

APPENDIX 2: Data of EMI test

Conducted emission

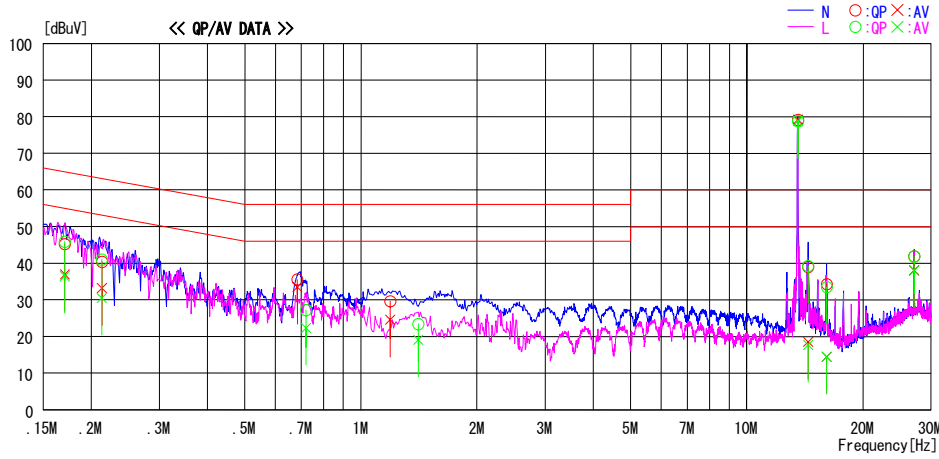
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2009/06/08

Company : Panasonic Corporation
Kind of EUT : ePassport Reader
Model No. : JT-P100MR-30
Serial No. : 09A00001
Report No. : 29GE0061-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 24deg. C. / 64%
Engineer : Takayuki Shimada

Mode / Remarks : Tx 13.56MHz mode / with Tag

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]		
0.17080	45.0	36.8	0.2	45.2	37.0	64.9	54.9	19.7	17.9	N	
0.21312	40.1	32.9	0.3	40.4	33.2	63.1	53.1	22.7	19.9	N	
0.68396	35.3	33.2	0.3	35.6	33.5	56.0	46.0	20.4	12.5	N	
1.19117	29.2	24.2	0.4	29.6	24.6	56.0	46.0	26.4	21.4	N	
13.56000	77.8	77.9	1.3	79.1	79.2	-	-	-	-	N	Refer to Antenna Terminated Data
14.40980	37.6	17.1	1.4	39.0	18.5	60.0	50.0	21.0	31.5	N	
16.10382	32.8	13.0	1.5	34.3	14.5	60.0	50.0	25.7	35.5	N	
27.12000	39.8	36.0	2.1	41.9	38.1	60.0	50.0	18.1	11.9	N	
0.17068	45.7	36.3	0.2	45.9	36.5	64.9	54.9	19.0	18.4	L	
0.21304	40.7	30.2	0.3	41.0	30.5	63.1	53.1	22.1	22.6	L	
0.72112	26.9	22.0	0.3	27.2	22.3	56.0	46.0	28.8	23.7	L	
1.40649	23.0	18.7	0.4	23.4	19.1	56.0	46.0	32.6	26.9	L	
13.56000	77.4	77.5	1.3	78.7	78.8	-	-	-	-	L	Refer to Antenna Terminated Data
14.40620	37.8	16.3	1.4	39.2	17.7	60.0	50.0	20.8	32.3	L	
16.10451	32.0	13.0	1.5	33.5	14.5	60.0	50.0	26.5	35.5	L	
27.12000	39.8	35.9	2.1	41.9	38.0	60.0	50.0	18.1	12.0	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.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Conducted emission

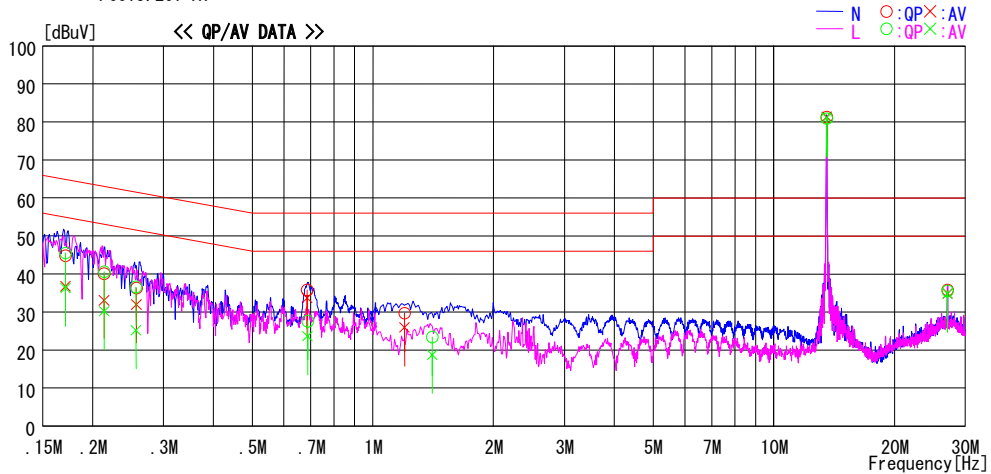
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2009/06/08

Company : Panasonic Corporation	Report No. : 29GE0061-HO-01
Kind of EUT : ePassport Reader	Power : AC 120V / 60Hz
Model No. : JT-P100MR-30	Temp./Humi. : 24deg. C. / 64%
Serial No. : 09A00001	Engineer : Takayuki Shimada

