



Test report No. : 10569800S
Page : 1 of 19
Issued date : February 3, 2015
Revised : February 6, 2015
FCC ID : 2AADJFFS-A

EMI TEST REPORT

Test Report No.: 10569800S

Applicant : Sony Engineering Corporation
Type of Equipment : RF glow-wristband receiver
Model No. : FFS-WP
FCC ID : 2AADJFFS-A
Test regulation : FCC Part15 Subpart B: 2015
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 limits of the above regulation.
4. The test results in this test 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 any agency of the Federal Government.
6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.

Date of test:

January 24, 2015

Representative test engineer:



Kenichi Adachi

Engineer

Consumer Technology Division

Approved by :



Toyokazu Imamura

Leader

Consumer Technology Division



- ☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.
☒ There is no testing item of "Non-accreditation".

UL Japan, Inc.

Shonan EMC Lab.

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13-EM-F0429

REVISION HISTORY

Original Test Report No.: 10569800S

[illegible]

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SECTION 1: Customer information

Company Name : Sony Engineering Corporation
Address : 3-3-1 Tsujido-Shinmachi Fujisawa-shi, Kanagawa, 251-0042 Japan
Telephone Number : +81-466-38-3428
Facsimile Number : +81-466-38-3771
Contact Person : Masayuki Okada

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

2.1 Identification of E.U.T.

Type of Equipment : RF Glow-Wristband receiver
Model Number : FFS-WP
Serial Number : Refer to 4.2 in this report
Rating : DC 1.5V
Country of Mass-production : Vietnam
Condition of EUT : Engineering prototype
(Not for Sale: This sample is equivalent to mass-produced items.)
Receipt Date of Sample : January 20, 2015
Modification of EUT : No modification by the test lab.

2.2 Product description

Model: FFS-WP (referred to as the EUT in this report) is an RF Glow-Wristband receiver.

Clock frequency(ies) in the system : 20.8MHz(RFIC), 24MHz(MCU)

<Radio part>

Equipment type : Receiver
Frequency of operation : 902.2-926.7MHz
Antenna type : Pattern antenna (internal)
Antenna connector type : None

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SECTION 3: Test specification, procedures & results

3.1 Test specification

Test specification : FCC Part 15 Subpart B: 2015, final revised on January 21, 2015
Title : FCC 47CFR Part 15 Radio Frequency Device
Subpart B Unintentional Radiators

3.2 Procedures & Results

Item	Test Procedure	Limits	Deviation	Worst margin	Result
Conducted emission	ANSI C63.4: 2009 7. AC powerline conducted emission measurements	FCC 15.107 (a)	N/A *1)	N/A	N/A
Radiated emission	ANSI C63.4: 2009 8. Radiated emission measurements	FCC 15.109 (a)	N/A	8.3dB Serial No.: 18 Freq.: 1852.879MHz Polarization: Vertical Detection: Average Mode: Receiving 926.7MHz	Complied
Antenna power conduction for receivers	ANSI C63.4: 2009 12.2.5 Antenna-conducted power measurements	FCC 15.111 (a)	N/A *2)	N/A	N/A

*1) The test is not applicable since the EUT does not have AC Mains ports.

*2) The test is not applicable since the EUT does not have antenna ports.

Note: UL Japan's EMI Work Procedures No.13-EM-W0420

3.3 Additions to standards

No addition, deviation or exclusion has been made from standards.

3.4 Confirmation

UL Japan, Inc. hereby confirms the E.U.T., in the configuration tested, complies with the specifications
FCC Part 15 Subpart B: 2015.

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3.5 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor k=2.

Item	Frequency range	No.1 SAC ^{*1} /SR ^{*2} (±)	No.2 SAC/SR (±)	No.3 SAC/SR (±)
Radiated emission (Measurement distance: 3m)	30MHz-300MHz	4.9 dB	4.9 dB	4.7 dB
	300MHz-1GHz	5.0 dB	5.0 dB	4.8 dB
	1GHz-18GHz	4.9 dB	4.9 dB	4.9 dB

*1: SAC=Semi-Anechoic Chamber

*2: SR= Shielded Room is applied besides radiated emission

Radiated emission

The data listed in this test report has enough margin, more than site margin.

3.6 Test location

UL Japan, Inc. Shonan EMC Lab.

1-22-3 Megumigaoka, Hiratsuka-shi, Kanagawa-ken, 259-1220 JAPAN

Telephone number : +81 463 50 6400

Facsimile number : +81 463 50 6401

JAB Accreditation No. : RTL02610

	IC Registration No.	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
<input type="checkbox"/> No.1 Semi-anechoic chamber	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
<input type="checkbox"/> No.2 Semi-anechoic chamber	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
<input checked="" type="checkbox"/> No.3 Semi-anechoic chamber	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5m
<input type="checkbox"/> No.4 Semi-anechoic chamber	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
<input type="checkbox"/> No.1 Shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
<input type="checkbox"/> No.2 Shielded room	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
<input type="checkbox"/> No.3 Shielded room	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
<input type="checkbox"/> No.4 Shielded room	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
<input type="checkbox"/> No.5 Shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
<input type="checkbox"/> No.6 Shielded room	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
<input type="checkbox"/> No.7 Shielded room	-	2.76 x 3.76 x 2.4	2.76 x 3.76	-
<input type="checkbox"/> No.8 Shielded room	-	3.45 x 5.5 x 2.4	3.45 x 5.5	-
<input type="checkbox"/> No.1 Measurement room	-	2.55 x 4.1 x 2.5	2.55 x 4.1	-

3.7 Test Setup, Data of EMI & Test instruments

Refer to Appendix 1 to 3.

