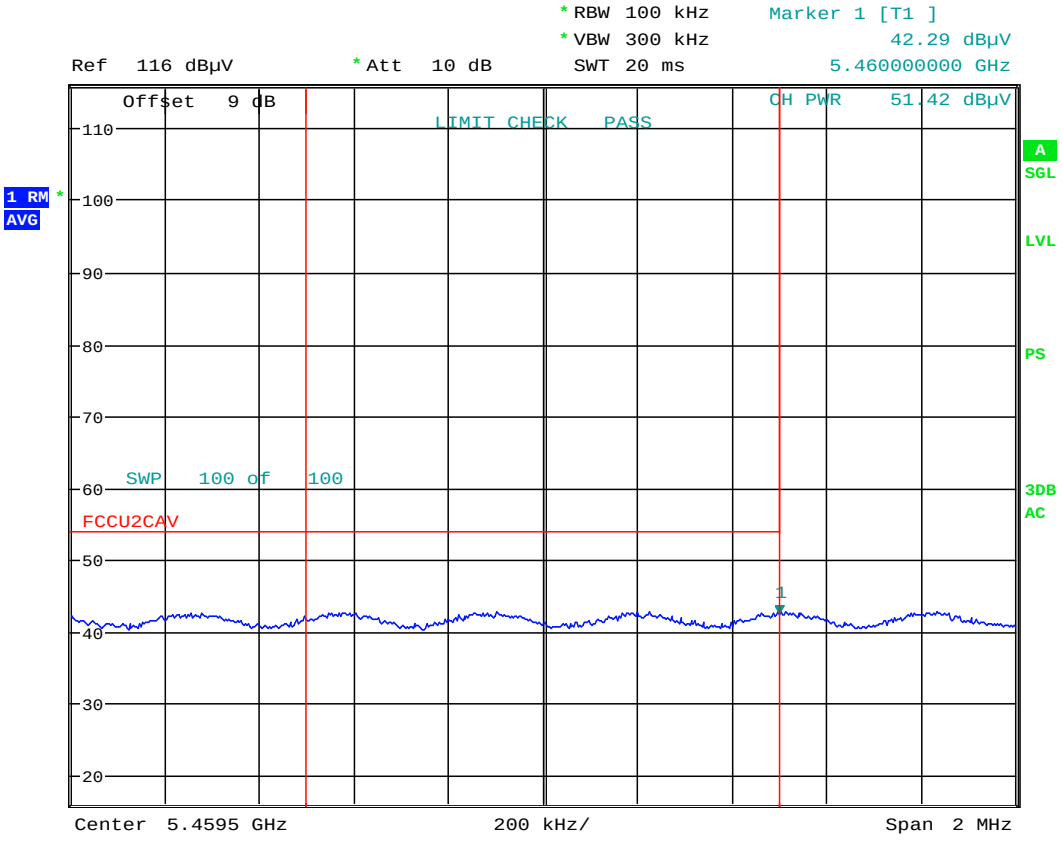
Date: 28.MAR.2017 11:47:01

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

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

§15.407(b.2)(b.3) §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

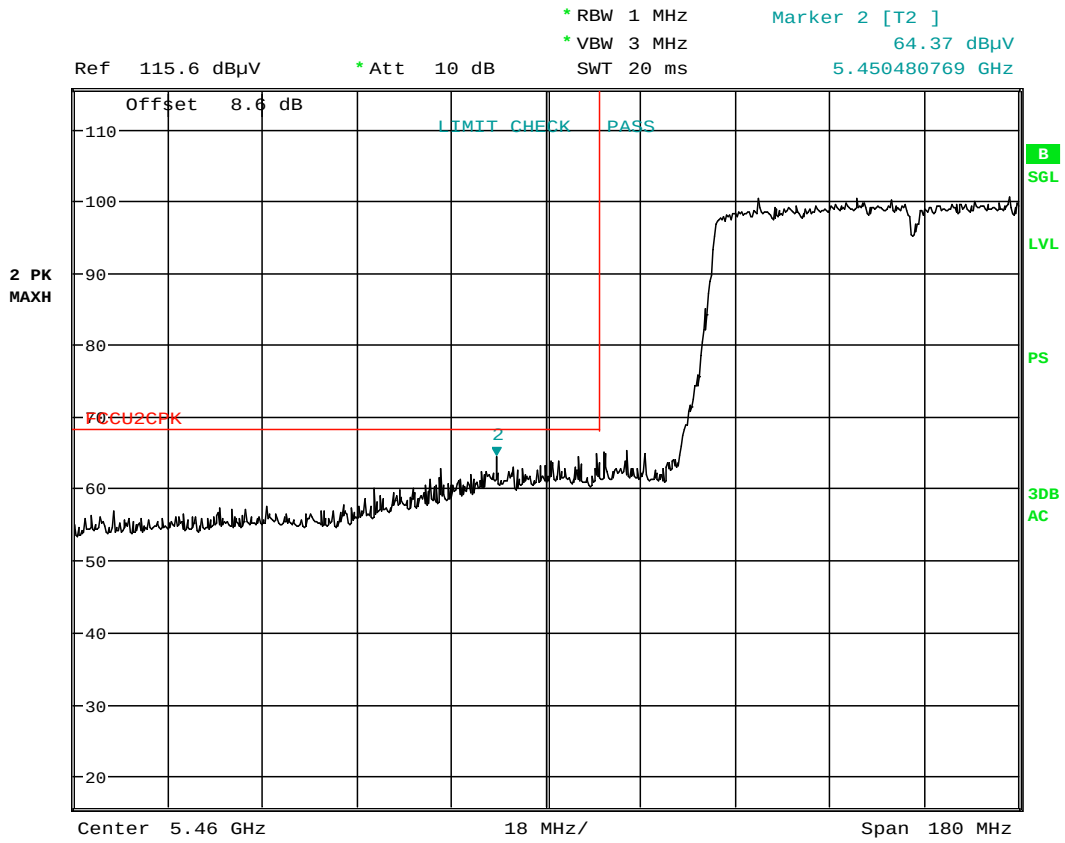


Date: 28.MAR.2017 11:20:54

Plot 7-215. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

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

§15.407(b.2)(b.3) §15.205 §15.209



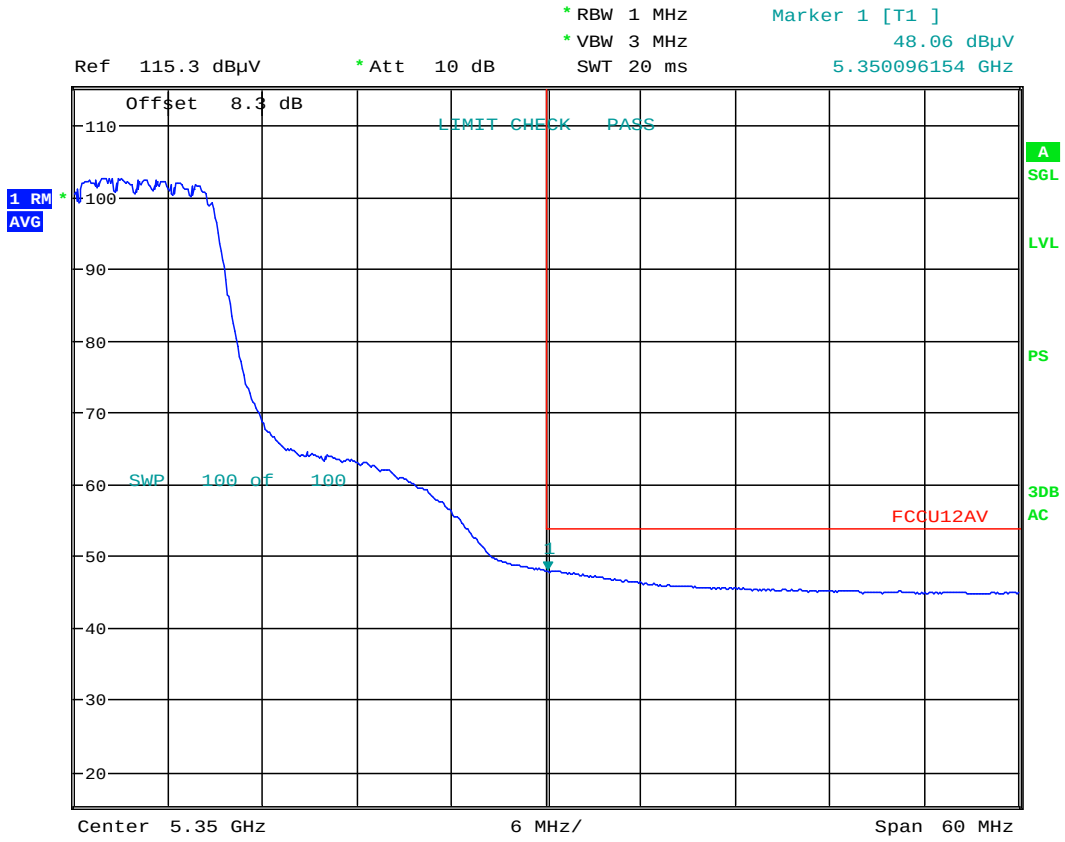
Date: 28.MAR.2017 11:21:13

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

7.6.10 Antenna-3 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.2)(b.3) §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

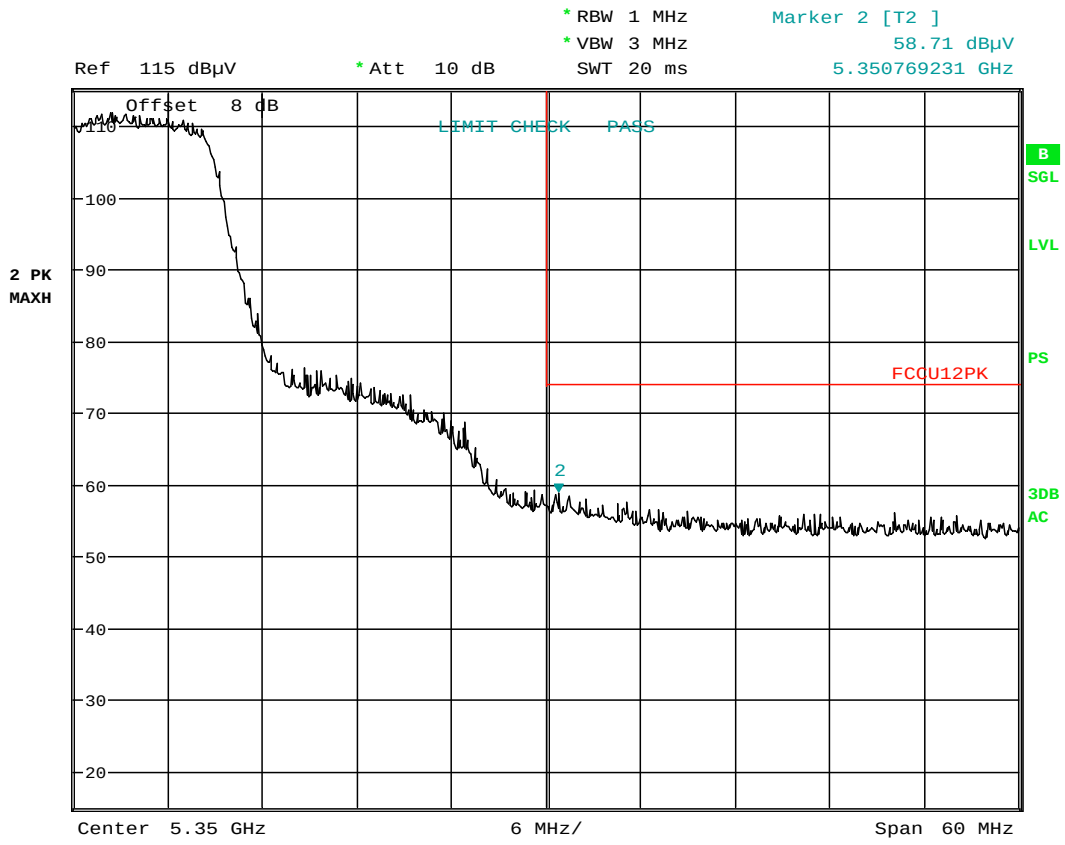


Date: 28.MAR.2017 12:07:08

Plot 7-217. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

Antenna-3 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209

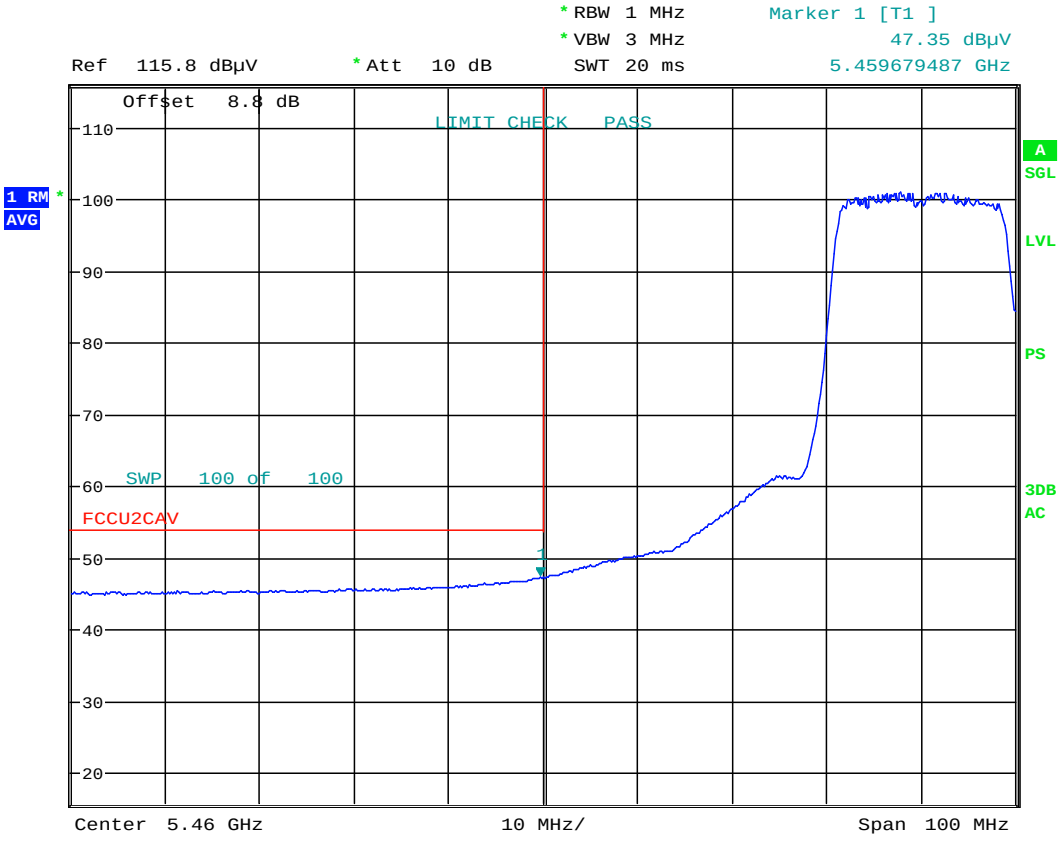


Plot 7-218. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

Antenna-3 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.2)(b.3) §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

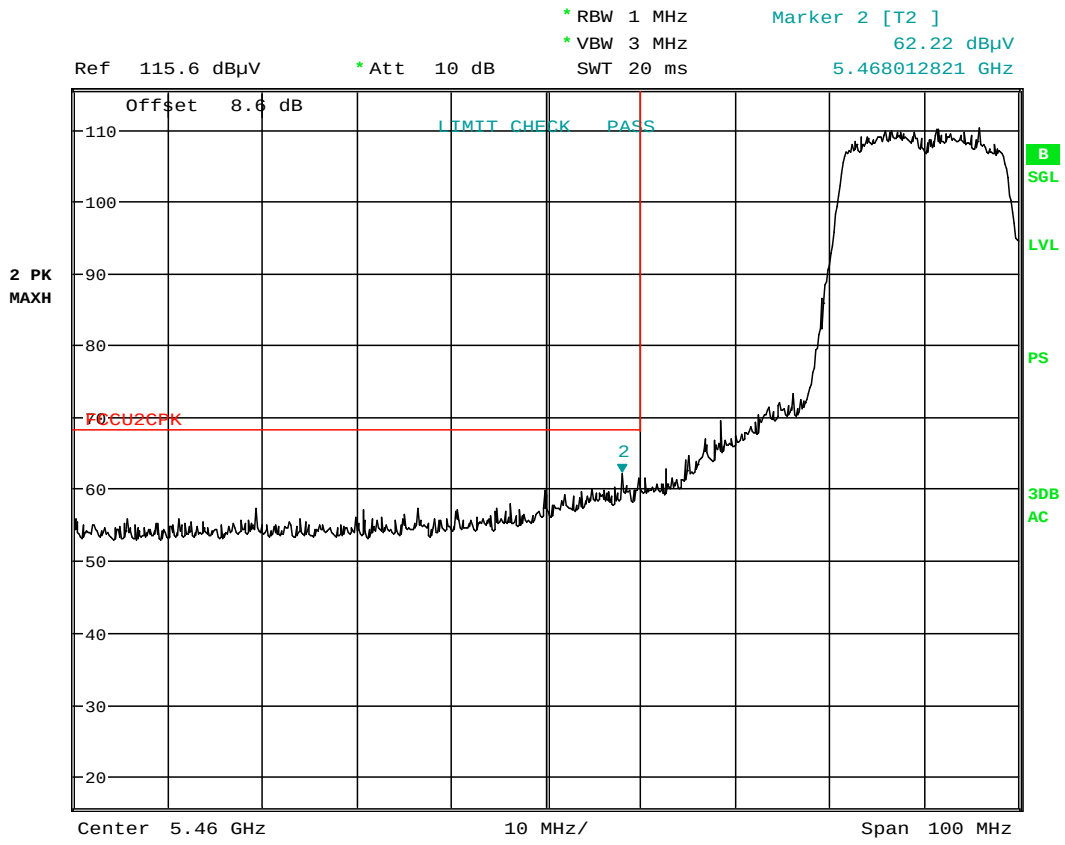


Date: 28.MAR.2017 12:35:54

Plot 7-219. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

Antenna-3 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



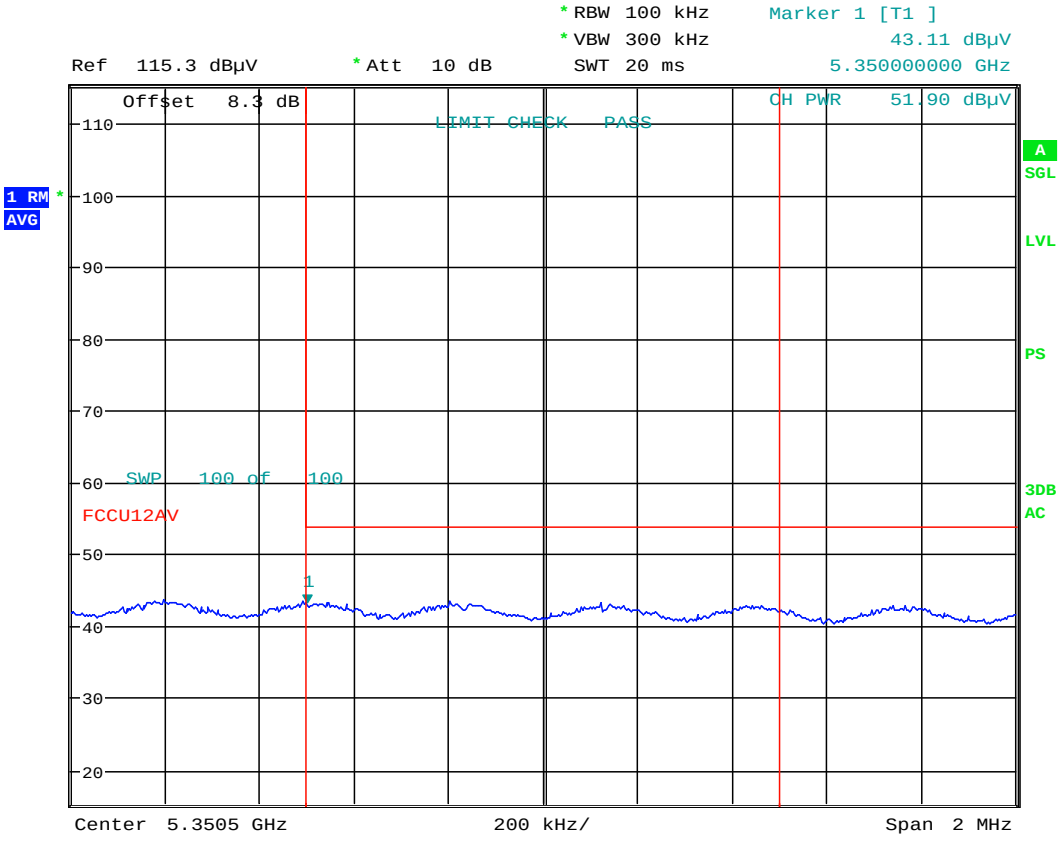
Date: 28.MAR.2017 12:36:22

Plot 7-220. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

7.6.11 Antenna-3 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.2)(b.3) §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

