Output Power measurement result

Test Channel	Frequency (MHz)	Maximum Conducted Output Power(dBm)		Total power (dBm)	Limit (dBm)
		Ant 0	Ant 1		
TX 802.11b Mode					
CH01	2412	3.13	**3.99**	-	30.0
CH06	2437	3.23	3.77	-	30.0
CH11	2462	3.16	3.57	-	30.0
TX 802.11g Mode					
CH01	2412	3.11	4.08	-	30.0
CH06	2437	2.99	**4.13**	-	30.0
CH11	2462	3.15	3.96	-	30.0
TX 802.11n(20) Mode					
CH01	2412	2.41	3.98	6.28	30.0
CH06	2437	2.51	4.42	**6.58**	30.0
CH11	2462	2.50	3.92	6.28	30.0
TX 802.11n(40) Mode					
CH01	2422	3.15	3.53	**6.35**	30.0
CH06	2437	2.36	2.13	5.26	30.0
CH11	2452	2.57	2.38	5.49	30.0

Note:1. 802.11b ,802.11g mode the ANT 0 and ANT 1 can not TX and RX at the same time;

2. 802.11n(20),802.11n(40) mode the ANT 0 and ANT 1 can TX and RX at the same time;

3. Directional gain=GANT +10log(N)dbi =2.0+10log2=5.0dbi;

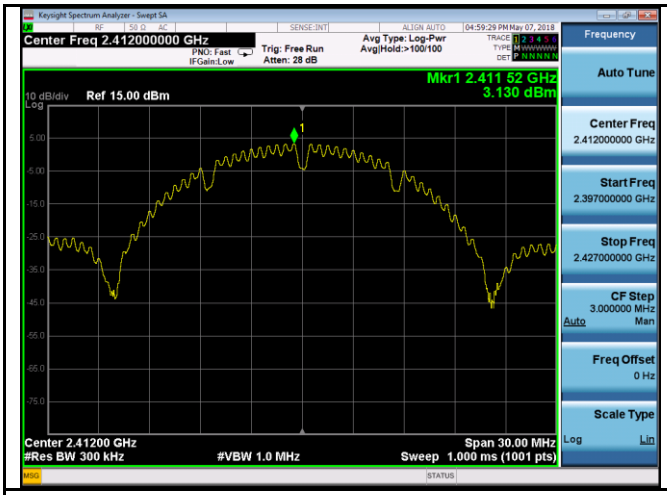
4. For power test the duty cycle is 100% in continous transmitting mode.

5.TX means Transmitter; RX means Receive.

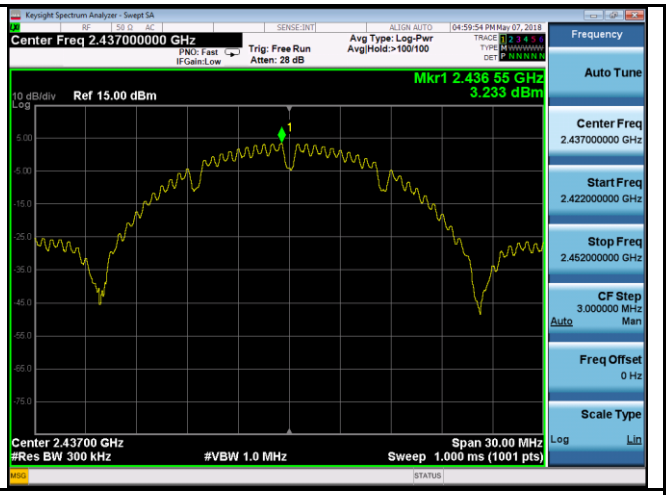
TX 0:

