



RADIO TEST REPORT

Test Report No. : 29BE0262-HO

Applicant : Sharp Corporation
Type of Equipment : Cellular Phone
Model No. : SH1810C
FCC ID : APYHRO00083
Test regulation : FCC Part 15 Subpart C 2008
Section 15.207, Section 15.247
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 to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Date of test: October 19 to 21, 2008

Tested by:

Shinya Watanabe
EMC Services

Hisayoshi Sato
EMC Services

Approved by :

Mitsuru Fujimura
Assistant Manager of EMC Services

NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.

*As for the range of Accreditation in NVLAP, you may refer to the WEB address, <http://uljapan.co.jp/emc/nvlap.html>

UL Japan, Inc.

Head Office EMC Lab.

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

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.....	8
SECTION 5: Conducted Emission.....	10
SECTION 6: Spurious Emission.....	11
SECTION 7: Bandwidth.....	12
SECTION 8: Maximum Peak Output Power.....	13
SECTION 9: Carrier Frequency Separation.....	13
SECTION 10: Number of Hopping Frequency.....	14
SECTION 11: Dwell time.....	14
APPENDIX 1: Photographs of test setup.....	15
Conducted Emission.....	15
Spurious Emission (Radiated).....	16
Worst Case Position (Horizontal: Y-axis/ Vertical:Z-axis).....	17
APPENDIX 2: Data of EMI test.....	18
Conducted Emission.....	18
Carrier Frequency Separation.....	22
20dB Bandwidth.....	24
Number of Hopping Frequency.....	26
Dwell time.....	28
Maximum Peak Output Power.....	32
Radiated Spurious Emission (below 1GHz).....	33
Radiated Spurious Emission (above 1GHz).....	37
Conducted Spurious Emission.....	42
99% Occupied Bandwidth.....	47
APPENDIX 3: Test instruments.....	48

SECTION 1: Customer information

Company Name : Sharp Corporation
Address : 2-13-1 Iida Hachihonmatsu, Higashihiroshima-City, Hiroshima,
739-0192, Japan
Telephone Number : +81-82-420-1837
Facsimile Number : +81-82-420-1654
Contact Person : Tetsuya Maekawa

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

2.1 Identification of E.U.T.

Type of Equipment : Cellular Phone
Model No. : SH1810C
Serial No. : 004401/11/164146/6 (Used for Antenna terminal conducted tests)
004401/11/164147/4 (Radiated emission and Conducted emission tests)
Rating : DC 4.0V (AC Charger 120V/60Hz)
Receipt Date of Sample : October 16, 2008
Country of Mass-production : China
Condition of EUT : Engineering 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: SH1810C (referred to as the EUT in this report) is the Cellular Phone.

Clock frequency(ies) in the system : 32.768kHz, 26MHz, 208MHz

[Bluetooth (Ver. 2.0 without EDR function)]

Equipment Type : Transceiver
Frequency of Operation : 2402-2480MHz
Bandwidth & Channel Spacing : 1MHz & 1MHz / CH
Modulation : FHSS
Power Supply (inner) : DC 2.75V
Antenna Type : Internal Antenna
Antenna Gain : 0dBi
Operating temperature range : -10 to +55 deg. C.

UL Japan, Inc.

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

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part15 Subpart C: 2008, final revised on May 19, 2008

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

FCC 15.31 (e)

This EUT provides stable voltage(DC2.75V) constantly to RF Module regardless of input voltage and Radiated Emission test was performed with the New Battery. 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.

3.2 Procedures and results

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin	Results
1	Conducted emission	FCC: ANSI C63.4:2003 7. AC powerline conducted emission measurements	FCC: Section 15.207	-	N/A	[Tx] QP 25.0dB, 0.25454MHz, N AV 40.6dB, 0.25454MHz, N [Rx] QP 25.4dB, 0.25810MHz, N AV 40.9dB, 0.25810MHz, N	Complied
		IC: RSS-Gen 7.2.2	IC: RSS-Gen 7.2.2				
2	Carrier Frequency Separation	FCC: FCC Public Notice DA 00-705	FCC: Section 15.247(a)(1)	Conducted	N/A	See data.	Complied
		IC: -	IC: RSS-210 A8.1 (b)				
3	20dB Bandwidth	FCC: FCC Public Notice DA 00-705	FCC: Section 15.247(a)(1)	Conducted	N/A		Complied
		IC: -	IC: RSS-210 A8.1 (a)				
4	Number of Hopping Frequency	FCC: FCC Public Notice DA 00-705	FCC: Section 15.247(a)(1)(iii)	Conducted	N/A		Complied
		IC: -	IC: RSS-210 A8.1 (d)				
5	Dwell time	FCC: FCC Public Notice DA 00-705	FCC: Section 15.247(a)(1)(iii)	Conducted	N/A		Complied
		IC: -	IC: RSS-210 A8.1 (d)				
6	Maximum Peak Output Power	FCC: FCC Public Notice DA 00-705	FCC: Section 15.247(b)(1)	Conducted	N/A	Complied	
		IC: RSS-Gen 4.8	IC: RSS-210 A8.4 (2)				
7	Band Edge Compliance	FCC: FCC Public Notice DA 00-705	FCC: Section 15.247(d)	Conducted	N/A	Complied	
		IC: -	IC: RSS-210 A8.5				
8	Spurious Emission	FCC: FCC Public Notice DA 00-705	FCC: Section 15.247(d)	Conducted/ Radiated	N/A	[Tx] 17.3dB 36.410MHz, QP, Vertical [Rx] 16.5dB 7323.0MHz, AV, Horizontal / Vertical	Complied
		IC: RSS-Gen 4.9 RSS-Gen 4.10	IC: RSS-210 A8.5 RSS-Gen 7.2.1 and 7.2.3				

Note: UL Japan, Inc.'s EMI Work Procedures No.QPM05 and QPM15.

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

* In case any questions arise about test procedure, ANSI C63.4: 2003 is also referred.

3.3 Addition to standards

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	99% Occupied Band Width	IC: RSS-Gen 4.6.1	IC: RSS-Gen 4.6.1	Conducted	N/A	N/A	N/A

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.

Other test except Conducted Emission and Spurious Emission (Radiated)

The measurement uncertainty for this test is 3.0dB.

UL Japan, Inc.

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

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, Test instruments and Data of EMI

Refer to APPENDIX 1 to 3.

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

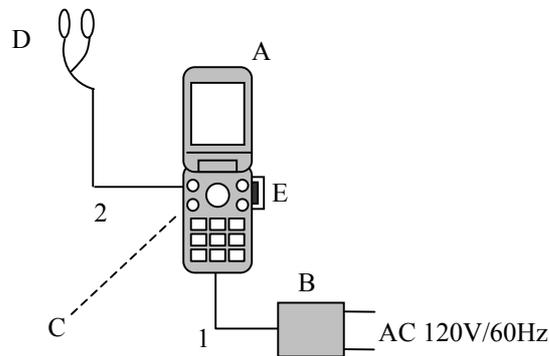
4.1 Operating Mode(s)

Test	Mode	Tested frequency
Conducted Emission	Bluetooth(BT), Transmitting (Tx), Payload: PRBS9 -DH5	2402MHz 2441MHz 2480MHz
	Bluetooth(BT), Receiving (Rx)	2441MHz
Carrier Frequency Separation	Bluetooth(BT), Transmitting (Tx) (Hopping ON)/Inquiry, Payload: PRBS9 -DH5	2402MHz 2441MHz 2480MHz
20dB Bandwidth	Bluetooth(BT), Transmitting (Tx) (Hopping Off)/Inquiry, Payload: PRBS9 -DH5	2402MHz 2441MHz 2480MHz
Number of Hopping Frequency	Bluetooth(BT), Transmitting (Tx) (Hopping ON)/Inquiry, Payload: PRBS9 -DH5	-
Dwell time	Bluetooth(BT), Transmitting (Tx) (Hopping ON)/Inquiry, Payload: PRBS9 -DH1 -DH3 -DH5	-
Maximum Peak Output Power	Bluetooth(BT), Transmitting (Tx) (Hopping Off)/Inquiry, Payload: PRBS9 -DH5	2402MHz 2441MHz 2480MHz
Spurious Emission (Conducted/Radiated)	Bluetooth(BT), Transmitting (Tx), Payload: PRBS9 -DH5	2402MHz 2441MHz 2480MHz
	Bluetooth(BT), Receiving (Rx)	2441MHz
Band Edge Compliance (Conducted)	Bluetooth(BT), Transmitting (Tx), (Hopping ON)/(Hopping Off) Payload: PRBS9 -DH5	2402MHz 2480MHz
99% Occupied Bandwidth	Bluetooth(BT), Transmitting (Tx), (Hopping ON)/(Hopping Off)/Inquiry Payload: PRBS9 -DH5	2402MHz 2441MHz 2480MHz

*As a result of preliminary test, the formal test was performed with the above modes, which had the maximum payload (except Dwell time test)

Remarks: Test was not performed at AFH mode, because the decrease of number of channel (min: 20ch) at AFH mode does not influence on the output power and bandwidth of the EUT.
However, the limit level 125mW of AFH mode was used for the test.

4.2 Configuration and peripherals



* Cabling and setup(s) 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	Remarks
A	Cellular Phone	SH1810C	004401/11/164146/6 *1) 004401/11/164147/4 *2)	SHARP	EUT
B	AC CHARGER	ZTDAA1	QEA	KYUSHU MITSUMI	EUT
C	Rechargeable Lithium-ion Battery	XN-1BT22	RIA	SANYO	-
D	Stereo Handsfree	XN-1ER90	01	HOSIDEN	-
E	microSD Memory Card	SDSDQ-1024	01	SanDisk	-

*1) Used for Antenna terminal conducted tests

*2) Used for Radiated emission test and Conducted emission test

List of cables used

No.	Name	Length (m)	Shield	
			Cable	Connector
1	AC CHARGER Cable	1.5	Unshielded	Unshielded
2	Stereo Handsfree Cable	1.7	Unshielded	Unshielded

UL Japan, Inc.

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

SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a urethane platform of nominal size, 0.5m by 1.0m, 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.

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

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. All unused 50ohm connectors of the LISN(AMN) were resistivity 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	: quasi-peak and average detector (IF BW 9 kHz)
Measurement range	: 0.15-30MHz
Test data	: APPENDIX 2
Test result	: Pass

UL Japan, Inc.

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

SECTION 6: Spurious Emission

[Conducted]

Test Procedure

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

- RBW: 100kHz
- VBW: 300kHz
- Sweep: Auto
- Detector: Peak
- Trace: Max Hold

Test data : APPENDIX 2

Test result : Pass

[Radiated]

Test Procedure

EUT was placed on urethane platform of nominal size, 0.5m by 1.0m, 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.

The test was made with the detector (RBW/VBW) in the following table.

When using Spectrum analyzer, the test was made by using peak hold.

Only for Average measurement, the test was made with adjusting span to zero.

The result also satisfied with the general limits specified in section FCC 15.209(a) / RSS-210 2.7 (IC).

Frequency	Below 1GHz	Above 1GHz
Instrument used	Test Receiver	Spectrum Analyzer
Detector	QP: BW 120kHz	PK: RBW:1MHz/VBW: 1MHz
IF Bandwidth		AV: RBW:1MHz/VBW:10Hz (Rx) RBW:1MHz/VBW:270Hz (Tx) *1)

*1) Used for the band edge of the carrier and the harmonics that can be measured. The VBW is based on the inverse of the duty cycle (see page 41).

- 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.

Test data : APPENDIX 2

Test result : Pass

UL Japan, Inc.

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

SECTION 7: Bandwidth

20dB Bandwidth

Test Procedure

The bandwidth was measured with a spectrum analyzer connected to the antenna port.
The following spectrum analyzer setting was used:

- Span: 3MHz
- RBW: 30kHz
- VBW: 30kHz
- Sweep: Auto
- Detector: Peak
- Trace: Max Hold

Test data : APPENDIX 2
Test result : Pass

99% Occupied Bandwidth

Test Procedure

The bandwidth was measured with a spectrum analyzer connected to the antenna port.
The following spectrum analyzer setting was used:

- Span: Enough width to display 20dB Bandwidth
- RBW: as close to 1% of the Span as is possible without being below 1%
- VBW: Three times of RBW
- Sweep: Auto
- Detector: Peak
- Trace: Max Hold

Test data : APPENDIX 2
Test result : Pass

SECTION 8: Maximum Peak Output Power

Test Procedure

The Maximum Peak Output Power was measured with a power meter (tested bandwidth: 50MHz) connected to the antenna port.

