

FCC EVALUATION REPORT FOR CERTIFICATION

KOREA Standard Technology

Test report No.: KST-FCC0501

Applicant's Name : NEXTO DI Inc.

Applicant's Address : 1912, Samho A B/D, 275-1 Yangjae-2Dong,
Seocho-Gu, Seoul , South KOREA 137-940

Manufacturer's Name : NEXTO DI Inc.

Manufacturer's Address : 1912, Samho A B/D, 275-1 Yangjae-2Dong,
Seocho-Gu, Seoul , South KOREA 137-940

EUT's:

FCC ID : SWOND-2500

Product Name : External Storage Equipment

Model Number(s) : ND-2500

Product Options : N/A

Category : FCC Part 15 subpart B

Class B Computing Digital Device

Supplementary Information

The device bearing the brand name and FCC ID specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with measurement procedures specified in ANSI C63.4-2000.

I attest to the accuracy of data and all measurements reported herein were performed by or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Test Date : January 17, 2005

Issued Date : January 20 , 2005

Tested by:



Chung, Suck-Jin

Approved by:



Lee, Weon-Woo

EMI TEST REPORT



Report reference No: KST-FCC0501

Contents

1. Description of Device
2. Test Facility
3. MAP
4. Test system configuration
5. Description of E.U.T.
6. Summary of test results.
7. Test results.
8. Photographs.

Appendix. Schematics

Specifications.

EMI TEST REPORT



Report reference No: KST-FCC0501

1. Description of Device

1) Kind of equipment: External storage equipment

2) FCC ID: SWOND-2500

3) Model Name: ND-2500

4) Serial No.: None

5) Type of Sample Tested: Pre-production

6) High Frequency Used: 24.576 MHz
12.000 MHz

7) Adapter Model name: DSA-0131F-12JP12
Manufacturer: DVE CO.,LTD..
Serial no: -

8) Power Rating: 1phase AC100-240 V, 50/60 Hz 0.3 A
Output: DC 12 V, 1.0 A,

9) Tested Power supply: 1phase AC120 V, 60 Hz

10) Date of Manufacture: December , 2005

11) Manufacture: NEXTO DI Inc.

12) Description of Operating: Scroll All "H" Character
Resolution 1024*768
Vertical Frequency: 75Hz

13) Dates of Test: January 17, 2005

14) Place of Tests: Korea Standard Technology EMC site

15) Test Report No: KST-FCC0501

EMI TEST REPORT



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2. Test Facility

The open field test site and conducted measurement facility are used for these testing, where are located following address and drawing. This site was fully described in a report dated November 14, 2002, that was submitted to the FCC.

Korea Standard Technology (KOSTEC Co., Ltd)

Head office:

4F, 1503-2, Kwanyang-dong, Dongan-gu, Anyang-shi, Kyunggi-do, Korea
Telephone Number : 82-31-388-2051

Facsimile Number: 82-31-388-2052

Test Lab

:180-254, Annyung-Ri, Taean-Yup, Hwasung-shi, Kyunggi-do, Korea
Telephone Number : 82-31-222-4251
Facsimile Number: 82-31-222-4252

