

APPENDIX 2: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	RE / ME	2005/11/14 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	RE	2005/10/10 * 12
MLA-01	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2005/10/14 * 12
MOS-01	Digital Humidity Indicator	N.T	NT-1800	RE / ME	2004/11/25 * 24
MLPA-02	Loop Antenna	Rohde & Schwarz	HFH2-Z2	ME	2005/12/06 * 12
MCC-03	Coaxial Cable	Fujikura/Suhner/Agilent/TSJ	-	ME	2005/12/18 * 12
MCC-31	coaxial cable	ULApex	-	ME	2006/05/29 * 12
MPA-04	Pre Amplifier	Agilent	8447D	RE / ME	2006/05/27 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	RE	2005/12/16 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ES140	RE / ME	2005/11/10 * 12
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/Agilent/TSJ	-	RE	2006/02/20 * 12
MSTW-14	EMI measurement program	TSJ	TEPTO-DV	RE / ME	-

All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

Test Item:

ME: Spurious emission (9k-30MHz)

RE: Spurious emission (30M-1GHz)

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MF060b(24.05.06)

APPENDIX 3: Data of EMI test

Radiated Emission below 30MHz (Fundamental)

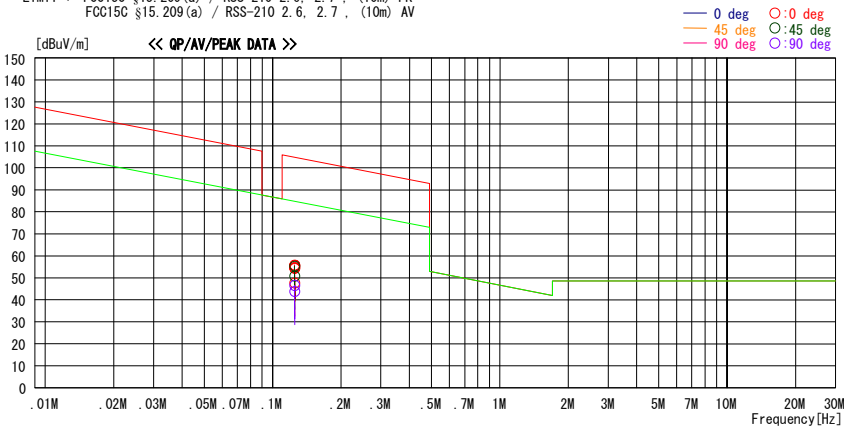
DATA OF MAGNETIC RADIATED EMISSION TEST

UL Apex Co.,LTD. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/04/15 02:30:36

Applicant : OMRON Corporation
Kind of EUT : ECU
Model No. : G8D-640M-ECU
Serial No. : KU0003
Report No. : 26GE0265-HO
Power : DC 12V (Car Battery)
Temp./Humi. : 20deg.C / 44%
Operator : Norihisa Hashimoto

Mode / Remarks : Transmitting LF(125kHz)

LIMIT : FCC15C §15.209(a) / RSS-210 2.6, 2.7, (10m) PK
FCC15C §15.209(a) / RSS-210 2.6, 2.7, (10m) AV



Freq.	Reading	DET	Ant. Fac.	Loss	Gain	Result	Limit	Margin	Antenna	Table	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]		[deg]	
0.12510	62.3	PEAK	19.5	0.2	26.2	55.8	104.7	48.9	0deg	310	X-axis
0.12510	62.2	PEAK	19.5	0.2	26.2	55.7	104.7	49.0	0deg	280	Y-axis
0.12510	54.1	PEAK	19.5	0.2	26.2	47.6	104.7	57.1	0deg	40	Z-axis
0.12510	61.8	PEAK	19.5	0.2	26.2	55.3	104.7	49.4	45deg	280	X-axis
0.12510	53.0	PEAK	19.5	0.2	26.2	46.5	104.7	58.2	90deg	40	X-axis
0.12510	60.8	AV	19.5	0.2	26.2	54.3	84.7	30.4	0deg	310	X-axis
0.12510	57.3	AV	19.5	0.2	26.2	50.8	84.7	33.9	45deg	310	X-axis
0.12510	50.3	AV	19.5	0.2	26.2	43.8	84.7	40.9	90deg	280	X-axis
0.12510	61.2	QP	19.5	0.2	26.2	54.7	104.7	50.0	0deg	310	X-axis

CHART : WITH FACTOR ANT TYPE : LOOP
CALCULATION : READING + ANT FACTOR + LOSS (CABLE + ATTEN. -AMP.)

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Radiated Emission below 30MHz (Spurious Emission)

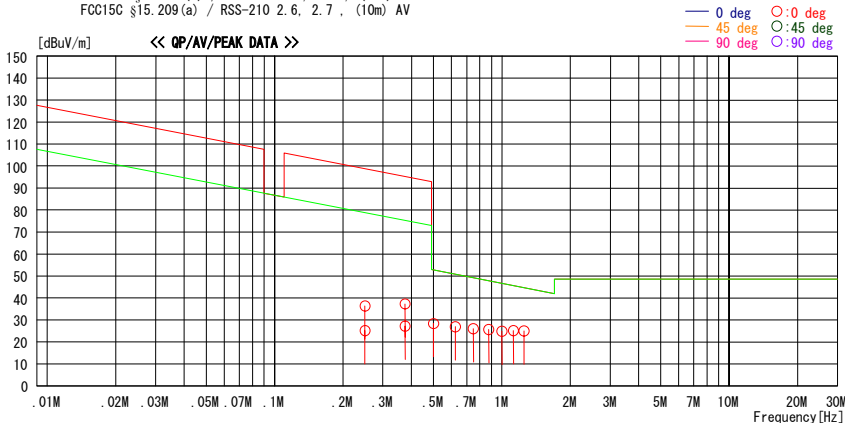
DATA OF MAGNETIC RADIATED EMISSION TEST

UL Apex Co.,LTD. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2006/04/15 02:30:36

