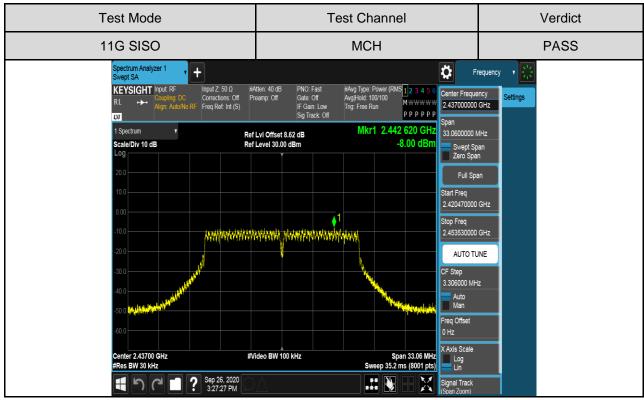
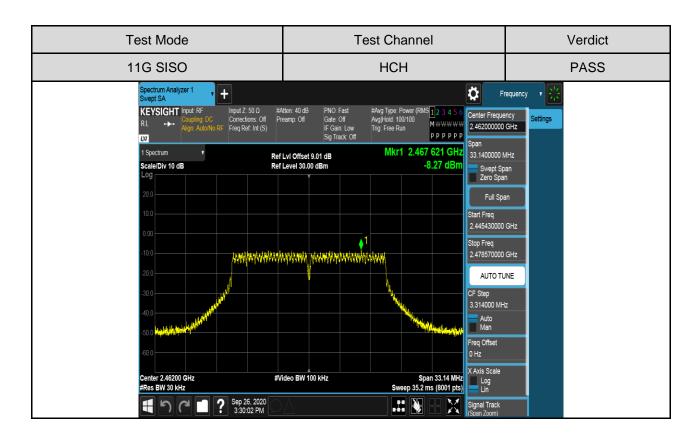


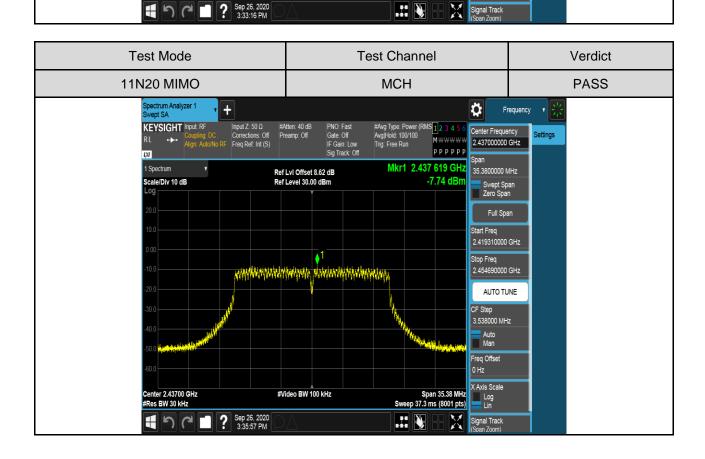
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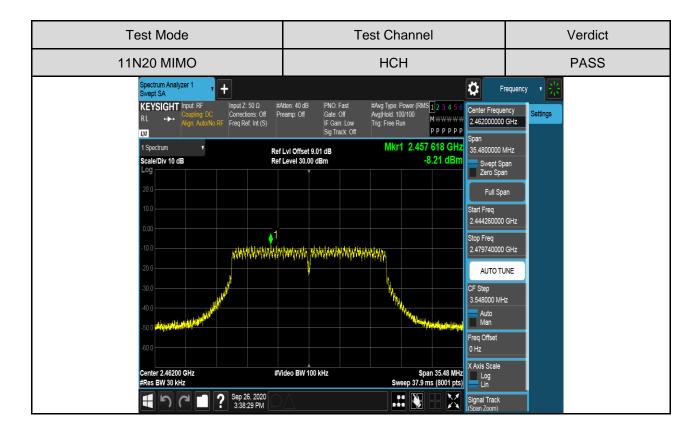


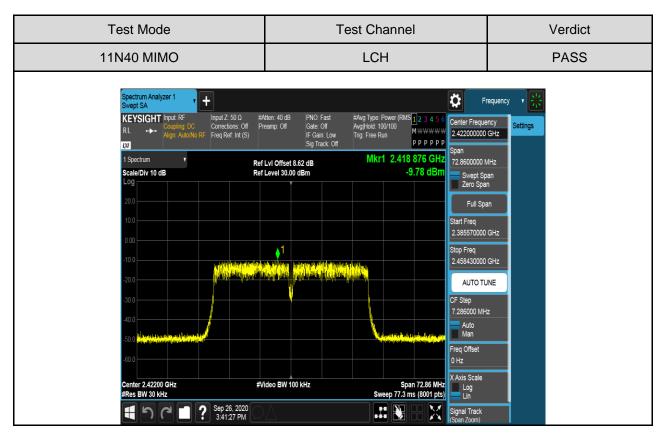


Test Mode Test Channel Verdict LCH **PASS** 11N20 MIMO Spectrum Analyzer 1 Swept SA Ö Frequency Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) #Atten: 40 dB Preamp: Off PNO: Fast Gate: Off IF Gain: Low KEYSIGHT Input RF Settings 2.412000000 GHz PPPPPP L)XI Mkr1 2.412 615 GHz 1 Spectrum Ref Lvl Offset 9.05 dB 35.4200000 MHz Scale/Div 10 dB -6.72 dBn Swept Span Zero Span Full Span 2.394290000 GHz Stop Freq 2.429710000 GHz AUTO TUNE 3.542000 MHz Auto Man req Offset X Axis Scale enter 2.41200 GHz #Video BW 100 kHz Span 35.42 MHz Log Lin Sweep 37.9 ms (8001 pts) Res BW 30 kHz



