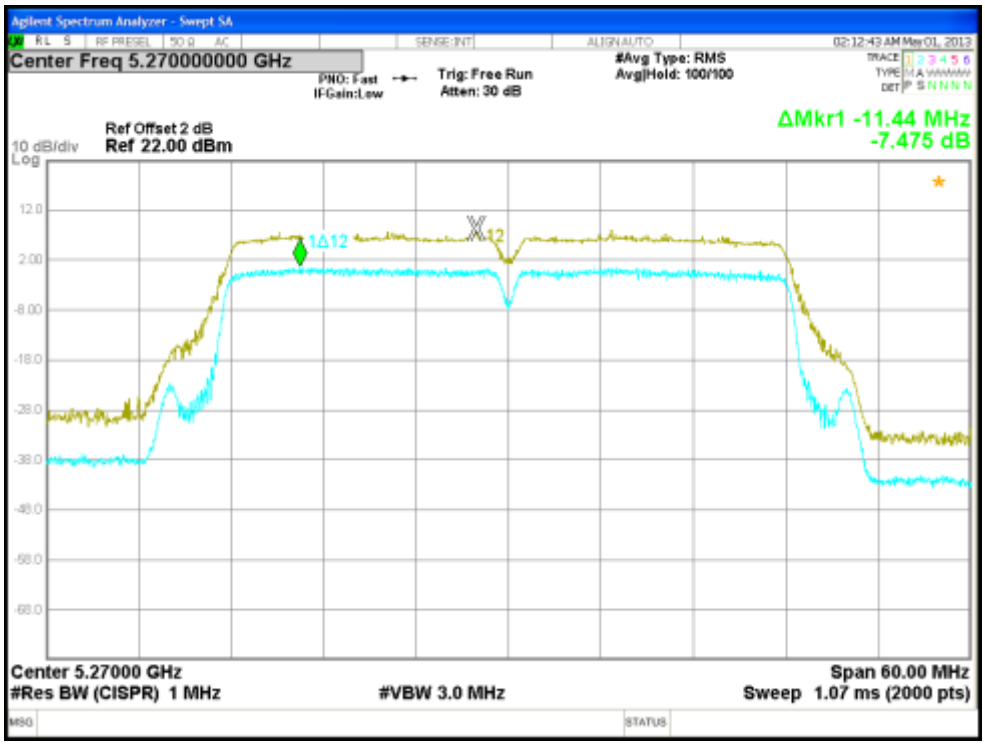


Figure 89: Peak Excursion, 5270 MHz at 802.11n, Chain 0 – 13.5 Mbps

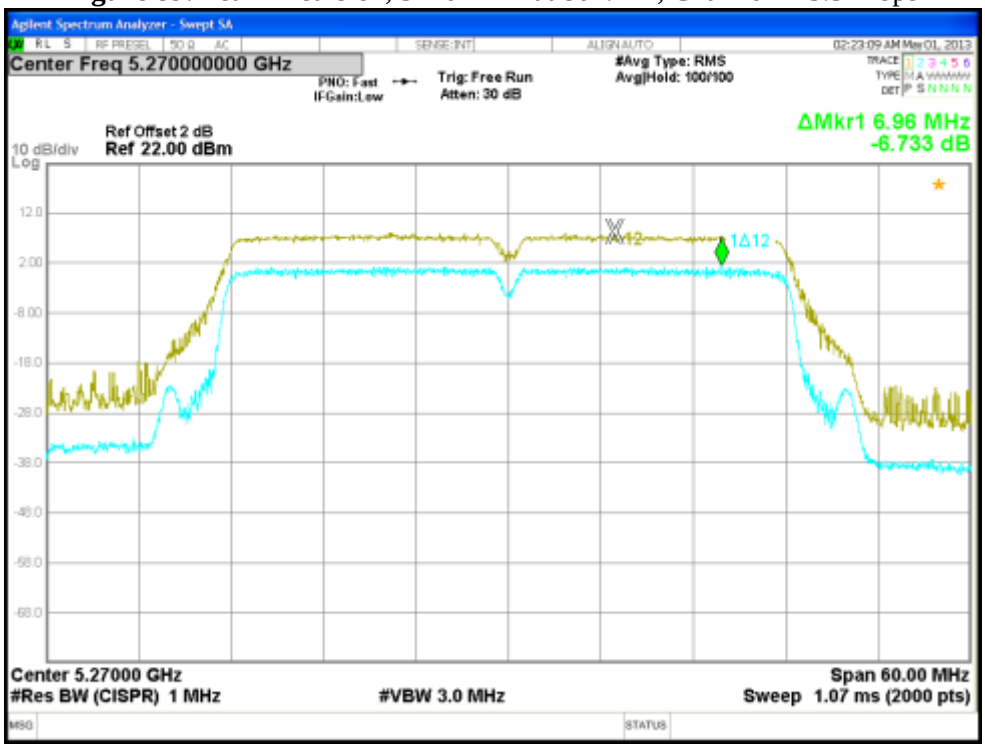


Figure 90: Peak Excursion, 5270 MHz at 802.11n, Chain 1 – 13.5 Mbps

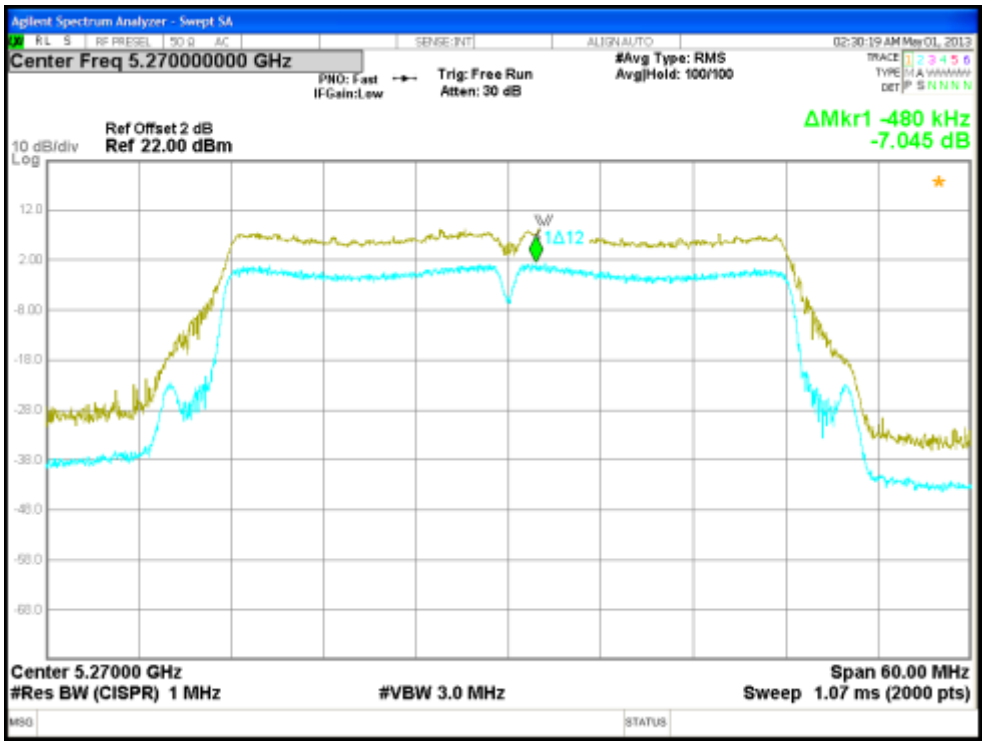


Figure 91: Peak Excursion, 5270 MHz at 802.11n, Chain 2 – 13.5 Mbps

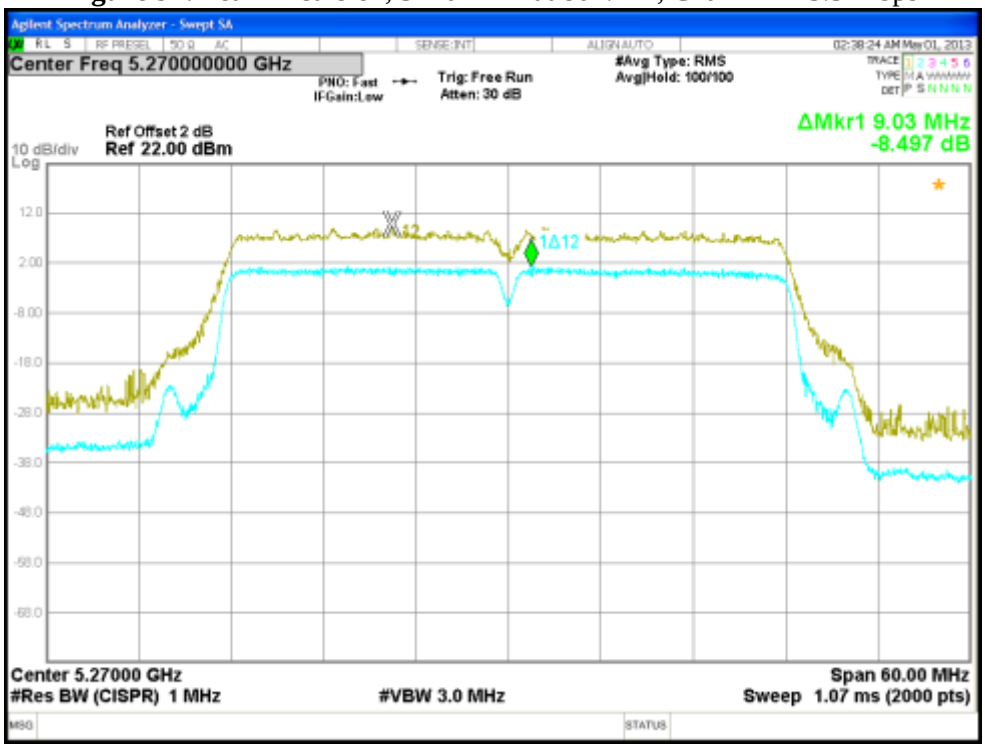


Figure 92: Peak Excursion, 5270 MHz at 802.11n, Chain 3 – 13.5 Mbps

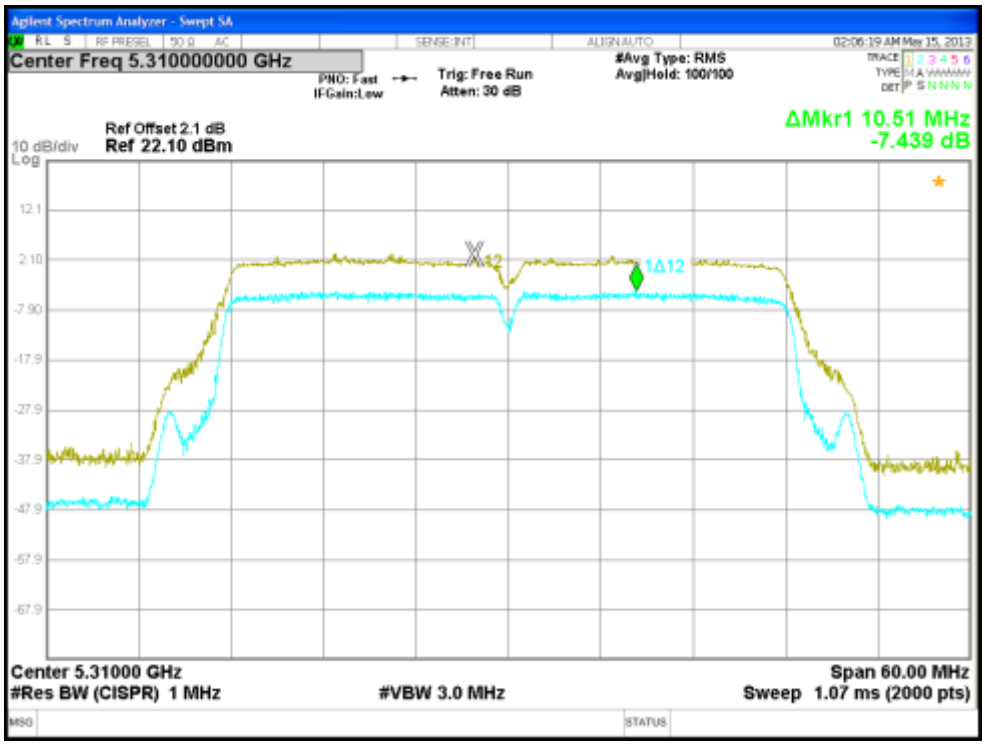


Figure 93: Peak Excursion, 5310 MHz at 802.11n, Chain 0 – 13.5 Mbps

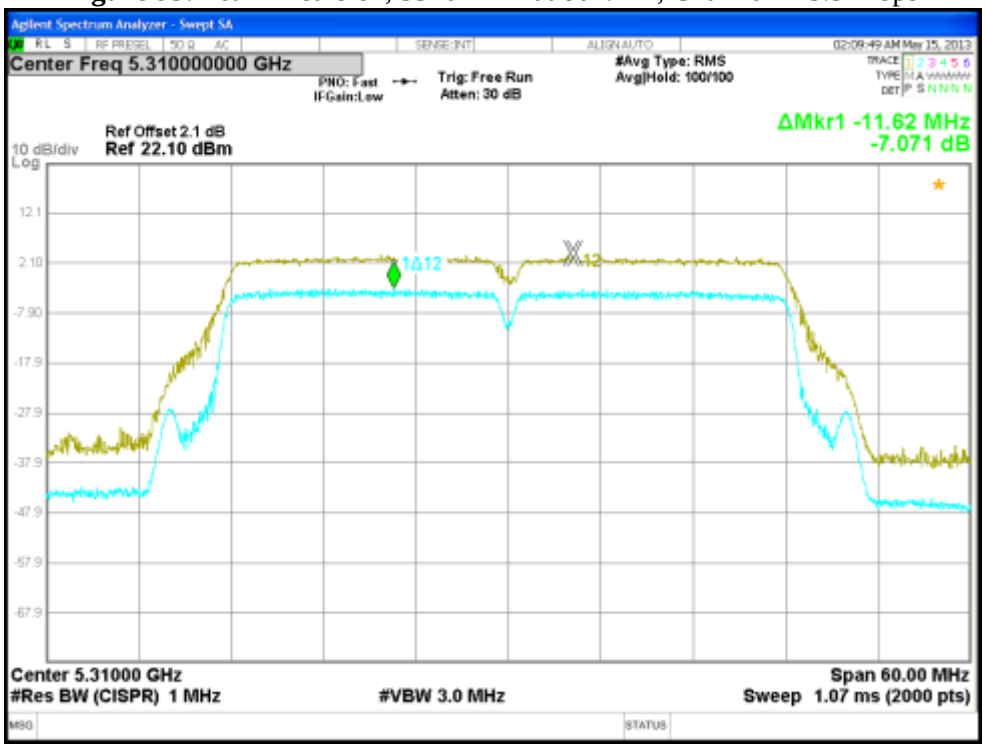


Figure 94: Peak Excursion, 5310 MHz at 802.11n, Chain 1 – 13.5 Mbps

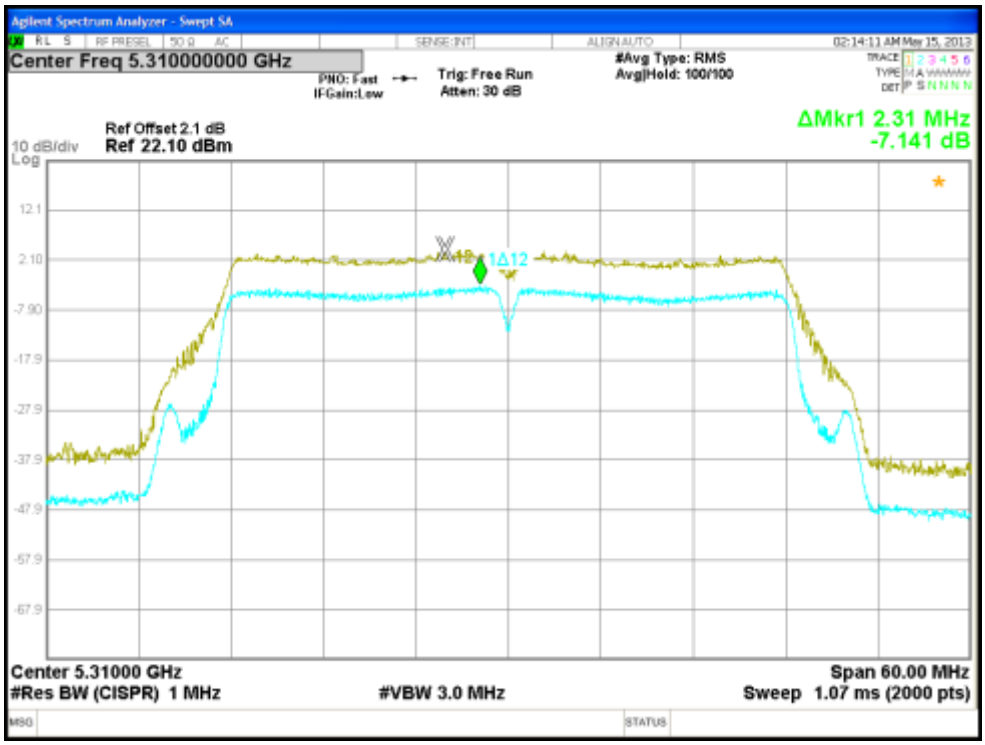


Figure 95: Peak Excursion, 5310 MHz at 802.11n, Chain 2 – 13.5 Mbps

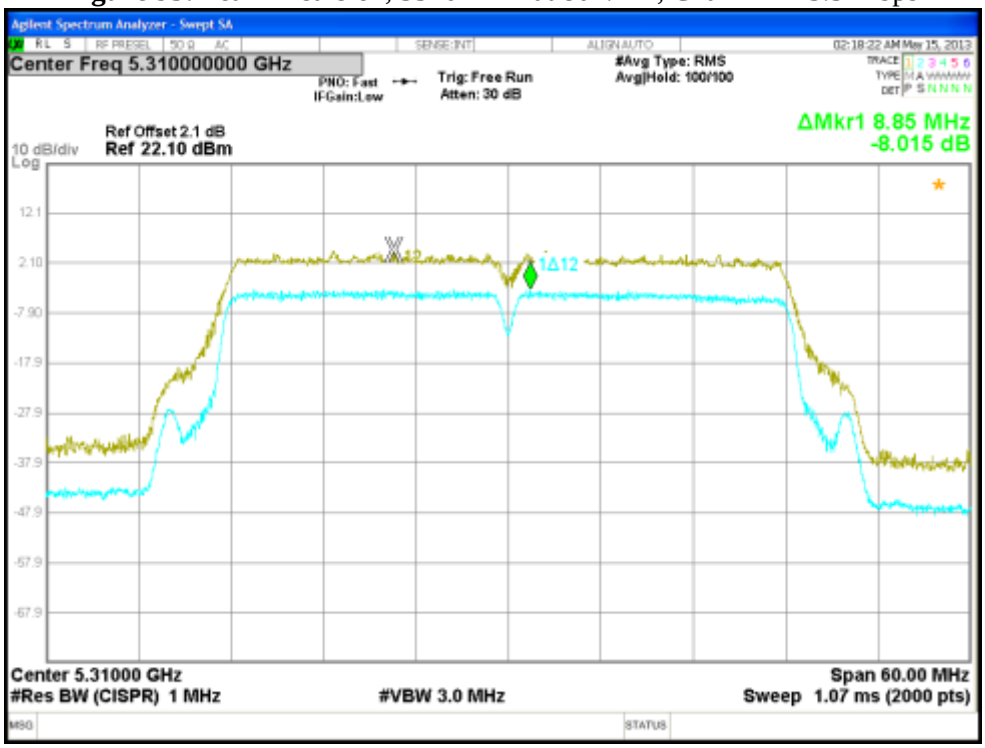


Figure 96: Peak Excursion, 5310 MHz at 802.11n, Chain 3 – 13.5 Mbps

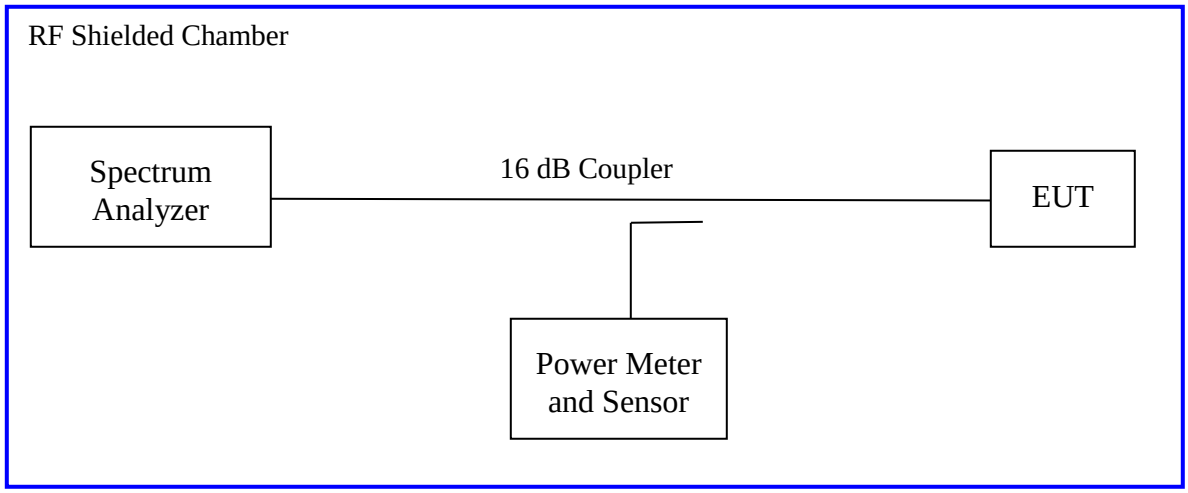
4.4 Power Spectral Density

According to the CFR47 Part 15.407 (a) and RSS 210 (A9.2), the spectral power density output of the antenna port shall be less than 11 dBm in any 1 MHz band during any time interval of continuous transmission.

4.4.1 **Test Method**

The conducted method was used to measure the power spectral density per ANSI C63.10-2009 Section 6.11.2. The measurement was performed with modulation per CFR47 Part 15.407 (a) and RSS 210 (A9.2). The pre-evaluation was performed to find the worst modes. The worst findings were conducted on 3 channels in frequency range of 5250 MHz to 5350 MHz for the test sample, S/N 09130M000104. The result indicated below.

Test Setup:



4.4.2 **Results**

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

Table 6: Power Spectral Density – Test Results

Test Conditions: Conducted Measurement, Normal Temperature and Voltage only			
Antenna Type: Integrated		**Power Setting:** See Test plan	
Max. Directional Gain: + 8 dBi		**Signal State:** Modulated at 100%.	
Ambient Temp.: 23 °C		**Relative Humidity:**30%	
Power Spectral Density			
802.11a Mode			
Freq. (MHz)	**Total PSD [dBm]**	**Limit [dBm]**	**Margin [dB]**
5260	8.14	9.00	-0.86
5300	8.98	9.00	-0.02
5320	8.98	9.00	-0.02
Note: 1. The highest peak output power was observed at 802.11a 6 Mbps per data stream. 2. According KDB 662911, amplitude bins of all chains were sum together. 3. The total directional gain would be 8 dBi; 2 dBi +10*Log(4). Per CFR47 Part 15.407 (a), the limit is reduced for every dBi gain exceeding 6 dBi. The limit would be 9.00 dBm.			
802.11n (HT20) Mode			
Freq. (MHz)	**Total PSD [dBm]**	**Limit [dBm]**	**Margin [dB]**
5260	8.753	9.00	-0.25
5300	8.297	9.00	-0.70
5320	7.861	9.00	-1.14
Note: 1. The highest peak output power was observed at HT20 6.5 Mbps per data stream. 2. According KDB 662911, amplitude bins of all chains were sum together. 3. The total directional gain would be 8 dBi; 2 dBi +10*Log(4). Per CFR47 Part 15.407 (a), the limit is reduced for every dBi gain exceeding 6 dBi. The limit would be 9.00 dBm.			

802.11n (HT40) Mode			
Freq. (MHz)	**Total PSD [dBm]**	**Limit [dBm]**	**Margin [dB]**
5270	6.349	9.00	-2.65
5310	3.7301	9.00	-7.27

Note: 1. The highest peak output power was observed at HT40 13.5 Mbps per data stream.
2. According KDB 662911, amplitude bins of all chains were sum together.
3. The total directional gain would be 8 dBi; 2 dBi +10*Log(4). Per CFR47 Part 15.407 (a), the limit is reduced for every dBi gain exceeding 6 dBi. The limit would be 9.00 dBm.

