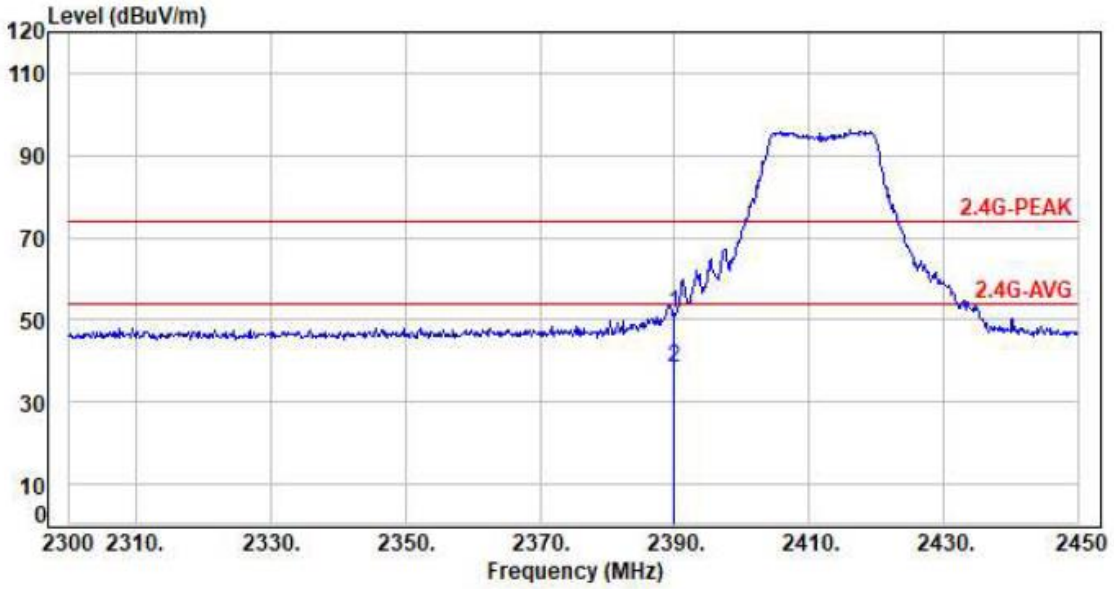
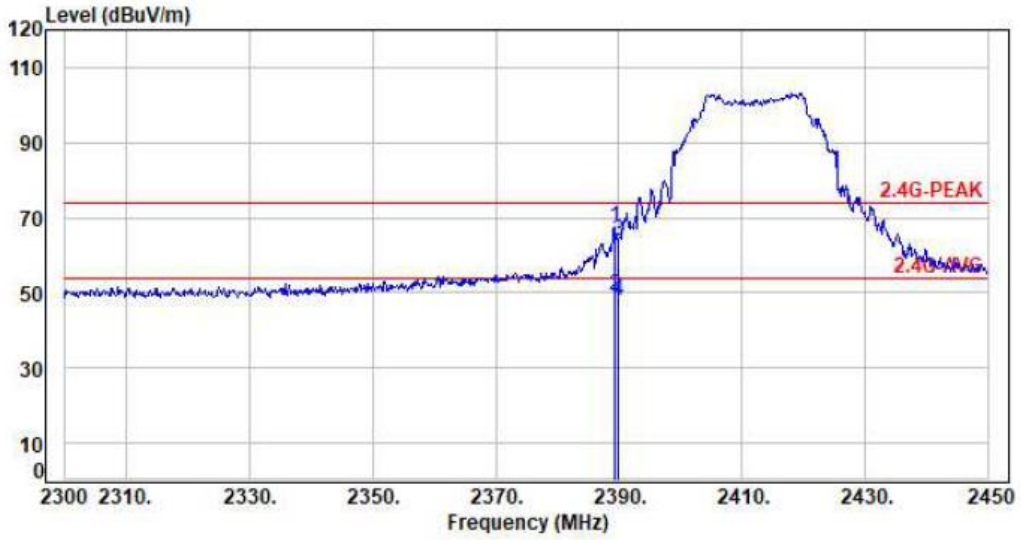
Power :	AC 120V/60Hz	Pol/Phase :	VERTICAL
Test Mode :	802.11g, CH01		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2390.00	5.65	45.89	51.54	74.00	-22.46	Peak	P
2	2390.00	5.65	32.75	38.40	54.00	-15.60	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

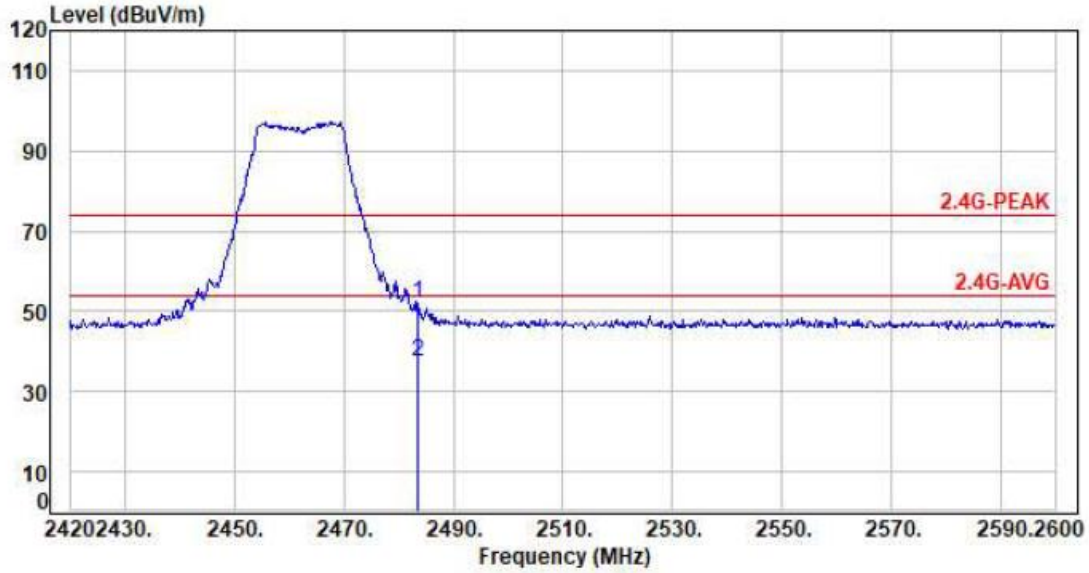
Power :	AC 120V/60Hz	Pol/Phase :	HORIZONTAL
Test Mode :	802.11g, CH01		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2389.25	5.65	61.88	67.53	74.00	-6.47	Peak	P
2	2389.25	5.65	43.52	49.17	54.00	-4.83	Average	P
3	2390.00	5.65	58.04	63.69	74.00	-10.31	Peak	P
4	2390.00	5.65	42.19	47.84	54.00	-6.16	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

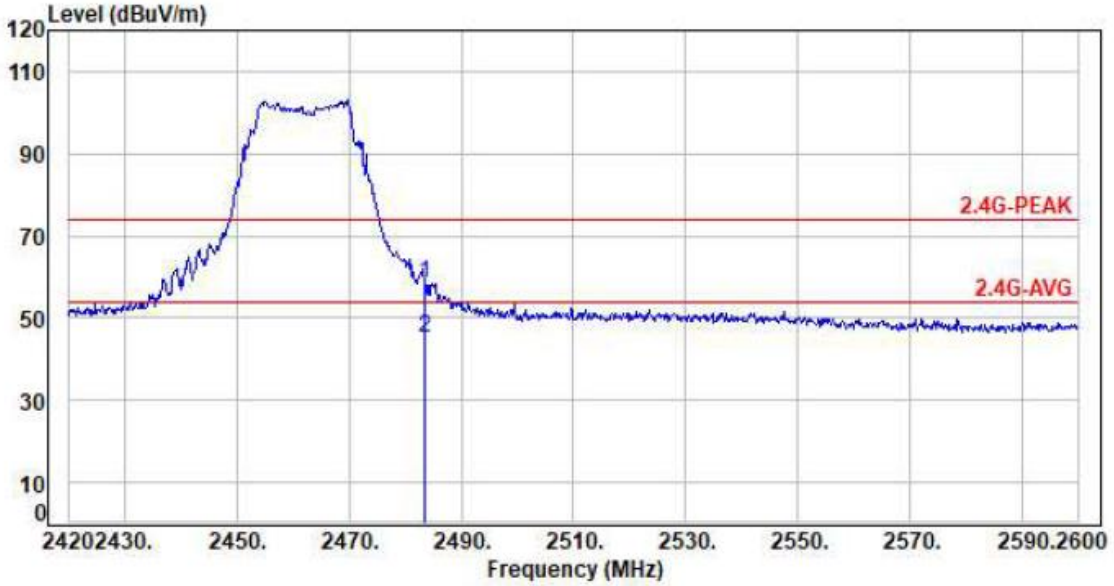
Power :	AC 120V/60Hz	Pol/Phase :	VERTICAL
Test Mode :	802.11g, CH11		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.54	6.02	45.84	51.86	74.00	-22.14	Peak	P
2	2483.54	6.02	31.56	37.58	54.00	-16.42	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

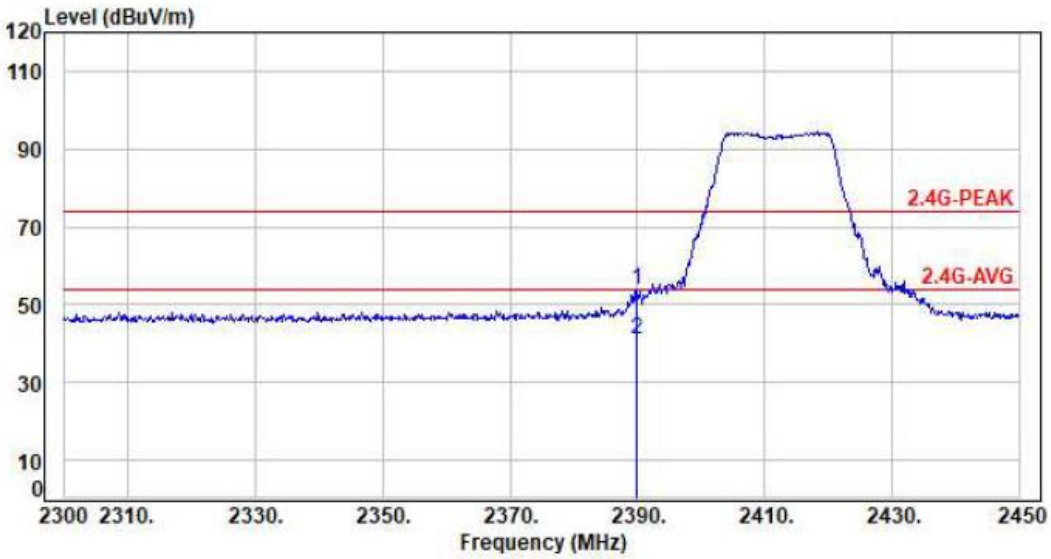
Power :	AC 120V/60Hz	Pol/Phase :	HORIZONTAL
Test Mode :	802.11g, CH11		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.54	6.02	52.20	58.22	74.00	-15.78	Peak	P
2	2483.54	6.02	39.33	45.35	54.00	-8.65	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

