FCC REPORT
(WIFI)

Applicant:	Todos Industrial Limited
Address of Applicant:	Room 308, building A3, Fuhai information port, Fuhai street, Bao'an District, Shenzhen City, Guangdong Province, 518000
Equipment Under Test (EUT)	
Product Name:	Netbook
Model No.:	Aprix AX11, Easytouch NET11.6, A11.6, B11.6, A116, B116, C116, N116, A12, A13, A14, A15, N11, N12, N13, N14, N15
Trade mark:	aprix,Easytouch,Geex,Todos, hiup
FCC ID:	2AZQ6-AN116
Applicable standards:	**FCC CFR Title 47 Part 15 Subpart C Section 15.247**
Date of sample receipt:	08 May, 2021
Date of Test:	09 May, to 22 Jun., 2021
Date of report issued:	24 Jun., 2021
Test Result:	PASS*

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	*24 Jun., 2021*	*Original*

Tested by: Mike.ou ***Date:*** *24 Jun., 2021*

Test Engineer

Reviewed by: Winner zhang ***Date:*** *24 Jun., 2021*

Project Engineer

3 Contents

Page

1 COVER PAGE 1

2 VERSION 2

3 CONTENTS 3

4 TEST SUMMARY 4

5 GENERAL INFORMATION 5

5.1 CLIENT INFORMATION 5
5.2 GENERAL DESCRIPTION OF E.U.T 5
5.3 TEST ENVIRONMENT AND MODE 6
5.4 DESCRIPTION OF SUPPORT UNITS 6
5.5 MEASUREMENT UNCERTAINTY 6
5.6 LABORATORY FACILITY 6
5.7 LABORATORY LOCATION 6
5.8 TEST INSTRUMENTS LIST 7

6 TEST RESULTS AND MEASUREMENT DATA 8

6.1 ANTENNA REQUIREMENT 8
6.2 CONDUCTED EMISSION 9
6.3 CONDUCTED OUTPUT POWER 12
6.4 OCCUPY BANDWIDTH 13
6.5 POWER SPECTRAL DENSITY 14
6.6 BAND EDGE 15
6.6.1 Conducted Emission Method 15
6.6.2 Radiated Emission Method 16
6.7 SPURIOUS EMISSION 41
6.7.1 Conducted Emission Method 41
6.7.2 Radiated Emission Method 42

7 TEST SETUP PHOTO 51

8 EUT CONSTRUCTIONAL DETAILS 52

4 Test Summary

Test Items	Section in CFR 47	Test Data	Result
Antenna requirement	15.203 & 15.247 (b)	See Section 6.1	Pass
AC Power Line Conducted Emission	15.207	See Section 6.2	Pass
Duty Cycle	ANSI C63.10-2013	Appendix A – 2.4G Wi-Fi	Pass
Conducted Peak Output Power	15.247 (b)(3)	Appendix A – 2.4G Wi-Fi	Pass
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Appendix A – 2.4G Wi-Fi	Pass
Power Spectral Density	15.247 (e)	Appendix A – 2.4G Wi-Fi	Pass
Conducted Band Edge	15.247 (d)	Appendix A – 2.4G Wi-Fi	Pass
Radiated Band Edge		See Section 6.6.2	Pass
Conducted Spurious Emission	15.205 & 15.209	Appendix A – 2.4G Wi-Fi	Pass
Radiated Spurious Emission		See Section 6.7.2	Pass

Remark:

1. *Pass: The EUT complies with the essential requirements in the standard.*
2. *N/A: Not Applicable.*
3. *The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer).*

Test Method:	*ANSI C63.10-2013* *KDB 558074 D01 15.247 Meas Guidance v05r02*

5 General Information

5.1 Client Information

Applicant:	Todos Industrial Limited
Address:	Room 308, building A3, Fuhai information port, Fuhai street, Bao'an District, Shenzhen City, Guangdong Province, 518000
Manufacturer:	Todos Industrial Limited
Address:	Room 308, building A3, Fuhai information port, Fuhai street, Bao'an District, Shenzhen City, Guangdong Province, 518000

5.2 General Description of E.U.T.

Product Name:	Netbook
Model No.:	Aprix AX11, Easytouch NET11.6, A11.6, B11.6, A116, B116, C116, N116, A12, A13, A14, A15, N11, N12, N13, N14, N15
Operation Frequency:	2412MHz~2462MHz: 802.11b/802.11g/802.11n(HT20) 2422MHz~2452MHz: 802.11n(HT40)
Channel numbers:	11: 802.11b/802.11g/802.11(HT20) 7: 802.11n(HT40)
Channel separation:	5MHz
Modulation technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (IEEE 802.11n):	Up to 150Mbps
Antenna Type:	Internal Antenna
Antenna gain:	3.32dBi
Power supply:	Rechargeable Li-ion Battery DC7.4V, 6000mAh
AC adapter:	Adapter 1: Model: YQ-1202500Z Input: AC100-240V, 50/60Hz, 0.7A Output: DC 12.0V, 2.5A Adapter 2: Model: YQ-1203000Z Input: AC100-240V, 50/60Hz, 0.7A Output: DC 12.0V, 3A
Remark:	Model No.: Aprix AX11, Easytouch NET11.6, A11.6, B11.6, A116, B116, C116, N116, A12, A13, A14, A15, N11, N12, N13, N14, N15 The internal circuit design, layout, components used and internal wiring are all the same, all trademarks correspond to all models, the only difference is the model name.
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

Operation Frequency each of channel for 802.11b/g/n(HT20)							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		
Note:							

1. *For 802.11n-HT40 mode, the channel number is from 3 to 9;*
2. *Channel 1, 6 & 11 selected for 802.11b/g/n-HT20 as Lowest, Middle and Highest channel. Channel 3, 6 & 9 selected for 802.11n-HT40 as Lowest, Middle and Highest Channel.*

5.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode	Keep the EUT in continuous transmitting with modulation

Radiated Emission: The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.
We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate, the follow list were the worst case.

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)	6.5Mbps
802.11n(HT40)	13.5Mbps

5.4 Description of Support Units

The EUT has been tested as an independent unit.

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Conducted Emission (9kHz ~ 30MHz)	±1.60 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	±3.12 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.32 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.16 dB (k=2)
Radiated Emission (18GHz ~ 40GHz)	±3.20 dB (k=2)

5.6 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Designation No.: CN1211**

JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

The 3m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.7 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.
Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.
Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info-JYTee@lets.com, Website: http://www.ccis-cb.com

5.8 Test Instruments list

Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	ETS	9m*6m*6m	966	01-19-2021	01-18-2024
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-03-2021	03-02-2022
Biconical Antenna	SCHWARZBECK	VUBA9117	359	06-18-2020	06-17-2021
				06-18-2021	06-17-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-03-2021	03-02-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-18-2020	06-17-2021
				06-18-2021	06-17-2022
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-18-2020	11-17-2021
EMI Test Software	AUDIX	E3	Version: 6.110919b		
Pre-amplifier	HP	8447D	2944A09358	03-03-2021	03-02-2022
Pre-amplifier	CD	PAP-1G18	11804	03-03-2021	03-02-2022
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-03-2021	03-02-2022
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	11-18-2020	11-17-2021
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-03-2021	03-02-2022
Spectrum Analyzer	Agilent	N9020A	MY50510123	11-18-2020	11-17-2021
Signal Generator	Rohde & Schwarz	SMX	835454/016	03-03-2021	03-02-2022
Signal Generator	R&S	SMR20	1008100050	03-03-2021	03-02-2022
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTEST	MTS8200	Version: 2.0.0.0		
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-03-2021	03-02-2022
Cable	MICRO-COAX	MFR64639	K10742-5	03-03-2021	03-02-2022
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-03-2021	03-02-2022
DC Power Supply	XinNuoEr	WYK-10020K	1409050110020	09-25-2020	09-24-2021
Temperature Humidity Chamber	HengPu	HPGDS-500	20140828008	11-01-2020	10-31-2021
Simulated Station	Rohde & Schwarz	CMW500	140493	07-22-2020	07-21-2021
10m SAC	ETS	RFSD-100-F/A	Q2005	03-31-2021	04-01-2024
BiConiLog Antenna	SCHWARZBECK	VULB 9168	1249	03-31-2021	04-01-2022
BiConiLog Antenna	SCHWARZBECK	VULB 9168	1250	03-31-2021	04-01-2022
EMI Test Receiver	R&S	ESR 3	102800	04-06-2021	04-07-2022
EMI Test Receiver	R&S	ESR 3	102802	04-06-2021	04-07-2022
Pre-amplifier	Bost	LNA 0920N	2016	04-06-2021	04-07-2022
Pre-amplifier	Bost	LNA 0920N	2019	04-06-2021	04-07-2022
Test Software	R&S	EMC32	Version: 10.50.40		

Conducted Emission:					
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
EMI Test Receiver	Rohde & Schwarz	ESCI	101189	03-03-2021	03-02-2022
Pulse Limiter	SCHWARZBECK	OSRAM 2306	9731	03-03-2021	03-02-2022
LISN	CHASE	MN2050D	1447	03-03-2021	03-02-2022
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	06-18-2020	06-17-2021
				06-18-2021	06-17-2022
Cable	HP	10503A	N/A	03-03-2021	03-02-2022
EMI Test Software	AUDIX	E3	Version: 6.110919b		

Conducted method:					
Test Equipment	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
Spectrum Analyzer	Keysight	N9010B	MY60240202	11-27-2020	11-26-2021
Vector Signal Generator	Keysight	N5182B	MY59101009	11-27-2020	11-26-2021
Analog Signal Generator	Keysight	N5173B	MY59100765	11-27-2020	11-26-2021
Power Detector Box	MWRF-test	MW100-PSB	MW201020JYT	11-27-2020	11-26-2021
Simulated Station	Rohde & Schwarz	CMW270	102335	11-27-2020	11-26-2021

RF Control Box	MWRF-test	MW100-RFCB	MW200927JYT	N/A	N/A
PDU	MWRF-test	XY-G10	N/A	N/A	N/A
Test Software	MWRF-tes	MTS 8310	Version: 2.0.0.0		
DC Power Supply	Keysight	E3642A	MY60296194	11-27-2020	11-26-2021

6 Test results and Measurement Data

6.1 Antenna requirement

Standard requirement:	FCC Part 15 C Section 15.203 /247(b)
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. 15.247(b) (4) requirement: (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.	
E.U.T Antenna:	
The Wi-Fi antenna is an Internal antenna which cannot replace by end-user, the best case gain of the antenna is 3.32 dBi.	

6.2 Conducted Emission

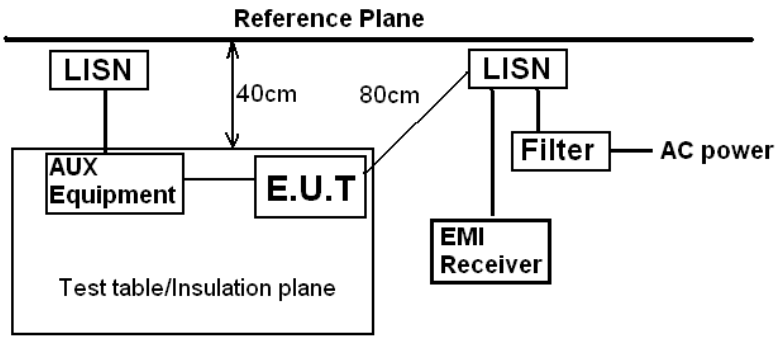
Test Requirement:	FCC Part 15 C Section 15.207
Test Frequency Range:	150 kHz to 30 MHz
Class / Severity:	Class B
Receiver setup:	RBW=9 kHz, VBW=30 kHz
Limit:	

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

Test procedure

1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.), which provides a 50ohm/50uH coupling impedance for the measuring equipment.
2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
3. Both sides of A.C. line are checked for maximum conducted interference. 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(latest version) on conducted measurement.

