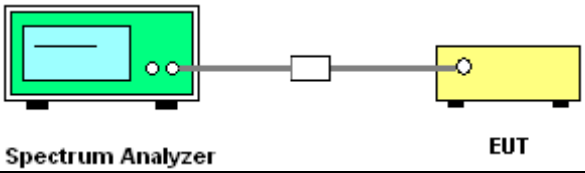
6.3. Emission Bandwidth

6.3.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2013 and KDB558074
Limit:	>500kHz
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r02. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz. 4. Measure and record the results in the test report.
Test Result:	PASS

6.3.2. Test Instruments

RF Test Room				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	N9020A	MY49100060	Dec. 21, 2015
RF cable	TCT	RE-06	N/A	Nov.15 , 2015
Antenna Connector	TCT	RFC-01	N/A	Nov.15 , 2015

Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

6.3.3. Test data

Antenna 1:

Test channel	6dB Emission Bandwidth (MHz)			
	802.11b	802.11g	802.11n(H20)	802.11n(H40)
Lowest	10.09	15.13	15.15	33.89
Middle	10.05	15.11	15.14	35.07
Highest	9.562	15.14	15.14	33.89
Limit:	>500k			
Test Result:	PASS			

Antenna 2:

Test channel	6dB Emission Bandwidth (MHz)			
	802.11b	802.11g	802.11n(H20)	802.11n(H40)
Lowest	10.04	15.08	15.03	33.81
Middle	10.03	15.12	15.10	33.81
Highest	9.60	15.12	15.09	33.78
Limit:	>500k			
Test Result:	PASS			

Test plots as follows:

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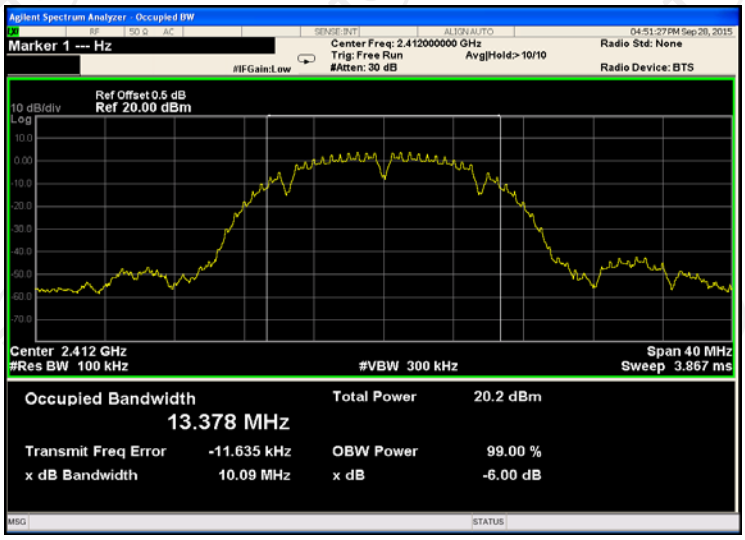
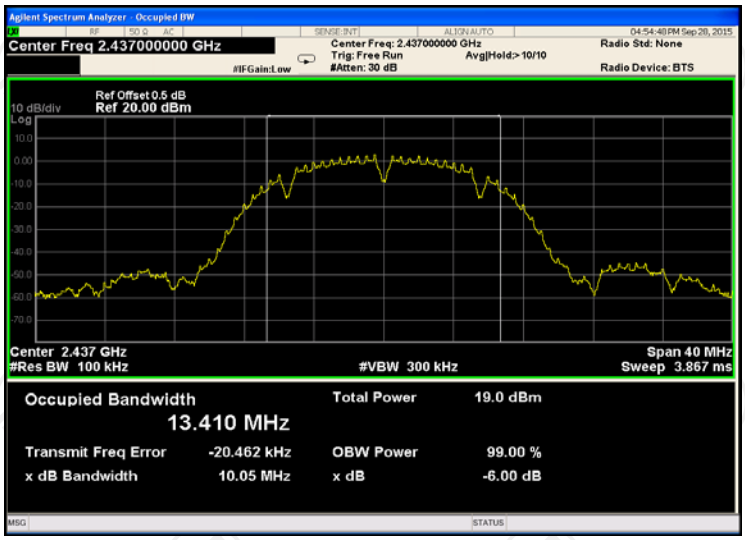
Antenna 1:
802.11b Modulation

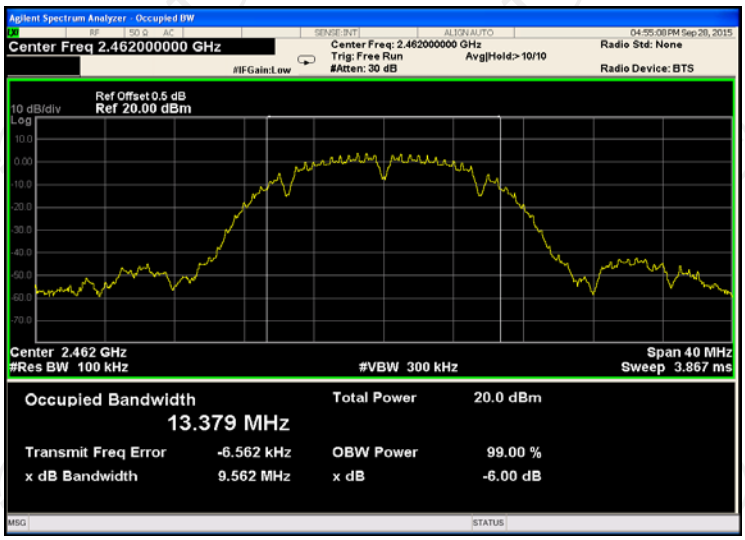
Lowest channel



Middle channel



Highest channel



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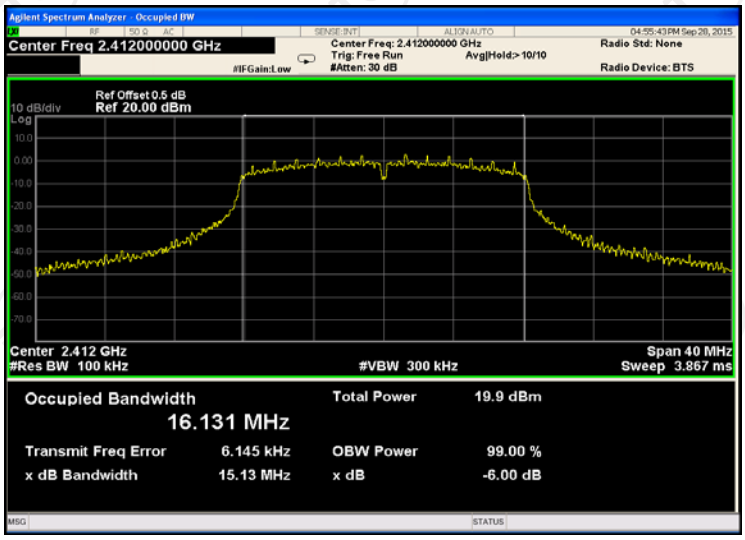
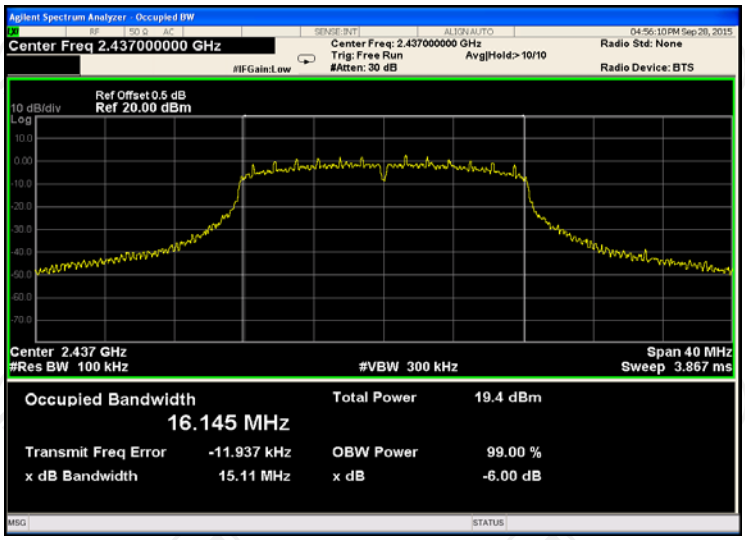
802.11g Modulation

