



EMI TEST REPORT

Test Report No.: 10012582S

Applicant : Sony Engineering Corporation
Type of Equipment : RF glow-stick receiver
Model No. : FFS-R
FCC ID : 2AADJFFS-R
Test regulation : FCC Part15 Subpart B: 2012
Test result : Complied

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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:

May 27, 2013

Representative test engineer:

H. Shirasawa

Hikaru Shirasawa
Engineer of WiSE Japan,
UL Verification Service

Approved by:

T. Imamura

Toyokazu Imamura
Leader of WiSE Japan,
UL Verification Service



- ☐ 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

Original Test Report No.: 10012582S

[illegible]

Shonan EMC Lab.

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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-stick receiver
Model Number	:	FFS-R
Serial Number	:	No.1(Receiving 902.2MHz) No.2(Receiving 914.2MHz) No.3(Receiving 926.7MHz) No.4(Receiving Hopping)
Rating	:	DC3V
Country of Mass-production	:	Vietnam
Condition of EUT	:	Production model
Receipt Date of Sample	:	May 27, 2013
Modification of EUT	:	No modification by the test lab.

2.2 Product description

Model: FFS-R (referred to as the EUT in this report) is a RF glow-stick receiver .

Clock frequency(ies) in the system : 30MHz (RF IC), 16MHz (MCU)

<Radio part>

Equipment type	: Receiver
Frequency of operation	: 902.2-926.7MHz
Type of modulation	: FHSS
Antenna type	: Chip antenna (internal)
Antenna gain	: -4.5dBi
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: 2012,
final revised on December 27, 2012 and effective January 28, 2013
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)*2)	N/A	N/A
Radiated emission	ANSI C63.4: 2009 8. Radiated emission measurements	FCC 15.109 (a)	N/A	19.6dB Freq.: 210.000 MHz Detector: Quasi-Peak Polarization: Vertical Mode: Receiving 926.7MHz and Receiving Hopping	Complied
Antenna power conduction for receivers	ANSI C63.4: 2009 12.1.5 Antenna-conducted power measurements	FCC 15.111 (a)	N/A *3)	N/A	N/A
*1) The calibration of test receiver contains CISPR 16-1-1 requirements. *2) The test is not applicable since the EUT does not have AC Mains ports. *3) 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: 2012.

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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	5.1 dB	4.9 dB
	300MHz-1GHz	5.0 dB	5.2 dB	4.9 dB
	1GHz-18GHz	4.8 dB	4.8 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

	FCC Registration No.	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	697847	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
<input type="checkbox"/> No.2 semi-anechoic chamber	697847	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	697847	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	-

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 sequence is used:

- 1) Receiving 902.2MHz
- 2) Receiving 914.2MHz
- 3) Receiving 926.7MHz
- 4) Receiving Hopping

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

4.2 Configuration and peripherals

This page has been submitted for separate exhibit.

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SECTION 5: Radiated emission

5.1 Operating environment

The test was carried out in No.3 semi-anechoic chamber.

Temperature : Refer to data
Humidity : Refer to data

5.2 Test configuration

EUT was placed on a urethane 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 EUT was tested in the direction normally used.

The noise levels were confirmed at each position of X and Y axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

Worst case:

Antenna polarization	Below 1GHz	Above 1GHz
Horizontal	Y	X
Vertical	Y	X

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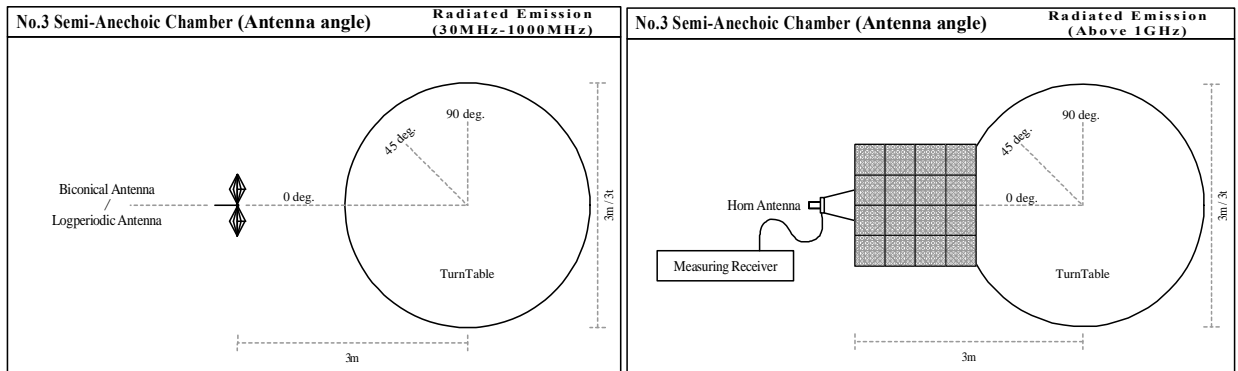


Figure 1. Antenna angle

5.5 Results

Summary of the test results : Pass

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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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DATA OF RADIATED EMISSION TEST

