

802.11g

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.302	62.02	2.86	32.00	27.16	74.00	11.98	V
2388.554	61.99	2.86	32.00	27.13	74.00	12.01	V
4821.500	42.93	-33.24	34.13	42.04	74.00	31.07	H
7236.000	41.33	-30.88	35.80	36.41	74.00	32.67	V
9648.000	42.68	-30.46	36.71	36.42	74.00	31.32	H
12060.000	44.31	-28.70	38.74	34.28	74.00	29.68	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2373.400	43.64	-34.35	31.98	46.01	74.00	30.36	V
2499.200	44.75	-34.15	32.10	46.80	74.00	29.25	V
4875.500	44.33	-33.30	34.15	43.49	74.00	29.67	H
7311.000	41.98	-30.82	35.83	36.97	74.00	32.02	V
9748.000	41.73	-30.33	36.85	35.22	74.00	32.27	V
12185.000	45.00	-28.11	38.81	34.30	74.00	29.00	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.675	68.88	2.93	32.09	33.86	74.00	5.12	V
2483.925	68.87	2.93	32.09	33.86	74.00	5.13	V
4931.500	49.04	-33.57	34.17	48.43	74.00	24.96	H
7386.000	40.83	-31.45	35.86	36.43	74.00	33.17	V
9848.000	42.47	-30.18	36.99	35.66	74.00	31.53	H
12310.000	44.77	-27.75	38.89	33.63	74.00	29.23	V

802.11n-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.184	65.12	2.87	32.00	30.25	74.00	8.88	V
2389.828	66.73	2.87	32.00	31.87	74.00	7.26	V
4827.500	44.51	-33.23	34.13	43.60	74.00	29.49	V
7236.000	41.38	-30.88	35.80	36.46	74.00	32.62	V
9648.000	42.16	-30.46	36.71	35.91	74.00	31.84	V
12060.000	44.78	-28.70	38.74	34.75	74.00	29.22	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2370.400	43.92	-34.47	31.98	46.41	74.00	30.08	V
2510.400	44.76	-34.26	32.12	46.90	74.00	29.24	V
4873.500	44.84	-33.30	34.15	43.99	74.00	29.16	H
7311.000	42.33	-30.82	35.83	37.32	74.00	31.68	H
9748.000	42.73	-30.33	36.85	36.22	74.00	31.27	H
12185.000	45.89	-28.11	38.81	35.19	74.00	28.11	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.630	66.69	2.93	32.09	31.67	74.00	7.31	V
2483.725	67.18	2.93	32.09	32.16	74.00	6.82	V
4926.500	47.23	-33.54	34.17	46.60	74.00	26.77	H
7386.000	40.89	-31.45	35.86	36.49	74.00	33.11	V
9848.000	42.64	-30.18	36.99	35.82	74.00	31.36	V
12310.000	45.67	-27.75	38.89	34.53	74.00	28.33	H

Average
802.11b

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2384.940	46.21	2.86	31.99	11.35	54.00	7.79	V
2390.000	46.26	2.87	32.00	11.40	54.00	7.74	V
4824.000	45.49	-33.24	34.13	44.60	54.00	8.51	V
7236.000	29.84	-30.88	35.80	24.93	54.00	24.16	H
9648.000	30.55	-30.46	36.71	24.30	54.00	23.45	V
12060.000	33.20	-28.70	38.74	23.17	54.00	20.80	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2423.100	47.49	2.89	32.03	12.58	54.00	6.50	V
2449.800	46.82	2.91	32.05	11.86	54.00	7.18	V
4874.000	47.25	-33.30	34.15	46.40	54.00	6.75	V
7311.000	29.78	-30.82	35.83	24.77	54.00	24.22	H
9748.000	30.78	-30.33	36.85	24.26	54.00	23.22	H
12185.000	33.55	-28.11	38.81	22.84	54.00	20.45	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.520	46.34	2.93	32.09	11.33	54.00	7.66	V
2485.440	46.45	2.93	32.09	11.43	54.00	7.55	V
4924.000	49.22	-33.53	34.17	48.57	54.00	4.78	V
7386.000	29.21	-31.45	35.86	24.81	54.00	24.79	V
9848.000	30.71	-30.18	36.99	23.90	54.00	23.29	V
12310.000	33.30	-27.75	38.89	22.16	54.00	20.70	H

