



Figure 9-162. 6-dB Bandwidth SISO Chain B 802.11ac VHT40 (Ch. 142)

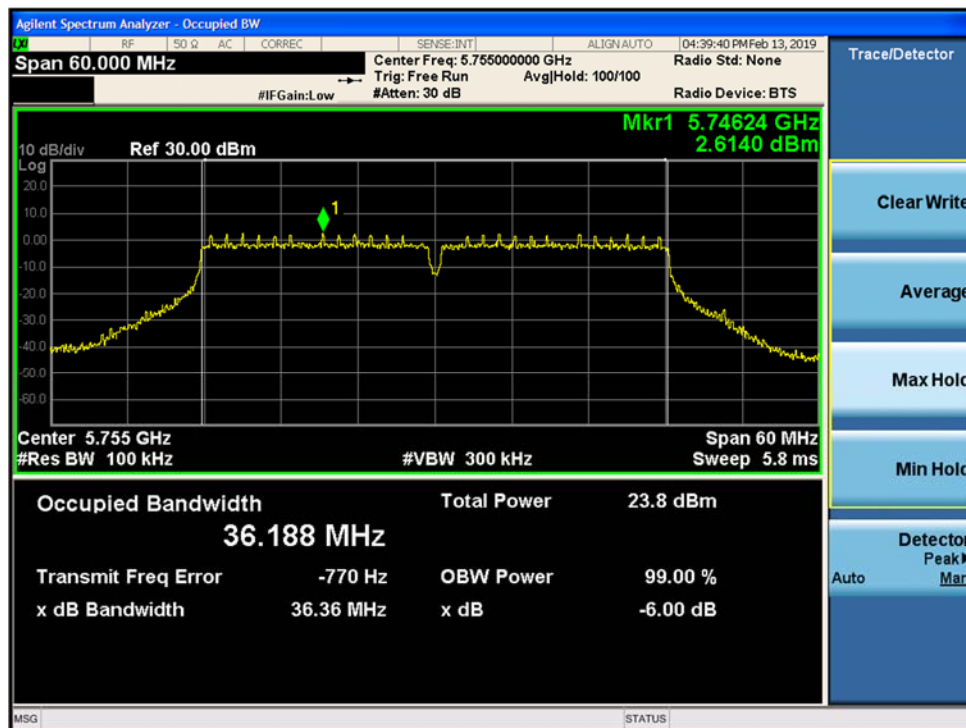


Figure 9-163. 6-dB Bandwidth SISO Chain B 802.11ac VHT40 (Ch. 151)

9.3.5.19 MIMO Chain A 802.11ac VHT40 6-dB Bandwidth

MIMO Chain A 802.11ac VHT40 6-dB Bandwidth		
Channel No.	Frequency (MHz)	6-dB Bandwidth (MHz)
142	5710	3.22
151	5755	36.39
159	5795	36.38

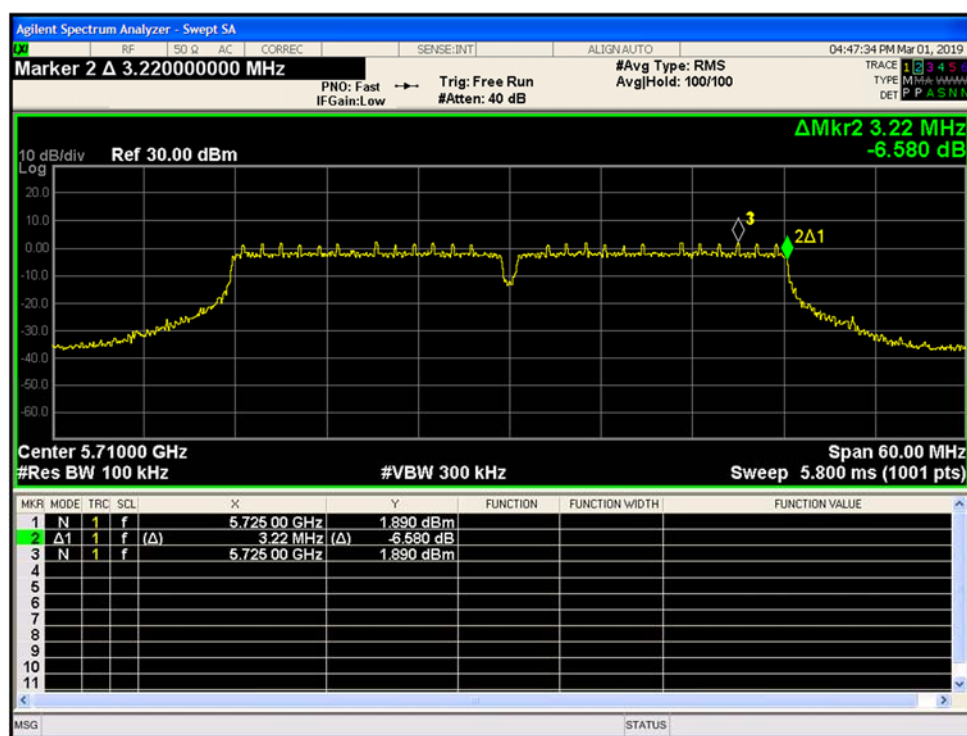


Figure 9-164. 6-dB Bandwidth MIMO Chain A 802.11ac VHT40 (Ch. 142)

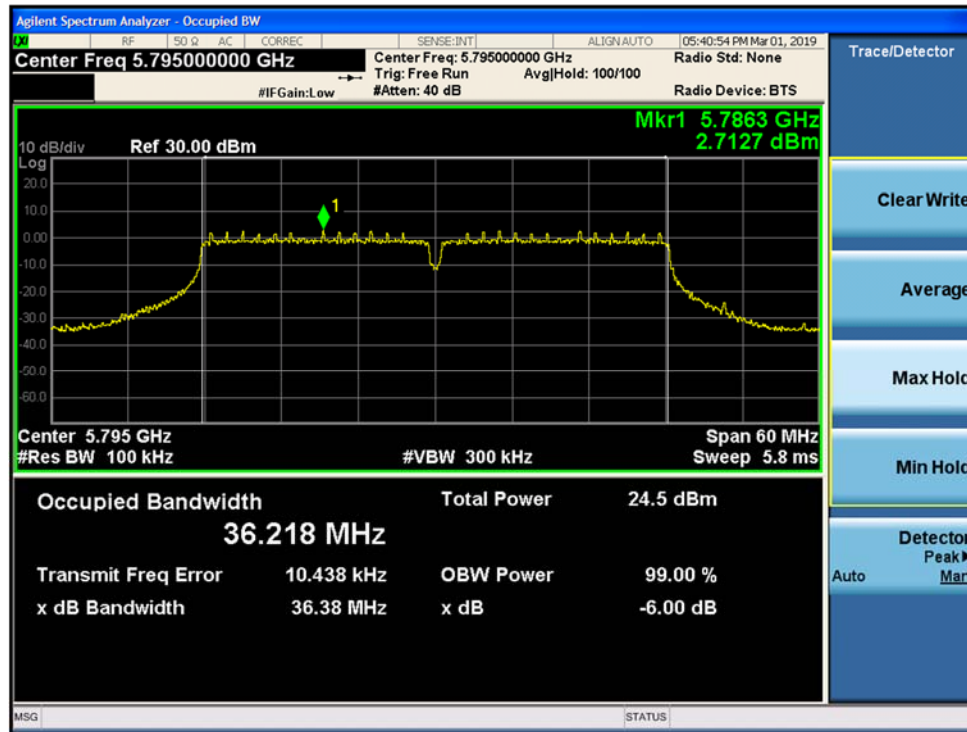


Figure 9-165. 6-dB Bandwidth MIMO Chain A 802.11ac VHT40 (Ch. 159)

9.3.5.20 MIMO Chain B 802.11ac VHT40 6-dB Bandwidth

MIMO Chain B 802.11ac VHT40 6-dB Bandwidth		
Channel No.	Frequency (MHz)	6-dB Bandwidth (MHz)
142	5710	3.24
151	5755	36.40
159	5795	36.40



Figure 9-166. 6-dB Bandwidth Chain B 802.11ac VHT40 (Ch. 142)

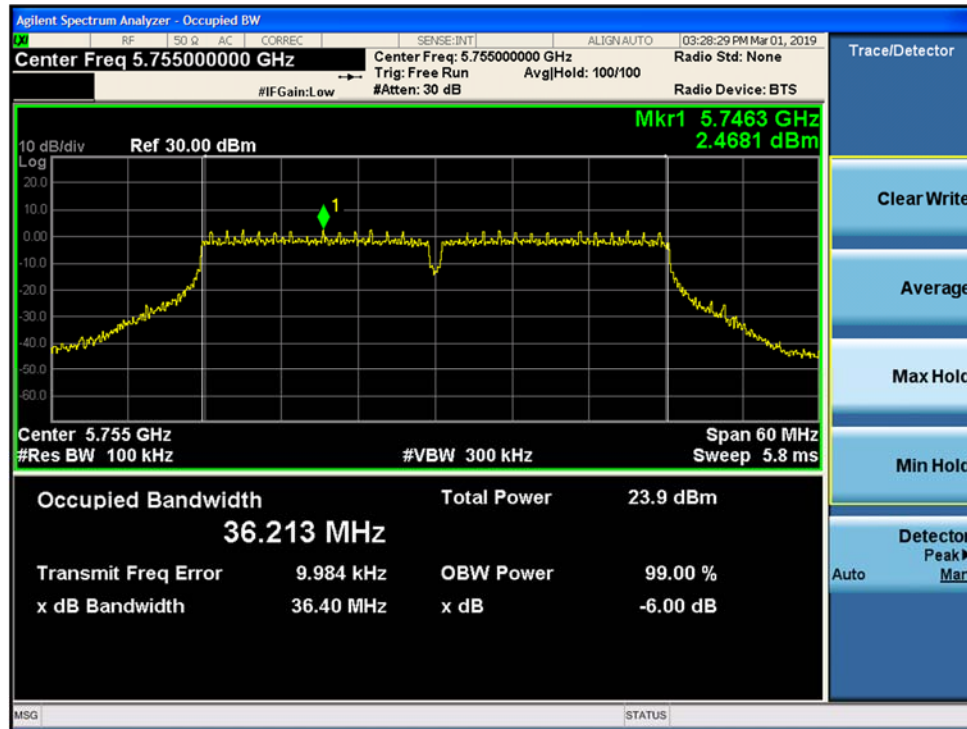


Figure 9-167. 6-dB Bandwidth Chain B 802.11ac VHT40 (Ch. 151)

9.3.5.21 SISO Chain A 802.11ac VHT80 6-dB Bandwidth

SISO Chain A 802.11ac VHT80 6-dB Bandwidth		
Channel No.	Frequency (MHz)	6-dB Bandwidth (MHz)
138	5690	3.24
155	5775	75.23

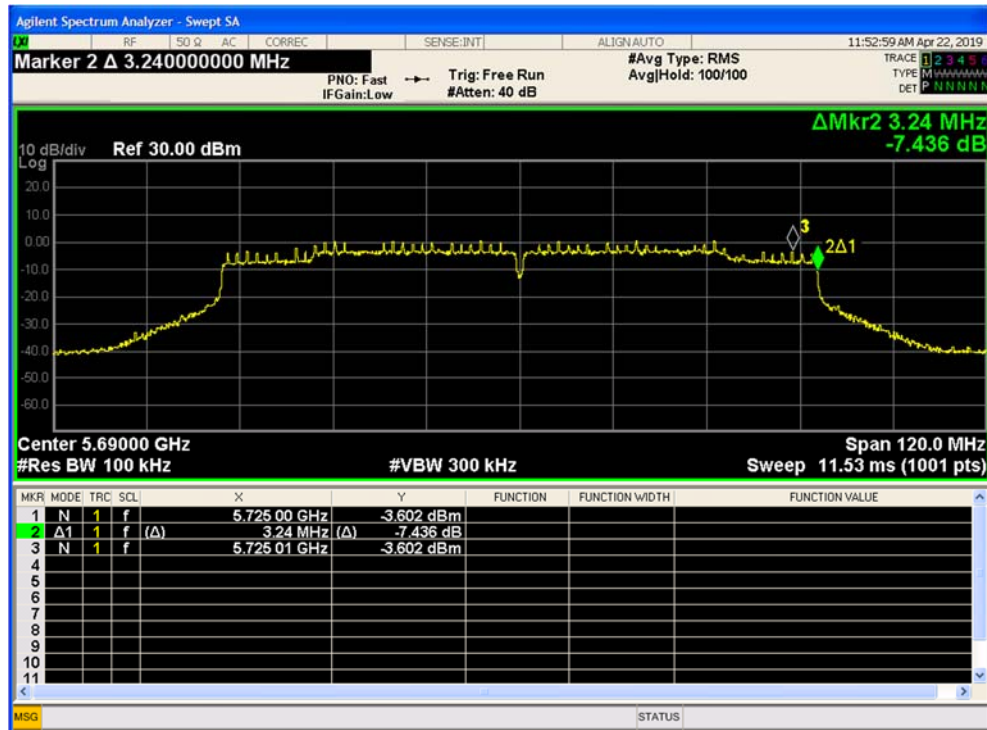


Figure 9-168. 6-dB Bandwidth SISO Chain A 802.11ac VHT80 (Ch. 138)

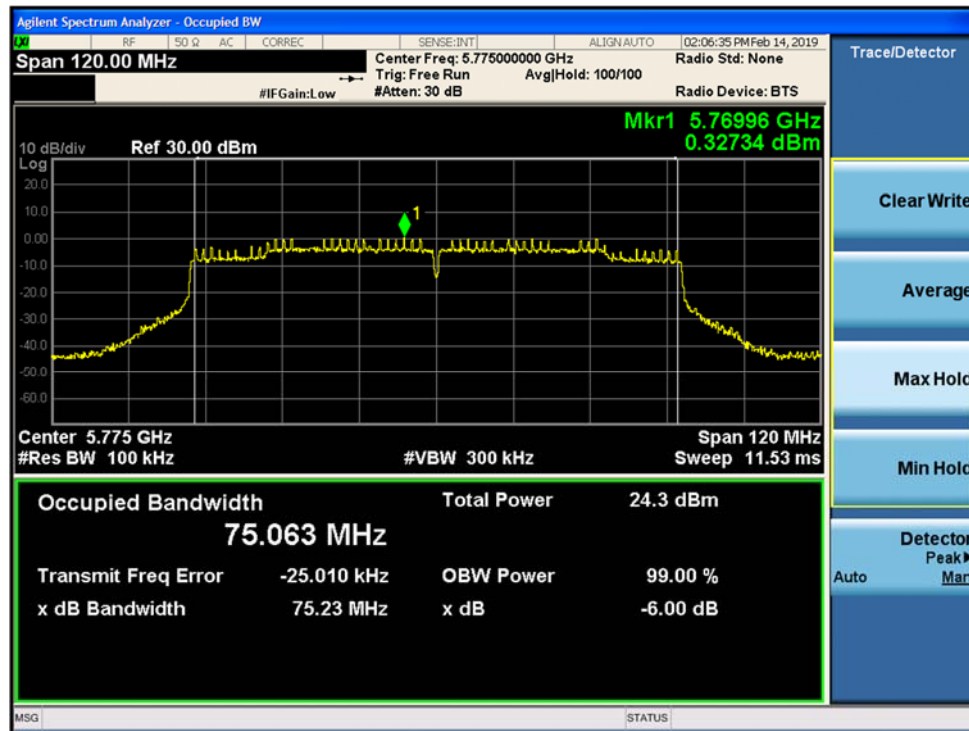


Figure 9-169. 6-dB Bandwidth SISO Chain A 802.11ac VHT80 (Ch. 155)

9.3.5.22 SISO Chain B 802.11ac VHT80 6-dB Bandwidth

SISO Chain B 802.11ac VHT80 6-dB Bandwidth		
Channel No.	Frequency (MHz)	6-dB Bandwidth (MHz)
138	5690	3.28
155	5775	75.23



Figure 9-170. 6-dB Bandwidth SISO Chain B 802.11ac VHT80 (Ch. 138)

