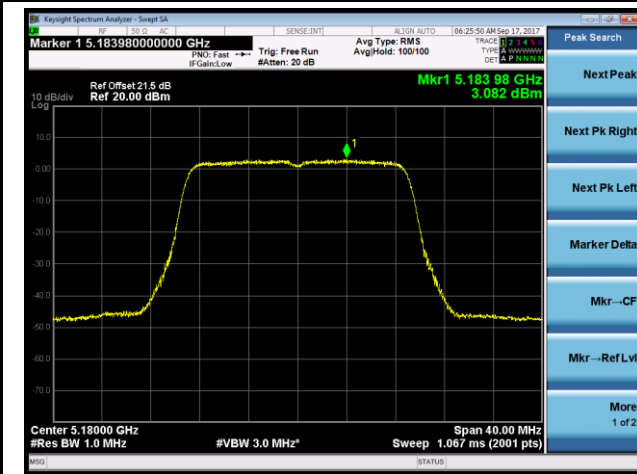
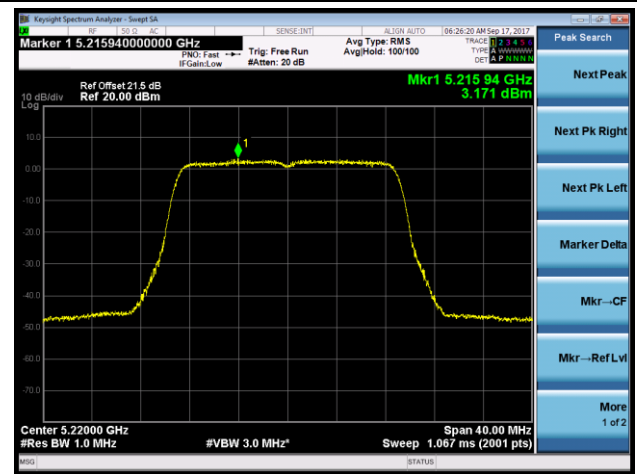


802.11n-HT20 Power Spectral Density- Ant 2 / Ant 1 + 2 (CDD Mode)

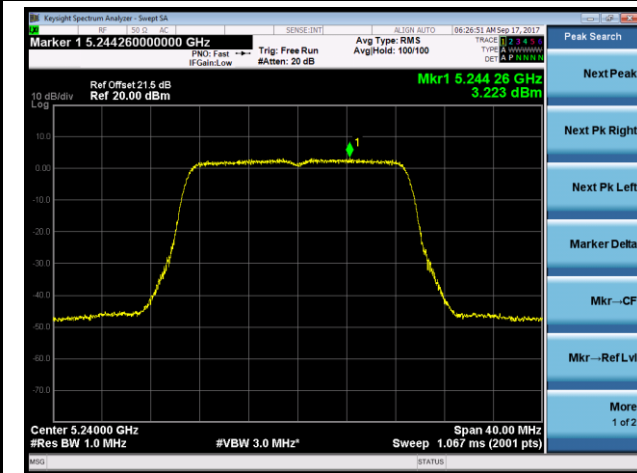
Channel 36 (5180MHz)



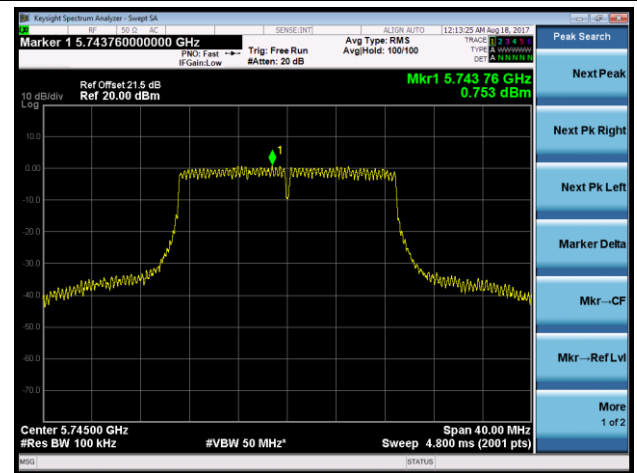
Channel 44 (5220MHz)



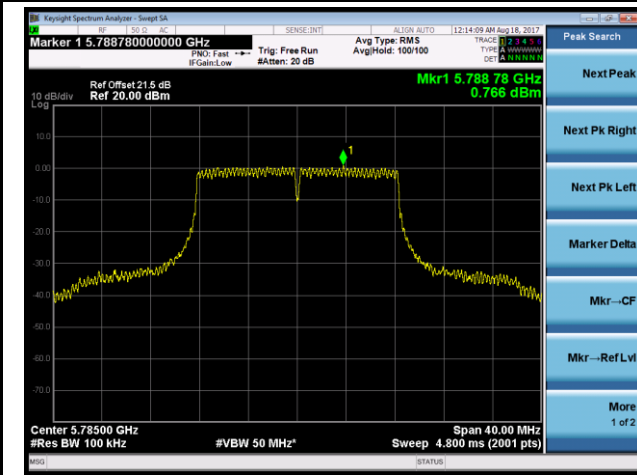
Channel 48 (5240MHz)



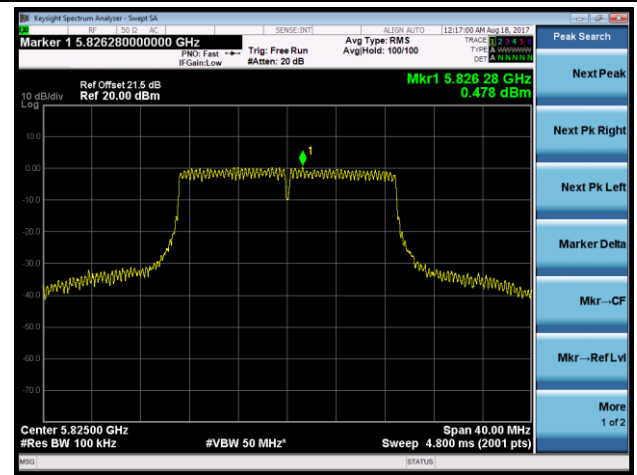
Channel 149 (5745MHz)



Channel 157 (5785MHz)

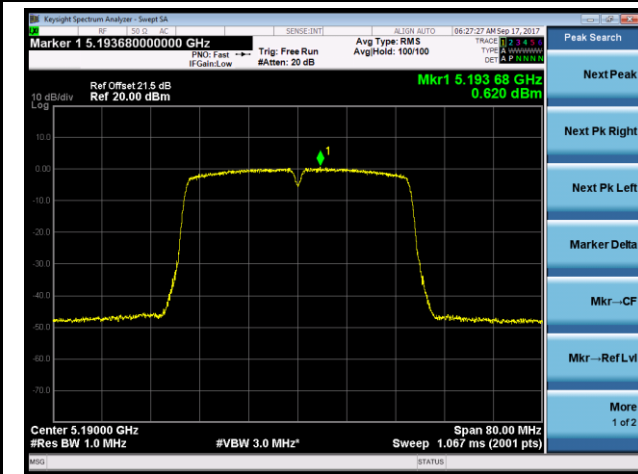


Channel 165 (5825MHz)

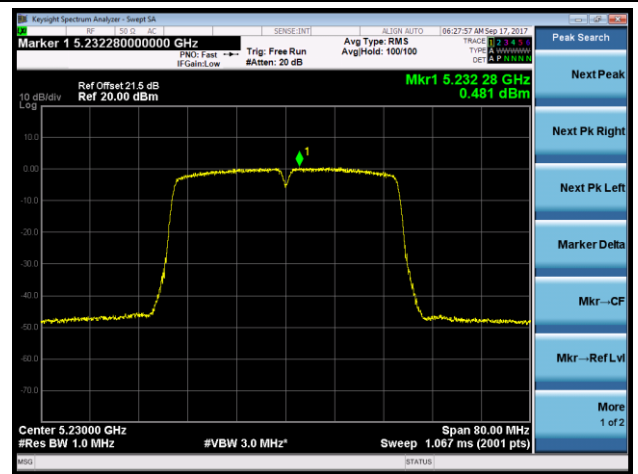


802.11n-HT40 Power Spectral Density- Ant 2 / Ant 1 + 2 (CDD Mode)

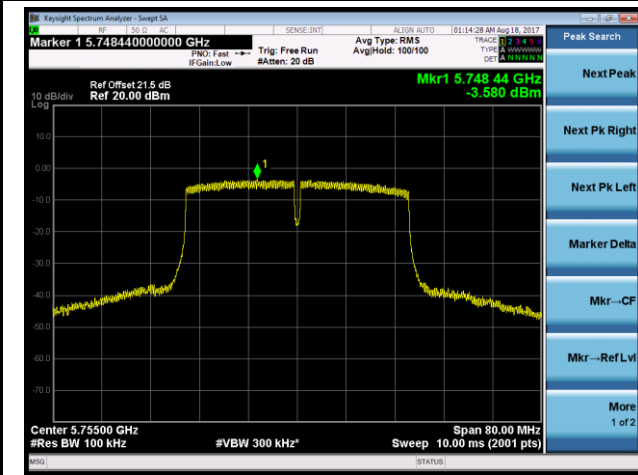
Channel 38 (5190MHz)



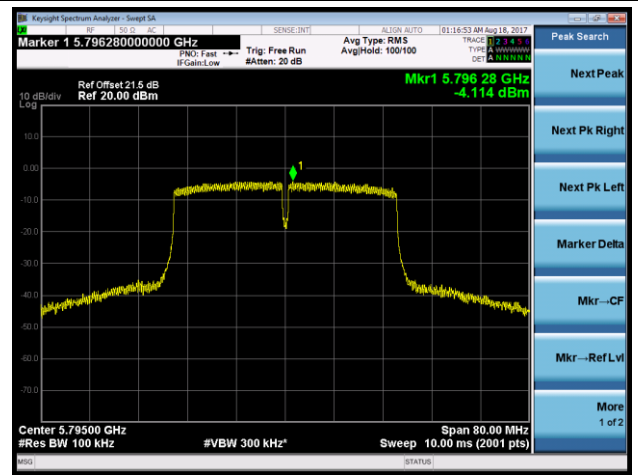
Channel 46 (5230MHz)