Mode / Remarks: Tx 13.56MHz mode / without Tag

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]		
0.17090	44.6	36.6	0.2	44.8	36.8	64.9	54.9	20.1	18.1	N	
0.21336	39.8	32.8	0.3	40.1	33.1	63.1	53.1	23.0	20.0	N	
0.25708	36.0	31.7	0.3	36.3	32.0	61.5	51.5	25.2	19.5	N	
0.68550	35.5	33.4	0.3	35.8	33.7	56.0	46.0	20.2	12.3	N	
1.20011	29.3	25.5	0.4	29.7	25.9	56.0	46.0	26.3	20.1	N	
13.56000	80.0	80.1	1.3	81.3	81.4	-	-	-	-	N	Refer to Antenna
27.12000	33.7	32.8	2.1	35.8	34.9	60.0	50.0	24.2	15.1	N	Terminated Data
0.17094	45.3	36.1	0.2	45.5	36.3	64.9	54.9	19.4	18.6	L	
0.21362	40.3	29.9	0.3	40.6	30.2	63.1	53.1	22.5	22.9	L	
0.25662	36.3	24.9	0.3	36.6	25.2	61.5	51.5	24.9	26.3	L	
0.68780	27.3	23.3	0.3	27.6	23.6	56.0	46.0	28.4	22.4	L	
1.40702	23.0	18.3	0.4	23.4	18.7	56.0	46.0	32.6	27.3	L	
13.56000	79.6	79.8	1.3	80.9	81.1	-	-	-	-	L	Refer to Antenna
27.12000	33.5	32.7	2.1	35.6	34.8	60.0	50.0	24.4	15.2	L	Terminated Data

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.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Conducted emission

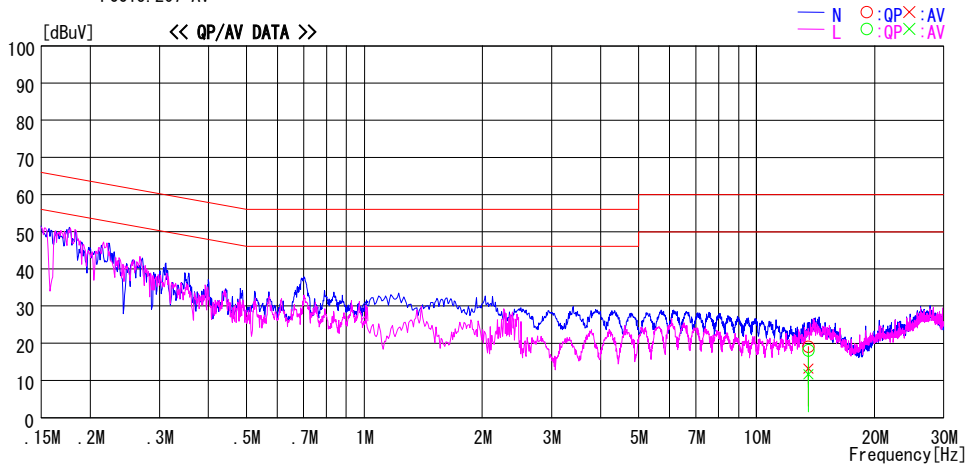
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/06/08

Company : Panasonic Corporation	Report No. : 29GE0061-HO-01
Kind of EUT : ePassport Reader	Power : AC 120V / 60Hz
Model No. : JT-P100MR-30	Temp./Humi. : 24deg. C. / 64%
Serial No. : 09A00001	Engineer : Takayuki Shimada

Mode / Remarks: Tx 13.56MHz mode, Antenna 50 ohm Terminated

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]		
13.56000	17.8	11.9	1.3	19.1	13.2	60.0	50.0	40.9	36.8	N	
13.56000	16.8	10.4	1.3	18.1	11.7	60.0	50.0	41.9	38.3	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.

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission(Fundamental emission and Spectrum Mask)

DATA OF RADIATED EMISSION TEST

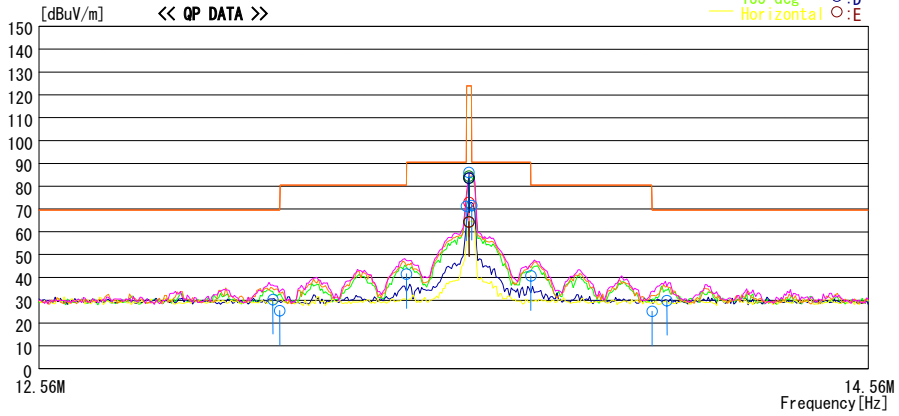
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/06/10

Company : Panasonic Corporation Report No. : 29GE0061-HO-01
Kind of EUT : ePassport Reader Power : AC 120 V / 60 Hz
Model No. : JT-P100MR-30 Temp./ Humi. : 25deg.C. / 66%
Serial No. : 09A00001 Engineer : Takeshi Choda

Mode / Remarks: Tx 13.56MHz mode / with Tag EUT:X-axis

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

0 deg ○:A
45 deg ○:B
90 deg ○:C
135 deg ○:D
Horizontal ○:E



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]	
13.09430	42.4	QP	19.3	0.7	32.1	30.3	69.5	39.2	90	C	278
13.11000	37.5	QP	19.3	0.7	32.1	25.4	69.5	44.1	90	C	278
13.41000	53.6	QP	19.3	0.7	32.1	41.5	80.5	39.0	90	C	278
13.55300	83.3	QP	19.3	0.7	32.1	71.2	90.4	19.2	90	C	278
13.56000	96.5	QP	19.3	0.7	32.1	84.4	123.9	39.5	45	B	343
13.56000	85.0	QP	19.3	0.7	32.1	72.9	123.9	51.0	0	A	351
13.56000	98.2	QP	19.3	0.7	32.1	86.1	123.9	37.8	90	C	278 Worst angle
13.56000	95.8	QP	19.3	0.7	32.1	83.7	123.9	40.2	135	D	192
13.56000	76.5	QP	19.3	0.7	32.1	64.4	123.9	59.5	0	E	347 Loop:Horizontal
13.56700	83.7	QP	19.3	0.7	32.1	71.6	90.4	18.8	90	C	278
13.71000	52.8	QP	19.3	0.8	32.1	40.8	80.5	39.7	90	C	278
14.01000	37.3	QP	19.2	0.8	32.1	25.2	69.5	44.3	90	C	278
14.04660	41.9	QP	19.2	0.8	32.1	29.8	69.5	39.7	90	C	278

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.)