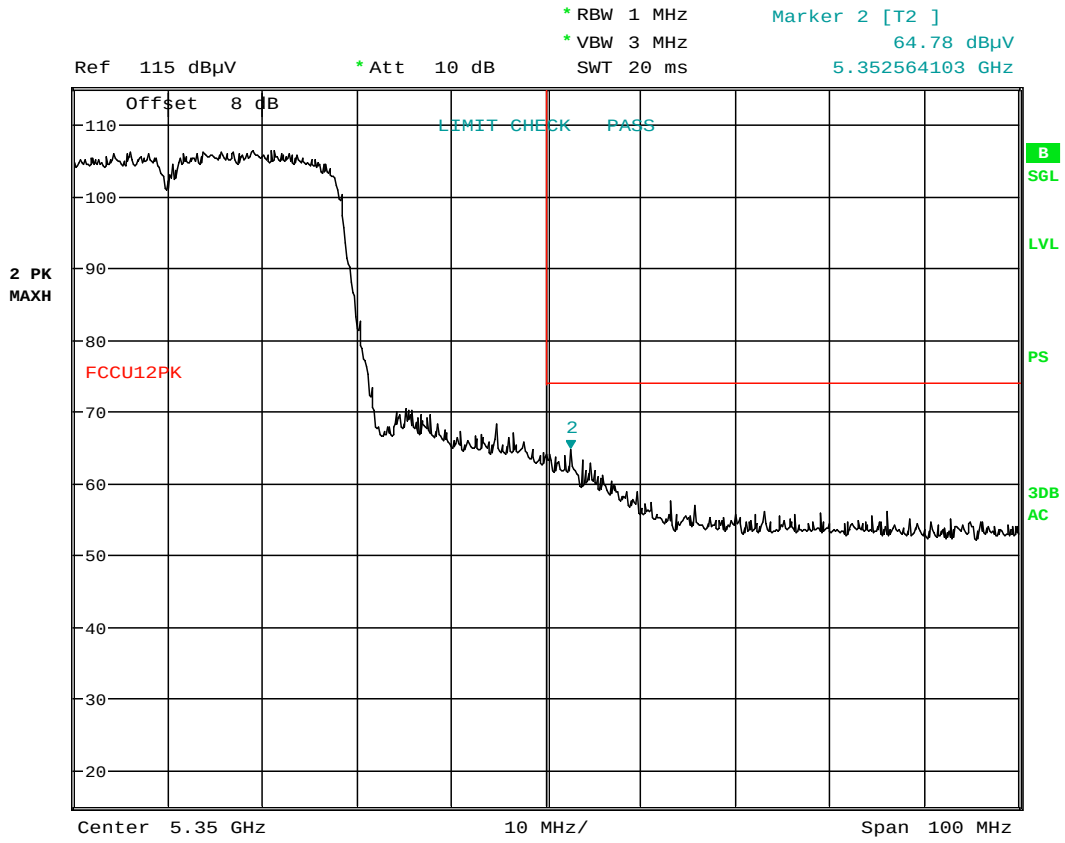


Date: 28.MAR.2017 12:18:10

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

Antenna-3 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



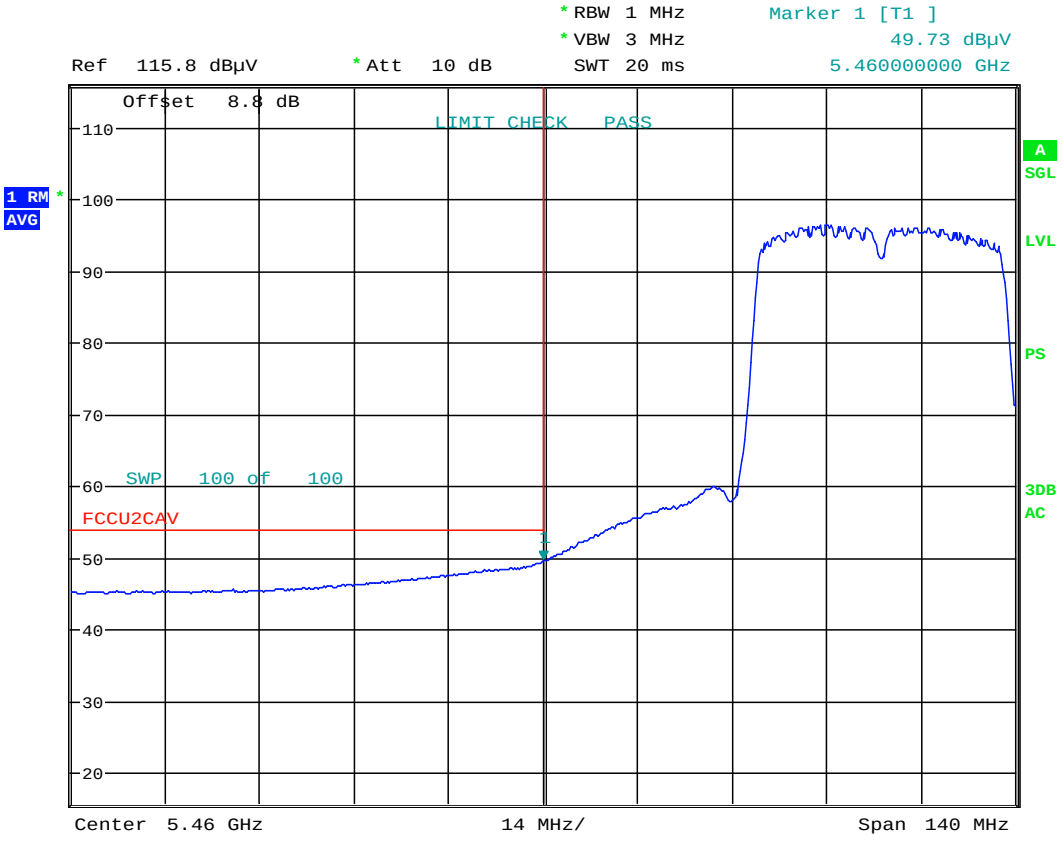
Date: 28.MAR.2017 12:18:28

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

Antenna-3 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.2)(b.3) §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

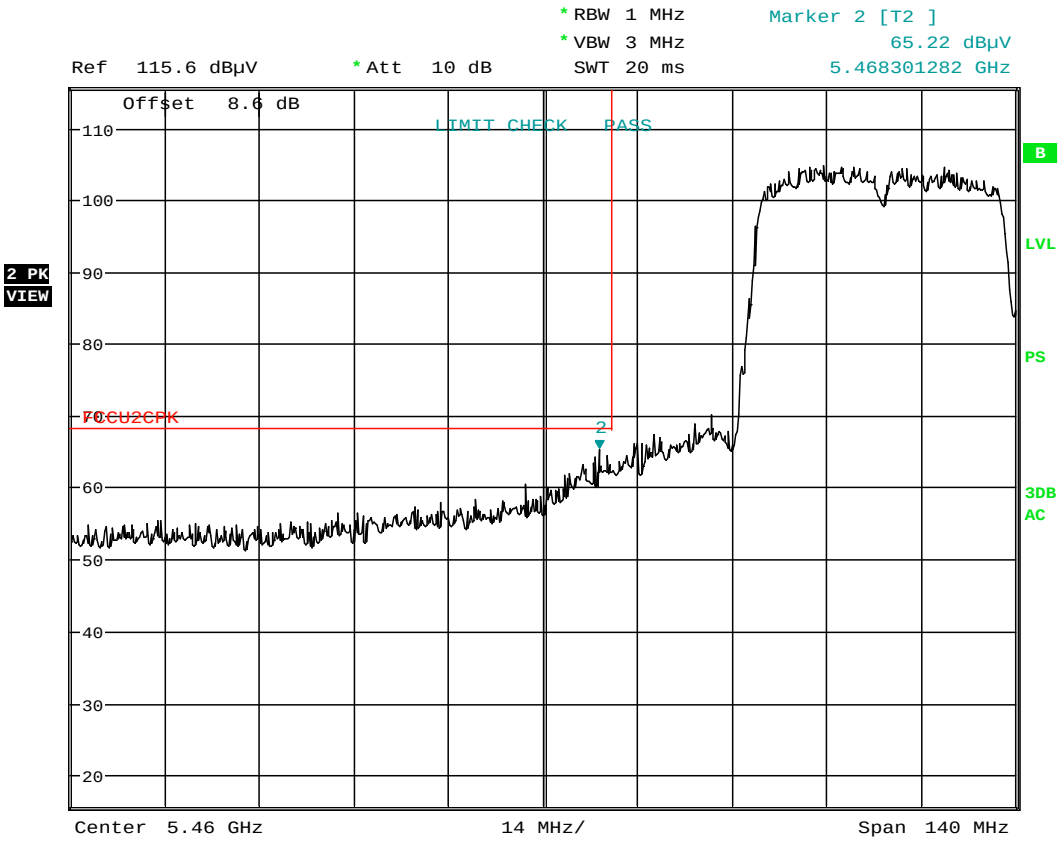


Date: 28.MAR.2017 12:32:23

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

Antenna-3 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



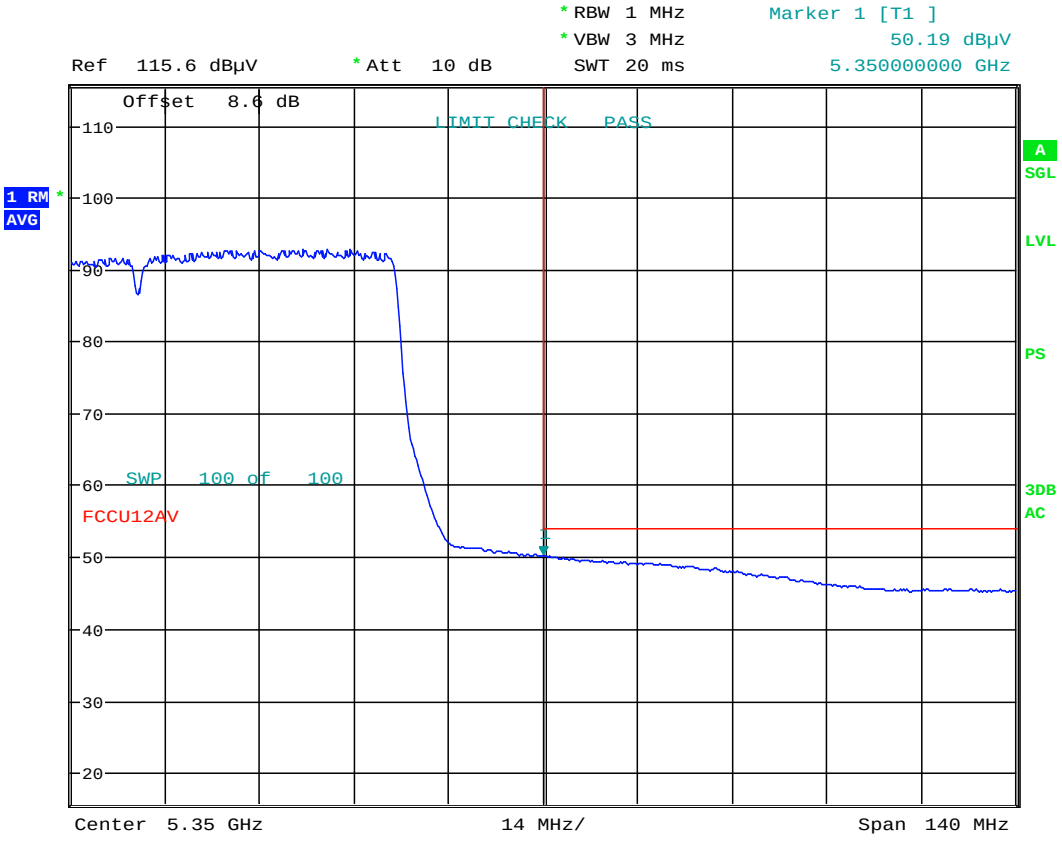
Date: 28.MAR.2017 12:33:07

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

7.6.12 Antenna-3 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.2)(b.3) §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

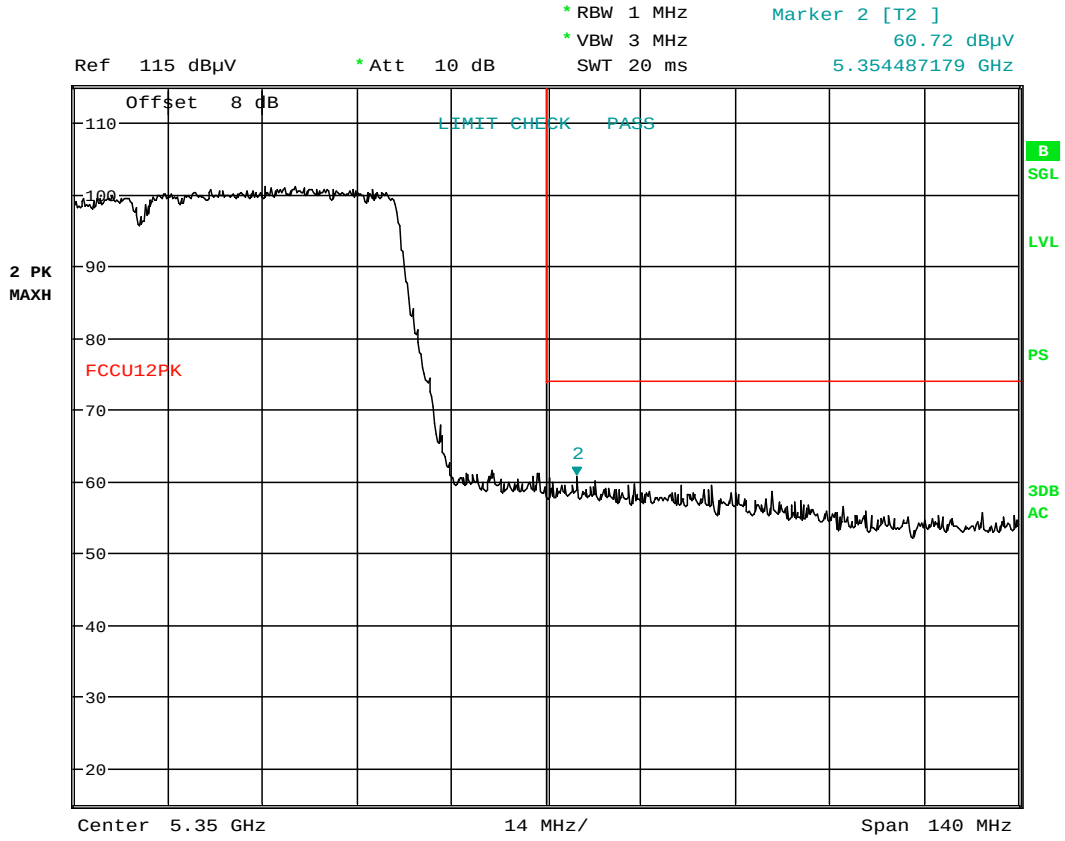


Date: 28.MAR.2017 12:21:44

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

Antenna-3 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



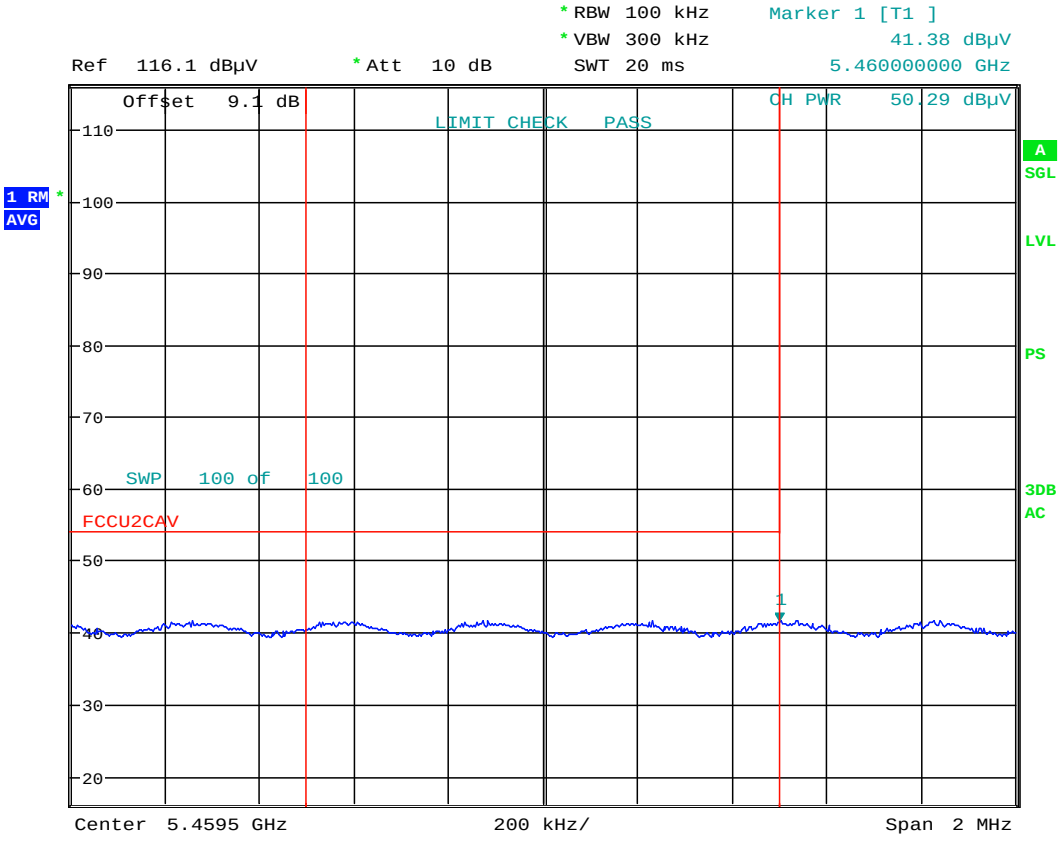
Date: 28.MAR.2017 12:22:01

Plot 7-226. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

Antenna-3 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.2)(b.3) §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

