

APPENDIX 2: Data of EMI test

Conducted emission [CP-D70DW]

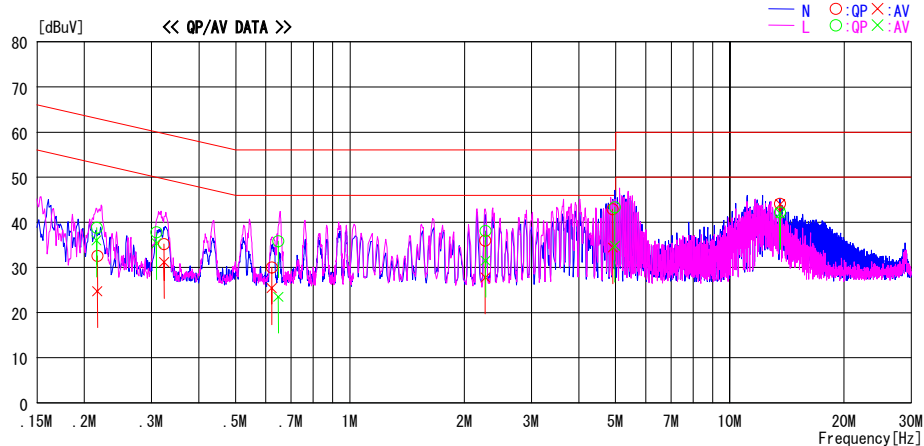
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/07/21

Report No. : 30JE0233-HO-02
Temp./Humi. : 20deg.C. / 60%
Engineer : Tomohisa Nakagawa

Mode / Remarks : Transmitting mode(13.56MHz)

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency [MHz]	Reading Level		Corr. Factor [dB]	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.21625	19.3	11.4	13.3	32.6	24.7	63.0	53.0	30.4	28.3	N	
0.32395	21.9	17.9	13.3	35.2	31.2	59.6	49.6	24.4	18.4	N	
0.62182	16.7	12.1	13.3	30.0	25.4	56.0	46.0	26.0	20.6	N	
2.27030	22.6	14.4	13.4	36.0	27.8	56.0	46.0	20.0	18.2	N	
4.91135	29.2	20.7	13.7	42.9	34.4	56.0	46.0	13.1	11.6	N	
13.55913	29.8	29.7	14.3	44.1	44.0	60.0	50.0	15.9	6.0	N	
0.21515	25.5	22.7	13.3	38.8	36.0	63.0	53.0	24.2	17.0	L	
0.30941	24.5	22.1	13.3	37.8	35.4	60.0	50.0	22.2	14.6	L	
0.64770	22.5	10.2	13.3	35.8	23.5	56.0	46.0	20.2	22.5	L	
2.27202	24.7	18.1	13.4	38.1	31.5	56.0	46.0	17.9	14.5	L	
4.97958	29.6	21.1	13.7	43.3	34.8	56.0	46.0	12.7	11.2	L	
13.56050	27.9	27.7	14.3	42.2	42.0	60.0	50.0	17.8	8.0	L	

CHART:WITH FACTOR,Peak hold data. CALCULATION:RESULT[dBuV]=READING[dBuV]+C.F[dB] (LISN LOSS+CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Conducted emission
[CP-D707DW]

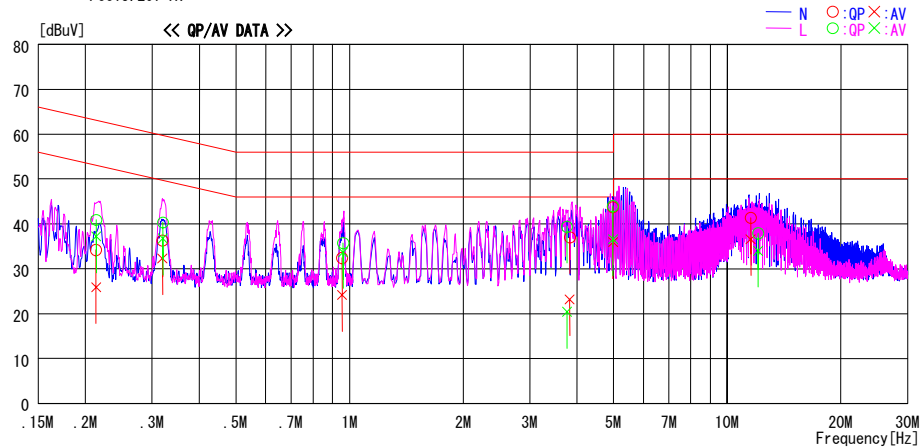
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/07/21

Report No. : 30JE0233-HO-02
Temp./Humi. : 20deg.C. / 60%
Engineer : Tomohisa Nakagawa

Mode / Remarks : Transmitting mode(13.56MHz)

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.21300	20.9	12.6	13.3	34.2	25.9	63.1	53.1	28.9	27.2	N	
0.31940	23.0	19.0	13.3	36.3	32.3	59.7	49.7	23.4	17.4	N	
0.95480	19.1	10.8	13.3	32.4	24.1	56.0	46.0	23.6	21.9	N	
3.82400	23.4	9.6	13.6	37.0	23.2	56.0	46.0	19.0	22.8	N	
4.98080	30.0	22.2	13.7	43.7	35.9	56.0	46.0	12.3	10.1	N	
11.52465	27.3	22.5	14.1	41.4	36.6	60.0	50.0	18.6	13.4	N	
0.21340	27.6	23.9	13.3	40.9	37.2	63.1	53.1	22.2	15.9	L	
0.32024	27.0	23.4	13.3	40.3	36.7	59.7	49.7	19.4	13.0	L	
0.96054	22.4	20.4	13.3	35.7	33.7	56.0	46.0	20.3	12.3	L	
3.76030	25.8	6.8	13.6	39.4	20.4	56.0	46.0	16.6	25.6	L	
4.97840	30.3	22.9	13.7	44.0	36.6	56.0	46.0	12.0	9.4	L	
12.06560	23.7	19.8	14.2	37.9	34.0	60.0	50.0	22.1	16.0	L	

