APPENDIX 2: Data of EMI test

Radiated Emission

Variation No. 3, Internal Antenna

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DATA OF RADIATED EMISSION TEST

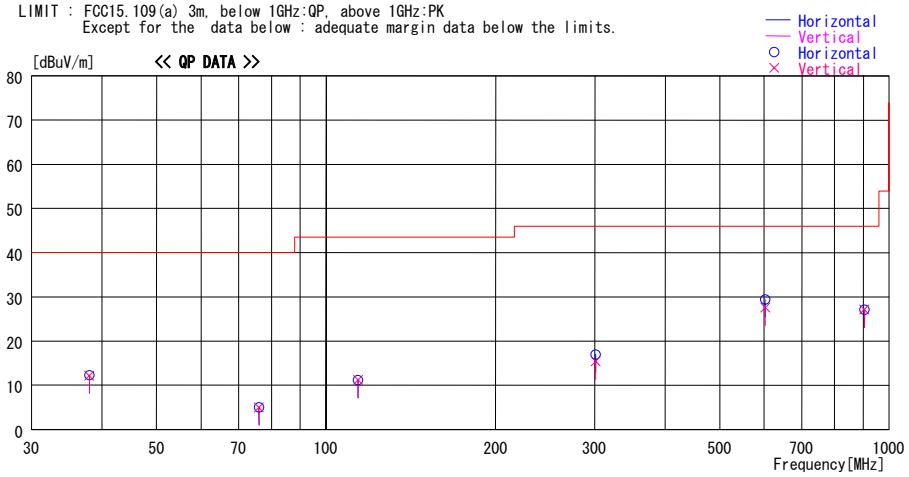
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 24deg.C. / 56%
Engineer : Takayuki Shimada

Mode / Remarks : RKES Receiving mode(312.1MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.5	QP	14.8	-25.0	12.3	0	300	Hori.	40.0	27.7	
38.000	22.4	QP	14.8	-25.0	12.2	0	100	Vert.	40.0	27.8	
76.000	23.0	QP	6.4	-24.4	5.0	0	300	Hori.	40.0	35.0	
76.000	23.0	QP	6.4	-24.4	5.0	0	100	Vert.	40.0	35.0	
114.000	22.8	QP	12.2	-23.8	11.2	0	300	Hori.	43.5	32.3	
114.000	22.8	QP	12.2	-23.8	11.2	0	100	Vert.	43.5	32.3	
301.200	24.5	QP	14.3	-21.8	17.0	23	100	Hori.	46.0	29.0	
301.200	22.9	QP	14.3	-21.8	15.4	83	100	Vert.	46.0	30.6	
602.400	30.0	QP	19.5	-20.1	29.4	254	151	Hori.	46.0	16.6	
602.400	28.2	QP	19.5	-20.1	27.6	25	100	Vert.	46.0	18.4	
903.600	22.1	QP	22.5	-17.5	27.1	0	100	Vert.	46.0	18.9	
903.600	22.1	QP	22.5	-17.5	27.1	0	100	Hori.	46.0	18.9	

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

Radiated Emission

Variation No. 3, Internal Antenna

DATA OF RADIATED EMISSION TEST

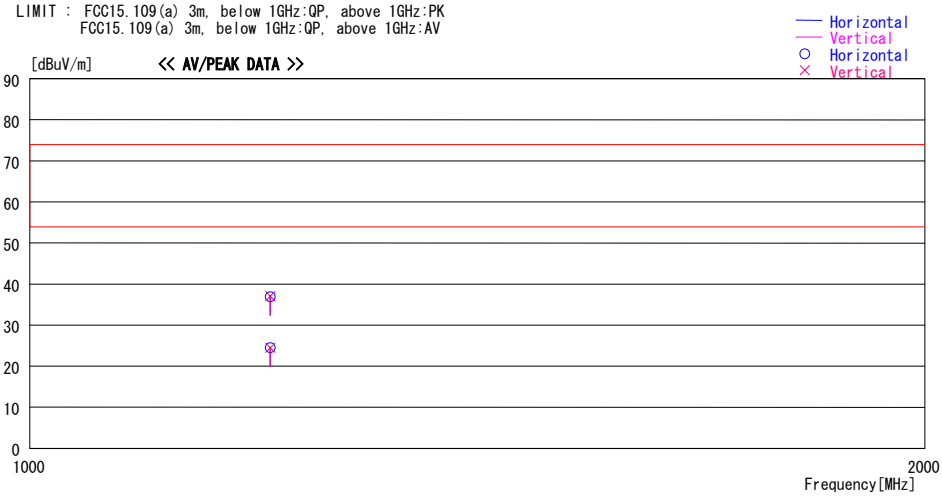
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(312.1MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1204.800	43.8	PK	25.8	-32.7	36.9	0	100	Hori.	73.9	37.0	
1204.800	44.0	PK	25.8	-32.7	37.1	0	100	Vert.	73.9	36.8	
1204.800	31.4	AV	25.8	-32.7	24.5	0	100	Vert.	53.9	29.4	
1204.800	31.5	AV	25.8	-32.7	24.6	0	100	Hori.	53.9	29.3	

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)

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

Radiated Emission

Variation No. 3, Internal Antenna

DATA OF RADIATED EMISSION TEST

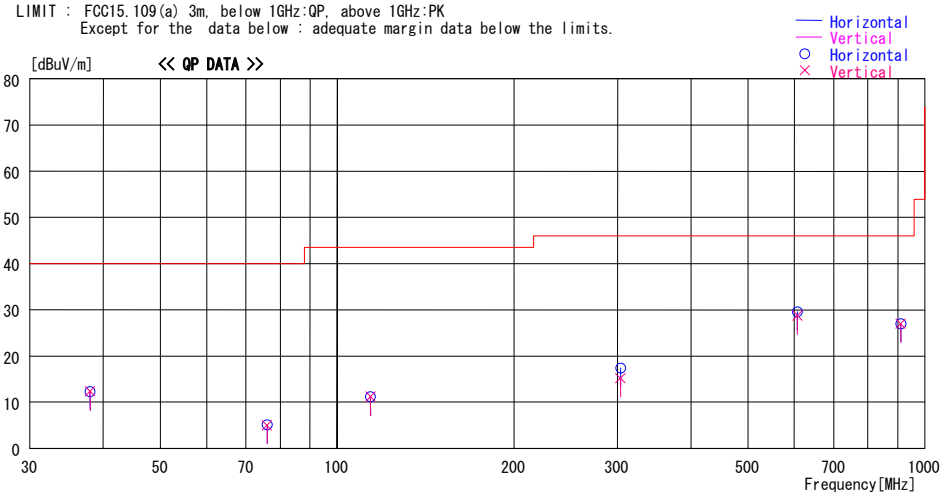
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 24deg.C. / 56%
Engineer : Takayuki Shimada

Mode / Remarks : RKES Receiving mode(314.35MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.5	QP	14.8	-25.0	12.3	0	300	Hori.	40.0	27.7	
38.000	22.5	QP	14.8	-25.0	12.3	0	100	Vert.	40.0	27.7	
76.000	23.1	QP	6.4	-24.4	5.1	0	300	Hori.	40.0	34.9	
76.000	23.0	QP	6.4	-24.4	5.0	0	100	Vert.	40.0	35.0	
114.000	22.8	QP	12.2	-23.8	11.2	0	300	Hori.	43.5	32.3	
114.000	22.8	QP	12.2	-23.8	11.2	0	100	Vert.	43.5	32.3	
303.450	24.8	QP	14.4	-21.8	17.4	26	100	Hori.	46.0	28.6	
303.450	22.6	QP	14.4	-21.8	15.2	103	100	Vert.	46.0	30.8	
606.900	30.1	QP	19.6	-20.1	29.6	219	146	Hori.	46.0	16.4	
606.900	29.2	QP	19.6	-20.1	28.7	19	100	Vert.	46.0	17.3	
910.350	22.0	QP	22.5	-17.5	27.0	0	100	Hori.	46.0	19.0	
910.350	22.0	QP	22.5	-17.5	27.0	0	100	Vert.	46.0	19.0	

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)

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

Radiated Emission

Variation No. 3, Internal Antenna

DATA OF RADIATED EMISSION TEST

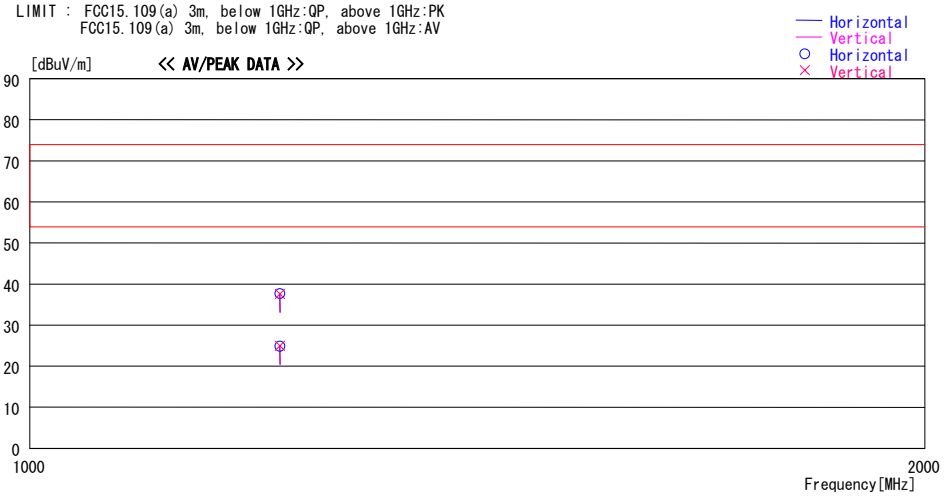
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(314.35MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1213.800	44.5	PK	25.9	-32.7	37.7	0	100	Hori.	73.9	36.2	
1213.800	44.4	PK	25.9	-32.7	37.6	0	100	Vert.	73.9	36.3	
1213.800	31.8	AV	25.9	-32.7	25.0	0	100	Vert.	53.9	28.9	
1213.800	31.7	AV	25.9	-32.7	24.9	0	100	Hori.	53.9	29.0	

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)

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

Radiated Emission

Variation No. 3, Internal Antenna

DATA OF RADIATED EMISSION TEST

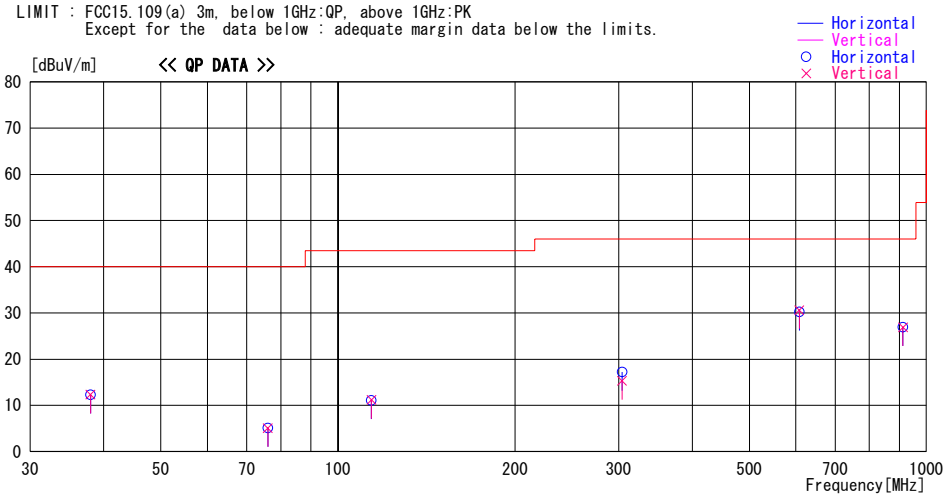
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 24deg.C. / 56%
Engineer : Takayuki Shimada

Mode / Remarks : TPMS Receiving mode(314.98MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
38.000	22.5	QP	14.8	-25.0	12.3	0	300	Hori.	40.0	27.7	
38.000	22.5	QP	14.8	-25.0	12.3	0	100	Vert.	40.0	27.7	
76.000	23.1	QP	6.4	-24.4	5.1	0	300	Hori.	40.0	34.9	
76.000	23.1	QP	6.4	-24.4	5.1	0	100	Vert.	40.0	34.9	
114.000	22.7	QP	12.2	-23.8	11.1	0	300	Hori.	43.5	32.4	
114.000	22.8	QP	12.2	-23.8	11.2	0	100	Vert.	43.5	32.3	
304.080	24.6	QP	14.4	-21.8	17.2	29	100	Hori.	46.0	28.8	
304.080	22.7	QP	14.4	-21.8	15.3	113	100	Vert.	46.0	30.7	
608.160	30.7	QP	19.6	-20.1	30.2	220	150	Hori.	46.0	15.8	
608.160	31.1	QP	19.6	-20.1	30.6	198	100	Vert.	46.0	15.4	
912.240	21.9	QP	22.5	-17.5	26.9	0	100	Hori.	46.0	19.1	
912.240	21.9	QP	22.5	-17.5	26.9	0	100	Vert.	46.0	19.1	

