



EMI TEST REPORT

Test Report No. : 29BE0263-HO-D

Applicant : Sharp Corporation, Communication Systems Group.
Type of Equipment : Cellular Phone
Model No. : 931SH
FCC ID : APYHRO00078
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: October 3, 2008

Tested by: S. Matsuyama
Satofumi Matsuyama
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>

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MF060b (09.01.08)

CONTENTS	PAGE
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: Z-axis/ Vertical:Z-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.
Brand Name : SHARP
Address : 2-13-1 Iida Hachihonmatsu, HigashiHiroshima-City, Hiroshima, 739-0192,
Japan
Telephone Number : +81-82-420-1591
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. : 931SH
Serial No. : 004401/11/140931/0
Rating : AC 120V/60Hz, DC4.0V
Receipt Date of Sample : October 2, 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: 931SH (referred to as the EUT in this report) is the Cellular Phone.

Clock frequency(ies) in the system : CPU: 26MHz
RTC: 32.768kHz
Internal: 208MHz
Feature of EUT : 931SH is WCDMA & Tri-band (900/1800/1900) 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] 15.7dB, 0.16974MHz, L [AV] 19.2dB, 0.16930MHz, N	Complied
Radiated emission	ANSI C63.4: 2003 8. Radiated emission measurements	Class B	N/A	5.5dB, 72.368MHz, 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
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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

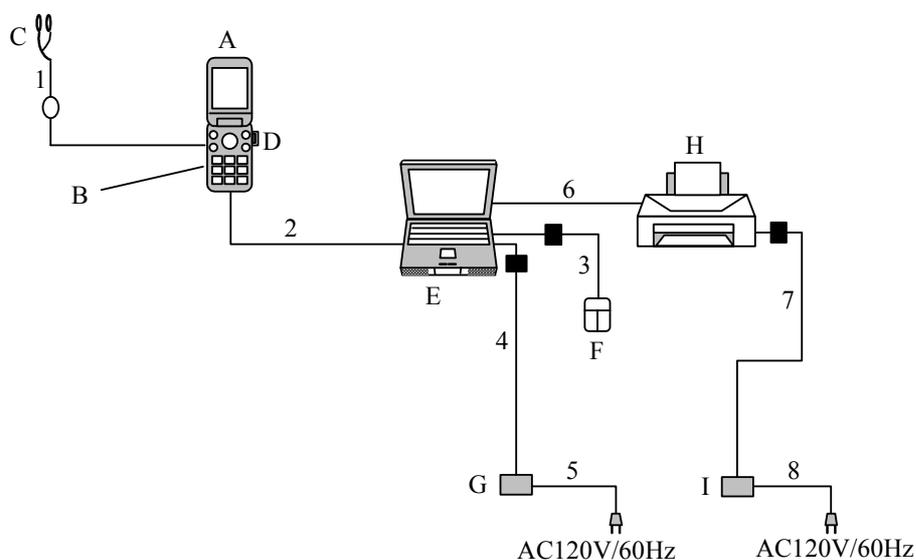
Refer to APPENDIX 1 to 3.

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



■ : 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	931SH	004401/11/140931/0	SHARP	EUT
B	Lithium-Ion Battery	SHBBZ1	RHA	SHARP	EUT
C	Stereo Handsfree	RPHoHA019AFSB	1	SHARP	EUT
D	microSD Memory Card	SDSDQ-128	None	SanDisk	-
E	Personal Computer	PP11L	HFCLQ1X	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)	0.85	Unshielded	Unshielded
5	AC Power Cable(PC)	1.76	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: October 3, 2008

Test engineer: Satofumi Matsuyama

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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: October 3, 2008

Test engineer: Satofumi Matsuyama

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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: Z-axis/ Vertical:Z-axis)

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APPENDIX 2: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

