

APPENDIX 2: Data of EMI test

Radiated Emission

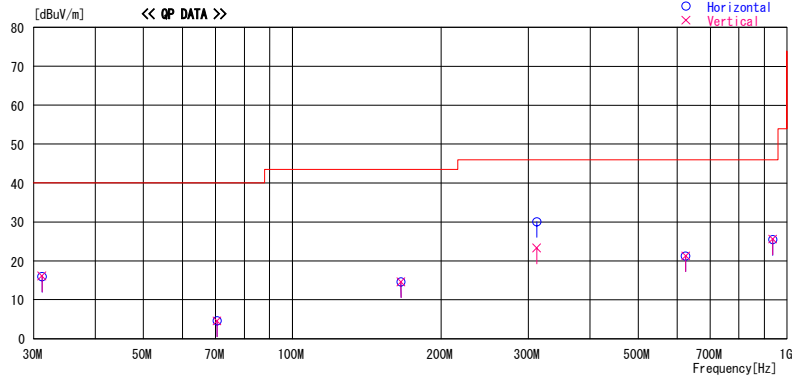
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2008/09/10

Company : DENSO CORPORATION
Kind of EUT : Remote Keyless Entry System (Receiver)
Model No. : 1302N
Serial No. : No. 1
Report No. : 29BE0051-HO-01
Power : DC 5.0V
Temp./Humi. : 25deg.C / 58%
Engineer : Kazuya Yoshioka

Mode / Remarks : Receiving 312.15MHz Worst-axis (Hor:Z Ver:X)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
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]
			Factor [dB]	Gain [dB]						
31.197	22.8	QP	18.3	-25.0	16.1	359	100	Vert	40.0	23.9
31.213	22.7	QP	18.3	-25.0	16.0	359	300	Hori	40.0	24.0
70.467	22.3	QP	6.6	-24.3	4.6	359	100	Vert	40.0	35.4
70.468	22.3	QP	6.6	-24.3	4.6	359	300	Hori	40.0	35.4
165.811	22.1	QP	15.7	-23.2	14.6	359	100	Vert	43.5	28.9
165.875	22.1	QP	15.7	-23.2	14.6	359	300	Hori	43.5	28.9
312.050	37.1	QP	14.9	-21.9	30.1	186	116	Hori	46.0	15.9
312.050	30.3	QP	14.9	-21.9	23.3	193	188	Vert	46.0	22.7
624.100	21.9	QP	19.4	-20.0	21.3	359	100	Hori	46.0	24.7
624.100	21.9	QP	19.4	-20.0	21.3	359	100	Vert	46.0	24.7
936.150	20.8	QP	22.0	-17.3	25.5	359	100	Hori	46.0	20.5
936.150	20.9	QP	22.0	-17.3	25.6	359	100	Vert	46.0	20.4

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.

Radiated Emission

DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2008/09/10

Company : DENSO CORPORATION
Kind of EUT : Remote Keyless Entry System (Receiver)
Model No. : 13CZN
Serial No. : No. 1
Report No. : 29BE0051-HO-01
Power : DC 5.0V
Temp./Humi. : 25deg.C / 58%
Engineer : Kazuya Yoshioka

Mode / Remarks : Receiving 312.15MHz Worst-axis(Hor:Z Ver:X)

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

— Horizontal
— Vertical
○ Horizontal
× Vertical



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit	Margin
			Factor [dB/m]	Gain [dB]					[dBuV/m]	[dB]
1284.200	43.1	PK	25.1	-32.5	35.7	0	100	Hor.i.	73.9	38.2
1284.200	43.3	PK	25.1	-32.5	35.9	0	100	Vert.	73.9	38.0
1284.200	31.8	AV	25.1	-32.5	24.4	0	100	Hor.i.	53.9	29.5
1284.200	31.8	AV	25.1	-32.5	24.4	0	100	Vert.	53.9	29.5
1560.250	41.8	PK	25.7	-31.7	35.8	0	100	Hor.i.	73.9	38.1
1560.250	41.5	PK	25.7	-31.7	35.5	0	100	Vert.	73.9	38.4
1560.250	30.6	AV	25.7	-31.7	24.6	0	100	Hor.i.	53.9	29.3
1560.250	30.6	AV	25.7	-31.7	24.6	0	100	Vert.	53.9	29.3

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	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	2008/07/18 * 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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