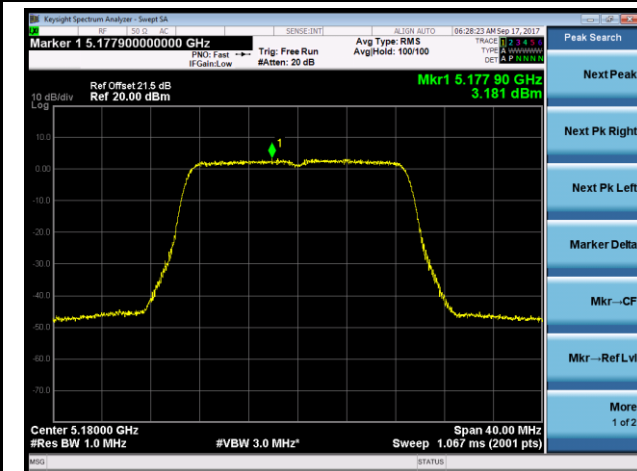
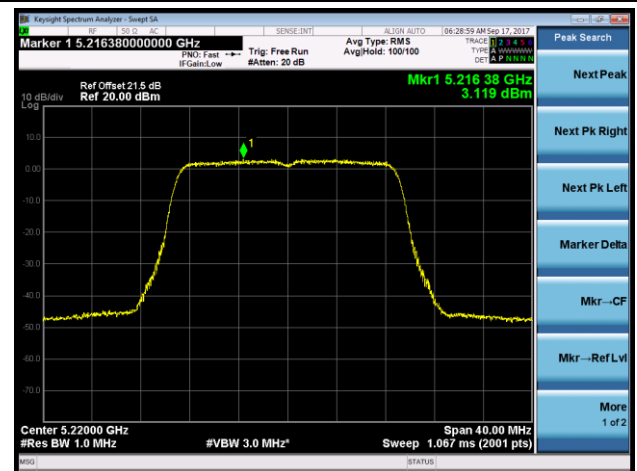
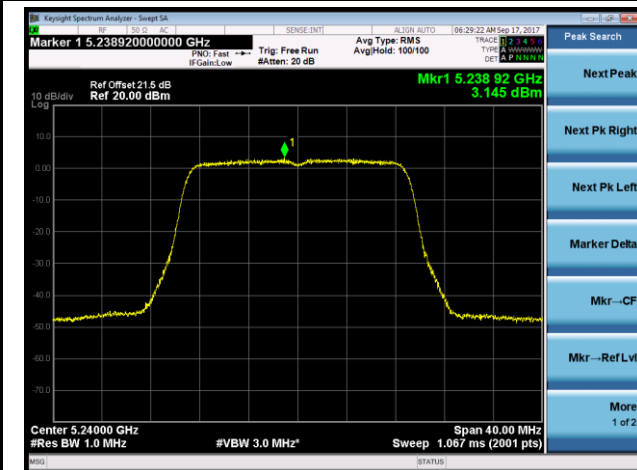
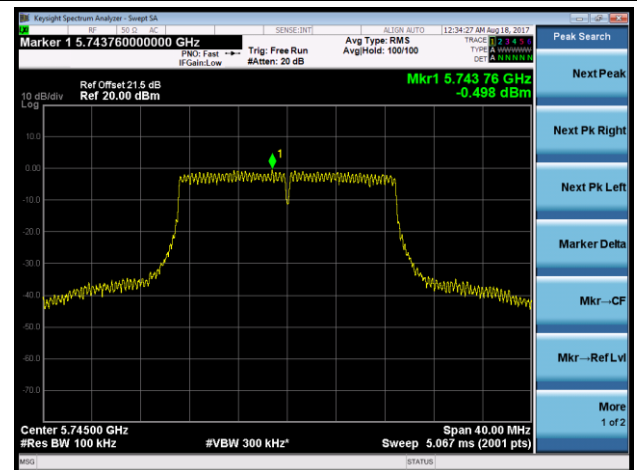
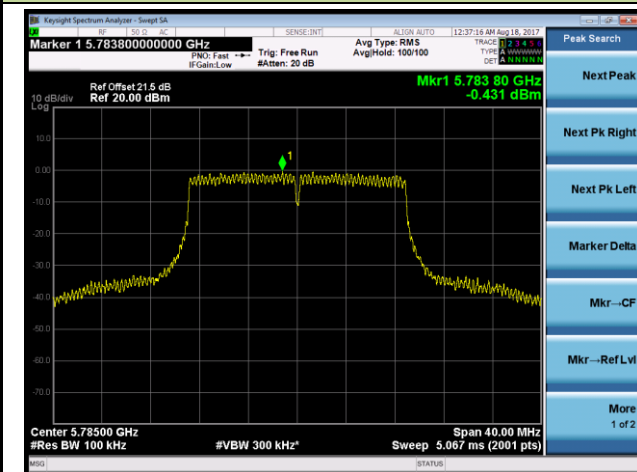
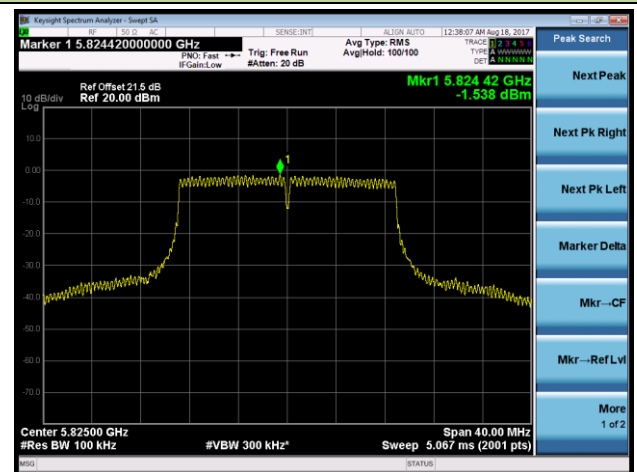


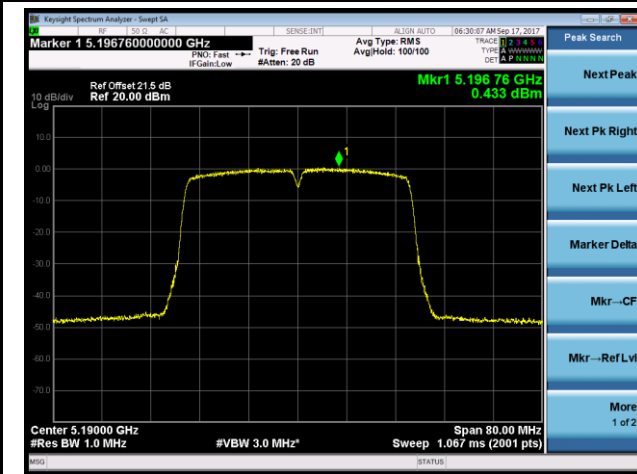
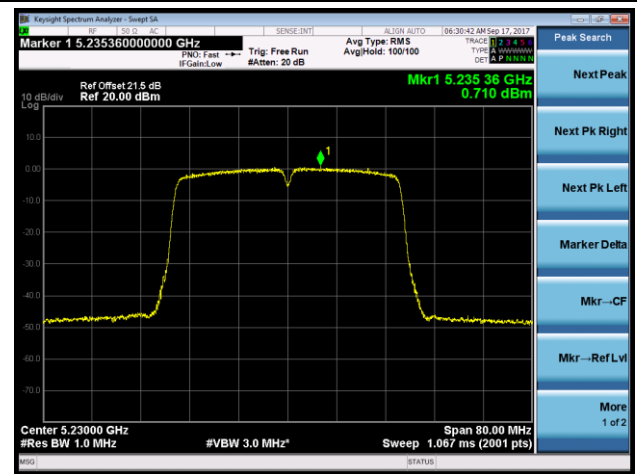
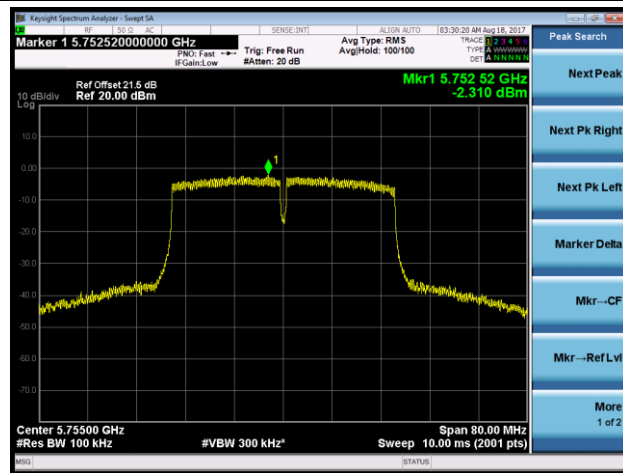
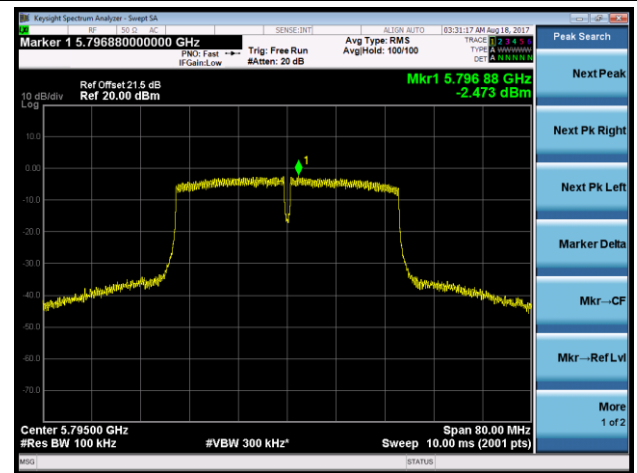
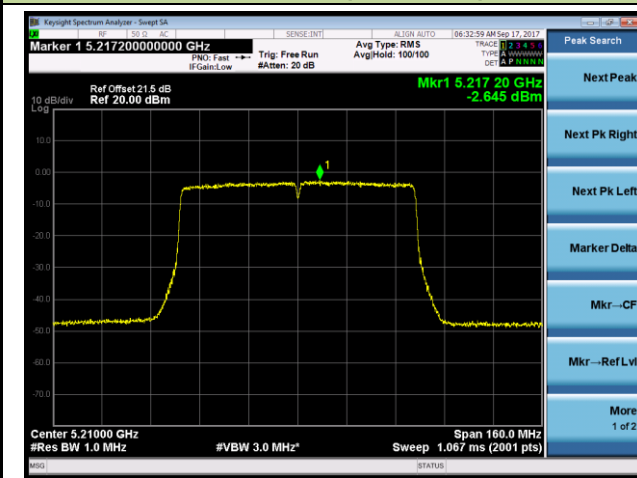
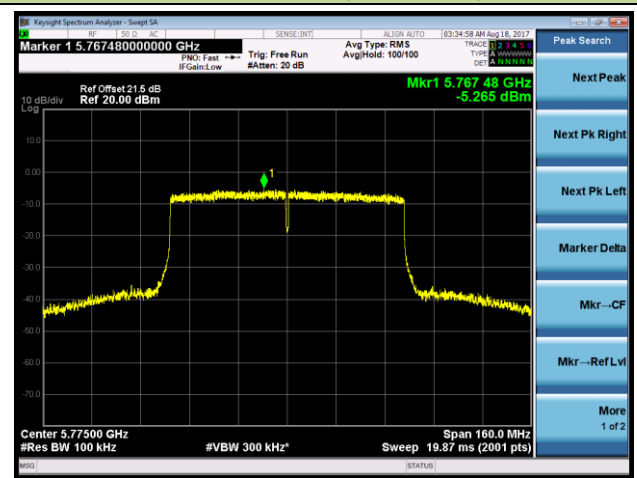
Channel 151 (5755MHz)

