



# EMI TEST REPORT

Test Report No. : 29CE0041-HO

**Applicant** : Sharp Corporation, Communication Systems Group.  
**Type of Equipment** : Cellular Phone  
**Model No.** : CDMA SH001  
**FCC ID** : APYHRO00089  
**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 10, 2008

**Tested by:**

*H. Kukita*

Hiroshi Kukita  
EMC Services

**Approved by :**

*M. Yamanaka*  
Mitsuru 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-City, Hiroshima,  
739-0192 Japan  
Telephone Number : +81-82-420-1630  
Facsimile Number : +81-82-420-1624  
Contact Person : Hachiroh Hidaka

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

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

Type of Equipment : Cellular Phone  
Model No. : CDMA SH001  
Serial No. : SSHCB001082  
Rating : AC 120V/60Hz, DC4.0V  
Receipt Date of Sample : December 8, 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: CDMA SH001 is 1XEV-DO Hybrid CDMA Tri-Band Cellular Phone.  
CDMA SH001 has Bluetooth wireless interface technology for establishing contact and transmitting data with certain devices. FeliCa technology enabled easy changing and payments as Mobile Wallet. (Note: FeliCa does not operate in USA)

Clock frequency : 32.768kHz, 19.2MHz, 384MHz

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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] 13.2dB, 0.28033MHz, L [AV] 10.3dB, 0.51693MHz, L	Complied
Radiated emission	ANSI C63.4: 2003 8. Radiated emission measurements	Class B	N/A	3.5dB, 96.005MHz, 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 report meets the limits unless the uncertainty is taken into consideration.

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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.

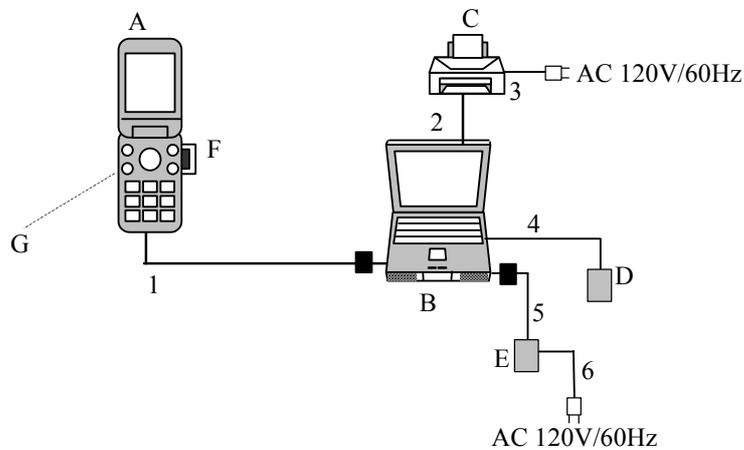
## **SECTION 4: Operation of E.U.T. during testing**

### **4.1 Operating modes**

Operating mode : 1) USB Data Com mode  
2) Standby mode

Justification : The system was configured in typical fashion (as a customer would normally use it) for testing.

### **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	CDMA SH001	SSHCB001082	SHARP	EUT
B	PC	DELL PP10L	8LH3H1X	DELL	-
C	Printer	BJF860	K10201	Canon	DOC
D	USB Mouse	DELL M05UOA	G0N00FiF	DELL	-
E	AC Adaptor(PC)	AA22850	-	DELL	-
F	micro SD Memory Card	64MB type	-	PANASONIC	-
G	Lithium-ion Battery	SH001 UAA	-	SHARP	3.7V, 800mA (3.0Wh)

**List of cables used**

No.	Name	Length (m)	Shield		Remark
			Cable	Connector	
1	USB Data Cable	0.9	Shielded	Shielded	-
2	Parallel Cable	2.0	Shielded	Shielded	-
3	AC Power Cable (Printer)	2.0	Unshielded	Unshielded	-
4	Mouse Cable	1.9	Unshielded	Unshielded	-
5	AC Charger Cable (PC)	1.9	Unshielded	Unshielded	-
6	AC Power Cable (PC)	0.9	Unshielded	Unshielded	-

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## **SECTION 5: Conducted Emission**

