

APPENDIX 2: Data of EMI test

Radiated Emission

DATA OF RADIATED EMISSION TEST

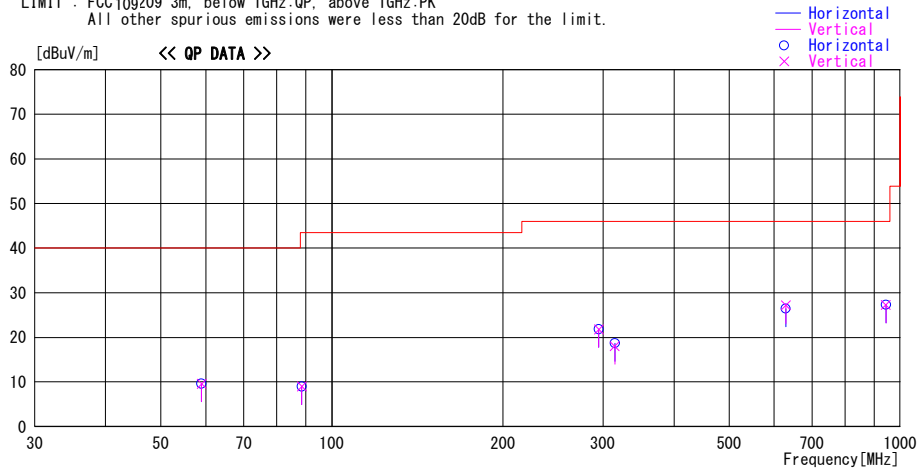
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
 Date : 2011/02/09

Report No. : 31BE0219-HO-10

Temp. / Humi. : 22deg. C / 31% RH
 Engineer : Motoya Imura

Mode / Remarks : Rx 315MHz

LIMIT : FCC109209 3m, below 1GHz:QP, above 1GHz:PK
 All other spurious emissions were less than 20dB for the limit.



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]							
59.015	22.5	QP	8.6	-21.5	9.6	0	100	Vert.	40.0	30.4	
59.015	22.5	QP	8.6	-21.5	9.6	0	300	Hori.	40.0	30.4	
88.524	22.3	QP	7.9	-21.2	9.0	0	100	Vert.	43.5	34.5	
88.524	22.3	QP	7.9	-21.2	9.0	0	300	Hori.	43.5	34.5	
295.085	21.3	QP	19.5	-19.0	21.8	0	300	Hori.	46.0	24.2	
295.085	21.3	QP	19.5	-19.0	21.8	0	100	Vert.	46.0	24.2	
314.766	22.3	QP	15.4	-19.0	18.7	41	100	Hori.	46.0	27.3	
314.766	21.6	QP	15.4	-19.0	18.0	114	100	Vert.	46.0	28.0	
629.531	25.1	QP	19.7	-18.4	26.4	202	100	Hori.	46.0	19.6	
629.531	25.9	QP	19.7	-18.4	27.2	139	100	Vert.	46.0	18.8	
944.298	21.2	QP	22.6	-16.5	27.3	114	100	Vert.	46.0	18.7	
944.298	21.2	QP	22.6	-16.5	27.3	41	100	Hori.	46.0	18.7	

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.

Radiated Emission

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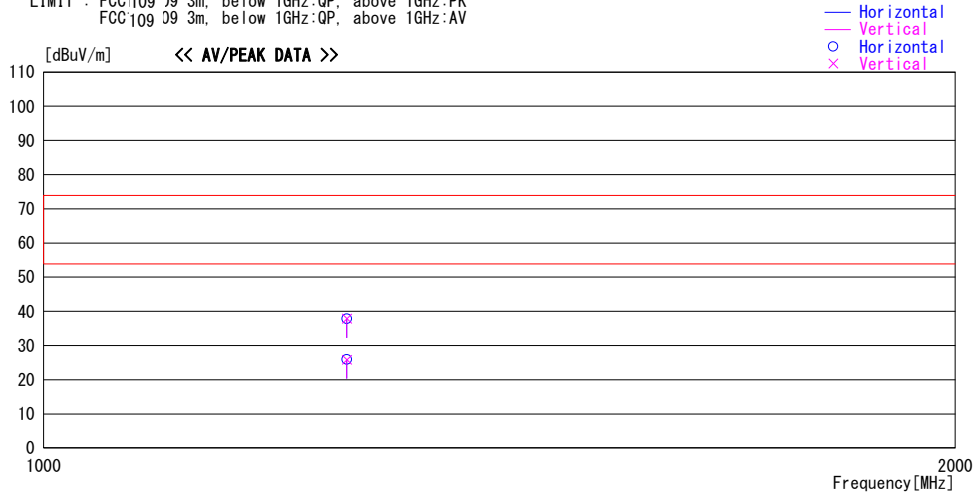
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Mode / Remarks : Rx 315MHz

LIMIT : FCC109 09 3m, below 1GHz:QP, above 1GHz:PK
 FCC109 09 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss &	Level	Angle	Height	Polar.	Limit	Margin	Comment
			Factor [dB/m]	Gain [dB]							
1259.064	44.2	PK	24.7	-31.1	37.8	0	100	Hori.	73.9	36.1	
1259.064	44.2	PK	24.7	-31.1	37.8	0	100	Vert.	73.9	36.1	
1259.064	32.3	AV	24.7	-31.1	25.9	0	100	Hori.	53.9	28.0	
1259.064	32.3	AV	24.7	-31.1	25.9	0	100	Vert.	53.9	28.0	

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)

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APPENDIX 3: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-02	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-06902	RE	2010/09/01 * 12
MOS-22	Thermo-Hygrometer	Custom	CTH-201	0003	RE	2010/02/09 * 12
MJM-05	Measure	PROMART	SEN1955	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	100300	RE	2010/04/19 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032008	RE	2010/10/11 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	201	RE	2010/10/11 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	-	RE	2010/02/22 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	BK7970	RE	2010/11/05 * 12
MPA-09	Pre Amplifier	Agilent	8447D	2944A10845	RE	2010/09/09 * 12
MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	RE	2011/01/16 * 12
MPA-10	Pre Amplifier	Agilent	8449B	3008A02142	RE	2010/09/30 * 12
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	RE	2010/02/03 * 12
MCC-57	Microwave Cable	Suhner	SUCOFLEX104	267195/4(0.6m) / 292411(5m)	RE	2010/11/26 * 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