EMI TEST REPORT

Test Report No.: 26HE0085-YK-F-1

Applicant	:	**Nemoto Kyorindo Co., Ltd.**
Type of Equipment	:	**Contrast Delivery System (Head unit)**
Model No.	:	**Dual Shot Alpha**
FCC ID	:	**T6B0001**
Test Standard	:	**FCC Part15 Subpart C,** **Section 15.207, 15.209, 15.215, 15.225: 2006**
Test Result	:	**Complied**

1. This test report shall not be reproduced except in full, without the written approval of UL Apex Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with above regulation. We hereby certify that the data contain a true representation of the EMC profile.
4. The test results in this test report are traceable to the national or international standards.

Date of test: March 12, 14 and 15, 2006

Tested by: Toyokazu Imamura & Fumiaki Matsuo

Approved by: Osamu Watatani
Site Manager of Yamakita EMC Lab.

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1 Applicant Information

Company Name : Nemoto Kyorindo Co., Ltd.

Address : 2-12-4 Aoki, Kawaguchi-shi, Saitama-ken, 332-0031 JAPAN

Telephone Number : +81-48-250-3255

Facsimile Number : +81-48-250-3256

Contact Person : Masahiro Sakakibara

2 Product Description

Type of Equipment : Contrast Delivery System (Head unit)

Model No. : Dual Shot Alpha

Serial No. : 02

Rating : AC100-120V, 50/60Hz

Country of Manufacture : Japan

Receipt Date of Sample : March 9, 2006

Condition of EUT : Production prototype
(Not for sale: This sample is equivalent to mass-produced items.)

The clock frequency used in EUT: 20MHz, 117MHz

Equipment type	:	Transceiver
Frequency of operation	:	13.56MHz
Type of modulation	:	ASK
Antenna type	:	Loop antenna
Antenna connector type	:	Crimping
Mode of operation	:	Duplex
Emission Designation	:	7K03A1D
Operation temperature range:		-40 ~ +70 deg. C.

*FCC Part 15.31 (e)

The RFID Module is provided stable power supply (DC 5V), and the power is not changed when voltage of the main unit is varied. Therefore, the equipment complies power supply regulation.

*FCC Part 15.203

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203.

3 Test Specification, Procedures and Results

3.1 Test specification

Test specification : FCC Part15 Subpart C: 2006
Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.207: Conducted limits
Section 15.209: Radiated emission limits, general requirements
Section 15.215: Additional provisions to the general radiated emission limitations
Section 15.225: Operation within the band 13.110-14.010MHz

3.2 Procedures & Results

Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin	Results
Conducted Emission	ANSI C63.4: 2003 7. AC powerline conducted emission measurements	Section 15.207	-	N/A	0.8dB (13.56MHz, L1, AV)	Complied
Electric Field Strength of Fundamental Emission	ANSI C63.4: 2003 13. Measurement of intentional radiators	Section 15.225 (a)	Radiated	N/A	66.1dB (Horizontal)	Complied
Electric Field Strength of Outside the Allocated bands	ANSI C63.4: 2003 13. Measurement of intentional radiators	Section 15.225 (b) (c)	Radiated	N/A	22.80dB (13.110MHz, Vertical)	Complied
Electric Field Strength of Spurious Emission	ANSI C63.4: 2003 13. Measurement of intentional radiators	Section15.209, Section 15.225 (d)	Radiated	N/A	1.3dB (133.66MHz, Horizontal)	Complied
20dB Bandwidth	ANSI C63.4: 2003 13. Measurement of intentional radiators	Section15.215(c)	Radiated	N/A	-	Complied
Frequency Tolerance	ANSI C63.4: 2003 13. Measurement of intentional radiators	Section15.225 (e)	Radiated	N/A	-	Complied

Note: UL Apex's EMI Work Procedures No.QPM05.

* No addition, exclusion nor deviation has been made from the standard.

3.3 Uncertainty

Conducted emission
The measurement uncertainty (with 95% confidence level) for this test is ±2.7dB.
The data listed in this report meets the limits unless the uncertainty is taken into consideration.

Radiated emission
The measurement uncertainty (with a 95% confidence level) for this test using Loop antenna is ±2.3dB.
The measurement uncertainty (with 95% confidence level) for this test using Biconical antenna is ±4.5dB.
The measurement uncertainty (with 95% confidence level) for this test using Logperiodic antenna is ±4.3dB.
The data listed in this report meets the limits unless the uncertainty is taken into consideration.

Frequency tolerance
The measurement uncertainty (with 95% confidence level) for this test is ±0.000014MHz.

3.4 Test Location

UL Apex Co., Ltd. Yamakita EMC Lab.
907, Kawanishi, Yamakita-machi, Ashigarakami-gun, Kanagawa-ken 258-0124 JAPAN
Telephone number : +81 465 77 1011
Facsimile number : +81 465 77 2112
NVLAP Lab. code : 200441-0

No. 1 test site has been fully described in a report submitted to FCC office, and accepted on August 26, 2005 (Registration No.: 95486).
IC Registration No. : IC3489A

No. 2 test site has been fully described in a report submitted to FCC office, and accepted on April 4, 2005 (Registration No.: 466226).
IC Registration No. : IC3489A-2

No. 1 anechoic chamber has been fully described in a report submitted to FCC office, and accepted on November 2, 2005 (Registration No.: 95967).
IC Registration No. : IC3489A-B

Test room	Width x Depth x Height (m)	Test room	Width x Depth x Height (m)
No.1 shielded room	8.0 x 5.0 x 2.5	No.1 EMS lab. (Semi-anechoic chamber)	10.0 x 7.5 x 5.7
No.2 shielded room	5.0 x 4.0 x 2.5		
No.3 shielded room	4.0 x 5.0 x 2.7		

4 System Test Configuration

4.1 Justification

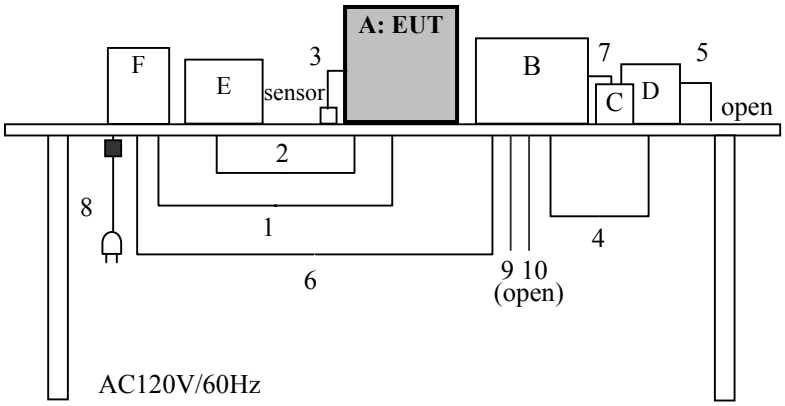
The system was configured in typical fashion (as a customer would normally use it) for testing.