### **5.1 Operating environment**

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

### **5.2 Test configuration**

EUT was placed on a urethane platform of nominal size, 1.0m by 1.5m, raised 0.8m above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT and its peripherals was aligned and flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from the LISN/AMN and excess AC cable was bundled in center. I/O cables that were connected to the other peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane. Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through a LISN/AMN to the input power source. All unused 50 ohm connectors of the LISN/AMN were resistivity terminated in 50 ohm when not connected to the measuring equipment. Photographs of the set up are shown in Appendix 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 10, 2008

Test engineer: Hiroshi Kukita

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## **SECTION 6: Radiated Emission**

### **6.1 Operating environment**

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

### **6.2 Test configuration**

EUT was placed on a urethane platform of nominal size, 1.0m by 1.5m, raised 0.8m above the conducting ground plane. The EUT was set on the edge of the tabletop. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength. Photographs of the set up are shown in Appendix 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 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 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 10, 2008

Test engineer: Hiroshi Kukita

**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)**

**This page has been submitted for a separate exhibit.**

**APPENDIX 2: Data of EMI test**

**Conducted Emission**

**DATA OF CONDUCTED EMISSION TEST**

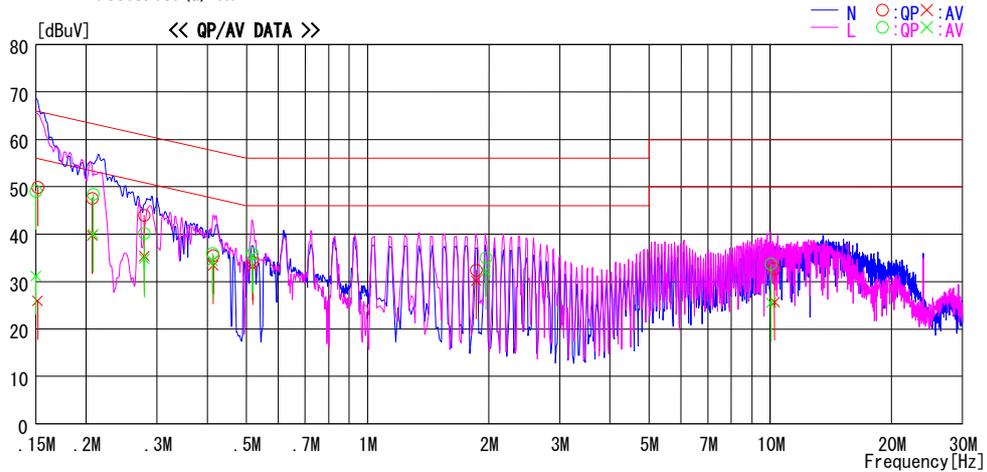
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
Date : 2008/12/10

Company : Sharp Corporation  
Kind of EUT : Cellular Phone  
Model No. : CDMA SH001  
Serial No. : SSHCB001082

Report No. : 29CE0041-HO  
Power : AC 120V / 60Hz  
Temp./Humi. : 22deg.C / 48%  
Engineer : Hiroshi Kukita

Mode / Remarks: USB Date 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]		
0.15148	49.7	25.7	0.2	49.9	25.9	65.9	55.9	16.0	30.0	N	
0.20714	47.2	39.4	0.3	47.5	39.7	63.3	53.3	15.8	13.6	N	
0.27880	43.7	35.1	0.3	44.0	35.4	60.9	50.9	16.9	15.5	N	
0.41376	35.2	33.1	0.3	35.5	33.4	57.6	47.6	22.1	14.2	N	
0.51772	33.8	32.9	0.3	34.1	33.2	56.0	46.0	21.9	12.8	N	
1.86036	32.0	29.8	0.4	32.4	30.2	56.0	46.0	23.6	15.8	N	
10.25050	31.6	24.6	1.1	32.7	25.7	60.0	50.0	27.3	24.3	N	
0.15001	48.9	31.0	0.2	49.1	31.2	66.0	56.0	16.9	24.8	L	
0.20830	48.1	39.7	0.3	48.4	40.0	63.3	53.3	14.9	13.3	L	
0.27880	39.9	34.5	0.3	40.2	34.8	60.9	50.9	20.7	16.1	L	
0.41240	35.7	34.0	0.3	36.0	34.3	57.6	47.6	21.6	13.3	L	
0.51697	35.6	35.2	0.3	35.9	35.5	56.0	46.0	20.1	10.5	L	
1.96460	34.6	31.8	0.4	35.0	32.2	56.0	46.0	21.0	13.8	L	
10.04359	32.6	24.4	1.1	33.7	25.5	60.0	50.0	26.3	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.