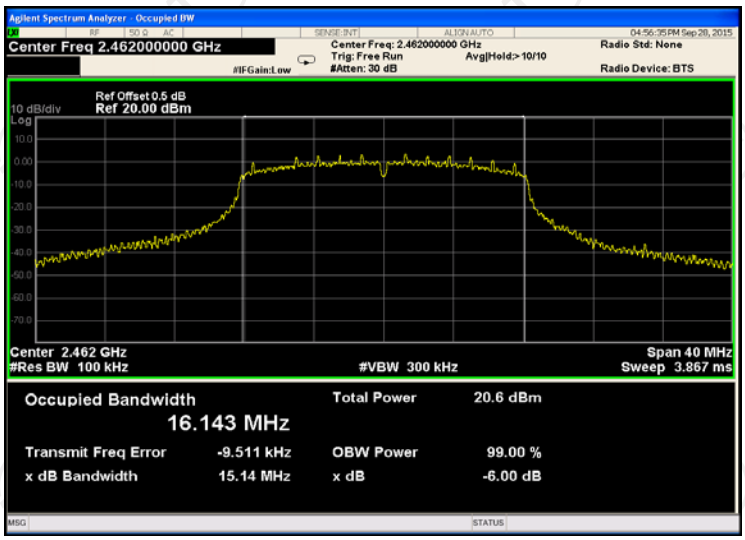
Lowest channel



Middle channel

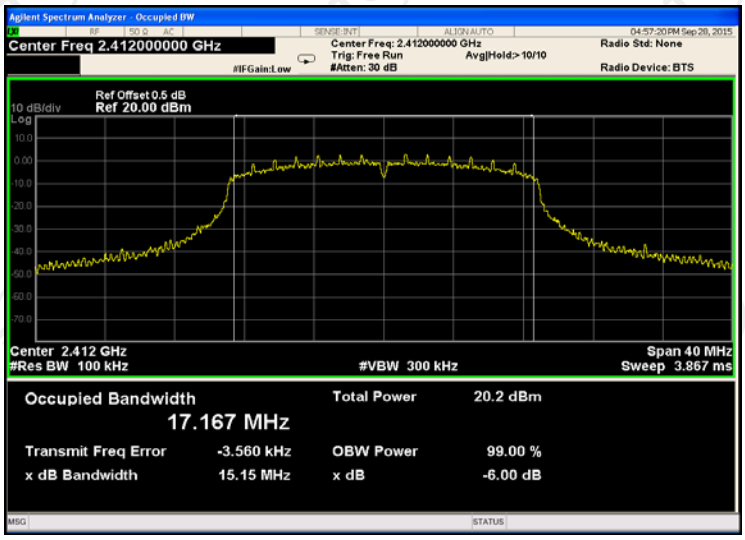


Highest channel

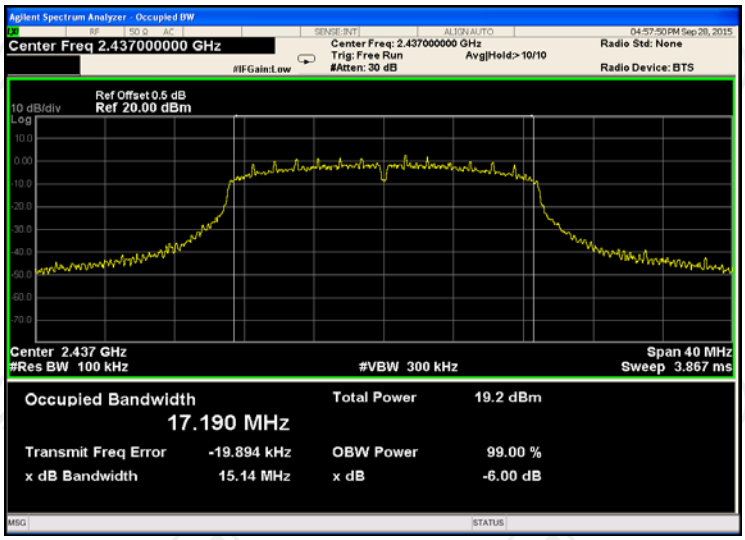


802.11n (HT20) Modulation

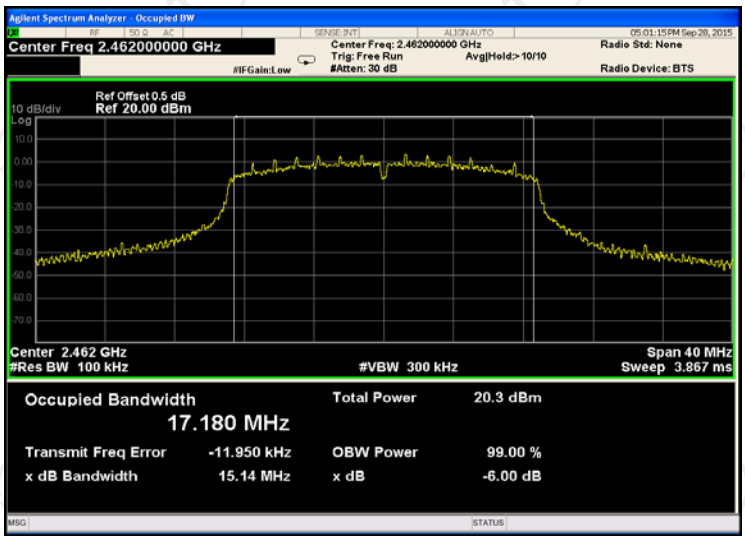
Lowest channel



Middle channel

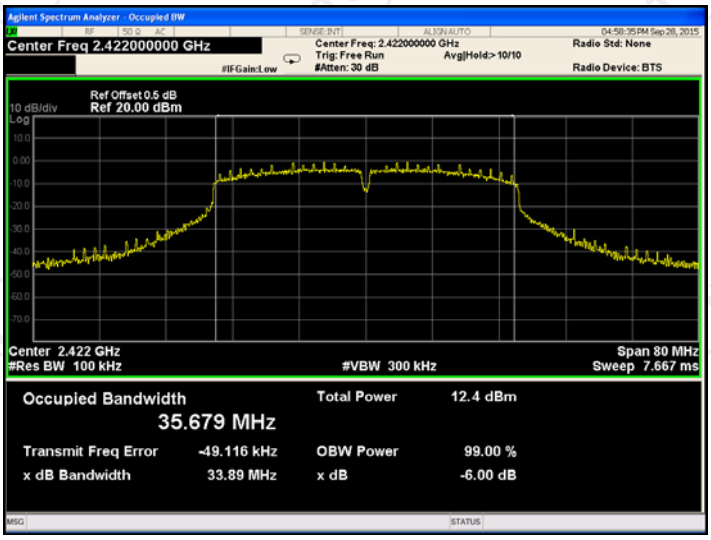


Highest channel

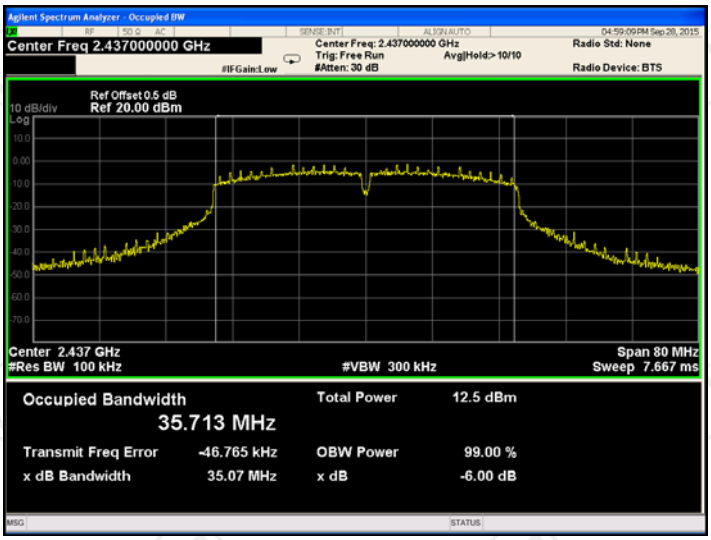


802.11n (HT40) Modulation

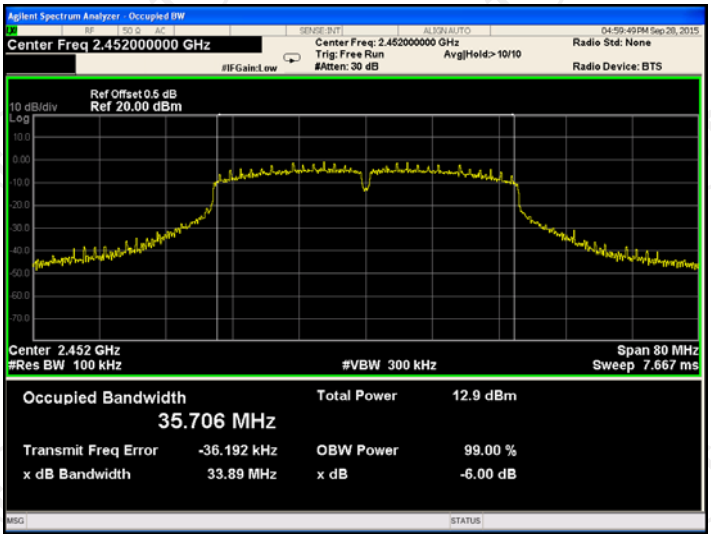
Lowest channel



Middle channel

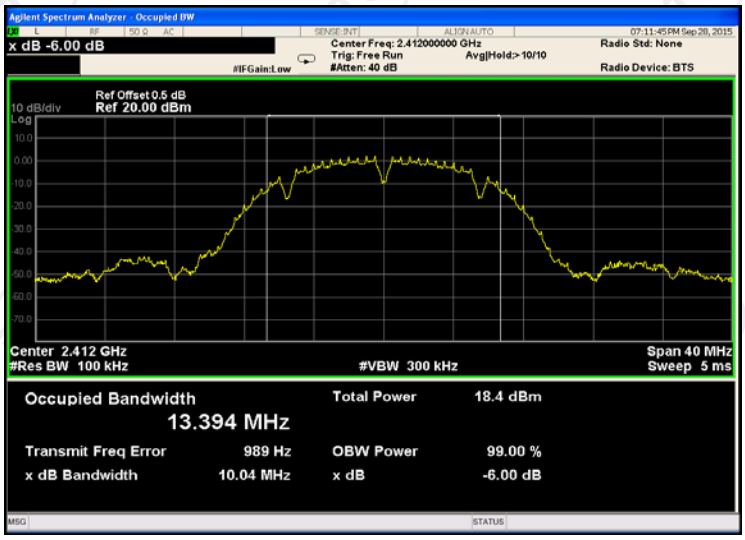


Highest channel

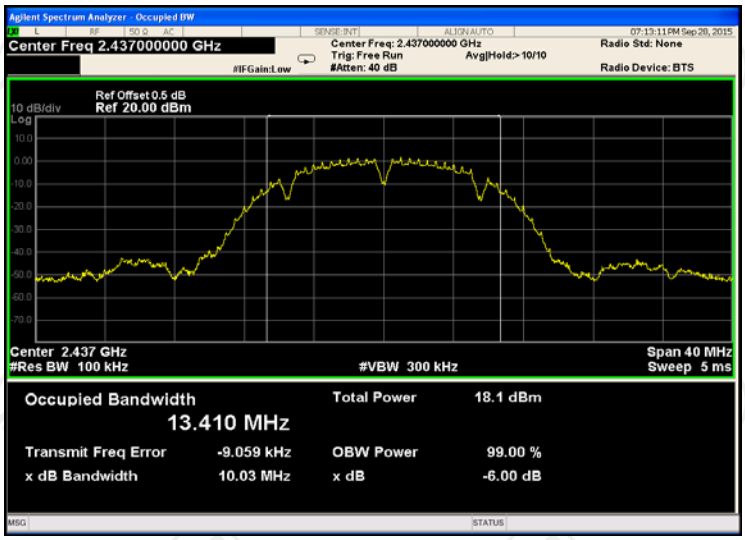


Antenna 2:
802.11b Modulation

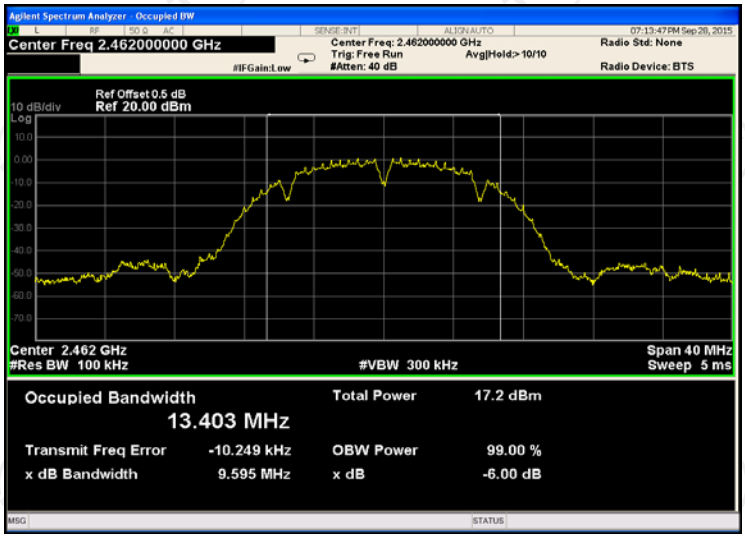
Lowest channel



Middle channel

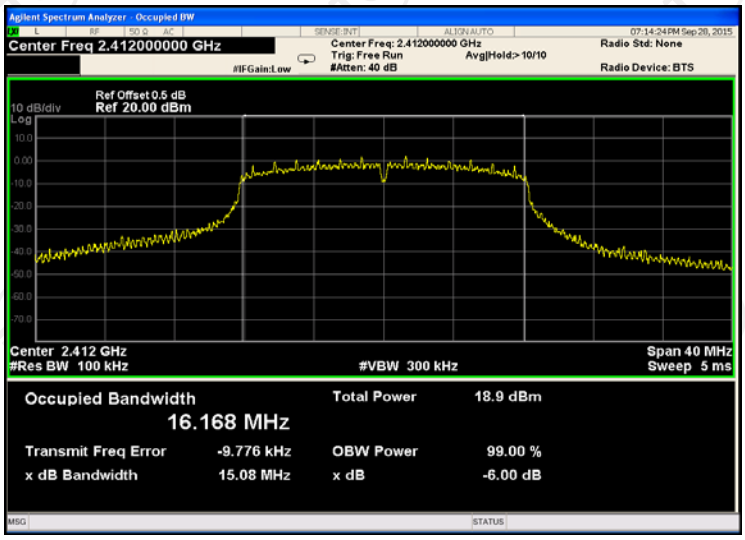


Highest channel

