

## FCC EVALUATION REPORT FOR CERTIFICATION

*KOREA Standard Technology*

*Test report No.: KST-FCC0541*

**Applicant's Name** : NEW WORLD NET CO., LTD  
**Applicant's Address** : 3F, Taehwa B/D. 1-3 Dongmun-Dong, Jung-Gu, Daegu, Korea  
**Manufacturer's Name** : NEW WORLD NET CO., LTD  
**Manufacturer's Address** : 3F, Taehwa B/D. 1-3 Dongmun-Dong, Jung-Gu, Daegu, Korea

### EUT's:

**FCC ID** : TL8NEW-H100  
**Product Name** : USB STORAGE  
**Model Number(s)** : NEW-H100  
**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 C63.4-2003.

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 : September 2, 2005.**

**Issued Date : September 5, 2005.**

**Tested by:**



Jung, Jae-Yoon

**Approved by:**



Lee, Weon-Woo



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## 1. Description of Device

- |                               |   |
|-------------------------------|---|
| 1) Kind of equipment:         | USB STORAGE   |
| 2) FCC ID:                    | TL8NEW-H100   |
| 3) Model Name:                | NEW-H100  |
| 4) Serial No.:                | None  |
| 5) Type of Sample Tested:     | Pre-production  |
| 6) High Frequency Used:       | 12.000 MHz  |
| 7) Adapter                    | -None   |
| 8) Power Rating:              | 1phase AC100-240V, 50/60Hz, 300W<br>Output: DC 12V, 5V - PC POWER |
| 9) Tested Power supply:       | 1phase AC120V, 60Hz   |
| 10) Date of Manufacture:      | September 2005  |
| 11) Manufacture:              | NEW WORLD NET CO., LTD.   |
| 12) Description of Operating: | UP & DOWN MODE  |
| 13) Dates of Test:            | September 5, 2005   |
| 14) Place of Tests:           | Korea Standard Technology EMC site                                |
| 15) Test Report No:           | KST-FCC0541   |

## 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

Test Lab

**MIC**(Ministry of Information and Communication) Number: **KR0041**

**FCC** Filing Number: **525762**

**VCCI** Membership Number: **2005**

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

**KOLAS**(Korea Laboratory Accreditation Scheme) Number: **232**

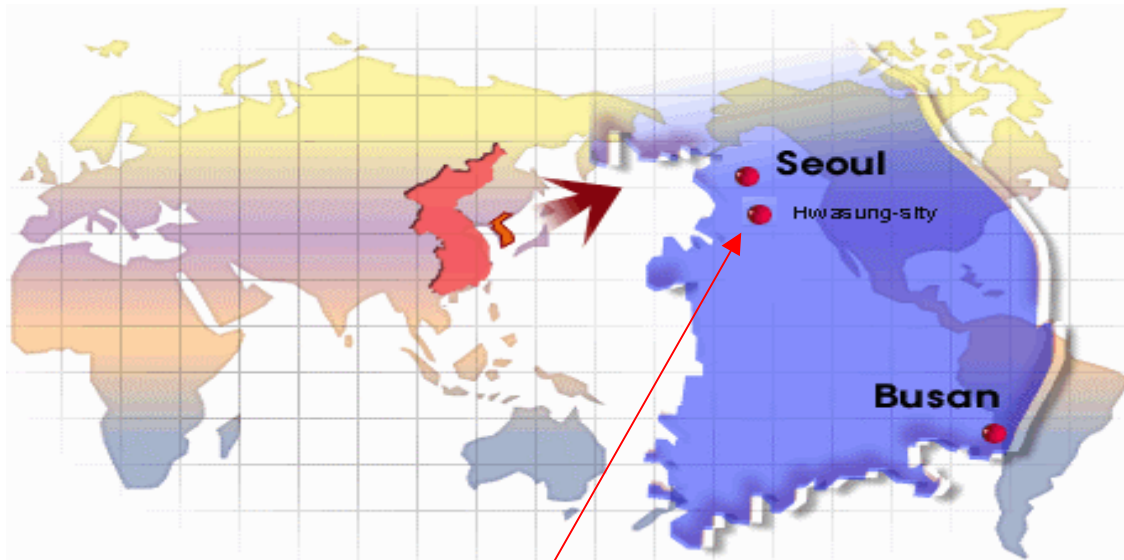
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## 3. MAP

Korea



Hwasung-shi (open area test site)



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

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## 4. Test System Configuration

### Operation Environment

| Ambient            | <u>Temperature</u><br>( ° C ) | <u>Humidity</u><br>( % ) | <u>Pressure</u> ( hPa ) |
|--------------------|-------------------------------|--------------------------|-------------------------|
| 10m Open Area site | 28                            | 47                       | 1004                    |
| Shielded room:     | 23                            | 38                       | 1004                    |

