APPENDIX 2: Data of EMI test

Conducted emission

4ch type, "Reference data"

DATA OF CONDUCTED EMISSION TEST

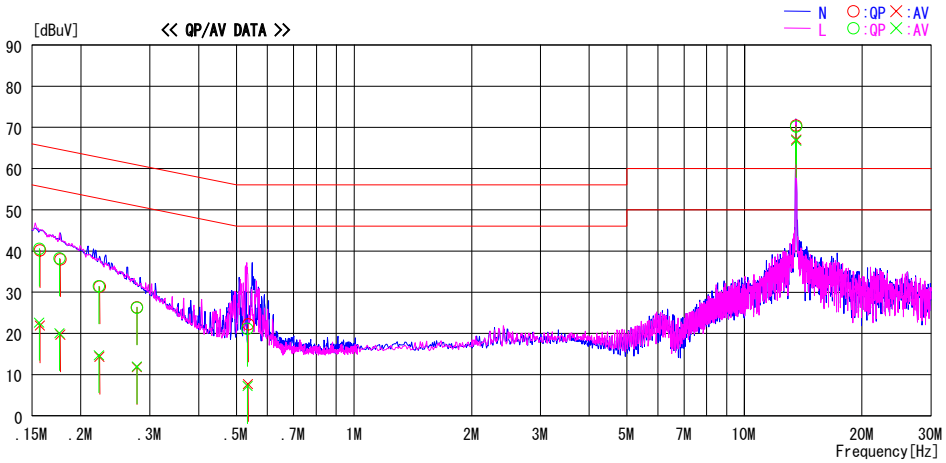
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/01/12

Report No. : 30FE0017-HO-01

Temp./Humi. : 18deg.C / 45%
Engineer : Keisuke Kawamura

Mode / Remarks : Communication mode with Tag

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15698	39.9	21.6	0.3	40.2	21.9	65.6	55.6	25.4	33.7	N	
0.17697	37.7	19.4	0.3	38.0	19.7	64.6	54.6	26.6	34.9	N	
0.22308	31.1	14.0	0.3	31.4	14.3	62.7	52.7	31.3	38.4	N	
0.27789	26.1	11.5	0.3	26.4	11.8	60.9	50.9	34.5	39.1	N	
0.53541	21.9	7.4	0.3	22.2	7.7	56.0	46.0	33.8	38.3	N	
13.56000	69.2	65.8	1.3	70.5	67.1	60.0	50.0	-	-	N	*
0.15630	40.3	22.3	0.3	40.6	22.6	65.7	55.7	25.1	33.1	L	
0.17610	37.9	19.8	0.3	38.2	20.1	64.7	54.7	26.5	34.6	L	
0.22221	31.2	14.4	0.3	31.5	14.7	62.7	52.7	31.2	38.0	L	
0.27789	26.0	11.7	0.3	26.3	12.0	60.9	50.9	34.6	38.9	L	
0.53367	20.8	6.9	0.3	21.1	7.2	56.0	46.0	34.9	38.8	L	
13.56000	68.9	65.5	1.3	70.2	66.8	60.0	50.0	-	-	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.

***Please refer to the data of page 22 for the formal data.**

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Conducted emission

4ch type, 50 ohm Terminated

DATA OF CONDUCTED EMISSION TEST

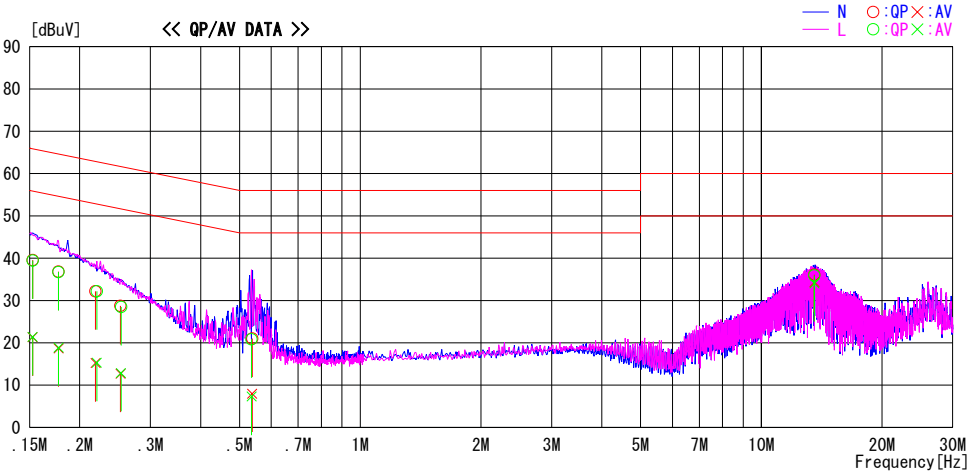
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/01/12

Report No. : 30FE0017-HO-01

Temp./Humi. : 18deg.C / 45%
Engineer : Keisuke Kawamura

Mode / Remarks : Communication mode (Antenna terminated with dummy load)

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15261	39.3	21.0	0.3	39.6	21.3	65.9	55.9	26.3	34.6	N	
0.17697	36.5	18.4	0.3	36.8	18.7	64.6	54.6	27.8	35.9	N	
0.21873	31.9	14.9	0.3	32.2	15.2	62.9	52.9	30.7	37.7	N	
0.25266	28.4	12.4	0.3	28.7	12.7	61.7	51.7	33.0	39.0	N	
0.53802	20.7	7.7	0.3	21.0	8.0	56.0	46.0	35.0	38.0	N	
13.56000	34.8	33.0	1.3	36.1	34.3	60.0	50.0	23.9	15.7	N	
0.15261	39.2	21.1	0.3	39.5	21.4	65.9	55.9	26.4	34.5	L	
0.17697	36.4	18.6	0.3	36.7	18.9	64.6	54.6	27.9	35.7	L	
0.22047	31.9	15.0	0.3	32.2	15.3	62.8	52.8	30.6	37.5	L	
0.25353	28.2	12.6	0.3	28.5	12.9	61.6	51.6	33.1	38.7	L	
0.53628	20.5	7.0	0.3	20.8	7.3	56.0	46.0	35.2	38.7	L	
13.56000	34.6	32.8	1.3	35.9	34.1	60.0	50.0	24.1	15.9	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

8ch type, Not 50 ohm Terminated

DATA OF CONDUCTED EMISSION TEST

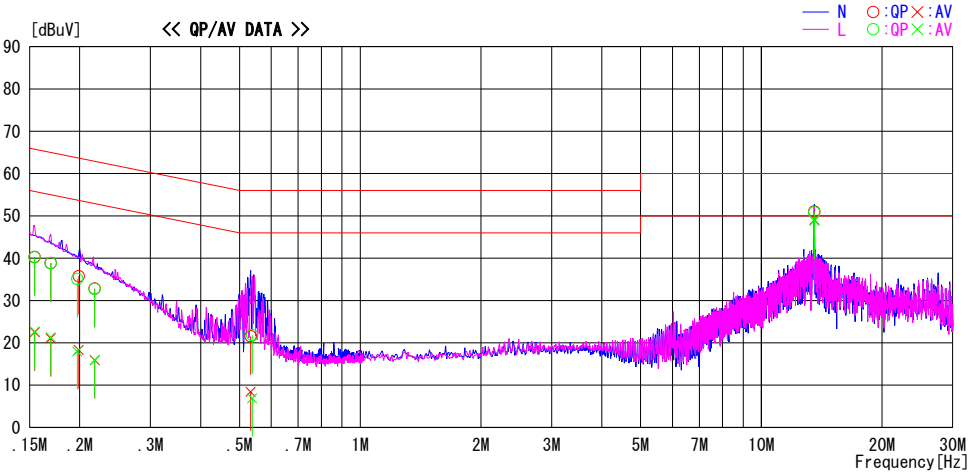
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/01/12

Report No. : 30FE0017-HO-01

Temp./Humi. : 18deg.C / 45%
Engineer : Keisuke Kawamura

Mode / Remarks : Communication mode with Tag

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15435	40.0	22.2	0.3	40.3	22.5	65.8	55.8	25.5	33.3	N	
0.16914	38.5	20.8	0.3	38.8	21.1	65.0	55.0	26.2	33.9	N	
0.19872	35.4	18.0	0.3	35.7	18.3	63.7	53.7	28.0	35.4	N	
0.21786	32.5	15.6	0.3	32.8	15.9	62.9	52.9	30.1	37.0	N	
0.53280	21.3	8.1	0.3	21.6	8.4	56.0	46.0	34.4	37.6	N	
13.56000	49.7	47.8	1.3	51.0	49.1	60.0	50.0	9.0	0.9	N	
0.15435	39.9	22.4	0.3	40.2	22.7	65.8	55.8	25.6	33.1	L	
0.16914	38.5	21.0	0.3	38.8	21.3	65.0	55.0	26.2	33.7	L	
0.19698	34.8	17.7	0.3	35.1	18.0	63.7	53.7	28.6	35.7	L	
0.21786	32.4	15.7	0.3	32.7	16.0	62.9	52.9	30.2	36.9	L	
0.53802	21.5	6.6	0.3	21.8	6.9	56.0	46.0	34.2	39.1	L	
13.56000	49.5	47.6	1.3	50.8	48.9	60.0	50.0	9.2	1.1	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.

