

FCC EVALUATION REPORT FOR CERIFICATION

KOREA Standard Technology

Test report No.: KST-FCC0630

Applicant's Name : NEXTO DI Inc.
Applicant's Address : E-702, Digital Empire B/D, 980-3, Youngtong-Dong,
Youngtong –Gu, Suwon-Si, Gyeonggi-Do, Korea
Manufacturer's Name : NEXTO DI Inc.
Manufacturer's Address : E-702, Digital Empire B/D, 980-3, Youngtong-Dong,
Youngtong –Gu, Suwon-Si, Gyeonggi-Do, Korea

EUT's:

FCC ID : SWOND2525
Product Name : External Storage Equipment
Model Number(s) : ND-2525
Product Options : None
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 C63.4-2003.

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 : October 4, 2006

Issued Date : October 9, 2006

Tested by:



Choi, Jae-Rak

Approved by:



Lee, Weon-Woo

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1. Description of Device

- | | |
|-------------------------------|--|
| 1) Kind of equipment: | External Storage Equipment |
| 2) FCC ID: | SWOND2525 |
| 3) Model Name: | ND-2525 |
| 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-12KA
Manufacturer: Dee Van Electronics CO., LTD.
Serial no: None |
| 8) Power : | 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: | September, 2006 |
| 11) Manufacture: | NEXTO DI Inc. |
| 12) Description of Operating: | Down & Upload Mode |
| 13) Dates of Test: | October 4, 2006 |
| 14) Place of Tests: | KOSTEC Co., Ltd. EMC site |
| 15) Test Report No.: | KST-FCC0630 |



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 & Test Lab ;

:180-254, Annyung-Ri, Taeon-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: **KR0041**