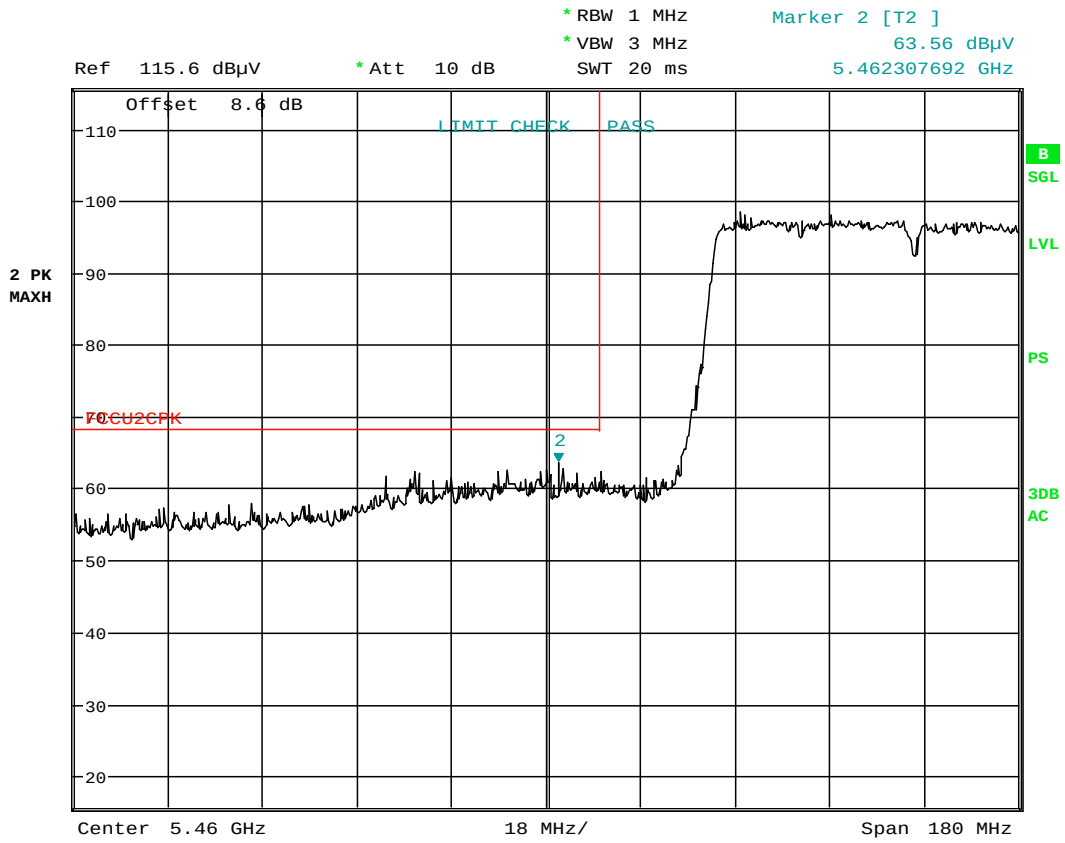


Date: 28.MAR.2017 12:29:52

Plot 7-227. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

Antenna-3 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



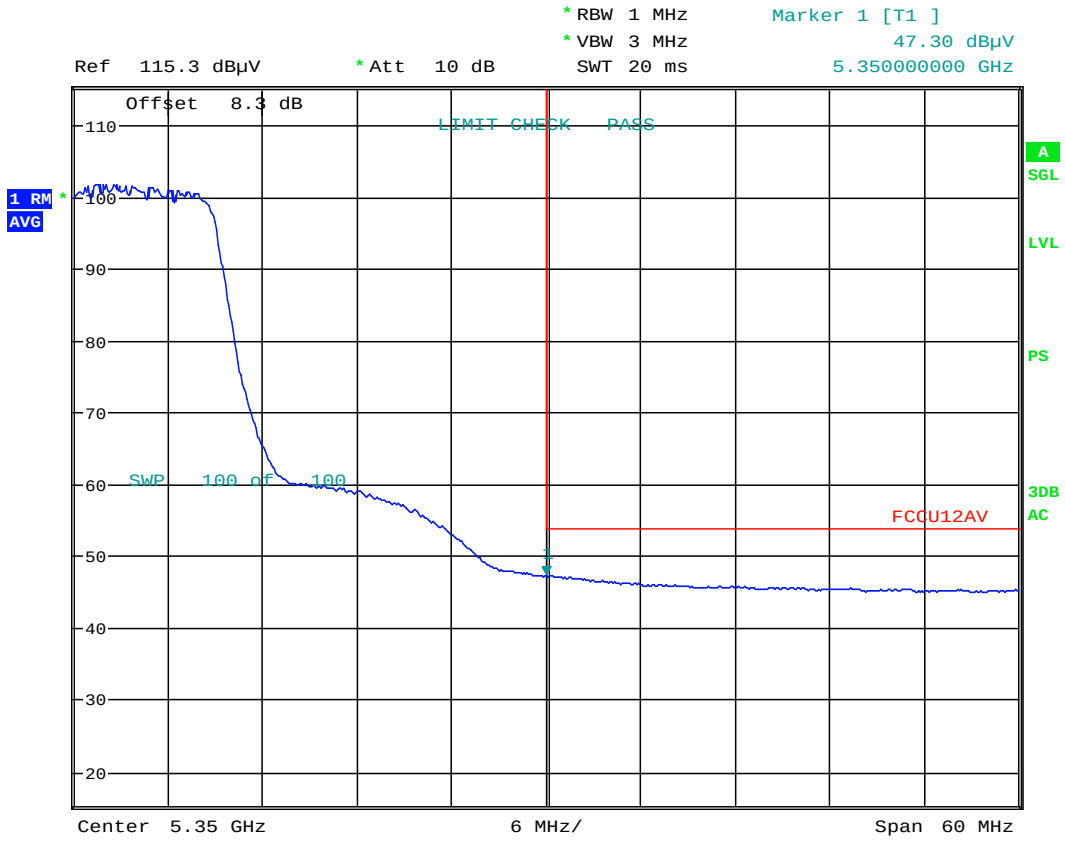
Date: 28.MAR.2017 12:30:19

Plot 7-228. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

7.6.13 Antenna-4 Radiated Band Edge Measurements (20MHz BW)

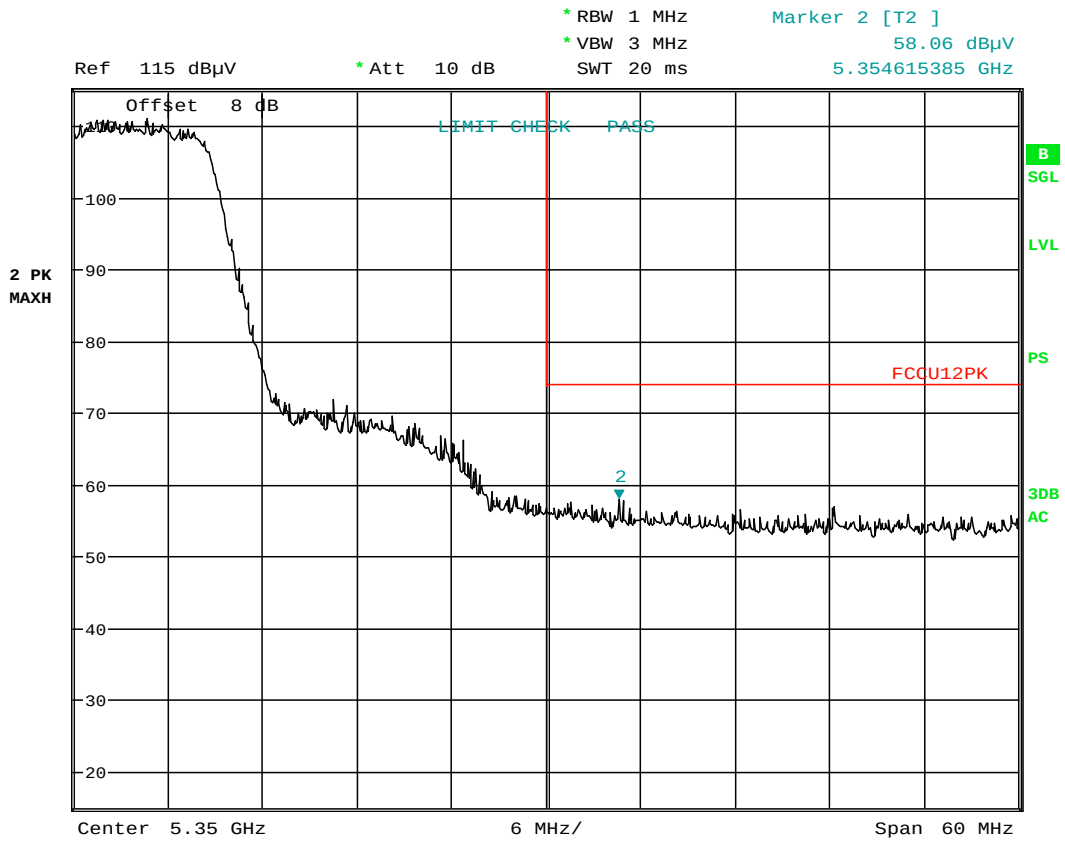
§15.407(b.2)(b.3) §15.205 §15.209

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



Date: 28.MAR.2017 12:58:05

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



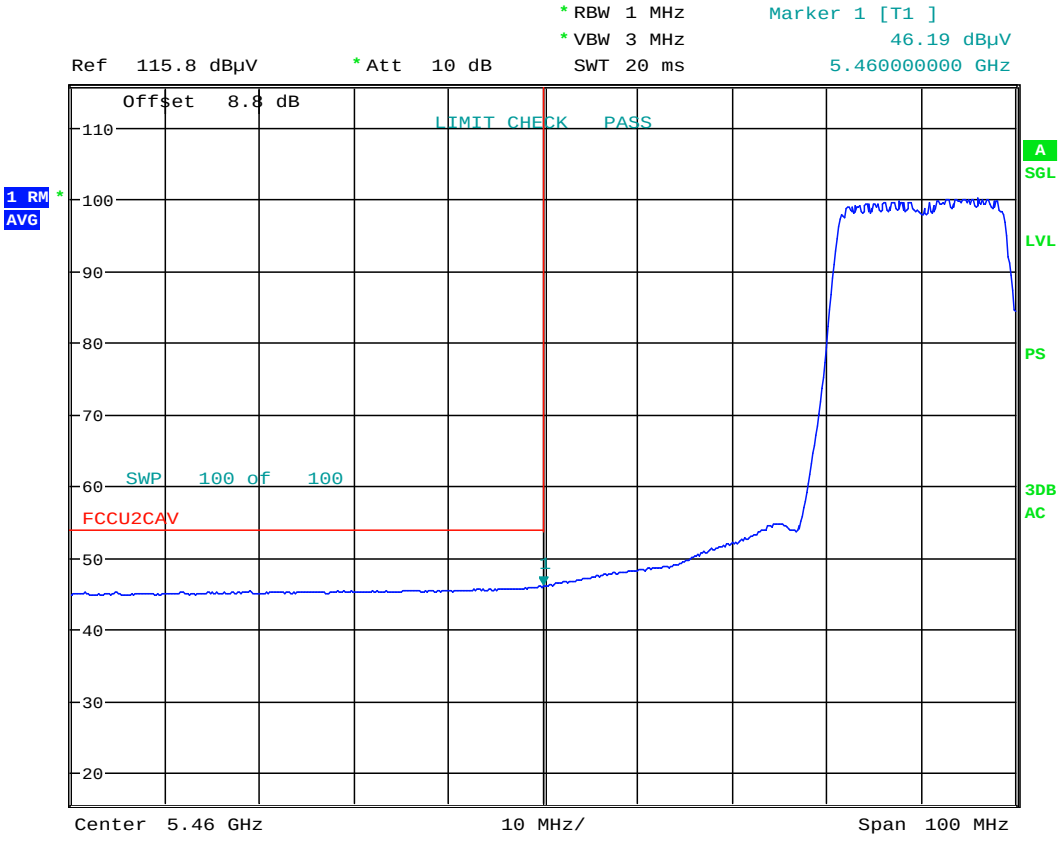
Date: 28.MAR.2017 12:58:32

Plot 7-230. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

Antenna-4 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.2)(b.3) §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

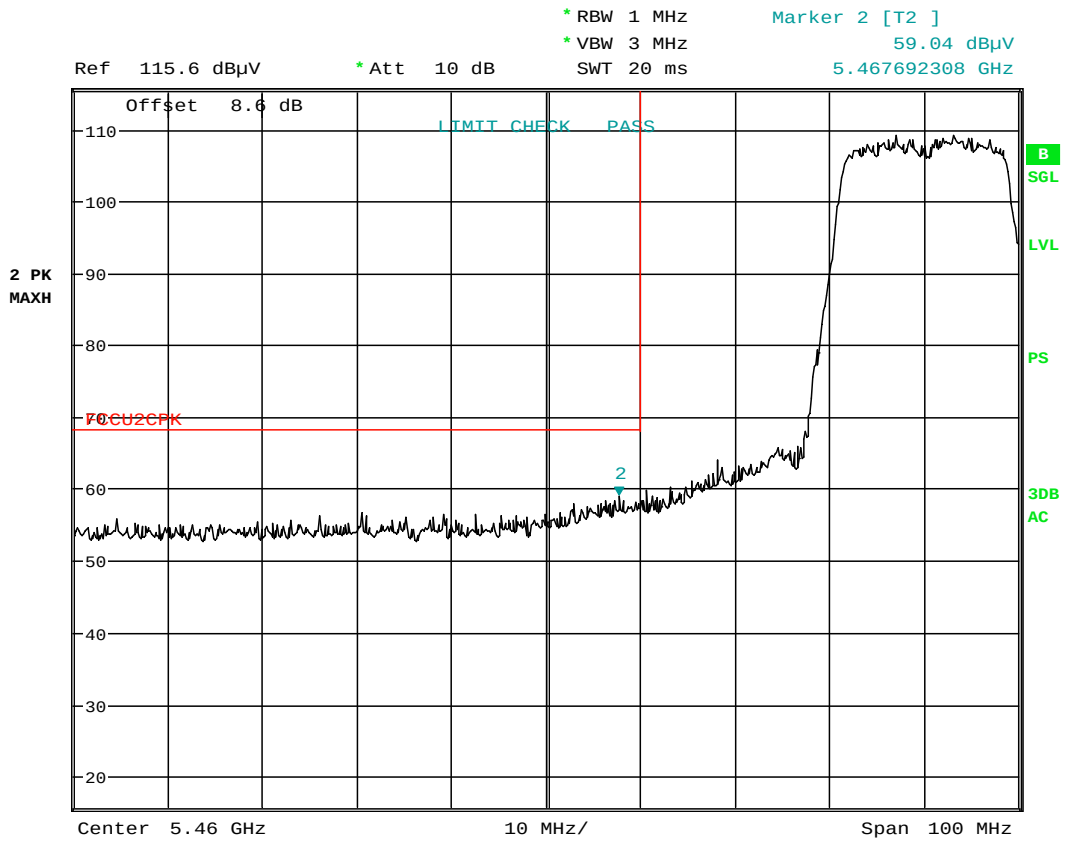


Date: 28.MAR.2017 14:54:07

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

Antenna-4 Radiated Band Edge Measurements (20MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



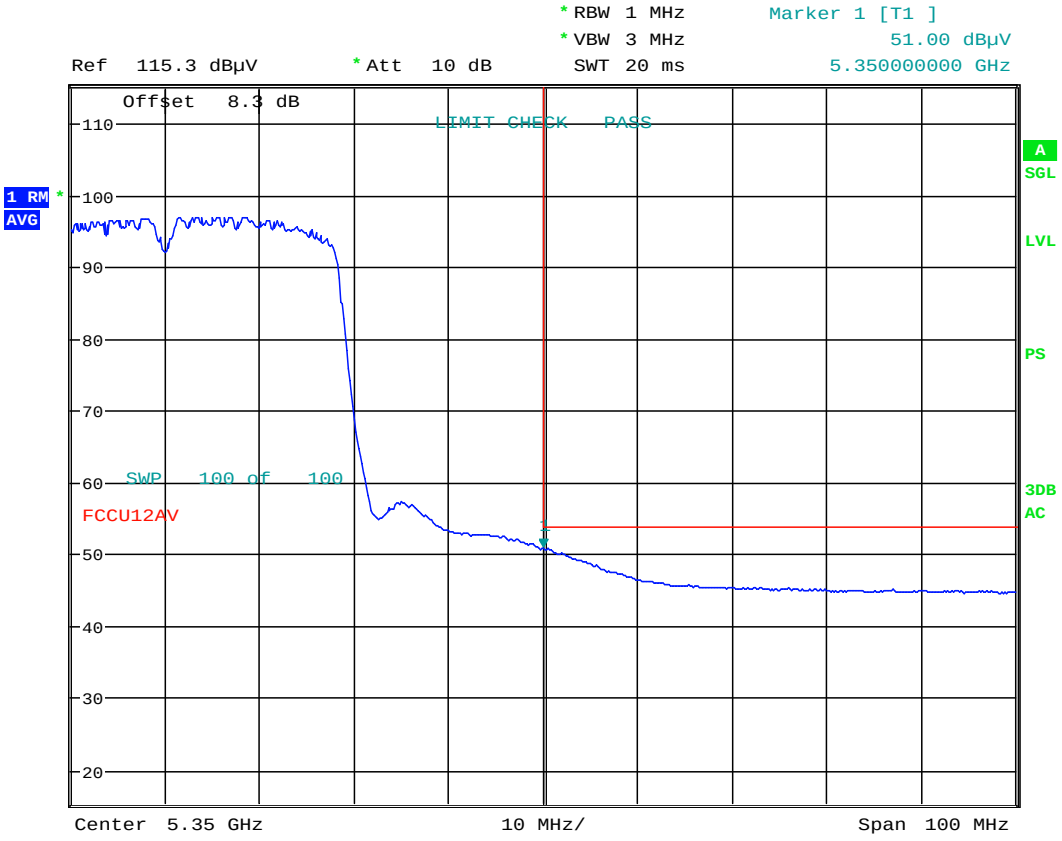
Date: 28.MAR.2017 14:54:32

Plot 7-232. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

7.6.14 Antenna-4 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.2)(b.3) §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