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Fundamental emission and Spectrum Mask

4ch type, Without Tag

DATA OF RADIATED EMISSION TEST

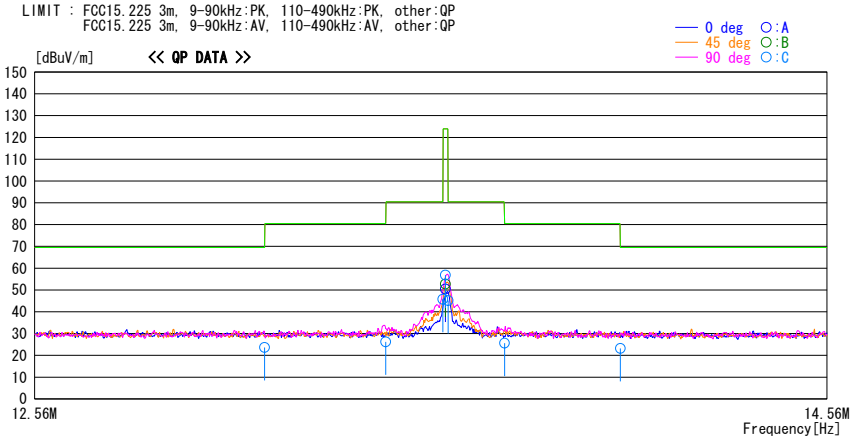
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/09

Report No. : 30FE0017-HO-01

Temp./ Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks : Communication mode without Tag / Worst axis : EUT Z-axis, Antenna Y-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. [MHz]	Reading [dBuV]	DET	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Antenna [deg]		Table [deg]	Comment
13.11000	29.1	QP	20.1	6.5	32.1	23.6	69.5	45.9	90	C	266	
13.41000	31.7	QP	20.1	6.5	32.1	26.2	80.5	54.3	90	C	266	
13.55300	51.3	QP	20.1	6.5	32.1	45.8	90.4	44.6	90	C	266	
13.56000	56.0	QP	20.1	6.5	32.1	50.5	123.9	73.4	0	A	3	
13.56000	58.3	QP	20.1	6.5	32.1	52.8	123.9	71.1	45	B	294	
13.56000	62.3	QP	20.1	6.5	32.1	56.8	123.9	67.1	90	C	266	Worst
13.56700	50.6	QP	20.1	6.5	32.1	45.1	90.4	45.3	90	C	266	
13.71000	31.1	QP	20.1	6.5	32.1	25.6	80.5	54.9	90	C	266	
14.01000	28.8	QP	20.0	6.5	32.1	23.2	69.5	46.3	90	C	266	

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.)

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Fundamental emission and Spectrum Mask

4ch type, Without Tag

DATA OF RADIATED EMISSION TEST

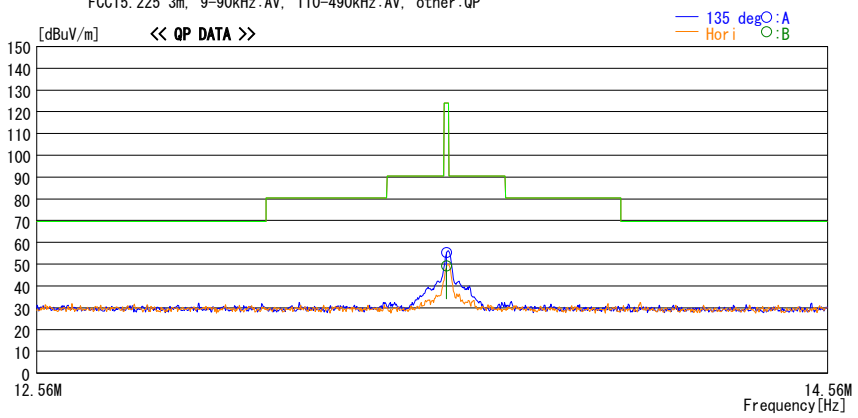
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/10

Report No. : 30FE0017-HO-01

Temp. / Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks: Communication mode without Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
13.56000	61.0	QP	20.1	6.5	32.1	55.5	123.9	68.4	135	A	31	
13.56000	54.7	QP	20.1	6.5	32.1	49.2	123.9	74.7	Hori	B	24	

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

4ch type, With Tag

DATA OF RADIATED EMISSION TEST

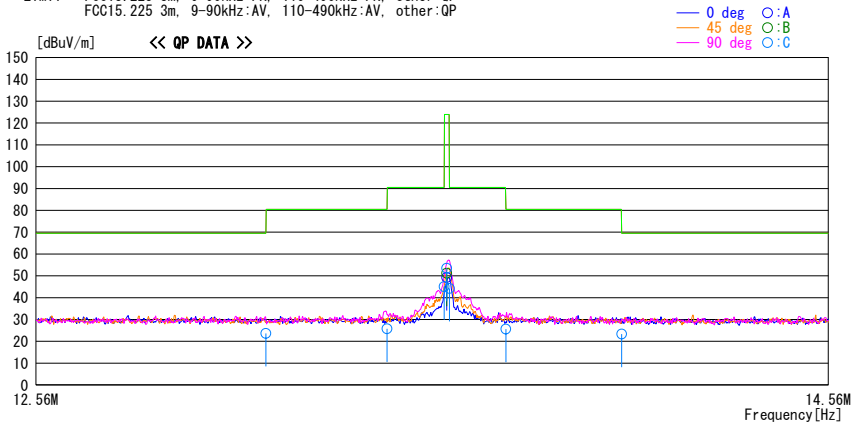
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/09

Report No. : 30FE0017-HO-01

Temp. / Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks : Communication mode with Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
13.11000	29.2	QP	20.1	6.5	32.1	23.7	69.5	45.8	90	C	266	
13.41000	31.3	QP	20.1	6.5	32.1	25.8	80.5	54.7	90	C	266	
13.55300	50.5	QP	20.1	6.5	32.1	45.0	90.4	45.4	90	C	266	
13.56000	54.7	QP	20.1	6.5	32.1	49.2	123.9	74.7	0	A	3	
13.56000	56.8	QP	20.1	6.5	32.1	51.3	123.9	72.6	45	B	294	
13.56000	59.0	QP	20.1	6.5	32.1	53.5	123.9	70.4	90	C	266	Worst
13.56700	49.8	QP	20.1	6.5	32.1	44.3	90.4	46.1	90	C	266	
13.71000	31.1	QP	20.1	6.5	32.1	25.6	80.5	54.9	90	C	266	
14.01000	28.9	QP	20.0	6.5	32.1	23.3	69.5	46.2	90	C	266	

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

4ch type, With Tag

DATA OF RADIATED EMISSION TEST

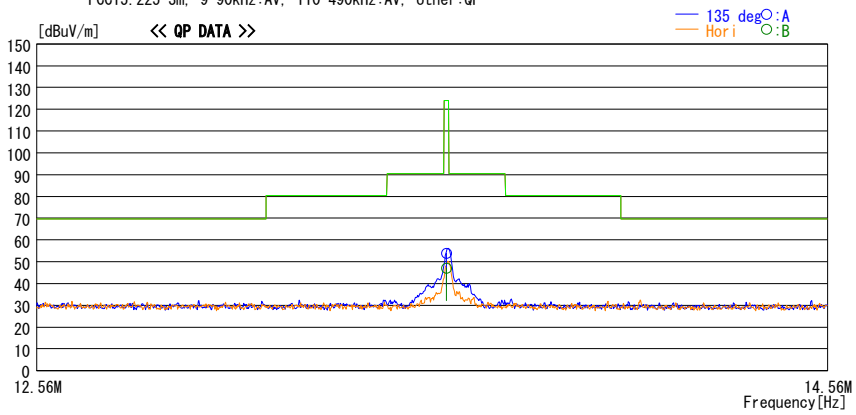
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/10