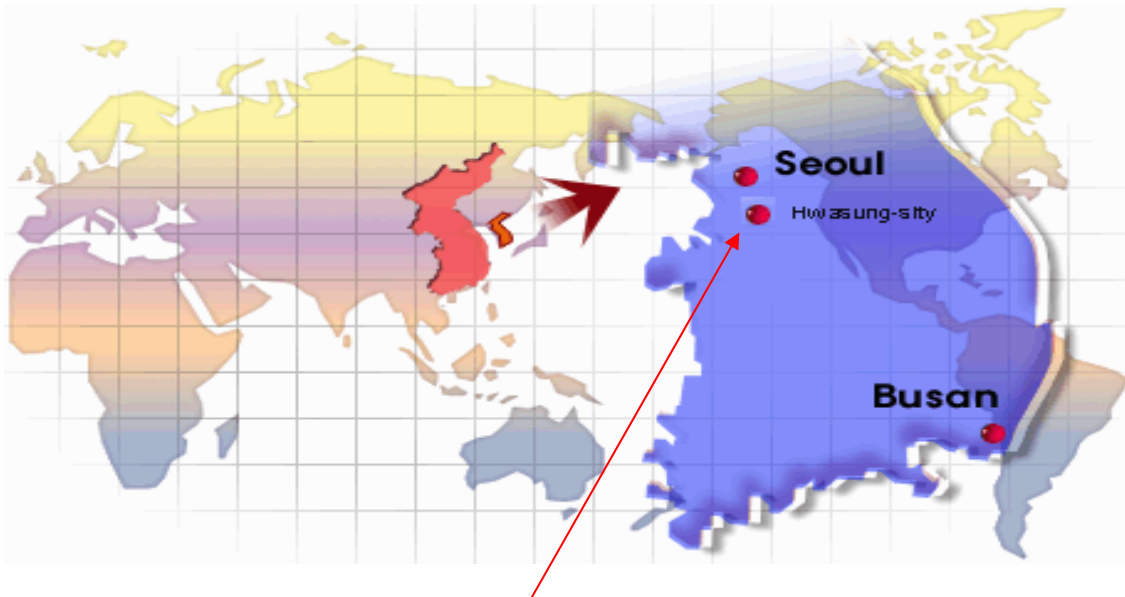
FCC Filing Number. : **525762**

VCCI Membership Number : **2005**

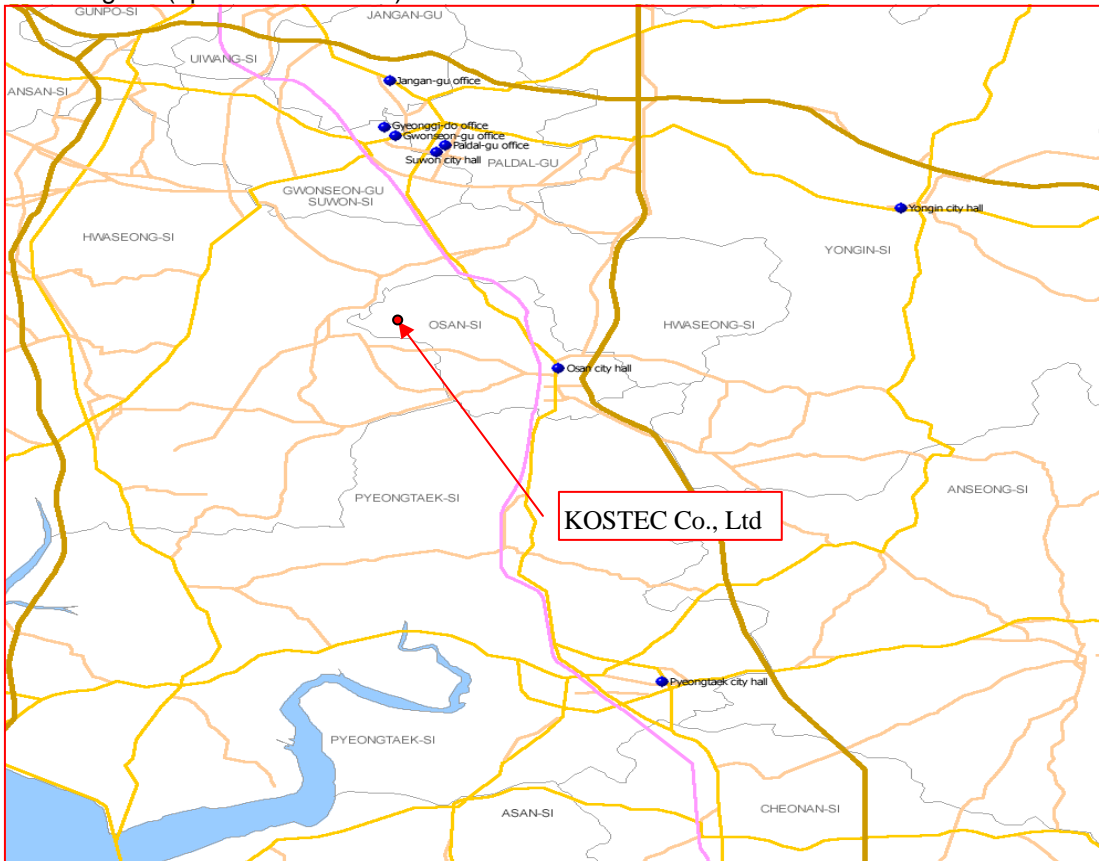
VCCI Registration Number : **R-1657 / C-1763**

3. Route Map of Measurement Facility

Korea



Hwasung-shi (open area test site)



KOSTEC Co., Ltd.
180-254, Anyung-Ri, Taeon-Yup, Hwasung-shi, Kyunggi-do, Korea
Tel : +82-31-222-4251 Fax: +82-31-222-4252
<http://www.kostec.com>

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4. Test System Configuration

Operation Environment

Ambient	<u>Temperature</u> (°C)	<u>Humidity</u> (%)	<u>Pressure</u> (hPa)
10 m Open Area site	27	41	1009
Shielded room:	25	48	1009

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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5. Description of E.U.T.