Test Plots

The Average Power



802.11b - AV Output power - Low CH 2412



802.11b - AV Output power - Mid CH 2437

802.11b - AV Output power - High CH 2462

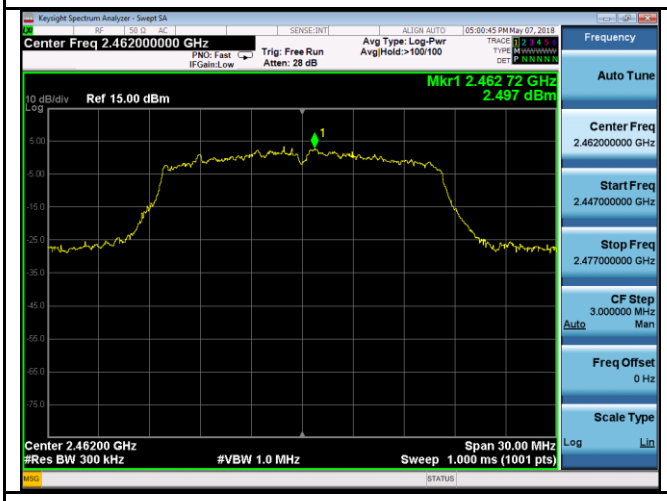
802.11g - AV Output power - Low CH 2412

802.11g - AV Output power - Mid CH 2437

802.11g - AV Output power - High CH 2462

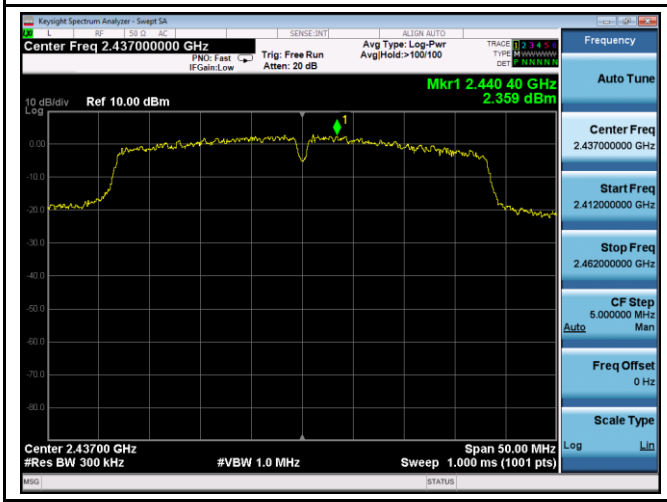
802.11n20 - AV Output power - Low CH 2412

802.11n20 - AV Output power - Mid CH 2437



802.11n20 - AV Output power - High CH 2462

802.11n40 - AV Output power - Low CH 2422



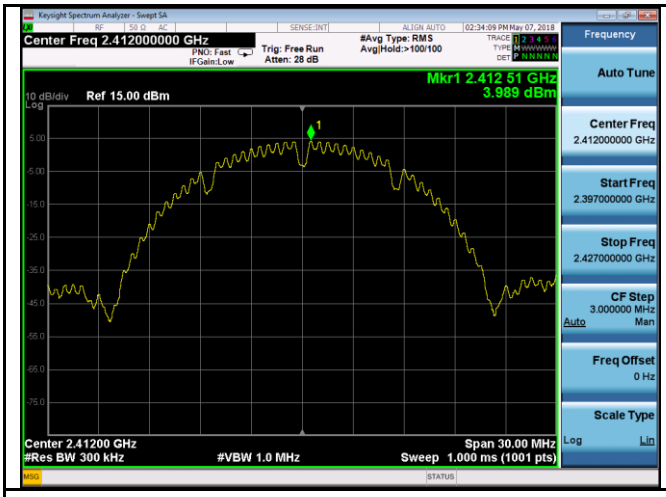
802.11n40 - AV Output power - Mid CH 2437

802.11n40 - AV Output power - High CH 2452

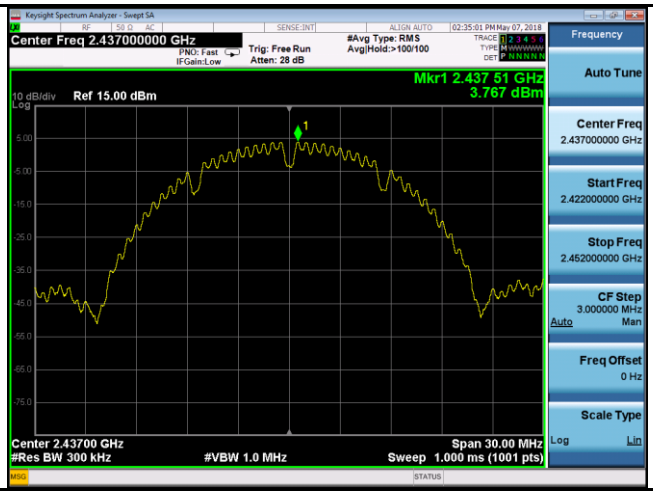
TX 1:

Test Plots

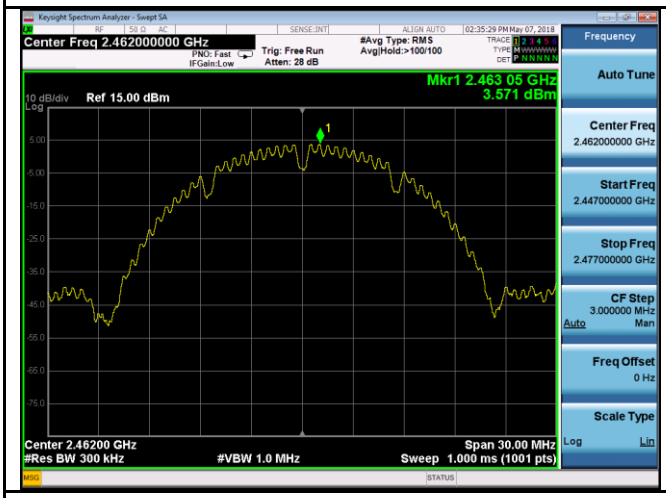
The Average Power



802.11b - AV Output power - Low CH 2412



802.11b - AV Output power - Mid CH 2437



802.11b - AV Output power - High CH 2462

802.11g - AV Output power - Low CH 2412

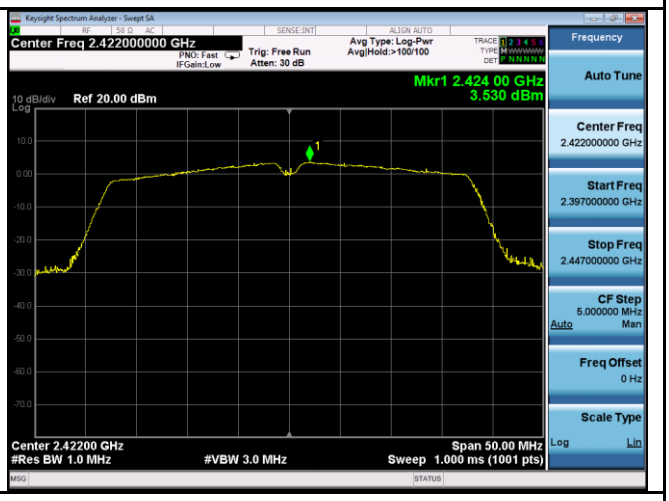
802.11g - AV Output power - Mid CH 2437

802.11g - AV Output power - High CH 2462

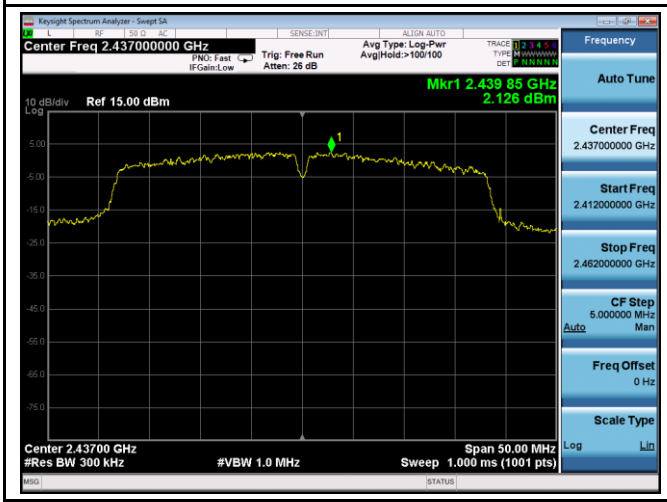
802.11n20 - AV Output power - Low CH 2412

802.11n20 - AV Output power - Mid CH 2437

802.11n20 - AV Output power - High CH 2462



802.11n40 - AV Output power - Low CH 2422

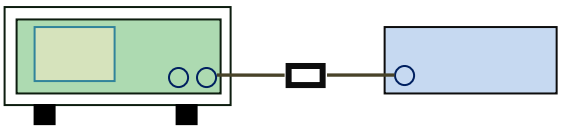


802.11n40 - AV Output power - Mid CH 2437

802.11n40 - AV Output power - High CH 2452

6.4 Power Spectral Density

Temperature	25℃
Relative Humidity	57%
Atmospheric Pressure	1014mbar
Test date :	May 07, 2018
Tested By :	Aaron Liang

Spec	Item	Requirement	Applicable
§15.247(e)	a)	The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.	☑
Test Setup			
Test Procedure	558074 D01 DTS MEAS Guidance v03r03, 10.2 power spectral density method power spectral density measurement procedure - a) Set analyzer center frequency to DTS channel center frequency. - b) Set the span to 1.5 times the DTS bandwidth. - c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz. - d) Set the VBW ≥ 3 × RBW. - e) Detector = peak. - f) Sweep time = auto couple. - g) Trace mode = max hold. - h) Allow trace to fully stabilize. - i) Use the peak marker function to determine the maximum amplitude level within the RBW. - j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.		
Remark			
Result	☑ Pass ☐ Fail		

