



UL Apex Co., Ltd.

Test report No. : 24KE0173-HO
Page : 1 of 42
Issued date : August 4, 2004
FCC ID : APYHRO00036
Revised date : August 10, 2004

EMI TEST REPORT

Test Report No. : 24KE0173-HO

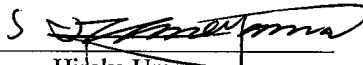
Applicant : Sharp Corporation
Type of Equipment : Tri-Band GSM Mobile Cellular Phone
Model No. : GX25
Test standard : FCC Part 15 Subpart C
Section 15.207, Section 15.247 : 2004
FCC ID : APYHRO00036
Test Result : Complied

1. This test report shall not be reproduced in full or partial, without the written approval of UL Apex Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with above regulation. We hereby certify that the data contain a true representation of the EMC profile.
4. The test results in this report are traceable to the national or international standards.

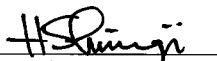
Date of test:

July 28 to 30, 2004

Tested by:

S 
Hiroka Umeyama
EMC Service

Approved by :


Hironobu Shimoji
Group Leader of
EMC Service

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

CONTENTS	PAGE
SECTION 1: Client 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, Section 15.207	8
SECTION 6: Carrier Frequency Separation, Section 15.247(a)(1)	9
SECTION 7: 20 dB Bandwidth, Section 15.247(a)(1)	9
SECTION 8: Number of Hopping Frequency, Section 15.247(a)(1)(iii)	9
SECTION 9: Dwell time, Section 15.247(a)(1)(iii)	10
SECTION 10: Maximum Peak Output Power, Section 15.247(b)(1)	10
SECTION 11: Spurious Emission / Band Edge Compliance 15.247(c)	11
APPENDIX 1: Photographs of test setup	12
Conducted Emission	12
Spurious Emission (Radiated)	13
Worst Case Position (Y-axis:Horizontal / Z-axis:Vertical)	14
APPENDIX 2: Test instruments	15
APPENDIX 3: Data of EMI test	16
Conducted Emission	16
Carrier Frequency Separation	21
20dB Bandwidth	23
Number of Hopping Frequency	25
Dwell time	27
Maximum Peak Output Power	30
Radiated Spurious Emission(30-1000MHz)	32
Radiated Spurious Emission (1-25GHz) / Band Edge compliance	35
Conducted Spurious Emission(30MHz-25GHz)	38
Conducted Spurious Emission / Band Edge compliance	41
99% Occupied Bandwidth	42

SECTION 1: Client information

Company Name : Sharp Corporation, Communication Systems Group.
Brand or Trade name : SHARP
Address : 2-13-1 Iida Hachihonmatsu HigashiHiroshima-City, Hiroshima-ken,
739-0192 Japan
Telephone Number : +81-82-420-1817
Facsimile Number : +81-82-420-1654
Contact Person : Masatugu daijyu

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

2.1 Identification of E.U.T.

Type of Equipment : Tri-Band GSM Mobile Cellular Phone
Model No. : GX25
Serial No. : 1) TA-249 IMEI: 004400/00/773249/6
for Radiated Spurious Emission and Conducted Emission
2) TA-245 IMEI: 004400/00/773245/4
for the other tests
Rating : DC3.7V, AC Adapter : AC120V/60Hz
Country of Manufacture : Japan
Receipt Date of Sample : July 22, 2004
Condition of EUT : Production prototype
(Not for Sale: This sample is equivalent to mass-produced items.)

2.2 Product Description

Model No: GX25 (referred to as the EUT in this report) is the Tri-Band GSM Mobile Cellular Phone.

Clock : 26MHz

[Bluetooth Class]

Equipment Type : Transceiver
Frequency of operation : 2402-2480MHz
Type of modulation : GFSK
Bandwidth & Channel spacing : 79MHz(Hopping) & 1MHz
Antenna Type : Internal Antenna
Antenna Gain : -3dBi
Antenna Connector Type : MM8430-2600RB3
Operating voltage (inner) : DC3.0V(Module)/ DC3.7-4.2V(DC Battery)
Operating Temperature : -10 deg.C. to +55 deg.C.

FCC 15.31 (e)

This EUT provides stable voltage(DC3.0V) constantly to RF Module regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.203 Antenna requirement

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part15 Subpart C : 2004

Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.207 Conducted limits : 2004
Section 15.247 Operation within the bands 902-928MHz,
2400-2483.5MHz, and 5725-5850MHz : 2004

3.2 Procedures and results

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	Conducted emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	Section 15.207	-	N/A	11.0dB 0.1595MHz L	Complied
2	Carrier Frequency Separation	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(a)(1)	Conducted	N/A	*See data.	Complied
3	20dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(a)(1)	Conducted	N/A		Complied
4	Number of Hopping Frequency	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(a)(1)(iii)	Conducted	N/A		Complied
5	Dwell time	ANSI C63.4:2003 13.Measurement of intentional radiators	Section15.247(a)(1)(iii)	Conducted	N/A		Complied
6	Maximum Peak Output Power	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(b)(1)	Conducted	N/A		Complied
7	Spurious Emission /Band Edge Compliance	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(c)	Conducted/ Radiated	N/A	1.7dB,2400MHz HOR	Complied

Note: UL Apex's EMI Work Procedures No.QPM05.

Uncertainty

*In case of the margin below the EMC Head Office's uncertainty.

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

Conducted Emission

The measurement uncertainty (with a 95% confidence level) for this test is $\pm 1.3\text{dB}$.

Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is $\pm 4.5\text{dB}(3\text{m})/\pm 4.7\text{dB}(10\text{m})$.

The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is $\pm 5.2\text{dB}(3\text{m})/\pm 3.8\text{dB}(10\text{m})$.

The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is $\pm 6.6\text{dB}$.

Other test except Conducted Emission and Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test is $\pm 3.0\text{dB}$.

*These tests were also referred to FCC Public Notice DA 00-705 "Guidance on Measurement for Frequency Hopping Spread Spectrum Systems".

*These tests were performed without any deviations from test procedure except for additions or exclusions.

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

3.3 Addition to standards

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	99% Occupied Band Width	RSS210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004	RSS210(issue 5): 2001 + Amendment:2002 + Amendment2:2003 + Amendment3:2004	Conducted	N/A	N/A	N/A

3.4 Test Location

UL Apex Co., Ltd. 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

	Listed date (for FCC)	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	February 01, 2002	313583	IC4247	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	June 05, 2002	846015	IC4247-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 shielded room	-	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.4 measurement room	-	-	-	3.1 x 5.0 x 2.7m	N/A	-

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

3.5 Test set up, Test instruments and Data of EMI

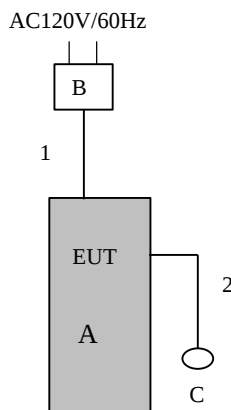
Refer to APPENDIX 1 to 3.

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

4.1 Operating Modes

The mode is used : [FHSS:Bluetooth]
Transmitting mode(Packet size DH5)
Low Channel :2402MHz
Mid Channel :2441MHz
High channel :2480MHz
Inquiry

4.2 Configuration and peripherals



* Cabling was 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	FCC ID
A	Tri-Band GSM Mobile phone	GX25	1) TA-249 IMEI:004400/00/773249/6 2) TA-245 IMEI:004400/00/773245/4	SHARP	APYHRO00036
B	AC Charger	XN-1QC08	N/A	HOSIDEN	N/A
C	Earphone	N/A	N/A	SHARP	N/A

*1) for Conducted emission and Spurious emission: Radiated

*2) for the other tests

List of cables used

No.	Name	Length (m)	Shield	Backshell Material
1	AC Charger Cable	1.5	N	Polyvinyl chloride
2	Earphone Cable	1.2	N	Polyvinyl chloride

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

SECTION 5: Conducted Emission, Section 15.207

Test Procedure and conditions

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals 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 a Line Impedance Stabilization Network (LISN)/ Artificial mains Network (AMN) and excess AC cable was bundled in center.

1) For the tests on EUT with other peripherals (as a whole system)

I/O cable and AC cables that were connected to the 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.

2) For the tests on EUT itself (as a stand alone equipment)

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 50ohm connectors of the LISN(AMN) were resistively terminated in 50ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Semi Anechoic Chamber or a Measurement Room.

The EUT was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

Detector	: CISPR quasi-peak detector (IF BW 9 kHz)
Measurement range	: 0.15-30MHz
Test data	: APPENDIX 3
Test result	: Pass

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

SECTION 6: Carrier Frequency Separation, Section 15.247(a)(1)

Test Procedure

The carrier frequency separation was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

SECTION 7: 20 dB Bandwidth, Section 15.247(a)(1)

Test Procedure

The 20dB bandwidth was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

SECTION 8: Number of Hopping Frequency, Section 15.247(a)(1)(iii)

Test Procedure

The Number of Hopping Frequency was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

SECTION 9: Dwell time, Section 15.247(a)(1)(iii)

Test Procedure

The Dwell time was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

SECTION 10: Maximum Peak Output Power, Section 15.247(b)(1)

Test Procedure

The Maximum Peak Output Power was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3
Test result : Pass

SECTION 11: Spurious Emission / Band Edge Compliance 15.247(c)

[Conducted]

Test Procedure

The Out of Band Emission was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3

Test result : Pass

[Radiated]

Test Procedure

EUT was placed on a platform of nominal size, 0.5m by 0.5m, raised 80cm above the conducting ground plane. The Radiated Electric Field Strength intensity has been measured in a Semi Anechoic Chamber with a ground plane and at a distance of 3m(Below 10GHz) and 1m(Upper 10GHz).

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.

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.

Test data : APPENDIX 3

Test result : Pass

When not satisfying the requirement of Section 15.209, 20dBc was applied the restricted band of Section 15.205.

Frequency	Below 1GHz	Above 1GHz
Instrument used	Test Receiver / Spectrum Analyzer	Spectrum Analyzer
Detector	QP: BW 120kHz(T/R)	PK: RBW:1MHz/VBW: 1MHz
IF Bandwidth	20dBc : RBW: 100kHz VBW: 300kHz (S/A)	AV: RBW:1MHz/VBW:10Hz 20dBc : RBW:100kHz/VBW:300kHz

- The carrier level and noise levels were measured at each position of all three axes X, Y and Z, and the position that has the maximum noise was determined.

With the position, the noise levels of all the frequencies was measured.

