802.11n-HT40-Average

Ch3

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2389.100	47.44	2.9	32.0	12.56	54.0	6.6	H	155	92
2390.200	47.55	2.9	32.0	12.66	54.0	6.5	H	155	26
4843.500	32.14	-33.2	34.1	31.23	54.0	21.9	H	155	222
7266.000	34.62	-30.6	35.8	29.47	54.0	19.4	H	155	248
9688.500	35.71	-30.4	36.8	29.24	54.0	18.3	H	155	46
12109.500	38.83	-28.5	38.9	28.38	54.0	15.2	H	155	68

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2386.500	47.41	2.9	32.0	12.53	54.0	6.6	H	155	16
2484.800	47.74	2.9	32.2	12.63	54.0	6.3	H	155	48
4873.500	31.83	-33.3	34.2	30.98	54.0	22.2	H	155	80
7311.000	34.20	-30.8	35.8	29.25	54.0	19.8	H	155	8
9748.500	35.95	-30.3	36.9	29.38	54.0	18.1	H	155	102
12184.500	38.96	-28.1	38.9	28.13	54.0	15.0	H	155	118

Ch9

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.500	48.10	2.9	32.2	13.00	54.0	5.9	H	155	180
2485.400	47.85	2.9	32.2	12.74	54.0	6.1	H	155	200
4903.500	31.66	-33.4	34.2	30.92	54.0	22.3	H	155	225
7356.000	33.95	-31.2	35.8	29.36	54.0	20.0	H	155	202
9808.500	35.49	-30.3	37.0	28.83	54.0	18.5	H	155	245
12259.500	39.08	-27.9	39.0	28.01	54.0	14.9	H	155	268

802.11n-HT40-Peak

Ch3

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2379.300	61.12	2.9	32.0	26.26	74.0	12.9	H	155	88
2386.538	61.02	2.9	32.0	26.14	74.0	13.0	H	155	22
4844.000	41.21	-33.2	34.1	40.30	74.0	32.8	V	155	220
7266.000	41.47	-30.6	35.8	36.31	74.0	32.5	V	155	242
9688.000	42.62	-30.4	36.8	36.16	74.0	31.4	V	155	44
12110.000	45.69	-28.5	38.9	35.23	74.0	28.3	V	155	66

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2172.650	43.15	-35.2	31.6	46.67	74.0	30.8	H	155	0
2689.700	44.34	-34.4	32.4	46.36	74.0	29.7	V	155	0
4874.000	42.52	-33.3	34.2	41.67	74.0	31.5	V	155	88
7311.000	41.74	-30.8	35.8	36.80	74.0	32.3	V	155	0
9748.000	43.86	-30.3	36.9	37.29	74.0	30.1	H	155	110
12185.000	45.38	-28.1	38.9	34.55	74.0	28.6	H	155	132

Ch9

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2485.665	64.08	2.9	32.2	28.97	74.0	9.9	H	155	176
2486.245	63.70	2.9	32.2	28.58	74.0	10.3	H	155	198
4904.000	41.08	-33.4	34.2	40.34	74.0	32.9	H	155	220
7356.000	42.93	-31.2	35.8	38.33	74.0	31.1	H	155	198
9808.000	43.52	-30.3	37.0	36.87	74.0	30.5	V	155	242
12260.000	45.75	-27.9	39.0	34.67	74.0	28.3	H	155	264

Test graphs as below:

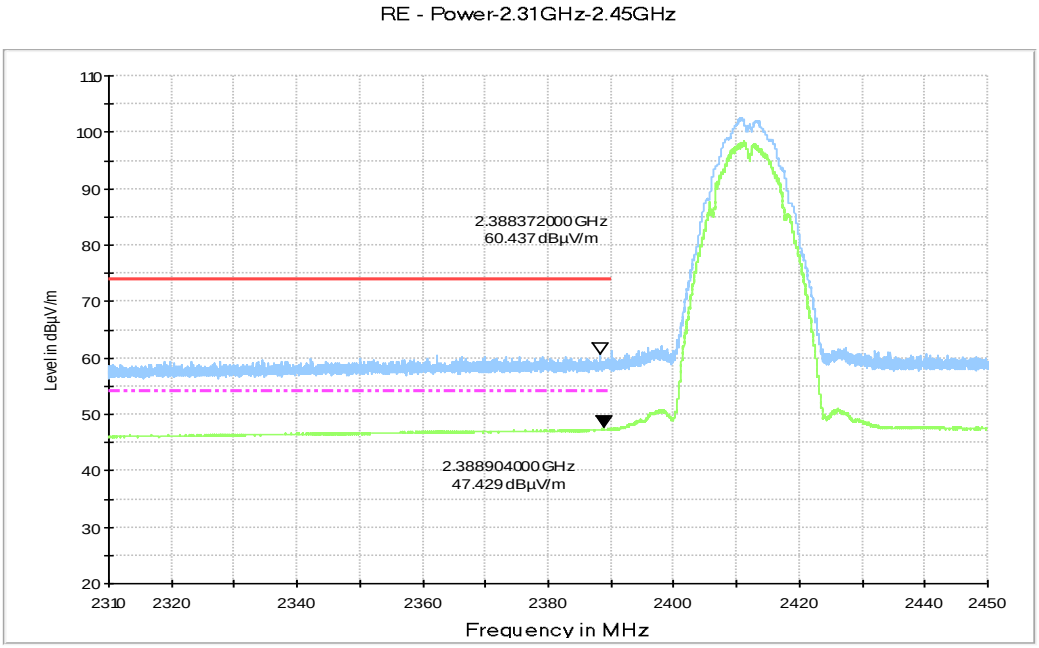

Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.45GHz

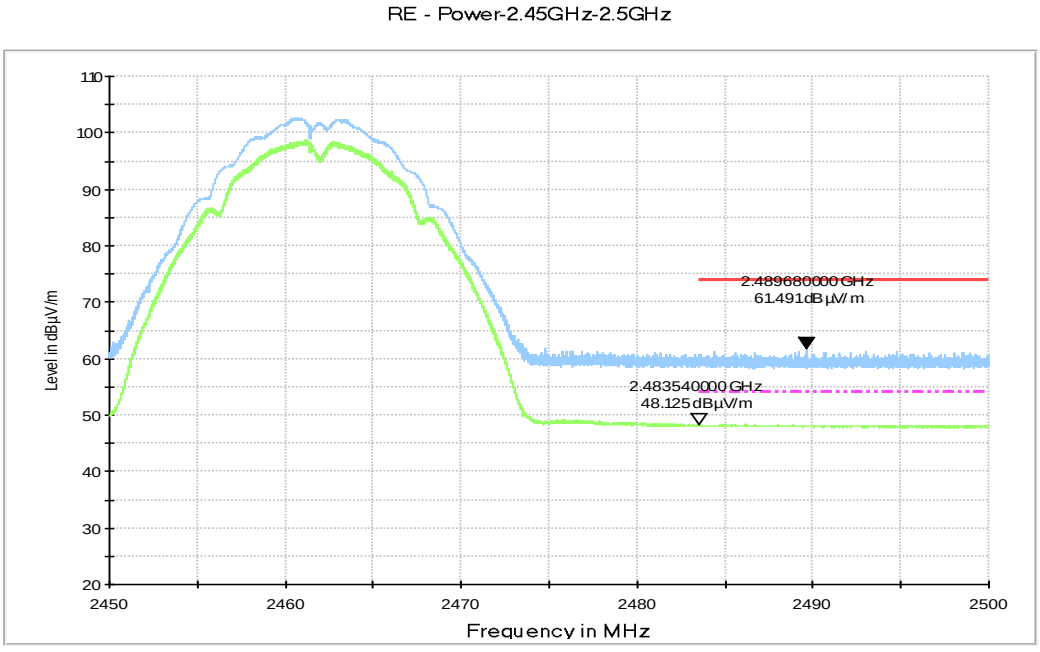

Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

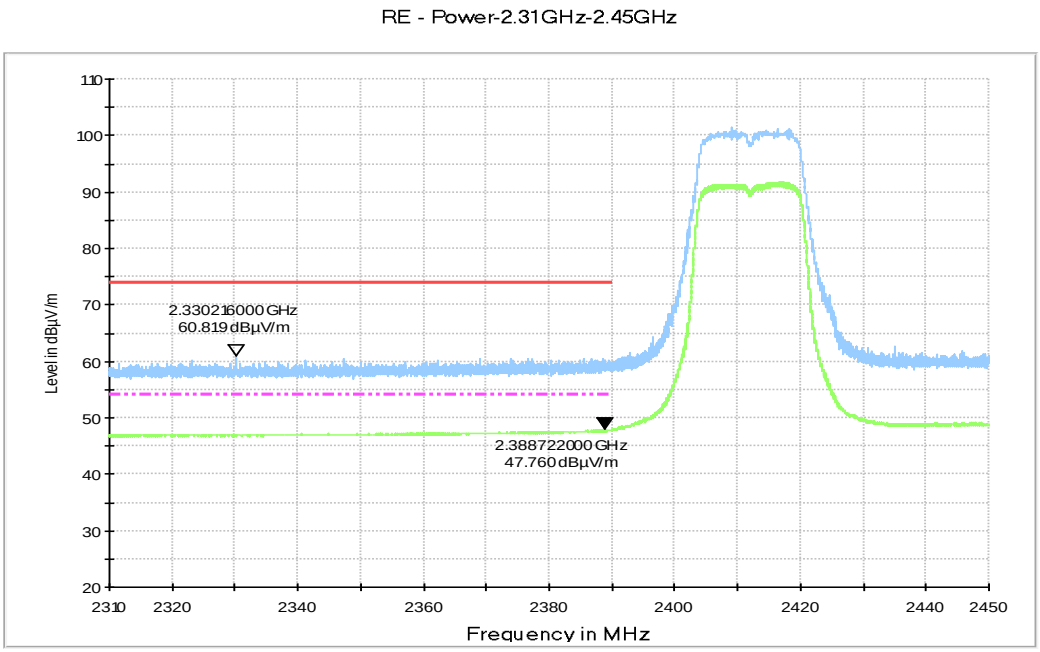

Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.43GHz

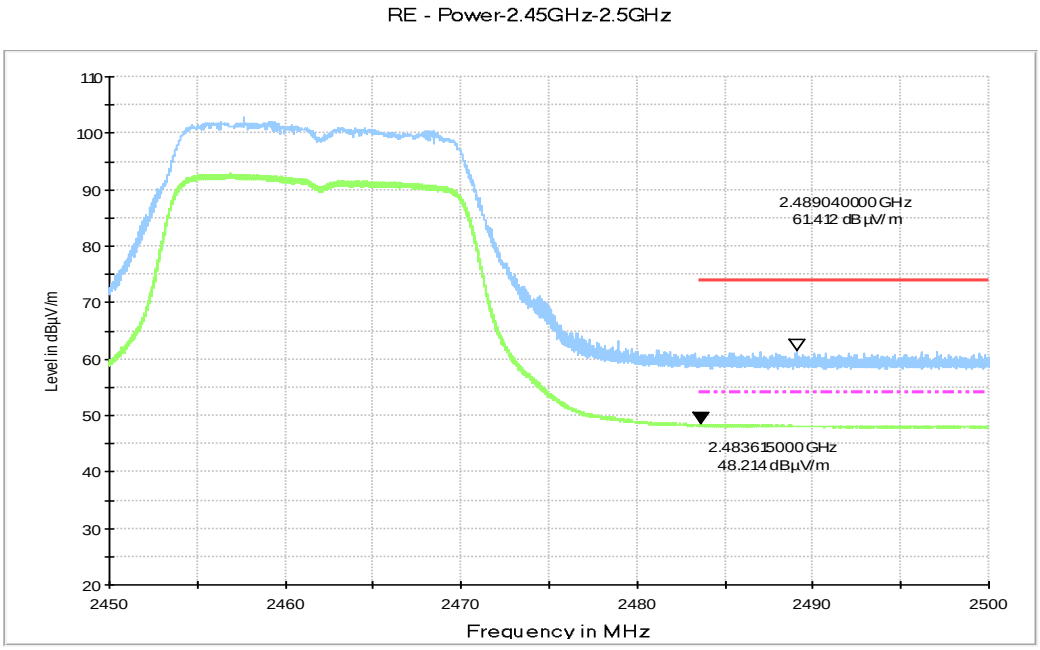

Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

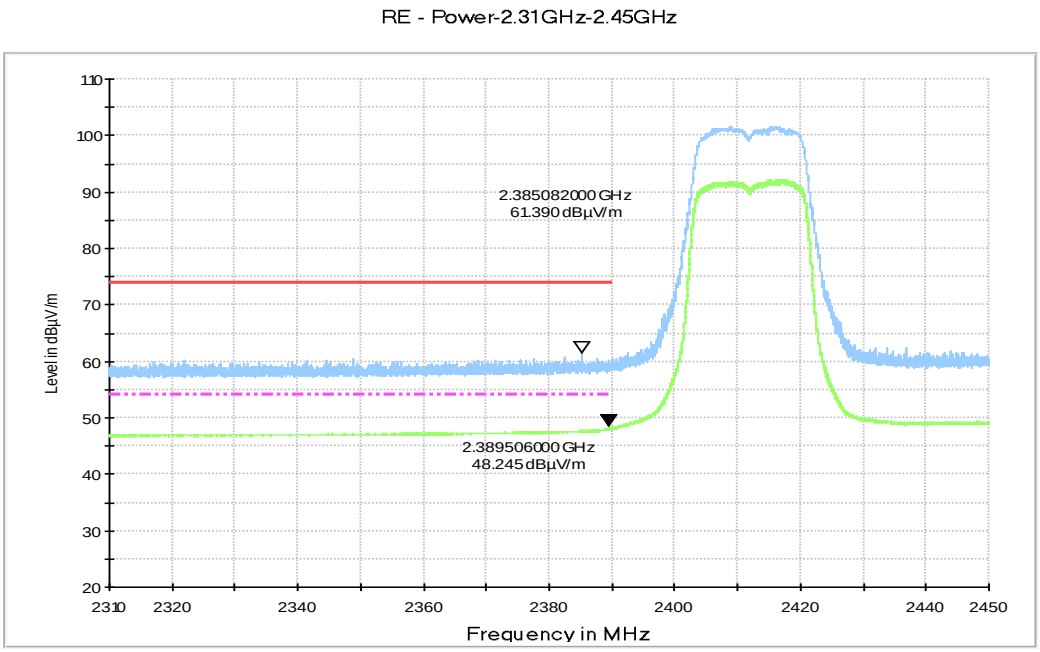

Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31GHz - 2.45GHz

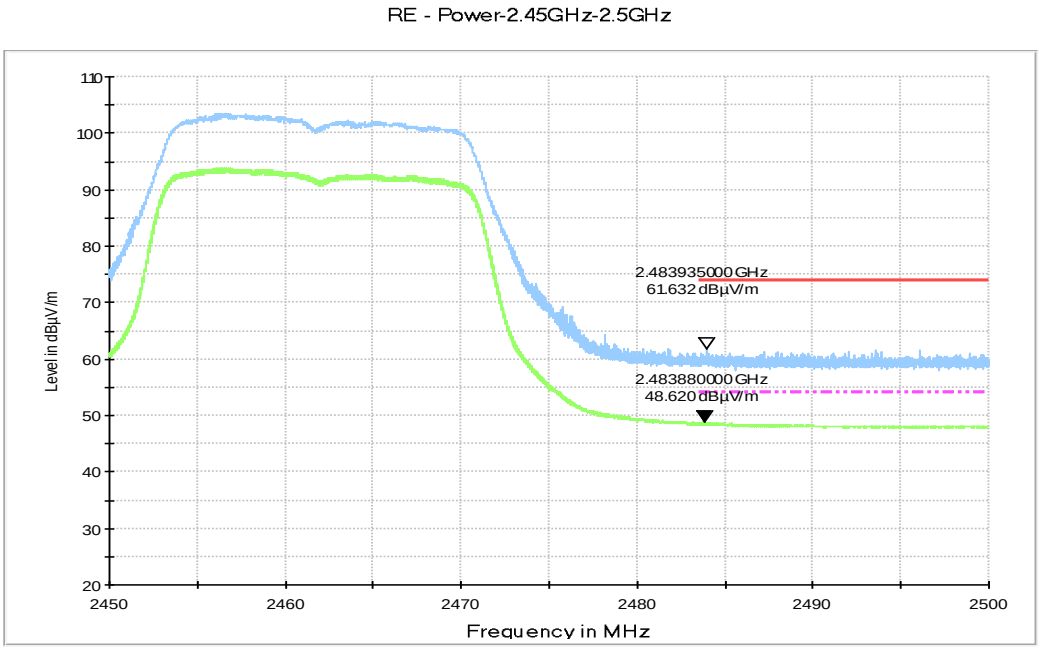

Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

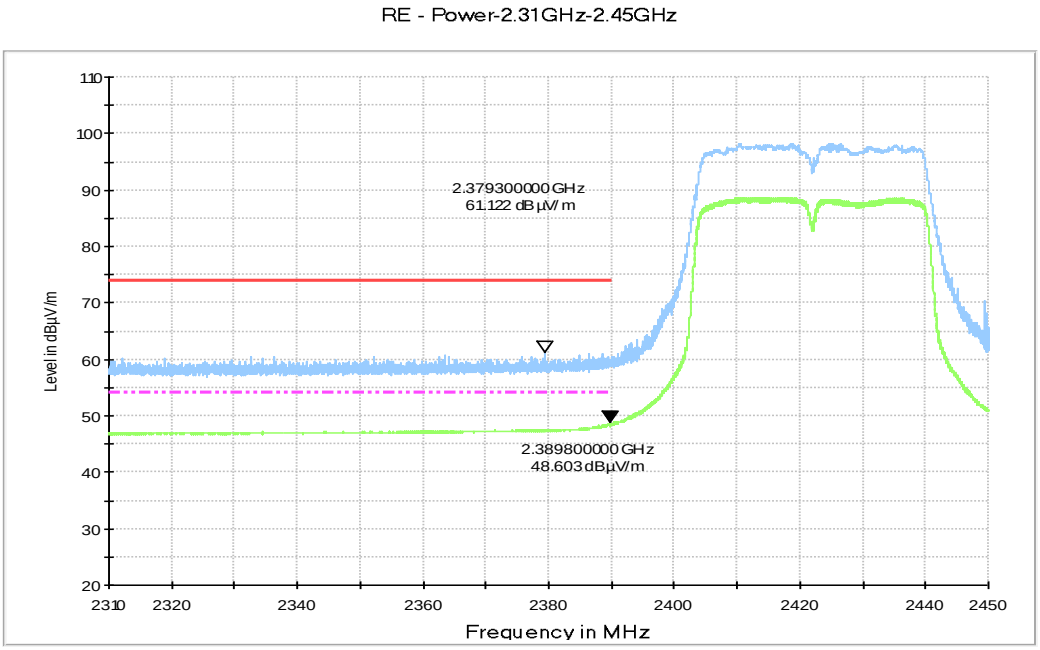

Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31GHz - 2.45GHz

