



# RADIO TEST REPORT

**Test Report No.: 10334250S-A**

**Applicant** : NINTENDO CO., LTD.  
**Type of Equipment** : Portable Game Machine with Wireless LAN  
**Model No.** : KTR-001  
**FCC ID** : BKEKTR001  
**Test regulation** : FCC Part15 Subpart C: 2014  
**Test result** : Complied

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by any agency of the Federal Government.
6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.

**Date of test:** June 10 to 25, 2014

**Tested by:** *A. Hayashi*  
Akio Hayashi  
Engineer  
Consumer Technology Division

**Approved by :** *T. Imamura*  
Toyokazu Imamura  
Leader  
Consumer Technology Division



- The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.  
 There is no testing item of "Non-accreditation".

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13-EM-F0429



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## **SECTION 1: Customer information**

Company Name : NINTENDO CO., LTD.  
Brand name : Nintendo  
Address : 11-1 Hokotate-cho, Kamitoba, Minami-ku, Kyoto 601-8501, Japan  
Telephone Number : +81-075-662-9600  
Facsimile Number : +81-075-662-9624  
Contact Person : Kazuya Kuramoto

## **SECTION 2: Equipment under test (E.U.T.)**

### **2.1 Identification of E.U.T.**

Type of Equipment : Portable Game Machine with Wireless LAN  
Model No. : KTR-001  
Serial No. : Refer to 4.2 in this report.  
Rating : AC 100V – 240V(AC Adaptor)  
Country of Mass-production : China  
Condition of EUT : Production prototype  
(Not for Sale: This sample is equivalent to mass-produced items.)  
Modification of EUT : No modification by the test lab.  
Receipt Date of Sample : May 12, 2014

### **2.2 Product description**

Model: KTR-001 (referred to as the EUT in this report) is a Portable Game Machine with Wireless LAN.

Clock frequency(ies) in the system : 804.33MHz

Radio specification [W-LAN (IEEE802.11b/g) ]

Equipment type : Transceiver  
Frequency of operation : 2412-2472MHz for IEEE802.11b,  
2412-2462MHz for IEEE802.11g  
Bandwidth & channel spacing : 20MHz & 5MHz  
Type of modulation : DSSS, OFDM  
Antenna type : PIFA Antenna (Model name: ANT/WIFI/FOX-KTR)  
Antenna gain : 0.8dBi  
Antenna connector type : 20270\_001E\_01  
Operation temperature range : 5 to +35 deg.C.

Radio specification [NFC] (Refer to test report 10334250S-C)

Radio Type : Transceiver  
Frequency of Operation : 13.56MHz  
Modulation : ASK 100% (type A), ASK 10% (type B, F)  
Antenna type : Print pattern antenna  
Operating Temperature : 5 to +35 deg C.

FCC 15.31 (e)

The stable voltage (DC3.3V, DC 1.8V and DC 1.2V) is provided constantly to RF part via regulator. Therefore, the EUT complies with the requirement.

FCC 15.203

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore the EUT complies with the requirement.

---

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## SECTION 3: Test specification, procedures & results

### 3.1 Test specification

Test specification : FCC Part 15 Subpart C: 2014, final revised on May 1, 2014 and effective June 2, 2014  
Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators  
Section 15.207 Conducted limits  
Section 15.209 Radiated emission limits, general requirements  
Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz,  
and 5725-5850MHz

### 3.2 Procedures & Results

Item	Test Procedure *1)	Specification	Remarks	Deviation	Worst Margin	Results
Conducted emission	ANSI C63.10:2009	FCC 15.207	-	N/A	8.0dB Freq.: 1.79920MHz Detector: Quasi-Peak Phase: N Tx, IEEE802.11g, 2437MHz, Tabuchi's AC adaptor, X'tal A	Complied
6dB bandwidth	ANSI C63.10:2009	FCC 15.247 (a)(2)	Conducted	N/A	* See data	Complied
Maximum peak output power	ANSI C63.10:2009	FCC 15.247 (b)(3)	Conducted	N/A		Complied
Out of band emission & Restricted band edges	ANSI C63.10:2009	FCC 15.109, 15.247 (d) & 15.209	Conducted / Radiated	N/A	7.3dB Freq.: 104.736 MHz Polarization: Horizontal Detection: Quasi-Peak Tx, IEEE802.11g, PN9, 2437 MHz, Nichiconi's AC adaptor, X'tal A	Complied
Power density	ANSI C63.10:2009	FCC 15.247 (e)	Conducted	N/A	* See data	Complied

Note: UL Japan's EMI Work Procedures No.13-EM-W0420 and 13-EM-W0422.

\*1) These tests were also referred to KDB 558074 v03 r02 (FCC), "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247".

### 3.3 Addition to standard

Item	Test Procedure	Specification	Remarks	Worst Margin	Results
Occupied Bandwidth (99%)	ANSI C63.10:2009, RSS-Gen 4.6.1	-	Conducted	-	-

Note: UL Japan's Work Procedures No. 13-EM-W0420 and 13-EM-W0422

\* Other than above, no addition, exclusion nor deviation has been made from the standard.

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### 3.4 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor k=2.

Item	Frequency range	No.1 SAC <sup>*1</sup> /SR <sup>*2</sup> (±)	No.2 SAC/SR (±)	No.3 SAC/SR (±)
<b>Conducted emission (AC Mains) LISN</b>	150kHz-30MHz	3.6 dB	3.6 dB	3.5 dB
<b>Radiated emission (Measurement distance: 3m)</b>	9kHz-30MHz	3.7 dB	3.7 dB	3.6 dB
	30MHz-300MHz	4.8 dB	5.0 dB	4.8 dB
	300MHz-1GHz	5.0 dB	5.0 dB	4.8 dB
	1GHz-15GHz	4.9 dB	4.9 dB	4.9 dB
<b>Radiated emission (Measurement distance: 1m)</b>	15GHz-18GHz	5.7 dB	5.6 dB	5.6 dB
	18GHz-40GHz	5.2 dB	4.3 dB	4.3 dB

\*1: SAC=Semi-Anechoic Chamber

\*2: SR= Shielded Room is applied besides radiated emission

#### Conducted emission test

The data listed in this test report has enough margin, more than the site margin.

#### Radiated emission test

The data listed in this test report has enough margin, more than the site margin.

#### Antenna port conducted test

Power measurement uncertainty above 1GHz for this test was: (±) 1.5dB

Spurious emission (Conducted) measurement (below 1GHz) uncertainty for this test was: (±) 1.6dB

Spurious emission (Conducted) measurement (1G-3GHz) uncertainty for this test was: (±) 1.4dB

Spurious emission (Conducted) measurement (3G-18GHz) uncertainty for this test was: (±) 2.8dB

Spurious emission (Conducted) measurement (18G-26.5GHz) uncertainty for this test was: (±) 2.5dB

Bandwidth measurement uncertainty for this test was: (±) 5.4%

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### 3.5 Test location

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JAB Accreditation No. : RTL02610

	IC Registration No.	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
<input type="checkbox"/> No.1 semi-anechoic chamber	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
<input checked="" type="checkbox"/> No.2 semi-anechoic chamber	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
<input checked="" type="checkbox"/> No.3 semi-anechoic chamber	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5m
<input type="checkbox"/> No.4 semi-anechoic chamber	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
<input type="checkbox"/> No.1 shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
<input type="checkbox"/> No.2 shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
<input checked="" type="checkbox"/> No.3 shielded room	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
<input type="checkbox"/> No.4 shielded room	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
<input checked="" type="checkbox"/> No.5 shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
<input type="checkbox"/> No.6 shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
<input type="checkbox"/> No.1 measurement room	-	2.55 x 4.1 x 2.5	-	-

### 3.6 Test setup, Test data & Test instruments

Refer to APPENDIX 1 to 3.

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## SECTION 4: Operation of E.U.T. during testing

### 4.1 Operating mode

Test item	Mode	Tested frequency	Worst data mode *1)
Conducted emission Radiated emission (below 1GHz) *2)	Transmitting (Tx) IEEE 802.11g	2437MHz	PN9, 24Mbps
Radiated emission (above 1GHz)	Transmitting (Tx) IEEE 802.11b	2412MHz, 2442MHz, 2472MHz	PN9, 2Mbps
	Transmitting (Tx) IEEE 802.11g	2412MHz, 2437MHz, 2462MHz	PN9, 24Mbps
Other items	Transmitting (Tx) IEEE 802.11b	2412MHz, 2442MHz, 2472MHz	PN9, 2Mbps
	Transmitting (Tx) IEEE 802.11g	2412MHz, 2437MHz, 2462MHz	PN9, 24Mbps

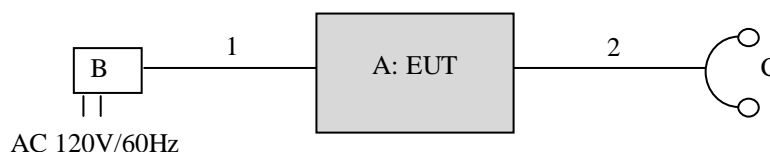
\*1) The worst condition was determined based on the test result of Maximum Peak Output Power.  
\*2) Test operating mode was determined as follows according to "Section 1 of 6 802.11 a/b/g/n testing- Managing Complex Regulatory Approvals - "of TCB Council Workshop October 2009.

Software : ART\_Remote Ver.1.0.0.0

Power setting : Fixed

Justification: The system was configured in typical fashion (as customer would normally use it) for testing.

### 4.2 Configuration and peripherals



\*Cabling and setup were taken into consideration and test data was taken under worse case conditions.

### Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	Remark
A	Portable Game Machine with Wireless LAN	KTR-001	*1)	NINTENDO	EUT
B	AC Adaptor	WAP-002(USA)	No.1	Mitsumi	-
		WAP-002(USA)	No.1	Tabuchi	-
		WAP-002(USA)	No.1	Nichicon	-
C	Headphones	-	-	-	-

\*1) Antenna port conducted tests: 6, Conducted emission test (X'tal-A): 2, Conducted emission test (X'tal-B): 4, Radiated emission tests (X'tal-A): 2, Radiated emission tests (X'tal-B): 4,

#### Accessory and model differences

The difference between mode A (X'tal A) and mode B (X'tal B) is that the mode A has crystal part number 340000LA0B, 213000AA0G and Mode B has crystal part number CX3225SB40000C4CEFZ1, CX3225SB13000G0FEFZ1.

The two crystals are compatible and are electrically identical having same radio parameters.

So, for the antenna terminal tests, the X'tal A was used as a representative.

#### List of cable used

No.	Item	Length (m)	Shield	Remark
1	DC	1.9	Shielded	-
2	Headphones	0.8	Unshielded	-

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## **SECTION 5: Conducted emission**

### **5.1 Operating environment**

Test place : See test data (APPENDIX 1)

Temperature : See test data (APPENDIX 1)

Humidity : See test data (APPENDIX 1)

### **5.2 Test configuration**

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 0.8m above the conducting ground plane.

The table is made of Styrofoam and covered with polyvinyl chloride. That has very low permittivity.

The rear of tabletop was located 40cm to the vertical conducting plane. The rear of peripheral was aligned and was flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from LISN.

Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN to the input power source. All unused 50ohm connectors of the LISN were resistively terminated in 50ohm when not connected to the measuring equipment.

Photographs of the set up are shown in APPENDIX 3.

### **5.3 Test conditions**

Frequency range : 0.15 - 30MHz

EUT position : Table top

### **5.4 Test procedure**

The AC Mains Terminal Continuous disturbance Voltage had been measured with the EUT via AC adaptor within a semi-anechoic chamber. The EUT via AC adaptor was connected to a Line Impedance Stabilization Network (LISN).

An overview sweep with peak detection has been performed.

The measurements had been performed with a quasi-peak detector and if required, a CISPR average detector.

The conducted emission measurements were made with the following detection of the test receiver.

Detection Type : Quasi-Peak/ CISPR Average

IF Bandwidth : 9kHz

### **5.5 Results**

Summary of the test results : Pass

Refer to APPENDIX 1

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## **SECTION 6: Radiated emission**

### **6.1 Operating environment**

Test place : See test data (APPENDIX 1)  
Temperature : See test data (APPENDIX 1)  
Humidity : See test data (APPENDIX 1)

### **6.2 Test configuration**

EUT was placed on a platform of nominal size, 0.5m by 0.5m, raised 0.8m above the conducting ground plane. The table is made of Styrofoam. That has very low permittivity. The rear of EUT, including its peripherals was aligned and flushed with rear of tabletop.

Photographs of the set up are shown in APPENDIX 3.

### **6.3 Test conditions**

Frequency range : 30MHz to 25GHz  
EUT position : Table top

### **6.4 Test procedure**

The Radiated Electric Field Strength intensity has been measured on a semi-anechoic chamber with a ground plane and at a distance of 3m (below 15GHz) / 1m (above 15GHz) (Refer to Figure 1). Measurements were performed with quasi-peak, peak and average detector. The measuring antenna height was varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity. The measurements were performed for both vertical and horizontal antenna polarization.

The radiated emission measurements were made with the following detection.

Frequency	30-1000MHz	1-25GHz		20dBc
Detection type	Quasi-Peak	Peak	Average *1)	Peak
IF Bandwidth	120kHz	RBW: 1MHz VBW: 3MHz	RBW: 1MHz VBW: 3MHz Detector: RMS	RBW: 100kHz VBW: 300kHz

\*1) Average Power Measurement was measured based on 12.2.5 of "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247".

The carrier levels and noise levels were confirmed at each position of X, Y and Z axes to see the position of maximum noise, and the test was made at the position that has the maximum noise.

Antenna polarization	Carrier	Spurious (Below 1GHz)	Spurious (1-15GHz)	Spurious (15-18GHz)	Spurious (18-25GHz)
Horizontal	Z	Y	Z	Z	Z
Vertical	Z	X	Y	Y	Y

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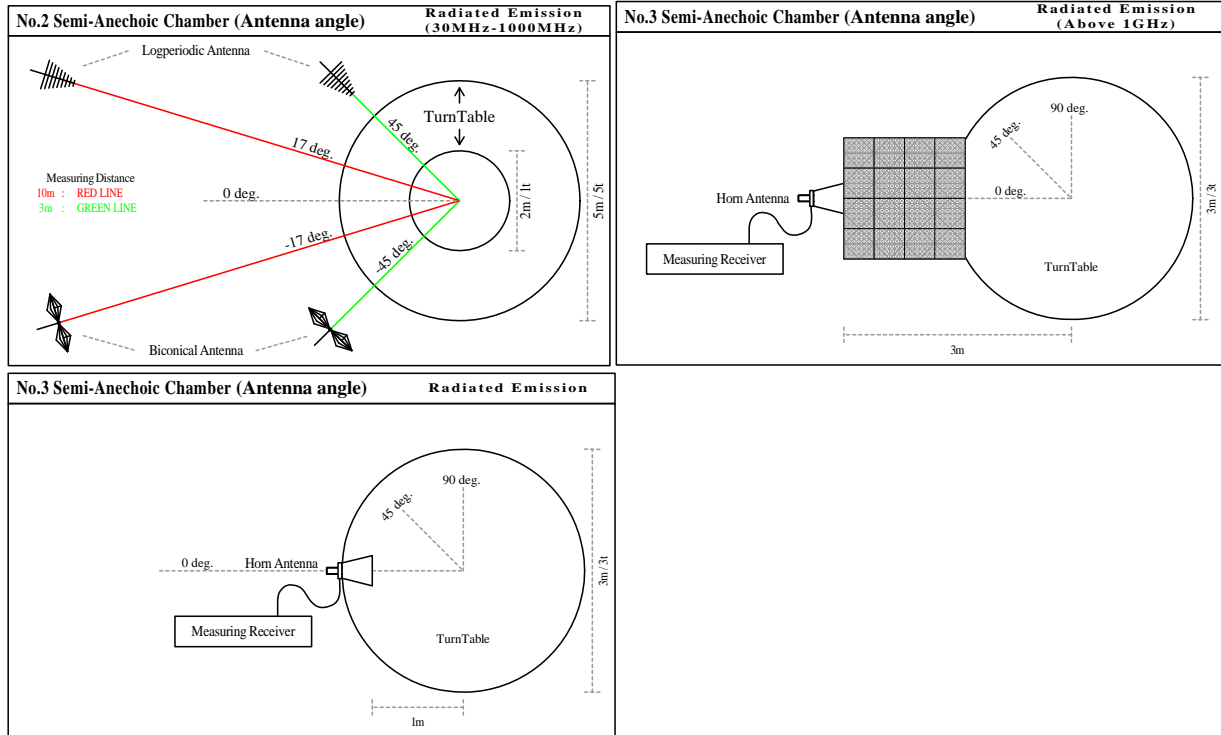
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**Figure 1. Antenna angle**



**6.5 Band edge**

Band edge level at 2390MHz and 2483.5MHz is below the limits of FCC 15.209 and band edge level at 2400MHz is below the 20dBc. Refer to the data.

**6.6 Results**

Summary of the test results : Pass  
\* No noise was detected above the 4th order harmonics.

Refer to APPENDIX 1

## **SECTION 7: 6dB bandwidth & Occupied bandwidth (99%)**

### **Test procedure**

The bandwidth was measured with a spectrum analyzer connected to the antenna port.

The test was measured based on Method 8.1 Option 1 and 8.2 Option 2 of "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247".

Summary of the test results: Pass

Refer to APPENDIX 1

## **SECTION 8: Maximum peak output power**

### **Test procedure**

The Maximum Peak Output Power was measured with a power meter connected to the antenna port.

The test was measured based on Method 9.1.3 PKPM1 of "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247".

Summary of the test results: Pass

Refer to APPENDIX 1

\*1) Average detector was used only for Reference data of SAR testing.

## **SECTION 9: Out of band emissions (Antenna port conducted)**

### **Test procedure**

The Out of Band Emissions was measured with a spectrum analyzer connected to the antenna port.

The radio frequency power that is produced by the intentional radiator confirmed 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.

In the frequency range below 30MHz, RBW was narrowed to separate the noise contents.

Then, wide-band noise near the limit was checked separately, however the noise was not detected as shown in the chart. (9kHz-150kHz:RBW=200Hz, 150kHz-30MHz:RBW=10kHz)

Summary of the test results: Pass

Refer to APPENDIX 1

## **SECTION 10: Peak power density**

### **Test procedure**

The peak power density was measured with a spectrum analyzer connected to the antenna port.

Instrument used : Spectrum Analyzer

RBW / VBW : 3kHz / 9.1kHz

The test was measured based on Method 10.2 PKPSD of "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247".