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

APPENDIX 1: Photographs of test setup

This page has been submitted for a separate exhibit. □

This page has been submitted for a separate exhibit. □

This page has been submitted for a separate exhibit. □

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	RE / CE	2004/04/12 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	RE/CE	2004/02/03 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	RE	2003/12/16 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	RE	2003/10/15 * 12
MHA-02	Horn Antenna	EMCO	3160-09	RE	2004/01/10 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2004/01/10 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2003/10/15 * 12
MPA-01	Pre Amplifier	Agilent	8449B	RE	2004/02/06 * 12
MPA-02	Pre Amplifier	Agilent	87405A	RE	2004/04/16 * 12
MOS-02	Digital Humidity Indicator	N.T	NT-1800	RE/CE	2003/11/27 * 12
MRENT-09	Spectrum Analyzer	Advantest	R3273	RE/CE	2004/02/18 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	CE(EUT)	2004/02/17 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	RE	2004/02/24 * 12
MCC-13	Coaxial Cable	Fujikura/Agilent	-	CE	2004/02/24 * 12
MCC-04	Microwave Cable	Storm	421-011	RE	2004/01/06 * 12
MCC-24	Microwave Cable	Storm	-	RE	2004/05/01 * 12
MHF-02	High Pass Filter	Tokimec	TF323DCA	RE	2003/09/19 * 12
MBTR10	Spectrum Analyzer	Rohde & Schwarz	FSP30	AT	2003/11/12 * 12

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

Test Item:

CE: AC Main Conducted Emission

RE: Radiated Spurious Emission

AT: Other test s

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

APPENDIX 3: Data of EMI test

Conducted Emission

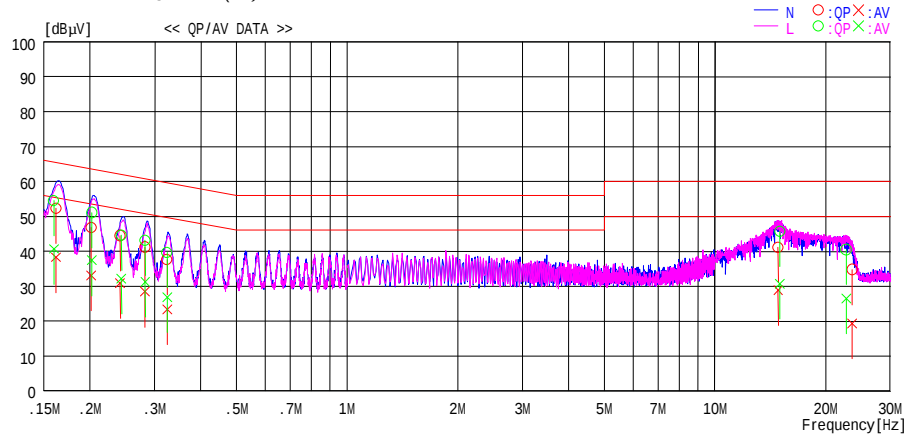
DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/30 01:29:00

Applicant : Sharp Corporation
Kind of EUT : Tri-Band GSM Mobile Cellular Phone
Model No. : GX25
Serial No. : TA-249
Report No. : 24KE0173-HO
Power : AC120V / 60Hz(AC Adapter)
Temp /Humi% : 25 deg.C / 55 %
Operator : Hiroka Umeyama

Mode / Remarks : Tx2402

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



NO	FREQ [MHz]	READING		C.F	RESULT		LIMIT		MARGIN		PHASE
		QP [dBμV]	AV [dBμV]		QP [dBμV]	AV [dBμV]	QP [dBμV]	AV [dBμV]	QP [dB]	AV [dB]	
1	0.1617	52.3	38.3	0.0	52.3	38.3	65.4	55.4	13.1	17.1	N
2	0.2017	46.7	33.0	0.1	46.8	33.1	63.5	53.5	16.7	20.4	N
3	0.2417	44.4	30.8	0.1	44.5	30.9	62.0	52.0	17.5	21.1	N
4	0.2825	41.1	28.3	0.1	41.2	28.4	60.7	50.7	19.5	22.3	N
5	0.3242	37.5	23.3	0.1	37.6	23.4	59.6	49.6	22.0	26.2	N
6	14.8647	39.7	27.5	1.4	41.1	28.9	60.0	50.0	18.9	21.1	N
7	23.6060	32.8	17.4	2.0	34.8	19.4	60.0	50.0	25.2	30.6	N
8	0.1595	54.5	40.7	0.0	54.5	40.7	65.5	55.5	11.0	14.8	L
9	0.2023	51.0	37.3	0.1	51.1	37.4	63.5	53.5	12.4	16.1	L
10	0.2436	44.5	32.1	0.1	44.6	32.2	62.0	52.0	17.4	19.8	L
11	0.2828	43.1	31.2	0.1	43.2	31.3	60.7	50.7	17.5	19.4	L
12	0.3242	39.6	26.8	0.1	39.7	26.9	59.6	49.6	19.9	22.7	L
13	14.9963	44.3	29.3	1.4	45.7	30.7	60.0	50.0	14.3	19.3	L
14	22.7306	38.6	24.6	1.9	40.5	26.5	60.0	50.0	19.5	23.5	L

CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
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 : 2004/07/30 02:27:43

Applicant : Sharp Corporation
Kind of EUT : Tri-Band GSM Mobile Cellular Phone
Model No. : GX25
Serial No. : TA-249

Report No. : 24KE0173-HO
Power : AC120V / 60Hz(AC Adapter)
Temp /Humi% : 25 deg.C / 55 %
Operator : Hiroka Umeyama

Mode / Remarks : Tx2441

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

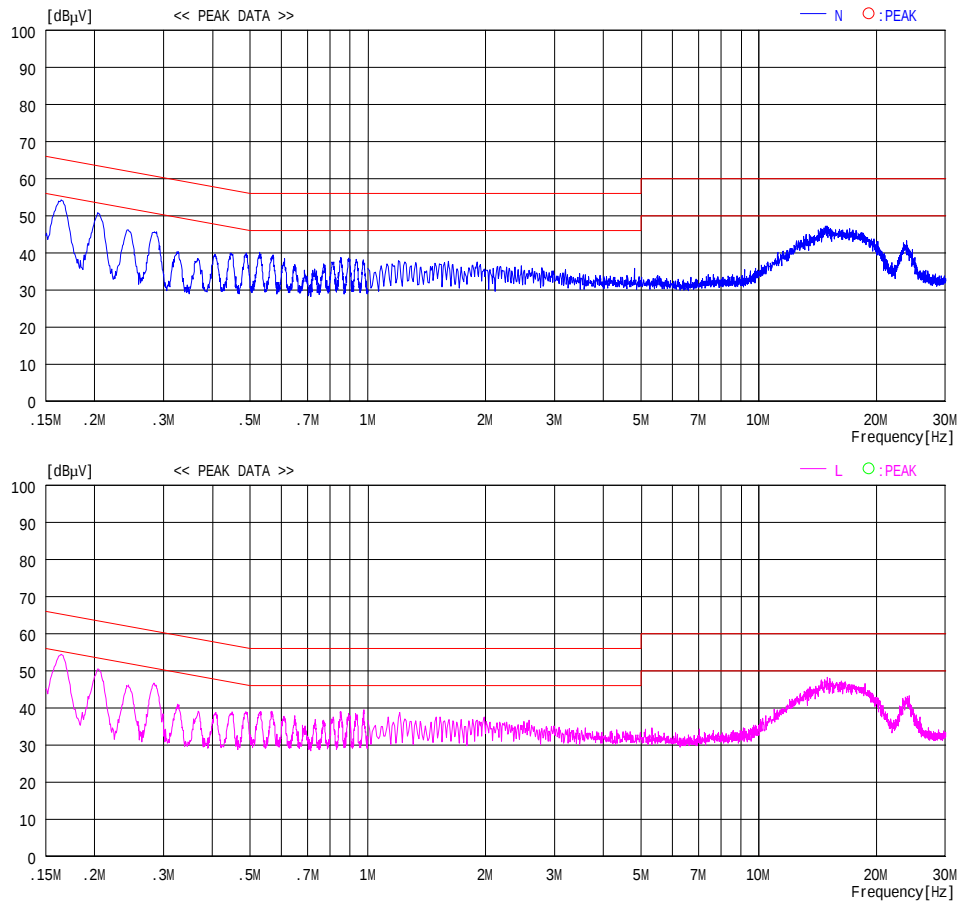


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(L1SN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/30 02:33:59

Applicant : Sharp Corporation
Kind of EUT : Tri-Band GSM Mobile Cellular Phone
Model No. : GX25
Serial No. : TA-249
Report No. : 24KE0173-HO
Power : AC120V / 60Hz(AC Adapter)
Temp /Humi% : 25 deg.C / 55 %
Operator : Hiroka Umeyama

Mode / Remarks : Tx2480

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

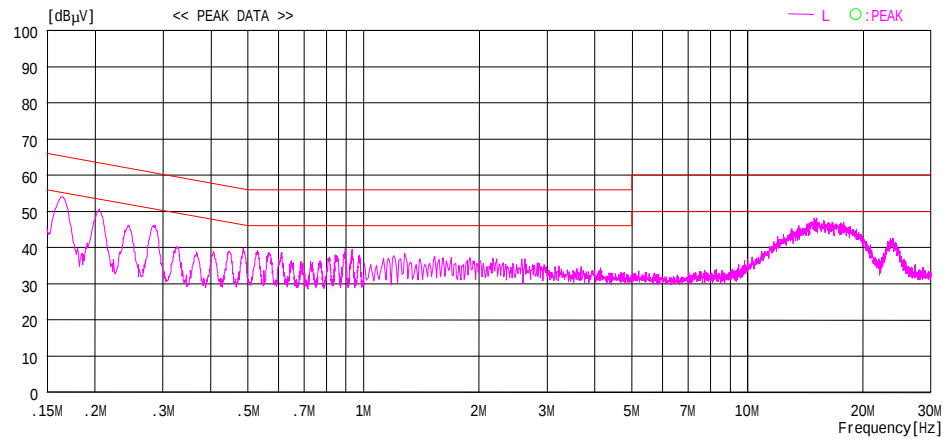
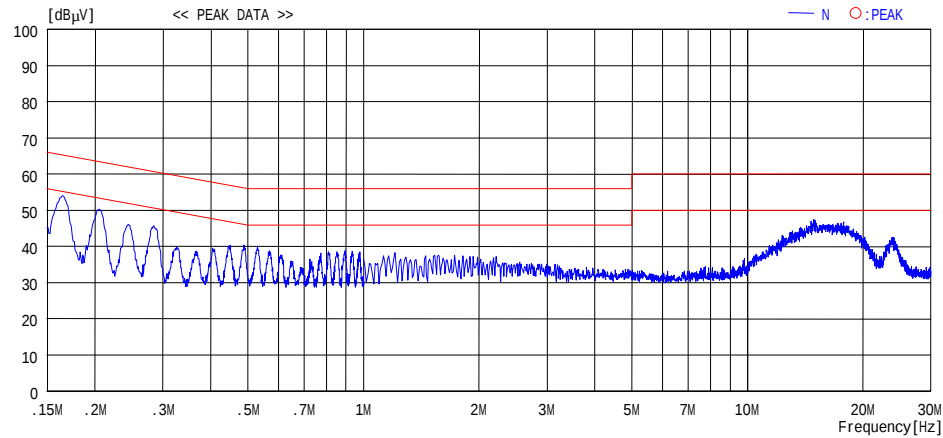


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/30 02:44:55

Applicant : Sharp Corporation
Kind of EUT : Tri-Band GSM Mobile Cellular Phone
Model No. : GX25
Serial No. : TA-249

Report No. : 24KE0173-HO
Power : AC120V / 60Hz(AC Adapter)
Temp /Humi% : 25 deg.C / 55 %
Operator : Hiroka Umeyama