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission(Fundamental emission and Spectrum Mask)

DATA OF RADIATED EMISSION TEST

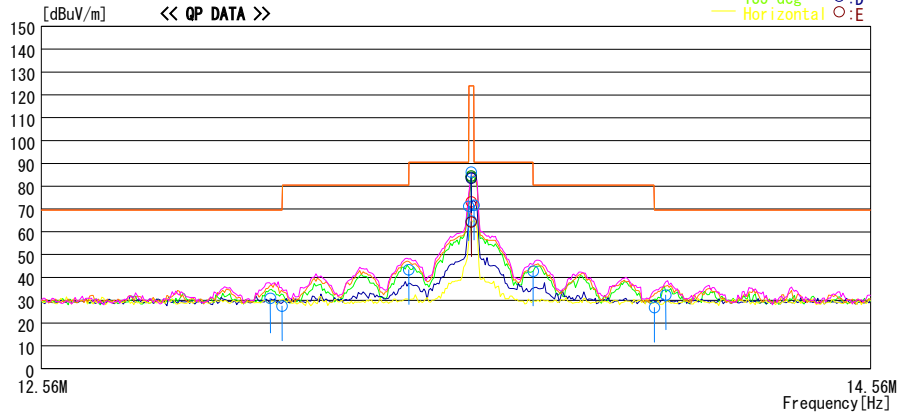
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/06/10

Company : Panasonic Corporation Report No. : 29GE0061-HO-01
Kind of EUT : ePassport Reader Power : AC 120 V / 60 Hz
Model No. : JT-P100MR-30 Temp./ Humi. : 25deg. C. / 66%
Serial No. : 09A00001 Engineer : Takeshi Choda

Mode / Remarks: Tx 13.56MHz mode / without Tag EUT:X-axis

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

— 0 deg ○:A
— 45 deg ○:B
— 90 deg ○:C
— 135 deg ○:D
— Horizontal ○:E



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]	
13.08316	43.0	QP	19.3	0.7	32.1	30.9	69.5	38.6	90	C	260
13.11000	39.5	QP	19.3	0.7	32.1	27.4	69.5	42.1	90	C	260
13.41000	55.4	QP	19.3	0.7	32.1	43.3	80.5	37.2	90	C	260
13.55300	83.4	QP	19.3	0.7	32.1	71.3	90.4	19.1	90	C	260
13.56000	76.8	QP	19.3	0.7	32.1	64.7	123.9	59.2	0	E	85 Loop:Horizontal
13.56000	85.3	QP	19.3	0.7	32.1	73.2	123.9	50.7	0	A	352
13.56000	96.6	QP	19.3	0.7	32.1	84.5	123.9	39.4	45	B	331
13.56000	98.3	QP	19.3	0.7	32.1	86.2	123.9	37.7	90	C	260 Worst angle
13.56000	96.0	QP	19.3	0.7	32.1	83.9	123.9	40.0	135	D	189
13.56700	83.8	QP	19.3	0.7	32.1	71.7	90.4	18.7	90	C	260
13.71000	54.8	QP	19.3	0.8	32.1	42.8	80.5	37.7	90	C	260
14.01000	39.0	QP	19.2	0.8	32.1	26.9	69.5	42.6	90	C	260
14.03854	44.4	QP	19.2	0.8	32.1	32.3	69.5	37.2	90	C	260

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.)

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission(Fundamental emission and Spectrum Mask)
(Reference data: Worst angle check)

DATA OF RADIATED EMISSION TEST

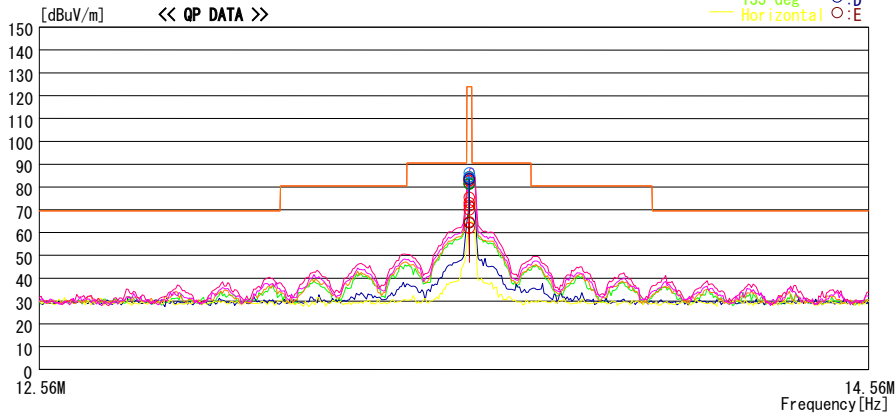
UL Japan, Inc. Head Office EMC Lab. No. 4 Semi Anechoic Chamber
Date : 2009/06/10

Company : Panasonic Corporation
Kind of EUT : ePassport Reader
Model No. : JT-P100MR-30
Serial No. : 09A00001
Report No. : 29GE0061-HO-01
Power : AC 120 V / 60 Hz
Temp. / Humi. : 25deg. C. / 66%
Engineer : Takeshi Choda