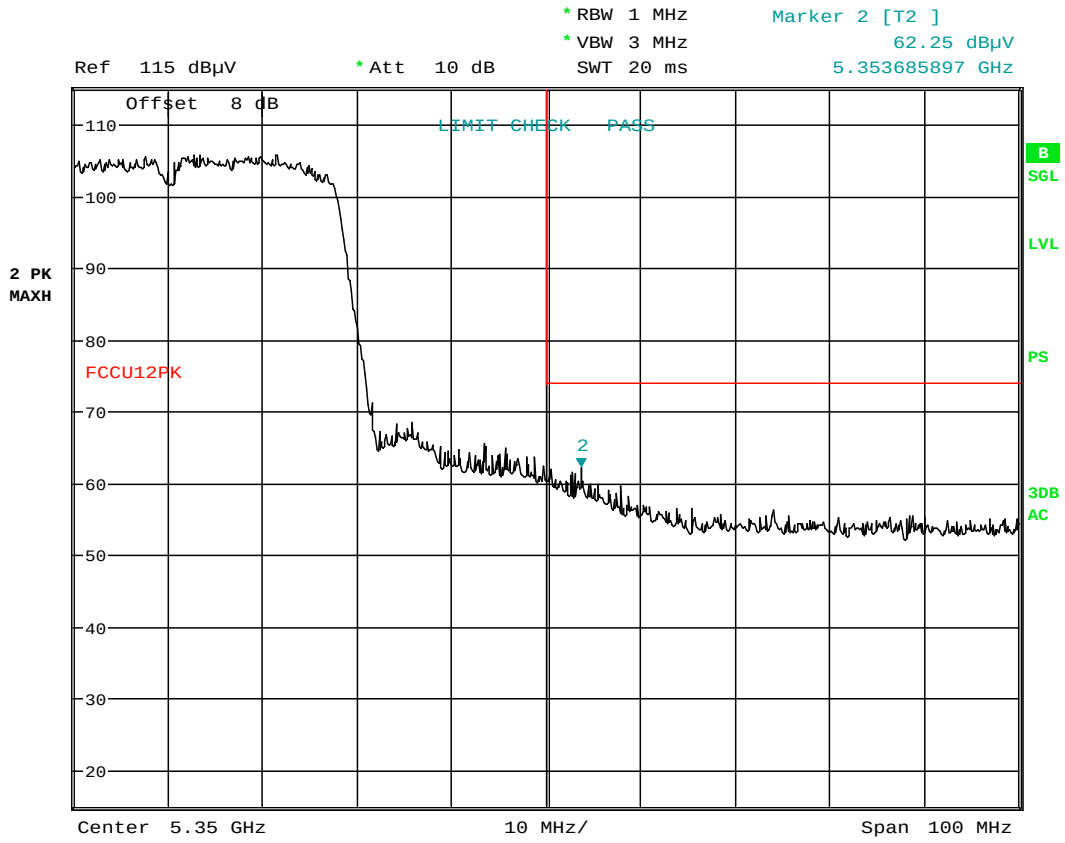


Date: 28.MAR.2017 13:00:39

Plot 7-233. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

Antenna-4 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



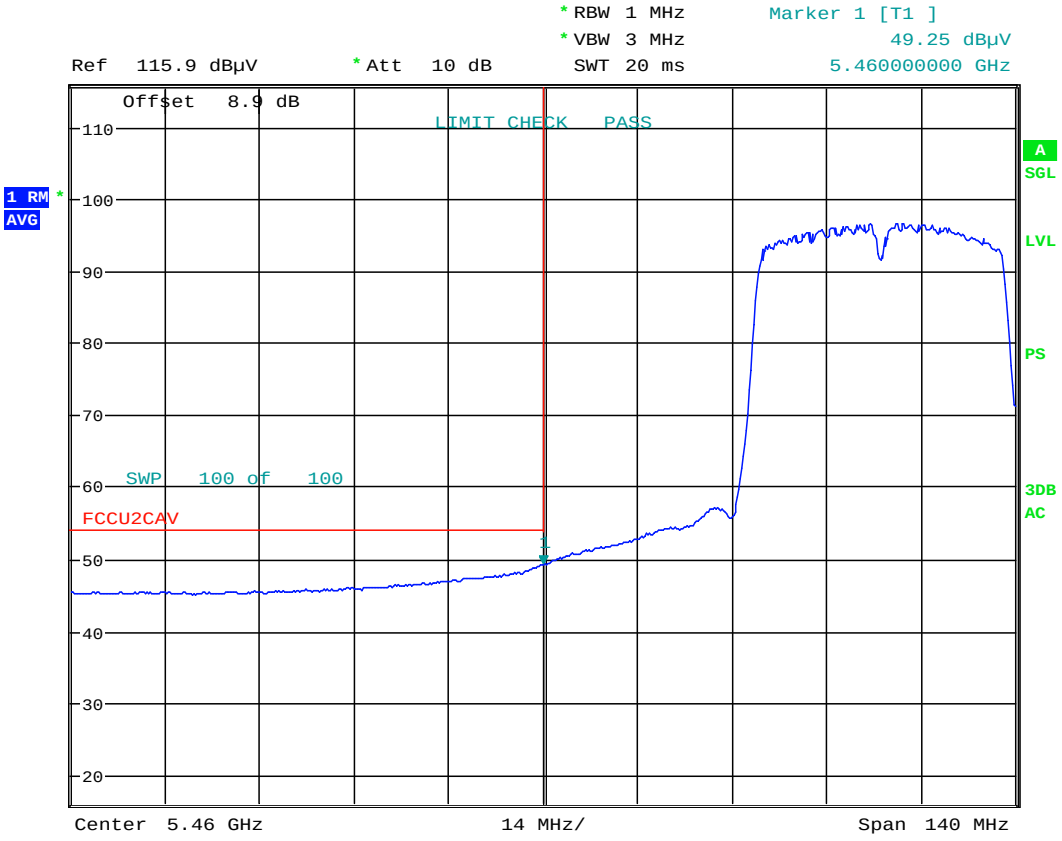
Date: 28.MAR.2017 13:00:54

Plot 7-234. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

Antenna-4 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.2)(b.3) §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

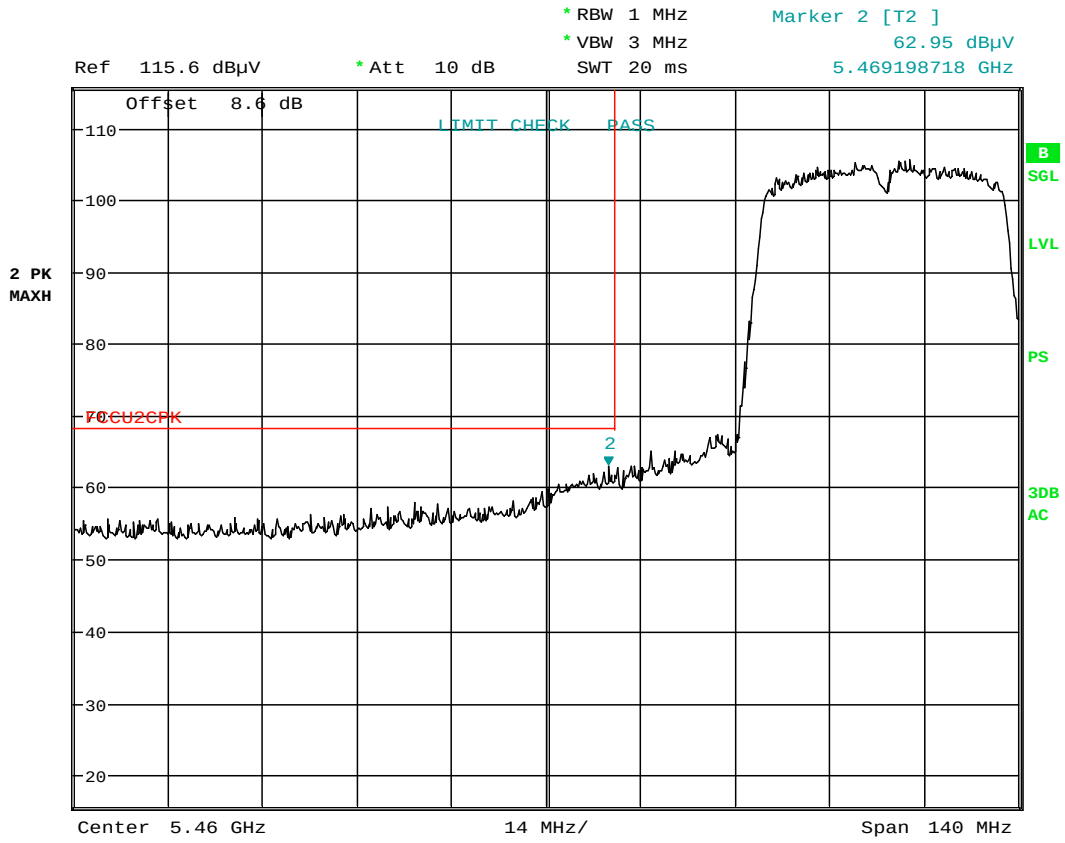


Date: 28.MAR.2017 14:51:17

Plot 7-235. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

Antenna-4 Radiated Band Edge Measurements (40MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



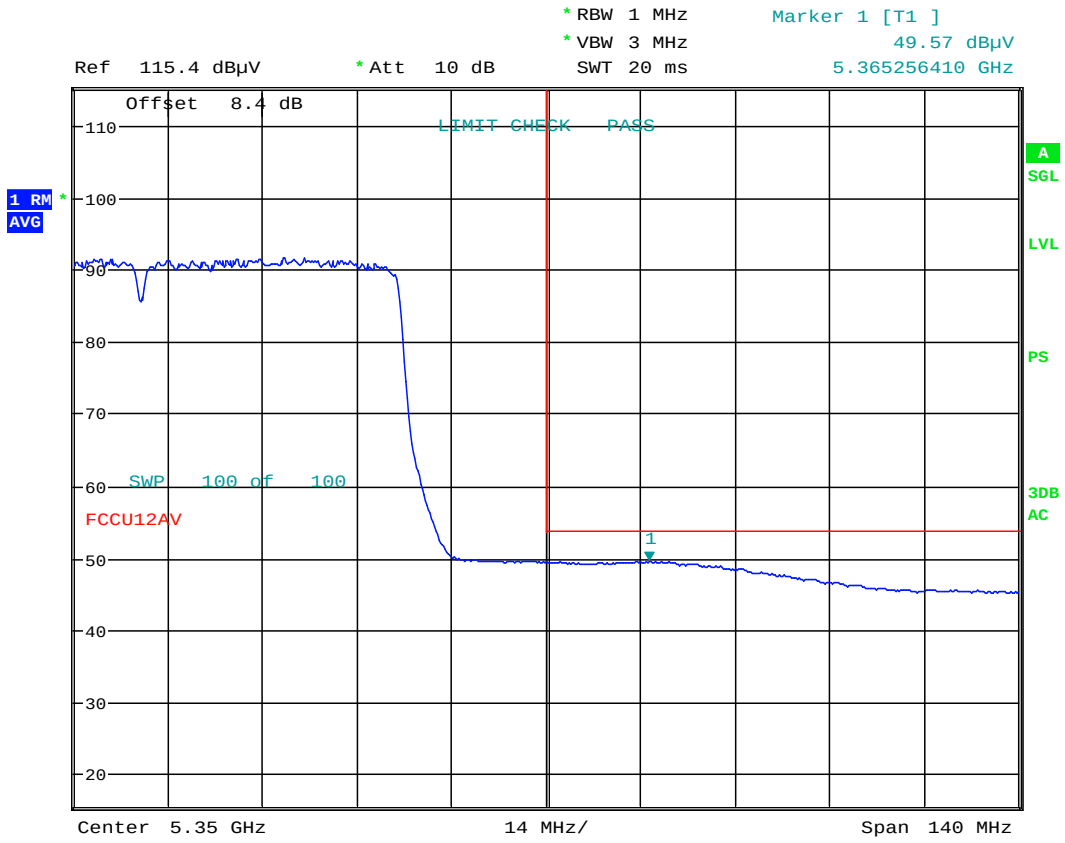
Date: 28.MAR.2017 14:51:39

Plot 7-236. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

7.6.15 Antenna-4 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.2)(b.3) §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

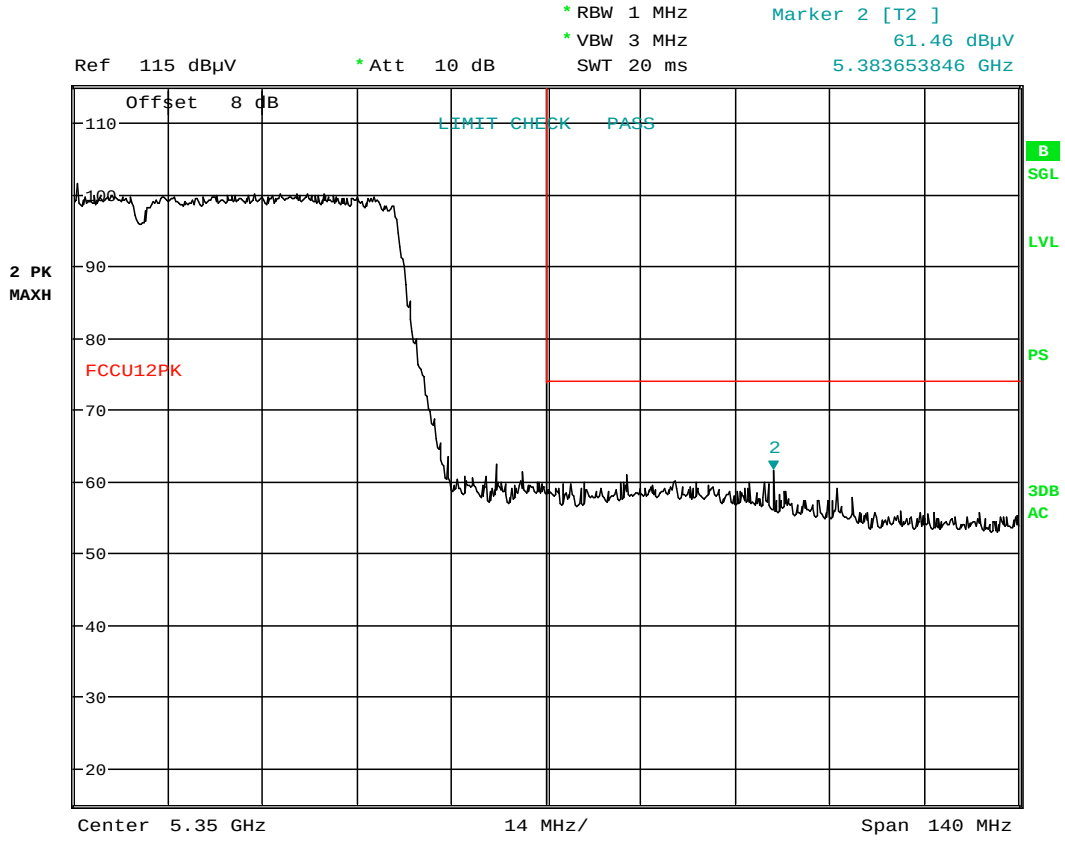


Date: 28.MAR.2017 13:02:49

Plot 7-237. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

Antenna-4 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



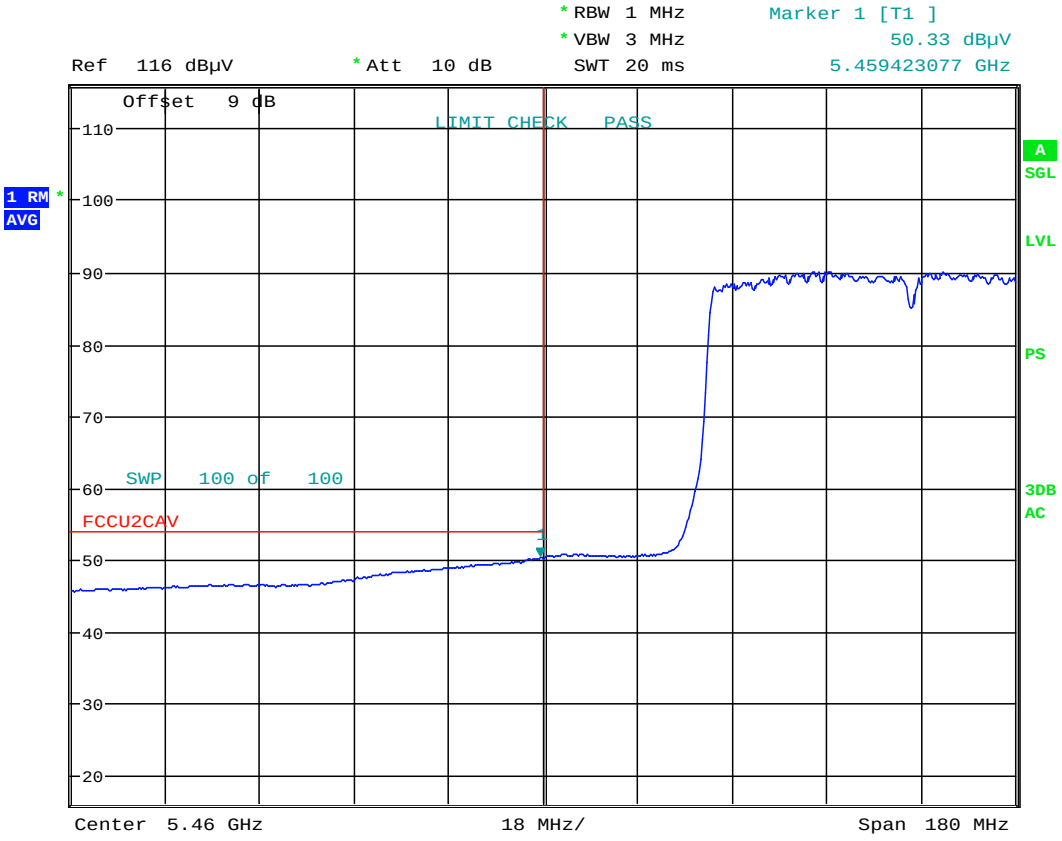
Date: 28.MAR.2017 13:03:09

Plot 7-238. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

Antenna-4 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.2)(b.3) §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

