

Appendix A1

2.4G WiFi Test Data

Conducted Test Data

Conducted Output Power

Test Result

Mode	Channel	Peak Output Power (dBm)	Peak Output Power Limit(dBm)	EIRP (dBm)	EIRP Limit (dBm)	Result
IEEE 802.11b	1	7.96	≤30	12.83	≤36	PASS
	6	8.41	≤30	13.28	≤36	PASS
	11	7.31	≤30	12.18	≤36	PASS
IEEE 802.11g	1	7.91	≤30	12.78	≤36	PASS
	6	8.05	≤30	12.92	≤36	PASS
	11	7.21	≤30	12.08	≤36	PASS
IEEE 802.11n_20	1	8.65	≤30	13.52	≤36	PASS
	6	7.71	≤30	12.58	≤36	PASS
	11	7.39	≤30	12.26	≤36	PASS
IEEE 802.11n_40	3	7.81	≤30	12.68	≤36	PASS
	6	7.66	≤30	12.53	≤36	PASS
	9	8.50	≤30	13.37	≤36	PASS

Note: $EIRP = P_{out} + G_{ant}$, where P_{out} is the conducted output power (i.e., the Peak Output Power in the table), and G_{ant} is the antenna gain equal to 4.87 dBi.

Duty Cycle

Test Result

Mode	Data rates	Channel	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle (linear)	Duty Cycle Factor (dB)	1/T
IEEE 802.11b	1	1	0	8.384	8.421	99.56	0.9956	0.0192	0.1193
		6		8.384	8.421	99.56	0.9956	0.0192	0.1193
		11		8.384	8.422	99.55	0.9955	0.0196	0.1193
IEEE 802.11g	6	1		1.396	1.437	97.14	0.9714	0.126	0.7163
		6		1.395	1.437	97.08	0.9708	0.1287	0.7168
		11		1.395	1.437	97.08	0.9708	0.1287	0.7168
IEEE 802.11n_20	MCS 0	1		1.304	1.345	96.95	0.9695	0.1345	0.7669
		6		1.304	1.345	96.95	0.9695	0.1345	0.7669
		11		1.303	1.345	96.88	0.9688	0.1377	0.7675
IEEE 802.11n_40		3		0.650	0.693	93.84	0.9384	0.2761	1.5385
		6		0.650	0.693	93.84	0.9384	0.2761	1.5385
		9		0.650	0.693	93.84	0.9384	0.2761	1.5385

Test Graphs



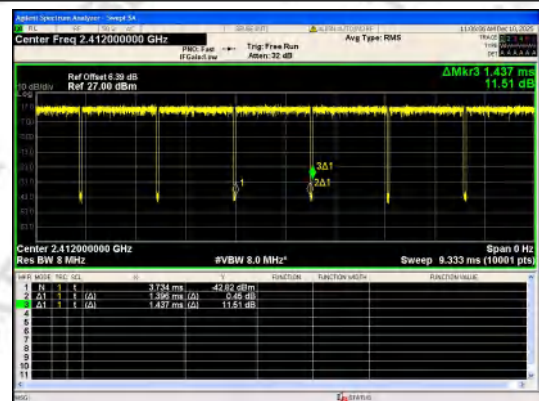
IEEE 802.11b_20MHz_Channel 1



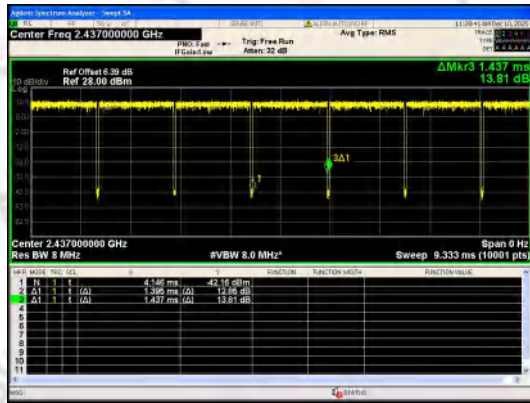
IEEE 802.11b_20MHz_Channel 6



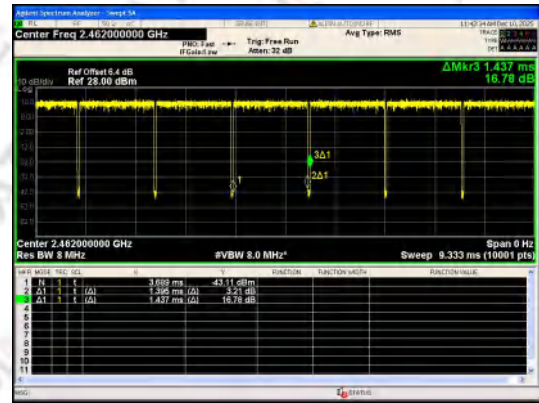
IEEE 802.11b_20MHz_Channel 11



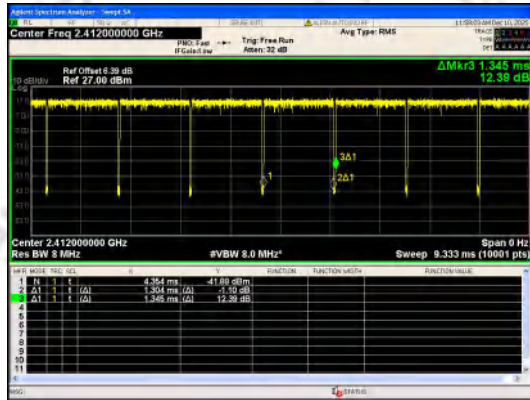
IEEE 802.11g_20MHz_Channel 1



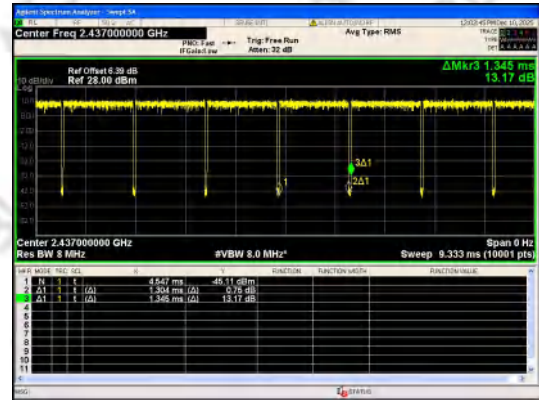
IEEE 802.11g_20MHz_Channel 6



IEEE 802.11g_20MHz_Channel 11



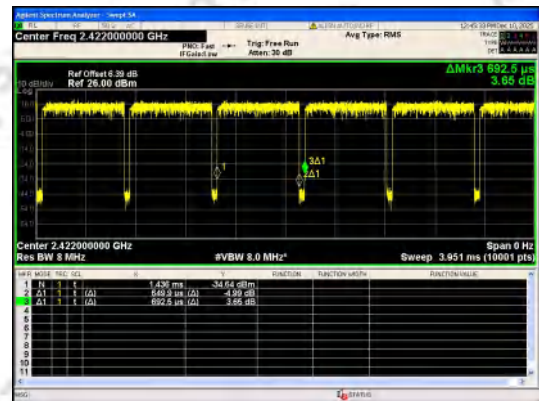
IEEE 802.11n_20MHz_Channel 1



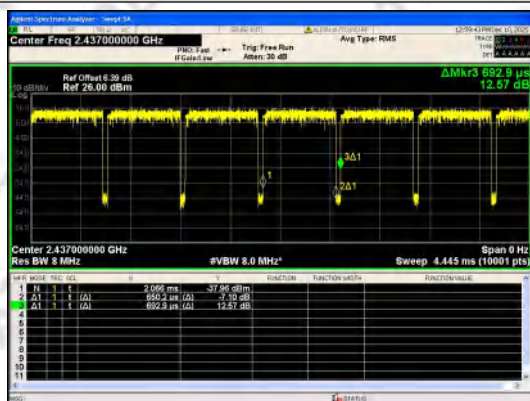
IEEE 802.11n_20MHz_Channel 6



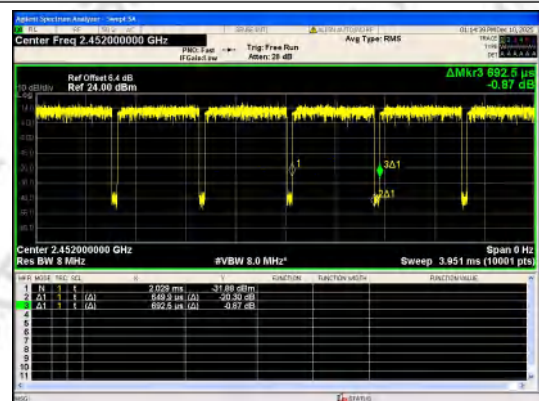
IEEE 802.11n_20MHz_Channel 11



IEEE 802.11n_40MHz_Channel 3



IEEE 802.11n_40MHz_Channel 6



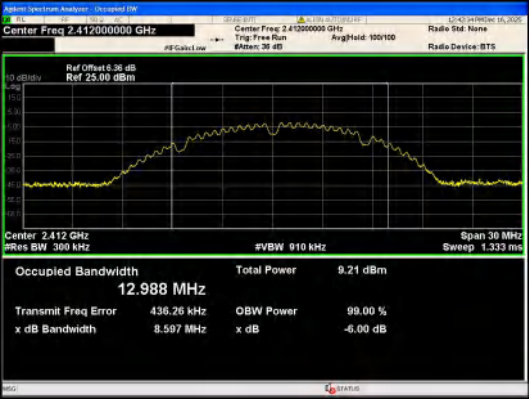
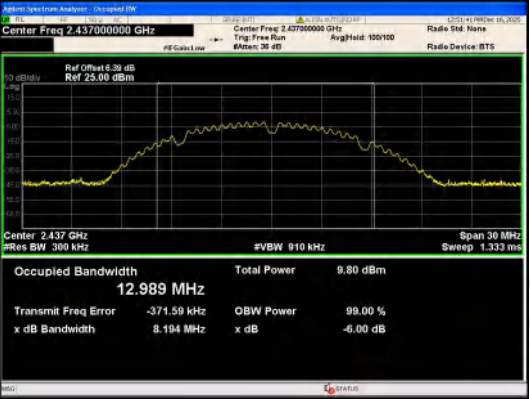
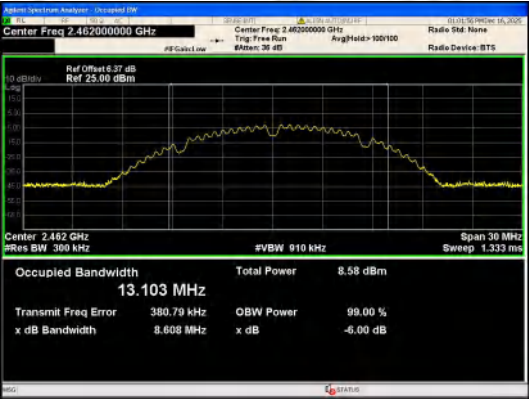
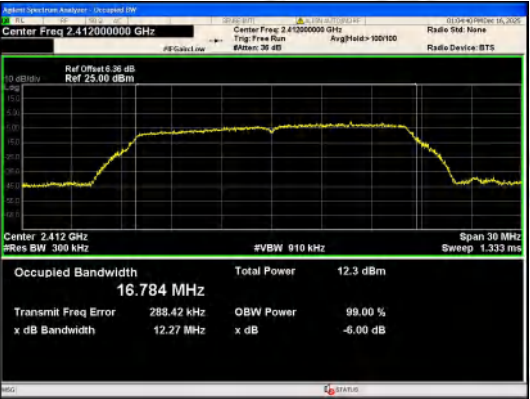
IEEE 802.11n_40MHz_Channel 9

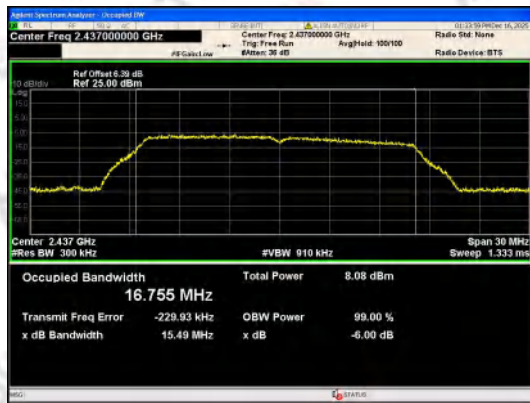
6dB Bandwidth

Test Result

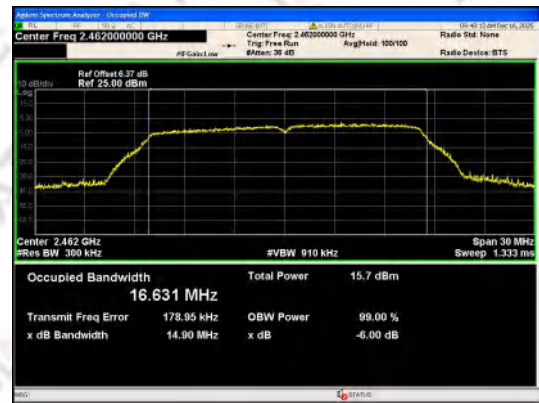
Mode	Channel	Ant.	Center Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)	Result
IEEE 802.11b	1	0	2412	8.597	≥0.5	PASS
	6		2437	8.194		PASS
	11		2462	8.608		PASS
IEEE 802.11g	1		2412	12.27		PASS
	6		2437	15.49		PASS
	11		2462	14.90		PASS
IEEE 802.11n_20	1		2412	15.24		PASS
	6		2437	16.85		PASS
	11		2462	15.90		PASS
IEEE 802.11n_40	3		2422	20.48		PASS
	6		2437	26.10		PASS
	9		2452	36.57		PASS