Mode / Remarks: Tx 13.56MHz mode / without Tag EUT:X-axis

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

0 deg ○:A
45 deg ○:B
90 deg ○:C
135 deg ○:D
Horizontal ○:E



Freq. [MHz]	Reading [dBuV]	DET	Ant. Fac	Loss	Gain	Result	Limit	Margin	Antenna	Table [deg]	Comment
			[dB/m]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[deg]		
13.56000	85.3	QP	19.3	0.7	32.1	73.2	123.9	50.7	0	A	352 X-axis
13.56000	96.6	QP	19.3	0.7	32.1	84.5	123.9	39.4	45	B	331 X-axis
13.56000	98.3	QP	19.3	0.7	32.1	86.2	123.9	37.7	90	C	260 X-axis Worst angle
13.56000	87.5	QP	19.3	0.7	32.1	75.4	123.9	48.5	0	A	243 Y-axis
13.56000	93.3	QP	19.3	0.7	32.1	81.2	123.9	42.7	45	B	61 Y-axis
13.56000	95.6	QP	19.3	0.7	32.1	83.5	123.9	40.4	90	C	283 Y-axis
13.56000	83.9	QP	19.3	0.7	32.1	71.8	123.9	52.1	0	A	21 Z-axis
13.56000	93.8	QP	19.3	0.7	32.1	81.7	123.9	42.2	45	B	174 Z-axis
13.56000	96.5	QP	19.3	0.7	32.1	84.4	123.9	39.5	90	C	85 Z-axis
13.56000	96.0	QP	19.3	0.7	32.1	83.9	123.9	40.0	135	D	189 X-axis
13.56000	76.8	QP	19.3	0.7	32.1	64.7	123.9	59.2	0	E	351 X-axis Loop :Horizontal
13.56000	94.9	QP	19.3	0.7	32.1	82.8	123.9	41.1	135	D	259 Y-axis
13.56000	82.1	QP	19.3	0.7	32.1	70.0	123.9	53.9	0	E	140 Y-axis Loop :Horizontal
13.56000	94.9	QP	19.3	0.7	32.1	82.8	123.9	41.1	135	D	35 Z-axis
13.56000	74.2	QP	19.3	0.7	32.1	62.1	123.9	61.8	0	E	85 Z-axis 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.)

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission (Spurious emission : below 30MHz)

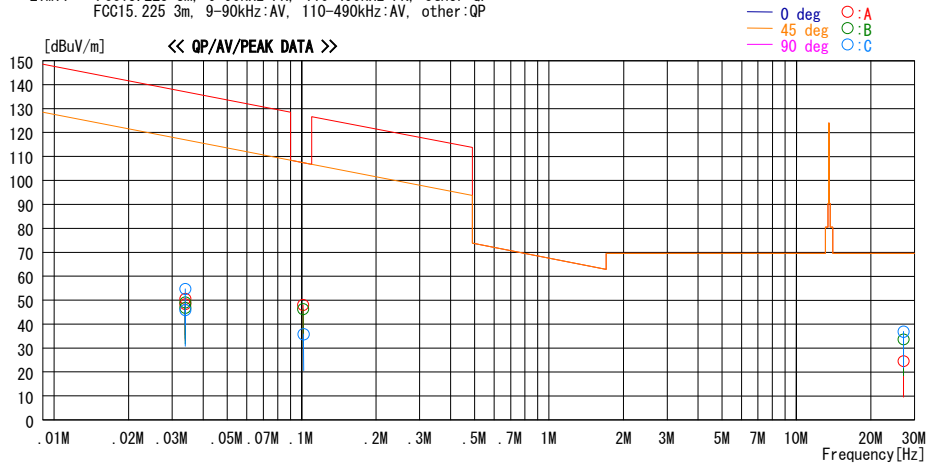
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/06/10

Company : Panasonic Corporation
Kind of EUT : ePassport Reader
Model No. : JT-P100MR-30
Serial No. : 09A00001
Report No. : 29GE0061-HO-01
Power : AC 120 V / 60 Hz
Temp. / Humi. : 25deg. C. / 66%
Engineer : Takeshi Choda

Mode / Remarks : Tx 13.56MHz mode / with Tag EUT:X-axis

LIMIT : FCC15.225 3m, 9-90kHz:PK, 110-490kHz:PK, other:QP
FCC15.225 3m, 9-90kHz:AV, 110-490kHz:AV, other: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]	
0.03378	67.3	PEAK	19.9	0.0	32.5	54.7	137.0	82.3	90	C	62
0.03378	58.6	AV	19.9	0.0	32.5	46.0	117.0	71.0	90	C	62
0.03378	61.7	PEAK	19.9	0.0	32.5	49.1	137.0	87.9	45	B	313
0.03378	59.4	AV	19.9	0.0	32.5	46.8	117.0	70.2	45	B	313
0.03384	63.2	PEAK	19.9	0.0	32.5	50.6	137.0	86.4	0	A	334
0.03384	61.0	AV	19.9	0.0	32.5	48.4	117.0	68.6	0	A	334
0.10131	58.5	QP	19.8	0.1	32.1	46.3	107.4	61.1	45	B	109
0.10136	60.2	QP	19.8	0.1	32.1	48.0	107.4	59.4	0	A	138
0.10170	48.0	QP	19.8	0.1	32.1	35.8	107.4	71.6	90	C	235
27.12000	47.4	QP	20.5	1.1	32.1	36.9	69.5	32.6	90	C	269
27.12000	35.1	QP	20.5	1.1	32.1	24.6	69.5	44.9	0	A	188
27.12000	44.2	QP	20.5	1.1	32.1	33.7	69.5	35.8	45	B	348

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.)

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission (Spurious emission : below 30MHz)

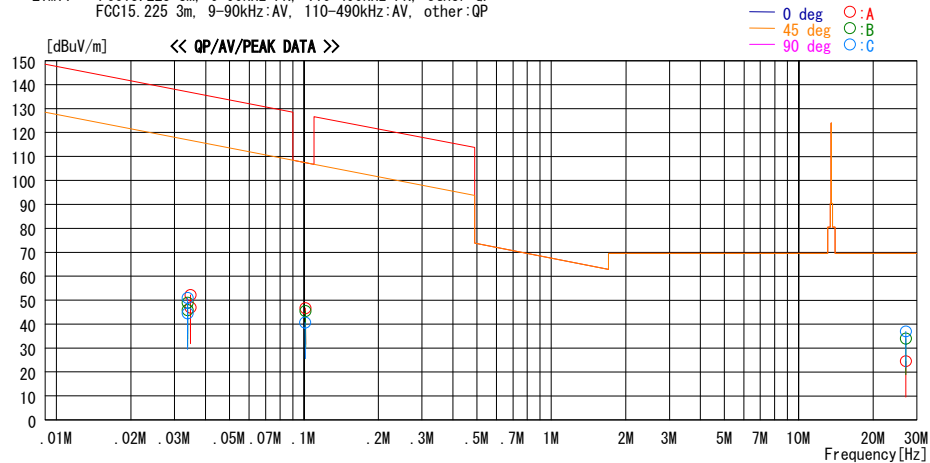
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2009/06/10

