

## RADIO TEST REPORT

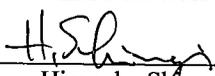
**Test Report No. : 26JE0017-HO-A**

**Applicant** : Sony Corporation  
**Type of Equipment** : Personal Communicator  
**Model No.** : COM-1  
**FCC ID** : AK8COM1  
**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.
4. This test report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, Nist, or any agency of the Federal Government.

**Date of test:** May 19, 2006

**Tested by:**   
Kenichi Adachi  
EMC Services

**Approved by :**   
Hironobu Shimoji  
Group Leader of  
EMC Services

<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>10</b>
<b>SECTION 8: Maximum Peak Output Power</b> .....	<b>10</b>
<b>SECTION 9: Peak Power Density</b> .....	<b>10</b>
<b>APPENDIX 1: Photographs of test setup</b> .....	<b>11</b>
Conducted Emission.....	11
Spurious Emission (Radiated).....	12
Worst Case Position (Horizontal: X-axis/ Vertical:Y-axis).....	13
<b>APPENDIX 2: Test instruments</b> .....	<b>14</b>
<b>APPENDIX 3: Data of EMI test</b> .....	<b>15</b>
Conducted Emission.....	15
6dB Bandwidth.....	18
Maximum Peak Output Power.....	20
Radiated Spurious Emission.....	22
Conducted Spurious Emission.....	28
Conducted emission Band Edge compliance.....	31
Power Density.....	32
99% Occupied Bandwidth.....	34

## **SECTION 1: Client information**

Company Name : Sony EMCS Corporation Saitama TEC  
Address : Shinagawa INTERCITY C Tower, 2-15-3, Konan, Minato-ku,  
Tokyo 108-6201 Japan  
Telephone Number : +81-3-5769-5640  
Facsimile Number : +81-3-5769-5085  
Contact Person : Kikuo Murata

\*Sony EMCS Corporation Saitama TEC is on behalf of the applicant: Sony Corporation.

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

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

Type of Equipment : Personal Communicator  
Model No. : COM-1  
Serial No. : 64 for Antenna Terminal Conducted test  
46 for Conducted Emission / Radiated Emission tests  
Rating : AC Adapter input: AC 120V/60Hz  
DC input : DC 6V (AC Adapter output)  
: DC 3.7V (Battery)  
Country of Manufacture : Japan  
Receipt Date of Sample : April 26, 2006  
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: COM-1 (referred to as the EUT in this report) is the Personal Communicator.

Clock frequency(ies) in the system : 32kHz, 22.5792MHz, 27.785MHz, 32MHz, 45.16MHz, 111MHz,  
333MHz, 480MHz  
Equipment Type : Transceiver  
Frequency of Operation : 2412-2462MHz  
Bandwidth & Channel spacing : 25MHz & 5MHz  
Modulation : DSSS  
ITU code : G1D  
Power Control : No  
Antenna Type : Printed Inverted-F Antenna (UBA-CUA1010)  
Antenna Connector Type : 1-PEX MHF-2 (compatible with U.FL)  
Antenna Gain : -0.65dBi max

---

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(19.04.06)

### **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 (DC3.1V, DC2.2V) 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.

### 3.2 Procedures and results

No.	Item	Test Procedure	Specification	Remarks	Deviation	Worst margin	Results
1	Conducted Emission	ANSI C63.4:2003 7. AC powerline conducted emission measurements	Section 15.207	-	N/A	11.4dB 8.07501MHz L, AV	Complied
2	6dB Bandwidth	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(a)(2)	Conducted	N/A	See data.	Complied
3	Maximum Peak Output Power	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247(b)(3)	Conducted	N/A		Complied
4	Restricted Band Edges	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (d)	Conducted/ Radiated	N/A		Complied
5	Power Density	ANSI C63.4:2003 13. Measurement of intentional radiators	Section 15.247 (e)	Conducted	N/A		Complied
6	Spurious Emission	ANSI C63.4:2003 13. Measurement of intentional radiators	Section15.247(d)	Conducted/ Radiated	N/A		2.5dB 4924.10MHz, Horizontal, AV

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 "Guidance on Measurement of Digital Transmission Systems Operating under Section15.247".

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

### 3.3 Addition to standards

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

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(19.04.06)

### 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 meets the limits unless the uncertainty is taken into consideration.

#### 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

UL Apex Co., Ltd. Head Office EMC Lab. \*NVLAP Lab. code: 200572-0

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

Telephone: +81 596 24 8116

Facsimile: +81 596 24 8124

	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.

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

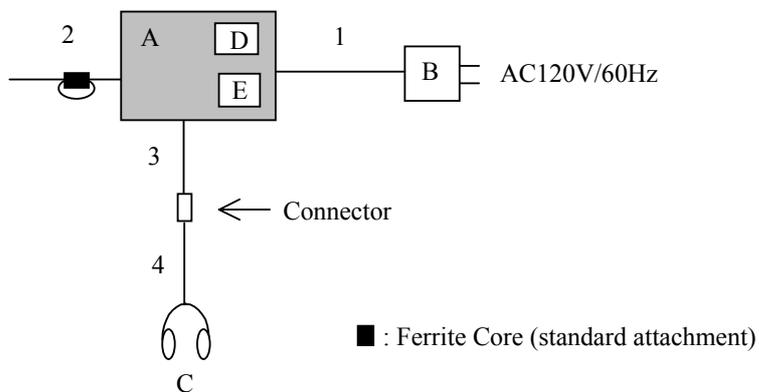
MF060b(19.04.06)

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

### 4.1 Operating Modes

The mode used for test : Transmitting mode 11b (CCK 11Mbps (Worst))  
Low Channel : 2412MHz (Ch 1)  
Mid Channel : 2437MHz (Ch 6)  
High Channel : 2462MHz (Ch 11)

### 4.2 Configuration and peripherals



\* Cabling and setup were taken into consideration and test data was taken under worse case conditions.  
\* Cable 2 (USB Cable with one Ferrite core) is the standard attachment of EUT.

#### Description of Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Personal Communicator	COM-1	64 *1) 46 *2)	Sony	EUT
B	AC Adaptor	AC-ES608K3	-	Sony	-
C	Headphones	MDR-E808SP	-	Sony	-
D	Rechargeable Battery	COMA-BP1	-	Sony	-
E	Memory Stick Duo	MSX-M2GNU	-	Sony	-

\*1) Used for Antenna Terminal Conducted test

\*2) Used for Conducted Emission / Radiated Emission tests

#### List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	DC Cable	2.1	Unshielded	Unshielded	-
2	USB Cable	1.15	Shielded	Shielded	With one ferrite core (standard attachment)
3	Extension Cable	0.85	Unshielded	Unshielded	-
4	Headphone Cable	0.75	Unshielded	Unshielded	-

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(19.04.06)

## **SECTION 5: Conducted Emission**

### **Test Procedure and conditions**

EUT was placed on a wooden table of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from a Line Impedance Stabilization Network (LISN)/ Artificial mains Network (AMN) and excess AC cable was bundled in center.

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.

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

Date: May 19, 2006

Test engineer: Kenichi Adachi

---

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(19.04.06)

## **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 a urethane platform of nominal size, 1m by 1m, raised 80cm above the conducting ground plane.

The Radiated Electric Field Strength intensity has been measured in a Semi Anechoic Chamber with a ground plane and at a distance of 3m(Below 10GHz) and 1m(Upper 10GHz).

The height of the measuring varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer (in 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.

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.

#### **20dBc was applied to the frequency over the limit of FCC 15.209 and outside the restricted band of 15.205.**

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

- The carrier level and noise levels were 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 3**

**Test result : Pass**

Date: May 19, 2006

Test engineer: Kenichi Adachi

---

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(19.04.06)

## **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

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

### **Test Procedure**

The test was made with the spectrum analyzer that has a function of channel-power measurements.  
The Maximum Peak Output Power was measured with a spectrum analyzer connected to the antenna port.

Test data : APPENDIX 3  
Test result : Pass

## **SECTION 9: Peak Power Density**

[Conducted]

### **Test Procedure**

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

Test data : APPENDIX 3  
Test result : Pass

---

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(19.04.06)

**APPENDIX 1: Photographs of test setup**

This page has been submitted for a separate exhibit.

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

This page has been submitted for a separate exhibit.

**Spurious Emission (Radiated)**

This page has been submitted for a separate exhibit.

