

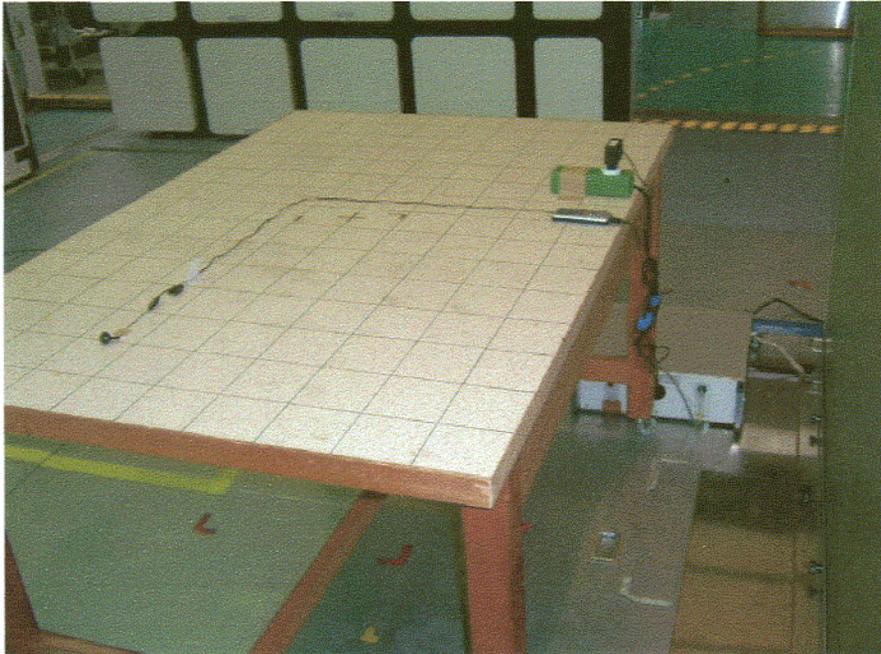
**APPENDIX 1: Photographs of test setup**