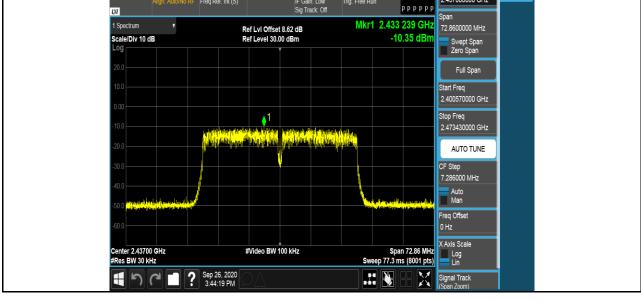


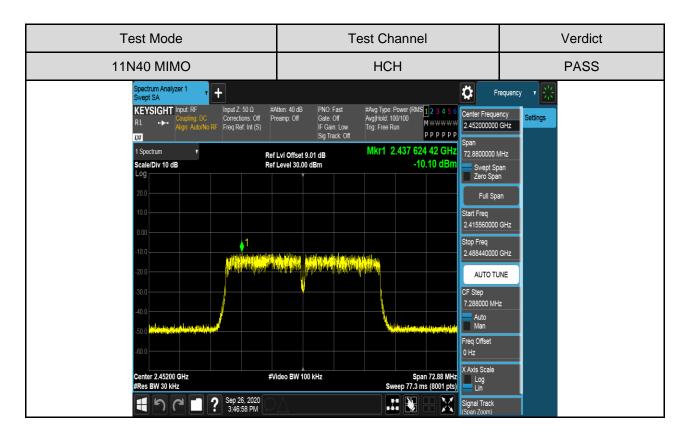






Test Mode **Test Channel** Verdict 11N40 MIMO **MCH PASS** Spectrum Analyzer 1 Swept SA Ö Frequency KEYSIGHT Input RF Center Frequency Gate: Off IF Gain: Low Sig Track: Off Settings Corrections: Off Freq Ref: Int (S) 2.437000000 GHz PPPPPP Mkr1 2.433 239 GH Ref Lvi Offset 8.62 dB Ref Level 30.00 dBm 72.8600000 MHz -10.35 dB Scale/Div 10 dB





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7.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

LIMITS

FCC Part15 (15.247), Subpart C			
Section	Test Item	Limit	
FCC §15.247 (d)	Conducted Bandedge and Spurious Emissions	1) For 11B, 11G and 11N HT20 modes: at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power; 2) For 11N HT40 mode: at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power	

TEST PROCEDURE

Refer to FCC KDB 558074, connect the UUT to the spectrum analyzer and use the following

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100K
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

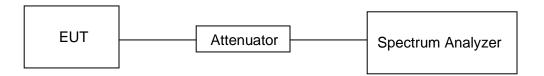
settings:

Use the peak marker function to determine the maximum PSD level.

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100K
VBW	≥3 × RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum amplitude level.

TEST SETUP





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TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

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Part I: Conducted Bandedge

RESULTS TABLE

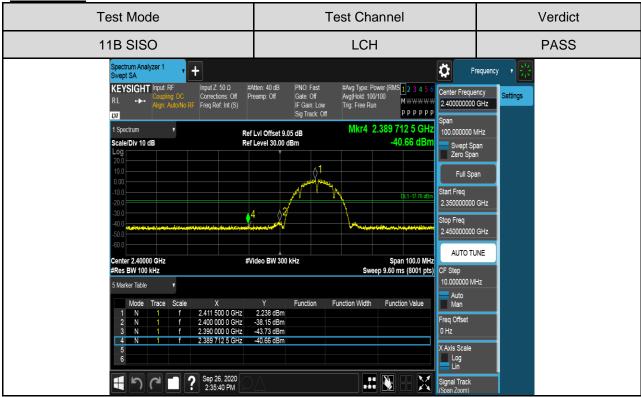
Test Mode	Test Antenna	Test Channel	Carrier Power[dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Verdict
	Antenna 1	LCH	2.238	-40.66	-17.76	PASS
11B	Antenna i	HCH	1.403	-40.54	-18.60	PASS
IID	Antonno	LCH	1.929	-41.22	-18.07	PASS
	Antenna 2	HCH	0.868	-40.81	-19.13	PASS
	Antenna 1	LCH	-3.177	-40.20	-23.18	PASS
11G	Antenna i	HCH	-4.466	-40.16	-24.47	PASS
116	Antenna 2	LCH	-3.969	-40.84	-23.97	PASS
	Antenna 2	HCH	-5.485	-39.98	-25.49	PASS
	Antenna 1	LCH	-2.919	-41.17	-22.92	PASS
11N20MIMO	Antenna i	HCH	-4.141	-41.18	-24.14	PASS
1 TINZUIVIIIVIO	Antenna 2	LCH	-4.411	-40.21	-24.41	PASS
	Antenna 2	HCH	-5.163	-40.99	-25.16	PASS
	Antonno 1	LCH	-5.431	-41.19	-35.43	PASS
11N40MIMO	Antenna 1	HCH	-5.798	-40.98	-35.80	PASS
1 11N4UIVIIIVIU	Antonno	LCH	-6.471	-41.27	-36.47	PASS
	Antenna 2	HCH	-6.819	-41.20	-36.82	PASS