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT [dBuV] = READING [dBuV] + C.F [dB] (L: ISN LOSS + CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Fundamental emission and Spectrum Mask
[CP-D70DW]

DATA OF RADIATED EMISSION TEST

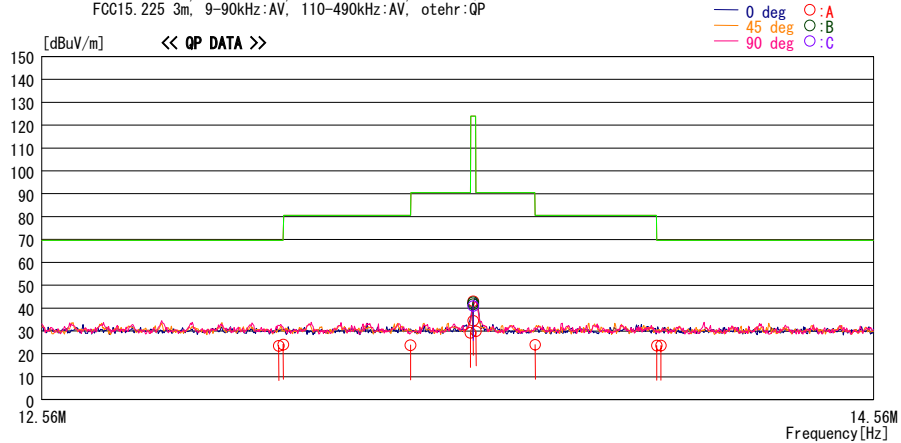
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/07/21

Report No. : 30JE0233-HO-02

Temp./ Humi. : 25deg. C. / 52%
Engineer : Katsunori Okai

Mode / Remarks : Transmitting mode(13.56MHz)

LIMIT : FCC15.225 3m, 9-90kHz:PK, 110-490kHz:PK, other:QP
FCC15.225 3m, 9-90kHz:AV, 110-490kHz:AV, otehr:QP



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]	[deg]	
13.10000	29.1	QP	20.1	6.5	32.2	23.5	69.5	46.0	0	A	293
13.11000	29.7	QP	20.1	6.5	32.2	24.1	69.5	45.4	0	A	293
13.41000	29.3	QP	20.1	6.6	32.2	23.8	80.5	56.7	0	A	293
13.55300	34.8	QP	20.1	6.6	32.2	29.3	90.4	61.1	0	A	293
13.56000	47.2	QP	20.1	6.6	32.2	41.7	123.9	82.2	45	B	28
13.56000	46.5	QP	20.1	6.6	32.2	41.0	123.9	82.9	90	C	0
13.56000	48.1	QP	20.1	6.6	32.2	42.6	123.9	81.3	135	B	321
13.56000	40.1	QP	20.1	6.6	32.2	34.6	123.9	89.3	0	A	290
13.56000	48.6	QP	20.1	6.6	32.2	43.1	123.9	80.8	0	A	293
13.56700	35.4	QP	20.1	6.6	32.2	29.9	90.4	60.5	0	A	293
13.71000	29.4	QP	20.1	6.6	32.2	23.9	80.5	56.6	0	A	293
14.01000	29.3	QP	20.0	6.6	32.2	23.7	69.5	45.8	0	A	293
14.02000	29.2	QP	20.0	6.6	32.2	23.6	69.5	45.9	0	A	293

CHART: WITH FACTOR, ANT TYPE: LOOP, Except for the data below: adequate margin data below the limits.
CALCULATION: RESULT[dBuV] = READING[dBuV] + ANT FACTOR[dB] + LOSS[dB] (CABLE + ATTEN. - AMP.)

Fundamental emission and Spectrum Mask

[CP-D707DW]

DATA OF RADIATED EMISSION TEST

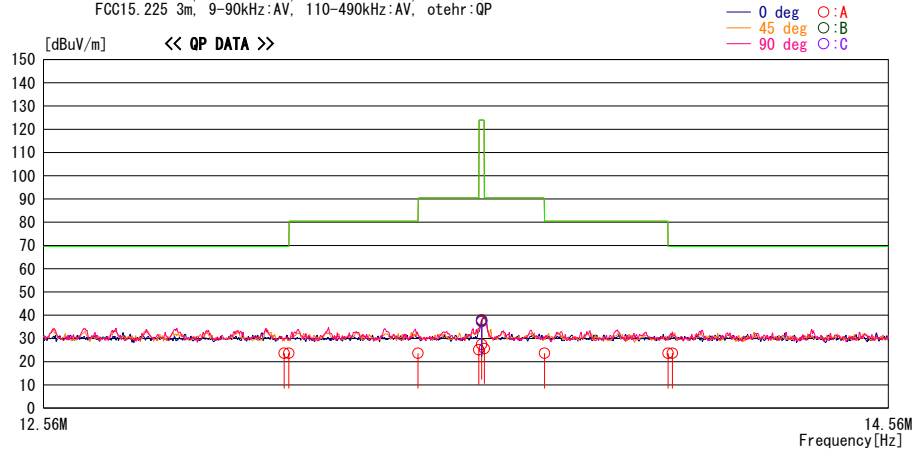
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/07/21

Report No. : 30JE0233-HO-02

Temp./ Humi. : 25deg.C. / 52%
Engineer : Katsunori Okai

Mode / Remarks : Transmitting mode(13.56MHz)

LIMIT : FCC15.225 3m, 9-90kHz:PK, 110-490kHz:PK, other:QP
FCC15.225 3m, 9-90kHz:AV, 110-490kHz:AV, otehr:QP



