

Conducted Spurious Emissions

802.11 b			Test Result		
Frequency [MHz]	Channel No.	Position	ANT1 Measured Power (dBc)	ANT2 Measured Power (dBc)	Limit [dBc]
2402	1	Lower	55.71	55.77	30
2412	6	Middle	56.92	55.46	30
2480	11	Upper	56.81	56.09	30

802.11 g			Test Result		
Frequency [MHz]	Channel No.	Position	ANT1 Measured Power (dBc)	ANT2 Measured Power (dBc)	Limit [dBc]
2402	1	Lower	49.02	48.73	30
2412	6	Middle	49.01	51.98	30
2480	11	Upper	47.12	46.57	30

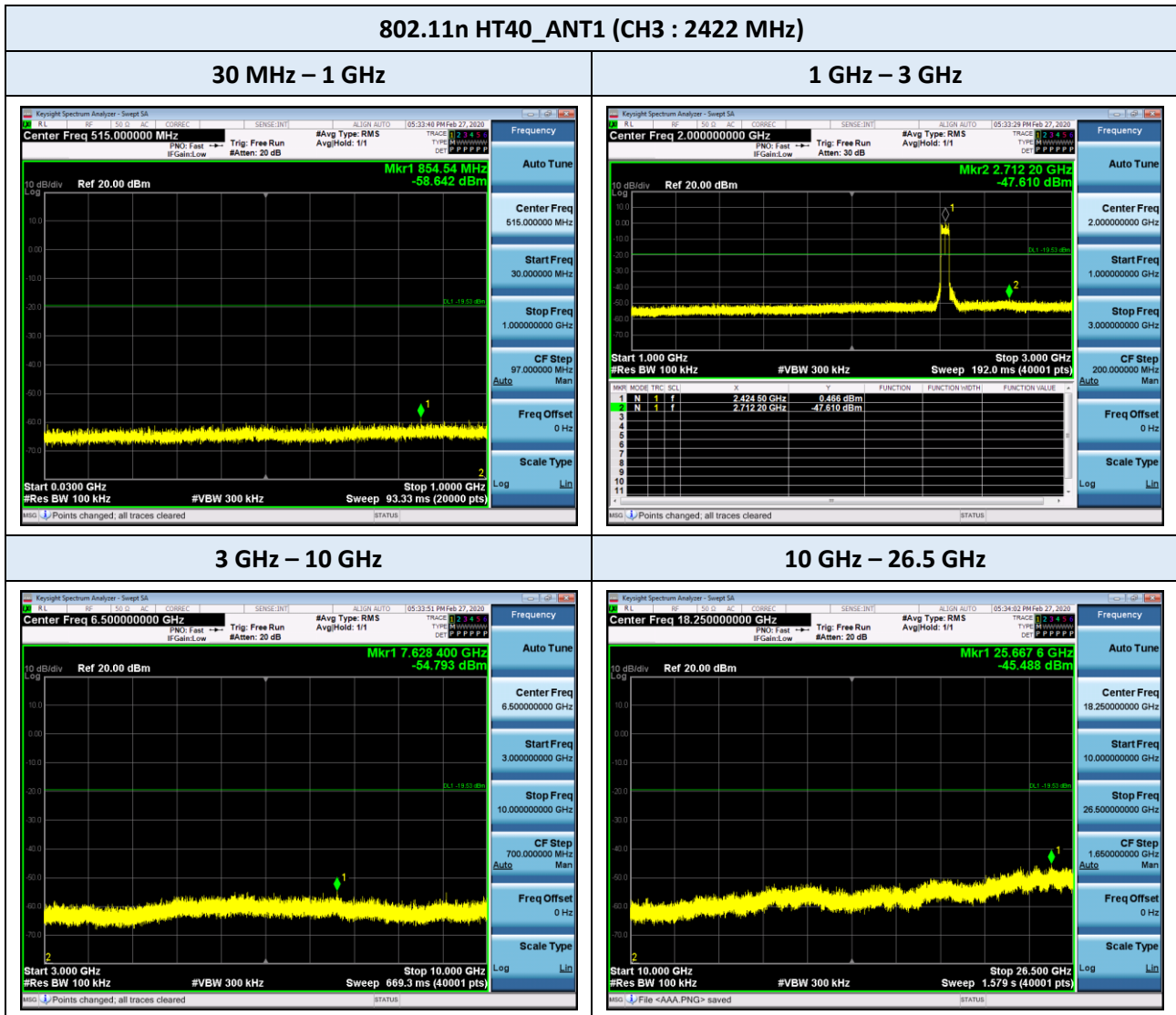
802.11 n HT20			Test Result		
Frequency [MHz]	Channel No.	Position	ANT1 Measured Power (dBc)	ANT2 Measured Power (dBc)	Limit [dBc]
2402	1	Lower	47.87	47.89	30
2412	6	Middle	50.17	51.95	30
2480	11	Upper	46.14	48.57	30

802.11 n HT40			Test Result		
Frequency [MHz]	Channel No.	Position	ANT1 Measured Power (dBc)	ANT2 Measured Power (dBc)	Limit [dBc]
2422	3	Lower	45.95	46.98	30
2442	6	Middle	45.14	44.58	30
2452	9	Upper	44.47	45.45	30

802.11 ax HE20			Test Result		
Frequency [MHz]	Channel No.	Position	ANT1 Measured Power (dBc)	ANT2 Measured Power (dBc)	Limit [dBc]
2402	1	Lower	46.32	45.89	30
2412	6	Middle	48.33	48.11	30
2480	11	Upper	47.15	46.82	30

802.11 ax HE40			Test Result		
Frequency [MHz]	Channel No.	Position	ANT1 Measured Power (dBc)	ANT2 Measured Power (dBc)	Limit [dBc]
2422	3	Lower	44.21	43.82	30
2442	6	Middle	45.63	44.42	30
2452	9	Upper	44.19	45.31	30

Test Plots (Conducted Spurious Emission)



Note:

The plots included in this report are only at the worst-case channel and data rate

9.6 RADIATED SPURIOUS EMISSIONS

Frequency Range : 9 kHz – 30MHz

CH 0

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. ¹⁾ (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
0.036	H	8.6	20.9	29.5	116.5	87.0	QP
0.157	H	-8.4	19.8	11.4	103.7	92.3	QP
0.036	V	9.2	20.9	30.1	116.5	86.4	QP
0.154	V	-8.7	19.8	11.1	103.8	92.7	QP

Notes:

1. The measurement distance is 3 meters.
2. Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB)
3. Limit line = Specific Limits (dBuV) + Distance extrapolation factor
4. Correction Factor: Antenna Factor + Cable loss
5. The other Frequencies are attenuated more than 20 dB below the permissible limits.
In order to simplify the report, attached worst-case mode result.

Frequency Range : Below 1 GHz

CH 1

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. ¹⁾ (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
33.395	V	26.7	-2.1	24.6	40	15.4	QP
34.268	V	25.9	-2.7	23.2	40	16.8	QP
500.0	V	30.4	-2.1	28.3	46	17.7	QP
500.004	H	40.1	-2.1	38.0	46	8.0	QP
624.995	H	29.8	-0.2	29.6	46	16.4	QP
624.998	V	38.2	-0.2	38.0	46	8.0	QP

CH 6

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. ¹⁾ (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
32.328	V	32	-1.3	30.7	40	9.3	QP
33.88	V	32.4	-2.4	30.0	40	10.0	QP
500.004	H	39.9	-2.1	37.8	46	8.2	QP
500.015	V	29.9	-2.1	27.8	46	18.2	QP
624.995	H	29.2	-0.2	29.0	46	17.0	QP
624.998	V	38.2	-0.2	38.0	46	8.0	QP

CH 11

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. ¹⁾ (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
34.656	V	28.8	-2.9	25.9	40	14.1	QP
499.997	H	39.8	-2.1	37.7	46	8.3	QP
500.026	V	29.3	-2.1	27.2	46	18.8	QP
624.997	H	29	-0.2	28.8	46	17.2	QP
624.998	V	38.1	-0.2	37.9	46	8.1	QP
875.064	H	26.2	3.6	29.8	46	16.2	QP

Notes:

1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain.

Frequency Range : Above 1 GHz

CH 1 : 802.11b

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
4824.003	V	49.4	54.5	-0.3	0.23	49.33	54.2	54	74	4.67	19.8
4823.989	H	49.9	54.2	-0.3	0.23	49.83	53.9	54	74	4.17	20.1

CH 6 : 802.11b

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
4873.944	H	48.0	54.1	-0.2	0.23	48.03	53.9	54	74	5.97	20.1
4873.944	V	48.2	54.4	-0.2	0.23	48.23	54.2	54	74	5.77	19.8

CH 11 : 802.11b

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
4923.934	H	49.1	54.3	-0.1	0.23	49.23	54.2	54	74	4.77	19.8
4923.909	V	47.4	53.4	-0.1	0.23	47.53	53.3	54	74	6.47	20.7

Notes:

1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Frequency Range : Above 1 GHz (Continued)

CH 1 : 802.11g

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
4825.721	H	36.4	50.4	-0.3	0.2	36.3	50.1	54	74	17.7	23.9
4824.812	V	35.1	48.8	-0.3	0.2	35	48.5	54	74	19	25.5

CH 6 : 802.11g

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
4872.763	V	37.5	50.7	-0.2	0.2	37.5	50.5	54	74	16.5	23.5
4872.917	H	38.0	52.3	-0.2	0.2	38	52.1	54	74	16	21.9

CH 11 : 802.11g

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
4923.23	V	35.5	48.5	-0.1	0.2	35.6	48.4	54	74	18.4	25.6
4923.216	H	34.7	47.6	-0.1	0.2	34.8	47.5	54	74	19.2	26.5

Notes:

1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Frequency Range : Above 1 GHz (Continued)

CH 3 : 802.11n HT40

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
4826.271	H	33.7	47.4	-0.3	0.42	33.82	47.1	54	74	20.18	26.9
4823.981	V	33.5	46.9	-0.3	0.42	33.62	46.6	54	74	20.38	27.4

CH 6 : 802.11n HT40

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
4865.89	V	34.2	47.6	-0.3	0.42	34.32	47.3	54	74	19.68	26.7
4866.049	H	33.9	47.3	-0.3	0.42	34.02	47	54	74	19.98	27

CH 9 : 802.11n HT40

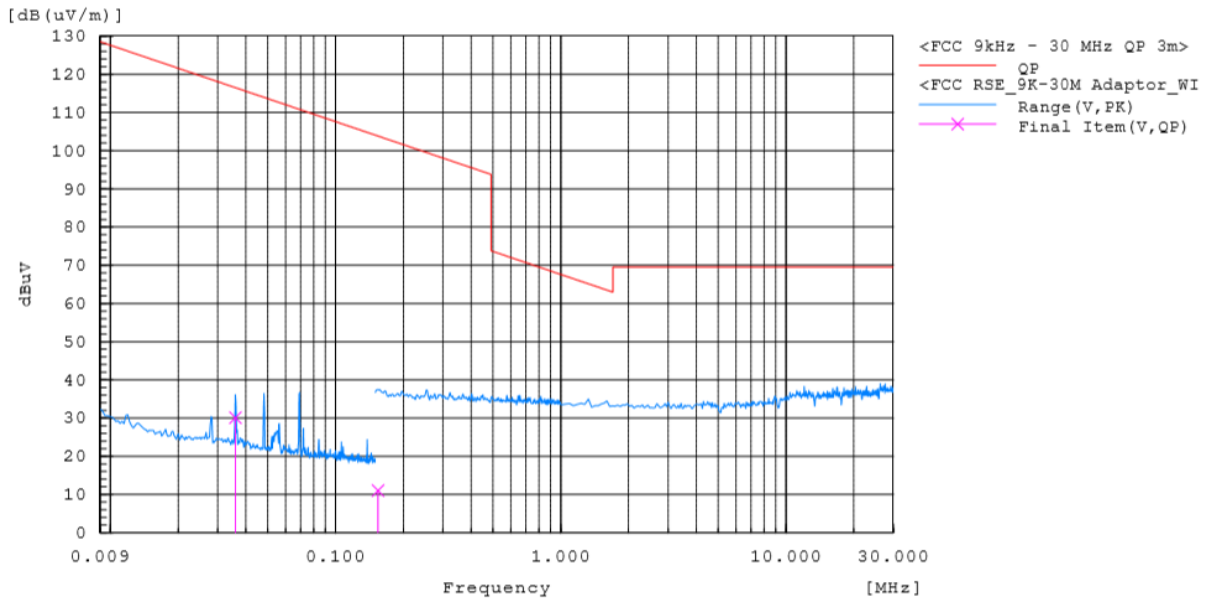
Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
4900.804	V	34.1	47.3	-0.1	0.42	34.42	47.2	54	74	19.58	26.8
4898.634	H	33.5	47.5	-0.1	0.42	33.82	47.4	54	74	20.18	26.6

