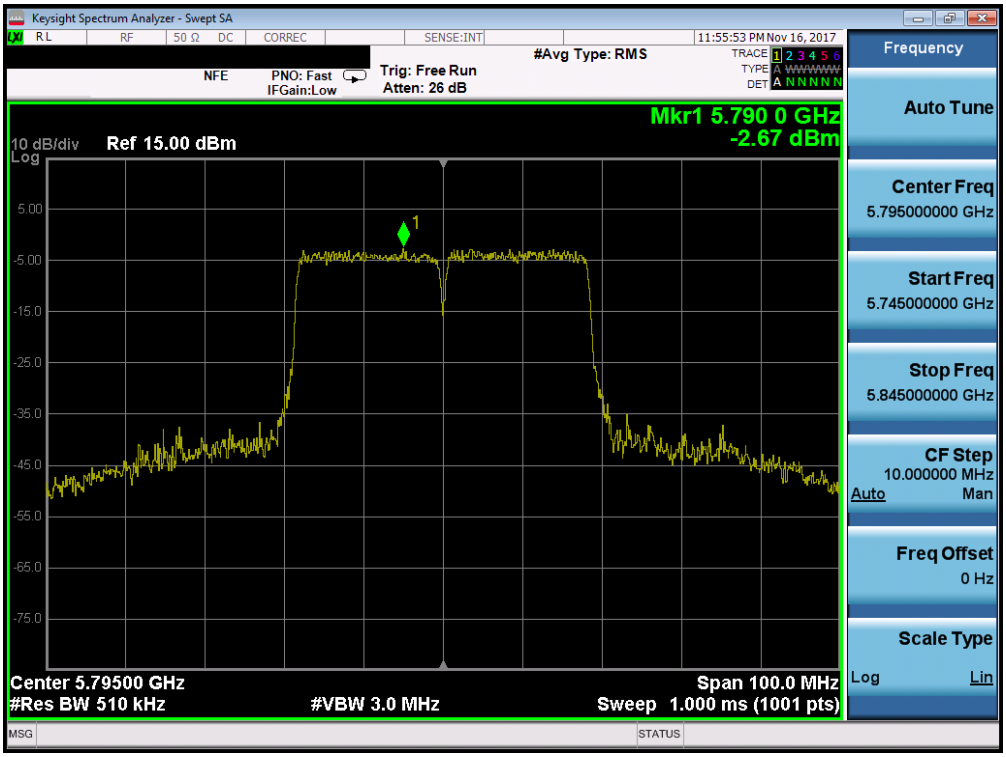
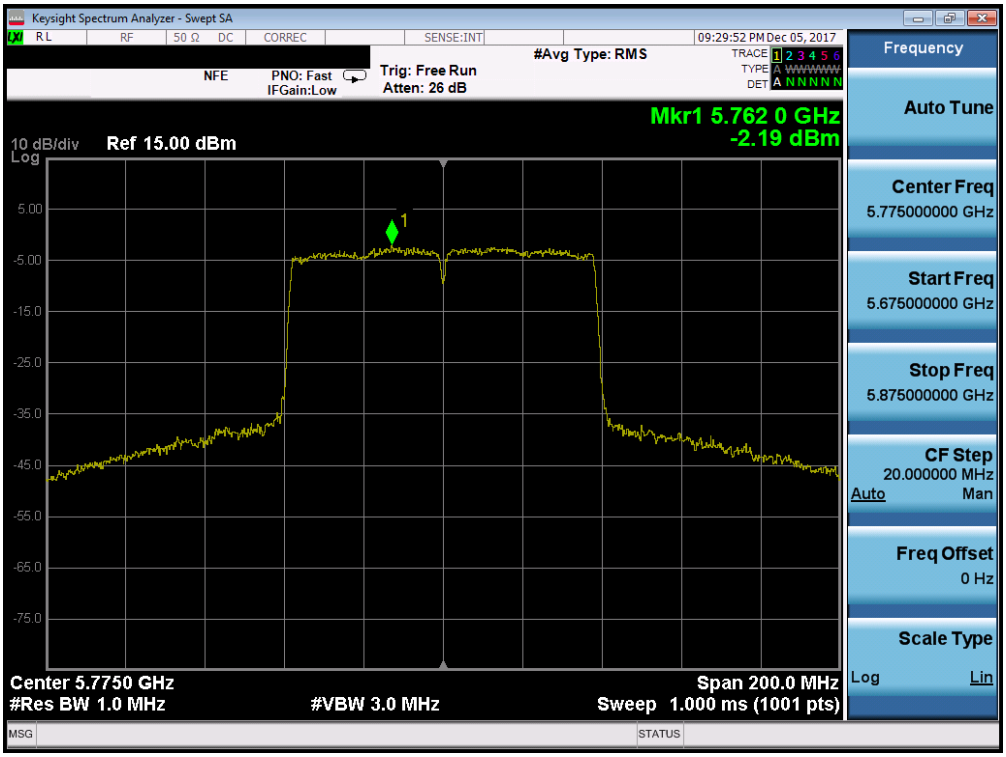


Plot 7-113. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 159)



Plot 7-114. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

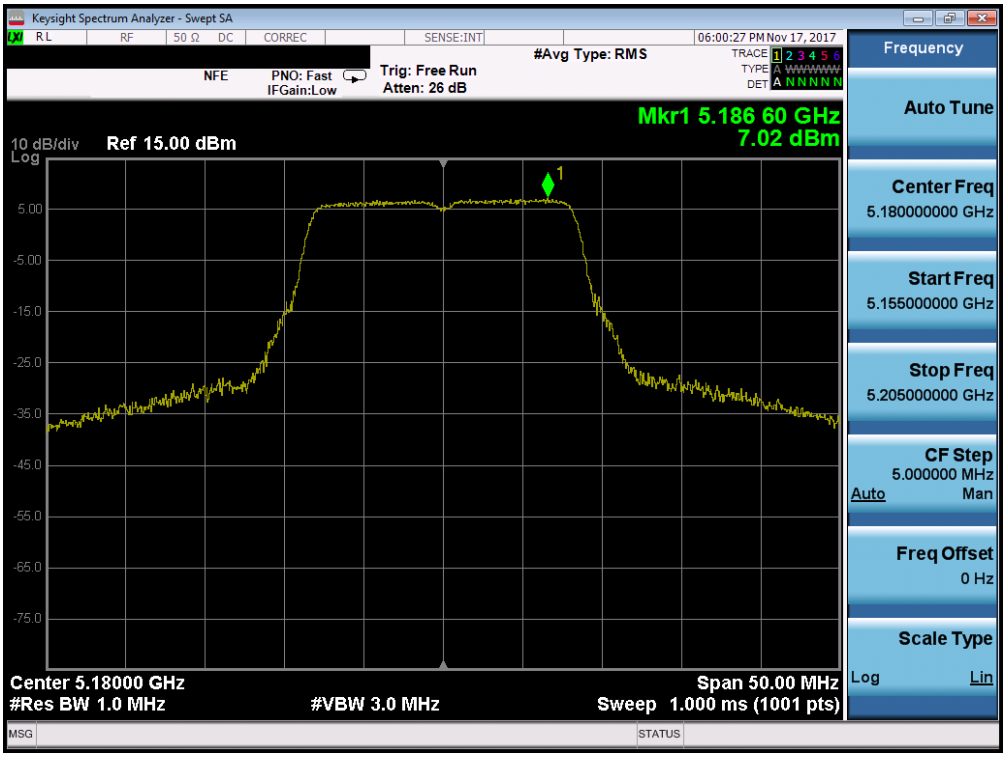
Antenna-2 Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	a	6	7.02	11.0	-3.98
	5200	40	a	6	7.52	11.0	-3.48
	5240	48	a	6	7.46	11.0	-3.54
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	6.74	11.0	-4.26
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	7.04	11.0	-3.96
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	7.41	11.0	-3.59
	5190	38	n (40MHz)	13.5/15 (MCS0)	3.86	11.0	-7.14
	5230	46	n (40MHz)	13.5/15 (MCS0)	4.16	11.0	-6.84
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	1.18	11.0	-9.83
Band 2A	5260	52	a	6	7.17	11.0	-3.84
	5280	56	a	6	7.57	11.0	-3.43
	5320	64	a	6	7.74	11.0	-3.26
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	7.47	11.0	-3.53
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	7.16	11.0	-3.84
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	7.35	11.0	-3.65
	5270	54	n (40MHz)	13.5/15 (MCS0)	2.98	11.0	-8.02
	5310	62	n (40MHz)	13.5/15 (MCS0)	3.28	11.0	-7.72
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	0.63	11.0	-10.37
Band 2C	5500	100	a	6	6.62	11.0	-4.38
	5580	116	a	6	5.96	11.0	-5.04
	5720	144	a	6	5.86	11.0	-5.14
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	6.44	11.0	-4.56
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	5.75	11.0	-5.25
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	6.31	11.0	-4.69
	5510	102	n (40MHz)	13.5/15 (MCS0)	3.11	11.0	-7.89
	5550	110	n (40MHz)	13.5/15 (MCS0)	2.30	11.0	-8.70
	5710	142	n (40MHz)	13.5/15 (MCS0)	2.39	11.0	-8.61
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	0.12	11.0	-10.88
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-2.77	11.0	-13.77

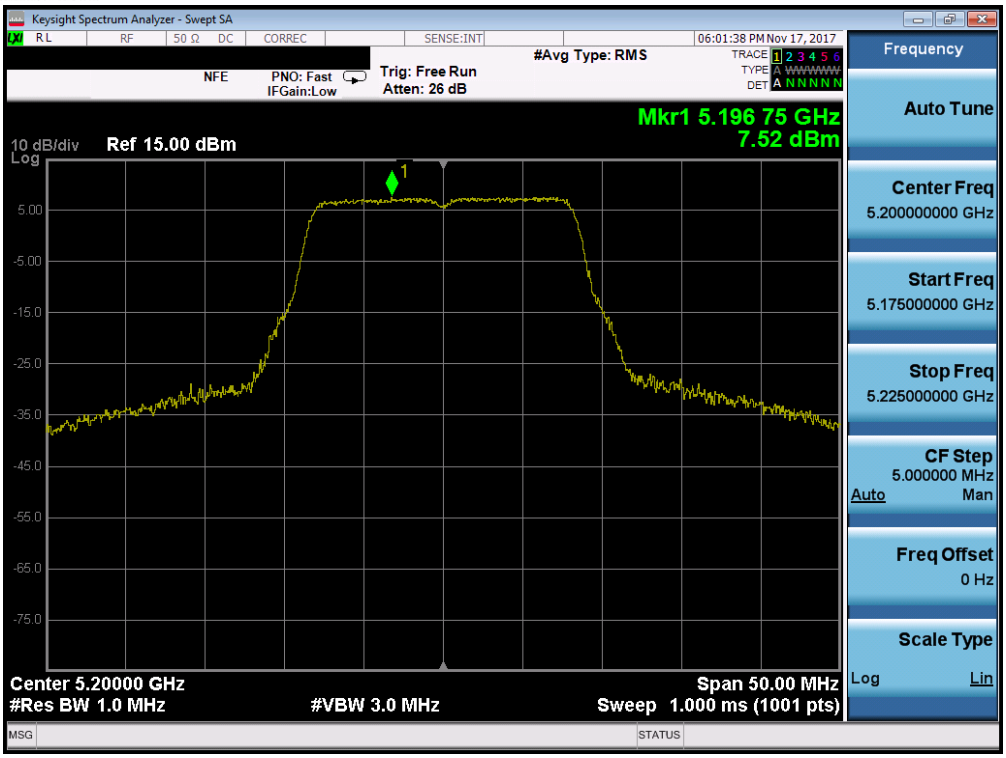
Table 7-21. Conducted Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenna Gain [dBi]	Measured Power Density [dBm]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	a	6	-8.7	3.73	-4.97	10.0	-14.97
	5200	40	a	6	-8.7	4.04	-4.66	10.0	-14.66
	5240	48	a	6	-7.9	3.96	-3.94	10.0	-13.94
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	-8.7	3.19	-5.51	10.0	-15.51
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	-8.7	3.42	-5.28	10.0	-15.28
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	-7.9	3.69	-4.21	10.0	-14.21
	5190	38	n (40MHz)	13.5/15 (MCS0)	-8.7	-0.11	-8.81	10.0	-18.81
	5230	46	n (40MHz)	13.5/15 (MCS0)	-7.9	-0.17	-8.07	10.0	-18.07
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-7.9	-2.93	-10.83	10.0	-20.83

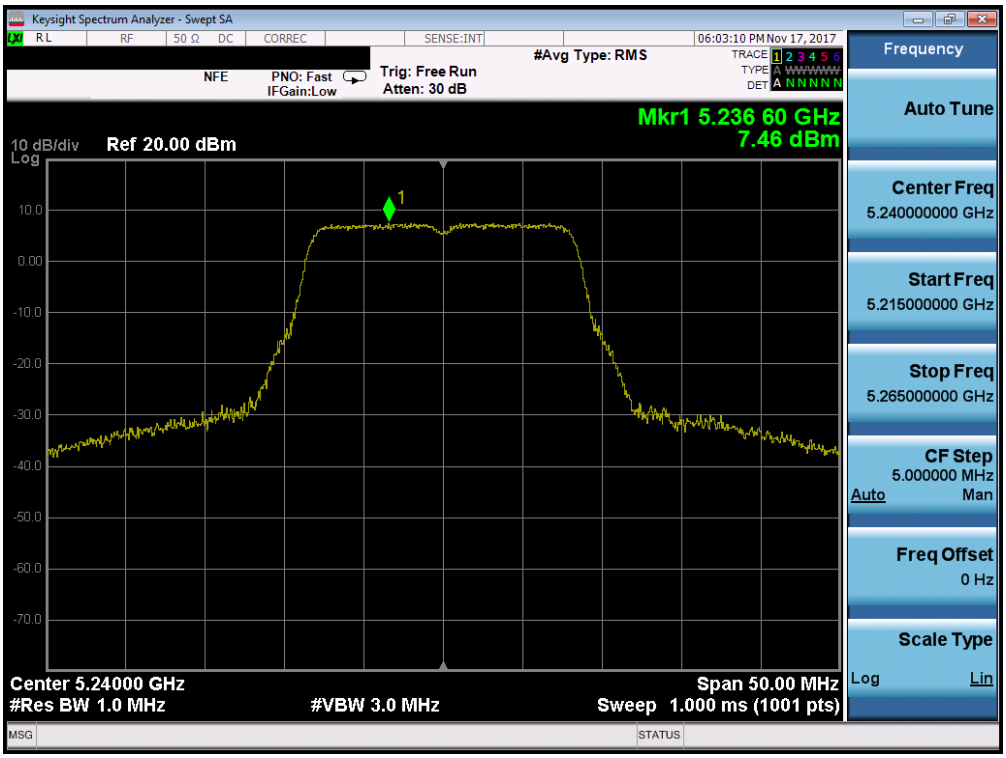
Table 7-22. UNII Bands 1 e.i.r.p. Power Spectral Density Measurements(ISED)



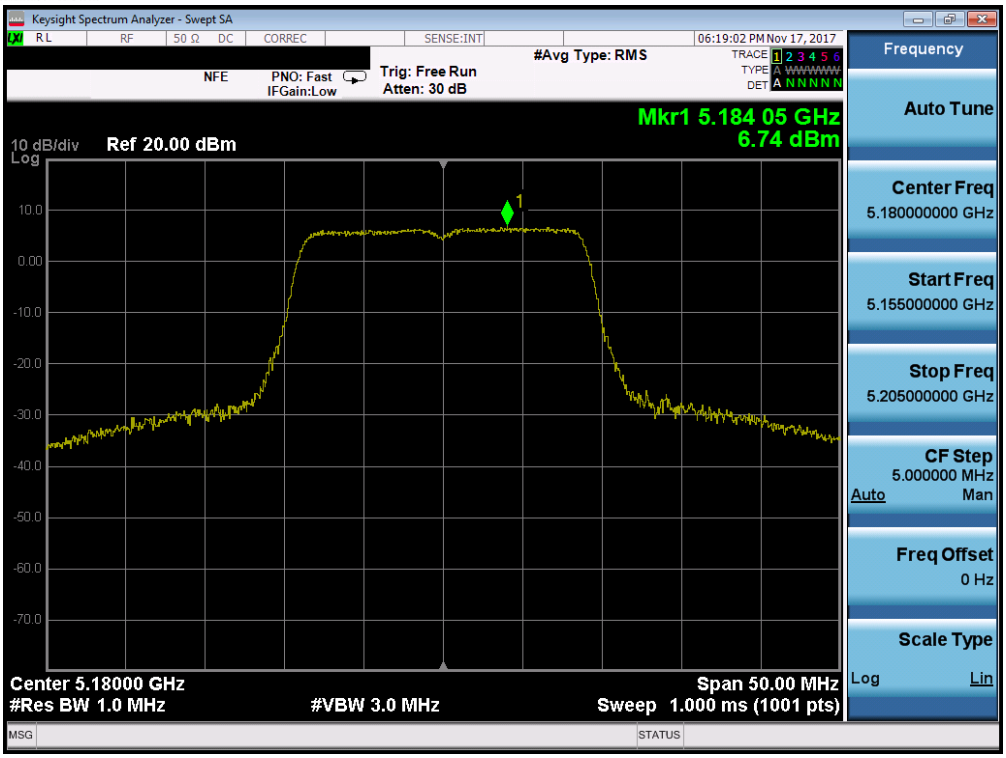
Plot 7-115. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 36)



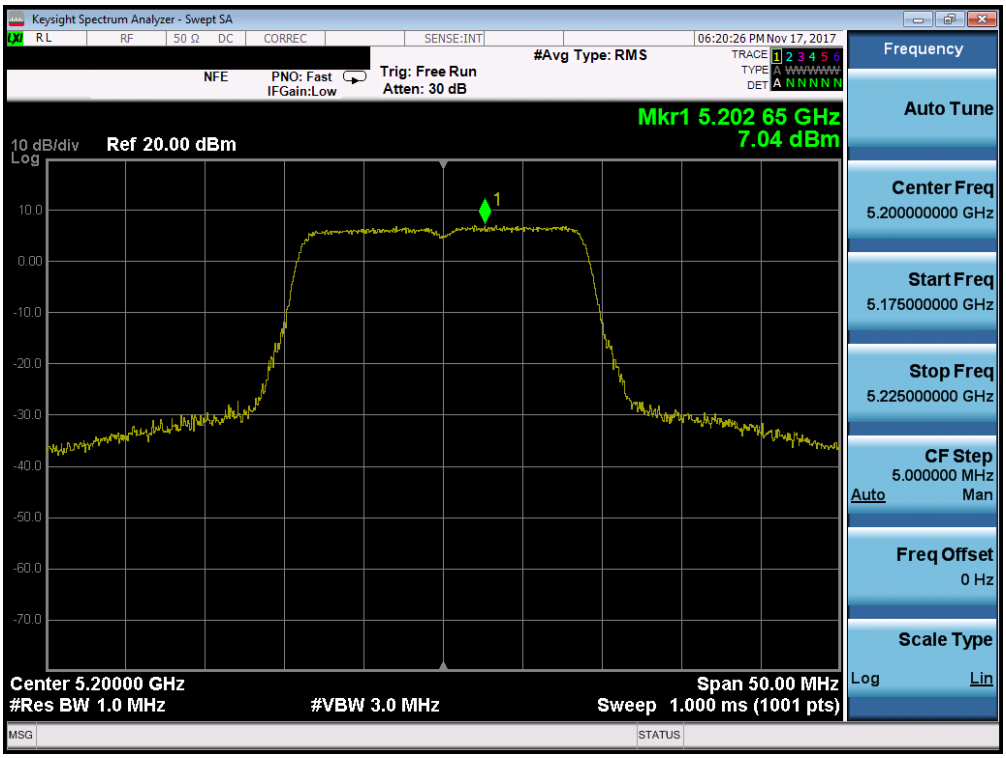
Plot 7-116. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 40)