Company : Panasonic Corporation
Kind of EUT : ePassport Reader
Model No. : JT-P100MR-30
Serial No. : 09A00001
Report No. : 29GE0061-HO-01
Power : AC 120 V / 60 Hz
Temp. / Humi. : 25deg.C / 66%
Engineer : Takeshi Choda

Mode / Remarks : Tx 13.56MHz mode / without Tag EUT:X-axis

LIMIT : FCC15.225 3m, 9-90kHz:PK, 110-490kHz:PK, other:QP
FCC15.225 3m, 9-90kHz:AV, 110-490kHz:AV, other: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]	
0.03379	63.5	PEAK	19.9	0.0	32.5	50.9	137.0	86.1	90	C	206
0.03379	57.2	AV	19.9	0.0	32.5	44.6	117.0	72.4	90	C	206
0.03384	61.5	PEAK	19.9	0.0	32.5	48.9	137.0	88.1	45	B	309
0.03384	58.5	AV	19.9	0.0	32.5	45.9	117.0	71.1	45	B	309
0.03471	64.8	PEAK	19.9	0.0	32.5	52.2	136.8	84.6	0	A	165
0.03471	59.6	AV	19.9	0.0	32.5	47.0	116.8	69.8	0	A	165
0.10122	52.8	QP	19.8	0.1	32.1	40.6	107.4	66.8	90	C	62
0.10126	57.6	QP	19.8	0.1	32.1	45.4	107.4	62.0	45	B	105
0.10128	58.9	QP	19.8	0.1	32.1	46.7	107.4	60.7	0	A	130
27.12000	35.0	QP	20.5	1.1	32.1	24.5	69.5	45.0	0	A	209
27.12000	44.4	QP	20.5	1.1	32.1	33.9	69.5	35.6	45	B	347
27.12000	47.5	QP	20.5	1.1	32.1	37.0	69.5	32.5	90	C	271

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.)

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission (Spurious emission: above 30MHz)

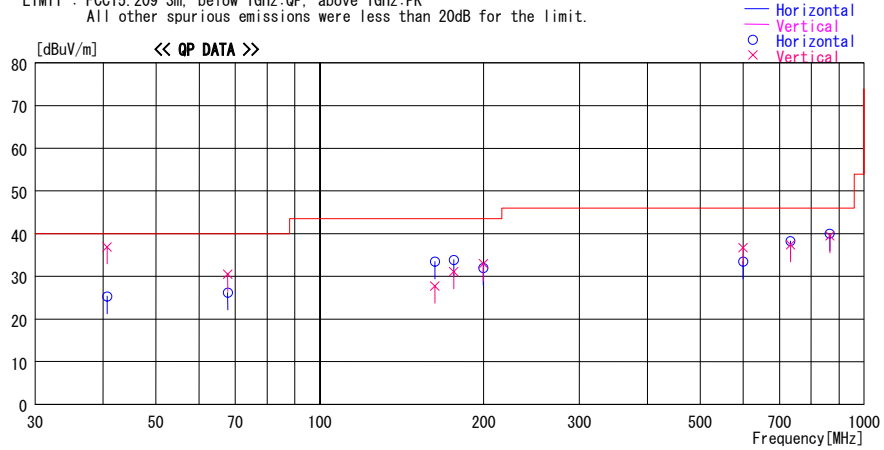
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/06/01

Company : Panasonic Corporation
Kind of EUT : ePassport Reader
Model No. : JT-P100MR-30
Serial No. : 09A00001
Report No. : 29GE0061-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 24 deg.C / 40 %
Engineer : Kazuya Yoshioka

Mode / Remarks : Tx 13.56MHz mode / with Tag EUT:X-axis

LIMIT : FCC15.209 3m, below 1GHz:QP, above 1GHz:PK
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]	Comment
			Factor [dB/m]	Loss&Gain [dB]							
40.680	48.1	QP	13.7	-24.9	36.9	86	100	Vert.	40.0	3.1	
40.680	36.5	QP	13.7	-24.9	25.3	11	202	Hori.	40.0	14.7	
67.800	48.5	QP	6.5	-24.5	30.5	223	100	Vert.	40.0	9.5	
67.800	44.2	QP	6.5	-24.5	26.2	359	241	Hori.	40.0	13.8	
162.720	35.8	QP	15.2	-23.3	27.7	82	259	Vert.	43.5	15.8	
162.720	41.6	QP	15.2	-23.3	33.5	151	187	Hori.	43.5	10.0	
176.280	41.5	QP	15.6	-23.2	33.9	141	183	Hori.	43.5	9.6	
176.281	38.7	QP	15.6	-23.2	31.1	178	100	Vert.	43.5	12.4	
199.801	39.2	QP	16.7	-23.0	32.9	332	148	Vert.	43.5	10.6	
199.801	38.2	QP	16.7	-23.0	31.9	129	171	Hori.	43.5	11.6	
599.402	33.9	QP	19.7	-20.1	33.5	317	171	Hori.	46.0	12.5	
599.403	37.1	QP	19.7	-20.1	36.7	359	100	Vert.	46.0	9.3	
732.603	36.1	QP	20.6	-19.3	37.4	79	100	Vert.	46.0	8.6	
732.604	36.9	QP	20.6	-19.3	38.2	113	114	Hori.	46.0	7.8	
865.804	35.5	QP	21.9	-17.9	39.5	74	110	Vert.	46.0	6.5	
865.805	36.0	QP	21.9	-17.9	40.0	171	100	Hori.	46.0	6.0	

CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BI CONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS (CABLE+ATTEN.) - GAIN (AMP)

*The test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission (Spurious emission : below 30MHz)

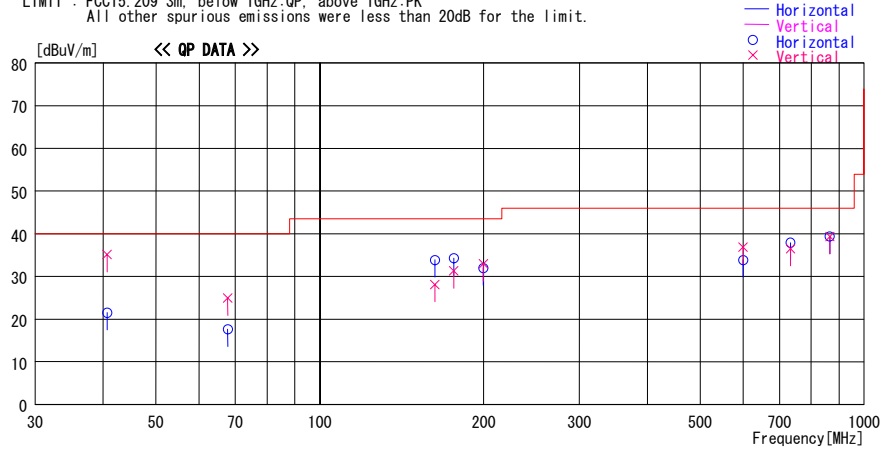
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/06/01