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]	[deg]	
13.10000	29.2	QP	20.1	6.5	32.2	23.6	69.5	45.9	0	A	63
13.11000	29.2	QP	20.1	6.5	32.2	23.6	69.5	45.9	0	A	63
13.41000	29.2	QP	20.1	6.6	32.2	23.7	80.5	56.8	0	A	63
13.55300	30.7	QP	20.1	6.6	32.2	25.2	90.4	65.2	0	A	63
13.56000	32.9	QP	20.1	6.6	32.2	27.4	123.9	96.5	0	A	55
13.56000	43.5	QP	20.1	6.6	32.2	38.0	123.9	85.9	0	A	63
13.56000	43.2	QP	20.1	6.6	32.2	37.7	123.9	86.2	45	B	35
13.56000	42.9	QP	20.1	6.6	32.2	37.4	123.9	86.5	90	C	0
13.56000	42.8	QP	20.1	6.6	32.2	37.3	123.9	86.6	135	B	310
13.56700	31.1	QP	20.1	6.6	32.2	25.6	90.4	64.8	0	A	63
13.71000	29.2	QP	20.1	6.6	32.2	23.7	80.5	56.8	0	A	63
14.01000	29.2	QP	20.0	6.6	32.2	23.6	69.5	45.9	0	A	63
14.02000	29.2	QP	20.0	6.6	32.2	23.6	69.5	45.9	0	A	63

CHART: WITH FACTOR, ANT TYPE: LOOP, Except for the data below: adequate margin data below the limits.
CALCULATION: RESULT[dBuV] = READING[dBuV] + ANT FACTOR[dB] + LOSS[dB] (CABLE + ATTEN. - AMP.)

Spurious emission [CP-D70DW]

DATA OF RADIATED EMISSION TEST

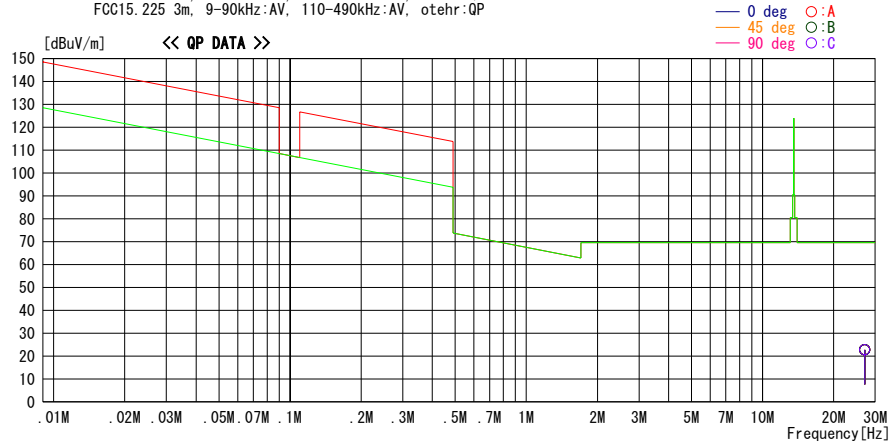
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/07/21

Report No. : 30JE0233-HO-02

Temp./ Humi. : 25deg. C. / 52%
Engineer : Katsunori Okai

Mode / Remarks : Transmitting mode(13.56MHz)

LIMIT : FCC15.225 3m, 9-90kHz:PK, 110-490kHz:PK, other:QP
FCC15.225 3m, 9-90kHz:AV, 110-490kHz:AV, otehr:QP



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]	[deg]	
27.12000	28.4	QP	19.7	6.9	32.2	22.8	69.5	46.7	0	A	0
27.12000	28.4	QP	19.7	6.9	32.2	22.8	69.5	46.7	90	C	0
27.12000	28.3	QP	19.7	6.9	32.2	22.7	69.5	46.8	45	B	0
27.12000	28.4	QP	19.7	6.9	32.2	22.8	69.5	46.7	135	B	0
27.12000	28.3	QP	19.7	6.9	32.2	22.7	69.5	46.8	0	A	0 Loop:Horizontal

CHART: WITH FACTOR, ANT TYPE: LOOP, Except for the data below: adequate margin data below the limits.
CALCULATION: RESULT[dBuV] = READING[dBuV] + ANT FACTOR[dB] + LOSS[dB] (CABLE + ATTN. - AMP.)

Spurious emission
[CP-D70DW]

DATA OF RADIATED EMISSION TEST

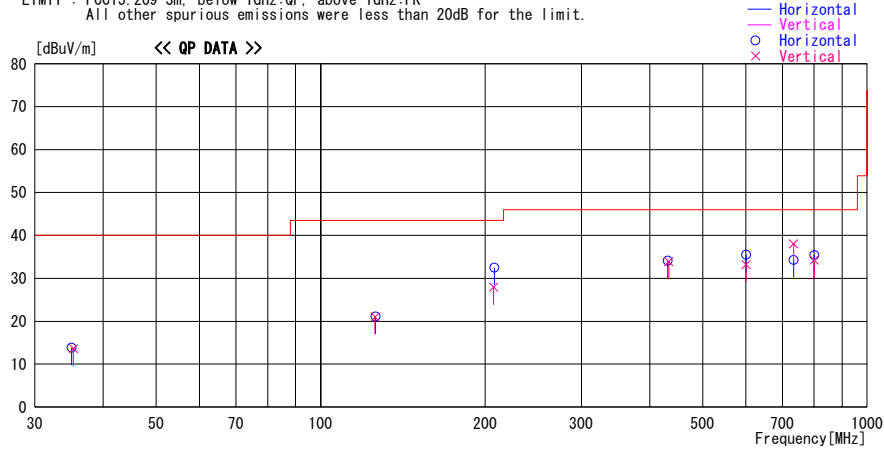
UL Japan, Inc. Head Office EMC Lab. No. 3 Semi Anechoic Chamber
Date : 2010/07/21

Report No. : 30JE0233-HO-02

Temp./Humi. : 25deg.C. / 52%
Engineer : Katsunori Okai

Mode / Remarks : Transmitting mode(13.56MHz)

LIMIT : FCC15.209 3m, below 1GHz:QP, above 1GHz:PK
All other spurious emissions were less than 20dB for the limit.



