

## TEST REPORT

### FCC Standards : FCC 47CFR part 15 subpart C

Test Report No. : CTK-2016-00184  
Date of Issue : 2016-02-18  
FCC ID : RTQLPT200AR  
Model/Type No. : LPT-200AR  
Kind of Product : Tablet PC  
Applicant : LG CNS CO.,LTD.  
Applicant Address : FKI Tower, 24, Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea, 07320  
Manufacturer : ART&CORE Inc  
Manufacturer Address : 44 Burim-ro 170beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, Korea  
Factory #1 : ARTVIEW CO.,LTD.  
Factory Address : 5F, 44, burim-ro 170beon-gil, Dongan-gu, Anyang-si, Gyeonggi-do, Korea  
Contact Person : Jae hee Lee  
Telephone : +82-2-2099-0167  
Received Date : 2015-12-30  
Test period : Start : 2016-01-19 End : 2016-01-26

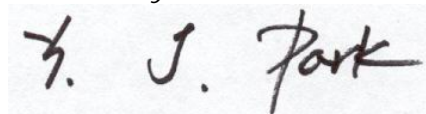
The test results presented in this report relate only to the object tested.

Tested by



Won-Jae, Hwang  
Test Engineer  
Date: 2016-02-18

Reviewed by



Young-Joon, Park  
Technical Manager  
Date: 2016-02-18



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## REPORT REVISION HISTORY

Date	Revision	Page No
2016-02-18	Issued (CTK-2016-00184)	All

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## 1.0 General Product Description

Equipment model name	LPT-200AR
Serial number	Prototype
EUT condition	Pre-production, not damaged
Frequency Range	802.11b/g/n_HT20 : 2412 MHz - 2462 MHz 802.11n_HT40 : 2422 MHz - 2452 MHz
RF output power	802.11b_HT20 : 17.07 dBm Peak Conducted 802.11g_HT20 : 15.07 dBm Peak Conducted 802.11n_HT20 : 14.75 dBm Peak Conducted 802.11n_HT40 : 14.07 dBm Peak Conducted
Number of channels	11 (20 MHz BandWidth), 9 (40 MHz BandWidth),
Transfer Rate	802.11b : 11 / 5.5 / 2 / 1 Mbps 802.11g : 54 / 48 / 36 / 24 / 18 / 12 / 9 / 6 Mbps 802.11n : up to 150 Mbps
Type of Modulation	802.11b : DSSS 802.11g/n : OFDM
Power Source	DC 22 V
Duty Cycle	802.11b : 97.1 % 802.11g : 96.5 % 802.11n_HT20 : 96.5 % 802.11n_HT40 : 96.5 %
Antenna Type	PCB antenna
Antenna Gain	4.1 dBi @2.4GHz, 5.9 dBi @5GHz
Hardware Rev	DS2 (2015-11-30)
Software Rev	ALPS.L1.MP8.V2.7_ANC8127.SB.BRS.L1 (2015-12-15)
Firmware Rev	0x0104

## 1.1 Test mode

Test Item	Modulation	Data Rate
6 dB Bandwidth Maximum Output Power Conducted Spurious emission Band Edge	802.11b	1 Mbps
Power Spectral Density Radiated Emissions Above 1GHz	802.11g	6 Mbps
Radiated Emissions Below 1GHz AC Conducted Emissions	802.11n	MCS 0
	Nomal Mode	Auto

## 1.2 EUT Operation Test Setup

For WLAN function, the engineering test program was provided and enabled to make EUT continuous transmit/receive.

## 1.3 Tested Frequency

802.11b, 802.11g, 802.11n\_HT20

	LOW	MID	HIGH
<b>Frequency (MHz)</b>	2412	2437	2462

802.11n\_HT40

	LOW	MID	HIGH
<b>Frequency (MHz)</b>	2422	2437	2452

## 1.4 EUT Exercise of Software

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. The software is using the android system to internal memory.

## 1.5 Device Modifications

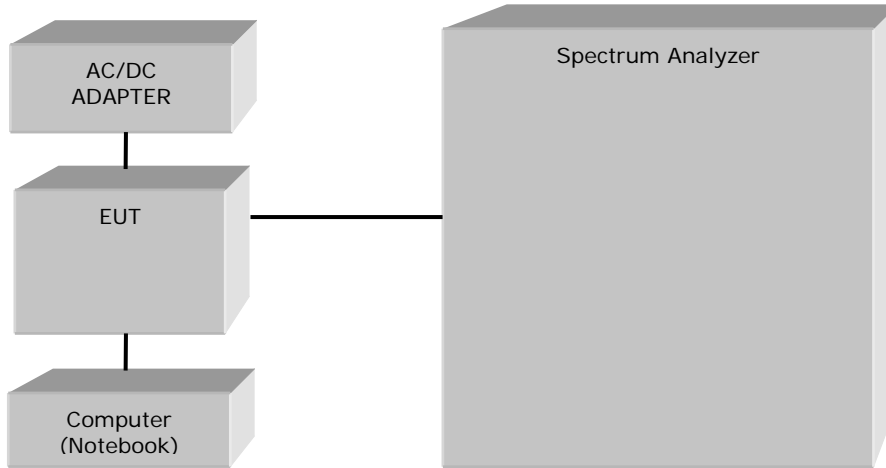
The following modifications were necessary for compliance:

Not applicable

## 1.6 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Note Computer	LG Electronics.	LGE-DMLGS1 (B)	703KIUP015110
AC ADAPTER	Dongguang Lite Power 2nd Plant	PA-1900-08	-

## 1.7 Configuration of System under Test






## 1.8 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

## 1.9 Test Facility

The measurement facility is located at (Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

## 1.10 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Registration Number	Logo
USA	FCC	FCC Part 15 & 18 EMI (Electromagnetic Interference / Emission)	805871	
JAPAN	VCCI	VCCI V-3 EMI (Electromagnetic Interference / Emission)	C-986 T-1843 R-3627 G-387	
KOREA	MSIP	EMI (Electromagnetic Interference / Emission) EMS (Electromagnetic Susceptibility / Immunity)	KR0025	

## 2 Summary of tests

FCC Part Section(s)	Parameter	Limit	Test Condition	Status (note 1)
15.247(a)	6 dB Bandwidth	> 500 kHz	Conducted	C
15.247(b)	Maximum Output Power	< 1 Watt		C
15.247(d)	Conducted Spurious emission	> 20 dBc		C
15.247(d)	Band Edge	> 20 dBc		C
15.247(e)	Transmitter Power Spectral Density	< 8 dBm @ 3 kHz		C
				C
15.209	Field Strength of Harmonics	15.209(a)	Radiated	C
15.207	AC Conducted Emissions	15.207(a)	Line Conducted	C

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: The data in this test report are traceable to the national or international standards.

The sample was tested according to the following specification:

- FCC Part 15.247, ANSI C63.10-2013

The tests were performed according to the method of measurements prescribed in

KDB No.558074 D01 DTS Meas Guidance v03r03

## 2.1 Technical Characteristic Test

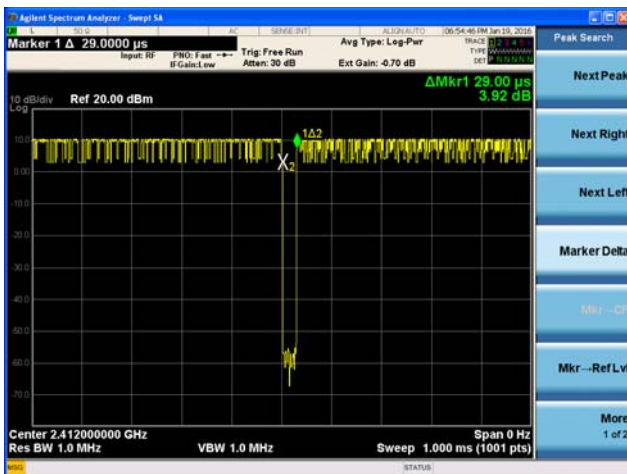
### 2.1.1 ON Time, Duty Cycle

#### Procedure:

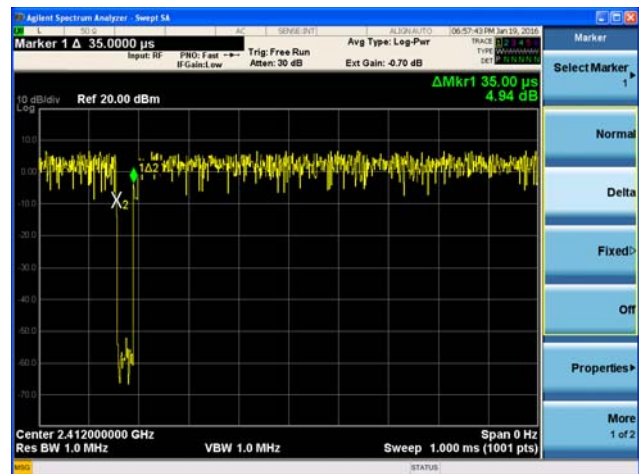
KDB 558074 Zero-Span Spectrum Analyzer Method.

