

Data of Conducted Disturbance Test

UL Japan, Inc.

YOKOWA No.2 Shielded room

Report No. : 31LE0201-YW-01

Power : DC5.0V/0.5A
 Mode : Running
 Remarks : PC AC Line
 Date : 7/19/2011
 Phase : Single Phase
 Temperature : 26 °C Engineer : Hiroyuki Furutaka
 Humidity : 68 %
 Limit : FCC Part15B CLASS B (CISPR)

No.	FREQ. [MHz]	READING (N)		READING (L1)		LISN FACTOR [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
		QP [dB μ V]	AV [dB μ V]	QP [dB μ V]	AV [dB μ V]				QP [dB]	AV [dB μ V]	QP [dB μ V]	AV [dB μ V]	QP [dB μ V]	AV [dB]
1.	0.1500	21.3	-	21.1	-	9.7	0.1	0.0	31.1	-	66.0	56.0	34.9	-
2.	0.2440	23.3	-	24.0	-	9.6	0.1	0.0	33.7	-	62.0	52.0	28.3	-
3.	0.4894	8.0	-	15.7	-	9.7	0.1	0.0	25.5	-	56.2	46.2	30.7	-
4.	4.0501	24.5	-	24.7	-	9.7	0.4	0.0	34.8	-	56.0	46.0	21.2	-
5.	7.6650	31.7	23.0	31.5	22.6	9.8	0.5	0.0	42.0	33.3	60.0	50.0	18.0	16.7
6.	17.7521	20.5	-	21.5	-	10.0	0.7	0.0	32.2	-	60.0	50.0	27.8	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

Except for the above table: adequate margin data below the limits.