Summary of the test results: Pass

Refer to APPENDIX 1

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## **Contents of APPENDIXES**

### **APPENDIX 1: Data of Radio tests**

Conducted emission  
6dB bandwidth  
Maximum peak output power  
Radiated emission  
Spurious emission (Antenna port conducted)  
Peak power density  
Occupied bandwidth

### **APPENDIX 2: Test instruments**

Test instruments

### **APPENDIX 3: Photographs of test setup**

Conducted emission  
Radiated emission  
Pre-check of the worst position

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# DATA OF CONDUCTED EMISSION TEST

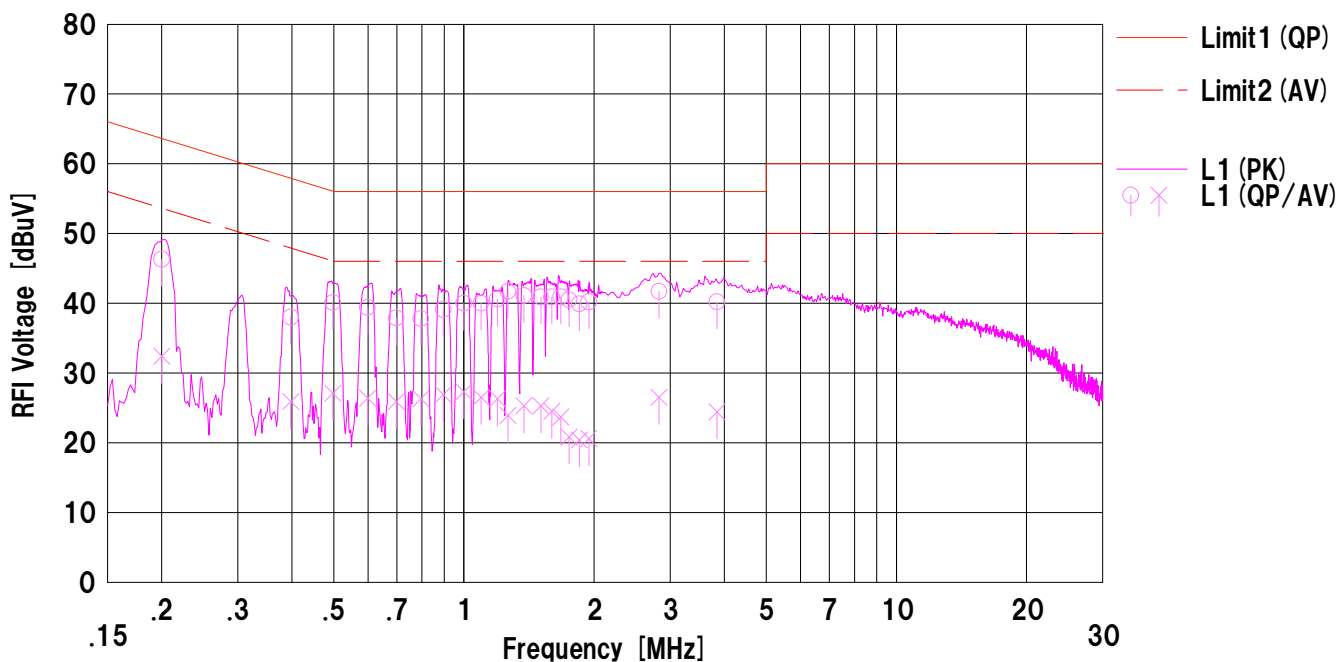
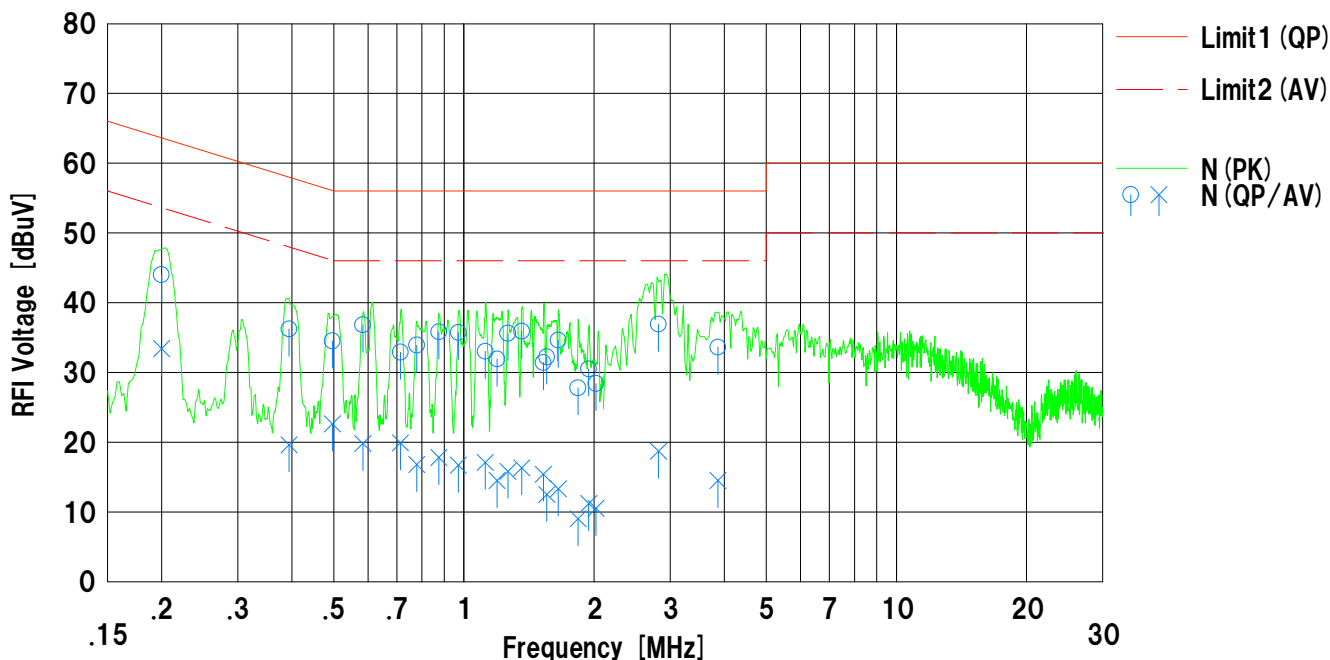
UL Japan,Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

Company : NINTENDO CO., LTD  
 Kind of EUT : Refer to section 2.2  
 Model No. : KTR-001  
 Serial No. : 2  
 Remarks : (Mitsumi's AC adaptor No.1) , X'tal A

Mode : Tx, IEEE802.11g, 2437MHz  
 Order No. : 10334250S  
 Power : AC 120V / 60Hz  
 Temp./Humi. : 25deg.C / 57%RH

Limit1 : FCC 15C (15.207) QP  
 Limit2 : FCC 15C (15.207) AV

Engineer : Akio Hayashi



Calculation:Result [dBuV] =Reading [dBuV] +C.Fac (LISN+Cable+ATT) [dB]  
 LISN:SLS-02

# DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

Company : NINTENDO CO., LTD  
Kind of EUT : Refer to section 2.2  
Model No. : KTR-001  
Serial No. : 2  
Remarks : (Mitsumi's AC adaptor No.1) , X'tal A

Mode : Tx, IEEE802.11g, 2437MHz  
Order No. : 10334250S  
Power : AC 120V / 60Hz  
Temp./Humi. : 25deg.C / 57%RH

Limit1 : FCC 15C (15.207) QP  
Limit2 : FCC 15C (15.207) AV

Engineer : Akio Hayashi

<< QP/AV DATA >>

No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.19980	31.2	20.6	12.8	44.0	33.4	63.6	53.6	19.6	20.2	N	
2	0.39440	23.4	6.8	12.8	36.2	19.6	57.9	47.9	21.7	28.3	N	
3	0.49666	21.7	9.8	12.8	34.5	22.6	56.0	46.0	21.5	23.4	N	
4	0.58360	24.0	7.0	12.8	36.8	19.8	56.0	46.0	19.2	26.2	N	
5	0.71290	20.1	7.1	12.8	32.9	19.9	56.0	46.0	23.1	26.1	N	
6	0.77780	21.1	4.0	12.8	33.9	16.8	56.0	46.0	22.1	29.2	N	
7	0.87500	23.0	5.0	12.8	35.8	17.8	56.0	46.0	20.2	28.2	N	
8	0.97140	22.8	3.8	12.9	35.7	16.7	56.0	46.0	20.3	29.3	N	
9	1.12120	20.1	4.2	12.9	33.0	17.1	56.0	46.0	23.0	28.9	N	
10	1.19370	19.0	1.6	12.9	31.9	14.5	56.0	46.0	24.1	31.5	N	
11	1.26380	22.7	2.9	12.9	35.6	15.8	56.0	46.0	20.4	30.2	N	
12	1.36120	23.0	3.4	12.9	35.9	16.3	56.0	46.0	20.1	29.7	N	
13	1.52680	18.5	2.5	12.9	31.4	15.4	56.0	46.0	24.6	30.6	N	
14	1.55520	19.2	-0.5	13.0	32.2	12.5	56.0	46.0	23.8	33.5	N	
15	1.65280	21.6	0.3	13.0	34.6	13.3	56.0	46.0	21.4	32.7	N	
16	1.83560	14.8	-4.0	13.0	27.8	9.0	56.0	46.0	28.2	37.0	N	
17	1.94340	17.5	-1.8	13.0	30.5	11.2	56.0	46.0	25.5	34.8	N	
18	2.02040	15.4	-2.5	13.0	28.4	10.5	56.0	46.0	27.6	35.5	N	
19	2.81800	23.8	5.6	13.1	36.9	18.7	56.0	46.0	19.1	27.3	N	
20	3.86610	20.4	1.3	13.2	33.6	14.5	56.0	46.0	22.4	31.5	N	
21	0.20010	33.5	19.6	12.8	46.3	32.4	63.6	53.6	17.3	21.2	L1	
22	0.39778	25.2	13.1	12.8	38.0	25.9	57.8	47.8	19.8	21.9	L1	
23	0.49791	27.3	14.3	12.8	40.1	27.1	56.0	46.0	15.9	18.9	L1	
24	0.59883	26.6	13.6	12.8	39.4	26.4	56.0	46.0	16.6	19.6	L1	
25	0.69770	25.1	13.1	12.8	37.9	25.9	56.0	46.0	18.1	20.1	L1	
26	0.79510	25.0	13.5	12.8	37.8	26.3	56.0	46.0	18.2	19.7	L1	
27	0.89608	26.3	14.1	12.8	39.1	26.9	56.0	46.0	16.9	19.1	L1	
28	0.99983	27.1	14.4	12.9	40.0	27.3	56.0	46.0	16.0	18.7	L1	
29	1.09621	27.1	13.6	12.9	40.0	26.5	56.0	46.0	16.0	19.5	L1	
30	1.19504	27.7	13.4	12.9	40.6	26.3	56.0	46.0	15.4	19.7	L1	
31	1.26460	28.8	11.0	12.9	41.7	23.9	56.0	46.0	14.3	22.1	L1	
32	1.37720	28.2	12.4	12.9	41.1	25.3	56.0	46.0	14.9	20.7	L1	
33	1.50580	28.0	12.4	12.9	40.9	25.3	56.0	46.0	15.1	20.7	L1	
34	1.59700	27.9	11.5	13.0	40.9	24.5	56.0	46.0	15.1	21.5	L1	
35	1.67610	27.9	10.7	13.0	40.9	23.7	56.0	46.0	15.1	22.3	L1	
36	1.75050	27.5	7.8	13.0	40.5	20.8	56.0	46.0	15.5	25.2	L1	
37	1.84820	26.9	7.4	13.0	39.9	20.4	56.0	46.0	16.1	25.6	L1	
38	1.94540	27.2	7.6	13.0	40.2	20.6	56.0	46.0	15.8	25.4	L1	
39	2.82380	28.6	13.4	13.1	41.7	26.5	56.0	46.0	14.3	19.5	L1	
40	3.84880	27.0	11.2	13.2	40.2	24.4	56.0	46.0	15.8	21.6	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
LISN: SLS-02

# DATA OF CONDUCTED EMISSION TEST

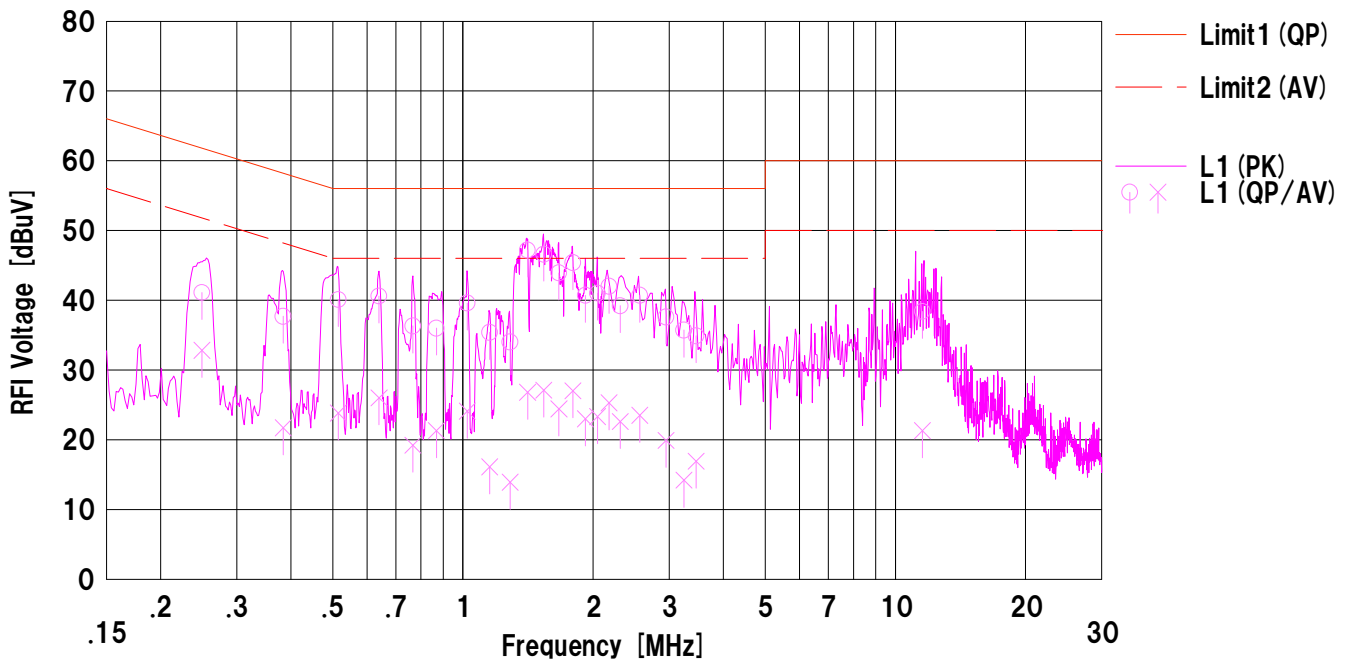
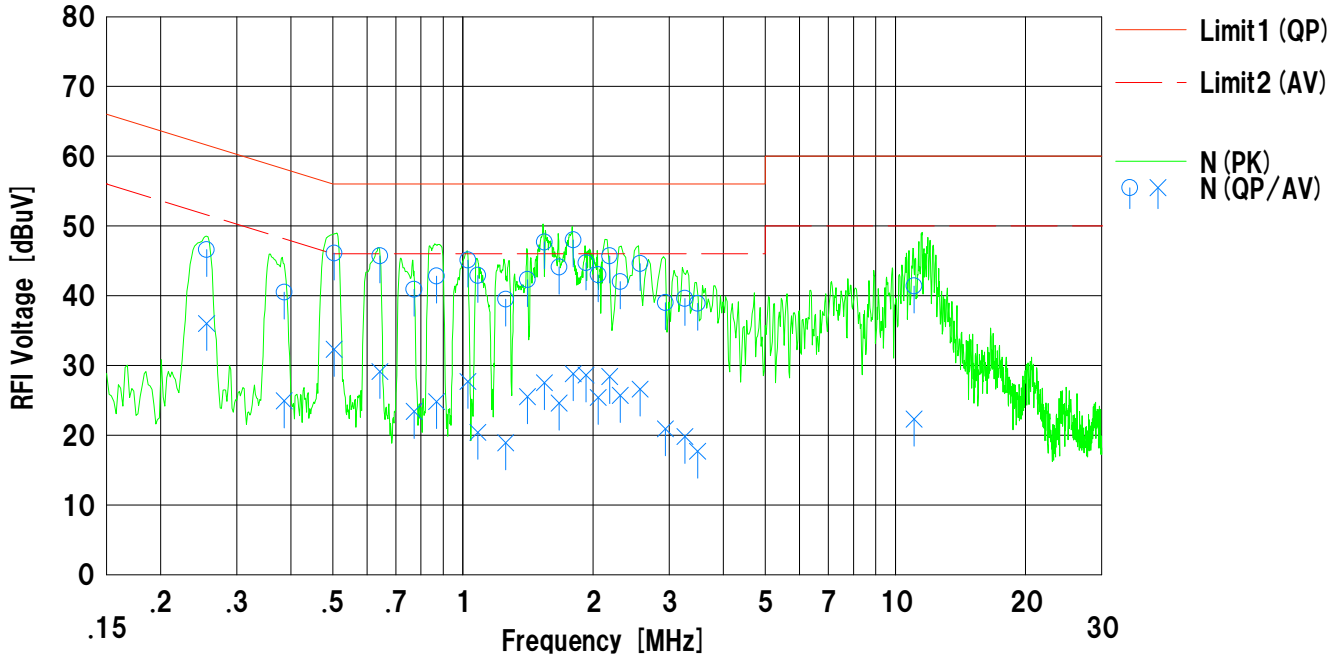
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

Company : NINTENDO CO., LTD  
 Kind of EUT : Refer to section 2.2  
 Model No. : KTR-001  
 Serial No. : 2  
 Remarks : (Tabuchi's AC adaptor No.1), X'tal A

Mode : Tx, IEEE802.11g, 2437MHz  
 Order No. : 10334250S  
 Power : AC 120V / 60Hz  
 Temp./Humi. : 25deg.C / 57%RH

Limit1 : FCC 15C (15.207) QP  
 Limit2 : FCC 15C (15.207) AV

Engineer : Akio Hayashi



Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
 LISN: SLS-02



# DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

Company : NINTENDO CO., LTD  
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Mode : Tx, IEEE802.11g, 2437MHz  
 Order No. : 10334250S  
 Power : AC 120V / 60Hz  
 Temp./Humi. : 25deg.C / 57%RH

Limit1 : FCC 15C (15.207) QP  
 Limit2 : FCC 15C (15.207) AV

Engineer : Akio Hayashi

<< QP/AV DATA >>

No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.25550	33.8	23.2	12.8	46.6	36.0	61.5	51.5	14.9	15.5	N	
2	0.38630	27.7	12.1	12.8	40.5	24.9	58.1	48.1	17.6	23.2	N	
3	0.50400	33.3	19.5	12.8	46.1	32.3	56.0	46.0	9.9	13.7	N	
4	0.64260	32.9	16.3	12.8	45.7	29.1	56.0	46.0	10.3	16.9	N	
5	0.77080	28.1	10.6	12.8	40.9	23.4	56.0	46.0	15.1	22.6	N	
6	0.86930	30.0	12.0	12.8	42.8	24.8	56.0	46.0	13.2	21.2	N	
7	1.02700	32.2	14.8	12.9	45.1	27.7	56.0	46.0	10.9	18.3	N	
8	1.08240	30.0	7.5	12.9	42.9	20.4	56.0	46.0	13.1	25.6	N	
9	1.25640	26.6	6.0	12.9	39.5	18.9	56.0	46.0	16.5	27.1	N	
10	1.40980	29.4	12.6	12.9	42.3	25.5	56.0	46.0	13.7	20.5	N	
11	1.54240	34.7	14.5	13.0	47.7	27.5	56.0	46.0	8.3	18.5	N	
12	1.66980	31.1	11.6	13.0	44.1	24.6	56.0	46.0	11.9	21.4	N	
13	1.79920	35.0	15.8	13.0	48.0	28.8	56.0	46.0	8.0	17.2	N	
14	1.92600	31.7	15.6	13.0	44.7	28.6	56.0	46.0	11.3	17.4	N	
15	2.05540	30.0	12.4	13.0	43.0	25.4	56.0	46.0	13.0	20.6	N	
16	2.18300	32.7	15.4	13.0	45.7	28.4	56.0	46.0	10.3	17.6	N	
17	2.30940	29.0	12.7	13.0	42.0	25.7	56.0	46.0	14.0	20.3	N	
18	2.56820	31.6	13.6	13.0	44.6	26.6	56.0	46.0	11.4	19.4	N	
19	2.93900	25.9	7.8	13.1	39.0	20.9	56.0	46.0	17.0	25.1	N	
20	3.25880	26.5	6.7	13.1	39.6	19.8	56.0	46.0	16.4	26.2	N	
21	3.48780	25.8	4.6	13.1	38.9	17.7	56.0	46.0	17.1	28.3	N	
22	11.04004	27.3	8.2	14.1	41.4	22.3	60.0	50.0	18.6	27.7	N	
23	0.24920	28.3	20.0	12.8	41.1	32.8	61.7	51.7	20.6	18.9	L1	
24	0.38405	24.9	8.9	12.8	37.7	21.7	58.1	48.1	20.4	26.4	L1	
25	0.51515	27.3	11.0	12.8	40.1	23.8	56.0	46.0	15.9	22.2	L1	
26	0.64015	27.8	13.2	12.8	40.6	26.0	56.0	46.0	15.4	20.0	L1	
27	0.76660	23.5	6.4	12.8	36.3	19.2	56.0	46.0	19.7	26.8	L1	
28	0.86825	23.2	8.5	12.8	36.0	21.3	56.0	46.0	20.0	24.7	L1	
29	1.02280	26.7	11.2	12.9	39.6	24.1	56.0	46.0	16.4	21.9	L1	
30	1.15360	22.5	3.2	12.9	35.4	16.1	56.0	46.0	20.6	29.9	L1	
31	1.28510	21.1	1.0	12.9	34.0	13.9	56.0	46.0	22.0	32.1	L1	
32	1.41170	34.3	13.9	12.9	47.2	26.8	56.0	46.0	8.8	19.2	L1	
33	1.53900	33.6	14.1	13.0	46.6	27.1	56.0	46.0	9.4	18.9	L1	
34	1.66750	30.9	11.4	13.0	43.9	24.4	56.0	46.0	12.1	21.6	L1	
35	1.79600	32.4	14.0	13.0	45.4	27.0	56.0	46.0	10.6	19.0	L1	
36	1.92015	27.7	10.0	13.0	40.7	23.0	56.0	46.0	15.3	23.0	L1	
37	2.04867	28.0	10.3	13.0	41.0	23.3	56.0	46.0	15.0	22.7	L1	
38	2.17900	29.0	12.3	13.0	42.0	25.3	56.0	46.0	14.0	20.7	L1	
39	2.31050	26.2	9.6	13.0	39.2	22.6	56.0	46.0	16.8	23.4	L1	
40	2.56475	27.7	10.5	13.0	40.7	23.5	56.0	46.0	15.3	22.5	L1	
41	2.94745	24.5	6.8	13.1	37.6	19.9	56.0	46.0	18.4	26.1	L1	
42	3.24295	22.6	1.1	13.1	35.7	14.2	56.0	46.0	20.3	31.8	L1	
43	3.46465	21.8	3.8	13.1	34.9	16.9	56.0	46.0	21.1	29.1	L1	
44	11.55000	24.2	7.1	14.2	38.4	21.3	60.0	50.0	21.6	28.7	L1	

Calculation:Result [dBuV] =Reading [dBuV] +C.Fac (LISN+Cable+ATT) [dB]  
 LISN:SLS-02

