

Product	US WI-FI AP 4X4 OD ext. antenna			Temperature	25°C			
Test Engineer	Johnson Liao			Relative Humidity	50 ~ 58%			
Test Site	SR2			Test Date	2016/10/16			
Test Item	Power Spectral Density			Antenna Model No.	Galtronics Directional			

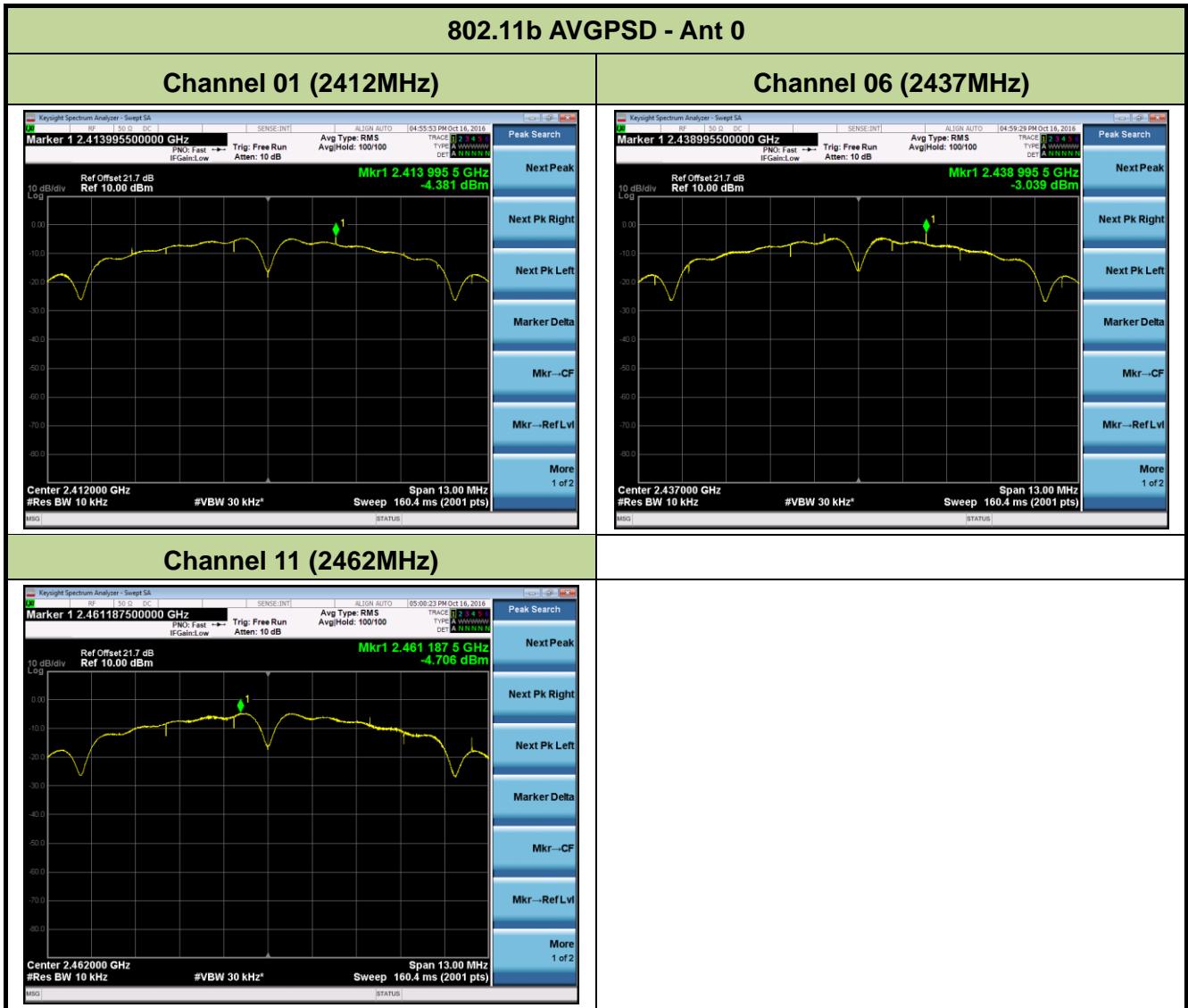
Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	AVG PSD (dBm / 10kHz)	Duty Cycle (%)	Constant Factor	Total AVG PSD (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
<b>Ant 0</b>									
11b	1	1	2412	-4.38	99.20	-5.23	-9.61	≤ 7.25	Pass
11b	1	6	2437	-3.04	99.20	-5.23	-8.27	≤ 7.25	Pass
11b	1	11	2462	-4.71	99.20	-5.23	-9.94	≤ 7.25	Pass
11g	6	1	2412	-6.64	96.04	-5.23	-11.69	≤ 7.25	Pass
11g	6	6	2437	-6.16	96.04	-5.23	-11.21	≤ 7.25	Pass
11g	6	11	2462	-6.67	96.04	-5.23	-11.72	≤ 7.25	Pass
11n-HT20	6.5	1	2412	-7.06	98.16	-5.23	-12.29	≤ 7.25	Pass
11n-HT20	6.5	6	2437	-7.07	98.16	-5.23	-12.30	≤ 7.25	Pass
11n-HT20	6.5	11	2462	-6.82	98.16	-5.23	-12.05	≤ 7.25	Pass
11n-HT40	13.5	3	2422	-9.26	97.11	-5.23	-14.36	≤ 7.25	Pass
11n-HT40	13.5	6	2437	-9.95	97.11	-5.23	-15.05	≤ 7.25	Pass
11n-HT40	13.5	9	2452	-10.23	97.11	-5.23	-15.33	≤ 7.25	Pass
<b>Ant 1</b>									
11b	1	1	2412	-4.48	99.20	-5.23	-9.71	≤ 7.25	Pass
11b	1	6	2437	-4.53	99.20	-5.23	-9.76	≤ 7.25	Pass
11b	1	11	2462	-3.44	99.20	-5.23	-8.67	≤ 7.25	Pass
11g	6	1	2412	-6.64	96.04	-5.23	-11.69	≤ 7.25	Pass
11g	6	6	2437	-6.86	96.04	-5.23	-11.91	≤ 7.25	Pass
11g	6	11	2462	-6.73	96.04	-5.23	-11.78	≤ 7.25	Pass
11n-HT20	6.5	1	2412	-7.14	98.16	-5.23	-12.37	≤ 7.25	Pass
11n-HT20	6.5	6	2437	-7.28	98.16	-5.23	-12.51	≤ 7.25	Pass
11n-HT20	6.5	11	2462	-6.91	98.16	-5.23	-12.14	≤ 7.25	Pass
11n-HT40	13.5	3	2422	-10.50	97.11	-5.23	-15.60	≤ 7.25	Pass
11n-HT40	13.5	6	2437	-9.92	97.11	-5.23	-15.02	≤ 7.25	Pass
11n-HT40	13.5	9	2452	-9.75	97.11	-5.23	-14.85	≤ 7.25	Pass