Operation: Transmitting (13.56MHz)

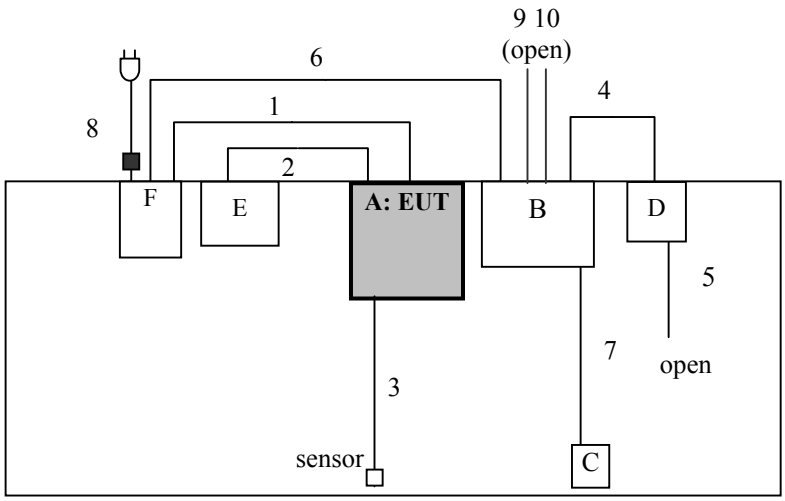
4.2 Configuration of Tested System

■: Ferrite core (Standard attachment)

Front View



Top View



* Test data was taken under worse case conditions.

Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	FCC ID (Remarks)
A	Head unit	Dual Shot Alpha	02	Nemoto Kyorindo Co., Ltd.	T6B0001 (EUT)
B	Console				-
C	Hand switch				-
D	Main unit				-
E	Monitor				-
F	CAN box	-	Sample02		-

List of cables used

No.	Name	Length (m)	Shield	Remark
1	Head cable	5.8	Shielded	-
2	Monitor cable	0.4	Shielded	-
3	Sensor cable	1.5	Shielded	-
4	RS232C cable	0.4	Shielded	-
5	CAN cable	0.4	Shielded	-
6	Console cable	3.0	Shielded	-
7	Hand switch cable	2.5	Shielded	-
8	AC Power cable	2.6	Unshielded	-
9	RS232C cable	1.8	Shielded	-
10	Parallel cable	3.0	Shielded	-

5 Conducted Emissions

5.1 Operating environment

The test was carried out in No.2 shielded room.

Temperature : See test data
Humidity : See test data

5.2 Test configuration

EUT was placed on a platform of nominal size, 1m by 1.8m, raised 80cm above the conducting ground plane.
The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals was aligned and was flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from LISN and excess AC cable was bundled in center. I/O cables that were connected to the peripherals were bundled in center. They were folded back and for the forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane.
A drawing of the set up is shown in the photos of Appendix 1.

5.3 Test conditions

Frequency range : 0.15 - 30MHz
EUT position : Table top
EUT operation mode : Transmitting

5.4 Test procedure

The EUT was connected to a LISN (AMN).
An overview sweep with peak detection has been performed.
The Conducted emission measurements were made with the following detector function of the test receiver.
Detector: QP/AV
IF Bandwidth: 9kHz

5.5 Results

Summary of the test results : Pass
Test data : APPENDIX 2 Page 15 to 17

Date : March 12, 2006 Test engineer : Toyokazu Imamura

6 Radiated Emissions (Fundamental, Spurious and Outside the Allocated bands)

6.1 Operating environment

The test was carried out in No.2 open site.

Temperature : See test data
Humidity : See test data

6.2 Test configuration

EUT was placed on a platform of nominal size, 1m by 1.8m, raised 80cm above the conducting ground plane.
The rear of EUT, including its peripherals was aligned and flushed with rear of tabletop. I/O cables that were connected to the peripherals were bundled in center. They were folded back and for the forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane.
A drawing of the set up is shown in the photos of Appendix 1.

6.3 Test conditions

Frequency range : 9kHz - 1GHz
EUT position : Table top
EUT operation mode : Transmitting

6.4 Test procedure

The Radiated Electric Field Strength intensity has been measured with a ground plane and at a distance of 3m and 10m.

Frequency: 13.56MHz at distance 3m (Fundamental)
Frequency: From 9kHz to 30MHz at distance 10m (Spurious)
The EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.
The measurements were performed for each antenna angle 0deg., 45deg. and 90deg.

Frequency: From 30MHz to 1GHz at distance 3m
The measuring antenna height was varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.
The measurements were performed for both vertical and horizontal antenna polarization.

Measurements were performed with QP, PK, and AV detector.
The radiated emission measurements were made with the following detector function of the test receiver.

	From 9kHz to 90kHz and From 110kHz to 150kHz	From 90kHz to 110kHz	From 150kHz to 490kHz	From 490kHz to 30MHz	From 30MHz to 1GHz
Detector Type	PK/AV	QP	PK/AV	QP	QP
IF Bandwidth	200Hz	200Hz	9kHz	9kHz	120kHz

* Part 15 Section 15.31 (f)(2) (9kHz-30MHz)
9kHz – 490kHz [Limit at 10m]= [Limit at 300m]-40log (10[m]/300[m])
490kHz – 30MHz [Limit at 10m]= [Limit at 30m]-40log (10[m]/30[m])

It was confirmed that the level of the spurious emission does not exceed the field strength of the fundamental emission.
Refer to the data in page 18 to 22.

6.5 Results

Summary of the test results : Pass Test data: APPENDIX 2 Page 18 to 22
Date : March 14 and 15, 2006 Test engineer : Fumiaki Matsuo

7 20dB Bandwidth

Test Procedure

The measurement was performed in the antenna height to gain the maximum of Electric field strength.

Summary of the test results: Pass
Date : March 12, 2006
Test data: APPENDIX 2 Page 23
Test engineer : Toyokazu Imamura

8 Frequency Tolerance

Test Procedure

The measurement was performed in the antenna height to gain the maximum of Electric field strength.

