



# EMI TEST REPORT

Test Report No. : 28LE0283-HO-B

**Applicant** : Sharp Corporation, Communication Systems Group.  
**Type of Equipment** : Cellular Phone  
**Model No.** : SH-03A  
**FCC ID** : APYHRO00082  
**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:** November 11, 2008

**Tested by:**

*T. Shimoda*

Takumi Shimada  
EMC Services

**Approved by :**

*Minoru Yamanaka*

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.html>

**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.  
Address : 2-13-1 Iida Hachihonmatsu, higashihiroshima-shi, Hiroshima, 739-0192,  
Japan  
Telephone Number : +81-82-420-1898  
Facsimile Number : +81-82-420-1934  
Contact Person : Keiji Inoue

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

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

Type of Equipment : Cellular Phone  
Model No. : SH-03A  
Serial No. : 004401111635237  
Rating : AC 120V/60Hz, DC4.0V  
Receipt Date of Sample : November 7, 2008  
Country of Mass-production : Japan  
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**

Model No: SH-03A (referred to as the EUT in this report) is the Cellular Phone.

Clock frequency(ies) in the system : 12MHz, 500.5MHz  
Feature of EUT : SH-03A 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 2008, final revised on May 19, 2008  
Title : FCC 47CFR Part15 Radio Frequency Device  
Subpart B Unintentional Radiators

### **3.2 Procedures and results**

<b>Item</b>	<b>Test Procedure</b>	<b>Limits</b>	<b>Deviation</b>	<b>Worst margin</b>	<b>Result</b>
Conducted emission	ANSI C63.4: 2003 7. AC powerline conducted emission measurements	Class B	N/A	[QP] 11.4dB, 3.86745MHz, L [AV] 9.1dB, 2.14349MHz, L	Complied
Radiated emission	ANSI C63.4: 2003 8. Radiated emission measurements	Class B	N/A	6.9dB, 166.221MHz, 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.

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### 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  
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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

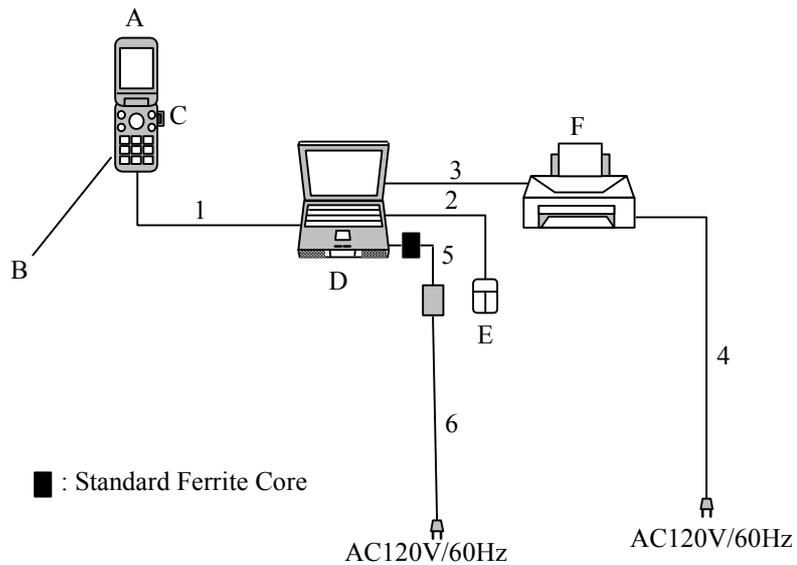
Refer to APPENDIX 1 to 3.