Frequency	Reading	DET	Antenna		Level	Angle	Height	Polar.	Limit	Margin	Comment
			Factor	Gain							
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
35.014	23.0	QP	15.8	-25.0	13.8	238	300	Hori.	40.0	26.2	
35.293	22.9	QP	15.7	-25.0	13.6	0	100	Vert.	40.0	26.4	
125.766	31.3	QP	13.4	-23.7	21.0	290	100	Vert.	43.5	22.5	
125.976	31.4	QP	13.4	-23.7	21.1	326	285	Hori.	43.5	22.4	
207.144	33.9	QP	16.9	-22.9	27.9	36	100	Vert.	43.5	15.6	
207.881	38.5	QP	16.9	-22.9	32.5	104	158	Hori.	43.5	11.0	
431.981	37.4	QP	17.7	-21.0	34.1	336	248	Hori.	46.0	11.9	
433.467	37.2	QP	17.7	-21.0	33.9	182	100	Vert.	46.0	12.1	
600.179	33.8	QP	19.5	-20.1	33.2	316	100	Vert.	46.0	12.8	
600.357	36.1	QP	19.5	-20.1	35.5	0	157	Hori.	46.0	10.5	
733.548	36.4	QP	20.9	-19.3	38.0	98	100	Vert.	46.0	8.0	
733.549	32.7	QP	20.9	-19.3	34.3	139	100	Hori.	46.0	11.7	
800.235	32.1	QP	21.8	-18.5	35.4	73	100	Hori.	46.0	10.6	
800.235	30.9	QP	21.8	-18.5	34.2	302	100	Vert.	46.0	11.8	

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)

Spurious emission
[CP-D70DW]

DATA OF RADIATED EMISSION TEST

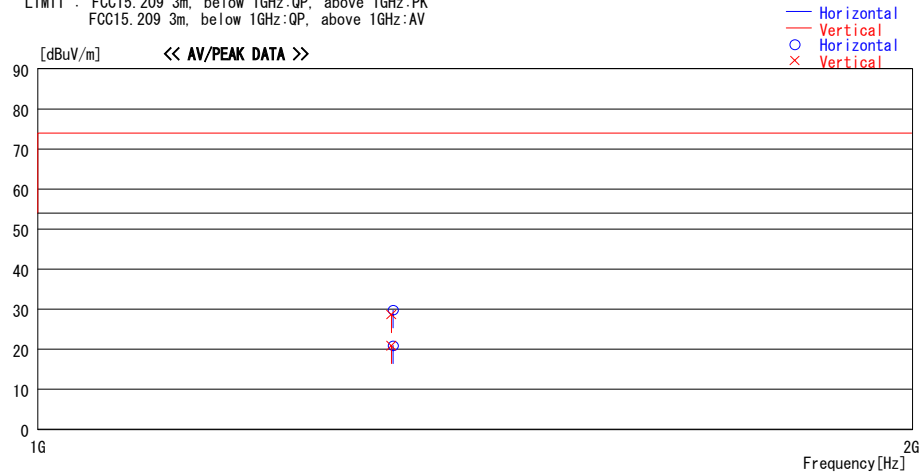
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Date : 2010/07/21

Report No. : 30JE0233-HO-02

Temp./Humi. : 20deg. C. / 60%
Engineer : Tomohisa Nakagawa

Mode / Remarks : Transmitting mode(13.56MHz)

LIMIT : FCC15.209 3m, below 1GHz:QP, above 1GHz:PK
FCC15.209 3m, below 1GHz:QP, above 1GHz:AV



Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Gain [dB]							
1323.326	44.1	PK	26.3	-41.8	28.6	0	100	Vert.	73.9	45.3	
1323.326	36.3	AV	26.3	-41.8	20.8	0	100	Vert.	53.9	33.1	
1324.993	45.2	PK	26.3	-41.8	29.7	0	100	Hori.	73.9	44.2	
1324.993	36.3	AV	26.3	-41.8	20.8	0	100	Hori.	53.9	33.1	

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)

Spurious emission
[CP-D707DW]

DATA OF RADIATED EMISSION TEST

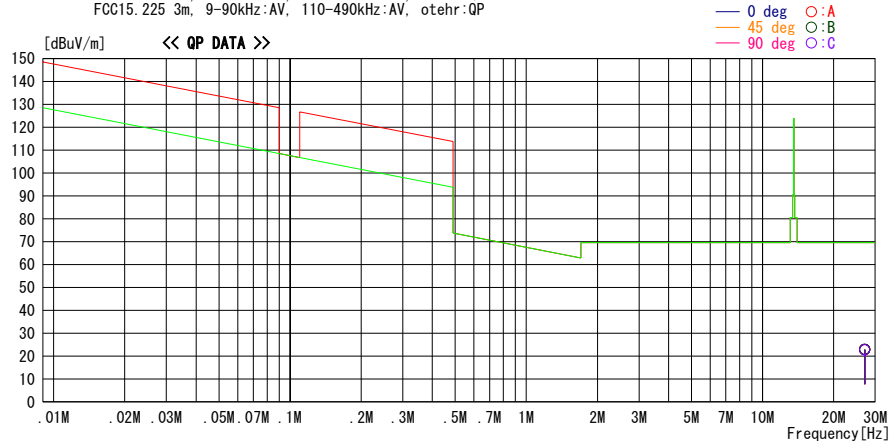
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Report No. : 30JE0233-HO-02

Temp./ Humi. : 25deg. C. / 52%
Engineer : Katsunori Okai

Mode / Remarks : Transmitting mode(13.56MHz)

LIMIT : FCC15.225 3m, 9-90kHz:PK, 110-490kHz:PK, other:QP
FCC15.225 3m, 9-90kHz:AV, 110-490kHz:AV, otehr:QP



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]	[deg]	
27.12000	28.4	QP	19.7	6.9	32.2	22.8	69.5	46.7	90	C	0
27.12000	28.5	QP	19.7	6.9	32.2	22.9	69.5	46.6	135	B	0
27.12000	28.5	QP	19.7	6.9	32.2	22.9	69.5	46.6	0	A	0
27.12000	28.5	QP	19.7	6.9	32.2	22.9	69.5	46.6	45	B	0
27.12000	28.4	QP	19.7	6.9	32.2	22.8	69.5	46.7	0	A	0
Loop:Horizontal											

CHART: WITH FACTOR, ANT TYPE: LOOP, Except for the data below: adequate margin data below the limits.
CALCULATION: RESULT[dBuV] = READING[dBuV] + ANT FACTOR[dB] + LOSS[dB] (CABLE + ATTEN. - AMP.)

