

DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Shonan EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/09/15

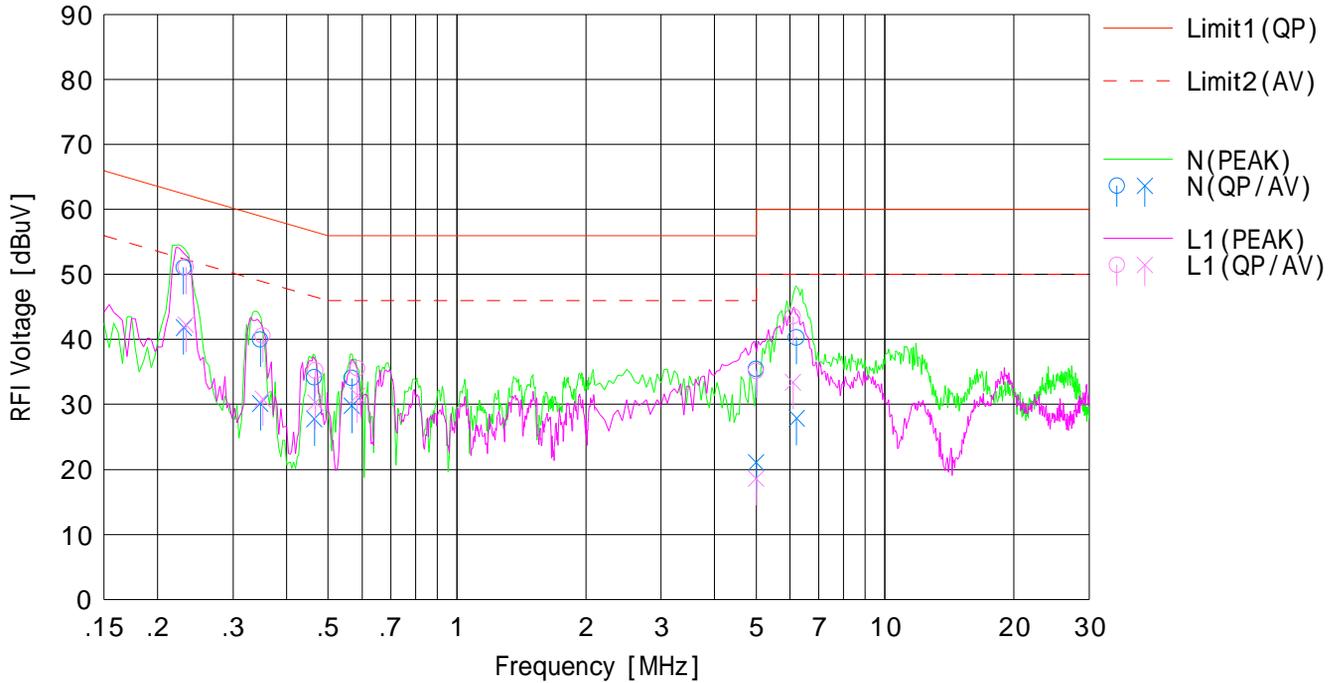
Company : Sony Corporation
Kind of EUT : TransferJet Module
Model No. : CXN5001
Serial No. : 00001002

Mode : Transmitting
Report No. : 29KE0089-SH-01-A
Power : AC120V / 60Hz
Temp./Humi. : 26 / 53%

Remarks :

Limit1 : FCC 15B(15.107) ClassB QP
Limit2 : FCC 15B(15.107) ClassB AV

Engineer : Tatsuya Arai



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP> [dBuV]	<AV> [dBuV]		<QP> [dBuV]	<AV> [dBuV]	<QP> [dBuV]	<AV> [dBuV]	<QP> [dB]	<AV> [dB]		
1	0.23016	41.4	32.1	9.7	51.1	41.8	62.4	52.4	11.3	10.6	N	
2	0.34749	30.3	20.4	9.7	40.0	30.1	59.0	49.0	19.0	18.9	N	
3	0.46475	24.5	18.1	9.7	34.2	27.8	56.6	46.6	22.4	18.8	N	
4	0.56813	24.4	20.1	9.7	34.1	29.8	56.0	46.0	22.0	16.2	N	
5	4.99990	25.6	11.2	9.9	35.5	21.1	56.0	46.0	20.5	24.9	N	
6	6.21443	30.3	17.9	10.0	40.3	27.9	60.0	50.0	19.7	22.1	N	
7	0.23306	41.5	32.5	9.7	51.2	42.2	62.3	52.3	11.2	10.1	L1	
8	0.35199	30.9	21.1	9.7	40.6	30.8	58.9	48.9	18.3	18.1	L1	
9	0.46745	25.5	20.6	9.7	35.2	30.3	56.6	46.6	21.4	16.3	L1	
10	0.58553	25.9	21.7	9.7	35.6	31.4	56.0	46.0	20.5	14.7	L1	
11	4.99990	25.3	8.8	9.9	35.2	18.7	56.0	46.0	20.8	27.3	L1	
12	6.10473	33.6	23.4	10.0	43.6	33.4	60.0	50.0	16.4	16.6	L1	