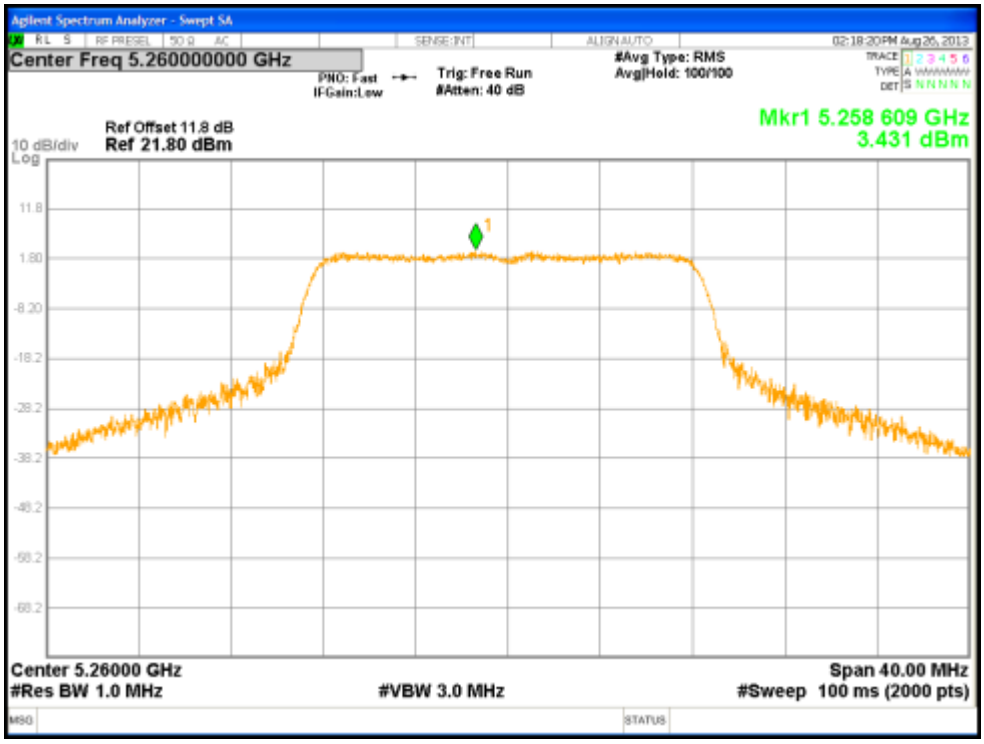


Figure 97: Power Spectral Density, 5260 MHz at 802.11a, Chain 0 – 6 Mbps

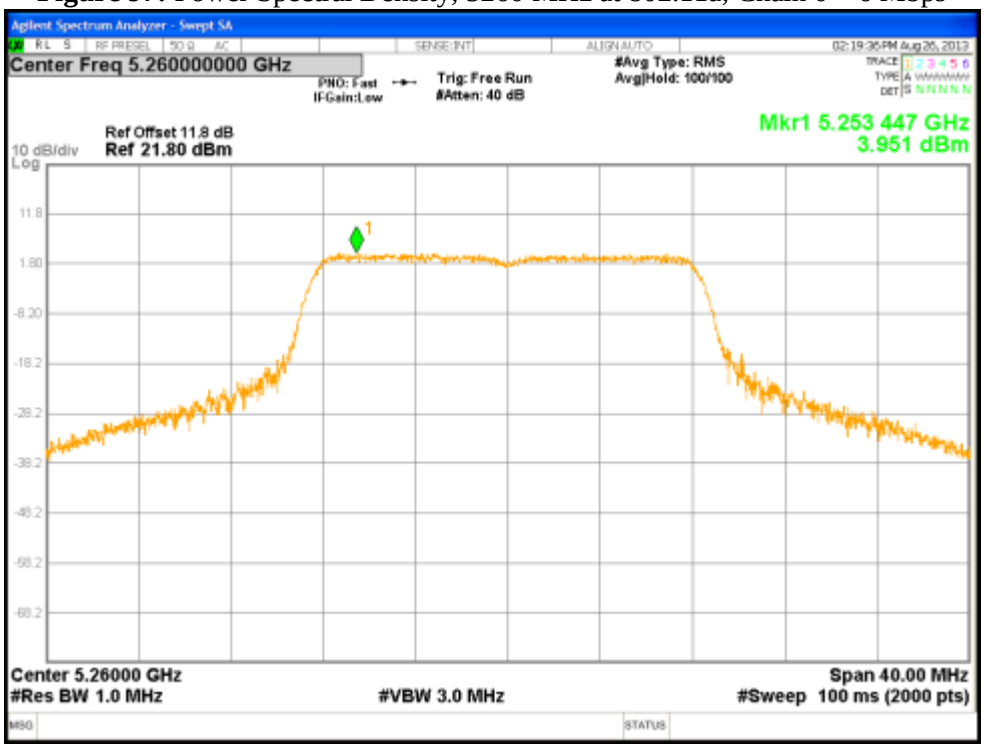


Figure 98: Power Spectral Density, 5260 MHz at 802.11a, Chain 1 – 6 Mbps

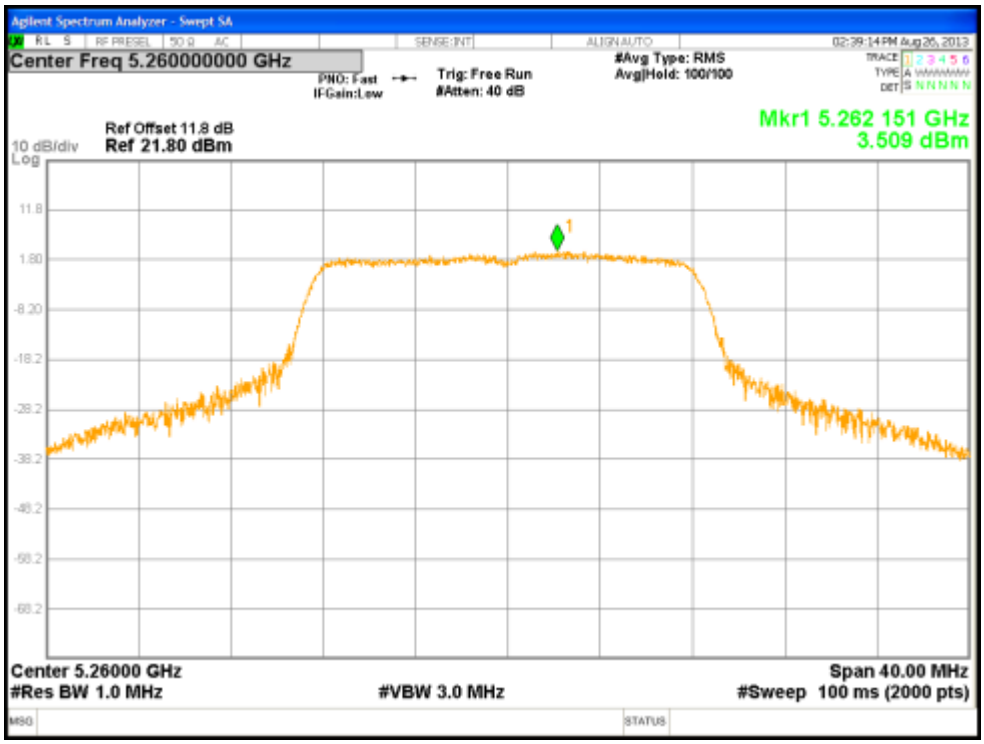


Figure 99: Power Spectral Density, 5260 MHz at 802.11a, Chain 2 – 6 Mbps

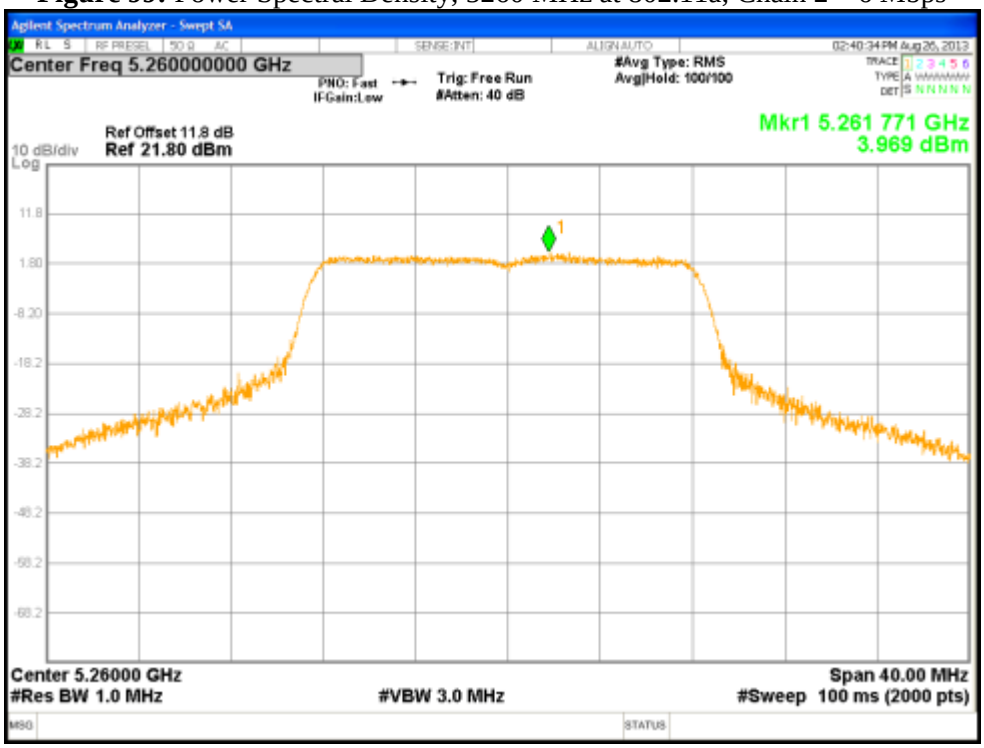


Figure 100: Power Spectral Density, 5260 MHz at 802.11a, Chain 3 – 6 Mbps

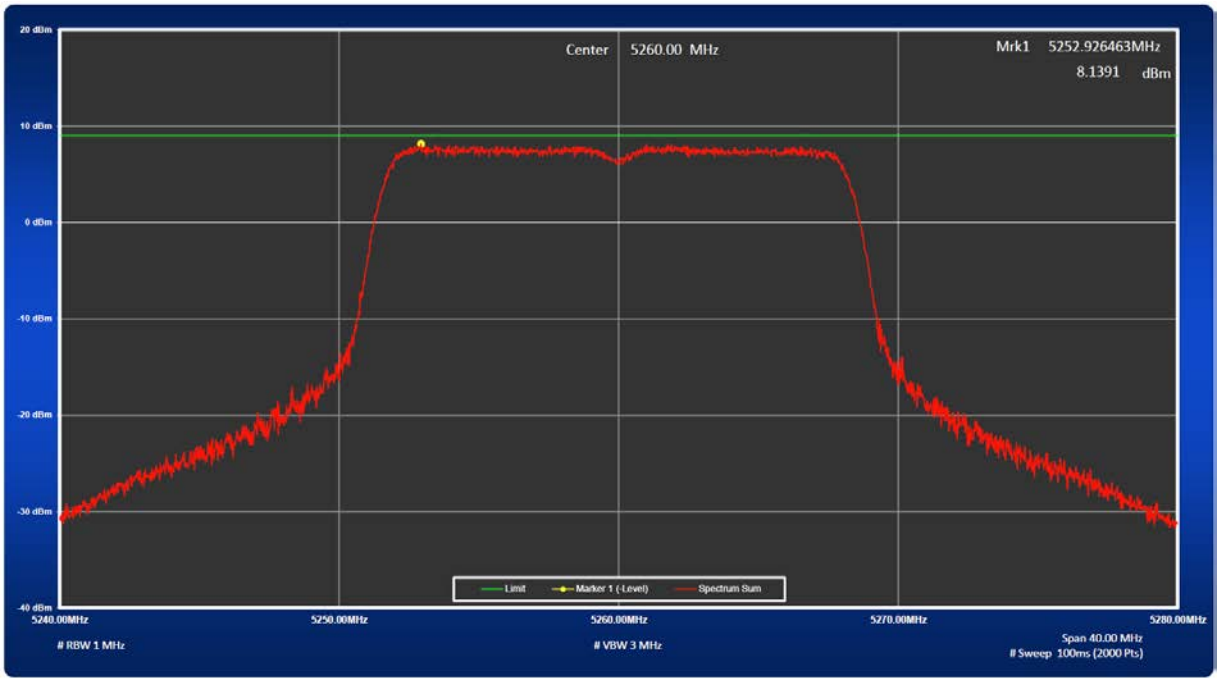


Figure 101: Total Sum of Power Spectral Density, 5260 MHz at 802.11a, 6 Mbps

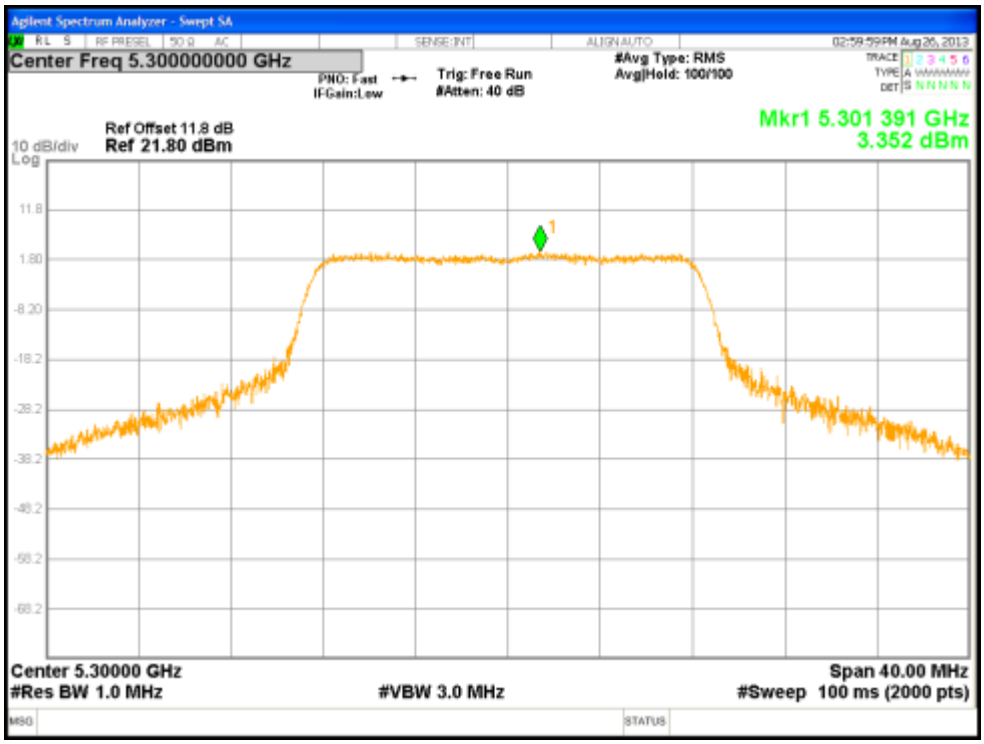


Figure 102: Power Spectral Density, 5300 MHz at 802.11a, Chain 0 – 6 Mbps

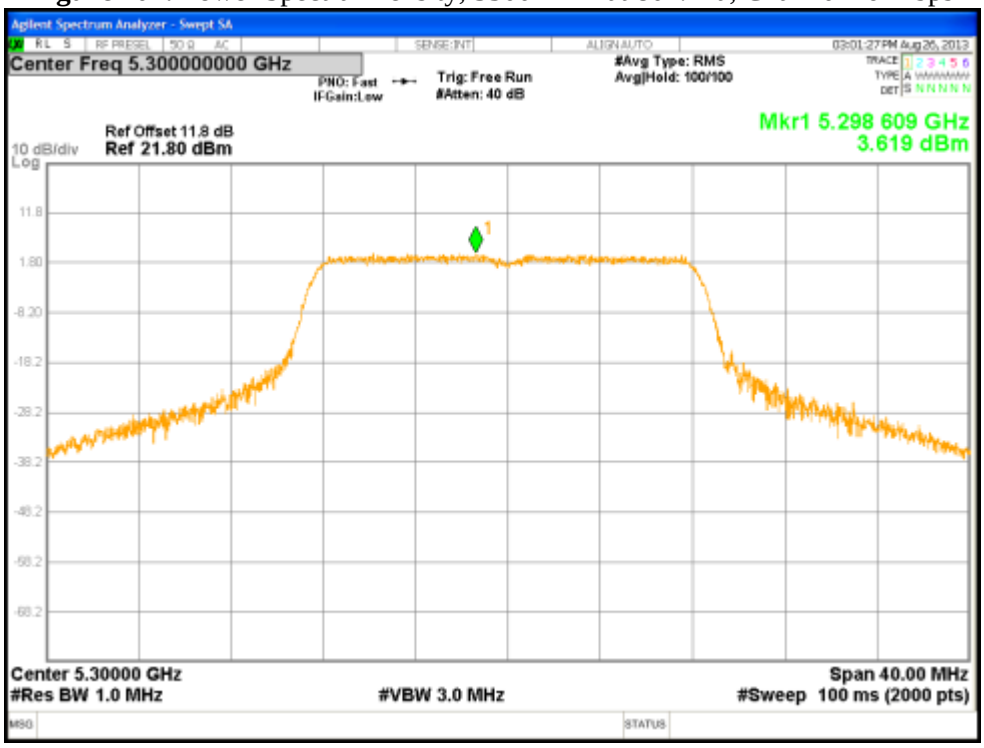


Figure 103: Power Spectral Density, 5300 MHz at 802.11a, Chain 1 – 6 Mbps

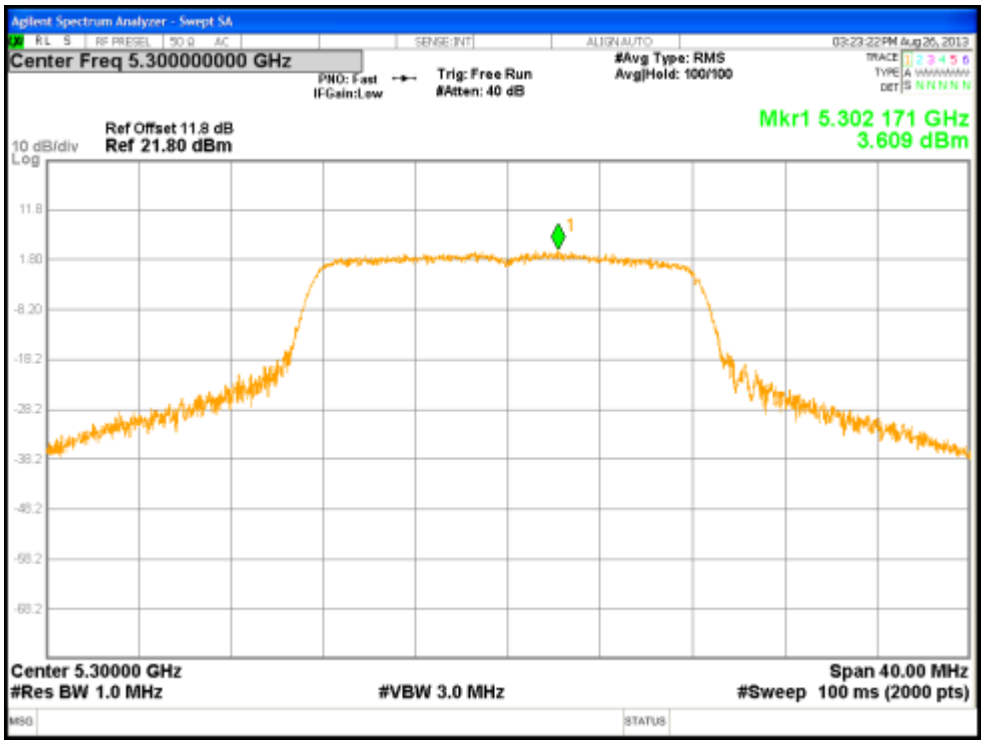


Figure 104: Power Spectral Density, 5300 MHz at 802.11a, Chain 2 – 6 Mbps

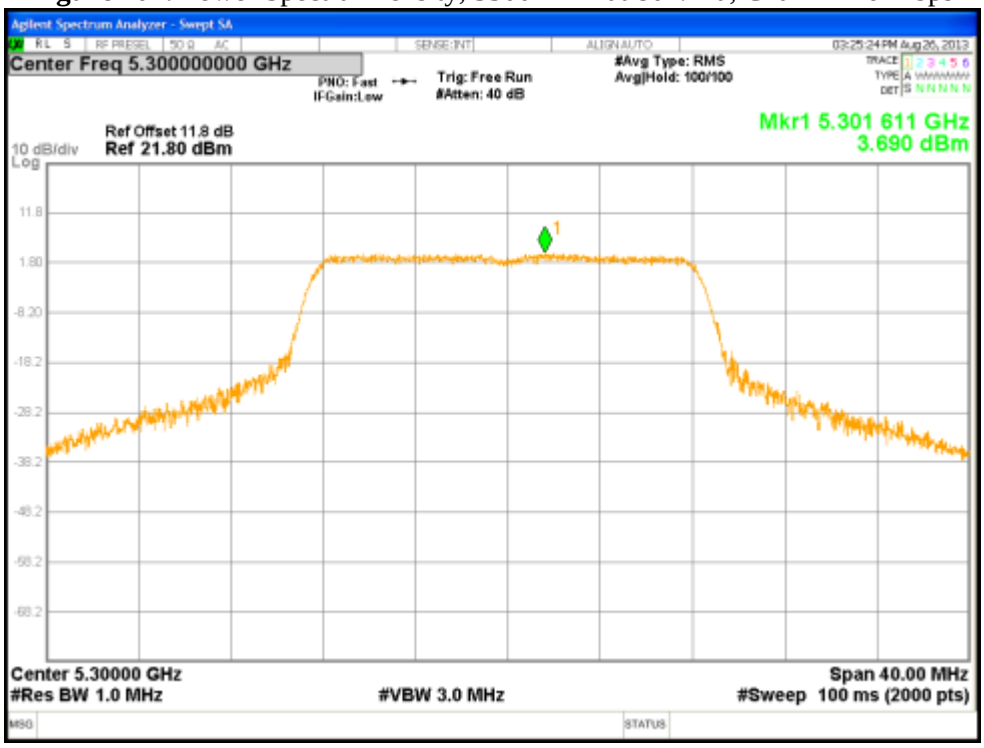


Figure 105: Power Spectral Density, 5300 MHz at 802.11a, Chain 3 – 6 Mbps

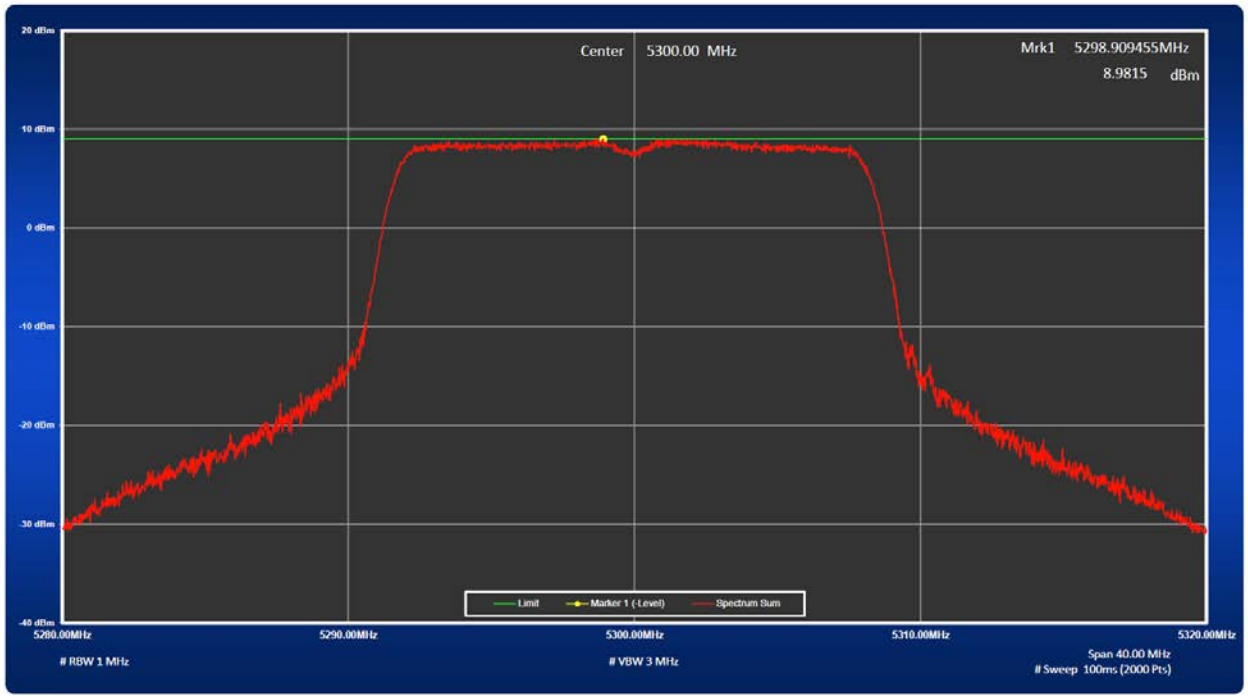


Figure 106: Total Sum of Power Spectral Density, 5300 MHz at 802.11a, 6 Mbps

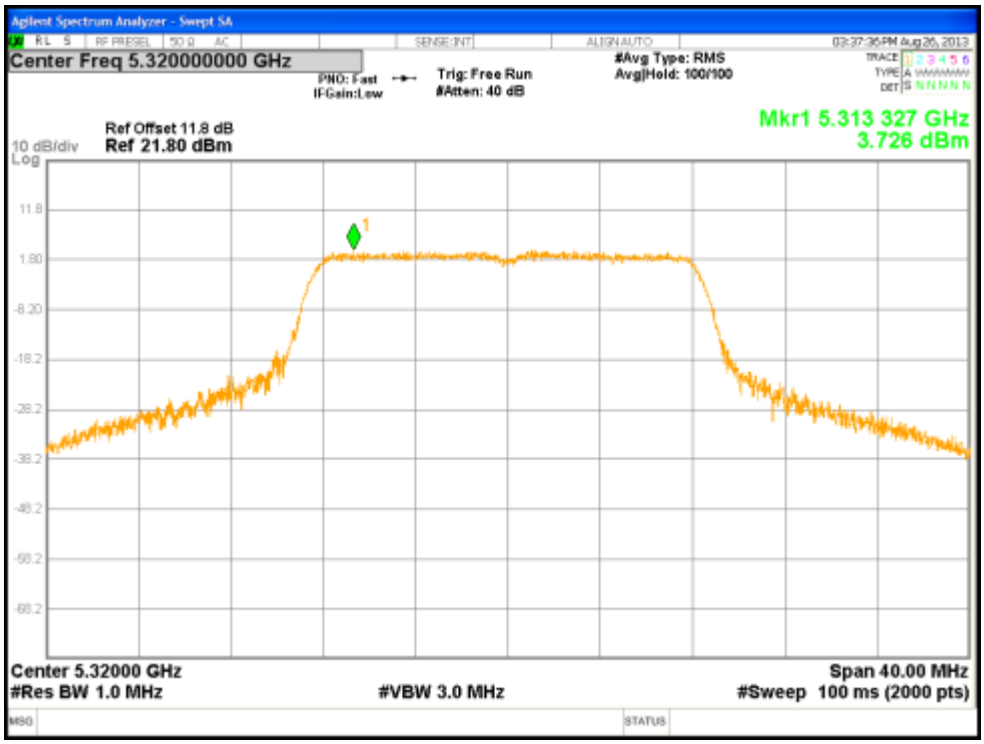


Figure 107: Power Spectral Density, 5320 MHz at 802.11a, Chain 0 – 6 Mbps

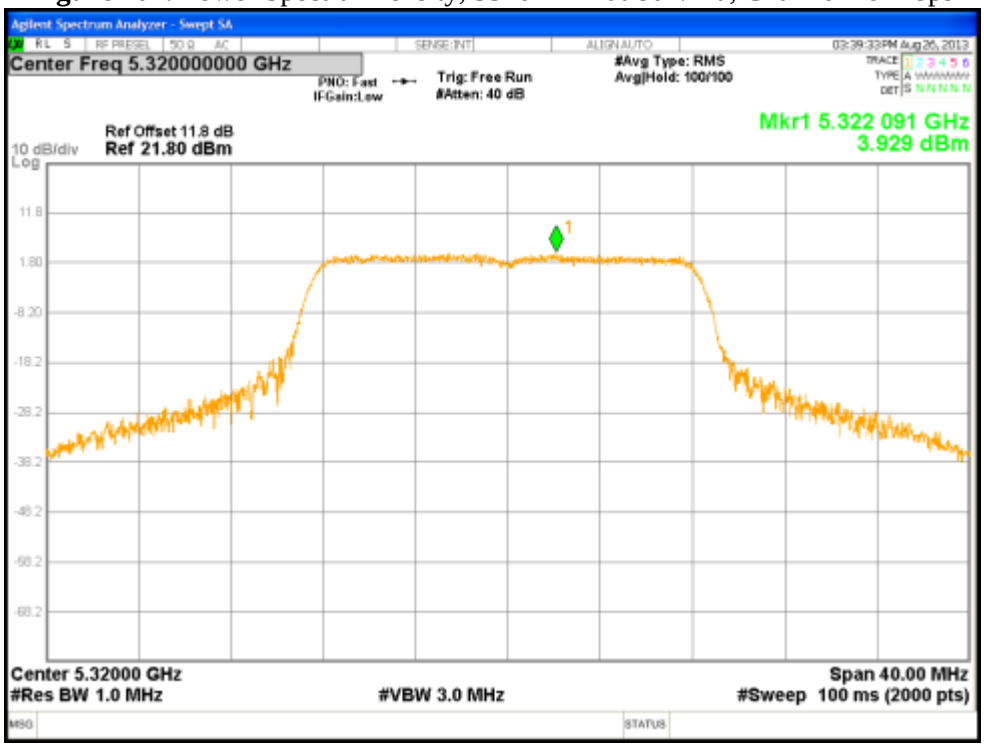


Figure 108: Power Spectral Density, 5320 MHz at 802.11a, Chain 1 – 6 Mbps

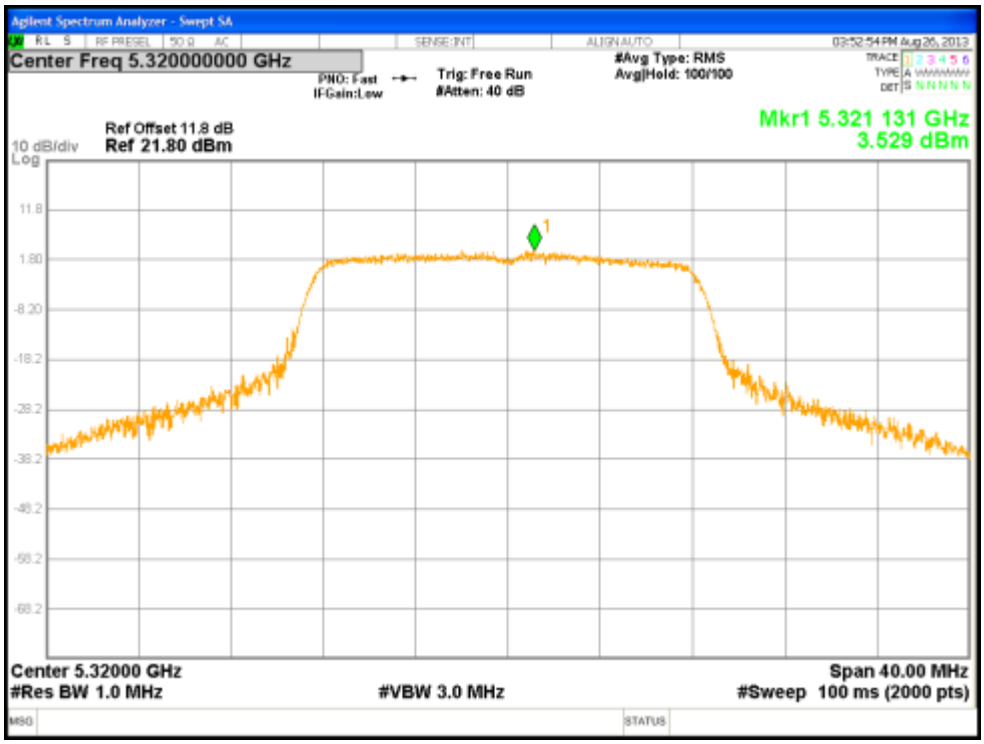


Figure 109: Power Spectral Density, 5320 MHz at 802.11a, Chain 2 – 6 Mbps

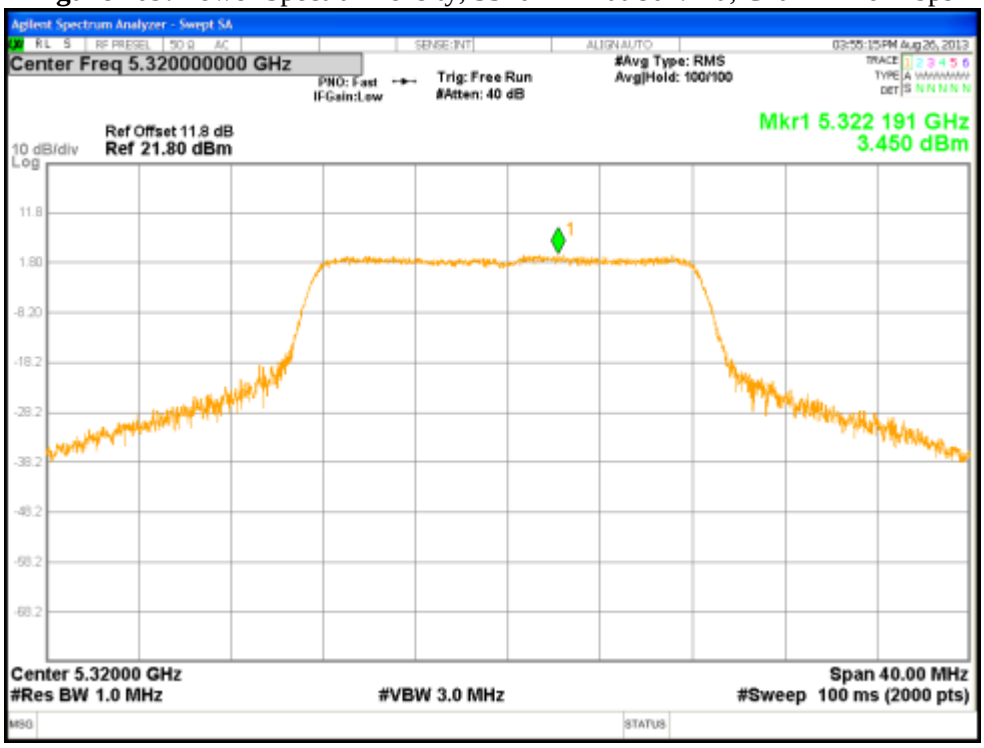


Figure 110: Power Spectral Density, 5320 MHz at 802.11a, Chain 3 – 6 Mbps

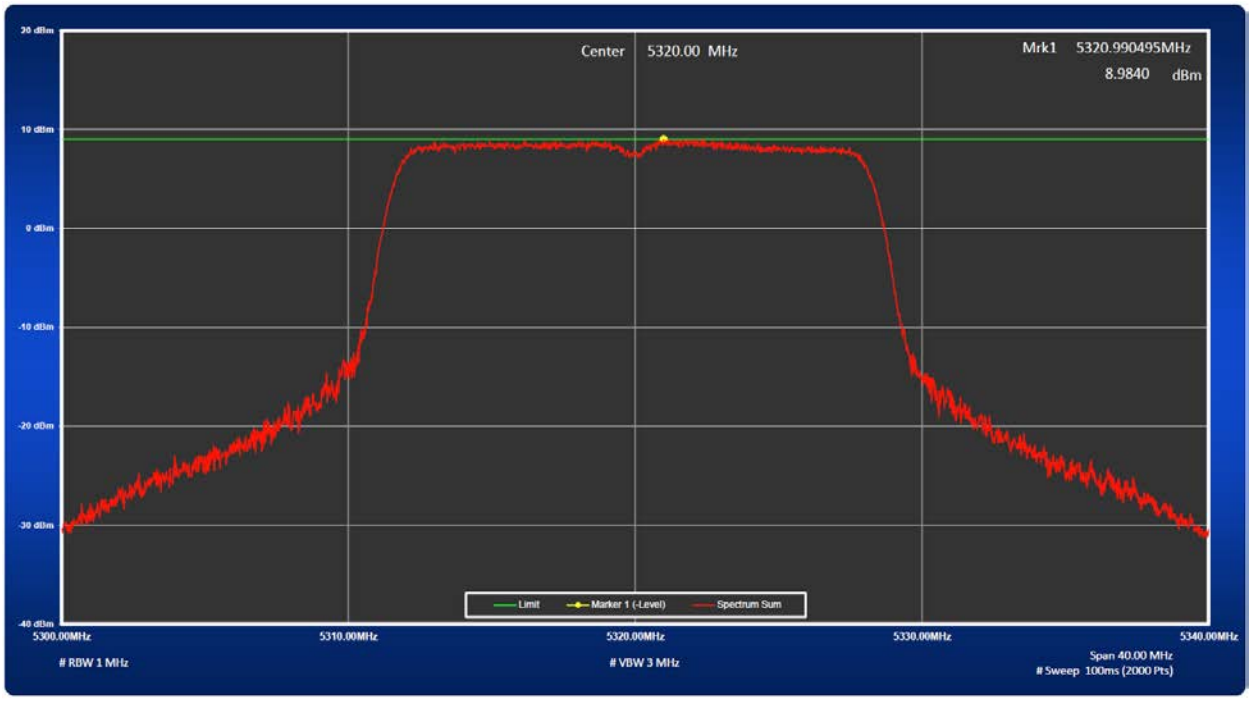


Figure 111: Total Sum of Power Spectral Density, 5320 MHz at 802.11a, 6 Mbps

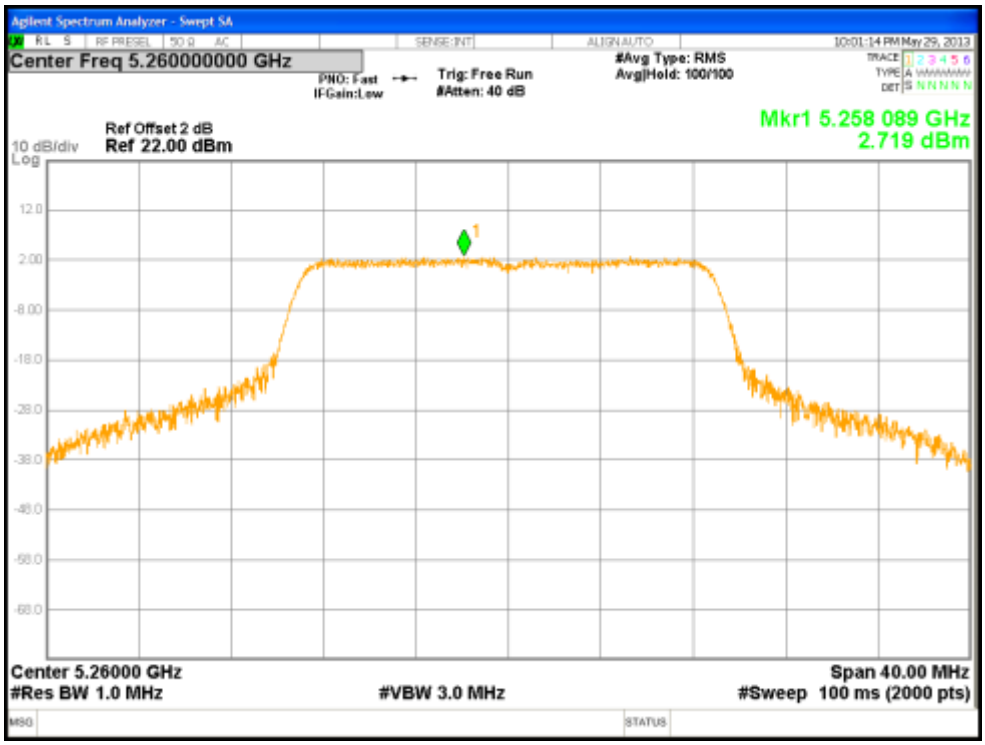


Figure 112: Power Spectral Density, 5260 MHz at 802.11n, Chain 0 – 6.5 Mbps

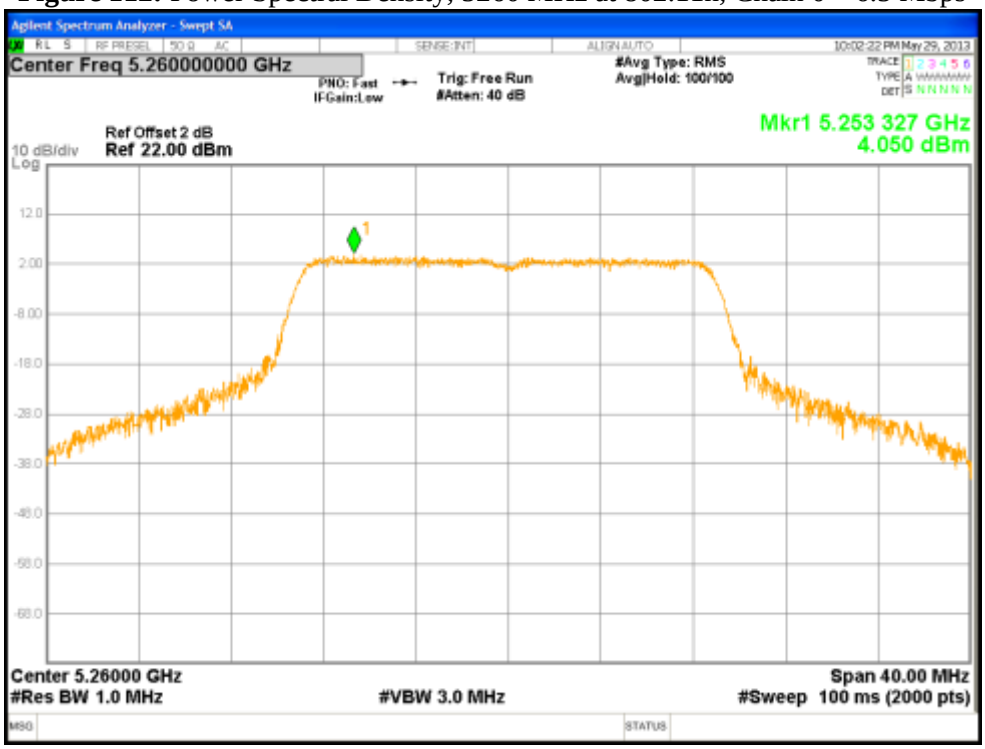


Figure 113: Power Spectral Density, 5260 MHz at 802.11n, Chain 1 – 6.5 Mbps

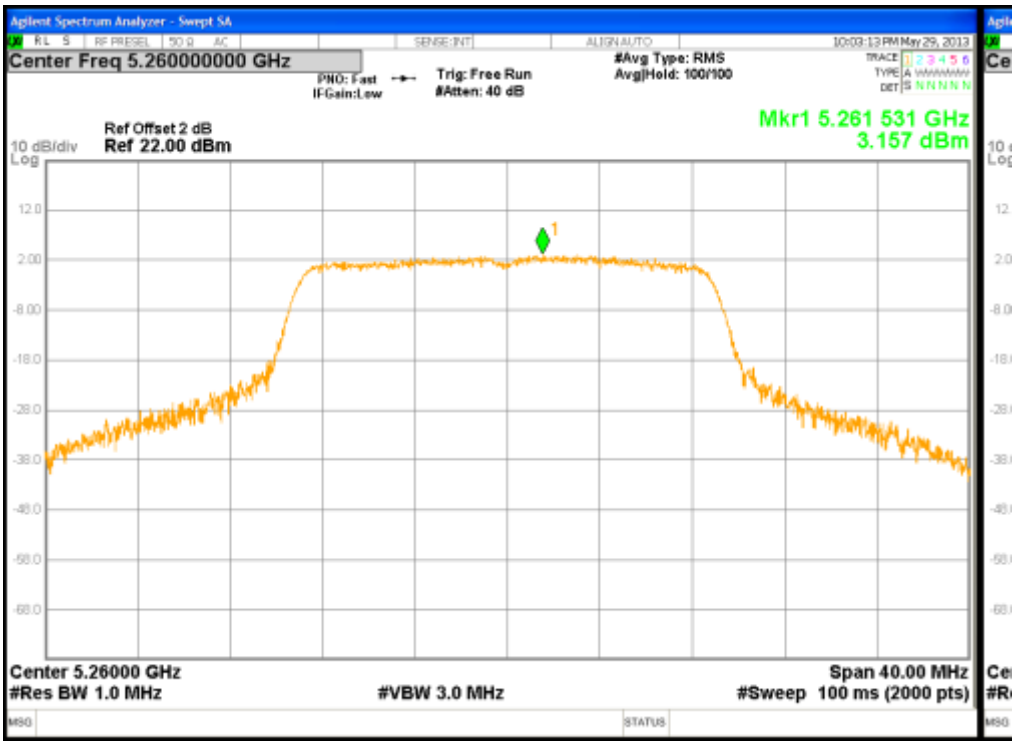


Figure 114: Power Spectral Density, 5260 MHz at 802.11n, Chain 2 – 6.5 Mbps

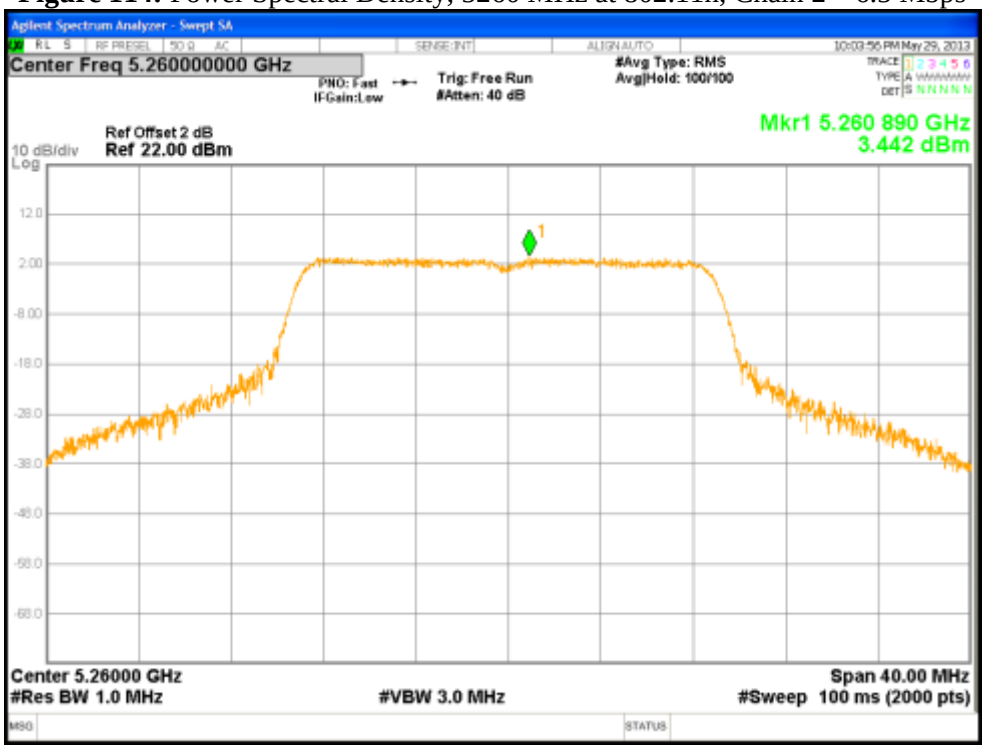


Figure 115: Power Spectral Density, 5260 MHz at 802.11n, Chain 3 – 6.5 Mbps

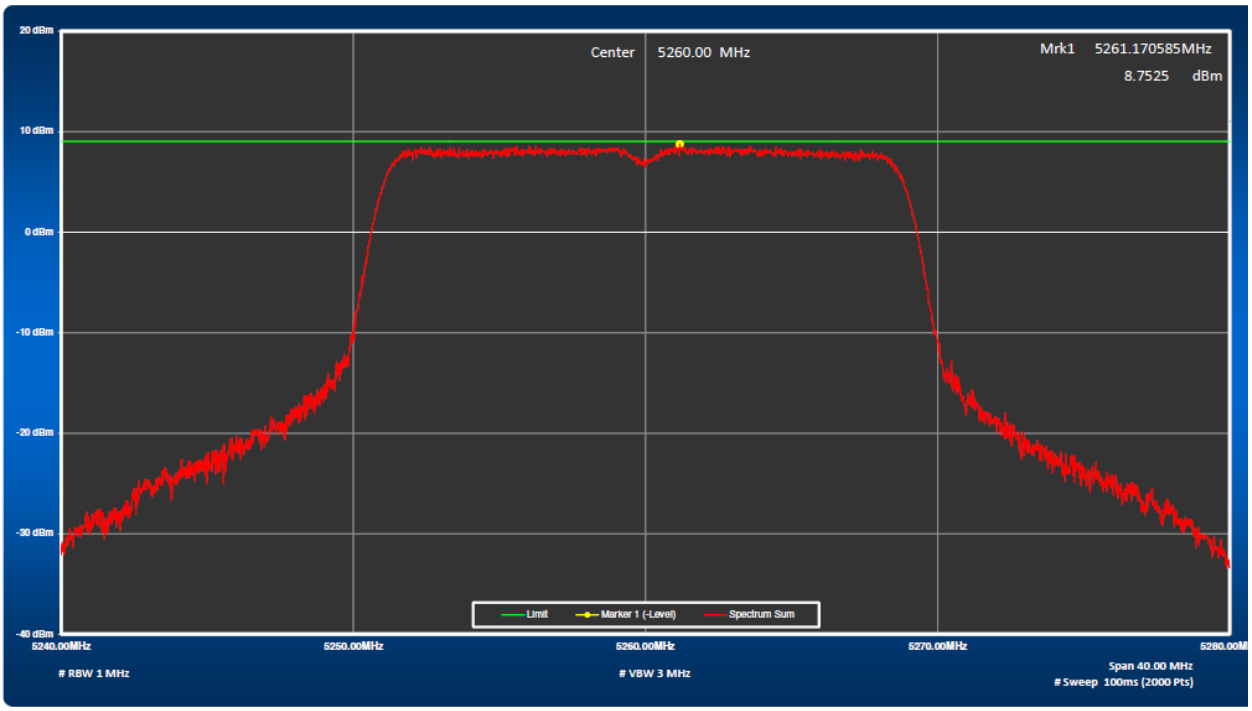


Figure 116: Total Sum of Power Spectral Density, 5260 MHz at 802.11n, 6.5 Mbps

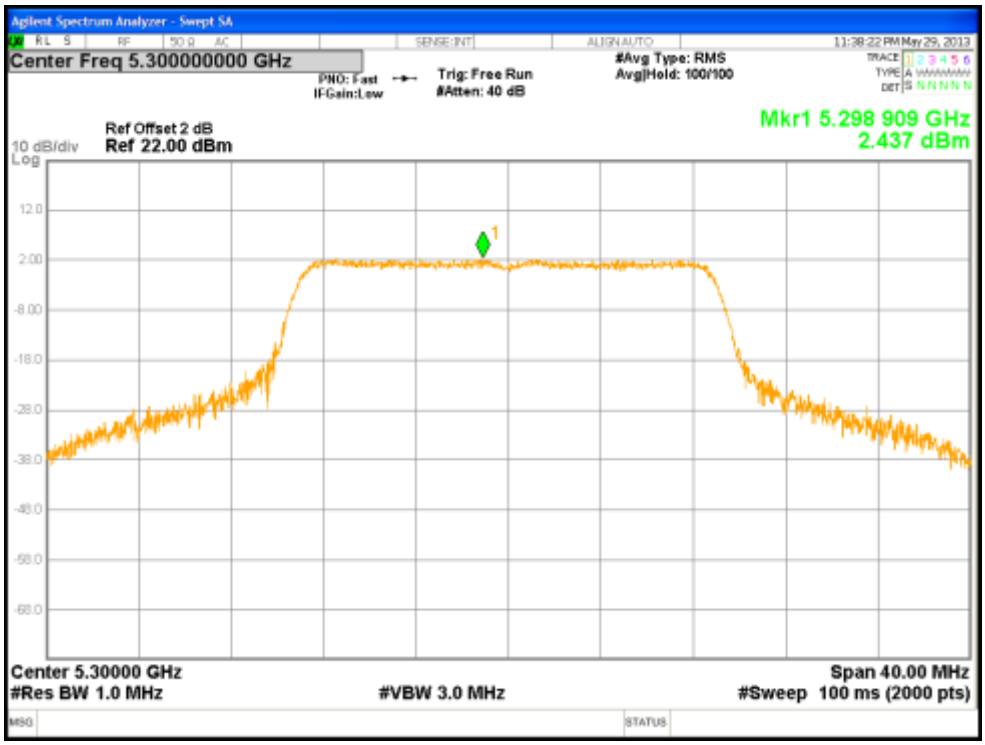


Figure 117: Power Spectral Density, 5300 MHz at 802.11n, Chain 0 – 6.5 Mbps

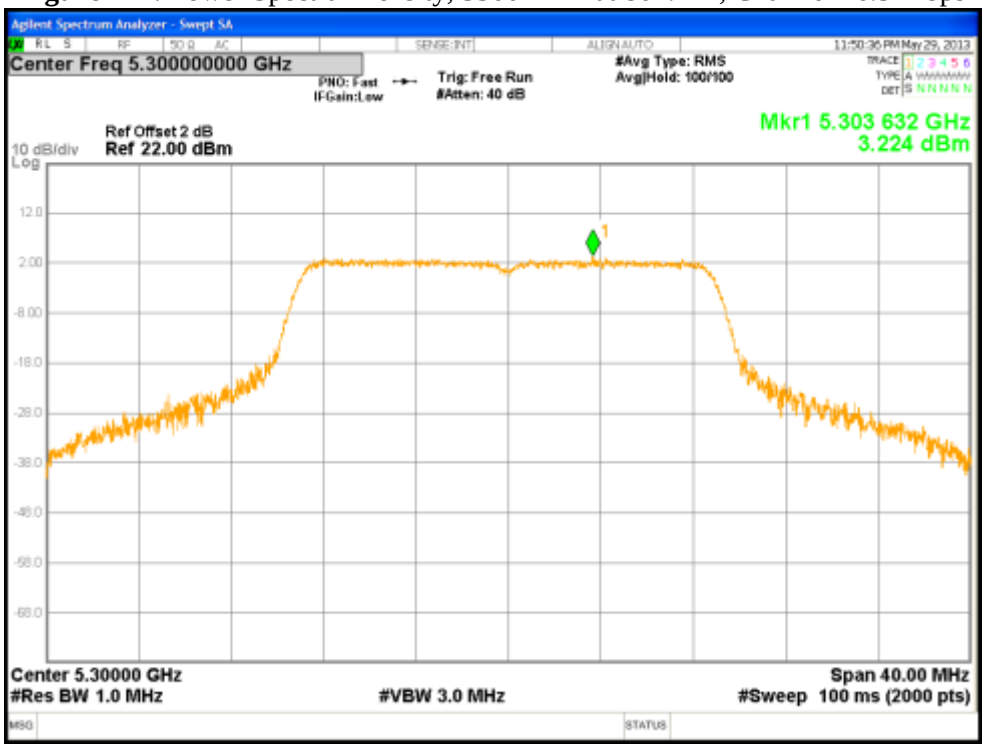


Figure 118: Power Spectral Density, 5300 MHz at 802.11n, Chain 1 – 6.5 Mbps

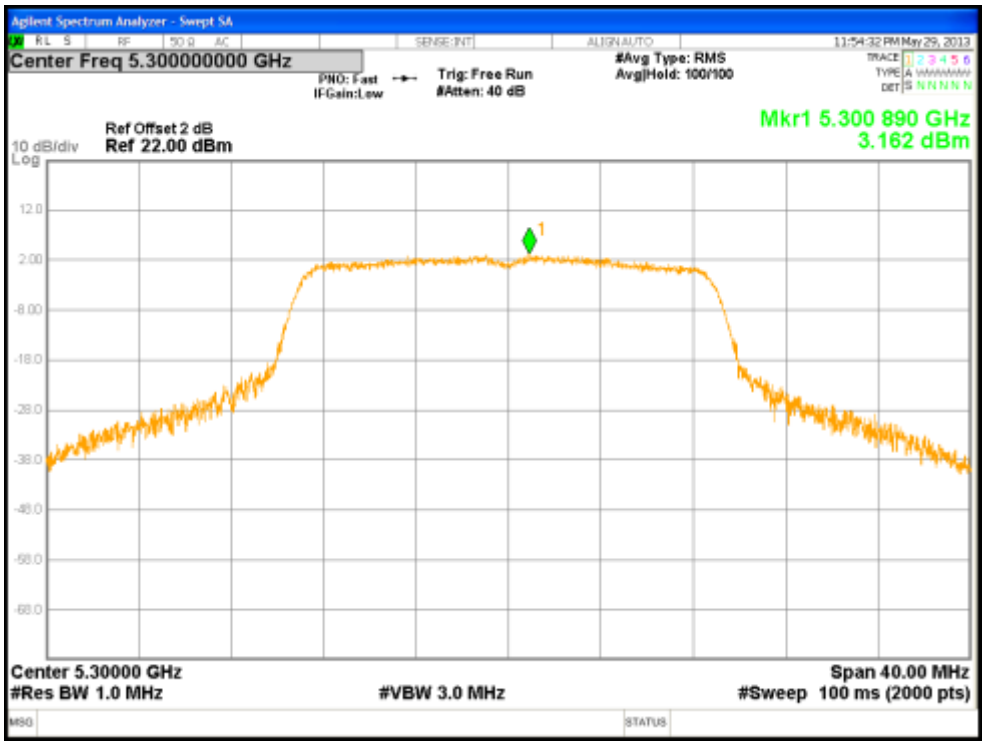


Figure 119: Power Spectral Density, 5300 MHz at 802.11n, Chain 2 – 6.5 Mbps

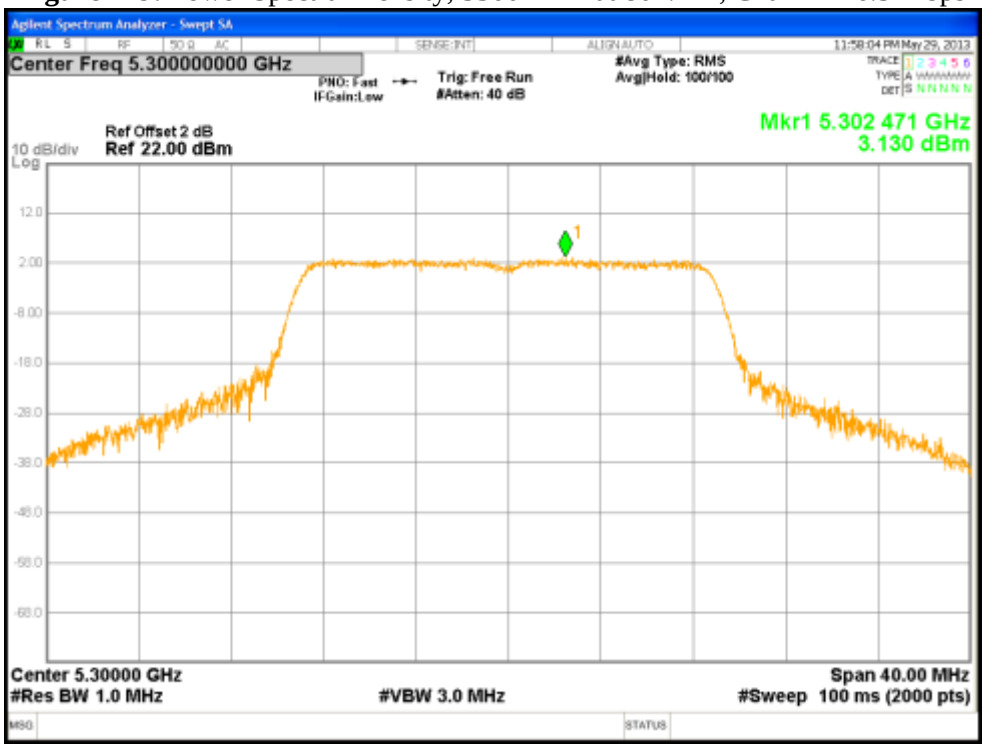


Figure 120: Power Spectral Density, 5300 MHz at 802.11n, Chain 3 – 6.5 Mbps

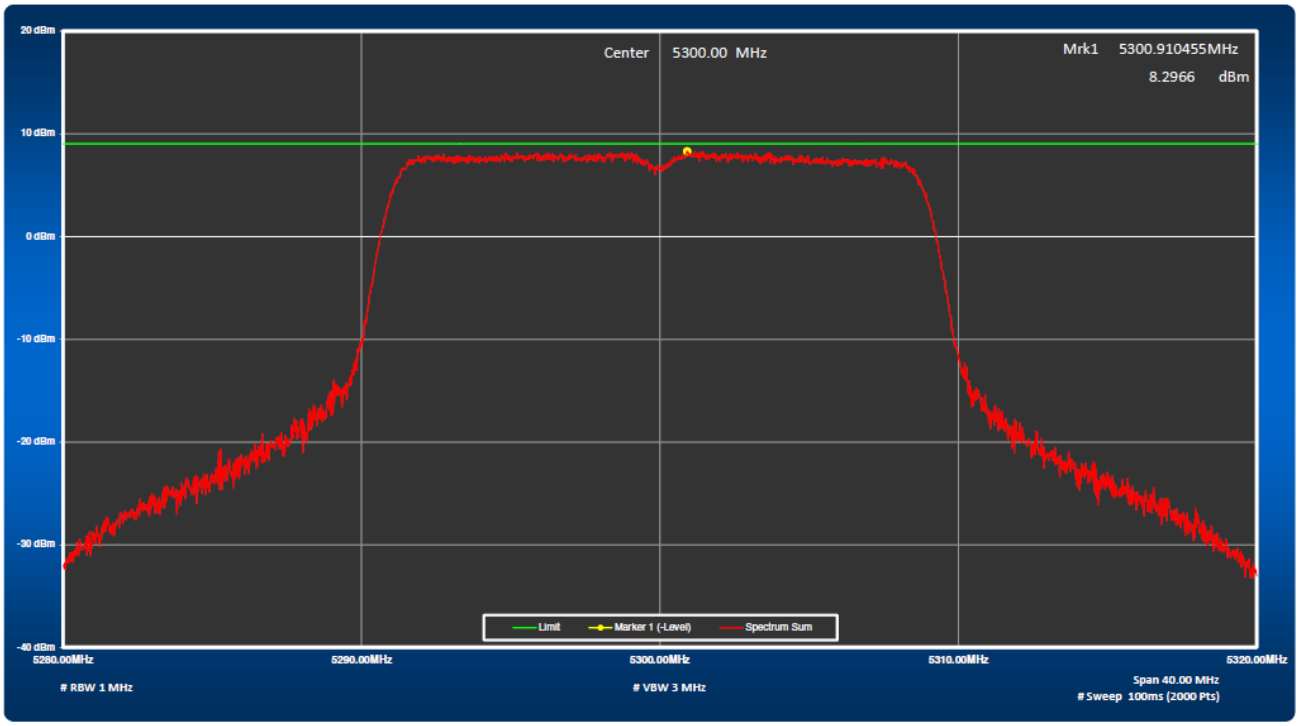


Figure 121: Total Sum of Power Spectral Density, 5300 MHz at 802.11n, 6.5 Mbps

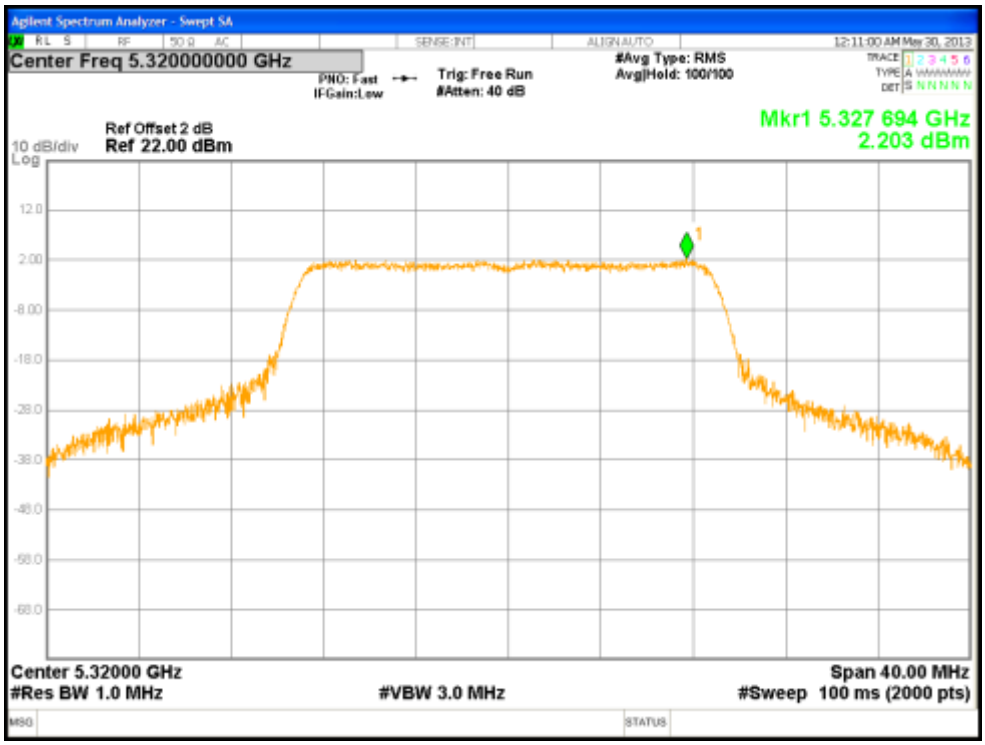


Figure 122: Power Spectral Density, 5320 MHz at 802.11n, Chain 0 – 6.5 Mbps

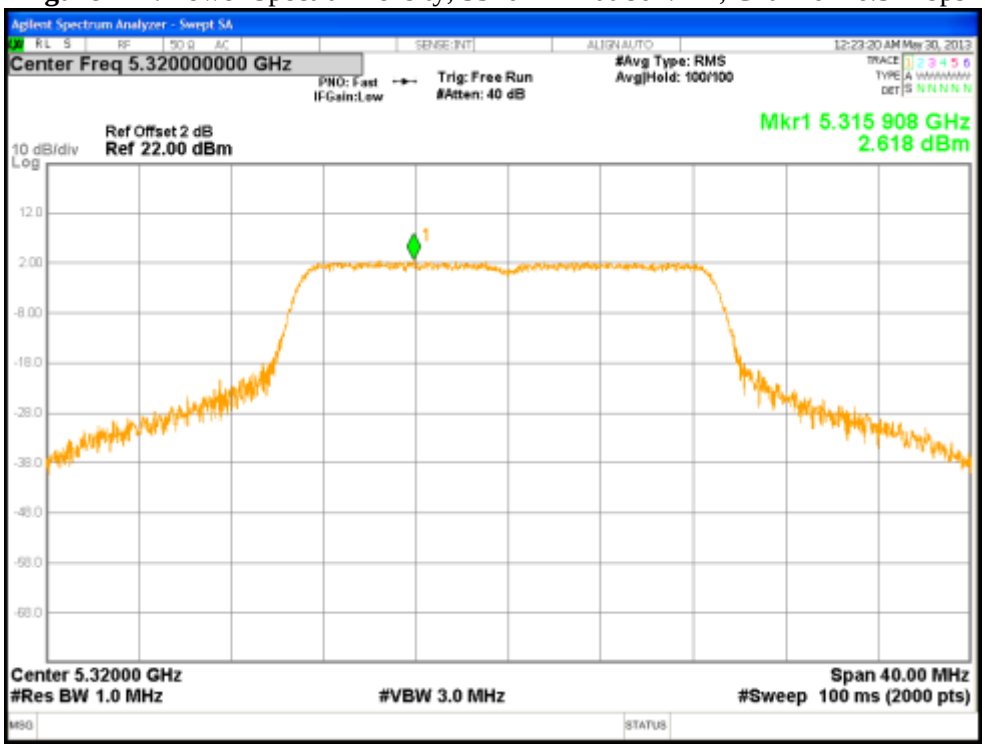


Figure 123: Power Spectral Density, 5320 MHz at 802.11n, Chain 1 – 6.5 Mbps

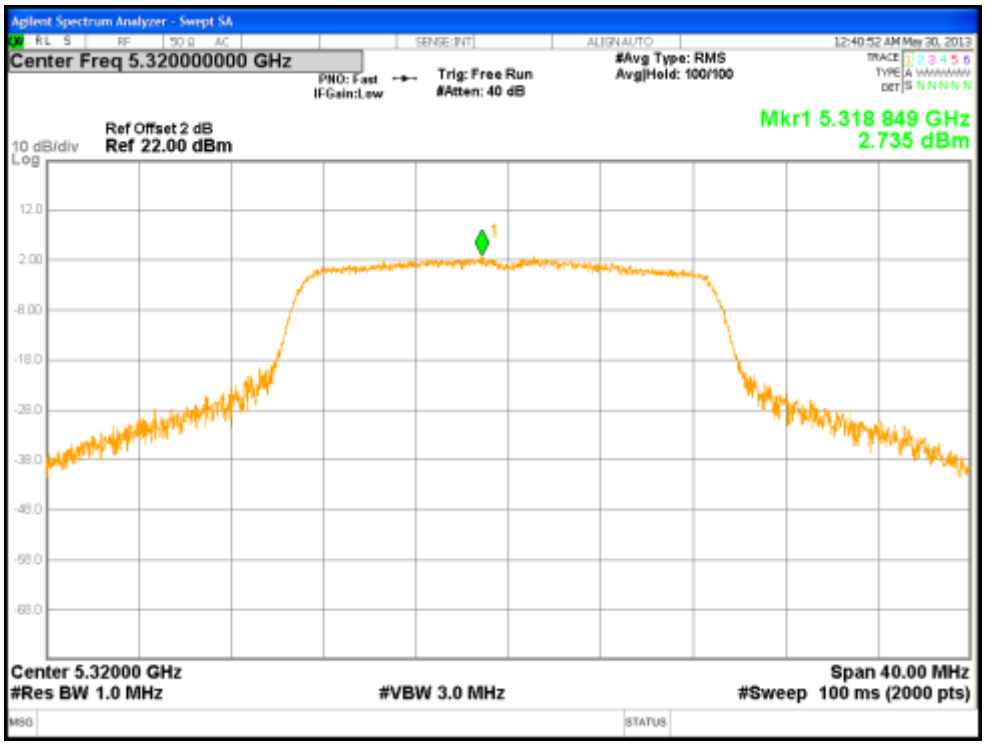


Figure 124: Power Spectral Density, 5320 MHz at 802.11n, Chain 2 – 6.5 Mbps

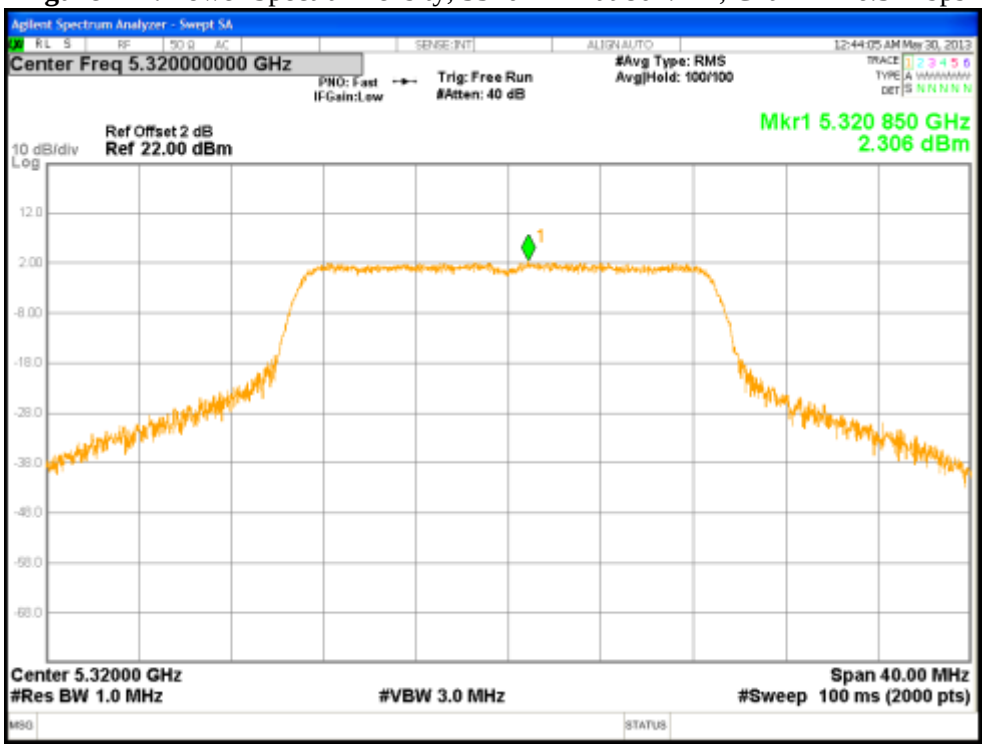


Figure 125: Power Spectral Density, 5320 MHz at 802.11n, Chain 3 – 6.5 Mbps

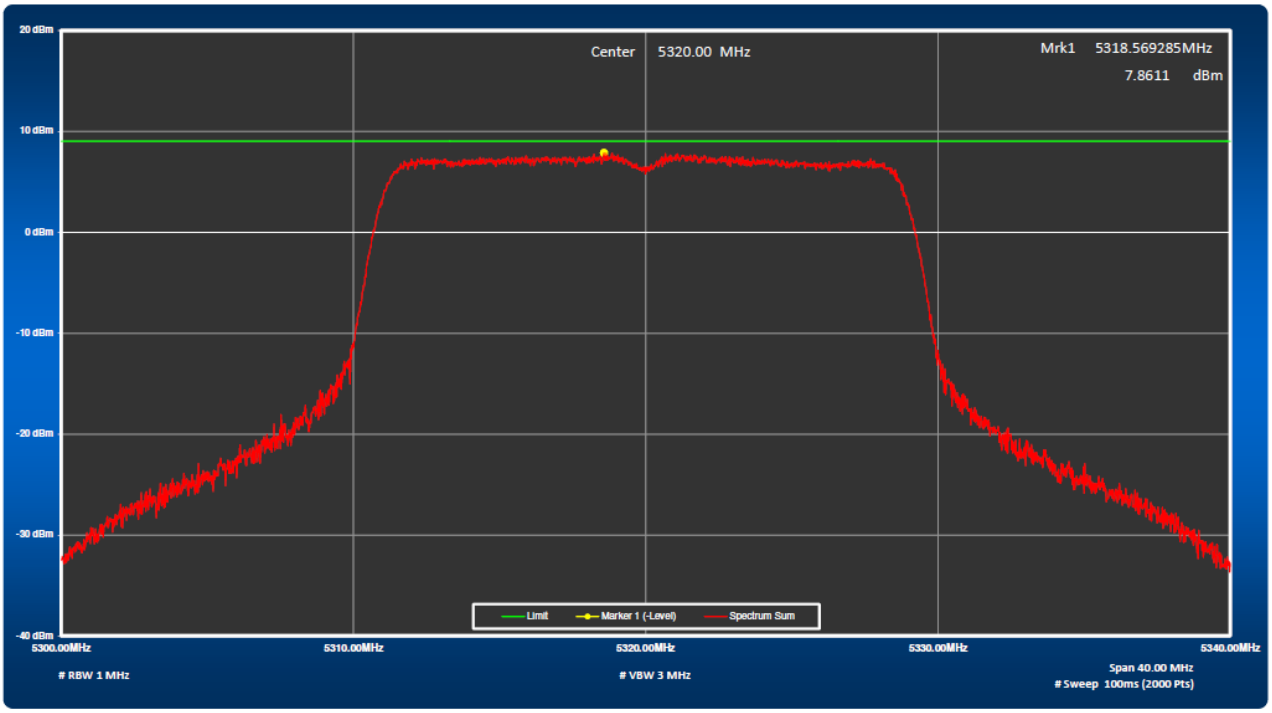


Figure 126: Total Sum of Power Spectral Density, 5320 MHz at 802.11n, 6.5 Mbps

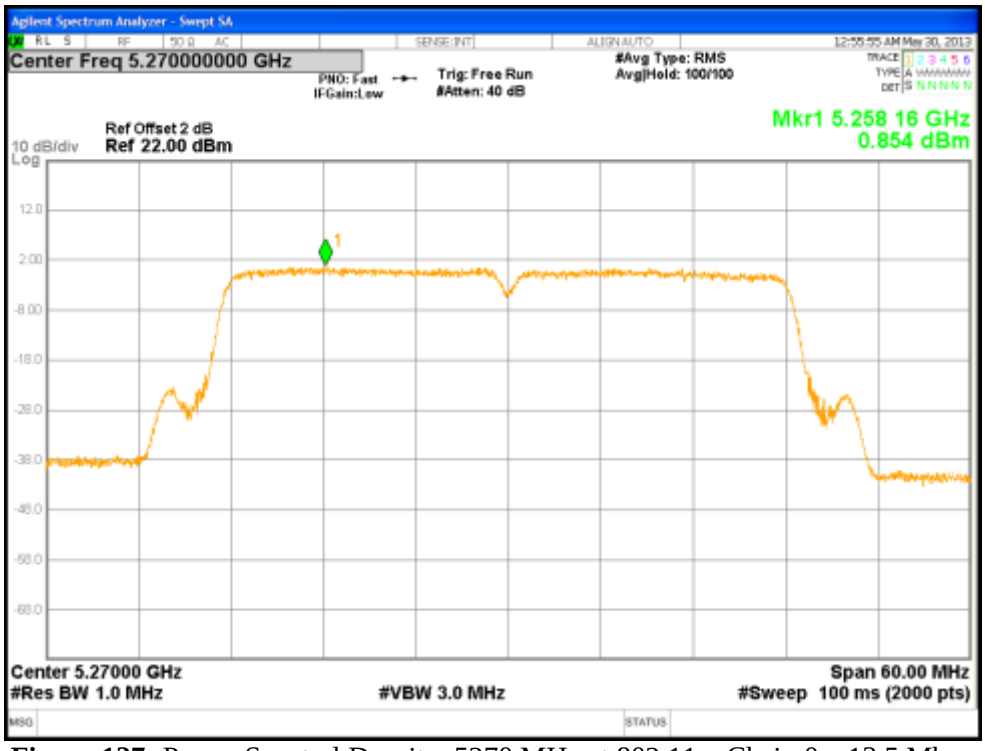


Figure 127: Power Spectral Density, 5270 MHz at 802.11n, Chain 0 – 13.5 Mbps

