



EMI TEST REPORT

Test Report No. : 29DE0075-HO-A

Applicant : Sharp Corporation, Communication Systems Group.
Type of Equipment : Cellular Phone
Model No. : 830SHe
FCC ID : APYHRO00090
Test regulation : FCC Part 15 Subpart B 2008 Class B
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 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: December 2, 2008

Tested by: 
Takumi Shimada
EMC Services

Approved by : 
Minoru Yamanaka
Assistant Manager of EMC Services



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://uljapan.co.jp/emc/nvlap.htm>

UL Japan, Inc.

Head Office EMC Lab.

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MF060b (09.01.08)

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SECTION 1: Customer information

Company Name : Sharp Corporation, Communication Systems Group.
Brand Name : SHARP
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. : 830SHe
Serial No. : 004401/11/177064/6
Rating : AC 120V/60Hz, DC4.0V
Receipt Date of Sample : November 28, 2008
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

Sharp Corporation, Communication Systems Group., Model No: 830SHe is the Cellular Phone.

Clock frequency : CPU: 26MHz
RTC: 32.768kHz
Internal: 208MHz
Feature of EUT : 830SHe is WCDMA (FDD1) & Tri-band
(GSM900/DCS1800/PCS1900) GSM Dual mode Cellular Phone.

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SECTION 3: Test specification, procedures & results

3.1 Test specification

Test Specification : FCC Part 15 Subpart B 2008, final revised on May 19, 2008
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: 2003 7. AC powerline conducted emission measurements	Class B	N/A	[QP] 13.7dB, 3.76591MHz, L [AV] 15.2dB, 0.17228MHz, L	Complied
Radiated emission	ANSI C63.4: 2003 8. Radiated emission measurements	Class B	N/A	7.7dB, 72.380MHz, QP Horizontal	Complied

*Note: UL Japan, Inc's EMI Work Procedure QPM05.

*These tests were performed without any deviations from test procedure except for addition or exclusion.

3.3 Additions or deviations to standards

No addition, deviation, nor exclusion has been made from standards.

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	Conducted emission	Radiated emission (10m*)			Radiated emission (3m*)			Radiated emission (3m*)	
	150kHz-30MHz	9kHz-30MHz	30MHz-300MHz	300MHz-1GHz	9kHz-30MHz	30MHz-300MHz	300MHz-1GHz	1GHz-18GHz	18GHz-40GHz
No.1 semi-anechoic chamber (±)	3.7dB	3.1dB	4.4dB	4.2dB	3.2dB	3.8dB	3.9dB	5.9dB	6.1dB
No.2 semi-anechoic chamber (±)	3.7dB	-	-	-	3.2dB	4.4dB	4.0dB	5.9dB	6.1dB
No.3 semi-anechoic chamber (±)	3.7dB	-	-	-	3.2dB	4.6dB	4.0dB	5.9dB	6.1dB
No.4 semi-anechoic chamber (±)	3.7dB	-	-	-	3.2dB	3.9dB	3.9dB	5.9dB	6.1dB

*10m/3m = 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 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 Test set up, Data of EMI, and Test instruments

