APPENDIX 2: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

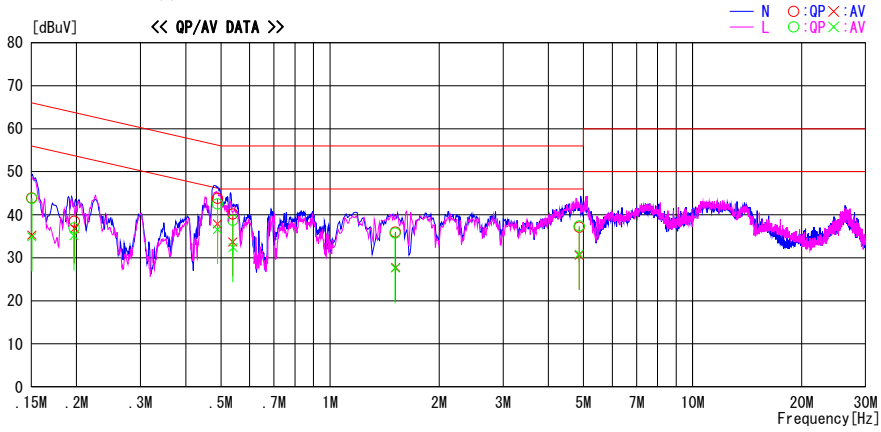
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2011/06/21

Report No. : 31EE0033-HO-01

Temp./Humi. : 21deg. C / 65% RH
Engineer : Keisuke Kawamura

Mode / Remarks : LAN Communication

LIMIT : FCC15.107(a) QP ClassB
FCC15.107(a) AV ClassB



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15031	30.8	22.2	13.1	43.9	35.3	66.0	56.0	22.1	20.7	N	
0.19719	25.4	23.7	13.1	38.5	36.8	63.7	53.7	25.2	16.9	N	
0.48889	30.5	24.6	13.3	43.8	37.9	56.2	46.2	12.4	8.3	N	
0.53889	26.9	20.4	13.3	40.2	33.7	56.0	46.0	15.8	12.3	N	
1.51492	22.6	14.4	13.4	36.0	27.8	56.0	46.0	20.0	18.2	N	
4.86357	23.4	16.9	13.7	37.1	30.6	56.0	46.0	18.9	15.4	N	
0.15051	30.7	21.8	13.1	43.8	34.9	66.0	56.0	22.2	21.1	L	
0.19669	23.8	22.0	13.1	36.9	35.1	63.7	53.7	26.8	18.6	L	
0.48938	29.2	23.3	13.3	42.5	36.6	56.2	46.2	13.7	9.6	L	
0.53963	25.4	19.1	13.3	38.7	32.4	56.0	46.0	17.3	13.6	L	
1.51278	22.3	14.2	13.4	35.7	27.6	56.0	46.0	20.3	18.4	L	
4.86357	23.7	17.1	13.7	37.4	30.8	56.0	46.0	18.6	15.2	L	

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

*The limit is rounded down to one decimal place.
*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated Emission

DATA OF RADIATED EMISSION TEST

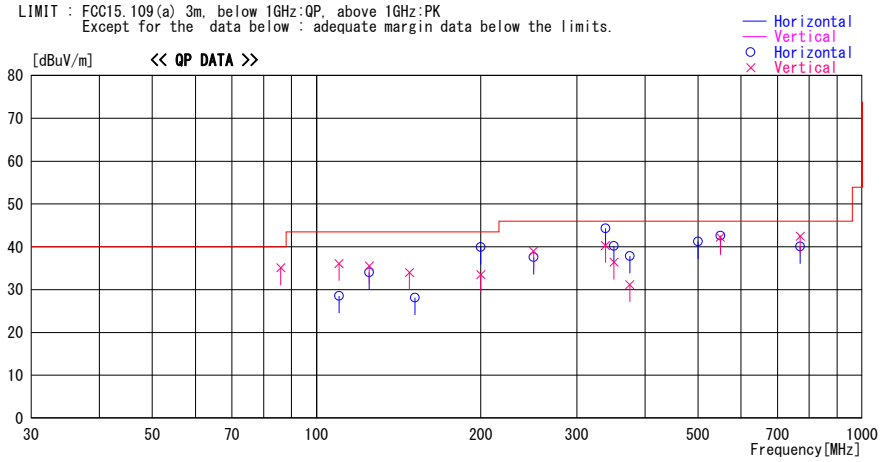
UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2011/04/29