Report No. : 30FE0017-HO-01

Temp. / Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks: Communication mode with Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
13.56000	59.5	QP	20.1	6.5	32.1	54.0	123.9	69.9	135	A	31	
13.56000	52.7	QP	20.1	6.5	32.1	47.2	123.9	76.7	Hori	B	24	

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.-

Fundamental emission and Spectrum Mask

8ch type, Without Tag

DATA OF RADIATED EMISSION TEST

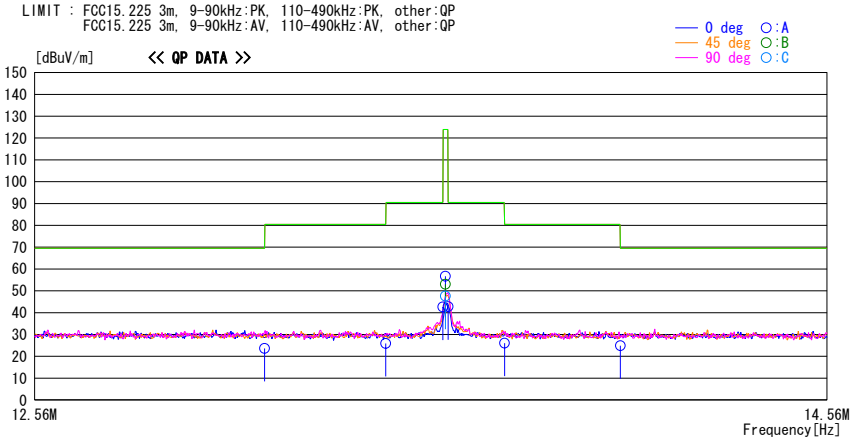
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/09

Report No. : 30FE0017-HO-01

Temp./ Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks : Communication mode without Tag / Worst axis : EUT Z-axis, Antenna Y-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. [MHz]	Reading [dBuV]	DET	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Antenna [deg]		Table [deg]	Comment
13.11000	29.2	QP	20.1	6.5	32.1	23.7	69.5	45.8	0	A	19	
13.41000	31.5	QP	20.1	6.5	32.1	26.0	80.5	54.5	0	A	19	
13.55300	48.1	QP	20.1	6.5	32.1	42.6	90.4	47.8	0	A	19	
13.56000	62.2	QP	20.1	6.5	32.1	56.7	123.9	67.2	0	A	19	Worst
13.56000	58.5	QP	20.1	6.5	32.1	53.0	123.9	70.9	45	B	1	
13.56000	53.1	QP	20.1	6.5	32.1	47.6	123.9	76.3	90	C	112	
13.56700	48.2	QP	20.1	6.5	32.1	42.7	90.4	47.7	0	A	19	
13.71000	31.6	QP	20.1	6.5	32.1	26.1	80.5	54.4	0	A	19	
14.01000	30.4	QP	20.0	6.5	32.1	24.8	69.5	44.7	0	A	19	

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

8ch type, Without Tag

-

DATA OF RADIATED EMISSION TEST

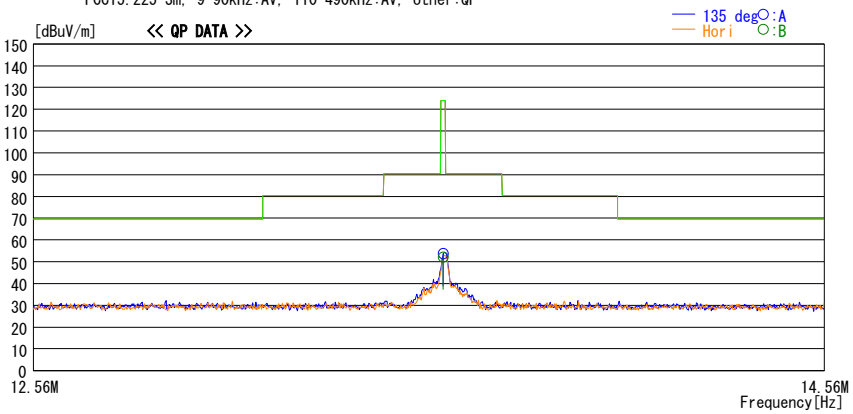
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/10

Report No. : 30FE0017-HO-01

Temp./ Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks: Communication mode without Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
13.56000	57.8	QP	20.1	6.5	32.1	52.3	123.9	71.6	Hori	B	352	
13.56000	59.3	QP	20.1	6.5	32.1	53.8	123.9	70.1	135	A	29	

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.-

Fundamental emission and Spectrum Mask

8ch type, With Tag

DATA OF RADIATED EMISSION TEST

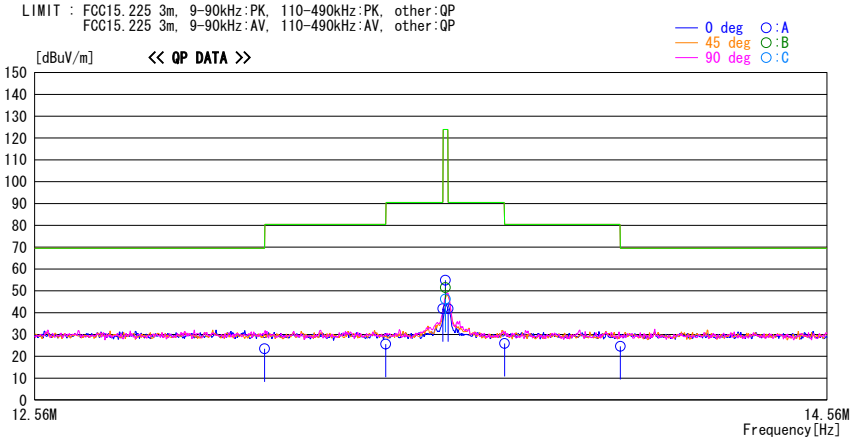
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/09

Report No. : 30FE0017-HO-01

Temp./ Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks : Communication mode with Tag / Worst axis : EUT Z-axis, Antenna Y-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. [MHz]	Reading [dBuV]	DET	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Antenna [deg]		Table [deg]	Comment
13.11000	29.0	QP	20.1	6.5	32.1	23.5	69.5	46.0	0	A	19	
13.41000	31.2	QP	20.1	6.5	32.1	25.7	80.5	54.8	0	A	19	
13.55300	47.4	QP	20.1	6.5	32.1	41.9	90.4	48.5	0	A	19	
13.56000	60.3	QP	20.1	6.5	32.1	54.8	123.9	69.1	0	A	19	Worst
13.56000	57.1	QP	20.1	6.5	32.1	51.6	123.9	72.3	45	B	1	
13.56000	51.7	QP	20.1	6.5	32.1	46.2	123.9	77.7	90	C	112	
13.56700	47.3	QP	20.1	6.5	32.1	41.8	90.4	48.6	0	A	19	
13.71000	31.4	QP	20.1	6.5	32.1	25.9	80.5	54.6	0	A	19	
14.01000	30.2	QP	20.0	6.5	32.1	24.6	69.5	44.9	0	A	19	

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

8ch type, With Tag

DATA OF RADIATED EMISSION TEST

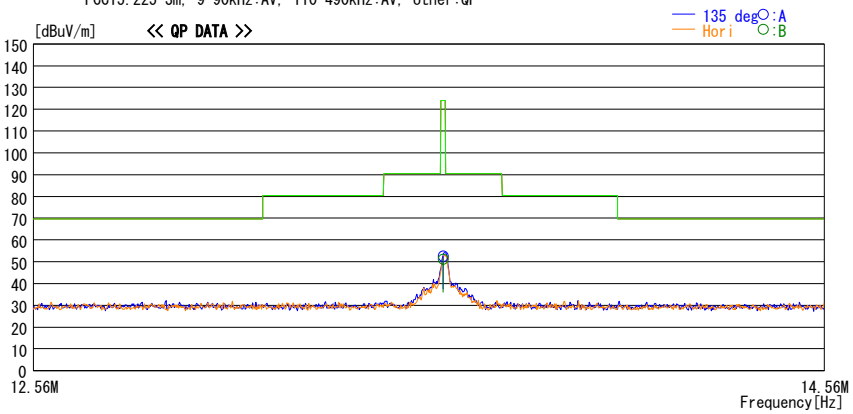
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/10

Report No. : 30FE0017-HO-01

Temp./ Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks: Communication mode with Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
13.56000	56.7	QP	20.1	6.5	32.1	51.2	123.9	72.7	Hori	B	352	
13.56000	58.1	QP	20.1	6.5	32.1	52.6	123.9	71.3	135	A	29	