### 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 1dB

The result (MR) is

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

## 5. Description of E.U.T.

### Product Description

|                  |   |
|------------------|---|
| Manufactured By: | NEW WORLD NET CO., LTD                                  |
| Address:         | 3F, Taehwa B/D. 1-3 Dongmun-Dong, Jung-Gu, Daegu, Korea |
| Model:           | NEW-H100  |
| Serial Number:   | None  |

### Configuration of EUT

| Description     | Manufacturer           | Model / Part # | Serial Number |
|-----------------|------------------------|----------------|---------------|
| Main Controller | NEW WORLD NET CO., LTD | None           | None          |
| HDD             | Seagate                | ST6502IIFX     | 3ME69T7Z      |
|                 |                        |                |               |
|                 |                        |                |               |
|                 |                        |                |               |

### EUT Used cables

| Cable Type | Shield | Length (m) | Ferrite | Connector | Connection Point 1 | Connection Point 2 |
|------------|--------|------------|---------|-----------|--------------------|--------------------|
| POWER      | Y      | 1.5        | -       | AC INLET  | PC                 | Main power source  |
| USB        | Y      | 0.5        | Y       | USB       | EUT                | PC                 |
| PS/2       | Y      | 1.2        | Y       | Din       | PC                 | Keyboard           |
| PS/2       | Y      | 1.5        | -       | Din       | PC                 | Mouse              |
| Parallel   | Y      | 1.5        | Y       | D-sub     | PC                 | Printer            |
| VGA        | Y      | 1.5        | Y       | D-sub     | PC                 | Monitor            |
| Audio      | -      | 2.0        | -       | Jack      | 5.1 CH Headset     | PC                 |

### Operating conditions

The operating mode/system were as follows in details:

Operating: After Connected from personal computer to E.U.T by USB cable. And then use to "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    | 2006.3.15     |      |
| L.I.S.N.      | ESH2-Z5   | 100044     | R&S    | 2006.4.23     |      |
|               | ESH3-Z5   | 100147     | R&S    | 2006.8.12     |      |

#### Measurement uncertainty

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

#### Test data

| FREQ.<br>(MHz) | LEVEL(dB $\mu$ V) |       | LINE<br>PoI | Loss<br>(dB) | LIMIT(dB $\mu$ V) |       | MARGIN(dB) |       |
|----------------|-------------------|-------|-------------|--------------|-------------------|-------|------------|-------|
|                | QP                | AV    |             |              | QP                | AV    | QP         | AV    |
| 0.154          | 43.85             | 42.58 | N           | 0.29         | 65.57             | 55.57 | 22.01      | 13.28 |
| 0.206          | 41.79             | 41.46 | L           | 0.29         | 63.53             | 53.53 | 22.03      | 12.36 |
| 0.306          | 38.38             | 37.74 | N           | 0.29         | 60.19             | 50.19 | 22.10      | 12.74 |
| 0.510          | 31.78             | 30.31 | N           | 0.90         | 56.00             | 46.00 | 25.12      | 16.59 |
| 0.818          | 25.11             | 20.27 | L           | 0.43         | 56.00             | 46.00 | 31.32      | 26.16 |
| 12.542         | 18.91             | 11.58 | L           | 1.52         | 60.00             | 50.00 | 42.61      | 39.94 |
| 19.430         | 35.26             | 30.14 | N           | 1.77         | 60.00             | 50.00 | 26.51      | 21.63 |
| 25.030         | 30.43             | 27.33 | N           | 2.32         | 60.00             | 50.00 | 31.89      | 24.99 |