#### Measurement Data:

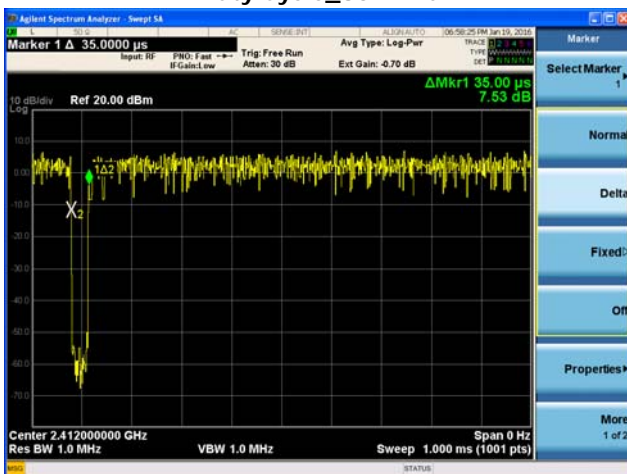
	ON Time (ms)	Period (ms)	TX OFF (ms)	Duty Cycle (linear)	Duty Cycle (%)
802.11b	0.971	1.000	0.029	0.971	97.1
802.11g	0.965	1.000	0.035	0.965	96.5
802.11n_HT20	0.965	1.000	0.035	0.965	96.5
802.11n_HT40	0.965	1.000	0.035	0.965	96.5



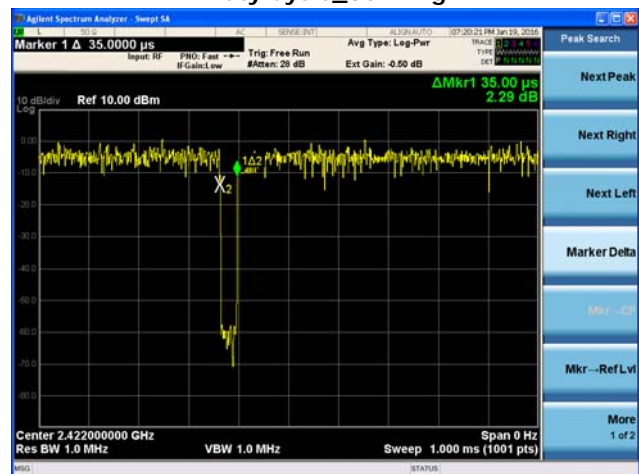
Duty Cycle\_802.11b



Duty Cycle\_802.11g



Duty Cycle\_802.11n\_HT20



Duty Cycle\_802.11n\_HT40





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### 2.1.2 6dB Bandwidth and 99% Bandwidth

#### Procedure:

The bandwidth at 6dB below the highest in-band spectral density was measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate frequencies.

After the trace being stable, Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 6dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is ( as close as possible to ) even with the reference marker level. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz

Span = 50 MHz

VBW = 300 kHz (3 x RBW)

Sweep = auto

Trace = max hold

Detector function = peak

**Measurement Data:**

**ANT : A1**

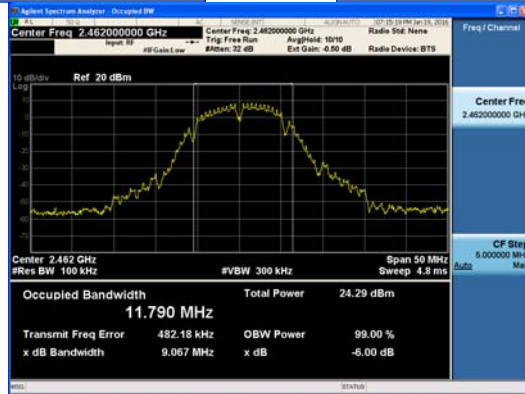
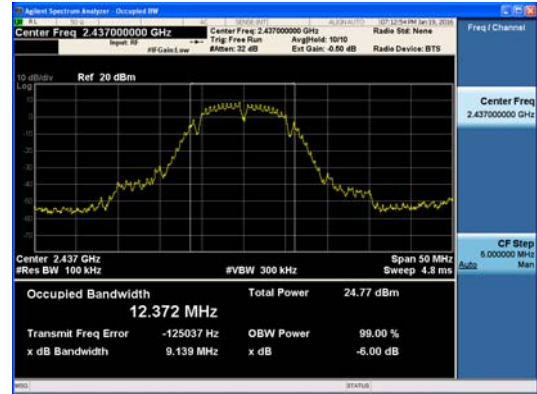
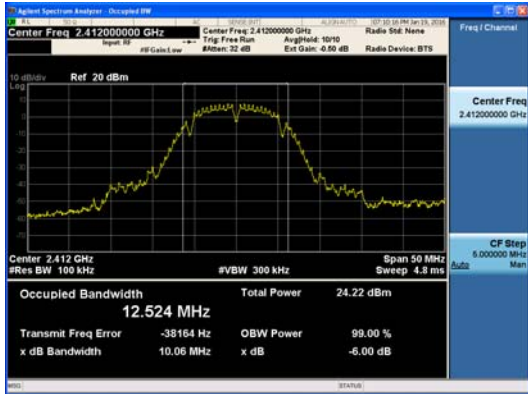
Frequency	6 dB Bandwidth and 99% Bandwidth (MHz)					
	2412 MHz		2437 MHz		2462 MHz	
Mode	6dB	99%	6dB	99%	6dB	99%
802.11b	10.06	12.52	9.14	12.37	9.07	11.79
802.11g	15.62	16.42	15.09	16.36	15.10	16.22
802.11n HT20	16.01	17.58	15.34	17.51	13.89	17.32
Measurement uncertainty	± 3 dB					

Frequency	6 dB Bandwidth and 99% Bandwidth (MHz)					
	2422 MHz		2437 MHz		2452 MHz	
Mode	6dB	99%	6dB	99%	6dB	99%
802.11n HT40	35.50	35.99	35.15	35.61	35.50	36.10
Measurement uncertainty	± 3 dB					

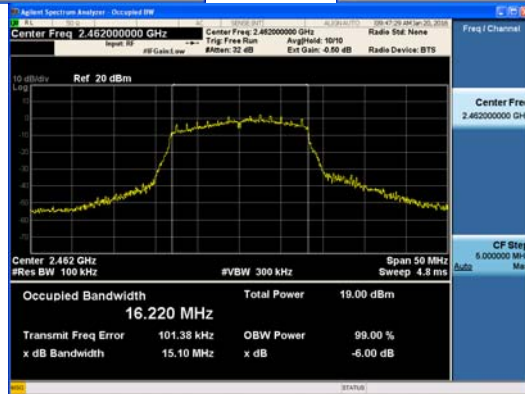
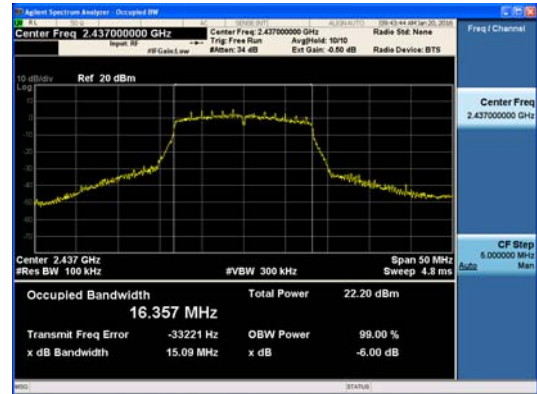
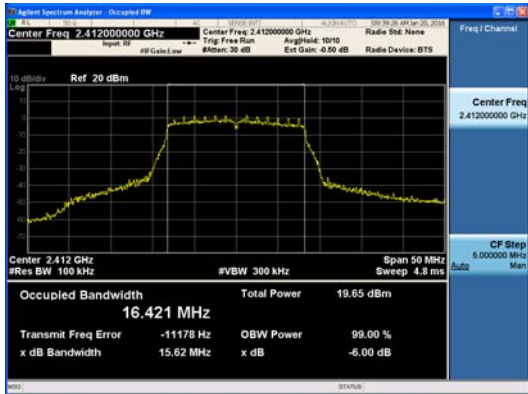
**Minimum Standard:**

6 dB Bandwidth > 500kHz

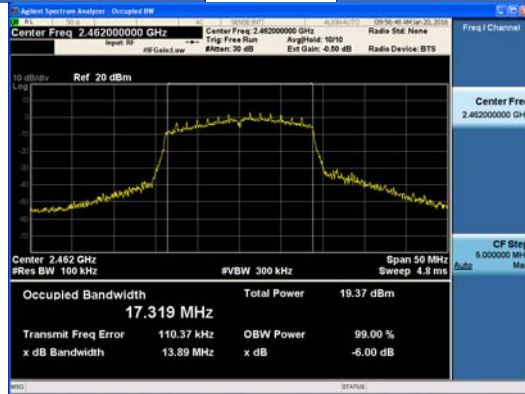
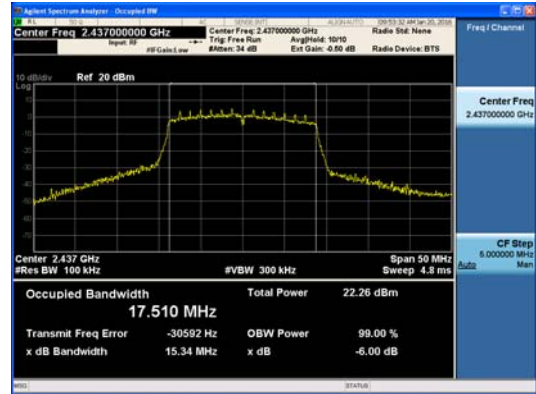
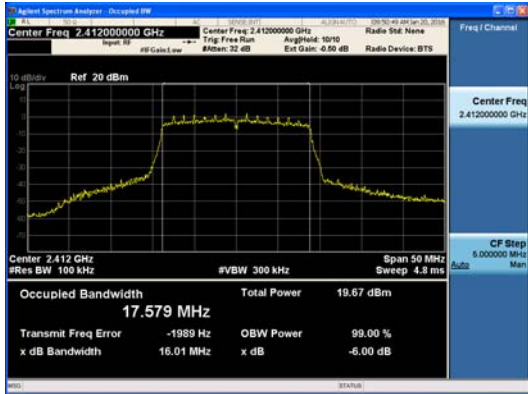
See next pages for actual measured spectrum plots.



