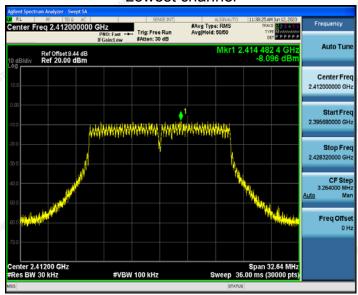
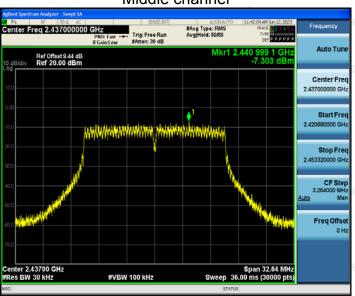
#### 802.11g Modulation

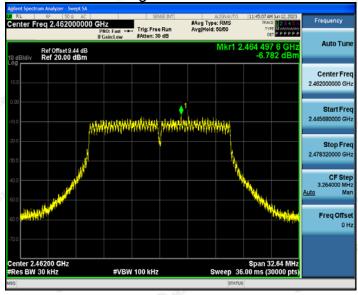
#### Lowest channel



#### Middle channel



#### Highest channel

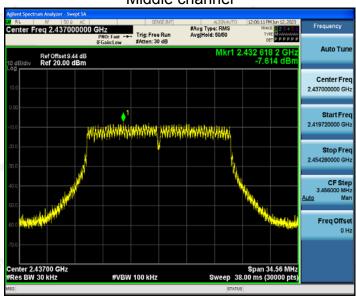


#### 802.11n (HT20) Modulation

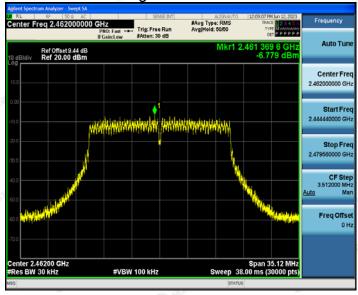
#### Lowest channel



#### Middle channel

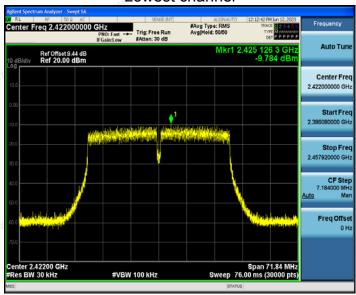


#### Highest channel

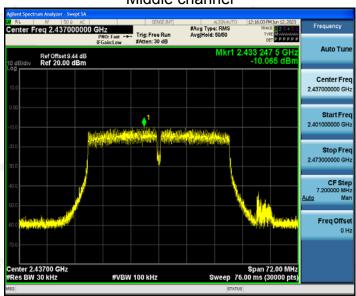


#### 802.11n (HT40) Modulation

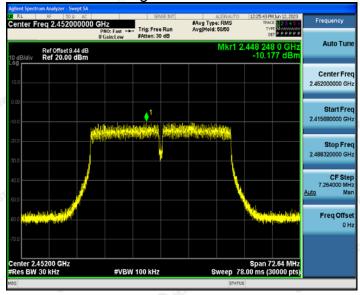
#### Lowest channel



#### Middle channel

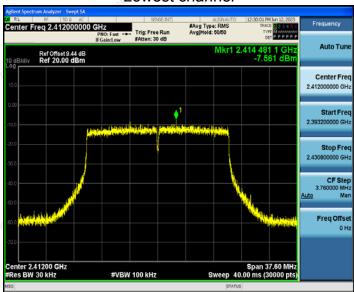


#### Highest channel

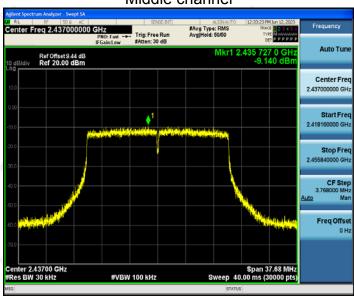


#### 802.11ax (HT20) Modulation

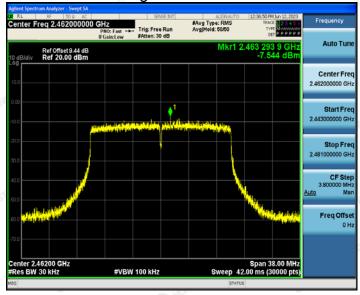
#### Lowest channel



#### Middle channel

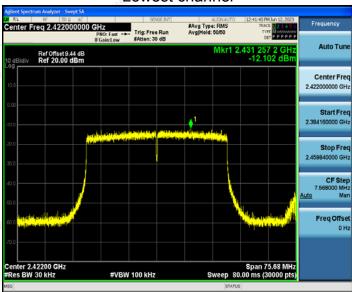


#### Highest channel

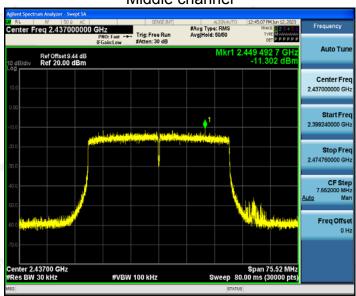


#### 802.11ax (HT40) Modulation

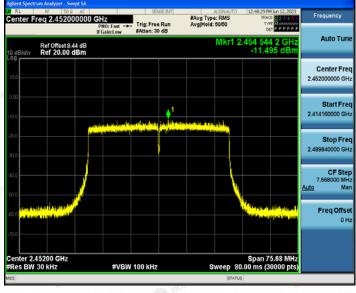
