DATA OF CONDUCTION TEST

UL Japan, Inc.

YAMAKITA No.2 Shielded room Report No.: 30DE0267-YK-01-R1

Applicant : NIDEC SANKYO CORPORATION Kind of Equipment : Contactless IC card reader

Model No. I CMOMO Serial No. : R-9010008 Power : AC120V/60Hz

Mode : Transmitting (13.56MHz)

Remarks

: 11/27/2008 : Single Phase : 22 °C : 44 % Date Phase

Temperature Humidity Engineer : Tatsuya Arai

: FCC Part15C § 15.207. (CISPR Pub.22) Regulation

No.	FREQ.	READIN		READIN				ATTEN.	RES		LIM	ITS	MAR	
	[MHz]	QP [dB μ]	AV V] 	QP [dΒ μ	AV V]	FACTOR [dB]	LOSS [dB]	[dB]	QP [dB]	AV [dE	QP [μ V]	ΑV [dB μ	QP ι V] 	AV [dB]
1.	0.1500	34.8	_	34.8	_	0. 1	0.1	0.0	35.0	_	66.0	56.0	31.0	_
2.	1.5675	29.4	_	30.8	_	0.2	0.2	0.0	31.2	_	56.0	46.0	24.8	_
3.	2.3517	33. 5	_	32.0	_	0.2	0.2	0.0	33.9	_	56.0	46.0	22. 1	_
4.	3. 1379	29.0	_	32. 1	_	0.2	0.2	0.0	32.5	_	56.0	46.0	23. 5	_
5.	5. 3322	38. 2	_	37.5	_	0.3	0.3	0.0	38.8	_	60.0	50.0	21. 2	_
6.	10.6669	38. 5	_	36.6	_	0.6	0.5	0.0	39.6	_	60.0	50.0	20.4	_
7.	13.5600	33.4	_	31.9	_	0.8	0.5	0.0	34. 7	_	60.0	50.0	25. 3	_
8.	21.3361	41.7	_	39.6	_	1. 1	0.7	0.0	43.5	_	60.0	50.0	16.5	_
9.	26.6680	28. 7	_	32.8	-	1.3	0.8	0.0	34. 9	_	60.0	50.0	25. 1	-

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

■LISN:KLS-05 (NSLK8126) ■ COAXIAL CABLE:KCC-33_34 ■EMI RECEIVER:KTR-03 (ESHS10)

DATA OF CONDUCTION TEST

UL Japan, Inc.

YAMAKITA No.2 Shielded room Report No.: 30DE0267-YK-01-R1

Applicant : NIDEC SANKYO CORPORATION Kind of Equipment : Contactless IC card reader

Model No. : ICMOMO Serial No. R-9010008 Power : AC120V/60Hz

Mode : Transmitting (13.56MHz)

