



EMI TEST REPORT

Test Report No. : 30CE0132-HO

Applicant : Sharp Corporation, Communication Systems Group.
Type of Equipment : Cellular Phone
Model No. : SH-03B
FCC ID : APYHRO00113
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:

November 24, 2009

Tested by:

M. Imura

Motoya Imura
EMC Services

Approved by :

Y. Yoshida

Yutaka Yoshida
Group Leader 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.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

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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 : +81-82-420-1825
Facsimile Number : +81-82-420-1829
Contact Person : Kazuo Sugimoto

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

2.1 Identification of E.U.T.

Type of Equipment : Cellular Phone
Model No. : SH-03B
Serial No. : Refer to Section 4, Clause 4.2
Receipt Date of Sample : November 23, 2009
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-03B (referred to as the EUT in this report) is the Cellular Phone.

Feature of EUT: WCDMA & GSM Dual mode Cellular Phone / Bluetooth , Felica
& 1.5GHz Band Satellite Receiver (GPS) enable
- GSM (EU:900/1800M, 1900M)
- WCDMA (EU:2000M, USA:850, JPN: 800/2000)

Clock frequency(ies) in the system : 48MHz (Oscillator), 500.5MHz (CPU clock)

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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 December 2, 2009
Title : FCC 47CFR Part15 Radio Frequency Device
Subpart B Unintentional Radiators

* The revision on December 2, 2009 does not influence the test specification applied to the EUT.

3.2 Procedures and results

Item	Test Procedure	Limits	Deviation	Worst margin	Result
Conducted emission	FCC: ANSI C63.4: 2003 7. AC powerline conducted emission measurements	Class B	N/A	[QP] 13.2dB 3.80240MHz, L, USB Data Com mode [AV] 13.6dB 2.04736MHz, L, USB Data Com mode	Complied
Radiated emission	FCC: ANSI C63.4: 2003 8. Radiated emission measurements	Class B	N/A	9.3 dB 511.264MHz, Vertical, USB Data Com mode	Complied

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

3.3 Addition to standard

No addition, exclusion nor deviation has been made from the standard.

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 (semi-anechoic chamber)	Conducted emission (+dB)
	150kHz-30MHz
No.1	3.7dB
No.2	3.7dB
No.3	3.7dB
No.4	3.7dB

Test room (semi-anechoic chamber)	Radiated emission (10m*)(+dB)			Radiated emission (3m*)(+dB)					
	9kHz-30MHz	30MHz-300MHz	300MHz-1GHz	9kHz-30MHz	30MHz-300MHz	300MHz-1GHz	1GHz-18GHz	18GHz-26.5GHz	26.5GHz-40GHz
No.1	3.1dB	4.4dB	3.9dB	3.2dB	3.8dB	3.9dB	5.0dB	5.0dB	5.4dB
No.2	-	-	-	3.2dB	4.4dB	4.0dB	5.0dB	5.2dB	5.4dB
No.3	-	-	-	3.2dB	4.2dB	3.8dB	5.0dB	5.3dB	5.3dB
No.4	-	-	-	3.2dB	4.0dB	3.8dB	5.0dB	5.3dB	5.3dB

*10m/3m = Measurement distance

Conducted Emission test

The data listed in this test report has enough margin, more than the site margin.

Radiated emission test(3m)

The data listed in this test report has enough margin, more than the site margin.

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3.5 Test Location

UL Japan, Inc. Head Office EMC Lab. *NVLAP Lab. code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116 Facsimile : +81 596 24 8124