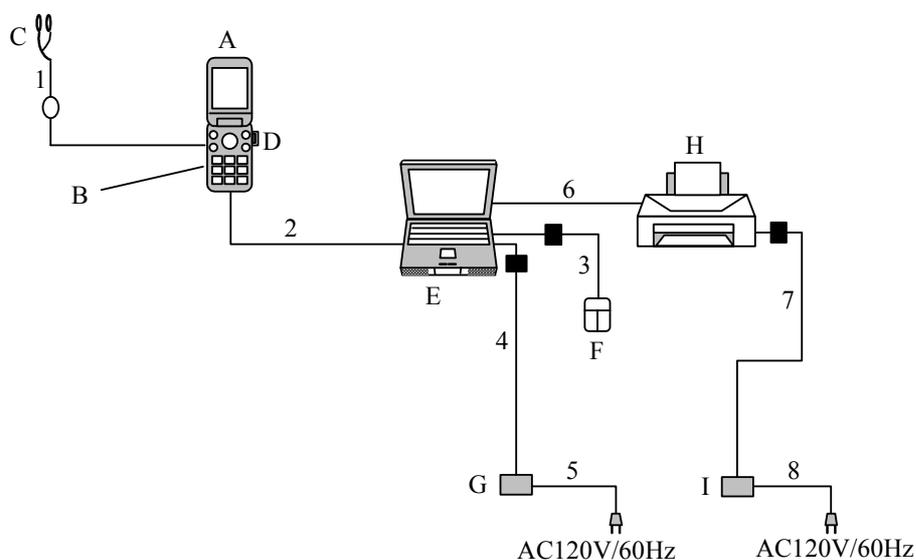
Refer to APPENDIX 1 to 3.

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

4.1 Operating modes

The mode is used : 1) USB Data Com mode
2) Standby mode

4.2 Configuration and peripherals



■ : Standard Ferrite Core

*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	Cellular Phone	830SHe	004401/11/177064/6	SHARP	EUT
B	Lithium-Ion Battery	SHBBY1	RIA	SHARP	EUT
C	Stereo Handsfree	RPHoHA019AFSB	1	SHARP	EUT
D	microSD Memory Card	SDSDQ-128	None	SanDisk	-
E	Personal Computer	PP11L	CN-OD4571-48643-55V-1651	Dell	DoC
F	Mouse	M-BE55	LZE21450232	Logitech	DoC
G	AC Adapter (PC)	PA-1650-05D2	OF7970-71615-561-14A1	Dell	DoC
H	Printer	895Cxi	SG8BL1W16V	Hewlett Packard	DoC
I	AC Adapter (Printer)	C4557-60004	C8K28B	Hewlett Packard	DoC

List of cables used

No.	Name	Length (m)	Shield	
			Cable	Connector
1	Stereo Handsfree	1.7	Unshielded	Unshielded
2	USB Data Cable	0.8	Shielded	Shielded
3	Mouse Cable	0.72	Unshielded	Unshielded
4	AC Adapter Cable(PC)	1.76	Unshielded	Unshielded
5	AC Power Cable(PC)	0.85	Unshielded	Unshielded
6	Parallel Cable	1.65	Shielded	Shielded
7	AC Adapter Cable(printer)	2.0	Unshielded	Unshielded
8	AC Power Cable(printer)	1.75	Unshielded	Unshielded

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SECTION 5: Conducted Emission

5.1 Operating environment

Test place : No.1 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 1.

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 2, 2008

Test engineer: Takumi Shimada

UL Japan, Inc.

Head Office EMC Lab.

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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 Appendix 1.

6.3 Test conditions

Frequency range : 30MHz-300MHz (Biconical antenna) / 300MHz-1000MHz (Logperiodic antenna)
1000MHz -2000MHz (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 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 test was made with the detector (RBW/VBW) in the following table. When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

Frequency	Below 1GHz	Above 1GHz
Instrument used	Test Receiver	Spectrum Analyzer
IF Bandwidth	QP: BW 120kHz	PK: RBW:1MHz/VBW: 1MHz AV: RBW:1MHz/VBW:10Hz

- 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 the position that has the maximum noise.

6.5 Test result

Summary of the test results: Pass

Date: December 2, 2008

Test engineer: Takumi Shimada

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APPENDIX 1: Photographs of test setup

Conducted Emission

This page has been submitted for a separate exhibit.

Radiated Emission

This page has been submitted for a separate exhibit.

Worst Case Position (Horizontal: X-axis/ Vertical:X-axis)

This page has been submitted for a separate exhibit.