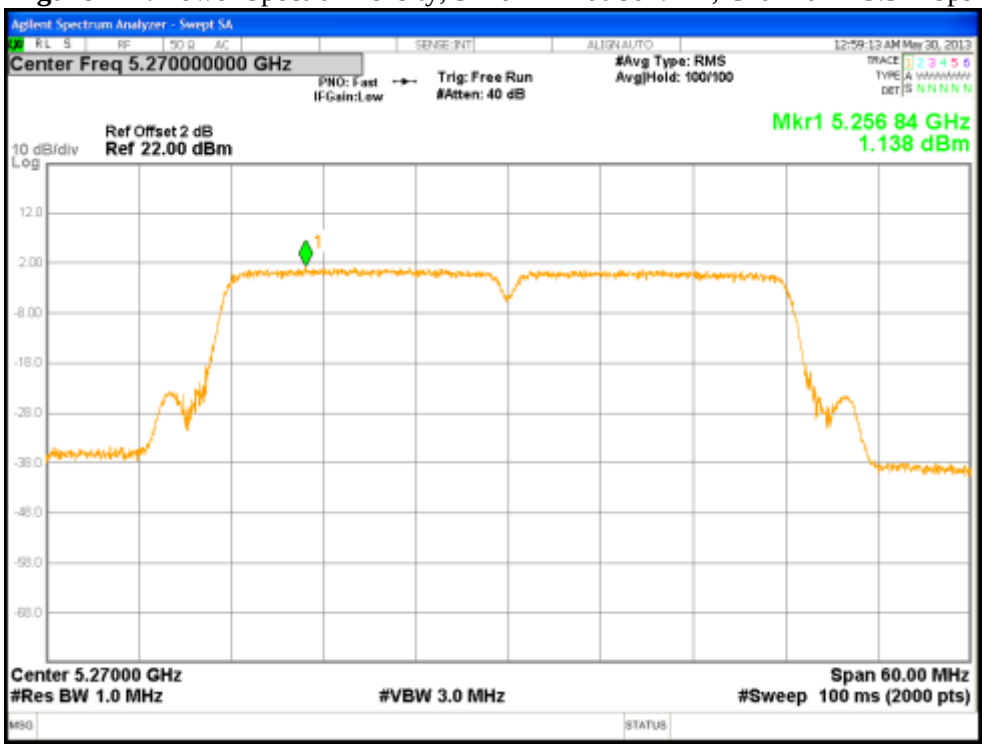


Figure 128: Power Spectral Density, 5270 MHz at 802.11n, Chain 1 – 13.5 Mbps

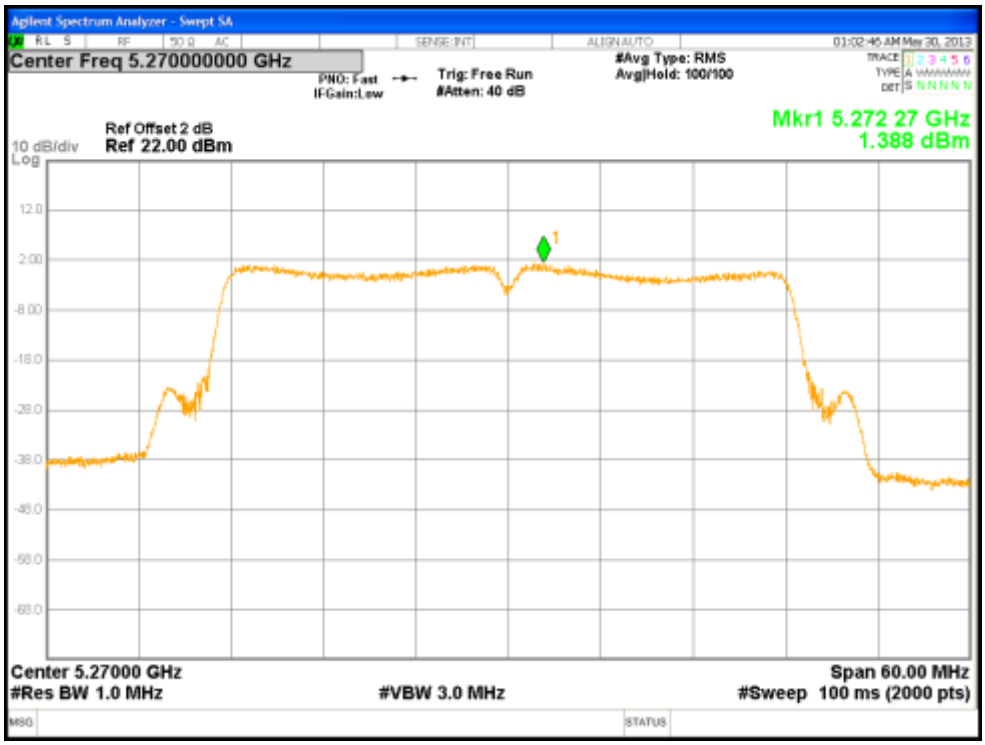


Figure 129: Power Spectral Density, 5270 MHz at 802.11n, Chain 2 – 13.5 Mbps

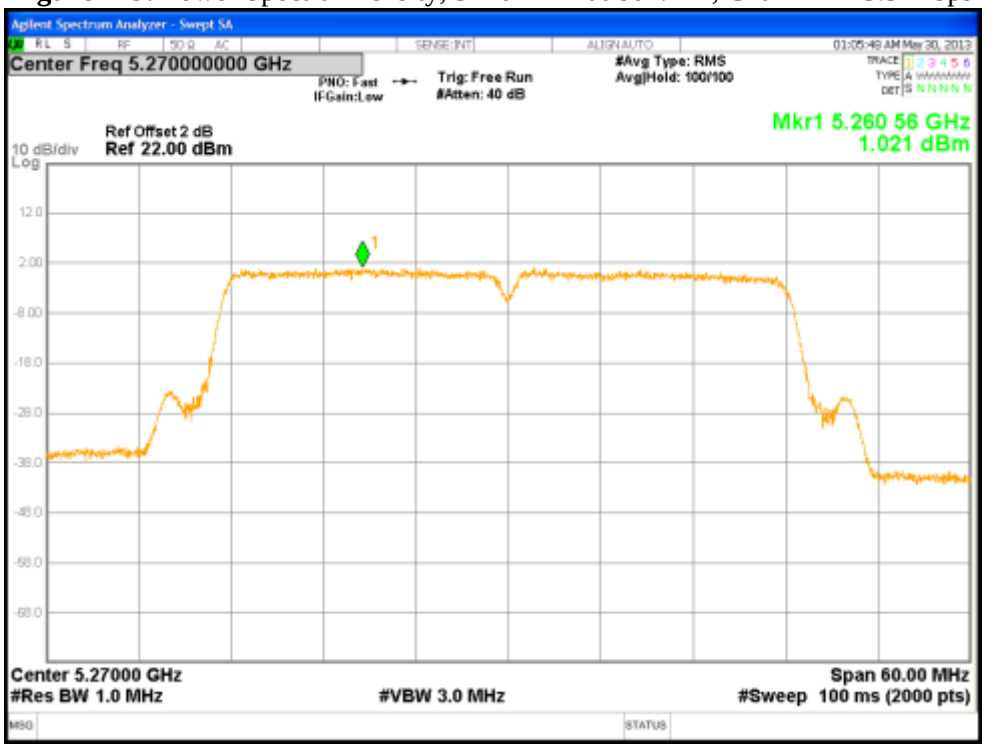


Figure 130: Power Spectral Density, 5270 MHz at 802.11n, Chain 3 – 13.5 Mbps

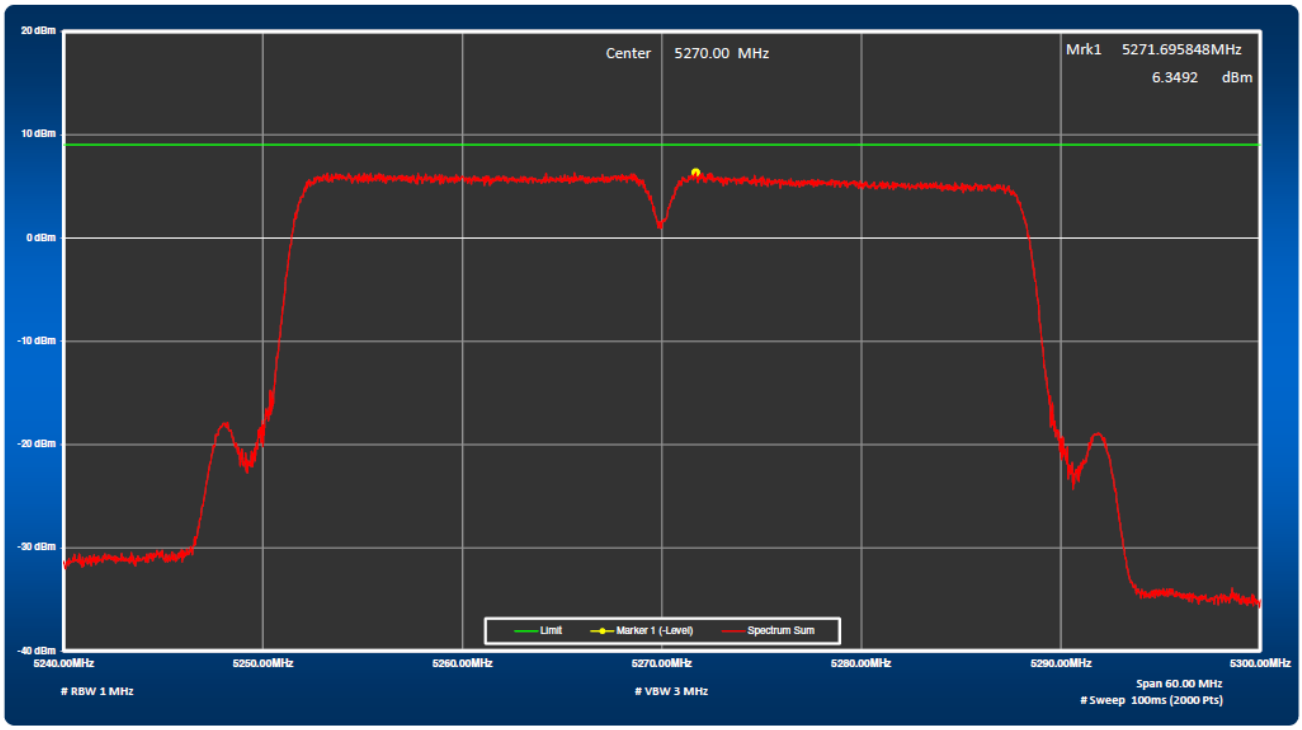


Figure 131: Total Sum of Power Spectral Density, 5270 MHz at 802.11n, 13.5 Mbps

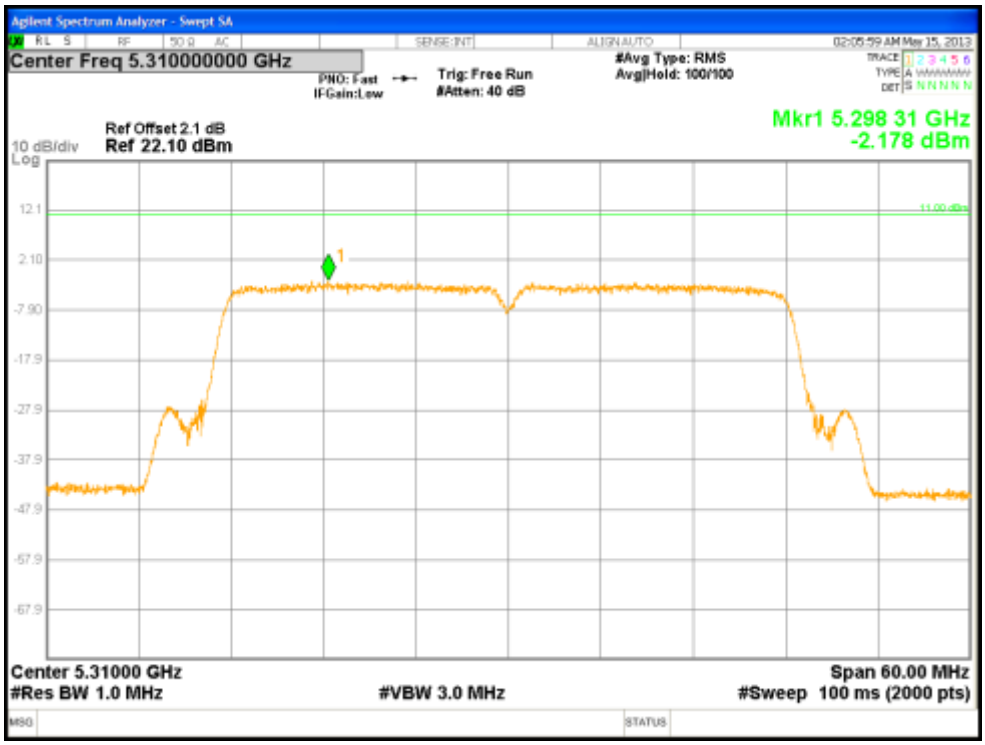


Figure 132: Power Spectral Density, 5310 MHz at 802.11n, Chain 0 – 13.5 Mbps

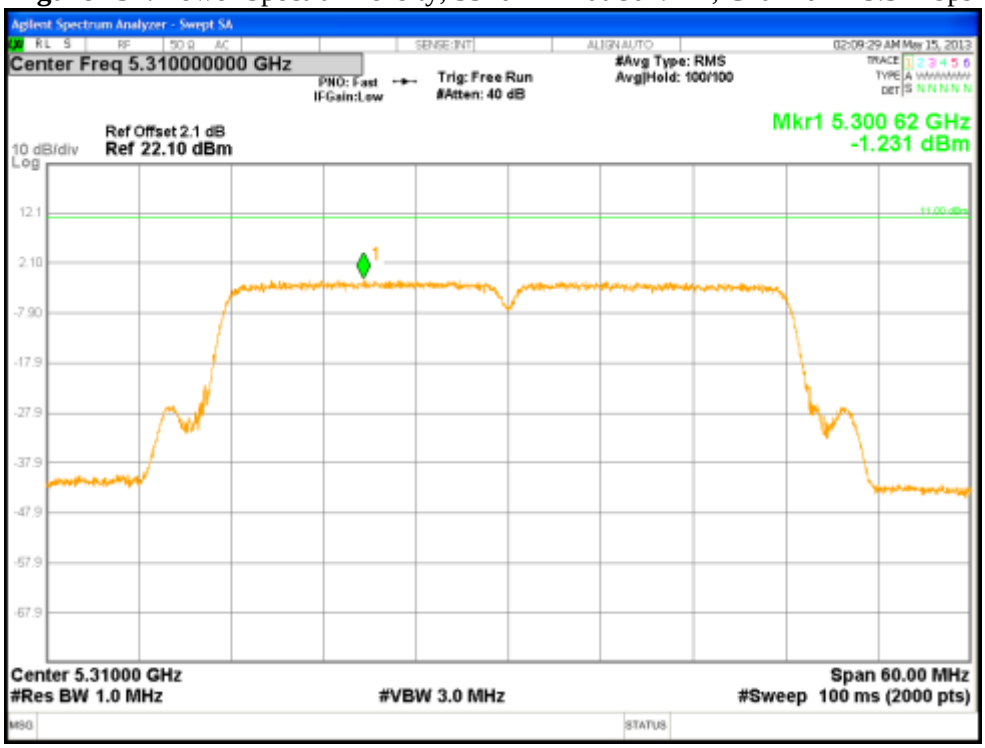


Figure 133: Power Spectral Density, 5310 MHz at 802.11n, Chain 1 – 13.5 Mbps

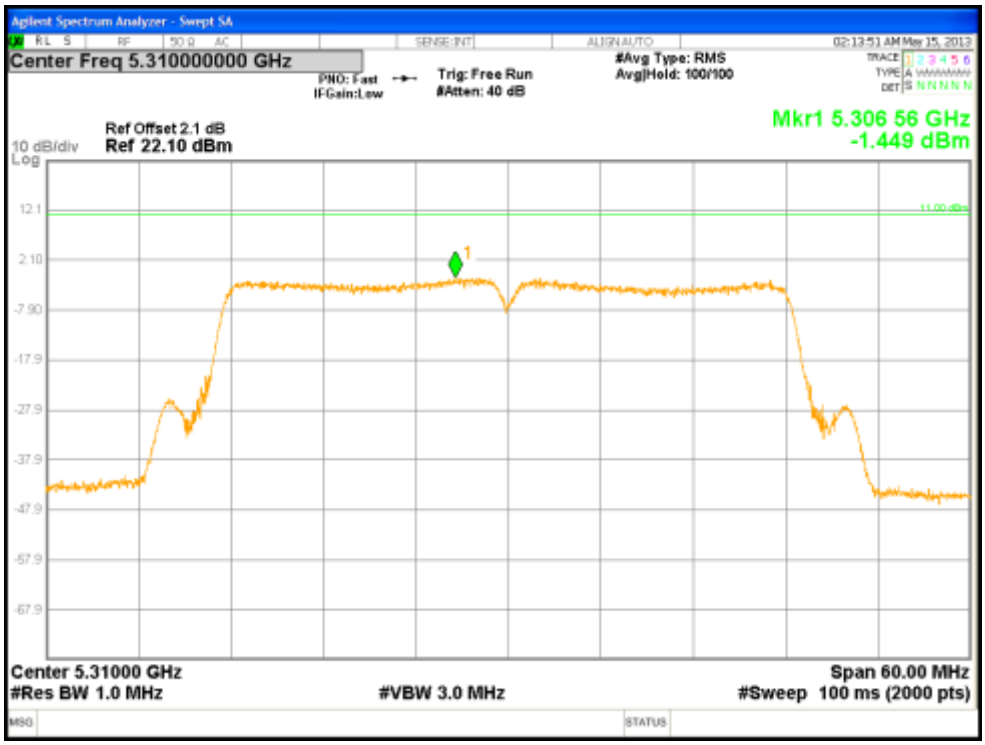


Figure 134: Power Spectral Density, 5310 MHz at 802.11n, Chain 2 – 13.5 Mbps

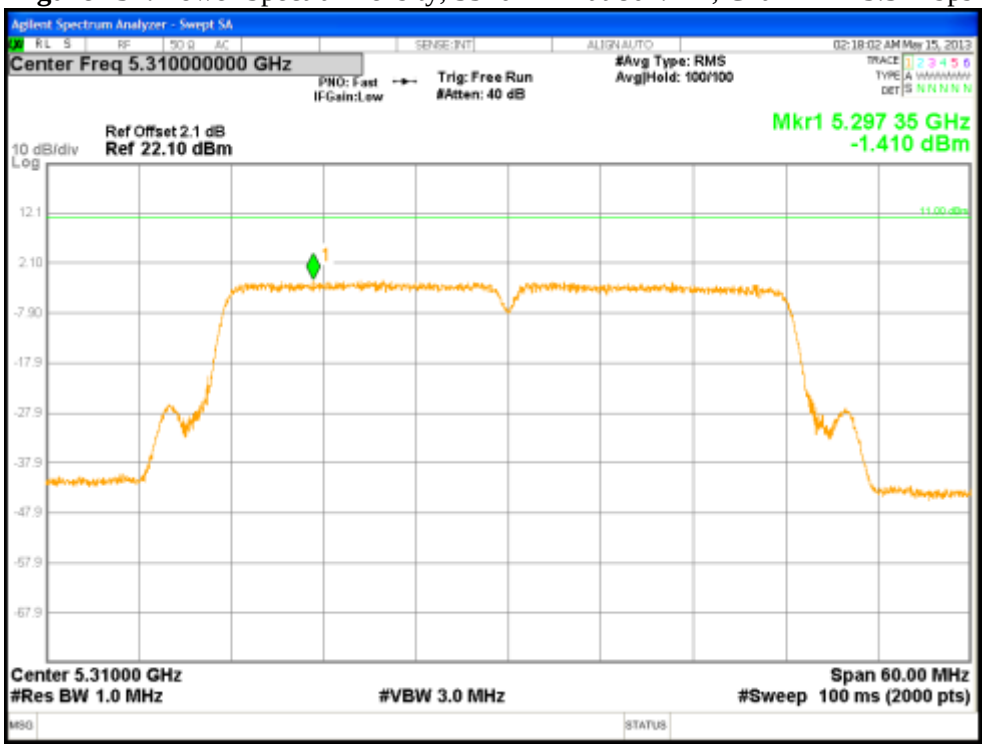


Figure 135: Power Spectral Density, 5310 MHz at 802.11n, Chain 3 – 13.5 Mbps

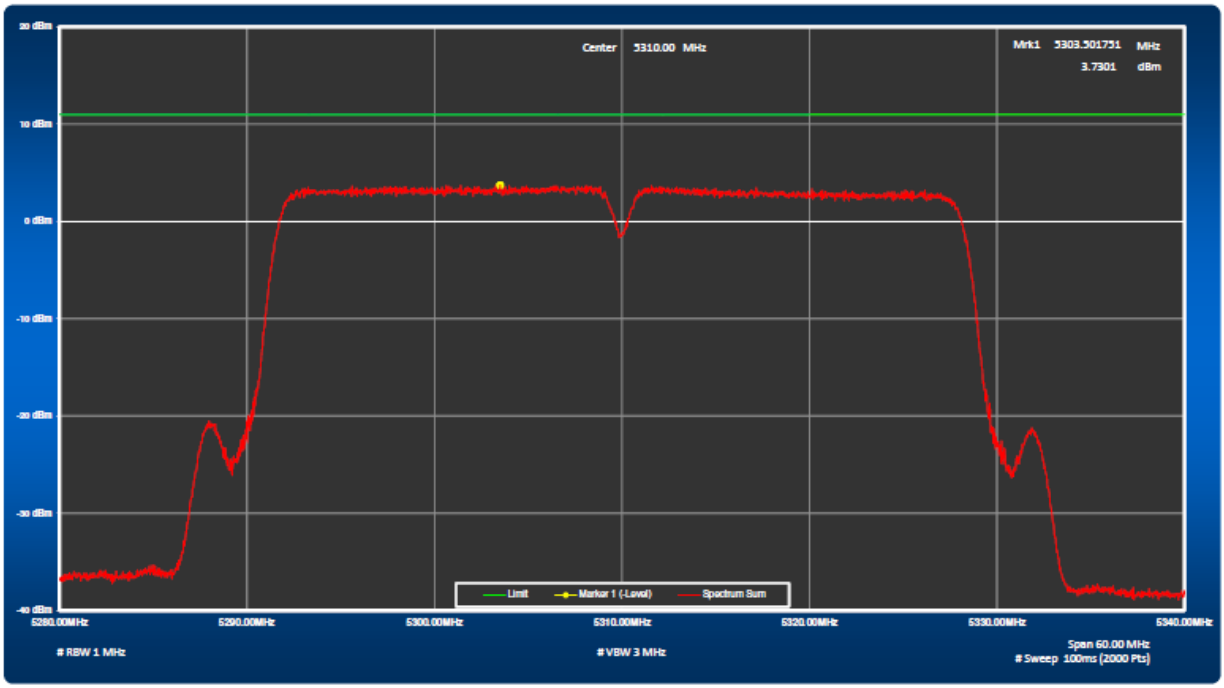


Figure 136: Total Sum of Power Spectral Density, 5310 MHz at 802.11n, 13.5 Mbps

4.5 Transmitter Spurious Emissions

Transmitter spurious emissions are emissions outside the frequency range of the equipment when the equipment is in transmit mode; per requirement of CFR47 15.205, 15.209, 15.407(b), RSS 210 Sect. A.9.2

4.5.1 **Test Methodology**

4.5.1.1 Preliminary Test

A test program that controls instrumentation and data logging was used to automate the preliminary RF emission test procedure. The frequency range of interest was divided into sub-ranges to yield a frequency resolution of approximately 120 kHz and provide a reading at each frequency for no more than 12° of turntable rotation. For each frequency sub-range the turntable was rotated 360° while peak emission data was recorded and plotted over the frequency range of interest in horizontal and vertical antenna polarization's.

Preliminary emission profile testing was performed inside the anechoic chamber. The EUT was placed on a 1.0m x 1.5m non-conductive table 80cm above the floor. The EUT was positioned as shown in the setup photographs. The receiving antenna was placed at a distance of 3m at a fixed height of 1m. Measurement equipment was located outside of the chamber. A video camera was placed inside the chamber to view the EUT.

Pres-scans were performed to determine the worst axis, data rate/ chains.

4.5.1.2 Final Test

For each frequency measured, the peak emission was maximized by manipulating the receiving antenna from 1 to 4 meters above the ground plane and placing it at the position that produced the maximum signal strength reading. The turntable was then rotated through 360° while observing the peak signal and placing the EUT at the position that produced maximum radiation. The six highest emissions relative to the limit were measured unless such emissions were more than 20 dB below the limit. If less than six emissions are within 20 dB of the limit, than the noise level of the receiver is measured at frequencies where emissions are expected. Multiples of all oscillator and microprocessor frequencies were also checked.

Final testing was performed on an NSA compliant test site. The EUT was placed on a 1.0m x 1.5m non-conductive table 80cm above the ground plane. The placement of EUT and cables were the same as for preliminary testing and is shown in the setup photographs.

The final scans performed on the worst axis, Y-Axis, for three operating channels;

6 Mbit/s for 802.11a Mode: 5260 MHz, 5300 MHz, 5320 MHz

6.5 Mbit/s for 802.11n HT20 Mode: 5260 MHz, 5300 MHz, 5320 MHz

13.5 Mbit/s for 802.11n HT40 Mode: 5270 MHz, 5310 MHz

4.5.1.3 Deviations

None.