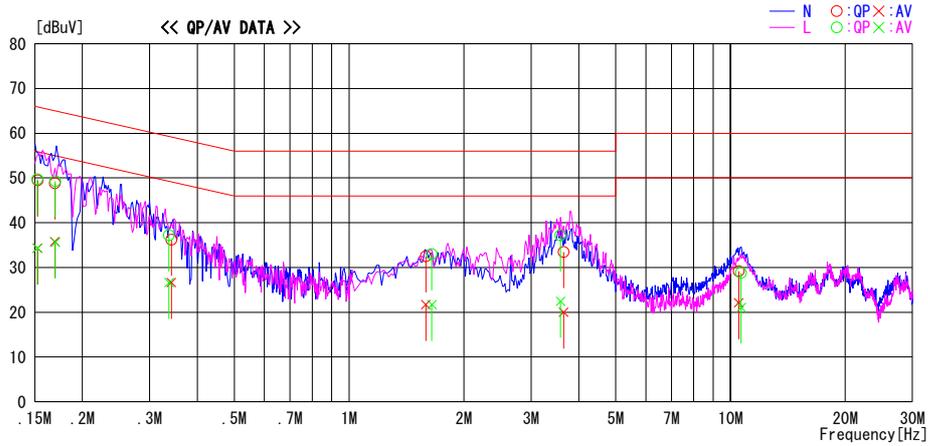
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/10/03

Company : Sharp Corporation
Kind of EUT : Cellular phone
Model No. : 931SH
Serial No. : 004401/11/140931/0

Report No. : 29BE0263-HO
Power : AC 120V / 60Hz
Temp./Humi. : 23deg. C. / 59%
Engineer : Satofumi Matsuyama

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]		
0.15251	49.3	34.1	0.2	49.5	34.3	65.9	55.9	16.4	21.6	N	
0.16930	48.6	35.6	0.2	48.8	35.8	65.0	55.0	16.2	19.2	N	
0.34210	35.9	26.3	0.3	36.2	26.6	59.2	49.2	23.0	22.6	N	
1.58951	32.0	21.2	0.5	32.5	21.7	56.0	46.0	23.5	24.3	N	
3.65319	32.7	19.2	0.8	33.5	20.0	56.0	46.0	22.5	26.0	N	
10.50604	27.6	20.5	1.6	29.2	22.1	60.0	50.0	30.8	27.9	N	
0.15240	49.5	34.1	0.2	49.7	34.3	65.9	55.9	16.2	21.6	L	
0.16974	49.1	35.4	0.2	49.3	35.6	65.0	55.0	15.7	19.4	L	
0.33734	36.9	26.3	0.3	37.2	26.6	59.3	49.3	22.1	22.7	L	
1.64791	32.5	21.2	0.5	33.0	21.7	56.0	46.0	23.0	24.3	L	
3.58369	36.4	21.6	0.8	37.2	22.4	56.0	46.0	18.8	23.6	L	
10.66603	27.2	19.5	1.6	28.8	21.1	60.0	50.0	31.2	28.9	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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Conducted Emission

DATA OF CONDUCTED EMISSION TEST

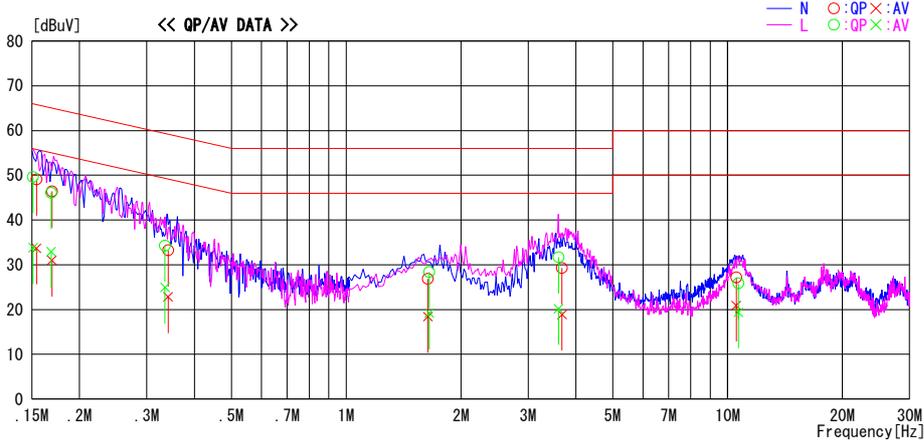
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/10/03