APPENDIX 2: Data of EMI test

Conducted Emission
DATA OF CONDUCTED EMISSION TEST

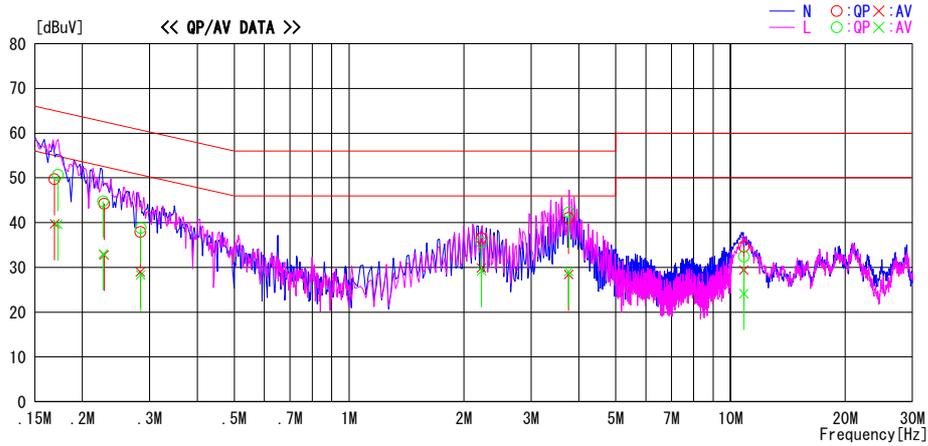
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/12/02

Company : Sharp Corporation
Kind of EUT : Cellular Phone
Model No. : 830She
Serial No. : 004401/11/177064/6

Report No. : 29DE0075-HO
Power : AC 120V / 60Hz
Temp./Humi. : 20deg. C / 33%
Engineer : Takumi Shimada

Mode / Remarks : USB Data Com Mode

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



Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.16912	49.5	39.5	0.2	49.7	39.7	65.0	55.0	15.3	15.3	N
0.22802	44.0	32.6	0.2	44.2	32.8	62.5	52.5	18.3	19.7	N
0.28362	37.6	28.7	0.3	37.9	29.0	60.7	50.7	22.8	21.7	N
2.22149	35.9	29.3	0.6	36.5	29.9	56.0	46.0	19.5	16.1	N
3.76275	40.3	27.6	0.8	41.1	28.4	56.0	46.0	14.9	17.6	N
10.83560	33.1	27.8	1.6	34.7	29.4	60.0	50.0	25.3	20.6	N
0.17228	50.5	39.4	0.2	50.7	39.6	64.8	54.8	14.1	15.2	L
0.22669	44.6	32.8	0.2	44.8	33.0	62.6	52.6	17.8	19.6	L
0.28410	38.5	28.0	0.3	38.8	28.3	60.7	50.7	21.9	22.4	L
2.22537	35.0	28.6	0.6	35.6	29.2	56.0	46.0	20.4	16.8	L
3.76591	41.5	28.3	0.8	42.3	29.1	56.0	46.0	13.7	16.9	L
10.83896	30.8	22.5	1.6	32.4	24.1	60.0	50.0	27.6	25.9	L

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

*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

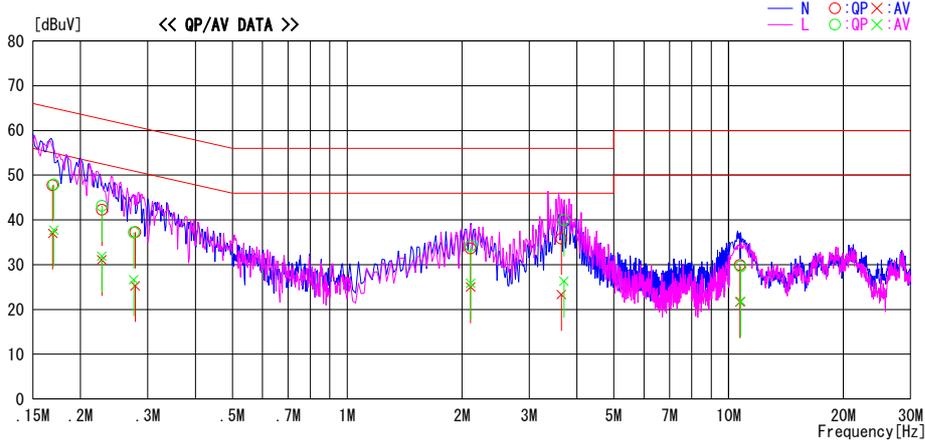
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/12/02