Company : Panasonic Corporation Report No. : 29GE0061-HO-01
Kind of EUT : ePassport Reader Power : AC 120V / 60Hz
Model No. : JT-P100MR-30 Temp./Humi. : 24 deg. C. / 40 %
Serial No. : 09A00001 Engineer : Kazuya Yoshioka

Mode / Remarks : Tx 13.56MHz mode / without Tag EUT:X-axis

LIMIT : FCC15.209 3m, below 1GHz:QP, above 1GHz:PK
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]	Comment
			Factor [dB/m]	Loss& Gain [dB]							
40.680	46.3	QP	13.7	-24.9	35.1	86	100	Vert.	40.0	4.9	
40.680	32.7	QP	13.7	-24.9	21.5	11	202	Hori.	40.0	18.5	
67.800	42.9	QP	6.5	-24.5	24.9	222	100	Vert.	40.0	15.1	
67.800	35.6	QP	6.5	-24.5	17.6	359	241	Hori.	40.0	22.4	
162.720	36.2	QP	15.2	-23.3	28.1	82	259	Vert.	43.5	15.4	
162.720	42.0	QP	15.2	-23.3	33.9	151	187	Hori.	43.5	9.6	
176.280	41.9	QP	15.6	-23.2	34.3	141	183	Hori.	43.5	9.2	
176.281	38.9	QP	15.6	-23.2	31.3	178	100	Vert.	43.5	12.2	
199.801	39.2	QP	16.7	-23.0	32.9	332	148	Vert.	43.5	10.6	
199.801	38.2	QP	16.7	-23.0	31.9	129	171	Hori.	43.5	11.6	
599.402	34.3	QP	19.7	-20.1	33.9	317	171	Hori.	46.0	12.1	
599.403	37.3	QP	19.7	-20.1	36.9	359	100	Vert.	46.0	9.1	
732.603	35.2	QP	20.6	-19.3	36.5	79	100	Vert.	46.0	9.5	
732.604	36.6	QP	20.6	-19.3	37.9	113	114	Hori.	46.0	8.1	
865.804	35.3	QP	21.9	-17.9	39.3	74	110	Vert.	46.0	6.7	
865.805	35.4	QP	21.9	-17.9	39.4	171	100	Hori.	46.0	6.6	

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 test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission (Spurious emission : below 30MHz)

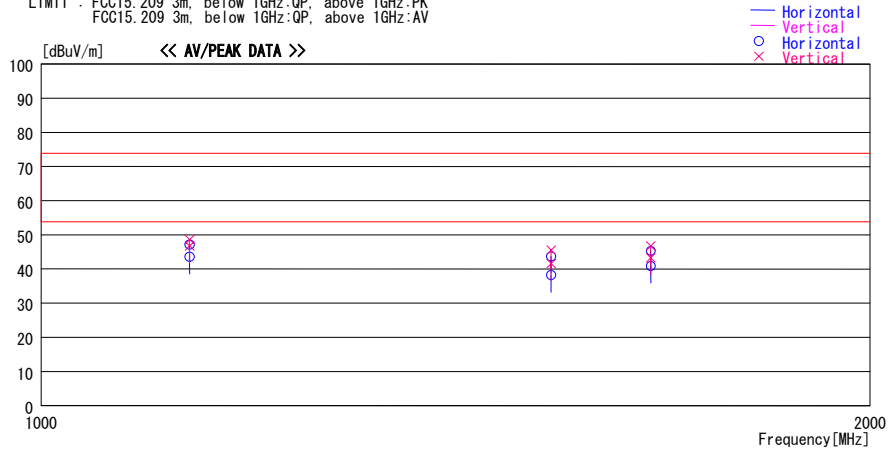
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/06/01

Company : Panasonic Corporation Report No. : 29GE0061-HO-01
Kind of EUT : ePassport Reader Power : AC 120V / 60Hz
Model No. : JT-P100MR-30 Temp./Humi. : 24 deg. C. / 40 %
Serial No. : 09A00001 Engineer : Kazuya Yoshioka

Mode / Remarks : Tx 13.56MHz mode / with Tag EUT:X-axis

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		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss& Gain [dB]							
1132.198	56.5	PK	24.8	-32.6	48.7	221	100	Vert.	73.9	25.2	
1132.198	54.5	AV	24.8	-32.6	46.7	221	100	Vert.	53.9	7.2	
1132.220	51.4	AV	24.8	-32.6	43.6	292	232	Hori.	53.9	10.3	
1132.220	55.0	PK	24.8	-32.6	47.2	292	232	Hori.	73.9	26.7	
1531.823	51.2	PK	25.5	-31.2	45.5	179	100	Vert.	73.9	28.4	
1531.823	47.3	AV	25.5	-31.2	41.6	179	100	Vert.	53.9	12.3	
1531.829	44.0	AV	25.5	-31.2	38.3	158	100	Hori.	53.9	15.7	
1531.829	49.5	PK	25.5	-31.2	43.8	158	100	Hori.	73.9	30.1	
1665.022	50.1	PK	26.0	-30.8	45.3	320	149	Hori.	73.9	28.6	
1665.022	45.7	AV	26.0	-30.8	40.9	320	149	Hori.	53.9	13.0	
1665.036	51.5	PK	26.0	-30.8	46.7	171	170	Vert.	73.9	27.2	
1665.036	48.1	AV	26.0	-30.8	43.3	171	170	Vert.	53.9	10.6	

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 test result is rounded off to one or two decimal places, so some differences might be observed.