Company : Sharp Corporation
Kind of EUT : Cellular phone
Model No. : 931SH
Serial No. : 004401/11/140931/0

Report No. : 29BE0263-HO
Power : AC 120V / 60Hz
Temp./Humi. : 23deg.C. / 59%
Engineer : Satofumi Matsuyama

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]		
0.15421	48.9	33.5	0.2	49.1	33.7	65.8	55.8	16.7	22.1	N	
0.16918	46.2	30.8	0.2	46.4	31.0	65.0	55.0	18.6	24.0	N	
0.34126	32.9	22.5	0.3	33.2	22.8	59.2	49.2	26.0	26.4	N	
1.63757	26.3	17.9	0.5	26.8	18.4	56.0	46.0	29.2	27.6	N	
3.68185	28.5	18.1	0.8	29.3	18.9	56.0	46.0	26.7	27.1	N	
10.53546	25.6	19.3	1.6	27.2	20.9	60.0	50.0	32.8	29.1	N	
0.15110	49.4	33.6	0.2	49.6	33.8	65.9	55.9	16.3	22.1	L	
0.16853	45.9	32.7	0.2	46.1	32.9	65.0	55.0	18.9	22.1	L	
0.33492	34.0	24.6	0.3	34.3	24.9	59.3	49.3	25.0	24.4	L	
1.65183	27.9	18.7	0.5	28.4	19.2	56.0	46.0	27.6	26.8	L	
3.60374	30.9	19.4	0.8	31.7	20.2	56.0	46.0	24.3	25.8	L	
10.67338	24.3	17.8	1.6	25.9	19.4	60.0	50.0	34.1	30.6	L	

CHART: WITH FACTOR. Peak hold data. CALCULATION: RESULT [dBuV] = READING [dBuV] + C [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

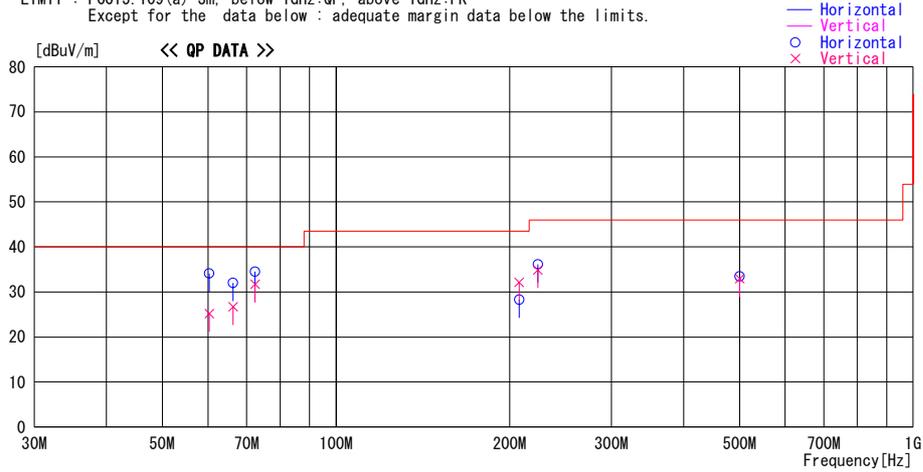
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/10/03

Company : Sharp Corporaiton
 Kind of EUT : Cellular Phone
 Model No. : 931SH
 Serial No. : 004401/11/140931/0
 Report No. : 29BE0263-H0
 Power : AC 120V / 60Hz
 Temp./Humi. : 23deg.C. / 59%
 Engineer : Satofumi Matsuyama