Notes:

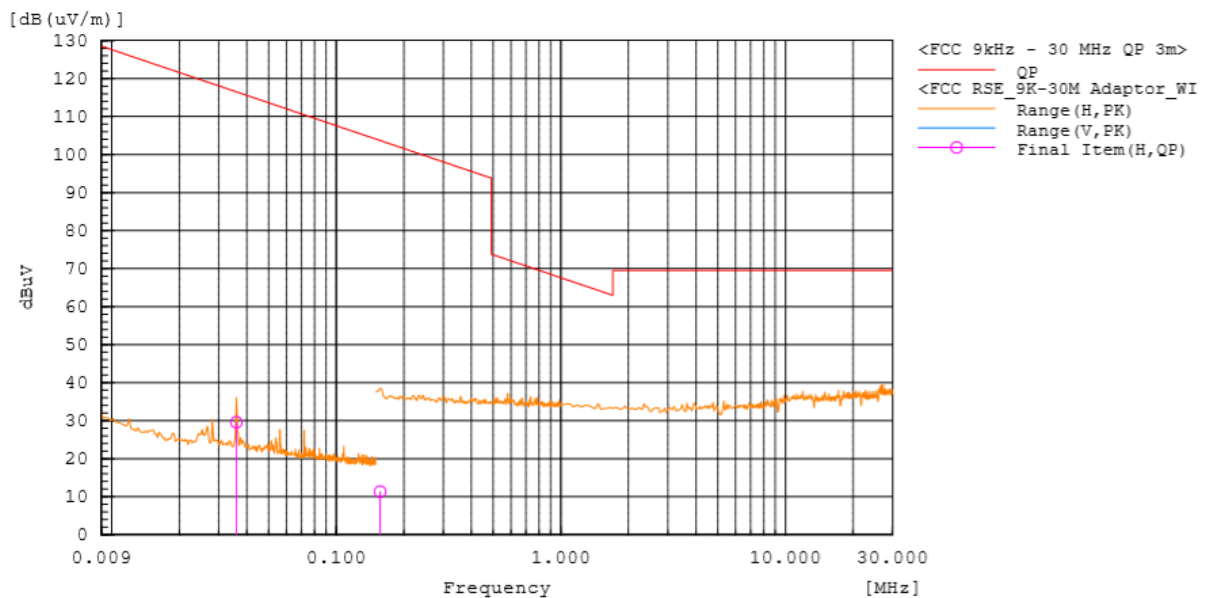
1. Correction Factor: Antenna Factor + Cable loss + Preamplifier Gain
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots

Radiated Spurious Emission 9 kHz – 30 MHz (Antenna Position 90°)



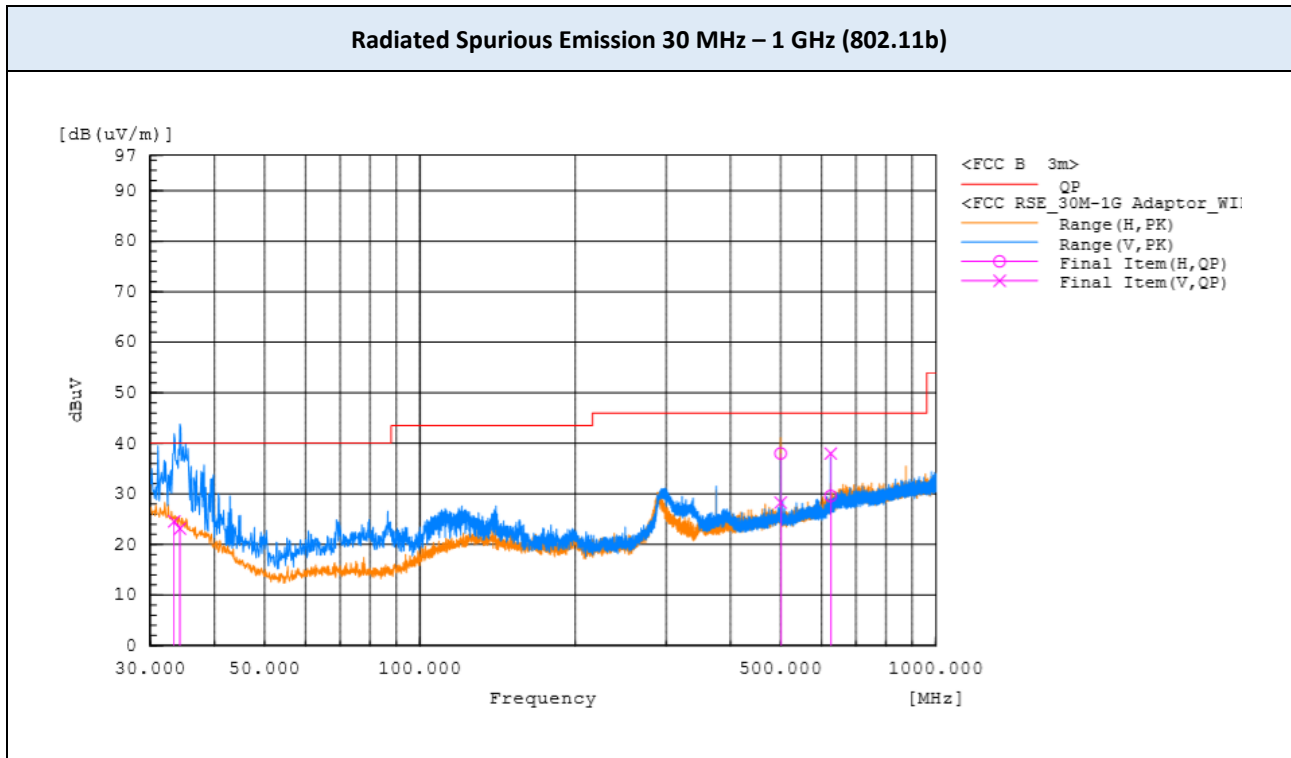
Radiated Spurious Emission 9 kHz – 30 MHz (Antenna Position 180°)



Note:

The worst-case plots are included in this report.

■ Test Plots

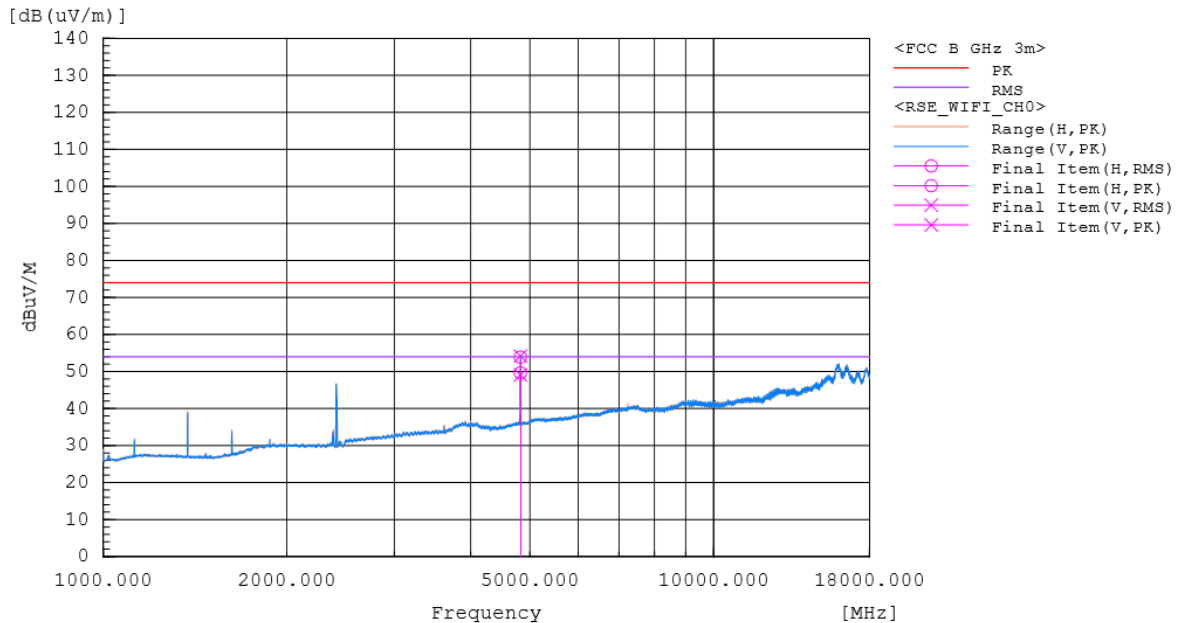


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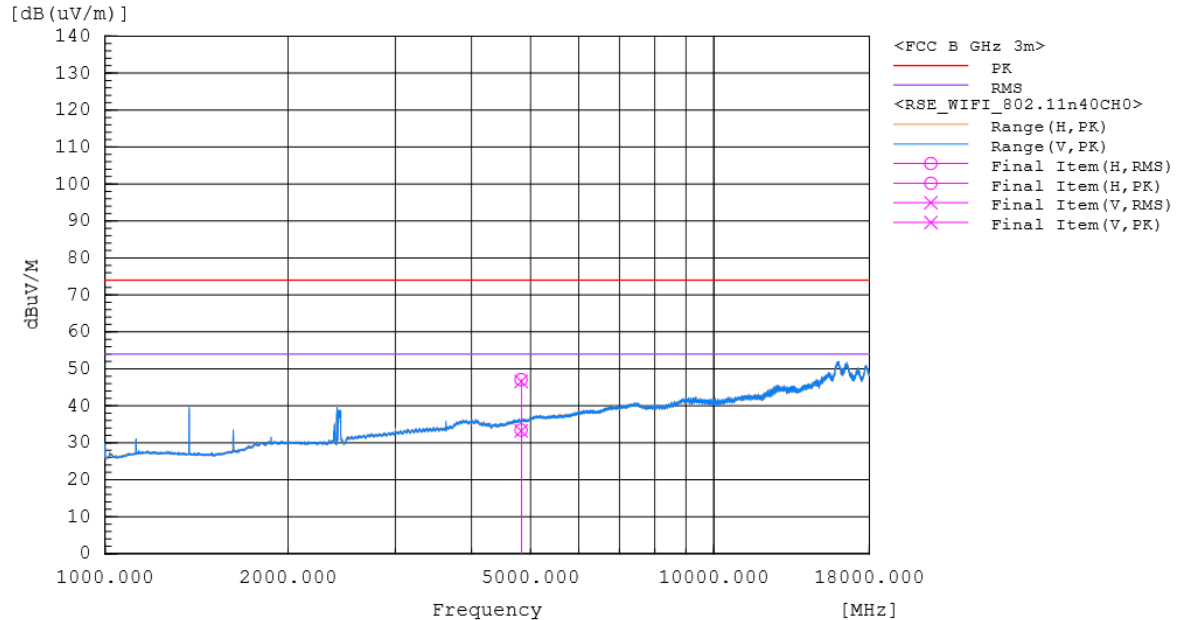
The worst-case plots are included in this report.