## **APPENDIX 2:Test instruments**

### **EMI test equipment**

<b>Control No.</b>	<b>Instrument</b>	<b>Manufacturer</b>	<b>Model No</b>	<b>Test Item</b>	<b>Calibration Date * Interval(month)</b>
MAEC-04	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE / CE	2006/03/06 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	RE / CE / AT	2006/09/16 * 12
MCC-26	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	AT	2005/08/30 * 12
MAT-23	Attenuator(10dB)(above1GHz)	Orient Microwave	BX10-0476-00	AT	2006/03/18 * 12
MCC-57	Microwave Cable	Suhner	SUCOFLEX104	RE	2006/04/15 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	RE	2006/03/27 * 12
MHA-06	Horn Antenna	Schwarzbeck	BBHA9120D	RE	2006/01/09 * 12
MHA-02	Horn Antenna	EMCO	3160-09	RE	2006/01/09 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	AT / RE / CE	2006/01/19 * 24
MTR-02	Test Receiver	Rohde & Schwarz	ESCS30	RE / CE	2006/02/02 * 12
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE / CE	-
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
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	RE	2006/01/29 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	RE	2006/01/29 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	CE(EUT)	2006/02/06 * 12

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

#### **Test Item:**

- RE: Radiated Emissions,**
- CE: Conducted Emissions,**
- AT: Antenna Terminal disturbance voltage**

**UL Apex Co., Ltd.**

**Head Office EMC Lab.**

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

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(19.04.06)

**APPENDIX 3: Data of EMI test**

**Conducted Emission**

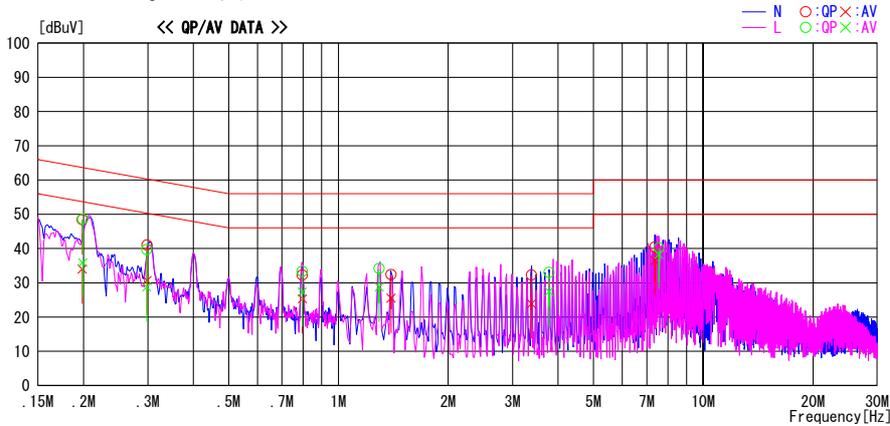
**DATA OF CONDUCTED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No. 4 Semi Anechoic Chamber  
Date : 2006/05/19 22:52:10

Applicant : Sony EMCS Corporation Saitama TEC  
Kind of EUT : Personal Communicator  
Model No. : COM-1  
Serial No. : 46  
Report No. : 26JE0017-HO  
Power : AC120V / 60Hz  
Temp°C/Humi% : 22eg. C / 61%  
Operator : kenichi Adachi

Mode / Remarks : 11b, Transmitting 2412MHz

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



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.19894	48.5	35.8	0.1	48.6	35.9	63.7	53.7	15.1	17.8	L
0.29801	39.6	28.7	0.1	39.7	28.8	60.3	50.3	20.6	21.5	L
0.79539	33.0	27.0	0.3	33.3	27.3	56.0	46.0	22.7	18.7	L
1.29334	33.9	28.4	0.3	34.2	28.7	56.0	46.0	21.8	17.3	L
3.77934	32.5	26.9	0.5	33.0	27.4	56.0	46.0	23.0	18.6	L
7.56216	39.5	37.6	0.7	40.2	38.3	60.0	50.0	19.8	11.7	L
0.19847	48.3	33.9	0.1	48.4	34.0	63.7	53.7	15.3	19.7	N
0.29844	40.9	30.6	0.1	41.0	30.7	60.3	50.3	19.3	19.6	N
0.79598	32.0	25.0	0.3	32.3	25.3	56.0	46.0	23.7	20.7	N
1.39318	32.1	25.2	0.3	32.4	25.5	56.0	46.0	23.6	20.5	N
3.38109	31.9	23.5	0.4	32.3	23.9	56.0	46.0	23.7	22.1	N
7.36163	39.7	35.8	0.7	40.4	36.5	60.0	50.0	19.6	13.5	N

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

## Conducted Emission

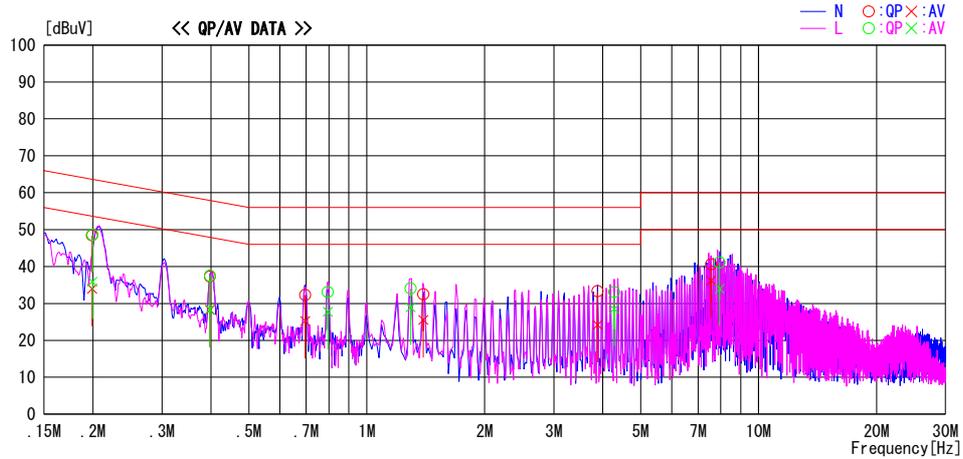
### DATA OF CONDUCTED EMISSION TEST

UL Apex Co., Ltd. Head Office EMC Lab. No. 4 Semi Anechoic Chamber  
Date : 2006/05/19 22:22:17

Applicant : Sony EMCS Corporation Saitama TEC      Report No. : 26JE0017-HO  
Kind of EUT : Personal Communicator              Power : AC120V / 60Hz  
Model No. : COM-1                                      Temp°C/Humi% : 22eg.C / 61%  
Serial No. : 46    Operator : kenichi Adachi

Mode / Remarks : 11b, Transmitting 2437MHz

LIMIT : FCC15C § 15.207 (QP)  
FCC15C § 15.207 (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]	
0.19950	48.5	35.8	0.1	48.6	35.9	63.6	53.6	15.0	17.7	L
0.39752	37.3	28.2	0.2	37.5	28.4	57.9	47.9	20.4	19.5	L
0.79500	32.8	27.4	0.3	33.1	27.7	56.0	46.0	22.9	18.3	L
1.29410	33.8	28.6	0.3	34.1	28.9	56.0	46.0	21.9	17.1	L
4.27660	32.6	28.0	0.5	33.1	28.5	56.0	46.0	22.9	17.5	L
7.95600	40.3	33.2	0.8	41.1	34.0	60.0	50.0	18.9	16.0	L
0.19900	48.3	33.9	0.1	48.4	34.0	63.7	53.7	15.3	19.7	N
0.39758	37.1	28.0	0.2	37.3	28.2	57.9	47.9	20.6	19.7	N
0.69650	32.0	24.9	0.3	32.3	25.2	56.0	46.0	23.7	20.8	N
1.39320	32.2	25.2	0.3	32.5	25.5	56.0	46.0	23.5	20.5	N
3.87900	32.8	23.7	0.5	33.3	24.2	56.0	46.0	22.7	21.8	N
7.56007	39.9	35.5	0.7	40.6	36.2	60.0	50.0	19.4	13.8	N

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

## Conducted Emission

### DATA OF CONDUCTED EMISSION TEST

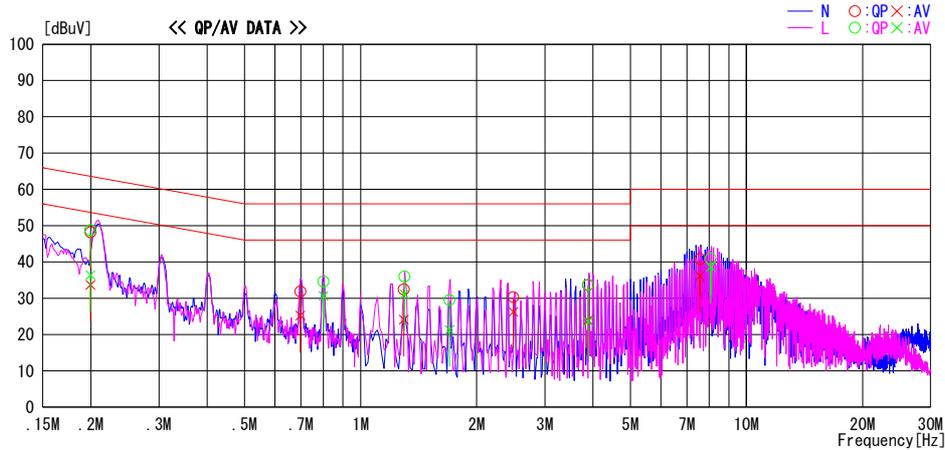
UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
Date : 2006/05/19 21:47:02