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

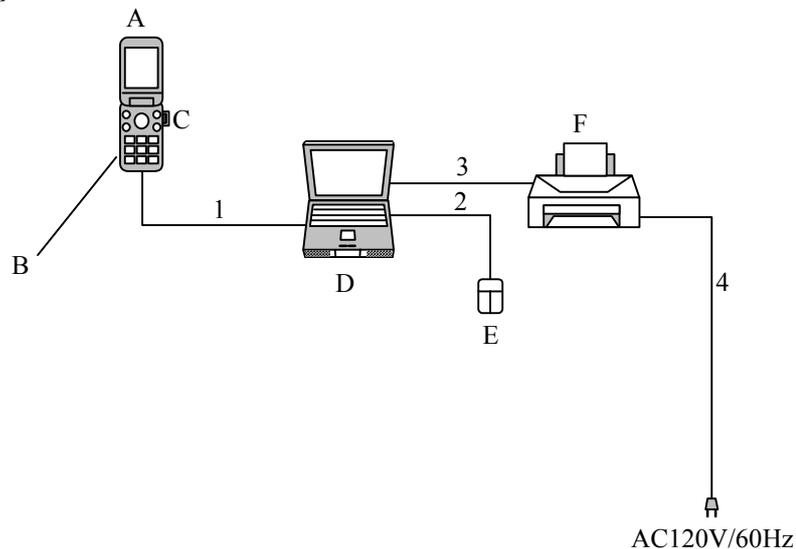
### 4.1 Operating modes

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

### 4.2 Configuration and peripherals [Conducted emission test]



### [Radiated emission test]



\*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	SH-03A	004401111635237	SHARP	EUT
B	Lithium-ion Battery	SH20	None	SANYO	EUT
C	microSD Memory Card	SD-C01G	0749R08314V	Toshiba	-
D	Personal Computer	PP11L	CN-0D4571-48643-58P-1053	Dell	-
E	Mouse	X08-99486	69445-492-0047395-00306	Microsoft	-
F	Printer	PIXUS550i	K10220	Canon	-
G	AC Adapter (Printer)	Canon	K30201	Canon	-

**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 Cable	1.28	Shielded	Shielded	-
4	AC Power Cable (Printer)	1.50	Unshielded	Unshielded	-
5	DC Adapter (PC)	1.85	Unshielded	Unshielded	
6	AC Adapter (PC)	0.90	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: November 11, 2008

Test engineer: Takumi Shimada

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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 test was made with the detector (RBW/VBW) in the following table.

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: November 11, 2008

Test engineer: Takumi Shimada

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**APPENDIX 1: Photographs of test setup**

**Conducted Emission**

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**Radiated Emission**

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

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**APPENDIX 2: Data of EMI test**

**Conducted Emission**  
**DATA OF CONDUCTED EMISSION TEST**

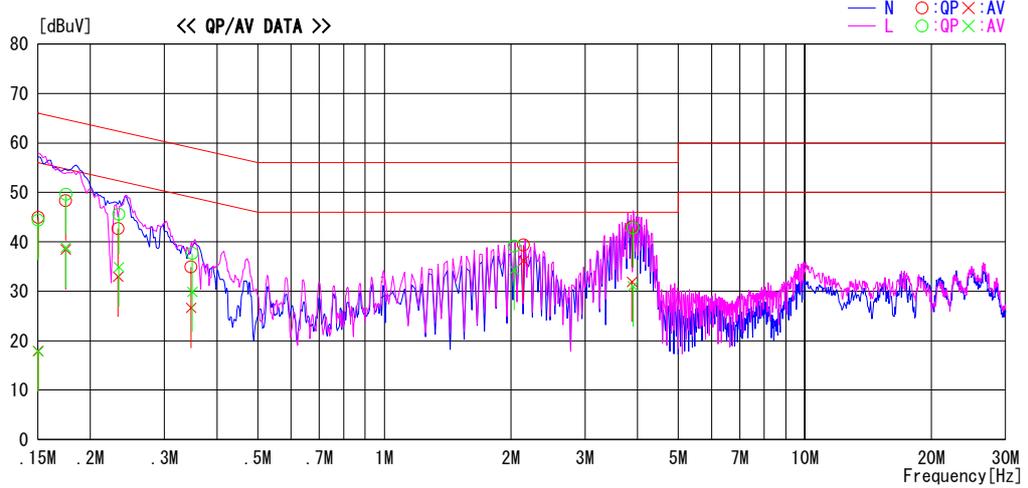
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2008/11/11

