

## JianYan Testing Group Shenzhen Co., Ltd.

Report No: JYTSZB-R12-2100792

# 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, China,

518000

## **Equipment Under Test (EUT)**

Product Name: Tablet PC

Model No.: Tab X1, TabX1, TabX3, TabX4, TabX5, TabT1, TabT2, TabT3,

TabN1, TabN2, TabN3, TabXX (XX can be any number)

Trade mark: aprix, Geex, hiup, Todos

FCC ID: 2AZQ6-APX1

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

Date of sample receipt: 11 May, 2021

**Date of Test:** 11 May, to 22 Jun., 2021

Date of report issued: 23 Jun., 2021

Test Result: PASS\*

#### 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.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.





2 Version

Version No.	Date	Description
00	23 Jun., 2021	Original

Tested by:

Date: 23 Jun., 2021

Test Engineer

Reviewed by: Date: 23 Jun., 2021

**Project Engineer** 



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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	45 247 (4)	Appendix A – 2.4G Wi-Fi	Pass
Radiated Band Edge	15.247 (d)	See Section 6.6.2	Pass
Conducted Spurious Emission	15 205 8 15 200	Appendix A – 2.4G Wi-Fi	Pass
Radiated Spurious Emission	15.205 & 15.209	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

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

5.2 General Description of E.U.T.

Product Name:	Tablet PC			
Model No.:	Tab X1, TabX1, TabX3, TabX4, TabX5, TabT1, TabT2, TabT3, TabN1, TabN2, TabN3, TabXX (XX can be any number)			
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:	1.83dBi			
Power supply:	Rechargeable Li-ion Battery DC3.7V, 3000mAh			
AC adapter:	Model: EE-0502000UZ			
	Input: AC100-240V, 50/60Hz, 0.5A			
	Output: DC 5.0V, 2000mA			
Remark:	Model No.: Tab X1, TabX1, TabX3, TabX4, TabX5, TabT1, TabT2, TabT3, TabN1, TabN2, TabN3, TabXX (XX can be any number) 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.

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JianYan Testing Group Shenzhen Co., Ltd.

Project No.: JYTSZE2105052

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.



## 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
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-03-2021	03-02-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-18-2020	06-17-2021
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-18-2020	11-17-2021
EMI Test Software	AUDIX	E3	\	ersion: 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
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 1.83 dBi.

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## 6.2 Conducted Emission

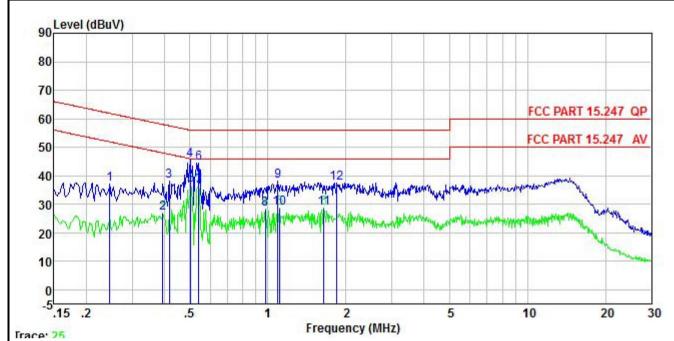
			-				
Test Requirement:	FCC Part 15 C Section 15.2	207					
Test Frequency Range:	150 kHz to 30 MHz						
Class / Severity:	Class B						
Receiver setup:	RBW=9 kHz, VBW=30 kHz						
Limit:	Fraguenov rango (MHz)	Limit (d	dBuV)				
	Frequency range (MHz)	Quasi-peak	Average				
	0.15-0.5	66 to 56*	56 to 46*				
	0.5-5	56	46				
	5-30	60	50				
	* Decreases with the logarit	hm of the frequency.					
Test procedure	<ol> <li>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.</li> <li>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).</li> <li>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.</li> </ol>						
Test setup:	LISN	st	er — AC power				
Test Instruments:	Refer to section 5.9 for deta	Refer to section 5.9 for details					
Test mode:	Refer to section 5.3 for deta	nils					
Test results:	Passed						

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#### **Measurement Data:**

Product name:	Tablet PC	Product model:	Tab X1
Test by:	YT	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%



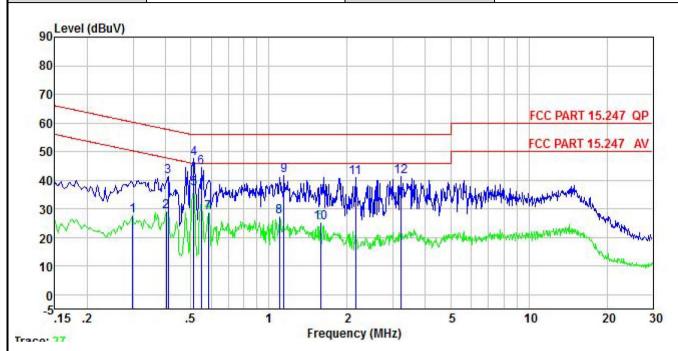
	Freq	Read Level	LISN Factor		Cable Loss	Level	Limit Line	Over Limit	Remark
=	MHz	dBu₹	<u>dB</u>	<u>d</u> B	<u>ab</u>	dBu₹	dBu∀	<u>dB</u>	
1	0.246	26.99	10.18	-0.21	0.01	36.97	61.91	-24.94	QP
2	0.393	16.04	10.28	0.38	0.04	26.74	47.99	-21.25	Average
3	0.417	27.53	10.29	0.28	0.04	38.14	57.51	-19.37	QP
4	0.502	35.33	10.34	-0.35	0.03	45.35	56.00	-10.65	QP
5	0.505	26.87	10.34	-0.35	0.03	36.89	46.00	-9.11	Average
1 2 3 4 5 6 7 8 9	0.541	34.31	10.36	-0.36	0.03	44.34	56.00	-11.66	QP
7	0.541	26.43	10.36	-0.36	0.03	36.46	46.00	-9.54	Average
8	0.979	17.26	10.48	0.40	0.05	28.19	46.00		Average
9	1.094	27.24	10.49	0.36	0.07	38.16		-17.84	
10	1.111	17.91	10.49	0.34	0.07	28.81	46.00	-17.19	Average
11	1.645	17.93	10.52	-0.10	0.16	28.51			Average
12	1.848	26.82	10.53	-0.23	0.19	37.31		-18.69	