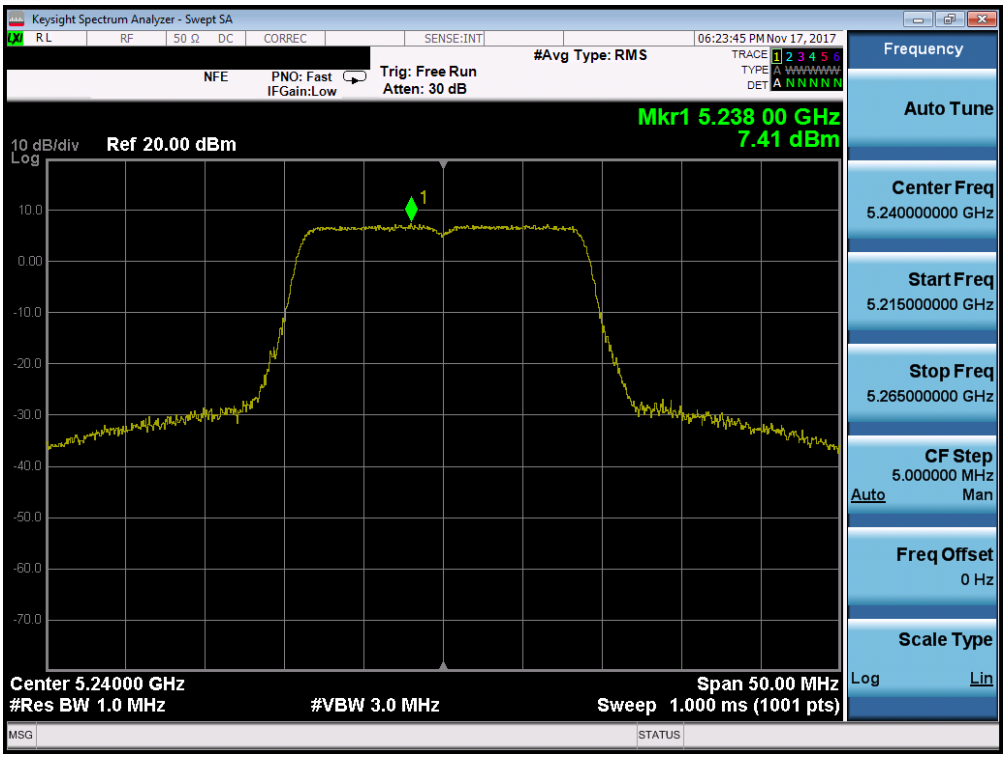
Plot 7-117. Power Spectral Density Plot (802.11a (UNII Band 1) – Ch. 48)



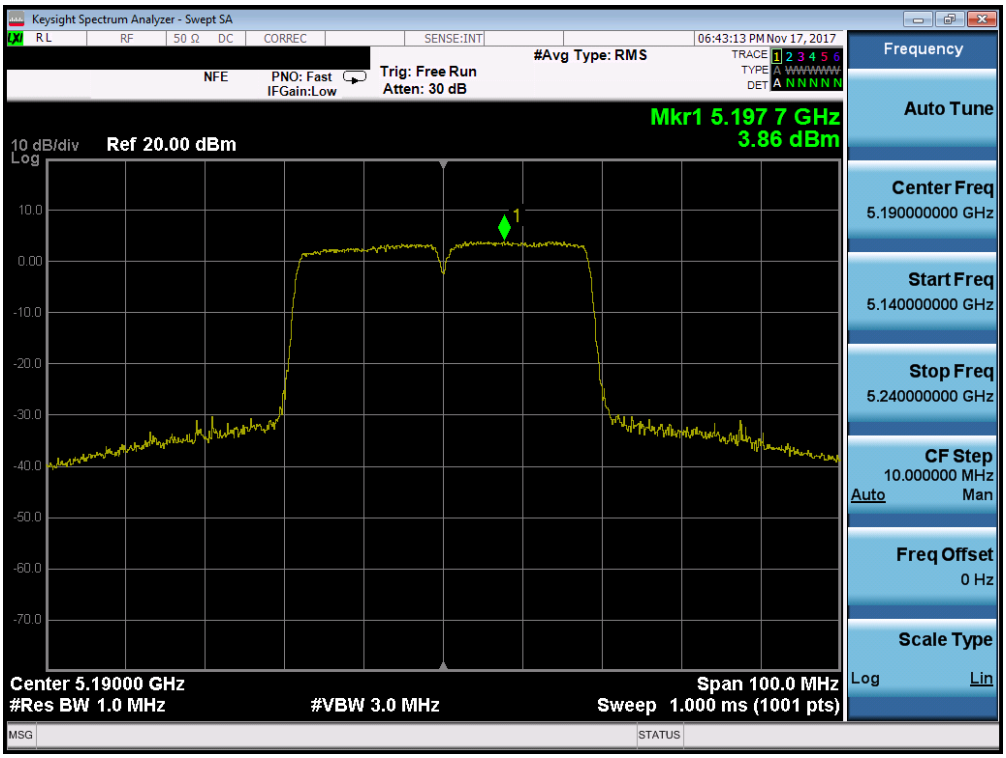
Plot 7-118. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 36)



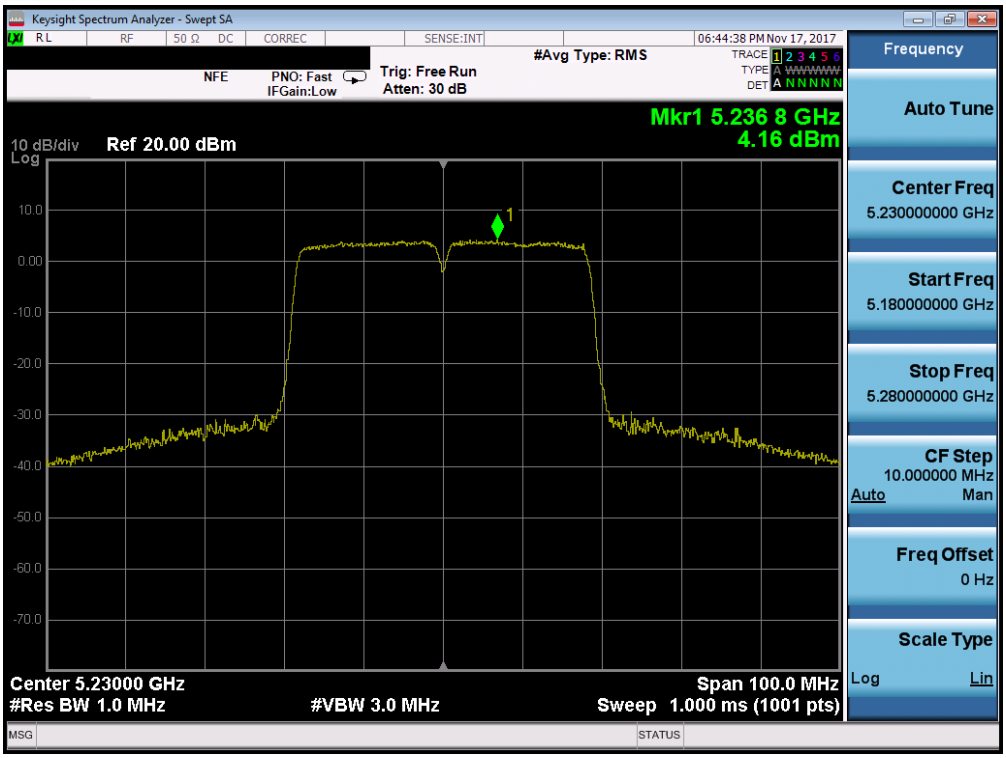
Plot 7-119. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 40)



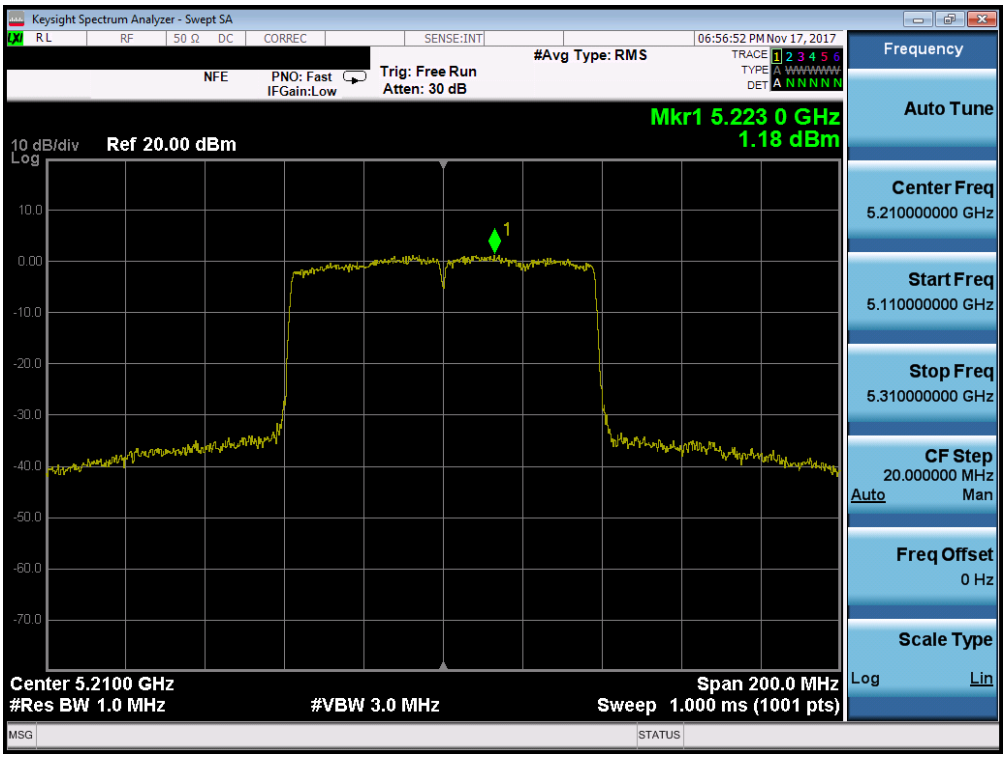
Plot 7-120. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 1) – Ch. 48)



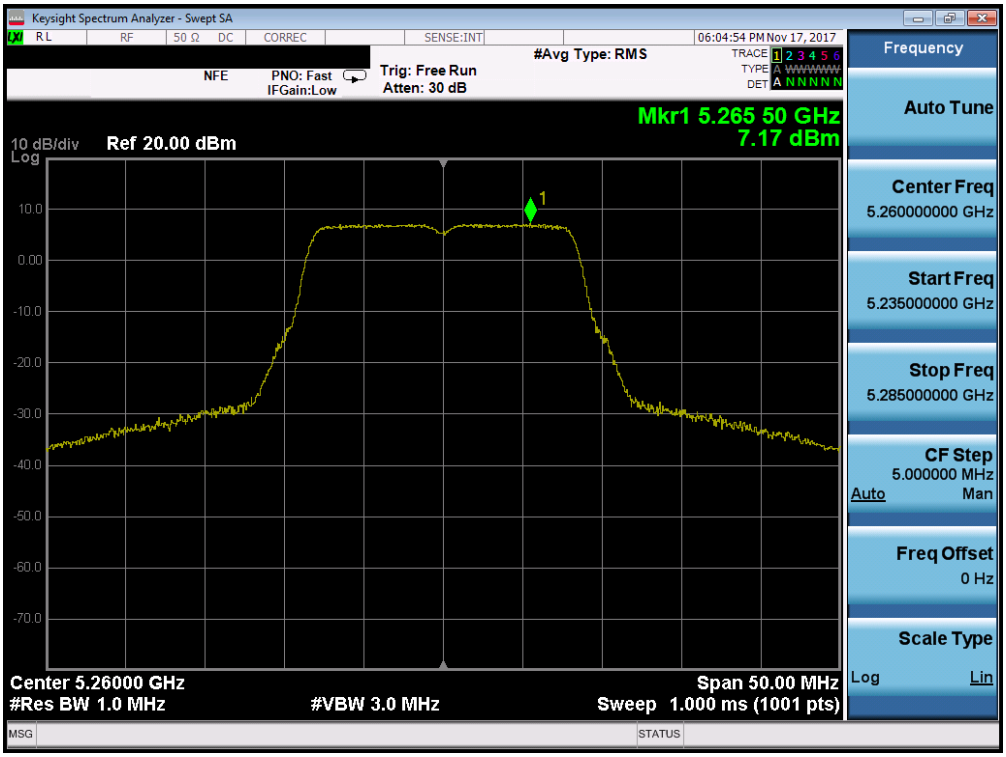
Plot 7-121. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 38)



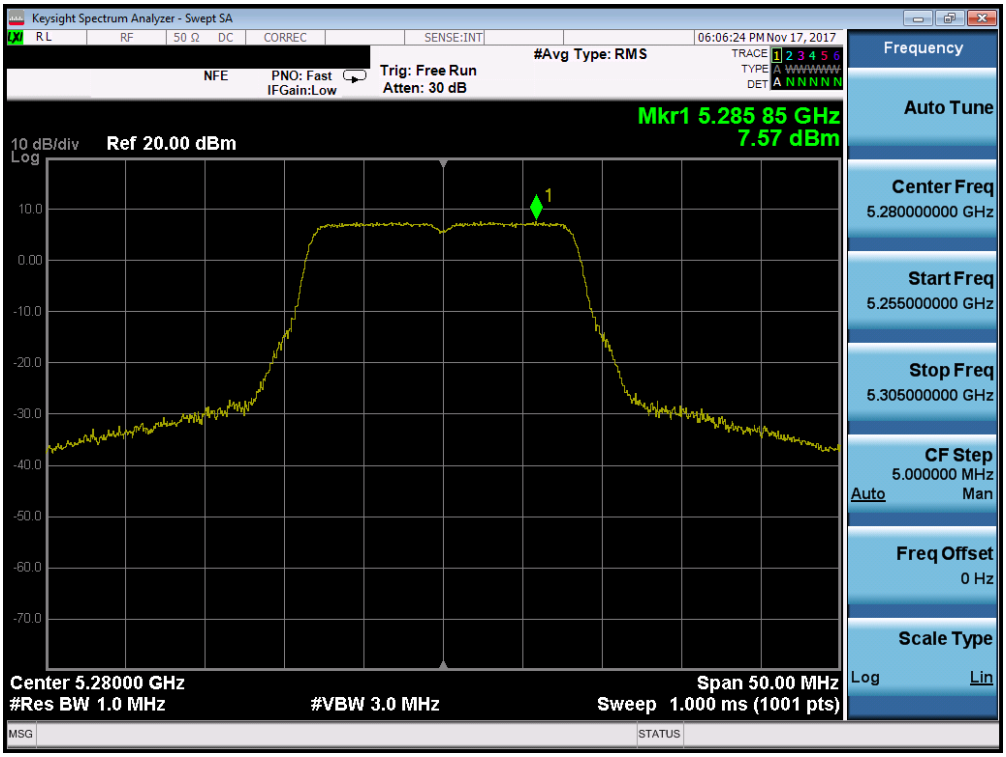
Plot 7-122. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 1) – Ch. 46)



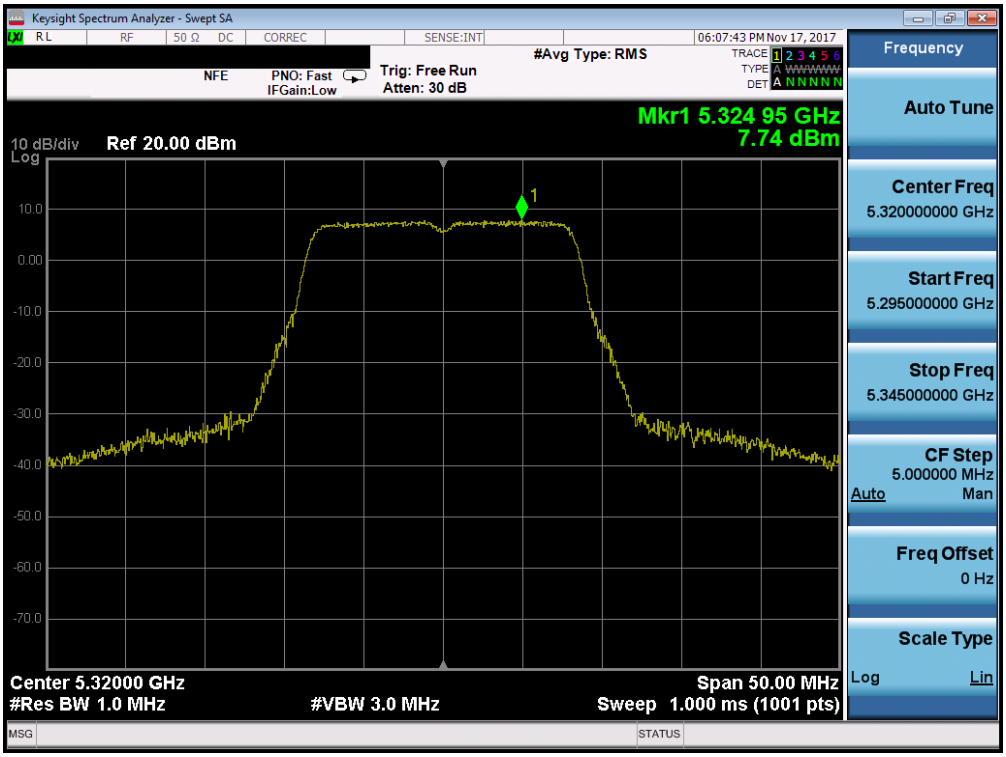
Plot 7-123. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)