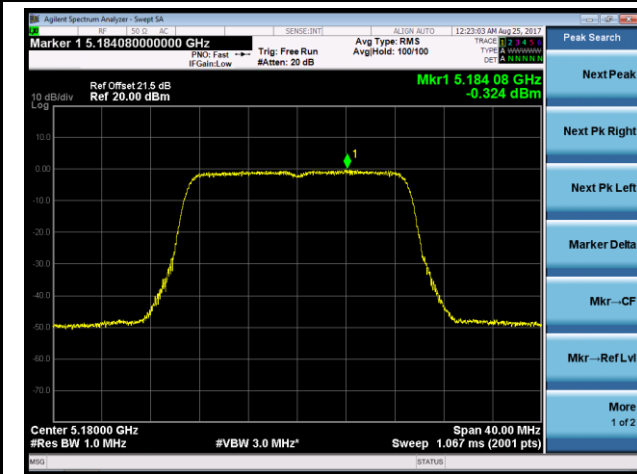
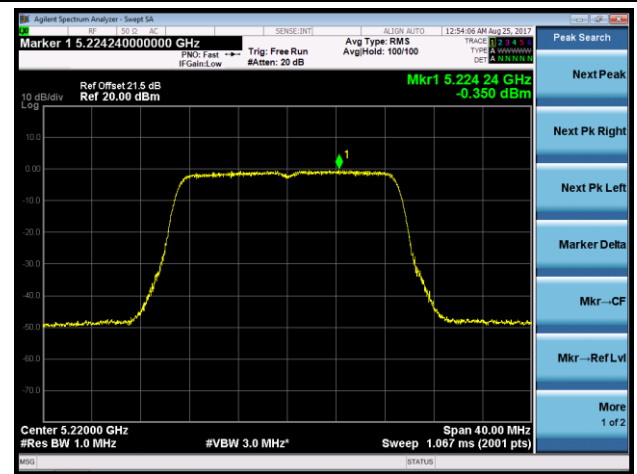
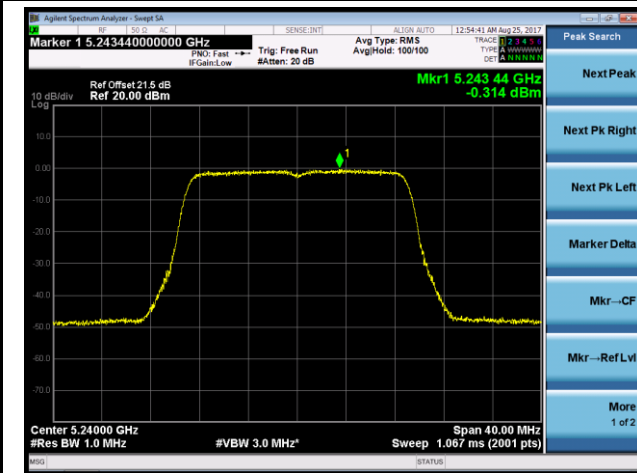
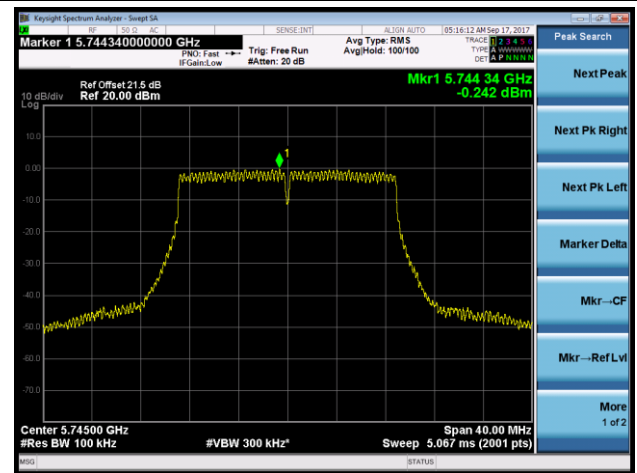
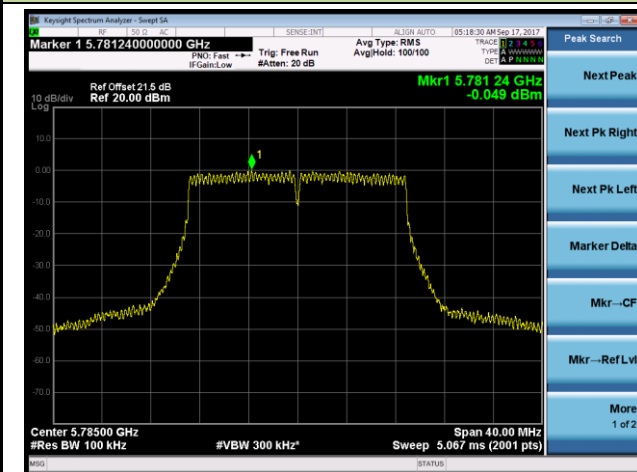
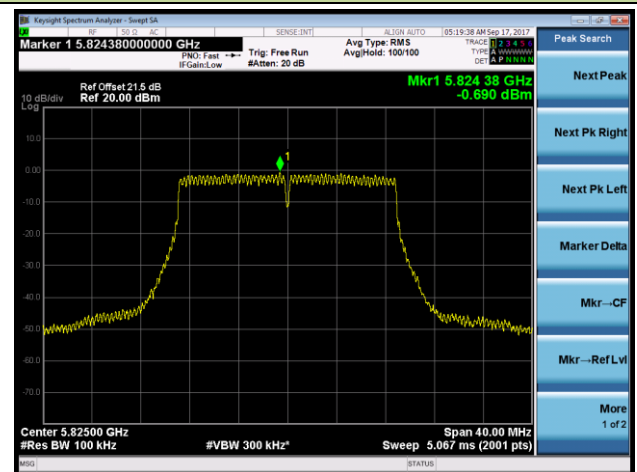


Channel 159 (5795MHz)



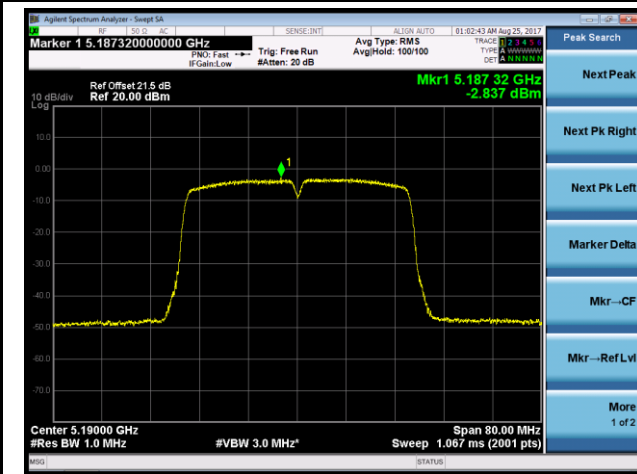
802.11ac-VHT20 Power Spectral Density- Ant 2 / Ant 1 + 2 (CDD Mode)
Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (5825MHz)


802.11ac-VHT40 Power Spectral Density - Ant 2 / Ant 1 + 2 (CDD Mode)
Channel 38 (5190MHz)

Channel 46 (5230MHz)

Channel 151 (5755MHz)

Channel 159 (5795MHz)

802.11ac-VHT80 Power Spectral Density - Ant 2 / Ant 1 + 2 (CDD Mode)
Channel 42 (5210MHz)

Channel 155 (5775MHz)


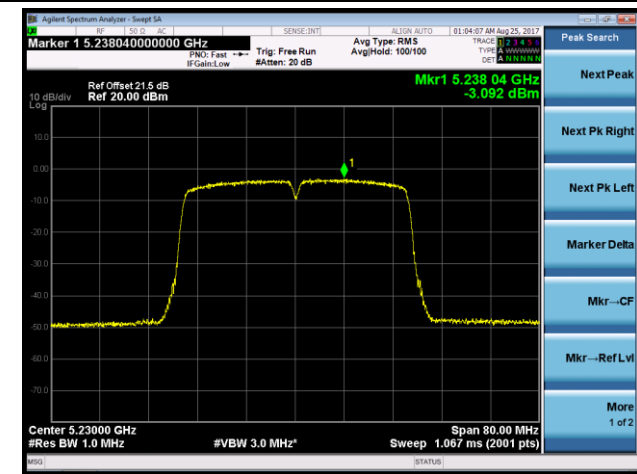
802.11n-HT20 Power Spectral Density - Ant 1 / Ant 1 + 2 (Beam-Forming Mode)
Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (5825MHz)


802.11n-HT40 Power Spectral Density - Ant 1 / Ant 1 + 2 (Beam-Forming Mode)

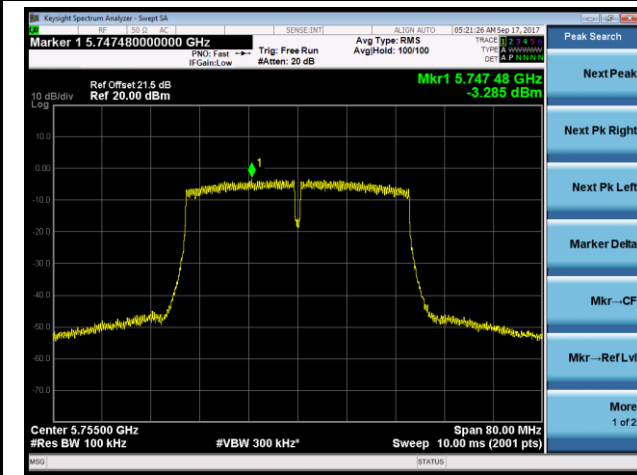
Channel 38 (5190MHz)