UL Japan,Inc. Shonan EMC Lab. No.3 Semi - Anechoic Chamber
Date : 2013/05/27

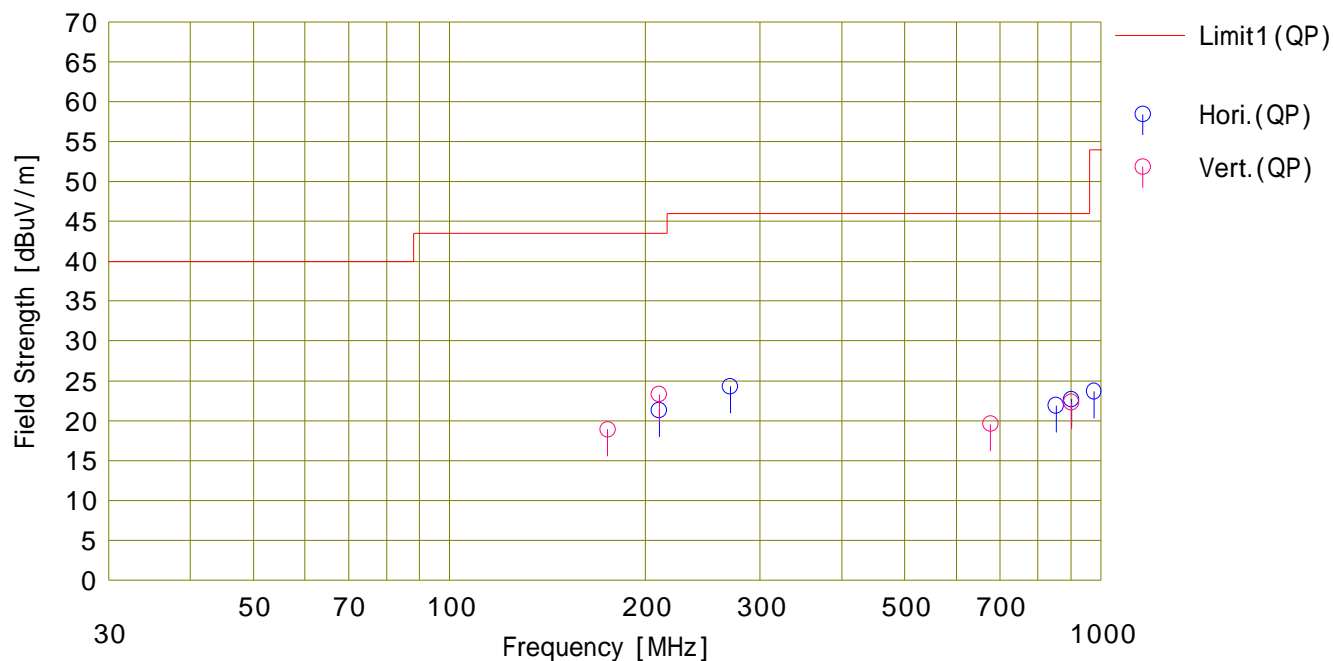
Company : Sony Engineering Corporation
Kind of EUT : RF glow-stick receiver
Model No. : FFS-R
Serial No. : No.1

Mode : Receiving 902.2MHz
Order No. : 10012582S
Power : DC 3V
Temp./Humi. : 24deg.C. / 57%RH

Remarks : EUT:Y

Limit1 : FCC 15B Class B (3m)

Engineer : Hikaru Shirasawa



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	<QP>				<QP>	<QP>	<QP>					
1	210.000	28.8	16.5	8.0	32.0	21.3	43.5	22.2	Hori.	301	359	BC	
2	270.000	29.8	18.1	8.4	32.0	24.3	46.0	21.7	Hori.	400	147	BC	
3	854.553	20.9	21.6	10.7	31.3	21.9	46.0	24.1	Hori.	100	270	LP	
4	902.200	20.6	22.3	10.8	31.0	22.7	46.0	23.3	Hori.	100	0	LP	
5	976.305	20.0	22.9	11.1	30.3	23.7	53.9	30.2	Hori.	150	359	LP	
6	175.000	27.5	15.7	7.8	32.1	18.9	43.5	24.6	Vert.	100	333	BC	
7	210.000	30.8	16.5	8.0	32.0	23.3	43.5	20.2	Vert.	100	349	BC	
8	677.086	21.4	20.0	10.1	31.9	19.6	46.0	26.4	Vert.	100	217	LP	
9	902.200	20.2	22.3	10.8	31.0	22.3	46.0	23.7	Vert.	100	0	LP	