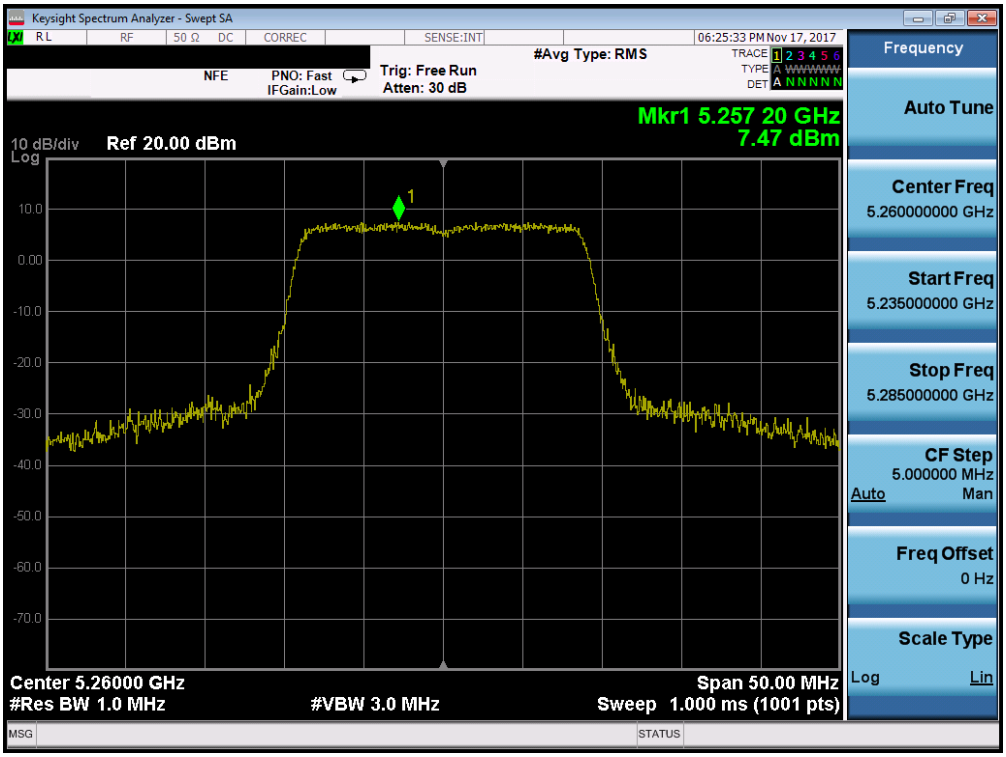
Plot 7-124. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 52)



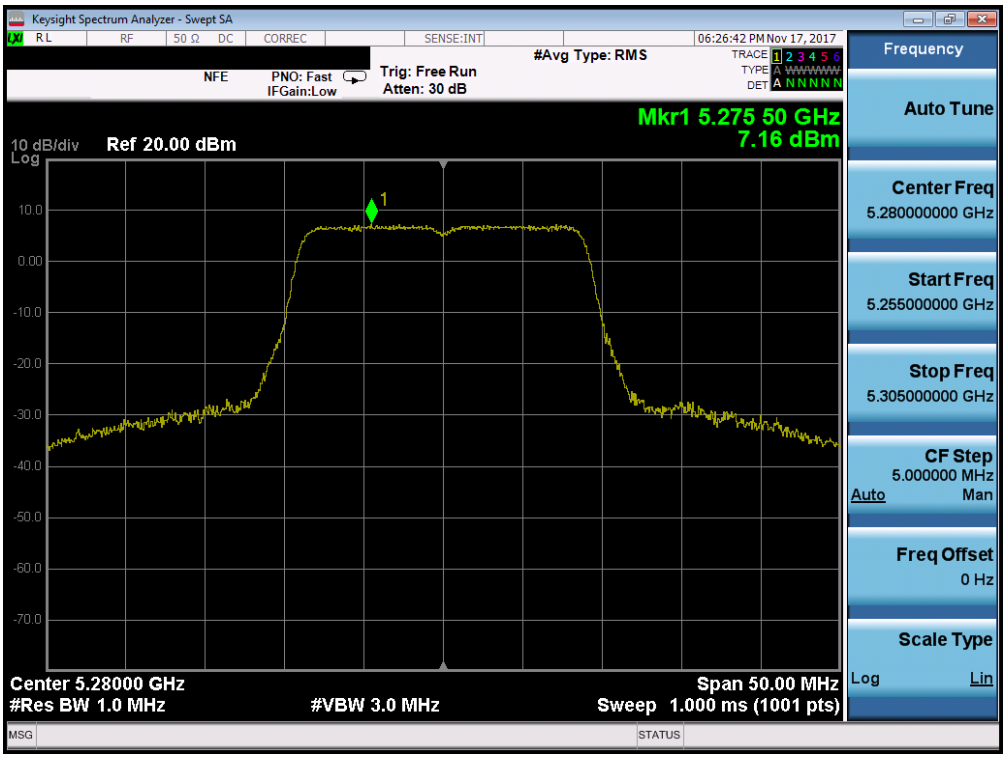
Plot 7-125. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 56)



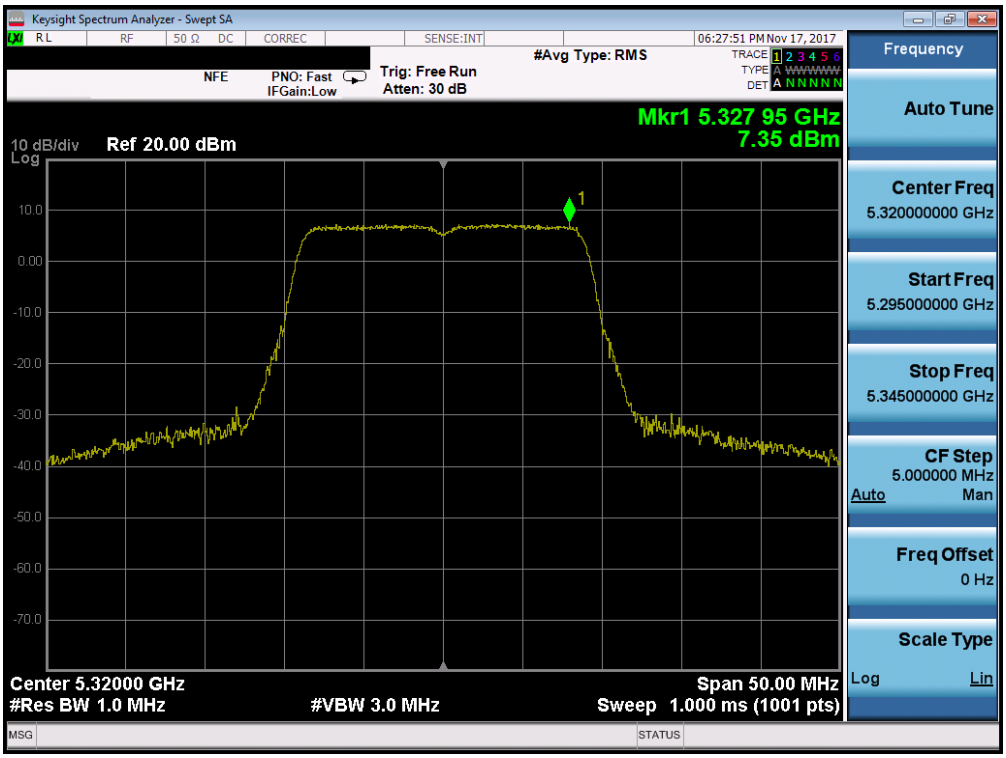
Plot 7-126. Power Spectral Density Plot (802.11a (UNII Band 2A) – Ch. 64)



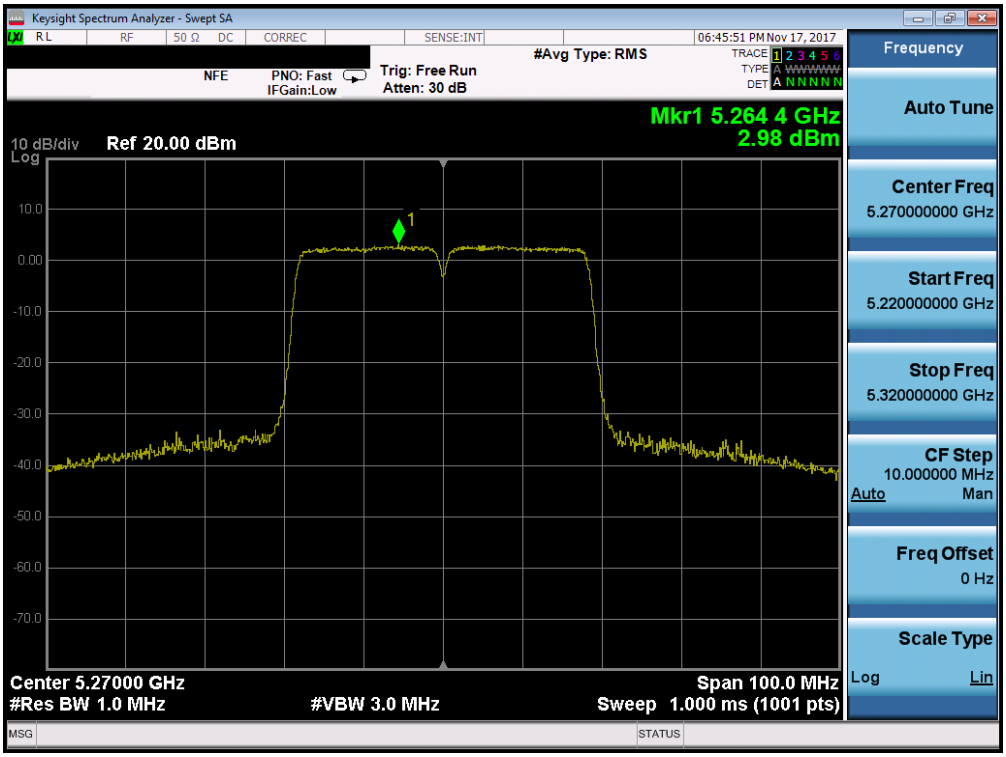
Plot 7-127. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)



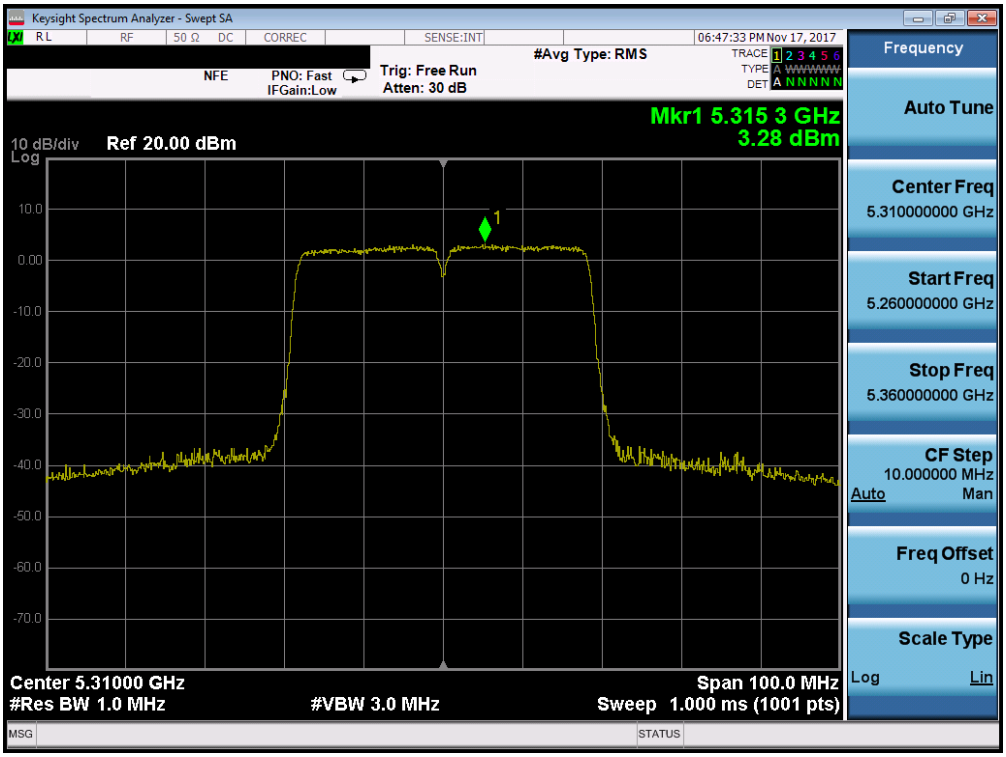
Plot 7-128. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)



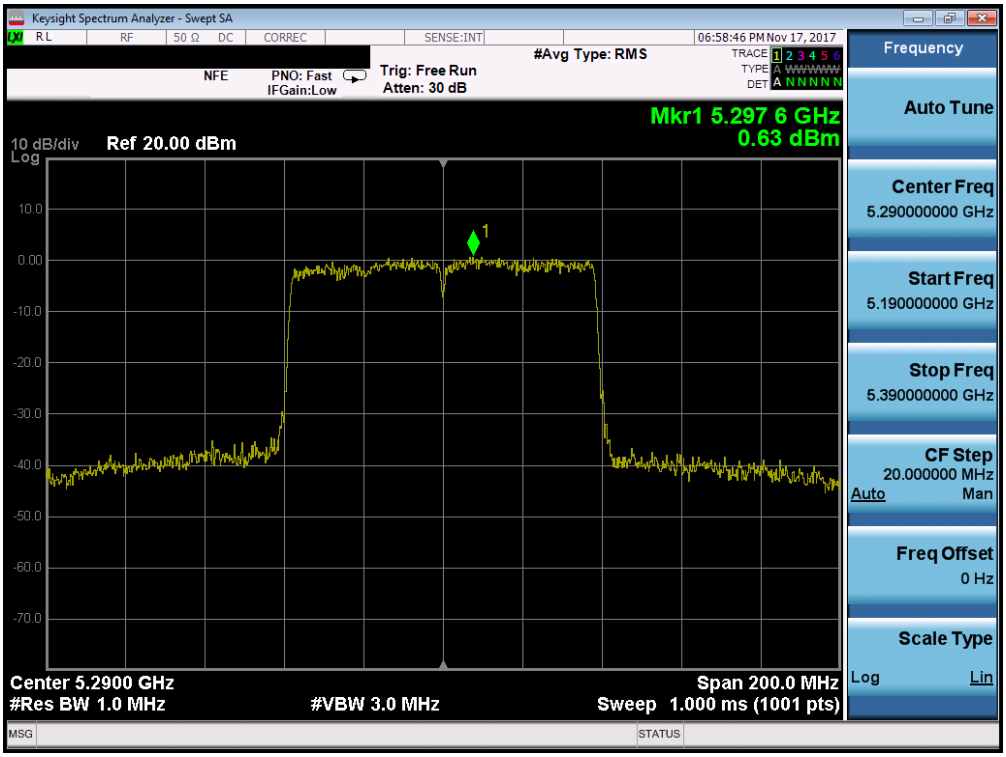
Plot 7-129. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)



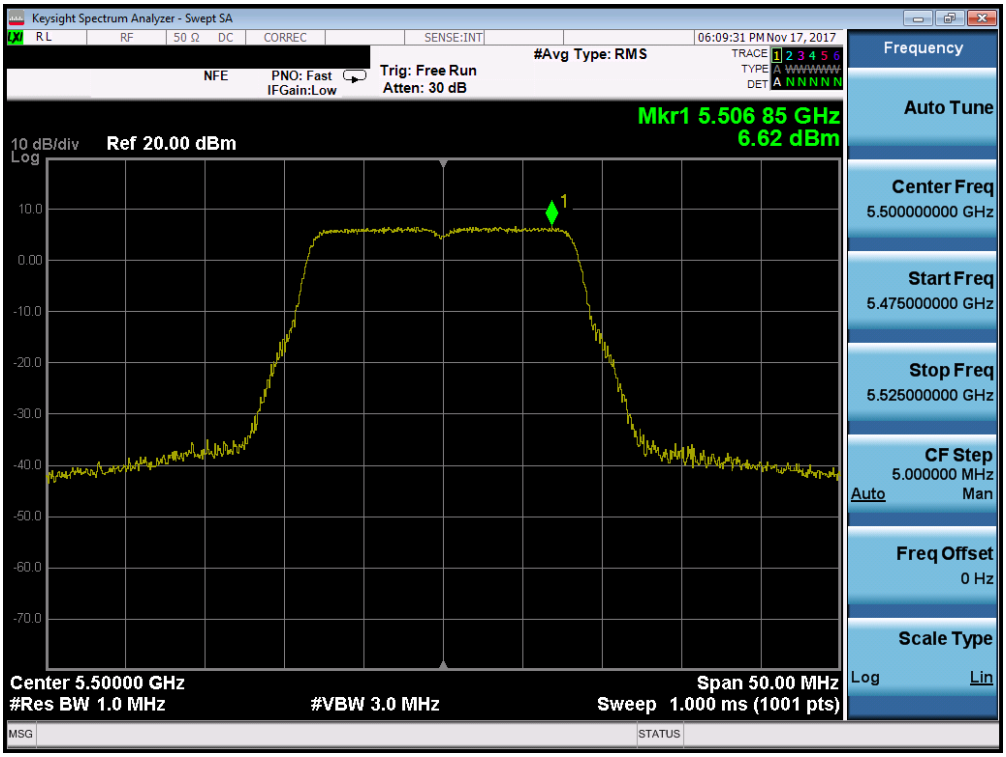
Plot 7-130. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)



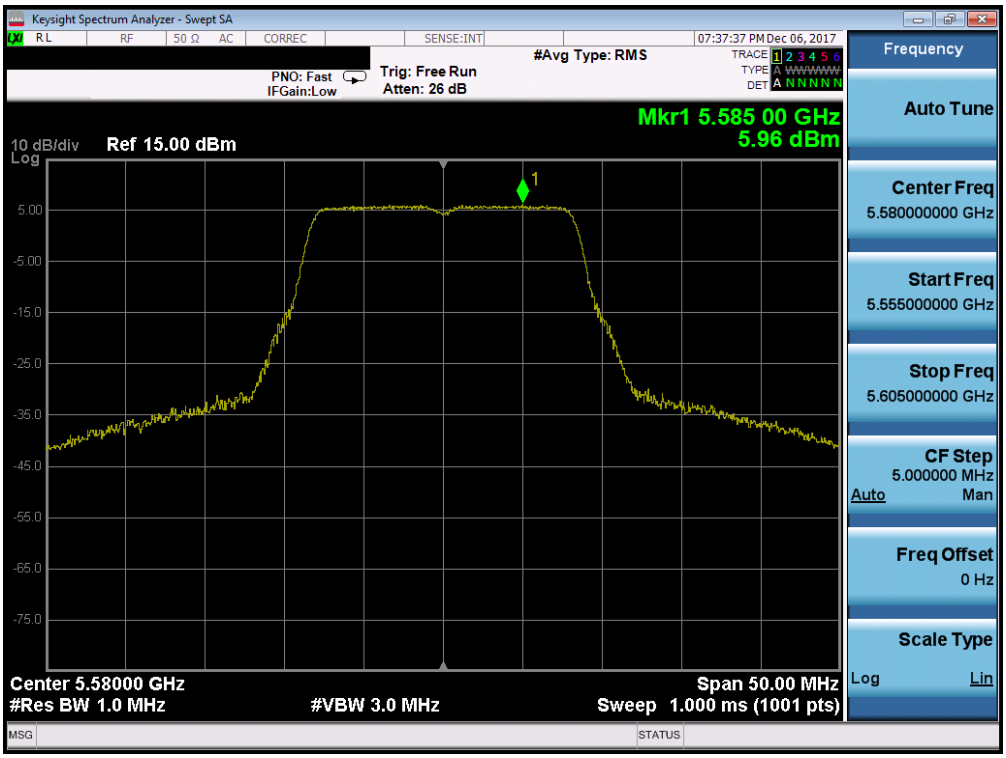
Plot 7-131. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