MIC(Ministry of Information and Communication) Number: **KR0042**

FCC Filing Number. : **525762**

VCCI Membership Number : **2005**

VCCI Registration Number : **R-1657 / C-1763**

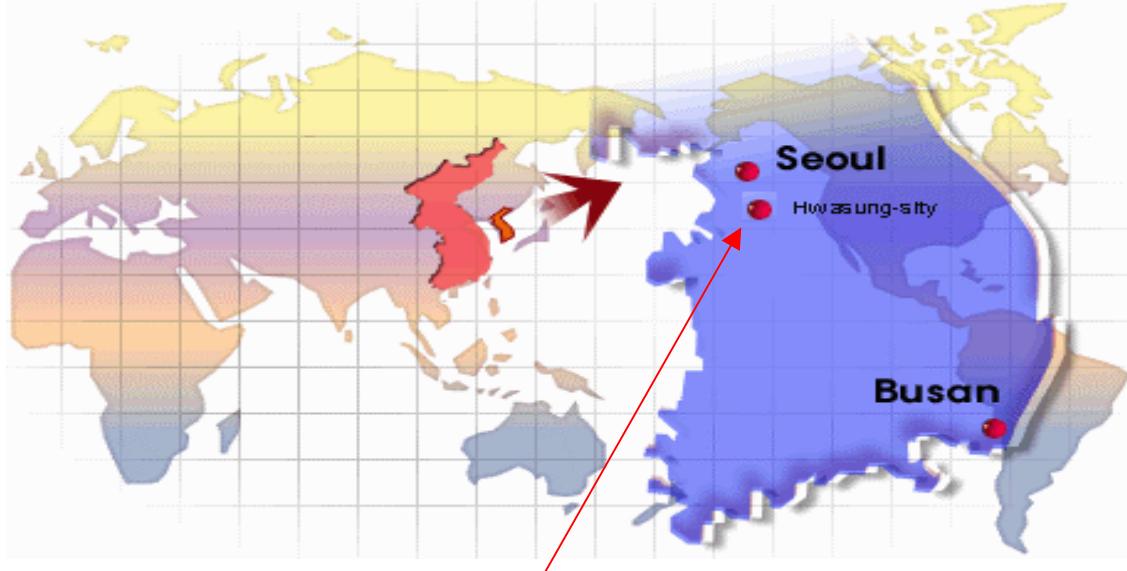
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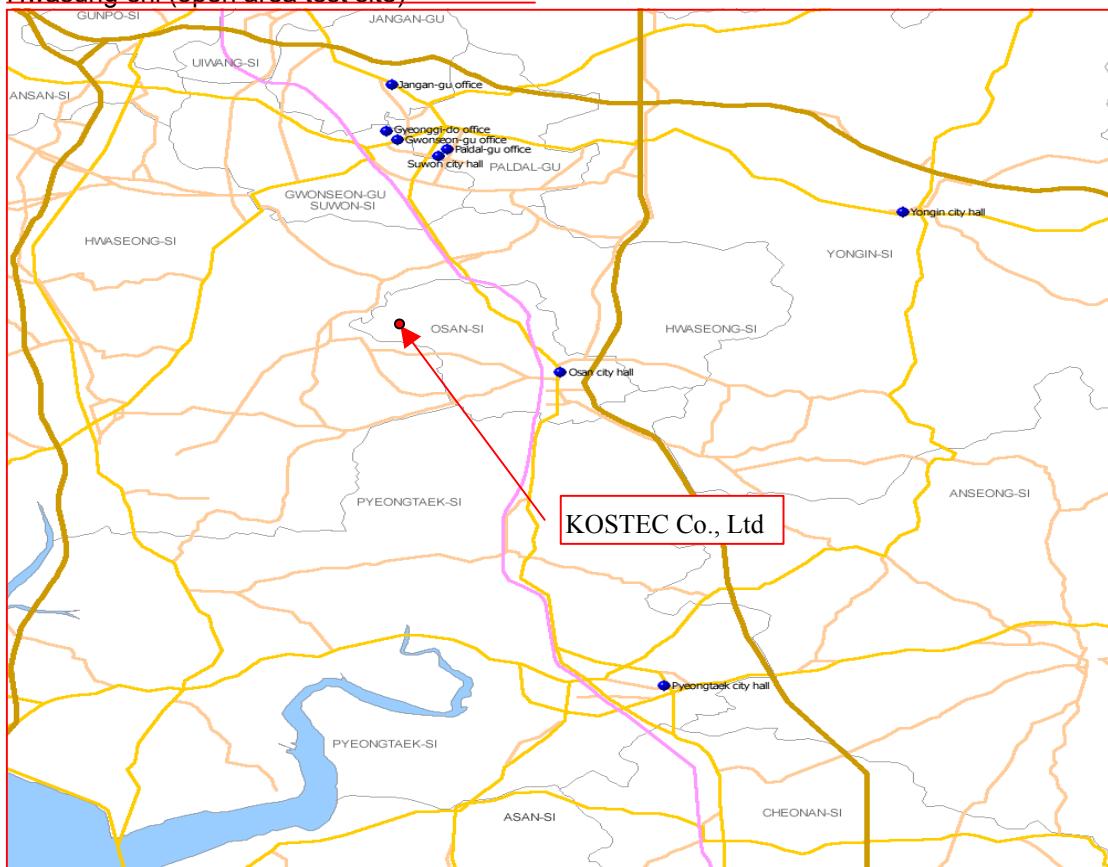
Report reference No: KST-FCC0501

3. Route Map of Measurement Facility

Korea



Hwasung-si (open area test site)



KOSTEC Co.,Ltd.