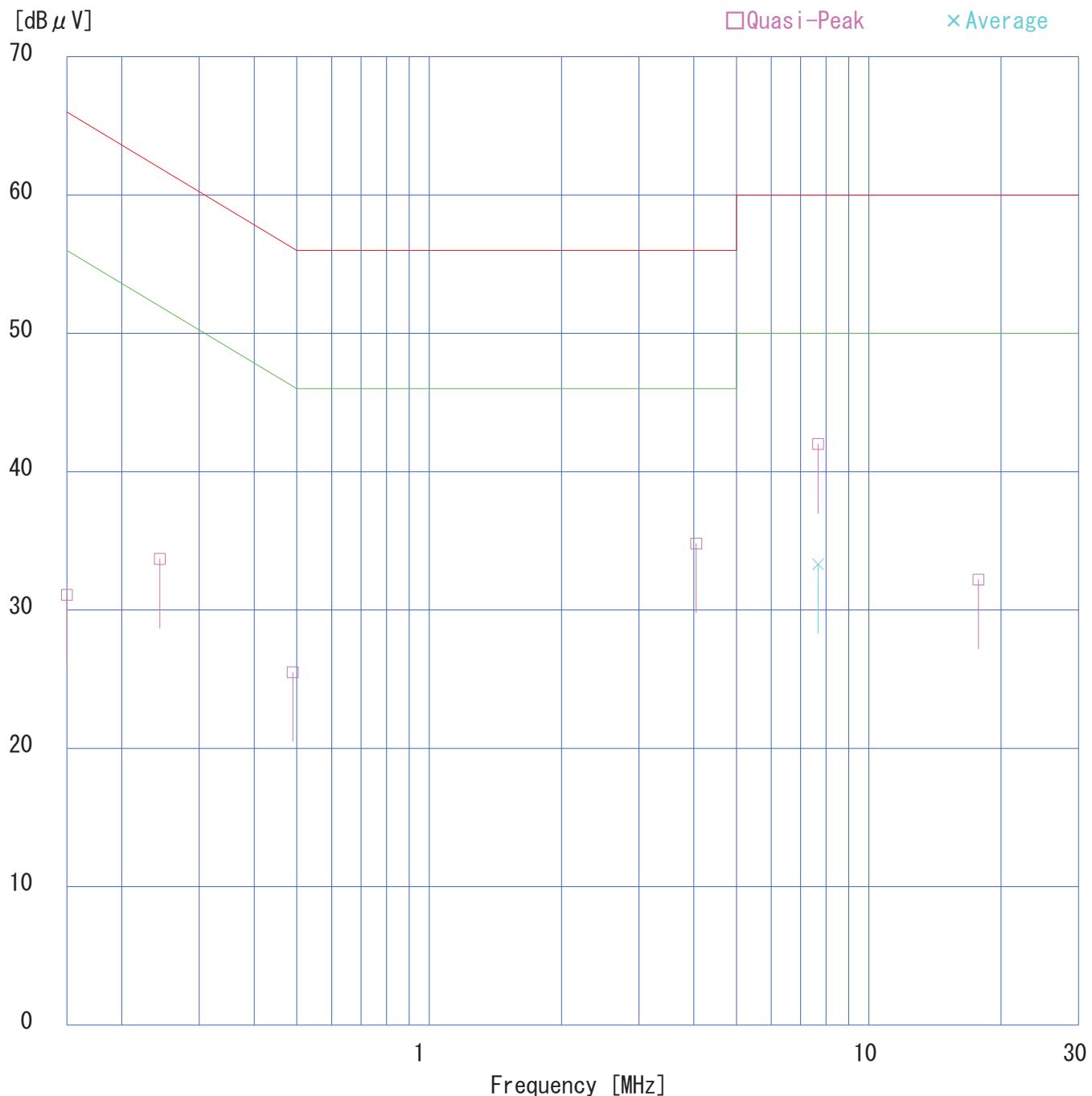
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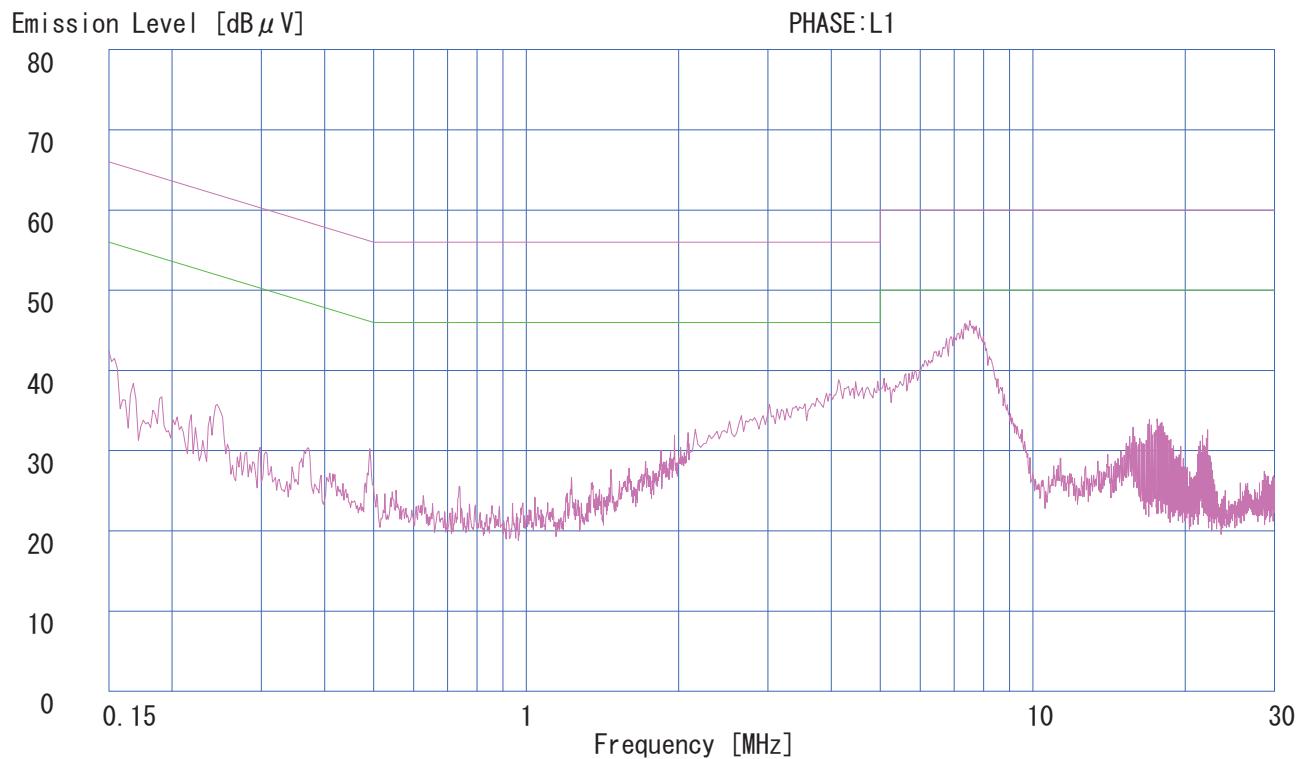
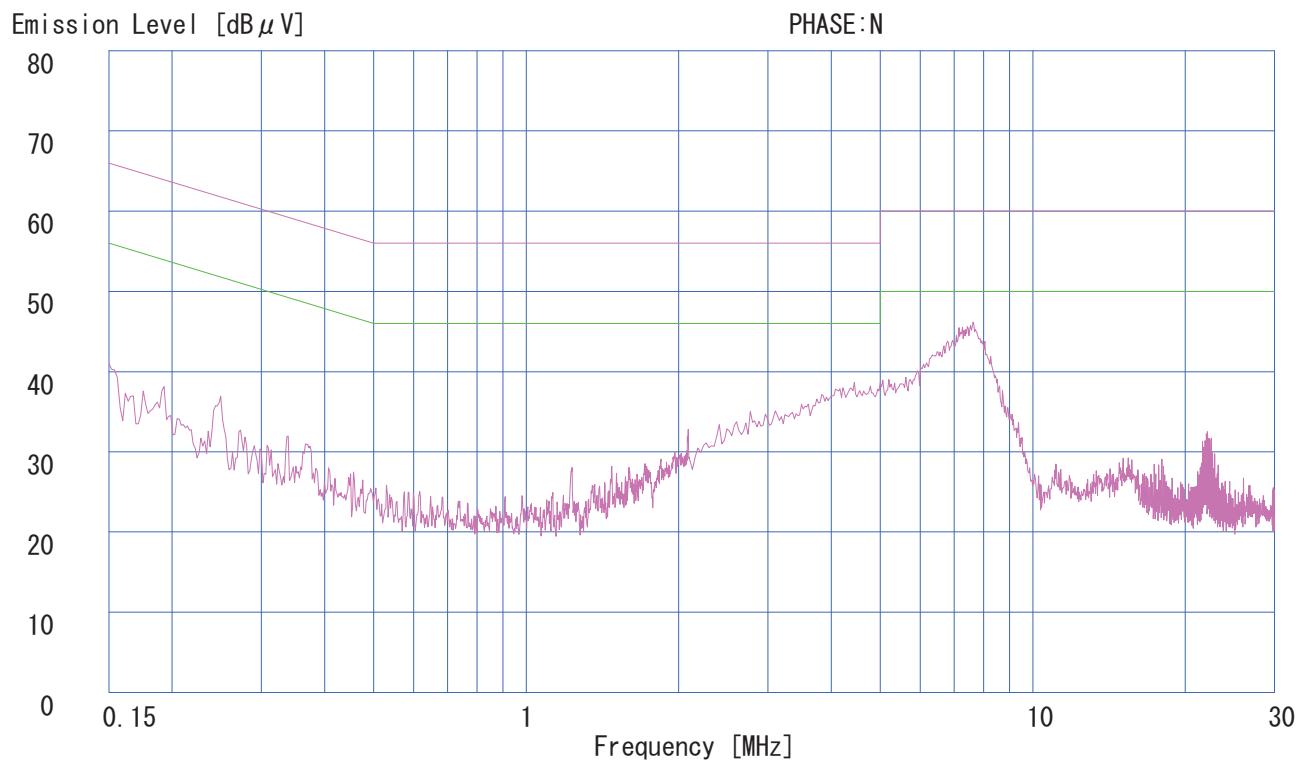
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Mode	: Running
Remarks	: PC AC Line
Date	: 7/19/2011
Phase	: Single Phase
Temperature	: 26 °C
Humidity	: 68 %
Limit 1	: FCC Part15B CLASS B(CISPR)
Limit 2	: None