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

4.1 Operating mode

The EUT exercise program used during testing was designed to exercise the various system components in a manner similar to typical use.

Test item	Operating mode	Tested frequency
All items	Receiving	902.2MHz, 914.2MHz, 926.7MHz

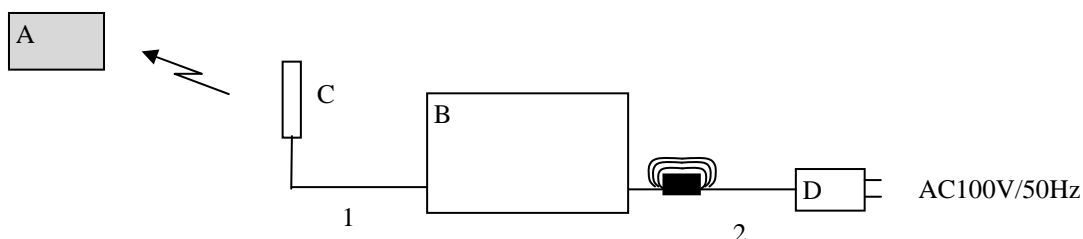
Software : N/A

* It was measured by without band, because the no difference as a result of the measurement with band and without band at pre-check.

Justification: The system was configured in typical fashion (as customer would normally use it) for testing.

4.2 Configuration and peripherals

■ : Standard ferrite core



* Test data was taken under worse case conditions.

Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	RF Glow-Wristband receiver	FFS-WP	16/17/18 *1)	Sony Engineering	EUT
B	RF transmitter	FFS-TH	No.0021	Sony Engineering	-
C	Antenna	-	-	-	-
D	AC Adaptor	SU10-102	08459031 1329	Sinpro Electronics	-

*1) 16: 902.2MHz receiving mode, 17: 914.2MHz receiving mode, 18: 926.7MHz receiving mode.

List of cables used

No.	Cable	Length (m)	Shield-Cable	Shield-Connector	Remarks
1	Coaxial	3.0	Shielded	Shielded	-
2	DC	0.8	Unshielded	Unshielded	-

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SECTION 5: Radiated emission

5.1 Operating environment

Test place : See test data (APPENDIX 1)
Temperature : See test data (APPENDIX 1)
Humidity : See test data (APPENDIX 1)

5.2 Test configuration

EUT was placed on a polyethylene platform of nominal size, 0.5m by 0.5m, raised 0.8m above the conducting ground plane. Photographs of the set up are shown in Appendix 1.

5.3 Test conditions

Frequency range : 30MHz - 5GHz
Test distance : 3m
EUT position : Table top

5.4 Test procedure

The Radiated Electric Field Strength intensity has been measured on an anechoic chamber with a ground plane and at a distance of 3m. Measurements were performed with quasi-peak, peak and average detector. The measuring antenna height was 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. The radiated emission measurements were made with the following detector function of the test receiver.

Frequency	:	30-1000MHz	1-5GHz
Detector Type	:	Quasi-Peak	Peak * Average
IF Bandwidth	:	120kHz	RBW:1MHz/VBW:3MHz RBW:1MHz/VBW:10Hz

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

The 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.

Worst position: Refer to the data.

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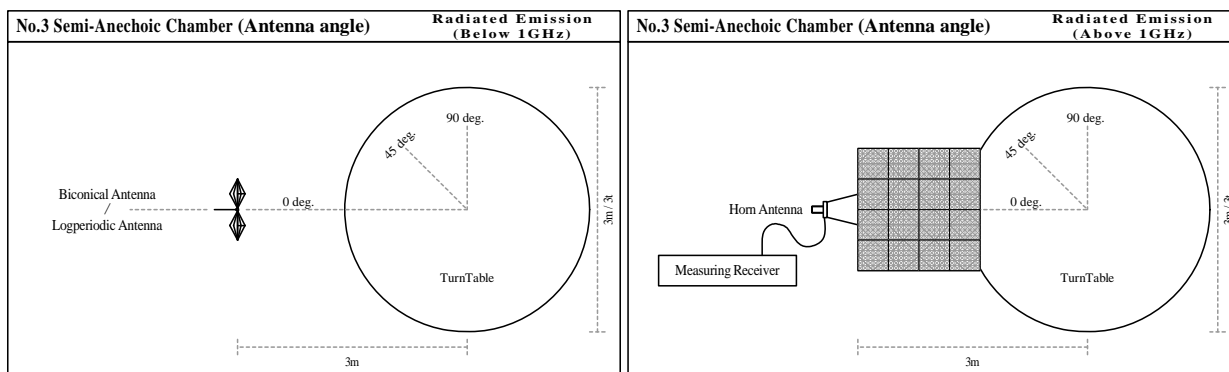


Figure 1. Antenna angle

5.5 Results

Summary of the test results : Pass
Refer to APPENDIX 1

UL Japan, Inc.

