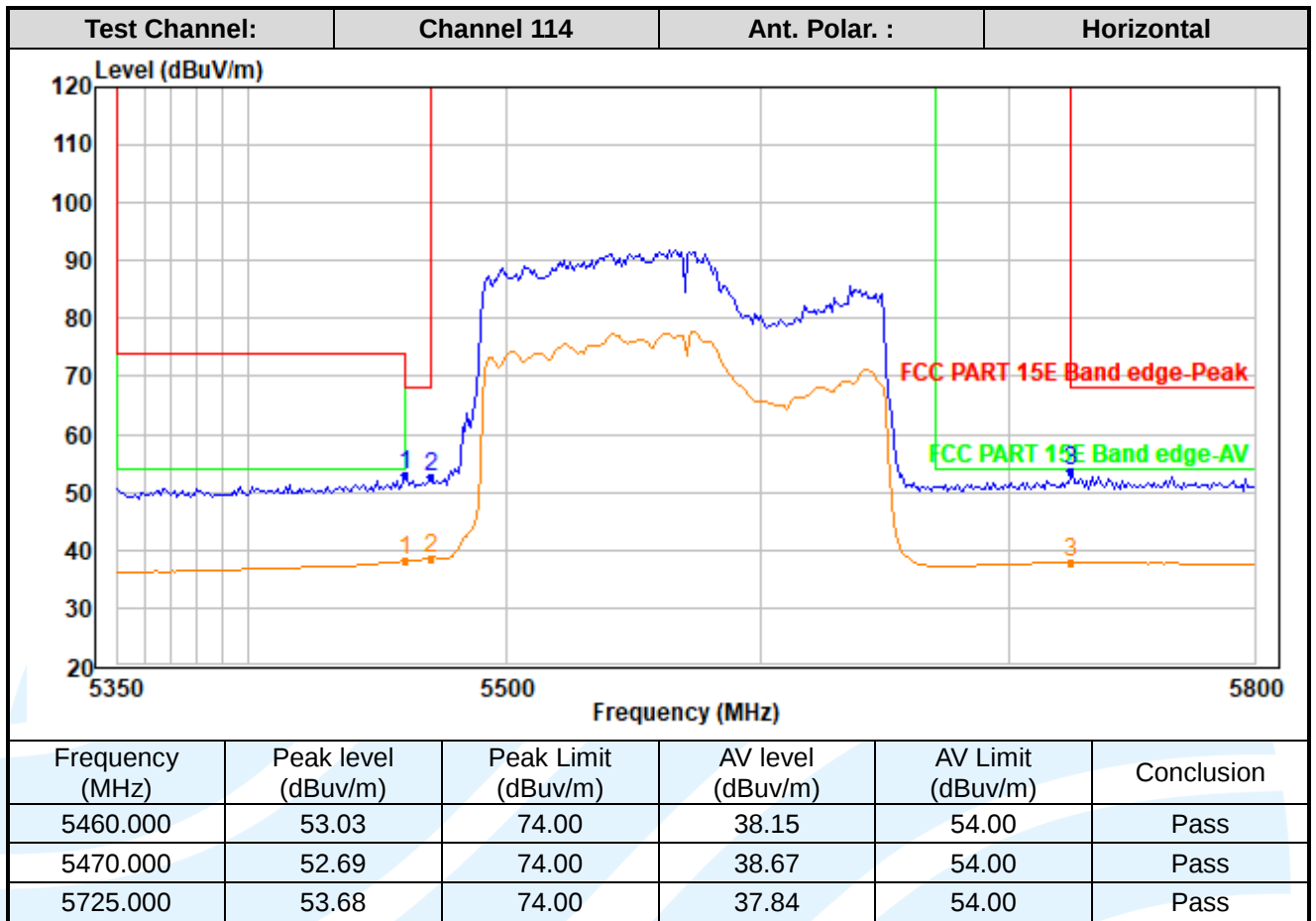
