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EMC TEST REPORT For FCC

Test Report No.	:	CTK01-F094
Date of Issue	:	December 6, 2001
Model/Type No:	:	NEXTERM LGESP
Kind of Product	:	WEB Terminal
Applicant	:	Minet INC
Applicant Address	:	3F Se-A Venture Tower, 846-12 Daechi-dong, Gangnam-gu, Seoul, Korea
Manufacturer	:	Minet INC
Manufacturer Address	:	3F Se-A Venture Tower, 846-12 Daechi-dong, Gangnam-gu, Seoul, Korea
Contact Person	:	Mr. S. H. Jo
Telephone	:	+82-2-3453-5306 (Ext. 287)
Received Date	:	July 31, 2001
Test period	:	Start: June 01, 2001 End: Dec. 05, 2001
Test Results	:	☒ **In Compliance** ☐ **Not in Compliance**

The test results presented in this report relate only to the object tested.

CERTiTEK Standards Laboratory Co., Ltd. is accredited by Korea Laboratory Accreditation Scheme (KOLAS) which signed the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the above test item(s) and test method(s).

Tested by

Michael Jang
EMC Test Engineer
Date: December 6, 2001

Reviewed by

James Hong
EMC Technical Manager
Date: December 6, 2001

REPORT REVISION HISTORY

Date	Revision	Page No
Dec. 6, 2001	(CTK01-F094) Issued	All

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1.0 General Product Description

The product is WEB Terminal.

1.0.1 Tested Equipment

☒ Unless otherwise indicated, all tests were conducted on Model NEXTERM LGESP.

☐ Tests performed on Model _____ were considered to be representative of Model(s) _____.

1.0.2 Equipment Size, Mobility and Identification

Dimensions:	28 by 29.5 by 5.5	☒ cm ☐ in
Mobility:	☐ Hand-Held ☒ Table-top	☐ Floor-standing
Serial No.:	-	

1.0.3 Electrical Ratings

Input:	1. EUT : DC 5.0V, 2.2A 2. Adaptor : AC 100-240V, 0.5A, 50-60Hz
Output:	1. EUT : Not applicable 2. Adaptor : DC 5.0V, 2.2A

1.0.4 Test Voltage & Frequency (Using the Adaptor)

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

Voltage:	120VAC
Frequency:	60Hz

1.0.5 Clock & Other Frequencies Utilized

CPU : 206 MHz
LAN : 20 MHz
USB : 48 MHz
AUDIO : 11.2896 MHz
GRAPHIC : 12.2880 MHz

1.1 Model Differences

Not applicable

1.2 Device Modifications

The following modifications were necessary for compliance:

Not applicable

1.3 EUT Configuration(s)

See Appendix A for individual test set-up configuration(s). The following peripheral devices and/or interface cables were connected during the measurement:

☒ Peripheral Devices

Device	Manufacturer	Model No.	Serial No.	FCC ID or DoC
Adaptor	ACBEL POLYTECH	API0AD02	002898	-
Monitor	Hewlett Packard	D2813	TW61100109	DOC
MOUSE (PS/2 type)	PANWEST	Cyber Beetle	PM1F184045737	DOC
MOUSE (USB type)	PANWEST	Cyber Beetle	PM1F154000055	DOC
MOUSE (USB type)	PANWEST	Cyber Beetle	PM1F144009945	DOC
MOUSE (Serial type)	Microsoft	BASM1	4475951-20000	DOC
KEYBOARD	World Com Mart	KB120	-	D840902 MIC
HEADSET	CAMAC	CMK-C3	-	-

