EMI TEST REPORT

Test Report No. : 32EE0092-HO-01-B-R2

Applicant	:	**ELMO COMPANY, LIMITED**
Type of Equipment	:	**USB Dongle**
Model No.	:	**CRV-CK-1R**
FCC ID	:	**X3XCRV-1R**
Test regulation	:	**FCC Part 15 Subpart B: 2012 Class B** **ICES-003 Issue 4 February 2004**
Test Result	:	**Complied**

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
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 NVLAP, NIST, or any agency of the Federal Government.
6. This report is a revised version of 32EE0092-HO-01-B-R1. 32EE0092-HO-01-B-R1 is replaced with this report.

Date of test: December 20 and 28, 2011

Representative test engineer:
Yutaka Yoshida
Engineer of WiSE Japan,
UL Verification Service

Approved by:
Mitsuru Fujimura
Leader of WiSE Japan,
UL Verification Service

NVLAP®
NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.
*As for the range of Accreditation in NVLAP, you may refer to the WEB address,
http://www.ul.com/japan/jpn/pages/services/emc/about/mark1/index.jsp#nvlap

UL Japan, Inc.
Head Office EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
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SECTION 1: Customer information

Company Name	:	ELMO COMPANY, LIMITED
Address	:	6-14, MEIZEN-CHO, MIZUHO-KU, NAGOYA, AICHI 467-8567 JAPAN
Telephone Number	:	+81-52-811-5136
Facsimile Number	:	+81-52-811-5179
Contact Person	:	Tomokazu Ito

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

2.1 Identification of E.U.T.

Type of Equipment	:	USB Dongle
Model No.	:	CRV-CK-1R
Serial No.	:	Refer to Section 4, Clause 4.2
Rating	:	DC 5V
Receipt Date of Sample	:	December 15, 2011
Country of Mass-production	:	Taiwan
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

2.2 Product Description

General Specification

Clock frequency(ies) in the system	:	12MHz, 24MHz

Radio Specification

Radio Type	:	Transceiver
Frequency of Operation	:	2402-2479MHz
Modulation	:	GFSK
Power Supply (radio part input)	:	DC3.3V
Antenna type	:	Pattern
Antenna Gain	:	1.16dBi

SECTION 3: Test specification, procedures & results

3.1 Test specification

Test Specification : FCC Part 15 Subpart B: 2012, final revised on February 1, 2012*

Title : FCC 47CFR Part15 Radio Frequency Device
Subpart B Unintentional Radiators

*The revision on February 1, 2012 does not affect the test specification applied to the EUT.

Test Specification : ICES-003 Issue 4 February 2004
Title : Digital Apparatus

3.2 Procedures and results

Item	Test Procedure	Limits	Deviation	Worst margin	Result
Conducted emission	**FCC:** ANSI C63.4: 2003 7. AC powerline conducted emission measurements **IC:** ICES-003 4.1	Class B	N/A	**[QP]** 12.8dB 0.19350MHz, N **[AV]** 11.0dB 0.46320MHz, N	Complied
Radiated emission	**FCC:** ANSI C63.4: 2003 8. Radiated emission measurements **IC:** ICES-003 4.1	Class B	N/A	2.9dB 37.991MHz Vertical	Complied *1)

*Note: UL Japan, Inc's EMI Work Procedure 13-EM-W0420.
*1)Measurements were limited up to 1GHz since the highest frequency of internal source of the EUT is less than 108MHz.

3.3 Addition to standard

No addition, exclusion nor deviation has been made from the standard.

3.4 Uncertainty

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

Test room (semi-anechoic chamber)	**Conducted emission (±dB)**
	150kHz-30MHz
No.1	3.5dB
No.2	3.6dB
No.3	3.6dB
No.4	3.6dB

Test room (semi-anechoic chamber)	**Radiated emission (10m*)(±dB)**		
	9kHz -30MHz	30MHz -300MHz	300MHz -1GHz
No.1	4.1dB	5.0dB	4.8dB
No.2	-	-	-
No.3	-	-	-
No.4	-	-	-

