



EMI TEST REPORT

Test Report No. : 29FE0186-HO-B

Applicant : Sharp Corporation, Communication Systems Group.
Type of Equipment : Cellular Phone
Model No. : SH-06A
FCC ID : APYHRO00095
Test regulation : FCC Part 15 Subpart B 2009 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: March 23, 2009

Tested by: 
Tomotaka Sasagawa
EMC Services

Approved by : 
Hironobu Shimoji
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.html>

UL Japan, Inc.

Head Office EMC Lab.

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MF060b (09.01.08)

<u>CONTENTS</u>	<u>PAGE</u>
SECTION 1: Customer information	3
SECTION 2: Equipment under test (E.U.T.)	3
SECTION 3: Test specification, procedures & results	4
SECTION 4: Operation of E.U.T. during testing	7
SECTION 5: Conducted Emission	9
SECTION 6: Radiated Emission	10
APPENDIX 1: Photographs of test setup.....	11
Conducted Emission	11
Radiated Emission	12
Worst Case Position (Horizontal: X-axis/ Vertical:X-axis)	13
APPENDIX 2: Data of EMI test	14
Conducted Emission	14
Radiated Emission	16
APPENDIX 3: Test instruments	20

SECTION 1: Customer information

Company Name : Sharp Corporation, Communication Systems Group.
Address : 2-13-1 Iida Hachihonmatsu, higashihiroshima-shi, Hiroshima, 739-0192,
Japan
Telephone Number : +81-82-420-1643
Facsimile Number : +81-82-420-1934
Contact Person : Tatsuya Miyoshi

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

2.1 Identification of E.U.T.

Type of Equipment : Cellular Phone
Model No. : SH-06A
Serial No. : 0044011111805418
Rating : AC 120V/60Hz, DC4.0V
Receipt Date of Sample : March 23, 2009
Country of Mass-production : Japan
Condition of EUT : Production prototype
Modification of EUT : No Modification by the test lab

2.2 Product Description

Model No: SH-06A (referred to as the EUT in this report) is the Cellular Phone.

Clock frequency(ies) in the system : 48MHz, 500.5MHz
Feature of EUT : SH-06A is Tetra-band (800/850/1700/2000) WCDMA & Tri-band
(900/1800/1900) GSM Mobile Phone.

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SECTION 3: Test specification, procedures & results

3.1 Test specification

Test Specification : FCC Part 15 Subpart B 2009, final revised on February 27, 2009
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] 11.6dB, 3.76098MHz, N [AV] 7.1dB, 1.95710MHz, L	Complied
Radiated emission	ANSI C63.4: 2003 8. Radiated emission measurements	Class B	N/A	4.5dB, 136.716MHz, QP Vertical	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.

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remark
A	Cellular Phone	SH-06A	0044011111805418	SHARP	EUT
B	Lithium-Ion Battery	SH22	None	SHARP	EUT
C	microSD Memory Card	SD-C08G	0831U49492Y	Toshiba	-
D	Personal Computer	PP11L	CN-0D4571-48643-58P-1053	Dell	-
E	Mouse	MO56UO	531048353	Dell	-
F	Printer	895Cxi	SG8BL1W16V	Hewlett Packard	-
G	AC Adapter (Printer)	C4557-60004	C8K28B	Hewlett Packard	-
H	AC Adapter(PC)	PA-1650-05D2	OF7970-71615-77H-0D63	Dell	-

List of cables used

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	USB Data Cable	0.75	Shielded	Shielded	-
2	Mouse Cable	1.85	Shielded	Shielded	-
3	Parallel printer Cable	1.65	Shielded	Shielded	-
4	AC Power Cable(Printer)	1.75	Unshielded	Unshielded	-
5	DC Adapter Cable(PC)	1.85	Unshielded	Unshielded	-
6	AC Adapter Cable(PC)	0.90	Unshielded	Unshielded	-
7	DC Adapter Cable(Printer)	2.0	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 I.

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: March 23, 2009

Test engineer: Tomotaka Sasagawa

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 -5000MHz (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 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: 1MHz 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 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: March 23, 2009

Test engineer: Tomotaka Sasagawa

UL Japan, Inc.

