

# RADIO TEST REPORT

**Test Report No. : 26IE0234-HO-D**

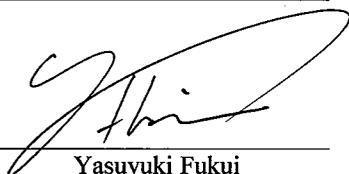
**Applicant** : Sony EMCS Corporation Saitama TEC  
**Type of Equipment** : COMPACT DISC RECEIVER  
**Model No.** : HCD-U1BT  
**FCC ID** : AK8CMTU1BT  
**Test standard** : FCC Part 15 Subpart C  
Section 15.207, Section 15.247: 2006  
**Test Result** : Complied

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 the 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:**

June 27 to July 5, 2006

**Tested by:**

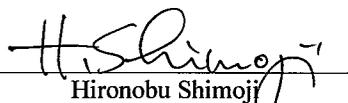


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**Approved by :**



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Group Leader of EMC Services



NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.  
\*As for the range of Accreditation in NVLAP, you may refer to the WEB address, <http://ulapex.jp/emc/nvlap.htm>

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<b>CONTENTS</b>	<b>PAGE</b>
<b>SECTION 1: Client information</b> .....	<b>3</b>
<b>SECTION 2: Equipment under test (E.U.T.)</b> .....	<b>3</b>
<b>SECTION 3: Test specification, procedures &amp; results</b> .....	<b>4</b>
<b>SECTION 4: Operation of E.U.T. during testing</b> .....	<b>7</b>
<b>SECTION 5: Conducted Emission</b> .....	<b>8</b>
<b>SECTION 6: Spurious Emission</b> .....	<b>9</b>
<b>SECTION 7: Bandwidth</b> .....	<b>9</b>
<b>SECTION 8: Maximum Peak Output Power</b> .....	<b>10</b>
<b>SECTION 9: Carrier Frequency Separation</b> .....	<b>10</b>
<b>SECTION 10: Number of Hopping Frequency</b> .....	<b>10</b>
<b>SECTION 11: Dwell time</b> .....	<b>10</b>
<b>APPENDIX 1: Photographs of test setup</b> .....	<b>11</b>
Conducted Emission .....	<b>11</b>
Spurious Emission (Radiated) .....	<b>12</b>
<b>APPENDIX 2: Test instruments</b> .....	<b>13</b>
<b>APPENDIX 3: Data of EMI test</b> .....	<b>14</b>
Conducted Emission .....	<b>14</b>
Carrier Frequency Separation .....	<b>19</b>
20dB Bandwidth .....	<b>21</b>
Number of Hopping Frequency .....	<b>23</b>
Dwell time .....	<b>25</b>
Maximum Peak Output Power .....	<b>27</b>
Radiated Spurious Emission .....	<b>28</b>
Conducted Spurious Emission .....	<b>36</b>
99% Occupied Bandwidth .....	<b>41</b>

## **SECTION 1: Client information**

Company Name : Sony EMCS Corporation Saitama TEC  
Brand name : SONY  
Address : Shinagawa INTERCITY C Tower, 2-15-3 Konan, Minato-ku,  
Tokyo 108-6201, Japan  
Telephone Number : +81-3-5769-5640  
Facsimile Number : +81-3-5769-5962  
Contact Person : Kikuo Murata

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

### **2.1 Identification of E.U.T.**

Type of Equipment : COMPACT DISC RECEIVER  
Model No. : HCD-U1BT  
Serial No. : 004  
Country of Manufacture : China  
Receipt Date of Sample : April 26, 2006  
Rating : AC120V/60Hz  
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: HCD-U1BT.is the COMPACT DISC RECEIVER.

	<b>EUT</b>	
<b>Clock frequency</b>	Micom Clock	: 5MHz
	Bluetooth DSP	: 26MHz
	AMP DSP	: 49.152MHz
	Clock IC	: 32.768kHz
	USB IC	: 22.5MHz
	USB IC	: 48MHz
	Infrared rays remote control	: 3.84MHz
	CD DSP	: 16.934MHz
<b>Feature of EUT</b>	This system contains Tuner, CD player and Bluetooth audio receiver.	

		<b>Bluetooth</b>
<b>Equipment Type</b>		Transceiver
<b>Frequency band</b>	<b>Lower limit</b>	2402MHz
	<b>Upper limit</b>	2480MHz
<b>Frequency of Operation</b>		Bluetooth DSP:26MHz
<b>Bandwidth &amp; Channel spacing</b>		1MHz & 1MHz/CH
<b>Type of Modulation</b>		FHSS
<b>Antenna Type</b>		Pattern
<b>Antenna Connector Type</b>		U.FL
<b>Antenna Gain</b>		-3.44dBi
<b>ITU code</b>		F1D
<b>Power supply (Inner)</b>		DC3.3V

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## **SECTION 3: Test specification, procedures & results**

### **3.1 Test Specification**

Test Specification : FCC Part15 Subpart C : 2006

Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators  
Section 15.207 Conducted limits : 2006  
Section 15.247 Operation within the bands 902-928MHz,  
2400-2483.5MHz, and 5725-5850MHz : 2006

#### **FCC 15.31 (e)**

This EUT provides stable voltage(DC3.3V) 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.

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### 3.2 Procedures and results

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin*0)	Results	
1	Conducted emission	FCC: ANSI C63.4:2003 7. AC powerline conducted emission measurements IC: RSS-Gen 7.2.2	FCC: Section 15.207 IC: RSS-Gen 7.2.2	-	N/A	17.4dB 0.16020MHz QP, N	Complied	
2	Carrier Frequency Separation	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: -	FCC: Section15.247(a)(1) IC: RSS-210 A8.1 (2)	Conducted	N/A	See data.	Complied	
3	20dB Bandwidth	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: -	FCC: Section15.247(a)(1) IC: RSS-210 A8.1 (1)	Conducted	N/A		Complied	
4	Number of Hopping Frequency	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: -	FCC: Section15.247(a)(1)(iii) IC: RSS-210 A8.1 (4)	Conducted	N/A		Complied	
5	Dwell time	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: -	FCC: Section15.247(a)(1)(iii) IC: RSS-210 A8.1 (4)	Conducted	N/A		Complied	
6	Maximum Peak Output Power	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: RSS-Gen 4.6	FCC: Section15.247(b)(1) IC: RSS-210 A8.4 (2)	Conducted	N/A		Complied	
7	Band Edge Compliance	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: -	FCC: Section15.247(d) IC: RSS-210 A8.5	Conducted	N/A		Complied	
8	Spurious Emission	FCC: ANSI C63.4:2003 13. Measurement of intentional radiators IC: RSS-Gen 4.7 RSS-Gen 4.8	FCC: Section15.247(d) IC: RSS-210 A8.5 RSS-Gen 7.2.1 and 7.2.3	Conducted/ Radiated	N/A		<Tx> 6.3dB 4804MHz HOR, AV <Rx> 7.0dB 73.720MHz, QP, Vertical	Complied

Note: UL Apex's EMI Work Procedures No.QPM05 and QPM15.

\*0) The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

\*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.

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### 3.3 Addition to standards

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	99% Occupied Band Width	RSS-Gen 4.4.1	RSS-Gen 4.4.1	Conducted	N/A	N/A	N/A

### 3.4 Uncertainty

#### Conducted Emission

The measurement uncertainty (with a 95% confidence level) for this test is  $\pm 2.6$ dB.  
The data listed in this test report has enough margin, more than the site margin.

#### Spurious Emission (Radiated)

The measurement uncertainty (with a 95% confidence level) for this test using Biconical antenna is  $\pm 4.59$ dB(3m)/  $\pm 4.58$ dB(10m).  
The measurement uncertainty (with a 95% confidence level) for this test using Logperiodic antenna is  $\pm 4.62$ dB(3m)/  $\pm 4.60$ dB(10m).  
The measurement uncertainty (with a 95% confidence level) for this test using Horn antenna is  $\pm 5.27$ dB.  
The data listed in this report has enough margin, more than site margin.

#### Other test except Conducted Emission and Spurious Emission (Radiated)

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

### 3.5 Test Location

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	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	IC4247A	19.2 x 11.2 x 7.7m	7.0 x 6.0m	Preparation room
No.2 semi-anechoic chamber	655103	IC4247A-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 semi-anechoic chamber	148738	IC4247A-3	12.0 x 8.5 x 5.9m	6.8 x 5.75m	
No.3 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.4 semi-anechoic chamber	134570	IC4247A-4	12.0 x 8.5 x 5.9m	6.8 x 5.75m	-
No.4 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.5 shielded room	-	-	6.0 x 6.0 x 3.9m	N/A	-
No.6 shielded room	-	-	4.0 x 4.5 x 2.7m	N/A	-
No.6 measurement room	-	-	4.75 x 5.4 x 3.0m	N/A	-
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	-

\* 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.7 shielded room.

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

Refer to APPENDIX 1 to 3.

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

### **4.1 Operating Modes**

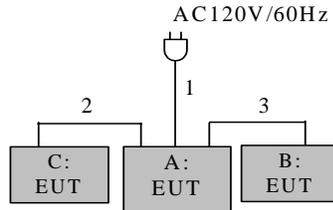
The mode used for test : [FHSS:Bluetooth]  
Transmitting mode (Packet size DH5 (worst), Data packet: PRBS9)  
- Low Channel : 2402MHz  
- Mid Channel : 2441MHz  
- High Channel : 2480MHz

Receiving mode  
- Mid Channel : 2441MHz

#### **[FHSS: Bluetooth/ with AFH function]**

\*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 were taken into consideration and test data was taken under worst case conditions.

#### **Description of EUT and Support equipment**

No.	Item	Model number	Serial number	Manufacturer	Remark
A	COMPACT DISC RECEIVER (Main)	HCD-U1BT	004	Sony	EUT
B	COMPACT DISC RECEIVER (Speaker)	HCD-U1BT	004	Sony	EUT
C	COMPACT DISC RECEIVER (Speaker)	HCD-U1BT	004	Sony	EUT

#### **List of cables used**

No.	Name	Length (m)	Shield	
			Cable	Connector
1	AC cable	1.8	Unshielded	Unshielded
2	Audio cable	1.6	Unshielded	Unshielded
3	Audio cable	1.6	Unshielded	Unshielded

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## **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)

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.

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.

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

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## **SECTION 6: Spurious Emission**

### **[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 an 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 0.5m(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 linear mode).

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

When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

The result also satisfied with the general limits specified in section 15.209(a).

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

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.

The test was made on EUT at the normal use position.

**Test data** : APPENDIX 3

**Test result** : Pass

## **SECTION 7: Bandwidth**

### **Test Procedure**

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

**Test data** : APPENDIX 3

**Test result** : Pass

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## **SECTION 8: Maximum Peak Output Power**

### **Test Procedure**

The Maximum Peak Output Power was measured with a power meter connected to the antenna port.

Test data : APPENDIX 3  
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.