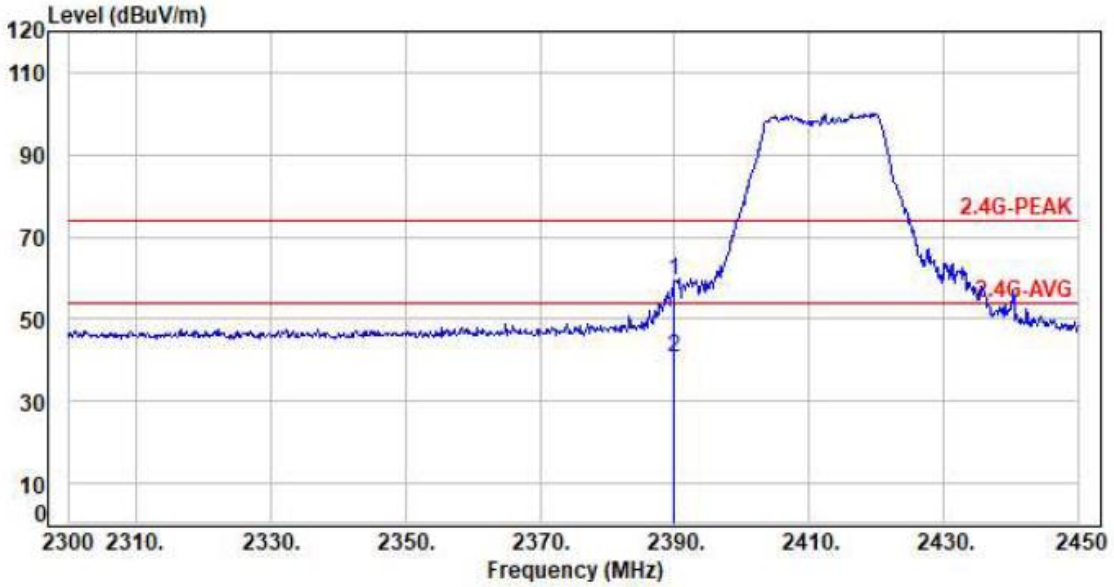
Power :	AC 120V/60Hz	Pol/Phase :	VERTICAL
Test Mode :	802.11n HT20, CH01		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2390.00	5.65	48.24	53.89	74.00	-20.11	Peak	P
2	2390.00	5.65	35.25	40.90	54.00	-13.10	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

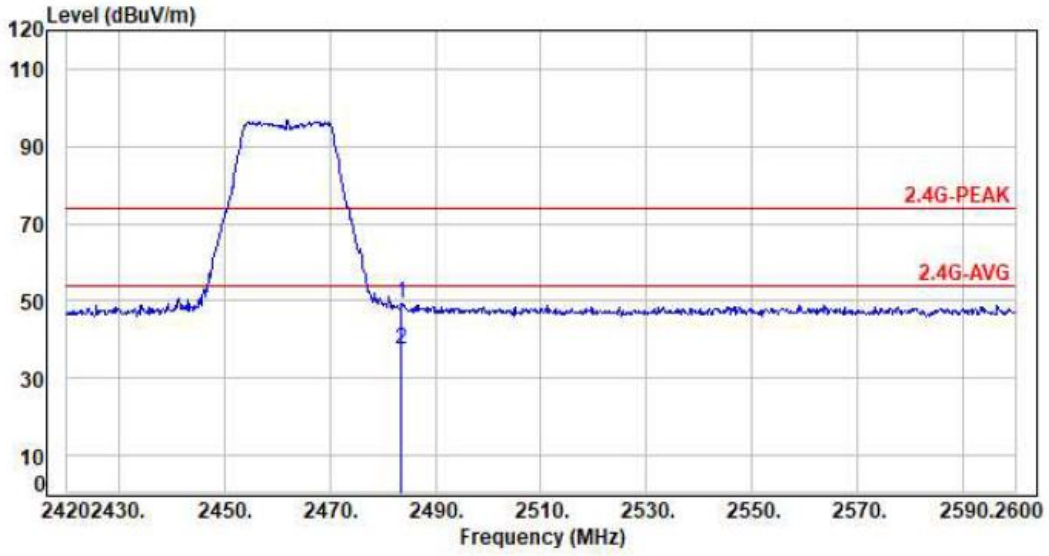
Power :	AC 120V/60Hz	Pol/Phase :	HORIZONTAL
Test Mode :	802.11n HT20, CH01		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2390.00	5.65	53.68	59.33	74.00	-14.67	Peak	P
2	2390.00	5.65	35.13	40.78	54.00	-13.22	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

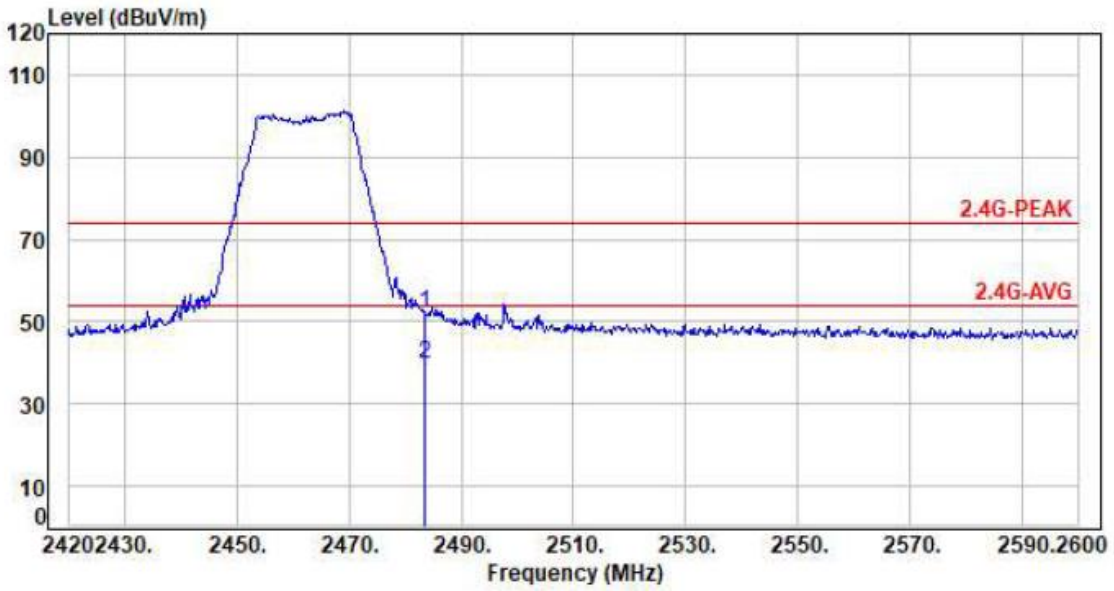
Power :	AC 120V/60Hz	Pol/Phase :	VERTICAL
Test Mode :	802.11n HT20, CH11		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.54	6.02	43.12	49.14	74.00	-24.86	Peak	P
2	2483.54	6.02	31.36	37.38	54.00	-16.62	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

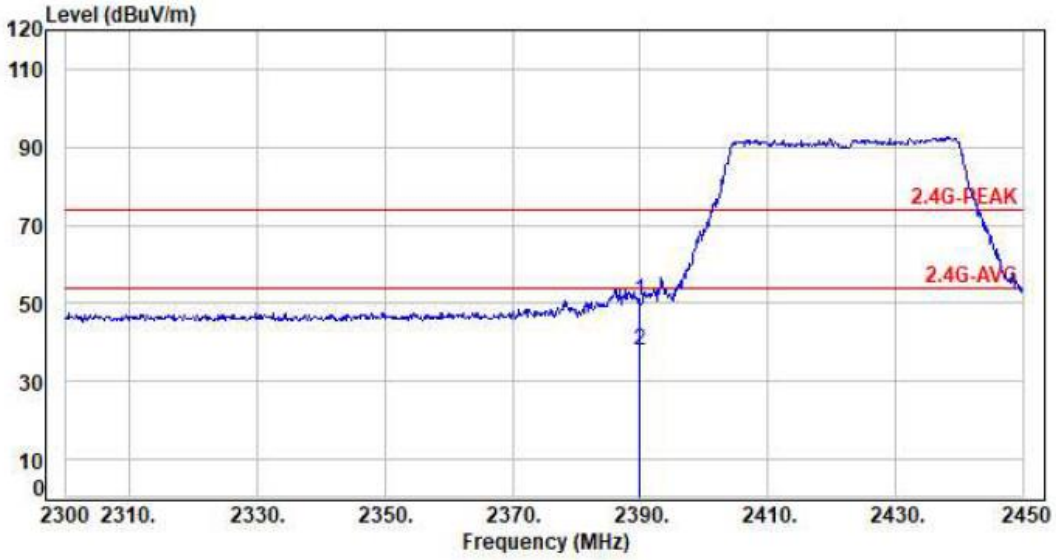
Power :	AC 120V/60Hz	Pol/Phase :	HORIZONTAL
Test Mode :	802.11n HT20, CH11		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.54	6.02	46.11	52.13	74.00	-21.87	Peak	P
2	2483.54	6.02	33.74	39.76	54.00	-14.24	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