Test data : APPENDIX 2
Test result : Pass

SECTION 9: Carrier Frequency Separation

Test Procedure

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

- Span: 3MHz and 5MHz
- RBW: 100kHz
- VBW: 300kHz
- Sweep: Auto
- Detector: Peak
- Trace: Max Hold

Test data : APPENDIX 2
Test result : Pass

SECTION 10: Number of Hopping Frequency

Test Procedure

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

- Span: 30MHz
- RBW: 300kHz
- VBW: 1MHz
- Sweep: Auto
- Detector: Peak
- Trace: Max Hold

Test data : APPENDIX 2
Test result : Pass

SECTION 11: Dwell time

Test Procedure

The Dwell time was measured with a spectrum analyzer connected to the antenna port.
The following spectrum analyzer setting was used:

- Span: Zero Span
- RBW: 1MHz
- VBW: 3MHz
- Sweep: as necessary to capture the entire dwell time per hopping channel
- Detector: Peak
- Trace: Max Hold

Test data : APPENDIX 2
Test result : Pass

APPENDIX 1: Photographs of test setup

Conducted Emission

This page has been submitted for a separate exhibit.

Spurious Emission (Radiated)

This page has been submitted for a separate exhibit.

Worst Case Position (Horizontal: Y-axis/ Vertical:Z-axis)

This page has been submitted for a separate exhibit.

APPENDIX 2: Data of EMI test

Conducted Emission
Tx, Ch:Low (DH5)

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2008/10/21

Company	: Sharp Corporation	Report No.	: 29BE0262-HO
Kind of EUT	: Cellular Phone	Power	: DC 4.0V (AC Charger 120V / 60Hz)
Model No.	: SH1810C	Temp./Humi.	: 24deg.C / 56%
Serial No.	: 004401/11/164147/4	Engineer	: Hisayoshi Sato

Mode / Remarks : BT Transmitting 2402MHz

LIMIT : FCC15.207 QP
FCC15.207 AV

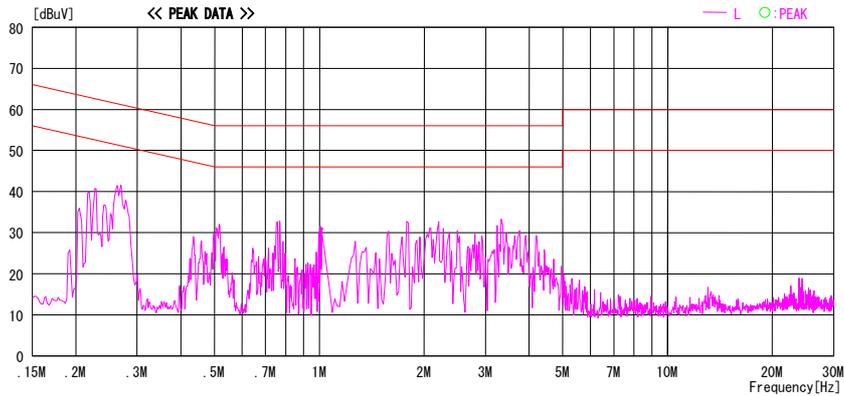
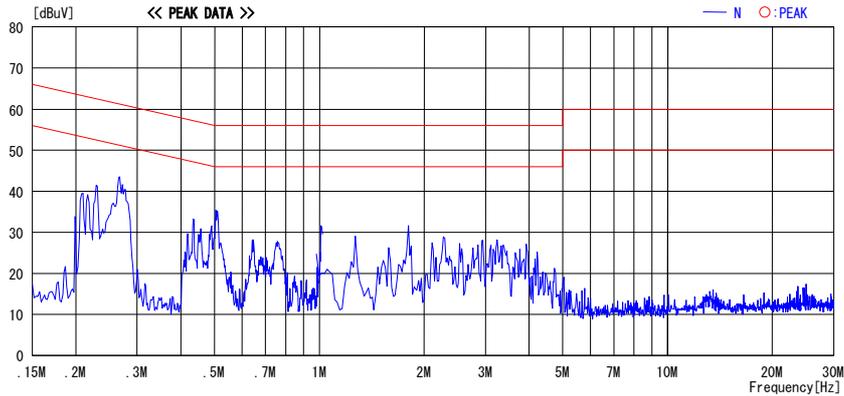


CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT[dBuA]=READING[dBuV]+C.F[dB] (Probe factor+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

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

Conducted Emission
Tx, Ch:Mid (DH5)

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2008/10/21

Company : Sharp Corporation
Kind of EUT : Cellular Phone
Model No. : SH1810C
Serial No. : 004401/11/164147/4
Report No. : 29BE0262-HO
Power : DC 4.0V (AC Charger 120V / 60Hz)
Temp./Humi. : 24deg. C / 56%
Engineer : Hisayoshi Sato

Mode / Remarks : BT Transmitting 2441MHz

LIMIT : FCC15.207 QP
FCC15.207 AV

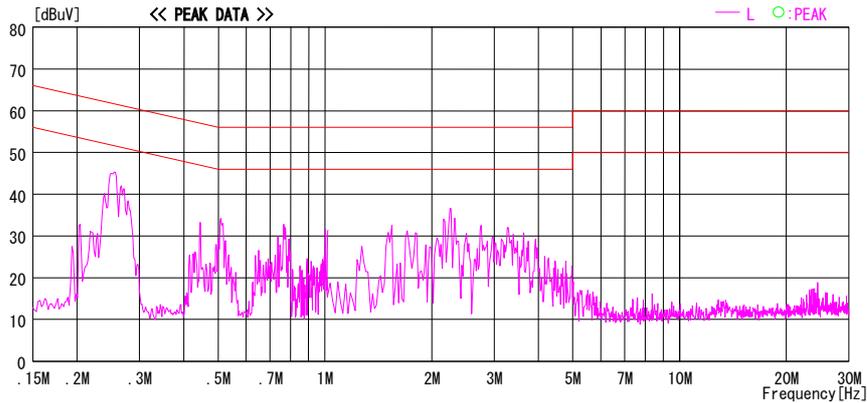
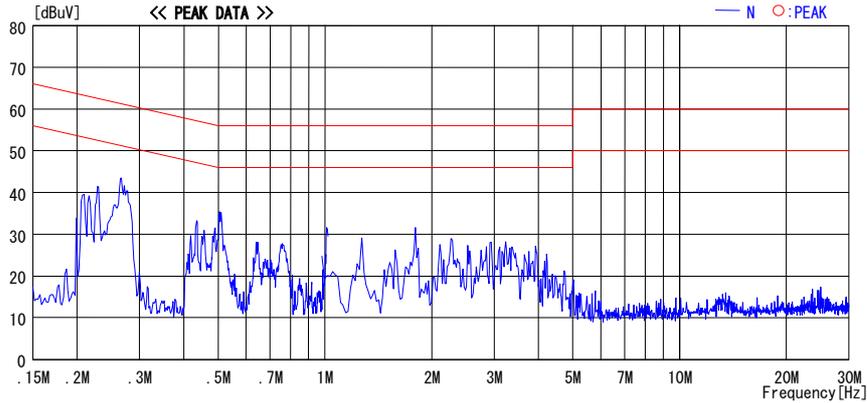


CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT [dBuA]=READING [dBuV]+C. F [dB] (Probe factor+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

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

Conducted Emission
Tx, Ch:High (DH5)

DATA OF CONDUCTED EMISSION TEST

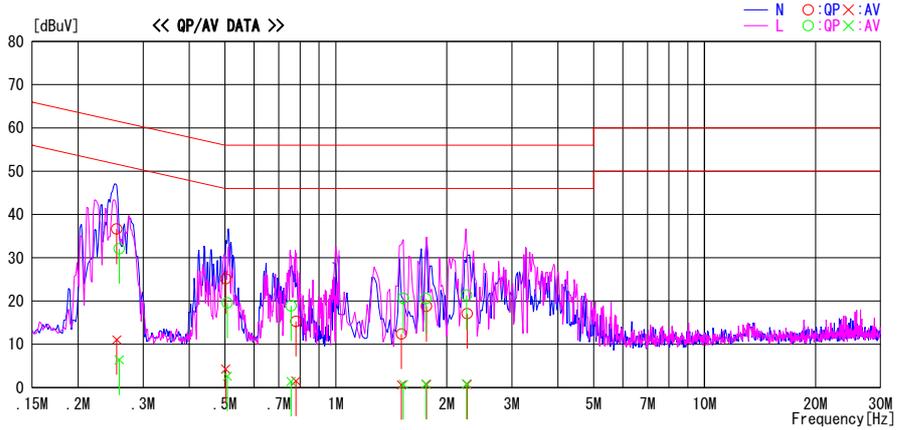
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2008/10/21

Company : Sharp Corporation
Kind of EUT : Cellular Phone
Model No. : SH1810C
Serial No. : 004401/11/164147/4

Report No. : 29BE0262-HO
Power : DC 4.0V (AC Charger 120V / 60Hz)
Temp./Humi. : 24deg.C / 56%
Engineer : Hisayoshi Sato

Mode / Remarks : BT Transmitting 2480MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.25454	36.3	10.7	0.3	36.6	11.0	61.6	51.6	25.0	40.6	N
0.25851	31.8	6.1	0.3	32.1	6.4	61.5	51.5	29.4	45.1	L
0.50254	24.8	4.0	0.3	25.1	4.3	56.0	46.0	30.9	41.7	N
0.50780	19.2	2.3	0.3	19.5	2.6	56.0	46.0	36.5	43.4	L
0.75567	18.4	1.0	0.4	18.8	1.4	56.0	46.0	37.2	44.6	L
0.77940	14.9	1.1	0.4	15.3	1.5	56.0	46.0	40.7	44.5	N
1.50711	11.9	0.1	0.5	12.4	0.6	56.0	46.0	43.6	45.4	N
1.52529	20.1	0.2	0.5	20.6	0.7	56.0	46.0	35.4	45.3	L
1.75451	20.0	0.3	0.5	20.5	0.8	56.0	46.0	35.5	45.2	L
1.76158	18.2	0.2	0.5	18.7	0.7	56.0	46.0	37.3	45.3	N
2.25851	20.8	0.2	0.6	21.4	0.8	56.0	46.0	34.7	45.2	L
2.27052	16.5	0.1	0.6	17.1	0.7	56.0	46.0	39.0	45.3	N

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT[dBuA]=READING[dBuV]+C.F[dB] (Probe factor+CABLE LOSS)
Except for the above table: adequate margin data below the limits.

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

Conducted Emission
Rx, Ch:Mid

DATA OF CONDUCTED EMISSION TEST

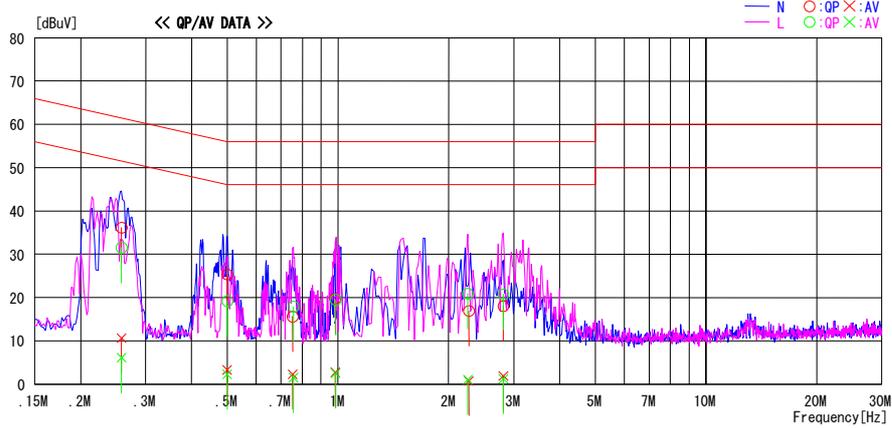
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2008/10/21

Company : Sharp Corporation
Kind of EUT : Cellular Phone
Model No. : SH1810C
Serial No. : 004401/11/164147/4

Report No. : 29BE0262-HO
Power : DC 4.0V (AC Charger 120V / 60Hz)
Temp./Humi. : 24deg. C / 56%
Engineer : Hisayoshi Sato

Mode / Remarks : BT Receiving 2441MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.25810	35.8	10.3	0.3	36.1	10.6	61.5	51.5	25.4	40.9	N
0.25810	31.2	5.8	0.3	31.5	6.1	61.5	51.5	30.0	45.4	L
0.50044	25.0	3.0	0.3	25.3	3.3	56.0	46.0	30.7	42.7	N
0.50044	18.9	2.0	0.3	19.2	2.3	56.0	46.0	36.8	43.7	L
0.75325	15.2	1.9	0.4	15.6	2.3	56.0	46.0	40.4	43.7	N
0.75674	17.5	1.1	0.4	17.9	1.5	56.0	46.0	38.1	44.5	L
0.98339	19.3	2.3	0.4	19.7	2.7	56.0	46.0	36.3	43.3	N
0.98513	19.1	2.1	0.4	19.5	2.5	56.0	46.0	36.5	43.5	L
2.25234	20.3	0.5	0.6	20.9	1.1	56.0	46.0	35.1	44.9	L
2.27052	16.3	0.2	0.6	16.9	0.8	56.0	46.0	39.1	45.2	N
2.81581	20.1	0.7	0.6	20.7	1.3	56.0	46.0	35.3	44.7	L
2.81581	17.4	1.3	0.6	18.0	1.9	56.0	46.0	38.0	44.1	N

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT [dBuA] = READING [dBuV] + C. F [dB] (Probe factor + CABLE LOSS)
Except for the above table: adequate margin data below the limits.