Applicant : Sony EMCS Corporation Saitama TEC  
Kind of EUT : Personal Communicator  
Model No. : COM-1  
Serial No. : 46

Report No. : 26JE0017-HO  
Power : AC120V / 60Hz  
Temp°C/Humi% : 22eg. C / 61%  
Operator : kenichi Adachi

Mode / Remarks : 11b, Transmitting 2462MHz

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



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]	
0.19940	48.7	36.3	0.1	48.8	36.4	63.6	53.6	14.8	17.2	L
0.80070	34.3	30.3	0.3	34.6	30.6	56.0	46.0	21.4	15.4	L
1.29978	35.7	30.8	0.3	36.0	31.1	56.0	46.0	20.0	14.9	L
1.69850	29.2	21.0	0.3	29.5	21.3	56.0	46.0	26.5	24.7	L
3.88880	33.2	23.1	0.5	33.7	23.6	56.0	46.0	22.3	22.4	L
8.07501	40.1	37.8	0.8	40.9	38.6	60.0	50.0	19.1	11.4	L
0.19961	48.1	33.6	0.1	48.2	33.7	63.6	53.6	15.4	19.9	N
0.69800	31.6	24.9	0.3	31.9	25.2	56.0	46.0	24.1	20.8	N
1.29400	32.1	23.8	0.3	32.4	24.1	56.0	46.0	23.6	21.9	N
2.48653	30.0	25.9	0.3	30.3	26.2	56.0	46.0	25.7	19.8	N
3.88209	33.1	23.4	0.5	33.6	23.9	56.0	46.0	22.4	22.1	N
7.56874	40.1	35.4	0.7	40.8	36.1	60.0	50.0	19.2	13.9	N

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.

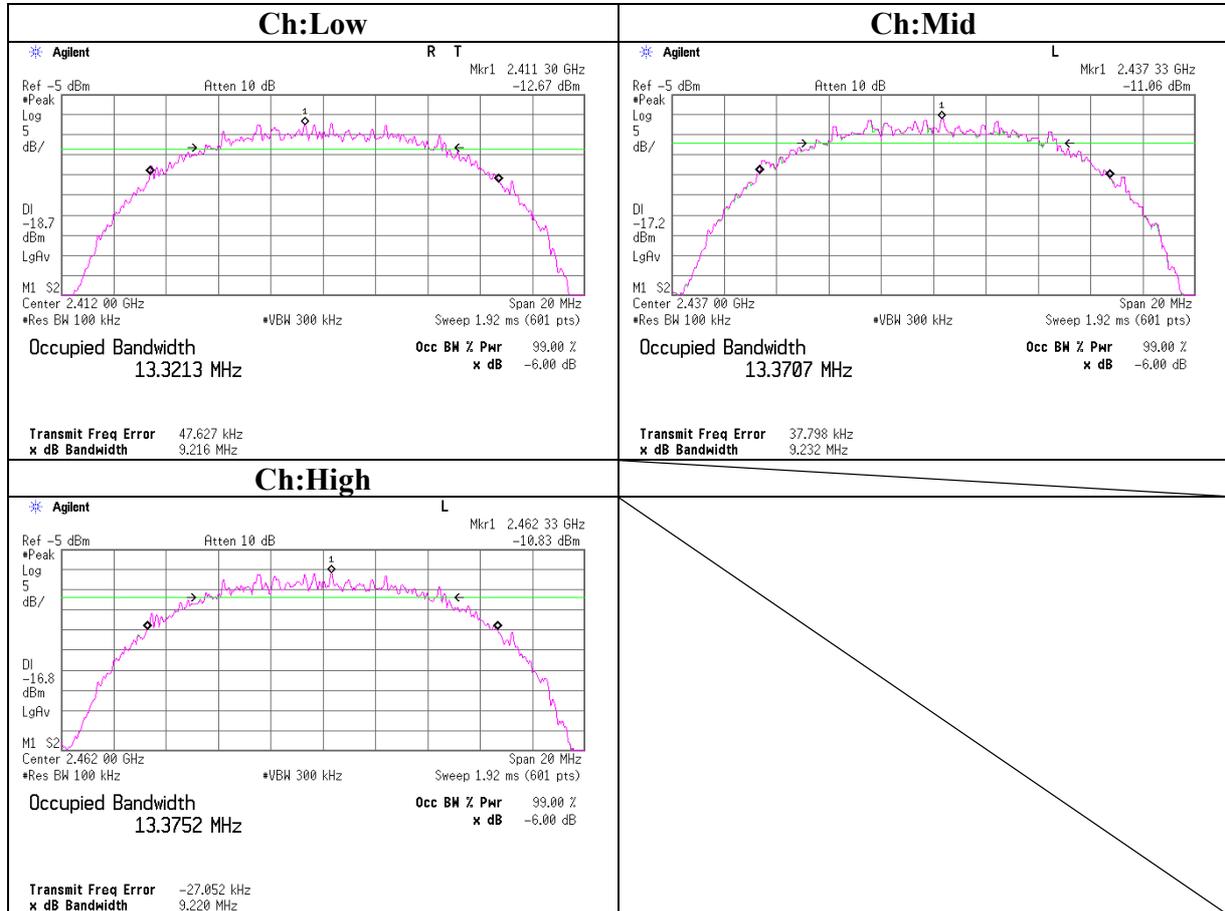
### 6dB Bandwidth

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

Company	: Sony EMCS Corporation Saitama TEC	REPORT NO	: 26JE0017-HO
Equipment	: Personal Communicator	REGULATION	: FCC Part15 Subpart C 15.247(a)(2)
Model	: COM-1	TEST DISTANCE	: -
Sample No.	: 64	DATE	: 05/19/2006
Power	: AC120V/60Hz	TEMPERATURE	: 21deg.C.
Mode	: Tx (ch1,6,11) 11b, 11Mbps(Worst)	HUMIDITY	: 61%
		ENGINEER	: Kenichi Adachi

Ch	Freq. [MHz]	6dB Bandwidth [MHz]	Limit [kHz]
Low	2412.0	9.216	500.0
Mid	2437.0	9.232	500.0
High	2462.0	9.220	500.0

### 6dB Bandwidth



### Maximum Peak Output Power

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

Company : Sony EMCS Corporation Saitama TEC REPORT NO : 26JE0017-HO  
Equipment : Personal Communicator REGULATION : FCC Part15 Subpart C 15.247(b)(3)  
Model : COM-1 TEST DISTANCE : -  
Sample No. : 64 DATE : 05/19/2006  
Power : AC120V/60Hz TEMPERATURE : 21deg.C.  
Mode : Transmitting (ch1,6,11) HUMIDITY : 61%  
11b, 11Mbps(Worst) ENGINEER : Kenichi Adachi

#### [IEEE802.11b]

Ch	Freq. [MHz]	S/A Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
Low	2412.0	-0.55	1.43	10.14	11.02	12.65	30.00	1000	18.98
Mid	2437.0	0.47	1.40	10.14	12.01	15.89	30.00	1000	17.99
High	2462.0	0.71	1.40	10.14	12.25	16.79	30.00	1000	17.75