Mode / Remarks : Inquiry

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

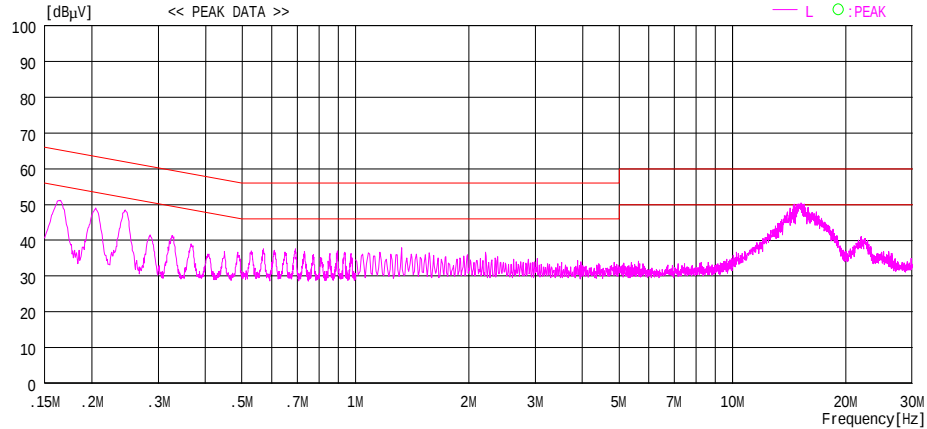
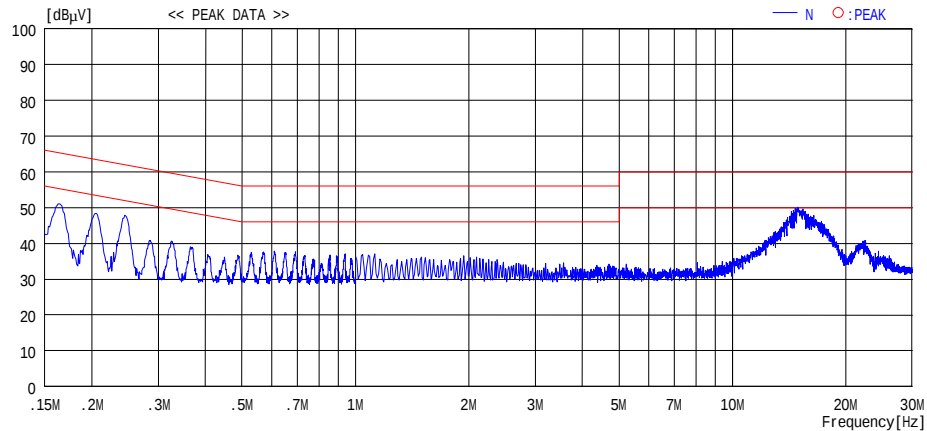


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/30 02:39:21

Applicant : Sharp Corporation
Kind of EUT : Tri-Band GSM Mobile Cellular Phone
Model No. : GX25
Serial No. : TA-249

Report No. : 24KE0173-HO
Power : AC120V / 60Hz(AC Adapter)
Temp./Humi% : 25 deg.C / 55 %
Operator : Hiroka Uneyama

Mode / Remarks : Standby

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

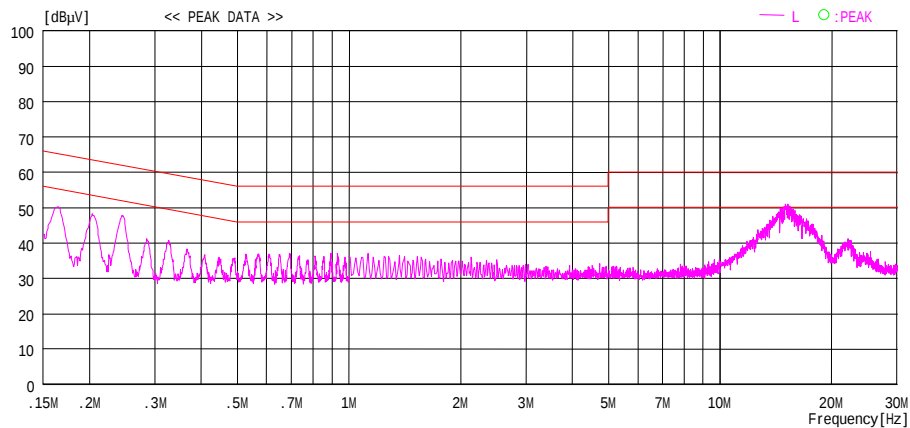
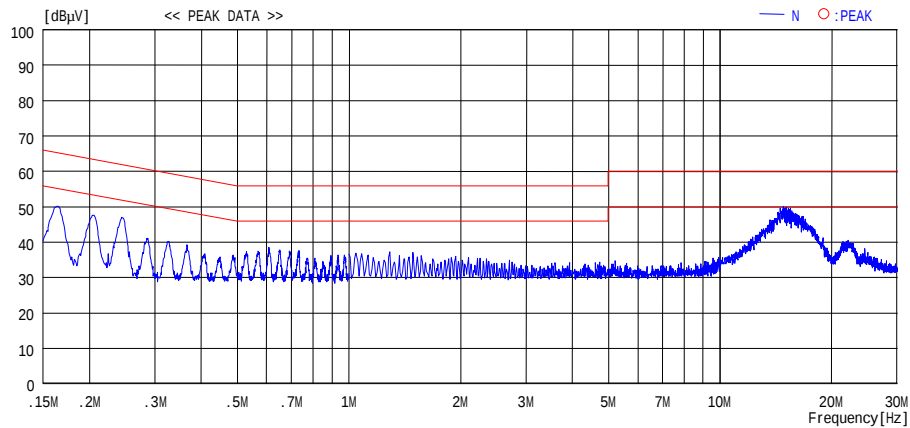


CHART: WITH FACTOR, Peak hold data. Data is uncorrected. CALCULATION: RESULT=READING+C.F.(L1SN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

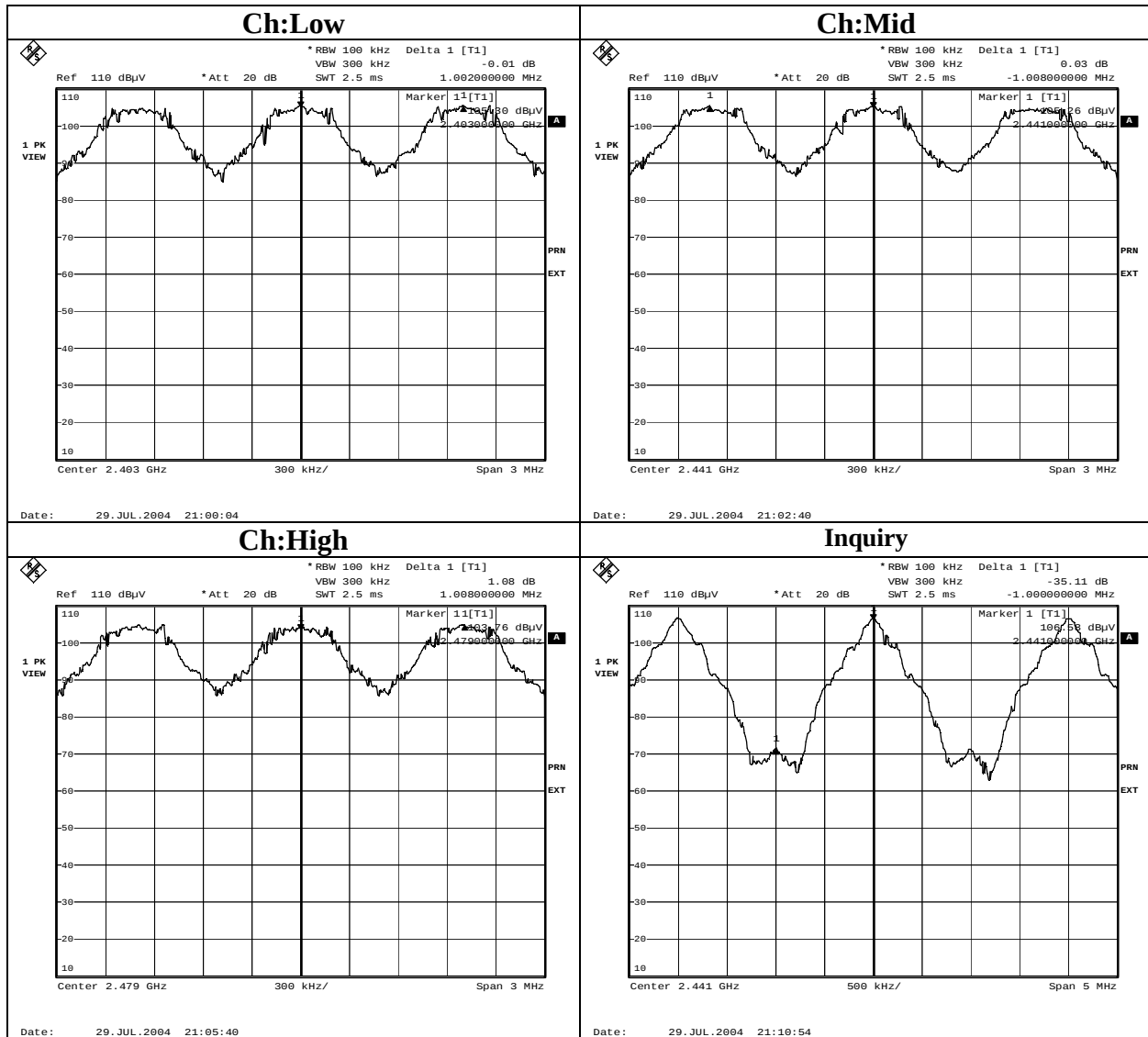
Carrier Frequency Separation

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 Cellular Phone	TEST DISTANCE	-
MODEL	GX25	DATE	07/29/2004
S/ N	TA-245	TEMPERATURE	25deg.C
POWER	DC3.7V	HUMIDITY	62%
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	1.008	>20dB Bandwidth and 25[kHz]
High	2480.0	1.008	>20dB Bandwidth and 25[kHz]
Inquiry	2441.0	1.000	>20dB Bandwidth and 25[kHz]