#### 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.



Product name:	Tablet PC	Product model:	Tab X1
Test by:	YT	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%



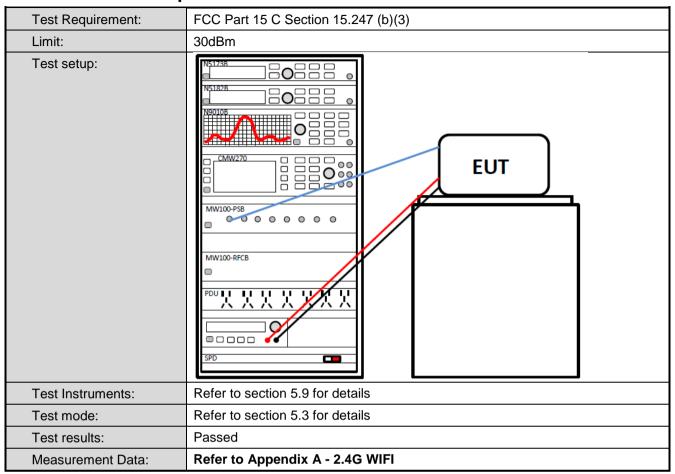
Freq	Read Level	LISN Factor	Aux Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
MHz	dBu∀	<u>d</u> B	<u>d</u> B	<u>ab</u>	dBu₹	dBu₹	<u>d</u> B	
0.299 0.402	17.53 18.89	10.01 10.12	0.01 -0.06	0.03 0.04	27.58 28.99			
0.410	31.18	10.13	-0.05	0.04	41.30	57.64	-16.34	QP
0.513	26.67	10.21	0.03	0.03	36.94	46.00	-9.06	Average
0.585	18.46	10.28	0.03	0.02	28.79	46.00	-17.21	Average
1.141	31.00	10.61	0.10	0.08	41.79	56.00	-14.21	QP
2.155	29.63	10.82	0.20	0.18	40.83	56.00	-15.17	QP
	0.299 0.402 0.410 0.513 0.513 0.549 0.585 1.100 1.141 1.577	Freq Level  MHz dBuV  0.299 17.53 0.402 18.89 0.410 31.18 0.513 37.29 0.513 26.67 0.549 34.16 0.585 18.46 1.100 16.40 1.141 31.00 1.577 14.11 2.155 29.63	Freq Level Factor  MHz dBuV dB  0.299 17.53 10.01 0.402 18.89 10.12 0.410 31.18 10.13 0.513 37.29 10.21 0.513 26.67 10.21 0.549 34.16 10.25 0.585 18.46 10.28 1.100 16.40 10.59 1.141 31.00 10.61 1.577 14.11 10.72 2.155 29.63 10.82	Freq Level Factor Factor  MHz dBuV dB dB  0.299 17.53 10.01 0.01 0.402 18.89 10.12 -0.06 0.410 31.18 10.13 -0.05 0.513 37.29 10.21 0.03 0.513 26.67 10.21 0.03 0.549 34.16 10.25 0.03 0.585 18.46 10.28 0.03 1.100 16.40 10.59 0.09 1.141 31.00 10.61 0.10 1.577 14.11 10.72 0.14 2.155 29.63 10.82 0.20	Freq Level Factor Factor Loss    MHz   dBuV   dB   dB   dB	Freq Level Factor Factor         Loss Level           MHz         dBuV         dB         dB         dB         dBuV         dBuV           0.299         17.53         10.01         0.01         0.03         27.58           0.402         18.89         10.12         -0.06         0.04         28.99           0.410         31.18         10.13         -0.05         0.04         41.30           0.513         37.29         10.21         0.03         0.03         47.56           0.513         26.67         10.21         0.03         0.03         36.94           0.549         34.16         10.25         0.03         0.02         44.46           0.585         18.46         10.28         0.03         0.02         28.79           1.100         16.40         10.59         0.09         0.07         27.15           1.141         31.00         10.61         0.10         0.08         41.79           1.577         14.11         10.72         0.14         0.16         25.13           2.155         29.63         10.82         0.20         0.18         40.83	Freq Level Factor Factor Loss Level Line    MHz   dBuV   dB   dB   dB   dB   dBuV   dBuV	Freq Level Factor Factor Loss Level Line Limit    MHz   dBuV   dB   dB   dB   dBuV   dBuV   dB   0.299   17.53   10.01   0.01   0.03   27.58   50.28   -22.70     0.402   18.89   10.12   -0.06   0.04   28.99   47.81   -18.82     0.410   31.18   10.13   -0.05   0.04   41.30   57.64   -16.34     0.513   37.29   10.21   0.03   0.03   47.56   56.00   -8.44     0.513   26.67   10.21   0.03   0.03   36.94   46.00   -9.06     0.549   34.16   10.25   0.03   0.02   44.46   56.00   -11.54     0.585   18.46   10.28   0.03   0.02   28.79   46.00   -17.21     1.100   16.40   10.59   0.09   0.07   27.15   46.00   -18.85     1.141   31.00   10.61   0.10   0.08   41.79   56.00   -14.21     1.577   14.11   10.72   0.14   0.16   25.13   46.00   -20.87     2.155   29.63   10.82   0.20   0.18   40.83   56.00   -15.17