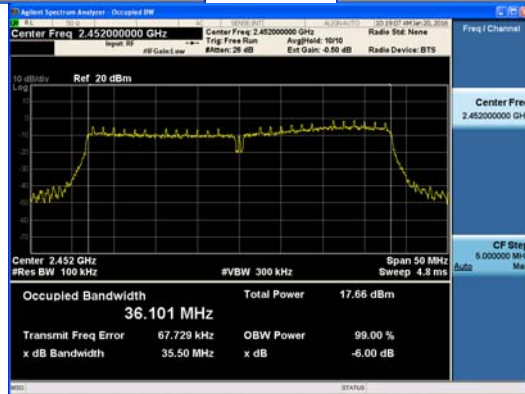
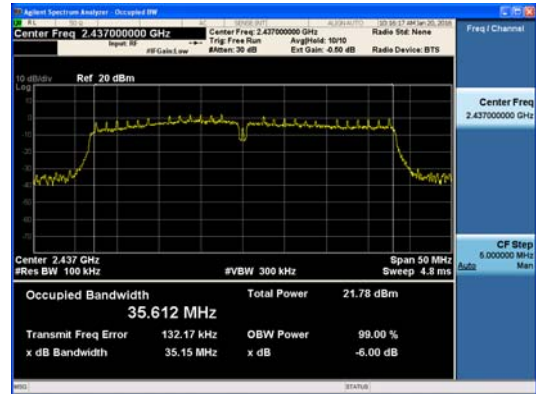
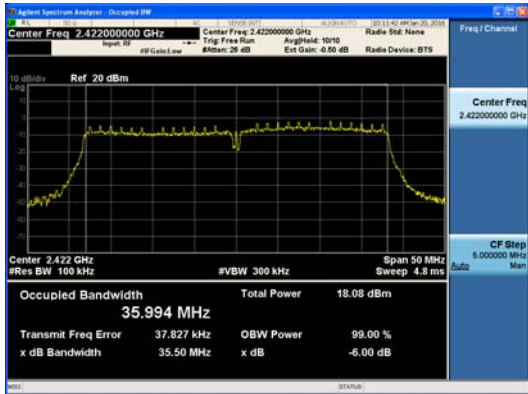
802.11b



802.11g



802.11n\_HT20



802.11n\_HT40

## 2.1.3 OUTPUT POWER

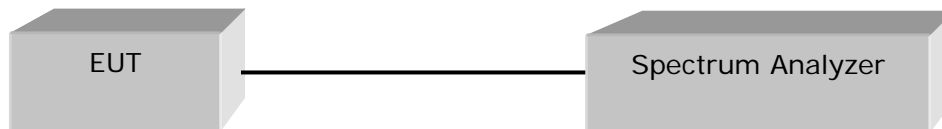
### Test Location

RF Test Room

### Test Procedures

Average Power(Procedure 9.2.2.2 in KDB 558074, Method AVGSA-1)

The transmitter output is connected to a spectrum analyzer and the analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99% bandwidth.



The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 1 MHz

Span = about 36 MHz, 50 MHz

VBW = 3 MHz (3 x RBW)

Sweep = auto

Trace = average at least 100

Detector function = RMS

### Limit

< 1 W (30 dBm)



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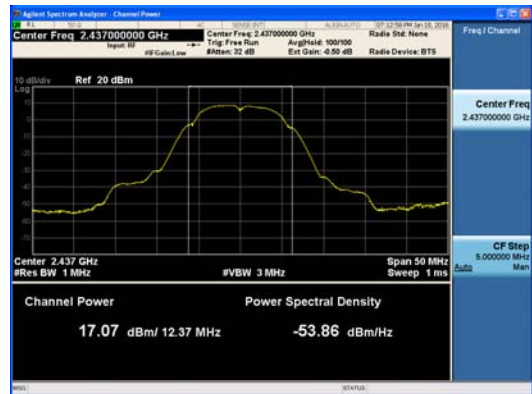
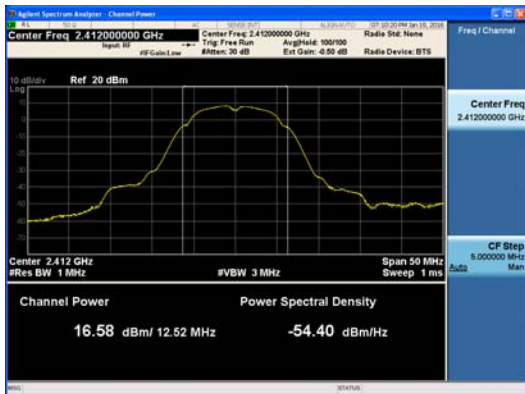
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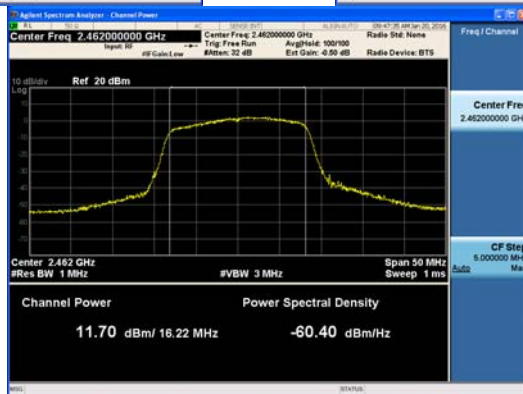
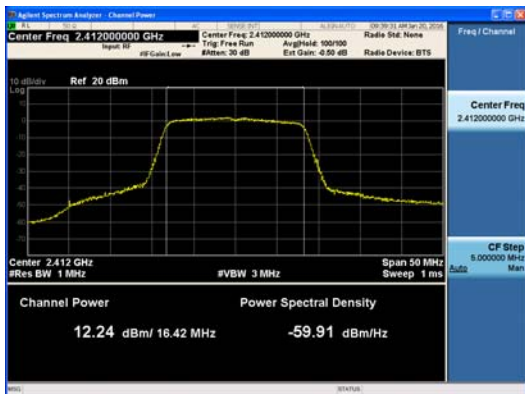
## Test Results

Mode	Measured Output Power (dBm)		
	2412 MHz	2437 MHz	2462 MHz
802.11b	16.58	17.07	16.63
802.11g	12.24	15.07	11.70
802.11n HT20	12.35	14.75	11.87
Measurement uncertainty	± 3 Db		

Mode	Measured Output Power (dBm)		
	2422 MHz	2437 MHz	2452 MHz
802.11n HT40	10.40	14.07	9.97
Measurement uncertainty	± 3 dB		



802.11b



802.11g





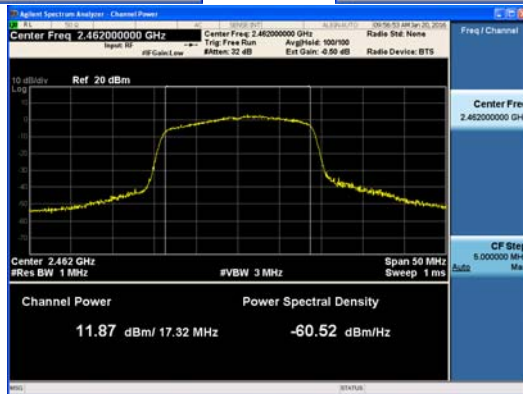
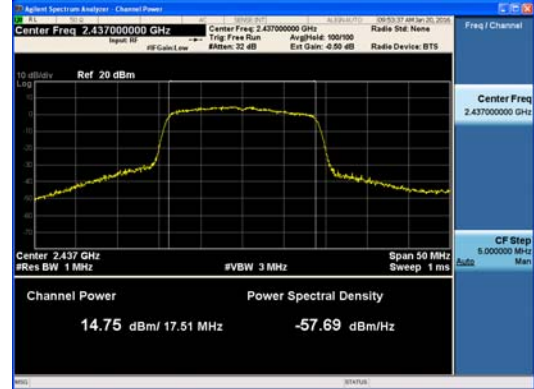
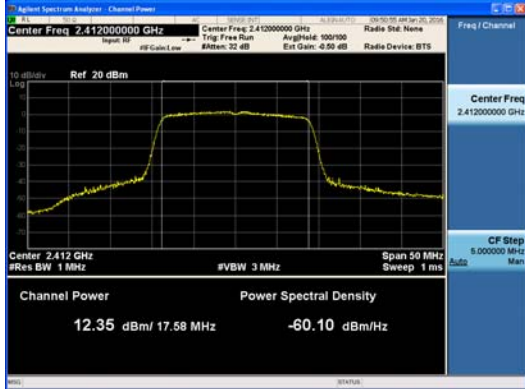
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802.11n\_HT20