Product Description

Manufactured By:	NEXTO DI Inc.
Address:	E-702, Digital Empire B/D, 980-3, Youngtong-Dong, Youngtong –Gu, Suwon-Si, Gyeonggi-Do, Korea
Model:	ND-2525
Serial Number:	None

Configuration of EUT

Description	Manufacturer	Model/Part #	Serial Number
HDD	FUJITSU(THAILAND) Co., Ltd.	MHV2060AT	NS11TSA266AJ
Main Controller	NEXTO DI Inc.	None	None
Battery	None	PL-654060	6B2100265

EUT Used cables

Cable Type	Shield	Length (m)	Ferrite	Connector	Connection Point 1	Connection Point 2
DC IN	Yes	1.5	Y	DC INLET	Ac/dc adapter	EUT
USB	Yes	1.5	Y	USB	EUT	PC
Battery	Yes	0.1	-	Jack	EUT	Battery
IEEE1394	Yes	1.2	-	IEEE1394	-	-

Operating conditions

The operating mode/system was as follows in details:

Operating: After connected from each USB port of PC to E.U.T by USB cable. And connected from EUT to Compact Flash card Adapter . “Down & Upload” program for data transmission and continuously “Down & Upload” 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	2007.3.3	●
L.I.S.N.	ESH2-Z5	100044	R&S	2007.5.1	●
	ESH3-Z5	100147	R&S	2007.8.11	●

Measurement uncertainty

Conducted Emission measurement: ± 2.4 dB(K=2)

Test data

< Class B >

FREQ. (MHz)	LEVEL(dB μ V)		LINE Pol	Loss (dB)	LIMIT(dB μ V)		MARGIN(dB μ V)	
	QP	AV			QP	AV	QP	AV
0.178	45.23	22.89	N	0.08	64.58	54.58	19.27	31.61
0.206	51.57	40.34	N	0.29	63.37	53.37	11.51	12.74
0.246	45.44	18.10	N	0.29	61.89	51.89	16.16	33.50
0.614	36.36	24.45	L	0.90	56.00	46.00	18.74	20.65
2.998	36.38	11.38	L	0.57	56.00	46.00	19.05	34.05
3.526	36.42	18.10	L	0.62	56.00	46.00	18.96	27.28
5.962	40.57	21.83	N	0.75	60.00	50.00	18.68	27.42
7.294	43.69	25.14	N	1.20	60.00	50.00	15.11	23.66
8.326	45.01	27.86	N	1.24	60.00	50.00	13.75	20.90