## Conducted Emission

### DATA OF CONDUCTED EMISSION TEST

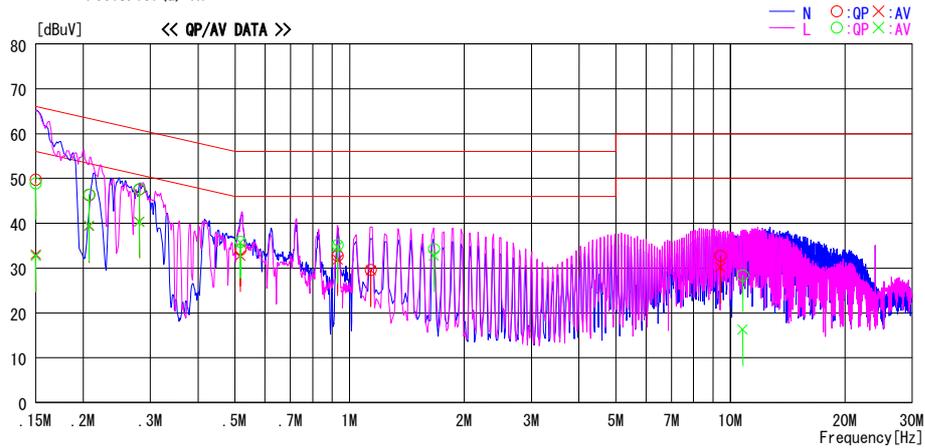
UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber  
Date : 2008/12/10

Company : Sharp Corporation  
Kind of EUT : Cellular Phone  
Model No. : CDMA SH001  
Serial No. : SSHCB001082

Report No. : 29CE0041-HO  
Power : AC 120V / 60Hz  
Temp./Humi. : 22deg. C / 48%  
Engineer : Hiroshi Kukita

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]	
0.15000	49.5	32.8	0.2	49.7	33.0	66.0	56.0	16.3	23.0	N
0.15000	48.7	32.5	0.2	48.9	32.7	66.0	56.0	17.1	23.3	L
0.20700	46.0	39.0	0.3	46.3	39.3	63.3	53.3	17.0	14.0	N
0.20700	46.1	39.2	0.3	46.4	39.5	63.3	53.3	16.9	13.8	L
0.28033	47.2	40.1	0.3	47.5	40.4	60.8	50.8	13.3	10.4	N
0.28033	47.3	40.1	0.3	47.6	40.4	60.8	50.8	13.2	10.4	L
0.51693	33.8	32.5	0.3	34.1	32.8	56.0	46.0	21.9	13.2	N
0.51693	35.6	35.4	0.3	35.9	35.7	56.0	46.0	20.1	10.3	L
0.93000	34.8	34.3	0.4	35.2	34.7	56.0	46.0	20.8	11.3	L
0.93086	32.3	31.5	0.4	32.7	31.9	56.0	46.0	23.3	14.1	N
1.13731	29.2	29.1	0.4	29.6	29.5	56.0	46.0	26.4	16.5	N
1.66500	33.9	32.4	0.4	34.3	32.8	56.0	46.0	21.7	13.2	L
9.40751	31.7	29.2	1.0	32.7	30.2	60.0	50.0	27.3	19.8	N
10.77020	27.3	15.2	1.1	28.4	16.3	60.0	50.0	31.6	33.7	L

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT[dBuV]=READING[dBuV]+C.F[dB] (L1SN 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