Radiated emission (Spurious emission : below 30MHz)

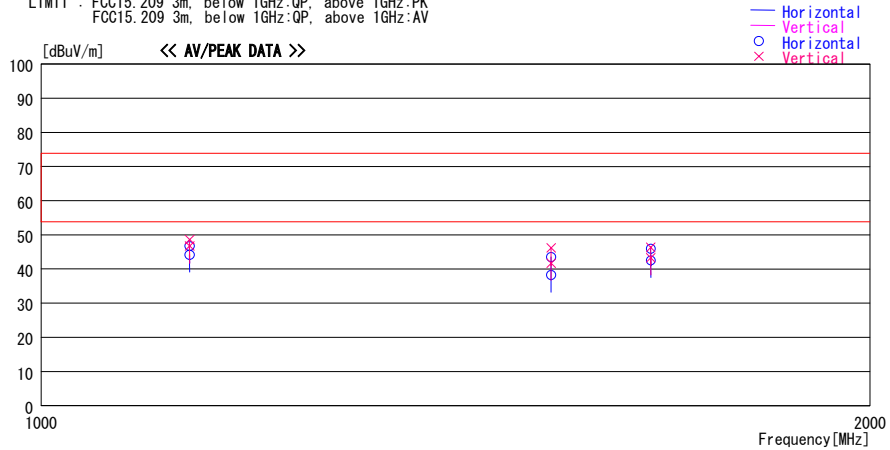
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2009/06/01

Company : Panasonic Corporation
Kind of EUT : ePassport Reader
Model No. : JT-P100MR-30
Serial No. : 09A00001
Report No. : 29GE0061-HO-01
Power : AC 120V / 60Hz
Temp./Humi. : 24 deg. C. / 40 %
Engineer : Kazuya Yoshioka

Mode / Remarks : Tx 13.56MHz mode / without Tag EUT:X-axis

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		Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
			Factor [dB/m]	Loss& Gain [dB]							
1132.220	54.6	PK	24.8	-32.6	46.8	292	232	Hori.	73.9	27.1	
1132.198	56.4	PK	24.8	-32.6	48.6	221	100	Vert.	73.9	25.3	
1132.220	52.0	AV	24.8	-32.6	44.2	292	232	Hori.	53.9	9.7	
1132.198	54.5	AV	24.8	-32.6	46.7	221	100	Vert.	53.9	7.2	
1531.821	49.2	PK	25.5	-31.2	43.5	158	100	Hori.	73.9	30.4	
1531.735	51.9	PK	25.5	-31.2	46.2	179	100	Vert.	73.9	27.7	
1531.821	44.0	AV	25.5	-31.2	38.3	158	100	Hori.	53.9	15.6	
1531.735	47.4	AV	25.5	-31.2	41.7	179	100	Vert.	53.9	12.2	
1665.010	50.8	PK	26.0	-30.8	46.0	320	149	Hori.	73.9	27.9	
1665.022	51.2	PK	26.0	-30.8	46.4	171	170	Vert.	73.9	27.5	
1665.010	47.3	AV	26.0	-30.8	42.5	320	149	Hori.	53.9	11.4	
1665.022	48.1	AV	26.0	-30.8	43.3	171	170	Vert.	53.9	10.6	

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 test result is rounded off to one or two decimal places, so some differences might be observed.

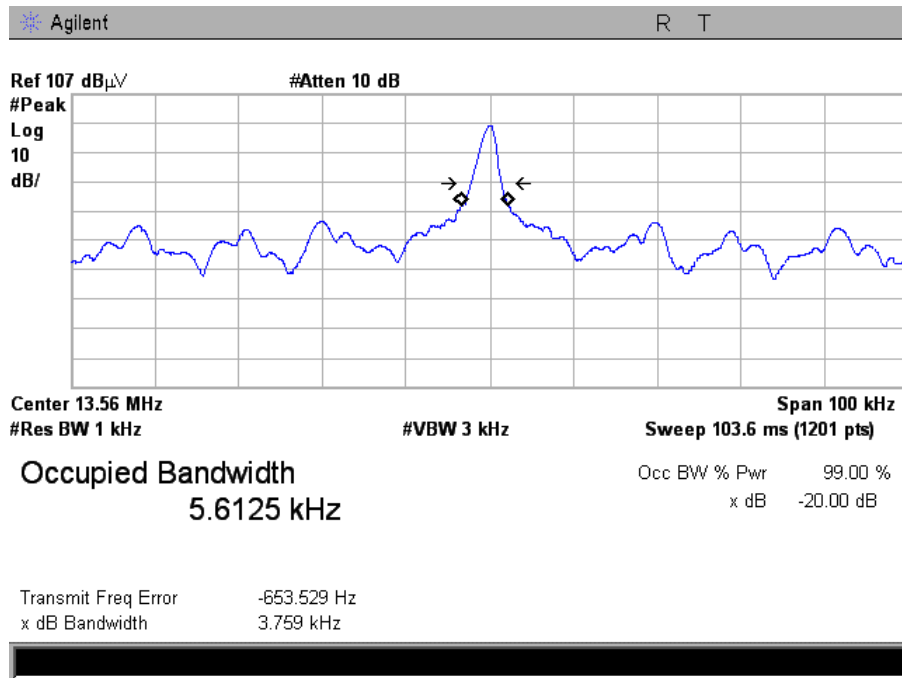
20dB Bandwidth and 99% Occupied Bandwidth

UL Japan, Inc.
Head Office EMC Lab. No.6 Shielded Room

COMPANY Panasonic Corporation
EQUIPMENT ePassport Reader
MODEL JT-P100MR-30
S/ N 09A00001
POWER AC120V/60Hz
MODE Tx 13.56MHz

REPORT NO 29GE0061-HO-01
REGULATION FCC 15.225/-
TEST DISTANCE -
DATE 03/26/2009
TEMPERATURE 21 deg.C.
HUMIDITY 40%
ENGINEER Hironobu Ohnishi

FREQ [MHz]	20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	3.76	5.61



Frequency Tolerance

Company Panasonic Corporation
Equipment ePassport Reader
Model JT-P100MR-30
S/N 09A00001
Power AC 120V / 60Hz
Mode Tx 13.56MHz

UL Japan, Inc.
Head Office EMC Lab. No.6 Shielded Room
Regulation FCC15.225 (e) / RSS-210 A2.6
Test Distance -
Date 03/26/2009
Temperature 21 deg.C.
Humidity 40 %
Engineer Hironobu Ohnishi