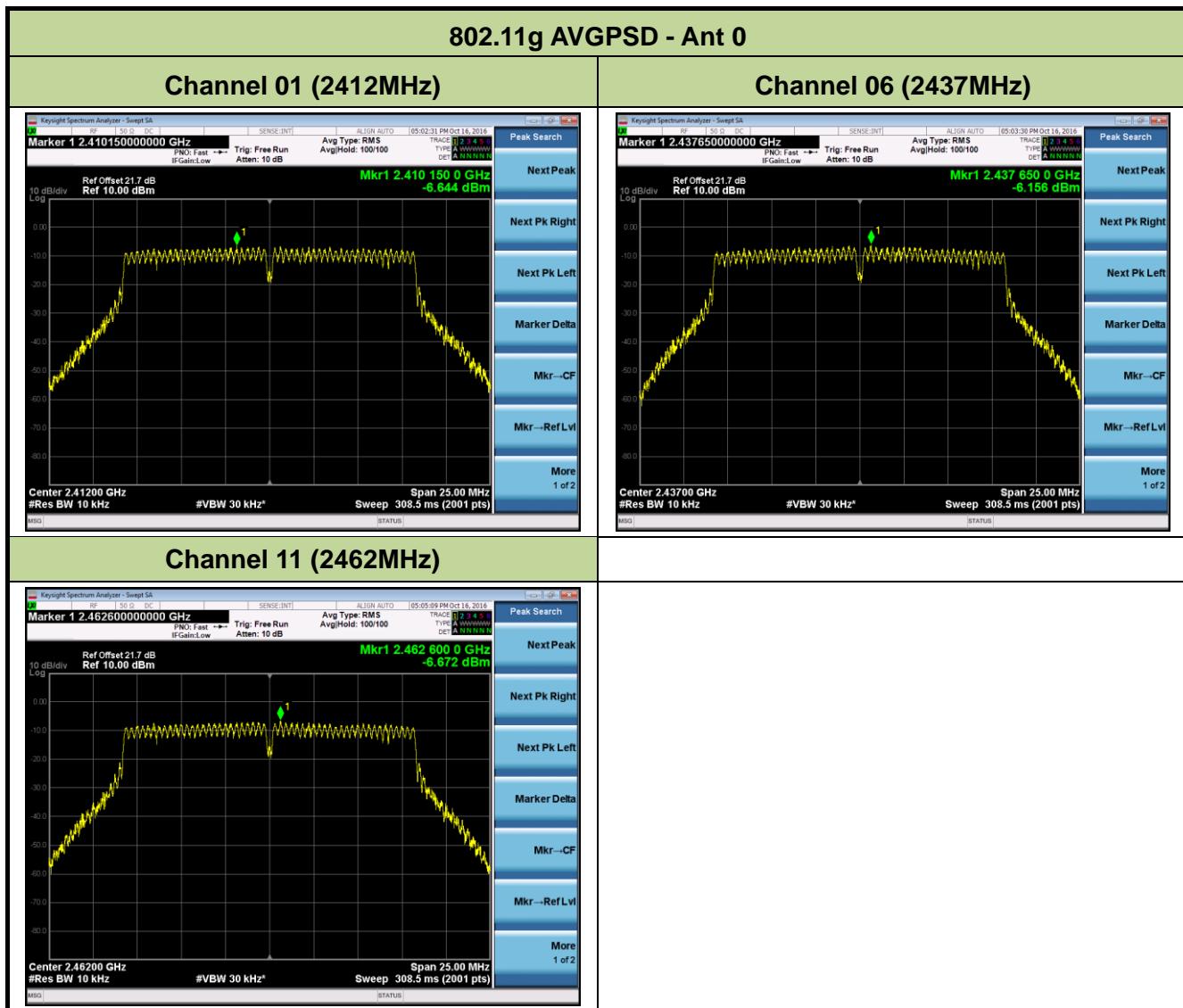
Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	AVG PSD (dBm / 10kHz)	Duty Cycle (%)	Constant Factor	Total AVG PSD (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
Ant 2									
11b	1	1	2412	-4.45	99.20	-5.23	-9.68	≤ 7.25	Pass
11b	1	6	2437	-4.56	99.20	-5.23	-9.79	≤ 7.25	Pass
11b	1	11	2462	-4.52	99.20	-5.23	-9.75	≤ 7.25	Pass
11g	6	1	2412	-6.46	96.04	-5.23	-11.51	≤ 7.25	Pass
11g	6	6	2437	-6.18	96.04	-5.23	-11.23	≤ 7.25	Pass
11g	6	11	2462	-6.99	96.04	-5.23	-12.04	≤ 7.25	Pass
11n-HT20	6.5	1	2412	-6.86	98.16	-5.23	-12.09	≤ 7.25	Pass
11n-HT20	6.5	6	2437	-6.74	98.16	-5.23	-11.97	≤ 7.25	Pass
11n-HT20	6.5	11	2462	-6.98	98.16	-5.23	-12.21	≤ 7.25	Pass
11n-HT40	13.5	3	2422	-10.25	97.11	-5.23	-15.35	≤ 7.25	Pass
11n-HT40	13.5	6	2437	-9.43	97.11	-5.23	-14.53	≤ 7.25	Pass
11n-HT40	13.5	9	2452	-9.94	97.11	-5.23	-15.04	≤ 7.25	Pass
Ant 3									
11b	1	1	2412	-3.04	99.20	-5.23	-8.27	≤ 7.25	Pass
11b	1	6	2437	-3.30	99.20	-5.23	-8.53	≤ 7.25	Pass
11b	1	11	2462	-4.53	99.20	-5.23	-9.76	≤ 7.25	Pass
11g	6	1	2412	-6.71	96.04	-5.23	-11.76	≤ 7.25	Pass
11g	6	6	2437	-6.54	96.04	-5.23	-11.59	≤ 7.25	Pass
11g	6	11	2462	-6.36	96.04	-5.23	-11.41	≤ 7.25	Pass
11n-HT20	6.5	1	2412	-6.78	98.16	-5.23	-12.01	≤ 7.25	Pass
11n-HT20	6.5	6	2437	-6.62	98.16	-5.23	-11.85	≤ 7.25	Pass
11n-HT20	6.5	11	2462	-6.75	98.16	-5.23	-11.98	≤ 7.25	Pass
11n-HT40	13.5	3	2422	-9.02	97.11	-5.23	-14.12	≤ 7.25	Pass
11n-HT40	13.5	6	2437	-9.62	97.11	-5.23	-14.72	≤ 7.25	Pass
11n-HT40	13.5	9	2452	-10.21	97.11	-5.23	-15.31	≤ 7.25	Pass