Test setup:

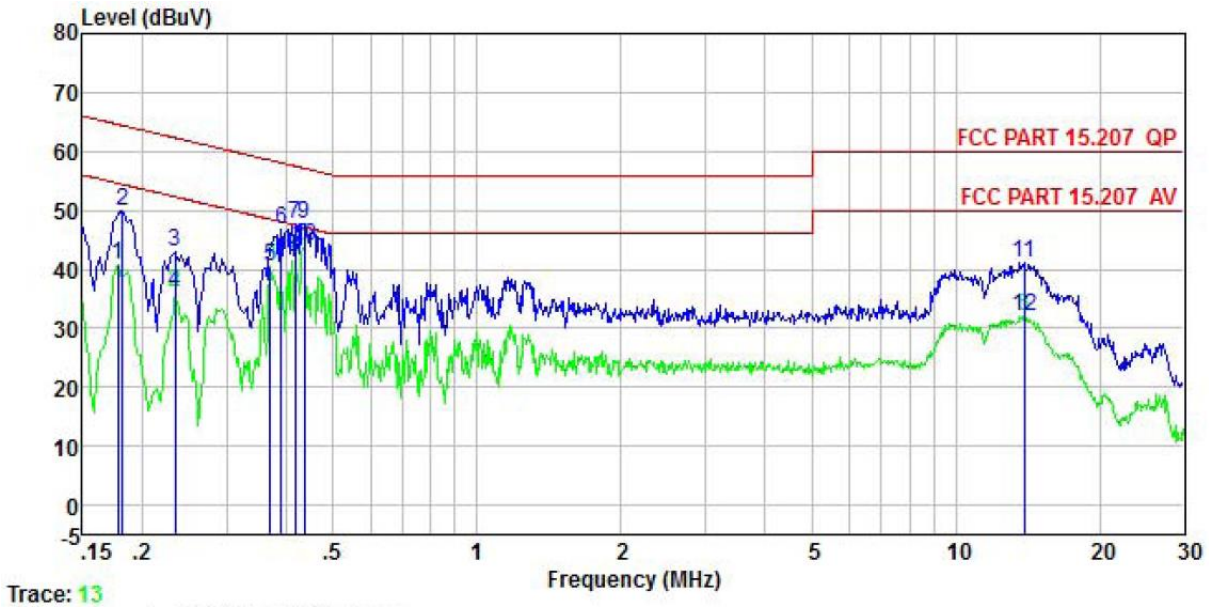


Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m

Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

Product name:	Netbook	**Product model:**	AX11
Test by:	Mike	**Test mode:**	Wi-Fi Tx mode
Test frequency:	150 kHz ~ 30 MHz	**Phase:**	Line
Test voltage:	AC 120 V/60 Hz	**Environment:**	Temp: 22.5℃ Huni: 55%

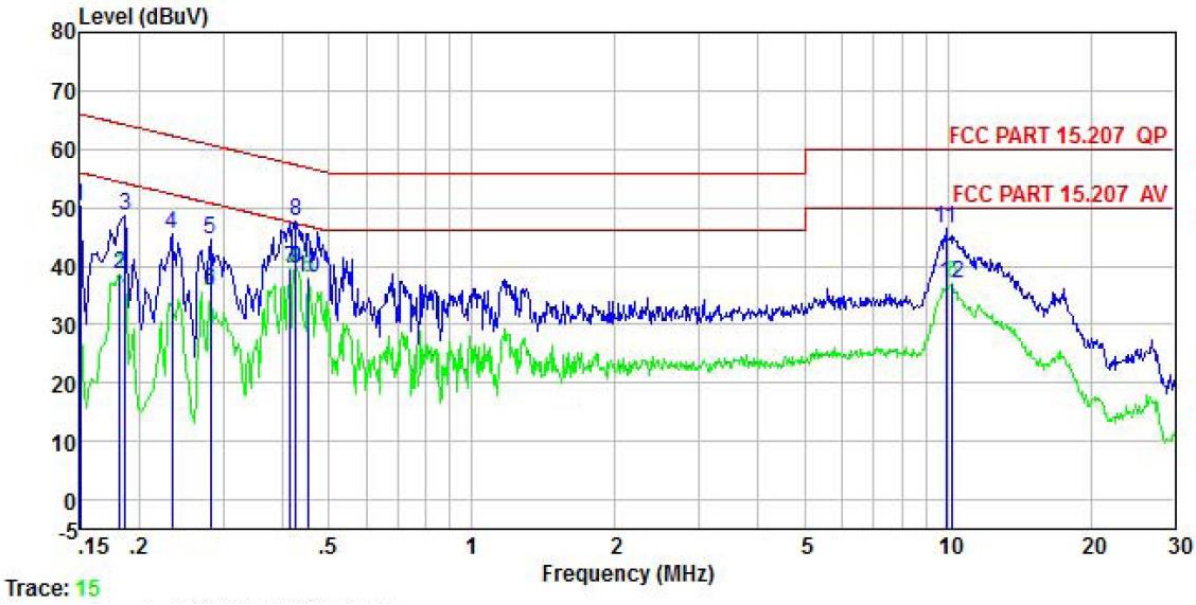


	Freq	Read Level	LISN Factor	Aux Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.178	30.83	10.13	-0.12	0.01	40.85	54.59	-13.74	Average
2	0.182	39.89	10.13	-0.12	0.01	49.91	64.42	-14.51	QP
3	0.234	33.05	10.17	-0.20	0.02	43.04	62.30	-19.26	QP
4	0.234	26.10	10.17	-0.20	0.02	36.09	52.30	-16.21	Average
5	0.369	29.95	10.26	0.23	0.03	40.47	48.52	-8.05	Average
6	0.389	36.01	10.28	0.34	0.04	46.67	58.08	-11.41	QP
7	0.417	37.17	10.29	0.28	0.04	47.78	57.51	-9.73	QP
8	0.417	31.46	10.29	0.28	0.04	42.07	47.51	-5.44	Average
9	0.435	37.24	10.30	0.13	0.03	47.70	57.15	-9.45	QP
10	0.435	33.51	10.30	0.13	0.03	43.97	47.15	-3.18	Average
11	13.915	26.68	11.00	3.28	0.12	41.08	60.00	-18.92	QP
12	13.915	17.65	11.00	3.28	0.12	32.05	50.00	-17.95	Average

Notes:

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Aux Factor + Cable Loss.*
4. *We predicted adapter 1 and adapter 2 and found that adapter 2 has worse data, and the report only reflects the worst data.*

Product name:	Netbook	**Product model:**	AX11
Test by:	Mike	**Test mode:**	Wi-Fi Tx mode
Test frequency:	150 kHz ~ 30 MHz	**Phase:**	Neutral
Test voltage:	AC 120 V/60 Hz	**Environment:**	Temp: 22.5℃ Huni: 55%

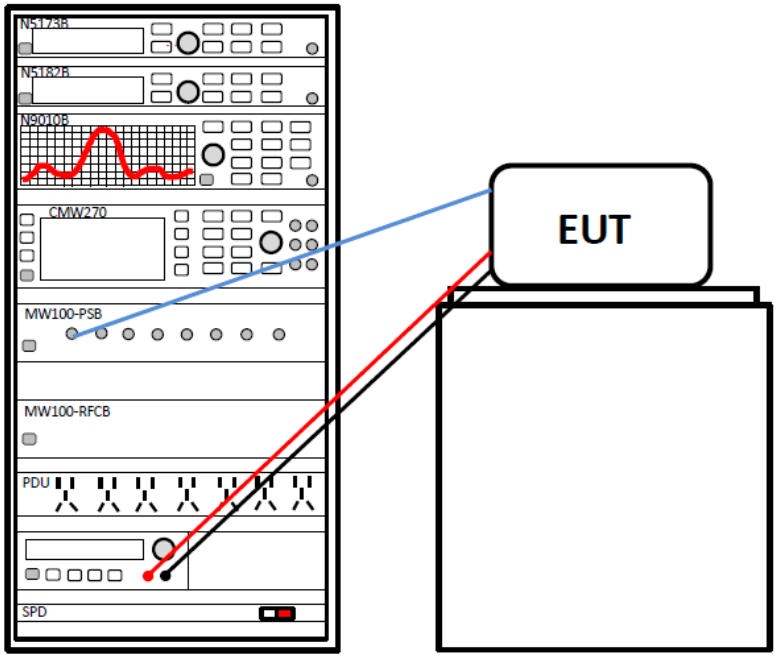


	Freq	Read Level	LISN Factor	Aux Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.150	40.45	9.89	0.01	0.01	50.36	66.00	-15.64	QP
2	0.182	28.69	9.91	0.00	0.01	38.61	54.42	-15.81	Average
3	0.186	38.80	9.91	0.00	0.02	48.73	64.20	-15.47	QP
4	0.234	35.47	9.96	0.00	0.02	45.45	62.30	-16.85	QP
5	0.282	34.58	10.00	0.01	0.02	44.61	60.76	-16.15	QP
6	0.282	25.64	10.00	0.01	0.02	35.67	50.76	-15.09	Average
7	0.415	29.41	10.13	-0.05	0.04	39.53	47.55	-8.02	Average
8	0.426	37.44	10.14	-0.03	0.03	47.58	57.33	-9.75	QP
9	0.426	29.44	10.14	-0.03	0.03	39.58	47.33	-7.75	Average
10	0.454	27.84	10.16	-0.01	0.03	38.02	46.80	-8.78	Average
11	9.913	33.77	11.22	1.37	0.13	46.49	60.00	-13.51	QP
12	10.233	24.25	11.24	1.47	0.13	37.09	50.00	-12.91	Average

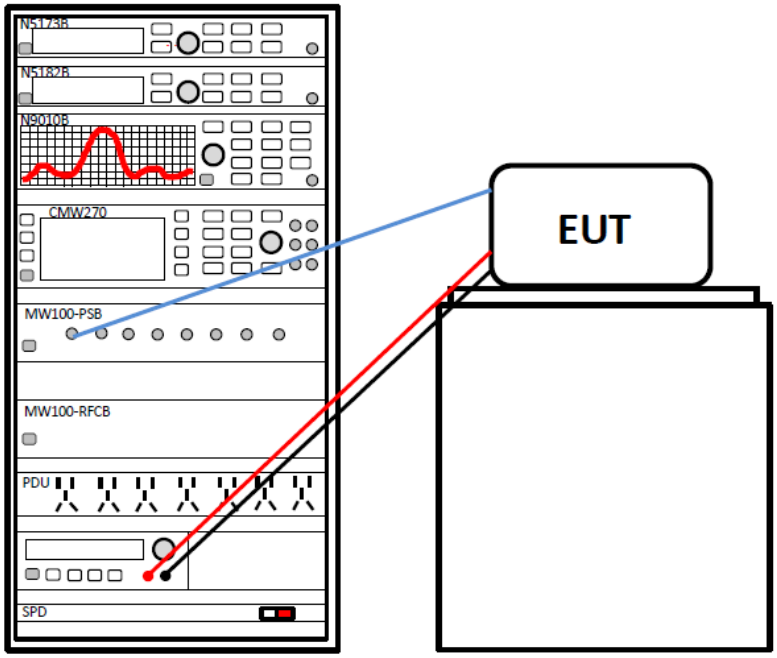
Notes:

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Aux Factor + Cable Loss.*
4. *We predicted adapter 1 and adapter 2 and found that adapter 2 has worse data, and the report only reflects the worst data.*

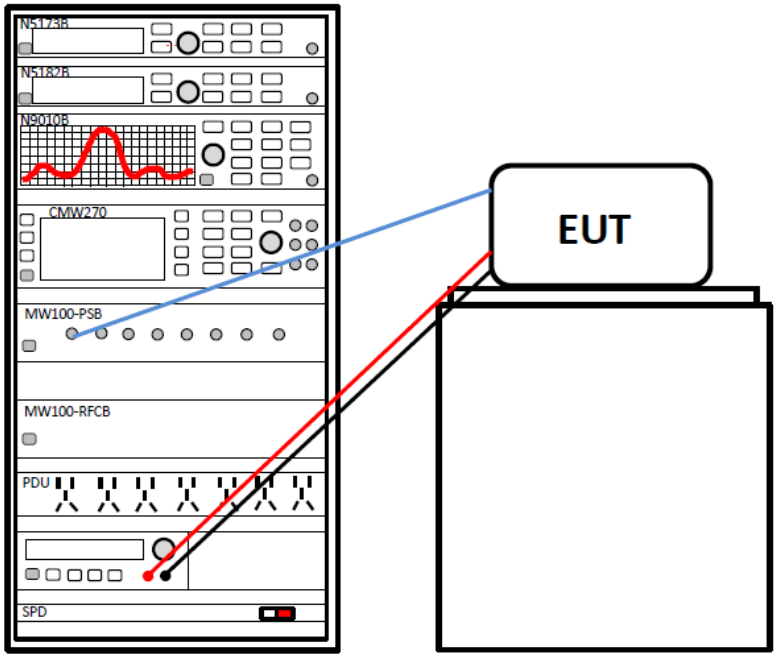
6.3 Conducted Output Power

Test Requirement:	FCC Part 15 C Section 15.247 (b)(3)
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Measurement Data:	**Refer to Appendix A - 2.4G WIFI**

6.4 Occupy Bandwidth

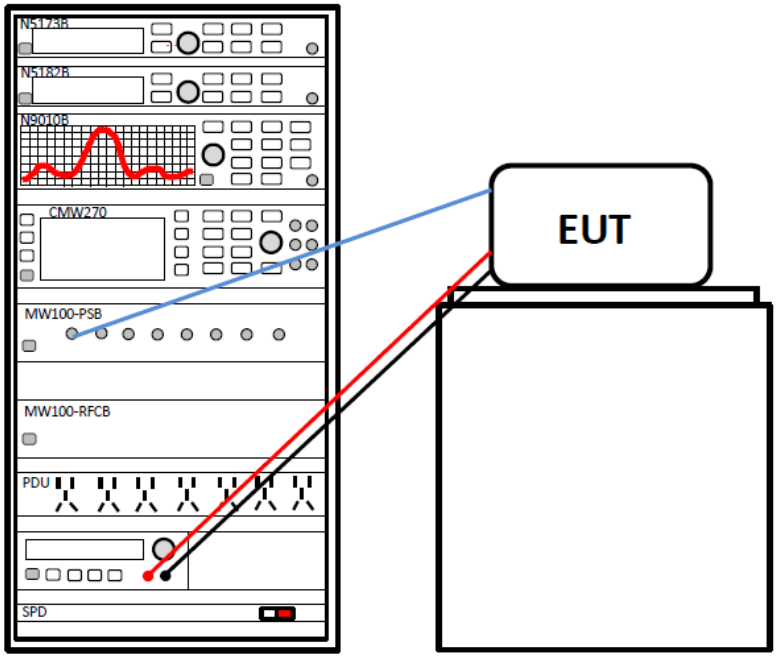
Test Requirement:	FCC Part 15 C Section 15.247 (a)(2)
Limit:	>500kHz
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Measurement Data:	**Refer to Appendix A - 2.4G WIFI**

