Average

802.11b

Ch1

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)
2389.200	46.73	2.9	32.0	11.90	54.0	7.3	H	155	20
2390.000	46.78	2.9	32.0	11.95	54.0	7.2	H	155	45
4824.000	32.70	-35.2	34.1	33.84	54.0	21.3	H	155	240
7234.500	49.25	-32.4	35.8	45.90	54.0	4.7	H	155	180
9648.000	39.74	-30.1	36.8	33.10	54.0	14.3	H	155	85
12060.000	37.56	-31.0	38.9	29.68	54.0	16.4	H	155	25

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)
2398.200	47.42	2.9	32.0	12.59	54.0	6.6	H	155	92
2472.900	47.42	2.9	32.0	12.50	54.0	6.6	H	155	115
4873.500	42.86	-35.5	34.1	44.28	54.0	11.1	H	155	135
7311.000	49.00	-31.6	35.8	44.80	54.0	5.0	H	155	168
9748.500	38.96	-31.3	36.9	33.34	54.0	15.0	H	155	184
12184.500	37.49	-29.1	39.0	27.65	54.0	16.5	H	155	202

Ch11

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	47.44	2.9	32.0	12.51	54.0	6.6	H	155	180
2483.900	47.52	2.9	32.0	12.59	54.0	6.5	H	155	204
4924.500	34.73	-35.2	34.1	35.81	54.0	19.3	H	155	222
7386.000	42.85	-31.2	35.8	38.28	54.0	11.2	H	155	245
9847.500	38.16	-30.6	37.0	31.70	54.0	15.8	H	155	72
12310.500	37.67	-31.6	39.0	30.26	54.0	16.3	H	155	94

802.11g

Ch1

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)
2388.800	46.99	2.9	32.0	12.16	54.0	7.0	H	155	48
2390.000	47.33	2.9	32.0	12.50	54.0	6.7	H	155	70
4824.000	29.97	-35.2	34.1	31.12	54.0	24.0	H	155	92
7236.000	37.19	-32.4	35.8	33.83	54.0	16.8	H	155	112
9648.000	40.10	-30.1	36.8	33.45	54.0	13.9	H	155	136
12060.000	37.72	-31.0	38.9	29.83	54.0	16.3	H	155	156

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)
2393.100	47.23	2.9	32.0	12.40	54.0	6.8	H	155	8
2479.900	47.73	2.9	32.0	12.81	54.0	6.3	H	155	26
4873.500	30.33	-35.5	34.1	31.74	54.0	23.7	H	155	72
7311.000	38.52	-31.6	35.8	34.32	54.0	15.5	H	155	136
9748.500	39.14	-31.3	36.9	33.52	54.0	14.9	H	155	94
12184.500	37.53	-29.1	39.0	27.69	54.0	16.5	H	155	48

Ch11

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	49.81	2.9	32.0	14.88	54.0	4.2	H	155	46
2483.700	49.72	2.9	32.0	14.79	54.0	4.3	H	155	70
4824.500	31.21	-35.2	34.1	32.37	54.0	22.8	H	155	92
7386.000	38.82	-31.2	35.8	34.24	54.0	15.2	H	155	268
9648.000	39.60	-30.1	36.8	32.96	54.0	14.4	H	155	292
12310.500	37.79	-31.6	39.0	30.37	54.0	16.2	H	155	316

802.11n-HT20

Ch1

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)
2389.400	48.77	2.9	32.0	13.94	54.0	5.2	H	155	4
2390.000	49.01	2.9	32.0	14.19	54.0	5.0	H	155	26
4824.000	29.91	-35.2	34.1	31.05	54.0	24.1	H	155	24
7236.000	36.59	-32.4	35.8	33.24	54.0	17.4	H	155	6
9648.000	40.10	-30.1	36.8	33.46	54.0	13.9	H	155	48
12060.000	37.78	-31.0	38.9	29.89	54.0	16.2	H	155	136