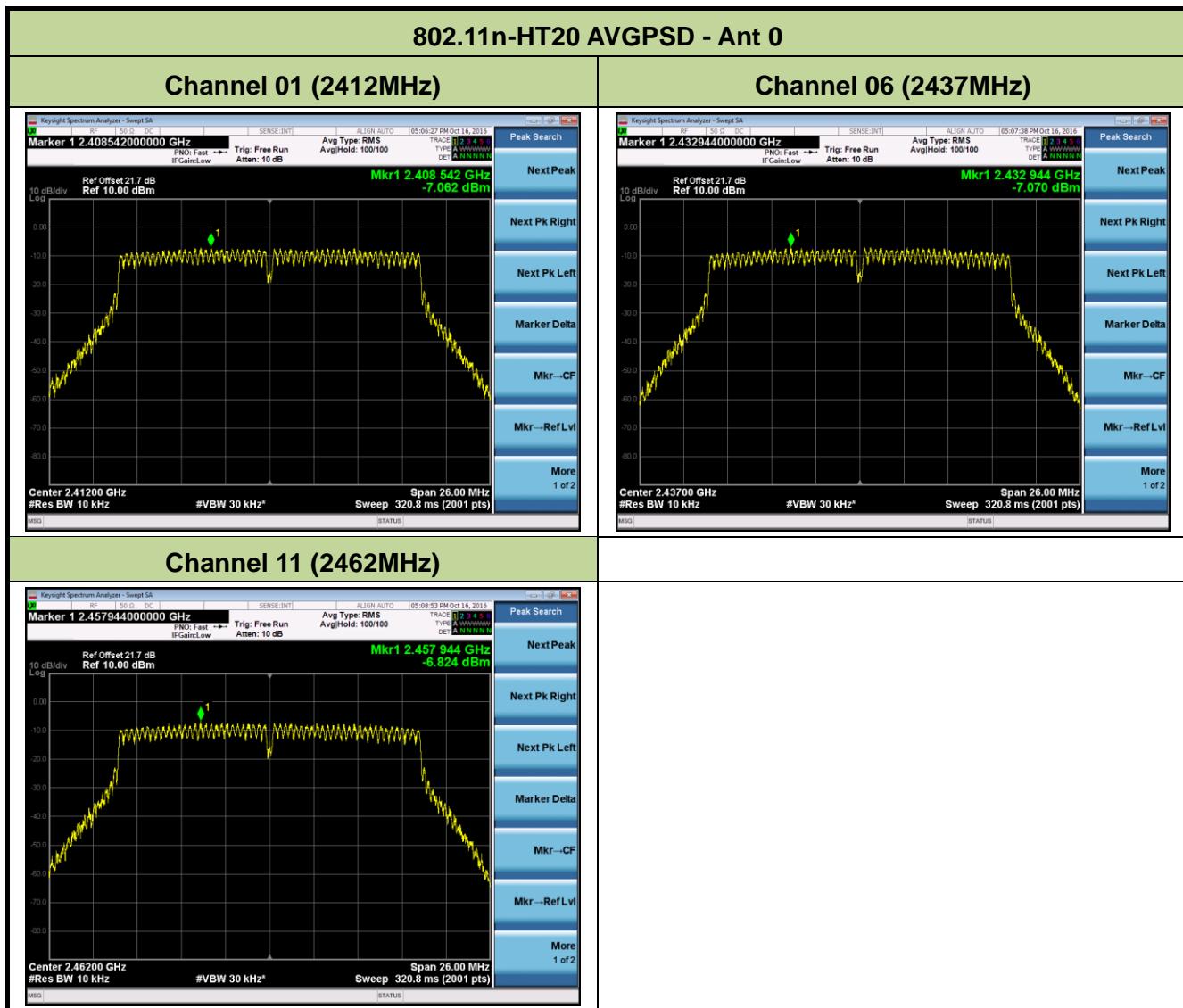
Test Mode	Data Rate (Mbps)	Channel No.	Freq. (MHz)	Ant 0 AVGPSD (dBm / 10kHz)	Ant 1 AVGPSD (dBm / 10kHz)	Ant 2 AVGPSD (dBm / 10kHz)	Ant 3 AVGPSD (dBm / 10kHz)	Duty Cycle (%)	Constant Factor	Total AVGPSD (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
Ant 0 + 1 + 2 + 3												
11b	1	1	2412	-5.39	-5.35	-5.28	-5.24	99.20	-5.23	-4.52	≤ -1.23	Pass
11b	1	6	2437	-3.78	-3.85	-3.72	-3.64	99.20	-5.23	-2.96	≤ -1.23	Pass
11b	1	11	2462	-2.93	-4.16	-4.12	-3.90	99.20	-5.23	-2.96	≤ -1.23	Pass
11g	6	1	2412	-15.80	-15.89	-15.35	-14.89	96.04	-5.23	-14.50	≤ -1.23	Pass
11g	6	6	2437	-6.30	-6.22	-6.30	-6.38	96.04	-5.23	-5.33	≤ -1.23	Pass
11g	6	11	2462	-13.70	-13.12	-13.24	-12.90	96.04	-5.23	-12.26	≤ -1.23	Pass
11n-HT20	26	1	2412	-16.25	-16.45	-15.89	-15.35	98.16	-5.23	-15.17	≤ -1.23	Pass
11n-HT20	26	6	2437	-6.55	-6.36	-6.29	-6.27	98.16	-5.23	-5.58	≤ -1.23	Pass
11n-HT20	26	11	2462	-15.23	-14.07	-14.29	-14.39	98.16	-5.23	-13.68	≤ -1.23	Pass
11n-HT40	54	3	2422	-20.15	-20.90	-20.86	-19.87	97.11	-5.23	-19.50	≤ -1.23	Pass
11n-HT40	54	6	2437	-9.45	-9.16	-9.18	-8.97	97.11	-5.23	-8.27	≤ -1.23	Pass
11n-HT40	54	9	2452	-19.37	-18.92	-18.94	-19.03	97.11	-5.23	-18.14	≤ -1.23	Pass