Test data : APPENDIX 3  
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.

Test data : APPENDIX 3  
Test result : Pass

## **SECTION 11: Dwell time**

### **Test Procedure**

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

Test data : APPENDIX 3  
Test result : Pass

**APPENDIX 1: Photographs of test setup**

**Conducted Emission**  
**Front**



**Side**



**Spurious Emission (Radiated)**  
**Front**



**Rear**



## APPENDIX 2: 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	2006/03/06 * 12
MSA-05	Spectrum Analyzer	Advantest	R3273	RE/CE	2006/05/20 * 12
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	RE/CE	2006/02/02 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	RE	2006/01/29 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	RE	2006/01/29 * 12
MCC-50	Coaxial cable	UL Apex	-	RE /CE	2006/03/09 * 12
MPA-14	Pre Amplifier	SONOA INSTRUMENT	310	RE	2006/03/25 * 12
MAT-31	Attenuator(6dB)	TME	UFA-01	RE	2006/03/11 * 12
MHA-05	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2006/01/09 * 12
MHA-01	Horn Antenna	EMCO	3160-09	RE	2006/01/09 * 12
MCC-15	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2006/02/02 * 12
MCC-18	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	RE	2006/02/02 * 12
MPA-01	Pre Amplifier	Agilent	8449B	RE	2006/02/09 * 12
MHF-06	High Pass Filter	Tokimec	TF323DCA	RE	2006/05/20 * 12
MOS-14	Thermo-Hygrometer	Custom	CTH-180	RE/CE	2006/01/19 * 24
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE/CE	-
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	CE	2006/02/06 * 12
MRENT-36	Power Meter	Anritsu	ML2496A	AT	2006/04/25 * 12
MRENT-33	Power sensor	Anritsu	MA2411B	AT	2006/04/25 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	AT	2005/09/16 * 12
MCC-26	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	AT	2005/08/30 * 12
MOS-04	Digital Humidity Indicator	N.T	NT-1800	AT	2004/11/25 * 24

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

Test Item:

**RE: Radiated Spurious Emission**

**CE: Conducted Emission**

**AT: Antenna Terminal Conducted Spurious Emission, Maximum Peak Output Power**

**Carrier Frequency Separation, 20dB Bandwidth**

**Number of Hopping Frequency, Dwell time**

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**APPEDIX 3: Data of EMI test**

**Conducted Emission**

**DATA OF CONDUCTED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
 Date : 2006/06/28 03:55:25

Applicant : Sony EMCS Corporation Saitama TEC	Report No. : 261E0234-HO
Kind of EUT : COMPACT DISC RECEIVER	Power : AC120V / 60Hz
Model No. : HCD-U1BT	Temp /Humi% : 26deg.C / 70%
Serial No. : 004	Operator : Yasuyuki Fukui

Mode / Remarks : TX 2402MHz BT DH5

LIMIT : FCC15C § 15.207 (QP) / RSS-Gen / RSS-210  
 FCC15C § 15.207 (AV) / RSS-Gen / RSS-210

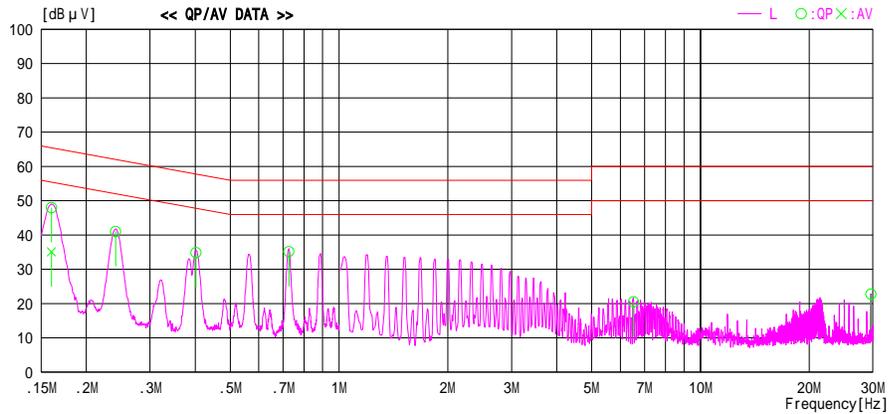
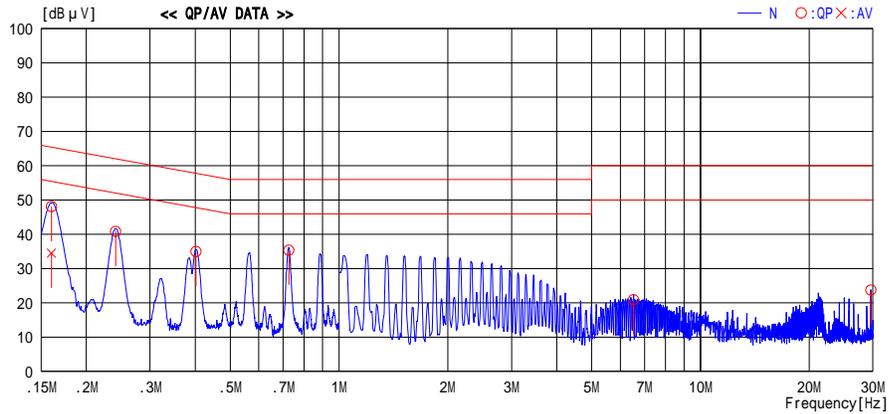


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LISN LOSS+CABLE LOSS)  
 Except for the above table : adequate margin data below the limits.

**Conducted Emission**

**DATA OF CONDUCTED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
Date : 2006/06/28 03:55:25

Applicant : Sony EMCS Corporation Saitama TEC Report No. : 26IE0234-HO  
Kind of EUT : COMPACT DISC RECEIVER Power : AC120V / 60Hz  
Model No. : HCD-U1BT Temp /Humi% : 26deg.C / 70%  
Serial No. : 004 Operator : Yasuyuki Fukui

Mode / Remarks : TX 2402MHz BT DH5

LIMIT : FCC15C § 15.207 (QP) / RSS-Gen / RSS-210  
FCC15C § 15.207 (AV) / RSS-Gen / RSS-210

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]	
0.16020	48.0	34.4	0.1	48.1	34.5	65.5	55.5	17.4	21.0	N
0.24095	40.6	----	0.2	40.8	----	62.1	----	21.3	----	N
0.40245	34.8	----	0.2	35.0	----	57.8	----	22.8	----	N
0.72630	35.1	----	0.3	35.4	----	56.0	----	20.6	----	N
6.52596	20.1	----	0.8	20.9	----	60.0	----	39.1	----	N
29.56857	21.7	----	2.0	23.7	----	60.0	----	36.3	----	N
0.16020	47.9	35.0	0.1	48.0	35.1	65.5	55.5	17.5	20.4	L
0.24095	40.8	----	0.2	41.0	----	62.1	----	21.1	----	L
0.40245	34.7	----	0.2	34.9	----	57.8	----	22.9	----	L
0.72630	34.9	----	0.3	35.2	----	56.0	----	20.8	----	L
6.52596	19.7	----	0.8	20.5	----	60.0	----	39.5	----	L
29.56857	20.7	----	2.0	22.7	----	60.0	----	37.3	----	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.4 Semi Anechoic Chamber  
 Date : 2006/06/28 04:09:43

Applicant : Sony EMCS Corporation Saitama TEC Kind of EUT : COMPACT DISC RECEIVER Model No. : HCD-U1BT Serial No. : 004	Report No. : 26IE0234-HO Power : AC120V / 60Hz Temp /Humi% : 26deg.C / 70% Operator : Yasuyuki Fukui
Mode / Remarks : TX 2441MHz BT DH5	
LIMIT : FCC15C § 15.207 (QP) / RSS-Gen / RSS-210 FCC15C § 15.207 (AV) / RSS-Gen / RSS-210	

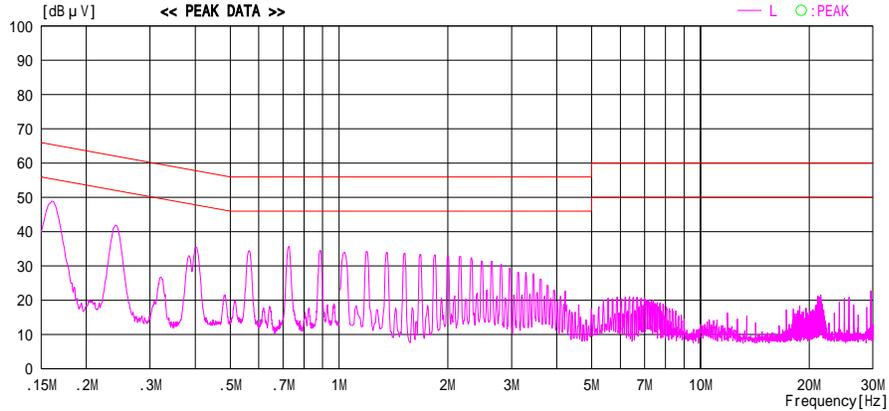
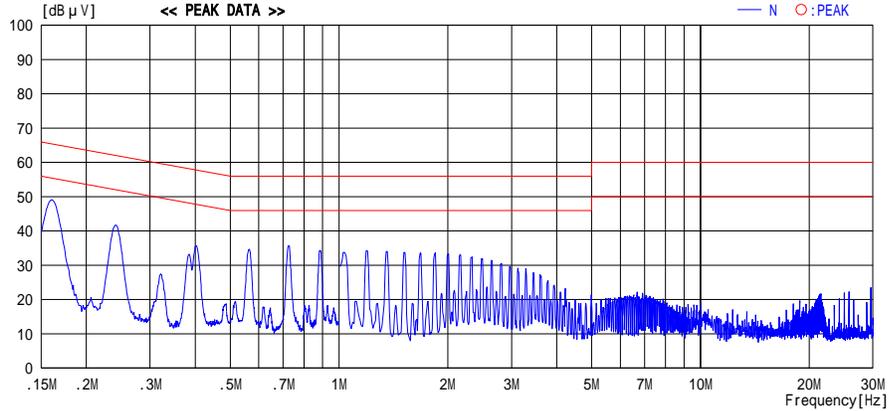


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LIISN LOSS+CABLE LOSS)  
 Except for the above table : adequate margin data below the limits.

