5.6 Conduction Bandedge

5.6.1 Limits

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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

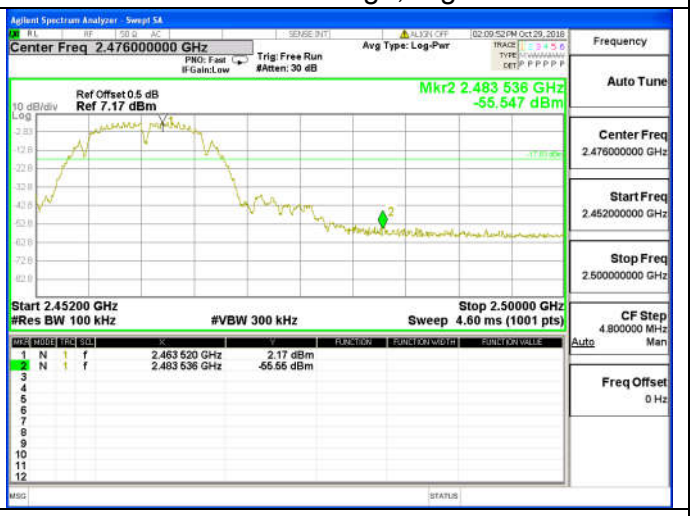
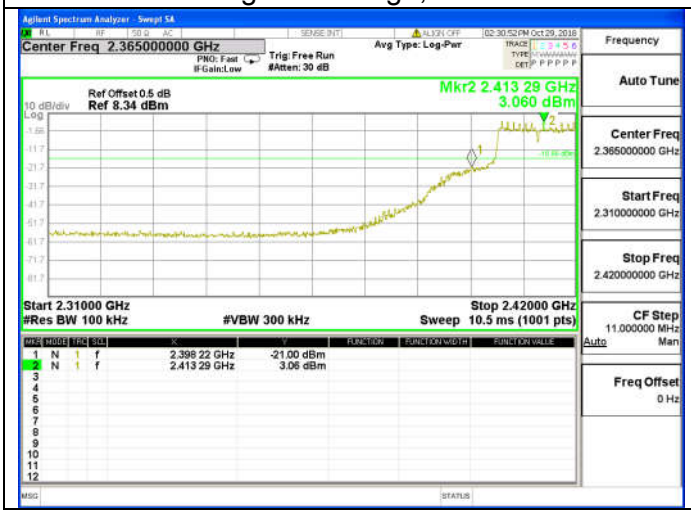
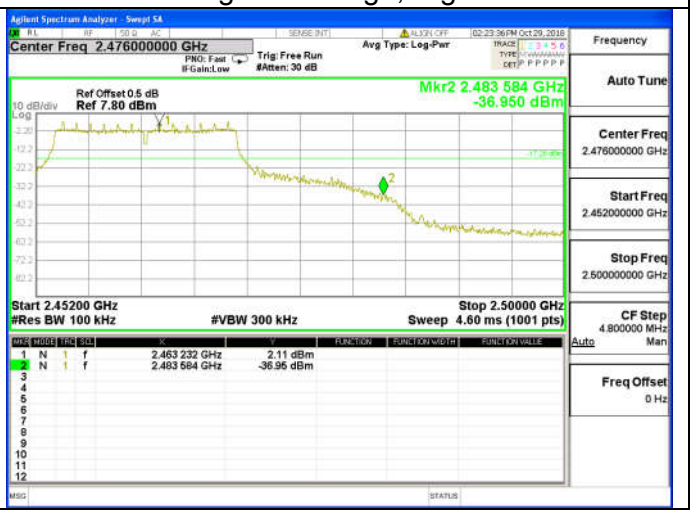
5.6.2 Test setup

5.6.3 Test procedure

a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
b) Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
c) Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
d) 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.
e) Repeat above procedures until all measured frequencies were complete.

5.6.4 Test results

For ANTA

802.11b: Band Edge, Left Side	802.11b: Band Edge, Right Side
	
802.11g: Band Edge, Left Side	**802.11g: Band Edge, Right Side**
	

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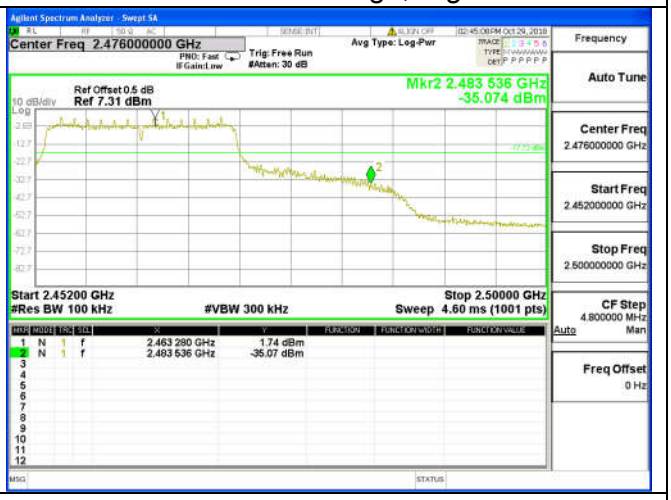
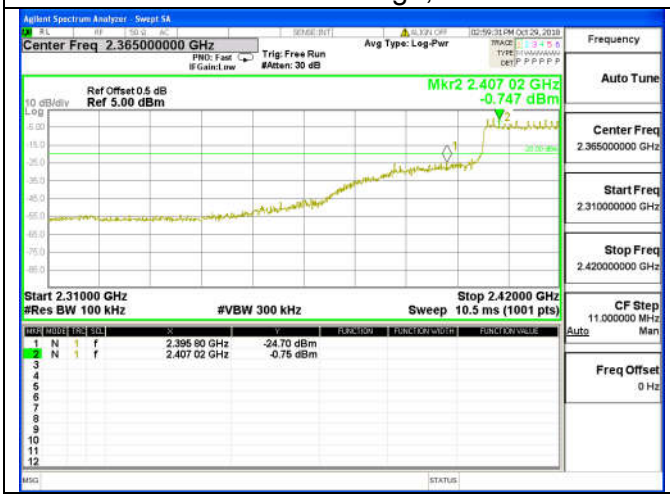
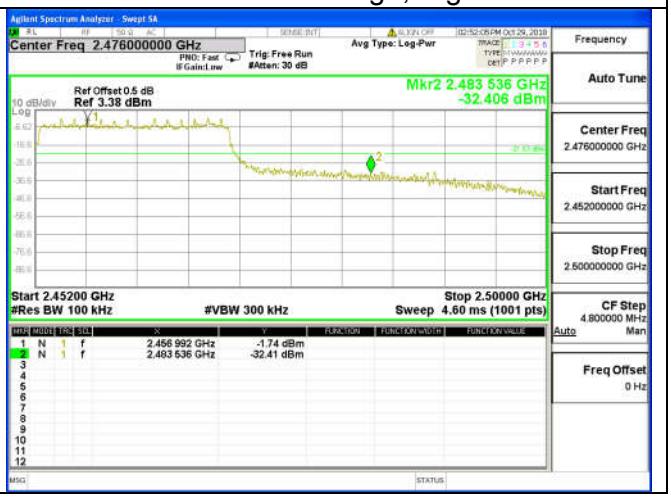
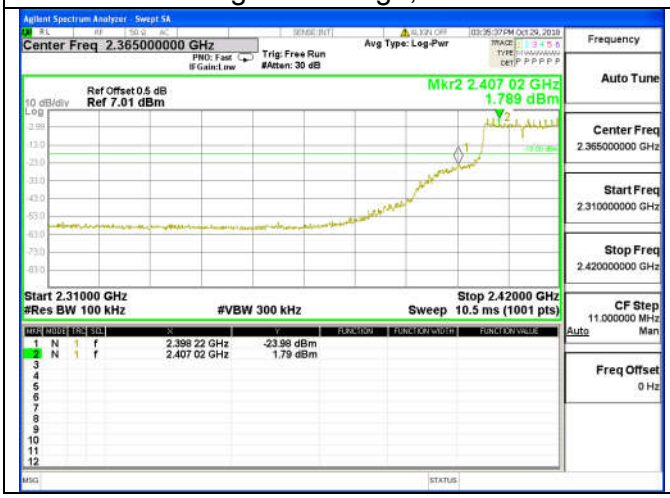
	