Calculation: Result [dBuV] = Reading [dBuV] + C.Fac (LISN+Cable) [dB]

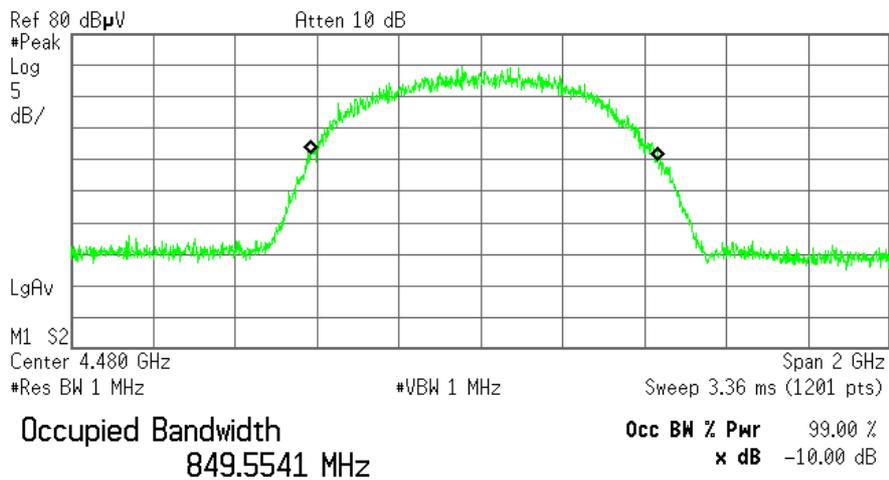
Bandwidth (Regulation: FCC 15.503(d) 519(b))

COMPANY : Sony Corporation
Equipment : TransferJet Module
MODEL NUMBER: CXN5001
SERIAL NUMBER: 00001003
POWER : DC5V
Remarks : -

UL Japan, Inc. SHONAN No.3 Shield Room
REPORT No. : 29KE0089-SH-01-A
REGULATION : FCC Part15SubpartF 503(d) 519(b)
DATE : 2009/8/14
TEMP./HUMI : 24°C/55%
TEST MODE : Transmitting
ENGINEER : Tatsuya Arai

10dB Bandwidth: 765.4MHz (LIMIT: >500MHz)
Occupied Bandwidth (99%) : 849.6MHz

※ Agilent



Transmit Freq Error 8.285 MHz
x dB Bandwidth 765.447 MHz

Start Frequency: 3480MHz
Stop Frequency: 5480MHz

DATA OF RADIATION TEST (Regulation: FCC 15.519(c))

UL Japan, Inc.
SHONAN NO.3 SEMI-ANECHOIC CHAMBER
Report No. : 29KE0089-SH-01-A

Company : Sony Corporation
Equipment : TransferJet Module
Model : CXN5001
Sample No. : 00001003
Power : DC5V
Mode : Transmitting

Regulation : FCC Part15F Section 15.519(c)
Test Distance : 3m / 0.5m / 0.3m / 0.1m
Date : 2009/8/14
Temperature : 24deg.C
Humidity : 55%
ENGINEER : Tatsuya Arai

Horizontal (RBW: 1MHz)