# DATA OF CONDUCTED EMISSION TEST

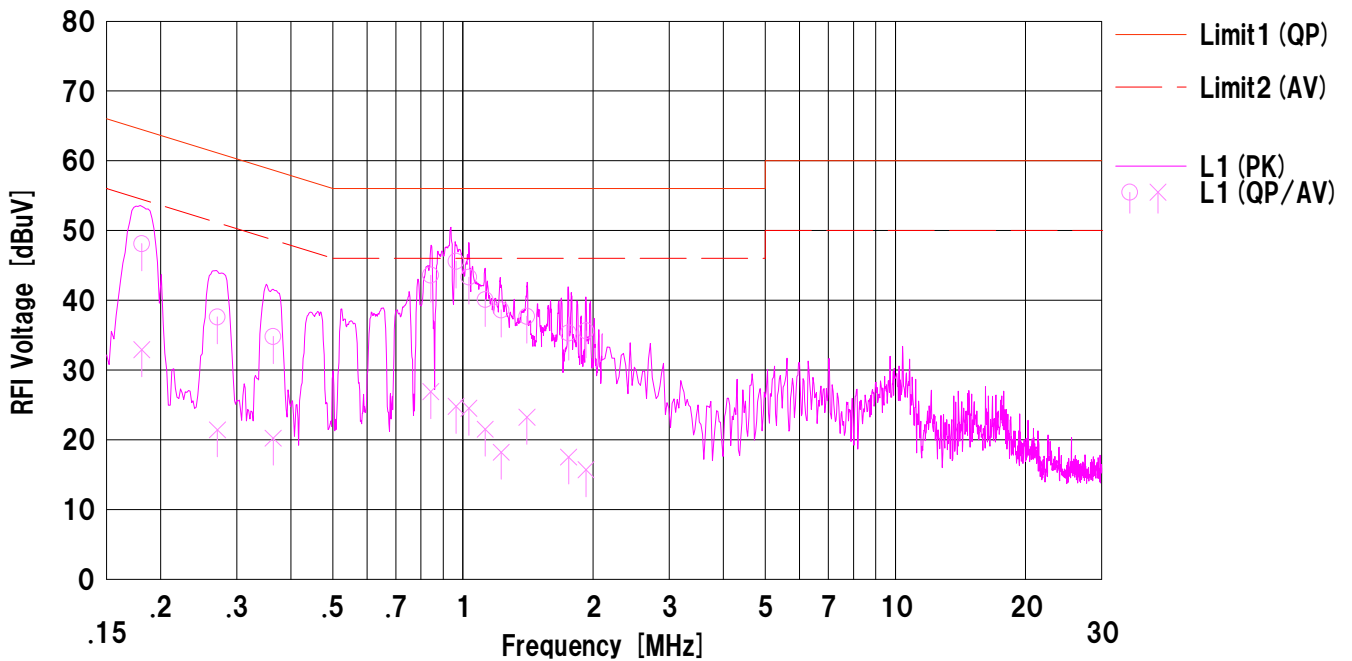
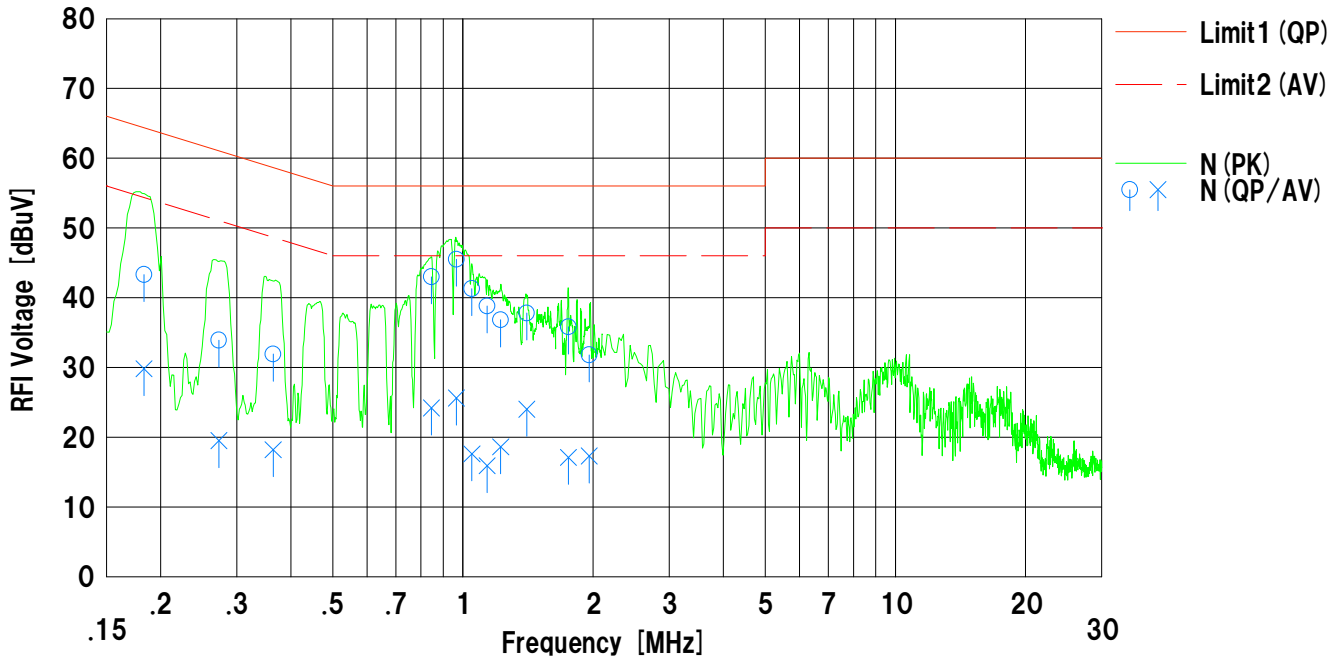
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

Company : NINTENDO CO., LTD  
 Kind of EUT : Refer to section 2.2  
 Model No. : KTR-001  
 Serial No. : 2  
 Remarks : (Nichicon's AC adaptor No.1) , X'tal A

Mode : Tx, IEEE802.11g, 2437MHz  
 Order No. : 10334250S  
 Power : AC 120V / 60Hz  
 Temp./Humi. : 25deg.C / 57%RH

Limit1 : FCC 15C (15.207) QP  
 Limit2 : FCC 15C (15.207) AV

Engineer : Akio Hayashi



Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
 LISN: SLS-02

# DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

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Engineer : Akio Hayashi

<< QP/AV DATA >>

No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.18310	30.5	17.0	12.8	43.3	29.8	64.3	54.3	21.0	24.5	N	
2	0.27255	21.1	6.7	12.8	33.9	19.5	61.0	51.0	27.1	31.5	N	
3	0.36415	19.1	5.4	12.8	31.9	18.2	58.6	48.6	26.7	30.4	N	
4	0.84580	30.2	11.4	12.8	43.0	24.2	56.0	46.0	13.0	21.8	N	
5	0.96580	32.6	12.7	12.9	45.5	25.6	56.0	46.0	10.5	20.4	N	
6	1.04926	28.4	4.7	12.9	41.3	17.6	56.0	46.0	14.7	28.4	N	
7	1.13725	25.9	3.0	12.9	38.8	15.9	56.0	46.0	17.2	30.1	N	
8	1.22280	23.9	5.7	12.9	36.8	18.6	56.0	46.0	19.2	27.4	N	
9	1.40380	24.9	11.1	12.9	37.8	24.0	56.0	46.0	18.2	22.0	N	
10	1.75303	22.8	4.1	13.0	35.8	17.1	56.0	46.0	20.2	28.9	N	
11	1.95860	18.8	4.3	13.0	31.8	17.3	56.0	46.0	24.2	28.7	N	
12	0.18085	35.3	20.1	12.8	48.1	32.9	64.4	54.4	16.3	21.5	L1	
13	0.27063	24.8	8.6	12.8	37.6	21.4	61.0	51.0	23.4	29.6	L1	
14	0.36400	22.0	7.4	12.8	34.8	20.2	58.6	48.6	23.8	28.4	L1	
15	0.84288	30.8	14.1	12.8	43.6	26.9	56.0	46.0	12.4	19.1	L1	
16	0.96413	32.7	11.9	12.9	45.6	24.8	56.0	46.0	10.4	21.2	L1	
17	1.03263	30.4	11.6	12.9	43.3	24.5	56.0	46.0	12.7	21.5	L1	
18	1.12625	27.2	8.6	12.9	40.1	21.5	56.0	46.0	15.9	24.5	L1	
19	1.22528	25.7	5.3	12.9	38.6	18.2	56.0	46.0	17.4	27.8	L1	
20	1.40588	24.8	10.3	12.9	37.7	23.2	56.0	46.0	18.3	22.8	L1	
21	1.75500	22.3	4.5	13.0	35.3	17.5	56.0	46.0	20.7	28.5	L1	
22	1.92613	22.6	2.7	13.0	35.6	15.7	56.0	46.0	20.4	30.3	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
LISN:SLS-02

# DATA OF CONDUCTED EMISSION TEST

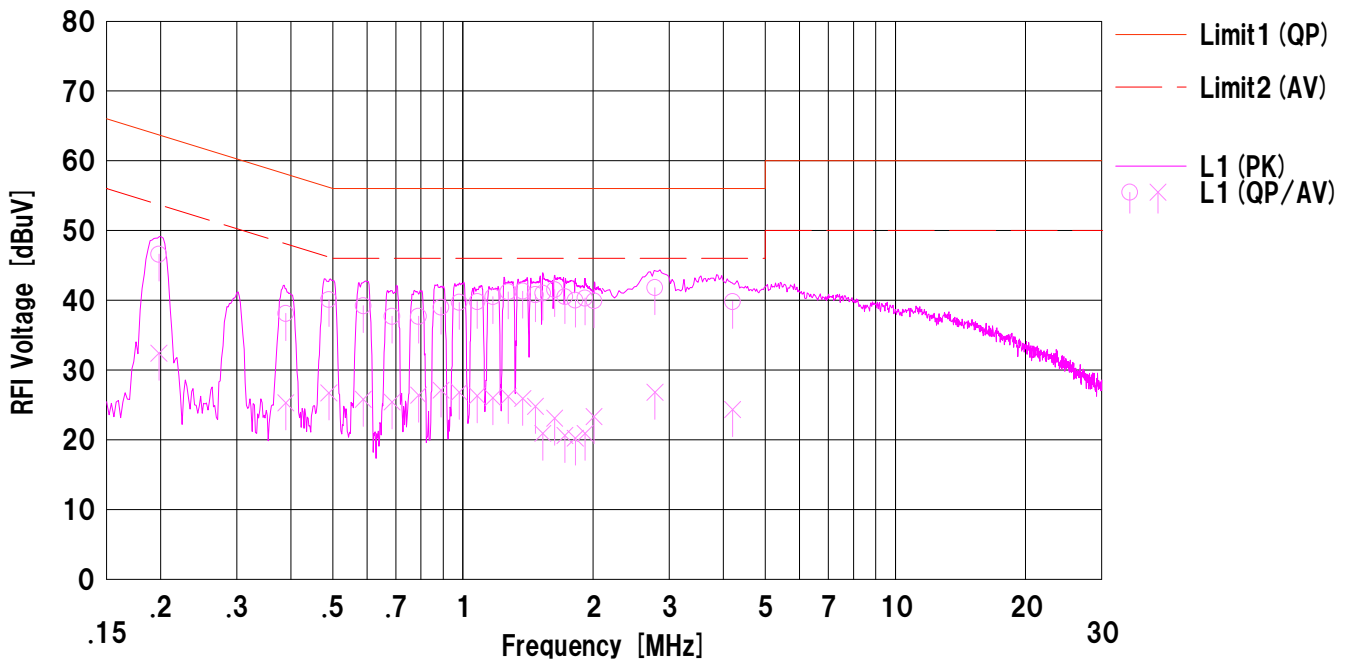
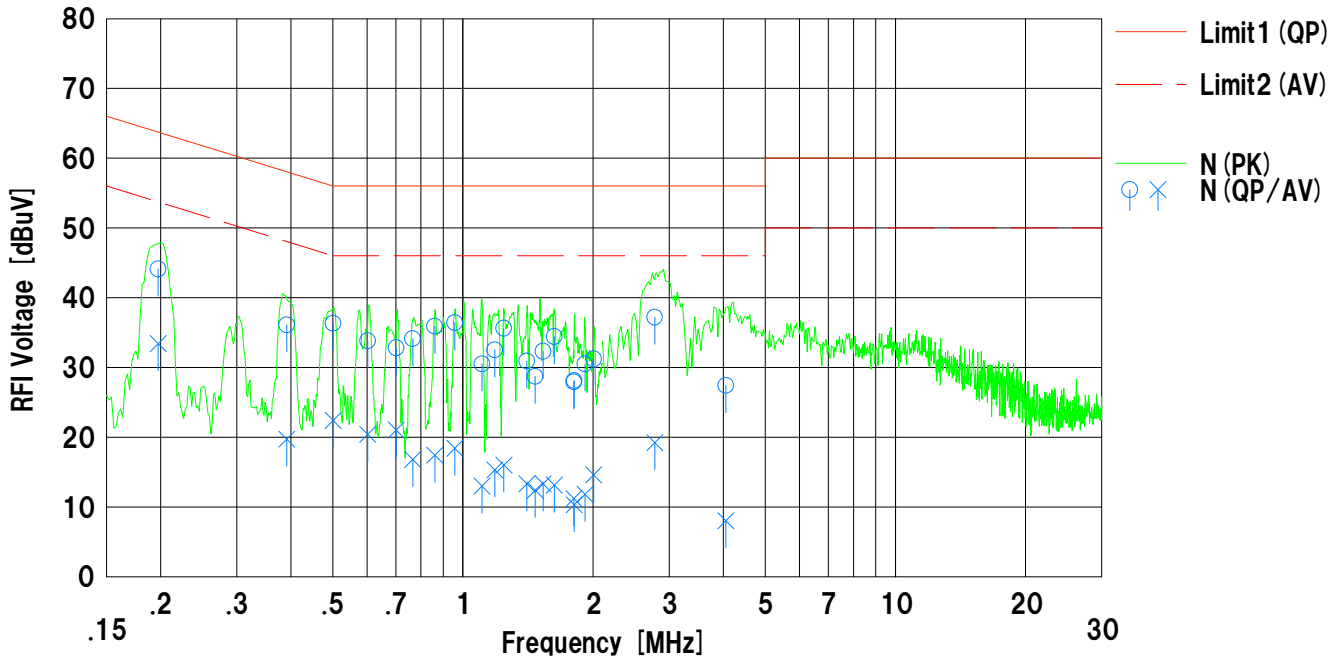
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

Company : NINTENDO CO., LTD  
 Kind of EUT : Refer to section 2.2  
 Model No. : KTR-001  
 Serial No. : 4  
 Remarks : (Mitsumi's AC adaptor No.1) , X'tal B

Mode : Tx, IEEE802.11g, 2437MHz  
 Order No. : 10334250S  
 Power : AC 120V / 60Hz  
 Temp./Humi. : 25deg.C / 57%RH

Limit1 : FCC 15C (15.207) QP  
 Limit2 : FCC 15C (15.207) AV

Engineer : Akio Hayashi



Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
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<< QP/AV DATA >>

No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.19751	31.3	20.6	12.8	44.1	33.4	63.7	53.7	19.6	20.3	N	
2	0.39160	23.3	6.9	12.8	36.1	19.7	58.0	48.0	21.9	28.3	N	
3	0.50123	23.5	9.6	12.8	36.3	22.4	56.0	46.0	19.7	23.6	N	
4	0.60226	21.0	7.6	12.8	33.8	20.4	56.0	46.0	22.2	25.6	N	
5	0.70110	20.0	8.2	12.8	32.8	21.0	56.0	46.0	23.2	25.0	N	
6	0.76561	21.3	4.0	12.8	34.1	16.8	56.0	46.0	21.9	29.2	N	
7	0.86080	23.1	4.6	12.8	35.9	17.4	56.0	46.0	20.1	28.6	N	
8	0.95780	23.5	5.5	12.9	36.4	18.4	56.0	46.0	19.6	27.6	N	
9	1.10710	17.6	0.1	12.9	30.5	13.0	56.0	46.0	25.5	33.0	N	
10	1.18500	19.6	2.4	12.9	32.5	15.3	56.0	46.0	23.5	30.7	N	
11	1.24430	22.7	3.1	12.9	35.6	16.0	56.0	46.0	20.4	30.0	N	
12	1.40630	18.0	0.4	12.9	30.9	13.3	56.0	46.0	25.1	32.7	N	
13	1.46940	15.8	-0.5	12.9	28.7	12.4	56.0	46.0	27.3	33.6	N	
14	1.53280	19.4	0.4	12.9	32.3	13.3	56.0	46.0	23.7	32.7	N	
15	1.62690	21.4	0.1	13.0	34.4	13.1	56.0	46.0	21.6	32.9	N	
16	1.80530	14.9	-1.8	13.0	27.9	11.2	56.0	46.0	28.1	34.8	N	
17	1.80790	15.1	-2.7	13.0	28.1	10.3	56.0	46.0	27.9	35.7	N	
18	1.91520	17.5	-1.2	13.0	30.5	11.8	56.0	46.0	25.5	34.2	N	
19	2.00680	18.2	1.6	13.0	31.2	14.6	56.0	46.0	24.8	31.4	N	
20	2.77590	24.1	6.1	13.1	37.2	19.2	56.0	46.0	18.8	26.8	N	
21	4.05600	14.2	-5.2	13.2	27.4	8.0	56.0	46.0	28.6	38.0	N	
22	0.19810	33.8	19.6	12.8	46.6	32.4	63.6	53.6	17.0	21.2	L1	
23	0.38925	25.3	12.5	12.8	38.1	25.3	58.0	48.0	19.9	22.7	L1	
24	0.48995	27.3	13.9	12.8	40.1	26.7	56.1	46.1	16.0	19.4	L1	
25	0.58817	26.4	13.0	12.8	39.2	25.8	56.0	46.0	16.8	20.2	L1	
26	0.68529	24.9	12.6	12.8	37.7	25.4	56.0	46.0	18.3	20.6	L1	
27	0.78985	24.9	13.6	12.8	37.7	26.4	56.0	46.0	18.3	19.6	L1	
28	0.89000	26.2	14.3	12.8	39.0	27.1	56.0	46.0	17.0	18.9	L1	
29	0.98120	26.8	13.9	12.9	39.7	26.8	56.0	46.0	16.3	19.2	L1	
30	1.07964	26.9	13.4	12.9	39.8	26.3	56.0	46.0	16.2	19.7	L1	
31	1.17300	27.6	13.1	12.9	40.5	26.0	56.0	46.0	15.5	20.0	L1	
32	1.27220	28.3	13.3	12.9	41.2	26.2	56.0	46.0	14.8	19.8	L1	
33	1.37580	28.4	13.0	12.9	41.3	25.9	56.0	46.0	14.7	20.1	L1	
34	1.47060	27.9	11.9	12.9	40.8	24.8	56.0	46.0	15.2	21.2	L1	
35	1.53020	28.1	8.0	12.9	41.0	20.9	56.0	46.0	15.0	25.1	L1	
36	1.63020	28.5	10.1	13.0	41.5	23.1	56.0	46.0	14.5	22.9	L1	
37	1.72220	27.5	7.6	13.0	40.5	20.6	56.0	46.0	15.5	25.4	L1	
38	1.81860	27.0	7.2	13.0	40.0	20.2	56.0	46.0	16.0	25.8	L1	
39	1.91460	27.3	7.9	13.0	40.3	20.9	56.0	46.0	15.7	25.1	L1	
40	2.01060	26.9	10.3	13.0	39.9	23.3	56.0	46.0	16.1	22.7	L1	
41	2.78120	28.7	13.7	13.1	41.8	26.8	56.0	46.0	14.2	19.2	L1	
42	4.20119	26.5	11.0	13.3	39.8	24.3	56.0	46.0	16.2	21.7	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
LISN: SLS-02