802.11n40: Band Edge, Left Side	802.11n40: Band Edge, Right Side
	

For ANTB

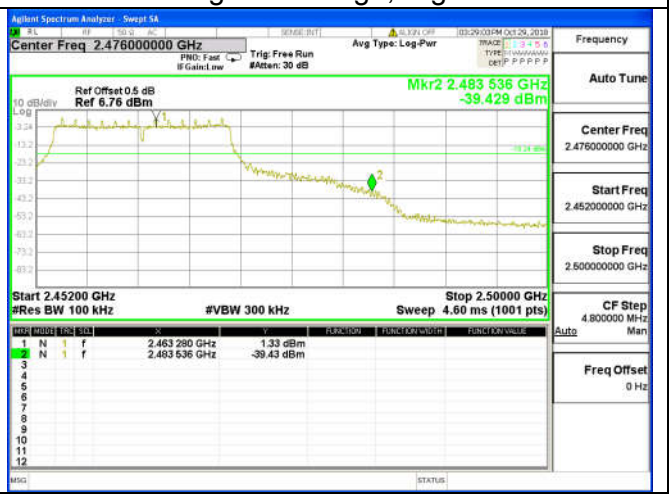
802.11b: Band Edge, Left Side

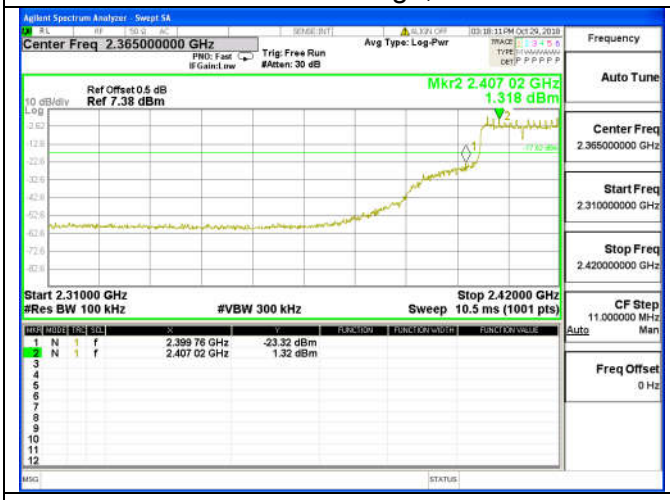
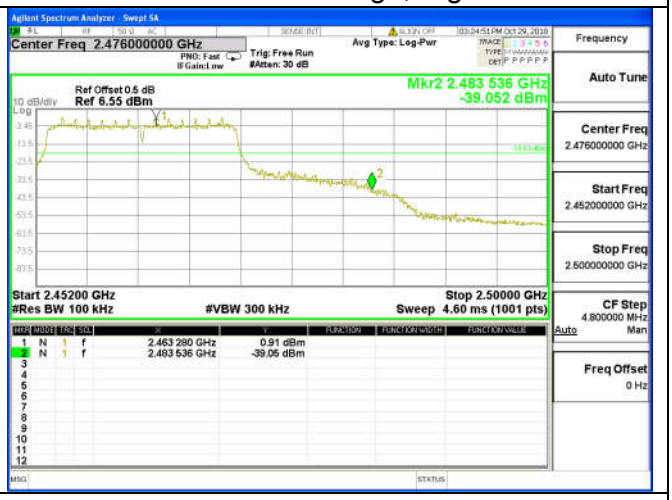
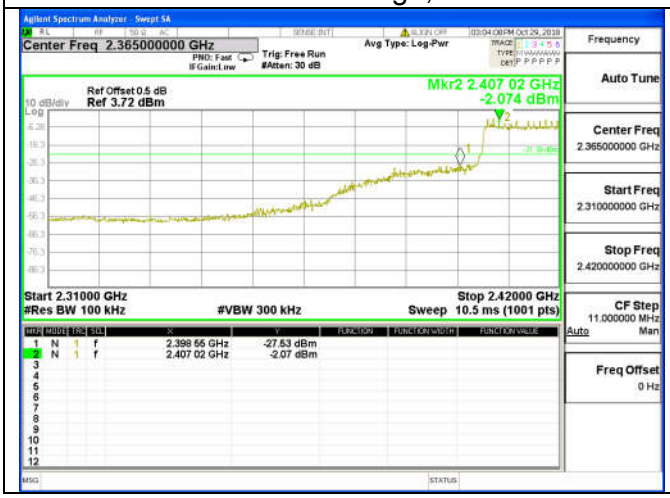
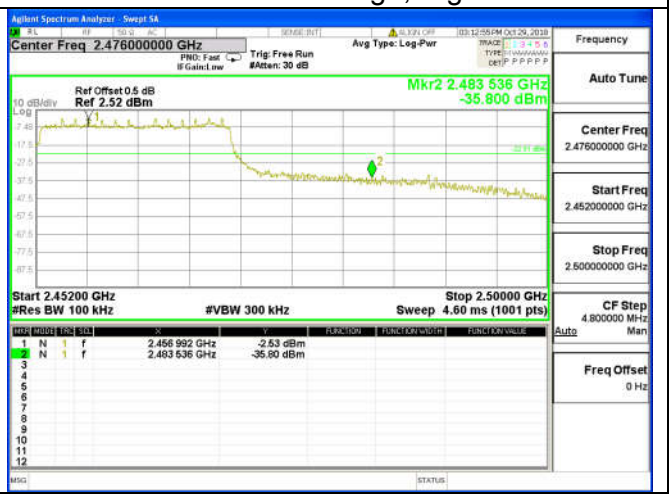
802.11b: Band Edge, Right Side

802.11g: Band Edge, Left Side



802.11g: Band Edge, Right Side



802.11n20: Band Edge, Left Side	802.11n20: Band Edge, Right Side
	
802.11n40: Band Edge, Left Side	802.11n40: Band Edge, Right Side
	

5.7 Spurious RF Conducted Emissions

5.7.1 Conformance Limit

1. Below -20dB of the highest emission level in operating band.

5.7.2 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

5.7.3 Test Setup

Please refer to Section 6.1 of this test report.

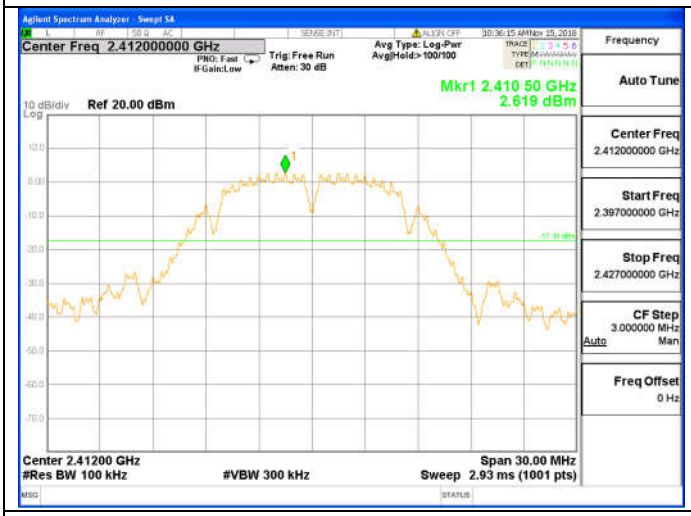
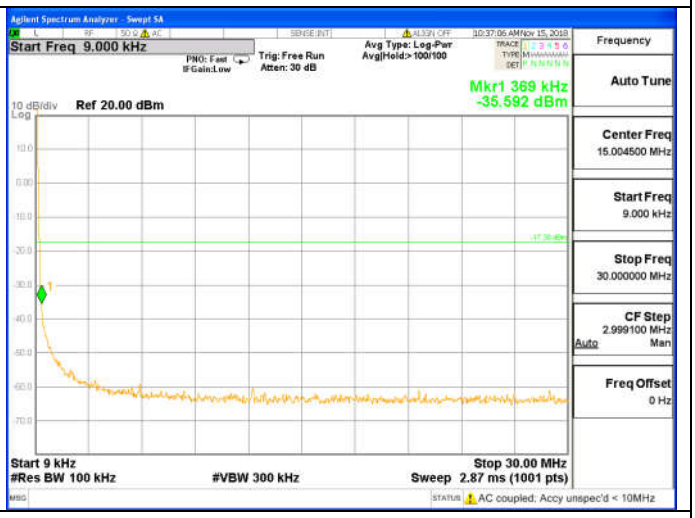
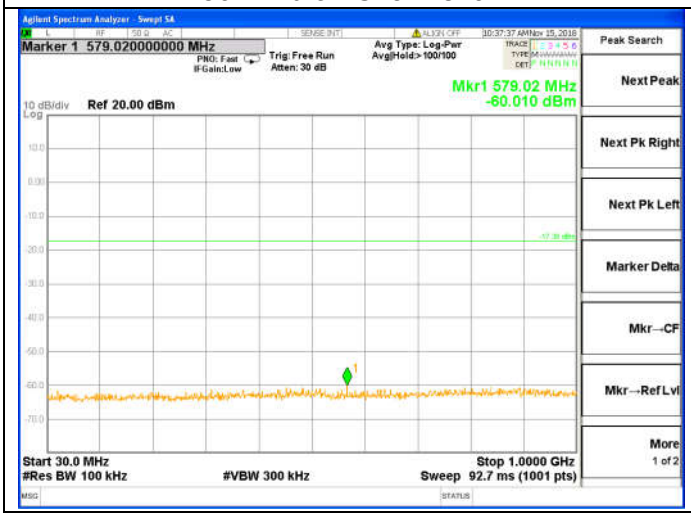
5.7.4 Test Procedure

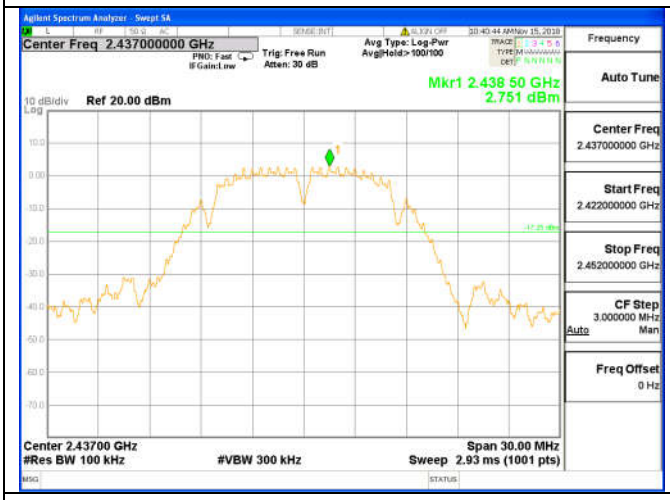
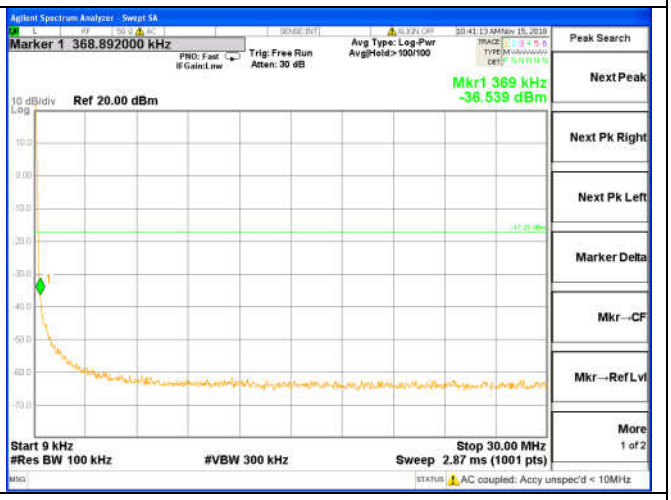
The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBW= 300KHz to measure the peak field strength, and mwasure frequency range from 9KHz to 26.5GHz.

5.7.5 Test Results

Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.

Both antennas are tested. The worst antenna data is shown below. The worst antenna is A.

802.11b on Channel 01	802.11b on Channel 01
	
802.11b on Channel 01	802.11b on Channel 01
	

802.11b on Channel 06	802.11b on Channel 06
	
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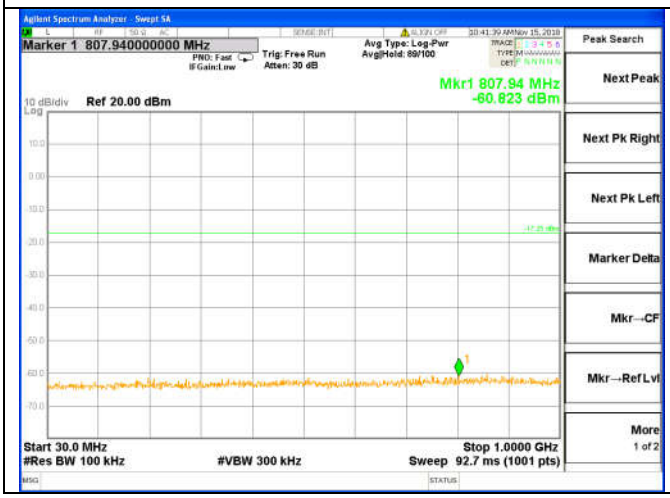	