## Conducted Emission

### DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
 Date : 2006/06/28 04:14:47

Applicant : Sony EMCS Corporation Saitama TEC Kind of EUT : COMPACT DISC RECEIVER Model No. : HCD-U1BT Serial No. : 004	Report No. : 26IE0234-HO Power : AC120V / 60Hz Temp /Humi% : 26deg.C / 70% Operator : Yasuyuki Fukui
Mode / Remarks : TX 2480MHz BT DH5	
LIMIT : FCC15C § 15.207 (QP) / RSS-Gen / RSS-210 FCC15C § 15.207 (AV) / RSS-Gen / RSS-210	

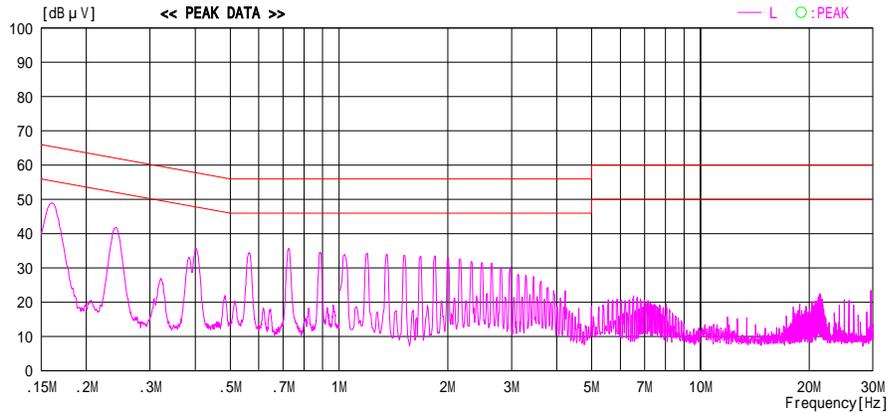
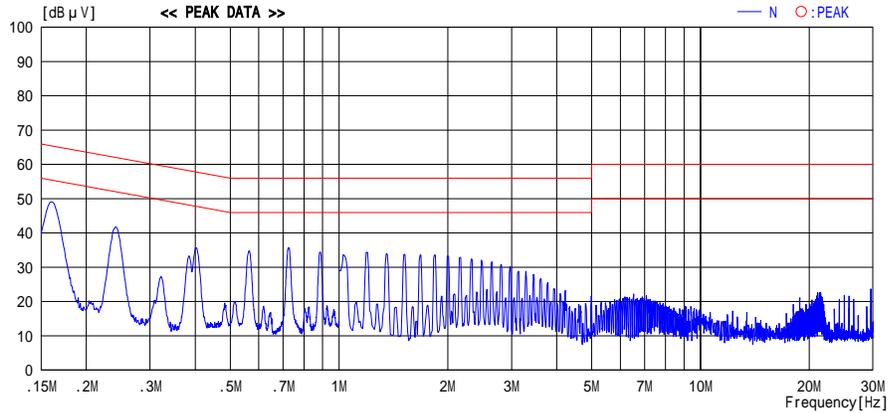


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LIISN LOSS+CABLE LOSS)  
 Except for the above table : adequate margin data below the limits.

## Conducted Emission

### DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
Date : 2006/06/28 03:47:39

Applicant	: Sony EMCS Corporation Saitama TEC	Report No.	: 261E0234-HO
Kind of EUT	: COMPACT DISC RECEIVER	Power	: AC120V / 60Hz
Model No.	: HCD-U1BT	Temp /Humi%	: 26deg.C / 70%
Serial No.	: 004	Operator	: Yasuyuki Fukui

Mode / Remarks : RX 2441MHz BT DH5

LIMIT : FCC15C § 15.207 (QP) / RSS-Gen / RSS-210  
FCC15C § 15.207 (AV) / RSS-Gen / RSS-210

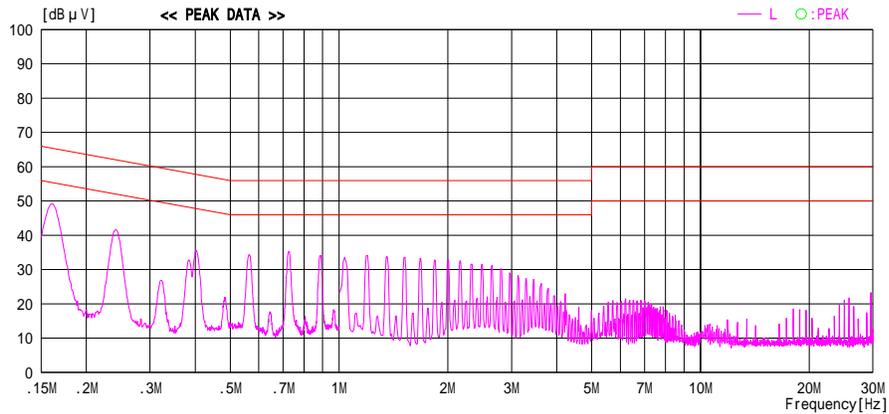
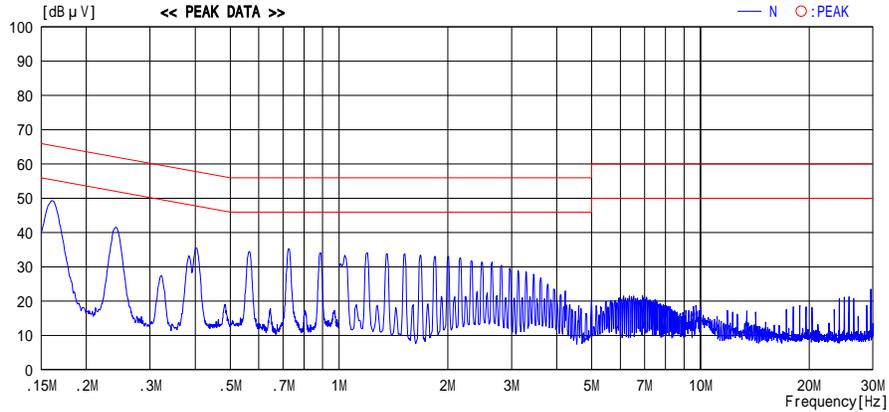


CHART:WITH FACTOR,Peak hold data.Data is uncorrected. CALCURATION:RESULT=READING+C.F(LIEN LOSS+CABLE LOSS)  
Except for the above table : adequate margin data below the limits.

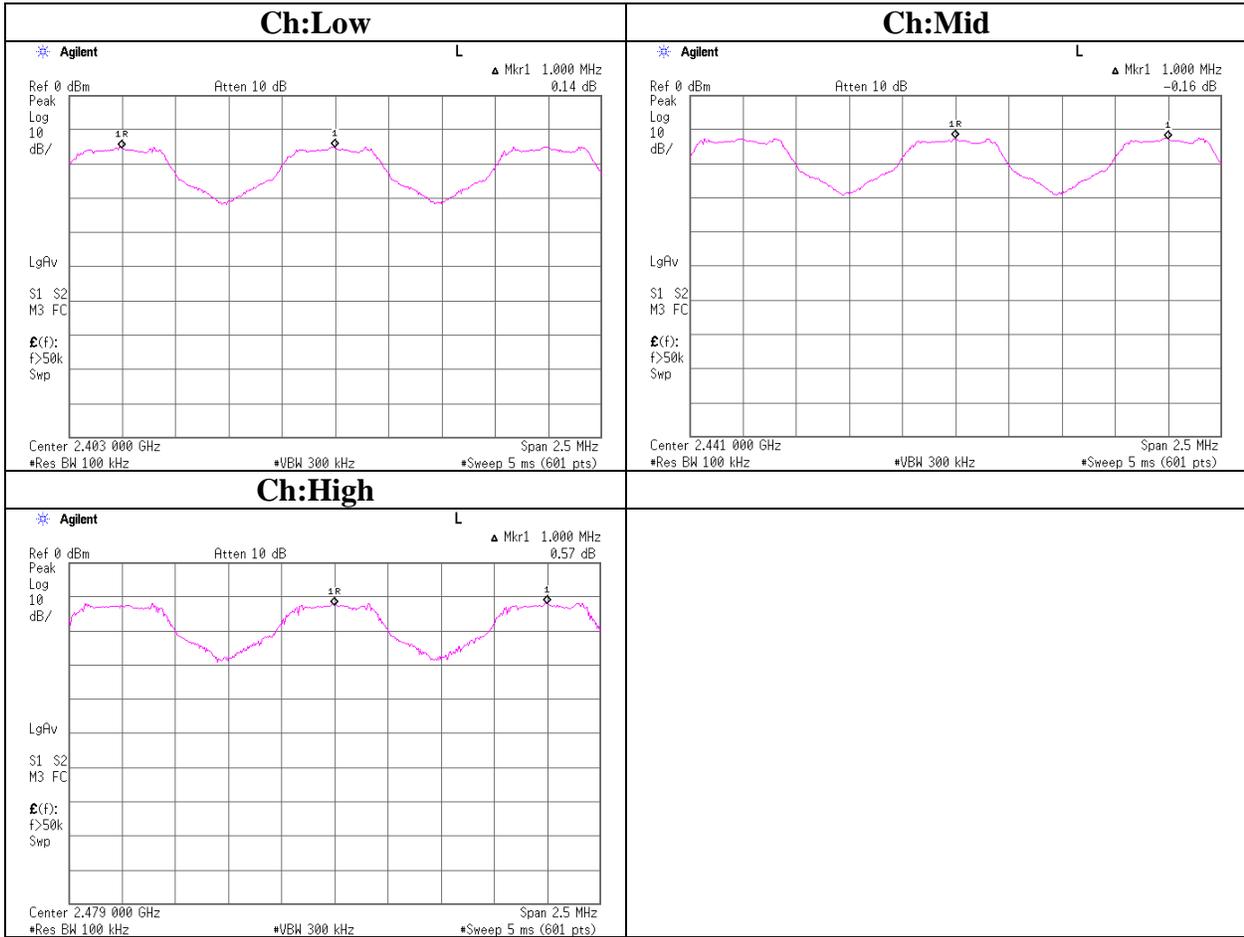
### Carrier Frequency Separation

UL Apex Co., Ltd.  
Head Office EMC Lab. No.7 Shielded Room

COMPANY	: Sony EMCS Corporation Saitama TEC	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)
EQUIPMENT	: COMPACT DISC RECEIVER	TEST DISTANCE	: -
MODEL	: HCD-U1BT	DATE	: 07/05/2006
S/N	: 004	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 64%
MODE	: Tx (Hopping on)	ENGINEER	: Takumi Shimada

Ch	Freq. [MHz]	Channel separation [MHz]	Limit
Low	2402.0	1.000	>the 20dB Bandwidth or 25[kHz](whichever is greater)
Mid	2441.0	1.000	>the 20dB Bandwidth or 25[kHz](whichever is greater)
High	2480.0	1.000	>the 20dB Bandwidth or 25[kHz](whichever is greater)