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)
2398.500	48.07	2.9	32.0	13.23	54.0	5.9	H	155	135
3478.300	48.20	-35.8	33.1	50.90	54.0	5.8	H	155	164
4873.500	30.21	-35.5	34.1	31.63	54.0	23.8	H	155	102
7311.000	37.45	-31.6	35.8	33.25	54.0	16.6	H	155	112
9748.500	39.10	-31.3	36.9	33.48	54.0	14.9	H	155	115
12184.500	37.49	-29.1	39.0	27.64	54.0	16.5	H	155	92

Ch11

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	51.30	2.9	32.0	16.37	54.0	2.7	H	155	48
2483.900	50.85	2.9	32.0	15.93	54.0	3.1	H	155	70
4924.500	31.12	-35.2	34.1	32.20	54.0	22.9	H	155	92
7386.000	38.14	-31.2	35.8	33.56	54.0	15.9	H	155	112
9847.500	37.46	-30.6	37.0	31.00	54.0	16.5	H	155	136
12060.000	37.65	-31.0	38.9	29.77	54.0	16.3	H	155	156

802.11n-HT40

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)
2389.800	47.64	2.9	32.0	12.81	54.0	6.4	H	155	180
2389.540	48.54	2.9	32.0	13.71	54.0	5.5	H	155	204
4843.500	30.13	-35.4	34.1	31.43	54.0	23.9	H	155	222
7266.000	34.92	-32.5	35.8	31.62	54.0	19.1	H	155	245
9688.500	38.85	-30.7	36.8	32.72	54.0	15.1	H	155	72
12109.500	37.50	-30.7	38.9	29.24	54.0	16.5	H	155	94

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)
2405.800	48.35	2.9	32.0	13.51	54.0	5.6	H	155	28
2478.600	48.92	2.9	32.0	14.00	54.0	5.1	H	155	74
4873.500	30.48	-35.5	34.1	31.90	54.0	23.5	H	155	140
9311.000	35.39	-31.3	36.5	30.19	54.0	18.6	H	155	8
9748.500	37.87	-31.3	36.9	32.26	54.0	16.1	H	155	80
12184.500	37.50	-29.1	39.0	27.66	54.0	16.5	H	155	243

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)
2483.540	50.65	2.9	32.0	15.72	54.0	3.4	H	155	24
2483.700	50.06	2.9	32.0	15.13	54.0	3.9	H	155	336
4903.500	31.03	-35.4	34.1	32.31	54.0	23.0	H	155	248
7356.000	35.76	-30.9	35.8	30.84	54.0	18.2	H	155	268
9808.500	36.80	-31.6	37.0	31.40	54.0	17.2	H	155	290
12259.500	37.71	-30.3	39.0	28.98	54.0	16.3	H	155	300

Test graphs as below:

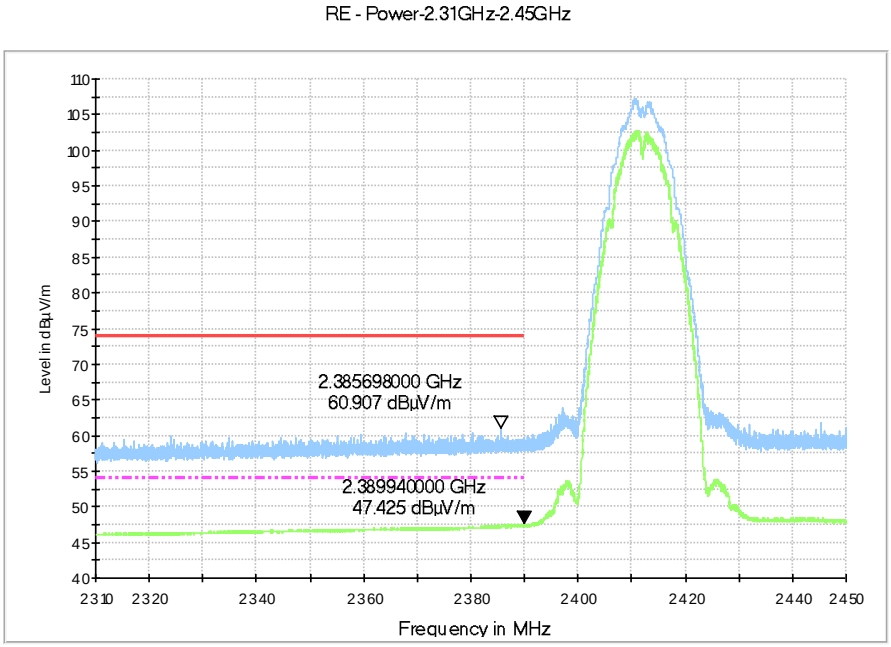

Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.43GHz

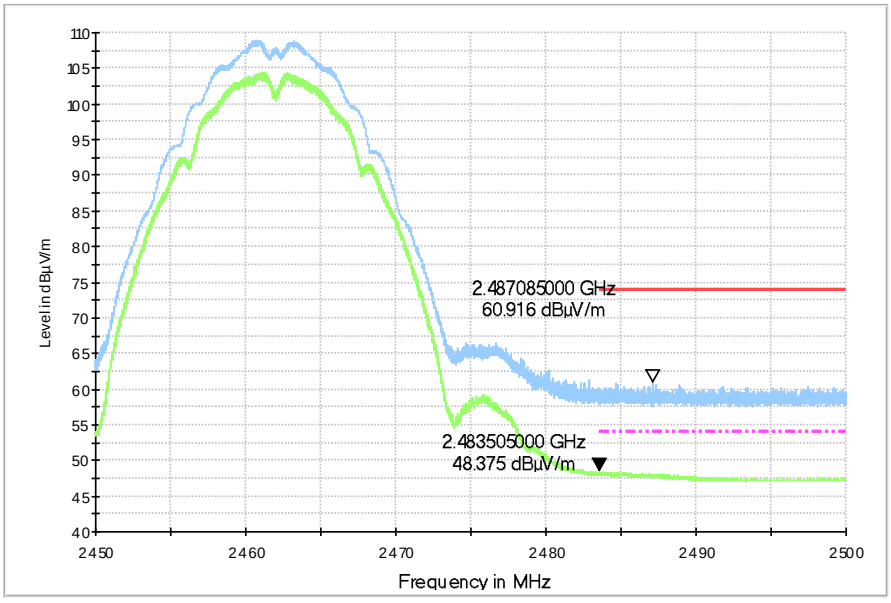

Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

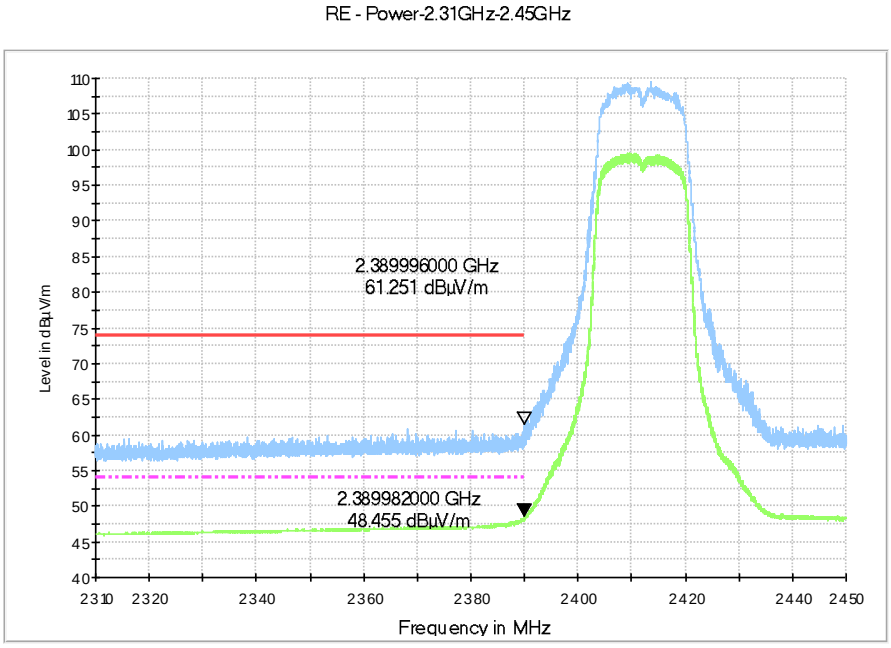

Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.43GHz

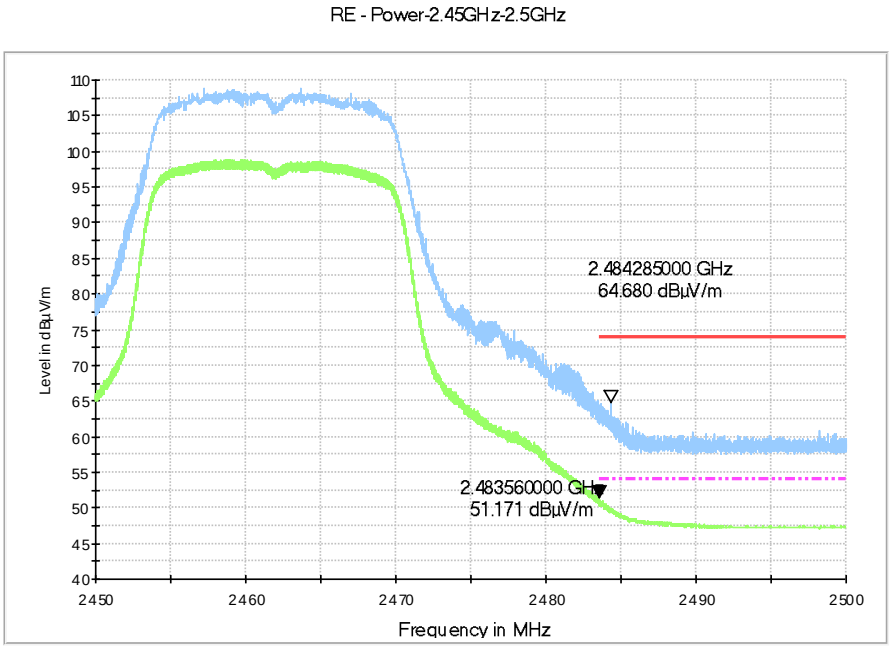

Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

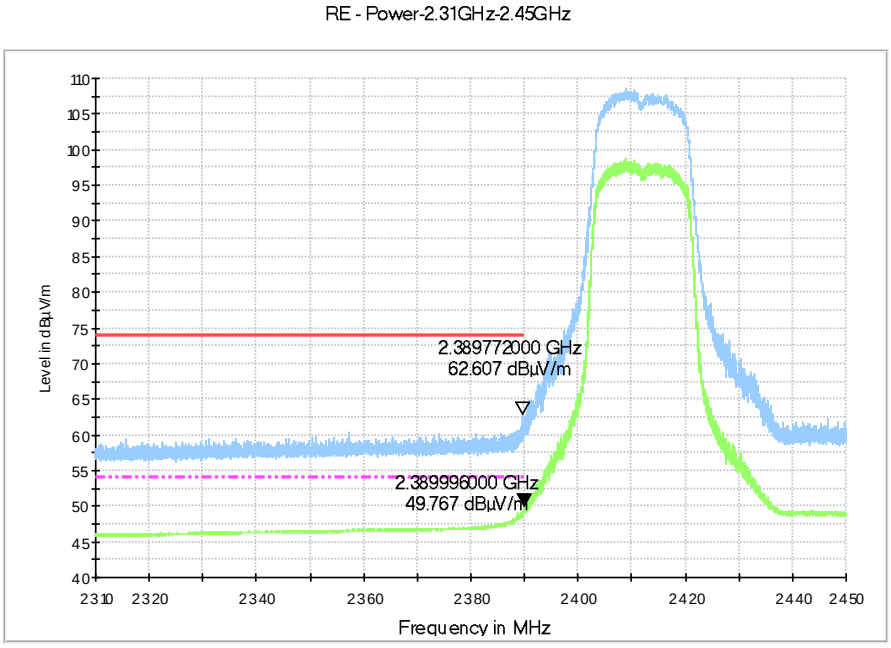

Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.43GHz

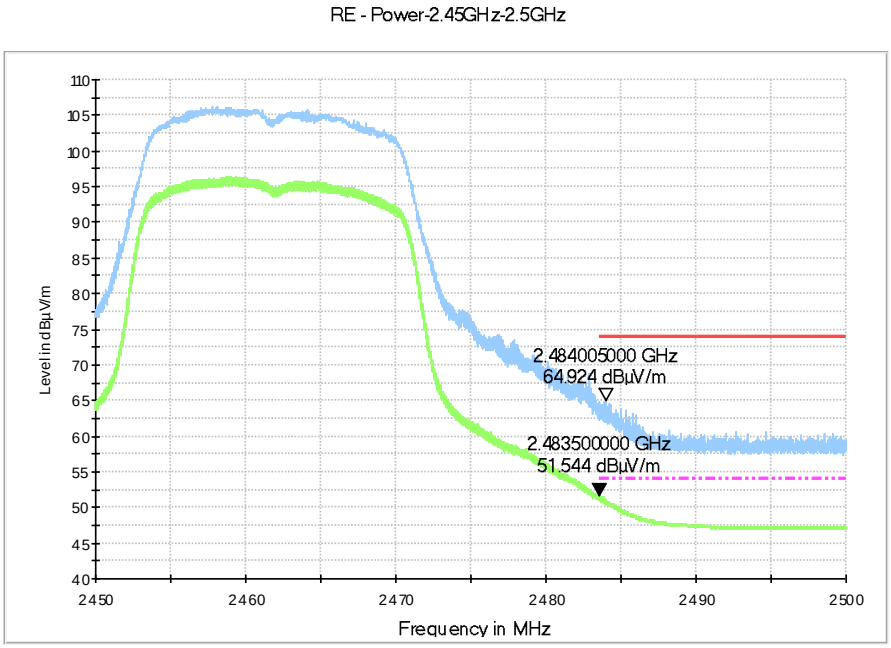

Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

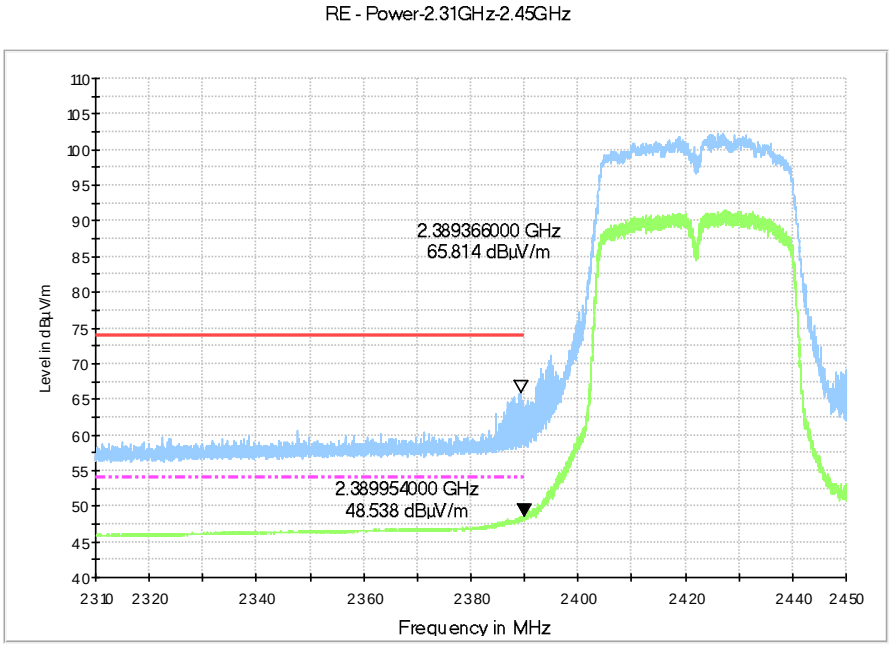

Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.43GHz

