



EMI TEST REPORT

Test Report No. : 10009969H-B

Applicant : Sharp Corporation, Communication Systems Division.
Type of Equipment : Cellular Phone
Model No. : 205SH
FCC ID : APYHRO00193
Test standard : FCC Part 15 Subpart B 2012 Class B
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 above regulation.
4. The test results in this report are traceable to the national or international standards.
5. This test report must not be used by the customer product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Date of test:

May 7 and 8, 2013

Representative test engineer:

K. Kawamura

Keisuke Kawamura
Engineer of WiSE Japan,
UL Verification Service

Approved by:

T. Hatake

Takahiro Hatakeda
Leader of WiSE Japan,
UL Verification Service



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>

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13-EM-F0429

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SECTION 1: Customer information

Company Name : Sharp Corporation, Communication Systems Division.
Address : 2-13-1 Iida Hachihonmatsu HigashiHiroshima-City, Hiroshima,
739-0192 Japan
Telephone Number : +81-82-420-1827
Facsimile Number : +81-82-420-1572
Contact Person : Hiroyuki Uwatoko

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

2.1 Identification of E.U.T.

Type of Equipment : Cellular Phone
Model No. : 205SH
Serial No. : Refer to Section 4, Clause 4.2
Receipt Date of Sample : April 23, 2013
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

2.2 Product description

Feature of EUT : 205SH is AXGP and Quad-band (FDD I/FDD V/FDD VIII/FDD XI)
WCDMA Dual-mode Cellular Phone.
The EUT has the function that Bluetooth wireless technology interface
and wireless LAN technical interface for establishing contact and
transmitting data with certain device.
Clock frequencies in the system : CPU: 1.512GHz (max)
RTC: 32.768kHz
Source oscillation: 19.2MHz / 27MHz (CPU) / 27.12MHz (Felica)

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SECTION 3: Test specification, procedures & results

3.1 Test specification

Test Specification : FCC Part 15 Subpart B: 2012, final revised on December 27, 2012 and effective January 28, 2013

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

3.2 Procedures and results

Item	Test Procedure	Limits	Deviation	Worst margin	Result
Conducted emission	ANSI C63.4: 2009 7. AC powerline conducted emission measurements	Class B	N/A	[QP] 11.5dB 0.17234MHz, L [AV] 11.1dB 0.17234MHz, L	Complied
Radiated emission	ANSI C63.4: 2009 8. Radiated emission measurements	Class B	N/A	10.3dB 60.324MHz, Horizontal, QP	Complied

*Note: UL Japan, Inc's EMI Work Procedure 13-EM-W0420.

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						
	(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	4.3dB	5.0dB	5.1dB	4.9dB	5.8dB	4.4dB	4.3dB
No.2	4.3dB	5.2dB	5.1dB	5.0dB	5.7dB	4.3dB	4.2dB
No.3	4.6dB	5.0dB	5.1dB	5.0dB	5.7dB	4.5dB	4.2dB
No.4	4.8dB	5.2dB	5.0dB	5.0dB	5.7dB	5.2dB	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 test report has enough margin, more than the site margin.

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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 8999 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 Test set up, Data of EMI, and Test instruments

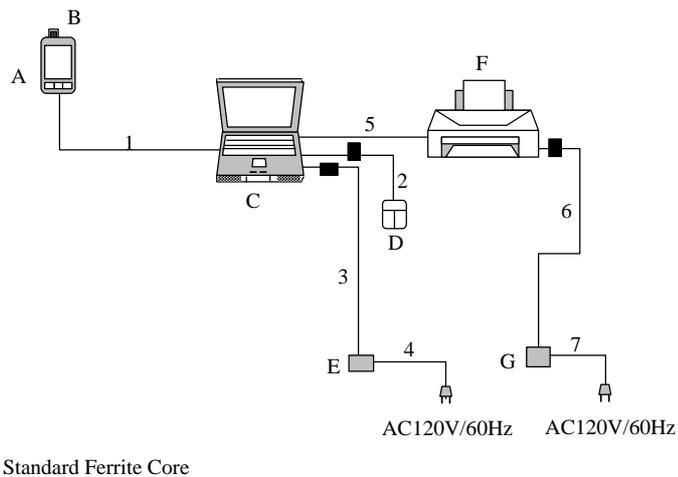
Refer to APPENDIX.