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Date : 2013/05/27

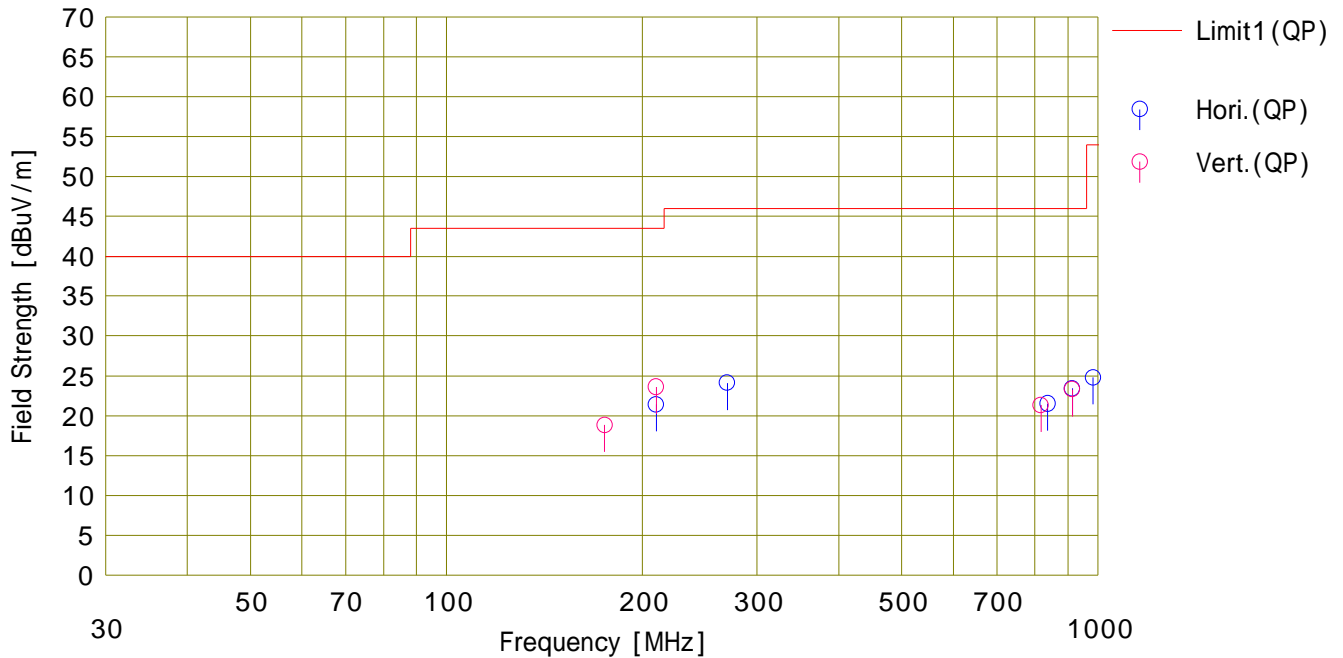
Company : Sony Engineering Corporation
Kind of EUT : RF glow-stick receiver
Model No. : FFS-R
Serial No. : No.2

Mode : Receiving 914.2MHz
Order No. : 10012582S
Power : DC 3V
Temp./Humi. : 24deg.C. / 57%RH

Remarks : EUT:Y

Limit1 : FCC 15B Class B (3m)

Engineer : Hikaru Shirasawa



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]				<QP>	<QP>	<QP>					
1	210.000	28.9	16.5	8.0	32.0	21.4	43.5	22.1	Hori.	300	140	BC	
2	270.000	29.6	18.1	8.4	32.0	24.1	46.0	21.9	Hori.	400	135	BC	
3	837.446	20.8	21.4	10.7	31.4	21.5	46.0	24.5	Hori.	150	0	LP	
4	914.200	21.0	22.4	10.9	30.9	23.4	46.0	22.6	Hori.	150	0	LP	
5	983.232	21.1	22.9	11.1	30.3	24.8	53.9	29.1	Hori.	100	1	LP	
6	175.000	27.4	15.7	7.8	32.1	18.8	43.5	24.7	Vert.	100	88	BC	
7	210.000	31.1	16.5	8.0	32.0	23.6	43.5	19.9	Vert.	100	0	BC	
8	817.726	21.1	21.1	10.6	31.5	21.3	46.0	24.7	Vert.	100	142	LP	
9	914.200	20.9	22.4	10.9	30.9	23.3	46.0	22.7	Vert.	100	0	LP	

DATA OF RADIATED EMISSION TEST

UL Japan,Inc. Shonan EMC Lab. No.3 Semi - Anechoic Chamber
Date : 2013/05/27

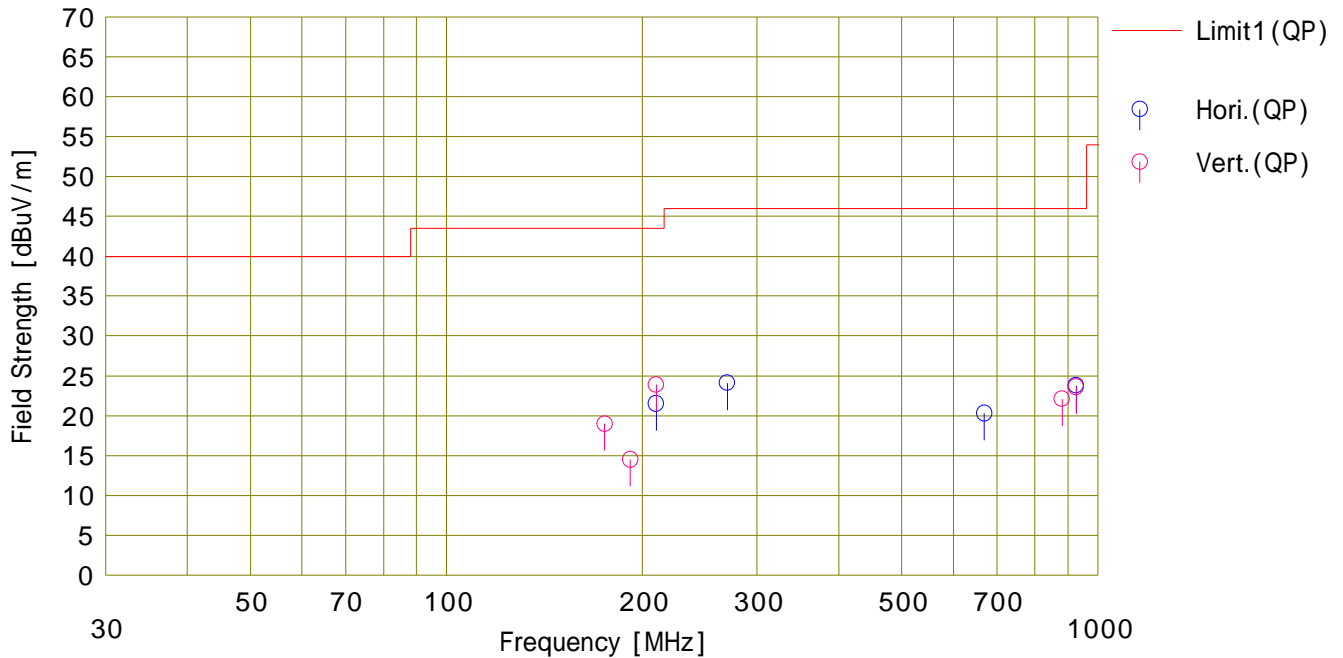
Company : Sony Engineering Corporation
Kind of EUT : RF glow-stick receiver
Model No. : FFS-R
Serial No. : No.3

