

APPENDIX 2: Test instruments

EMI Equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
MAEC-01	Anechoic Chamber	TDK	Semi Anechoic Chamber 10m	RE	2005/11/14 * 12
MTR-01	Test Receiver	Rohde & Schwarz	ESI40	RE	2005/11/10 * 12
MCC-01	Coaxial Cable 0.1-3000MHz	Suhner/storm/Agilent/TSJ	-	RE	2005/12/18 * 12
MPA-04	Pre Amplifier	Agilent	8447D	RE	2005/05/24 * 12
MAT-06	Attenuator(6dB)	Weinschel Corp	2	RE	2005/12/16 * 12
MBA-01	Biconical Antenna	Schwarzbeck	BBA9106	RE	2005/10/10 * 12
MLA-01	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2005/10/14 * 12
MCC-31	coaxial cable	ULApex	-	AT	2005/06/02 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	AT	2005/09/16 * 12
MPA-07 Gain25	Pre Amplifier	UNITEK ELECTROBICS INC.	Amp1G	AT	2005/10/05 * 12
MCC-06	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX 104	AT	2006/02/02 * 12
MPA-10	Pre Amplifier	Agilent	8449B	AT	2005/09/07 * 12
MSTW-14	EMI Measurement Software	TSJ	TEPTO-DV	RE/AT	-

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

Test Item:

RE: Radiated emission
AT: Antenna Terminal

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MF060b(18.06.07)

APPENDIX 3: Data of EMI test

Radiated Emission

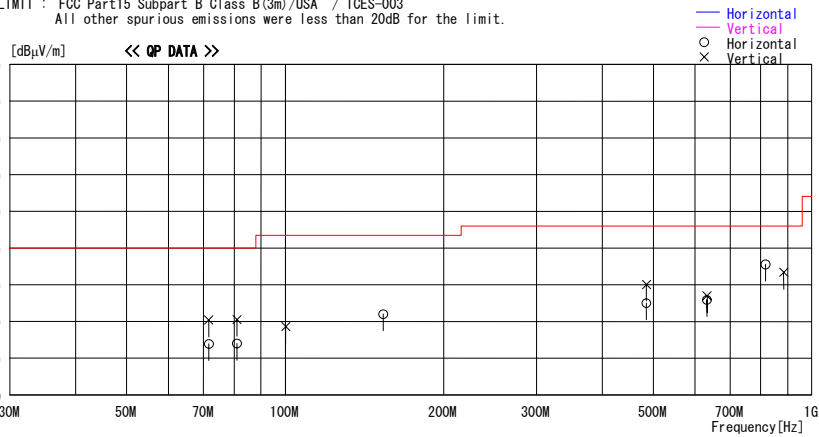
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
Date : 2005/12/27 03:55:36

Applicant : Matsushita Electric Industrial Co., Ltd. Report No. : 28CE0123-HO
Kind of EUT : Car Audio with Bluetooth function Power : DC13.2V
Model No. : CQ-EP1660G Temp°C/Humi% : 20deg.C / 23%
Serial No. : 10037 Operator : Mitsuru Fujimura

Mode / Remarks : Bluetooth Communication, CD Play, FM Receiving Mode

LIMIT : FCC Part15 Subpart B Class B(3m)/USA / ICES-003
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]
			Factor [dB/m]	Loss& Gain [dB]						
71.593	33.4	QP	7.0	-20.0	20.4	0	254	Vert.	40.0	19.6
71.598	26.9	QP	7.0	-20.0	13.9	359	262	Hori.	40.0	26.1
81.007	33.4	QP	7.0	-19.8	20.6	325	369	Vert.	40.0	19.5
81.009	26.8	QP	7.0	-19.8	14.0	0	254	Hori.	40.0	26.0
100.232	27.6	QP	10.5	-19.5	18.6	1	125	Vert.	43.5	24.9
153.613	25.1	QP	15.5	-18.6	22.0	183	201	Hori.	43.5	21.5
485.370	29.4	QP	17.8	-17.1	30.1	41	100	Vert.	46.0	15.9
485.372	24.4	QP	17.8	-17.1	25.1	282	100	Hori.	46.0	21.0
632.152	22.9	QP	19.6	-16.6	25.9	0	100	Hori.	46.0	20.1
632.787	24.0	QP	19.6	-16.6	27.0	359	100	Vert.	46.0	19.0
817.139	29.6	QP	21.5	-15.5	35.6	160	100	Hori.	46.0	10.4
884.724	27.6	QP	21.0	-15.2	33.4	6	119	Vert.	46.0	12.6

CHART: WITH FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz Dipole, 1000MHz- HORN
CALCULATION : READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - AMP. GAIN
Page:

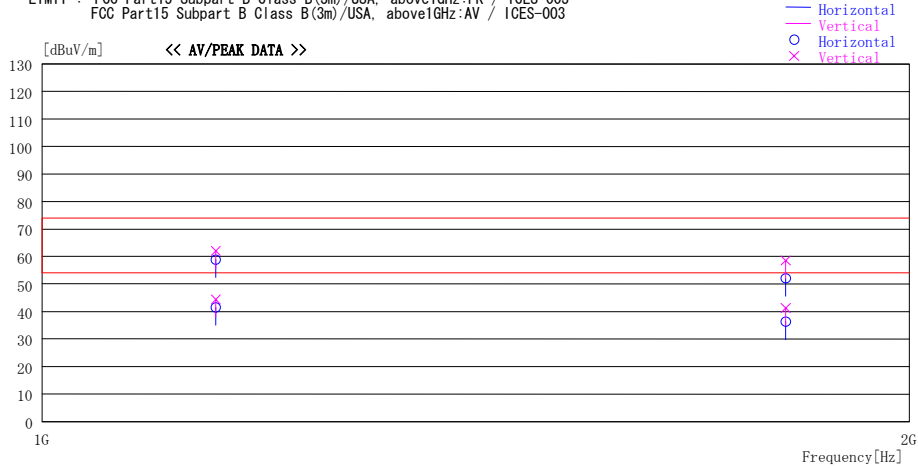
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.1 Semi Anechoic Chamber
 Date : 2005/12/21 20:59:29

Applicant : Matsushita Electric Industrial Co., Ltd. Report No. : 28CE0123-HO
 Kind of EUT : Car Audio with Bluetooth function Power : DC13.2V
 Model No. : CQ-EP1660G Temp°C/Humi% : 24deg.C / 25%
 Serial No. : 10037 Operator : Mitsuru Fujimura

Mode / Remarks : Bluetooth Communication, CD Play, FM Receiving

LIMIT : FCC Part15 Subpart B Class B(3m)/USA, above1GHz:PK / ICES-003
 FCC Part15 Subpart B Class B(3m)/USA, above1GHz:AV / ICES-003



Frequency [MHz]	Reading [dBuV]	DET	Antenna		Level [dBuV/m]	Polar.	Limit [dBuV/m]	Margin [dB]
			Factor [dB/m]	Loss& Gain [dB]				
1149.000	72.3	PK	23.1	-33.4	62.0	Vert.	74.0	12.0
1149.000	54.7	AV	23.1	-33.4	44.4	Vert.	54.0	9.6
1149.000	51.8	AV	23.1	-33.4	41.5	Hori.	54.0	12.5
1149.000	69.2	PK	23.1	-33.4	58.9	Hori.	74.0	15.1
1812.000	45.4	AV	28.2	-32.3	41.3	Vert.	54.0	12.7
1812.000	56.2	PK	28.2	-32.3	52.1	Hori.	74.0	21.9
1812.000	40.4	AV	28.2	-32.3	36.3	Hori.	54.0	17.7
1812.000	62.6	PK	28.2	-32.3	58.5	Vert.	74.0	15.5

CHART:WITHOUT FACTOR ANT TYPE : -30MHz LOOP, 30-300MHz BICONICAL, 300MHz-1000MHz Dipole, 1000MHz- HORN

Antenna Terminal

UL Japan, Inc. Head Office EMC Lab.
No.7 Shielded Room

COMPANY	:Matsushita Electric Industrial Co., Ltd.	Job No.	:28CE0123-HO
EQUIPMENT	:Car Audio with Bluetooth function	DATE	:February 13, 2006
MODEL	:CQ-EP1660G	REGULATION	:FCC Part15 SubpartB
SERIAL	:10037	TEMP/HUMID	:25°C / 30%
MODE	:FM / AM / WB Tuning Mode	TEST ENGINEER	:Mitsuru Fujimura

No.	Freq. [MHz]	Reading Peak [dBuV]	Cable Loss [dB]	Amp. Gain [dB]	Result [dBuV]	Limit [dBuV]	Margin [dB]
1	173.10	59.80	0.00	25.60	34.20	50.00	15.80
2	224.40	53.90	0.00	25.60	28.30	50.00	21.70
3	495.99	63.80	0.00	25.80	38.00	50.00	12.00
4	744.50	54.00	0.20	25.70	28.50	50.00	21.50
5	899.67	55.70	0.30	25.70	30.30	50.00	19.70
6	1208.60	60.50	0.50	33.40	27.60	50.00	22.40
7	1482.28	59.60	0.50	33.00	27.10	50.00	22.90
8	1982.91	63.30	0.40	32.30	31.40	50.00	18.60

※ Calculation = Reading + Cable Loss - Amp. Gain