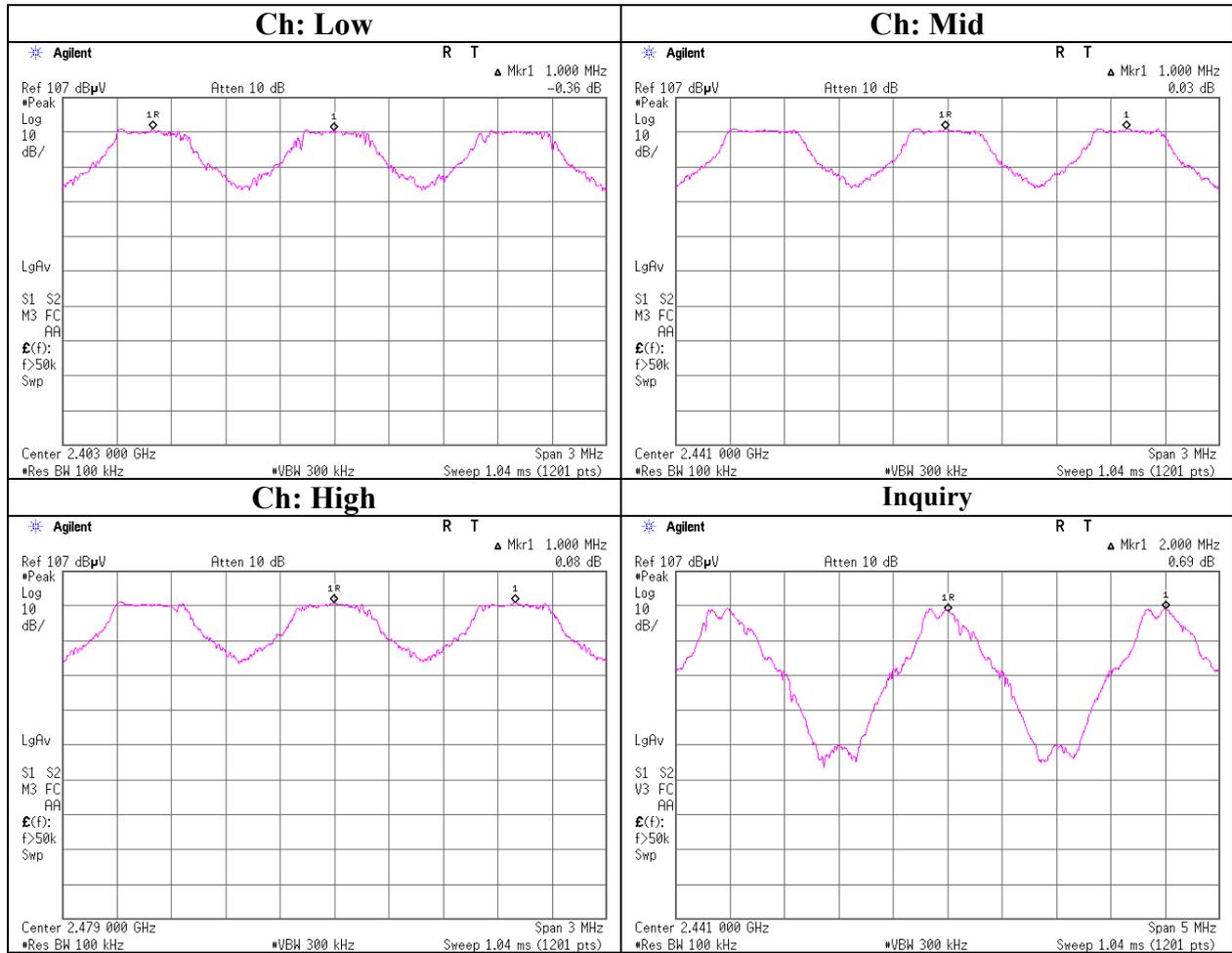
*The test result is rounded off to one or two decimal places, so some differences might be observed.

Carrier Frequency Separation
(DH5)

Company	: Sharp Corporation	UL Japan, Inc.	
Equipment	: Cellular Phone	Head Office EMC Lab. No.11 Shielded Room	
Model No.	: SH1810C	Test Report No.	: 29BE0262-HO
Serial No.	: 004401/11/164146/6	Regulation	: FCC15.247(a)(1)/RSS-210A8.1(b)
Power	: DC 4.0V (AC Charger 120V/60Hz)	Test distance	: -
Mode	: BT DH5 Tx(Hopping on)/Inquiry	Date	: 10/21/2008
		Temperature	: 24deg.C
		Humidity	: 56%
		Engineer	: Hisayoshi Sato

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	2402.0	1.000	>0.655MHz(two-thirds of the 20dB Bandwidth(0.982MHz)) or 25[kHz](whichever is greater)
Mid	2441.0	1.000	>0.660MHz(two-thirds of the 20dB Bandwidth(0.990MHz)) or 25[kHz](whichever is greater)
High	2480.0	1.000	>0.637MHz(two-thirds of the 20dB Bandwidth(0.955MHz)) or 25[kHz](whichever is greater)
Inquiry	2441.0	2.000	>0.572MHz(two-thirds of the 20dB Bandwidth(0.858MHz)) or 25[kHz](whichever is greater)

Carrier Frequency Separation (DH5)



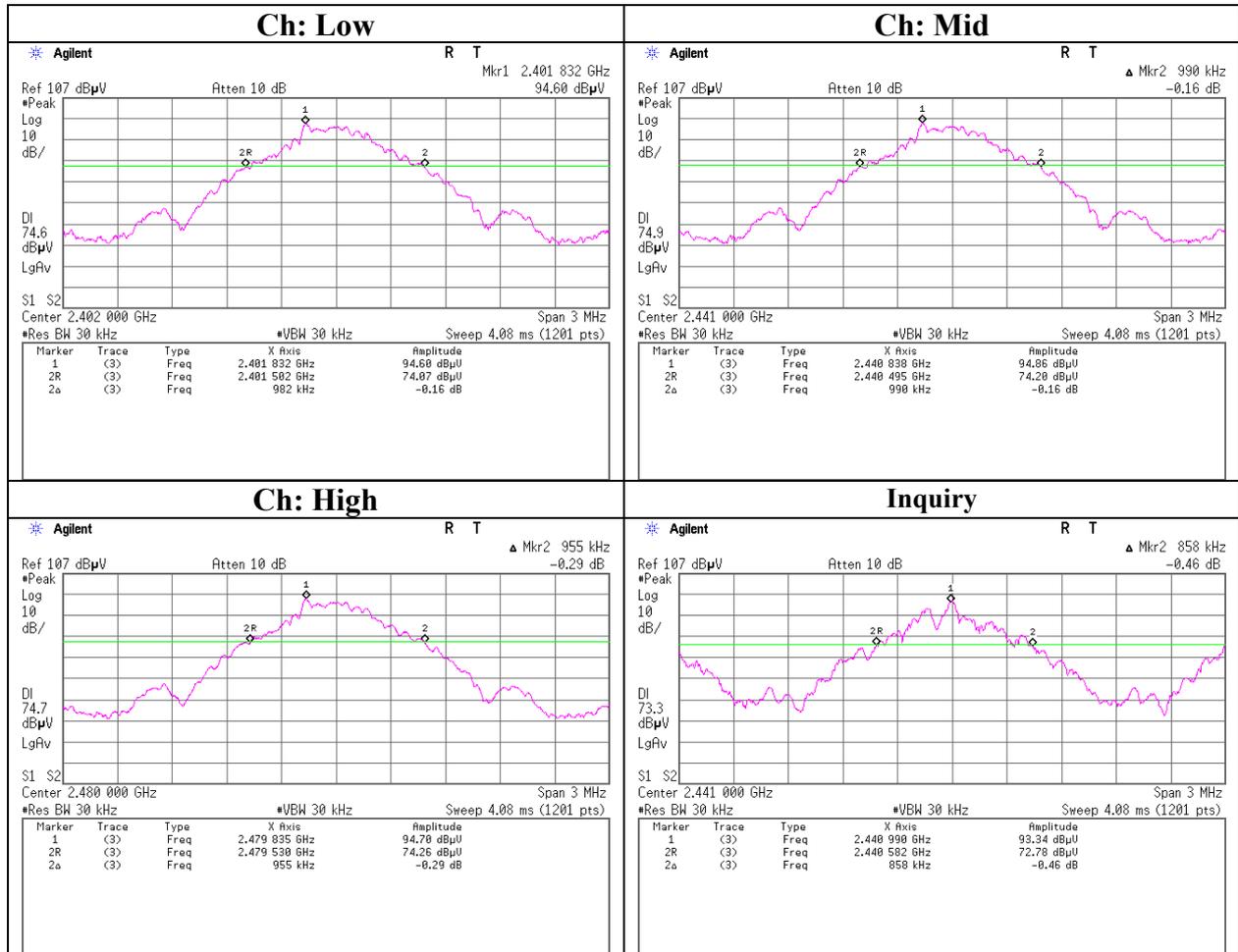
20dB Bandwidth
(DH5)

Company : Sharp Corporation
Equipment : Cellular Phone
Model No. : SH1810C
Serial No. : 004401/11/164146/6
Power : DC 4.0V (AC Charger 120V/60Hz)
Mode : BT DH5 Tx (Hopping off) /Inquiry

UL Japan, Inc.
Head Office EMC Lab. No.11 Shielded Room
Test Report No. : 29BE0262-HO
Regulation : FCC15.247(a)(1)/RSS-210A8.1(a)
Test distance : -
Date : 10/21/2008
Temperature : 24deg.C
Humidity : 56%
Engineer : Hisayoshi Sato

Ch	Freq. [MHz]	20dB Bandwidth [MHz]	Limit [MHz]
Low	2402.0	0.982	-
Mid	2441.0	0.990	-
High	2480.0	0.955	-
Inquiry	2441.0	0.858	-

