Output Power Test Mode: Chain 0 & 802.11n HT20 & Ch.52

Output Power Test Mode: Chain 0 & 802.11n HT20 & Ch.56

Output Power Test Mode: Chain 0 & 802.11n HT20 & Ch.64

Output Power Test Mode: Chain 0 & 802.11n HT20 & Ch.100

Output Power Test Mode: Chain 0 & 802.11n HT20 & Ch.116

Output Power Test Mode: Chain 0 & 802.11n HT20 & Ch.140

Output Power Test Mode: Chain 1 & 802.11n HT20 & Ch.36

Output Power Test Mode: Chain 1 & 802.11n HT20 & Ch.44

Output Power Test Mode: Chain 1 & 802.11n HT20 & Ch.48

Output Power Test Mode: Chain 1 & 802.11n HT20 & Ch.52

Output Power Test Mode: Chain 1 & 802.11n HT20 & Ch.56

Output Power Test Mode: Chain 1 & 802.11n HT20 & Ch.64

Output Power Test Mode: Chain 1 & 802.11n HT20 & Ch.100

Output Power Test Mode: Chain 1 & 802.11n HT20 & Ch.116

Output Power Test Mode: Chain 1 & 802.11n HT20 & Ch.140

Output Power Test Mode: Chain 0 & 802.11n HT40 & Ch.38

Output Power Test Mode: Chain 0 & 802.11n HT40 & Ch.46

Output Power Test Mode: Chain 0 & 802.11n HT40 & Ch.54

Output Power Test Mode: Chain 0 & 802.11n HT40 & Ch.62

Output Power Test Mode: Chain 0 & 802.11n HT40 & Ch.102

Output Power Test Mode: Chain 0 & 802.11n HT40 & Ch.110

Output Power Test Mode: Chain 0 & 802.11n HT40 & Ch.134

Output Power Test Mode: Chain 1 & 802.11n HT40 & Ch.38

Output Power Test Mode: Chain 1 & 802.11n HT40 & Ch.46

Output Power Test Mode: Chain 1 & 802.11n HT40 & Ch.54

Output Power Test Mode: Chain 1 & 802.11n HT40 & Ch.62

Output Power Test Mode: Chain 1 & 802.11n HT40 & Ch.102

Output Power Test Mode: Chain 1 & 802.11n HT40 & Ch.110

Output Power Test Mode: Chain 1 & 802.11n HT40 & Ch.134

3.2.3 Peak Power Spectral Density

▣Test requirements

The peak power spectral densityshall not exceed 4 dBm in any 1MHzband.If transmitting antennas of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount indB that the directional gain of the antenna exceeds 6 dBi.

▣Peak Power Spectral Density Limit Calculation

Bands [GHz]	Mode	Limit [dBm]	ANT Gain			Determined Limit [dBm]
			ANT0 [dBi]	ANT1 [dBi]	MIMO Directional Gain [dBi]	
Band I	802.11a	4	4.22	0.54	N/A	4.00
	802.11n HT20				5.58	4.00
	802.11n HT40					
Band II	802.11a	11	1.70	3.13	N/A	11.00
	802.11n HT20				5.45	11.00
	802.11n HT40					
Band III	802.11a	11	3.53	3.48	N/A	11.00
	802.11n HT20				6.52	10.48
	802.11n HT40					

Note 1: The worst limit was used in FCC and IC limits.
Note 2 : Using Correlated Directional Gain = 10 log[$(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2$ /N] dBi

▣TEST CONFIGURATION

Refer to the APPENDIX I.

▣TEST PROCEDURE

Peak Power Spectral Density is measured using Measurement Procedure of **KDB789033**

1) Create an average power spectrum for the EUT operating mode being tested by following theinstructionsin section E)2) for measuring maximum conducted output power using a spectrum analyzer: select theappropriate test method (SA-1, SA-2, SA-3, or alternatives to each) and apply it up to, but not including,the step labeled, “Compute power…”. (This procedure is required even if the maximum conductedoutput power measurement was performed using a power meter, method PM.)
2) Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
3) Make the following adjustments to the peak value of the spectrum, if applicable:
   a) If Method SA-2 or SA-2 Alternative was used, add 10 log(1/x), where x is the duty cycle, to the peakof the spectrum.
   b) If Method SA-3 Alternative was used and the linear mode was used in step E)2)g)(viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
4) The result is the PPSD.

▣**TEST RESULTS :Comply**

Mode	CH	Freq. [MHz]	Reading [dBm]	Duty Cycle (x)	DCF [dB]	Test Result	
						Chain 0	Chain 1
						[dBm]	[dBm]
802.11a	36	5180	-2.507	0.97	0.14	-2.367	-
	44	5220	-0.972			-0.832	-
	48	5240	-0.687			-0.547	-
	52	5260	-0.536			-0.396	-
	56	5280	-0.498			-0.358	-
	64	5320	-0.355			-0.215	-
	100	5500	-1.499			-1.359	-
	116	5580	-1.019			-0.879	-
	140	5700	-0.869			-0.729	-

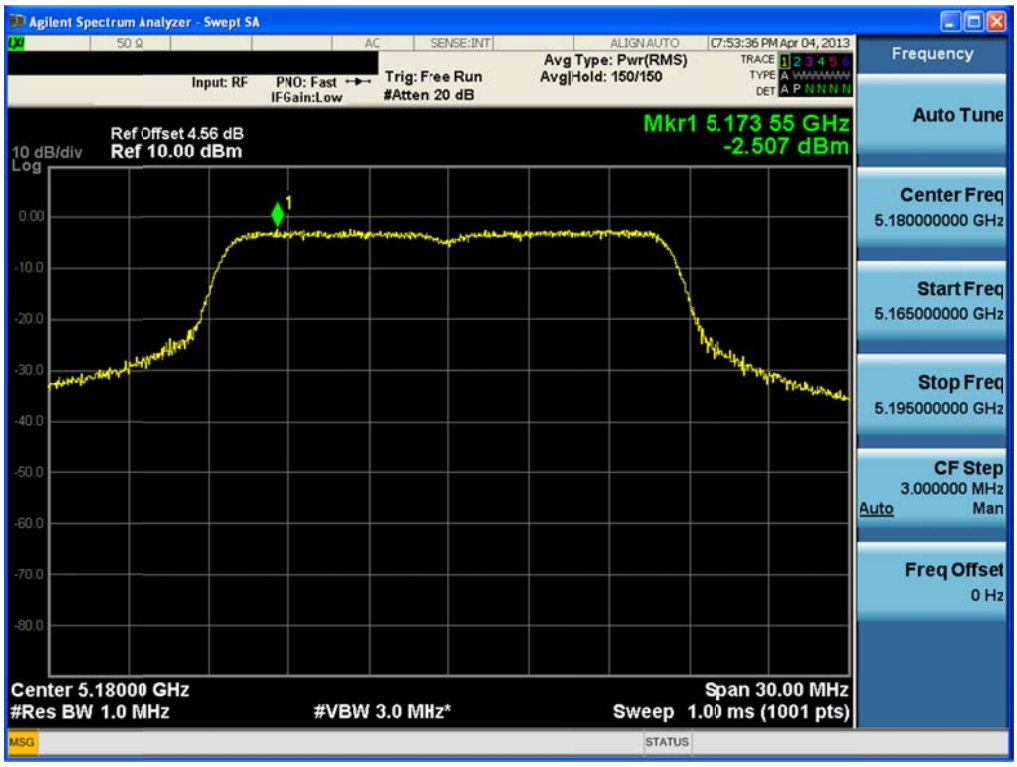
Mode	CH	Freq. [MHz]	Reading [dBm]		Duty Cycle (x)	DCF [dB]	Test Result		
			Chain 0 [dBm]	Chain 1 [dBm]			Chain0 [dBm]	Chain1 [dBm]	Aggregate Power[Note2] [dBm]
802.11n HT20	36	5180	-4.718	-3.294	0.94	0.27	-4.448	-3.024	-0.668
	44	5220	-4.913	-3.116			-4.643	-2.846	-0.642
	48	5240	-4.622	-3.363			-4.352	-3.093	-0.667
	52	5260	-4.472	-3.002			-4.202	-2.732	-0.395
	56	5280	-4.470	-2.595			-4.200	-2.325	-0.152
	64	5320	-4.415	-2.758			-4.145	-2.488	-0.228
	100	5500	-5.483	-2.856			-5.213	-2.586	-0.694
	116	5580	-5.137	-2.966			-4.867	-2.696	-0.637
	140	5700	-3.802	-3.772			-3.532	-3.502	-0.507
802.11n HT40	38	5190	-9.656	-8.081	0.93	0.32	-9.336	-7.761	-5.468
	46	5230	-7.006	-5.548			-6.686	-5.228	-2.886
	54	5270	-6.728	-5.127			-6.408	-4.807	-2.524
	62	5310	-9.708	-8.075			-9.388	-7.755	-5.485
	102	5510	-7.692	-5.541			-7.372	-5.221	-3.155
	110	5550	-7.642	-5.606			-7.322	-5.286	-3.176
	134	5670	-7.002	-6.875			-6.682	-6.555	-3.608

Note 1 :Duty cycle(x) = On time / (On + Off time), For On time and On time information, please refer to APPENDIX II.
DCF = 10 * log (1 / x)
Test Result = Reading Data + DCF

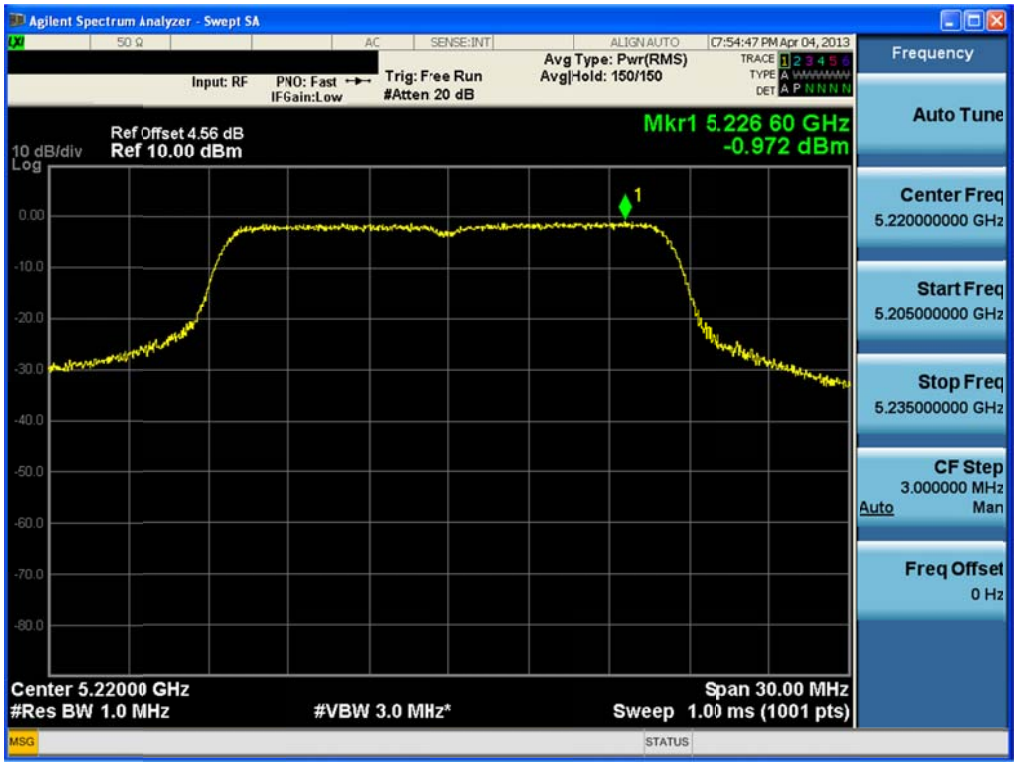
Note 2: Aggregate power = $10\log(10^{(\frac{\text{chain 0}}{10})} + 10^{(\frac{\text{chain 1}}{10})})$