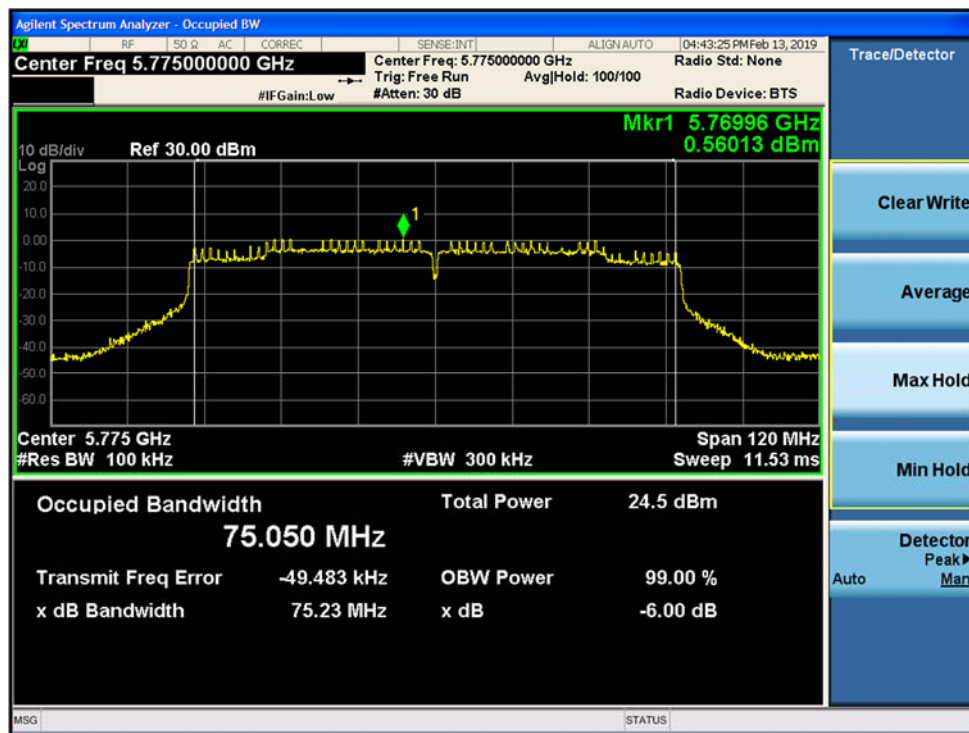


Figure 9-171. 6-dB Bandwidth SISO Chain B 802.11ac VHT80 (Ch. 155)

9.3.5.23 MIMO Chain A 802.11ac VHT80 6-dB Bandwidth

MIMO Chain A 802.11ac VHT80 6-dB Bandwidth		
Channel No.	Frequency (MHz)	6-dB Bandwidth (MHz)
138	5690	3.22
155	5775	75.21

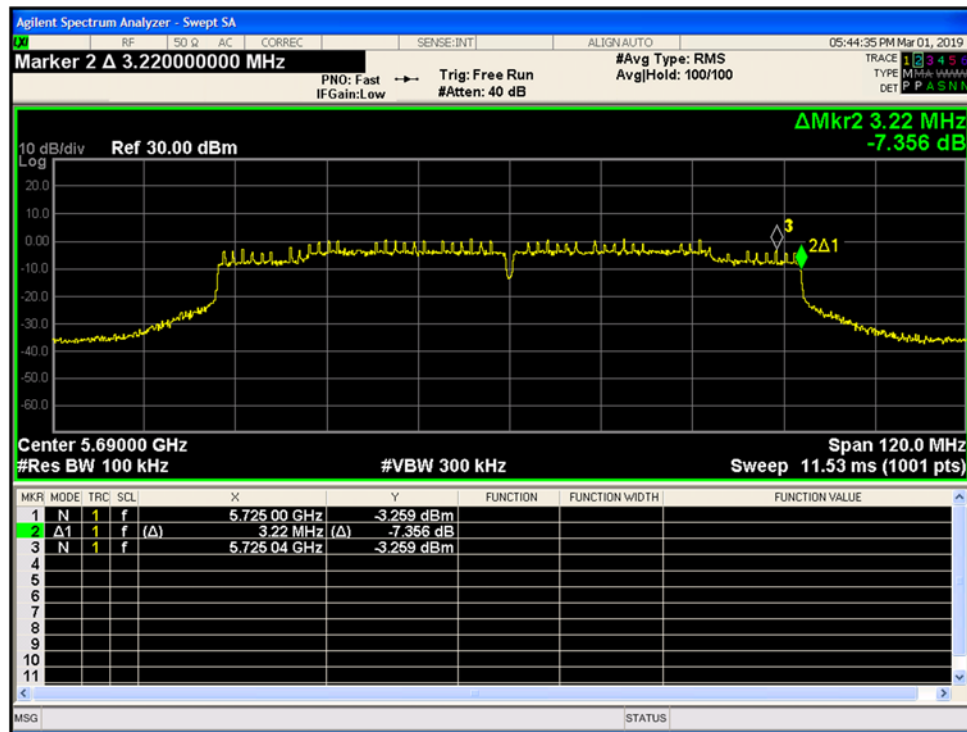


Figure 9-172. 6-dB Bandwidth MIMO Chain A 802.11ac VHT80 (Ch. 138)

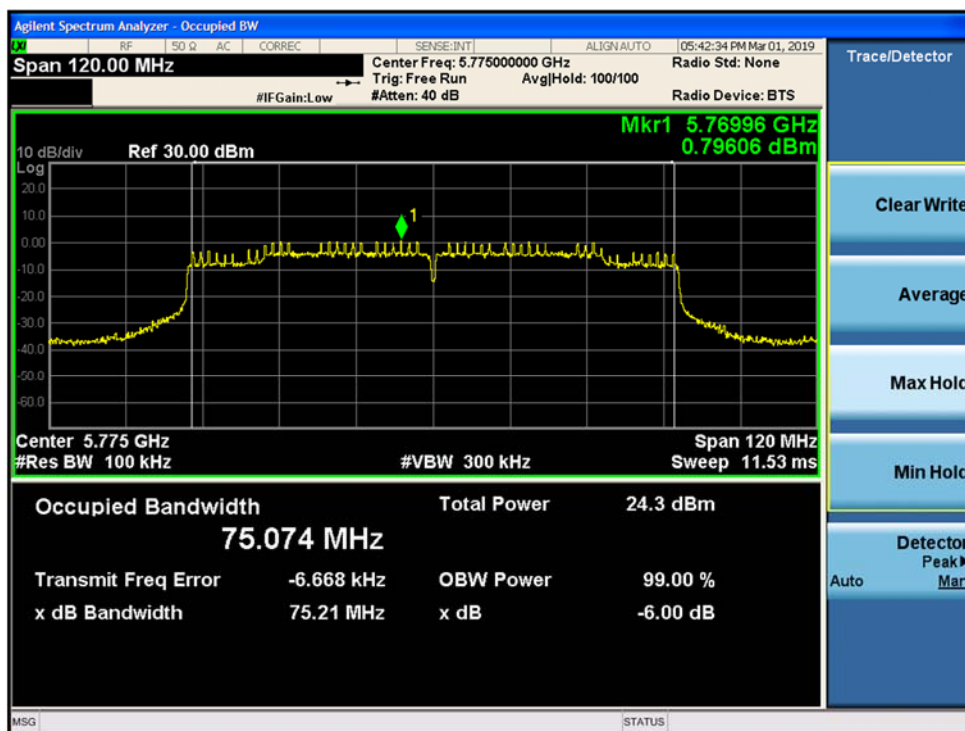


Figure 9-173. 6-dB Bandwidth MIMO Chain A 802.11ac VHT80 (Ch. 155)

9.3.5.24 MIMO Chain B 802.11ac VHT80 6-dB Bandwidth

MIMO Chain B 802.11ac VHT80 6-dB Bandwidth		
Channel No.	Frequency (MHz)	6-dB Bandwidth (MHz)
138	5690	3.28
155	5775	75.21



Figure 9-174. 6-dB Bandwidth MIMO Chain B 802.11ac VHT80 (Ch. 138)

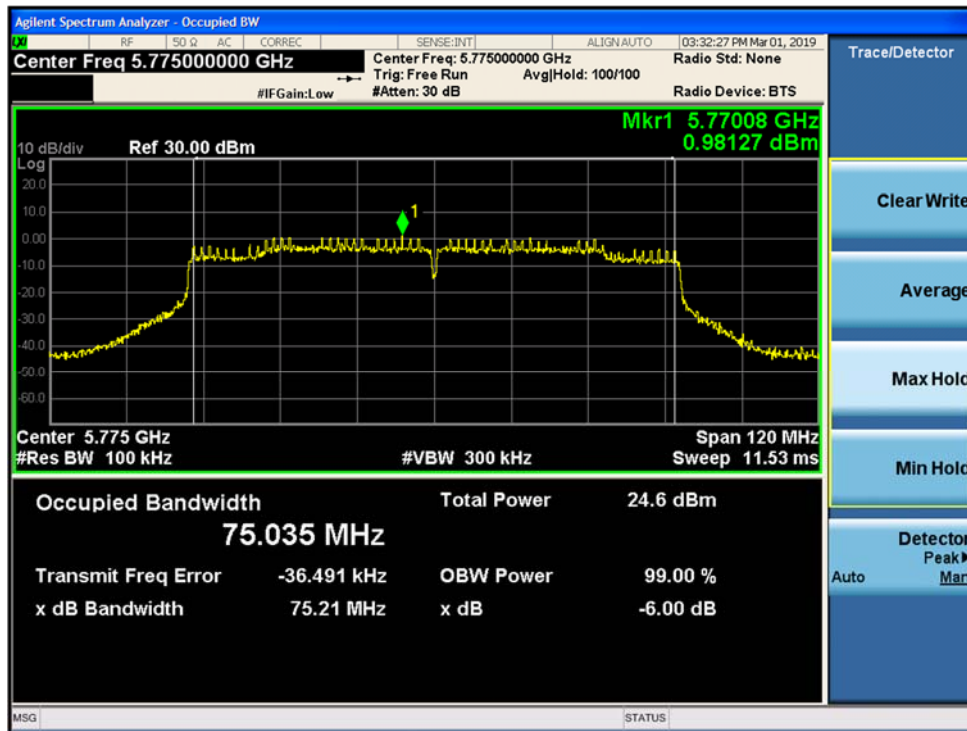


Figure 9-175. 6-dB Bandwidth MIMO Chain B 802.11ac VHT80 (Ch. 155)

9.4 Maximum Conducted Output Power

9.4.1 Test Requirement:

FCC CFR 47 Rule Part 15.407 (a)
ISED RSS-247 [6.2]

9.4.2 Test Method:

Measurements were performed according to the procedures defined in KDBs 789033- General UNII Test Procedures New Rules v02r01, 662911 D01 Multiple Transmitter Output v02r01, and ANSI C63.10 2013.

Spectrum Analyzer settings:

Average Power:

RBW= 1 MHz

VBW= 3 MHz

Detector = RMS

Trace Mode= Average over 100 traces

Sweep time= Auto

Sweep Point $\geq 2 \times \text{Span} / \text{RBW}$

Span= large enough to encompass the 26-dB Emission Bandwidth or alternatively the 99% Occupied Bandwidth.

Use the band power measurement function to integrate the power over the 26-dB Emission Bandwidth or 99% Occupied Bandwidth.

9.4.3 Limits:

15.407: The maximum conducted output power shall not exceed the limits given the following table for antennas that do not exceed a directional gain $> 6\text{dBi}$:

Band of Operation (MHz)	15.407 Limit
5150 – 5250	24 dBm
5250 – 5350	24dBm or $11 \text{ dBm} + 10 \log (B)^{(1)}$
5470 – 5725	24dBm or $11 \text{ dBm} + 10 \log (B)^{(1)}$
5725 – 5825	30 dBm

Note(1): B is the 26-dB Emission bandwidth of signal in MHz.

RSS-247: The maximum conducted output power and/or EIRP shall not exceed the limits given the following table:

Band of Operation (MHz)	RSS-247 Conducted Output Power Limit	RSS-247 E.I.R.P Limit
5150 – 5250	--	23 dBm or $10 + 10 \log (B)^{(1)}$
5250 – 5350	24 dBm or $11 + 10 \log (B)^{(1)}$	30 dBm or $17 + 10 \log (B)^{(1)}$
5470 – 5725	24 dBm or $11 + 10 \log (B)^{(1)}$	30 dBm or $17 + 10 \log (B)^{(1)}$
5725 – 5825	30 dBm	--

Note(1): B is the 99% Occupied Bandwidth of the signal in MHz.

Conducted Output Power and EIRP measurements for Straddle Channels, 5720, 5710 and 5690, were compared against the 5470 – 5725 MHz band limits which also demonstrates compliance with the 5725 - 5825 MHz band. As the total power complies with the limits for both bands the power within each band also complies with the limits of each band.

Limits for these channels were computed using only the portion of the bandwidth that falls completely within the 5470 – 5725 band using the following formula.

$$B_{Straddle} \text{ MHz} = \frac{B_{Emission} \text{ MHz}}{2} + 5 \text{ MHz},$$

Where,

$B_{Straddle}$ is the bandwidth portion falling completely within the 5470 – 5725 MHz Band.

$B_{Emission}$ is the total measured 26-dB (FCC) or 99% bandwidth (ISED) of the emission in MHz.

e.g. $B_{Straddle} \text{ MHz (for 802.11a 5720MHz)} = \frac{19.2 \text{ MHz}}{2} + 5 \text{ MHz} = 14.6 \text{ MHz}$

$$Limit_{FCC_15.407} \text{ dBm} = 11 \text{ dBm} + 10 \times \log_{10} 14.6 = 22.64 \text{ dBm}$$

Limits of signals with 40 MHz bandwidths and greater do not require a limit calculation as these bandwidths would exceed the conducted output power and/or EIRP limit requirements.

9.4.4 Test Results:

Pass. See Section 9.5.5 for test data.

9.5 Power Spectral Density

9.5.1 Test Requirement:

FCC CFR 47 Rule Part 15.407 (a)
ISED RSS-247 [6.2]

9.5.2 Test Method:

Measurements were performed according to the procedures defined in KDBs 789033- General UNII Test Procedures New Rules v02r01, 662911 D01 Multiple Transmitter Output v02r01, and ANSI C63.10 2013.

Spectrum Analyzer settings for devices operating in the bands 5.15 – 5.25 GHz, 5.25 – 5.35GHz, and 5.47 – 5.725GHz:

RBW= 1 MHz

VBW= 3 MHz

Detector = RMS

Trace Mode= Average over 100 traces

Sweep time= Auto

Sweep Point $\geq 2 \times \text{Span} / \text{RBW}$

Span= large enough to encompass the 26-dB Emission Bandwidth or alternatively the 99% Occupied Bandwidth. Use the peak marker function to identify the Maximum Power Spectral Density

Spectrum Analyzer settings for devices operating in the bands 5.725 – 5.85 GHz:

RBW= 100 kHz

VBW= 300 kHz

Detector = RMS

Trace Mode= Average over 100 traces

Sweep time= Auto

Sweep Point $\geq 2 \times \text{Span} / \text{RBW}$

Span= large enough to encompass the 26-dB Emission Bandwidth or alternatively the 99% Occupied Bandwidth. Use the peak marker function to identify the Maximum Power Spectral Density

Offset is added if measurements are performed using a reduced resolution bandwidth 100 kHz, add $10 \times \log(500\text{KHz} / \text{RBW USED})$ to the measured result.

9.5.3 Limits:

15.407: The Maximum Power Spectral Density shall not exceed the limits given the following table for antennas that do not exceed a directional gain > 6dBi:

Band of Operation (MHz)	15.407 Limits
5150 – 5250	11dBm/MHz
5250 – 5350	11dBm/MHz
5470 – 5725	11dBm/MHz
5725 – 5825	30dBm/500kHz

Band of Operation (MHz)	RSS-247 Limits
5150 – 5250	10dBm/MHz e.i.r.p.
5250 – 5350	11dBm/MHz
5470 – 5725	11dBm/MHz
5725 – 5825	30dBm/500kHz

For antenna gains >6dBi, the PSD limits are reduced by the amount it exceeds 6dBi.

9.5.4 Test Results:

Pass.

PSD measurements for Straddle Channels, 5720, 5710 and 5690, were compared against the 5470 – 5725 MHz band limits demonstrating compliance with the less stringent 5725 - 5825 MHz band limits as well.

9.5.5 Test Data

Worst Case conducted output power plots are shown.