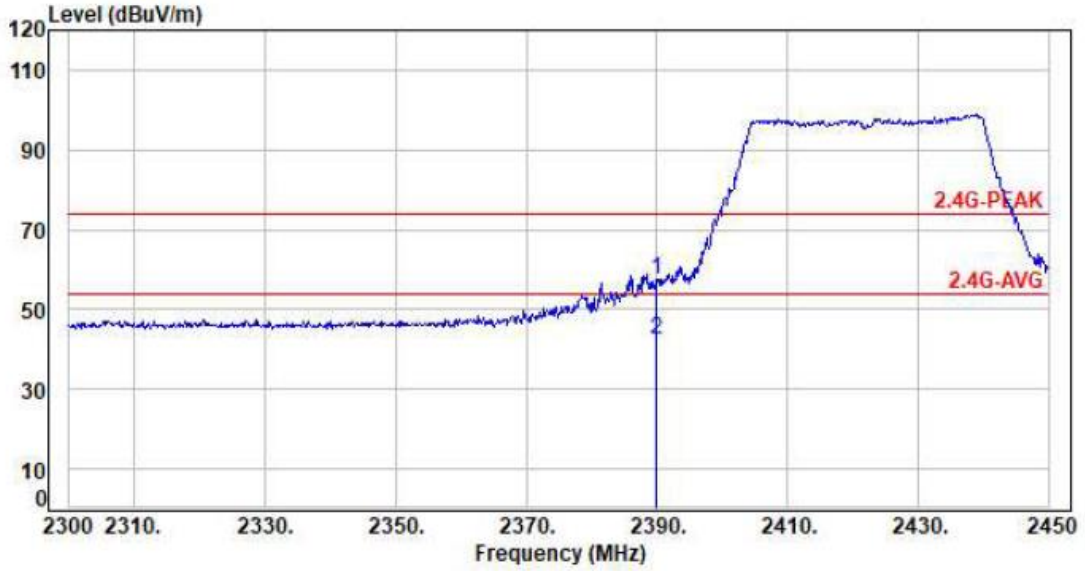
Power :	AC 120V/60Hz	Pol/Phase :	VERTICAL
Test Mode :	802.11n HT40, CH03		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2390.00	5.65	44.83	50.48	74.00	-23.52	Peak	P
2	2390.00	5.65	32.32	37.97	54.00	-16.03	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

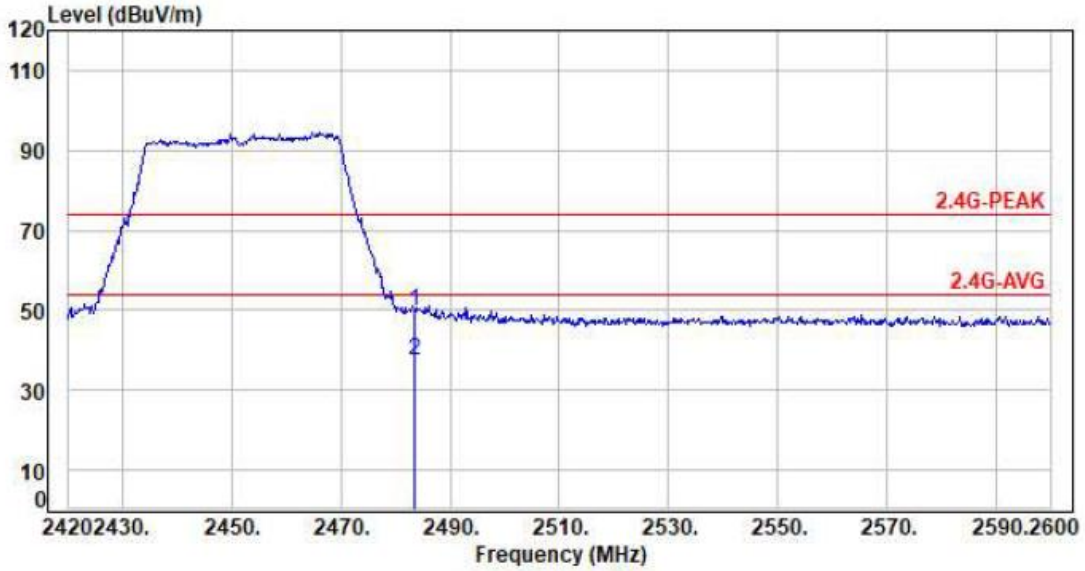
Power :	AC 120V/60Hz	Pol/Phase :	HORIZONTAL
Test Mode :	802.11n HT40, CH03		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2390.00	5.65	51.91	57.56	74.00	-16.44	Peak	P
2	2390.00	5.65	36.72	42.37	54.00	-11.63	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

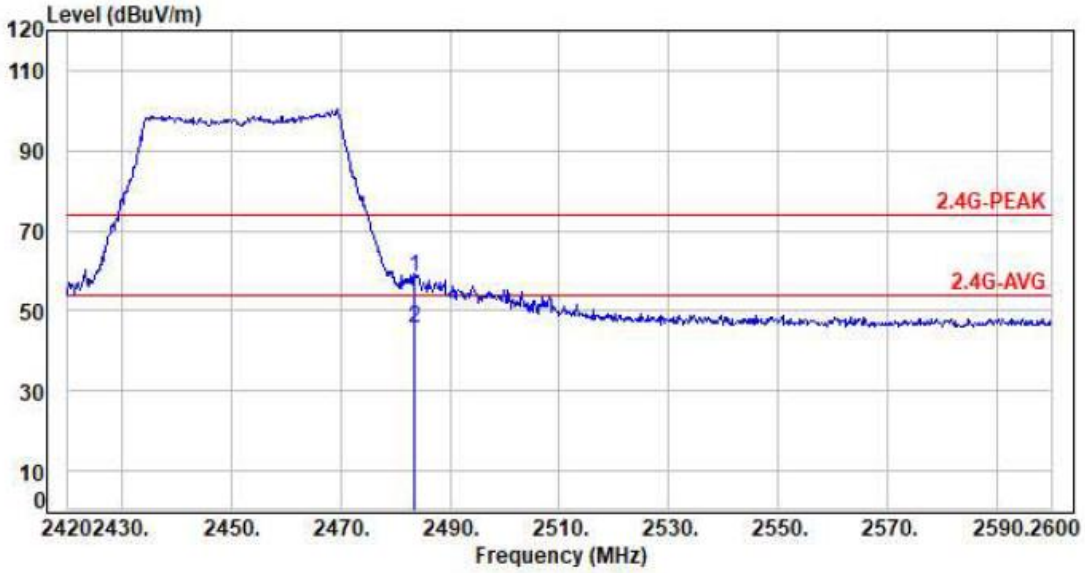
Power :	AC 120V/60Hz	Pol/Phase :	VERTICAL
Test Mode :	802.11n HT40, CH09		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.54	6.02	43.59	49.61	74.00	-24.39	Peak	P
2	2483.54	6.02	31.61	37.63	54.00	-16.37	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Power :	AC 120V/60Hz	Pol/Phase :	HORIZONTAL
Test Mode :	802.11n HT40, CH09		



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	2483.54	6.02	52.39	58.41	74.00	-15.59	Peak	P
2	2483.54	6.02	39.65	45.67	54.00	-8.33	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

7. Test of Conducted Spurious Emission

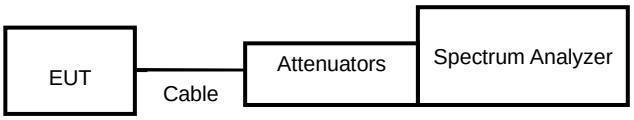
7.1 Test Limit

Below –20dB of the highest emission level of operating band (In 100 kHz Resolution Bandwidth)

7.2 Test Procedure

a. The transmitter output was connected to the spectrum analyzer via a low loss cable.
b. Set RBW of spectrum analyzer to 100 KHz and VBW of spectrum analyzer to 300 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
c. Peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20dB relative to the maximum measured in-band peak PSD level.
d. The band edges was measured and recorded.

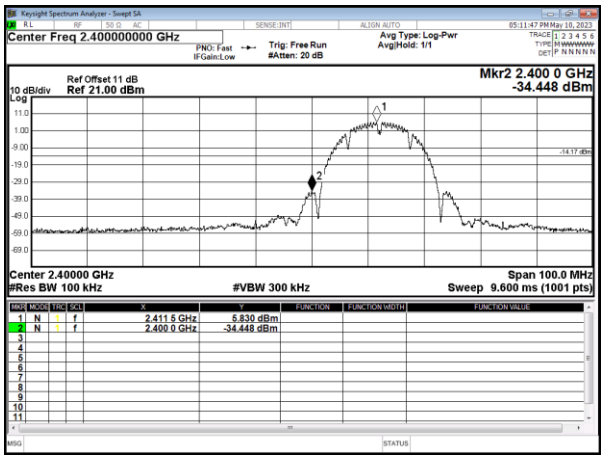
7.3 Test Setup Layout

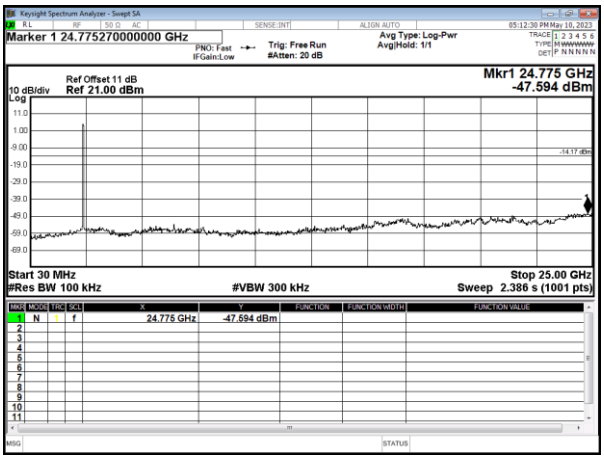


7.4 Test Result and Data

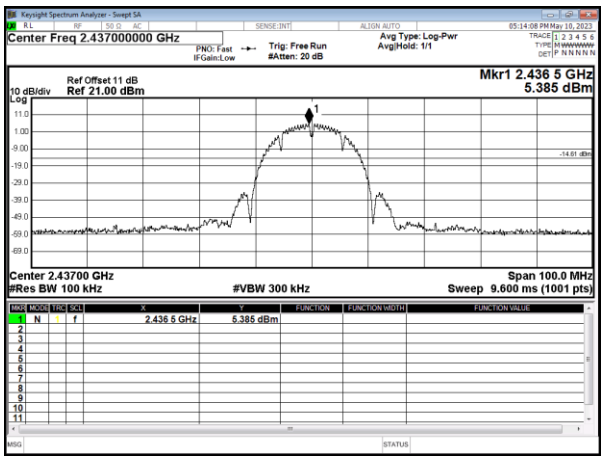
Note: Test plots refers to the following pages.

