

Appendix for 2.4G WiFi (RSE)

1. Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

Note:

1. We tested all modes & antennas, the data presented below is the worst case.
2. The simultaneous transmission has been considered
3. The whole testing range is from "9 KHz to 26.5 GHz (10th harmonics)" is divided into 5 parts according to the test site settings, which are:
 - (Part 1): Test range of "9 KHz to 30 MHz", RBW = 9 kHz, VBW = 30 kHz
 - (Part 2): Test range of "30 GHz to 1 GHz", RBW = 100 kHz, VBW = 300 kHz.
 - (Part 3): Test range of "1 GHz to 3 GHz". RBW = 1 MHz, VBW = 3 MHz
 - (Part 4): Test range of "3 GHz to 18 GHz", RBW = 1 MHz, VBW = 3 MHz.
 - (Part 5): Test range of "18 GHz to 26.5 GHz". RBW = 1 MHz, VBW = 3 MHz.

1.1. Test Results

1.1.1. 11b20 SISO

Test Mode	Antenna Port	Test Channel	Spurious Emissions Result	Spurious Emissions Limit	Verdict
11b20 SISO	Ant1	2412	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2462	(see Test Graphs)	(see Test Graphs)	PASS

1.1.2. 11g20 SISO

Test Mode	Antenna Port	Test Channel	Spurious Emissions Result	Spurious Emissions Limit	Verdict
11g20 SISO	Ant1	2412	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2417	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2422	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2452	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2457	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2462	(see Test Graphs)	(see Test Graphs)	PASS

1.1.3. 11n20 SISO

Test Mode	Antenna Port	Test Channel	Spurious Emissions Result	Spurious Emissions Limit	Verdict
11n20 SISO	Ant1	2412	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2417	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2422	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2452	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2457	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2462	(see Test Graphs)	(see Test Graphs)	PASS

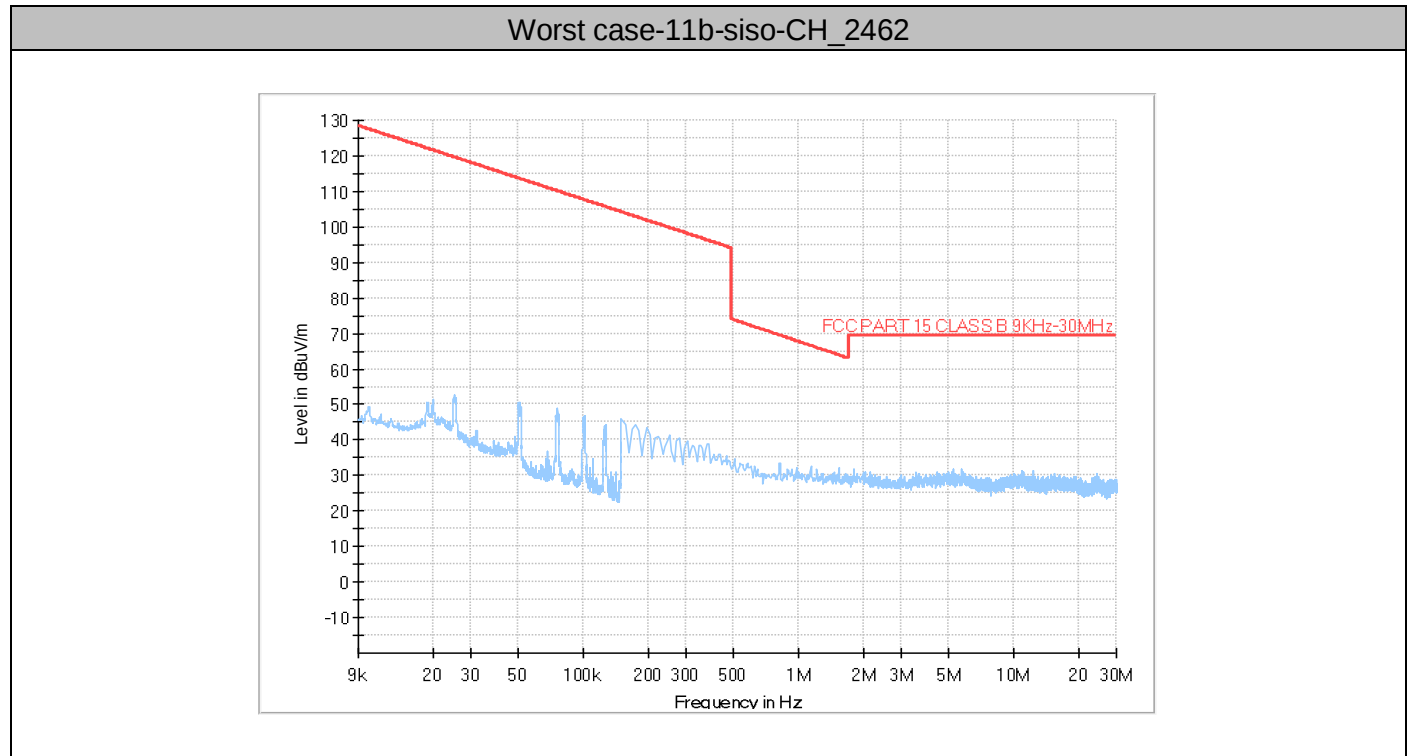
1.1.4. 11n40SISO

Test Mode	Antenna Port	Test Channel	Spurious Emissions Result	Spurious Emissions Limit	Verdict
11n40SISO	Ant1	2422	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2432	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2437	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2442	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2447	(see Test Graphs)	(see Test Graphs)	PASS
	Ant1	2452	(see Test Graphs)	(see Test Graphs)	PASS

1.2. Test Graphs

1.2.1. Part 1: Testing Range of “9 kHz to 30MHz”

Note 1: The test results and plot for testing range of “9 kHz to 30MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

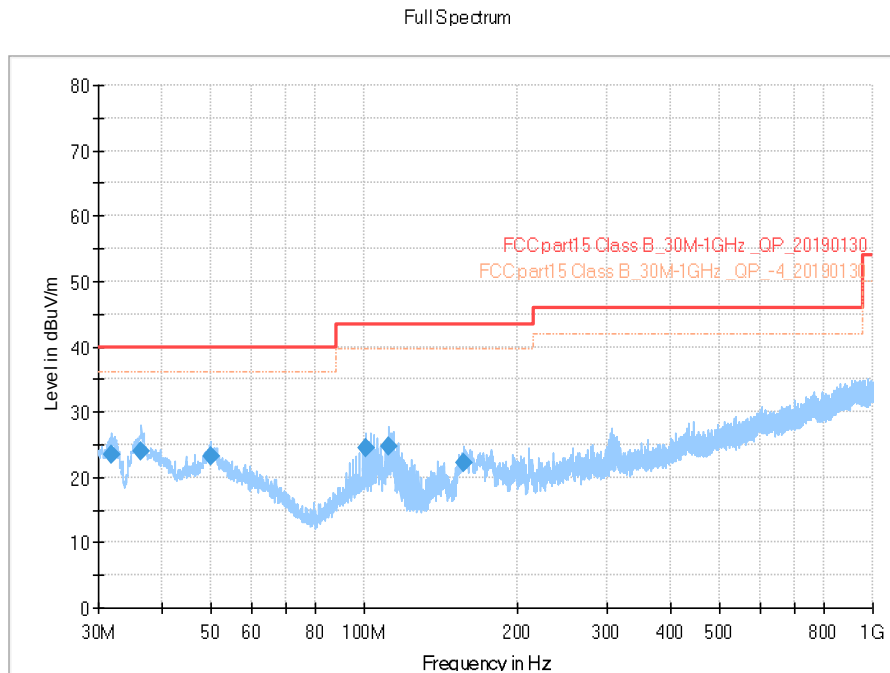


1.2.2. Part 2: Testing Range of “30 MHz to 1 GHz”

Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).