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)

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

UL Japan, Inc.
Head Office EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

Radiated Emission

Variation No. 3, Internal Antenna

DATA OF RADIATED EMISSION TEST

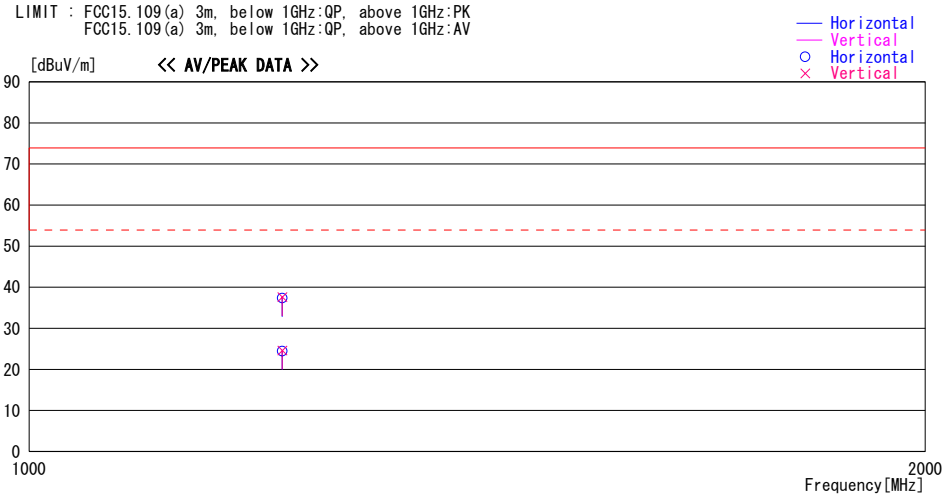
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : TPMS Receiving mode(314.98MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1216.320	44.2	PK	25.9	-32.7	37.4	0	100	Hori.	73.9	36.5	
1216.320	44.4	PK	25.9	-32.7	37.6	0	100	Vert.	73.9	36.3	
1216.320	31.4	AV	25.9	-32.7	24.6	0	100	Vert.	53.9	29.3	
1216.320	31.3	AV	25.9	-32.7	24.5	0	100	Hori.	53.9	29.4	

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 limit is rounded down to one decimal place.
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Radiated Emission

Variation No. 3, External Antenna

-

DATA OF RADIATED EMISSION TEST

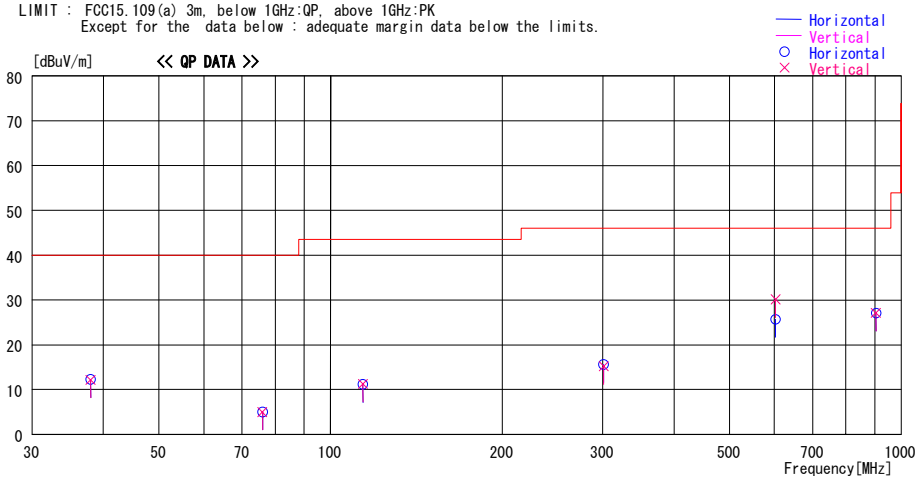
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 24deg.C. / 56%
Engineer : Takayuki Shimada

Mode / Remarks : RKES Receiving mode(312.1MHz), Ext Ant(Hor:Y-axis, Ver:X-axis), EUT(Hor:X-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.5	QP	14.8	-25.0	12.3	0	300	Hori.	40.0	27.7	
38.000	22.4	QP	14.8	-25.0	12.2	0	100	Vert.	40.0	27.8	
76.000	23.0	QP	6.4	-24.4	5.0	0	300	Hori.	40.0	35.0	
76.000	23.0	QP	6.4	-24.4	5.0	0	100	Vert.	40.0	35.0	
114.000	22.8	QP	12.2	-23.8	11.2	0	300	Hori.	43.5	32.3	
114.000	22.9	QP	12.2	-23.8	11.3	0	100	Vert.	43.5	32.2	
301.200	23.1	QP	14.3	-21.8	15.6	0	100	Hori.	46.0	30.4	
301.200	22.7	QP	14.3	-21.8	15.2	0	100	Vert.	46.0	30.8	
602.400	26.3	QP	19.5	-20.1	25.7	120	203	Hori.	46.0	20.3	
602.400	30.7	QP	19.5	-20.1	30.1	200	100	Vert.	46.0	15.9	
903.600	22.1	QP	22.5	-17.5	27.1	0	100	Hori.	46.0	18.9	
903.600	22.1	QP	22.5	-17.5	27.1	0	100	Vert.	46.0	18.9	

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 limit is rounded down to one decimal place.
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Radiated Emission

Variation No. 3, External Antenna

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DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
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Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
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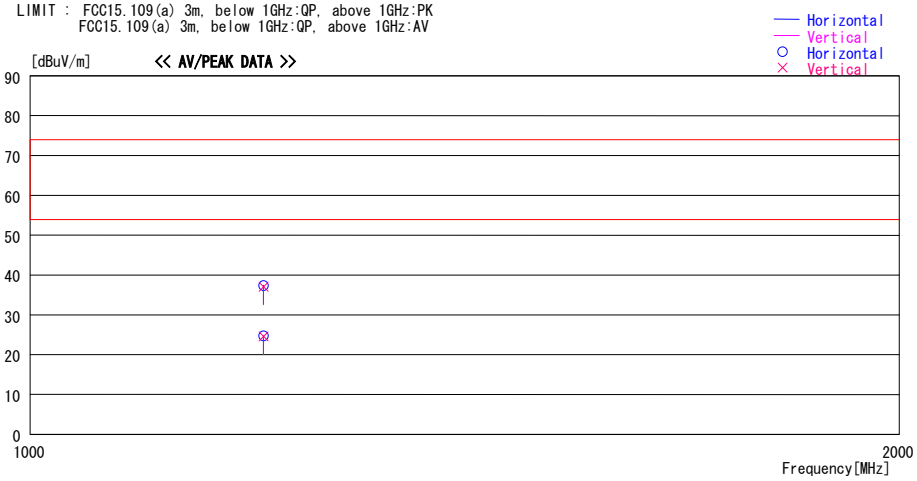
Mode / Remarks : RKES Receiving mode(312.1MHz), Ext Ant(Hor:Y-axis, Ver:X-axis) , EUT(Hor:X-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1204.800	44.3	PK	25.8	-32.7	37.4	0	100	Hori.	73.9	36.5	
1204.800	44.0	PK	25.8	-32.7	37.1	0	100	Vert.	73.9	36.8	
1204.800	31.5	AV	25.8	-32.7	24.6	0	100	Vert.	53.9	29.3	
1204.800	31.6	AV	25.8	-32.7	24.7	0	100	Hori.	53.9	29.2	

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)

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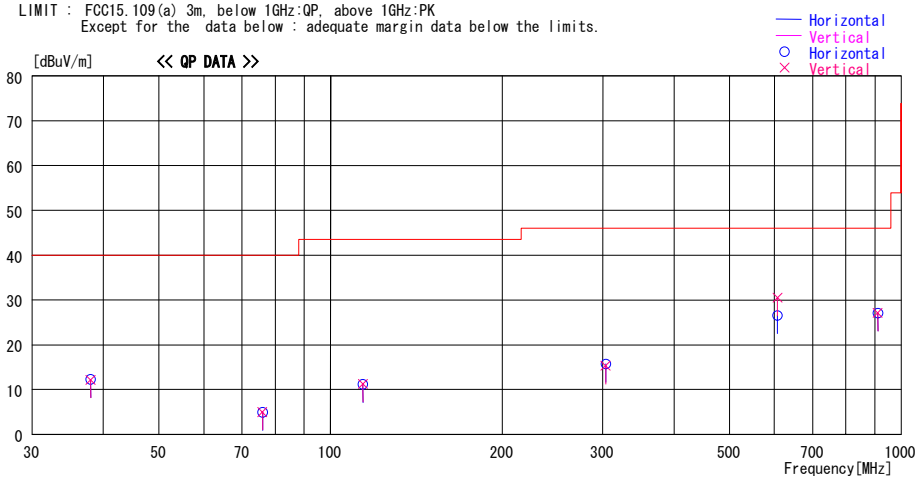
LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.5	QP	14.8	-25.0	12.3	0	300	Hori.	40.0	27.7	
38.000	22.4	QP	14.8	-25.0	12.2	0	100	Vert.	40.0	27.8	
76.000	22.9	QP	6.4	-24.4	4.9	0	300	Hori.	40.0	35.1	
76.000	23.0	QP	6.4	-24.4	5.0	0	100	Vert.	40.0	35.0	
114.000	22.8	QP	12.2	-23.8	11.2	0	300	Hori.	43.5	32.3	
114.000	22.9	QP	12.2	-23.8	11.3	0	100	Vert.	43.5	32.2	
303.450	23.1	QP	14.4	-21.8	15.7	144	100	Hori.	46.0	30.3	
303.450	22.7	QP	14.4	-21.8	15.3	96	100	Vert.	46.0	30.7	
606.900	27.0	QP	19.6	-20.1	26.5	119	190	Hori.	46.0	19.5	
606.900	31.0	QP	19.6	-20.1	30.5	198	100	Vert.	46.0	15.5	
910.350	22.1	QP	22.5	-17.5	27.1	0	100	Hori.	46.0	18.9	
910.350	22.1	QP	22.5	-17.5	27.1	0	100	Vert.	46.0	18.9	

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)

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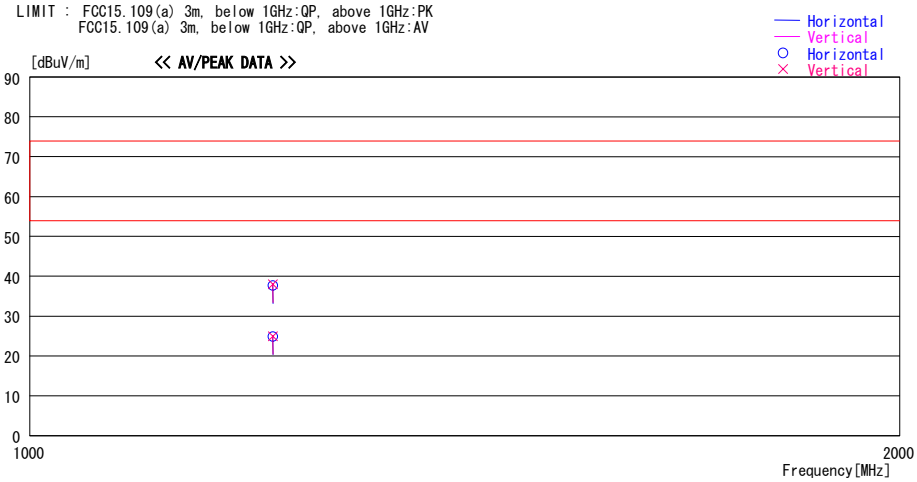
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(314.35MHz), Ext Ant(Hor:Y-axis, Ver:X-axis) , EUT(Hor:X-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1213.800	44.5	PK	25.9	-32.7	37.7	0	100	Hori.	73.9	36.2	
1213.800	44.8	PK	25.9	-32.7	38.0	0	100	Vert.	73.9	35.9	
1213.800	31.8	AV	25.9	-32.7	25.0	0	100	Vert.	53.9	28.9	
1213.800	31.7	AV	25.9	-32.7	24.9	0	100	Hori.	53.9	29.0	

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)