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

4.1 Operating modes

The mode(s) : 1) USB Data Com Mode
The USB data is communicated between EUT and Personal computer (Pair of EUT).
2) Standby Mode
Standby state for USB communication.

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	Remarks
A	Cellular Phone	205SH	004401/11/477876/0	Sharp Corporation	EUT
B	microSD Memory Card	MMAUR02G3ACA	None	Samsung	-
C	Personal Computer	PP11L	CN-0D4571-48643-55V-1651	Dell	-
D	Mouse	M-BE55	LZE21450232	Logitech	-
E	AC Adapter (PC)	PA-1650-05D2	CN-0F7970-71615-561-14A1	Dell	-
F	Printer	895Cxi	SG8BL1W16V	Hewlett Packard	-
G	AC Adapter(Printer)	C4557-60004	C8K28B	Hewlett Packard	-

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	USB Data Cable	0.80	Shielded	Shielded	-
2	Mouse Cable	0.72	Unshielded	Unshielded	-
3	AC Adaptor Cable (PC)	1.76	Unshielded	Unshielded	-
4	AC Power Cable (PC)	0.85	Unshielded	Unshielded	-
5	Parallel Cable	1.65	Shielded	Shielded	-
6	AC Adapter Cable (printer)	2.00	Unshielded	Unshielded	-
7	AC Power Cable (printer)	1.75	Unshielded	Unshielded	-

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SECTION 5: Conducted Emission

5.1 Operating environment

Test place : No. 3 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: May 8, 2013

Test engineer: Keisuke Kawamura

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SECTION 6: Radiated Emission

6.1 Operating environment

Test place : No. 1 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 Appendix3.

6.3 Test conditions

Frequency range : 30MHz-300MHz (Biconical antenna) / 300MHz-1000MHz (Logperiodic antenna)
1000MHz-10000MHz (Horn 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	Above 1GHz
Instrument used	Test Receiver	Spectrum Analyzer
IF Bandwidth	QP: BW 120kHz	PK: RBW:1MHz/VBW: 3MHz AV *1): RBW:1MHz/VBW:10Hz

*1) When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

- The 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 representative X-axis since no difference was found among each position.

6.5 Test result

Summary of the test results: Pass

Date: May 7, 2013

Test engineer: Keisuke Kawamura

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APPENDIX 1: Data of EMI test

Conducted Emission

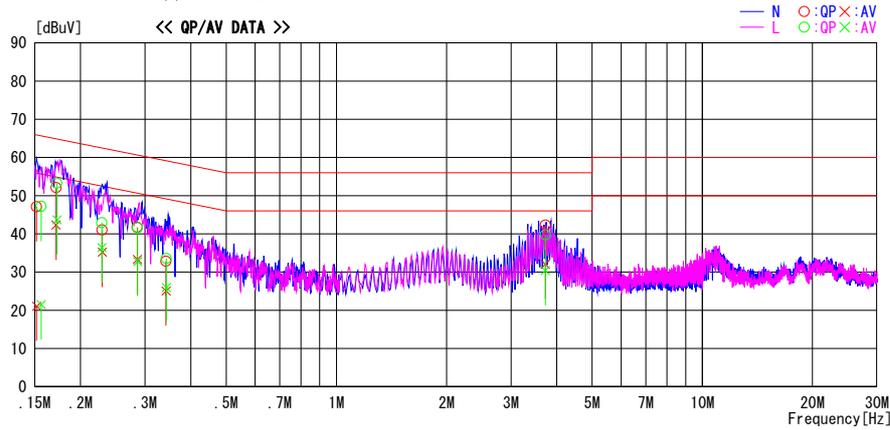
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2013/05/08

Report No. : 10009969H
Temp./Humi. : 19deg. C / 33% RH
Engineer : Keisuke Kawamura

