

# EMI TEST REPORT

Project No. : SG-Z0009-C  
Model No. : SW-2001Q-CL-F  
Serial No. : a0003  
Regulation Applied : 47 CFR Part 15 Subpart B, Class B  
Final Judgment : Passed  
Sample Receipt : December 27, 2016  
Testing : December 27, 2016  
Reported : January 10, 2017

## Test Facility

### Address of Test Facility

Test Facility Name : Sony Global Manufacturing & Operations Corporation  
EMC/ RF Test Laboratory, Main Lab.  
Address : Kisarazu Site 8-4 Shiomi Kisarazu-shi Chiba, 292-0834 Japan  
Phone : +81 438 37 2750

### Conducted Emissions

Shielded Room  
 EMC Site       4th Site

### Radiated Emissions

Semi-Anechoic chamber  
 EMC Site       4th Site

Reported by:



Yoichi Furukawa

Test Engineer  
EMC/RF Test Laboratory Main Lab.  
Design Technology Division  
Sony Global Manufacturing & Operations Corporation

Reviewed by:



Teruki Kurihara

Technical Manager  
EMC/RF Test Laboratory Main Lab.  
Design Technology Division  
Sony Global Manufacturing & Operations Corporation

# 1 General Information

## 1.1 Summary of Test Result

Other Class B digital devices & peripherals

Test Item	Worst Margin	Measurement Detector	Test Frequency	Results
Conducted Emission	3.3 dB(AV) 1.348 MHz N	Average, Quasi-peak	0.15 MHz - 30 MHz	Complied
Radiated Emission Below 1 GHz	5.5 dB(QP) 960.00 MHz Horizontal	Quasi-peak	30 MHz - 1000 MHz	Complied
Radiated Emission Above 1 GHz	-	Peak, Average	1 GHz – 6 GHz	N/A *1

Note

\*1: This test item does not be tested based on client request

## 2 System Test Configuration

### 2.1 Operating Condition

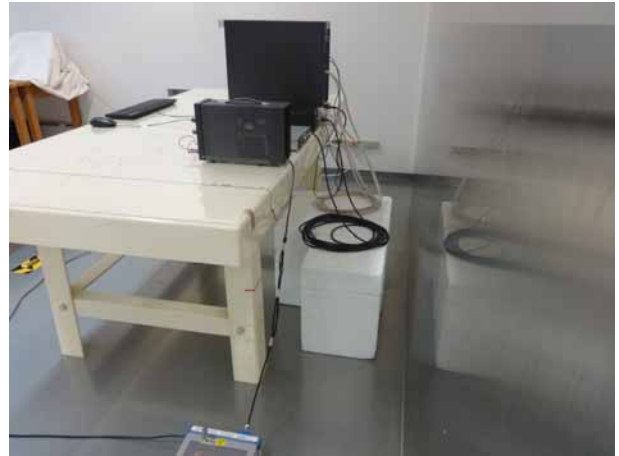
Power supply Voltage : AC 100 V, 50 Hz (For Conducted Emission)  
: DC 12 V (For Radiated Emissions)

Operating Condition : Continuous Mode

### 3 Photographs of test setup

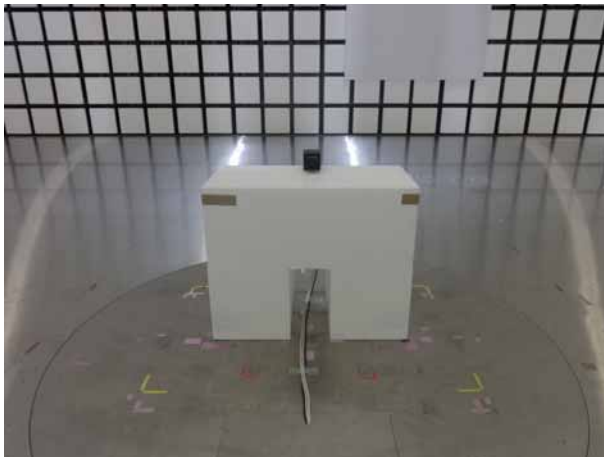
#### 3.1 Conducted Emissions Measurement Photo(s)