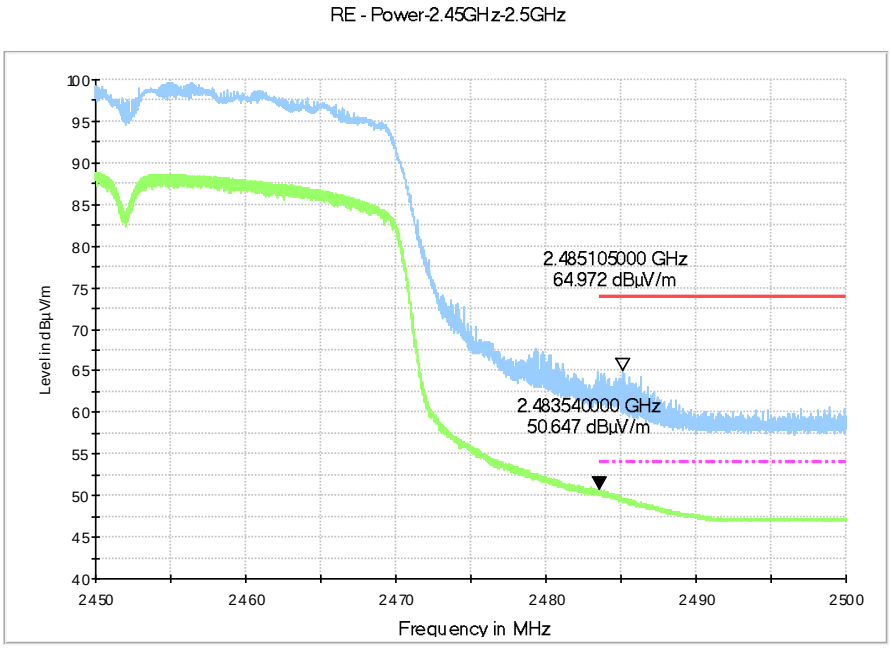

Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

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 for Set.12:

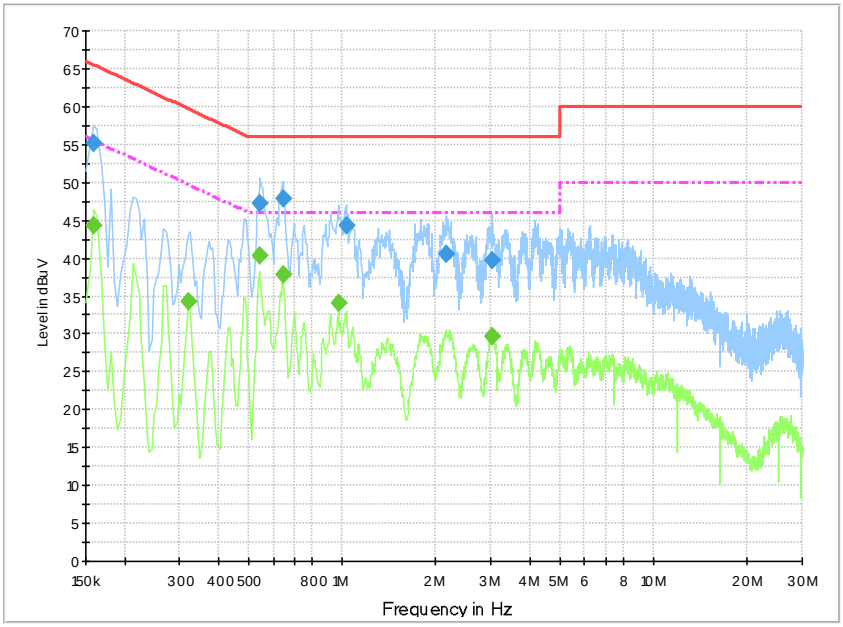

Fig.A.7.1 AC Powerline Conducted Emission-802.11b

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

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.159000	55.3	10000.	9.000	On	N	27.1	10.3	65.5	
0.546000	47.3	10000.	9.000	On	L1	20.0	8.7	56.0	
0.645000	47.9	10000.	9.000	On	L1	19.9	8.1	56.0	
1.027500	44.3	10000.	9.000	On	L1	19.9	11.7	56.0	
2.152500	40.5	10000.	9.000	On	L1	19.8	15.5	56.0	
3.021000	39.7	10000.	9.000	On	L1	19.8	16.3	56.0	