Carrier Frequency Separation



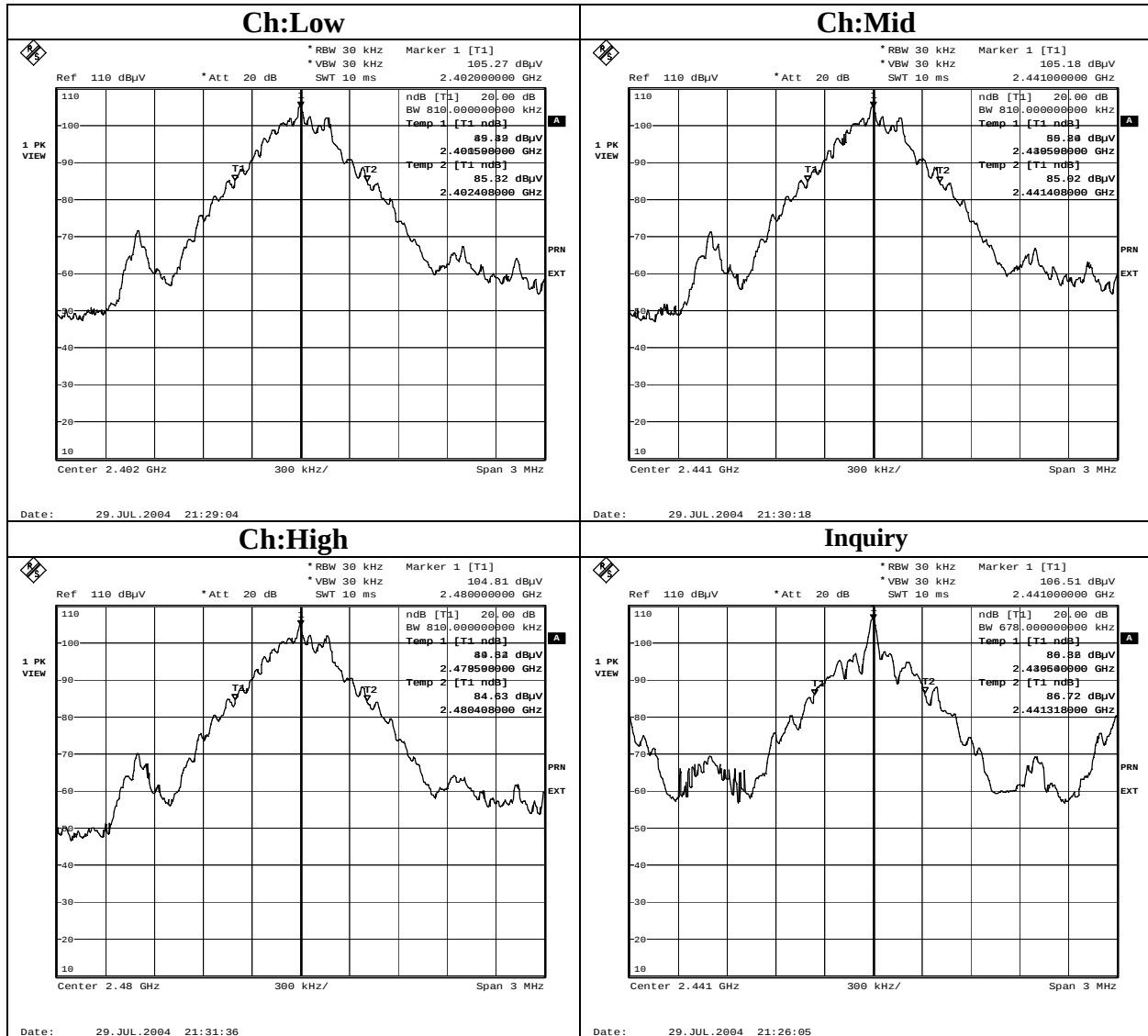
20dB Bandwidth

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 Cellular Phone	TEST DISTANCE	-
MODEL	GX25	DATE	07/29/2004
S/ N	TA-245	TEMPERATURE	25deg.C
POWER	DC3.7V	HUMIDITY	62%
MODE	Tx(Hopping OFF)/Inquiry	ENGINEER	Hiroka Umeyama

Ch	Freq.	20dB Bandwidth	Limit
	[MHz]	[MHz]	[MHz]
Low	2402.0	0.810	-
Mid	2441.0	0.810	-
High	2480.0	0.810	-
Inquiry	2441.0	0.678	-

20dB Bandwidth



Number of Hopping Frequency

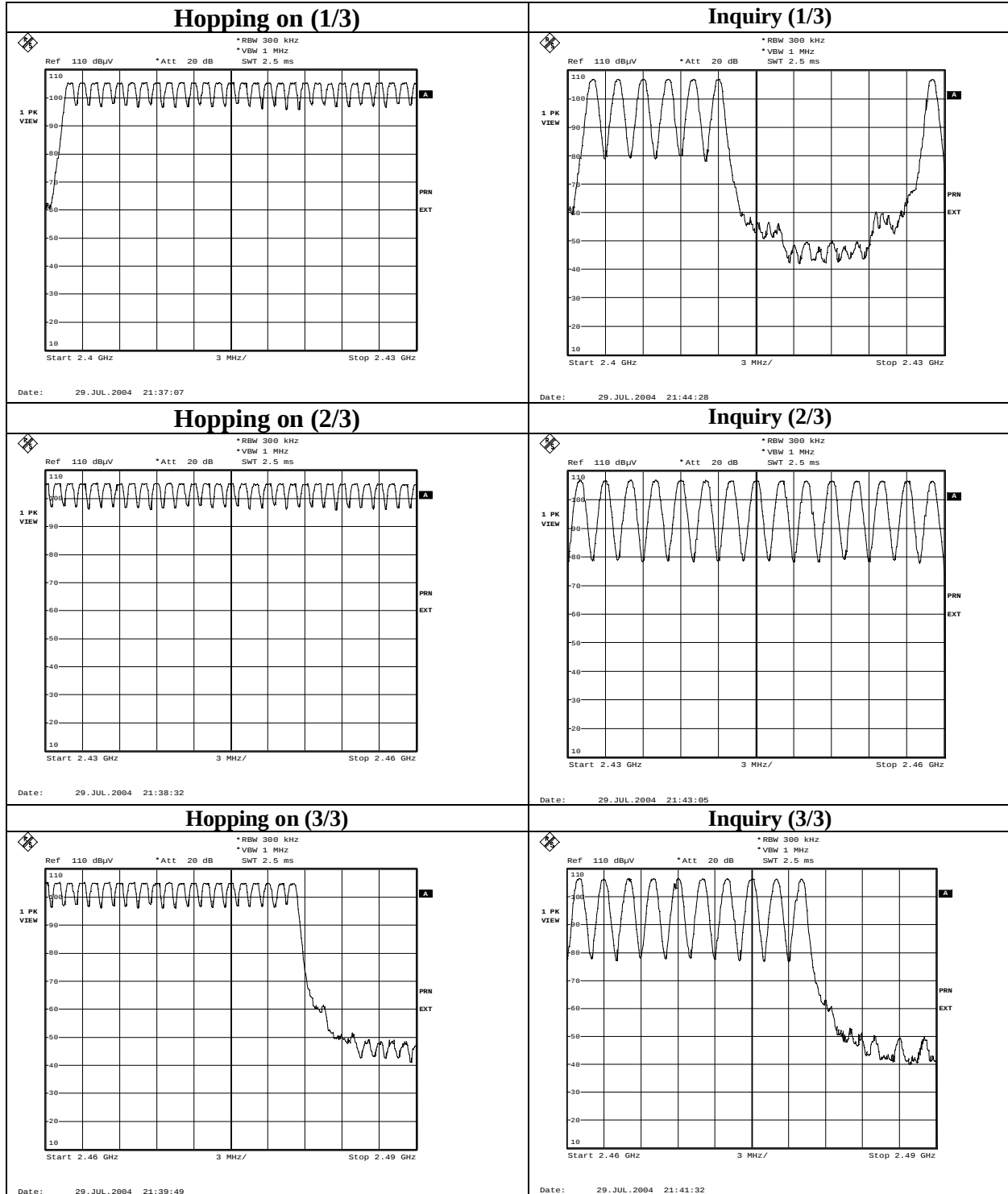
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY	Sharp Corporation	REGULATION	Fcc Part15 Subpart C 15.247(a)(1)(iii)
EQUIPMENT	Tri-Band GSM Mobile Cellular Phone	TEST DISTANCE	-
MODEL	GX25	DATE	07/29/2004
S/ N	TA-245	TEMPERATURE	25deg.C
POWER	DC3.7V	HUMIDITY	62%
MODE	Tx(Hoppng ON)/Inquiry	ENGINEER	Hiroka Umeyama