180-254, Annyung-Ri, Taean-Yup, Hwasung-si, Kyunggi-do, Korea
Tel : +82-31-222-4251 Fax: +82-31-222-4252
<http://www.kosteclab.com>

Page : 5 of 19
Jan 20, 2005

EMI TEST REPORT



Report reference No: KST-FCC0501

4. Test System Configuration

Operation Environment

	<u>Temperature</u> (° C)	<u>Humidity</u> (%)	<u>Pressure</u> (hPa)
Ambient			
10 m Open Area site	2.9	30	1022
Shielded room:	18.8	37	1021

Test site

These testing were performed following locations ;

Shielded room : Conducted Emission,

10 m Open Area Site: Radiated Emission

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC.

The factors contributing to uncertainties are test receiver, Cable loss, antenna factor calibration, Antenna directivity, antenna factor variation with height, antenna phase center variation, antenna frequency interpolation, measurement distance variation, site imperfection, mismatch, and system repeatability.

Based on NIS 80,81, The measurement uncertainty level with a 95% confidence level were applied.

sample calculation

Conducted emission

The field strength is calculated by adding the LISN factor, cable loss from the measured reading.

The sample calculation is as follows:

$$FS = MR + LF + CL$$

MR = Meter Reading

LF = LISN Factor

CL = Cable Loss

If MR is 30 dB, LISN Factor 1 dB, CL 1 dB

The result (MR) is

$$30 + 1 + 1 = 32 \text{ dBuV}$$

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Page : 6 of 19

Jan 20, 2005

EMI TEST REPORT



Report reference No: KST-FCC0501

5. Description of E.U.T.

Product Description

Manufactured By:	NEXTO DI Inc.
Address:	1912, Samho A B/D, 275-1 Yangjae-2Dong, Seocho-Gu, Seoul , South KOREA 137-940
Model:	ND-2500
Serial Number:	None

Configuration of EUT

Description	Manufacturer	Model / Part #	Serial Number
HDD	Seagate	ST92g11A	3KVOBGQX
Main Board	NEXTO DI Inc.	-	-
Battery	NEXTO DI Inc.	PR-062248	JS20041108
Compact Flash	SAMSUNG	-	030700175
Ac/dc adapter	DVE CO.,LTD.	DSA-0131F-12JP12	-

EUT Used cables

Cable Type	Shield	Length (m)	Ferrite	Connector	Connection Point 1	Connection Point 2
POWER	Yes	1.5	Y	DC INLET	Ac/dc adapter	EUT
USB	Yes	1.5	Y	USB	EUT	PC
IEEE1394	Yes	1.5	Y	IEEE1394	EUT	PC
-	-	-	-	CF Slot	EUT	CF Card

Operating conditions

The operating mode/system were as follows in details:

Operating: After connected from each USB & IEEE 1394 port of PC to E.U.T by USB cable and IEEE1394 cable. And connected from EUT to Compact Flash card . And then use to media player pogram for continuously data transmission and continuously 'H' pattern displayed on the Monitor

7. TEST RESULTS

7.1 Conducted emission

Measurement procedure

Mains

The measurements were performed in a shielded room. EUT was placed on a non-metallic table height of 0.4 m above the reference ground plane. They were folded back and forth forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane.

Each EUT power lead, except ground (safety) lead, were individually connected through a LISN to input power source.

Both lines of power cord, hot and neutral, were measured.