Test Plots

Radiated Spurious Emission 1 GHz – 18 GHz (802.11b)



Radiated Spurious Emission 1 GHz – 18 GHz (802.11n HT40)

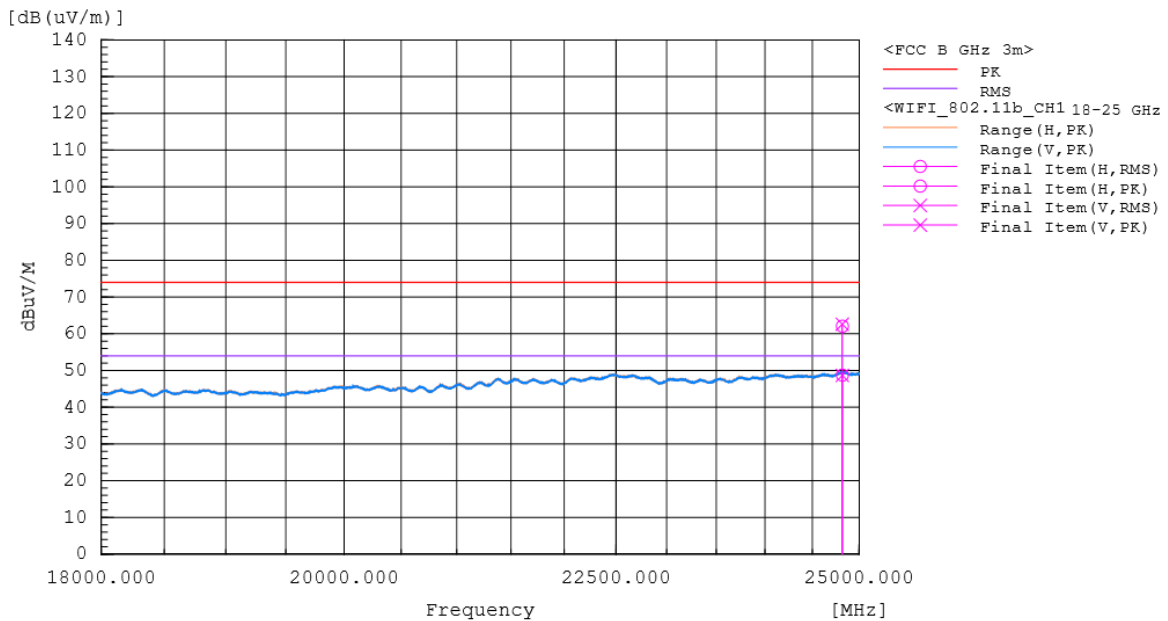


Note:

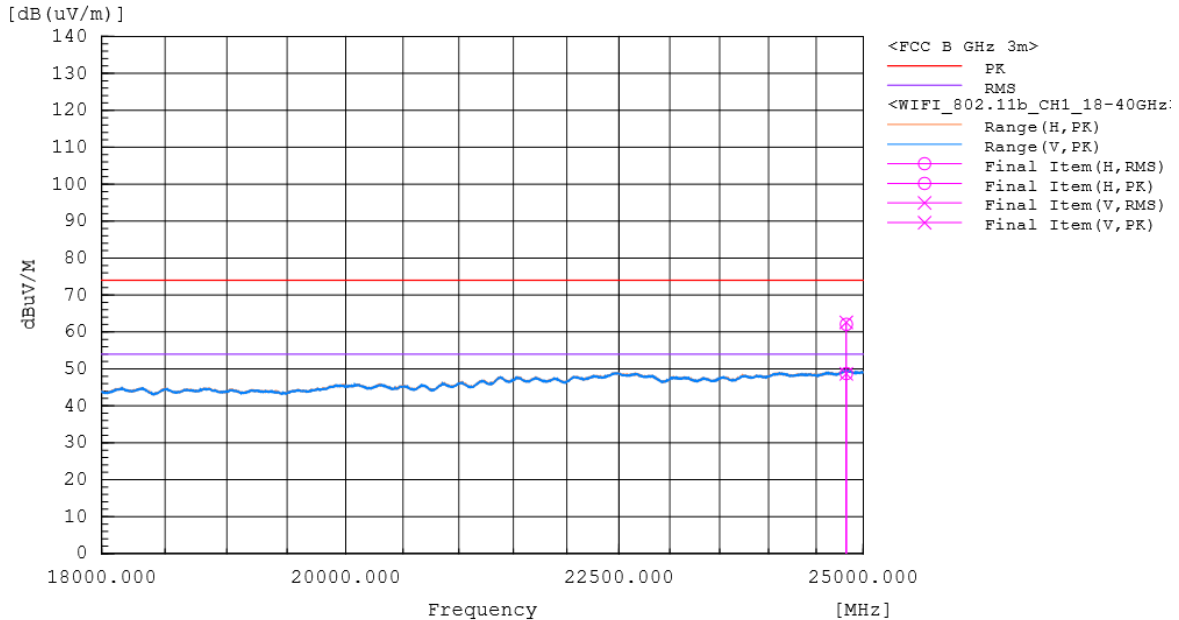
The worst-case plots are included in this report.

■ Test Plots

Radiated Spurious Emission 18 GHz – 25 GHz (802.11b)



Radiated Spurious Emission 18 GHz – 25 GHz (802.11n HT40)



Note:

The worst-case plots are included in this report.

9.7 RADIATED RESTRICTED BAND EDGES

Operating Frequency 2412 MHz
Channel No. CH 1
Mode 802.11b (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2390	V	11.8	25.5	36.2	0.23	48.2	61.7	54.0	74.0	5.8	12.3
2390	H	11.6	24.3	36.2	0.23	48.0	60.5	54.0	74.0	6.0	13.5

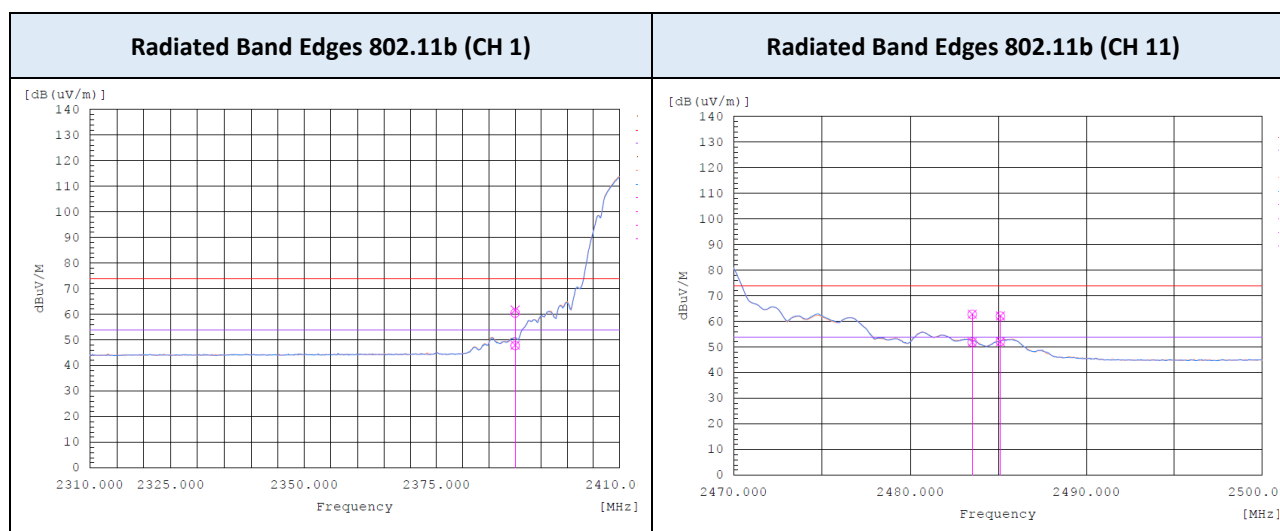
Operating Frequency 2462 MHz
Channel No. CH 11
Mode 802.11b (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2483.5	H	15.1	26.0	36.8	0.23	52.1	62.8	54.0	74.0	1.9	11.2
2483.5	V	15.1	26.1	36.8	0.23	52.1	62.9	54.0	74.0	1.9	11.1
2485.1	V	15.3	25.4	36.8	0.23	52.3	62.2	54.0	74.0	1.7	11.8
2485.1	H	15.4	25.3	36.8	0.23	52.4	62.1	54.0	74.0	1.6	11.9

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2412 MHz
Channel No. CH 1
Mode 802.11g (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2390	H	13.4	36.8	36.2	0.22	49.8	73.0	54.0	74.0	4.2	1.0
2390	V	13.6	37.1	36.2	0.22	50.0	73.3	54.0	74.0	4.0	0.7

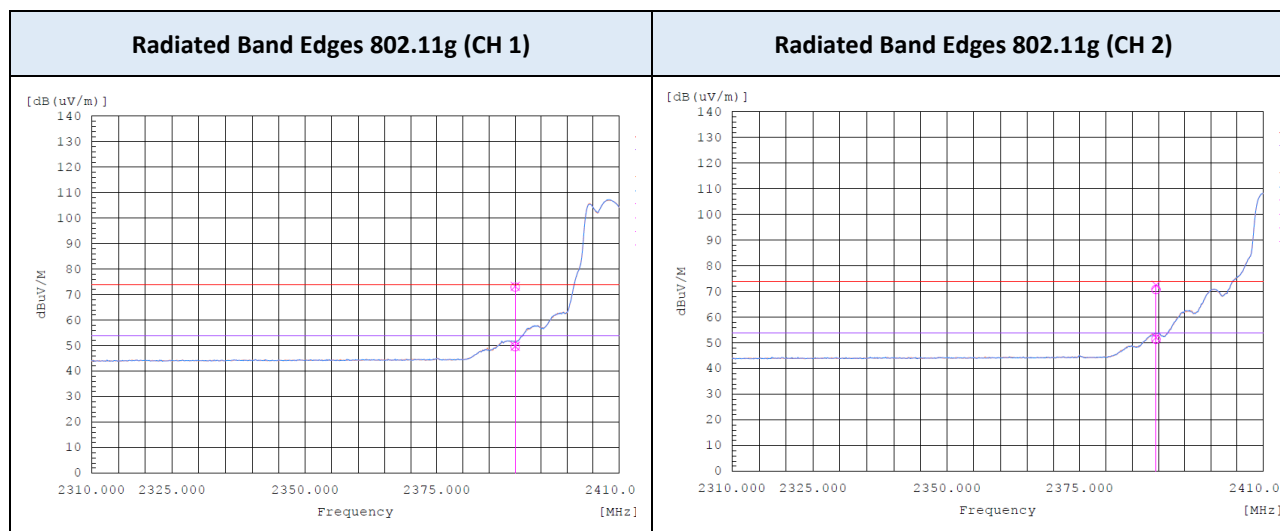
Operating Frequency 2417 MHz
Channel No. CH 2
Mode 802.11g (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2389.5	H	15.2	34.6	36.2	0.22	51.6	70.8	54.0	74.0	2.4	3.2
2389.5	V	15.9	36.3	36.2	0.22	52.3	72.5	54.0	74.0	1.7	1.5

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2447 MHz
Channel No. CH 8
Mode 802.11g (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2483.5	H	16.0	35.0	36.8	0.22	53.0	71.8	54.0	74.0	1.0	2.2
2483.5	V	15.2	34.0	36.8	0.22	52.2	70.8	54.0	74.0	1.8	3.2