9.5.5.1 SISO Chain A 802.11a 20MHz Maximum Conducted Output Power

SISO Chain A 802.11a Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	14.92	0	14.92	24.00	--	-9.08	--
44	5220	15.05	0	15.05	24.00	--	-8.95	--
48	5240	14.91	0	14.91	24.00	--	-9.09	--
52	5260	15.56	0	15.56	24.00	23.26	-8.44	-7.70
60	5300	15.71	0	15.71	24.00	23.26	-8.29	-7.55
64	5320	15.63	0	15.63	24.00	23.25	-8.37	-7.62
100	5500	15.58	0	15.58	24.00	23.27	-8.42	-7.69
116	5580	16.22	0	16.22	24.00	23.26	-7.78	-7.04
140	5700	15.85	0	15.85	24.00	23.25	-8.15	-7.40
144	5720	15.98	0	15.98	23.33	22.28	-7.35	-6.30
149	5745	16.08	0	16.08	30.00	30.00	-13.92	-13.92
157	5785	16.02	0	16.02	30.00	30.00	-13.98	-13.98
165	5825	15.87	0	15.87	30.00	30.00	-14.13	-14.13

SISO Chain A 802.11a E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
36	5180	14.92	4.70	19.62	22.27	-2.65
44	5220	15.05	4.70	19.75	22.28	-2.53
48	5240	14.91	4.70	19.61	22.26	-2.65
52	5260	15.56	5.00	20.56	29.26	-8.70
60	5300	15.71	5.00	20.71	29.26	-8.55
64	5320	15.63	5.00	20.63	29.26	-8.63
100	5500	15.58	4.90	20.48	29.25	-8.77
116	5580	16.22	4.90	21.12	29.27	-8.15
140	5700	15.85	4.90	20.75	29.26	-8.51
144	5720	15.98	4.90	20.88	29.25	-8.37
149	5745	16.08	4.30	20.38	--	--
157	5785	16.02	4.30	20.32	--	--
165	5825	15.87	4.30	20.17	--	--

9.5.5.2 SISO Chain A 802.11a Maximum Power Spectral Density

SISO UNII-1 Chain A 802.11a Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Chain A (dBm)	Duty Cycle Corr. (dB)	Total PSD $\left(\frac{dBm}{MHz}\right)$	Total Ant. Gain (dBi)	Total EIRP PSD $\left(\frac{dBm}{MHz}\right)$	15.407 Limit $\left(\frac{dBm}{MHz}\right)$	RSS-247 EIRP PSD Limit $\left(\frac{dBm}{MHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	3.53	0.00	3.53	4.70	8.23	11.00	10.00	-7.47	-1.77
44	5220	3.87	0.00	3.87	4.70	8.57	11.00	10.00	-7.13	-1.43
48	5240	3.61	0.00	3.61	4.70	8.31	11.00	10.00	-7.39	-1.69

SISO UNII-2A and UNII-2C Chain A 802.11a Maximum Power Spectral Density/MHz								
Channel No.	Frequency (MHz)	Chain A (dBm)	Duty Cycle Corr. (dB)	Total PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
52	5260	4.28	0.00	4.28	11.00	11.00	-6.72	-6.72
60	5300	4.56	0.00	4.56	11.00	11.00	-6.44	-6.44
64	5320	4.31	0.00	4.31	11.00	11.00	-6.69	-6.69
100	5500	4.11	0.00	4.11	11.00	11.00	-6.89	-6.89
116	5580	5.09	0.00	5.09	11.00	11.00	-5.91	-5.91
140	5700	4.56	0.00	4.56	11.00	11.00	-6.44	-6.44
144	5720	4.70	0.00	4.70	11.00	11.00	-6.30	-6.30

SISO UNII-3 Chain A 802.11a Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Duty Cycle Corr. (dB)	Total PSD $\left(\frac{dBm}{500 kHz}\right)$	15.407 Limit $\left(\frac{dBm}{500 kHz}\right)$	RSS-247 Limit $\left(\frac{dBm}{500 kHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
144	5720	2.1425	0.00	2.14	30.00	30.00	-27.86	-27.86
149	5745	3.10	0.00	3.10	30.00	30.00	-26.90	-26.90
157	5785	2.82	0.00	2.82	30.00	30.00	-27.18	-27.18
165	5825	2.61	0.00	2.61	30.00	30.00	-27.39	-27.39

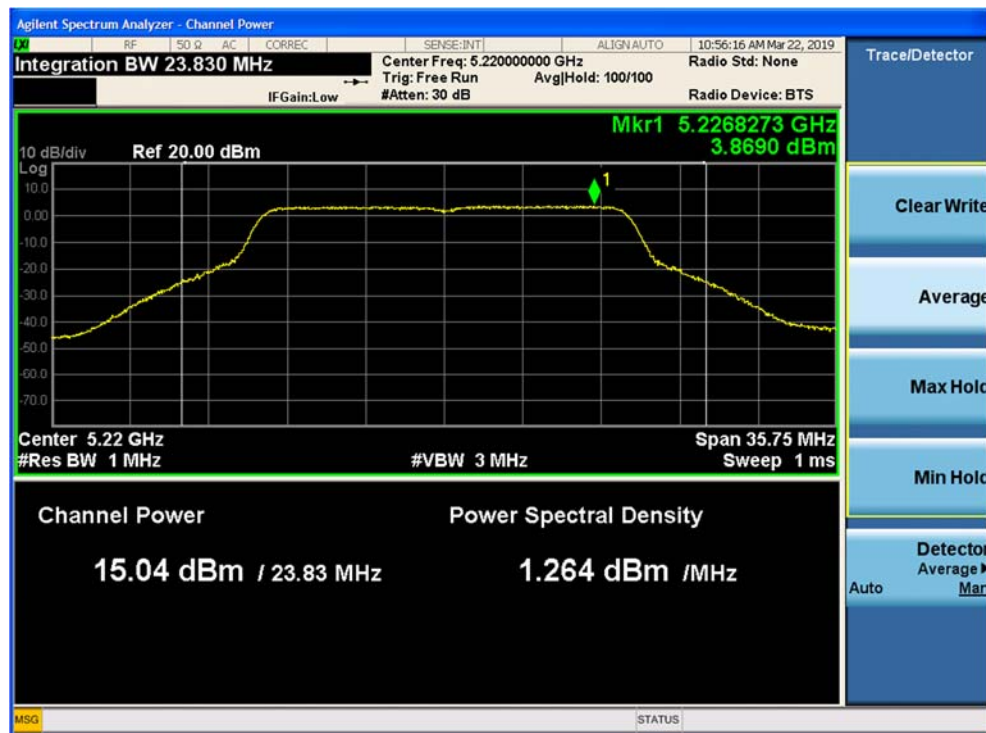


Figure 9-176 Maximum Conducted Output Power and PSD SISO Chain A 802.11a (Ch. 44)

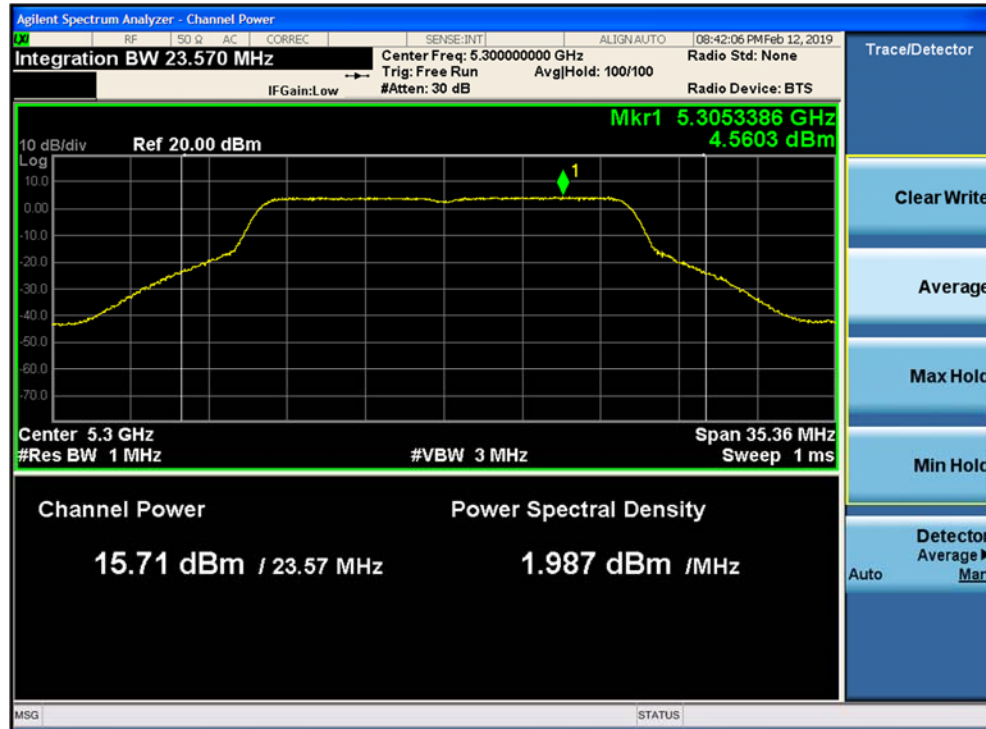


Figure 9-177 Maximum Conducted Output Power and PSD SISO Chain A 802.11a (Ch. 60)

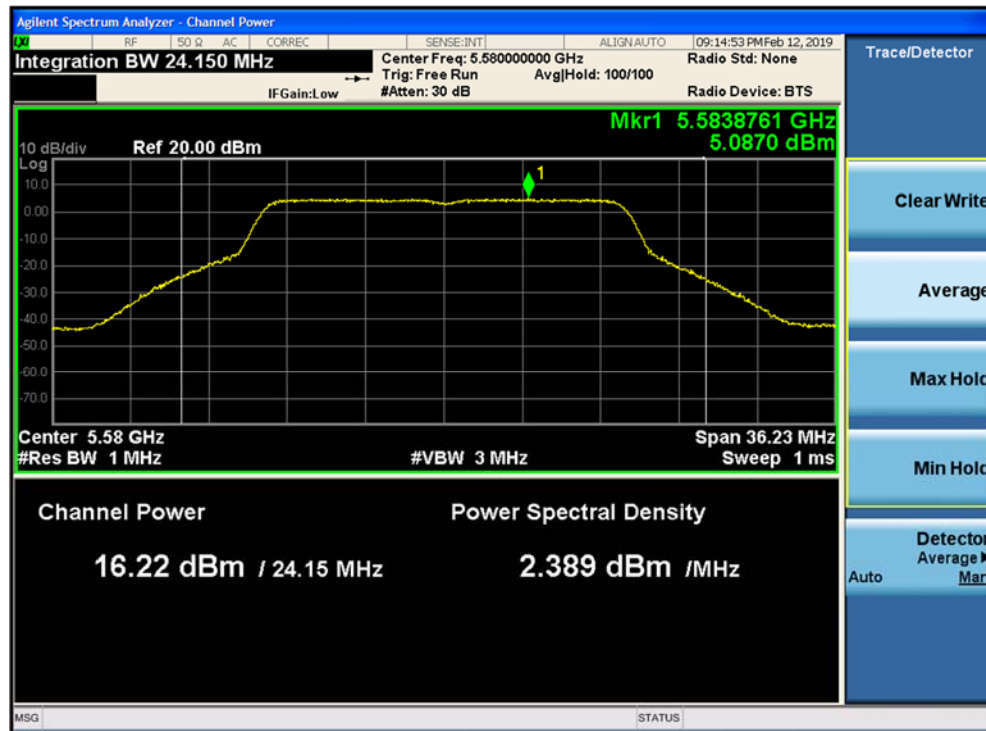


Figure 9-178 Maximum Conducted Output Power and PSD SISO Chain A 802.11a (Ch. 116)



Figure 9-179 Maximum Conducted Output Power and PSD SISO Chain A 802.11a (Ch. 144)

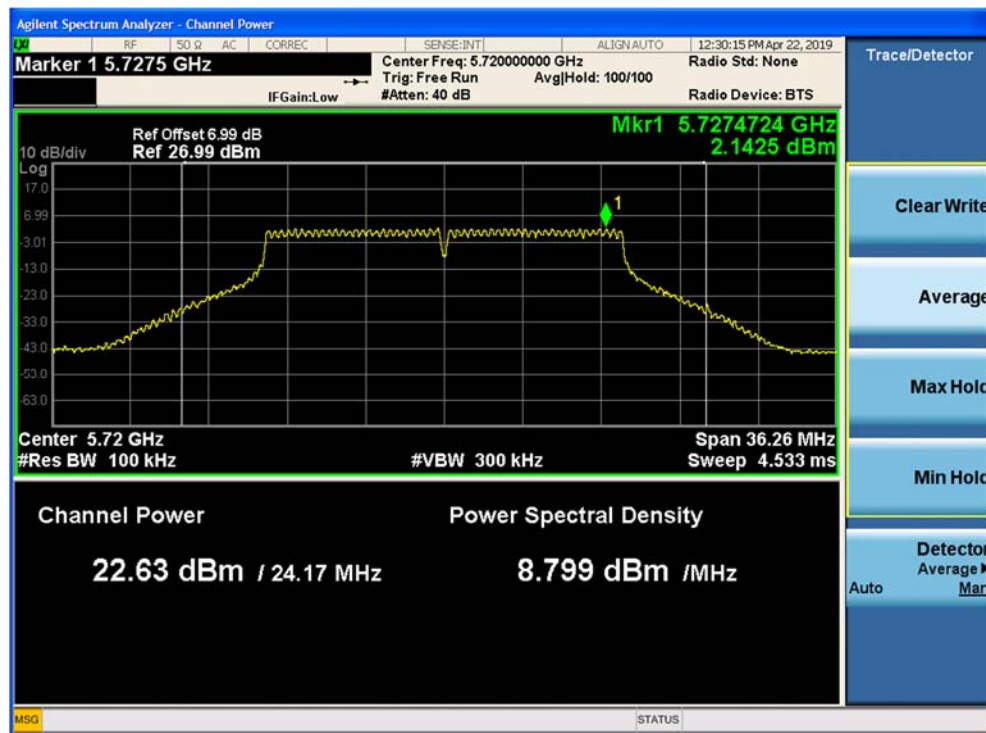


Figure 9-180 Maximum 500 kHz Power Spectral Density SISO Chain A 802.11a (Ch. 144)

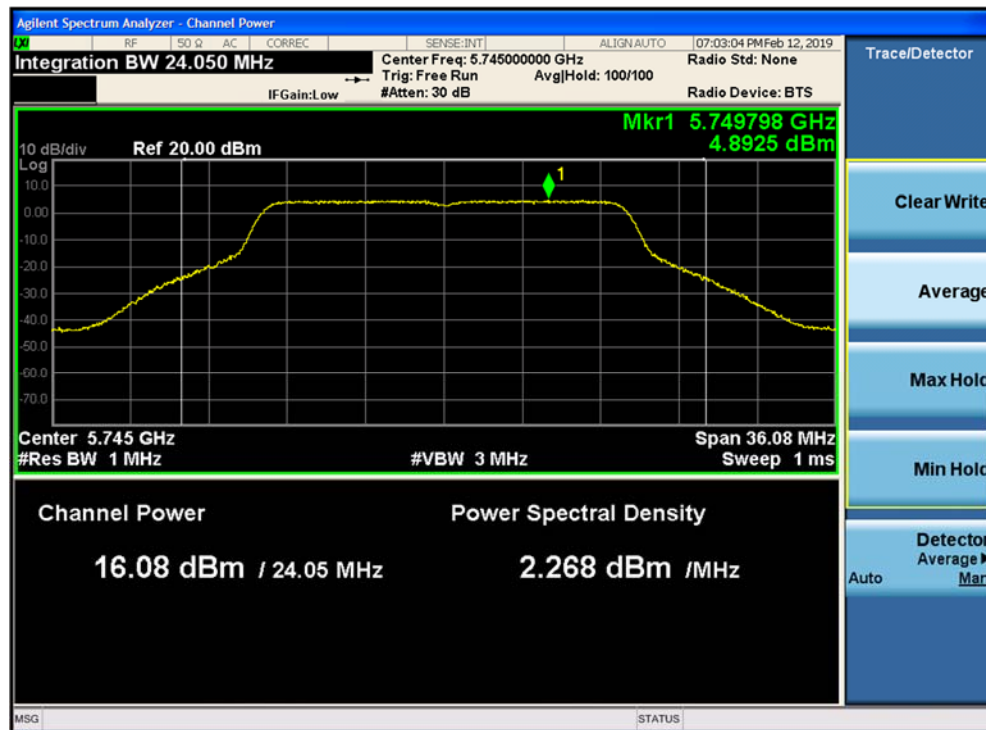


Figure 9-181 Maximum Conducted Output Power and PSD SISO Chain A 802.11a (Ch. 149)

9.5.5.3 SISO Chain B 802.11a 20MHz Maximum Conducted Output Power

SISO Chain B 802.11a Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Chain B (dBm)	Duty Cycle Factor (dB)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	14.93	0	14.93	24.00	--	-9.07	--
44	5220	14.9	0	14.90	24.00	--	-9.10	--
48	5240	14.96	0	14.96	24.00	--	-9.04	--
52	5260	15.82	0	15.82	24.00	23.25	-8.18	-7.43
60	5300	15.82	0	15.82	24.00	23.26	-8.18	-7.44
64	5320	15.78	0	15.78	24.00	23.26	-8.22	-7.48
100	5500	16.34	0	16.34	24.00	23.25	-7.66	-6.91
116	5580	16.31	0	16.31	24.00	23.25	-7.69	-6.94
140	5700	16.06	0	16.06	24.00	23.29	-7.94	-7.23
144	5720	16.27	0	16.27	23.28	22.28	-7.01	-6.01
149	5745	16.35	0	16.35	30.00	30.00	-13.65	-13.65
157	5785	16	0	16.00	30.00	30.00	-14.00	-14.00
165	5825	15.91	0	15.91	30.00	30.00	-14.09	-14.09

SISO Chain B 802.11a E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
36	5180	14.93	4.20	19.13	22.27	-3.14
44	5220	14.90	4.20	19.10	22.27	-3.17
48	5240	14.96	4.20	19.16	22.27	-3.11
52	5260	15.82	4.70	20.52	29.25	-8.73
60	5300	15.82	4.70	20.52	29.25	-8.73
64	5320	15.78	4.70	20.48	29.26	-8.78
100	5500	16.34	4.50	20.84	29.26	-8.42
116	5580	16.31	4.50	20.81	29.25	-8.44
140	5700	16.06	4.50	20.56	29.25	-8.69
144	5720	16.27	4.50	20.77	29.29	-8.52
149	5745	16.35	3.60	19.95	--	--
157	5785	16.00	3.60	19.60	--	--
165	5825	15.91	3.60	19.51	--	--