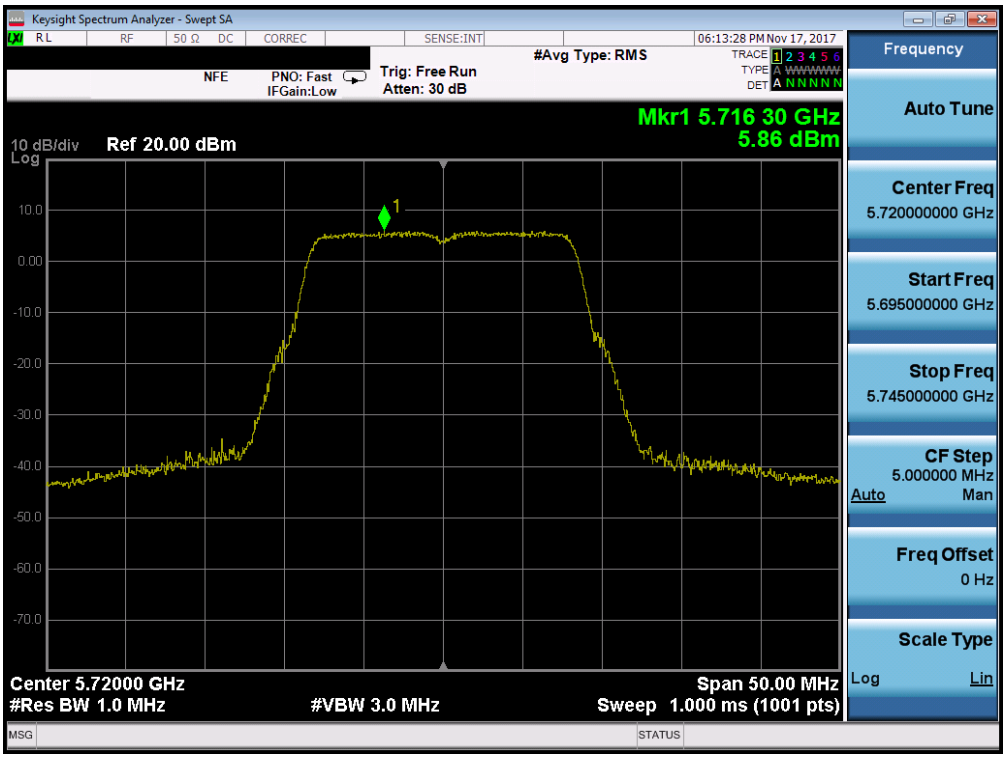
Plot 7-132. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)



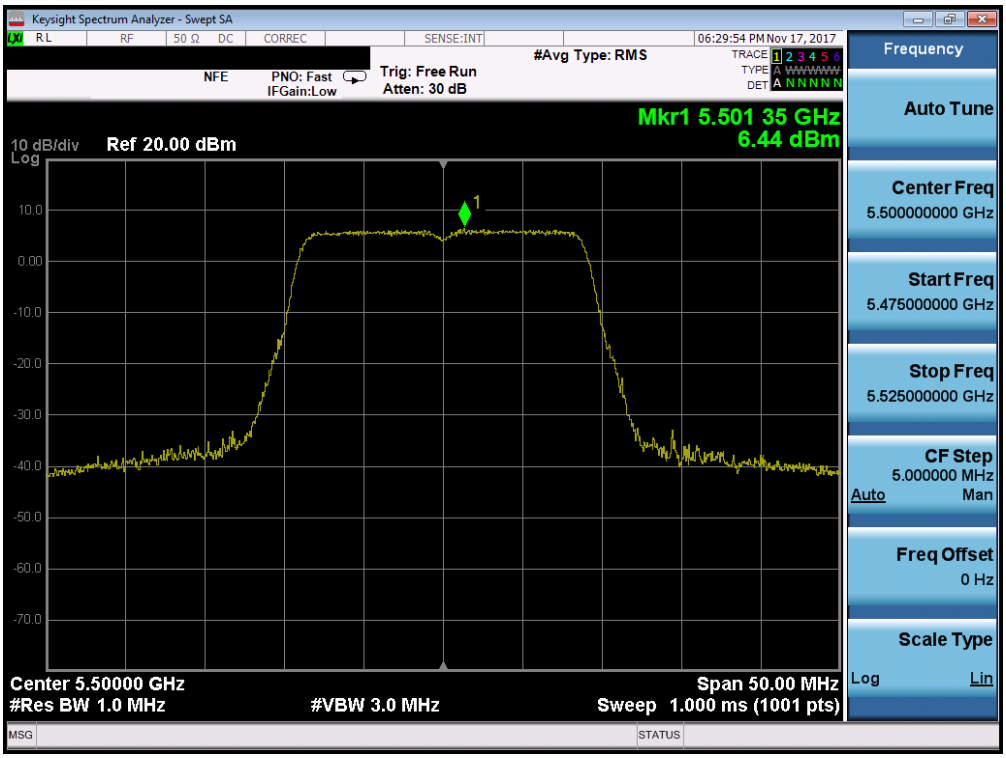
Plot 7-133. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 100)



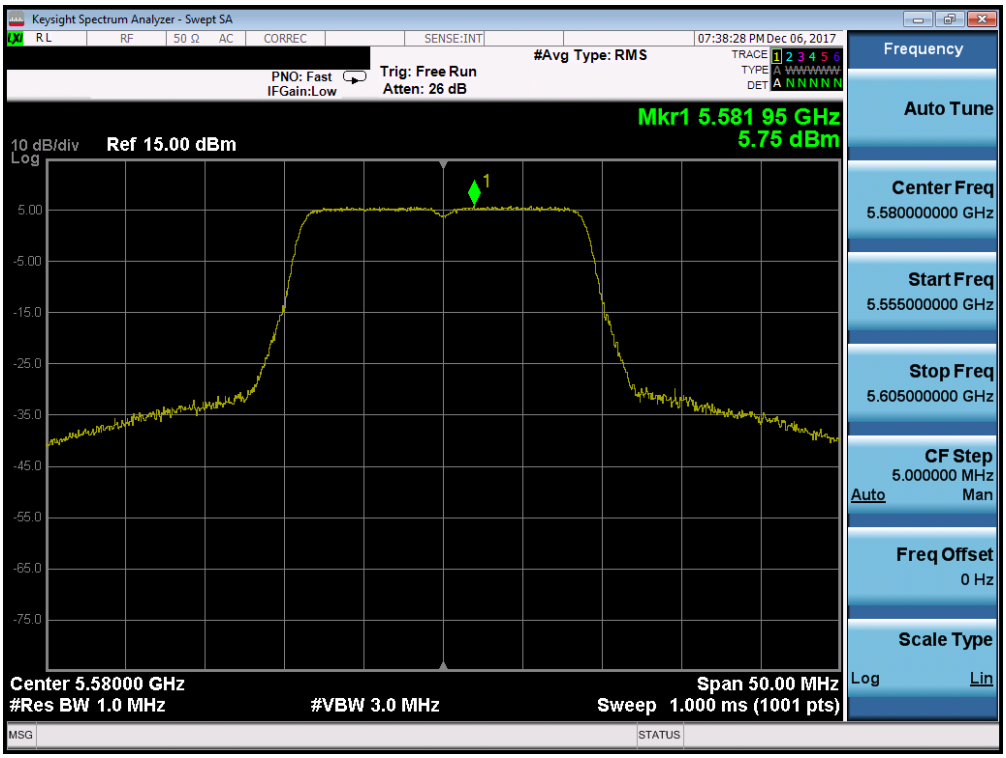
Plot 7-134. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 116)



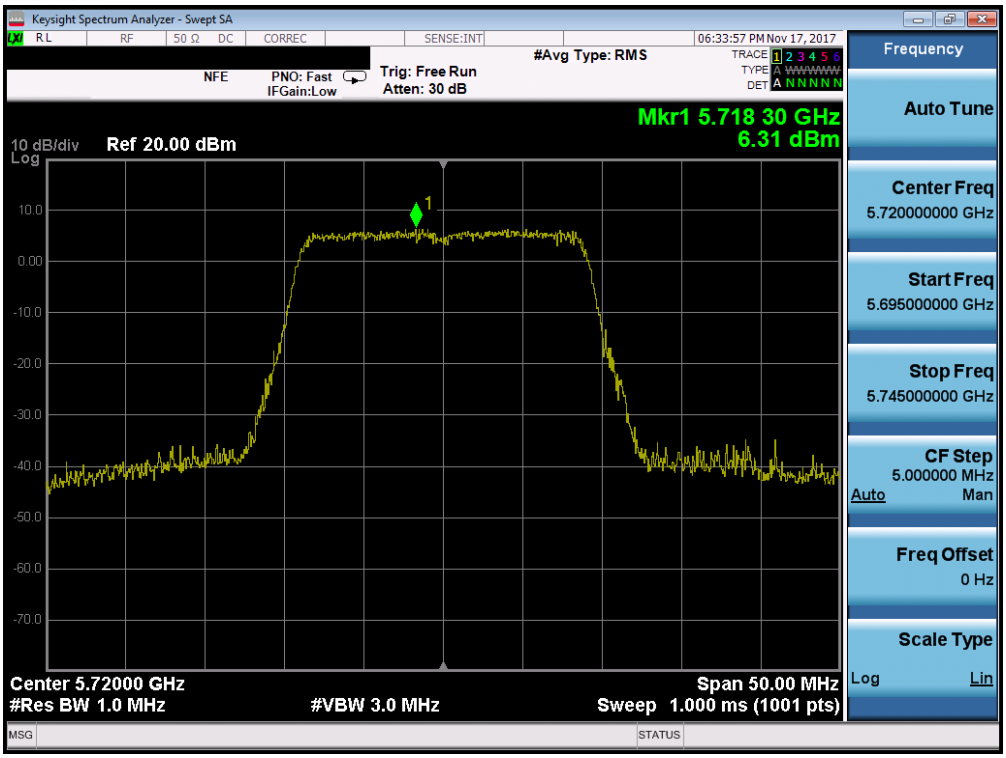
Plot 7-135. Power Spectral Density Plot (802.11a (UNII Band 2C) – Ch. 144)



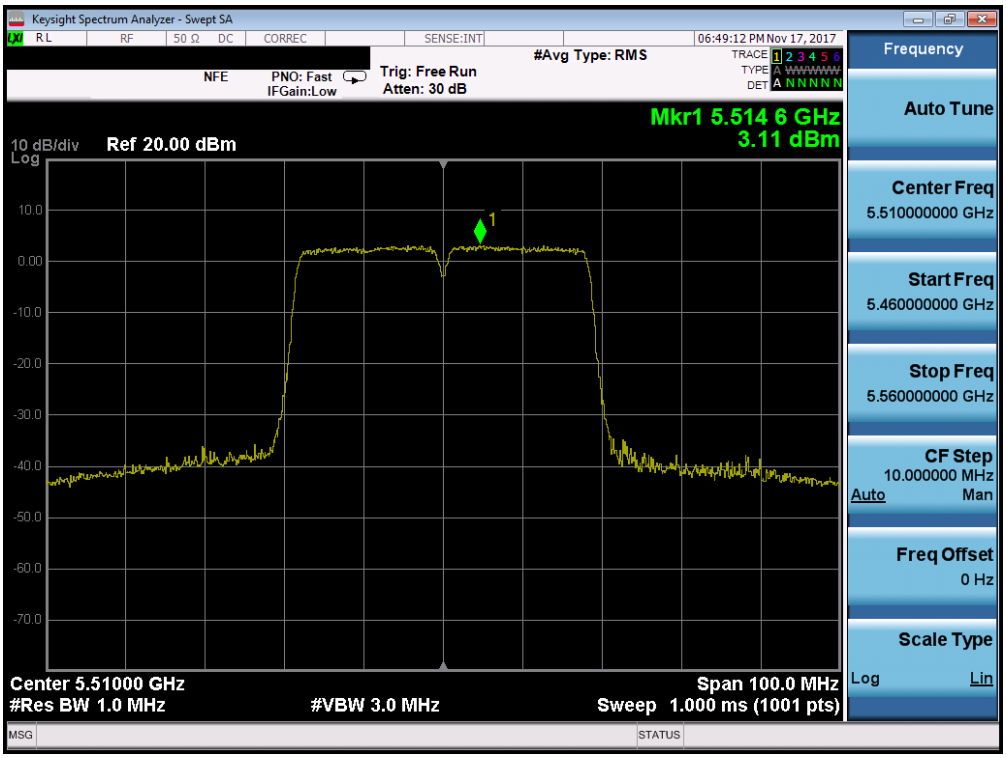
Plot 7-136. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)



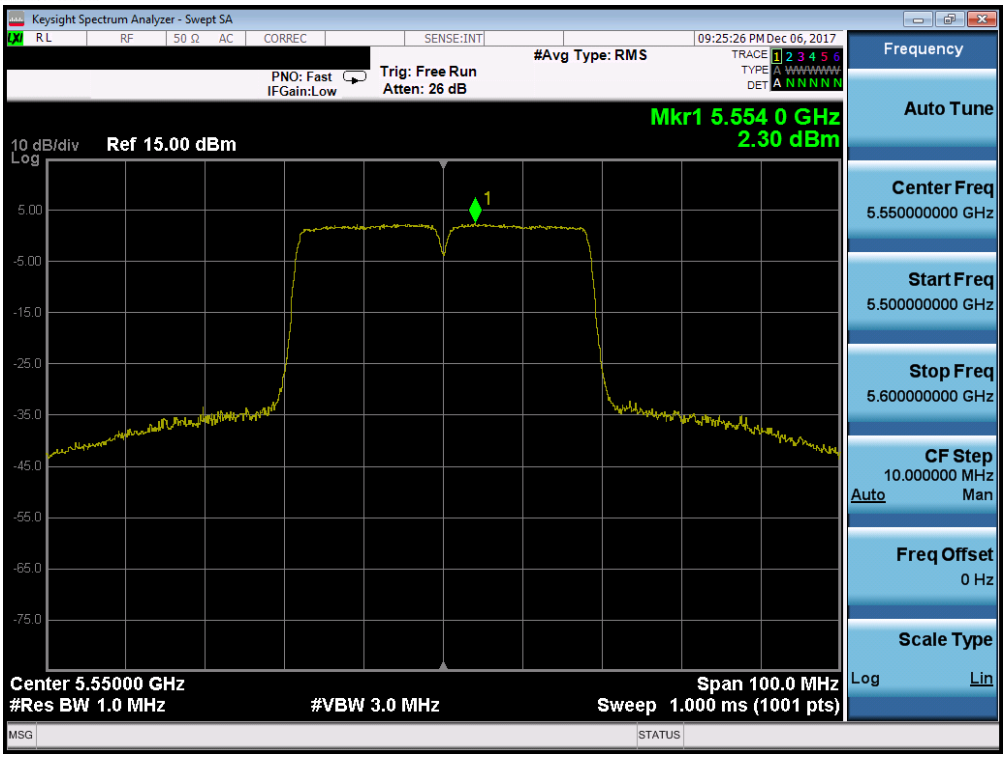
Plot 7-137. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)



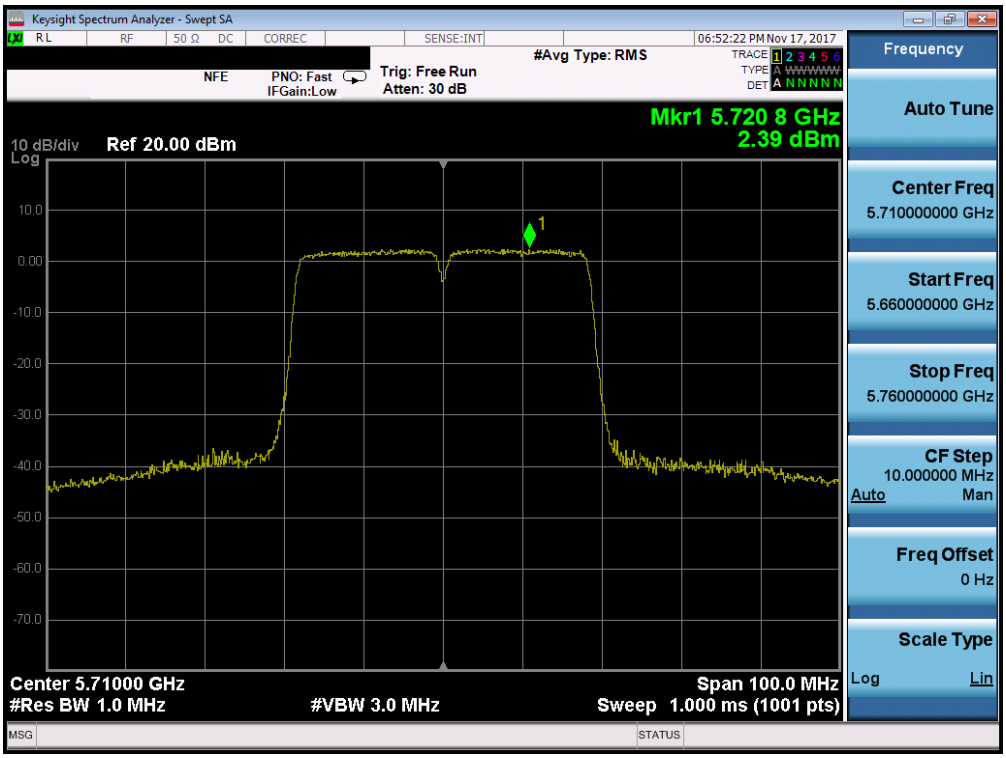
Plot 7-138. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)



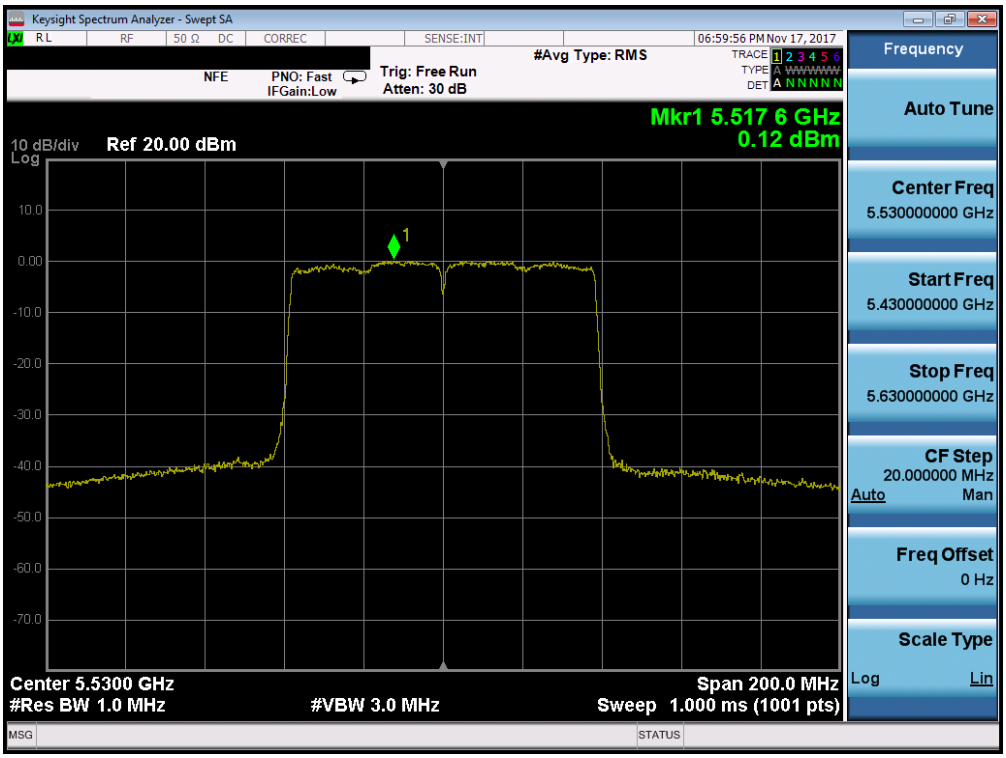
Plot 7-139. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)