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.**

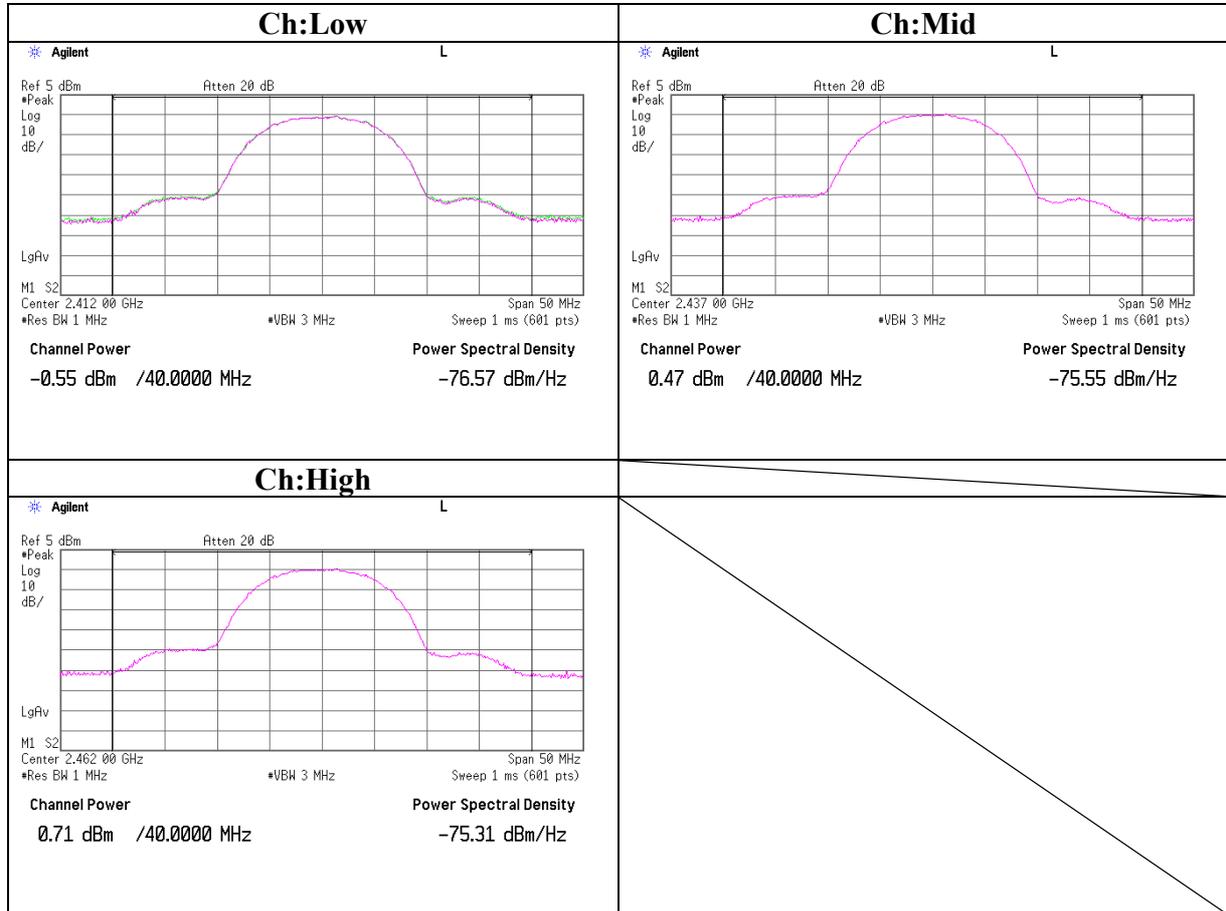
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124

MF060b(19.04.06)

**Maximum Peak Output Power**



**Radiated Spurious Emission**

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

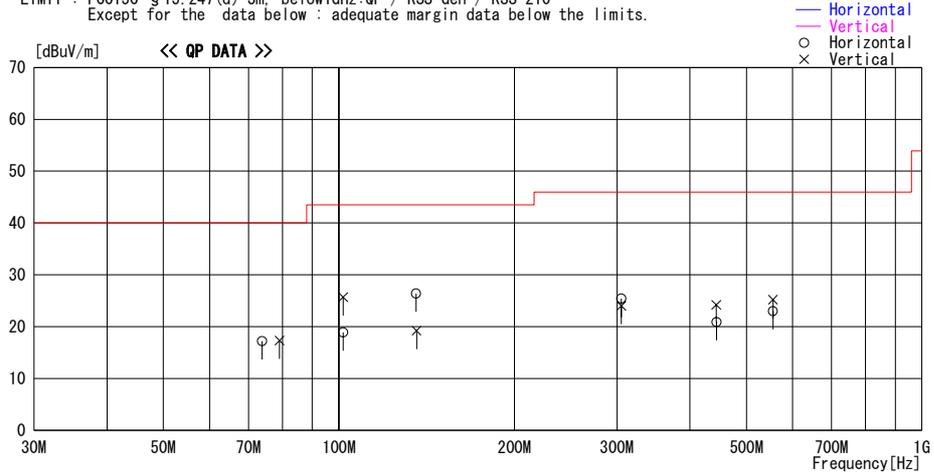
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No.4 Semi Anechoic Chamber  
Date : 2006/05/19 17:40:09

Company : Sony EMCS Corporation Saitama TEC Report No. : 26JE0017-HO  
Kind of EUT : Personal Communicator Power : AC 120V / 60Hz  
Model No. : COM-1 Temp./Humi. : 22deg. C. / 61%  
Serial No. : 46 Operator : Kenichi Adachi

Mode / Remarks : 11b, Transmitting 2412MHz, EUT Max-axis(H: X, V: Y)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP / RSS-Gen / RSS-210  
Except for the data below : adequate margin data below the limits.



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit	Margin
			Factor [dB/m]	Gain [dB]					[dBuV/m]	[dB]
73.837	34.0	QP	7.4	-24.2	17.2	62	219	Hori.	40.0	22.8
79.075	34.1	QP	7.3	-24.1	17.3	281	100	Vert.	40.0	22.7
101.670	31.4	QP	11.2	-23.7	18.9	33	306	Hori.	43.5	24.6
101.667	38.2	QP	11.2	-23.7	25.7	104	100	Vert.	43.5	17.8
135.554	34.9	QP	14.7	-23.2	26.4	32	220	Hori.	43.5	17.1
135.881	27.6	QP	14.8	-23.2	19.2	108	100	Vert.	43.5	24.3
304.988	30.5	QP	16.8	-21.9	25.4	265	100	Hori.	46.0	20.6
304.985	29.1	QP	16.8	-21.9	24.0	47	147	Vert.	46.0	22.0
444.084	23.0	QP	18.9	-21.0	20.9	175	100	Hori.	46.0	25.1
443.977	26.3	QP	18.9	-21.0	24.2	3	145	Vert.	46.0	21.8
555.089	25.4	QP	20.2	-20.4	25.2	360	100	Vert.	46.0	20.8
555.089	23.2	QP	20.2	-20.4	23.0	59	100	Hori.	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)

**Radiated Spurious Emission**

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

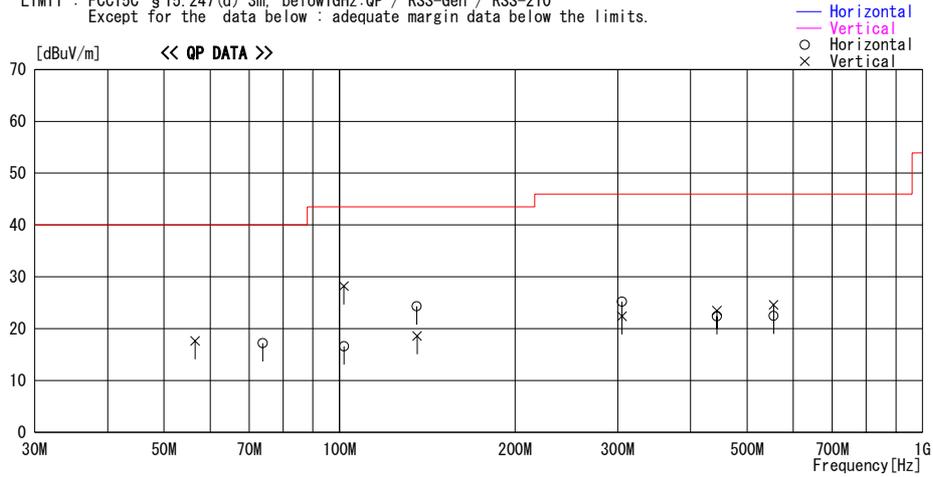
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No. 4 Semi Anechoic Chamber  
Date : 2006/05/19 18:53:45

Company : Sony EMCS Corporation Saitama TEC Report No. : 26JE0017-HO  
Kind of EUT : Personal Communicator Power : AC 120V / 60Hz  
Model No. : COM-1 Temp./Humi. : 22deg.C. / 61%  
Serial No. : 46 Operator : Kenichi Adachi

Mode / Remarks : 11b, Transmitting 2437MHz, EUT Max-axis(H: X, V: Y)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP / RSS-Gen / RSS-210  
Except for the data below : adequate margin data below the limits.



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss & Gain [dB]						
73.841	33.9	QP	7.4	-24.1	17.2	262	352	Hori.	40.0	22.8
56.483	32.5	QP	9.5	-24.4	17.6	27	100	Vert.	40.0	22.4
101.669	40.7	QP	11.2	-23.7	28.2	105	100	Vert.	43.5	15.3
101.750	29.1	QP	11.2	-23.7	16.6	25	332	Hori.	43.5	26.9
135.792	27.0	QP	14.8	-23.2	18.6	109	132	Vert.	43.5	24.9
135.550	32.8	QP	14.7	-23.2	24.3	28	352	Hori.	43.5	19.2
304.988	30.3	QP	16.8	-21.9	25.2	245	100	Hori.	46.0	20.8
304.991	27.5	QP	16.8	-21.9	22.4	46	146	Vert.	46.0	23.6
443.971	24.5	QP	18.9	-21.0	22.4	162	100	Hori.	46.0	23.6
443.977	25.6	QP	18.9	-21.0	23.5	0	145	Vert.	46.0	22.5
555.090	22.7	QP	20.2	-20.4	22.5	71	100	Hori.	46.0	23.5
555.089	24.8	QP	20.2	-20.4	24.6	0	118	Vert.	46.0	21.4