9.5.5.4 SISO Chain B 802.11a Maximum Power Spectral Density

SISO UNII-1 Chain B 802.11a Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Chain B (dBm)	Duty Cycle Corr. (dB)	Total PSD $\left(\frac{dBm}{MHz}\right)$	Total Ant. Gain (dBi)	Total EIRP PSD $\left(\frac{dBm}{MHz}\right)$	15.407 Limit $\left(\frac{dBm}{MHz}\right)$	RSS-247 EIRP PSD Limit $\left(\frac{dBm}{MHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	3.76	0.00	3.76	4.20	7.96	11.00	10.00	-7.24	-2.04
44	5220	3.82	0.00	3.82	4.20	8.02	11.00	10.00	-7.18	-1.98
48	5240	3.59	0.00	3.59	4.20	7.79	11.00	10.00	-7.41	-2.21

SISO UNII-2A and UNII-2C Chain B 802.11a Maximum Power Spectral Density/MHz								
Channel No.	Frequency (MHz)	Chain B (dBm)	Duty Cycle Corr. (dB)	Total PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
52	5260	4.72	0.00	4.72	11.00	11.00	-6.28	-6.28
60	5300	4.68	0.00	4.68	11.00	11.00	-6.32	-6.32
64	5320	4.64	0.00	4.64	11.00	11.00	-6.36	-6.36
100	5500	5.13	0.00	5.13	11.00	11.00	-5.87	-5.87
116	5580	4.86	0.00	4.86	11.00	11.00	-6.14	-6.14
140	5700	4.80	0.00	4.80	11.00	11.00	-6.20	-6.20
144	5720	5.33	0.00	5.33	11.00	11.00	-5.67	-5.67

SISO UNII-3 Chain B 802.11a Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Chain B (dBm)	Duty Cycle Corr. (dB)	Total PSD $\left(\frac{dBm}{500 kHz}\right)$	15.407 Limit $\left(\frac{dBm}{500 kHz}\right)$	RSS-247 Limit $\left(\frac{dBm}{500 kHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
144	5720	2.46	0.00	2.46	30.00	30.00	-27.54	-27.54
149	5745	3.21	0.00	3.21	30.00	30.00	-26.79	-26.79
157	5785	3.00	0.00	3.00	30.00	30.00	-27.00	-27.00
165	5825	2.74	0.00	2.74	30.00	30.00	-27.26	-27.26

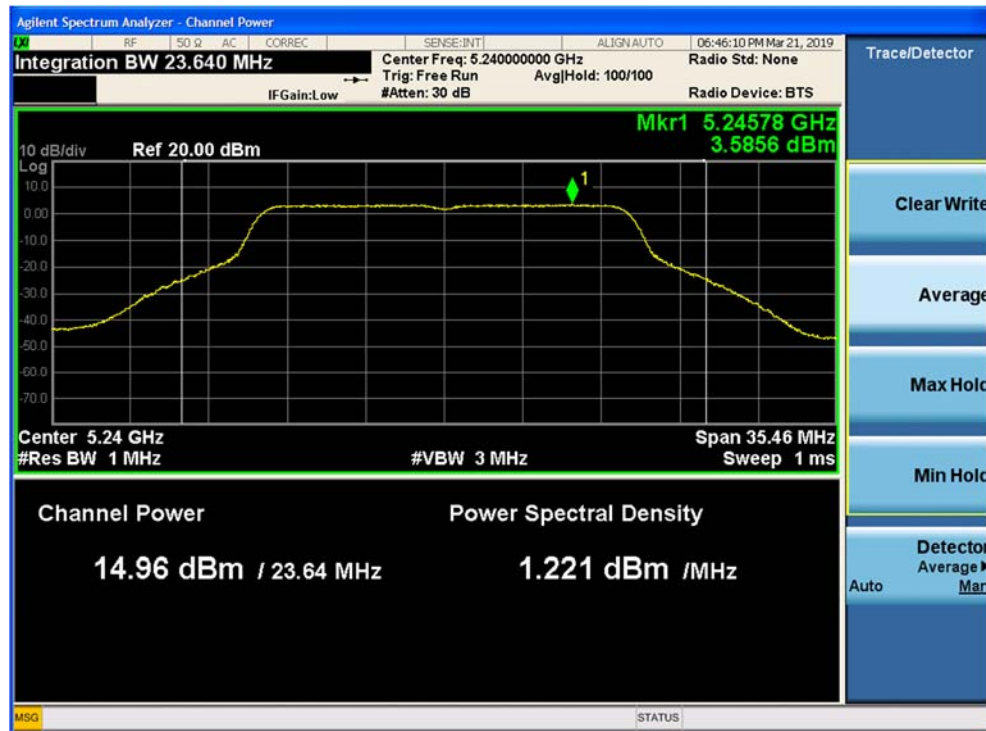


Figure 9-182 Maximum Conducted Output Power and PSD SISO Chain B 802.11a (Ch. 48)

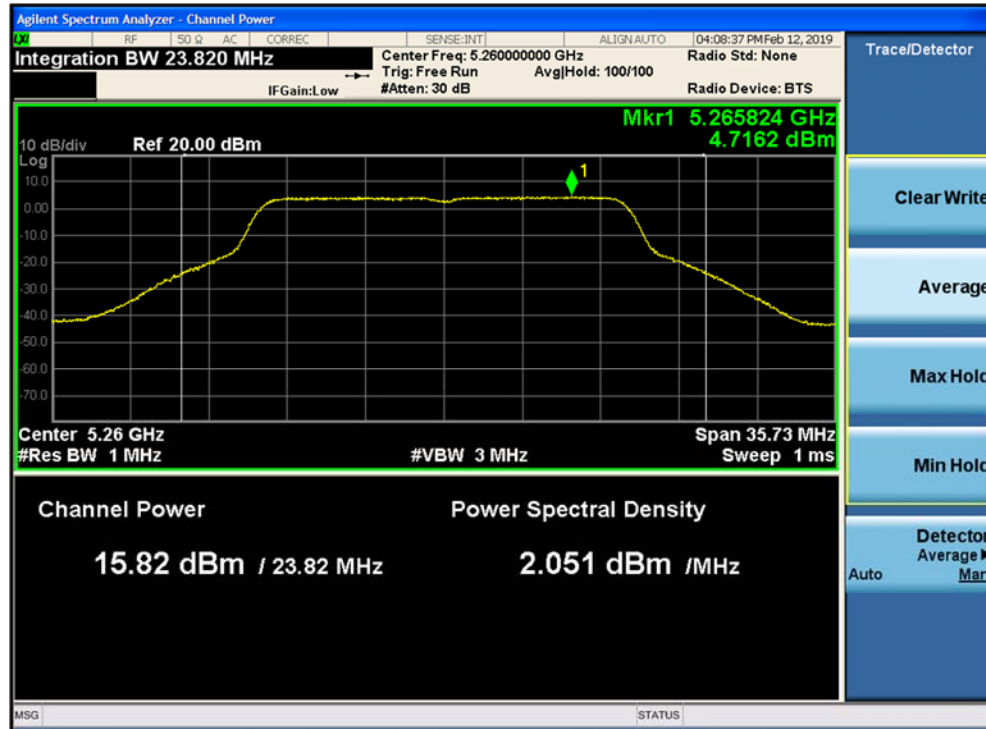


Figure 9-183 Maximum Conducted Output Power and PSD SISO Chain B 802.11a (Ch. 52)

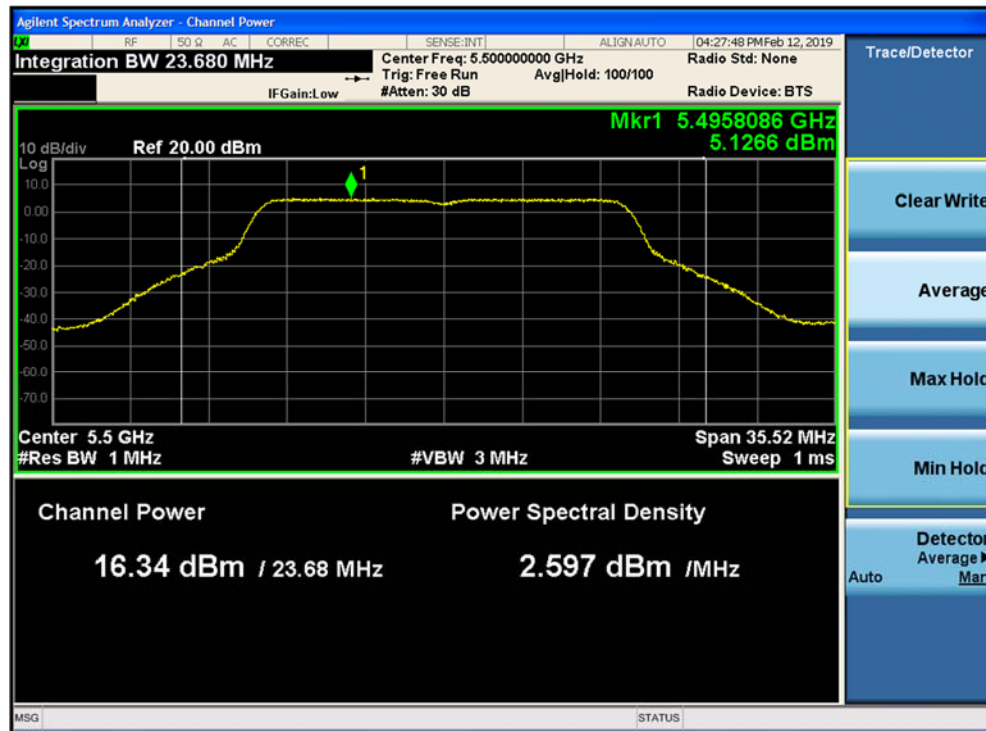


Figure 9-184 Maximum Conducted Output Power and PSD SISO Chain B 802.11a (Ch. 100)

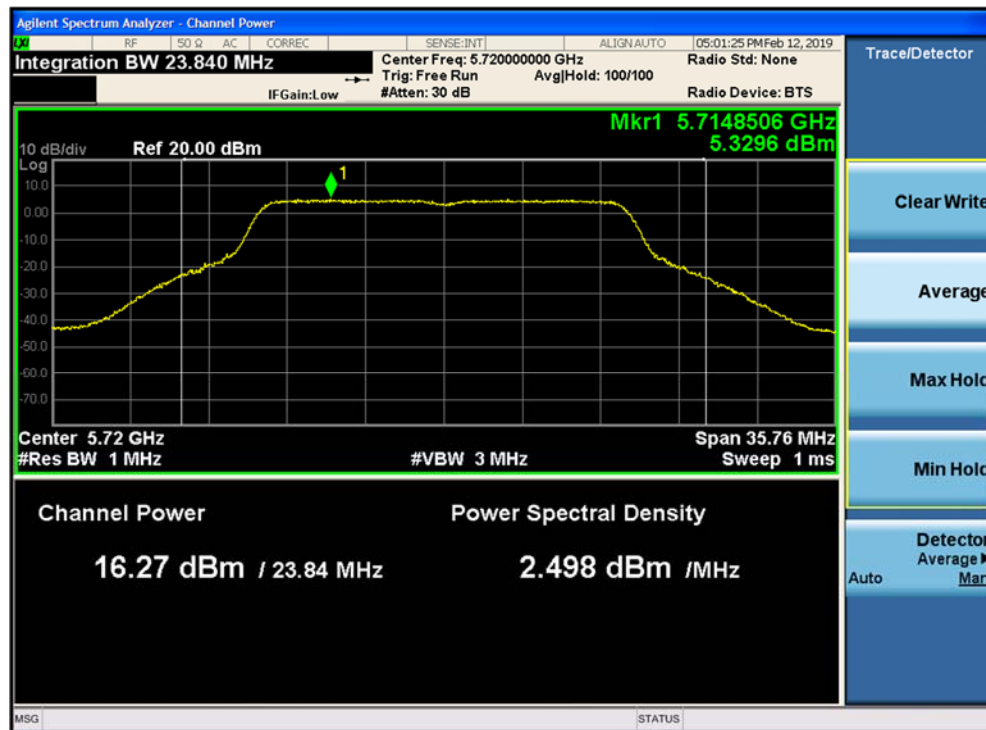


Figure 9-185 Maximum Conducted Output Power and PSD SISO Chain B 802.11a (Ch. 144)

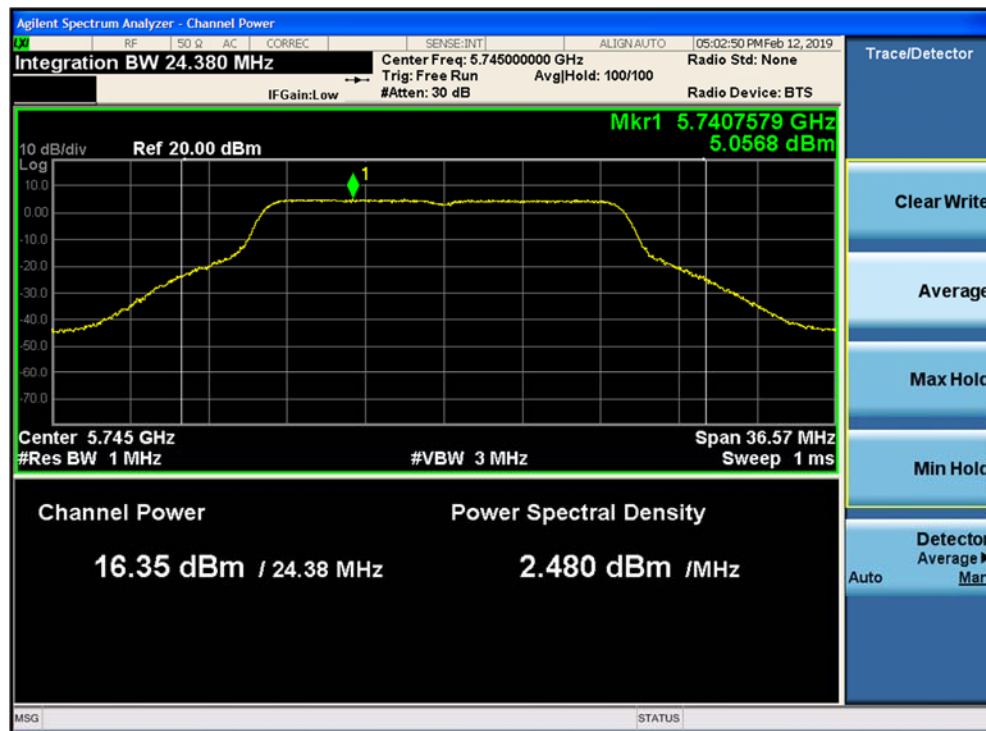


Figure 9-186 Maximum Conducted Output Power and PSD SISO Chain B 802.11a (Ch. 149)

9.5.5.5 MIMO Chain A+B 802.11a_20MHz Maximum Conducted Output Power

MIMO Chain A+B 802.11a Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	8.83	8.88	11.95	24.00	--	-12.05	--
44	5220	9.02	8.68	11.95	24.00	--	-12.05	--
48	5240	8.85	8.82	11.93	24.00	--	-12.07	--
52	5260	15.54	15.81	18.77	24.00	23.26	-5.23	-4.49
60	5300	15.75	15.92	18.93	24.00	23.26	-5.07	-4.33
64	5320	15.79	15.85	18.91	24.00	23.27	-5.09	-4.35
100	5500	15.68	16.42	19.16	24.00	23.27	-4.84	-4.11
116	5580	16.35	16.31	19.42	24.00	23.26	-4.58	-3.83
140	5700	15.8	16.05	19.02	24.00	23.26	-4.98	-4.24
144	5720	15.92	16.15	19.13	23.29	22.28	-4.16	-3.15
149	5745	16.05	16.1	19.17	30.00	30.00	-10.83	-10.83
157	5785	16.15	16.11	19.22	30.00	30.00	-10.78	-10.78
165	5825	16.27	16.38	19.42	30.00	30.00	-10.58	-10.58

MIMO Chain A+B 802.11a E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
36	5180	11.95	4.46	16.41	22.27	-5.87
44	5220	11.95	4.46	16.40	22.26	-5.86
48	5240	11.93	4.46	16.39	22.26	-5.88
52	5260	18.77	4.85	23.62	29.26	-5.64
60	5300	18.93	4.85	23.78	29.26	-5.48
64	5320	18.91	4.85	23.77	29.26	-5.49
100	5500	19.16	4.70	23.86	29.27	-5.40
116	5580	19.42	4.70	24.13	29.27	-5.14
140	5700	19.02	4.70	23.73	29.26	-5.53
144	5720	19.13	4.70	23.84	29.26	-5.43
149	5745	19.17	3.96	23.13	--	--
157	5785	19.22	3.96	23.19	--	--
165	5825	19.42	3.96	23.38	--	--

9.5.5.6 MIMO Chain A+B 802.11a_20MHz Maximum Power Spectral Density

MIMO UNII-1 Chain A+B 802.11a Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $\frac{dBm}{MHz}$	Total Ant. Gain (dBi)	Total EIRP PSD $\frac{dBm}{MHz}$	15.407 Limit $\frac{dBm}{MHz}$	RSS-247 EIRP PSD Limit $\frac{dBm}{MHz}$	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	-2.34	-2.37	0.66	7.46	8.12	9.54	10.00	-8.88	-1.88
44	5220	-2.33	-2.46	0.62	7.46	8.08	9.54	10.00	-8.92	-1.92
48	5240	-2.51	-2.06	0.73	7.46	8.20	9.54	10.00	-8.80	-1.80