* Level = test receiver reading value

* Loss = LISN insertion Loss + Cable Loss

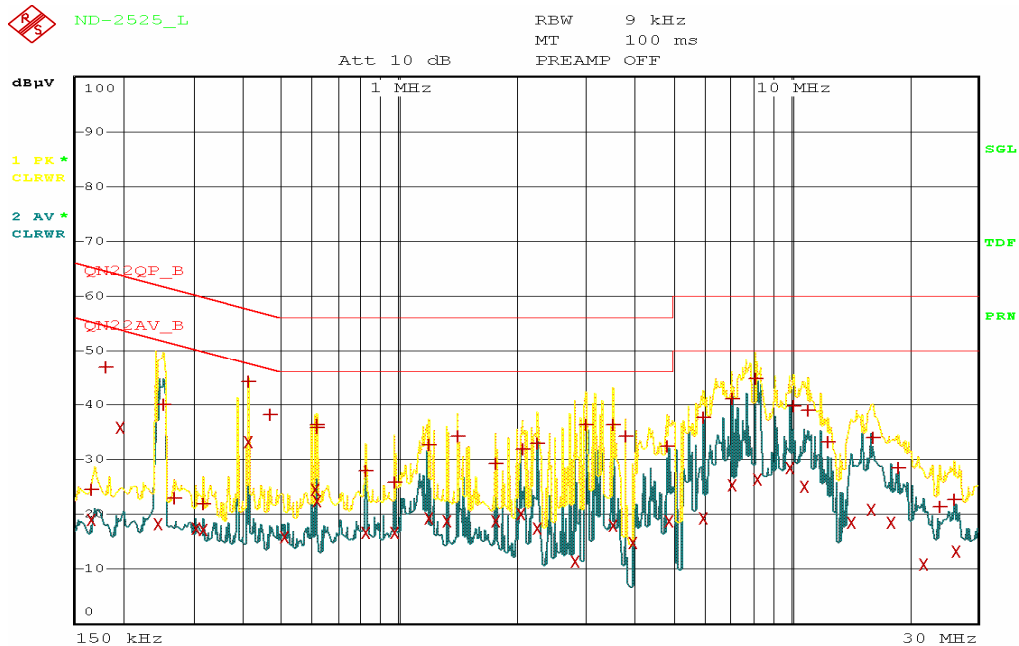
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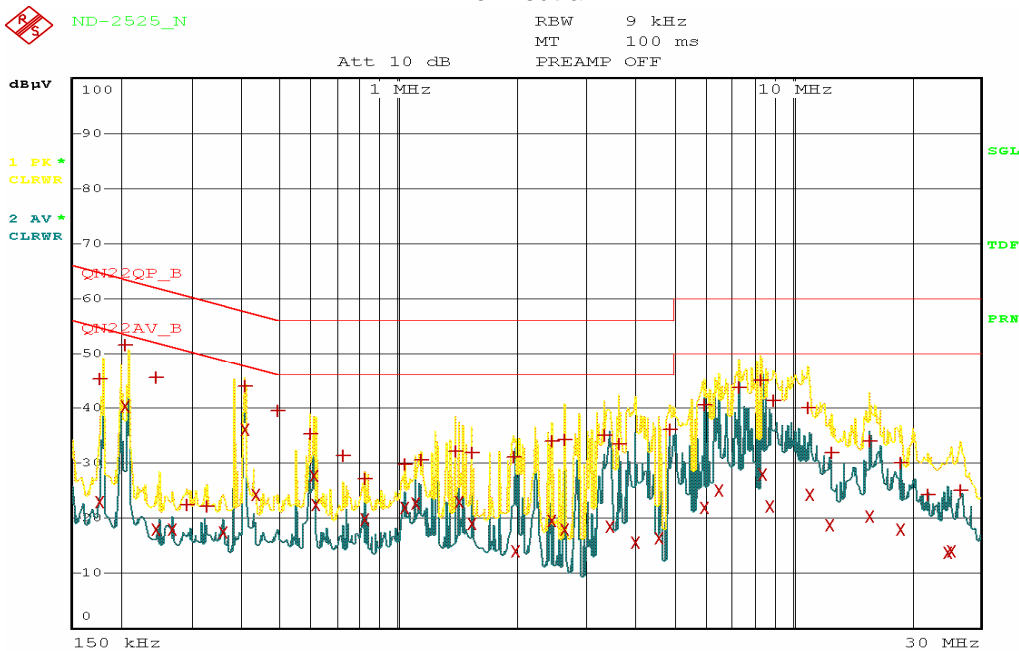
Conducted emission test graph

Line. Live



Date: 4.OCT.2006 11:50:59

Line. Neutral



Date: 4.OCT.2006 11:42:17

KOSTEC Co., Ltd.
180-254, Anyung-Ri, Taean-Yup, Hwasung-shi, Kyunggi-do, Korea
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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	2007.3.06
Ultra broadband antenna	HL562	100075	R&S	2007.3.23
Antenna Mast	AT14	none	Daeil EMC	-
Turn Table	TT15	none	Daeil EMC	-
10 m Open area site	none	none	KOSTEC Lab	-
chamber(3 m)	none	none	FRANCONIA	-
Test receiver	ESCS30	100111	R&S	2007.3.06

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

< Class B >

Freq (MHz)	Reading (dBuV/m)	P (H/V)	H (m)	A (.)	Antenna (dB)	Cable Loss (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
40.00	11.80	V	1.50	180	14.10	2.50	28.40	40.0	11.60
60.00	22.90	V	1.50	180	3.60	3.30	29.80	40.0	10.20
120.00	13.90	V	1.50	180	9.60	3.70	27.20	43.5	16.30
147.46	10.13	V	1.70	170	7.60	4.17	21.90	43.5	21.60
196.62	14.64	H	2.00	160	7.22	4.94	26.80	43.5	16.70
688.16	9.86	H	1.50	200	18.26	9.88	38.00	46.0	8.00
786.47	10.04	H	1.40	180	19.36	10.80	40.20	46.0	5.80
835.63	8.76	H	1.20	180	20.20	10.94	39.90	46.0	6.10

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

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