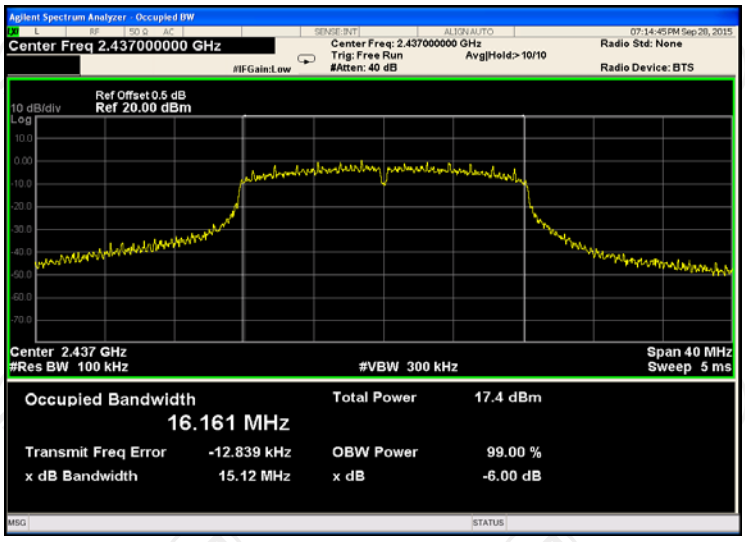


802.11g Modulation

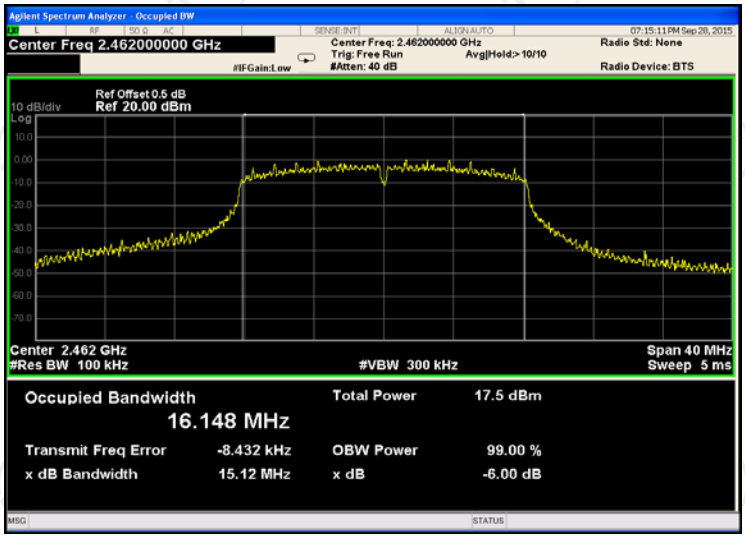
Lowest channel



Middle channel

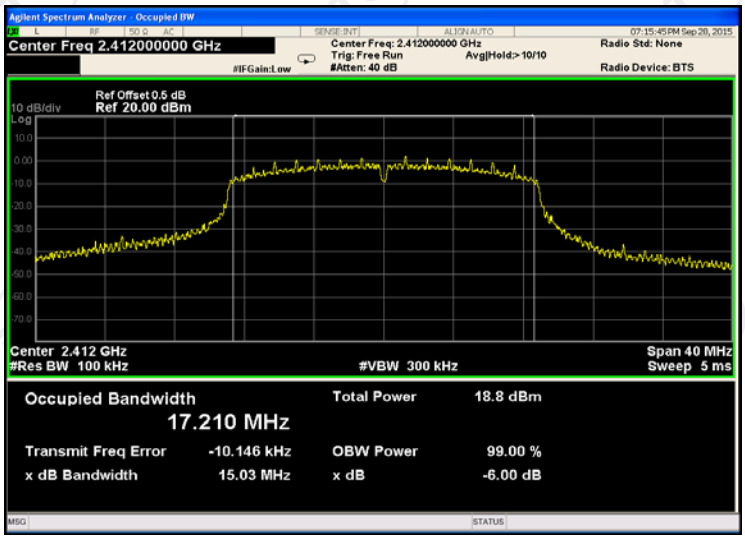


Highest channel

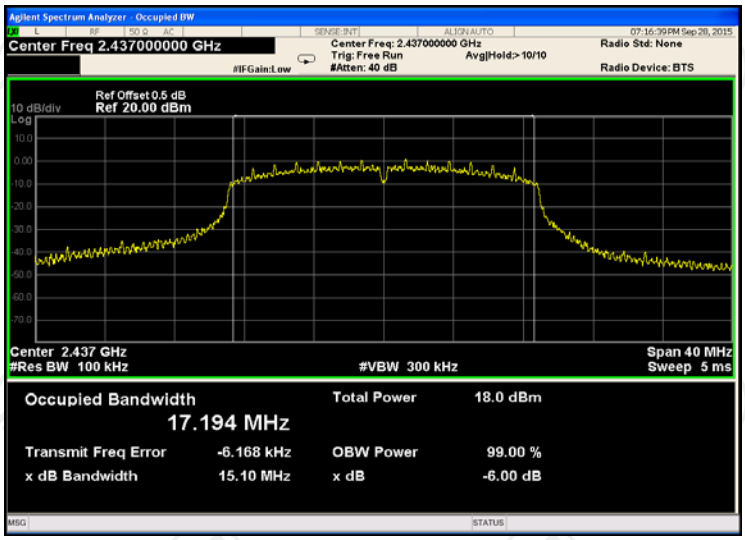


802.11n (HT20) Modulation

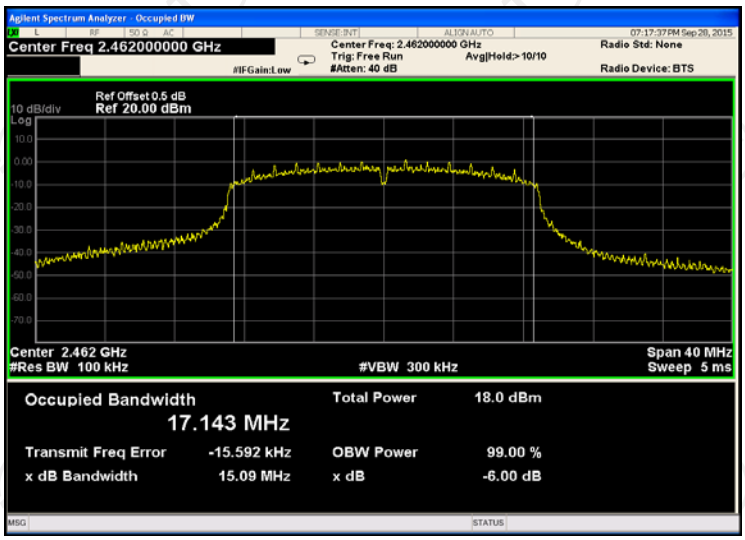
Lowest channel



Middle channel

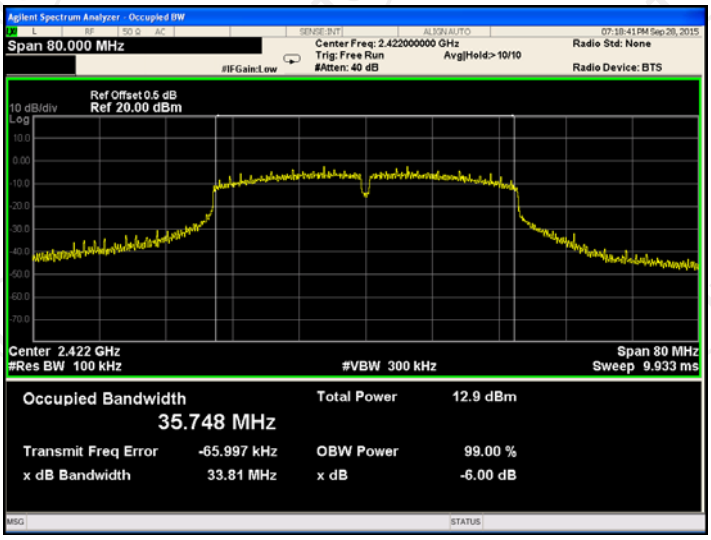


Highest channel

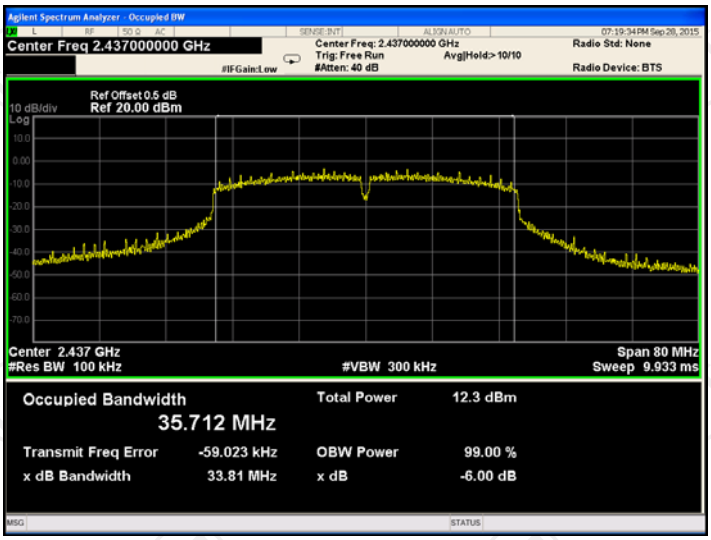


802.11n (HT40) Modulation

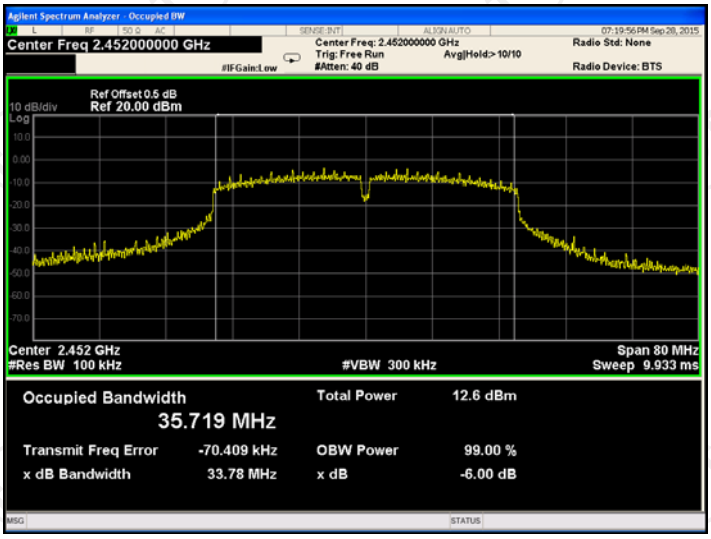
Lowest channel



Middle channel



Highest channel



6.4. Power Spectral Density

6.5. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2013 and KDB558074, KDB662911
Limit:	The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. The testing follows Measurement Procedure 10.3 Method AVGPSD of FCC KDB Publication No.558074 D01 DTS Meas. Guidance v03r02 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. 3. Set to the maximum power setting and enable the EUT transmit continuously. 4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW): 3 kHz ≤ RBW ≤ 100 kHz. Video bandwidth VBW ≥ 3 x RBW. Set the span to at least 1.5 times the OBW. 5. Detector = RMS, Sweep time = auto couple. 6. Employ trace averaging (RMS) mode over a minimum of 100 traces. Use the peak marker function to determine the maximum power level. 7. Measure and record the results in the test report. 8. The calculation method follows FCC KDB662911 D01 Multiple Transmitter Output v02r01
Test Result:	PASS

