A.5 Conducted Band Edge and Out-of-Band Emissions Test Result

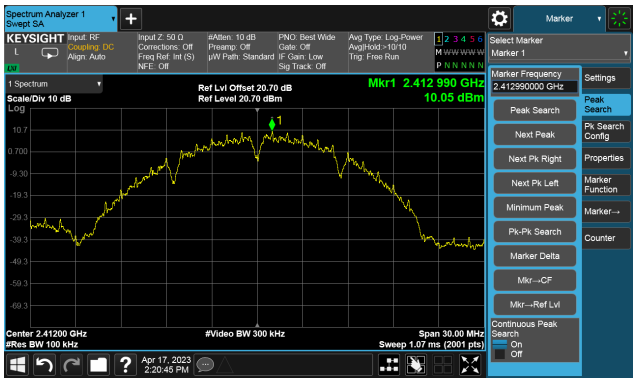
Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2023-04-17~2023-05-08		

Test Mode	Data Rate	Channel No.	Frequency (MHz)	Limit (dBc)
11b	2Mbps	01	2412	30
11b	2Mbps	06	2437	30
11b	2Mbps	11	2462	30
11g	54Mbps	01	2412	30
11g	54Mbps	06	2437	30
11g	54Mbps	11	2462	30
11n-HT20	MCS4	01	2412	30
11n-HT20	MCS4	06	2437	30
11n-HT20	MCS4	11	2462	30
11n-HT40	MCS2	03	2422	30
11n-HT40	MCS2	06	2437	30
11n-HT40	MCS2	09	2452	30

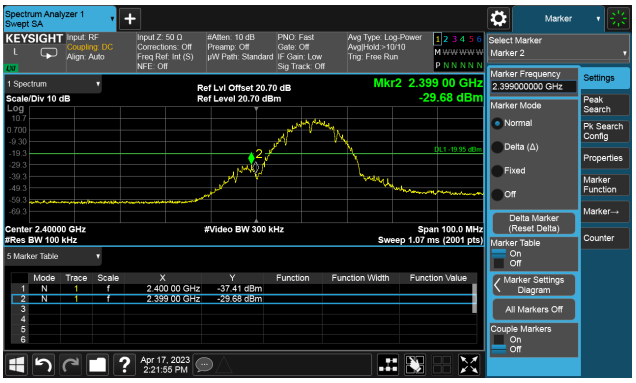
802.11b Out-of-Band Emissions

Channel 01 (2412MHz)

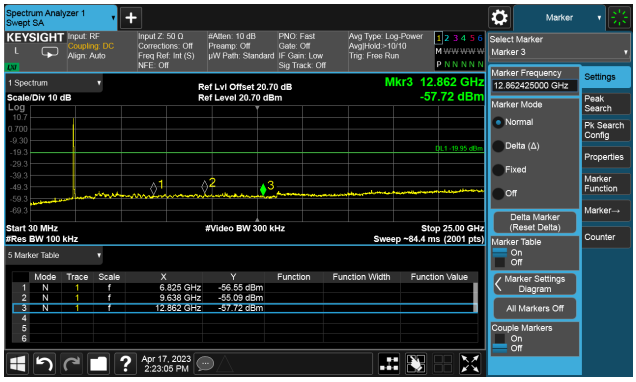
100kHz PSD Reference Level



Low Band Edge

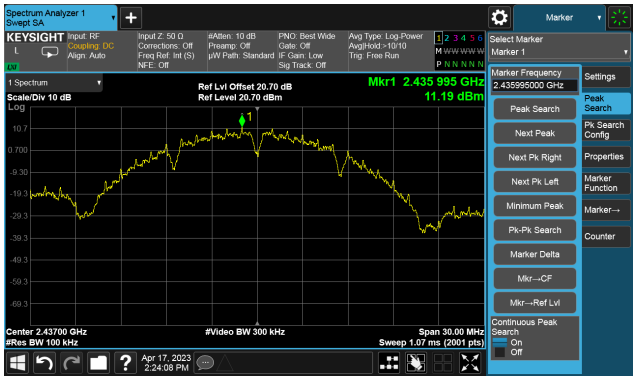


Spurious Emission

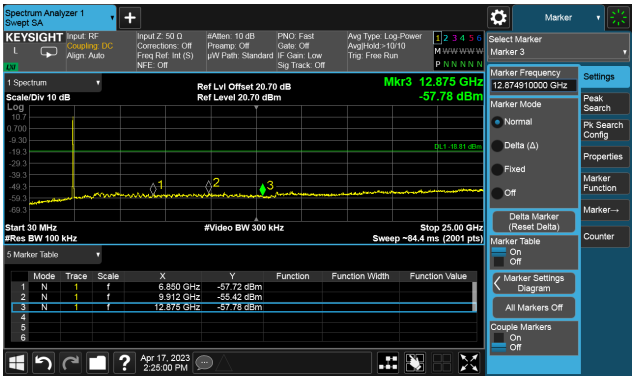


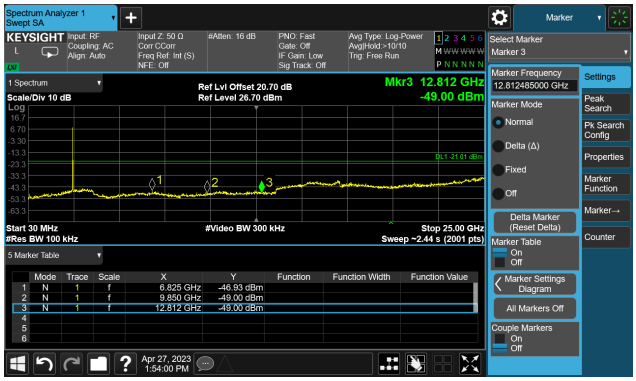
Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission

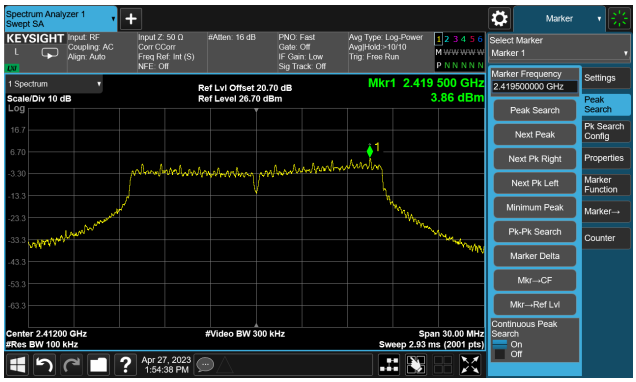


802.11b Out-of-Band Emissions	
Channel 11 (2462MHz)	
100kHz PSD Reference Level	High Band Edge
	
Spurious Emission	
	

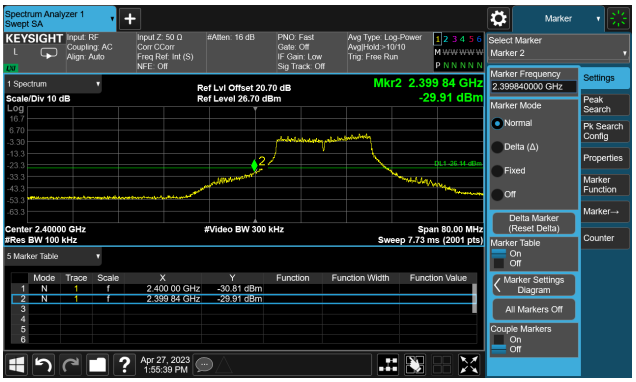
802.11g Out-of-Band Emissions

Channel 01 (2412MHz)

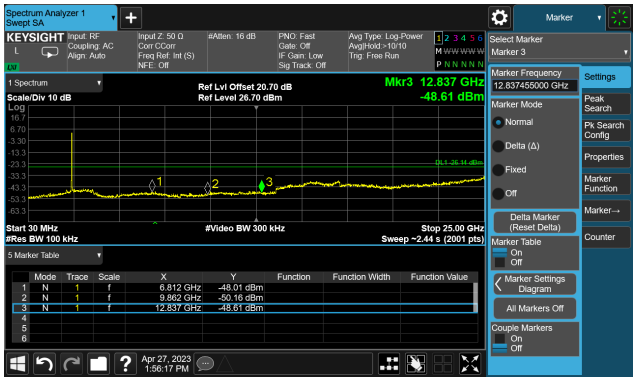
100kHz PSD Reference Level



Low Band Edge

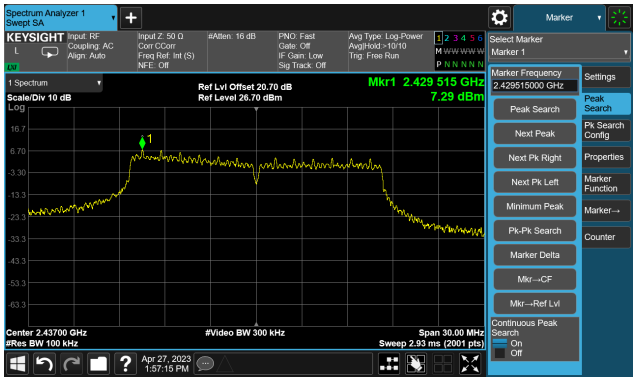


Spurious Emission

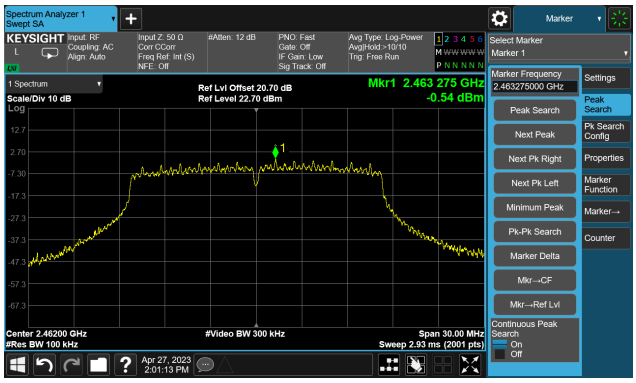
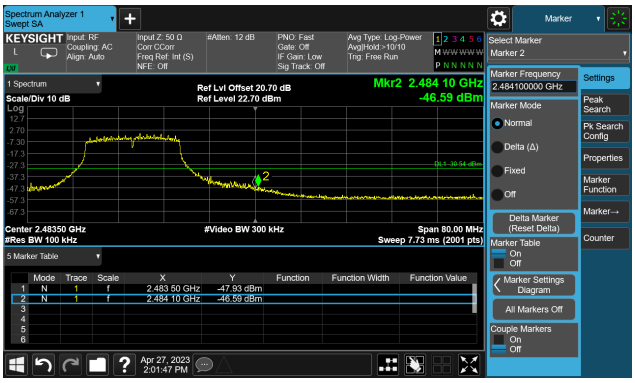
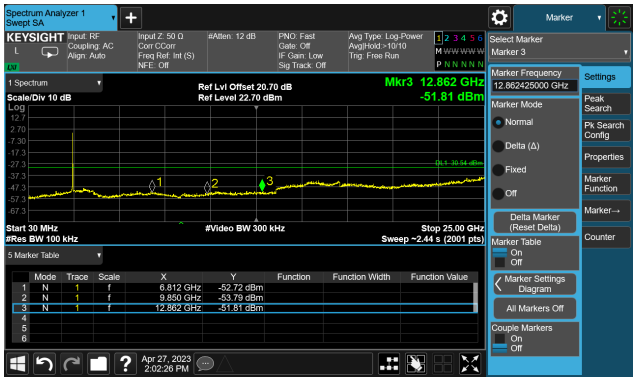