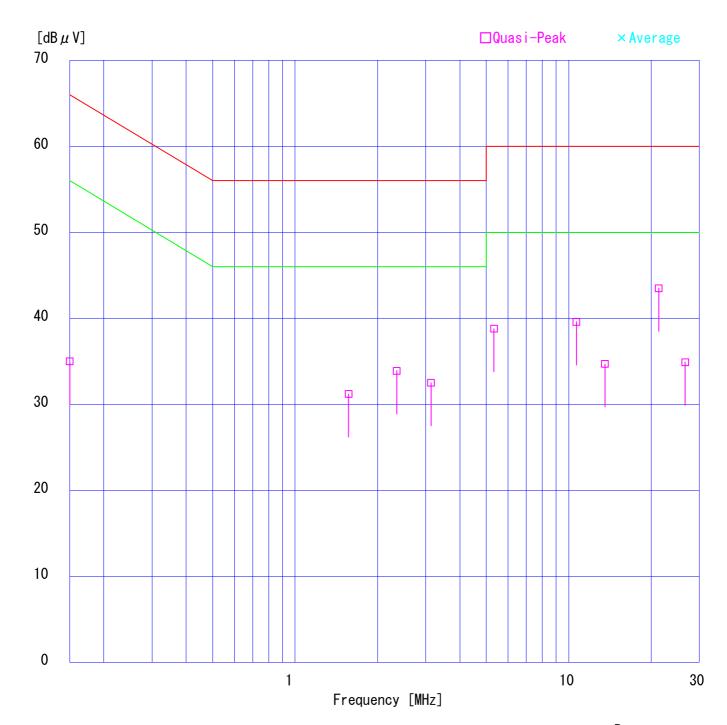
Remarks

: 11/27/2008 : Single Phase : 22 °C : 44 % Date Phase

Engineer : Tatsuya Arai

Temperature Humidity

: FCC Part15C § 15. 207. (CISPR Pub. 22) Regulation



DATA OF CONDUCTION TEST CHART

UL Japan, Inc.

PHASE: N

YAMAKITA No.2 Shielded room Report No.: 30DE0267-YK-01-R1

Applicant : NIDEC SANKYO CORPORATION Kind of Equipment : Contactless IC card reader

Model No. I CMOMO R-9010008 Serial No. AC120V/60Hz Power

Mode Transmitting (13.56MHz)

Remarks

Date 11/27/2008 : Single Phase : 22 °C : 44 % Phase

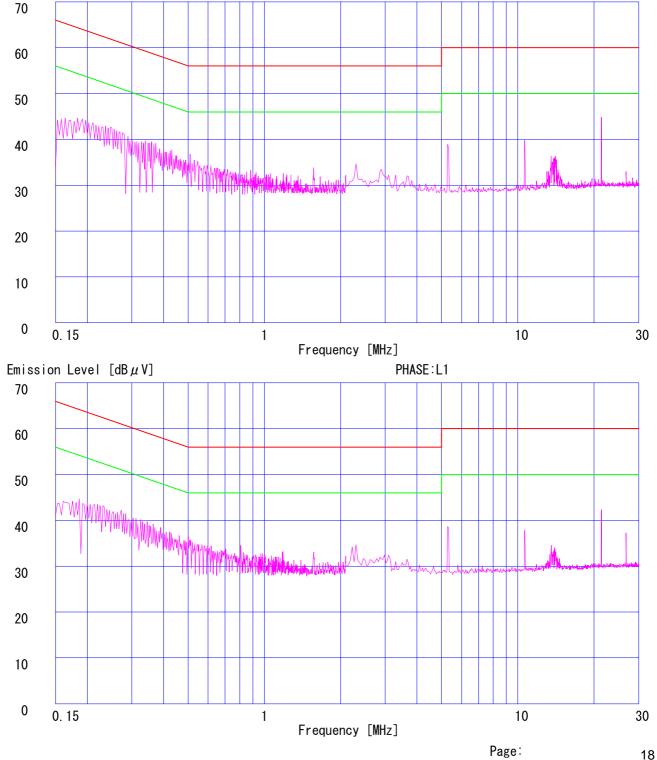
Temperature Engineer : Tatsuya Arai

Humidity

: FCC Part15C § 15. 207. (CISPR Pub. 22) Regulation 1

Regulation 2 : None

Emission Level [dB μ V]



Data of Field Strength and Outside Fileld Strength: FCC15.225(a)(b)(c)

UL Japan, Inc.