Mode : Receiving 926.7MHz
Order No. : 10012582S
Power : DC 3V
Temp./Humi. : 24deg.C. / 57%RH

Remarks : EUT:Y

Limit1 : FCC 15B Class B (3m)

Engineer : Hikaru Shirasawa



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]				<QP>	<QP>	<QP>					
1	210.000	29.0	16.5	8.0	32.0	21.5	43.5	22.0	Hori.	306	17	BC	
2	270.000	29.6	18.1	8.4	32.0	24.1	46.0	21.9	Hori.	400	289	BC	
3	669.629	22.2	19.9	10.1	31.9	20.3	46.0	25.7	Hori.	100	185	LP	
4	926.700	21.2	22.5	10.9	30.8	23.8	46.0	22.2	Hori.	100	185	LP	
5	175.000	27.6	15.7	7.8	32.1	19.0	43.5	24.5	Vert.	135	41	BC	
6	191.599	22.5	16.1	7.9	32.0	14.5	43.5	29.0	Vert.	100	359	BC	
7	210.000	31.4	16.5	8.0	32.0	23.9	43.5	19.6	Vert.	100	268	BC	
8	880.923	20.5	22.0	10.8	31.2	22.1	46.0	23.9	Vert.	100	90	LP	
9	926.700	21.0	22.5	10.9	30.8	23.6	46.0	22.4	Vert.	100	0	LP	

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UL Japan,Inc. Shonan EMC Lab. No.3 Semi - Anechoic Chamber
Date : 2013/05/27

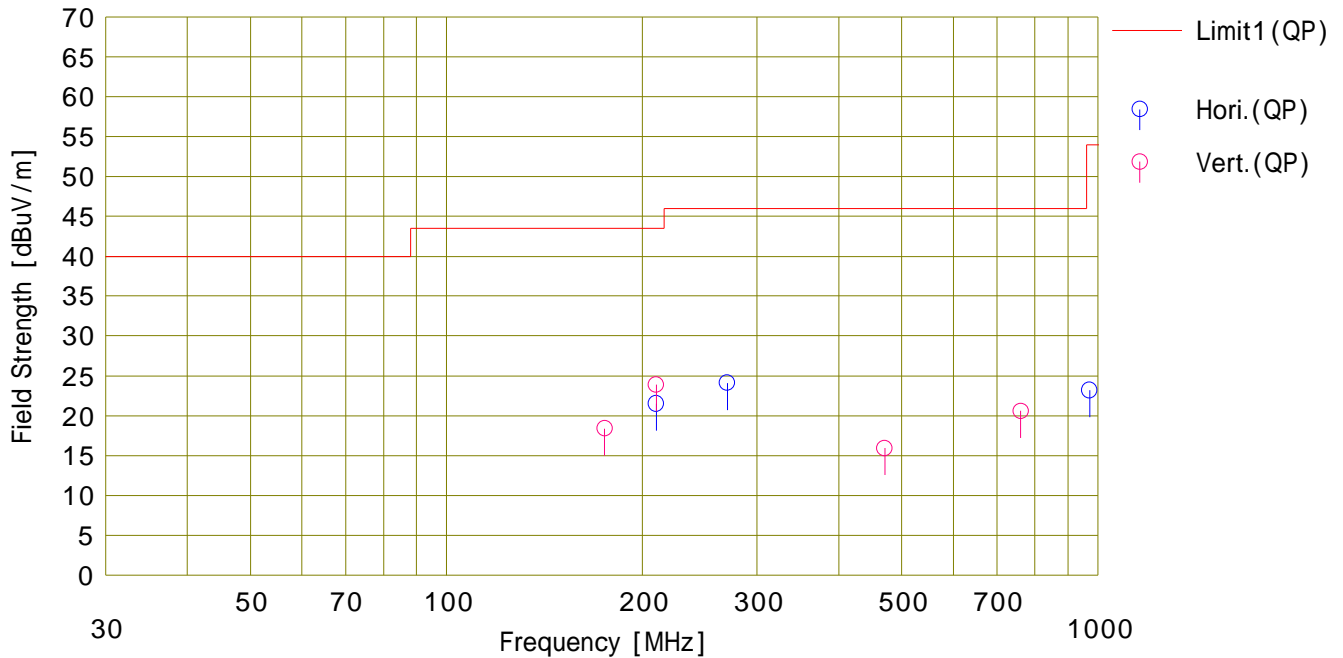
Company : Sony Engineering Corporation
Kind of EUT : RF glow-stick receiver
Model No. : FFS-R
Serial No. : No.4