4.5.2 **Transmitter Spurious Emission Limit**

The spurious emissions of the transmitter shall not exceed the values in CFR47 Part 15.205, 15.209: 2012 and RSS 210 A1.1.2 2010.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490.....	2400/F(kHz)	300
0.490-1.705.....	24000/F(kHz)	30
1.705-30.0.....	30	30
30-88.....	100 **	3
88-216.....	150 **	3
216-960.....	200 **	3
Above 960.....	500	3

According to CFR47 15.407 (b), all harmonics and spurious emissions which are outside the 5150 MHz - 5250 MHz, 5250 MHz – 5350 MHz, or 5470 MHz – 5725MHz shall not exceed -27 dBm/MHz. This is equivalent to 68.2 dBuV/m at 3 meter distance.

4.5.3 **Test Results**

The final measurement data was taken under the worst case operating modes, configurations, and/or cable positions. It also reflects the results including any modifications and/or special accessories listed in Sections 1.4 and test plan.

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

Table 7: Transmit Spurious Emission at Band-Edge Requirements

Test Conditions: Radiated Measurement, Normal Temperature and Voltage only								
Antenna Type: Integrated				**Power Setting:** See test plan				
Max. Directional Gain: + 8 dBi				**Signal State:** Modulated at 100%.				
Ambient Temp.: 23 °C				**Relative Humidity:**29%				
Band-Edge Results								
Freq. (MHz)	Level (dBuV/m)	Polarity (H/V)	Limit (dBuV/m)	Margin (dB)	Det.	Table Deg.	Tower (cm)	Note
5150	60.05	H	74.00	-13.95	Pk	282	257	11a 5260 MHz at 18 dBm
5150	47.37	H	54.00	-6.63	Ave	282	257	11a 5260 MHz at 18 dBm
5150	60.89	V	74.00	-13.11	Pk	250	177	11a 5260 MHz at 18 dBm
5150	49.06	V	54.00	-4.94	Ave	250	177	11a 5260 MHz at 18 dBm
5350	65.01	H	74.00	-8.99	Pk	278	256	11a 5260 MHz at 18 dBm
5350	51.26	H	54.00	-2.74	Ave	278	256	11a 5260 MHz at 18 dBm
5350	63.77	V	74.00	-10.23	Pk	245	171	11a 5260 MHz at 18 dBm
5350	50.81	V	54.00	-3.19	Ave	245	171	11a 5260 MHz at 18 dBm
5350	63.02	H	74.00	-10.98	Pk	264	318	HT20-5260 MHz at 18 dBm
5350	44.02	H	54.00	-9.98	Ave	264	318	HT20-5260 MHz at 18 dBm
5350	63.96	V	74.00	-10.04	Pk	85	142	HT20-5260 MHz at 18 dBm
5150	45.40	V	54.00	-8.60	Ave	85	142	HT20-5260 MHz at 18 dBm
5350	63.80	H	74.00	-10.20	Pk	266	309	HT20-5320 MHz at 18 dBm
5350	49.84	H	54.00	-4.16	Ave	266	309	HT20-5320 MHz at 18 dBm
5350	66.23	V	74.00	-7.77	Pk	101	169	HT20-5320 MHz at 18 dBm
5350	49.81	V	54.00	-4.19	Ave	101	169	HT20-5320 MHz at 18 dBm
5350	65.22	H	74.00	-8.78	Pk	261	221	HT40-5270 MHz at 18 dBm
5350	45.83	H	54.00	-8.17	Ave	261	221	HT40-5270 MHz at 18 dBm
5350	64.05	V	74.00	-9.95	Pk	120	180	HT40-5270 MHz at 18 dBm
5350	45.02	V	54.00	-8.98	Ave	120	180	HT40-5270 MHz at 18 dBm
5350	68.45	H	74.00	-5.55	Pk	259	241	HT40-5310 MHz at 14dBm
5350	53.32	H	54.00	-0.68	Ave	259	241	HT40-5310 MHz at 14dBm
5350	65.92	V	74.00	-8.08	Pk	295	164	HT40-5310 MHz at 14dBm
5350	48.95	V	54.00	-5.05	Ave	295	164	HT40-5310 MHz at 14dBm

Note: 1. Band-edge frequencies were taken at 5350 MHz since the band edge at 5250 MHz is not a restricted band.

2. All the band-edge measurements met the restricted band requirements of CFR47 15.205.

3. It is also complied with the -27 dBm/MHz (68.2 dBuV/m at 3m) requirements as stated in CFR47 15.407 (b) (1) to 15.407 (b) (3).

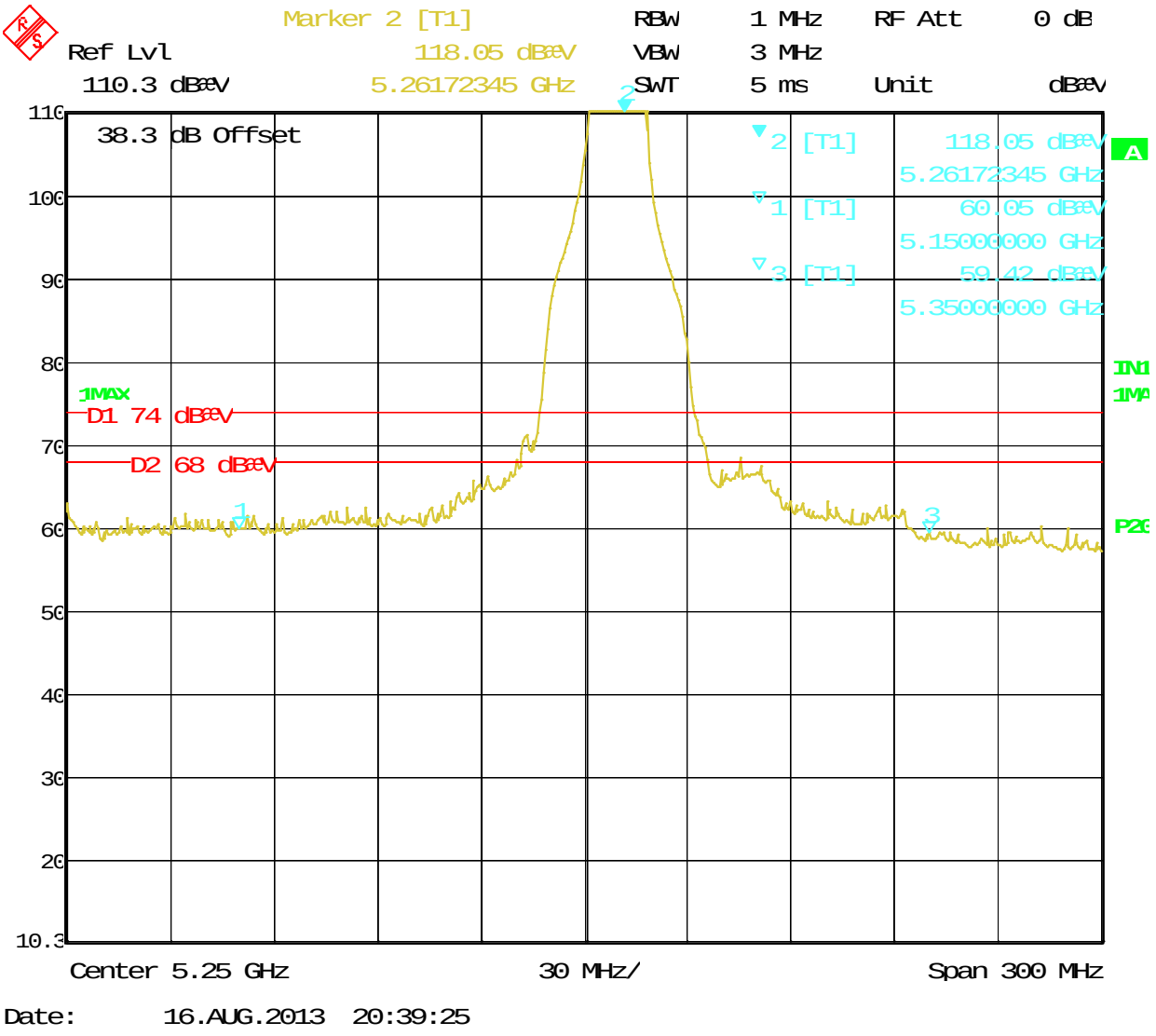


Figure 137: Radiated Emission at the Edge for Channel 5260 MHz at 6 Mbps – Horz. (Peak)

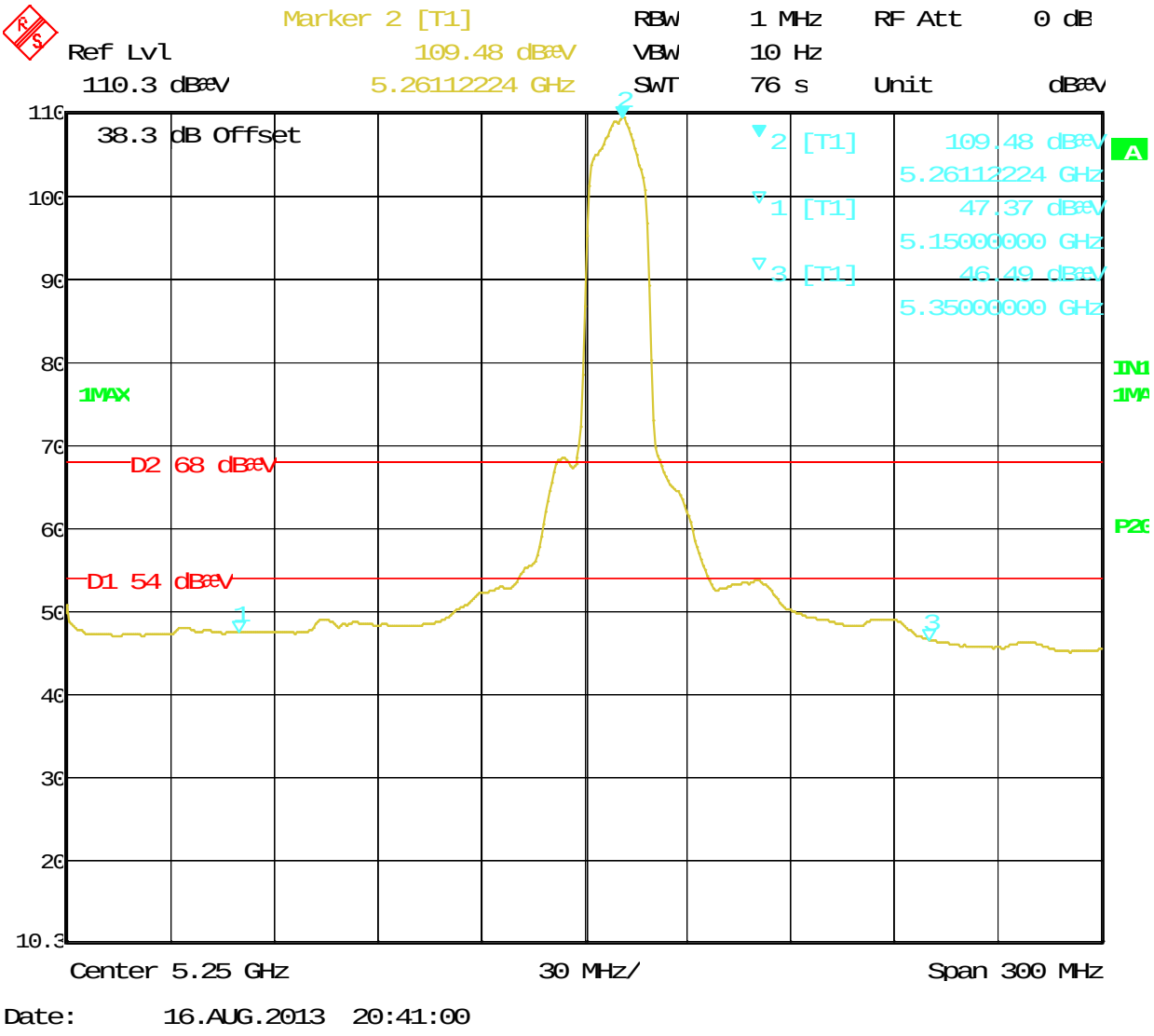


Figure 138: Radiated Emission at the Edge for Channel 5260 MHz at 6 Mbps – Horz. (Ave.)

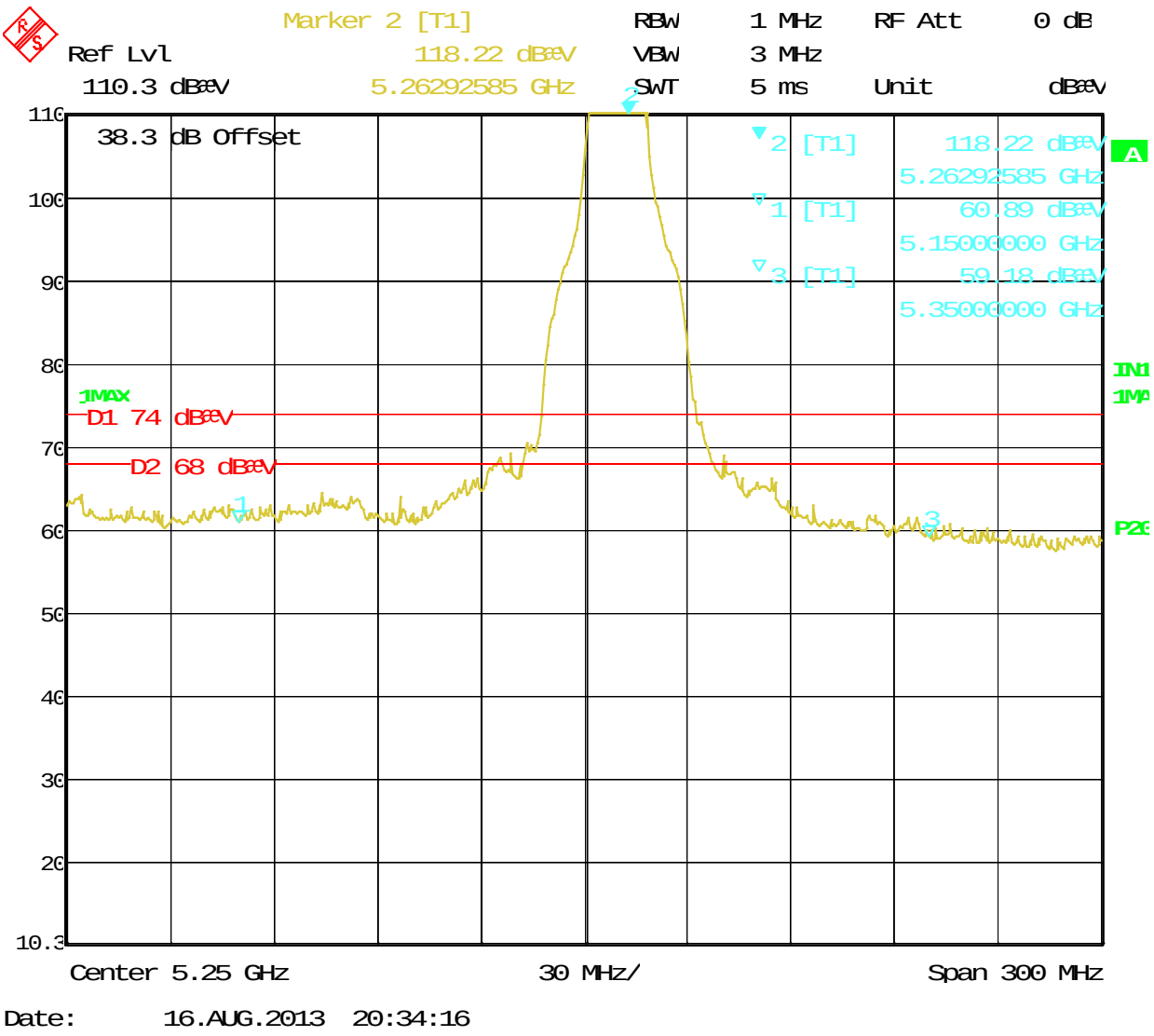


Figure 139: Radiated Emission at the Edge for Channel 5260 MHz at 6 Mbps – Vert. (Peak)

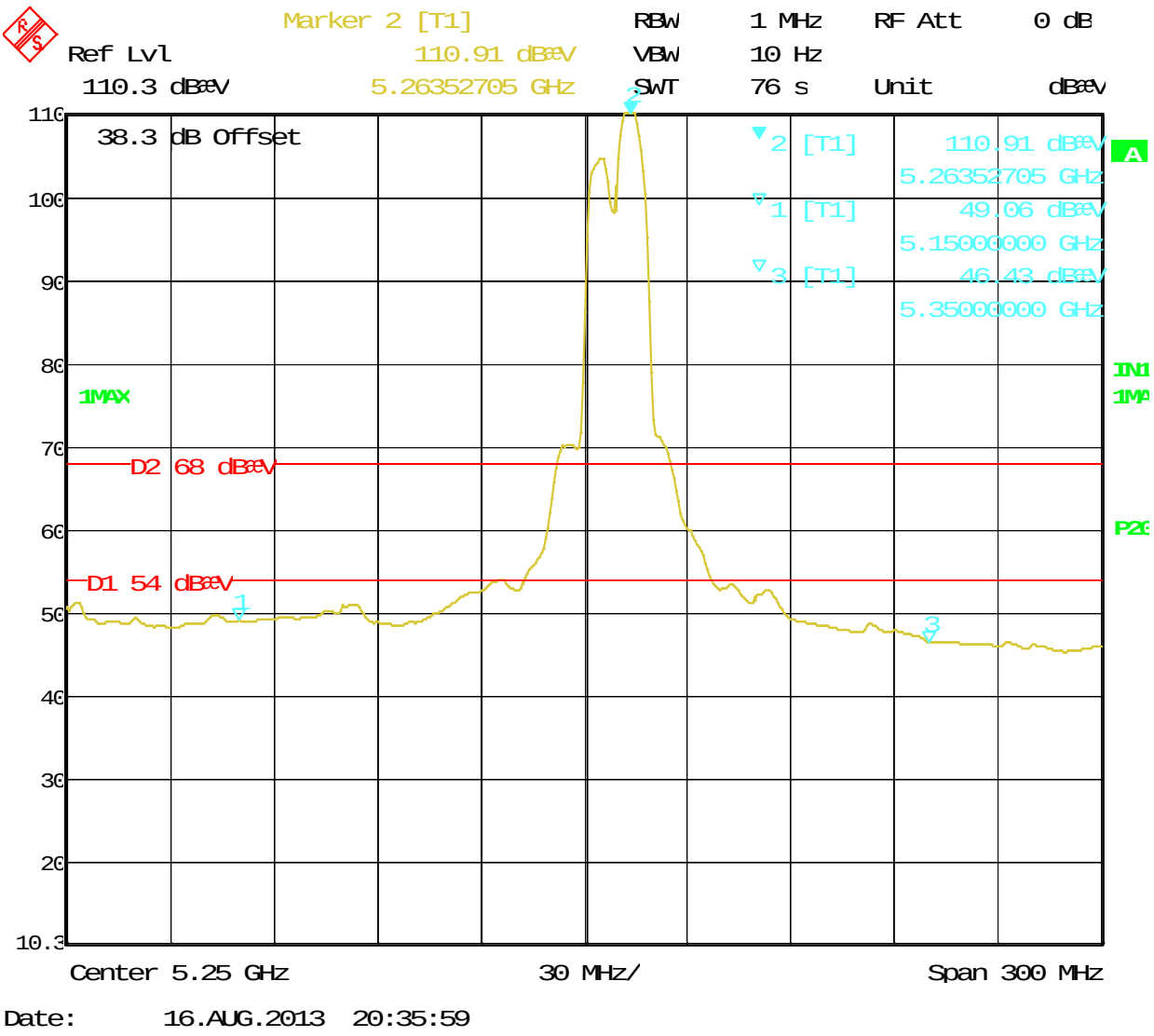


Figure 140: Radiated Emission at the Edge for Channel 5260 MHz at 6 Mbps – Vert. (Ave.)

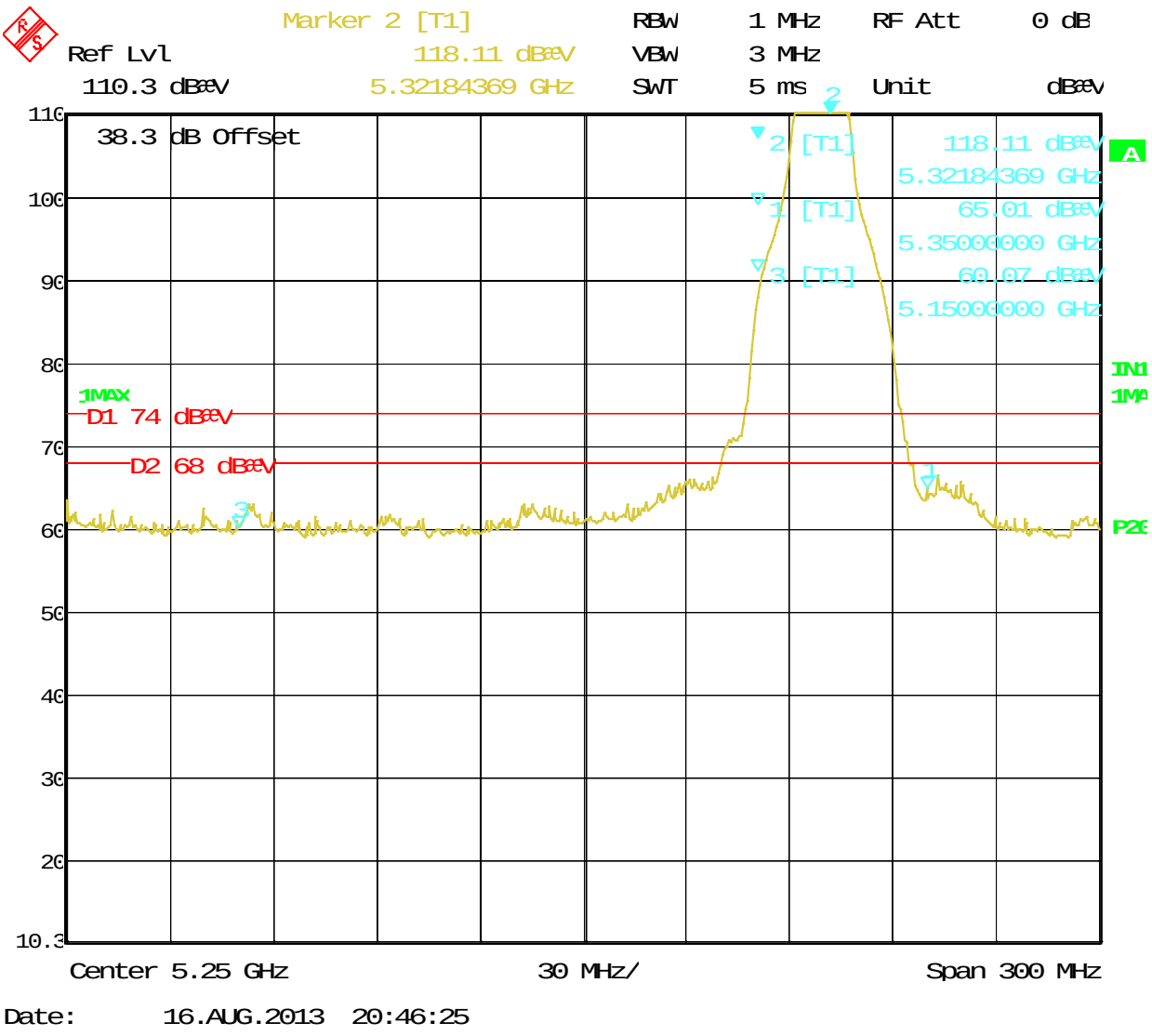


Figure 141: Radiated Emission at the Edge for Channel 5320 MHz at 6 Mbps – Horz. (Peak)

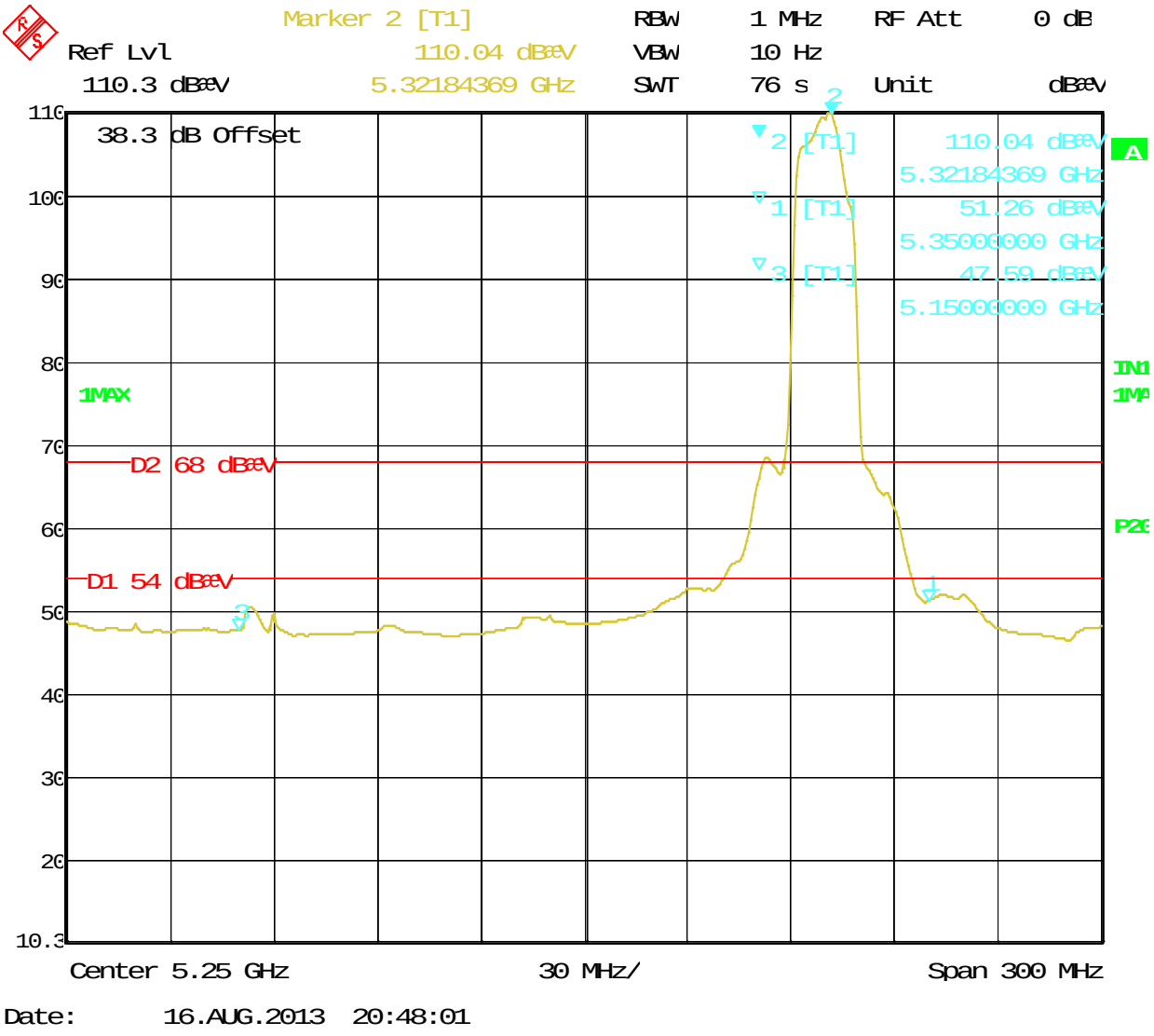


Figure 142: Radiated Emission at the Edge for Channel 5320 MHz at 6 Mbps – Horz. (Ave.)

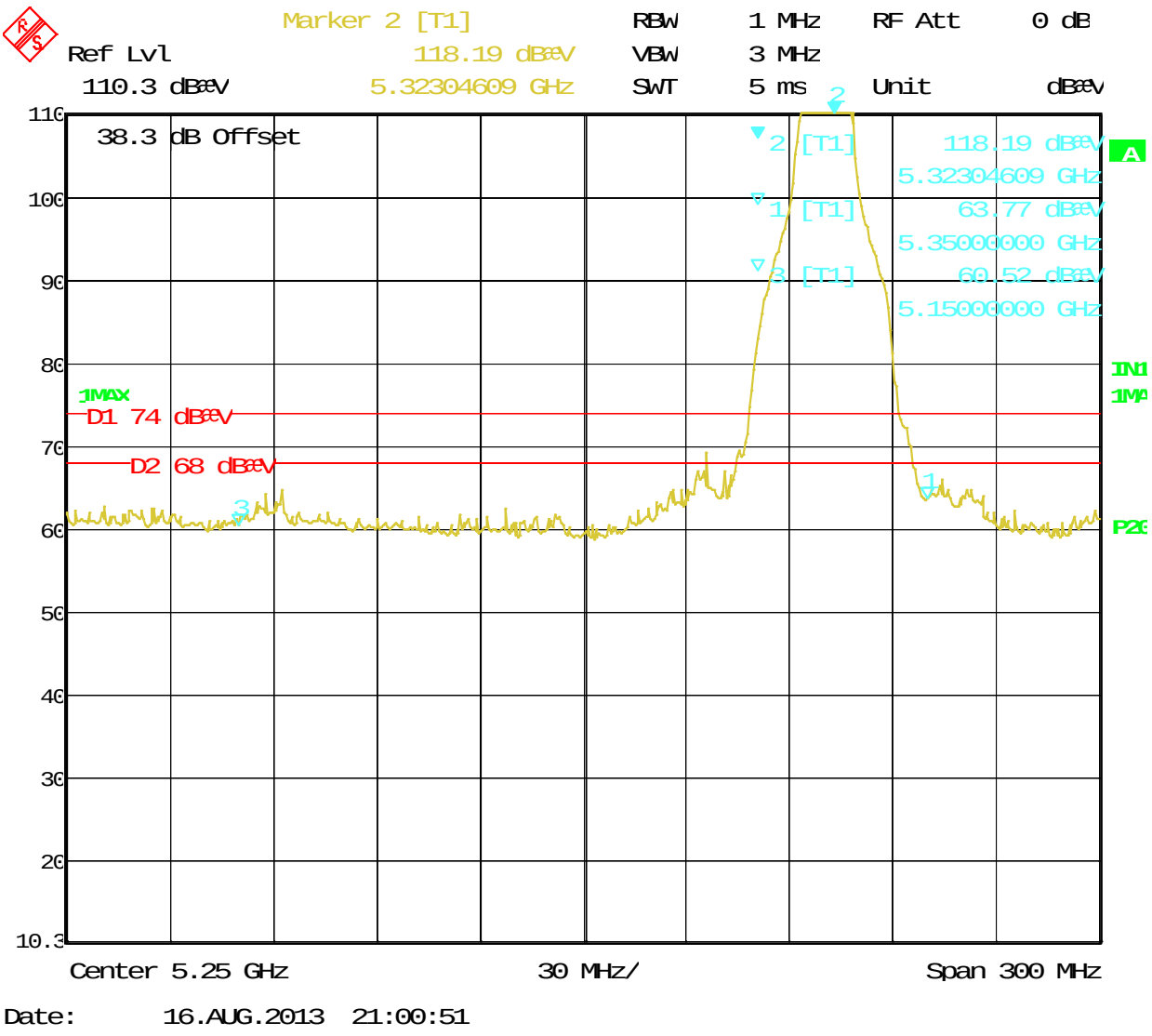


Figure 143: Radiated Emission at the Edge for Channel 5320 MHz at 6 Mbps – Vert. (Peak)

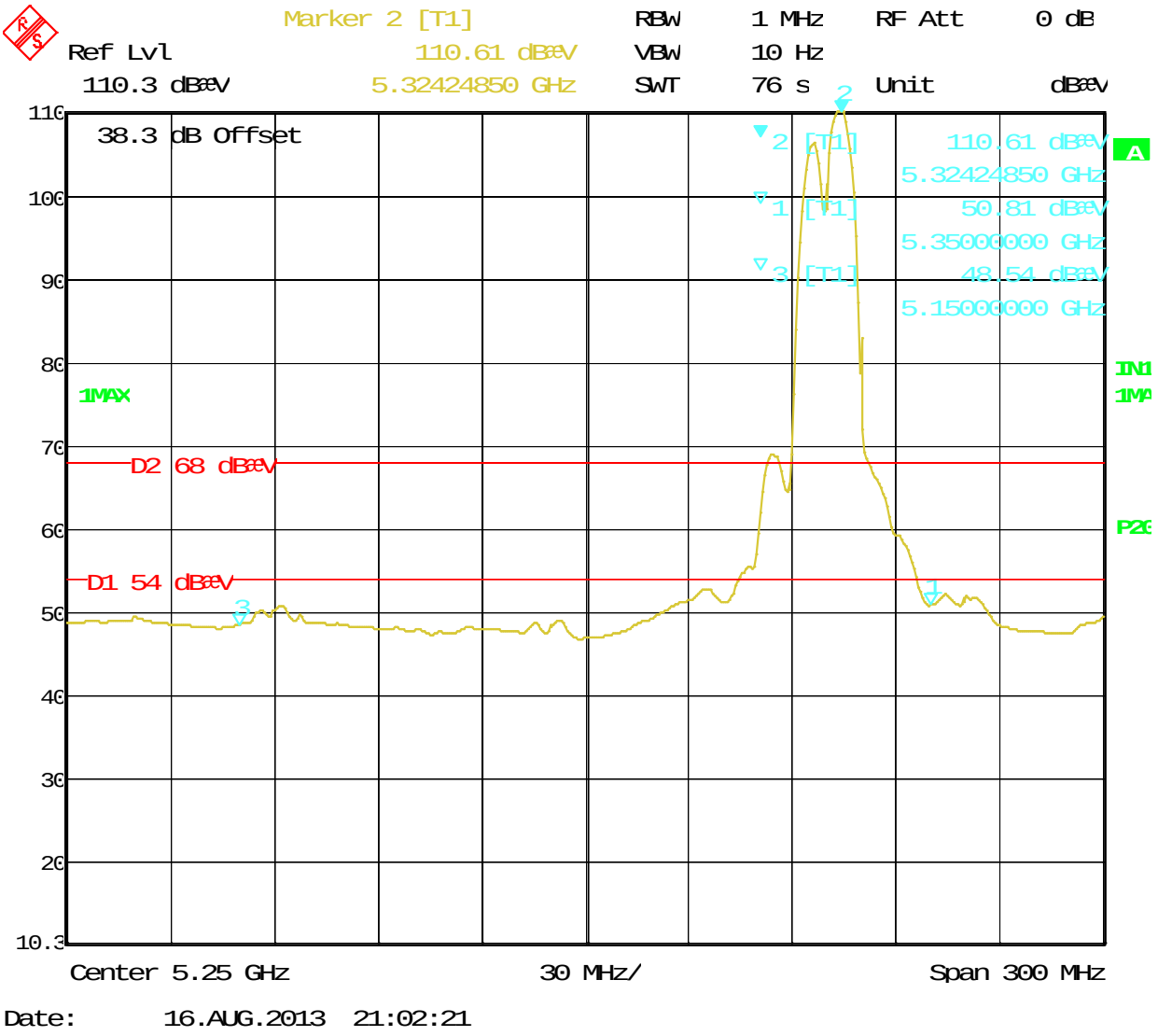


Figure 144: Radiated Emission at the Edge for Channel 5320 MHz at 6 Mbps – Vert. (Ave.)

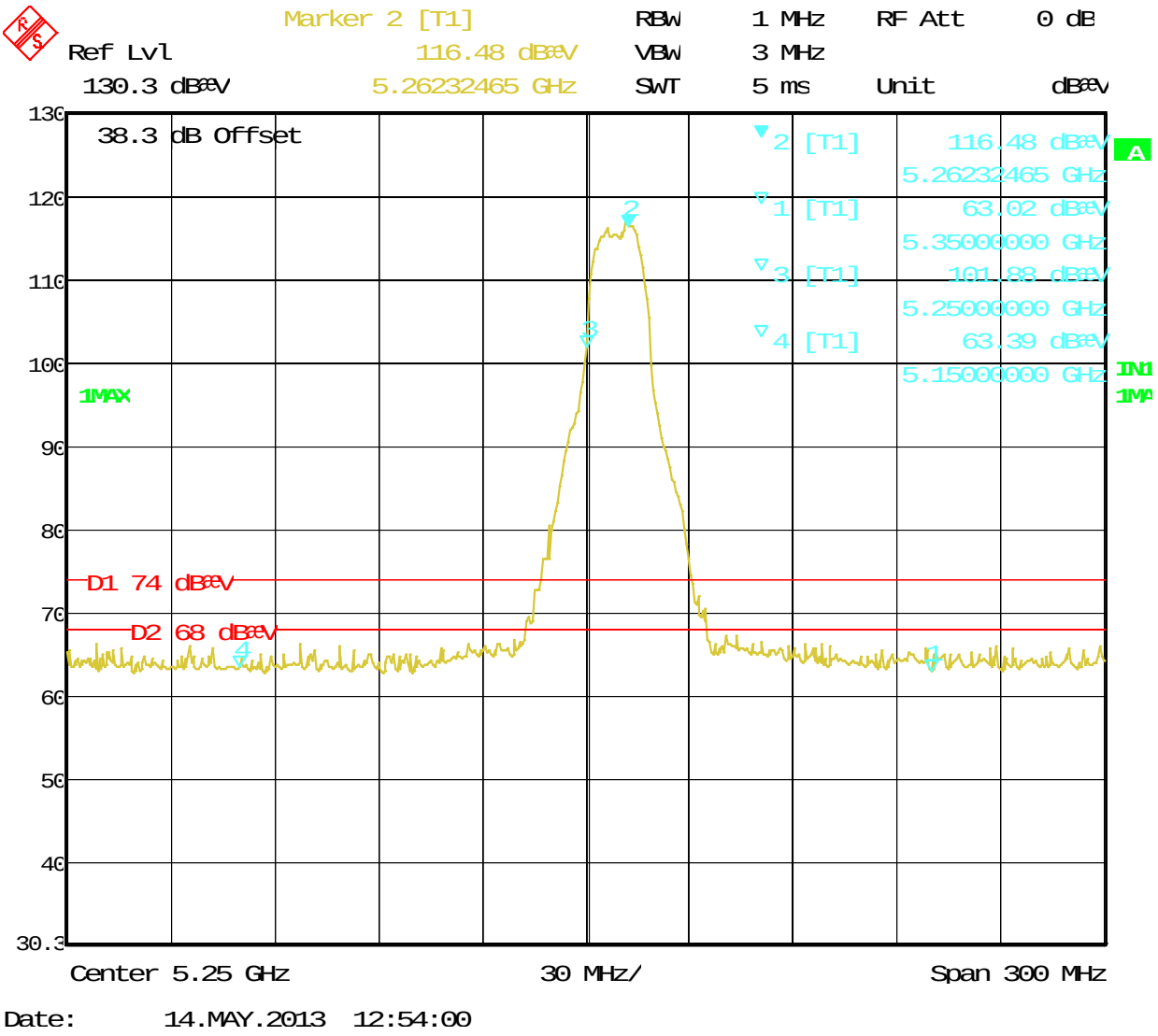


Figure 145: Radiated Emission at the Edge for Channel 5260 MHz at 6.5Mbps – Horz. (Peak)

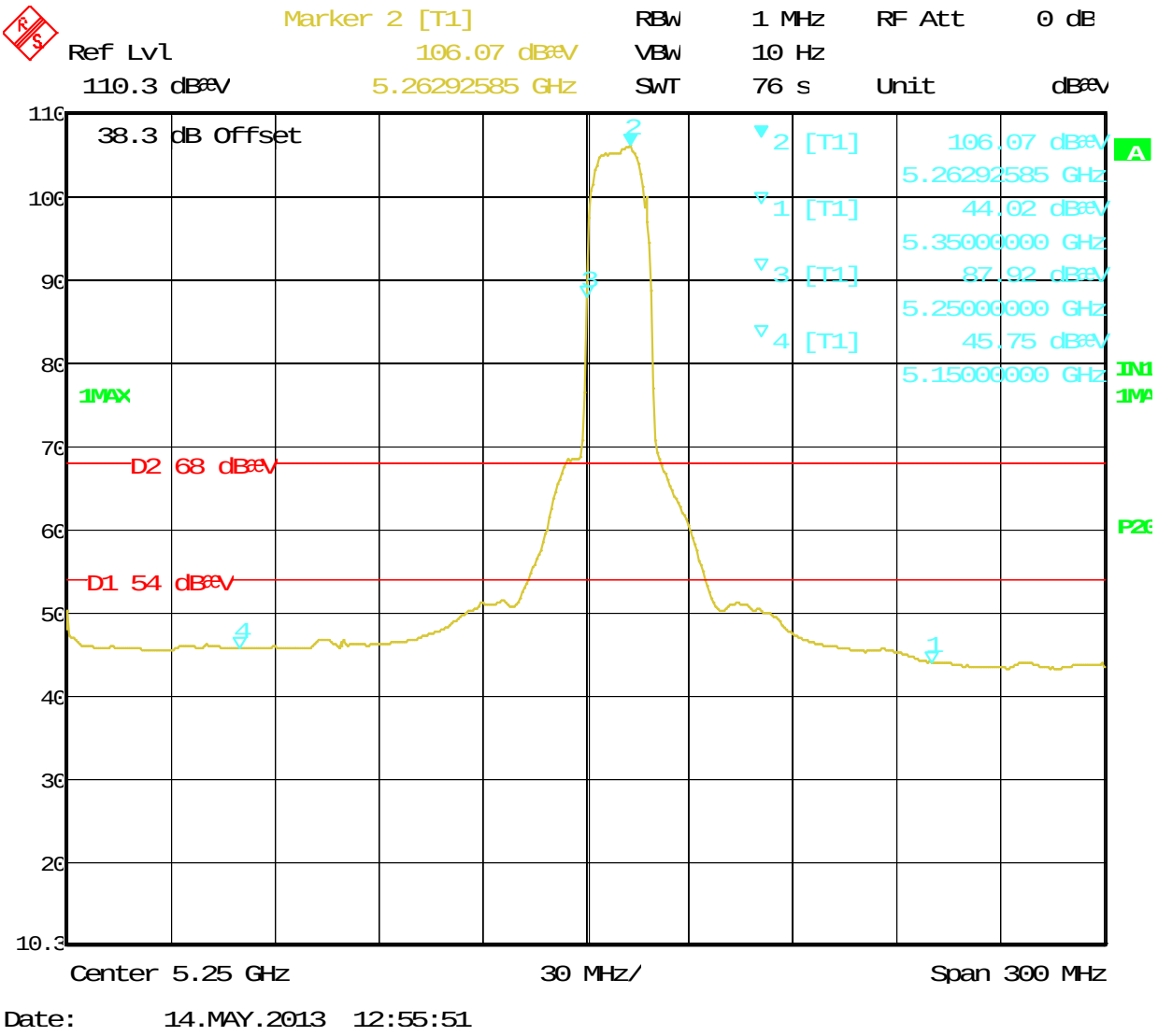


Figure 146: Radiated Emission at the Edge for Channel 5260 MHz at 6.5Mbps – Horz. (Ave.)