Company : Sharp Corporation
Kind of EUT : Cellular Phone
Model No. : 830ShE
Serial No. : 004401/11/177064/6

Report No. : 29DE0075-HO
Power : AC 120V / 60Hz
Temp./Humi. : 20deg. C / 33%
Engineer : Takumi Shimada

Mode / Remarks : Standby Mode

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



Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.16912	47.6	36.8	0.2	47.8	37.0	65.0	55.0	17.2	18.0	N
0.22755	42.1	30.9	0.2	42.3	31.1	62.5	52.5	20.2	21.4	N
0.27809	37.0	25.0	0.3	37.3	25.3	60.9	50.9	23.6	25.6	N
2.10513	33.1	24.5	0.5	33.6	25.0	56.0	46.0	22.4	21.0	N
3.64360	35.0	22.5	0.8	35.8	23.3	56.0	46.0	20.2	22.7	N
10.70320	28.3	20.1	1.6	29.9	21.7	60.0	50.0	30.1	28.3	N
0.17009	47.7	37.5	0.2	47.9	37.7	65.0	55.0	17.1	17.3	L
0.22732	43.0	31.7	0.2	43.2	31.9	62.5	52.5	19.3	20.6	L
0.27565	36.9	26.3	0.3	37.2	26.6	60.9	50.9	23.7	24.3	L
2.10649	33.7	25.3	0.5	34.2	25.8	56.0	46.0	21.8	20.2	L
3.69915	39.1	25.5	0.8	39.9	26.3	56.0	46.0	16.1	19.7	L
10.75180	28.0	20.2	1.6	29.6	21.8	60.0	50.0	30.4	28.2	L

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

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

Radiated Emission

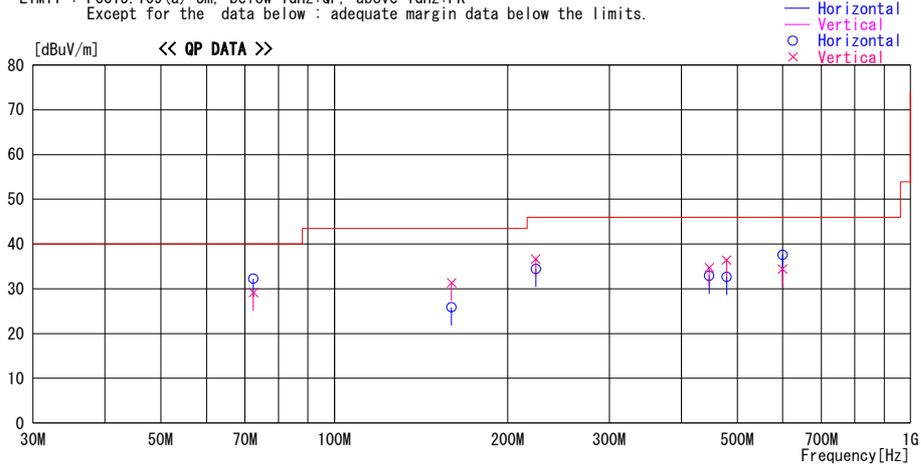
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/12/02

Company : Sharp Corporation
Kind of EUT : Cellular Phone
Model No. : 830SHe
Serial No. : 004401/11/177064/6
Report No. : 29DE0075-HO
Power : AC 120V / 60Hz
Temp./Humi. : 20deg.C. / 33%
Engineer : Takumi Shimada

Mode / Remarks : USB Data Com Mode / Worst axis (Hor:X-axis Ver:X-axis)