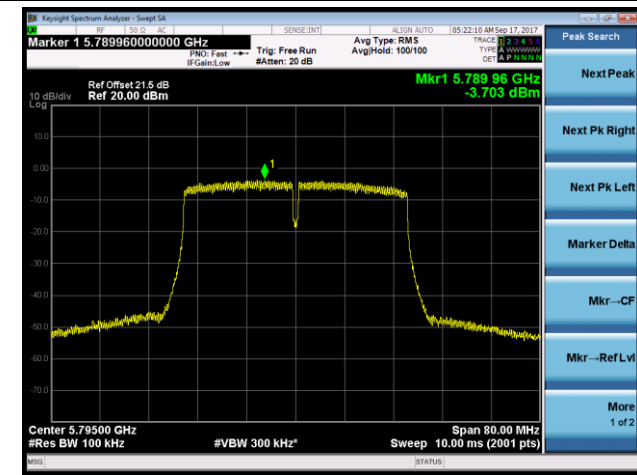
Channel 46 (5230MHz)

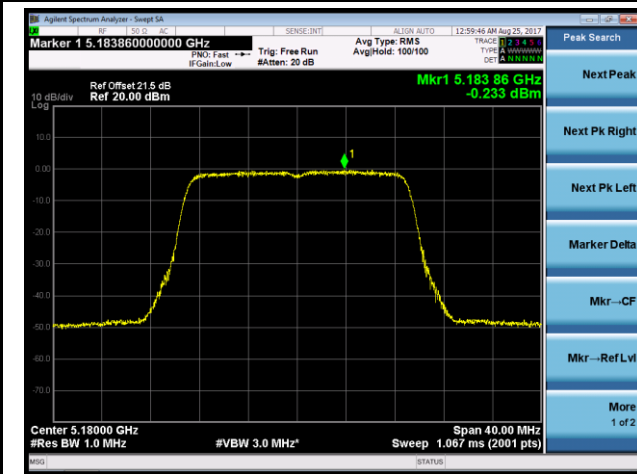
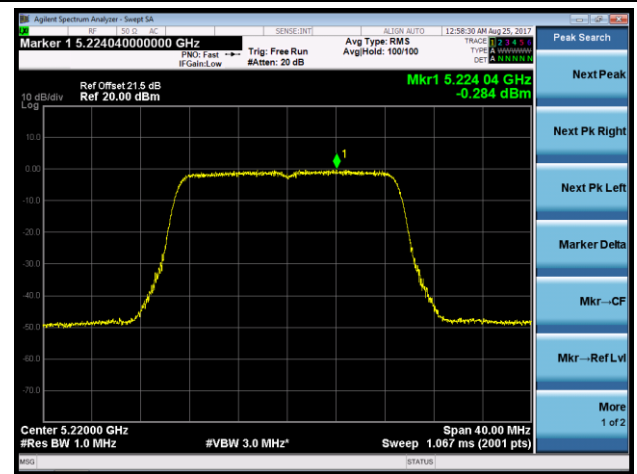
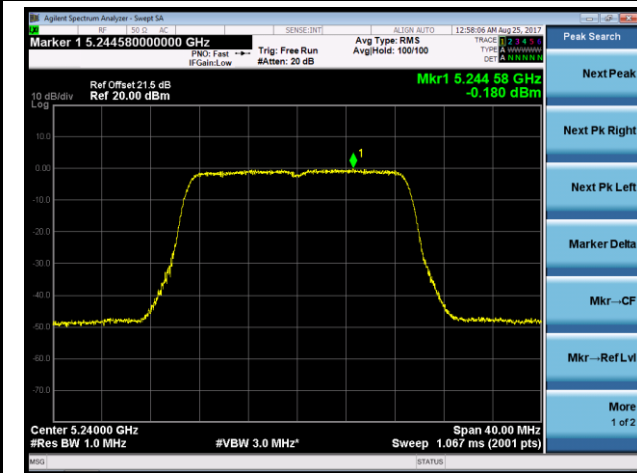
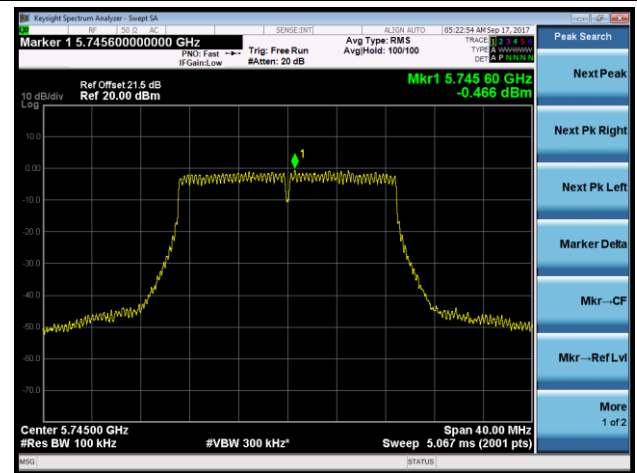
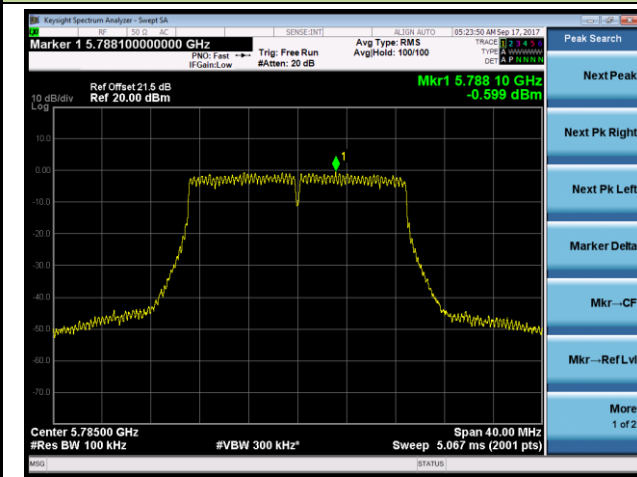
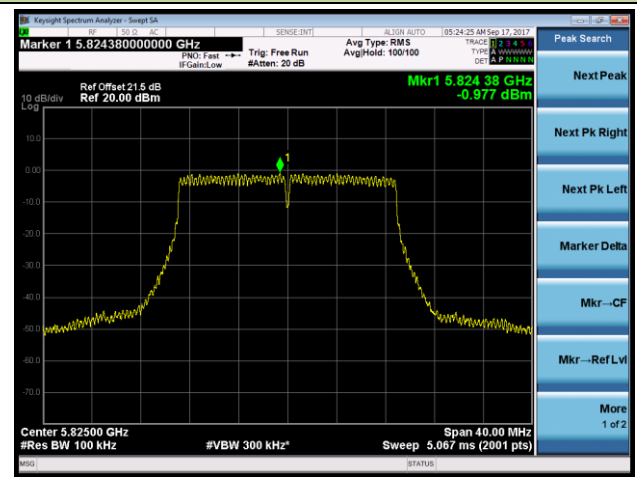


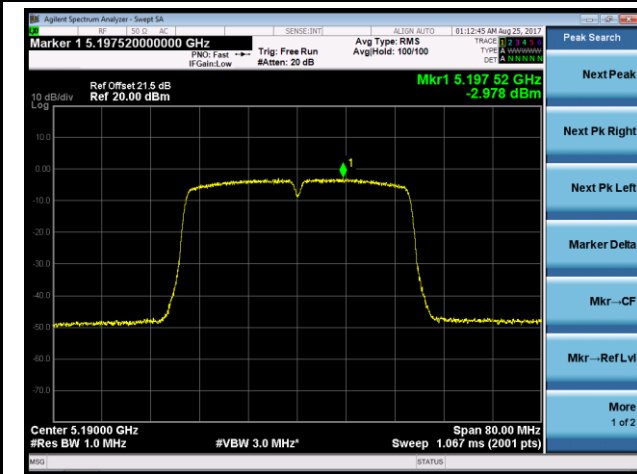
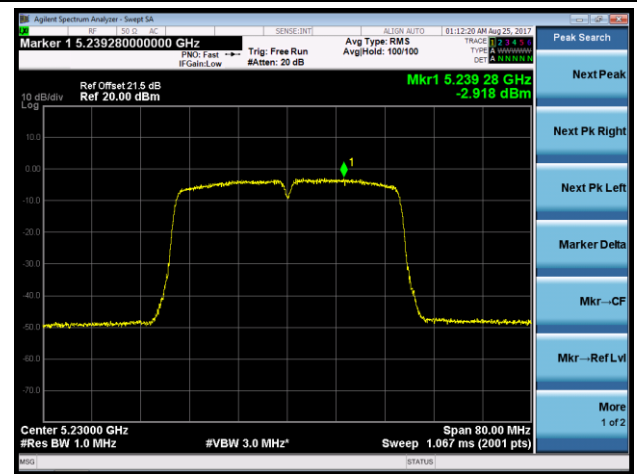
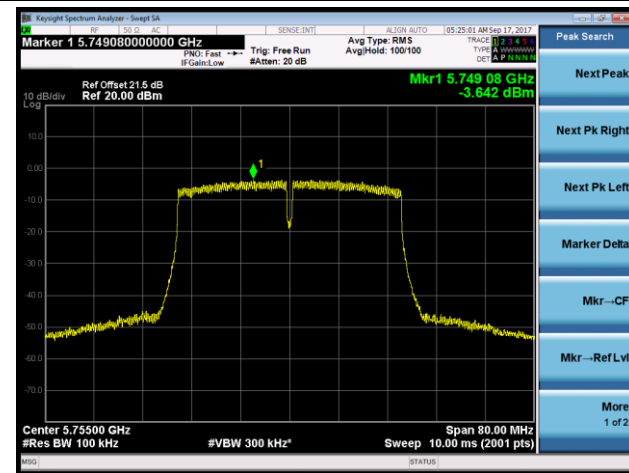
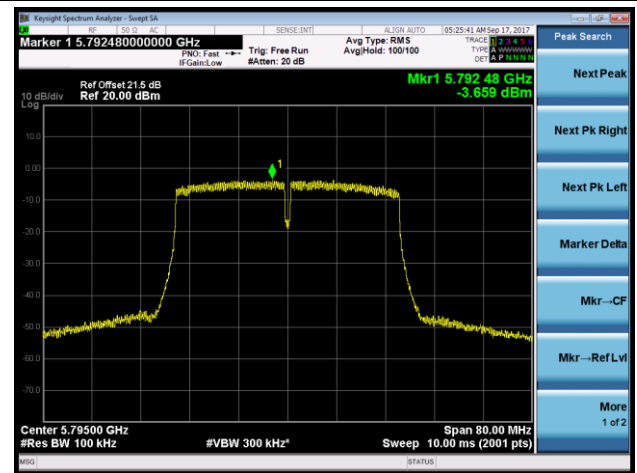
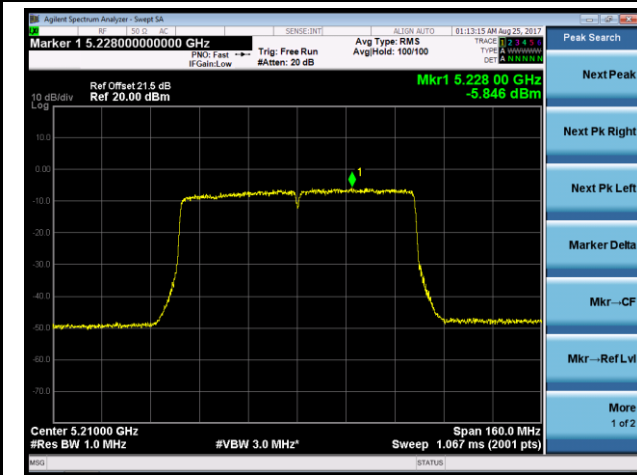
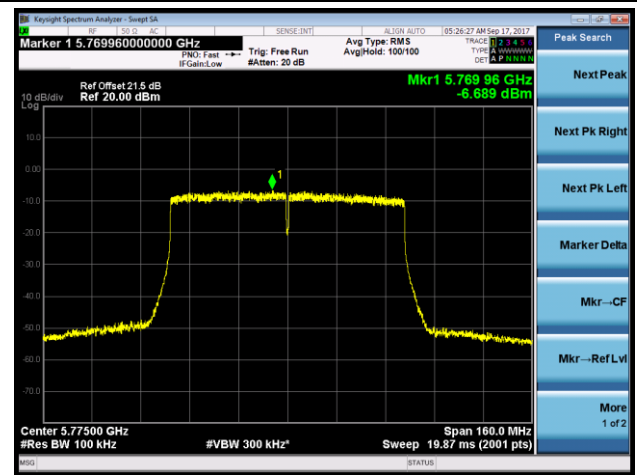
Channel 151 (5755MHz)