Worst case-11b-iso-CH_2462



Comment

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Polarisation	Azimuth (deg)	Transd (dB)
31.843000	23.53	40.00	16.47	100.0	V	85.0	16.3
36.450500	24.01	40.00	15.99	100.0	V	274.0	17.9
49.982000	23.34	40.00	16.66	100.0	V	169.0	20.5
100.422000	24.43	43.50	15.57	200.0	H	307.0	18.6
111.480000	24.70	43.50	18.80	100.0	V	143.0	17.8
156.924500	22.33	43.50	22.17	200.0	H	70.0	15.1

1.2.3. Part 3: Testing Range of “1 GHz to 3 GHz”

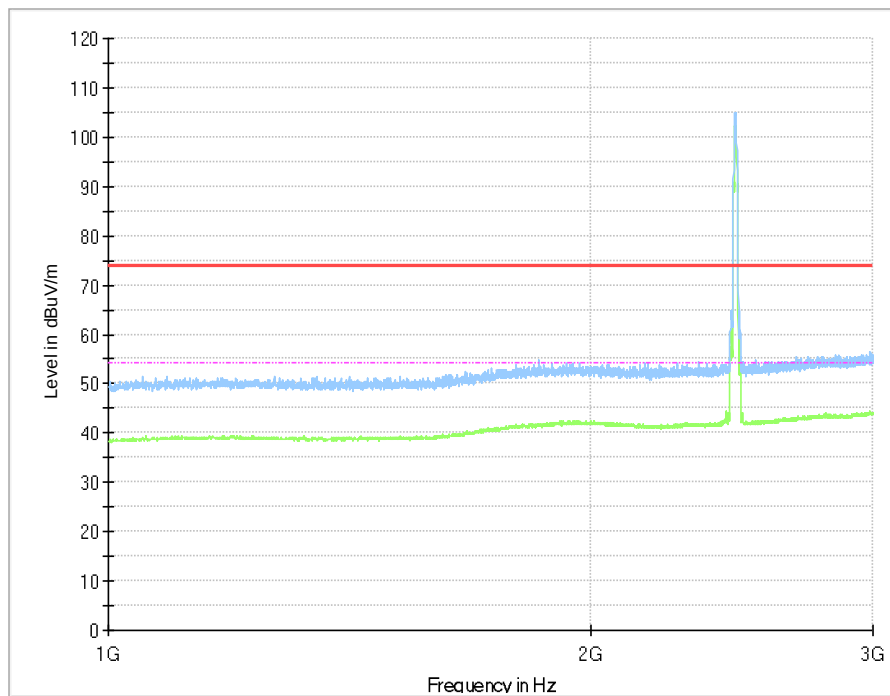
Note 1: The testing range of “1 GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands. The test results and plot for testing range of “1 GHz to 3 GHz ” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).

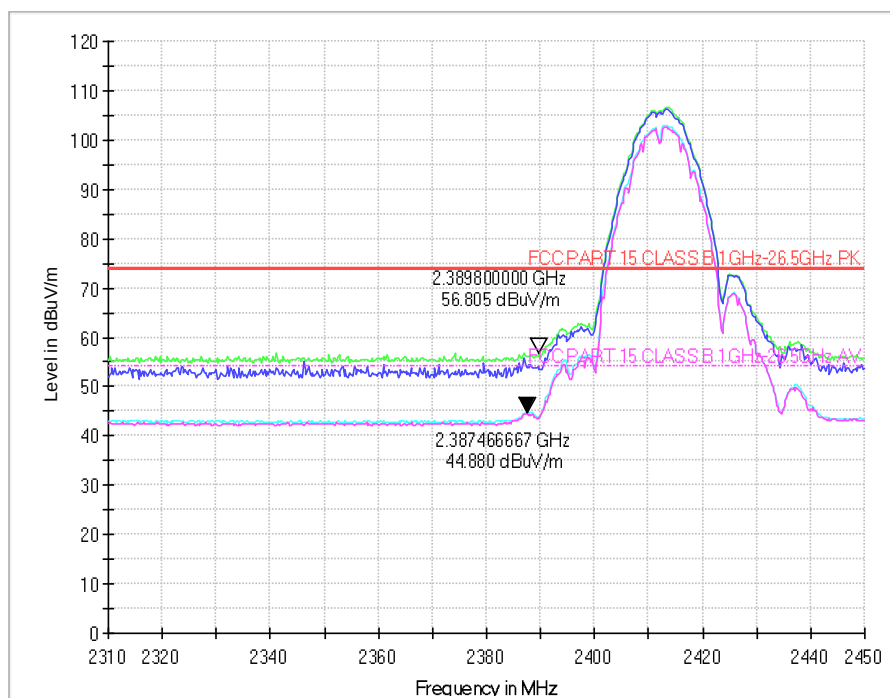
Note 3: The peak spike exceeds the limit line is EUT's operating frequency.

1.2.3.1. 11b20SISO

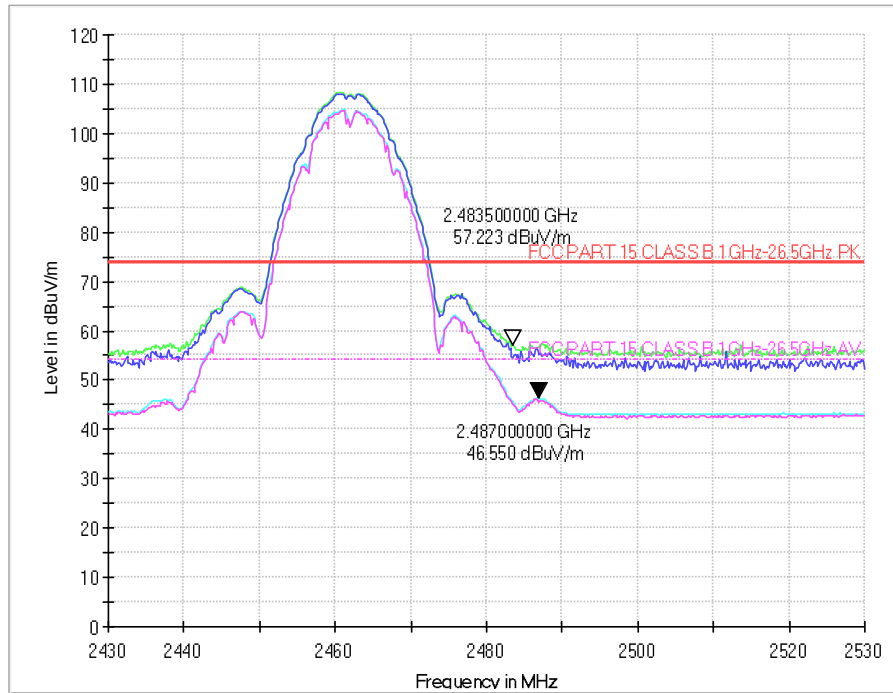
Worst case CH_2462 (1 GHz to 3 GHz)



CH_2412 (Band Edge)

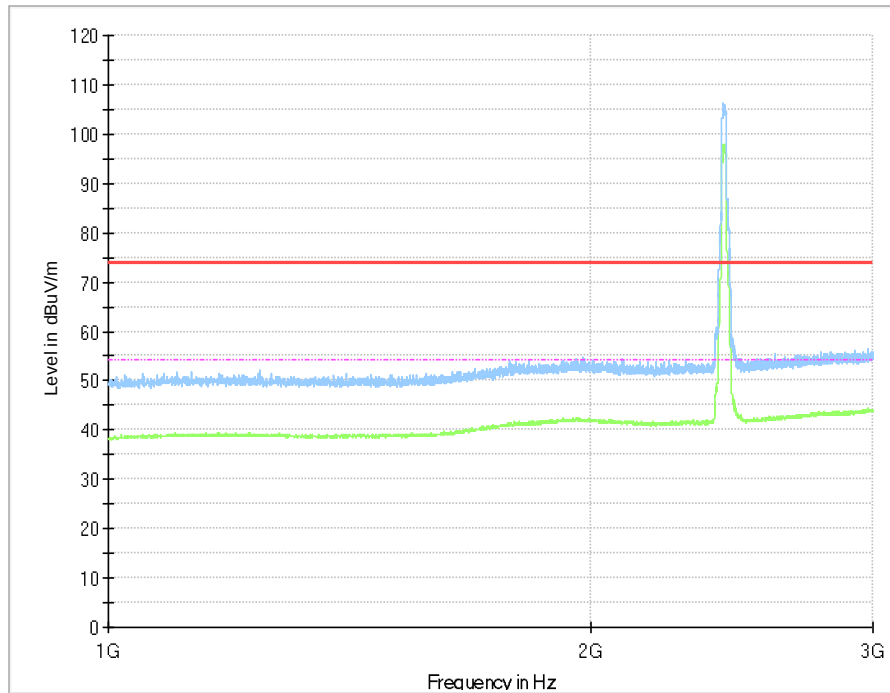


CH_2462 (Band Edge)