Summary of the test results: Pass
Date : March 12, 2006
Test data: APPENDIX 2 Page 24 to 26
Test engineer : Toyokazu Imamura

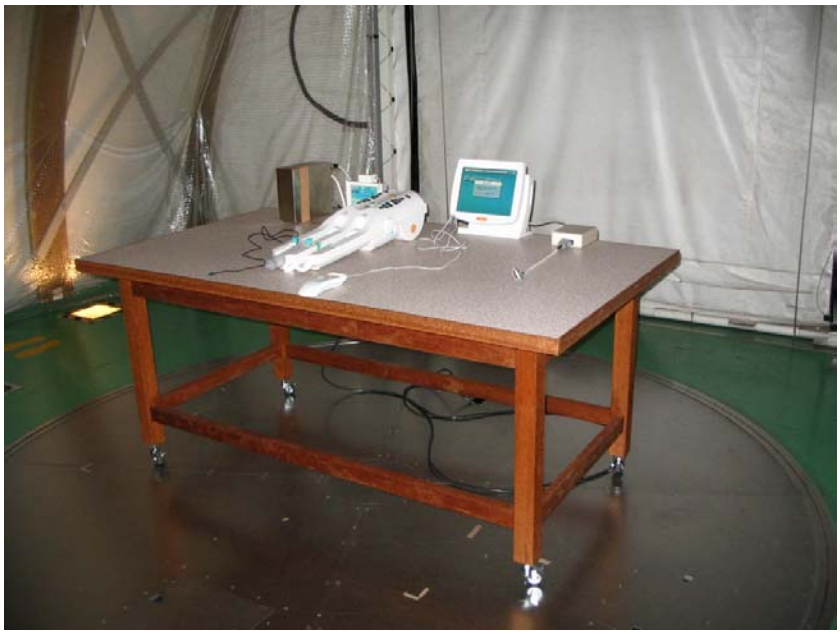
APPENDIX 1: Photographs of test setup

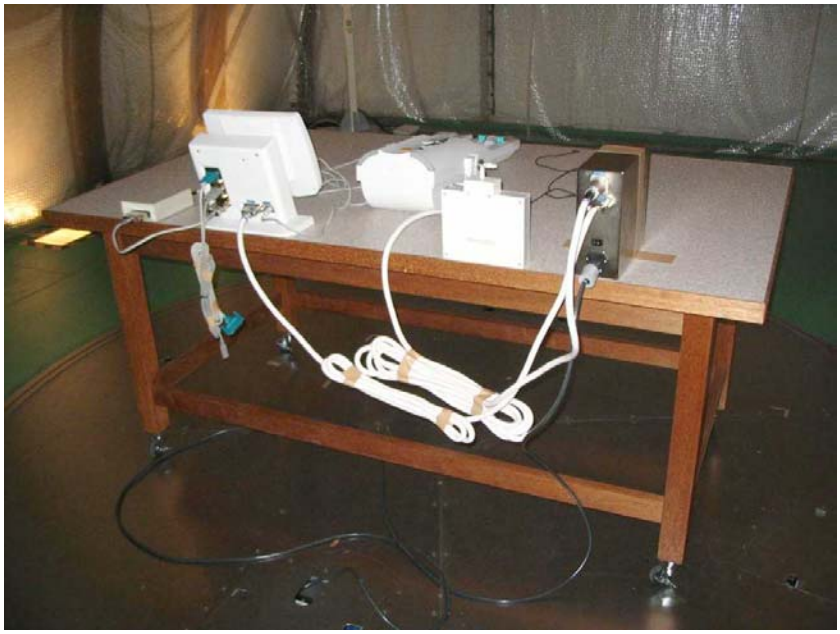
APPENDIX 2: Test Data

APPENDIX 3: Test instruments

Conducted emission

Radiated emission





DATA OF CONDUCTION TEST

UL Apex Co.,Ltd.
YAMAKITA No.2 SHIELD ROOM
Report No. : 26HE0085-YK-F-1

Applicant	: Nemoto Kyorindo Co., Ltd		
Kind of Equipment	: Contrast Delivery System		
Model No.	: Dual Shot Alpha		
Serial No.	: 02		
Power	: AC120V/60Hz		
Mode	: Transmitting (13.56MHz)		
Remarks	:		
Date	: 3/12/2006		
Phase	: Single Phase		
Temperature	: 20 ℃	Engineer	: Toyokazu Imamura
Humidity	: 46 %		
Regulation	: FCC Part15C §15.207. (CISPR Pub. 22)		

No.	FREQ.	READING (N) QP	READING (N) AV	READING (L1) QP	READING (L1) AV	LISN FACTOR	CABLE LOSS	ATTEN.	RESULT QP	RESULT AV	LIMITS QP	LIMITS AV	MARGIN QP	MARGIN AV
	[MHz]	[dBμV]		[dBμV]		[dB]	[dB]	[dB]	[dB]		[dBμV]		[dB]	
1.	0.1500	38.3	-	38.3	-	0.1	0.1	0.0	38.5	-	66.0	56.0	27.5	-
2.	0.1995	30.8	-	30.8	-	0.1	0.1	0.0	31.0	-	63.6	53.6	32.6	-
3.	0.2640	25.2	-	25.7	-	0.1	0.1	0.0	25.9	-	61.3	51.3	35.4	-
4.	0.3334	17.8	-	19.0	-	0.1	0.1	0.0	19.2	-	59.4	49.4	40.2	-
5.	7.3250	26.1	-	26.0	-	0.3	0.4	0.0	26.8	-	60.0	50.0	33.2	-
6.	12.5736	25.3	-	25.2	-	0.5	0.5	0.0	26.3	-	60.0	50.0	33.7	-
7.	13.5600	48.5	48.0	48.7	48.2	0.5	0.5	0.0	49.7	49.2	60.0	50.0	10.3	0.8