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Contents of appendixes

APPENDIX 1: Data of EMI test

Radiated emission

APPENDIX 2: Test instruments

Test instruments

APPENDIX 3: Photographs of test setup

Radiated emission

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APPENDIX 1: Data of EMI test

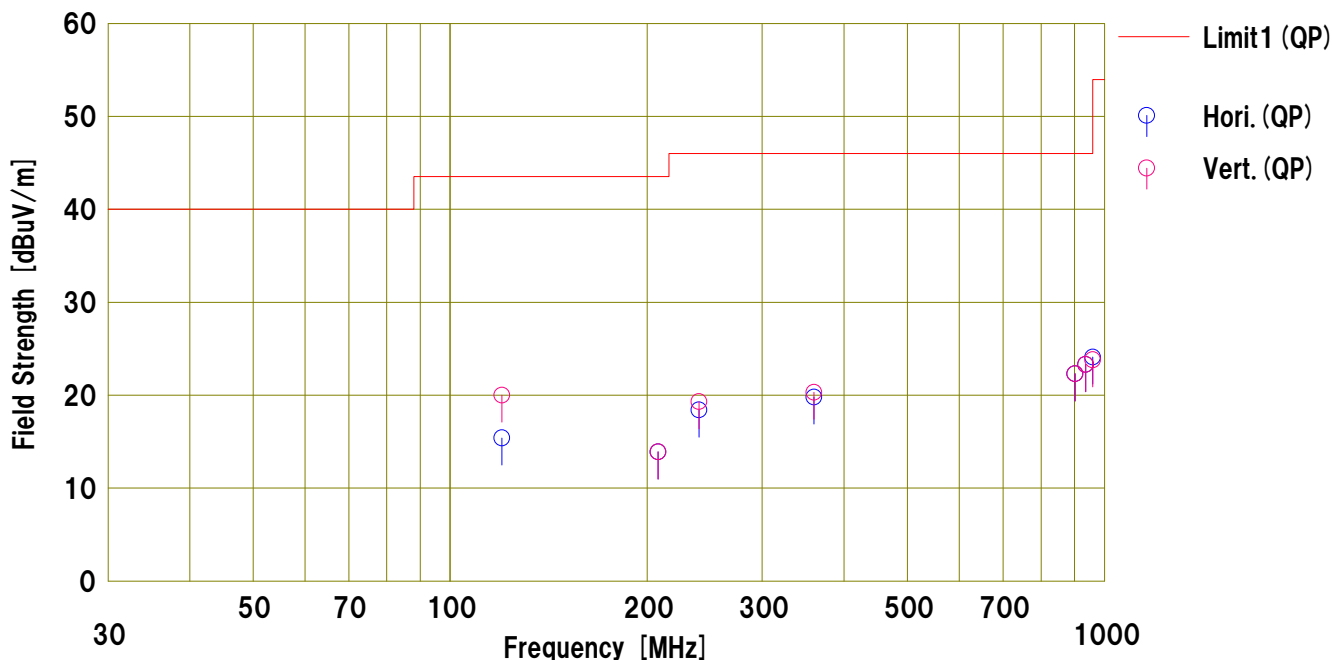
DATA OF RADIATED EMISSION TESTUL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2015/01/24

Company : Sony Engineering Corporation
 Kind of EUT : RF Glow-Wristband receiver
 Model No. : FFS-WP
 Serial No. : 16
 Remarks : EUT axis: H: Z, V: Z

Mode : Receiving 902.2MHz
 Order No. : 10569800S
 Power : DC 1.5V
 Temp./Humi. : 26deg.C / 26%RH

Limit1 : FCC 15B Class B (3m)

Engineer : Kenichi Adachi



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	<QP> [dBuV]				<QP> [dBuV/m]	<QP> [dBuV/m]	<QP> [dB]					
1	119.978	27.4	12.8	7.3	32.1	15.4	43.5	28.1	Hori.	304	0	BC	noise floor level
2	208.000	21.5	16.4	8.1	32.1	13.9	43.5	29.6	Hori.	100	0	BC	
3	239.998	25.3	16.8	8.3	32.0	18.4	46.0	27.6	Hori.	253	0	BC	
4	359.935	27.4	15.5	8.9	32.0	19.8	46.0	26.2	Hori.	205	0	LP	(FFS-FH transmit off) noise floor level
5	902.200	20.0	22.5	10.8	31.0	22.3	46.0	23.7	Hori.	100	0	LP	
6	936.000	20.4	22.8	10.9	30.8	23.3	46.0	22.7	Hori.	100	0	LP	
7	959.827	20.7	23.0	11.0	30.6	24.1	46.0	21.9	Hori.	184	0	LP	noise floor level
8	119.978	32.0	12.8	7.3	32.1	20.0	43.5	23.5	Vert.	100	0	BC	
9	208.000	21.5	16.4	8.1	32.1	13.9	43.5	29.6	Vert.	100	0	BC	
10	239.998	26.2	16.8	8.3	32.0	19.8	46.0	26.7	Vert.	113	0	BC	(FFS-FH transmit off) noise floor level
11	359.935	27.9	15.5	8.9	32.0	20.3	46.0	25.7	Vert.	178	0	LP	
12	902.200	20.0	22.5	10.8	31.0	22.3	46.0	23.7	Vert.	100	0	LP	
13	936.000	20.4	22.8	10.9	30.8	23.3	46.0	22.7	Vert.	100	0	LP	noise floor level
14	959.827	20.4	23.0	11.0	30.6	23.8	46.0	22.2	Vert.	178	0	LP	