6.5.1. Test Instruments

RF Test Room				
Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	N9020A	MY49100060	Dec. 21, 2015
RF cable	TCT	RE-06	N/A	Nov.15 , 2015

Antenna Connector	TCT	RFC-01	N/A	Nov.15 , 2015

Note: *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

6.5.2. Test data

Configuration IEEE 802.11b/ Antenna 1, Antenna 2					
Test channel	AVG Power Spectral Density (dBm/3kHz)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
Lowest	-18.653	-19.201	-15.91	8dBm/3kHz	PASS
Middle	-19.124	-20.297	-16.66	8dBm/3kHz	PASS
Highest	-19.151	-19.772	-16.44	8dBm/3kHz	PASS

Configuration IEEE 802.11g/ Antenna 1, Antenna 2					
Test channel	AVG Power Spectral Density (dBm/3kHz)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
Lowest	-20.273	-20.077	-17.16	8dBm/3kHz	PASS
Middle	-20.268	-20.802	-17.52	8dBm/3kHz	PASS
Highest	-19.479	-20.466	-16.93	8dBm/3kHz	PASS

Configuration IEEE 802.11n (HT20)/ Antenna 1, Antenna 2					
Test channel	AVG Power Spectral Density (dBm/3kHz)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
Lowest	-20.078	-20.112	-17.08	8dBm/3kHz	PASS
Middle	-21.306	-21.228	-18.26	8dBm/3kHz	PASS
Highest	-19.193	-21.941	-17.34	8dBm/3kHz	PASS

Configuration IEEE 802.11n (HT40)/ Antenna 1, Antenna 2					
Test channel	AVG Power Spectral Density (dBm/3kHz)			Limit (dBm)	Result
	Antenna 1	Antenna 2	Total		
Lowest	-25.125	-24.899	-22.00	8dBm/3kHz	PASS
Middle	-25.810	-25.371	-22.57	8dBm/3kHz	PASS
Highest	-25.517	-25.270	-22.38	8dBm/3kHz	PASS

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Test plots as follows:

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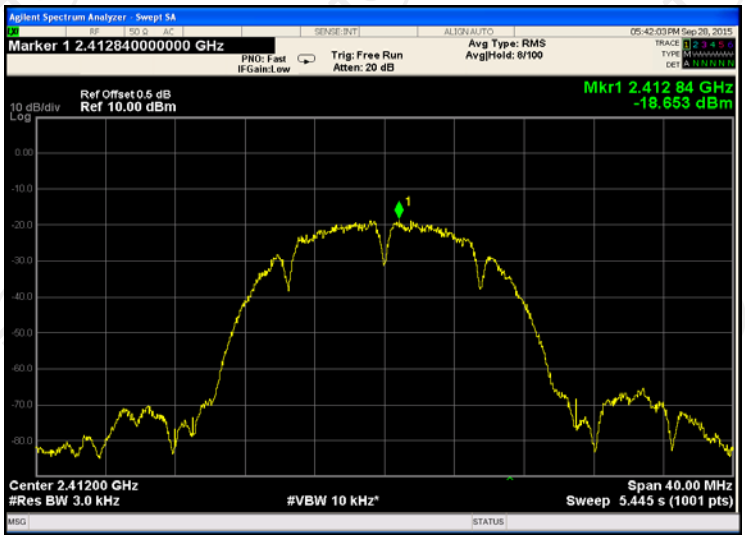
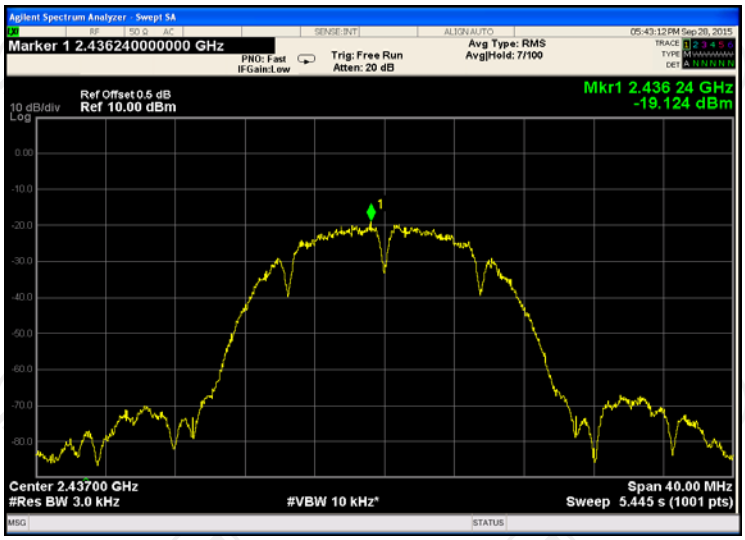
Antenna 1:
802.11b Modulation