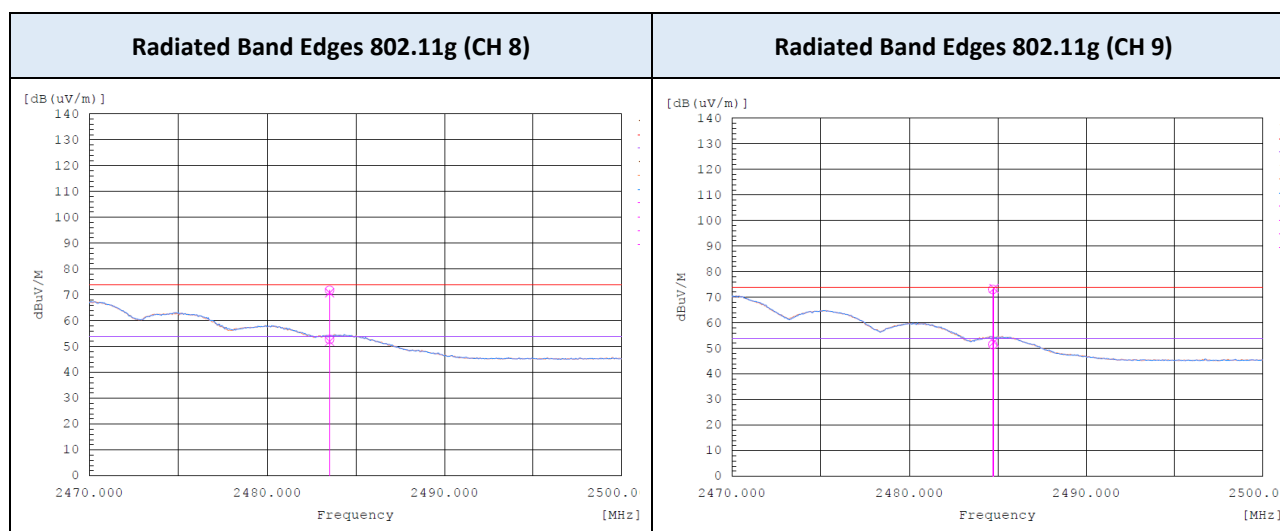
Operating Frequency 2452 MHz
Channel No. CH 9
Mode 802.11g (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2484.7	H	14.7	36.3	36.8	0.22	51.7	73.1	54.0	74.0	2.3	0.9
2484.764	V	15.7	36.7	36.8	0.22	52.7	73.5	54.0	74.0	1.3	0.5

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2457 MHz
Channel No. CH 10
Mode 802.11g (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2484	H	13.1	33.5	36.8	0.22	50.1	70.3	54.0	74.0	3.9	3.7
2483.5	V	13.6	34.0	36.8	0.22	50.6	70.8	54.0	74.0	3.4	3.2
2484	H	14.3	36.5	36.8	0.22	51.3	73.3	54.0	74.0	2.7	0.7
2483.5	V	13.0	33.1	36.8	0.22	50.0	69.9	54.0	74.0	4.0	4.1

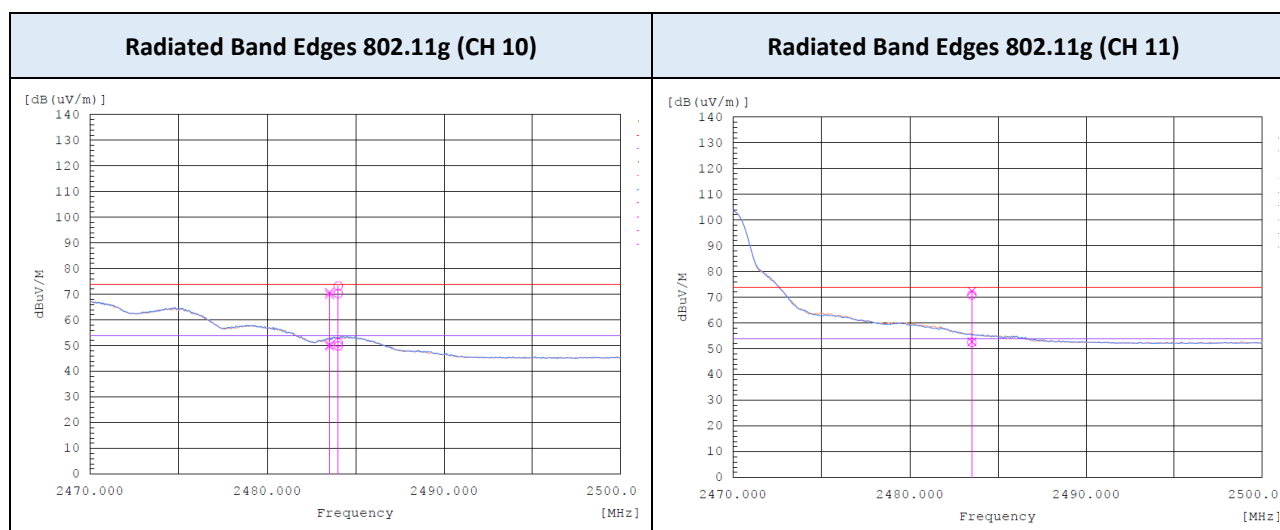
Operating Frequency 2462 MHz
Channel No. CH 11
Mode 802.11g (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2483.5	H	15.7	34.1	36.8	0.22	52.7	70.9	54.0	74.0	1.3	3.1
2483.5	V	16.0	35.6	36.8	0.22	53.0	72.4	54.0	74.0	1.0	1.6

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2412 MHz
Channel No. CH 1
Mode 802.11n HT20 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2390	H	13.6	36.9	36.2	0.21	50.0	73.1	54.0	74.0	4.0	0.9
2390	V	13.8	37.1	36.2	0.21	50.2	73.3	54.0	74.0	3.8	0.7

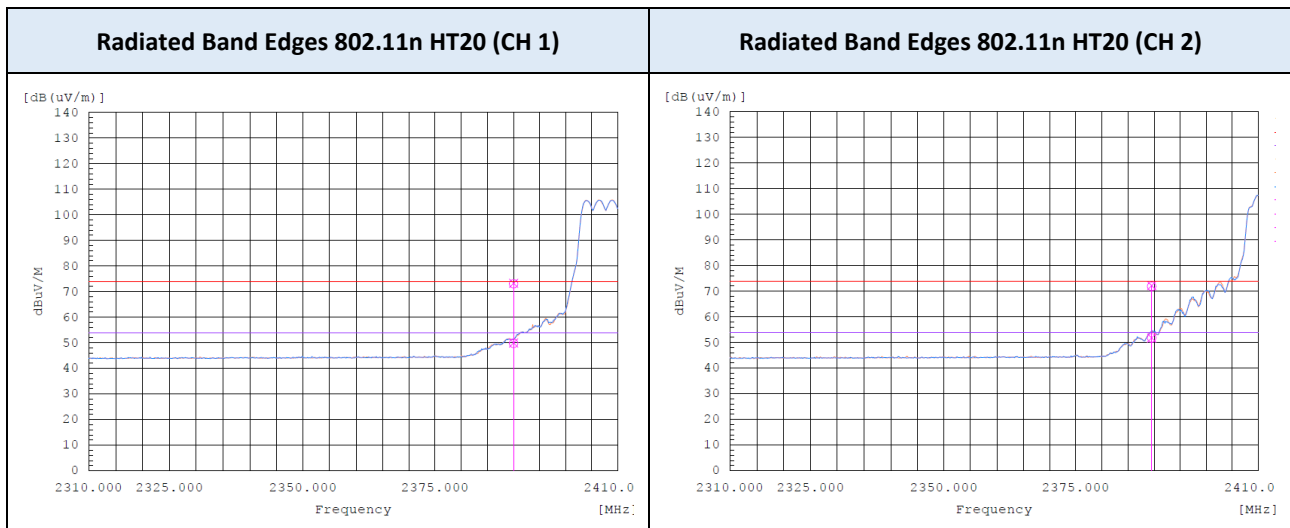
Operating Frequency 2417 MHz
Channel No. CH 2
Mode 802.11n HT20 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2389.5	H	15.6	35.7	36.2	0.21	52.0	71.9	54.0	74.0	2.0	2.1
2389.5	V	15.6	36.0	36.2	0.21	52.0	72.2	54.0	74.0	2.0	1.8

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2447 MHz
Channel No. CH 8
Mode 802.11n HT20 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2483.5	H	16.3	36.2	36.8	0.21	53.3	73.0	54.0	74.0	0.7	1.0
2483.5	V	16.4	36.8	36.8	0.21	53.4	73.6	54.0	74.0	0.6	0.4

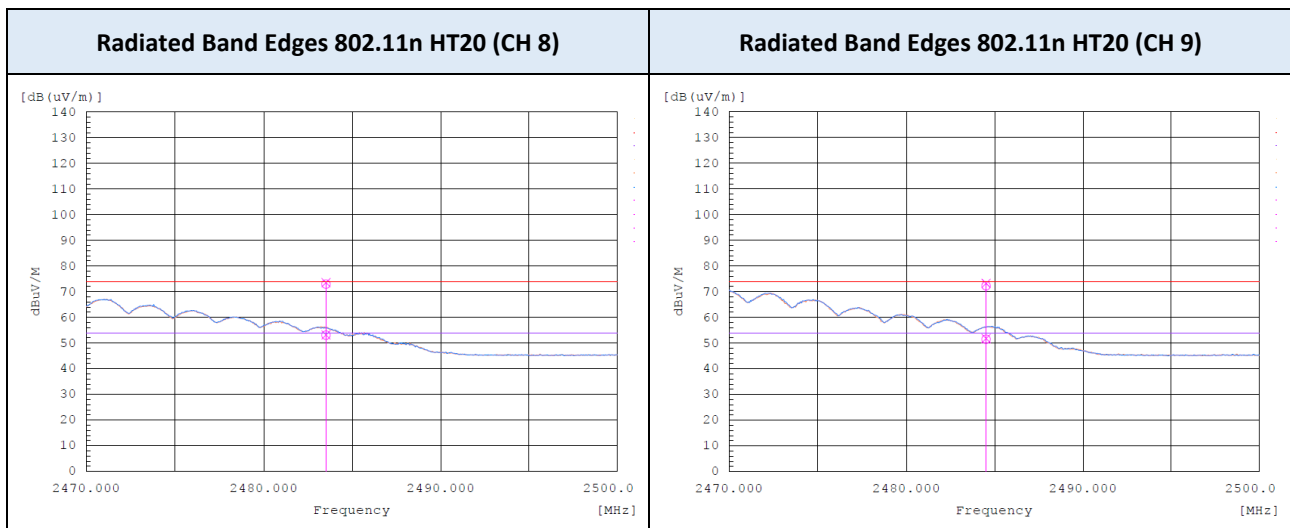
Operating Frequency 2452 MHz
Channel No. CH 9
Mode 802.11n HT20 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2484.5	H	14.7	35.5	36.8	0.21	51.7	72.3	54.0	74.0	2.3	1.7
2484.5	V	15.0	36.5	36.8	0.21	52.0	73.3	54.0	74.0	2.0	0.7

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2457 MHz
Channel No. CH 10
Mode 802.11n HT20 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2484	H	13.1	33.5	36.8	0.22	50.1	70.3	54.0	74.0	3.9	3.7
2483.5	V	13.6	34.0	36.8	0.22	50.6	70.8	54.0	74.0	3.4	3.2
2484	H	14.3	36.5	36.8	0.22	51.3	73.3	54.0	74.0	2.7	0.7
2483.5	V	13.0	33.1	36.8	0.22	50.0	69.9	54.0	74.0	4.0	4.1