Mode / Remarks : USB Data Com

LIMIT : FCC15.107(a) QP ClassB
FCC15.107(a) AV ClassB



Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.15174	33.9	7.9	13.2	47.1	21.1	65.9	55.9	18.8	34.8	N	
0.17144	38.9	29.1	13.2	52.1	42.3	64.9	54.9	12.8	12.6	N	
0.22917	27.8	22.0	13.2	41.0	35.2	62.5	52.5	21.5	17.3	N	
0.28592	28.4	20.0	13.3	41.7	33.3	60.6	50.6	18.9	17.3	N	
0.34262	19.5	11.8	13.3	32.8	25.1	59.1	49.1	26.3	24.0	N	
3.72367	28.6	18.4	13.7	42.3	32.1	56.0	46.0	13.7	13.9	N	
0.15609	34.0	8.3	13.2	47.2	21.5	65.7	55.7	18.5	34.2	L	
0.17234	40.1	30.5	13.2	53.3	43.7	64.8	54.8	11.5	11.1	L	
0.22882	29.7	23.2	13.2	42.9	36.4	62.5	52.5	19.6	16.1	L	
0.28631	28.3	19.5	13.3	41.6	32.8	60.6	50.6	19.0	17.8	L	
0.34314	20.3	12.7	13.3	33.6	26.0	59.1	49.1	25.5	23.1	L	
3.72487	26.0	16.7	13.7	39.7	30.4	56.0	46.0	16.3	15.6	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.

*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.

Conducted Emission

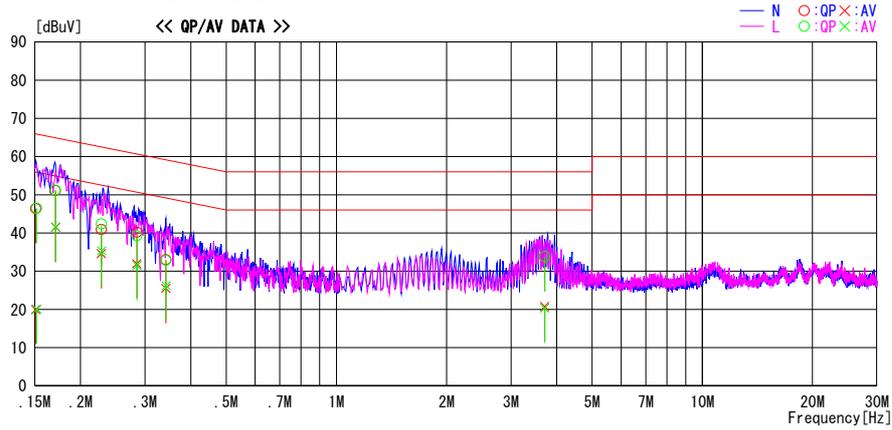
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2013/05/08

Report No. : 10009969H
Temp./Humi. : 19deg. C / 33% RH
Engineer : Keisuke Kawamura

Mode / Remarks : Standby

LIMIT : FCC15.107(a) QP ClassB
FCC15.107(a) AV ClassB



Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.15087	33.2	6.8	13.2	46.4	20.0	66.0	56.0	19.6	36.0	N	
0.17094	37.9	28.3	13.2	51.1	41.5	64.9	54.9	13.8	13.4	N	
0.22789	27.7	21.4	13.2	40.9	34.6	62.5	52.5	21.6	17.9	N	
0.28483	26.9	18.7	13.3	40.2	32.0	60.7	50.7	20.5	18.7	N	
0.34219	19.7	12.2	13.3	33.0	25.5	59.1	49.1	26.1	23.6	N	
3.70655	20.1	7.1	13.7	33.8	20.8	56.0	46.0	22.2	25.2	N	
0.15174	33.3	6.9	13.2	46.5	20.1	65.9	55.9	19.4	35.8	L	
0.17087	38.0	28.4	13.2	51.2	41.6	64.9	54.9	13.7	13.3	L	
0.22831	29.2	22.1	13.2	42.4	35.3	62.5	52.5	20.1	17.2	L	
0.28514	26.0	18.2	13.3	39.3	31.5	60.7	50.7	21.4	19.2	L	
0.34267	19.5	12.9	13.3	32.8	26.2	59.1	49.1	26.3	22.9	L	
3.70655	20.1	6.6	13.7	33.8	20.3	56.0	46.0	22.2	25.7	L	