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

Radiated Emission

Variation No. 5, External Antenna

DATA OF RADIATED EMISSION TEST

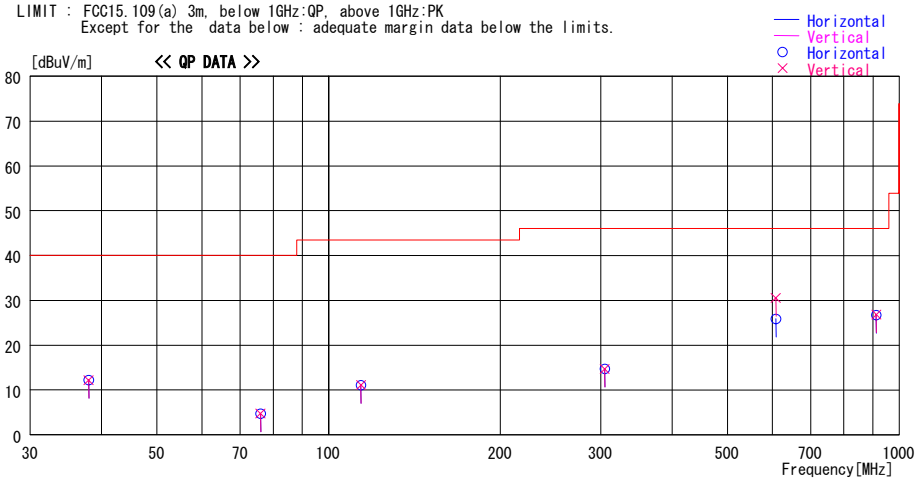
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/09/30

Report No. : 30KE0046-HO-01

Temp./Humi. : 22deg.C. / 58%
Engineer : Tomohisa Nakagawa

Mode / Remarks : TPMS Receiving mode(314.98MHz), Ext Ant(Hor:Y-axis, Ver:X-axis) , EUT(Hor:X-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.4	QP	14.8	-25.0	12.2	0	100	Hori.	40.0	27.8	
38.000	22.4	QP	14.8	-25.0	12.2	0	100	Vert.	40.0	27.8	
76.000	22.7	QP	6.4	-24.4	4.7	0	100	Hori.	40.0	35.3	
76.000	22.7	QP	6.4	-24.4	4.7	0	100	Vert.	40.0	35.3	
114.000	22.7	QP	12.2	-23.8	11.1	0	100	Hori.	43.5	32.4	
114.000	22.7	QP	12.2	-23.8	11.1	0	100	Vert.	43.5	32.4	
304.080	22.1	QP	14.4	-21.8	14.7	0	100	Hori.	46.0	31.3	
304.080	22.1	QP	14.4	-21.8	14.7	0	100	Vert.	46.0	31.3	
608.160	26.4	QP	19.6	-20.1	25.9	84	204	Hori.	46.0	20.1	
608.160	31.0	QP	19.6	-20.1	30.5	193	100	Vert.	46.0	15.5	
912.240	21.7	QP	22.5	-17.5	26.7	0	100	Hori.	46.0	19.3	
912.240	21.8	QP	22.5	-17.5	26.8	0	100	Vert.	46.0	19.2	

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

Radiated Emission

Variation No. 5, External Antenna

DATA OF RADIATED EMISSION TEST

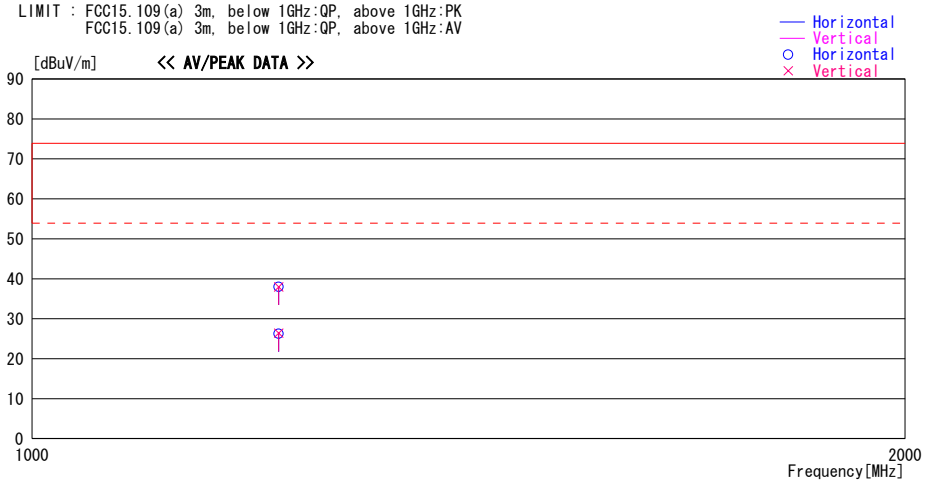
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/09/30

Report No. : 30KE0046-HO-01

Temp./Humi. : 22deg.C. / 58%
Engineer : Tomohisa Nakagawa

Mode / Remarks : TPMS Receiving mode(314.98MHz), Ext Ant(Hor:Y-axis, Ver:X-axis) , EUT(Hor:X-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1216.320	44.8	PK	25.9	-32.7	38.0	0	100	Hori.	73.9	35.9	
1216.320	44.8	PK	25.9	-32.7	38.0	0	100	Vert.	73.9	35.9	
1216.320	33.2	AV	25.9	-32.7	26.4	0	100	Vert.	53.9	27.5	
1216.320	33.1	AV	25.9	-32.7	26.3	0	100	Hori.	53.9	27.6	

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

Radiated Emission

Variation No. 9, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

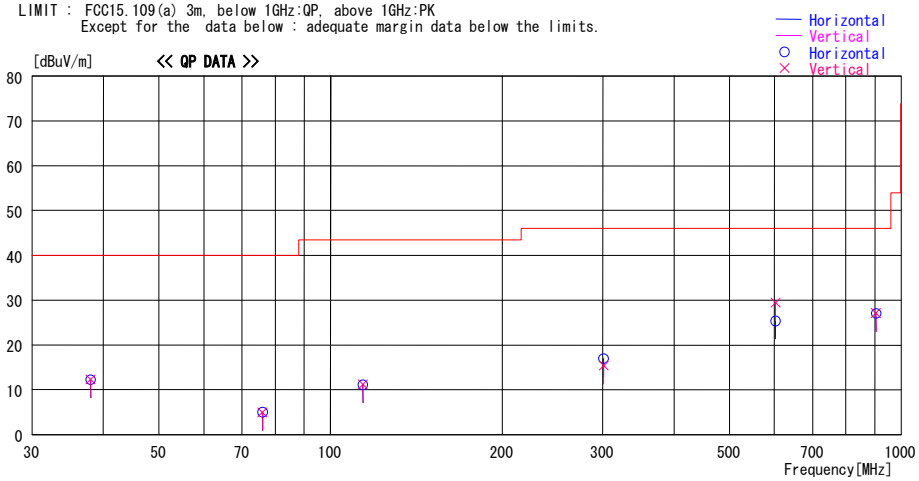
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 24deg.C. / 56%
Engineer : Takayuki Shimada

Mode / Remarks : RKES Receiving mode(312.1MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:Z-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.5	QP	14.8	-25.0	12.3	0	300	Hori.	40.0	27.7	
38.000	22.5	QP	14.8	-25.0	12.3	0	100	Vert.	40.0	27.7	
76.000	23.0	QP	6.4	-24.4	5.0	0	300	Hori.	40.0	35.0	
76.000	23.0	QP	6.4	-24.4	5.0	0	100	Vert.	40.0	35.0	
114.000	22.8	QP	12.2	-23.8	11.2	0	300	Hori.	43.5	32.3	
114.000	22.8	QP	12.2	-23.8	11.2	0	100	Vert.	43.5	32.3	
301.200	24.5	QP	14.3	-21.8	17.0	13	100	Hori.	46.0	29.0	
301.200	22.9	QP	14.3	-21.8	15.4	83	100	Vert.	46.0	30.6	
602.400	26.0	QP	19.5	-20.1	25.4	295	176	Hori.	46.0	20.6	
602.400	30.1	QP	19.5	-20.1	29.5	193	100	Vert.	46.0	16.5	
903.600	22.1	QP	22.5	-17.5	27.1	0	100	Hori.	46.0	18.9	
903.600	22.1	QP	22.5	-17.5	27.1	0	100	Vert.	46.0	18.9	

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

Radiated Emission

Variation No. 9, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

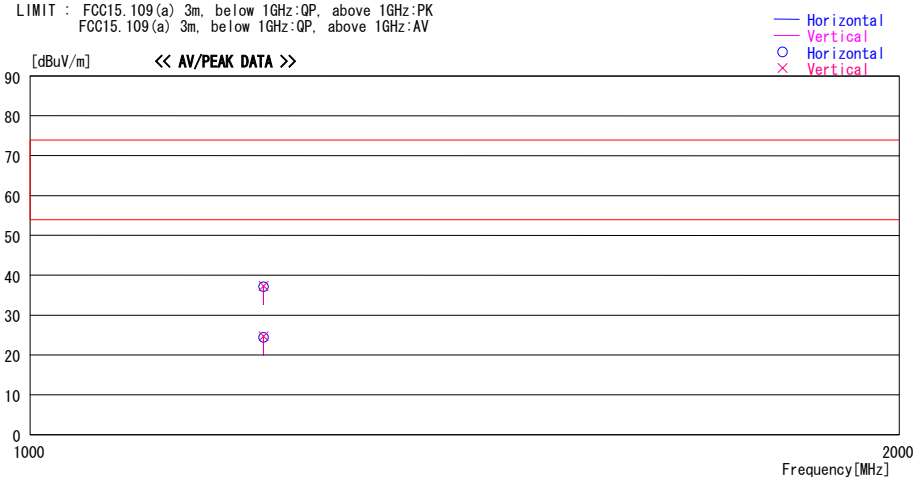
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(312.1MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:Z-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1204.800	44.1	PK	25.8	-32.7	37.2	0	100	Hori.	73.9	36.7	
1204.800	44.2	PK	25.8	-32.7	37.3	0	100	Vert.	73.9	36.6	
1204.800	31.6	AV	25.8	-32.7	24.7	0	100	Vert.	53.9	29.2	
1204.800	31.4	AV	25.8	-32.7	24.5	0	100	Hori.	53.9	29.4	

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

Radiated Emission

Variation No. 9, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

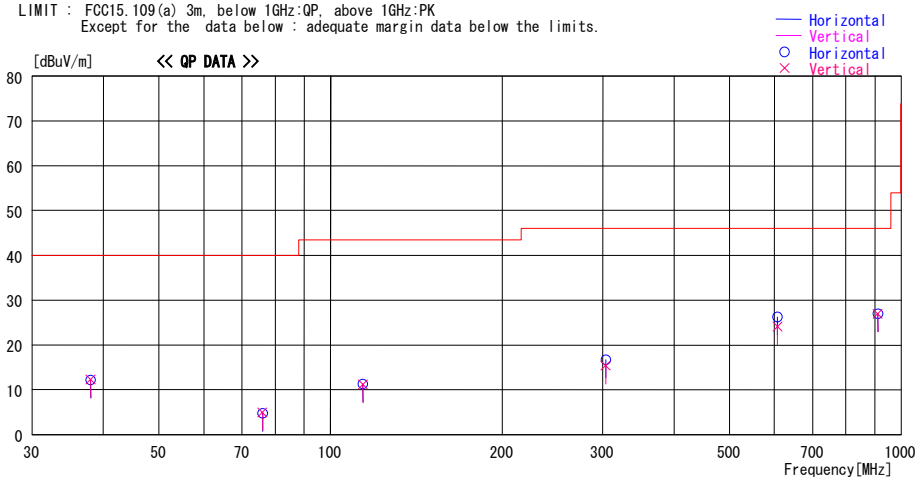
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(314.35MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:Z-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.5	QP	14.8	-25.0	12.3	0	100	Vert.	40.0	27.7	
38.000	22.4	QP	14.8	-25.0	12.2	0	300	Hori.	40.0	27.8	
76.000	23.0	QP	6.4	-24.4	5.0	0	100	Vert.	40.0	35.0	
76.000	22.8	QP	6.4	-24.4	4.8	0	300	Hori.	40.0	35.2	
114.000	22.8	QP	12.2	-23.8	11.2	0	100	Vert.	43.5	32.3	
114.000	22.9	QP	12.2	-23.8	11.3	0	300	Hori.	43.5	32.2	
303.450	22.8	QP	14.4	-21.8	15.4	142	100	Vert.	46.0	30.6	
303.450	24.1	QP	14.4	-21.8	16.7	175	151	Hori.	46.0	29.3	
606.900	26.8	QP	19.6	-20.1	26.3	39	139	Hori.	46.0	19.7	
606.900	24.6	QP	19.6	-20.1	24.1	144	100	Vert.	46.0	21.9	
910.350	22.0	QP	22.5	-17.5	27.0	0	100	Hori.	46.0	19.0	
910.350	22.0	QP	22.5	-17.5	27.0	0	100	Vert.	46.0	19.0	

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)