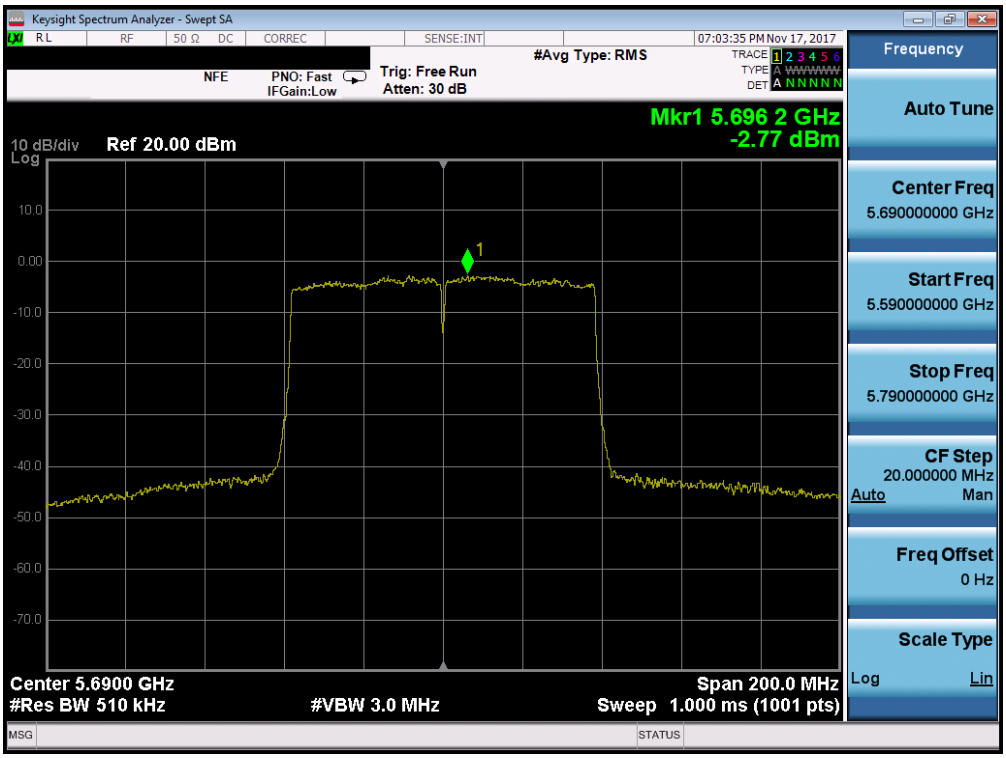
Plot 7-140. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)



Plot 7-141. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)



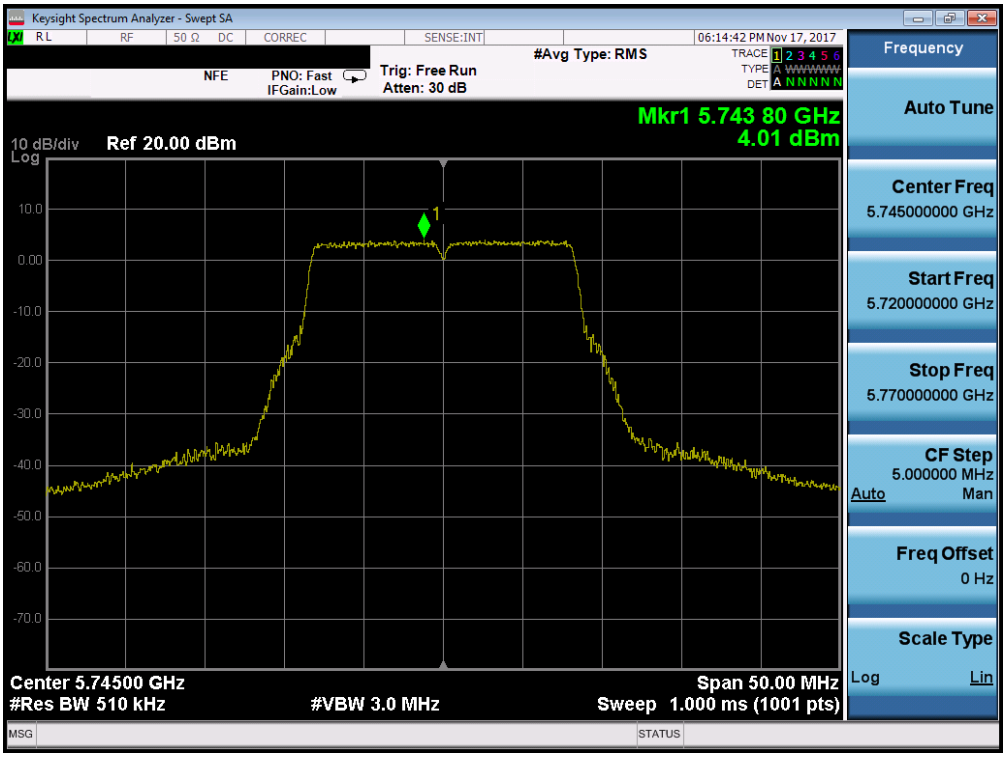
Plot 7-142. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)



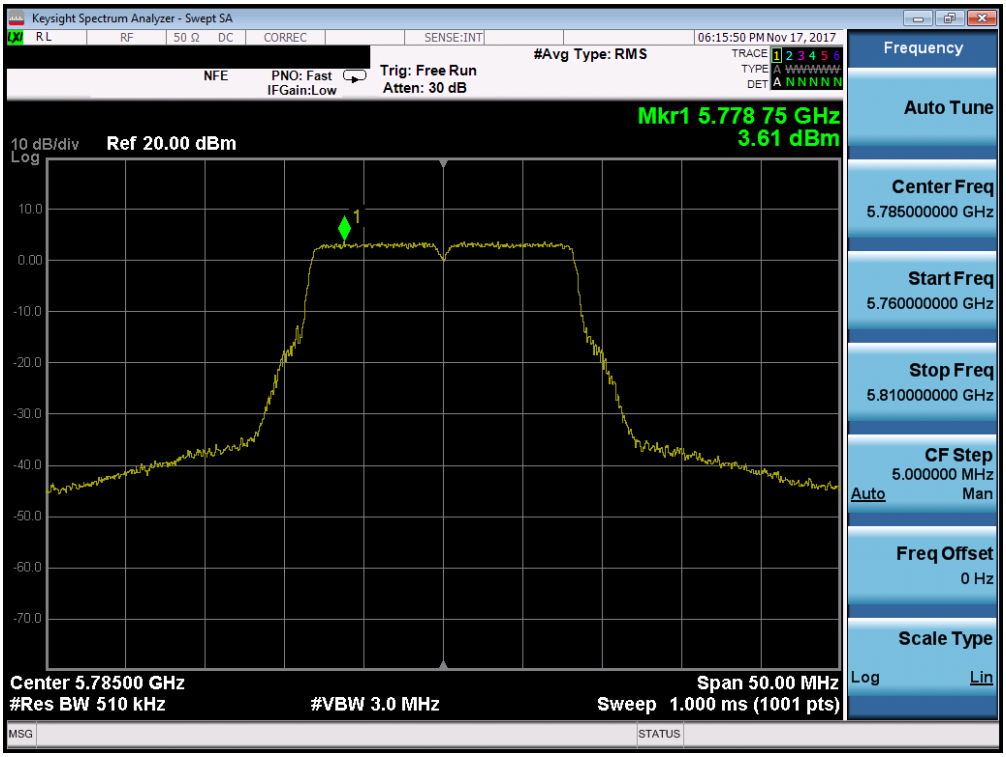
Plot 7-143. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	a	6	4.01	30.0	-25.99
	5785	157	a	6	3.61	30.0	-26.39
	5825	165	a	6	3.61	30.0	-26.40
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	5.14	30.0	-24.86
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	5.12	30.0	-24.88
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	3.83	30.0	-26.18
	5755	151	n (40MHz)	13.5/15 (MCS0)	0.65	30.0	-29.35
	5795	159	n (40MHz)	13.5/15 (MCS0)	0.66	30.0	-29.35
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	0.39	30.0	-29.61

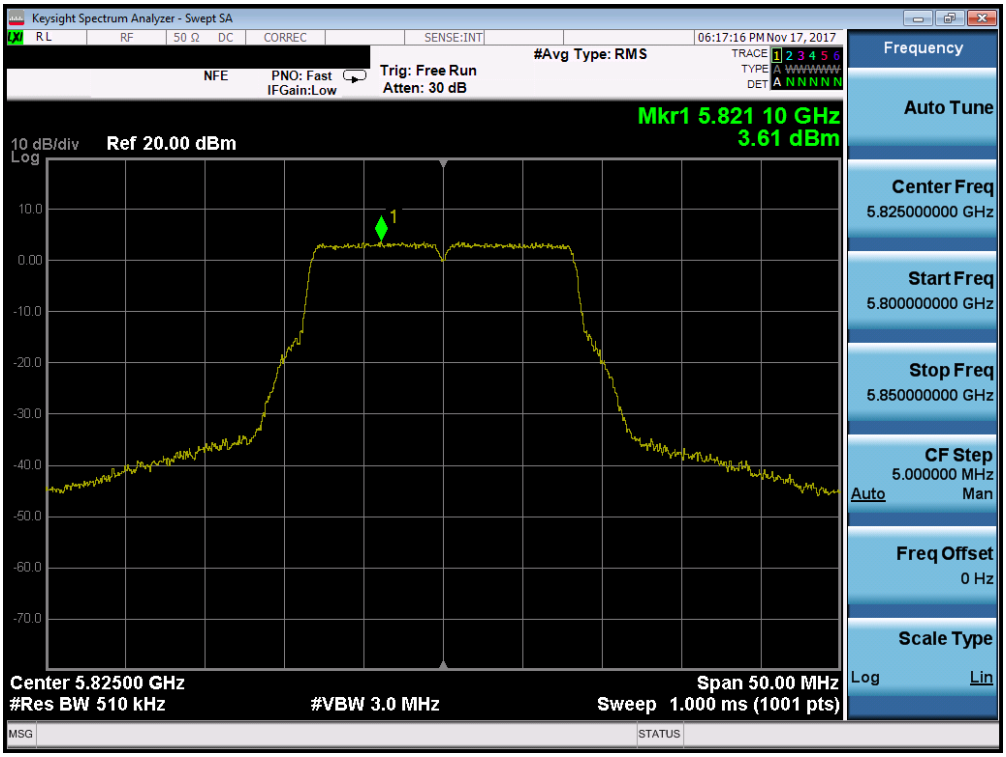
Table 7-23. Band 3 Conducted Power Spectral Density Measurements



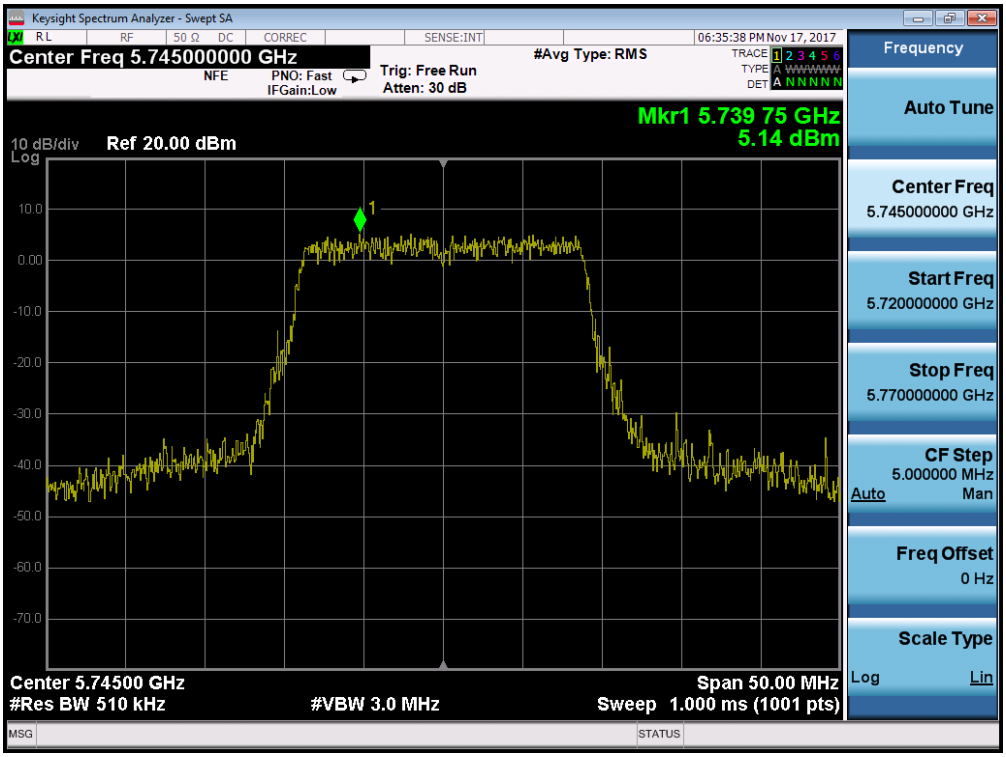
Plot 7-144. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 149)



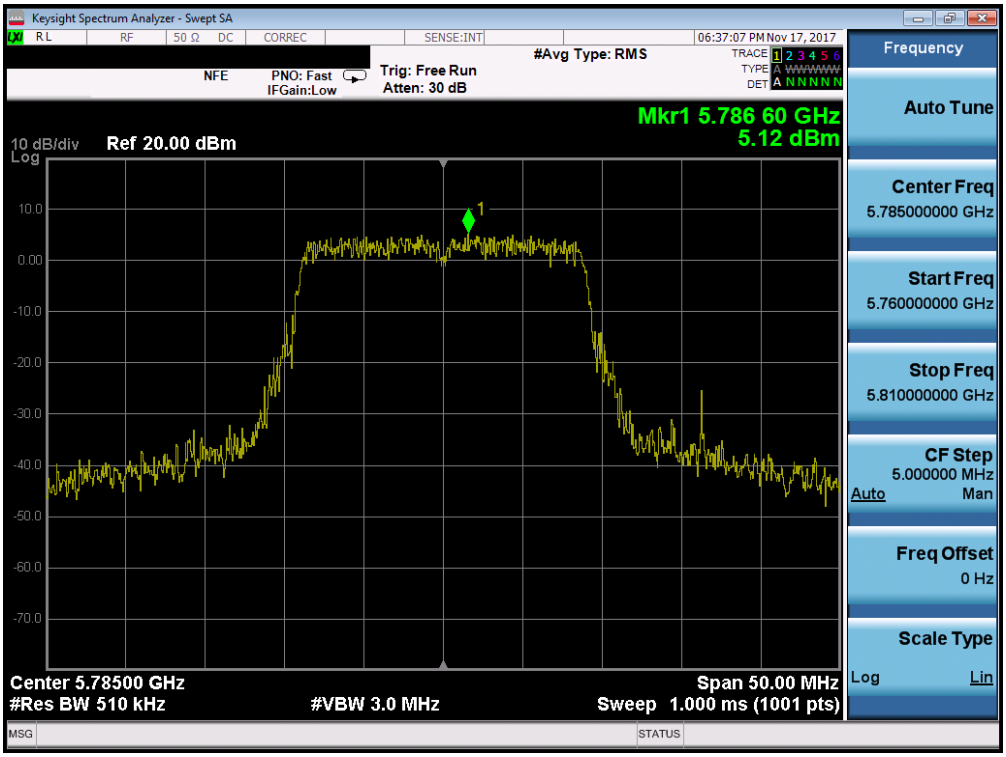
Plot 7-145. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 157)



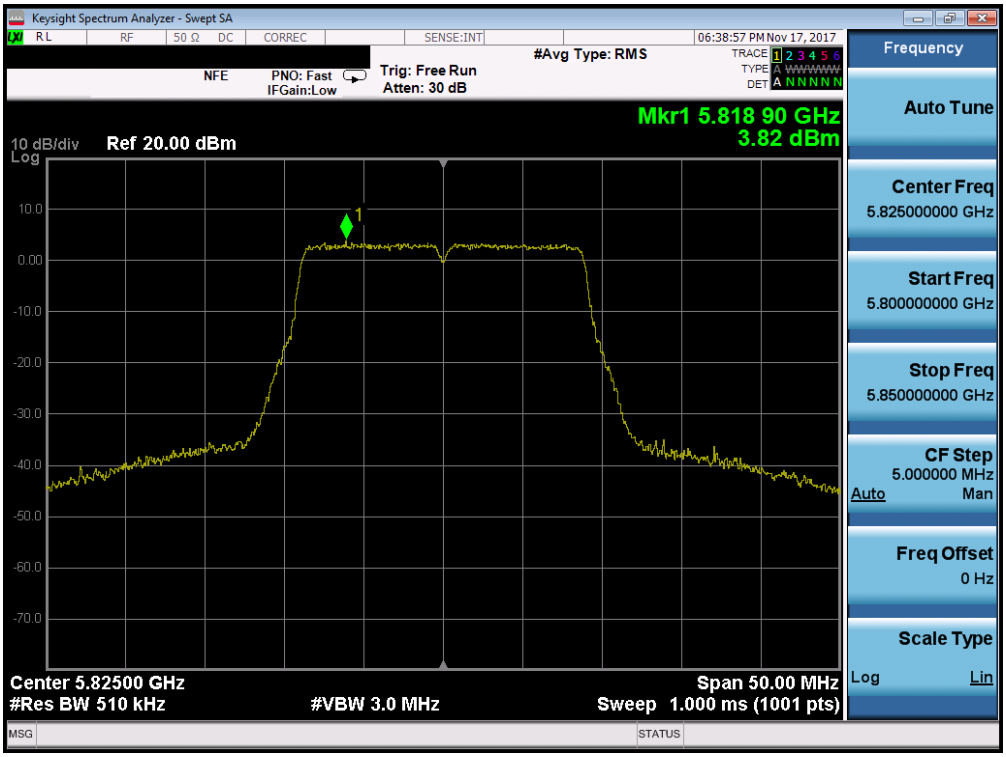
Plot 7-146. Power Spectral Density Plot (802.11a (UNII Band 3) – Ch. 165)