Spurious emission
[CP-D707DW]

DATA OF RADIATED EMISSION TEST

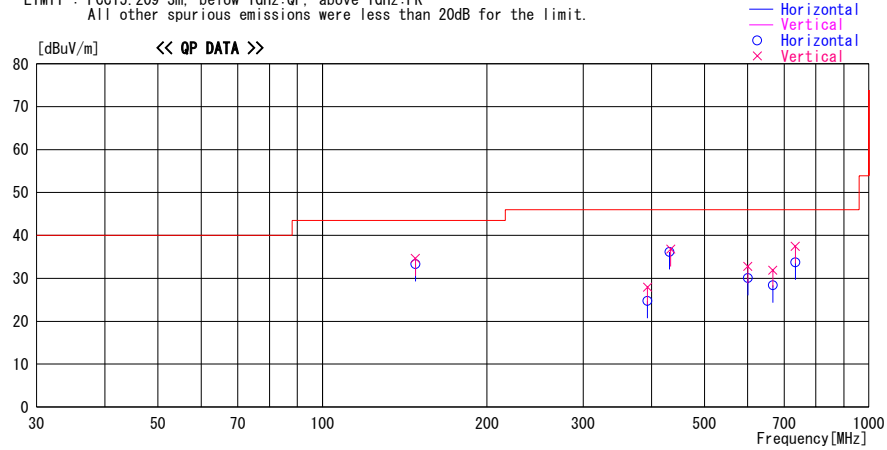
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Mode / Remarks : Transmitting mode(13.56MHz)

LIMIT : FCC15.209 3m, below 1GHz:QP, above 1GHz:PK
All other spurious emissions were less than 20dB for the limit.



Frequency	Reading	DET	Antenna		Level	Angle	Height	Polar.	Limit	Margin	Comment
			Factor	Loss&Gain							
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
148.011	42.1	QP	14.7	-23.5	33.3	98	400	Hori.	43.5	10.2	
148.012	43.4	QP	14.7	-23.5	34.6	2	100	Vert.	43.5	8.9	
393.246	28.8	QP	17.2	-21.3	24.7	46	100	Hori.	46.0	21.3	
393.251	32.0	QP	17.2	-21.3	27.9	357	100	Vert.	46.0	18.1	
431.982	39.4	QP	17.7	-21.0	36.1	193	100	Hori.	46.0	9.9	
433.927	40.1	QP	17.7	-21.0	36.8	337	123	Vert.	46.0	9.2	
600.176	33.4	QP	19.5	-20.1	32.8	110	100	Vert.	46.0	13.2	
600.183	30.7	QP	19.5	-20.1	30.1	159	100	Hori.	46.0	15.9	
666.863	31.6	QP	20.1	-19.8	31.9	302	100	Vert.	46.0	14.1	
666.868	28.1	QP	20.1	-19.8	28.4	348	100	Hori.	46.0	17.6	
733.522	35.9	QP	20.9	-19.3	37.5	0	131	Vert.	46.0	8.5	
733.552	32.1	QP	20.9	-19.3	33.7	112	100	Hori.	46.0	12.3	

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)

Spurious emission
[CP-D707DW]

DATA OF RADIATED EMISSION TEST

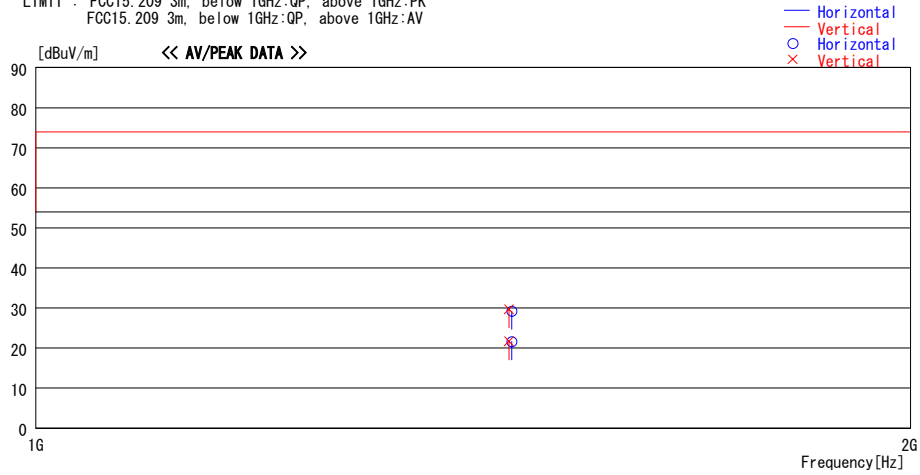
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Date : 2010/07/21

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Engineer : Tomohisa Nakagawa

Mode / Remarks : Transmitting mode(13.56MHz)

LIMIT : FCC15.209 3m, below 1GHz:QP, above 1GHz:PK
FCC15.209 3m, below 1GHz:QP, above 1GHz:AV