**20dB Bandwidth
(DH5)**



Number of Hopping Frequency

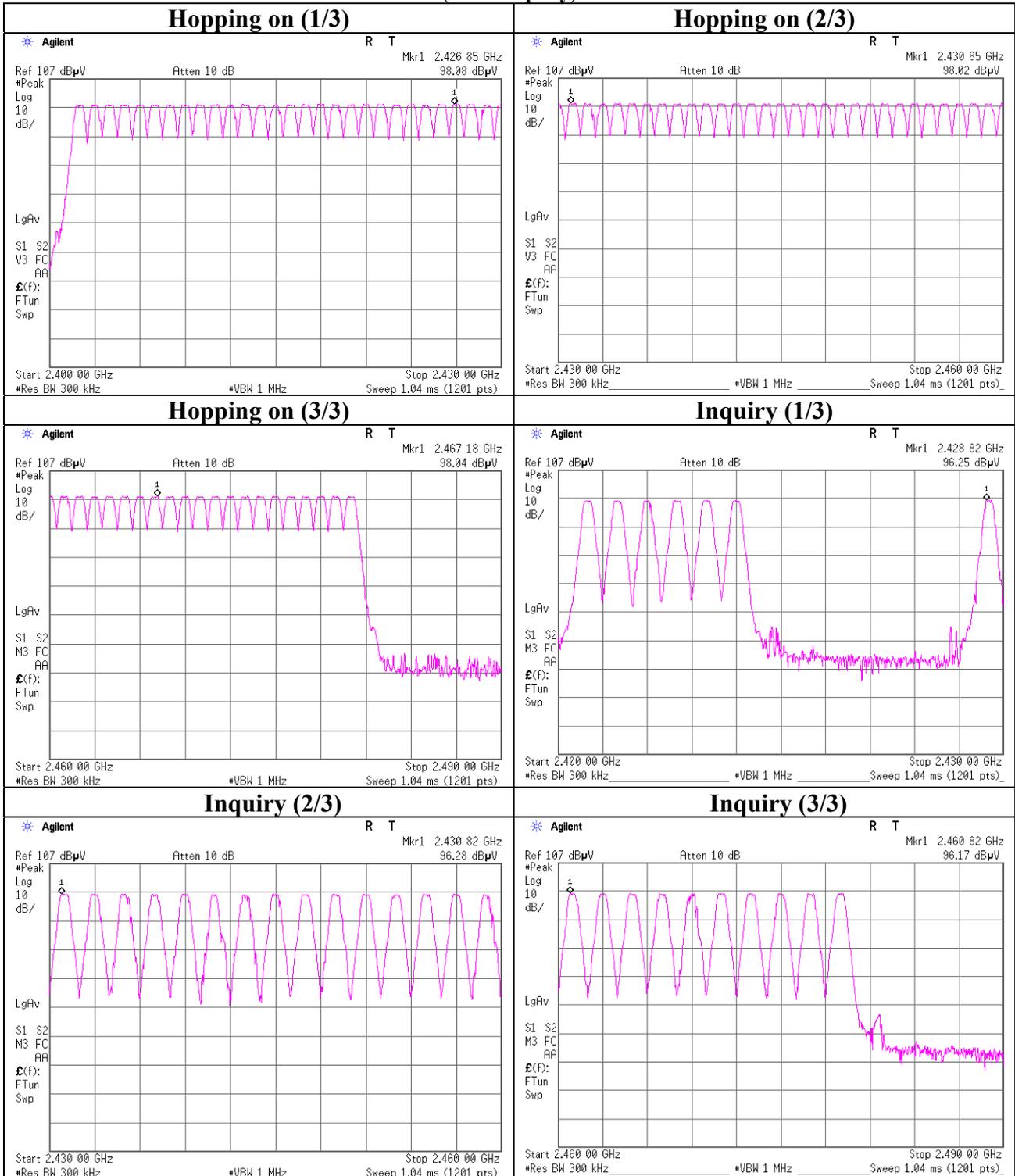
UL Japan, Inc.
Head Office EMC Lab. No.11 Shielded Room

Company	: Sharp Corporation	Test Report No.	: 29BE0262-HO
Equipment	: Cellular Phone	Regulation	: FCC15.247(a)(1)(iii)/RSS-210A8.1(d)
Model No.	: SH1810C	Test distance	: -
Serial No.	: 004401/11/164146/6	Date	: 10/21/2008
Power	: DC 4.0V (AC Charger 120V/60Hz)	Temperature	: 24deg.C
Mode	: BT DH5 Tx (Hopping on) /Inquiry	Humidity	: 56%
		Engineer	: Hisayoshi Sato

Mode	Number of channel	Limit
	[number]	[time]
Tx(Hopping on)	79	≥ 15

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

**Number of Hopping Frequency
(DH5/Inquiry)**



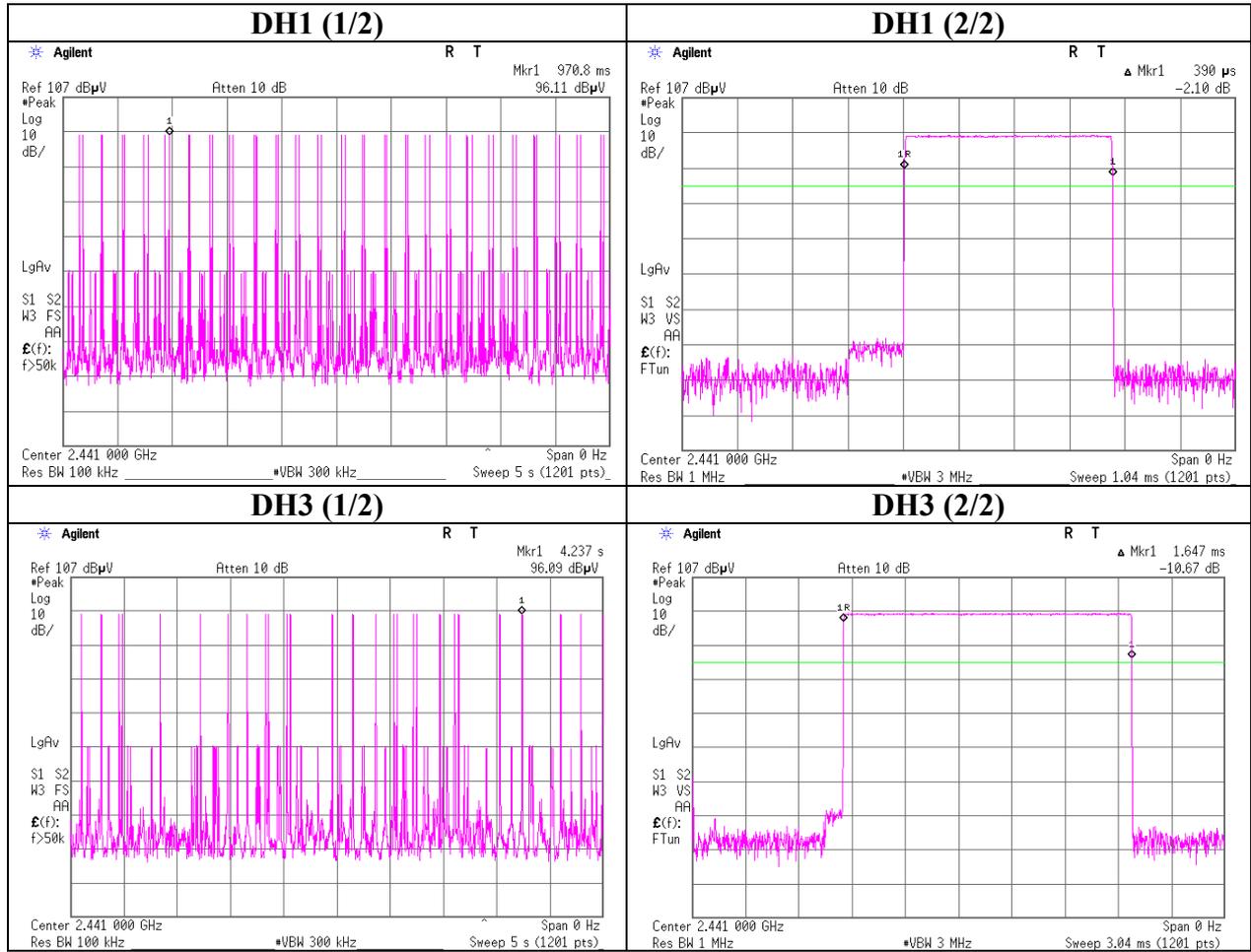
Dwell time

UL Japan, Inc.
Head Office EMC Lab. No.11 Shielded Room

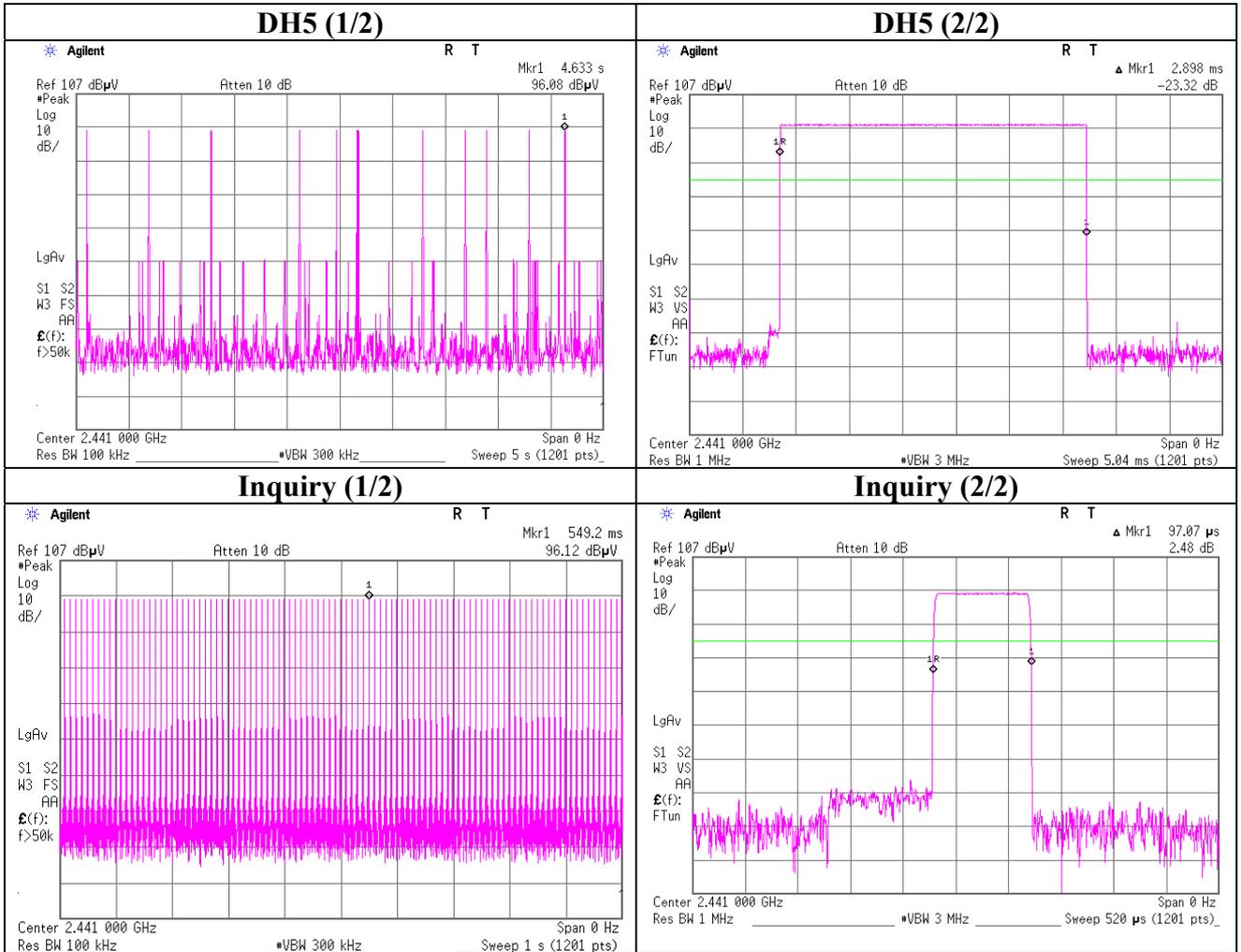
Company	: Sharp Corporation	Test Report No.	: 29BE0262-HO
Equipment	: Cellular Phone	Regulation	: FCC15.247(a)(1)(iii)/RSS-210A8.1(d)
Model No.	: SH1810C	Test distance	: -
Serial No.	: 004401/11/164146/6	Date	: 10/21/2008
Power	: DC 4.0V (AC Charger 120V/60Hz)	Temperature	: 24deg.C
Mode	: BT Tx (Hopping on) /Inquiry	Humidity	: 56%
		Engineer	: Hisayoshi Sato

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	44 times / 5 sec. x 31.6 sec. = 279 times	0.390	109	400
DH3	26 times / 5 sec. x 31.6 sec. = 165 times	1.647	272	400
DH5	11 times / 5 sec. x 31.6 sec. = 70 times	2.898	203	400
Inquiry	100 times / 1 sec. x 12.8 sec. = 1280 times	0.097	124	400