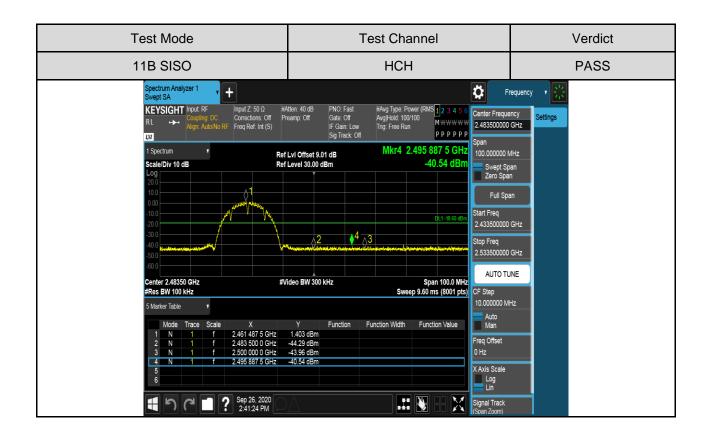
Remark:

- 1) For this product, it has two antennas, antenna1 and antenna2, but only the 802.11N HT20 and 802.11N HT40 modes can support both the SISO and MIMO technical.
- 2) Through pre-testing all the test modes of 11N 20 and 11N40, including SISO and MIMO, but only the data if worse case is included in this test report.

TEST GRAPHS

Antenna 1:





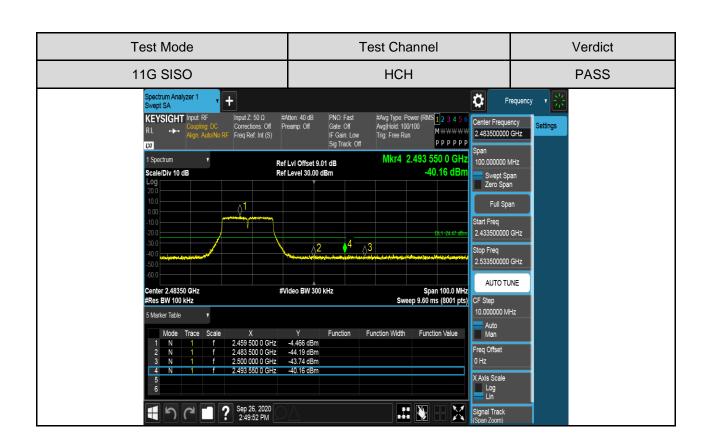


Test Channel Test Mode Verdict LCH **PASS** 11G SISO pectrum Analyzer 1 wept SA Ö Frequency KEYSIGHT Input RF Center Frequency Settings M₩₩₩₩ 2.400000000 GHz PPPPPP Mkr4 2.388 750 0 GHz Ref LvI Offset 9.05 dB Ref Level 30.00 dBm 100.000000 MHz -40.20 dB Scale/Div 10 dB Swept Span Zero Span Full Span δ1 Start Freq 2.350000000 GHz Stop Freq 2.450000000 GHz AUTO TUNE enter 2.40000 GHz #Video BW 300 kHz Span 100.0 MH Res BW 100 kHz Sweep 9.60 ms (8001 pts) Auto Man Function Function Width Function Value -3.177 dBm -36.74 dBm -44.95 dBm Freq Offset 2.400 000 0 GHz 2.390 000 0 GHz X Axis Scale Log Lin

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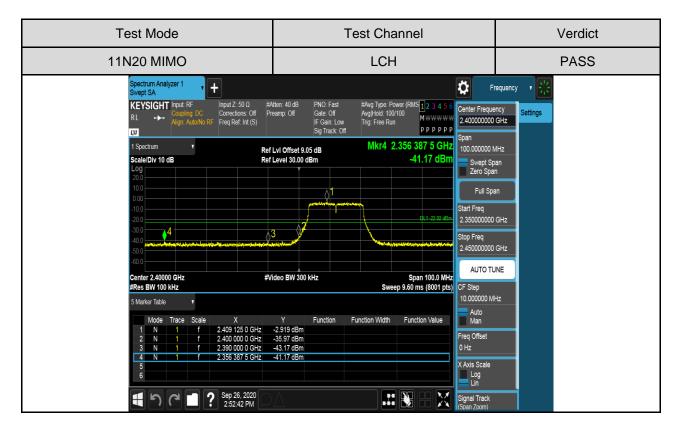
Signal Track (Span Zoom)