802.11n\_HT40



## 2.1.4 Power Spectral Density

### Procedure:

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

The spectrum analyzer is set to:

RBW = 3 kHz

VBW = 10 kHz

Sweep = Auto

Span = 20 MHz

Detector function = peak

Trace = max hold

### Limit

Power Spectral Density	< 8dBm @ 3 kHz BW
------------------------	-------------------



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## Test Results

Mode	Measured Power Density (dBm)		
	2412 MHz	2437 MHz	2462 MHz
802.11b	-6.31	-5.39	-1.93
802.11g	-10.14	-7.87	-8.10
802.11n HT20	-10.49	-8.39	-7.91
Measurement uncertainty	± 3 dB		

Mode	Measured Power Density (dBm)		
	2422 MHz	2437 MHz	2452 MHz
802.11n HT40	-10.31	-8.81	-12.37
Measurement uncertainty	± 3 dB		

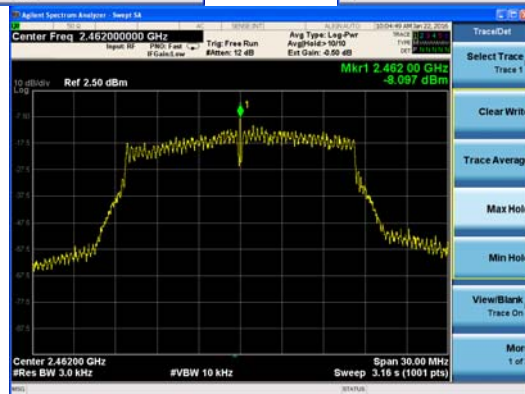
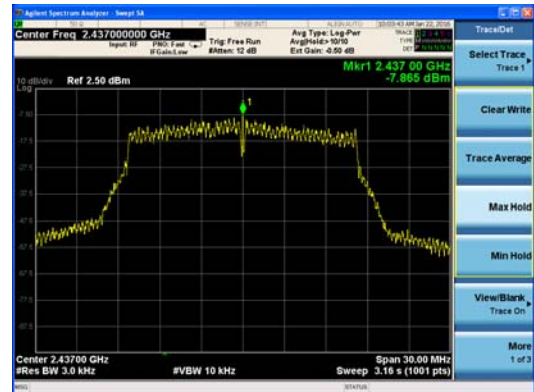
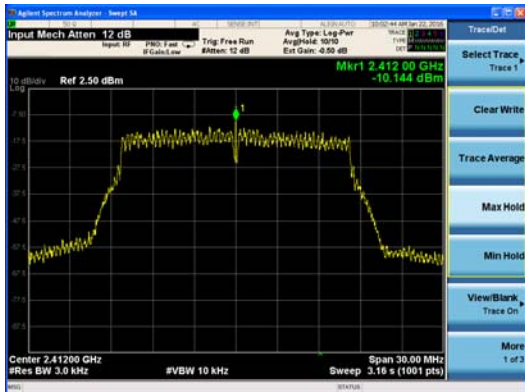


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802.11b



802.11g



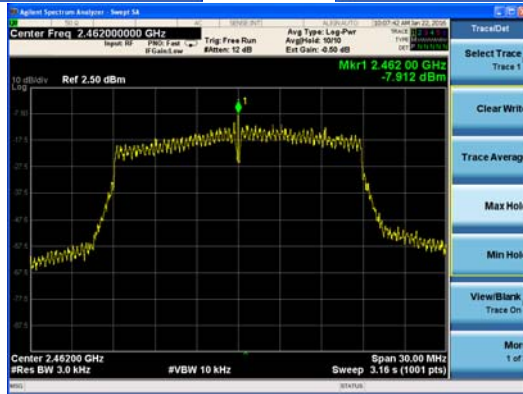
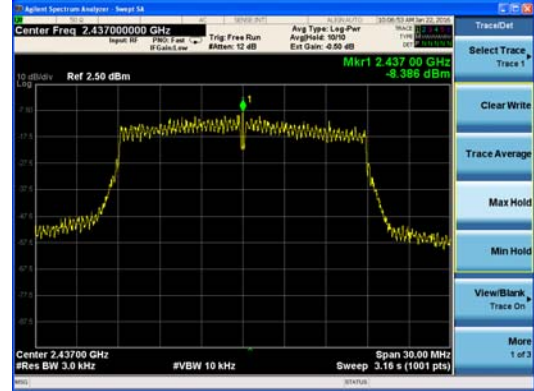
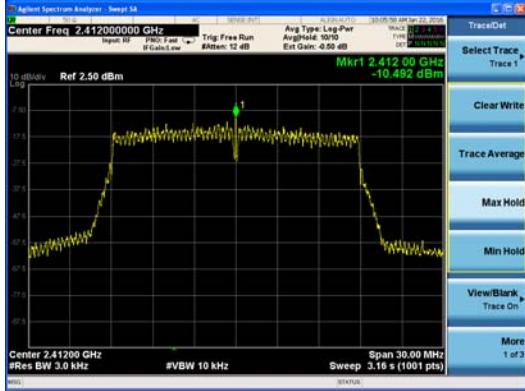
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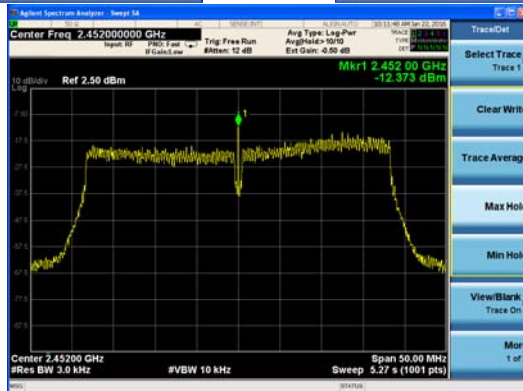
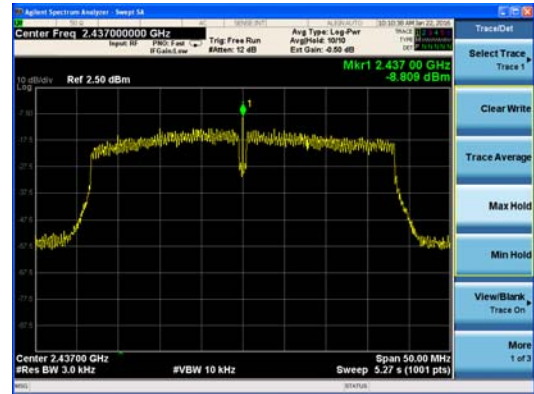
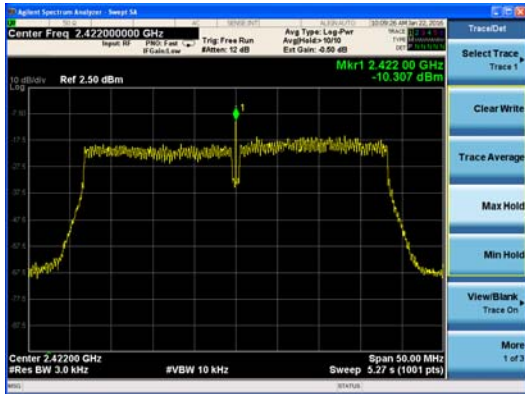
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802.11n\_HT20



802.11n\_HT40

## 2.1.5 Band - edge

### Procedure:

The bandwidth at 20dB down from the highest inband spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate frequencies.

After the trace being stable, Use the marker-to-peak function to measure 20 dB down both sides of the intentional emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz

VBW = 300 kHz

Span = 50 MHz

Detector function = peak

Trace = max hold

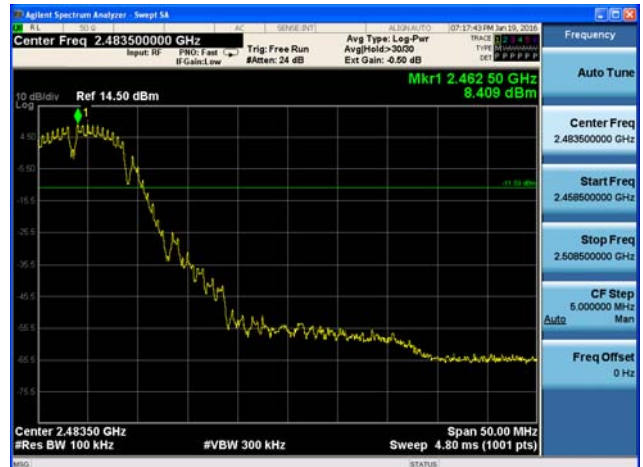
Sweep = auto

### Measurement Data: **Complies**

- All conducted emission in any 100 kHz bandwidth outside of the spread spectrum band was at least 20dB lower than the highest inband spectral density. Therefore the applying equipment meets the requirement.