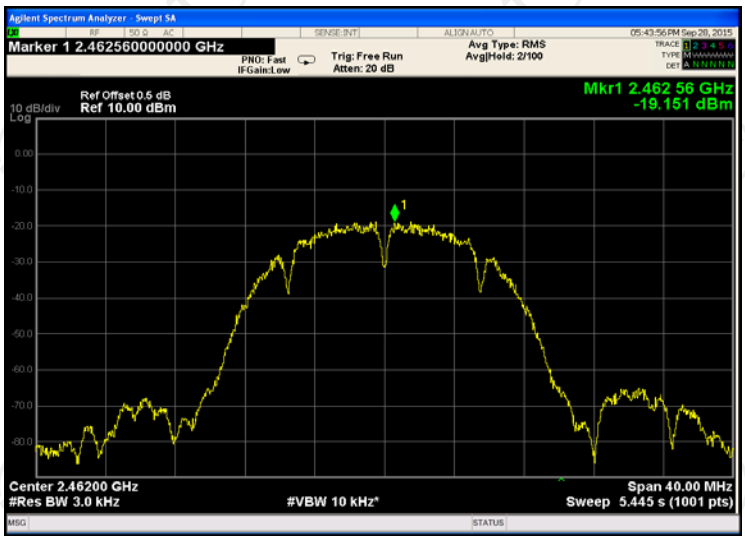
Lowest channel



Middle channel

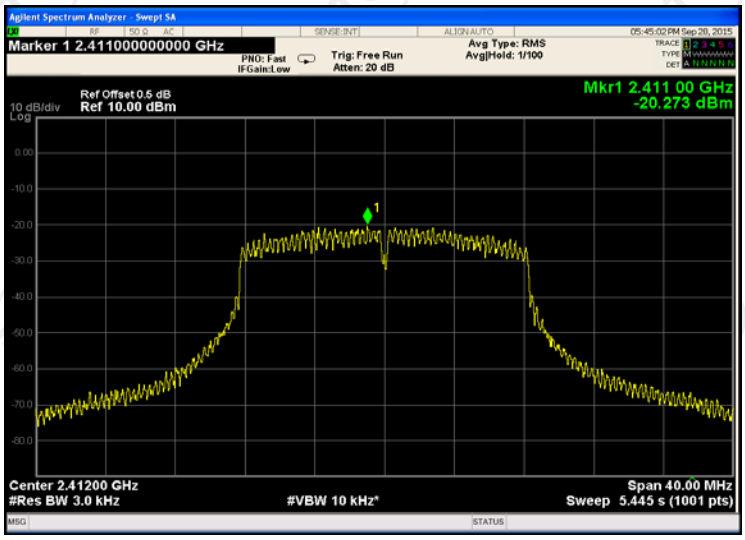


Highest channel

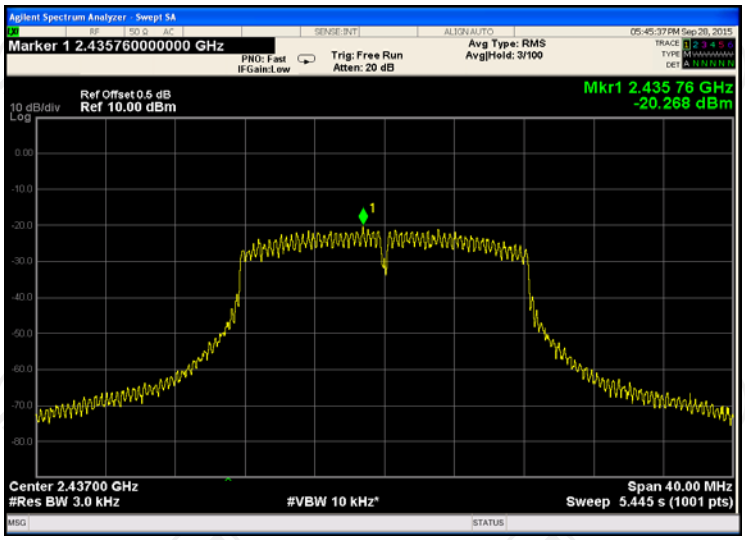


802.11g Modulation

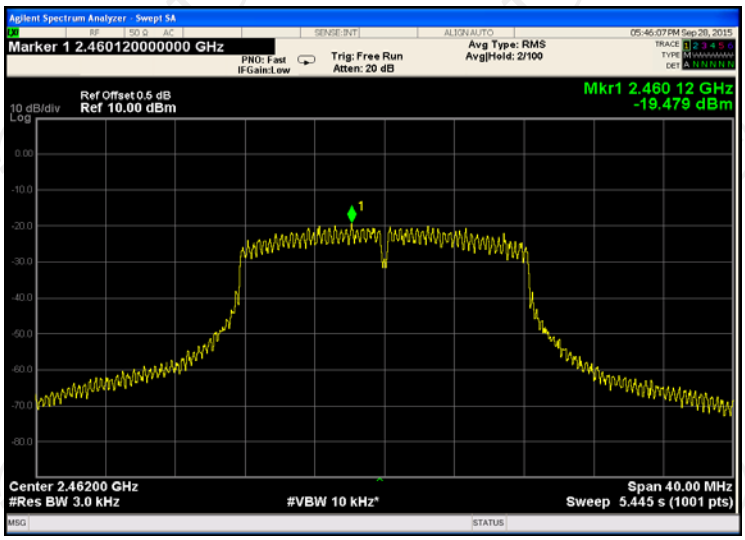
Lowest channel



Middle channel

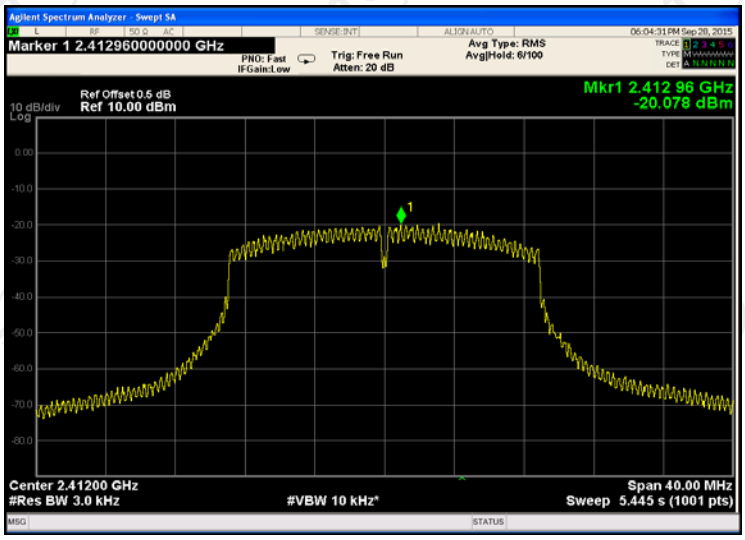


Highest channel

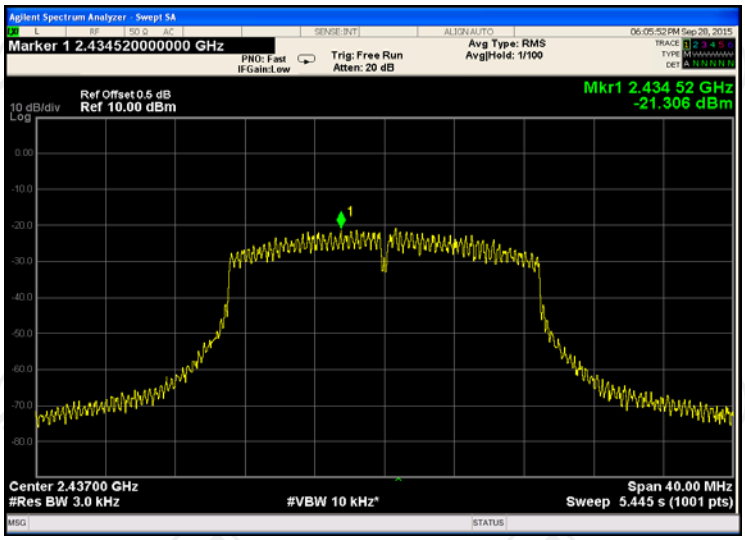


802.11n (HT20) Modulation

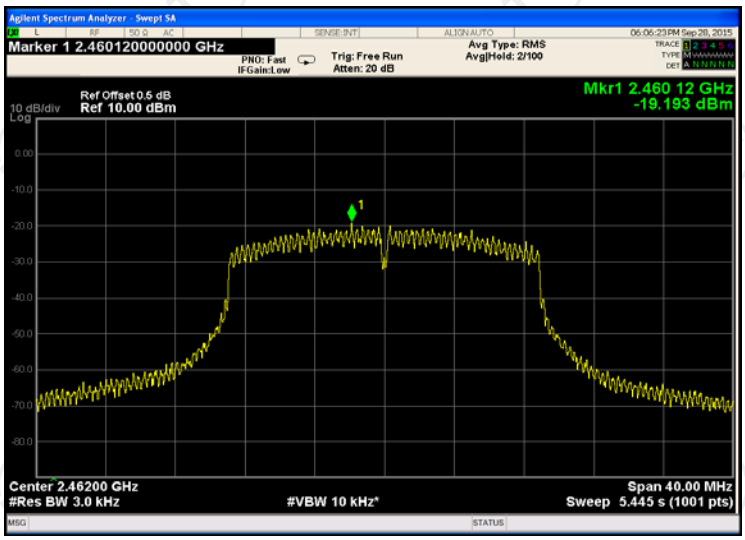
Lowest channel



Middle channel