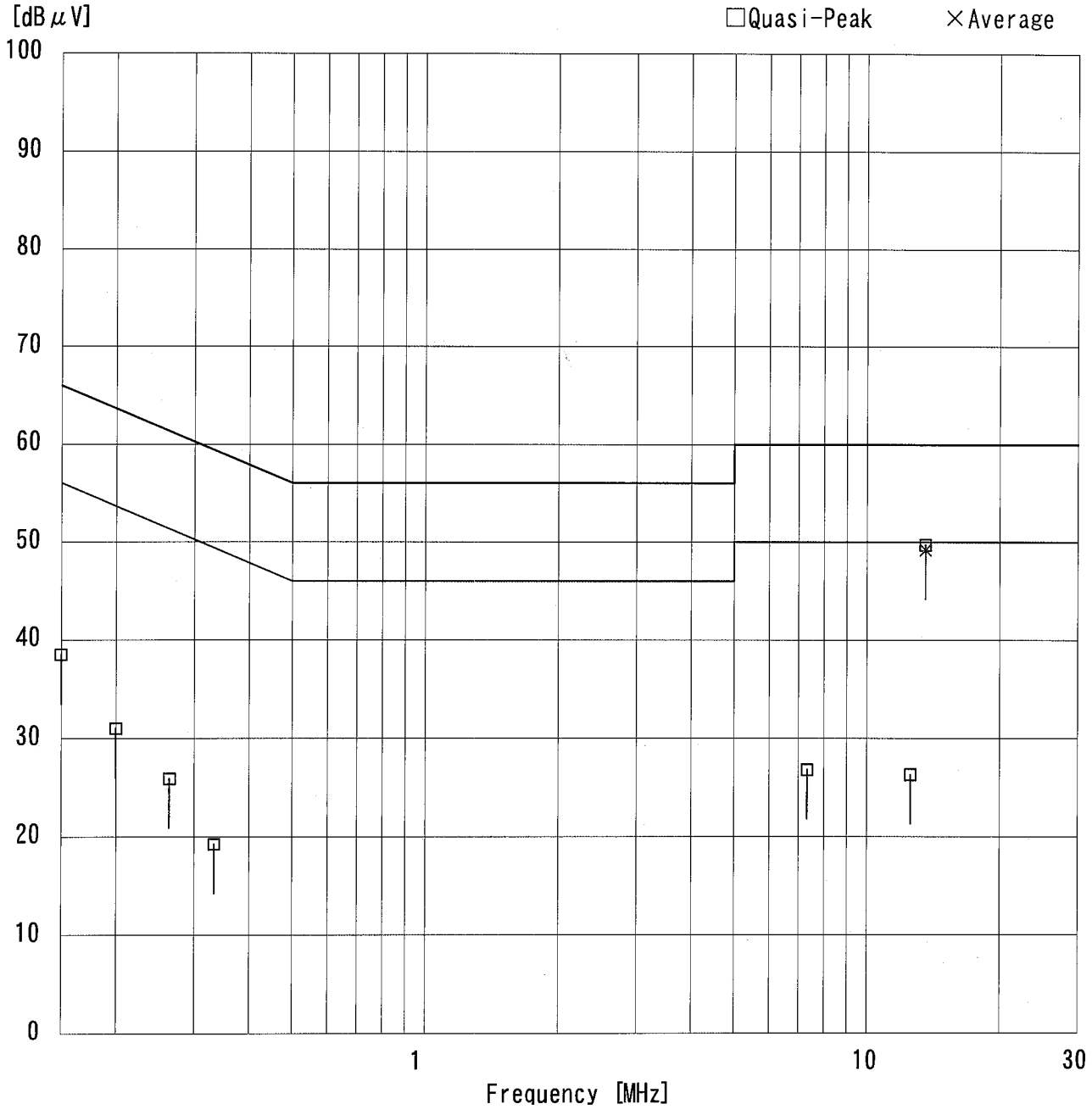
CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

■LISN :KLS-06 (NSLK8127) ■COAXIAL CABLE:KCC-33/34
■EMI RECEIVER:KTR-01 (ESI40)

DATA OF CONDUCTION TEST

UL Apex Co.,Ltd.
YAMAKITA No.2 SHIELD ROOM
Report No. : 26HE0085-YK-F-1

Applicant	: Nemoto Kyorindo Co., Ltd		
Kind of Equipment	: Contrast Delivery System		
Model No.	: Dual Shot Alpha		
Serial No.	: 02		
Power	: AC120V/60Hz		
Mode	: Transmitting (13.56MHz)		
Remarks	:		
Date	: 3/12/2006		
Phase	: Single Phase		
Temperature	: 20 ℃	Engineer	: Toyokazu Imamura
Humidity	: 46 %		
Regulation	: FCC Part15C §15.207. (CISPR Pub. 22)		



