

APPENDIX 2: Data of EMI test

Radiated Emission

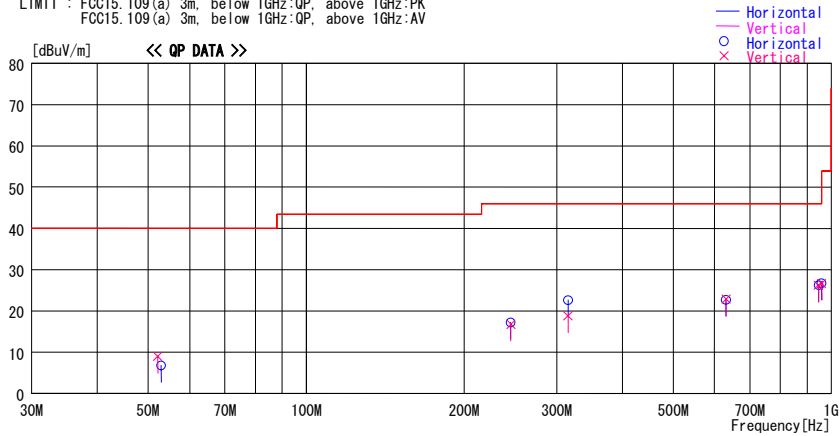
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2008/06/23

Company : Mitsubishi Electric Corporation Himeji Works Report No. : 28JE0164-HO-01
Kind of EUT : NORMAL KEYLESS SYSTEM (RECEIVER) Power : DC 12V
Model No. : SKE125-01 (X1T854 VARIANT) Temp./Humi. : 23deg.C. / 68%
Serial No. : 20080512-R3 Operator : Tomotaka Sasagawa

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	Loss	Level	Angle	Height	Polar.	Limit	Margin	Comment
			Factor [dB/m]	Gain [dB]							
52.140	23.9	QP	9.6	-24.5	9.0	0	100	Vert.	40.0	31.0	
52.950	21.9	QP	9.4	-24.5	6.8	0	100	Hori.	40.0	33.2	
244.921	23.4	QP	16.4	-22.6	17.2	143	100	Hori.	46.0	28.8	
245.461	23.0	QP	16.4	-22.6	16.8	3	100	Vert.	46.0	29.2	
315.220	25.8	QP	15.0	-22.0	18.8	252	100	Vert.	46.0	27.2	
315.220	29.6	QP	15.0	-22.0	22.6	102	100	Hori.	46.0	23.4	
630.440	23.4	QP	19.4	-20.1	22.7	15	100	Hori.	46.0	23.3	
630.440	23.6	QP	19.4	-20.1	22.9	282	100	Vert.	46.0	23.1	
945.660	21.5	QP	22.2	-17.4	26.3	0	100	Vert.	46.0	19.7	
945.660	21.5	QP	22.2	-17.4	26.3	0	100	Hori.	46.0	19.7	
959.011	21.6	QP	22.4	-17.3	26.7	121	100	Hori.	46.0	19.3	
959.466	21.5	QP	22.4	-17.3	26.6	0	100	Vert.	46.0	19.4	

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.

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Radiated Emission

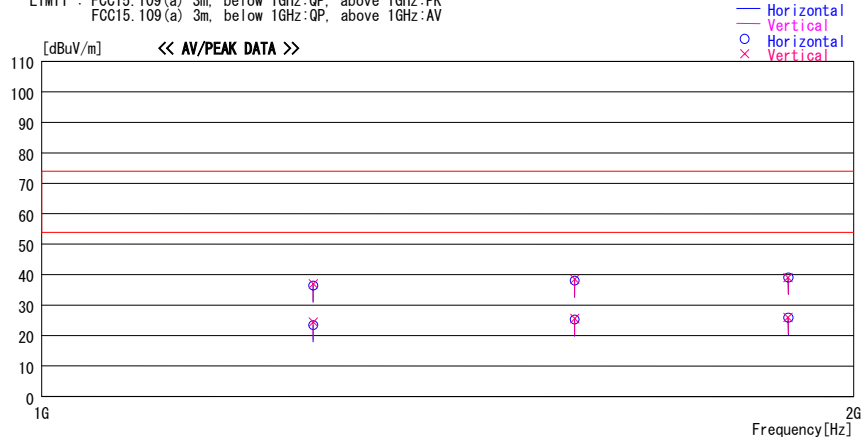
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LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss& Gain							
1260.880	44.4	PK	25.0	-32.5	36.9	0	100	Vert.	73.9	37.0	
1260.880	44.0	PK	25.0	-32.5	36.5	0	100	Hori.	73.9	37.4	
1260.880	31.9	AV	25.0	-32.5	24.4	0	100	Vert.	53.9	29.5	
1260.880	31.0	AV	25.0	-32.5	23.5	0	100	Hori.	53.9	30.4	
1576.100	44.3	PK	25.7	-31.5	38.5	0	100	Vert.	73.9	35.4	
1576.100	43.9	PK	25.7	-31.5	38.1	0	100	Hori.	73.9	35.8	
1576.100	31.5	AV	25.7	-31.5	25.7	0	100	Vert.	53.9	28.3	
1576.100	31.2	AV	25.7	-31.5	25.4	0	100	Hori.	53.9	28.5	
1891.320	44.1	PK	25.8	-30.8	39.1	0	100	Hori.	73.9	34.8	
1891.320	44.1	PK	25.8	-30.8	39.1	0	100	Vert.	73.9	34.8	
1891.320	30.9	AV	25.8	-30.8	25.9	0	100	Hori.	53.9	28.0	
1891.320	31.0	AV	25.8	-30.8	26.0	0	100	Vert.	53.9	27.9	

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

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-03	Anechoic Chamber	TDK	Semi Anechoic Chamber 3m	RE	2008/03/25 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	RE	2008/01/10 * 12
MJM-06	Measure	PROMART	SEN1955	RE	-
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE	-
MSA-09	Spectrum Analyzer	Advantest	R3273	RE	2007/12/21 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	RE	2008/06/12 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	RE	2008/01/12 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2008/01/12 * 12
MCC-51	Coaxial cable	UL Japan	-	RE	2007/07/26 * 12
MAT-30	Attenuator(6dB)	TME	UFA-01	RE	2008/03/10 * 12
MPA-13	Pre Amplifier	SONOMA INSTRUMENT	310	RE	2008/03/06 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	RE	2008/04/23 * 12
MCC-56	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	RE	2008/03/12 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	RE	2008/03/13 * 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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