Company : Sharp Corporation  
Kind of EUT : Cellular Phone  
Model No. : SH-03A  
Serial No. : 004401111635237

Report No. : 28LE0283-HO  
Power : AC 120V / 60Hz  
Temp./Humi. : 22deg.C / 41%  
Engineer : Takumi Shimada

Mode / Remarks : USB Data Com Mode

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



Frequency	Reading Level		Corr. Factor	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.15027	44.7	17.7	0.2	44.9	17.9	66.0	56.0	21.1	38.1	N
0.17470	48.1	38.2	0.2	48.3	38.4	64.7	54.7	16.4	16.3	N
0.23275	42.4	32.6	0.3	42.7	32.9	62.4	52.4	19.7	19.5	N
0.34707	34.6	26.3	0.3	34.9	26.6	59.0	49.0	24.1	22.4	N
2.14206	38.9	35.7	0.5	39.4	36.2	56.0	46.0	16.6	9.8	N
3.87861	42.2	31.1	0.8	43.0	31.9	56.0	46.0	13.0	14.1	N
0.15029	44.2	17.6	0.2	44.4	17.8	66.0	56.0	21.6	38.2	L
0.17487	49.4	38.6	0.2	49.6	38.8	64.7	54.7	15.1	15.9	L
0.23370	45.3	34.6	0.3	45.6	34.9	62.3	52.3	16.7	17.4	L
0.34930	37.4	29.6	0.3	37.7	29.9	59.0	49.0	21.3	19.1	L
2.03740	38.6	33.8	0.5	39.1	34.3	56.0	46.0	16.9	11.7	L
3.90100	42.0	30.2	0.8	42.8	31.0	56.0	46.0	13.2	15.0	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

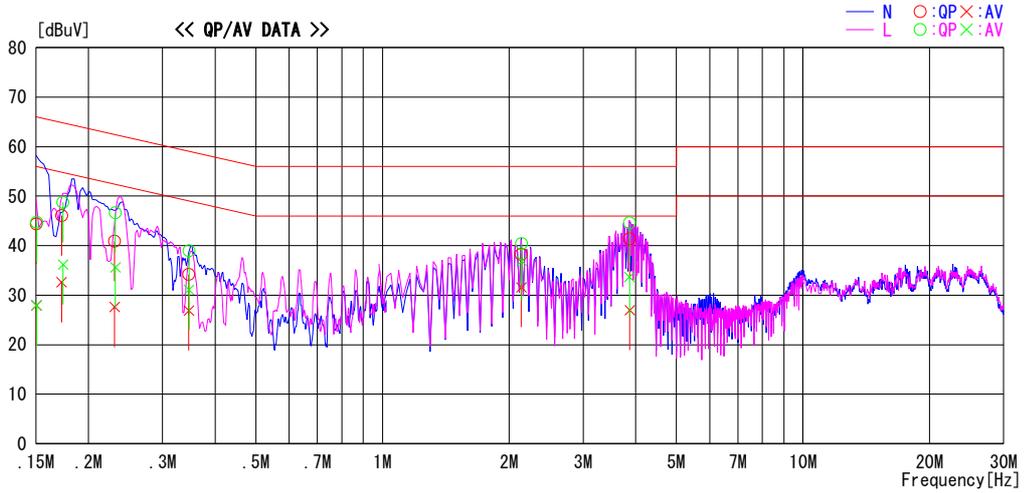
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Temp./Humi. : 22deg.C / 41%  
Engineer : Takumi Shimada