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.-

Spurious emission

4ch type, Without Tag

DATA OF RADIATED EMISSION TEST

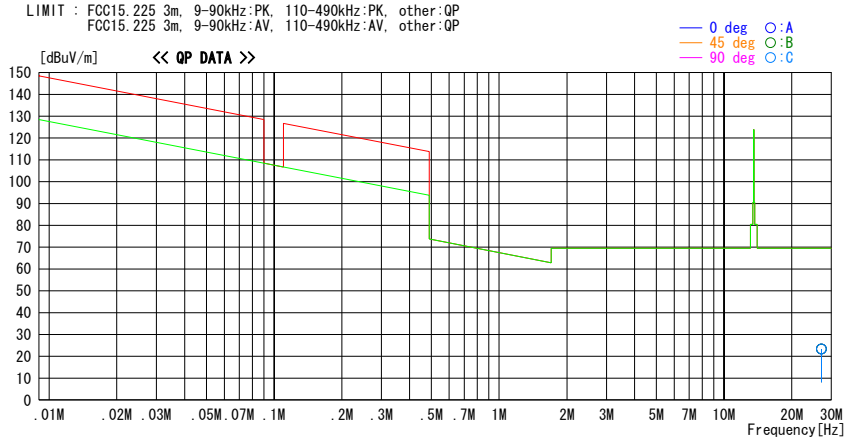
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/09

Report No. : 30FE0017-HO-01

Temp. / Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks : Communication mode without Tag / Worst axis : EUT Z-axis, Antenna Y-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. [MHz]	Reading [dBuV]	DET	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Antenna [deg]		Table [deg]	Comment
27.12000	28.9	QP	19.7	6.9	32.2	23.3	69.5	46.2	0	A	0	NS
27.12000	28.9	QP	19.7	6.9	32.2	23.3	69.5	46.2	45	B	0	NS
27.12000	29.0	QP	19.7	6.9	32.2	23.4	69.5	46.1	90	C	0	NS

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

4ch type, Without Tag

DATA OF RADIATED EMISSION TEST

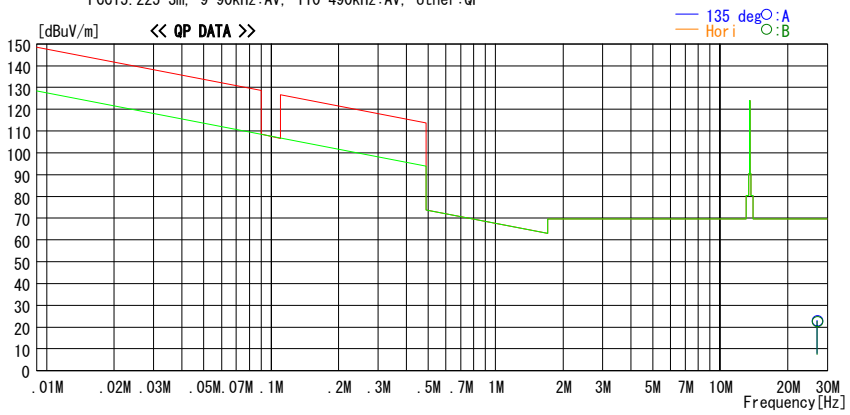
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/10

Report No. : 30FE0017-HO-01

Temp. / Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks: Communication mode without Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
27.12000	28.7	QP	19.7	6.9	32.2	23.1	69.5	46.4	135	A	0	NS
27.12000	28.2	QP	19.7	6.9	32.2	22.6	69.5	46.9	Hori	B	0	NS

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.-

Spurious emission
4ch type, With Tag

DATA OF RADIATED EMISSION TEST

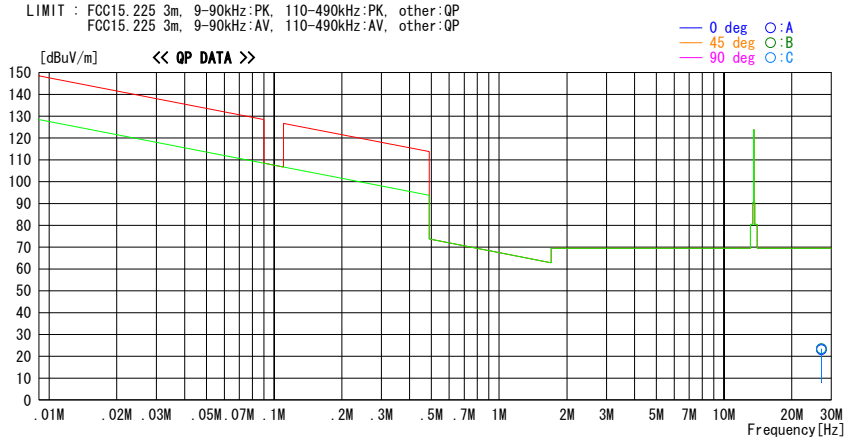
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/09

Report No. : 30FE0017-HO-01

Temp. / Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks : Communication mode with Tag / Worst axis : EUT Z-axis, Antenna Y-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. [MHz]	Reading [dBuV]	DET	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Antenna [deg]		Table [deg]	Comment
27.12000	28.7	QP	19.7	6.9	32.2	23.1	69.5	46.4	0	A	0	NS
27.12000	29.1	QP	19.7	6.9	32.2	23.5	69.5	46.0	45	B	0	NS
27.12000	28.9	QP	19.7	6.9	32.2	23.3	69.5	46.2	90	C	0	NS

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

4ch type, With Tag

DATA OF RADIATED EMISSION TEST

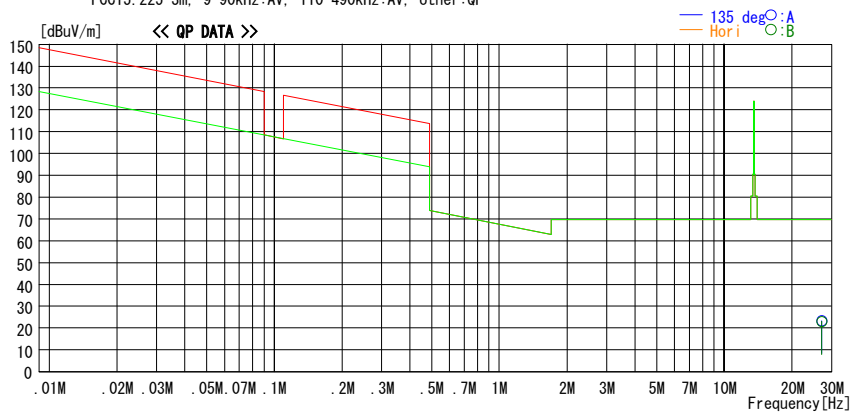
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/10

Report No. : 30FE0017-HO-01

Temp. / Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks: Communication mode with Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
27.12000	29.0	QP	19.7	6.9	32.2	23.4	69.5	46.1	135	A	0	NS
27.12000	28.6	QP	19.7	6.9	32.2	23.0	69.5	46.5	Hori	B	0	NS

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

8ch type, Without Tag

DATA OF RADIATED EMISSION TEST

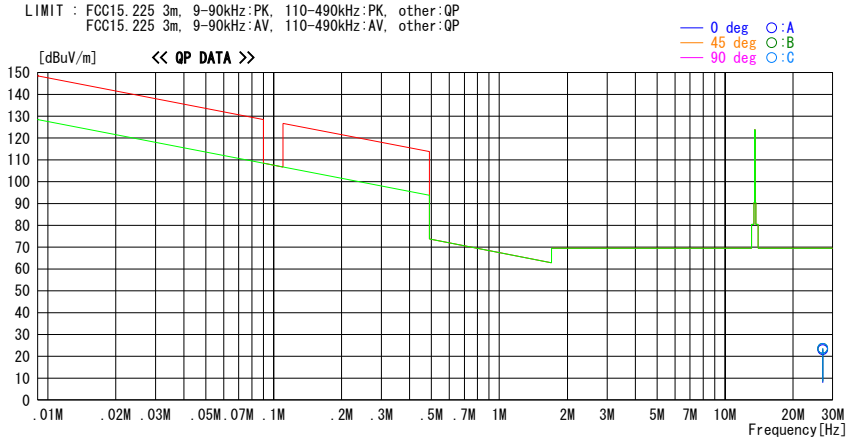
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/09

Report No. : 30FE0017-HO-01

Temp./ Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks : Communication mode without Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
27.12000	28.7	QP	19.7	6.9	32.2	23.1	69.5	46.4	0	A	0	NS
27.12000	29.3	QP	19.7	6.9	32.2	23.7	69.5	45.8	45	B	0	NS
27.12000	29.3	QP	19.7	6.9	32.2	23.7	69.5	45.8	90	C	0	NS