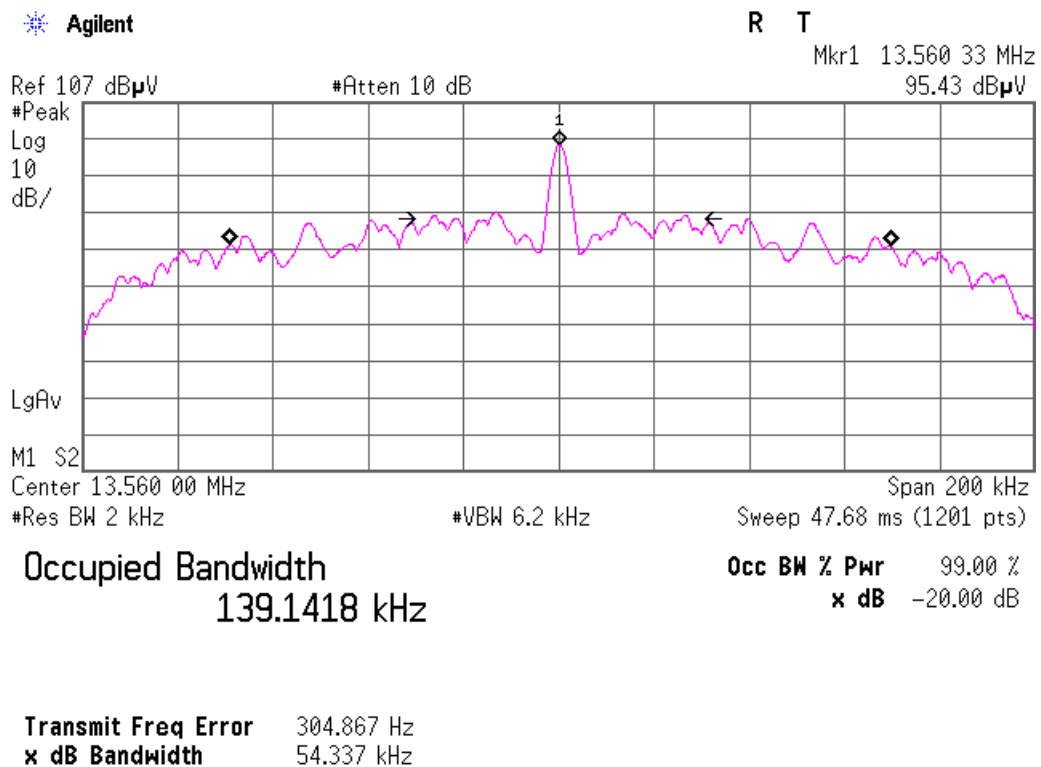
Frequency [MHz]	Reading [dBuV]	DET	Antenna	Loss&	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit	Margin	Comment
			Factor [dB/m]	Gain [dB]					[dBuV/m]	[dB]	
1454.990	44.3	PK	26.7	-41.4	29.6	0	100	Vert.	73.9	44.3	
1454.990	36.3	AV	26.7	-41.4	21.6	0	100	Vert.	53.9	32.3	
1458.323	43.8	PK	26.7	-41.4	29.1	0	100	Hori.	73.9	44.8	
1458.323	36.3	AV	26.7	-41.4	21.6	0	100	Hori.	53.9	32.3	

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)

20dB Bandwidth and 99% Occupied Bandwidth [CP-D70DW]

Test place	Head Office EMC Lab. No.7 Shielded Room
Report No.	30JE0233-HO-02
Date	06/17/2010
Temperature/ Humidity	26 deg.C./ 52%
Engineer	Takayuki Shimada
Mode	Tx

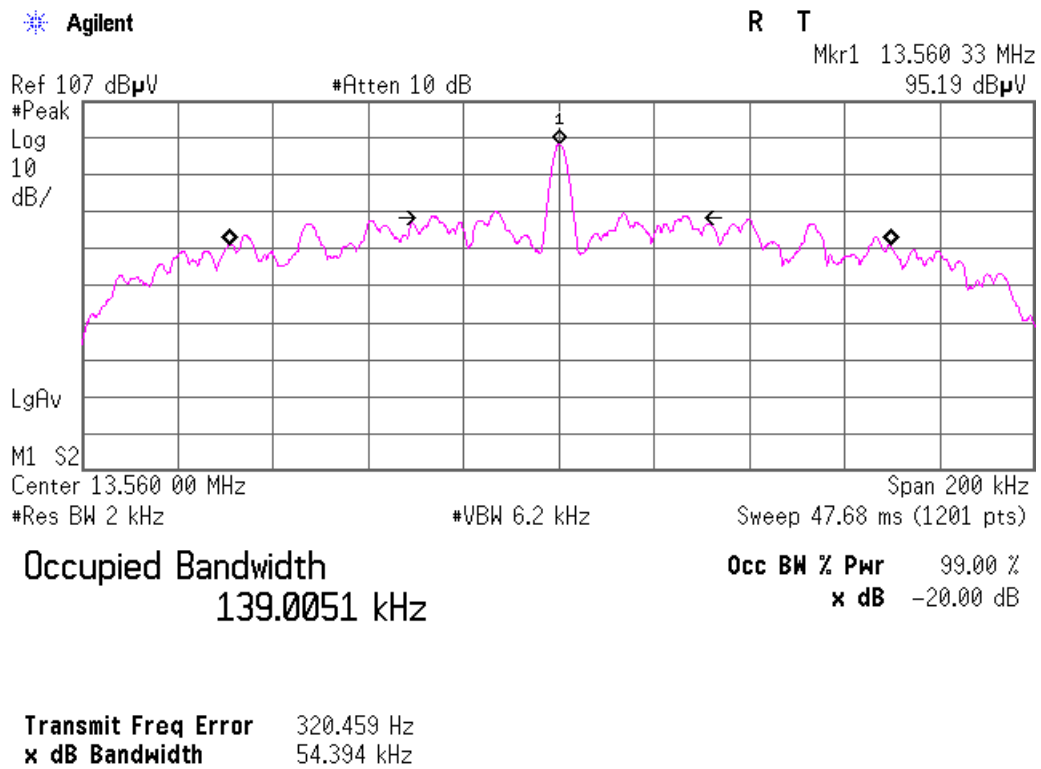
FREQ [MHz]	20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	54.34	139.14



