

APPENDIX 2: Data of EMI test

Radiated Emission

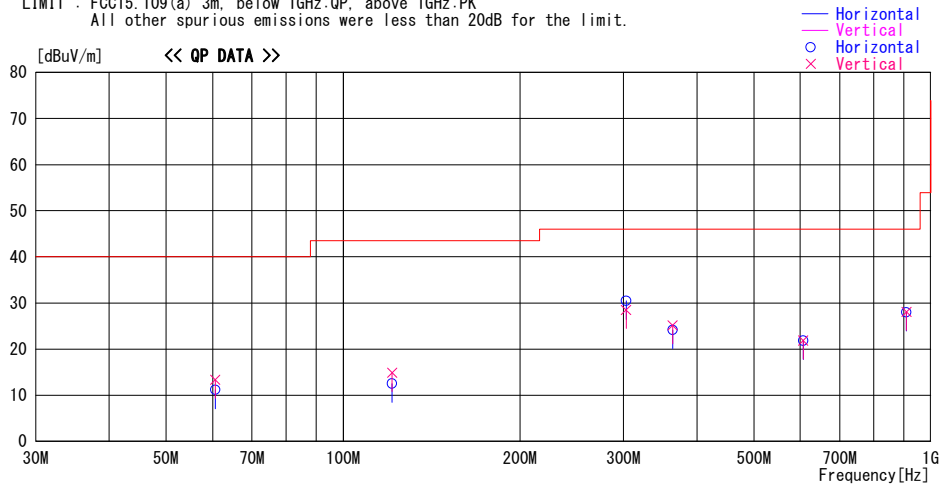
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2010/12/10

Report No. : 30IE0145-HO-08
Temp. / Humi. : 22deg. C / 34%
Engineer : Satofumi Matsuyama

Mode / Remarks : Receiving mode, Worst-axis(Hor:Z-axis, Ver:Y-axis)

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	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Gain [dB]							
60.630	27.5	QP	8.3	-24.6	11.2	315	300	Hori.	40.0	28.8	
60.630	29.7	QP	8.3	-24.6	13.4	12	100	Vert.	40.0	26.6	
121.260	23.2	QP	13.1	-23.8	12.5	0	300	Hori.	43.5	31.0	NS
121.260	25.6	QP	13.1	-23.8	14.9	0	100	Vert.	43.5	28.6	NS
303.150	36.9	QP	15.8	-22.2	30.5	197	107	Hori.	46.0	15.5	
303.150	34.9	QP	15.8	-22.2	28.5	145	174	Vert.	46.0	17.5	
363.776	29.1	QP	16.9	-21.8	24.2	201	100	Hori.	46.0	21.8	
363.776	30.1	QP	16.9	-21.8	25.2	177	159	Vert.	46.0	20.8	
606.300	22.3	QP	20.1	-20.6	21.8	0	100	Hori.	46.0	24.2	NS
606.300	22.4	QP	20.1	-20.6	21.9	0	100	Vert.	46.0	24.1	NS
909.450	22.0	QP	24.4	-18.4	28.0	0	100	Hori.	46.0	18.0	NS
909.450	22.1	QP	24.4	-18.4	28.1	0	100	Vert.	46.0	17.9	NS

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-04	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2010/02/02 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE	2010/02/09 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MSA-05	Spectrum Analyzer	Advantest	R3273	160400285	RE	2010/11/18 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	RE	2010/10/27 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2010/10/11 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2010/10/11 * 12
MCC-50	Coaxial cable	UL Japan	-	-	RE	2010/03/18 * 12
MAT-51	Attenuator(6dB)	Weinschel	2	AS3557	RE	2010/01/20 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	RE	2010/03/05 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2010/08/08 * 12
MCC-57	Microwave Cable	Suhner	SUCOFLEX104	267195/4(0.6m) / 292411(5m)	RE	2010/11/26 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	RE	2010/03/16 * 12
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	RE	2010/02/03 * 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

UL Japan, Inc.

Head Office EMC Lab.

4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN

Telephone : +81 596 24 8116

Facsimile : +81 596 24 8124