Test Graphs

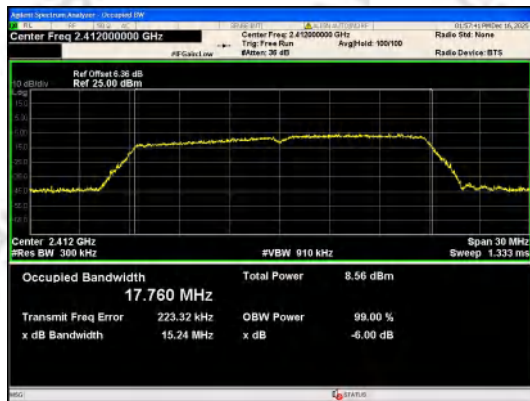
 Center Freq 2.41200000 GHz Occupied Bandwidth 12.988 MHz Total Power 9.21 dBm Transmit Freq Error 436.26 kHz x dB Bandwidth 8.597 MHz	 Center Freq 2.43700000 GHz Occupied Bandwidth 12.989 MHz Total Power 9.80 dBm Transmit Freq Error -371.59 kHz x dB Bandwidth 8.194 MHz
IEEE 802.11b_Channel 1_20MHz_Antenna 0	IEEE 802.11b_Channel 6_20MHz_Antenna 0
 Center Freq 2.46200000 GHz Occupied Bandwidth 13.103 MHz Total Power 8.58 dBm Transmit Freq Error 380.79 kHz x dB Bandwidth 8.608 MHz	 Center Freq 2.41200000 GHz Occupied Bandwidth 16.784 MHz Total Power 12.3 dBm Transmit Freq Error 288.42 kHz x dB Bandwidth 12.27 MHz
IEEE 802.11b_Channel 11_20MHz_Antenna 0	IEEE 802.11g_Channel 1_20MHz_Antenna 0



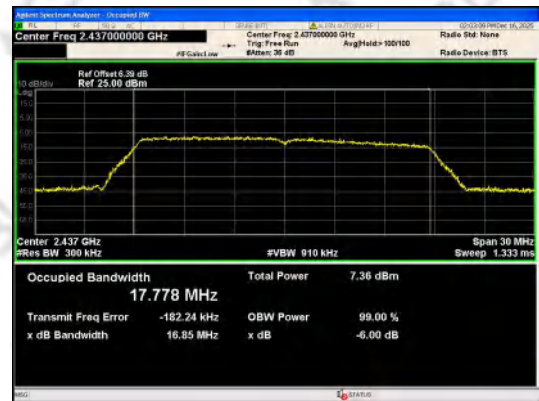
IEEE 802.11g_Channel 6_20MHz_Antenna 0



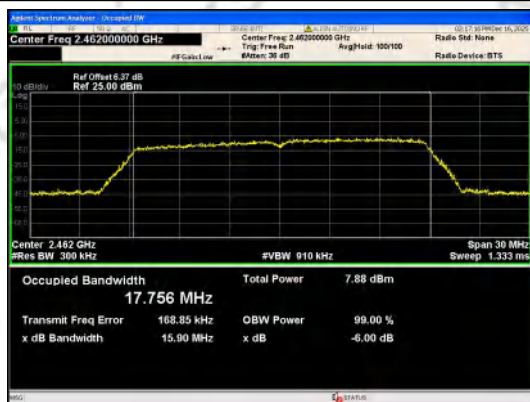
IEEE 802.11g_Channel 11_20MHz_Antenna 0



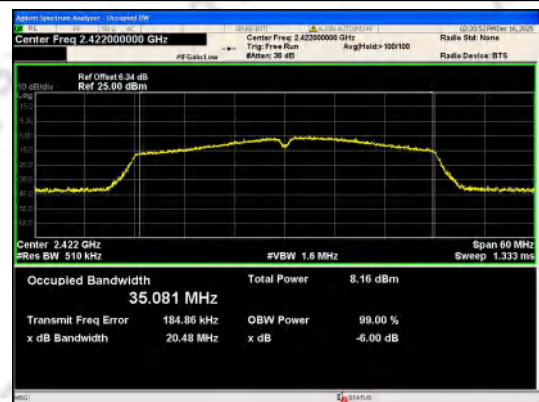
IEEE 802.11n_Channel 1_20MHz_Antenna 0



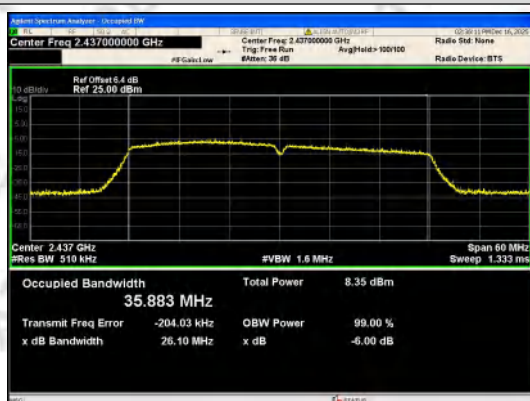
IEEE 802.11n_Channel 6_20MHz_Antenna 0



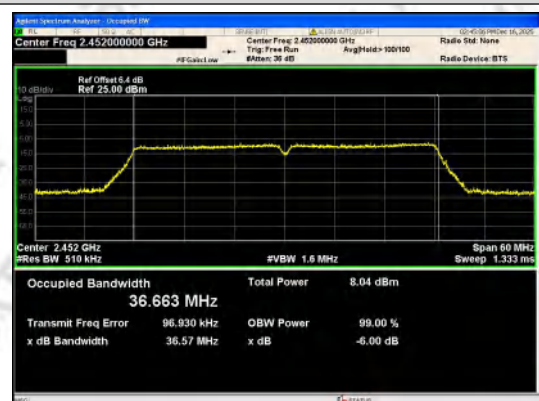
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



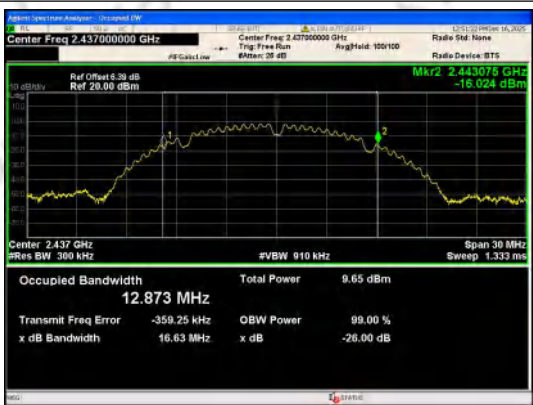
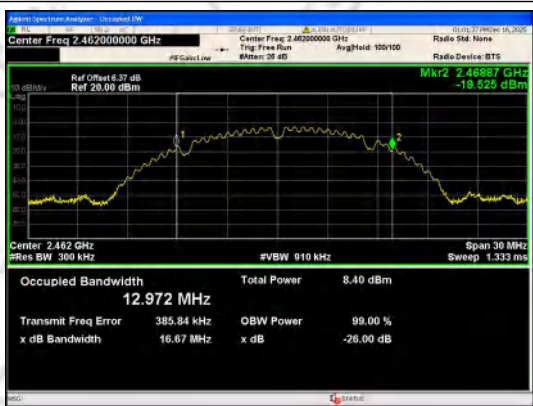
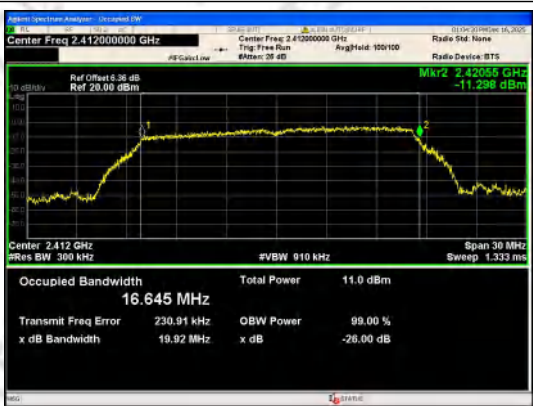
IEEE 802.11n_Channel 9_40MHz_Antenna 0

99% Bandwidth

Test Result

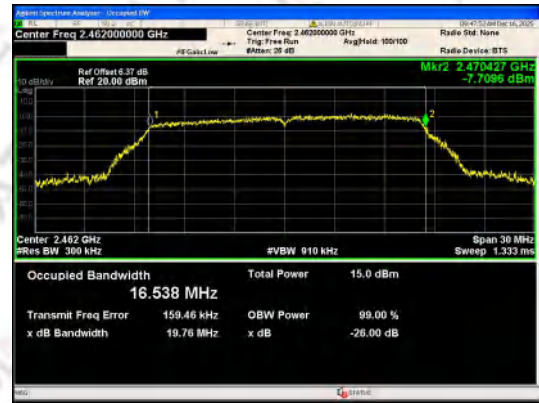
Mode	Channel	Ant.	Center Frequency (MHz)	99% BW (MHz)
IEEE 802.11b	1	0	2412	12.887
	6		2437	12.873
	11		2462	12.972
IEEE 802.11g	1		2412	16.645
	6		2437	16.630
	11		2462	16.538
IEEE 802.11n_20	1		2412	17.719
	6		2437	17.706
	11		2462	17.685
IEEE 802.11n_40	3		2422	35.021
	6		2437	35.789
	9		2452	36.497

Test Graphs

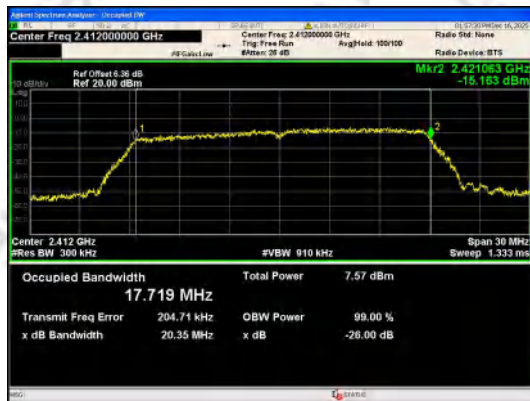
 Center Freq 2.41200000 GHz Occupied Bandwidth 12.887 MHz Total Power 9.08 dBm Transmit Freq Error 429.17 kHz x dB Bandwidth 16.63 MHz	 Center Freq 2.43700000 GHz Occupied Bandwidth 12.873 MHz Total Power 9.65 dBm Transmit Freq Error -359.25 kHz x dB Bandwidth 16.63 MHz
IEEE 802.11b_Channel 1_20MHz_Antenna 0	IEEE 802.11b_Channel 6_20MHz_Antenna 0
 Center Freq 2.46200000 GHz Occupied Bandwidth 12.972 MHz Total Power 8.40 dBm Transmit Freq Error 385.84 kHz x dB Bandwidth 16.67 MHz	 Center Freq 2.41200000 GHz Occupied Bandwidth 16.645 MHz Total Power 11.0 dBm Transmit Freq Error 230.91 kHz x dB Bandwidth 19.92 MHz
IEEE 802.11b_Channel 11_20MHz_Antenna 0	IEEE 802.11g_Channel 1_20MHz_Antenna 0



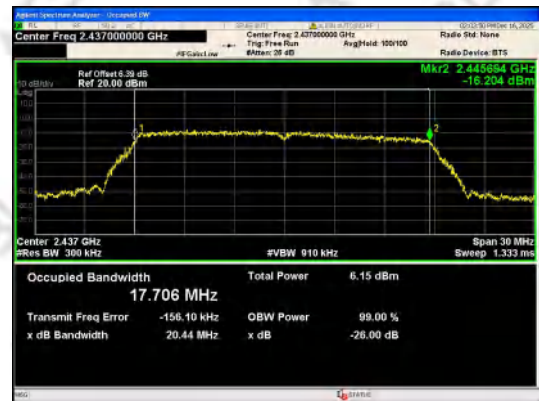
IEEE 802.11g_Channel 6_20MHz_Antenna 0



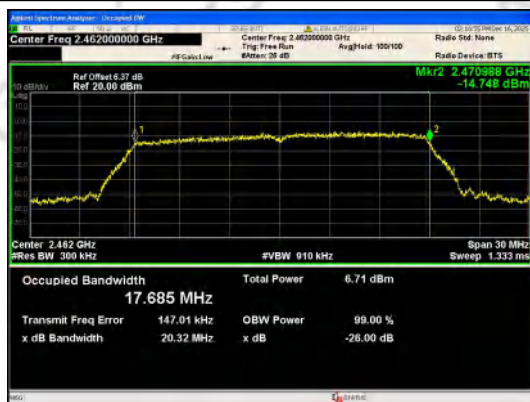
IEEE 802.11g_Channel 11_20MHz_Antenna 0



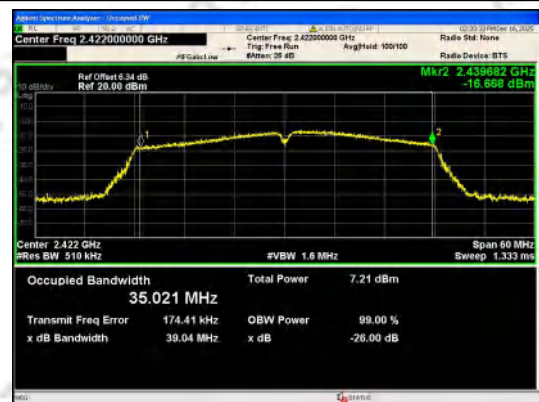
IEEE 802.11n_Channel 1_20MHz_Antenna 0



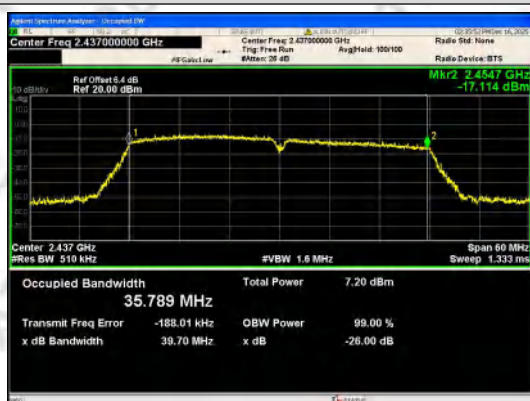
IEEE 802.11n_Channel 6_20MHz_Antenna 0



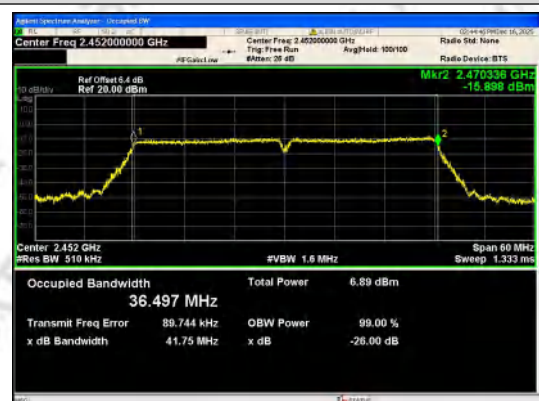
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