Channel 06 (2437MHz)

100kHz PSD Reference Level



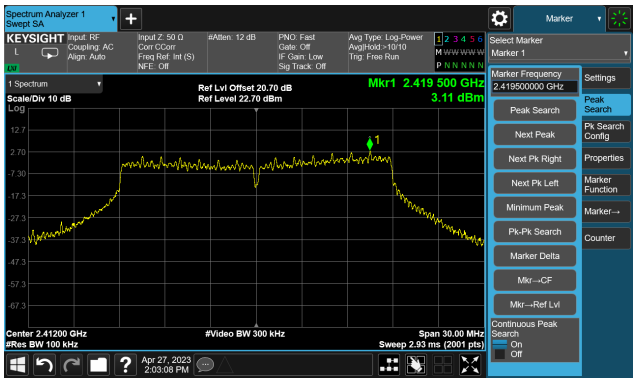
Spurious Emission

802.11g Out-of-Band Emissions	
Channel 11 (2462MHz)	
100kHz PSD Reference Level	High Band Edge
	
Spurious Emission	
	

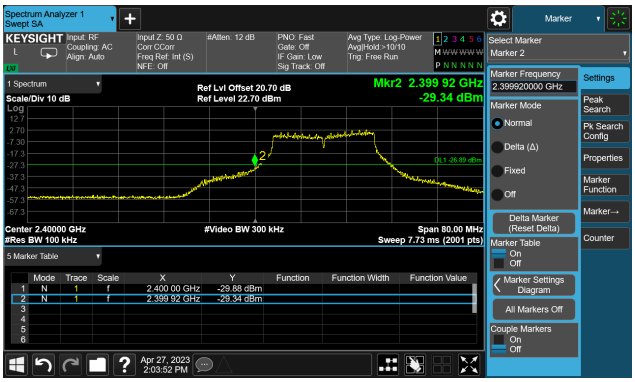
802.11n-HT20 Out-of-Band Emissions

Channel 01 (2412MHz)

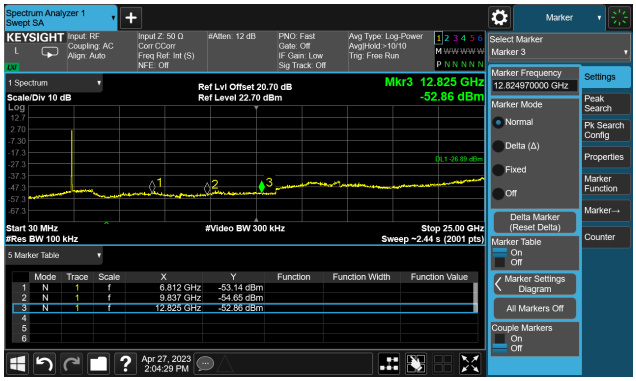
100kHz PSD Reference Level



Low Band Edge

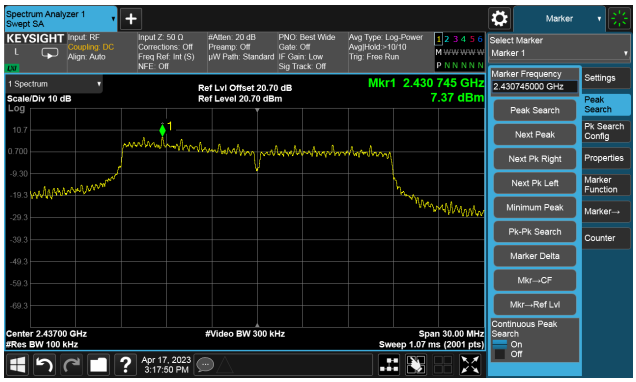


Spurious Emission

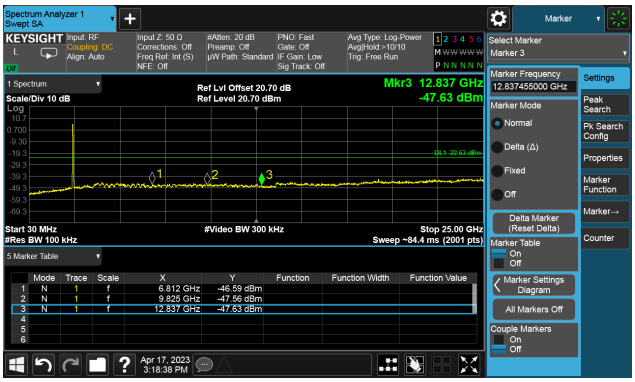


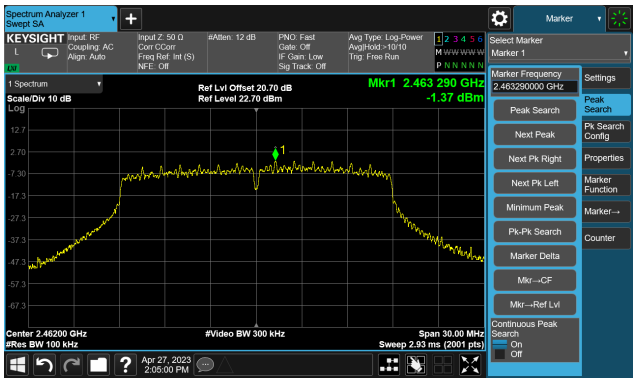
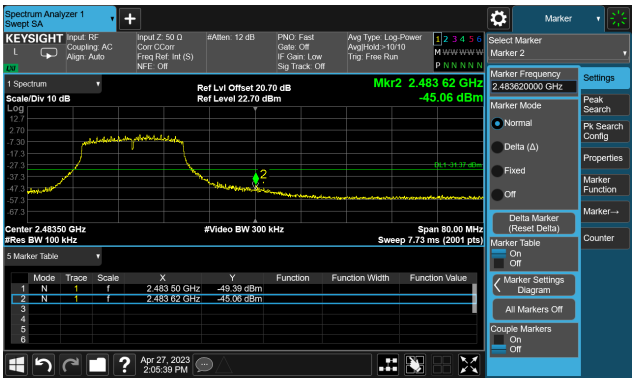
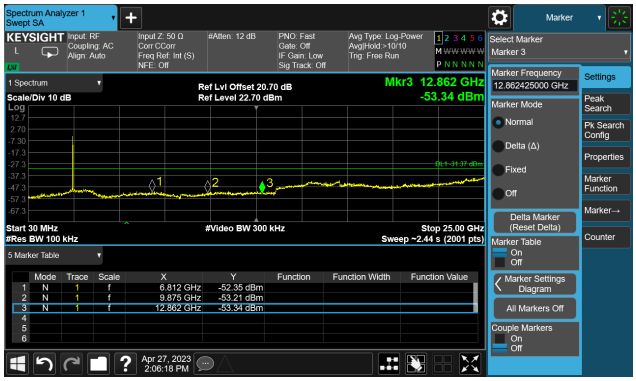
Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission

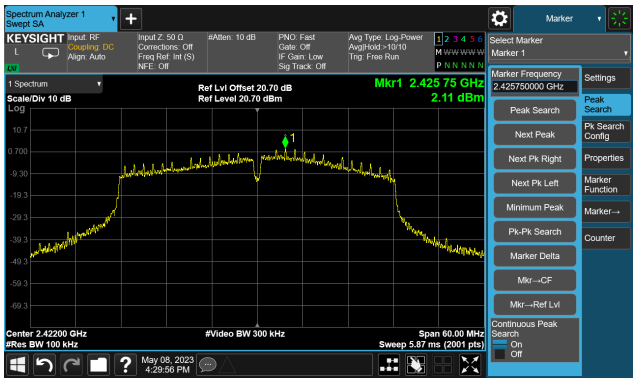


802.11n-HT20 Out-of-Band Emissions	
Channel 11 (2462MHz)	
100kHz PSD Reference Level	High Band Edge
	
Spurious Emission	
	

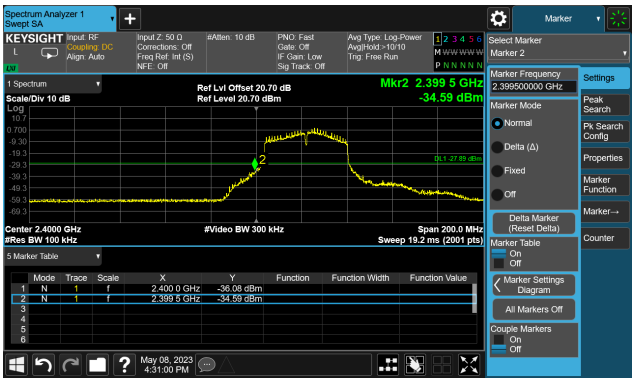
802.11n-HT40 Out-of-Band Emissions

Channel 03 (2422MHz)