Mode : Receiving Hopping
Order No. : 10012582S
Power : DC 3V
Temp./Humi. : 24deg.C. / 57%RH

Remarks : EUT:Y

Limit1 : FCC 15B Class B (3m)

Engineer : Hikaru Shirasawa



No.	Freq.	Reading	Ant.Fac	Loss	Gain	Result	Limit	Margin	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]				<QP>	<QP>	<QP>					
1	210.000	29.0	16.5	8.0	32.0	21.5	43.5	22.0	Hori.	297	0	BC	
2	270.000	29.6	18.1	8.4	32.0	24.1	46.0	21.9	Hori.	400	255	BC	
3	971.131	19.8	22.8	11.0	30.4	23.2	53.9	30.7	Hori.	100	0	LP	
4	175.000	27.0	15.7	7.8	32.1	18.4	43.5	25.1	Vert.	100	8	BC	
5	210.000	31.4	16.5	8.0	32.0	23.9	43.5	19.6	Vert.	100	293	BC	
6	470.850	21.4	17.1	9.3	31.9	15.9	46.0	30.1	Vert.	100	42	LP	
7	761.673	21.3	20.6	10.4	31.7	20.6	46.0	25.4	Vert.	100	95	LP	

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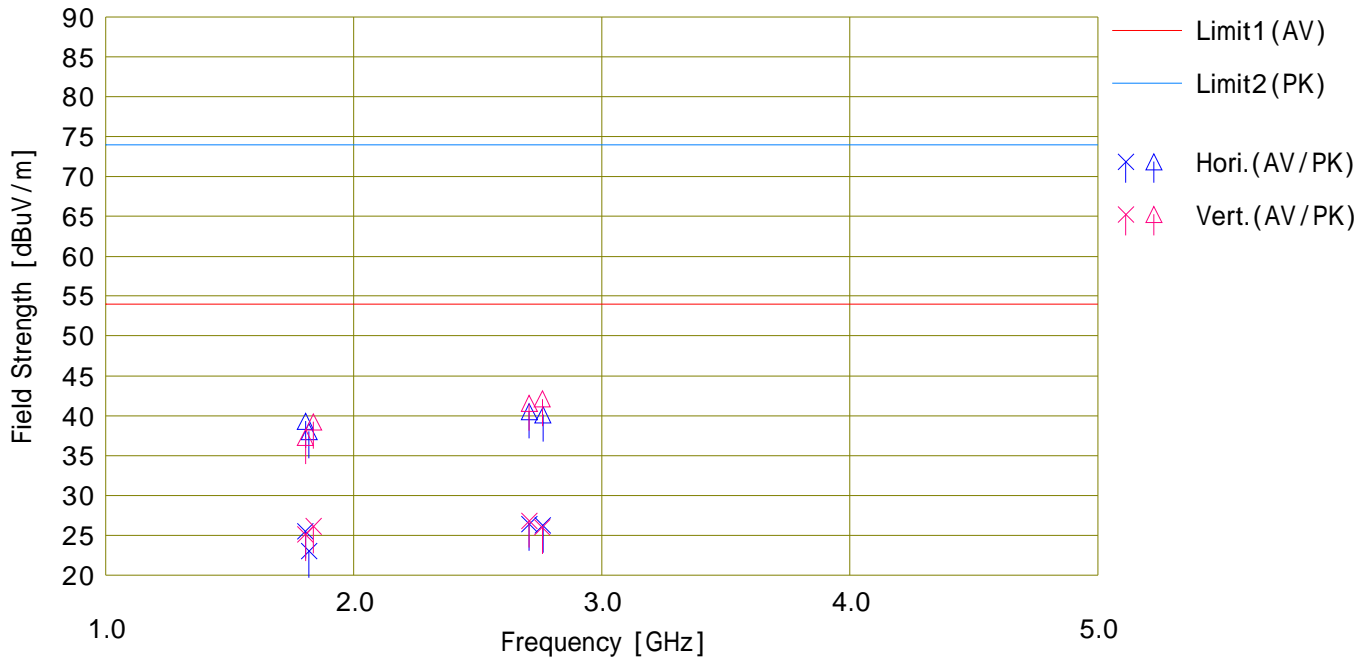
Company : Sony Engineering Corporation
Kind of EUT : RF glow-stick receiver
Model No. : FFS-R
Serial No. : No.1

Mode : Receiving 902.2MHz
Order No. : 10012582S
Power : DC 3V
Temp./Humi. : 24deg.C. / 57%RH