▣Measurement Data PLOTS

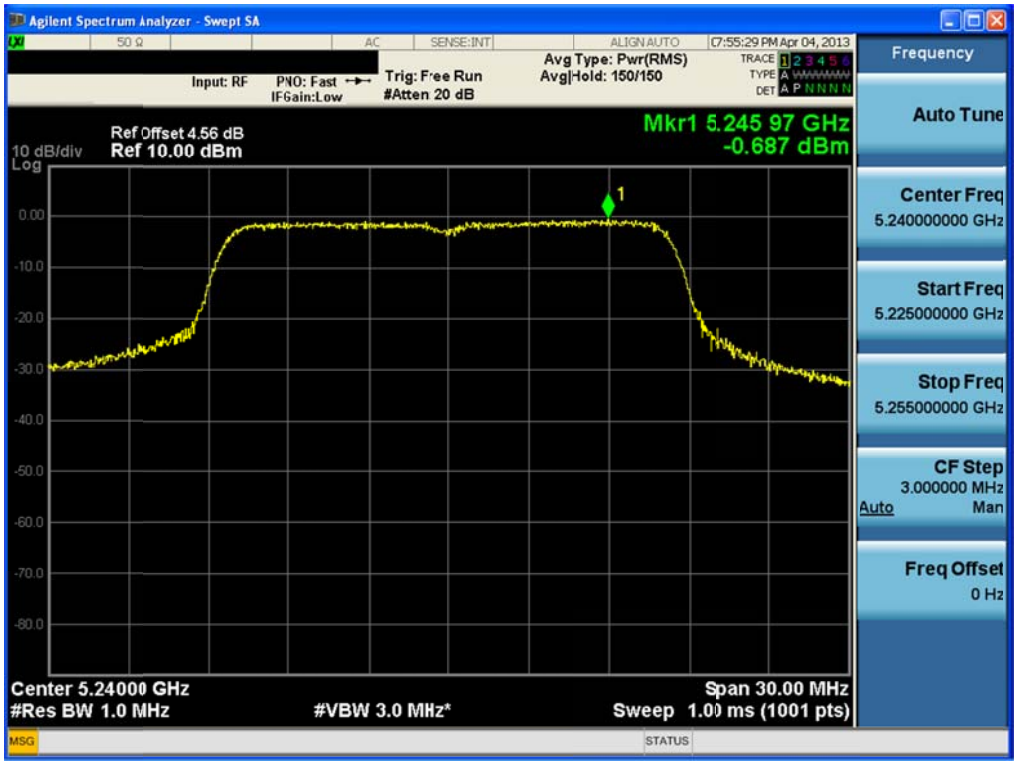
Peak Power Spectral Density Test Mode: Chain 0 & 802.11a & Ch.36



Peak Power Spectral Density Test Mode: Chain 0 & 802.11a & Ch.44



Peak Power Spectral Density Test Mode: Chain 0 & 802.11a & Ch.48



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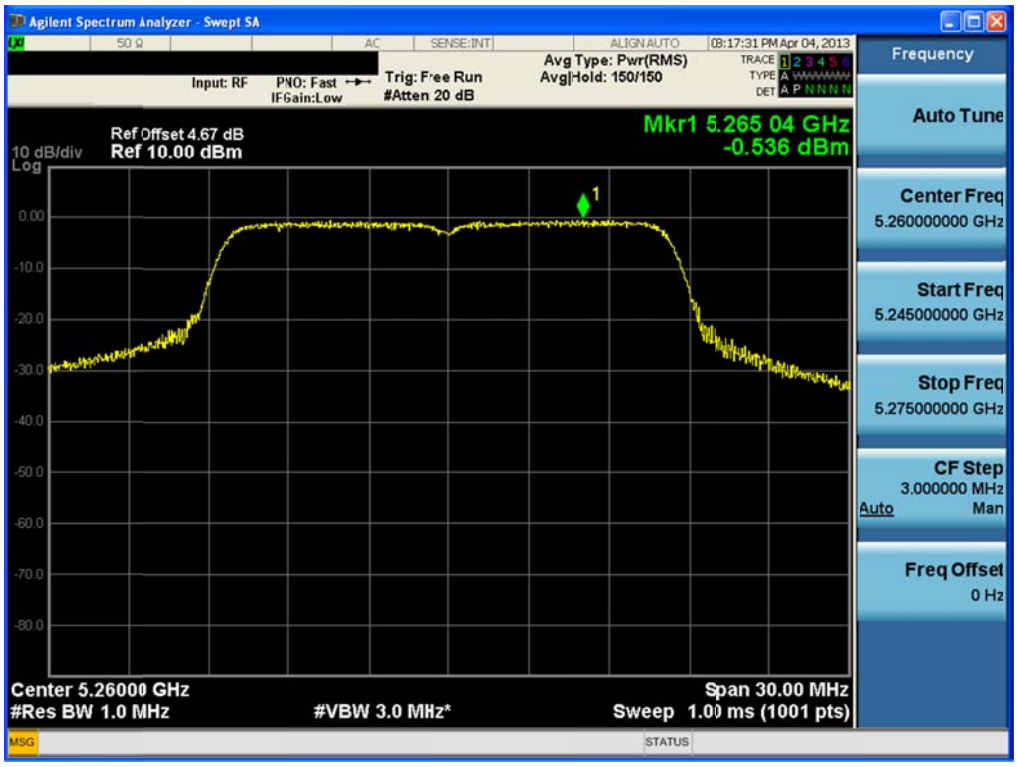
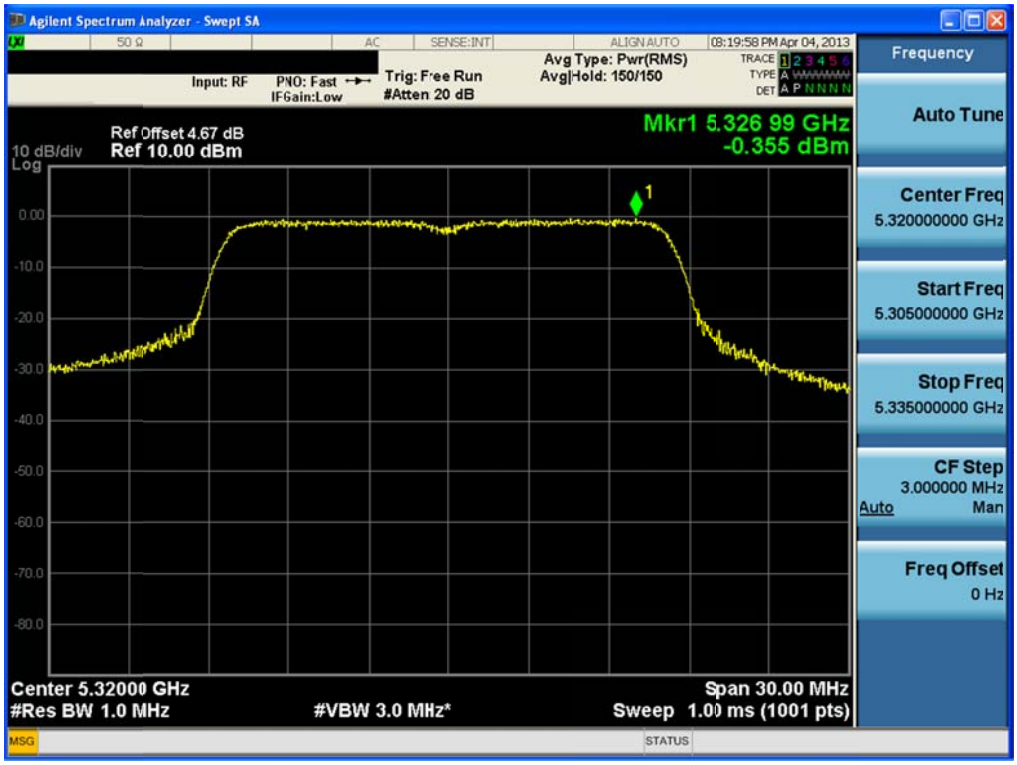


Peak Power Spectral Density Test Mode: Chain 0 & 802.11a & Ch.56

Peak Power Spectral Density Test Mode: Chain 0 & 802.11a & Ch.64



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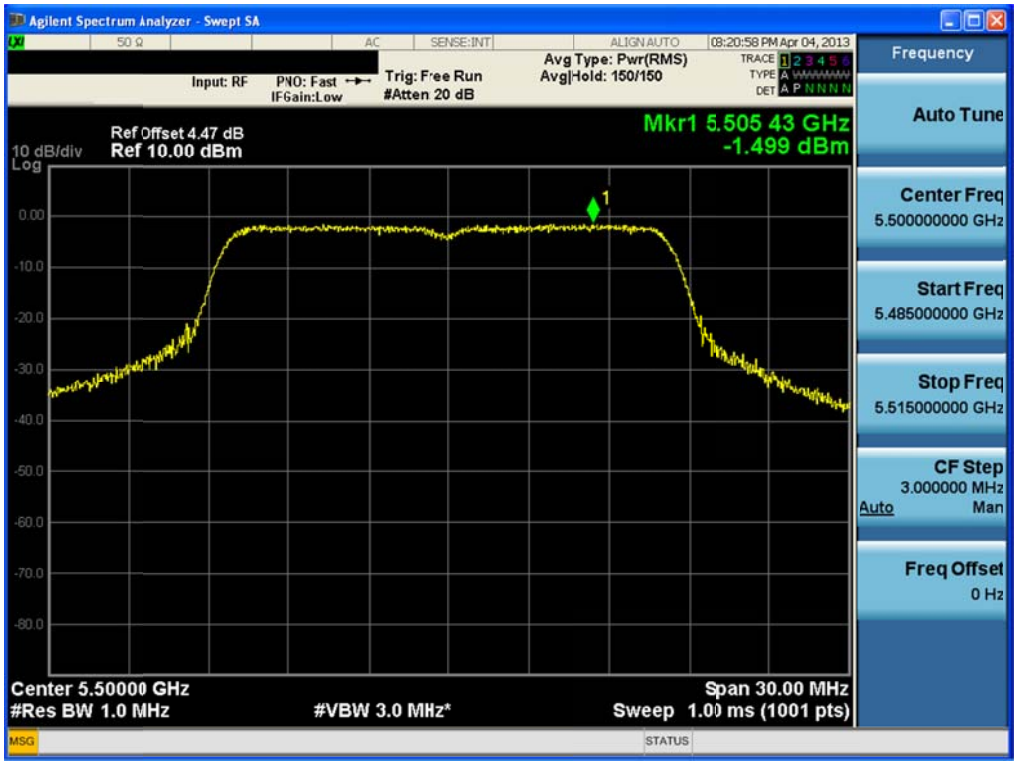

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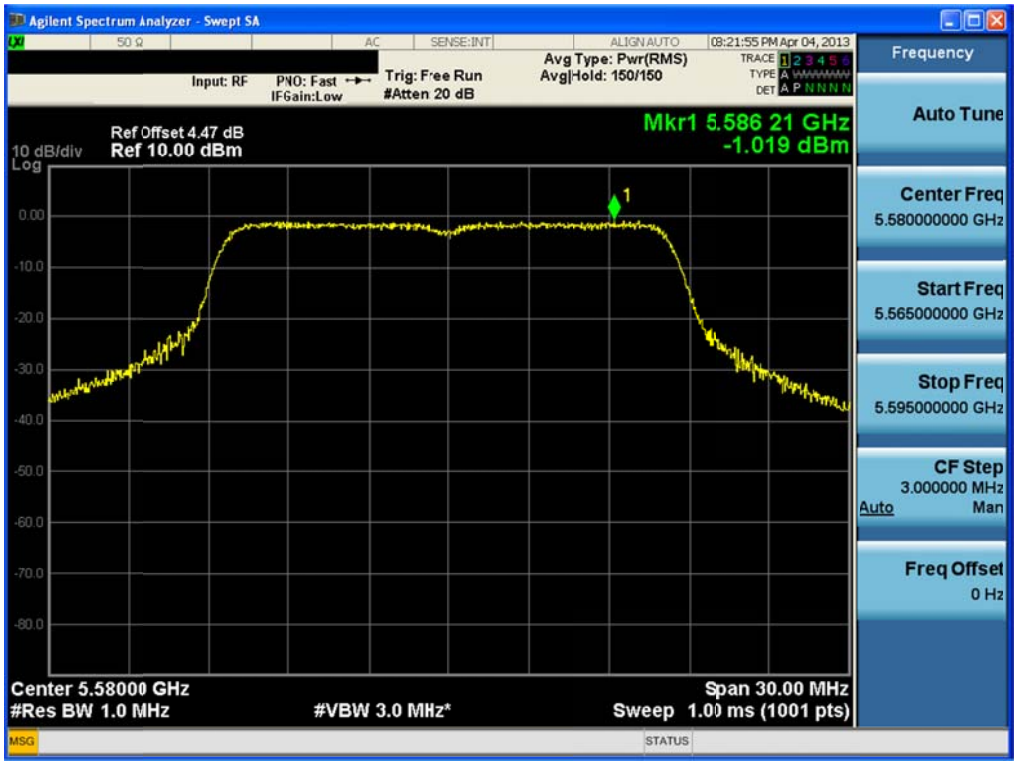