IEEE 802.11n_Channel 9_40MHz_Antenna 0

Power Spectral Density

Test Result

Mode	Channel	PSD (dBm/3kHz) Ant. 0	Limit (dBm/3kHz)	Result
IEEE 802.11b	1	-16.220	≤8	PASS
	6	-15.960		PASS
	11	-17.140		PASS
IEEE 802.11g	1	-18.430		PASS
	6	-22.540		PASS
	11	-14.230		PASS
IEEE 802.11n_20	1	-21.880		PASS
	6	-23.920		PASS
	11	-22.210		PASS
IEEE 802.11n_40	3	-22.400		PASS
	6	-23.790		PASS
	9	-26.710		PASS

Test Graphs



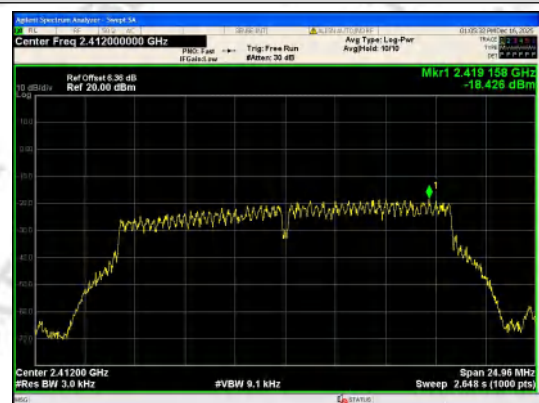
IEEE 802.11b_Channel 1_20MHz_Antenna 0



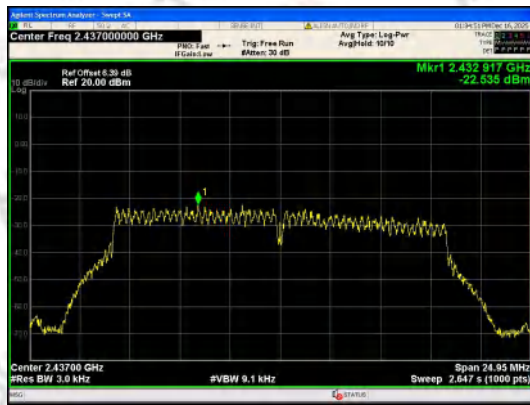
IEEE 802.11b_Channel 6_20MHz_Antenna 0



IEEE 802.11b_Channel 11_20MHz_Antenna 0



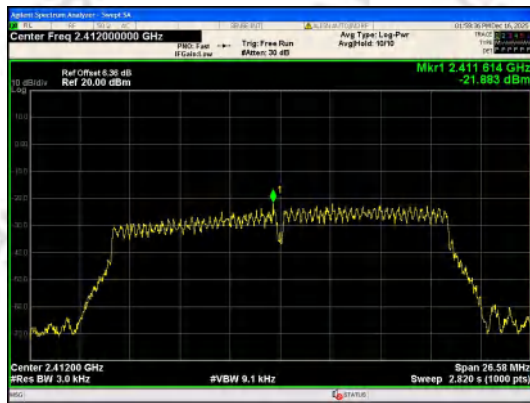
IEEE 802.11g_Channel 1_20MHz_Antenna 0



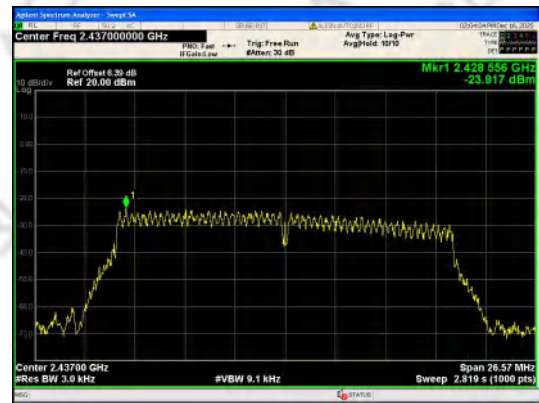
IEEE 802.11g_Channel 6_20MHz_Antenna 0



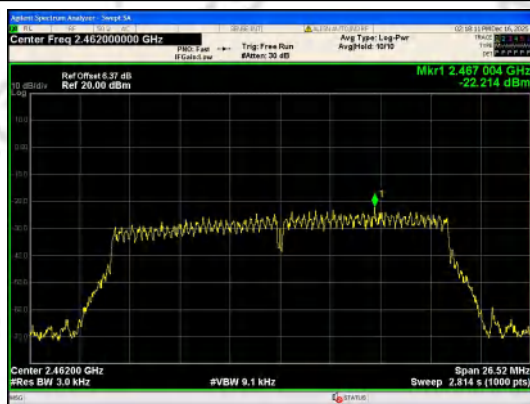
IEEE 802.11g_Channel 11_20MHz_Antenna 0



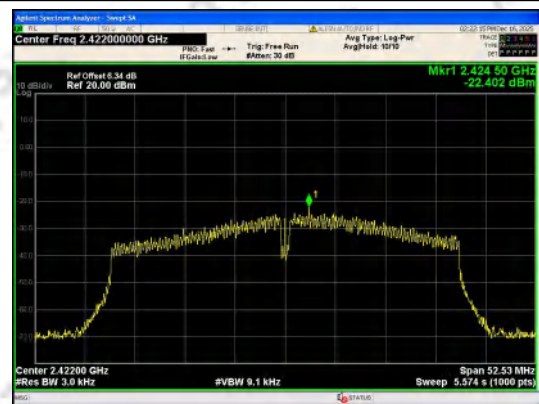
IEEE 802.11n_Channel 1_20MHz_Antenna 0



IEEE 802.11n_Channel 6_20MHz_Antenna 0



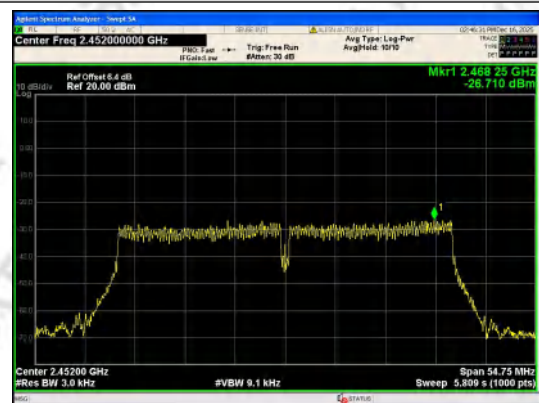
IEEE 802.11n_Channel 11_20MHz_Antenna 0



IEEE 802.11n_Channel 3_40MHz_Antenna 0



IEEE 802.11n_Channel 6_40MHz_Antenna 0



IEEE 802.11n_Channel 9_40MHz_Antenna 0

Conducted Spurious & Band Edge Emission

Note: The maximum loss of the test system for testing at 30MHz-26.5GHz is 17.2dB. The offset on the test chart is the offset of the main frequency, and the margin is sufficient to offset the difference between the maximum loss of the system and the offset of the main frequency.

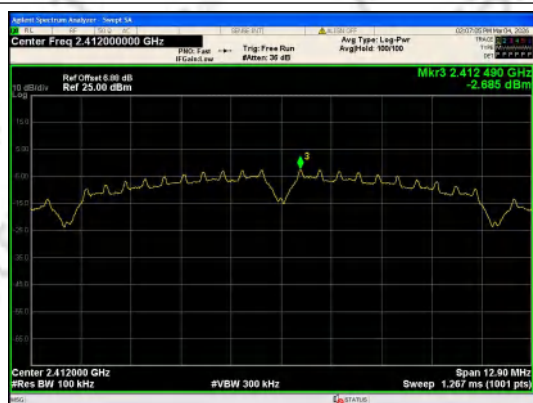
Test Result

Mode	Channel	Ant.	OOB Emission Frequency (MHz)	OOB Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result
IEEE 802.11b	1	0	2385.27	-49.735	-22.69	-27.045	PASS
			2400.00	-51.905	-22.69	-29.215	PASS
			4804.30	-50.660	-22.69	-27.970	PASS
			7238.80	-50.500	-22.69	-27.810	PASS
			9641.00	-51.661	-22.69	-28.971	PASS
			24754.0	-39.396	-22.69	-16.706	PASS
	6		4876.68	-50.796	-23.02	-27.776	PASS
			7310.00	-51.117	-23.02	-28.097	PASS
			9750.82	-51.236	-23.02	-28.216	PASS
			24728.5	-39.588	-23.02	-16.568	PASS
	11		2483.50	-51.898	-23.21	-28.688	PASS
			4904.77	-50.303	-23.21	-27.093	PASS
			7378.05	-51.518	-23.21	-28.308	PASS
			9828.23	-51.385	-23.21	-28.175	PASS
			24932.6	-39.266	-23.21	-16.056	PASS
IEEE 802.11g	1		2400.00	-38.341	-24.29	-14.051	PASS
			4811.76	-50.782	-24.29	-26.492	PASS
			7228.85	-50.913	-24.29	-26.623	PASS
			9647.20	-50.987	-24.29	-26.697	PASS
			24701.0	-39.076	-24.29	-14.786	PASS
	6		4877.30	-50.902	-24.6	-26.302	PASS
			7296.89	-51.203	-24.6	-26.603	PASS
			9738.96	-51.707	-24.6	-27.107	PASS
			24631.7	-39.234	-24.6	-14.634	PASS
	11		2483.50	-51.962	-24.48	-27.482	PASS
			4934.73	-49.723	-24.48	-25.243	PASS
			7398.02	-51.305	-24.48	-26.825	PASS
			9830.73	-51.152	-24.48	-26.672	PASS
			24812.7	-39.574	-24.48	-15.094	PASS
	IEEE 802.11n_20		1	2400.00	-37.721	-24.34	-13.381
4829.86				-50.812	-24.34	-26.472	PASS
7217.61				-50.365	-24.34	-26.025	PASS
9635.33				-51.224	-24.34	-26.884	PASS
24715.3				-39.333	-24.34	-14.993	PASS

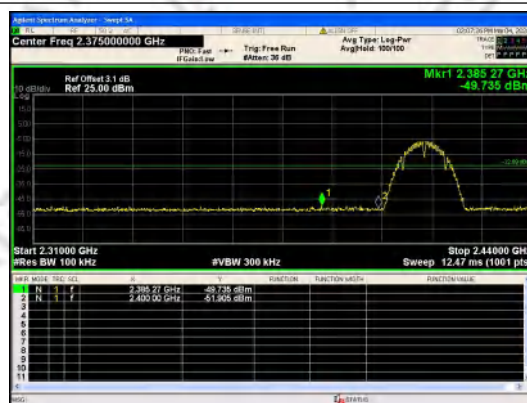
IEEE 802.11n_40	6	4857.33	-50.918	-24.64	-26.278	PASS
		7323.11	-49.420	-24.64	-24.780	PASS
		9748.95	-51.981	-24.64	-27.341	PASS
		24749.1	-39.547	-24.64	-14.907	PASS
	11	2483.50	-50.702	-24.47	-26.232	PASS
		4915.38	-50.789	-24.47	-26.319	PASS
		7394.28	-50.800	-24.47	-26.330	PASS
		9856.32	-50.125	-24.47	-25.655	PASS
	3	24897.0	-40.270	-24.47	-15.800	PASS
		2400.00	-45.308	-27.31	-17.998	PASS
		4855.45	-50.732	-27.31	-23.422	PASS
		7229.48	-49.628	-27.31	-22.318	PASS
	6	9693.39	-51.432	-27.31	-24.122	PASS
		24928.8	-38.724	-27.31	-11.414	PASS
		4849.21	-51.179	-27.92	-23.259	PASS
		7312.50	-50.058	-27.92	-22.138	PASS
	9	9743.33	-49.630	-27.92	-21.710	PASS
		24746.6	-39.377	-27.92	-11.457	PASS
		2483.50	-51.435	-27.26	-24.175	PASS
		4937.85	-49.730	-27.26	-22.470	PASS
		7339.97	-51.142	-27.26	-23.882	PASS
		9787.03	-50.528	-27.26	-23.268	PASS
		24965.7	-39.743	-27.26	-12.483	PASS