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

Radiated Emission

Variation No. 9, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

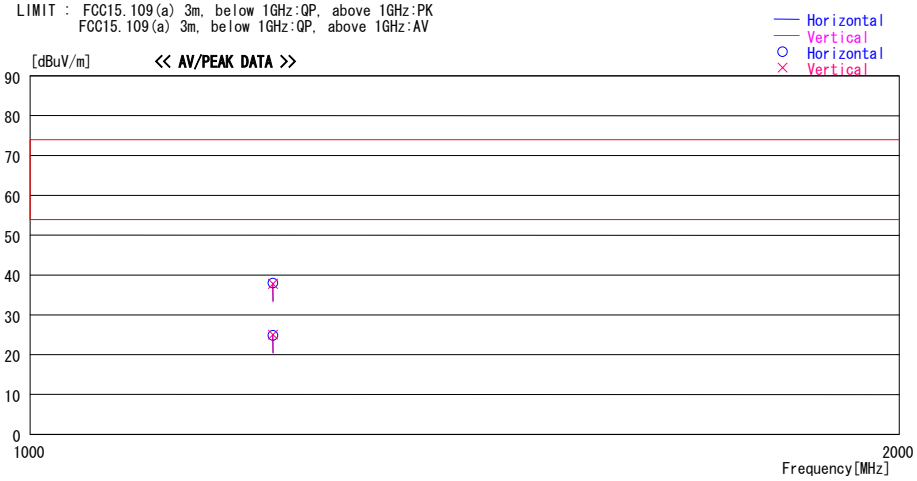
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(314.35MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:Z-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1213.800	44.8	PK	25.9	-32.7	38.0	0	100	Hori.	73.9	35.9	
1213.800	44.6	PK	25.9	-32.7	37.8	0	100	Vert.	73.9	36.1	
1213.800	31.9	AV	25.9	-32.7	25.1	0	100	Vert.	53.9	28.8	
1213.800	31.7	AV	25.9	-32.7	24.9	0	100	Hori.	53.9	29.0	

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)

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

Radiated Emission

Variation No. 9, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

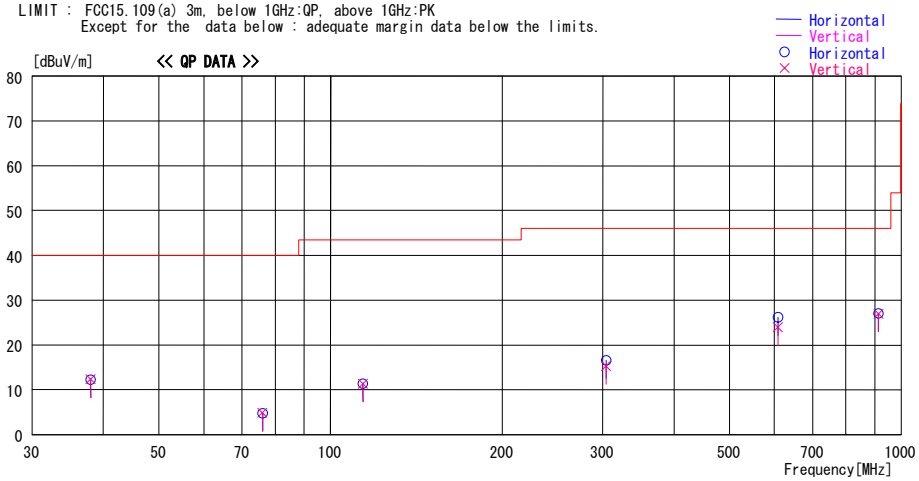
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : TPMS Receiving mode(314.98MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:Z-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.6	QP	14.8	-25.0	12.4	0	100	Vert.	40.0	27.6	
38.000	22.5	QP	14.8	-25.0	12.3	0	300	Hori.	40.0	27.7	
76.000	22.8	QP	6.4	-24.4	4.8	0	300	Hori.	40.0	35.2	
76.000	22.9	QP	6.4	-24.4	4.9	0	100	Vert.	40.0	35.1	
114.000	23.0	QP	12.2	-23.8	11.4	0	300	Hori.	43.5	32.1	
114.000	23.0	QP	12.2	-23.8	11.4	0	100	Vert.	43.5	32.1	
304.080	22.7	QP	14.4	-21.8	15.3	145	100	Vert.	46.0	30.7	
304.080	24.0	QP	14.4	-21.8	16.6	10	100	Hori.	46.0	29.4	
608.160	24.5	QP	19.6	-20.1	24.0	147	100	Vert.	46.0	22.0	
608.160	26.7	QP	19.6	-20.1	26.2	39	140	Hori.	46.0	19.8	
912.240	22.1	QP	22.5	-17.5	27.1	0	100	Hori.	46.0	18.9	
912.240	22.0	QP	22.5	-17.5	27.0	0	100	Vert.	46.0	19.0	

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)

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

Radiated Emission

Variation No. 9, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

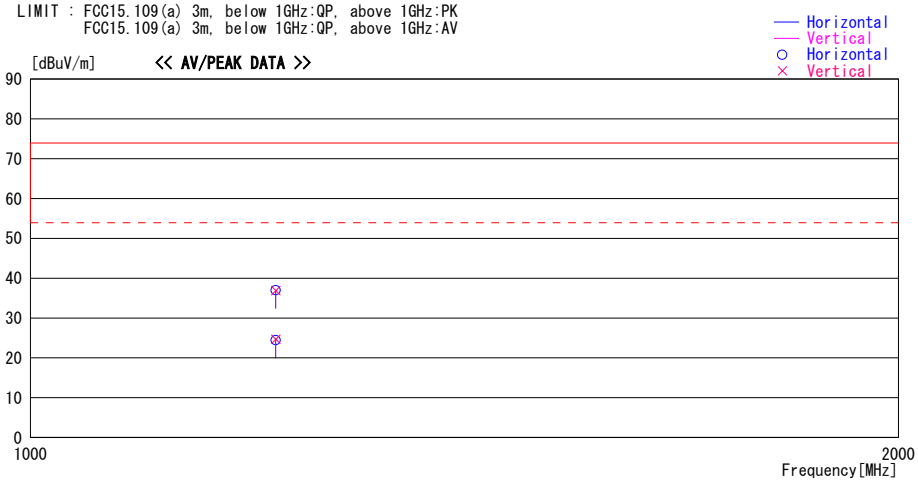
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : TPMS Receiving mode(314.98MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:Z-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1216.320	43.8	PK	25.9	-32.7	37.0	0	100	Hori.	73.9	36.9	
1216.320	43.7	PK	25.9	-32.7	36.9	0	100	Vert.	73.9	37.0	
1216.320	31.5	AV	25.9	-32.7	24.7	0	100	Vert.	53.9	29.2	
1216.320	31.3	AV	25.9	-32.7	24.5	0	100	Hori.	53.9	29.4	

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

Radiated Emission

Variation No. 15, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

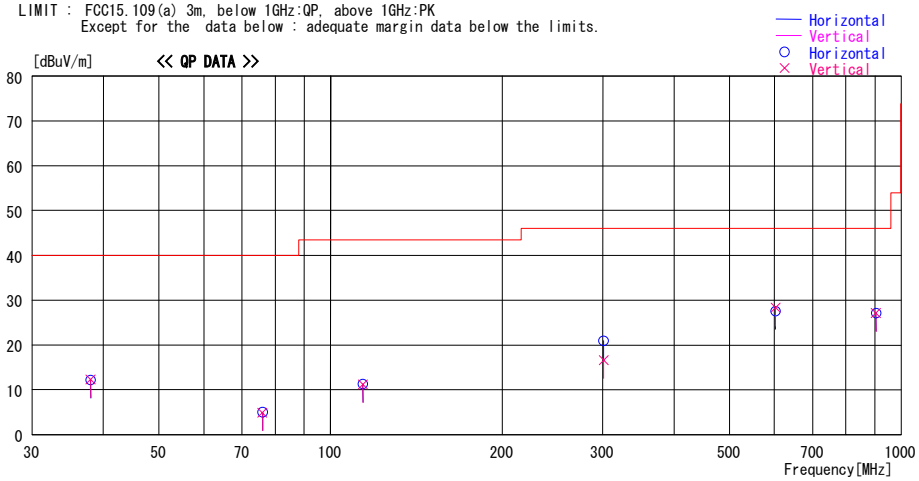
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(312.1MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.5	QP	14.8	-25.0	12.3	0	100	Vert.	40.0	27.7	
38.000	22.4	QP	14.8	-25.0	12.2	0	300	Hori.	40.0	27.8	
76.000	23.0	QP	6.4	-24.4	5.0	0	300	Hori.	40.0	35.0	
76.000	22.9	QP	6.4	-24.4	4.9	0	100	Vert.	40.0	35.1	
114.000	22.9	QP	12.2	-23.8	11.3	0	300	Hori.	43.5	32.2	
114.000	22.8	QP	12.2	-23.8	11.2	0	100	Vert.	43.5	32.3	
301.200	28.4	QP	14.3	-21.8	20.9	22	104	Hori.	46.0	25.1	
301.200	24.1	QP	14.3	-21.8	16.6	169	100	Vert.	46.0	29.4	
602.400	28.9	QP	19.5	-20.1	28.3	195	100	Vert.	46.0	17.7	
602.400	28.2	QP	19.5	-20.1	27.6	38	140	Hori.	46.0	18.4	
903.600	22.2	QP	22.5	-17.5	27.2	0	100	Hori.	46.0	18.8	
903.600	22.1	QP	22.5	-17.5	27.1	0	100	Vert.	46.0	18.9	

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

Radiated Emission

Variation No. 15, Internal Antenna

(Reference data)

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DATA OF RADIATED EMISSION TEST

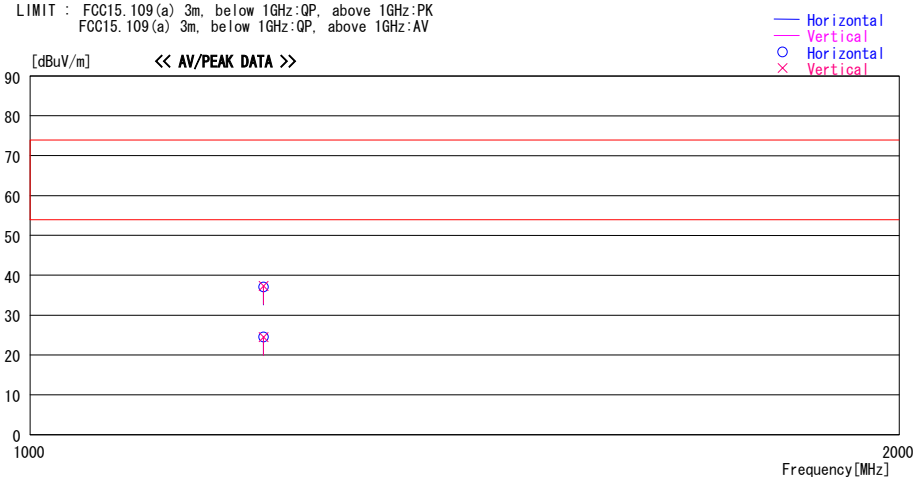
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(312.1MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1204.800	44.0	PK	25.8	-32.7	37.1	0	100	Hori.	73.9	36.8	
1204.800	44.2	PK	25.8	-32.7	37.3	0	100	Vert.	73.9	36.6	
1204.800	31.4	AV	25.8	-32.7	24.5	0	100	Vert.	53.9	29.4	
1204.800	31.5	AV	25.8	-32.7	24.6	0	100	Hori.	53.9	29.3	

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)

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

Radiated Emission

Variation No. 15, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

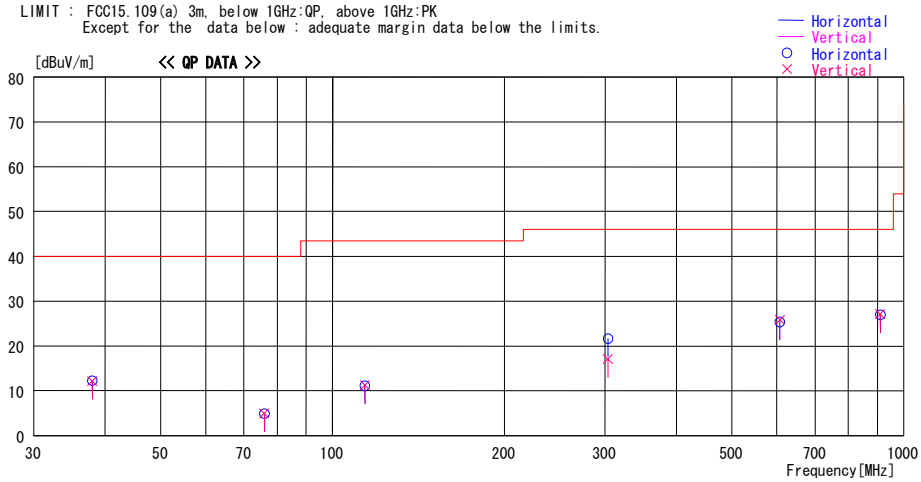
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(314.35MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.5	QP	14.8	-25.0	12.3	0	300	Hori.	40.0	27.7	
38.000	22.4	QP	14.8	-25.0	12.2	0	100	Vert.	40.0	27.8	
76.000	23.0	QP	6.4	-24.4	5.0	0	100	Vert.	40.0	35.0	
76.000	22.9	QP	6.4	-24.4	4.9	0	300	Hori.	40.0	35.1	
114.000	22.9	QP	12.2	-23.8	11.3	0	100	Vert.	43.5	32.2	
114.000	22.8	QP	12.2	-23.8	11.2	0	300	Hori.	43.5	32.3	
303.450	24.5	QP	14.4	-21.8	17.1	326	100	Vert.	46.0	28.9	
303.450	29.1	QP	14.4	-21.8	21.7	28	102	Hori.	46.0	24.3	
606.900	26.3	QP	19.6	-20.1	25.8	10	100	Vert.	46.0	20.2	
606.900	25.9	QP	19.6	-20.1	25.4	186	150	Hori.	46.0	20.6	
910.350	22.1	QP	22.5	-17.5	27.1	0	100	Vert.	46.0	18.9	
910.350	22.0	QP	22.5	-17.5	27.0	0	100	Hori.	46.0	19.0	