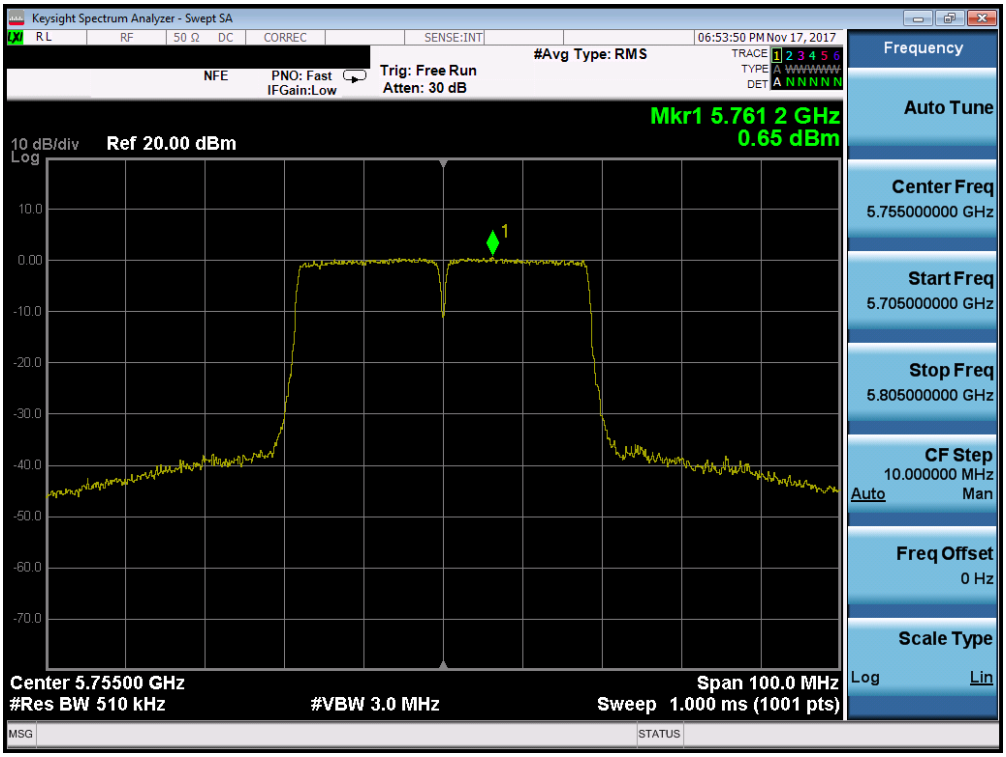
Plot 7-147. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 149)



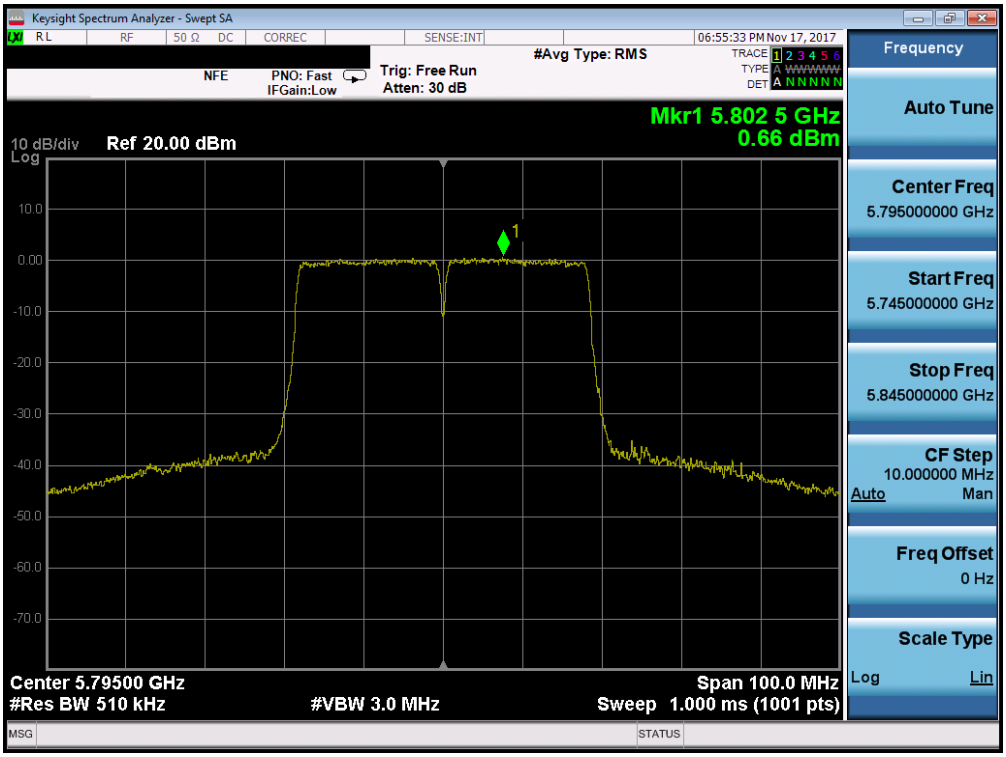
Plot 7-148. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 157)



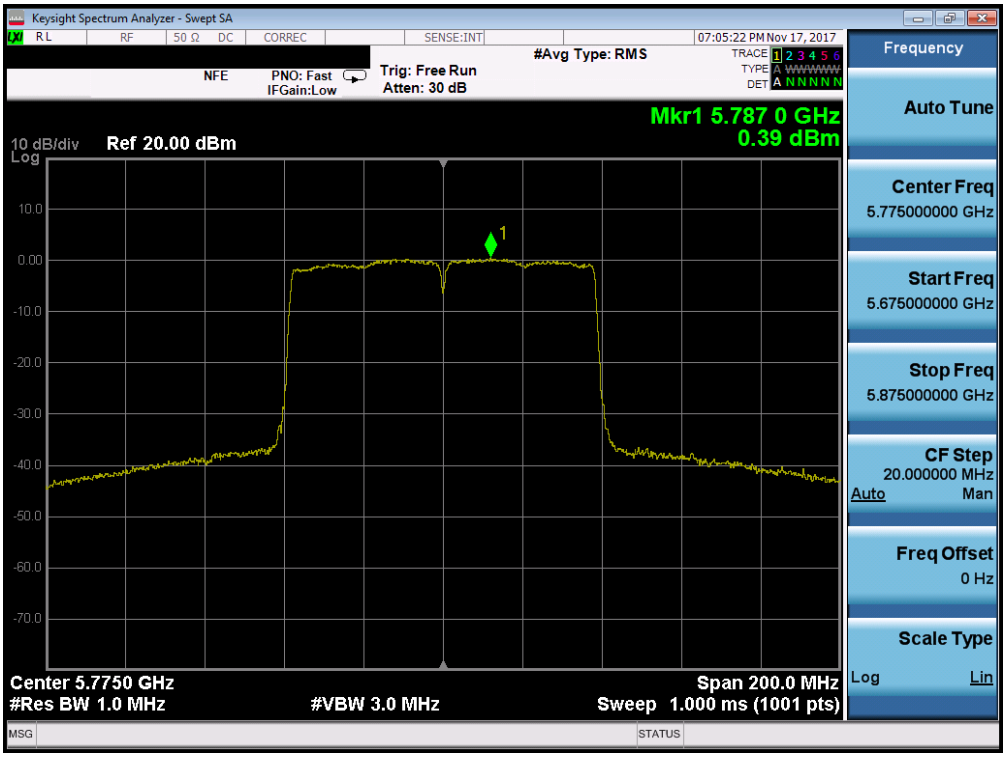
Plot 7-149. Power Spectral Density Plot (20MHz BW 802.11n (UNII Band 3) – Ch. 165)



Plot 7-150. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 151)



Plot 7-151. Power Spectral Density Plot (40MHz BW 802.11n (UNII Band 3) – Ch. 159)



Plot 7-152. Power Spectral Density Plot (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

Summed MIMO Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	a	6.5/7.2 (MCS0)	5.01	7.02	9.14	11.0	-1.86
	5200	40	a	6.5/7.2 (MCS0)	4.95	7.52	9.44	11.0	-1.56
	5240	48	a	6.5/7.2 (MCS0)	5.67	7.46	9.67	11.0	-1.33
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	4.35	6.74	8.72	11.0	-2.28
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	5.15	7.04	9.21	11.0	-1.79
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	4.71	7.41	9.28	11.0	-1.72
	5190	38	n (40MHz)	13.5/15 (MCS0)	2.03	3.86	6.05	11.0	-4.95
	5230	46	n (40MHz)	13.5/15 (MCS0)	1.44	4.16	6.02	11.0	-4.98
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-1.56	1.18	3.03	11.0	-7.97
Band 2A	5260	52	a	6.5/7.2 (MCS0)	5.26	7.17	9.33	11.0	-1.67
	5280	56	a	6.5/7.2 (MCS0)	5.18	7.57	9.55	11.0	-1.45
	5320	64	a	6.5/7.2 (MCS0)	5.10	7.74	9.63	11.0	-1.37
	5260	52	n (20MHz)	6.5/7.2 (MCS0)	5.72	7.47	9.69	11.0	-1.31
	5280	56	n (20MHz)	6.5/7.2 (MCS0)	5.07	7.16	9.25	11.0	-1.75
	5320	64	n (20MHz)	6.5/7.2 (MCS0)	4.46	7.35	9.15	11.0	-1.85
	5270	54	n (40MHz)	13.5/15 (MCS0)	1.42	2.98	5.28	11.0	-5.72
	5310	62	n (40MHz)	13.5/15 (MCS0)	0.63	3.28	5.16	11.0	-5.84
	5290	58	ac (80MHz)	29.3/32.5 (MCS0)	-2.17	0.63	2.46	11.0	-8.54
Band 2C	5500	100	a	6.5/7.2 (MCS0)	4.78	6.62	8.81	11.0	-2.19
	5580	116	a	6.5/7.2 (MCS0)	5.83	5.96	8.91	11.0	-2.09
	5720	144	a	6.5/7.2 (MCS0)	3.20	5.86	7.74	11.0	-3.26
	5500	100	n (20MHz)	6.5/7.2 (MCS0)	4.56	6.44	8.61	11.0	-2.39
	5580	116	n (20MHz)	6.5/7.2 (MCS0)	5.51	5.75	8.64	11.0	-2.36
	5720	144	n (20MHz)	6.5/7.2 (MCS0)	3.20	6.31	8.04	11.0	-2.96
	5510	102	n (40MHz)	13.5/15 (MCS0)	0.30	3.11	4.94	11.0	-6.06
	5550	110	n (40MHz)	13.5/15 (MCS0)	2.25	2.30	5.29	11.0	-5.71
	5710	142	n (40MHz)	13.5/15 (MCS0)	0.47	2.39	4.54	11.0	-6.46
	5530	106	ac (80MHz)	29.3/32.5 (MCS0)	-2.72	0.12	1.94	11.0	-9.06
	5690	138	ac (80MHz)	29.3/32.5 (MCS0)	-6.24	-2.77	-1.16	11.0	-12.16

Table 7-24. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Directional Antenna Gain [dBi]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
Band 1	5180	36	a	6.5/7.2 (MCS0)	-4.63	5.01	7.02	9.14	4.51	10.0	-5.49
	5200	40	a	6.5/7.2 (MCS0)	-4.63	4.95	7.52	9.44	4.81	10.0	-5.19
	5240	48	a	6.5/7.2 (MCS0)	-4.32	5.67	7.46	9.67	5.35	10.0	-4.65
	5180	36	n (20MHz)	6.5/7.2 (MCS0)	-4.63	4.35	6.74	8.72	4.09	10.0	-5.91
	5200	40	n (20MHz)	6.5/7.2 (MCS0)	-4.63	5.15	7.04	9.21	4.58	10.0	-5.42
	5240	48	n (20MHz)	6.5/7.2 (MCS0)	-4.32	4.71	7.41	9.28	4.96	10.0	-5.04
	5190	38	n (40MHz)	13.5/15 (MCS0)	-4.63	2.03	3.86	6.05	1.42	10.0	-8.58
	5230	46	n (40MHz)	13.5/15 (MCS0)	-4.32	1.44	4.16	6.02	1.70	10.0	-8.30
	5210	42	ac (80MHz)	29.3/32.5 (MCS0)	-4.27	-1.56	1.18	3.03	-1.24	10.0	-11.24

Table 7-25. UNII Bands 1 MIMO e.i.r.p. Power Spectral Density Measurements(ISED)

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Antenna-1 Power Density [dBm]	Antenna-2 Power Density [dBm]	Summed MIMO Power Density [dBm]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	a	6.5/7.2 (MCS0)	0.80	4.01	5.71	30.0	-24.29
	5785	157	a	6.5/7.2 (MCS0)	0.65	3.61	5.39	30.0	-24.61
	5825	165	a	6.5/7.2 (MCS0)	0.26	3.61	5.26	30.0	-24.74
	5745	149	n (20MHz)	6.5/7.2 (MCS0)	0.81	5.14	6.50	30.0	-23.50
	5785	157	n (20MHz)	6.5/7.2 (MCS0)	0.28	5.12	6.35	30.0	-23.65
	5825	165	n (20MHz)	6.5/7.2 (MCS0)	-0.04	3.83	5.32	30.0	-24.68
	5755	151	n (40MHz)	13.5/15 (MCS0)	-1.97	0.65	2.55	30.0	-27.45
	5795	159	n (40MHz)	13.5/15 (MCS0)	-2.67	0.66	2.32	30.0	-27.68
	5775	155	ac (80MHz)	29.3/32.5 (MCS0)	-2.19	0.39	2.30	30.0	-27.70

Table 7-26. Band 3 MIMO Conducted Power Spectral Density Measurements

Note:

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 1 and Antenna 2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Per ANSI C63.10-2013 Section 14.4.3, 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.

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

Sample MIMO Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted power spectral density was measured to be 4.35 dBm for Antenna-1 and 6.74 dBm for Antenna-2.

Antenna 1 + Antenna 2 = MIMO

(4.35 dBm + 6.74 dBm) = (2.72 mW + 4.72 mW) = 7.44 mW = 8.72 dBm

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

At 5180MHz in 802.11n (20MHz BW) mode, the average MIMO power density was calculated to be 8.72 dBm with directional gain of -4.63 dBi.

e.i.r.p. Power Spectral Density (dBm) = Power Spectral Density (dBm) + Ant gain (dBi)

= 8.72 dBm + -4.63 dBi

= 4.09 dBm

7.6 Frequency Stability

§15.407(g); RSS-Gen [6.11]

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

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,179,999,802	-198	-0.0000038
100 %		- 30	5,180,000,029	29	0.0000006
100 %		- 20	5,180,000,254	254	0.0000049
100 %		- 10	5,180,000,387	387	0.0000075
100 %		0	5,180,000,137	137	0.0000026
100 %		+ 10	5,180,000,388	388	0.0000075
100 %		+ 20	5,179,999,742	-258	-0.0000050
100 %		+ 30	5,180,000,205	205	0.0000040
100 %		+ 40	5,180,000,062	62	0.0000012
100 %		+ 50	5,180,000,071	71	0.0000014
BATT. ENDPOINT	3.45	+ 20	5,179,999,902	-98	-0.0000019

Table 7-27. Frequency Stability Measurements for UNII Band 1 (Ch. 36)

Note:

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

Frequency Stability

§15.407(g); RSS-Gen [6.11]

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:	3.85	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,259,999,840	-160	-0.0000030
100 %		- 30	5,259,999,911	-89	-0.0000017
100 %		- 20	5,259,999,957	-43	-0.0000008
100 %		- 10	5,259,999,835	-165	-0.0000031
100 %		0	5,259,999,958	-42	-0.0000008
100 %		+ 10	5,259,999,746	-254	-0.0000048
100 %		+ 20	5,260,000,069	69	0.0000013
100 %		+ 30	5,259,999,984	-16	-0.0000003
100 %		+ 40	5,260,000,002	2	0.0000000
100 %		+ 50	5,259,999,696	-304	-0.0000058
BATT. ENDPOINT	3.45	+ 20	5,260,000,226	226	0.0000043

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); RSS-Gen [6.11]

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:	3.85	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,500,000,363	363	0.0000066
100 %		- 30	5,499,999,950	-50	-0.0000009
100 %		- 20	5,499,999,952	-48	-0.0000009
100 %		- 10	5,500,000,314	314	0.0000057
100 %		0	5,500,000,009	9	0.0000002
100 %		+ 10	5,499,999,856	-144	-0.0000026
100 %		+ 20	5,499,999,949	-51	-0.0000009
100 %		+ 30	5,500,000,107	107	0.0000019
100 %		+ 40	5,500,000,367	367	0.0000067
100 %		+ 50	5,499,999,886	-114	-0.0000021
BATT. ENDPOINT	3.45	+ 20	5,499,999,724	-276	-0.0000050

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.

Frequency Stability

§15.407(g); RSS-Gen [6.11]

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

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	5,745,000,012	12	0.0000002
100 %		- 30	5,745,000,014	14	0.0000002
100 %		- 20	5,745,000,058	58	0.0000010
100 %		- 10	5,744,999,731	-269	-0.0000047
100 %		0	5,744,999,833	-167	-0.0000029
100 %		+ 10	5,745,000,218	218	0.0000038
100 %		+ 20	5,744,999,908	-92	-0.0000016
100 %		+ 30	5,745,000,168	168	0.0000029
100 %		+ 40	5,744,999,935	-65	-0.0000011
100 %		+ 50	5,745,000,010	10	0.0000002
BATT. ENDPOINT	3.45	+ 20	5,745,000,088	88	0.0000015

Table 7-30. Frequency Stability Measurements for UNII Band 3 (Ch. 149)

Note:

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

7.7 Radiated Spurious Emission Measurements – Above 1GHz

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

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

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

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

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

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-31 per Section 15.209 and RSS-Gen (8.9).

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

Table 7-31. Radiated Limits

Test Procedures Used

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5
KDB 789033 D02 v02 – 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.