# DATA OF CONDUCTED EMISSION TEST

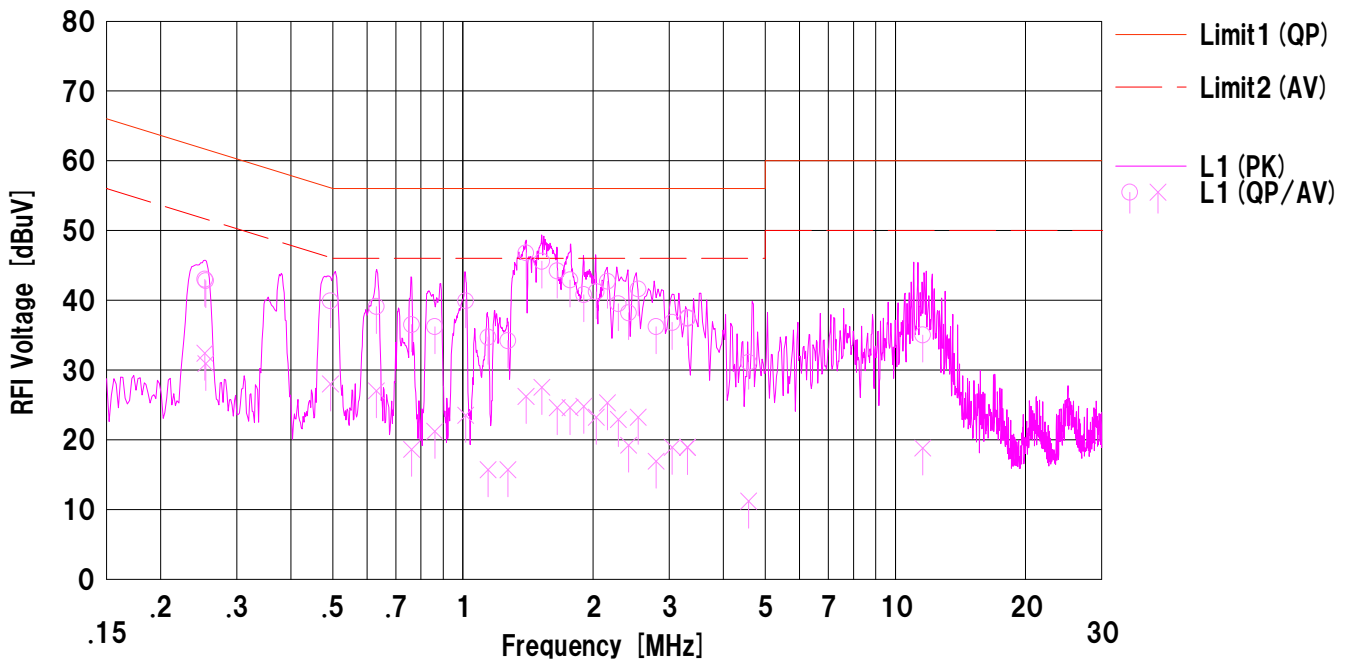
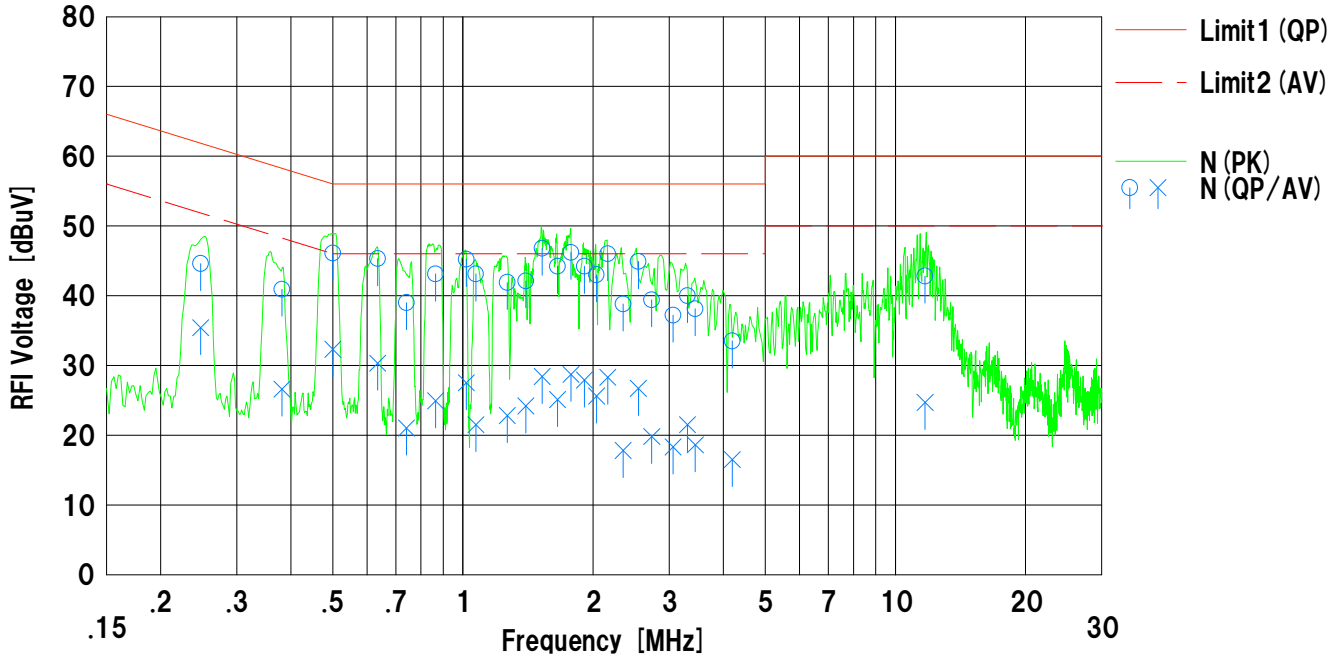
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

Company : NINTENDO CO., LTD  
 Kind of EUT : Refer to section 2.2  
 Model No. : KTR-001  
 Serial No. : 4  
 Remarks : (Tabuchii's AC adaptor No.1), X'tal B

Mode : Tx, IEEE802.11g, 2437MHz  
 Order No. : 10334250S  
 Power : AC 120V / 60Hz  
 Temp./Humi. : 25deg.C / 57%RH

Limit1 : FCC 15C (15.207) QP  
 Limit2 : FCC 15C (15.207) AV

Engineer : Akio Hayashi



Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
 LISN: SLS-02

# DATA OF CONDUCTED EMISSION TEST

UL Japan,Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

Company : NINTENDO CO., LTD  
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Limit1 : FCC 15C (15.207) QP  
Limit2 : FCC 15C (15.207) AV

Engineer : Akio Hayashi

<< QP/AV DATA >>

No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.24750	31.8	22.6	12.8	44.6	35.4	56.0	51.8	17.2	16.4	N	
2	0.38150	28.1	13.8	12.8	40.9	26.6	58.2	48.2	17.3	21.6	N	
3	0.50001	33.3	19.5	12.8	46.1	32.3	56.0	46.0	9.9	13.7	N	
4	0.63530	32.5	17.5	12.8	45.3	30.3	56.0	46.0	10.7	15.7	N	
5	0.74060	26.2	8.2	12.8	39.0	21.0	56.0	46.0	17.0	25.0	N	
6	0.86410	30.3	12.1	12.8	43.1	24.9	56.0	46.0	12.9	21.1	N	
7	1.01820	32.3	14.6	12.9	45.2	27.5	56.0	46.0	10.8	18.5	N	
8	1.07100	30.2	8.6	12.9	43.1	21.5	56.0	46.0	12.9	24.5	N	
9	1.26760	29.0	9.9	12.9	41.9	22.8	56.0	46.0	14.1	23.2	N	
10	1.39840	29.2	11.3	12.9	42.1	24.2	56.0	46.0	13.9	21.8	N	
11	1.52560	33.9	15.5	12.9	46.8	28.4	56.0	46.0	9.2	17.6	N	
12	1.65440	31.2	12.1	13.0	44.2	25.1	56.0	46.0	11.8	20.9	N	
13	1.77780	33.2	15.7	13.0	46.2	28.7	56.0	46.0	9.8	17.3	N	
14	1.91120	31.2	14.9	13.0	44.2	27.9	56.0	46.0	11.8	18.1	N	
15	2.03560	30.0	12.6	13.0	43.0	25.6	56.0	46.0	13.0	20.4	N	
16	2.16400	33.0	15.3	13.0	46.0	28.3	56.0	46.0	10.0	17.7	N	
17	2.34900	25.8	4.8	13.0	38.8	17.8	56.0	46.0	17.2	28.2	N	
18	2.54580	31.9	13.7	13.0	44.9	26.7	56.0	46.0	11.1	19.3	N	
19	2.73400	26.4	6.8	13.0	39.4	19.8	56.0	46.0	16.6	26.2	N	
20	3.06300	24.1	5.2	13.1	37.2	18.3	56.0	46.0	18.8	27.7	N	
21	3.30560	26.9	8.4	13.1	40.0	21.5	56.0	46.0	16.0	24.5	N	
22	3.44720	25.0	5.5	13.1	38.1	18.6	56.0	46.0	17.9	27.4	N	
23	4.19600	20.3	3.3	13.2	33.5	16.5	56.0	46.0	22.5	29.5	N	
24	11.71500	28.6	10.5	14.2	42.8	24.7	60.0	50.0	17.2	25.3	N	
25	0.25290	30.2	19.6	12.8	43.0	32.4	61.6	51.6	18.6	19.2	L1	
26	0.25430	30.0	18.1	12.8	42.8	30.9	61.6	51.6	18.8	20.7	L1	
27	0.49400	27.1	15.2	12.8	39.9	28.0	56.1	46.1	16.2	18.1	L1	
28	0.63080	26.3	14.2	12.8	39.1	27.0	56.0	46.0	16.9	19.0	L1	
29	0.76040	23.7	5.8	12.8	36.5	18.6	56.0	46.0	19.5	27.4	L1	
30	0.86104	23.4	8.4	12.8	36.2	21.2	56.0	46.0	19.8	24.8	L1	
31	1.01520	27.0	10.6	12.9	39.9	23.5	56.0	46.0	16.1	22.5	L1	
32	1.14280	21.8	2.8	12.9	34.7	15.7	56.0	46.0	21.3	30.3	L1	
33	1.27107	21.3	2.8	12.9	34.2	15.7	56.0	46.0	21.8	30.3	L1	
34	1.39920	33.9	13.3	12.9	46.8	26.2	56.0	46.0	9.2	19.8	L1	
35	1.52222	32.7	14.6	12.9	45.6	27.5	56.0	46.0	10.4	18.5	L1	
36	1.65246	31.2	11.6	13.0	44.2	24.6	56.0	46.0	11.8	21.4	L1	
37	1.76967	29.9	11.6	13.0	42.9	24.6	56.0	46.0	13.1	21.4	L1	
38	1.90404	27.8	11.8	13.0	40.8	24.8	56.0	46.0	15.2	21.2	L1	
39	2.03284	28.2	10.2	13.0	41.2	23.2	56.0	46.0	14.8	22.8	L1	
40	2.16086	29.7	12.3	13.0	42.7	25.3	56.0	46.0	13.3	20.7	L1	
41	2.28761	26.5	9.9	13.0	39.5	22.9	56.0	46.0	16.5	23.1	L1	
42	2.41560	25.2	6.2	13.0	38.2	19.2	56.0	46.0	17.8	26.8	L1	
43	2.54360	28.6	10.2	13.0	41.6	23.2	56.0	46.0	14.4	22.8	L1	
44	2.79662	23.1	3.8	13.1	36.2	16.9	56.0	46.0	19.8	29.1	L1	
45	3.04950	23.7	5.8	13.1	36.8	18.9	56.0	46.0	19.2	27.1	L1	
46	3.30525	24.4	5.8	13.1	37.5	18.9	56.0	46.0	18.5	27.1	L1	
47	3.30525	24.3	5.8	13.1	37.4	18.9	56.0	46.0	18.6	27.1	L1	
48	4.57600	17.8	-2.1	13.3	31.1	11.2	56.0	46.0	24.9	34.8	L1	

Calculation:Result [dBuV] =Reading [dBuV] +C.Fac (LISN+Cable+ATT) [dB]  
LISN:SLS-02

# DATA OF CONDUCTED EMISSION TEST

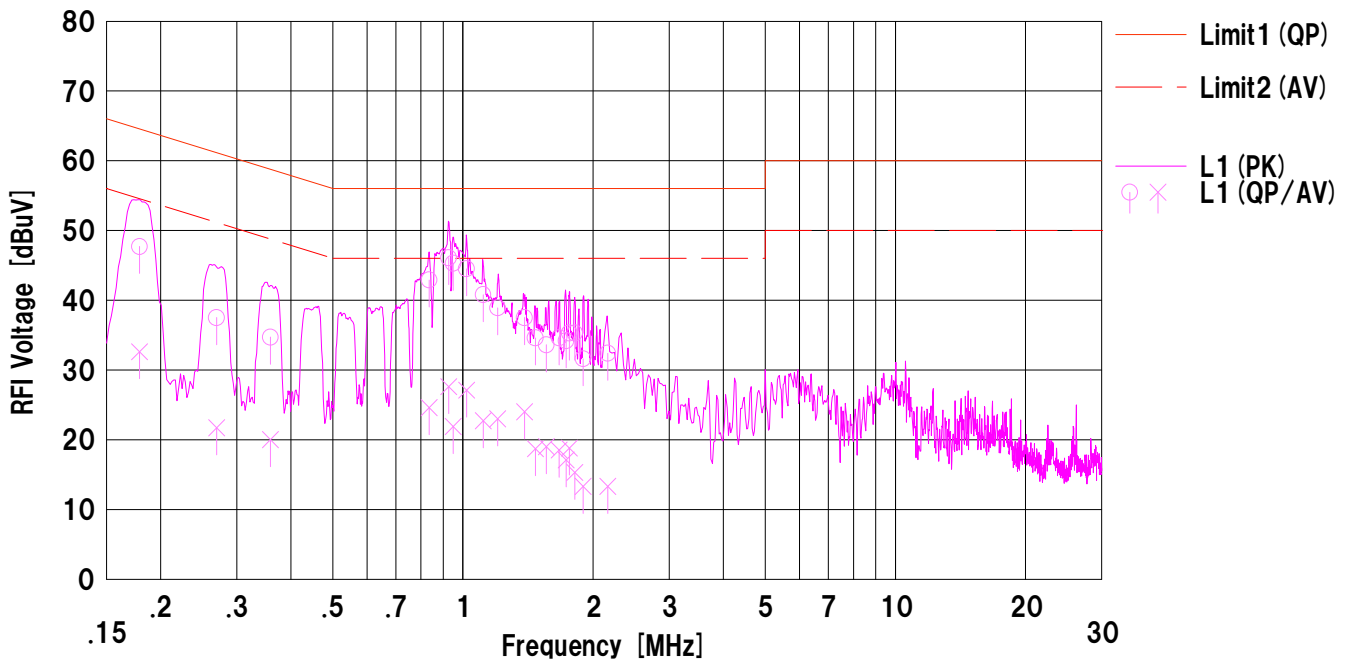
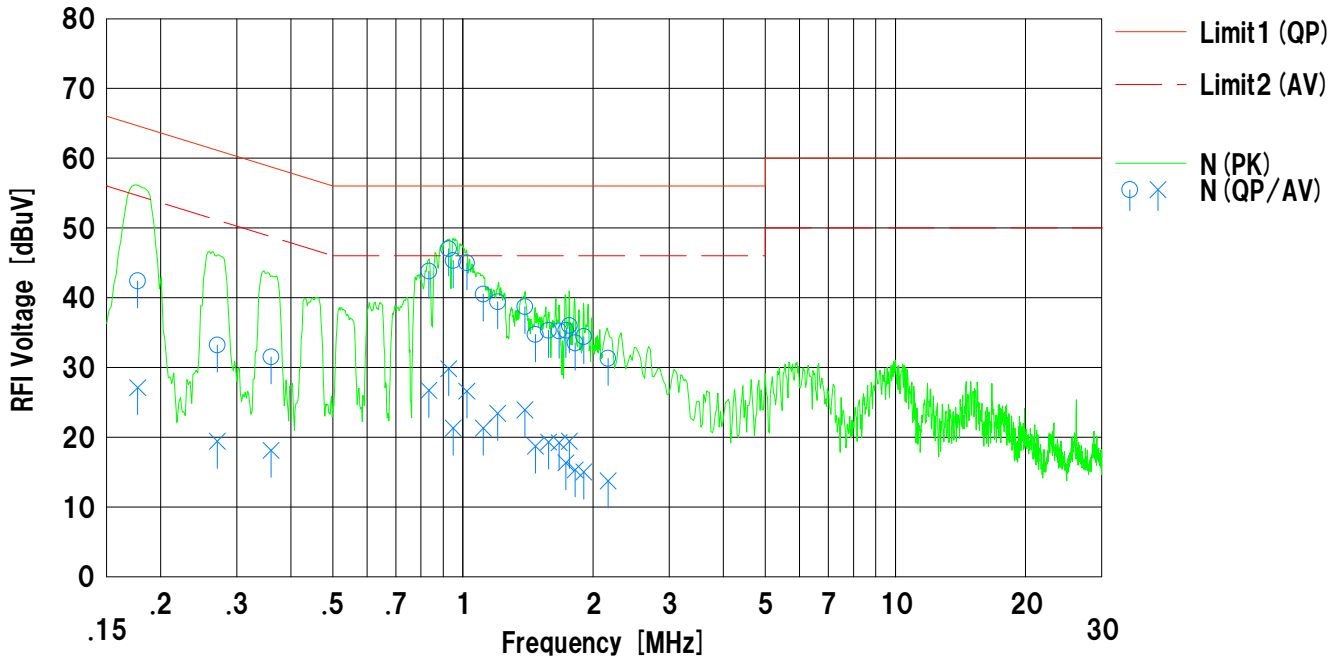
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

Company : NINTENDO CO., LTD  
 Kind of EUT : Refer to section 2.2  
 Model No. : KTR-001  
 Serial No. : 4  
 Remarks : (Nichicon's AC adaptor No.1) , X'tal B

Mode : Tx, IEEE802.11g, 2437MHz  
 Order No. : 10334250S  
 Power : AC 120V / 60Hz  
 Temp./Humi. : 25deg.C / 57%RH

Limit1 : FCC 15C (15.207) QP  
 Limit2 : FCC 15C (15.207) AV

Engineer : Akio Hayashi



Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
 LISN: SLS-02



# DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2014/06/25

Company : NINTENDO CO., LTD  
Kind of EUT : Refer to section 2.2  
Model No. : KTR-001  
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Limit1 : FCC 15C (15.207) QP  
Limit2 : FCC 15C (15.207) AV

Engineer : Akio Hayashi

<< QP/AV DATA >>

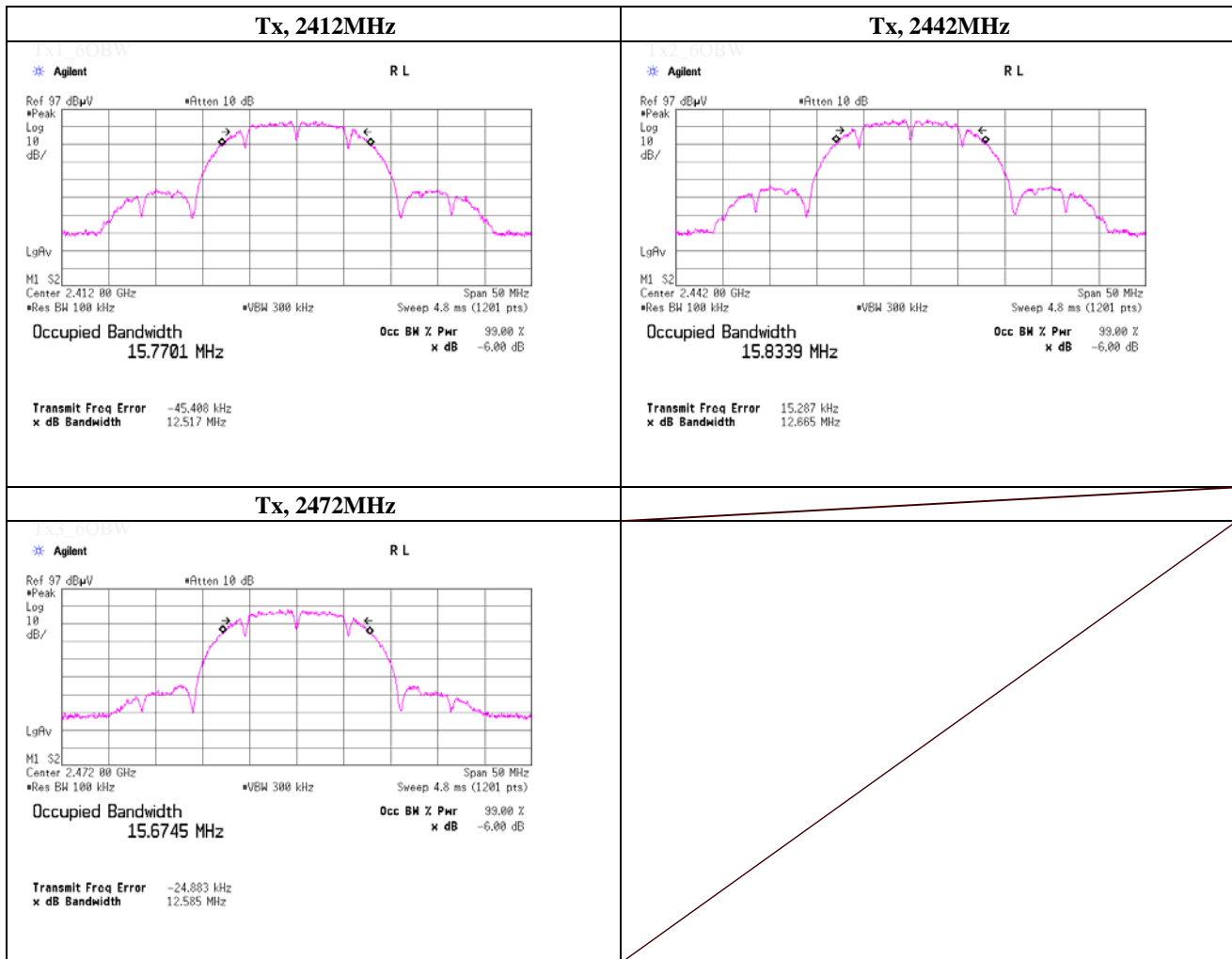
No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.17705	29.6	14.3	12.8	42.4	27.1	64.6	54.6	22.2	27.5	N	
2	0.27040	20.4	6.6	12.8	33.2	19.4	61.1	51.1	27.9	31.7	N	
3	0.36015	18.7	5.3	12.8	31.5	18.1	58.7	48.7	27.2	30.6	N	
4	0.83430	31.0	13.9	12.8	43.8	26.7	56.0	46.0	12.2	19.3	N	
5	0.92695	34.2	17.0	12.8	47.0	29.8	56.0	46.0	9.0	16.2	N	
6	0.94920	32.5	8.5	12.8	45.3	21.3	56.0	46.0	10.7	24.7	N	
7	1.02070	32.1	13.7	12.9	45.0	26.6	56.0	46.0	11.0	19.4	N	
8	1.11480	27.6	8.4	12.9	40.5	21.3	56.0	46.0	15.5	24.7	N	
9	1.20360	26.5	10.5	12.9	39.4	23.4	56.0	46.0	16.6	22.6	N	
10	1.39040	25.8	11.0	12.9	38.7	23.9	56.0	46.0	17.3	22.1	N	
11	1.47080	21.8	5.8	12.9	34.7	18.7	56.0	46.0	21.3	27.3	N	
12	1.57720	22.3	6.3	13.0	35.3	19.3	56.0	46.0	20.7	26.7	N	
13	1.66840	22.2	6.2	13.0	35.2	19.2	56.0	46.0	20.8	26.8	N	
14	1.73020	22.3	3.3	13.0	35.3	16.3	56.0	46.0	20.7	29.7	N	
15	1.76220	23.0	6.4	13.0	36.0	19.4	56.0	46.0	20.0	26.6	N	
16	1.81760	20.5	2.3	13.0	33.5	15.3	56.0	46.0	22.5	30.7	N	
17	1.90240	21.4	2.0	13.0	34.4	15.0	56.0	46.0	21.6	31.0	N	
18	2.16520	18.3	0.7	13.0	31.3	13.7	56.0	46.0	24.7	32.3	N	
19	0.17880	34.9	19.8	12.8	47.7	32.6	64.5	54.5	16.8	21.9	L1	
20	0.26955	24.7	8.9	12.8	37.5	21.7	61.1	51.1	23.6	29.4	L1	
21	0.35895	21.9	7.2	12.8	34.7	20.0	58.7	48.7	24.0	28.7	L1	
22	0.83545	30.1	11.8	12.8	42.9	24.6	56.0	46.0	13.1	21.4	L1	
23	0.92665	33.3	14.8	12.8	46.1	27.6	56.0	46.0	9.9	18.4	L1	
24	0.94906	32.5	9.1	12.8	45.3	21.9	56.0	46.0	10.7	24.1	L1	
25	1.01960	31.6	14.2	12.9	44.5	27.1	56.0	46.0	11.5	18.9	L1	
26	1.11345	27.9	9.8	12.9	40.8	22.7	56.0	46.0	15.2	23.3	L1	
27	1.20400	26.0	10.1	12.9	38.9	23.0	56.0	46.0	17.1	23.0	L1	
28	1.38870	24.6	11.1	12.9	37.5	24.0	56.0	46.0	18.5	22.0	L1	
29	1.47083	21.7	5.8	12.9	34.6	18.7	56.0	46.0	21.4	27.3	L1	
30	1.55960	20.6	6.0	13.0	33.6	19.0	56.0	46.0	22.4	27.0	L1	
31	1.66880	21.6	5.5	13.0	34.6	18.5	56.0	46.0	21.4	27.5	L1	
32	1.73320	21.2	4.1	13.0	34.2	17.1	56.0	46.0	21.8	28.9	L1	
33	1.76160	22.3	5.8	13.0	35.3	18.8	56.0	46.0	20.7	27.2	L1	
34	1.81540	22.3	2.3	13.0	35.3	15.3	56.0	46.0	20.7	30.7	L1	
35	1.89740	18.6	0.3	13.0	31.6	13.3	56.0	46.0	24.4	32.7	L1	
36	2.16160	19.4	0.3	13.0	32.4	13.3	56.0	46.0	23.6	32.7	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable+ATT) [dB]  
LISN: SLS-02