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+ATT+ ∠AF) [dB] - Gain (AMP) [dB]
 Ant.Type=BC:Biconical Antenna LP:Logperiodic Antenna SHA**: Horn

DATA OF RADIATED EMISSION TEST

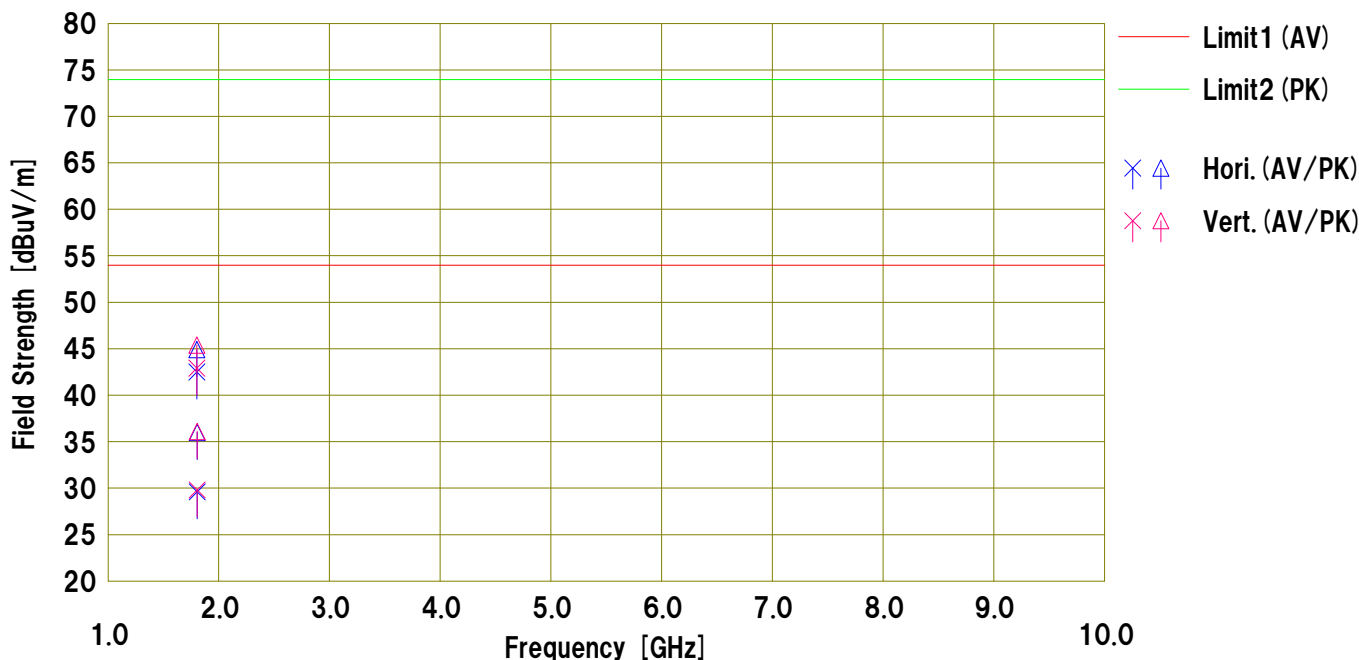
UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2015/01/24

Company : Sony Engineering Corporation
Kind of EUT : RF Glow-Wristband receiver
Model No. : FFS-WP
Serial No. : 16
Remarks : EUT axis: H: Z, V: Y

Mode : Receiving 902.2MHz
Order No. : 10569800S
Power : DC 1.5V
Temp./Humi. : 26deg.C / 26%RH

Limit1 : FCC 15B Class B (3m) AV
Limit2 : FCC 15B Class B (3m) Peak

Engineer : Kenichi Adachi



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV> [dBuV]	<PK> [dBuV]				<AV> [dBuV/m]	<PK> [dBuV/m]	<AV> [dBuV/m]	<PK> [dBuV/m]	<AV> [dB]	<PK> [dB]					
1	1803.896	54.0	56.4	25.4	4.3	41.2	42.5	44.9	53.9	73.9	11.4	29.0	Hori.	105	271	SHA03	(AV:VBW10Hz)
2	1804.400	41.1	47.5	25.4	4.3	41.2	29.6	36.0	53.9	73.9	24.3	37.9	Hori.	105	271	SHA03	(AV:VBW10Hz)
3	1803.896	54.4	56.9	25.4	4.3	41.2	42.9	45.4	53.9	73.9	11.0	28.5	Vert.	115	149	SHA03	(AV:VBW10Hz)
4	1804.400	41.3	47.6	25.4	4.3	41.2	29.8	36.1	53.9	73.9	24.1	37.8	Vert.	115	149	SHA03	(AV:VBW10Hz)

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+Filter) [dB] - Gain (AMP) [dB]
Ant.Type=BC:Biconical Antenna LP:Logperiodic Antenna SHA*: Horn