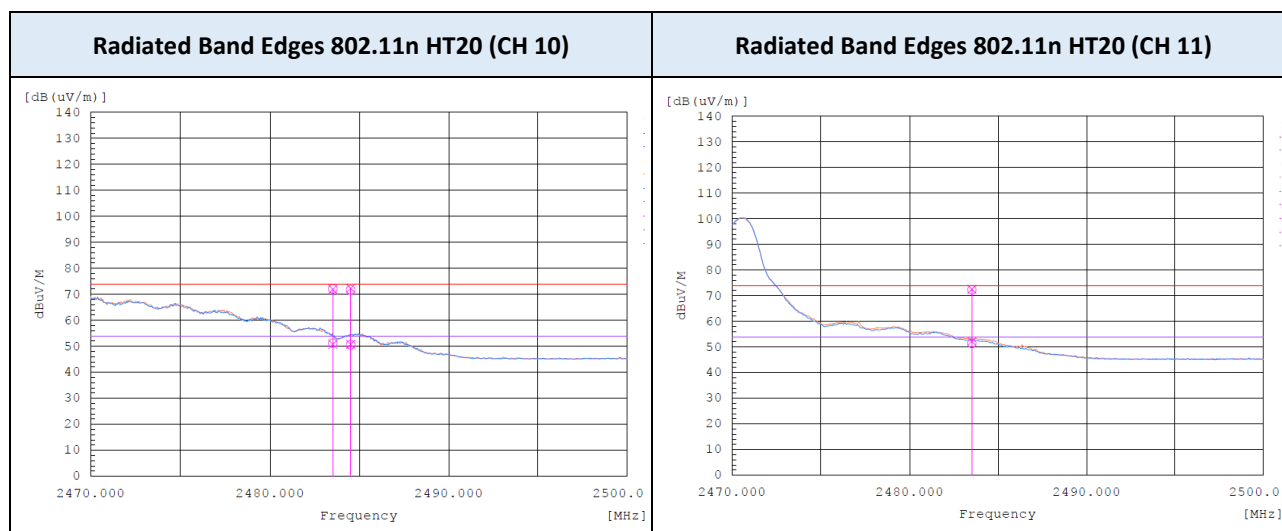
Operating Frequency 2462 MHz
Channel No. CH 11
Mode 802.11n HT20 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2483.5	H	14.6	35.5	36.8	0.21	51.6	72.3	54.0	74.0	2.4	1.7
2483.5	V	15.4	35.8	36.8	0.21	52.4	72.6	54.0	74.0	1.6	1.4

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2422 MHz
Channel No. CH 3
Mode 802.11n HT40 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2389	H	15.5	37.1	36.2	0.42	52.1	73.3	54.0	74.0	1.9	0.7
2389	V	16.9	37.2	36.2	0.42	53.5	73.4	54.0	74.0	0.5	0.6

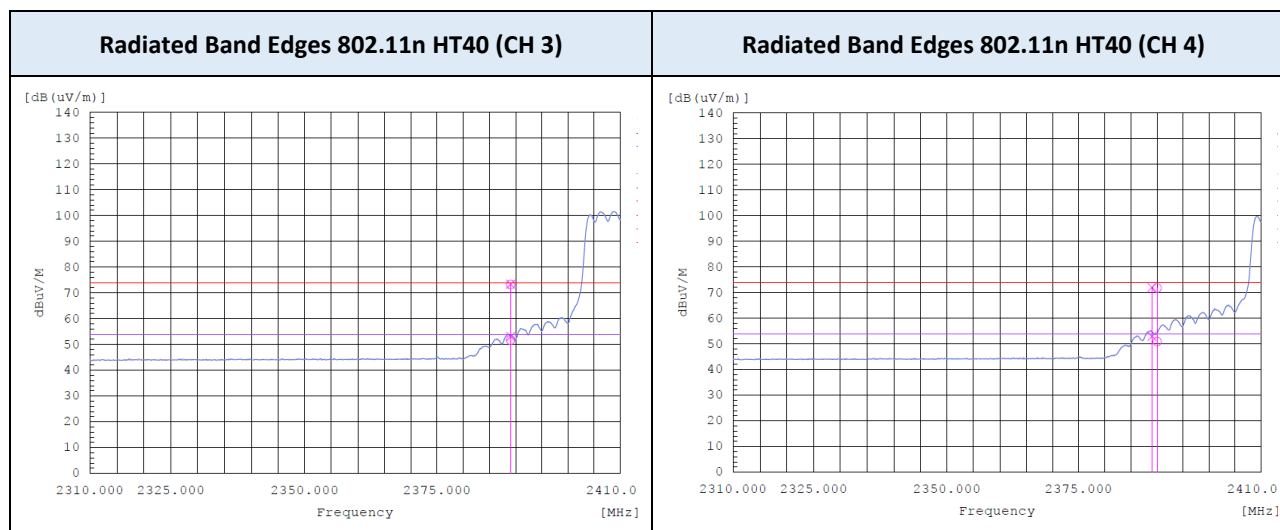
Operating Frequency 2427 MHz
Channel No. CH 4
Mode 802.11n HT40 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2390	H	14.7	35.6	36.2	0.42	51.3	71.8	54.0	74.0	2.7	2.2
2389	V	16.8	35.8	36.2	0.42	53.4	72.0	54.0	74.0	0.6	2.0

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2437 MHz
Channel No. CH 6
Mode 802.11n HT40 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2390	H	13.9	35.8	36.2	0.42	50.5	72.0	54.0	74.0	3.5	2.0
2390	V	13.8	33.8	36.2	0.42	50.4	70.0	54.0	74.0	3.6	4.0
2484	V	14.5	36.8	36.8	0.42	51.7	73.6	54.0	74.0	2.3	0.4
2484	H	14.6	36.2	36.8	0.42	51.8	73.0	54.0	74.0	2.2	1.0

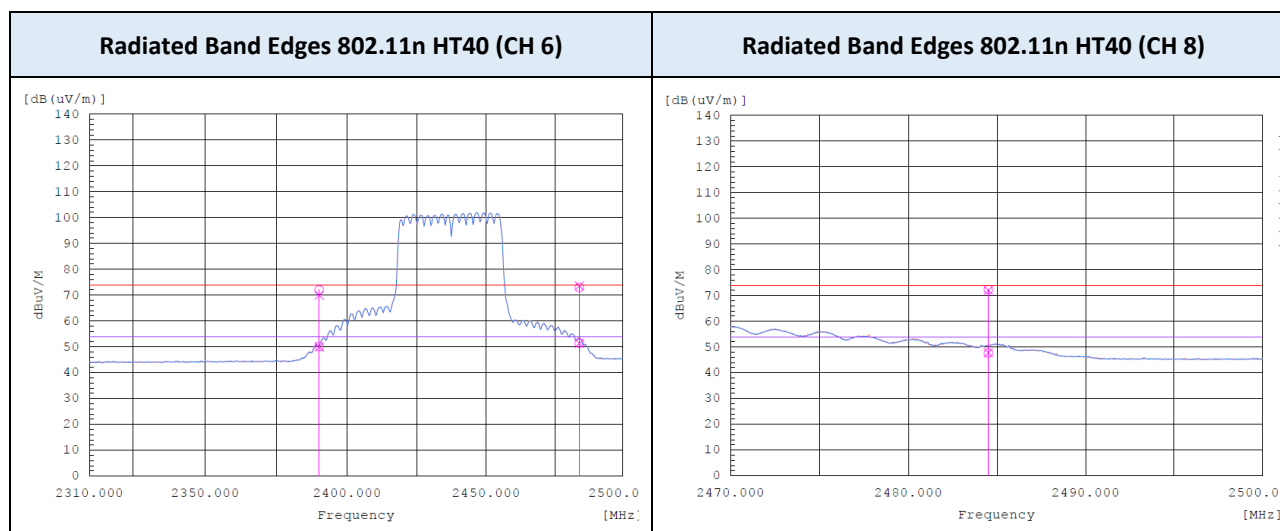
Operating Frequency 2447 MHz
Channel No. CH 8
Mode 802.11n HT40 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2484.5	H	10.9	35.5	36.8	0.42	48.1	72.3	54.0	74.0	5.9	1.7
2484.5	V	11.0	35.2	36.8	0.42	48.2	72.0	54.0	74.0	5.8	2.0

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



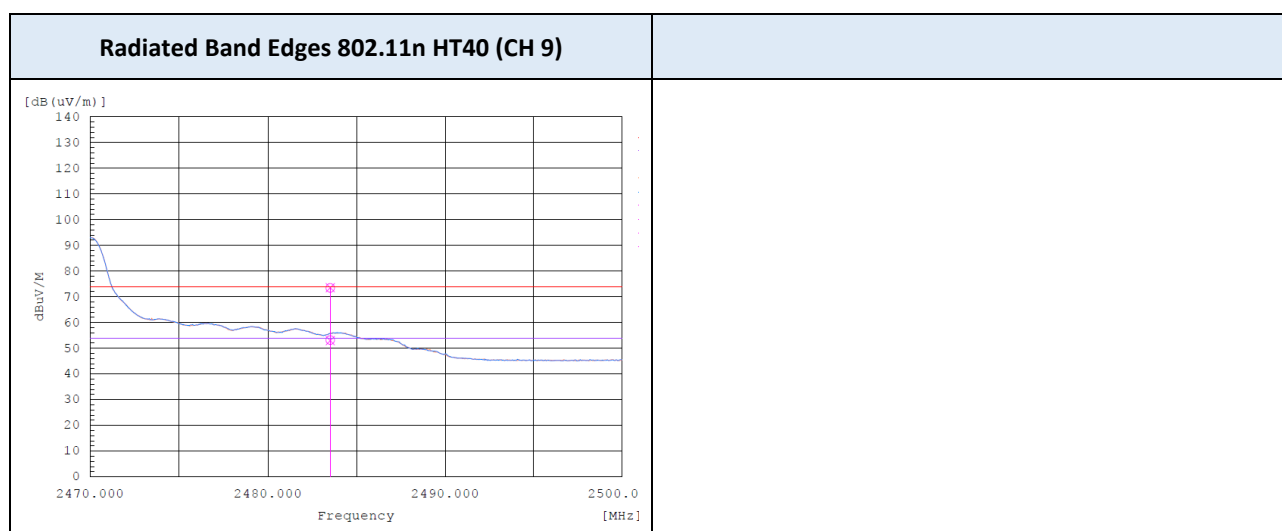
Operating Frequency 2452 MHz
Channel No. CH 9
Mode 802.11n HT40 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2483.5	H	16.4	36.7	36.8	0.42	53.6	73.5	54.0	74.0	0.4	0.5
2483.5	V	16.2	36.8	36.8	0.42	53.4	73.6	54.0	74.0	0.6	0.4

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2412 MHz
Channel No. CH 1
Mode 802.11ax HE20 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2390	H	12.2	37.1	36.2	0.0	48.4	73.3	54.0	74.0	5.6	0.7
2390	V	12.0	37.2	36.2	0.0	48.2	73.4	54.0	74.0	5.8	0.6