### -6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 10, 2014	
Temperature / Humidity	26deg.C , 53%RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11b, PN9, worst data mode 2Mbps	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2412.0000	12.517	> 0.500
2442.0000	12.665	> 0.500
2472.0000	12.585	> 0.500

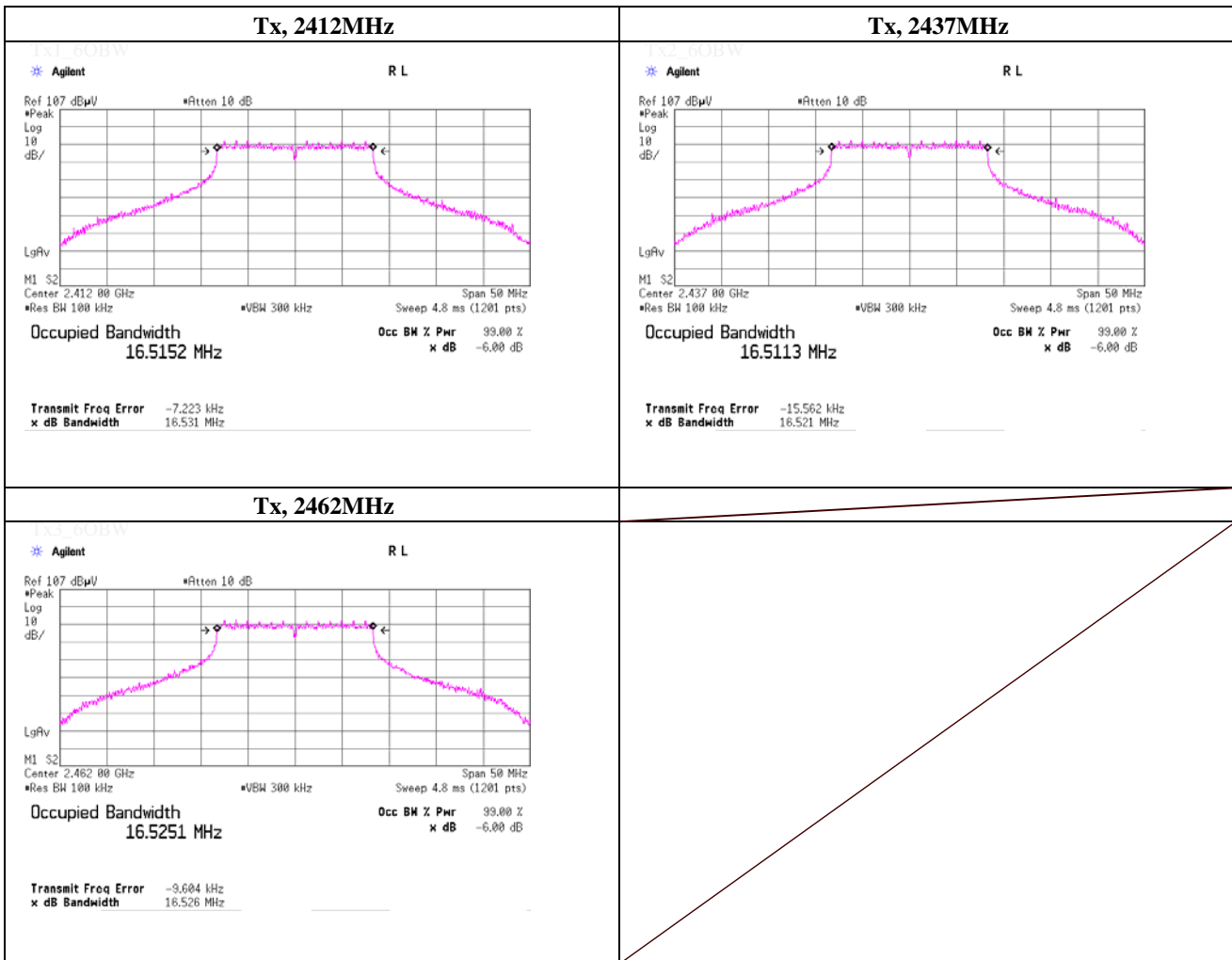


**UL Japan, Inc.**  
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 1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN  
 Telephone : +81 463 50 6400  
 Facsimile : +81 463 50 6401

### -6dB Bandwidth

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 10, 2014	
Temperature / Humidity	26deg.C , 53%RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11g, PN9, worst data mode 24Mbps	

Freq. [MHz]	-6dB Bandwidth [MHz]	Limit [MHz]
2412.0000	16.531	> 0.500
2437.0000	16.521	> 0.500
2462.0000	16.526	> 0.500



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## Radiated Emission

Test place            No.2 Semi Anechoic Chamber  
 Date                    June 17,2014  
 Temperature / Humidity    22 deg.C, 52 %RH  
 Engineer                Tatsuya Arai  
 Mode                    Tx, IEEE802.11g, PN9,                2437 MHz  
 Remarks                X'tal A                                Mitsumi AC adaptor

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	104.735	QP	46.2	10.9	7.9	31.9	33.1	43.5	<b>10.4</b>	299	226	
Hori.	242.197	QP	36.5	17.0	9.2	31.7	31.0	46.0	15.0	150	295	
Hori.	327.295	QP	39.4	14.5	6.7	31.7	28.9	46.0	17.1	100	75	
Hori.	346.929	QP	38.3	14.9	6.8	31.7	28.3	46.0	17.7	100	52	
Vert.	45.831	QP	39.0	12.0	7.2	31.9	26.3	40.0	13.7	100	186	
Vert.	104.736	QP	46.2	10.9	7.9	31.9	33.1	43.5	<b>10.4</b>	100	306	
Vert.	307.665	QP	34.0	14.0	6.5	31.7	22.8	46.0	23.2	100	22	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator) - Gain(Amplifier)

**UL Japan, Inc.**

**Shonan EMC Lab.**

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa 259-1220 JAPAN

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Facsimile : +81 463 50 6401



## Radiated Emission

Test place            No.2 Semi Anechoic Chamber  
 Date                    June 17,2014  
 Temperature / Humidity    22 deg.C, 52 %RH  
 Engineer                Tatsuya Arai  
 Mode                    Tx, IEEE802.11g, PN9,                    2437 MHz  
 Remarks                X'tal A                                        Nichicon AC adaptor

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	104.736	QP	49.3	10.9	7.9	31.9	36.2	43.5	7.3	304	189	
Hori.	242.197	QP	32.1	17.0	9.2	31.7	26.6	46.0	19.4	150	115	
Hori.	268.116	QP	35.8	18.1	9.4	31.7	31.6	46.0	14.4	133	142	
Hori.	353.468	QP	34.6	15.1	6.8	31.7	24.8	46.0	21.2	100	191	
Vert.	52.369	QP	43.0	9.9	7.2	31.9	28.2	40.0	11.8	100	186	
Vert.	104.729	QP	48.0	10.9	7.9	31.9	34.9	43.5	8.6	100	136	
Vert.	327.306	QP	33.6	14.5	6.7	31.7	23.1	46.0	22.9	100	156	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator) - Gain(Amplifier)

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**Shonan EMC Lab.**

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## Radiated Emission

Test place            No.2 Semi Anechoic Chamber  
 Date                    June 17,2014  
 Temperature / Humidity    22 deg.C, 52 %RH  
 Engineer                Tatsuya Arai  
 Mode                    Tx, IEEE802.11g, PN9,                2437 MHz  
 Remarks                X'tal A                                Tabuchi AC adaptor

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	98.189	QP	41.2	9.9	8.0	31.9	27.2	43.5	16.3	200	222	
Hori.	101.439	QP	38.0	10.4	7.9	31.9	24.4	43.5	19.1	200	221	
Hori.	104.733	QP	44.4	10.9	7.9	31.9	31.3	43.5	<b>12.2</b>	300	226	
Hori.	327.297	QP	39.7	14.5	6.7	31.7	29.2	46.0	16.8	100	71	
Vert.	98.197	QP	39.3	9.9	8.0	31.9	25.3	43.5	18.2	258	107	
Vert.	130.918	QP	36.0	13.8	8.1	31.8	26.1	43.5	17.4	100	85	
Vert.	335.140	QP	31.3	14.6	6.7	31.7	20.9	46.0	25.1	100	166	
Vert.	402.176	QP	27.0	16.2	7.1	31.7	18.6	46.0	27.4	100	292	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator) - Gain(Amplifier)

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## Radiated Emission

Test place            No.2 Semi Anechoic Chamber  
 Date                    June 17,2014  
 Temperature / Humidity    22 deg.C, 52 %RH  
 Engineer                Tatsuya Arai  
 Mode                    Tx, IEEE802.11g, PN9,                2437 MHz  
 Remarks                X'tal B                                Mitsumi AC adaptor

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	242.193	QP	35.5	17.0	9.2	31.7	30.0	46.0	16.0	150	311	
Hori.	248.745	QP	34.5	17.2	9.3	31.7	29.3	46.0	16.7	140	125	
Hori.	268.111	QP	35.8	18.1	9.4	31.7	31.6	46.0	<b>14.4</b>	129	349	
Hori.	335.136	QP	39.5	14.6	6.7	31.7	29.1	46.0	16.9	100	36	
Vert.	45.830	QP	36.6	12.0	7.2	31.9	23.9	40.0	16.1	100	338	
Vert.	229.101	QP	32.5	16.8	9.1	31.7	26.7	46.0	19.3	100	4	
Vert.	327.297	QP	29.0	14.5	6.7	31.7	18.5	46.0	27.5	100	356	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator) - Gain(Amplifier)

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## Radiated Emission

Test place            No.2 Semi Anechoic Chamber  
 Date                    June 17,2014  
 Temperature / Humidity    22 deg.C, 52 %RH  
 Engineer                Tatsuya Arai  
 Mode                    Tx, IEEE802.11g, PN9,                2437 MHz  
 Remarks                X'tal B                                Nichicon AC adaptor

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	242.192	QP	35.0	17.0	9.2	31.7	29.5	46.0	16.5	140	285	
Hori.	268.111	QP	38.0	18.1	9.4	31.7	33.8	46.0	<b>12.2</b>	130	290	
Hori.	327.281	QP	39.5	14.5	6.7	31.7	29.0	46.0	17.0	100	182	
Vert.	45.832	QP	34.4	12.0	7.2	31.9	21.7	40.0	18.3	100	208	
Vert.	104.711	QP	35.8	10.9	7.9	31.9	22.7	43.5	20.8	100	121	
Vert.	111.272	QP	34.3	11.8	7.9	31.9	22.1	43.5	21.4	100	100	
Vert.	320.759	QP	30.3	14.3	6.6	31.7	19.5	46.0	26.5	100	248	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator) - Gain(Amplifier)

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## Radiated Emission

Test place            No.2 Semi Anechoic Chamber  
 Date                    June 17,2014  
 Temperature / Humidity    22 deg.C, 52 %RH  
 Engineer                Tatsuya Arai  
 Mode                    Tx, IEEE802.11g, PN9,                2437 MHz  
 Remarks                X'tal B                                Tabuchi AC adaptor

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	235.747	QP	35.5	16.9	9.2	31.7	29.9	46.0	16.1	150	104	
Hori.	242.193	QP	37.0	17.0	9.2	31.7	31.5	46.0	<b>14.5</b>	150	295	
Hori.	346.924	QP	37.3	14.9	6.8	31.7	27.3	46.0	18.7	100	55	
Vert.	45.834	QP	32.3	12.0	7.2	31.9	19.6	40.0	20.4	100	195	
Vert.	222.554	QP	32.3	16.7	9.1	31.8	26.3	46.0	19.7	100	359	
Vert.	229.276	QP	33.3	16.8	9.1	31.7	27.5	46.0	18.5	100	12	
Vert.	327.270	QP	28.0	14.5	6.7	31.7	17.5	46.0	28.5	100	77	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator) - Gain(Amplifier)

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## Radiated Emission

Test place            No.3 Semi Anechoic Chamber  
 Date                    June 15,2014                    June 19,2014                    June 25,2014  
 Temperature / Humidity    23 deg.C, 49 %RH            25 deg.C, 50 %RH            22 deg.C, 50 %RH  
 Engineer                Kenichi Adachi                    Shinichi Takano                    Akio Hayshi  
 Mode                    Tx, IEEE802.11b, PN9,            2412 MHz  
 Remarks                X'tal A

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	45.2	26.8	14.6	41.1	45.5	73.9	28.4	100	229	
Hori.	3215.976	PK	47.8	28.2	6.5	40.8	41.7	73.9	32.2	108	235	
Hori.	4824.000	PK	44.9	31.1	7.5	39.8	43.7	73.9	30.2	100	0	
Hori.	7236.000	PK	46.0	37.1	8.6	40.2	51.5	73.9	22.4	100	0	
Hori.	9648.000	PK	46.4	38.6	9.6	40.1	54.5	73.9	19.4	100	0	
Hori.	2390.000	AV	36.2	26.8	14.6	41.1	36.5	53.9	17.4	100	229	
Hori.	3215.976	AV	40.4	28.2	6.5	40.8	34.3	53.9	19.6	108	235	
Hori.	4824.000	AV	36.6	31.1	7.5	39.8	35.4	53.9	18.5	100	0	
Hori.	7236.000	AV	37.5	37.1	8.6	40.2	43.0	53.9	10.9	100	0	
Hori.	9648.000	AV	36.8	38.6	9.6	40.1	44.9	53.9	<b>9.0</b>	100	0	
Vert.	2390.000	PK	45.1	26.8	14.6	41.1	45.4	73.9	28.5	106	267	
Vert.	3215.976	PK	48.2	28.2	6.5	40.8	42.1	73.9	31.8	102	114	
Vert.	4824.000	PK	44.8	31.1	7.5	39.8	43.6	73.9	30.3	100	0	
Vert.	7236.000	PK	46.1	37.1	8.6	40.2	51.6	73.9	22.3	100	0	
Vert.	9648.000	PK	46.3	38.6	9.6	40.1	54.4	73.9	19.5	100	0	
Vert.	2390.000	AV	36.1	26.8	14.6	41.1	36.4	53.9	17.5	106	267	
Vert.	3215.976	AV	41.4	28.2	6.5	40.8	35.3	53.9	18.6	102	114	
Vert.	4824.000	AV	36.5	31.1	7.5	39.8	35.3	53.9	18.6	100	0	
Vert.	7236.000	AV	37.6	37.1	8.6	40.2	43.1	53.9	10.8	100	0	
Vert.	9648.000	AV	36.7	38.6	9.6	40.1	44.8	53.9	9.1	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz) - Gain(Amplifier)

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

**20dBc Data Sheet (RBW 100kHz, VBW 300kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	88.9	26.8	14.6	41.1	89.2	-	-	
Hori.	2396.693	PK	50.7	26.8	14.6	41.1	51.0	69.2	18.2	
Hori.	2400.000	PK	47.0	26.8	14.6	41.1	47.3	69.2	21.9	
Vert.	2412.000	PK	84.6	26.8	14.6	41.1	84.9	-	-	
Vert.	2396.693	PK	45.4	26.8	14.6	41.1	45.7	64.9	19.2	
Vert.	2400.000	PK	42.0	26.8	14.6	41.1	42.3	64.9	22.6	

Result = Reading + Ant.Fac. + Loss(Cable+Attenuator) - Gain(Amplifier)

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## Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	June 15,2014	June 19,2014	June 25,2014
Temperature / Humidity	23 deg.C, 49 %RH	25 deg.C, 50 %RH	22 deg.C, 50 %RH
Engineer	Kenichi Adachi	Shinichi Takano	Akio Hayshi
Mode	Tx, IEEE802.11b, PN9,	2442 MHz	
Remarks	X'tal A		

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3255.982	PK	45.8	28.1	6.5	40.9	39.5	73.9	34.4	100	229	
Hori.	4884.000	PK	44.3	31.4	7.4	39.7	43.4	73.9	30.5	100	0	
Hori.	7326.000	PK	46.7	37.2	8.6	40.3	52.2	73.9	21.7	100	0	
Hori.	9768.000	PK	45.7	38.8	9.6	40.0	54.1	73.9	19.8	100	0	
Hori.	3255.982	AV	37.6	28.1	6.5	40.9	31.3	53.9	22.6	100	229	
Hori.	4884.000	AV	36.2	31.4	7.4	39.7	35.3	53.9	18.6	100	0	
Hori.	7326.000	AV	37.7	37.2	8.6	40.3	43.2	53.9	10.7	100	0	
Hori.	9768.000	AV	36.6	38.8	9.6	40.0	45.0	53.9	8.9	100	0	
Vert.	3255.982	PK	46.4	28.1	6.5	40.9	40.1	73.9	33.8	100	117	
Vert.	4884.000	PK	44.4	31.4	7.4	39.7	43.5	73.9	30.4	100	0	
Vert.	7326.000	PK	46.6	37.2	8.6	40.3	52.1	73.9	21.8	100	0	
Vert.	9768.000	PK	45.6	38.8	9.6	40.0	54.0	73.9	19.9	100	0	
Vert.	3255.982	AV	38.5	28.1	6.5	40.9	32.2	53.9	21.7	100	117	
Vert.	4884.000	AV	36.3	31.4	7.4	39.7	35.4	53.9	18.5	100	0	
Vert.	7326.000	AV	37.6	37.2	8.6	40.3	43.1	53.9	10.8	100	0	
Vert.	9768.000	AV	36.7	38.8	9.6	40.0	45.1	53.9	<b>8.8</b>	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier)

Distance factor : 15GHz -40GHz :  $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$ 