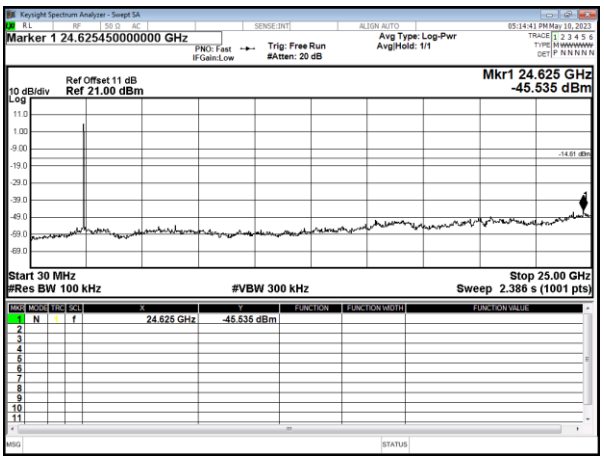
Modulation Standard: 802.11b
Channel: 01



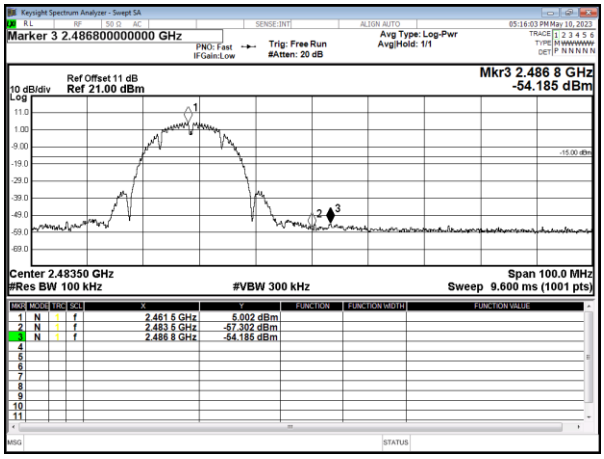


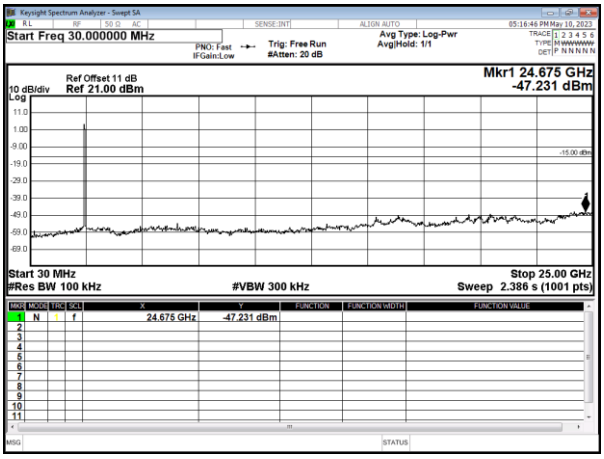
Modulation Standard: 802.11b
Channel: 06



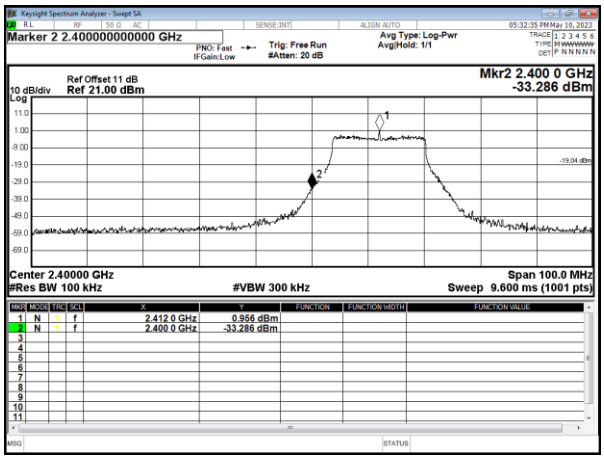


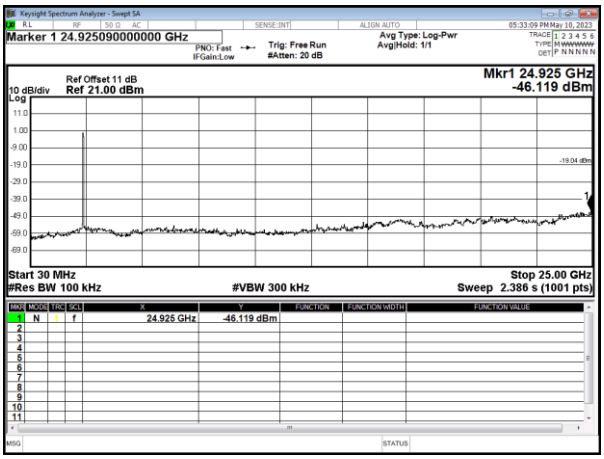
Modulation Standard: 802.11b
Channel: 11



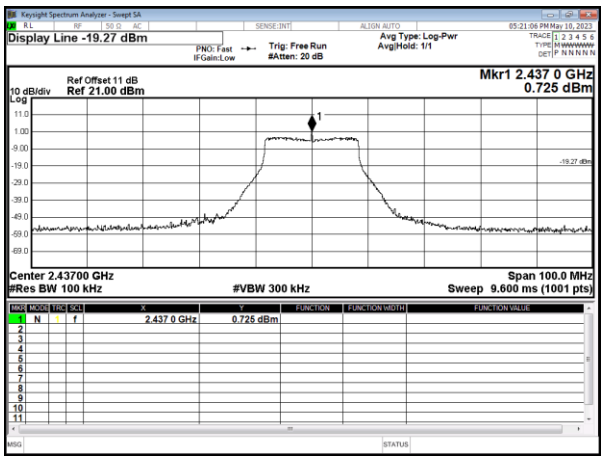


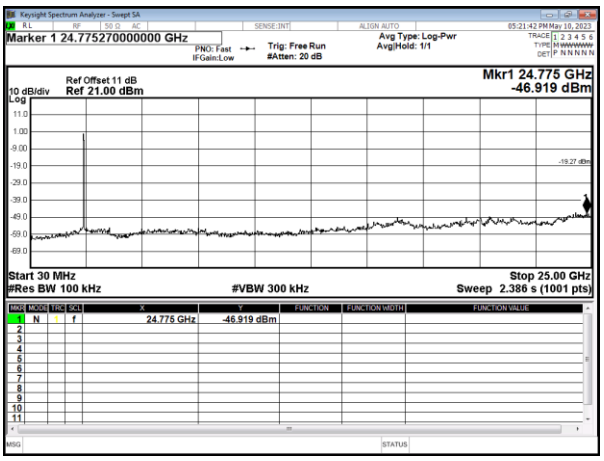
Modulation Standard: 802.11g
Channel: 01



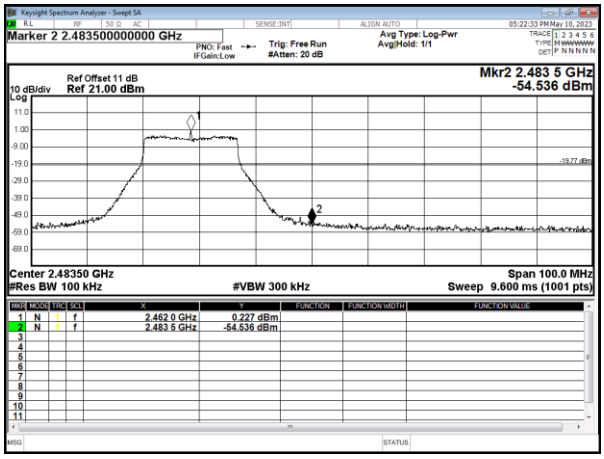


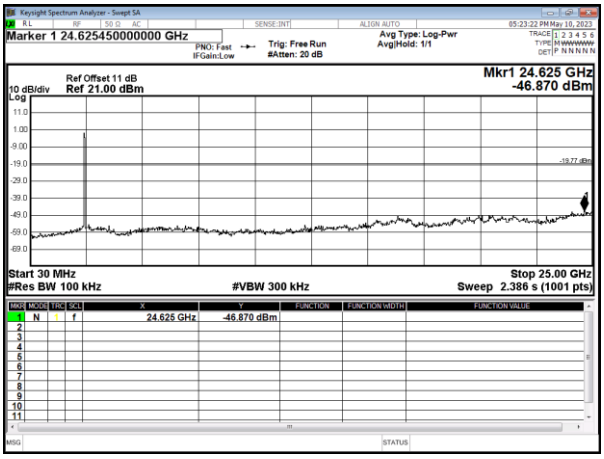
Modulation Standard: 802.11g
Channel: 06



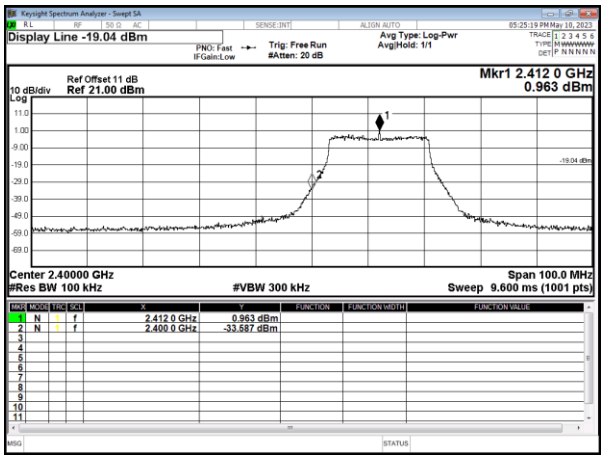


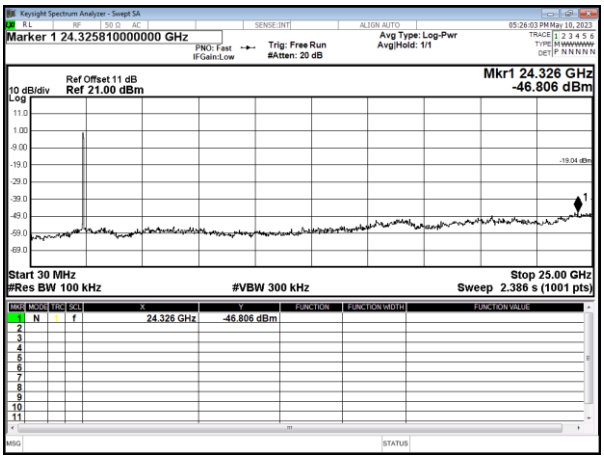
Modulation Standard: 802.11g
Channel: 11