6.5 Power Spectral Density

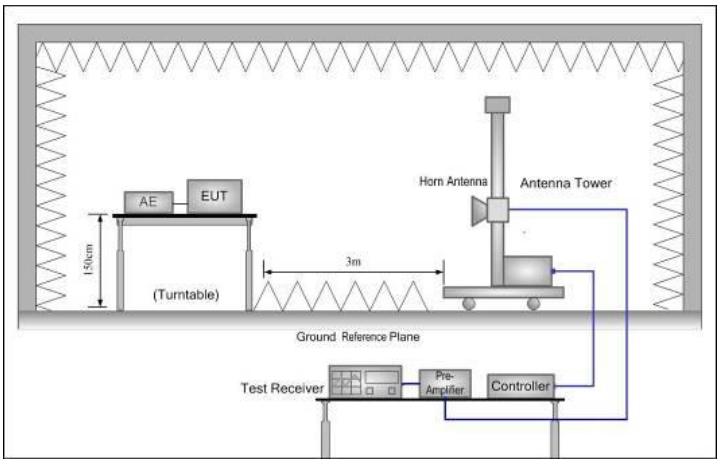
Test Requirement:	FCC Part 15 C Section 15.247 (e)
Limit:	8dBm/3kHz
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Measurement Data:	**Refer to Appendix A - 2.4G WIFI**

6.6 Band Edge

6.6.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Measurement Data:	**Refer to Appendix A - 2.4G WIFI**

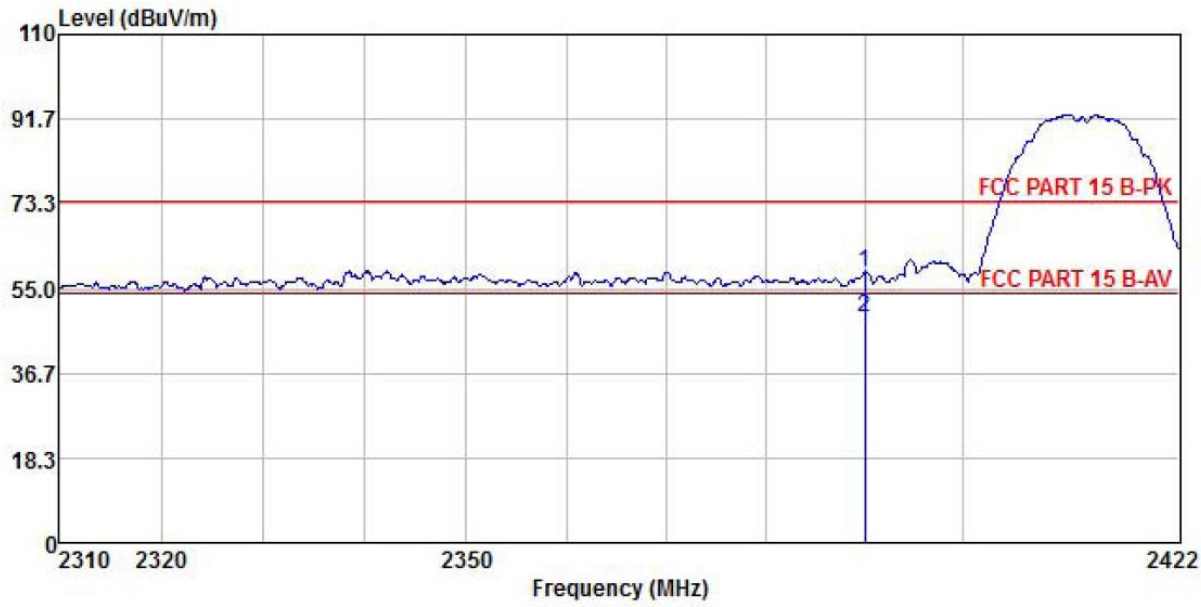
6.6.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.209 and 15.205				
Test Frequency Range:	2310 MHz to 2390 MHz and 2483.5 MHz to 2500 MHz				
Test Distance:	3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		RMS	1MHz	3MHz	Average Value
Limit:	Frequency	Limit (dBuV/m @3m)	Remark		
	Above 1GHz	54.00	Average Value		
		74.00	Peak Value		
Test Procedure:	1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.				
Test setup:					
Test Instruments:	Refer to section 5.9 for details				
Test mode:	Refer to section 5.3 for details				
Test results:	Passed				

ANT0:

802.11b mode:

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11b Tx mode
Test Channel:	Lowest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

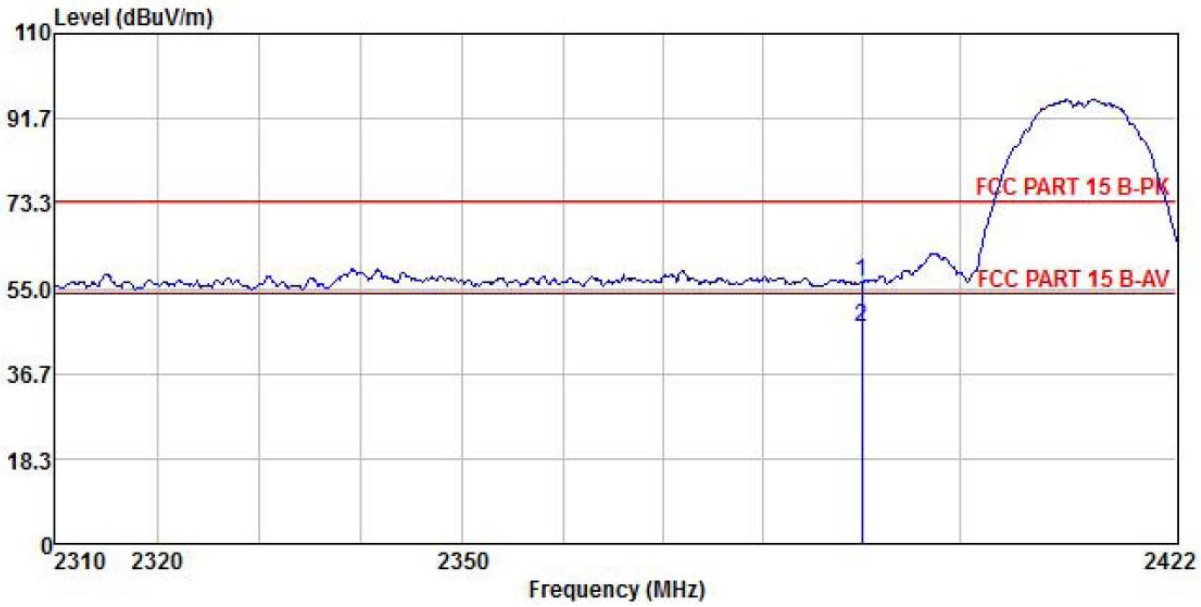


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	22.88	27.03	8.73	0.00	58.64	74.00	-15.36	Peak
2	2390.000	12.94	27.03	8.73	0.00	48.70	54.00	-5.30	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11b Tx mode
Test Channel:	Lowest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

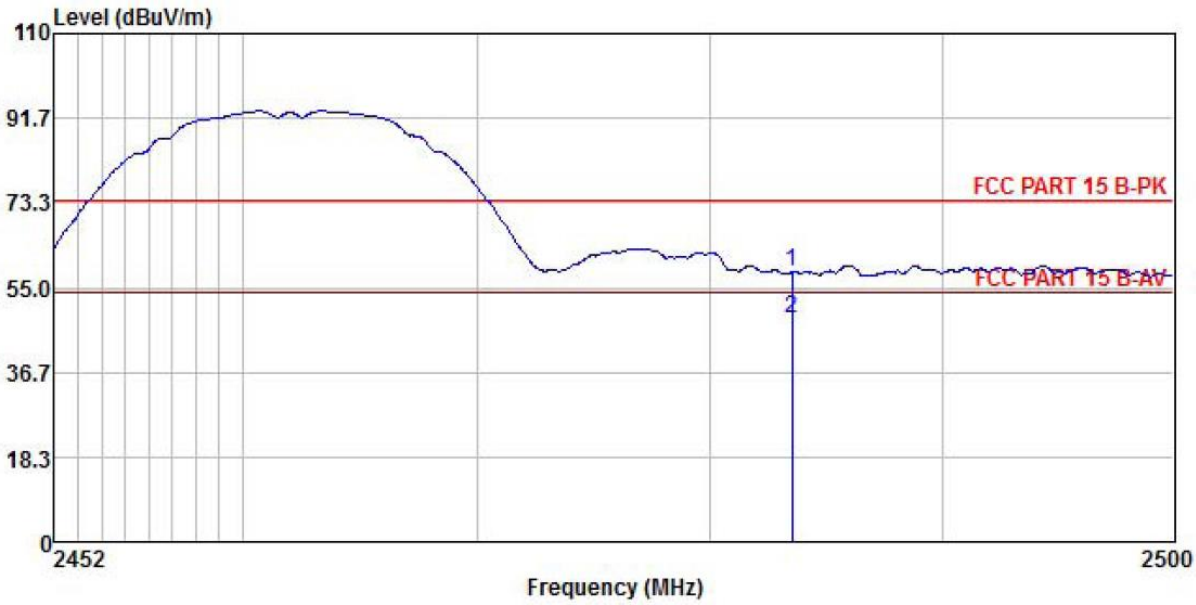


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	20.77	27.03	8.73	0.00	56.53	74.00	-17.47	Peak
2	2390.000	11.03	27.03	8.73	0.00	46.79	54.00	-7.21	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11b Tx mode
Test Channel:	Highest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

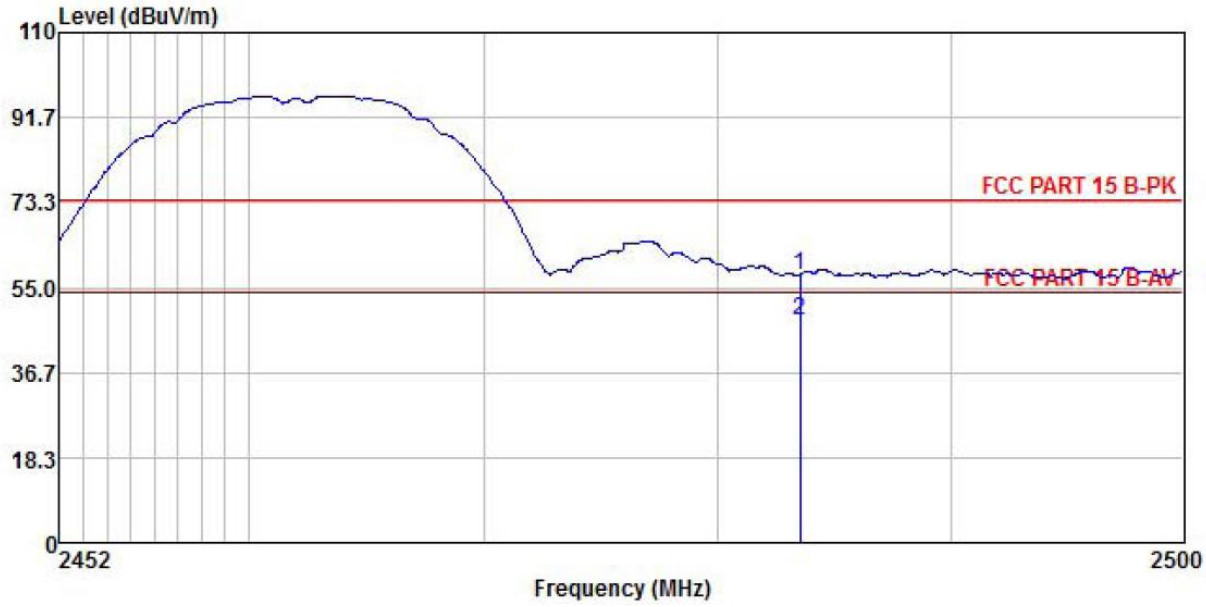


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	22.19	27.27	8.82	0.00	58.28	74.00	-15.72	Peak
2	2483.500	12.19	27.27	8.82	0.00	48.28	54.00	-5.72	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11b Tx mode
Test Channel:	Highest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%