MIMO UNII-2A and UNII-2C Chain A+B 802.11a Maximum Power Spectral Density/MHz								
Channel No.	Frequency (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $\frac{dBm}{MHz}$	15.407 Limit $\frac{dBm}{MHz}$	RSS-247 Limit $\frac{dBm}{MHz}$	15.407 Margin (dB)	RSS-247 Margin (dB)
52	5260	4.18	4.83	7.53	9.14	11.00	-1.61	-3.47
60	5300	4.49	4.73	7.62	9.14	11.00	-1.52	-3.38
64	5320	4.45	4.87	7.68	9.14	11.00	-1.46	-3.32
100	5500	4.24	5.33	7.83	9.29	11.00	-1.46	-3.17
116	5580	5.03	5.05	8.05	9.29	11.00	-1.23	-2.95
140	5700	4.52	4.88	7.71	9.29	11.00	-1.57	-3.29
144	5720	4.52	4.94	7.74	9.29	11.00	-1.54	-3.26

MIMO UNII-3 Chain A+B 802.11a Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $\left(\frac{\text{dBm}}{500 \text{ kHz}}\right)$	15.407 Limit $\left(\frac{\text{dBm}}{500 \text{ kHz}}\right)$	RSS-247 Limit $\left(\frac{\text{dBm}}{500 \text{ kHz}}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
144	5720	1.91	2.76	5.45	10.03	11.00	-4.58	-5.55
149	5745	2.75	2.94	5.86	29.03	29.03	-23.17	-23.17
157	5785	2.66	2.82	5.75	29.03	29.03	-23.28	-23.28
165	5825	2.77	2.85	5.82	29.03	29.03	-23.21	-23.21

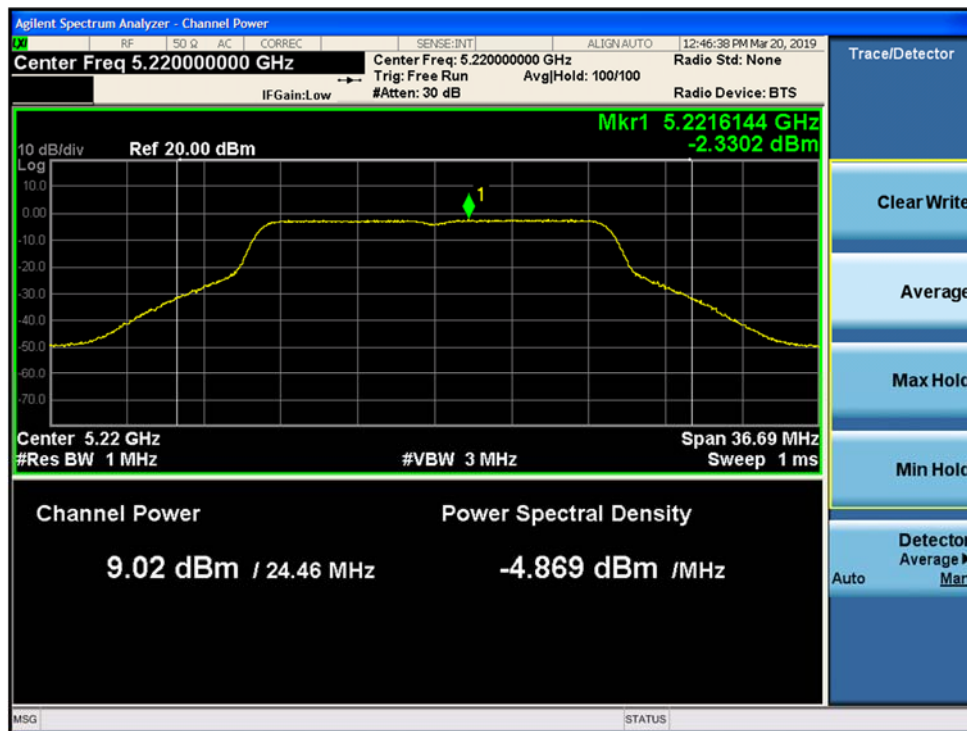


Figure 9-187. Maximum Conducted Output Power and PSD MIMO Chain A 802.11a (Ch. 44)

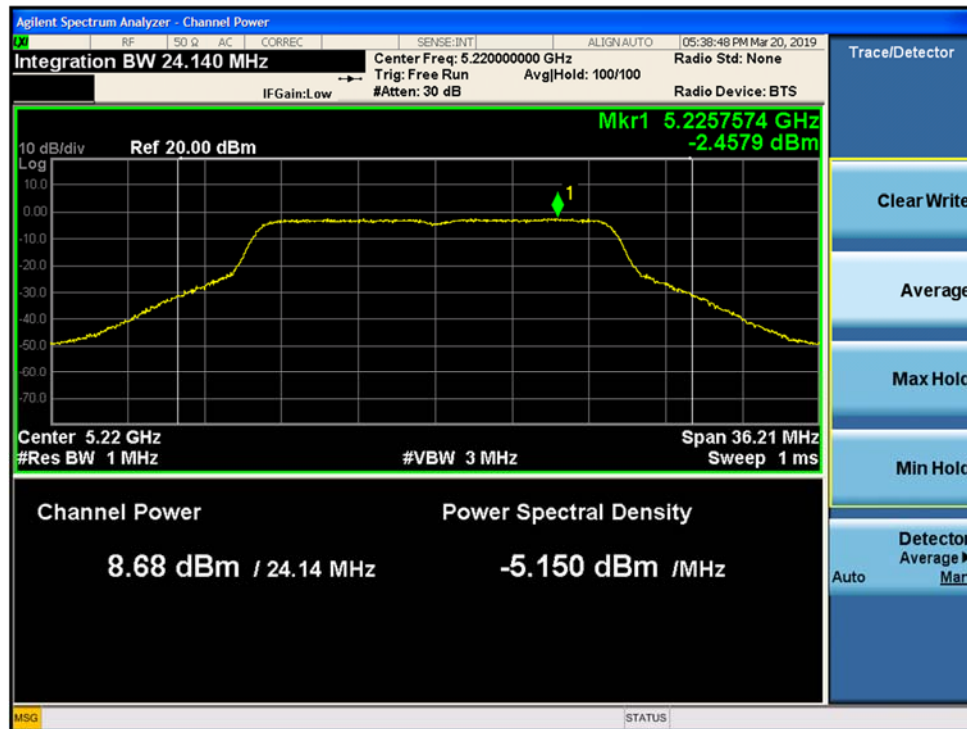


Figure 9-188. Maximum Conducted Output Power and PSD MIMO Chain B 802.11a (Ch. 44)

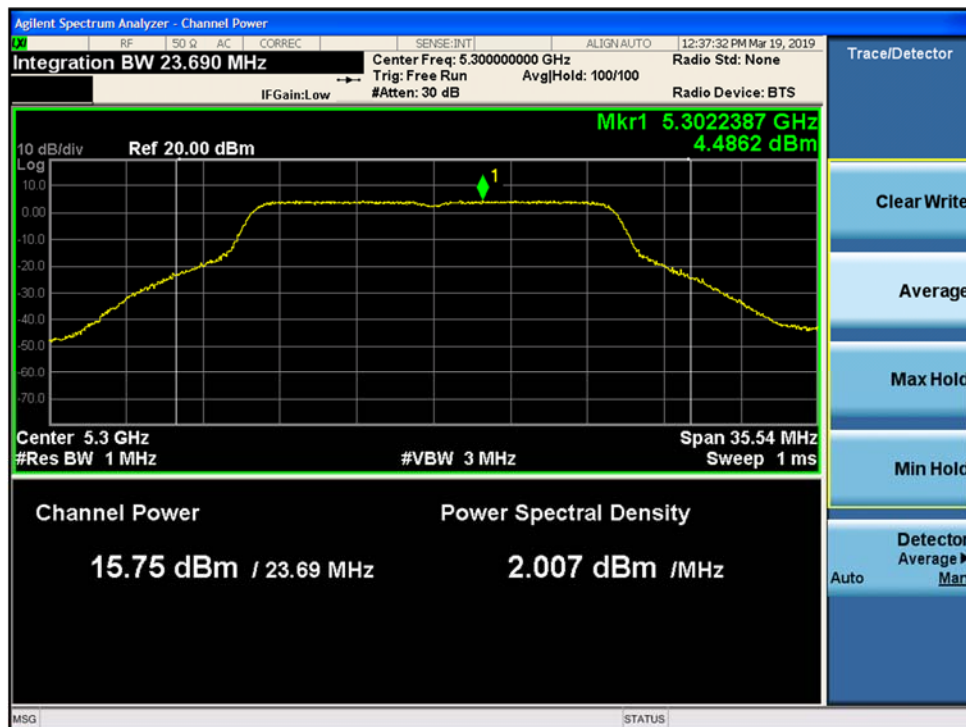


Figure 9-189. Maximum Conducted Output Power and PSD MIMO Chain A 802.11a (Ch. 60)

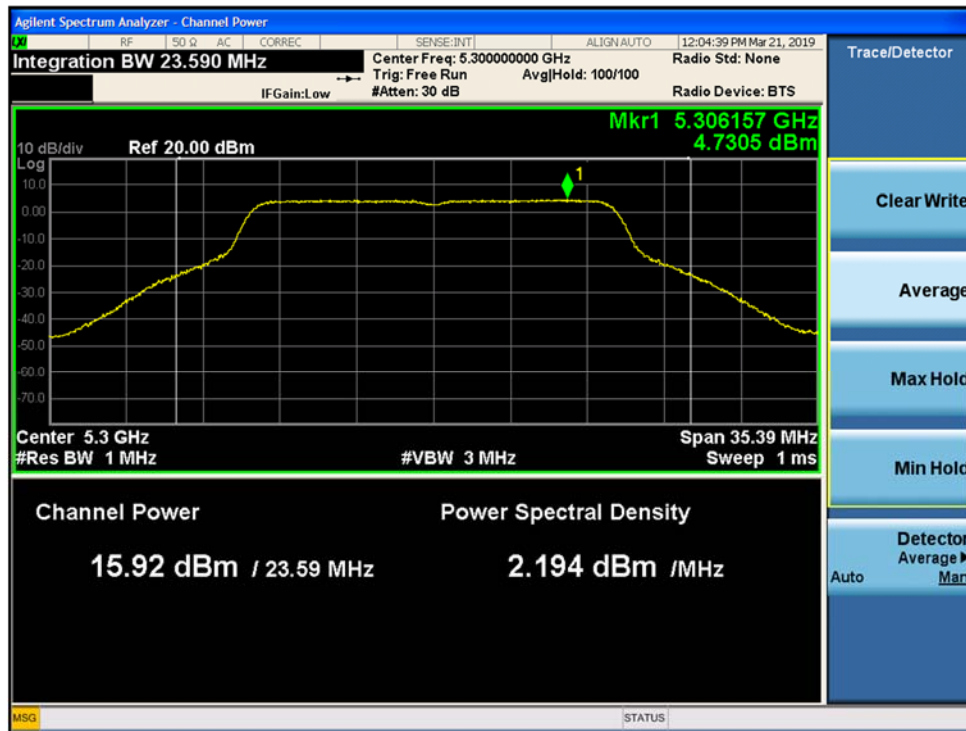


Figure 9-190. Maximum Conducted Output Power and PSD MIMO Chain B 802.11a (Ch. 60)

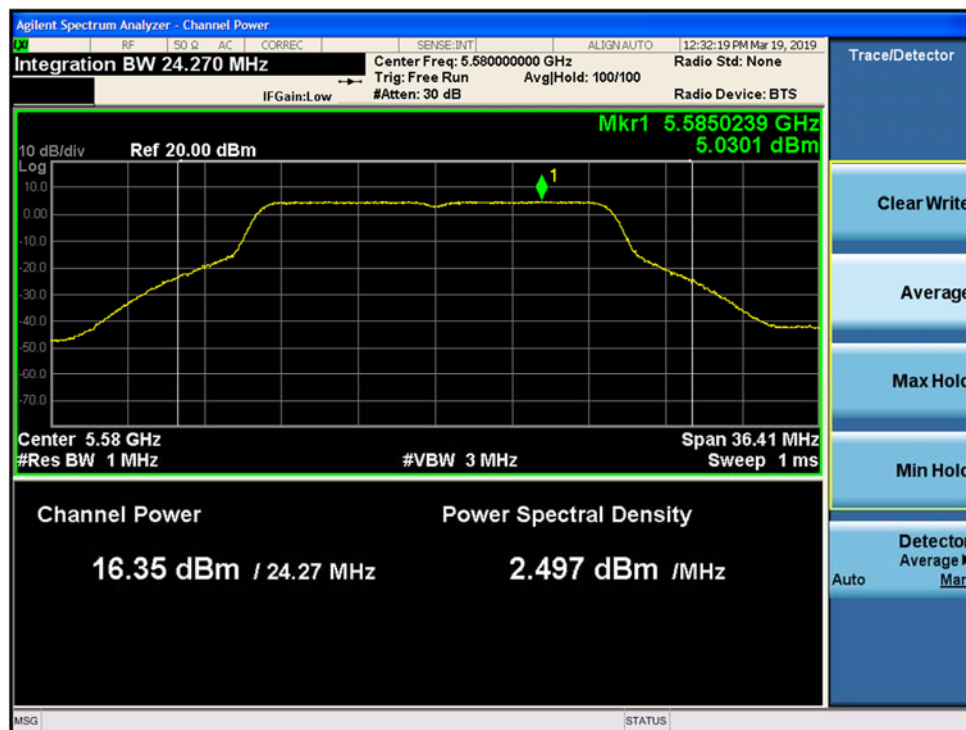


Figure 9-191. Maximum Conducted Output Power and PSD MIMO Chain A 802.11a (Ch. 116)

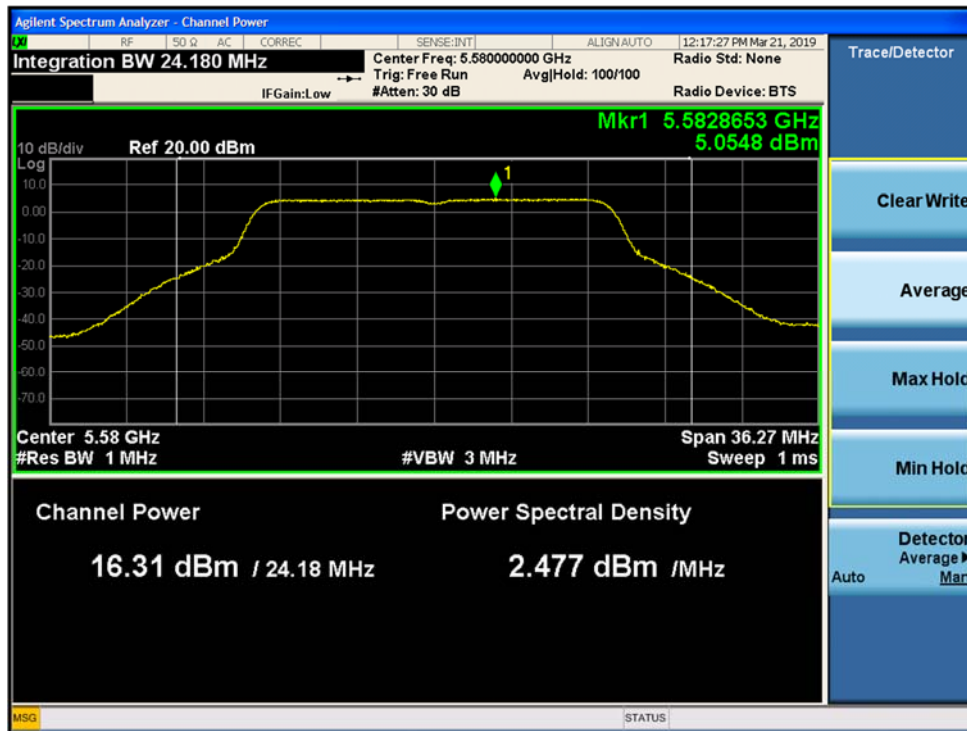


Figure 9-192. Maximum Conducted Output Power and PSD MIMO Chain B 802.11a (Ch. 116)