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]
			Factor [dB/m]	Loss&Gain [dB]						
72.379	45.9	QP	6.8	-20.5	32.2	283	252	Hori.	40.0	7.8
72.379	42.8	QP	6.8	-20.5	29.1	330	100	Vert.	40.0	10.9
159.767	29.5	QP	15.4	-19.1	25.8	336	313	Hori.	43.5	17.7
159.778	35.1	QP	15.4	-19.1	31.4	136	100	Vert.	43.5	12.2
223.677	35.7	QP	16.8	-18.1	34.4	181	257	Hori.	46.0	11.6
223.678	38.0	QP	16.8	-18.1	36.7	4	100	Vert.	46.0	9.3
447.356	32.5	QP	17.4	-17.0	32.9	306	100	Hori.	46.0	13.1
447.363	34.3	QP	17.4	-17.0	34.7	28	118	Vert.	46.0	11.3
479.312	35.4	QP	18.0	-17.0	36.4	11	100	Vert.	46.0	9.6
479.313	31.7	QP	18.0	-17.0	32.7	212	117	Hori.	46.0	13.3
599.460	31.6	QP	19.3	-16.5	34.4	330	100	Vert.	46.0	11.6
599.463	34.8	QP	19.3	-16.5	37.6	278	264	Hori.	46.0	8.4

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

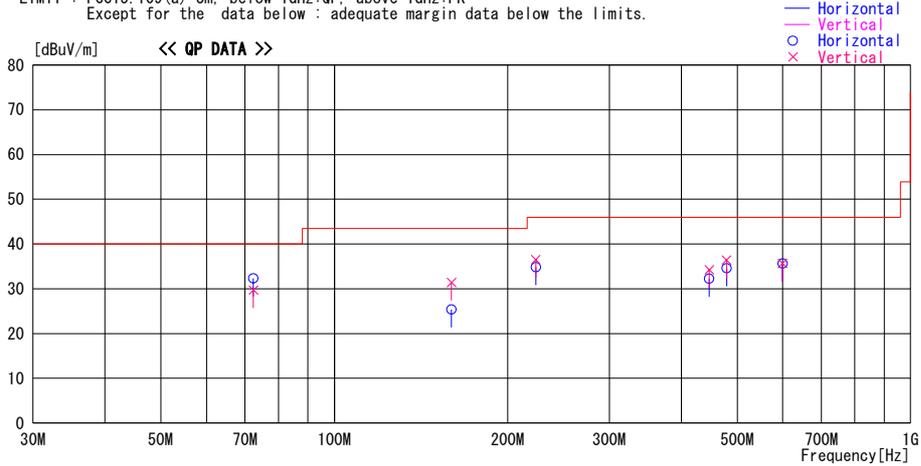
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/12/02

Company : Sharp Corporation	Report No. : 29DE0075-HO
Kind of EUT : Cellular Phone	Power : AC 120V / 60Hz
Model No. : 830Sh	Temp./Humi. : 20deg.C. / 33%
Serial No. : 004401/11/177064/6	Engineer : Takumi Shimada

Mode / Remarks : Standby Mode / Worst axis (Hor:X-axis Ver:X-axis)

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]
			Factor [dB/m]	Loss& Gain [dB]						
72.380	46.0	QP	6.8	-20.5	32.3	289	236	Hori.	40.0	7.7
72.380	43.4	QP	6.8	-20.5	29.7	291	100	Vert.	40.0	10.3
159.775	29.1	QP	15.4	-19.1	25.4	341	262	Hori.	43.5	18.2
159.780	35.1	QP	15.4	-19.1	31.4	120	100	Vert.	43.5	12.1
223.678	36.1	QP	16.8	-18.1	34.8	198	211	Hori.	46.0	11.2
223.676	37.8	QP	16.8	-18.1	36.5	8	100	Vert.	46.0	9.5
447.355	31.8	QP	17.4	-17.0	32.2	304	100	Hori.	46.0	13.8
447.361	33.9	QP	17.4	-17.0	34.3	32	122	Vert.	46.0	11.7
479.303	35.4	QP	18.0	-17.0	36.4	21	100	Vert.	46.0	9.6
479.316	33.6	QP	18.0	-17.0	34.6	106	157	Hori.	46.0	11.4
599.454	32.9	QP	19.3	-16.5	35.7	357	100	Vert.	46.0	10.3
599.436	32.8	QP	19.3	-16.5	35.6	266	254	Hori.	46.0	10.4