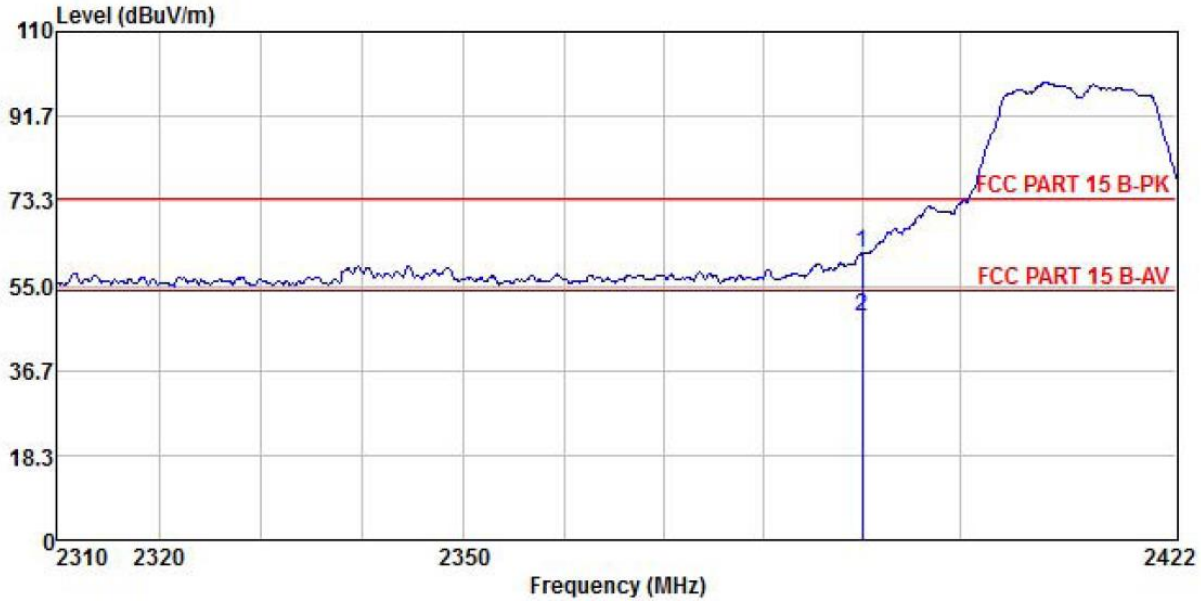
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	21.62	27.27	8.82	0.00	57.71	74.00	-16.29	Peak
2	2483.500	11.67	27.27	8.82	0.00	47.76	54.00	-6.24	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

802.11g mode:

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11g Tx mode
Test Channel:	Lowest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

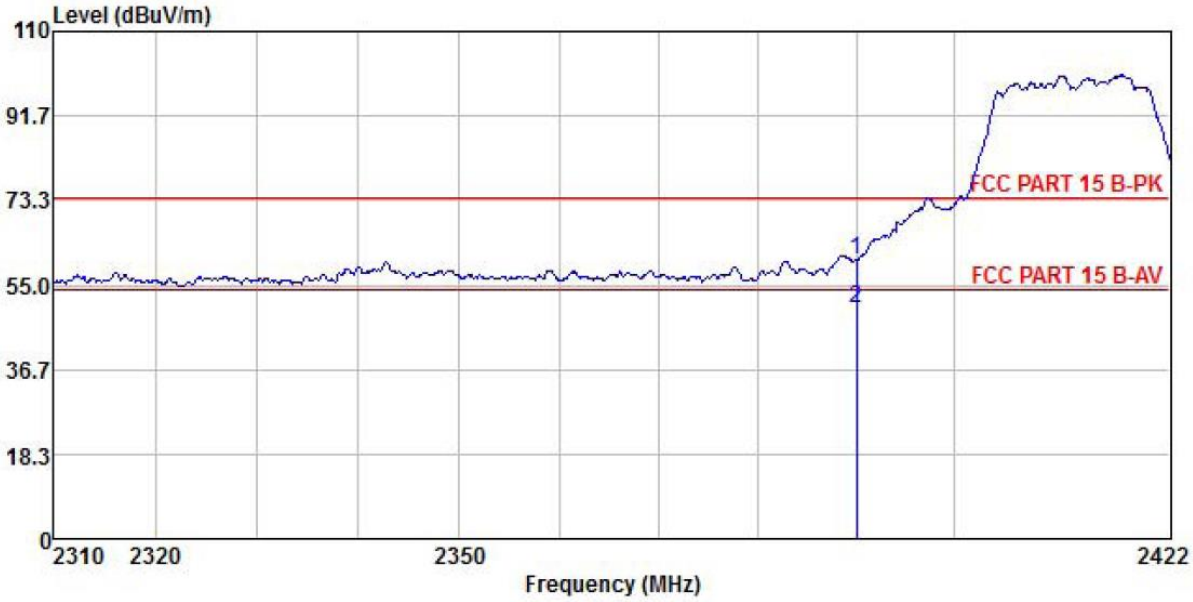


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	26.45	27.03	8.73	0.00	62.21	74.00	-11.79	Peak
2	2390.000	12.43	27.03	8.73	0.00	48.19	54.00	-5.81	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11g Tx mode
Test Channel:	Lowest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

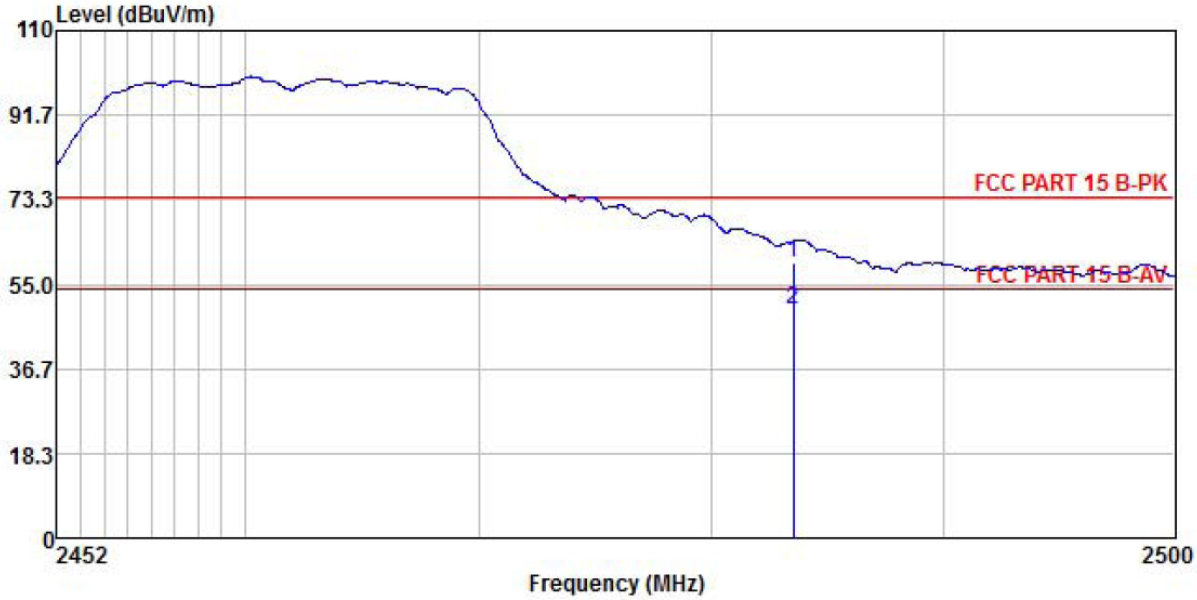


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	24.86	27.03	8.73	0.00	60.62	74.00	-13.38	Peak
2	2390.000	14.13	27.03	8.73	0.00	49.89	54.00	-4.11	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11g Tx mode
Test Channel:	Highest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

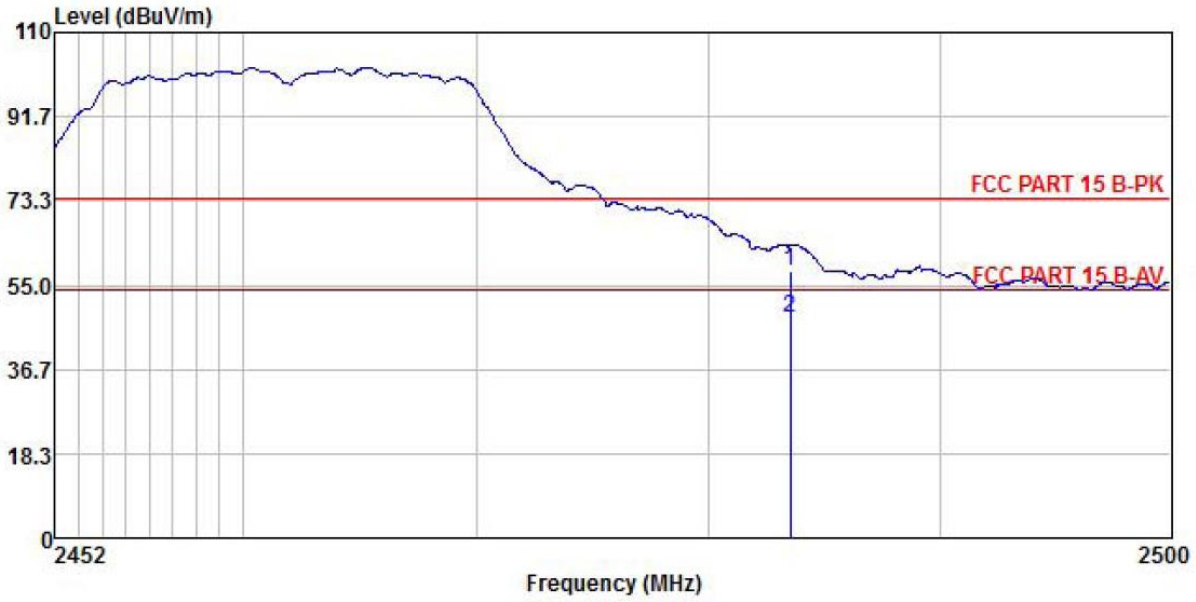


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	23.42	27.27	8.82	0.00	59.51	74.00	-14.49	Peak
2	2483.500	13.44	27.27	8.82	0.00	49.53	54.00	-4.47	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11g Tx mode
Test Channel:	Highest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%



	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	21.95	27.27	8.82	0.00	58.04	74.00	-15.96	Peak
2	2483.500	11.94	27.27	8.82	0.00	48.03	54.00	-5.97	Average

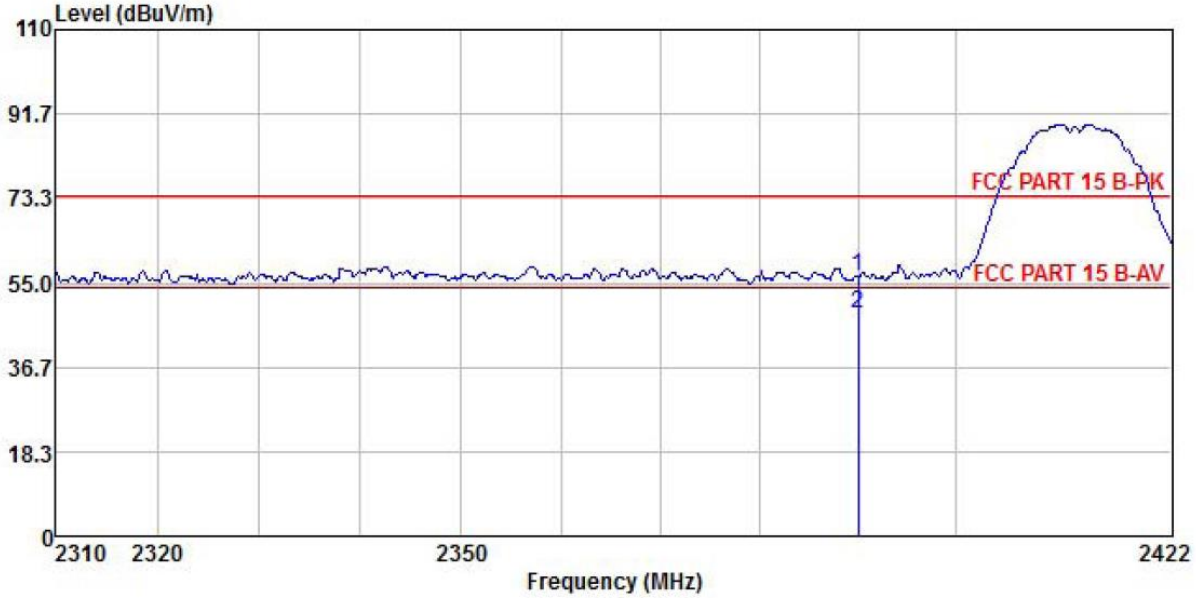
Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

ANT1:

802.11b mode:

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11b Tx mode
Test Channel:	Lowest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