Continuous Mode



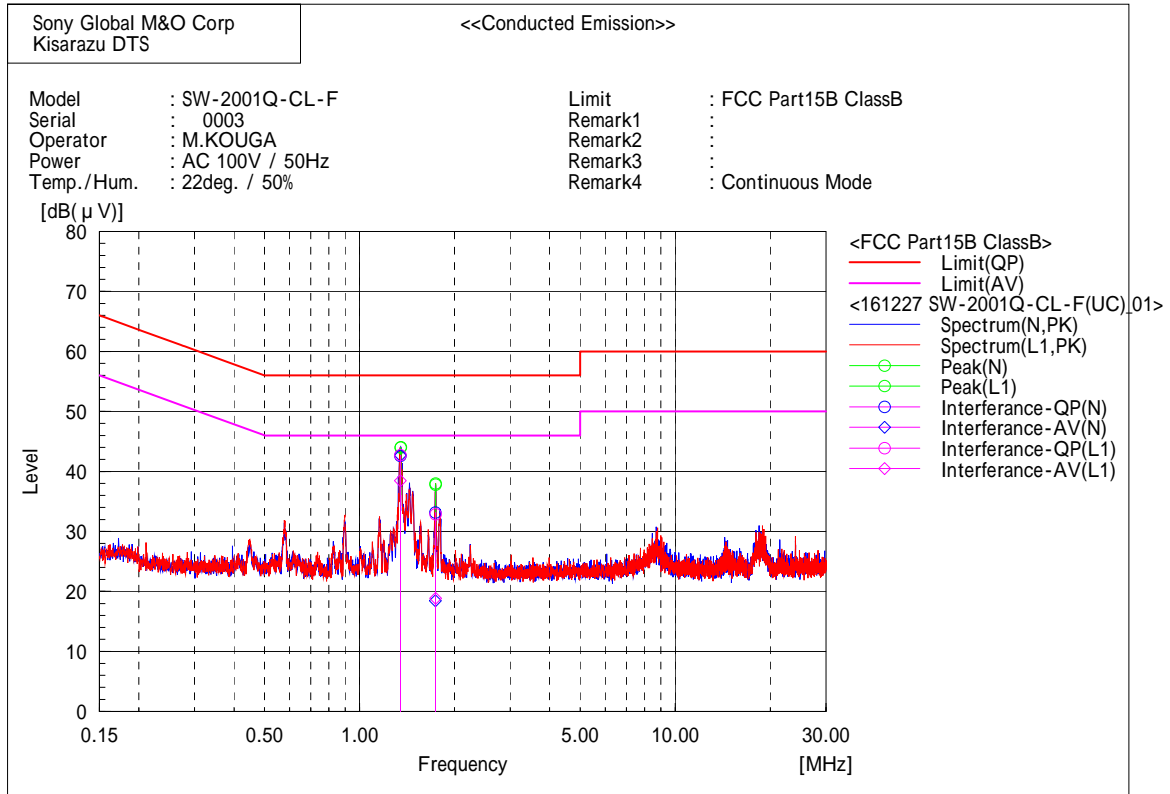
#### 3.2 Radiated Emissions Measurement Photo(s)

Continuous Mode



# 4 Test Data

## 4.1 Conducted Emissions



### Final Result

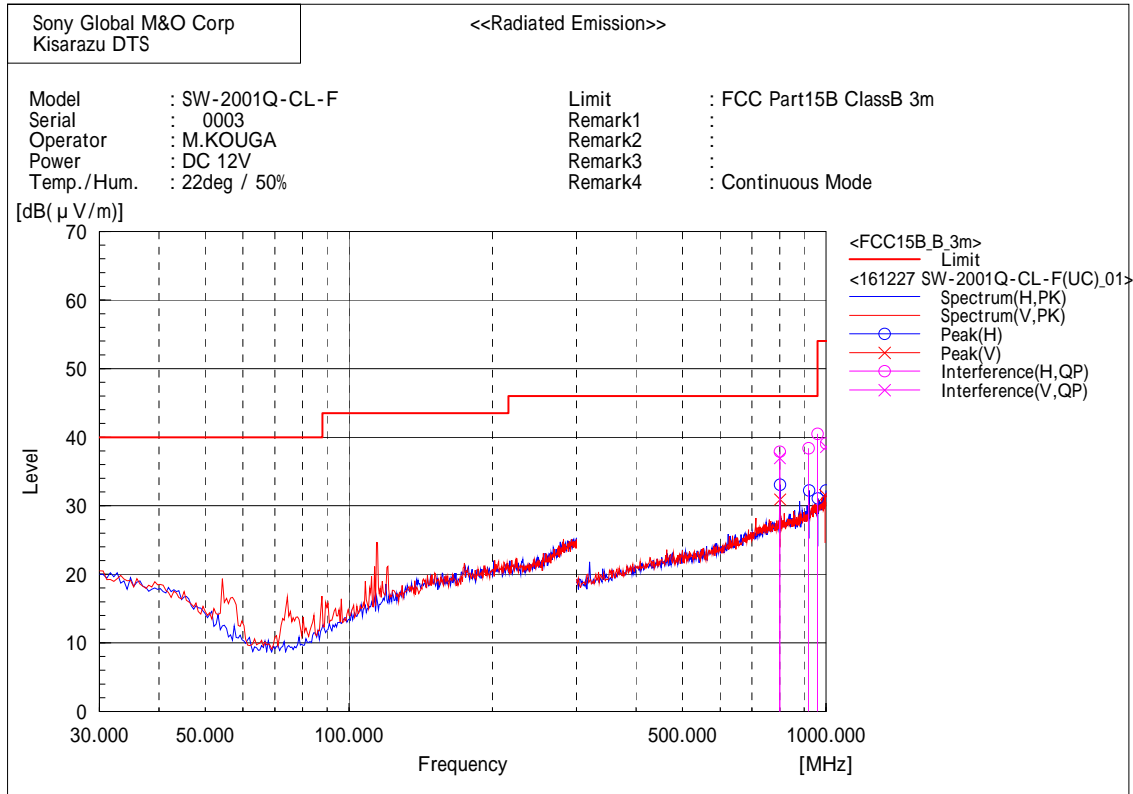
--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	1.348	26.7	26.8	15.9	42.6	42.7	56.0	46.0	13.4	3.3
2	1.740	17.2	2.5	15.9	33.1	18.4	56.0	46.0	22.9	27.6