YAMAKITA No1 Anechoic Chamber

Company : NIDEC SANKYO CORPORATION Report No. : 30DE0267-YK-01-R1

Equipment : Contactless IC card reader Regulation : FCC Part15 SupartC 15.225(a)(b)(c)

 Model
 : ICM0M0
 Test Distance
 : 3m

 Sample No.
 : R-9010008
 Date
 : 2009/12/22

 Power
 : DC24V
 Temperature
 : 22deg.C

Power : DC24V Temperature : 22deg.C Mode : Transmitting (13.56MHz) Humidity : 43%

ENGINEER : Takahiro Suzuki

Field strength

Г	No.	FREQ	T/R R	eading	ANT	ATTEN	CABLE	AMP	RES	ULT	LIMIT	MA	ARGIN
					Factor		LOSS	GAIN			(3m)		
			Н	V					Hor	Ver		Hor	Ver
		[MHz]	[dBuV]	[dBuV]	[dB]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m	[dBuV/m]	[dB]	[dB]
Ī	1	13.560	58.1	68.0	19.8	6.0	0.7	28.3	56.3	66.2	124.0	67.7	57.8

Field strength of 13.553MHz to 13.567MHz Limit(3m) = 84dBuV/m + 40log 30m/3m= 124dBuV/m (FCC15.225(a))

Outside Field strength

No.	FREQ	T/R R	eading	ANT	ATTEN	CABLE	AMP	RES	SULT	LIMIT	MA	RGIN
				Factor		LOSS	GAIN			(3m)		
		Н	V					Hor	Ver		Hor	Ver
	[MHz]	[dBuV]	[dBuV]	[dB]	[dB]	[dB]	[dB]	[dBuV/m	[dBuV/m]	[dBuV/m]	[dB]	[dB]
1	13.110	26.2	26.1	19.8	6.0	0.7	28.3	24.4	24.3	69.5	45.1	45.2
2	13.410	26.3	26.2	19.8	6.0	0.7	28.3	24.5	24.4	80.5	56.0	56.1
3	13.553	38.7	57.1	19.8	6.0	0.7	28.3	36.9	55.3	90.5	53.6	35.2
4	13.567	32.0	48.1	19.8	6.0	0.7	28.3	30.2	46.3	90.5	60.3	44.2
5	13.710	26.3	32.2	19.8	6.0	0.7	28.3	24.5	30.4	80.5	56.0	50.1
6	14.010	26.2	26.3	19.8	6.0	0.7	28.3	24.4	24.5	69.5	45.1	45.0

Outside filed strength frequencies

- ·filed strength band Fc±7kHz:13.553MHz to 13.567MHz
- •Outside filde strength Fc±150kHz:13.410MHz to 13.710MHz
- •Outside filde strength Fc±450kHz:13.110MHz to 14.010MHz Fc = 13.56MHz

Limits (3m)

- \cdot 13.410MHz to 13.553MHz and 13.567MHz to 13.710MHz : 50.5dBuV/m + 40log30m/3m = 90.5dBuV/m (FCC15.225(b))
- \cdot 13.110MHz to 14.010MHz and 13.710MHz to 14.010MHz : 40.5dBuV/m + 40log30m/3m = 80.5dBuV/m (15.225(c))
- \cdot Below 13.110MHz and Above 14.010MHz : 29.5dBuV/m + 40log30m/3m = 69.5dBuV/m (FCC15.225(d)and FCC15.209)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 Semi-anechoic chamber Report No.: 30DE0267-YK-01-R1

Applicant : NIDEC SANKYO CORPORATION Type of Equipment Contactless IC card reader

Model No. I CMOMO Serial No. R-9010008 Power : DC24V

: Transmitting (13.56MHz) : Hor:Z, Ver:O° to 360° Mode Remarks

12/22/2009 Date

: 3 m : 22 °C : 43 % Test Distance Engineer : Takahiro Suzuki Temperature

Humidity : FCC Part15C § 15.209 9KHz-30MHz (3m) Limit

No.	FREQ. ANT TYPE	READING HOR VER $\left[\mathrm{dB}\mu\mathrm{V}\right]$	ANT FACTOR [dB/m]	GAIN	CABLE LOSS [dB]	ATTEN. [dB]	RESUL HOR [dB μ V/	VER	IMITS μV/m]	HOR	RGIN VER IB]
1.	0. 62 BB	38. 3 38. 0	19. 9	28. 2	0. 2	6. 0	29. 4	35. 9	71. 8	35. 6	35. 9
2.	1. 18 BB	31. 7 30. 4	19. 8	28. 3	0. 2	6. 0		28. 1	66. 2	36. 8	38. 1
3.	27. 12 BB	29. 9 33. 4	19. 2	28. 3	1. 0	6. 0		31. 3	69. 5	41. 7	38. 2

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN. Except for the above table : adequate margin data below the limits.