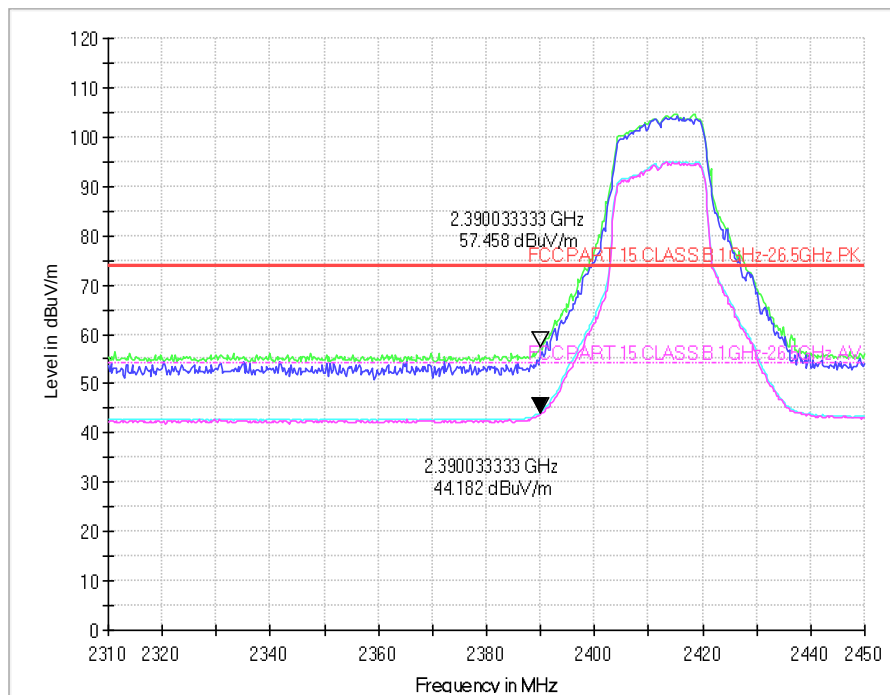


1.2.3.2. 11g20SISO

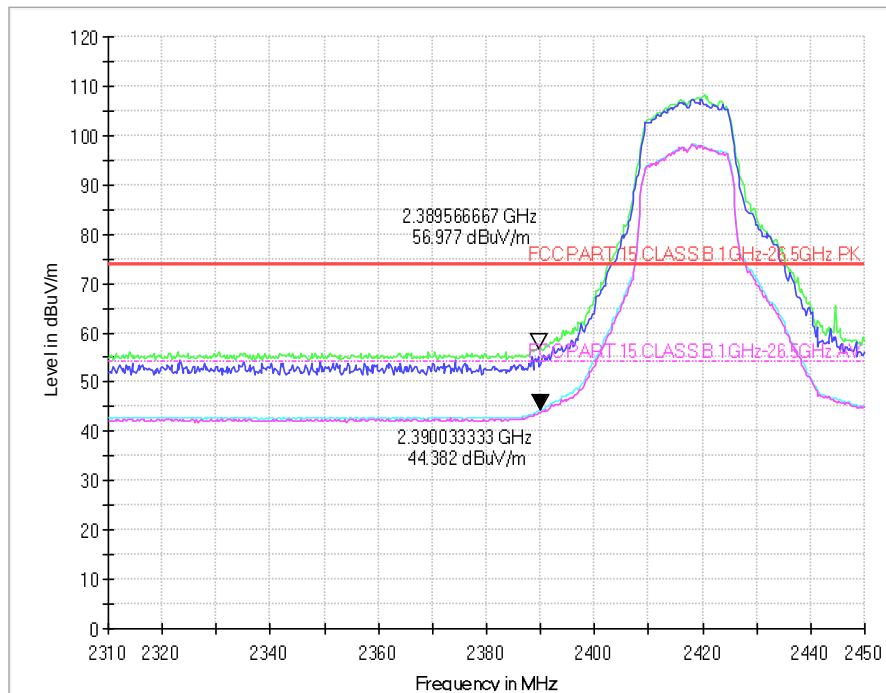
Worst case CH_2422 (1 GHz to 3 GHz)



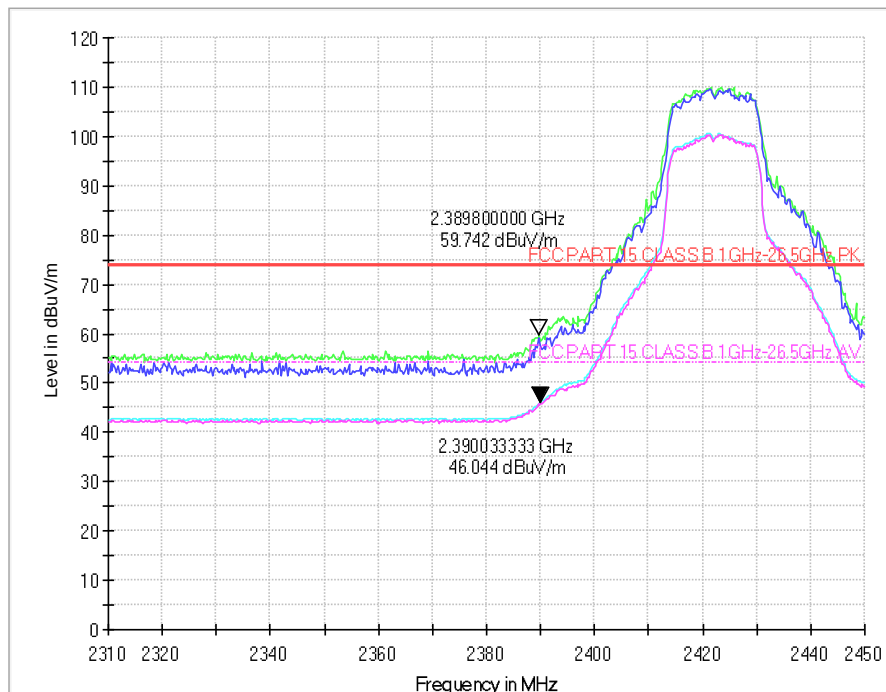
CH_2412 (Band Edge)



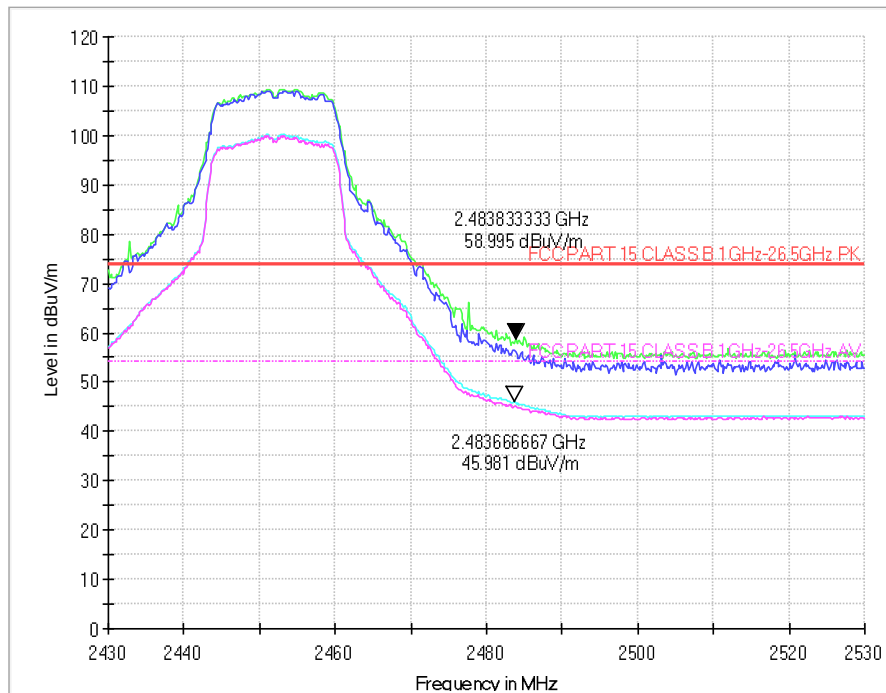
CH_2417 (Band Edge)