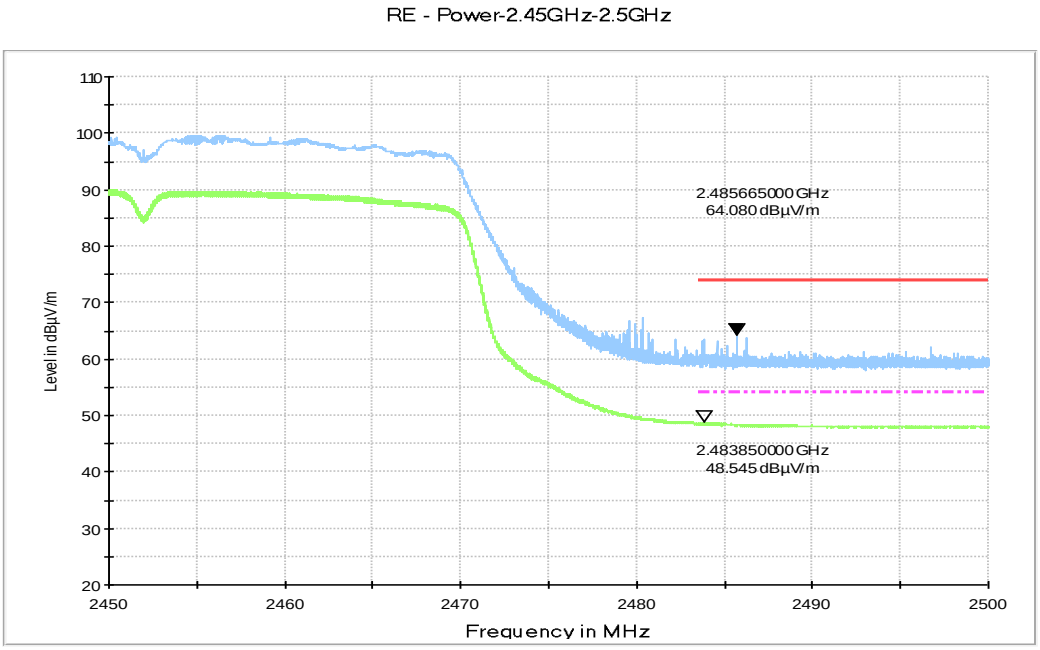

Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

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 (dBμV)	Result (dBμV)		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 (dBμV)	Result (dBμV)		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:

Traffic:

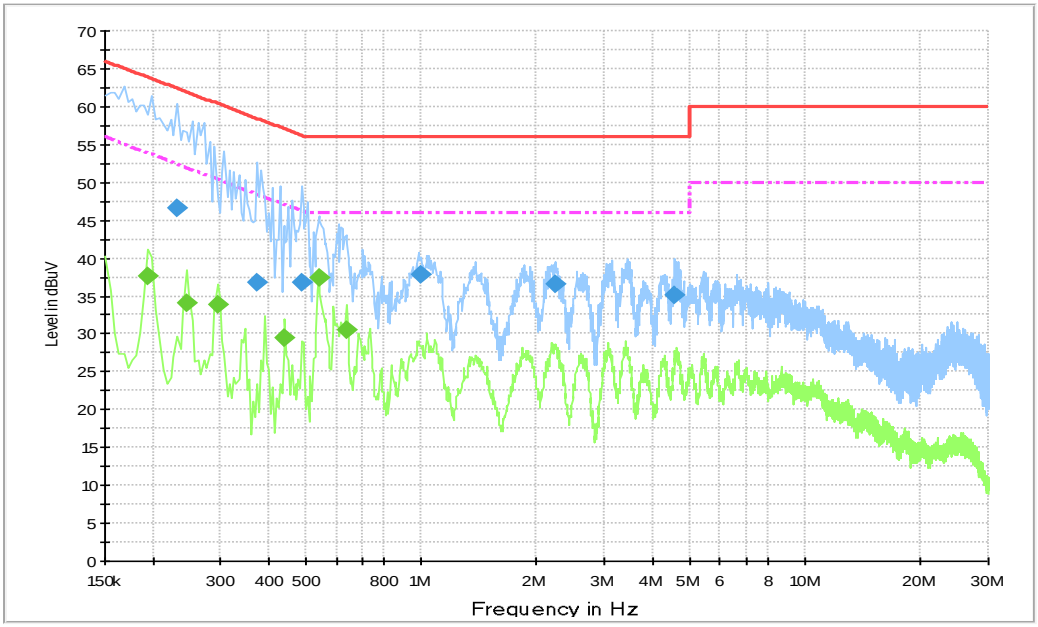

Fig.A.7.1 AC Powerline Conducted Emission-802.11b

Note1: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.231000	46.6	5000.	9.000	L1	19.9	15.8	62.4
0.375000	36.7	5000.	9.000	L1	20.0	21.7	58.4
0.487500	36.7	5000.	9.000	L1	20.0	19.5	56.2
1.000500	37.8	5000.	9.000	L1	19.8	18.2	56.0
2.242500	36.5	5000.	9.000	L1	19.8	19.5	56.0
4.578000	35.1	5000.	9.000	L1	19.8	20.9	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.195000	37.7	5000.0	9.000	L1	20.0	16.2	53.8
0.244500	34.0	5000.0	9.000	L1	19.9	18.0	51.9
0.294000	33.8	5000.0	9.000	L1	19.9	16.6	50.4
0.442500	29.6	5000.0	9.000	L1	20.0	17.4	47.0
0.541500	37.3	5000.0	9.000	L1	20.0	8.7	46.0
0.640500	30.6	5000.0	9.000	L1	19.9	15.4	46.0