☒ Cable Description

#	Description	Ferrited	Length (m)	Other Details
1	DC Output, Unshielded	No	1.5	Connect to DC Input
2	AC power cable, Unshielded	No	1.8	Connect to AC power
3	Monitor cable, Shielded	No	1.8	Connect to the EUT
4	Mouse cable, Shielded	No	2.0	PS/2 Type
5	Mouse cable, Shielded	No	2.0	USB Type
6	Mouse cable, Shielded	No	2.0	USB Type
7	Mouse cable, Shielded	No	2.0	Serial Type
8	Headset cable, Unshielded	No	2.0	-
9	Keyboard cable, Shielded	No	2.0	PS/2 Type
10	AC Power, Unshielded	No	1.8	Connect to AC Power from Monitor
11	LAN cable, Unshielded	No	2.0	For the LAN port

n/a = not available

1.4 Test Software

☒ Pinging
☐ Not applicable

1.5 EUT Operating Mode(s)

Equipment under test was operated during the measurement under the following conditions:

☐ Test program (H-Pattern)
☐ Standby
☒ Practice operation
☐ Test program (color bar)
☐ Test program (customer specific)

1.6 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

1.7 Test Facility

The measurement facility is located at 386-1, Ho-Dong, Yongin-City, Kyungki-Do, Korea 449-100. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

1.8 Measurement Procedure

Preliminary AC power line conducted emissions tests were performed shielded room. To find worst mode, several typical mode and typical cable position were tested.
Final AC power line conducted emissions test was performed shielded room. (location is same as Preliminary test)
Based on the preliminary tests of the EUT, final test was proceeded worst case test mode and cable configuration.

Preliminary radiated emissions test were performed anechoic chamber (Distance of antenna and EUT was 3 m). To find worst mode, several typical mode and typical cable position were tested and peak level and frequency were recorded.

Final radiated emissions test was performed Open Area Test Site. Based on the preliminary tests of the EUT, final test was proceeded worst case test mode and cable configuration.

* Measurement procedures was In accordance with ANSI C63.4-1992 7.2.3, 7.2.4, 8.3.1.1, 8.3.1.2

1.9 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
USA	**FCC**	3 and 10 meter Open Area Test Sites to perform FCC Part 15/18 measurements.	93250
JAPAN	**VCCI**	10 meter Open Area Test Site and one conducted site.	R-948, C-986
KOREA	**MIC**	10 meter Open Area Test Site and EMS (ESD, RS, EFT/Burst, Surge)	No. 51, KR0025
International	**KOLAS**	EMC	

2.0 Emissions Test Regulations

The emissions tests were performed according to following regulations:

☐ EN 50081-1 /1992

☐ EN 55011 /1998 ☐ Group 1 ☐ Group 2
☐ Class A ☐ Class B

☐ EN 55013 /A12:1994

☐ EN 55014 /1987 ☐ Household appliances and similar
☐ Portable tools
☐ Semiconductor devices

☐ EN 55014 /A2:1990

☐ EN 55014 /1993 ☐ Household appliances and similar
☐ Portable tools
☐ Semiconductor devices

☐ EN 55015 /1987
☐ EN 55015 /A1:1990
☐ EN 55015 /1993

☐ EN 55022 /A1:1995 ☐ Class A ☐ Class B

☐ EN 55022 /1998 ☐ Class A ☐ Class B

☐ EN 61000-3-2 /1995 (EN 60555 Part 2 /4.87)
☐ EN 61000-3-3 /1995 (EN 60555 Part 3 /4.87)

☐ BS

☐ VCCI V-3/99.05 : 1999 ☐ Class A ☐ Class B

☒ FCC Part 15 SUBPART B ☐ Class A ☒ Class B

☐ AS 3548 (1992) ☐ Class A ☐ Class B

☐ CISPR 11 (1990) ☐ Group 1 ☐ Group 2
☐ Class A ☐ Class B

☐ CISPR 22 (1993) ☐ Class A ☐ Class B

2.1 Conducted Voltage Emissions

Test Date
December 4, 2001

Test Location
EMI-CE: Shielded Room

Test Instruments

☒ Field Strength Meter	Rohde Schwarz	ESHS30	828144/002

Test Accessories

☐ LISN	EMCO	3825/2	9206-1971
☒ LISN	EMCO	3825/2	9409-2246
☒ LISN	EMCO	3825/2	9607-2574
☒ Control PC	HP	Vectra 500	SG72000192