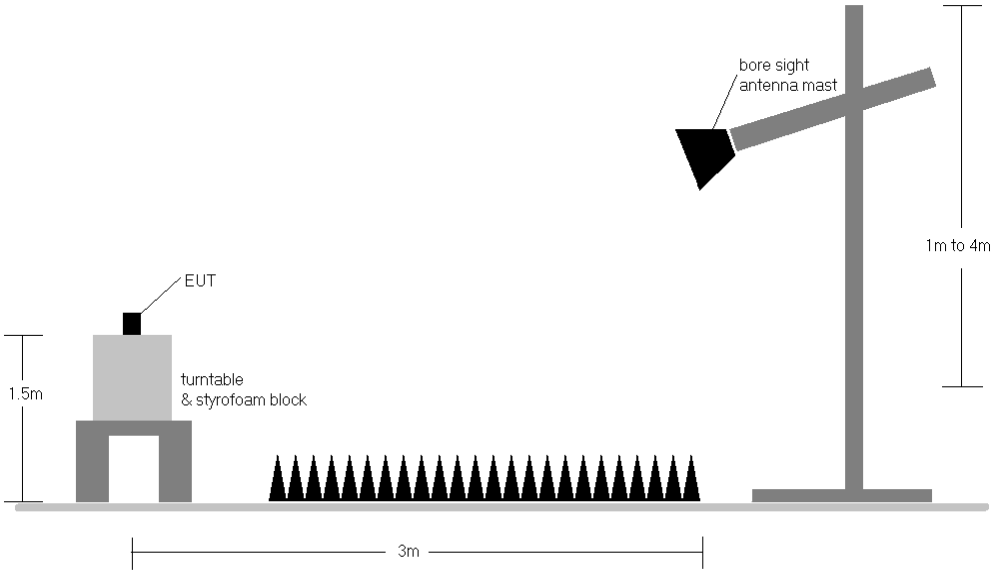


Figure 7-5. Test Instrument & Measurement Setup

Test Notes

1. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-31.
2. All spurious emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-31. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
6. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. 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.
8. 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.
9. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

Sample Calculations

Determining Spurious Emissions Levels

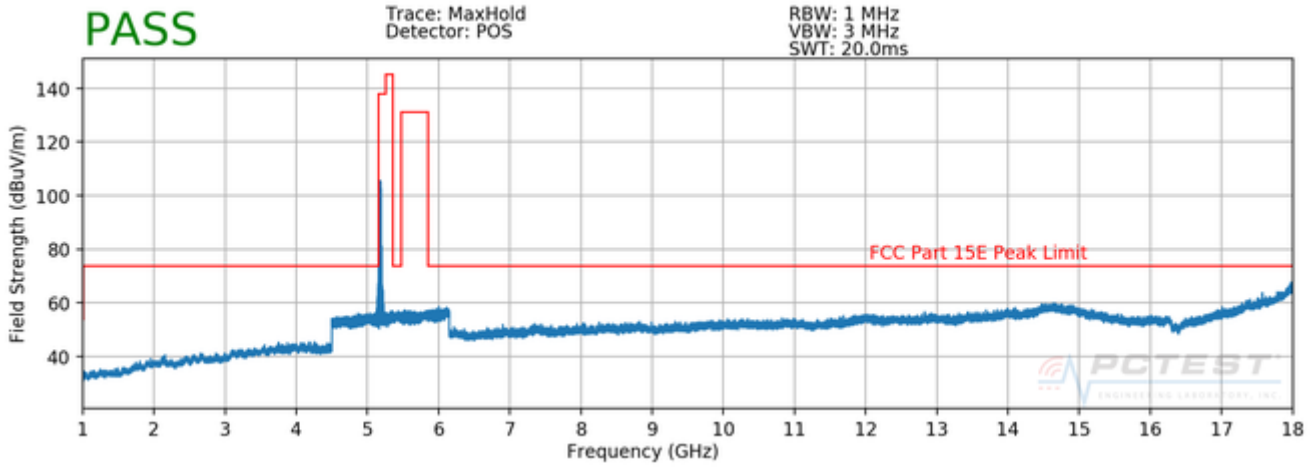
- Field Strength Level $_{[dB\mu V/m]}$ = Analyzer Level $_{[dBm]}$ + 107 + AFCL $_{[dB/m]}$
- AFCL $_{[dB/m]}$ = Antenna Factor $_{[dB/m]}$ + Cable Loss $_{[dB]}$
- Margin $_{[dB]}$ = Field Strength Level $_{[dB\mu V/m]}$ – Limit $_{[dB\mu V/m]}$

Radiated Band Edge Measurement Offset

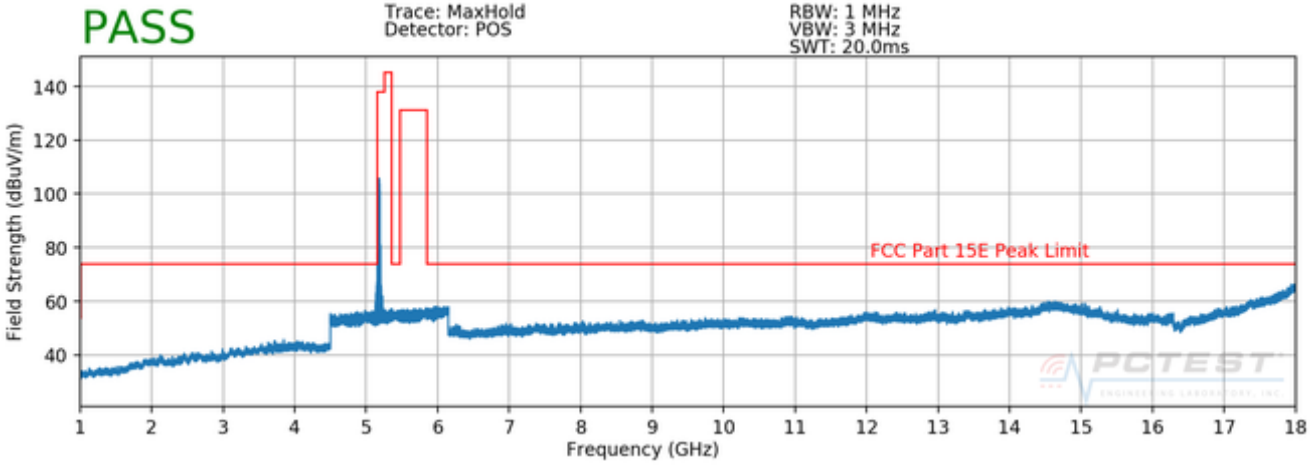
- The amplitude offset shown in the radiated restricted band edge plots in Section 7.7 was calculated using the formula:

  Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

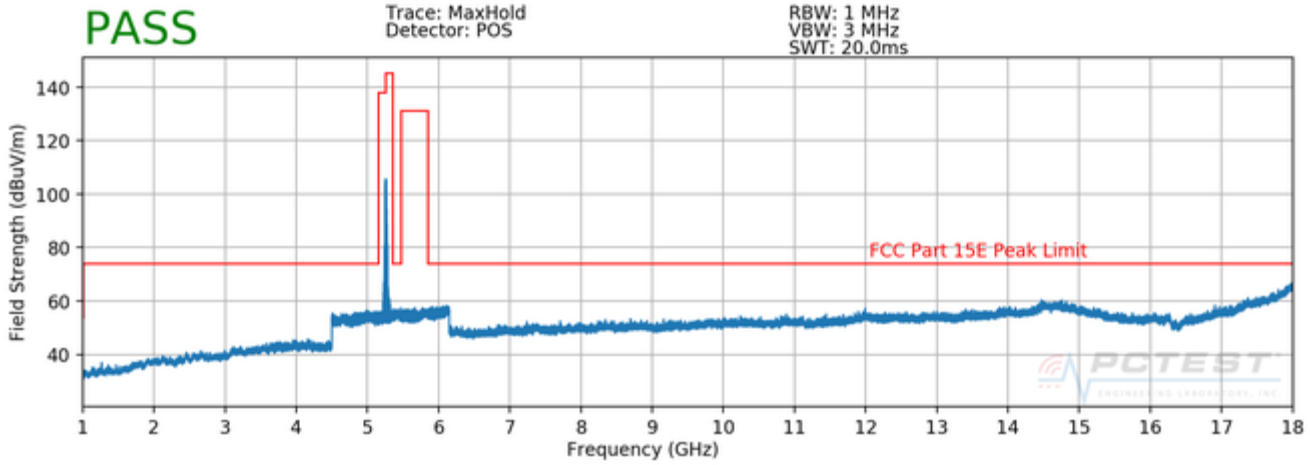
7.7.1 Antenna-1 Radiated Spurious Emission Measurements



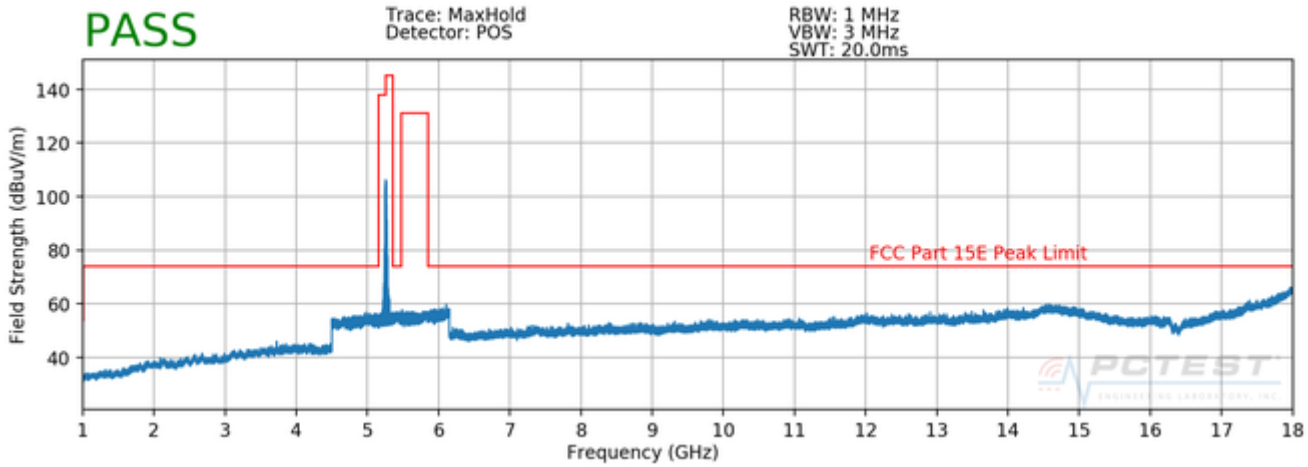
Plot 7-153. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. H)



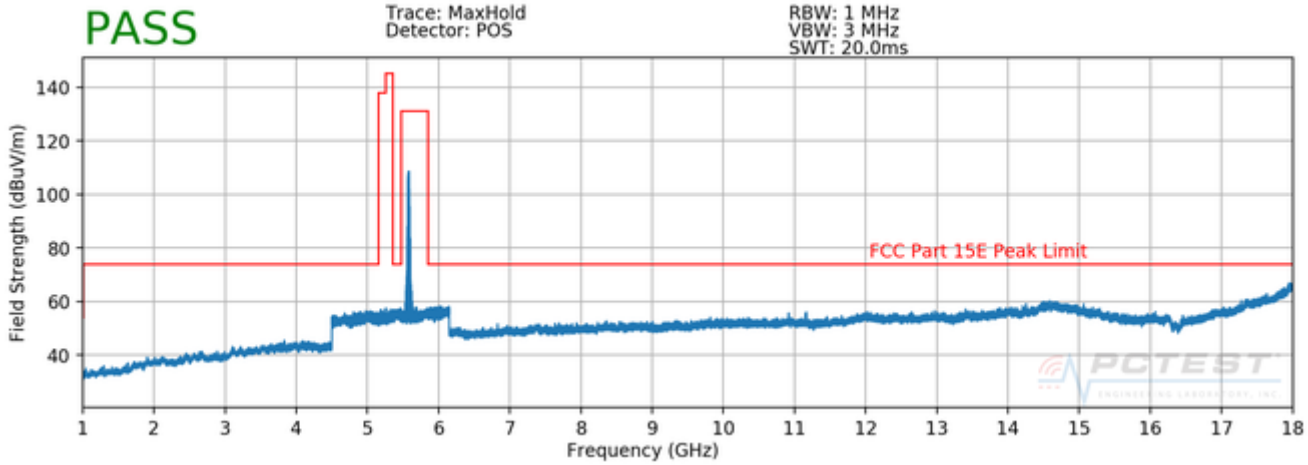
Plot 7-154. Radiated Spurious Plot above 1GHz (802.11a – U1 Ch. 40, Ant. Pol. V)



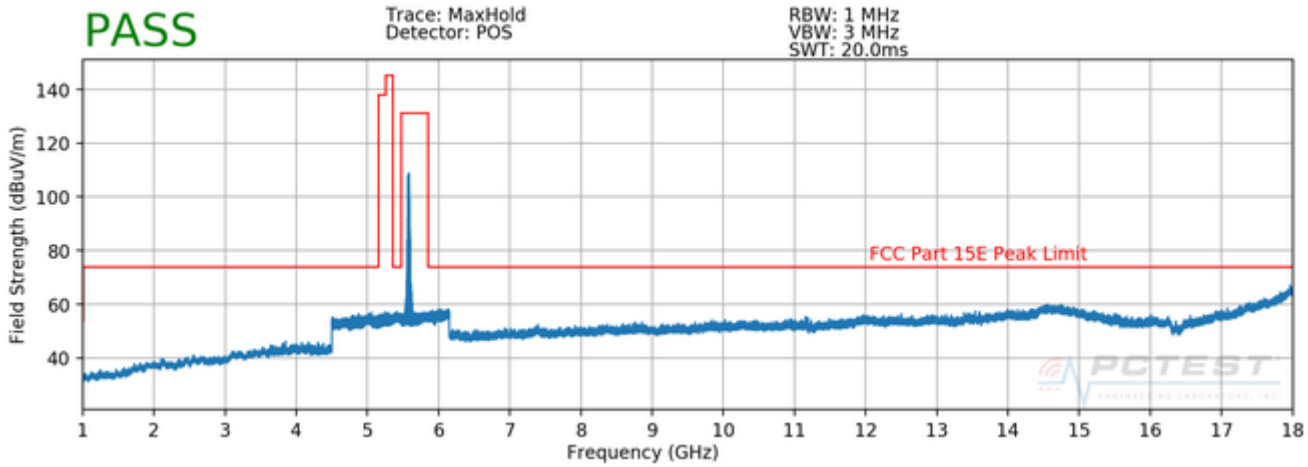
Plot 7-155. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. H)



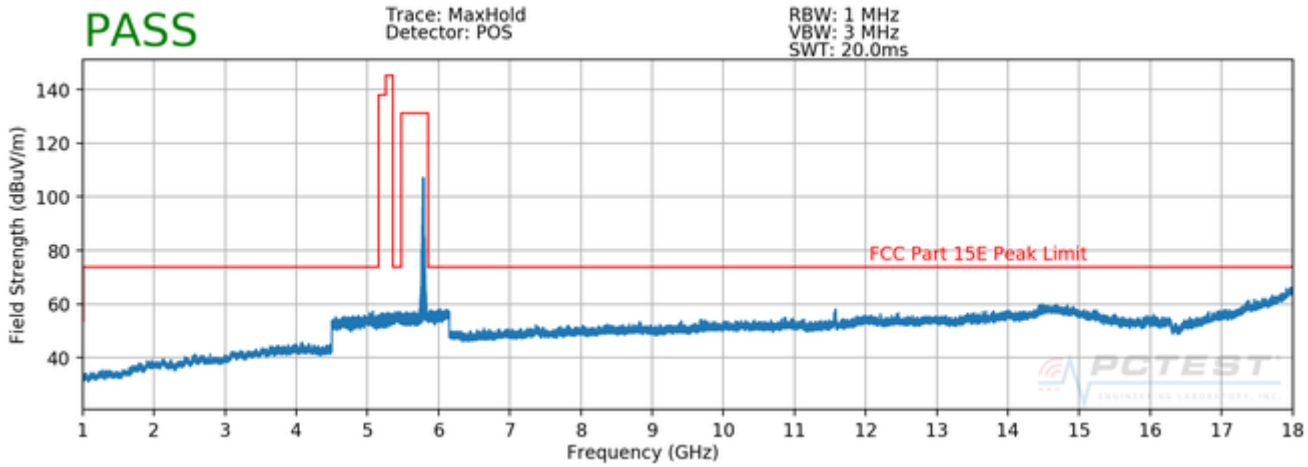
Plot 7-156. Radiated Spurious Plot above 1GHz (802.11a – U2A Ch. 56, Ant. Pol. V)



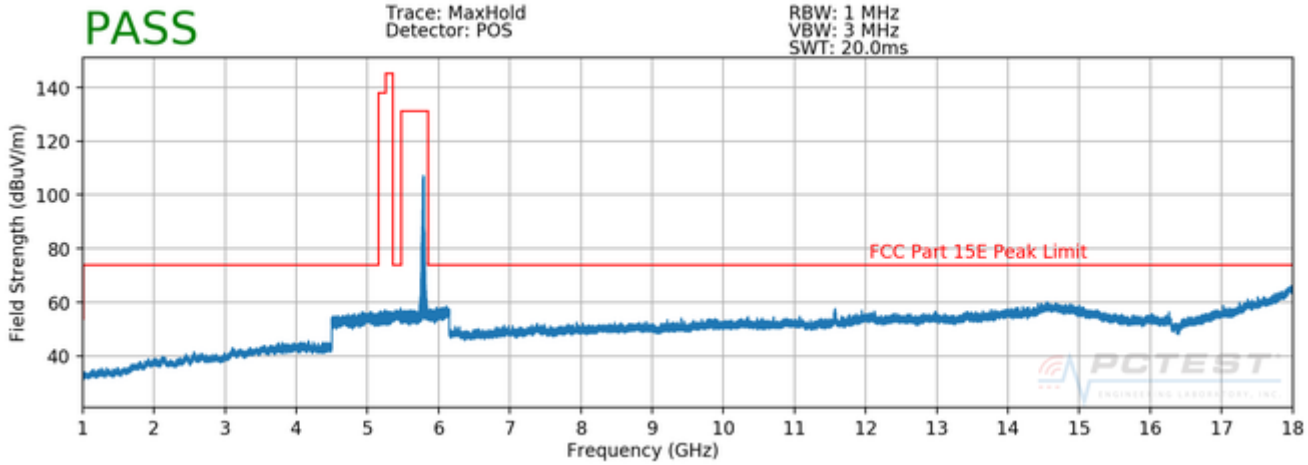
Plot 7-157. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 116, Ant. Pol. H)



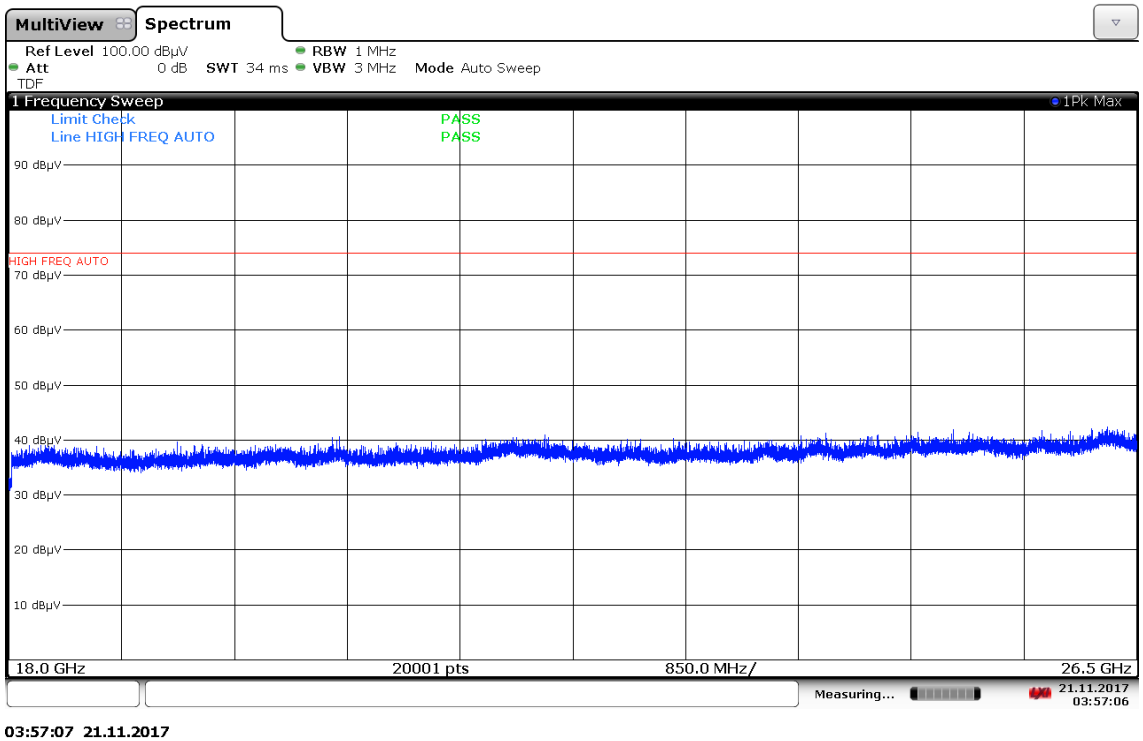
Plot 7-158. Radiated Spurious Plot above 1GHz (802.11a – U2C Ch. 116, Ant. Pol. V)