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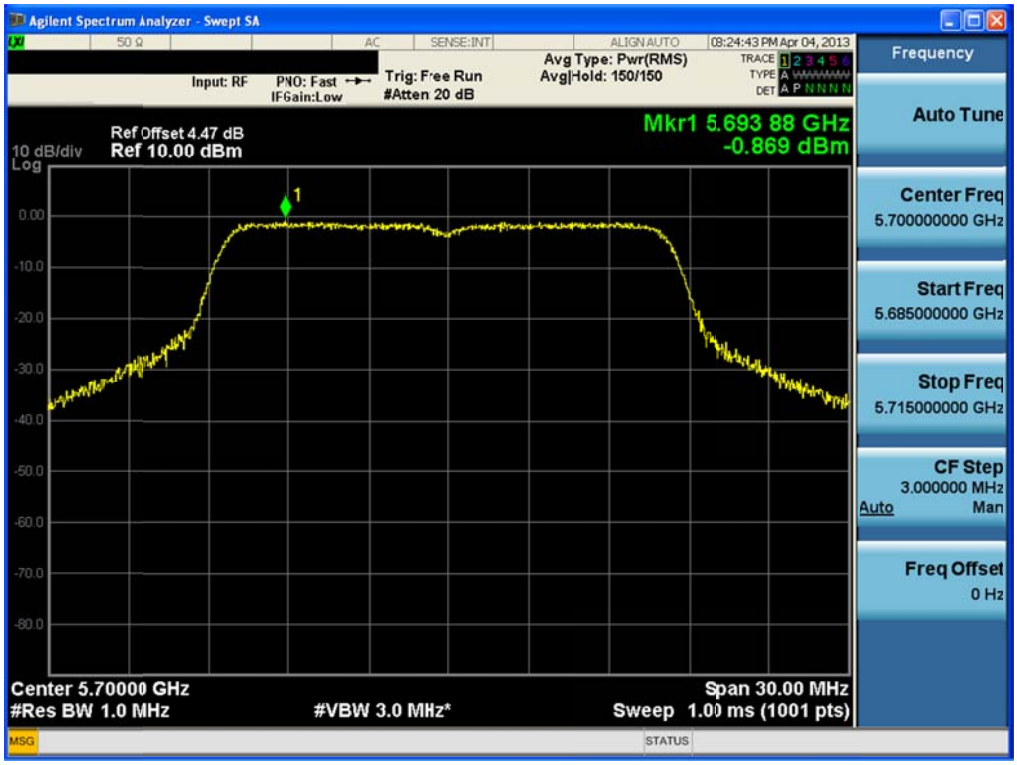
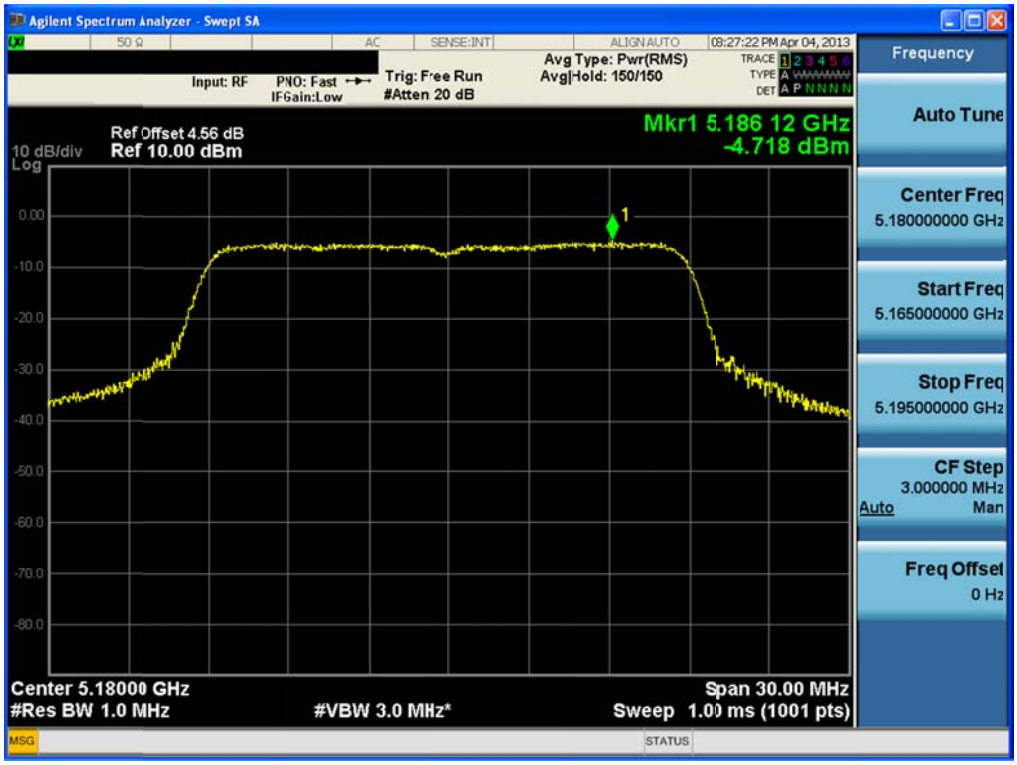


Peak Power Spectral Density Test Mode: Chain 0 & 802.11n HT20 & Ch.36



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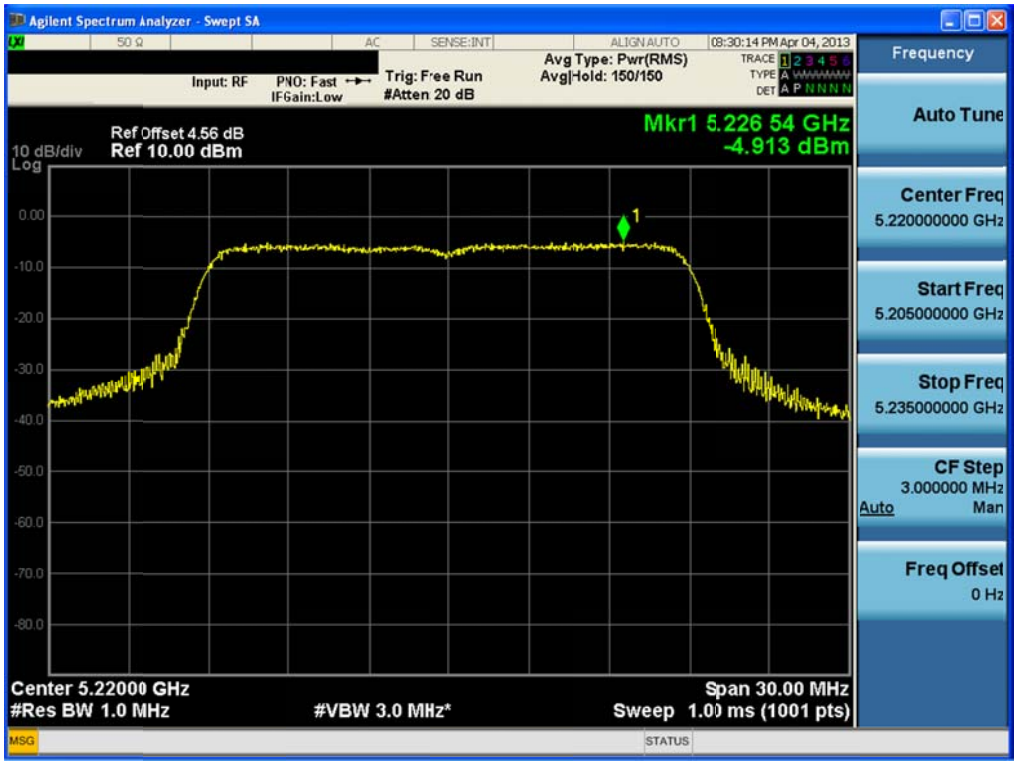

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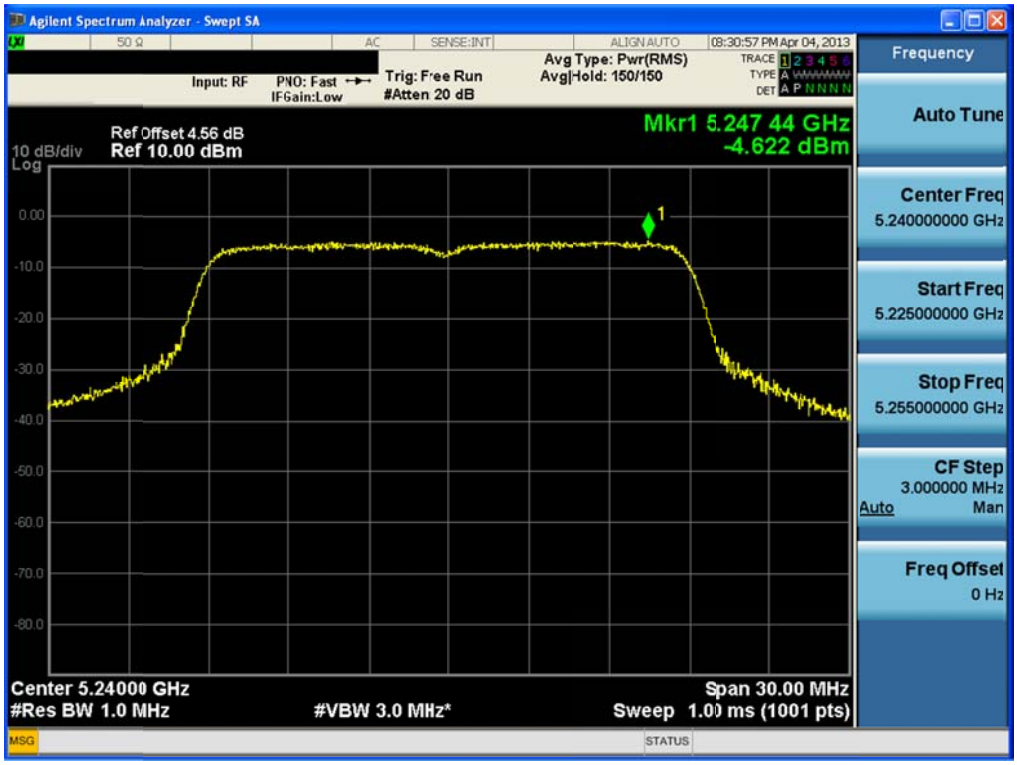

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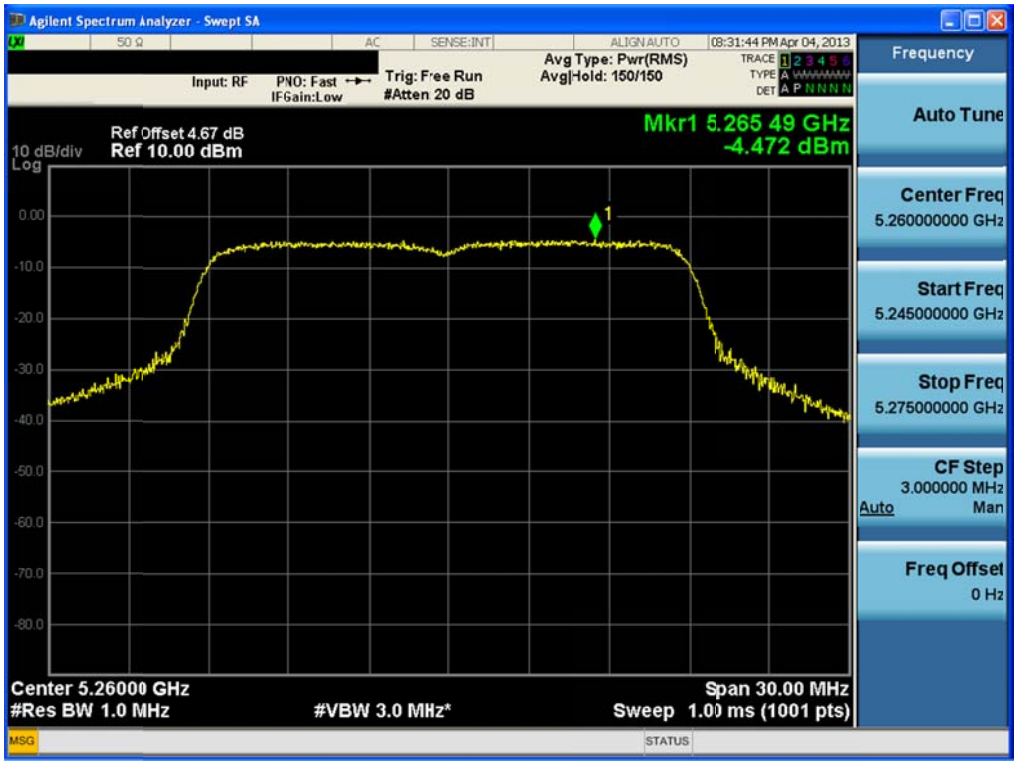