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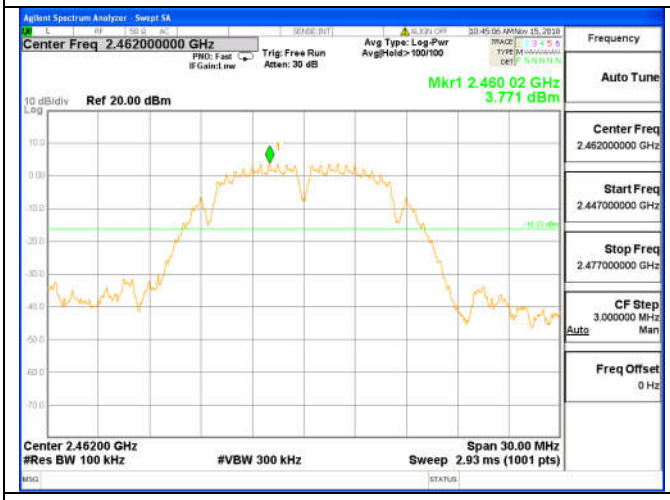	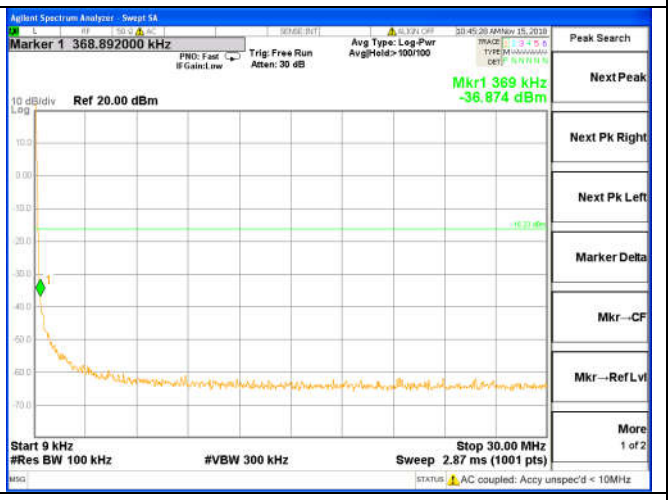
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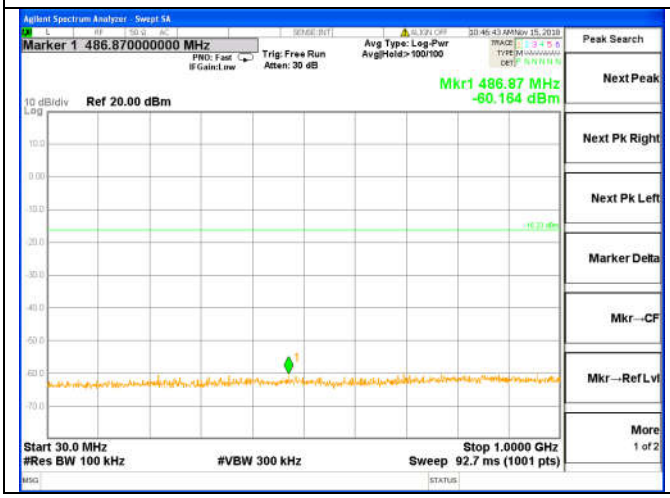	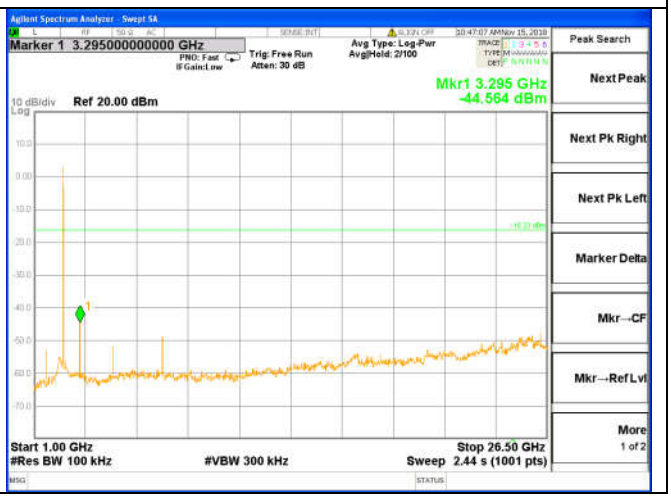

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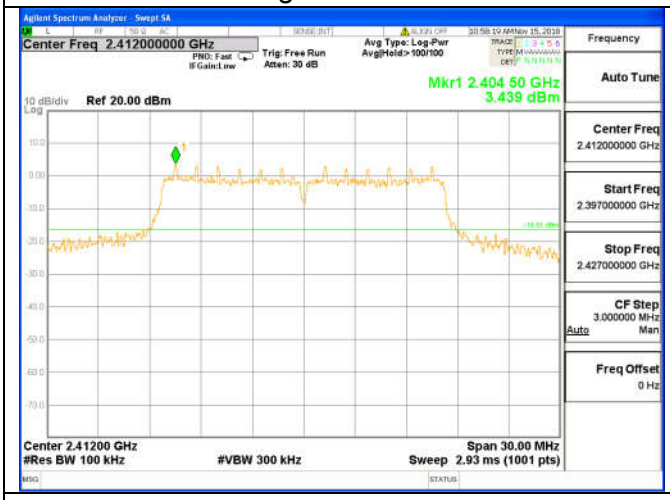	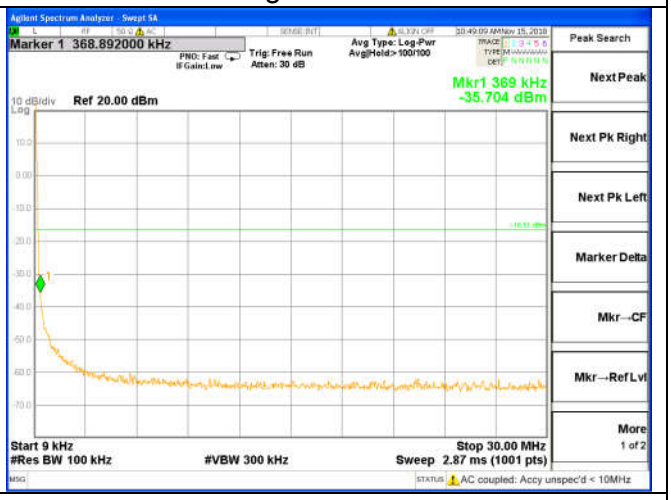
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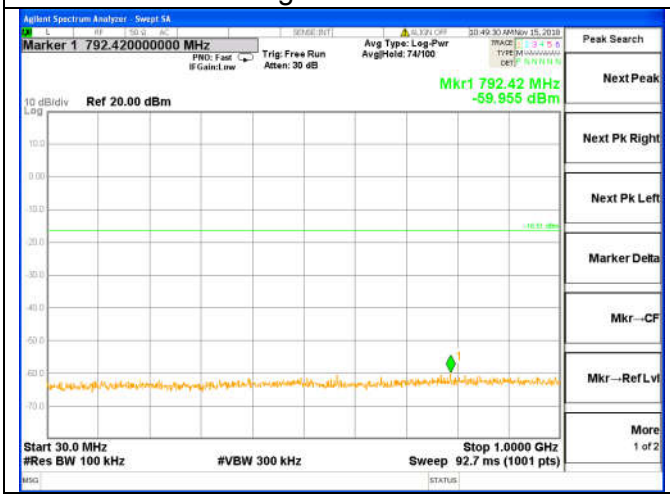	

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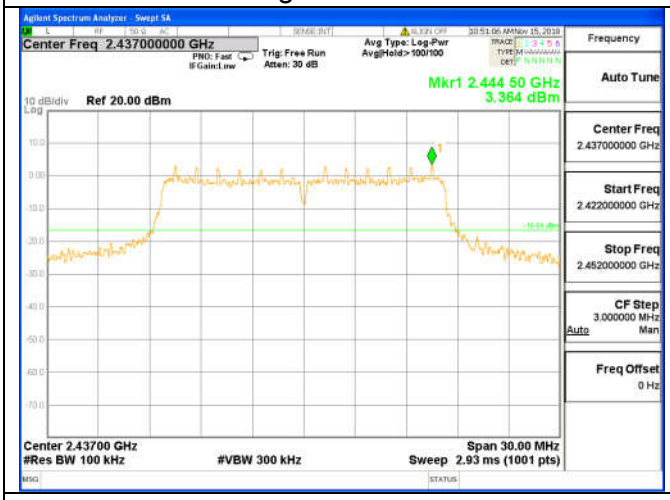
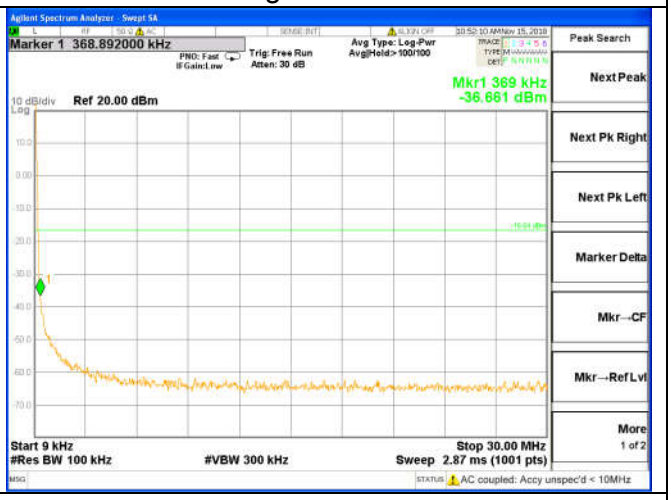
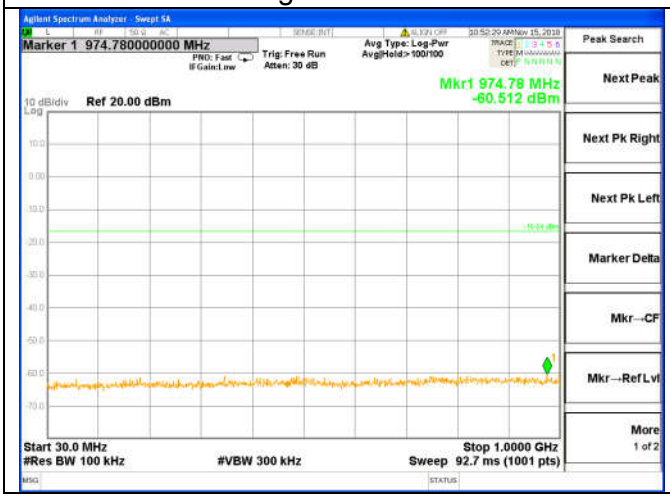
	