Note: input compensation coefficient (dB)= Cable Loss (dB)

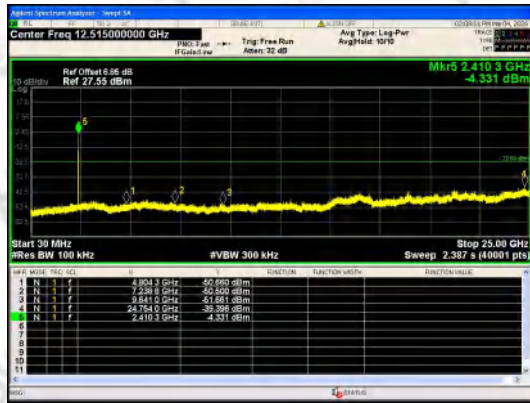
Test Graphs



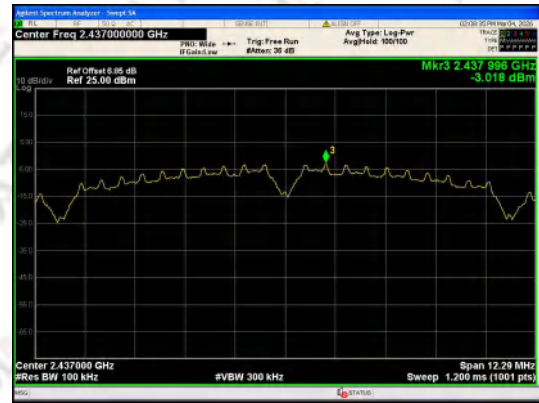
In-Band Reference Level
IEEE 802.11b_Channel 1_20MHz_Antenna 0



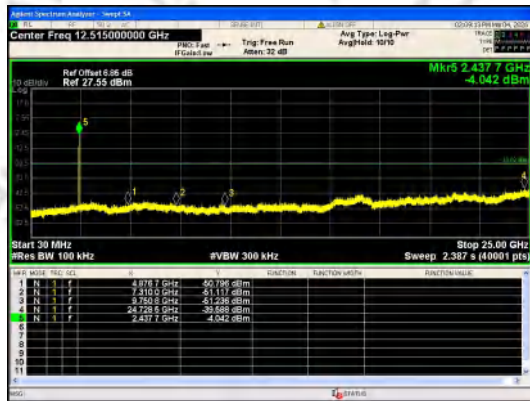
Out Of Band Emission
IEEE 802.11b_Channel 1_20MHz_Antenna 0



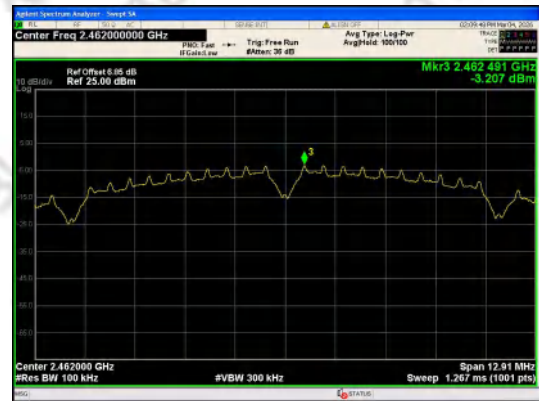
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 1_20MHz_Antenna 0



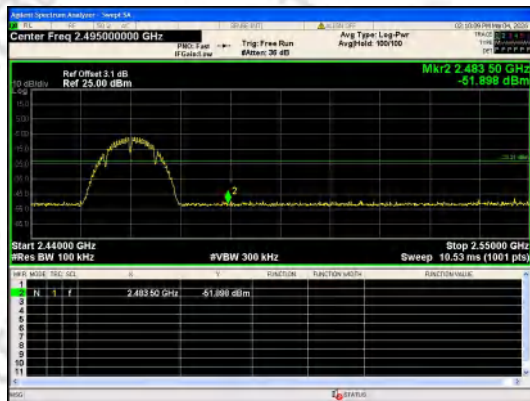
In-Band Reference Level
IEEE 802.11b_Channel 6_20MHz_Antenna 0



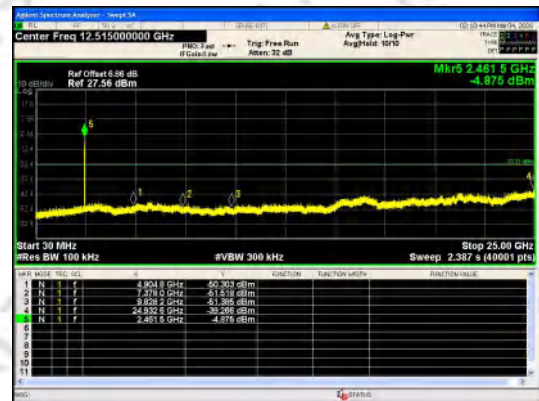
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 6_20MHz_Antenna 0



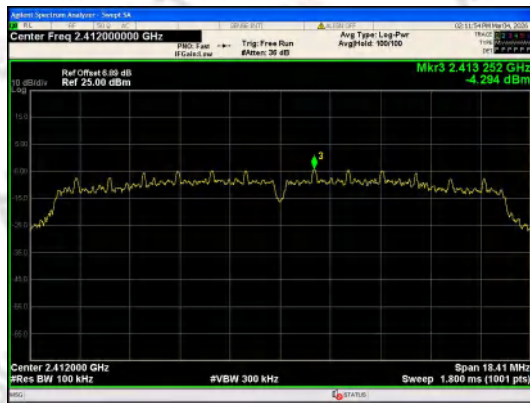
In-Band Reference Level
IEEE 802.11b_Channel 11_20MHz_Antenna 0



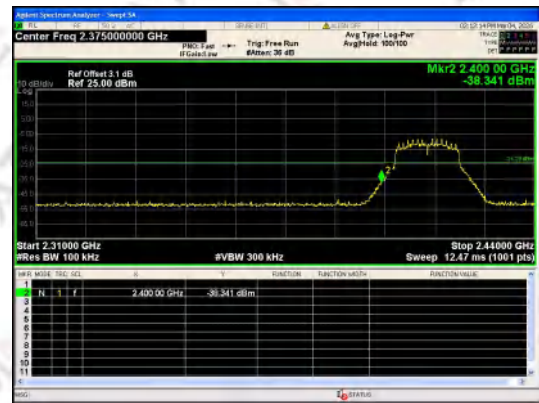
Out Of Band Emission
IEEE 802.11b_Channel 11_20MHz_Antenna 0



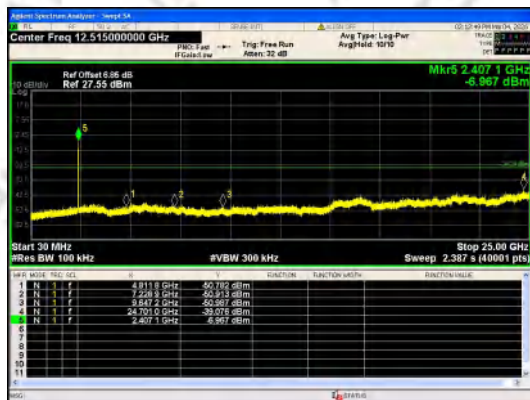
30.0 MHz - 25000.0 MHz
IEEE 802.11b_Channel 11_20MHz_Antenna 0



In-Band Reference Level
IEEE 802.11g_Channel 1_20MHz_Antenna 0



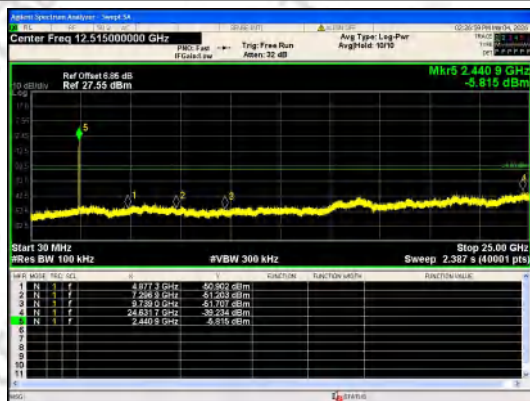
Out Of Band Emission
IEEE 802.11g_Channel 1_20MHz_Antenna 0



30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 1_20MHz_Antenna 0



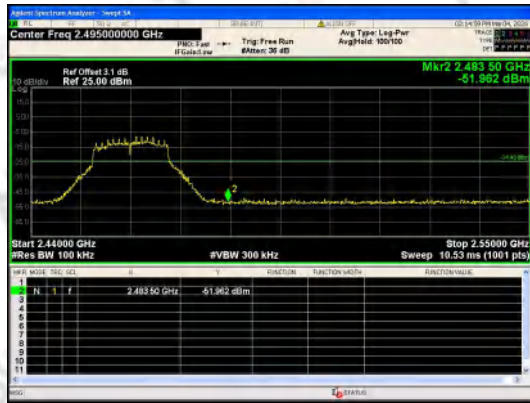
In-Band Reference Level
IEEE 802.11g_Channel 6_20MHz_Antenna 0



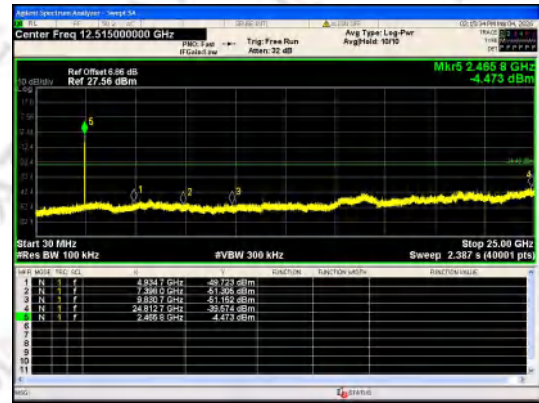
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 6_20MHz_Antenna 0



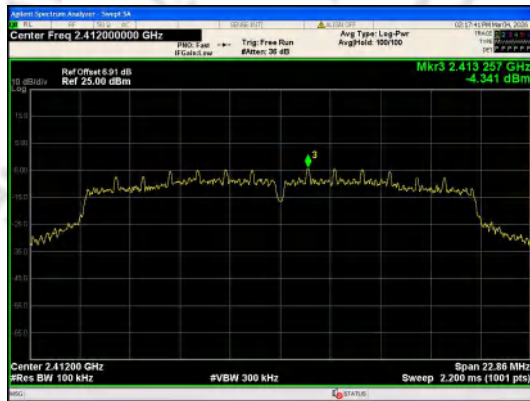
In-Band Reference Level
IEEE 802.11g_Channel 11_20MHz_Antenna 0



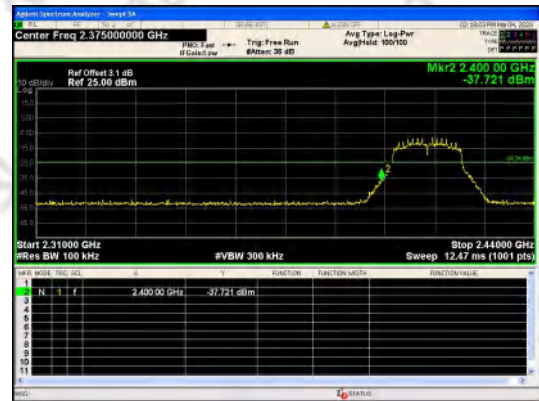
Out Of Band Emission
IEEE 802.11g_Channel 11_20MHz_Antenna 0



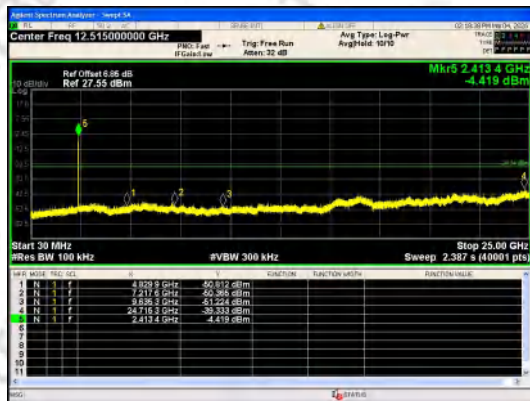
30.0 MHz - 25000.0 MHz
IEEE 802.11g_Channel 11_20MHz_Antenna 0



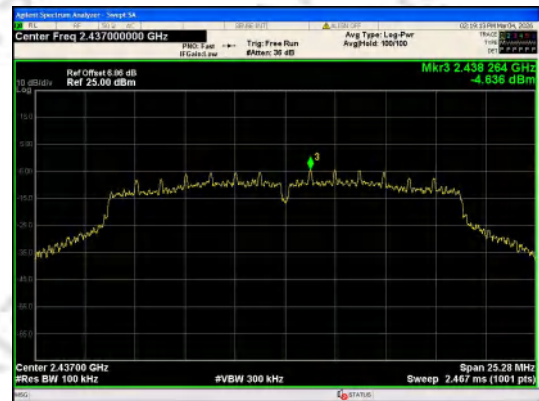
In-Band Reference Level
IEEE 802.11n_Channel 1_20MHz_Antenna 0



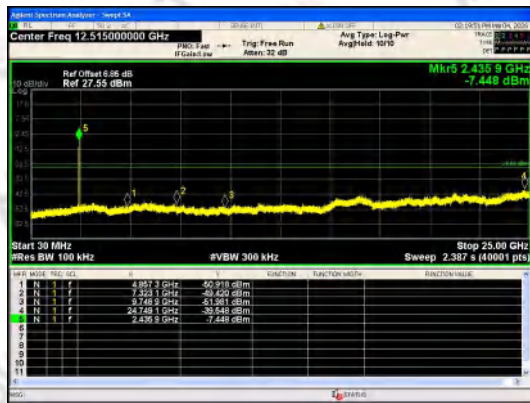
Out Of Band Emission
IEEE 802.11n_Channel 1_20MHz_Antenna 0