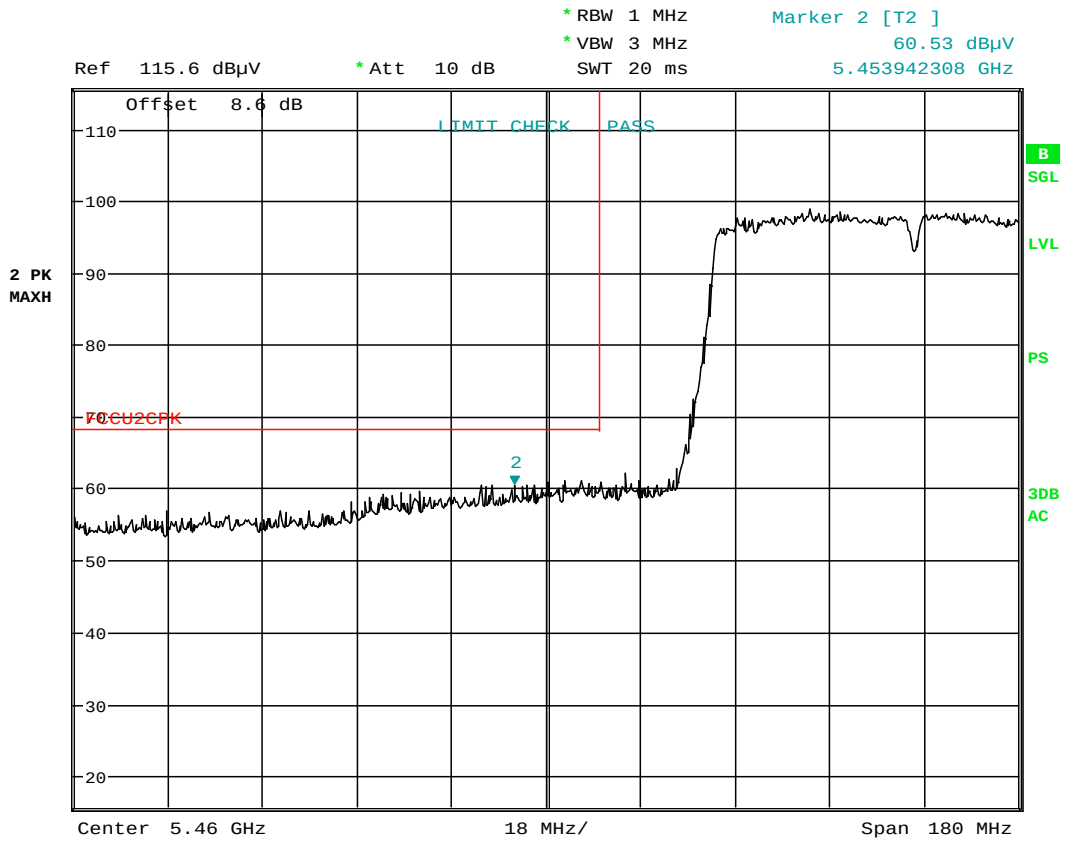


Date: 28.MAR.2017 13:17:47

Plot 7-239. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

Antenna-4 Radiated Band Edge Measurements (80MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



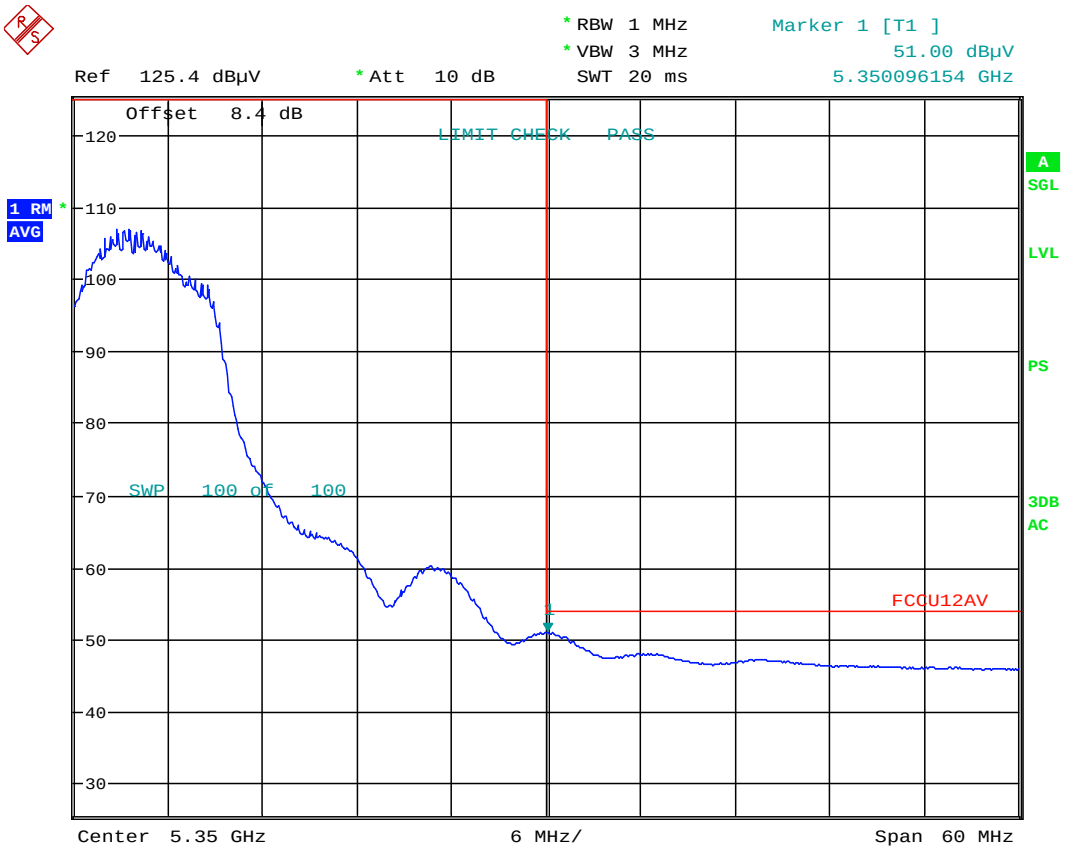
Date: 28.MAR.2017 13:18:13

Plot 7-240. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

7.6.16 Radiated Band Edge Measurements (20MHz BW)

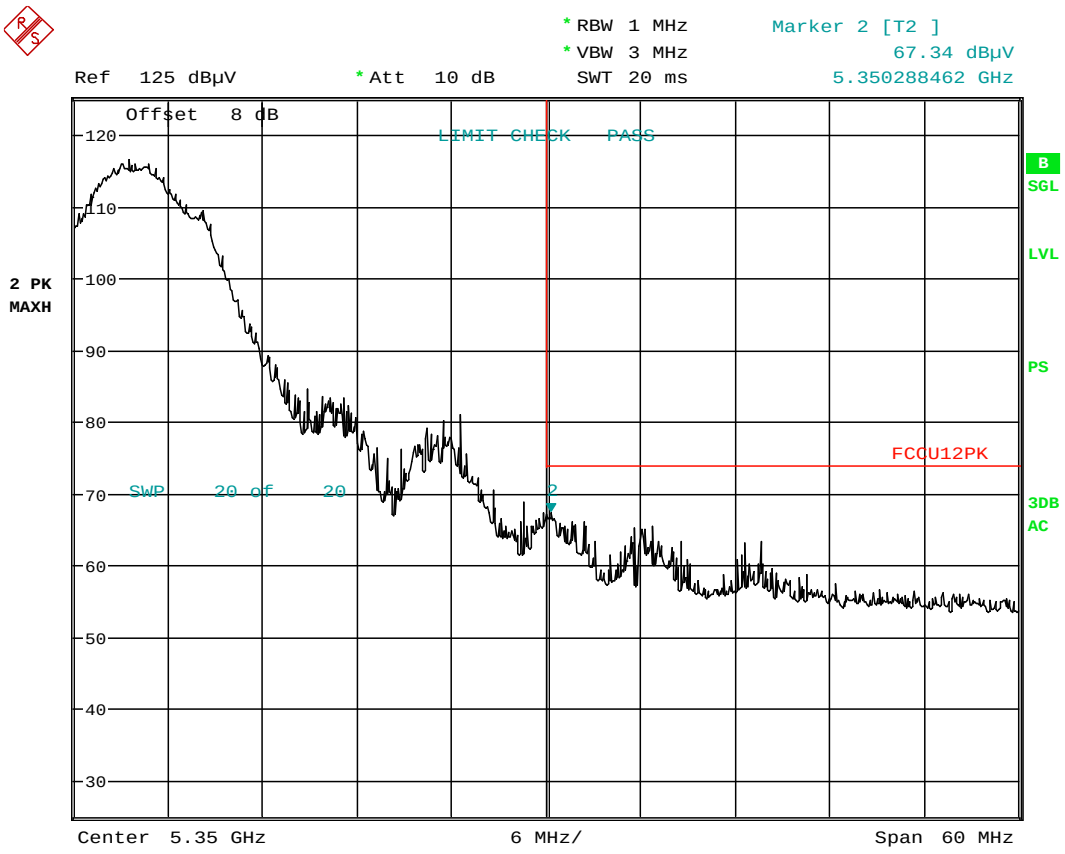
§15.407(b.2)(b.3) §15.205 §15.209

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



Date: 5.APR.2017 10:15:06

Plot 7-241. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

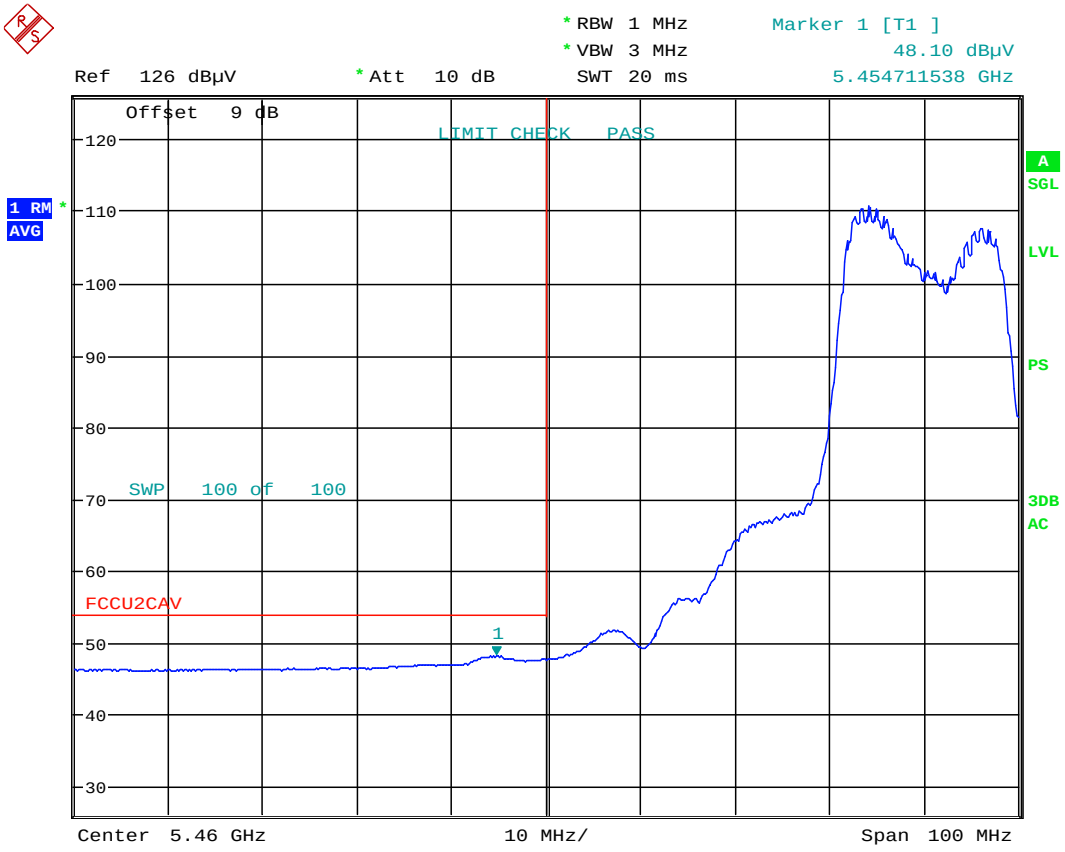


Plot 7-242. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

MIMO Radiated Band Edge Measurements (20MHz BW)

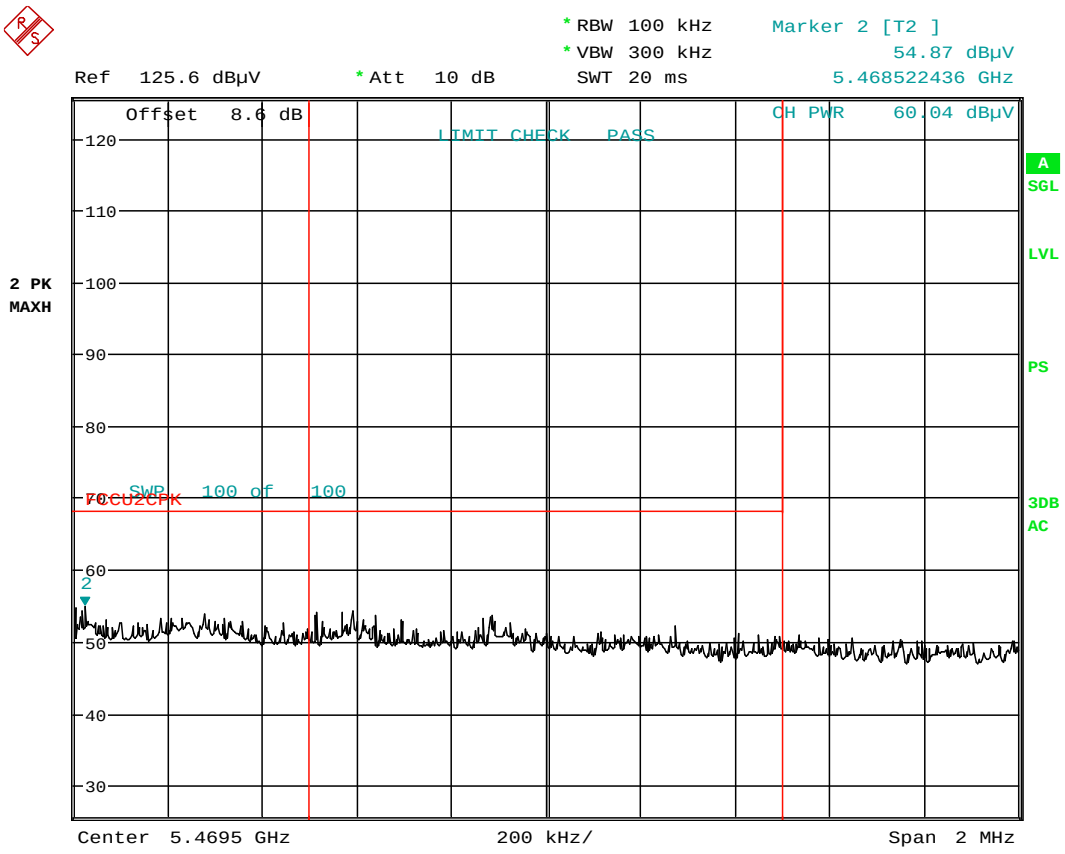
§15.407(b.2)(b.3) §15.205 §15.209

Worst Case Mode:	802.11n (20MHz)
Worst Case Transfer Rate:	MCS8
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100



Date: 5.APR.2017 11:00:25

Plot 7-243. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)



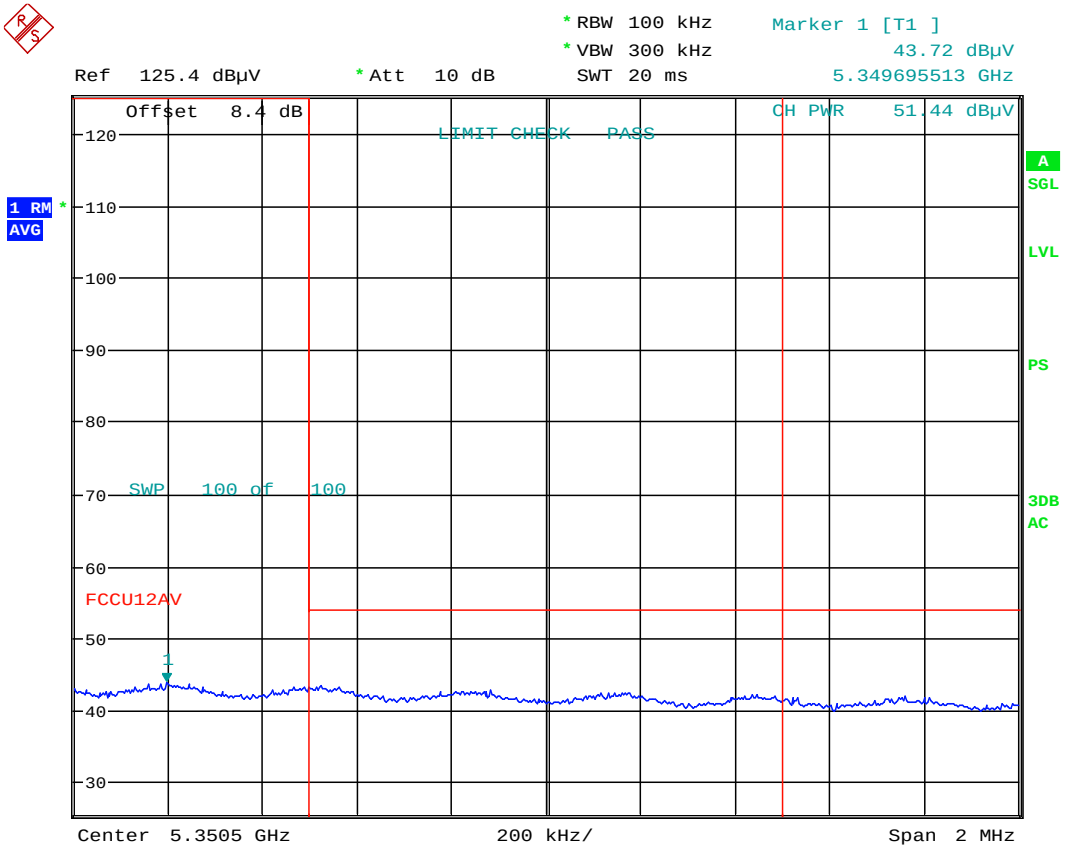
Date: 5.APR.2017 10:35:31

Plot 7-244. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

7.6.17 MIMO Radiated Band Edge Measurements (40MHz BW)

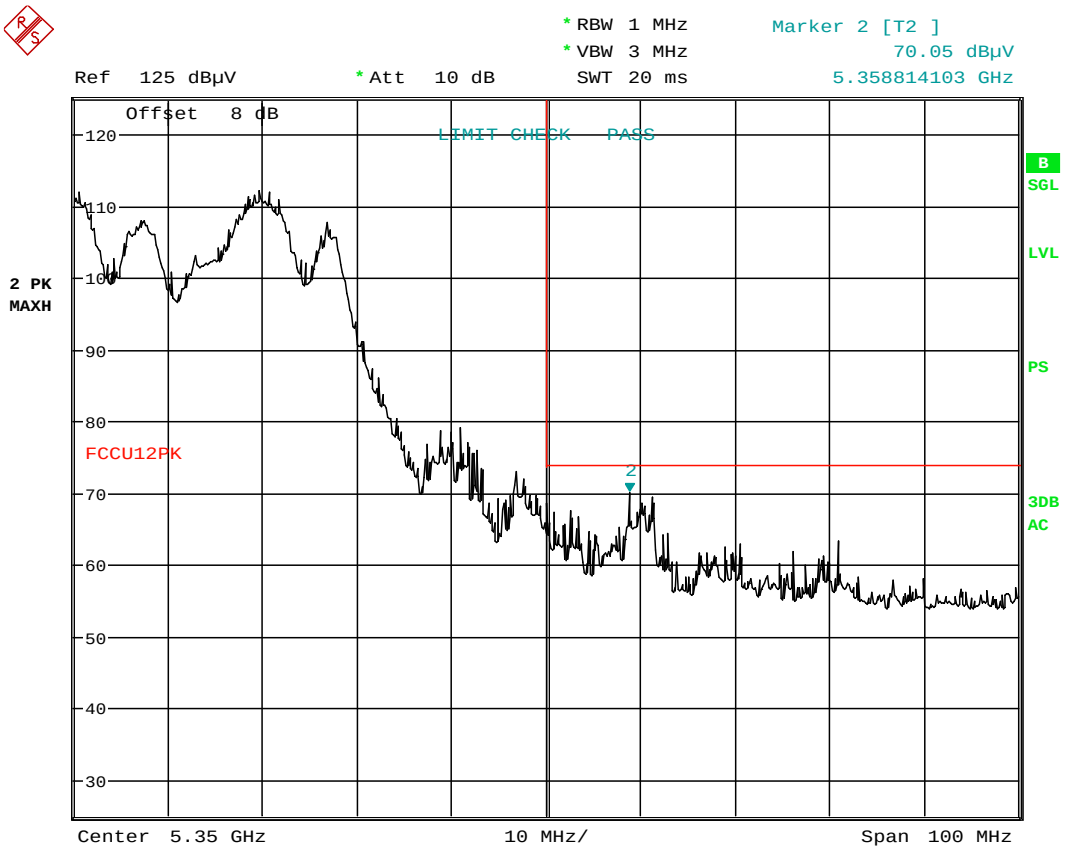
§15.407(b.1)(b.2) §15.205 §15.209

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



Date: 5.APR.2017 11:12:37

Plot 7-245. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)