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**

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

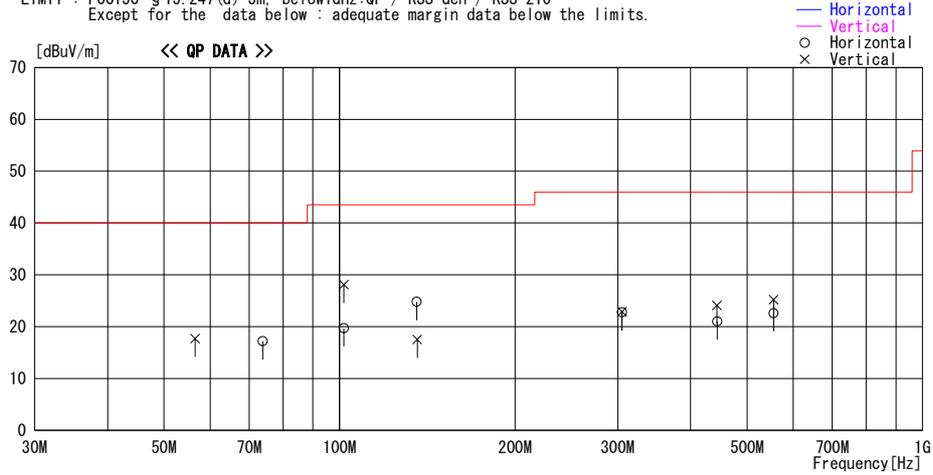
**DATA OF RADIATED EMISSION TEST**

UL Apex Co., Ltd. Head Office EMC Lab. No. 4 Semi Anechoic Chamber  
Date : 2006/05/19 20:36:19

Company : Sony EMCS Corporation Saitama TEC Report No. : 26JE0017-HO  
Kind of EUT : Personal Communicator Power : AC 120V / 60Hz  
Model No. : COM-1 Temp./Humi. : 22deg. C. / 61%  
Serial No. : 46 Operator : Kenichi Adachi

Mode / Remarks : 11b, Transmitting 2462MHz, EUT Max-axis(H: X, V: Y)

LIMIT : FCC15C §15.247(d) 3m, below1GHz:QP / RSS-Gen / RSS-210  
Except for the data below : adequate margin data below the limits.



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss&Gain [dB]						
56.483	32.6	QP	9.5	-24.4	17.7	27	100	Vert.	40.0	22.3
101.666	40.6	QP	11.2	-23.7	28.1	104	100	Vert.	43.5	15.4
135.881	25.9	QP	14.8	-23.2	17.5	107	100	Vert.	43.5	26.0
304.994	28.0	QP	16.8	-21.9	22.9	45	147	Vert.	46.0	23.1
443.977	26.2	QP	18.9	-21.0	24.1	0	145	Vert.	46.0	21.9
555.089	25.4	QP	20.2	-20.4	25.2	13	118	Vert.	46.0	20.8
73.837	34.0	QP	7.4	-24.2	17.2	63	219	Hori.	40.0	22.8
101.670	32.2	QP	11.2	-23.7	19.7	32	306	Hori.	43.5	23.8
135.557	33.3	QP	14.7	-23.2	24.8	32	220	Hori.	43.5	18.7
304.995	27.9	QP	16.8	-21.9	22.8	264	100	Hori.	46.0	23.2
444.084	23.1	QP	18.9	-21.0	21.0	174	100	Hori.	46.0	25.0
555.089	22.8	QP	20.2	-20.4	22.6	59	100	Hori.	46.0	23.4

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

## Radiated Spurious Emission

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

COMPANY	Sony EMCS Corporation Saitama TEC	REPORT NO.	26JE0017-HO
EQUIPMENT	Personal Communicator	REGULATION	Fcc Part15 Subpart C 15.247(d)
MODEL	COM-1	TEST DISTANCE	3m (1GHz to 10GHz) / 1m (10GHz to 26.5GHz)
S/N	46	DATE	05/19/2006
POWER	AC 120V / 60Hz	TEMP / HUMIDITY	22 deg.C / 61 %
MODE	11b, Transmitting 2412MHz, 11Mbps(Worst)	ENGINEER	Kenichi Adachi
AXIS	H: X-axis / V: Y-axis		

PK. DETECT (RBW: 1MHz, VBW:1MHz)														Hor.	Hor.	Ver.	Ver.
No	Freq. [MHz]	Reading		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Filter L. [dB]	Other1 [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark	A/T [cm]	T/T [Deg.]	A/T [cm]	T/T [Deg.]	
		HOR	VER														
1	2388.32	51.6	50.6	30.61	-32.69	2.13	-	-	51.7	50.7	73.9	22.2	138	243	134	339	
2*	2400.00	61.8	61.6	30.59	-32.69	2.14	-	-	61.8	61.6	73.9	-	138	243	134	339	
3	4824.00	52.5	47.9	35.79	-31.50	3.14	1.37	-	61.3	56.7	73.9	12.6	124	351	117	350	
4	7236.00	43.5	43.0	37.62	-32.42	3.88	1.18	-	53.8	53.3	73.9	20.1	*1)	100	0	100	0
5	9648.00	43.1	43.0	36.57	-33.01	4.80	1.01	-	52.5	52.4	73.9	21.4	*1)	100	0	100	0
6	12060.00	-	-	40.34	-32.56	5.71	-	-9.54	-	-	73.9	-	*1)	100	0	100	0
7	14472.00	-	-	43.25	-32.25	6.09	-	-9.54	-	-	73.9	-	*1)	100	0	100	0
8	16884.00	43.8	43.7	46.28	-32.03	6.52	-	-9.54	55.0	54.9	73.9	18.9	*1)	100	0	100	0
9	19296.00	-	-	37.33	-31.44	6.78	-	-9.54	-	-	73.9	-	*1)	100	0	100	0
10	21708.00	-	-	37.87	-32.10	7.40	-	-9.54	-	-	73.9	-	*1)	100	0	100	0
11	24120.00	48.3	47.5	38.70	-31.82	7.95	-	-9.54	53.6	52.8	73.9	20.3	*1)	100	0	100	0

\* Reference data.

AV. DETECT (RBW: 1MHz, VBW:10Hz)													
No	Freq. [MHz]	Reading		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Filter L. [dB]	Other1 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark
		HOR	VER						HOR	VER			
1	2388.32	38.50	38.20	30.61	-32.69	2.13	-	-	38.55	38.25	53.9	15.3	
2*	2400.00	53.30	53.10	30.59	-32.69	2.14	-	-	53.34	53.14	53.9	-	
3	4824.00	38.80	34.00	35.79	-31.50	3.14	1.37	-	47.59	42.79	53.9	6.3	
4	7236.00	31.05	31.10	37.62	-32.42	3.88	1.18	-	41.31	41.36	53.9	12.5	*1)
5	9648.00	30.08	30.90	36.57	-33.01	4.80	1.01	-	39.44	40.26	53.9	13.6	*1)
6	12060.00	-	-	40.34	-32.56	5.71	-	-9.54	-	-	53.9	-	*1)
7	14472.00	-	-	43.25	-32.25	6.09	-	-9.54	-	-	53.9	-	*1)
8	16884.00	31.47	31.45	46.28	-32.03	6.52	-	-9.54	42.69	42.67	53.9	11.2	*1)
9	19296.00	-	-	37.33	-31.44	6.78	-	-9.54	-	-	53.9	-	*1)
10	21708.00	-	-	37.87	-32.10	7.40	-	-9.54	-	-	53.9	-	*1)
11	24120.00	35.55	35.41	38.70	-31.82	7.95	-	-9.54	40.83	40.69	53.9	13.1	*1)

\* Reference data.

20dBc(Fundamental to Spurious) (RBW: 100kHz, VBW:300kHz)														Hor.	Hor.	Ver.	Ver.
No	Freq. [MHz]	Reading		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Filter L. [dB]	Other1 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark	A/T [cm]	T/T [Deg.]	A/T [cm]	T/T [Deg.]
		HOR	VER						HOR	VER							
0	2412.00	95.50	94.70	30.57	-32.68	2.14	-	-	95.5	94.7	-	-	carrier	138	243	134	339
2	2400.00	57.80	55.60	30.59	-32.69	2.14	-	-	57.8	55.6	75.5	17.7		138	243	134	339

Ant F.=Antenna Factor // Amp G.=PreAmp Gain // Cable L.=Cable Loss // ATT=Attenuator Loss (or Filter Loss)

CALCULATION RESULT = Reading + Ant.F. + Amp.G. + Cable L. + Cable L. + Other1

ANT Type below 30MHz=Loop // 30-300MHz=Biconical // 300-1000MHz=Logperiodic // above 1000MHz=Horn

Test Distance 1.0m (above 10GHz): Other1 (Distance Factor(Dfac)) = 20 log (3 / 1) = 9.54 dB

\*1) In the frequency over the third 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.