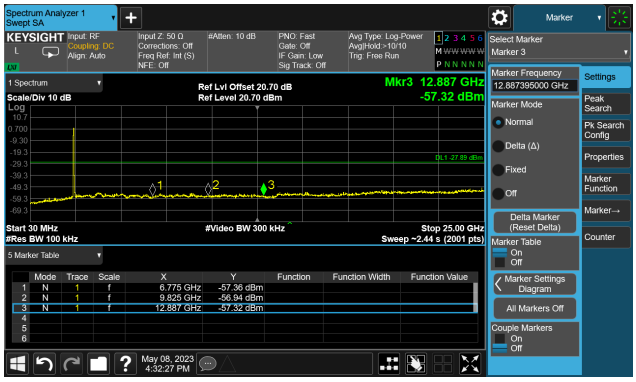
100kHz PSD Reference Level



Low Band Edge

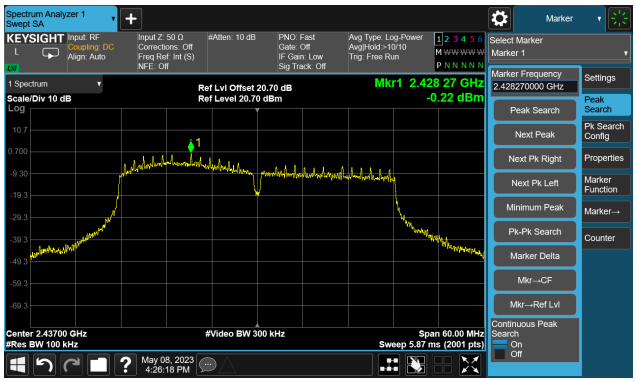


Spurious Emission

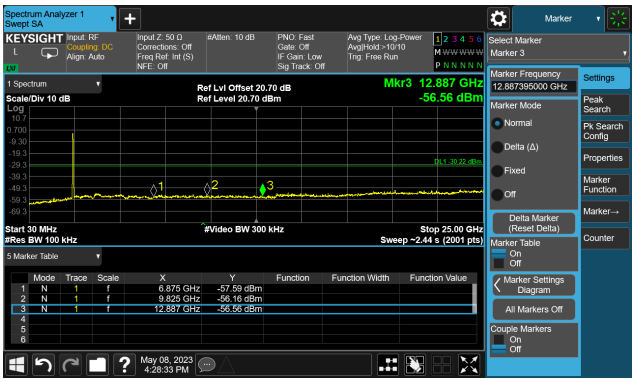


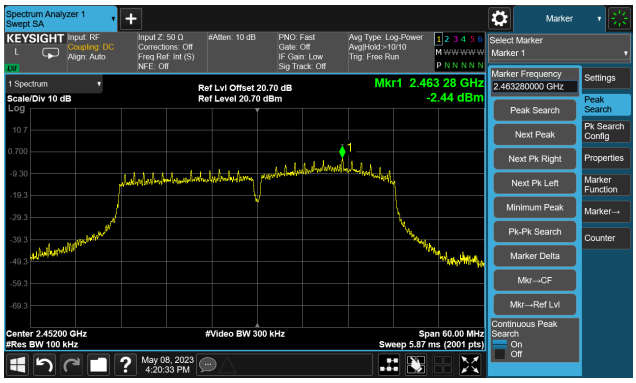
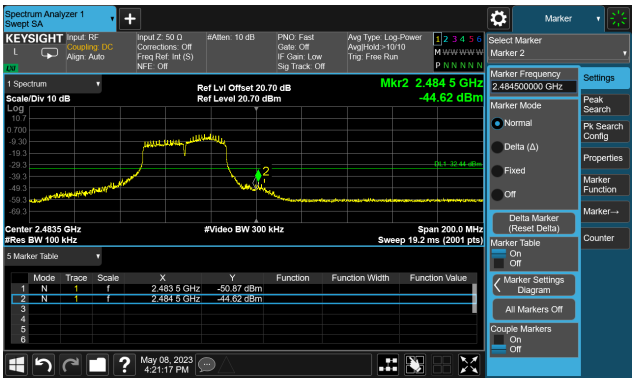
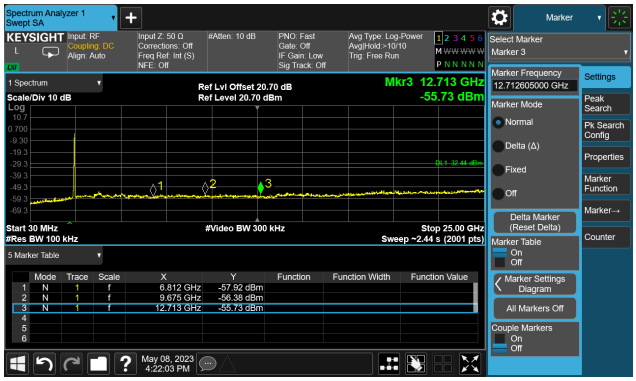
Channel 06 (2437MHz)

100kHz PSD Reference Level



Spurious Emission



802.11n-HT40 Out-of-Band Emissions	
Channel 09 (2452MHz)	
100kHz PSD Reference Level	High Band Edge
	
Spurious Emission	
	

A.6 Radiated Spurious Emission Test Result

Test Site	SIP-AC3	Test Engineer	Mero Zhou
Test Date	2023-04-21~2023-04-23	Test Mode:	802.11b
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	8318.5	47.9	-2.7	45.2	74.0	-28.8	Peak	Horizontal
	11217.0	49.0	-3.3	45.7	74.0	-28.3	Peak	Horizontal
	15594.5	46.4	3.4	49.8	74.0	-24.2	Peak	Horizontal
	4825.0	56.9	-7.4	49.5	74.0	-24.5	Peak	Vertical
	8208.0	48.0	-2.7	45.3	74.0	-28.7	Peak	Vertical
	11795.0	48.3	-3.6	44.7	74.0	-29.3	Peak	Vertical
06	4629.5	49.7	-8.2	41.5	74.0	-32.5	Peak	Horizontal
	8284.5	48.7	-2.8	45.9	74.0	-28.1	Peak	Horizontal
	11914.0	47.7	-3.2	44.5	74.0	-29.5	Peak	Horizontal
	4876.0	51.5	-8.5	43.0	74.0	-31.0	Peak	Vertical
	8191.0	48.4	-2.7	45.7	74.0	-28.3	Peak	Vertical
	11701.5	47.6	-3.3	44.3	74.0	-29.7	Peak	Vertical
11	4816.5	48.9	-7.6	41.3	74.0	-32.7	Peak	Horizontal
	8293.0	48.6	-2.6	46.0	74.0	-28.0	Peak	Horizontal
	11506.0	47.7	-3.3	44.4	74.0	-29.6	Peak	Horizontal
	4816.5	48.9	-7.6	41.3	74.0	-32.7	Peak	Vertical
	8148.5	48.0	-3.1	44.9	74.0	-29.1	Peak	Vertical
	11676.0	47.8	-3.5	44.3	74.0	-29.7	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC3	Test Engineer	Mero Zhou
Test Date	2023-04-21~2023-04-23	Test Mode:	802.11g
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	4825.0	48.3	-7.4	40.9	74.0	-33.1	Peak	Horizontal
	8182.5	48.8	-2.9	45.9	74.0	-28.1	Peak	Horizontal
	11786.5	48.0	-3.5	44.5	74.0	-29.5	Peak	Horizontal
	4825.0	49.9	-7.4	42.5	74.0	-31.5	Peak	Vertical
	8335.5	48.2	-3.0	45.2	74.0	-28.8	Peak	Vertical
	11599.5	48.3	-3.2	45.1	74.0	-28.9	Peak	Vertical
06	4825.0	48.8	-7.4	41.4	74.0	-32.6	Peak	Horizontal
	8480.0	49.0	-3.4	45.6	74.0	-28.4	Peak	Horizontal
	11769.5	48.5	-3.6	44.9	74.0	-29.1	Peak	Horizontal
	5054.5	49.1	-8.0	41.1	74.0	-32.9	Peak	Vertical
	8208.0	47.3	-2.7	44.6	74.0	-29.4	Peak	Vertical
	11616.5	48.1	-3.3	44.8	74.0	-29.2	Peak	Vertical
11	5046.0	50.1	-7.8	42.3	74.0	-31.7	Peak	Horizontal
	8293.0	47.5	-2.6	44.9	74.0	-29.1	Peak	Horizontal
	12169.0	48.2	-3.6	44.6	74.0	-29.4	Peak	Horizontal
	4842.0	49.3	-7.9	41.4	74.0	-32.6	Peak	Vertical
	8412.0	48.3	-2.9	45.4	74.0	-28.6	Peak	Vertical
	12109.5	48.4	-3.3	45.1	74.0	-28.9	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC3	Test Engineer	Mero Zhou
Test Date	2023-04-21~2023-04-23	Test Mode:	802.11n-HT20
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	4816.5	48.5	-7.6	40.9	74.0	-33.1	Peak	Horizontal
	8208.0	48.0	-2.7	45.3	74.0	-28.7	Peak	Horizontal
	12407.0	47.2	-2.5	44.7	74.0	-29.3	Peak	Horizontal
	4816.5	49.8	-7.6	42.2	74.0	-31.8	Peak	Vertical
	8293.0	48.5	-2.6	45.9	74.0	-28.1	Peak	Vertical
	11897.0	47.6	-3.4	44.2	74.0	-29.8	Peak	Vertical
06	4825.0	48.5	-7.4	41.1	74.0	-32.9	Peak	Horizontal
	8318.5	48.0	-2.7	45.3	74.0	-28.7	Peak	Horizontal
	11769.5	48.1	-3.6	44.5	74.0	-29.5	Peak	Horizontal
	4825.0	48.5	-7.4	41.1	74.0	-32.9	Peak	Vertical
	8318.5	48.8	-2.7	46.1	74.0	-27.9	Peak	Vertical
	12101.0	49.0	-3.3	45.7	74.0	-28.3	Peak	Vertical
11	4723.0	49.0	-8.2	40.8	74.0	-33.2	Peak	Horizontal
	8199.5	47.9	-2.7	45.2	74.0	-28.8	Peak	Horizontal
	11616.5	47.5	-3.3	44.2	74.0	-29.8	Peak	Horizontal
	4816.5	48.8	-7.6	41.2	74.0	-32.8	Peak	Vertical
	8301.5	48.0	-2.7	45.3	74.0	-28.7	Peak	Vertical
	11616.5	49.0	-3.3	45.7	74.0	-28.3	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