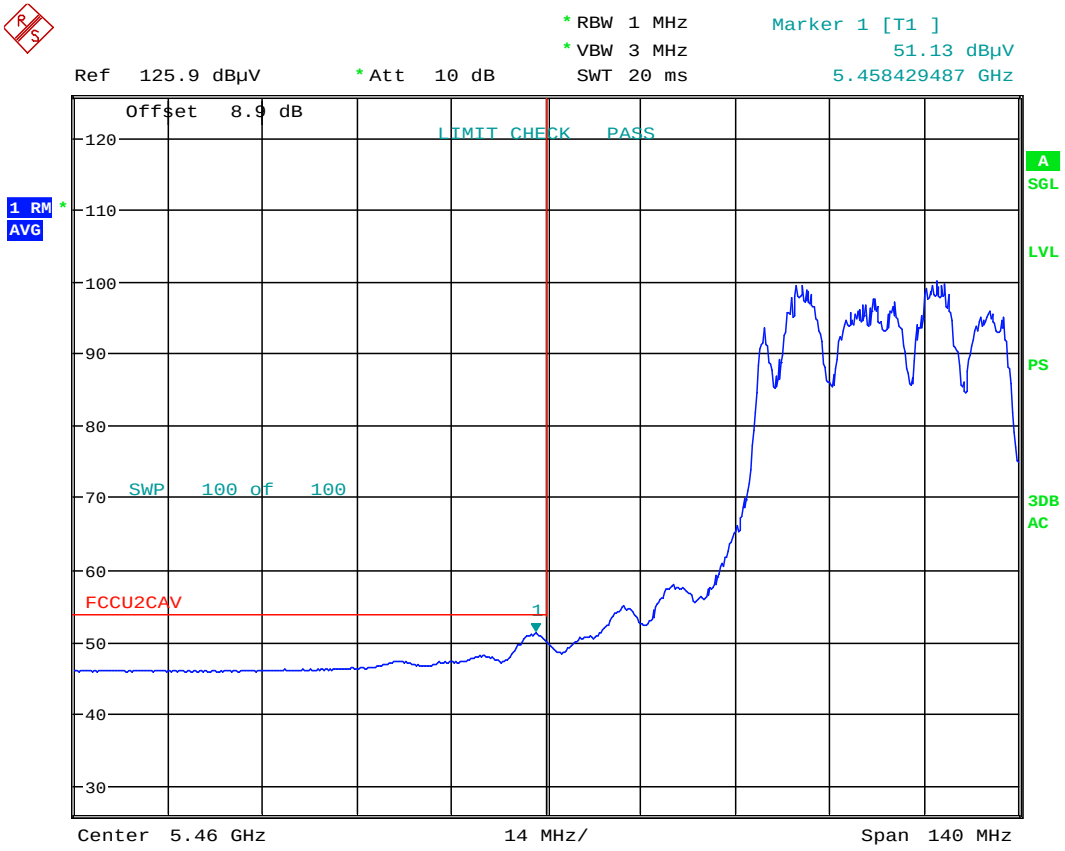
Date: 5.APR.2017 11:13:26

Plot 7-246. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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

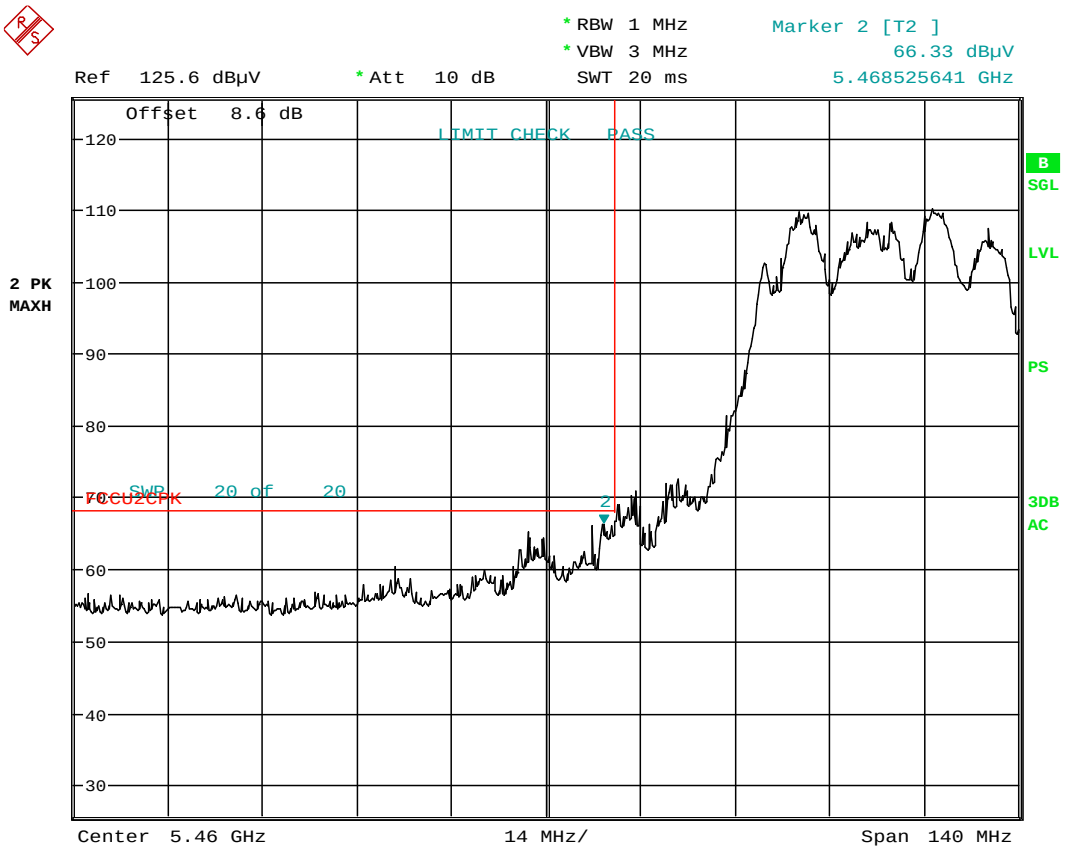


Date: 5.APR.2017 11:22:22

Plot 7-247. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

MIMO Radiated Band Edge Measurements (40MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



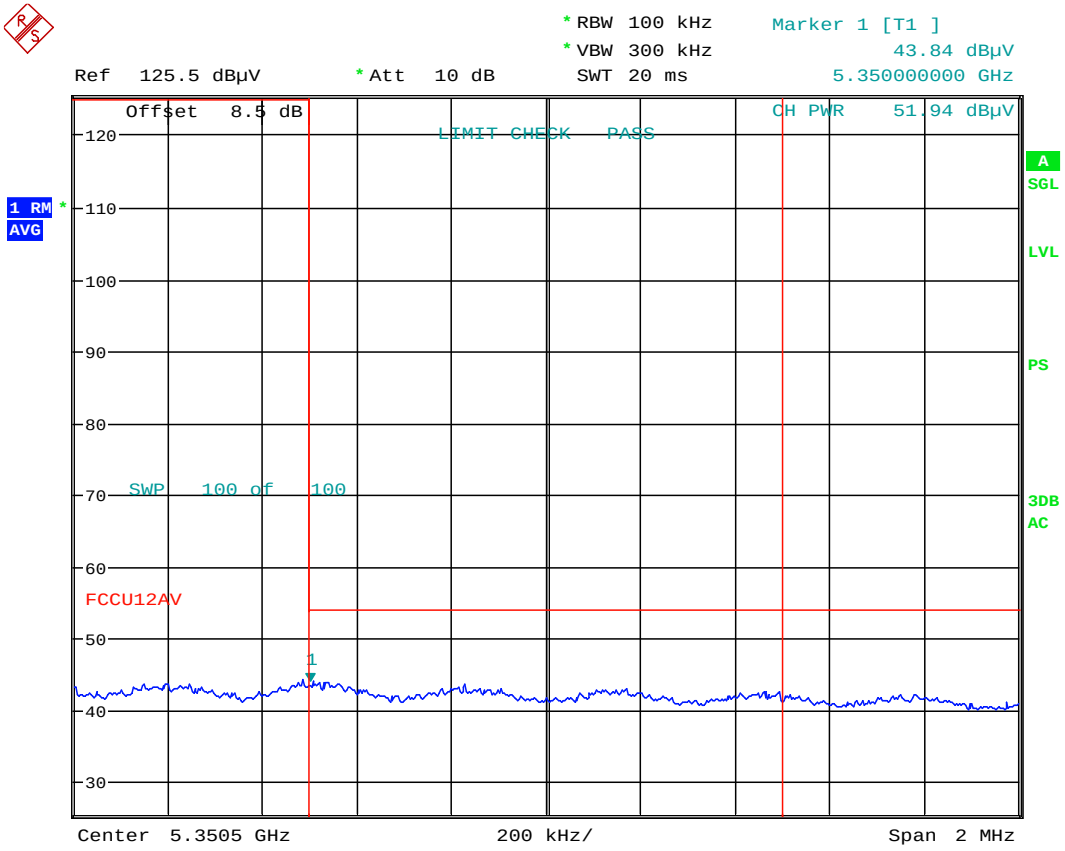
Date: 5.APR.2017 11:24:56

Plot 7-248. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

7.6.18 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

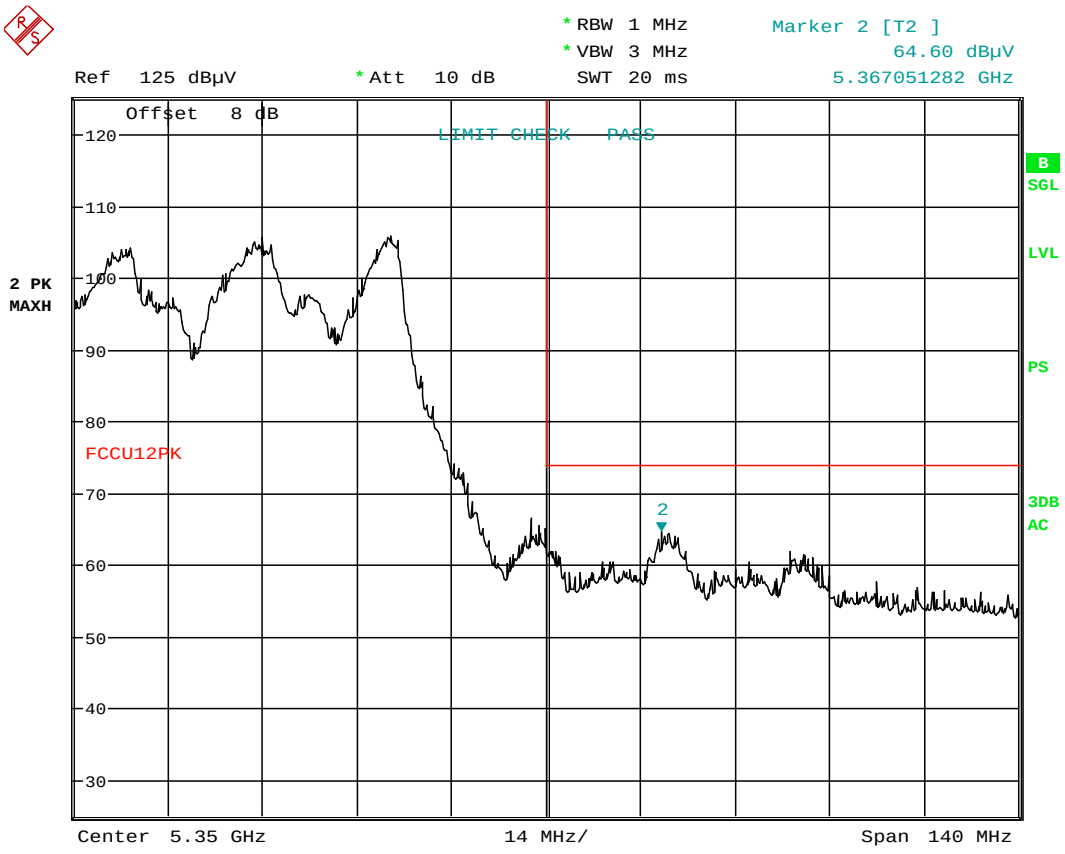


Date: 5.APR.2017 11:40:37

Plot 7-249. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209

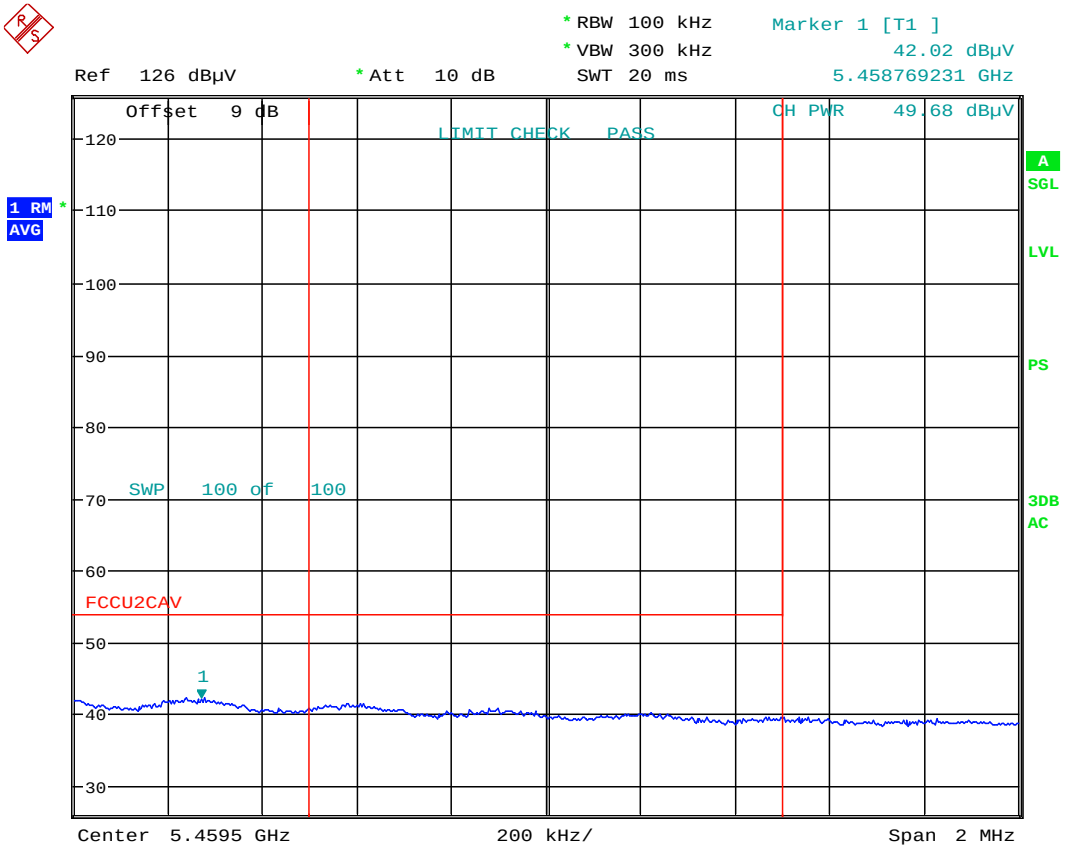


Plot 7-250. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

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

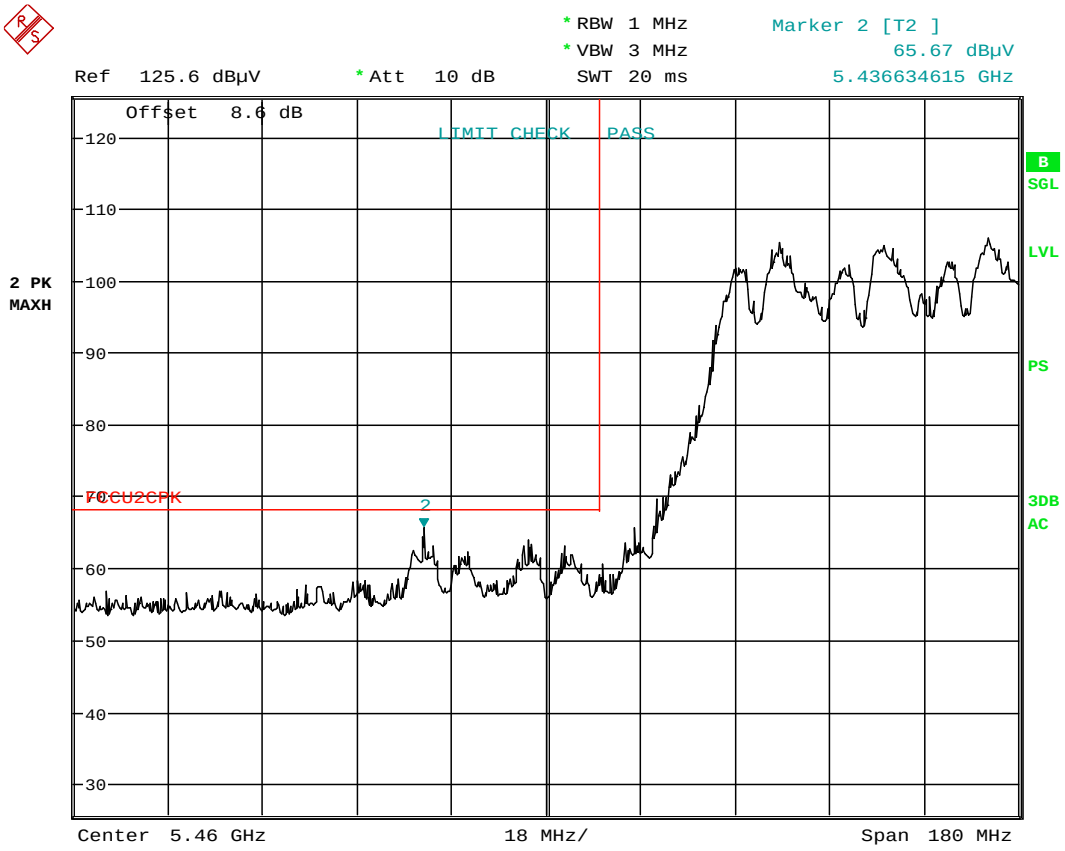


Date: 5.APR.2017 11:48:55

Plot 7-251. Radiated Restricted Lower Band Edge Plot (Average – UNII Band 2C)