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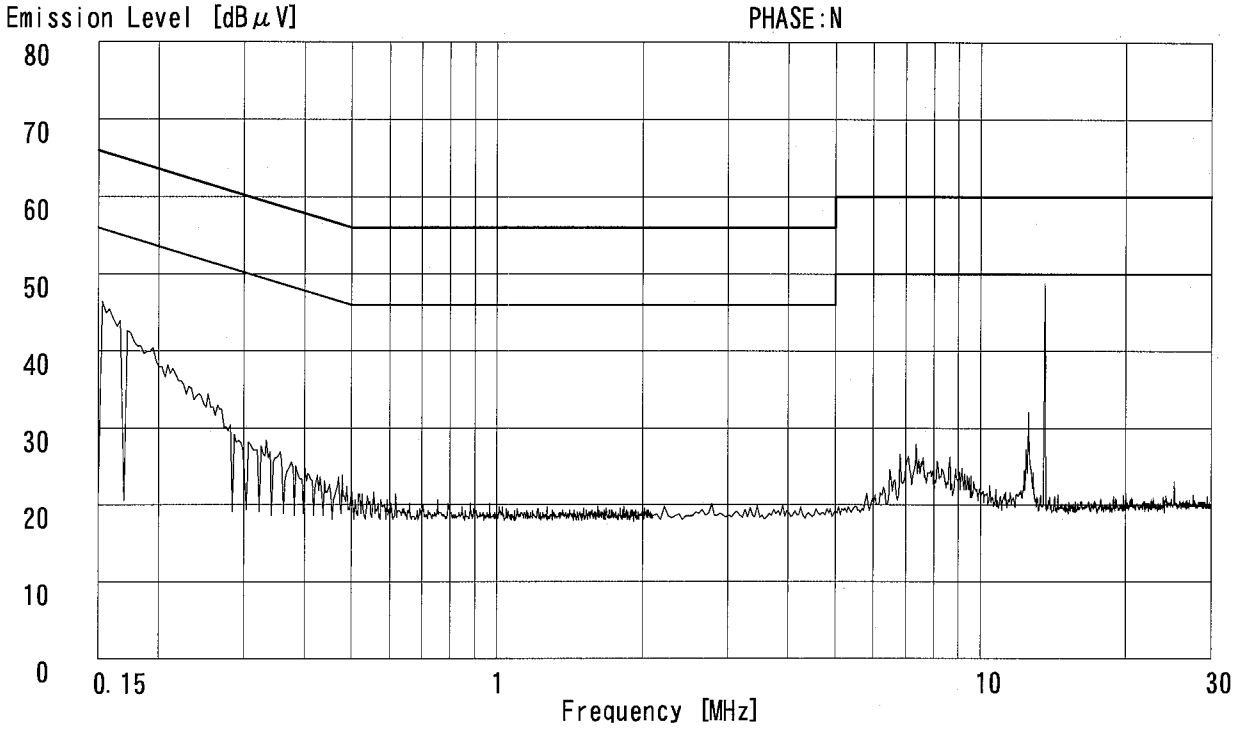
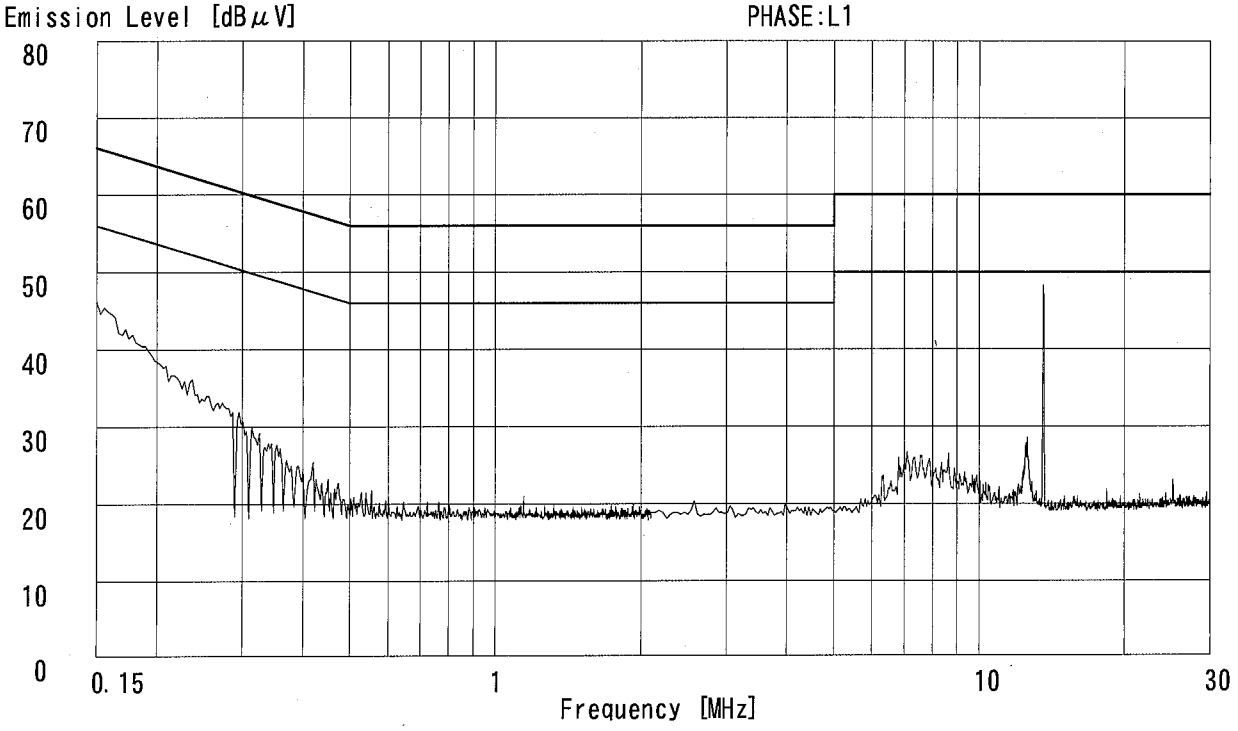
DATA OF CONDUCTION TEST CHART

UL Apex Co.,Ltd.
YAMAKITA No.2 SHIELD ROOM
Report No. : 26HE0085-YK-F-1

Applicant	: Nemoto Kyorindo Co., Ltd		
Kind of Equipment	: Contrast Delivery System		
Model No.	: Dual Shot Alpha		
Serial No.	: 02		
Power	: AC120V/60Hz		
Mode	: Transmitting (13.56MHz)		
Remarks	:		
Date	: 3/12/2006		
Phase	: Single Phase		
Temperature	: 20 ℃	Engineer	: Toyokazu Imamura
Humidity	: 46 %		
Regulation 1	: FCC Part15C §15.207. (CISPR Pub.22)		
Regulation 2	: None		





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Data of Field Strength

UL Apex Co., Ltd.
YAMAKITA No2 Open Test Site

Company	: Nemoto Kyorindo Co., Ltd.	Report No.	: 26HE0085-YK-F-1
Equipment	: Contrast Delivery System	Regulation	: FCC Part15 SupartC 15.225 (a)(b)(c)(d)
Model	: Dual Shot Alpha	Test Distance	: 10m
Sample No.	: 02	Date	: 2006/03/14
Power	: AC120V/60Hz		
Mode	: Transmitting (13.56MHz)		
Temperature	: 20deg.C		
Humidity	: 35%		

ENGINEER : Fumiaki Matsuo

Field strength

No.	FREQ	T/R Reading		ANT Factor	ATTEN	CABLE LOSS	AMP GAIN	RESULT		LIMIT (10m)	MARGIN	
		Hor	Ver					Hor	Ver		Hor	Ver
	[MHz]	[dBuV]	[dBuV]	[dB]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
1	13.560	45.0	43.9	19.6	0.0	0.1	27.8	36.9	35.8	103.0	66.1	67.2

Field strength of 13.553MHz to 13.567MHz Limit(10m) = 84dBuV/m + 40log 30m/10m
= 103dBuV/m

Outside Field strength

No.	FREQ	T/R Reading		ANT Factor	ATTEN	CABLE LOSS	AMP GAIN	RESULT		LIMIT (10m)	MARGIN	
		Hor	Ver					Hor	Ver		Hor	Ver
	[MHz]	[dBuV]	[dBuV]	[dB]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]
1	13.110	33.1	33.8	19.6	0.0	0.1	27.8	25.0	25.7	48.5	23.50	22.80
2	13.410	32.1	32.2	19.6	0.0	0.1	27.8	24.0	24.1	59.5	35.50	35.40
3	13.553	33.9	34.6	19.6	0.0	0.1	27.8	25.8	26.5	69.5	43.70	43.00
4	13.567	33.0	33.0	19.6	0.0	0.1	27.8	24.9	24.9	69.5	44.60	44.60
5	13.710	32.2	32.3	19.7	0.0	0.1	27.8	24.2	24.3	59.5	35.30	35.20
6	14.010	32.0	32.0	19.7	0.0	0.1	27.8	24.0	24.0	48.5	24.50	24.50