Remarks : EUT:X

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

Engineer : Hikaru Shirasawa



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>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]					
1	1804.400	35.9	49.7	26.1	4.6	41.1	25.5	39.3	53.9	73.9	28.4	34.6	Hori.	202	0	SHA03	
2	1819.055	33.4	48.4	26.1	4.6	41.1	23.0	38.0	53.9	73.9	30.9	35.9	Hori.	100	193	SHA03	
3	2706.600	34.1	48.2	27.9	5.8	41.4	26.4	40.5	53.9	73.9	27.5	33.4	Hori.	100	0	SHA03	
4	2762.250	33.7	47.6	28.0	5.9	41.4	26.2	40.1	53.9	73.9	27.7	33.8	Hori.	100	359	SHA03	
5	1804.400	35.5	47.7	26.1	4.6	41.1	25.1	37.3	53.9	73.9	28.8	36.6	Vert.	100	0	SHA03	
6	1837.341	36.4	49.5	26.2	4.6	41.1	26.1	39.2	53.9	73.9	27.8	34.7	Vert.	100	293	SHA03	
7	2706.600	34.5	49.2	27.9	5.8	41.4	26.8	41.5	53.9	73.9	27.1	32.4	Vert.	100	79	SHA03	
8	2760.306	33.5	49.6	28.0	5.9	41.4	26.0	42.1	53.9	73.9	27.9	31.8	Vert.	100	0	SHA03	

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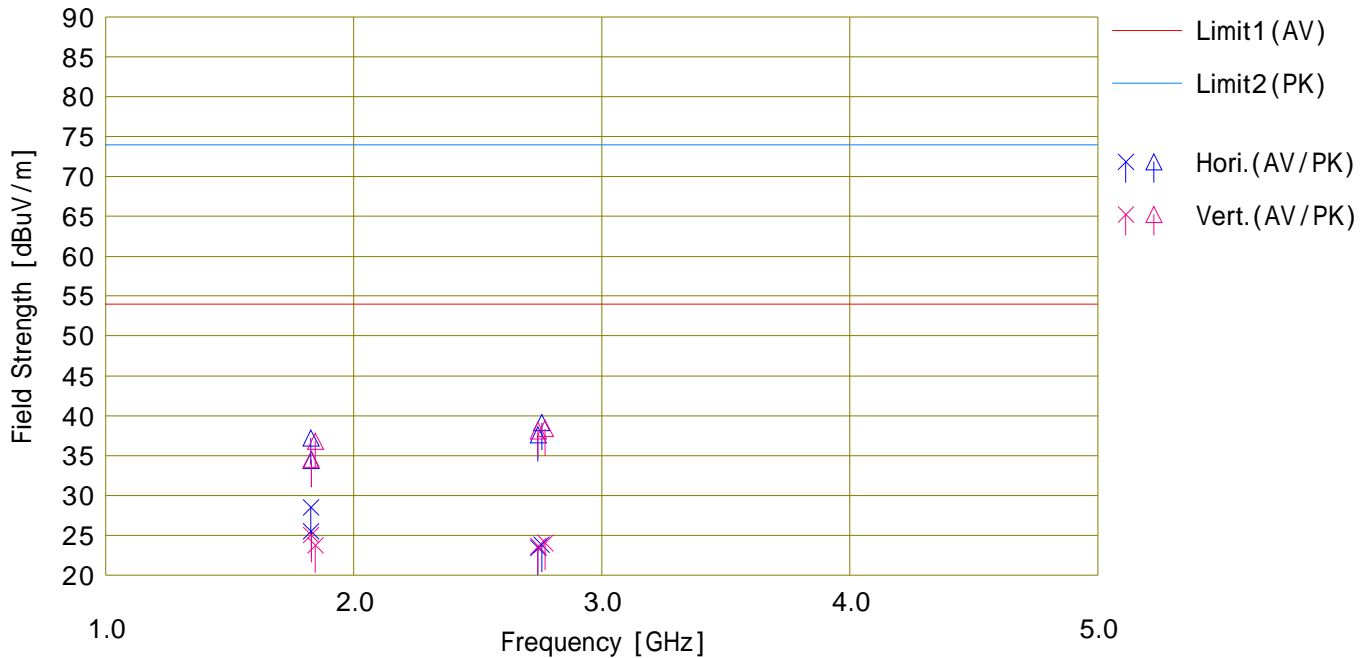
Company : Sony Engineering Corporation
Kind of EUT : RF glow-stick receiver
Model No. : FFS-R
Serial No. : No.2

Mode : Receiving 914.2MHz
Order No. : 10012582S
Power : DC 3V
Temp./Humi. : 24deg.C. / 57%RH

Remarks : EUT:X

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

Engineer : Hikaru Shirasawa



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>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]					
1	1826.480	38.8	47.5	26.2	4.6	41.1	28.5	37.2	53.9	73.9	25.4	36.7	Hori.	104	56	SHA03	
2	1828.400	35.8	44.7	26.2	4.6	41.1	25.5	34.4	53.9	73.9	28.4	39.5	Hori.	204	0	SHA03	
3	2742.600	31.0	45.2	28.0	5.8	41.4	23.4	37.6	53.9	73.9	30.5	36.3	Hori.	100	0	SHA03	
4	2757.605	31.3	46.6	28.0	5.9	41.4	23.8	39.1	53.9	73.9	30.1	34.8	Hori.	100	0	SHA03	
5	1828.400	35.3	44.8	26.2	4.6	41.1	25.0	34.5	53.9	73.9	28.9	39.4	Vert.	100	293	SHA03	
6	1844.533	34.0	47.1	26.2	4.6	41.1	23.7	36.8	53.9	73.9	30.2	37.1	Vert.	100	297	SHA03	
7	2742.600	31.2	45.7	28.0	5.8	41.4	23.6	38.1	53.9	73.9	30.3	35.8	Vert.	100	0	SHA03	
8	2770.978	31.5	45.9	28.0	5.9	41.4	24.0	38.4	53.9	73.9	29.9	35.5	Vert.	100	0	SHA03	