Channel 159 (5795MHz)

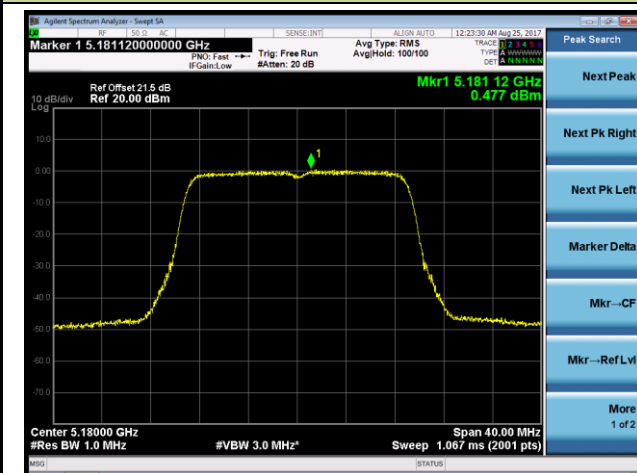


802.11ac-VHT20 Power Spectral Density- Ant 1 / Ant 1 + 2 (Beam-Forming Mode)
Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (5825MHz)


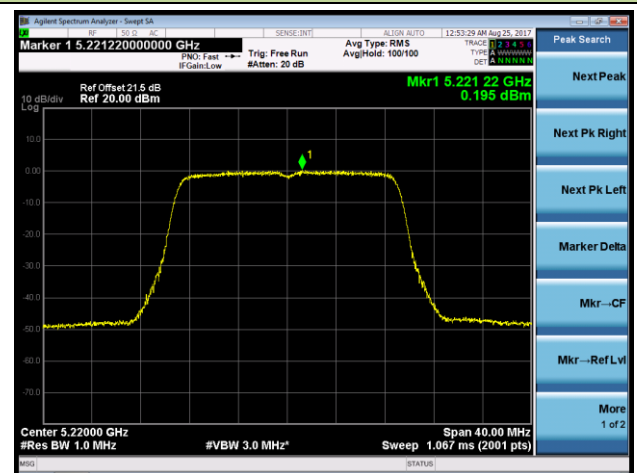
802.11ac-VHT40 Power Spectral Density - Ant 1 / Ant 1 + 2 (Beam-Forming Mode)
Channel 38 (5190MHz)

Channel 46 (5230MHz)

Channel 151 (5755MHz)

Channel 159 (5795MHz)

802.11ac-VHT80 Power Spectral Density - Ant 1 / Ant 1 + 2 (Beam-Forming Mode)
Channel 42 (5210MHz)

Channel 155 (5775MHz)


802.11n-HT20 Power Spectral Density - Ant 2 / Ant 1 + 2 (Beam-Forming Mode)

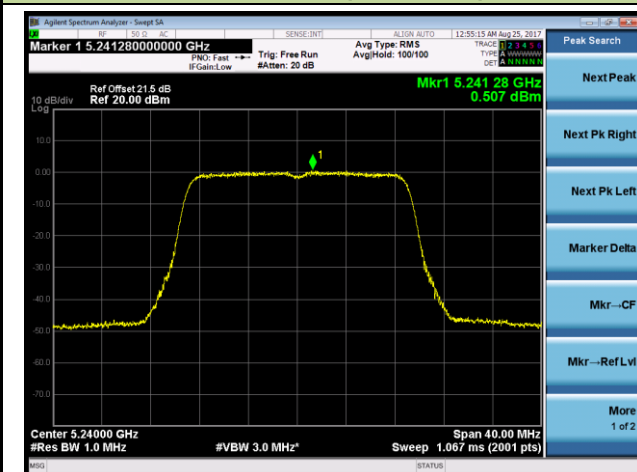
Channel 36 (5180MHz)



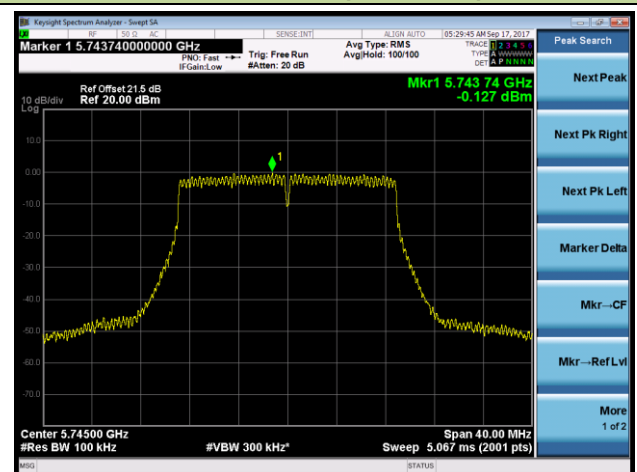
Channel 44 (5220MHz)



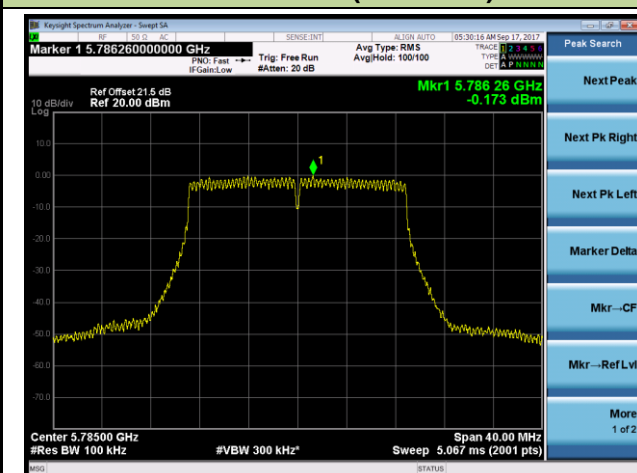
Channel 48 (5240MHz)



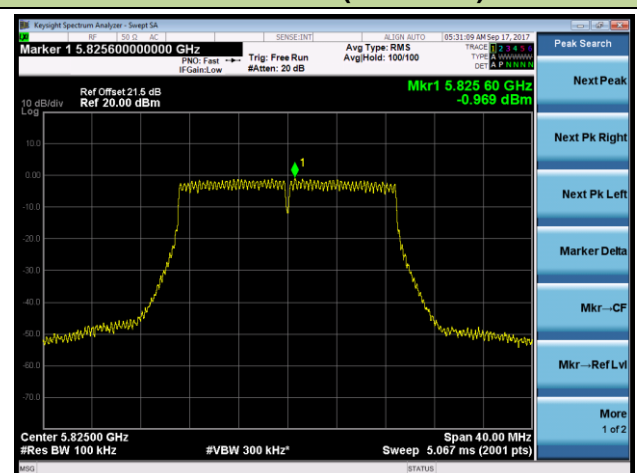
Channel 149 (5745MHz)



Channel 157 (5785MHz)

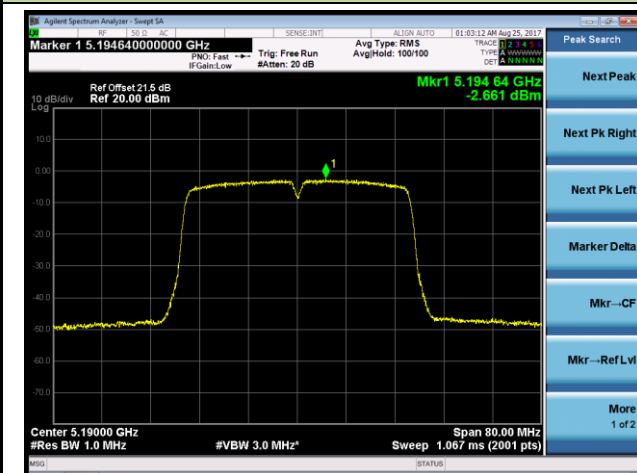


Channel 165 (5825MHz)

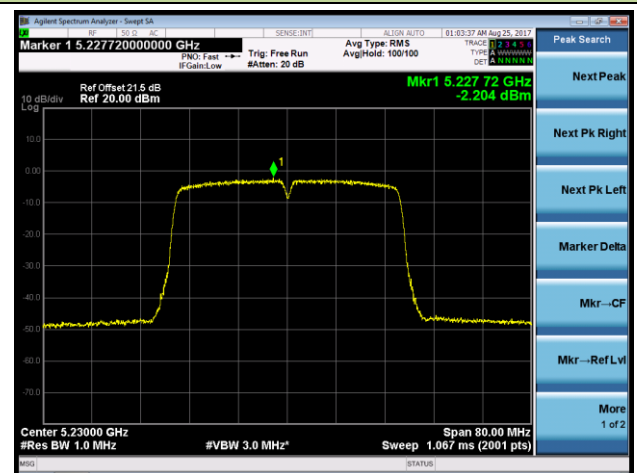


802.11n-HT40 Power Spectral Density - Ant 2 / Ant 1 + 2 (Beam-Forming Mode)