802.11g on Channel 06	802.11g on Channel 06
	

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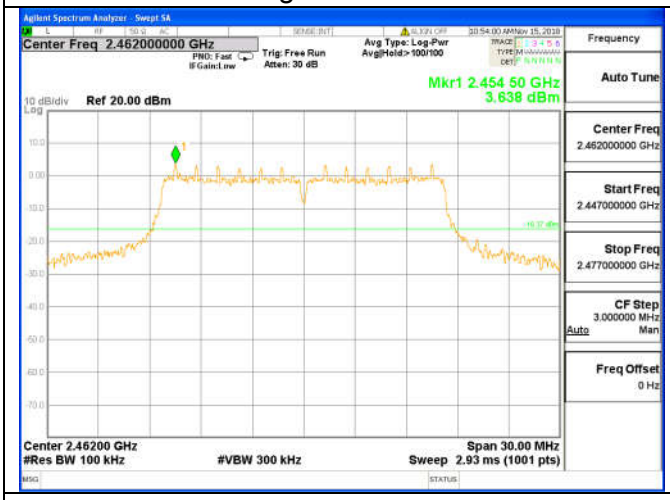	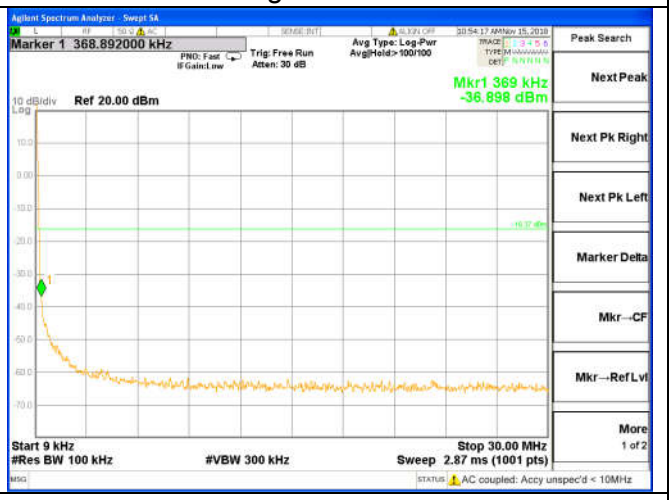
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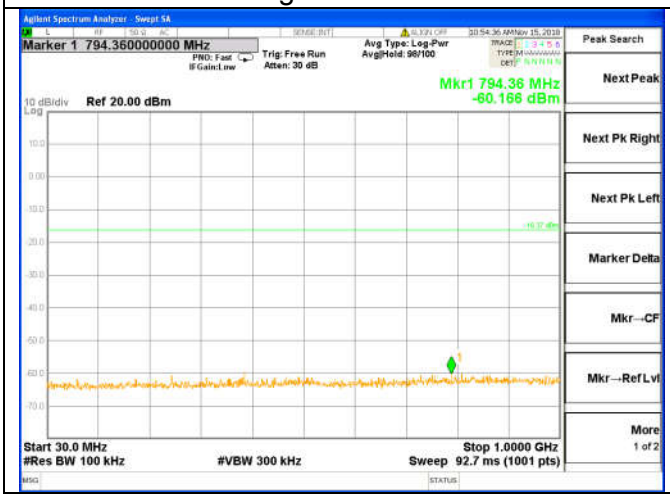	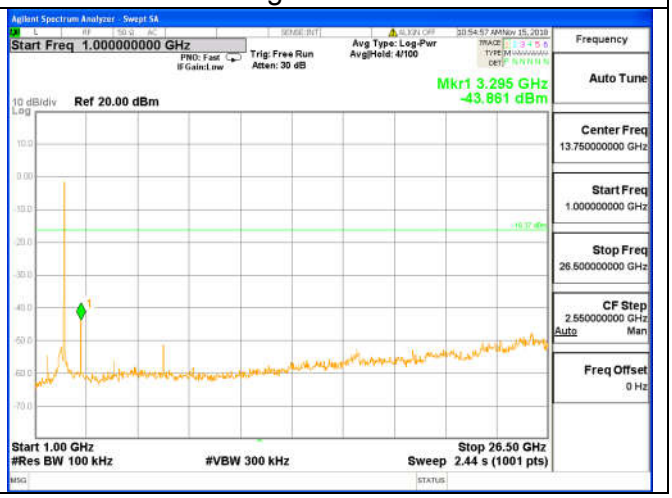

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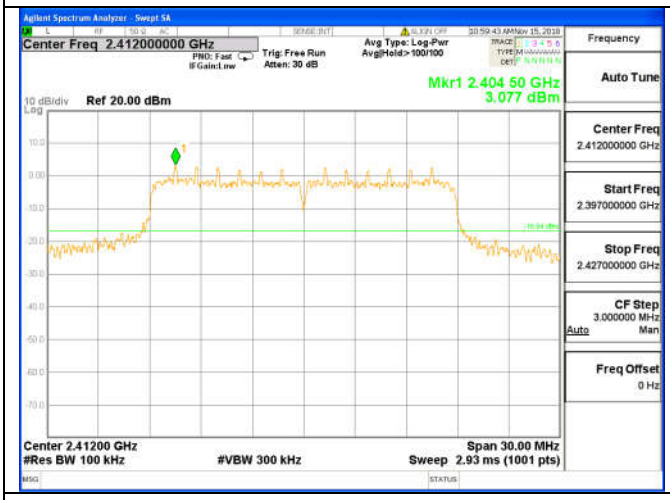	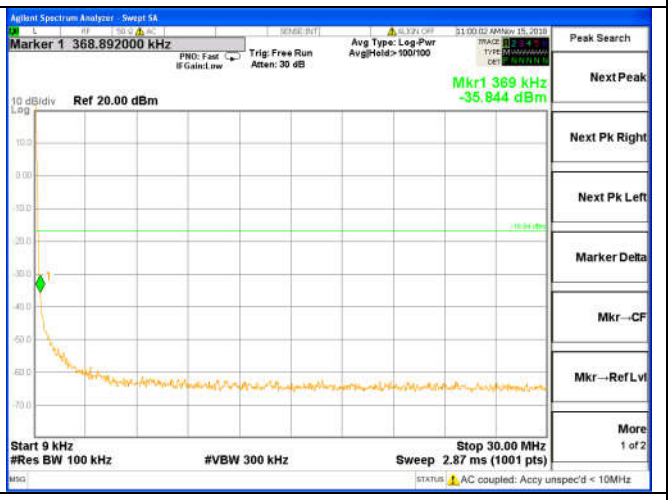
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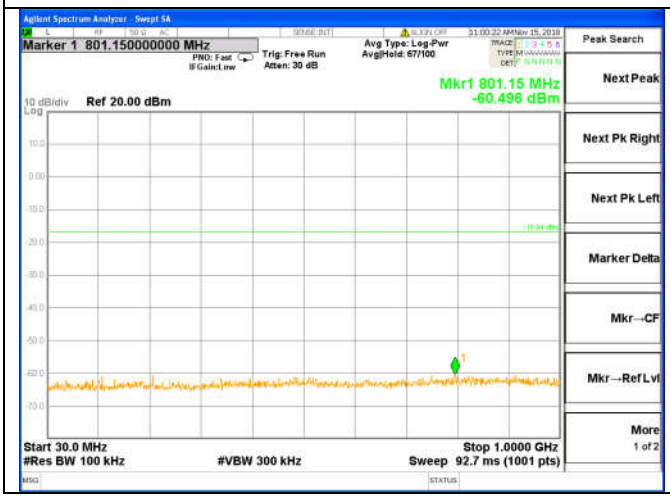	

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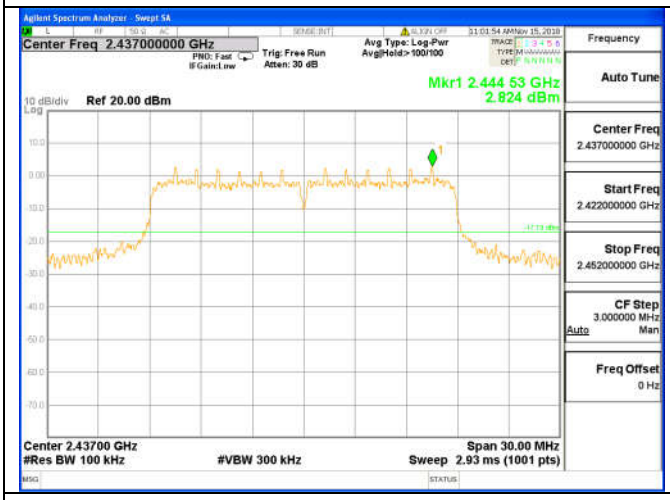	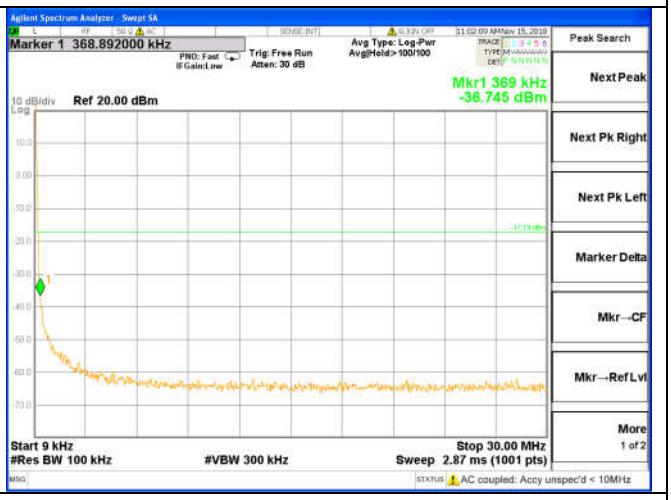
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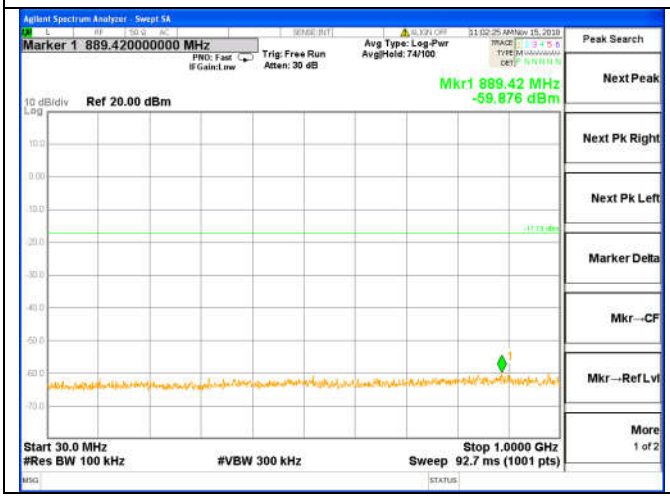	

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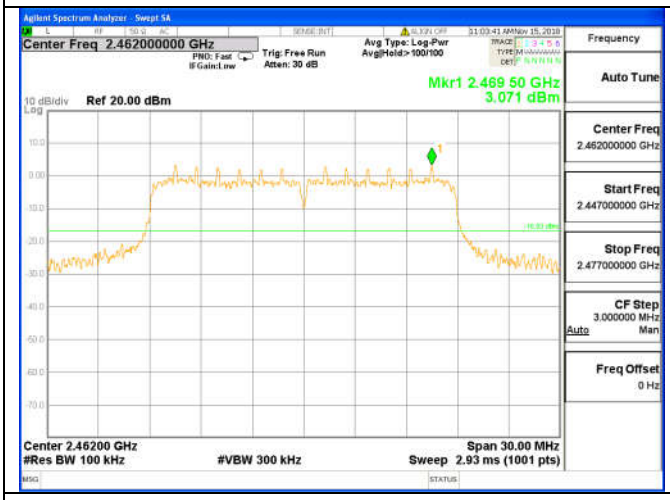	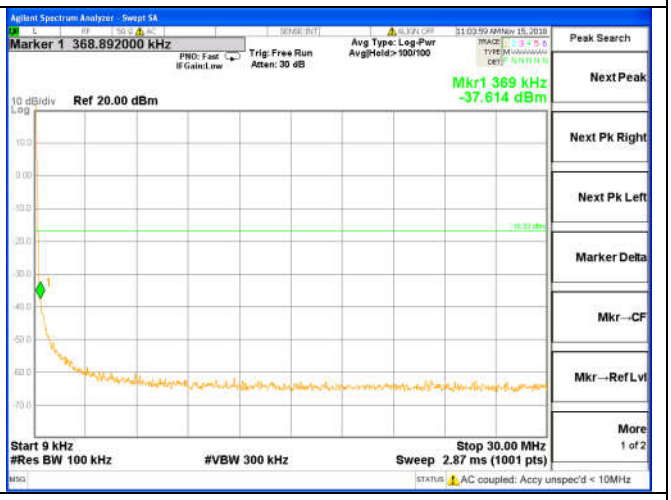
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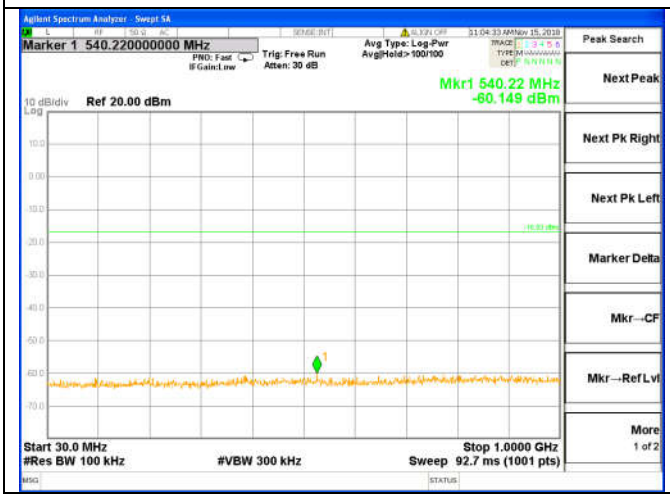	