Mode / Remarks : USB Data Com Mode Worst-axis Hor:Z-axis Ver:Z-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	Angle	Height	Polar.	Limit	Margin	Comment
			Factor [dB/m]	Gain [dB]							
60.307	46.7	QP	8.2	-20.8	34.1	298	311	Hori.	40.0	5.9	
60.307	37.8	QP	8.2	-20.8	25.2	165	100	Vert.	40.0	14.8	
66.338	45.4	QP	7.2	-20.6	32.0	105	300	Hori.	40.0	8.0	
66.337	40.1	QP	7.2	-20.6	26.7	236	100	Vert.	40.0	13.3	
72.368	48.4	QP	6.6	-20.5	34.5	295	252	Hori.	40.0	5.5	
72.368	45.6	QP	6.6	-20.5	31.7	222	145	Vert.	40.0	8.3	
207.703	29.9	QP	16.7	-18.3	28.3	9	327	Hori.	43.5	15.2	
207.703	33.7	QP	16.7	-18.3	32.1	21	100	Vert.	43.5	11.4	
223.681	37.4	QP	16.8	-18.1	36.1	171	164	Hori.	46.0	9.9	
223.680	36.2	QP	16.8	-18.1	34.9	22	100	Vert.	46.0	11.1	
500.382	32.2	QP	18.2	-16.9	33.5	177	218	Hori.	46.0	12.5	
500.383	31.6	QP	18.2	-16.9	32.9	312	100	Vert.	46.0	13.1	

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

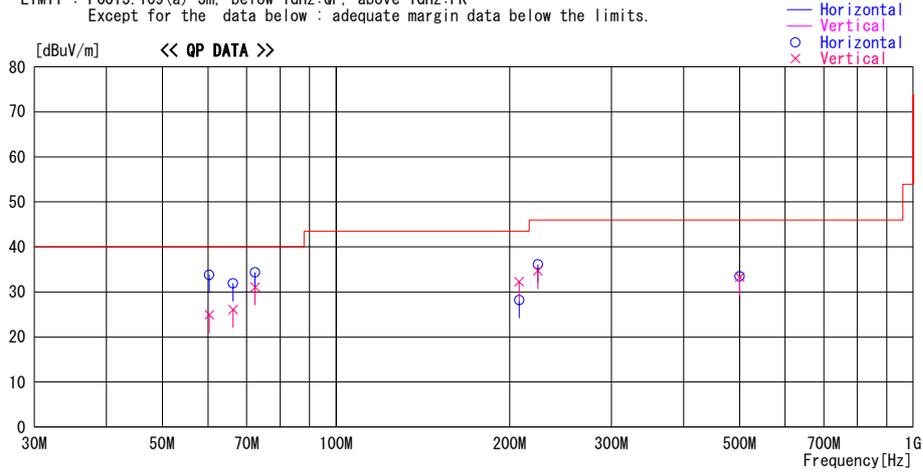
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/10/03

Company : Sharp Corporaiton Report No. : 29BE0263-H0
Kind of EUT : Cellular Phone Power : AC 120V / 60Hz
Model No. : 931SH Temp./Humi. : 23deg.C. / 59%
Serial No. : 004401/11/140931/0 Engineer : Satofumi Matsuyama