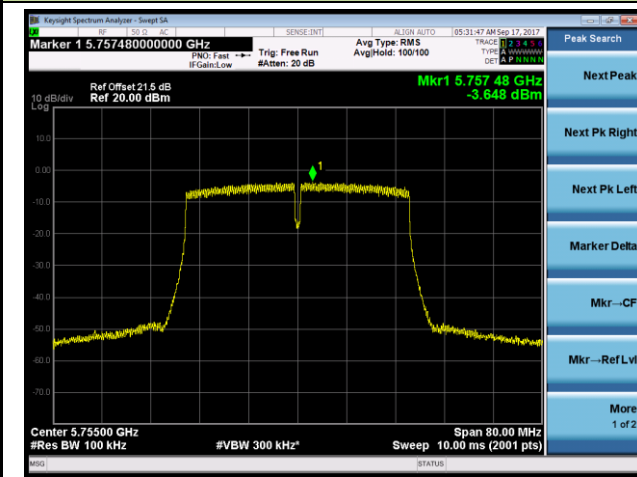
Channel 38 (5190MHz)



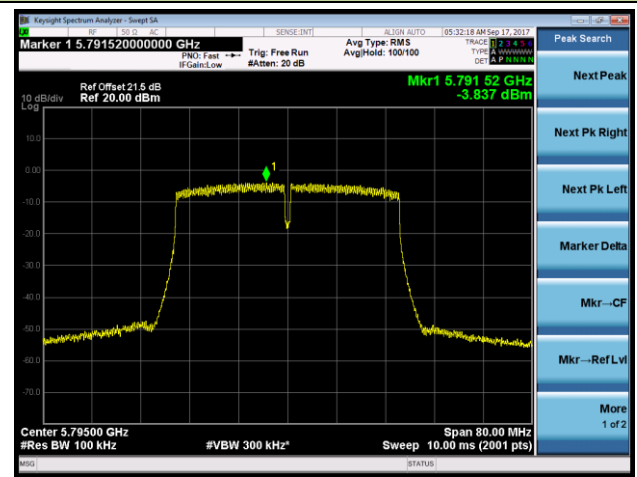
Channel 46 (5230MHz)

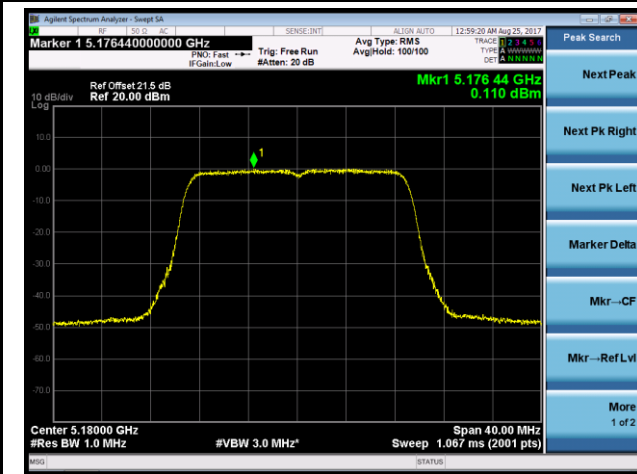
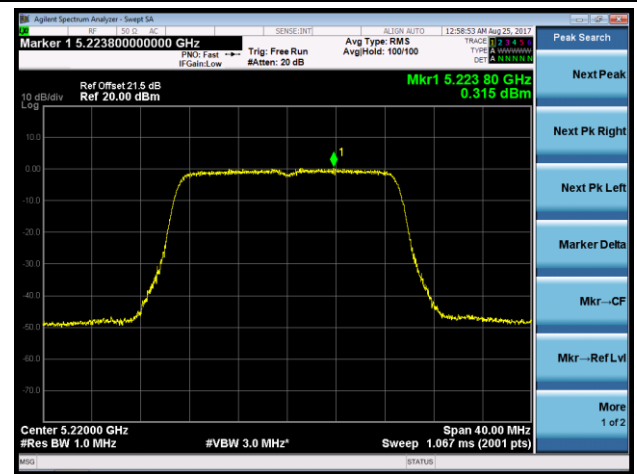
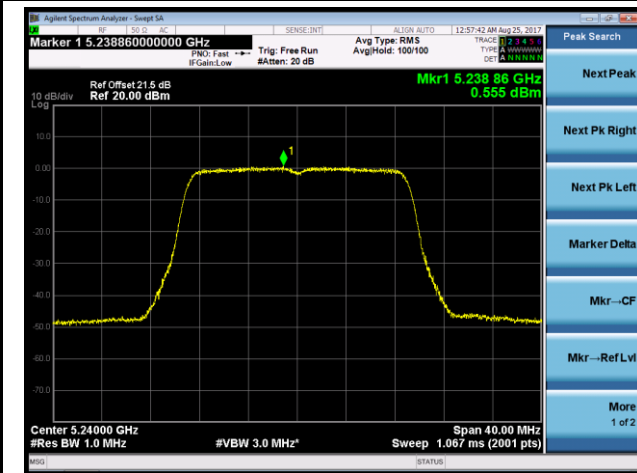
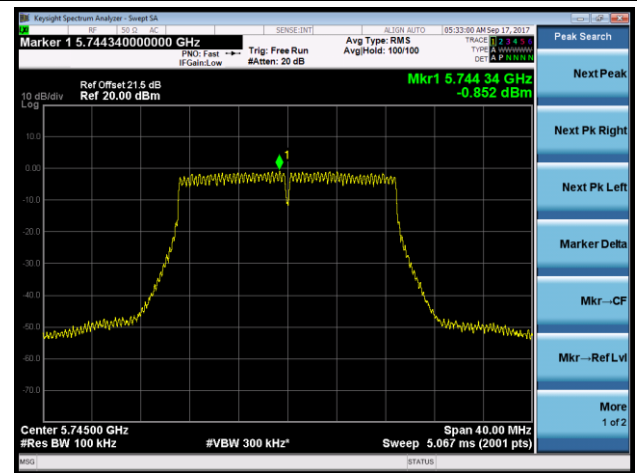
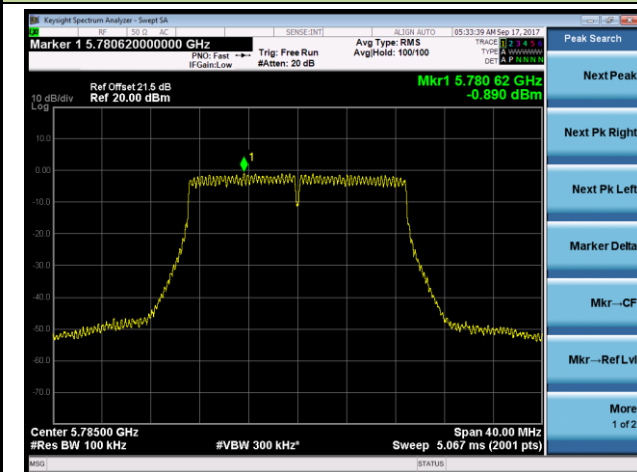
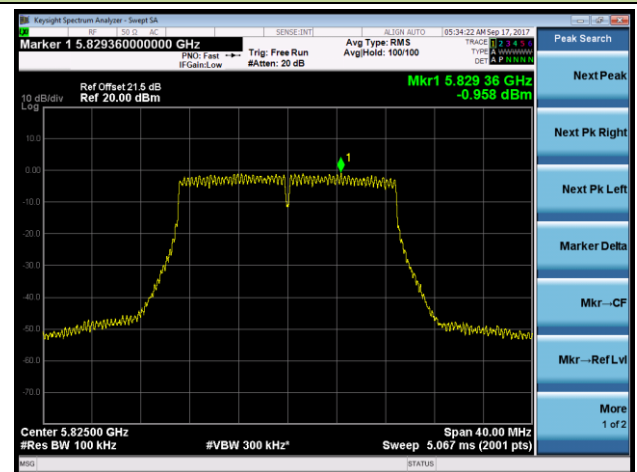