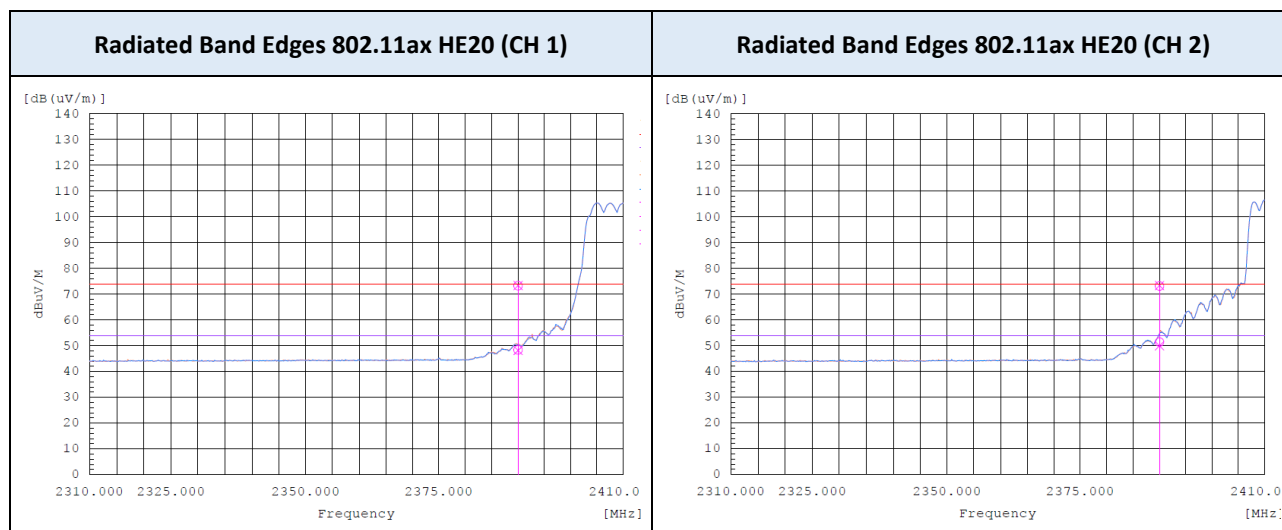
Operating Frequency 2417 MHz
Channel No. CH 2
Mode 802.11ax HE20 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2390	H	15.2	37.0	36.2	0.0	51.4	73.2	54.0	74.0	2.6	0.8
2390	V	13.8	37.2	36.2	0.0	50.0	73.4	54.0	74.0	4.0	0.6

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2457 MHz
Channel No. CH 10
Mode 802.11ax HE20 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2484.5	H	15.2	34.6	36.8	0.0	52.0	71.4	54.0	74.0	2.0	2.6
2484.5	V	15.4	35.0	36.8	0.0	52.2	71.8	54.0	74.0	1.8	2.2

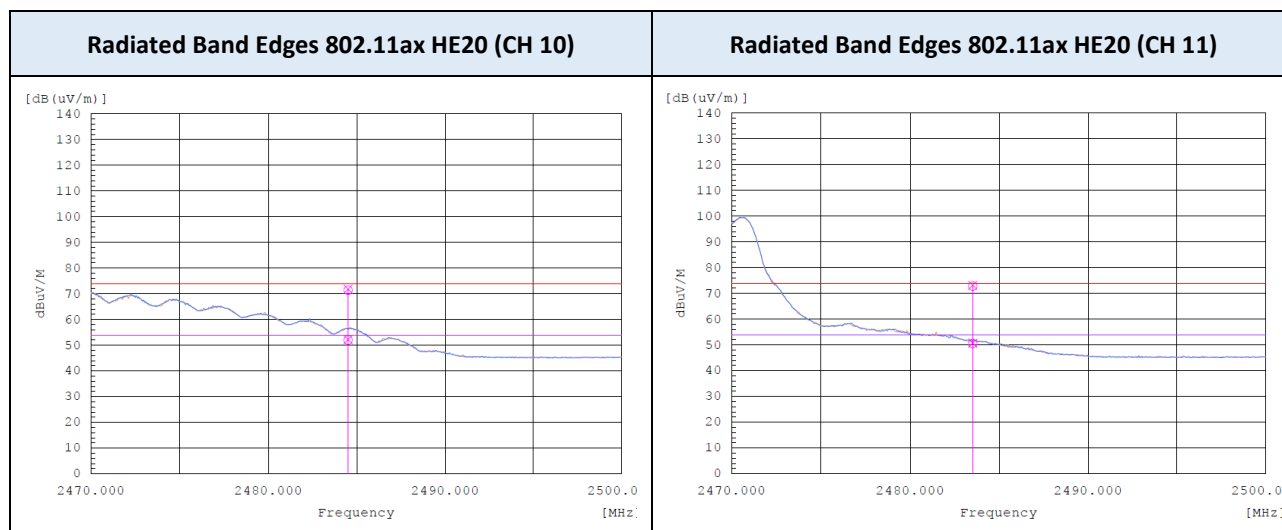
Operating Frequency 2461 MHz
Channel No. CH 11
Mode 802.11ax HE20 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2483.5	H	13.7	36.1	36.8	0.0	50.5	72.9	54.0	74.0	3.5	1.1
2483.5	V	13.9	36.4	36.8	0.0	50.7	73.2	54.0	74.0	3.3	0.8

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2422 MHz
Channel No. CH 3
Mode 802.11ax HE40 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2389	H	15.6	35.5	36.2	0.16	52.0	71.7	54.0	74.0	2.0	2.3
2389	V	16.0	36.2	36.2	0.16	52.4	72.4	54.0	74.0	1.6	1.6

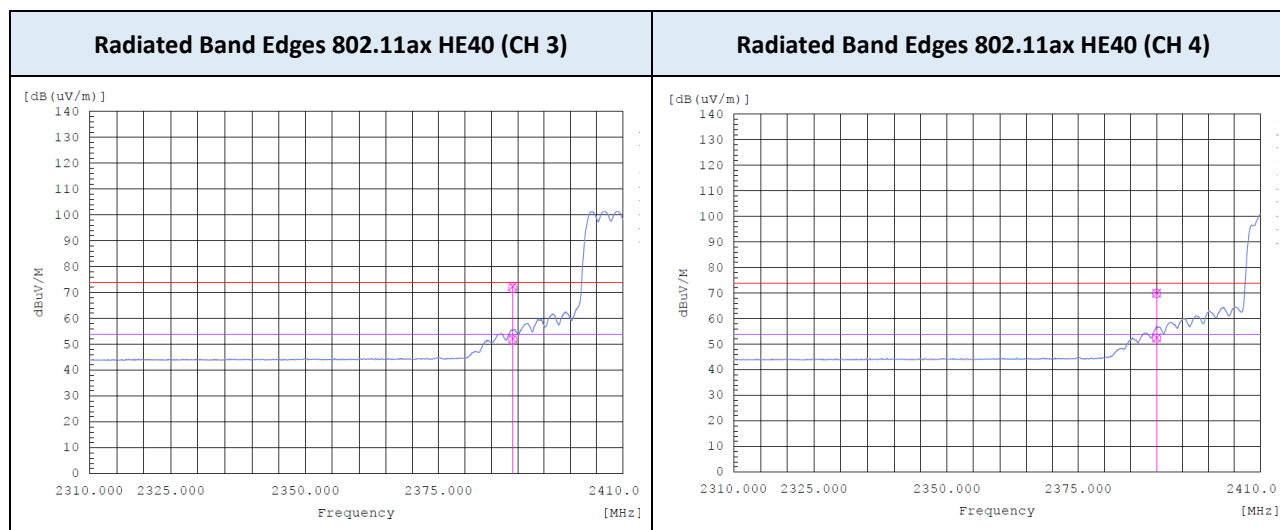
Operating Frequency 2427 MHz
Channel No. CH 4
Mode 802.11ax HE40 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2390	H	16.2	33.7	36.2	0.16	52.6	69.9	54.0	74.0	1.4	4.1
2390	V	16.3	33.8	36.2	0.16	52.7	70.0	54.0	74.0	1.3	4.0

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



Operating Frequency 2437 MHz
Channel No. CH 6
Mode 802.11ax HE40 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2390	H	15.9	34.1	36.2	0.16	52.3	70.3	54.0	74.0	1.7	3.7
2390	V	15.5	33.6	36.2	0.16	51.9	69.8	54.0	74.0	2.1	4.2
2483.5	V	15.2	35.6	36.8	0.16	52.2	72.4	54.0	74.0	1.8	1.6
2483.5	H	15.6	35.3	36.8	0.16	52.6	72.1	54.0	74.0	1.4	1.9

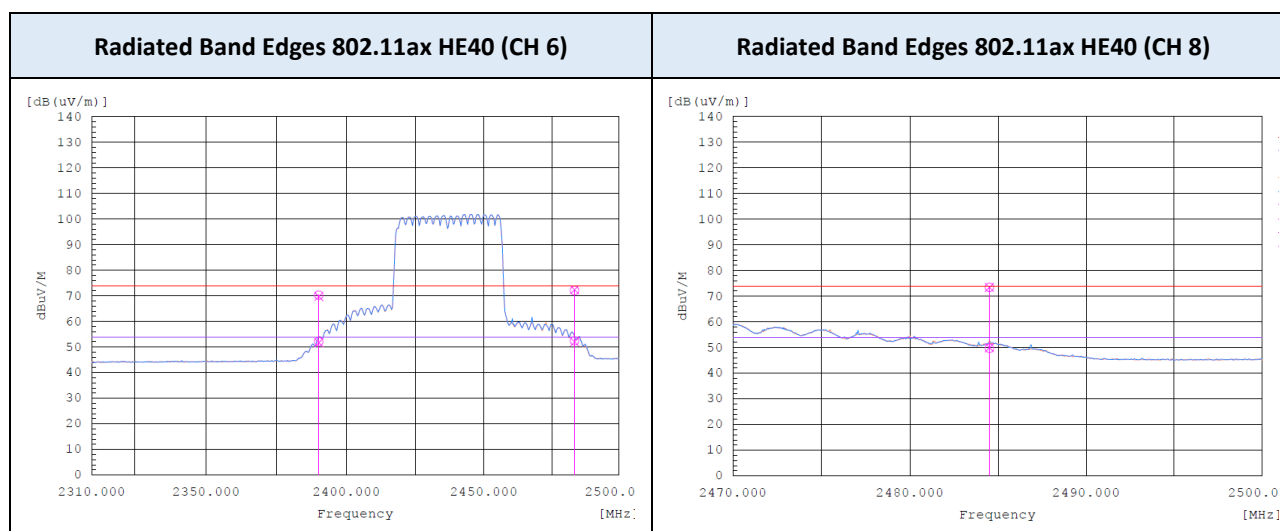
Operating Frequency 2447 MHz
Channel No. CH 8
Mode 802.11ax HE40 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2484.5	H	12.9	36.7	36.8	0.16	49.9	73.5	54.0	74.0	4.1	0.5
2484.5	V	13.2	36.7	36.8	0.16	50.2	73.5	54.0	74.0	3.8	0.5

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



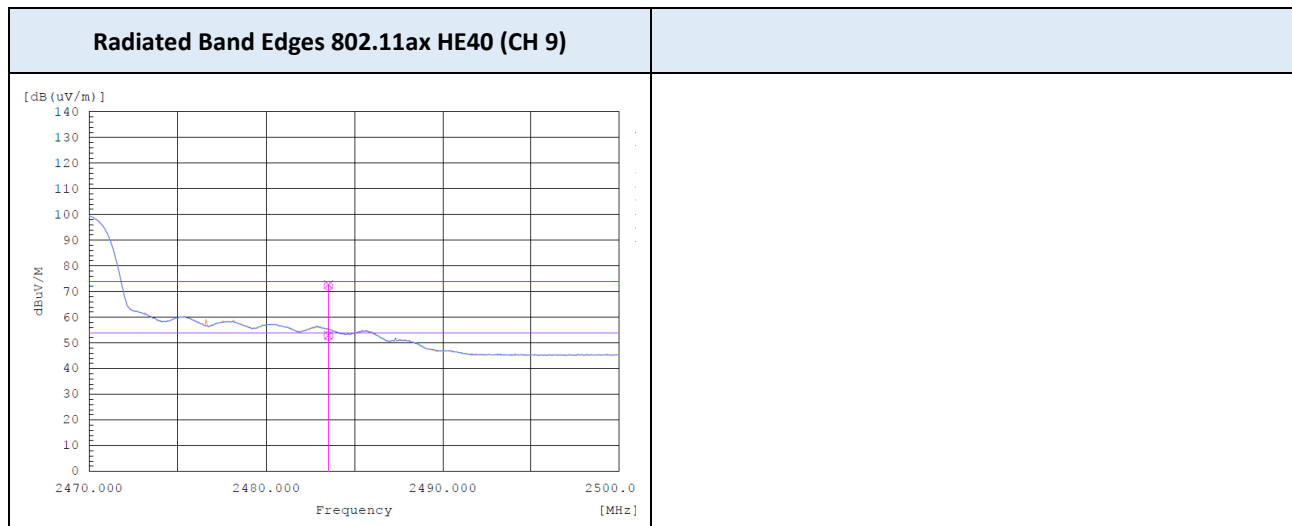
Operating Frequency 2452 MHz
Channel No. CH 9
Mode 802.11ax HE40 (CDD)