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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

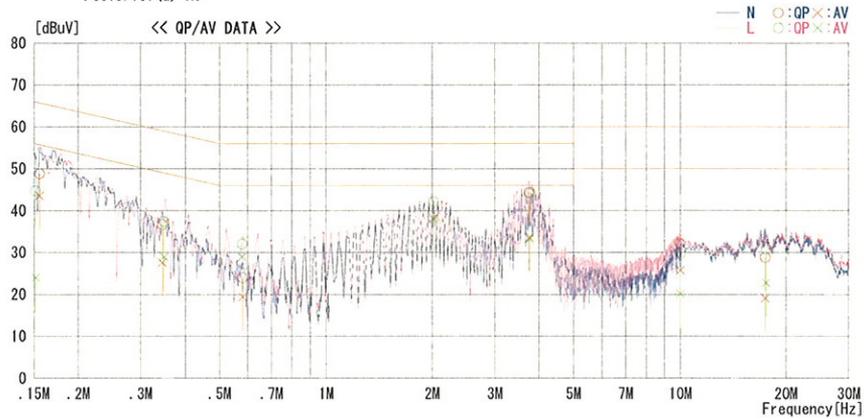
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2009/03/23

Company : Sharp Corporation
Kind of EUT : Cellular Phone
Model No. : SH-06A
Serial No. : 0044011111805418

Report No. : 29FE0186-HO
Power : AC 120V / 60Hz
Temp./Humi. : 23deg. C / 41%
Engineer : Tomotaka Sasagawa

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	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.15523	48.6	43.3	0.2	48.8	43.5	65.7	55.7	16.9	12.2	N	
0.34527	36.4	27.3	0.3	36.7	27.6	59.1	49.1	22.4	21.5	N	
0.58064	23.7	19.2	0.3	24.0	19.5	56.0	46.0	32.0	26.5	N	
2.01605	41.6	37.8	0.5	42.1	38.3	56.0	46.0	13.9	7.7	N	
3.76098	43.6	32.9	0.8	44.4	33.7	56.0	46.0	11.6	12.3	N	
9.99548	30.7	24.4	1.4	32.1	25.8	60.0	50.0	27.9	24.2	N	
17.42352	26.7	17.1	2.1	28.8	19.2	60.0	50.0	31.2	30.8	N	
0.15143	44.5	23.9	0.2	44.7	24.1	65.9	55.9	21.2	31.8	L	
0.34863	37.0	28.6	0.3	37.3	28.9	59.0	49.0	21.7	20.1	L	
0.57827	31.7	28.7	0.3	32.0	29.0	56.0	46.0	24.0	17.0	L	
2.01786	41.6	37.3	0.5	42.1	37.8	56.0	46.0	13.9	8.2	L	
3.74713	43.5	32.5	0.8	44.3	33.3	56.0	46.0	11.8	12.8	L	
9.99548	28.2	18.7	1.4	29.6	20.1	60.0	50.0	30.4	29.9	L	
17.50388	28.6	20.7	2.1	30.7	22.8	60.0	50.0	29.3	27.2	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.

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

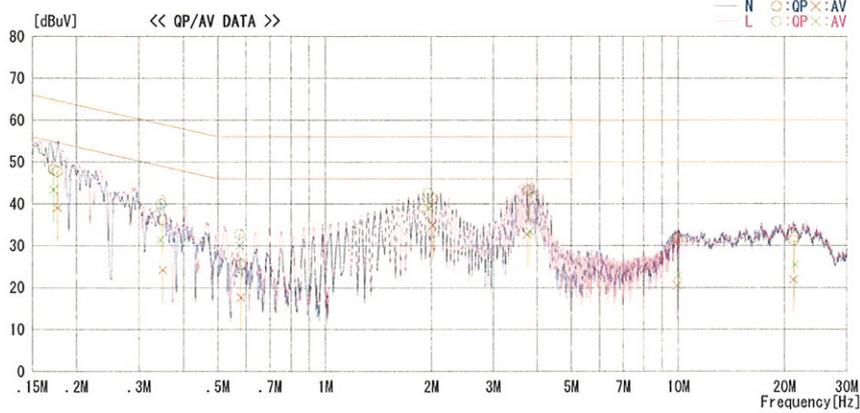
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2009/03/23