Plot 7-159. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. H)

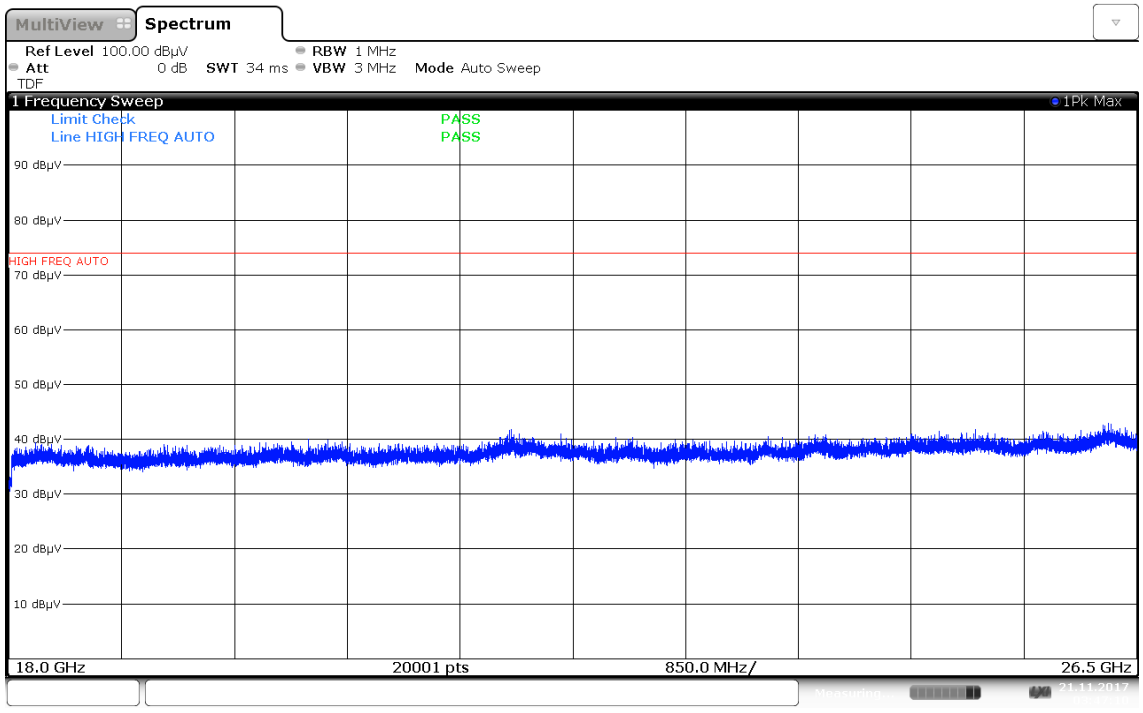


Plot 7-160. Radiated Spurious Plot above 1GHz (802.11a – U3 Ch. 157, Ant. Pol. V)



03:57:07 21.11.2017

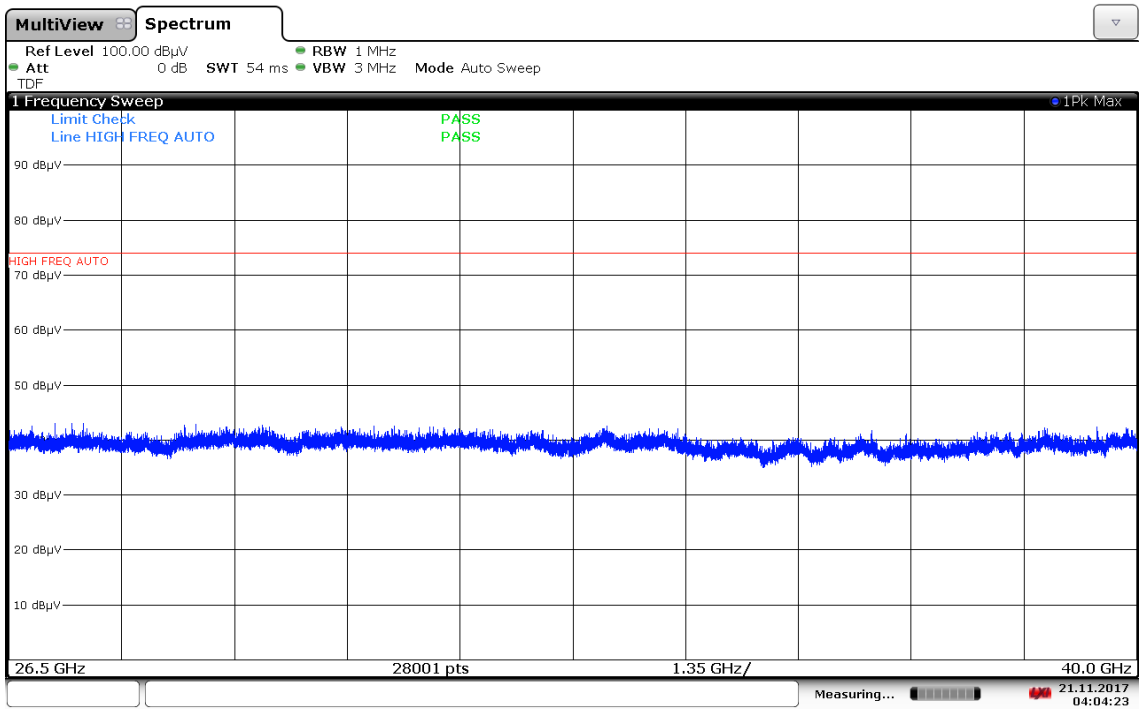
Plot 7-161. Radiated Spurious Plot 18GHz - 26.5GHz (802.11a – Ant. Pol. H)



03:47:10 21.11.2017

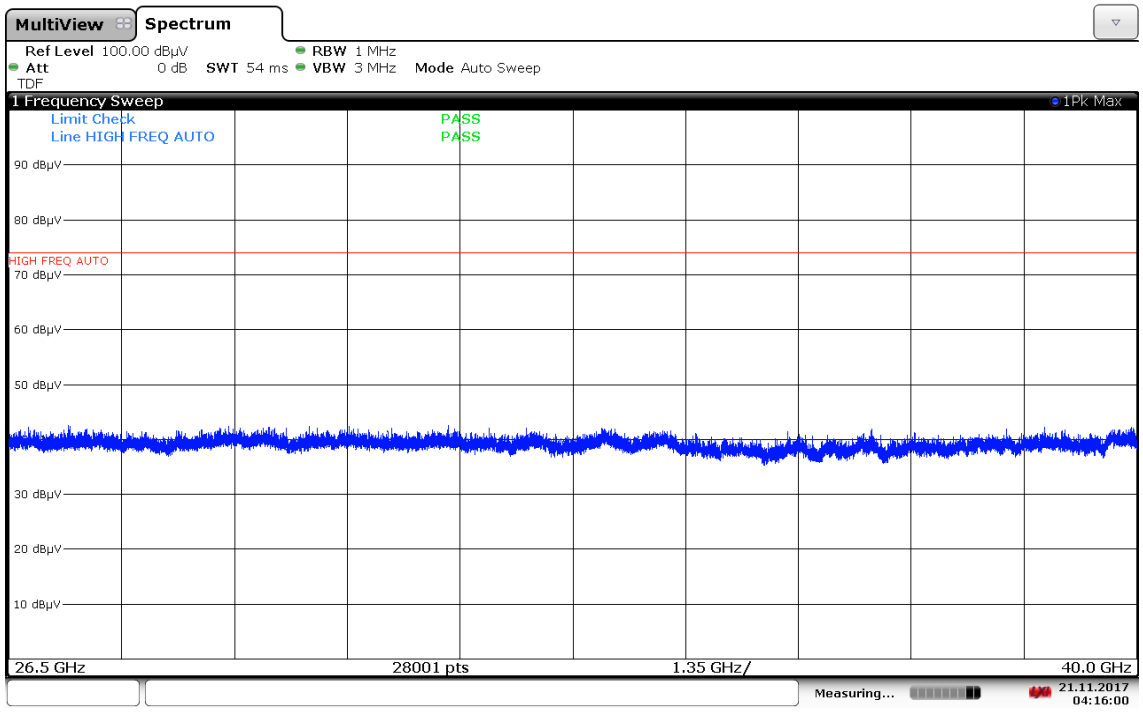
Plot 7-162. Radiated Spurious Plot above 18GHz - 26.5GHz (802.11a – Ant. Pol. V)

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



04:04:24 21.11.2017

Plot 7-163. Radiated Spurious Plot 26.5GHz - 40GHz (802.11a – Ant. Pol. H)



04:16:01 21.11.2017

Plot 7-164. Radiated Spurious Plot above 26.5GHz - 40GHz (802.11a – Ant. Pol. V)

Antenna-1 Radiated Spurious Emission Measurements

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

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	1 Meter
Operating Frequency:	5180MHz
Channel:	36

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10360.00	Peak	H	100	3	-60.00	12.13	-9.54	49.59	68.20	-18.61
*	15540.00	Average	H	100	282	-65.21	14.49	-9.54	46.74	53.98	-7.24
*	15540.00	Peak	H	100	282	-51.24	14.49	-9.54	60.71	73.98	-13.27
*	20720.00	Average	H	-	-	-72.32	7.94	-9.54	33.08	53.98	-20.90
*	20720.00	Peak	H	-	-	-60.61	7.94	-9.54	44.79	73.98	-29.19
	25900.00	Peak	H	-	-	-56.82	8.46	-9.54	49.10	68.20	-19.10

Table 7-32. Radiated Measurements

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	H	100	3	-60.70	12.12	-9.54	48.88	68.20	-19.32
*	15600.00	Average	H	100	387	-64.11	14.31	-9.54	47.66	53.98	-6.32
*	15600.00	Peak	H	100	387	-50.20	14.31	-9.54	61.57	73.98	-12.41
*	20800.00	Average	H	-	-	-72.06	7.95	-9.54	33.35	53.98	-20.63
*	20800.00	Peak	H	-	-	-60.06	7.95	-9.54	45.35	73.98	-28.63
	26000.00	Peak	H	-	-	-58.07	8.60	-9.54	47.99	68.20	-20.21

Table 7-33. Radiated Measurements

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	Peak	H	100	254	-59.23	12.09	-9.54	50.32	68.20	-17.88
*	15720.00	Average	H	100	16	-68.34	14.02	-9.54	43.14	53.98	-10.84
*	15720.00	Peak	H	100	16	-55.70	14.02	-9.54	55.78	73.98	-18.20
*	20960.00	Average	H	-	-	-72.16	7.91	-9.54	33.21	53.98	-20.77
*	20960.00	Peak	H	-	-	-60.15	7.91	-9.54	45.22	73.98	-28.76
	26200.00	Peak	H	-	-	-57.39	8.62	-9.54	48.69	68.20	-19.51

Table 7-34. Radiated Measurements

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	H	100	242	-60.47	12.12	-9.54	49.11	68.20	-19.09
*	15600.00	Average	H	100	230	-70.57	14.31	-9.54	41.20	53.98	-12.78
*	15600.00	Peak	H	100	230	-57.63	14.31	-9.54	54.14	73.98	-19.84
*	20800.00	Average	H	-	-	-71.63	7.95	-9.54	33.78	53.98	-20.20
*	20800.00	Peak	H	-	-	-60.92	7.95	-9.54	44.49	73.98	-29.49
	26000.00	Peak	H	-	-	-56.75	8.60	-9.54	49.31	68.20	-18.89

Table 7-35. Radiated Measurements with WCP

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	H	100	84	-68.15	12.16	-9.54	41.47	68.20	-26.73
*	15780.00	Average	H	100	285	-69.93	14.03	-9.54	41.56	53.98	-12.42
*	15780.00	Peak	H	100	285	-58.30	14.03	-9.54	53.19	73.98	-20.79
*	21040.00	Average	H	-	-	-71.77	7.92	-9.54	33.61	53.98	-20.37
*	21040.00	Peak	H	-	-	-59.40	7.92	-9.54	45.98	73.98	-28.00
	26300.00	Peak	H	-	-	-56.42	8.73	-9.54	49.77	68.20	-18.43

Table 7-36. Radiated Measurements

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	Peak	H	100	246	-57.66	12.04	-9.54	51.84	68.20	-16.36
*	15840.00	Average	H	100	100	-69.26	14.25	-9.54	42.44	53.98	-11.54
*	15840.00	Peak	H	100	100	-58.17	14.25	-9.54	53.53	73.98	-20.45
*	21120.00	Average	H	-	-	-71.22	7.96	-9.54	34.20	53.98	-19.78
*	21120.00	Peak	H	-	-	-60.21	7.96	-9.54	45.21	73.98	-28.77
	26400.00	Peak	H	-	-	-57.08	8.94	-9.54	49.32	68.20	-18.88

Table 7-37. Radiated Measurements

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	Average	H	100	248	-69.56	12.06	-9.54	39.96	53.98	-14.02
*	10640.00	Peak	H	100	248	-58.83	12.06	-9.54	50.69	73.98	-23.29
*	15960.00	Average	H	100	266	-69.07	14.55	-9.54	42.94	53.98	-11.04
*	15960.00	Peak	H	100	266	-58.00	14.55	-9.54	54.01	73.98	-19.97
*	21280.00	Average	H	-	-	-70.67	8.04	-9.54	34.83	53.98	-19.15
*	21280.00	Peak	H	-	-	-58.94	8.04	-9.54	46.56	73.98	-27.42
	26600.00	Peak	H	-	-	-47.54	-8.30	-9.54	41.61	68.20	-26.59

Table 7-38. Radiated Measurements

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	Average	H	100	233	-71.13	12.06	-9.54	38.39	53.98	-15.59
*	10640.00	Peak	H	100	233	-58.90	12.06	-9.54	50.62	73.98	-23.36
*	15960.00	Average	H	100	202	-71.51	14.55	-9.54	40.50	53.98	-13.48
*	15960.00	Peak	H	100	202	-60.27	14.55	-9.54	51.74	73.98	-22.24
*	21280.00	Average	H	-	-	-71.00	8.04	-9.54	34.50	53.98	-19.48
*	21280.00	Peak	H	-	-	-59.59	8.04	-9.54	45.91	73.98	-28.07
	26600.00	Peak	H	-	-	-47.13	-8.30	-9.54	42.02	68.20	-26.18

Table 7-39. Radiated Measurements with WCP

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	H	100	263	-70.18	12.87	-9.54	40.15	53.98	-13.83
*	11000.00	Peak	H	100	263	-57.95	12.87	-9.54	52.38	73.98	-21.60
	16500.00	Peak	H	100	304	-58.74	16.61	-9.54	55.33	68.20	-12.87
	22000.00	Peak	H	-	-	-58.41	8.43	-9.54	47.47	68.20	-20.73
	27500.00	Peak	H	-	-	-45.82	-8.80	-9.54	42.84	68.20	-25.36

Table 7-40. Radiated Measurements

Worst Case Mode:	802.11a
Worst Case Transfer Rate:	6Mbps
Distance of Measurements:	1 Meter
Operating Frequency:	5580MHz
Channel:	116

	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]
*	11160.00	Average	H	100	261	-64.34	12.76	-9.54	45.88	53.98	-8.10
*	11160.00	Peak	H	100	261	-53.48	12.76	-9.54	56.74	73.98	-17.24
	16740.00	Peak	H	-	-	-62.03	16.64	-9.54	52.07	68.20	-16.13
*	22320.00	Average	H	-	-	-71.16	8.11	-9.54	34.41	53.98	-19.57
*	22320.00	Peak	H	-	-	-59.24	8.11	-9.54	46.33	73.98	-27.65
	27900.00	Peak	H	-	-	-46.28	-9.26	-9.54	41.92	68.20	-26.28

Table 7-41. Radiated Measurements

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	H	100	3	-63.65	12.57	-9.54	46.38	53.98	-7.60
*	11440.00	Peak	H	100	3	-52.47	12.57	-9.54	57.56	73.98	-16.42
	17160.00	Peak	H	-	-	-60.98	18.31	-9.54	54.79	68.20	-13.41
*	22880.00	Average	H	-	-	-72.15	8.28	-9.54	33.59	53.98	-20.39
*	22880.00	Peak	H	-	-	-60.55	8.28	-9.54	45.19	73.98	-28.79
	28600.00	Peak	H	-	-	-46.36	-9.08	-9.54	42.02	68.20	-26.18

Table 7-42. Radiated Measurements

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	H	100	260	-64.77	12.57	-9.54	45.26	53.98	-8.72
*	11440.00	Peak	H	100	260	-53.56	12.57	-9.54	56.47	73.98	-17.51
	17160.00	Peak	H	-	-	-61.36	18.31	-9.54	54.41	68.20	-13.79
*	22880.00	Average	H	-	-	-71.55	8.28	-9.54	34.19	53.98	-19.79
*	22880.00	Peak	H	-	-	-60.07	8.28	-9.54	45.67	73.98	-28.31
	28600.00	Peak	H	-	-	-47.75	-9.08	-9.54	40.63	68.20	-27.57

Table 7-43. Radiated Measurements with WCP

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	H	100	3	-64.34	12.43	-9.54	45.55	53.98	-8.43
*	11490.00	Peak	H	100	3	-53.33	12.43	-9.54	56.56	73.98	-17.42
	17235.00	Peak	H	-	-	-61.50	18.61	-9.54	54.57	68.20	-13.63
*	22980.00	Average	H	-	-	-67.24	8.16	-9.54	38.38	53.98	-15.60
*	22980.00	Peak	H	-	-	-54.77	8.16	-9.54	50.85	73.98	-23.13
	28725.00	Peak	H	-	-	-45.78	-9.24	-9.54	42.44	68.20	-25.76

Table 7-44. Radiated Measurements

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

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	H	100	100	-64.93	12.54	-9.54	45.07	53.98	-8.91
*	11570.00	Peak	H	100	100	-54.35	12.54	-9.54	55.65	73.98	-18.33
	17355.00	Peak	H	-	-	-60.95	18.73	-9.54	55.24	68.20	-12.96
	23140.00	Peak	H	-	-	-59.62	8.37	-9.54	46.21	68.20	-21.99
	28925.00	Peak	H	-	-	-45.50	-9.65	-9.54	42.31	68.20	-25.89

Table 7-45. Radiated Measurements