Mode / Remarks : Standby Mode Worst-axis Hor:Z-axis Ver:Z-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]	Comment
			Factor [dB/m]	Loss& Gain [dB]							
60.308	46.4	QP	8.2	-20.8	33.8	304	326	Hori.	40.0	6.2	
60.307	37.5	QP	8.2	-20.8	24.9	167	100	Vert.	40.0	15.1	
66.338	39.5	QP	7.2	-20.6	26.1	230	100	Vert.	40.0	13.9	
66.337	45.3	QP	7.2	-20.6	31.9	110	300	Hori.	40.0	8.1	
72.368	48.2	QP	6.6	-20.5	34.3	311	255	Hori.	40.0	5.7	
72.369	45.0	QP	6.6	-20.5	31.1	230	150	Vert.	40.0	8.9	
207.703	29.8	QP	16.7	-18.3	28.2	34	313	Hori.	43.5	15.3	
207.703	33.9	QP	16.7	-18.3	32.3	11	100	Vert.	43.5	11.2	
223.681	36.0	QP	16.8	-18.1	34.7	25	100	Vert.	46.0	11.3	
223.680	37.4	QP	16.8	-18.1	36.1	170	166	Hori.	46.0	9.9	
500.379	32.2	QP	18.2	-16.9	33.5	182	238	Hori.	46.0	12.5	
500.378	32.0	QP	18.2	-16.9	33.3	316	100	Vert.	46.0	12.7	

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

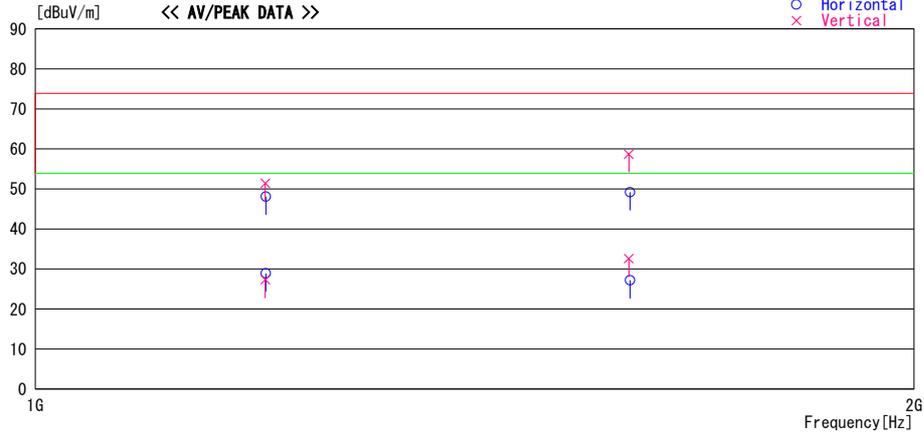
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/10/03

Company : Sharp Corporaiton
 Kind of EUT : Cellular Phone
 Model No. : 931SH
 Serial No. : 004401/11/140931/0
 Report No. : 29BE0263-HO
 Power : AC 120V / 60Hz
 Temp./Humi. : 23deg. C. / 59%
 Engineer : Satofumi Matsuyama

Mode / Remarks : USB Data Com Mode Worst-axis Hor:Z-axis Ver:Z-axis

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

— Horizontal
 — Vertical
 ○ Horizontal
 × Vertical



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level	Angle	Height	Polar.	Limit	Margin	Comment
			Factor [dB/m]	Gain [dB]							
1198.868	61.6	PK	24.7	-34.9	51.4	6	100	Vert.	73.9	22.5	
1198.868	37.5	AV	24.7	-34.9	27.3	6	100	Vert.	53.9	26.6	
1199.402	58.3	PK	24.7	-34.9	48.1	45	100	Hori.	73.9	25.8	
1199.402	39.1	AV	24.7	-34.9	28.9	45	100	Hori.	53.9	25.0	
1598.750	58.2	PK	25.3	-34.3	49.2	270	100	Hori.	73.9	24.7	
1597.100	67.7	PK	25.3	-34.3	58.7	185	100	Vert.	73.9	15.2	
1598.750	36.2	AV	25.3	-34.3	27.2	270	100	Hori.	53.9	26.7	
1597.100	41.6	AV	25.3	-34.3	32.6	185	100	Vert.	53.9	21.3	