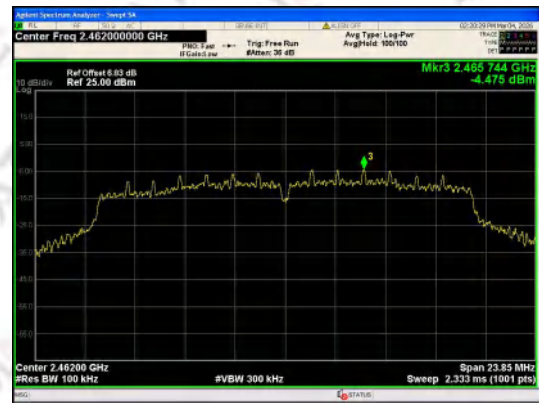
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 1_20MHz_Antenna 0



In-Band Reference Level
IEEE 802.11n_Channel 6_20MHz_Antenna 0



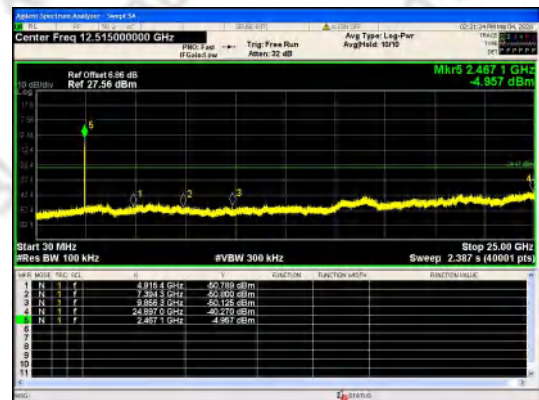
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_20MHz_Antenna 0



In-Band Reference Level
IEEE 802.11n_Channel 11_20MHz_Antenna 0



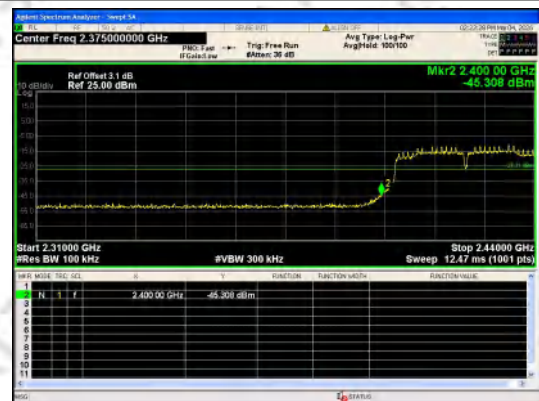
Out Of Band Emission
IEEE 802.11n_Channel 11_20MHz_Antenna 0



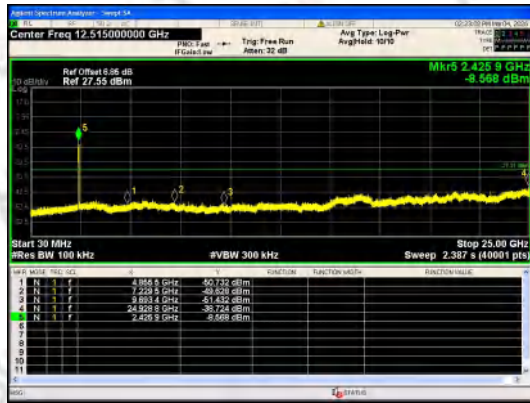
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 11_20MHz_Antenna 0



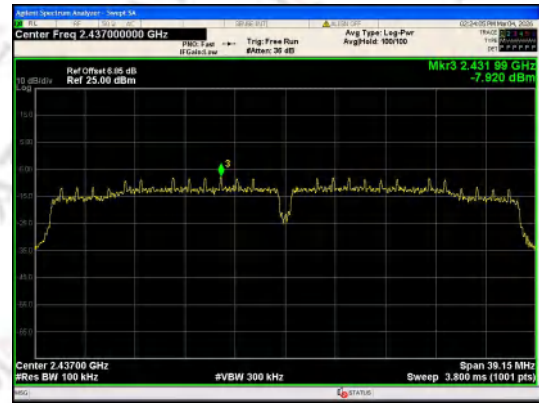
In-Band Reference Level
IEEE 802.11n_Channel 3_40MHz_Antenna 0



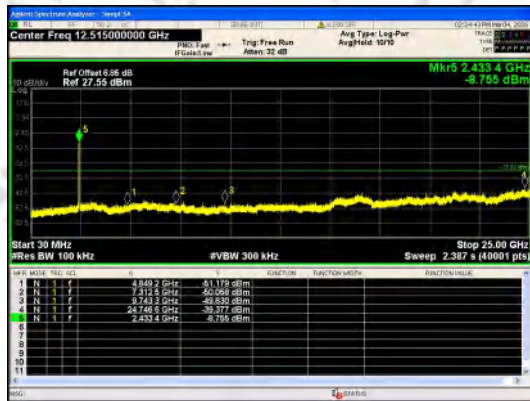
Out Of Band Emission
IEEE 802.11n_Channel 3_40MHz_Antenna 0



30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 3_40MHz_Antenna 0



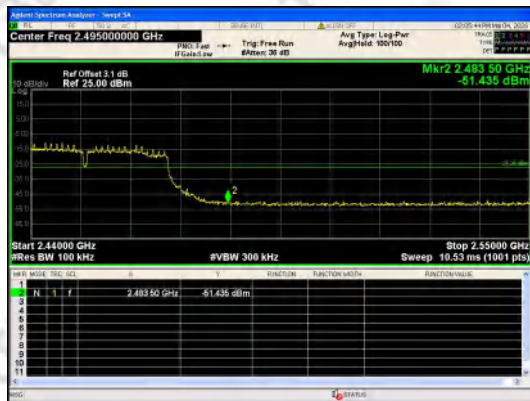
In-Band Reference Level
IEEE 802.11n_Channel 6_40MHz_Antenna 0



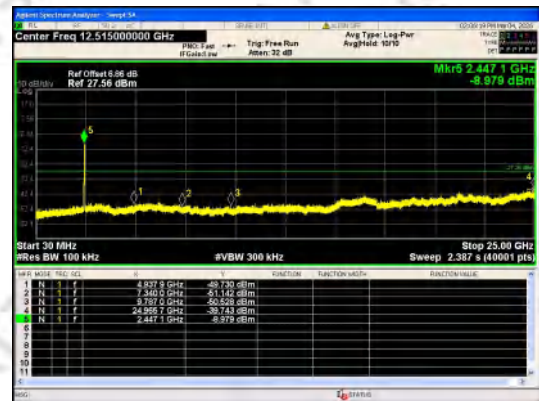
30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 6_40MHz_Antenna 0



In-Band Reference Level
IEEE 802.11n_Channel 9_40MHz_Antenna 0



Out Of Band Emission
IEEE 802.11n_Channel 9_40MHz_Antenna 0



30.0 MHz - 25000.0 MHz
IEEE 802.11n_Channel 9_40MHz_Antenna 0

Radiated Test Data

Radiated Spurious Emission

Radiated Emission (9kHz-30MHz)

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Radiated Emission (30MHz-1GHz)

Note:

1. All modes have been tested, only worst case mode(802.11n20) was recorded in the test report.
2. $\text{Margin} = \text{Result} (\text{Result} = \text{Reading} + \text{Factor}) - \text{Limit}$
3. $\text{Factor} = \text{Cable Loss} + \text{Antenna Factor} - \text{Amplifier Gain}$
4. $\text{Reading} = \text{Level} - \text{factor}$

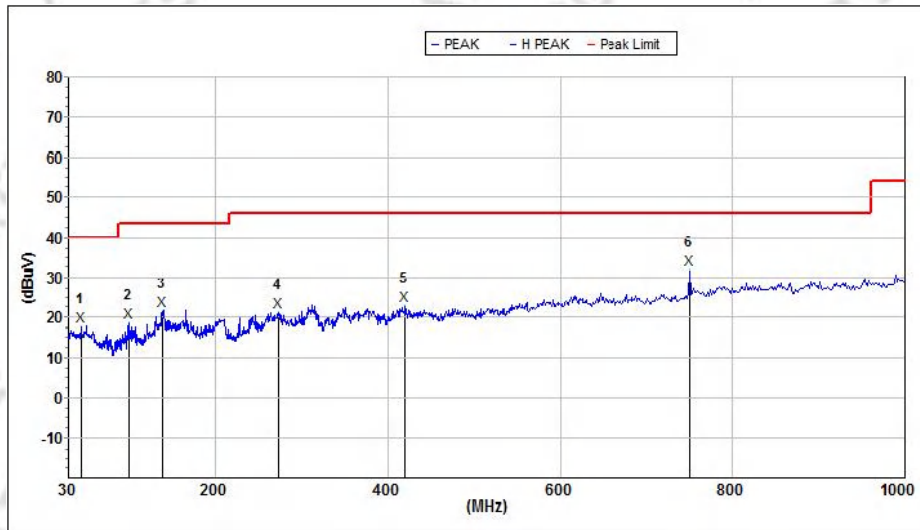
Radiated Emission (Above 1GHz)

Note:

1. All modes have been tested, only worst case mode(802.11n20) was recorded in the test report.
2. We used the filter to test and the main frequency was filtered out.
3. Other 18G-25G Emission detected are more than 20dB below the limit.
4. $\text{Margin} = \text{Result} (\text{Result} = \text{Reading} + \text{Factor}) - \text{Limit}$
5. $\text{Factor} = \text{Cable Loss} + \text{Antenna Factor} - \text{Amplifier Gain}$
6. $\text{Reading} = \text{Level} - \text{factor}$

Radiated Emission (30MHz-1GHz)

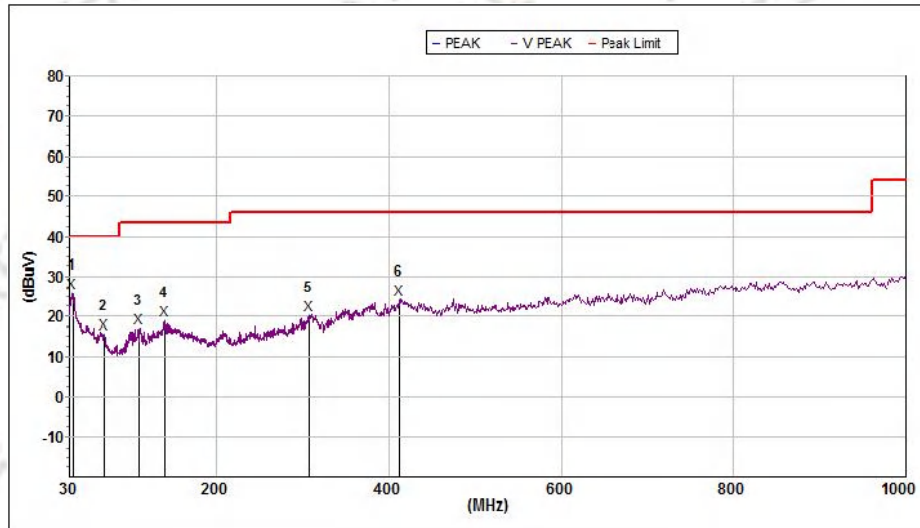
Temperature:	21°C	Relative Humidity:	40%
Test Voltage:	DC 5V	Phase:	Horizontal
Test Mode:	802.11n20-2412 MHz	Comment:	30MHz-1GHz



Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	44.509	17.9	40.0	22.1	19.3	31.4	1.2	H
2	98.833	18.8	43.5	24.7	14.8	30.9	1.3	H
3	139.117	21.8	43.5	21.7	18.2	31.2	1.5	H
4	273.714	21.5	46.0	24.5	18.4	32.2	2.0	H
5	419.844	23.0	46.0	23.0	22.0	32.9	2.7	H
6	750.108	32.0	46.0	14.0	27.6	32.0	3.2	H

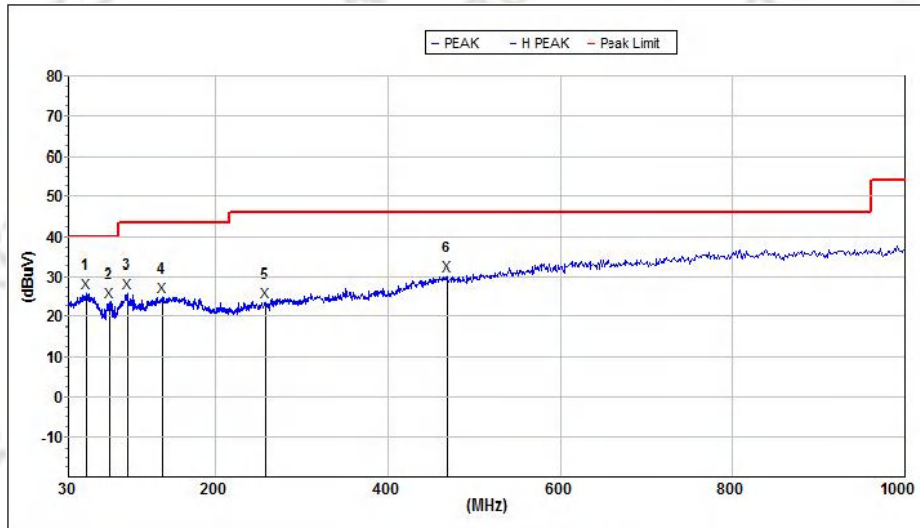
Temperature:	21°C	Relative Humidity:	40%
Test Voltage:	DC 5V	Phase:	Vertical
Test Mode:	802.11n20-2412 MHz	Comment:	30MHz-1GHz



Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	33.386	26.0	40.0	14.0	18.6	31.8	1.1	V
2	69.235	15.9	40.0	24.1	16.5	32.9	1.2	V
3	109.029	17.2	43.5	26.3	15.6	30.9	1.4	V
4	139.851	19.2	43.5	24.3	18.3	31.2	1.5	V
5	307.831	20.5	46.0	25.5	19.4	32.4	2.1	V
6	411.103	24.4	46.0	21.6	21.7	33.0	2.5	V

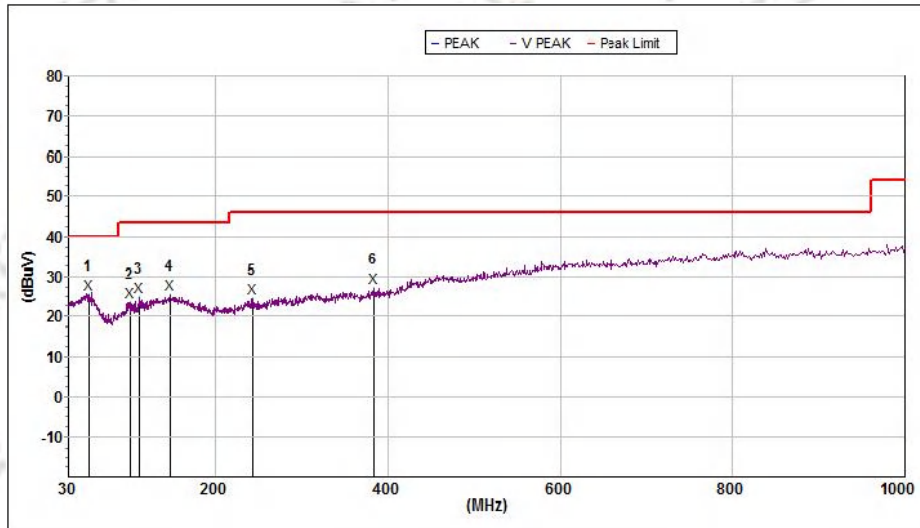
Temperature:	20°C	Relative Humidity:	35%
Test Voltage:	DC 5V	Phase:	Horizontal
Test Mode:	802.11n20-2437 MHz	Comment:	30MHz-1GHz



Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	50.853	25.9	40.0	14.1	-10.2	30.9	1.2	H
2	76.916	23.9	40.0	16.1	-15.8	32.4	1.3	H
3	97.285	26.2	43.5	17.3	-14.9	31.0	1.3	H
4	139.606	25.1	43.5	18.4	-11.4	31.2	1.5	H
5	258.780	23.9	46.0	22.1	-12.3	32.1	1.9	H
6	468.876	30.4	46.0	15.6	-6.0	32.0	2.9	H

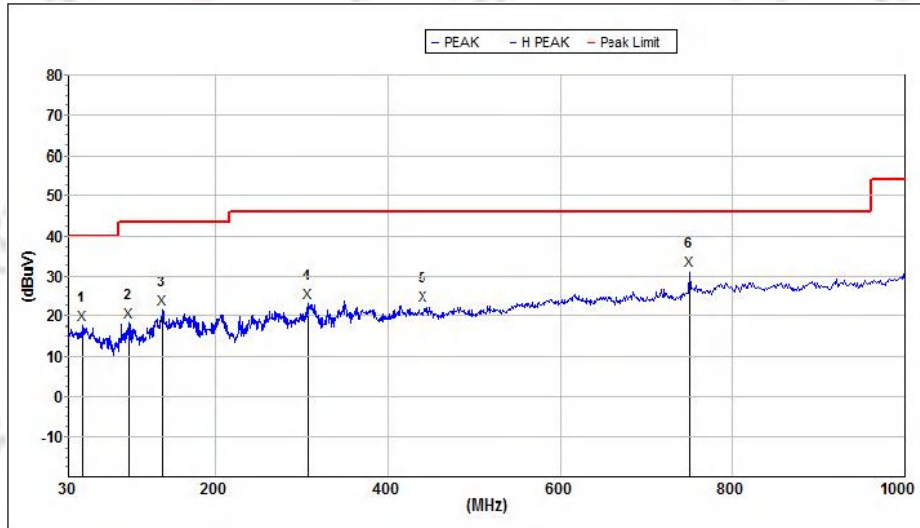
Temperature:	20°C	Relative Humidity:	35%
Test Voltage:	DC 5V	Phase:	Vertical
Test Mode:	802.11n20-2437 MHz	Comment:	30MHz-1GHz



Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	53.693	25.6	40.0	14.4	-10.8	31.0	1.2	V
2	100.229	23.8	43.5	19.7	-14.7	30.8	1.3	V
3	111.347	25.2	43.5	18.3	-13.7	30.9	1.4	V
4	147.662	25.8	43.5	17.7	-10.8	31.3	1.5	V
5	244.232	24.7	46.0	21.3	-12.7	32.0	1.9	V
6	383.259	27.3	46.0	18.7	-9.7	33.0	2.3	V

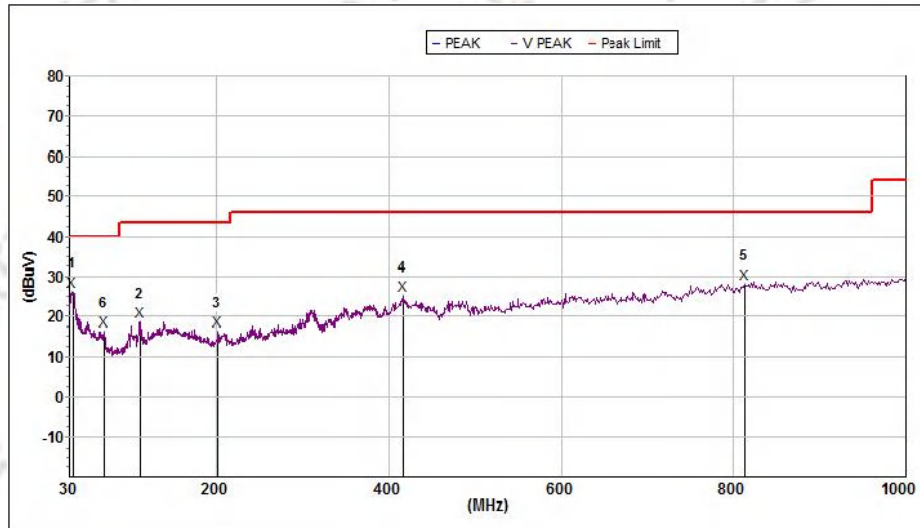
Temperature:	21°C	Relative Humidity:	40%
Test Voltage:	DC 5V	Phase:	Horizontal
Test Mode:	802.11n20-2462 MHz	Comment:	30MHz-1GHz



Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	46.912	17.7	40.0	22.3	19.4	31.2	31.2	H
2	98.833	18.4	43.5	25.1	14.8	30.9	30.9	H
3	139.117	21.7	43.5	21.8	18.2	31.2	31.2	H
4	307.292	23.5	46.0	22.5	19.3	32.4	32.4	H
5	441.743	22.6	46.0	23.4	22.7	32.5	32.5	H
6	750.108	31.4	46.0	14.6	27.6	32.0	32.0	H

Temperature:	21°C	Relative Humidity:	40%
Test Voltage:	DC 5V	Phase:	Vertical
Test Mode:	802.11n20-2462 MHz	Comment:	30MHz-1GHz

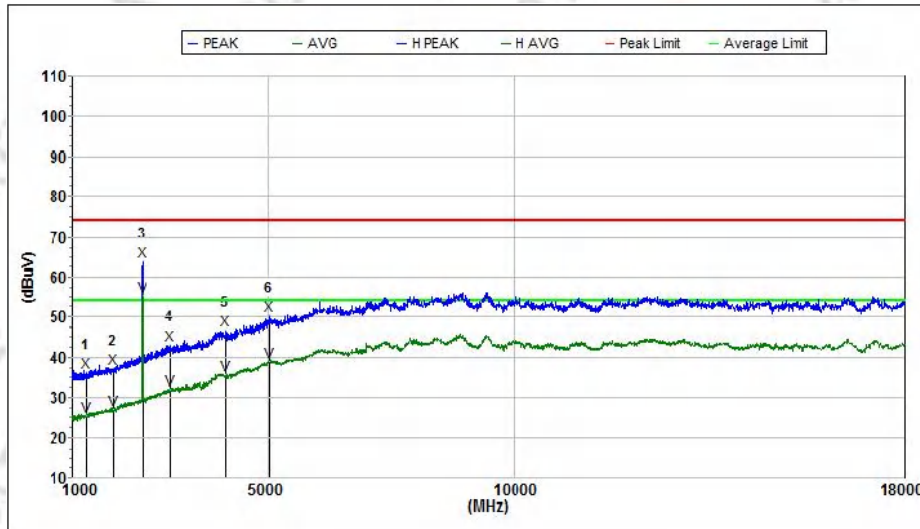


Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	33.386	26.3	40.0	13.7	18.6	31.8	1.1	V
2	110.375	18.8	43.5	24.7	15.7	30.9	1.4	V
3	201.393	16.6	43.5	26.9	15.8	31.8	1.7	V
4	416.909	25.3	46.0	20.7	21.9	32.9	2.6	V
5	813.112	28.2	46.0	17.8	28.6	32.0	3.3	V
6	69.723	16.5	40.0	23.5	16.4	33.0	1.2	V

Radiated Emission (Above 1GHz)

Temperature:	21°C	Relative Humidity:	40%
Test Voltage:	DC 5V	Phase:	Horizontal
Test Mode:	802.11n20-2412 MHz	Comment:	1GHz-18GHz

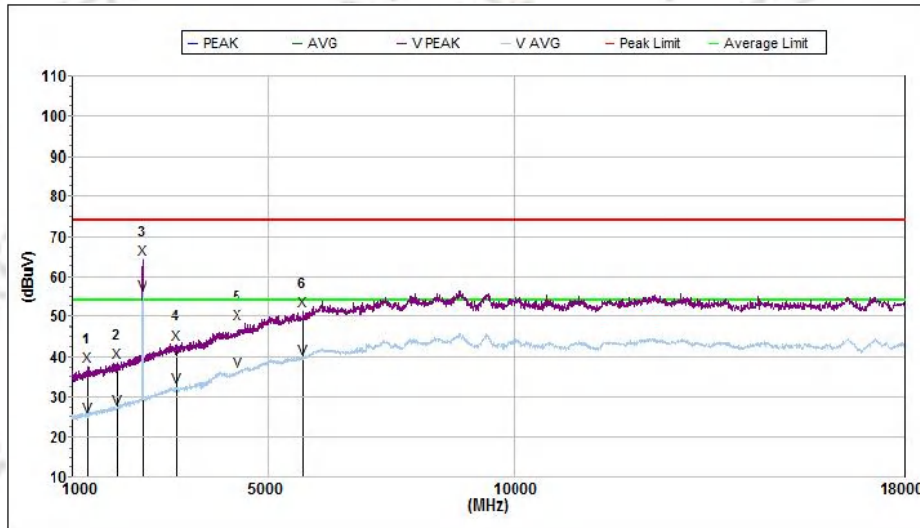


Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	1280.346	36.3	74.0	37.7	25.6	53.5	4.1	H
2	1831.000	37.3	74.0	36.7	25.3	53.7	4.9	H
3	2419.000	63.9	74.0	10.1	27.4	54.1	5.7	H
4	3004.000	43.3	74.0	30.7	29.4	54.1	6.5	H
5	4123.000	46.7	74.0	27.3	31.1	53.2	8.0	H
6	5023.000	50.3	74.0	23.7	33.1	52.4	8.7	H
Avg:								
1	1280.346	25.6	54.0	28.4	25.6	53.5	4.1	H
2	1831.000	27.2	54.0	26.8	25.3	53.7	4.9	H
3	2419.000	55.3	54.0	-1.3	27.4	54.1	5.7	H
4	3004.000	31.9	54.0	22.1	29.4	54.1	6.5	H
5	4123.000	35.5	54.0	18.5	31.1	53.2	8.0	H
6	5023.000	38.8	54.0	15.2	33.1	52.4	8.7	H

Note:Point 3 serves as the primary frequency signal.