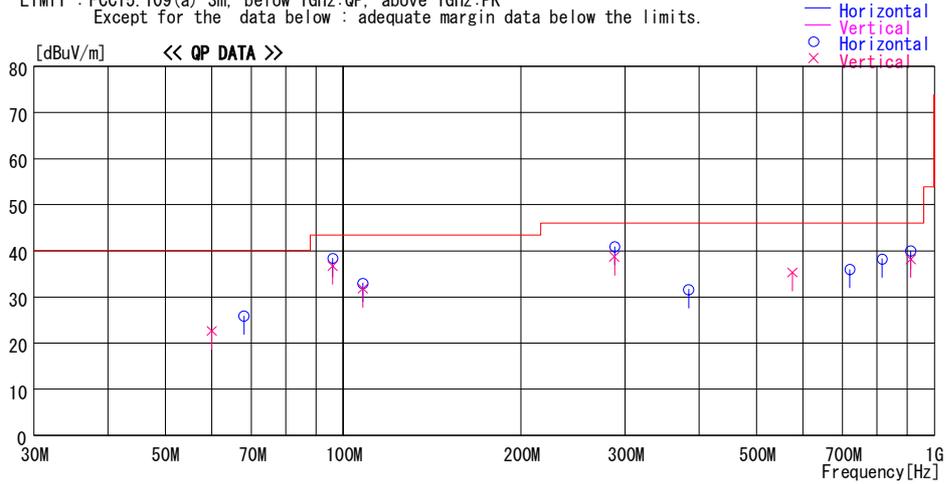
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Date : 2008/12/10

Company : Sharp Corporation	Report No. : 29CE0041-HO
Kind of EUT : Cellular Phone	Power : AC 120V / 60Hz
Model No. : CDMA SH001	Temp./Humi. : 22deg. C. / 48%
Serial No. : SSHCB001082	Engineer : Hiroshi Kukita

Mode / Remarks: USB Data Com mode, 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]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss & Gain [dB]					
59.990	39.1	QP	7.9	-24.4	22.6	Vert.	40.0	17.4	
67.991	43.3	QP	6.9	-24.3	25.9	Hori.	40.0	14.1	
96.005	52.9	QP	9.4	-23.9	38.4	Hori.	43.5	5.1	
96.001	51.3	QP	9.4	-23.9	36.8	Vert.	43.5	6.7	
108.020	44.3	QP	11.2	-23.7	31.8	Vert.	43.5	11.7	
108.020	45.5	QP	11.2	-23.7	33.0	Hori.	43.5	10.5	
288.001	41.3	QP	19.6	-22.2	38.7	Vert.	46.0	7.3	
288.002	43.5	QP	19.6	-22.2	40.9	Hori.	46.0	5.1	
384.004	35.4	QP	17.7	-21.5	31.6	Hori.	46.0	14.4	
576.006	35.9	QP	19.9	-20.5	35.3	Vert.	46.0	10.7	
719.998	33.9	QP	21.8	-19.7	36.0	Hori.	46.0	10.0	
816.005	33.7	QP	23.2	-18.7	38.2	Hori.	46.0	7.8	
912.006	33.9	QP	23.8	-17.7	40.0	Hori.	46.0	6.0	
912.008	32.1	QP	23.8	-17.7	38.2	Vert.	46.0	7.8	

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.

## Radiated Emission

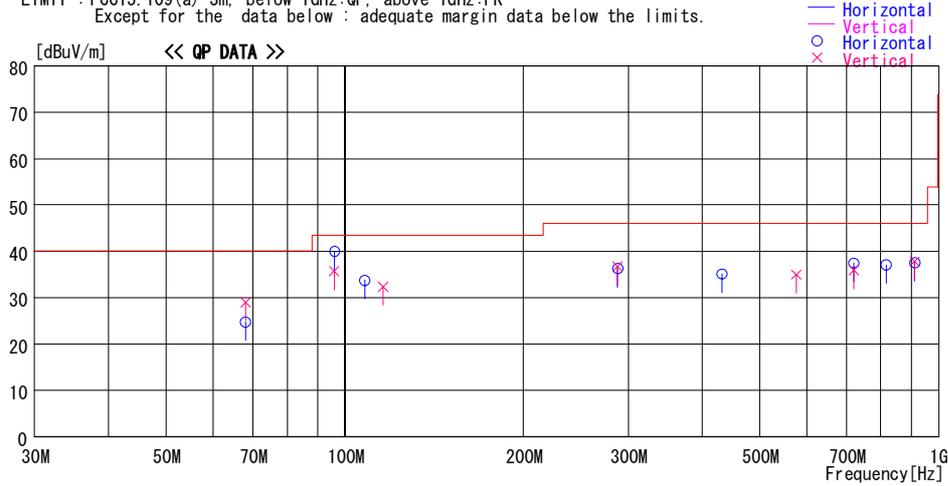
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UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber  
Date : 2008/12/10