Company : Sharp Corporation
Kind of EUT : Cellular Phone
Model No. : SH-06A
Serial No. : 004401111805418

Report No. : 29FE0186-HO
Power : AC 120V / 60Hz
Temp./Humi. : 23deg. C / 41%
Engineer : Tomotaka Sasagawa

Mode / Remarks : Standby Mode

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



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.17615	47.6	38.9	0.2	47.8	39.1	64.7	54.7	16.9	15.6	N	
0.34876	35.8	24.0	0.3	36.1	24.3	59.0	49.0	22.9	24.8	N	
0.57890	25.2	17.3	0.3	25.5	17.6	56.0	46.0	30.5	28.4	N	
2.01605	40.7	34.3	0.5	41.2	34.8	56.0	46.0	14.8	11.2	N	
3.74280	42.3	32.0	0.8	43.1	32.8	56.0	46.0	12.9	13.2	N	
9.90460	30.4	19.2	1.4	31.8	20.6	60.0	50.0	28.2	29.4	N	
21.20046	29.1	19.7	2.3	31.4	22.0	60.0	50.0	28.7	28.0	N	
0.17191	48.0	43.2	0.2	48.2	43.4	64.9	54.9	16.7	11.5	L	
0.34517	39.7	31.1	0.3	40.0	31.4	59.1	49.1	19.2	17.7	L	
0.57577	32.5	29.8	0.3	32.8	30.1	56.0	46.0	23.2	15.9	L	
1.95710	42.0	38.4	0.5	42.5	38.9	56.0	46.0	13.5	7.1	L	
3.79658	42.5	32.7	0.8	43.3	33.5	56.0	46.0	12.7	12.5	L	
9.97188	29.8	21.4	1.4	31.2	22.8	60.0	50.0	28.8	27.2	L	
21.35618	29.6	23.1	2.4	32.0	25.5	60.0	50.0	28.0	24.5	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

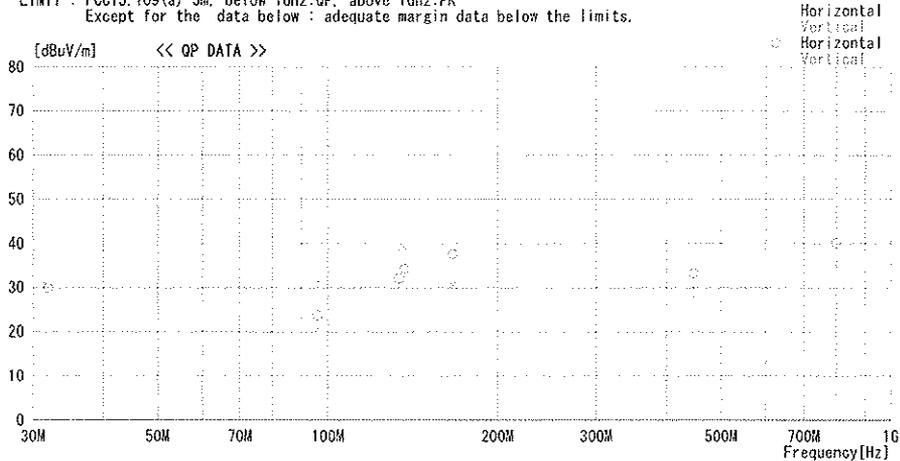
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2009/03/23

Company : Sharp Corporation
Kind of EUT : Cellular Phone
Model No. : SH-06A
Serial No. : 004401111805418
Report No. : 29FE0186-HO
Power : AC 120V / 60Hz
Temp./Humi. : 24deg. C. / 43%
Engineer : Tomotaka Sasagawa