### Carrier Frequency Separation



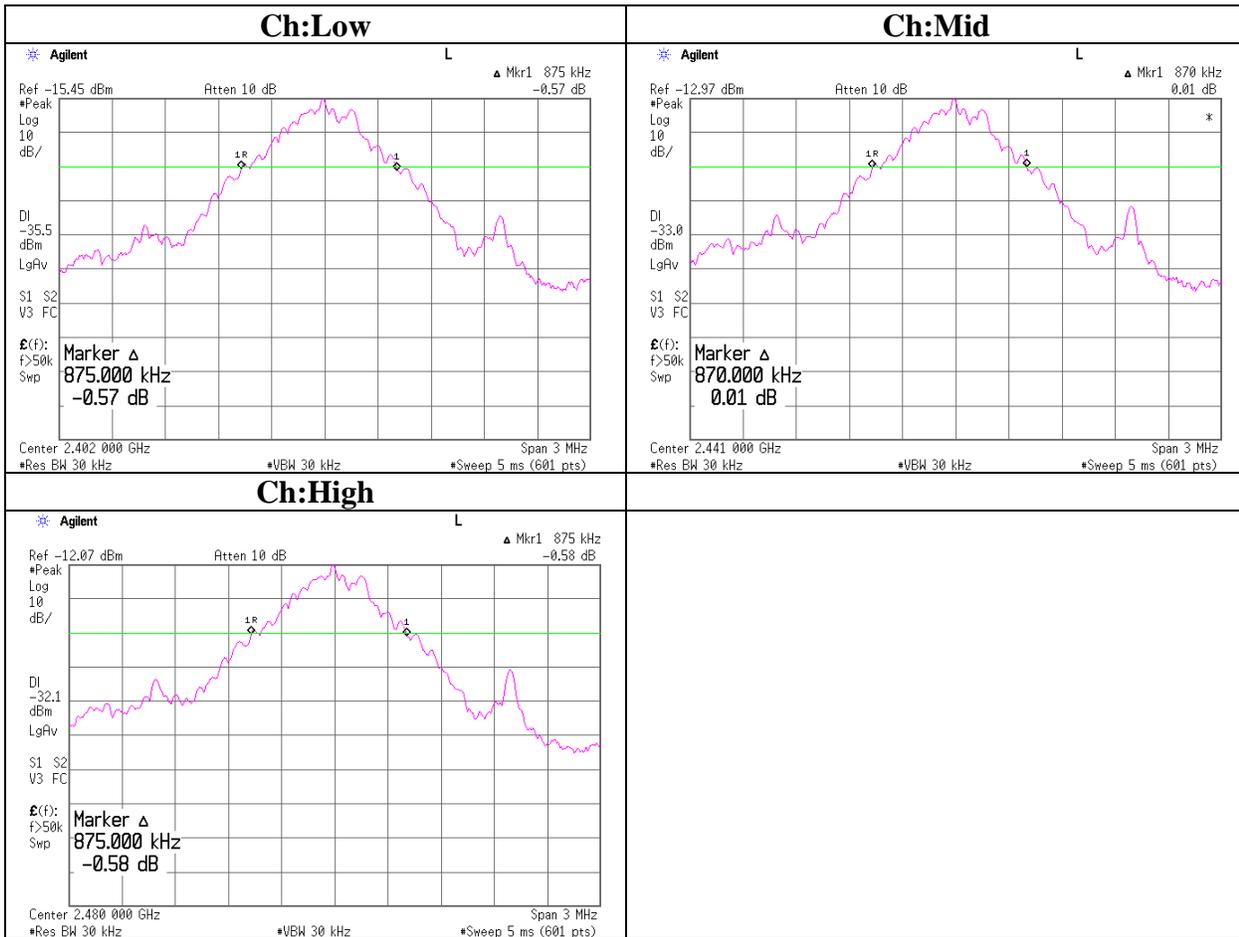
## 20dB Bandwidth

UL Apex Co., Ltd.  
Head Office EMC Lab. No.7 Shielded Room

COMPANY : Sony EMCS Corporation Saitama TEC REGULATION : FCC Part15 Subpart C 15.247(a)(1)  
EQUIPMENT : COMPACT DISC RECEIVER TEST DISTANCE : -  
MODEL : HCD-U1BT DATE : 07/05/2006  
S/ N : 004 TEMPERATURE : 25deg.C  
POWER : AC120V / 60Hz HUMIDITY : 64%  
MODE : Tx (Hopping off) ENGINEER : Takumi Shimada

Ch	Freq. [MHz]	20dB Bandwidth [MHz]	Limit [MHz]
Low	2402.0	0.875	-
Mid	2441.0	0.870	-
High	2480.0	0.875	-

## 20dB Bandwidth



### Number of Hopping Frequency

UL Apex Co., Ltd.  
Head Office EMC Lab. No.7 Shielded Room

COMPANY	: Sony EMCS Corporation Saitama TEC	REGULATION	: FCC Part15 Subpart C 15.247(a)(1)(iii)
EQUIPMENT	: COMPACT DISC RECEIVER	TEST DISTANCE	: -
MODEL	: HCD-U1BT	DATE	: 07/05/2006
S/ N	: 004	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 64%
MODE	: Tx (Hopping on)	ENGINEER	: Takumi Shimada

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

### Number of Hopping Frequency



## Dwell time

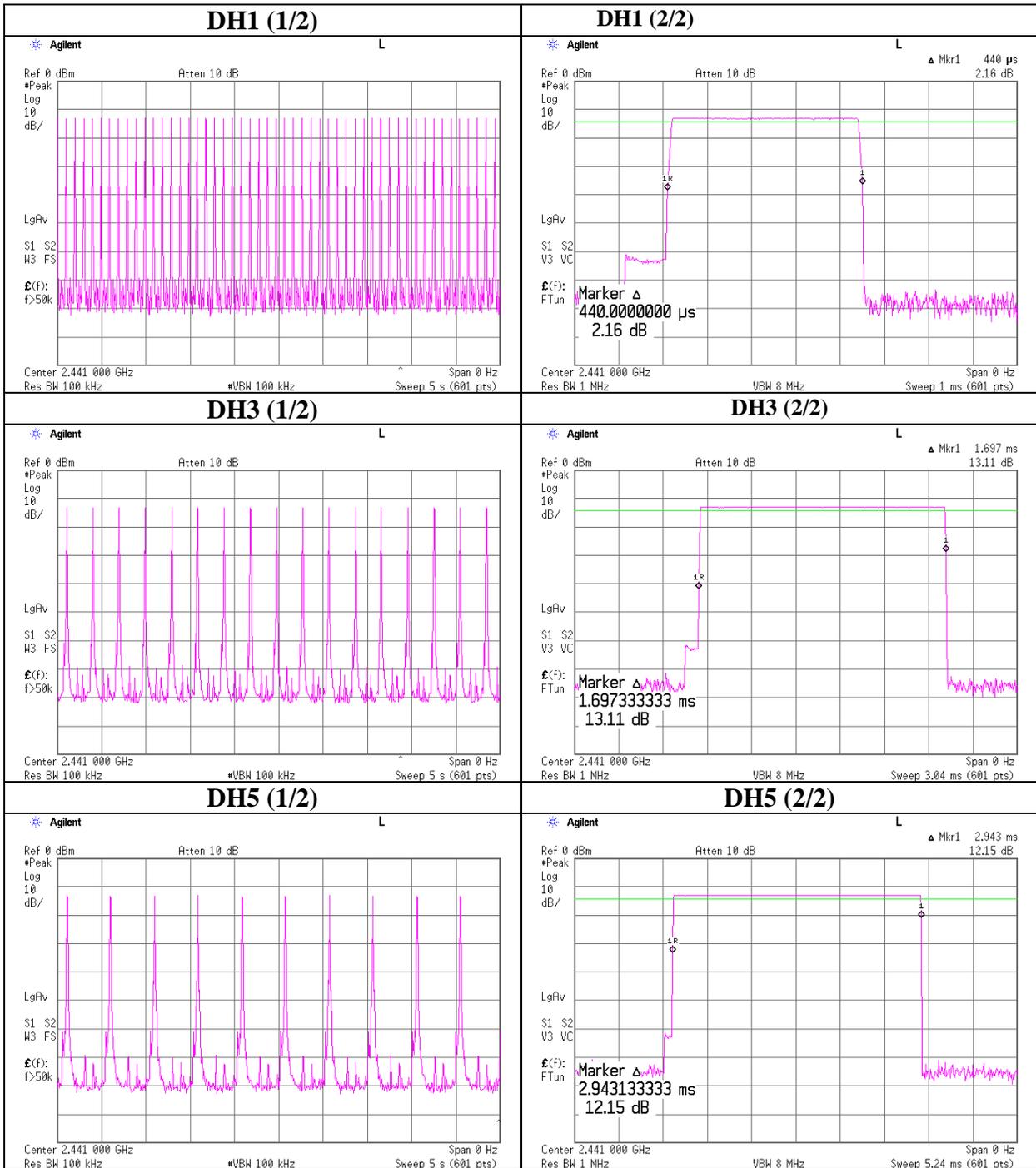
UL Apex Co., Ltd.  
Head Office EMC Lab. No.7 Shielded Room

COMPANY : Sony EMCS Corporation Saitama TEC  
EQUIPMENT : COMPACT DISC RECEIVER  
MODEL : HCD-U1BT  
S/N : 004  
POWER : AC120V / 60Hz  
MODE : Tx (Hopping on)

REGULATION : FCC Part15 Subpart C 15.247(a)(1)(iii)  
TEST DISTANCE : -  
DATE : 07/05/2006  
TEMPERATURE : 24.5deg.C  
HUMIDITY : 64%  
ENGINEER : Takumi Shimada

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	51 times /5sec. x 31.6 = 322 times	0.440	142	400
DH3	17 times / 5sec. x 31.6 = 107 times	1.697	182	400
DH5	10 times / 5 sec. x 31.6 = 63 times	2.943	186	400

### Dwell time



### Maximum Peak Output Power

UL Apex Co., Ltd.  
Head Office EMC Lab. No.7 Shielded Room

COMPANY	: Sony EMCS Corporation Saitama TEC	REGULATION	: FCC Part15 Subpart C 15.247(b)(1)
EQUIPMENT	: COMPACT DISC RECEIVER	TEST DISTANCE	: -
MODEL	: HCD-U1BT	DATE	: 07/05/2006
S/N	: 004	TEMPERATURE	: 25deg.C
POWER	: AC120V / 60Hz	HUMIDITY	: 63%
MODE	: Tx (Hopping off)	ENGINEER	: Takumi Shimada

Ch	Freq. [MHz]	P/M Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2402.0	-5.39	2.50	0.00	-2.89	0.51	20.97	125	23.86
Mid	2441.0	-4.68	2.60	0.00	-2.08	0.62	20.97	125	23.05
High	2480.0	-4.48	2.70	0.00	-1.78	0.66	20.97	125	22.75

Sample Calculation:

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

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

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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Facsimile : +81 596 24 8124

MF060b(14.06.06)