Mode	Number of channel [time]	Limit [time]
Tx(Hoppng on)	79	15

Mode	Number of channel [time]	Limit [time]
Inquiry	32	15

Number of Hopping Frequency



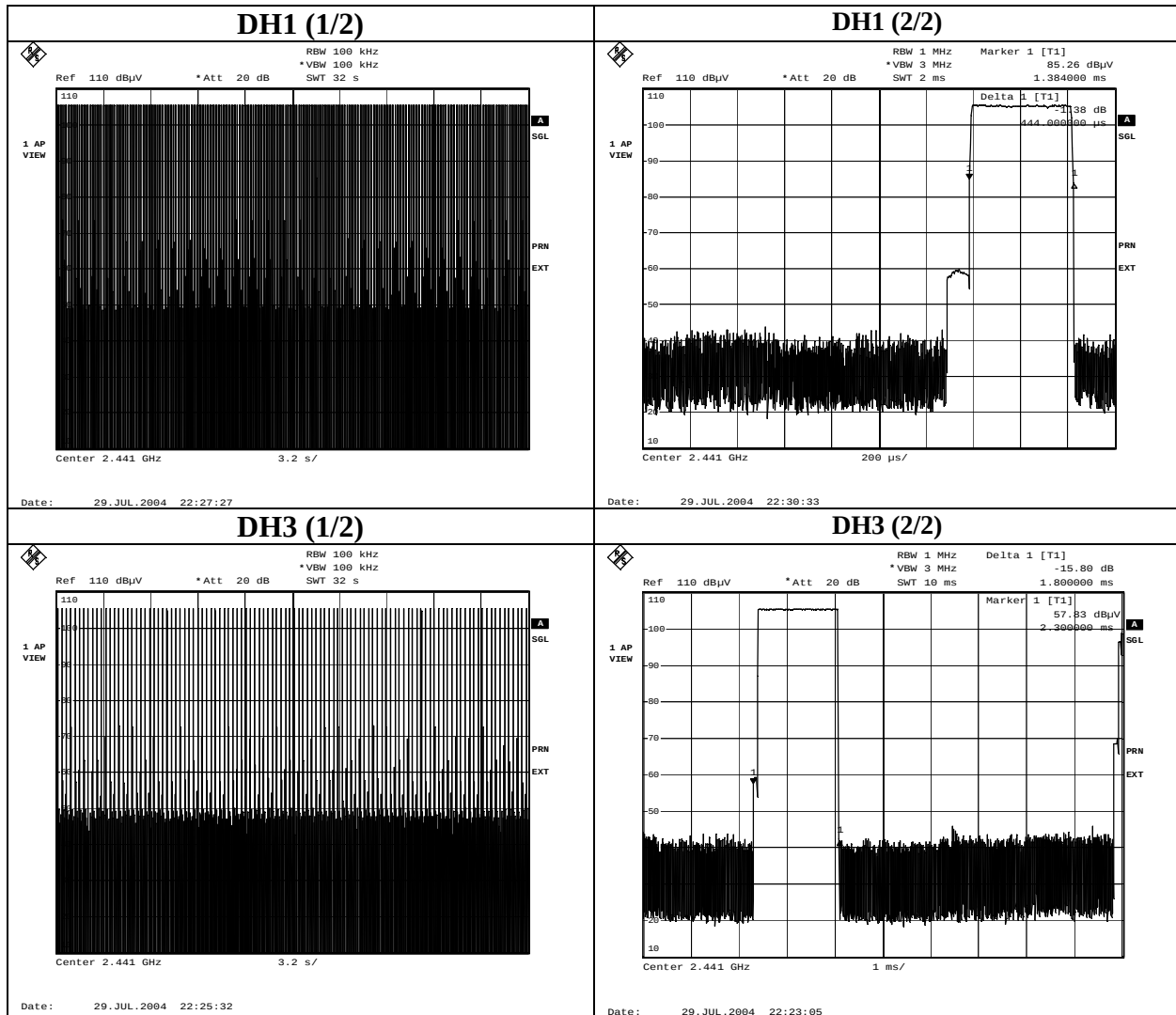
Dwell time

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

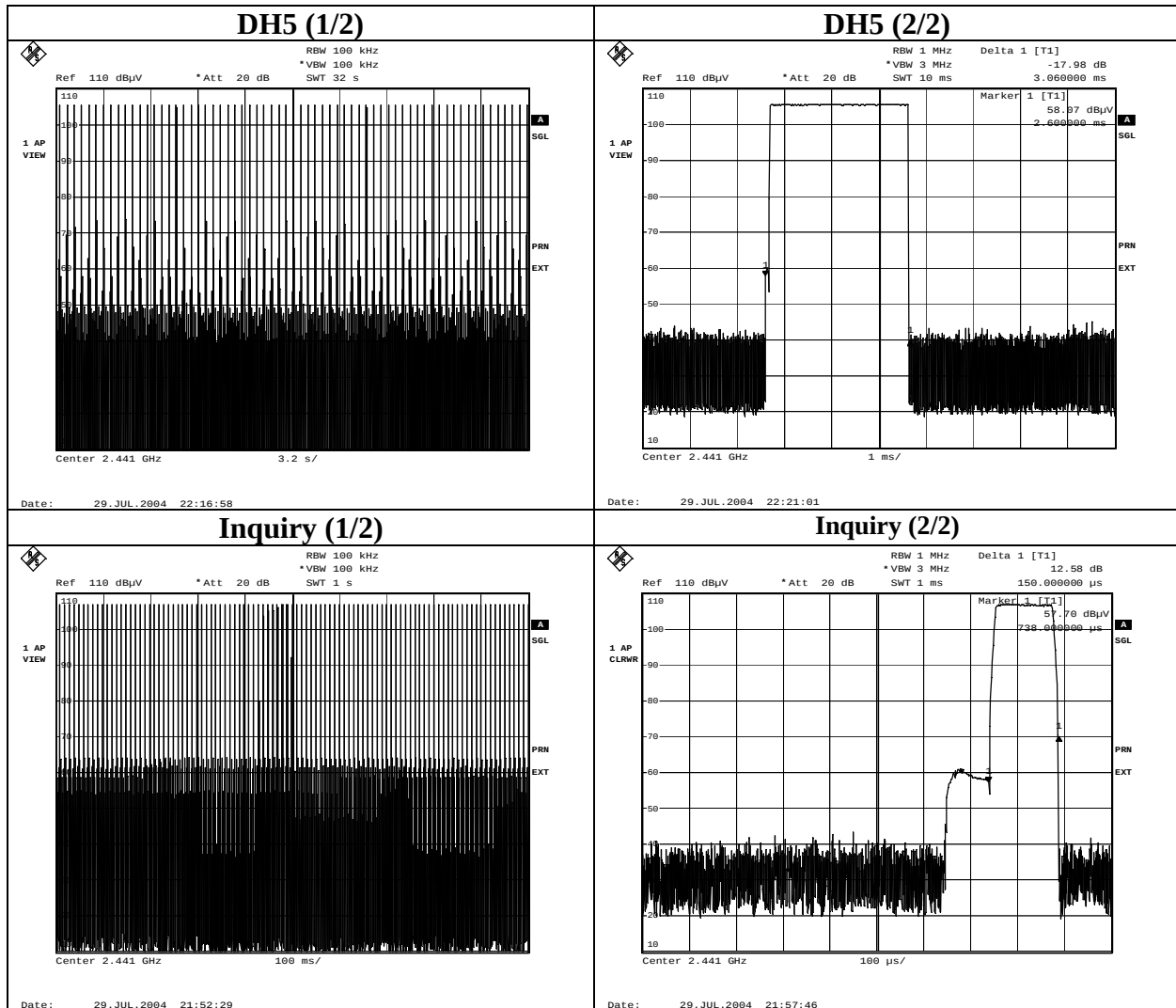
COMPANY	Sharp Corporation	REGULATION	Fcc Part15 Subpart C 15.247(a)(1)(iii)
EQUIPMENT	Tri-Band GSM Mobile Cellular Phone	TEST DISTANCE	-
MODEL	GX25	DATE	07/29/2004
S/ N	TA-245	TEMPERATURE	25deg.C
POWER	DC3.7V	HUMIDITY	62%
MODE	Tx(Hopping ON)/Inquiry	ENGINEER	Hiroka Umeyama

Mode	Number of transmission in a 31.6(79 Hopping x 0.4) / 12.8(32 Hopping x 0.4)second period	Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	313times	0.444	139	400
DH3	110times	1.800	198	400
DH5	65times	3.060	199	400
Inquiry	100times / 1sec x 12.8sec = 1280	0.150	192	400

Dwell time



Dwell time



Maximum Peak Output Power

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

COMPANY	Sharp Corporation	REGULATION	Fcc Part15 Subpart C 15.247(b)(1)
EQUIPMENT	Tri-Band GSM Mobile Cellular Phone	TEST DISTANCE	-
MODEL	GX25	DATE	07/29/2004
S/ N	TA-245	TEMPERATURE	25deg.C
POWER	DC3.7V	HUMIDITY	62%
MODE	Tx(Hopping ON)/Inquiry	ENGINEER	Hiroka Umeyama

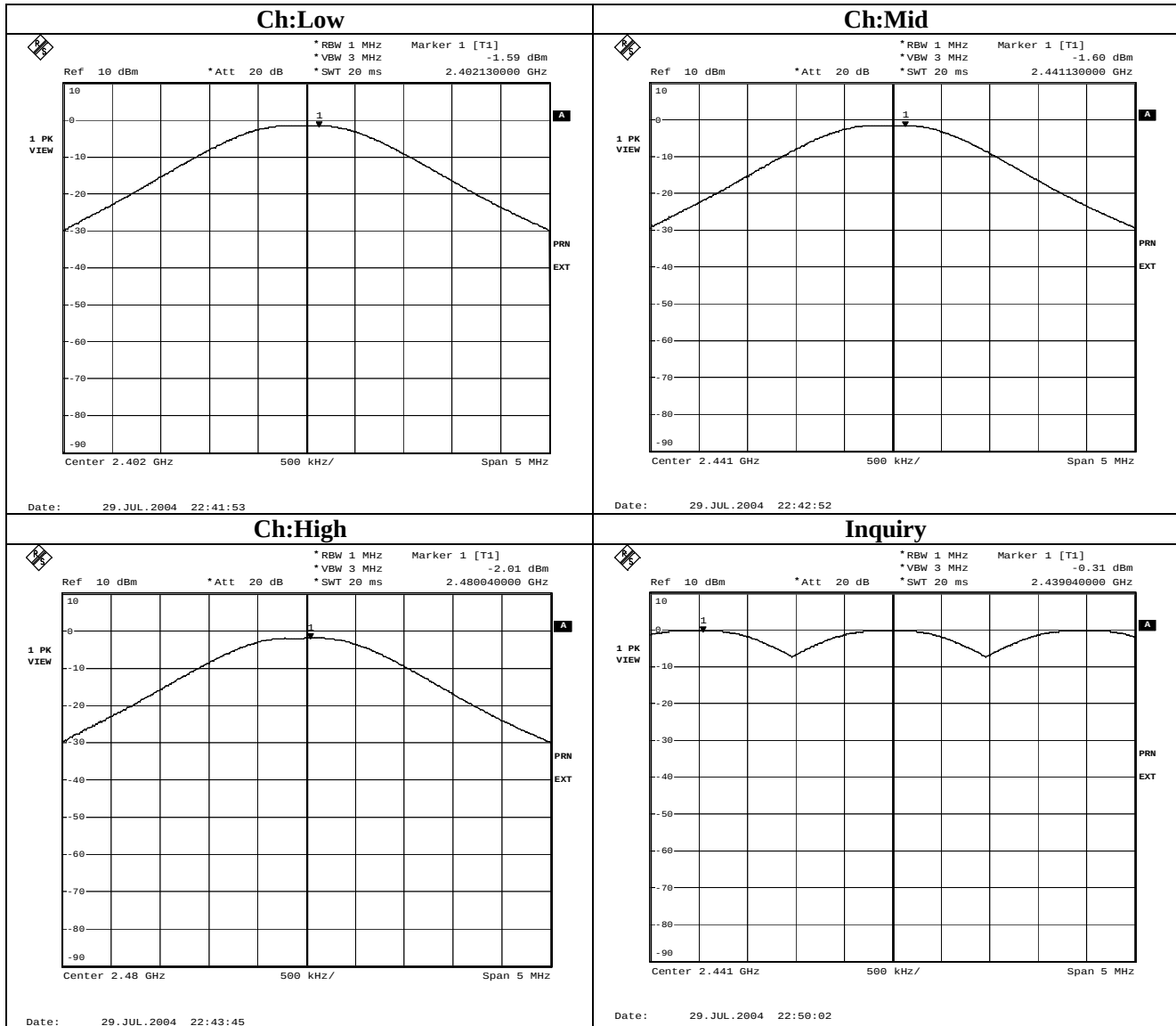
Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Limit (1W) [dBm]	Margin [dB]
Low	2402.0	-1.59	0.50	0.00	-1.09	30.00	31.09
Mid	2441.0	-1.60	0.50	0.00	-1.10	30.00	31.10
High	2480.0	-2.01	0.50	0.00	-1.51	30.00	31.51
Inquiry	2441.0	-0.31	0.50	0.00	0.19	21.00	20.81

Sample Calculation:

Result = S/A Reading + Cable Loss (supplied by customer)+ Attenuator

* In the above table, factor 0.0dB represents no use of Atten. and/or Filter.

Maximum Perk Output Power



Radiated Spurious Emission(30-1000MHz)

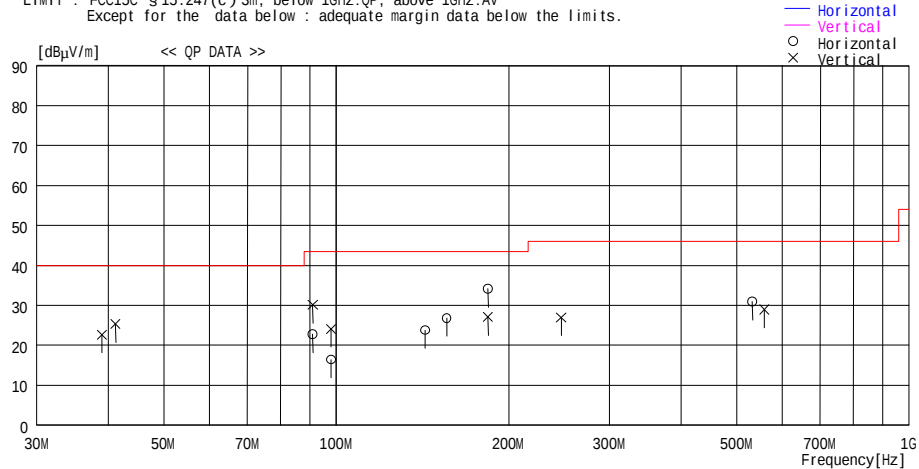
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/28 20:45:51

Applicant : Sharp Corporation
Kind of EUT : Tri-Band GSM Mobile Cellular Phone
Model No. : GX25
Sample No. : TA-249
Report No. : 24KE0173-HO
Power : DC3.7V
Temp /Humi% : 25deg.C / 62%
Operator : Hiroka Umeyama

Mode / Remarks : Bluetooth Tx 2402MHz Hor:Zaxis Ver:Zaxis

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	91.005	30.4	8.0	7.2	22.9	22.7	43.5	20.8	314	317
2	97.921	22.5	9.7	7.2	23.0	16.4	43.5	27.1	306	122
3	143.003	25.1	14.3	7.5	23.1	23.8	43.5	19.7	220	117
4	156.005	27.3	15.0	7.6	23.1	26.8	43.5	16.7	220	260
5	184.074	33.0	16.3	7.8	23.0	34.1	43.5	9.4	169	27
6	533.003	25.6	18.7	9.5	22.9	30.9	46.0	15.1	191	360
----- Vertical -----										
7	39.004	25.0	14.2	6.6	23.2	22.6	40.0	17.4	100	5
8	41.195	28.7	13.2	6.6	23.2	25.3	40.0	14.7	100	132
9	91.004	37.8	8.0	7.2	22.9	30.1	43.5	13.4	100	210
10	97.962	30.1	9.7	7.2	23.0	24.0	43.5	19.5	106	80
11	184.082	26.0	16.3	7.8	23.0	27.1	43.5	16.4	100	54
12	247.006	24.5	17.4	8.1	23.0	27.0	46.0	19.0	100	230
13	559.002	23.0	19.1	9.6	22.8	28.9	46.0	17.1	223	182

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

Radiated Spurious Emission(30-1000MHz)