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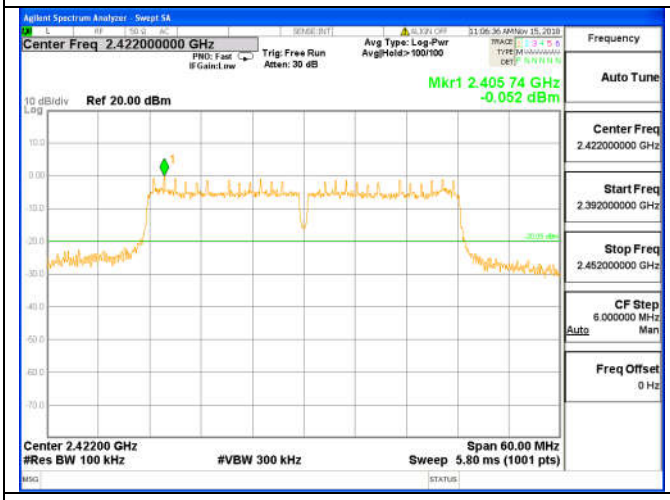	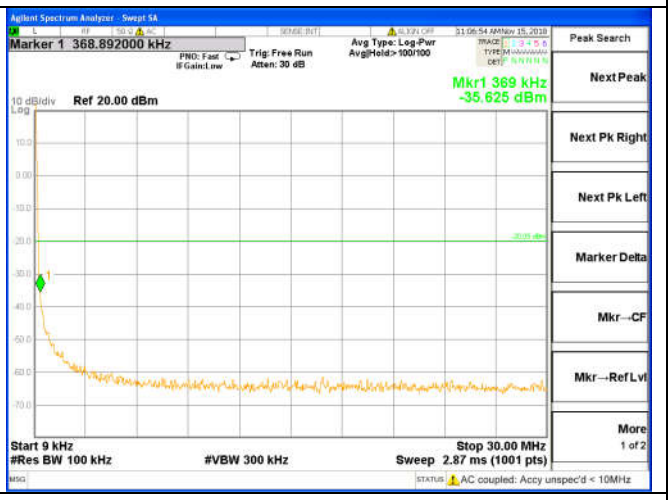
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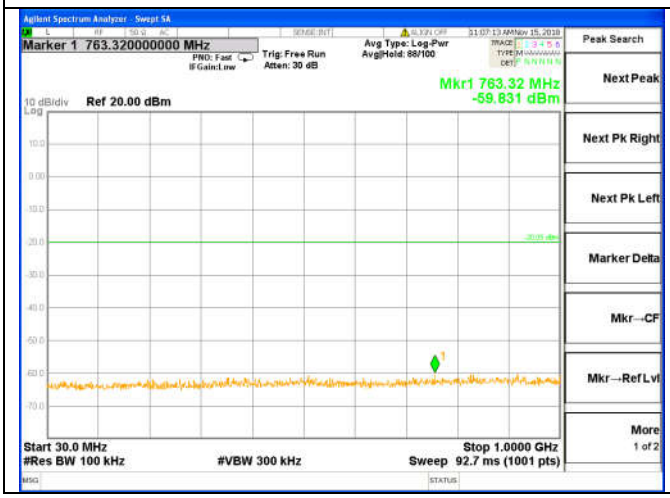	

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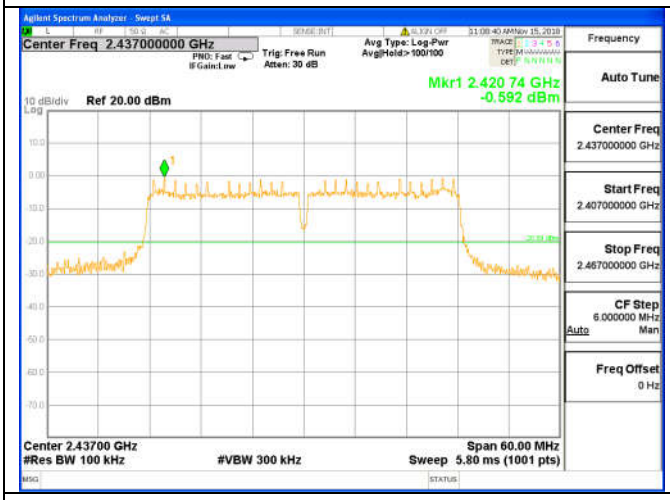	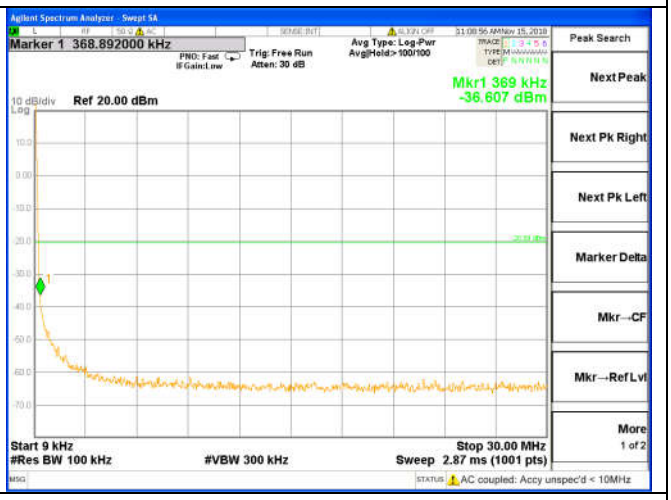
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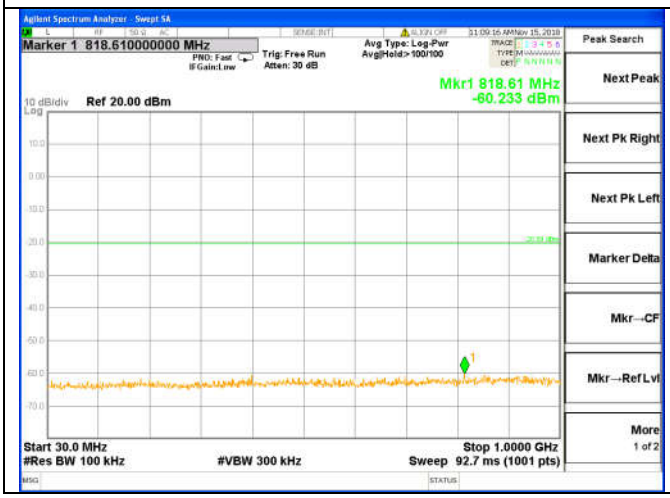	

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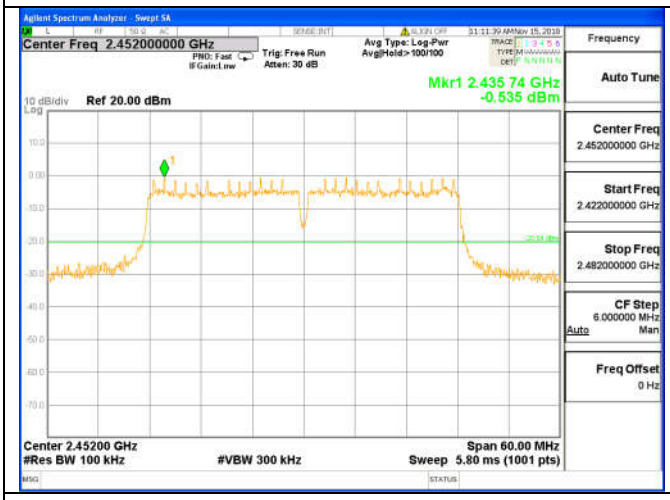	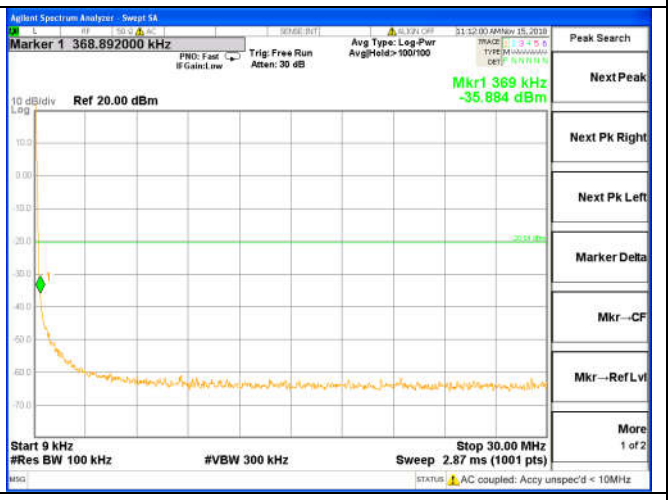
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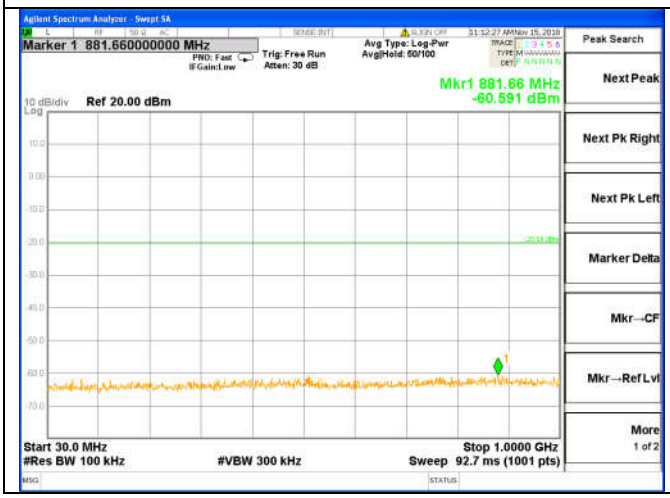
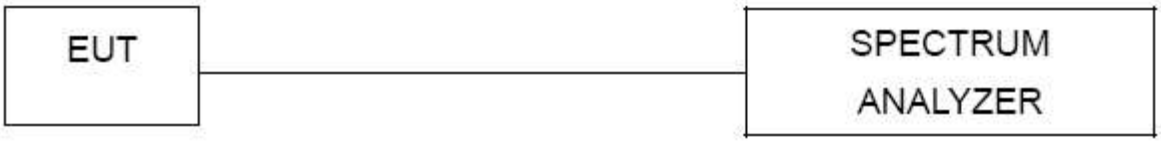
	