#### Lowest channel



# Middle channel



#### Highest channel





## For antenna port 4

EUT Set Mode	Channel	Result (dBm/30kHz)	Offset	Test Result (dBm/30kHz)	Result (dBm/3kHz)
802.11b	Lowest	-9.43	9.44	0.01	-9.99
	Middle	-4.55	9.44	4.89	-5.11
	Highest	-9.27	9.44	0.17	-9.83
802.11g	Lowest	-17.60	9.44	-8.16	-18.16
	Middle	-16.75	9.44	-7.31	-17.31
	Highest	-16.64	9.44	-7.2	-17.2
802.11n(HT20)	Lowest	-16.99	9.44	-7.55	-17.55
	Middle	-16.59	9.44	-7.15	-17.15
	Highest	-16.53	9.44	-7.09	-17.09
802.11n(HT40)	Lowest	-18.84	9.44	-9.4	-19.4
	Middle	-19.38	9.44	-9.94	-19.94
	Highest	-19.63	9.44	-10.19	-20.19
802.11ax(HT20)	Lowest	-18.57	9.44	-9.13	-19.13
	Middle	-18.46	9.44	-9.02	-19.02
	Highest	-18.26	9.44	-8.82	-18.82
802.11ax(HT40)	Lowest	-20.64	9.44	-11.2	-21.2
	Middle	-20.72	9.44	-11.28	-21.28
	Highest	-20.82	9.44	-11.38	-21.38
PSD Test Result ( Offset= Instrumen PSD test result (d	t attenuation	+cable loss		10	

Limit: 8dBm/3kHz

Test Result: PASS

Test plots as follows:



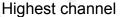
#### 802.11b Modulation

#### Lowest channel



#### Middle channel

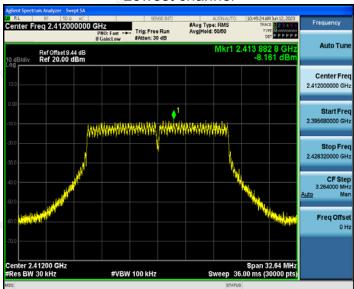




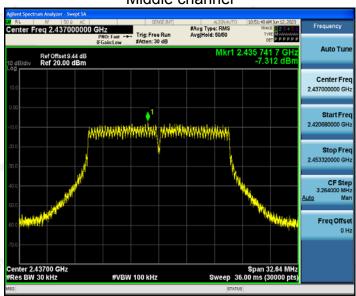


#### 802.11g Modulation

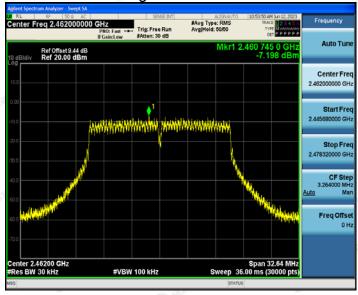
#### Lowest channel



#### Middle channel

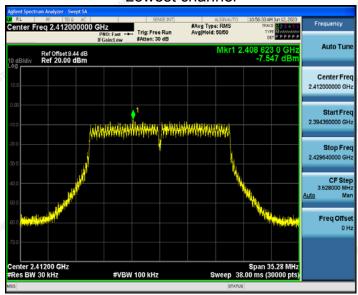


#### Highest channel

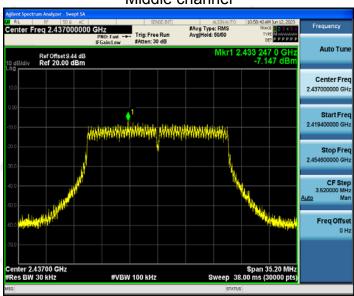


#### 802.11n (HT20) Modulation

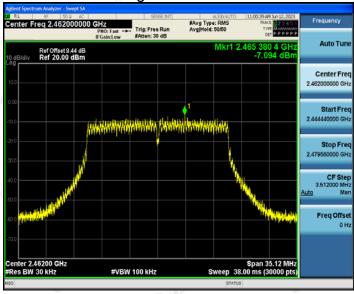
#### Lowest channel



#### Middle channel

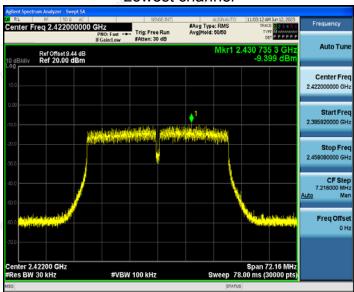


#### Highest channel

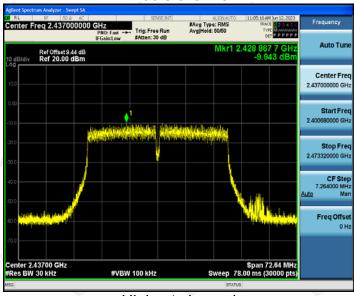


#### 802.11n (HT40) Modulation

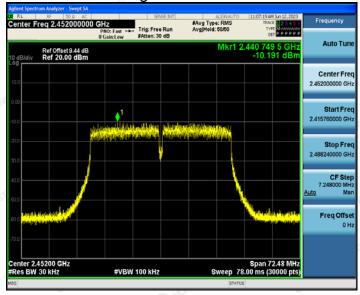
#### Lowest channel



#### Middle channel

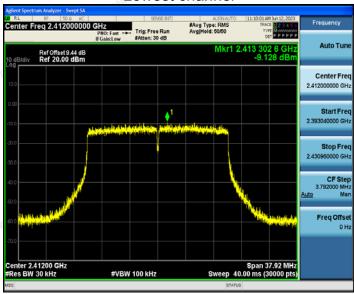


#### Highest channel

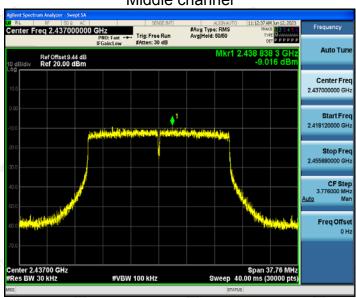


#### 802.11ax (HT20) Modulation

#### Lowest channel



#### Middle channel



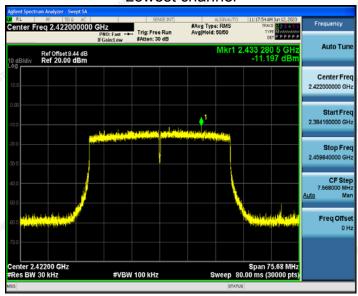
#### Highest channel



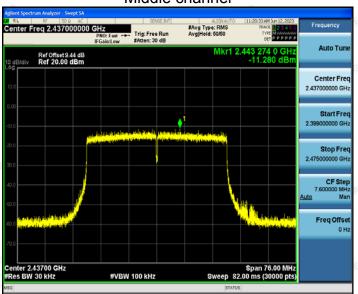
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#### 802.11ax (HT40) Modulation