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## Radiated Emission

Test place            No.3 Semi Anechoic Chamber  
Date                    June 15,2014                    June 19,2014                    June 25,2014  
Temperature / Humidity    23 deg.C, 49 %RH            25 deg.C, 50 %RH            22 deg.C, 50 %RH  
Engineer                Kenichi Adachi                    Shinichi Takano                    Akio Hayshi  
Mode                    Tx, IEEE802.11b, PN9,            2472 MHz  
Remarks                X'tal A

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	46.1	26.9	14.7	41.1	46.6	73.9	27.3	100	236	
Hori.	2484.347	PK	47.6	26.9	14.7	41.1	48.1	73.9	25.8	100	236	
Hori.	3295.979	PK	45.8	28.1	6.5	40.9	39.5	73.9	34.4	100	241	
Hori.	4944.000	PK	44.8	31.7	7.5	39.6	44.4	73.9	29.5	100	0	
Hori.	7416.000	PK	46.3	37.3	8.8	40.4	52.0	73.9	21.9	100	0	
Hori.	9888.000	PK	46.0	38.9	9.6	39.9	54.6	73.9	19.3	100	0	
Hori.	2483.500	AV	39.1	26.9	14.7	41.1	39.6	53.9	14.3	100	236	
Hori.	2484.347	AV	41.4	26.9	14.7	41.1	41.9	53.9	12.0	100	236	
Hori.	3295.979	AV	37.8	28.1	6.5	40.9	31.5	53.9	22.4	100	241	
Hori.	4944.000	AV	36.6	31.7	7.5	39.6	36.2	53.9	17.7	100	0	
Hori.	7416.000	AV	37.7	37.3	8.8	40.4	43.4	53.9	10.5	100	0	
Hori.	9888.000	AV	36.9	38.9	9.6	39.9	45.5	53.9	8.4	100	0	
Vert.	2483.500	PK	44.9	26.9	14.7	41.1	45.4	73.9	28.5	104	254	
Vert.	2484.347	PK	46.3	26.9	14.7	41.1	46.8	73.9	27.1	104	254	
Vert.	3295.979	PK	46.2	28.1	6.5	40.9	39.9	73.9	34.0	100	116	
Vert.	4944.000	PK	44.7	31.7	7.5	39.6	44.3	73.9	29.6	100	0	
Vert.	7416.000	PK	46.4	37.3	8.8	40.4	52.1	73.9	21.8	100	0	
Vert.	9888.000	PK	46.1	38.9	9.6	39.9	54.7	73.9	19.2	100	0	
Vert.	2483.500	AV	37.9	26.9	14.7	41.1	38.4	53.9	15.5	104	254	
Vert.	2484.347	AV	39.2	26.9	14.7	41.1	39.7	53.9	14.2	104	254	
Vert.	3295.979	AV	38.7	28.1	6.5	40.9	32.4	53.9	21.5	100	116	
Vert.	4944.000	AV	36.5	31.7	7.5	39.6	36.1	53.9	17.8	100	0	
Vert.	7416.000	AV	37.8	37.3	8.8	40.4	43.5	53.9	10.4	100	0	
Vert.	9888.000	AV	37.0	38.9	9.6	39.9	45.6	53.9	<b>8.3</b>	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier)

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

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## Radiated Emission

Test place No.3 Semi Anechoic Chamber  
 Date June 15,2014 June 19,2014 June 25,2014  
 Temperature / Humidity 23 deg.C, 49 %RH 25 deg.C, 50 %RH 22 deg.C, 50 %RH  
 Engineer Kenichi Adachi Shinichi Takano Akio Hayshi  
 Mode Tx, IEEE802.11g, PN9, 2412 MHz  
 Remarks X'tal A

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	49.2	26.8	14.6	41.1	49.5	73.9	24.4	100	235	
Hori.	3215.982	PK	47.7	28.2	6.5	40.8	41.6	73.9	32.3	104	227	
Hori.	4824.000	PK	44.8	31.1	7.5	39.8	43.6	73.9	30.3	100	0	
Hori.	7236.000	PK	46.0	37.1	8.6	40.2	51.5	73.9	22.4	100	0	
Hori.	9648.000	PK	46.3	38.6	9.6	40.1	54.4	73.9	19.5	100	0	
Hori.	2390.000	AV	38.7	26.8	14.6	41.1	39.0	53.9	<b>14.9</b>	100	235	
Hori.	3215.982	AV	40.5	28.2	6.5	40.8	34.4	53.9	19.5	104	227	
Vert.	2390.000	PK	44.8	26.8	14.6	41.1	45.1	73.9	28.8	105	268	
Vert.	3215.982	PK	48.0	28.2	6.5	40.8	41.9	73.9	32.0	103	119	
Vert.	4824.000	PK	44.9	31.1	7.5	39.8	43.7	73.9	30.2	100	0	
Vert.	7236.000	PK	46.1	37.1	8.6	40.2	51.6	73.9	22.3	100	0	
Vert.	9648.000	PK	46.4	38.6	9.6	40.1	54.5	73.9	19.4	100	0	
Vert.	2390.000	AV	36.3	26.8	14.6	41.1	36.6	53.9	17.3	105	268	
Vert.	3215.982	AV	41.2	28.2	6.5	40.8	35.1	53.9	18.8	103	119	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier)

Distance factor : 15GHz -40GHz :  $20\log(3.0m/1.0m) = 9.5dB$ **Average measurement value with duty factor**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4824.000	AV	36.5	31.1	7.5	39.8	0.1	35.4	53.9	18.5	
Hori.	7236.000	AV	37.5	37.1	8.6	40.2	0.1	43.1	53.9	10.8	
Hori.	9648.000	AV	36.7	38.6	9.6	40.1	0.1	44.9	53.9	9.0	
Vert.	4824.000	AV	36.6	31.1	7.5	39.8	0.1	35.5	53.9	18.4	
Vert.	7236.000	AV	37.6	37.1	8.6	40.2	0.1	43.2	53.9	10.7	
Vert.	9648.000	AV	36.8	38.6	9.6	40.1	0.1	45.0	53.9	<b>8.9</b>	

Result = Reading + Ant.Fac. + Loss (Cable+Filter(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier) + Duty factor

Distance factor : 15GHz -40GHz :  $20\log(3.0m/1.0m) = 9.5dB$ **20dBc Data Sheet (RBW 100kHz, VBW 300kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	86.7	26.8	14.6	41.1	87.0	-	-	
Hori.	2400.000	PK	56.1	26.8	14.6	41.1	56.4	67.0	10.6	
Vert.	2412.000	PK	82.3	26.8	14.6	41.1	82.6	-	-	
Vert.	2400.000	PK	52.6	26.8	14.6	41.1	52.9	62.6	9.7	

Result = Reading + Ant.Fac. + Loss(Cable+Attenuator) - Gain(Amplifier)

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## Radiated Emission

Test place            No.3 Semi Anechoic Chamber  
Date                    June 15,2014                    June 19,2014                    June 25,2014  
Temperature / Humidity    23 deg.C, 49 %RH            25 deg.C, 50 %RH            22 deg.C, 50 %RH  
Engineer                Kenichi Adachi                    Shinichi Takano                    Akio Hayshi  
Mode                    Tx, IEEE802.11g, PN9,            2437 MHz  
Remarks                X'tal A

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3249.312	PK	47.2	28.1	6.5	40.9	40.9	73.9	33.0	102	231	
Hori.	4874.000	PK	44.4	31.3	7.5	39.7	43.5	73.9	30.4	100	0	
Hori.	7311.000	PK	46.7	37.2	8.6	40.3	52.2	73.9	21.7	100	0	
Hori.	9748.000	PK	45.6	38.7	9.6	40.0	53.9	73.9	20.0	100	0	
Hori.	3249.312	AV	39.3	28.1	6.5	40.9	33.0	53.9	20.9	102	231	
Vert.	3249.312	PK	47.8	28.1	6.5	40.9	41.5	73.9	32.4	100	112	
Vert.	4874.000	PK	44.5	31.3	7.5	39.7	43.6	73.9	30.3	100	0	
Vert.	7311.000	PK	46.8	37.2	8.6	40.3	52.3	73.9	21.6	100	0	
Vert.	9748.000	PK	45.7	38.7	9.6	40.0	54.0	73.9	<b>19.9</b>	100	0	
Vert.	3249.312	AV	39.6	28.1	6.5	40.9	33.3	53.9	20.6	100	112	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier)

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

**Average measurement value with duty factor**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4874.000	AV	36.3	31.3	7.5	39.7	0.1	35.5	53.9	18.4	
Hori.	7311.000	AV	37.6	37.2	8.6	40.3	0.1	43.2	53.9	10.7	
Hori.	9748.000	AV	36.7	38.7	9.6	40.0	0.1	45.1	53.9	8.8	
Vert.	4874.000	AV	36.4	31.3	7.5	39.7	0.1	35.6	53.9	18.3	
Vert.	7311.000	AV	37.7	37.2	8.6	40.3	0.1	43.3	53.9	10.6	
Vert.	9748.000	AV	36.8	38.7	9.6	40.0	0.1	45.2	53.9	<b>8.7</b>	

Result = Reading + Ant.Fac. + Loss (Cable+Filter(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier) + Duty factor

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

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## Radiated Emission

Test place            No.3 Semi Anechoic Chamber  
 Date                 June 15,2014                     June 19,2014                     June 25,2014  
 Temperature / Humidity 23 deg.C, 49 %RH            25 deg.C, 50 %RH            22 deg.C, 50 %RH  
 Engineer            Kenichi Adachi                     Shinichi Takano                     Akio Hayshi  
 Mode                 Tx, IEEE802.11g, PN9,            2462 MHz  
 Remarks             X'tal A

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	50.2	26.9	14.7	41.1	50.7	73.9	23.2	100	233	
Hori.	3282.647	PK	46.3	28.1	6.5	40.9	40.0	73.9	33.9	104	242	
Hori.	4924.000	PK	45.0	31.6	7.5	39.6	44.5	73.9	29.4	100	0	
Hori.	7386.000	PK	46.4	37.3	8.8	40.4	52.1	73.9	21.8	100	0	
Hori.	9848.000	PK	46.1	38.9	9.6	39.9	54.7	73.9	19.2	100	0	
Hori.	2483.500	AV	40.0	26.9	14.7	41.1	40.5	53.9	<b>13.4</b>	100	233	
Hori.	3282.647	AV	38.4	28.1	6.5	40.9	32.1	53.9	21.8	104	242	
Vert.	2483.500	PK	47.0	26.9	14.7	41.1	47.5	73.9	26.4	103	253	
Vert.	3282.647	PK	46.7	28.1	6.5	40.9	40.4	73.9	33.5	101	121	
Vert.	4924.000	PK	44.9	31.6	7.5	39.6	44.4	73.9	29.5	100	0	
Vert.	7386.000	PK	46.5	37.3	8.8	40.4	52.2	73.9	21.7	100	0	
Vert.	9848.000	PK	46.0	38.9	9.6	39.9	54.6	73.9	19.3	100	0	
Vert.	2483.500	AV	38.5	26.9	14.7	41.1	39.0	53.9	14.9	103	253	
Vert.	3282.647	AV	38.6	28.1	6.5	40.9	32.3	53.9	21.6	101	121	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier)

Distance factor : 15GHz -40GHz :  $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$ **Average measurement value with duty factor**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4924.000	AV	36.7	31.6	7.5	39.6	0.1	36.3	53.9	17.6	
Hori.	7386.000	AV	37.8	37.3	8.8	40.4	0.1	43.6	53.9	10.3	
Hori.	9848.000	AV	37.1	38.9	9.6	39.9	0.1	45.8	53.9	<b>8.1</b>	
Vert.	4924.000	AV	36.6	31.6	7.5	39.6	0.1	36.2	53.9	17.7	
Vert.	7386.000	AV	37.9	37.3	8.8	40.4	0.1	43.7	53.9	10.2	
Vert.	9848.000	AV	37.0	38.9	9.6	39.9	0.1	45.7	53.9	8.2	

Result = Reading + Ant.Fac. + Loss (Cable+Filter(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier) + Duty factor

Distance factor : 15GHz -40GHz :  $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$ **UL Japan, Inc.****Shonan EMC Lab.**

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## Radiated Emission

Test place            No.3 Semi Anechoic Chamber  
 Date                    June 15,2014                    June 19,2014                    June 25,2014  
 Temperature / Humidity    23 deg.C, 49 %RH            25 deg.C, 50 %RH            22 deg.C, 50 %RH  
 Engineer                Kenichi Adachi                    Shinichi Takano                    Akio Hayshi  
 Mode                    Tx, IEEE802.11b, PN9,            2412 MHz  
 Remarks                X'tal B

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	44.8	26.8	14.6	41.1	45.1	73.9	28.8	100	225	
Hori.	3215.992	PK	47.0	28.2	6.5	40.8	40.9	73.9	33.0	100	223	
Hori.	4824.000	PK	44.8	31.1	7.5	39.8	43.6	73.9	30.3	100	0	
Hori.	2390.000	AV	35.9	26.8	14.6	41.1	36.2	53.9	17.7	100	225	
Hori.	3215.992	AV	38.8	28.2	6.5	40.8	32.7	53.9	21.2	100	223	
Hori.	4824.000	AV	36.5	31.1	7.5	39.8	35.3	53.9	18.6	100	0	
Vert.	2390.000	PK	44.7	26.8	14.6	41.1	45.0	73.9	28.9	103	275	
Vert.	3215.992	PK	47.5	28.2	6.5	40.8	41.4	73.9	32.5	100	118	
Vert.	4824.000	PK	44.9	31.1	7.5	39.8	43.7	73.9	30.2	100	0	
Vert.	2390.000	AV	35.8	26.8	14.6	41.1	36.1	53.9	17.8	103	275	
Vert.	3215.992	AV	39.5	28.2	6.5	40.8	33.4	53.9	20.5	100	118	
Vert.	4824.000	AV	36.6	31.1	7.5	39.8	35.4	53.9	18.5	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz) - Gain(Amplifier)

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

### 20dBc Data Sheet (RBW 100kHz, VBW 300kHz)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	87.8	26.8	14.6	41.1	88.1	-	-	
Hori.	2397.162	PK	49.1	26.8	14.6	41.1	49.4	68.1	18.7	
Hori.	2400.000	PK	45.0	26.8	14.6	41.1	45.3	68.1	22.8	
Vert.	2412.000	PK	85.2	26.8	14.6	41.1	85.5	-	-	
Vert.	2397.162	PK	46.1	26.8	14.6	41.1	46.4	65.5	19.1	
Vert.	2400.000	PK	42.2	26.8	14.6	41.1	42.5	65.5	23.0	

Result = Reading + Ant.Fac. + Loss(Cable+Attenuator) - Gain(Amplifier)

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## Radiated Emission

Test place            No.3 Semi Anechoic Chamber  
 Date                    June 15,2014                    June 19,2014                    June 25,2014  
 Temperature / Humidity 23 deg.C, 49 %RH            25 deg.C, 50 %RH            22 deg.C, 50 %RH  
 Engineer              Kenichi Adachi                    Shinichi Takano                    Akio Hayshi  
 Mode                    Tx, IEEE802.11b, PN9,            2442 MHz  
 Remarks                X'tal B

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3255.996	PK	45.8	28.1	6.5	40.9	39.5	73.9	34.4	100	221	
Hori.	4884.000	PK	44.5	31.4	7.4	39.7	43.6	73.9	30.3	100	0	
Hori.	3255.996	AV	37.4	28.1	6.5	40.9	31.1	53.9	22.8	100	221	
Hori.	4884.000	AV	36.4	31.4	7.4	39.7	35.5	53.9	<b>18.4</b>	100	0	
Vert.	3255.996	PK	46.2	28.1	6.5	40.9	39.9	73.9	34.0	100	122	
Vert.	4884.000	PK	44.4	31.4	7.4	39.7	43.5	73.9	30.4	100	0	
Vert.	3255.996	AV	38.1	28.1	6.5	40.9	31.8	53.9	22.1	100	122	
Vert.	4884.000	AV	36.3	31.4	7.4	39.7	35.4	53.9	18.5	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier)  
 Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

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## Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	June 15,2014	June 19,2014	June 25,2014
Temperature / Humidity	23 deg.C, 49 %RH	25 deg.C, 50 %RH	22 deg.C, 50 %RH
Engineer	Kenichi Adachi	Shinichi Takano	Akio Hayshi
Mode	Tx, IEEE802.11b, PN9,	2472 MHz	
Remarks	X'tal B		

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	46.0	26.9	14.7	41.1	46.5	73.9	27.4	100	229	
Hori.	2484.387	PK	47.7	26.9	14.7	41.1	48.2	73.9	25.7	100	229	
Hori.	3295.994	PK	45.7	28.1	6.5	40.9	39.4	73.9	34.5	100	222	
Hori.	4944.000	PK	44.7	31.7	7.5	39.6	44.3	73.9	29.6	100	0	
Hori.	2483.500	AV	39.5	26.9	14.7	41.1	40.0	53.9	13.9	100	229	
Hori.	2484.387	AV	41.5	26.9	14.7	41.1	42.0	53.9	<b>11.9</b>	100	229	
Hori.	3295.994	AV	37.3	28.1	6.5	40.9	31.0	53.9	22.9	100	222	
Hori.	4944.000	AV	36.5	31.7	7.5	39.6	36.1	53.9	17.8	100	0	
Vert.	2483.500	PK	45.4	26.9	14.7	41.1	45.9	73.9	28.0	102	271	
Vert.	2484.387	PK	46.7	26.9	14.7	41.1	47.2	73.9	26.7	102	271	
Vert.	3295.994	PK	46.1	28.1	6.5	40.9	39.8	73.9	34.1	100	113	
Vert.	4944.000	PK	44.8	31.7	7.5	39.6	44.4	73.9	29.5	100	0	
Vert.	2483.500	AV	39.0	26.9	14.7	41.1	39.5	53.9	14.4	102	271	
Vert.	2484.387	AV	40.6	26.9	14.7	41.1	41.1	53.9	12.8	102	271	
Vert.	3295.994	AV	37.7	28.1	6.5	40.9	31.4	53.9	22.5	100	113	
Vert.	4944.000	AV	36.6	31.7	7.5	39.6	36.2	53.9	17.7	100	0	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier)

Distance factor : 15GHz -40GHz :  $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$ 

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## Radiated Emission

Test place            No.3 Semi Anechoic Chamber  
Date                    June 15,2014                    June 19,2014                    June 25,2014  
Temperature / Humidity 23 deg.C, 49 %RH            25 deg.C, 50 %RH            22 deg.C, 50 %RH  
Engineer                Kenichi Adachi                    Shinichi Takano                    Akio Hayshi  
Mode                    Tx, IEEE802.11g, PN9,            2412 MHz  
Remarks                X'tal B

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2390.000	PK	49.8	26.8	14.6	41.1	50.1	73.9	23.8	100	228	
Hori.	3215.995	PK	46.9	28.2	6.5	40.8	40.8	73.9	33.1	103	231	
Hori.	4824.000	PK	45.0	31.1	7.5	39.8	43.8	73.9	30.1	100	0	
Hori.	2390.000	AV	38.8	26.8	14.6	41.1	39.1	53.9	<b>14.8</b>	100	228	
Hori.	3215.995	AV	38.3	28.2	6.5	40.8	32.2	53.9	21.7	103	231	
Vert.	2390.000	PK	46.7	26.8	14.6	41.1	47.0	73.9	26.9	102	272	
Vert.	3215.995	PK	46.7	28.2	6.5	40.8	40.6	73.9	33.3	100	122	
Vert.	4824.000	PK	44.9	31.1	7.5	39.8	43.7	73.9	30.2	100	0	
Vert.	2390.000	AV	36.2	26.8	14.6	41.1	36.5	53.9	17.4	102	272	
Vert.	3215.995	AV	37.5	28.2	6.5	40.8	31.4	53.9	22.5	100	122	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier)

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

**Average measurement value with duty factor**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4824.000	AV	36.7	31.1	7.5	39.8	0.1	35.6	53.9	<b>18.3</b>	
Vert.	4824.000	AV	36.6	31.1	7.5	39.8	0.1	35.5	53.9	18.4	

Result = Reading + Ant.Fac. + Loss (Cable+Filter(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier) + Duty factor

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

**20dBc Data Sheet (RBW 100kHz, VBW 300kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2412.000	PK	87.0	26.8	14.6	41.1	87.3	-	-	
Hori.	2400.000	PK	57.2	26.8	14.6	41.1	57.5	67.3	9.8	
Vert.	2412.000	PK	84.0	26.8	14.6	41.1	84.3	-	-	
Vert.	2400.000	PK	52.1	26.8	14.6	41.1	52.4	64.3	11.9	

Result = Reading + Ant.Fac. + Loss(Cable+Attenuator) - Gain(Amplifier)

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## Radiated Emission

Test place	No.3 Semi Anechoic Chamber		
Date	June 15,2014	June 19,2014	June 25,2014
Temperature / Humidity	23 deg.C, 49 %RH	25 deg.C, 50 %RH	22 deg.C, 50 %RH
Engineer	Kenichi Adachi	Shinichi Takano	Akio Hayshi
Mode	Tx, IEEE802.11g, PN9, 2437 MHz		
Remarks	X'tal B		