#### 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.

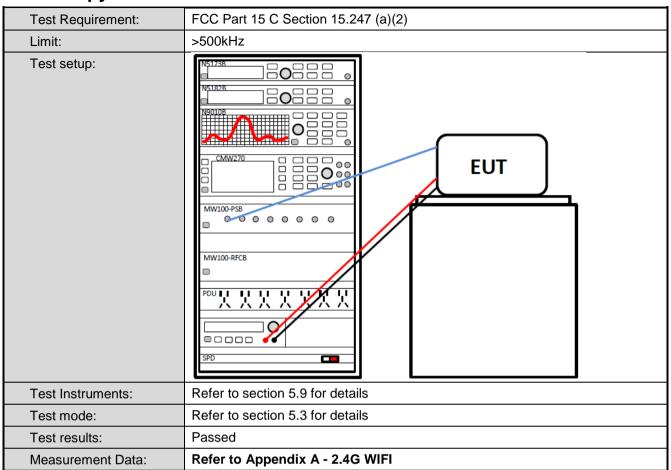


## **6.3 Conducted Output Power**



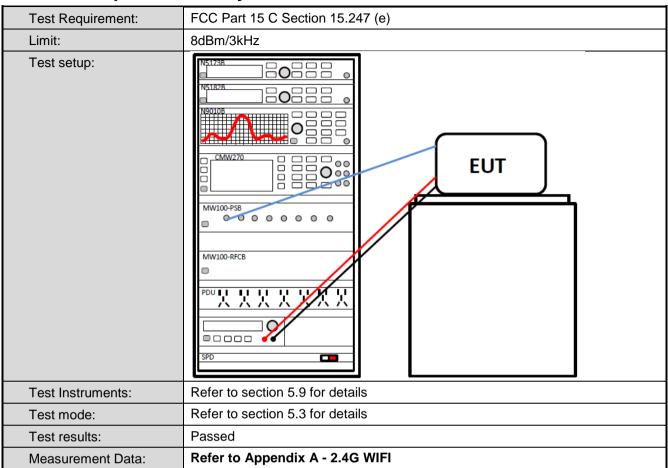


## 6.4 Occupy Bandwidth





## 6.5 Power Spectral Density



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## 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:	NS182B NS18B NS182B NS18B NS182B NS18B NS1B NS18B NS18B NS18B NS1B NS1B NS1B NS1B NS1B NS1B NS1B NS1				
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

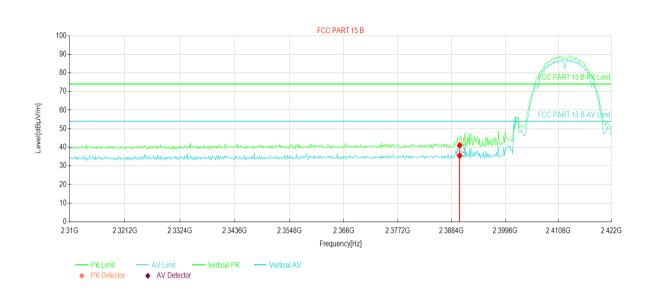
Test Requirement:	FCC Part 15 C Section 15.209 and 15.205					
Test Frequency Range:	2310 MHz to 2390 MHz and 2483.5 MHz to 2500 MHz					
Test Distance:	3m					
Receiver setup:	Frequency	Detector	RBW	VBW	Remark	
	Above 1GHz	Peak	1MHz	3MHz		
Limit:	Frequency	RMS	1MHz nit (dBuV/m @	3MHz	Average Value Remark	
Limit.			54.00	5111)	Average Value	
	Above 1GH		74.00		Peak Value	
Test setup:	<ol> <li>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.</li> <li>The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>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.</li> <li>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.</li> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>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.</li> </ol>					
Test setup:	- 130cm	AE EUT (Turntable)	Ground Reference Plane	Antenna Antenn	a Tower	
Test Instruments:	Refer to section 5	.9 for details				
Test mode:	Refer to section 5	.3 for details				
Test results:	Passed					

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#### 802.11b mode:

Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



Susp	Suspected Data List₀							
NO.	Freq.⊬ [MHz]∂	Reading√ [dBµV/m]√	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊬	Margin⊬ [dB]⊬	Trace	Polarity∂
1₽	2390.00	58.27₽	41.02₽	-17.25₽	74.00₽	32.98₽	PK₽	Vertical⊬
2₊□	2390.00	52.81₽	35.56₽	-17.25₽	54.00₽	18.44₽	AV₽	Vertical∂

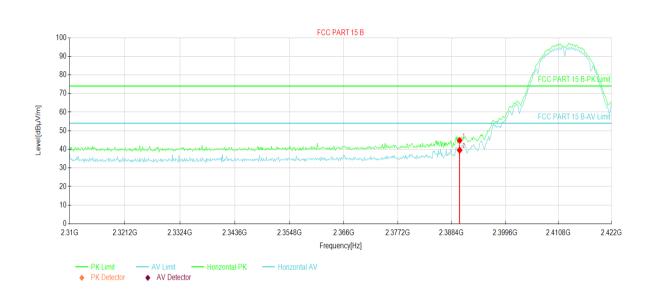
#### Remark:

- 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.

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Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11b Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



Susp	Suspected Data List.							
NO.	Freq	Reading√ [dBµV/m]∞	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]₄	Margin⊬ [dB]⊬	Trace	Polarity₀
1₽	2390.00	62.03₽	44.78₽	-17.25₽	74.00₽	29.22₽	PK₽	Horizontal <sub>2</sub>
2₽	2390.00	56.80₽	39.55₽	-17.25₽	54.00₽	14.45₽	AV₽	Horizontal <sub>2</sub>

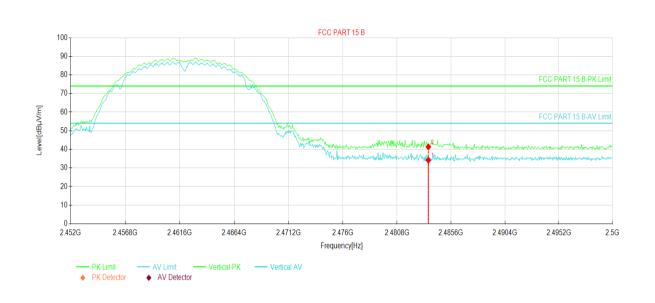
#### Remark:

- 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.