Company : Sharp Corporation  
Kind of EUT : Cellular Phone  
Model No. : CDMA SH001  
Serial No. : SSHCB001082  
Report No. : 29CE0041-HO  
Power : AC 120V / 60Hz  
Temp./Humi. : 22deg. C. / 48%  
Engineer : Hiroshi Kukita

Mode / Remarks: Standby mode, 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]	Polar	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss & Gain [dB]					
68.001	46.4	QP	6.9	-24.3	29.0	Vert.	40.0	11.0	
96.006	50.2	QP	9.4	-23.9	35.7	Vert.	43.5	7.8	
116.005	43.9	QP	12.1	-23.6	32.4	Vert.	43.5	11.1	
288.000	39.3	QP	19.6	-22.2	36.7	Vert.	46.0	9.3	
576.499	35.6	QP	19.9	-20.5	35.0	Vert.	46.0	11.0	
720.012	33.8	QP	21.8	-19.7	35.9	Vert.	46.0	10.1	
912.009	31.7	QP	23.8	-17.7	37.8	Vert.	46.0	8.2	
68.003	42.2	QP	6.9	-24.3	24.8	Hori.	40.0	15.2	
96.005	54.5	QP	9.4	-23.9	40.0	Hori.	43.5	3.5	
108.005	46.3	QP	11.2	-23.7	33.8	Hori.	43.5	9.7	
288.040	38.9	QP	19.6	-22.2	36.3	Hori.	46.0	9.7	
432.013	38.1	QP	18.4	-21.3	35.2	Hori.	46.0	10.8	
720.013	35.4	QP	21.8	-19.7	37.5	Hori.	46.0	8.5	
816.014	32.6	QP	23.2	-18.7	37.1	Hori.	46.0	8.9	
912.505	31.5	QP	23.8	-17.7	37.6	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

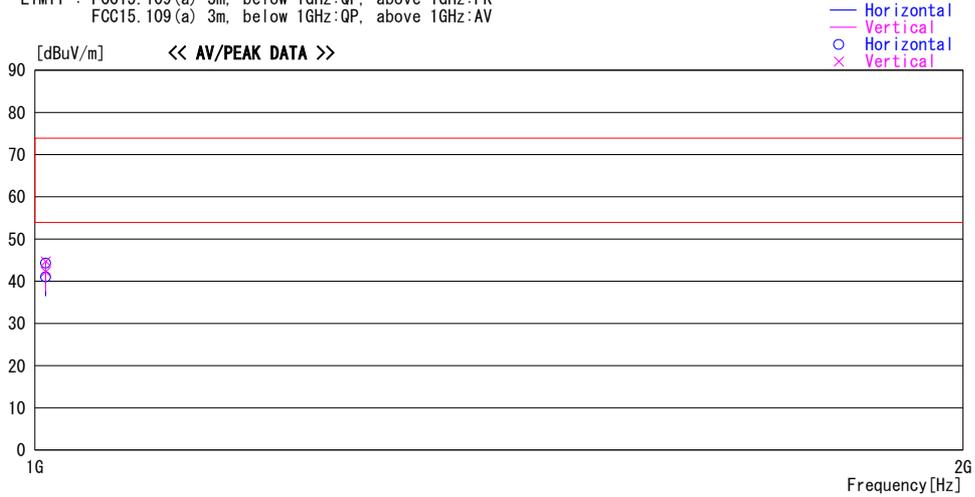
### DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber  
Date : 2008/12/10

Company : Sharp Corporation	Report No. : 29CE0041-HO
Kind of EUT : Cellular Phone	Power : AC 120V / 60Hz
Model No. : CDMA SH001	Temp./Humid. : 22deg. C. / 48%
Serial No. : SSHCB001082	Engineer : Hiroshi Kukita

Mode / Remarks : USB Date Com mode, 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]	Polar.	Limit	Margin	Comment
			Factor [dB/m]	Gain [dB]			[dBuV/m]	[dB]	
1008.125	53.2	PK	24.2	-32.7	44.7	Vert.	73.9	29.2	
1008.125	50.7	AV	24.2	-32.7	42.2	Vert.	53.9	11.7	
1008.127	52.8	PK	24.2	-32.7	44.3	Hori.	73.9	29.6	
1008.127	49.5	AV	24.2	-32.7	41.0	Hori.	53.9	12.9	

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.