*10m = Measurement distance

Test room (semi-anechoic chamber)	**Radiated emission**						
	(3m*)(±dB)				**(1m*)(±dB)**		**(0.5m*)(±dB)**
	9kHz -30MHz	30MHz -300MHz	300MHz -1GHz	1GHz -10GHz	10GHz -18GHz	18GHz -26.5GHz	26.5GHz -40GHz
No.1	4.2dB	5.0dB	5.1dB	4.7dB	5.7dB	4.4dB	4.3dB
No.2	4.1dB	5.2dB	5.1dB	4.8dB	5.6dB	4.3dB	4.2dB
No.3	4.5dB	5.0dB	5.2dB	4.8dB	5.6dB	4.5dB	4.2dB
No.4	4.7dB	5.2dB	5.2dB	4.8dB	5.6dB	5.1dB	4.2dB

*3m/1m/0.5m = Measurement distance

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

Radiated emission test (3m)
The data listed in this report meets the limits unless the uncertainty is taken into consideration.

3.5 Test Location

UL Japan, Inc. Head Office EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116 Facsimile : +81 596 24 8124

	FCC Registration Number	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	313583	2973C-1	19.2 x 11.2 x 7.7m	7.0 x 6.0m	No.1 Power source room
No.2 semi-anechoic chamber	655103	2973C-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 semi-anechoic chamber	148738	2973C-3	12.0 x 8.5 x 5.9m	6.8 x 5.75m	No.3 Preparation room
No.3 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.4 semi-anechoic chamber	134570	2973C-4	12.0 x 8.5 x 5.9m	6.8 x 5.75m	No.4 Preparation room
No.4 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.5 semi-anechoic chamber	-	-	6.0 x 6.0 x 3.9m	6.0 x 6.0m	-
No.6 shielded room	-	-	4.0 x 4.5 x 2.7m	4.75 x 5.4 m	-
No.6 measurement room	-	-	4.75 x 5.4 x 3.0m	4.75 x 4.15 m	-
No.7 shielded room	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.8 measurement room	-	-	3.1 x 5.0 x 2.7m	N/A	-
No.9 measurement room	-	-	8.0 x 4.5 x 2.8m	2.0 x 2.0m	-
No.10 measurement room	-	-	2.6 x 2.8 x 2.5m	2.4 x 2.4m	-
No.11 measurement room	-	-	3.1 x 3.4 x 3.0m	2.4 x 3.4m	-

* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0m for No.1, No.2, No.3, and No.4 semi-anechoic chambers and No.3 and No.4 shielded rooms.

3.6 Data of EMI, Test instruments, and Test set up

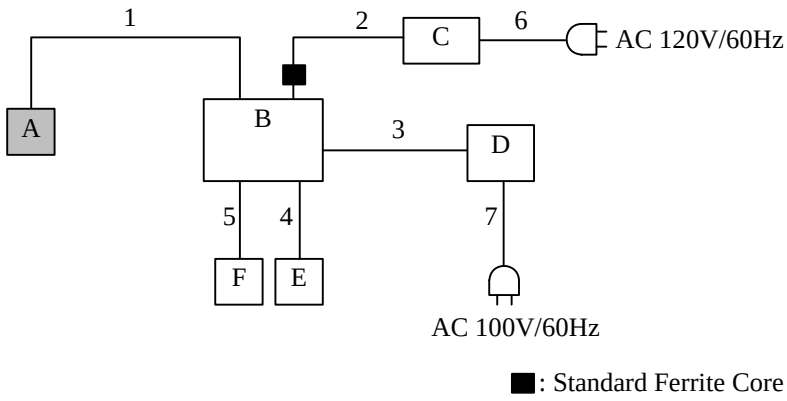
Refer to APPENDIX.