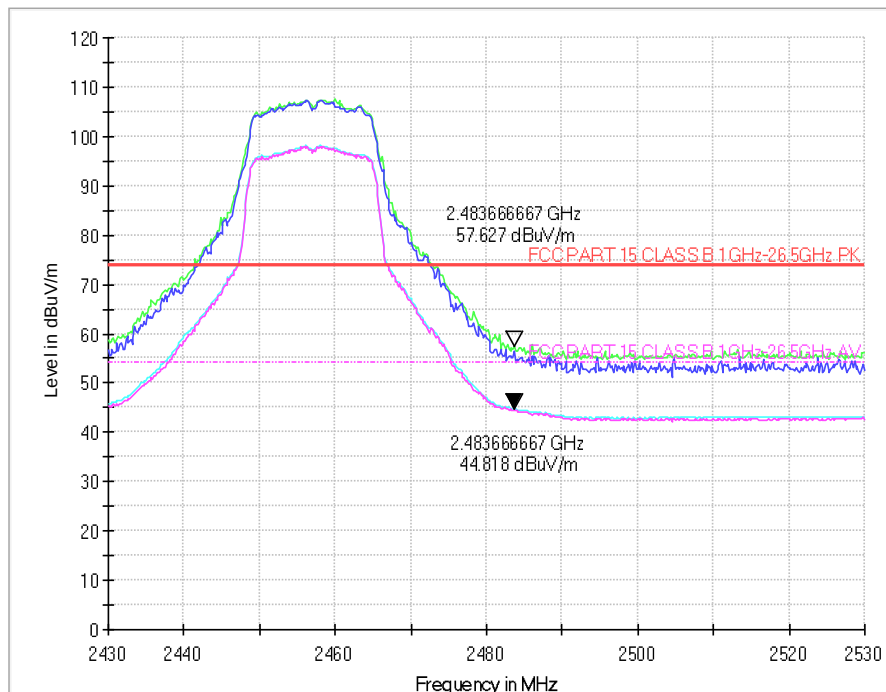
CH_2422 (Band Edge)



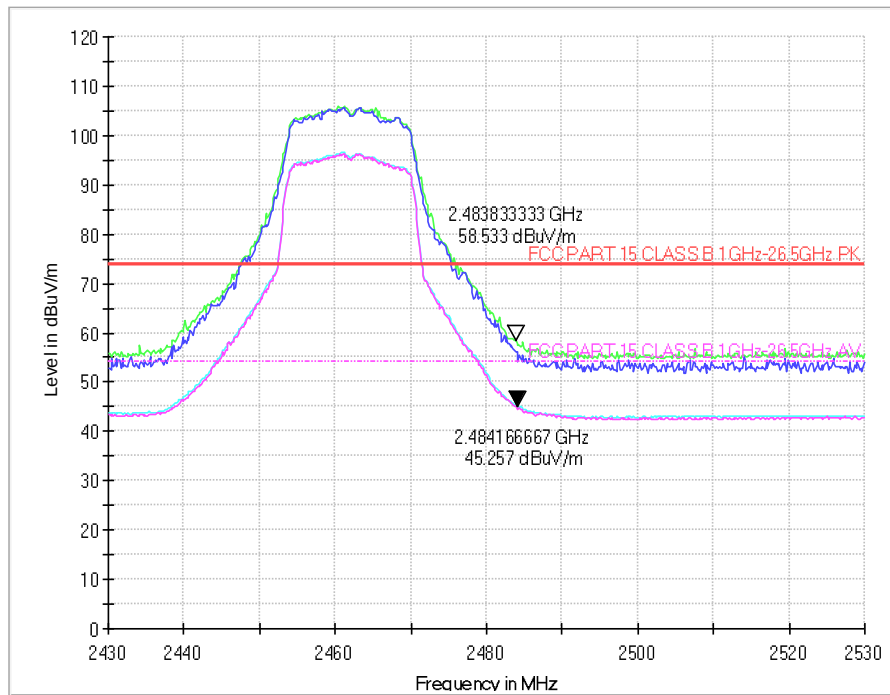
CH_2452(Band Edge)



CH_2457(Band Edge)

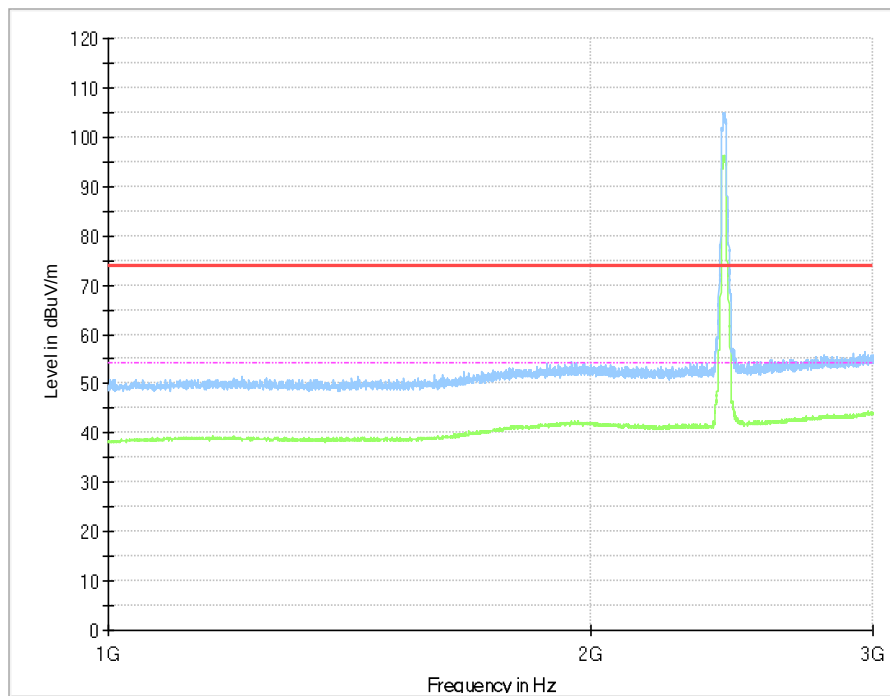


CH_2462(Band Edge)