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

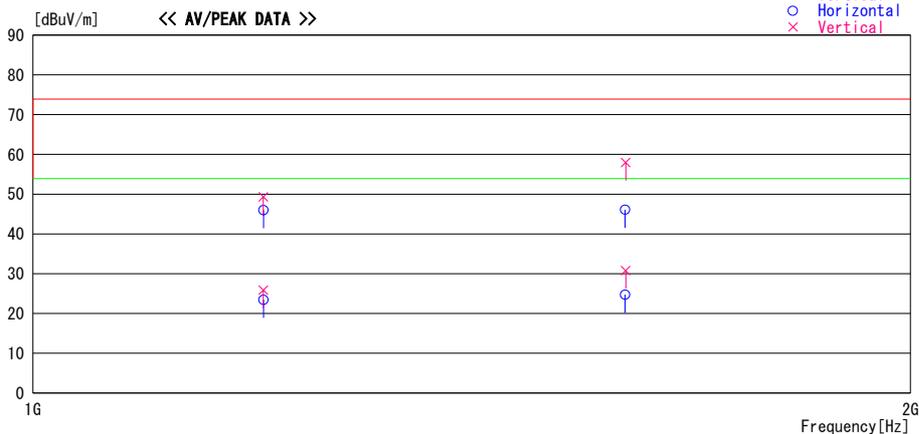
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/12/02

Company : Sharp Corporation	Report No. : 29DE0075-HO
Kind of EUT : Cellular Phone	Power : AC 120V / 60Hz
Model No. : 830SHe	Temp./Humi. : 20deg. C. / 33%
Serial No. : 004401/11/177064/6	Engineer : Takumi Shimada

Mode / Remarks : USB Data Com Mode / Worst axis (Hor:X-axis Ver:X-axis)

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		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit	
			Factor [dB/m]	Loss& Gain [dB]					[dBuV/m]	[dB]
1199.440	59.5	PK	24.7	-34.9	49.3	0	130	Vert.	73.9	24.6
1199.440	36.0	AV	24.7	-34.9	25.8	0	130	Vert.	53.9	28.1
1199.663	56.2	PK	24.7	-34.9	46.0	265	150	Hori.	73.9	27.9
1199.663	33.7	AV	24.7	-34.9	23.5	265	150	Hori.	53.9	30.4
1596.420	33.7	AV	25.3	-34.3	24.7	45	100	Hori.	53.9	29.2
1596.420	55.1	PK	25.3	-34.3	46.1	45	100	Hori.	73.9	27.8
1597.075	67.0	PK	25.3	-34.3	58.0	260	100	Vert.	73.9	15.9
1597.075	39.8	AV	25.3	-34.3	30.8	260	100	Vert.	53.9	23.1