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Power Spectral Density measurement result

Mode	Channel Frequency (MHz)	Power density (dBm/3kHz)		Total PSD	Limit (dBm/3kHz)	Result
		Ant 0	Ant 1			
802.11b	2412	-10.698	-10.418	-	8	Pass
	2437	-12.342	-9.600	-	8	Pass
	2462	-11.722	-11.305	-	8	Pass
802.11g	2412	-15.865	-13.075	-	8	Pass
	2437	-13.152	-12.125	-	8	Pass
	2462	-12.843	-12.425	-	8	Pass
802.11n (HT20)	2412	-14.178	-13.314	-10.71	8	Pass
	2437	-13.143	-13.713	-10.41	8	Pass
	2462	-13.429	-13.709	-10.56	8	Pass
802.11n (HT40)	2422	-13.760	-19.944	-12.82	8	Pass
	2437	-14.476	-13.974	-11.21	8	Pass
	2452	-15.425	-14.982	-12.19	8	Pass

TX 0:

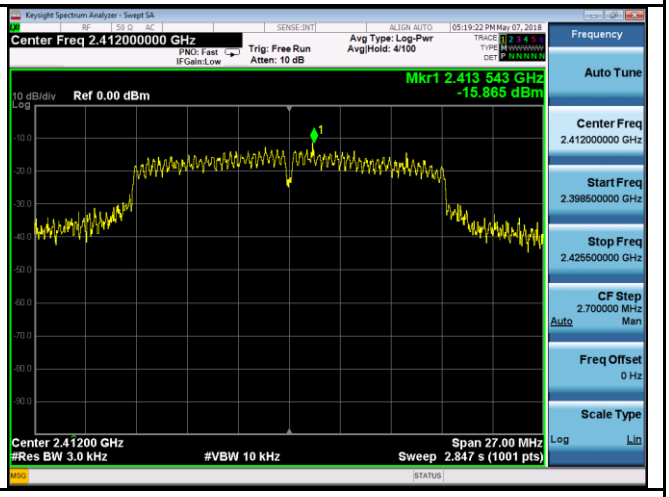
Test Plots