802.11g

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2387.640	46.43	2.86	32.00	11.57	54.00	7.57	V
2389.980	47.08	2.87	32.00	12.22	54.00	6.92	V
4824.000	30.70	-33.24	34.13	29.81	54.00	23.30	V
7236.000	29.95	-30.88	35.80	25.03	54.00	24.05	V
9648.000	30.68	-30.46	36.71	24.42	54.00	23.32	H
12060.000	33.20	-28.70	38.74	23.17	54.00	20.80	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2412.720	48.51	2.88	32.02	13.61	54.00	5.49	V
2458.380	48.59	2.91	32.06	13.61	54.00	5.42	V
4869.000	31.69	-33.29	34.15	30.83	54.00	22.31	H
7311.000	29.95	-30.82	35.83	24.94	54.00	24.05	V
9748.000	30.76	-30.33	36.85	24.24	54.00	23.24	V
12185.000	33.61	-28.11	38.81	22.91	54.00	20.39	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.520	49.37	2.93	32.09	14.36	54.00	4.63	V
2484.360	48.74	2.93	32.09	13.72	54.00	5.26	V
4922.000	35.26	-33.52	34.17	34.60	54.00	18.75	V
7386.000	29.39	-31.45	35.86	24.99	54.00	24.61	H
9848.000	30.81	-30.18	36.99	24.00	54.00	23.19	V
12310.000	33.37	-27.75	38.89	22.24	54.00	20.63	H

802.11n-HT20
Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.720	47.84	2.86	32.00	12.98	54.00	6.16	V
2389.980	48.67	2.87	32.00	13.80	54.00	5.33	V
4825.000	31.20	-33.24	34.13	30.30	54.00	22.80	V
7236.000	30.06	-30.88	35.80	25.14	54.00	23.94	V
9648.000	30.77	-30.46	36.71	24.52	54.00	23.23	V
12060.000	33.32	-28.70	38.74	23.29	54.00	20.68	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2417.100	48.37	2.88	32.02	13.46	54.00	5.63	V
2455.020	48.51	2.91	32.06	13.54	54.00	5.49	V
4874.000	31.64	-33.30	34.15	30.79	54.00	22.36	V
7311.000	29.94	-30.82	35.83	24.93	54.00	24.06	H
9748.000	30.78	-30.33	36.85	24.26	54.00	23.22	V
12185.000	33.51	-28.11	38.81	22.80	54.00	20.49	V

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.520	47.87	2.93	32.09	12.86	54.00	6.13	V
2485.320	47.63	2.93	32.09	12.62	54.00	6.37	V
4924.000	33.58	-33.53	34.17	32.94	54.00	20.42	H
7386.000	29.32	-31.45	35.86	24.92	54.00	24.68	V
9848.000	30.75	-30.18	36.99	23.94	54.00	23.25	V
12310.000	33.39	-27.75	38.89	22.25	54.00	20.61	H

Test graphs as below:

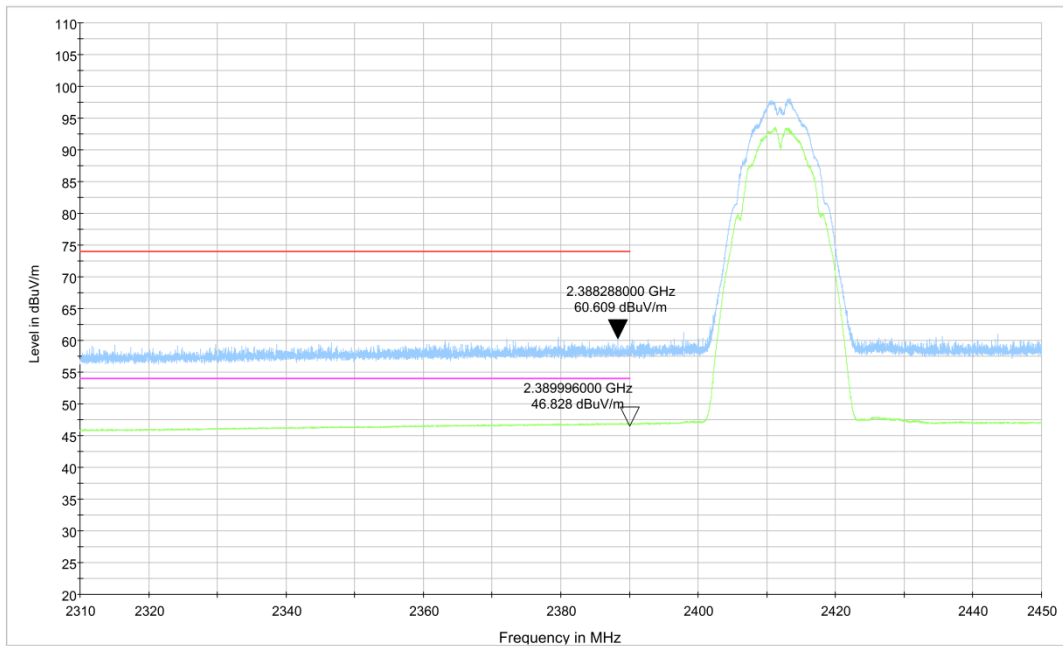


Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.45GHz

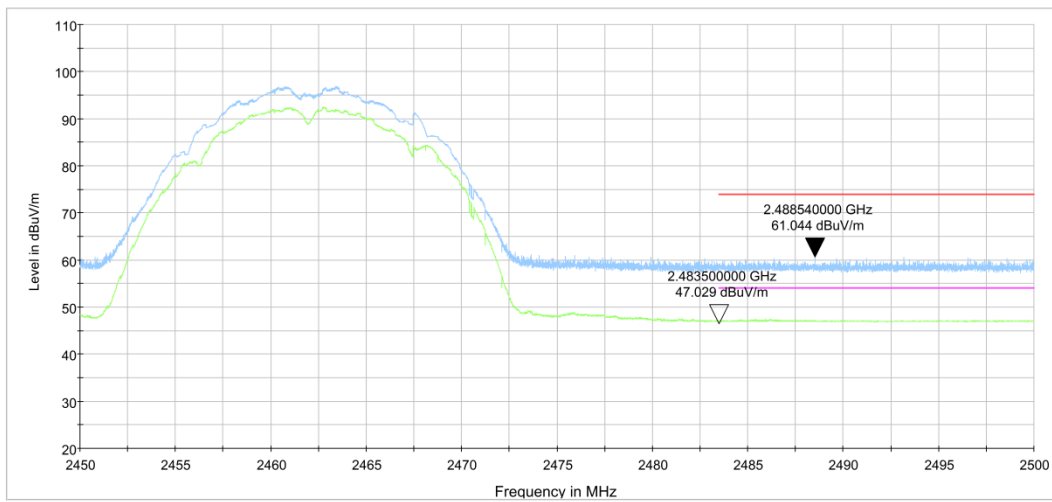


Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

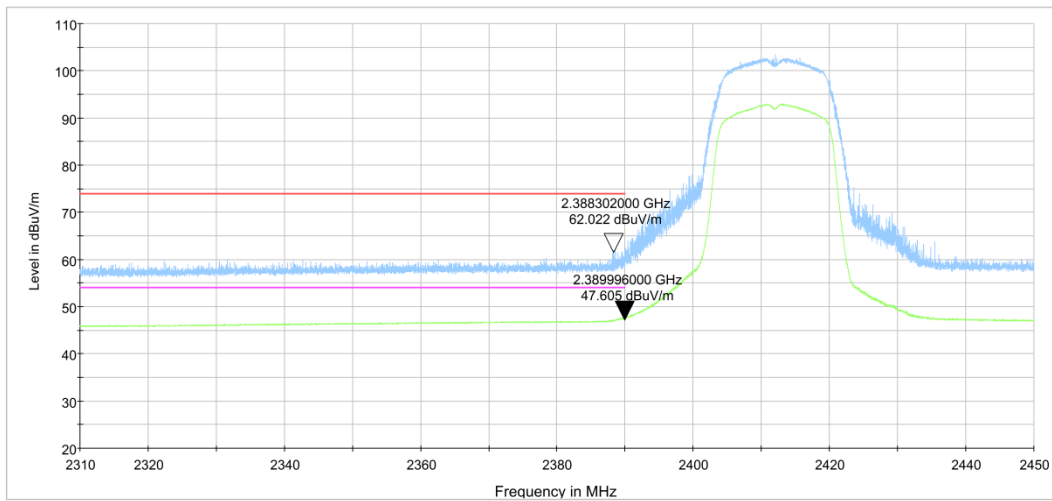


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.45GHz

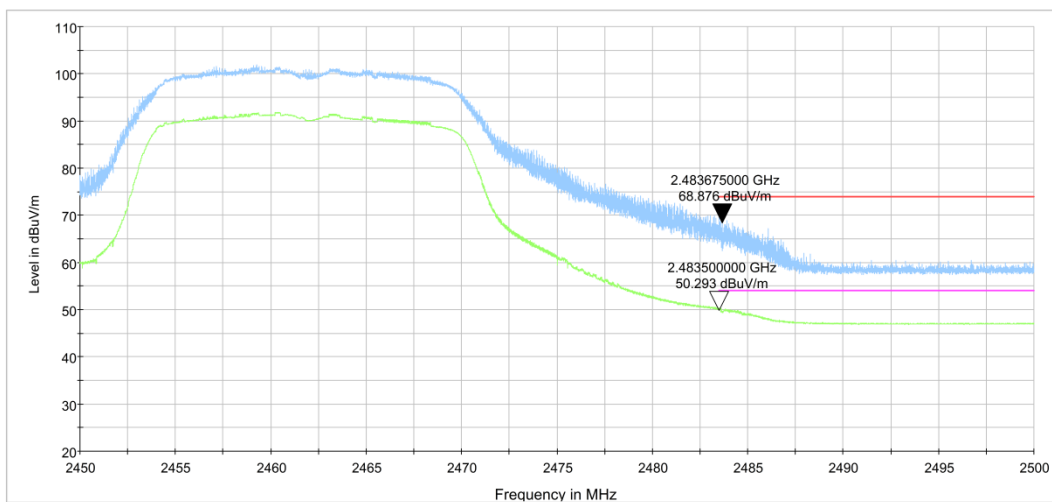


Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

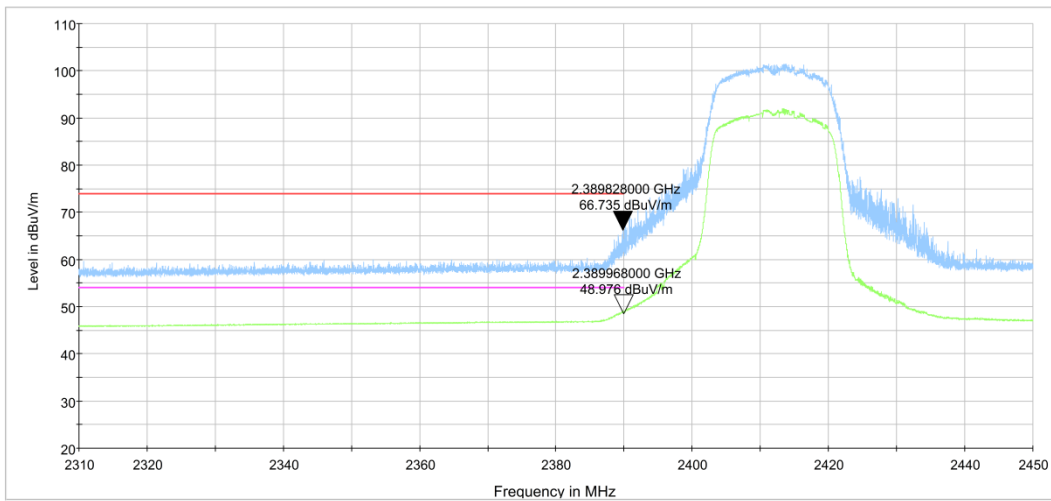


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.45GHz

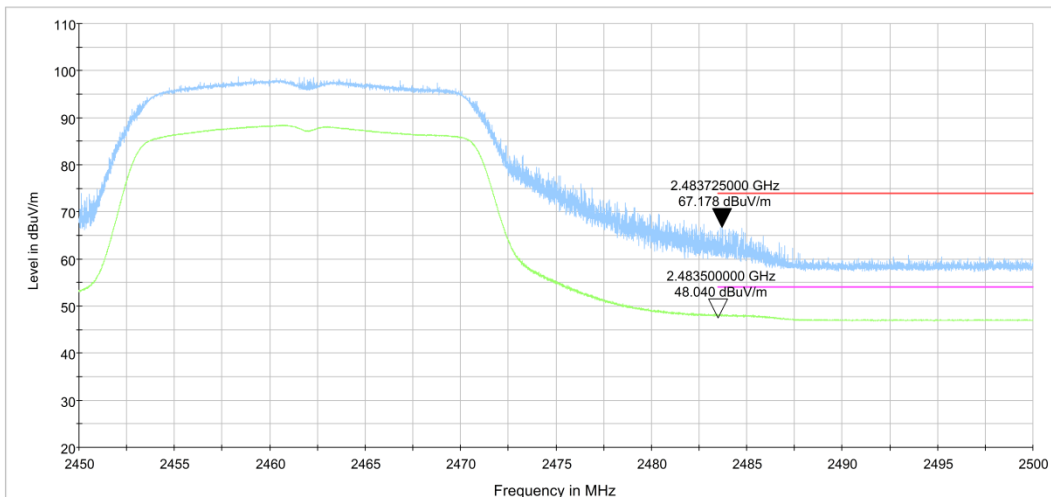


Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

A.7. AC Power-line Conducted Emission

Method of Measurement: See ANSI C63.10-2013-clause 6.2

- 1 The one EUT cable configuration and arrangement and mode of operation that produced the emission with the highest amplitude relative to the limit is selected for the final measurement, while applying the appropriate modulating signal to the EUT.