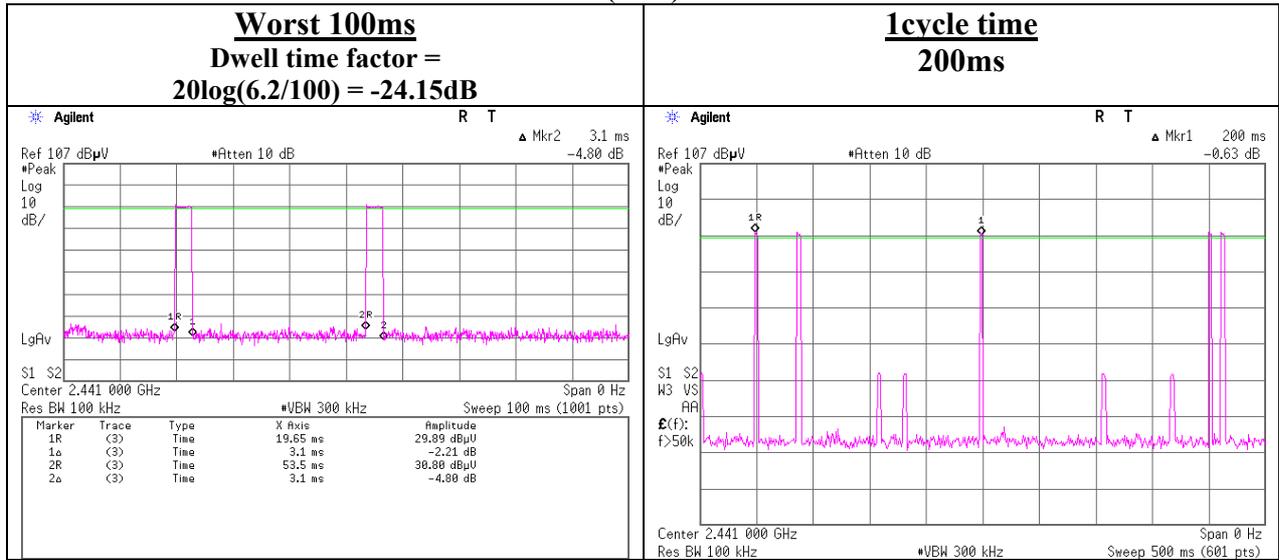
Dwell time



Dwell time



Dwell time factor
(DH5)



Maximum Peak Output Power
(DH5)

UL Japan, Inc.
Head Office EMC Lab. No.11 Shielded Room
Test Report No. : 29BE0262-HO
Regulation : FCC15.247(b)(1)/RSS-210A8.4(2)
Company : Sharp Corporation
Equipment : Cellular Phone
Model No. : SH1810C
Serial No. : 004401/11/164146/6
Power : DC 4.0V (AC Charger 120V/60Hz)
Mode : BT DH5 Tx(Hopping Off)/Inquiry
Test distance : -
Date : 10/21/2008
Temperature : 24deg.C
Humidity : 56%
Engineer : Hisayoshi Sato

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	-10.77	1.07	10.09	0.39	1.09	20.97	125	20.58
Mid	2441.0	-10.73	1.07	10.09	0.43	1.10	20.97	125	20.54
High	2480.0	-10.76	1.08	10.09	0.41	1.10	20.97	125	20.56
Inquiry	2441.0	-10.75	1.07	10.09	0.41	1.10	20.97	125	20.56

Sample Calculation:

Result = Reading + Cable Loss + Attenuator

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

Radiated Spurious Emission (below 1GHz)
Tx, Ch: Low

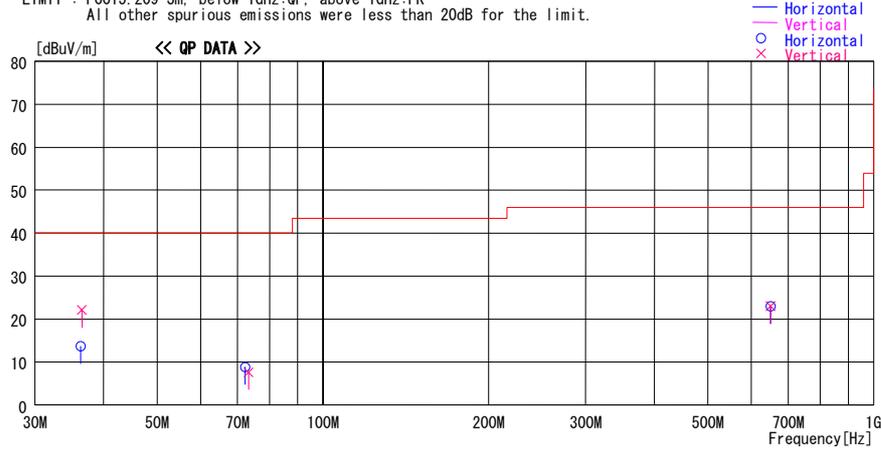
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2008/10/19

Company : Shsrp Corporation
Kind of EUT : Cellular Phone
Model No. : SH1810C
Serial No. : 004401/11/164147/4
Report No. : 29BE0262-HO
Power : DC 4.0V (AC Charger 120V / 60Hz)
Temp./Humi. : 22deg. C / 59%
Engineer : Shinya Watanabe

Mode / Remarks : BT Transmitting 2402MHz, Max-axis (Hor:Y Ver:Z)

LIMIT : FCC15.209 3m, below 1GHz:QP, above 1GHz:PK
All other spurious emissions were less than 20dB for the limit.



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]				
36.320	22.8	QP	15.7	-24.8	13.7	Hori.	40.0	26.3
36.520	31.3	QP	15.6	-24.8	22.1	Vert.	40.0	17.9
72.204	26.6	QP	6.6	-24.3	8.9	Hori.	40.0	31.2
73.287	25.2	QP	6.6	-24.2	7.6	Vert.	40.0	32.4
650.000	22.2	QP	20.8	-20.0	23.0	Hori.	46.0	23.0
650.000	22.2	QP	20.8	-20.0	23.0	Vert.	46.0	23.0

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 test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated Spurious Emission (below 1GHz)
Tx, Ch: Mid

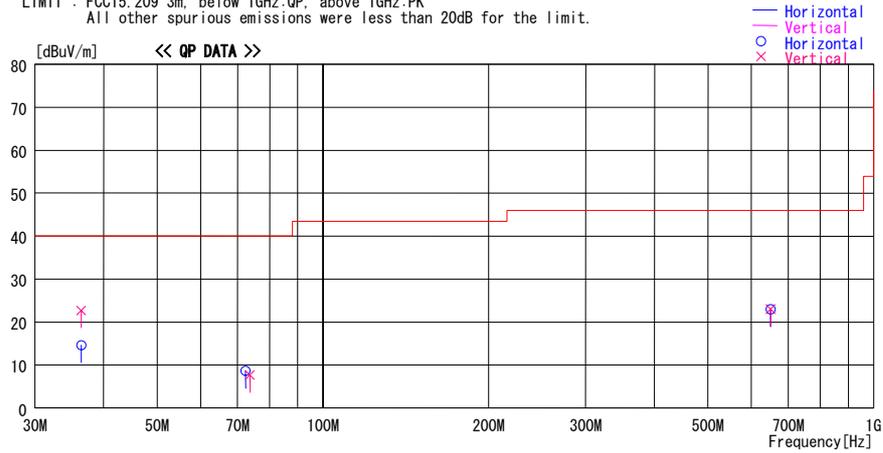
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2008/10/19

Company : Shsrp Corporation
Kind of EUT : Cellular Phone
Model No. : SH1810C
Serial No. : 004401/11/164147/4
Report No. : 29BE0262-HO
Power : DC 4.0V (AC Charger 120V / 60Hz)
Temp./Humi. : 22deg. C / 59%
Engineer : Shinya Watanabe

Mode / Remarks : BT Transmitting 2441MHz, Max-axis (Hor:Y Ver:Z)

LIMIT : FCC15.209 3m, below 1GHz:QP, above 1GHz:PK
All other spurious emissions were less than 20dB for the limit.



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]				
36.410	23.8	QP	15.6	-24.8	14.6	Hori.	40.0	25.4
36.410	31.9	QP	15.6	-24.8	22.7	Vert.	40.0	17.3
72.345	26.4	QP	6.6	-24.3	8.7	Hori.	40.0	31.3
73.745	25.2	QP	6.6	-24.2	7.6	Vert.	40.0	32.4
650.000	22.2	QP	20.8	-20.0	23.0	Hori.	46.0	23.0
650.000	22.2	QP	20.8	-20.0	23.0	Vert.	46.0	23.0

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 test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated Spurious Emission (below 1GHz)
Tx, Ch: High

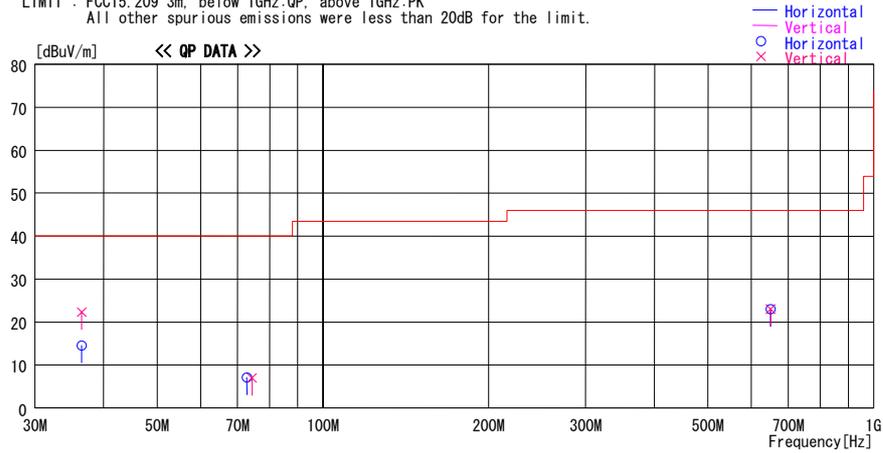
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2008/10/19

Company : Shsrp Corporation
Kind of EUT : Cellular Phone
Model No. : SH1810C
Serial No. : 004401/11/164147/4
Report No. : 29BE0262-HO
Power : DC 4.0V (AC Charger 120V / 60Hz)
Temp./Humi. : 22deg. C / 59%
Engineer : Shinya Watanabe

Mode / Remarks : BT Transmitting 2480MHz, Max-axis (Hor:Y Ver:Z)

LIMIT : FCC15.209 3m, below 1GHz:QP, above 1GHz:PK
All other spurious emissions were less than 20dB for the limit.



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]				
36.493	23.8	QP	15.6	-24.8	14.6	Hori.	40.0	25.5
36.493	31.5	QP	15.6	-24.8	22.3	Vert.	40.0	17.7
72.745	24.8	QP	6.6	-24.3	7.1	Hori.	40.0	32.9
74.369	24.6	QP	6.6	-24.2	7.0	Vert.	40.0	33.0
650.000	22.3	QP	20.8	-20.0	23.1	Hori.	46.0	23.0
650.000	22.2	QP	20.8	-20.0	23.0	Vert.	46.0	23.0

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 test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated Spurious Emission (below 1GHz)
Rx, Ch: Mid

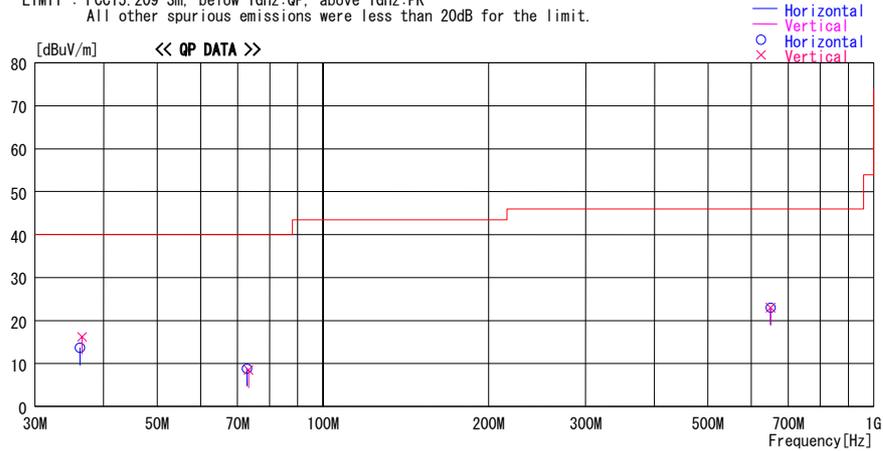
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2008/10/19

Company : Shsrp Corporation
Kind of EUT : Cellular Phone
Model No. : SH1810C
Serial No. : 004401/11/164147/4
Report No. : 29BE0262-HO
Power : DC 4.0V (AC Charger 120V / 60Hz)
Temp./Humi. : 22deg. C / 59%
Engineer : Shinya Watanabe

Mode / Remarks : BT Receiving 2441MHz, Max-axis (Hor:Y Ver:Z)

LIMIT : FCC15.209 3m. below 1GHz:QP. above 1GHz:PK
All other spurious emissions were less than 20dB for the limit.