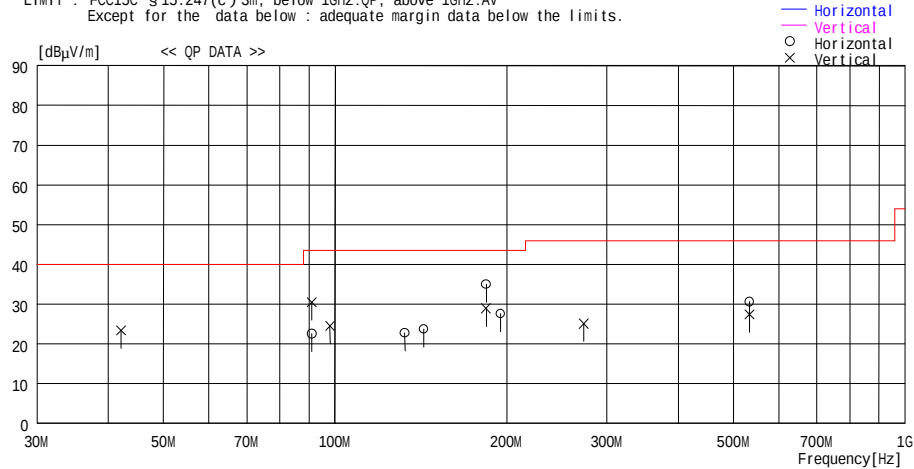
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/28 22:10:18

Applicant : Sharp Corporation
Kind of EUT : Tri-Band GSM Mobile Cellular Phone
Model No. : GX25
Sample No. : TA-249
Report No. : 24KE0173-HO
Power : DC3.7V
Temp /Humi% : 25deg.C / 62%
Operator : Hiroka Umeyama

Mode / Remarks : Bluetooth Tx 2441MHz Hor:Zaxis Ver:Zaxis

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	91.003	30.3	8.0	7.2	22.9	22.6	43.5	20.9	326	321
2	132.503	24.7	13.7	7.4	23.0	22.8	43.5	20.7	214	134
3	143.004	25.0	14.3	7.5	23.1	23.7	43.5	19.8	227	108
4	184.117	33.9	16.3	7.8	23.0	35.0	43.5	8.5	175	53
5	195.005	26.1	16.7	7.8	23.0	27.6	43.5	15.9	212	73
6	533.003	25.3	18.7	9.5	22.9	30.6	46.0	15.4	192	6
----- Vertical -----										
7	42.093	27.2	12.8	6.6	23.2	23.4	40.0	16.6	100	194
8	90.997	38.2	8.0	7.2	22.9	30.5	43.5	13.0	103	180
9	97.958	30.6	9.7	7.2	23.0	24.5	43.5	19.0	100	8
10	184.081	27.8	16.3	7.8	23.0	28.9	43.5	14.6	100	255
11	273.006	21.0	18.7	8.3	22.9	25.1	46.0	20.9	100	61
12	533.005	22.1	18.7	9.5	22.9	27.4	46.0	18.6	100	142

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

Radiated Spurious Emission(30-1000MHz)

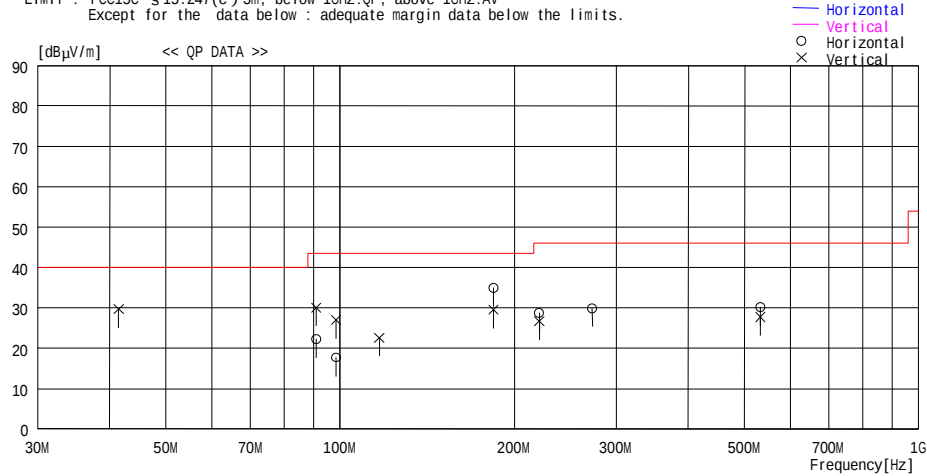
DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2004/07/28 23:14:31

Applicant : Sharp Corporation
Kind of EUT : Tri-Band GSM Mobile Cellular Phone
Model No. : GX25
Sample No. : TA-249
Report No. : 24KE0173-HO
Power : DC3.7V
Temp /Humi% : 25deg.C / 62%
Operator : Hiroka Umeyama

Mode / Remarks : Bluetooth Tx 2480MHz Hor:Zaxis Ver:Zaxis

LIMIT : FCC15C §15.247(c) 3m, below 1GHz:QP, above 1GHz:AV
Except for the data below : adequate margin data below the limits.



No.	FREQ [MHz]	READING QP [dBμV]	ANT FACTOR [dB/m]	LOSS [dB]	GAIN [dB]	RESULT [dBμV/m]	LIMIT [dBμV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	91.003	29.9	8.0	7.2	22.9	22.2	43.5	21.3	345	316
2	98.448	23.7	9.8	7.2	23.0	17.7	43.5	25.8	335	315
3	184.079	33.8	16.3	7.8	23.0	34.9	43.5	8.6	154	88
4	221.004	26.6	17.1	8.0	23.0	28.7	46.0	17.3	145	109
5	273.000	25.8	18.7	8.3	22.9	29.9	46.0	16.1	124	95
6	533.003	24.8	18.7	9.5	22.9	30.1	46.0	15.9	176	200
----- Vertical -----										
7	41.415	33.2	13.1	6.6	23.2	29.7	40.0	10.3	100	182
8	91.005	37.8	8.0	7.2	22.9	30.1	43.5	13.4	100	108
9	98.438	33.0	9.8	7.2	23.0	27.0	43.5	16.5	102	28
10	117.006	25.6	12.6	7.3	22.9	22.6	43.5	20.9	100	236
11	184.080	28.4	16.3	7.8	23.0	29.5	43.5	14.0	100	255
12	221.003	24.6	17.1	8.0	23.0	26.7	46.0	19.3	102	78
13	533.003	22.4	18.7	9.5	22.9	27.7	46.0	18.3	100	127

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

Radiated Spurious Emission (1-25GHz) / Band Edge compliance

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : Sharp Corporation
EQUIPMENT : Tri-Band GSM Mobile Cellular Phone
MODEL : GX25
SAMPLE NO. : TA-249
POWER : DC3.7V(AC120V/60Hz)
MODE : Transmitting 2402MHz HOR:Yaxis, VER:Zaxis

REGULATION : Fcc Part15 Subpart C 15.247(c)
TEST DISTANCE : 3m / 1m
DATE : 07/29/2004
TEMPERATURE : 25deg.C.
HUMIDITY : 62%,
ENGINEER : Hiroka Umeyama

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit PK [dBuV/m]	Margin	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV/m]	[dBuV/m]					[dB]	[dB]		[dB]	[dB]
Test distance 3meters RESULT=READING + ANT FACTOR -AMP GAIN + CABLE LOSS + ATTEN. OR FILTER.												
1	2390.0	45.9	45.3	30.7	36.3	6.2	0.0	46.5	45.9	74.0	27.5	28.1
2	4804.0	46.5	45.5	35.1	36.1	9.0	1.0	55.5	54.5	74.0	18.5	19.5
3	7206.0	44.8	44.7	37.6	35.6	11.2	0.5	58.5	58.4	74.0	15.5	15.6
4	9608.0	44.8	44.1	37.1	36.3	12.9	0.5	59.0	58.3	74.0	15.0	15.7
Test distance 1meter RESULT=READING + ANT FACTOR - AMP GAIN + CABLE LOSS + ATTEN OR FILTER - Dfac												
5	12010.0	44.4	44.7	40.5	35.7	11.0	0.6	51.3	51.6	74.0	22.7	22.4
6	14412.0	44.2	44.5	41.9	34.6	12.2	0.6	54.8	55.1	74.0	19.2	18.9
7	16814.0	46.5	46.1	46.1	35.6	13.3	0.5	61.3	60.9	74.0	12.7	13.1
8	19216.0	43.9	44.0	39.7	34.9	13.0	0.6	52.8	52.9	74.0	21.2	21.1
9	21618.0	43.5	43.4	40.8	35.4	14.3	0.6	54.3	54.2	74.0	19.7	19.8
10	24020.0	44.5	44.8	39.9	35.8	15.0	0.6	54.7	55.0	74.0	19.3	19.0

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit AV [dBuV/m]	Margin	
		HOR [dBuV/m]	VER [dBuV/m]					HOR [dB]	VER [dB]			
Test distance 3meters RESULT=READING + ANT FACTOR -AMP GAIN + CABLE LOSS + ATTEN. OR FILTER.												
1	2390.0	33.7	34.3	30.7	36.3	6.2	0.0	34.3	34.9	54.0	19.7	19.1
2	4804.0	33.8	33.7	35.1	36.1	9.0	1.0	42.8	42.7	54.0	11.2	11.3
3	7206.0	32.9	32.7	37.6	35.6	11.2	0.5	46.6	46.4	54.0	7.4	7.6
4	9608.0	33.2	33.2	37.1	36.3	12.9	0.5	47.4	47.4	54.0	6.6	6.6
Test distance 1meter RESULT=READING + ANT FACTOR - AMP GAIN + CABLE LOSS + ATTEN OR FILTER - Dfac												
5	12010.0	31.5	31.5	40.5	35.7	11.0	0.6	38.4	38.4	54.0	15.6	15.6
6	14412.0	31.4	31.5	41.9	34.6	12.2	0.6	42.0	42.1	54.0	12.0	11.9
7	16814.0	33.4	35.5	46.1	35.6	13.3	0.5	48.2	50.3	54.0	5.8	3.7
8	19216.0	33.5	33.4	39.7	34.9	13.0	0.6	42.4	42.3	54.0	11.6	11.7
9	21618.0	33.0	33.4	40.8	35.4	14.3	0.6	43.8	44.2	54.0	10.2	9.8
10	24020.0	33.5	33.6	39.9	35.8	15.0	0.6	43.7	43.8	54.0	10.3	10.2

20dBc(Fundamental 2402MHz) (RBW: 100kHz, VBW:100kHz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Atten. or Filter [dB]	RESULT		Limit 20dBc [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV/m]	[dBuV/m]					[dB]	[dB]		[dB]	[dB]
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + CABLE LOSS + Band Pass												
1	2402.0	95.8	90.7	30.7	36.3	6.2	0.0	96.4	91.3	-	-	-
2	2400.0	74.1	68.6	30.7	36.3	6.2	0.0	74.7	69.2	Funda-20dB	1.7	2.1

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) =

9.5 dB

* Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz

* Atten. or Filter was not used for factor 0.0dB of the above table.