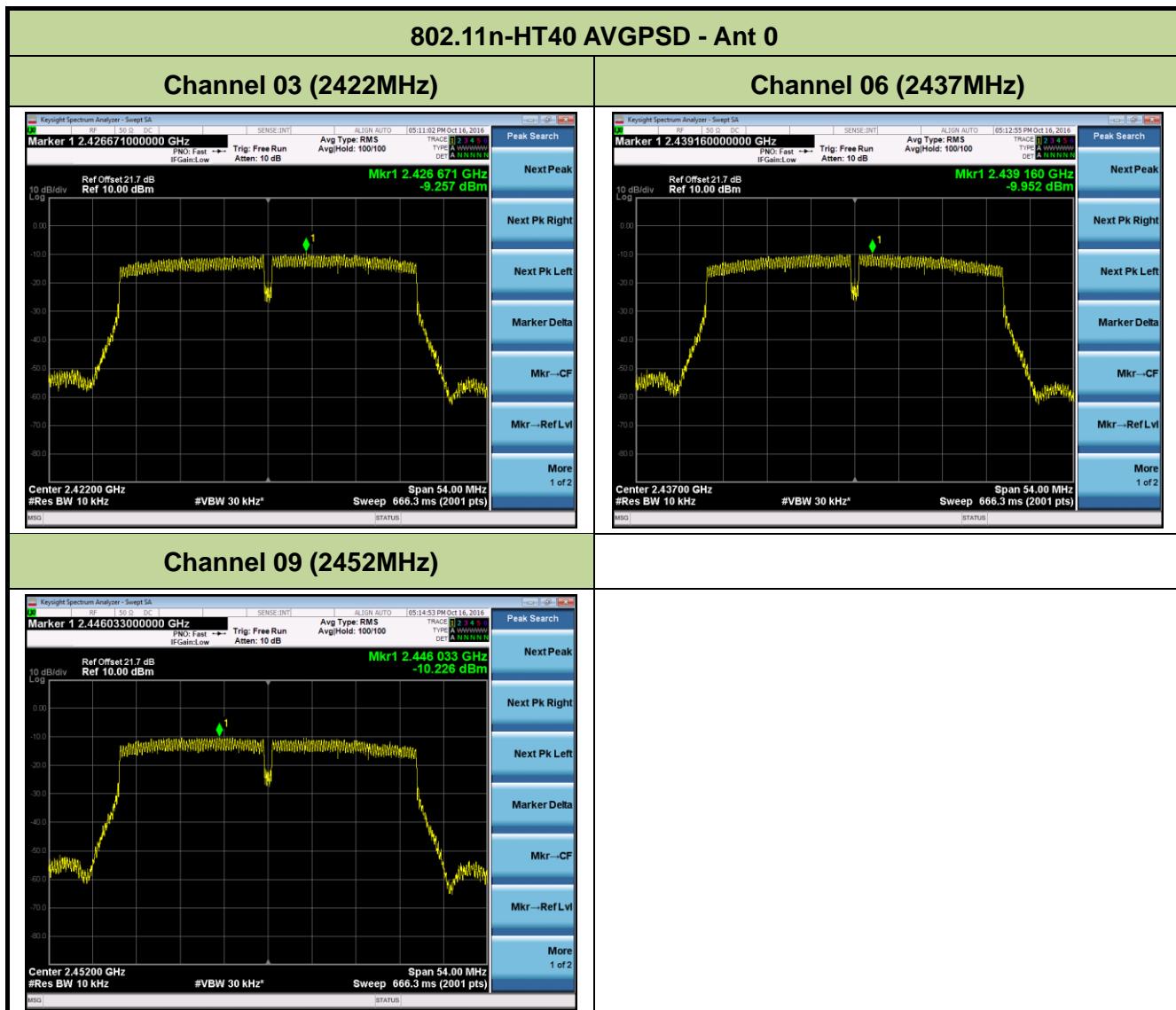
Note 1: When EUT duty cycle < 98%, the total AVGPSD =  $10^{\text{Ant 0 AVGPSD}/10} + 10^{\text{Ant 1 AVGPSD}/10} + 10^{\text{Ant 2 AVGPSD}/10} + 10^{\text{Ant 3 AVGPSD}/10}$ } + 10\*log(1/duty cycle) + Constant Factor.

Note 2: When EUT duty cycle > 98%, the total AVGPSD =  $10^{\text{Ant 0 AVGPSD}/10} + 10^{\text{Ant 1 AVGPSD}/10} + 10^{\text{Ant 2 AVGPSD}/10} + 10^{\text{Ant 3 AVGPSD}/10}$ } + Constant Factor.