Outside field strength frequencies

- Field strength band Fc±7kHz:13.553MHz to 13.567MHz
- Outside field strength Fc±150kHz:13.410MHz to 13.710MHz
- Outside field strength Fc±450kHz:13.110MHz to 14.010MHz

Fc = 13.56MHz

Limits (10m)

- 13.553MHz and 13.567MHz : 50.5dBuV/m + 40log30m/10m = 69.5dBuV/m
- 13.410MHz and 13.710MHz : 40.5dBuV/m + 40log30m/10m = 59.5dBuV/m
- 13.110MHz and 14.010MHz : 29.5dBuV/m + 40log30m/10m = 48.5dBuV/m

DATA OF RADIATION TEST

UL Apex Co.,Ltd.
YAMAKITA No.2 OPEN TEST SITE
Report No.: 26HE0085-YK-F-1

Applicant	:	Nemoto Kyorindo Co., Ltd.	
Kind of Equipment	:	Contrast Delivery System	
Model No.	:	Dual Shot Alpha	
Serial No.	:	02	
Power	:	AC120V/60Hz	
Mode	:	Transmitting (13.56MHz)	
Remarks	:	-	
Date	:	3/14/2006	
Test Distance	:	3 m	
Temperature	:	20 ℃	Engineer : Fumiaki Matsuo
Humidity	:	35 %	
Regulation	:	FCC Part15C §15.225(D:3m)	

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	13.56	BB	61.9	55.3	19.6	27.8	0.1	0.0	53.8	47.2	120.0	66.2	72.8

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

■ANTENNA:KLP-01(HFH2-Z2)0.15-30MHz
■CABLE:KCC-20/21/22/23/29■PREAMP:KAF-03(8447D)■EMI RECEIVER:KTR-04(ESVS10)

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DATA OF RADIATION TEST

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Applicant : Nemoto Kyorindo Co., Ltd.
Kind of Equipment : Contrast Delivery System
Model No. : Dual Shot Alpha
Serial No. : 02
Power : AC120V/60Hz
Mode : Transmitting (13.56MHz)
Remarks : -
Date : 3/14/2006
Test Distance : 10 m
Temperature : 20 ℃ Engineer : Fumiaki Matsuo
Humidity : 35 %
Regulation : FCC Part15C §15.209 9KHz-30MHz (10m)

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	27.12	BB	31.1	31.7	20.9	27.6	0.1	0.0	24.5	25.1	48.6	24.1	23.5

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

■ANTENNA:KLP-01(HFH2-Z2)0.15-30MHz
■CABLE:KCC-20/21/22/23/29■PREAMP:KAF-03(8447D)■EMI RECEIVER:KTR-04(ESVS10)

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DATA OF RADIATION TEST

UL Apex Co.,Ltd.
YAMAKITA No.2 OPEN TEST SITE
Report No.: 26HE0085-YK-F-1

Applicant	: Nemoto Kyorindo Co., Ltd.		
Kind of Equipment	: Contrast Delivery System		
Model No.	: Dual Shot Alpha		
Serial No.	: 02		
Power	: AC120V/60Hz		
Mode	: Transmitting (13.56MHz)		
Remarks	: Harmonics		
Date	: 3/15/2006		
Test Distance	: 3 m		
Temperature	: 22 ℃	Engineer	: Fumiaki Matsuo
Humidity	: 33 %		
Regulation	: FCC Part15C §15.209		

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	40.68	BB	31.0	30.8	15.0	27.7	1.3	5.8	25.4	25.2	40.0	14.6	14.8
2.	54.24	BB	37.6	28.8	10.7	27.7	1.5	5.8	27.9	19.1	40.0	12.1	20.9
3.	67.80	BB	45.7	41.0	8.3	27.7	1.7	5.8	33.8	29.1	40.0	6.2	10.9
4.	81.36	BB	47.5	42.5	7.7	27.8	1.8	5.8	35.0	30.0	40.0	5.0	10.0
5.	94.92	BB	42.1	42.4	9.6	27.7	2.0	5.8	31.8	32.1	43.5	11.7	11.4
6.	108.48	BB	40.8	36.6	11.8	27.8	2.2	5.8	32.8	28.6	43.5	10.7	14.9
7.	122.04	BB	41.8	37.6	13.7	27.8	2.3	5.8	35.8	31.6	43.5	7.7	11.9
8.	135.60	BB	36.7	33.1	14.7	27.8	2.4	5.8	31.8	28.2	43.5	11.7	15.3

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

■ANTENNA:KBA-02(BBA9106)30-299MHz/KLA-02(USLP9143)300-1000MHz
■AMP:KAF-03(8447D) ■RECEIVER:KTR-04(ESVS10) ■CABLE:KCC-20/21/22/23/29

DATA OF RADIATION TEST

UL Apex Co.,Ltd.
YAMAKITA No.2 OPEN TEST SITE
Report No.: 26HE0085-YK-F-1

Applicant	: Nemoto Kyorindo Co., Ltd.		
Kind of Equipment	: Contrast Delivery System		
Model No.	: Dual Shot Alpha		
Serial No.	: 02		
Power	: AC120V/60Hz		
Mode	: Transmitting (13.56MHz)		
Remarks	: other		
Date	: 3/15/2006		
Test Distance	: 3 m		
Temperature	: 22 ℃	Engineer	: Fumiaki Matsuo
Humidity	: 33 %		
Regulation	: FCC Part15C §15.209		

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	63.31	BB	49.6	44.6	8.9	27.7	1.6	5.8	38.2	33.2	40.0	1.8	6.8
2.	120.03	BB	45.3	43.3	13.5	27.8	2.3	5.8	39.1	37.1	43.5	4.4	6.4
3.	125.82	BB	47.2	41.1	13.9	27.8	2.3	5.8	41.4	35.3	43.5	2.1	8.2
4.	133.66	BB	47.3	40.2	14.5	27.8	2.4	5.8	42.2	35.1	43.5	1.3	8.4
5.	176.20	BB	43.9	34.7	16.3	27.6	2.8	5.8	41.2	32.0	43.5	2.3	11.5
6.	200.03	BB	40.7	32.8	17.1	27.5	3.0	5.8	39.1	31.2	43.5	4.4	12.3
7.	200.48	BB	42.3	32.9	17.1	27.5	3.0	5.8	40.7	31.3	43.5	2.8	12.2
8.	339.02	BB	42.2	37.0	15.5	27.6	4.0	5.8	39.9	34.7	46.0	6.1	11.3
9.	360.08	BB	45.7	43.7	16.0	27.6	4.1	5.8	44.0	42.0	46.0	2.0	4.0
10.	707.80	BB	33.4	34.3	20.5	28.8	6.0	5.8	36.9	37.8	46.0	9.1	8.2
11.	766.79	BB	35.2	33.4	20.3	28.9	6.3	5.8	38.7	36.9	46.0	7.3	9.1