Mode / Remarks : Standby Mode

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



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.15034	44.2	27.7	0.2	44.4	27.9	66.0	56.0	21.6	28.1	N
0.17262	45.9	32.4	0.2	46.1	32.6	64.8	54.8	18.7	22.2	N
0.23076	40.6	27.3	0.3	40.9	27.6	62.4	52.4	21.5	24.8	N
0.34643	33.9	26.6	0.3	34.2	26.9	59.0	49.0	24.8	22.1	N
2.13781	37.7	31.1	0.5	38.2	31.6	56.0	46.0	17.8	14.4	N
3.87359	40.6	26.2	0.8	41.4	27.0	56.0	46.0	14.6	19.0	N
0.15049	44.5	27.7	0.2	44.7	27.9	66.0	56.0	21.3	28.1	L
0.17402	48.5	36.0	0.2	48.7	36.2	64.8	54.8	16.1	18.6	L
0.23177	46.3	35.3	0.3	46.6	35.6	62.4	52.4	15.8	16.8	L
0.34658	38.7	30.8	0.3	39.0	31.1	59.0	49.0	20.0	17.9	L
2.14349	39.9	36.4	0.5	40.4	36.9	56.0	46.0	15.6	9.1	L
3.86745	43.8	32.9	0.8	44.6	33.7	56.0	46.0	11.4	12.3	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.

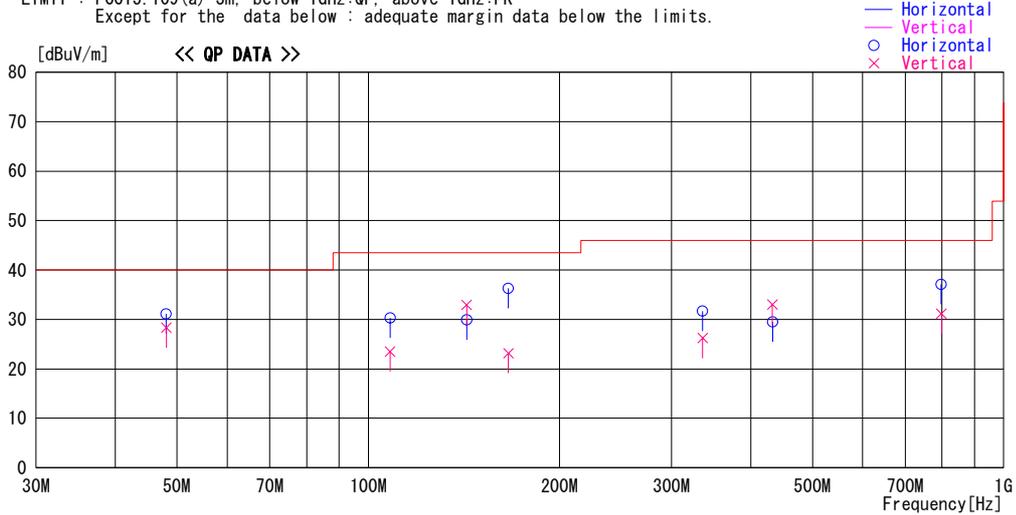
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Power : AC 120V / 60Hz  
Temp./Humi. : 22deg.C / 41%  
Engineer : Takumi Shimada

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	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
48.106	41.3	QP	10.8	-21.0	31.1	254	315	Hori.	40.0	8.9
48.121	38.5	QP	10.8	-21.0	28.3	201	100	Vert.	40.0	11.7
108.228	32.1	QP	11.3	-19.9	23.5	298	100	Vert.	43.5	20.0
108.240	38.9	QP	11.3	-19.9	30.3	342	170	Hori.	43.5	13.2
142.846	37.8	QP	14.5	-19.4	32.9	214	100	Vert.	43.5	10.6
142.852	34.8	QP	14.5	-19.4	29.9	141	242	Hori.	43.5	13.6
166.217	39.6	QP	15.7	-19.0	36.3	282	119	Hori.	43.5	7.2
166.224	26.5	QP	15.7	-19.0	23.2	0	100	Vert.	43.5	20.3
335.998	29.6	QP	13.8	-17.2	26.2	215	122	Vert.	46.0	19.8
336.006	35.1	QP	13.8	-17.2	31.7	166	100	Hori.	46.0	14.3
432.609	32.8	QP	17.2	-17.0	33.0	177	100	Vert.	46.0	13.0
432.999	29.3	QP	17.2	-17.0	29.5	24	100	Hori.	46.0	16.5
797.713	30.4	QP	21.7	-15.0	37.1	295	100	Hori.	46.0	8.9
798.090	24.5	QP	21.7	-15.0	31.2	3	100	Vert.	46.0	14.8

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.