No.	FREQ [MHz]	READING [dBuV]	ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	Distance Factor [dB]	RESULT		LIMIT [dBm]	MARGIN [dB]	Detector
							3m [dBuV/m]	EIRP [dBm]			
1	1607.00	36.0	25.2	39.6	1.5	15.6	7.5	-87.7	-75.3	12.4	RMS
2	1980.00	36.3	26.3	39.9	1.8	15.6	8.9	-86.3	-63.3	23.0	RMS
3	3080.00	37.0	28.6	40.2	2.2	15.6	12.0	-83.2	-61.3	21.9	RMS
4	4480.00	43.6	29.8	39.8	2.6	15.6	20.6	-74.6	-41.3	33.3	RMS
5	5956.00	35.7	33.1	38.3	3.1	15.6	18.0	-77.2	-41.3	35.9	RMS
6	7900.00	36.7	37.2	38.5	3.8	15.6	23.5	-71.7	-41.3	30.4	RMS
7	8960.00	35.1	37.3	37.3	3.9	15.6	23.3	-71.9	-41.3	30.6	RMS
8	13440.00	35.4	40.9	36.9	4.6	20.0	24.0	-71.2	-61.3	9.9	RMS
9	17920.00	36.9	46.8	37.7	5.7	20.0	31.7	-63.5	-61.3	2.2	RMS
10	22400.00	36.0	40.1	44.9	6.2	20.0	17.4	-77.8	-61.3	16.5	RMS
11	26880.00	57.8	43.5	68.2	7.5	29.5	11.1	-84.1	-61.3	22.8	RMS
12	31360.00	53.1	43.8	64.2	8.6	29.5	11.8	-83.4	-61.3	22.1	RMS
13	35840.00	60.7	43.2	70.6	8.9	29.5	12.7	-82.5	-61.3	21.2	RMS

No1-7 0.5m, No.8-10: 0.3m, No11-13: 0.1m

Vertical (RBW: 1MHz)

No.	FREQ [MHz]	READING [dBuV]	ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	Distance Factor [dB]	RESULT		LIMIT [dBm]	MARGIN [dB]	Detector
							3m [dBuV/m]	EIRP [dBm]			
1	1600.00	36.6	25.2	39.6	1.5	15.6	8.1	-87.1	-75.3	11.8	RMS
2	1980.00	37.1	26.3	39.9	1.8	15.6	9.7	-85.5	-63.3	22.2	RMS
3	3080.00	37.0	28.6	40.2	2.2	15.6	12.0	-83.2	-61.3	21.9	RMS
4	4480.00	44.1	29.8	39.8	2.6	15.6	21.1	-74.1	-41.3	32.8	RMS
5	5958.20	36.0	33.1	38.3	3.1	15.6	18.2	-77.0	-41.3	35.7	RMS
6	7897.00	37.0	37.2	38.5	3.8	15.6	23.9	-71.3	-41.3	30.0	RMS
7	8960.00	34.7	37.3	37.3	3.9	15.6	23.0	-72.2	-41.3	30.9	RMS
8	13440.00	35.4	40.9	36.9	4.6	20.0	24.0	-71.2	-61.3	9.9	RMS
9	17920.00	38.5	46.8	37.7	5.7	20.0	33.3	-61.9	-61.3	0.6	RMS
10	22400.00	35.9	40.1	44.9	6.2	20.0	17.3	-77.9	-61.3	16.6	RMS
11	26880.00	57.5	43.5	68.2	7.5	29.5	10.8	-84.4	-61.3	23.1	RMS
12	31360.00	53.1	43.8	64.2	8.6	29.5	11.8	-83.4	-61.3	22.1	RMS
13	35840.00	60.3	43.2	70.6	8.9	29.5	12.3	-82.9	-61.3	21.6	RMS

No1-7 0.5m, No.8-10: 0.3m, No11-13: 0.1m

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + Loss (Cable + ATT) - Distance Factor

Distance Factor calculation 0.5m: $20 \cdot \log(3.0[m]/0.5[m]) = 15.6[\text{dB}]$

0.3m: $20 \cdot \log(3.0[m]/0.3[m]) = 20.0[\text{dB}]$

RESULT (EIRP) = RESULT (3m field strength) - 95.2

Emissions from digital circuitry (limits in Section 15.209)

Horizontal

No.	FREQ [MHz]	READING [dBuV]	ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	Distance Factor [dB]	RESULT 3m [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	Detector
1	680.00	31.1	20.0	31.9	9.6	0.0	28.8	46.0	17.2	QP
2	760.01	30.6	20.6	31.6	9.9	0.0	29.5	46.0	16.5	QP
3	840.00	30.0	21.2	31.4	10.1	0.0	29.9	46.0	16.1	QP

Vertical

No.	FREQ [MHz]	READING [dBuV]	ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	Distance Factor [dB]	RESULT 3m [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	Detector
1	680.00	28.2	20.0	31.9	9.7	0.0	26.0	46.0	20.0	QP

DATA OF RADIATION TEST (Regulation: FCC 15.519(d))