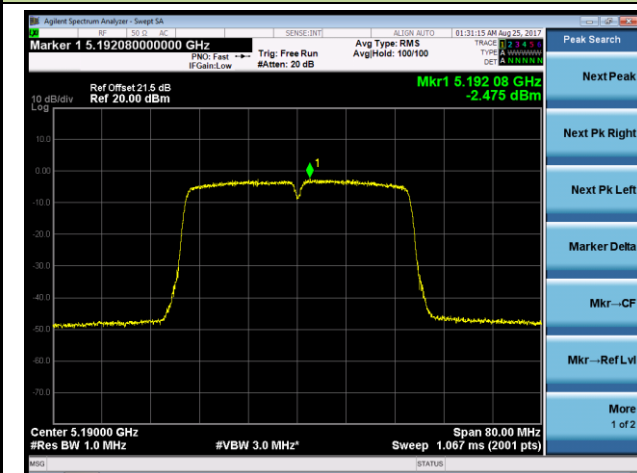
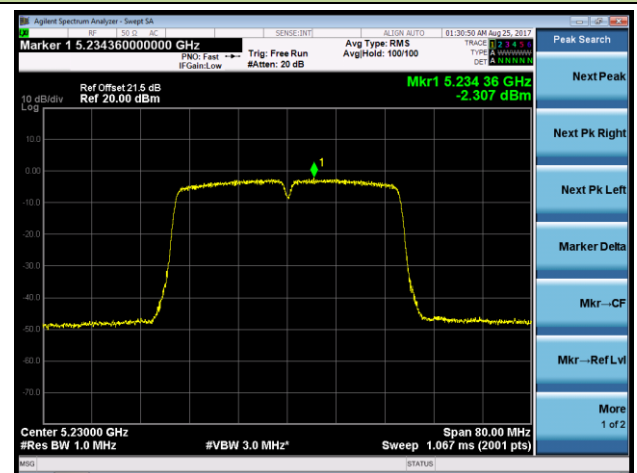
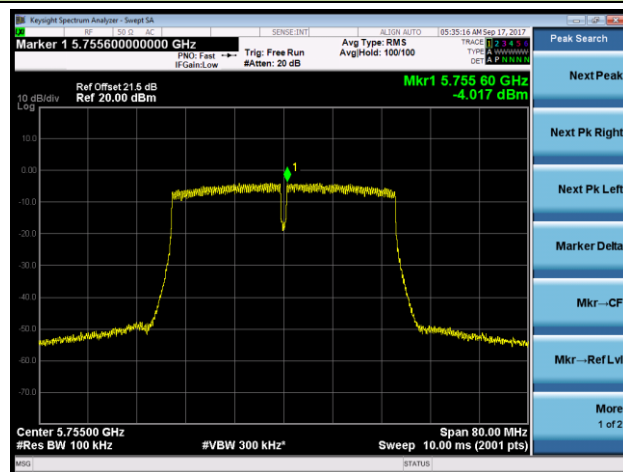
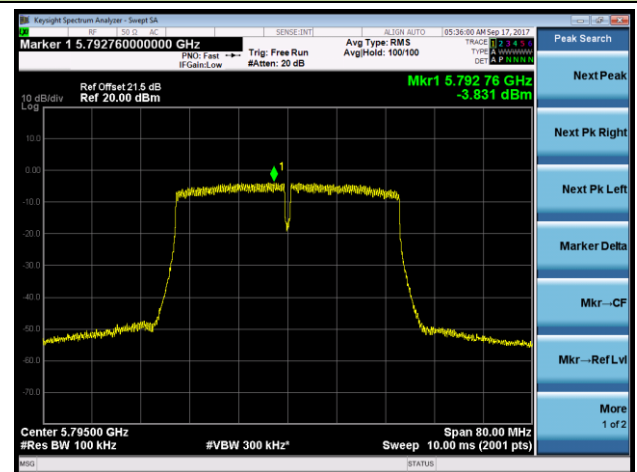
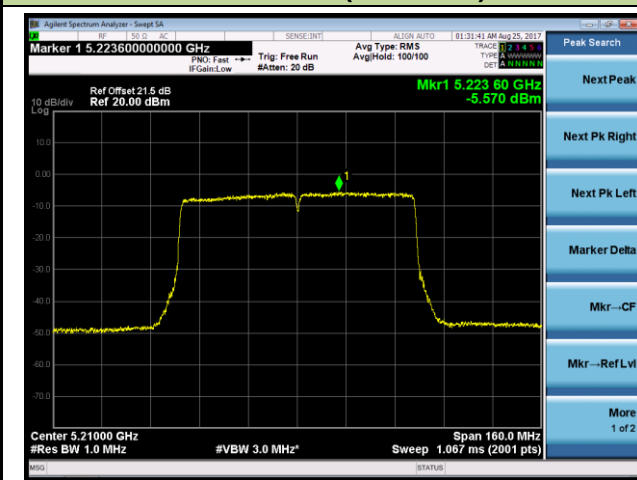
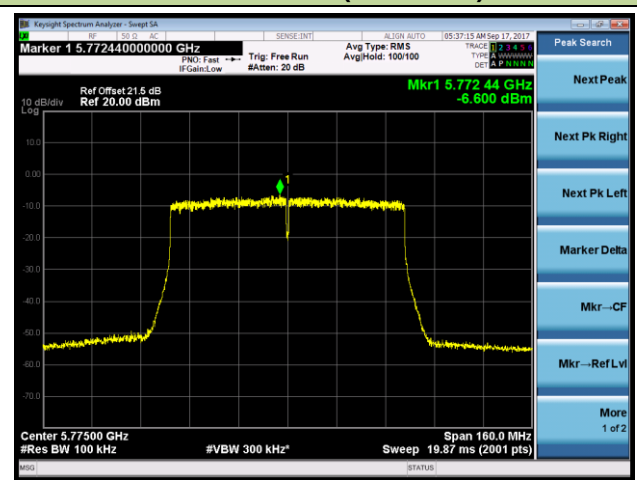
Channel 151 (5755MHz)



Channel 159 (5795MHz)



802.11ac-VHT20 Power Spectral Density - Ant 2 / Ant 1 + 2 (Beam-Forming Mode)
Channel 36 (5180MHz)

Channel 44 (5220MHz)

Channel 48 (5240MHz)

Channel 149 (5745MHz)

Channel 157 (5785MHz)

Channel 165 (5825MHz)


802.11ac-VHT40 Power Spectral Density - Ant 2 / Ant 1 + 2 (Beam-Forming Mode)
Channel 38 (5190MHz)

Channel 46 (5230MHz)

Channel 151 (5755MHz)

Channel 159 (5795MHz)

802.11ac-VHT80 Power Spectral Density - Ant 2 / Ant 1 + 2 (Beam-Forming Mode)
Channel 42 (5210MHz)

Channel 155 (5775MHz)


Product	AC220 Wi-Fi AP OD external antenna US	Temperature	24°C
Test Engineer	Johnson Liao	Relative Humidity	59%
Test Site	SR2	Test Date	2017/10/25
Test Item	Power Spectral Density (UNII-Band 1)		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/ MHz)	Duty Cycle (%)	Final PSD(dBm/ MHz)	PSD Limit (dBm/ MHz)	Result
Ant 1								
11a	6Mbps	36	5180	6.12	95.80	6.31	≤ 17.00	Pass
11a	6Mbps	44	5220	6.86	95.80	7.04	≤ 17.00	Pass
11a	6Mbps	48	5240	6.74	95.80	6.92	≤ 17.00	Pass
11n-HT20	MCS0	36	5180	6.58	98.07	6.58	≤ 17.00	Pass
11n-HT20	MCS0	44	5220	6.32	98.07	6.32	≤ 17.00	Pass
11n-HT20	MCS0	48	5240	6.80	98.07	6.80	≤ 17.00	Pass
11n-HT40	MCS0	38	5190	3.64	96.61	3.79	≤ 17.00	Pass
11n-HT40	MCS0	46	5230	3.89	96.61	4.03	≤ 17.00	Pass
11ac-VHT20	MCS0	36	5180	6.79	98.21	6.79	≤ 17.00	Pass
11ac-VHT20	MCS0	44	5220	6.31	98.21	6.31	≤ 17.00	Pass
11ac-VHT20	MCS0	48	5240	6.80	98.21	6.80	≤ 17.00	Pass
11ac-VHT40	MCS0	38	5190	3.66	96.43	3.82	≤ 17.00	Pass
11ac-VHT40	MCS0	46	5230	3.86	96.43	4.02	≤ 17.00	Pass
11ac-VHT80	MCS0	42	5210	0.70	91.40	1.09	≤ 17.00	Pass

Note: When EUT duty cycle < 98%, the Final PSD (dBm/MHz) = PSD (dBm/MHz) + 10*log(1/Duty Cycle).

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	PSD (dBm/MHz)	Duty Cycle (%)	Final PSD(dBm/MHz)	PSD Limit (dBm/MHz)	Result
Ant 2								
11a	6Mbps	36	5180	7.08	95.80	7.27	≤ 17.00	Pass
11a	6Mbps	44	5220	7.17	95.80	7.36	≤ 17.00	Pass
11a	6Mbps	48	5240	7.12	95.80	7.31	≤ 17.00	Pass
11n-HT20	MCS0	36	5180	7.21	98.07	7.21	≤ 17.00	Pass
11n-HT20	MCS0	44	5220	7.42	98.07	7.42	≤ 17.00	Pass
11n-HT20	MCS0	48	5240	7.14	98.07	7.14	≤ 17.00	Pass
11n-HT40	MCS0	38	5190	4.26	96.61	4.41	≤ 17.00	Pass
11n-HT40	MCS0	46	5230	4.45	96.61	4.60	≤ 17.00	Pass
11ac-VHT20	MCS0	36	5180	7.18	98.21	7.18	≤ 17.00	Pass
11ac-VHT20	MCS0	44	5220	6.91	98.21	6.91	≤ 17.00	Pass
11ac-VHT20	MCS0	48	5240	7.24	98.21	7.24	≤ 17.00	Pass
11ac-VHT40	MCS0	38	5190	4.26	96.43	4.42	≤ 17.00	Pass
11ac-VHT40	MCS0	46	5230	4.48	96.43	4.64	≤ 17.00	Pass
11ac-VHT80	MCS0	42	5210	1.05	91.40	1.44	≤ 17.00	Pass

Note: When EUT duty cycle < 98%, the Final PSD (dBm/MHz) = PSD (dBm/MHz) + 10*log(1/Duty Cycle).

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 1 PSD (dBm/ MHz)	Ant 2 PSD (dBm/ MHz)	Duty Cycle (%)	Total PSD (dBm/ MHz)	PSD Limit (dBm/ MHz)	Result
Ant 1 + 2 (CDD Mode)									
11a	6Mbps	36	5180	3.79	4.50	95.80	7.36	≤ 14.99	Pass
11a	6Mbps	44	5220	3.40	4.61	95.80	7.24	≤ 14.99	Pass
11a	6Mbps	48	5240	3.64	4.03	95.80	7.04	≤ 14.99	Pass
11n-HT20	MCS0	36	5180	3.79	4.59	98.07	7.22	≤ 14.99	Pass
11n-HT20	MCS0	44	5220	3.70	3.94	98.07	6.83	≤ 14.99	Pass
11n-HT20	MCS0	48	5240	3.74	4.04	98.07	6.90	≤ 14.99	Pass
11n-HT40	MCS0	38	5190	0.96	1.31	96.61	4.30	≤ 14.99	Pass
11n-HT40	MCS0	46	5230	1.15	1.16	96.61	4.31	≤ 14.99	Pass
11ac-VHT20	MCS0	36	5180	3.44	3.84	98.21	6.66	≤ 14.99	Pass
11ac-VHT20	MCS0	44	5220	3.16	3.75	98.21	6.47	≤ 14.99	Pass
11ac-VHT20	MCS0	48	5240	3.64	4.00	98.21	6.83	≤ 14.99	Pass
11ac-VHT40	MCS0	38	5190	0.94	1.34	96.43	4.31	≤ 14.99	Pass
11ac-VHT40	MCS0	46	5230	1.03	1.27	96.43	4.32	≤ 14.99	Pass
11ac-VHT80	MCS0	42	5210	-2.38	-2.22	91.40	1.11	≤ 14.99	Pass

Note 1: When EUT duty cycle ≥ 98%, the total PSD (dBm/MHz) = $10 \cdot \log\{10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)}\}$

Note 2: When EUT duty cycle < 98%, the total PSD (dBm/MHz) = $10 \cdot \log\{10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)}\} + 10 \cdot \log(1/\text{duty cycle})$