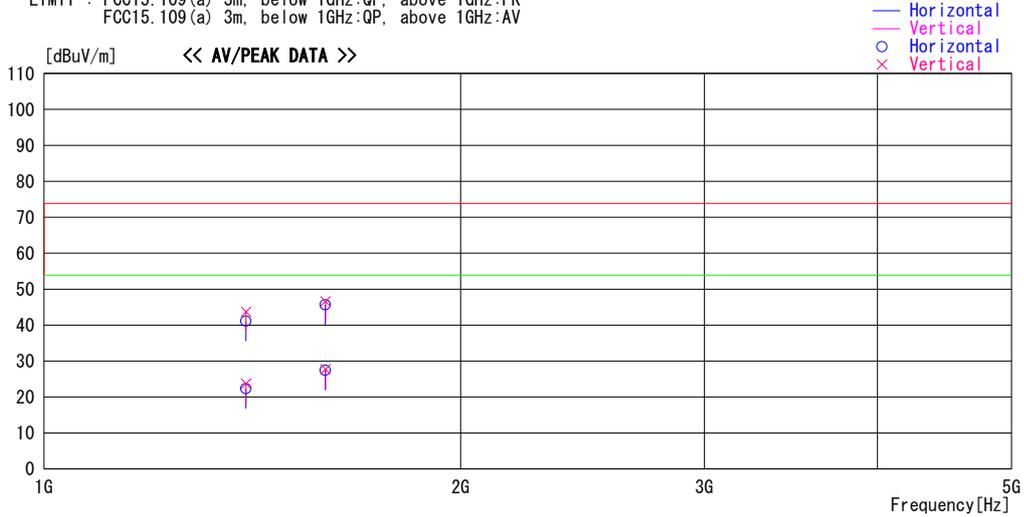
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UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2008/11/11

Company : Sharp Corporation  
Kind of EUT : Cellular Phone  
Model No. : SH-03A  
Serial No. : 004401111635237  
Report No. : 28LE0283-HO  
Power : AC 120V / 60Hz  
Temp./Humi. : 22deg.C. / 41%  
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	Loss&	Level	Angle	Height	Polar.	Limit	Margin
			Factor	Gain					[dBuV/m]	[dB]
			[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]
1399.010	53.3	PK	25.0	-34.6	43.7	90	100	Vert.	73.9	30.2
1399.010	33.3	AV	25.0	-34.6	23.7	90	100	Vert.	53.9	30.2
1399.440	50.8	PK	25.0	-34.6	41.2	270	100	Hori.	73.9	32.7
1399.440	32.0	AV	25.0	-34.6	22.4	270	100	Hori.	53.9	31.5
1596.895	36.5	AV	25.3	-34.3	27.5	45	100	Hori.	53.9	26.5
1596.895	54.7	PK	25.3	-34.3	45.7	45	100	Hori.	73.9	28.2
1597.070	36.7	AV	25.3	-34.3	27.7	0	190	Vert.	53.9	26.2
1597.070	55.6	PK	25.3	-34.3	46.6	0	190	Vert.	73.9	27.3

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.