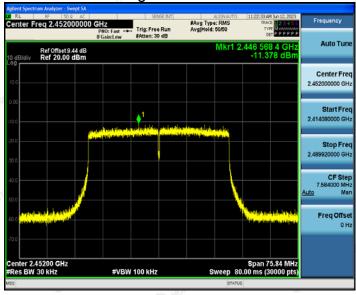
#### Lowest channel



# Middle channel



#### Highest channel



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**PASS** 

**PASS** 

1.44



For MIMO antenna port 1+antenna port 2+ antenna port 3+ antenna port 4 **Power Density** Limit Frequency Result (dBm) (dBm) TX 802.11n/HT20 Mode -11.14 2412 MHz 1.44 **PASS PASS** 2437 MHz -11.01 1.44 -10.77 **PASS** 2462 MHz 1.44 TX 802.11n/HT40 Mode 2422 MHz -13.481.44 **PASS** 2437 MHz -13.75 **PASS** 1.44 2452 MHz -13.52 1.44 **PASS** TX 802.11ax/HT20 Mode -12.15 2412 MHz 1.44 **PASS** 2437 MHz -12.51 1.44 **PASS** -11.74 1.44 2462 MHz **PASS** TX 802.11ax/HT40 Mode 2422 MHz **PASS** -15.10 1.44

Note: 1 According to KDB 662911, Result power = 10log(10<sup>(ant1/10</sup>+10<sup>(ant2/10)</sup>). 2 Result unit: W, The end result is converted to units of dBm. limit=8dBm-(direction gain-6dBi)= 8-(6.54+10log4-6)=1.44dBm

2437 MHz

2452 MHz

Note: This product supports antenna 1, antenna 2, antenna 3 and antenna 4 launch, but only support 802.11 n/802.11ax for MIMO mode, not support 802.11 b and 802.11 g for MIMO mode.

-14.79



# 4.5. Conducted Band Edge and Spurious Emission Measurement

# 4.5.1. Test Specification

Test Requirement:	ECC Part15 C Section 15 247 (d)					
•	FCC Part15 C Section 15.247 (d)					
Test Method:	KDB558074 D01 15.247 Meas Guidance v05r02					
Limit:	In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).					
Test Setup:	Spectrum Analyzer EUT					
Test Mode:	Transmitting mode with modulation					
Test Procedure:	<ol> <li>Transmitting mode with modulation</li> <li>The testing follows FCC KDB Publication No. 558074 D01 15.247 Meas Guidance v05r02.</li> <li>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.</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).</li> <li>Measure and record the results in the test report.</li> <li>The RF fundamental frequency should be excluded against the limit line in the operating frequency band.</li> </ol>					
Test Result:	PASS					

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## 4.5.2. Test Instruments

VIDE 7.5. DESAIL		Alba YV	ALCOHA T	40h, YV	200			
RF Test Room								
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due			
Spectrum analyzer	Agilent	N9020A	HKE-048	Feb. 17, 2023	Feb. 16, 2024			
Signal generator	Agilent	N5183A	HKE-071	Feb. 17, 2023	Feb. 16, 2024			
RF Cable (9KHz-26.5GHz)	Tonscend	170660	N/A	Feb. 17, 2023	Feb. 16, 2024			
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 17, 2023	Feb. 16, 2024			