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)

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

Radiated Emission

Variation No. 15, Internal Antenna

(Reference data)

-

DATA OF RADIATED EMISSION TEST

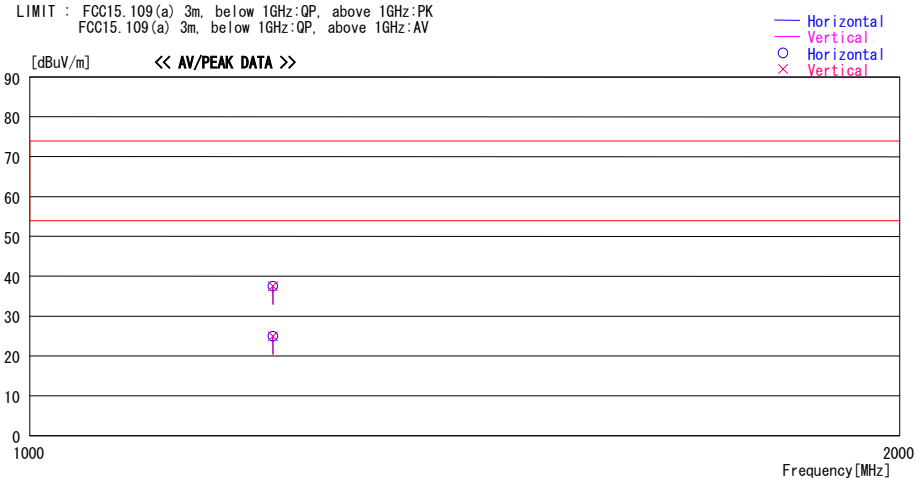
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(314.35MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1213.800	44.4	PK	25.9	-32.7	37.6	0	100	Hori.	73.9	36.3	
1213.800	44.3	PK	25.9	-32.7	37.5	0	100	Vert.	73.9	36.4	
1213.800	31.8	AV	25.9	-32.7	25.0	0	100	Vert.	53.9	28.9	
1213.800	31.8	AV	25.9	-32.7	25.0	0	100	Hori.	53.9	28.9	

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

Radiated Emission

Variation No. 15, Internal Antenna
(Reference data)

DATA OF RADIATED EMISSION TEST

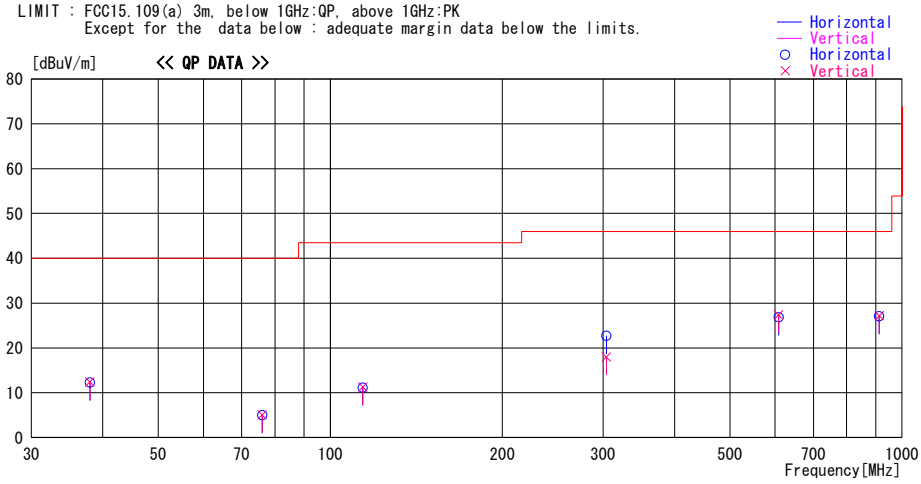
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : TPMS Receiving mode(314.98MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
38.000	22.6	QP	14.8	-25.0	12.4	0	100	Vert.	40.0	27.6	
38.000	22.5	QP	14.8	-25.0	12.3	0	300	Hori.	40.0	27.7	
76.000	23.0	QP	6.4	-24.4	5.0	0	300	Hori.	40.0	35.0	
76.000	23.1	QP	6.4	-24.4	5.1	0	100	Vert.	40.0	34.9	
114.000	22.8	QP	12.2	-23.8	11.2	0	300	Hori.	43.5	32.3	
114.000	22.9	QP	12.2	-23.8	11.3	0	100	Vert.	43.5	32.2	
304.080	30.1	QP	14.4	-21.8	22.7	26	104	Hori.	46.0	23.3	
304.080	25.4	QP	14.4	-21.8	18.0	349	100	Vert.	46.0	28.0	
608.160	27.9	QP	19.6	-20.1	27.4	187	100	Vert.	46.0	18.6	
608.160	27.3	QP	19.6	-20.1	26.8	38	140	Hori.	46.0	19.2	
912.240	22.2	QP	22.5	-17.5	27.2	0	100	Vert.	46.0	18.8	
912.240	22.1	QP	22.5	-17.5	27.1	0	100	Hori.	46.0	18.9	

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

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Facsimile : +81 596 24 8124

Radiated Emission

Variation No. 15, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

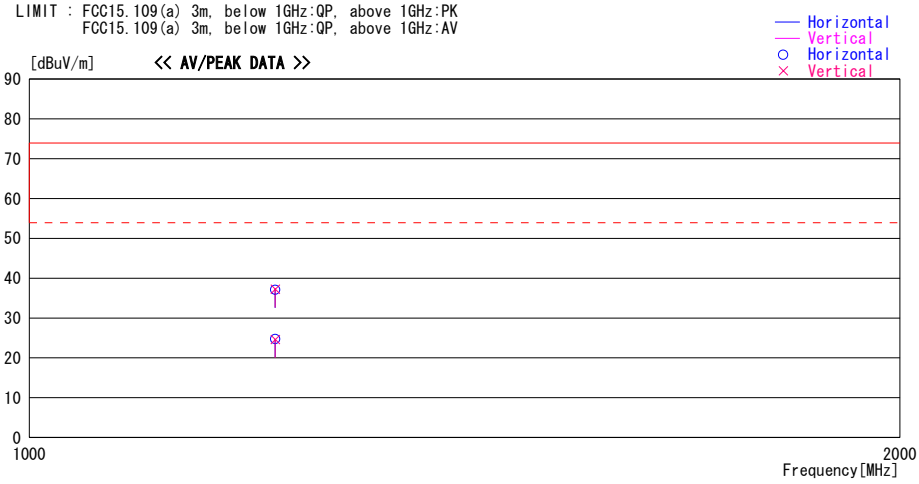
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : TPMS Receiving mode(314.98MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1216.320	43.9	PK	25.9	-32.7	37.1	0	100	Hori.	73.9	36.8	
1216.320	44.0	PK	25.9	-32.7	37.2	0	100	Vert.	73.9	36.7	
1216.320	31.4	AV	25.9	-32.7	24.6	0	100	Vert.	53.9	29.3	
1216.320	31.5	AV	25.9	-32.7	24.7	0	100	Hori.	53.9	29.2	

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

Radiated Emission

Variation No. 21, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

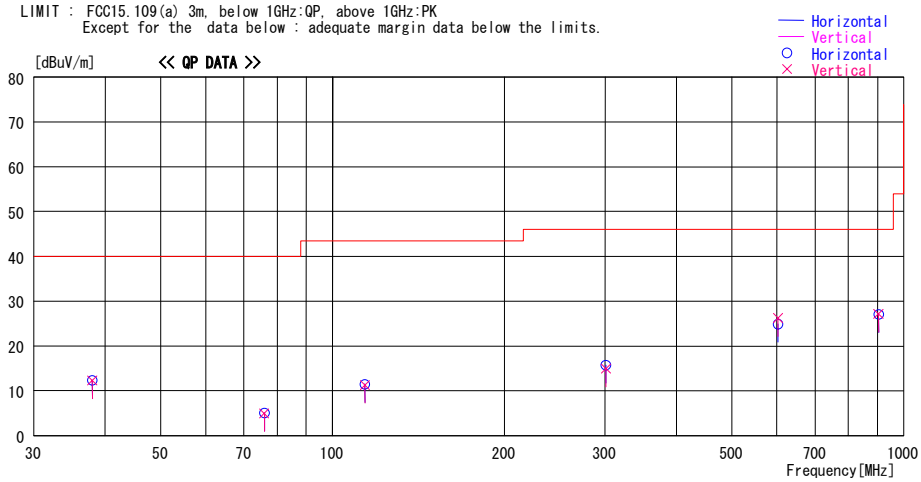
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(312.1MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.6	QP	14.8	-25.0	12.4	0	300	Hori.	40.0	27.6	
38.000	22.5	QP	14.8	-25.0	12.3	0	100	Vert.	40.0	27.7	
76.000	23.1	QP	6.4	-24.4	5.1	0	300	Hori.	40.0	34.9	
76.000	23.0	QP	6.4	-24.4	5.0	0	100	Vert.	40.0	35.0	
114.000	23.1	QP	12.2	-23.8	11.5	0	300	Hori.	43.5	32.0	
114.000	22.9	QP	12.2	-23.8	11.3	0	100	Vert.	43.5	32.2	
301.200	23.3	QP	14.3	-21.8	15.8	22	115	Hori.	46.0	30.2	
301.200	22.4	QP	14.3	-21.8	14.9	59	100	Vert.	46.0	31.1	
602.400	25.5	QP	19.5	-20.1	24.9	37	143	Hori.	46.0	21.1	
602.400	26.8	QP	19.5	-20.1	26.2	187	100	Vert.	46.0	19.8	
903.600	22.1	QP	22.5	-17.5	27.1	0	100	Hori.	46.0	18.9	
903.600	22.2	QP	22.5	-17.5	27.2	0	100	Vert.	46.0	18.8	

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)

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

UL Japan, Inc.
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Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

Radiated Emission

Variation No. 21, Internal Antenna

(Reference data)

-

DATA OF RADIATED EMISSION TEST

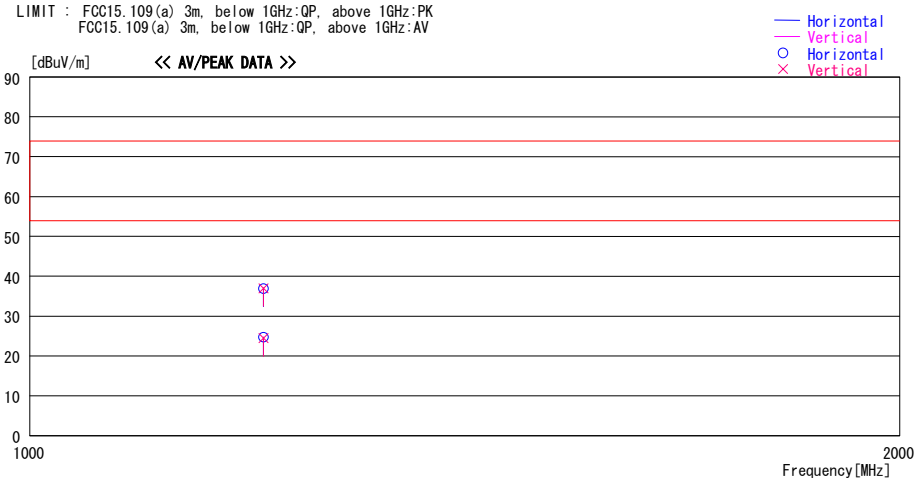
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(312.1MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1204.800	43.8	PK	25.8	-32.7	36.9	0	100	Hori.	73.9	37.0	
1204.800	43.9	PK	25.8	-32.7	37.0	0	100	Vert.	73.9	36.9	
1204.800	31.4	AV	25.8	-32.7	24.5	0	100	Vert.	53.9	29.4	
1204.800	31.6	AV	25.8	-32.7	24.7	0	100	Hori.	53.9	29.2	