■ ANTENNA: KLP-01 ■ CABLE: KCC-30/31/32/34 ■ PREAMP: KAF-05 ■ EMI RECEIVER: KTR-03

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 Semi-anechoic chamber Report No.: 30DE0267-YK-01-R1

Applicant : NIDEC SANKYO CORPORATION Type of Equipment : Contactless IC card reader

Model No. : ICMOMO Serial No. : R-9010008 Power : DC24V

Mode : Transmitting (13.56MHz)

Remarks

Date

: 12/22/2009 : 3 m : 22 °C : 43 % Test Distance

Temperature Humidity Engineer : Takahiro Suzuki

: FCC Part15C § 15.209 Limit

No.	•	ANT TYPE	REAI HOR [dB]	VER	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESU HOR [dB μ V	VER	LIMITS BμV/m]	HOR	RGIN VER HB]
1.	40.68	BB	31. 2	36. 9	14. 4	28.6	1.3	6.0	24. 3	30.0	40.0	15. 7	10.0
2.	54. 24	BB	33. 1	39. 3	9. 9	28. 5	1. 5	6.0	22. 0	28. 2	40.0	18. 0	11.8
3.	58. 56	BB	41.8	49.4	8. 7	28.5	1. 5	6.0	29. 5	37. 1	40.0	10.5	2.9
4.	67.80	BB	43.9	52.0	7.0	28.6	1. 7	6.0	30.0	38. 1	40.0	10.0	1.9
5.	71.30	BB	41.3	52.5	6.6	28.6	1. 7	6.0	27.0	38. 2	40.0	13.0	1.8
6.	81.36	BB	42.7	44.4	6.6	28.5	1.9	6.0	28.7	30.4	40.0	11.3	9.6
7.	85.45	BB	51.2	50.2	7. 2	28.6	1.9	6.0	37. 7	36.7	40.0	2.3	3.3
8.	94. 92	BB	39.7	40.6	9.0	28.5	2. 1	6.0	28.3	29.2	43.5	15. 2	14.3
9.	108.48	BB	32.2	34. 5	11.5	28.4	2.2	6.0	23. 5	25.8	43.5	20.0	17.7
10.	122.04	BB	28.4	31.7	13. 4	28.4	2.4	6.0	21.8	25. 1	43.5	21.7	18.4
11.	135.60	BB	25.9	31.0	14. 2	28.3	2.5	6.0	20.3	25.4	43.5	23. 2	18.1
12.	256.02	BB	37.6	39.6	17.9	27.7	3. 7	6.0	37. 5	39.5	46.0	8. 5	6.5
13.	400.03	BB	48.6	41.9	17.0	28.4	5. 1	3.0	45. 3	38.6	46.0	0.7	7.4
14.	688. 02	BB	43. 9	37. 3	20. 4	29. 2	7. 0	3. 0	45. 1	38. 5	46. 0	0. 9	7. 5
15.	720.00	BB	41. 1	38. 9	20. 8	29. 2	7. 1	3. 0	42. 8	40.6	46. 0	3. 2	5. 4

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN. Except for the above table : adequate margin data below the limits.