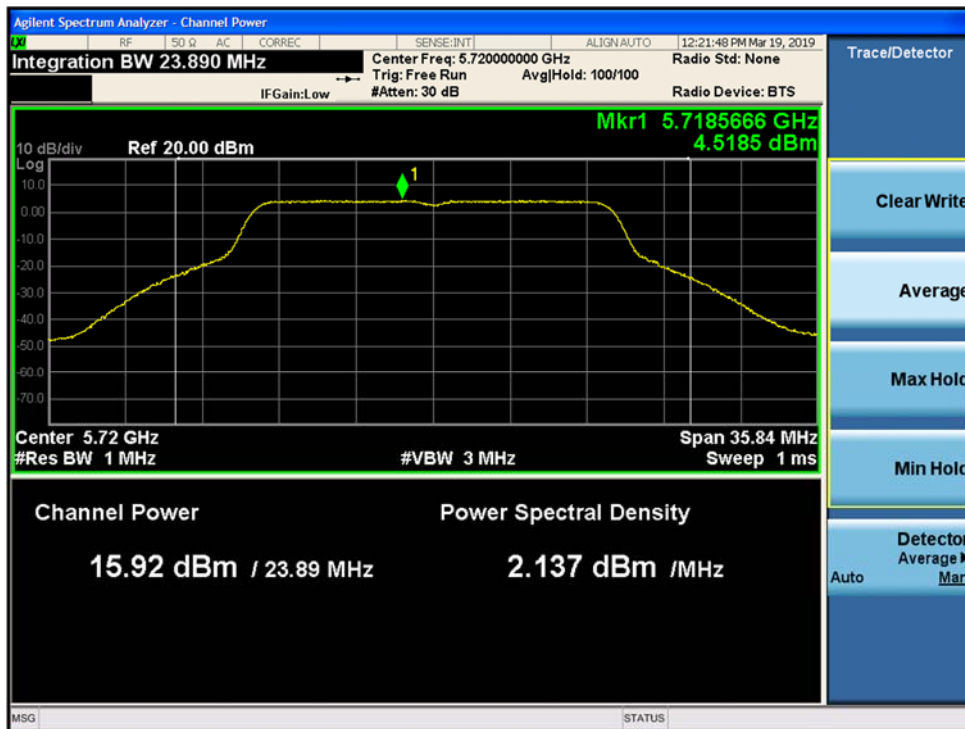


Figure 9-193. Maximum Conducted Output Power and PSD MIMO Chain A 802.11a (Ch. 144)

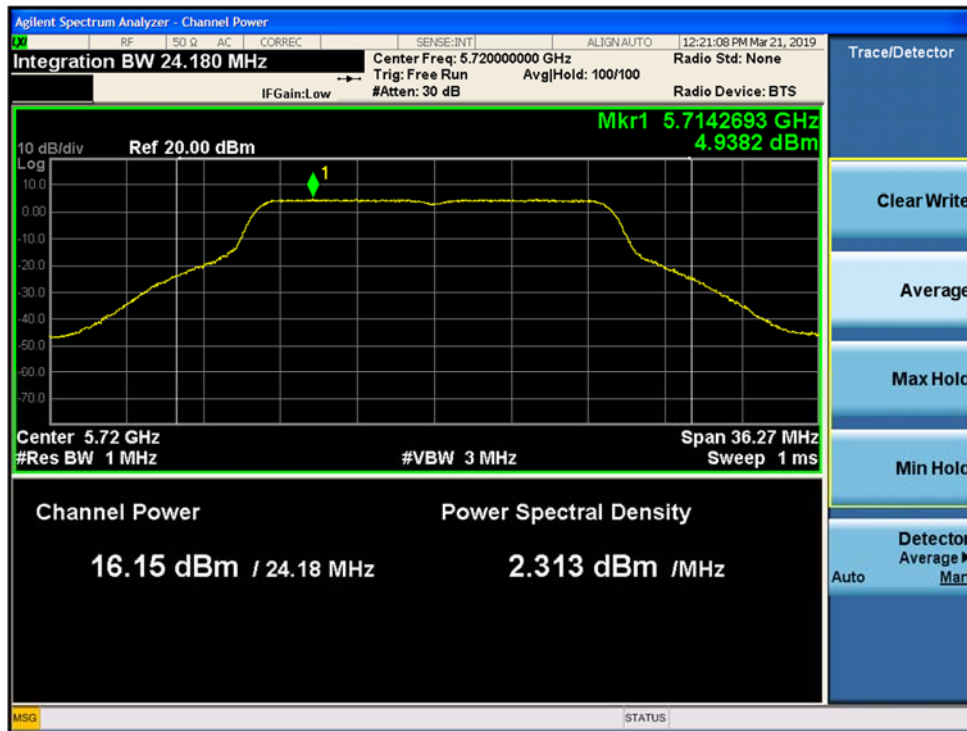


Figure 9-194. Maximum Conducted Output Power and PSD MIMO Chain B 802.11a (Ch. 144)

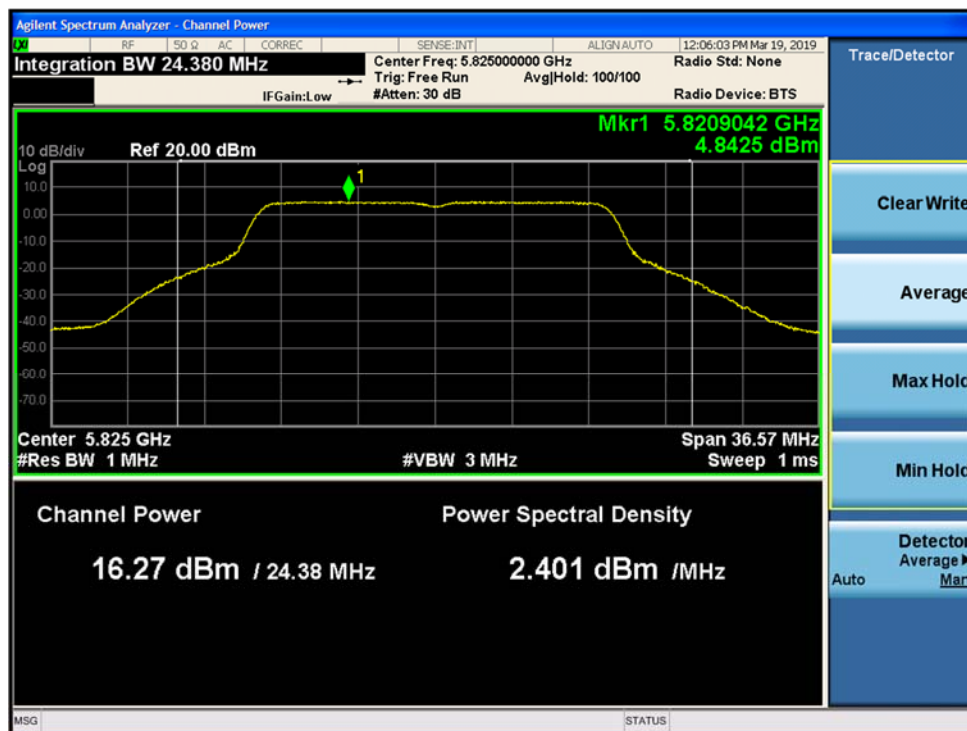


Figure 9-195. Maximum Conducted Output Power and PSD MIMO Chain A 802.11a (Ch. 165)

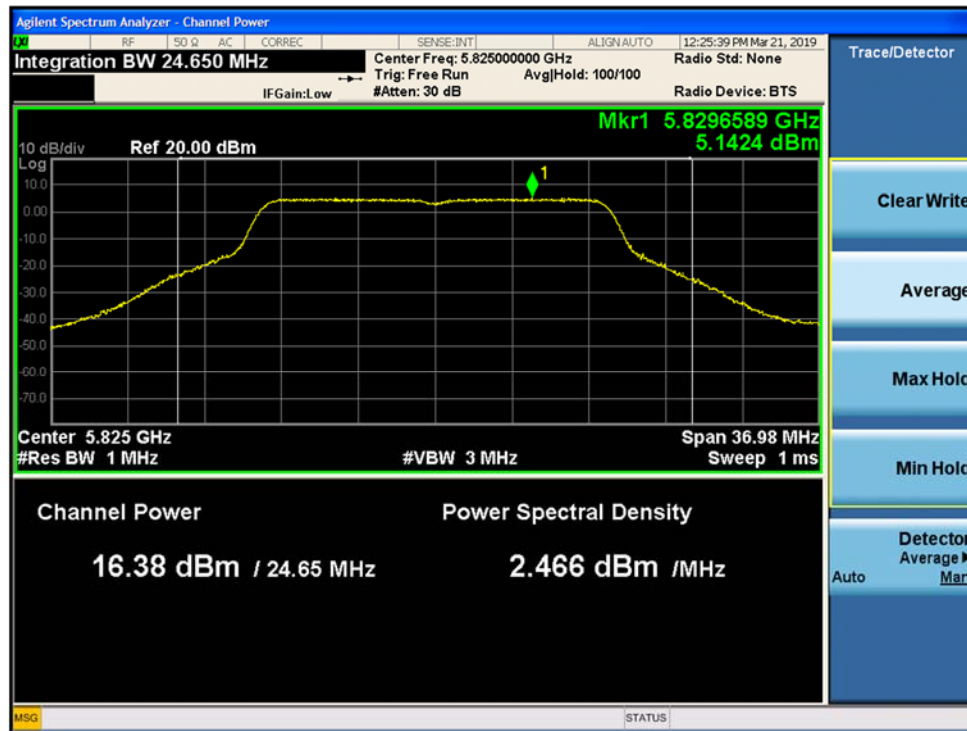


Figure 9-196. Maximum Conducted Output Power and PSD MIMO Chain B 802.11a (Ch. 165)

9.5.5.7 SISO Chain A 802.11n HT20 Maximum Conducted Output Power

SISO A 802.11n HT20 Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	14.94	--	14.94	24.00	--	-8.99	--
44	5220	14.98	--	14.98	24.00	--	-8.95	--
48	5240	14.8	--	14.8	24.00	--	-9.13	--
52	5260	15.6	--	15.6	24.00	23.55	-8.33	-7.87
60	5300	15.67	--	15.67	24.00	23.55	-8.26	-7.80
64	5320	15.62	--	15.62	24.00	23.54	-8.31	-7.85
100	5500	15.53	--	15.53	24.00	23.54	-8.40	-7.93
116	5580	15.92	--	15.92	24.00	23.54	-8.01	-7.54
140	5700	15.8	--	15.8	24.00	23.53	-8.13	-7.66
144	5720	15.94	--	15.94	23.25	22.46	-7.24	-6.44
149	5745	15.99	--	15.99	30.00	30.00	-13.94	-13.94
157	5785	16.03	--	16.03	30.00	30.00	-13.90	-13.90
165	5825	15.78	--	15.78	30.00	30.00	-14.15	-14.15

SISO Chain A 802.11n HT20 E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
36	5180	14.94	4.70	19.71	22.54	-2.82
44	5220	14.98	4.70	19.75	22.54	-2.79
48	5240	14.8	4.70	19.57	22.55	-2.97
52	5260	15.6	5.00	20.67	29.55	-8.87
60	5300	15.67	5.00	20.74	29.55	-8.80
64	5320	15.62	5.00	20.69	29.55	-8.85
100	5500	15.53	4.90	20.50	29.54	-9.04
116	5580	15.92	4.90	20.89	29.54	-8.64
140	5700	15.8	4.90	20.77	29.54	-8.76
144	5720	15.94	4.90	20.91	29.53	-8.62
149	5745	15.99	4.30	20.36	--	--
157	5785	16.03	4.30	20.40	--	--
165	5825	15.78	4.30	20.15	--	--

9.5.5.8 SISO Chain A 802.11n HT20 Maximum Power Spectral Density

UNII-1 Chain A 802.11n HT20 Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $\left(\frac{dBm}{MHz}\right)$	Total Ant. Gain (dBi)	Total EIRP PSD $\left(\frac{dBm}{MHz}\right)$	15.407 Limit $\left(\frac{dBm}{MHz}\right)$	RSS-247 EIRP PSD Limit $\left(\frac{dBm}{MHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	3.45	--	3.53	4.70	8.23	11.00	10.00	-7.47	-1.77
44	5220	3.69	--	3.76	4.70	8.46	11.00	10.00	-7.24	-1.54
48	5240	3.26	--	3.34	4.70	8.04	11.00	10.00	-7.66	-1.96

UNII-2A and UNII-2C Chain A 802.11n HT20 Maximum Power Spectral Density/MHz								
Channel No.	Frequency (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $\frac{dBm}{MHz}$	15.407 Limit $\frac{dBm}{MHz}$	RSS-247 Limit $\frac{dBm}{MHz}$	15.407 Margin (dB)	RSS-247 Margin (dB)
52	5260	4.17	--	4.25	11.00	11.00	-6.75	-6.75
60	5300	4.27	--	4.34	11.00	11.00	-6.66	-6.66
64	5320	4.07	--	4.15	11.00	11.00	-6.85	-6.85
100	5500	3.84	--	3.91	11.00	11.00	-7.09	-7.09
116	5580	4.67	--	4.75	11.00	11.00	-6.25	-6.25
140	5700	4.44	--	4.51	11.00	11.00	-6.49	-6.49
144	5720	4.50	--	4.57	11.00	11.00	-6.43	-6.43

UNII-3 Chain A 802.11n HT20 Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $\left(\frac{dBm}{500 kHz}\right)$	15.407 Limit $\left(\frac{dBm}{500 kHz}\right)$	RSS-247 Limit $\left(\frac{dBm}{500 kHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
149	5745	2.92	--	2.99	30.00	30.00	-27.01	-27.01
157	5785	2.84	--	2.92	30.00	30.00	-27.08	-27.08
165	5825	2.42	--	2.50	30.00	30.00	-27.50	-27.50
144	5720	2.14	--	2.21	30.00	30.00	-8.79	-8.79

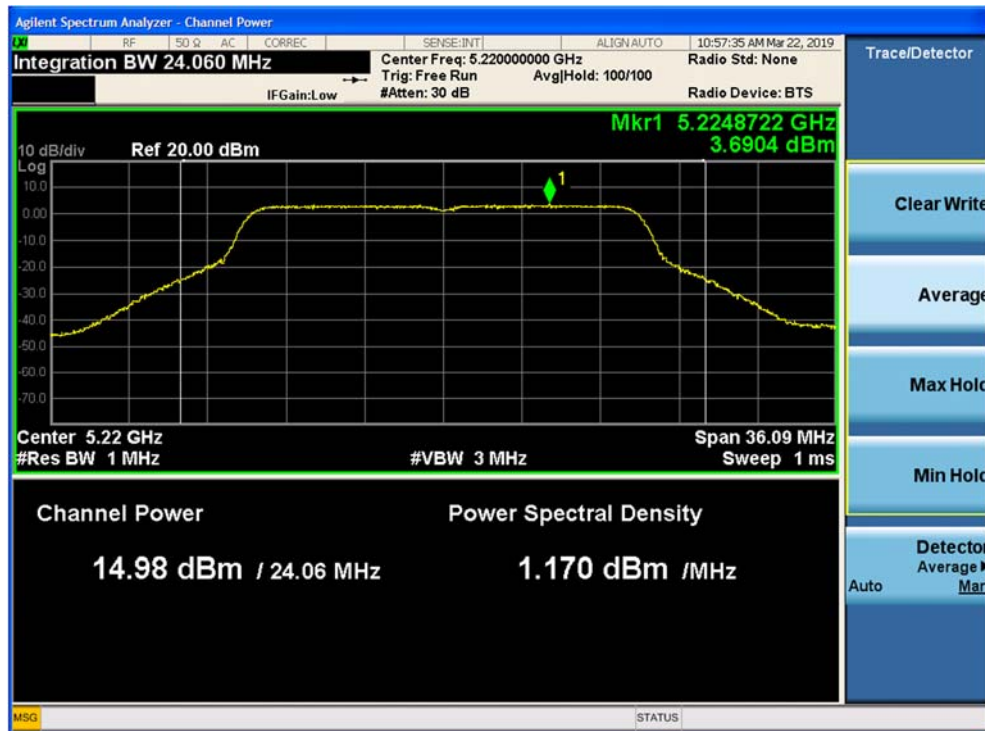


Figure 9-197. Maximum Conducted Output Power and PSD SISO Chain A 802.11n (Ch. 44)

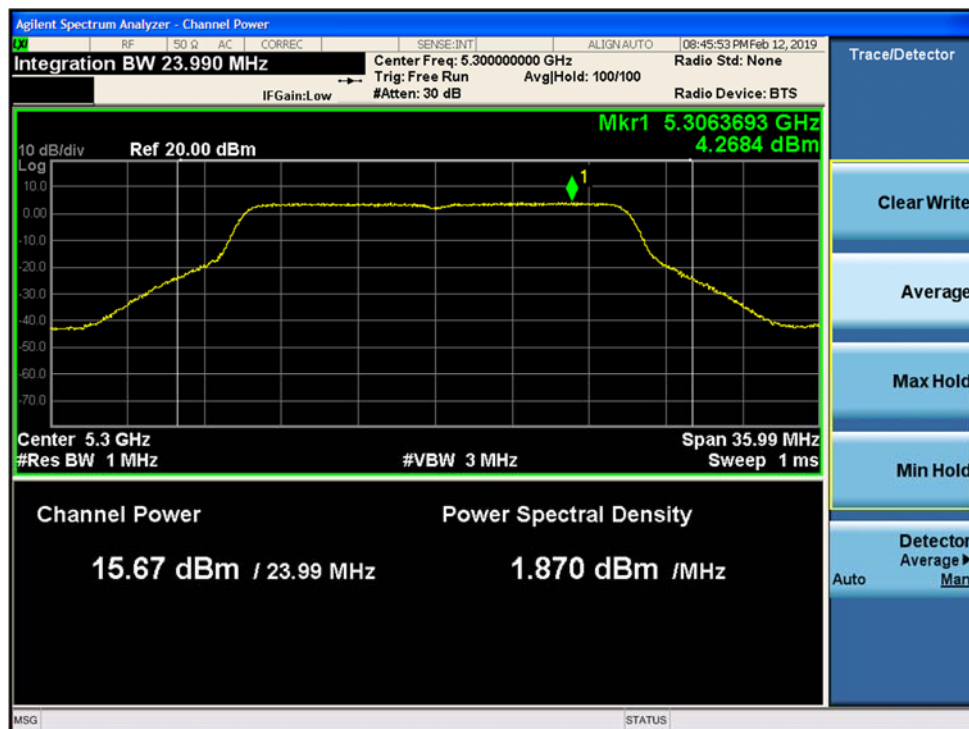


Figure 9-198. Maximum Conducted Output Power and PSD SISO Chain A 802.11n (Ch. 60)