Report No. : 31EE0033-HO-01

Temp. / Humi. : 20deg. C / 40% RH
Engineer : Katsunori Okai

Mode / Remarks : LAN Communication

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
86.014	60.1	QP	7.6	-32.6	35.1	155	100	Vert.	40.0	4.9	
109.995	57.1	QP	11.1	-32.1	36.1	172	100	Vert.	43.5	7.4	
109.995	49.5	QP	11.1	-32.1	28.5	296	250	Hori.	43.5	15.0	
124.995	53.3	QP	12.6	-31.9	34.0	140	251	Hori.	43.5	9.5	
125.000	54.8	QP	12.6	-31.9	35.5	107	100	Vert.	43.5	8.0	
148.111	51.1	QP	14.5	-31.6	34.0	149	100	Vert.	43.5	9.5	
151.542	44.8	QP	14.8	-31.5	28.1	348	400	Hori.	43.5	15.4	
199.899	54.5	QP	16.4	-31.0	39.9	0	181	Hori.	43.5	3.6	
200.002	48.1	QP	16.4	-31.0	33.5	145	100	Vert.	43.5	10.0	
249.999	51.0	QP	17.1	-30.5	37.6	0	400	Hori.	46.0	8.4	
250.002	52.4	QP	17.1	-30.5	39.0	188	100	Vert.	46.0	7.0	
338.675	58.1	QP	16.0	-29.8	44.3	191	100	Hori.	46.0	1.7	
338.675	54.1	QP	16.0	-29.8	40.3	10	100	Vert.	46.0	5.7	
350.989	49.7	QP	16.4	-29.7	36.4	115	100	Vert.	46.0	9.6	
350.995	53.5	QP	16.4	-29.7	40.2	192	100	Hori.	46.0	5.8	
374.995	50.1	QP	17.2	-29.5	37.8	180	100	Hori.	46.0	8.2	
375.003	43.5	QP	17.2	-29.5	31.2	204	100	Vert.	46.0	14.8	
500.021	51.5	QP	18.6	-28.9	41.2	146	100	Hori.	46.0	4.8	
549.992	51.1	QP	19.5	-28.4	42.2	204	100	Vert.	46.0	3.8	
550.001	51.5	QP	19.5	-28.4	42.6	52	100	Hori.	46.0	3.4	
769.994	47.7	QP	21.8	-27.0	42.5	287	100	Vert.	46.0	3.5	
769.995	45.3	QP	21.8	-27.0	40.1	170	126	Hori.	46.0	5.9	

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)

*The limit is rounded down to one decimal place.
*The test result is rounded off to one or two decimal places, so some differences might be observed.

APPENDIX 3: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	CE	2011/02/22 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	CE	2011/02/23 * 12
MJM-15	Measure	KOMELON	KMC-36	-	CE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	CE	-
MSA-05	Spectrum Analyzer	Advantest	R3273	160400285	CE	2010/11/18 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	CE	2010/08/23 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(AE)	2011/02/20 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE(EUT)	2011/02/22 * 12
MTA-31	Terminator	TME	CT-01	-	CE	2011/01/05 * 12
MCC-112	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W(10m)/SFM141(3m)/sucoform141-PE(1m)/421-010(1.5m)/RFM-E321(Switcher)	-/00640	CE	2010/07/23 * 12
MAT-66	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	2011/02/22 * 12
MAEC-01	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 10m	DA-06881	RE	2010/07/02 * 12
MOS-01	Digital Humidity Indicator	N.T	NT-1800	MOS01	RE	2011/02/23 * 12
MJM-01	Measure	KDS	ES19-55	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	100084	RE	2010/12/07 * 12
KBA-05	Biconical Antenna	Schwarzbeck	BBA9106	2513	RE	2010/10/15 * 12
KLA-04	Logperiodic Antenna	Schwarzbeck	USLP9143	361	RE	2010/10/16 * 12
MAT-08	Attenuator(6dB)	Weinschel Corp	2	BK7971	RE	2010/11/05 * 12
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/Agilent/TSJ	-	-	RE	2010/10/14 * 12
MPA-20	Pre Amplifier	Elena	EPA-4020YA	030801	RE	2011/03/27 * 12

The expiration date of the calibration is the end of the expired month.
All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

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

Test Item:
CE: Conducted emission
RE: Radiated emission