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(μV)]	Reading AV [dB(μV)]	c. f [dB]	Result QP [dB(μV)]	Result AV [dB(μV)]	Limit QP [dB(μV)]	Limit AV [dB(μV)]	Margin QP [dB]	Margin AV [dB]
1	1.348	26.8	22.5	15.9	42.7	38.4	56.0	46.0	13.3	7.6
2	1.740	16.9	2.9	15.9	32.8	18.8	56.0	46.0	23.2	27.2

## 4.2 Radiated Emissions



### Final Result

#### --- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	800.000	9.8	28.1	37.9	46.0	8.1	100.0	154.7
2	920.000	9.1	29.3	38.4	46.0	7.6	153.9	144.4
3	960.000	10.3	30.2	40.5	46.0	5.5	156.0	150.7
4	1000.000	8.5	30.6	39.1	54.0	14.9	100.0	325.1

#### --- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Height [cm]	Angle [°]
1	800.004	8.8	28.1	36.9	46.0	9.1	206.0	191.1
2	1000.000	8.0	30.6	38.6	54.0	15.4	158.1	22.3

## 5 List of Test Equipment

All test results are traceable to the national and/or international standards.

### 5.1 Conducted Emissions

4th Site 10m Semi-Anechoic Chamber:

	Ctrl.#	Equipment	Model No.	Serial No.	Manufacturer	Cal.Int.	Last Cal.
x	M515	EMI Receiver	ESCI	100606	Rohde & Schwarz	12	16.08.04
x	CS043	4th Site CE Cable SYSTEM	-	-	EMC/RF Test Lab.	12	16.06.02
x	M664	6dB Attenuator	6806.01A	N/A	HUBER+SUHNER AG	12	16.06.02
x	M619	HIGH FREQUENCY FUSE	MP612A	N/A	Anritsu	12	16.06.02
x	M505	LISN (for Peripheral)	ENV216	100425	Rohde & Schwarz	12	16.06.23
x	M514	LISN (for EUT)	ENV216	100424	Rohde & Schwarz	12	16.05.25
-	M153	50 ohm Terminator	CT-01	N/A	TME	12	16.06.23
-	M159	50 ohm Terminator	T1302	N/A	Stack	12	16.07.16
-	M165	50 ohm Terminator	T1302	N/A	Stack	12	16.06.02
x	M690	Thermo Meter	AD-5640A	201304	A&D	12	16.11.07

### 5.2 Radiated Emissions

4th Site 10m Semi-Anechoic Chamber:

	Ctrl.#	Equipment	Model No.	Serial No.	Manufacturer	Cal.Int.	Last Cal.
x	M506	EMC Chamber	10m	-	TDK	12	16.06.04
-	M486	EMI Receiver	ESU40	100050	Rohde & Schwarz	12	16.02.23
x	M485	EMI Receiver	ESCI	100626	Rohde & Schwarz	12	16.04.18
x	M669	EMI Receiver	N9038A	MY51210223	Keysight Technologies	12	16.06.08
-	A073	Loop Antenna	HPF2-Z2	100171	Rohde & Schwarz	12	16.10.04
x	A043	Biconical Antenna	BBA9106	V5(91032598)	Schwarzbeck	12	16.06.01
x	A046	Log periodic Antenna	UHALP9108A1	0830	Schwarzbeck	12	16.06.01
-	A056	Horn Antenna (1-6GHz)	BBHA9120D	670	Schwarzbeck	12	16.08.29
-	A057	Horn Antenna (6-18GHz)	HAP6-18W	00000016	TOYO Corp.	12	16.06.02
-	A058	Horn Antenna (18-26.5GHz)	HAP18-26W	00000016	TOYO Corp.	12	16.01.26
-	A060	Horn Antenna (26.5-40GHz)	HAP26-40W	00000009	TOYO Corp.	12	16.10.07
x	CS037	Fourth Site RE Cable SYS1	-	-	EMC/RF Test Lab.	12	16.06.02
-	CS039	Fourth Site RE Cable SYS3	-	-	EMC/RF Test Lab.	12	16.06.04
-	CS064/065	Fourth Site RE Cable SYS8	-	-	EMC/RF Test Lab.	12	16.06.04
x	M706	3dB Attenuator	8491A	MY39267782	Keysight Technologies	12	16.06.02
x	M510	RF Selector	NS4900	0802-226	TOYO Corp.	12	16.06.02
-	M620	RF Pre-Amp	8447D	2944A10720	Keysight Technologies	12	16.06.04
-	M831	GHz Filter Box	FB-G1	002	Sony EMCS	12	16.06.04
x	M689	Thermo Meter	AD-5640A	201303	A&D	12	16.11.07

About calibration interval

Valid until the end of the month listed in "Cal. Int." column.