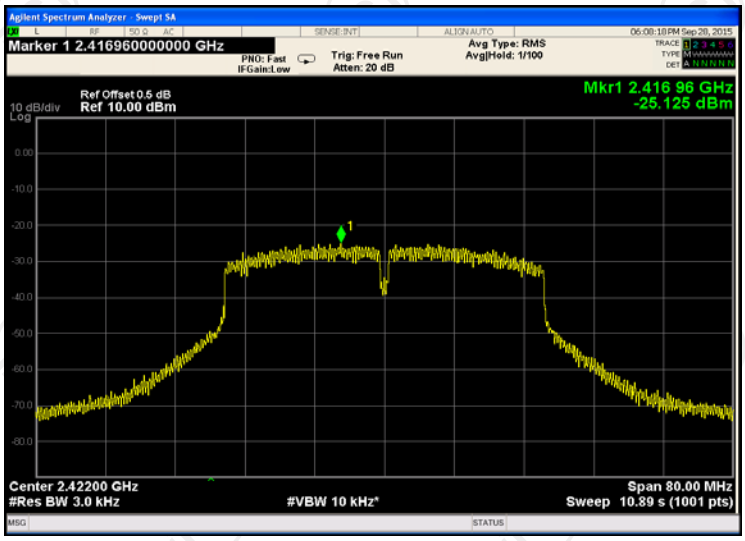


Highest channel

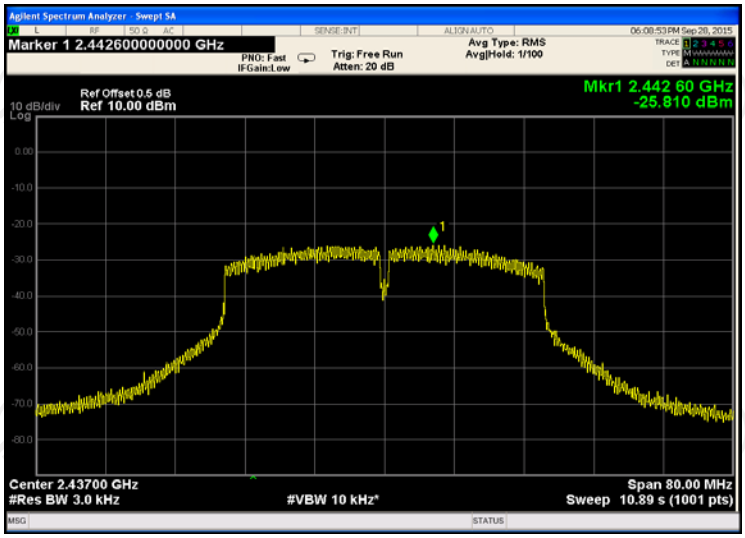


802.11n (HT40) Modulation

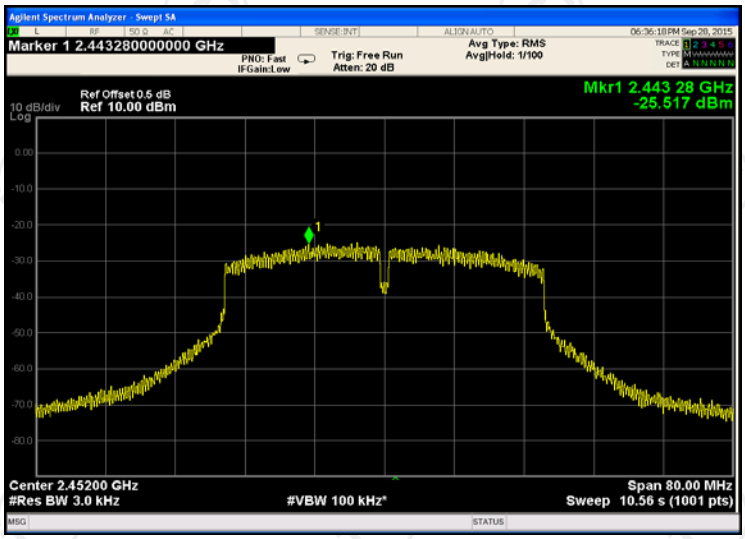
Lowest channel



Middle channel

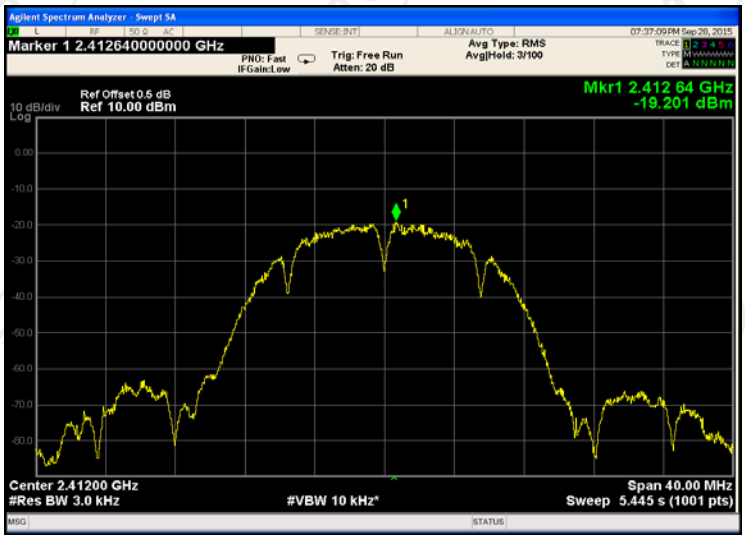


Highest channel

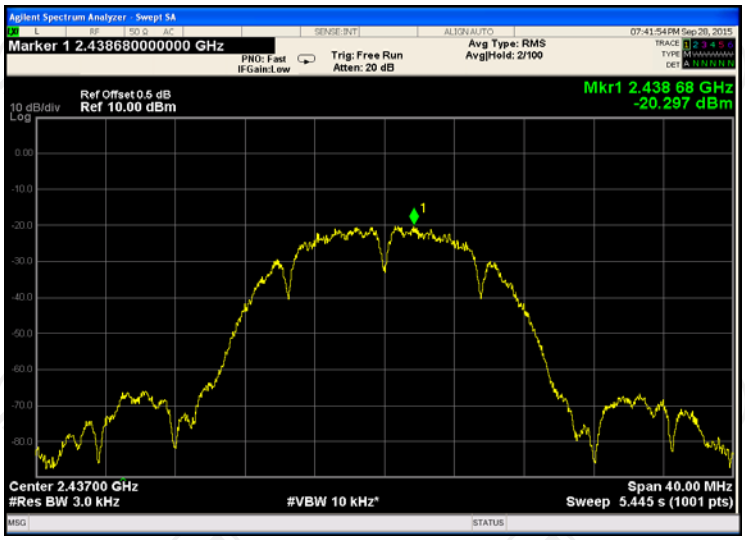


Antenna 2:
802.11b Modulation

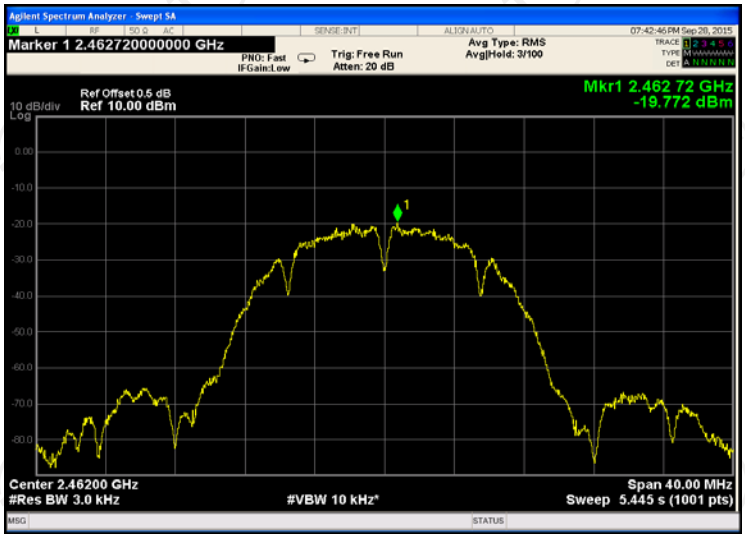
Lowest channel



Middle channel

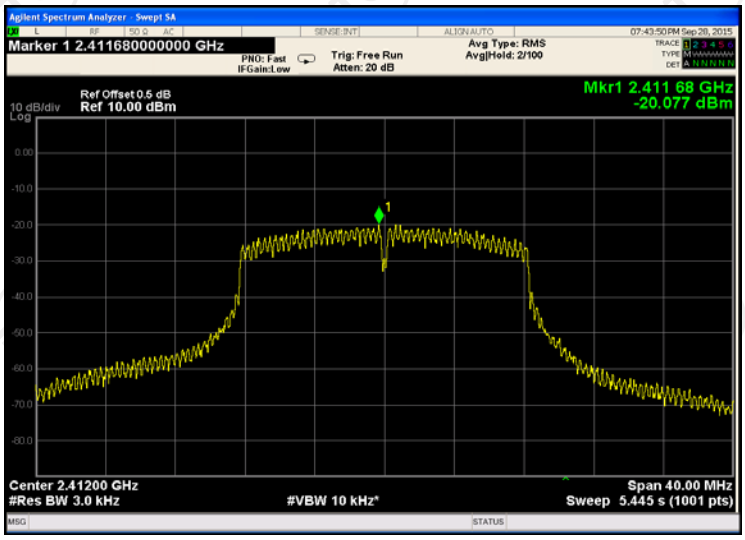


Highest channel

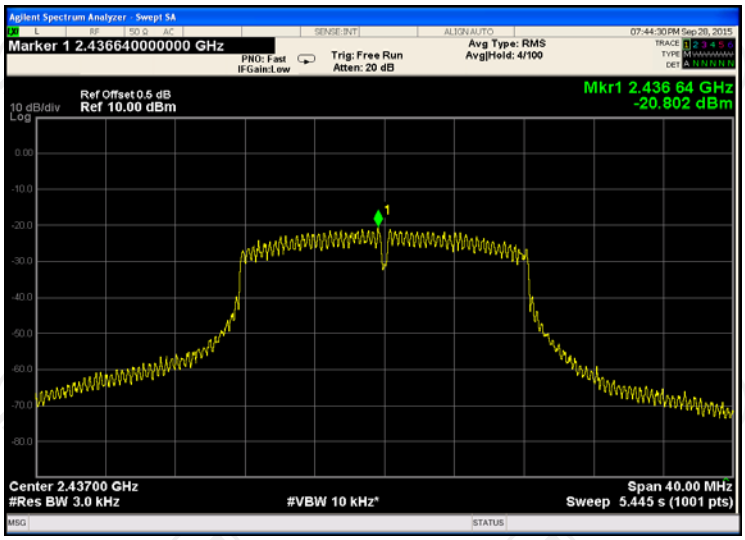