5.8 6dB bandwidth

5.8.1 Limit

FCC Part15 Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	Pass

5.8.2 Test setup



5.8.3 Test procedure

a. Set RBW= 100 kHz.
b. Set the video bandwidth (VBW) ≥ 3 x RBW.
c. Detector = Peak.
d. Trace mode = max hold.
e. Sweep = auto couple.
f. Allow the trace to stabilize.
g. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

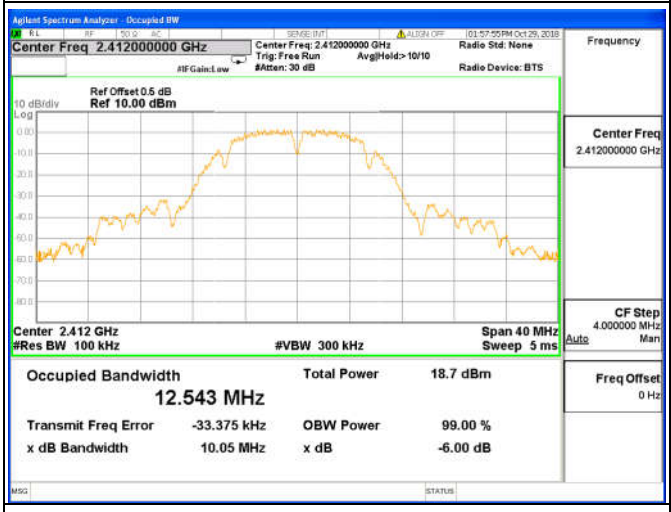
5.8.4 Test results

802.11b

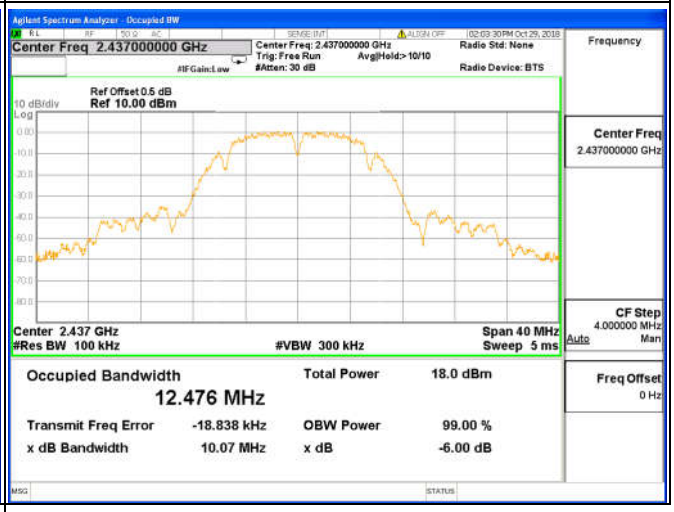
ANT A:

Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
CH01	2412	10.05	500	Pass
CH06	2437	10.07	500	Pass
CH11	2462	10.08	500	Pass

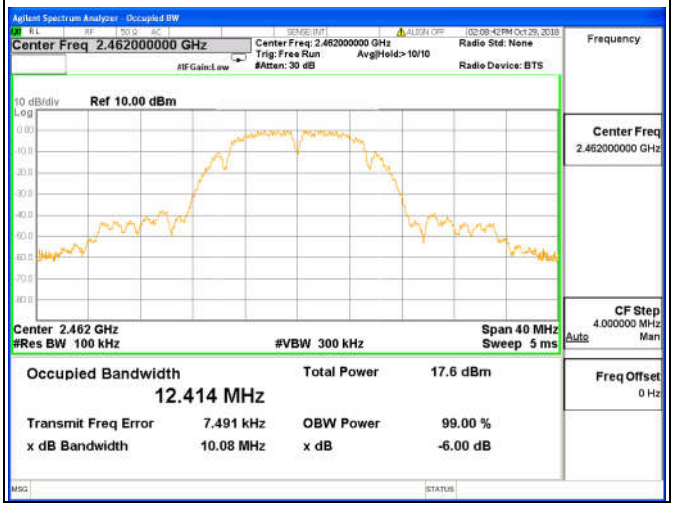
TX CH01



TX CH06



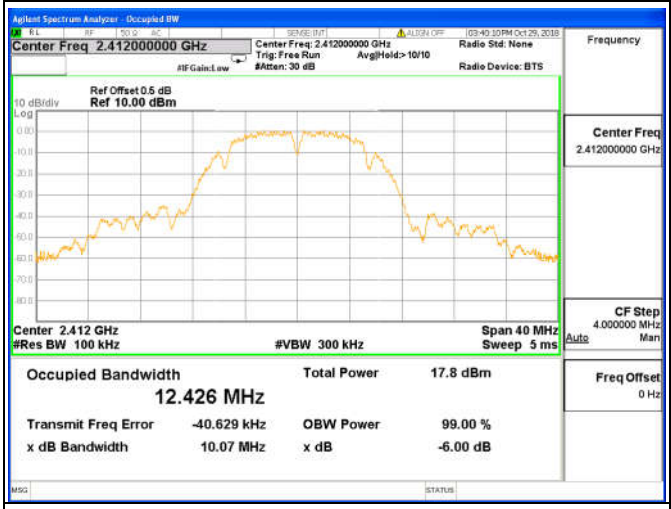
TX CH11



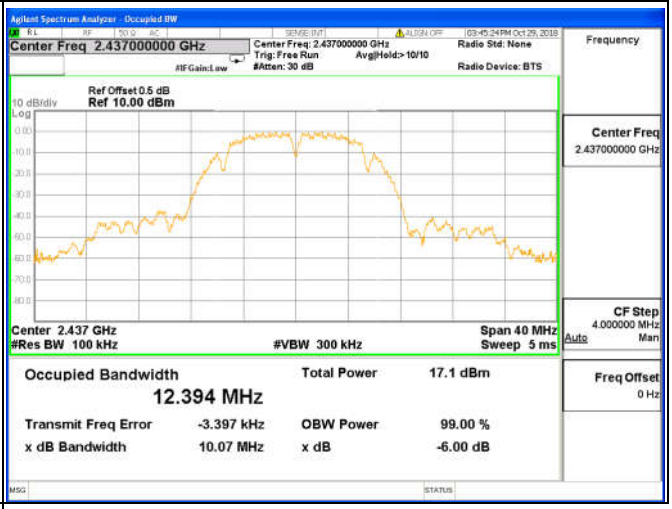
ANT B:

Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
CH01	2412	10.07	500	Pass
CH06	2437	10.07	500	Pass
CH11	2462	10.07	500	Pass

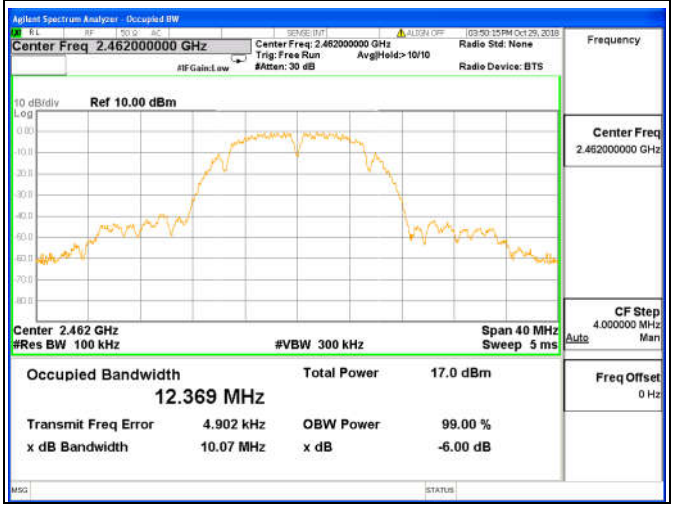
TX CH01



TX CH06



TX CH11

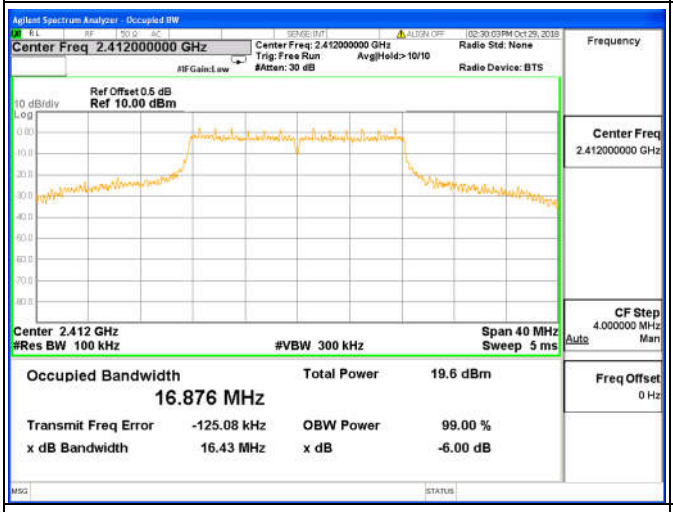


802.11g

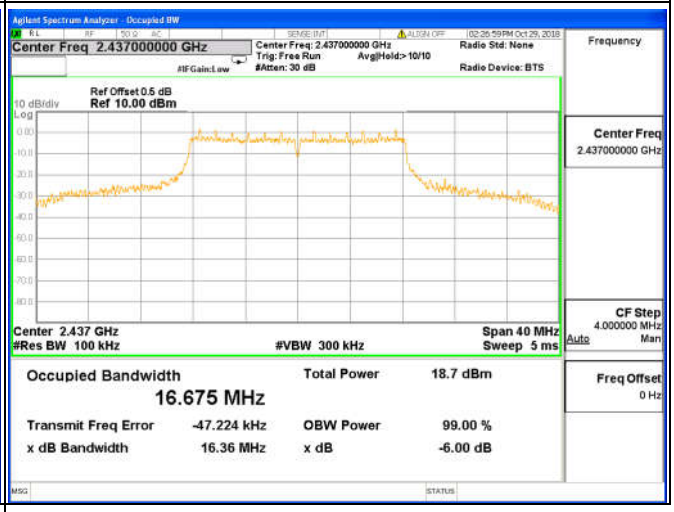
ANT A:

Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
CH01	2412	16.43	500	Pass
CH06	2437	16.36	500	Pass
CH11	2462	16.38	500	Pass