## Radiated Spurious Emission

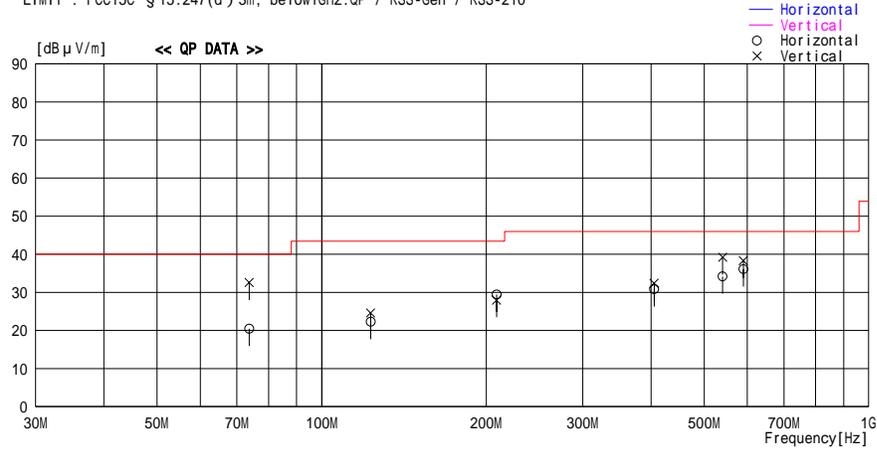
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
Date : 2006/06/27 21:06:52

Company : Sony EMCS Corporation Saitama TEC Report No. : 261E0234-HO  
Kind of EUT : COMPACT DISC RECEIVER Power : AC 120V / 60Hz  
Model No. : HCD-U1BT Temp./Humi. : 26deg.C. / 70%  
Serial No. : 004 Operator : Yasuyuki Fukui

Mode / Remarks : Tx 2402MHz BT DH5

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP / RSS-Gen / RSS-210



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss&Gain [dB]				
73.720	37.3	QP	7.4	-24.2	20.5	Hori.	40.0	19.5
73.720	49.4	QP	7.4	-24.2	32.6	Vert.	40.0	7.4
122.878	32.1	QP	13.7	-23.5	22.3	Hori.	43.5	21.2
122.878	34.4	QP	13.7	-23.5	24.6	Vert.	43.5	18.9
208.890	34.9	QP	17.2	-22.6	29.5	Hori.	43.5	14.0
208.890	33.4	QP	17.2	-22.6	28.0	Vert.	43.5	15.5
405.282	33.9	QP	18.1	-21.2	30.8	Hori.	46.0	15.2
405.282	35.5	QP	18.1	-21.2	32.4	Vert.	46.0	13.6
540.664	34.4	QP	20.2	-20.4	34.2	Hori.	46.0	11.8
540.664	39.4	QP	20.2	-20.4	39.2	Vert.	46.0	6.8
589.815	35.9	QP	20.4	-20.2	36.1	Hori.	46.0	9.9
589.815	38.1	QP	20.4	-20.2	38.3	Vert.	46.0	7.7

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

## Radiated Spurious Emission

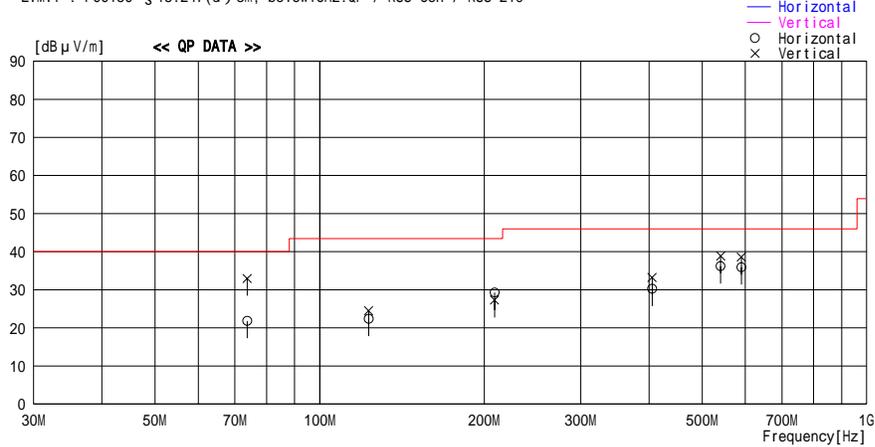
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
Date : 2006/06/27 21:48:42

Company : Sony EMCS Corporation Saitama TEC Report No. : 26IE0234-HO  
Kind of EUT : COMPACT DISC RECEIVER Power : AC 120V / 60Hz  
Model No. : HCD-U1BT Temp./Humi. : 26deg.C. / 70%  
Serial No. : 004 Operator : Yasuyuki Fukui

Mode / Remarks : Tx 2441MHz BT DH5

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP / RSS-Gen / RSS-210



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss&Gan [dB]				
73.720	38.6	QP	7.4	-24.2	21.8	Hori.	40.0	18.2
73.720	49.8	QP	7.4	-24.2	33.0	Vert.	40.0	7.0
122.878	34.3	QP	13.7	-23.5	24.5	Vert.	43.5	19.0
122.878	32.2	QP	13.7	-23.5	22.4	Hori.	43.5	21.1
208.893	34.7	QP	17.2	-22.6	29.3	Hori.	43.5	14.2
208.893	32.7	QP	17.2	-22.6	27.3	Vert.	43.5	16.2
405.282	33.4	QP	18.1	-21.2	30.3	Hori.	46.0	15.7
405.282	36.3	QP	18.1	-21.2	33.2	Vert.	46.0	12.8
540.664	36.4	QP	20.2	-20.4	36.2	Hori.	46.0	9.8
540.664	39.1	QP	20.2	-20.4	38.9	Vert.	46.0	7.1
589.815	35.7	QP	20.4	-20.2	35.9	Hori.	46.0	10.1
589.815	38.4	QP	20.4	-20.2	38.6	Vert.	46.0	7.4

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

## Radiated Spurious Emission

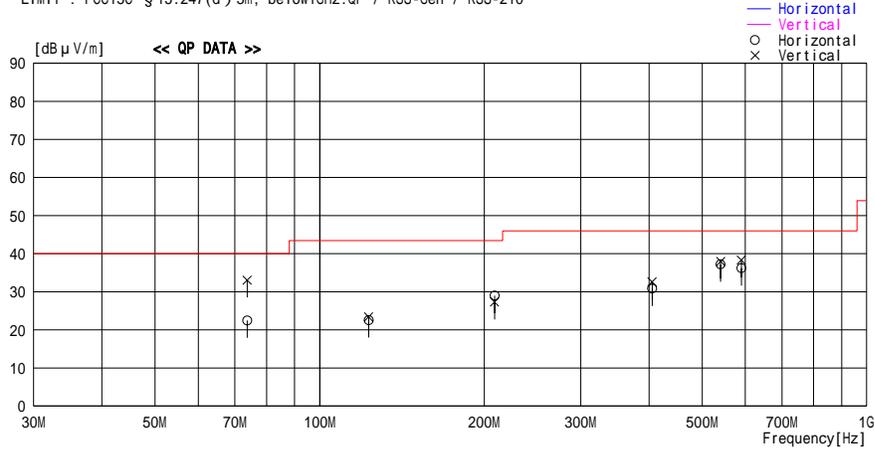
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
Date : 2006/06/27 22:14:57

Company : Sony EMCS Corporation Saitama TEC      Report No. : 261E0234-HO  
Kind of EUT : COMPACT DISC RECEIVER              Power : AC 120V / 60Hz  
Model No. : HCD-U1BT                                  Temp./Humi. : 26deg.C. / 70%  
Serial No. : 004    Operator : Yasuyuki Fukui

Mode / Remarks : Tx 2480MHz BT DH5

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP / RSS-Gen / RSS-210



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]				
73.720	39.3	QP	7.4	-24.2	22.5	Hori.	40.0	17.5
73.720	49.9	QP	7.4	-24.2	33.1	Vert.	40.0	6.9
122.879	32.4	QP	13.7	-23.5	22.6	Hori.	43.5	20.9
122.879	33.2	QP	13.7	-23.5	23.4	Vert.	43.5	20.1
208.893	34.4	QP	17.2	-22.6	29.0	Hori.	43.5	14.5
208.893	32.7	QP	17.2	-22.6	27.3	Vert.	43.5	16.2
405.282	33.9	QP	18.1	-21.2	30.8	Hori.	46.0	15.2
405.282	35.7	QP	18.1	-21.2	32.6	Vert.	46.0	13.4
540.664	37.4	QP	20.2	-20.4	37.2	Hori.	46.0	8.8
540.664	38.2	QP	20.2	-20.4	38.0	Vert.	46.0	8.0
589.815	36.0	QP	20.4	-20.2	36.2	Hori.	46.0	9.8
589.815	38.1	QP	20.4	-20.2	38.3	Vert.	46.0	7.7

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

## Radiated Spurious Emission

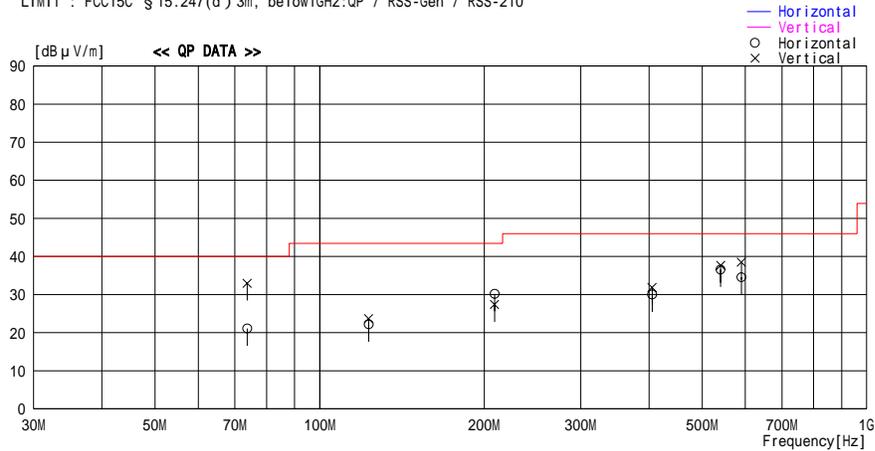
### DATA OF RADIATED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
Date : 2006/06/27 22:37:39

Company : Sony EMCS Corporation Saitama TEC      Report No. : 26IE0234-H0  
Kind of EUT : COMPACT DISC RECEIVER              Power : AC 120V / 60Hz  
Model No. : HCD-U1BT                                  Temp./Humi. : 26deg.C. / 70%  
Serial No. : 004    Operator : Yasuyuki Fukui