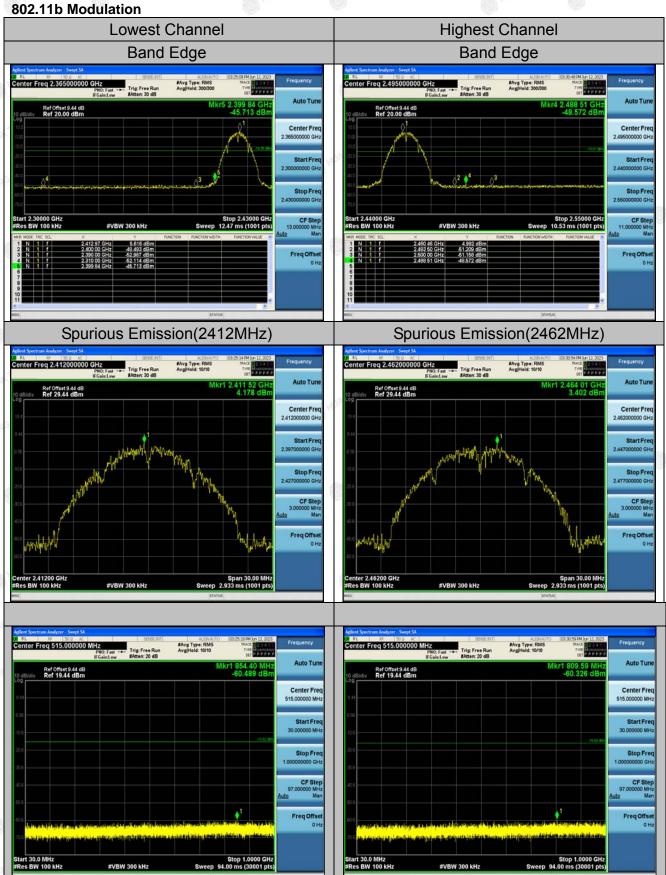
**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

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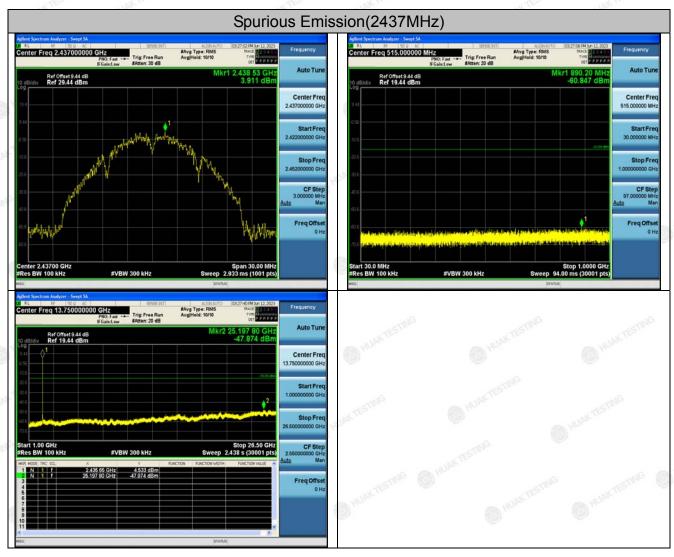