■ ANT: KBA-03 (<300MHz) /KLA-03 ■ AMP: KAF-05 ■ RECEIVER: KTR-04

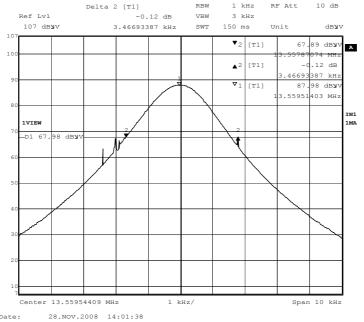
20dB bandwidth & Occupied bandwidth (99%): FCC 15.215(c)

UL Japan. Inc. Yamakita No2 Shield room
COMPANY: NIDEC SANKYO CORPORATION. REPORT No.: 30DE0267-YK-01-R1
Equipment: Contactless IC card reader: REGULATION: FCC Part15SubpartC 215(c)

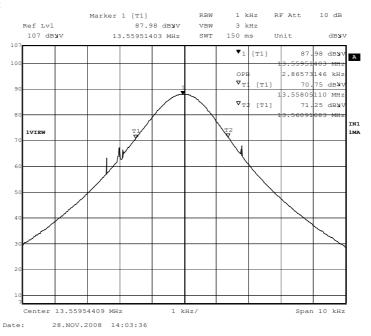
MODEL NUMBER: ICM0M0
SERIAL NUMBER: R8100005
POWER: DC24V
TEST MODE: Transmitting

ENGINEER : Tatsuya Arai

20dB Bandwidth: 3.467kHz



OBW(99%): 2.866kHz



Data of Frequency Tolerance: FCC 15.225(e)

UL Japan, Inc.

YAMAKITA No4 Shield room

: NIDEC SANKYO CORPORATION Company Report No.

: 30DE0267-YK-01-R1 Regulation

Equipment : Contactless IC card reader : FCC Part15 SupartC 15.225 (e)

Model : ICM0M0

Sample No. : R8100005 Date : 2008/11/27 Power : DC24V Temperature : 22deg.C Mode : Transmitting (13.56MHz) Humidity : 44%

> ENGINEER : Go Ishiwata

Temperature Variation: -20deg.C

	Original	Measure	Frequency	Frequency	Limit
Test Conditions	Frequency	Frequency	Error	torerance	
	(MHz)	(MHz)	(kHz)	(%)	(%)
startup	13.56	13.559767	-0.000233	-0.00172	0.01
after 2minutes	13.56	13.559781	-0.000219	-0.00162	0.01
after 5minutes	13.56	13.559791	-0.000209	-0.00154	0.01
after 10minutes	13.56	13.559792	-0.000208	-0.00153	0.01

Temperature Variation: -10deg.C

	Original	Measure	Frequency	Frequency	Limit
Test Conditions	Frequency	Frequency	Error	torerance	
	(MHz)	(MHz)	(kHz)	(%)	(%)
startup	13.56	13.559846	-0.000154	-0.00114	0.01
after 2minutes	13.56	13.559853	-0.000147	-0.00108	0.01
after 5minutes	13.56	13.5598	-0.000200	-0.00147	0.01
after 10minutes	13.56	13.559807	-0.000193	-0.00142	0.01

Temperature Variation: 0deg.C

	Original	Measure	Frequency	Frequency	Limit
Test Conditions	Frequency	Frequency	Error	torerance	
	(MHz)	(MHz)	(kHz)	(%)	(%)
startup	13.56	13.559775	-0.000225	-0.00166	0.01
after 2minutes	13.56	13.559785	-0.000215	-0.00159	0.01
after 5minutes	13.56	13.559787	-0.000213	-0.00157	0.01
after 10minutes	13.56	13.559761	-0.000239	-0.00176	0.01

Temperature Variation: 10deg.C

	Original	Measure	Frequency	Frequency	Limit
Test Conditions	Frequency	Frequency	Error	torerance	
	(MHz)	(MHz)	(kHz)	(%)	(%)
startup	13.56	13.559746	-0.000254	-0.00187	0.01
after 2minutes	13.56	13.559749	-0.000251	-0.00185	0.01
after 5minutes	13.56	13.559710	-0.000290	-0.00214	0.01
after 10minutes	13.56	13.559688	-0.000312	-0.00230	0.01

Data of Frequency Tolerance: FCC 15.225(e)

UL Japan, Inc.