	FCC Registration Number	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	313583	2973C-1	19.2 x 11.2 x 7.7m	7.0 x 6.0m	No.1 Power source room
No.2 semi-anechoic chamber	655103	2973C-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 semi-anechoic chamber	148738	2973C-3	12.0 x 8.5 x 5.9m	6.8 x 5.75m	No.3 Preparation room
No.3 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.4 semi-anechoic chamber	134570	2973C-4	12.0 x 8.5 x 5.9m	6.8 x 5.75m	No.4 Preparation room
No.4 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.5 semi-anechoic chamber	-	-	6.0 x 6.0 x 3.9m	6.0 x 6.0m	-
No.6 shielded room	-	-	4.0 x 4.5 x 2.7m	4.75 x 5.4 m	-
No.6 measurement room	-	-	4.75 x 5.4 x 3.0m	4.75 x 4.15 m	-
No.7 shielded room	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.8 measurement room	-	-	3.1 x 5.0 x 2.7m	N/A	-
No.9 measurement room	-	-	8.0 x 4.5 x 2.8m	2.0 x 2.0m	-
No.10 measurement room	-	-	2.6 x 2.8 x 2.5m	2.4 x 2.4m	-
No.11 measurement room	-	-	3.1 x 3.4 x 3.0m	2.4 x 3.4m	-

* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0m for No.1, No.2, No.3, and No.4 semi-anechoic chambers and No.3 and No.4 shielded rooms.

3.6 Test set up, Data of EMI, and Test instruments

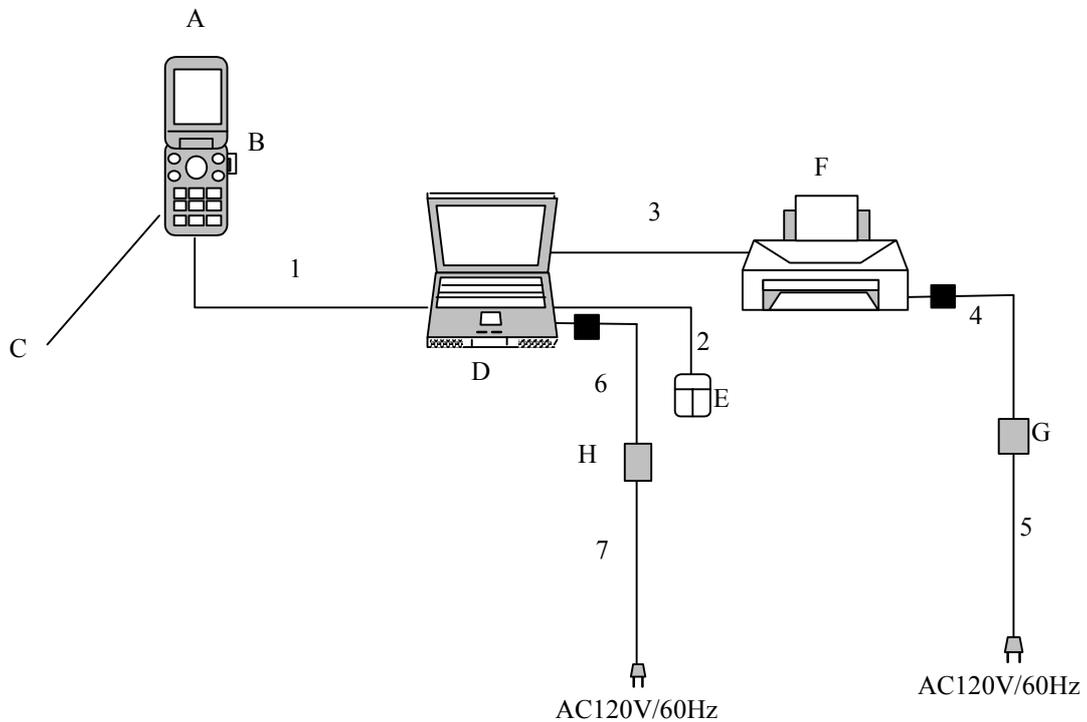
Refer to APPENDIX 1 to 3.