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	Ant 1 PSD (dBm/ MHz)	Ant 2 PSD (dBm/ MHz)	Duty Cycle (%)	Total PSD (dBm/ MHz)	PSD Limit (dBm/ MHz)	Result
Ant 1 + 2 (Beam-Forming Mode)									
11n-HT20	MCS0	36	5180	0.53	0.42	98.07	3.48	≤ 14.99	Pass
11n-HT20	MCS0	44	5220	0.30	0.76	98.07	3.55	≤ 14.99	Pass
11n-HT20	MCS0	48	5240	0.36	0.14	98.07	3.26	≤ 14.99	Pass
11n-HT40	MCS0	38	5190	-3.40	-2.52	96.61	0.22	≤ 14.99	Pass
11n-HT40	MCS0	46	5230	-2.08	-1.83	96.61	1.20	≤ 14.99	Pass
11ac-VHT20	MCS0	36	5180	0.88	1.27	98.21	4.09	≤ 14.99	Pass
11ac-VHT20	MCS0	44	5220	0.46	0.78	98.21	3.63	≤ 14.99	Pass
11ac-VHT20	MCS0	48	5240	0.89	1.18	98.21	4.05	≤ 14.99	Pass
11ac-VHT40	MCS0	38	5190	-1.92	-1.79	96.43	1.31	≤ 14.99	Pass
11ac-VHT40	MCS0	46	5230	-1.78	-1.41	96.43	1.58	≤ 14.99	Pass
11ac-VHT80	MCS0	42	5210	-5.01	-4.79	91.40	-1.50	≤ 14.99	Pass

Note 1: When EUT duty cycle ≥ 98%, the total PSD (dBm/MHz) = $10 \cdot \log\{10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)}\}$

Note 2: When EUT duty cycle < 98%, the total PSD (dBm/MHz) = $10 \cdot \log\{10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)}\} + 10 \cdot \log(1/\text{duty cycle})$

Product	AC220 Wi-Fi AP OD external antenna US	Temperature	24°C
Test Engineer	Johnson Liao	Relative Humidity	59%
Test Site	SR2	Test Date	2017/08/27
Test Item	Power Spectral Density (UNII-Band 3)		

Test Mode	Data Rate/ MCS	Channel No.	Freq. (MHz)	PSD (dBm/100KHz)	Duty Cycle (%)	Constant Factor	Final PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
Ant 1									
11a	6Mbps	149	5745	1.09	95.80	6.99	8.27	≤ 30.00	Pass
11a	6Mbps	157	5785	1.41	95.80	6.99	8.59	≤ 30.00	Pass
11a	6Mbps	165	5825	1.05	95.80	6.99	8.23	≤ 30.00	Pass
11n-HT20	MCS0	149	5745	0.98	98.07	6.99	7.97	≤ 30.00	Pass
11n-HT20	MCS0	157	5785	1.39	98.07	6.99	8.38	≤ 30.00	Pass
11n-HT20	MCS0	165	5825	1.21	98.07	6.99	8.20	≤ 30.00	Pass
11n-HT40	MCS0	151	5755	-1.84	96.61	6.99	5.30	≤ 30.00	Pass
11n-HT40	MCS0	159	5795	1.34	96.61	6.99	8.48	≤ 30.00	Pass
11ac-VHT20	MCS0	149	5745	0.87	98.21	6.99	7.86	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	1.28	98.21	6.99	8.27	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	1.58	98.21	6.99	8.57	≤ 30.00	Pass
11ac-VHT40	MCS0	151	5755	-1.71	96.43	6.99	5.44	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	-1.55	96.43	6.99	5.60	≤ 30.00	Pass
11ac-VHT80	MCS0	155	5775	-5.08	91.40	6.99	2.30	≤ 30.00	Pass

Note 1: When EUT duty cycle ≥ 98%, the Final PSD (dBm/MHz) = PSD (dBm/100kHz) + Constant Factor.

Note 2: When EUT duty cycle < 98%, the Final PSD (dBm/MHz) = PSD (dBm/100k Hz) + 10*log(1/Duty Cycle) + Constant Factor.

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	PSD (dBm/100KHz)	Duty Cycle (%)	Constant Factor	Final PSD (dBm/MHz)	PSD Limit (dBm/MHz)	Result
Ant 2									
11a	6Mbps	149	5745	1.54	95.80	6.99	8.72	≤ 30.00	Pass
11a	6Mbps	157	5785	2.01	95.80	6.99	9.19	≤ 30.00	Pass
11a	6Mbps	165	5825	2.08	95.80	6.99	9.26	≤ 30.00	Pass
11n-HT20	MCS0	149	5745	1.41	98.07	6.99	8.40	≤ 30.00	Pass
11n-HT20	MCS0	157	5785	2.14	98.07	6.99	9.13	≤ 30.00	Pass
11n-HT20	MCS0	165	5825	1.85	98.07	6.99	8.84	≤ 30.00	Pass
11n-HT40	MCS0	151	5755	-1.06	96.61	6.99	6.08	≤ 30.00	Pass
11n-HT40	MCS0	159	5795	-0.86	96.61	6.99	6.28	≤ 30.00	Pass
11ac-VHT20	MCS0	149	5745	1.71	98.21	6.99	8.70	≤ 30.00	Pass
11ac-VHT20	MCS0	157	5785	2.04	98.21	6.99	9.03	≤ 30.00	Pass
11ac-VHT20	MCS0	165	5825	1.92	98.21	6.99	8.91	≤ 30.00	Pass
11ac-VHT40	MCS0	151	5755	-1.18	96.43	6.99	5.97	≤ 30.00	Pass
11ac-VHT40	MCS0	159	5795	-0.82	96.43	6.99	6.33	≤ 30.00	Pass
11ac-VHT80	MCS0	155	5775	-4.49	91.40	6.99	2.89	≤ 30.00	Pass

Note 1: When EUT duty cycle ≥ 98%, the Final PSD (dBm/MHz) = PSD (dBm/100kHz) + Constant Factor.

Note 2: When EUT duty cycle < 98%, the Final PSD (dBm/MHz) = PSD (dBm/100k Hz) + 10*log(1/Duty Cycle) + Constant Factor.

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 1 PSD (dBm/100kHz)	Ant 2 PSD (dBm/100kHz)	Duty Cycle (%)	Constant Factor	Total PSD(dBm/500kHz)	Limit (dBm/500kHz)	Result
Ant 1 + 2 (CDD Mode)										
11a	6	149	5745	1.76	1.89	95.80	6.99	12.01	≤ 27.99	Pass
11a	6	157	5785	1.79	2.35	95.80	6.99	12.27	≤ 27.99	Pass
11a	6	165	5825	1.51	2.60	95.80	6.99	12.28	≤ 27.99	Pass
11n-HT20	MCS0	149	5745	1.02	2.06	98.07	6.99	11.57	≤ 27.99	Pass
11n-HT20	MCS0	157	5785	1.57	2.26	98.07	6.99	11.93	≤ 27.99	Pass
11n-HT20	MCS0	165	5825	1.47	2.42	98.07	6.99	11.97	≤ 27.99	Pass
11n-HT40	MCS0	151	5755	-1.57	-0.65	96.61	6.99	9.06	≤ 27.99	Pass
11n-HT40	MCS0	159	5795	-1.25	-0.45	96.61	6.99	9.32	≤ 27.99	Pass
11ac-VHT20	MCS0	149	5745	1.09	2.12	98.21	6.99	11.64	≤ 27.99	Pass
11ac-VHT20	MCS0	157	5785	1.46	2.43	98.21	6.99	11.97	≤ 27.99	Pass
11ac-VHT20	MCS0	165	5825	1.59	2.27	98.21	6.99	11.94	≤ 27.99	Pass
11ac-VHT40	MCS0	151	5755	-1.51	-0.94	96.43	6.99	8.94	≤ 27.99	Pass
11ac-VHT40	MCS0	159	5795	-1.20	-0.27	96.43	6.99	9.45	≤ 27.99	Pass
11ac-VHT80	MCS0	155	5775	-4.64	-4.13	91.40	6.99	6.01	≤ 27.99	Pass

Note 1: When EUT duty cycle ≥ 98%, Total PSD (dBm/500kHz) = $10 \cdot \log\{10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)}\} + \text{Constant Factor}$.

Note 2: When EUT duty cycle < 98%, Total PSD (dBm/500kHz) = $10 \cdot \log\{10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)}\} + 10 \cdot \log(1/\text{duty cycle}) + \text{Constant Factor}$.

Test Mode	Data Rate/MCS	Channel No.	Freq. (MHz)	Ant 1 PSD (dBm/100kHz)	Ant 2 PSD (dBm/100kHz)	Duty Cycle (%)	Constant Factor	Total PSD(dBm/500kHz)	Limit (dBm/500kHz)	Result
Ant 1 + 2 (Beam-Forming Mode)										
11n-HT20	MCS0	149	5745	1.02	2.06	98.07	6.99	11.57	≤ 27.99	Pass
11n-HT20	MCS0	157	5785	1.57	2.26	98.07	6.99	11.93	≤ 27.99	Pass
11n-HT20	MCS0	165	5825	1.47	2.42	98.07	6.99	11.97	≤ 27.99	Pass
11n-HT40	MCS0	151	5755	-1.57	-0.65	96.61	6.99	9.06	≤ 27.99	Pass
11n-HT40	MCS0	159	5795	-1.25	-0.45	96.61	6.99	9.32	≤ 27.99	Pass
11ac-VHT20	MCS0	149	5745	1.09	2.12	98.21	6.99	11.64	≤ 27.99	Pass
11ac-VHT20	MCS0	157	5785	1.46	2.43	98.21	6.99	11.97	≤ 27.99	Pass
11ac-VHT20	MCS0	165	5825	1.59	2.27	98.21	6.99	11.94	≤ 27.99	Pass
11ac-VHT40	MCS0	151	5755	-1.51	-0.94	96.43	6.99	8.94	≤ 27.99	Pass
11ac-VHT40	MCS0	159	5795	-1.20	-0.27	96.43	6.99	9.45	≤ 27.99	Pass
11ac-VHT80	MCS0	155	5775	-4.64	-4.13	91.40	6.99	6.01	≤ 27.99	Pass

Note 1: When EUT duty cycle ≥ 98%, Total PSD (dBm/500kHz) = $10 \cdot \log\{10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)}\} + \text{Constant Factor}$.

Note 2: When EUT duty cycle < 98%, Total PSD (dBm/500kHz) = $10 \cdot \log\{10^{(\text{Ant 1 PSD}/10)} + 10^{(\text{Ant 2 PSD}/10)}\} + 10 \cdot \log(1/\text{duty cycle}) + \text{Constant Factor}$.