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]				
36.198	22.8	QP	15.7	-24.8	13.7	Hori.	40.0	26.4
36.539	25.6	QP	15.5	-24.8	16.3	Vert.	40.0	23.8
72.804	26.5	QP	6.6	-24.3	8.8	Hori.	40.0	31.2
73.287	26.0	QP	6.6	-24.2	8.4	Vert.	40.0	31.6
650.000	22.3	QP	20.8	-20.0	23.1	Hori.	46.0	23.0
650.000	22.2	QP	20.8	-20.0	23.0	Vert.	46.0	23.0

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 test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated Spurious Emission (above 1GHz)
Tx, Ch: Low

Company : Sharp Corporation
Equipment : Cellular Phone
Model : SH1810C
S/N : 004401/11/164147/4
Power : DC 4.0V (AC Charger 120 V / 60 Hz)
Mode : BT Transmitting 2402 MHz
Position : Hor Y-axis, Ver Z-axis

UL Japan, Inc.
Head Office EMC Lab. No.4 Semi Anechoic Chamber
Regulation : FCC15.247(d) / RSS-210 A8.5
Test Distance : 3m (1G-10GHz) / 1m (above10GHz)
Date : October 19, 2008
Temperature : 22 deg.C.
Humidity : 59 %
Engineer : Shinya Watanabe

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]		RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	2390.00	48.1	47.8	27.2	32.2	2.6	0.0	-	45.7	45.4	73.9	28.2	28.5
2	2400.00	56.6	55.1	27.2	32.2	2.6	0.0	-	54.2	52.7	73.9	19.7	21.2
3	4804.00	41.8	41.8	31.5	30.9	4.1	0.8	-	47.3	47.3	73.9	26.6	26.6
4	7206.00	41.9	41.9	36.0	32.0	4.1	0.0	-	50.0	50.0	73.9	23.9	23.9
5	9608.00	41.3	41.8	38.3	32.4	4.8	0.0	-	52.0	52.5	73.9	21.9	21.4
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
6	12010.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
7	14412.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
8	16814.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
9	19216.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
10	21618.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
11	24020.00	45.2	45.1	38.4	31.0	7.7	0.0	-	50.8	50.7	73.9	23.1	23.2

AV DETECT (RBW: 1MHz, VBW: 270Hz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	Dwell Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	2390.00	30.3	30.7	27.2	32.2	2.6	0.0	-	27.9	28.3	53.9	26.0	25.6
2	2400.00	39.4	39.4	27.2	32.2	2.6	0.0	-24.2	12.8	12.8	53.9	41.1	41.1
3	4804.00	30.8	32.6	31.5	30.9	4.1	0.8	-24.2	12.1	13.9	53.9	41.8	40.0
4	7206.00	29.8	29.5	36.0	32.0	4.1	0.0	-24.2	13.7	13.4	53.9	40.2	40.5
5	9608.00	29.3	28.9	38.3	32.4	4.8	0.0	-24.2	15.8	15.4	53.9	38.1	38.5
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
6	12010.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
7	14412.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
8	16814.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
9	19216.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
10	21618.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
11	24020.00	33.5	33.5	38.4	31.0	7.7	0.0	-24.2	14.9	14.9	53.9	39.0	39.0

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3.0/1.0) = 9.5 dB

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

*Hi-Pass Fiter was not used for factor 0.0dB of the above table.

*Dwell time factor = 20log (Dwell time / 100ms) = 20log (3.333*10^-3 / 100*10^-3) = -24.2 dB (Refer to dwell time data sheet)

*In the frequency over the 6th harmonic, the noise from the EUT was not seen.The data above is its base noise.

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

*NS: No detect Signal.

Radiated Spurious Emission (above 1GHz)
Tx, Ch: Mid

Company : Sharp Corporation
Equipment : Cellular Phone
Model : SH1810C
S/N : 004401/11/164147/4
Power : DC 4.0V (AC Charger 120 V / 60 Hz)
Mode : BT Transmitting 2441 MHz
Position : Hor Y-axis, Ver Z-axis

UL Japan, Inc.
Head Office EMC Lab. No.4 Semi Anechoic Chamber
Regulation : FCC15.247(d) / RSS-210 A8.5
Test Distance : 3m (1G-10GHz) / 1m (above10GHz)
Date : October 19, 2008
Temperature : 22 deg.C.
Humidity : 59 %
Engineer : Shinya Watanabe

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]		RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	4882.00	41.3	42.1	31.7	30.9	4.1	0.8	-	47.0	47.8	73.9	26.9	26.1
2	7323.00	41.7	41.0	36.1	32.1	4.1	0.0	-	49.8	49.1	73.9	24.1	24.8
3	9764.00	42.0	41.5	38.5	32.4	4.9	0.0	-	53.0	52.5	73.9	20.9	21.4
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
4	12205.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
5	14646.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
6	17087.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
7	19528.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
8	21969.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
9	24410.00	45.6	45.4	38.6	31.0	7.7	0.0	-	51.4	51.2	73.9	22.5	22.7

AV DETECT (RBW: 1MHz, VBW: 270Hz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	Dwell Factor [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR [dBuV]	VER [dBuV]						HOR [dB]	VER [dB]			
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	4882.00	31.9	32.4	31.7	30.9	4.1	0.8	-24.2	13.4	13.9	53.9	40.5	40.0
2	7323.00	29.7	29.6	36.1	32.1	4.1	0.0	-24.2	13.6	13.5	53.9	40.3	40.4
3	9764.00	29.5	29.4	38.5	32.4	4.9	0.0	-24.2	16.3	16.2	53.9	37.6	37.7
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
4	12205.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
5	14646.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
6	17087.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
7	19528.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
8	21969.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
9	24410.00	33.3	33.1	38.6	31.0	7.7	0.0	-24.2	14.9	14.7	53.9	39.0	39.2

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3.0/1.0) = 9.5 dB

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

*Hi-Pass Fiter was not used for factor 0.0dB of the above table.

*Dwell time factor = 20log (Dwell time / 100ms) = 20log (3.333*10^-3 / 100*10^-3) = -24.2 dB (Refer to dwell time data sheet)

*In the frequency over the 6th harmonic, the noise from the EUT was not seen.The data above is its base noise.

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

*NS: No detect Signal.

Radiated Spurious Emission (above 1GHz)
Tx, Ch: High

Company	: Sharp Corporation	UL Japan, Inc.
Equipmen	: Cellular Phone	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Model	: SH1810C	Regulation : FCC15.247(d) / RSS-210 A8.5
S/N	: 004401/11/164147/4	Test Distance : 3m (1G-10GHz) / 1m (above10GHz)
Power	: DC 4.0V (AC Charger 120 V / 60 Hz)	Date : October 19, 2008
Mode	: BT Transmitting 2480 MHz	Temperature : 22 deg.C.
Position	: Hor Y-axis, Ver Z-axis	Humidity : 59 %
		Engineer : Shinya Watanabe

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	RESULT	Limit	MARGIN			
		HOR [dBuV]	VER [dBuV]							HOR [dB]	VER [dB]		
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	2483.50	51.8	53.5	27.3	32.1	2.7	0.0	-	49.7	51.4	73.9	24.2	22.5
2	4960.00	42.9	43.6	31.8	30.8	4.1	0.8	-	48.8	49.5	73.9	25.1	24.4
3	7440.00	42.7	43.6	36.3	32.2	4.2	0.0	-	51.0	51.9	73.9	22.9	22.0
4	9920.00	41.9	41.8	38.6	32.4	4.9	0.0	-	53.0	52.9	73.9	20.9	21.0
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
5	12400.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
6	14880.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
7	17360.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
8	19840.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
9	22320.00	NS	NS	-	-	-	-	-	-	-	73.9	-	-
10	24800.00	47.0	46.5	38.9	31.0	7.8	0.0	-	53.2	52.7	73.9	20.7	21.2

AV DETECT (RBW: 1MHz, VBW: 270Hz)

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	Dwell Factor [dB]	RESULT	Limit	MARGIN		
		HOR [dBuV]	VER [dBuV]								HOR [dB]	VER [dB]	
Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss													
1	2483.50	32.9	34.3	27.3	32.1	2.7	0.0	-24.2	6.6	8.0	53.9	47.3	45.9
2	4960.00	32.6	35.8	31.8	30.8	4.1	0.8	-24.2	14.3	17.5	53.9	39.6	36.4
3	7440.00	30.1	29.9	36.3	32.2	4.2	0.0	-24.2	14.2	14.0	53.9	39.7	39.9
4	9920.00	29.2	29.2	38.6	32.4	4.9	0.0	-24.2	16.1	16.1	53.9	37.8	37.8
Test distance 1meter RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac													
5	12400.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
6	14880.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
7	17360.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
8	19840.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
9	22320.00	NS	NS	-	-	-	-	-24.2	-	-	53.9	-	-
10	24800.00	34.4	34.4	38.9	31.0	7.8	0.0	-24.2	16.4	16.4	53.9	37.5	37.5

Test Distance 1.0m : Distance Factor(Dfac) = 20log(3.0/1.0) = 9.5 dB
*Except for the above table : All other spurious emissions were less than 20dB for the limit.
*Hi-Pass Fiter was not used for factor 0.0dB of the above table.
*Dwell time factor = 20log (Dwell time / 100ms) = 20log (3.333*10^-3 / 100*10^-3) = -24.2 dB (Refer to dwell time data sheet)
*In the frequency over the 6th harmonic, the noise from the EUT was not seen. The data above is its base noise.
*The test result is rounded off to one or two decimal places, so some differences might be observed.
*NS: No detect Signal.

Radiated Spurious Emission (above 1GHz)
Rx, Ch: Mid

Company : Sharp Corporation
Equipmen : Cellular Phone
Model : SH1810C
S/N : 004401/11/164147/4
Power : DC 4.0V (AC Charger 120 V / 60 Hz)
Mode : Receiving 2441 MHz
Position : Hor Y-axis, Ver Z-axis

UL Japan, Inc.
Head Office EMC Lab. No.4 Semi Anechoic Chamber
Regulation : FCC15.247(d) / RSS-210 A8.5
Test Distance : 3m
Date : October 19, 2008
Temperature : 22 deg.C.
Humidity : 59 %
Engineer : Shinya Watanabe

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass 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 + Filter Loss												
1	2441.0	41.9	41.6	27.2	32.1	2.7	0.0	39.7	39.4	73.9	34.2	34.5
2	7323.0	40.9	40.8	36.1	32.1	4.1	0.0	49.0	48.9	73.9	24.9	25.0

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

No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass 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 + Filter Loss												
1	2441.0	28.9	28.9	27.2	32.1	2.7	0.0	26.7	26.7	53.9	27.2	27.2
2	7323.0	29.3	29.3	36.1	32.1	4.1	0.0	37.4	37.4	53.9	16.5	16.5