Frequency Range of Measurement
☐ 150 kHz to 30 MHz
☒ 450 kHz to 30 MHz
☐ _____

Instrument Settings
IF Band Width: 9 kHz

Test Results
The requirements are:

☒ MET minimum margin is 3.9 dBµV at 1.30 MHz
☐ NOT MET limit exceeded by maximum of ___ dBµV at _____ MHz
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

2.2 Radiated Electric Field Emissions

Test Date
December 5, 2001

Test Location
☐ EMI-OATS: Testing was performed at a test distance of 10 m
☒ EMI-OATS: Testing was performed at a test distance of 3 m

Test Instruments

☒ Field Strength Meter	Rohde Schwarz	ESVS30	826638/008

Test Accessories

☒ ULTRA Broadband Antenna	R & S	HL562	361324/014
☐ Biconical Antenna	Schwarzbeck	BBA9106	41-00201
☐ Biconical Antenna	EMCO	3110B	9607-2564
☐ Log-periodic Antenna	EMCO	3146	9607-4567

Frequency Range of Measurement
30 MHz to 2 GHz

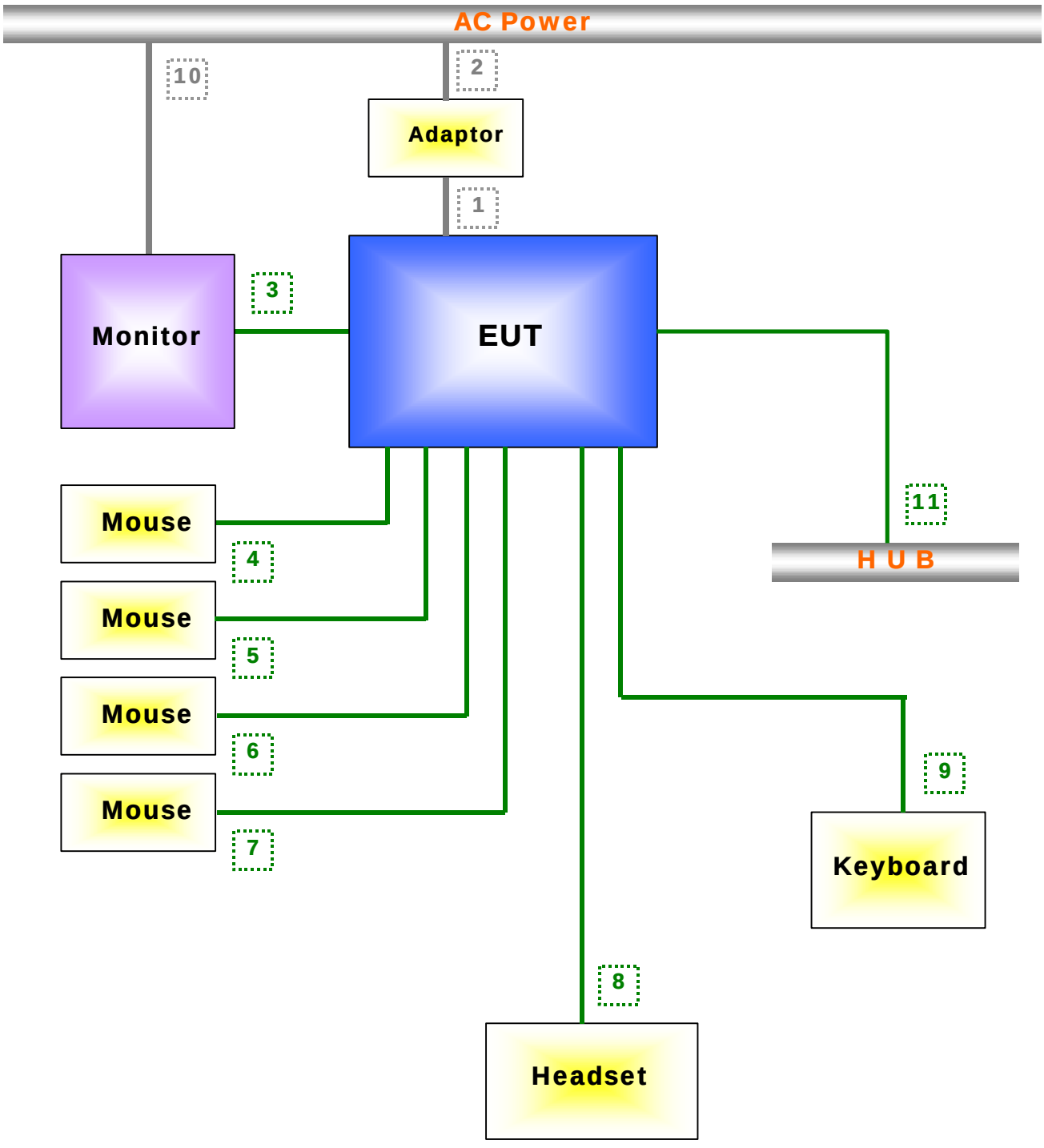
Instrument Settings
IF Band Width: 120 kHz