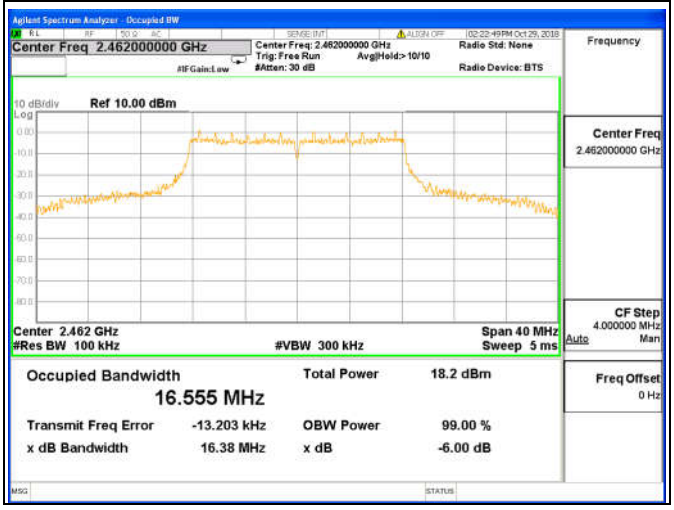
TX CH01



TX CH06



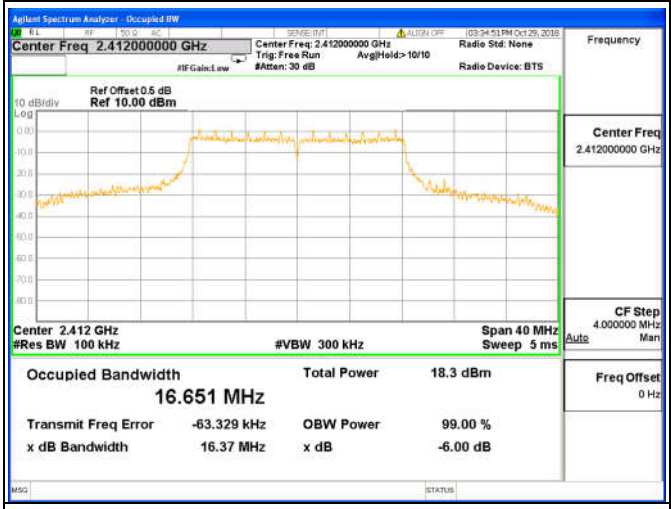
TX CH11



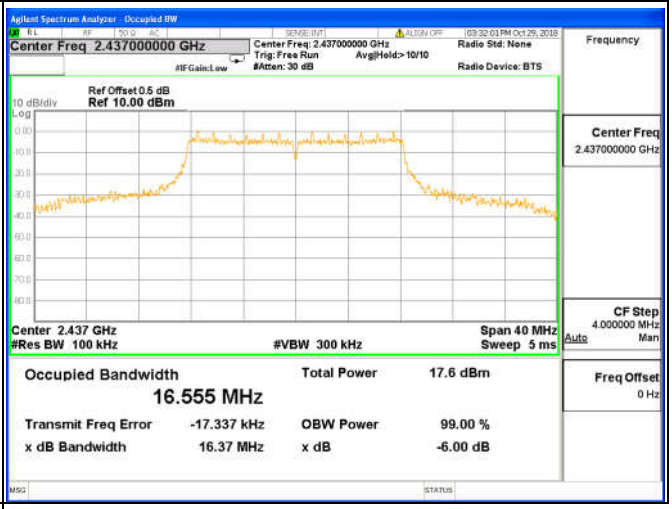
ANT B:

Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
CH01	2412	16.37	500	Pass
CH06	2437	16.37	500	Pass
CH11	2462	16.38	500	Pass

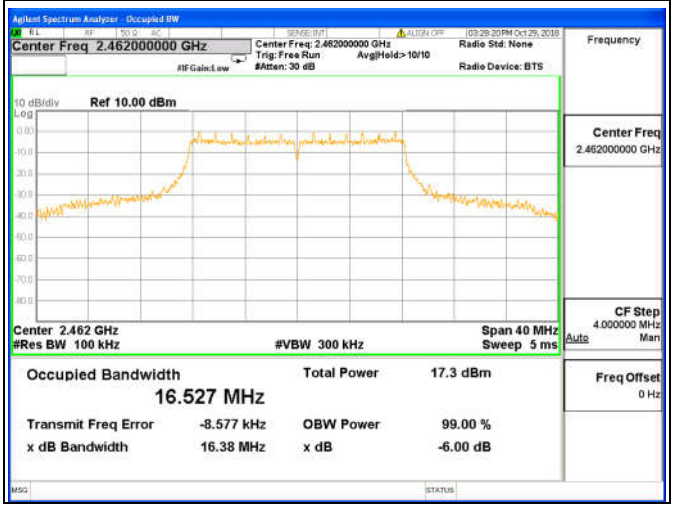
TX CH01



TX CH06



TX CH11

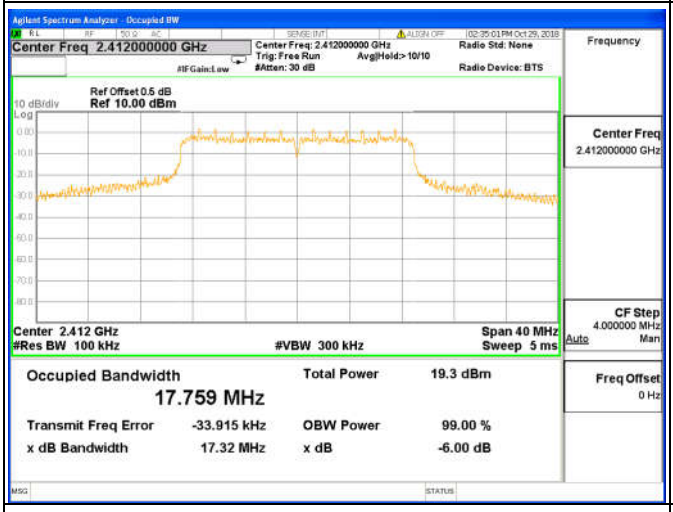


For 802.11n20

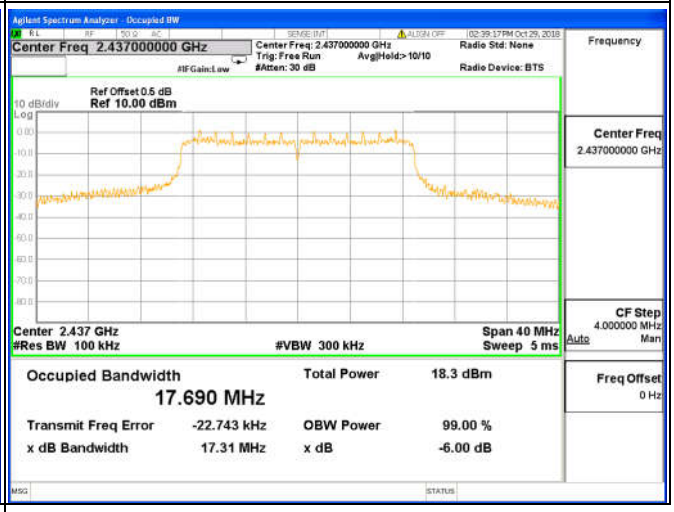
ANTA

Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
CH01	2412	17.32	500	Pass
CH06	2437	17.31	500	Pass
CH11	2462	17.54	500	Pass

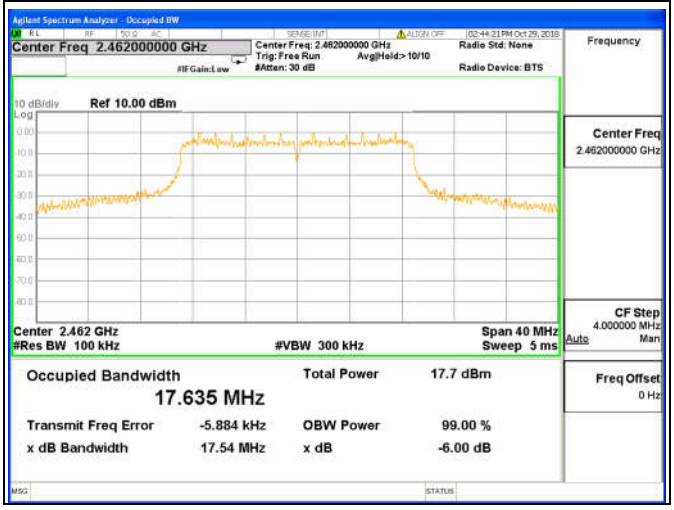
TX CH01



TX CH06



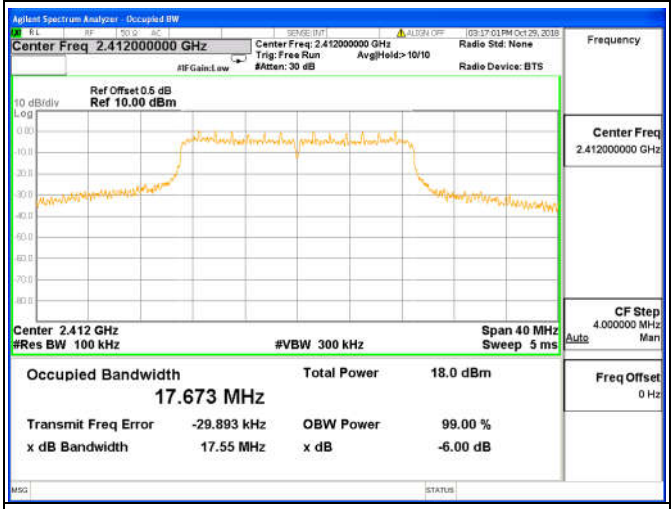
TX CH11



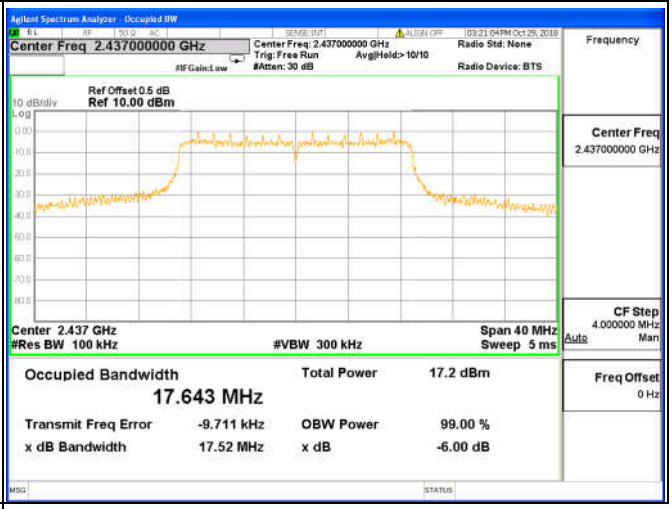
ANTB

Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
CH01	2412	17.55	500	Pass
CH06	2437	17.52	500	Pass
CH11	2462	17.30	500	Pass