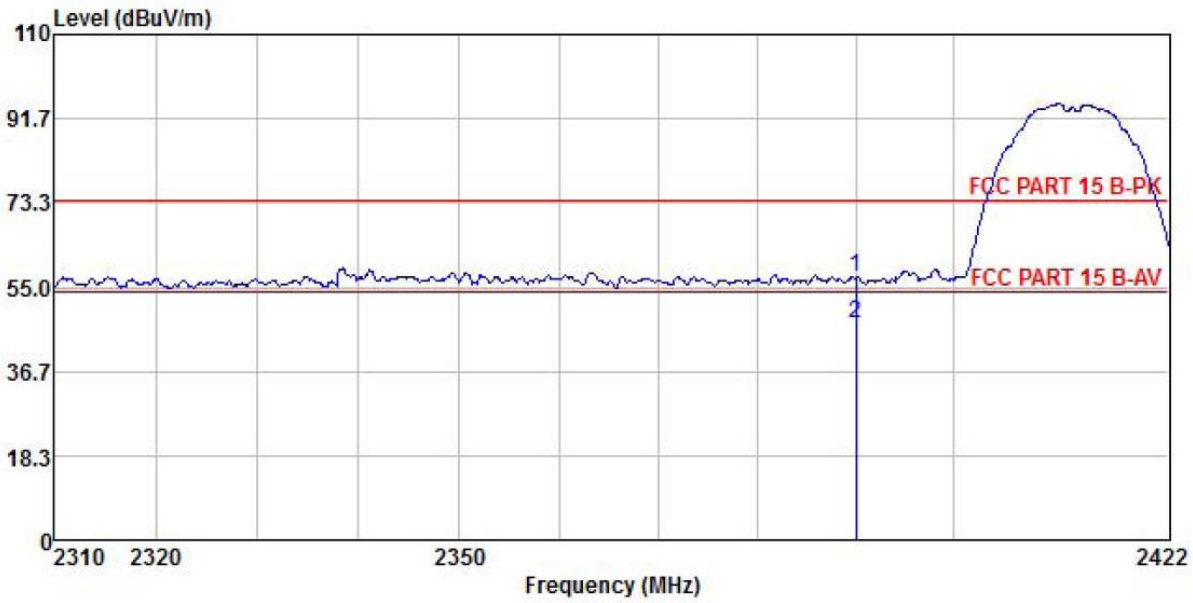


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	20.80	27.03	8.73	0.00	56.56	74.00	-17.44	Peak
2	2390.000	12.44	27.03	8.73	0.00	48.20	54.00	-5.80	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11b Tx mode
Test Channel:	Lowest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

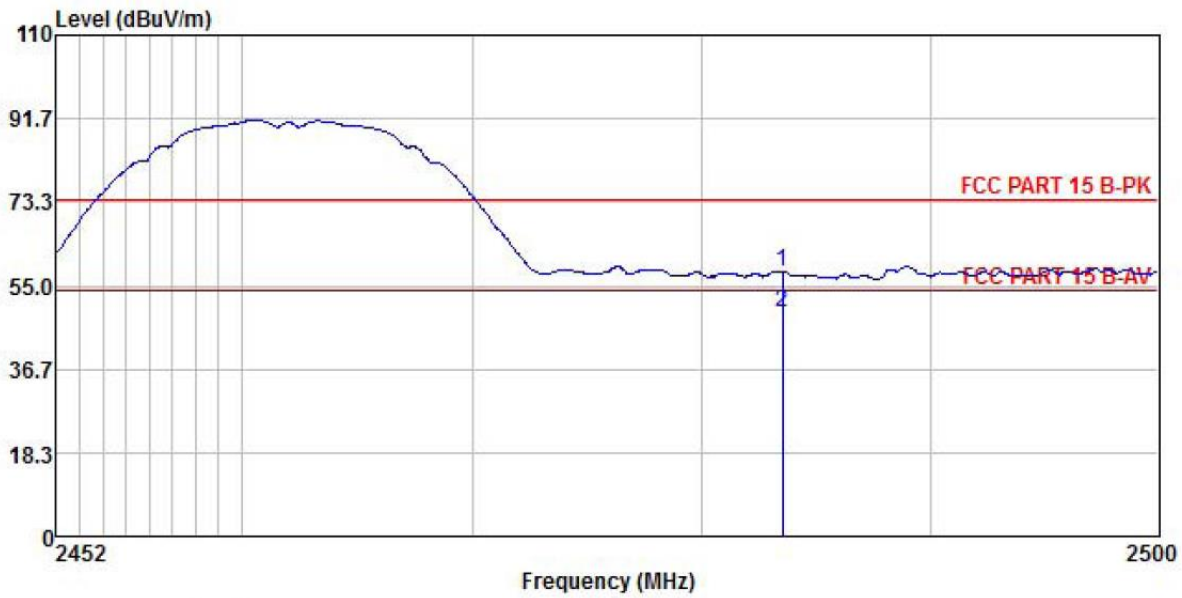


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	21.31	27.03	8.73	0.00	57.07	74.00	-16.93	Peak
2	2390.000	11.39	27.03	8.73	0.00	47.15	54.00	-6.85	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11b Tx mode
Test Channel:	Highest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

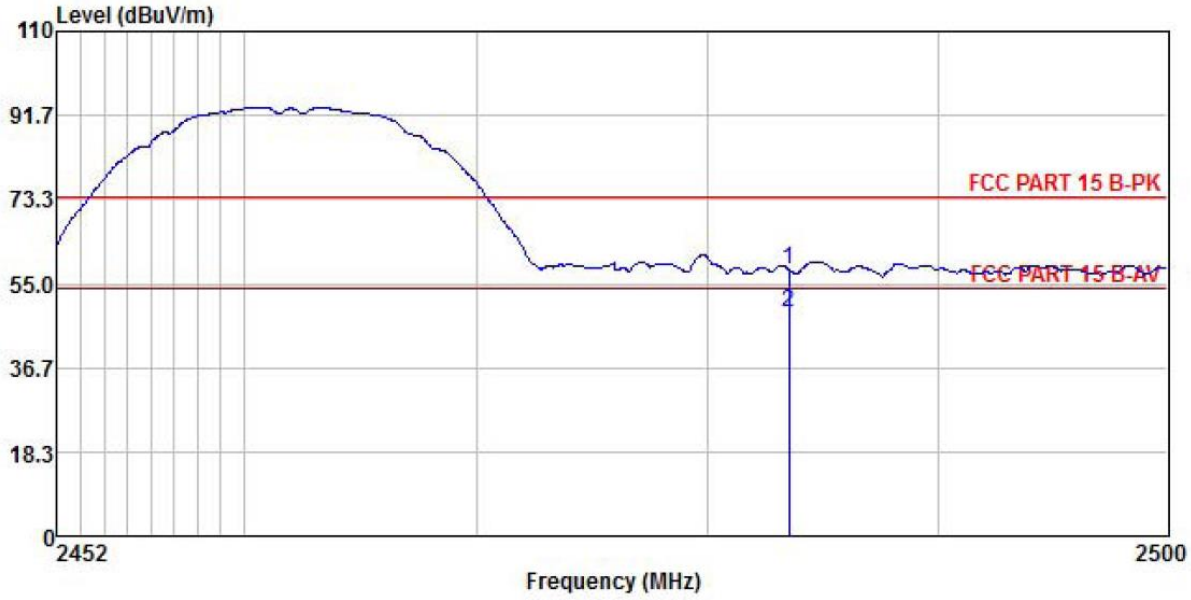


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	21.94	27.27	8.82	0.00	58.03	74.00	-15.97	Peak
2	2483.500	13.00	27.27	8.82	0.00	49.09	54.00	-4.91	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11b Tx mode
Test Channel:	Highest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%



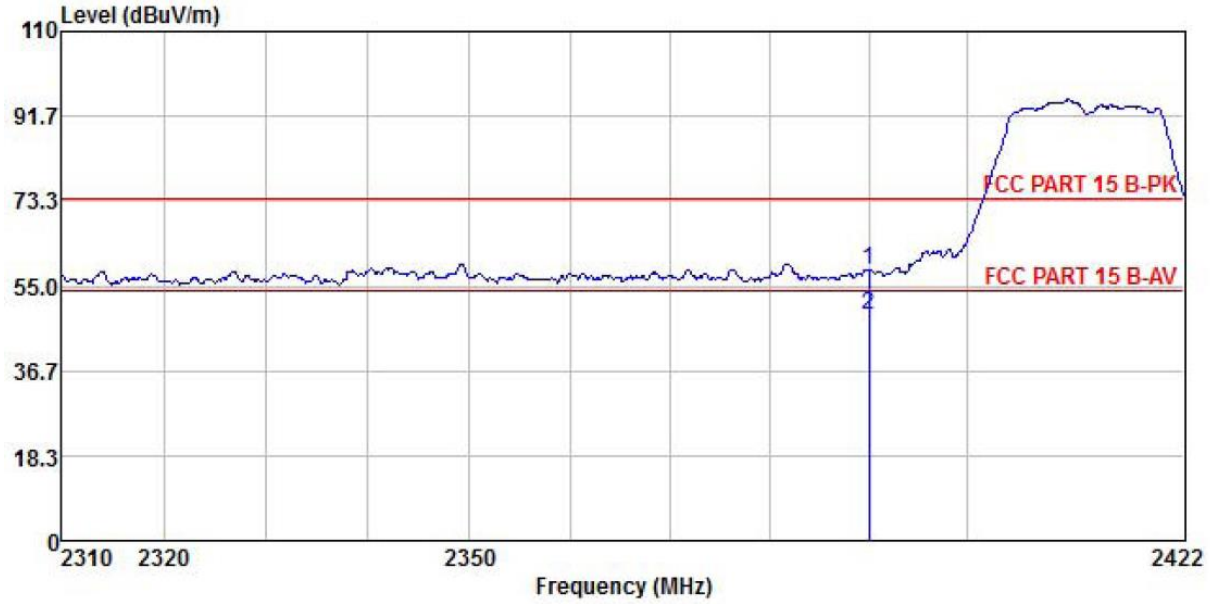
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	22.13	27.27	8.82	0.00	58.22	74.00	-15.78	Peak
2	2483.500	12.77	27.27	8.82	0.00	48.86	54.00	-5.14	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

802.11g mode:

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11g Tx mode
Test Channel:	Lowest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

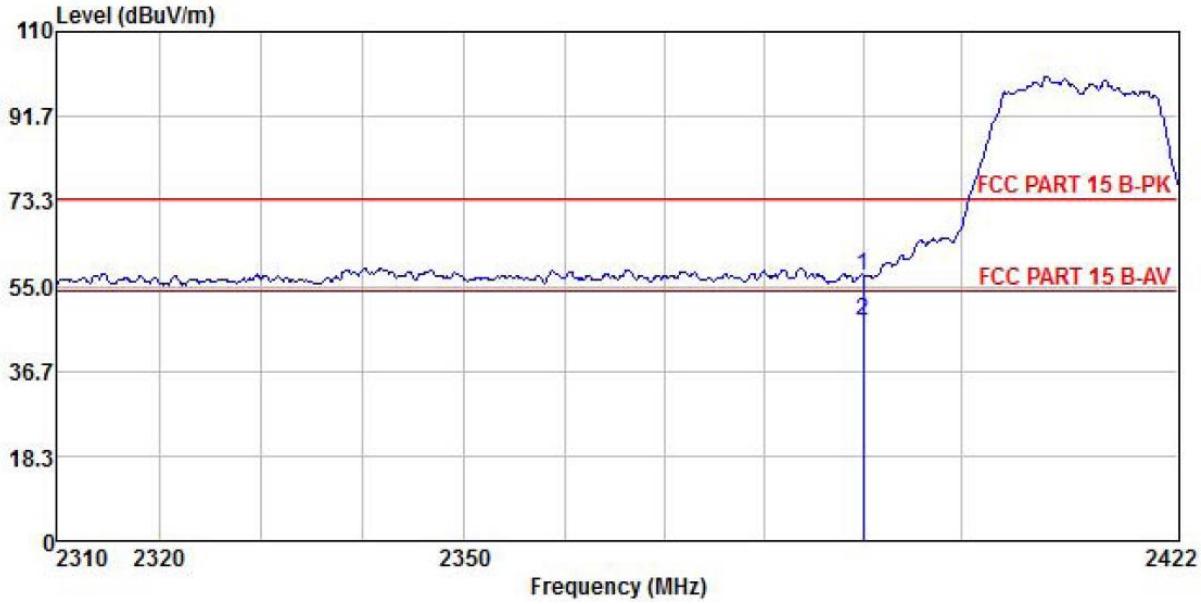


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	22.71	27.03	8.73	0.00	58.47	74.00	-15.53	Peak
2	2390.000	12.94	27.03	8.73	0.00	48.70	54.00	-5.30	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11g Tx mode
Test Channel:	Lowest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