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

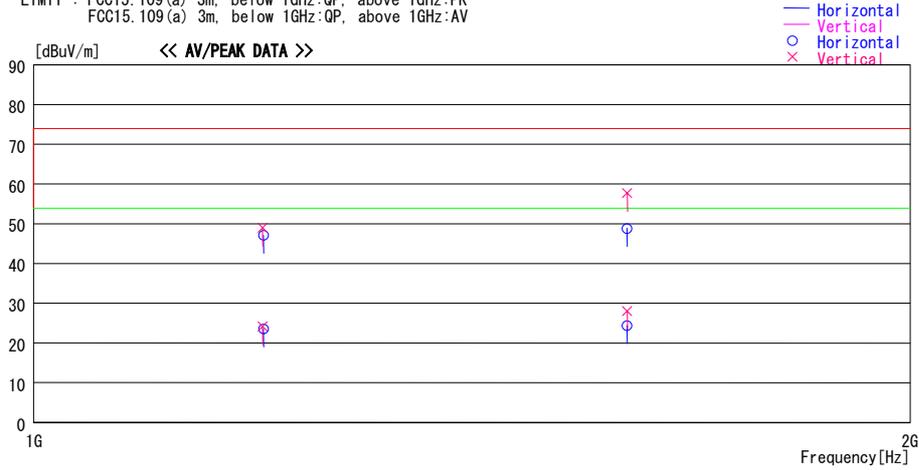
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/12/02

Company : Sharp Corporation
Kind of EUT : Cellular Phone
Model No. : 830SHe
Serial No. : 004401/11/177064/6
Report No. : 29DE0075-HO
Power : AC 120V / 60Hz
Temp./Humi. : 20deg.C / 33%
Engineer : Takumi Shimada

Mode / Remarks : Standby Mode / Worst axis (Hor:X-axis Ver:X-axis)

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	Angle [Deg]	Height [cm]	Polar.	Limit	Margin
			Factor [dB/m]	Gain [dB]					[dBuV/m]	[dB]
1198.458	59.1	PK	24.7	-34.9	48.9	0	130	Vert.	73.9	25.0
1198.458	34.3	AV	24.7	-34.9	24.1	0	130	Vert.	53.9	29.8
1199.483	57.3	PK	24.7	-34.9	47.1	265	150	Hori.	73.9	26.8
1199.483	33.8	AV	24.7	-34.9	23.6	265	150	Hori.	53.9	30.3
1599.170	33.4	AV	25.3	-34.3	24.4	45	100	Hori.	53.9	29.5
1599.170	57.8	PK	25.3	-34.3	48.8	45	100	Hori.	73.9	25.1
1599.420	66.7	PK	25.3	-34.3	57.7	260	100	Vert.	73.9	16.2
1599.420	37.1	AV	25.3	-34.3	28.1	260	100	Vert.	53.9	25.9

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 3: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-01	Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 10m	DA-06881	RE / CE	2008/10/29 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032007	RE	2008/11/12 * 12
MLA-09	Logperiodic Antenna	Schwarzbeck	USLP9143B	9143B006	RE	2008/11/12 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	BL1069	RE	2008/11/14 * 12
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/Agilent /TSJ	-	-	RE	2008/10/02 * 12
MPA-04	Pre Amplifier	Agilent	8447D	2944A09965	RE	2008/07/23 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	RE / CE	2008/06/12 * 12
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	-	RE / CE	-
MOS-01	Digital Humidity Indicator	N.T	NT-1800	MOS01	RE / CE	2008/11/27 * 12
MJM-01	Measure	KDS	ES19-55	-	RE / CE	-
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	RE	2008/08/18 * 12
MHA-05	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	253	RE	2008/01/19 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	233010(1m) / 292410(5m)	RE	09/09/2008 * 12
MPA-01	Pre Amplifier	Agilent	8449B	3008A01671	RE	02/12/2008 * 12
MLS-02	LISN(AMN)	Schwarzbeck	NSLK8127	8127383	CE(EUT)	06/27/2008 * 12
MLS-03	LISN(AMN)	Schwarzbeck	NSLK8127	8127384	CE(AE)	07/01/2008 * 12
MTA-06	Terminator	MCL	BTRM-50	1 9951	CE	02/04/2008 * 12
MCC-03	Coaxial Cable	Fujikura/Suhner/Agilent/TSJ	-	-	CE	12/27/2007 * 12

The expiration date of the calibration is the end of the expired month.

All equipment is calibrated with traceable calibrations. Each calibration 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

UL Japan, Inc.

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