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	Loss	Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Gain [dB]					
31.414	34.2	QP	18.4	-21.4	31.2	Vert.	40.0	8.8	
31.956	33.2	QP	18.1	-21.4	29.9	Hori.	40.0	10.1	
96.012	34.2	QP	9.5	-20.0	23.7	Hori.	43.5	19.8	
96.110	41.9	QP	9.5	-20.0	31.4	Vert.	43.5	12.1	
133.347	37.8	QP	13.8	-19.5	32.1	Hori.	43.5	11.4	
133.636	43.9	QP	13.9	-19.5	38.3	Vert.	43.5	5.2	
136.593	39.6	QP	14.1	-19.4	34.3	Hori.	43.5	9.2	
136.708	44.1	QP	14.1	-19.4	38.8	Vert.	43.5	4.7	
166.234	33.9	QP	15.7	-19.0	30.6	Vert.	43.5	12.9	
166.353	40.8	QP	15.8	-19.0	37.6	Hori.	43.5	5.9	
447.294	32.9	QP	17.4	-17.0	33.3	Hori.	46.0	12.7	
448.411	27.5	QP	17.4	-17.0	27.9	Vert.	46.0	18.1	
799.194	28.1	QP	21.7	-15.0	34.8	Vert.	46.0	11.2	
799.404	33.4	QP	21.7	-15.0	40.1	Hori.	46.0	5.9	

CHART WITH FACTOR ANT TYPE : ~30MHz LOOP, 30-300MHz BICOHNICAL, 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

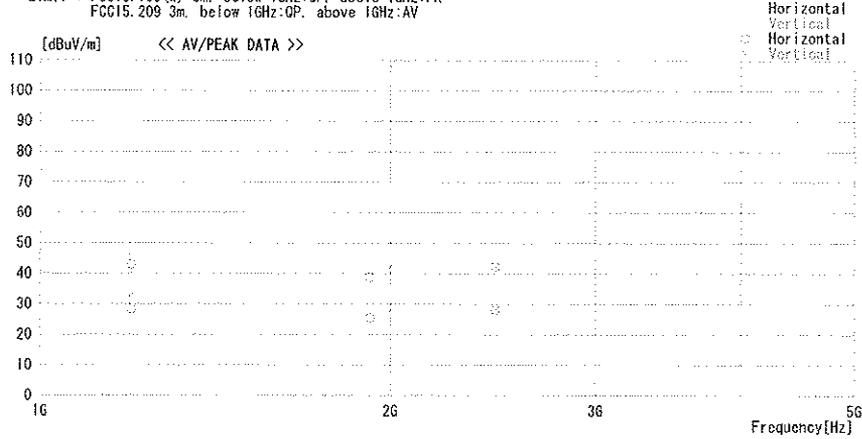
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2009/03/23

Company : Sharp Corporation
 Kind of EUT : Cellular Phone
 Model No. : SH-06A
 Serial No. : 004401111805418
 Report No. : 29FE0186-HO
 Power : AC 120V / 60Hz
 Temp./Humi. : 24deg. C. / 45%
 Engineer : Tomotaka Sasagawa

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

LIMIT : FCC15.109(a) 3m. below 1GHz:OP, above 1GHz:PK
 FCC15.209 3m. below 1GHz:OP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss Gain [dB]					
1196.958	53.4	PK	24.9	-35.3	43.0	Hori.	73.9	30.9	
1192.384	56.9	PK	24.9	-35.3	46.5	Vert.	73.9	27.4	
1196.958	38.8	AV	24.9	-35.3	28.4	Hori.	53.9	25.5	
1192.384	42.9	AV	24.9	-35.3	32.5	Vert.	53.9	21.4	
1919.973	47.0	PK	26.2	-34.4	38.8	Hori.	73.9	35.2	
1993.923	50.1	PK	26.2	-34.3	42.0	Vert.	73.9	31.9	
1919.973	33.6	AV	26.2	-34.4	25.4	Hori.	53.9	28.5	
1993.923	35.9	AV	26.2	-34.3	27.8	Vert.	53.9	26.1	
2458.612	48.7	PK	27.3	-33.6	42.4	Hori.	73.9	31.5	
2458.917	48.4	PK	27.3	-33.6	42.1	Vert.	73.9	31.8	
2458.612	34.4	AV	27.3	-33.6	28.1	Hori.	53.9	25.8	
2458.917	34.7	AV	27.3	-33.6	28.4	Vert.	53.9	25.5	

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.