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

8ch type, Without Tag

DATA OF RADIATED EMISSION TEST

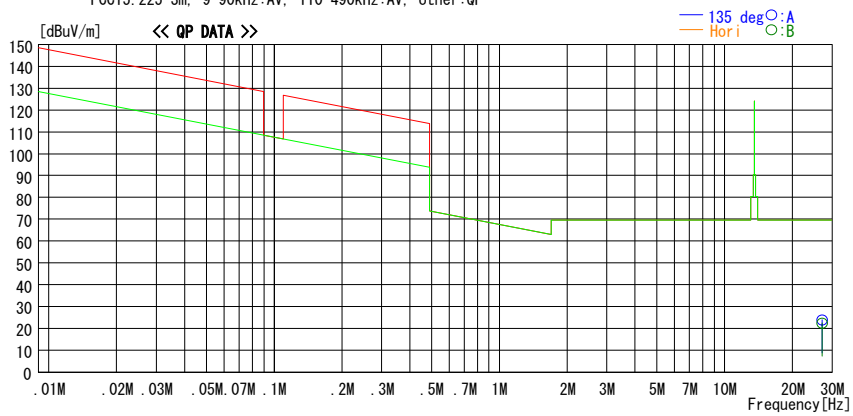
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/10

Report No. : 30FE0017-HO-01

Temp. / Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks: Communication mode without Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
27.12000	29.5	QP	19.7	6.9	32.2	23.9	69.5	45.6	135	A	0	NS
27.12000	28.0	QP	19.7	6.9	32.2	22.4	69.5	47.1	Hori	B	0	NS

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
8ch type, With Tag

DATA OF RADIATED EMISSION TEST

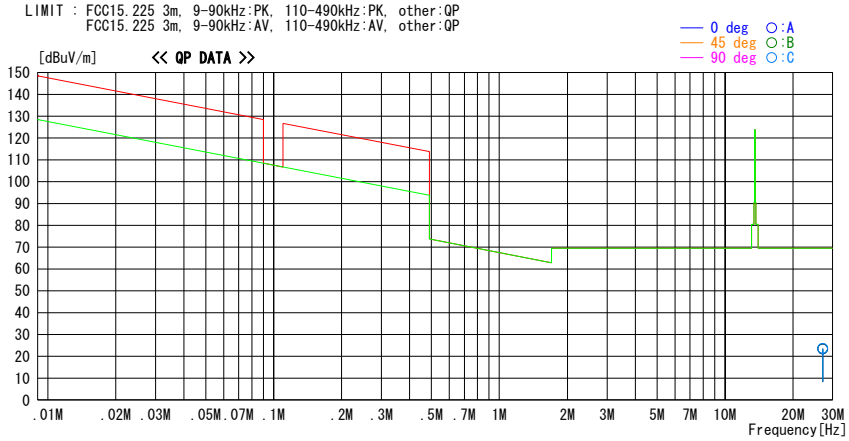
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/09

Report No. : 30FE0017-HO-01

Temp./ Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks : Communication mode with Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
27.12000	28.9	QP	19.7	6.9	32.2	23.3	69.5	46.2	0	A	0	NS
27.12000	29.1	QP	19.7	6.9	32.2	23.5	69.5	46.0	45	B	0	NS
27.12000	29.2	QP	19.7	6.9	32.2	23.6	69.5	45.9	90	C	0	NS

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

8ch type, With Tag

DATA OF RADIATED EMISSION TEST

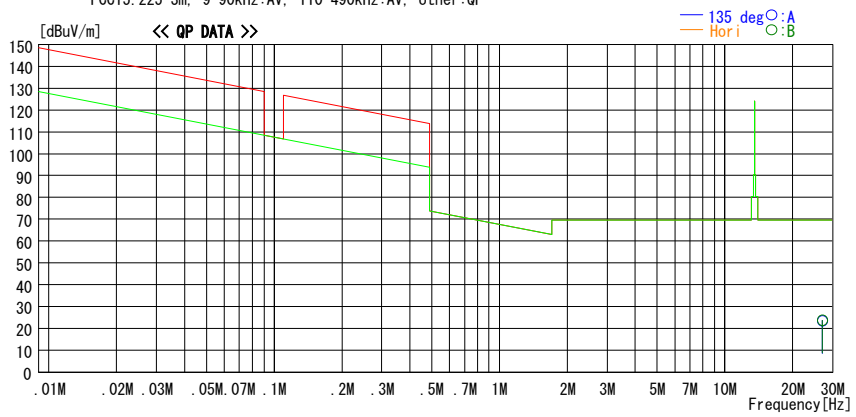
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/02/10

Report No. : 30FE0017-HO-01

Temp./ Humi. : 22deg.C. / 40%
Engineer : Takeshi Choda

Mode / Remarks: Communication mode with Tag / Worst axis : EUT Z-axis, Antenna Y-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]	
27.12000	29.3	QP	19.7	6.9	32.2	23.7	69.5	45.8	135	A	0	NS
27.12000	29.4	QP	19.7	6.9	32.2	23.8	69.5	45.7	Hori	B	0	NS

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

4ch type, Without Tag

DATA OF RADIATED EMISSION TEST

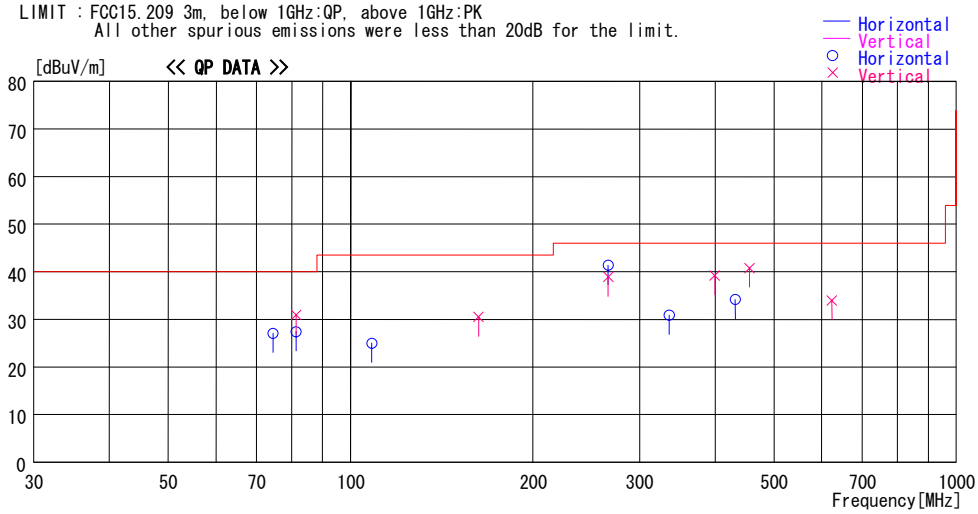
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/01/12

Report No. : 30FE0017-HO-01

Temp./Humi. : 18deg.C. / 45%
Engineer : Keisuke Kawamura

Mode / Remarks: Communication Mode Without Tag Worst axis(Module:Z , ANT:Y)

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 Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
74.489	45.0	QP	6.2	-24.1	27.1	359	400	Hori.	40.0	12.9	
81.357	45.2	QP	6.3	-24.1	27.4	150	214	Hori.	40.0	12.6	
81.357	48.7	QP	6.3	-24.1	30.9	56	100	Vert.	40.0	9.1	
108.479	37.7	QP	11.1	-23.8	25.0	346	297	Hori.	43.5	18.5	
162.714	38.5	QP	15.2	-23.2	30.5	310	100	Vert.	43.5	13.0	
266.361	43.1	QP	18.0	-22.2	38.9	349	100	Vert.	46.0	7.1	
266.331	45.6	QP	18.0	-22.2	41.4	79	116	Hori.	46.0	4.6	
335.742	35.8	QP	16.9	-21.8	30.9	348	100	Hori.	46.0	15.1	
399.392	42.8	QP	17.8	-21.4	39.2	32	100	Vert.	46.0	6.8	
431.672	37.2	QP	18.2	-21.2	34.2	124	100	Hori.	46.0	11.8	
456.008	43.3	QP	18.6	-21.1	40.8	21	100	Vert.	46.0	5.2	
623.754	33.3	QP	20.9	-20.2	34.0	157	100	Vert.	46.0	12.0	