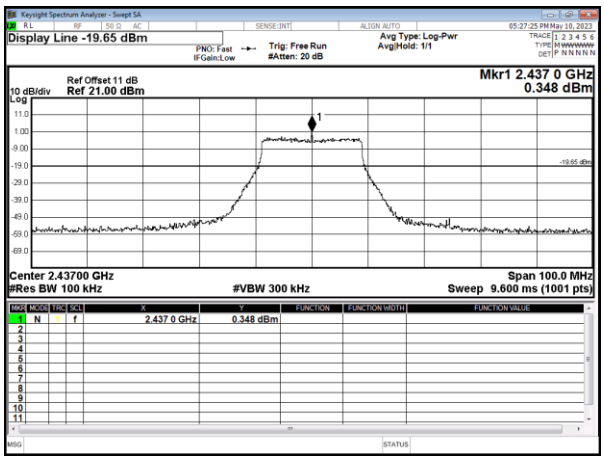


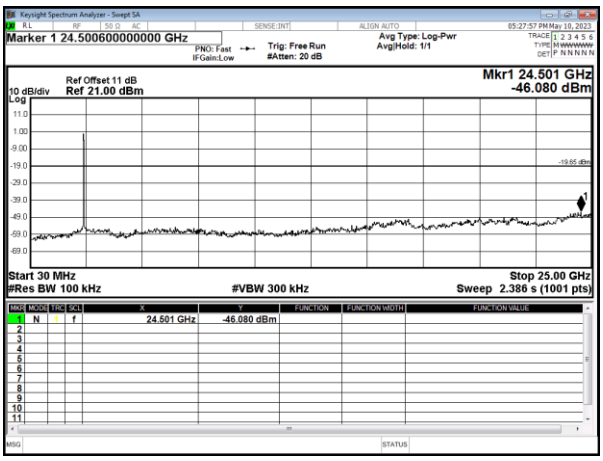
Modulation Standard: 802.11n HT20
Channel: 01



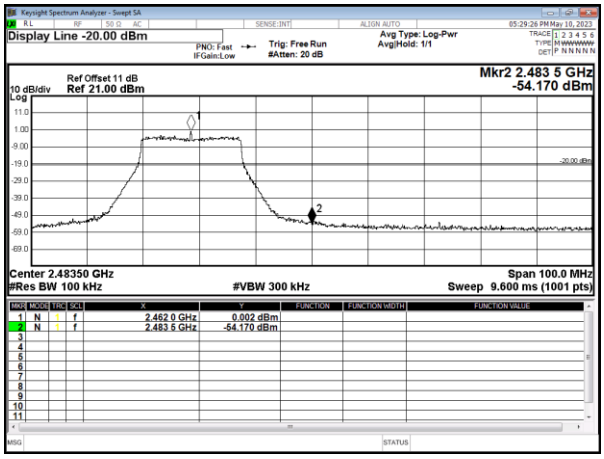


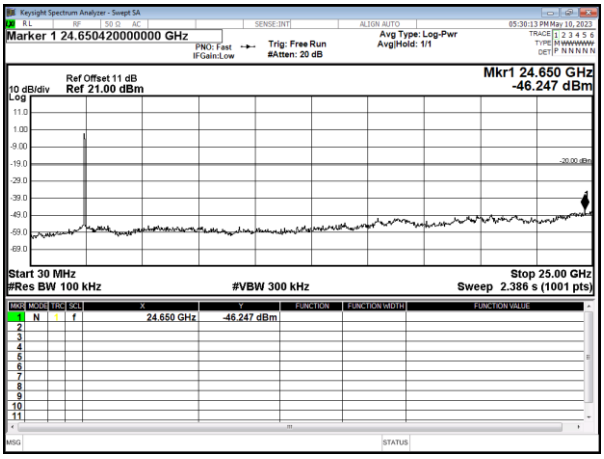
Modulation Standard: 802.11n HT20
Channel: 06



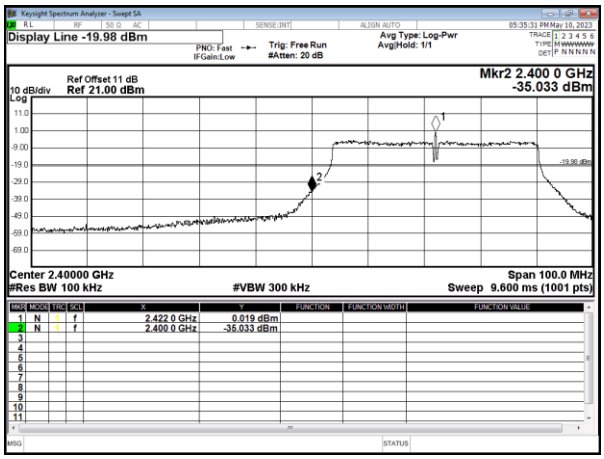


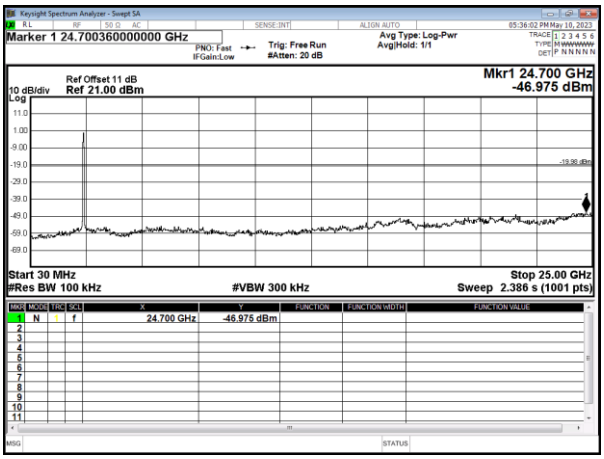
Modulation Standard: 802.11n HT20
Channel: 11



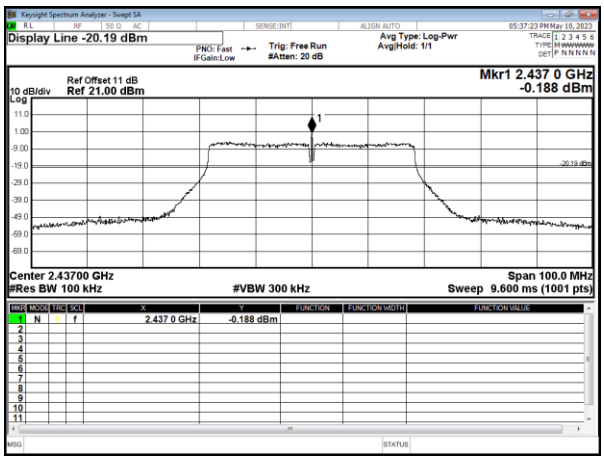


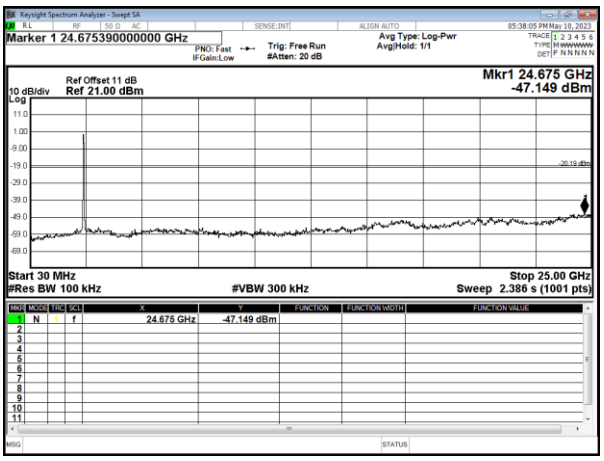
Modulation Standard: 802.11n HT40
Channel: 03



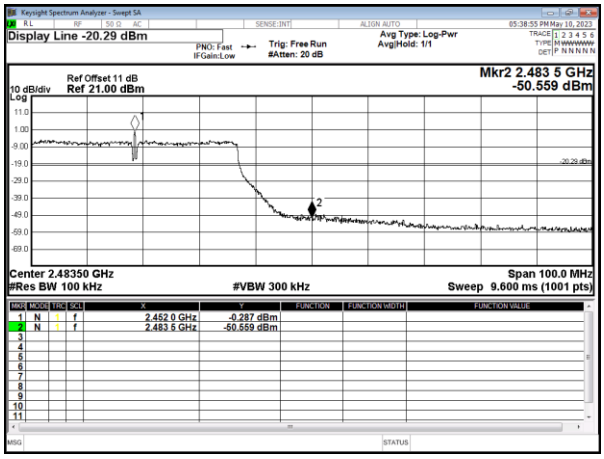


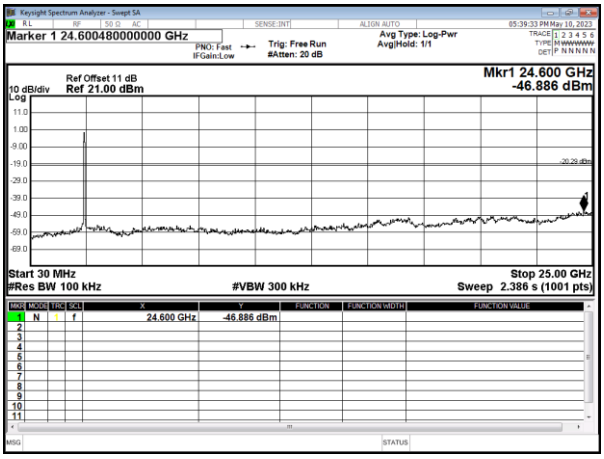
Modulation Standard: 802.11n HT40
Channel: 06





Modulation Standard: 802.11n HT40
Channel: 09





8. On Time, Duty Cycle and Measurement methods

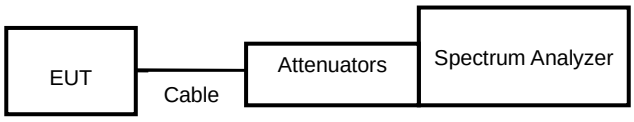
8.1 Test Limit

None; for reporting purposes only.