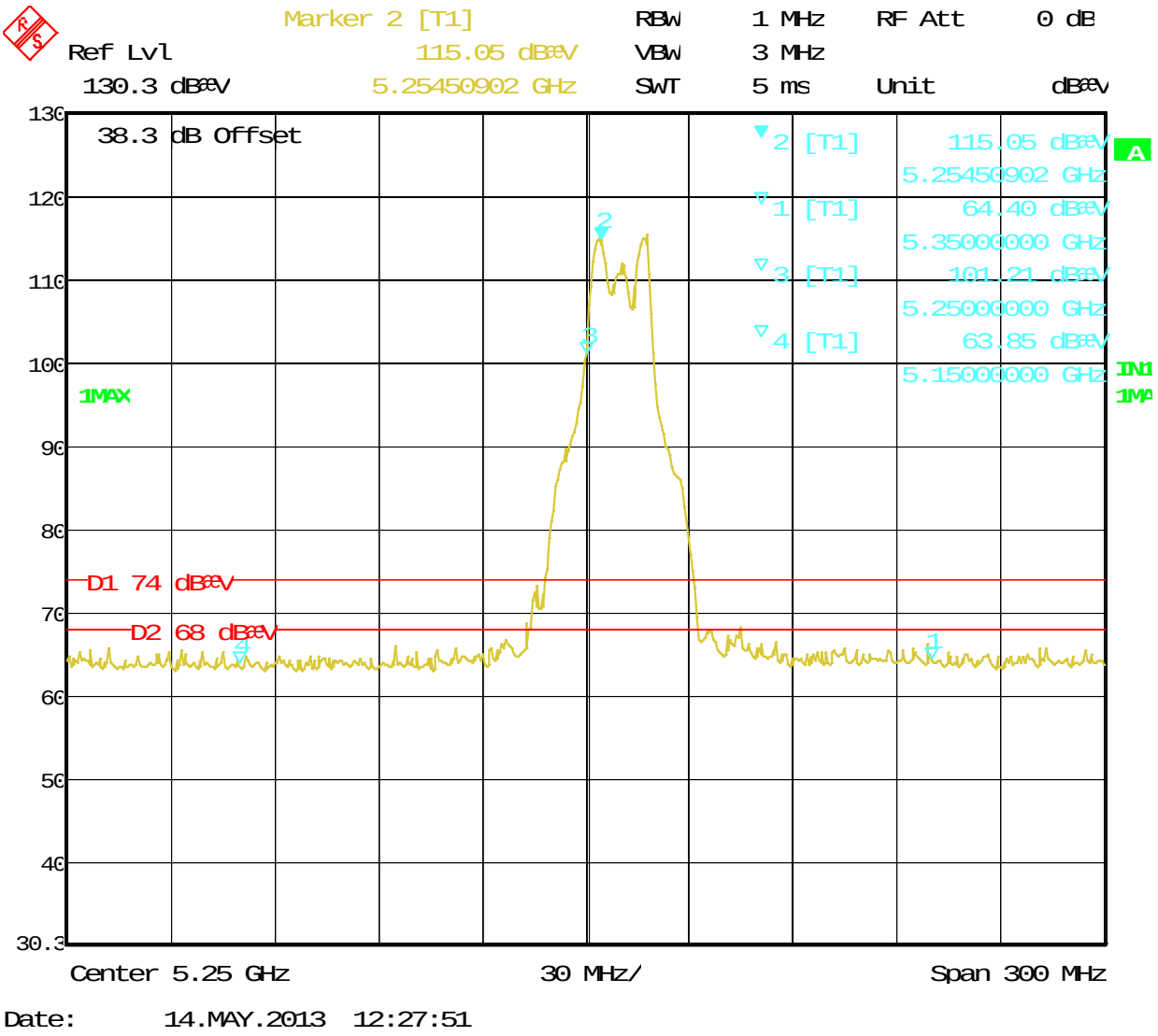


Figure 147: Radiated Emission at the Edge for Channel 5260 MHz at 6.5Mbps – Vert. (Peak)

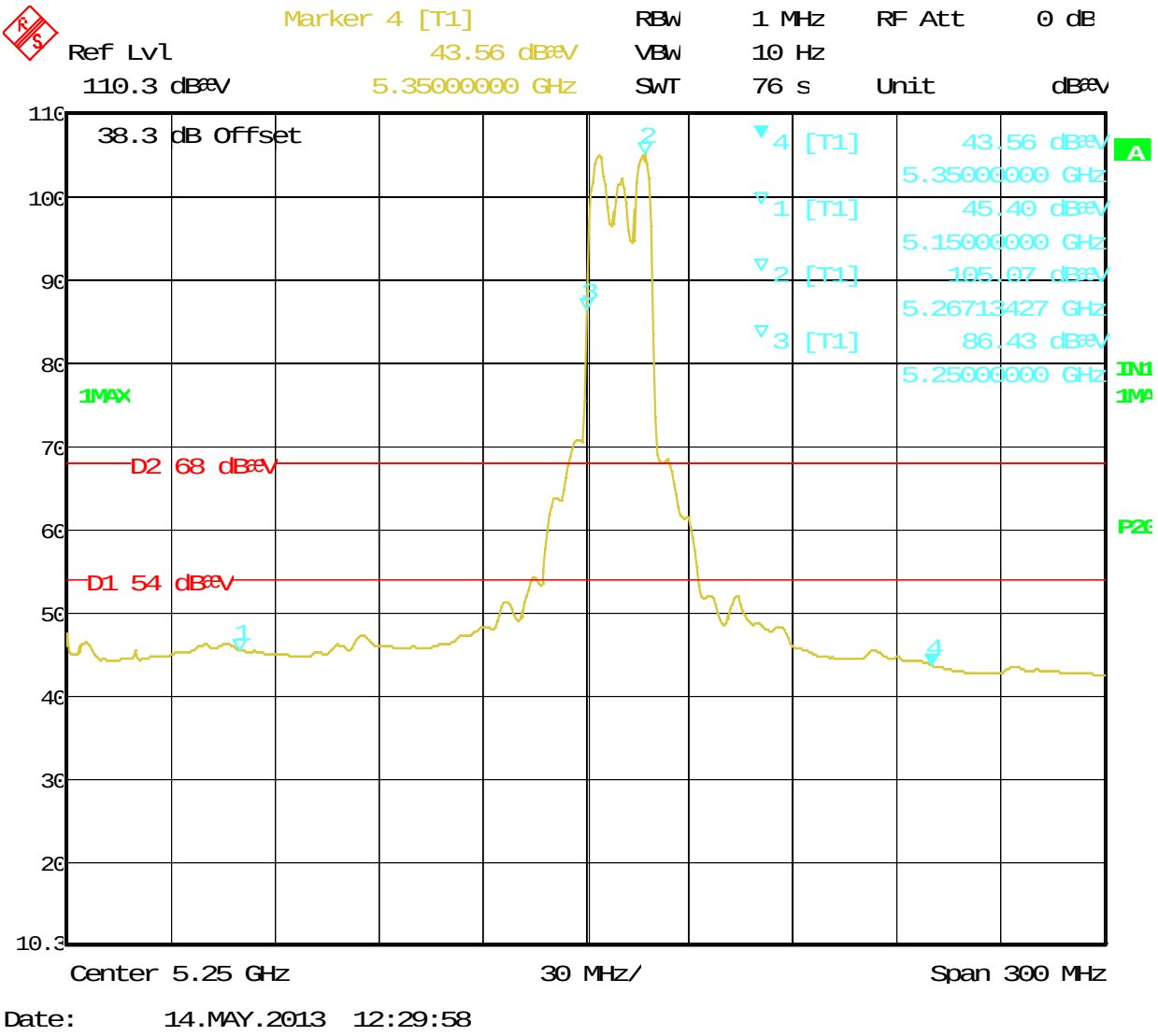


Figure 148: Radiated Emission at the Edge for Channel 5260 MHz at 6.5Mbps – Vert. (Ave.)

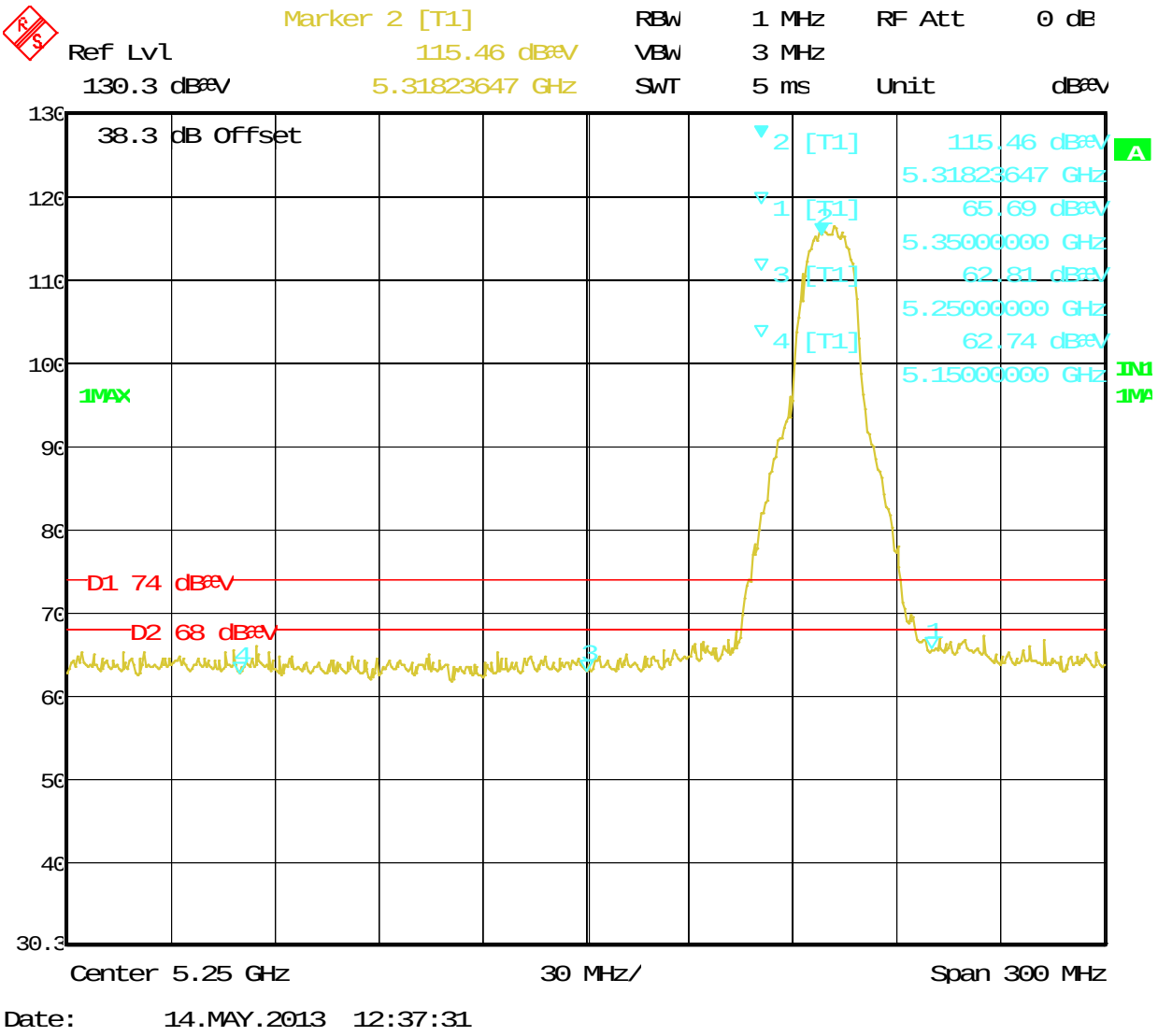


Figure 149: Radiated Emission at the Edge for Channel 5320 MHz at 6.5Mbps – Horz. (Peak)

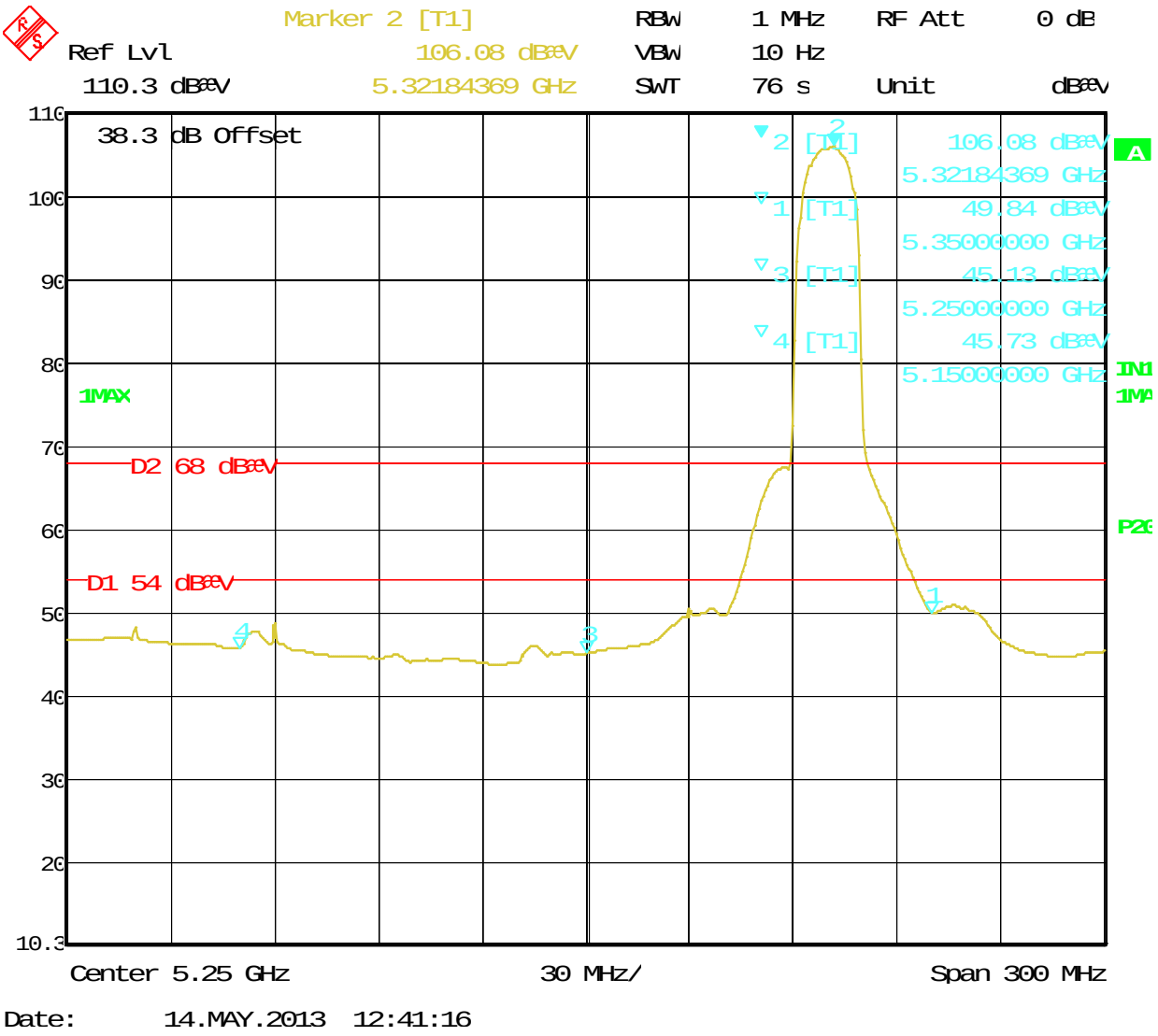


Figure 150: Radiated Emission at the Edge for Channel 5320 MHz at 6.5Mbps – Horz. (Ave.)

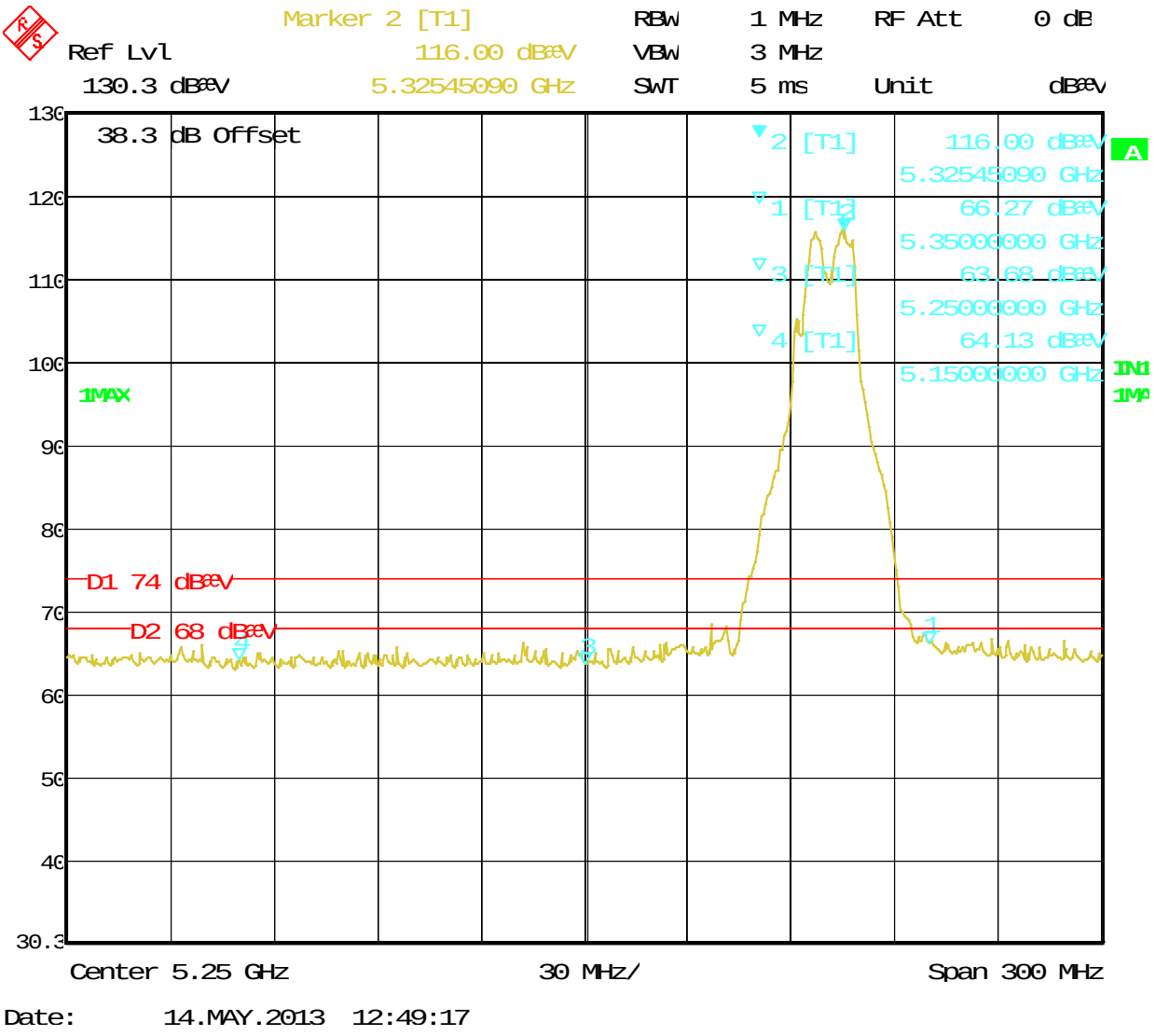


Figure 151: Radiated Emission at the Edge for Channel 5320 MHz at 6.5Mbps – Vert. (Peak)

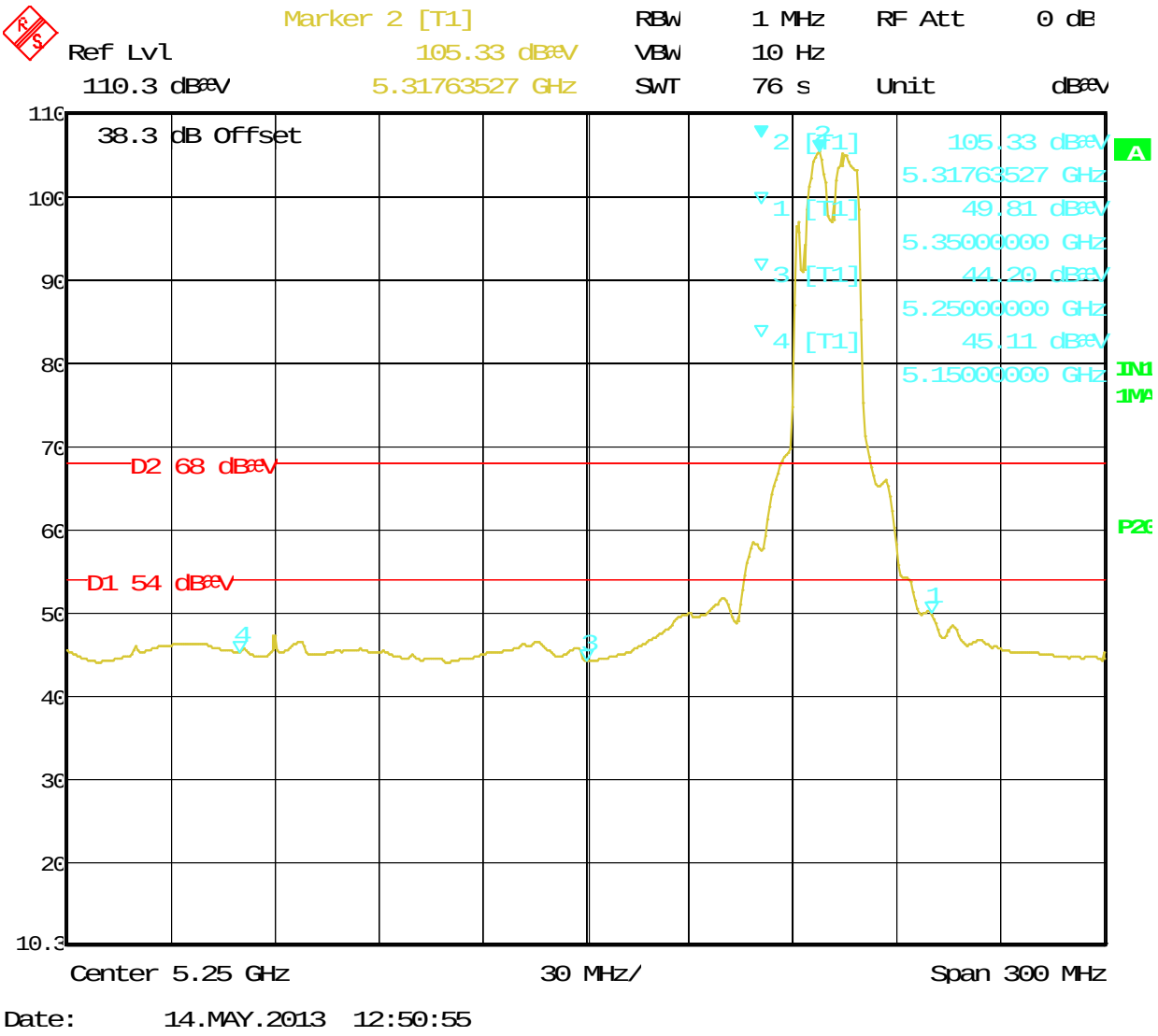


Figure 152: Radiated Emission at the Edge for Channel 5320 MHz at 6.5Mbps – Vert. (Ave.)

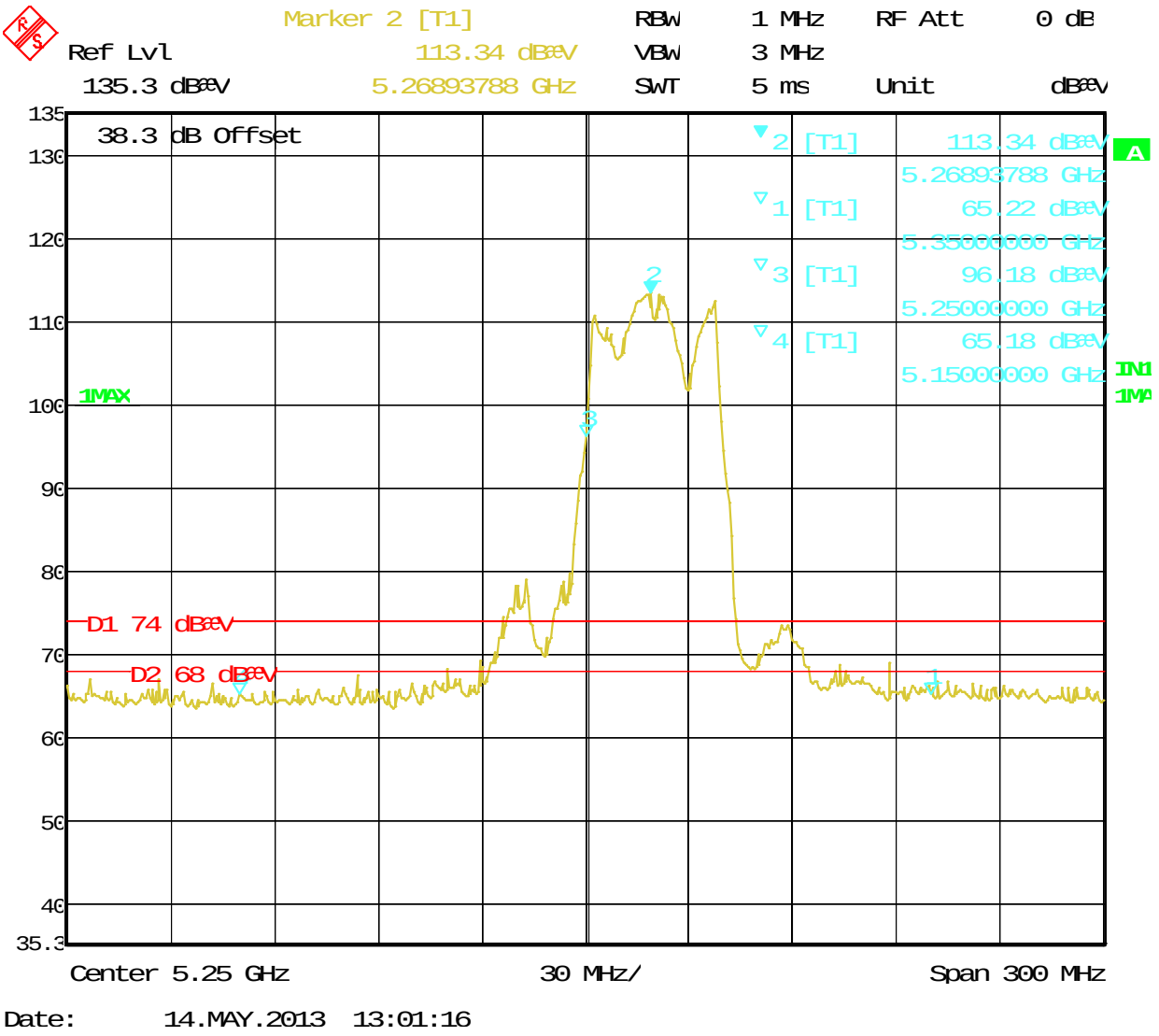


Figure 153: Radiated Emission at the Edge for Channel 5270 MHz at 13.5Mbps – Horz. (Peak)

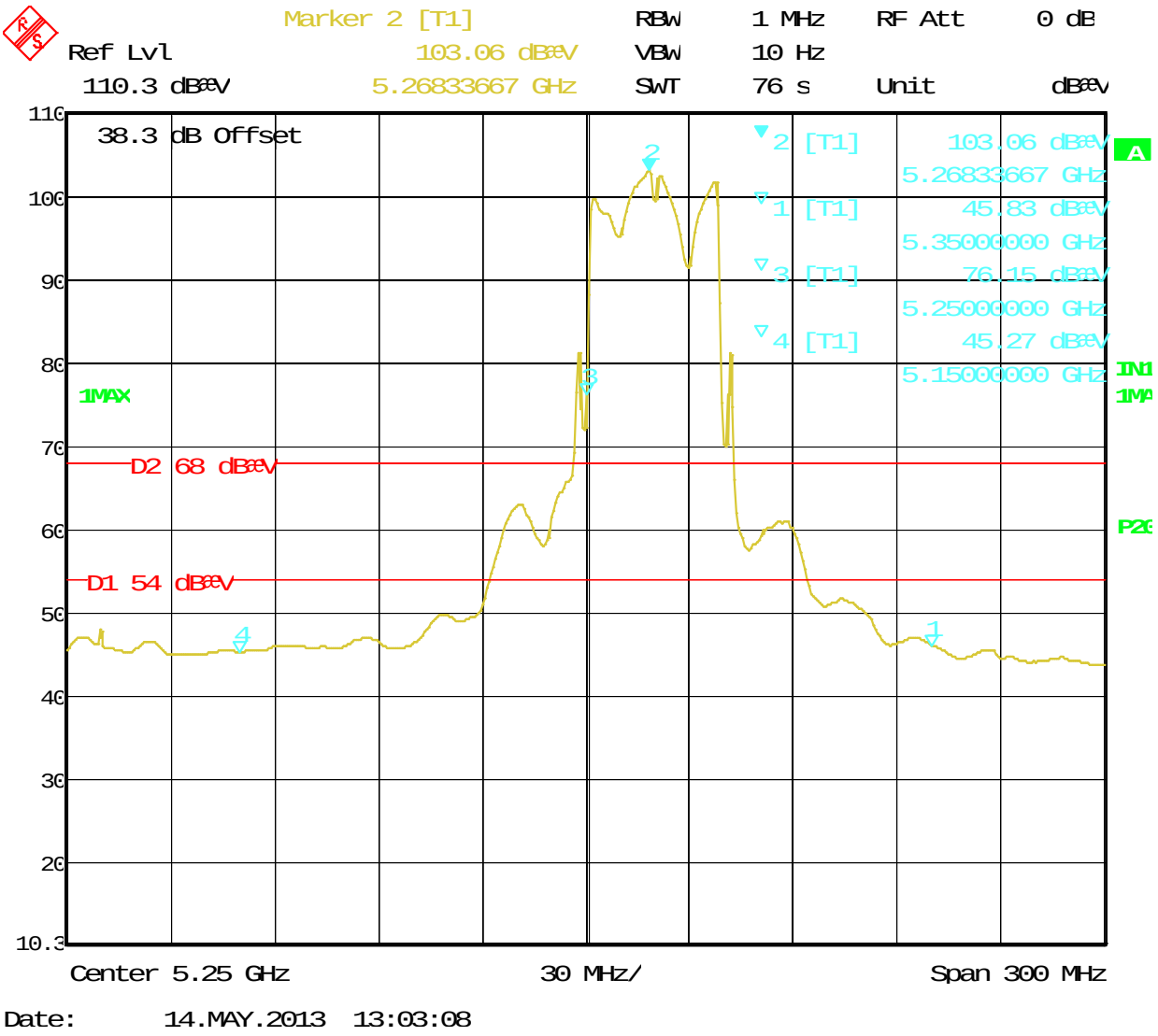


Figure 154: Radiated Emission at the Edge for Channel 5270 MHz at 13.5Mbps – Horz. (Ave.)

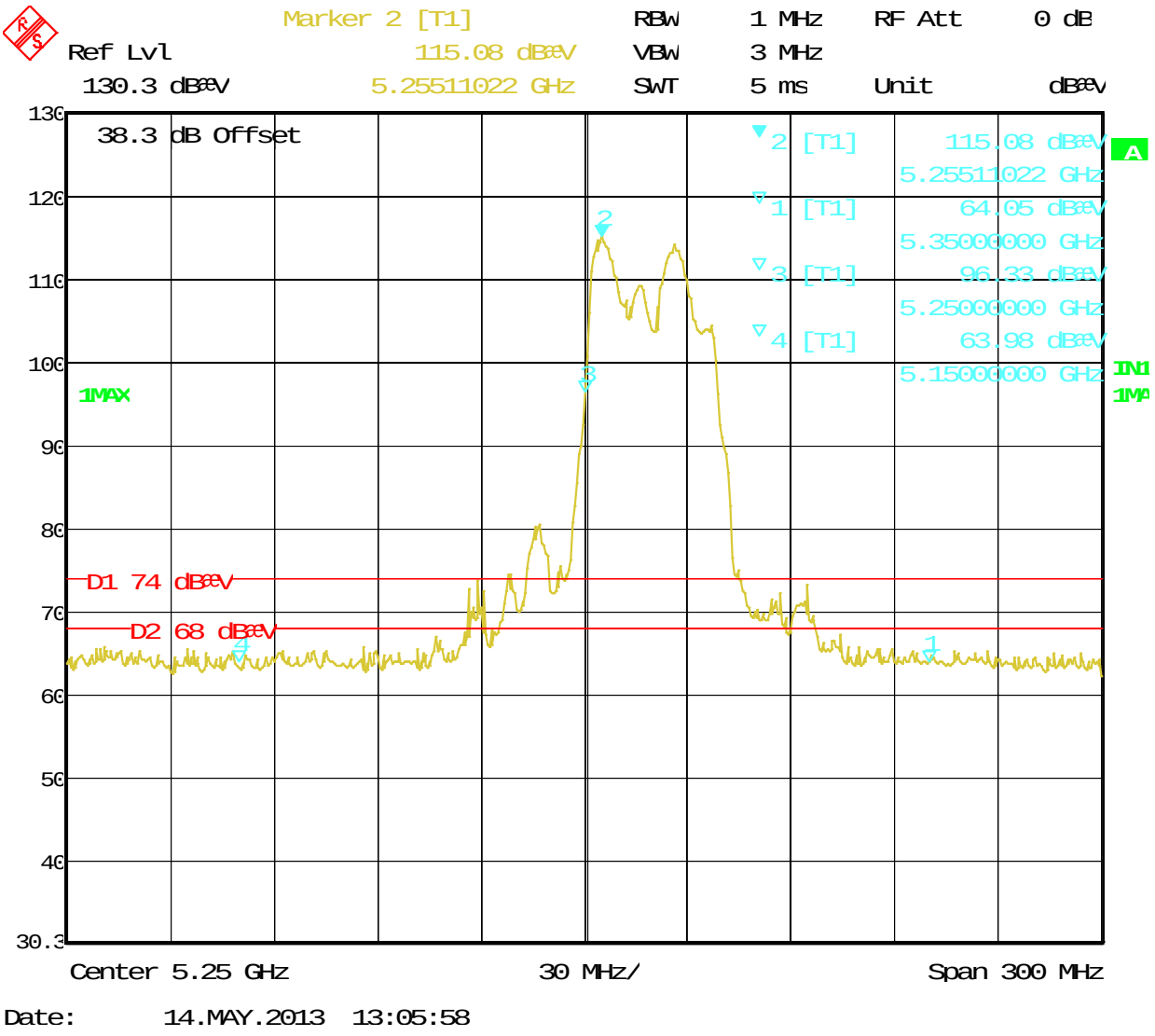


Figure 155: Radiated Emission at the Edge for Channel 5270 MHz at 13.5Mbps – Vert. (Peak)

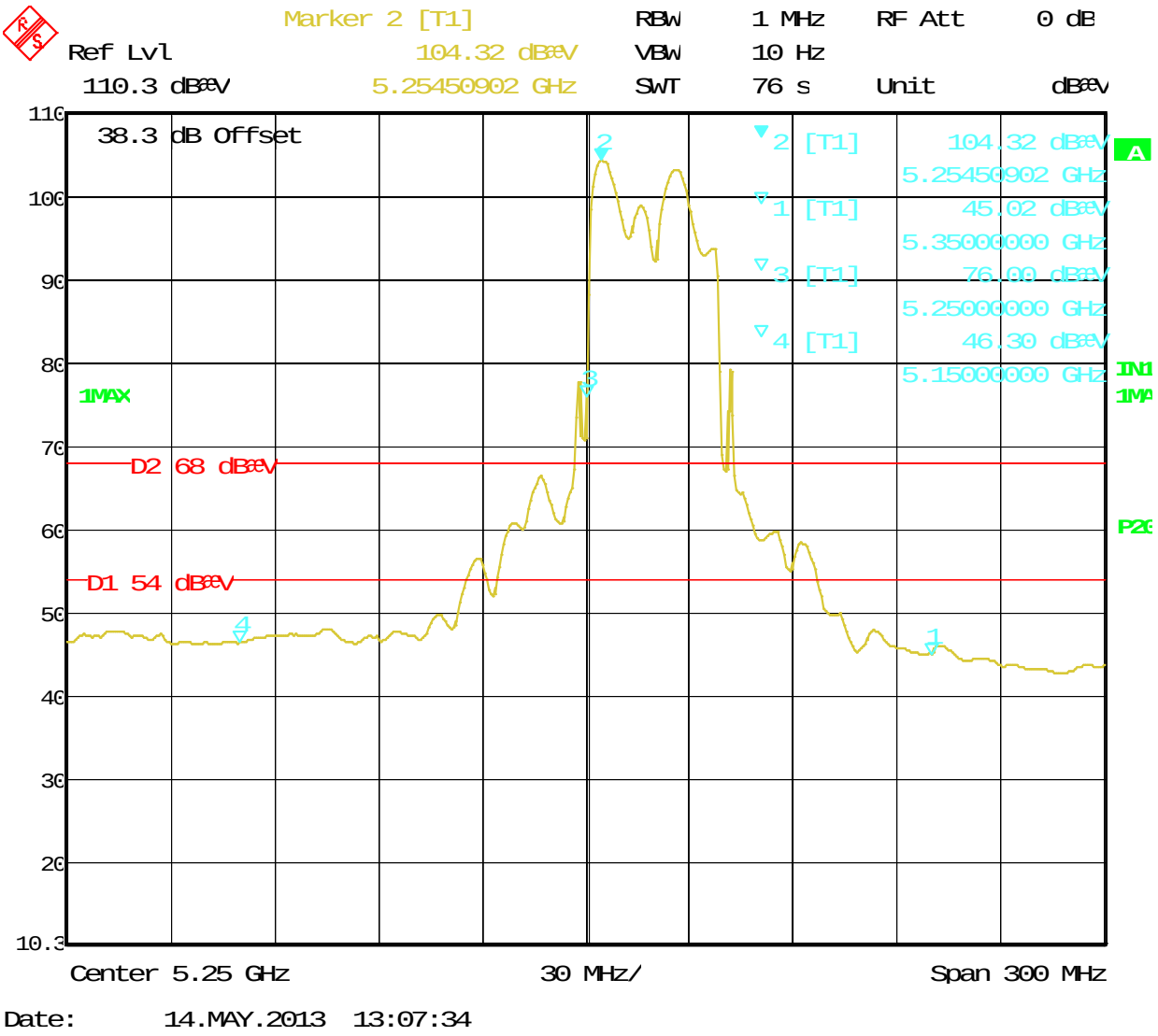


Figure 156: Radiated Emission at the Edge for Channel 5270 MHz at 13.5Mbps – Vert. (Ave.)

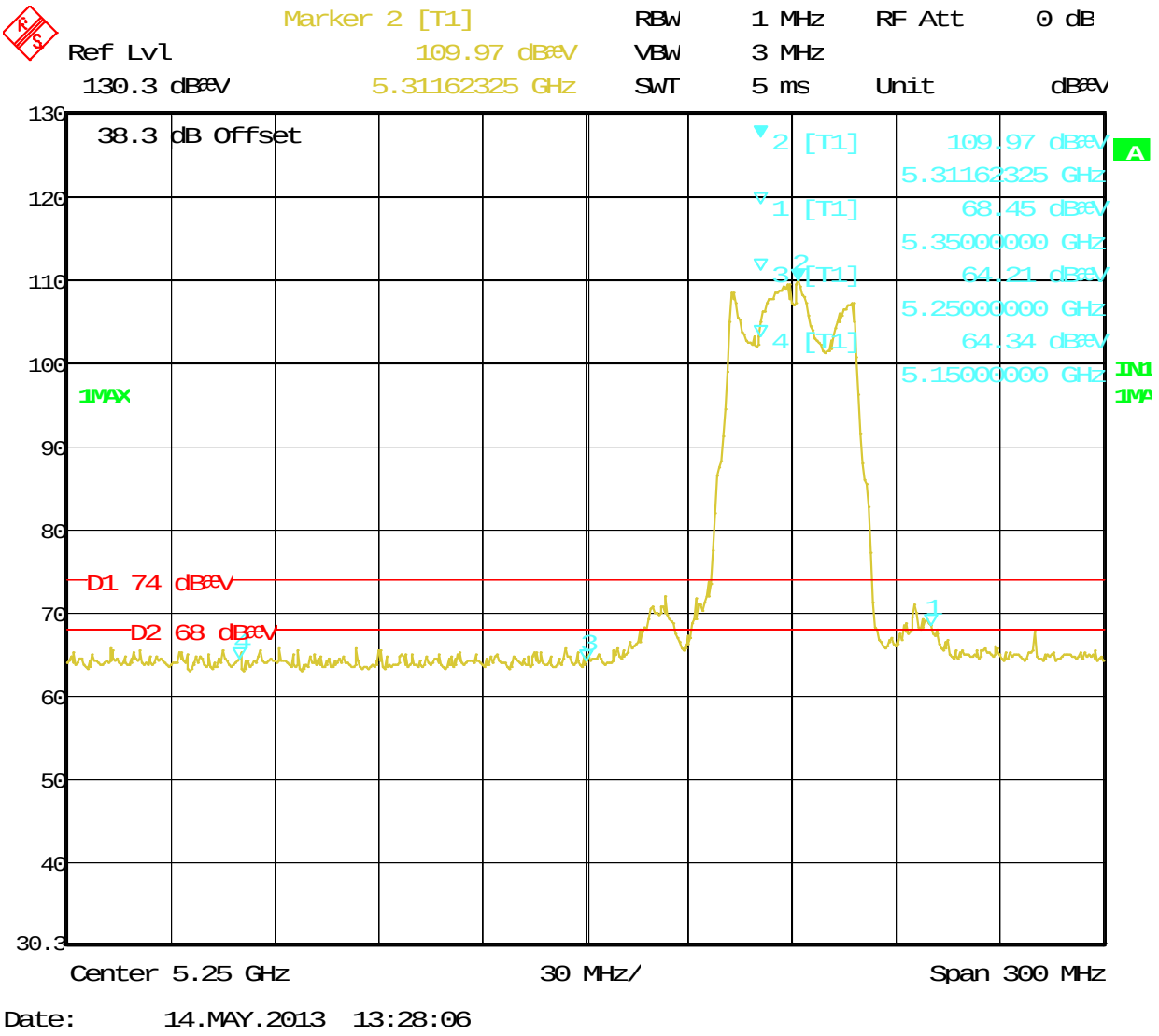


Figure 157: Radiated Emission at the Edge for Channel 5310 MHz at 13.5Mbps – Horz (Peak)

Note: The bandedge at 5350 MHz was over 68.2 dBuV/m per CFR47 Part 15.407 (b) (1) to 15.407 (b) (3); however, it met both peak and average requirements of CFR47 Part 15.205 for the restricted band, per Fig. 98 and Fig. 99.