MIMO Radiated Band Edge Measurements (80MHz BW)

§15.407(b.1)(b.2) §15.205 §15.209



Date: 5.APR.2017 11:49:16

Plot 7-252. Radiated Restricted Lower Band Edge Plot (Peak – UNII Band 2C)

7.7 Line-Conducted Test Data

§15.407

Test Overview and Limit

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

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

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

Table 7-55. 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

Test Setup

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

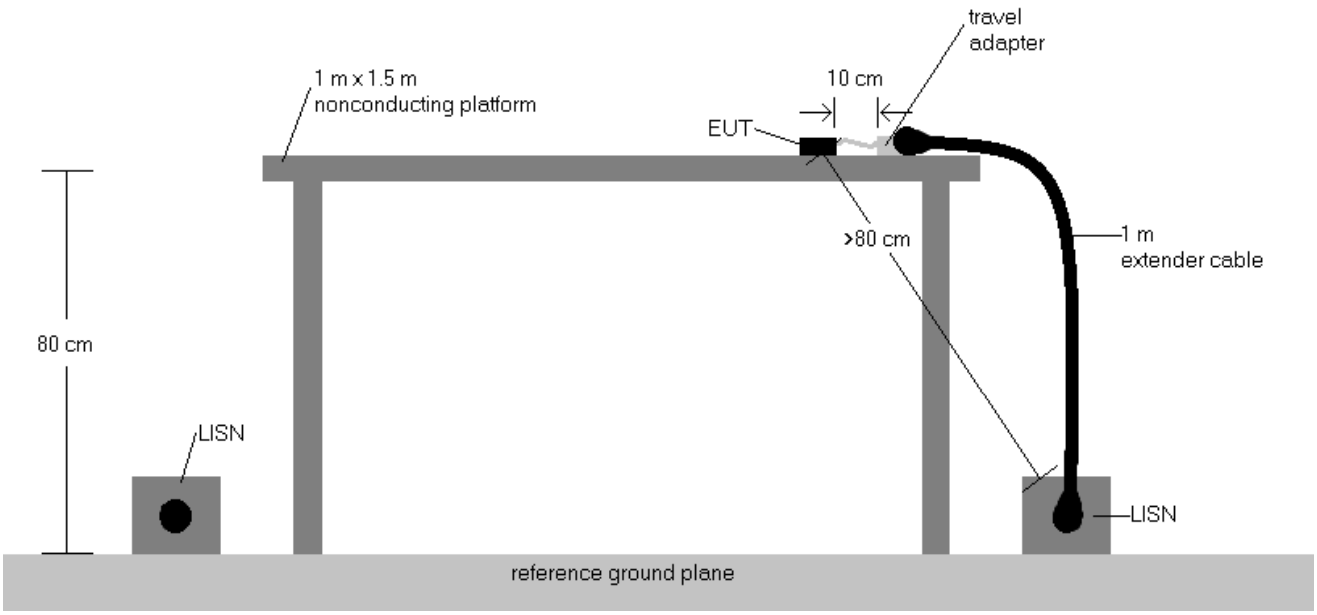


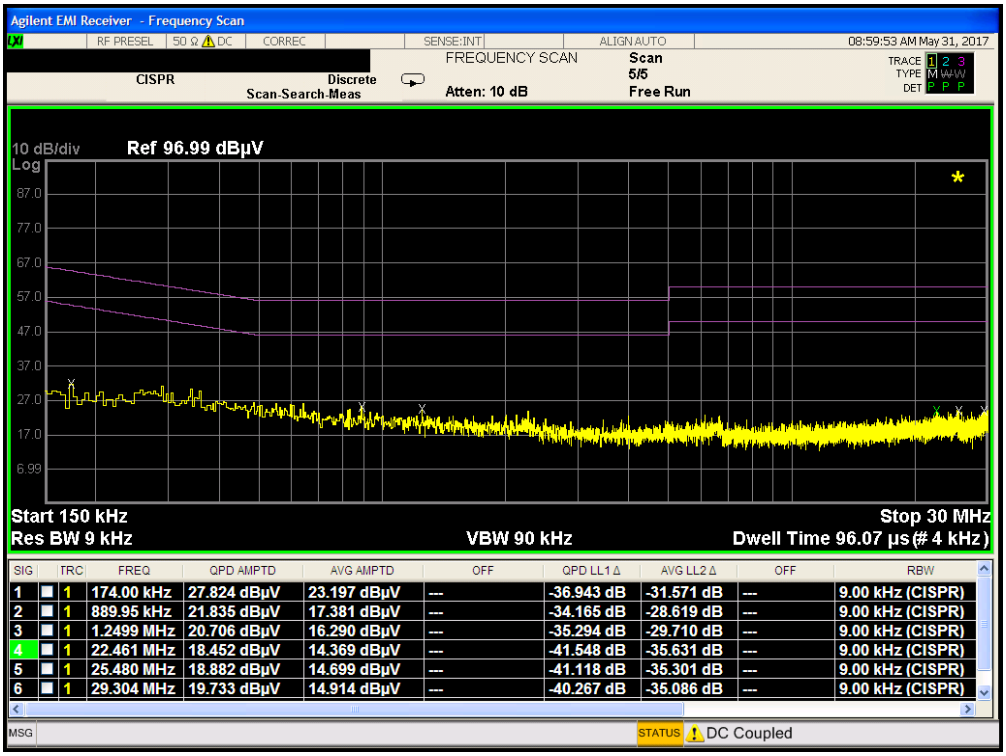
Figure 7-5. Test Instrument & Measurement Setup

Test Notes

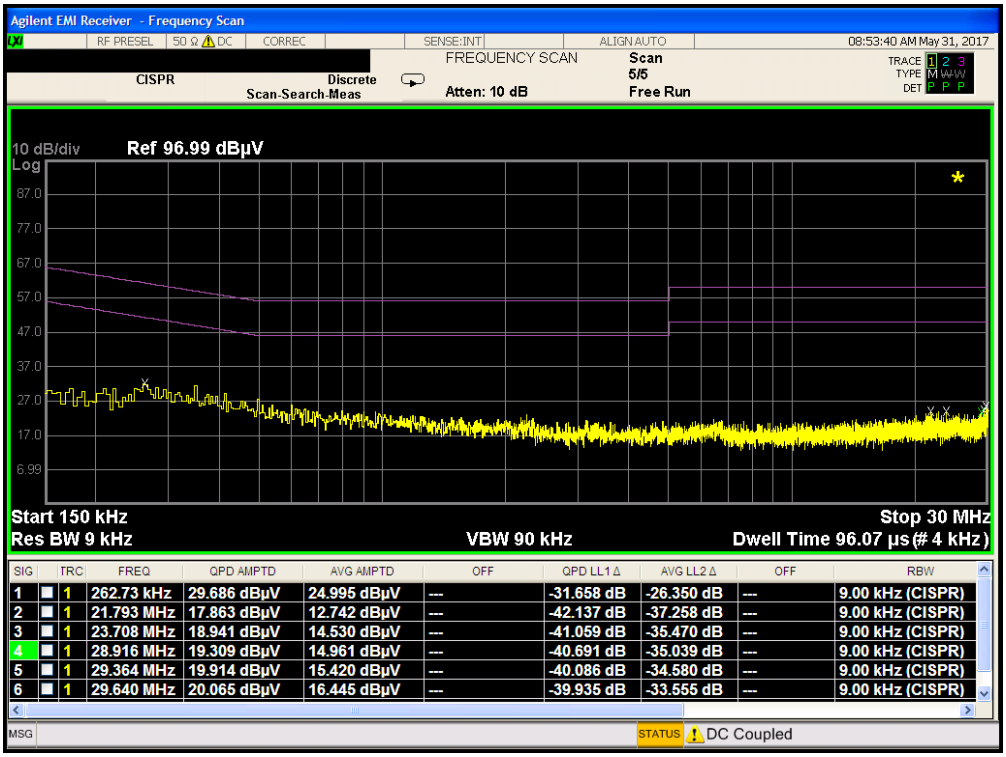
1. All modes of operation were investigated and the worst-case emissions are reported using mid channel. The emissions found were not affected by the choice of channel used during testing.
2. The limit for an intentional radiator from 150kHz to 30MHz are specified in 15.207.
3. Corr. (dB) = Cable loss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

Line-Conducted Test Data

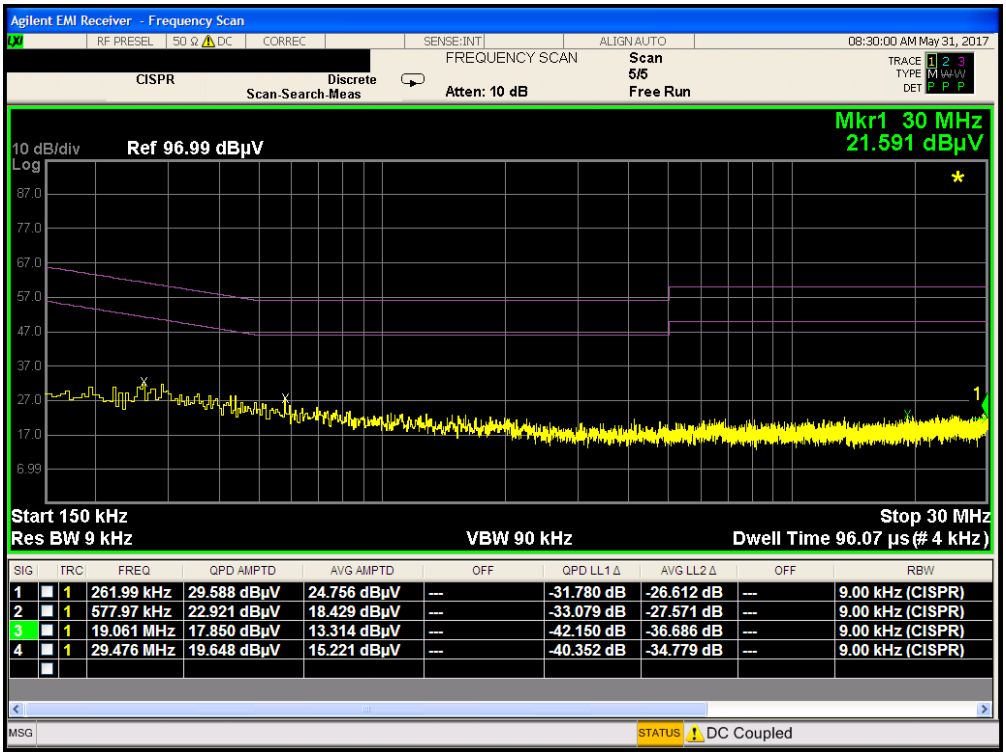
§15.407



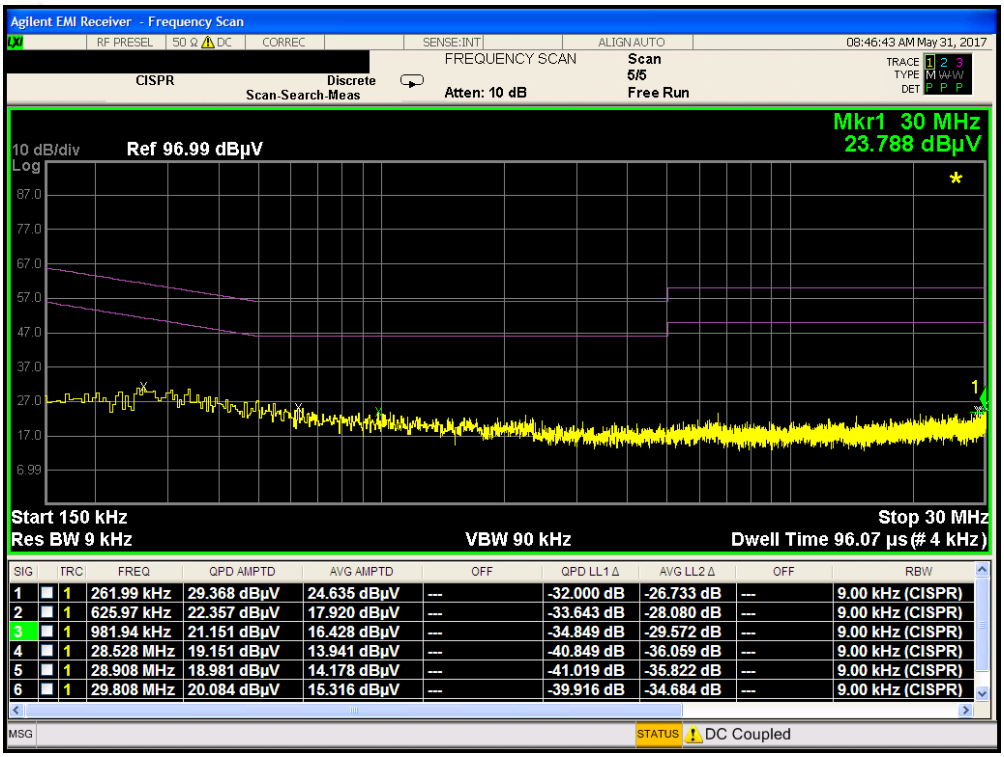
Plot 7-253. Line Conducted Plot with 802.11a UNII Band 2A (L1)



Plot 7-254. Line Conducted Plot with 802.11a UNII Band 2A (N)



Plot 7-255. Line Conducted Plot with 802.11a UNII Band 2C (L1)



Plot 7-256. Line Conducted Plot with 802.11a UNII Band 2C (N)

8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Indoor Access Point FCC ID: A3LETWV530** is in compliance with Part 15E of the FCC Rules.

APPENDIX A. 802.11A DUAL TX

A.1 Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MODE (TX)					
15.407 (a.2)	Maximum Conducted Output Power	Maximum conducted powers must meet limits detailed in 15.407(a)	CONDUCTED	PASS	Section A.2
15.407 (a.2), (5)	Maximum Power Spectral Density	Maximum power spectral density must meet the limits detailed in 15.407(a)		PASS	Section A.3
15.205, 15.407(5),(6)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		PASS	Section A.4

Table A.1-1. Summary of Test Results

Notes:

1. This device employs dual transmission in 802.11a and 802.11g modes using Cyclic Delay Diversity. For all test cases, the device was set to transmit from four antennas simultaneously. The data in this section demonstrates compliance to the dual-transmission requirements specified in KDB 662911 v02r01.
2. All data found in this section is compiled from plots found in the main body of this test report.
3. Since this device is able to transmit the same data through four of its antennas in a given symbol period, then, by the definition specified in KDB 662911 v02r01 Section F)1), the transmission symbols are correlated.
4. For CDD operation where Nss = 1, the array gain for power density measurements is equal to $10\log(N_{ANT}/N_{SS})$ dB and the array gain for power measurements is 0dB.

A.2 Output Power Measurement

§15.407 (a.2)

Test Overview

Using the "Measure and Sum" technique, the measured conducted power values were summed in linear power units then converted back to dBm. Original measured values are found in Section 7.4 of this report.

Freq [MHz]	Channel	Detector	Directional Gain [dBi]	5GHz (20MHz) Conducted Power [dBm]					Max Permissible Conducted Power [dBm]	Adjusted Limit [dBm]	Margin [dB]
				IEEE Transmission Mode							
				ANT1	ANT2	ANT3	ANT4	MIMO			
5260	52	AVG	9.19	12.67	12.41	11.71	12.64	18.39	23.98	20.79	-2.40
5280	56	AVG	9.19	12.65	12.47	11.89	12.50	18.41	23.98	20.79	-2.38
5300	60	AVG	9.19	12.56	12.54	11.81	12.67	18.43	23.98	20.79	-2.36
5320	64	AVG	9.19	12.35	12.71	11.91	12.70	18.45	23.98	20.79	-2.34
5500	100	AVG	9.48	11.76	11.65	11.18	11.95	17.66	23.98	20.50	-2.84
5600	120	AVG	9.48	11.85	11.14	10.65	11.66	17.37	23.98	20.50	-3.13
5620	124	AVG	9.48	11.91	11.19	10.65	12.12	17.53	23.98	20.50	-2.97
5720	144	AVG	9.48	11.85	11.81	11.21	12.17	17.79	23.98	20.50	-2.71

Table A.2-1. Dual Tx 802.11a-mode Conducted Output Power Measurements

A.3 Power Spectral Density

§15.407 (a.2) (5)

Test Overview

Using the "Measure and Sum" technique, the measured conducted power density values were summed in linear power units then converted back to dBm. Original measured values are found in Section 7.5 of this report.