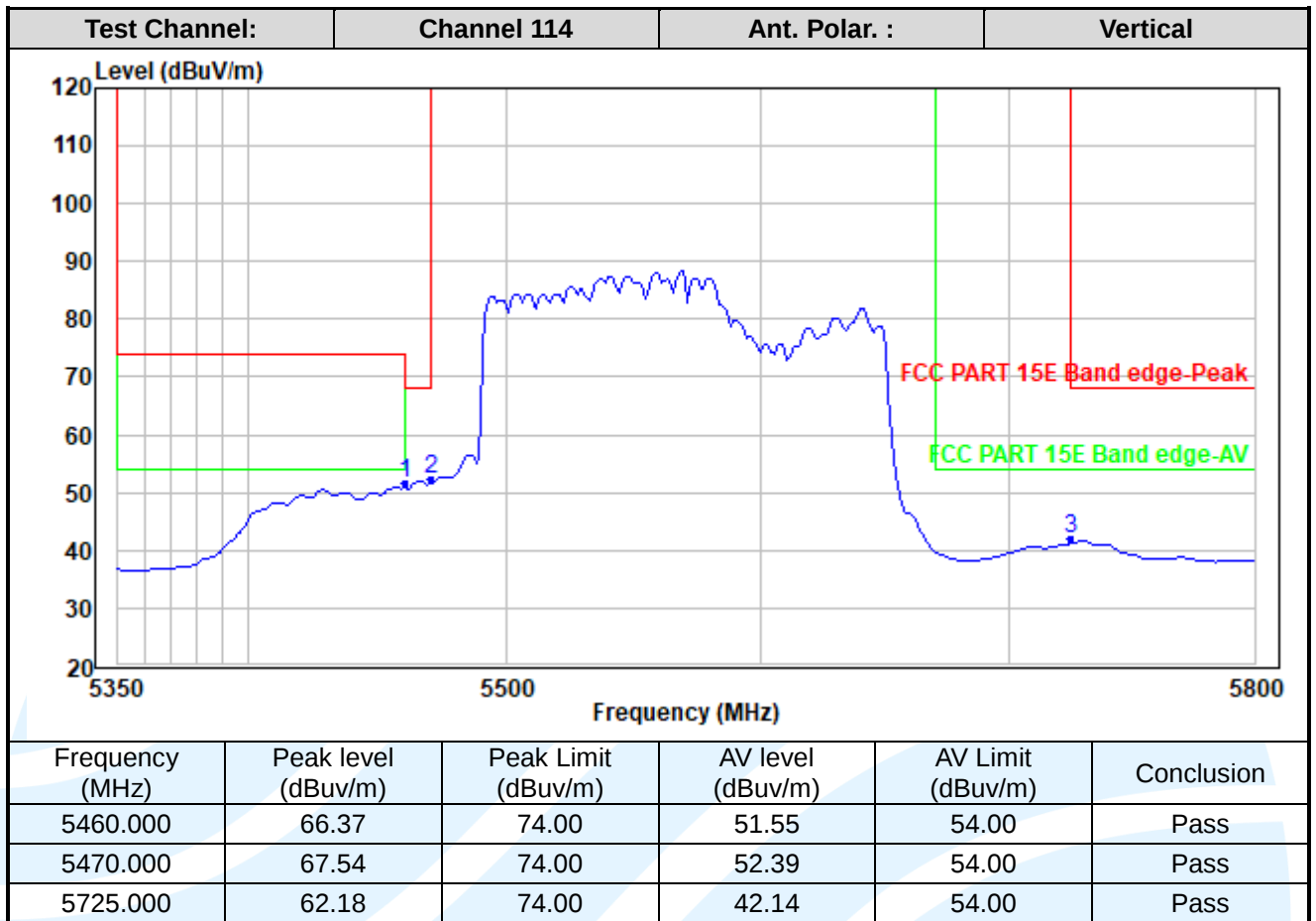