## Radiated Emission

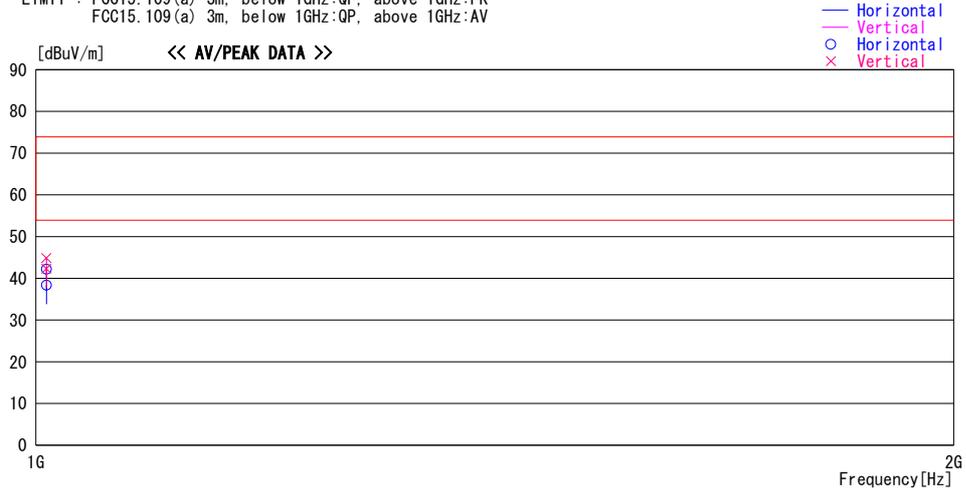
### DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
Date : 2008/12/10

Company : Sharp Corporation	Report No. : 29CE0041-HO
Kind of EUT : Cellular Phone	Power : AC 120V / 60Hz
Model No. : CDMA SH001	Temp./Humi. : 22deg. C. / 48%
Serial No. : SSHCB001082	Engineer : Hiroshi Kukita

Mode / Remarks : Standby mode, 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	Reading	DET	Antenna		Level	Polar.	Limit		Comment
			Factor	Loss& Gain			[dBuV/m]	[dB]	
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]		[dBuV/m]	[dB]	
1008.033	50.7	PK	24.2	-32.7	42.2	Hori.	73.9	31.7	
1008.033	46.9	AV	24.2	-32.7	38.4	Hori.	53.9	15.5	
1008.058	53.4	PK	24.2	-32.7	44.9	Vert.	73.9	29.0	
1008.058	50.8	AV	24.2	-32.7	42.3	Vert.	53.9	11.6	

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-04	Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE/CE	2008/03/27 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE/CE	2008/01/10 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE/CE	-
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	RE/CE	2008/08/18 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	RE/CE	2008/10/03 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2008/01/12 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2008/01/12 * 12
MCC-50	Coaxial cable	UL Japan	-	-	RE	2008/03/17 * 12
MAT-31	Attenuator(6dB)	TME	UFA-01	-	RE	2008/03/10 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	RE	2008/03/06 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE (EUT)	2008/02/20 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE (AE)	2008/02/19 * 12
MTA-07	Terminator	MCL	BTRM-50	1 9944	CE	2008/02/04 * 12
MCC-113	Coaxial cable	Fujikura/Suhner/TSJ	-	-	CE	2008/07/03 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	RE(GHz)	2008/03/13 * 12
MCC-57	Microwave Cable 1G-26.5GHz (6.0m)	Suhner	SUCOFLEX104	246769(1m) / 292411(5m)	RE(GHz)	2008/11/05 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE(GHz)	2008/08/11 * 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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