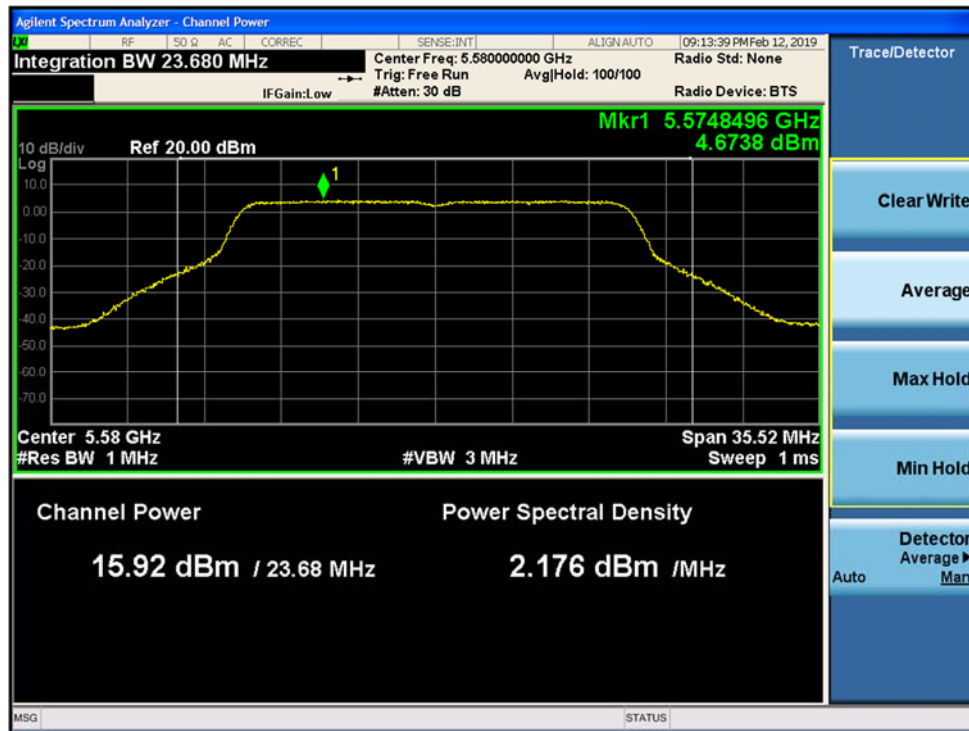


Figure 9-199. Maximum Conducted Output Power and PSD SISO Chain A 802.11n (Ch. 116)

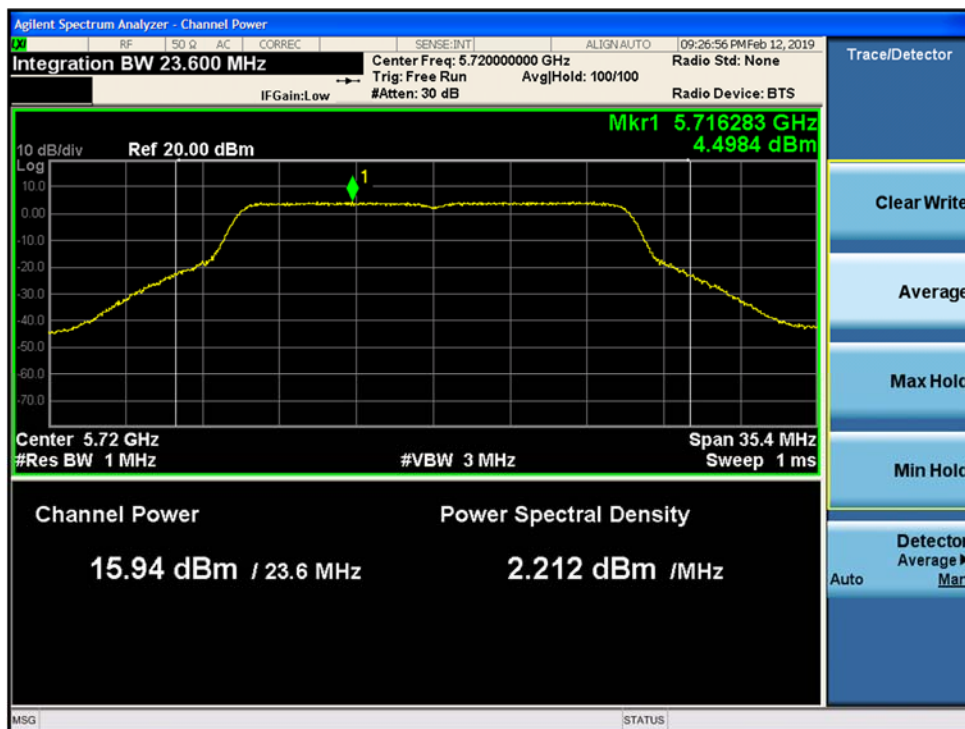


Figure 9-200. Maximum Conducted Output Power and PSD SISO Chain A 802.11n (Ch. 144)

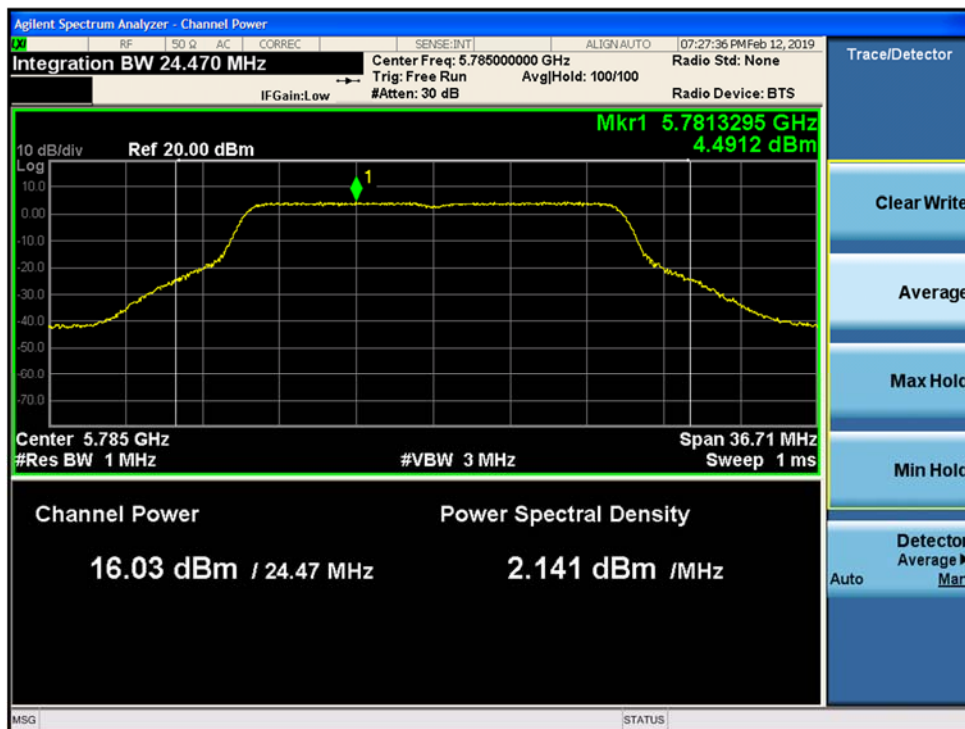


Figure 9-201. Maximum Conducted Output Power and PSD SISO Chain A 802.11n (Ch. 157)

9.5.5.9 SISO Chain B 802.11n HT20 Maximum Conducted Output Power

SISO B 802.11n HT20 Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	--	14.87	14.95	24.00	--	-9.05	--
44	5220	--	14.83	14.91	24.00	--	-9.09	--
48	5240	--	14.91	14.99	24.00	--	-9.01	--
52	5260	--	15.76	15.84	24.00	23.54	-8.16	-7.70
60	5300	--	15.77	15.85	24.00	23.54	-8.15	-7.69
64	5320	--	15.80	15.88	24.00	23.54	-8.12	-7.66
100	5500	--	16.28	16.36	24.00	23.54	-7.64	-7.17
116	5580	--	16.23	16.31	24.00	23.54	-7.69	-7.22
140	5700	--	16.05	16.13	24.00	23.53	-7.87	-7.40
144	5720	--	16.23	16.31	23.39	22.45	-7.08	-6.14
149	5745	--	16.25	16.33	30.00	30.00	-13.67	-13.67
157	5785	--	15.96	16.04	30.00	30.00	-13.96	-13.96
165	5825	--	16.16	16.24	30.00	30.00	-13.76	-13.76

SISO B Chain A 802.11n HT20 E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
36	5180	14.95	4.20	19.15	22.55	-3.39
44	5220	14.91	4.20	19.11	22.54	-3.43
48	5240	14.99	4.20	19.19	22.53	-3.34
52	5260	15.84	4.70	20.54	29.54	-9.00
60	5300	15.85	4.70	20.55	29.54	-8.99
64	5320	15.88	4.70	20.58	29.54	-8.96
100	5500	16.36	4.50	20.86	29.54	-8.68
116	5580	16.31	4.50	20.81	29.54	-8.72
140	5700	16.13	4.50	20.63	29.54	-8.90
144	5720	16.31	4.50	20.81	29.53	-8.72
149	5745	16.33	3.60	19.93	--	--
157	5785	16.04	3.60	19.64	--	--
165	5825	16.24	3.60	19.84	--	--

9.5.5.10 SISO Chain B 802.11n HT20 Maximum Power Spectral Density

UNII-1 Chain B 802.11n HT20 Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $\left(\frac{dBm}{MHz}\right)$	Total Ant. Gain (dBi)	Total EIRP PSD $\left(\frac{dBm}{MHz}\right)$	15.407 Limit $\left(\frac{dBm}{MHz}\right)$	RSS-247 EIRP PSD Limit $\left(\frac{dBm}{MHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	--	3.41	3.49	4.20	7.69	11.00	10.00	-7.51	-2.31
44	5220	--	3.39	3.47	4.20	7.67	11.00	10.00	-7.53	-2.33
48	5240	--	3.30	3.38	4.20	7.58	11.00	10.00	-7.62	-2.42

UNII-2A and UNII-2C Chain B 802.11n HT20 Maximum Power Spectral Density/MHz								
Channel No.	Frequency (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $\left(\frac{dBm}{MHz}\right)$	15.407 Limit $\left(\frac{dBm}{MHz}\right)$	RSS-247 Limit $\left(\frac{dBm}{MHz}\right)$	15.407 Margin (dB)	RSS-247 Margin (dB)
52	5260	--	4.50	4.70	11.00	11.00	-6.50	-6.50
60	5300	--	4.67	4.70	11.00	11.00	-6.33	-6.33
64	5320	--	4.57	4.70	11.00	11.00	-6.43	-6.43
100	5500	--	4.75	4.50	11.00	11.00	-6.25	-6.25
116	5580	--	4.65	4.50	11.00	11.00	-6.35	-6.35
140	5700	--	4.42	4.50	11.00	11.00	-6.58	-6.58
144	5720	--	4.78	4.50	11.00	11.00	-6.22	-6.22

UNII-3 Chain B 802.11n HT20 Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD ($\frac{dBm}{500\text{ kHz}}$)	15.407 Limit ($\frac{dBm}{500\text{ kHz}}$)	RSS-247 Limit ($\frac{dBm}{500\text{ kHz}}$)	15.407 Margin (dB)	RSS-247 Margin (dB)
149	5745	--	2.73	2.81	30.00	30.00	-27.19	-27.19
157	5785	--	2.85	2.93	30.00	30.00	-27.07	-27.07
165	5825	--	2.77	2.85	30.00	30.00	-27.15	-27.15
144	5720	--	2.29	2.29	30.00	30.00	-8.63	-8.63

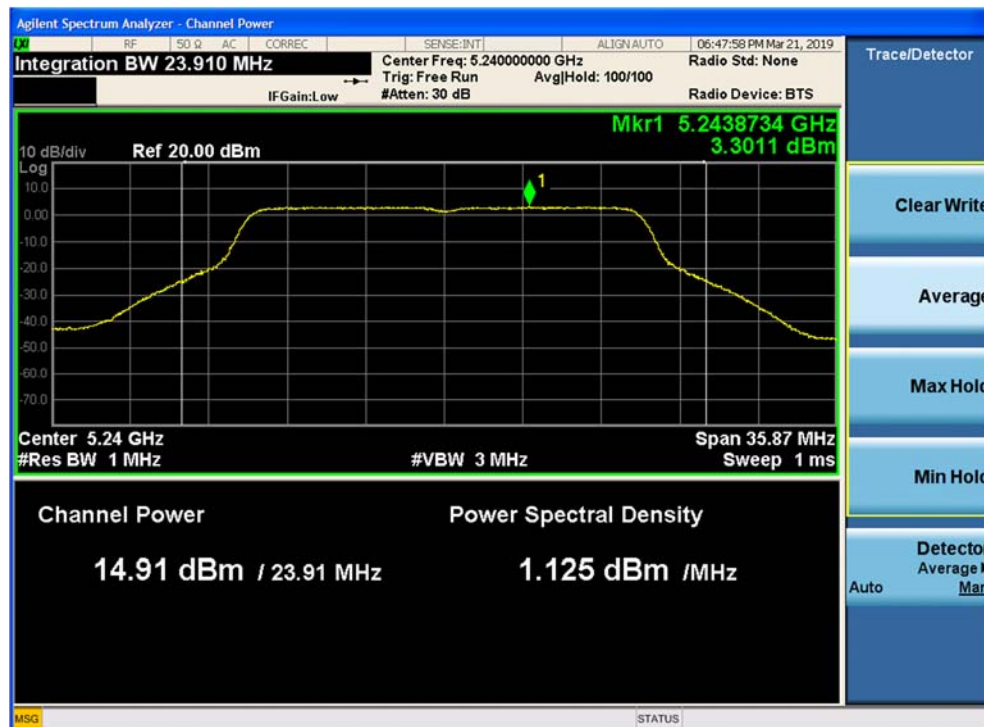


Figure 9-202. Maximum Conducted Output Power and PSD SISO Chain B 802.11n (Ch. 48)

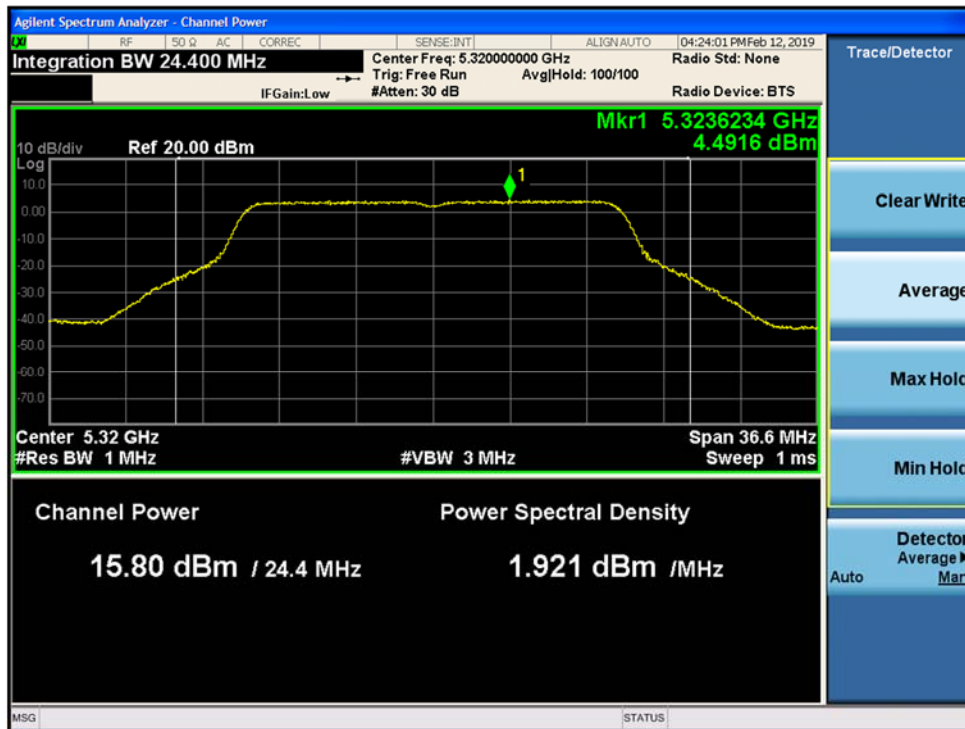


Figure 9-203. Maximum Conducted Output Power and PSD SISO Chain B 802.11n (Ch. 64)