**Conducted Emission**

**Front**

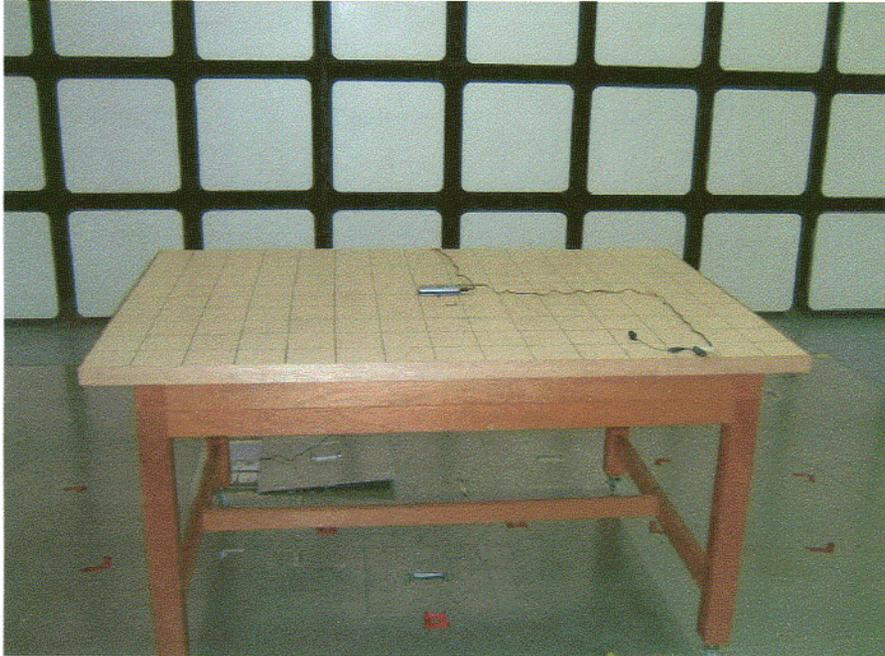


**Rear**

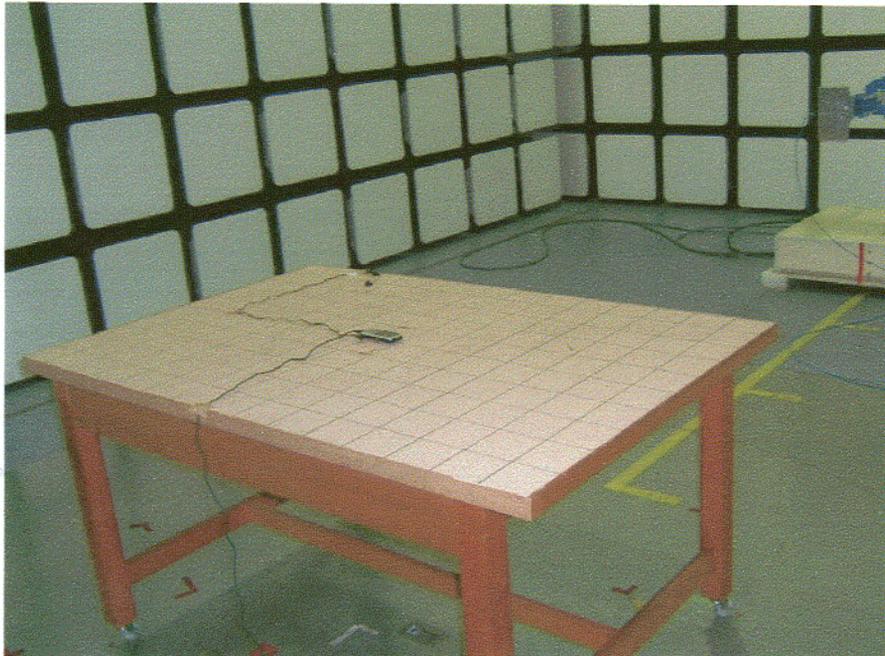


**Spurious Emission (Radiated)**

**Front**



**Rear**



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**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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MF060b(10.04.03)

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

**X-axis**



**Y-axis**



**Z-axis**



## **APPENDIX 2: Test instruments**

### **EMI test equipment**

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	1,9	2003/04/11 * 12
MRENT-06	Spectrum Analyzer	Advantest	R3273	1,9	2003/10/31 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	1,9	2004/02/03 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	9	2003/04/28 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	9	2003/04/28 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	9	2003/12/16 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	9	2004/02/24 * 12
MPA-02	Pre Amplifier	Agilent	87405A	9	2003/04/17 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	9	2004/01/10 * 12
MCC-04	Microwave Cable	Storm	421-011	9	2004/01/06 * 12
MCC-24	Microwave Cable	Storm	-	9	2003/04/30 * 12
MHF-02	High Pass Filter	Tokimec	TF323DCA	9	2003/09/19 * 12
MPA-01	Pre Amplifier	Agilent	8449B	9	2004/02/06 * 12
MHA-02	Horn Antenna	EMCO	3160-09	9	2004/01/10 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	1(EUT)	2004/02/17 * 12
MCC-13	Coaxial Cable	Fujikura/Agilent	-	1	2004/02/24 * 12
MRENT-09	Spectrum Analyzer	Advantest	R3273	2to8	2004/02/18 * 12

**All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.**

#### **Test Item:**

**[FHSS]**

- 1: Conducted emission,**
- 2: Carrier Frequency Separation**
- 3: 20dB Bandwidth**
- 4: Number of Hopping Frequency**
- 5: Dwell time**
- 6: Maximum Peak Output Power**
- 7: Band Edge Compliance**
- 8: Spurious Emission(Conducted)**
- 9: Spurious Emission(Radiated)**

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MF060b(10.04.03)