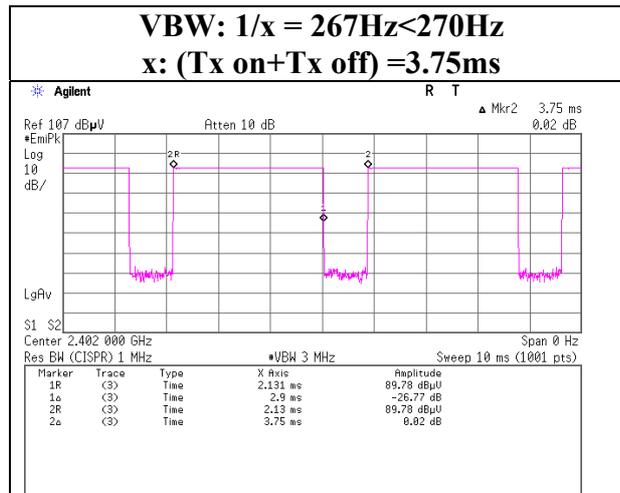
* Reference data

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

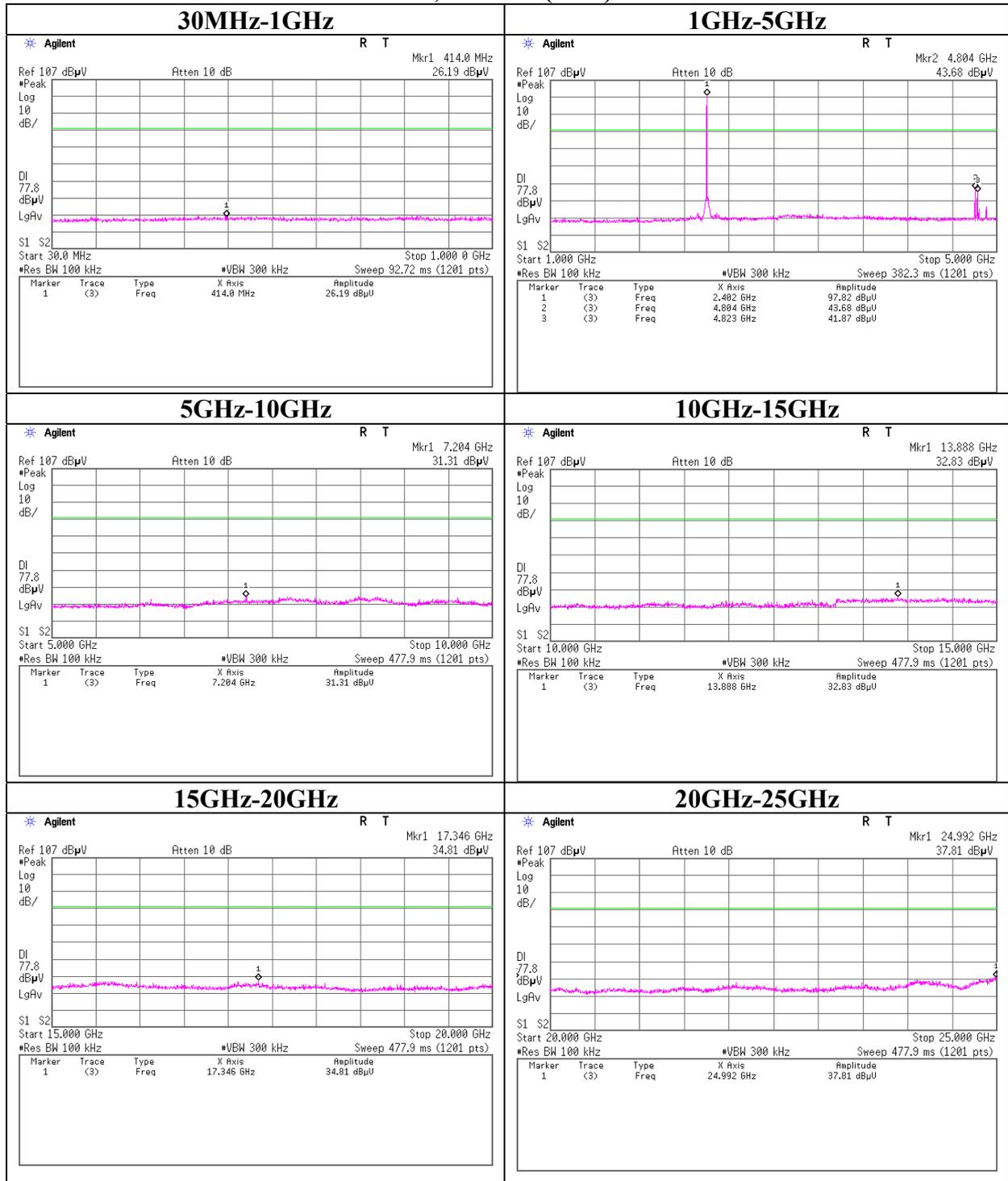
*The test result is rounded off to one or two decimal places, so some differences might be observed.

*Hi-Pass Fiter was not used for factor 0.0dB of the above table.

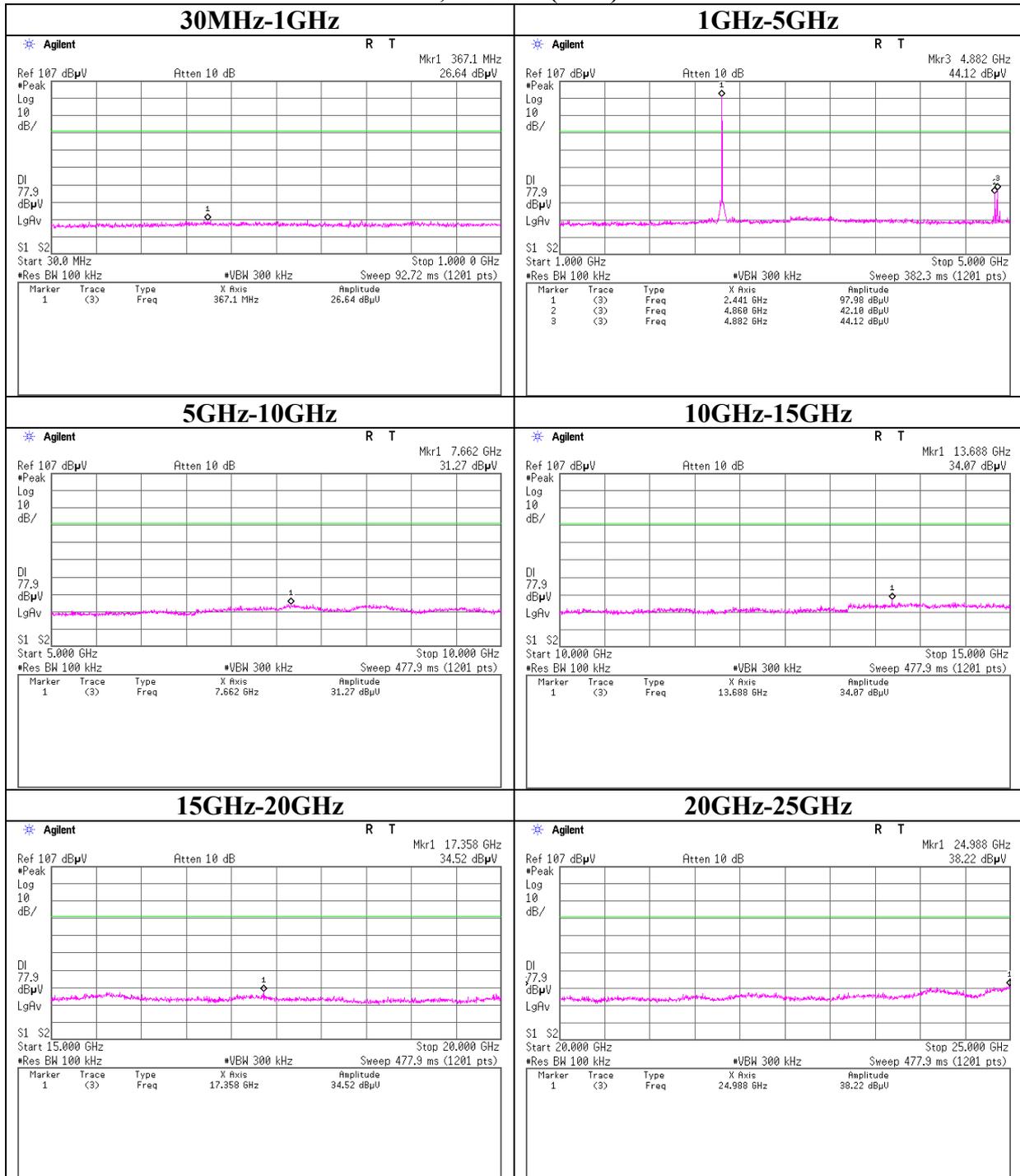
VBW (AV) Calculation



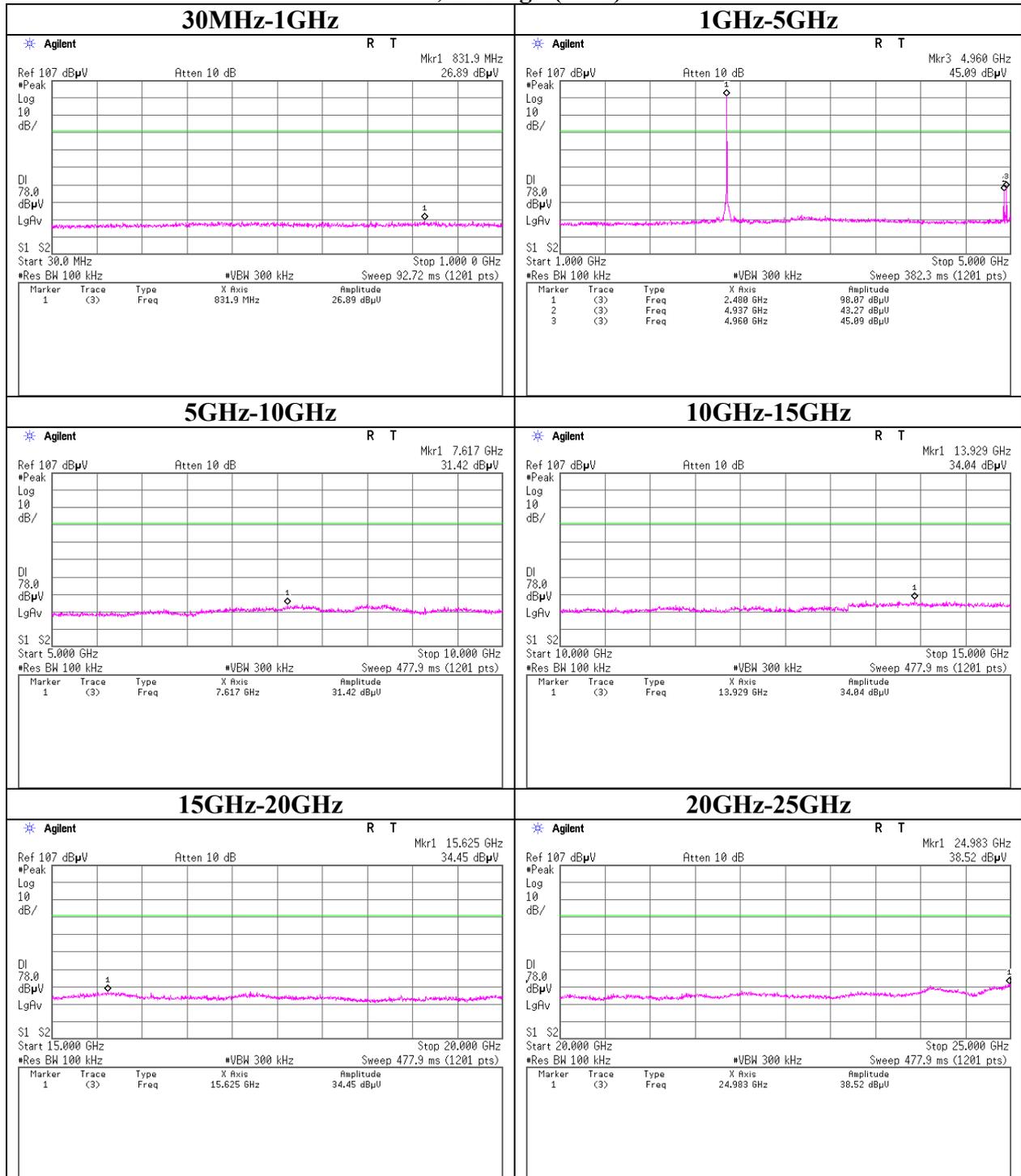
Conducted Spurious Emission
Tx, Ch:Low (DH5)