<b>Minimum Standard:</b>	> 20 dBc
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See next pages for actual measured spectrum plots.



802.11b





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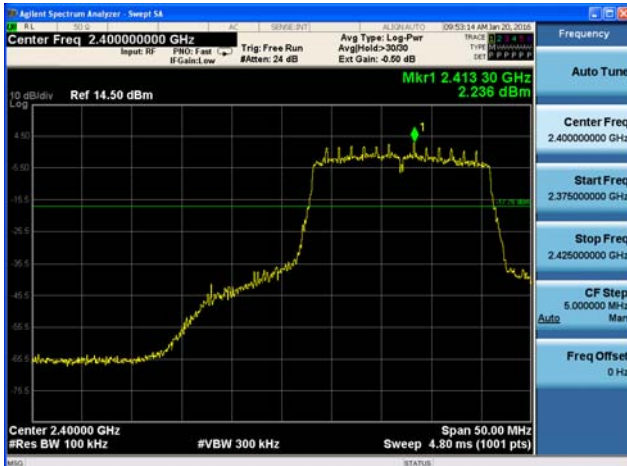
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802.11g



802.11n\_HT20





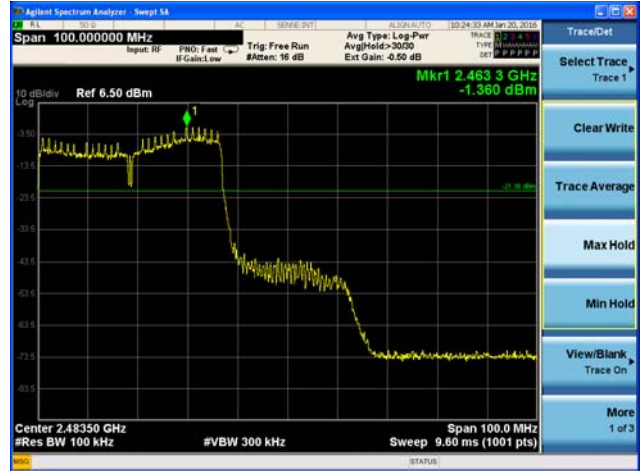
# CTK Co., Ltd.

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The Power Source of Global Regulatory Compliance



802.11n\_HT40

## 2.1.6 Field Strength of Emissions

### Test Location

- 10 m SAC (test distance :  10 m,  3 m)  
 3 m SAC (test distance : 3 m)

### Test Procedures

- 1) In the frequency range of 9 kHz to 30 MHz, magnetic field is measured with Loop Antenna. The Test Antenna is positioned with its plane vertical at 1m distance from the EUT. The center of the Loop Test Antenna is 1m above the ground. During the measurement the Loop Test Antenna rotates about its vertical axis for maximum response at each azimuth about the EUT.
- 2) In the frequency range above 30 MHz, Bi-Log Test Antenna(30 MHz to 1 GHz) and Horn Test Antenna(above 1 GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is carried from 1m to 4m above the ground to determine the maximum value of the field strength. The emissions levels at both horizontal and vertical polarizations should be tested.

The spectrum analyzer is set to:

Frequency Range = 9 kHz ~ 25 GHz (2.4 GHz 10<sup>th</sup> harmonic)  
 RBW = 1 MHz for  $f \geq 1$  GHz, 100 kHz for  $f < 1$  GHz, 9 kHz for  $f < 30$  MHz  
 VBW  $\geq$  RBW  
 Sweep = auto

### Limit

#### - 15.209(a)

Frequency(MHz)	Field Strength uV/m@3m	Field Strength dBuV/m@3m	Deasurement Distance (meters)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705-30	30	-	30
30-88	100**	40	3
88-216	150**	43.5	3
216-960	200**	46	3
Above 960	500	54	3

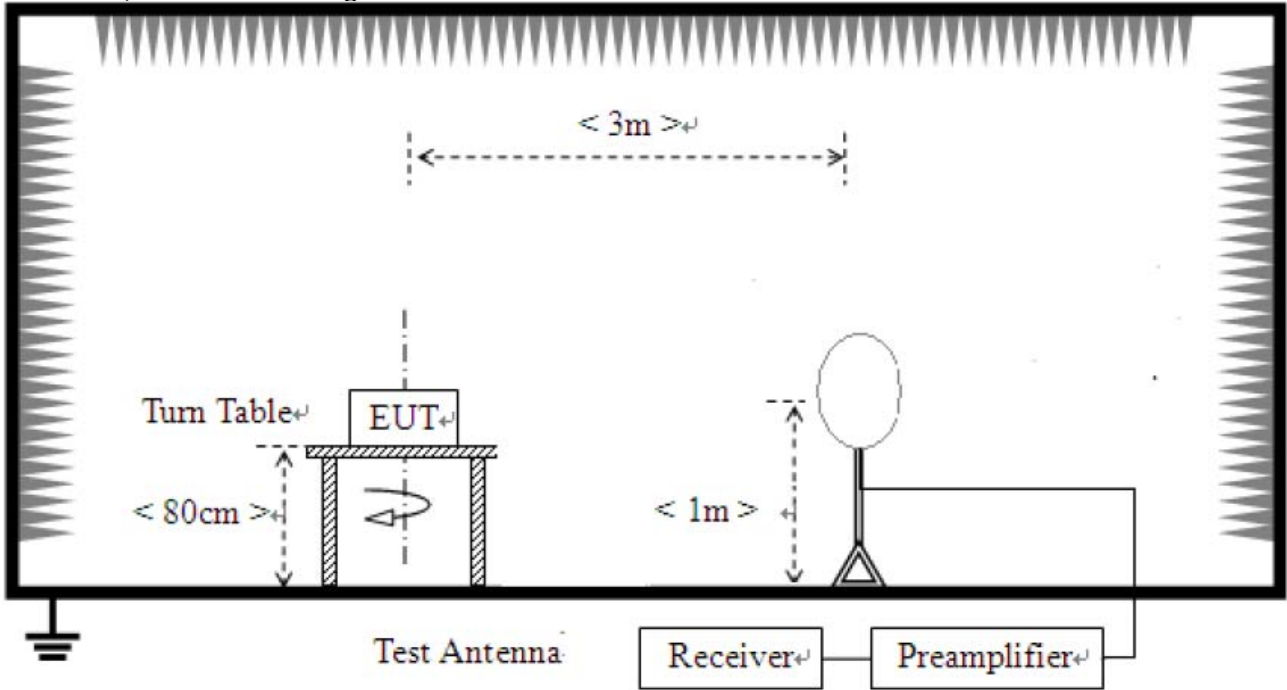
\*\* Except as provided in 15.209(g).fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72MHz, 76-88MHz, 174-216MHz, 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g.15.231 and 15.241.

Note :

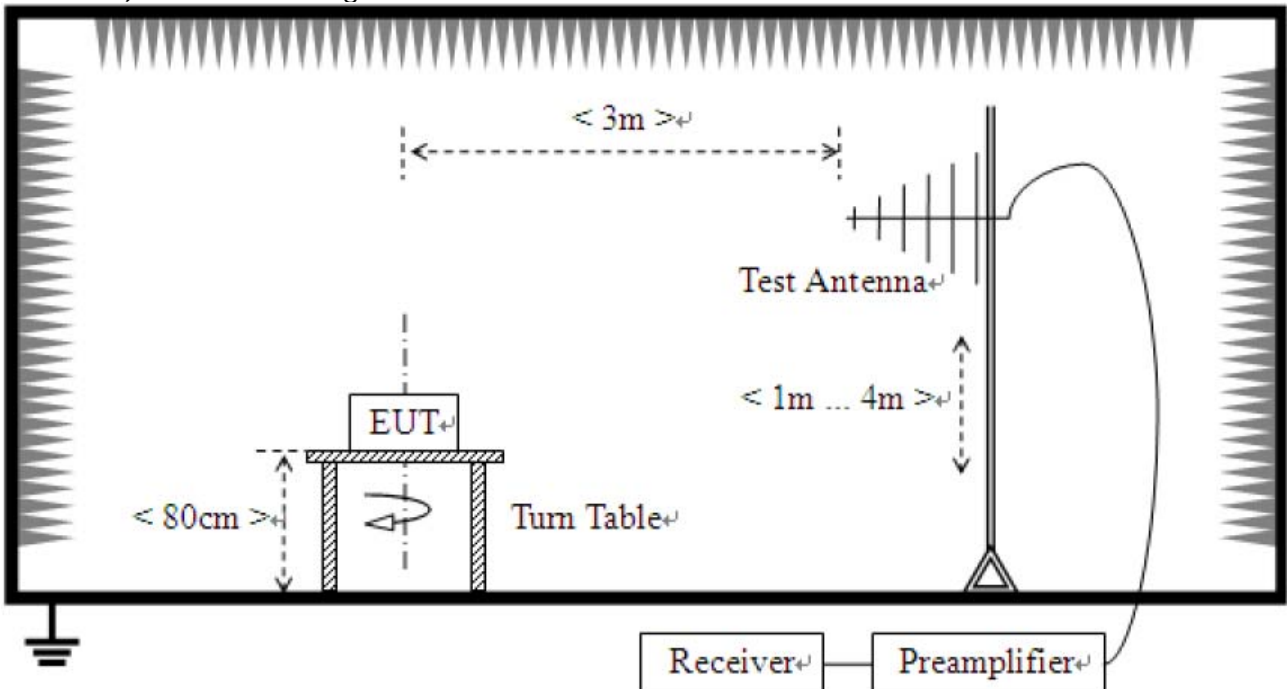
- 1) For above 1 GHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.
- 2) For above 1 GHz, limit field strength of harmonics : 54 dBuV/m@3m (AV) and 74 dBuV/m@3m (PK)