Engineer : Hiroyuki Furutaka



Data of Radiated Disturbance Test

UL Japan, Inc.

YOKOWA No.2 Open area test site

Report No. : 31LE0201-YW-01

Power : DC5.0V/0.5A
 Mode : Running
 Remarks : -
 Date : 7/19/2011
 Test Distance : 3 m
 Temperature : 22 °C
 Humidity : 65 %
 Limit : FCC Part15B CLASS B Engineer : Hiroyuki Furutaka

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	60.00	BB	--	38.8	8.6	29.8	1.4	5.9	--	24.9	40.0	**	15.1
2.	84.01	BB	--	36.3	7.4	29.8	1.7	6.0	--	21.6	40.0	**	18.4
3.	90.00	BB	--	35.5	8.6	29.8	1.8	6.0	--	22.1	43.5	**	21.4
4.	100.25	BB	--	40.4	10.8	29.9	1.9	6.0	--	29.2	43.5	**	14.3
5.	150.00	BB	31.2	34.4	15.0	29.8	2.3	6.0	24.7	27.9	43.5	18.8	15.6
6.	180.00	BB	26.4	31.1	16.4	29.8	2.6	6.0	21.6	26.3	43.5	21.9	17.2
7.	194.00	BB	24.5	--	17.0	29.8	2.7	6.0	20.4	--	43.5	23.1	**
8.	214.00	BB	--	26.7	17.5	29.8	2.8	6.0	--	23.2	43.5	**	20.3
9.	227.20	BB	24.0	22.7	17.6	29.8	2.9	6.0	20.7	19.4	46.0	25.3	26.6
10.	241.03	BB	25.0	--	17.8	29.9	3.0	6.0	21.9	--	46.0	24.1	**
11.	299.99	BB	--	32.2	19.4	30.0	3.5	6.0	--	31.1	46.0	**	14.9
12.	437.20	BB	29.1	40.6	18.6	30.4	4.5	2.9	24.7	36.2	46.0	21.3	9.8
13.	480.00	BB	30.0	37.1	19.0	30.5	4.8	2.9	26.2	33.3	46.0	19.8	12.7
14.	500.00	BB	--	30.0	19.2	30.5	4.9	2.9	--	26.5	46.0	**	19.5
15.	552.00	BB	--	32.1	19.9	30.4	5.2	2.9	--	29.7	46.0	**	16.3
16.	691.25	BB	--	22.9	20.6	30.3	6.5	2.9	--	22.6	46.0	**	23.4
17.	720.00	BB	--	32.2	21.1	30.2	6.8	2.9	--	32.8	46.0	**	13.2

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

Except for the above table : adequate margin data below the limits.

ANT TYPE : 30~299.99MHz Biconical, 300.00~1000MHz Logperiodic

** : enough margin compared to another polarized wave data.

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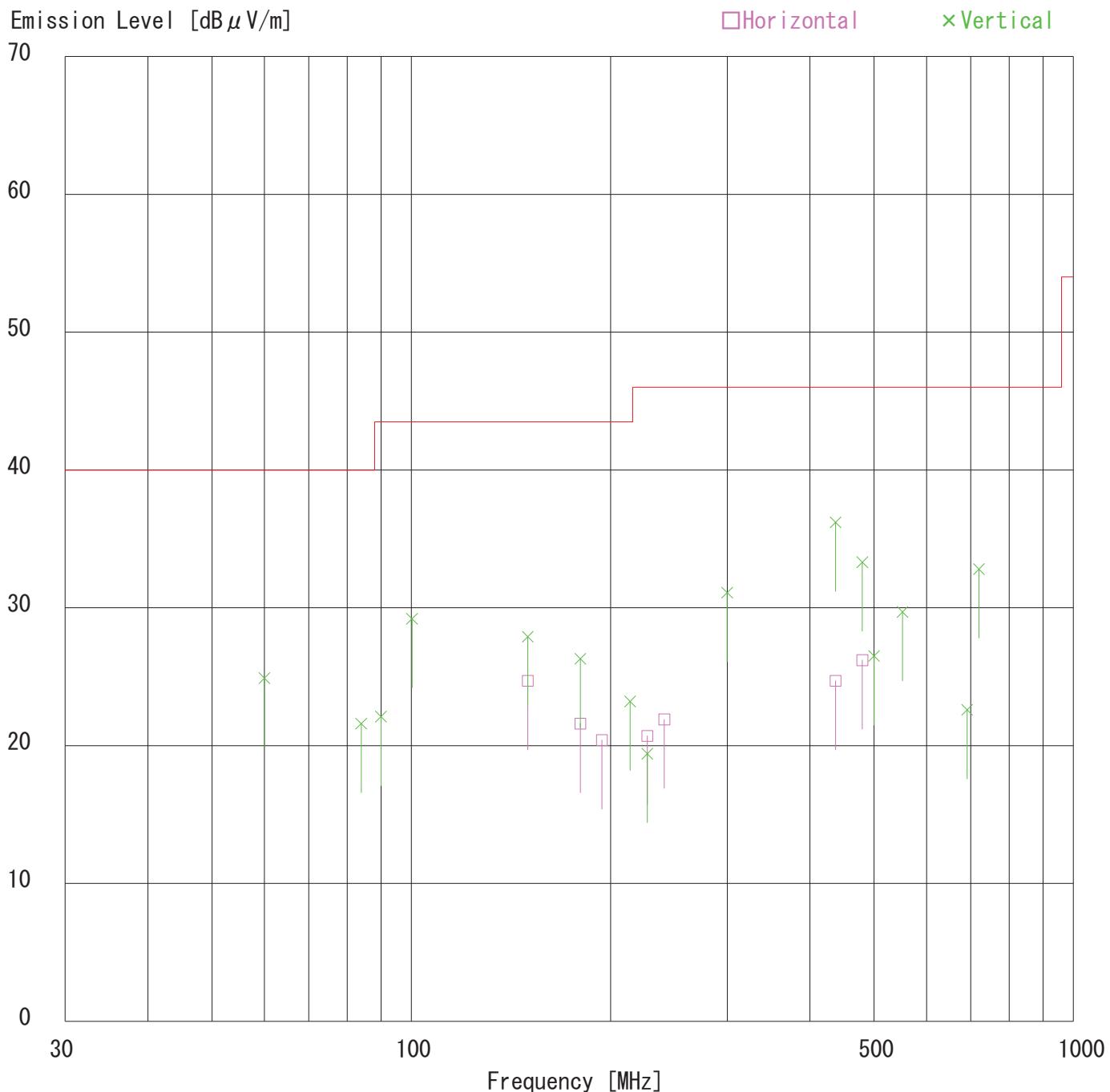
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 Limit : FCC Part15B CLASS B