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

*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
(Below 1GHz)

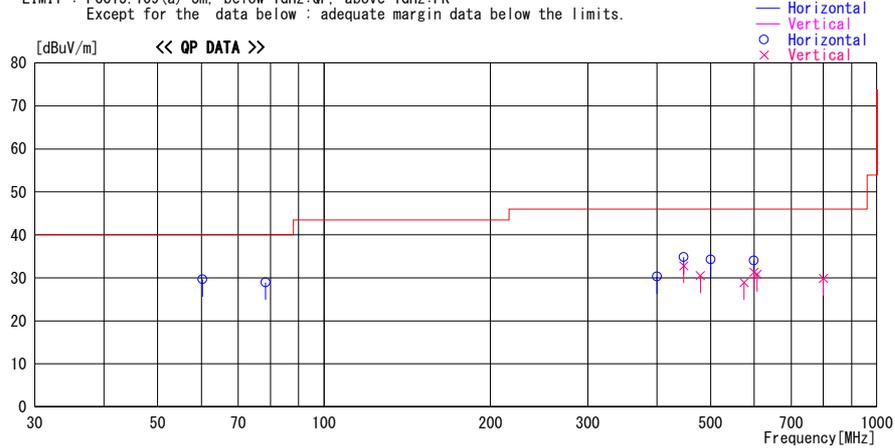
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2013/05/07

Report No. : 10009969H
Temp./Humi. : 20deg. C / 36% RH
Engineer : Keisuke Kawamura

Mode / Remarks : USB Data Com Worst-Axis(Hori:X / Vert:X)

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



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit	Margin	Comment
			Factor [dB/m]	Gain [dB]					[dBuV/m]	[dB]	
60.324	52.7	QP	7.9	-30.9	29.7	276	370	Hori.	40.0	10.3	
78.415	52.3	QP	7.2	-30.6	28.9	286	251	Hori.	40.0	11.1	
399.995	40.1	QP	17.6	-27.4	30.3	180	100	Hori.	46.0	15.7	
447.358	43.9	QP	17.9	-27.0	34.8	296	100	Hori.	46.0	11.2	
447.358	41.9	QP	17.9	-27.0	32.8	183	119	Vert.	46.0	13.2	
479.313	39.2	QP	18.0	-26.7	30.5	142	100	Vert.	46.0	15.5	
500.372	42.7	QP	18.1	-26.5	34.3	0	100	Hori.	46.0	11.7	
575.171	35.5	QP	19.2	-25.8	28.9	22	114	Vert.	46.0	17.1	
599.246	37.4	QP	19.5	-25.6	31.3	242	100	Vert.	46.0	14.7	
599.246	40.1	QP	19.5	-25.6	34.0	134	195	Hori.	46.0	12.0	
607.124	36.7	QP	19.6	-25.5	30.8	16	118	Vert.	46.0	15.2	
799.992	31.6	QP	22.4	-24.1	29.9	267	100	Vert.	46.0	16.1	

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
(Below 1GHz)

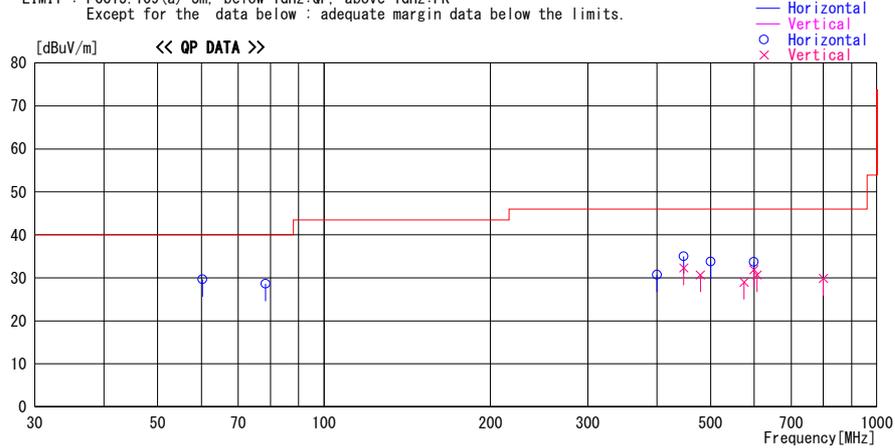
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2013/05/07