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Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



Susp	Suspected Data List∂							
NO.	Freq.∉ [MHz]∉	Reading√ [dBµV/m]∞	Level⊬ [dBµV/m]₄	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊮	Margin⊬ [dB]⊬	Trace	Polarity⊮
1₽	2483.50₽	51.05₽	34.18₽	-16.87₽	54.00₽	19.82₽	AV₽	Vertical₽
2₽	2483.50₽	58.20₽	41.33₽	-16.87₽	74.00₽	32.67₽	PK₽	Vertical₽

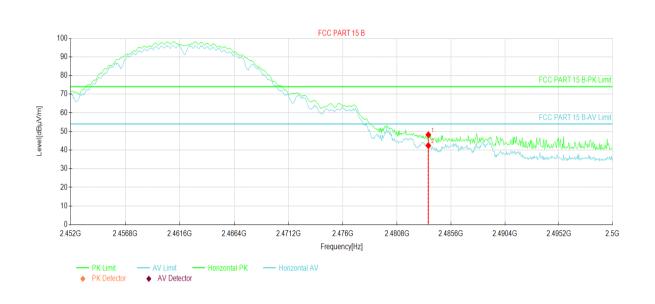
#### Remark

- 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.

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Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11b Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



Suspected Data List⊳								
NO.₽	Freq. [MHz]	Reading√ [dBµV/m]∞	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊮	Margin⊬ [dB]⊬	Trace	Polarity <sub></sub>
1₽	2483.50₽	65.07₽	48.20₽	-16.87₽	74.00₽	25.80₽	PK₽	Horizontal <sub>e</sub> .
2₽	2483.50₽	59.30₽	42.43₽	-16.87₽	54.00₽	11.57₽	AV₽	Horizontal.

#### Remark:

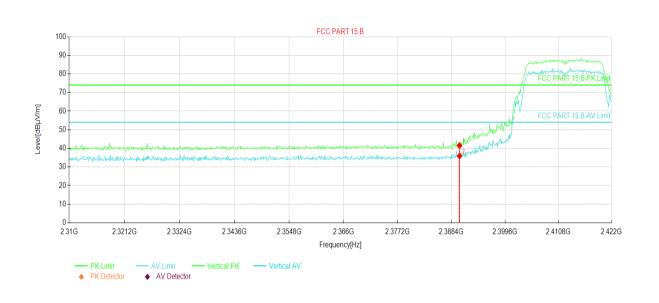
- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

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#### 802.11g mode:

Product Name:	Tablet PC	Product Model:	Tab X1	
Test By:	YT	Test mode:	802.11g Tx mode	
Test Channel:	Lowest channel	Polarization:	Vertical	
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%	



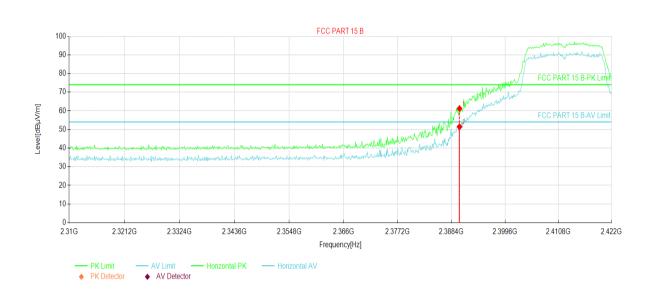
Su	Suspected Data List⊳							
NC	Freq [MHz]-	Reading∍ [dBµV/m]∍	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊬	Margin⊬ [dB]⊬	Trace	Polarity⊮
1	2390.00	58.76₽	41.51₽	-17.25₽	74.00₽	32.49₽	PK₽	Vertical₽
2	2390.00	53.17₽	35.92₽	-17.25₽	54.00₽	18.08₽	AV₽	Vertical₽

#### 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:	Tablet PC	Product Model:	Tab X1	
Test By:	YT	Test mode:	802.11g Tx mode	
Test Channel:	Lowest channel	Polarization:	Horizontal	
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%	



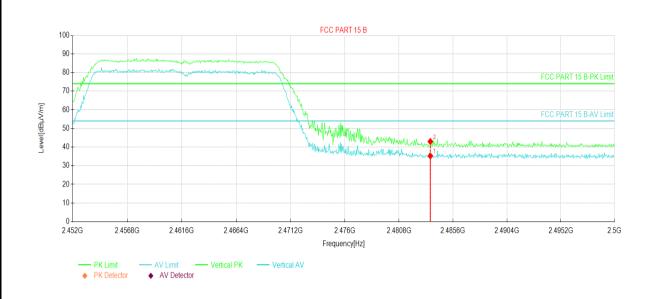
Suspected Data List₀								
NO.	Freq [MHz]	Reading [dBµV/m]∂	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]₄	Margin⊬ [dB]⊬	Trace	Polarity
1₽	2390.00	78.45₽	61.20₽	-17.25₽	74.00₽	12.80₽	PK₽	Horizontal₽
2₽	2390.00	68.68₽	51.43₽	-17.25₽	54.00₽	2.57₽	AV₽	Horizontal₽

#### 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:	Tablet PC	Product Model:	Tab X1	
Test By:	YT	Test mode:	802.11g Tx mode	
Test Channel:	Highest channel	Polarization:	Vertical	
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%	