- 2 If the EUT is relocated from an exploratory test site to a final test site, the highest emissions shall be remaximized at the final test location before final ac power-line conducted emission measurements are performed.
- 3 The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment in the system) is then performed for the full frequency range for which the EUT is being tested for compliance without further variation of the EUT arrangement, cable positions, or EUT mode of operation.
- 4 If the EUT is comprised of equipment units that have their own separate ac power connections, e.g., floor-standing equipment with independent power cords for each shelf that are able to connect directly to the ac power network, each current-carrying conductor of one unit is measured while the other units are connected to a second (or more) LISN(s). All units shall be separately measured. If a power strip is provided by the manufacturer, to supply all of the units making up the EUT, only the conductors in the power cord of the power strip shall be measured.
- 5 If the EUT uses a detachable antenna, these measurements shall be made with a suitable dummy load connected to the antenna output terminals; otherwise, the tests shall be made with the antenna connected and, if adjustable, fully extended. When measuring the ac conducted emissions from a device that operates between 150 kHz and 30 MHz a non-detachable antenna may be replaced with a dummy load for the measurements within the fundamental emission band of the transmitter, but only for those measurements.³⁶ Record the six highest EUT emissions relative to the limit of each of the current-carrying conductors of the power cords of the equipment that comprises the EUT over the frequency range specified by the procuring or regulatory agency. Diagram or photograph the test setup that was used. See Clause 8 for full reporting requirements.