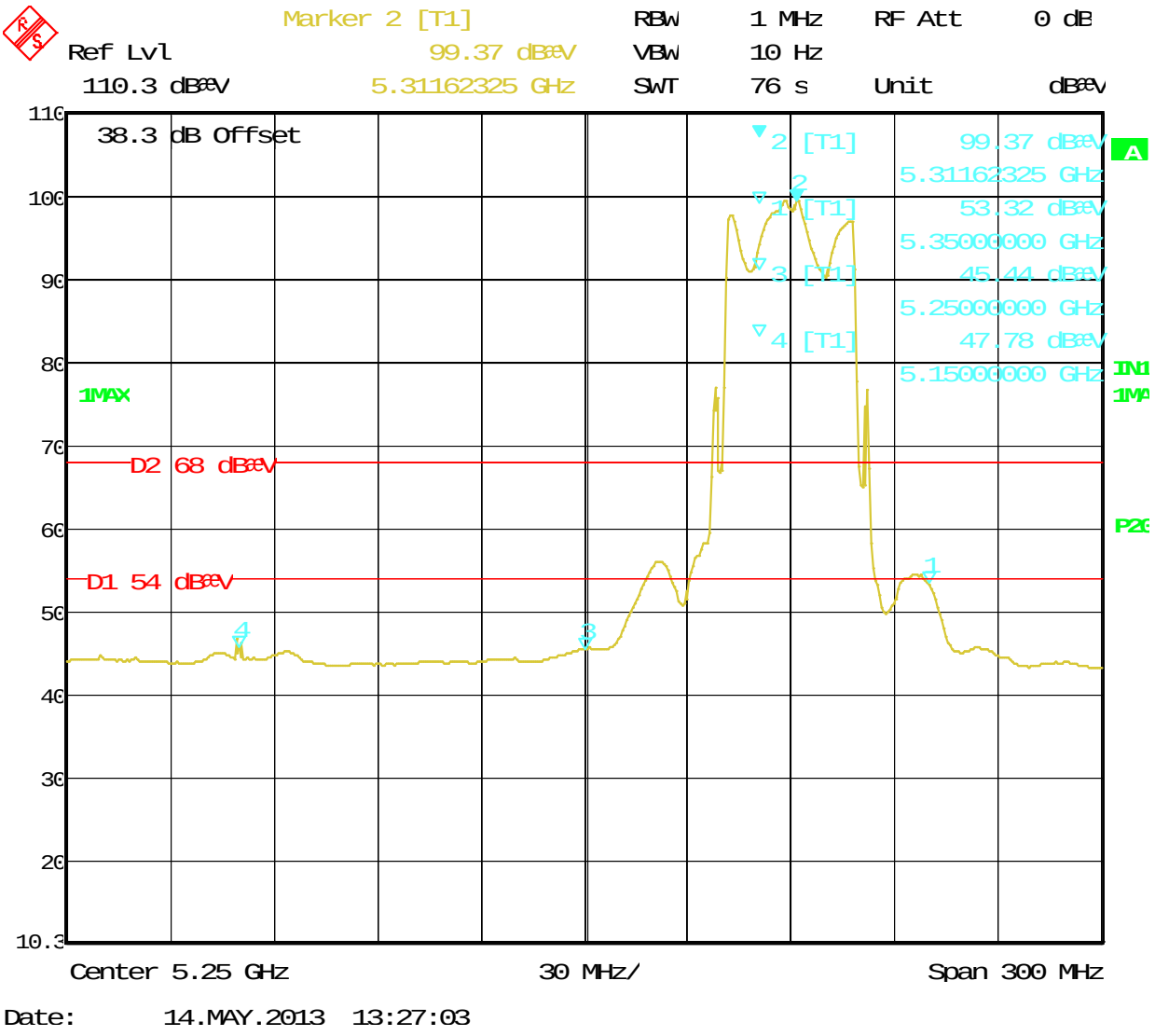


Figure 158: Radiated Emission at the Edge for Channel 5310 MHz at 13.5Mbps – Horz (Ave.)

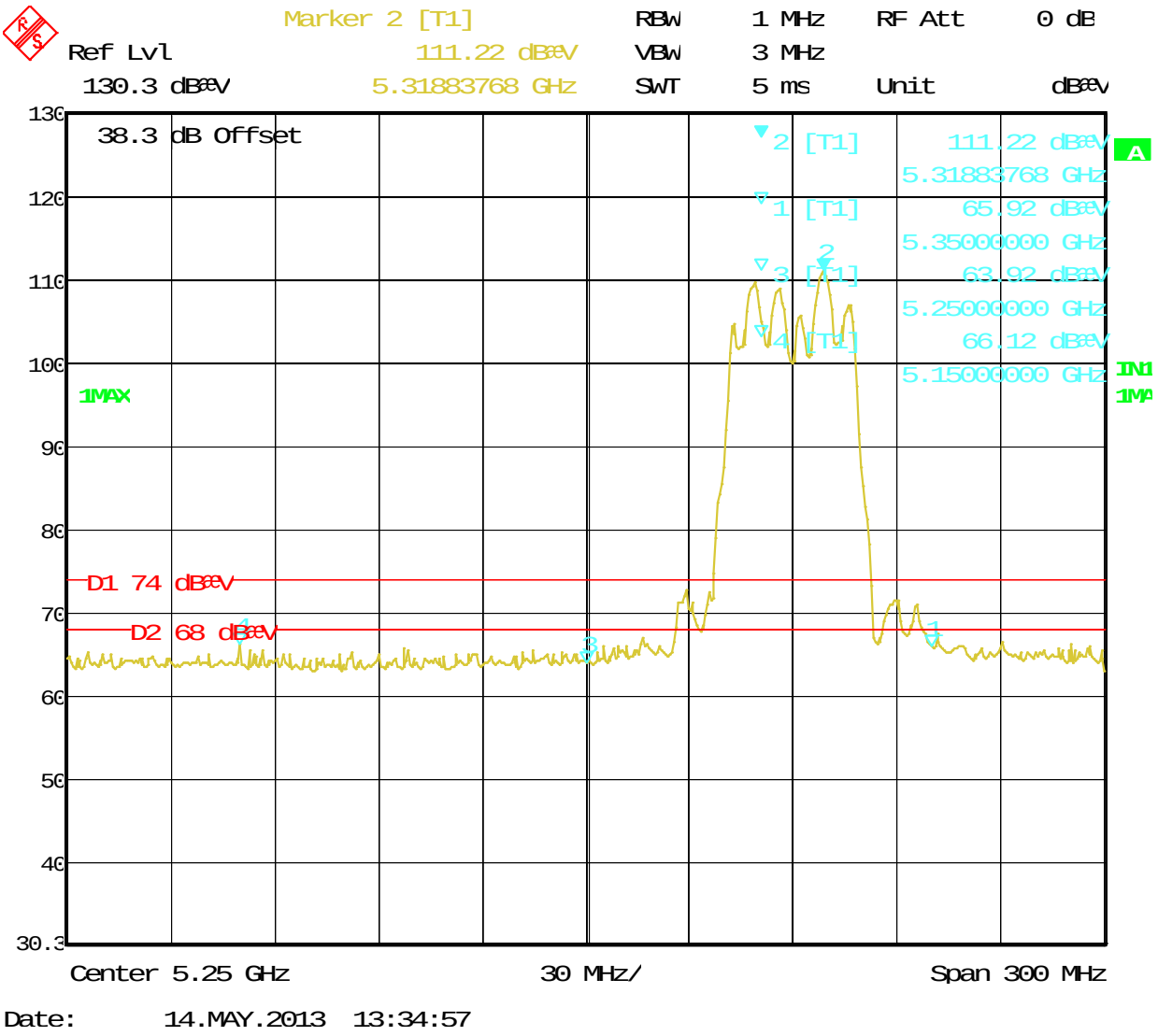


Figure 159: Radiated Emission at the Edge for Channel 5310 MHz at 13.5Mbps – Vert (Peak)

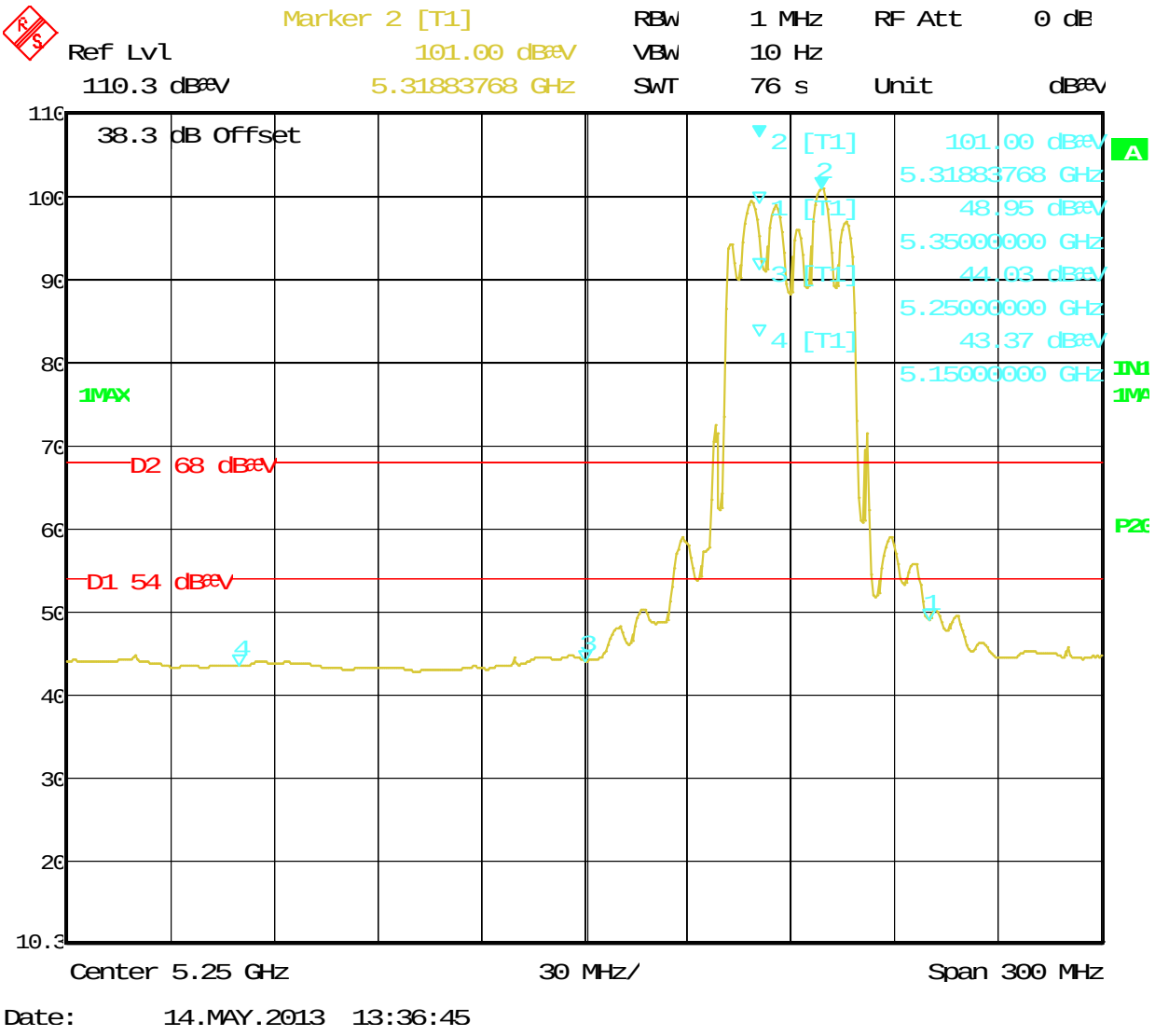


Figure 160: Radiated Emission at the Edge for Channel 5310 MHz at 13.5Mbps – Vert (Ave.)

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EUT Name	Wireless Video Access Point	**Date**	May 13, 2013
EUT Model	405	**Temp / Hum in**	23°C / 29%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 at 6.5 Mbps/ chain	**Line AC / Freq**	120 Vac/60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	120 kHz/ 300 kHz
Dist/Ant Used	3m / JB3	**Performed by**	Jeremy Luong

Emission Freq (MHz)	ANT Polar (H/V)	ANT Pos (cm)	Table Pos (deg)	FIM QP (dBuV/m)	Total CF dBuV	E-Field QP (dBuV/m)	Spec Limit (dBuV/m)	Spec Margin (dB)	Type
30 MHz to 1 GHzTransmitted at 802.11n HT20, 5300 MHz 6.5 Mbps/chain									
65.25	V	124	170	54.37	-18.52	35.85	40.00	-4.15	Spurious
69.50	V	188	274	50.92	-18.15	32.77	40.00	-7.23	Spurious
123.24	V	104	314	51.77	-11.91	39.86	43.50	-3.64	Spurious
161.92	V	102	240	52.60	-13.12	39.48	43.50	-4.02	Spurious
171.60	V	108	232	50.47	-13.69	36.78	43.50	-6.72	Spurious
319.99	H	115	182	58.45	-10.13	48.32	46.00	2.32	Spurious
323.82	H	184	356	50.34	-9.98	40.35	46.00	-5.65	Spurious
575.00	V	99	212	50.54	-5.84	44.70	46.00	-1.30	Spurious
624.99	V	102	272	47.08	-5.21	41.87	46.00	-4.13	Spurious
959.99	V	99	356	42.64	-0.06	42.58	46.00	-3.42	Spurious

Spec Margin = E-Field QP - Limit, E-Field QP = FIM QP+ Total CF ± Uncertainty
Total CF= Amp Gain + Cable Loss + ANT Factor

Combined Standard Uncertainty $u_c(y)$ = ± 3.2 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

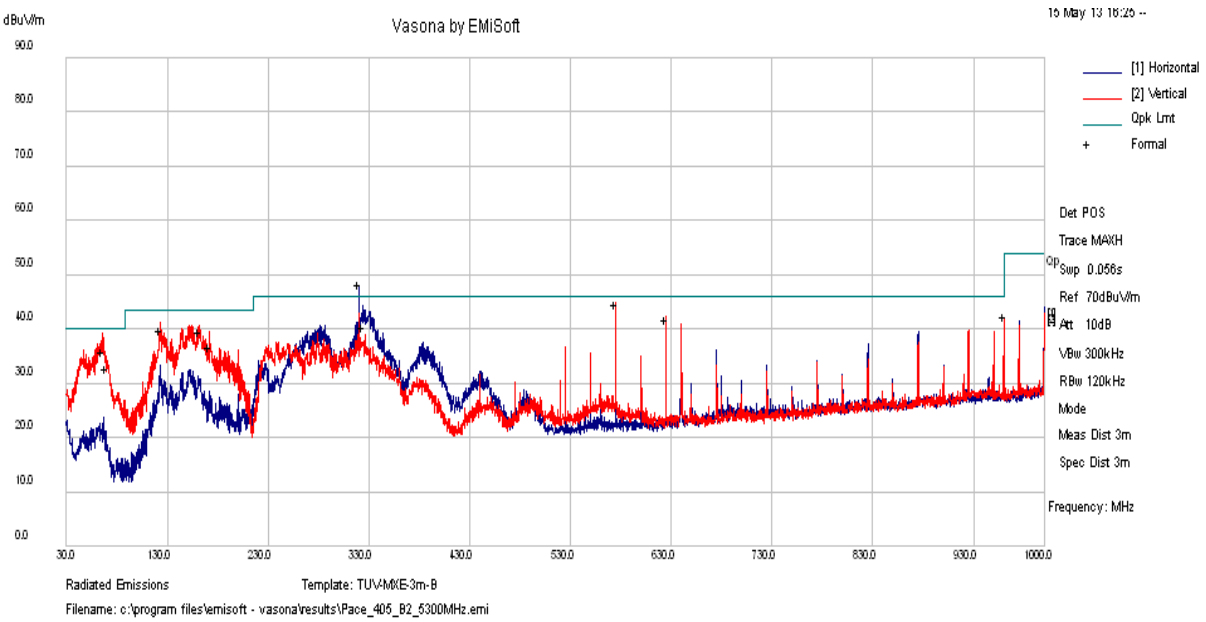
Notes: Worst case was observed on Y-axis at 802.11n HT20, 5300 MHz 6.5 Mbps.
All other emissions passed Class B limit; except 320 MHz. This emission is not radio related.

SOP 1 Radiated Emissions

Tracking # 31360999.003 Page 2 of 21

EUT Name	Wireless Video Access Point	**Date**	May 13, 2013
EUT Model	405	**Temp / Hum in**	23°C / 29%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 at 6.5 Mbps/ chain	**Line AC**	120 Vac/60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	120 kHz/ 300 kHz
Dist/Ant Used	3m – JB3	**Performed by**	Jeremy Luong

30 MHz to 1 GHz Plots for Transmit Mode at 5300 MHz



Notes: FCC Class B Limit.

SOP 1 Radiated Emissions

Tracking # 31360999.003 Page 3 of 21

EUT Name	Wireless Video Access Point	**Date**	August 21, 2013
EUT Model	405	**Temp / Hum in**	22°C / 45%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6 Mbps	**Line AC / Freq**	120 Vac/60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Transmitted Data at 5260 MHz @ 18 dBm

Freq.	Raw	Total CF	Level	Det.	Pol	Hgt	Azt.	Limit	Margin	Type
MHz	dBuV/m	dB	dBuV/m		H/V	cm	deg.	dB	dB	
1279.88	54.68	-6.71	47.98	Ave	H	98	70	54.00	-6.02	Spurious
3200.03	38.47	0.90	39.37	Ave	H	192	125	54.00	-14.63	Spurious
4965.78	38.74	3.29	42.03	Ave	H	170	282	54.00	-11.97	Spurious
10520.00	34.61	11.61	46.22	Ave	H	125	58	54.00	-7.78	Harmonic
1000.00	54.28	-8.14	46.15	Ave	V	175	44	54.00	-7.85	Spurious
5494.38	43.36	4.97	48.33	Ave	V	182	252	54.00	-5.68	Spurious
5842.34	34.03	5.24	39.28	Ave	V	136	250	54.00	-14.73	Spurious
7013.13	28.40	8.20	36.60	Ave	V	282	272	54.00	-17.40	Spurious
21039.90	50.35	10.98	61.33	Ave	V	102	145	64.00	-2.67	Harmonic
21039.90	48.79	10.98	59.77	Ave	H	104	114	64.00	-4.23	Harmonic

Transmitted Data at 5300 MHz @ 18 dBm

Freq.	Raw	Total CF	Level	Det.	Pol	Hgt	Azt.	Limit	Margin	Type
MHz	dBuV/m	dB	dBuV/m		H/V	cm	deg.	dB	dB	
1279.88	55.05	-6.71	48.35	Ave	H	101	62	54.00	-5.66	Spurious
3199.91	37.40	0.90	38.30	Ave	H	197	122	54.00	-15.70	Spurious
7066.38	30.90	8.20	39.10	Ave	H	223	212	54.00	-14.90	Spurious
10599.88	35.84	11.68	47.52	Ave	H	115	58	54.00	-6.48	Harmonic
1000.00	54.38	-8.14	46.24	Ave	V	165	46	54.00	-7.76	Spurious
3533.44	33.00	1.00	34.00	Ave	V	176	158	54.00	-20.00	Spurious
4987.03	40.68	3.33	44.01	Ave	V	195	292	54.00	-9.99	Spurious
5454.53	44.13	4.80	48.93	Ave	V	116	258	54.00	-5.07	Spurious
5534.22	44.29	4.95	49.24	Ave	V	114	188	54.00	-4.76	Spurious
21199.80	46.96	10.98	57.94	Ave	H	98	112	64.00	-6.06	Harmonic
21199.90	48.85	10.98	59.83	Ave	V	96	146	64.00	-4.17	Harmonic

Transmitted Data at 5320 MHz @ 18 dBm

Freq.	Raw	Total CF	Level	Det.	Pol	Hgt	Azt.	Limit	Margin	Type
MHz	dBuV/m	dB	dBuV/m		H/V	cm	deg.	dB	dB	
1280.03	54.63	-6.71	47.92	Ave	H	99	66	54.00	-6.08	Spurious
10640.20	35.70	11.60	47.30	Ave	H	112	56	54.00	-6.70	Harmonic
1024.91	53.13	-7.93	45.20	Ave	V	103	4	54.00	-8.80	Spurious
3546.63	33.60	1.10	34.70	Ave	V	204	151	54.00	-19.30	Spurious
4925.16	39.25	3.23	42.47	Ave	V	170	338	54.00	-11.53	Spurious
5485.36	45.19	4.93	50.12	Ave	V	163	260	54.00	-3.88	Spurious
7093.09	30.70	8.20	38.90	Ave	V	288	224	54.00	-15.10	Spurious
21279.80	42.77	10.93	53.70	Ave	V	98	147	64.00	-10.30	Harmonic

21280.00	49.13	10.93	60.06	Ave	H	101	462	64.00	-3.94	Harmonic
Spec Margin = E-Field Average - Limit, E-Field Average = Field Meas.+ Total CF ± Uncertainty Total CF= Amp Gain + Cable Loss + ANT Factor										
Combined Standard Uncertainty $u_c(y)$ = ± 3.2 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence										
Notes: Worst case was observed on Y-axis, 6 Mbps.										

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EUT Name	Wireless Video Access Point	**Date**	May 13, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11 HT20 at 6.5 Mbps	**Line AC / Freq**	120 Vac/60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Transmitted Data at 5260 MHz @ 18 dBm

Freq.	Raw	Total CF	Level	Det.	Pol	Hgt	Azt.	Limit	Margin	Type
MHz	dBuV/m	dB	dBuV/m		H/V	cm	deg.	dB	dB	
1279.81	54.46	-6.71	47.76	Ave	H	109	62	54.00	-6.24	Spurious
4980.13	39.67	3.32	42.99	Ave	V	186	272	54.00	-11.02	Spurious
5497.94	41.61	4.98	46.58	Ave	V	184	116	54.00	-7.42	Spurious
5500.28	41.78	4.99	46.77	Ave	V	121	156	54.00	-7.23	Spurious
5716.03	38.17	4.98	43.15	Ave	V	123	174	54.00	-10.86	Spurious
5926.88	34.09	5.48	39.57	Ave	V	247	234	54.00	-14.43	Spurious
7013.33	24.60	8.21	32.82	Ave	V	150	292	54.00	-21.18	Spurious
10519.89	33.55	11.61	45.16	Ave	H	102	52	54.00	-8.84	Harmonic
21199.60	43.19	10.98	54.17	Ave	V	129	145	64.00	-9.83	Harmonic
21199.80	47.69	10.98	58.67	Ave	H	118	89	64.00	-5.33	Harmonic

Transmitted Data at 5300 MHz @ 18 dBm

Freq.	Raw	Total CF	Level	Det.	Pol	Hgt	Azt.	Limit	Margin	Type
MHz	dBuV/m	dB	dBuV/m		H/V	cm	deg.	dB	dB	
1280.00	52.48	-6.71	45.77	Ave	H	102	304	54.00	-8.23	Spurious
4946.97	35.67	3.25	38.92	Ave	V	100	280	54.00	-15.08	Spurious
5458.28	40.62	4.81	45.44	Ave	V	110	304	54.00	-8.57	Spurious
5539.06	44.05	4.94	49.00	Ave	V	264	232	54.00	-5.00	Spurious
5701.22	38.61	4.96	43.57	Ave	V	100	248	54.00	-10.43	Spurious
6220.78	28.08	6.05	34.13	Ave	V	120	252	54.00	-19.87	Spurious
7066.69	31.42	8.23	39.64	Ave	V	285	322	54.00	-14.36	Spurious
10592.03	21.79	11.66	33.45	Ave	H	273	66	54.00	-20.55	Harmonic
21199.60	43.19	10.98	54.17	Ave	V	145	129	64.00	-9.83	Harmonic
21199.80	47.69	10.98	58.67	Ave	H	89	118	64.00	-5.33	Harmonic

Transmitted Data at 5320 MHz @ 18 dBm

Freq.	Raw	Total CF	Level	Det.	Pol	Hgt	Azt.	Limit	Margin	Type
MHz	dBuV/m	dB	dBuV/m		H/V	cm	deg.	dB	dB	
1279.92	57.25	-6.71	50.55	Ave	H	105	312	54.00	-3.45	Spurious
5012.45	38.22	3.40	41.62	Ave	V	188	276	54.00	-12.38	Spurious
5297.87	32.23	4.42	36.65	Ave	H	106	278	54.00	-17.35	Spurious
5913.13	37.01	5.42	42.44	Ave	V	110	170	54.00	-11.56	Spurious
6082.70	33.49	5.85	39.33	Ave	V	100	166	54.00	-14.67	Spurious
7560.03	33.12	8.72	41.85	Ave	H	176	238	54.00	-12.16	Spurious
11339.30	30.22	12.29	42.51	Ave	H	169	42	54.00	-11.49	Spurious
14792.37	17.90	18.08	35.97	Ave	V	178	56	54.00	-18.03	Harmonic
17988.41	17.16	25.63	42.80	Ave	H	204	112	54.00	-11.20	Harmonic
21279.80	41.63	10.93	52.56	Ave	V	112	25	64.00	-11.44	Harmonic

21279.80	46.73	10.93	57.66	Ave	H	107	81	64.00	-6.34	Harmonic
28373.10	56.84	-12.43	44.41	Ave	H	132	87	64.00	-19.59	Harmonic
Spec Margin = E-Field Average - Limit, E-Field Average = Field Meas.+ Total CF ± Uncertainty Total CF= Amp Gain + Cable Loss + ANT Factor										
Combined Standard Uncertainty $u_c(y)$ = ± 3.2 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence										
Notes: Worst case was observed on Y-axis, 6.5 Mbps.										

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EUT Name	Wireless Video Access Point	**Date**	May 13, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11 HT40 at 13.5 Mbps	**Line AC / Freq**	120 Vac/60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz/ 3 MHz
Dist/Ant Used	3m / EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Transmitted Data at 5270 MHz @ 18 dBm

Freq.	Raw	Total CF	Level	Det.	Pol	Hgt	Azt.	Limit	Margin	Type
MHz	dBuV/m	dB	dBuV/m		H/V	cm	deg.	dB	dB	
1280.41	52.91	-6.71	46.20	Ave	H	106	312	54.00	-7.80	Spurious
2428.62	28.06	-1.71	26.35	Ave	V	264	272	54.00	-27.65	Spurious
3099.32	24.57	0.40	24.98	Ave	H	125	24	54.00	-29.02	Spurious
4959.90	39.43	3.28	42.71	Ave	V	153	284	54.00	-11.29	Spurious
5515.80	41.44	4.96	46.40	Ave	V	223	244	54.00	-7.60	Spurious
5755.50	36.62	5.05	41.67	Ave	V	161	174	54.00	-12.33	Spurious
7026.57	33.08	8.23	41.30	Ave	V	134	314	54.00	-12.70	Spurious
10539.91	33.60	11.63	45.23	Ave	H	105	38	54.00	-8.78	Harmonic
14964.28	17.81	17.14	34.95	Ave	V	268	230	54.00	-19.05	Harmonic
21079.80	46.02	10.95	56.97	Ave	H	128	93	64.00	-7.03	Harmonic
21079.90	41.55	10.95	52.50	Ave	V	122	145	64.00	-11.50	Harmonic
31619.70	53.10	-8.69	44.41	Ave	H	120	418	64.00	-19.59	Harmonic
36889.70	49.36	-0.83	48.53	Ave	V	101	72	64.00	-15.47	Harmonic

Transmitted Data at 5310 MHz @ 18 dBm

Freq.	Raw	Total CF	Level	Det.	Pol	Hgt	Azt.	Limit	Margin	Type
MHz	dBuV/m	dB	dBuV/m		H/V	cm	deg.	dB	dB	
1279.95	57.30	-6.71	50.59	Ave	H	107	308	54.00	-3.41	Spurious
4959.97	37.10	3.28	40.37	Ave	H	209	254	54.00	-13.63	Spurious
5566.96	39.26	4.91	44.17	Ave	H	284	260	54.00	-9.83	Spurious
5615.22	40.18	4.89	45.07	Ave	V	199	226	54.00	-8.93	Spurious
5920.45	29.93	5.46	35.38	Ave	V	196	162	54.00	-18.62	Spurious
7080.04	34.37	8.22	42.59	Ave	V	232	240	54.00	-11.41	Spurious
10619.93	33.84	11.68	45.52	Ave	H	113	50	54.00	-8.48	Spurious
14602.20	17.41	17.84	35.26	Ave	H	186	250	54.00	-18.74	Harmonic
21239.80	41.72	11.06	52.78	Ave	V	130	144	64.00	-11.22	Harmonic
21239.90	47.41	11.06	58.47	Ave	H	121	92	64.00	-5.53	Harmonic
31859.70	50.98	-8.33	42.65	Ave	H	113	96	64.00	-21.35	Harmonic
37169.70	48.67	-0.12	48.55	Ave	V	99	86	64.00	-15.45	Harmonic

Spec Margin = E-Field Average - Limit, E-Field Average = Field Meas.+ Total CF ± Uncertainty
Total CF= Amp Gain + Cable Loss + ANT Factor

Combined Standard Uncertainty $u_c(y)$ = ± 3.2 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: Worst case was observed on Y-axis, 13.5 Mbps.

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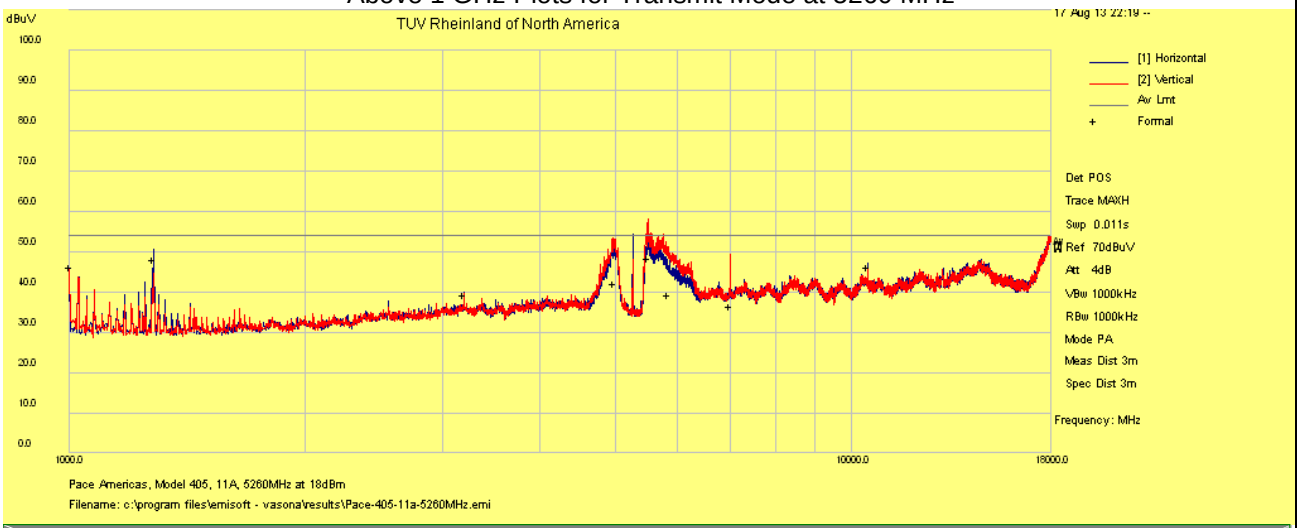
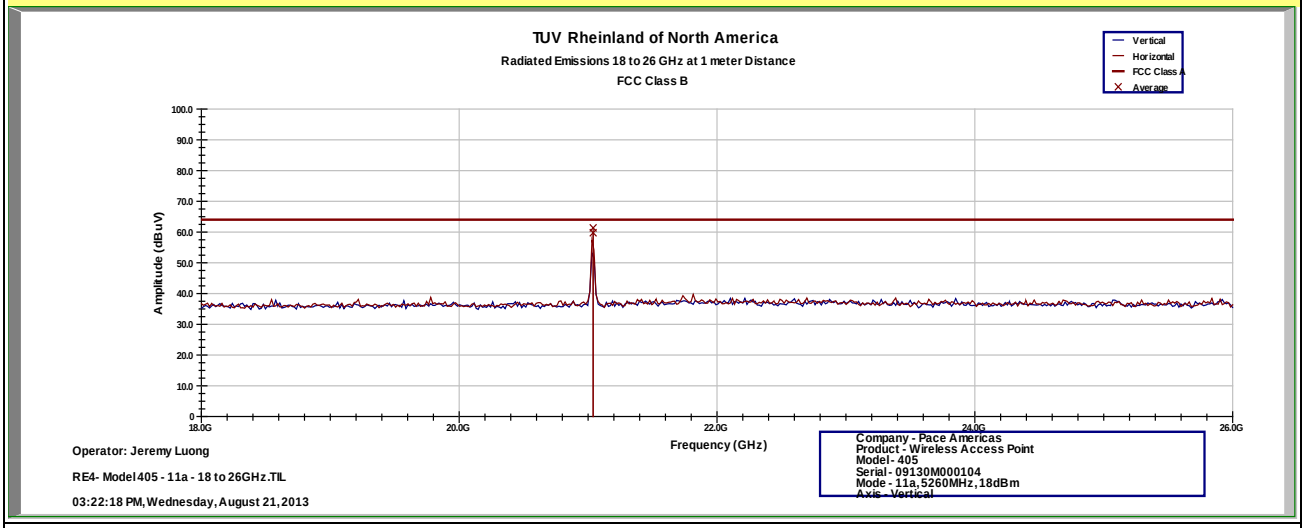
EUT Name	Wireless Video Access Point	**Date**	August 17 & 21, 2013
EUT Model	405	**Temp / Hum in**	22°C / 45%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5260 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 26 GHz range.

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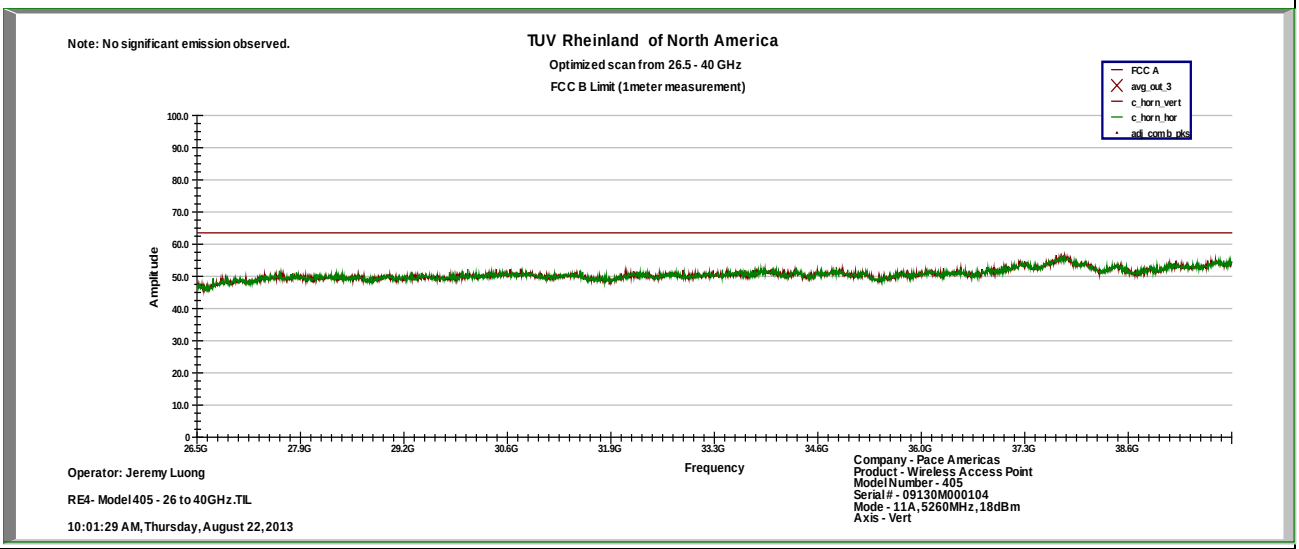
EUT Name	Wireless Video Access Point	**Date**	August 21, 2013
EUT Model	405	**Temp / Hum in**	22°C / 45%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5260 MHz



Notes: Limit was extrapolated to 1m distance for 26.5 GHz – 40 GHz range.

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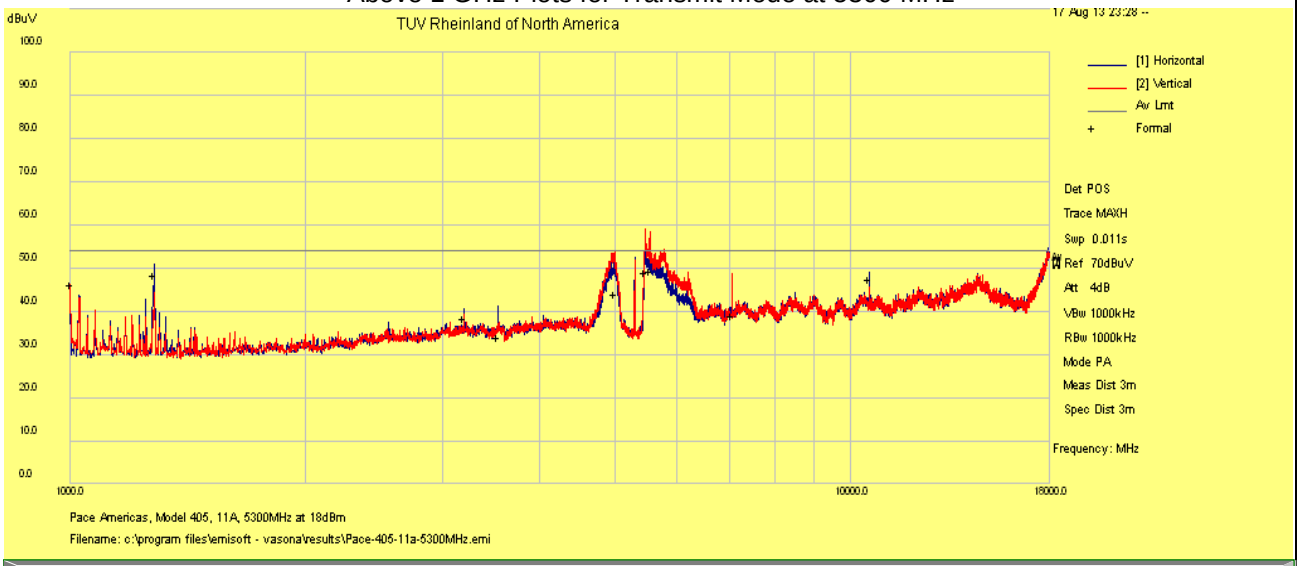
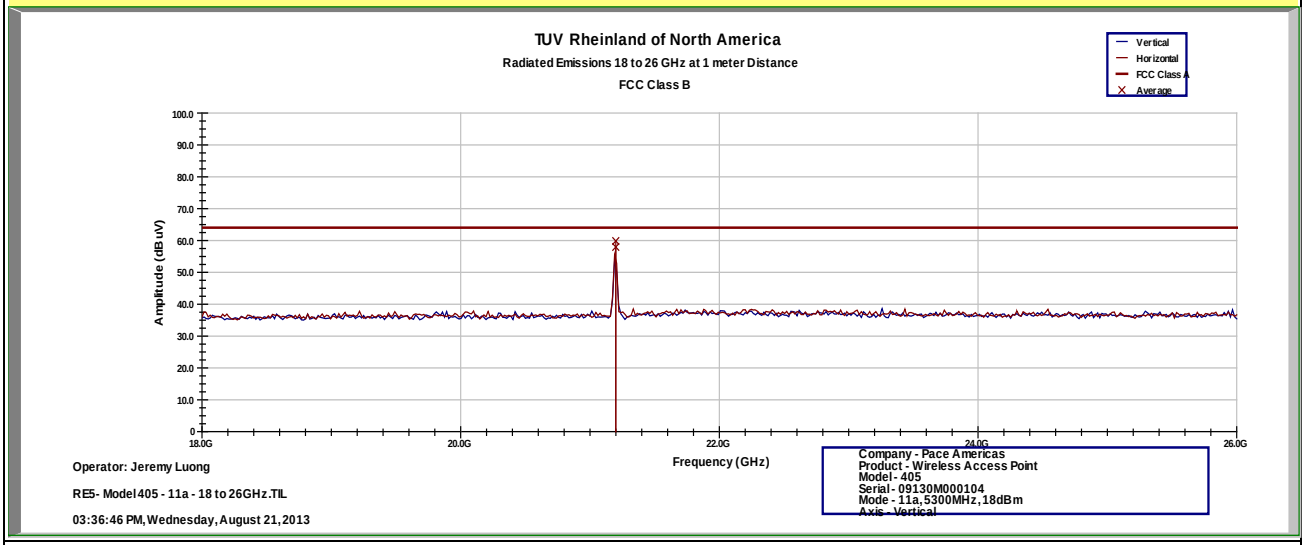
EUT Name	Wireless Video Access Point	**Date**	August 17 & 21, 2013
EUT Model	405	**Temp / Hum in**	22°C / 45%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5300 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 26 GHz range.

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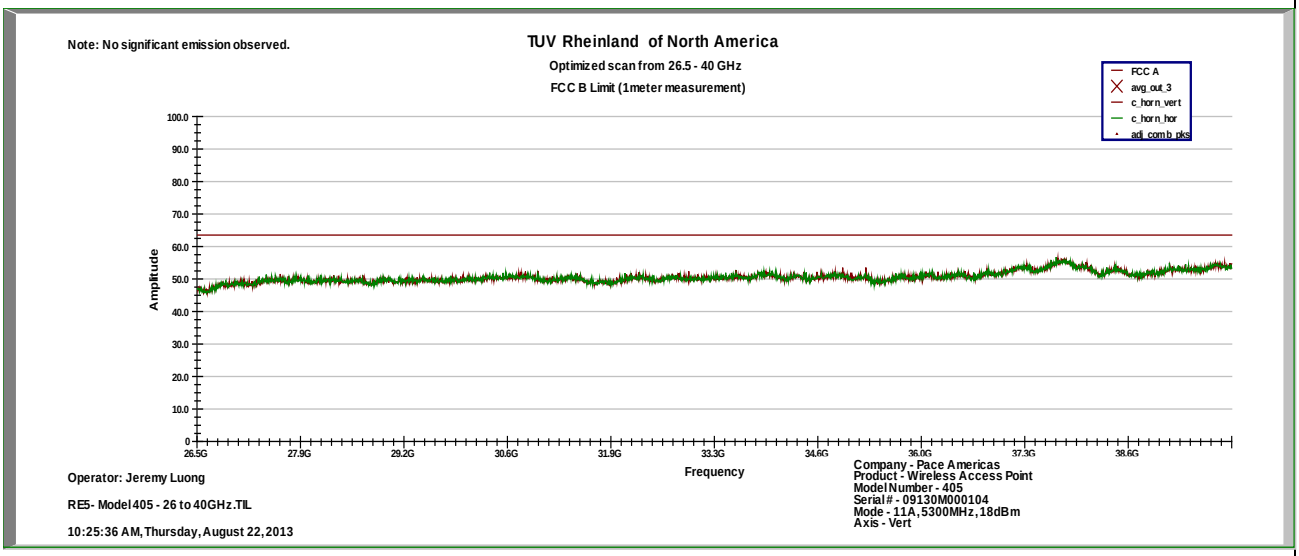
EUT Name	Wireless Video Access Point	**Date**	August 22, 2013
EUT Model	405	**Temp / Hum in**	22°C / 45%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5300 MHz



Notes: Limit was extrapolated to 1m distance for 26.5 GHz – 40 GHz range.