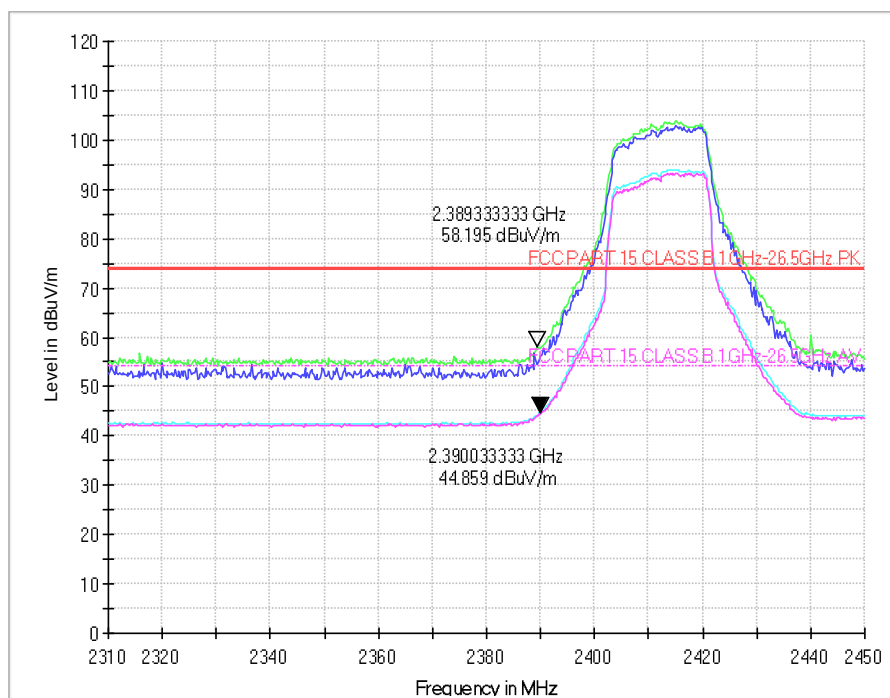


1.2.3.3. 11n20SISO

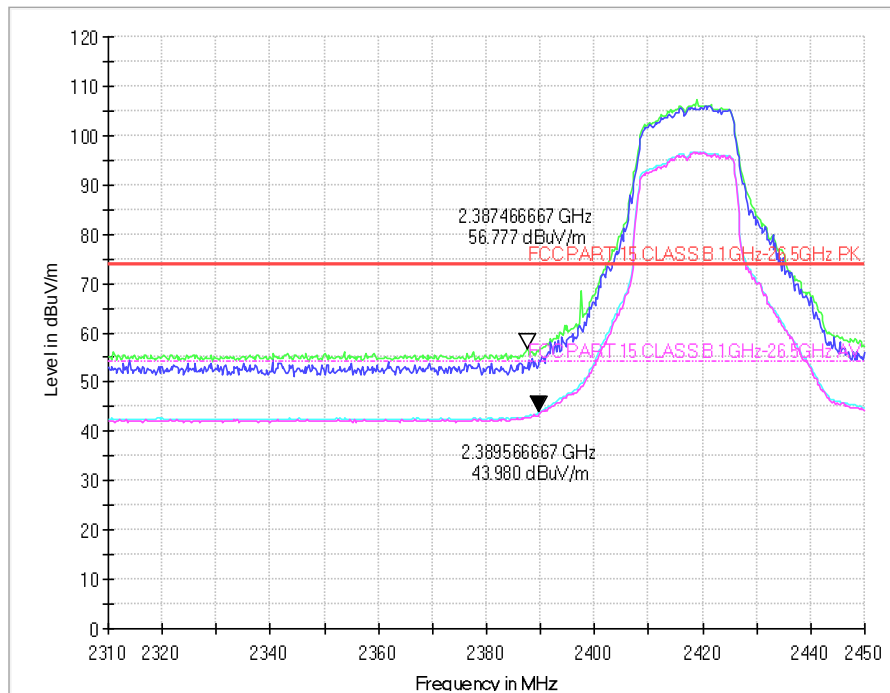
Worst case CH_2422 (1 GHz to 3 GHz)



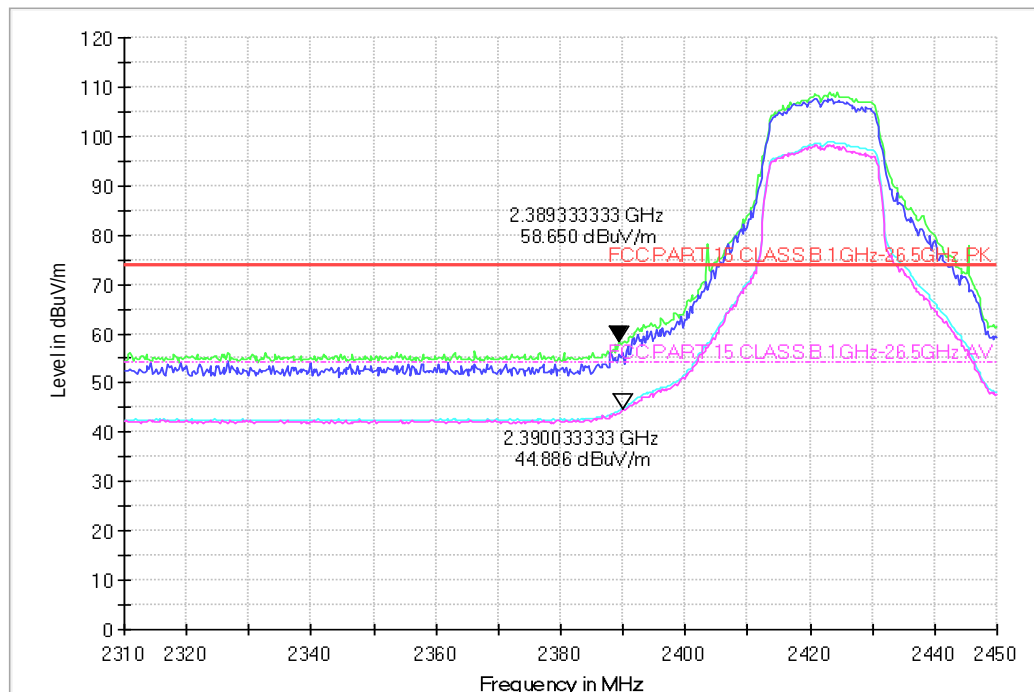
CH_2412(Band Edge)



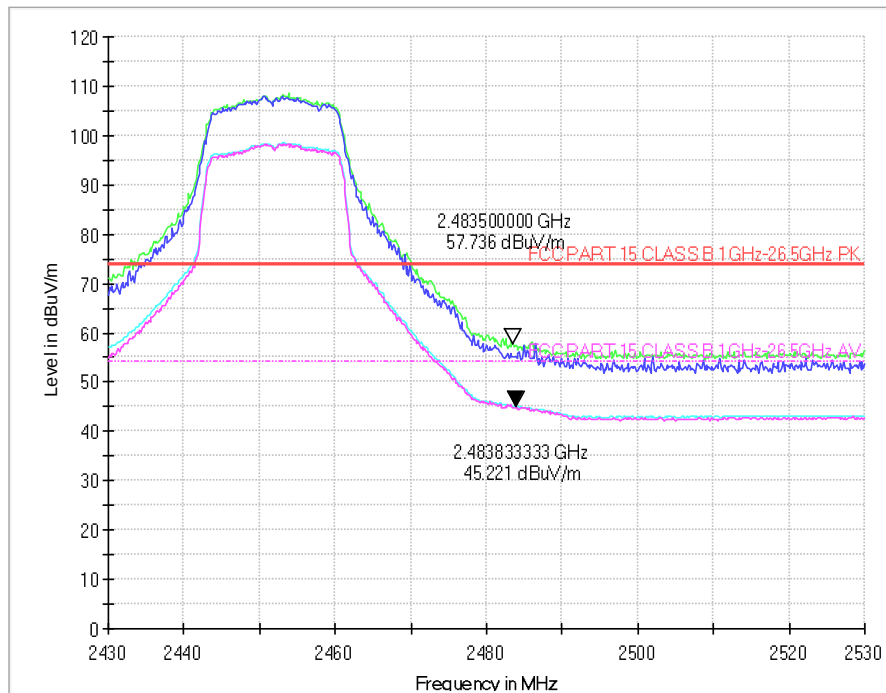
CH_2417(Band Edge)



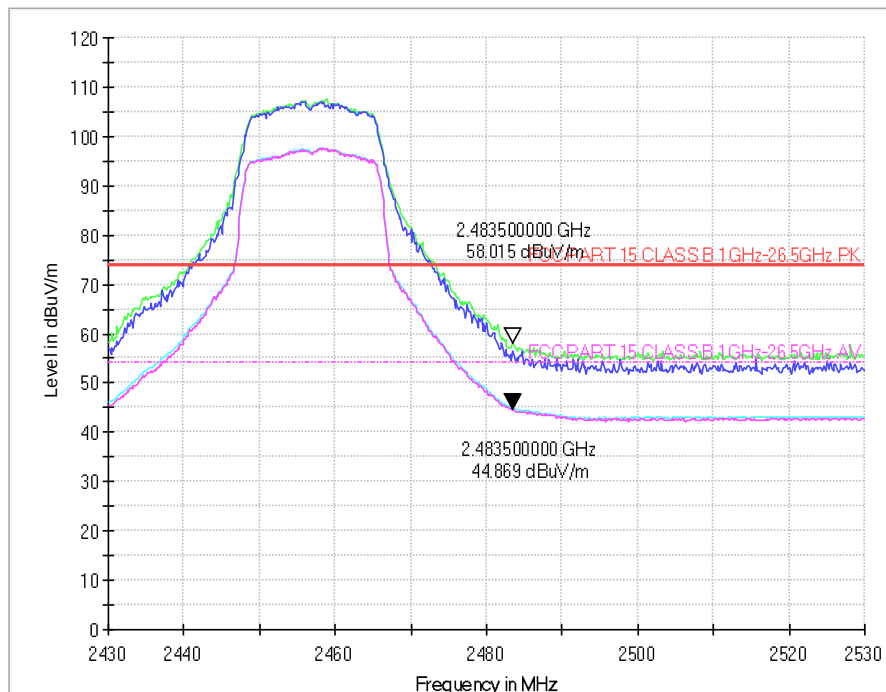
CH_2422 (Band Edge)



