

EMC TEST REPORT

Electromagnetic Compatibility

Emission Immunity

Test Report File No. : 08-IST-0005

Date of Issue : September 10, 2008

Basic Model(s) : ULTra U-801

Kind of Product : Power Saving Appliance

Applicant : KESECO CO.,LTD.

Address : 8F, NanYoung Bldg., 284-49 SungSuDong2GA, SungDong-Gu,
Seoul, Korea (133-120)

Manufacturer : KESECO CO.,LTD.

Address : 8F, NanYoung Bldg., 284-49 SungSuDong2GA, SungDong-Gu,
Seoul, Korea (133-120)

Test Result

Positive

Negative

Reviewed By



S.J.CHO / EMC Group Manager

Approved By



B.S.Kim / Chief

Comment(s)

- The test regulations are in page 3.
- This test report consists of 10 pages with appendix.
- The test result only responds to the tested sample. This report shall not be reproduced except in full, without the allowance of the test laboratory.



TEST REGULATIONS

The tests were performed according to 2004/108/EC directive and following regulations :

Emissions

◇ EN55022:1998 +A1:2000 , +A2:2003

Immunity

◆ EN55024:1998 +A1:2001, +A2:2003

◇ EN 61000-4-2:1995 +A1:1998, +A2:2001

◇ EN 61000-4-3:2006

◇ EN 61000-4-4:2004

◆ EN 61000-4-5:1995 +A1:2001

◇ EN 61000-4-6:1996 +A1:2001

◇ EN 61000-4-8:2003 +A1:2001

◇ EN 61000-4-11:2004

Generic

◇ EN61000-3-2:2006

◇ EN61000-3-3:1995 +A1:2001, +A2:2005

Note :

- ◆ means the test is applicable,
- ◇ is not applicable.

INFORMATION OF TEST LABORATORY

IST EMC LABORATORY

400-19, Singal-dong, Giheung-gu, Yongin-si, Gyeonggi-do, 446-599, Korea

TEL : +82 31 326 6700

FAX : +82 31 326 6799

Measurement Uncertainty

The measurement uncertainty was evaluated for all test items listed in this report. Also it, " The evaluation and treatment of uncertainty ", is described in IST Quality Manual according to ISO17025 Guide. The data and results described in this report are true and include evaluated uncertainty. It may cause some deviation of uncertainty by change component or process of the test for similar products.

PRODUCT INFORMATION

Input Power	220 Vac, 60 Hz
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-EMC suppression device is not used during the test.

-Find information in user manual.

Equipment Under Test

EUT Type :

- Table-Top. Floor-Standing.
 Table-Top and Floor-Standing(Combination).

Operation - mode of the E.U.T. :

The equipment under test was operated during the measurement under following conditions :

- Standby Mode
 Operational Condition : Normal operation mode.

Configuration of the equipment under test :

Following peripheral devices and interface cables were connected during the measurement :

Equipment	Type	Brand	Serial No.
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Connecting Interface Cables :

SUMMARY

Emissions

- Conducted Emissions (From 0.15 MHz To 30 MHz)
The requirements are MET Not MET
Minimum limit margin
Maximum limit exceeding

Remarks : Limits are kept with more than 3dB margin

- Radiated Emissions (From 30 MHz To 1GHz)
The requirements are MET Not MET
Minimum limit margin
Maximum limit exceeding

Remarks : Limits are kept with more than 3dB margin

Generic Test

- Harmonic current
The requirements are MET Not MET
- Voltage Fluctuations
The requirements are MET Not MET

Immunity

- Electrostatic Discharge MET Not MET
- Radiated Electromagnetic Fields MET Not MET
- Electrical Fast Transient(Burst) MET Not MET
- Surge Transient MET Not MET
- Conducted Susceptibility MET Not MET
- Power Frequency Magnetic MET Not MET
- Voltage Dips, interruption MET Not MET

Test date

Begin of test date: September 10, 2008

End of test date: September 10, 2008

Note :

Prepared By



S.J.OH / EMC Engineer

- means the test is applicable, is not applicable.