YAMAKITA No4 Shield room

: NIDEC SANKYO CORPORATION Company Report No.

: 30DE0267-YK-01-R1 : Contactless IC card reader Regulation : FCC Part15 SupartC 15.225 (e)

Model : ICM0M0

Equipment

Sample No. : R8100005 Date : 2008/11/27 Power : DC24V Temperature : 22deg.C Mode : Transmitting (13.56MHz) Humidity : 44%

> ENGINEER : Go Ishiwata

Temperature Variation: 20deg.C

	Original	Measure	Frequency	Frequency	Limit
Test Conditions	Frequency	Frequency	Error	torerance	
	(MHz)	(MHz)	(kHz)	(%)	(%)
startup	13.56	13.559711	-0.000289	-0.00213	0.01
after 2minutes	13.56	13.559705	-0.000295	-0.00218	0.01
after 5minutes	13.56	13.559682	-0.000318	-0.00235	0.01
after 10minutes	13.56	13.559658	-0.000342	-0.00252	0.01

Temperature Variation: 30deg.C

	Original	Measure	Frequency	Frequency	Limit
Test Conditions	Frequency	Frequency	Error	torerance	
	(MHz)	(MHz)	(kHz)	(%)	(%)
startup	13.56	13.559697	-0.000303	-0.00223	0.01
after 2minutes	13.56	13.559723	-0.000277	-0.00204	0.01
after 5minutes	13.56	13.559666	-0.000334	-0.00246	0.01
after 10minutes	13.56	13.559651	-0.000349	-0.00257	0.01

Temperature Variation: 40deg.C

	Original	Measure	Frequency	Frequency	Limit
Test Conditions	Frequency	Frequency	Error	torerance	
	(MHz)	(MHz)	(kHz)	(%)	(%)
startup	13.56	13.559731	-0.000269	-0.00198	0.01
after 2minutes	13.56	13.559728	-0.000272	-0.00201	0.01
after 5minutes	13.56	13.559672	-0.000328	-0.00242	0.01
after 10minutes	13.56	13.559651	-0.000349	-0.00257	0.01

Temperature Variation: 50deg.C

	Original	Measure	Frequency	Frequency	Limit
Test Conditions	Frequency	Frequency	Error	torerance	
	(MHz)	(MHz)	(kHz)	(%)	(%)
startup	13.56	13.559744	-0.000256	-0.00189	0.01
after 2minutes	13.56	13.559768	-0.000232	-0.00171	0.01
after 5minutes	13.56	13.559731	-0.000269	-0.00198	0.01
after 10minutes	13.56	13.559655	-0.000345	-0.00254	0.01

Data of Frequency Tolerance: FCC 15.225(e)

UL Japan, Inc.

YAMAKITA No.4 Shield room

Company : NIDEC SANKYO CORPORATION Report No. : 30DE0267-YK-01-R1

Equipment : Contactless IC card reader Regulation : FCC Part15 SupartC 15.225 (e)

Model : ICM0M0

Sample No. : R8100005 Date : 2008/11/27 Power : DC24V Temperature : 22deg.C Mode : Transmitting (13.56MHz) Humidity : 44%

ENGINEER : Go Ishiwata

Input Voltage:DC20.4V

Temperature Variation: 20deg.C

	Original	Measure	Frequency	Frequency	Limit
Test Conditions	Frequency	Frequency	Error	torerance	
	(MHz)	(MHz)	(kHz)	(%)	(%)
startup	13.56	13.559885	-0.000115	-0.00085	0.01
after 2minutes	13.56	13.559862	-0.000138	-0.00102	0.01
after 5minutes	13.56	13.559805	-0.000195	-0.00144	0.01
after 10minutes	13.56	13.559782	-0.000218	-0.00161	0.01