Test Site	SIP-AC3	Test Engineer	Yoniter Yang
Test Date	2023-05-09	Test Mode:	802.11n-HT40
Remark:	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

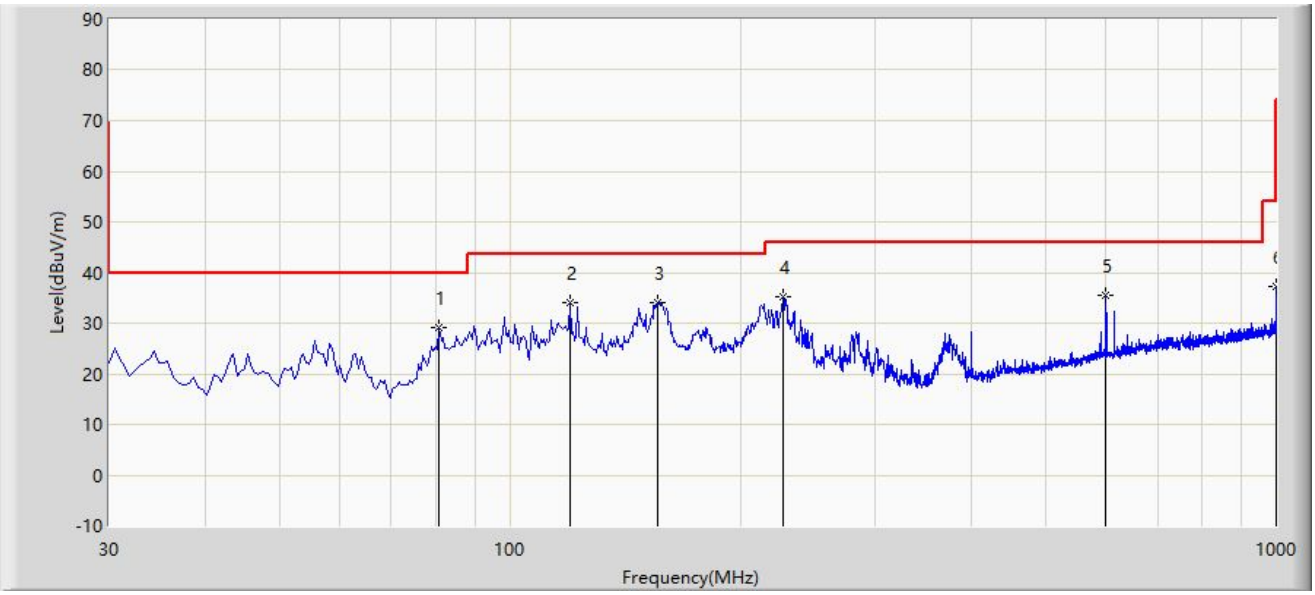
Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
03	5046.0	49.3	-7.8	41.5	74.0	-32.5	Peak	Horizontal
	7298.5	49.1	-5.5	43.6	74.0	-30.4	Peak	Horizontal
	12177.5	49.7	-3.6	46.1	74.0	-27.9	Peak	Horizontal
	4816.5	49.6	-7.6	42.0	74.0	-32.0	Peak	Vertical
	8063.5	49.0	-3.3	45.7	74.0	-28.3	Peak	Vertical
	12084.0	49.1	-3.7	45.4	74.0	-28.6	Peak	Vertical
06	8182.5	48.7	-2.9	45.8	74.0	-28.2	Peak	Horizontal
	11999.0	49.2	-3.4	45.8	74.0	-28.2	Peak	Horizontal
	15866.5	46.3	3.4	49.7	74.0	-24.3	Peak	Horizontal
	5131.0	50.0	-7.7	42.3	74.0	-31.7	Peak	Vertical
	8063.5	49.5	-3.3	46.2	74.0	-27.8	Peak	Vertical
	15815.5	46.5	3.0	49.5	74.0	-24.5	Peak	Vertical
09	8089.0	48.7	-2.9	45.8	74.0	-28.2	Peak	Horizontal
	10732.5	48.7	-3.3	45.4	74.0	-28.6	Peak	Horizontal
	16096.0	45.2	4.0	49.2	74.0	-24.8	Peak	Horizontal
	8089.0	48.7	-2.9	45.8	74.0	-28.2	Peak	Vertical
	12696.0	48.3	-1.8	46.5	74.0	-27.5	Peak	Vertical
	15824.0	46.8	3.1	49.9	74.0	-24.1	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Result of Radiated Emission below 1GHz:

Site: SIP-AC3	Test Date: 2023-04-23
Limit: FCC_Part15.209_RSE(3m)	Engineer: Mero Zhou
Probe: VULB 9168_00997_25-2000MHz	Polarity: Horizontal
EUT: STEREOPHONIC AMPLIFIER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at 2437MHz	



No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		80.925	29.187	16.010	-10.813	40.000	13.178	PK
2	*	119.725	34.177	18.517	-9.323	43.500	15.660	PK
3		156.100	34.144	16.100	-9.356	43.500	18.044	PK
4		227.395	35.112	20.041	-10.888	46.000	15.071	PK
5		599.875	35.569	10.175	-10.431	46.000	25.394	PK
6		1000.000	37.196	6.949	-16.804	54.000	30.247	PK

Note 1: " * ", means this data is the worst emission level.

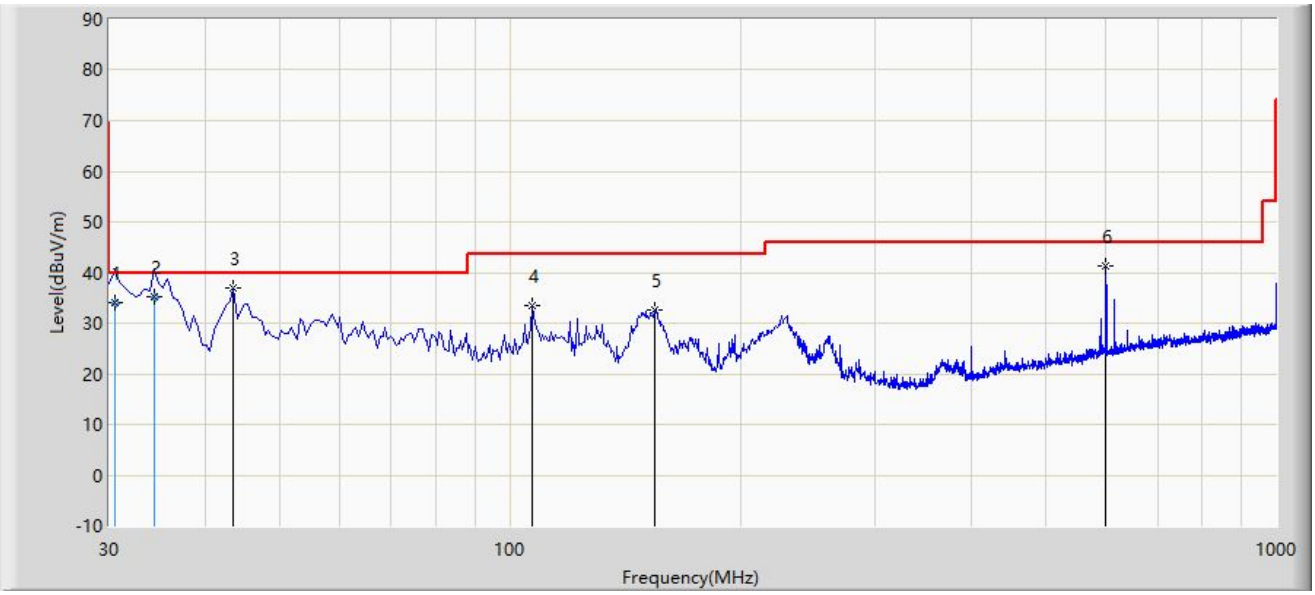
Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Note 4: Quasi-Peak measurement was not performed when peak measure level was lower than the quasi-peak limit.

Note 5: The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

Site: SIP-AC3	Test Date: 2023-04-23
Limit: FCC_Part15.209_RSE(3m)	Engineer: Mero Zhou
Probe: VULB 9168_00997_25-2000MHz	Polarity: Vertical
EUT: STEREOPHONIC AMPLIFIER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11g at 2437MHz	



No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		30.485	34.113	17.840	-5.887	40.000	16.273	QP
2		34.365	35.208	18.250	-4.792	40.000	16.958	QP
3	*	43.580	36.963	19.044	-3.037	40.000	17.919	PK
4		107.115	33.583	19.079	-9.917	43.500	14.504	PK
5		154.645	32.475	14.407	-11.025	43.500	18.069	PK
6		599.875	41.335	15.941	-4.665	46.000	25.394	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