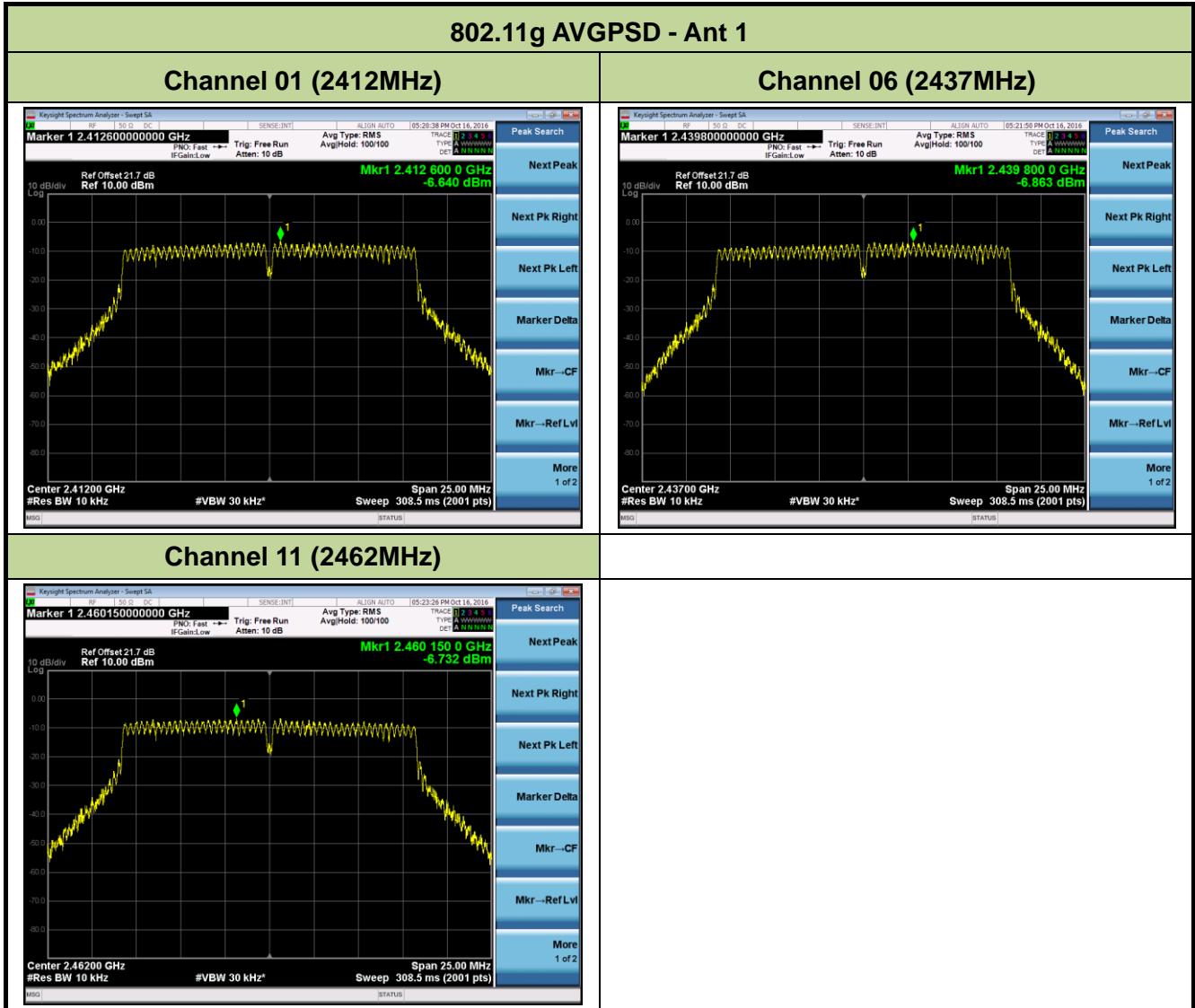


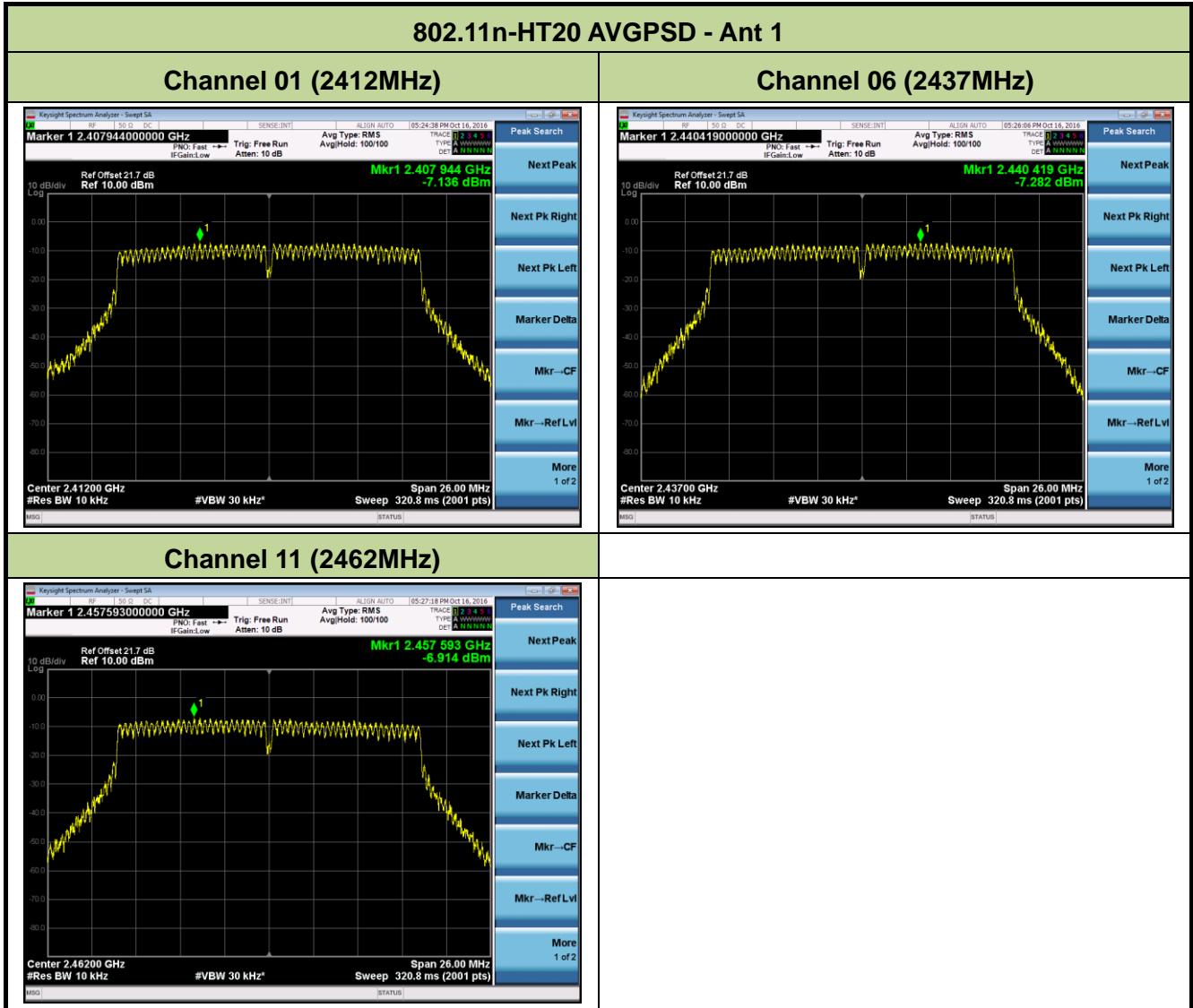