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

4.1 Operating modes

The mode : Transmitting (Tx) 2441MHz mode

4.2 Configuration and peripherals



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

Description of EUT

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	USB Dongle	CRV-CK-1R	3	ELMO COMPANY,LIMITED	EUT
B	Laptop Computer	7661-CB9	L3-K0730 07/10	IBM	-
C	AC Adapter	92P1160	11S92P1160Z1ZBGH 77W6YJ	IBM	-
D	LCD	LCD-A154VW	U6J6004933VT	I·O DATA	-
E	External FDD	CF-VFDU03	0322374	Panasonic	-
F	USB Mouse	M-UB48	4872A001	Logitech	-

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	USB Cable	1.0	Shielded	Shielded	-
2	DC Cable	2.0	Unshielded	Unshielded	-
3	Display Cable	1.6	Unshielded	Unshielded	-
4	FDD (USB) Cable	0.3	Shielded	Shielded	-
5	Mouse (USB) Cable	0.7	Shielded	Shielded	-
6	AC Cable	0.9	Unshielded	Unshielded	-
7	AC Cable	1.6	Unshielded	Unshielded	-

SECTION 5: Conducted Emission

5.1 Operating environment

Test place : No.4 semi anechoic chamber
Temperature : See data
Humidity : See data

5.2 Test configuration

EUT was placed on a urethane platform of nominal size, 1.0m by 1.5m, raised 0.8m above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT and its peripherals was aligned and 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 the LISN/AMN and excess AC cable was bundled in center. I/O cables that were connected to the other peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane. Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN/AMN to the input power source. All unused 50 ohm connectors of the LISN/AMN were resistivity terminated in 50 ohm when not connected to the measuring equipment.
Photographs of the set up are shown in Appendix 3.

Frequency range : 0.15 MHz-30MHz
EUT position : Table top
EUT operation mode : See Clause 4.1

5.3 Test procedure

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT within a semi anechoic chamber. The EUT was connected to a Line Impedance Stabilization Network (LISN)/ Artificial Mains network (AMN). An overview sweep with peak detection has been performed. The measurements have been performed with a quasi-peak detector and if required, with an average detector.
The conducted emission measurements were made with the following detector function of the test receiver.

Detector Type : Quasi-Peak and Average
IF Bandwidth : 9 kHz

5.4 Test result

Summary of the test results: Pass

Date: December 28, 2011 Test engineer: Yutaka Yoshida

SECTION 6: Radiated Emission

6.1 Operating environment

Test place : No.4 semi anechoic chamber
Temperature : See data
Humidity : See data

6.2 Test configuration

EUT was placed on a urethane platform of nominal size, 1.0m by 1.5m, raised 0.8m above the conducting ground plane. The EUT was set on the edge of the tabletop.
Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.
Photographs of the set up are shown in Appendix 3.

6.3 Test conditions

Frequency range : 30MHz-300MHz (Biconical antenna) / 300MHz-1000MHz (Logperiodic antenna)
Test distance : 3m
EUT position : Table top
EUT operation mode : See Clause 4.1

6.4 Test procedure

The height of the measuring antenna 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 with the Test Receiver, or the Spectrum Analyzer.
The radiated emission measurements were made with the following detector function of the test receiver and the Spectrum analyzer.

Frequency	Below 1GHz
Instrument used	Test Receiver
IF Bandwidth	QP: BW 120kHz

*As the worst condition of the radiated emission from the EUT, the EUT was set at the distance of more than 10cm from the peripheral devices and tested using USB cable in order not to be the shielding of the host device.

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

6.5 Test result

Summary of the test results: Pass

Date: December 28, 2011 Test engineer: Keisuke Kawamura

APPENDIX 1: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

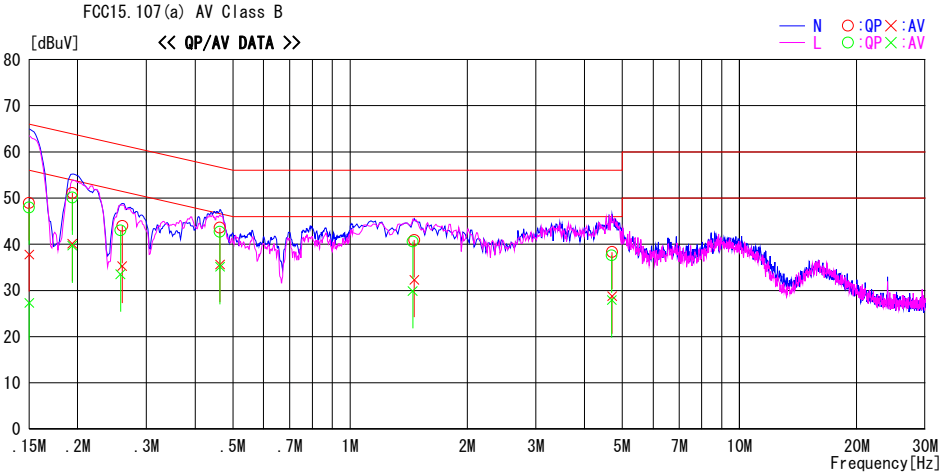
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2011/12/28

