APPENDIX 2: Data of EMI test

Radiated Emission

DATA OF RADIATED EMISSION TEST

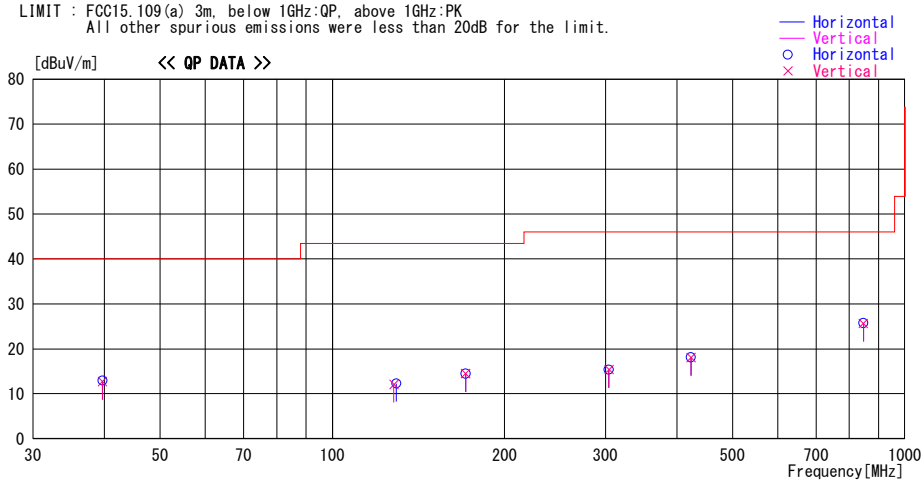
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2011/02/16

Report No. : 31EE0173-HO-02

Temp. / Humi. : 23deg.C / 30%
Engineer : Motoya Imura

Mode / Remarks : Receiving mode

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
All other spurious emissions were less than 20dB for the limit.



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
39.676	22.3	QP	15.3	-24.9	12.7	0	100	Vert.	40.0	27.3	
39.676	22.5	QP	15.3	-24.9	12.9	65	300	Hori.	40.0	27.1	
128.100	22.3	QP	13.5	-23.7	12.1	0	100	Vert.	43.5	31.4	
129.450	22.3	QP	13.6	-23.6	12.3	65	300	Hori.	43.5	31.2	
171.000	22.1	QP	15.6	-23.2	14.5	65	300	Hori.	43.5	29.0	
171.000	22.1	QP	15.6	-23.2	14.5	0	100	Vert.	43.5	29.0	
304.184	22.0	QP	15.3	-21.9	15.4	350	100	Vert.	46.0	30.6	
304.184	22.0	QP	15.3	-21.9	15.4	0	100	Hori.	46.0	30.6	
423.220	21.7	QP	17.6	-21.2	18.1	350	100	Vert.	46.0	27.9	
423.220	21.7	QP	17.6	-21.2	18.1	4	100	Hori.	46.0	27.9	
846.440	21.9	QP	22.0	-18.2	25.7	350	100	Vert.	46.0	20.3	
846.440	21.9	QP	22.0	-18.2	25.7	4	100	Hori.	46.0	20.3	

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.

Radiated Emission

DATA OF RADIATED EMISSION TEST

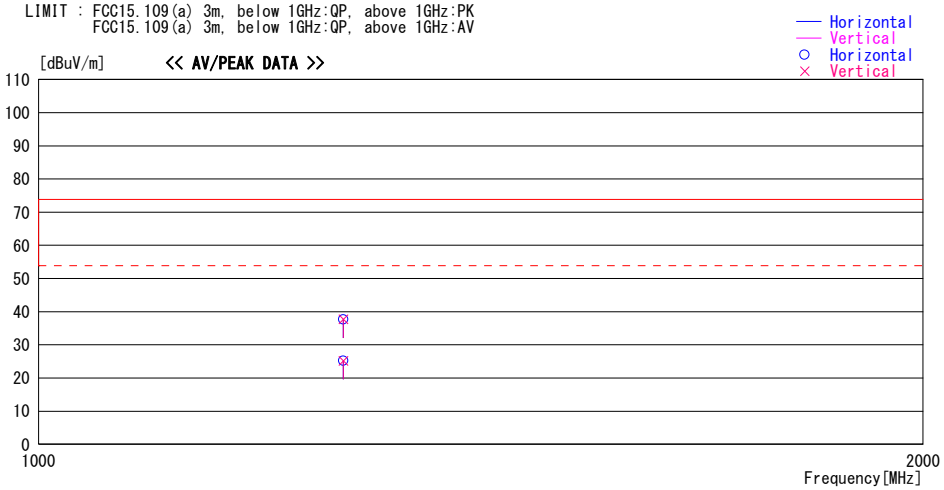
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2011/02/16

Report No. : 31EE0173-HO-02

Temp. / Humi. : 23deg.C / 30%
Engineer : Motoya Imura

Mode / Remarks : Receiving mode

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
1269.660	44.0	PK	26.1	-32.4	37.7	359	100	Hori.	73.9	36.2	
1269.660	44.0	PK	26.1	-32.4	37.7	359	100	Vert.	73.9	36.2	
1269.660	31.5	AV	26.1	-32.4	25.2	359	100	Hori.	53.9	28.7	
1269.660	31.5	AV	26.1	-32.4	25.2	359	100	Vert.	53.9	28.7	

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	RE	2010/02/01 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE	2010/02/09 * 12
MJM-06	Measure	PROMART	SEN1955	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE	2010/11/30 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	RE	2010/08/23 * 12
MPA-13	Pre Amplifier	SONOMA INSTRUMENT	310	260834	RE	2010/03/23 * 12
MAT-09	Attenuator(6dB)	Weinschel Corp	2	BK7973	RE	2010/11/05 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	1915	RE	2010/10/11 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	174	RE	2010/10/11 * 12
MCC-51	Coaxial cable	UL Japan	-	-	RE	2010/07/06 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	2010/05/07 * 12
MCC-58	Microwave Cable	Suhner	SUCOFLEX104	246770(1m) / 250655(5m)	RE	2010/03/03 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	MY39500779	RE	2010/03/03 * 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:
RE: Radiated emission