## Radiated Spurious Emission

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

COMPANY	Sony EMCS Corporation Saitama TEC	REPORT NO.	26JE0017-HO
EQUIPMENT	Personal Communicator	REGULATION	Fcc Part15 Subpart C 15.247(d)
MODEL	COM-1	TEST DISTANCE	3m (1GHz to 10GHz) / 1m (10GHz to 26.5GHz)
S/N	46	DATE	05/19/2006
POWER	AC 120V / 60Hz	TEMP /HUMIDITY	22 deg C / 61 %
MODE	11b, Transmitting 2437MHz, 11Mbps(Worst)	ENGINEER	Kenichi Adachi
AXIS	H: X-axis / V: Y-axis		

PK. DETECT		(RBW: 1MHz, VBW:1MHz)											Hor.	Hor.	Ver.	Ver.			
No	Freq. [MHz]	Reading		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Filter L. [dB]	Other1 [dB]	Other2 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark	A/T [cm]	T/T [Deg.]	A/T [cm]	T/T [Deg.]	
		HOR	VER							HOR	VER								
1	4874.05	54.06	49.30	36.10	-31.48	3.15	1.37	-	-	63.2	58.4	73.9	10.7		117	343	115	349	
2	7311.00	43.35	43.40	37.82	-32.46	3.91	1.14	-	-	53.8	53.8	73.9	20.1	*1)	100	0	100	0	
3	9748.00	42.80	43.40	36.56	-33.05	4.84	1.08	-	-	52.2	52.8	73.9	21.1	*1)	100	0	100	0	
4	12185.00	-	-	40.38	-32.55	5.73	-	-	-9.54	-	-	73.9	-	*1)	100	0	100	0	
5	14622.00	-	-	43.13	-32.26	6.12	-	-	-9.54	-	-	73.9	-	*1)	100	0	100	0	
6	17059.00	44.7	44.5	46.12	-31.95	6.55	-	-	-9.54	-	55.9	55.7	73.9	18.0	*1)	100	0	100	0
7	19496.00	-	-	37.47	-31.46	6.79	-	-	-9.54	-	-	73.9	-	*1)	100	0	100	0	
8	21933.00	-	-	38.18	-31.98	7.48	-	-	-9.54	-	-	73.9	-	*1)	100	0	100	0	
9	24370.00	46.9	47.0	38.38	-31.68	7.99	-	-	-9.54	-	52.0	52.2	73.9	21.7	*1)	100	0	100	0

AV. DETECT		(RBW: 1MHz, VBW:10Hz)											Hor.	Hor.	Ver.	Ver.		
No	Freq. [MHz]	Reading		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Filter L. [dB]	Other1 [dB]	Other2 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark	A/T [cm]	T/T [Deg.]	A/T [cm]	T/T [Deg.]
		HOR	VER							HOR	VER							
1	4874.05	41.22	37.08	36.10	-31.48	3.15	1.37	-	-	50.35	46.21	53.9	3.6					
2	7311.00	31.10	31.15	37.82	-32.46	3.91	1.14	-	-	41.51	41.56	53.9	12.3	*1)				
3	9748.00	30.71	30.73	36.56	-33.05	4.84	1.08	-	-	40.14	40.16	53.9	13.7	*1)				
4	12185.00	-	-	40.38	-32.55	5.73	-	-	-9.54	-	-	53.9	-	*1)				
5	14622.00	-	-	43.13	-32.26	6.12	-	-	-9.54	-	-	53.9	-	*1)				
6	17059.00	32.42	32.22	46.12	-31.95	6.55	-	-	-9.54	-	43.60	43.40	53.9	10.3	*1)			
7	19496.00	-	-	37.47	-31.46	6.79	-	-	-9.54	-	-	53.9	-	*1)				
8	21933.00	-	-	38.18	-31.98	7.48	-	-	-9.54	-	-	53.9	-	*1)				
9	24370.00	35.12	35.15	38.38	-31.68	7.99	-	-	-9.54	-	40.27	40.30	53.9	13.6	*1)			

Ant F.=Antenna Factor // Amp G.=PreAmp Gain // Cable L.=Cable Loss // ATT=Attenuator Loss (or Filter Loss)  
CALCULATION RESULT = Reading + Ant.F. + Amp.G. + Cable L. + Cable L. + ATT + Other1 + Other2  
ANT Type below 30MHz=Loop // 30-300MHz=Biconical // 300-1000MHz=Logperiodic // above 1000MHz=Horn

Test Distance 1.0m (above 10GHz) : Other1 ( Distance Factor(Dfac) ) = 20 log ( 3 / 1 ) = 9.54 dB

\*1) In the frequency over the third 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.

## Radiated Spurious Emission

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

COMPANY	Sony EMCS Corporation Saitama TEC	REPORT NO.	26JE0017-HO
EQUIPMENT	Personal Communicator	REGULATION	Fcc Part15 Subpart C 15.247(d)
MODEL	COM-1	TEST DISTANCE	3m (1GHz to 10GHz) / 1m (10GHz to 26.5GHz)
S/N	46	DATE	05/19/2006
POWER	AC 120V / 60Hz	TEMP/HUMIDITY	22 deg.C / 61 %
MODE	11b, Transmitting 2462MHz, 11Mbps(Worst)	ENGINEER	Kenichi Adachi
AXIS	H: X-axis / V: Y-axis		

PK. DETECT (RBW: 1MHz, VBW:1MHz)													Hor.	Hor.	Ver.	Ver.		
No	Freq. [MHz]	Reading		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Filter L. [dB]	Other1 [dB]	Other2 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark	A/T [cm]	T/T [Deg.]	A/T [cm]	T/T [Deg.]
		HOR	VER							HOR	VER							
1	2483.50	51.7	51.7	30.43	-32.64	2.15	-	-	-	51.6	51.7	73.9	22.2		136	244	107	351
2	4924.10	54.9	51.9	36.41	-31.47	3.17	1.36	-	-	<b>64.4</b>	61.4	73.9	<b>9.5</b>		130	338	109	357
3	7386.00	43.8	43.5	38.03	-32.50	3.93	1.10	-	-	54.3	54.1	73.9	19.6	*1)	100	0	100	0
4	9848.00	42.2	42.9	36.54	-33.08	4.88	1.16	-	-	51.7	52.4	73.9	21.5	*1)	100	0	100	0
5	12310.00	-	-	40.43	-32.54	5.75	-	-	-9.54	-	-	73.9	-	*1)	100	0	100	0
6	14772.00	-	-	42.95	-32.26	6.14	-	-	-9.54	-	-	73.9	-	*1)	100	0	100	0
7	17234.00	45.3	45.0	46.16	-31.91	6.58	-	-	-9.54	56.6	56.3	73.9	17.3	*1)	100	0	100	0
8	19696.00	-	-	37.50	-31.49	6.80	-	-	-9.54	-	-	73.9	-	*1)	100	0	100	0
9	22158.00	-	-	38.17	-31.98	7.53	-	-	-9.54	-	-	73.9	-	*1)	100	0	100	0
10	24620.00	45.6	45.5	38.32	-31.54	8.03	-	-	-9.54	50.9	50.7	73.9	23.0	*1)	100	0	100	0