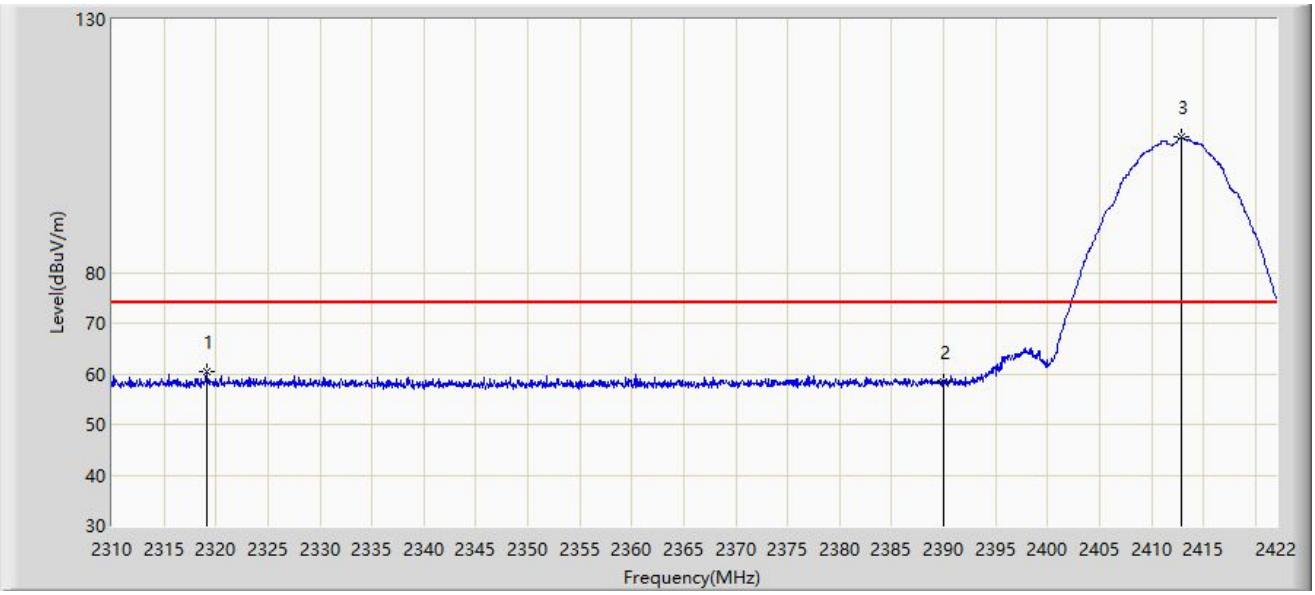
Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Note 4: Quasi-Peak measurement was not performed when peak measure level was lower than the quasi-peak limit.

Note 5: The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not presented in the report.

A.7 Radiated Restricted Band Edge Test Result

Site: SIP-AC2	Test Date: 2023-04-19
Limit: FCC_2.4G_RE(3m)	Engineer: Barry Wu
Probe: BBHA 9120D_02042_1-18GHz	Polarity: Horizontal
EUT: STEREOPHONIC AMPLIFIER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at 2412MHz	



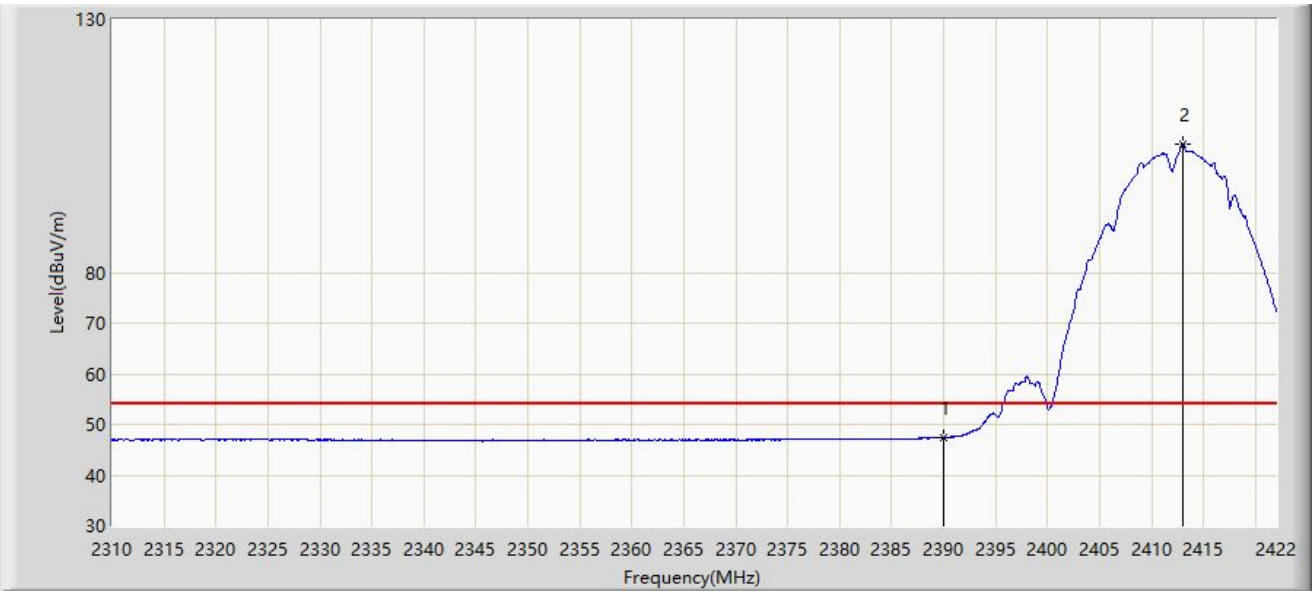
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2319.184	60.467	27.827	-13.533	74.000	32.640	PK
2		2390.000	58.329	25.946	-15.671	74.000	32.382	PK
3		2412.872	106.673	74.338	N/A	N/A	32.335	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: SIP-AC2	Test Date: 2023-04-19
Limit: FCC_2.4G_RE(3m)	Engineer: Barry Wu
Probe: BBHA 9120D_02042_1-18GHz	Polarity: Horizontal
EUT: STEREOPHONIC AMPLIFIER	Power: AC 120V/60Hz
Test Mode: Transmit by 802.11b at 2412MHz	



No	Mark	Frequency (MHz)	Measure Level (dBµV/m)	Reading Level (dBµV)	Margin (dB)	Limit (dBµV/m)	Factor (dB/m)	Type
1	*	2390.000	47.483	15.100	-6.517	54.000	32.382	AV
2		2413.040	105.325	72.990	N/A	N/A	32.335	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBµV/m) = Reading Level (dBµV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).