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

Radiated Emission

Variation No. 21, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

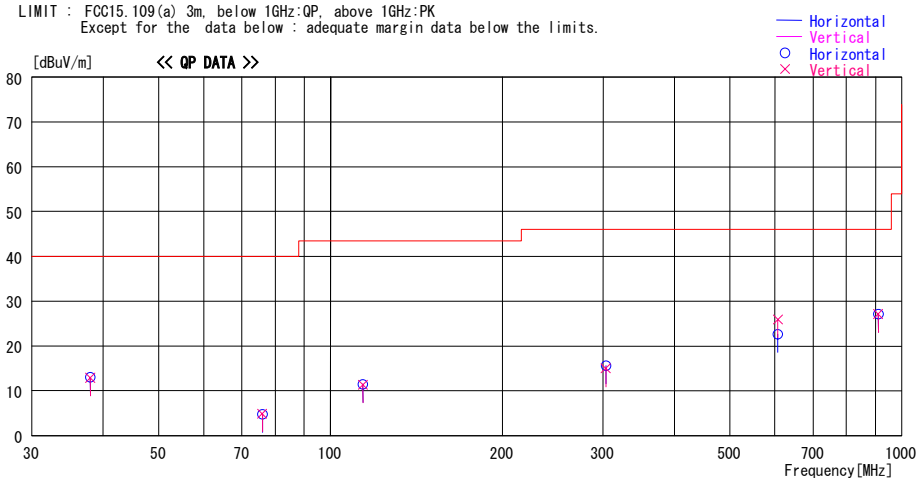
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(314.35MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	23.1	QP	14.8	-25.0	12.9	0	100	Vert.	40.0	27.1	
38.000	23.2	QP	14.8	-25.0	13.0	0	300	Hori.	40.0	27.0	
76.000	22.8	QP	6.4	-24.4	4.8	0	300	Hori.	40.0	35.2	
76.000	22.9	QP	6.4	-24.4	4.9	0	100	Vert.	40.0	35.1	
114.000	23.1	QP	12.2	-23.8	11.5	0	300	Hori.	43.5	32.0	
114.000	23.0	QP	12.2	-23.8	11.4	0	100	Vert.	43.5	32.1	
303.450	23.0	QP	14.4	-21.8	15.6	98	100	Hori.	46.0	30.4	
303.450	22.4	QP	14.4	-21.8	15.0	189	100	Vert.	46.0	31.0	
606.900	23.1	QP	19.6	-20.1	22.6	158	100	Hori.	46.0	23.4	
606.900	26.4	QP	19.6	-20.1	25.9	182	100	Vert.	46.0	20.1	
910.350	22.2	QP	22.5	-17.5	27.2	0	100	Hori.	46.0	18.8	
910.350	22.1	QP	22.5	-17.5	27.1	0	100	Vert.	46.0	18.9	

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

UL Japan, Inc.
Head Office EMC Lab.
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8116
Facsimile : +81 596 24 8124

Radiated Emission

Variation No. 21, Internal Antenna

(Reference data)

-

DATA OF RADIATED EMISSION TEST

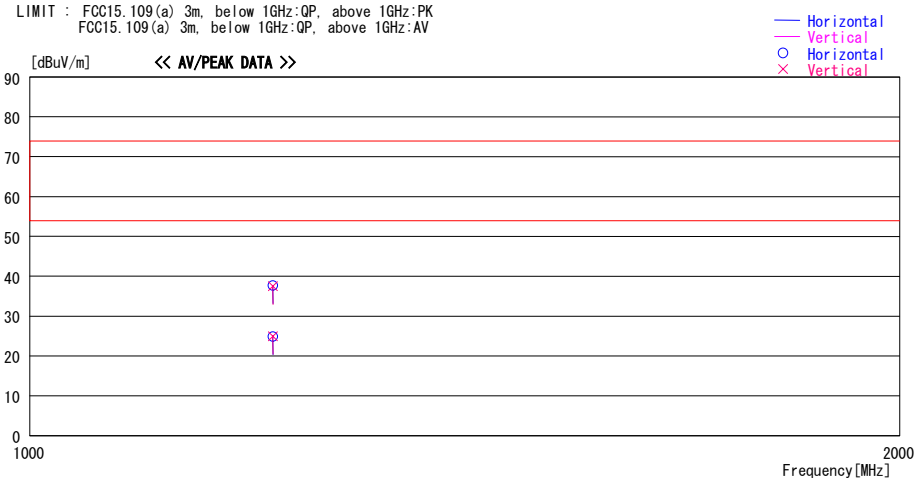
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(314.35MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1213.800	44.5	PK	25.9	-32.7	37.7	0	100	Hori.	73.9	36.2	
1213.800	44.3	PK	25.9	-32.7	37.5	0	100	Vert.	73.9	36.4	
1213.800	31.8	AV	25.9	-32.7	25.0	0	100	Vert.	53.9	28.9	
1213.800	31.7	AV	25.9	-32.7	24.9	0	100	Hori.	53.9	29.0	

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)

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

Radiated Emission

Variation No. 21, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

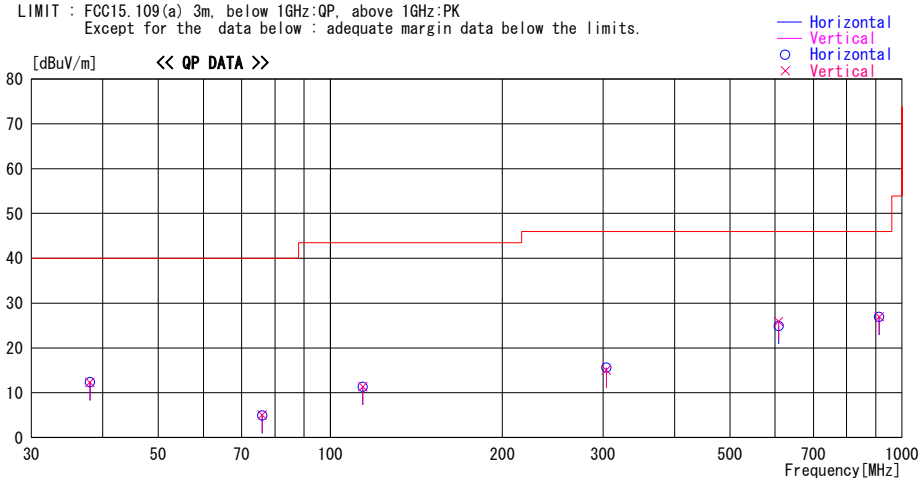
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : TPMS Receiving mode(314.98MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
38.000	22.6	QP	14.8	-25.0	12.4	0	300	Hori.	40.0	27.6	
38.000	22.5	QP	14.8	-25.0	12.3	0	100	Vert.	40.0	27.7	
76.000	22.9	QP	6.4	-24.4	4.9	0	300	Hori.	40.0	35.1	
76.000	23.1	QP	6.4	-24.4	5.1	0	100	Vert.	40.0	34.9	
114.000	22.9	QP	12.2	-23.8	11.3	0	300	Hori.	43.5	32.2	
114.000	23.0	QP	12.2	-23.8	11.4	0	100	Vert.	43.5	32.1	
304.080	22.5	QP	14.4	-21.8	15.1	224	136	Vert.	46.0	30.9	
304.080	23.0	QP	14.4	-21.8	15.6	139	100	Hori.	46.0	30.4	
608.160	26.4	QP	19.6	-20.1	25.9	191	100	Vert.	46.0	20.1	
608.160	25.4	QP	19.6	-20.1	24.9	37	145	Hori.	46.0	21.1	
912.240	21.9	QP	22.5	-17.5	26.9	0	100	Hori.	46.0	19.1	
912.240	22.0	QP	22.5	-17.5	27.0	0	100	Vert.	46.0	19.0	

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)

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

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Radiated Emission

Variation No. 21, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

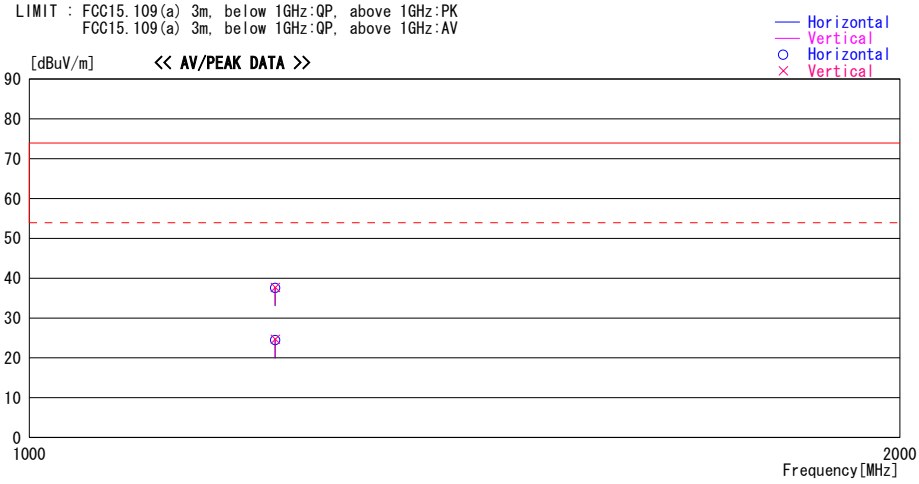
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : TPMS Receiving mode(314.98MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1216.320	44.4	PK	25.9	-32.7	37.6	0	100	Hori.	73.9	36.3	
1216.320	44.5	PK	25.9	-32.7	37.7	0	100	Vert.	73.9	36.2	
1216.320	31.5	AV	25.9	-32.7	24.7	0	100	Vert.	53.9	29.2	
1216.320	31.3	AV	25.9	-32.7	24.5	0	100	Hori.	53.9	29.4	

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

Radiated Emission

Variation No. 27, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

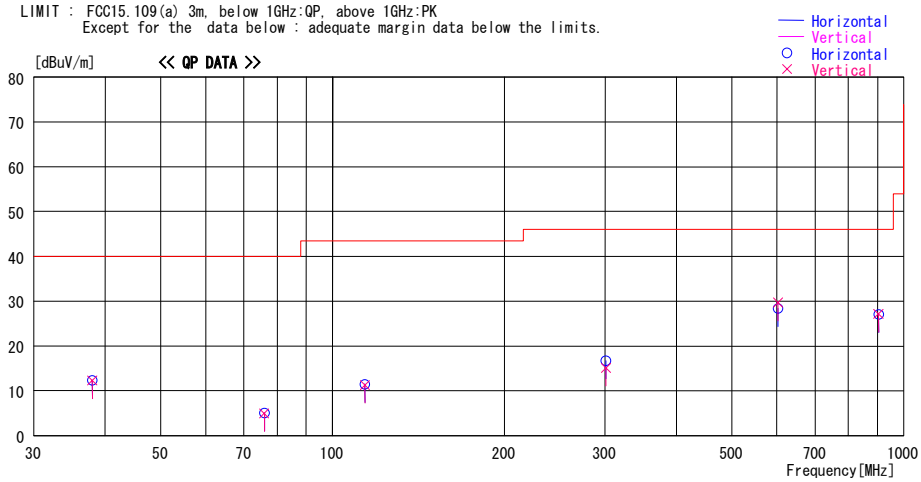
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(312.1MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.5	QP	14.8	-25.0	12.3	0	100	Vert.	40.0	27.7	
38.000	22.6	QP	14.8	-25.0	12.4	0	300	Hori.	40.0	27.6	
76.000	23.1	QP	6.4	-24.4	5.1	0	300	Hori.	40.0	34.9	
76.000	23.0	QP	6.4	-24.4	5.0	0	100	Vert.	40.0	35.0	
114.000	23.1	QP	12.2	-23.8	11.5	0	300	Hori.	43.5	32.0	
114.000	22.9	QP	12.2	-23.8	11.3	0	100	Vert.	43.5	32.2	
301.200	22.6	QP	14.3	-21.8	15.1	64	100	Vert.	46.0	30.9	
301.200	24.2	QP	14.3	-21.8	16.7	6	104	Hori.	46.0	29.3	
602.400	29.0	QP	19.5	-20.1	28.4	42	140	Hori.	46.0	17.6	
602.400	30.3	QP	19.5	-20.1	29.7	187	100	Vert.	46.0	16.3	
903.600	22.1	QP	22.5	-17.5	27.1	0	100	Hori.	46.0	18.9	
903.600	22.2	QP	22.5	-17.5	27.2	0	100	Vert.	46.0	18.8	

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)

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

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Radiated Emission

Variation No. 27, Internal Antenna

(Reference data)