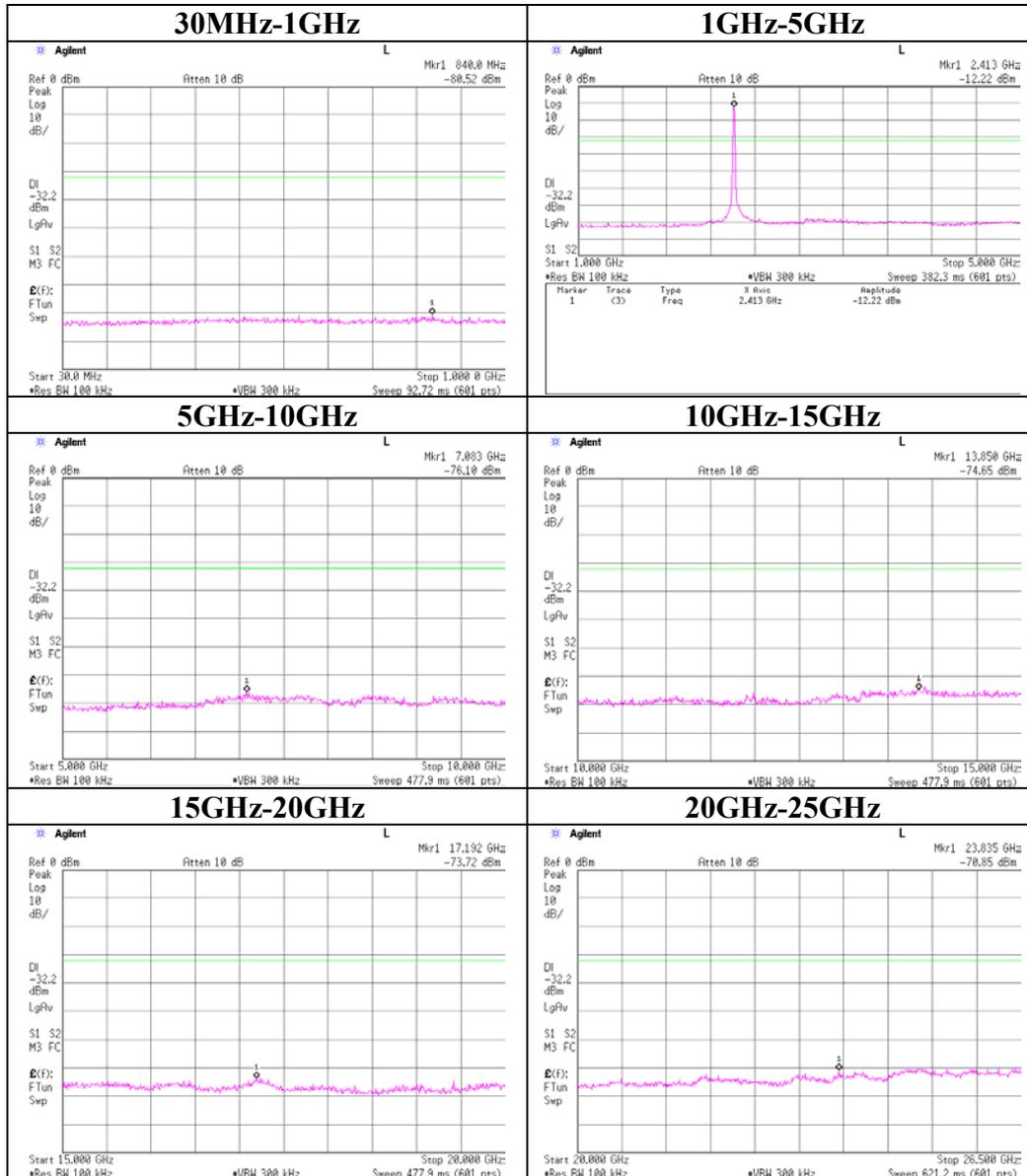
AV. DETECT (RBW: 1MHz, VBW:10Hz)													Hor.	Hor.	Ver.	Ver.		
No	Freq. [MHz]	Reading		Ant F. [dB/m]	Amp G. [dB]	Cable L. [dB]	Filter L. [dB]	Other1 [dB]	Other2 [dB]	Result [dBuV/m]		Limit [dBuV/m]	Margin [dB]	Remark	A/T [cm]	T/T [Deg.]	A/T [cm]	T/T [Deg.]
		HOR	VER							HOR	VER							
1	2483.50	38.70	39.04	30.43	-32.64	2.15	-	-	-	38.65	38.99	53.9	14.9					
2	4924.10	41.95	38.35	36.41	-31.47	3.17	1.36	-	-	<b>51.41</b>	47.81	53.9	<b>2.5</b>					
3	7386.00	30.98	31.12	38.03	-32.50	3.93	1.10	-	-	41.54	41.68	53.9	12.2	*1)				
4	9848.00	30.50	30.77	36.54	-33.08	4.88	1.16	-	-	39.99	40.26	53.9	13.6	*1)				
5	12310.00	-	-	40.43	-32.54	5.75	-	-	-9.54	-	-	53.9	-	*1)				
6	14772.00	-	-	42.95	-32.26	6.14	-	-	-9.54	-	-	53.9	-	*1)				
7	17234.00	33.13	33.17	46.16	-31.91	6.58	-	-	-9.54	44.42	44.46	53.9	9.4	*1)				
8	19696.00	-	-	37.50	-31.49	6.80	-	-	-9.54	-	-	53.9	-	*1)				
9	22158.00	-	-	38.17	-31.98	7.53	-	-	-9.54	-	-	53.9	-	*1)				
10	24620.00	32.40	32.39	38.32	-31.54	8.03	-	-	-9.54	37.68	37.67	53.9	16.2	*1)				

Ant F.=Antenna Factor // Amp G.=PreAmp Gain // Cable L.=Cable Loss // ATT=Attenuator Loss (or Filter Loss)  
CALCULATION RESULT = Reading + Ant.F. + Amp.G. + Cable L. + Cable L. + ATT + Other1 + Other2  
ANT Type below 30MHz=Loop // 30-300MHz=Biconical // 300-1000MHz=Logperiodic // above 1000MHz=Horn

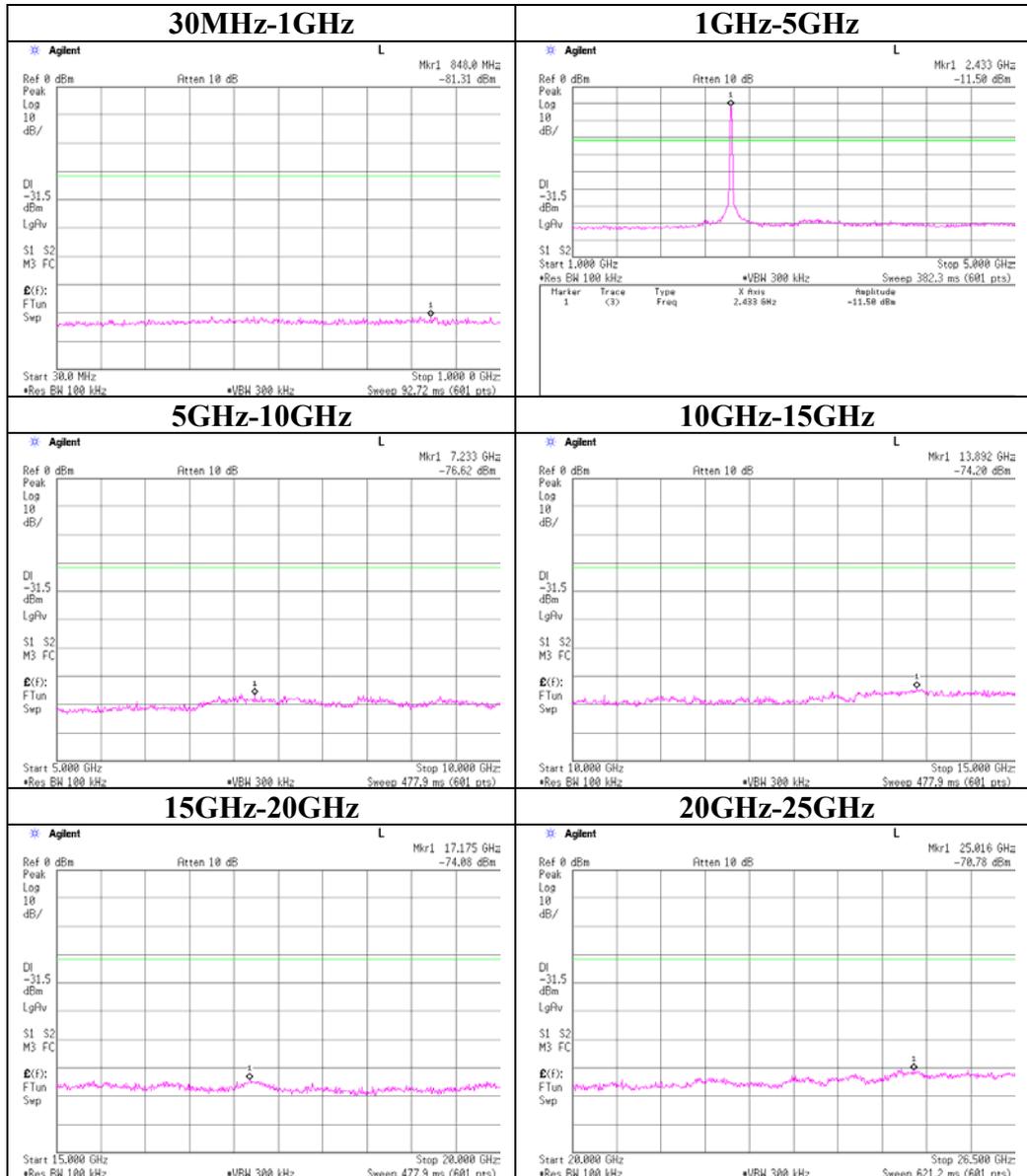
Test Distance 1.0m (above 10GHz) : Other1 ( Distance Factor(Dfac) ) = 20 log ( 3 / 1 ) = 9.54 dB

\*1) In the frequency over the third 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.