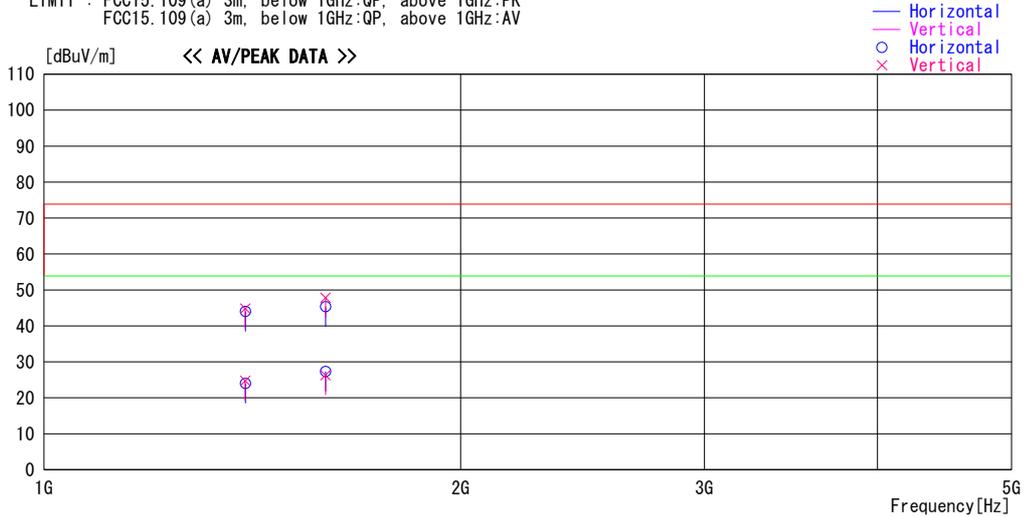
## Radiated Emission DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber  
Date : 2008/11/11

Company : Sharp Corporation  
Kind of EUT : Cellular Phone  
Model No. : SH-03A  
Serial No. : 004401111635237  
Report No. : 28LE0283-H0  
Power : AC 120V / 60Hz  
Temp./Humi. : 22deg.C / 41%  
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 [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]						
1397.275	54.5	PK	25.0	-34.6	44.9	90	100	Vert.	73.9	29.0
1397.275	34.4	AV	25.0	-34.6	24.8	90	100	Vert.	53.9	29.1
1397.720	53.6	PK	25.0	-34.6	44.0	270	100	Hori.	73.9	29.9
1397.720	33.7	AV	25.0	-34.6	24.1	270	100	Hori.	53.9	29.8
1597.030	36.4	AV	25.3	-34.3	27.4	45	100	Hori.	53.9	26.5
1597.030	54.3	PK	25.3	-34.3	45.3	45	100	Hori.	73.9	28.6
1597.370	35.3	AV	25.3	-34.3	26.3	0	160	Vert.	53.9	27.6
1597.370	56.9	PK	25.3	-34.3	47.9	0	160	Vert.	73.9	26.0

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.

### **APPENDIX 3: Test instruments**

#### **EMI test equipment**

<b>Control No.</b>	<b>Instrument</b>	<b>Manufacturer</b>	<b>Model No</b>	<b>Serial No</b>	<b>Test Item</b>	<b>Calibration Date * Interval(month)</b>
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	DA-06881	RE / CE	2008/10/29 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032007	RE	2008/10/18 * 12
MLA-09	Logperiodic Antenna	Schwarzbeck	USLP9143B	9143B006	RE	2008/10/18 * 12
MAT-02	Attenuator(3dB)	Weinschel Corp	2	BL0968	RE	2007/11/14 * 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
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	RE / CE	2008/08/18 * 12
MTR-06	Test Receiver	Rohde & Schwarz	ESCS30	830245/011	RE / CE	2008/10/31 * 12
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	-	RE / CE	-
MOS-01	Digital Humidity Indicator	N.T	NT-1800	MOS01	RE / CE	2007/11/12 * 12
MJM-01	Measure	KDS	ES19-55	-	RE / CE	-
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	2008/09/09 * 12
MPA-01	Pre Amplifier	Agilent	8449B	3008A01671	RE	2008/02/12 * 12
MLS-02	LISN(AMN)	Schwarzbeck	NSLK8127	8127383	CE(EUT)	2008/06/27 * 12
MLS-03	LISN(AMN)	Schwarzbeck	NSLK8127	8127384	CE(AE)	2008/07/01 * 12
MCC-03	Coaxial Cable	Fujikura/Suhner/ Agilent/TSJ	-	-	CE	2007/12/27 * 12
MTA-06	Terminator	MCL	BTRM-50	1 9951	CE	2008/02/04 * 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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