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi-Anechoic Chamber
Date : 2013/05/27

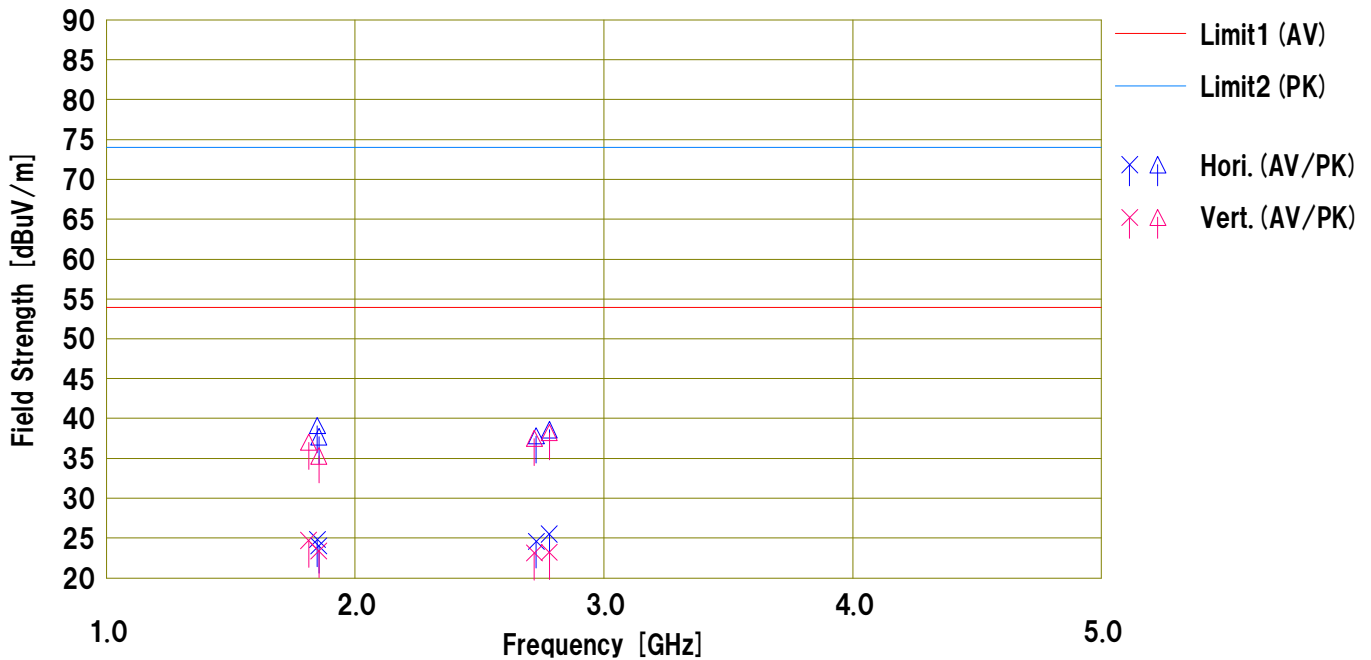
Company : Sony Engineering Corporation
Kind of EUT : RF glow-stick receiver
Model No. : FFS-R
Serial No. : No.3

Mode : Receiving 926.7MHz
Order No. : 10012582S
Power : DC 3V
Temp./Humi. : 24deg.C. / 57%RH

Remarks : EUT:X

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

Engineer : Hikaru Shirasawa



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>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]					
1	1847.334	35.0	49.3	26.3	4.6	41.1	24.8	39.1	53.9	73.9	29.1	34.8	Hori	194	359	SHAO3	
2	1853.400	34.2	47.9	26.3	4.6	41.1	24.0	37.7	53.9	73.9	29.9	36.2	Hori	190	0	SHAO3	
3	2728.027	32.2	45.4	28.0	5.8	41.4	24.6	37.8	53.9	73.9	29.3	36.1	Hori	115	359	SHAO3	
4	2780.100	32.9	46.0	28.1	5.9	41.4	25.5	38.6	53.9	73.9	28.4	35.3	Hori	135	0	SHAO3	
5	1813.364	35.1	47.4	26.1	4.6	41.1	24.7	37.0	53.9	73.9	29.2	36.9	Vert.	100	0	SHAO3	
6	1853.400	33.6	45.5	26.3	4.6	41.1	23.4	35.3	53.9	73.9	30.5	38.6	Vert.	154	359	SHAO3	
7	2720.436	30.7	45.1	28.0	5.8	41.4	23.1	37.5	53.9	73.9	30.8	36.4	Vert.	100	359	SHAO3	
8	2780.100	30.6	45.6	28.1	5.9	41.4	23.2	38.2	53.9	73.9	30.7	35.7	Vert.	100	0	SHAO3	

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+ATT) [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 : 2013/05/27