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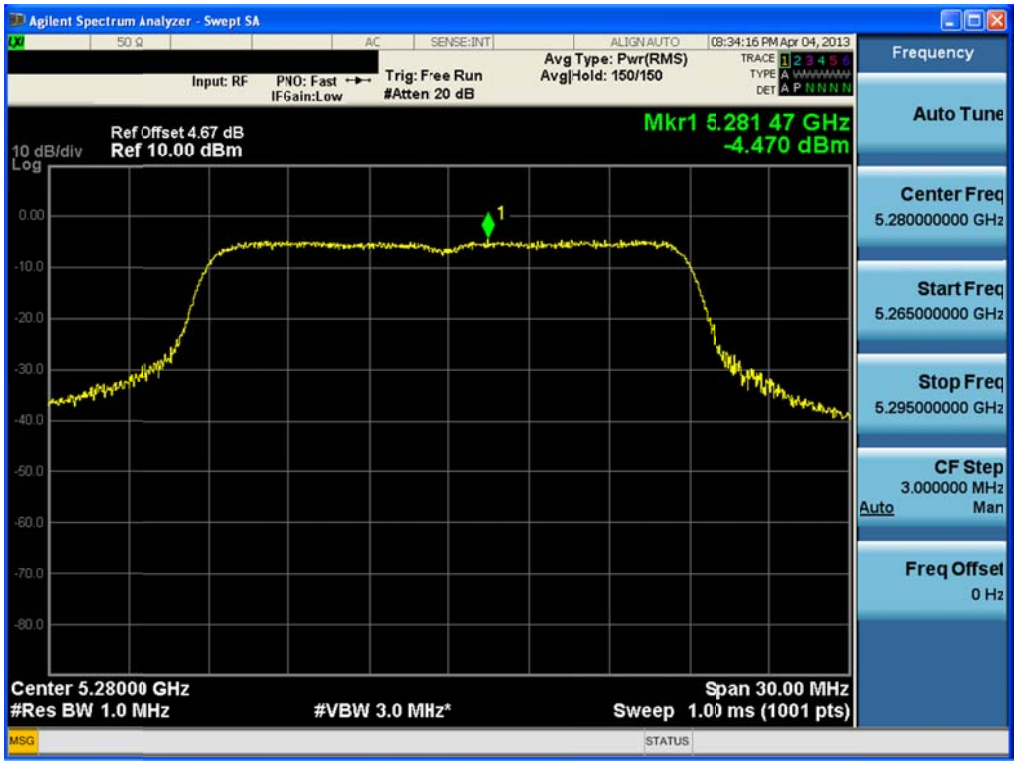

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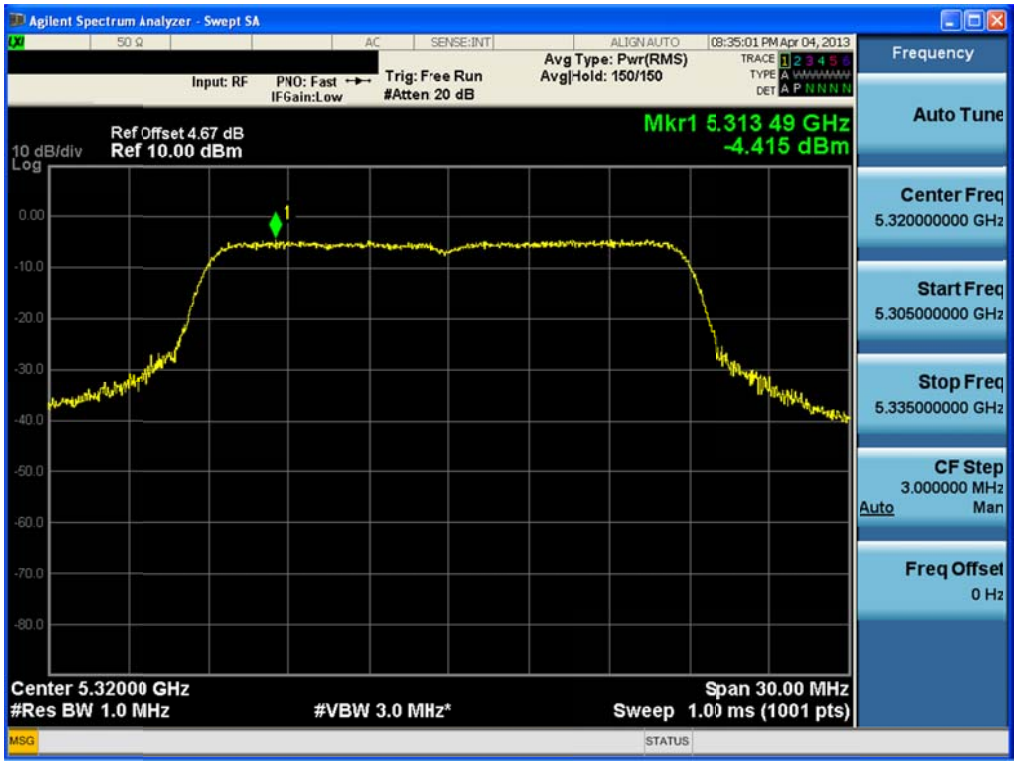

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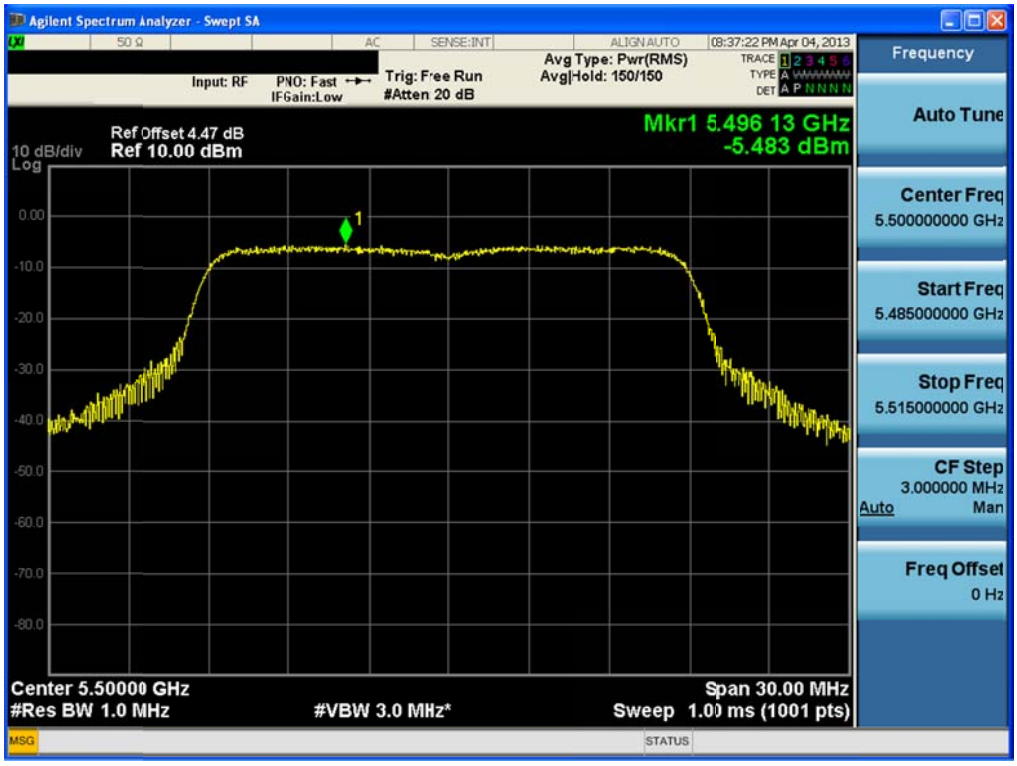

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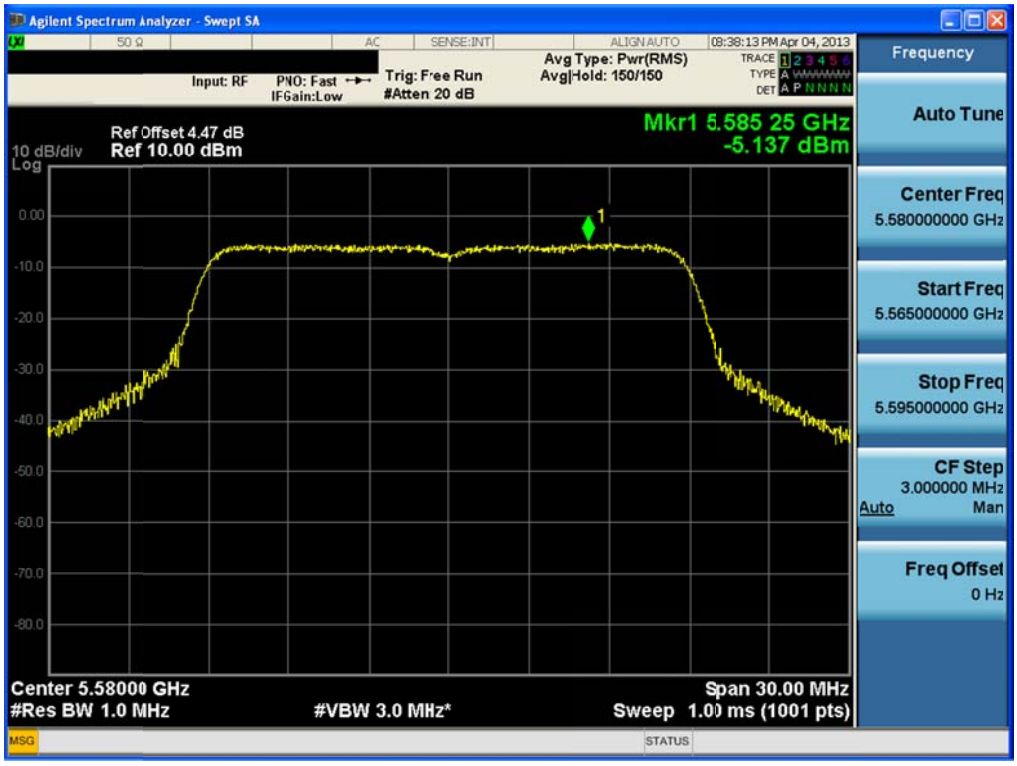