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

Radiated Spurious Emission (1-25GHz) / Band Edge compliance

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : Sharp Corporation
EQUIPMENT : Tri-Band GSM Mobile Cellular Phone
MODEL : GX25
SAMPLE NO. : TA-249
POWER : DC3.7V(AC120V/60Hz)
MODE : Transmitting 2441MHz HOR:Yaxis, VER:Zaxis

REGULATION : Fcc Part15 Subpart C 15.247(c)
TEST DISTANCE : 3m / 1m
DATE : 07/29/2004
TEMPERATURE : 25deg.C.
HUMIDITY : 62%,
ENGINEER : Hiroka Umeyama

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit PK [dBuV/m]	Margin	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV/m]						[dBuV/m]			[dB]	[dB]
Test distance 3meters RESULT=READING + ANT FACTOR -AMP GAIN + CABLE LOSS + ATTEN. OR FILTER.												
1	4882.0	49.7	53.2	35.5	36.1	9.1	1.0	59.2	62.7	74.0	14.8	11.3
2	7323.0	45.3	45.0	37.9	35.7	11.3	0.5	59.3	59.0	74.0	14.7	15.0
3	9764.0	46.4	45.6	37.0	36.3	13.0	0.5	60.6	59.8	74.0	13.4	14.2
Test distance 1meter RESULT=READING + ANT FACTOR - AMP GAIN + CABLE LOSS + ATTEN OR FILTER - Dfac												
4	12205.0	43.8	44.5	41.4	35.6	11.2	0.5	51.8	52.5	74.0	22.2	21.5
5	14646.0	44.6	44.8	42.6	34.8	12.3	0.6	55.8	56.0	74.0	18.2	18.0
6	17087.0	46.2	46.3	46.5	35.4	13.5	0.4	61.7	61.8	74.0	12.3	12.2
7	19528.0	43.8	44.1	39.3	35.0	13.0	0.6	52.2	52.5	74.0	21.8	21.5
8	21969.0	43.4	43.4	40.4	35.0	14.5	0.6	54.4	54.4	74.0	19.6	19.6
9	24410.0	44.3	44.6	40.1	36.7	14.9	0.6	53.7	54.0	74.0	20.3	20.0

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit AV [dBuV/m]	Margin	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=READING + ANT FACTOR -AMP GAIN + CABLE LOSS + ATTEN. OR FILTER.												
1	4882.0	37.8	41.4	35.5	36.1	9.1	1.0	47.3	50.9	54.0	6.7	3.1
2	7323.0	32.9	32.8	37.9	35.7	11.3	0.5	46.9	46.8	54.0	7.1	7.2
3	9764.0	33.4	33.4	37.0	36.3	13.0	0.5	47.6	47.6	54.0	6.4	6.4
Test distance 1meter RESULT=READING + ANT FACTOR - AMP GAIN + CABLE LOSS + ATTEN OR FILTER - Dfac												
4	12205.0	32.0	31.8	41.4	35.6	11.2	0.5	40.0	39.8	54.0	14.0	14.2
5	14646.0	31.9	32.4	42.6	34.8	12.3	0.6	43.1	43.6	54.0	10.9	10.4
6	17087.0	33.5	33.6	46.5	35.4	13.5	0.4	49.0	49.1	54.0	5.0	4.9
7	19528.0	33.3	33.0	39.3	35.0	13.0	0.6	41.7	41.4	54.0	12.3	12.6
8	21969.0	33.1	32.9	40.4	35.0	14.5	0.6	44.1	43.9	54.0	9.9	10.1
9	24410.0	33.7	33.8	40.1	36.7	14.9	0.6	43.1	43.2	54.0	10.9	10.8

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) =

9.5 dB

* Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz

* Atten. or Filter was not used for factor 0.0dB of the above table.

* Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

UL Apex Co., Ltd.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

Radiated Spurious Emission (1-25GHz) / Band Edge compliance

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : Sharp Corporation
EQUIPMENT : Tri-Band GSM Mobile Cellular Phone
MODEL : GX25
SAMPLE NO. : TA-249
POWER : DC3.7V(AC120V/60Hz)
MODE : Transmitting 2480MHz HOR:Yaxis, VER:Zaxis

REGULATION : Fcc Part15 Subpart C 15.247(c)
TEST DISTANCE : 3m / 1m
DATE : 07/29/2004
TEMPERATURE : 25deg.C.
HUMIDITY : 62%,
ENGINEER : Hiroka Umeyama

PK DETECT (RBW: 1MHz, VBW:1MHz)

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit PK [dBuV/m]	Margin	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=READING + ANT FACTOR -AMP GAIN + CABLE LOSS + ATTEN. OR FILTER.												
1	2483.5	53.4	52.9	30.8	36.2	6.3	0.0	54.3	53.8	74.0	19.7	20.2
2	4960.0	50.1	54.1	35.8	36.1	9.2	1.0	60.0	64.0	74.0	14.0	10.0
3	7440.0	45.0	45.6	38.2	35.7	11.4	0.5	59.4	60.0	74.0	14.6	14.0
4	9920.0	43.6	41.4	37.0	36.3	13.1	0.5	57.9	55.7	74.0	16.1	18.3
Test distance 1meter RESULT=READING + ANT FACTOR - AMP GAIN + CABLE LOSS + ATTEN OR FILTER - Dfac												
5	12400.0	43.8	44.0	42.3	35.5	11.3	0.4	52.8	53.0	74.0	21.2	21.0
6	14880.0	44.5	44.3	43.0	35.0	12.4	0.6	56.0	55.8	74.0	18.0	18.2
7	17360.0	45.9	45.7	45.4	35.2	13.6	0.3	60.5	60.3	74.0	13.5	13.7
8	19840.0	44.0	43.9	39.9	35.3	13.0	0.6	52.7	52.6	74.0	21.3	21.4
9	22320.0	43.0	42.5	40.7	35.1	14.6	0.6	54.3	53.8	74.0	19.7	20.2
10	24800.0	44.2	44.5	40.2	36.7	14.9	0.6	53.7	54.0	74.0	20.3	20.0

AV DETECT (RBW: 1MHz, VBW:10Hz)

No.	Freq. [MHz]	Reading		Ant. Factor [dB/m]	Amp. Gain [dB]	Cable Loss [dB]	Atten. or Filter [dB]	Result		Limit AV [dBuV/m]	Margin	
		HOR	VER					HOR	VER		HOR	VER
Test distance 3meters RESULT=READING + ANT FACTOR -AMP GAIN + CABLE LOSS + ATTEN. OR FILTER.												
1	2483.5	42.3	41.1	30.8	36.2	6.3	0.0	43.2	42.0	54.0	10.8	12.0
2	4960.0	38.9	42.1	35.8	36.1	9.2	1.0	48.8	52.0	54.0	5.2	2.0
3	7440.0	32.9	33.0	38.2	35.7	11.4	0.5	47.3	47.4	54.0	6.7	6.6
4	9920.0	33.7	33.6	37.0	36.3	13.1	0.5	48.0	47.9	54.0	6.0	6.1
Test distance 1meter RESULT=READING + ANT FACTOR - AMP GAIN + CABLE LOSS + ATTEN OR FILTER - Dfac												
5	12400.0	32.5	32.0	42.3	35.5	11.3	0.4	41.5	41.0	54.0	12.5	13.0
6	14880.0	31.6	31.8	43.0	35.0	12.4	0.6	43.1	43.3	54.0	10.9	10.7
7	17360.0	32.9	33.0	45.4	35.2	13.6	0.3	47.5	47.6	54.0	6.5	6.4
8	19840.0	32.9	32.7	39.9	35.3	13.0	0.6	41.6	41.4	54.0	12.4	12.6
9	22320.0	32.0	32.4	40.7	35.1	14.6	0.6	43.3	43.7	54.0	10.7	10.3
10	24800.0	33.6	33.8	40.2	36.7	14.9	0.6	43.1	43.3	54.0	10.9	10.7

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3/1.0) = 9.5 dB

* Except for the above table : All other spurious emissions were less than 20dB for the limit.

* Atten. : 1 to 3.5GHz, Filter : 3.5 to 26GHz

* Atten. or Filter was not used for factor 0.0dB of the above table.

* Result is calculated to two places of decimals. Therefore, there may be 0.1 difference for the result.

UL Apex Co., Ltd.

Head Office EMC Lab.

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

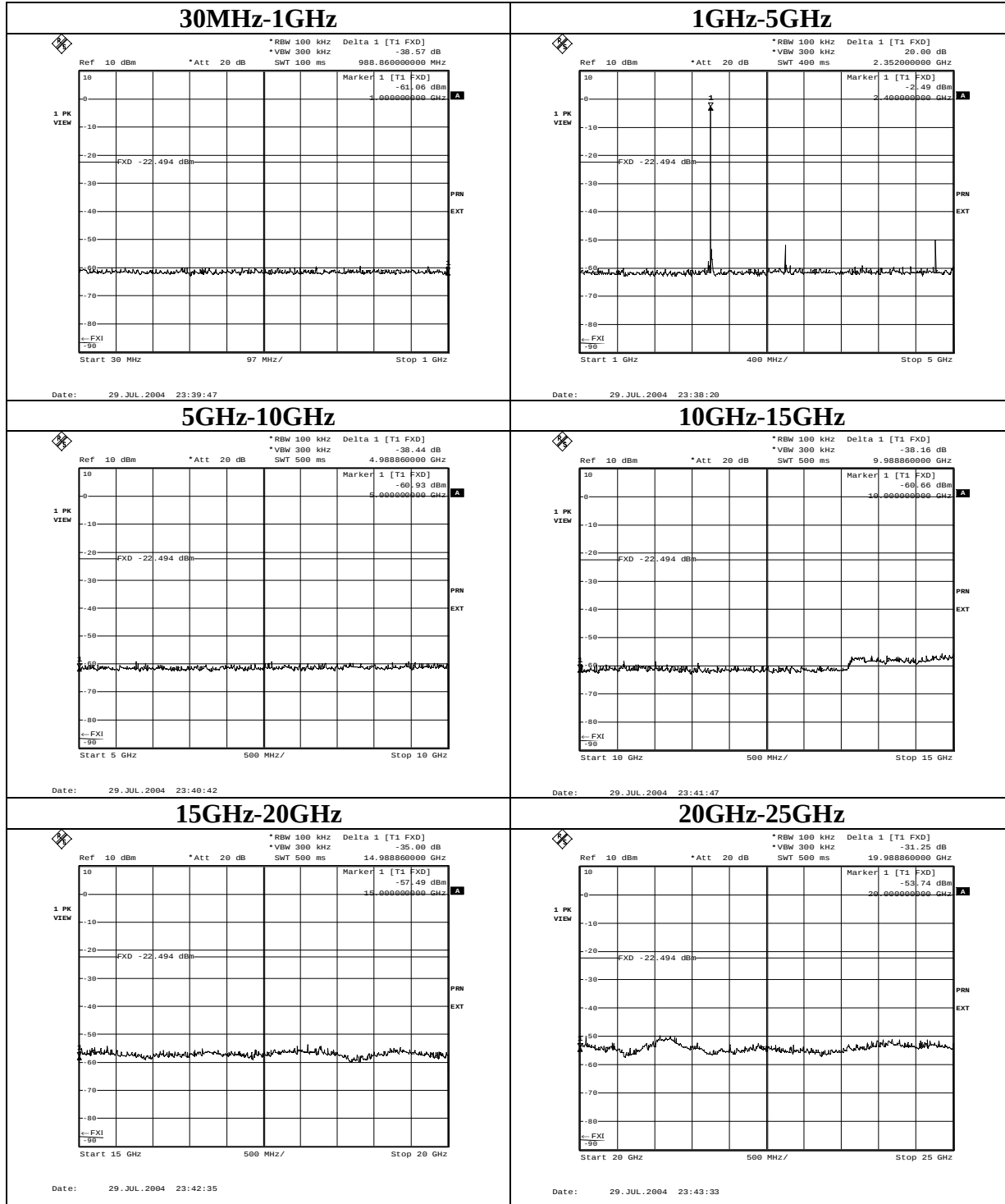
Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(10.04.03)