DATA OF RADIATED EMISSION TEST

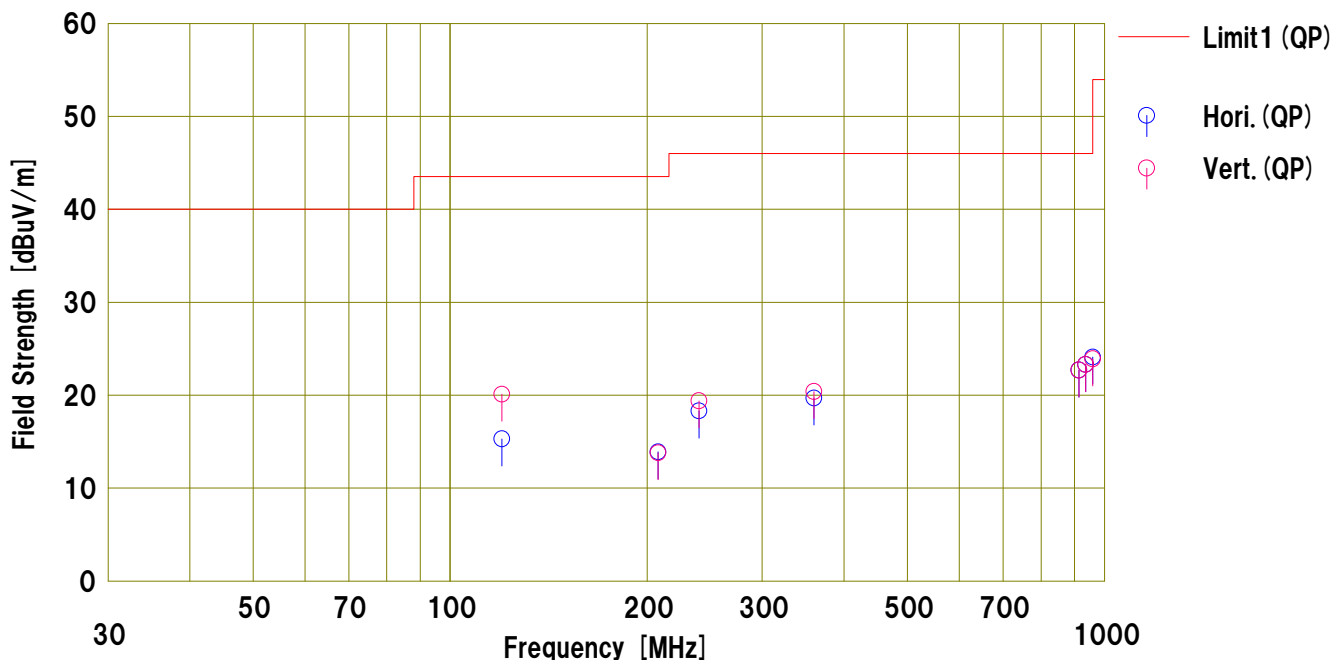
UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2015/01/24

Company : Sony Engineering Corporation
Kind of EUT : RF Glow-Wristband receiver
Model No. : FFS-WP
Serial No. : 17
Remarks : EUT axis: H: Z, V: Z

Mode : Receiving 914.2MHz
Order No. : 10569800S
Power : DC 1.5V
Temp./Humi. : 26deg.C / 26%RH

Limit1 : FCC 15B Class B (3m)

Engineer : Kenichi Adachi



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	119.979	27.3	12.8	7.3	32.1	15.3	43.5	28.2	Hori.	302	0	BC	noise floor level
2	208.000	21.5	16.4	8.1	32.1	13.9	43.5	29.6	Hori.	100	0	BC	
3	239.998	25.2	16.8	8.3	32.0	18.3	46.0	27.7	Hori.	255	0	BC	
4	359.937	27.3	15.5	8.9	32.0	19.7	46.0	26.3	Hori.	203	0	LP	(FFS-TH transmit off) noise floor level
5	914.200	20.1	22.6	10.9	30.9	22.7	46.0	23.3	Hori.	100	0	LP	
6	936.000	20.4	22.8	10.9	30.8	23.3	46.0	22.7	Hori.	100	0	LP	
7	959.826	20.7	23.0	11.0	30.6	24.1	46.0	21.9	Hori.	182	0	LP	noise floor level
8	119.979	32.1	12.8	7.3	32.1	20.1	43.5	23.4	Vert.	100	0	BC	
9	208.000	21.4	16.4	8.1	32.1	13.8	43.5	29.7	Vert.	100	0	BC	
10	239.998	26.3	16.8	8.3	32.0	19.4	46.0	26.6	Vert.	116	0	BC	(FFS-TH transmit off) noise floor level
11	359.937	28.0	15.5	8.9	32.0	20.4	46.0	25.6	Vert.	174	0	LP	
12	914.200	20.1	22.6	10.9	30.9	22.7	46.0	23.3	Vert.	100	0	LP	
13	936.000	20.4	22.8	10.9	30.8	23.3	46.0	22.7	Vert.	100	0	LP	noise floor level
14	959.826	20.5	23.0	11.0	30.6	23.9	46.0	22.1	Vert.	179	0	LP	

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+ATT+ ∠AF) [dB] - Gain (AMP) [dB]
Ant.Type=BC:Biconical Antenna LP:Logperiodic Antenna SHA**: Horn