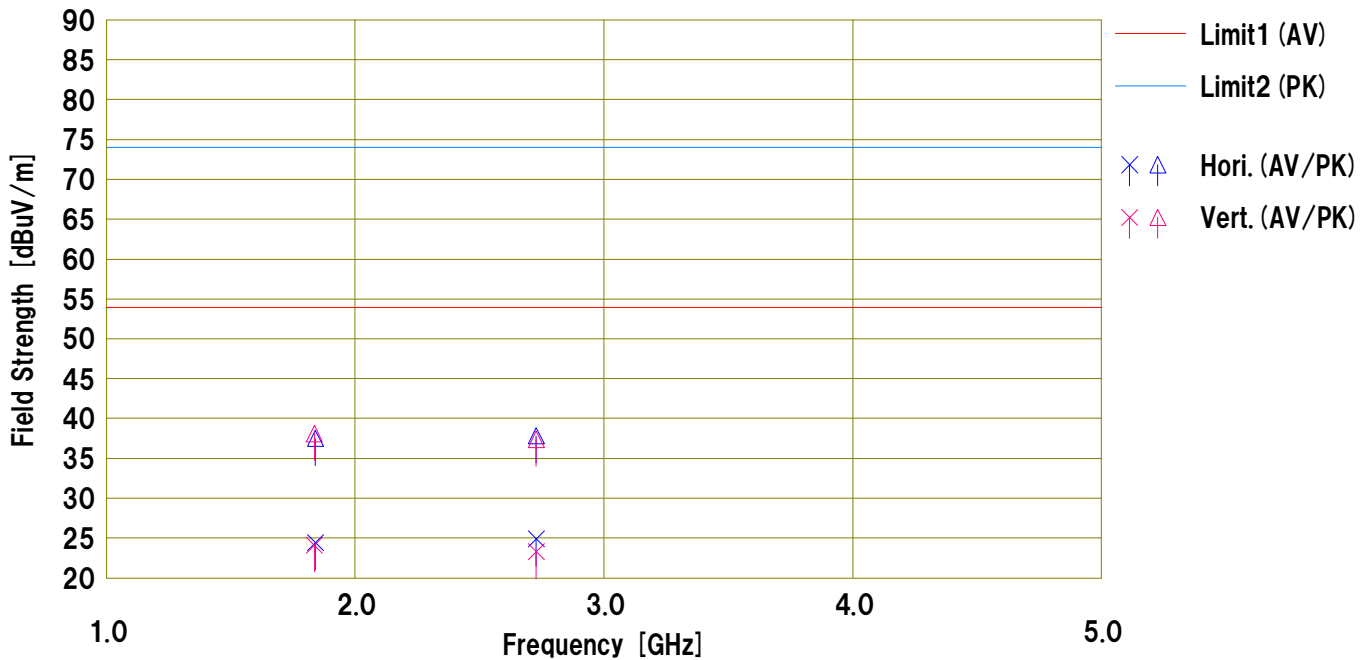
Company : Sony Engineering Corporation
Kind of EUT : RF glow-stick receiver
Model No. : FFS-R
Serial No. : No.4

Mode : Receiving Hopping
Order No. : 10012582S
Power : DC 3V
Temp./Humi. : 24deg.C. / 57%RH

Remarks : EUT:X

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

Engineer : Hikaru Shirasawa



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>	<PK>				<AV>	<PK>	<AV>	<PK>	<AV>	<PK>					
		[dBuV]	[dBuV]				[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]					
1	1839.380	34.7	47.8	26.2	4.6	41.1	24.4	37.5	53.9	73.9	29.5	36.4	Hori	188	0	SHAO3	
2	2727.078	32.5	45.4	28.0	5.8	41.4	24.9	37.8	53.9	73.9	29.0	36.1	Hori	117	359	SHAO3	
3	1836.358	34.4	48.4	26.2	4.6	41.1	24.1	38.1	53.9	73.9	29.8	35.8	Vert.	170	0	SHAO3	
4	2727.617	30.9	45.0	28.0	5.8	41.4	23.3	37.4	53.9	73.9	30.6	36.5	Vert.	105	293	SHAO3	

Calculation: Result [dBuV/m] = Reading [dBuV] + Ant.Fac [dB/m] + Loss (Cable+ATT) [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)
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2013/02/12 * 12
SAT6-06	Attenuator	JFW	50HF-006N	-	RE	2013/02/12 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2012/10/08 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271 (RF Selector)	RE	2013/04/03 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE	2012/10/08 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2013/02/27 * 12
STR-06	Test Receiver	Rohde & Schwarz	ESCI	101259	RE	2013/02/27 * 12
SJM-11	Measure	PROMART	SEN1935	-	RE	-
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2012/09/21 * 12
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE,RFI,MF)	-	RE	-
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE	2012/07/18 * 12
SCC-G03	Coaxial Cable	Suhner	SUCOFLEX 104A	46499/4A	RE	2013/04/11 * 12
SCC-G23	Coaxial Cable	Suhner	SUCOFLEX 104	297342/4	RE	2013/05/22 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE	2012/08/17 * 12
STR-03	Test Receiver	Rohde & Schwarz	ESI40	100054/040	RE	2012/06/14 * 12
SFL-01	Highpass Filter	MICRO-TRONICS	HPM50115	001	RE	2012/12/18 * 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