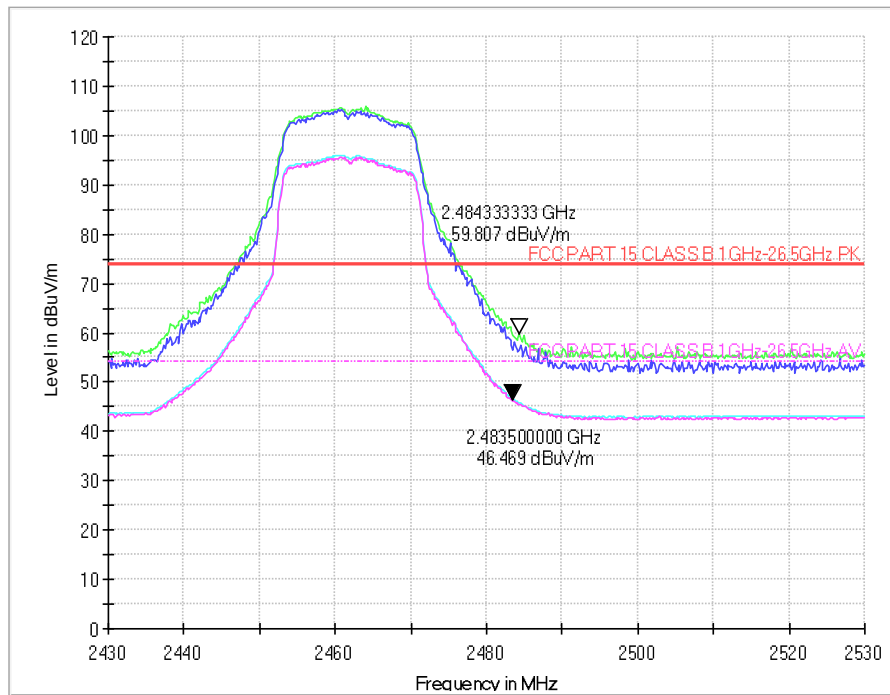
CH_2452(Band Edge)



CH_2457(Band Edge)

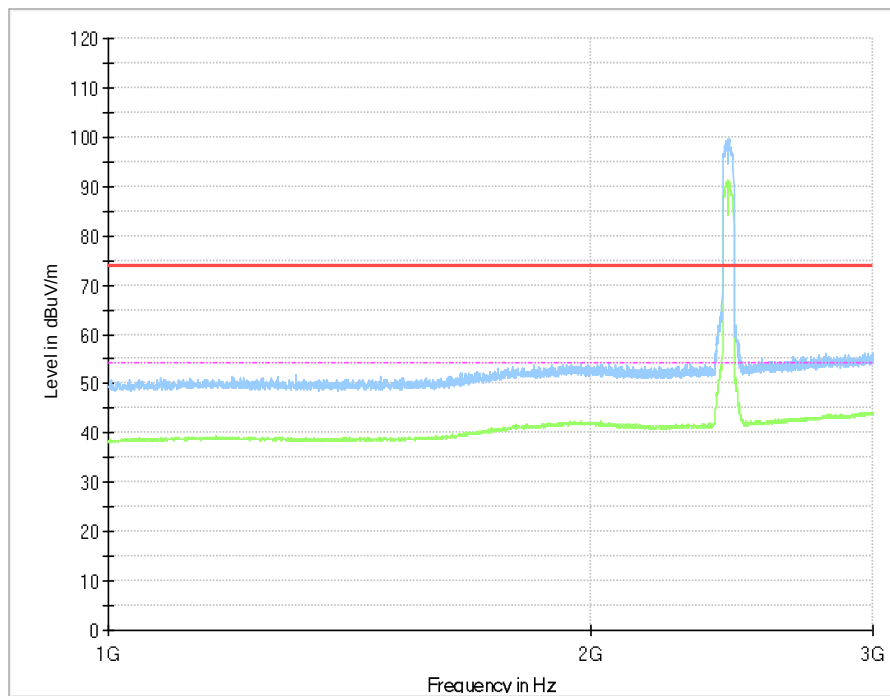


CH_2462(Band Edge)

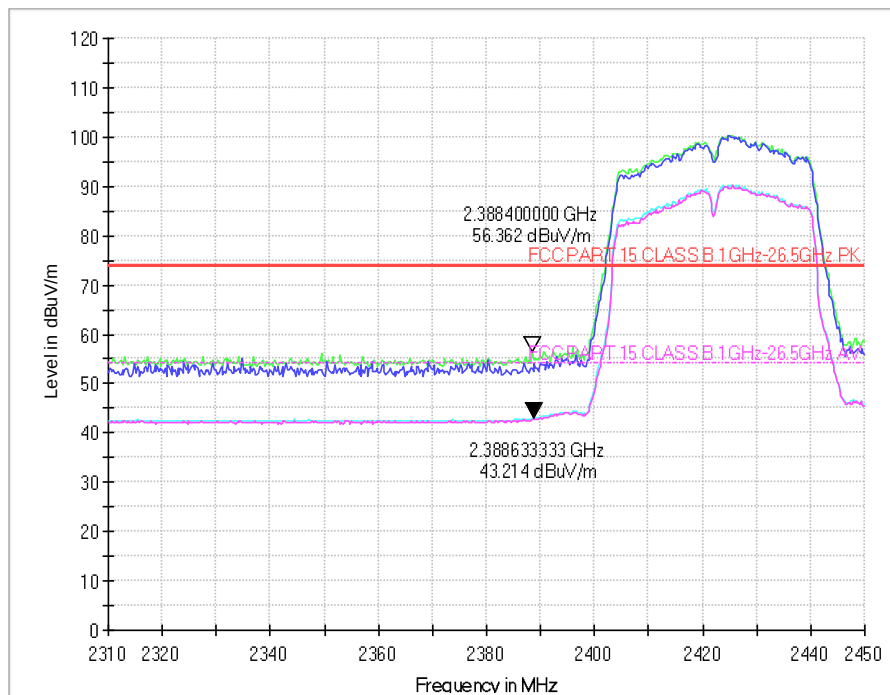


1.2.3.4. 11n40SISO

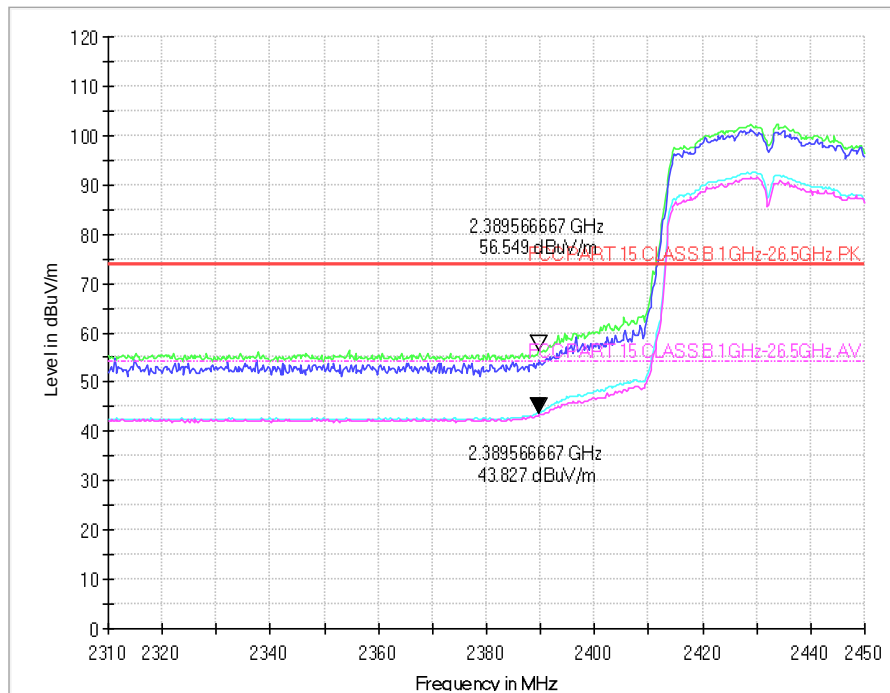
Worst case CH_2437 (1 GHz to 3 GHz)