DATA OF RADIATED EMISSION TEST

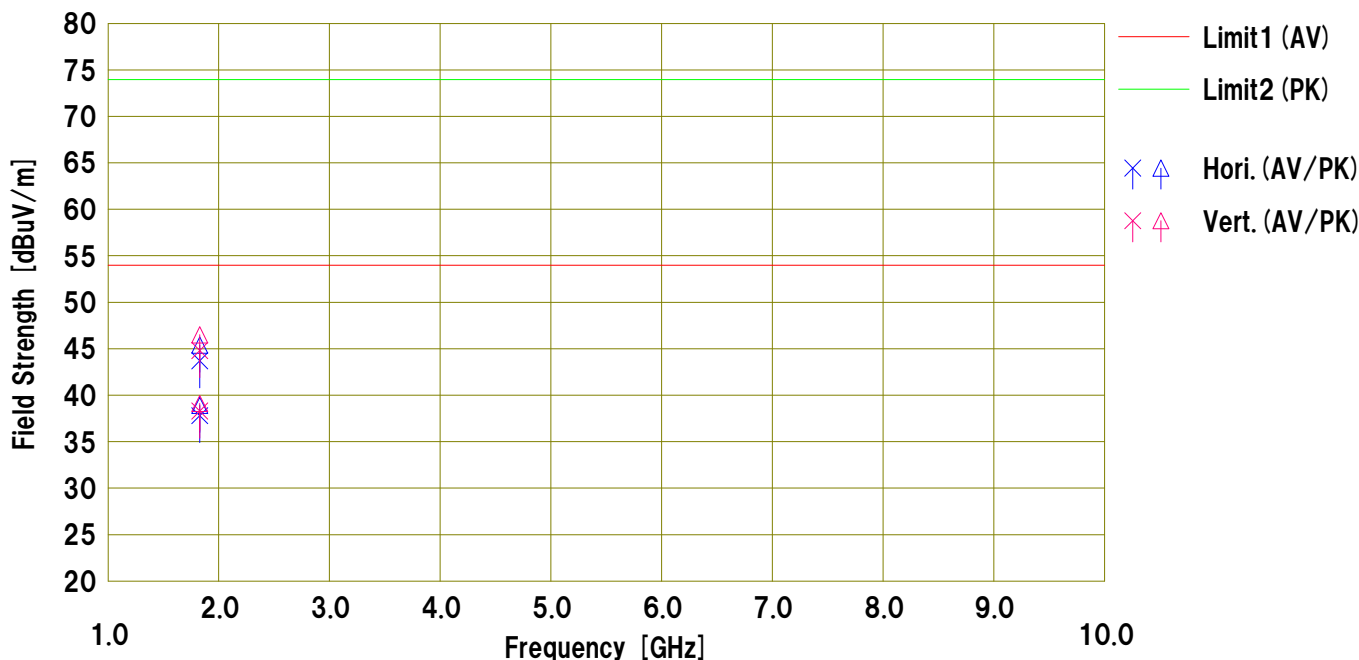
UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2015/01/24

Company : Sony Engineering Corporation
Kind of EUT : RF Glow-Wristband receiver
Model No. : FFS-WP
Serial No. : 17
Remarks : EUT axis: H: Z, V: Y

Mode : Receiving 914.2MHz
Order No. : 10569800S
Power : DC 1.5V
Temp./Humi. : 26deg.C / 26%RH

Limit1 : FCC 15B Class B (3m) AV
Limit2 : FCC 15B Class B (3m) Peak

Engineer : Kenichi Adachi



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV> [dBuV]	<PK> [dBuV]				<AV> [dBuV/m]	<PK> [dBuV/m]	<AV> [dBuV/m]	<PK> [dBuV/m]	<AV> [dB]	<PK> [dB]					
1	1827.892	55.2	56.9	25.4	4.3	41.2	43.7	45.4	53.9	73.9	10.2	28.5	Hori.	108	268	SHA03	(AV:VBW10Hz)
2	1828.400	49.3	50.4	25.4	4.3	41.2	37.8	38.9	53.9	73.9	16.1	35.0	Hori.	108	268	SHA03	(AV:VBW10Hz)
3	1827.892	56.3	58.0	25.4	4.3	41.2	44.8	46.5	53.9	73.9	9.1	27.4	Vert.	111	153	SHA03	(AV:VBW10Hz)
4	1828.400	49.8	50.6	25.4	4.3	41.2	38.3	39.1	53.9	73.9	15.6	34.8	Vert.	111	153	SHA03	(AV:VBW10Hz)

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+Filter) [dB] - Gain (AMP) [dB]
Ant.Type=BC:Biconical Antenna LP:Logperiodic Antenna SHA*:Horn