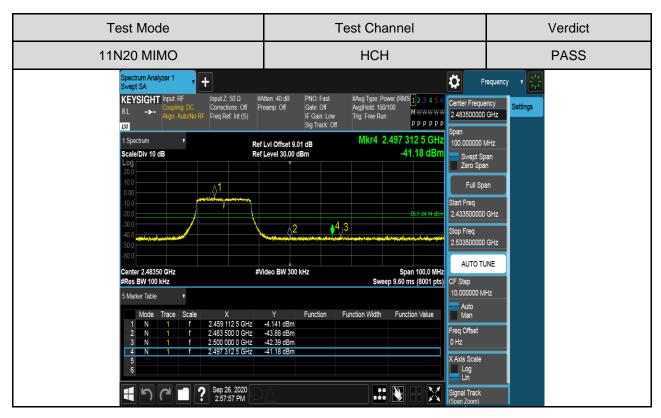
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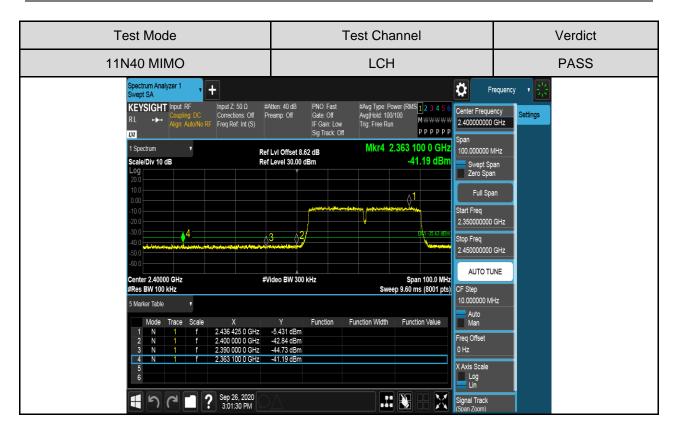
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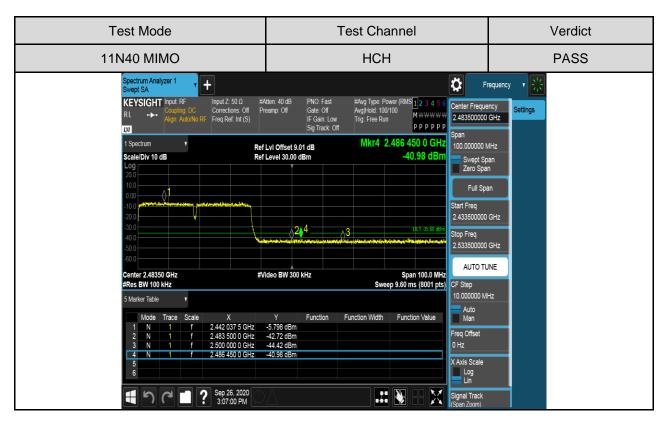






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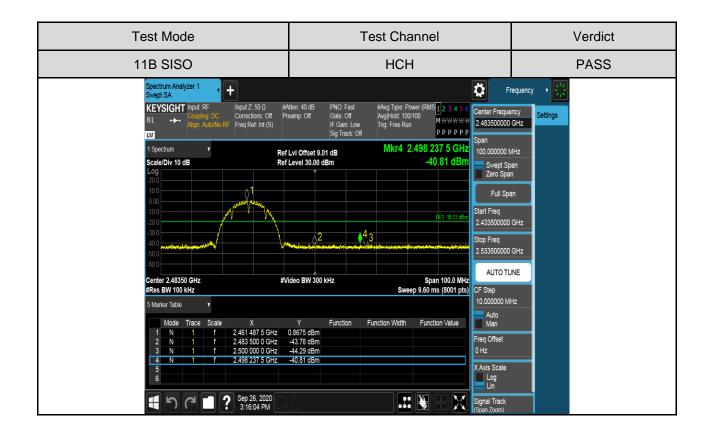




Antenna 2: Test Mode Test Channel Verdict 11B SISO LCH **PASS** pectrum Analyzer 1 wept SA Ö Frequency Input Z: 50 Ω Corrections: Off Freq Ref: Int (S) #Atten: 40 dB Preamp: Off KEYSIGHT Input RF Settings 2.400000000 GHz PPPPPP L)XI Mkr4 2.373 437 5 GHz 1 Spectrum Ref Lvl Offset 9.05 dB 100.000000 MHz Scale/Div 10 dB -41.22 dB Swept Span Zero Span 2.350000000 GHz Stop Freq 2.450000000 GHz AUTO TUNE #Video BW 300 kHz enter 2.40000 GHz Span 100.0 MHz Res BW 100 kHz Sweep 9.60 ms (8001 pts) 10.000000 MHz Auto Man Function Function Width Function Value req Offset 2.400 000 0 GHz 2.390 000 0 GHz X Axis Scale Log Lin

