

APPENDIX 2: Data of EMI test

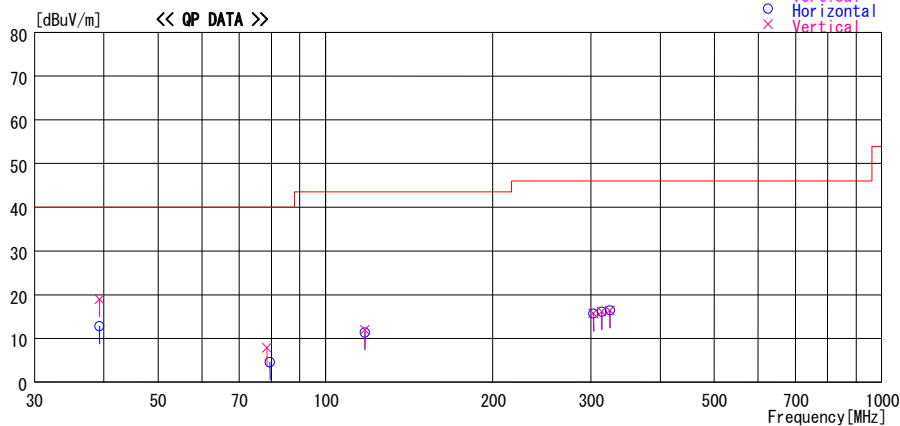
Radiated Emission

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/10/14

Report No. : 31CE0028-HO-01
Temp./Humi. : 23deg. C / 52%
Engineer : Motoya Imura

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



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss & Gain [dB]							
39.245	28.9	QP	15.0	-24.9	19.0	133	100	Vert.	40.0	21.0	
39.245	22.7	QP	15.0	-24.9	12.8	357	206	Hori.	40.0	27.2	
78.491	25.7	QP	6.5	-24.4	7.8	138	100	Vert.	40.0	32.2	
79.494	22.4	QP	6.5	-24.4	4.5	0	300	Hori.	40.0	35.5	
117.736	22.1	QP	13.0	-23.8	11.3	0	300	Hori.	43.5	32.2	
117.736	22.7	QP	13.0	-23.8	11.9	105	110	Vert.	43.5	31.6	
303.150	21.9	QP	16.0	-22.2	15.7	0	100	Hori.	46.0	30.3	
303.150	21.9	QP	16.0	-22.2	15.7	0	100	Vert.	46.0	30.3	
313.850	22.0	QP	16.2	-22.1	16.1	0	100	Hori.	46.0	29.9	
313.850	22.0	QP	16.2	-22.1	16.1	0	100	Vert.	46.0	29.9	
324.550	22.1	QP	16.4	-22.1	16.4	0	100	Hori.	46.0	29.6	
324.550	22.1	QP	16.4	-22.1	16.4	0	100	Vert.	46.0	29.6	

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

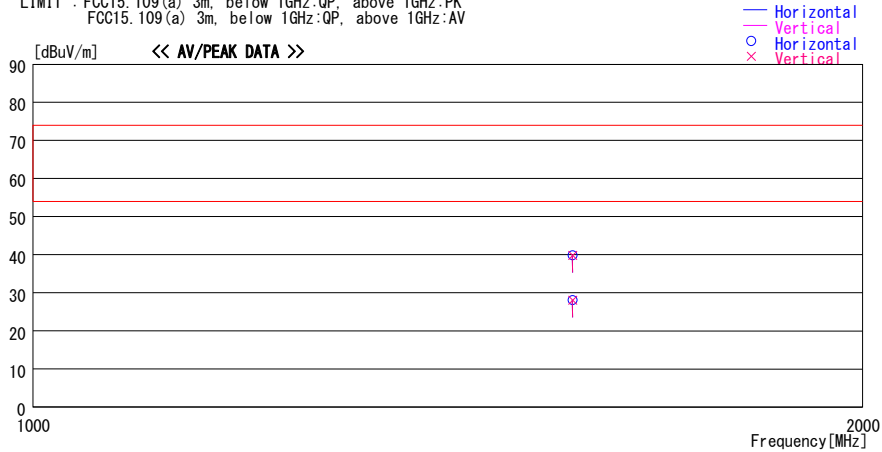
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/10/14

Report No. : 31CE0028-HO-01

Temp./Humi. : 23deg. C / 52%
Engineer : Motoya Imura

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	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Gain [dB]							
1569.800	44.5	PK	26.0	-30.7	39.8	0	100	Hori.	73.9	34.1	
1569.800	32.8	AV	26.0	-30.7	28.1	0	100	Hori.	53.9	25.8	
1569.800	44.5	PK	26.0	-30.7	39.8	0	100	Vert.	73.9	34.1	
1569.800	32.8	AV	26.0	-30.7	28.1	0	100	Vert.	53.9	25.8	

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-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE	2009/11/20 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	RE	2009/10/23 * 12
MBA-05	Biconical Antenna	Schwarzbeck	BBA9106	1302	RE	2010/03/22 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2010/01/23 * 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
MSA-05	Spectrum Analyzer	Advantest	R3273	160400285	RE	2009/12/15 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2010/08/08 * 12
MCC-57	Microwave Cable	Suhner	SUCOFLEX104	246769(1m) / 292411(5m)	RE	2009/11/17 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	RE	2010/03/16 * 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

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