5.8 AC POWER LINE CONDUCTED EMISSION

Test Requirement: FCC 47 CFR Part 15 Subpart C Section 15.207

Test Method: ANSI C63.10-2013 Section 6.2

Limits:

Frequency range (MHz)	Limits (dB(μV))	
	Quasi-peak	Average
0,15 to 0,50	66 to 56	56 to 46
0,50 to 5	56	46
5 to 30	60	50

Remark:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

Test Setup: Refer to section 4.4.2 for details.

Test Procedures:

Test frequency range :150KHz-30MHz

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Equipment Used: Refer to section 3 for details.

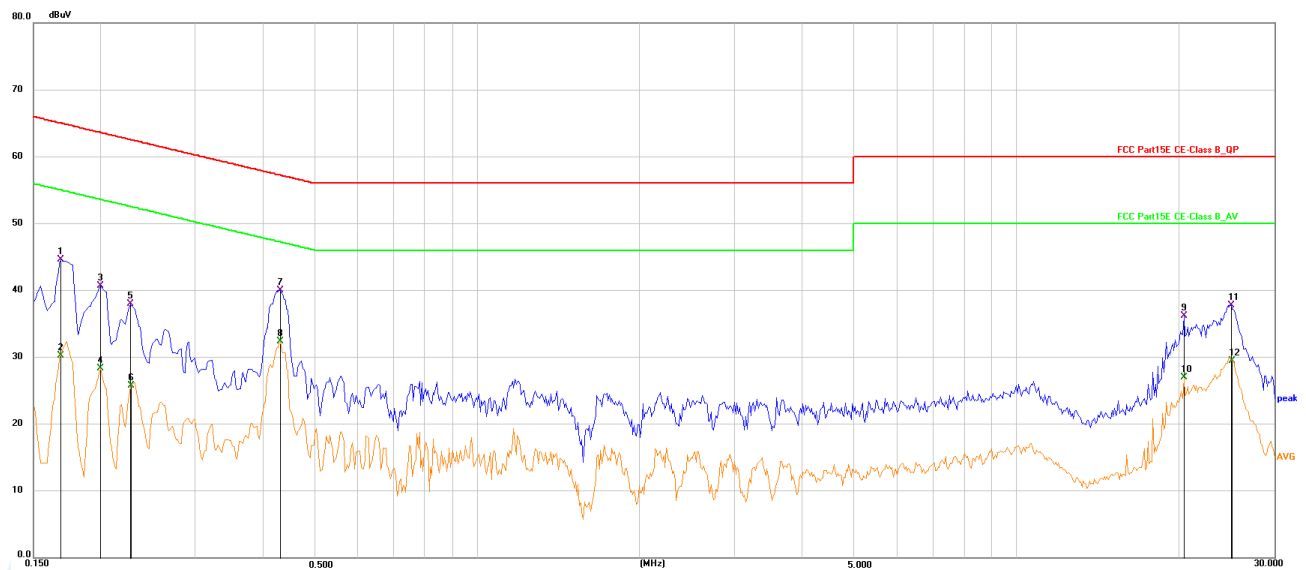
Test Result: Pass

The worst measurement data as follows:

Quasi Peak and Average:

Mode: WIFI Link

Live Line



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1680	34.38	10.19	44.57	65.06	-20.49	QP
2	0.1680	20.09	10.19	30.28	55.06	-24.78	Average
3	0.1995	30.51	10.16	40.67	63.63	-22.96	QP
4	0.1995	18.18	10.16	28.34	53.63	-25.29	Average
5	0.2265	27.86	10.17	38.03	62.58	-24.55	QP
6	0.2280	15.56	10.17	25.73	52.52	-26.79	Average
7	0.4290	29.87	10.14	40.01	57.27	-17.26	QP
8	0.4290	22.19	10.14	32.33	47.27	-14.94	Average
9	20.4270	25.42	10.80	36.22	60.00	-23.78	QP
10	20.4270	16.13	10.80	26.93	50.00	-23.07	Average
11	24.9450	26.93	10.83	37.76	60.00	-22.24	QP
12	25.0755	18.60	10.83	29.43	50.00	-20.57	Average

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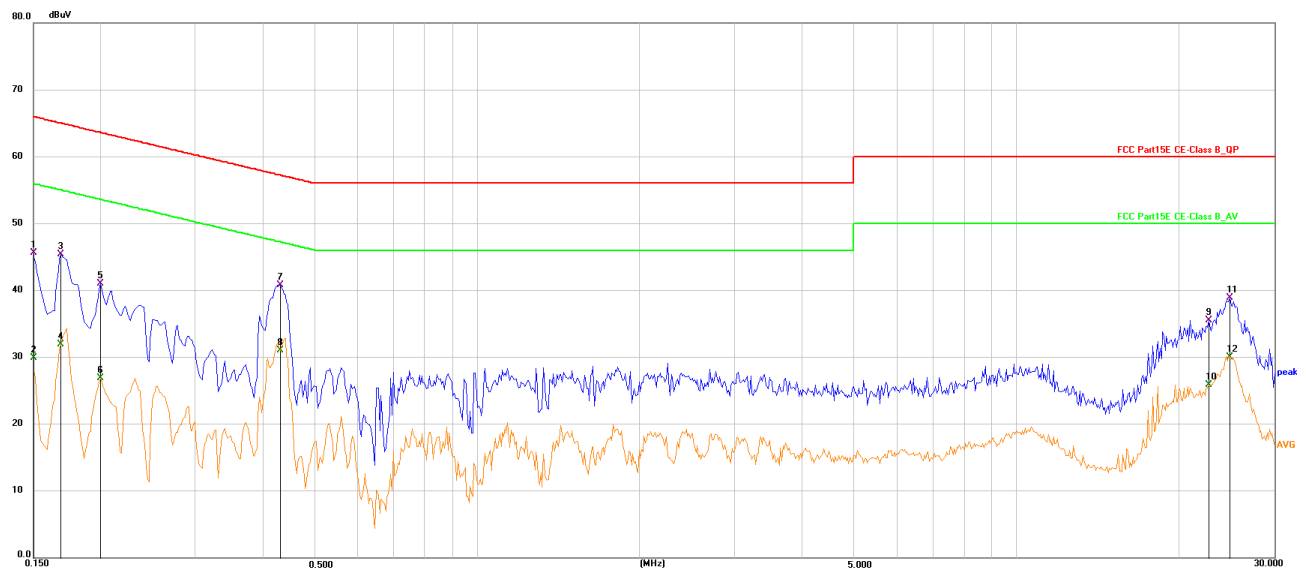
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Neutral Line