Input Voltage:DC27.6V

Temperature Variation: 20deg.C

	Original	Measure	Frequency	Frequency	Limit
Test Conditions	Frequency	Frequency	Error	torerance	
	(MHz)	(MHz)	(kHz)	(%)	(%)
startup	13.56	13.559784	-0.000216	-0.00159	0.01
after 2minutes	13.56	13.559797	-0.000203	-0.00150	0.01
after 5minutes	13.56	13.559827	-0.000173	-0.00128	0.01
after 10minutes	13.56	13.559839	-0.000161	-0.00119	0.01

Test Report No :30DE0267-YK-01-R1

APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
CUST-YA-CE	Conducted emission(software)	UL Japan	CE(Ver.2.0)	-	CE	-
KCC-33/34/KR M-03	Coaxial Cable/RF Relay Matrix	Fujikura/Suhner/TSJ	5D-2W/S04272B/ RFM-E421	-/01055	CE	2009/10/27 * 12
KLS-05	LISN(AMN)	Schwarzbeck	NSLK8126	8126375	CE	2009/09/15 * 12
KLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127362	CE	2009/09/15 * 12
KOS-01	Humidity Indicator	Custom	CTH-190	K-01	CE	2009/07/29 * 12
KSA-02	Spectrum Analyzer	Advantest	R3265A	55060826	CE/RE	2008/12/26 * 12
KTR-03	Test Receiver	Rohde & Schwarz	ESHS10	839698/014	CE/RE	2009/02/09 * 12
KJM-07	Measure	KOMELON	KMC-36	-	CE/RE	-
CUST-YA-RE	Radiated emission(software)	UL Japan	RE(Ver.2.0)	-	RE	_
KAEC-01	Anechoic Chamber	JSE	Semi 3m	1	RE	2009/08/20 * 12
KAF-05	Pre Amplifier	Agilent	8447D	2944A10150	RE	2009/03/27 * 12
KAT6-01	Attenuator	INMET	18N-6dB	-	RE	2009/03/10 * 12
KBA-03	Biconical Antenna	Schwarzbeck	BBA9106	1926	RE	2008/12/28 * 12
KLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	170	RE	2008/12/28 * 12
KCC-30/31/32 /34/37/KRM-0 3	Coaxial Cable/RF Relay Matrix	Fujikura/Suhner/TSJ	5D-2W/S04272B/ RFM-E421	-/01055	RE	2009/10/27 * 12
KTR-04	Test Receiver	Rohde & Schwarz	ESVS10	825475/006	RE	2009/03/03 * 12
KOS-02	Humidity Indicator	Custom	CTH-190	K-02	RE	2009/07/23 * 12
KAT3-08	Attenuator	JFW IND. INC.	50HF-003N	-	RE	2009/08/18 * 12
KTR-03	Test Receiver	Rohde & Schwarz	ESHS10	839698/014	RE	2009/02/09 * 12
KSA-R11	Spectrum Analyzer	Advantest	R3273	130300486	RE	2009/11/27 * 12
KLP-01	Loop Antenna	Rohde & Schwarz	HFH2-Z2	827779/008	RE	2009/10/26 * 12
KCH-01	Temperature and Humidity Chamber	Tabai Espec	PL-1KT	14007630	FT	2009/04/09 * 12
KFC-01	Microwave Counter	Advantest	R5373	120100309	FT	2009/05/07 * 12
KCC-A1	Coaxial Cable	Fujikura	5D2W	-	FT	-
KSCA-01	Search coil	TSJ	SC01	-	FT, BW	Pre Check
KTR-01	Test Receiver	Rohde & Schwarz	ESI40	100054/040	BW	2009/04/08 * 12
KCC-E3	Coaxial Cable	-	-	-	BW	Pre Check
	l	1				

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 traceable calibrations . Each calibration is traceable to the national or international standards .

Test Item:

CE: Conducted emission,

RE: Radiated emission,

BW: Bandwidth,

FT: Frequency tolerance

UL Japan, Inc. Page :