UL Japan, Inc.
 SHONAN NO.3 SEMI-ANECHOIC CHAMBER
 Report No. : 29KE0089-SH-01-A

Company : Sony Corporation
 Equipment : TransferJet Module
 Model : CXN5001
 Sample No. : 00001003
 Power : DC5V
 Mode : Transmitting

Regulation : FCC Part15F Section 15.519(d)
 Test Distance : 0.5m
 Date : 2009/8/14
 Temperature : 24deg.C
 Humidity : 55%

ENGINEER : Tatsuya Arai

Horizontal (RBW: 1kHz)

No.	FREQ [MHz]	READING [dBuV]	ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	Distance Factor [dB]	RESULT		LIMIT [dBuV/m]	MARGIN [dB]	Detector
							3m [dBuV/m]	EIRP [dBm]			
1	1238.86	13.7	24.3	39.7	1.4	15.6	-15.9	-111.1	-85.3	25.8	RMS
2	1607.96	13.7	25.2	39.6	1.6	15.6	-14.7	-109.9	-85.3	24.6	RMS

Vertical (RBW: 1kHz)

No.	FREQ [MHz]	READING [dBuV]	ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	Distance Factor [dB]	RESULT		LIMIT [dBuV/m]	MARGIN [dB]	Detector
							3m [dBuV/m]	EIRP [dBm]			
1	1239.09	14.5	24.3	39.7	1.4	15.6	-15.1	-110.3	-85.3	25.0	RMS
2	1609.24	14.8	25.2	39.6	1.6	15.6	-13.7	-108.9	-85.3	23.6	RMS

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + Loss (Cable + ATT) - Distance Factor

Distance Factor calculation: $20 \cdot \log(3.0[m]/0.5[m]) = 15.6[dB]$

RESULT (EIRP) = RESULT (3m field strength) - 95.2

DATA OF RADIATION TEST (Regulation: FCC 15.519(e))

UL Japan, Inc.
 SHONAN NO.3 SEMI-ANECHOIC CHAMBER
 Report No. : 29KE0089-SH-01-A

Company : Sony Corporation
 Equipment : TransferJet Module
 Model : CXN5001
 Sample No. : 00001003
 Power : DC5V
 Mode : Transmitting

Regulation : FCC Part15F Section 15.519(e)
 Test Distance : 0.5m
 Date : 2009/8/14
 Temperature : 24deg.C
 Humidity : 55%

ENGINEER : Tatsuya Arai

Horizontal (RBW: 3MHz)

No.	FREQ [MHz]	READING [dBuV]	ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	Distance Factor [dB]	RESULT		LIMIT EIRP [dBm]	MARGIN [dB]	Detector
							3m [dBuV/m]	EIRP [dBm]			
1	4462.00	58.3	29.7	39.8	2.6	15.6	35.2	-35.5	0.0	35.5	Peak

Vertical (RBW: 3MHz)

No.	FREQ [MHz]	READING [dBuV]	ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	Distance Factor [dB]	RESULT		LIMIT EIRP [dBm]	MARGIN [dB]	Detector
							3m [dBuV/m]	EIRP [dBm]			
1	4433.00	59.1	29.7	39.9	2.6	15.6	35.9	-34.8	0.0	34.8	Peak

Sample Calculation :

RESULT=Reading + ANT Factor - Amp Gain + Loss (Cable + ATT) - Distance Factor

Distance Factor calculation: $20 \cdot \log(3.0[m]/0.5[m]) = 15.6[dB]$

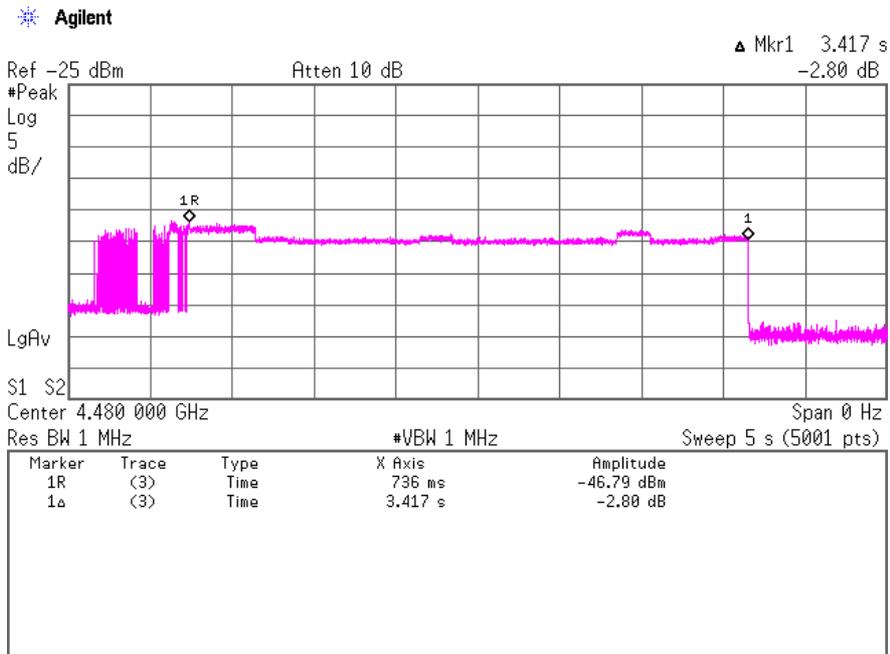
RESULT (EIRP) = RESULT (3m field strength) - 95.2 - $20 \log(RBW/50)$