Engineer : Hiroyuki Furutaka



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Appendix 3
Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SA-11	Spectrum Analyzer	Advantest	R3273	110301212	CE, RE	2011/03/31 * 12
AF-03	Pre Amplifier	Anritsu	MH648A	M97457	RE	2011/03/17 * 12
APATT12	Attenuator	Anritsu	MP721B	M48667	RE	2011/06/07 * 12
AT-02	Attenuator	Anritsu	MP721A	6200239014	RE	2011/07/27 * 12
BA-04	Biconical Antenna	Schwarzbeck	BBA9106	1521	RE	2010/10/11 * 12
KLA-05	Logperiodic Antenna	Schwarzbeck	USLP9143	362	RE	2010/10/16 * 12
MTR-06	Test Receiver	Rohde & Schwarz	ESCS30	830245/011	CE, RE	2011/06/28 * 12
CC-20RC	Yokowa No.2 open coaxial(0.01-1000MHz)	UL Japan	CC-21,CC-22,CC-23,CC-24,CC-25,C-C-26,CC-27,SW-21,SW-22	YO0201	RE	2011/05/03 * 12
YOATS-02(NSA)	Open area test site	JSE	3m, 10m	2	RE	2011/05/03 * 12
CUST-YW-RE	Software for Radiated Emission	ULJ	-	-	RE	-
LS-12	LISN (AMN)	Rohde & Schwarz	ENV216	101055	CE(EUT)	2010/10/21 * 12
CC-2S	Yokowa No.2 shield coaxial(0.01MHz-1000MHz)	UL Japan	CC-25,CC-27,CC-28,CC-29,SW-21,SW-22	YS0201	CE	2011/06/10 * 12
CUST-YW-CE	Software for Conducted Emission	ULJ	-	-	CE	-
OS-10	Digital Humidity Indicator	SATO	PC-5000TRH	B-10	RE	2010/04/21 * 24
OS-15	Digital Humidity Indicator	SATO	PC-5000TRH	B-15	CE	2010/04/21 * 24
DM-02	Tester	SANWA	PC500	7019227	CE, RE	2011/06/06 * 12
YJM-11	Measure	Rubber KOMBE	GW-3H99W	-	CE, RE	-
SC-02	Search Coil	UL Japan	-	-	RE	-
LS-07	LISN(AMN)	Schwarzbeck	NSLK8126	8126137	CE	2011/06/09 * 12
TA-23	Terminator	Radiall	R404111000	-	CE	2011/06/07 * 12

The expiration date of the calibration is the end of the expired month .

As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards .

Test Item :

CE: Conducted emission ,

RE: Radiated emission