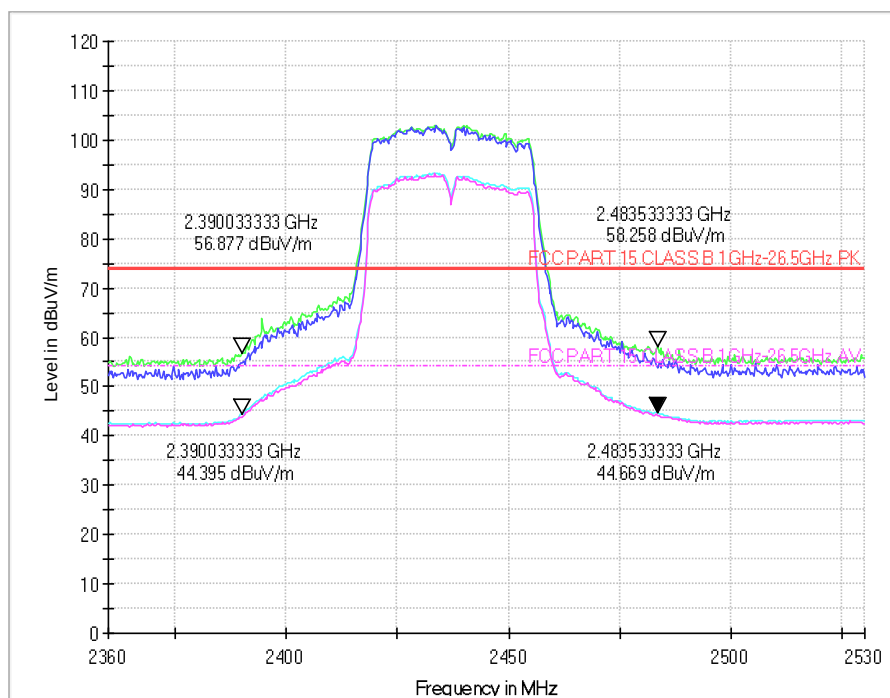
CH_2422(Band Edge)



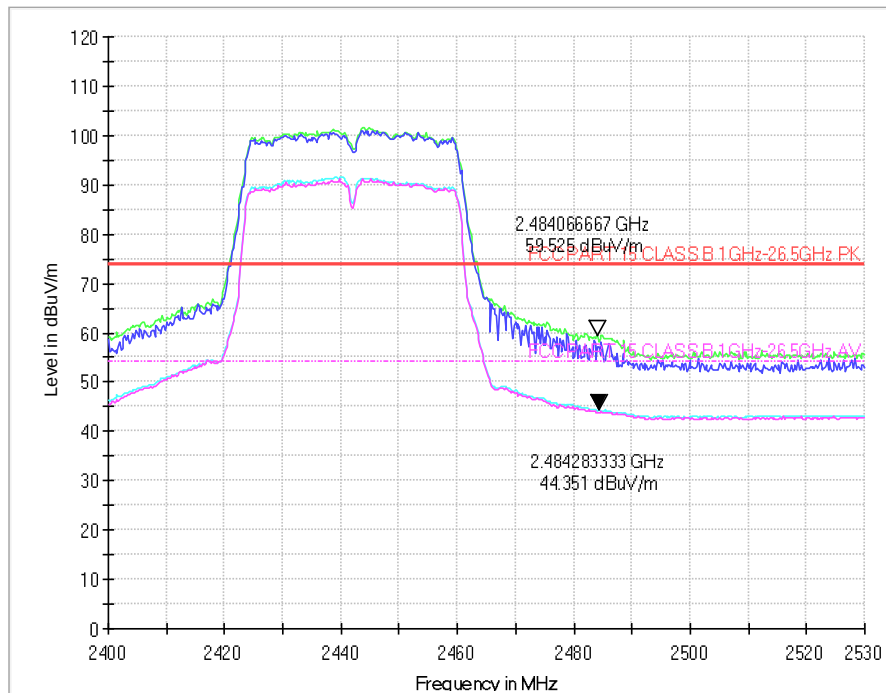
CH_2432(Band Edge)



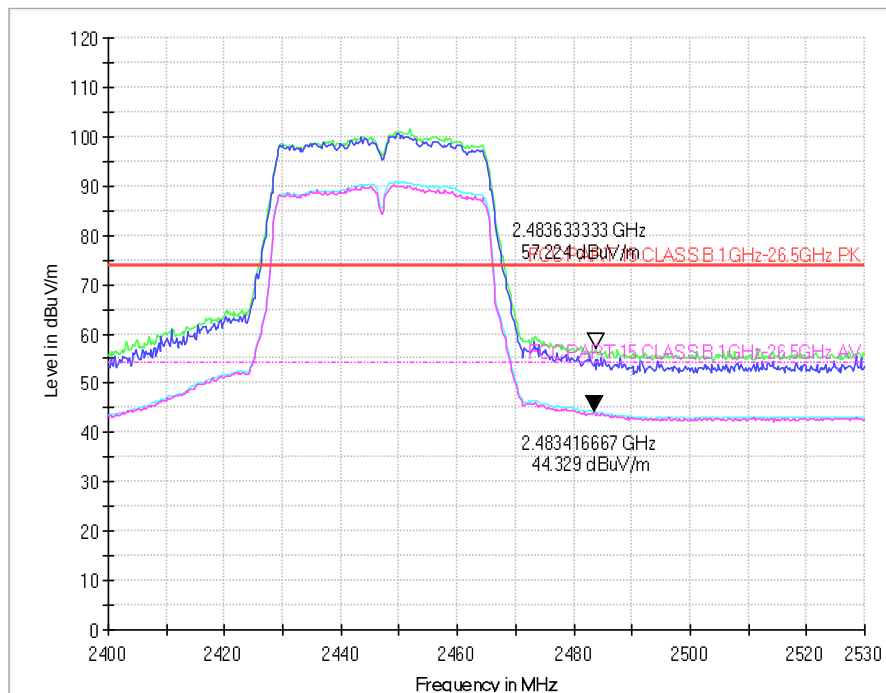
CH_2437(Band Edge)



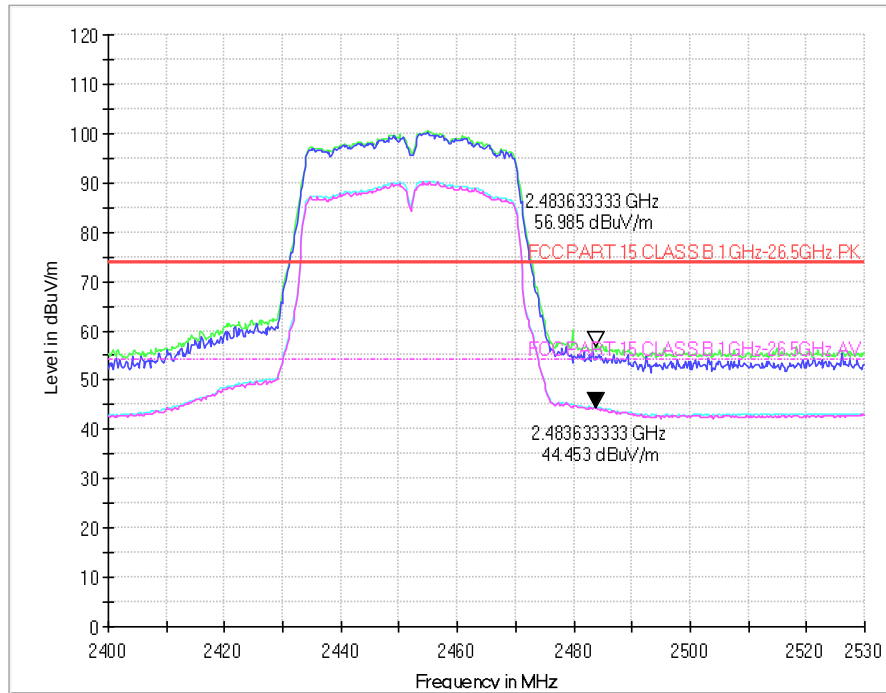
CH_2442(Band Edge)



CH_2447(Band Edge)



CH_2452(Band Edge)