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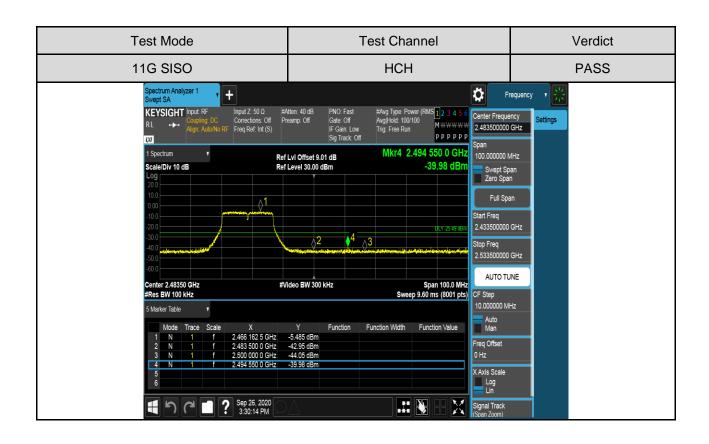


Test Channel Test Mode Verdict LCH **PASS** 11G SISO pectrum Analyzer 1 wept SA Ö Frequency KEYSIGHT Input RF Center Frequency M₩₩₩₩ 2.400000000 GHz PPPPPP Mkr4 2.372 737 5 GHz Ref LvI Offset 9.05 dB Ref Level 30.00 dBm 100.000000 MHz -40.84 dBi Scale/Div 10 dB Swept Span Zero Span Full Span ۵1 Start Freq 2.350000000 GHz Stop Freq 2.450000000 GHz AUTO TUNE nter 2.40000 GHz #Video BW 300 kHz Span 100.0 MH Res BW 100 kHz Sweep 9.60 ms (8001 pts) Auto Man Function Function Width Function Value -3.969 dBm -37.87 dBm Freq Offset 2.400 000 0 GHz 2.390 000 0 GHz X Axis Scale Log Lin

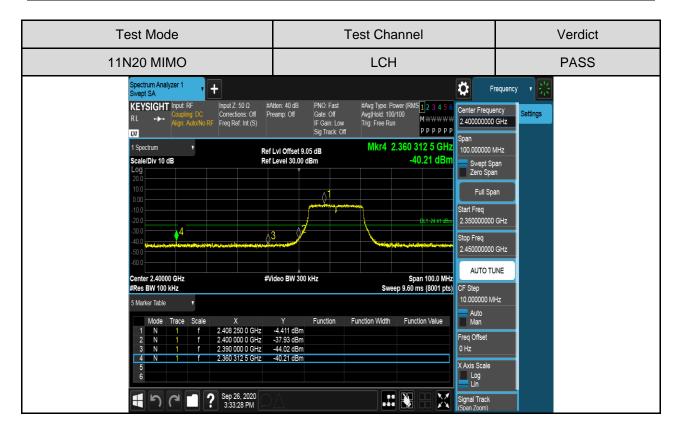
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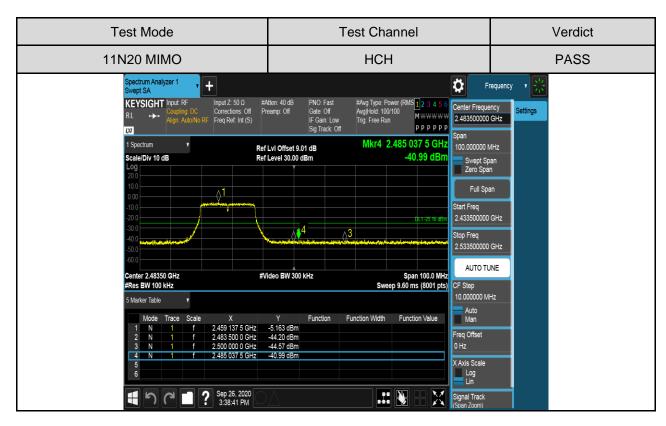
Signal Track (Span Zoom)