20dB Bandwidth and 99% Occupied Bandwidth
[CP-D707DW]

Test place Head Office EMC Lab. No. 7 Shielded Room
Report No. 30JE0233-HO-02
Date 06/16/2010
Temperature/ Humidity 25 deg.C./ 50%
Engineer Satofumi Matsuyama
Mode Tx

FREQ [MHz]	20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	54.39	139.01



Frequency Tolerance [CP-D70DW]

Test place	Head Office EMC Lab. No.7 Shielded Room
Report No.	30JE0233-HO-02
Date	06/17/2010
Temperature/ Humidity	26 deg.C./ 52%
Engineer	Takayuki Shimada
Mode	Tx Mod off

Test Condition deg.C Volts		Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit (+/- 0.01%) [+/- ppm]	Margin [ppm]
20deg.C	138V	Power on	13.56018986	0.00018986	14.00	100.00	86.00
		on 2min.	13.56018803	0.00018803	13.87	100.00	86.13
		on 5min.	13.56018719	0.00018719	13.80	100.00	86.20
		on 10min.	13.56018706	0.00018706	13.79	100.00	86.21
	120V	Power on	13.56019752	0.00019752	14.57	100.00	85.43
		on 2min.	13.56019515	0.00019515	14.39	100.00	85.61
		on 5min.	13.56019365	0.00019365	14.28	100.00	85.72
		on 10min.	13.56019189	0.00019188	14.15	100.00	85.85
	102V	Power on	13.56019341	0.00019341	14.26	100.00	85.74
		on 2min.	13.56019096	0.00019096	14.08	100.00	85.92
		on 5min.	13.56019002	0.00019002	14.01	100.00	85.99
		on 10min.	13.56018860	0.00018860	13.91	100.00	86.09
50deg.C.	120V	Power on	13.56015097	0.00015097	11.13	100.00	88.87
		on 2min.	13.56014731	0.00014731	10.86	100.00	89.14
		on 5min.	13.56014310	0.00014310	10.55	100.00	89.45
		on 10min.	13.56013315	0.00013315	9.82	100.00	90.18
40deg.C.		Power on	13.56013472	0.00013472	9.94	100.00	90.06
		on 2min.	13.56012912	0.00012912	9.52	100.00	90.48
		on 5min.	13.56012805	0.00012805	9.44	100.00	90.56
		on 10min.	13.56012766	0.00012766	9.41	100.00	90.59
30deg.C.		Power on	13.56015310	0.00015310	11.29	100.00	88.71
		on 2min.	13.56014462	0.00014462	10.67	100.00	89.33
		on 5min.	13.56014470	0.00014470	10.67	100.00	89.33
		on 10min.	13.56014658	0.00014657	10.81	100.00	89.19
20deg.C.	Power on	13.56019752	0.00019752	14.57	100.00	85.43	
	on 2min.	13.56019515	0.00019515	14.39	100.00	85.61	
	on 5min.	13.56019365	0.00019365	14.28	100.00	85.72	
	on 10min.	13.56019189	0.00019188	14.15	100.00	85.85	
10deg.C.	Power on	13.56020420	0.00020420	15.06	100.00	84.94	
	on 2min.	13.56020431	0.00020431	15.07	100.00	84.93	
	on 5min.	13.56020414	0.00020414	15.05	100.00	84.95	
	on 10min.	13.56020380	0.00020380	15.03	100.00	84.97	
0deg.C.	Power on	13.56019124	0.00019124	14.10	100.00	85.90	
	on 2min.	13.56019595	0.00019595	14.45	100.00	85.55	
	on 5min.	13.56019757	0.00019757	14.57	100.00	85.43	
	on 10min.	13.56019927	0.00019927	14.70	100.00	85.30	
-10deg.C.	Power on	13.56016562	0.00016562	12.21	100.00	87.79	
	on 2min.	13.56017465	0.00017464	12.88	100.00	87.12	
	on 5min.	13.56017748	0.00017748	13.09	100.00	86.91	
	on 10min.	13.56017960	0.00017960	13.24	100.00	86.76	
-20deg.C	Power on	13.56012451	0.00012451	9.18	100.00	90.82	
	on 2min.	13.56013763	0.00013763	10.15	100.00	89.85	
	on 5min.	13.56014126	0.00014126	10.42	100.00	89.58	
	on 10min.	13.56014230	0.00014229	10.49	100.00	89.51	
-30deg.C	Power on	13.56014567	0.00014566	10.74	100.00	89.26	
	on 2min.	13.56015582	0.00015582	11.49	100.00	88.51	
	on 5min.	13.56015095	0.00015095	11.13	100.00	88.87	
	on 10min.	13.56013638	0.00013638	10.06	100.00	89.94	
Limit :		13.56	13.56 MHz +/-0.01 % (+/- 100ppm) =		+/- 0.001356 MHz		

Frequency Tolerance

[CP-D707DW]

Test place	Head Office EMC Lab. No.7 Shielded Room
Report No.	30JE0233-HO-02
Date	06/16/2010
Temperature/ Humidity	25 deg.C./ 50%
Engineer	Satofumi Matsuyama
Mode	Tx Mod off