\* Level = test receiver reading value

\* Loss = LISN insertion Loss + Cable Loss



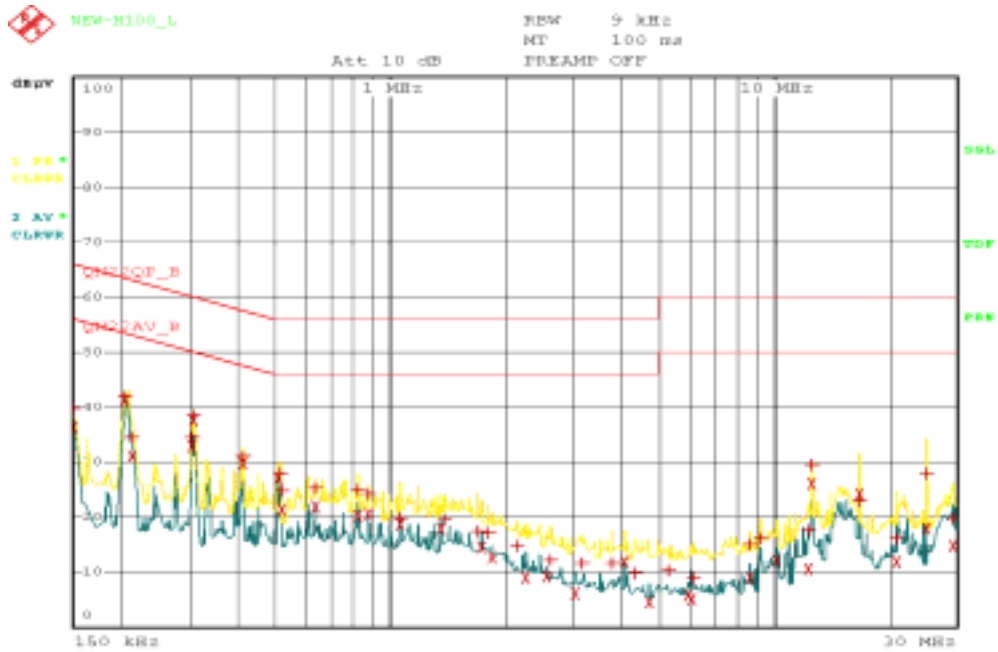
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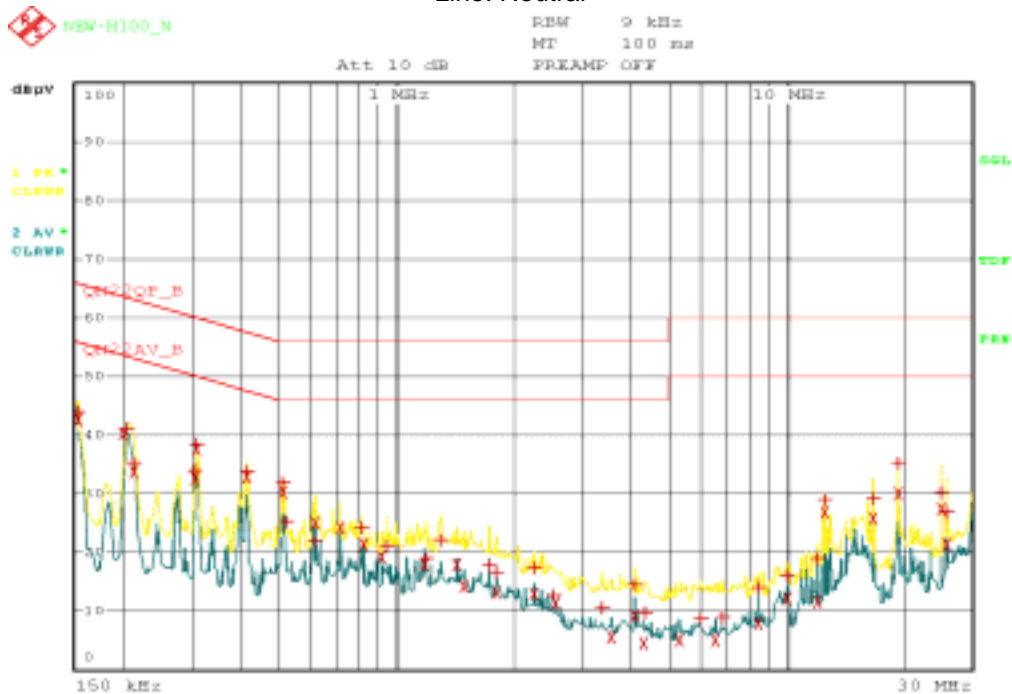
Conducted emission test graph

Line. Live



Date: 2.SEP.2005 22:31:31

Line. Neutral



Date: 2.SEP.2005 22:23:07



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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        | 2006.3.17     |
| Ultra broadband antenna | HL562     | 100075      | R&S        | 2006.3.16     |
| Matching network        | RAM       | 358.5414.02 | R&S        | -             |
| 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  | -             |

### 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<br>(MHz) | Reading<br>(dBuV/m) | P<br>(H/V) | H<br>(m) | A<br>(. ) | Antenna<br>(dB) | Cable Loss<br>(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) |
|---------------|---------------------|------------|----------|-----------|-----------------|--------------------|--------------------|-------------------|----------------|
| 85.90         | 19.10               | H          | 3.00     | 45        | 8.50            | 3.40               | 27.10              | 40.0              | 12.90          |
| 114.54        | 18.24               | V          | 1.50     | 100       | 9.40            | 3.76               | 31.40              | 43.5              | 12.10          |
| 143.17        | 19.44               | V          | 1.50     | 180       | 7.83            | 4.13               | 31.40              | 43.5              | 12.10          |
| 171.81        | 21.29               | V          | 1.50     | 200       | 7.48            | 4.33               | 33.10              | 43.5              | 10.40          |
| 286.35        | 22.44               | V          | 1.50     | 300       | 10.54           | 6.32               | 39.30              | 46.0              | 6.70           |
| 343.13        | 21.41               | H          | 3.00     | 100       | 12.23           | 6.96               | 40.60              | 46.0              | 5.40           |
| 501.12        | 16.05               | H          | 3.00     | 180       | 15.52           | 7.63               | 39.20              | 46.0              | 6.80           |
| 629.99        | 14.80               | H          | 2.00     | 90        | 17.39           | 9.41               | 41.60              | 46.0              | 4.40           |

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