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

4.1 Operating modes

The mode(s) : 1) USB Data Com mode
The USB data is communicated between EUT and Personal computer (Pair of EUT).
2) Standby mode
Standby state for USB communication

4.2 Configuration and peripherals



*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-03B	004401112225236	SHARP	EUT
B	micro SD Memory Card	SD-08G	0831U49492Y	TOSHIBA	EUT
C	Lithium-Ion Battery	SH21	None	SHARP	EUT
D	Personal Computer	PP11L	CN-0D4571-48643-51T-0549	Dell	-
E	Mouse	M-UAG120	G83C0007F310	TOSHIBA	-
F	Printer	C6410A	SG8BA1W18J	Hewlett-Packard	-
G	AC Adapter (Printer)	AT3018A-0101	C4557-60004	Hewlett Packard	-
H	AC Adapter (PC)	PA-1650-05D2	CN-0F7970-71615-77H-0D63	Dell	-

List of cables used

No.	Name	Length (m)	Shield	
			Cable	Connector
1	USB Data Cable	0.70	Shielded	Shielded
2	Mouse Cable	0.71	Shielded	Shielded
3	Parallel Printer Cable	2.00	Shielded	Shielded
4	DC Cable (Printer)	2.00	Unshielded	Unshielded
5	AC Cable (Printer)	1.75	Unshielded	Unshielded
6	DC Cable (PC)	1.80	Unshielded	Unshielded
7	AC Cable (PC)	0.90	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: November 24, 2009

Test engineer: Motoya Imura

UL Japan, Inc.

Head Office EMC Lab.

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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 - 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 antenna 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: November 24, 2009

Test engineer: Motoya Imura

UL Japan, Inc.

Head Office EMC Lab.

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APPENDIX 1: Photographs of test setup

Conducted Emission

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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
USB Data Com mode**

DATA OF CONDUCTED EMISSION TEST

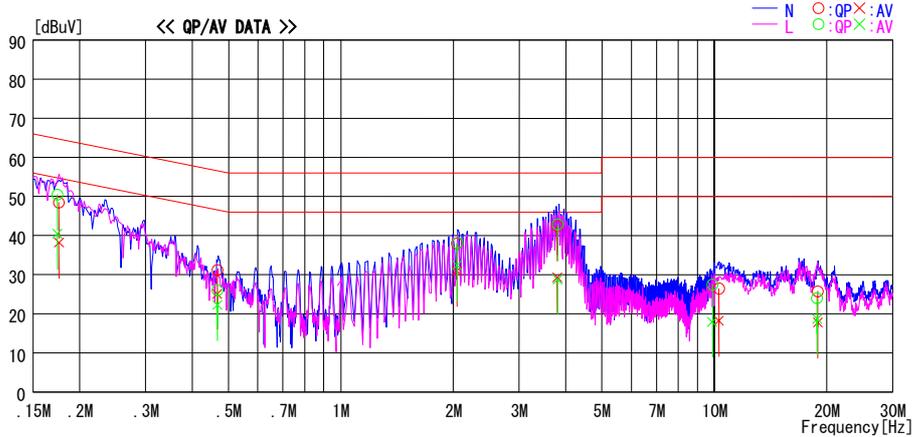
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/11/24

Company : SHARP CORPORATION
Kind of EUT : Cellular Phone
Model No. : SH-03B
Serial No. : 00440112225236

Report No. : 30CE0132-HO
Power : AC 120V / 60Hz
Temp./Humi. : 22deg. C. / 41%
Engineer : Motoya Imura

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]		
0.17580	48.2	37.9	0.3	48.5	38.2	64.7	54.7	16.2	16.5	N	
0.46722	30.9	24.8	0.3	31.2	25.1	56.6	46.6	25.4	21.5	N	
2.04340	37.6	30.6	0.4	38.0	31.0	56.0	46.0	18.0	15.0	N	
3.79344	42.0	28.7	0.6	42.6	29.3	56.0	46.0	13.4	16.7	N	
10.27720	25.5	17.2	1.0	26.5	18.2	60.0	50.0	33.5	31.8	N	
18.92520	24.2	16.3	1.5	25.7	17.8	60.0	50.0	34.3	32.2	N	
0.17410	50.2	40.2	0.3	50.5	40.5	64.8	54.8	14.3	14.3	L	
0.46760	25.7	21.9	0.3	26.0	22.2	56.6	46.6	30.6	24.4	L	
2.04736	37.8	32.0	0.4	38.2	32.4	56.0	46.0	17.8	13.6	L	
3.80240	42.2	28.2	0.6	42.8	28.8	56.0	46.0	13.2	17.2	L	
9.87520	26.5	17.0	1.0	27.5	18.0	60.0	50.0	32.5	32.0	L	
18.83300	22.5	17.2	1.5	24.0	18.7	60.0	50.0	36.0	31.3	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 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.