# 4.5.3. Test Data Chain 1 802 11b Modulation



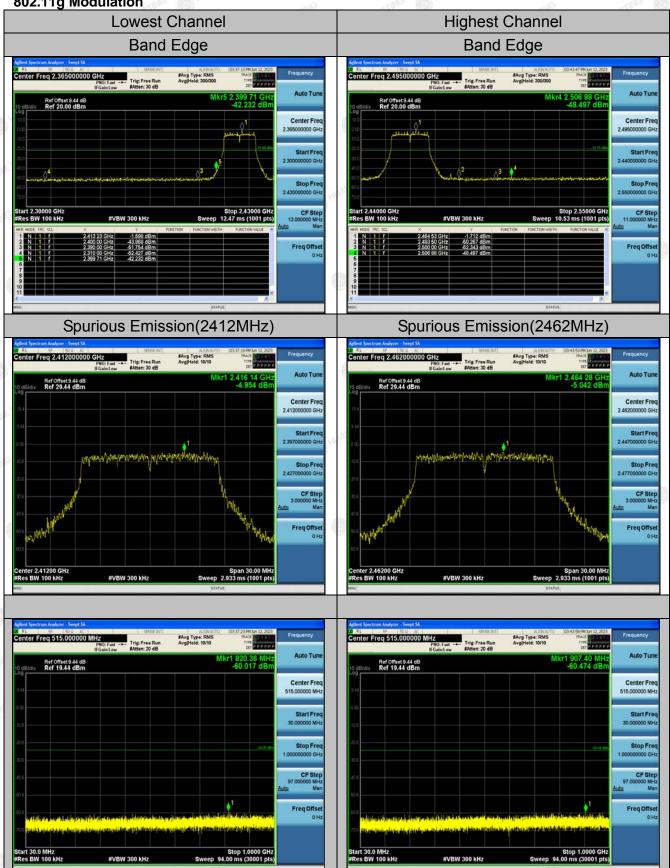




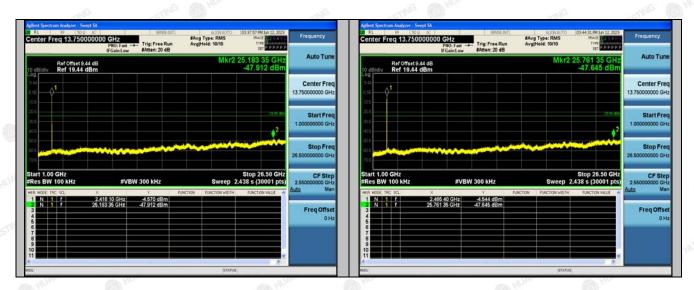


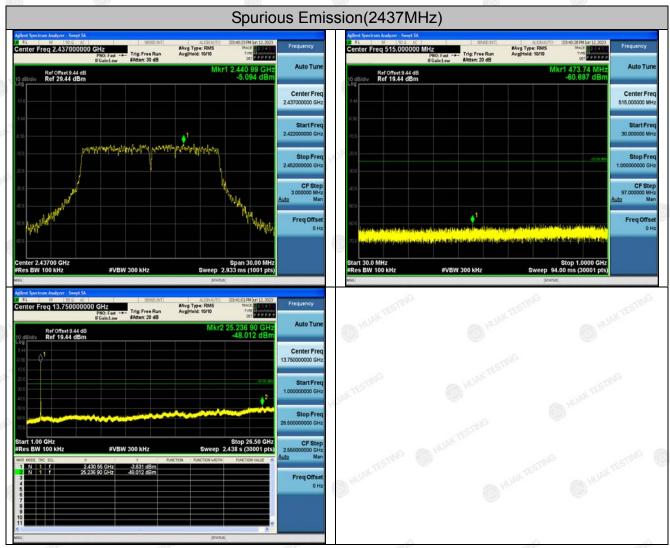
## 802.11g Modulation

**HUAK TESTING** 

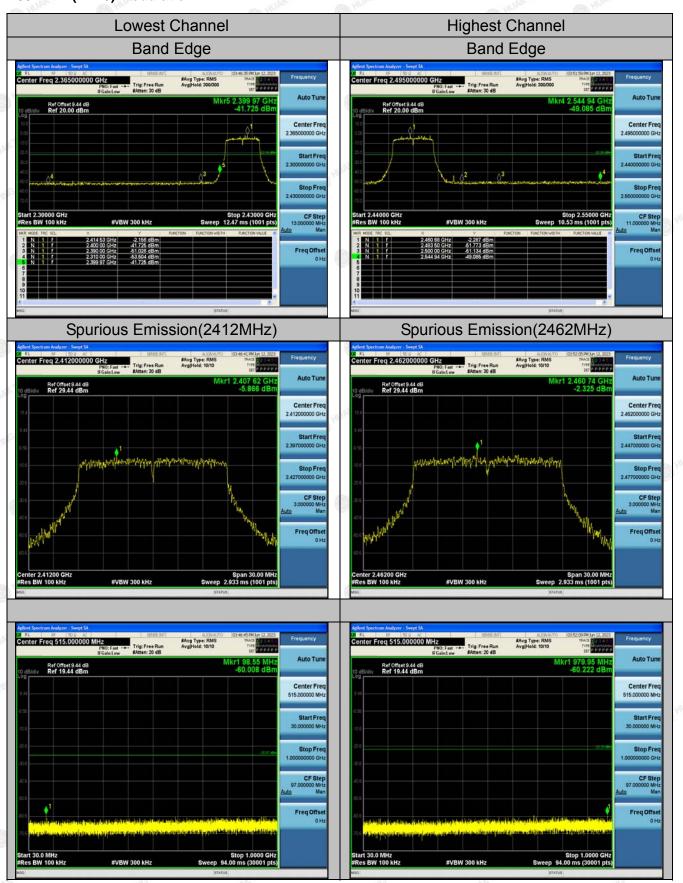








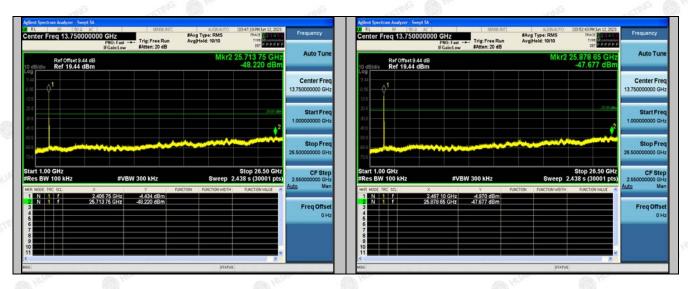