Sep 26, 2020 3:18:51 PM

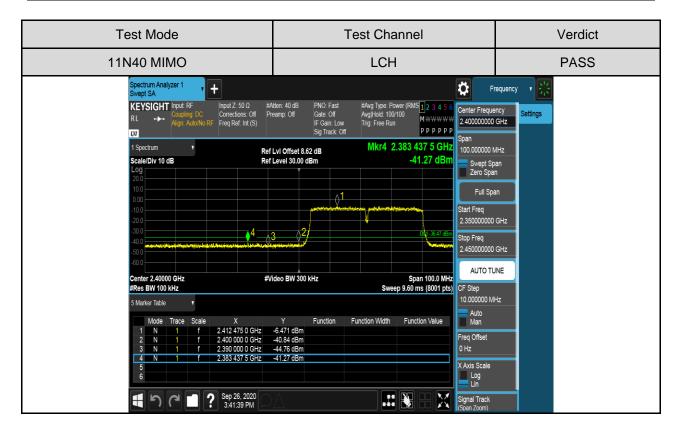


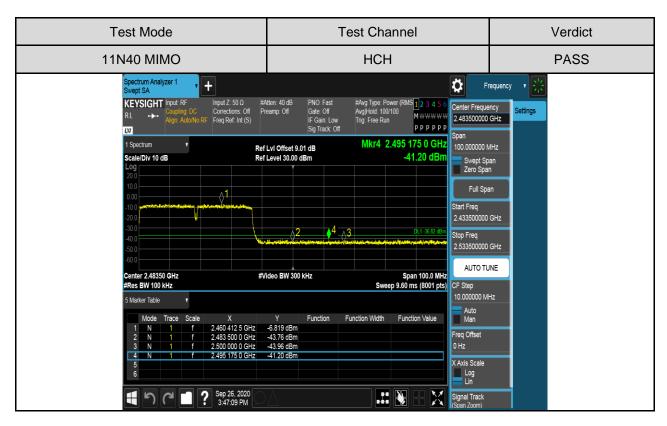












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Part II : Conducted Emission

Test Result Table

Test Mode	Test Antenna	Channel	Pref(dBm)	Puw(dBm)	Verdict
	LCH	2.14	<limit< td=""><td>PASS</td></limit<>	PASS	
	Antenna 1	MCH	1.64	<limit< td=""><td>PASS</td></limit<>	PASS
11B SISO		HCH	1.29	<limit< td=""><td>PASS</td></limit<>	PASS
112 0.00		LCH	1.84	<limit< td=""><td>PASS</td></limit<>	PASS
	Antenna 2	MCH	1.10	<limit< td=""><td>PASS</td></limit<>	PASS
		HCH	0.76	<limit< td=""><td>PASS</td></limit<>	PASS
	A . 1	LCH	-3.26	<limit< td=""><td>PASS</td></limit<>	PASS
	Antenna 1	MCH	-4.04	<limit< td=""><td>PASS</td></limit<>	PASS
11G SISO		HCH	-4.40	<limit< td=""><td>PASS</td></limit<>	PASS
1100100		LCH	-3.98	<limit< td=""><td>PASS</td></limit<>	PASS
	Antenna 2	MCH	-4.88	<limit< td=""><td>PASS</td></limit<>	PASS
		HCH	-5.54	<limit< td=""><td>PASS</td></limit<>	PASS
		LCH	-3.03	<limit< td=""><td>PASS</td></limit<>	PASS
	Antenna 1	MCH	-3.74	<limit< td=""><td>PASS</td></limit<>	PASS
11N MIMO20		HCH	-4.14	<limit< td=""><td>PASS</td></limit<>	PASS
1114 1011101020		LCH	-4.14	<limit< td=""><td>PASS</td></limit<>	PASS
	Antenna 2	MCH	-4.52	<limit< td=""><td>PASS</td></limit<>	PASS
		HCH	-5.25	<limit< td=""><td>PASS</td></limit<>	PASS
	Antenna 1	LCH	-5.39	<limit< td=""><td>PASS</td></limit<>	PASS
		MCH	-5.83	<limit< td=""><td>PASS</td></limit<>	PASS
11N MIMO40		HCH	-5.79	<limit< td=""><td>PASS</td></limit<>	PASS
1114 10111010-40	A	LCH	-6.52	<limit< td=""><td>PASS</td></limit<>	PASS
	Antenna 2	MCH	-6.87	<limit< td=""><td>PASS</td></limit<>	PASS
		HCH	-6.67	<limit< td=""><td>PASS</td></limit<>	PASS

Remark:

- 1) For this product, it has two antennas, antenna1 and antenna2, but only the 802.11N HT20 and 802.11N HT40 modes can support both the SISO and MIMO technical.
- 2) Through pre-testing all the test modes of 11N 20 and 11N40, including SISO and MIMO, but only the data if worse case is included in this test report.



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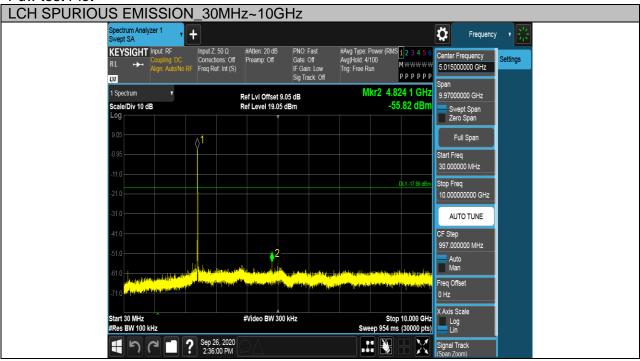
Test Plots Antenna 1:

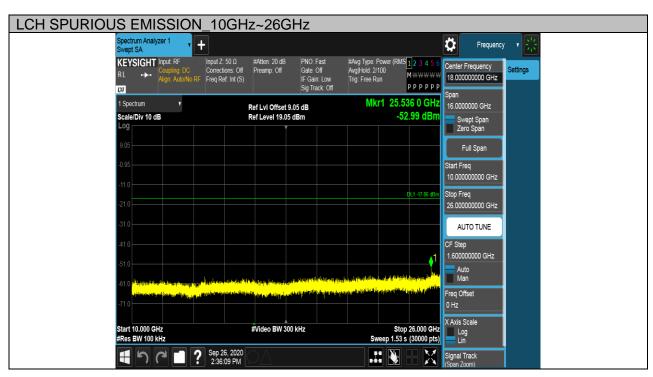
Test Mode	Channel	Verdict
11B	LCH	PASS





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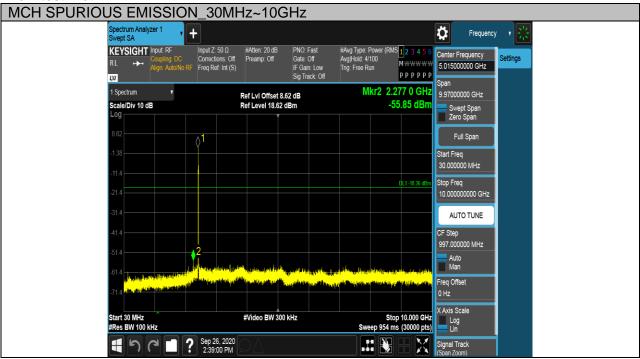
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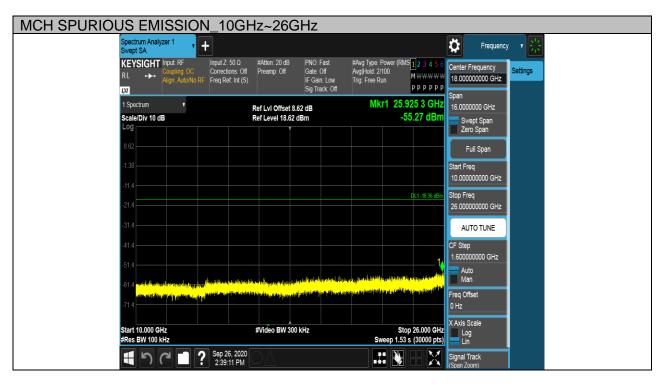
Test Mode	Channel	Verdict
11B	MCH	PASS





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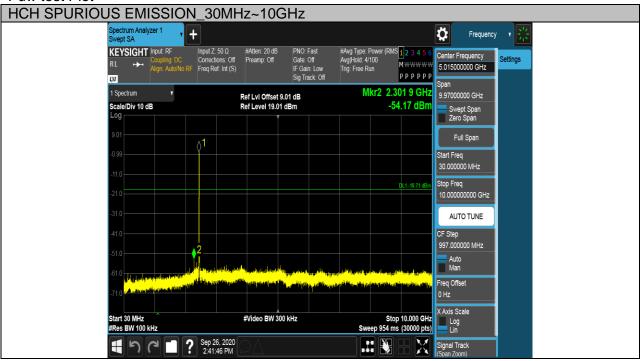
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Test Mode	Channel	Verdict
11B	HCH	PASS





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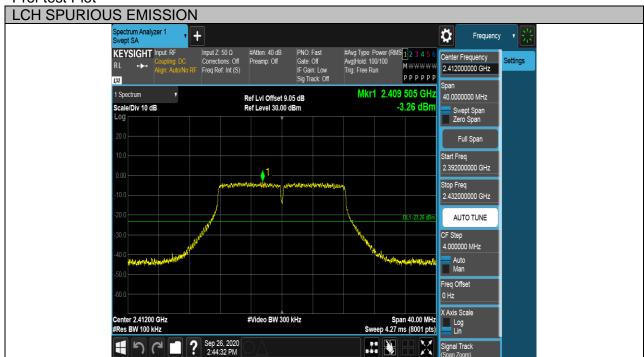






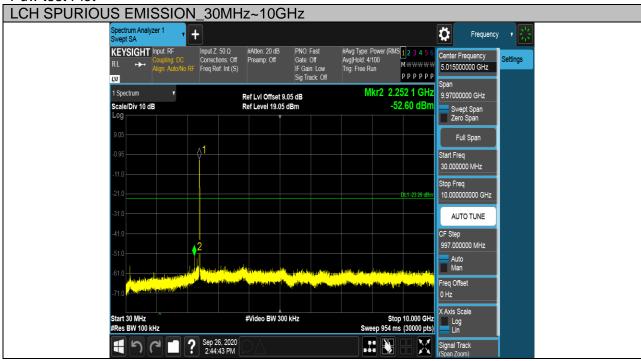
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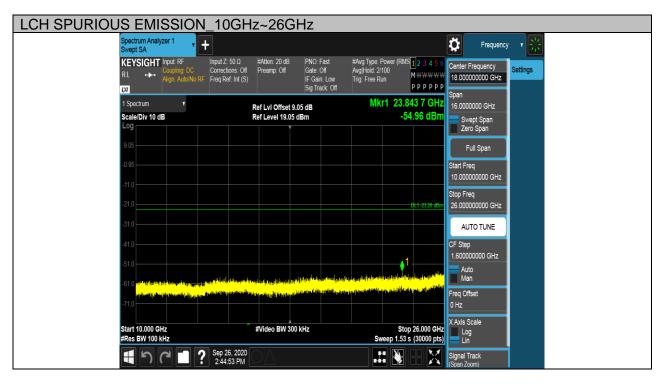
Test Mode	Channel	Verdict
11G	LCH	PASS