Conducted Emission Standby mode

DATA OF CONDUCTED EMISSION TEST

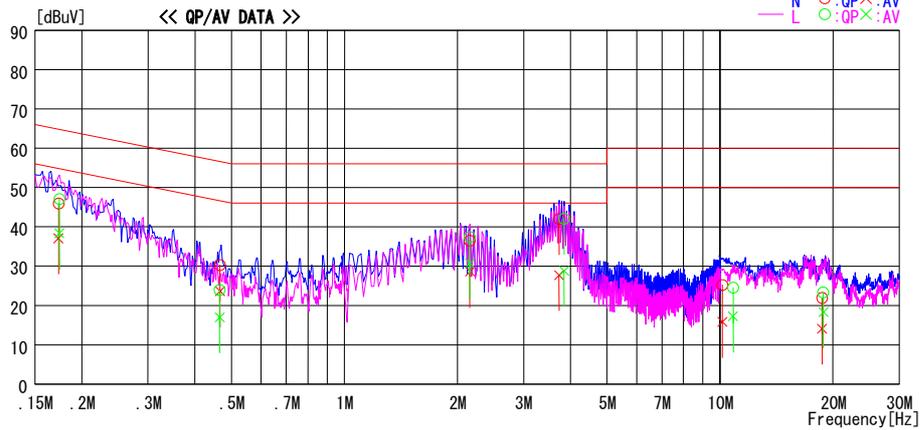
UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2009/11/24

Company : SHARP CORPORATION
Kind of EUT : Cellular Phone
Model No. : SH-03B
Serial No. : 00440112225236

Report No. : 30CE0132-HO
Power : AC 120V / 60Hz
Temp./Humi. : 22deg. C. / 41%
Engineer : Motoya Imura

Mode / Remarks : Standby 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]		
0.17344	45.6	36.8	0.3	45.9	37.1	64.8	54.8	18.9	17.7	N	
0.46632	30.0	23.3	0.3	30.3	23.6	56.6	46.6	26.3	23.0	N	
2.15646	36.1	28.2	0.4	36.5	28.6	56.0	46.0	19.5	17.4	N	
3.73040	41.4	27.1	0.6	42.0	27.7	56.0	46.0	14.0	18.3	N	
10.14160	24.2	14.8	1.0	25.2	15.8	60.0	50.0	34.8	34.2	N	
18.69330	20.4	12.6	1.5	21.9	14.1	60.0	50.0	38.1	35.9	N	
0.17410	46.8	38.0	0.3	47.1	38.3	64.8	54.8	17.7	16.5	L	
0.46540	23.6	16.7	0.3	23.9	17.0	56.6	46.6	32.7	29.6	L	
2.15700	37.0	30.3	0.4	37.4	30.7	56.0	46.0	18.6	15.3	L	
3.84721	41.5	28.2	0.6	42.1	28.8	56.0	46.0	13.9	17.2	L	
10.84080	23.6	16.2	1.0	24.6	17.2	60.0	50.0	35.4	32.8	L	
18.83830	21.8	16.8	1.5	23.3	18.3	60.0	50.0	36.7	31.7	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 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
(below 1GHz)
USB Data Com mode