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Directional Gain [dBi]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Antenna-3 Power Density [dBm]	Antenna-4 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/MHz]	Adjusted Limit [dBm/MHz]	Margin [dB]	Pass / Fail
Band 2A	5260	52	a	6.5/7.2 (MCS0)	9.19	1.12	1.15	1.50	1.71	7.40	11.0	7.8	-0.41	Pass
	5280	56	a	6.5/7.2 (MCS0)	9.19	1.01	1.27	1.00	1.17	7.13	11.0	7.8	-0.68	Pass
	5320	64	a	6.5/7.2 (MCS0)	9.19	0.73	1.64	0.60	1.57	7.18	11.0	7.8	-0.63	Pass
Band 2C	5500	100	a	6.5/7.2 (MCS0)	9.40	0.37	0.95	0.63	1.00	6.77	11.0	7.60	-0.83	Pass
	5600	120	a	6.5/7.2 (MCS0)	9.40	0.53	0.52	0.12	0.64	6.48	11.0	7.60	-1.12	Pass
	5720	144	a	6.5/7.2 (MCS0)	9.48	0.33	0.42	0.61	1.14	6.66	11.0	7.52	-0.86	Pass

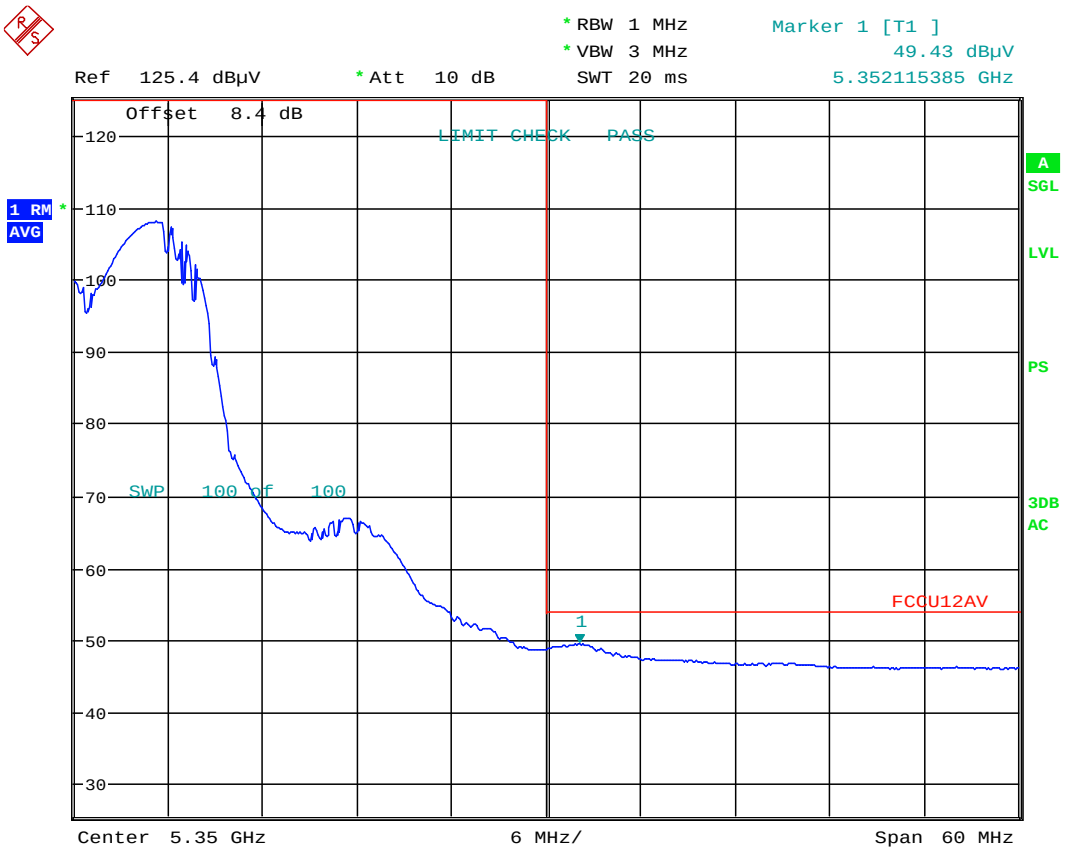
Table A.3-1.802.11a Dual Tx Conducted Power Density Measurements

A.4 Dual Tx Radiated Restricted Band Edge Measurements

§15.407(b.2)(b.3) §15.205 §15.209

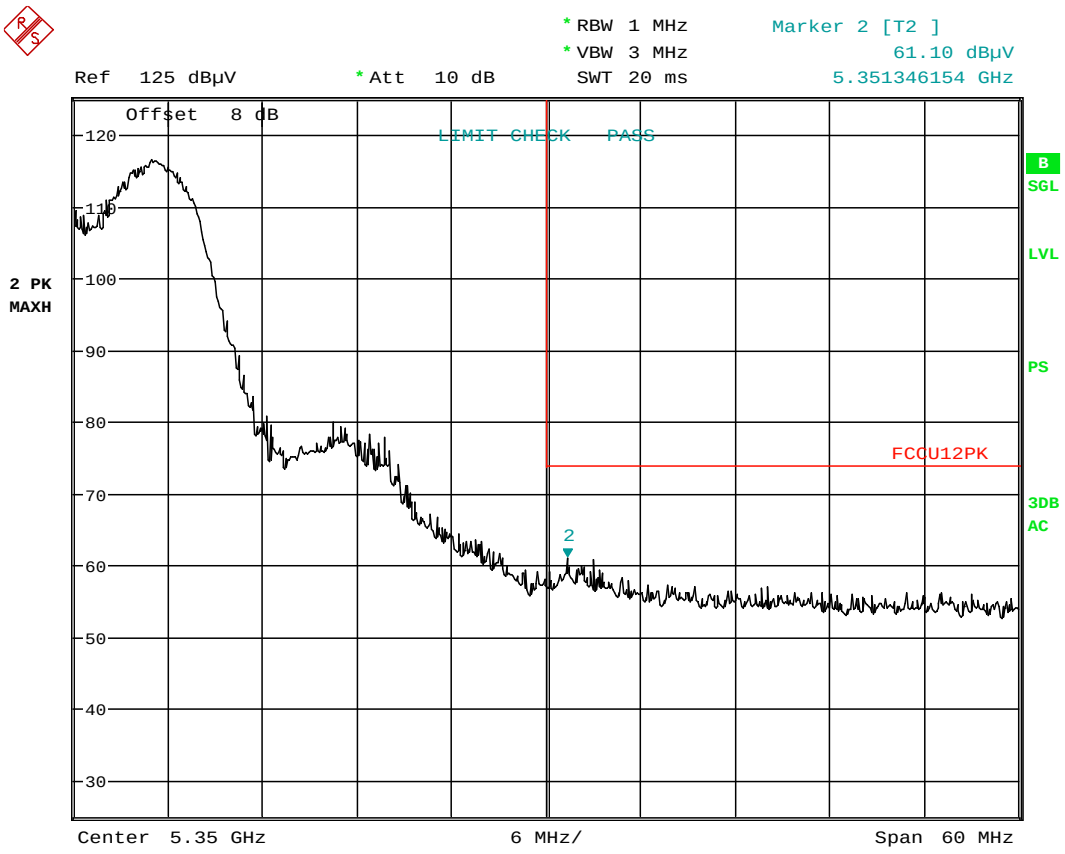
The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting on both outputs in 802.11a mode.

Worst Case Mode:	802.11a (20MHz)
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64



Date: 5.APR.2017 10:53:14

Plot A.4-1. Radiated Restricted Upper Band Edge Plot (Average – UNII Band 2A)

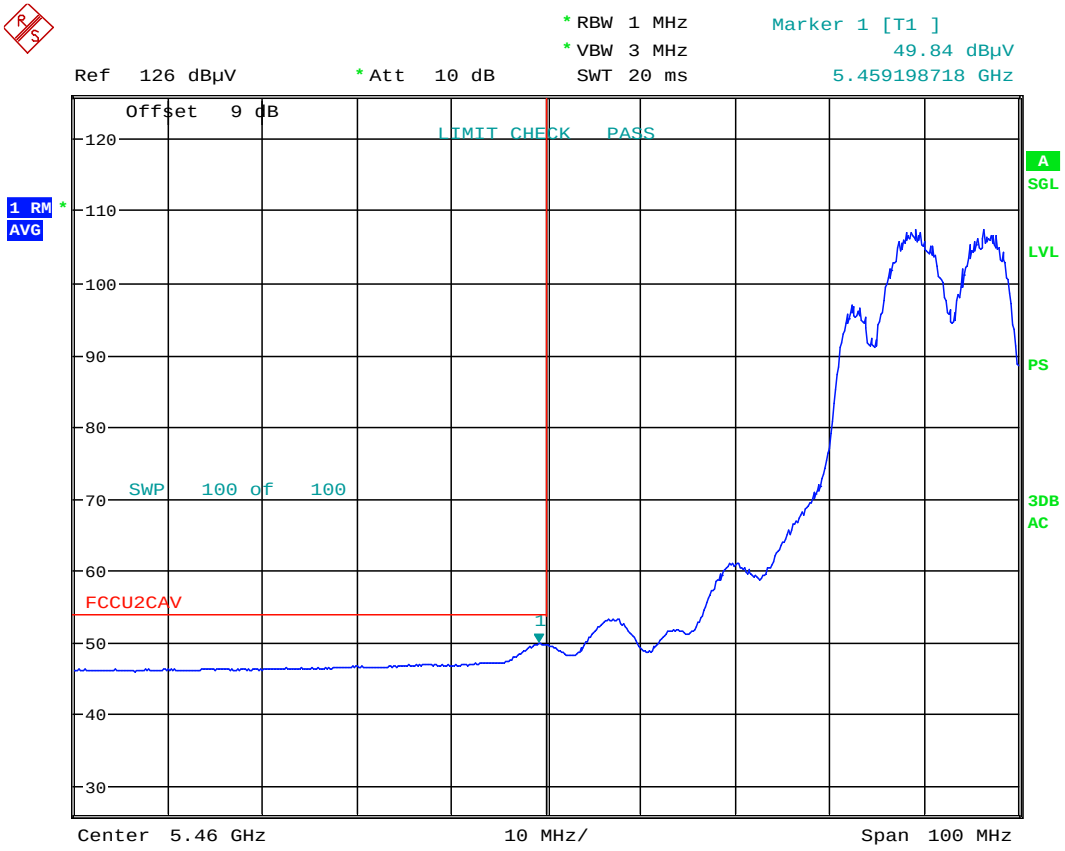


Plot A.4-2. Radiated Restricted Upper Band Edge Plot (Peak – UNII Band 2A)

Dual-Tx Radiated Band Edge Measurements (20MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209

Worst Case Mode:	802.11a (20MHz)
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

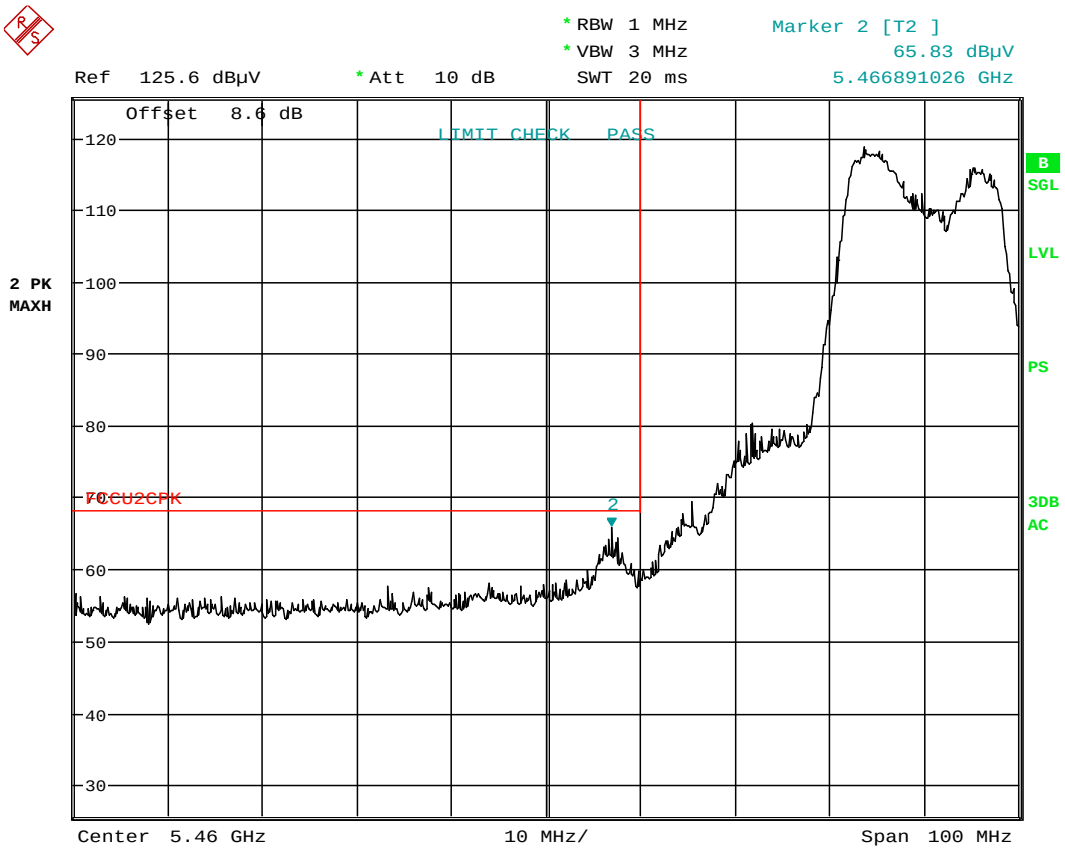


Date: 5.APR.2017 10:30:09

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

Dual-Tx Radiated Band Edge Measurements (20MHz BW)

§15.407(b.2)(b.3) §15.205 §15.209



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

APPENDIX B. 80MHZ + 80MHZ TX

B.1 Summary

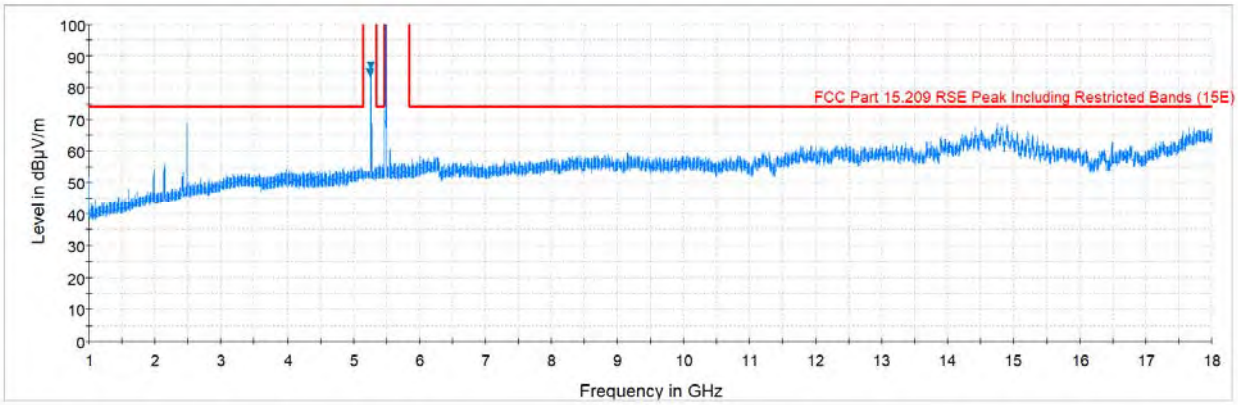
FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
TRANSMITTER MODE (TX)					
15.205, 15.407(b.1),(5),(6)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	RADIATED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

Table B.1-1. Summary of Test Results

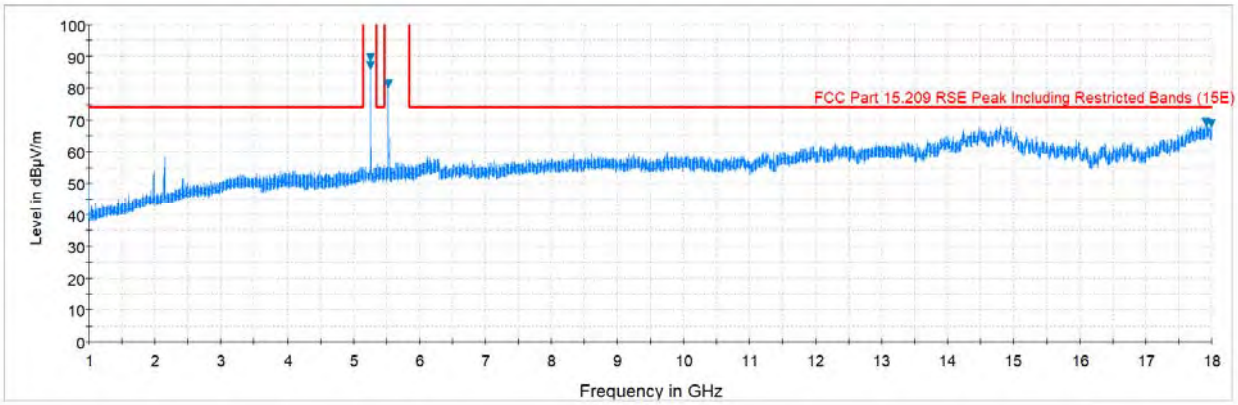
Notes:

1. This device employs dual transmission in 802.11ac mode. For all test cases, the device was set to transmit two different 80MHz signal from all four antennas simultaneously. The data in this section demonstrates compliance to the dual-transmission requirements specified in KDB 662911 v02r01.
2. Since this device has beamforming capabilities, by the definition specified in KDB 662911 v02r01 Section F)1), the transmission symbols are correlated.
3. 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 were 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.
4. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

B.2 Radiated Spurious Emissions



Plot B-1. Radiated Spurious Plot above 1GHz (Ant. Pol. H)



Plot B-2. Radiated Spurious Plot above 1GHz (Ant. Pol. V)

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	4330.00	Avg	H	-	-	-68.49	-0.08	38.43	53.98	-15.55
*	4330.00	Peak	H	-	-	-55.65	-0.08	51.27	73.98	-22.71
*	4570.00	Avg	H	-	-	-69.92	0.63	37.71	53.98	-16.27
*	4570.00	Peak	H	-	-	-60.48	0.63	47.15	73.98	-26.83
*	4810.00	Avg	H	-	-	-69.54	1.05	38.51	53.98	-15.47
*	4810.00	Peak	H	-	-	-58.80	1.05	49.25	73.98	-24.73
*	5050.00	Avg	H	-	-	-69.93	1.76	38.83	53.98	-15.15
*	5050.00	Peak	H	-	-	-60.96	1.76	47.80	73.98	-26.18
	5770.00	Peak	H	-	-	-57.72	3.66	52.94	68.20	-15.26
	6010.00	Peak	H	-	-	-61.98	7.96	52.98	68.20	-15.22
	6250.00	Peak	H	-	-	-59.13	9.28	57.15	68.20	-11.05
	6490.00	Peak	H	-	-	-61.07	10.15	56.08	68.20	-12.12

Table B-1. Radiated Measurements (Ant. Pol. H)

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	4330.00	Avg	V	-	-	-68.43	-0.08	38.49	53.98	-15.49
*	4330.00	Peak	V	-	-	-58.09	-0.08	48.83	73.98	-25.15
*	4570.00	Avg	V	-	-	-68.73	0.63	38.90	53.98	-15.08
*	4570.00	Peak	V	-	-	-58.13	0.63	49.50	73.98	-24.48
*	4810.00	Avg	V	-	-	-68.58	1.05	39.47	53.98	-14.51
*	4810.00	Peak	V	-	-	-59.68	1.05	48.37	73.98	-25.61
*	5050.00	Avg	V	-	-	-69.61	1.76	39.15	53.98	-14.83
*	5050.00	Peak	V	-	-	-59.35	1.76	49.41	73.98	-24.57
	5770.00	Peak	V	-	-	-60.56	3.66	50.10	68.20	-18.10
	6010.00	Peak	V	-	-	-59.19	7.96	55.77	68.20	-12.43
	6250.00	Peak	V	-	-	-60.83	9.28	55.45	68.20	-12.75
	6490.00	Peak	V	-	-	-58.38	10.15	58.77	68.20	-9.43

Table B-2. Radiated Measurements (Ant. Pol. V)