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.159000	44.2	10000.	9.000	On	L1	27.1	11.3	55.5	
0.321000	34.3	10000.	9.000	On	N	20.0	15.4	49.7	
0.541500	40.2	10000.	9.000	On	N	20.0	5.8	46.0	
0.645000	37.7	10000.	9.000	On	N	19.9	8.3	46.0	
0.969000	34.0	10000.	9.000	On	N	19.9	12.0	46.0	
3.030000	29.6	10000.	9.000	On	N	19.8	16.4	46.0	

Idle for Set.12:

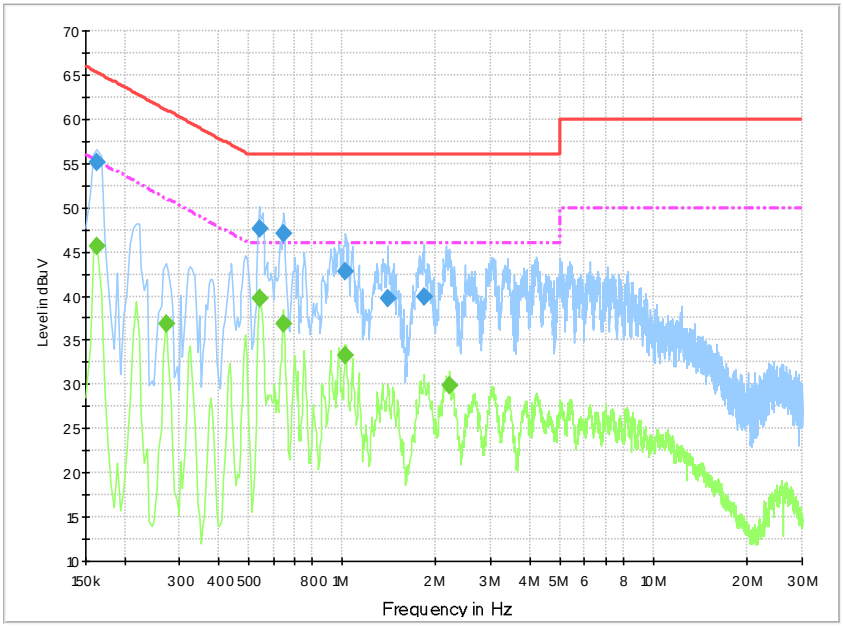

Fig.A.7.2 AC Powerline Conducted Emission-Idle

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

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.163500	55.2	10000.	9.000	On	N	26.3	10.1	65.3	
0.541500	47.6	10000.	9.000	On	L1	20.0	8.4	56.0	
0.649500	47.0	10000.	9.000	On	L1	19.9	9.0	56.0	
1.023000	42.9	10000.	9.000	On	L1	19.9	13.1	56.0	
1.401000	39.7	10000.	9.000	On	L1	19.8	16.3	56.0	
1.833000	39.9	10000.	9.000	On	L1	19.8	16.1	56.0	

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.163500	45.6	10000.	9.000	On	N	26.3	9.7	55.3	
0.271500	36.8	10000.	9.000	On	N	19.9	14.3	51.1	
0.541500	39.7	10000.	9.000	On	N	20.0	6.3	46.0	
0.645000	36.9	10000.	9.000	On	N	19.9	9.1	46.0	
1.023000	33.4	10000.	9.000	On	N	19.9	12.6	46.0	
2.211000	29.9	10000.	9.000	On	L1	19.8	16.1	46.0	

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*****