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

4ch type, With Tag

-

DATA OF RADIATED EMISSION TEST

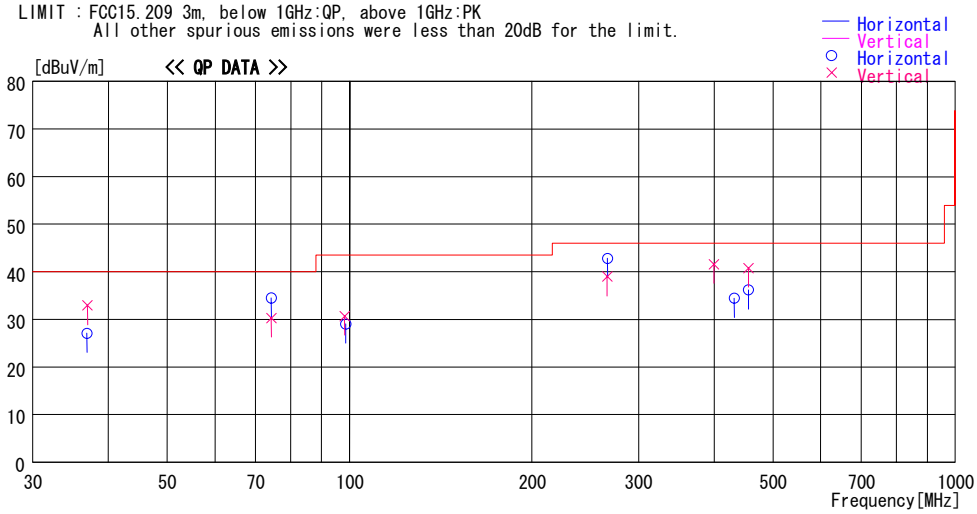
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/01/12

Report No. : 30FE0017-HO-01

Temp./Humi. : 18deg.C. / 45%
Engineer : Keisuke Kawamura

Mode / Remarks: Communication Mode With Tag Worst axis(Module:Z , ANT:Y)

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 Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
36.935	42.6	QP	15.1	-24.8	32.9	97	100	Vert.	40.0	7.1	
36.837	36.7	QP	15.2	-24.8	27.1	4	300	Hori.	40.0	12.9	
74.311	52.4	QP	6.2	-24.1	34.5	356	400	Hori.	40.0	5.5	
74.311	48.2	QP	6.2	-24.1	30.3	101	100	Vert.	40.0	9.7	
98.653	43.8	QP	9.2	-24.0	29.0	209	303	Hori.	43.5	14.5	
98.258	45.6	QP	9.1	-24.0	30.7	103	100	Vert.	43.5	12.8	
266.445	47.0	QP	18.0	-22.2	42.8	83	127	Hori.	46.0	3.2	
266.299	43.2	QP	18.0	-22.2	39.0	354	222	Vert.	46.0	7.0	
399.622	45.2	QP	17.8	-21.4	41.6	34	100	Vert.	46.0	4.4	
431.669	37.4	QP	18.2	-21.2	34.4	130	100	Hori.	46.0	11.6	
456.003	43.3	QP	18.6	-21.1	40.8	10	100	Vert.	46.0	5.2	
456.007	38.7	QP	18.6	-21.1	36.2	294	100	Hori.	46.0	9.8	

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

8ch type, Without Tag

DATA OF RADIATED EMISSION TEST

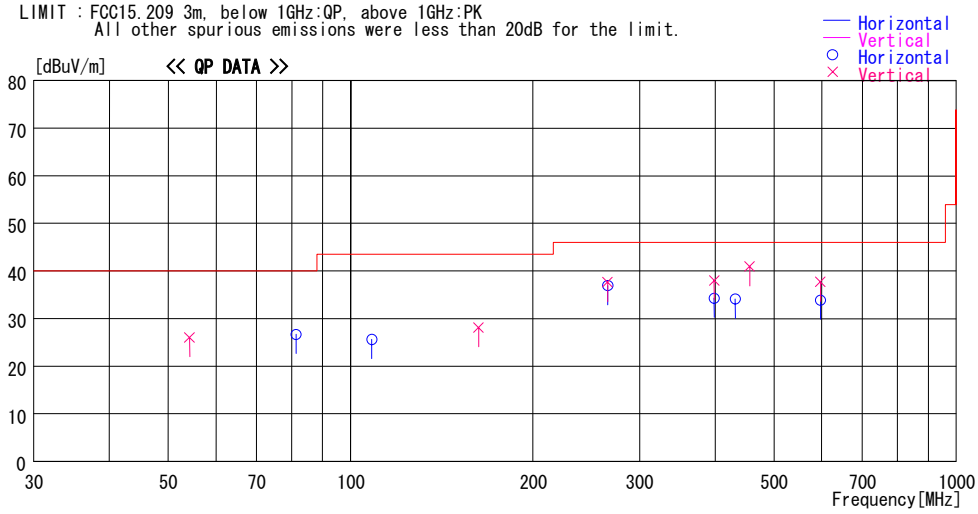
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/01/12

Report No. : 30FE0017-HO-01

Temp./Humi. : 18deg.C. / 45%
Engineer : Keisuke Kawamura

Mode / Remarks: Communication Mode without Tag Worst axis(Module:Z , ANT:Y)

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 Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
54.238	41.3	QP	9.1	-24.4	26.0	106	100	Vert.	40.0	14.0	
81.361	44.5	QP	6.3	-24.1	26.7	147	218	Hori.	40.0	13.3	
108.478	38.3	QP	11.1	-23.8	25.6	353	293	Hori.	43.5	17.9	
162.718	36.1	QP	15.2	-23.2	28.1	306	100	Vert.	43.5	15.4	
265.791	41.1	QP	18.0	-22.2	36.9	73	119	Hori.	46.0	9.1	
265.791	41.8	QP	18.0	-22.2	37.6	352	220	Vert.	46.0	8.4	
398.702	41.6	QP	17.8	-21.4	38.0	134	114	Vert.	46.0	8.0	
398.702	37.9	QP	17.8	-21.4	34.3	298	100	Hori.	46.0	11.7	
431.669	37.1	QP	18.2	-21.2	34.1	124	100	Hori.	46.0	11.9	
456.324	43.4	QP	18.6	-21.1	40.9	118	100	Vert.	46.0	5.1	
596.639	34.0	QP	20.3	-20.4	33.9	115	100	Hori.	46.0	12.1	
596.642	37.8	QP	20.3	-20.4	37.7	191	100	Vert.	46.0	8.3	

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

8ch type, With Tag

DATA OF RADIATED EMISSION TEST

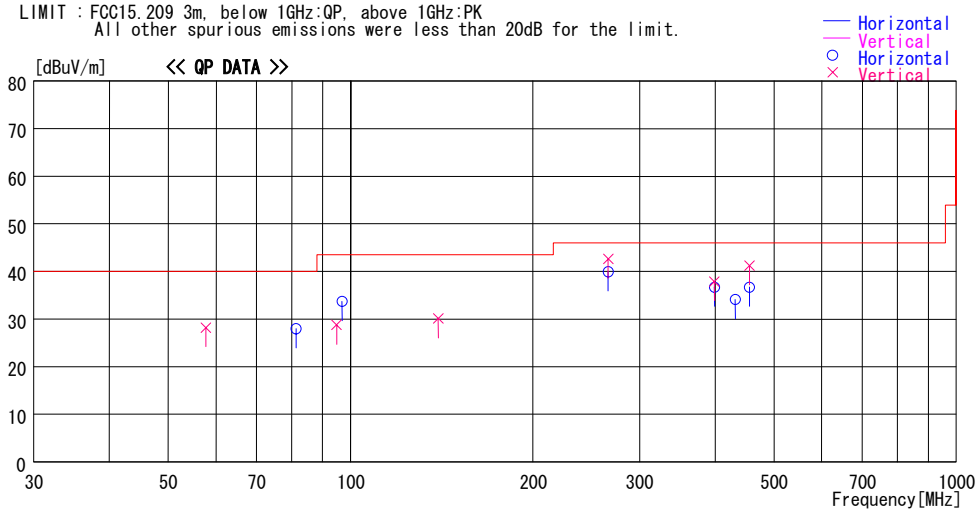
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/01/12

Report No. : 30FE0017-HO-01

Temp./Humi. : 18deg.C. / 45%
Engineer : Keisuke Kawamura

Mode / Remarks: Communication Mode with Tag Worst axis(Module:Z , ANT:Y)