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

WLAN (Quasi-peak Limit)

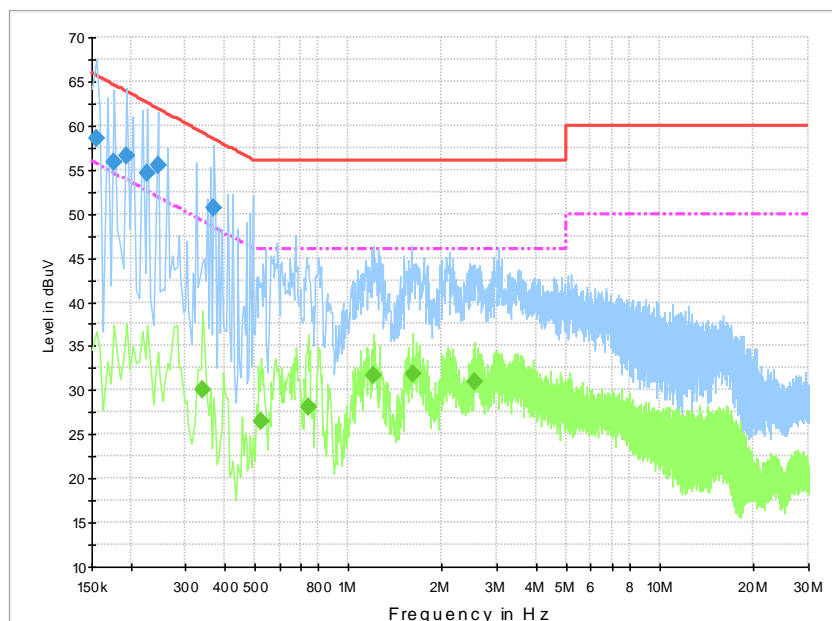
Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	66 to 56	Fig.A.7.1	Fig.A.7.2	P
0.5 to 5	56			
5 to 30	60			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dB μ V)	Result (dB μ V)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	56 to 46	Fig.A.7.1	Fig.A.7.2	P
0.5 to 5	46			
5 to 30	50			

NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Conclusion: Pass
Test graphs as below:
Measurement results:
Result for Traffic:

Fig.A.7.1 AC Powerline Conducted Emission-802.11b

Note: The graphic result above is the maximum of the measurements for both phase line and

neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154500	58.5	1000.0	9.000	On	L1	19.6	7.2	65.8
0.177000	55.9	1000.0	9.000	On	L1	19.6	8.7	64.6
0.195000	56.5	1000.0	9.000	On	L1	19.6	7.3	63.8
0.226500	54.6	1000.0	9.000	On	L1	19.7	8.0	62.6
0.244500	55.4	1000.0	9.000	On	N	19.7	6.5	61.9
0.370500	50.7	1000.0	9.000	On	N	19.7	7.8	58.5

Final Result 2

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.339000	30.1	1000.0	9.000	On	N	19.7	19.1	49.2
0.523500	26.4	1000.0	9.000	On	N	19.8	19.6	46.0
0.744000	28.0	1000.0	9.000	On	N	19.7	18.0	46.0
1.203000	31.7	1000.0	9.000	On	N	19.6	14.3	46.0
1.603500	31.8	1000.0	9.000	On	N	19.6	14.2	46.0
2.535000	30.9	1000.0	9.000	On	N	19.6	15.1	46.0

Measurement results for Set.1:

Result for Idle:

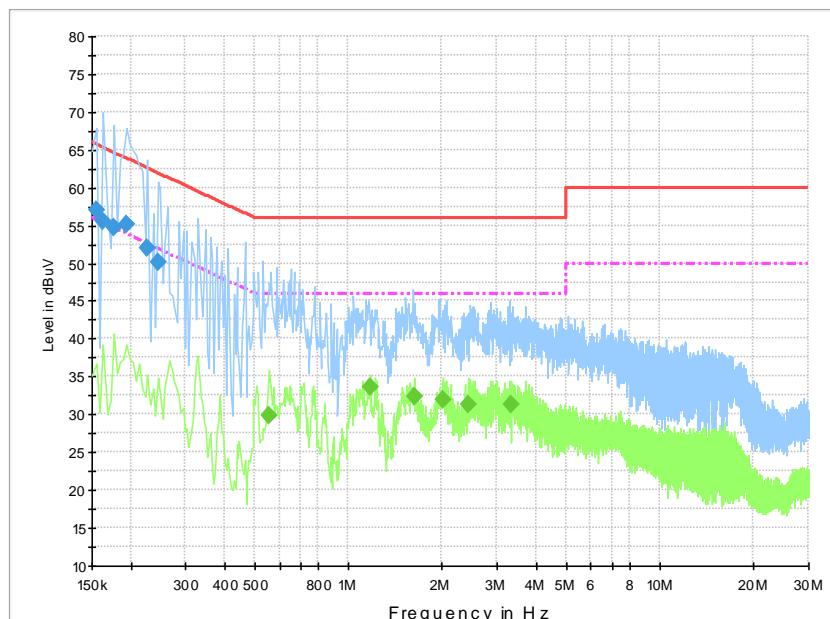


Fig.A.7.2 AC Powerline Conducted Emission-Idle

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154500	57.0	1000.0	9.000	On	N	19.6	8.7	65.8
0.163500	55.5	1000.0	9.000	On	L1	19.7	9.7	65.3
0.177000	54.7	1000.0	9.000	On	L1	19.6	10.0	64.6
0.195000	55.2	1000.0	9.000	On	L1	19.6	8.6	63.8
0.226500	52.0	1000.0	9.000	On	L1	19.7	10.6	62.6
0.244500	50.1	1000.0	9.000	On	L1	19.7	11.8	61.9



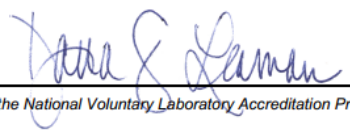
Final Result 2

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.555000	29.9	1000.0	9.000	On	N	19.8	16.1	46.0
1.171500	33.5	1000.0	9.000	On	N	19.6	12.5	46.0
1.621500	32.4	1000.0	9.000	On	N	19.6	13.6	46.0
2.008500	31.8	1000.0	9.000	On	N	19.6	14.2	46.0
2.413500	31.3	1000.0	9.000	On	N	19.6	14.7	46.0
3.309000	31.3	1000.0	9.000	On	N	19.6	14.7	46.0

ANNEX B: EUT parameters

Disclaimer: The worse case provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

ANNEX C: Accreditation Certificate

<p>United States Department of Commerce National Institute of Standards and Technology</p> <div style="display: flex; justify-content: space-around; align-items: center;"><div style="font-size: 2em; font-weight: bold; letter-spacing: 0.5em;">NVLAP[®]</div><div style="text-align: center;"><p>ilac-MRA</p></div></div> <hr/> <p style="font-size: 1.2em; font-weight: bold;">Certificate of Accreditation to ISO/IEC 17025:2017</p> <hr/> <p>NVLAP LAB CODE: 600118-0</p> <p style="text-align: center;">Telecommunication Technology Labs, CAICT Beijing China</p> <p style="text-align: center;"><i>is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:</i></p> <p style="text-align: center;">Electromagnetic Compatibility & Telecommunications</p> <p style="text-align: center;"><i>This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).</i></p> <div style="display: flex; justify-content: space-between; align-items: center;"><div style="text-align: center;"><hr/><p>2020-09-29 through 2021-09-30 <i>Effective Dates</i></p></div><div style="text-align: center;"><p>DEPARTMENT OF COMMERCE UNITED STATES OF AMERICA</p></div><div style="text-align: center;"><hr/><p><i>Dana S. Laman</i> For the National Voluntary Laboratory Accreditation Program</p></div></div>	
--	--

END OF REPORT