Test Results
The requirements are:

☒ MET minimum margin is 1.50 dB (μV/m) at 767.3 MHz
☐ NOT MET limit exceeded by maximum of ___ dB(μV/m) at _____ MHz
☐ NOT APPLICABLE

Remarks
See Appendix A for test data

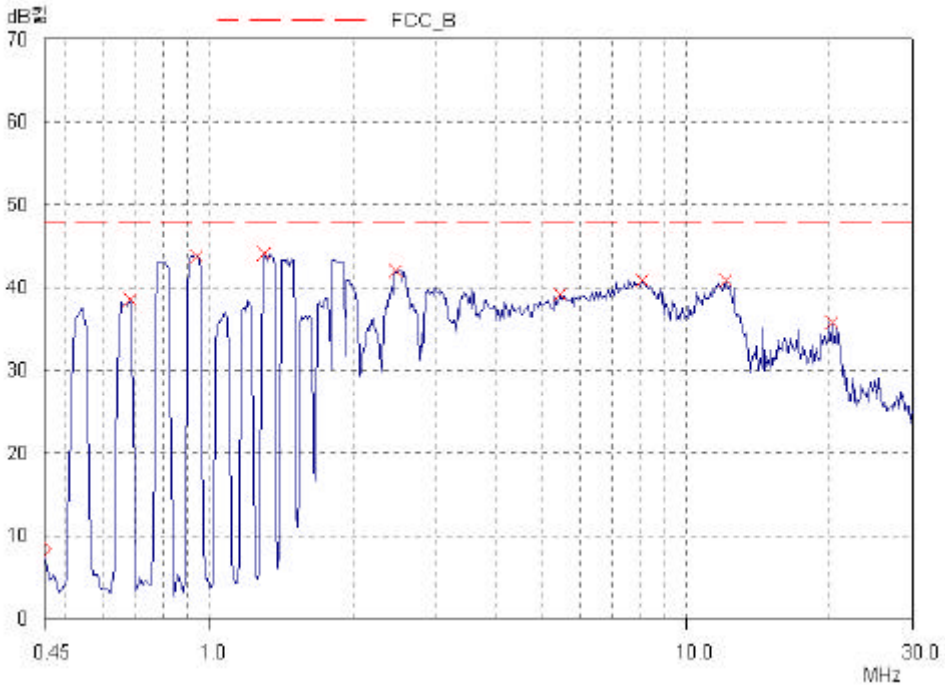
Configuration

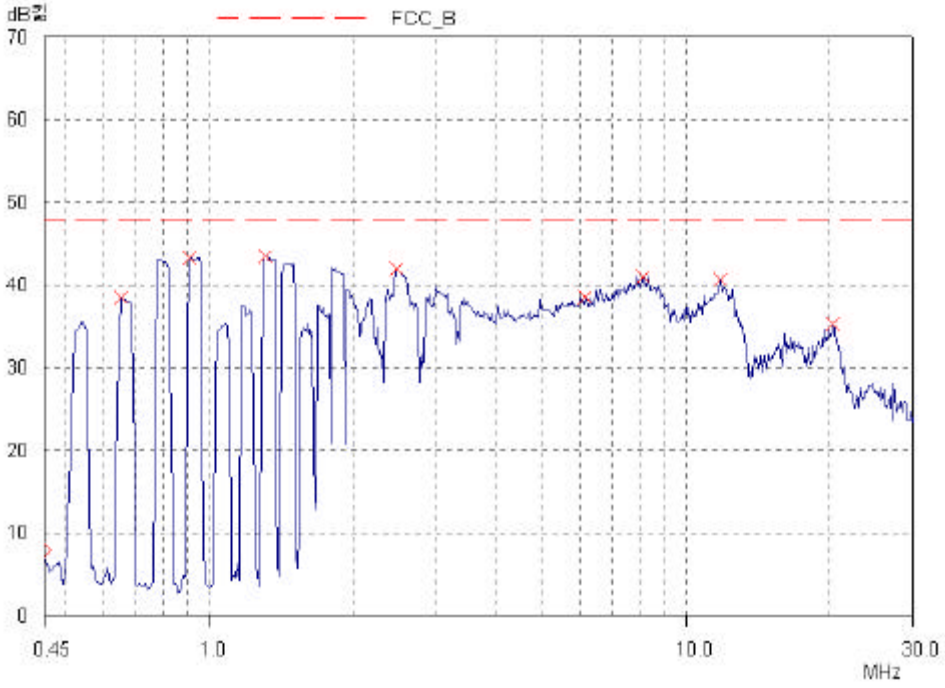


APPENDIX A – TEST DATA

Conducted Voltage Emissions (Quasi-Peak reading)

Frequency	Correction Factor		Line	Quasi-peak				Average			
				Limit	Reading	Result	Margin	Limit	Reading	Result	Margin
[MHz]	LISN	Cable		[dBuV]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dB]
0.68	0.5	0.1	N	48.0	37.9	38.5	9.5				
0.94	0.3	0.1	N	48.0	43.4	43.8	4.2				
1.30	0.3	0.1	N	48.0	43.7	44.1	3.9				
2.46	0.3	0.1	N	48.0	41.7	42.1	5.9				
5.42	0.3	0.1	N	48.0	38.8	39.2	8.8				