Report No. : 32EE0092-HO

Temp./Humi. : 22deg.C / 24% RH
Engineer : Yutaka Yoshida

Mode / Remarks : Tx 2441MHz

LIMIT : FCC15.107(a) QP Class B
FCC15.107(a) AV Class B



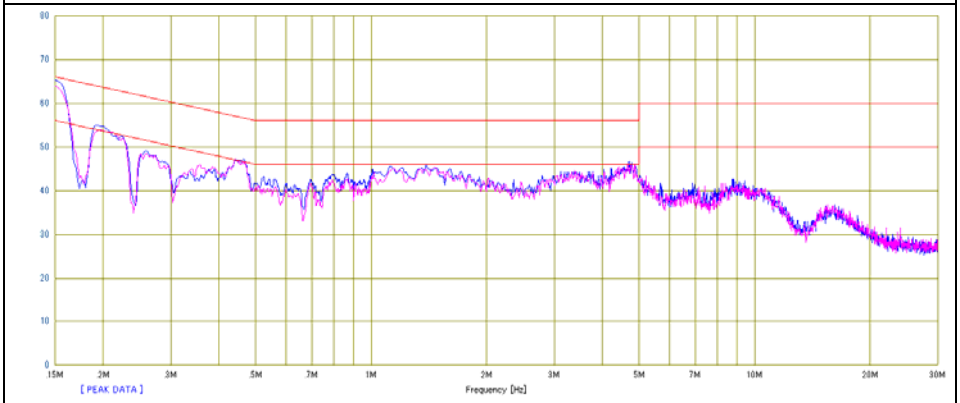
Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15000	35.5	24.4	13.4	48.9	37.8	66.0	56.0	17.1	18.2	N	
0.19350	37.7	26.7	13.4	51.1	40.1	63.9	53.9	12.8	13.8	N	
0.26020	30.5	21.8	13.5	44.0	35.3	61.4	51.4	17.4	16.1	N	
0.46320	30.1	22.1	13.5	43.6	35.6	56.6	46.6	13.0	11.0	N	
1.46373	27.2	18.6	13.7	40.9	32.3	56.0	46.0	15.1	13.7	N	
4.71382	24.3	14.7	14.0	38.3	28.7	56.0	46.0	17.7	17.3	N	
0.15000	34.5	13.9	13.4	47.9	27.3	66.0	56.0	18.1	28.7	L	
0.19350	36.7	26.3	13.4	50.1	39.7	63.9	53.9	13.8	14.2	L	
0.25730	29.5	20.0	13.5	43.0	33.5	61.5	51.5	18.5	18.0	L	
0.46320	29.2	21.6	13.5	42.7	35.1	56.6	46.6	13.9	11.5	L	
1.44862	26.9	16.2	13.7	40.6	29.9	56.0	46.0	15.4	16.1	L	
4.69871	23.6	13.9	14.0	37.6	27.9	56.0	46.0	18.4	18.1	L	

CHART:WITH FACTOR,Peak hold data. CALCULATION:RESULT=READING+C.F(LISN LOSS+ATT LOSS +CABLE LOSS)
Except for the above table : adequate margin data below the limits.