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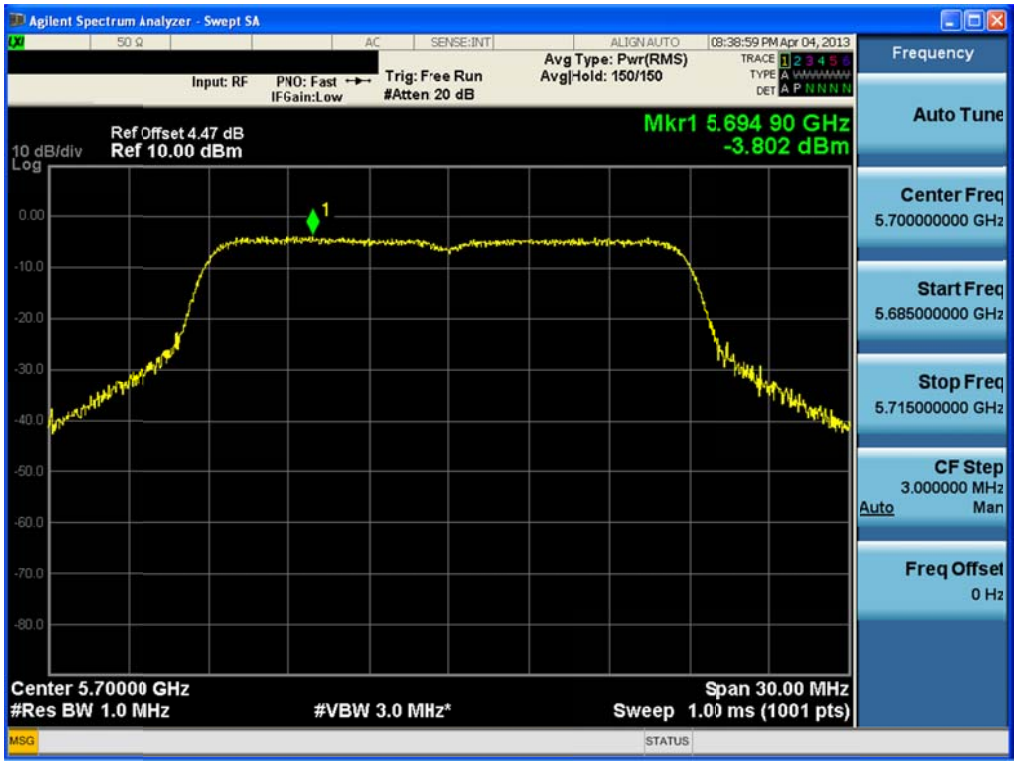
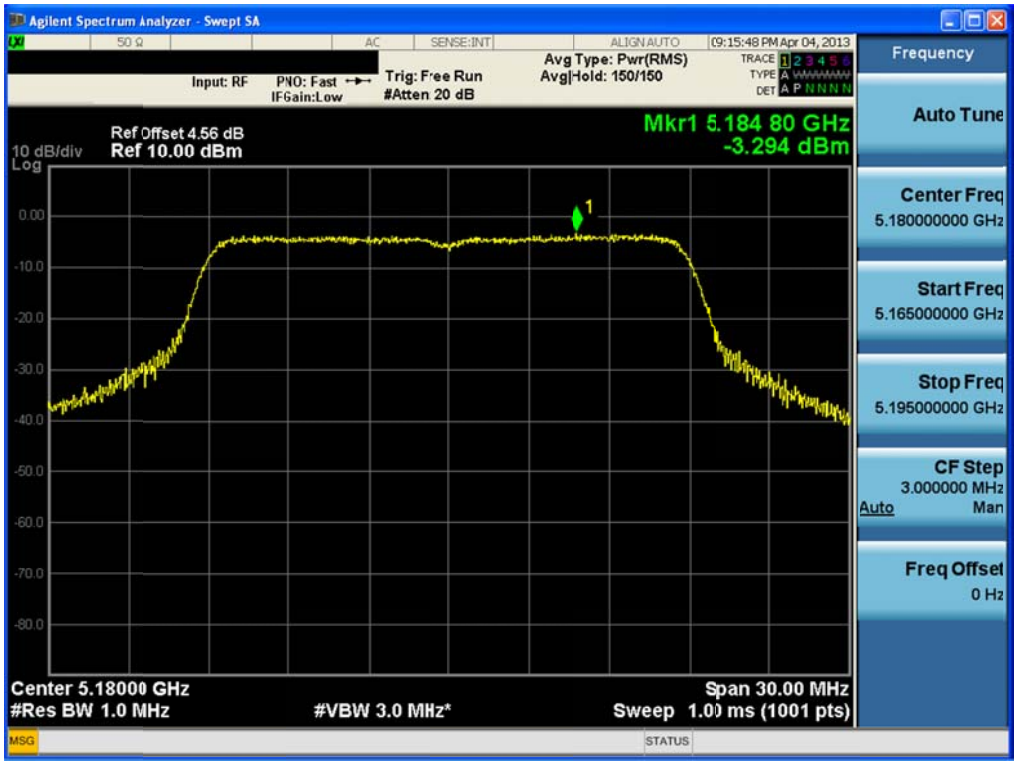


Peak Power Spectral Density Test Mode: Chain 1 & 802.11n HT20 & Ch.36



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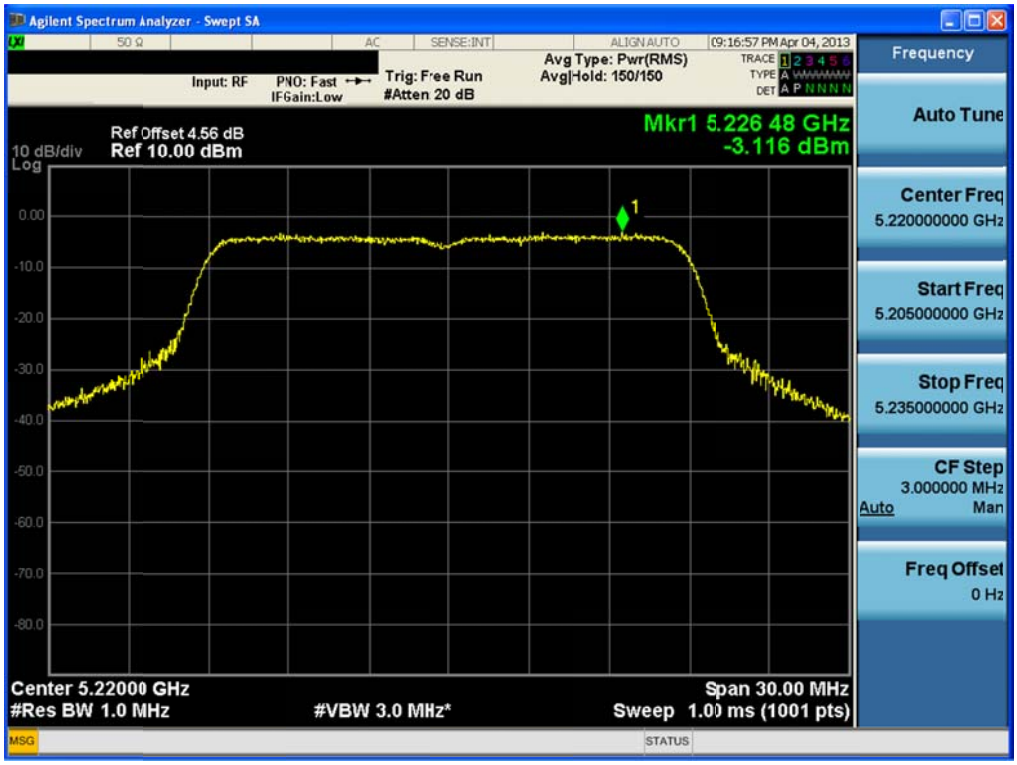

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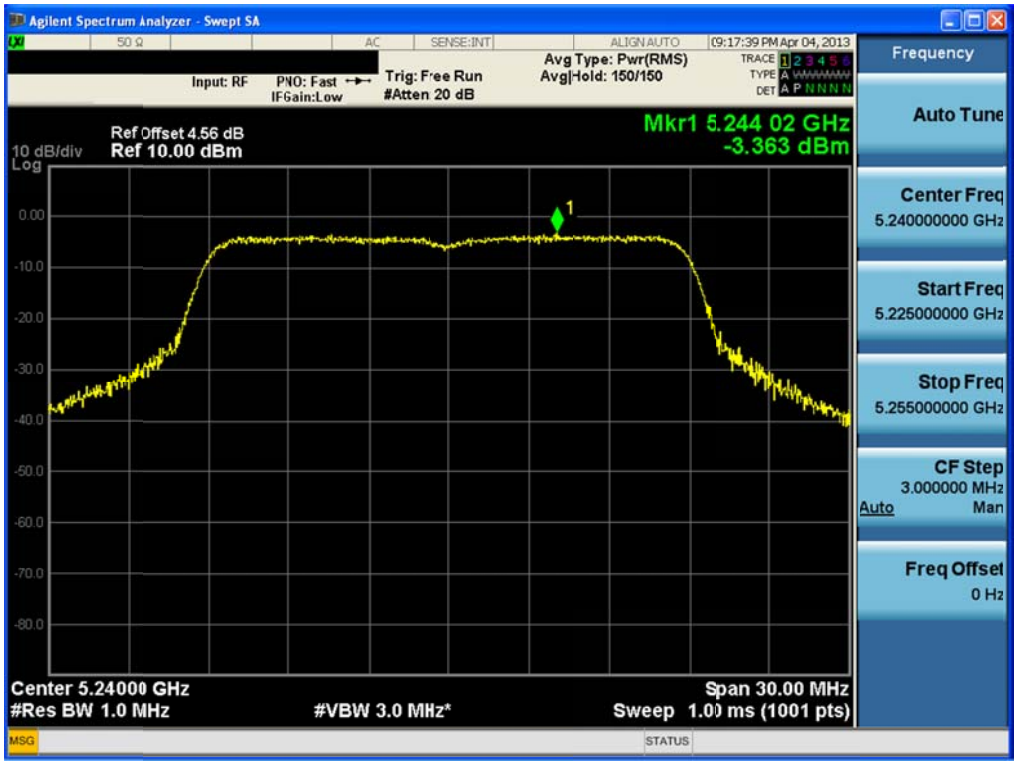

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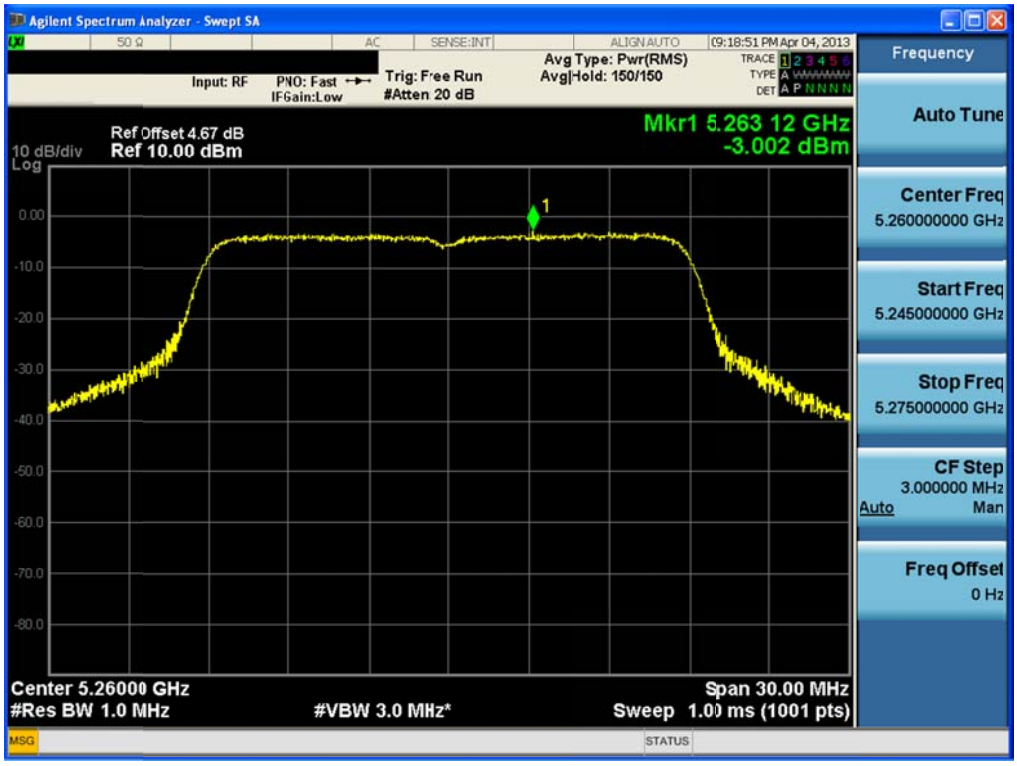