**APPENDIX 3: Data of EMI test**

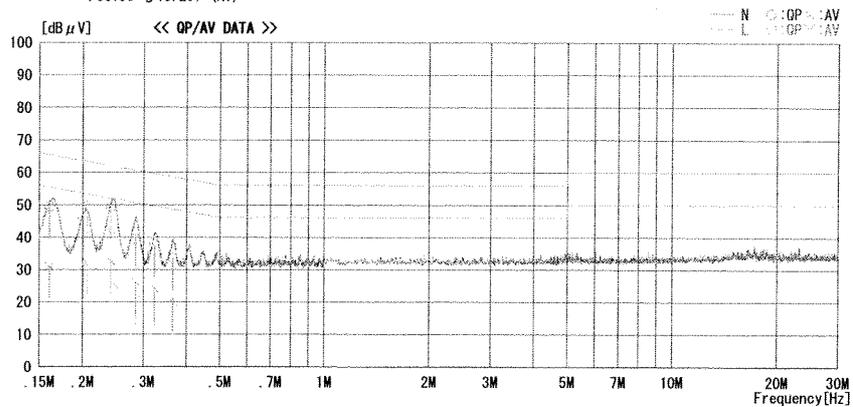
**Conducted Emission**

**DATA OF CONDUCTED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber  
 Date : 2004/04/15 02:57:14

Applicant : Sharp Corporation  
 Kind of EUT : Tri-band GSM Mobile phone  
 Model No. : GX15  
 Serial No. : 233  
 Report No. : 24HE0035-HO  
 Power : AC120V / 60Hz (AC Adapter)  
 Temp°C/Humi% : 23°C / 57%  
 Operator : Hiroka Umeyama  
 Mode / Remarks : Tx2402

LIMIT : FCC15C § 15.207 (QP)  
 FCC15C § 15.207 (AV)



NO	FREQ [MHz]	READING		C. F [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dB μV]	AV [dB μV]		QP [dB μV]	AV [dB μV]	QP [dB μV]	AV [dB μV]	QP [dB]	AV [dB]	
1	0.1603	49.3	31.0	0.1	49.4	31.1	65.4	55.4	16.0	24.3	N
2	0.2008	45.7	31.2	0.1	45.8	31.3	63.6	53.6	17.8	22.3	N
3	0.2411	49.2	32.6	0.1	49.3	32.7	62.1	52.1	12.8	19.4	N
4	0.2846	41.3	26.0	0.1	41.4	26.1	60.7	50.7	19.3	24.6	N
5	0.3230	37.8	24.1	0.1	37.9	24.2	59.6	49.6	21.7	25.4	N
6	0.3643	33.4	21.0	0.1	33.5	21.1	58.6	48.6	25.1	27.5	N
7	0.1608	49.7	30.8	0.1	49.8	30.9	65.4	55.4	15.6	24.5	L
8	0.2061	49.4	31.9	0.1	49.5	32.0	63.4	53.4	13.9	21.4	L
9	0.2455	42.3	25.4	0.1	42.4	25.5	61.9	51.9	19.5	26.4	L
10	0.2854	39.3	22.5	0.1	39.4	22.6	60.7	50.7	21.3	28.1	L
11	0.3242	37.5	22.7	0.1	37.6	22.8	59.6	49.6	22.0	26.8	L
12	0.3641	33.7	19.9	0.1	33.8	20.0	58.6	48.6	24.8	28.6	L

CHART: WITHOUT FACTOR, Peak hold data. Data is uncorrected.  
 Except for the above table : adequate margin data below the limits.

## Conducted Emission

### DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber  
Date : 2004/04/15 03:31:38

Applicant : Sharp Corporation  
Kind of EUT : Tri-band GSM Mobile phone  
Model No. : GX15  
Serial No. : 233

Report No. : 24HE0035-HO  
Power : AC120V / 60Hz (AC Adapter)  
Temp°C/Humi% : 23°C / 57%  
Operator : Hiroka Umeyama

Mode / Remarks : Tx2441

LIMIT : FCC15C § 15.207 (OP)  
FCC15C § 15.207 (AV)