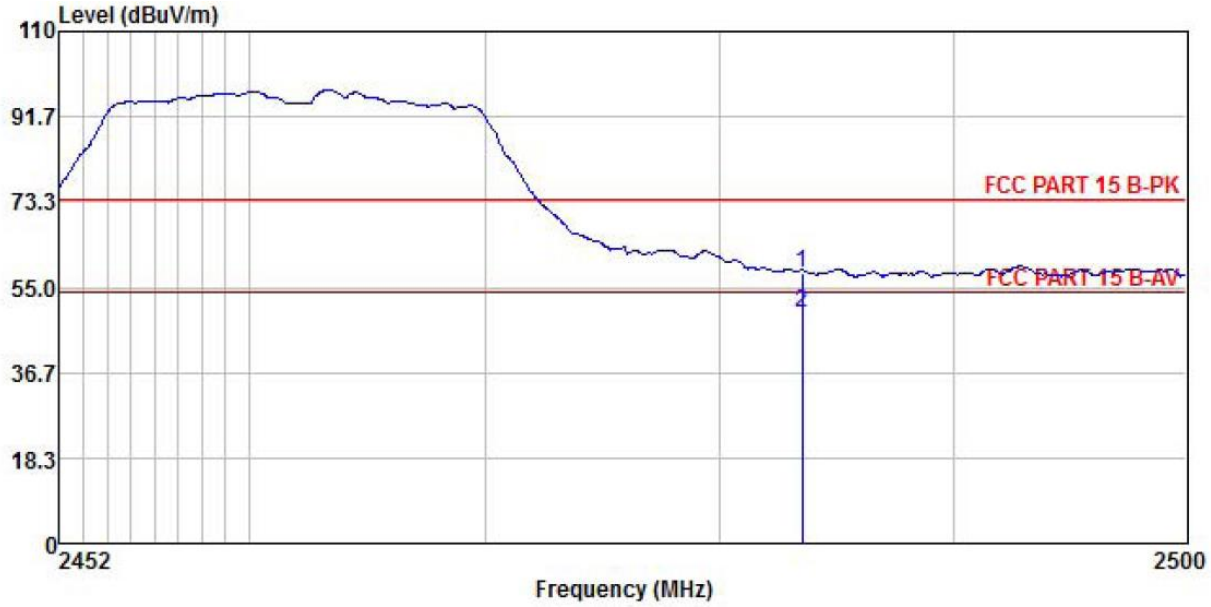


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	21.50	27.03	8.73	0.00	57.26	74.00	-16.74	Peak
2	2390.000	11.64	27.03	8.73	0.00	47.40	54.00	-6.60	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11g Tx mode
Test Channel:	Highest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

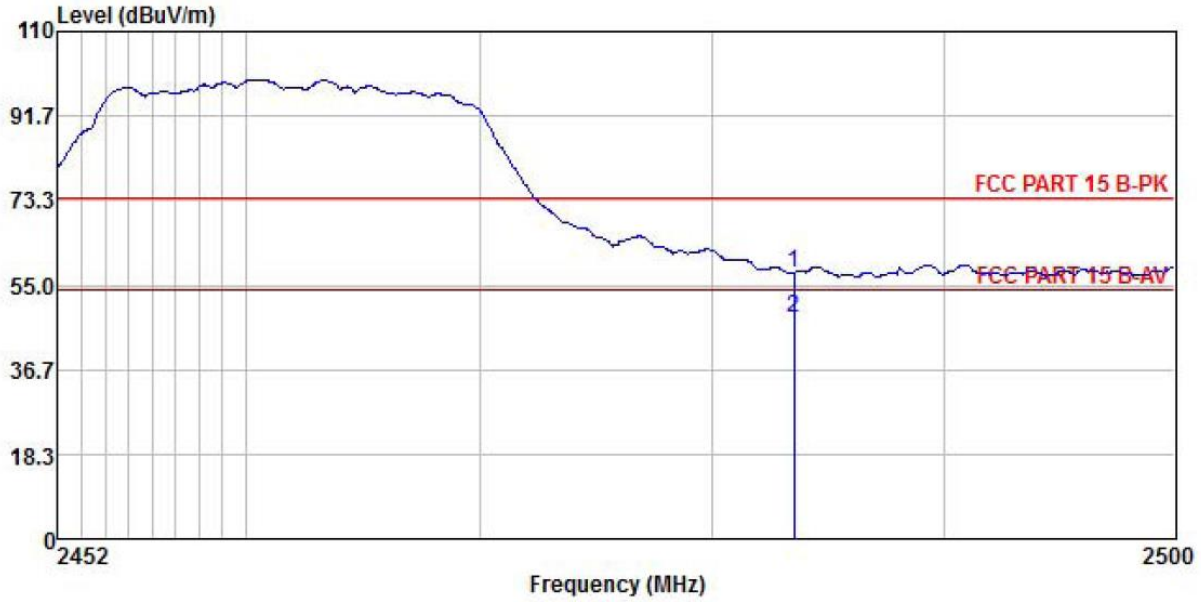


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	22.04	27.27	8.82	0.00	58.13	74.00	-15.87	Peak
2	2483.500	13.55	27.27	8.82	0.00	49.64	54.00	-4.36	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11g Tx mode
Test Channel:	Highest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%



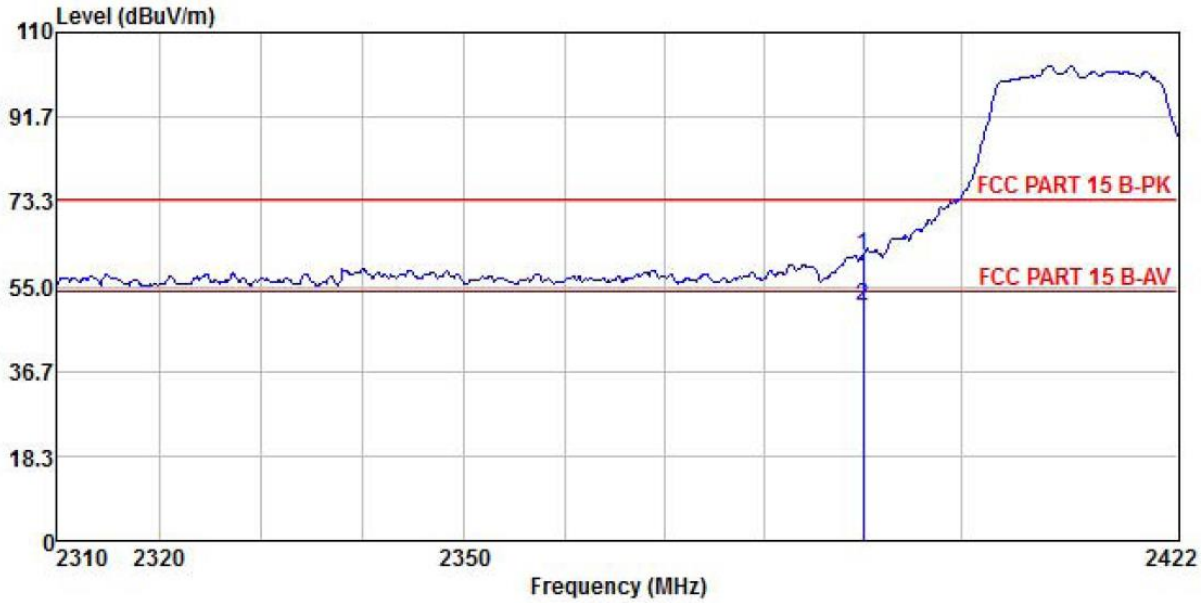
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	21.73	27.27	8.82	0.00	57.82	74.00	-16.18	Peak
2	2483.500	11.72	27.27	8.82	0.00	47.81	54.00	-6.19	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

802.11n(HT20) (MIMO):

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11n(HT20) Tx mode
Test Channel:	Lowest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

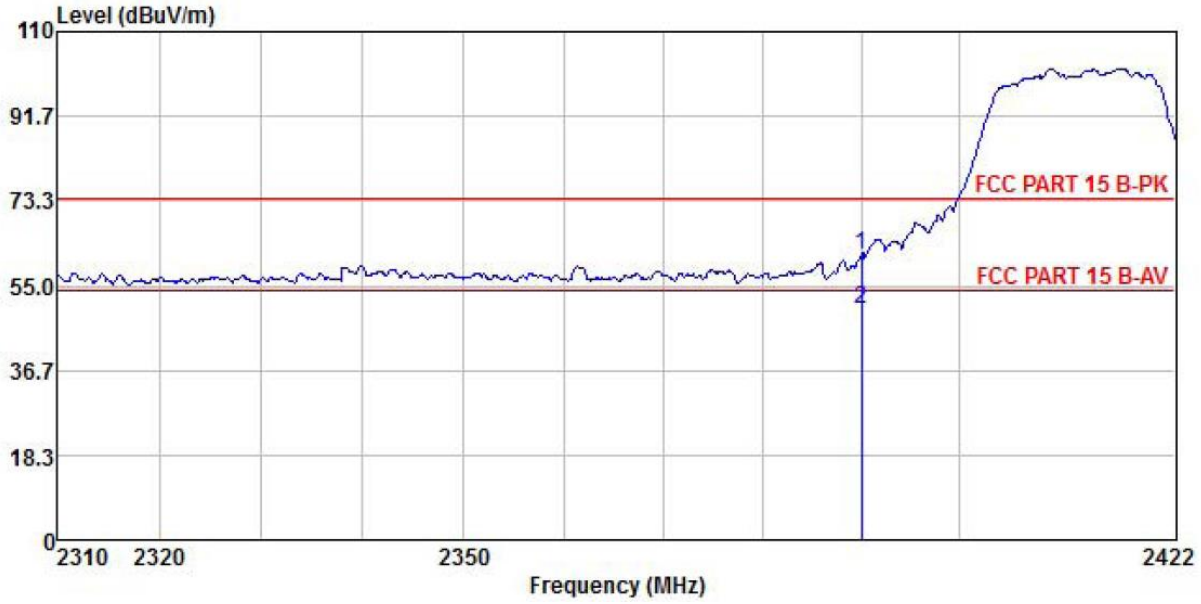


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	25.84	27.03	8.73	0.00	61.60	74.00	-12.40	Peak
2	2390.000	15.13	27.03	8.73	0.00	50.89	54.00	-3.11	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11n(HT20) Tx mode
Test Channel:	Lowest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

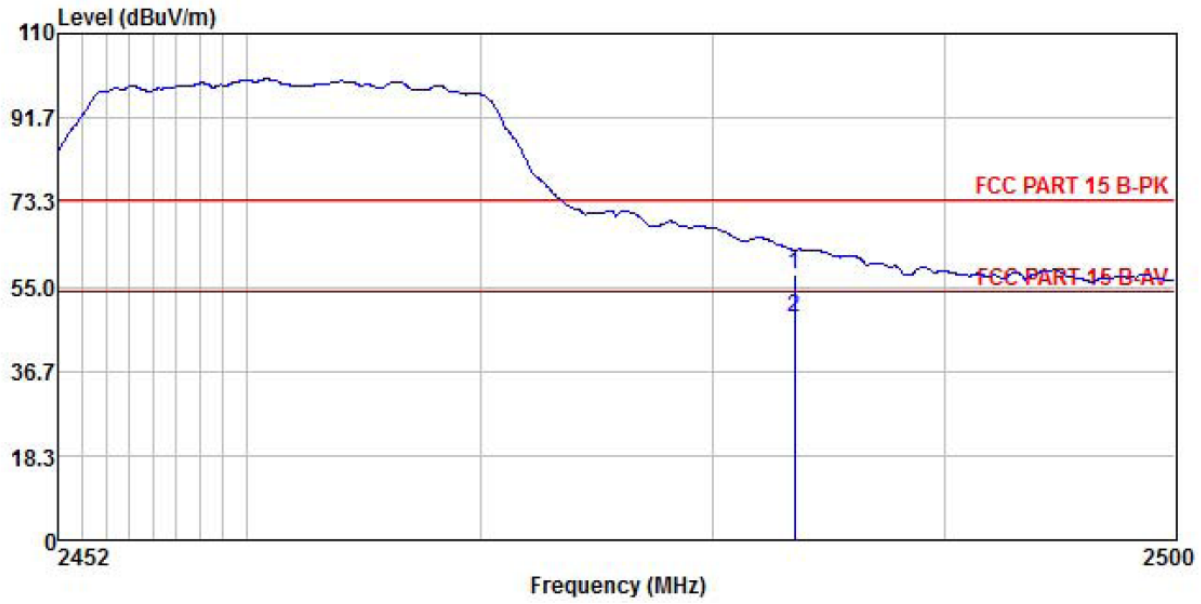


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	25.96	27.03	8.73	0.00	61.72	74.00	-12.28	Peak
2	2390.000	14.13	27.03	8.73	0.00	49.89	54.00	-4.11	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11n(HT20) Tx mode
Test Channel:	Highest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