#### 802.11n (HT20) Modulation

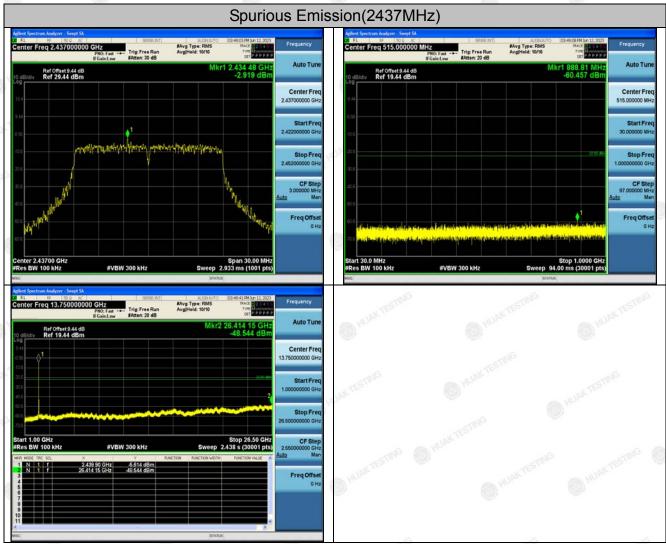


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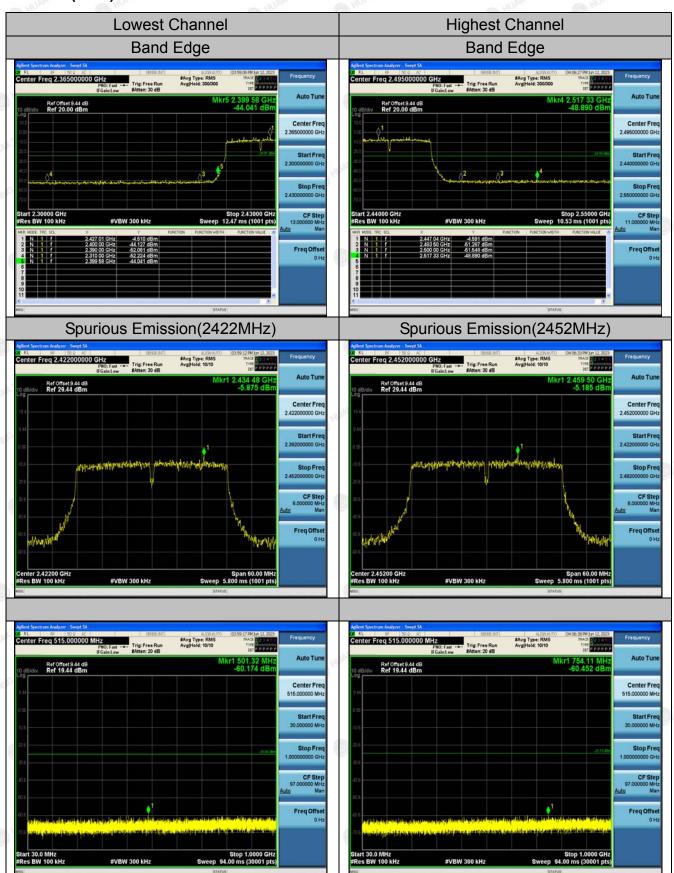
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#### 802.11n (HT40) Modulation



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