Suspected Data List								
NO.	Freq.√ [MHz]	Reading√ [dBµV/m]√	Level⊬ [dBµV/m]₄	Factor⊬ [dB]∉	Limit⊬ [dBµV/m]⊮	Margin⊬ [dB]⊬	Trace	Polarity∉
1₽	2483.50₽	52.11₽	35.24₽	-16.87₽	54.00₽	18.76₽	AV₽	Vertical <sub>₽</sub>
2₽	2483.50₽	59.86₽	42.99₽	-16.87₽	74.00₽	31.01₽	PK₽	Verticalℯ

#### Remark

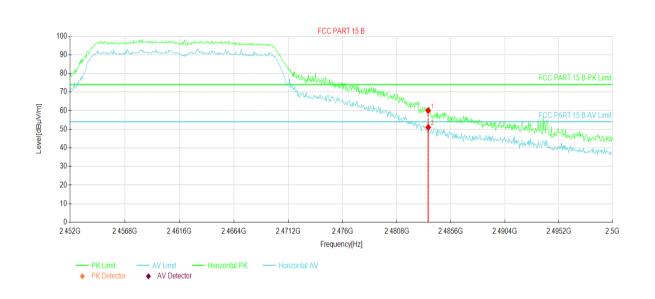
- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

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Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11g Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



Susp	Suspected Data List							
NO.	Freq [MHz].	Reading√ [dBµV/m]∞	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊮	Margin⊬ [dB]⊬	Trace	Polarity∂
1₽	2483.50₽	76.90₽	60.03₽	-16.87₽	74.00₽	13.97₽	PK₽	Horizontal₽
2₊□	2483.50₽	67.89₽	51.02₽	-16.87₽	54.00₽	2.98₽	AV₽	Horizontal₽

#### Remark:

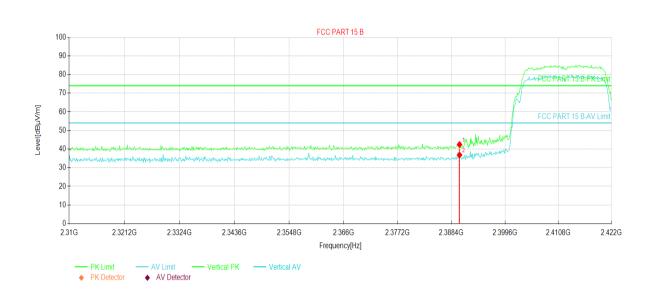
- 1. Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor.
- 2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

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#### 802.11n(HT20):

Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Lowest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



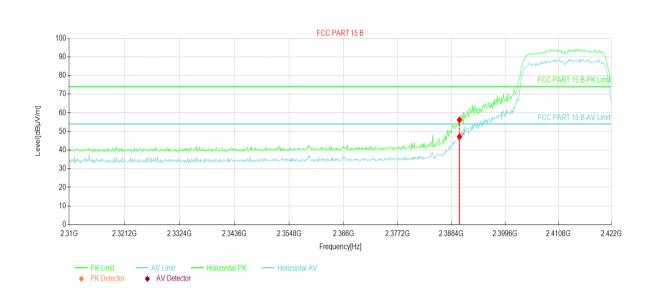
Susp	Suspected Data List₀							
NO.₽	Freq.√ [MHz]	Reading√ [dBµV/m]√	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊮	Margin⊬ [dB]⊬	Trace	Polarity∂
1₽	2390.00	59.69₽	42.44₽	-17.25₽	74.00₽	31.56₽	PK₽	Vertical₄
2↩	2390.00	54.08₽	36.83₽	-17.25₽	54.00₽	17.17₽	AV₽	Vertical₽

#### 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:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



Susp	Suspected Data List⊲							
NO.	Freq.√ [MHz]∘	Reading [dBµV/m]	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊮	Margin⊬ [dB]⊬	Trace	Polarity⊮
1₽	2390.00	73.43₽	56.18₽	-17.25₽	74.00₽	17.82₽	PK₽	Horizontal₽
2₽	2390.00	64.43₽	47.18₽	-17.25₽	54.00₽	6.82₽	AV₽	Horizontal₽

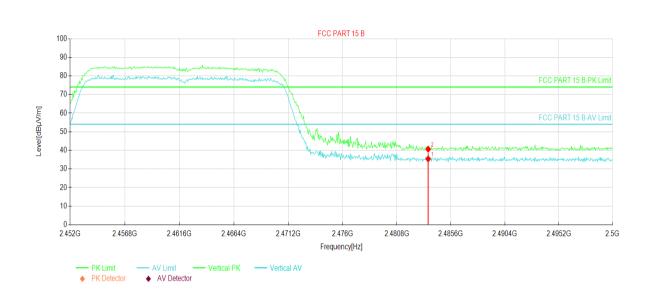
#### Remark

- 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.

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Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



Susp	Suspected Data List₀							
NO.	Freq.⊌ [MHz]₽	Reading√ [dBµV/m]√	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]₄	Margin⊬ [dB]⊬	Trace	Polarity⊮
1₽	2483.50₽	52.28₽	35.41₽	-16.87₽	54.00₽	18.59₽	AV₽	Vertical₽
2₊□	2483.50₽	57.50₽	40.63₽	-16.87₽	74.00₽	33.37₽	PK₽	Vertical₽

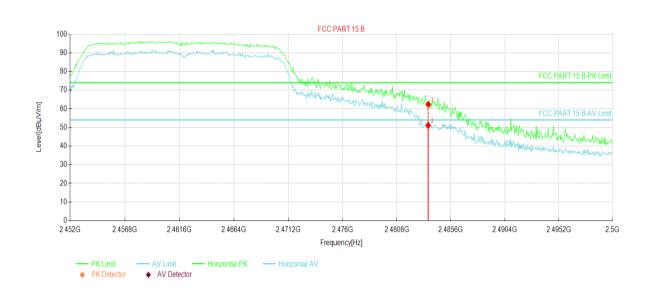
#### Remark

- 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.