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

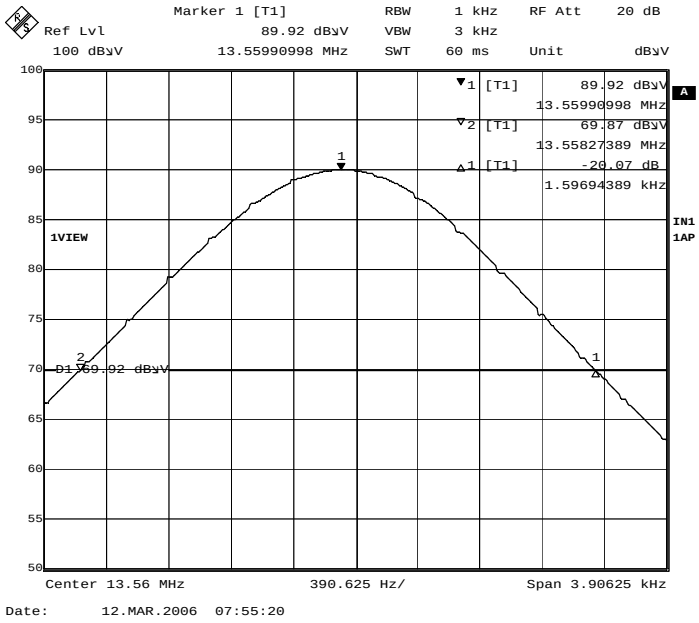
■ANTENNA:KBA-02(BBA9106)30-299MHz/KLA-02(USLP9143)300-1000MHz
■AMP:KAF-03(8447D) ■RECEIVER:KTR-04(ESVS10) ■CABLE:KCC-20/21/22/23/29

20dB Bandwidth: FCC 15.215(c)

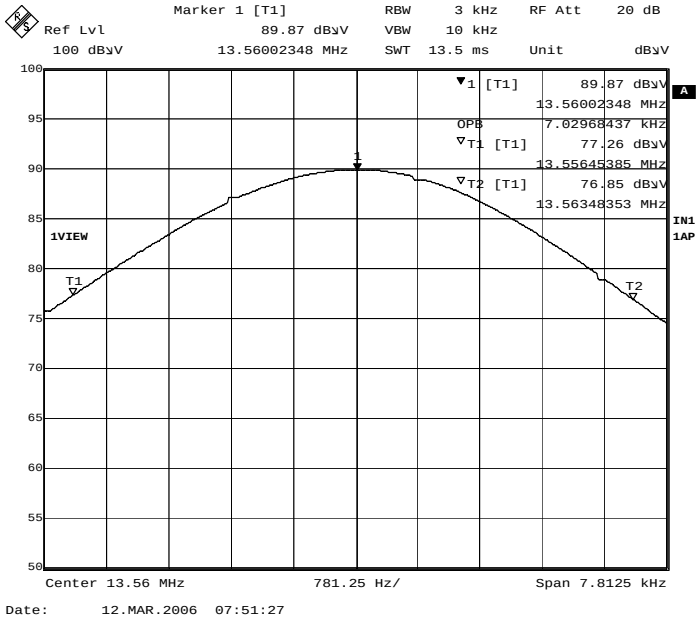
UL Apex Co.,Ltd. Yamakita No.2 Shield room

COMPANY	**: Nemoto Kyorindo Co.,Ltd**	**REPORT NO**	**: 26HE0085-YK-F-1**
EQUIPMENT	**: Contrast Delivery System**	**REGULATION**	**: Fcc Part15SubpartC 215(c)**
MODEL NUMBER	**: Dual Shot Alpha**	**DATE**	**: 2006/03/12**
SERIAL NUMBER	**: 02**	**TEMP./HUMI**	**: 20deg.C/46%**
FCC ID	**: T6B0001**	**TEST MODE**	**: Transmitting**
POWER	**: AC120V/60Hz**	**ENGINEER**	**: Toyokazu Imamura**
Remarks	**: -**		

20dB Bandwidth:1.60kHz



OBW(99%): 7.03kHz



Data of Frequency Tolerance: FCC 15.225(e)

UL Apex Co.,Ltd.
YAMAKITA No4 Shield room

Company	: Nemoto Kyorindo Co.,Ltd	Report No.	: 26HE0085-YK-F-1
Equipment	: Contrast Delivery System	Regulation	: FCC Part15 SupartC 15.225 (e)
Model	: Dual Shot Alpha	Test Distance	: 3m
Sample No.	: 02	Date	: 2006/03/12
FCC ID	: T6B0001	Temperature	: 20deg.C
Power	: AC102V/60Hz	Humidity	: 46%
Mode	: Transmitting (13.56MHz)	Remarks	:
		ENGINEER	: Toyokazu Imamura

Temperature Variation: -30deg.C

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559946	-0.0000540	-0.00040	0.01
after 2minutes	13.56	13.559949	-0.0000510	-0.00038	0.01
after 5minutes	13.56	13.559950	-0.0000500	-0.00037	0.01
after 10minutes	13.56	13.559951	-0.0000490	-0.00036	0.01

Temperature Variation: -20deg.C

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559943	-0.0000570	-0.00042	0.01
after 2minutes	13.56	13.559943	-0.0000570	-0.00042	0.01
after 5minutes	13.56	13.559942	-0.0000580	-0.00043	0.01
after 10minutes	13.56	13.559941	-0.0000590	-0.00044	0.01

Temperature Variation: 20deg.C

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559892	-0.0001080	-0.00080	0.01
after 2minutes	13.56	13.559889	-0.0001110	-0.00082	0.01
after 5minutes	13.56	13.559885	-0.0001150	-0.00085	0.01
after 10minutes	13.56	13.559884	-0.0001160	-0.00086	0.01