Report No. : 10009969H
Temp./Humi. : 20deg. C / 36% RH
Engineer : Keisuke Kawamura

Mode / Remarks : Satndby Worst-Axis(Hori:X / Vert:X)

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



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss& Gain [dB]							
60.324	52.7	QP	7.9	-30.9	29.7	276	370	Hori.	40.0	10.3	
78.415	52.0	QP	7.2	-30.6	28.6	287	252	Hori.	40.0	11.4	
399.995	40.5	QP	17.6	-27.4	30.7	176	100	Hori.	46.0	15.3	
447.358	44.1	QP	17.9	-27.0	35.0	297	100	Hori.	46.0	11.0	
447.358	41.4	QP	17.9	-27.0	32.3	182	119	Vert.	46.0	13.7	
479.313	39.4	QP	18.0	-26.7	30.7	139	100	Vert.	46.0	15.3	
500.372	42.2	QP	18.1	-26.5	33.8	0	100	Hori.	46.0	12.2	
575.171	35.6	QP	19.2	-25.8	29.0	21	116	Vert.	46.0	17.0	
599.246	38.0	QP	19.5	-25.6	31.9	243	100	Vert.	46.0	14.1	
599.246	39.8	QP	19.5	-25.6	33.7	134	195	Hori.	46.0	12.3	
607.124	36.6	QP	19.6	-25.5	30.7	14	113	Vert.	46.0	15.3	
799.992	31.6	QP	22.4	-24.1	29.9	262	100	Vert.	46.0	16.1	

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
(Above 1GHz)

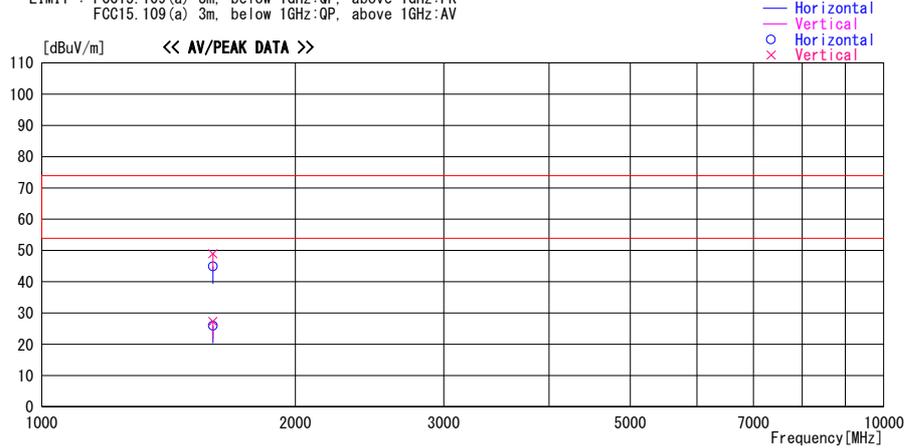
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2013/05/07

Report No. : 10009969H
Temp./Humi. : 20deg. C / 36% RH
Engineer : Keisuke Kawamura

Mode / Remarks : USB Data Com Worst-Axis(Hori:X / Vert:X)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Gain [dB]							
1596.222	36.2	AV	25.8	-34.7	27.3	223	100	Vert.	53.9	26.6	
1596.222	57.9	PK	25.8	-34.7	49.0	223	100	Vert.	73.9	24.9	
1596.222	53.8	PK	25.8	-34.7	44.9	274	146	Hori.	73.9	29.0	
1596.222	34.8	AV	25.8	-34.7	25.9	274	146	Hori.	53.9	28.0	

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
(Above 1GHz)