Power Spectral Density measurement result

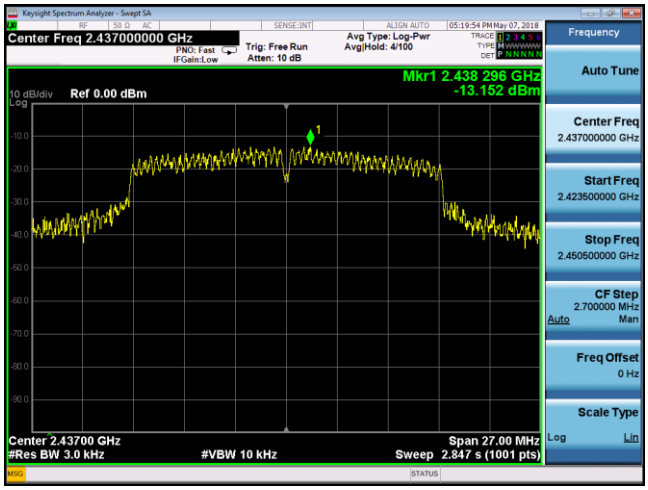
PSD - Low CH 2412 - 802.11b

PSD - Mid CH 2437 – 802.11b

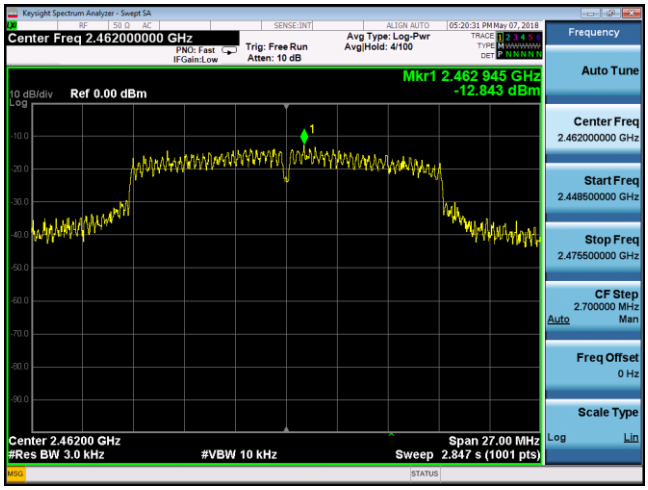
PSD - High CH 2462 - 802.11b



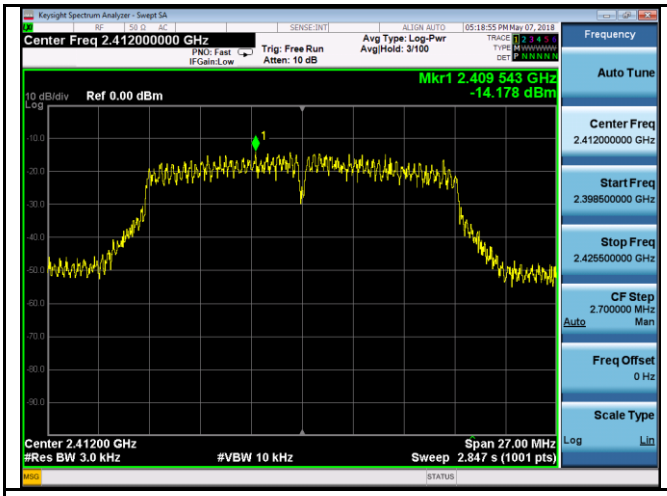
PSD - Low CH 2412 -802.11g



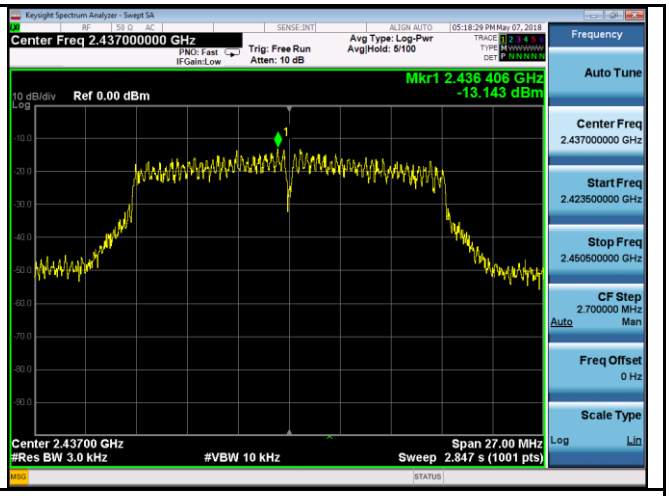
PSD - Mid CH 2437 – 802.11g



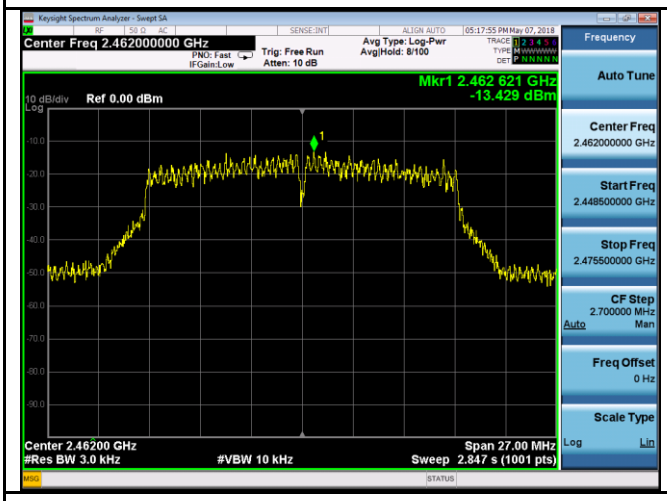
PSD - High CH 2462 - 802.11g



PSD - Low CH 2412 - 802.11n20

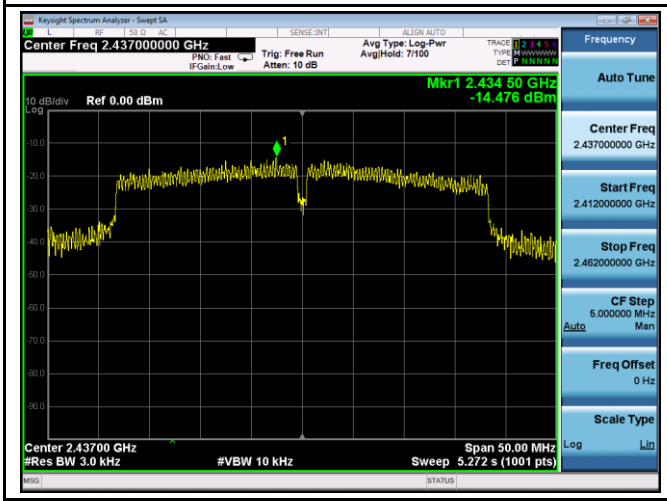


PSD - Mid CH 2437 – 802.11n20

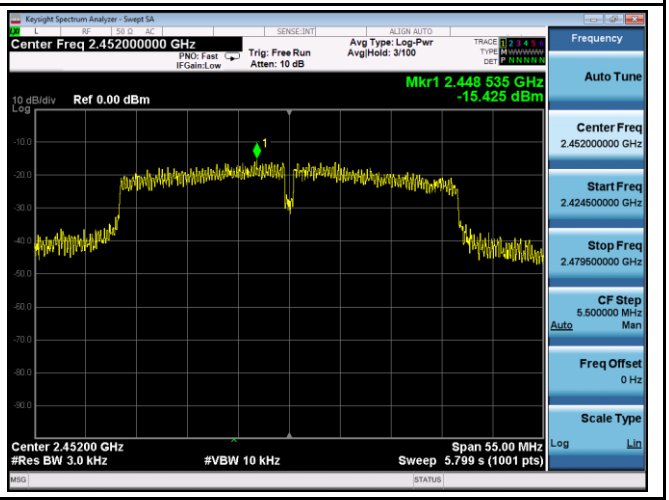


PSD - High CH 2472 - 802.11n20

PSD - Low CH 2422 - 802.11n40



PSD - Mid CH 2437 – 802.11n40



PSD - High CH 2452 - 802.11n40

TX 1:

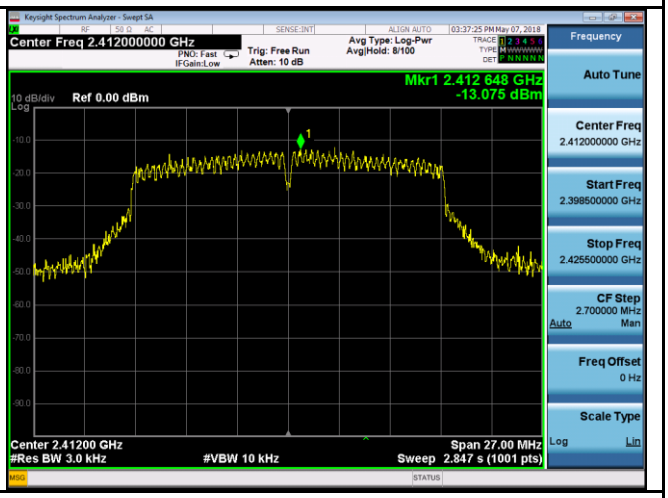
Test Plots

Power Spectral Density measurement result

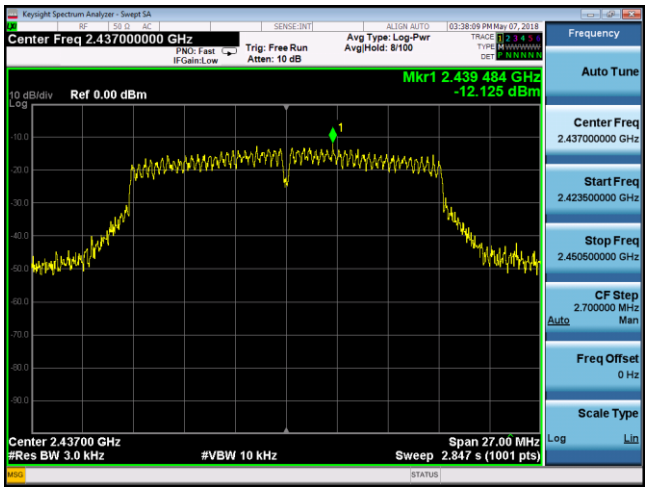
PSD - Low CH 2412 - 802.11b

PSD - Mid CH 2437 – 802.11b

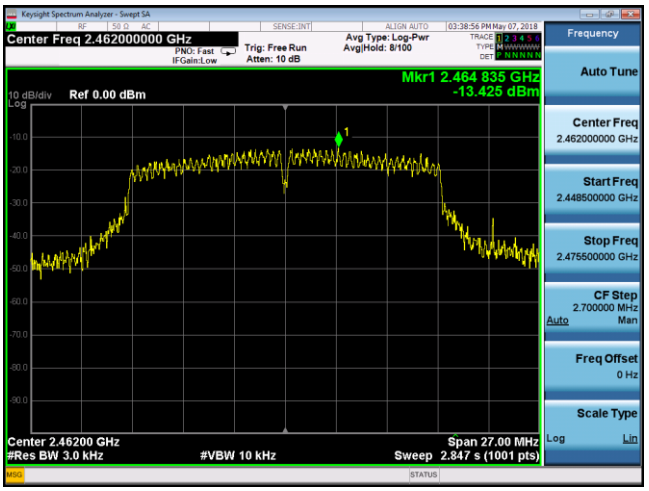
PSD - High CH 2462 - 802.11b



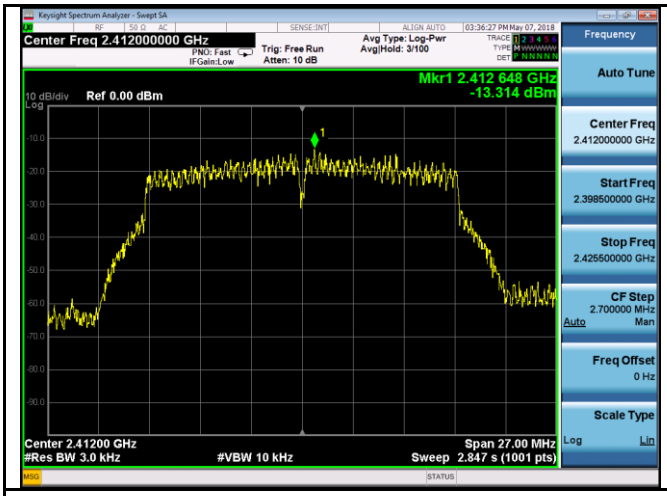
PSD - Low CH 2412 -802.11g



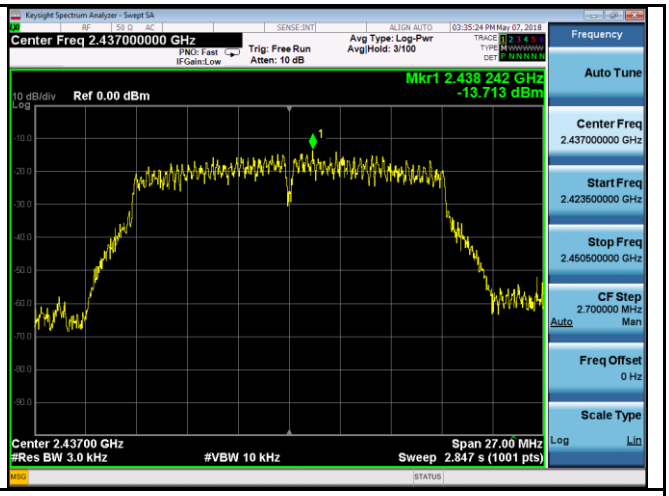
PSD - Mid CH 2437 – 802.11g



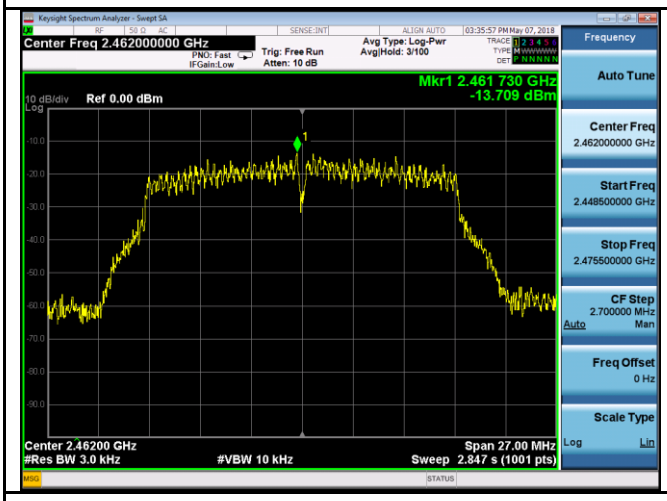
PSD - High CH 2462 - 802.11g



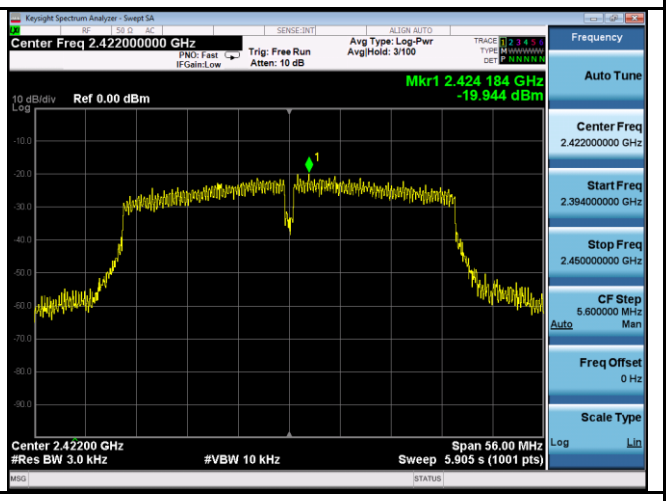
PSD - Low CH 2412 - 802.11n20



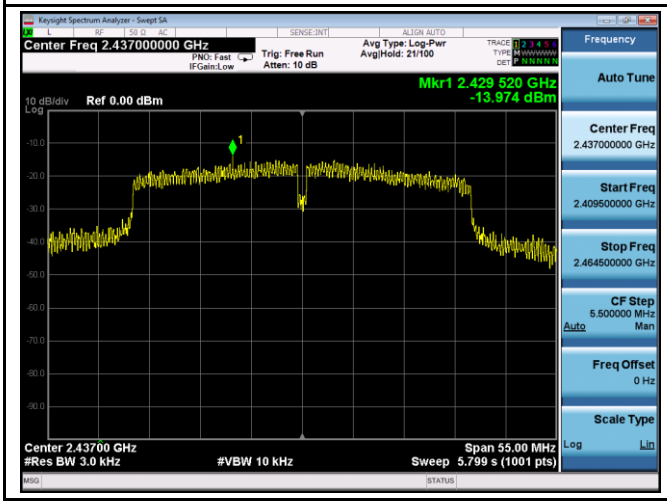
PSD - Mid CH 2437 – 802.11n20