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Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11n(HT20) Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



Suspected Data List								
NO.₽	Freq [MHz].	Reading√ [dBµV/m]∞	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊮	Margin⊬ [dB]⊬	Trace	Polarity⊬
1₽	2483.50₽	79.23₽	62.36₽	-16.87₽	74.00₽	11.64₽	PK₽	Horizontal₽
2₽	2483.50₽	68.05₽	51.18₽	-16.87₽	54.00₽	2.82₽	AV₽	Horizontal₽

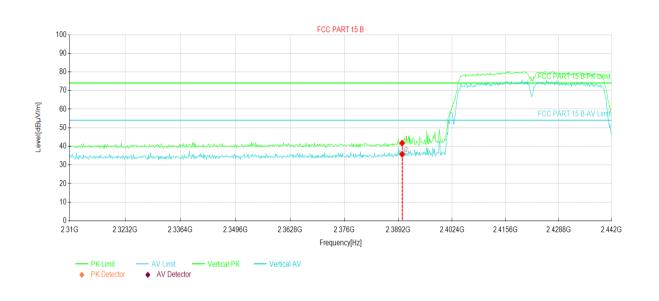
#### Remark:

- 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):

Product Name:	Tablet PC	Product Model:	Tab X1	
Test By:	YT	Test mode:	802.11n(HT40) Tx mode	
Test Channel:	Lowest channel	Polarization:	Vertical	
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%	



Susp	Suspected Data List							
NO.	Freq [MHz]	Reading√ [dBµV/m]∞	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊮	Margin⊬ [dB]⊬	Trace	Polarity∉
1₽	2390.00	58.99₽	41.74	-17.25₽	74.00₽	32.26₽	PK₽	Vertical₽
2₽	2390.00	53.01₽	35.76₽	-17.25₽	54.00₽	18.24₽	AV₽	Vertical₽

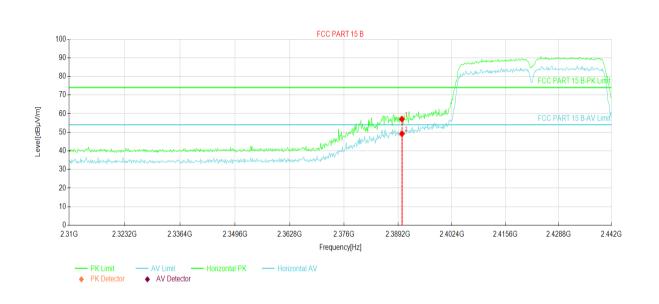
#### Remark:

- 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.

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Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



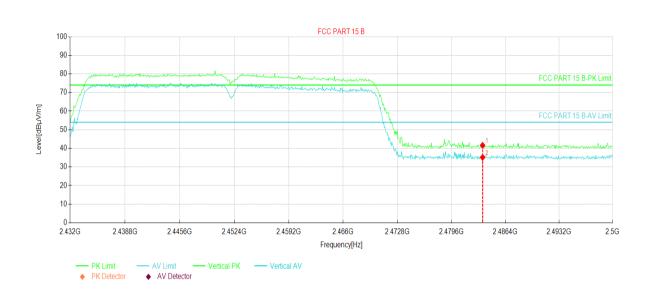
Susp	Suspected Data List∂							
NO.∂	Freq [MHz]	Reading√ [dBµV/m]√	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊮	Margin⊬ [dB]⊬	Trace	Polarity∂
1₽	2390.00₽	74.26₽	57.01₽	-17.25₽	74.00₽	16.99₽	PK₽	Horizontal₽
2↩	2390.00	66.40₽	49.15₽	-17.25₽	54.00₽	4.85₽	AV₽	Horizontal₽

#### 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:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



Susp	Suspected Data List₀									
NO.∂	Freq.₽ [MHz]₽	Reading√ [dBµV/m]√	Level⊬ [dBµV/m]⊬	Factor⊬ [dB]⊬	Limit⊬ [dBµV/m]⊮	Margin⊬ [dB]⊬	Trace	Polarity⊮		
1₽	2483.50₽	58.46₽	41.59₽	-16.87₽	74.00₽	32.41₽	PK₽	Vertical₽		
2₽	2483.50₽	52.04₽	35.17₽	-16.87₽	54.00₽	18.83₽	AV₽	Vertical₽		

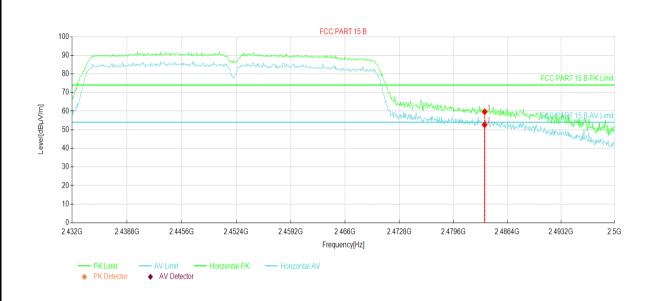
#### Remark:

- 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.