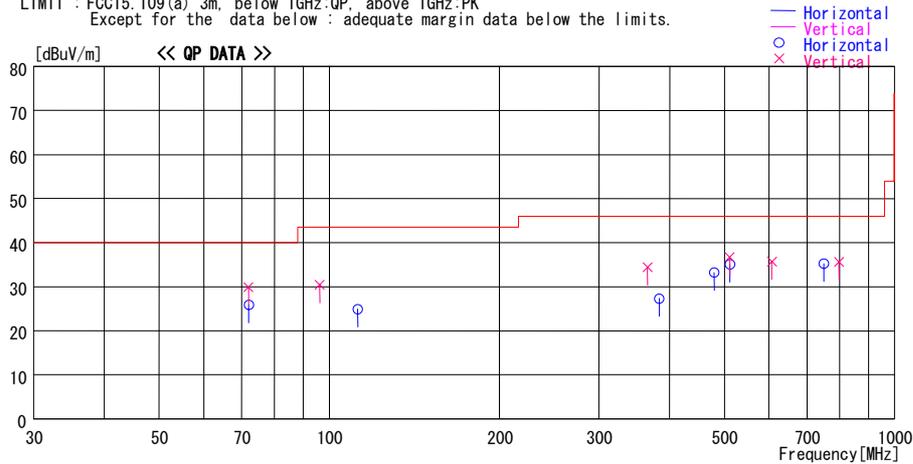
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2009/11/24

Company : SHARP CORPORATION
Kind of EUT : Cellular Phone
Model No. : SH-03B
Serial No. : 00440112225236
Report No. : 30CE0132-HO
Power : AC 120V / 60Hz
Temp./Humi. : 22deg. C / 41%
Engineer : Motoya Imura

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

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]							
72.032	43.7	QP	6.4	-24.2	25.9	357	388	Hori.	40.0	14.1	
72.021	47.7	QP	6.4	-24.2	29.9	69	100	Vert.	40.0	10.1	
96.136	45.4	QP	9.0	-24.0	30.4	131	145	Vert.	43.5	13.1	
112.300	37.0	QP	11.7	-23.8	24.9	0	265	Hori.	43.5	18.6	
365.640	38.7	QP	17.3	-21.6	34.4	141	131	Vert.	46.0	11.6	
383.462	31.2	QP	17.6	-21.5	27.3	252	256	Hori.	46.0	18.7	
479.307	35.2	QP	18.9	-20.9	33.2	130	108	Hori.	46.0	12.8	
511.272	36.7	QP	19.3	-20.9	35.1	158	100	Hori.	46.0	10.9	
511.264	38.3	QP	19.3	-20.9	36.7	30	113	Vert.	46.0	9.3	
607.130	35.5	QP	20.5	-20.3	35.7	355	100	Vert.	46.0	10.3	
750.004	31.6	QP	23.0	-19.4	35.2	64	103	Hori.	46.0	10.8	
797.740	31.1	QP	23.5	-19.0	35.6	284	172	Vert.	46.0	10.4	

CHART: WITH FACTOR ANT TYPE: -30MHz: LOOP, 30-300MHz: BICONICAL, 300MHz-1000MHz: LOGPERIODIC, 1000MHz-: HORN
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

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

Radiated Emission
(below 1GHz)
Standby mode

DATA OF RADIATED EMISSION TEST

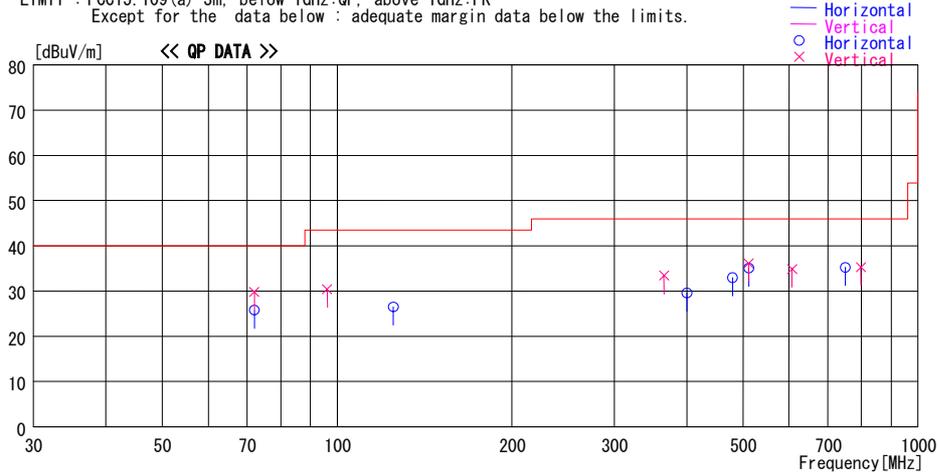
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/11/24