Frequency (MHz)	Polarization	Reading (dBuV)		Factor (dB)		Level (dBuV/m)		Limit (dBuV/m)		Margin (dB)	
		AV	PK	Corr. ¹⁾	Duty	AV	PK	AV	PK	AV	PK
2483.5	H	16.0	35.4	36.8	0.16	53.0	72.2	54.0	74.0	1.0	1.8
2483.5	V	16.2	36.0	36.8	0.16	53.2	72.8	54.0	74.0	0.8	1.2

Notes:

1. Correction Factor: Antenna Factor + Cable loss
2. AV Level = Measured Power(dBm) + Correction Factor(dB) + Duty Cycle Factor(dB)

Test Plots



9.8 RECEIVER SPURIOUS EMISSIONS

Frequency Range : Below 1 GHz

Frequency (MHz)	Polarization	Reading (dBuV)	Corr. ¹⁾ (dB)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measurement Type
34.391	V	33.1	-2.7	30.4	40	9.6	QP
500.004	H	39.6	-2.1	37.5	46	8.5	QP
500.014	V	29.6	-2.1	27.5	46	18.5	QP
624.989	V	38.2	-0.2	38.0	46	8.0	QP
625.006	H	28.2	-0.2	28.0	46	18.0	QP
875.005	H	30.8	3.6	34.4	46	11.6	QP

Note:

1. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.

Frequency Range : Above 1 GHz

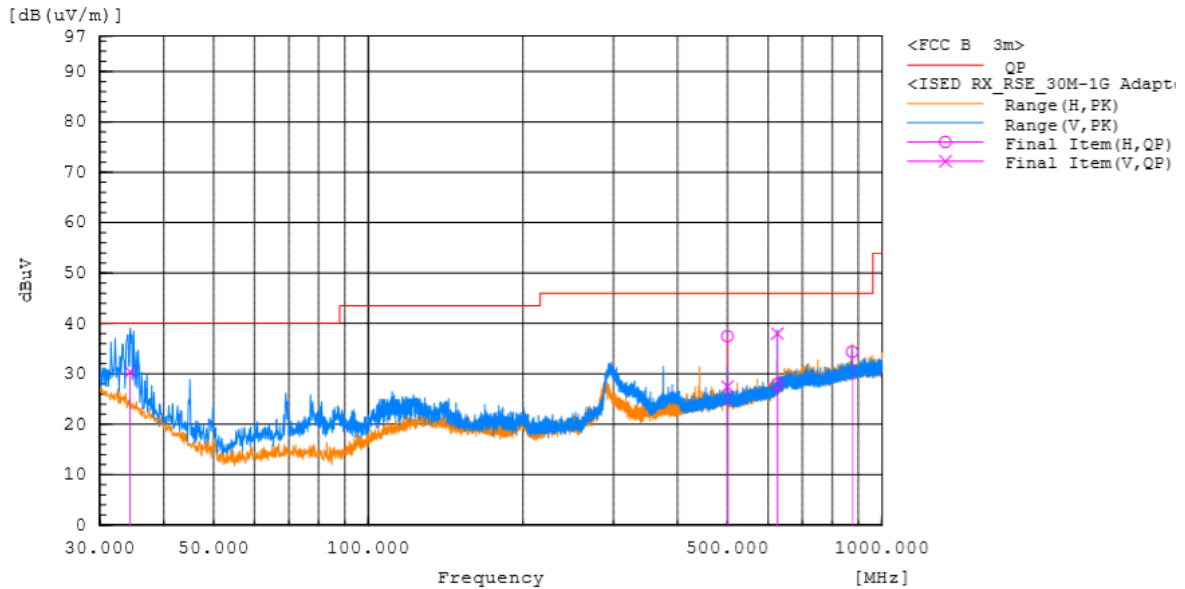
Frequency (MHz)	Polarization	Reading (dBuV)		Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
		AV	Corr. ¹⁾	AV	AV	AV
15977.81	V	29.3	16.8	46.1	54	7.9
15976.84	H	29.2	16.8	46.0	54	8.0

Notes:

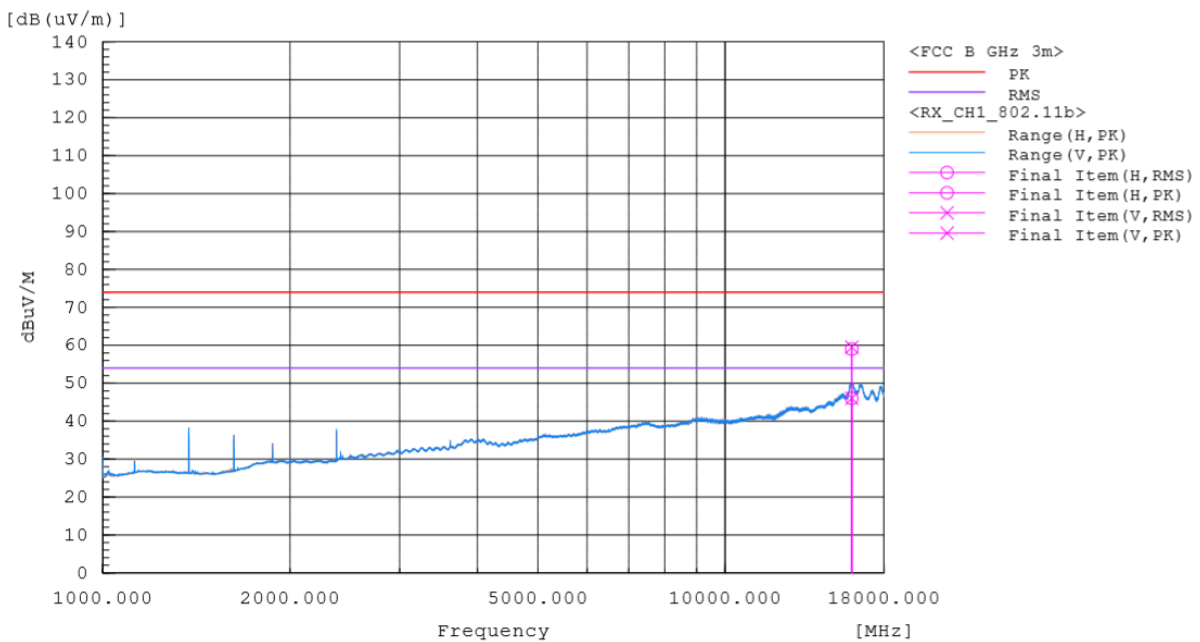
1. Correction Factor: Antenna Factor + Cable loss + Preamplifier

■ Test Plots

Receiver Spurious Emission below 1 GHz



Receiver Spurious Emission above 1 GHz



Note:

The worst-case plots are included in this report.

9.9 POWERLINE CONDUCTED EMISSIONS

AC Adapter

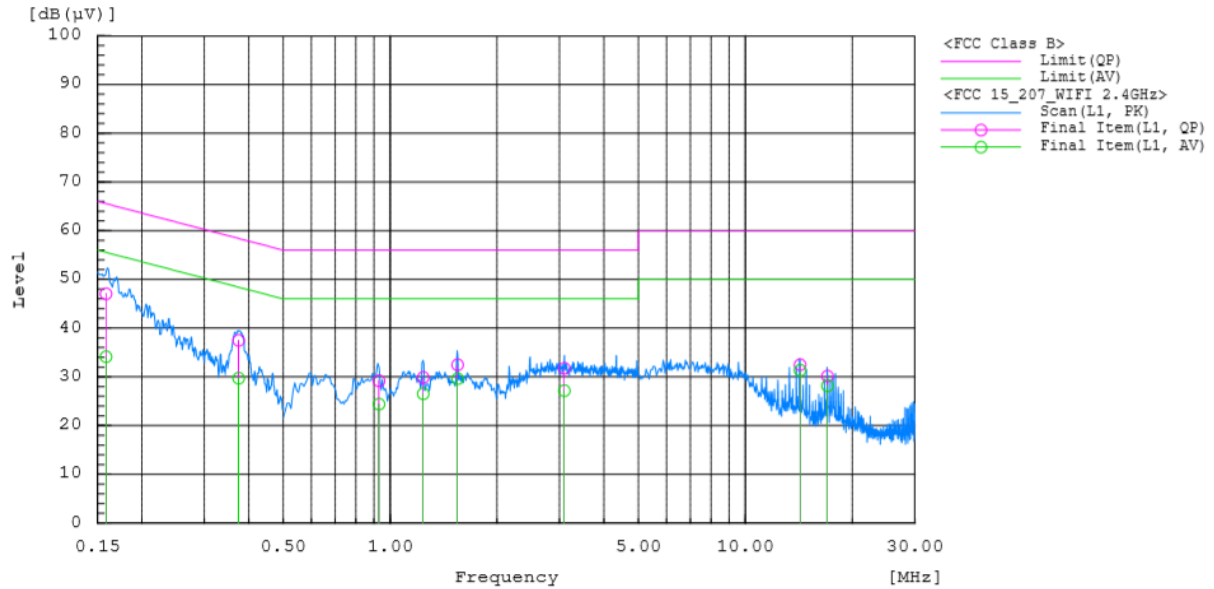
Frequency (MHz)	Line	Reading (dBμV)		Corr. (dB)	Level (dBμV)		Limit (dBμV)		Margin (dB)	
		QP	CAV		QP	CAV	QP	CAV	QP	CAV
0.158	L1	37.3	24.3	9.8	47.1	34.1	65.5	55.5	18.4	21.4
0.374	L1	27.8	20.1	9.7	37.5	29.8	58.4	48.4	20.9	18.6
0.929	L1	19.4	14.6	9.8	29.2	24.4	56	46	26.8	21.6
1.237	L1	20.1	16.8	9.8	29.9	26.6	56	46	26.1	19.4
1.546	L1	22.7	19.8	9.8	32.5	29.6	56	46	23.5	16.4
3.092	L1	22.0	17.4	9.8	31.8	27.2	56	46	24.2	18.8
14.233	L1	22.4	21.3	10.1	32.5	31.4	60	50	27.5	18.6
17.018	L1	20.0	18.0	10.2	30.2	28.2	60	50	29.8	21.8

Frequency (MHz)	Line	Reading (dBμV)		Corr. (dB)	Level (dBμV)		Limit (dBμV)		Margin (dB)	
		QP	CAV		QP	CAV	QP	CAV	QP	CAV
0.151	N	38.4	23.8	9.8	48.2	33.6	66	56	17.8	22.4
0.37	N	27.0	19.8	9.7	36.7	29.5	58.5	48.5	21.8	19.0
0.927	N	18.9	14.2	9.8	28.7	24.0	56	46	27.3	22.0
1.238	N	23.6	21.2	9.8	33.4	31.0	56	46	22.6	15.0
1.547	N	22.5	20.0	9.8	32.3	29.8	56	46	23.7	16.2
4.019	N	21.5	16.3	9.9	31.4	26.2	56	46	24.6	19.8
14.232	N	22.8	21.6	10.1	32.9	31.7	60	50	27.1	18.3
17.016	N	20.3	18.2	10.2	30.5	28.4	60	50	29.5	21.6