802.11g Modulation

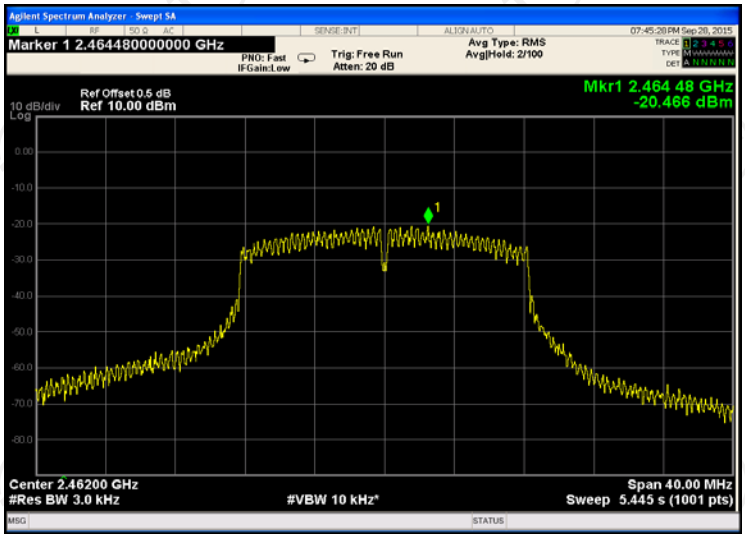
Lowest channel



Middle channel

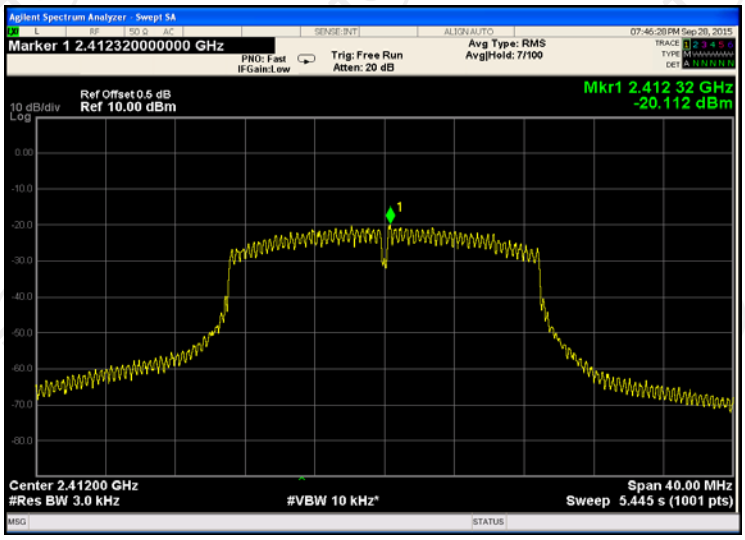


Highest channel

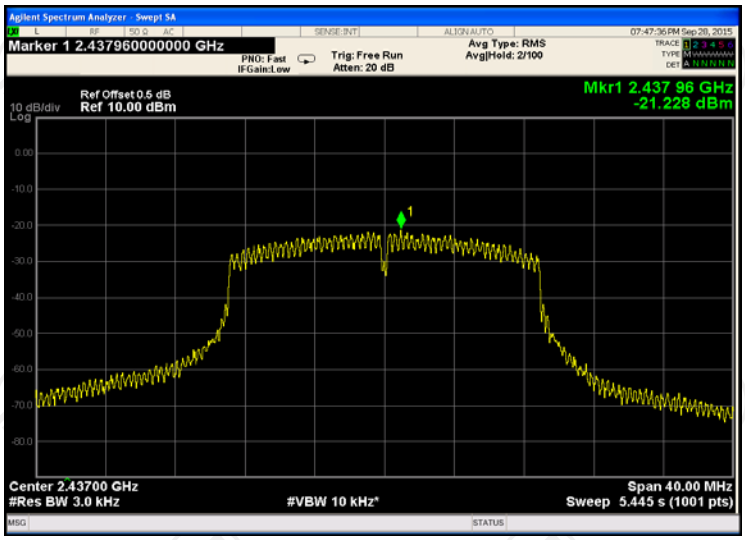


802.11n (HT20) Modulation

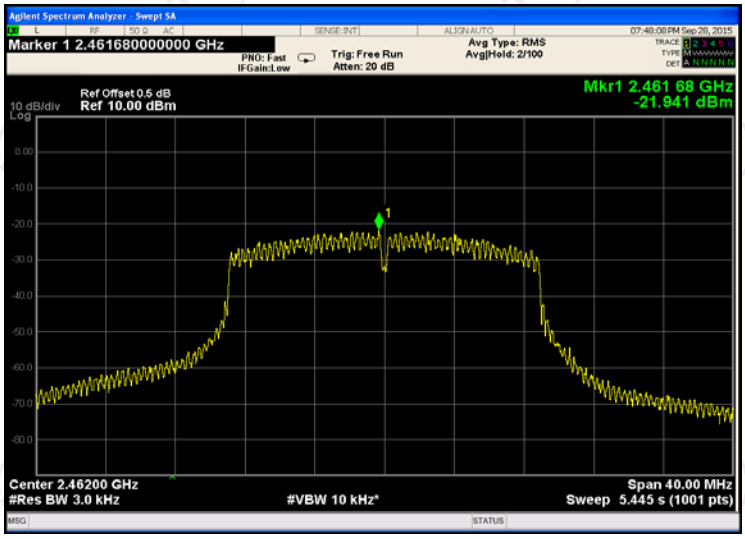
Lowest channel



Middle channel

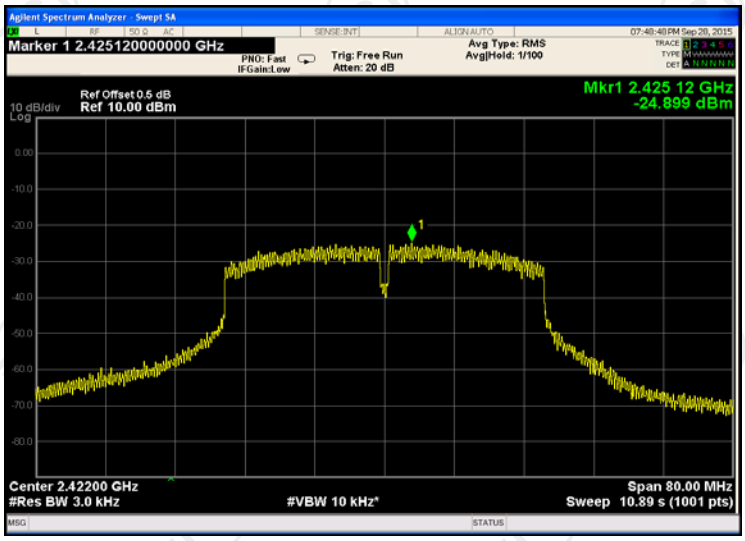


Highest channel

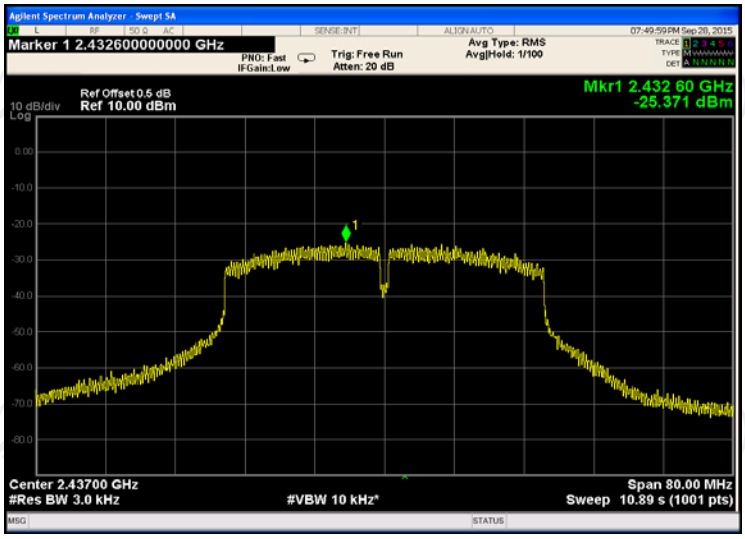


802.11n (HT40) Modulation

Lowest channel



Middle channel



Highest channel