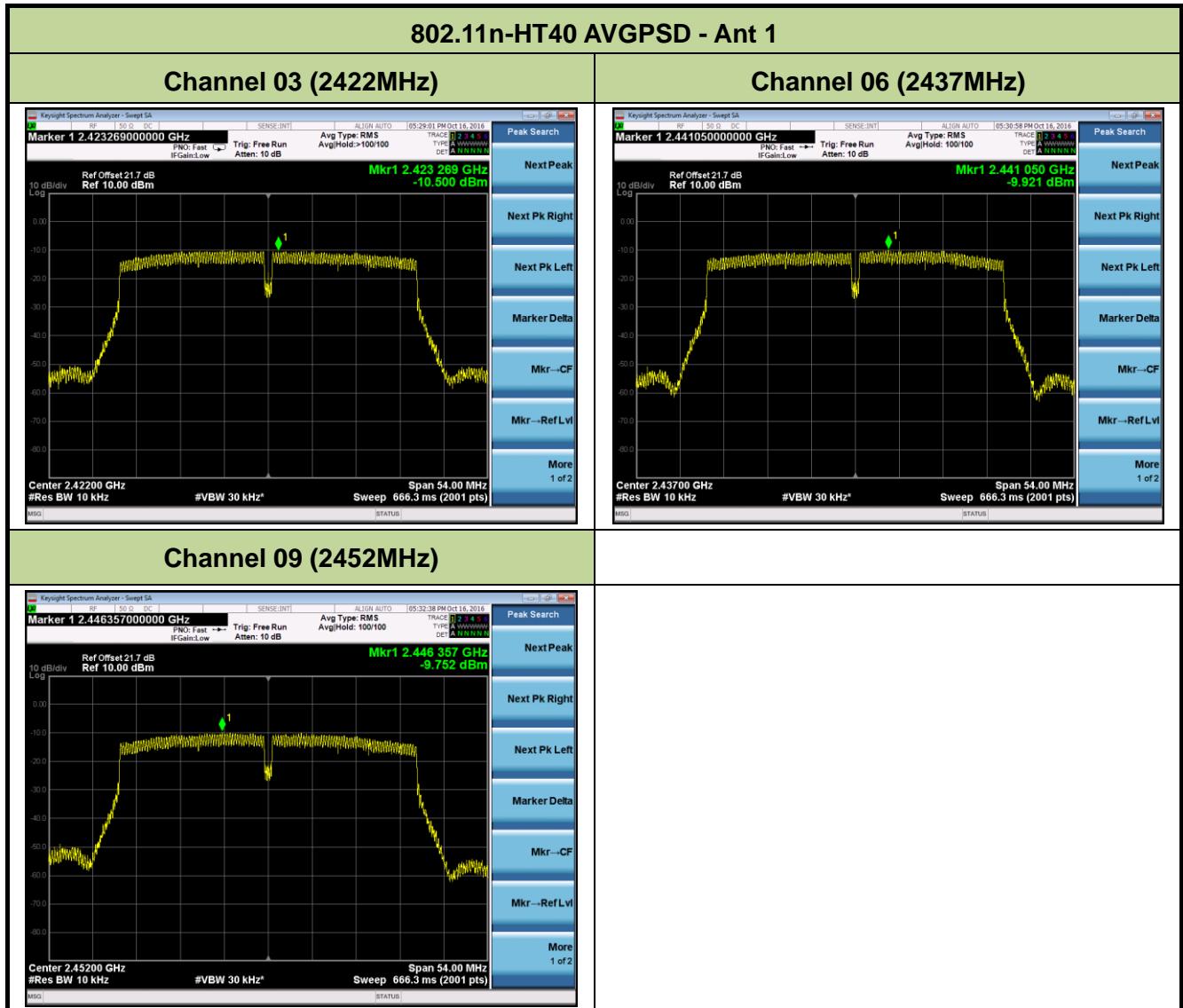


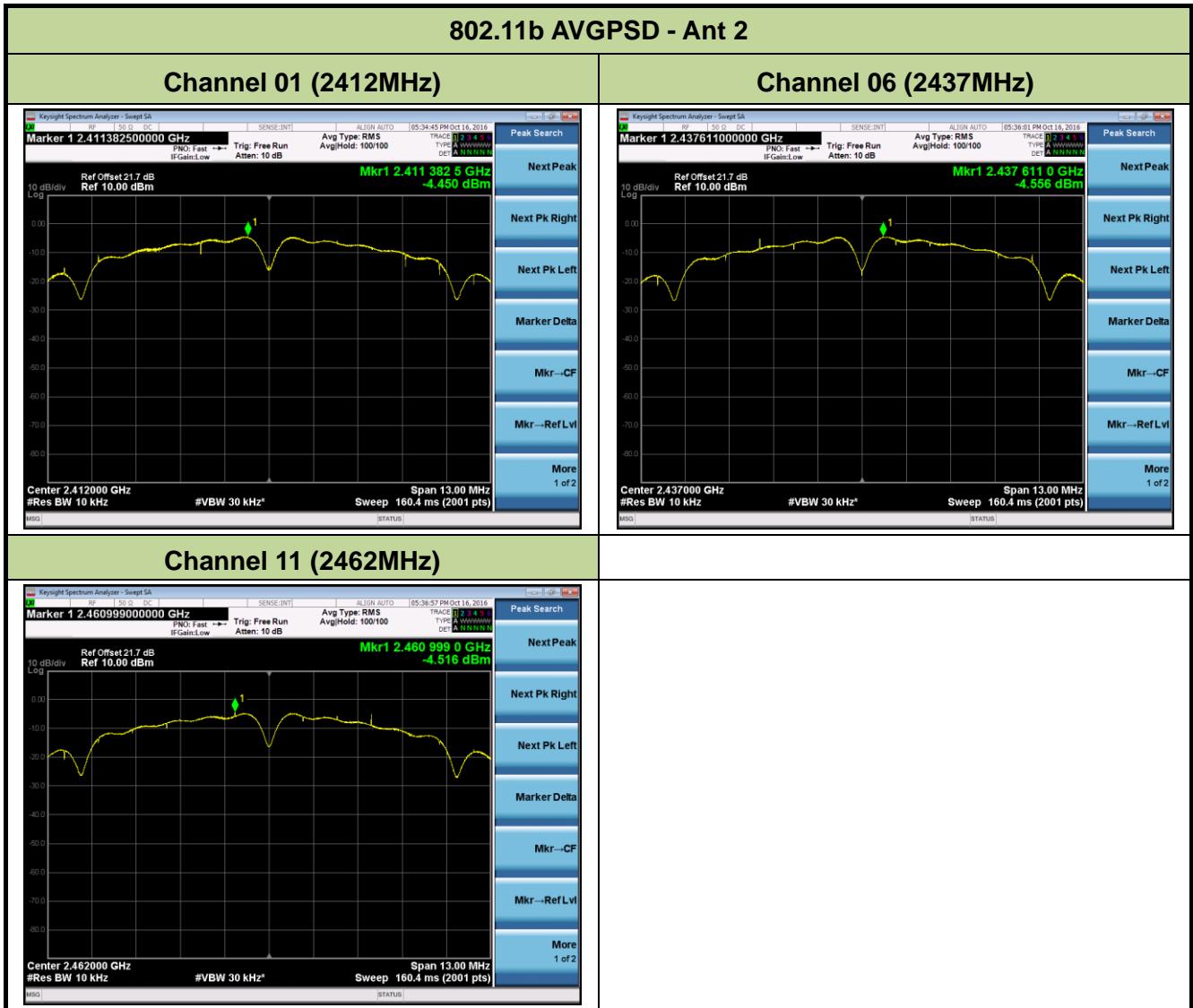


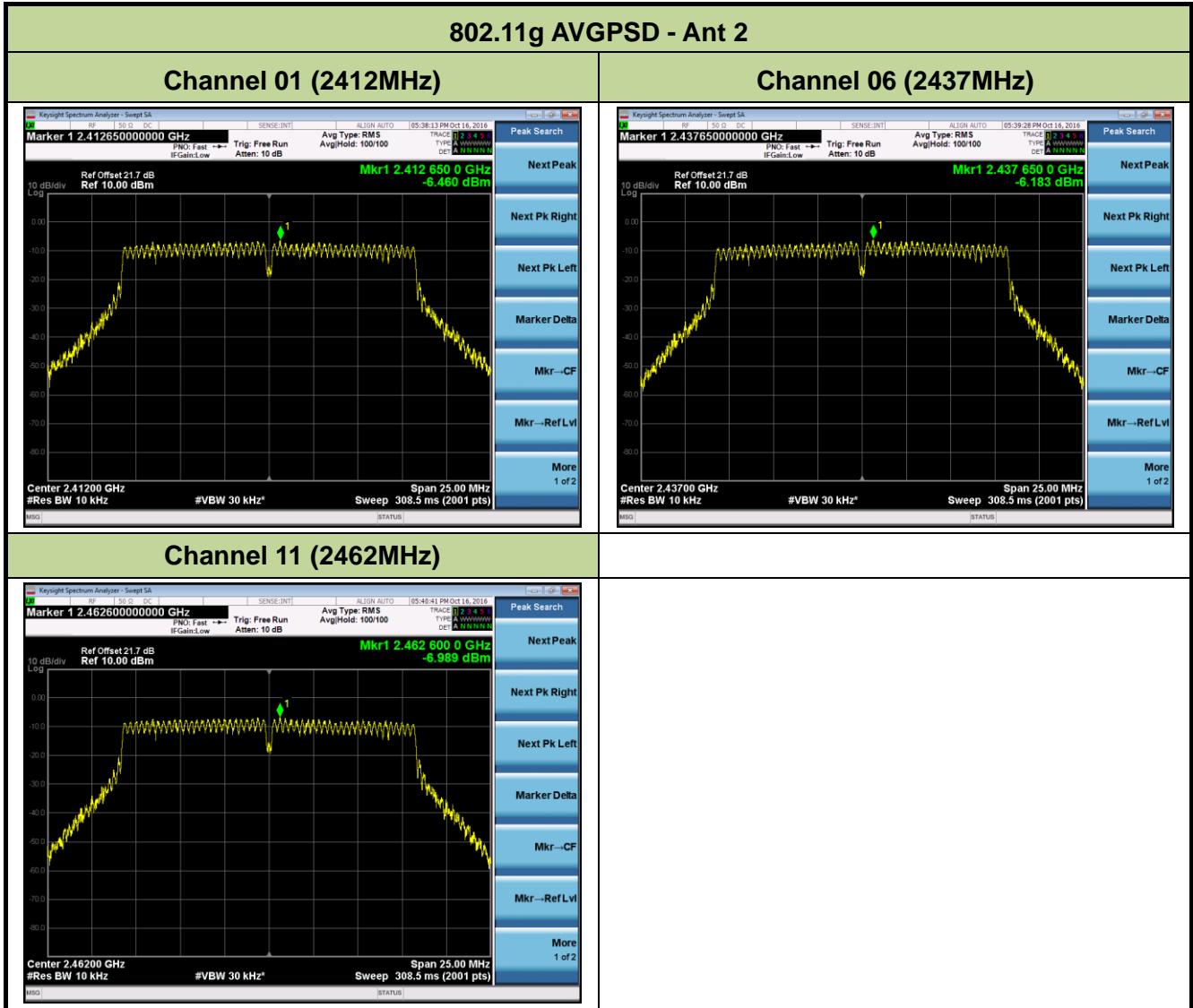