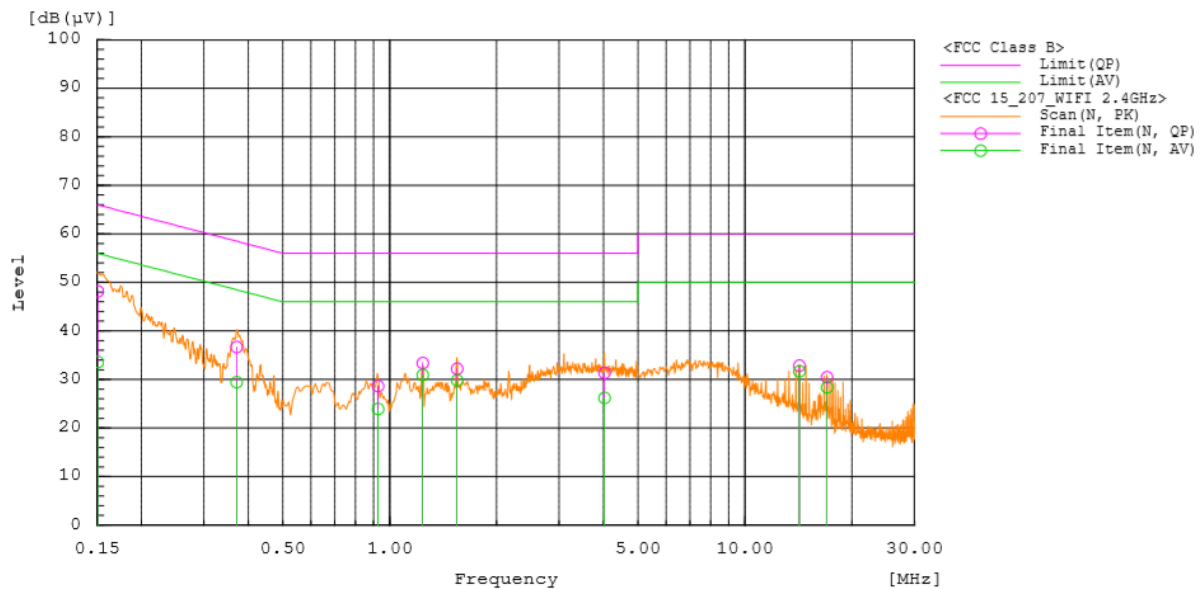
Note : Quasi-peak(Final Result) = Reading Value + Correction Factor

■ Test Plots

AC Adapter : AC Line Conducted Emission (L1)



AC Adapter : AC Line Conducted Emission (N)



PoE Adapter

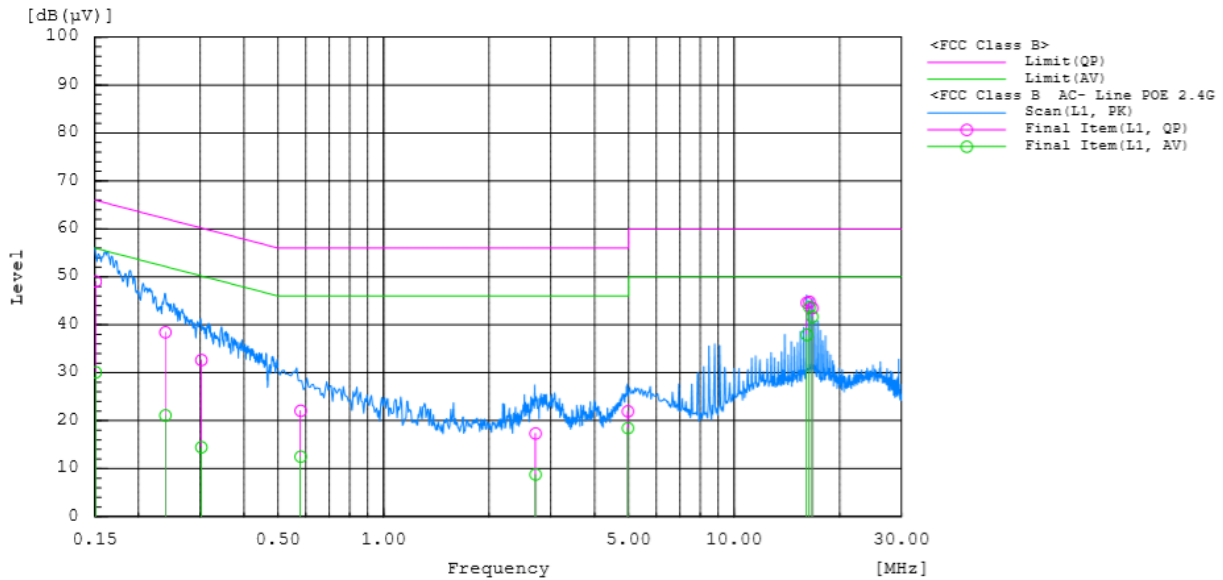
Frequency (MHz)	Line	Reading (dBμV)		Corr. (dB)	Level (dBμV)		Limit (dBμV)		Margin (dB)	
		QP	CAV		QP	CAV	QP	CAV	QP	CAV
0.151	L1	39.2	20.3	9.8	49.0	30.1	66	56	17.0	25.9
0.239	L1	28.8	11.4	9.7	38.5	21.1	62.1	52.1	23.6	31.0
0.302	L1	23.0	4.8	9.7	32.7	14.5	60.2	50.2	27.5	35.7
0.579	L1	12.4	2.8	9.7	22.1	12.5	56	46	33.9	33.5
4.977	L1	12.1	8.6	9.9	22.0	18.5	56	46	34.0	27.5
16.095	L1	34.4	27.7	10.2	44.6	37.9	60	50	15.4	12.1
16.398	L1	34.6	33.5	10.2	44.8	43.7	60	50	15.2	6.3
16.702	L1	33.3	31.5	10.2	43.5	41.7	60	50	16.5	8.3

Frequency (MHz)	Line	Reading (dBμV)		Corr. (dB)	Level (dBμV)		Limit (dBμV)		Margin (dB)	
		QP	CAV		QP	CAV	QP	CAV	QP	CAV
0.155	N	40.8	22.6	9.8	50.6	32.4	65.7	55.7	15.1	23.3
0.220	N	31.7	15.4	9.7	41.4	25.1	62.8	52.8	21.4	27.7
0.281	N	24.8	6.7	9.7	34.5	16.4	60.8	50.8	26.3	34.4
3.010	N	10.0	3.6	9.8	19.8	13.4	56	46	36.2	32.6
4.990	N	13.6	9.8	9.9	23.5	19.7	56	46	32.5	26.3
16.399	N	34.9	33.8	10.2	45.1	44.0	60	50	14.9	6.0
16.702	N	33.4	31.4	10.2	43.6	41.6	60	50	16.4	8.4
17.006	N	32.9	23.5	10.2	43.1	33.7	60	50	16.9	16.3

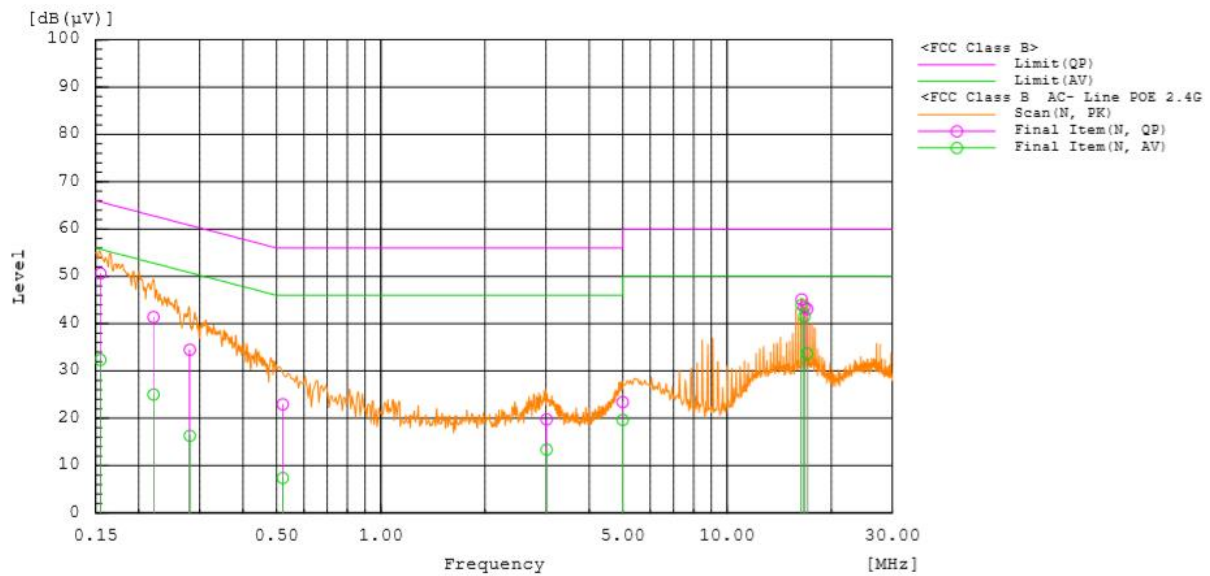
Note : Quasi-peak(Final Result) = Reading Value + Correction Factor

Test Plots

PoE Adapter : AC Line Conducted Emission (L1)



PoE Adapter : AC Line Conducted Emission (N)



10. LIST OF TEST EQUIPMENT

No.	Instrument	Model No.	Calibration Due (mm/dd/yy)	Manufacture	Serial No.
☒	Signal Analyzer (20 Hz ~ 40.0 GHz)	ESU40	12/20/2020	ROHDE & SCHWARZ	100529
☒	Signal Analyzer (10 Hz ~ 26.5 GHz)	N9020A	11/08/2020	Keysight	MY52091291
☒	BI-LOG Antenna (30 MHz ~ 1 GHz)	JB6	11/29/2020	Sunol	A071116
☒	Attenuator (20 dB, DC ~ 26.5 GHz)	8493C	12/13/2020	HP	09072
☒	POWER AMP (1 GHz ~ 18 GHz)	PAM-118A	08/22/2020	Com-Power Corporation	18040074
☒	POWER AMP (0.3GHz ~ 1GHz)	8447D	10/08/2020	HP	2944
☒	Horn Antenna (1 GHz ~ 18 GHz)	DRH-118	08/28/2020	Sunol	A070516
☒	Loop Antenna (0.009 ~ 30 MHz)	HLA 6121	08/27/2020	TESEQ	43964
☒	Horn Antenna (18 GHz ~ 40 GHz)	DRH-1840	02/20/2021	Sunol	17120
☒	POWER AMP (18 GHz ~ 40 GHz)	CBL184050-45-01	02/04/2021	CERNEX, Inc.	43964
☒	ISM Band Reject filter (2370 ~ 2400 - 2483.5 ~2520 MHz)	WRCJV12	01/18/2021	Wainwright	4
☒	EMI Test Receiver	ESR3	12/20/2020	Rohde & Schwarz	102363
☒	LISN	3816/2SH	01/19/2021	EMCO	00205729
☒	LISN	ENV216	01/19/2021	Rohde & Schwarz	101349

Note:

- Equipment listed above that calibrated during the testing period was set for test after the calibration.
- Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date

11. ANNEX A TEST SETUP PHOTO

The setup photos are provided as a separate document