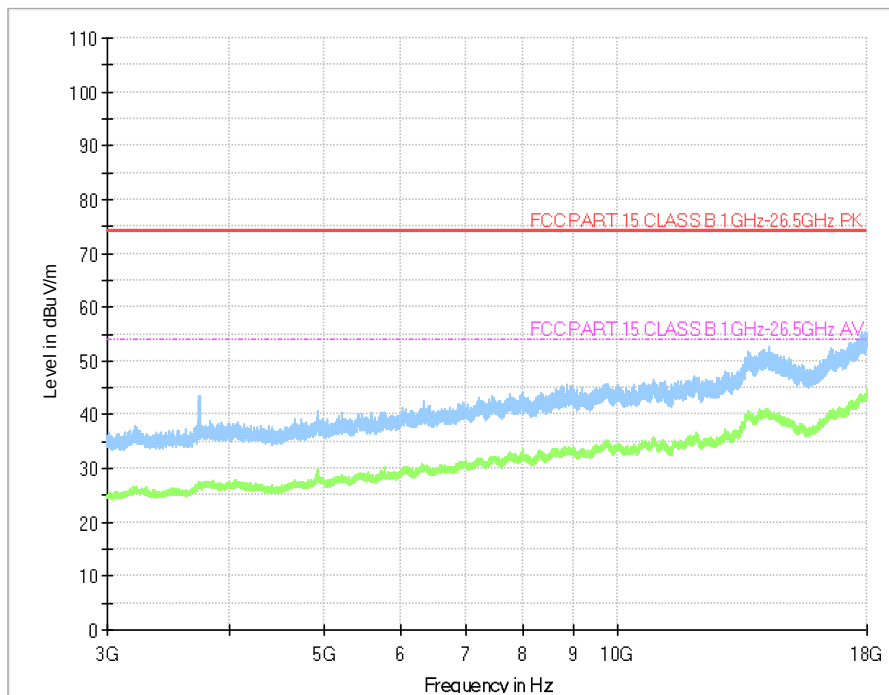
1.2.4. Part 4: Testing Range of “3 GHz to 18 GHz”

Note 1: The test results and plot for testing range of “3 GHz to 18 GHz” showed as below is the worst case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The testing range of “3 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.

Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).

Worst case-11b-iso-CH_2462



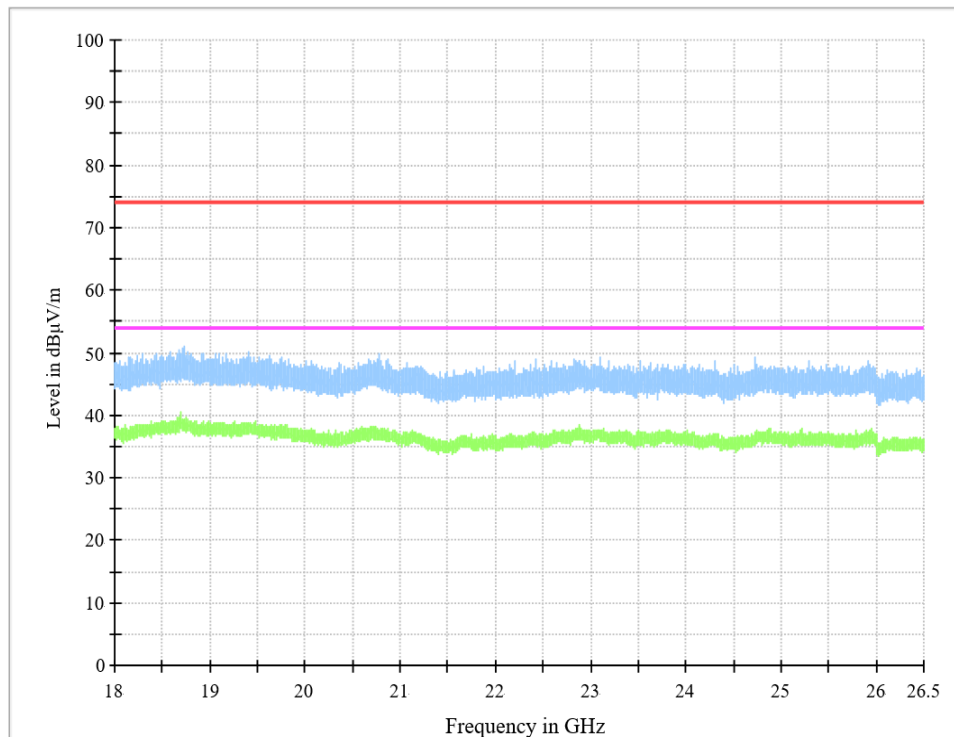
1.2.5. Part 5: Testing Range of “18 GHz to 26.5 GHz”

Note 1: The test results and plot for testing range of “18 GHz to 26.5 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The testing range of “18 GHz to 26.5 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.

Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB μ V/m) and Average Limit (54 dB μ V/m).

Worst case-11b-iso-CH_2462



2. Appendix I: Conducted Emission at Power Port

Note 1: The test results and plot for testing range of “150 kHz to 30 MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

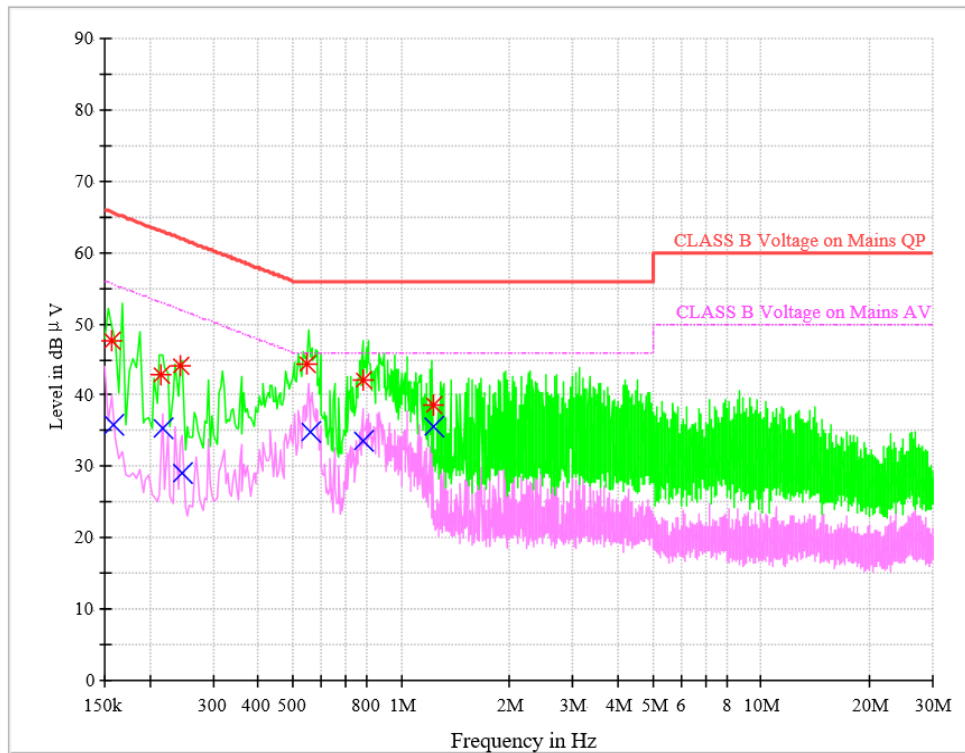
Note 2: RBW =9 kHz; VBW = 30 kHz

2.1. Test Results

Test Mode	Antenna Port	Test Channel	Maximum Emissions	Limit	Verdict
11b20SISO	Ant1	2462	(see Test Graphs)	(see Test Graphs)	PASS

2.2. Test Graphs

Worst case



MEASUREMENT RESULT: QP Detector

Frequency (MHz)	Level (dB μ V)	Limit (dB μ V)	Transd. (dB)	Margin (dB)	Line	PE
0.156191	47.64	65.66	9.7	18.02	N	FLO
0.215293	42.87	63.00	9.7	20.13	N	FLO
0.244426	44.00	61.94	9.7	17.94	L1	FLO
0.549945	44.39	56.00	9.7	11.61	N	FLO
0.781338	42.13	56.00	9.7	13.87	L1	FLO
1.224638	38.62	56.00	9.7	17.38	L1	FLO

MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dBμV)	Limit (dBμV)	Transd. (dB)	Margin (dB)	Line	PE
0.158180	35.78	55.56	9.7	19.78	L1	FLO
0.216358	35.37	52.96	9.7	17.59	N	FLO
0.246329	29.04	51.88	9.7	22.84	L1	FLO
0.556261	34.91	46.00	9.7	11.09	N	FLO
0.782320	33.66	46.00	9.7	12.34	L1	FLO
1.224829	35.51	46.00	9.7	10.49	L1	FLO

Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

END