-

DATA OF RADIATED EMISSION TEST

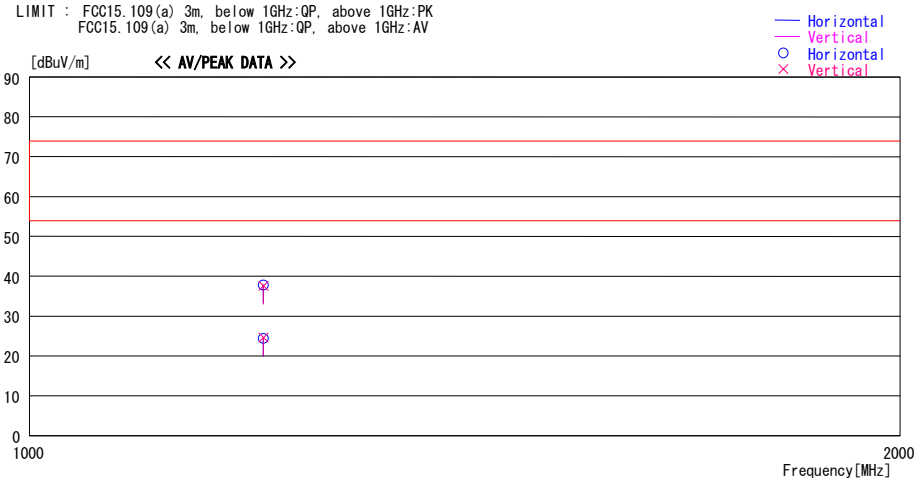
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(312.1MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1204.800	44.7	PK	25.8	-32.7	37.8	0	100	Hori.	73.9	36.1	
1204.800	44.5	PK	25.8	-32.7	37.6	0	100	Vert.	73.9	36.3	
1204.800	31.5	AV	25.8	-32.7	24.6	0	100	Vert.	53.9	29.3	
1204.800	31.4	AV	25.8	-32.7	24.5	0	100	Hori.	53.9	29.4	

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

Radiated Emission

Variation No. 27, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

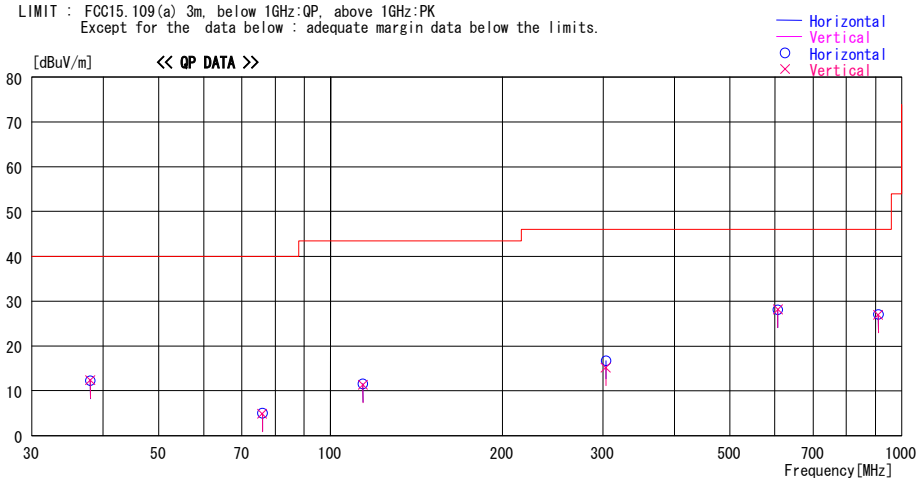
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/18

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(314.35MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



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
38.000	22.6	QP	14.8	-25.0	12.4	0	100	Vert.	40.0	27.6	
38.000	22.5	QP	14.8	-25.0	12.3	0	300	Hori.	40.0	27.7	
76.000	23.0	QP	6.4	-24.4	5.0	0	300	Hori.	40.0	35.0	
76.000	22.9	QP	6.4	-24.4	4.9	0	100	Vert.	40.0	35.1	
114.000	23.2	QP	12.2	-23.8	11.6	0	300	Hori.	43.5	31.9	
114.000	23.0	QP	12.2	-23.8	11.4	0	100	Vert.	43.5	32.1	
303.450	22.6	QP	14.4	-21.8	15.2	73	123	Vert.	46.0	30.8	
303.450	24.1	QP	14.4	-21.8	16.7	10	100	Hori.	46.0	29.3	
606.900	28.6	QP	19.6	-20.1	28.1	42	139	Hori.	46.0	17.9	
606.900	28.7	QP	19.6	-20.1	28.2	201	100	Vert.	46.0	17.8	
910.350	22.1	QP	22.5	-17.5	27.1	0	100	Hori.	46.0	18.9	
910.350	22.0	QP	22.5	-17.5	27.0	0	100	Vert.	46.0	19.0	

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)

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

Radiated Emission

Variation No. 27, Internal Antenna

(Reference data)

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DATA OF RADIATED EMISSION TEST

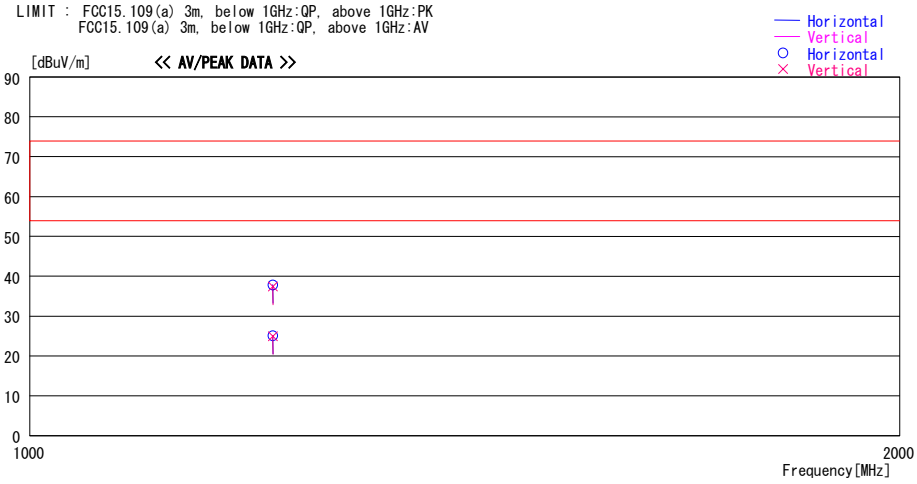
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : RKES Receiving mode(314.35MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



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
1213.800	44.6	PK	25.9	-32.7	37.8	0	100	Hori.	73.9	36.1	
1213.800	44.2	PK	25.9	-32.7	37.4	0	100	Vert.	73.9	36.5	
1213.800	31.8	AV	25.9	-32.7	25.0	0	100	Vert.	53.9	28.9	
1213.800	31.9	AV	25.9	-32.7	25.1	0	100	Hori.	53.9	28.8	

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)

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

Radiated Emission

Variation No. 27, Internal Antenna

(Reference data)

DATA OF RADIATED EMISSION TEST

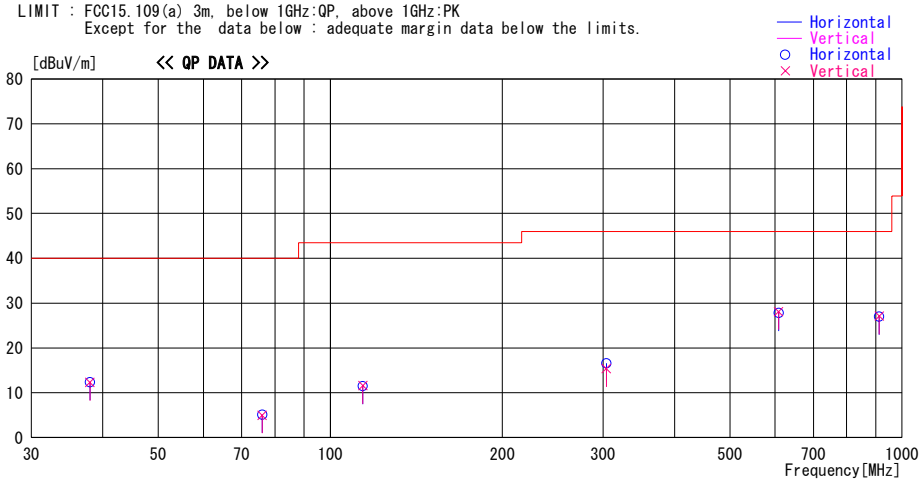
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 55%
Engineer : Hiroyuki Furutaka

Mode / Remarks : TPMS Receiving mode(314.98MHz), Int Ant, Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
38.000	22.5	QP	14.8	-25.0	12.3	0	100	Vert.	40.0	27.7	
38.000	22.6	QP	14.8	-25.0	12.4	0	300	Hori.	40.0	27.6	
76.000	23.1	QP	6.4	-24.4	5.1	0	300	Hori.	40.0	34.9	
76.000	23.0	QP	6.4	-24.4	5.0	0	100	Vert.	40.0	35.0	
114.000	23.1	QP	12.2	-23.8	11.5	0	300	Hori.	43.5	32.0	
114.000	23.2	QP	12.2	-23.8	11.6	0	100	Vert.	43.5	31.9	
304.080	22.8	QP	14.4	-21.8	15.4	37	158	Vert.	46.0	30.6	
304.080	24.0	QP	14.4	-21.8	16.6	14	100	Hori.	46.0	29.4	
608.160	28.3	QP	19.6	-20.1	27.8	40	142	Hori.	46.0	18.2	
608.160	28.6	QP	19.6	-20.1	28.1	179	100	Vert.	46.0	17.9	
912.240	22.0	QP	22.5	-17.5	27.0	0	100	Hori.	46.0	19.0	
912.240	22.1	QP	22.5	-17.5	27.1	0	100	Vert.	46.0	18.9	

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

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Radiated Emission

Variation No. 27, Internal Antenna
(Reference data)

DATA OF RADIATED EMISSION TEST

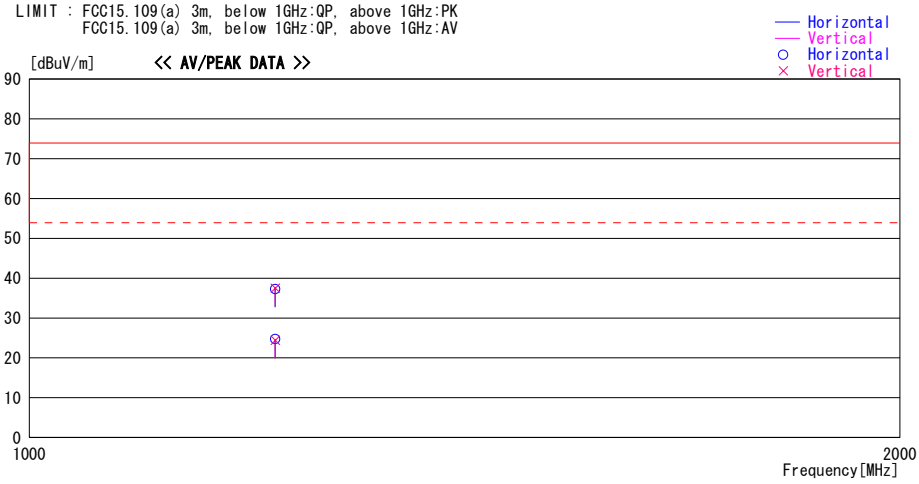
UL Japan, Inc. Head Office EMC Lab. No.3 Semi Anechoic Chamber
Date : 2010/08/19

Report No. : 30KE0046-HO-01

Temp./Humi. : 23deg.C. / 62%
Engineer : Hiroyuki Furutaka

Mode / Remarks : TPMS Receiving mode(314.98MHz), Int Ant. Worst axis(Hor:Z-axis, Ver:X-axis)

LIMIT : FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:PK
FCC15.109(a) 3m, below 1GHz:QP, above 1GHz:AV



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV/m]	[Deg]	[cm]		[dBuV/m]	[dB]	
1216.320	44.1	PK	25.9	-32.7	37.3	0	100	Hori.	73.9	36.6	
1216.320	44.3	PK	25.9	-32.7	37.5	0	100	Vert.	73.9	36.4	
1216.320	31.2	AV	25.9	-32.7	24.4	0	100	Vert.	53.9	29.5	
1216.320	31.5	AV	25.9	-32.7	24.7	0	100	Hori.	53.9	29.2	

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

Antenna Terminal Conducted Emission

Variation No. 3

DATA OF RADIATED EMISSION TEST

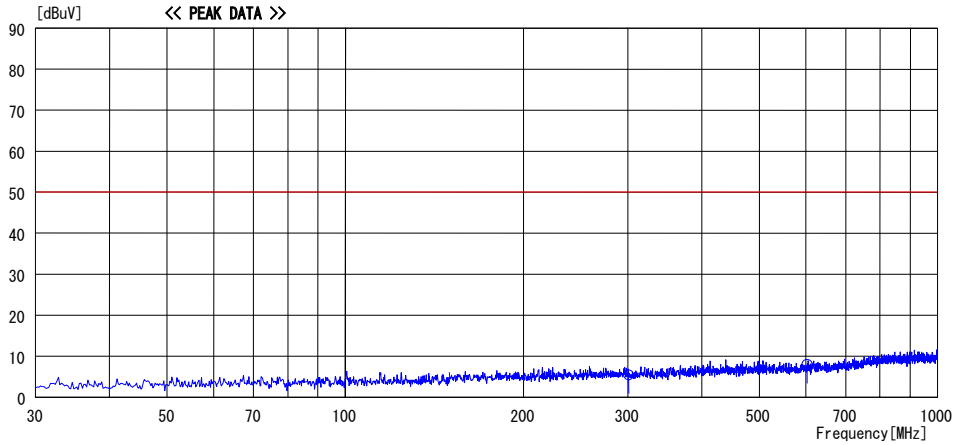
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/08/08