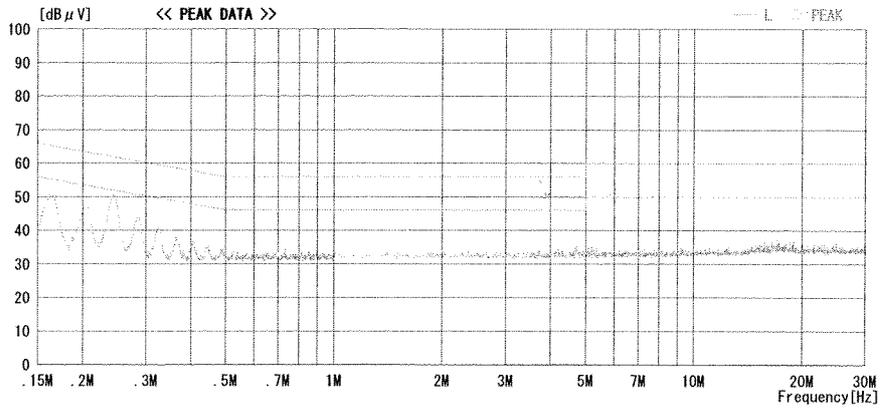
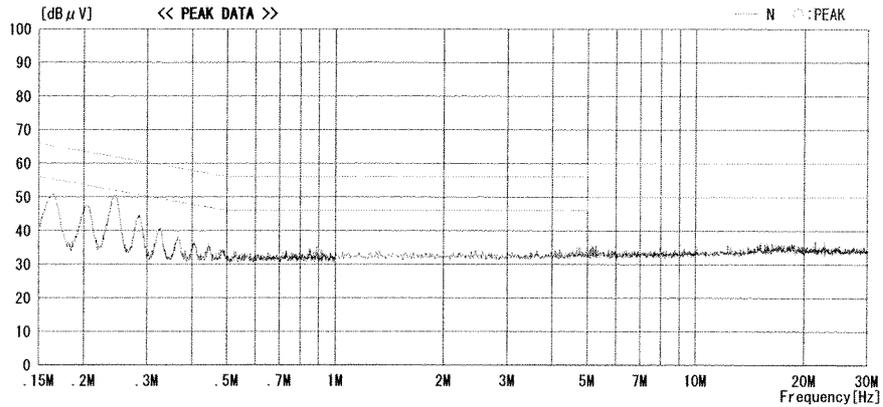


CHART: WITHOUT FACTOR, Peak hold data. Data is uncorrected.  
Except for the above table : adequate margin data below the limits.

**Conducted Emission**

**DATA OF CONDUCTED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No. 2 Semi Anechoic Chamber  
 Date : 2004/04/15 03:40:23

Applicant	: Sharp Corporation	Report No.	: 24HE0035-HO
Kind of EUT	: Tri-band GSM Mobile phone	Power	: AC120V / 60Hz (AC Adapter)
Model No.	: GX15	Temp/C/Humi%	: 23°C / 57%
Serial No.	: 233	Operator	: Hiroka Uneyama

Mode / Remarks : Tx2480

LIMIT : FCC15C § 15.207 (OP)  
 FCC15C § 15.207 (AV)

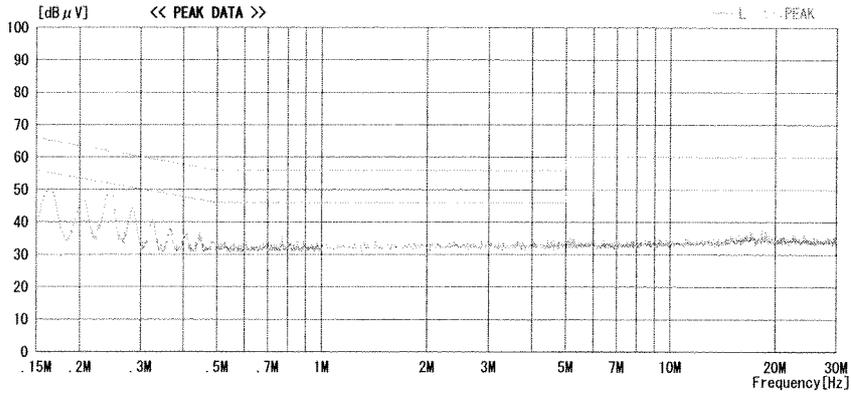
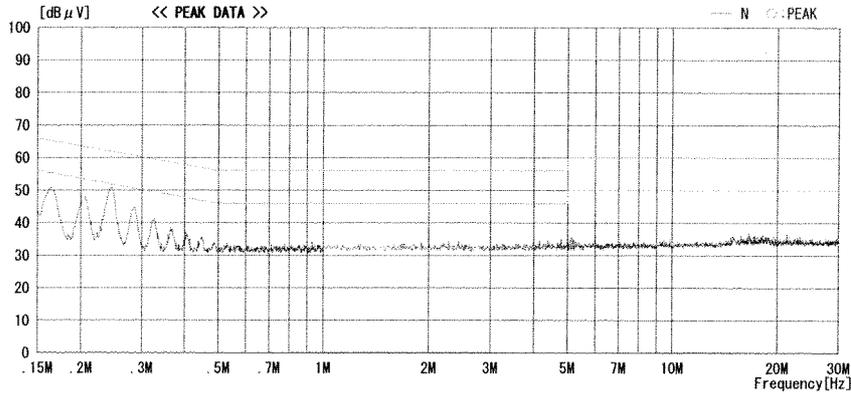


CHART: WITHOUT FACTOR, Peak hold data. Data is uncorrected.  
 Except for the above table : adequate margin data below the limits.