Used equipment

Equipment	Model no.	Serial no.	Makers	Next cal date	Used
Test receiver	ESPI3	100109	R&S	2005.3.15	●
L.I.S.N.	ESH2-Z5	100044	R&S	2005.4.23	●
	ESH2-Z5	100147	R&S	2005.4.23	●

Measurement uncertainty

Conducted Emission measurement : \pm 2.4 (K=2)

Test data

FREQ. (MHz)	LEVEL(dB μ V)		LINE Pol	Loss (dB)	LIMIT(dB μ V)		MARGIN(dB)	
	QP	AV			QP	AV	QP	AV
0.198	35.60	32.51	L	0.29	63.69	53.69	28.38	21.47
0.254	34.48	26.26	L	0.29	61.63	51.63	27.44	25.66
0.346	22.06	17.17	N	0.29	61.24	51.24	39.47	34.36
0.530	43.39	40.42	L	0.90	56.00	46.00	13.51	6.48
3.166	43.65	30.77	L	0.62	56.00	46.00	12.97	15.85
6.310	41.34	24.24	L	0.97	60.00	50.00	19.63	26.73
8.390	42.14	20.40	L	1.24	60.00	50.00	19.10	30.84
12.726	25.06	10.06	N	1.52	60.00	50.00	36.46	41.46

