APPENDIX 2: Data of EMI test

Radiated Emission

DATA OF RADIATED EMISSION TEST

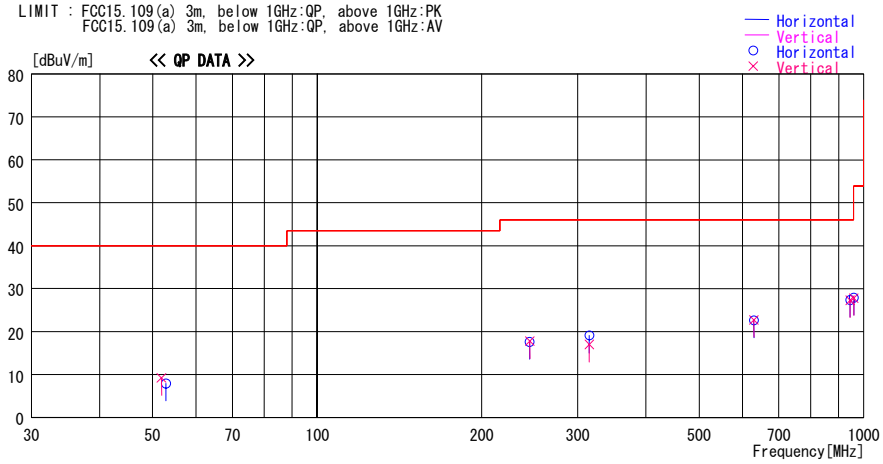
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/05/28

Company : Mitsubishi Electric Corporation Himeji Works
Kind of EUT : NORMAL KEYLESS SYSTEM (RECEIVER)
Model No. : SKE125-01(X1T855 VARIANT)
Serial No. : 1

Report No. : 29JE0145-HO-02
Power : DC 12V
Temp./Humi. : 24deg.C. / 53%
Operator : Tomotaka Sasagawa

Mode / Remarks : Receiving mode / Worst-axis(H:X-axis/V:Y-axis)

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
51.920	24.2	QP	9.7	-24.7	9.2	12	100	Vert.	40.0	30.8	
52.890	23.2	QP	9.4	-24.7	7.9	23	100	Hori.	40.0	32.1	
244.931	22.9	QP	17.2	-22.5	17.6	112	100	Hori.	46.0	28.4	
245.002	23.1	QP	17.2	-22.5	17.8	14	100	Vert.	46.0	28.2	
314.767	23.9	QP	15.1	-22.0	17.0	118	100	Vert.	46.0	29.0	
314.767	26.0	QP	15.1	-22.0	19.1	192	100	Hori.	46.0	26.9	
629.534	22.8	QP	19.8	-20.0	22.6	0	100	Hori.	46.0	23.4	
629.534	22.9	QP	19.8	-20.0	22.7	0	100	Vert.	46.0	23.3	
944.301	21.8	QP	22.8	-17.3	27.3	0	100	Vert.	46.0	18.7	
944.301	21.9	QP	22.8	-17.3	27.4	0	100	Hori.	46.0	18.6	
959.401	21.9	QP	23.1	-17.1	27.9	121	100	Hori.	46.0	18.1	
959.783	21.8	QP	23.1	-17.1	27.8	0	100	Vert.	46.0	18.2	

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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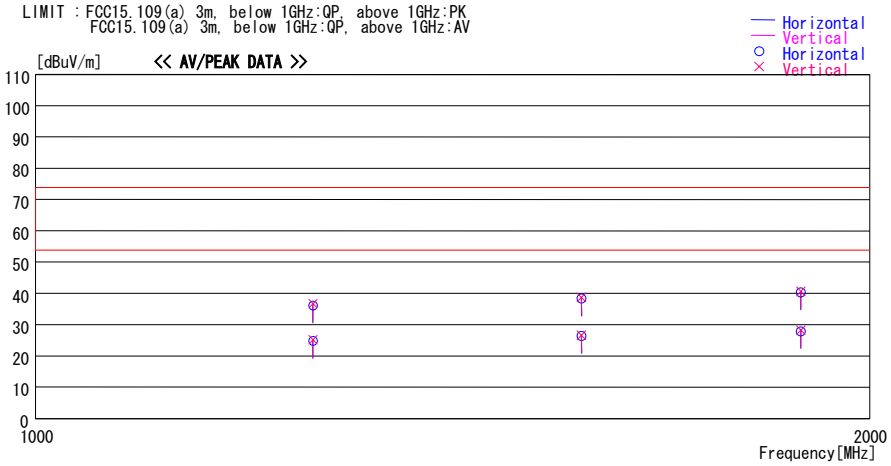

Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1259.068	43.2	PK	25.0	-32.1	36.1	0	100	Hori.	73.9	37.8	NS
1259.068	43.8	PK	25.0	-32.1	36.7	0	100	Vert.	73.9	37.2	NS
1259.068	32.3	AV	25.0	-32.1	25.2	0	100	Vert.	53.9	28.7	NS
1259.068	31.9	AV	25.0	-32.1	24.8	0	100	Hori.	53.9	29.1	NS
1573.835	43.8	PK	25.7	-31.1	38.4	0	100	Hori.	73.9	35.5	NS
1573.835	32.0	AV	25.7	-31.1	26.6	0	100	Vert.	53.9	27.3	NS
1573.835	44.1	PK	25.7	-31.1	38.7	0	100	Vert.	73.9	35.2	NS
1573.835	31.8	AV	25.7	-31.1	26.4	0	100	Hori.	53.9	27.5	NS
1888.602	31.8	AV	26.7	-30.3	28.2	0	100	Vert.	53.9	25.7	NS
1888.602	43.9	PK	26.7	-30.3	40.3	0	100	Hori.	73.9	33.6	NS
1888.602	44.2	PK	26.7	-30.3	40.6	0	100	Vert.	73.9	33.3	NS
1888.602	31.5	AV	26.7	-30.3	27.9	0	100	Hori.	53.9	26.0	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)

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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-03	Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2009/02/02 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE	2009/02/06 * 12
MJM-06	Measure	PROMART	SEN1955	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MSA-09	Spectrum Analyzer	Advantest	R3273	95090115	RE	2008/12/24 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	RE	2008/06/12 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	1915	RE	2009/01/19 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	174	RE	2009/01/10 * 12
MCC-51	Coaxial cable	UL Japan	-	-	RE	2008/07/18 * 12
MAT-09	Attenuator(6dB)	Weinschel Corp	2	BK7973	RE	2008/11/14 * 12
MPA-13	Pre Amplifier	SONOMA INSTRUMENT	310	260834	RE	2009/03/18 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	2009/04/30 * 12
MCC-56	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	174410(1m) / 284655(5m)	RE	2009/01/07 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	MY39500779	RE	2009/03/19 * 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