## Conducted Emission

### DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber  
 Date : 2004/04/15 03:48:44

Applicant : Sharp Corporation Kind of EUT : Tri-band GSM Mobile phone Model No. : GX15 Serial No. : 233	Report No. : 24HE0035-HO Power : AC120V / 60Hz (AC Adapter) Temp°C/Humi% : 23°C / 57% Operator : Hiroka Umeyama
Mode / Remarks : Standby	

LIMIT : FCC15C § 15.207 (DP)  
 FCC15C § 15.207 (AV)

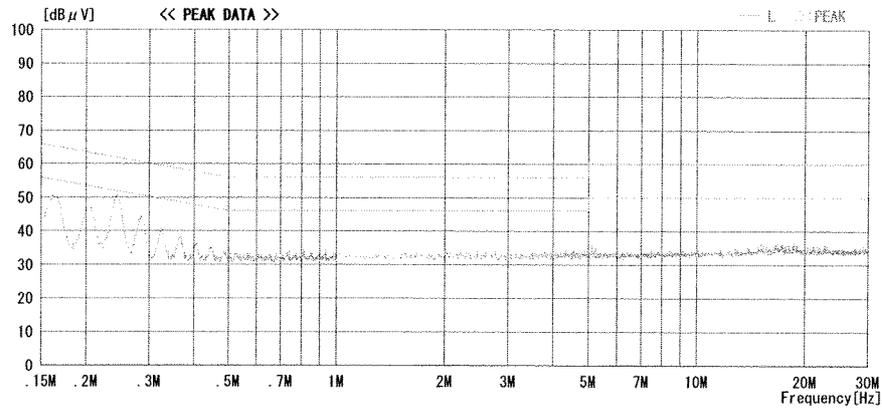
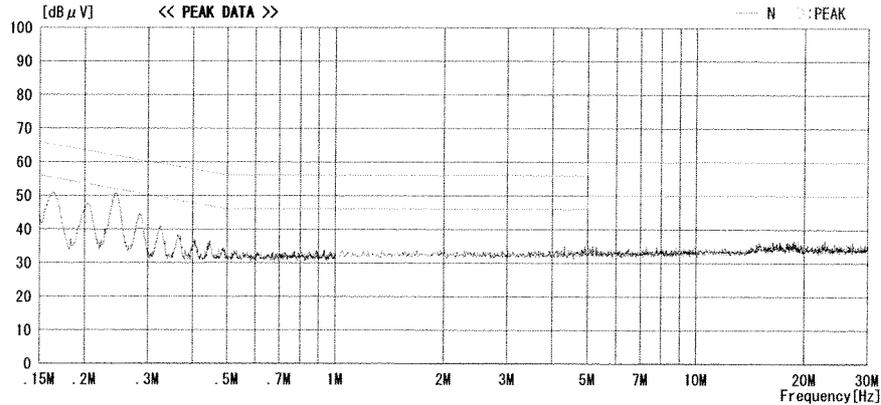


CHART: WITHOUT FACTOR, Peak hold data. Data is uncorrected.  
 Except for the above table : adequate margin data below the limits.

**[FHSS]**

**Carrier Frequency Separation(FHSS)**

UL Apex Co., Ltd.  
Head Office EMC Lab. No.3 Measurement Room

COMPANY : Sharp Corporation                      REGULATION : Fcc Part15 Subpart C 15.247(a)(1)  
EQUIPMENT : Tri-band GSM Mobile phone      TEST DISTANCE : -  
MODEL : GX15                                      DATE : 15/04/2004  
S/N : 234    TEMPERATURE : 21 deg. C  
POWER : DC3V                                      HUMIDITY : 47 %  
MODE : Tx(Hopping on)/Inquiry              ENGINEER : Hiroka Umeyama

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	2402.0	1.002	>20dB Bandwidth and 25[kHz]
Mid	2441.0	1.002	>20dB Bandwidth and 25[kHz]
High	2480.0	1.002	>20dB Bandwidth and 25[kHz]
Inquiry	2441.0	1.010	>20dB Bandwidth and 25[kHz]

**Carrier Frequency Separation(FHSS)**