### Test Setup:

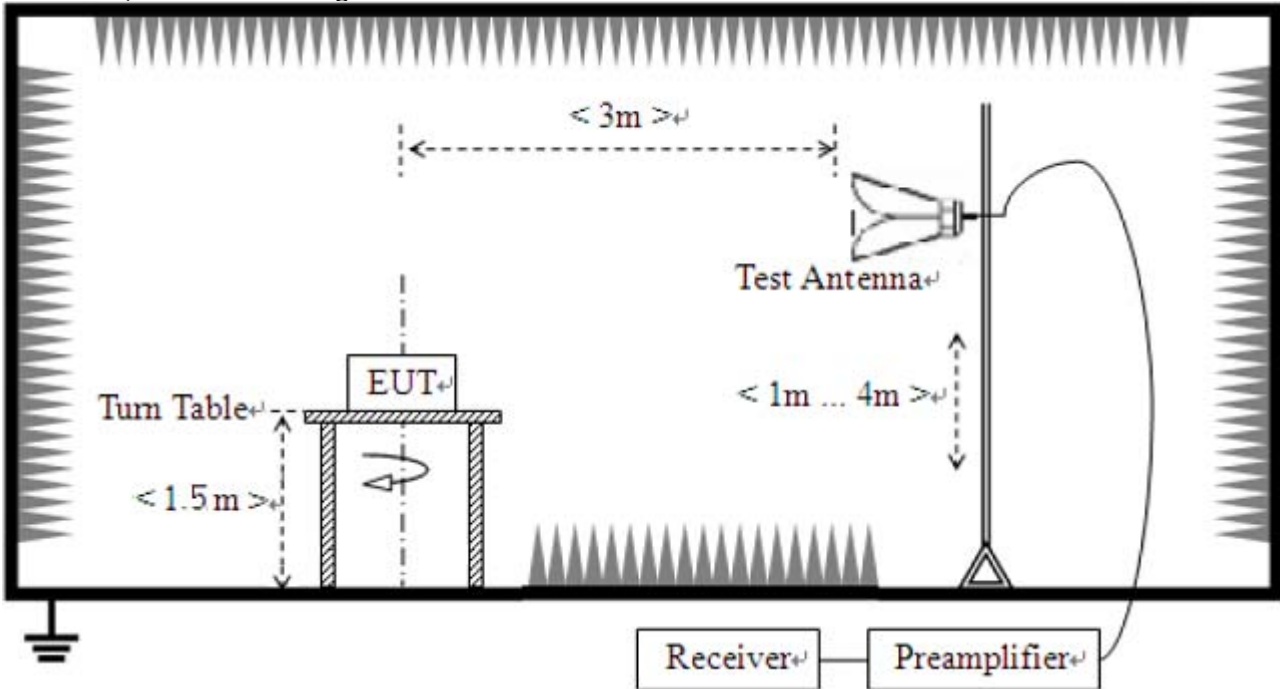
1) For field strength of emissions from 9 kHz to 30 MHz



2) For field strength of emissions from 30 MHz to 1 GHz



3) For field strength of emissions above 1 GHz



**Test Results**

**1) 9 kHz to 30 MHz**

EUT	Tablet PC	Measurement Detail	
Model	LPT-200AR	Frequency Range	9 kHz – 30 MHz
Test mode	802.11b,802.11g, 802.11n_HT20/ HT40	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
-	-	-	See note

**Note :**

The amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

Distance extrapolation factor =  $40 \log (\text{specific distance} / \text{test distance})$  (dB)



## 2) 30 MHz to 1 GHz

Test mode : 802.11n

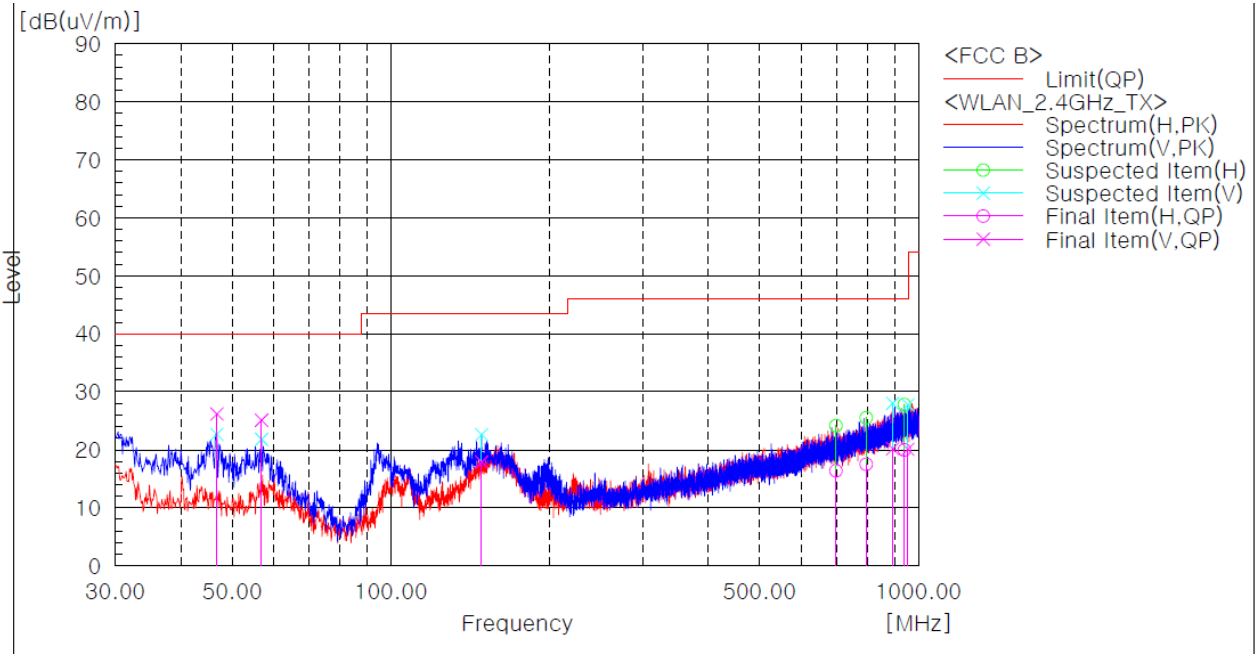
EUT	Tablet PC	Measurement Detail	
Model	LPT-200AR	Frequency Range	Below 1000MHz
Mode	Continuous modulated carrier	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
46.733	26.2	13.8	Quasi-peak

### Test Data



### Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c. f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]
1	46.733	V	41.0	-14.8	26.2	40.0	13.8	256.5
2	56.796	V	39.5	-14.4	25.1	40.0	14.9	0.8
3	148.461	V	26.1	-8.2	17.9	43.5	25.6	296.1
4	697.724	H	21.8	-5.4	16.4	46.0	29.6	17.6
5	795.936	H	21.3	-3.8	17.5	46.0	28.5	337.7
6	893.664	V	22.5	-2.3	20.2	46.0	25.8	296.1
7	940.466	H	21.5	-1.5	20.0	46.0	26.0	107.8
8	954.531	V	21.5	-1.4	20.1	46.0	25.9	66.7

### Remark :

1. The field strength of spurious emission was measured in the following position: EUT and antenna stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.