Applicant : OMRON Corporation
Kind of EUT : ECU
Model No. : G8D-640M-ECU
Serial No. : KU0003
Report No. : 26GE0265-HO
Power : DC 12V (Car Battery)
Temp./Humi. : 20deg.C / 44%
Operator : Norihisa Hashimoto

Mode / Remarks : Transmitting LF(125kHz) (Max-axis:X)

LIMIT : FCC15C §15.209(a) / RSS-210 2.6, 2.7, (10m) PK
FCC15C §15.209(a) / RSS-210 2.6, 2.7, (10m) AV



Freq.	Reading	DET	Ant. Fac	Loss	Gain	Result	Limit	Margin	Antenna	Table	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]		[deg]	
0.25000	43.9	PEAK	19.5	0.3	27.3	36.4	98.7	62.3	0deg	310	X-axis
0.25000	32.6	AV	19.5	0.3	27.3	25.1	78.7	53.6	0deg	310	X-axis
0.37500	45.2	PEAK	19.5	0.3	27.7	37.3	95.2	57.9	0deg	200	X-axis
0.37500	35.1	AV	19.5	0.3	27.7	27.2	75.2	48.0	0deg	200	X-axis
0.50000	36.3	QP	19.5	0.4	27.8	28.4	52.7	24.3	0deg	310	X-axis
0.62500	35.0	QP	19.5	0.3	27.9	26.9	50.8	23.9	0deg	310	X-axis
0.75000	34.1	QP	19.5	0.3	27.9	26.0	49.2	23.2	0deg	310	X-axis
0.87500	33.6	QP	19.5	0.4	27.9	25.6	47.8	22.2	0deg	310	X-axis
1.00000	33.1	QP	19.5	0.2	27.9	24.9	46.7	21.8	0deg	310	X-axis
1.12500	33.2	QP	19.5	0.3	27.9	25.1	45.7	20.6	0deg	310	X-axis
1.25000	32.9	QP	19.6	0.4	27.9	25.0	44.7	19.7	0deg	310	X-axis

CHART : WITH FACTOR ANT TYPE : LOOP
CALCULATION : READING + ANT FACTOR + LOSS (CABLE + ATTEN. -AMP.)

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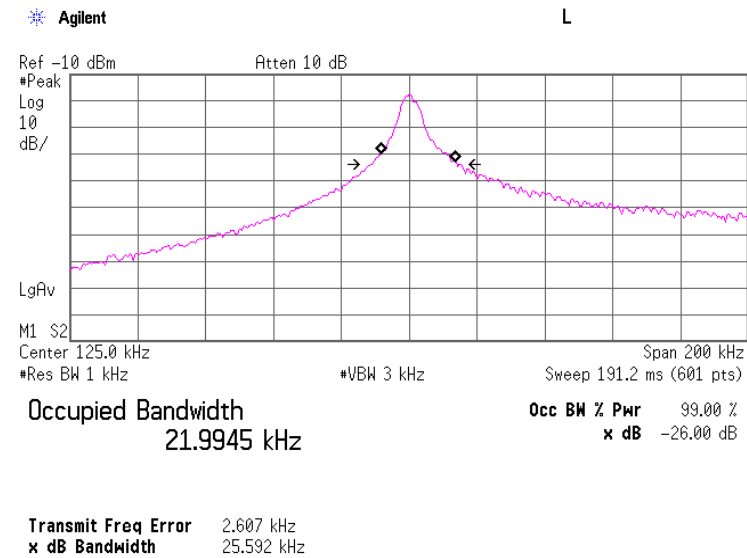
MF060b(24.05.06)

-26dB Bandwidth

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chamber

COMPANY	: OMRON Corporation	REPORT NO	: 26GE0265-HO
EQUIPMENT	: ECU	REGULATION	: Reference data
MODEL	: G8D-640M-ECU	TEST DISTANCE	: 3m
S/ N	: KU0003	DATE	: 04/14/2006
POWER	: DC 12V	TEMPERATURE	: 22 deg.C
MODE	: Tx	HUMIDITY	: 32 %
	: Ant-Max	Engineer	: Norihisa Hashimoto

	FREQ	-26dB Bandwidth
	[kHz]	[kHz]
	125.0	25.592



99% Occupied Bandwidth

UL Apex Co., Ltd.
Head Office EMC Lab. No.1 Semi Anechoic Chambe

COMPANY

EQUIPMENT

MODEL

S/ N

POWER

MODE

: OMRON Corporation

: ECU

: G8D-640M-ECU

: KU0003

: DC 12V

: Tx

: Ant-Max

REPORT NO

REGULATION

TEST DISTANCE

DATE

TEMPERATURE

HUMIDITY

Engineer

: 26GE0265-HO

: RSS-Gen 4.4.1

: 3m

: 04/14/2006

: 22 deg.C

: 32 %

: Norihisa Hashimoto

	FREQ	99% Occupid Bandwidth
	[kHz]	[kHz]
	125.0	21.995