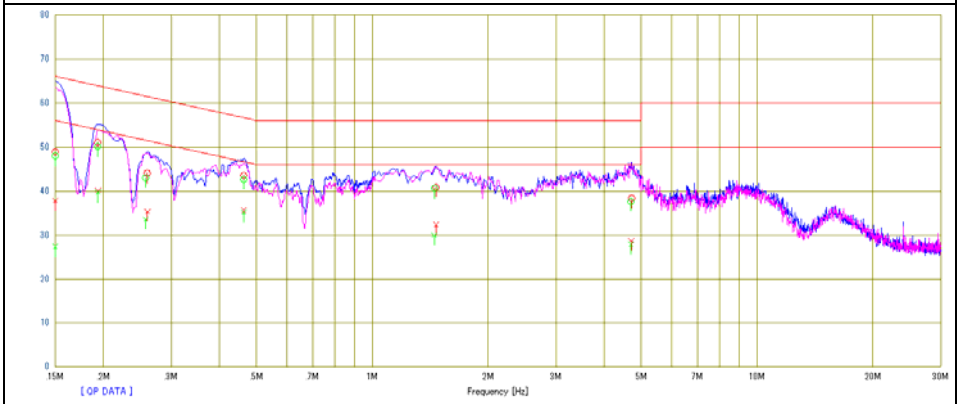
Conducted Emission

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	32EE0092-HO-01
Date	12/28/2011
Temperature/ Humidity	22 deg.C / 24% RH
Engineer	Yutaka Yoshida
Mode	Tx

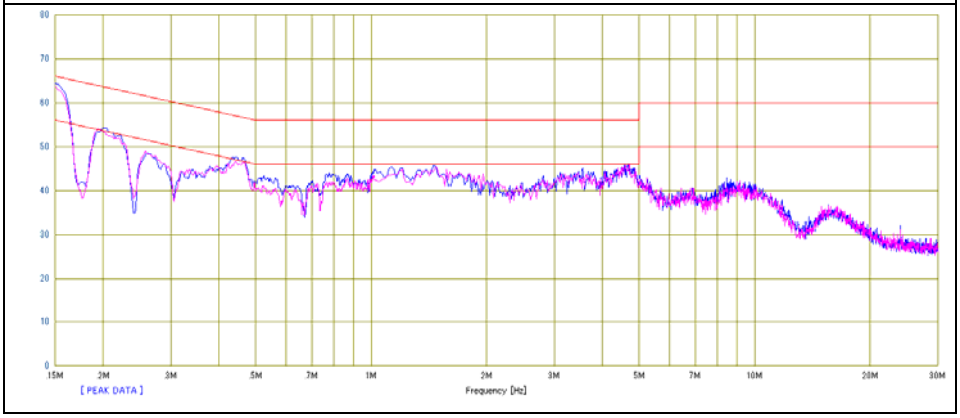
2402MHz



2441MHz



2479MHz



Radiated Emission

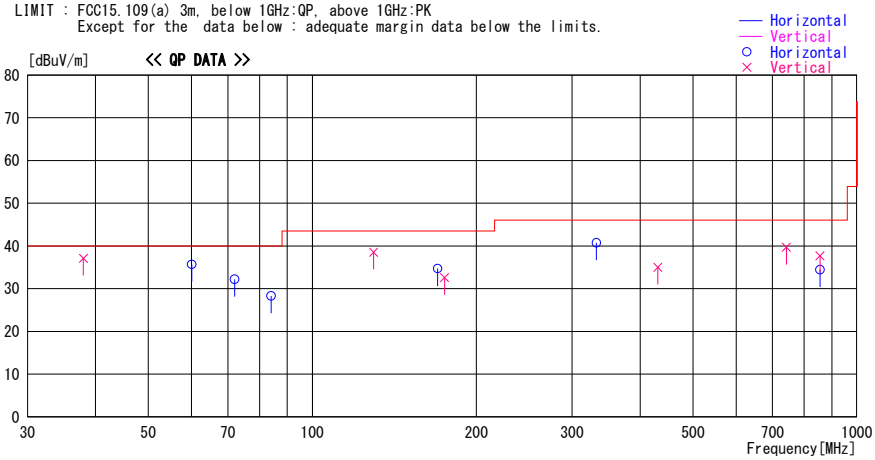
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2011/12/28

Report No. : 32EE0092-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 20deg.C / 32% RH
Engineer : Keisuke Kawamura