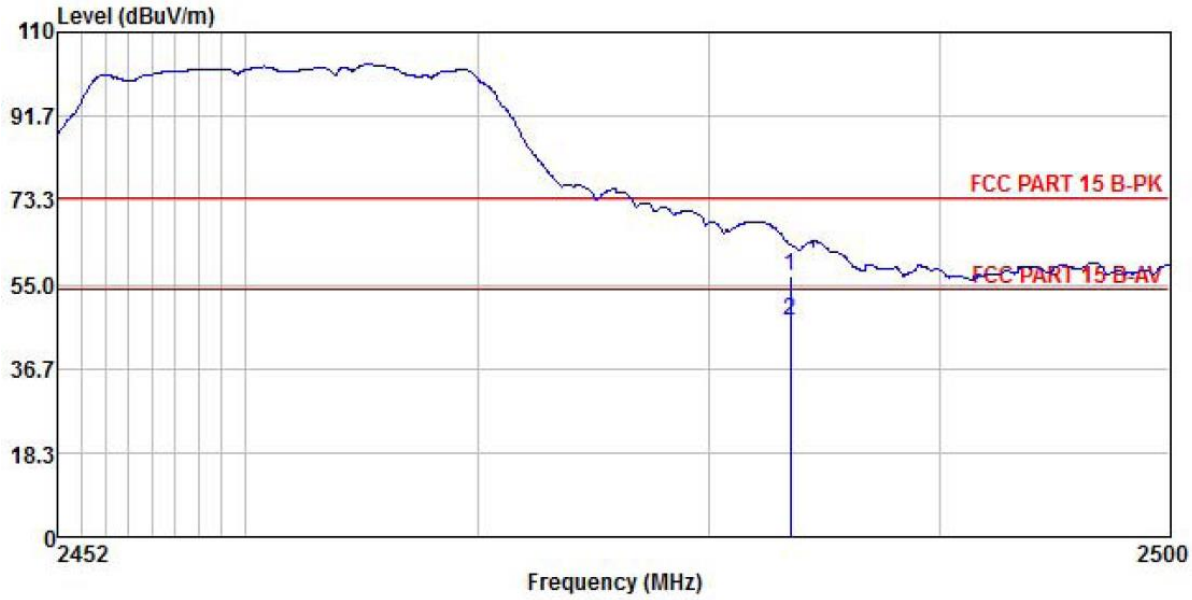


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	21.63	27.27	8.82	0.00	57.72	74.00	-16.28	Peak
2	2483.500	12.09	27.27	8.82	0.00	48.18	54.00	-5.82	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11n(HT20) Tx mode
Test Channel:	Highest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%



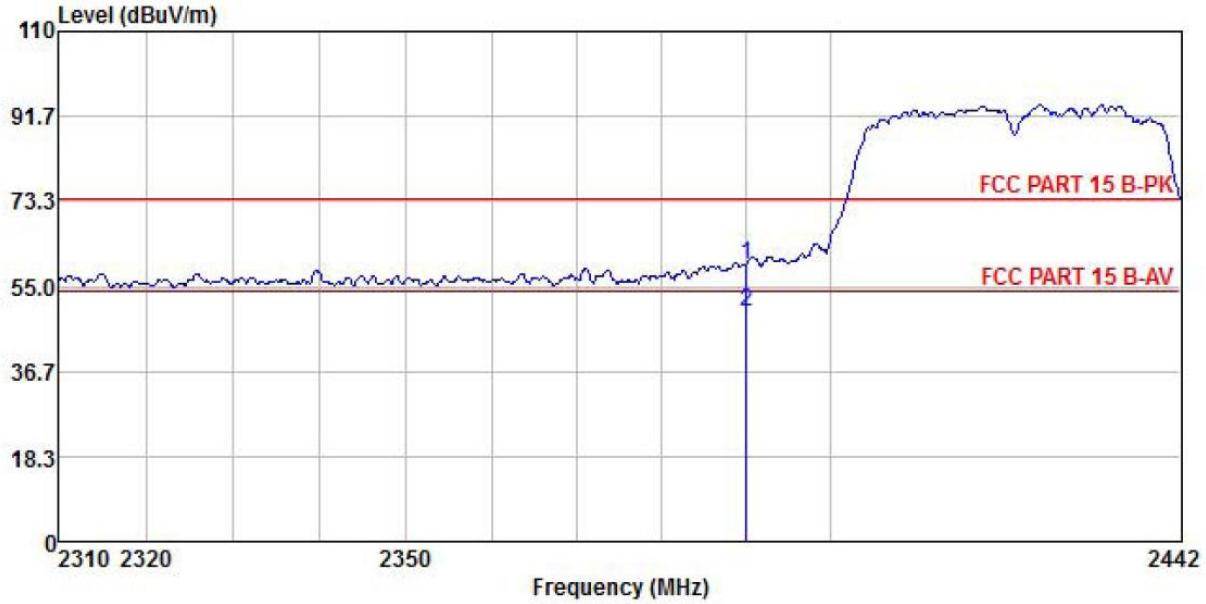
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	20.88	27.27	8.82	0.00	56.97	74.00	-17.03	Peak
2	2483.500	11.03	27.27	8.82	0.00	47.12	54.00	-6.88	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

802.11n(HT40) (MIMO):

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11n(HT40) Tx mode
Test Channel:	Lowest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

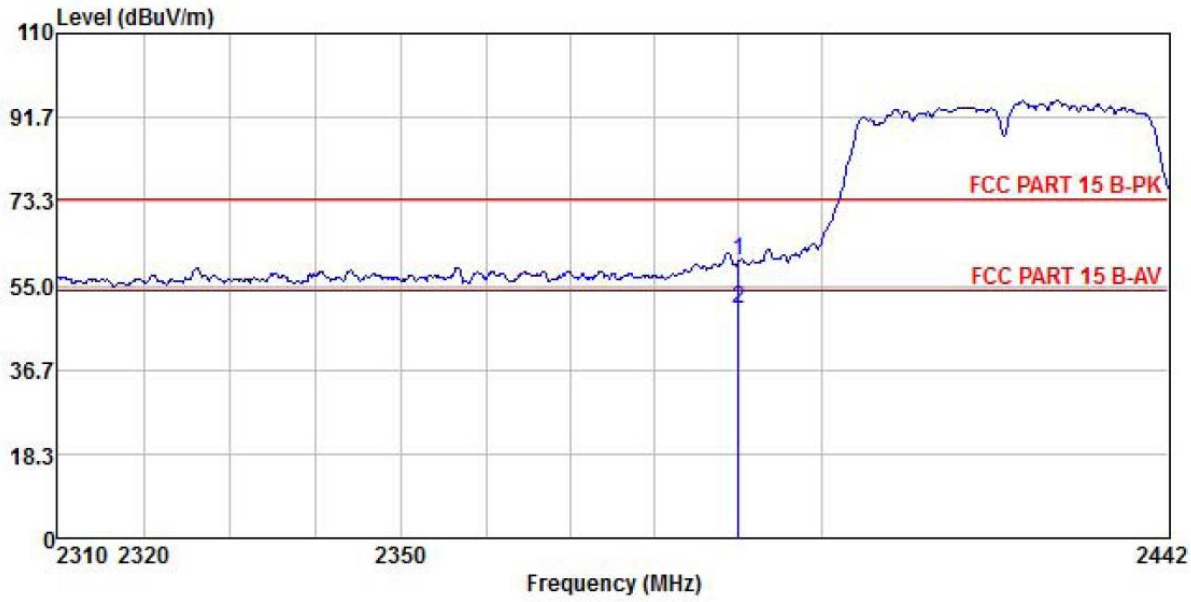


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	23.75	27.03	8.73	0.00	59.51	74.00	-14.49	Peak
2	2390.000	13.77	27.03	8.73	0.00	49.53	54.00	-4.47	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11n(HT40) Tx mode
Test Channel:	Lowest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

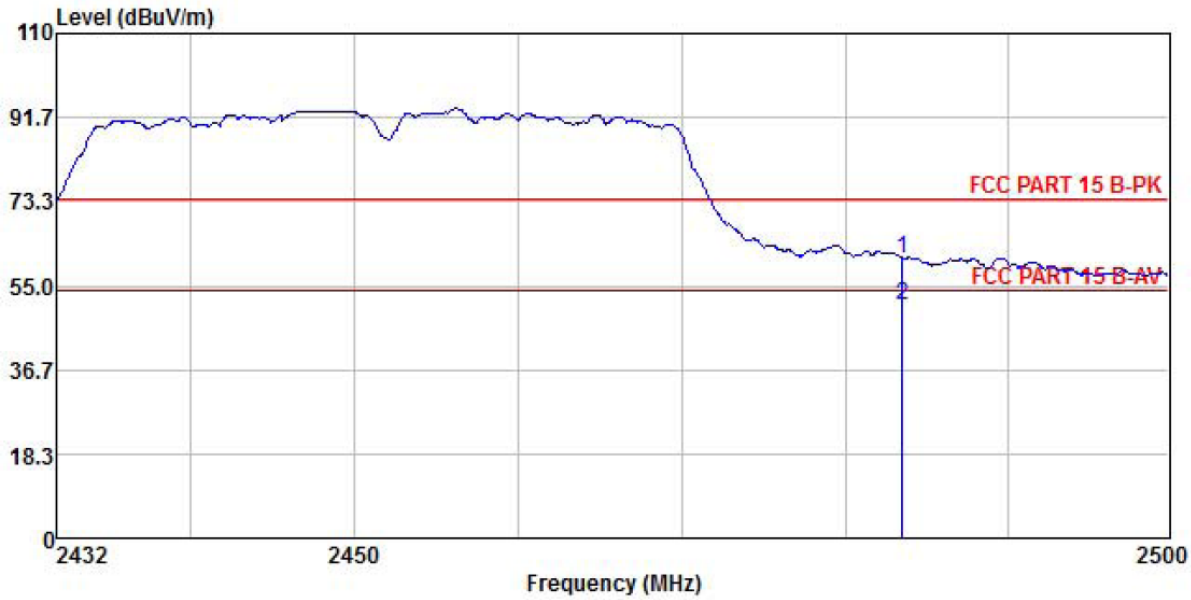


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2390.000	24.69	27.03	8.73	0.00	60.45	74.00	-13.55	Peak
2	2390.000	14.13	27.03	8.73	0.00	49.89	54.00	-4.11	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11n(HT40) Tx mode
Test Channel:	Highest channel	**Polarization:**	Vertical
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

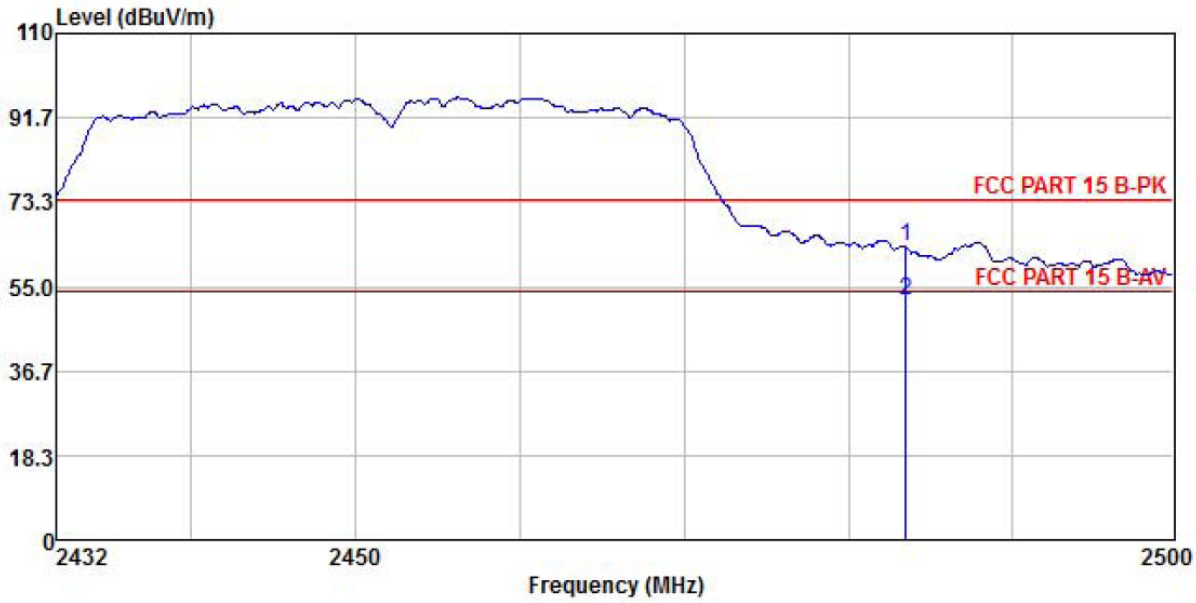


	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	24.92	27.27	8.82	0.00	61.01	74.00	-12.99	Peak
2	2483.500	14.45	27.27	8.82	0.00	50.54	54.00	-3.46	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	802.11n(HT40) Tx mode
Test Channel:	Highest channel	**Polarization:**	Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%



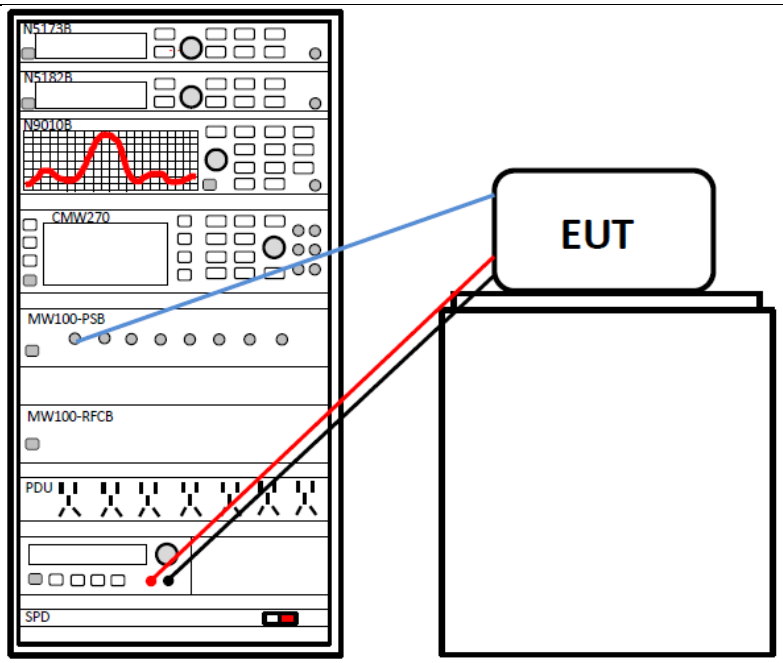
	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	2483.500	27.46	27.27	8.82	0.00	63.55	74.00	-10.45	Peak
2	2483.500	15.88	27.27	8.82	0.00	51.97	54.00	-2.03	Average