Temperature:	21°C	Relative Humidity:	40%
Test Voltage:	DC 5V	Phase:	Vertical
Test Mode:	802.11n20-2412 MHz	Comment:	1GHz-18GHz

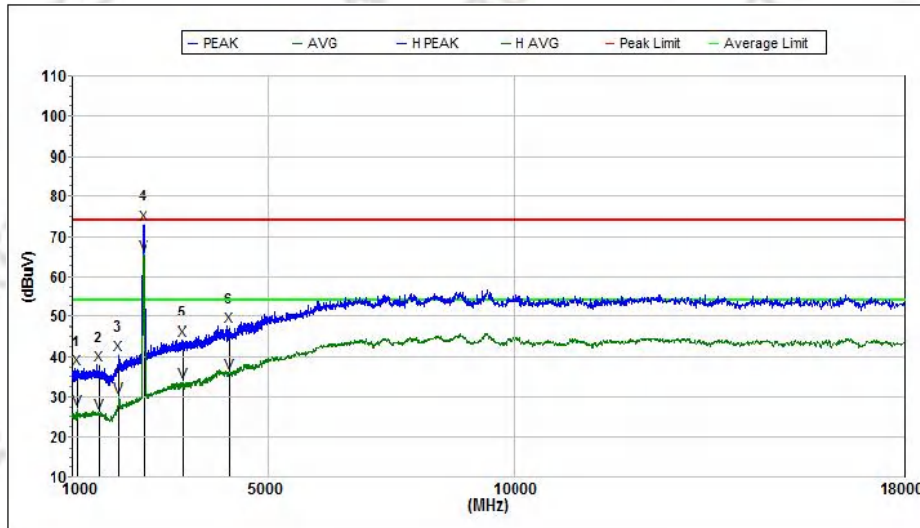


Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	1312.000	37.6	74.0	36.4	25.6	53.5	4.2	V
2	1900.000	38.5	74.0	35.5	25.8	53.8	5.0	V
3	2419.000	64.2	74.0	9.8	27.4	54.1	5.7	V
4	3130.000	43.1	74.0	30.9	29.4	54.0	6.6	V
5	4387.000	48.3	74.0	25.7	31.4	53.0	8.0	V
6	5695.000	51.5	74.0	22.5	33.4	52.0	9.5	V
Avg:								
1	1312.000	25.0	54.0	29.0	25.6	53.5	4.2	V
2	1900.000	27.2	54.0	26.8	25.8	53.8	5.0	V
3	2419.000	55.7	54.0	-1.7	27.4	54.1	5.7	V
4	3130.000	32.5	54.0	21.5	29.4	54.0	6.6	V
5	4387.000	36.3	54.0	17.7	31.4	53.0	8.0	V
6	5695.000	39.6	54.0	14.4	33.4	52.0	9.5	V

Note:Point 3 serves as the primary frequency signal.

Temperature:	20°C	Relative Humidity:	35%
Test Voltage:	DC 5V	Phase:	Horizontal
Test Mode:	802.11n20-2437 MHz	Comment:	1GHz-18GHz

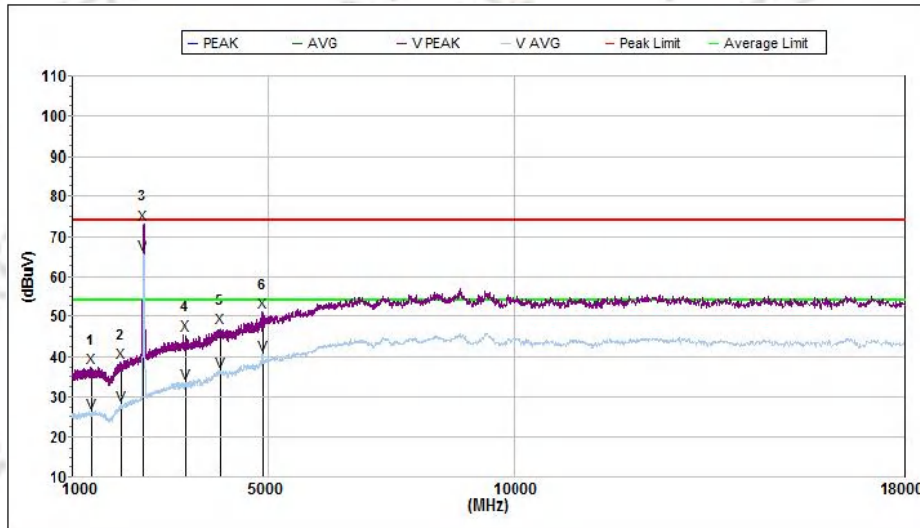


Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	1095.000	37.1	74.0	36.9	-24.5	53.6	3.8	H
2	1542.000	37.9	74.0	36.1	-23.5	53.4	4.5	H
3	1943.000	40.5	74.0	33.5	-22.7	53.8	5.0	H
4	2445.000	73.3	74.0	0.7	-20.9	54.1	5.7	H
5	3265.000	44.3	74.0	29.7	-17.6	53.9	6.8	H
6	4181.000	47.5	74.0	26.5	-13.9	53.1	8.0	H
Avg:								
1	1095.000	27.0	54.0	27.0	-24.5	53.6	3.8	H
2	1542.000	26.1	54.0	27.9	-23.5	53.4	4.5	H
3	1943.000	30.0	54.0	24.0	-22.7	53.8	5.0	H
4	2445.000	65.5	54.0	-11.5	-20.9	54.1	5.7	H
5	3265.000	33.6	54.0	20.4	-17.6	53.9	6.8	H
6	4181.000	36.1	54.0	17.9	-13.9	53.1	8.0	H

Note:Point 4 serves as the primary frequency signal.

Temperature:	20°C	Relative Humidity:	35%
Test Voltage:	DC 5V	Phase:	Vertical
Test Mode:	802.11n20-2437 MHz	Comment:	1GHz-18GHz

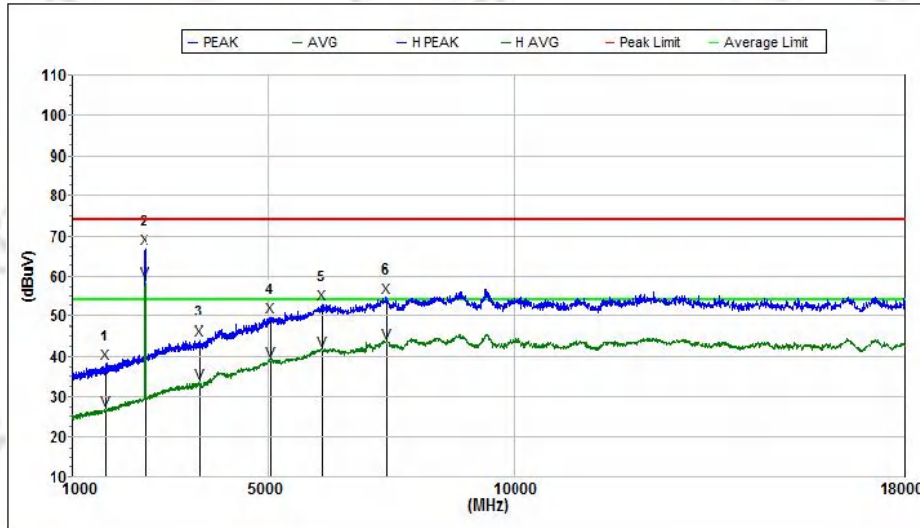


Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	1398.000	37.2	74.0	36.8	-23.7	53.5	4.3	V
2	1978.000	38.7	74.0	35.3	-22.5	53.9	5.1	V
3	2431.000	73.0	74.0	1.0	-21.0	54.1	5.7	V
4	3318.000	45.4	74.0	28.6	-17.6	53.9	6.8	V
5	4004.000	47.3	74.0	26.7	-14.3	53.2	8.0	V
6	4882.000	51.0	74.0	23.0	-11.3	52.5	8.5	V
Avg:								
1	1398.000	26.2	54.0	27.8	-23.7	53.5	4.3	V
2	1978.000	28.1	54.0	25.9	-22.5	53.9	5.1	V
3	2431.000	65.5	54.0	-11.5	-21.0	54.1	5.7	V
4	3318.000	33.4	54.0	20.6	-17.6	53.9	6.8	V
5	4004.000	36.4	54.0	17.6	-14.3	53.2	8.0	V
6	4882.000	40.6	54.0	13.4	-11.3	52.5	8.5	V

Note:Point 3 serves as the primary frequency signal.

Temperature:	21°C	Relative Humidity:	40%
Test Voltage:	DC 5V	Phase:	Horizontal
Test Mode:	802.11n20-2462 MHz	Comment:	1GHz-18GHz

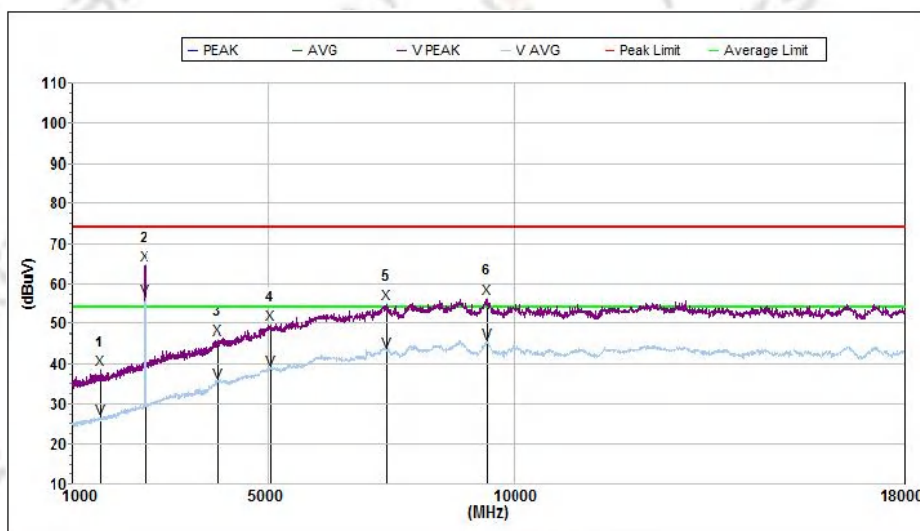


Test Summary Result

Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	1666.000	38.3	74.0	35.7	25.2	53.6	4.7	H
2	2470.000	67.0	74.0	7.0	27.5	54.1	5.7	H
3	3589.000	44.3	74.0	29.7	29.7	53.7	7.2	H
4	5056.000	49.9	74.0	24.1	33.1	52.4	8.8	H
5	6082.000	53.0	74.0	21.0	34.3	51.5	9.9	H
6	7407.000	54.8	74.0	19.2	36.2	51.8	11.0	H
Avg:								
1	1666.000	26.8	54.0	27.2	25.2	53.6	4.7	H
2	2470.000	58.8	54.0	-4.8	27.5	54.1	5.7	H
3	3589.000	33.3	54.0	20.7	29.7	53.7	7.2	H
4	5056.000	39.1	54.0	14.9	33.1	52.4	8.8	H
5	6082.000	41.7	54.0	12.3	34.3	51.5	9.9	H
6	7407.000	43.4	54.0	10.6	36.2	51.8	11.0	H

Note: Point 2 serves as the primary frequency signal.

Temperature:	21°C	Relative Humidity:	40%
Test Voltage:	DC 5V	Phase:	Vertical
Test Mode:	802.11n20-2462 MHz	Comment:	1GHz-18GHz



Test Summary Result

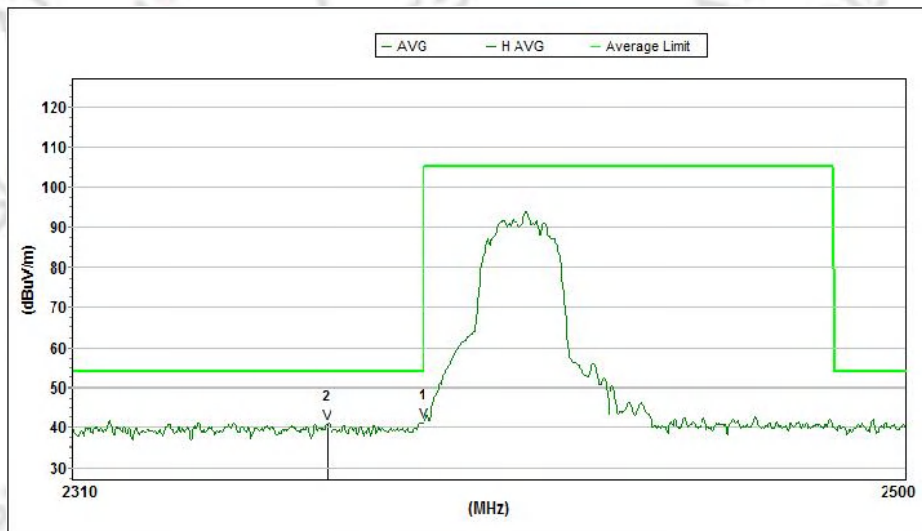
Mk.	Freq. (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
Peak:								
1	1567.000	38.7	74.0	35.3	25.3	53.5	4.5	V
2	2470.000	64.6	74.0	9.4	27.5	54.1	5.7	V
3	3949.000	46.1	74.0	27.9	30.8	53.3	7.9	V
4	5044.000	49.9	74.0	24.1	33.1	52.4	8.7	V
5	7412.500	55.0	74.0	19.0	36.2	51.8	11.0	V
6	9464.000	56.3	74.0	17.7	38.1	52.2	12.8	V
Avg:								
1	1567.000	26.4	54.0	27.6	25.3	53.5	4.5	V
2	2470.000	56.5	54.0	-2.5	27.5	54.1	5.7	V
3	3949.000	35.4	54.0	18.6	30.8	53.3	7.9	V
4	5044.000	38.6	54.0	15.4	33.1	52.4	8.7	V
5	7412.500	43.3	54.0	10.7	36.2	51.8	11.0	V
6	9464.000	45.1	54.0	8.9	38.1	52.2	12.8	V

Note:Point 2 serves as the primary frequency signal.

Note: During the test, pre-scan 802.11b, 802.11g, 802.11n20, 802.11n40 mode, found 802.11n20 was worse case mode. The report only reflects the test data of worst mode.