Mode / Remarks : Tx 2402MHz, Worst axis(Hor:Z,Ver:Y)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
37.991	46.7	QP	15.5	-25.1	37.1	100	100	Vert.	40.0	2.9	
60.071	52.5	QP	8.0	-24.8	35.7	212	374	Hori.	40.0	4.3	
71.999	50.2	QP	6.6	-24.6	32.2	293	249	Hori.	40.0	7.8	
84.000	45.4	QP	7.2	-24.3	28.3	294	300	Hori.	40.0	11.7	
129.601	48.5	QP	13.8	-23.8	38.5	7	100	Vert.	43.5	5.0	
169.949	42.3	QP	15.8	-23.4	34.7	319	191	Hori.	43.5	8.8	
174.899	40.0	QP	15.9	-23.3	32.6	321	100	Vert.	43.5	10.9	
332.666	46.2	QP	16.6	-22.1	40.7	312	100	Hori.	46.0	5.3	
431.028	38.4	QP	18.1	-21.5	35.0	164	100	Vert.	46.0	11.0	
742.366	36.7	QP	22.7	-19.7	39.7	159	111	Vert.	46.0	6.3	
855.476	29.2	QP	23.9	-18.7	34.4	66	196	Hori.	46.0	11.6	
855.481	32.5	QP	23.9	-18.7	37.7	163	100	Vert.	46.0	8.3	

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

*The limit is rounded down to one decimal place.
*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated Emission

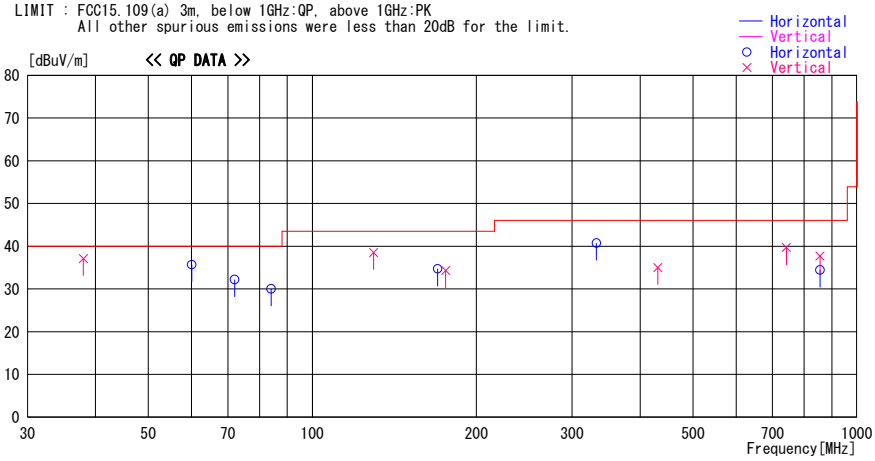
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2011/12/28

Report No. : 32EE0092-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 20deg.C / 32% RH
Engineer : Keisuke Kawamura

Mode / Remarks : Tx 2441MHz, Worst axis(Hor:X,Ver:Y)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
All other spurious emissions were less than 20dB for the limit.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
37.991	46.7	QP	15.5	-25.1	37.1	100	100	Vert.	40.0	2.9	
60.071	52.5	QP	8.0	-24.8	35.7	212	374	Hori.	40.0	4.3	
71.999	50.2	QP	6.6	-24.6	32.2	293	249	Hori.	40.0	7.8	
84.000	47.1	QP	7.2	-24.3	30.0	287	300	Hori.	40.0	10.0	
129.601	48.5	QP	13.8	-23.8	38.5	7	100	Vert.	43.5	5.0	
169.949	42.3	QP	15.8	-23.4	34.7	319	191	Hori.	43.5	8.8	
175.799	41.5	QP	16.0	-23.2	34.3	309	100	Vert.	43.5	9.2	
332.666	46.2	QP	16.6	-22.1	40.7	312	100	Hori.	46.0	5.3	
431.028	38.4	QP	18.1	-21.5	35.0	164	100	Vert.	46.0	11.0	
742.366	36.7	QP	22.7	-19.7	39.7	159	111	Vert.	46.0	6.3	
855.476	29.2	QP	23.9	-18.7	34.4	66	196	Hori.	46.0	11.6	
855.481	32.5	QP	23.9	-18.7	37.7	163	100	Vert.	46.0	8.3	

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

*The limit is rounded down to one decimal place.
*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated Emission