8.2 Test Procedure

Zero-Span Spectrum Analyzer Method.

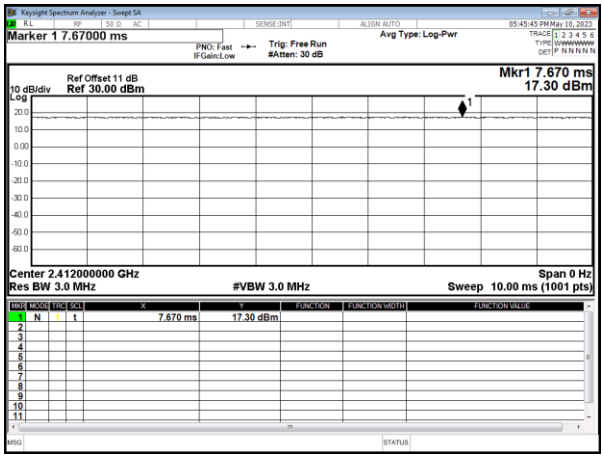
8.3 Test Setup Layout



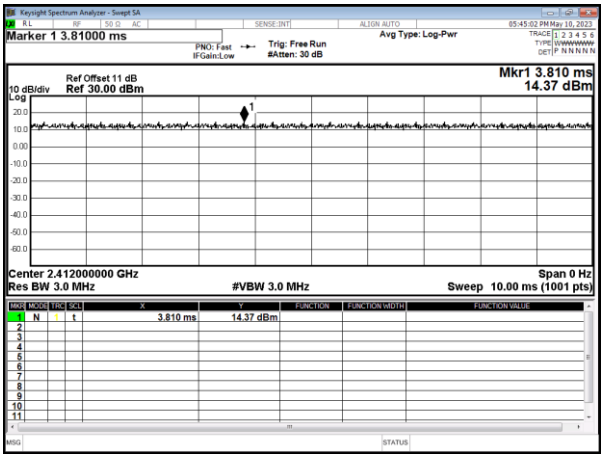
8.4 Test Result and Data

Modulation Type	On Time (ms)	Period Time (ms)	Duty Cycle (%)
11b	100.000	100.000	100.00%
11g	100.000	100.000	100.00%
11n HT20	100.000	100.000	100.00%
11n HT40	100.000	100.000	100.00%

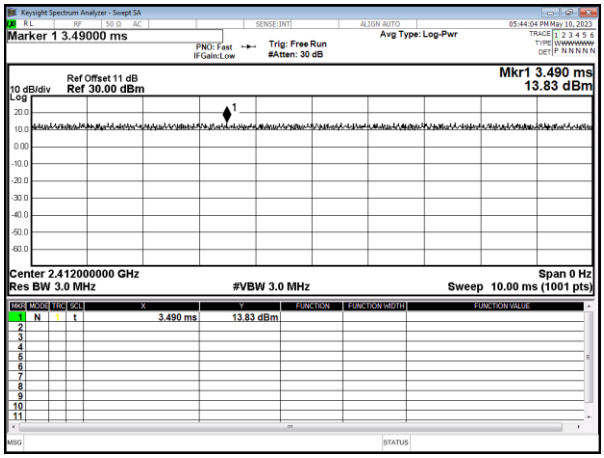
Modulation Type: 802.11b(1Mbps)



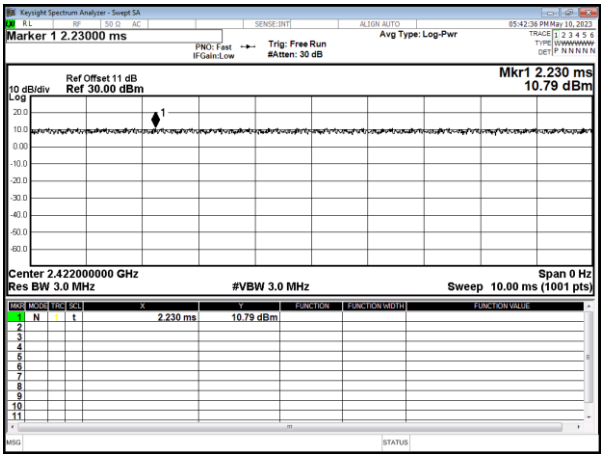
Modulation Type: 802.11g(6Mbps)



Modulation Type: 802.11n HT20(6.5Mbps)



Modulation Type: 802.11n HT40(13.5Mbps)



9. 6dB Bandwidth Measurement Data

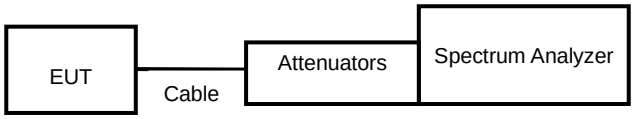
9.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

9.2 Test Procedures

a. The transmitter output was connected to the spectrum analyzer.
b. Set RBW of spectrum analyzer to 100 KHz and VBW to 300 KHz.
c. Set spectrum analyzer X dB to 6 dB.
d. Set spectrum analyzer peak detector with maximum hold.

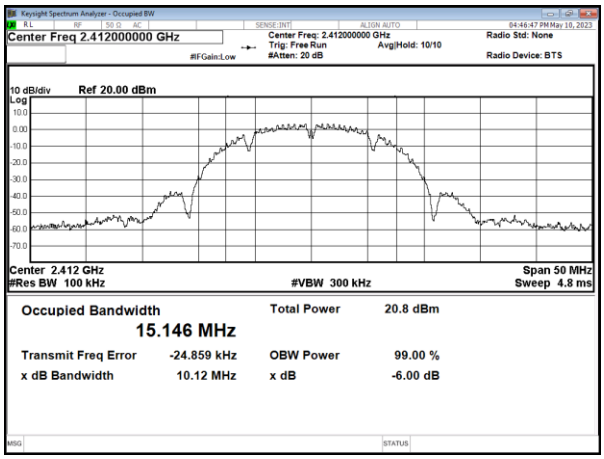
9.3 Test Setup Layout



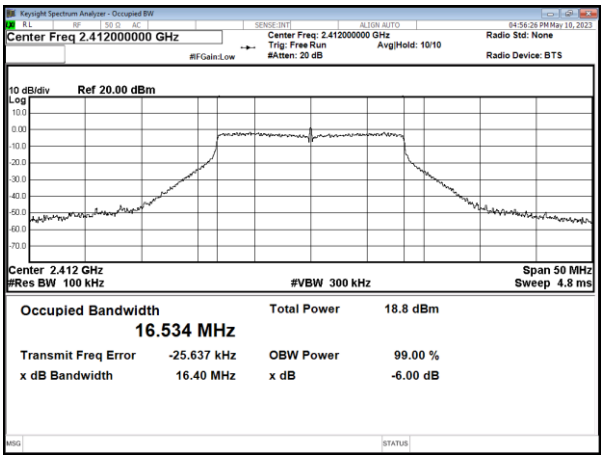
9.4 Test Result and Data

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
802.11b	01	2412	10.12	0.5
	06	2437	10.16	0.5
	11	2462	10.15	0.5
802.11g	01	2412	16.40	0.5
	06	2437	16.40	0.5
	11	2462	16.46	0.5
802.11n HT20	01	2412	17.64	0.5
	06	2437	17.64	0.5
	11	2462	17.63	0.5
802.11n HT40	03	2422	34.20	0.5
	06	2437	34.24	0.5
	09	2452	36.46	0.5