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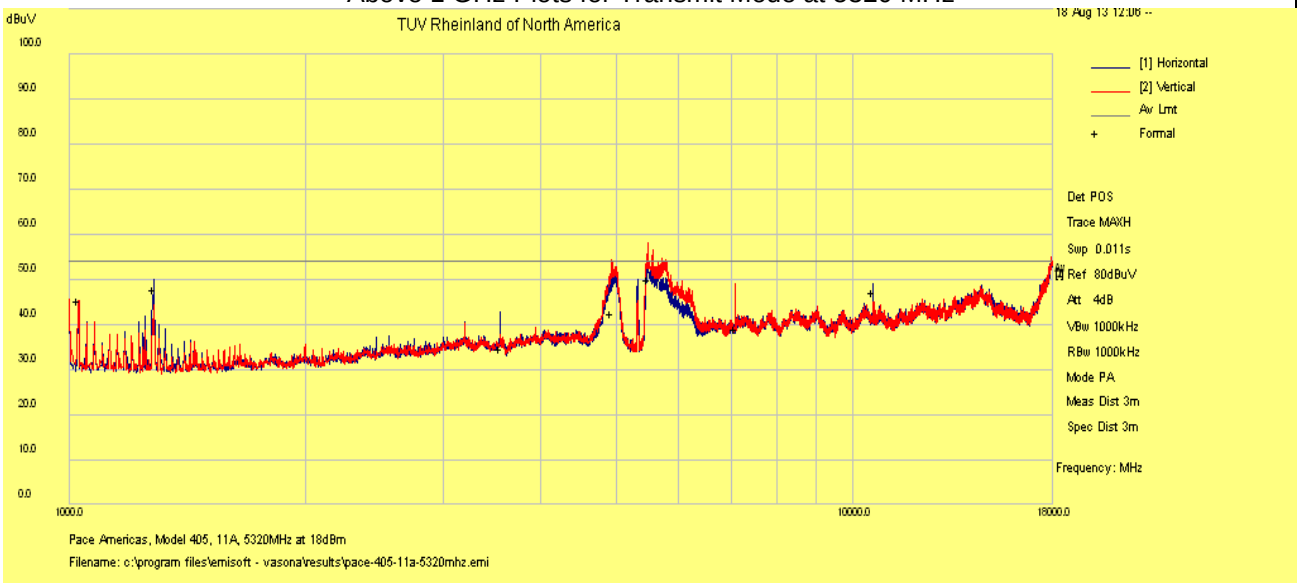
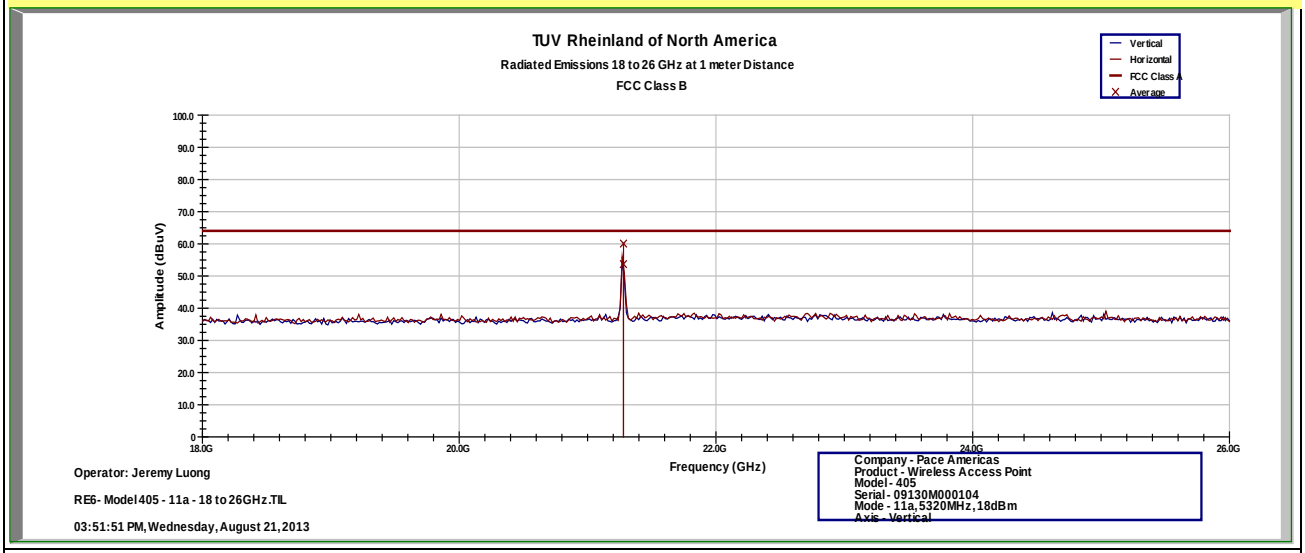
EUT Name	Wireless Video Access Point	**Date**	August 18 & 21, 2013
EUT Model	405	**Temp / Hum in**	22°C / 45%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5320 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 26.0 GHz range.

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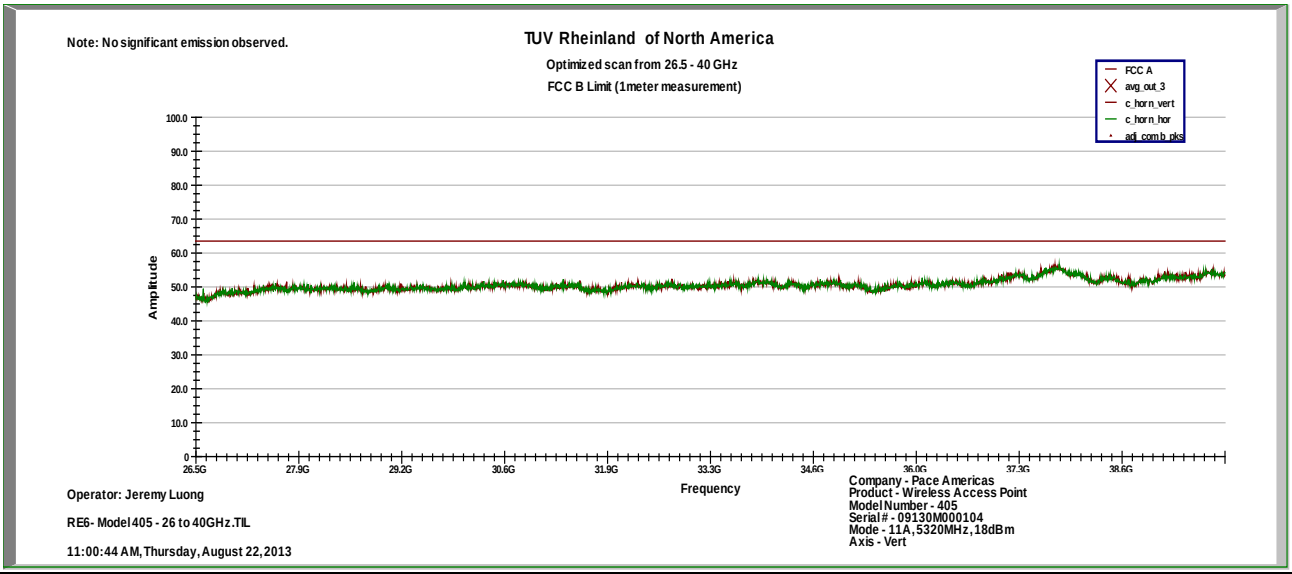
EUT Name	Wireless Video Access Point	**Date**	August 21, 2013
EUT Model	405	**Temp / Hum in**	22°C / 45%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11a at 6 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5320 MHz



Notes: Limit was extrapolated to 1m distance for 26.5 GHz – 40 GHz range.

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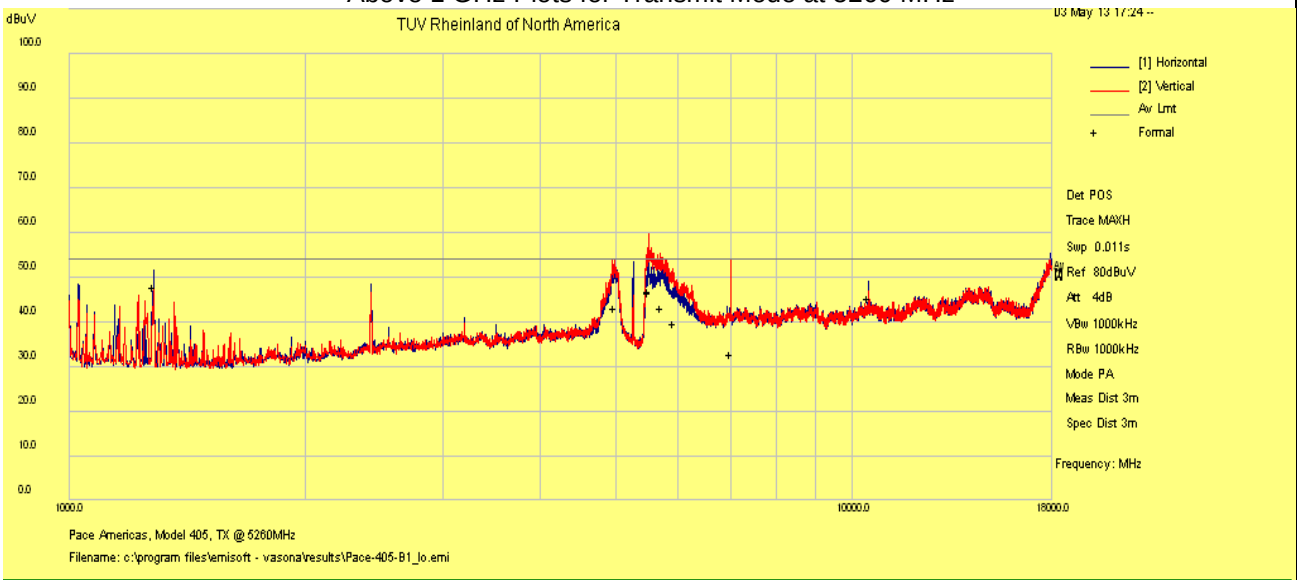
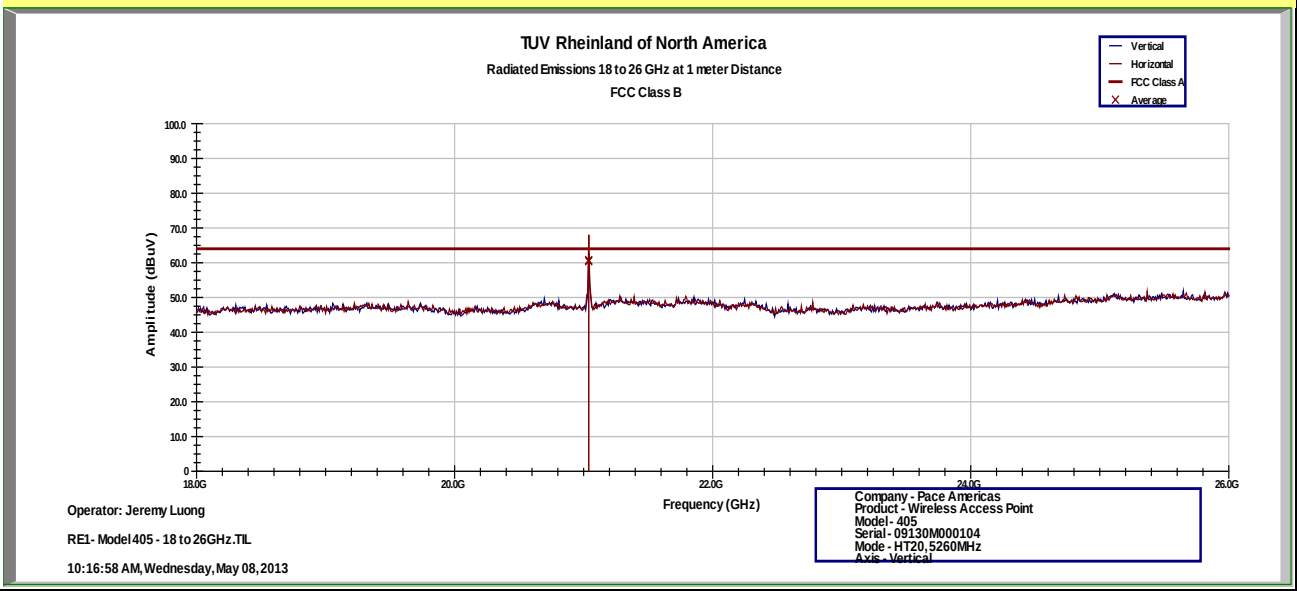
EUT Name	Wireless Video Access Point	**Date**	May 3 & 8, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 at 6.5 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5260 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 26 GHz range.

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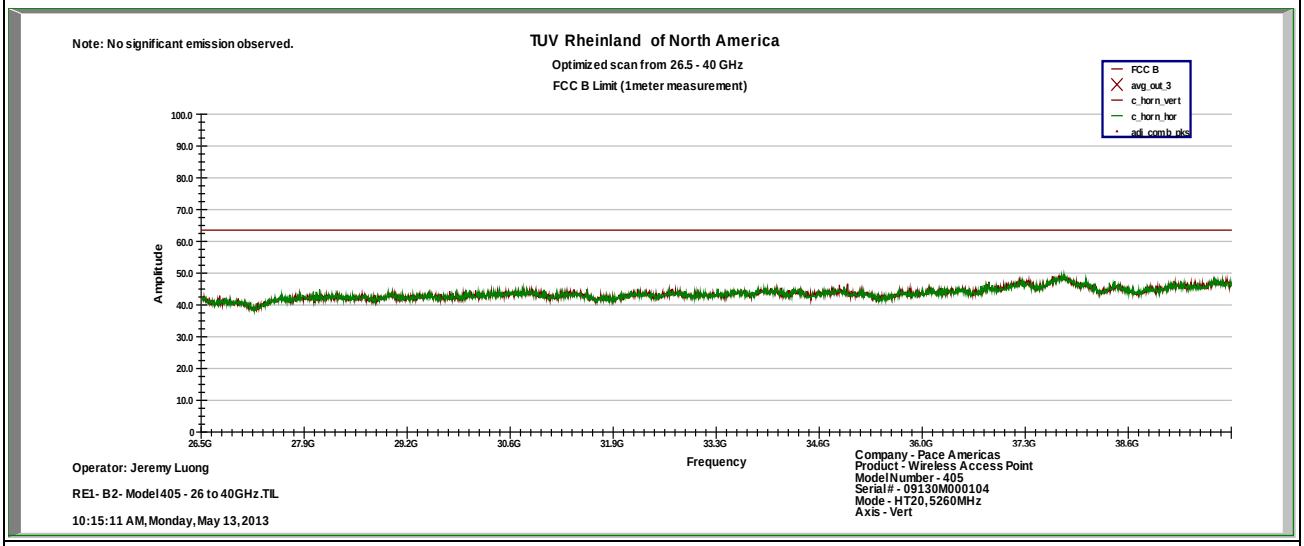
EUT Name	Wireless Video Access Point	**Date**	May 13, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 at 6.5 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5260 MHz



Notes: Limit was extrapolated to 1m distance for 26.5 GHz – 40 GHz range.

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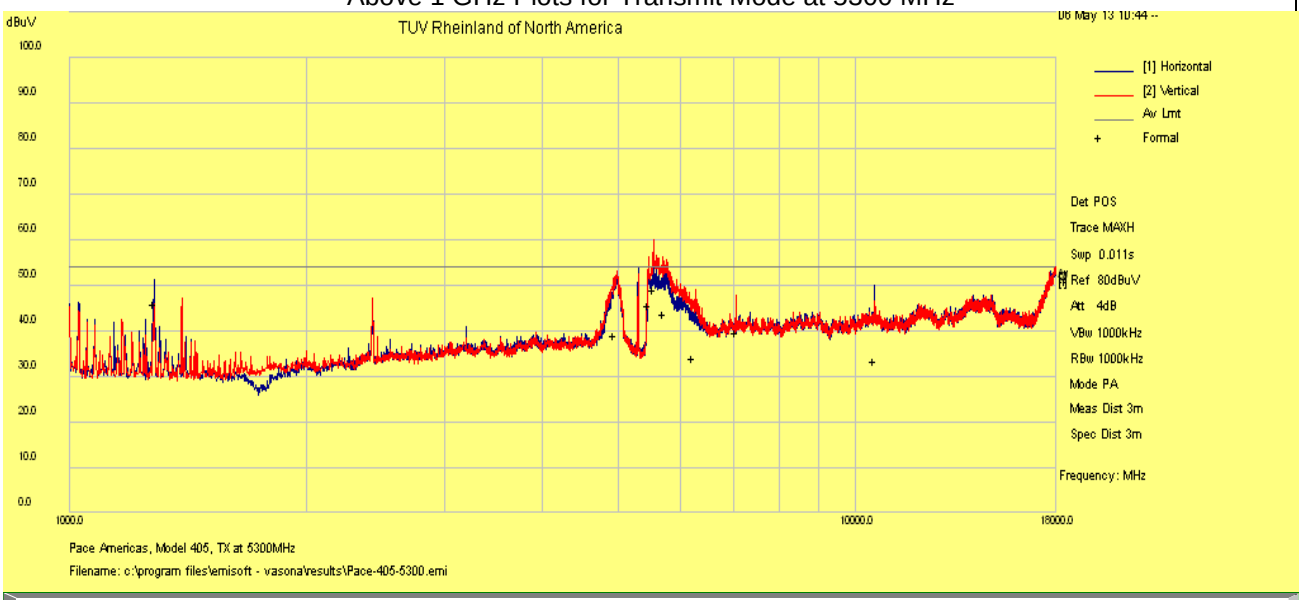
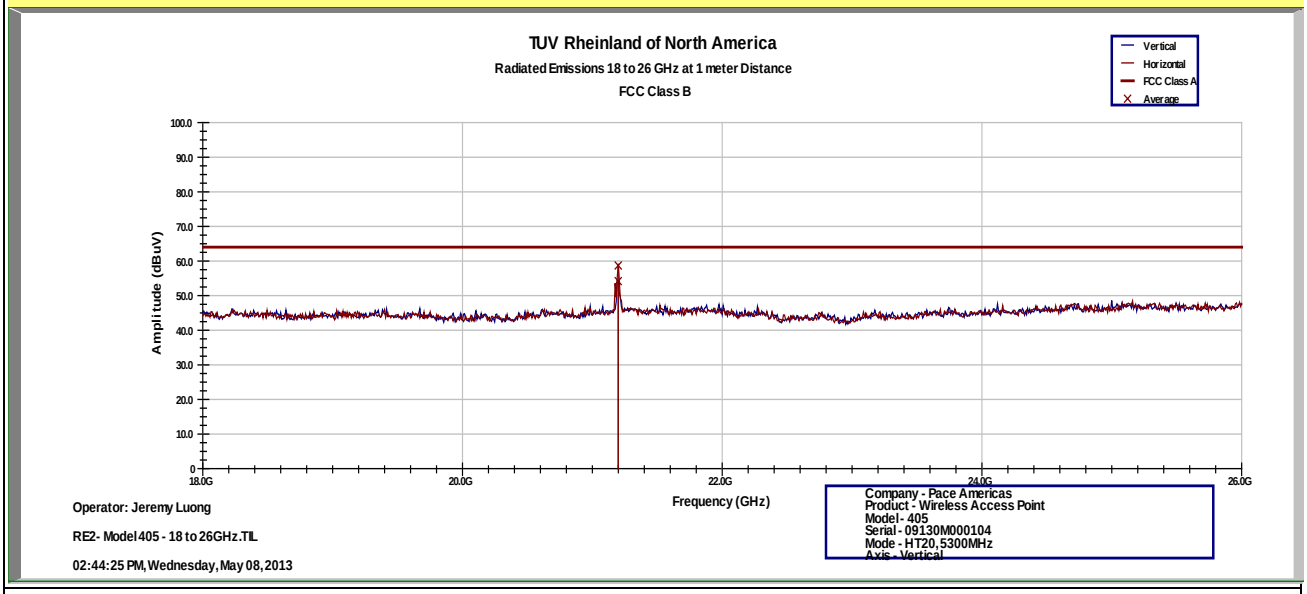
EUT Name	Wireless Video Access Point	**Date**	May 8, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 at 6.5 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5300 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 26 GHz range.

SOP 1 Radiated Emissions

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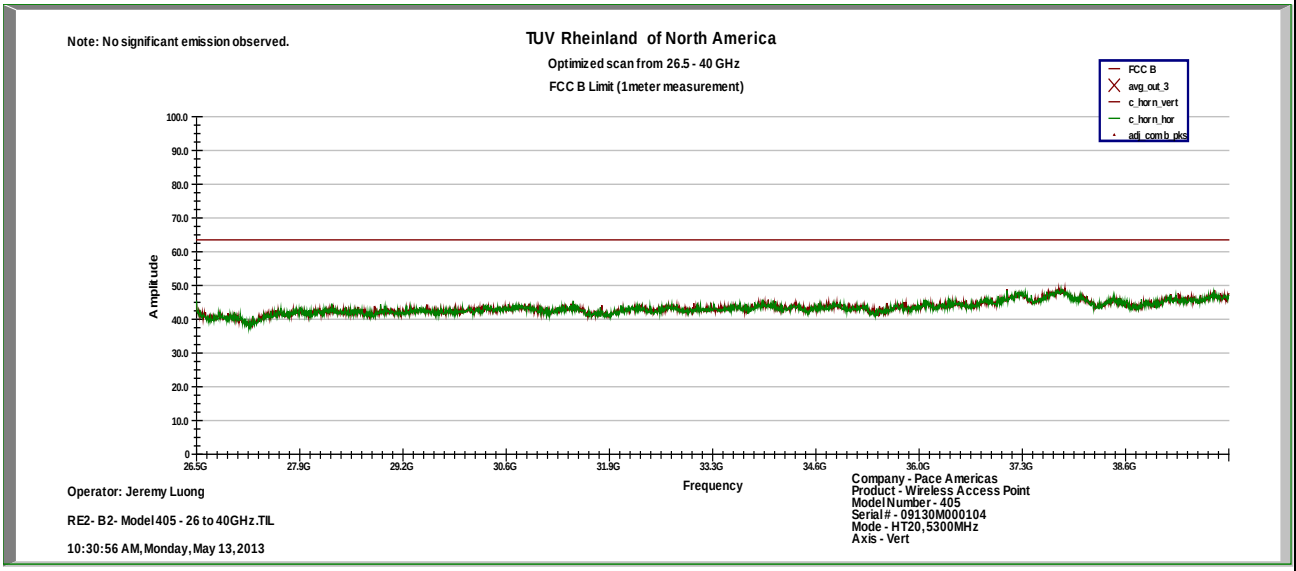
EUT Name	Wireless Video Access Point	**Date**	May 13, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 at 6.5 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5300 MHz



Notes: Limit was extrapolated to 1m distance for 26.5 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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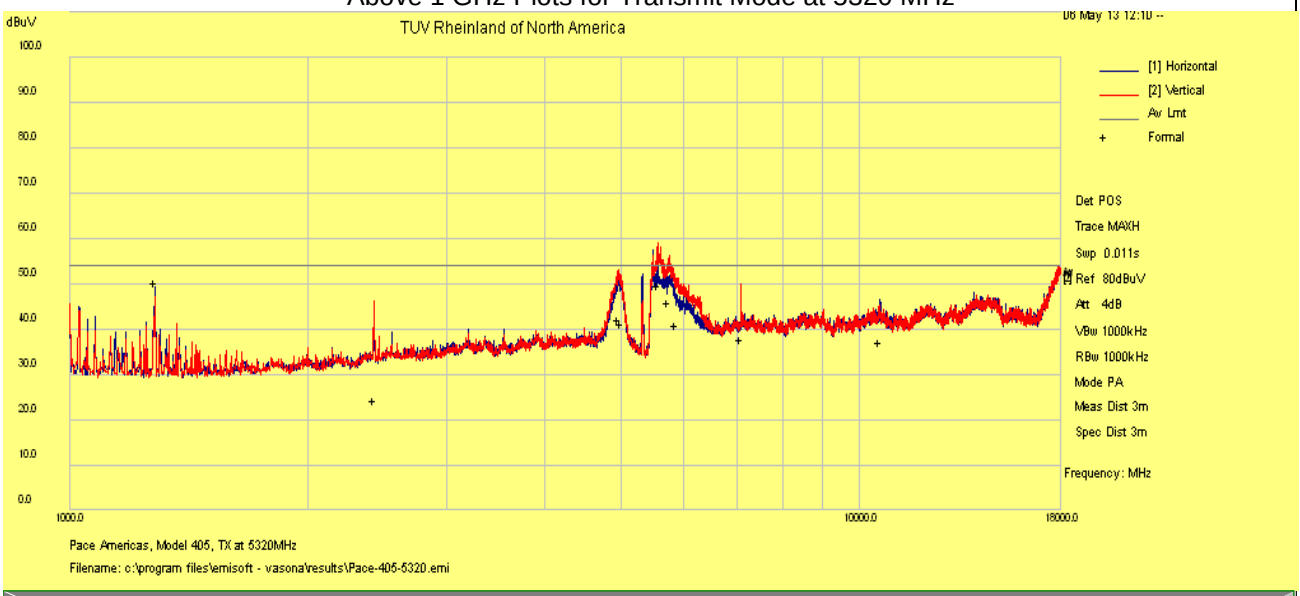
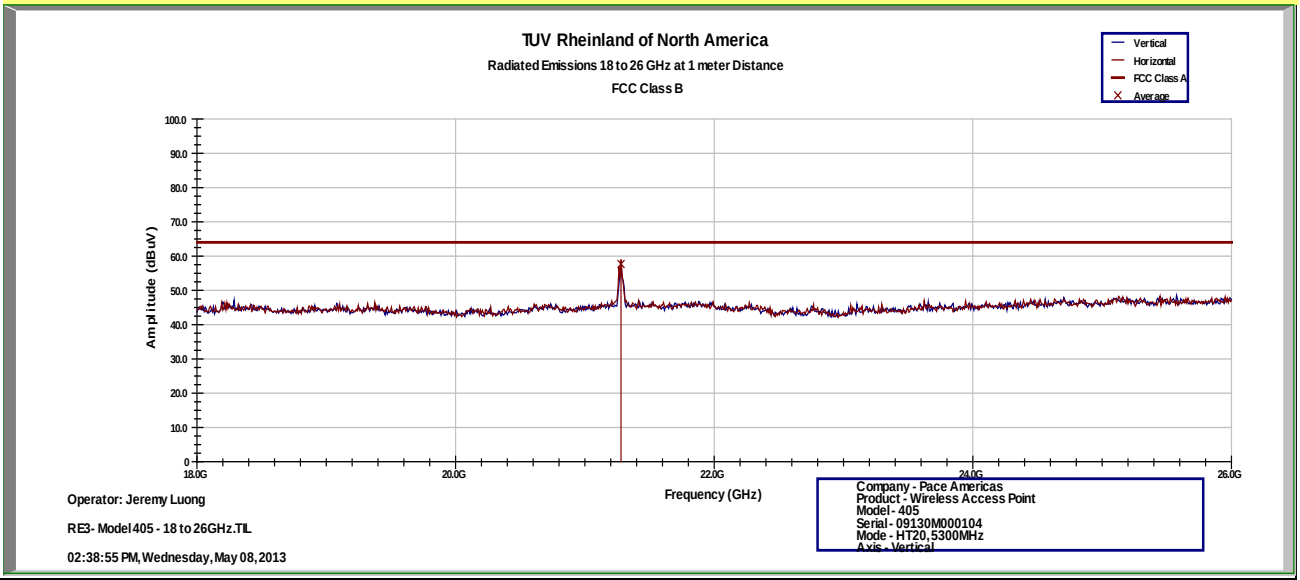
EUT Name	Wireless Video Access Point	**Date**	May 8, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 at 6.5 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5320 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 26 GHz range.

SOP 1 Radiated Emissions

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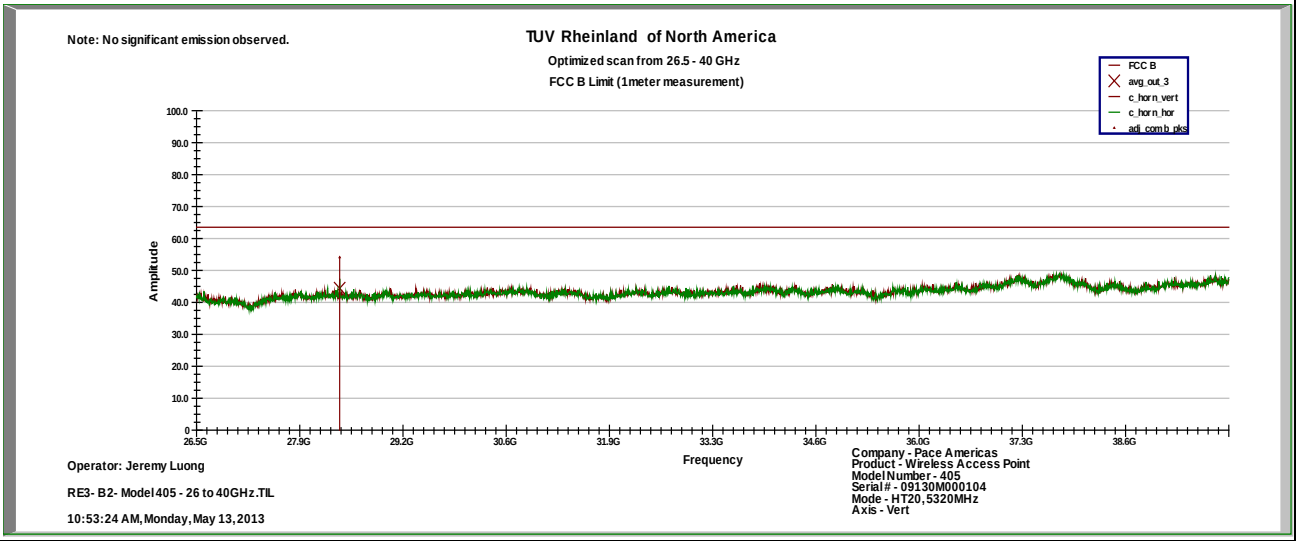
EUT Name	Wireless Video Access Point	**Date**	May 13, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11n HT20 at 6.5 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5320 MHz



Notes: Limit was extrapolated to 1m distance for 26.5 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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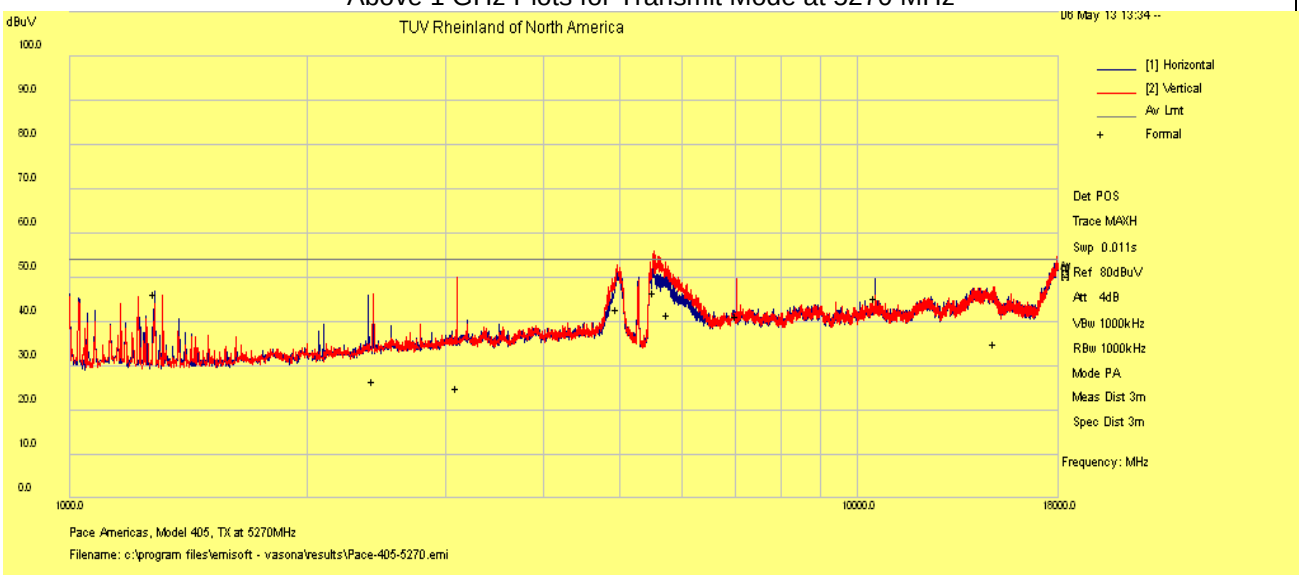
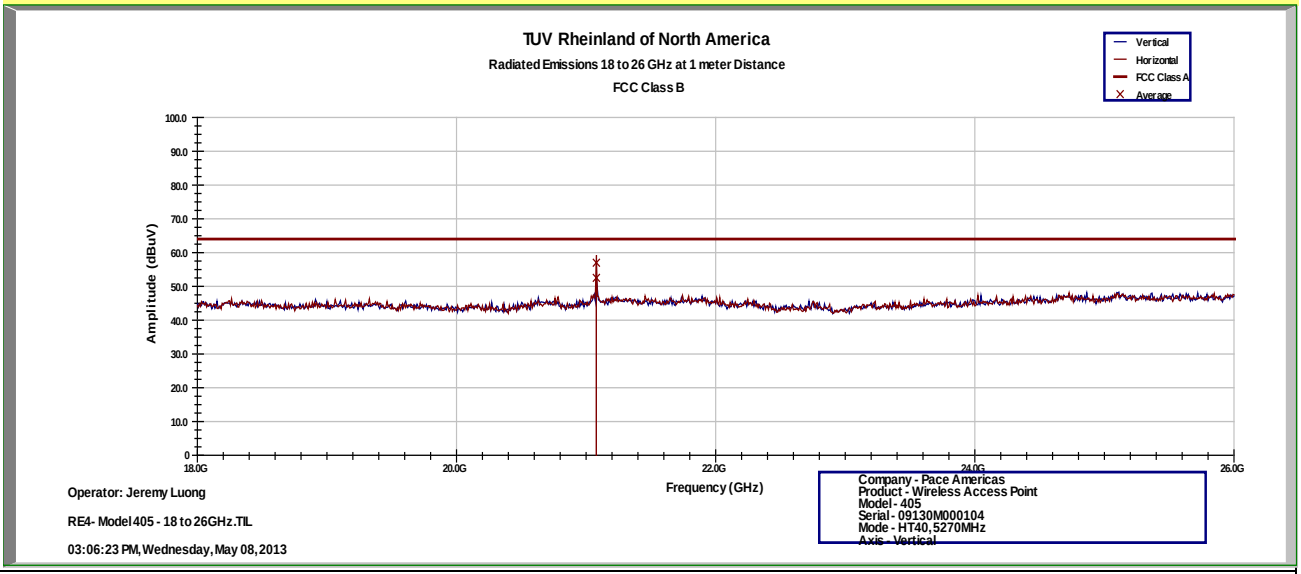
EUT Name	Wireless Video Access Point	**Date**	May 8, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11 HT40 at 13.5 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5270 MHz





Notes: Limit was extrapolated to 1m distance for 18 GHz – 26 GHz range.

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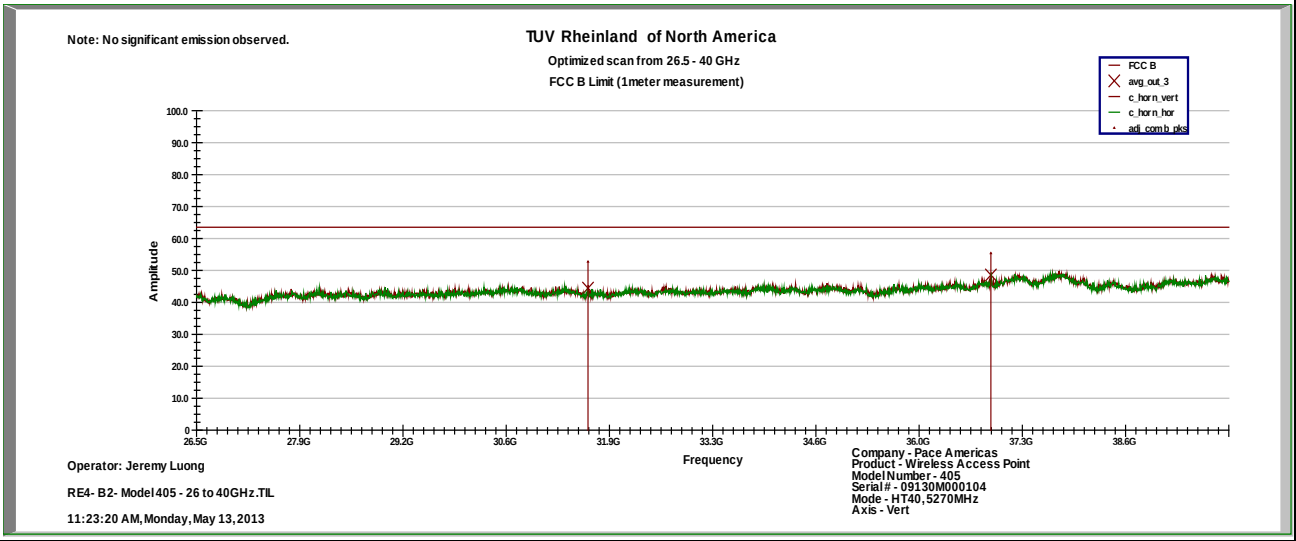
EUT Name	Wireless Video Access Point	**Date**	May 13, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11 HT40 at 13.5 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5270 MHz



Notes: Limit was extrapolated to 1m distance for 26.5 GHz – 40 GHz range.

SOP 1 Radiated Emissions

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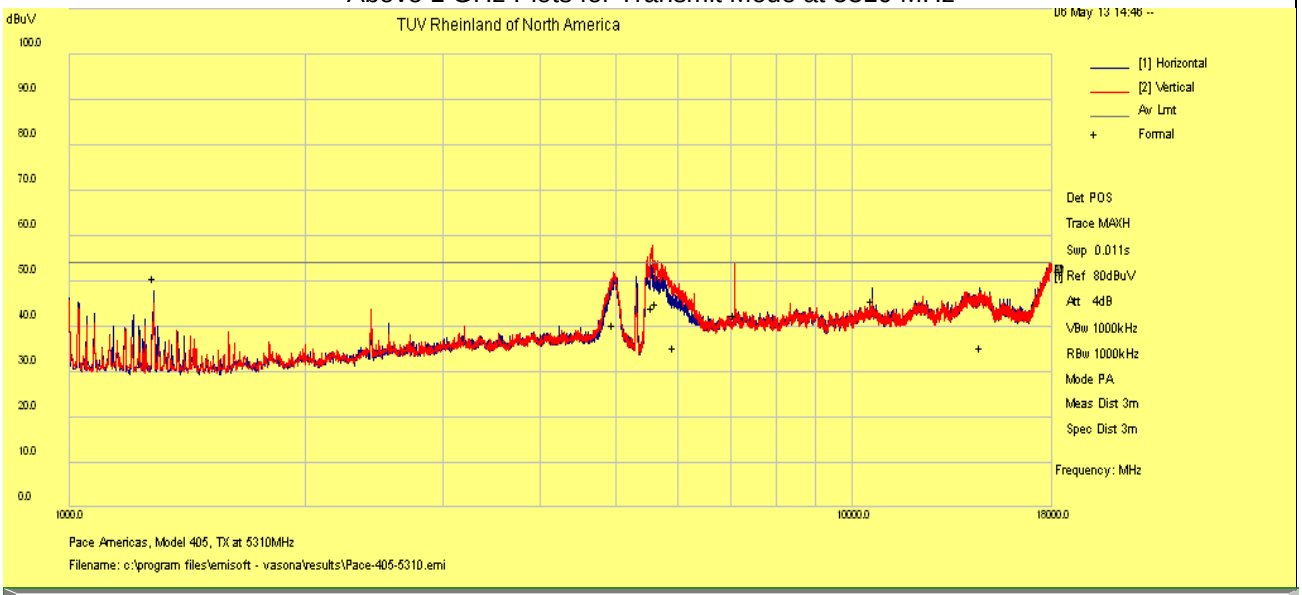
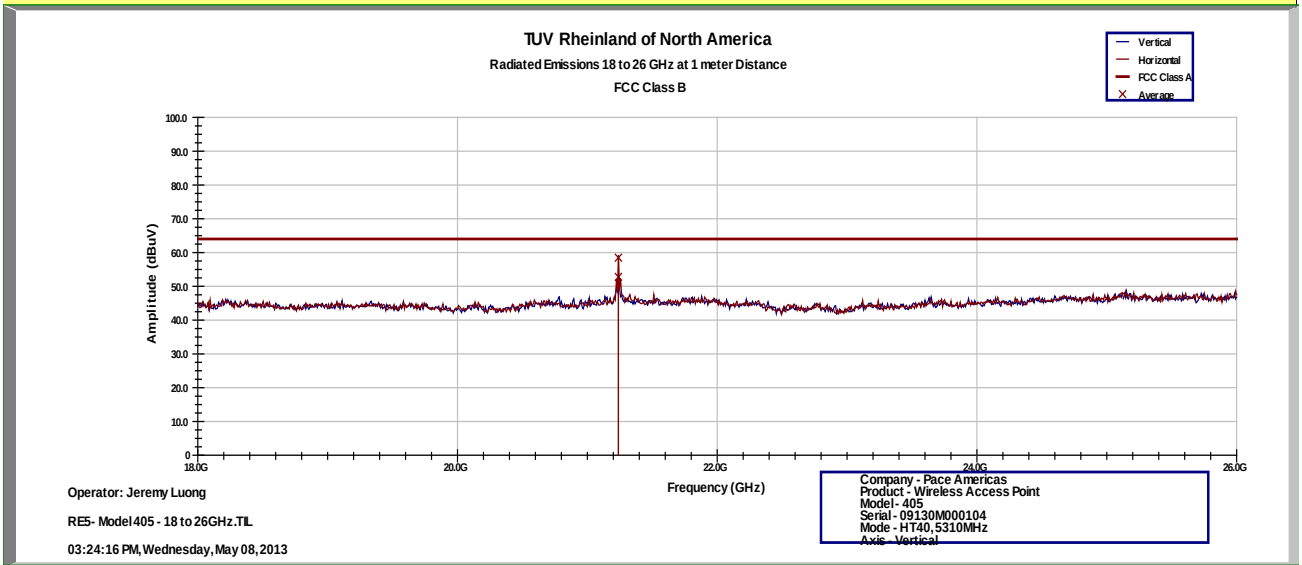
EUT Name	Wireless Video Access Point	**Date**	May 8, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11 HT40 at 13.5 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5310 MHz

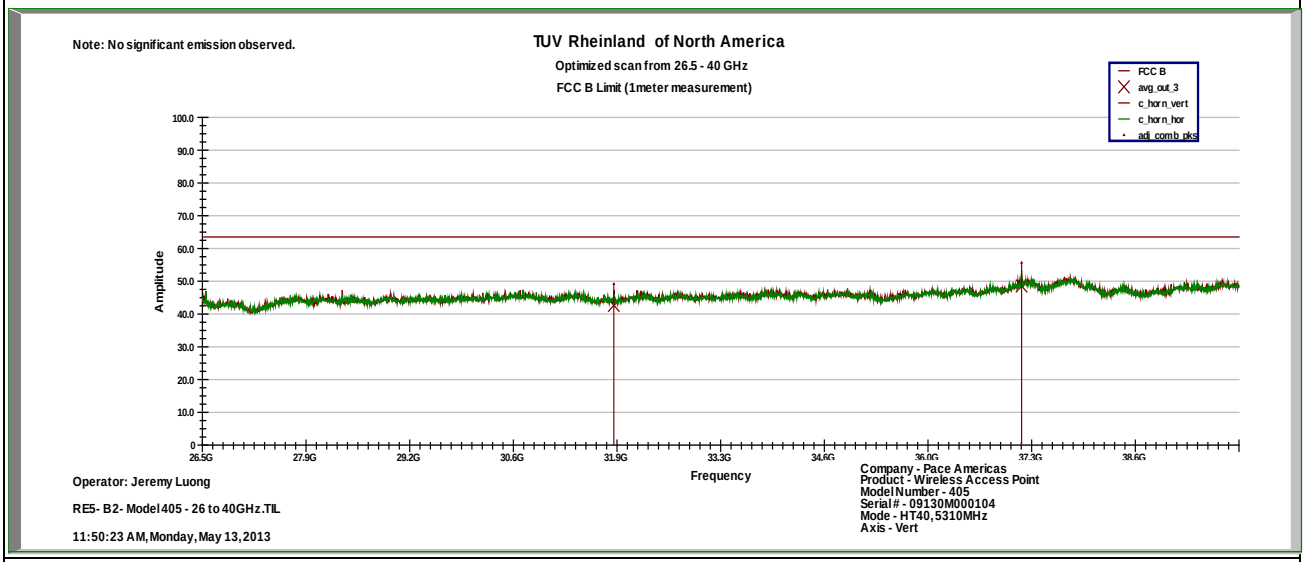




Notes: Limit was extrapolated to 1m distance for 18 GHz – 26 GHz range.
18 GHz – 26 GHz Setting: RBW = 1 MHz/ VBW = 3MHz

SOP 1 Radiated Emissions		Tracking # 31360999.003 Page 21 of 21	
EUT Name	Wireless Video Access Point	**Date**	May 13, 2013
EUT Model	405	**Temp / Hum in**	23°C / 28%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Y-Axis, 802.11 HT40 at 13.5 Mbps	**Line AC**	120 Vac 60 Hz
Standard	CFR47 Part 15 Subpart C	**RBW / VBW**	1 MHz / 3MHz
Dist/Ant Used	3m - EMCO3115 / 1m - RA42-K-F-4B-C	**Performed by**	Jeremy Luong

Above 1 GHz Plots for Transmit Mode at 5310 MHz



Notes: Limit was extrapolated to 1m distance for 26.5 GHz – 40 GHz range.