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

6.7 Spurious Emission

6.7.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
Test setup:	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Measurement Data:	**Refer to Appendix A - 2.4G WIFI**

6.7.2 Radiated Emission Method

Test Requirement:	FCC Part 15 C Section 15.209 and 15.205
Test Frequency Range:	9kHz to 25GHz
Test Distance:	3m or 10m

Receiver setup:

Frequency	Detector	RBW	VBW	Remark
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
Above 1GHz	Peak	1MHz	3MHz	Peak Value
	RMS	1MHz	3MHz	Average Value

Limit:

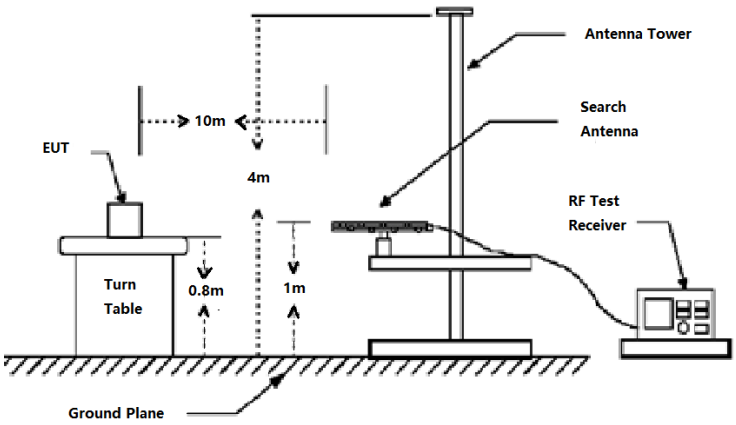
Frequency	Limit (dBuV/m @10m)	Remark
30MHz-88MHz	30.0	Quasi-peak Value
88MHz-216MHz	33.5	Quasi-peak Value
216MHz-960MHz	36.0	Quasi-peak Value
960MHz-1GHz	44.0	Quasi-peak Value
Frequency	Limit (dBuV/m @3m)	Remark
Above 1GHz	54.0	Average Value
	74.0	Peak Value

Test Procedure:

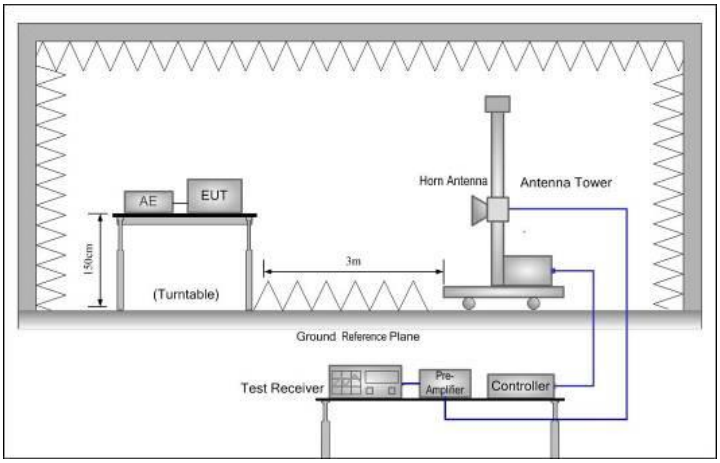
1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 10 meter chamber (below 1GHz)or 3 meter chamber(above 1GHz). The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 10 meters(below 1GHz) or 3 meters(above 1GHz) away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Test setup:

Below 1GHz



Above 1GHz

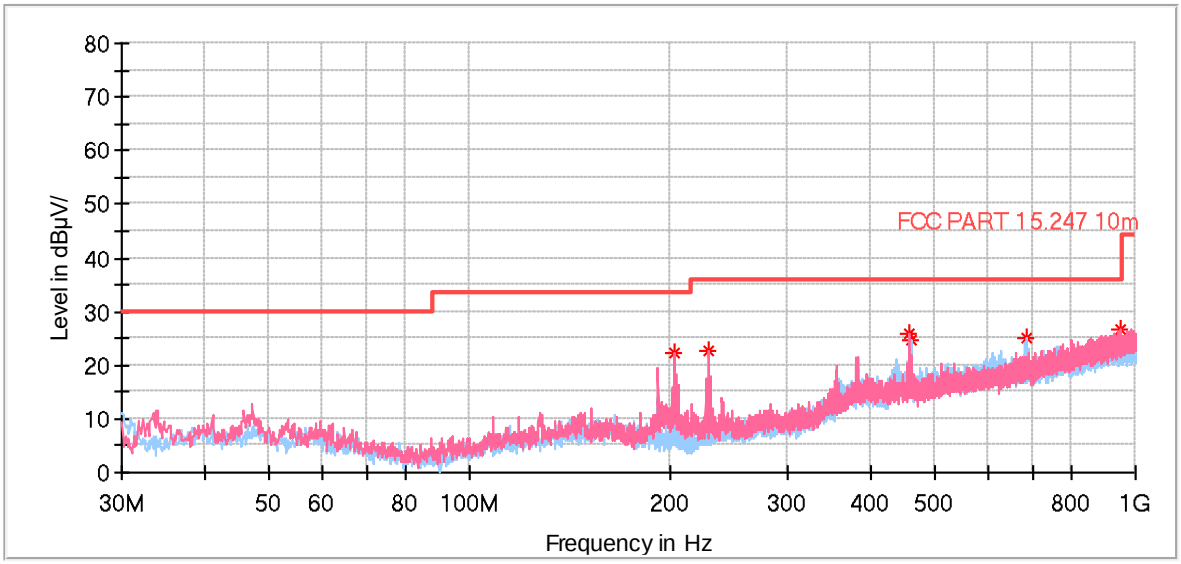
	
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case. 2. 9 kHz to 30MHz is lower than the limit 20dB, so only shows the data of above 30MHz in this report.

Measurement Data (worst case):

Below 1GHz:

Product Name:	Netbook	**Product Model:**	AX11
Test By:	Mike	**Test mode:**	Wi-Fi Tx mode
Test Frequency:	30 MHz ~ 1 GHz	**Polarization:**	Vertical & Horizontal
Test Voltage:	AC 120/60Hz	**Environment:**	Temp: 24℃ Huni: 57%

Full Spectrum



Frequency (MHz)	MaxPeak (dB µ V/m)	Limit (dB µ	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
683.877000	25.17	36.00	10.83	100.0	H	53.0	-5.3
459.225000	24.48	36.00	11.52	100.0	H	267.0	-10.1
947.038000	26.61	36.00	9.39	100.0	V	5.0	-0.1
456.315000	25.77	36.00	10.23	100.0	V	32.0	-9.7
228.850000	22.52	36.00	13.48	100.0	V	111.0	-16.4
203.242000	22.09	33.50	11.41	100.0	V	225.0	-18.1

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*
3. *The Aux Factor is a notch filter switch box loss, this item is not used.*
4. *We predicted adapter 1 and adapter 2 and found that adapter 2 has worse data, and the report only reflects the worst data*

Above 1GHz

802.11b (ANT0)						
Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	54.87	-5.57	49.30	74.00	24.70	Vertical
4824.00	58.16	-5.57	52.59	74.00	21.41	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	46.65	-5.57	41.08	54.00	12.92	Vertical
4824.00	47.18	-5.57	41.61	54.00	12.39	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	55.52	-6.19	49.33	74.00	24.67	Vertical
4874.00	59.14	-6.19	52.95	74.00	21.05	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	47.85	-6.19	41.66	54.00	12.34	Vertical
4874.00	48.29	-6.19	42.10	54.00	11.90	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	54.55	-8.79	45.76	74.00	28.24	Vertical
4924.00	55.90	-8.79	47.11	74.00	26.89	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	48.84	-8.79	40.05	54.00	13.95	Vertical
4924.00	47.10	-8.79	38.31	54.00	15.69	Horizontal

Remark:

1. *Final Level = Receiver Read level + Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

802.11b (ANT1)						
Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	53.52	-5.57	47.95	74.00	26.05	Vertical
4824.00	58.40	-5.57	52.83	74.00	21.17	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	47.18	-5.57	41.61	54.00	12.39	Vertical
4824.00	47.18	-5.57	41.61	54.00	12.39	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	54.52	-6.19	48.33	74.00	25.67	Vertical
4874.00	59.99	-6.19	53.80	74.00	20.20	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	46.65	-6.19	40.46	54.00	13.54	Vertical
4874.00	47.18	-6.19	40.99	54.00	13.01	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	53.29	-8.79	44.50	74.00	29.50	Vertical
4924.00	54.57	-8.79	45.78	74.00	28.22	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	47.81	-8.79	39.02	54.00	14.98	Vertical
4924.00	48.29	-8.79	39.50	54.00	14.50	Horizontal

Remark:

1. *Final Level = Receiver Read level + Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

802.11g (ANT0)						
Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	53.65	-5.57	48.08	74.00	25.92	Vertical
4824.00	57.10	-5.57	51.53	74.00	22.47	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	48.85	-5.57	43.28	54.00	10.72	Vertical
4824.00	47.52	-5.57	41.95	54.00	12.05	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	53.36	-6.19	47.17	74.00	26.83	Vertical
4874.00	54.18	-6.19	47.99	74.00	26.01	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	48.90	-6.19	42.71	54.00	11.29	Vertical
4874.00	47.60	-6.19	41.41	54.00	12.59	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	55.52	-8.79	46.73	74.00	27.27	Vertical
4924.00	53.29	-8.79	44.50	74.00	29.50	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	47.10	-8.79	38.31	54.00	15.69	Vertical
4924.00	48.69	-8.79	39.90	54.00	14.10	Horizontal

Remark:

1. *Final Level = Receiver Read level + Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

802.11g (ANT1)						
Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	54.53	-5.57	48.96	74.00	25.04	Vertical
4824.00	57.99	-5.57	52.42	74.00	21.58	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	48.85	-5.57	43.28	54.00	10.72	Vertical
4824.00	47.13	-5.57	41.56	54.00	12.44	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	55.65	-6.19	49.46	74.00	24.54	Vertical
4874.00	60.29	-6.19	54.10	74.00	19.90	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	47.85	-6.19	41.66	54.00	12.34	Vertical
4874.00	48.16	-6.19	41.97	54.00	12.03	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	54.56	-8.79	45.77	74.00	28.23	Vertical
4924.00	55.27	-8.79	46.48	74.00	27.52	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	46.65	-8.79	37.86	54.00	16.14	Vertical
4924.00	47.19	-8.79	38.40	54.00	15.60	Horizontal

Remark:

1. *Final Level = Receiver Read level + Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

802.11n(HT20) (MIMO)						
Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	53.65	-5.57	48.08	74.00	25.92	Vertical
4824.00	56.19	-5.57	50.62	74.00	23.38	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	49.95	-5.57	44.38	54.00	9.62	Vertical
4824.00	47.80	-5.57	42.23	54.00	11.77	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	56.60	-6.19	50.41	74.00	23.59	Vertical
4874.00	60.33	-6.19	54.14	74.00	19.86	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	48.85	-6.19	42.66	54.00	11.34	Vertical
4874.00	47.19	-6.19	41.00	54.00	13.00	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	55.65	-8.79	46.86	74.00	27.14	Vertical
4924.00	53.29	-8.79	44.50	74.00	29.50	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	47.51	-8.79	38.72	54.00	15.28	Vertical
4924.00	46.69	-8.79	37.90	54.00	16.10	Horizontal

Remark:

1. *Final Level = Receiver Read level + Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

802.11n(HT40) (MIMO)						
Test channel: Lowest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4844.00	54.65	-6.89	47.76	74.00	26.24	Vertical
4844.00	57.99	-6.89	51.10	74.00	22.90	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4844.00	48.85	-6.89	41.96	54.00	12.04	Vertical
4844.00	47.11	-6.89	40.22	54.00	13.78	Horizontal
Test channel: Middle channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	57.85	-6.19	51.66	74.00	22.34	Vertical
4874.00	61.40	-6.19	55.21	74.00	18.79	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	48.85	-6.19	42.66	54.00	11.34	Vertical
4874.00	47.13	-6.19	40.94	54.00	13.06	Horizontal
Test channel: Highest channel						
Detector: Peak Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4904.00	56.65	-8.47	48.18	74.00	25.82	Vertical
4904.00	54.80	-8.47	46.33	74.00	27.67	Horizontal
Detector: Average Value						
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4904.00	48.85	-8.47	40.38	54.00	13.62	Vertical
4904.00	47.10	-8.47	38.63	54.00	15.37	Horizontal

Remark:

1. *Final Level = Receiver Read level + Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*