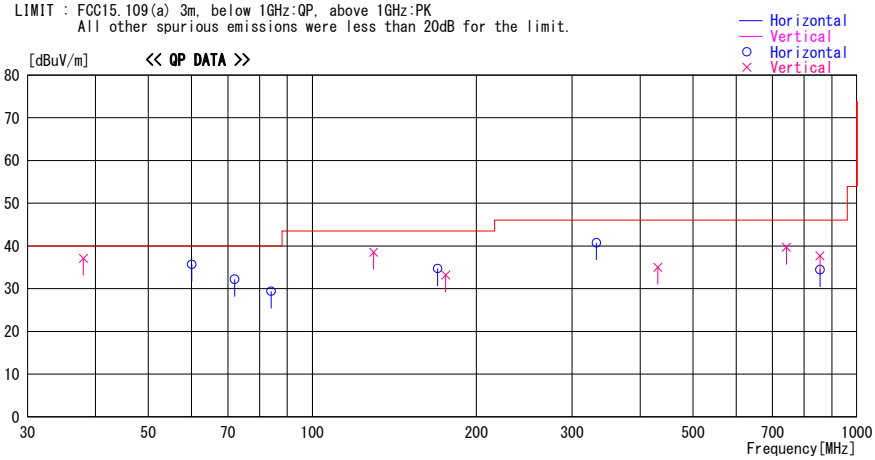
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2011/12/28

Report No. : 32EE0092-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 20deg.C / 32% RH
Engineer : Keisuke Kawamura

Mode / Remarks : Tx 2479MHz, Worst axis(Hor:X,Ver:Y)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
All other spurious emissions were less than 20dB for the limit.



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
37.991	46.7	QP	15.5	-25.1	37.1	100	100	Vert.	40.0	2.9	
60.071	52.5	QP	8.0	-24.8	35.7	212	374	Hori.	40.0	4.3	
71.999	50.2	QP	6.6	-24.6	32.2	293	249	Hori.	40.0	7.8	
84.000	46.5	QP	7.2	-24.3	29.4	276	300	Hori.	40.0	10.6	
129.601	48.5	QP	13.8	-23.8	38.5	7	100	Vert.	43.5	5.0	
169.949	42.3	QP	15.8	-23.4	34.7	319	191	Hori.	43.5	8.8	
175.799	40.4	QP	16.0	-23.2	33.2	313	100	Vert.	43.5	10.3	
332.666	46.2	QP	16.6	-22.1	40.7	312	100	Hori.	46.0	5.3	
431.028	38.4	QP	18.1	-21.5	35.0	164	100	Vert.	46.0	11.0	
742.366	36.7	QP	22.7	-19.7	39.7	159	111	Vert.	46.0	6.3	
855.476	29.2	QP	23.9	-18.7	34.4	66	196	Hori.	46.0	11.6	
855.481	32.5	QP	23.9	-18.7	37.7	163	100	Vert.	46.0	8.3	

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

*The limit is rounded down to one decimal place.
*The test result is rounded off to one or two decimal places, so some differences might be observed.

APPENDIX 2: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-04	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE/CE	2011/03/01 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE	2011/02/23 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE/CE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE/CE	2011/11/23 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE (EUT)	2011/02/22 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE (AE)	2011/02/20 * 12
MTA-29	Terminator	TME	CT-01	-	CE	2011/01/05 * 12
MCC-113	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W(10m)/SFM141(5m)/421-010(1m)/sucoform141-PE(1m)/RFM-E121(Switcher)	-/04178	CE	2011/07/04 * 12
MAT-67	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	2011/02/22 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	RE/CE	2011/10/19 * 12
MOS-23	Thermo-Hygrometer	Custom	CTH-201	0004	CE	2011/12/09 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2011/11/16 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2011/11/16 * 12
MCC-50	Coaxial Cable	UL Japan	-	-	RE	2011/03/25 * 12
MAT-51	Attenuator(6dB)	Weinschel	2	AS3557	RE	2011/01/14 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	RE	2011/03/04 * 12

The expiration date of the calibration is the end of the expired month.
All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

Test Item:
CE: Conducted emission
RE: Radiated emission