### 3) above 1 GHz

#### Test mode : 802.11b

EUT	Tablet PC	Measurement Detail	
Model	LPT-200AR	Frequency Range	1-25GHz
		Detector function	Average / Peak

#### Remarks

We have tested three mode (X, Y, Z). The worst mode (X axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
4824.0	53.11	0.89	Average

#### Ch.1(2412 MHz)

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
4824.0	H	47.19	50.89	3.7	54.00	74.00	50.91	54.61	3.09	19.39
4824.0	V	49.39	52.34	3.7	54.00	74.00	53.11	56.06	0.89	17.94

#### Ch.6(2437 MHz)

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
4874.0	H	47.00	50.32	3.7	54.00	74.00	50.72	54.04	3.28	19.96
4874.0	V	47.26	50.74	3.7	54.00	74.00	50.98	54.46	3.02	19.54

#### Ch.11(2462 MHz)

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
4924.0	H	43.75	48.78	3.8	54.00	74.00	47.60	52.63	6.40	21.37
4924.0	V	47.43	51.96	3.8	54.00	74.00	51.28	55.81	2.72	18.19

#### Restricted band edge test data

Measured frequency range : 2310-2390 MHz, 2483.5-2500 MHz

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
2483.5	H	54.19	54.35	-2.5	54.00	74.00	51.67	51.83	2.33	22.17
2483.5	V	40.01	57.59	-2.5	54.00	74.00	37.49	55.07	16.51	18.93



**Test mode : 802.11g**

EUT	Tablet PC	Measurement Detail	
Model	LPT-200AR	Frequency Range	1-25GHz
		Detector function	Average / Peak

**Remarks**

We have tested three mode (X, Y, Z). The worst mode (X axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBUV/m)	Margin (dB)	Remark
2483.5	44.80	9.20	Average

**Ch.1(2412 MHz)**

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
No emissions were detected at a level greater than 20dB below limit.										

**Ch.6(2437 MHz)**

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
4874.0	H	32.50	45.66	3.7	54.00	74.00	36.22	49.38	17.78	24.62
4874.0	V	32.99	43.34	3.7	54.00	74.00	36.71	47.06	17.29	26.94

**Ch.11(2462 MHz)**

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
No emissions were detected at a level greater than 20dB below limit.										

**Restricted band edge test data**

Measured frequency range : 2310-2390 MHz, 2483.5-2500 MHz

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
2310.0	H	39.83	53.29	-2.6	54.00	74.00	37.22	50.68	16.78	23.32
2310.0	V	39.43	53.43	-2.6	54.00	74.00	36.82	50.82	17.18	23.18
2483.5	H	47.32	60.13	-2.5	54.00	74.00	44.80	57.61	9.20	16.39
2483.5	V	45.57	57.71	-2.5	54.00	74.00	43.05	55.19	10.95	18.81
2483.5	H	45.93	62.89	-2.5	54.00	74.00	43.41	60.37	10.59	13.63
2483.5	V	44.16	65.62	-2.5	54.00	74.00	41.64	63.10	12.36	10.90

**Test mode : 802.11n\_HT20**

EUT	Tablet PC	Measurement Detail	
Model	LPT-200AR	Frequency Range	1-25GHz
		Detector function	Average / Peak

**Remarks**

We have tested three mode (X, Y, Z). The worst mode (X axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
2483.5	44.75	9.25	Average

**Ch.1(2412 MHz)**

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
No emissions were detected at a level greater than 20dB below limit.										

**Ch.6(2437 MHz)**

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
4874.0	H	32.33	46.06	3.7	54.00	74.00	36.05	49.78	17.95	24.22
4874.0	V	32.78	46.09	3.7	54.00	74.00	36.50	49.81	17.50	24.19

**Ch.11(2462 MHz)**

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
No emissions were detected at a level greater than 20dB below limit.										

**Restricted band edge test data**

Measured frequency range : 2310-2390 MHz, 2483.5-2500 MHz

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
2310.0	H	40.61	55.19	-2.6	54.00	74.00	38.00	52.58	16.00	21.42
2310.0	V	40.24	55.37	-2.6	54.00	74.00	37.63	52.76	16.37	21.24
2483.5	H	47.27	59.68	-2.5	54.00	74.00	44.75	57.16	9.25	16.84
2483.5	V	44.65	58.68	-2.5	54.00	74.00	42.13	56.16	11.87	17.84
2483.5	H	46.57	64.24	-2.5	54.00	74.00	44.05	61.72	9.95	12.28
2483.5	V	44.41	62.02	-2.5	54.00	74.00	41.89	59.50	12.11	14.50



**Test mode : 802.11n\_HT40**

EUT	Tablet PC	Measurement Detail	
Model	LPT-200AR	Frequency Range	1-25GHz
		Detector function	Average / Peak

**Remarks**

We have tested three mode (X, Y, Z). The worst mode (X axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
2483.5	68.16	5.84	Peak

**Ch.1(2422 MHz)**

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
No emissions were detected at a level greater than 20dB below limit.										

**Ch.6(2437 MHz)**

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
No emissions were detected at a level greater than 20dB below limit.										

**Ch.11(2452 MHz)**

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
No emissions were detected at a level greater than 20dB below limit.										

**Restricted band edge test data**

Measured frequency range : 2310-2390 MHz, 2483.5-2500 MHz

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
2310.0	V	39.39	48.96	-2.6	54.00	74.00	36.78	46.35	17.22	27.65
2483.5	H	47.75	68.69	-2.5	54.00	74.00	45.23	66.17	8.77	7.83
2483.5	V	45.56	70.68	-2.5	54.00	74.00	43.04	68.16	10.96	5.84
2483.5	H	43.42	64.89	-2.5	54.00	74.00	40.90	62.37	13.10	11.63
2483.5	V	41.36	62.24	-2.5	54.00	74.00	38.84	59.72	15.16	14.28



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## Test Results

### 1) 9 kHz to 30 MHz

#### Test mode : Receiver

EUT	Tablet PC	Measurement Detail	
Model	LPT-200AR	Frequency Range	9 kHz – 30 MHz
Mode	Receiver	Detector function	Quasi-Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
-	-	-	See note

#### Note :

The amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

Distance extrapolation factor =  $40 \log (\text{specific distance} / \text{test distance})$  (dB)

## 2) 30 MHz to 1 GHz

### Test mode : Receiver

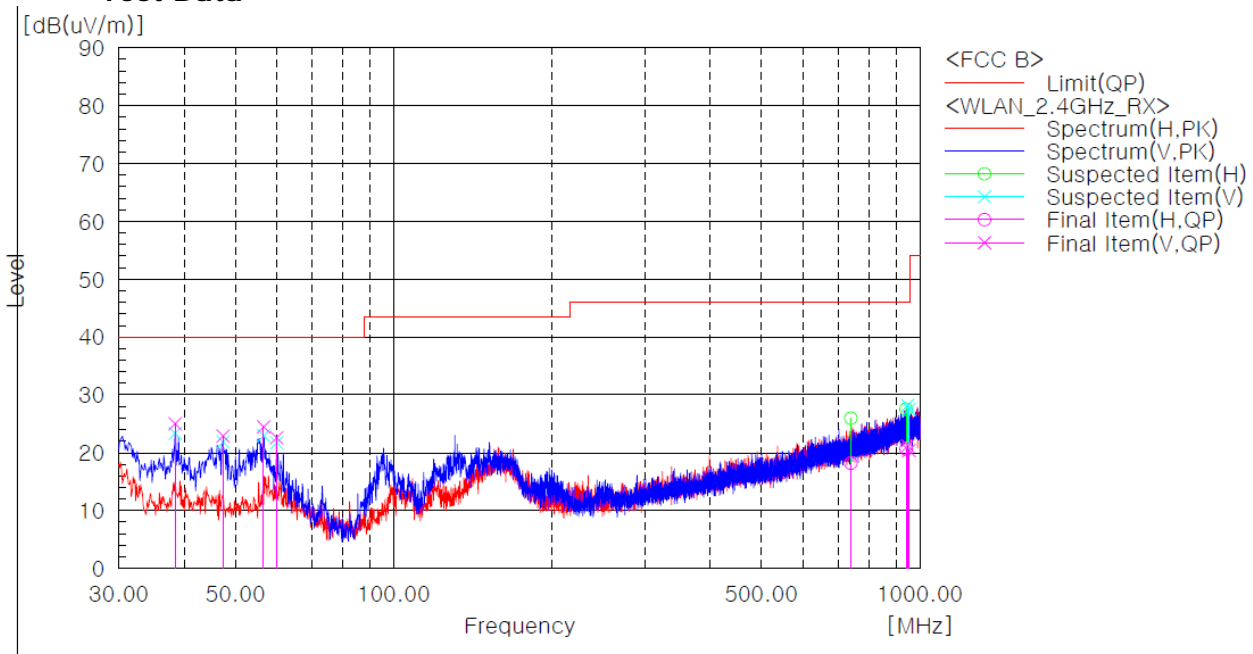
EUT	Tablet PC	Measurement Detail	
Model	LPT-200AR	Frequency Range	Below 1000MHz
Mode	Receiver	Detector function	Quasi-Peak / Peak

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
38.366	25.0	15.0	Quasi-Peak

### Test Data



### Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Angle [deg]
1	38.366	V	40.3	-15.3	25.0	40.0	15.0	289.4
2	47.339	V	37.8	-14.9	22.9	40.0	17.1	326.6
3	56.554	V	39.0	-14.5	24.5	40.0	15.5	289.4
4	59.828	V	36.8	-14.2	22.6	40.0	17.4	251.1
5	739.313	H	22.9	-4.7	18.2	46.0	27.8	331.6
6	941.800	H	22.1	-1.5	20.6	46.0	25.4	16.5
7	947.377	V	22.7	-1.5	21.2	46.0	24.8	14.0
8	952.834	V	21.8	-1.4	20.4	46.0	25.6	14.0

### Remark :

1. The field strength of spurious emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(X axis) and the worst case was recorded.