Surge Transient

[Applicable]

◆ Test Specification

- Pulse amplitude 1.0 kV : Line to line 2.0 kV : Line to line
- Power line : 3.0 kV : Line to line
Pulse amplitude 0.5 kV 1.0 kV
- Data line : 2.0 kV
Source impedance : 18 μ F : Line to line 10 Ω + 9 μ F : Line to ground
 40 Ω + 0.1 μ F 40 Ω + 0.5 μ F
Number of surges : 3 surges/angle 5 surges/polarity
Angle 0° 90°
 180° 270°
Repetition rate : 10 sec. 60 sec.
Polarity : Positive Negative

Location of Coupling:

- name of lines: Power cable length : 2.5 m
type of lines - shielded - unshielded
status of lines: - passive - active
kind of transmission: - analog - digital

◆ Result :

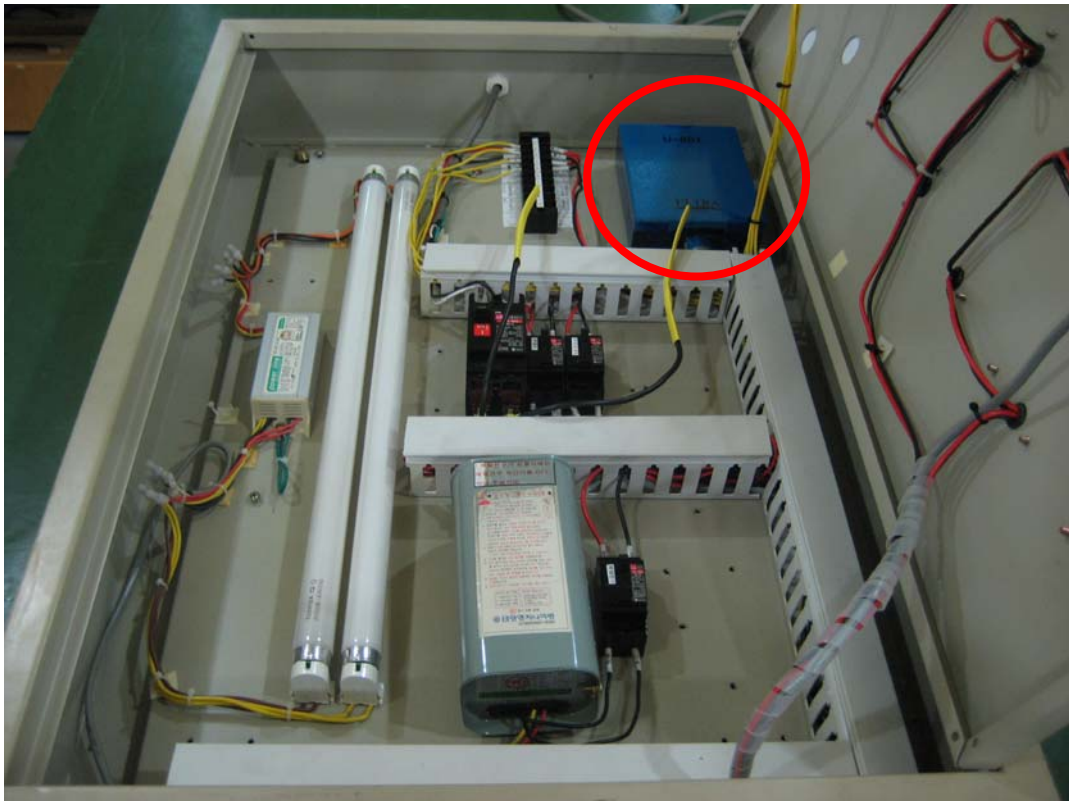
- No degradation of function **Met Criterion A**
 Distortion of function **Met Criterion B - incandescent lamp**
 Error of function **Met Criterion C - fluorescent lamp**
 Loss of function **Unrecoverable Failure -**

Note : 1 kV - A fluorescent and incandescent lamp wear flickering. : Pass
2 kV - A incandescent lamp was flickering and ballast of fluorescent
was broken. : incandescent lamp - Pass, fluorescent lamp - Fail
3 kV - A incandescent lamp was flickering. : incandescent lamp - Pass

Appendix A. The EUT Photos



EUT View



EUT Set-up

Appendix B. Test Setup Photos



Surge Transient(Fluorescent)



Surge Transient(Incandescent)