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	3249.322	PK	47.4	28.1	6.5	40.9	41.1	73.9	32.8	100	233	
Hori.	4874.000	PK	44.5	31.3	7.5	39.7	43.6	73.9	30.3	100	0	
Hori.	3249.322	AV	38.4	28.1	6.5	40.9	32.1	53.9	<b>21.8</b>	100	233	
Vert.	3249.322	PK	47.0	28.1	6.5	40.9	40.7	73.9	33.2	101	123	
Vert.	4874.000	PK	44.6	31.3	7.5	39.7	43.7	73.9	30.2	100	0	
Vert.	3249.322	AV	37.8	28.1	6.5	40.9	31.5	53.9	22.4	101	123	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier)

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

**Average measurement value with duty factor**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4874.000	AV	36.4	31.3	7.5	39.7	0.1	35.6	53.9	18.3	
Vert.	4874.000	AV	36.5	31.3	7.5	39.7	0.1	35.7	53.9	<b>18.2</b>	

Result = Reading + Ant.Fac. + Loss (Cable+Filter(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier) + Duty factor

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

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## Radiated Emission

Test place            No.3 Semi Anechoic Chamber  
 Date                    June 15,2014                    June 19,2014                    June 25,2014  
 Temperature / Humidity 23 deg.C, 49 %RH            25 deg.C, 50 %RH            22 deg.C, 50 %RH  
 Engineer              Kenichi Adachi                    Shinichi Takano                    Akio Hayshi  
 Mode                    Tx, IEEE802.11g, PN9,            2462 MHz  
 Remarks                X'tal B

(\* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	2483.500	PK	53.4	26.9	14.7	41.1	53.9	73.9	20.0	100	224	
Hori.	3282.662	PK	46.7	28.1	6.5	40.9	40.4	73.9	33.5	102	232	
Hori.	4924.000	PK	45.0	31.6	7.5	39.6	44.5	73.9	29.4	100	0	
Hori.	2483.500	AV	40.8	26.9	14.7	41.1	41.3	53.9	<b>12.6</b>	100	224	
Hori.	3282.662	AV	37.6	28.1	6.5	40.9	31.3	53.9	22.6	102	232	
Vert.	2483.500	PK	52.1	26.9	14.7	41.1	52.6	73.9	21.3	100	274	
Vert.	3282.662	PK	46.3	28.1	6.5	40.9	40.0	73.9	33.9	100	124	
Vert.	4924.000	PK	45.1	31.6	7.5	39.6	44.6	73.9	29.3	100	0	
Vert.	2483.500	AV	40.1	26.9	14.7	41.1	40.6	53.9	13.3	100	274	
Vert.	3282.662	AV	37.2	28.1	6.5	40.9	30.9	53.9	23.0	100	124	

Result = Reading + Ant.Fac. + Loss (Cable+(Attenuator or Filter)(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier)

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

**Average measurement value with duty factor**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Duty Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	4924.000	AV	36.6	31.6	7.5	39.6	0.1	36.2	53.9	17.7	
Vert.	4924.000	AV	36.7	31.6	7.5	39.6	0.1	36.3	53.9	<b>17.6</b>	

Result = Reading + Ant.Fac. + Loss (Cable+Filter(below 18GHz)-Distance factor(above 15GHz)) - Gain(Amplifier) + Duty factor

Distance factor : 15GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

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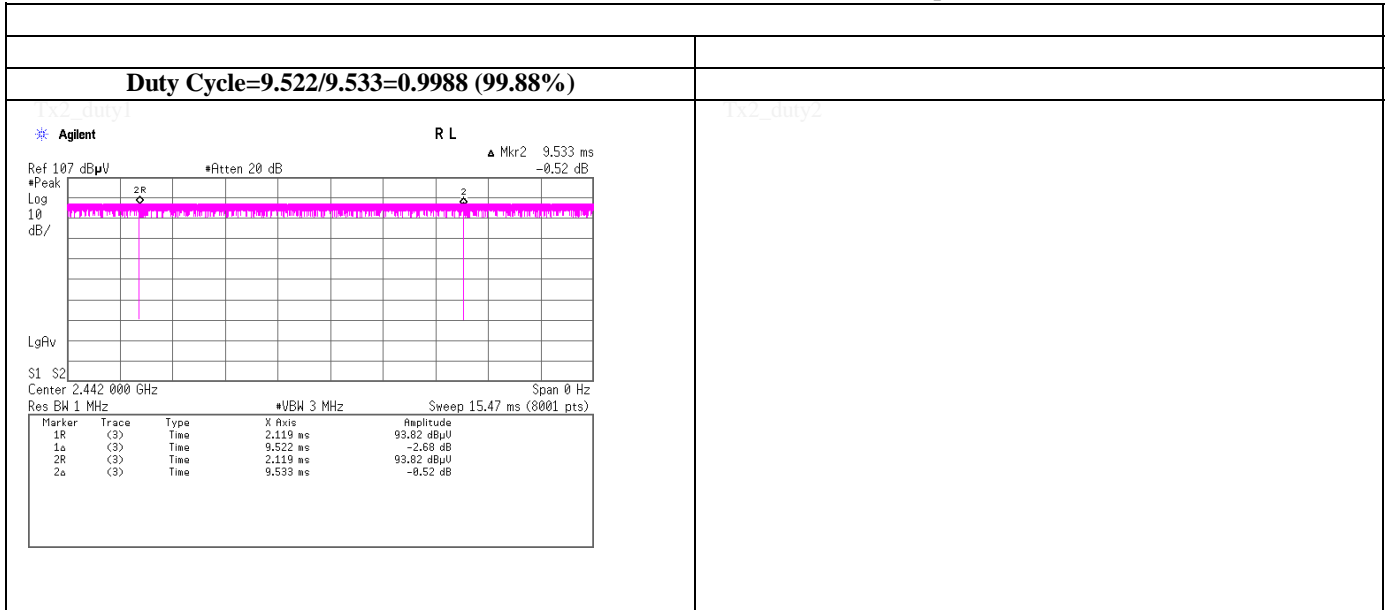
Telephone : +81 463 50 6400

Facsimile : +81 463 50 6401

Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room  
 Date June 10, 2014  
 Temperature / Humidity 26deg.C , 53%RH  
 Engineer Akio Hayashi

## Burst rate confirmation

**Tx, IEEE802.11b, PN9, worst data mode 2Mbps**

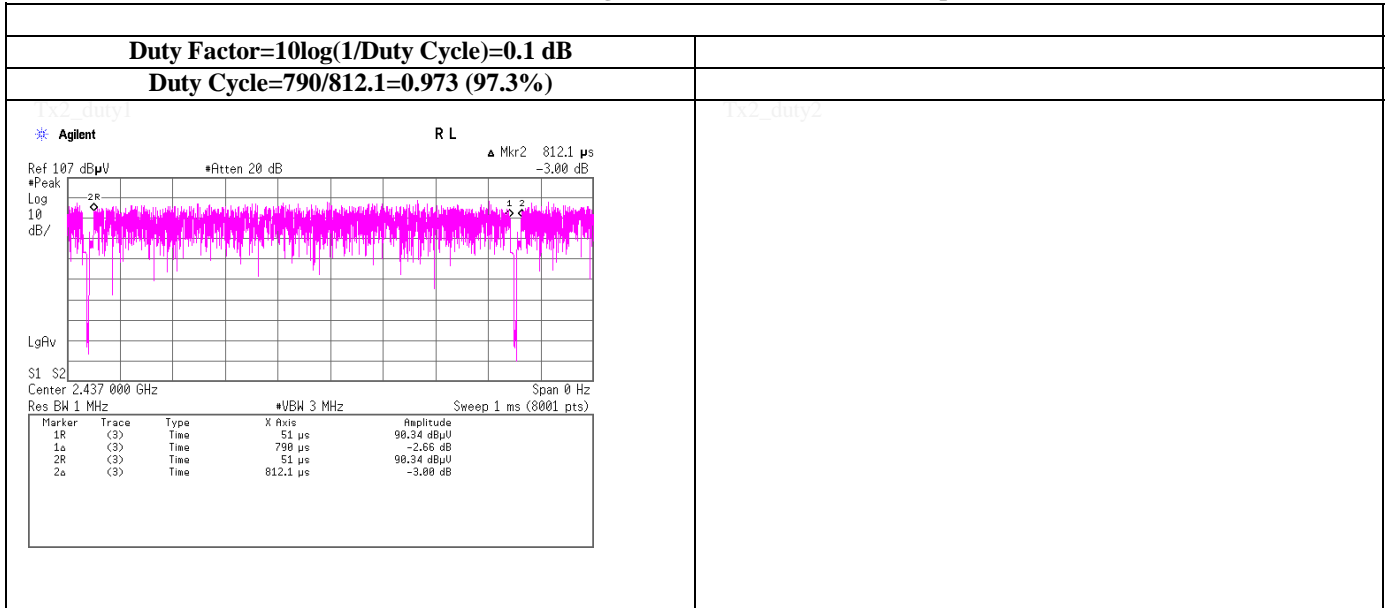


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Test place           UL Japan, Inc. Shonan EMC Lab.    No.5 Shielded Room  
 Date                 June 10, 2014  
 Temperature / Humidity   26deg.C     , 53%RH  
 Engineer            Akio Hayashi

## Duty Factor Calculation Chart

**Tx, IEEE802.11g, PN9, worst data mode 24Mbps**



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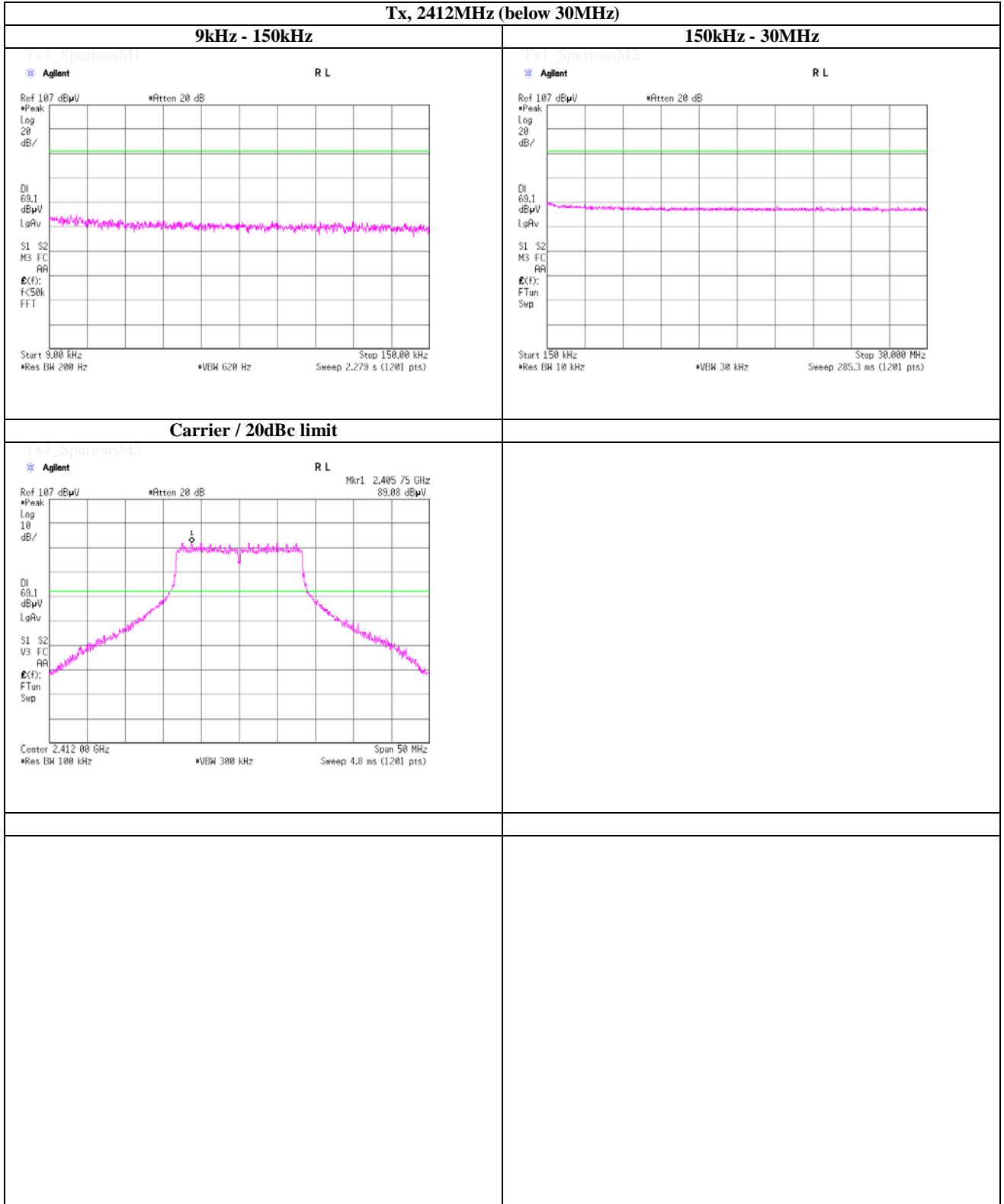


Test place           UL Japan, Inc. Shonan EMC Lab.     No.5 Shielded Room  
 Date                 June 10, 2014  
 Temperature / Humidity   26deg.C     , 53%RH  
 Engineer             Akio Hayashi

**(Reference chart) Spurious emission (Conducted)**

**Tx, IEEE802.11g, PN9, worst data mode 24Mbps**

**Tx, 2412MHz (below 30MHz)**



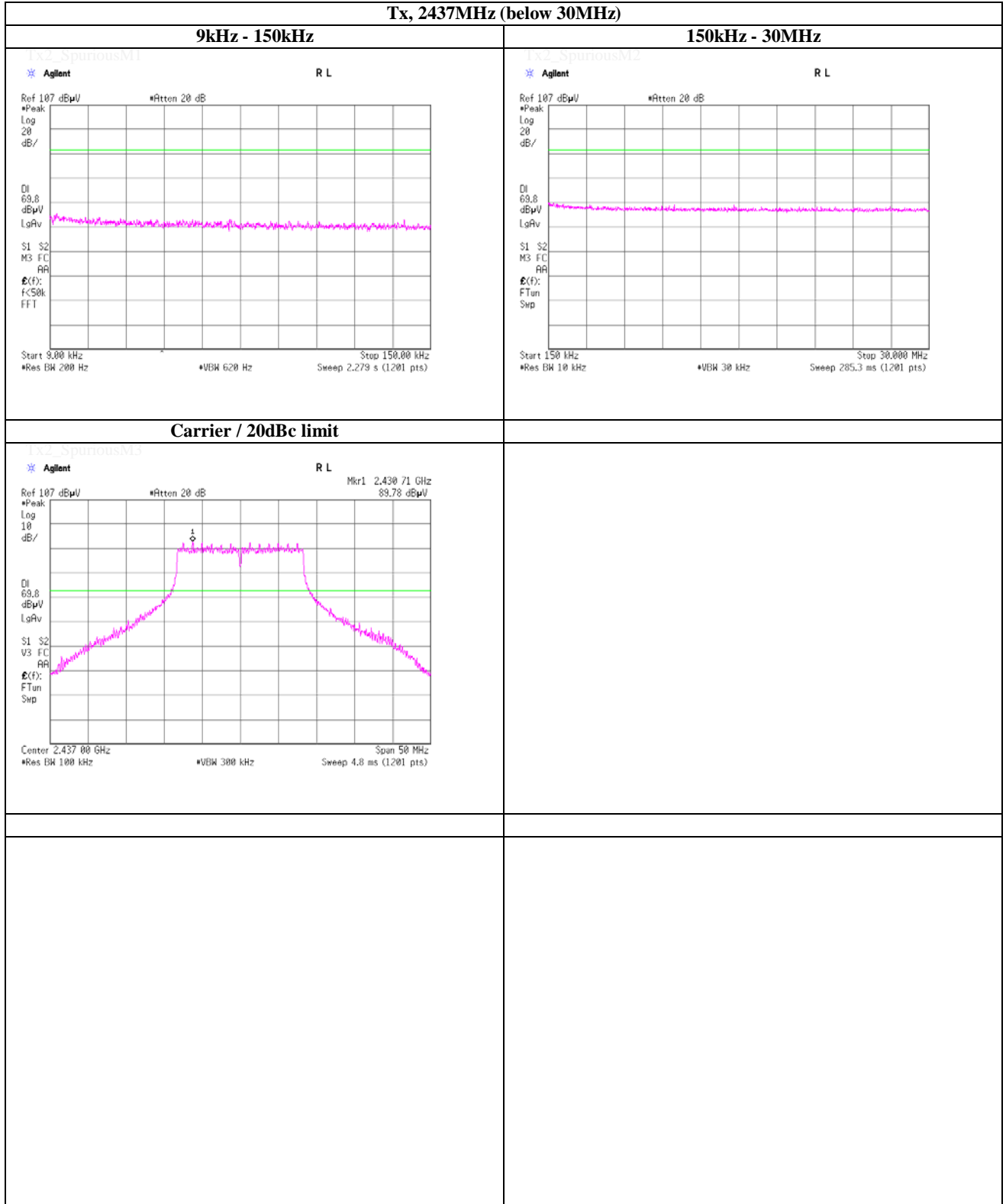
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Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room  
 Date June 10, 2014  
 Temperature / Humidity 26deg.C , 53%RH  
 Engineer Akio Hayashi

**(Reference chart) Spurious emission (Conducted)**

**Tx, IEEE802.11g, PN9, worst data mode 24Mbps**

**Tx, 2437MHz (below 30MHz)**



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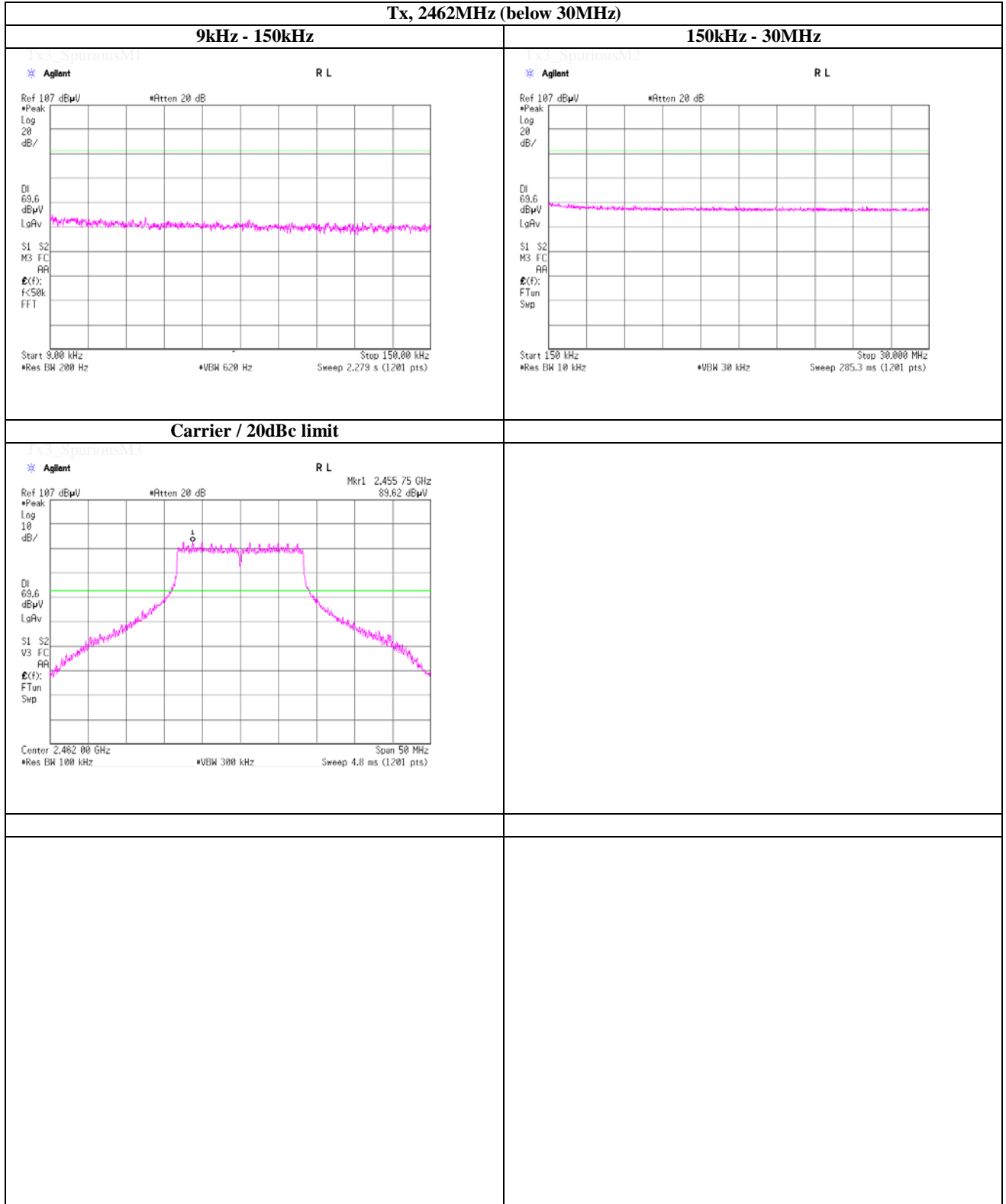