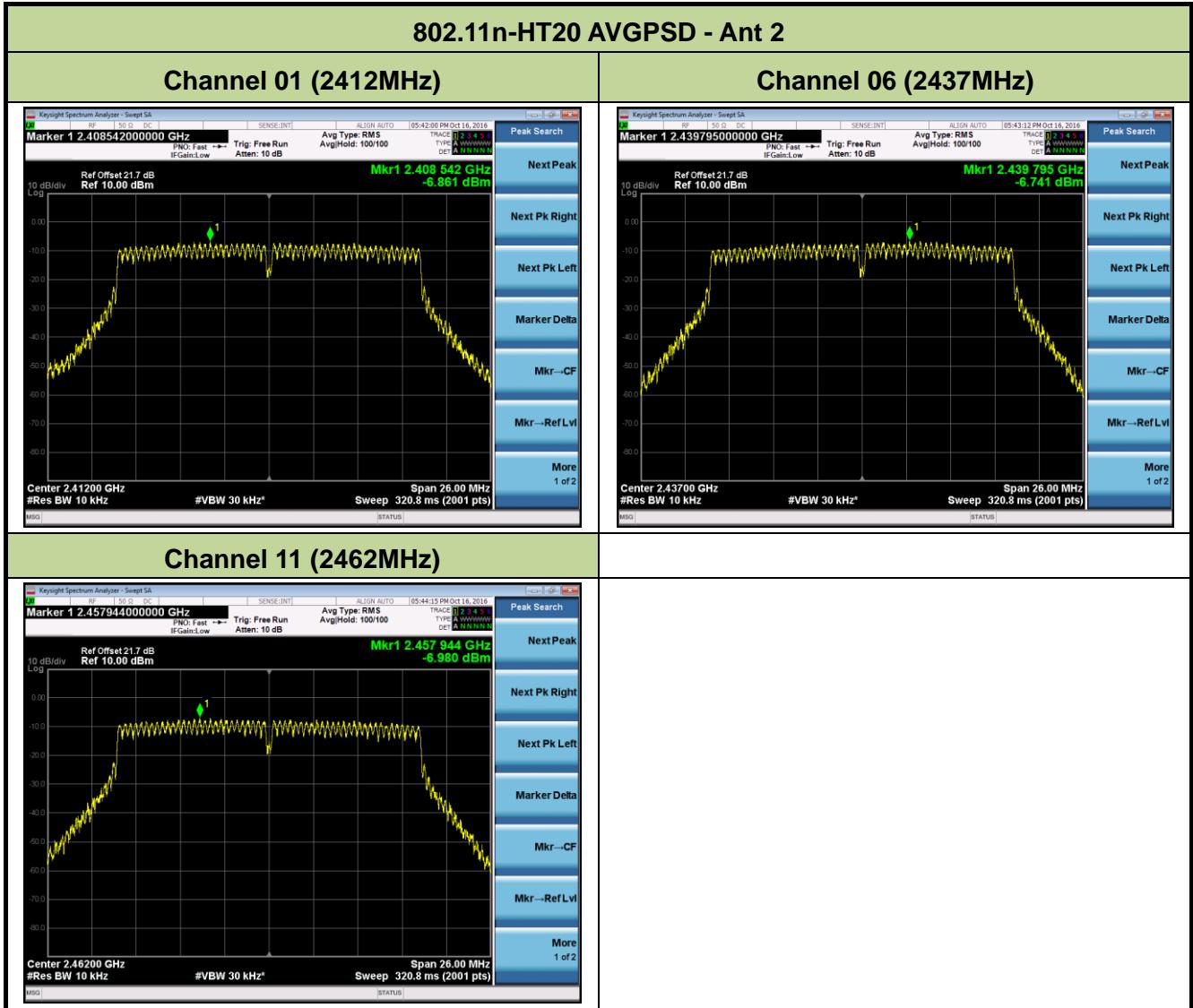


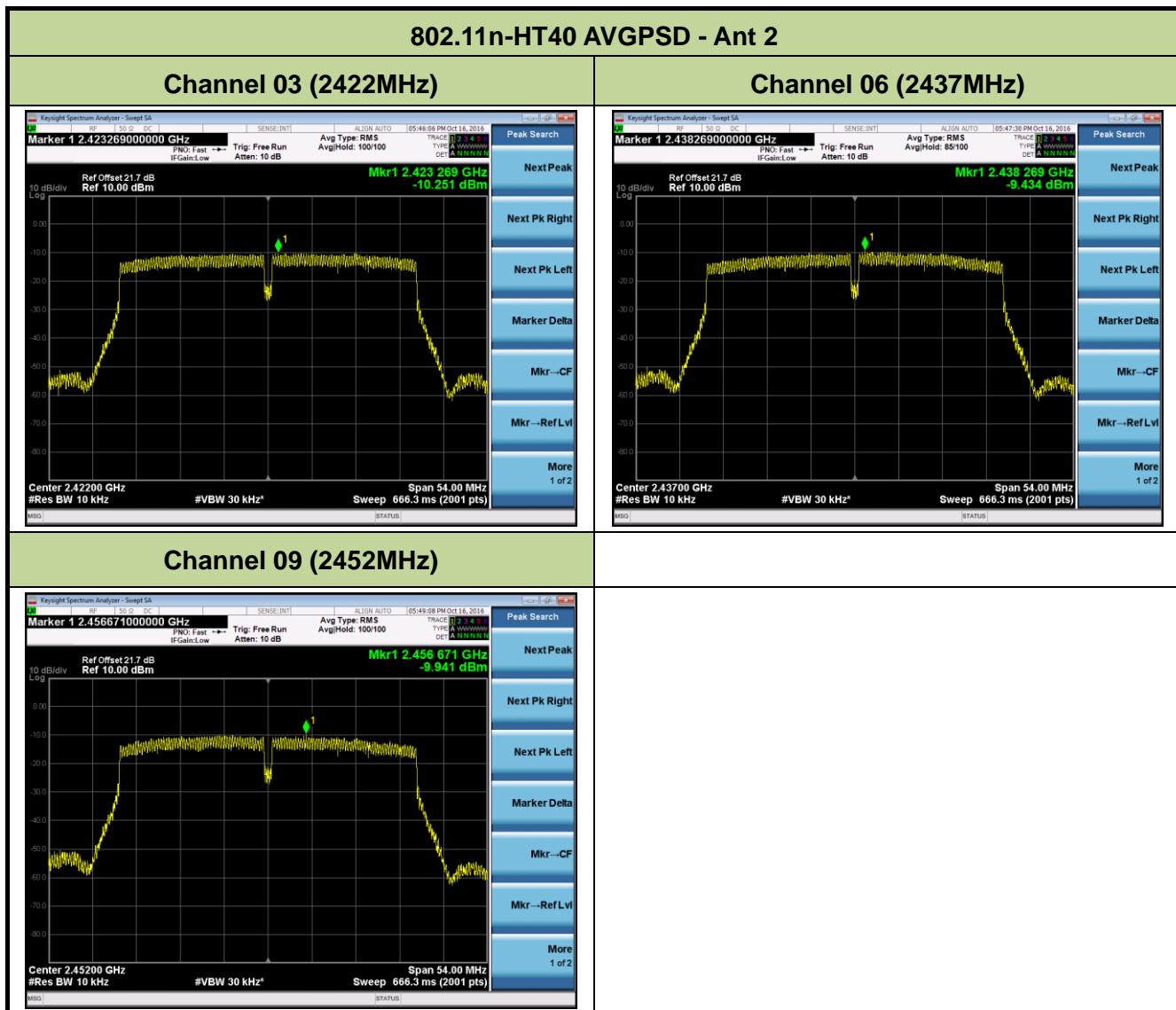












## 802.11b AVGPSD - Ant 3

## Channel 01 (2412MHz)



## Channel 06 (2437MHz)



## Channel 11 (2462MHz)