4.5.4 **Sample Calculation**

The field strength is calculated by subtracting the Amplifier Gain and adding the Cable Loss and Antenna Correction Factor to the measured reading. The basic equation is as follows:

Field Strength (dBμV/m) = FIM - AMP + CBL + ACF

Where: FIM = Field Intensity Meter (dBμV)
AMP = Amplifier Gain (dB)
CBL = Cable Loss (dB)
ACF = Antenna Correction Factor (dB/m)

$$\mu V/m = 10^{\frac{dB\mu V/m}{20}}$$

4.6 AC Conducted Emissions

Testing was performed in accordance with ANSI C63.4: 2010. These test methods are listed under the laboratory's A2LA Scope of Accreditation.

This test measures the levels emanating from the EUT's AC input port, thus evaluating the potential for the EUT to cause radio frequency interference to other electronic devices.

The AC conducted emissions of equipment under test shall not exceed the values in CFR47 Part 15.207: 2012 and RSS 210: 2010.

4.6.1 **Test Methodology**

A test program that controls instrumentation and data logging was used to automate the AC Power Line Conducted emission test procedure. The frequency range of interest was divided into sub-ranges such as to yield a frequency resolution of 9 kHz. Each phase and neutral of the AC power line were measured with respect to ground. Measurements were performed using a set of 50µH / 50Ω LISNs.

Testing is performed in Lab 5. The setup photographs clearly identify which site was used. The vertical ground plane used in the semi-anechoic chamber is a 2m x 2m solid aluminum frame and panel, and it is bonded to the horizontal ground plane.

In the case of tabletop equipment, the EUT is placed on a 1.0m x 1.5m non-conductive table 80cm above the ground plane and 40cm from a vertical ground reference plane. The rear of the EUT was positioned flush with the backside of the table and directly over the LISNs. The power and I/O cables were routed over the edge of the table and bundled approximately 40cm from the ground plane. Support equipment was powered from a separate LISN.

4.6.1.1 Deviations

There were no deviations from this test methodology.

4.6.2 **Test Results**

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

Table 8: AC Conducted Emissions – Test Results

Test Conditions: Conducted Measurement at Normal Conditions only		
Antenna Type: Attached	**Power Level:** See Test Plan	
AC Power: 120 Vac/60 Hz	**Configuration:** Tabletop	
Ambient Temperature: 23° C	**Relative Humidity:** 31% RH	
Configuration	**Frequency Range**	**Test Result**
Line 1 (Hot)	0.15 to 30 MHz	Pass
Line 2 (Neutral)	0.15 to 30 MHz	Pass

SOP 2 Conducted Emissions

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EUT Name	Wireless Video Access Point	**Date**	May 16, 2013
EUT Model	405	**Temp / Hum in**	23°C / 32%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Attached Antenna	**Line AC / Freq**	120 Vac/60 Hz
Standard	CFR47 Part 15.207	**RBW / VBW**	9 kHz / 30 kHz
Lab/LISN	Lab #2 /Com-Power, Line 1	**Performed by**	Jeremy Luong

Frequency	Raw	Cable Loss	Ins. Loss	Level	Detector	Line	Limit	Margin	Result
MHz	dBuV	dB	dB	dBuV		Line	dBuV	dB	
0.150	50.28	0.02	-0.10	50.20	QP	Live	66.00	-15.80	Pass
0.150	21.16	0.02	-0.10	21.08	Ave	Live	56.00	-34.92	Pass
0.169	56.28	0.02	-0.09	56.21	QP	Live	65.02	-8.81	Pass
0.169	39.19	0.02	-0.09	39.12	Ave	Live	55.02	-15.90	Pass
0.180	55.26	0.02	-0.09	55.19	QP	Live	64.49	-9.30	Pass
0.180	38.86	0.02	-0.09	38.79	Ave	Live	54.49	-15.70	Pass
0.217	43.62	0.02	-0.07	43.57	QP	Live	62.95	-19.38	Pass
0.217	23.29	0.02	-0.07	23.24	Ave	Live	52.95	-29.71	Pass
0.389	39.99	0.03	-0.05	39.97	QP	Live	58.09	-18.12	Pass
0.389	25.53	0.03	-0.05	25.51	Ave	Live	48.09	-22.58	Pass
0.441	38.29	0.03	-0.05	38.27	QP	Live	57.05	-18.78	Pass
0.441	22.88	0.03	-0.05	22.86	Ave	Live	47.05	-24.19	Pass
0.470	44.90	0.03	-0.05	44.88	QP	Live	56.52	-11.64	Pass
0.470	37.54	0.03	-0.05	37.52	Ave	Live	46.52	-9.00	Pass
2.729	36.62	0.08	-0.04	36.66	QP	Live	56.00	-19.34	Pass
2.729	25.47	0.08	-0.04	25.51	Ave	Live	46.00	-20.49	Pass
3.340	34.96	0.08	-0.03	35.01	QP	Live	56.00	-20.99	Pass
3.340	24.48	0.08	-0.03	24.53	Ave	Live	46.00	-21.47	Pass

Spec Margin = QP./Ave. - Limit, ± Uncertainty

Combined Standard Uncertainty $u_c(y)$ = ± 1.2 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: EUT was setup as table top equipment and transmitted at 5300 MHz in HT20 at 6.5 Mbps

SOP 2 Conducted Emissions

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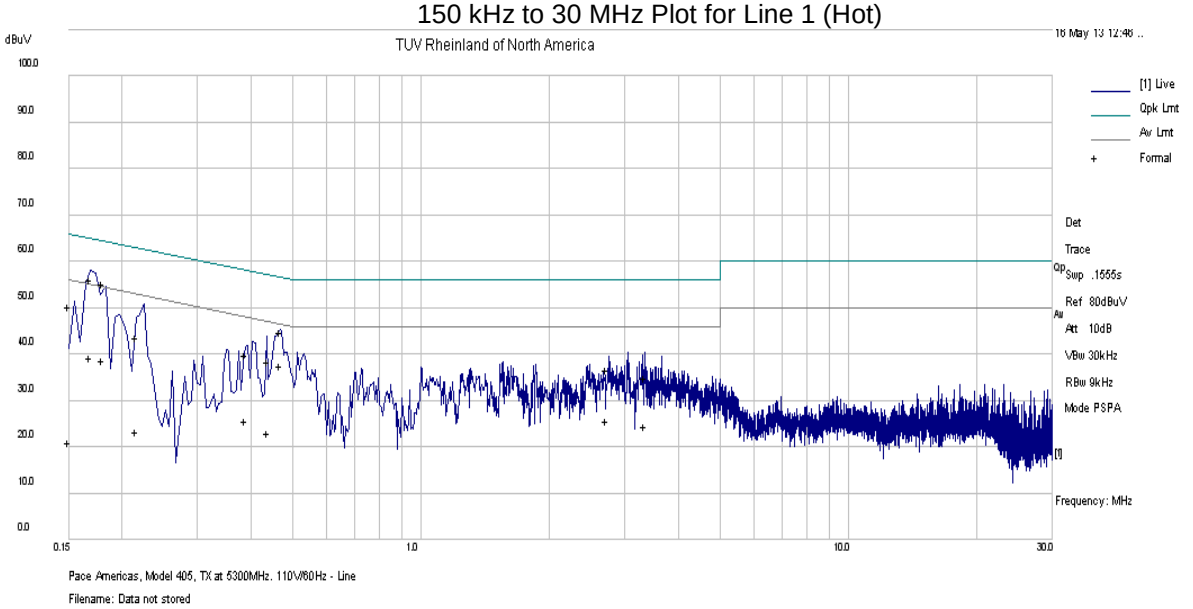
EUT Name	Wireless Video Access Point	**Date**	May 16, 2013
EUT Model	405	**Temp / Hum in**	23°C / 32%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Attached Antenna	**Line AC**	120 Vac/60 Hz
Standard	CFR47 Part 15.207	**RBW / VBW**	9 kHz / 30 kHz
Lab/LISN	Lab #2 /Com-Power, Line 1	**Performed by**	Jeremy Luong

150 kHz to 30 MHz Plot for Line 1 (Hot)



Notes: Meet FCC Class B limit.

SOP 2 Conducted Emissions

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EUT Name	Wireless Video Access Point	**Date**	May 16, 2013
EUT Model	405	**Temp / Hum in**	23°C / 32%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Attached Antenna	**Line AC / Freq**	120 Vac/60 Hz
Standard	CFR47 Part 15.207	**RBW / VBW**	9 kHz / 30 kHz
Lab/LISN	Lab #2 /Com-Power, Line 2	**Performed by**	Jeremy Luong

Frequency	Raw	Cable Loss	Ins. Loss	Level	Detector	Line	Limit	Margin	Result
MHz	dBuV	dB	dB	dBuV		Line	dBuV	dB	
0.165	55.56	0.02	-0.09	55.49	QP	Neutral	65.19	-9.70	Pass
0.165	36.19	0.02	-0.09	36.12	Ave	Neutral	55.19	-19.07	Pass
0.173	57.18	0.02	-0.09	57.11	QP	Neutral	64.82	-7.71	Pass
0.173	42.91	0.02	-0.09	42.84	Ave	Neutral	54.82	-11.98	Pass
0.232	49.89	0.02	-0.07	49.85	QP	Neutral	62.39	-12.54	Pass
0.232	36.15	0.02	-0.07	36.11	Ave	Neutral	52.39	-16.28	Pass
0.388	40.26	0.03	-0.05	40.24	QP	Neutral	58.10	-17.86	Pass
0.388	26.26	0.03	-0.05	26.24	Ave	Neutral	48.10	-21.86	Pass
0.471	45.52	0.03	-0.05	45.50	QP	Neutral	56.49	-10.99	Pass
0.471	35.70	0.03	-0.05	35.68	Ave	Neutral	46.49	-10.81	Pass
0.537	37.32	0.03	-0.04	37.31	QP	Neutral	56.00	-18.69	Pass
0.537	23.97	0.03	-0.04	23.96	Ave	Neutral	46.00	-22.04	Pass
0.565	37.43	0.04	-0.04	37.43	QP	Neutral	56.00	-18.57	Pass
0.565	25.86	0.04	-0.04	25.86	Ave	Neutral	46.00	-20.14	Pass
0.728	35.20	0.04	-0.04	35.20	QP	Neutral	56.00	-20.80	Pass
0.728	23.16	0.04	-0.04	23.16	Ave	Neutral	46.00	-22.84	Pass
2.616	35.51	0.07	-0.04	35.54	QP	Neutral	56.00	-20.46	Pass
2.616	23.82	0.07	-0.04	23.85	Ave	Neutral	46.00	-22.15	Pass

Spec Margin = QP./Ave. - Limit, ± Uncertainty

Combined Standard Uncertainty $u_c(y)$ = ± 1.2 dB Expanded Uncertainty $U = ku_c(y)$ k = 2 for 95% confidence

Notes: EUT was setup as table top equipment and transmitted at 5300 MHz in HT20 at 6.5 Mbps

SOP 2 Conducted Emissions

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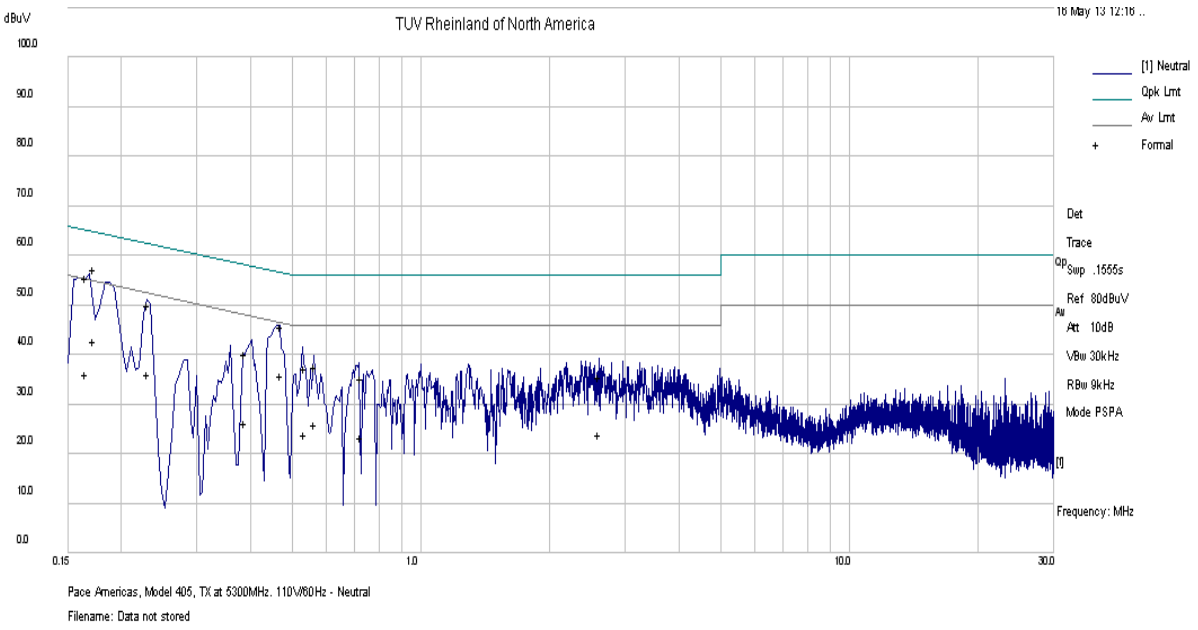
EUT Name	Wireless Video Access Point	**Date**	May 16, 2013
EUT Model	405	**Temp / Hum in**	23°C / 32%rh
EUT Serial	09130M000104	**Temp / Hum out**	N/A
EUT Config.	Attached Antenna	**Line AC**	120 Vac/60 Hz
Standard	CFR47 Part 15.107	**RBW / VBW**	9 kHz / 30 kHz
Lab/LISN	Lab #2 /Com-Power, Line 2	**Performed by**	Jeremy Luong

150 kHz to 30 MHz Plot for Line 2 (Neutral)



Note: Meet FCC Class B Limit.

4.7 Frequency Stability

In accordance with 47 CFR Part 15.407(g) the frequency stability of U-NII devices must be such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual. The Manufacturer calls out operating temperature ranges of +0º to +40º C

4.7.1 **Test Methodology**

The manufacturer of the equipment is responsible for ensuring that the frequency stability is such that emissions are always maintained within the band of operation under all conditions. This test performs according to ANSI C63.10-2009 Section 6.8

4.7.2 **Manufacturer Declaration**

The frequency stability of the reference oscillator sets the frequency stability of the RF transceiver signals. Therefore all of the RF signal should have ±20ppm stability.

This stability accounts for room temp tolerance of the crystal oscillator circuit, frequency variation across temperature, and crystal ageing.

Worst case:
5.200 GHz - ±20ppm/104 kHz

±20ppm at 5 GHz translates to a maximum frequency shift of ±103 kHz. As the edge of the channels are at least one MHz from either of the band edges, ±103 kHz is more than sufficient to guarantee that the intentional emission will remain in the band over the entire operating range of the radio.

4.7.3 **Limit**

CFR47 Part 407(g) - Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

4.7.4 **Test results**

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s) since the maximum frequency drift was 6.84 ppm.

Table 9: Frequency Stability – Test Results

Temperature	Time	-6 dB Lower Edge (MHz)	+6 dB Upper Edge (MHz)	Center Frequency (MHz)	PPM
40°C	Start	5198.93220	5201.01530	5199.97375	5.05
	2 Min.	5198.94570	5200.98520	5199.96545	6.64
	5 Min	5198.88210	5201.04680	5199.96445	6.84
	10 min	5198.88210	5201.04930	5199.96570	6.60
30°C	Start	5198.93220	5201.04080	5199.98650	2.60
	2 Min.	5198.93070	5201.01830	5199.97450	4.90
	5 Min	5198.93220	5201.01080	5199.97150	5.48
	10 min	5198.93220	5201.00780	5199.97000	5.77
20°C	Start	5198.93970	5201.06180	5200.00075	0.14
	2 Min.	5198.93670	5201.03780	5199.98725	2.45
	5 Min	5198.93520	5201.03180	5199.98350	3.17
	10 min	5198.93520	5201.02880	5199.98200	3.46
10°C	Start	5198.94420	5201.08130	5200.01275	2.45
	2 Min.	5198.93820	5201.06030	5199.99925	0.14
	5 Min	5198.93670	5201.05580	5199.99625	0.72
	10 min	5198.93670	5201.05430	5199.99550	0.87
0°C	Start	5198.94420	5201.09030	5200.01725	3.32
	2 Min.	5198.94420	5201.08130	5200.01275	2.45
	5 Min	5198.94420	5201.07680	5200.01050	2.02
	10 min	5198.94420	5201.07680	5200.01050	2.02

Note: 1. All frequency drifts were less than ±20 ppm. The worst frequency drift was 6.84ppm/ 35.55kHz.
2. Channel 5200 MHz was selected to frequency stability.

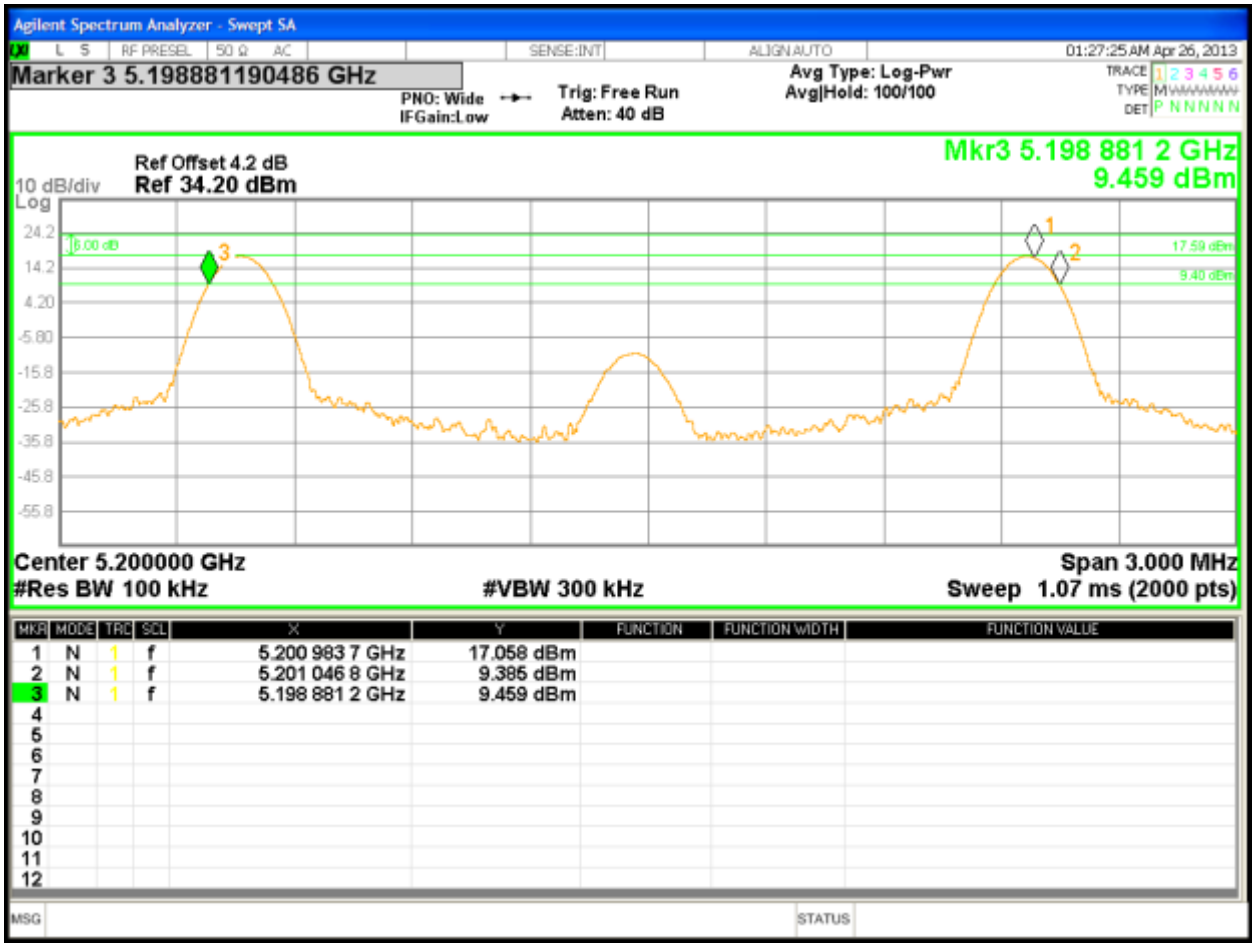


Figure 161: Frequency Stability – Worst Case

4.8 Voltage Variation

In accordance with 47 CFR Part 15.31 (e) intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

4.8.1 **Test Methodology**

The ac supply voltage was varied between 85% and 115% of the nominal rated supply voltage. The fundamental frequency was observed during the variation. The access point was powered 120V/60 Hz by programmable power supply. The voltage was varied from 102Vac to 138Vac mean while the fundamental frequencies were observed and record for the maximum drift in ppm; part per millions.

4.8.2 **Test results**

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s). The fundamental frequencies drifted less than ±20ppm.

Table 10: Voltage Variation – Test Results

Frequency MHz	**Nominal (**120 Vac) MHz	**Lo Voltage (102Vac)** MHz	**Hi Voltage (138Vac)** MHz	**Max Drift** ppm
5260	5259.9705	5259.9656	5259.9661	6.54
5300	5299.9647	5299.9646	5299.9665	6.68
5320	5319.9642	5319.9645	5319.9640	6.77

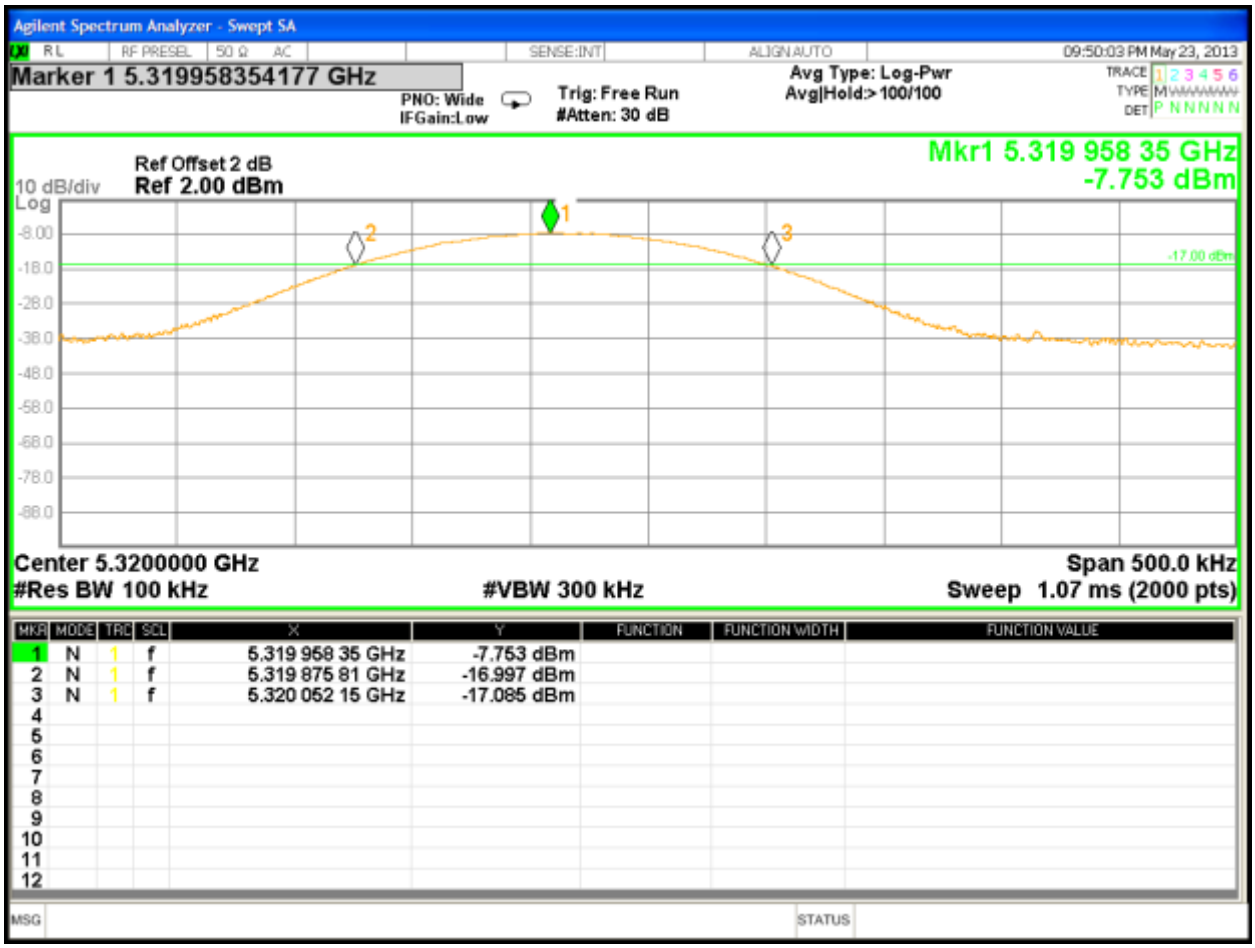


Figure 162: Voltage Variation – Worst Case

4.9 Maximum Permissible Exposure

4.9.1 Test Methodology

In this document, we try to prove the safety of radiation harmfulness to the human body for our product. The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The Gain of the antenna used in this calculation is declared by the manufacturer, and the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis transmission formula is a far field assumption, the calculated result of that is an over-prediction for near field power density. We will take that as the worst case to specify the safety range.

4.9.2 RF Exposure Limit

According to FCC 1.1310 table 1: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
(A)Limits For Occupational / Control Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	6
30–300	…	…	1.0	6
300 - 1500	…	…	f/300	6
1500 - 100,000	…	…	5	6
(B)Limits For General Population / Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/ f^2$)	30
30–300	27.5	0.037	0.2	30
300 - 1500	…	…	f/1500	30
1500 - 100,000	…	…	1.0	30

F = Frequency in MHz
* = Plane-wave equivalent power density

4.9.3 EUT Operating Condition

The software provided by Manufacturer enabled the EUT to transmit data at lowest, middle and highest channel individually.

4.9.4 Classification

The antenna of the product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance with the antenna should be included in user's manual. So, this device is classified as a **Mobile Device**.

4.9.5 Test Results

4.9.5.1 Antenna Gain

The transmitting antenna was integrated. The directional antenna gain was +8.00 dBi or 6.31 (numeric).

4.9.5.2 Output Power into Antenna & RF Exposure value at distance 20cm:

Calculations for this report are based on highest power measurement.

Limit for MPE (from FCC part 1.1310 table1) is 1.0 mW/cm^2

The highest measured total power is +20.79 dBm or 119.95mW

Using the Friss transmission formula, the EIRP is Pout*G, and R is 20cm.

Pd = (119.95*6.31) / (1600π) = 0.1506 mW/cm2, which is 0.8493 mW/cm2 below to the limit.

As originally tested, the EUT was found to be compliant to the requirements of the test standard(s).

4.9.6 Sample Calculation

The Friss transmission formula: $Pd = (Pout*G) / (4*\pi*R^2)$
Where;

Pd = power density in mW/cm^2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
$\pi \approx 3.1416$
R = distance between observation point and center of the radiator in cm

Ref. : David K. Cheng, *Field and Wave Electromagnetics*, Second Edition, Page 640, Eq. (11-133).

6 Test Equipment Use List

6.1 Equipment List

Equipment	Manufacturer	Model #	Serial/Inst #	Last Cal mm/dd/yy	Next Cal mm/dd/yy
Bilog Antenna	Sunol Sciences	JB3	A102606	05/15/2012	05/15/2014
Horn Antenna	Sunol Sciences	DRH-118	A040806	11/05/2012	11/05/2014
Antenna (18-26GHz)	CMT	RA42-K-F-4B-C	020131-004	03/05/2013	03/05/2014
Antenna (26-40 GHz)	CMT	RA28-K-F-4B-C	011469R-003	11/20/2012	11/20/2014
EMI Receiver	Hewlett Packard	8546A	3807A00445	01/18/2013	01/18/2014
Preselector	Hewlett Packard	85460A	3704A00407	01/18/2013	01/18/2014
Amplifier	Hewlett Packard	8447D	2944A07996	01/16/2013	01/16/2014
Spectrum Analyzer	Rohde & Schwarz	ESIB	832427/002	01/16/2013	01/16/2014
Amplifier	Rohde & Schwarz	TS-PR18	3545.7008.03	01/16/2013	01/16/2014
Amplifier	Rohde & Schwarz	TS-PR26	100011	03/05/2013	03/05/2014
Amplifier	Rohde & Schwarz	TS-PR40	100012	11/20/2012	11/20/2014
Signal Generator	Anritsu	MG3694A	42803	01/19/2013	01/19/2014
Notch Filter	Micro-Tronics	BRM50702	37	01/16/2013	01/16/2014
Notch Filter	Micro-Tronics	BRC50703	11	01/16/2013	01/16/2014
Notch Filter	Micro-Tronics	BRC50704	8	01/16/2013	01/16/2014
Notch Filter	Micro-Tronics	BRC50705	9	01/16/2013	01/16/2014
High Pass Filter (3.5 GHz)	Hewlett Packard	84300-80038	820004	01/16/2013	01/16/2014
High Pass Filter (8.5 GHz)	Micro-Tronics	HPM50107	4	01/16/2013	01/16/2014
Power Supplier	Kikusui	PCR8000W	CM000912	01/17/2013	01/17/2014
Digital Multimeter	Fluke	177	92780314	01/17/2013	01/17/2014
Power Meter	Agilent	E4418B	MY45103902	01/19/2013	01/19/2014
Power Sensor	Hewlett Packard	8482A	55-5131	01/19/2013	01/19/2014
EMI Receiver	Hewlett Packard	8546A	3942A00514	07/02/2012	07/02/2013
Preselector	Hewlett Packard	85460A	3704A00485	07/02/2012	07/02/2013
LISN	Com-Power	LI-215	12100	01/16/2013	01/16/2014
Transient Limiter	Com-Power	LIT-930	531582	01/16/2013	01/16/2014
Thermometer	Fluke	52II	88650033	07/26/2012	07/26/2013
Thermo Chamber	Espec	BTZ-133	0613436	03/11/2013	03/11/2014
Spectrum Analyzer	Rohde & Schwarz	FSL6	100169	02/07/2013	02/07/2014
Spectrum Analyzer	Agilent	N9038A	MY51210195	01/19/2013	01/19/2014
Vector Signal Generator	Rohde & Schwarz	SMU 200A	1141.2005.02	11/24/2011	11/24/2013
Amplifier	Hewlett Packard	8449B	30008A01014	01/17/2013	01/17/2014

* Calibration of equipment past due for re-calibration will be performed expeditiously. If any equipment is found to be out of tolerance at that time, affected customers will be notified accordingly.

7 EMC Test Plan

7.1 Introduction

This section provides a description of the Equipment Under Test (EUT), configurations, operating conditions, and performance acceptance criteria. It is an overview of information provided by the manufacturer so that the test laboratory may perform the requested testing.

7.2 Customer

Table 11: Customer Information

Company Name	Pace Americas
Address	310 Providence Mine Road, Ste. 200
City, State, Zip	Nevada City, CA 95959
Country	U.S.A.
Phone	(530) 274 5440
Fax	(530) 273 6340

Table 12: Technical Contact Information

Name	Mark Rieger
E-mail	Mark.Rieger@pace.com
Phone	(530) 274 5440
Fax	(530) 273 6340

7.3 Equipment Under Test (EUT)

Table 13: EUT Specifications

EUT Specification	
Dimensions	6.0” x 5.6” x 1.3”
AC Adapter (Pace M/N:T018WA1225, S/N:810611302000003156)	Input Voltage: 120 Vac 50-60 Hz Input Current: 680 mA Output Voltage: 12 Vdc Output Current: 1.5 A
Environment	Indoor and Outdoor
Operating Temperature Range:	0 to 40 degrees C
Multiple Feeds:	☐ Yes and how many ☒ No
Hardware Version	Rev. A1C
Part Number	297T1001700
RF Software Version	Busy Box V1.10.3
802.11-radio modules	
Operating Mode	802.11n HT20 and HT40
Transmitter Frequency Band	5.15 GHz to 5.25 GHz (Indoor Use) 5.25 GHz to 5.35 GHz 5.47 GHz to 5.725 GHz (exclude 5600 MHz to 5650 MHz) 5.725 GHz to 5.85 GHz
Max. Rated Power Output	See Channel Planning Table.
Power Setting @ Operating Channel	See Channel Planning Table.
Antenna Type	3 integrated PCB dipole antenna and 1 attached stamped loop antenna
Antenna Gain	+2 dBi per antenna. (Same for both antenna type) +8 dBi total directional gain.
Modulation Type	☐ AM ☐ FM ☒ DSSS ☒ OFDM ☐ Other describe:
Data Rate	802.11a: 4 Spatial Streams: 6, 9, 12, 18, 24, 36, 48, 52 Mbps 802.11n HT20: 4 Spatial Streams: 26, 52, 78, 104, 156, 208, 234, 260 Mbps 802.11n HT40: 4 Spatial Streams: 54, 108, 162, 216, 324, 432, 486, 540 Mbps
TX/RX Chain (s)	MIMO (4x4)

EUT Specification	
Directional Gain Type	☒ Correlated ☒ Beam-Forming ☐ Other describe:
Type of Equipment	☒ Table Top ☐ Wall-mount ☐ Floor standing cabinet ☐ Other
Note: 1. All four chains will be on / transmitted at all time. 2.This report only documents the radio characteristics for 5250 – 5350 MHz band	

Table 14: EUT Channel Power Specifications

No.	Frequency (MHz)	Target Power Value				
		802.11b	802.11g	802.11a	802.11n HT20	802.11n HT40
36	5180			10.0	10.0	11.0
40	5200			9.0	9.0	
44	5220			9.0	9.0	11.0
48	5240			9.0	9.0	
52	5260			15.0	15.0	17.0
56	5280			15.0	15.0	
60	5300			15.0	15.0	14.0
64	5320			15.0	15.0	
100	5500			16.0	16.0	16.0
104	5520			16.0	16.0	
108	5540			16.0	16.0	18.0
112	5560			16.0	16.0	
116	5580			16.0	16.0	
120	5600					
124	5620					
128	5640					
132	5660			16.0	16.0	18.0
136	5680			16.0	16.0	
140	5700			15.0	15.0	
149	5745			22.0	22.0	22.0
153	5765			22.0	22.0	
157	5785			22.0	22.0	22.0
159	5795			22.0	22.0	
161	5805			22.0	22.0	
165	5825			22.0	22.0	

Note: 1. The center operating frequency is shifted upward by 10 MHz for HT40.
2. The final adjusted power targets are updated at the above indicated frequencies.

Table 15: Interface Specifications

Interface Type	Cabled with what type of cable?	Is the cable shielded?	Maximum potential length of the cable?	Metallic (M), Coax (C), Fiber (F), or Not Applicable?
RJ45	CAT-5 Ethernet	☐ No	☒ Metric: 10 m	☒ M

Table 16: Supported Equipment

Equipment	Manufacturer	Model	Serial	Used for
Laptop	Dell	PP23LB	9271001233	Setup EUT operating channel
Note: None.				

Table 17: Description of Sample used for Testing

Device	Serial	RF Connection	CFR47 Part 15.407
405	09130M000104	Integrated Antenna	TX Emission, AC Conducted Emission
		Direct via Murada Connection	Transmitted Output Power, Power Spectral Density, Peak Excursion Ratio Occupied Bandwidth Frequency Stability Voltage Variation

Table 18: Description of Test Configuration used for Radiated Measurement.

Device	Antenna	Mode	Setup Photo (X-Axis)	Setup Photo (Y-Axis)	Setup Photo (Z-Axis)
405	Integrated	Transmit	EUT laid flat.	EUT stood upright	Na.
Note: Pre-scans were performed in 2 supporting axis, and Y-axis was worst.					

Table 19: Final Test Mode for 5250 - 5350 Bands

Test	802.11a	802.11n HT20	802.11n HT40
Occupied Bandwidth FCC Part 15.407(a)	Band 2: 5260, 5300, 5320 MHz 4 Streams – 6 Mbps/ stream	Band 2: 5260, 5300, 5320 MHz 4 Streams – 6.5 Mbps/ stream	Band 2: 5270, 5310 MHz 4 Streams – 13.5 Mbps/ stream
Output Power FCC Part 15.407(a)(1-2)	Band 2: 5260, 5300, 5320 MHz 4 Streams – 6 Mbps/ stream	Band 2: 5260, 5300, 5320 MHz 4 Streams – 6.5 Mbps/ stream	Band 2: 5270, 5310 MHz 4 Streams – 13.5 Mbps/ stream
Peak Excursion Ratio FCC Part 15.407(a)(6)	Band 2: 5260, 5300, 5320 MHz 4 Streams – 6 Mbps/ stream	Band 2: 5260, 5300, 5320 MHz 4 Streams – 6.5 Mbps/ stream	Band 2: 5270, 5310 MHz 4 Streams – 13.5 Mbps/ stream

Test	802.11a	802.11n HT20	802.11n HT40
Peak Power Spectral Density FCC Part 15.407(a)	Band 2: 5260, 5300, 5320 MHz 4 Streams – 6 Mbps/ stream	Band 2: 5260, 5300, 5320 MHz 4 Streams – 6.5 Mbps/ stream	Band 2: 5270, 5310 MHz 4 Streams – 13.5 Mbps/ stream
Band-Edge (Radiated) FCC Part 15.205, 15.209, 15.407(b)	Band 2: 5260, 5320 MHz 4 Streams – 6 Mbps/ stream (Y-Axis)	Band 2: 5260, 5320 MHz 4 Streams – 6.5 Mbps/ stream (Y-Axis)	Band 2: 5270, 5310 MHz 4 Streams – 13.5 Mbps/ stream (Y-Axis)
Transmitted Spurious Emission (30 MHz – 1 GHz) FCC Part 15.205, 15.209, 15.407(b)		Worst Case: 5300 MHz 4 Streams – 6.5 Mbps/ stream (Y-Axis)	
Transmitted Spurious Emission (Above 1 GHz) FCC Part 15.205, 15.209, 15.407(b)	Band 2: 5260, 5300, 5320 MHz 4 Streams – 6 Mbps/ stream (Y-Axis)	Band 2: 5260, 5300, 5320 MHz 4 Streams – 6.5 Mbps/ stream (Y-Axis)	Band 2: 5270, 5310 MHz 4 Streams – 13.5 Mbps/ stream (Y-Axis)
Conducted Spurious Emission (antenna port). FCC Part 15.407 (b)	According to CFR47 15.407 (b) EIPR shall not exceed -27 dBm/MHz. This is equivalent to the field strength of 68.2 dBuV/m at 3 meter distance. The EUT is satisfied the requirement by meeting the limit under CFR47 Part 15.209.		
AC Conducted Emission FCC Part 15.207		5300 MHz at 4 Data Stream: 6.5Mbp	
Frequency Stability FCC Part 15.407 (g)	CW Tone at 5200 MHz, (Send_cw_signal 40 0 0 3 1 0).		
Voltage Variation FCC Part 15.31 (e)	Continuous wave at 5260, 5300, 5320 MHz, (Send_cw_signal 40 0 0 3 1 0)		
Dynamic Frequency Selection FCC Part 15.407 (h)	5250 – 5350 MHz band supports DFS. See DFS test report.		

Note: 1. All radiated emission performed on Y-Axis.
3. All four chains will be on at all time.
4. All tests were pre-scanned for worst case before final testing.

7.4 Test Specifications

Testing requirements

Table 20: Test Specifications

Emissions and Immunity	
Standard	**Requirement**
CFR 47 Part 15.407: 2012	All
RSS 210 Issue 8, 2010	All

END OF REPORT