Test place           UL Japan, Inc. Shonan EMC Lab.     No.5 Shielded Room  
 Date                 June 10, 2014  
 Temperature / Humidity   26deg.C     , 53%RH  
 Engineer             Akio Hayashi

**(Reference chart) Spurious emission (Conducted)**

**Tx, IEEE802.11g, PN9, worst data mode 24Mbps**

**Tx, 2462MHz (below 30MHz)**



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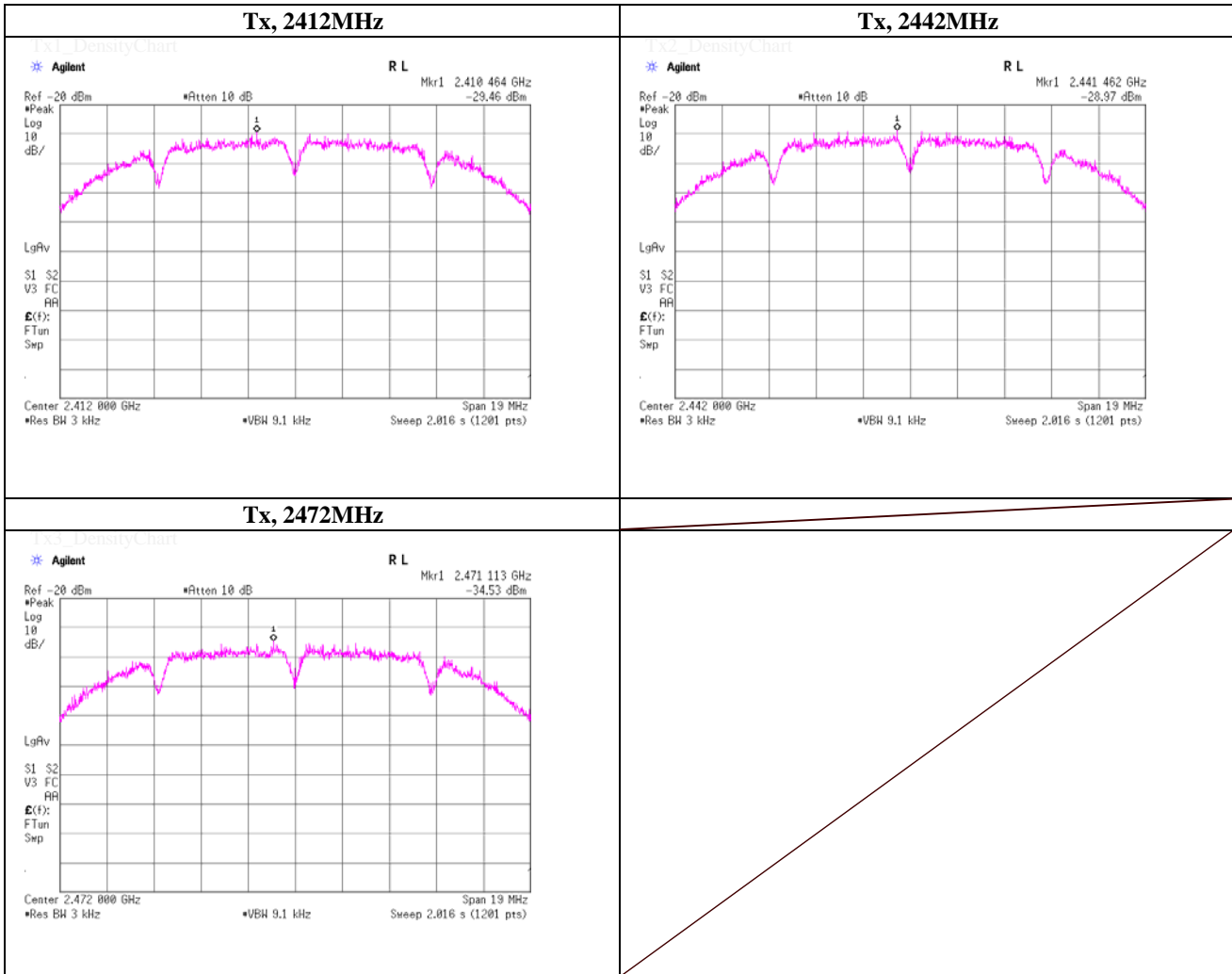
## Maximum Power Spectral Density

(PKPSD)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 10, 2014	
Temperature / Humidity	26deg.C , 53%RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11b, PN9, worst data mode 2Mbps	

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2412.0000	2410.46	-29.46	2.12	9.90	-17.44	8.00	25.44
2442.0000	2441.46	-28.97	2.12	9.89	-16.96	8.00	24.96
2472.0000	2471.11	-34.53	2.14	9.89	-22.50	8.00	30.50

Sample Calculation:  
Result = Reading + Cable Loss + Atten. Loss



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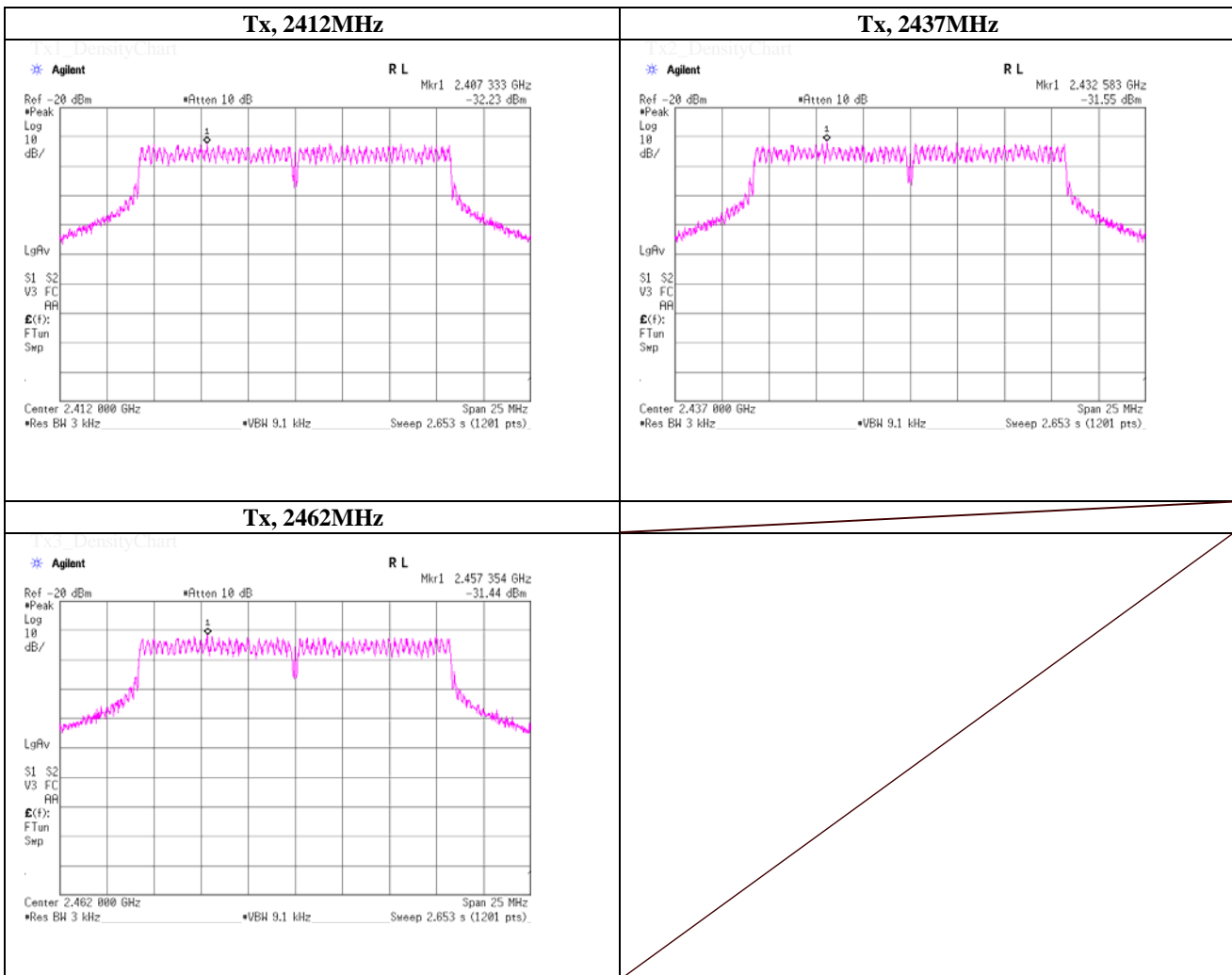
## Maximum Power Spectral Density

(PKPSD)

Test place	UL Japan, Inc. Shonan EMC Lab.	No.5 Shielded Room
Date	June 10, 2014	
Temperature / Humidity	26deg.C , 53%RH	
Engineer	Akio Hayashi	
Mode	Tx, IEEE802.11g, PN9, worst data mode 24Mbps	

Ch. Freq. [MHz]	Freq. Reading [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit [dBm]	Margin [dB]
2412.0000	2407.33	-32.23	2.12	9.90	-20.21	8.00	28.21
2437.0000	2432.58	-31.55	2.12	9.90	-19.53	8.00	27.53
2462.0000	2457.35	-31.44	2.13	9.89	-19.42	8.00	27.42

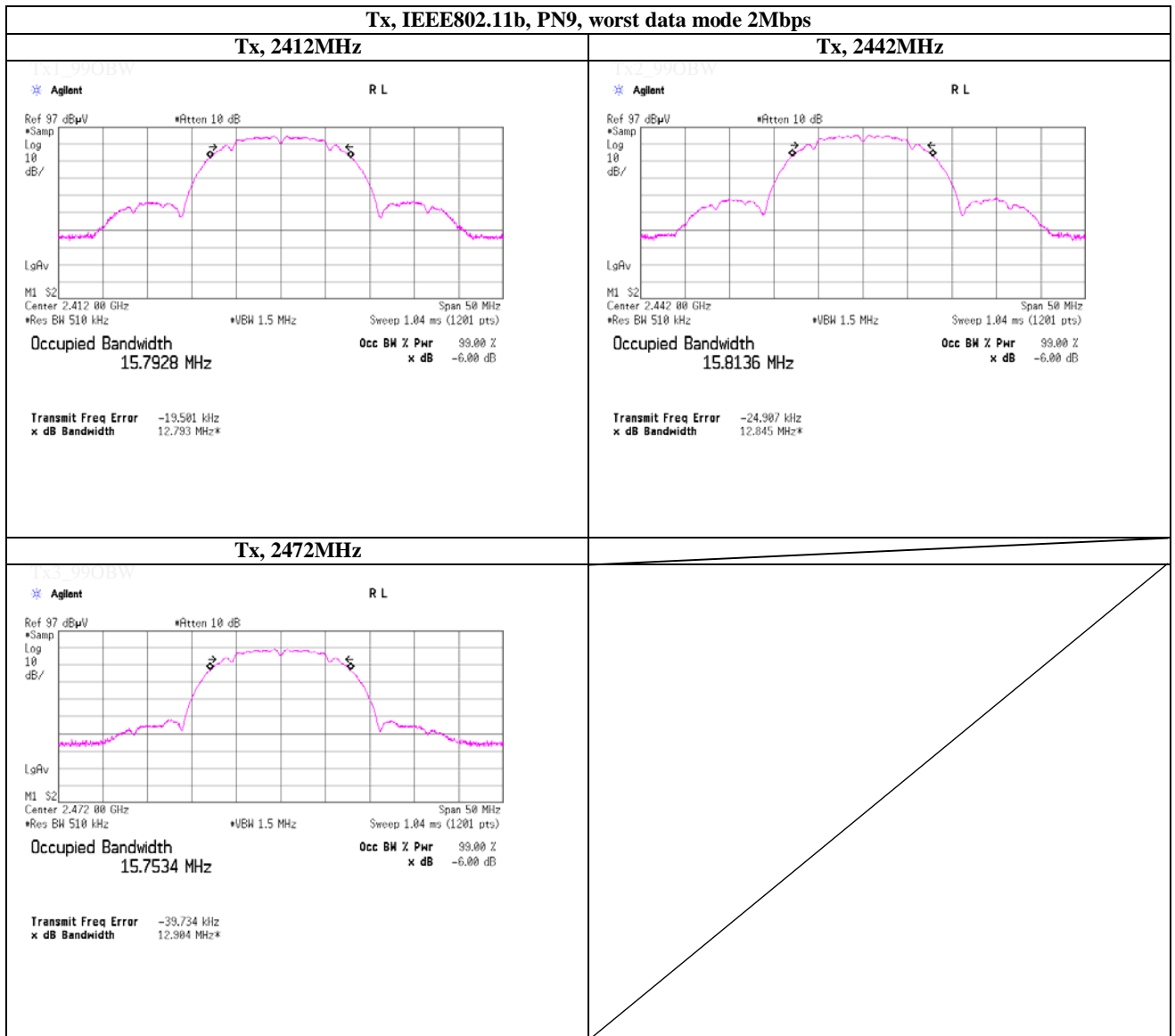
Sample Calculation:  
Result = Reading + Cable Loss + Atten. Loss



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Test place           UL Japan, Inc. Shonan EMC Lab.    No.5 Shielded Room  
 Date                 June 10, 2014  
 Temperature / Humidity 26deg.C     , 53%RH  
 Engineer            Akio Hayashi

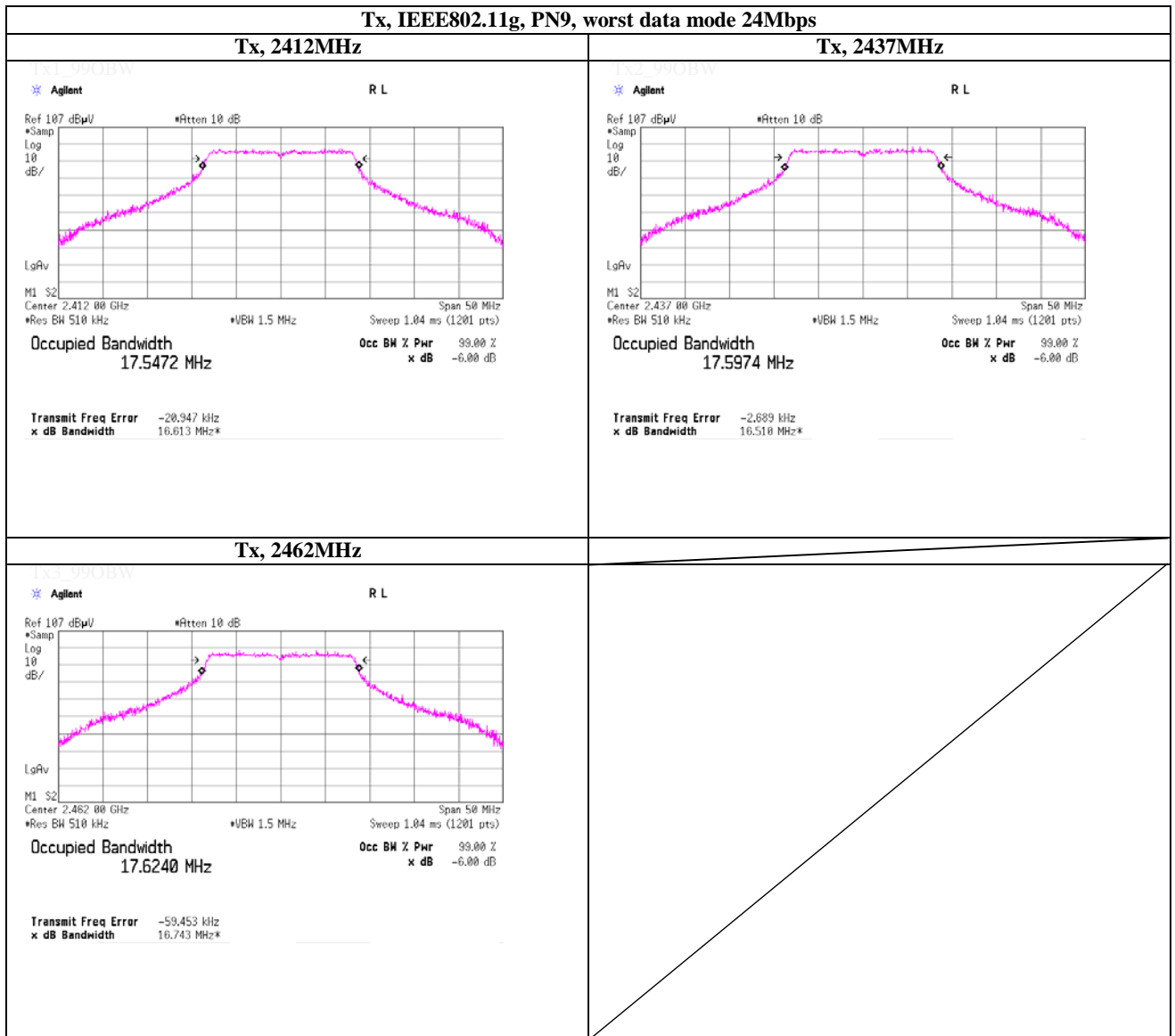
### 99% Occupied Bandwidth



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Test place UL Japan, Inc. Shonan EMC Lab. No.5 Shielded Room  
 Date June 10, 2014  
 Temperature / Humidity 26deg.C , 53%RH  
 Engineer Akio Hayashi

### 99% Occupied Bandwidth



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## APPENDIX 2 Test Instruments

### EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	AT	2014/02/03 * 12
SAT10-11	Attenuator	Weinschel Corp.	54A-10	37588	AT	2014/04/22 * 12
SCC-G13	Coaxial Cable	Suhner	SUCOFLEX 102	31599/2	AT	2014/03/14 * 12
SCC-H5	Microwave cable	Hirose Electric	U.FL-2LP-066J1-A-(200)	-	AT	Pre Check
SPM-07	Power Meter	Agilent	8990B	MY5100272	AT	2014/04/04 * 12
SPSS-04	Power sensor	Agilent	N1923A	MY5326009	AT	2014/04/04 * 12
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	AT	2014/03/07 * 12
SPM-06	Power Meter	Anritsu	ML2495A	0850009	AT	2014/04/08 * 12
SPSS-03	Power sensor	Anritsu	MA2411B	0917063	AT	2014/04/08 * 12
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2013/07/09 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2013/08/19 * 12
SCC-G01	Coaxial Cable	Suhner	SUCOFLEX 104A	46497/4A	RE	2014/04/22 * 12
SAT10-06	Attenuator	Agilent	8493C-010	74865	RE	2013/11/22 * 12
SFL-02	Highpass Filter	MICRO-TRONICS	HPM50111	051	RE	2013/11/22 * 12
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2014/05/23 * 12
SCC-G21	Coaxial Cable	Suhner	SUCOFLEX 104	296169/4	RE	2014/05/15 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	RE	2014/03/04 * 12
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE, RFLMF)	-	RE, CE	-
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2014/02/21 * 12
SJM-15	Measure	ASKUL	-	-	RE, CE	-
SAF-02	Pre Amplifier	SONOMA	310N	290212	RE	2014/02/17 * 12
SAT6-02	Attenuator	JFW	50HF-006N	-	RE	2014/02/17 * 12
KAT3-11	Attenuator	JFW IND. INC.	50HF-003N	-	RE	2013/08/19 * 12
SBA-02	Biconical Antenna	Schwarzbeck	BBA9106	91032665	RE	2013/11/24 * 12
SCC-B1/B3/B5/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2014/04/25 * 12
SCC-B2/B4/B6/B7/B8/B13/SRSE-02	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-270(RF Selector)	RE	2014/04/25 * 12
SLA-02	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0893	RE	2013/11/24 * 12
SOS-03	Humidity Indicator	A&D	AD-5681	4063325	RE	2014/02/21 * 12
STR-07	Test Receiver	Rohde & Schwarz	ESU26	100484	RE	2014/02/18 * 12
SJM-14	Measure	ASKUL	-	-	RE	-
SAEC-02(NSA)	Semi-Anechoic Chamber	TDK	SAEC-02(NSA)	2	RE	2013/07/06 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE	2014/03/17 * 12
SHA-04	Horn Antenna	ETS LINDGREN	3160-09	LM3640	RE	2014/03/15 * 12
SAF-08	Pre Amplifier	TOYO Corporation	HAP18-26W	00000019	RE	2014/03/14 * 12
SCC-G15	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	RE	2014/03/13 * 12

The expiration date of the calibration is the end of the expired month .  
As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .

Test Item :

CE: Conducted emission ,  
RE: Radiated emission ,  
AT: Antenna terminal conducted tests ,

## APPENDIX 2 Test Instruments

### EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SCC-C9/C10/ SRSE-03	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/N S4906	-/0901-271( RF Selector)	CE	2014/04/25 * 12
SLS-02	LISN	Rohde & Schwarz	ENV216	100516	CE	2014/02/26 * 12
SAT3-06	Attenuator	JFW	50HF-003N	-	CE	2014/02/17 * 12
SOS-06	Humidity Indicator	A&D	AD-5681	4062118	CE	2014/03/07 * 12
STR-06	Test Receiver	Rohde & Schwarz	ESCI	101259	CE	2014/03/04 * 12

The expiration date of the calibration is the end of the expired month .  
 As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .  
 All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .

Test Item :

- CE: Conducted emission ,
- RE: Radiated emission ,
- AT: Antenna terminal conducted tests ,