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Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	Test mode:	802.11n(HT40) Tx mode
Test Channel:	Highest channel	Polarization: Horizontal	
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



Susp	ected Data	List⊬						4
NO.	Freq.₽ [MHz]₽	Reading√ [dBµV/m]√	Level⊬ [dBµV/m]⊬	Factor⊮ [dB]⊮	Limit⊬ [dBµV/m]⊬	Margin⊬ [dB]⊬	Trace	Polarity
1₽	2483.50₽	76.52₽	59.65₽	-16.87₽	74.00₽	14.35₽	PK₽	Horizontal <sub>2</sub>
2₽	2483.50	69.55₽	52.68₽	-16.87₽	54.00₽	1.32₽	AV₽	Horizontal <sub>2</sub>

#### 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.

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## 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:	NS182B					
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					

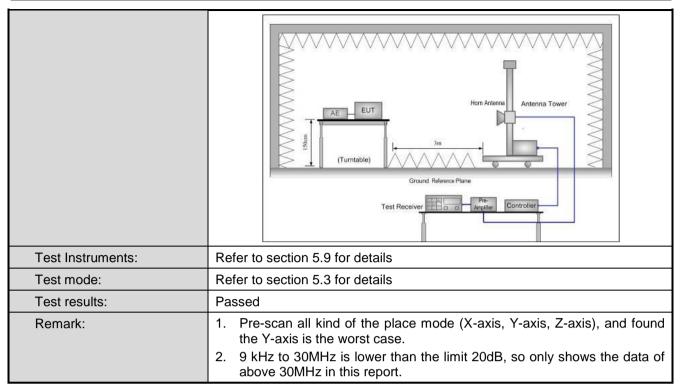
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### 6.7.2 Radiated Emission Method

6.7.2 Radiated Emission  Test Requirement:	FCC Part 15 C Se	ection 15.2	209 an	d 15.205			
Test Frequency Range:	9kHz to 25GHz						
Test Distance:	3m or 10m						
Receiver setup:	Frequency	Detec	tor	RBW	V	BW	Remark
·	30MHz-1GHz	Quasi-p	oeak 120KHz 3		300	KHz	Quasi-peak Value
	Above 1GHz	Peal	<	1MHz	31	ИHz	Peak Value
	Above Toriz	RMS		1MHz		ИHz	Average Value
Limit:	Frequency		Limit	(dBuV/m @10	)m)		Remark
	30MHz-88MH			30.0			uasi-peak Value
	88MHz-216MH			33.5			uasi-peak Value
	216MHz-960M			36.0			uasi-peak Value
	960MHz-1GH	1Z	Limi	44.0	ma \	Q	uasi-peak Value
	Frequency		Limi	t (dBuV/m @3i 54.0	m)		Remark Average Value
	Above 1GHz	<u>z</u>  -		74.0		· '	Peak Value
Test Procedure:	1. The EUT w	as place	d on		a rot	tating 1	table 0.8m(below
	(below 1GHZ 360 degrees 2. The EUT wa away from the top of a v 3. The antenna ground to det horizontal and measuremen 4. For each sus and then the and the rota to maximum reasonable of the EUT wou 10dB margin average meth	c) or 3 metros to determine the interfer rariable-hed vertical att.  pected en antenna vertical was reading.  eiver system of d, then tested be reported be reported be reported be reported be reported by the reported be reported by the re	er cha ine the meters ence-reight a varied e max polariz nission was turned em was ith Ma the El sting corted. ( re-tes	mber(above e position of to be position of to be position of to be position of the position of	1GHz the hid z) or enna, the ter to of the ante as arre s from ees to Dete Mode wo oed are e emis ne us	z). The ghest ranged of the positions are considered the positions are considered to the posit	ters(above 1GHz) was mounted on neters above the trength. Both e set to make the to its worst case ter to 4 meters legrees to find the etion and dB lower than the beak values of that did not have ak, quasi-peak or
Test setup:	Below 1GHz  EUT  Turn Table  Ground Pl.  Above 1GHz	0.8m	1m		<i></i>	Searce Anter	nna :





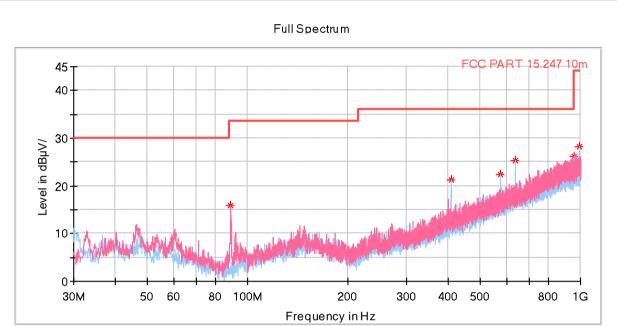
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#### Measurement Data (worst case):

#### **Below 1GHz:**

Product Name:	Tablet PC	Product Model:	Tab X1
Test By:	YT	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%



	Frequency <b>↓</b>	MaxPeak↓	Limit↓	Margin↓	Height↓	Pol₽	Azimuth↓	Corr.↓
	(MHz)∂	(dB ¼ V/m)∂	(dB $\mu$	(dB)∂	(cm) <i>₀</i>		(deg)∂	(dB/m)∂
	88.879000₽	15.84₽	33.50₽	17.66₽	100.0₽	V₽	119.0₽	-20.0₽
-	408.009000₽	21.36₽	36.00₽	14.64₽	100.0₽	H₽	61.0₽	-11.5₽
-	<b>576.013000</b> ₽	22.44₽	36.00₽	13.56₽	100.0₽	H₽	69.0₽	-7.2↩
-	638.966000₽	25.19↵	36.00₽	10.81∂	100.0₽	Ť	45.0₽	-6.0₽
-	958.193000₽	26.15↵	36.00₽	9.85₽	100.0₽	H₽	337.0₽	-0.6
•	994.083000	28.25₽	44.00₽	15.75₽	100.0₽	H₽	341.0₽	-0.2↩