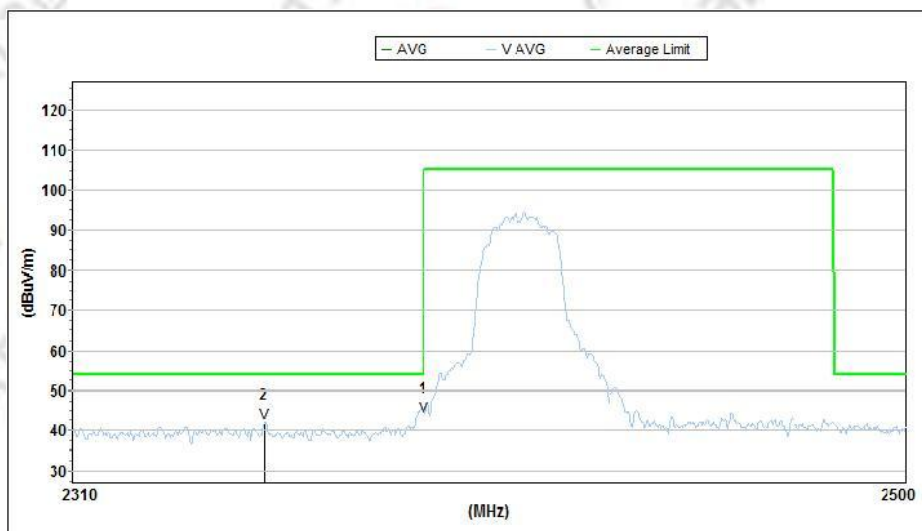
Test Mode: 802.11n20

Test Channel: Lowest channel, Test Polarization: Horizontal



Mk.	Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB/m)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
AVG								
1	2390.000	41.6	54.0	12.4	27.4	54.1	5.6	H
2	2368.140	41.3	54.0	12.7	27.3	54.0	5.6	H

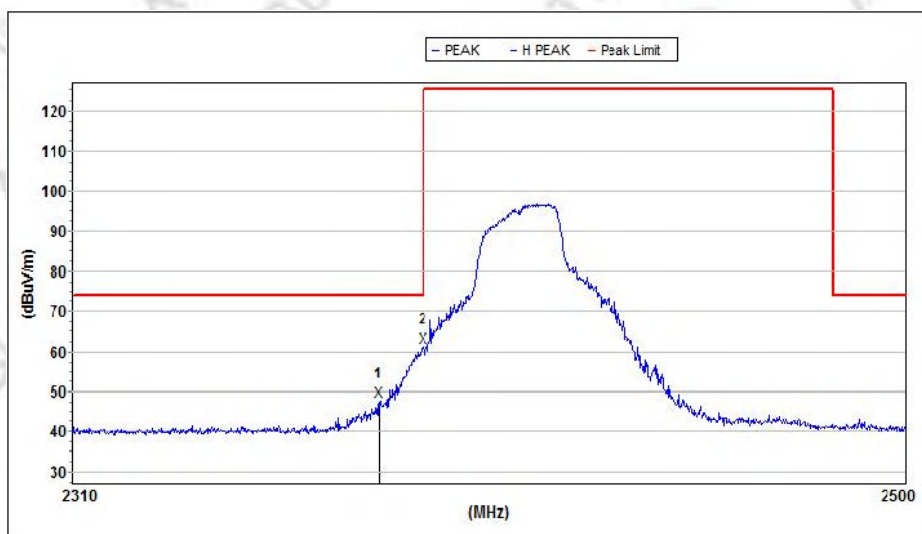
Test Channel: Lowest channel, Test Polarization: Vertical



Mk.	Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB/m)	Amp.G. (dB)	Cbl.L. (dB)	Pol.
AVG								
1	2390.000	43.7	54.0	10.3	27.4	54.1	5.6	V
2	2353.890	42.2	54.0	11.8	27.3	54.0	5.6	V

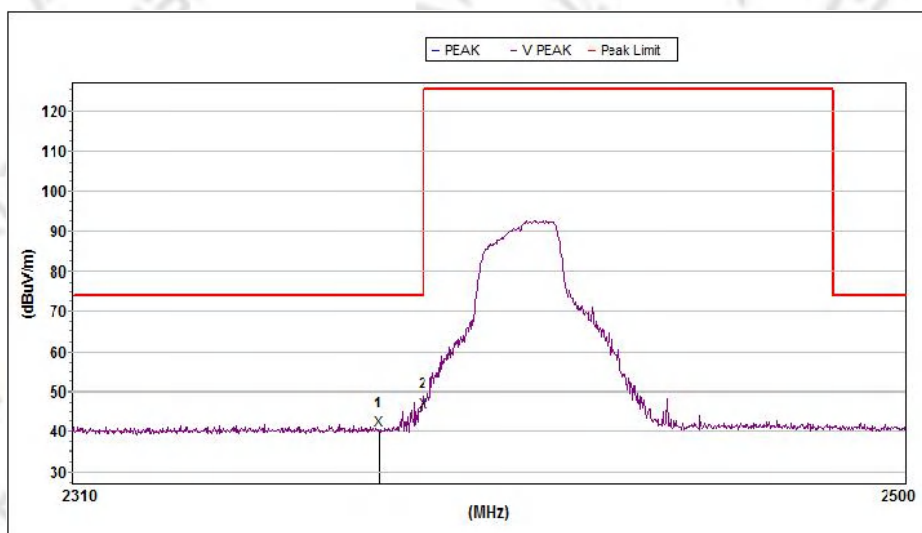
Test Mode: 802.11n20

Test Channel: Lowest channel, Test Polarization: Horizontal



Mk.	Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB/m)	Amp.G. (dB)	Cbl.L. (dB)	Pol
PEAK								
1	2380.000	47.6	74.0	26.4	27.3	54.1	5.6	H
2	2390.000	61.1	74.0	12.9	27.4	54.1	5.6	H

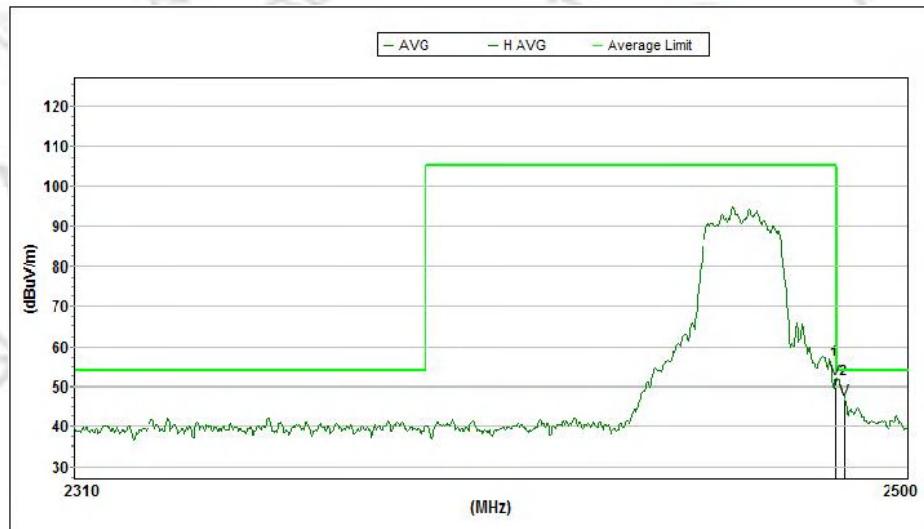
Test Channel: Lowest channel, Test Polarization: Vertical



Mk.	Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB/m)	Amp.G. (dB)	Cbl.L. (dB)	Pol
PEAK								
1	2380.000	40.5	74.0	33.5	27.3	54.1	5.6	V
2	2390.000	45.2	74.0	28.8	27.4	54.1	5.6	V

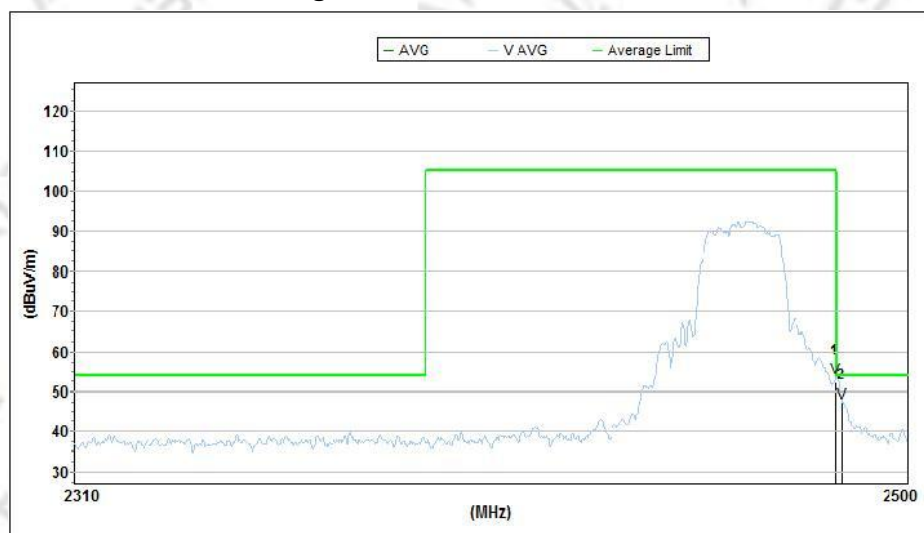
Test Mode: 802.11n20

Test Channel: Highest channel, Test Polarization: Horizontal



Mk.	Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Ant.F/G. (dB/m)	Amp.G. (dB)	Cbl.L. (dB)	Pol
AVG								
1	2483.500	52.1	54.0	1.9	27.6	54.1	5.7	H
2	2485.560	47.0	54.0	7.0	27.6	54.1	5.7	H

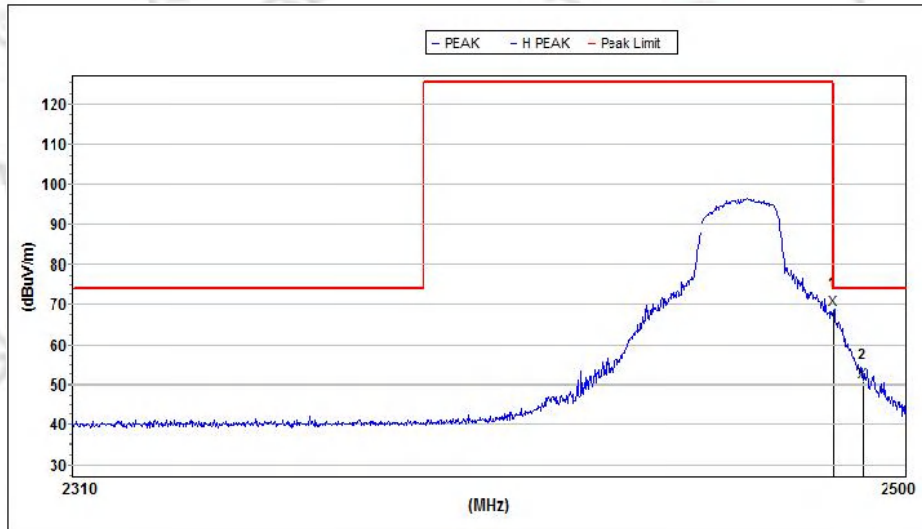
Test Channel: Highest channel, Test Polarization: Vertical



Mk.	Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Ant.F/G. (dB/m)	Amp.G. (dB)	Cbl.L. (dB)	Pol
AVG								
1	2483.500	53.5	54.0	0.5	27.6	54.1	5.7	V
2	2484.990	47.4	54.0	6.6	27.6	54.1	5.7	V

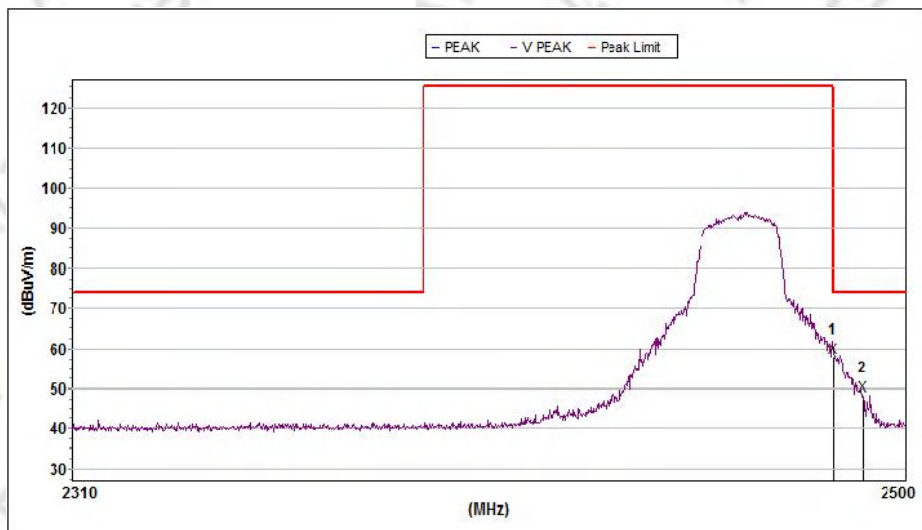
Test Mode: 802.11n20

Test Channel: Highest channel, Test Polarization: Horizontal



Mk.	Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB/m)	Amp.G. (dB)	Cbl.L. (dB)	Pol
PEAK								
1	2483.600	68.7	74.0	5.3	27.6	54.1	5.7	H
2	2490.000	50.6	74.0	23.4	27.6	54.1	5.8	H

Test Channel: Highest channel, Test Polarization: Vertical



Mk.	Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Ant.F/G. (dB/m)	Amp.G. (dB)	Cbl.L. (dB)	Pol
PEAK								
1	2483.600	57.9	74.0	16.1	27.6	54.1	5.7	V
2	2490.000	48.4	74.0	25.6	27.6	54.1	5.8	V

.*****END OF THE Appendix A1*****