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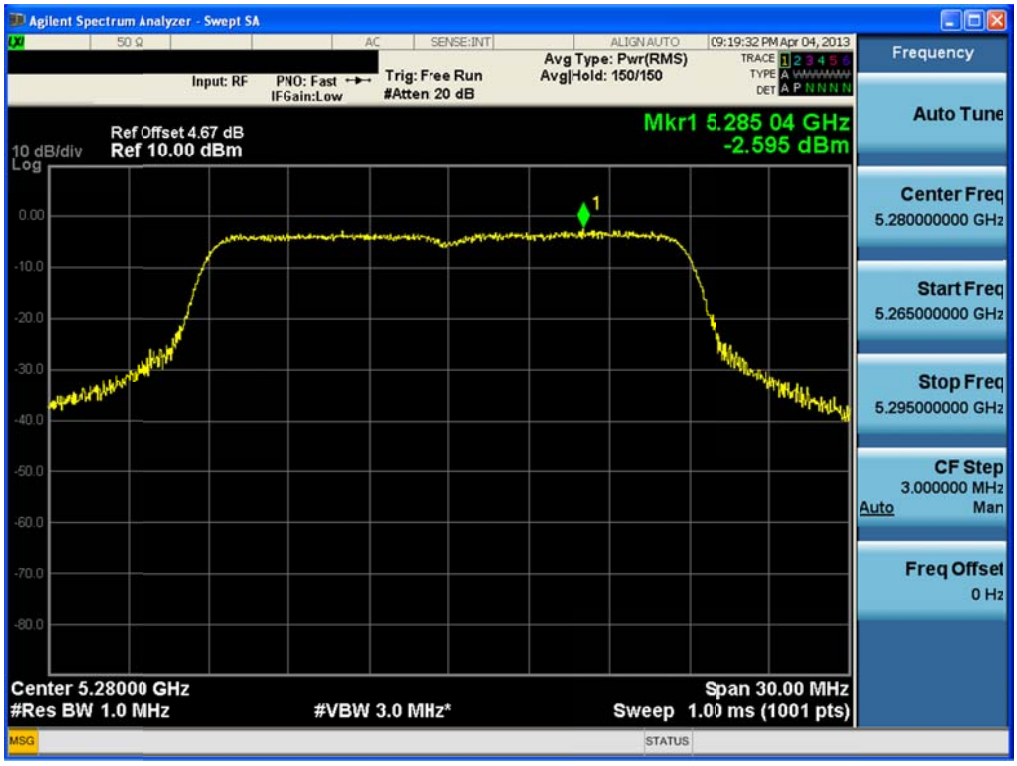

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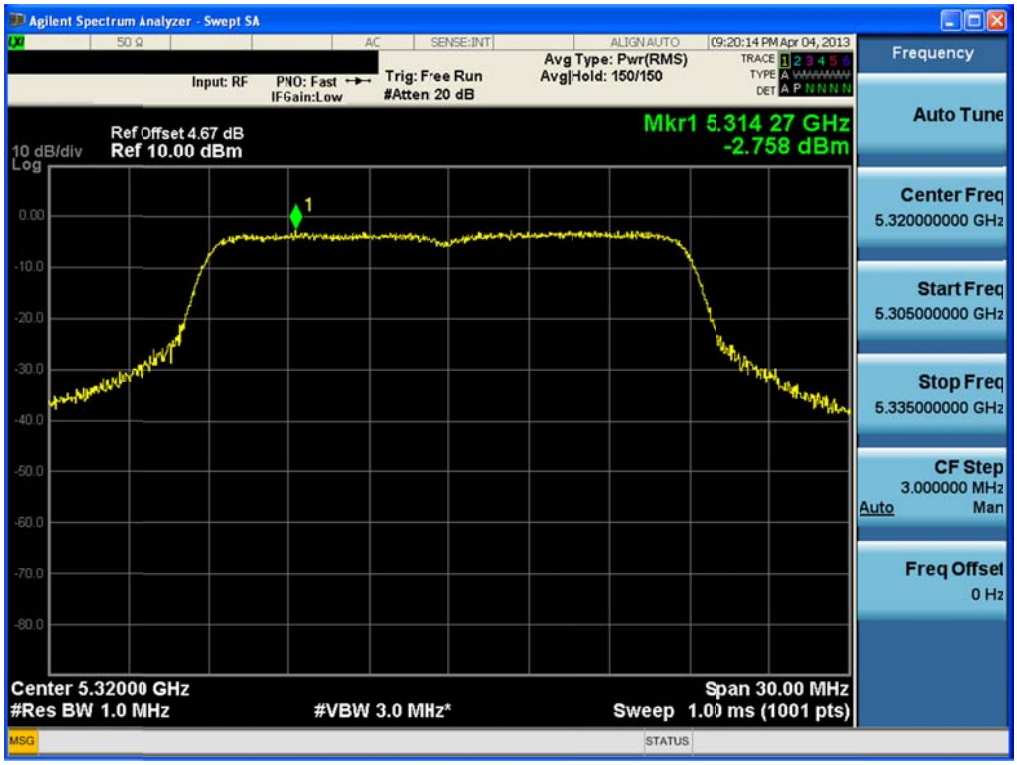

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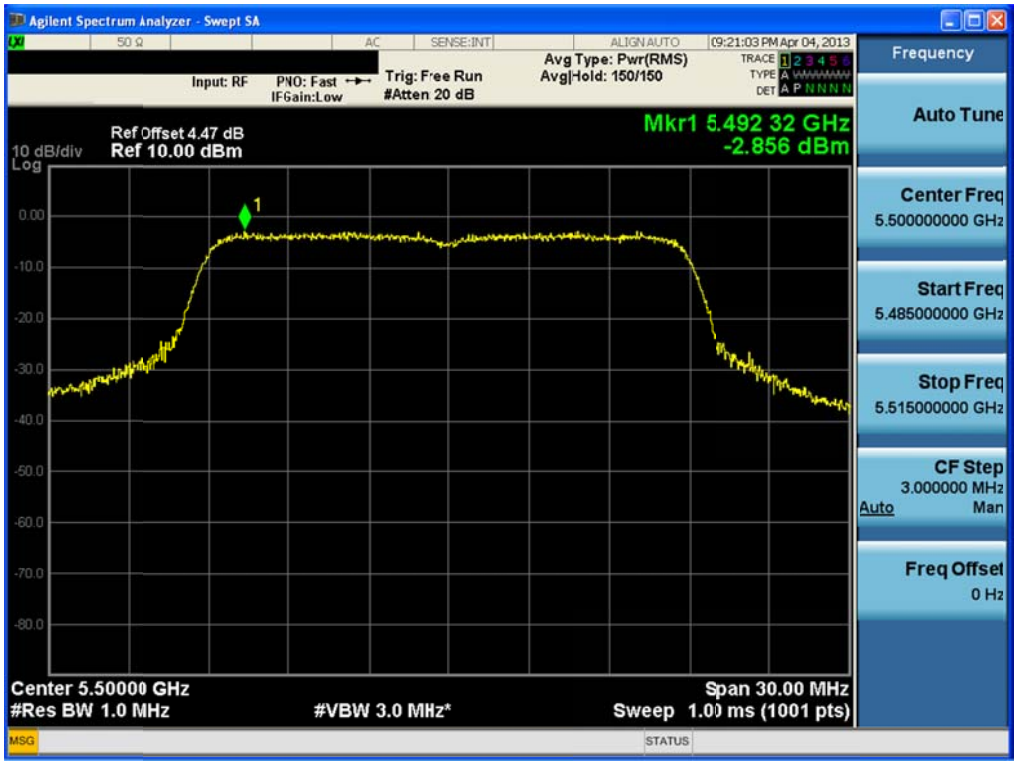

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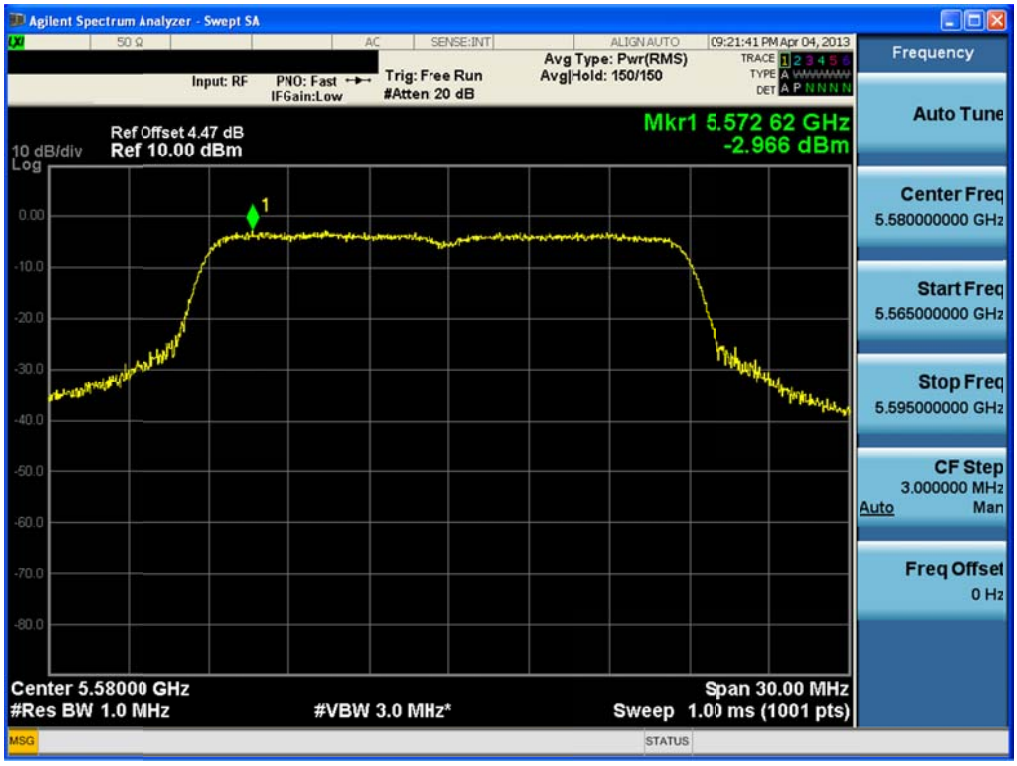

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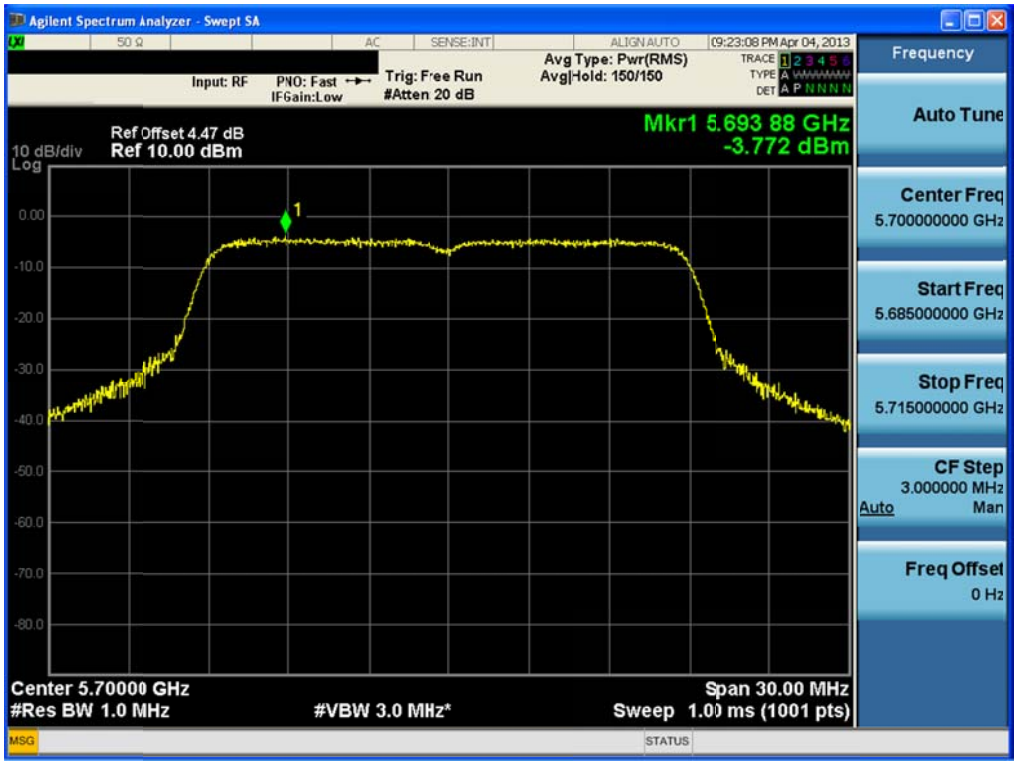
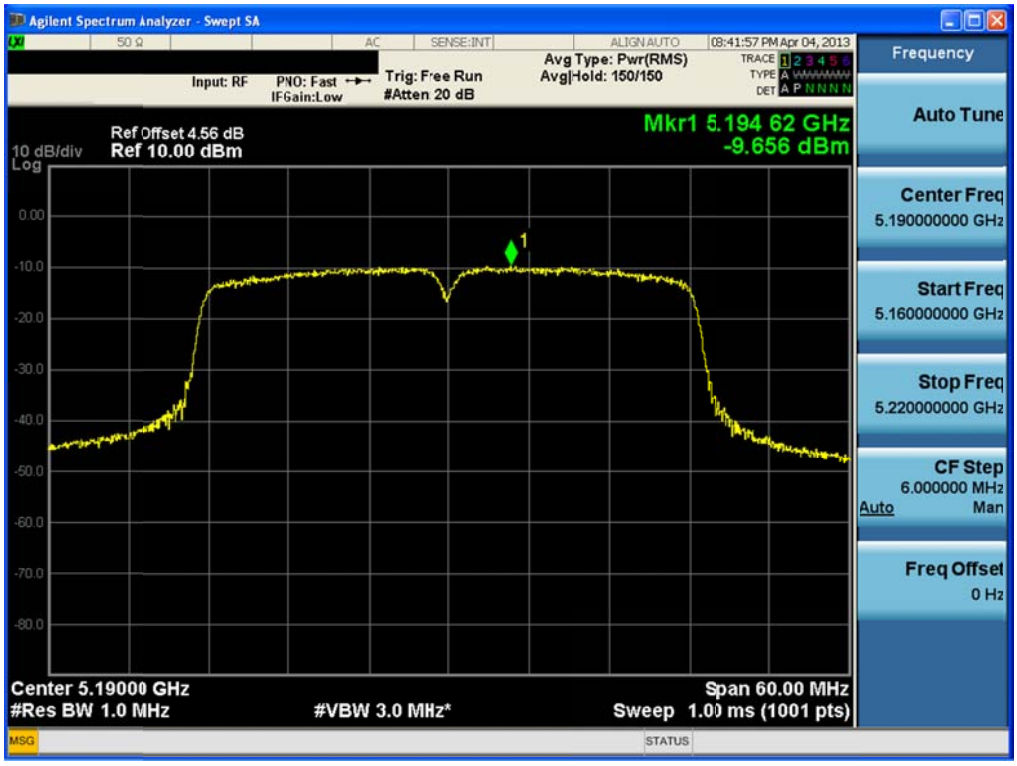