#### 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.

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#### **Above 1GHz**

Above 1GHz									
			802.11b						
	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	57.13	-10.33	46.80	74.00	27.20	Vertical			
4824.00	55.30	-10.33	44.97	74.00	29.03	Horizontal			
		Dete	ctor: Average Va	alue					
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization			
4824.00	52.78	-10.33	42.45	54.00	11.55	Vertical			
4824.00	47.31	-10.33	36.98	54.00	17.02	Horizontal			
		Test ch	nannel: Middle ch	nannel					
		De	tector: Peak Valu	re					
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization			
4874.00	57.26	-10.17	47.09	74.00	26.91	Vertical			
4874.00	55.16	-10.17	44.99	74.00	29.01	Horizontal			
		Dete	ctor: Average Va	alue		•			
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization			
4874.00	52.84	-10.17	42.67	54.00	11.33	Vertical			
4874.00	47.16	-10.17	36.99	54.00	17.01	Horizontal			
			annel: Highest c						
	T	De	tector: Peak Valu		T	T			
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization			
4924.00	57.87	-10.02	47.85	74.00	26.15	Vertical			
4924.00	55.79	-10.02	45.77	74.00	28.23	Horizontal			
		Dete	ctor: Average Va	alue					
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization			
4924.00	52.26	-10.02	42.24	54.00	11.76	Vertical			
4924.00	47.38	-10.02	37.36	54.00	16.64	Horizontal			
Remark:	·								

#### Remark:

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<sup>1.</sup> Final Level = Receiver Read level + Factor.

<sup>2.</sup> The emission levels of other frequencies are lower than the limit 20dB and not show in test report.





	802.11g								
	Test channel: Lowest channel								
		De	tector: Peak Valu	ie					
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization			
4824.00	57.26	-10.33	46.93	74.00	27.07	Vertical			
4824.00	55.31	-10.33	44.98	74.00	29.02	Horizontal			
		Dete	ctor: Average Va	alue					
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization			
4824.00	52.16	-10.33	41.83	54.00	12.17	Vertical			
4824.00	47.52	-10.33	37.19	54.00	16.81	Horizontal			

Test channel: Middle channel							
Detector: Peak Val	ue						
Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization				
46.96	74.00	27.04	Vertical				
44.09	74.00	29.91	Horizontal				
etector: Average Va	alue						
Frequency Read Level Factor(dB) Level Limit Line Margin Polarization							
42.24	54.00	11.76	Vertical				
36.72	54.00	17.28	Horizontal				
	Detector: Peak Val  Level (dBuV/m)  46.96  44.09 Detector: Average Val (dBuV/m)  42.24	Detector: Peak Value	Detector: Peak Value				

	Test channel: Highest channel							
		De	tector: Peak Valu	ıe				
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization		
4924.00	57.26	-10.02	47.24	74.00	-26.76	Vertical		
4924.00	55.13	-10.02	45.11	74.00	-28.89	Horizontal		
		Dete	ctor: Average Va	alue				
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization		
4924.00	52.14	-10.02	42.12	54.00	11.88	Vertical		
4924.00	47.13	-10.02	37.11	54.00	16.89	Horizontal		

Final Level = Receiver Read level + Factor.

The emission levels of other frequencies are lower than the limit 20dB and not show in test report.





			802.11n(HT20)			
		Test ch	annel: Lowest ch	nannel		
		De	tector: Peak Valu	ie		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	57.41	-10.33	47.08	74.00	26.92	Vertical
4824.00	53.16	-10.33	42.83	74.00	31.17	Horizontal
		Dete	ctor: Average Va	alue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4824.00	51.38	-10.33	41.05	54.00	12.95	Vertical
4824.00	46.52	-10.33	36.19	54.00	17.81	Horizontal
		<del>-</del>	1.84:111			
			annel: Middle ch			
		De	tector: Peak Valu		N.4	T
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	57.49	-10.17	47.32	74.00	26.68	Vertical
4874.00	54.13	-10.17	43.96	74.00	30.04	Horizontal
		Dete	ctor: Average Va	alue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	52.67	-10.17	42.50	54.00	11.50	Vertical
4874.00	46.38	-10.17	36.21	54.00	17.79	Horizontal
			annel: Highest cl			
_		De	tector: Peak Valu		T	
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	57.31	-10.02	47.29	74.00	26.71	Vertical
4924.00	55.17	-10.02	45.15	74.00	28.85	Horizontal
		Dete	ctor: Average Va	alue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4924.00	52.53	-10.02	42.51	54.00	11.49	Vertical
4924.00	47.47	-10.02	37.45	54.00	16.55	Horizontal
Remark: 1. Final Level =	Receiver Read level	+ Factor.				

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<sup>2.</sup> The emission levels of other frequencies are lower than the limit 20dB and not show in test report.



		;	802.11n(HT40)			
		Test ch	annel: Lowest ch	nannel		
		Det	tector: Peak Valu	ıe		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4844.00	57.26	-10.33	46.93	74.00	27.07	Vertical
4844.00	53.41	-10.33	43.08	74.00	30.92	Horizontal
		Dete	ctor: Average Va	alue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4844.00	51.23	-10.33	40.90	54.00	13.10	Vertical
4844.00	46.10	-10.33	35.77	54.00	18.23	Horizontal
		Test ch	annel: Middle ch	nannel		
		Det	tector: Peak Valu	ıe	1	1
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	57.64	-10.17	47.47	74.00	26.53	Vertical
4874.00	54.23	-10.17	44.06	74.00	29.94	Horizontal
		Dete	ctor: Average Va	alue		
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4874.00	52.61	-10.17	42.44	54.00	11.56	Vertical
4874.00	46.44	-10.17	36.27	54.00	17.73	Horizontal
		Tost ch	annel: Highest cl	nannal		
			tector: Peak Valu			
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
4904.00	57.43	-10.02	47.41	74.00	26.59	Vertical
4904.00	55.26	-10.02	45.24	74.00	28.76	Horizontal
	•	Dete	ctor: Average Va	alue		1
Frequency (MHz)	Read Level (dBuV)	Factor(dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Margin (dB)	Polarization
	52.67	-10.02	42.65	54.00	11.35	Vertical
4904.00	UU.					

<sup>1.</sup> Final Level = Receiver Read level + Factor.

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<sup>2.</sup> The emission levels of other frequencies are lower than the limit 20dB and not show in test report.