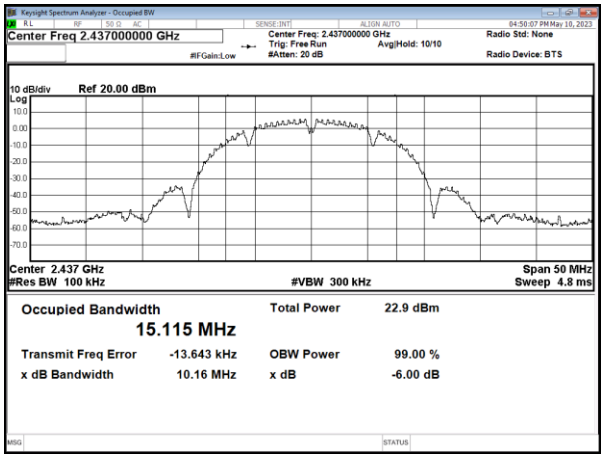
Modulation Type: 802.11b
CH01



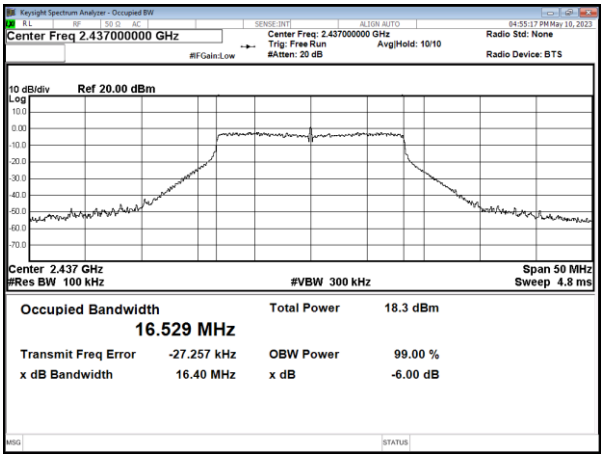
Modulation Type: 802.11g
CH01



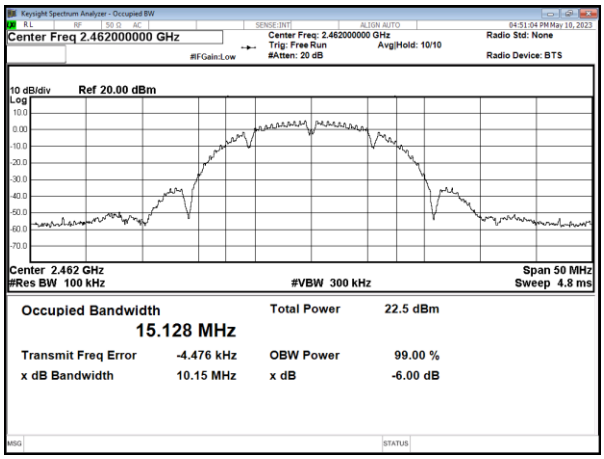
CH06



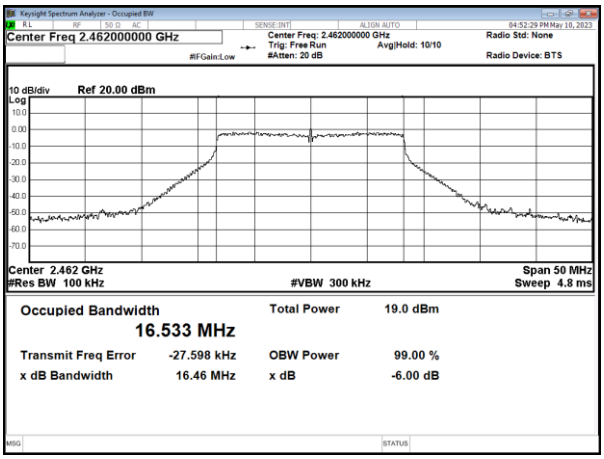
CH06



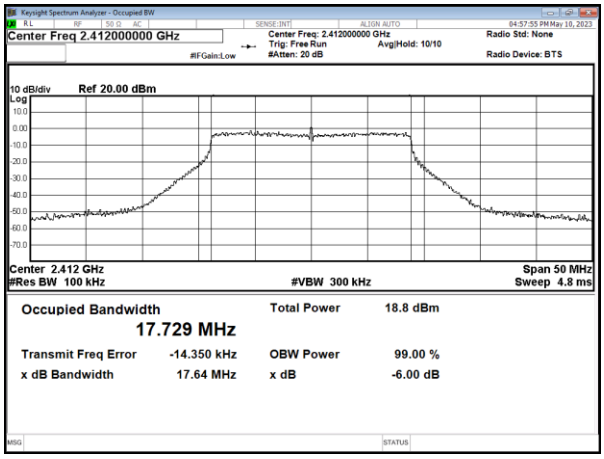
CH11



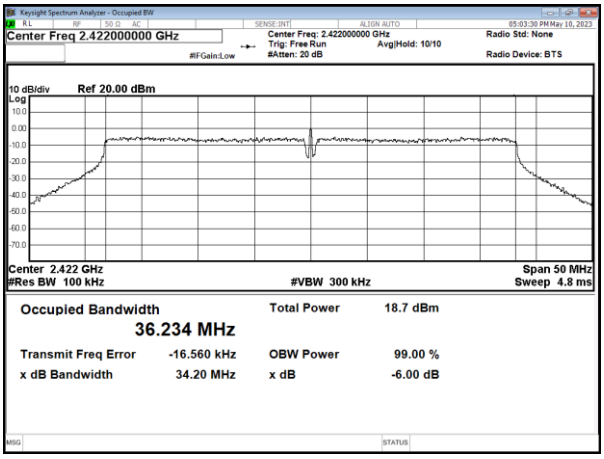
CH11



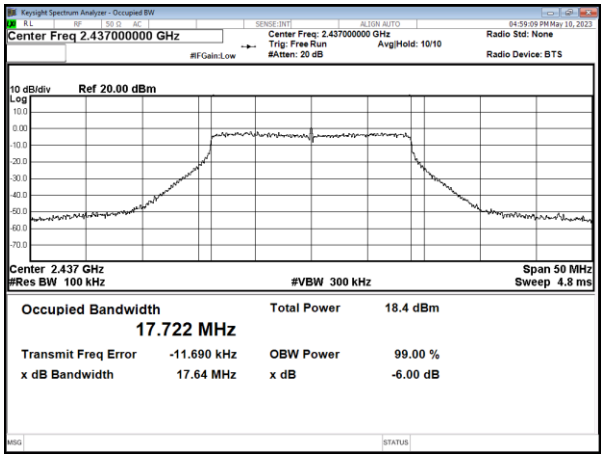
Modulation Type: IEEE 802.11n HT20
CH01



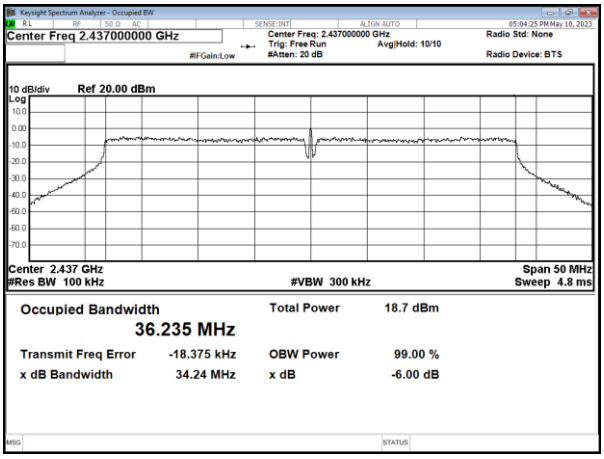
Modulation Type: IEEE 802.11n HT40
CH03



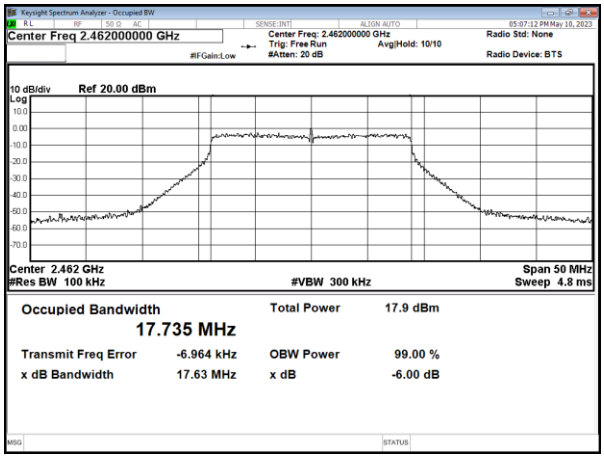
CH06



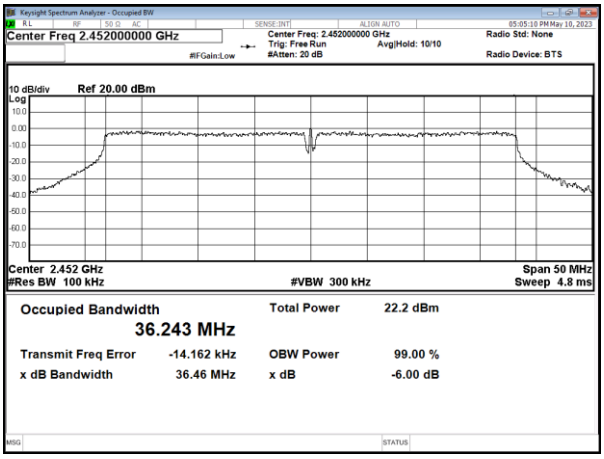
CH06



CH11



CH09



10. Maximum Peak Output Power

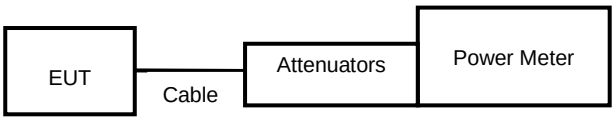
10.1 Test Limit

The Maximum Peak Output Power Measurement is 30dBm.

10.2 Test Procedures

The antenna port (RF output) of the EUT was connected to the input (RF input) of a power meter. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

10.3 Test Setup Layout



10.4 Test Result and Data

Modulation Type	Channel	Frequency (MHz)	Conducted (peak) output power	Total PK power (dBm)	Total peak power (mW)	Power Limit (dBm)
11b	1	2412	20.160	20.160	103.753	30.00
	6	2437	19.610	19.610	91.411	30.00
	11	2462	18.980	18.980	79.068	30.00
11g	1	2412	21.080	21.080	128.233	30.00
	6	2437	20.890	20.890	122.744	30.00
	11	2462	20.240	20.240	105.682	30.00
11n HT20	1	2412	20.280	20.280	106.660	30.00
	6	2437	19.840	19.840	96.383	30.00
	11	2462	19.560	19.560	90.365	30.00
11n HT40	3	2422	20.230	20.230	105.439	30.00
	6	2437	19.820	19.820	95.940	30.00
	9	2452	19.760	19.760	94.624	30.00

11. Power Spectral Density

11.1 Test Limit

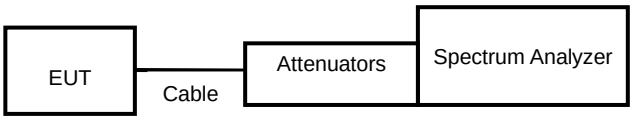
The Maximum of Power Spectral Density Measurement is 8dBm.

If transmitting antennas of directional gain greater than 6 dBi are used, the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

11.2 Test Procedures

a. The transmitter output was connected to spectrum analyzer.
b. The spectrum analyzer's resolution bandwidth were set at 3kHz RBW and 10KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.
c. The power spectral density was measured and recorded.