No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	35.46	10.19	45.65	66.00	-20.35	QP
2	0.1500	19.69	10.19	29.88	56.00	-26.12	Average
3	0.1680	35.22	10.15	45.37	65.06	-19.69	QP
4	0.1680	21.79	10.15	31.94	55.06	-23.12	Average
5	0.1995	30.91	10.05	40.96	63.63	-22.67	QP
6	0.1995	16.86	10.05	26.91	53.63	-26.72	Average
7	0.4290	30.61	10.21	40.82	57.27	-16.45	QP
8	0.4290	20.81	10.21	31.02	47.27	-16.25	Average
9	22.7490	24.74	10.78	35.52	60.00	-24.48	QP
10	22.7490	15.10	10.78	25.88	50.00	-24.12	Average
11	24.9180	28.09	10.79	38.88	60.00	-21.12	QP
12	24.9180	19.24	10.79	30.03	50.00	-19.97	Average

Remark:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result - Limit
4. An initial pre-scan was performed on the Phase and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

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APPENDIX A RF TEST DATA

A.1 99% BANDWIDTH

For U-NII-1, U-NII-2A and U-NII-2C Band:

Mode	Channel	RU & Index	Ant.	99% BW (MHz)
IEEE 802.11a	36	N/A	0	16.325
			1	16.334
	44		0	16.319
			1	16.300
	48		0	16.314
			1	16.302
	52		0	16.324
			1	16.331
	60		0	16.304
			1	16.301
	64		0	16.324
			1	16.301
	100		0	16.335
			1	16.314
IEEE 802.11n_20	116	N/A	0	16.315
			1	16.287
	140		0	16.306
			1	16.321
	144		1	16.308
	36		0	17.541
			1	17.550
	44		0	17.535
			1	17.525
	48		0	17.508
			1	17.515
	52		0	17.534
			1	17.543
	60		0	17.522
IEEE 802.11n_40			1	17.511
	64		0	17.519
			1	17.531
	100		0	17.530
			1	17.536
	116		0	17.535
			1	17.524
	140		0	17.518
			1	17.540
	144		0	17.517
			1	17.523
	38		0	35.894
			1	35.950
IEEE 802.11ac_20	46		0	35.901
			1	35.925
	54		0	35.896
			1	35.950
	62		0	35.888
			1	35.929
	102		0	35.882
			1	35.931
	110		0	35.874
			1	35.900
	134		0	35.869
			1	35.898
	142		0	35.889
			1	35.908
IEEE 802.11ac_20	36		0	17.533

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			1	17.557
	44		0	17.521
	48		1	17.535
			0	17.516
	52		1	17.518
			0	17.518
	60		1	17.524
			0	17.511
	64		1	17.539
			0	17.522
	100		1	17.521
			0	17.533
IEEE 802.11ac_40	116	SU	1	17.534
			0	17.507
	140		1	17.517
			0	17.537
	144		1	17.532
			0	17.546
			1	17.502
	38		0	35.923
	46		1	35.900
			0	35.918
IEEE 802.11ac_80	54		1	35.898
			0	35.901
	62		1	35.919
			0	35.902
	102		1	35.884
			0	35.918
	110		1	35.950
			0	35.891
	134		1	35.930
			0	35.952
IEEE 802.11ac_160	142		1	35.920
			0	35.873
	42		1	35.903
			0	75.013
	58		1	75.130
IEEE 802.11ax_20	106		0	74.988
			1	75.041
	138		0	75.075
			1	75.042
			0	74.974
	50		1	74.980
			0	153.351
	114		1	153.164
			0	153.376
IEEE 802.11ax_20			1	153.314
	36		0	18.888
			1	18.912
	44		0	18.862
			1	18.872
	48		0	18.853
			1	18.867
	52		0	18.864
			1	18.875
	60		0	18.868
			1	18.853
	64		0	18.882
			1	18.855
	100		0	18.883
			1	18.849
	116		0	18.841
			1	18.818

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IEEE 802.11ax_40	140	0	18.902
	144	1	18.846
	38	0	18.859
	46	1	18.841
	54	0	37.597
	62	1	37.621
	102	0	37.500
	110	1	37.609
	134	0	37.576
	142	1	37.609
IEEE 802.11ax_80	42	0	37.595
	58	1	37.628
	106	0	37.590
	138	1	37.575
		0	37.593
IEEE 802.11ax_160	50	1	37.595
	114	0	37.651
		1	37.569
		0	37.584
		1	37.528
		0	76.691
		1	76.693
		0	76.670
		1	76.732
		0	76.724
		1	76.755
		0	76.539
		1	76.536
		0	154.534
		1	154.927
		0	154.910
		1	154.781

Test Graphs