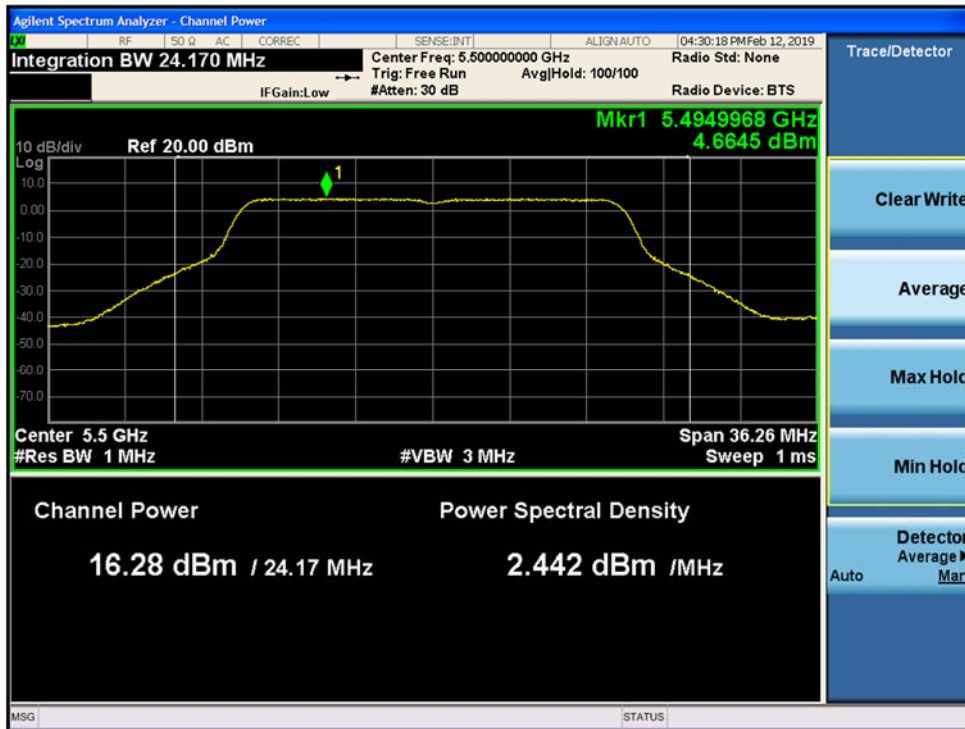


Figure 9-204. Maximum Conducted Output Power and PSD SISO Chain B 802.11n (Ch. 100)

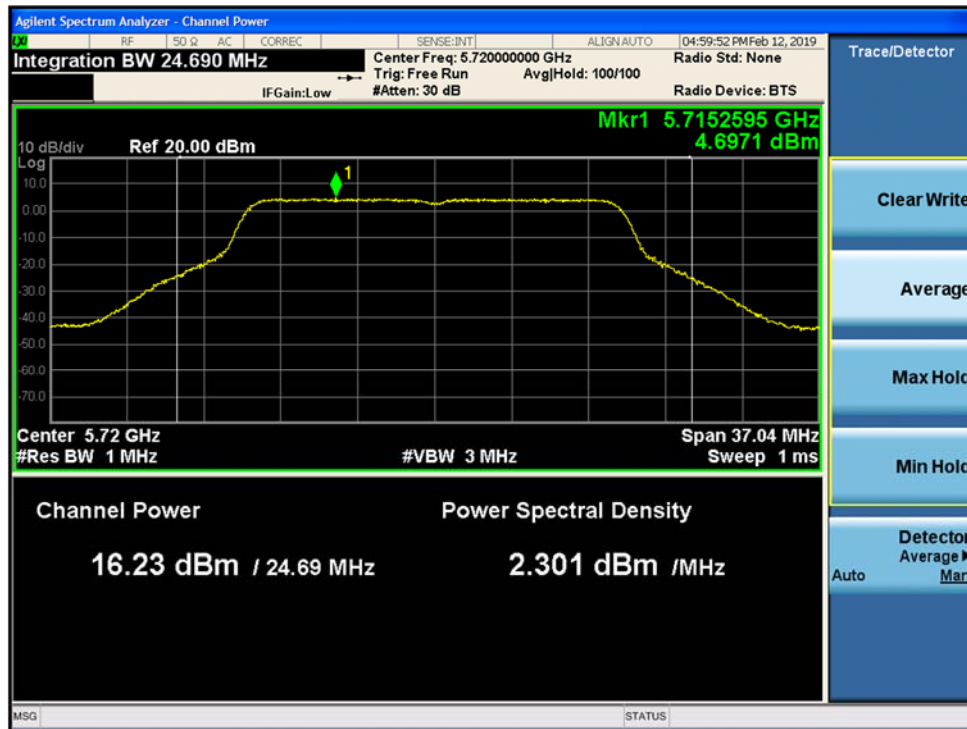


Figure 9-205. Maximum Conducted Output Power and PSD SISO Chain B 802.11n (Ch. 144)

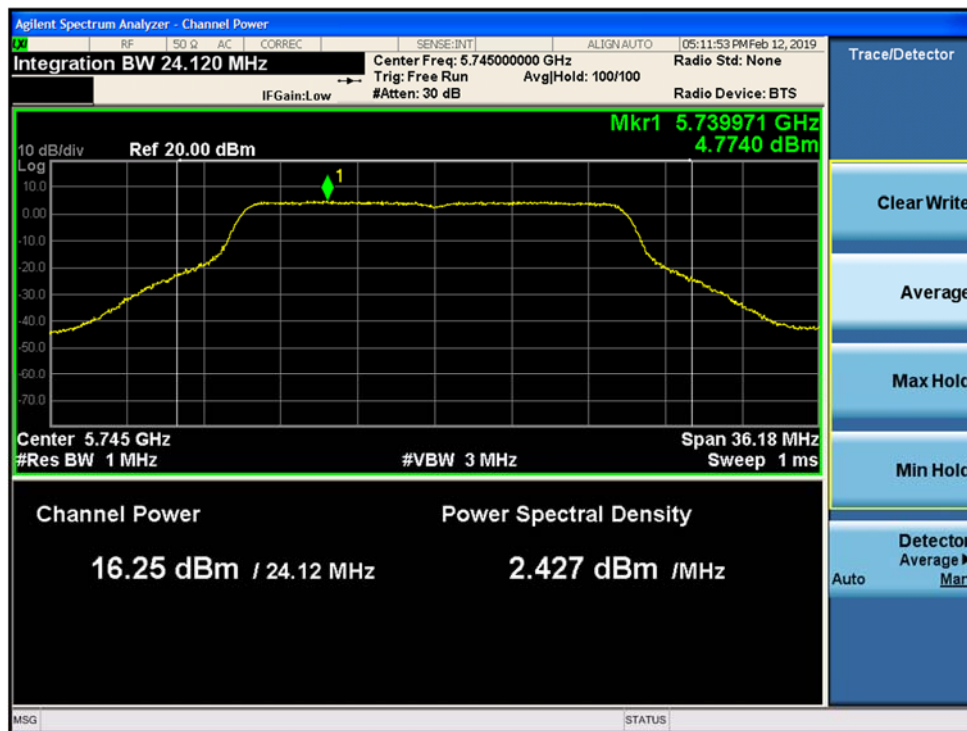


Figure 9-206. Maximum Conducted Output Power and PSD SISO Chain B 802.11n (Ch. 149)

9.5.5.11 MIMO Chain A+B 802.11n HT20 Maximum Conducted Output Power

Chain A+B 802.11n HT20 Maximum Conducted Output Power								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total Power (dBm)	15.407 Limit (dBm)	RSS-247 Limit (dBm)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	8.70	8.81	11.96	24.00	--	-12.04	--
44	5220	8.81	8.57	11.89	24.00	--	-12.11	--
48	5240	8.74	8.71	11.93	24.00	--	-12.07	--
52	5260	15.26	15.68	18.68	24.00	23.52	-5.32	-4.85
60	5300	15.56	15.72	18.84	24.00	23.53	-5.16	-4.68
64	5320	15.54	15.66	18.80	24.00	23.52	-5.20	-4.72
100	5500	15.51	16.23	19.09	24.00	23.52	-4.91	-4.43
116	5580	16.11	16.16	19.34	24.00	23.52	-4.66	-4.19
140	5700	15.76	15.98	19.07	24.00	23.52	-4.93	-4.44
144	5720	15.87	16.20	19.24	23.33	22.44	-4.09	-3.20
149	5745	15.99	16.09	19.24	30.00	30.00	-10.76	-10.76
157	5785	15.98	16.05	19.22	30.00	30.00	-10.78	-10.78
165	5825	15.77	16.00	19.09	30.00	30.00	-10.91	-10.91

Chain A+B 802.11n HT20 E.I.R.P						
Channel No.	Frequency (MHz)	Total Power (dBm)	Antenna Gain (dBi)	E.I.R.P (dBm)	RSS-247 E.I.R.P Limit (dBm)	RSS-247 E.I.R.P. Margin (dB)
36	5180	11.96	4.46	16.41	22.53	-6.12
44	5220	11.89	4.46	16.35	22.52	-6.17
48	5240	11.93	4.46	16.38	22.53	-6.14
52	5260	18.68	4.85	23.53	29.52	-5.99
60	5300	18.84	4.85	23.70	29.52	-5.83
64	5320	18.80	4.85	23.65	29.53	-5.87
100	5500	19.09	4.70	23.79	29.52	-5.73
116	5580	19.34	4.70	24.04	29.52	-5.48
140	5700	19.07	4.70	23.78	29.52	-5.75
144	5720	19.24	4.70	23.94	29.52	-5.57
149	5745	19.24	3.96	23.21	--	--
157	5785	19.22	3.96	23.18	--	--
165	5825	19.09	3.96	23.05	--	--

9.5.5.12 Chain A+B 802.11n HT20 Maximum Power Spectral Density

UNII-1 Chain A+B 802.11n HT20 Maximum Power Spectral Density/MHz										
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD ($\frac{dBm}{MHz}$)	Total Ant. Gain (dBi)	Total EIRP PSD ($\frac{dBm}{MHz}$)	15.407 Limit ($\frac{dBm}{MHz}$)	RSS-247 EIRP PSD Limit ($\frac{dBm}{MHz}$)	15.407 Margin (dB)	RSS-247 Margin (dB)
36	5180	-2.66	-2.69	0.52	4.46	4.98	11.00	10.00	-10.48	-5.02
44	5220	-2.79	-2.82	0.40	4.46	4.85	11.00	10.00	-10.60	-5.15
48	5240	-2.58	-2.76	0.53	4.46	4.99	11.00	10.00	-10.47	-5.01

UNII-2A and UNII-2C Chain A+B 802.11n HT20 Maximum Power Spectral Density/MHz								
Channel No.	Frequency (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD $(\frac{dBm}{MHz})$	15.407 Limit $(\frac{dBm}{MHz})$	RSS-247 Limit $(\frac{dBm}{MHz})$	15.407 Margin (dB)	RSS-247 Margin (dB)
52	5260	3.85	4.42	7.35	11.00	11.00	-3.65	-3.65
60	5300	4.01	4.56	7.49	11.00	11.00	-3.51	-3.51
64	5320	3.94	4.20	7.27	11.00	11.00	-3.73	-3.73
100	5500	4.03	4.78	7.63	11.00	11.00	-3.37	-3.37
116	5580	4.54	4.64	7.79	11.00	11.00	-3.21	-3.21
140	5700	4.26	4.74	7.71	11.00	11.00	-3.29	-3.29
144	5720	4.34	4.76	7.75	11.00	11.00	-3.25	-3.25

UNII-3 Chain A+B 802.11n HT20 Maximum Power Spectral Density/500kHz								
Chan. No.	Freq. (MHz)	Chain A (dBm)	Chain B (dBm)	Total PSD ($\frac{dBm}{500 kHz}$)	15.407 Limit ($\frac{dBm}{500 kHz}$)	RSS-247 Limit ($\frac{dBm}{500 kHz}$)	15.407 Margin (dB)	RSS-247 Margin (dB)
149	5745	2.73	2.90	6.02	30	30	-23.98	-23.98
157	5785	2.98	2.98	5.96	30	30	-24.04	-24.04
165	5825	3.17	3.17	5.96	30	30	-24.04	-24.04
144	5720	--	1.92	1.92	30.00	30.00	-5.65	-5.65

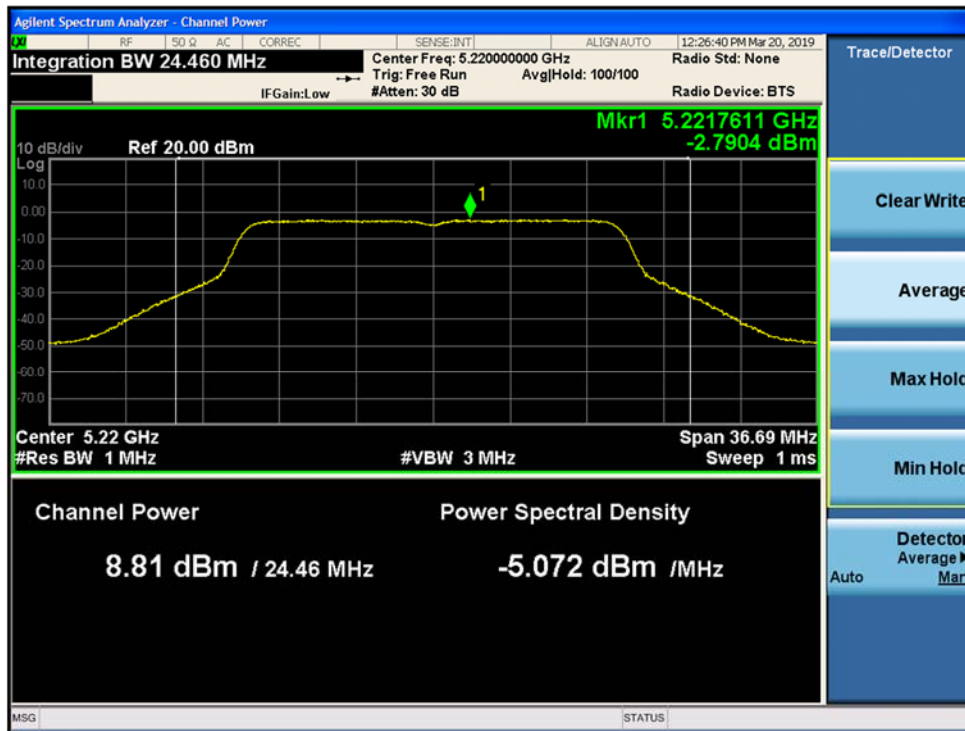


Figure 9-207. Maximum Conducted Output Power and PSD MIMO Chain A 802.11n HT20 (Ch. 44)

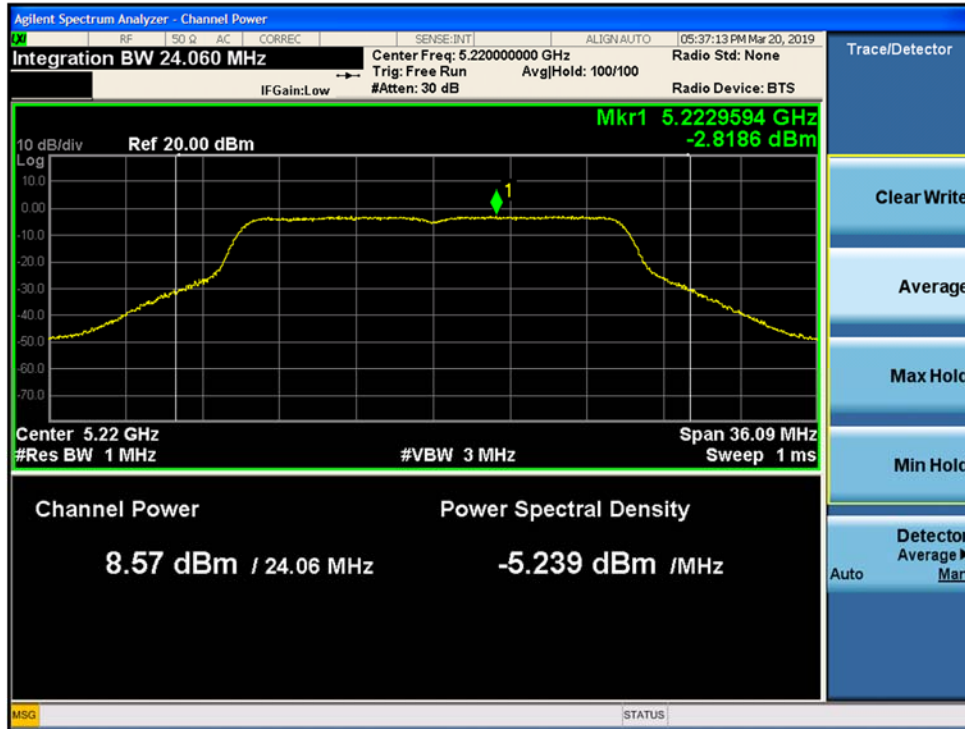


Figure 9-208. Maximum Conducted Output Power and PSD MIMO Chain B 802.11n HT20 (Ch. 44)