11.3 Test Setup Layout

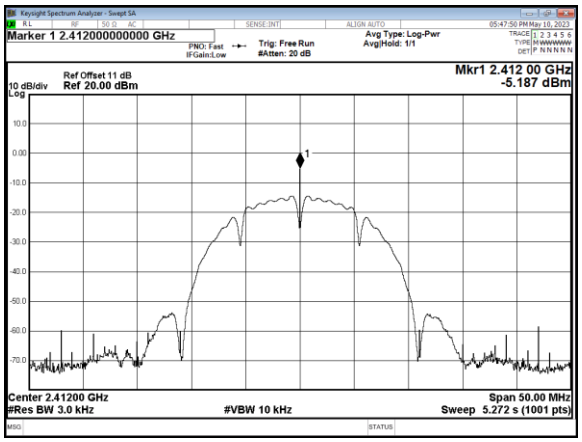


11.4 Test Result and Data

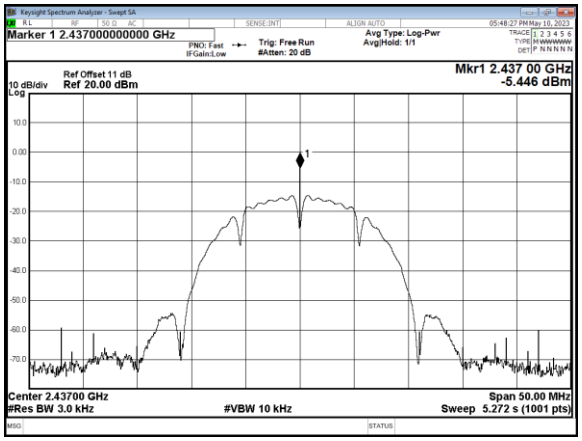
Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3KHz Bandwidth (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
11b	1	2412	-5.187	0.00	-5.187	8.00
	6	2437	-5.446	0.00	-5.446	8.00
	11	2462	-5.748	0.00	-5.748	8.00
11g	1	2412	-0.283	0.00	-0.283	8.00
	6	2437	-0.875	0.00	-0.875	8.00
	11	2462	-1.194	0.00	-1.194	8.00
11n HT20	1	2412	-0.170	0.00	-0.170	8.00
	6	2437	-0.796	0.00	-0.796	8.00
	11	2462	-1.157	0.00	-1.157	8.00
11n HT40	3	2422	-0.558	0.00	-0.558	8.00
	6	2437	-0.679	0.00	-0.679	8.00
	9	2452	-0.988	0.00	-0.988	8.00

Modulation Type: 802.11b

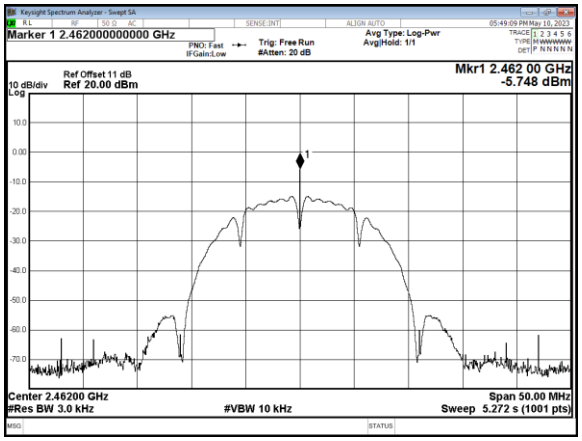
CH01



CH06

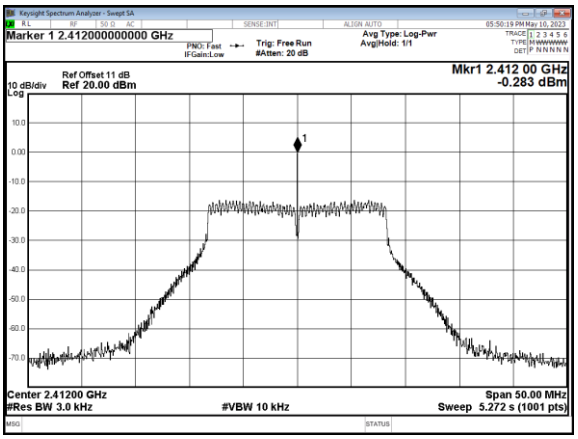


CH11

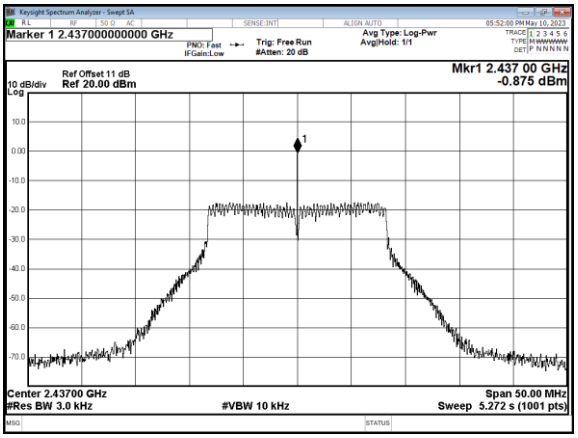


Modulation Type: 802.11g

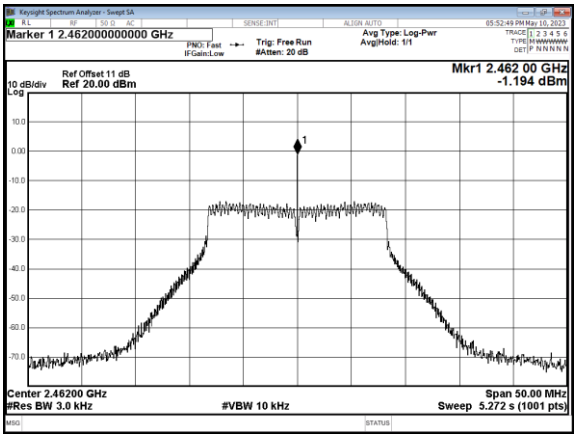
CH01



CH06

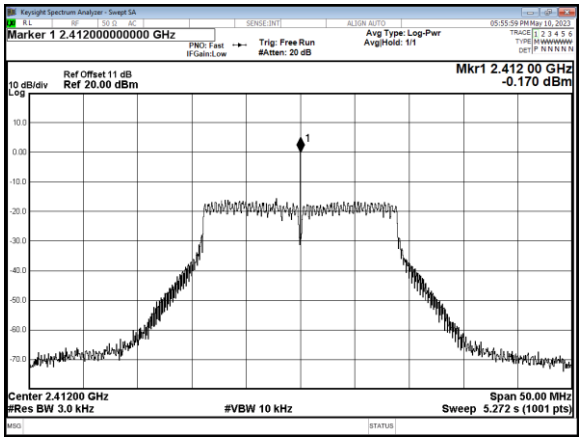


CH11



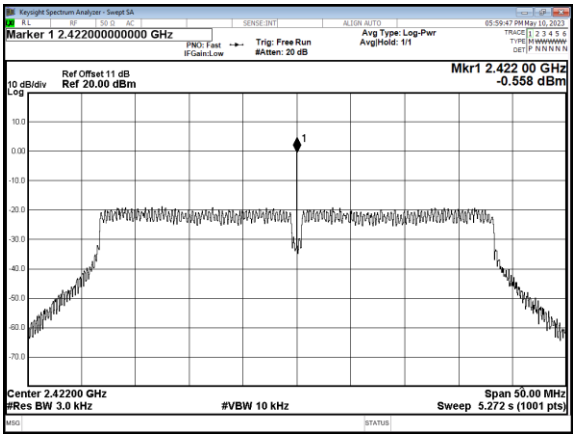
Modulation Type: 802.11n HT20

CH01

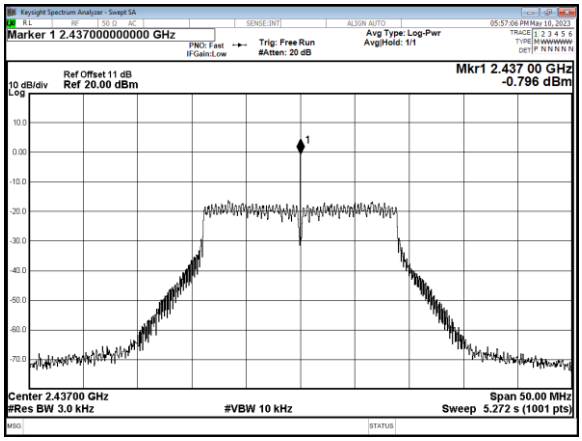


Modulation Type: 802.11n HT40

CH03



CH06



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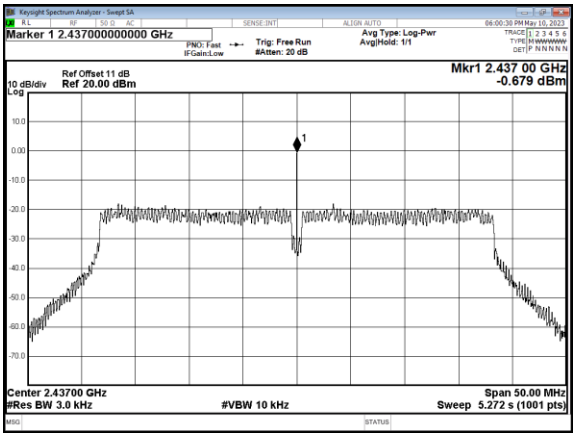

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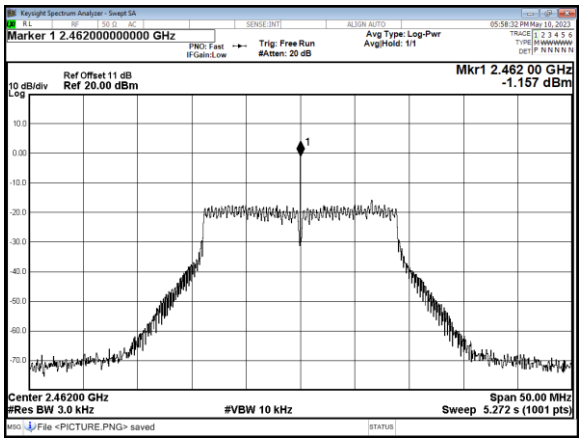
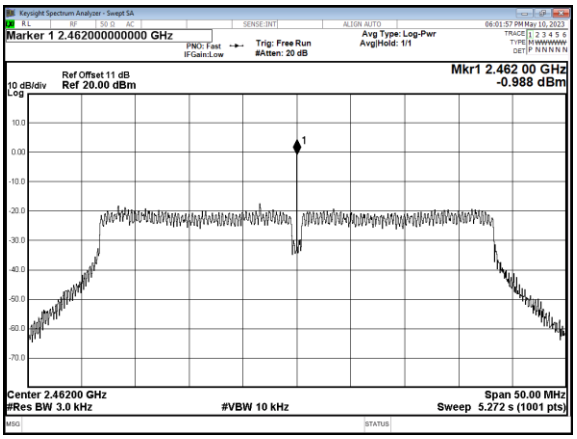


CH09



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