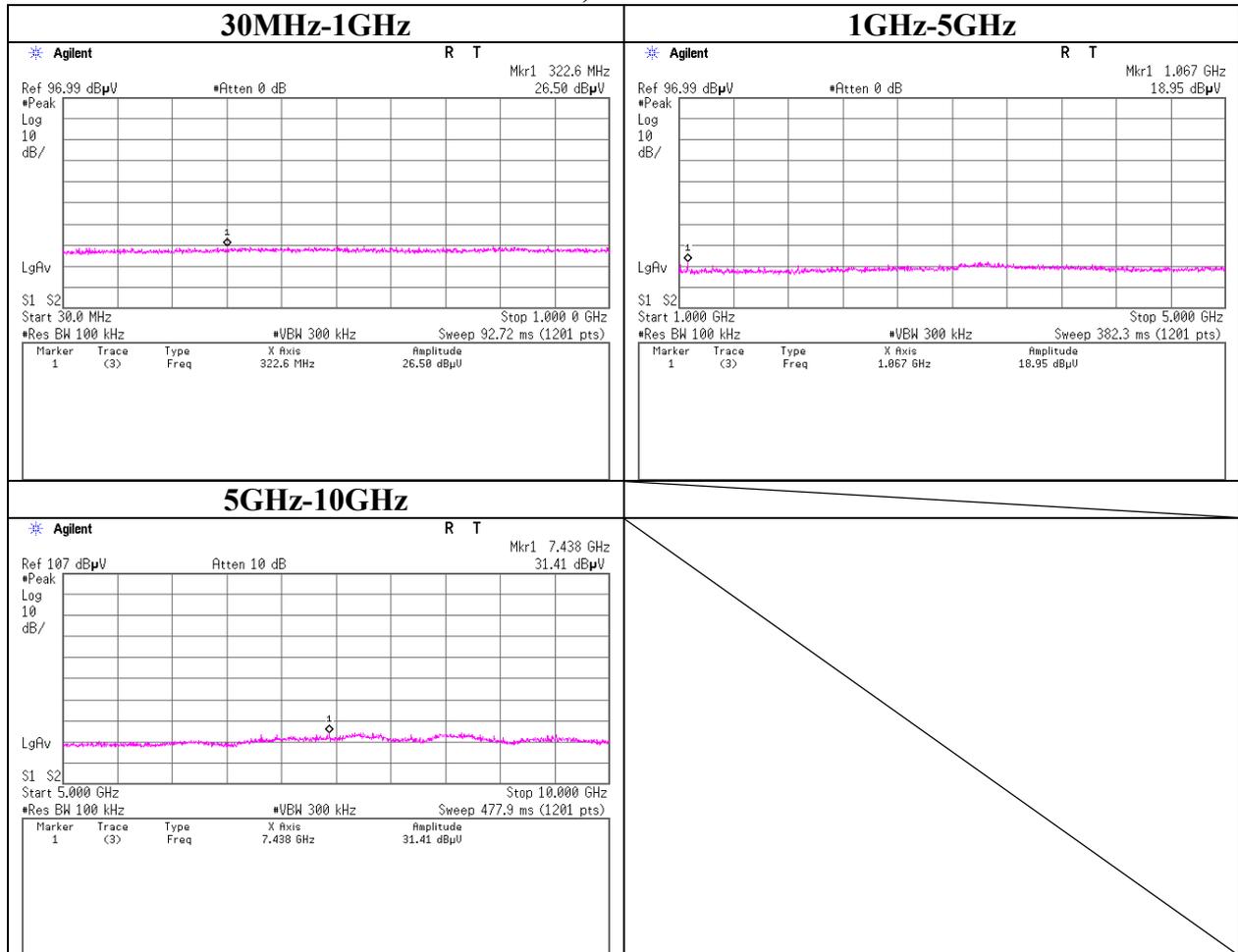
Conducted Spurious Emission
Tx, Ch:Mid (DH5)



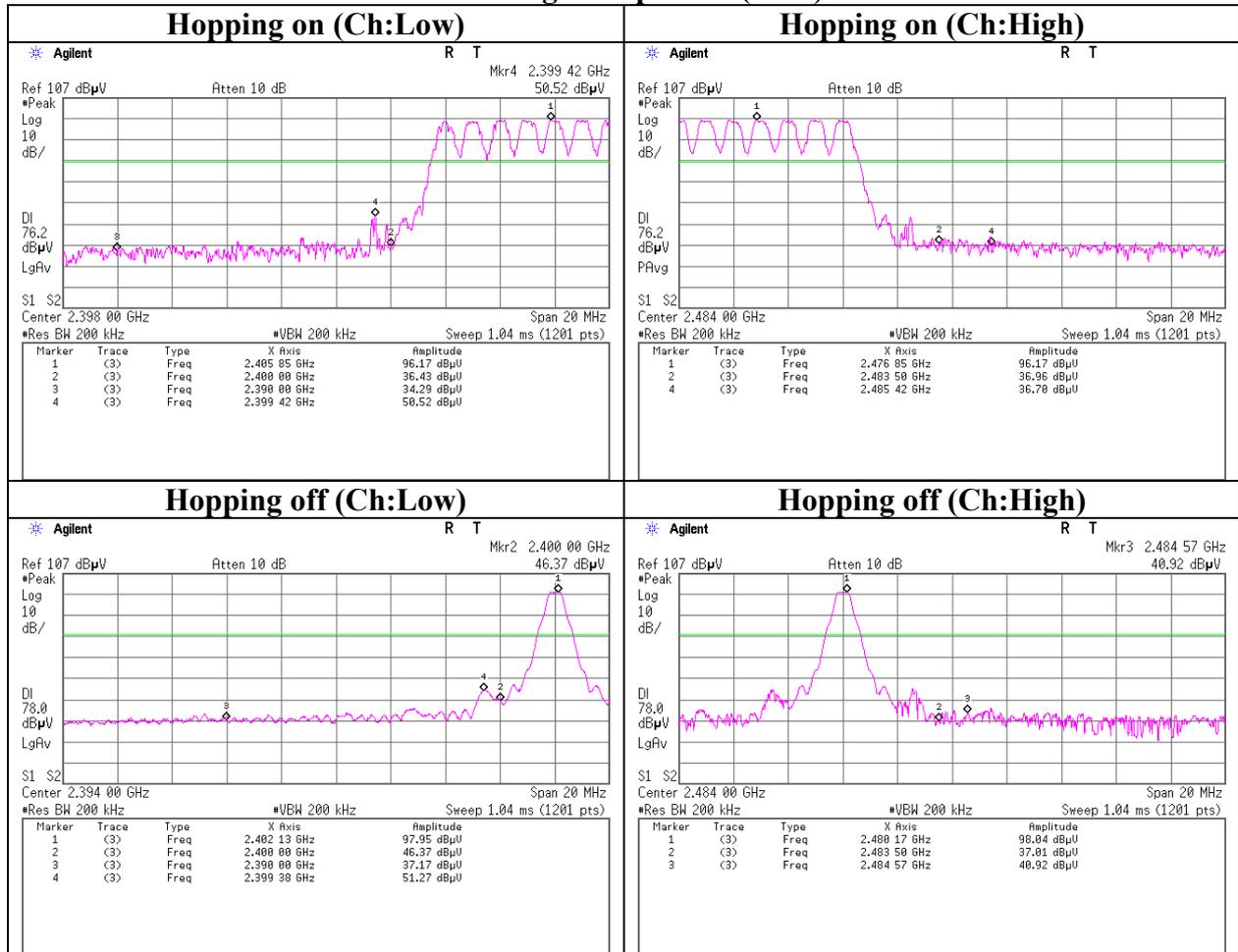
Conducted Spurious Emission
Tx, Ch:High (DH5)



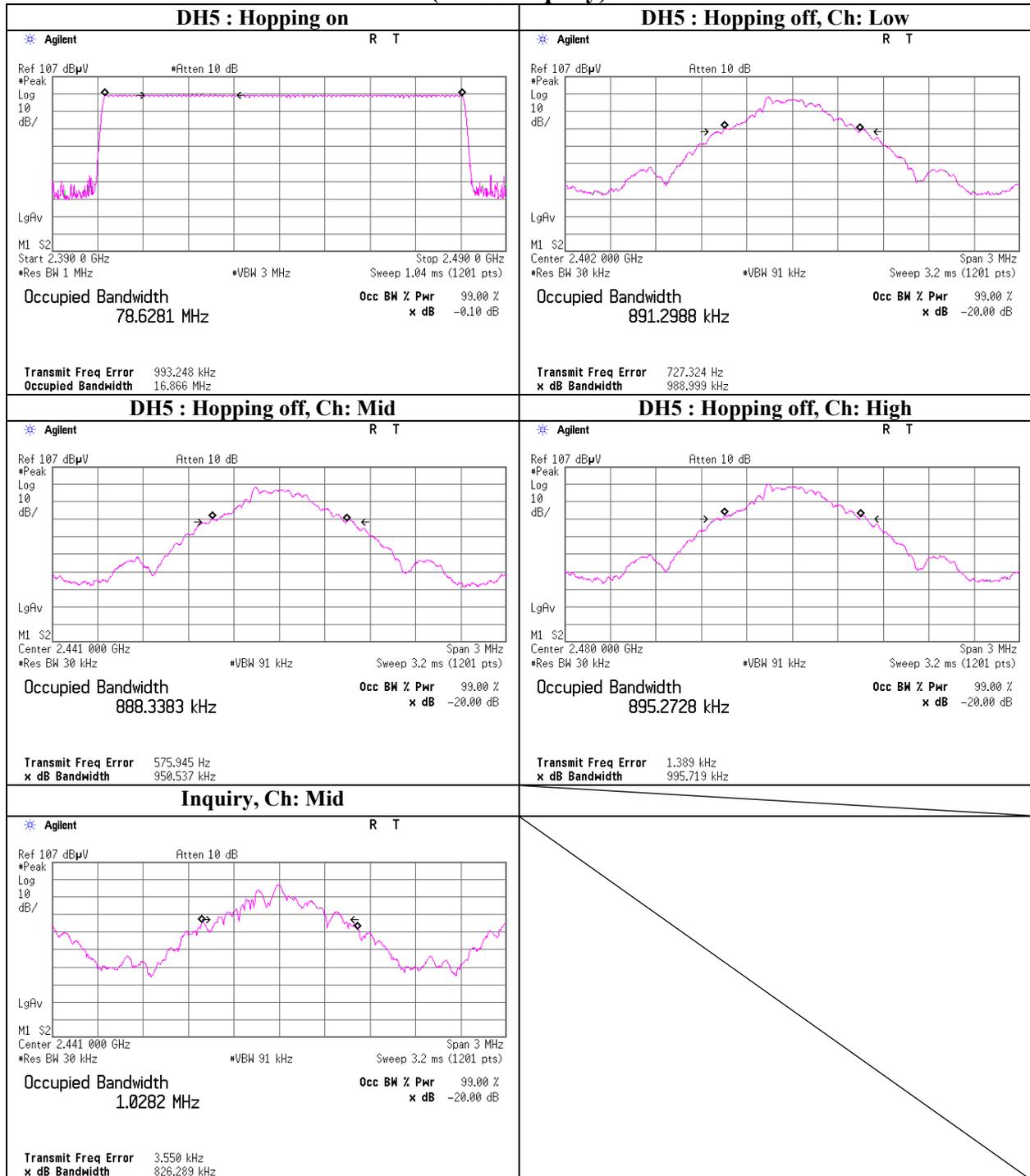
Conducted Spurious Emission
Rx, Ch:Mid



Conducted Spurious Emission Band Edge compliance (DH5)



99% Occupied Bandwidth (DH5 / Inquiry)



APPENDIX 3:Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-04	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE	2008/03/27 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	RE	2008/08/11 * 12
MCC-56	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2008/03/12 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	RE	2008/03/13 * 12
MHF-19	High Pass Filter 3.5-18.0GHz	TOKIMEC	TF323DCA	RE	2007/12/10 * 12
MCC-78	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2007/12/26 * 12
MHA-17	Horn Antenna 15-40GHz	Schwarzbeck	BBHA9170	RE	2008/04/30 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	RE	2008/01/12 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	RE	2008/01/12 * 12
MAT-31	Attenuator(6dB)	TME	UFA-01	RE	2008/03/10 * 12
MCC-50	Coaxial cable	UL Japan	-	RE	2008/03/17 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	RE	2008/03/06 * 12
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE/CE	-
MOS-15	Thermo-Hygrometer	Custom	CTH-180	RE	2008/01/10 * 12
MJM-07	Measure	PROMART	SEN1955	RE	-
MSA-10	Spectrum Analyzer	Agilent	E4448A	RE	2008/02/27 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	RE	2008/10/03 * 12
MAEC-02	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	CE	2008/04/17 * 12
MOS-22	Thermo-Hygrometer	Custom	CTH-201	CE	2007/12/27 * 12
MJM-05	Measure	PROMART	SEN1955	CE	-
MSA-04	Spectrum Analyzer	Agilent	E4448A	CE	2008/08/18 * 12
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	CE	2008/04/02 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	CE(EUT)	2008/02/20 * 12
MCC-13	Coaxial Cable	Fujikura/Agilent	-	CE	2008/02/15 * 12
MPM-13	Power Meter	Anritsu	ML2495A	AT	2008/08/13 * 12
MPSE-18	Power sensor	Anritsu	MA2411B	AT	2008/08/13 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	AT	2008/08/18 * 12
MAT-22	Attenuator(10dB) DC-18GHz	Orient Microwave	BX10-0476-00	AT	2008/03/04 * 12
MCC-116	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	AT	2008/08/04 * 12
MOS-19	Thermo-Hygrometer	Custom	CTH-201	AT	2007/12/05 * 12

UL Japan, Inc.

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

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
AT: Antenna Terminal Conducted test