Peak Power Spectral Density Test Mode: Chain 0 & 802.11n HT40 &Ch.38



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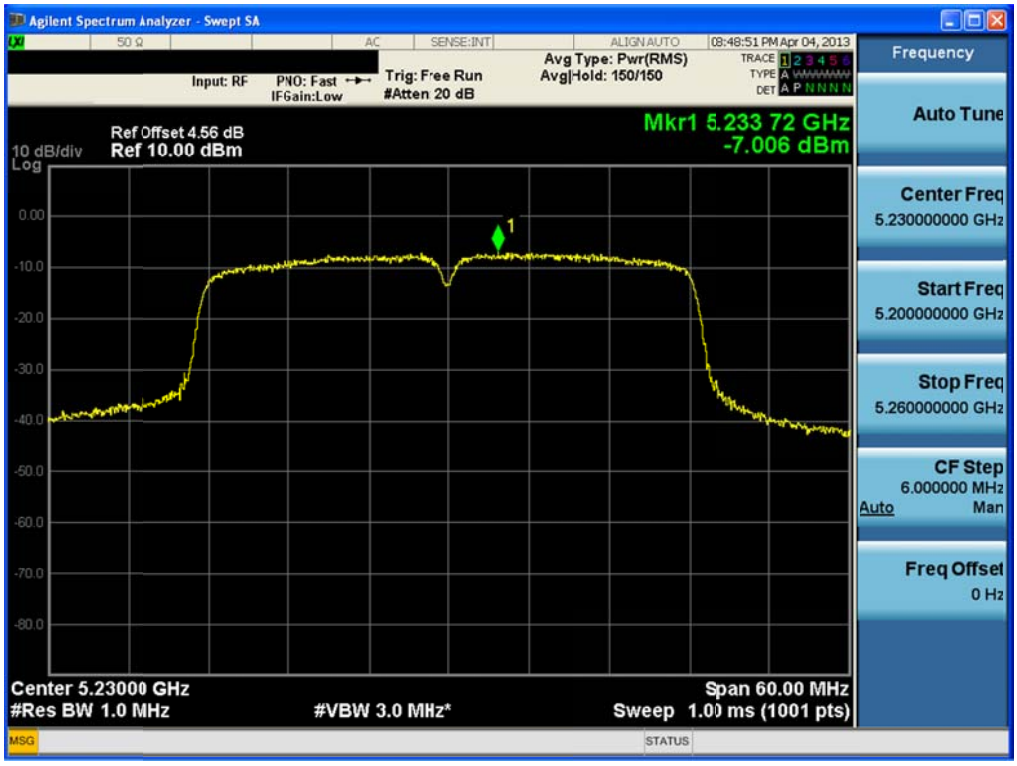

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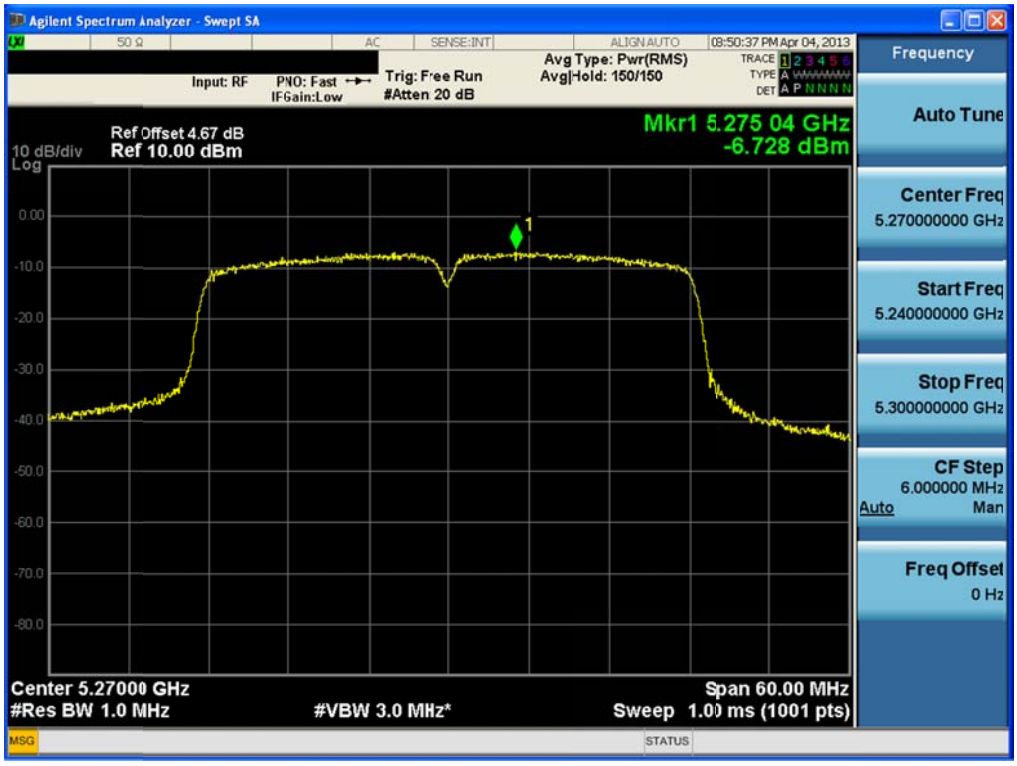

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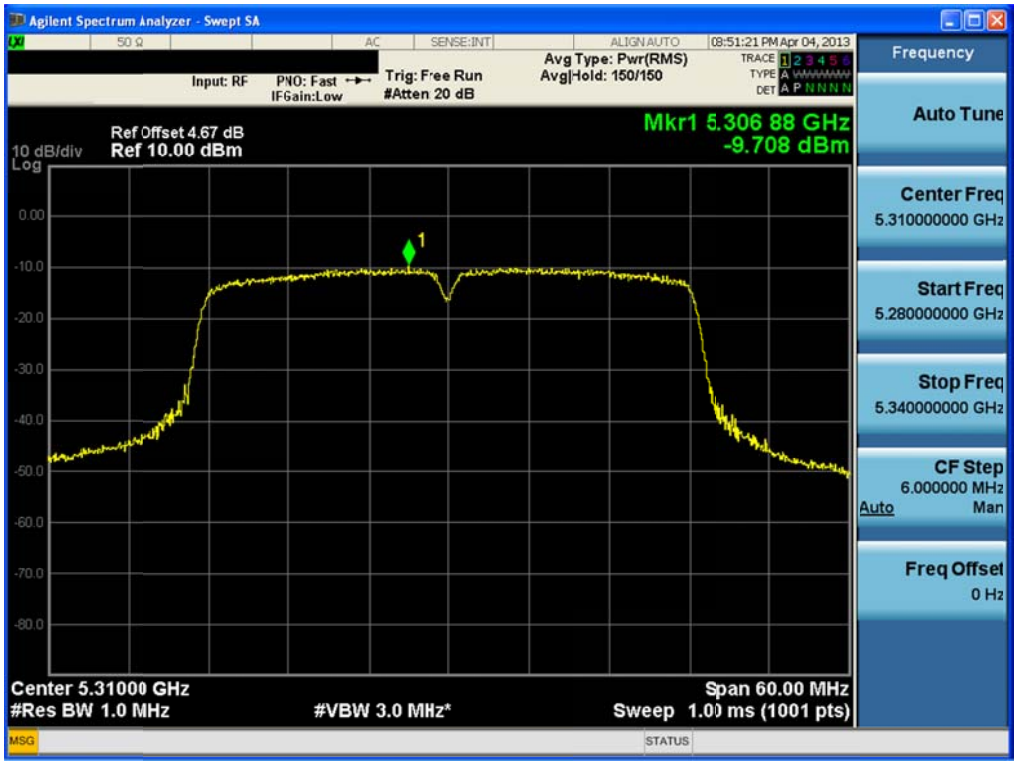

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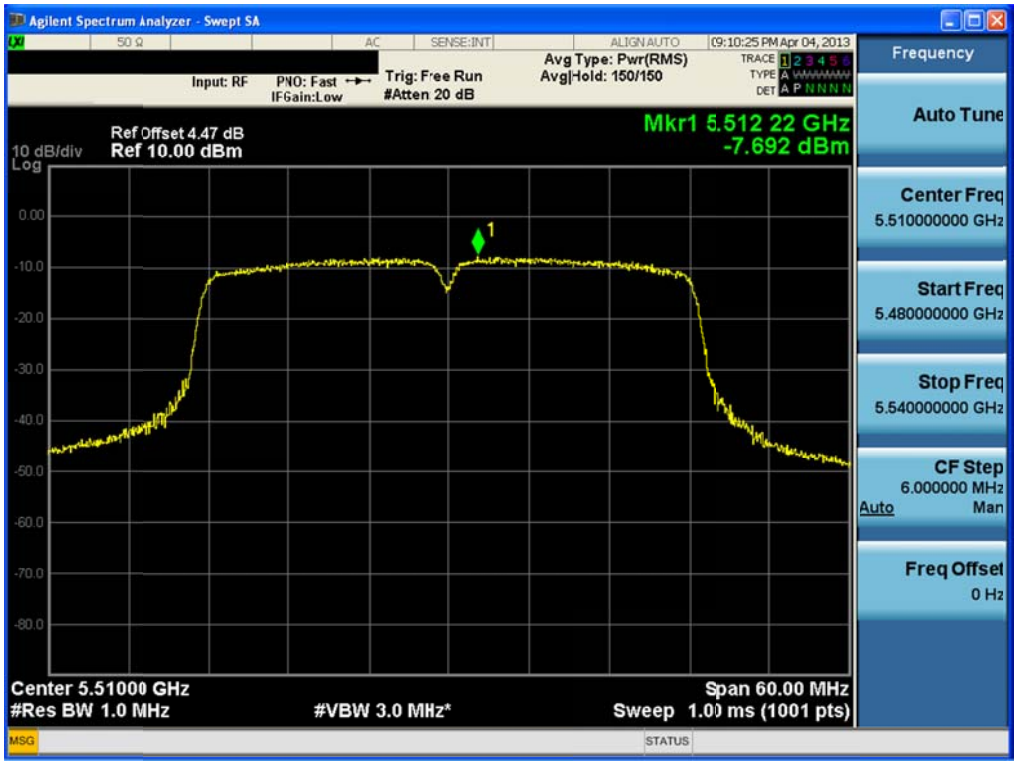