Test Condition		Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit (+/- 0.01%) [+/- ppm]	Margin [ppm]
deg.C	Volts						
20deg.C	138V	Power on	13.56019948	0.00019948	14.71	100.00	85.29
		on 2min.	13.56019713	0.00019713	14.54	100.00	85.46
		on 5min.	13.56019754	0.00019754	14.57	100.00	85.43
		on 10min.	13.56019812	0.00019812	14.61	100.00	85.39
	120V	Power on	13.56019365	0.00019365	14.28	100.00	85.72
		on 2min.	13.56019194	0.00019194	14.15	100.00	85.85
		on 5min.	13.56019294	0.00019294	14.23	100.00	85.77
		on 10min.	13.56019427	0.00019427	14.33	100.00	85.67
	102V	Power on	13.56019801	0.00019801	14.60	100.00	85.40
		on 2min.	13.56019517	0.00019516	14.39	100.00	85.61
		on 5min.	13.56019566	0.00019566	14.43	100.00	85.57
		on 10min.	13.56019655	0.00019655	14.50	100.00	85.50
50deg.C.	120V	Power on	13.56013084	0.00013084	9.65	100.00	90.35
		on 2min.	13.56011903	0.00011903	8.78	100.00	91.22
		on 5min.	13.56011321	0.00011321	8.35	100.00	91.65
		on 10min.	13.56010878	0.00010878	8.02	100.00	91.98
40deg.C.	120V	Power on	13.56014809	0.00014808	10.92	100.00	89.08
		on 2min.	13.56014104	0.00014104	10.40	100.00	89.60
		on 5min.	13.56013788	0.00013788	10.17	100.00	89.83
		on 10min.	13.56013549	0.00013549	9.99	100.00	90.01
30deg.C.	120V	Power on	13.56019197	0.00019197	14.16	100.00	85.84
		on 2min.	13.56018519	0.00018519	13.66	100.00	86.34
		on 5min.	13.56018084	0.00018084	13.34	100.00	86.66
		on 10min.	13.56017752	0.00017752	13.09	100.00	86.91
20deg.C.	120V	Power on	13.56019365	0.00019365	14.28	100.00	85.72
		on 2min.	13.56019194	0.00019194	14.15	100.00	85.85
		on 5min.	13.56019294	0.00019294	14.23	100.00	85.77
		on 10min.	13.56019427	0.00019427	14.33	100.00	85.67
10deg.C.	120V	Power on	13.56024720	0.00024720	18.23	100.00	81.77
		on 2min.	13.56024443	0.00024443	18.03	100.00	81.97
		on 5min.	13.56024244	0.00024244	17.88	100.00	82.12
		on 10min.	13.56024020	0.00024019	17.71	100.00	82.29
0deg.C.	120V	Power on	13.56024105	0.00024105	17.78	100.00	82.22
		on 2min.	13.56024544	0.00024544	18.10	100.00	81.90
		on 5min.	13.56024732	0.00024732	18.24	100.00	81.76
		on 10min.	13.56024767	0.00024767	18.26	100.00	81.74
-10deg.C.	120V	Power on	13.56021949	0.00021949	16.19	100.00	83.81
		on 2min.	13.56023357	0.00023357	17.22	100.00	82.78
		on 5min.	13.56023635	0.00023635	17.43	100.00	82.57
		on 10min.	13.56023882	0.00023882	17.61	100.00	82.39
-20deg.C	120V	Power on	13.56021450	0.00021450	15.82	100.00	84.18
		on 2min.	13.56022549	0.00022548	16.63	100.00	83.37
		on 5min.	13.56022586	0.00022586	16.66	100.00	83.34
		on 10min.	13.56022551	0.00022551	16.63	100.00	83.37
-30deg.C	120V	Power on	13.56025011	0.00025011	18.44	100.00	81.56
		on 2min.	13.56025006	0.00025006	18.44	100.00	81.56
		on 5min.	13.56024934	0.00024934	18.39	100.00	81.61
		on 10min.	13.56024137	0.00024136	17.80	100.00	82.20
Limit :		13.56	13.56 MHz +/-0.01 % (+/- 100ppm) =		+/- 0.001356 MHz		

Limit : 13.56 13.56 MHz +/-0.01 % (+/- 100ppm) = +/- 0.001356 MHz

APPENDIX 3: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	FT	2010/03/05 * 12
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	FT	2009/08/25 * 12
MCC-64	Coaxial Cable	UL Japan	-	-	FT	2010/03/04 * 12
MCH-01	Temperature and Humidity Chamber	Tabai Spec	PL-2KP	14007605	FT	2009/12/21 * 12
MOS-04	Digital Humidity Indicator	N.T	NT-1800	MOS04	FT	2010/02/09 * 12
MLPA-03	Loop Antenna	UL Japan	-	-	FT	Pre Check
MPA-13	Pre Amplifier	SONOMA INSTRUMENT	310	260834	FT/RE	2010/03/23 * 12
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE/CE	2010/02/01 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE/CE	2010/02/09 * 12
MJM-06	Measure	PROMART	SEN1955	-	RE/CE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MSA-09	Spectrum Analyzer	Advantest	R3273	95090115	RE/CE	2009/12/11 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	RE/CE	2009/06/30 * 24
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	1915	RE	2010/01/23 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	174	RE	2010/01/23 * 12
MCC-51	Coaxial cable	UL Japan	-	-	RE	2010/07/06 * 12
MAT-09	Attenuator(6dB)	Weinschel Corp	2	BK7973	RE	2009/11/12 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(AE)	2010/02/04 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE(EUT)	2010/02/05 * 12
MTA-31	Terminator	TME	CT-01	-	CE	2010/01/20 * 12
MCC-112	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W(10m)/SFM141(3m)/suctoform141-PE(1m)/421-010(1.5m)/RFM-E321(Switcher)	-/00640	RE/CE	2009/07/02 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	2010/05/07 * 12
MCC-56	Microwave Cable	Suhner	SUCOFLEX104	174410(1m) / 284655(5m)	RE	2010/01/25 * 12
MPA-11	MicroWave System Amplifier	Agilent	83017A	MY39500779	RE	2010/03/03 * 12
MLPA-02	Loop Antenna	Rohde & Schwarz	HFH2-Z2	836553/009	RE	2009/11/19 * 12
MCC-31	Coaxial cable	UL Japan	-	-	RE	2010/07/20 * 12
MAT-66	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	2010/02/04 * 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: CE: Conducted Emission
RE: Radiated Emission
FT: Frequency Tolerance

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