6.13	0.3	0.1	L	48.0	38.1	38.5	9.5				
8.14	0.3	0.2	L	48.0	40.6	41.1	7.0				
12.11	0.3	0.3	N	48.0	40.3	40.9	7.1				
20.16	0.6	0.3	N	48.0	34.9	35.8	12.2				





Radiated Electric Field Emissions (Quasi-Peak reading)

Frequency [MHz]	Reading [dBuV/m]	Pol.	Height [m]	Correction Factor		Limits [dBuV/m]	Result [dBuV/m]	Margin [dB]
				Antenna	Cable			
84.00	24.6	H	3.5	8.70	0.90	40.0	34.15	5.85
101.60	26.9	H	3.5	9.35	1.00	43.5	37.27	6.23
105.60	24.8	H	3.8	9.40	1.00	43.5	35.21	8.29
128.60	23.7	H	3.5	9.10	1.30	43.5	34.09	9.41
132.60	24.5	H	3.8	8.60	1.30	43.5	34.38	9.12
671.00	13.3	H	3.8	18.10	3.80	46.0	35.21	10.79
735.80	12.4	H	3.8	19.00	4.20	46.0	35.61	10.39
767.30	20.9	H	3.5	19.10	4.50	46.0	44.50	1.50
1153.00	13.7	H	3.5	23.20	5.40	54.0	42.29	11.71
1343.00	7.1	V	1.3	24.20	5.80	54.0	37.13	16.87