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 Factor [dB/m]	Loss& Gain [dB]	Level [dBuV/m]	Angle [Deg]	Height [cm]	Polar.	Limit [dBuV/m]	Margin [dB]	Comment
57.735	44.5	QP	8.1	-24.4	28.2	106	100	Vert.	40.0	11.8	
81.362	45.8	QP	6.3	-24.1	28.0	142	214	Hori.	40.0	12.0	
94.926	44.2	QP	8.5	-24.0	28.7	99	100	Vert.	43.5	14.8	
96.921	48.8	QP	8.9	-24.0	33.7	201	309	Hori.	43.5	9.8	
139.681	39.6	QP	13.9	-23.4	30.1	234	100	Vert.	43.5	13.4	
266.411	46.8	QP	18.0	-22.2	42.6	350	218	Vert.	46.0	3.4	
266.209	44.1	QP	18.0	-22.2	39.9	70	121	Hori.	46.0	6.1	
398.722	40.3	QP	17.8	-21.4	36.7	304	100	Hori.	46.0	9.3	
398.722	41.5	QP	17.8	-21.4	37.9	38	100	Vert.	46.0	8.1	
431.669	37.1	QP	18.2	-21.2	34.1	123	100	Hori.	46.0	11.9	
456.007	39.2	QP	18.6	-21.1	36.7	294	100	Hori.	46.0	9.3	
456.003	43.7	QP	18.6	-21.1	41.2	20	100	Vert.	46.0	4.8	

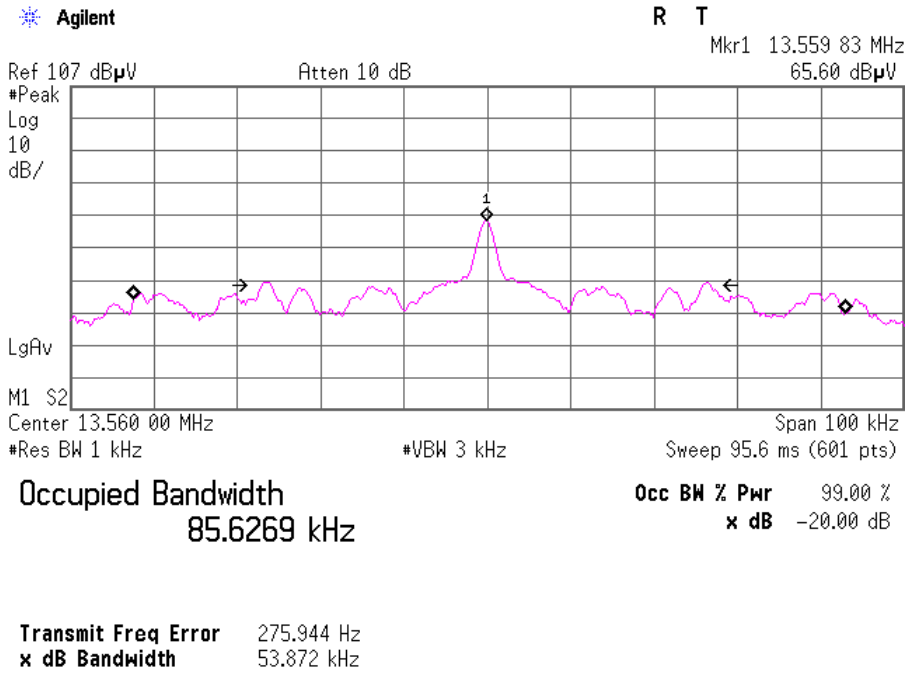
CHART:WITH FACTOR ANT TYPE: -30MHz:LOOP, 30-300MHz:BICONICAL, 300MHz-1000MHz:LOGPERIODIC, 1000MHz-:HORN
CALCULATION:RESULT = READING + ANT FACTOR + LOSS(CABLE+ATTEN.) - GAIN(AMP)

20dB Bandwidth and 99% Occupied Bandwidth

4ch type

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	30FE0017-HO-01
Date	01/12/2010
Temperature/ Humidity	25 deg.C./ 37%
Engineer	Takeshi Choda
Mode	Tx

FREQ [MHz]	20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	53.87	85.63

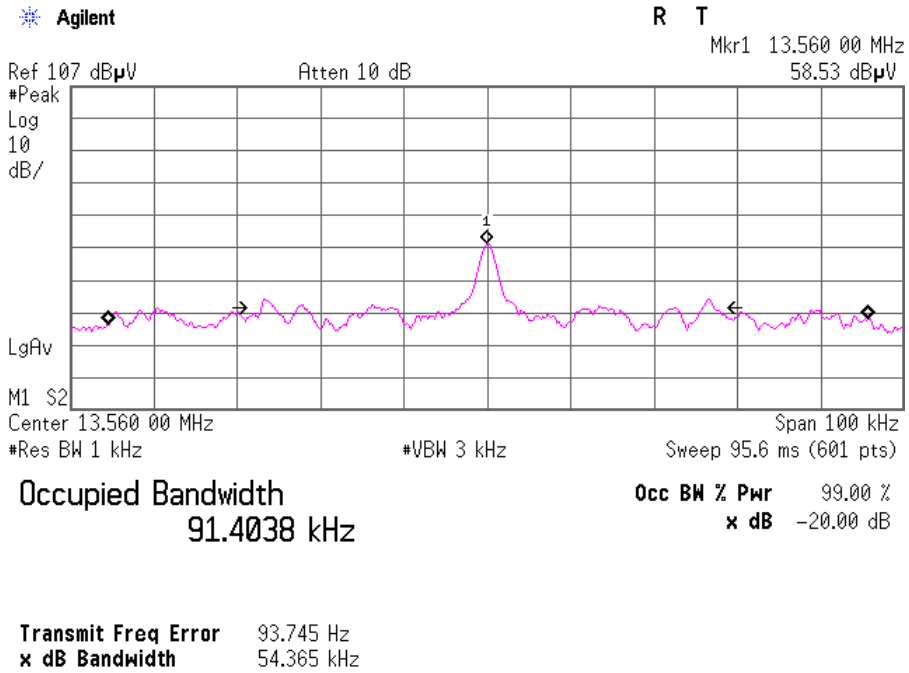


20dB Bandwidth and 99% Occupied Bandwidth

8ch type

Test place	Head Office EMC Lab. No.4 Semi Anechoic Chamber
Report No.	30FE0017-HO-01
Date	01/12/2010
Temperature/ Humidity	25 deg.C./ 37%
Engineer	Takeshi Choda
Mode	Tx