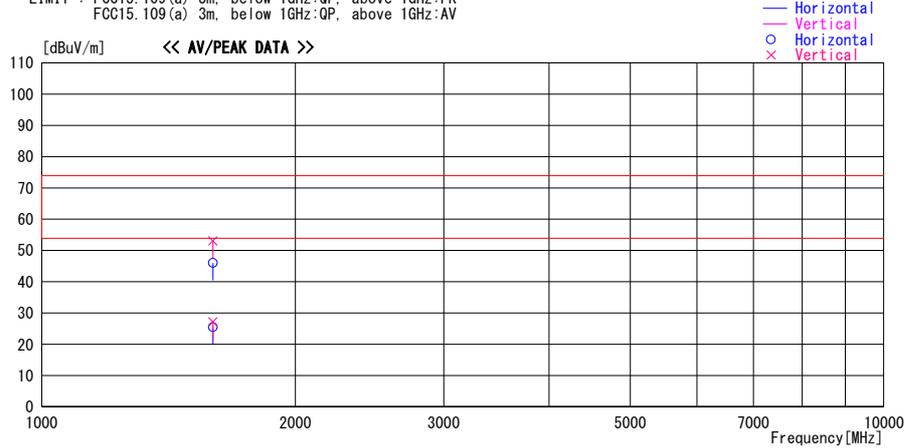
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2013/05/07

Report No. : 10009969H
Temp./Humi. : 20deg. C / 36% RH
Engineer : Keisuke Kawamura

Mode / Remarks : Satndby Worst-Axis(Hori:X / Vert:X)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit	Margin	Comment
			Factor [dB/m]	Gain [dB]					[dBuV/m]	[dB]	
1596.222	36.0	AV	25.8	-34.7	27.1	223	100	Vert.	53.9	26.8	
1596.222	61.9	PK	25.8	-34.7	53.0	223	100	Vert.	73.9	20.9	
1596.222	54.9	PK	25.8	-34.7	46.0	274	146	Hori.	73.9	27.9	
1596.222	34.4	AV	25.8	-34.7	25.5	274	146	Hori.	53.9	28.5	

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 Instruments

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-01	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 10m	DA-06881	RE	2012/08/01 * 12
MOS-27	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q26	RE	2013/02/26 * 12
MJM-01	Measure	KDS	ES19-55	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MTR-09	EMI Test Receiver	Rohde & Schwarz	ESU26	100412	RE	2012/06/14 * 12
KBA-05	Biconical Antenna	Schwarzbeck	BBA9106	2513	RE	2012/11/18 * 12
KLA-04	Logperiodic Antenna	Schwarzbeck	USLP9143	361	RE	2012/11/18 * 12
MAT-08	Attenuator(6dB)	Weinschel Corp	2	BK7971	RE	2012/11/06 * 12
MCC-02	Coaxial Cable	Suhner/storm/Agilent/ TSJ	-	-	RE	2012/09/13 * 12
MPA-19	Pre Amplifier	MITEQ	MLA-10K01-B01-35	1237616	RE	2013/02/07 * 12
MHA-05	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	253	RE	2012/06/27 * 12
MCC-142	Microwave Cable	Junkosha	MWX221	1203S213(1m) / 1204S063(5m)	RE	2013/04/19 * 12
MPA-01	Pre Amplifier	Agilent	8449B	3008A01671	RE	2013/02/22 * 12
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	CE	2013/02/28 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	CE	2013/02/26 * 12
MJM-16	Measure	KOMELON	KMC-36	-	CE	-
MSA-09	Spectrum Analyzer	Advantest	R3273	95090115	CE	2012/10/22 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	CE	2012/08/23 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(EUT)	2013/01/07 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE(AE)	2013/01/07 * 12
MTA-30	Terminator	TME	CT-01	-	CE	2013/01/10 * 12
MCC-112	Coaxial cable	Fujikura/Suhner/TSJ	5D- 2W(10m)/SFM141(3m) /suciform141- PE(1m)/421- 010(1.5m)/RFM- E321(Switcher)	-/00640	CE	2012/07/12 * 12
MAT-66	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	2013/01/22 * 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 Emissions

RE: Radiated Emissions

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