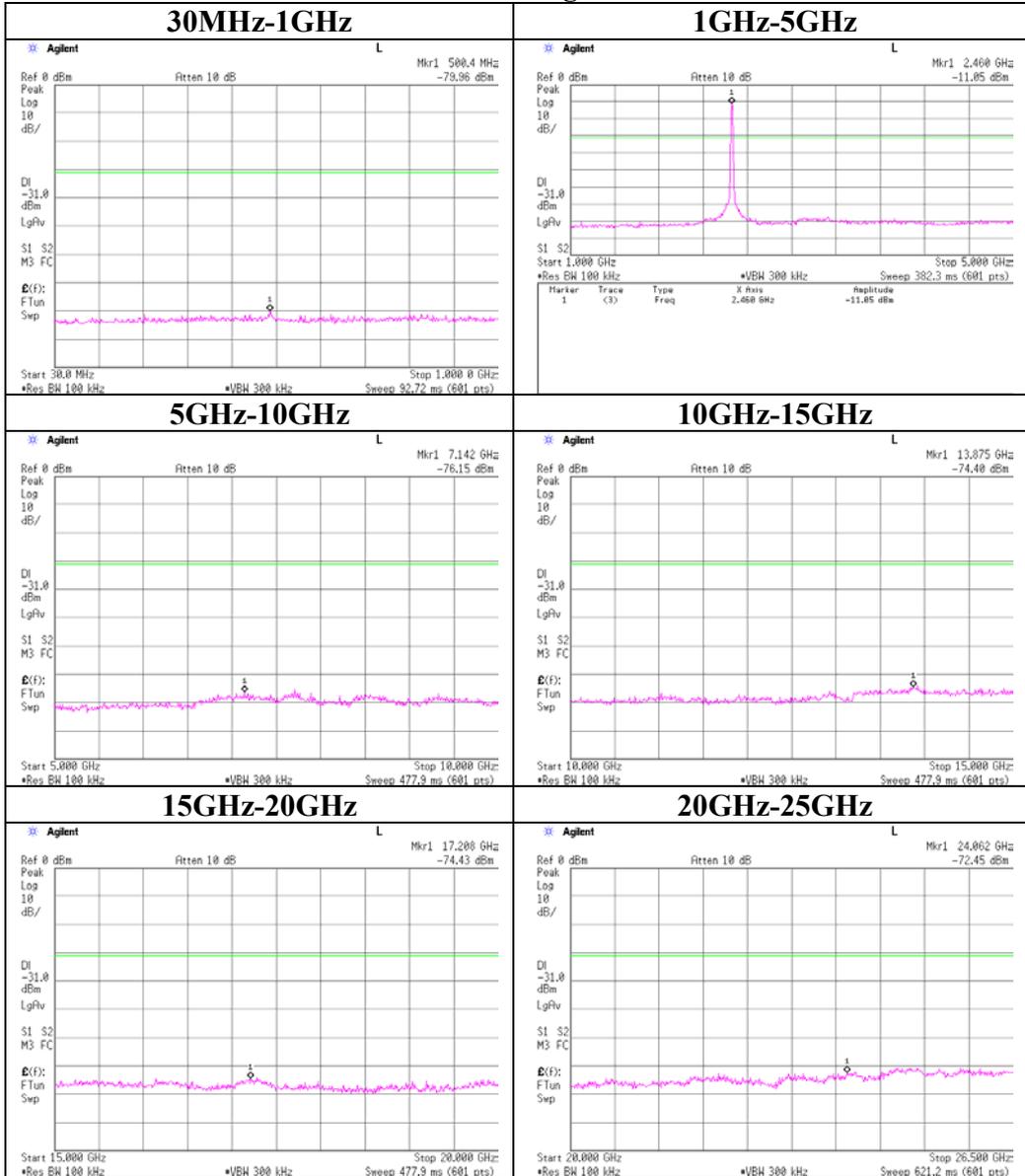
**Conducted Spurious Emission**  
**Ch: Low**



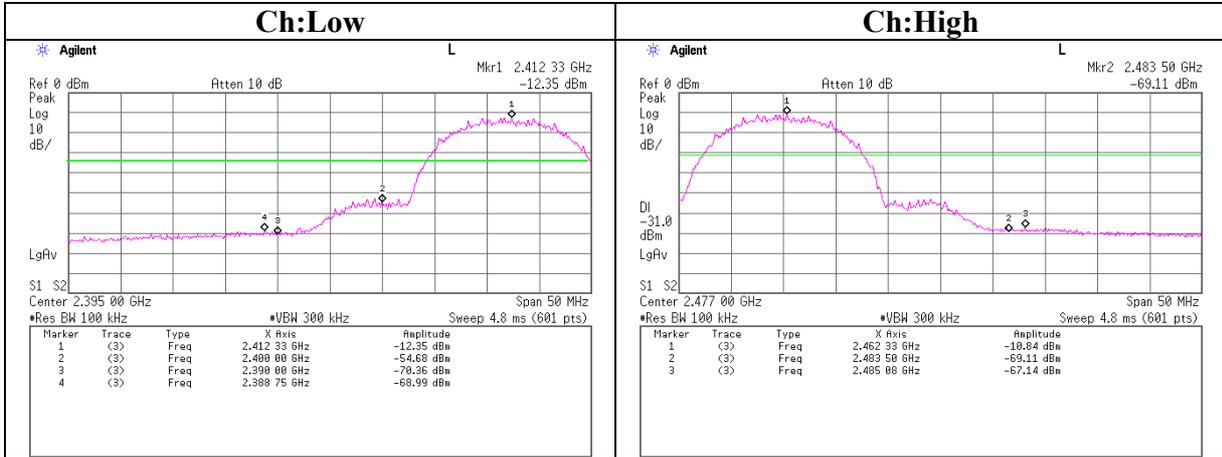
**Conducted Spurious Emission**  
**Ch: Mid**



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

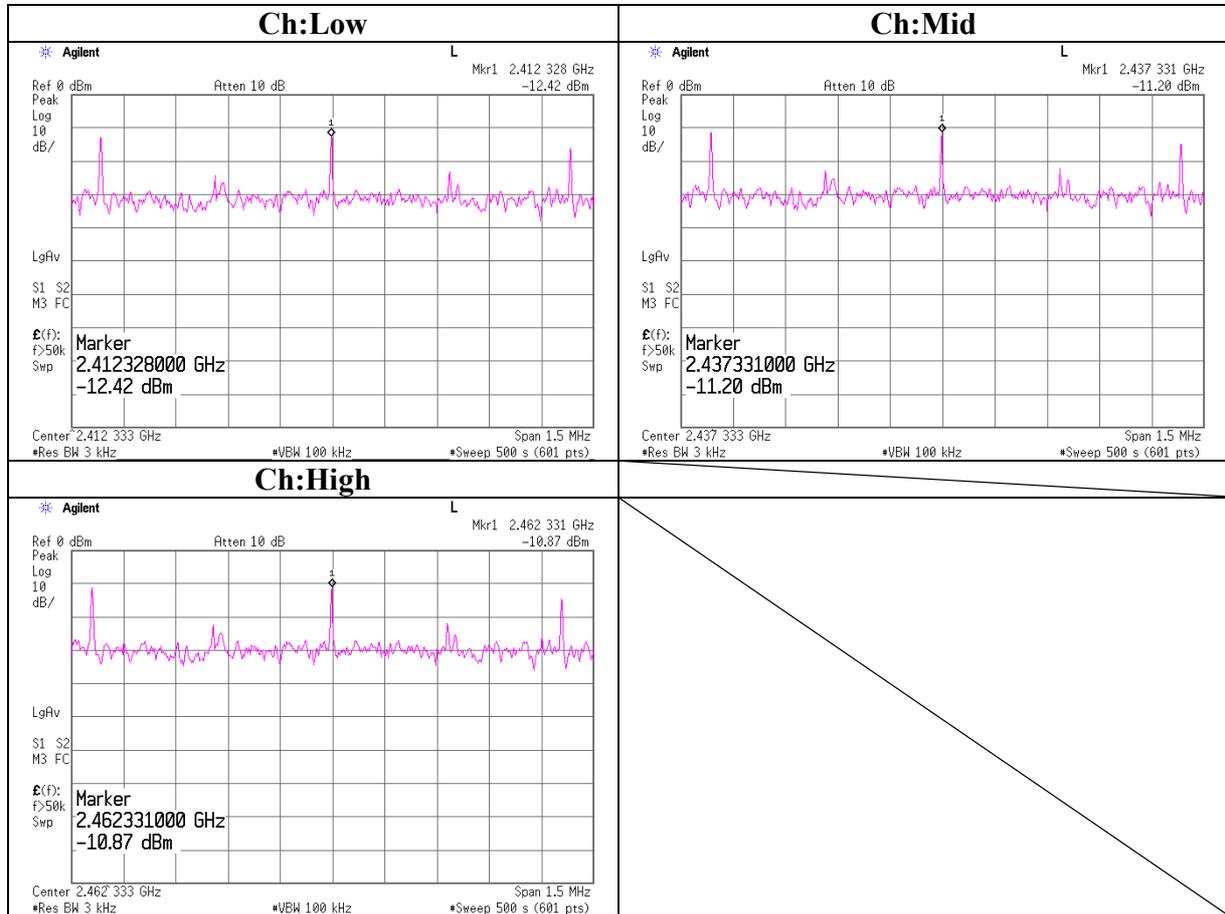


**Conducted emission Band Edge compliance**





**Power Density**



### 99% Occupied Bandwidth