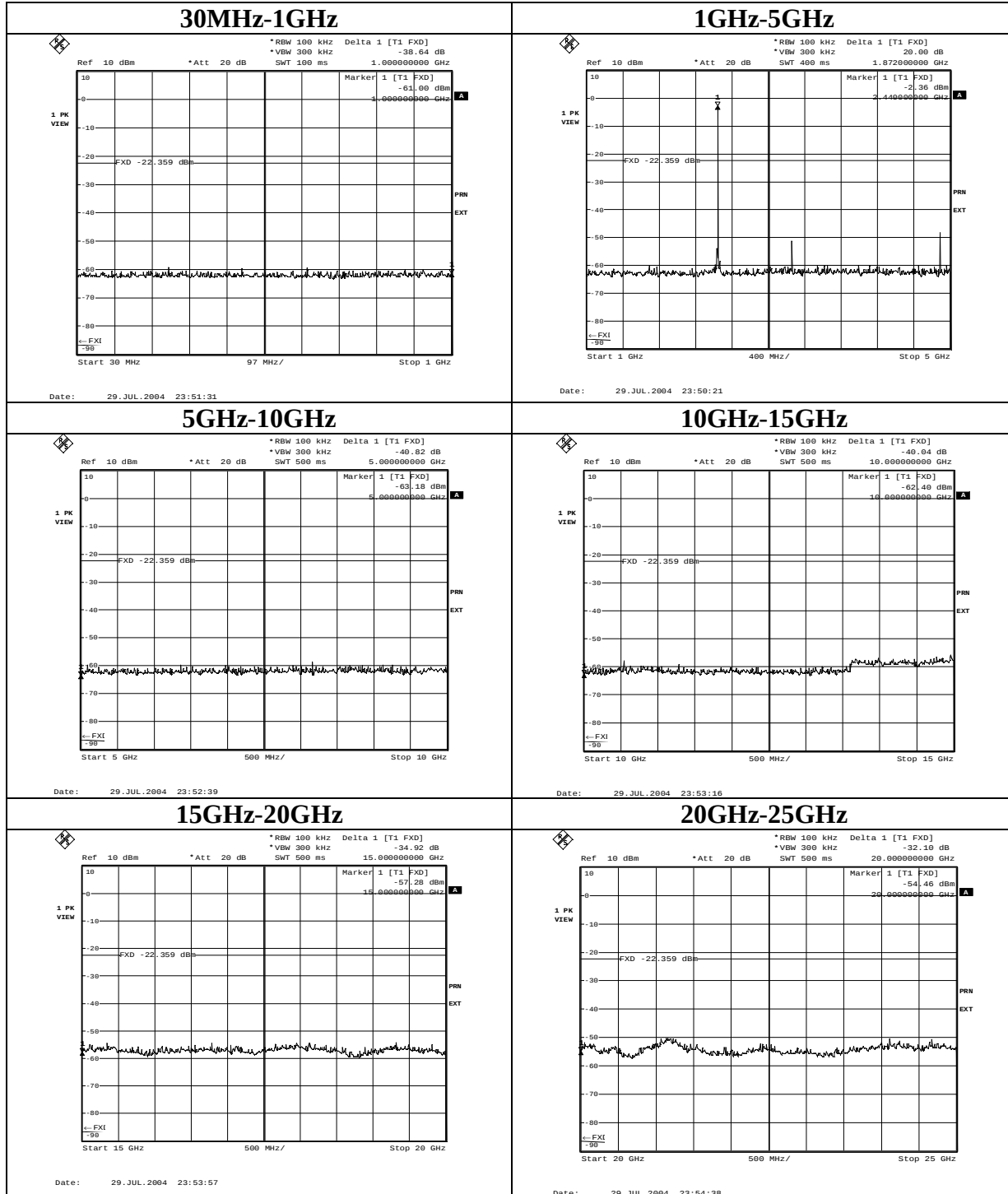
Conducted Spurious Emission(30MHz-25GHz)

Ch:Low

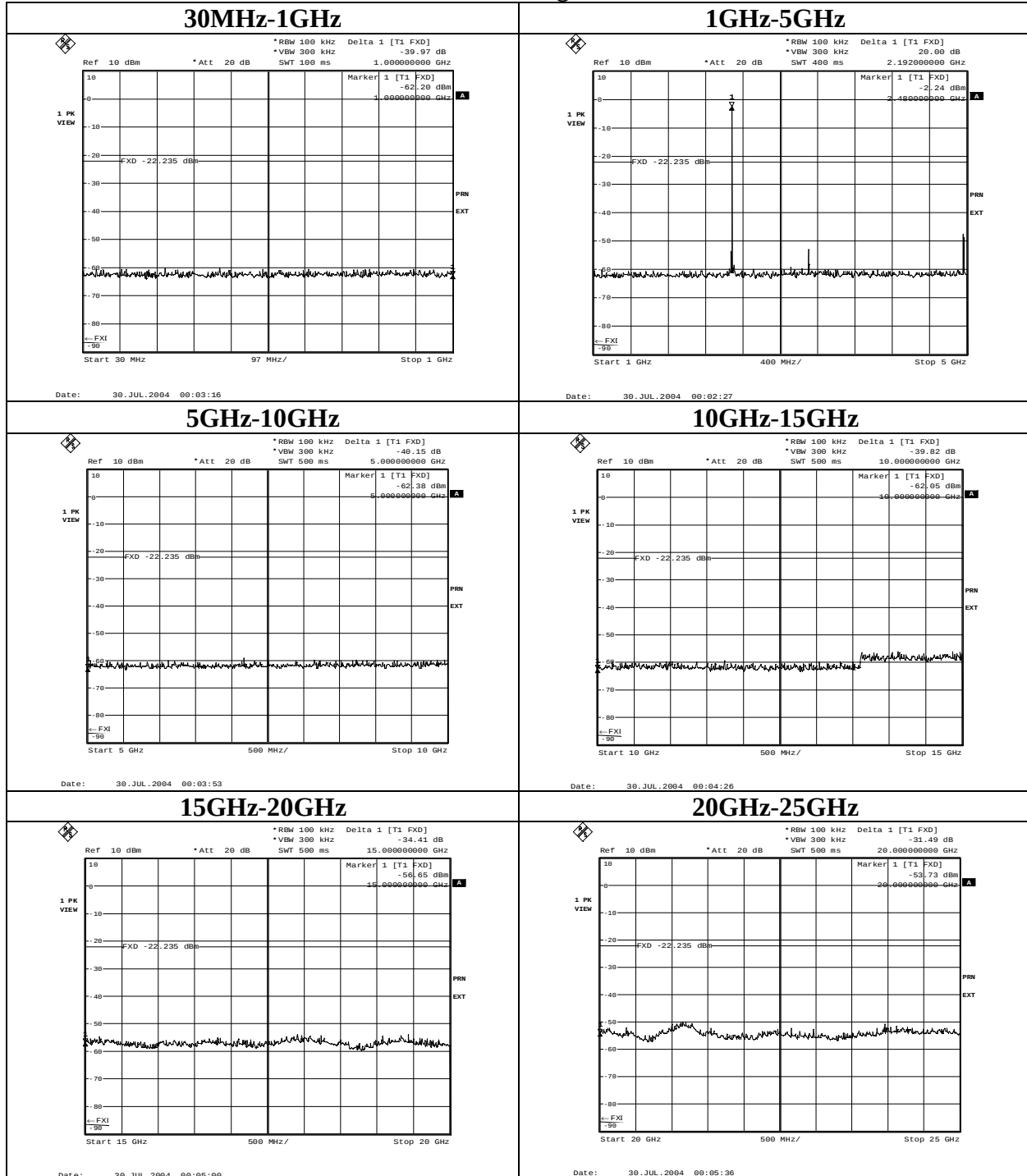


Conducted Spurious Emission(30MHz-25GHz)

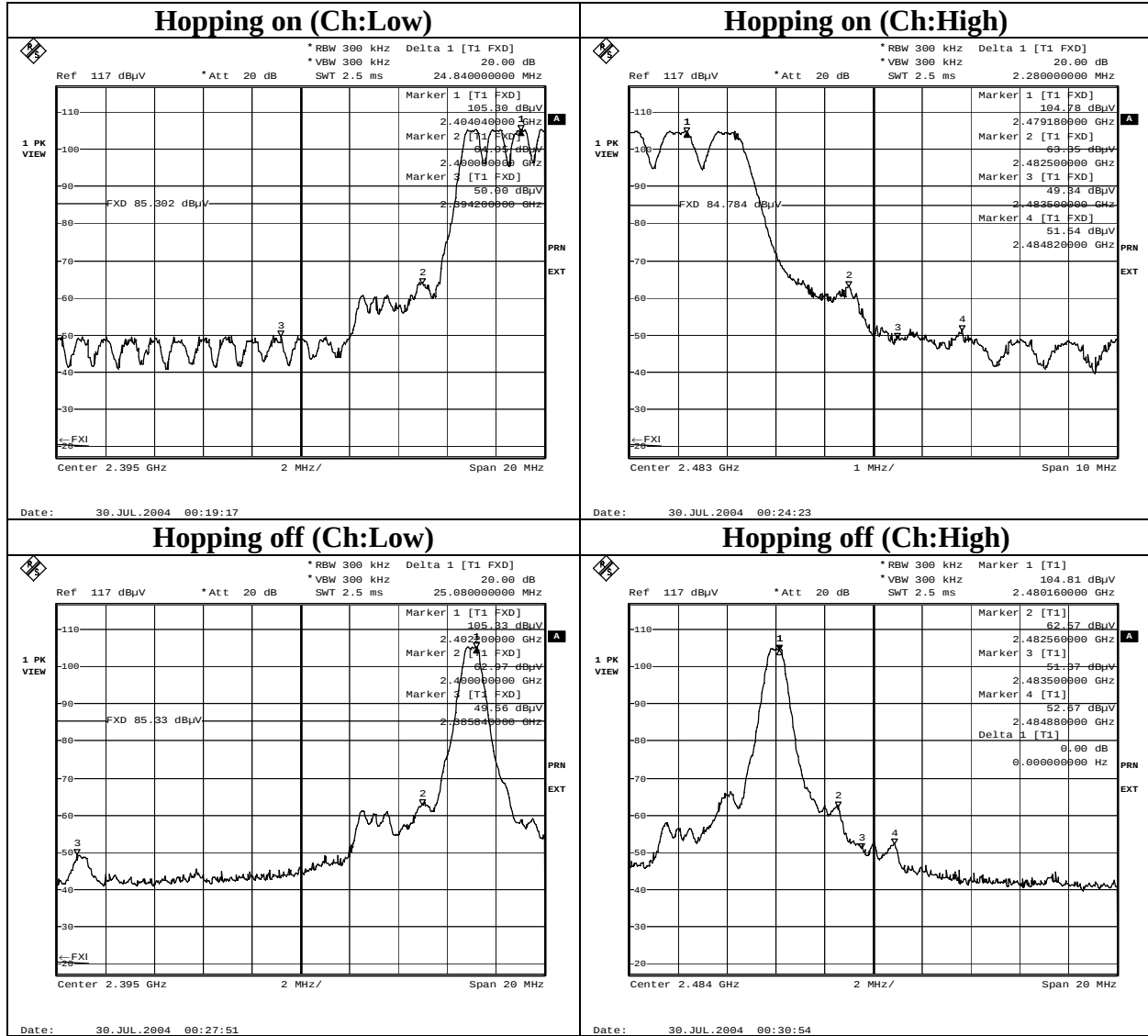
Ch:Mid



Conducted Spurious Emission(30MHz-25GHz)
Ch:High



Conducted Spurious Emission / Band Edge compliance



99% Occupied Bandwidth