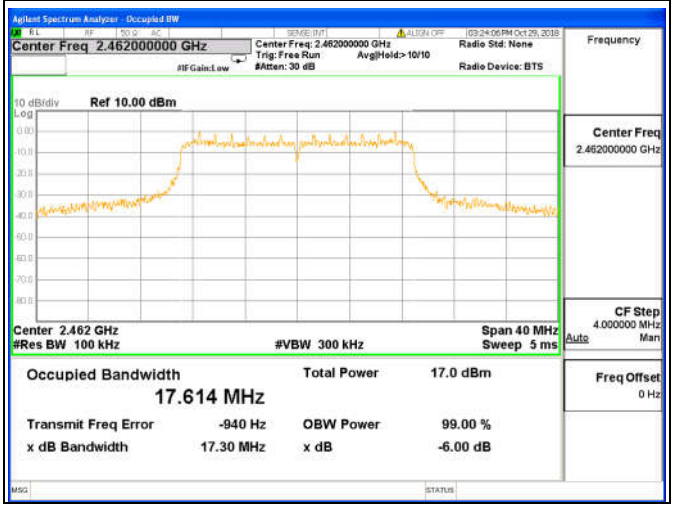
TX CH01



TX CH06



TX CH11

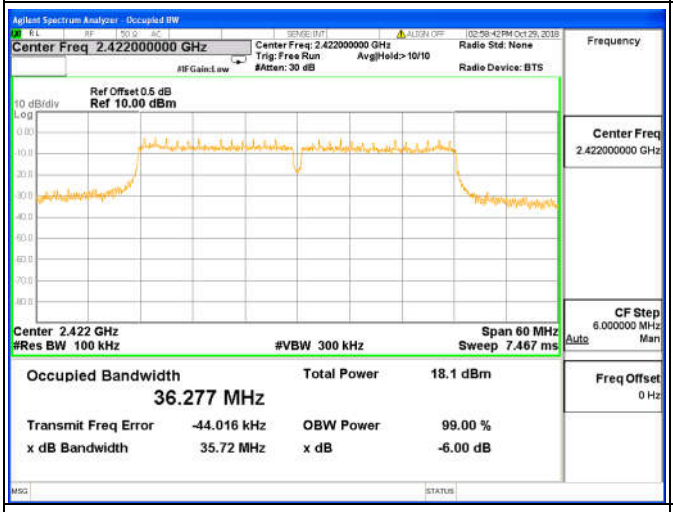


For 802.11n40

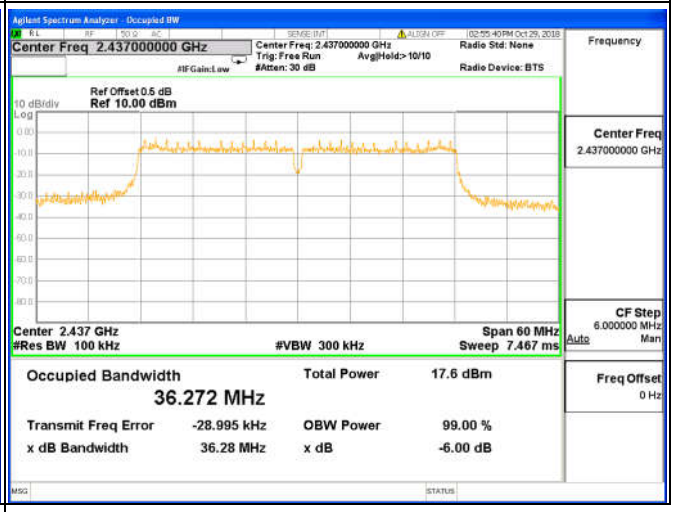
ANTA

Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
CH03	2422	35.72	500	Pass
CH06	2437	36.28	500	Pass
CH09	2452	36.29	500	Pass

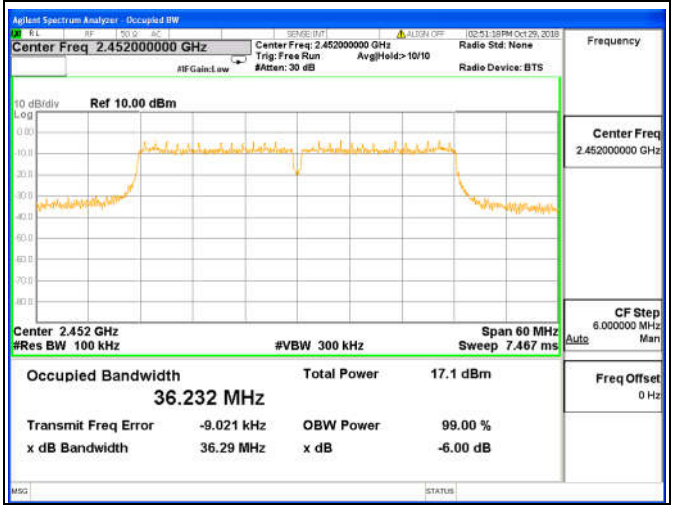
TX CH01



TX CH06



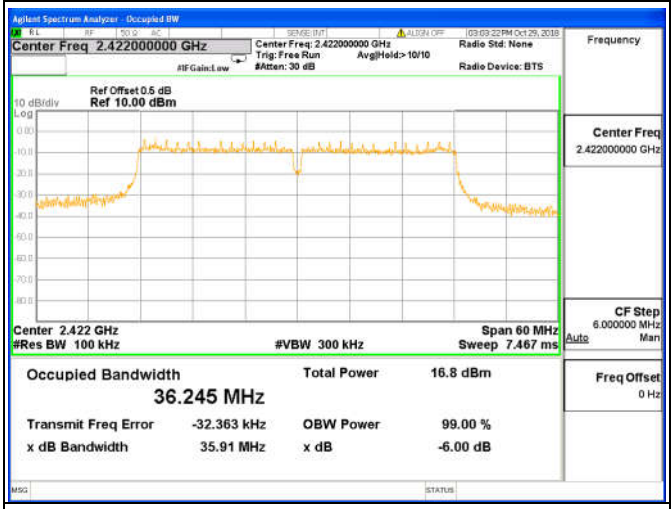
TX CH11



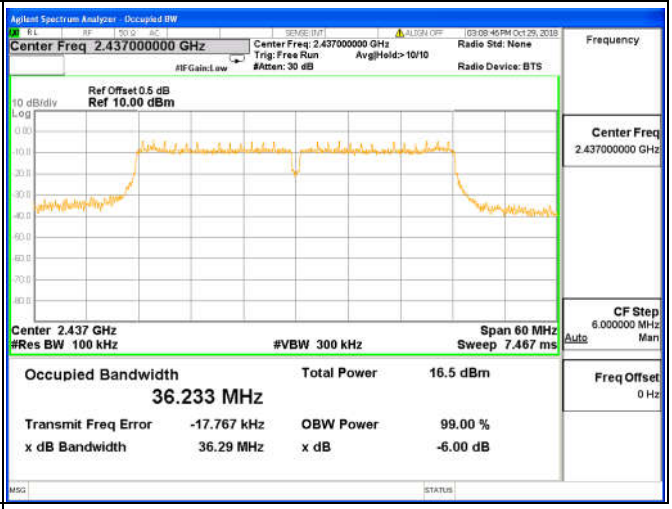
ANTB

Test Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
CH03	2422	35.91	500	Pass
CH06	2437	36.29	500	Pass
CH09	2452	36.30	500	Pass

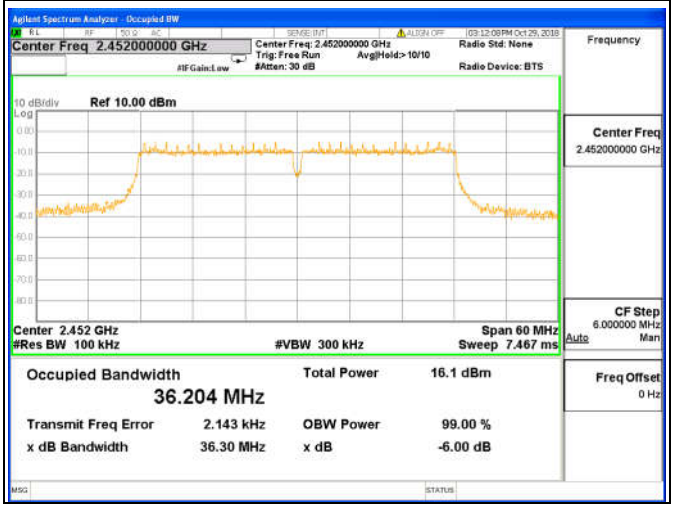
TX CH01



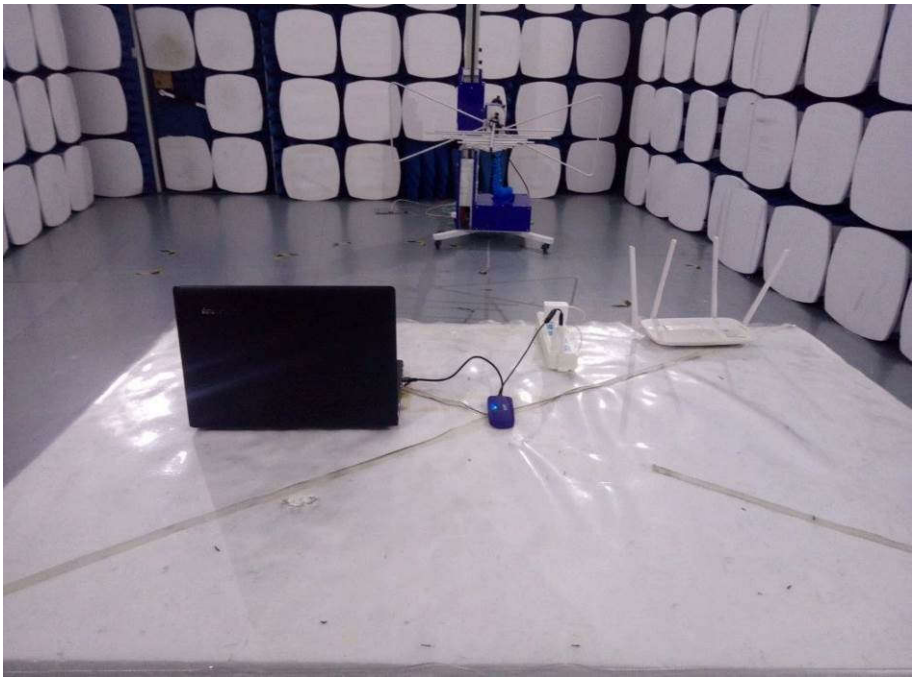
TX CH06

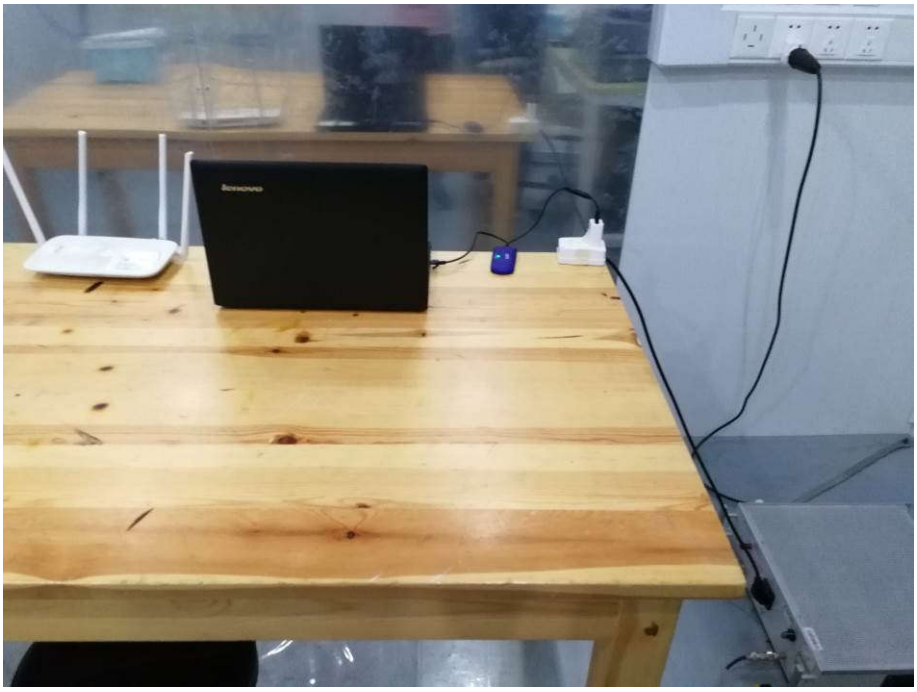


TX CH11



Photographs of the Test Setup

Radiated emission



Conducted emission


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