Mode / Remarks : Rx 2441MHz BT DH5

LIMIT : FCC15C § 15.247(d) 3m, below1GHz:QP / RSS-Gen / RSS-210



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Gain [dB]				
73.720	37.9	QP	7.4	-24.2	21.1	Hori.	40.0	18.9
73.720	49.8	QP	7.4	-24.2	33.0	Vert.	40.0	7.0
122.879	32.0	QP	13.7	-23.5	22.2	Hori.	43.5	21.3
122.879	33.5	QP	13.7	-23.5	23.7	Vert.	43.5	19.8
208.893	35.6	QP	17.2	-22.6	30.2	Hori.	43.5	13.3
208.893	32.8	QP	17.2	-22.6	27.4	Vert.	43.5	16.1
405.282	33.1	QP	18.1	-21.2	30.0	Hori.	46.0	16.0
405.282	35.0	QP	18.1	-21.2	31.9	Vert.	46.0	14.1
540.664	36.8	QP	20.2	-20.4	36.6	Hori.	46.0	9.4
540.664	37.9	QP	20.2	-20.4	37.7	Vert.	46.0	8.3
589.815	34.4	QP	20.4	-20.2	34.6	Hori.	46.0	11.4
589.815	38.3	QP	20.4	-20.2	38.5	Vert.	46.0	7.5

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)

## Radiated Spurious Emission

UL Apex Co., Ltd.  
Head Office EMC Lab. No.4 Semi Anechoic Chamber

Company : Sony EMCS Corporation Saitama TEC	REPORT NO : 26IE0234-HO	UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Equipment : COMPACT DISC RECEIVER	REGULATION : Fcc Part15 Subpart C 15.247(d)	
Model : HCD-U1BT	TEST DISTANCE : 3/0.5m	
Sample No. : 004	DATE : 06/27/2006	
Power : AC120V / 60Hz	TEMPERATURE : 26deg.C	
Mode : Bluetooth, Tx 2402MHz	HUMIDITY : 70%	
Remarks : Normal Position	ENGINEER : Yasuyuki Fukui	

**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 or ATT [dB]	RESULT		Limit PK [dBuV/m]	MARGIN			
		HOR	VER					HOR	VER		HOR	VER		
		[dBuV]												
<b>Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss</b>														
1	1602.0	55.8	52.4	26.0	36.5	2.1	0.0	47.4	44.0	74.0	26.6	30.0		
2	2390.0	44.7	45.4	30.5	36.3	2.3	0.0	41.2	41.9	74.0	32.8	32.1		
3	2400.0	45.6	46.5	30.5	36.3	2.3	0.0	42.1	43.0	74.0	31.9	31.0		
4	4804.0	52.1	49.5	35.3	35.9	3.4	0.1	55.0	52.4	74.0	19.0	21.6		
5	7206.0	NS	NS	37.6	35.8	4.0	0.3	-	-	74.0	-	-		
6	9608.0	NS	NS	36.6	31.7	4.7	1.0	-	-	74.0	-	-		
<b>Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac</b>														
7	12010.0	NS	NS	40.3	31.3	5.6	0.0	-	-	74.0	-	-		
8	14412.0	NS	NS	43.2	31.0	6.0	0.0	-	-	74.0	-	-		
9	16814.0	NS	NS	46.4	30.8	6.7	0.0	-	-	74.0	-	-		
10	19216.0	NS	NS	39.0	30.0	7.2	0.0	-	-	74.0	-	-		
11	21618.0	NS	NS	39.3	30.3	7.9	0.0	-	-	74.0	-	-		
12	24020.0	47.6	47.7	39.7	35.4	8.2	0.0	44.5	44.6	74.0	29.5	29.4		

**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		
		[dBuV]												
<b>Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss</b>														
1	1602.0	52.7	47.7	26.0	36.5	2.1	0.0	44.3	39.3	54.0	9.7	14.7		
2	2390.0	33.2	33.3	30.5	36.3	2.3	0.0	29.7	29.8	54.0	24.3	24.2		
3	2400.0	34.7	36.2	30.5	36.3	2.3	0.0	31.2	32.7	54.0	22.8	21.3		
4	4804.0	44.8	41.4	35.3	35.9	3.4	0.1	47.7	44.3	54.0	6.3	9.7		
5	7206.0	NS	NS	37.6	35.8	4.0	0.3	-	-	54.0	-	-		
6	9608.0	NS	NS	36.6	31.7	4.7	1.0	-	-	54.0	-	-		
<b>Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac</b>														
7	12010.0	NS	NS	40.3	31.3	5.6	0.0	-	-	54.0	-	-		
8	14412.0	NS	NS	43.2	31.0	6.0	0.0	-	-	54.0	-	-		
9	16814.0	NS	NS	46.4	30.8	6.7	0.0	-	-	54.0	-	-		
10	19216.0	NS	NS	39.0	30.0	7.2	0.0	-	-	54.0	-	-		
11	21618.0	NS	NS	39.3	30.3	7.9	0.0	-	-	54.0	-	-		
12	24020.0	33.9	34.0	39.7	35.4	8.2	0.0	30.8	30.9	54.0	23.2	23.1		

Test Distance 0.5m : Distance Factor(Dfac) = 20log(3/0.5) = 15.6dB

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

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

\*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

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

\*NS: Non signal

**UL Apex Co., Ltd.**

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MF060b(14.06.06)

## Radiated Spurious Emission

UL Apex Co., Ltd.  
Head Office EMC Lab. No.4 Semi Anechoic Chamber

Company : Sony EMCS Corporation Saitama TEC	REPORT NO : 26IE0234-HO
Equipment : COMPACT DISC RECEIVER	REGULATION : Fcc Part15 Subpart C 15.247(d)
Model : HCD-U1BT	TEST DISTANCE : 3/0.5m
Sample No. : 004	DATE : 06/27/2006
Power : AC120V / 60Hz	TEMPERATURE : 26deg.C
Mode : Bluetooth, Tx 2441MHz	HUMIDITY : 70%
Remarks : Normal Position	ENGINEER : Yasuyuki Fukui

**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 or ATT [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
<b>Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss</b>												
1	1628.1	54.2	51.9	26.4	36.5	2.2	0.0	46.3	44.0	74.0	27.7	30.0
2	4882.0	51.4	50.9	35.6	35.9	3.3	0.1	54.5	54.0	74.0	19.5	20.0
3	7323.0	NS	NS	37.9	31.7	4.1	1.1	-	-	74.0	-	-
4	9764.0	NS	NS	36.6	31.8	4.7	1.1	-	-	74.0	-	-
<b>Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac</b>												
5	12205.0	NS	NS	40.3	36.0	5.6	0.0	-	-	74.0	-	-
6	14646.0	NS	NS	43.1	31.1	6.1	0.0	-	-	74.0	-	-
7	17087.0	NS	NS	46.1	30.7	6.7	0.0	-	-	74.0	-	-
8	19528.0	NS	NS	39.1	29.7	7.2	0.0	-	-	74.0	-	-
9	21969.0	NS	NS	39.6	30.7	7.9	0.0	-	-	74.0	-	-
10	24410.0	48.6	48.4	39.8	35.9	8.3	0.0	45.2	45.0	74.0	28.8	29.0

**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
<b>Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss</b>												
1	1628.1	50.9	46.8	26.4	36.5	2.2	0.0	43.0	38.9	54.0	11.0	15.1
2	4882.0	43.3	43.5	35.6	35.9	3.3	0.1	46.4	46.6	54.0	7.6	7.4
3	7323.0	NS	NS	37.9	31.7	4.1	1.1	-	-	54.0	-	-
4	9764.0	NS	NS	36.6	31.8	4.7	1.1	-	-	54.0	-	-
<b>Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac</b>												
5	12205.0	NS	NS	40.3	36.0	5.6	0.0	-	-	54.0	-	-
6	14646.0	NS	NS	43.1	31.1	6.1	0.0	-	-	54.0	-	-
7	17087.0	NS	NS	46.1	30.7	6.7	0.0	-	-	54.0	-	-
8	19528.0	NS	NS	39.1	29.7	7.2	0.0	-	-	54.0	-	-
9	21969.0	NS	NS	39.6	30.7	7.9	0.0	-	-	54.0	-	-
10	24410.0	35.3	35.2	39.8	35.9	8.3	0.0	31.9	31.8	54.0	22.1	22.2

Test Distance 0.5m : Distance Factor(Dfac) = 20log(3/0.5) = 15.6dB

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

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

\*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

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

\*NS: Non signal

## Radiated Spurious Emission

UL Apex Co., Ltd.  
Head Office EMC Lab. No.4 Semi Anechoic Chamber

Company : Sony EMCS Corporation Saitama TEC	REPORT NO : 26IE0234-HO	REGULATION : Fcc Part15 Subpart C 15.247(d)
Equipment : COMPACT DISC RECEIVER	TEST DISTANCE : 3/0.5m	DATE : 06/27/2006
Model : HCD-U1BT	TEMPERATURE : 26deg.C	HUMIDITY : 70%
Sample No. : 004	HUMIDITY : 70%	ENGINEER : Yasuyuki Fukui
Power : AC120V / 60Hz		
Mode : Bluetooth, Tx 2480MHz		
Remarks : Normal Position		

**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 or ATT [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
<b>Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss</b>												
1	1654.1	56.4	51.6	26.8	36.4	2.2	0.0	49.0	44.2	74.0	25.0	29.8
2	2483.5	44.7	45.3	30.3	36.3	2.4	0.0	41.1	41.7	74.0	32.9	32.3
3	4960.0	47.2	47.1	35.9	35.8	2.7	0.7	50.7	50.6	74.0	23.3	23.4
4	7440.0	NS	NS	37.8	31.9	4.2	1.1	-	-	74.0	-	-
5	9920.0	NS	NS	36.3	32.0	4.7	1.2	-	-	74.0	-	-
<b>Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac</b>												
6	12400.0	NS	NS	40.5	30.7	5.7	0.0	-	-	74.0	-	-
7	14880.0	NS	NS	42.8	31.0	6.2	0.0	-	-	74.0	-	-
8	17360.0	NS	NS	46.2	31.0	6.7	0.0	-	-	74.0	-	-
9	19840.0	NS	NS	39.1	30.3	7.2	0.0	-	-	74.0	-	-
10	22320.0	NS	NS	39.5	30.7	7.9	0.0	-	-	74.0	-	-
11	24800.0	49.4	48.6	40.0	35.4	8.4	0.0	46.8	46.0	74.0	27.2	28.0

**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
<b>Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss</b>												
1	1654.1	53.7	46.4	26.8	36.4	2.2	0.0	46.3	39.0	54.0	7.7	15.0
2	2483.5	33.0	32.9	30.3	36.3	2.4	0.0	29.4	29.3	54.0	24.6	24.7
3	4960.0	37.8	36.7	35.9	35.8	2.7	0.7	41.3	40.2	54.0	12.7	13.8
4	7440.0	NS	NS	37.8	31.9	4.2	1.1	-	-	54.0	-	-
5	9920.0	NS	NS	36.3	32.0	4.7	1.2	-	-	54.0	-	-
<b>Test distance 0.5meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss - Dfac</b>												
6	12400.0	NS	NS	40.5	30.7	5.7	0.0	-	-	54.0	-	-
7	14880.0	NS	NS	42.8	31.0	6.2	0.0	-	-	54.0	-	-
8	17360.0	NS	NS	46.2	31.0	6.7	0.0	-	-	54.0	-	-
9	19840.0	NS	NS	39.1	30.3	7.2	0.0	-	-	54.0	-	-
10	22320.0	NS	NS	39.5	30.7	7.9	0.0	-	-	54.0	-	-
11	24800.0	36.0	36.0	40.0	35.4	8.4	0.0	33.4	33.4	54.0	20.6	20.6

Test Distance 0.5m : Distance Factor(Dfac) = 20log(3/0.5) = 15.6dB

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

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

\*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.