Transmitter Timeout (Regulation: FCC 15.519(a)(1))

COMPANY : Sony Corporation
Equipment : TransferJet Module
MODEL NUMBER: CXN5001
SERIAL NUMBER: 00001003
POWER : DC5V
Remarks : -

UL Japan, Inc. SHONAN No.3 Shield Room
REPORT No. : 29KE0089-SH-01-A
REGULATION : FCC Part15SubpartF 519(a)(1)
DATE : 2009/8/14
TEMP./HUMI : 24°C/55%
TEST MODE : Transmitting
ENGINEER : Tatsuya Arai

Transmitter Timeout: 3.417s (LIMIT: <10s)



APPENDIX 3 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 30-1000MHz /BW/TO	2009/02/13 * 12
SAT6-05	Attenuator	JFW	50HF-006N	-	RE 30-1000MHz	2009/02/13 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE 30-1000MHz	2009/03/20 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271(RF Selector)	RE 30-1000MHz	2009/04/06 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE 30-1000MHz	2009/03/20 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE/CE	2009/02/04 * 12
STR-03	Test Receiver	Rohde & Schwarz	ES140	100054/040	RE 30-1000MHz /CE	2009/04/08 * 12
SJM-03	Measure	KOMELON	KMC-36	-	RE/CE	-
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2009/03/19 * 12
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV	1	RE/CE	-
SAF-06	Pre Amplifier	TOYO Corporation	TPA0118-36	1440491	RE 1-18GHz	2009/03/26 * 12
SHA-03	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-739	RE 1-18GHz	2009/08/23 * 12
SSA-02	Spectrum Analyzer	Agilent	E4448A	MY48250106	RE 1-40GHz/B W/TO	2009/02/12 * 12
SAF-09	Pre Amplifier	TOYO Corporation	HAP18-26W	00000018	RE 18-26.5GHz	2009/03/27 * 12
SAF-10	Pre Amplifier	TOYO Corporation	HAP26-40W	00000010	RE 26.5-40GHz	2009/06/29 * 12
SHA-05	Horn Antenna	ETS LINDGREN	3160-09	LM4210	RE 18-26.5GHz	2009/04/09 * 12
SHA-06	Horn Antenna	ETS LINDGREN	3160-10	LM3459	RE 26.5-40GHz	2009/04/30 * 12
SCC-G11	Coaxial Cable	Suhner	SUCOFLEX 102	31595/2	BW/TO	2009/03/11 * 12
SCC-G12	Coaxial Cable	Suhner	SUCOFLEX 102	30790/2	RE 1-40GHz	2009/03/11 * 12
SCC-G13	Coaxial Cable	Suhner	SUCOFLEX 102	31599/2	RE 1-40GHz	2009/03/11 * 12
SCC-C6/C7/C8/C10/SRSE-03	Coaxial Cable&RF Selector	Suhner/Fujikura/Suhner/Suhner/TOYO	141PE/12DSFA/141PE/141PE/NS4906	-/0901-271(RF Selector)	CE	2009/04/06 * 12
SLS-04	LISN	Rohde & Schwarz	ENV216	100514	CE(AE)	2009/02/25 * 12
SLS-05	LISN	Rohde & Schwarz	ENV216	100516	CE(EUT)	2009/02/25 * 12
STM-06	Terminator	TME	CT-01 BP	-	CE	2009/02/12 * 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 traceable calibrations . Each calibration is traceable to the national or international standards .

Test Item :

CE: Conducted emission,
RE: Radiated emission,
BW: Band Width
TO: Transmitter Timeout