* Level = test receiver reading value

* Loss = LISN insertion Loss + Cable Loss

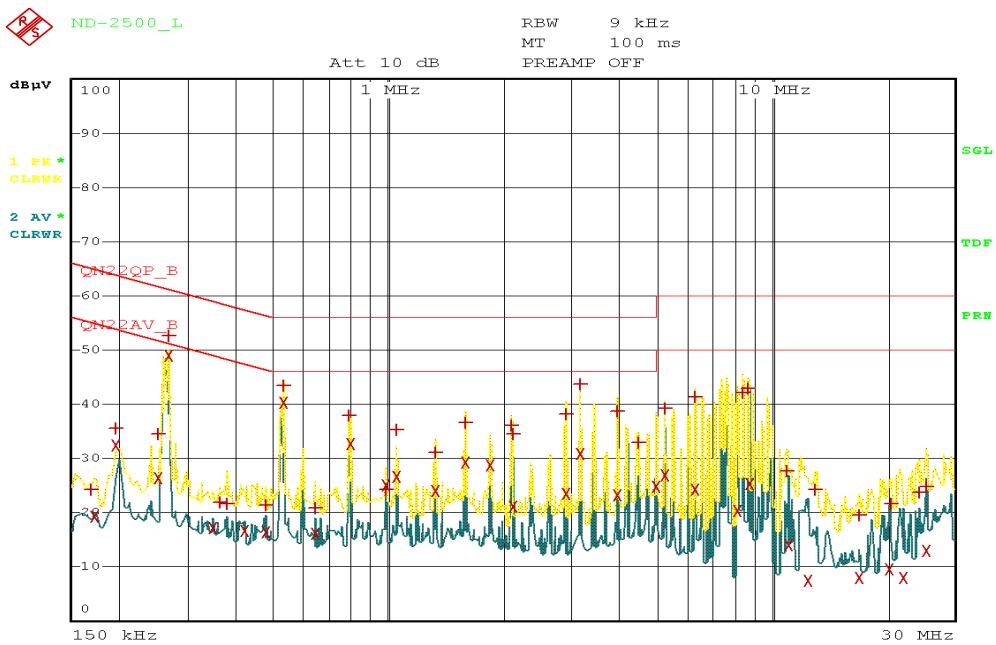
EMI TEST REPORT



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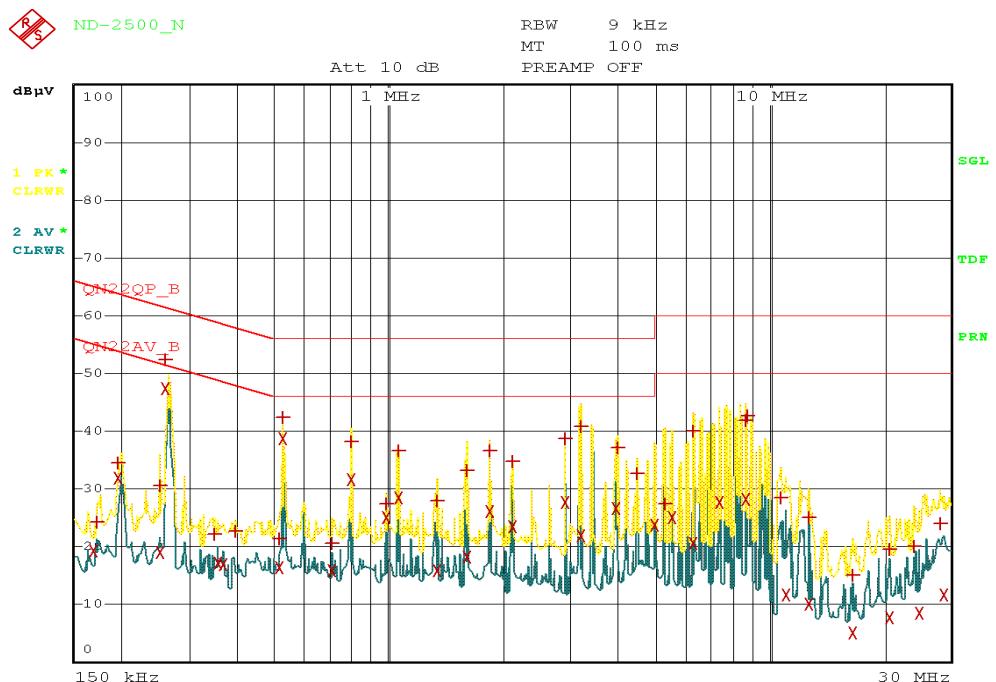
Conducted emission test graph

Line. Live



Date: 17.JAN.2005 15:48:40

Line. Neutral



Date: 17.JAN.2005 15:44:54

EMI TEST REPORT



Report reference No: KST-FCC0501

7.2 Radiated Emission

Measurement procedure

A pretest was performed at 3 m distances in a semi-anechoic chamber for searching correct frequency. The final test was done at a 10 m open area test site with a quasi-peak detector. EUT was placed on a non-metallic table height of 0.8 m above the reference ground plane. Cables connected to EUT were fixed to cause maximum emission. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

Used equipment

Equipment	Model no.	Serial no.	Makers	Next cal date
Test receiver	ESCS30	100111	R&S	2005.3.17
Ultra broadband antenna	HL562	100075	R&S	2005.3.16
Matching network	RAM	358.5414.02	R&S	-
Antenna Mast	AT14	none	Daeil EMC	-
Turn Table	TT15	none	Daeil EMC	-
10m Open area site	none	none	KOSTEC Lab	-
chamber(3 m)	none	none	FRANCONIA	-

Measurement uncertainty

Radiated Emission measurement :

30-300 MHz +3.96 dB / -4.04 dB

300-1000 MHz +3.04 dB / -3.00 dB

Test data

Freq (MHz)	Reading (dBuV/m)	P (H/V)	H (m)	A (.)	Antenna (dB)	Cable Loss (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
46.59	19.10	H	3.90	45	10.20	2.70	23.10	40.0	16.90
48.08	9.57	V	1.60	90	8.83	2.70	21.10	43.5	22.40
166.27	12.32	V	1.50	270	7.40	4.38	24.10	43.5	19.40
196.62	8.44	V	1.60	90	7.22	4.94	20.60	43.5	22.90
294.92	11.88	V	1.60	90	10.78	6.44	29.10	46.0	16.90
589.85	3.44	H	2.20	270	16.89	9.27	29.60	46.0	16.40
688.15	3.06	H	2.00	45	18.26	9.88	31.20	46.0	14.80
786.46	3.94	H	1.50	120	19.36	10.80	34.10	46.0	11.90

Reading = Test receiver reading / P= antenna Polarization / H=antenna H

A=turn table Angle / Antenna = antenna factor / Cable loss = used cable loss

Result = reading + antenna + loss / Margin = Limit - result

* Receiving Antenna Mode: Horizontal, Vertical / * Test site: 3 m Open area site