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

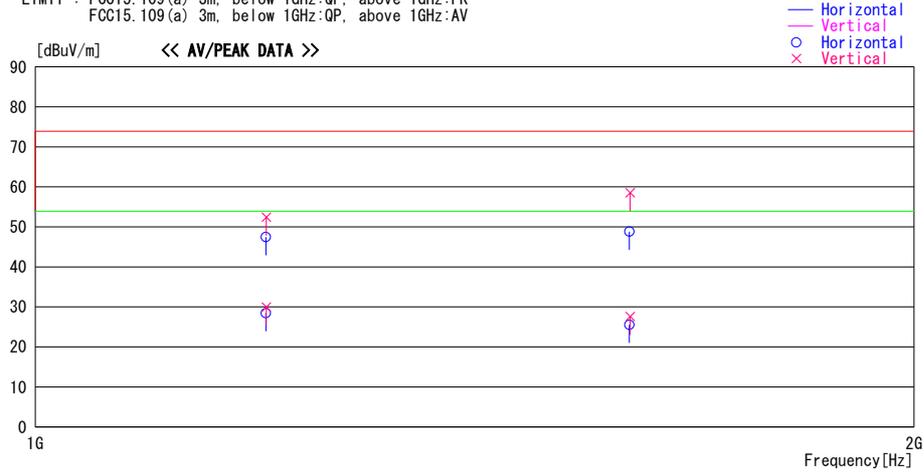
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2008/10/03

Company : Sharp Corporaiton
Kind of EUT : Cellular Phone
Model No. : 931SH
Serial No. : 004401/11/140931/0
Report No. : 29BE0263-H0
Power : AC 120V / 60Hz
Temp./Humi. : 23deg.C. / 59%
Engineer : Satofumi Matsuyama

Mode / Remarks : Standby Mode Worst-axis Hor:Z-axis Ver:Z-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]	Comment
			Factor [dB/m]	Gain [dB]							
1199.775	62.6	PK	24.7	-34.9	52.4	7	100	Vert.	73.9	21.5	
1199.775	40.2	AV	24.7	-34.9	30.0	7	100	Vert.	53.9	23.9	
1199.350	57.7	PK	24.7	-34.9	47.5	50	100	Hori.	73.9	26.4	
1199.350	38.7	AV	24.7	-34.9	28.5	50	100	Hori.	53.9	25.4	
1597.750	57.8	PK	25.3	-34.3	48.8	275	100	Hori.	73.9	25.1	
1598.762	67.5	PK	25.3	-34.3	58.5	195	100	Vert.	73.9	15.4	
1597.750	34.6	AV	25.3	-34.3	25.6	275	100	Hori.	53.9	28.3	
1598.762	36.6	AV	25.3	-34.3	27.6	195	100	Vert.	53.9	26.3	

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.

APPENDIX 3: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	RE/CE	2007/11/23 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	RE	2007/10/21 * 12
MLA-09	Logperiodic Antenna	Schwarzbeck	USLP9143B	RE	2008/01/12 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	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	RE	2008/07/23 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	RE/CE	2007/10/19 * 12
MSA-10	Spectrum Analyzer	Agilent	E4448A	RE	2008/02/27 * 12
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE/CE	-
MOS-01	Digital Humidity Indicator	N.T	NT-1800	RE/CE	2007/11/12 * 12
MJM-01	Measure	KDS	ES19-55	RE/CE	-
MHA-05	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	RE	2008/01/19 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2008/09/09 * 12
MPA-01	Pre Amplifier	Agilent	8449B	RE	2008/02/12 * 12
MLS-02	LISN(AMN)	Schwarzbeck	NSLK8127	CE(EUT)	2008/06/27 * 12
MLS-03	LISN(AMN)	Schwarzbeck	NSLK8127	CE(AE)	2008/07/01 * 12
MTA-06	Terminator	MCL	BTRM-50	CE	2008/02/04 * 12
MCC-03	Coaxial Cable	Fujikura/Suhner/Agilent/TSJ	-	CE	2007/12/27 * 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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