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

\*NS: Non signal

## Radiated Spurious Emission

UL Apex Co., Ltd.  
Head Office EMC Lab. No.4 Semi Anechoic Chamber

Company	: Sony EMCS Corporation Saitama TEC	REPORT NO	: 26IE0234-HO
Equipment	: COMPACT DISC RECEIVER	REGULATION	: Fcc Part15 Subpart C 15.247(d)
Model	: HCD-U1BT	TEST DISTANCE	: 3m
Sample No.	: 004	DATE	: 06/27/2006
Power	: AC120V / 60Hz	TEMPERATURE	: 26deg.C
Mode	: Bluetooth, Rx 2441MHz	HUMIDITY	: 70%
Remarks	: Normal Position	ENGINEER	: Yasuyuki Fukui

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

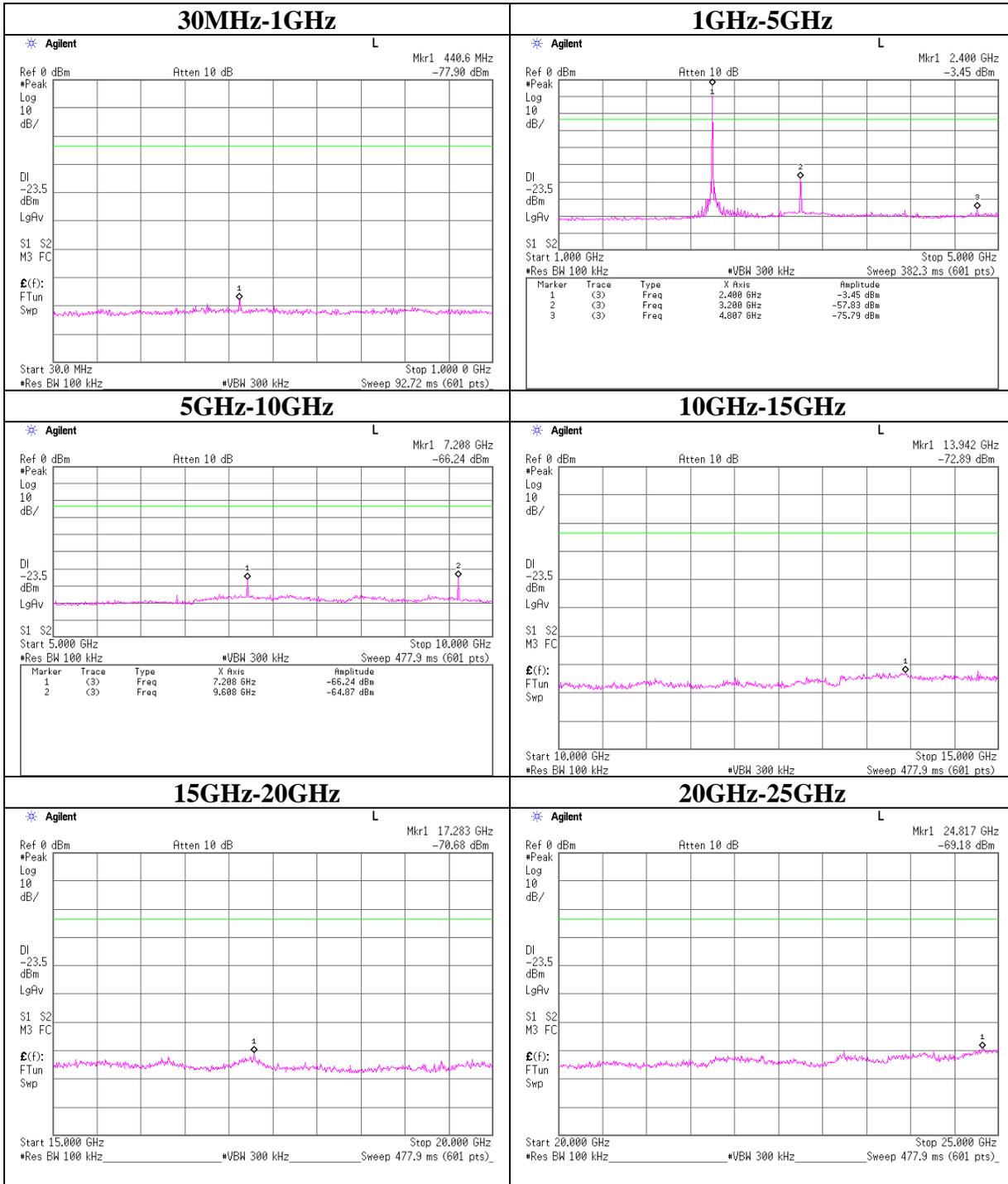
No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter or ATT [dB]	RESULT		Limit PK [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]		[dB]		
<b>Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss</b>												
1	1626.5	55.4	52.0	26.3	36.5	2.2	0.0	47.4	44.0	74.0	26.6	30.0
2	12205.0	43.6	44.5	40.3	36.0	5.6	0.0	53.5	54.4	74.0	20.5	19.6

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

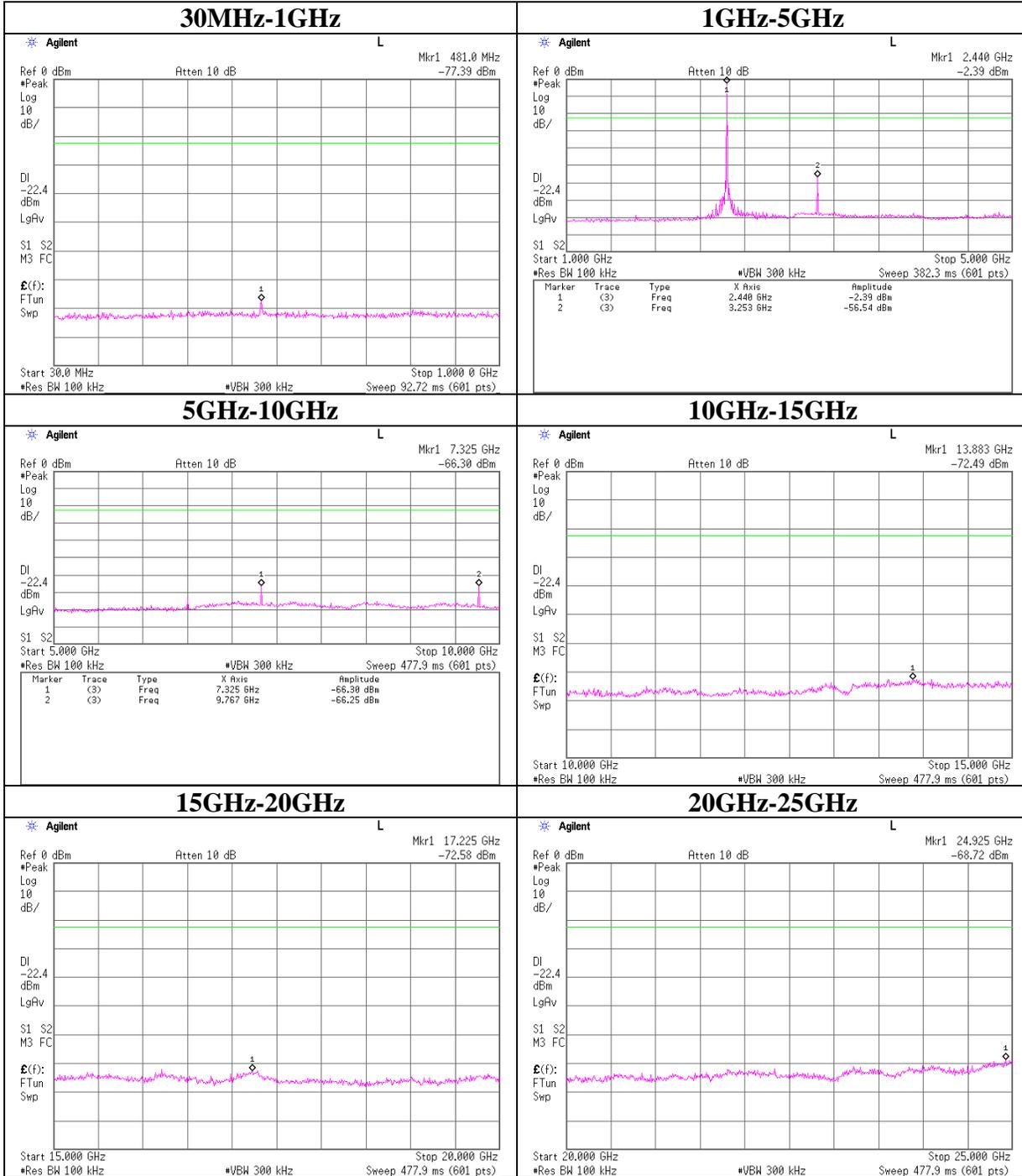
No.	FREQ [MHz]	S/A READING		ANT Factor [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	Hi-Pass Filter [dB]	RESULT		Limit AV [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]		[dB]		
<b>Test distance 3meters RESULT=Reading + ANT Factor - Amp Gain + Cable Loss + Filter Loss</b>												
1	1626.5	52.1	46.7	26.3	36.5	2.2	0.0	44.1	38.7	54.0	9.9	15.3
2	12205.0	31.9	31.9	40.3	36.0	5.6	0.0	41.8	41.8	54.0	12.2	12.2

- \*Except for the above table : All other spurious emissions were less than 20dB for the limit.
- \*In the frequency over the fifth harmonic, the noise from the EUT was not seen.The data above is its base noise.
- \*The result is rounded off to the second decimal place. Therefore, there may be 0.1 difference for the result.
- \*Hi-Pass Fiter was not used for factor 0.0dB of the above table.
- \*NS: Non signal