Company : SHARP CORPORATION
Kind of EUT : Cellular Phone
Model No. : SH-03B
Serial No. : 004401112225236

Report No. : 30CE0132-HO
Power : AC 120V / 60Hz
Temp./Humi. : 22deg. C / 41%
Engineer : Motoya Imura

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

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]							
72.038	43.6	QP	6.4	-24.2	25.8	357	394	Hori.	40.0	14.2	
72.025	47.6	QP	6.4	-24.2	29.8	83	100	Vert.	40.0	10.2	
96.139	45.4	QP	9.0	-24.0	30.4	152	114	Vert.	43.5	13.1	
125.008	37.0	QP	13.1	-23.6	26.5	302	288	Hori.	43.5	17.0	
365.766	37.7	QP	17.3	-21.6	33.4	132	141	Vert.	46.0	12.6	
399.870	33.2	QP	17.8	-21.4	29.6	193	285	Hori.	46.0	16.4	
479.311	35.0	QP	18.9	-20.9	33.0	136	108	Hori.	46.0	13.0	
511.267	36.7	QP	19.3	-20.9	35.1	144	100	Hori.	46.0	10.9	
511.280	37.8	QP	19.3	-20.9	36.2	27	108	Vert.	46.0	9.8	
607.128	34.7	QP	20.5	-20.3	34.9	355	100	Vert.	46.0	11.1	
749.990	31.6	QP	23.0	-19.4	35.2	72	108	Hori.	46.0	10.8	
797.620	30.8	QP	23.5	-19.0	35.3	289	177	Vert.	46.0	10.7	

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
(Above 1GHz)
USB Data Com mode

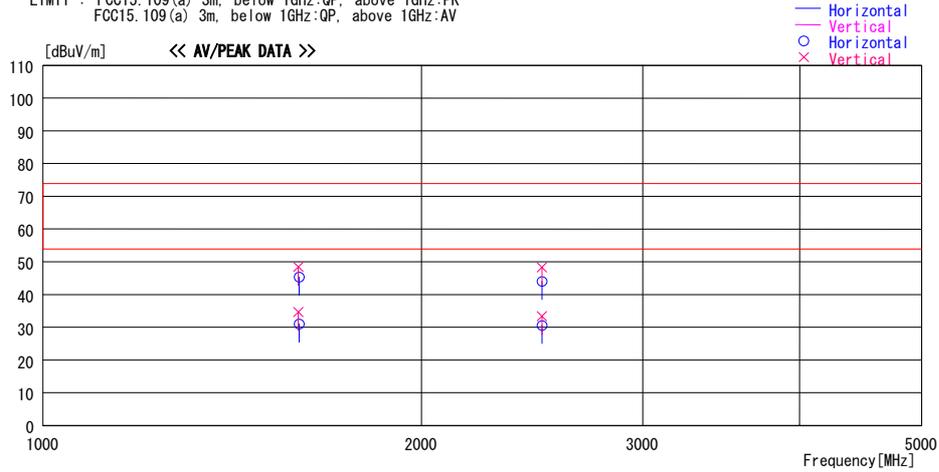
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2009/11/24

Company : SHARP CORPORATION
Kind of EUT : Cellular Phone
Model No. : SH-03B
Serial No. : 00440112225236
Report No. : 30CE0132-HO
Power : AC 120V / 60Hz
Temp./Humid. : 22deg. C / 41%
Engineer : Motoya Imura