Radiated Emission

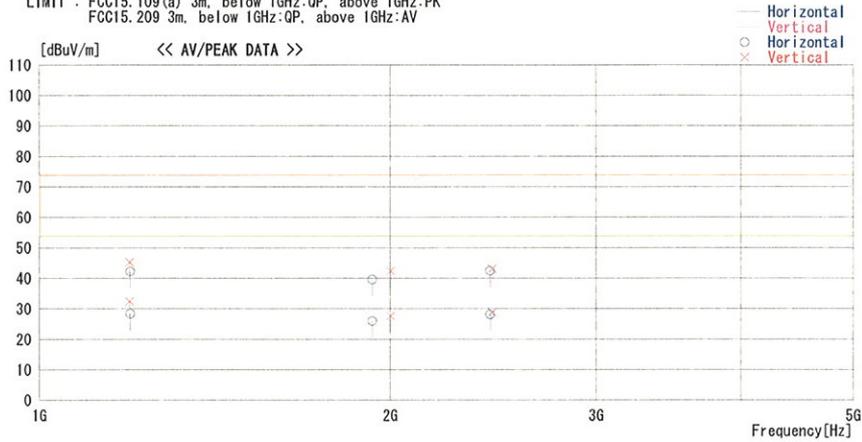
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2009/03/23

Company : Sharp Corporation	Report No. : 29FE0186-HO
Kind of EUT : Cellular Phone	Power : AC 120V / 60Hz
Model No. : SH-06A	Temp./Humi. : 24deg.C. / 43%
Serial No. : 0044011111805418	Engineer : Tomotaka Sasagawa

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

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.209 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss& Gain [dB]					
1194.515	52.7	PK	24.9	-35.3	42.3	Hori.	73.9	31.6	
1192.213	55.8	PK	24.9	-35.3	45.4	Vert.	73.9	28.5	
1194.515	38.9	AV	24.9	-35.3	28.5	Hori.	53.9	25.4	
1192.213	42.9	AV	24.9	-35.3	32.5	Vert.	53.9	21.4	
1929.140	47.8	PK	26.2	-34.4	39.6	Hori.	73.9	34.3	
1997.661	50.5	PK	26.2	-34.3	42.4	Vert.	73.9	31.5	
1929.140	34.2	AV	26.2	-34.4	26.0	Hori.	53.9	27.9	
1997.661	35.8	AV	26.2	-34.3	27.7	Vert.	53.9	26.2	
2434.231	48.9	PK	27.2	-33.6	42.5	Hori.	73.9	31.4	
2438.741	49.5	PK	27.2	-33.6	43.1	Vert.	73.9	30.8	
2434.231	34.5	AV	27.2	-33.6	28.1	Hori.	53.9	25.8	
2438.741	35.1	AV	27.2	-33.6	28.7	Vert.	53.9	25.2	

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	VHA9103200 7	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-01	Test Receiver	Rohde & Schwarz	ES140	100084	RE/CE	2008/12/01 * 12
CUST-MSTW-14	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MOS-01	Digital Humidity Indicator	N.T	NT-1800	MOS01	RE/CE	2009/02/06 * 12
MJM-01	Measure	KDS	ES19-55	-	RE/CE	-
MHA-05	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	253	RE	2009/01/31 * 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	02/12/2009 * 12
MLS-02	LISN(AMN)	Schwarzbeck	NSLK8127	8127383	CE(EUT)	06/27/2008 * 12
MLS-03	LISN(AMN)	Schwarzbeck	NSLK8127	8127384	CE(EUT)	07/01/2008 * 12
MTA-06	Terminator	MCL	BTRM-50	1 9951	CE	02/17/2009 * 12
MCC-03	Coaxial Cable	Fujikura/Suhner/Agilent/TSJ	-	-	CE	12/16/2008 * 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

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