Temperature Variation: 50deg.C

Test Conditions	Original Frequency (MHz)	Mesure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559841	-0.0001590	-0.00117	0.01
after 2minutes	13.56	13.559844	-0.0001560	-0.00115	0.01
after 5minutes	13.56	13.559846	-0.0001540	-0.00114	0.01
after 10minutes	13.56	13.559836	-0.0001640	-0.00121	0.01

Data of Frequency Tolerance: FCC 15.225(e)

UL Apex Co.,Ltd.
YAMAKITA No4 Shield room

Company	: Nemoto Kyorindo Co.,Ltd	Report No.	: 26HE0085-YK-F-1
Equipment	: Contrast Delivery System	Regulation	: FCC Part15 SupartC 15.225 (e)
Model	: Dual Shot Alpha	Test Distance	: 3m
Sample No.	: 02	Date	: 2006/03/12
FCC ID	: T6B0001	Temperature	: 20deg.C
Power	: AC102V/60Hz	Humidity	: 46%
Mode	: Transmitting (13.56MHz)	Remarks	:
		ENGINEER	: Toyokazu Imamura

Temperature Variation: -30deg.C

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559946	-0.0000540	-0.00040	0.01
after 2minutes	13.56	13.559949	-0.0000510	-0.00038	0.01
after 5minutes	13.56	13.559950	-0.0000500	-0.00037	0.01
after 10minutes	13.56	13.559951	-0.0000490	-0.00036	0.01

Temperature Variation: -20deg.C

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559943	-0.0000570	-0.00042	0.01
after 2minutes	13.56	13.559943	-0.0000570	-0.00042	0.01
after 5minutes	13.56	13.559942	-0.0000580	-0.00043	0.01
after 10minutes	13.56	13.559941	-0.0000590	-0.00044	0.01

Temperature Variation: 20deg.C

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559892	-0.0001080	-0.00080	0.01
after 2minutes	13.56	13.559889	-0.0001110	-0.00082	0.01
after 5minutes	13.56	13.559885	-0.0001150	-0.00085	0.01
after 10minutes	13.56	13.559884	-0.0001160	-0.00086	0.01

Temperature Variation: 50deg.C

Test Conditions	Original Frequency (MHz)	Mesure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559841	-0.0001590	-0.00117	0.01
after 2minutes	13.56	13.559844	-0.0001560	-0.00115	0.01
after 5minutes	13.56	13.559846	-0.0001540	-0.00114	0.01
after 10minutes	13.56	13.559836	-0.0001640	-0.00121	0.01

Data of Frequency Tolerance: FCC 15.225(e)

UL Apex Co.,Ltd.
YAMAKITA No4 Shield room

Company	: Nemoto Kyorindo Co.,Ltd	Report No.	: 26HE0085-YK-F-1
Equipment	: Contrast Delivery System	Regulation	: FCC Part15 SupartC 15.225 (e)
Model	: Dual Shot Alpha	Test Distance	: 3m
Sample No.	: 02	Date	: 2006/03/12
FCC ID	: T6B0001	Temperature	: 20deg.C
Power	: AC138V/60Hz	Humidity	: 46%
Mode	: Transmitting (13.56MHz)	Remarks	:
		ENGINEER	: Toyokazu Imamura

Temperature Variation: -30deg.C

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559947	-0.0000530	-0.00039	0.01
after 2minutes	13.56	13.559950	-0.0000500	-0.00037	0.01
after 5minutes	13.56	13.559950	-0.0000500	-0.00037	0.01
after 10minutes	13.56	13.559949	-0.0000510	-0.00038	0.01

Temperature Variation: -20deg.C

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559939	-0.0000610	-0.00045	0.01
after 2minutes	13.56	13.559941	-0.0000590	-0.00044	0.01
after 5minutes	13.56	13.559940	-0.0000600	-0.00044	0.01
after 10minutes	13.56	13.559942	-0.0000580	-0.00043	0.01

Temperature Variation: 20deg.C

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559894	-0.0001060	-0.00078	0.01
after 2minutes	13.56	13.559889	-0.0001110	-0.00082	0.01
after 5minutes	13.56	13.559885	-0.0001150	-0.00085	0.01
after 10minutes	13.56	13.559883	-0.0001170	-0.00086	0.01

Temperature Variation: 50deg.C

Test Conditions	Original Frequency (MHz)	Mesure Frequency (MHz)	Frequency Error (kHz)	Frequency torerance (%)	Limit (%)
startup	13.56	13.559837	-0.0001630	-0.00120	0.01
after 2minutes	13.56	13.559837	-0.0001630	-0.00120	0.01
after 5minutes	13.56	13.559835	-0.0001650	-0.00122	0.01
after 10minutes	13.56	13.559838	-0.0001620	-0.00119	0.01

Test Report No :26HE0085-HO-F-1

APPENDIX 3
Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
KAF-03	Pre Amplifier	Hewlett Packard	8447D	RE	2005/09/09 * 12
KAT6-03	Attenuator	INMET	18N-6dB	RE	2006/03/24 * 12
KBA-02	Biconical Antenna	Schwarzbeck	BBA9106	RE	2005/07/29 * 12
KCC-20/21/22 /23/29	Coaxial Cable	Fujikura/Suhner	8D-2W/12D-SFA/S04272B/S04272B	RE	2005/09/02 * 12
KCC-33/34	Coaxial Cable	Fujikura/Suhner	5D-2W/S04272B	CE	2005/12/22 * 12
KLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2005/07/29 * 12
KLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	CE	2005/09/06 * 12
KSA-02	Spectrum Analyzer	Advantest	R3265A	RE	2005/11/10 * 12
KSA-04	Spectrum Analyzer	Advantest	R3271A	CE	2005/09/13 * 12
KTR-01	Test Receiver	Rohde & Schwarz	ESI40	CE/BW/FT	2005/08/05 * 12
KTR-03	Test Receiver	Rohde & Schwarz	ESHS10	RE	2006/02/02 * 12
KTR-04	Test Receiver	Rohde & Schwarz	ESVS10	RE	2005/11/01 * 12
KSCA-01	Search coil	TSJ	SC01	BW/FT	Pre Check
KCH-01	Temperature and Humidity Chamber	Tabai Espec	PL-1KT	FT	2005/12/26 * 12
KSG-08	Signal Generator	Rohde & Schwarz	SMT06	RE	2005/06/17 * 12
KLP-01	Loop Antenna	Rohde & Schwarz	HFH2-Z2	RE	2005/06/17 * 12
KCC-A2	Coaxial Cable	Fujikura	5D-2W	BW/FT	2005/06/03 * 12

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: 20dB bandwidth
FT: Frequency tolerance