DATA OF RADIATED EMISSION TEST

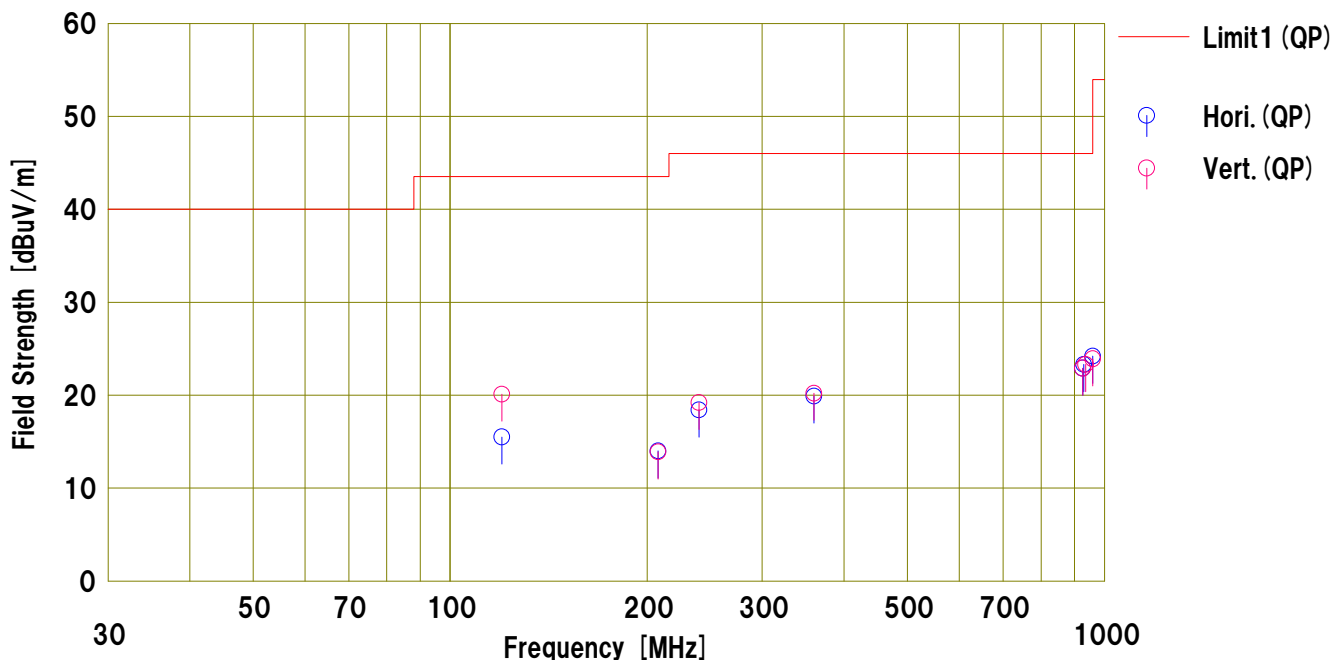
UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2015/01/24

Company : Sony Engineering Corporation
Kind of EUT : RF Glow-Wristband receiver
Model No. : FFS-WP
Serial No. : 18
Remarks : EUT axis: H: Z, V: Z

Mode : Receiving 926.7MHz
Order No. : 10569800S
Power : DC 1.5V
Temp./Humi. : 26deg.C / 26%RH

Limit1 : FCC 15B Class B (3m)

Engineer : Kenichi Adachi



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]				[dBuV/m]	[dBuV/m]	[dB]					
1	119.977	27.5	12.8	7.3	32.1	15.5	43.5	28.0	Hori.	302	0	BC	noise floor level
2	208.000	21.6	16.4	8.1	32.1	14.0	43.5	29.5	Hori.	100	0	BC	
3	239.997	25.3	16.8	8.3	32.0	18.4	46.0	27.6	Hori.	254	0	BC	
4	359.937	27.5	15.5	8.9	32.0	19.9	46.0	26.1	Hori.	204	0	LP	(FFS-TH transmit off) noise floor level
5	926.700	20.1	22.7	10.9	30.8	22.9	46.0	23.1	Hori.	100	0	LP	
6	930.000	20.4	22.8	10.9	30.8	23.3	46.0	22.7	Hori.	100	0	LP	
7	959.828	20.8	23.0	11.0	30.6	24.2	46.0	21.8	Hori.	182	0	LP	noise floor level
8	119.977	32.1	12.8	7.3	32.1	20.1	43.5	23.4	Vert.	100	0	BC	
9	208.000	21.5	16.4	8.1	32.1	13.9	43.5	29.6	Vert.	100	0	BC	
10	239.997	26.1	16.8	8.3	32.0	19.2	46.0	26.8	Vert.	114	0	BC	(FFS-TH transmit off) noise floor level
11	359.937	27.8	15.5	8.9	32.0	20.2	46.0	25.8	Vert.	100	0	LP	
12	926.700	20.1	22.7	10.9	30.8	22.9	46.0	23.1	Vert.	100	0	LP	
13	936.000	20.4	22.8	10.9	30.8	23.3	46.0	22.7	Vert.	100	0	LP	noise floor level
14	959.828	20.5	23.0	11.0	30.6	23.9	46.0	22.1	Vert.	176	0	LP	

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+ATT+ ∠AF) [dB] - Gain (AMP) [dB]
Ant.Type=BC:Biconical Antenna LP:Logperiodic Antenna SHA**: Horn