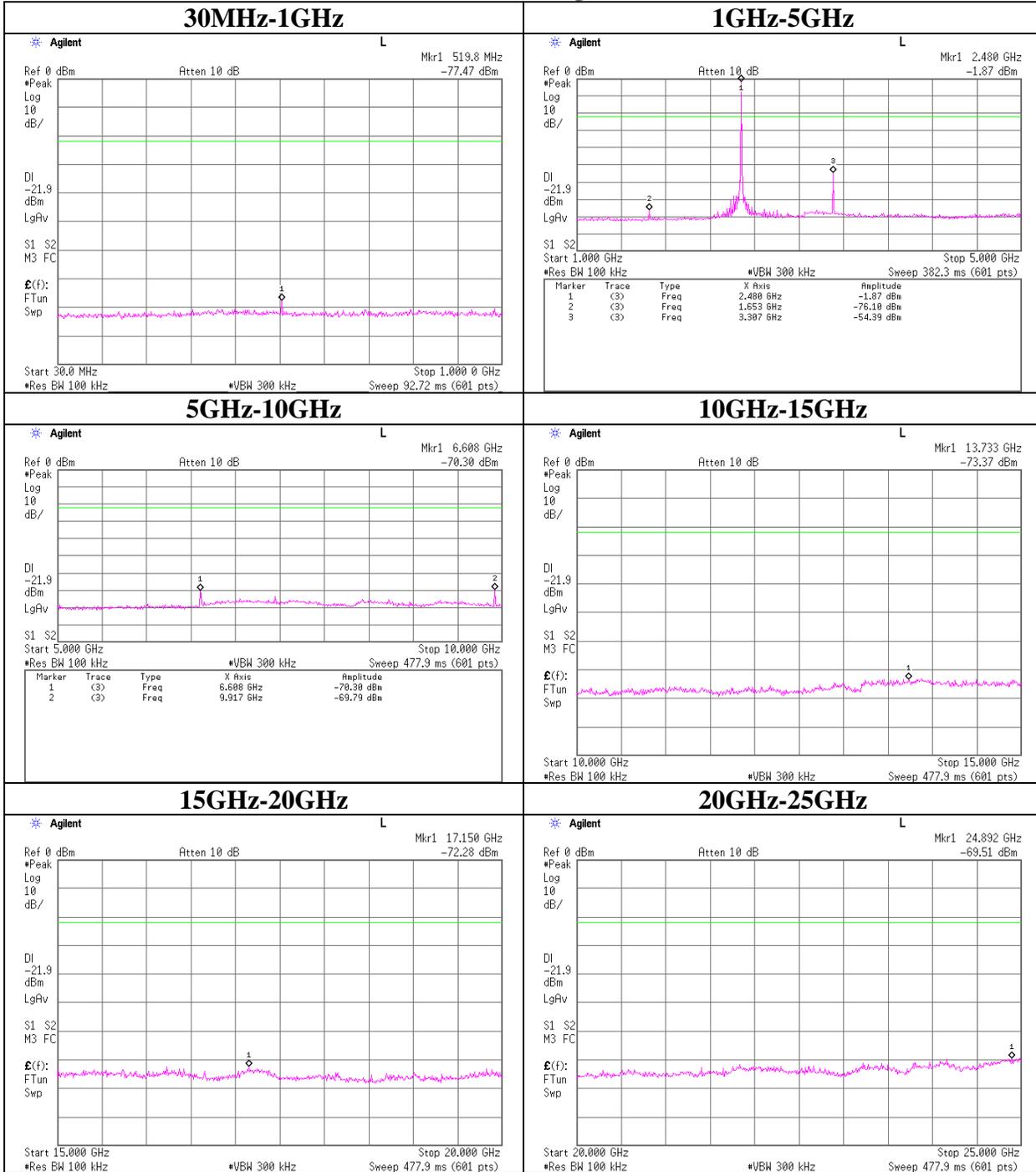
**Conducted Spurious Emission**  
**Ch:Low**



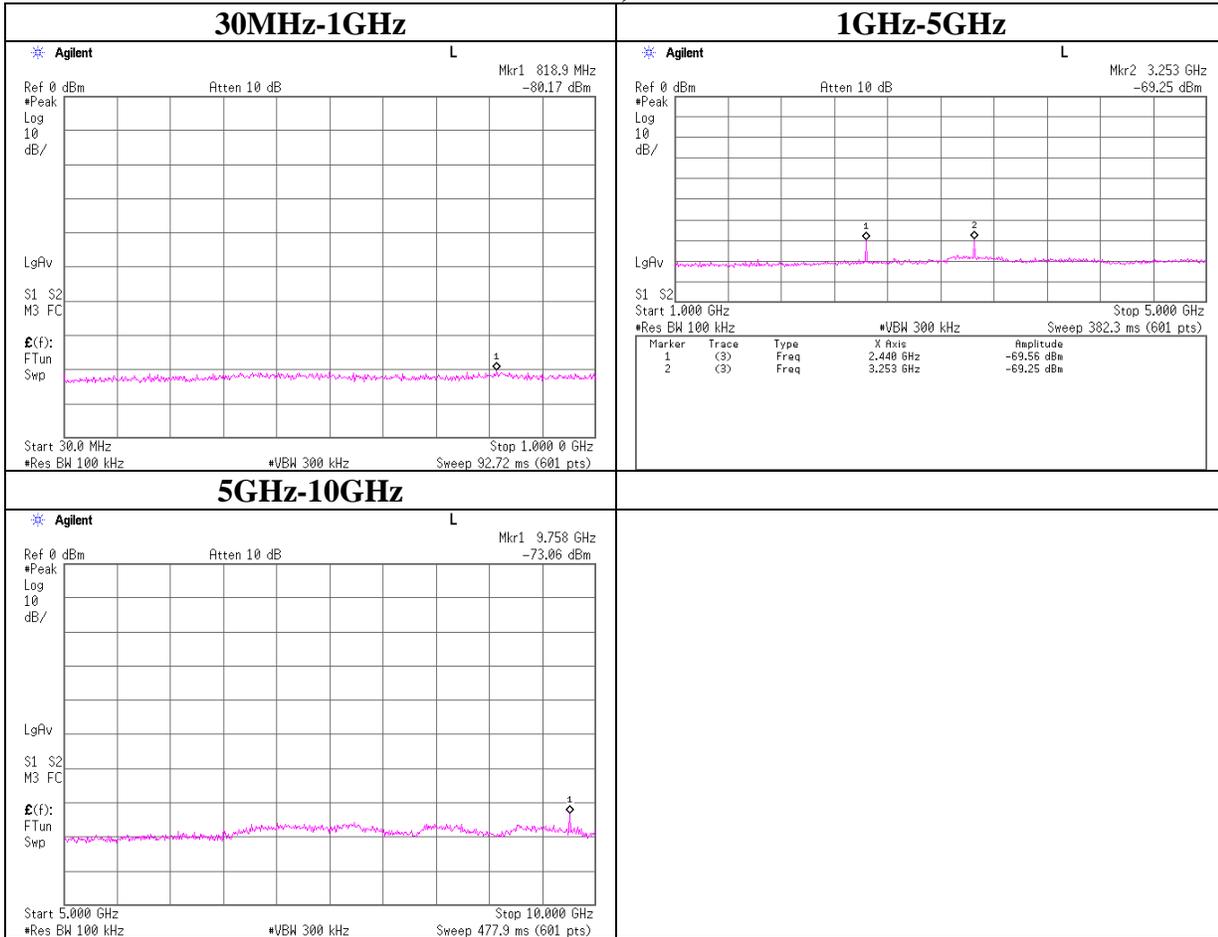
**Conducted Spurious Emission**  
**Ch:Mid**



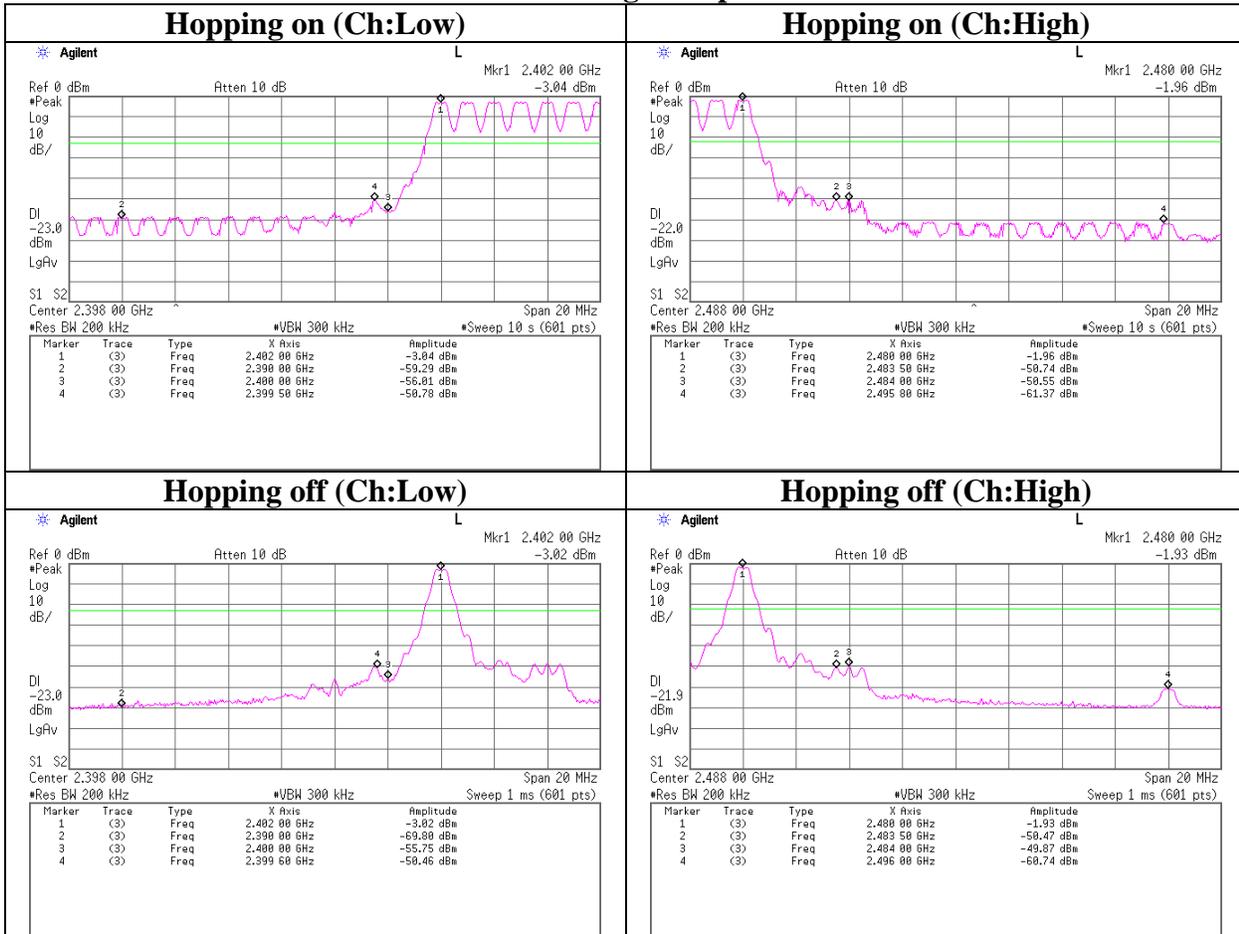
**Conducted Spurious Emission**  
**Ch:High**



**Conducted Spurious Emission**  
**Rx,Ch:Mid**



### Conducted Spurious Emission Band Edge compliance



### 99% Occupied Bandwidth