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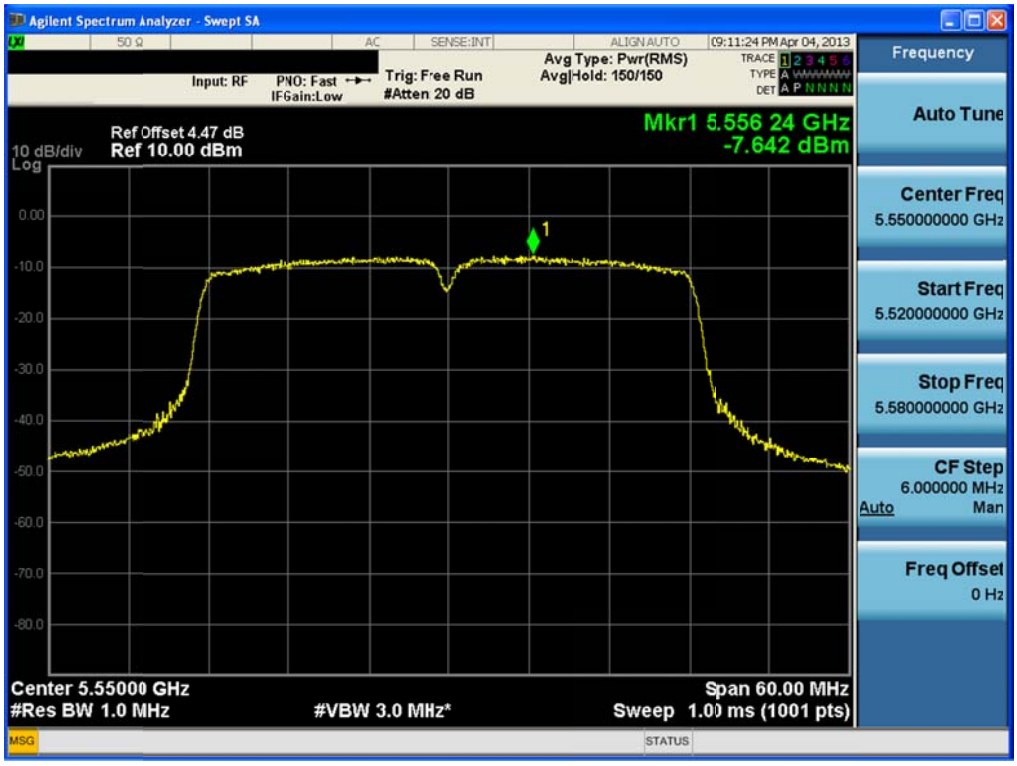

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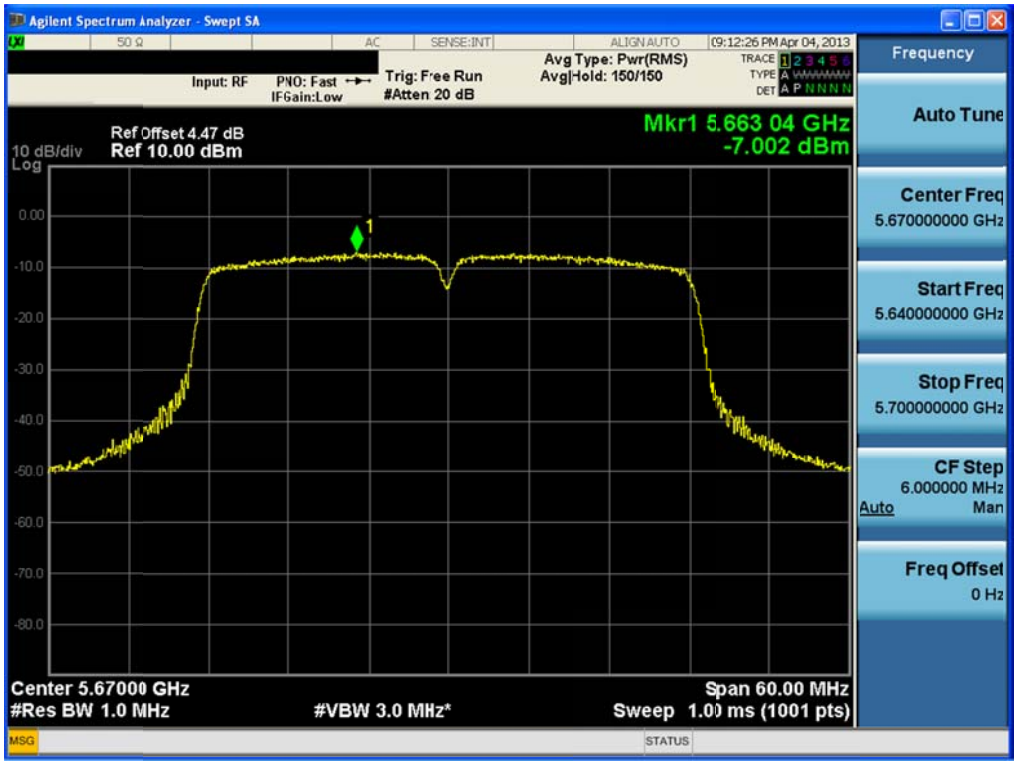

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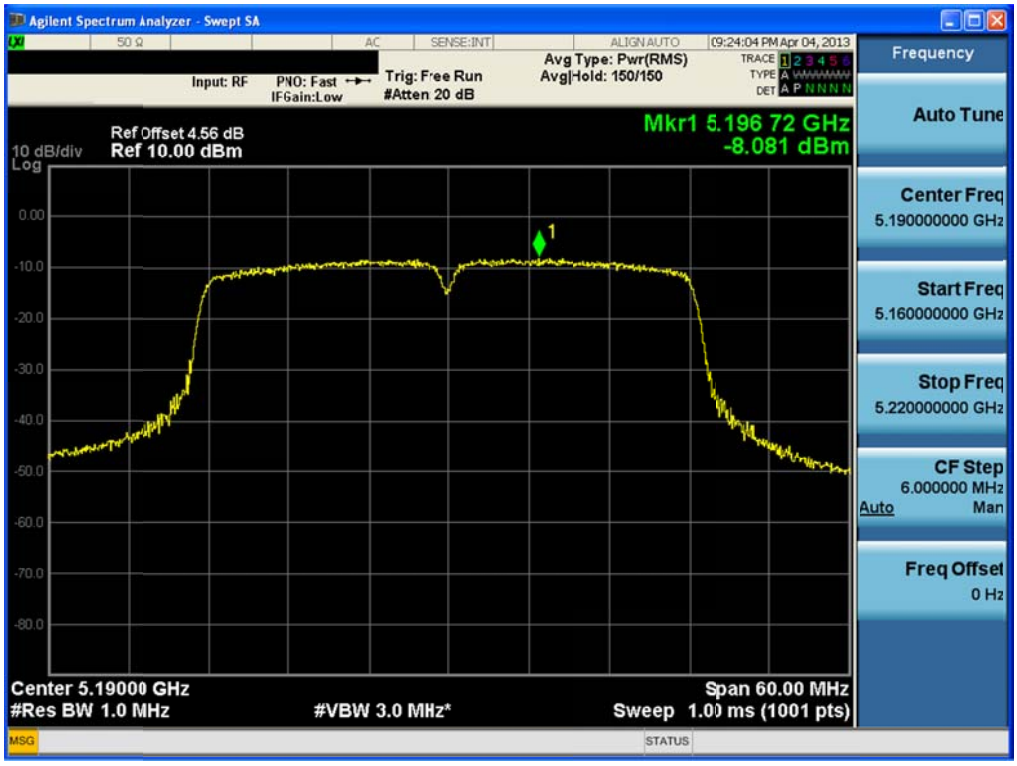

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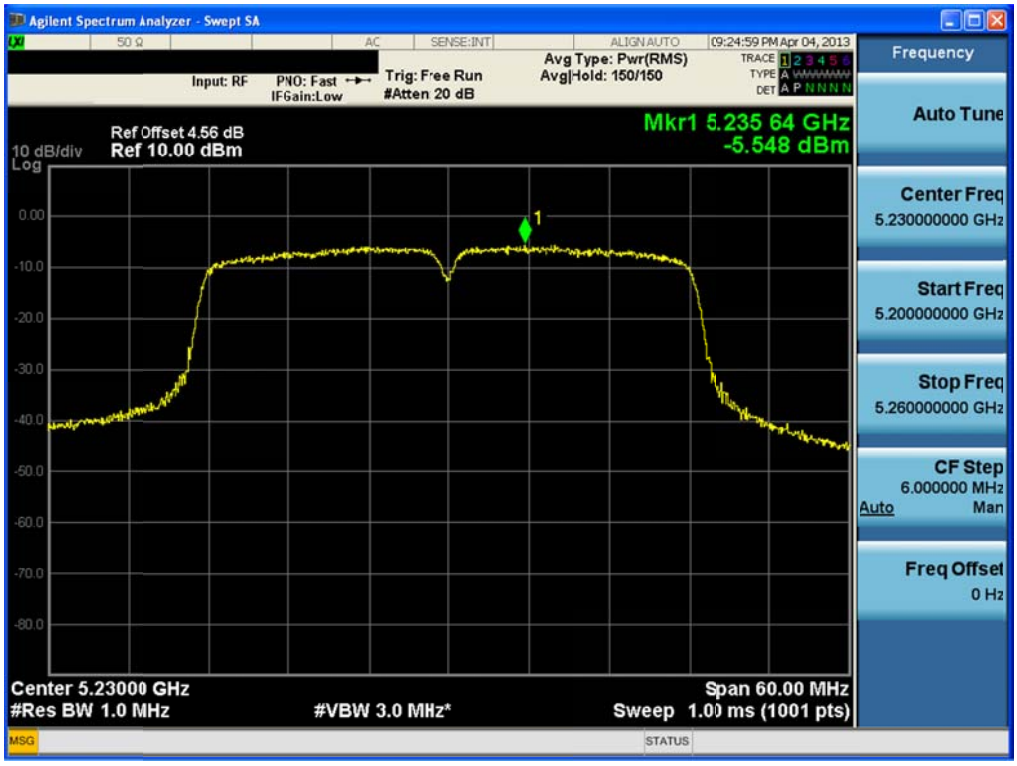
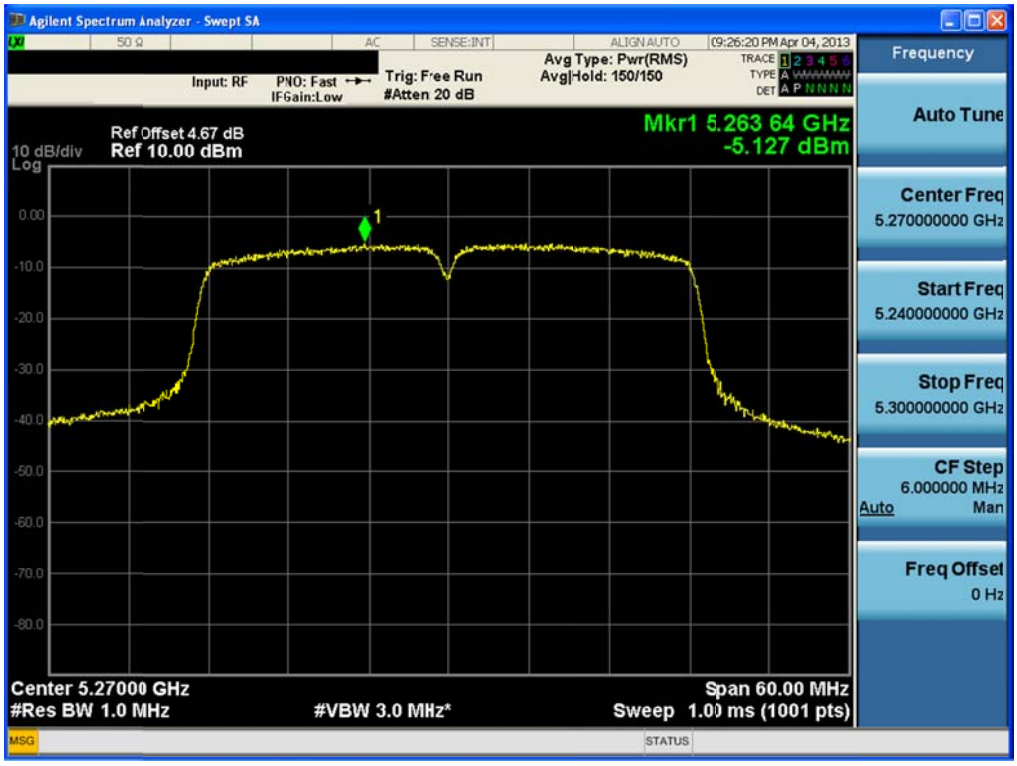


Peak Power Spectral Density Test Mode: Chain 1 & 802.11n HT40 & Ch.54



Peak Power Spectral Density Test Mode: Chain 1 & 802.11n HT40 & Ch.62