DATA OF RADIATED EMISSION TEST

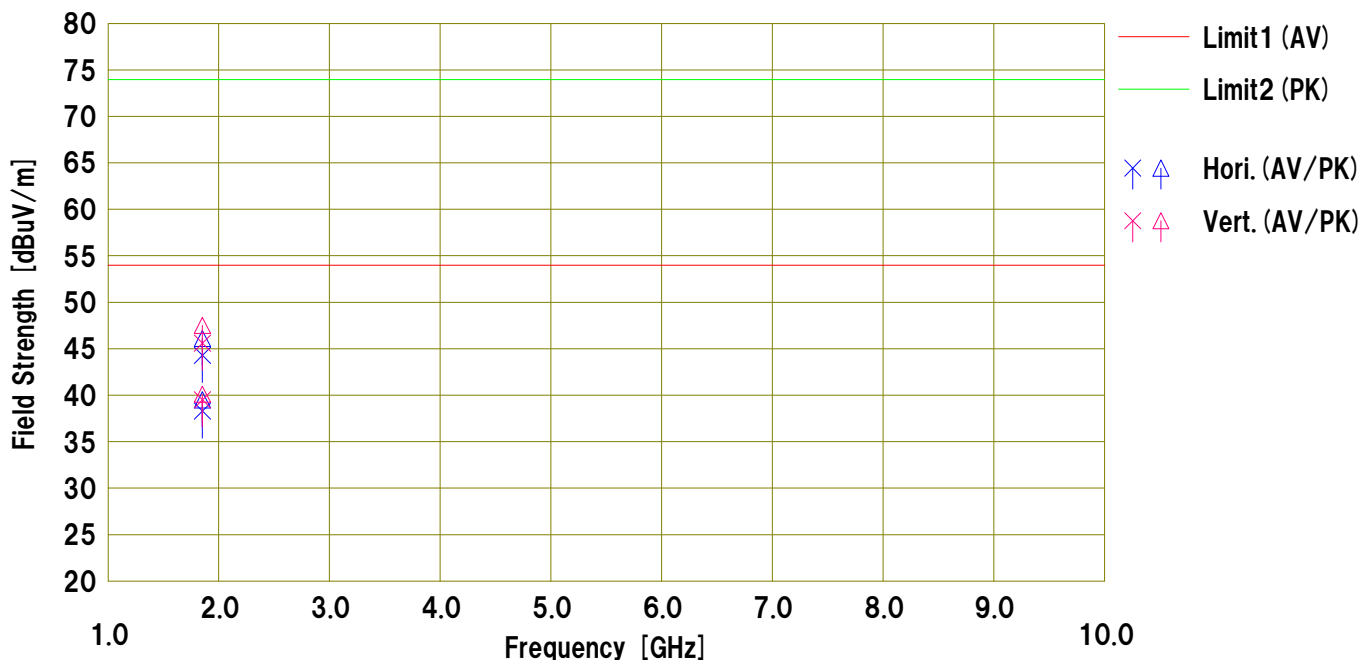
UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2015/01/24

Company : Sony Engineering Corporation
Kind of EUT : RF Glow-Wristband receiver
Model No. : FFS-WP
Serial No. : 18
Remarks : EUT axis: H: Z, V: Y

Mode : Receiving 926.7MHz
Order No. : 10569800S
Power : DC 1.5V
Temp./Humi. : 26deg.C / 26%RH

Limit1 : FCC 15B Class B (3m) AV
Limit2 : FCC 15B Class B (3m) Peak

Engineer : Kenichi Adachi



No.	Freq. [MHz]	Reading		Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result		Limit		Margin		Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
		<AV> [dBuV]	<PK> [dBuV]				<AV> [dBuV/m]	<PK> [dBuV/m]	<AV> [dBuV/m]	<PK> [dBuV/m]	<AV> [dB]	<PK> [dB]					
1	1852.879	55.7	57.5	25.5	4.3	41.2	44.3	46.1	53.9	73.9	9.6	27.8	Hori.	106	169	SHA03	(AV:VBW10Hz)
2	1853.400	49.7	50.9	25.5	4.3	41.2	38.3	39.5	53.9	73.9	15.6	34.4	Hori.	106	169	SHA03	(AV:VBW10Hz)
3	1852.879	57.0	58.9	25.5	4.3	41.2	45.6	47.5	53.9	73.9	8.3	26.4	Vert.	112	147	SHA03	(AV:VBW10Hz)
4	1853.400	50.9	51.5	25.5	4.3	41.2	39.5	40.1	53.9	73.9	14.4	33.8	Vert.	112	147	SHA03	(AV:VBW10Hz)

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+Filter) [dB] - Gain (AMP) [dB]
Ant.Type=BC:Biconical Antenna LP:Logperiodic Antenna SHA*: Horn

APPENDIX 2

Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2014/07/14 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2014/10/18 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE	2014/10/18 * 12
SAT6-08	Attenuator	HIROSE ELECTRIC CO.,LTD.	AT-406(40)	-	RE	2014/08/27 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/ Suhner/Suhner/Suhner/ TOYO	8D2W/12DSFA/14 1PE/141PE/141PE /141PE/NS4906	-/0901-271(RF Selector)	RE	2014/04/25 * 12
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2014/02/14 * 12
STR-06	Test Receiver	Rohde & Schwarz	ESCI	101259	RE	2014/03/04 * 12
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE, RF,IMF)	-	RE	-
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2014/10/30 * 12
SJM-15	Measure	ASKUL	-	-	RE	-
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2014/08/12 * 12
SCC-G04	Coaxial Cable	Junkosha	J12J102207-00	JUN-12-14-018	RE	2014/06/24 * 12
SFL-01	Highpass Filter	MICRO-TRONICS	HPM50115	001	RE	2014/11/21 * 12
KFL-21	Highpass Filter	MICRO-TRONICS	HPM50115	002	RE	2014/04/10 * 12
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2014/05/23 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2014/05/15 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE	2014/03/17 * 12

The expiration date of the calibration is the end of the expired month .

As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards.

Test Item :

RE: Radiated emission ,