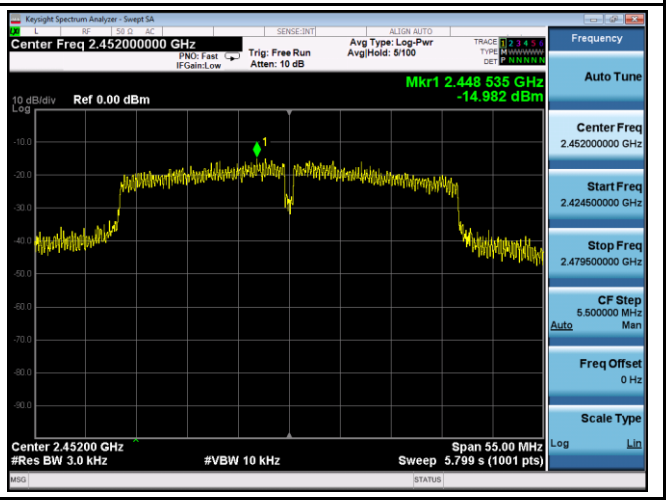
PSD - High CH 2472 - 802.11n20



PSD - Low CH 2422 - 802.11n40



PSD - Mid CH 2437 – 802.11n40

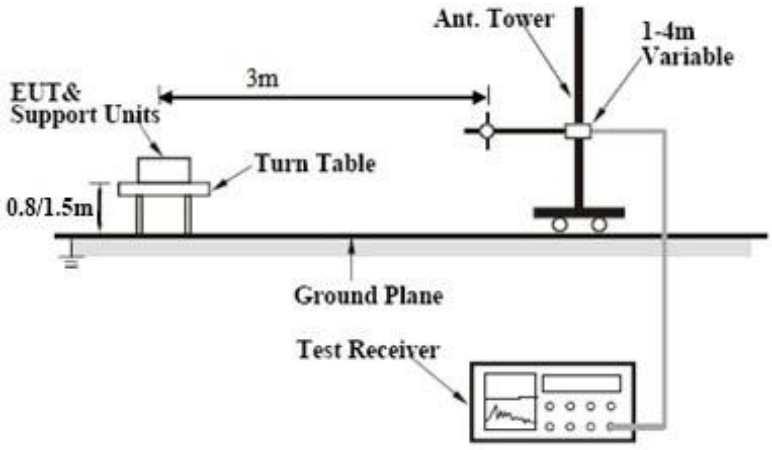


PSD - High CH 2452 - 802.11n40

6.5 Band-Edge & Unwanted Emissions into Restricted Frequency Bands

Temperature	25℃
Relative Humidity	57%
Atmospheric Pressure	1014mbar
Test date :	May 07, 2018
Tested By :	Aaron Liang

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(d)	a)	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.	☑
Test Setup			
Test Procedure	Radiated Method Only - 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. - 2. Position the EUT without connection to measurement instrument. Put it on the Rotated table and turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.		

	- 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, check the emission of EUT, if pass then set Spectrum Analyzer as below: a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz. b. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz. - 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency. - 5. Repeat above procedures until all measured frequencies were complete.
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A