Note2: The measurement results showed here are worst cases of the combinations of different cables。

Idle:

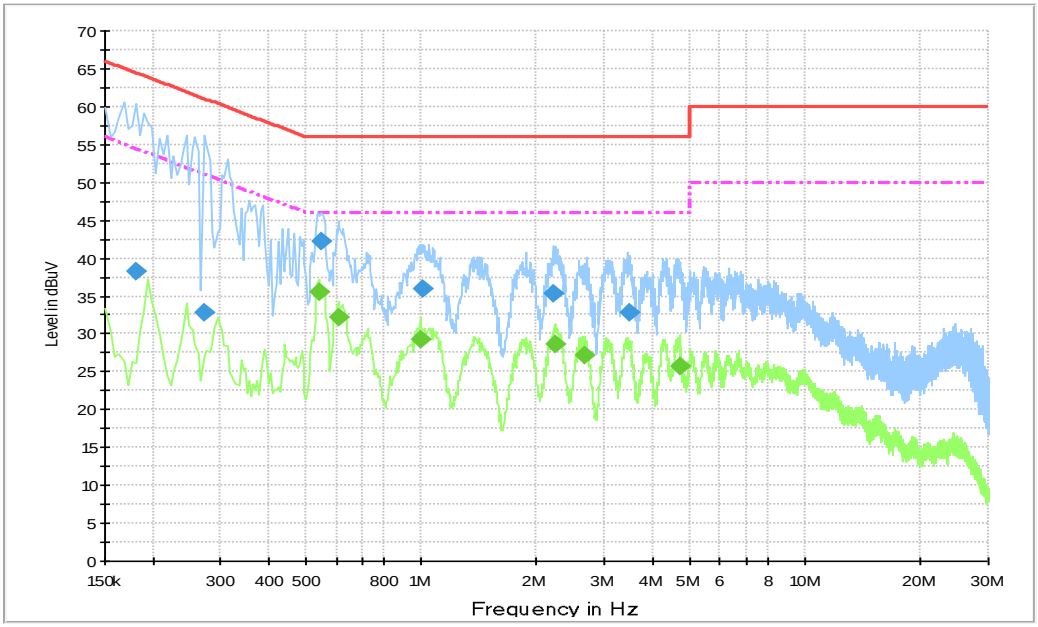

Fig.A.7.2 AC Powerline Conducted Emission-Idle

Note1: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.181500	38.3	5000.	9.000	L1	20.1	26.1	64.4
0.271500	32.8	5000.	9.000	L1	19.9	28.2	61.1
0.550500	42.3	5000.	9.000	L1	20.0	13.7	56.0
1.014000	35.9	5000.	9.000	L1	19.8	20.1	56.0
2.211000	35.3	5000.	9.000	L1	19.8	20.7	56.0
3.498000	32.8	5000.	9.000	L1	19.8	23.2	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.541500	35.5	5000.0	9.000	L1	20.0	10.5	46.0
0.609000	32.1	5000.0	9.000	L1	19.9	13.9	46.0
0.996000	29.2	5000.0	9.000	L1	19.8	16.8	46.0
2.224500	28.7	5000.0	9.000	L1	19.8	17.3	46.0
2.661000	27.1	5000.0	9.000	L1	19.8	18.9	46.0
4.699500	25.7	5000.0	9.000	L1	19.8	20.3	46.0

Note2: The measurement results showed here are worst cases of the combinations of different cables

ANNEX B: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT
Beijing
China

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Electromagnetic Compatibility & Telecommunications

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. 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).

2019-09-26 through 2020-09-30
Effective Dates

For the National Voluntary Laboratory Accreditation Program

*****END OF REPORT*****