Test Condition	Test Timing	Measured freq [MHz]	Freq error [MHz]	Result [ppm]	Limit (+/- 0.01%) [+/- ppm]	Margin [ppm]
T nom 20deg.C Vmax AC138V (115%)	Power on	13.56000844	0.00000844	0.62	100.00	99.38
	on 2min.	13.56000752	0.00000752	0.55	100.00	99.45
	on 5min.	13.56000688	0.00000688	0.51	100.00	99.49
	on 10min.	13.56000681	0.00000681	0.50	100.00	99.50
T nom 20deg.C Vnom AC120V (100%)	Power on	13.56000867	0.00000867	0.64	100.00	99.36
	on 2min.	13.56000825	0.00000825	0.61	100.00	99.39
	on 5min.	13.56000728	0.00000728	0.54	100.00	99.46
	on 10min.	13.56000717	0.00000717	0.53	100.00	99.47
T nom 20deg.C Vmin AC102V (85%)	Power on	13.56000565	0.00000565	0.42	100.00	99.58
	on 2min.	13.56000470	0.00000470	0.35	100.00	99.65
	on 5min.	13.56000421	0.00000421	0.31	100.00	99.69
	on 10min.	13.56000415	0.00000415	0.31	100.00	99.69
T max 50deg.C. Vnom AC120V (100%)	Power on	13.56001453	0.00001453	1.07	100.00	98.93
	on 2min.	13.56002521	0.00002521	1.86	100.00	98.14
	on 5min.	13.56004403	0.00004403	3.25	100.00	96.75
	on 10min.	13.56007345	0.00007345	5.42	100.00	94.58
40deg.C. Vnom AC120V (100%)	Power on	13.56000437	0.00000437	0.32	100.00	99.68
	on 2min.	13.56000775	0.00000775	0.57	100.00	99.43
	on 5min.	13.56001618	0.00001618	1.19	100.00	98.81
	on 10min.	13.56002824	0.00002824	2.08	100.00	97.92
30deg.C. Vnom AC120V (100%)	Power on	13.56000456	0.00000456	0.34	100.00	99.66
	on 2min.	13.56000416	0.00000416	0.31	100.00	99.69
	on 5min.	13.56000530	0.00000530	0.39	100.00	99.61
	on 10min.	13.56000983	0.00000983	0.73	100.00	99.27
20deg.C. Vnom AC120V (100%)	Power on	13.56000867	0.00000867	0.64	100.00	99.36
	on 2min.	13.56000825	0.00000825	0.61	100.00	99.39
	on 5min.	13.56000728	0.00000728	0.54	100.00	99.46
	on 10min.	13.56000717	0.00000717	0.53	100.00	99.47
10deg.C. Vnom AC120V (100%)	Power on	13.56001360	0.00001360	1.00	100.00	99.00
	on 2min.	13.56001139	0.00001139	0.84	100.00	99.16
	on 5min.	13.56001105	0.00001105	0.81	100.00	99.19
	on 10min.	13.56001064	0.00001064	0.78	100.00	99.22
0deg.C. Vnom AC120V (100%)	Power on	13.55996030	-0.00003970	-2.93	100.00	97.07
	on 2min.	13.56001103	0.00001103	0.81	100.00	99.19
	on 5min.	13.56000947	0.00000947	0.70	100.00	99.30
	on 10min.	13.56000891	0.00000891	0.66	100.00	99.34
-10deg.C. Vnom AC120V (100%)	Power on	13.55991410	-0.00008590	-6.33	100.00	93.67
	on 2min.	13.55993917	-0.00006083	-4.49	100.00	95.51
	on 5min.	13.55997127	-0.00002873	-2.12	100.00	97.88
	on 10min.	13.56001313	0.00001313	0.97	100.00	99.03
-20deg.C Vnom AC120V (100%)	Power on	13.55985808	-0.00014192	-10.47	100.00	89.53
	on 2min.	13.55987580	-0.00012420	-9.16	100.00	90.84
	on 5min.	13.55991947	-0.00008053	-5.94	100.00	94.06
	on 10min.	13.55994152	-0.00005848	-4.31	100.00	95.69
T min -30deg.C Vnom AC120V (100%)	Power on	13.55991856	-0.00008144	-6.01	100.00	93.99
	on 2min.	13.55992707	-0.00007293	-5.38	100.00	94.62
	on 5min.	13.55993704	-0.00006296	-4.64	100.00	95.36
	on 10min.	13.55994167	-0.00005833	-4.30	100.00	95.70

Limit : 13.56 MHz +/-0.01 % (+/- 100ppm) = +/- 0.001356 MHz
* for IC application(RSS-Gen 4.7 requirement)

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/CE	
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
MAEC-04	Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE/CE	2009/02/03 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE/CE	2009/02/06 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE/CE	-
MSA-05	Spectrum Analyzer	Advantest	R3273	160400285	RE/CE	2008/06/25 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	RE/CE	2008/10/03 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(EUT)	2009/02/18 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE(AE)	2009/02/18 * 12
MTA-07	Terminator	MCL	BTRM-50	1 9944	CE	2009/02/17 * 12
MCC-113	Coaxial cable	Fujikura/Suhner/TSJ	-	-	RE/CE	2008/07/03 * 12
MLPA-01	Loop Antenna	Rohde & Schwarz	HFH2-Z2	100017	RE	2008/10/31 * 12
MCC-30	Coaxial cable	UL Japan	-	-	RE	2008/06/20 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	RE	2009/03/18 * 12
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	RE	2009/02/25 * 12
MSA-06	Spectrum Analyzer	Agilent	E4407B	MY45107638	RE	2009/04/13 * 12
MOS-14	Thermo-Hygrometer	Custom	CTH-180	-	FT	2009/02/04 * 12
MUC-01	Universal Counter	Agilent	53132A	MY40008906	FT	2008/06/09 * 12
MCH-04	Temperature and Humidity Chamber	Espec	PL-2KP	14015723	FT	2008/08/27 * 12
MMM-11	Digital HiTESTER	Hioki	3805	060100600	FT	2008/04/09 * 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

UL Japan, Inc.

Head Office EMC Lab.

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