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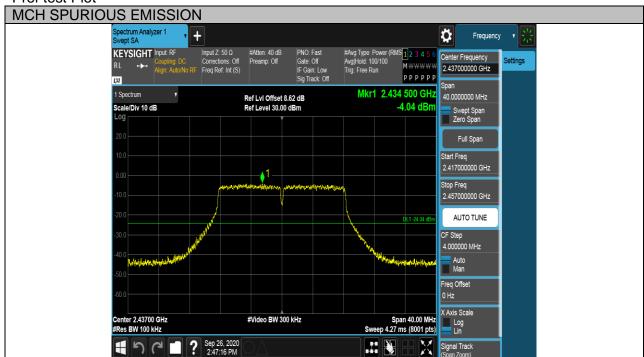






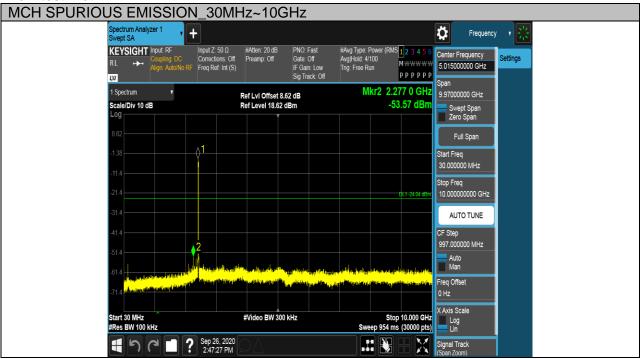
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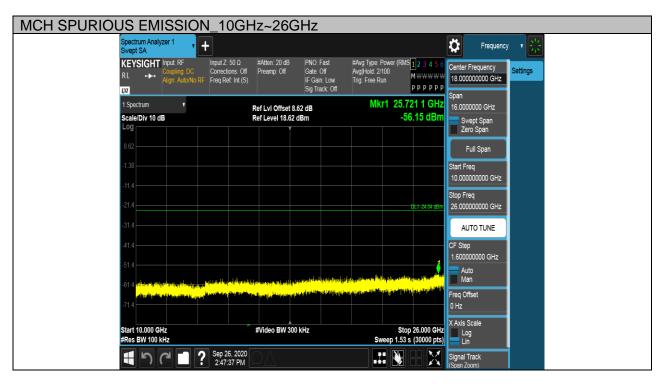
Test Mode	Channel	Verdict
11G	MCH	PASS





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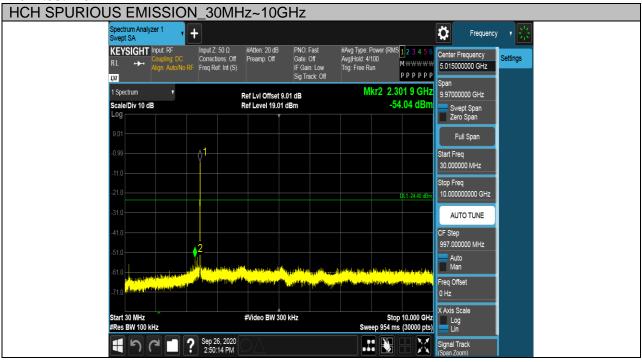
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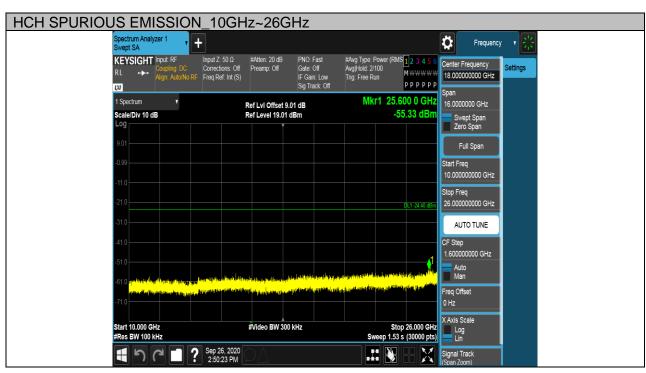
Test Mode	Channel	Verdict
11G	HCH	PASS





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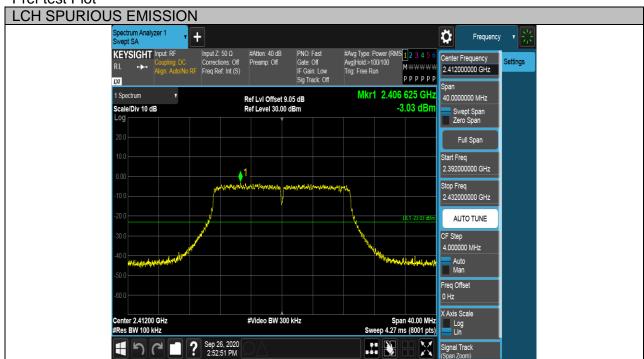






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Test Mode	Channel	Verdict
11N20 MIMO	LCH	PASS





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