Mode / Remarks : USB data Com Mode Worst-axis: (Hor:Z, Ver:Z)

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



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss& Gain [dB]							
1598.720	51.2	PK	25.4	-31.2	45.4	62	125	Hori.	73.9	28.5	
1598.720	36.8	AV	25.4	-31.2	31.0	62	125	Hori.	53.9	22.9	
1595.930	54.2	PK	25.4	-31.2	48.4	0	122	Vert.	73.9	25.5	
1595.930	40.4	AV	25.4	-31.2	34.6	0	122	Vert.	53.9	19.3	
2494.070	51.2	PK	26.9	-29.8	48.3	354	100	Vert.	73.9	25.6	
2494.070	36.3	AV	26.9	-29.8	33.4	354	100	Vert.	53.9	20.5	
2494.870	46.9	PK	26.9	-29.8	44.0	225	128	Hori.	73.9	29.9	
2494.870	33.4	AV	26.9	-29.8	30.5	225	128	Hori.	53.9	23.4	

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
(Above 1GHz)
Standby mode

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2009/11/24

Company : SHARP CORPORATION
Kind of EUT : Cellular Phone
Model No. : SH-03B
Serial No. : 00440112225236
Report No. : 30CE0132-HO
Power : AC 120V / 60Hz
Temp./Humi. : 22deg. C / 41%
Engineer : Motoya Imura

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

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

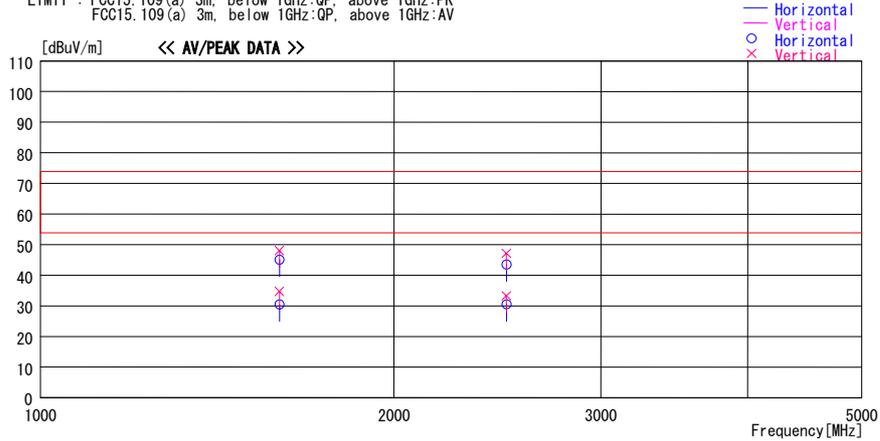


CHART: WITH FACTOR ANT TYPE: -30MHz: LOOP, 30-300MHz: BICONICAL, 300MHz-1000MHz: LOGPERIODIC, 1000MHz-: HORN
CALCULATION: RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

*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	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE/CE	2009/02/03 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE/CE	2009/02/06 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE/CE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MSA-07	Spectrum Analyzer	Advantest	R3273	160400285	RE	2009/06/29 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	RE	2009/10/23 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2009/01/10 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2009/01/10 * 12
MCC-50	Coaxial cable	UL Japan	-	-	RE	2009/03/18 * 12
MAT-31	Attenuator(6dB)	TME	UFA-01	-	RE	2009/11/11 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	RE	2009/03/18 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(EUT)	2009/02/18 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE(AE)	2009/02/18 * 12
MTA-07	Terminator	MCL	BTRM-50	1 9944	CE	2009/02/17 * 12
MCC-113	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W(10m)/SFM141(5m)/421-010(1m)/sucoform141-PE(1m)/RFM-E121(Switcher)	-/04178	CE	2009/07/01 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2009/08/10 * 12
MCC-57	Microwave Cable 1G-26.5GHz 6m	Suhner	SUCOFLEX104	246769(1m) / 292411(5m)	RE	2009/11/17 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	RE	2009/03/19 * 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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