FREQ [MHz]	20dB Bandwidth [kHz]	99% Occupied Bandwidth [kHz]
13.56	54.37	91.40



Frequency Tolerance

4ch type

Test place	Head Office EMC Lab. No.6 Measurement Room
Report No.	30FE0017-HO-01
Date	01/14/2010
Temperature/ Humidity	22 deg.C./ 36%
Engineer	Keisuke Kawamura
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	5.75V	Power on	13.55986111	-0.00013889	-10.24	100.00	89.76	
		on 2min.	13.55985590	-0.00014410	-10.63	100.00	89.37	
		on 5min.	13.55985360	-0.00014640	-10.80	100.00	89.20	
		on 10min.	13.55985235	-0.00014765	-10.89	100.00	89.11	
	5.0V	Power on	13.55985561	-0.00014439	-10.65	100.00	89.35	
		on 2min.	13.55985102	-0.00014898	-10.99	100.00	89.01	
		on 5min.	13.55984903	-0.00015097	-11.13	100.00	88.87	
		on 10min.	13.55984973	-0.00015027	-11.08	100.00	88.92	
	4.25V	Power on	13.55986056	-0.00013944	-10.28	100.00	89.72	
		on 2min.	13.55985546	-0.00014454	-10.66	100.00	89.34	
		on 5min.	13.55985308	-0.00014692	-10.83	100.00	89.17	
		on 10min.	13.55985223	-0.00014777	-10.90	100.00	89.10	
50deg.C.	5.0V	Power on	13.55981744	-0.00018256	-13.46	100.00	86.54	
		on 2min.	13.55981721	-0.00018279	-13.48	100.00	86.52	
		on 5min.	13.55981779	-0.00018221	-13.44	100.00	86.56	
		on 10min.	13.55981903	-0.00018097	-13.35	100.00	86.65	
40deg.C.		Power on	13.55982382	-0.00017618	-12.99	100.00	87.01	
		on 2min.	13.55981985	-0.00018015	-13.29	100.00	86.71	
		on 5min.	13.55981926	-0.00018074	-13.33	100.00	86.67	
		on 10min.	13.55981882	-0.00018118	-13.36	100.00	86.64	
30deg.C.		Power on	13.55984256	-0.00015744	-11.61	100.00	88.39	
		on 2min.	13.55983654	-0.00016346	-12.05	100.00	87.95	
		on 5min.	13.55983368	-0.00016632	-12.27	100.00	87.73	
		on 10min.	13.55983239	-0.00016761	-12.36	100.00	87.64	
20deg.C.		Power on	13.55985561	-0.00014439	-10.65	100.00	89.35	
		on 2min.	13.55985102	-0.00014898	-10.99	100.00	89.01	
		on 5min.	13.55984903	-0.00015097	-11.13	100.00	88.87	
		on 10min.	13.55984973	-0.00015027	-11.08	100.00	88.92	
10deg.C.		Power on	13.55987279	-0.00012721	-9.38	100.00	90.62	
		on 2min.	13.55987088	-0.00012912	-9.52	100.00	90.48	
		on 5min.	13.55986946	-0.00013054	-9.63	100.00	90.37	
		on 10min.	13.55986824	-0.00013176	-9.72	100.00	90.28	
0deg.C.		Power on	13.55986838	-0.00013162	-9.71	100.00	90.29	
		on 2min.	13.55987116	-0.00012884	-9.50	100.00	90.50	
		on 5min.	13.55987203	-0.00012797	-9.44	100.00	90.56	
		on 10min.	13.55987311	-0.00012689	-9.36	100.00	90.64	
-10deg.C.		Power on	13.55984475	-0.00015525	-11.45	100.00	88.55	
		on 2min.	13.55985492	-0.00014508	-10.70	100.00	89.30	
		on 5min.	13.55985913	-0.00014087	-10.39	100.00	89.61	
		on 10min.	13.55986064	-0.00013936	-10.28	100.00	89.72	
-20deg.C		Power on	13.55978852	-0.00021148	-15.60	100.00	84.40	
		on 2min.	13.55980988	-0.00019012	-14.02	100.00	85.98	
		on 5min.	13.55981800	-0.00018200	-13.42	100.00	86.58	
		on 10min.	13.55982104	-0.00017896	-13.20	100.00	86.80	
-30deg.C		Power on	13.55969738	-0.00030262	-22.32	100.00	77.68	*
		on 2min.	13.55972899	-0.00027101	-19.99	100.00	80.01	*
		on 5min.	13.55974158	-0.00025842	-19.06	100.00	80.94	*
		on 10min.	13.55974775	-0.00025225	-18.60	100.00	81.40	*
Limit :	13.56	13.56 MHz +/-0.01 % (+/- 100ppm) =				+/- 0.001356 MHz		

*for IC application (RSS-Gen 4.7 requirement)

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Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

Frequency Tolerance

8ch type

Test place	Head Office EMC Lab. No.6 Measurement Room
Report No.	30FE0017-HO-01
Date	01/14/2010
Temperature/ Humidity	22 deg.C./ 36%
Engineer	Keisuke Kawamura
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	5.75V	Power on	13.56004545	0.00004545	3.35	100.00	96.65	
		on 2min.	13.56004178	0.00004178	3.08	100.00	96.92	
		on 5min.	13.56004033	0.00004033	2.97	100.00	97.03	
		on 10min.	13.56003974	0.00003974	2.93	100.00	97.07	
	5.0V	Power on	13.56004341	0.00004341	3.20	100.00	96.80	
		on 2min.	13.56003972	0.00003972	2.93	100.00	97.07	
		on 5min.	13.56003837	0.00003837	2.83	100.00	97.17	
		on 10min.	13.56003975	0.00003975	2.93	100.00	97.07	
	4.25V	Power on	13.56004506	0.00004506	3.32	100.00	96.68	
		on 2min.	13.56004192	0.00004192	3.09	100.00	96.91	
		on 5min.	13.56004107	0.00004107	3.03	100.00	96.97	
		on 10min.	13.56004058	0.00004058	2.99	100.00	97.01	
50deg.C.	5.0V	Power on	13.55999575	-0.00000425	-0.31	100.00	99.69	
		on 2min.	13.55999553	-0.00000447	-0.33	100.00	99.67	
		on 5min.	13.55999618	-0.00000382	-0.28	100.00	99.72	
		on 10min.	13.55999691	-0.00000309	-0.23	100.00	99.77	
40deg.C.		Power on	13.56000387	0.00000387	0.29	100.00	99.71	
		on 2min.	13.56000148	0.00000148	0.11	100.00	99.89	
		on 5min.	13.56000036	0.00000036	0.03	100.00	99.97	
		on 10min.	13.56000017	0.00000017	0.01	100.00	99.99	
30deg.C.		Power on	13.56002285	0.00002285	1.69	100.00	98.31	
		on 2min.	13.56001889	0.00001889	1.39	100.00	98.61	
		on 5min.	13.56001720	0.00001720	1.27	100.00	98.73	
		on 10min.	13.56001650	0.00001650	1.22	100.00	98.78	
20deg.C.		Power on	13.56004341	0.00004341	3.20	100.00	96.80	
		on 2min.	13.56003972	0.00003972	2.93	100.00	97.07	
		on 5min.	13.56003837	0.00003837	2.83	100.00	97.17	
		on 10min.	13.56003975	0.00003975	2.93	100.00	97.07	
10deg.C.		Power on	13.56005516	0.00005516	4.07	100.00	95.93	
		on 2min.	13.56005617	0.00005617	4.14	100.00	95.86	
		on 5min.	13.56005599	0.00005599	4.13	100.00	95.87	
		on 10min.	13.56005638	0.00005638	4.16	100.00	95.84	
0deg.C.		Power on	13.56005580	0.00005580	4.11	100.00	95.89	
		on 2min.	13.56005674	0.00005674	4.18	100.00	95.82	
		on 5min.	13.56005730	0.00005730	4.23	100.00	95.77	
		on 10min.	13.56005669	0.00005669	4.18	100.00	95.82	
-10deg.C.		Power on	13.56003394	0.00003394	2.50	100.00	97.50	
		on 2min.	13.56003992	0.00003992	2.94	100.00	97.06	
		on 5min.	13.56004113	0.00004113	3.03	100.00	96.97	
		on 10min.	13.56004091	0.00004091	3.02	100.00	96.98	
-20deg.C		Power on	13.55996807	-0.00003193	-2.35	100.00	97.65	
		on 2min.	13.55999791	-0.00000209	-0.15	100.00	99.85	
		on 5min.	13.56000003	0.00000003	0.00	100.00	100.00	
		on 10min.	13.56000086	0.00000086	0.06	100.00	99.94	
-30deg.C		Power on	13.55987510	-0.00012490	-9.21	100.00	90.79	*
		on 2min.	13.55988926	-0.00011074	-8.17	100.00	91.83	*
		on 5min.	13.55989921	-0.00010079	-7.43	100.00	92.57	*
		on 10min.	13.55990169	-0.00009831	-7.25	100.00	92.75	*
Limit :	13.56	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-04	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE/CE	2010/02/02 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE/CE	2010/02/09 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE/CE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	
MSA-05	Spectrum Analyzer	Advantest	R3273	160400285	RE/CE	2009/12/15 * 12
MTR-07	Test Receiver	Rohde & Schwarz	ESCI	100635	RE/CE	2009/10/23 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	1915	RE	2010/01/23 * 12
MLA-08	Logperiodic Antenna	Schwarzbeck	UKLP9140-A	N/A	RE	2010/01/23 * 12
MCC-50	Coaxial cable	UL Japan	-	-	RE	2009/03/18 * 12
MAT-31	Attenuator(6dB)	TME	UFA-01	-	RE	
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	RE	2009/03/18 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(EUT)	2010/02/04 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE(AE)	2010/02/05 * 12
MTA-07	Terminator	MCL	BTRM-50	1 9944	CE	
MCC-113	Coaxial cable	Fujikura/Suhner/TSJ	5D-2W(10m)/SFM141(5m)/421-010(1m)/sucoform141-PE(1m)/RFM-E121(Switcher)	-/04178	CE/RE	2009/07/01 * 12
MLPA-02	Loop Antenna	Rohde & Schwarz	HFH2-Z2	836553/009	RE	2009/11/19 * 12
MCC-31	Coaxial cable	UL Japan	-	-	RE	2009/06/22 * 12
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	RE	2010/02/03 * 12
MOS-14	Thermo-Hygrometer	Custom	CTH-180	-	FT	2010/02/09 * 12
MUC-01	Universal Counter	Agilent	53132A	MY40008906	FT	2009/07/06 * 12
MCH-04	Temperature and Humidity Chamber	Espec	PL-2KP	14015723	FT	2009/08/21 * 12
MAT-51	Attenuator(6dB)	Weinschel	2	AS3557	RE	2010/01/20 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032008	RE	2009/10/05 * 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