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## Test mode : Receiver

EUT	Tablet PC	Measurement Detail	
Model	LPT-200AR	Frequency Range	1-25GHz
Mode	Receiver	Detector function	Average / Peak

## Remarks

We have tested three mode (X, Y, Z). The worst mode (X axis) for final test.

The requirements are:

Complies

Frequency (MHz)	Measured Data (dBUV/m)	Margin (dB)	Remark
No emissions were detected at a level greater than 20dB below limit.			

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Reading PK [dB(uV)]	Factor [dB(1/m)]	Limit AV [dB(uV/m)]	Limit PK [dB(uV/m)]	Level AV [dB(uV/m)]	Level PK [dB(uV/m)]	Margin AV [dB]	Margin PK [dB]
No emissions were detected at a level greater than 20dB below limit.										

## 2.1.7 AC Conducted Emissions

### Test Location

Shielded Room

### Frequency Range of Measurement

150 kHz to 30 MHz

### Instrument Settings

IF Band Width: 9 kHz

### Test Procedures

The EUT was placed on a non-metallic table 0.8m above the metallic, grounded floor and 0.4m from the reference ground plane wall. The distance to other metallic surfaces was at least 0.8m.

Amplitude measurements were performed with a quasi-peak detector and an average detector.

### Limit

#### - 15.207(a)

Frequency (MHz)	Conducted 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 Results

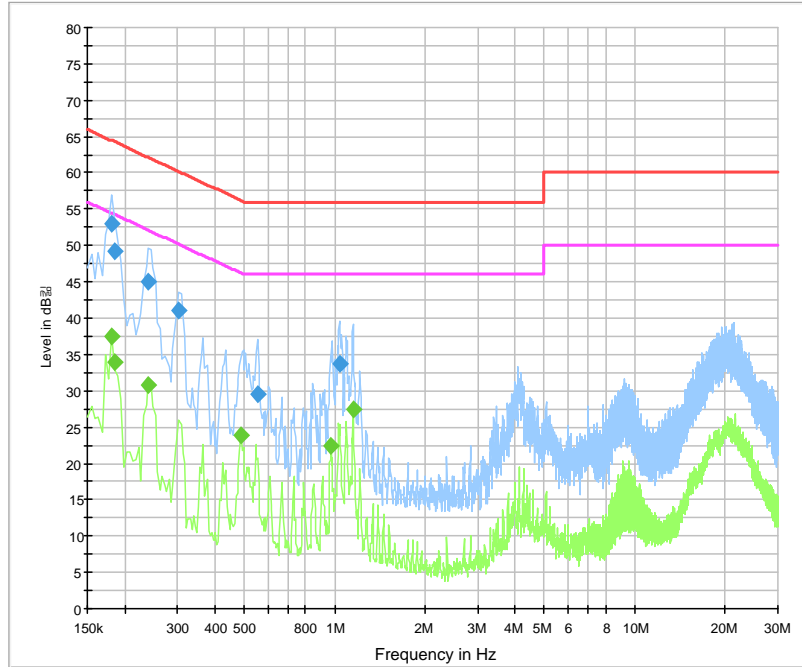
The requirements are:

Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
0.181500	53.0	11.4	Quasi-Peak

## Test Data

[L1]  
CISPR 22 Class B\_L1



## Final Result 1

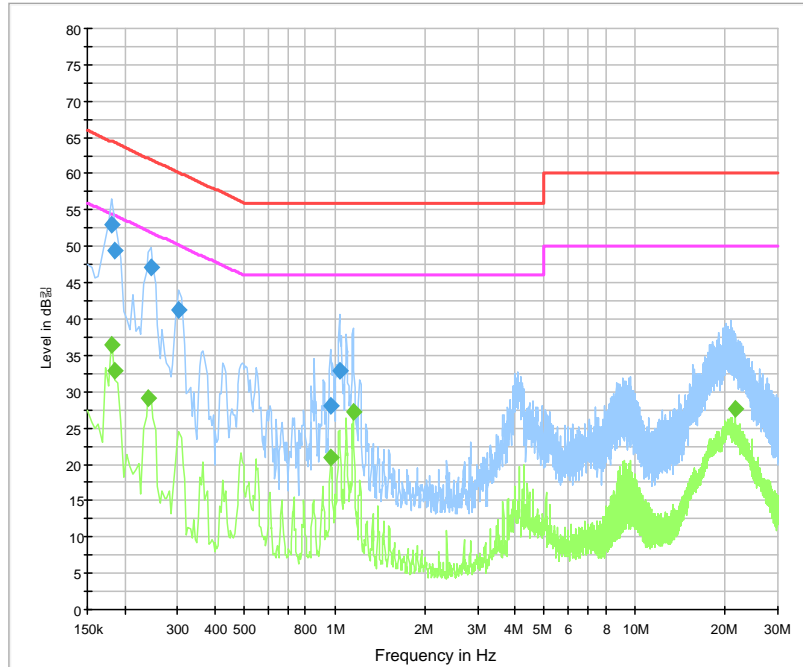
Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.181500	52.9	1000.0	9.000	On	L1	9.8	11.5	64.4
0.186000	49.3	1000.0	9.000	On	L1	9.8	14.9	64.2
0.240000	45.0	1000.0	9.000	On	L1	9.7	17.1	62.1
0.303000	41.0	1000.0	9.000	On	L1	9.7	19.2	60.2
0.555000	29.6	1000.0	9.000	On	L1	9.9	26.4	56.0
1.036500	33.6	1000.0	9.000	On	L1	9.7	22.4	56.0

## Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.181500	37.4	1000.0	9.000	On	L1	9.8	17.0	54.4
0.186000	33.9	1000.0	9.000	On	L1	9.8	20.3	54.2
0.240000	30.8	1000.0	9.000	On	L1	9.7	21.3	52.1
0.487500	23.8	1000.0	9.000	On	L1	9.9	22.4	46.2
0.973500	22.4	1000.0	9.000	On	L1	9.8	23.6	46.0
1.153500	27.5	1000.0	9.000	On	L1	9.7	18.5	46.0

**[NEUTRAL]**

CISPR 22 Class B\_N



**Final Result 1**

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.181500	53.0	1000.0	9.000	On	N	9.8	11.4	64.4
0.186000	49.5	1000.0	9.000	On	N	9.8	14.7	64.2
0.244500	47.1	1000.0	9.000	On	N	9.6	14.9	61.9
0.303000	41.4	1000.0	9.000	On	N	9.7	18.8	60.2
0.969000	28.2	1000.0	9.000	On	N	9.7	27.8	56.0
1.036500	32.9	1000.0	9.000	On	N	9.7	23.1	56.0

**Final Result 2**

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.181500	36.5	1000.0	9.000	On	N	9.8	17.9	54.4
0.186000	33.0	1000.0	9.000	On	N	9.8	21.2	54.2
0.240000	29.1	1000.0	9.000	On	N	9.7	23.0	52.1
0.973500	21.0	1000.0	9.000	On	N	9.7	25.0	46.0
1.153500	27.2	1000.0	9.000	On	N	9.7	18.8	46.0
21.750000	27.6	1000.0	9.000	On	N	10.1	22.4	50.0



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## APPENDIX A – Test Equipment Used For Tests

	Name of Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Signal Analyzer	Agilent	N9020A	MY48011598	2015-11-02	2016-11-02
2	Signal Generator	Rohde & Schwarz	SMB100A	175528	2016-01-20	2017-01-20
3	EMI Test Receiver	Rohde & Schwarz	ESCI7	100816	2015-11-02	2016-11-02
4	LISN	Rohde & Schwarz	ENV216	101760	2016-02-05	2017-02-05
5	EMI Test Receiver	Rohde & Schwarz	ESCI7	100814	2015-11-02	2016-11-02
6	Trilog Broadband Antenna	SCHWARZBECK	VULB 9161 SE	9161-4133	2015-06-18	2017-06-18
7	Active Loop Antenna	SCHWARZBECK	FMZB 1513	1513-126	2014-05-19	2016-05-19
8	6dB Attenuator	R&S	DNF	272.4110.50-2	2015-11-03	2016-11-03
9	AMPLIFIER	SONOMA	310	291721	2016-02-02	2017-02-02
10	EMI Test Receiver	Rohde & Schwarz	ESU40	100336	2015-05-15	2016-05-15
11	PREAMPLIFIER	Agilent	8449B	3008A02307	2015-10-01	2016-10-01
12	Horn Antenna	ETS-Lindgren	3115	00078894	2015-09-02	2017-09-02
13	Horn Antenna	ETS-Lindgren	3116	00062504	2015-09-04	2017-09-04
14	Horn Antenna	ETS-Lindgren	3116	00062916	2015-04-30	2017-04-30
15	Horn Antenna	ETS-Lindgren	3117	00154525	2015-09-02	2017-09-02
16	Band Reject Filter	Wainwright Instruments GmbH	WRCGV 2400/2483 - 2375/2505 -50/10EE	2	2015-05-14	2016-05-14