Report No. : 30KE0046-HO-01

Temp./Humi. : 25deg.C / 54%
Engineer : Takayuki Shimada

Mode / Remarks : RKES Receiving mode(312.1MHz), RBW/VBW:100kHz/300kHz(below 1GHz), 1MHz/3MHz(above 1GHz)

LIMIT : FCC15.111 Antenna terminal measurement
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV]	[Deg]	[cm]		[dBuV]	[dB]	
301.200	27.7	PK	-	-22.2	5.5	0	100	Hori.	50.0	44.5	
602.400	28.6	PK	-	-20.6	8.0	0	100	Hori.	50.0	42.0	

CALCULATION:RESULT = READING + LOSS(CABLE+ATTEN.) - GAIN(AMP)

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

Antenna Terminal Conducted Emission

Variation No. 3

DATA OF RADIATED EMISSION TEST

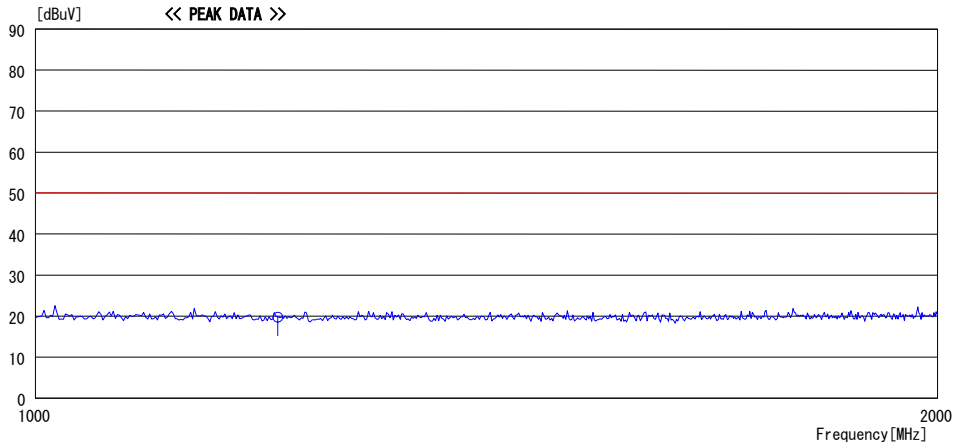
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/08/08

Report No. : 30KE0046-HO-01

Temp./Humi. : 25deg.C / 54%
Engineer : Takayuki Shimada

Mode / Remarks : RKES Receiving mode(312.1MHz), RBW/VBW:100kHz/300kHz(below 1GHz), 1MHz/3MHz(above 1GHz)

LIMIT : FCC15.111 Antenna terminal measurement
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV]	[Deg]	[cm]		[dBuV]	[dB]	
1204.800	43.1	PK	-	-23.4	19.7	0	100	Hori.	50.0	30.3	

CALCULATION:RESULT = READING + LOSS(CABLE+ATTEN.) - GAIN(AMP)

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

Antenna Terminal Conducted Emission

Variation No. 3

DATA OF RADIATED EMISSION TEST

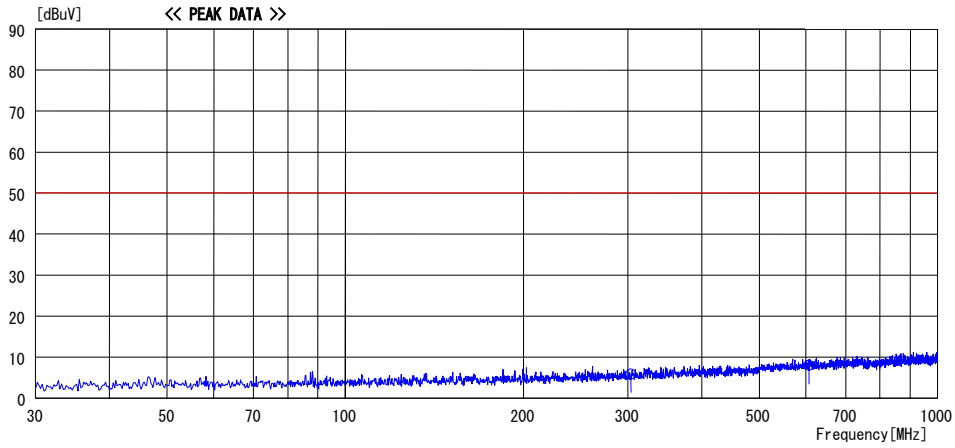
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/08/08

Report No. : 30KE0046-HO-01

Temp./Humi. : 25deg.C / 54%
Engineer : Takayuki Shimada

Mode / Remarks : RKES Receiving mode(314.35MHz), RBW/VBW:100kHz/300kHz(below 1GHz), 1MHz/3MHz(above 1GHz)

LIMIT : FCC15.111 Antenna terminal measurement
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV]	[Deg]	[cm]		[dBuV]	[dB]	
303.450	28.1	PK	-	-22.2	5.9	0	100	Hori.	50.0	44.1	
606.900	28.6	PK	-	-20.6	8.0	0	100	Hori.	50.0	42.0	

CALCULATION:RESULT = READING + LOSS(CABLE+ATTEN.) - GAIN(AMP)

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

Antenna Terminal Conducted Emission

Variation No. 3

DATA OF RADIATED EMISSION TEST

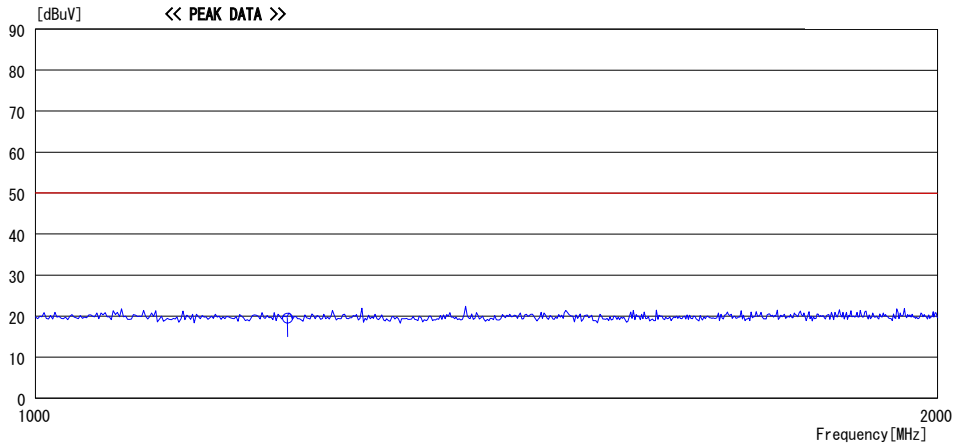
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/08/08

Report No. : 30KE0046-HO-01

Temp./Humi. : 25deg.C / 54%
Engineer : Takayuki Shimada

Mode / Remarks : RKES Receiving mode(314.35MHz), RBW/VBW:100kHz/300kHz(below 1GHz), 1MHz/3MHz(above 1GHz)

LIMIT : FCC15.111 Antenna terminal measurement
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV]	[Deg]	[cm]		[dBuV]	[dB]	
1213.800	43.0	PK	-	-23.4	19.6	0	100	Hori.	50.0	30.4	

CALCULATION:RESULT = READING + LOSS(CABLE+ATTEN.) - GAIN(AMP)

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

Antenna Terminal Conducted Emission

Variation No. 5

DATA OF RADIATED EMISSION TEST

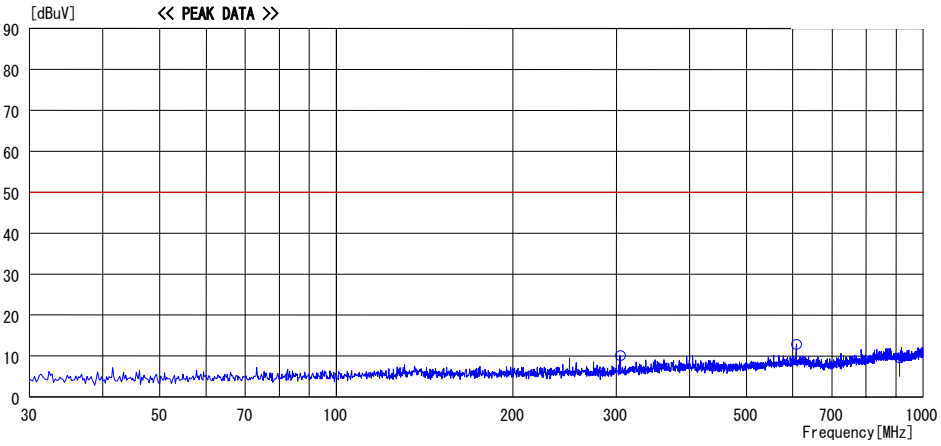
UL Japan, Inc. Head Office EMC Lab. No.4 Semi Anechoic Chamber
Date : 2010/09/30

Report No. : 30KE0046-HO-01

Temp./Humi. : 25deg.C / 54%
Engineer : Tomohisa Nakagawa

Mode / Remarks : TPMS Receiving mode(314.98MHz), RBW/VBW:100kHz/300kHz(below 1GHz), 1MHz/3MHz(above 1GHz)

LIMIT : FCC15.111 Antenna terminal measurement
Except for the data below : adequate margin data below the limits.



Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV]	[Deg]	[cm]		[dBuV]	[dB]	
304.080	32.3	PK	-	-22.2	10.1	0	100	Hori.	50.0	39.9	
608.160	33.4	PK	-	-20.6	12.8	0	100	Hori.	50.0	37.2	
912.240	28.0	PK	-	-18.4	9.6	0	100	Hori.	50.0	40.4	

CALCULATION:RESULT = READING + LOSS(CABLE+ATTEN.) - GAIN(AMP)

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

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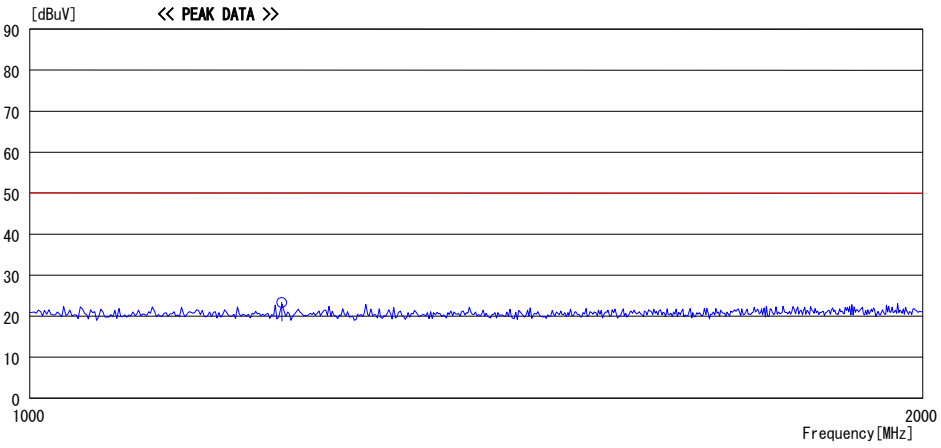

Frequency	Reading	DET	Antenna Factor	Loss& Gain	Level	Angle	Height	Polar.	Limit	Margin	Comment
[MHz]	[dBuV]		[dB/m]	[dB]	[dBuV]	[Deg]	[cm]		[dBuV]	[dB]	
1216.320	46.8	PK	-	-23.4	23.4	0	100	Hori.	50.0	26.6	

CALCULATION:RESULT = READING + LOSS(CABLE+ATTEN.) - GAIN(AMP)

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

APPENDIX 3: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MOS-23	Thermo-Hygrometer	Custom	CTH-201	0004	AT	2009/12/22 * 12
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	AT/RE	-
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	AT	2010/02/03 * 12
MPA-14	Pre Amplifier	SONOMA INSTRUMENT	310	260833	AT	2010/03/05 * 12
MCC-50	Coaxial cable	UL Japan	-	-	AT	2010/03/18 * 12
MAT-51	Attenuator(6dB)	Weinschel	2	AS3557	AT	2010/01/20 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	AT	2010/03/16 * 12
MCC-114	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	290212/4	AT	2010/08/05 * 12
MAT-22	Attenuator(10dB) 1-18GHz	Orient Microwave	BX10-0476-00	-	AT	2010/03/01 * 12
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2010/02/01 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE	2010/02/09 * 12
MJM-06	Measure	PROMART	SEN1955	-	RE	-
MSA-09	Spectrum Analyzer	Advantest	R3273	95090115	RE	2009/12/11 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	RE	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
MPA-13	Pre Amplifier	SONOMA INSTRUMENT	310	260834	RE	2010/03/23 * 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
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE	2009/11/20 * 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:
RE: Radiated emission
AT: Antenna Terminal Conducted test