

**REMARKET NOTIFICATION****510(k) SUMMARY****SEP 30 2009**

(As Required By 21 CFR 807.92)

This summary of 510(k) safety and effectiveness information is being submitted in accordance with the requirements of SMDA 1990 and 21 CFR §807.92.

The assigned 510(k) number is: \_\_\_\_\_

Date: 2008.08.27

**1. Submitter:**

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**2. Name of the Device:**

Trade Name: Full Automatic (NIBP) Blood Pressure Monitor, Model HL868BF

Common Name: Blood Pressure Monitor

Classification Name: Noninvasive Blood Pressure Measurement System

Classification: Class II, 21CFR 870.1130

Product Code: DXN

Panel: Cardiovascular

**3. Information for the 510(k) Cleared Device (Predicate Device):**

A. Full Automatic (NIBP) Blood Pressure Monitor, Model HL888SF, K060835

B. Automatic Blood Pressure Monitor, Model HEM 780N3, K061822

C. Wrist Blood Pressure monitor, Model WS-1100, K080177

**4. Device Description:**

HL868BF automatically measures human's Systolic, Diastolic blood pressure and heart rate by using the oscillometric method. All values can be read out in one LCD panel. Measurement position is at human being's upper arm. The intended use of this

over-the-counter device is for over the age of 18 with arm circumference ranging from 9 inches to 17 inches (23 cm to 43 cm) and for home use.

The user is able to set the personal target value and the device will flash the value when the measured blood pressure value exceeds the target one. Also, user can save and manage the measurement data by transferring the measured readings of blood pressure to the connected personal computer (PC) via USB cable.

Additionally, the device will display a symbol of  or , to indicate the detection of irregular heartbeat rhythm as defined as a rhythm is more than or less than 25% from the average heartbeat during the measurement.

**5. Intended Use**

HL868BF automatically measures human's Systolic, Diastolic blood pressure and heart rate by using the oscillometric method. All values can be read out in one LCD panel. Measurement position is at human being's upper arm. The intended use of this over-the-counter device is for over the age of 18 with arm circumference ranging from 9 inches to 17 inches (23 cm to 43 cm) and for home use.

When the device detects the appearance of irregular heartbeats during measurement, an indicated symbol will appear with measuring readings. And this device can let the storage data be transferred to the connected personal computer (PC) via USB cable.

**6. Comparison of device to predicate device:**

**Product Specification Comparison Table of HL868BF and HL888SF (K060835)**

| Item                  | HL868BF   | Predicate<br>HL888SF (K060835)                    |
|-----------------------|---|---|
| Method of measurement | Oscillimetric                                     | Oscillimetric                                     |
| Range of measurement  | Pressure 0- 300mmHg,<br>Pulse 40-199 Beats/minute | Pressure 0- 280mmHg,<br>Pulse 40-199 Beats/minute |
| Accuracy              | Pressure +/- 3mmHg<br>Pulse +/- 5%                | Pressure +/- 3mmHg<br>Pulse +/- 5%                |
| Inflation             | Automatic inflation<br>(Air pump)                 | Automatic inflation<br>(Air pump)                 |
| Deflation of Pressure | Automatic air release<br>control valve            | Automatic air release<br>control valve            |
| Exhaust               | Automatic exhaust valve                           | Automatic exhaust valve                           |
| Display               | Liquid Crystal Digital<br>Display                 | Liquid Crystal Digital<br>Display                 |

|                              |  |  |
|------------------------------|--|--|
| <b>Power Supply</b>          | 6V DC, 4 × “AA” (1.5V)<br>Alkaline batteries<br>or AC adapter (optional) | 6V DC, 4 × “AA” (1.5V)<br>Alkaline batteries<br>or AC adapter (optional) |
| <b>Storage Temperature</b>   | - 20°C ~ + 70°C<br>(- 4°F ~ +158°F),<br>≤ 90%RH                          | -20°C ~ + 50°C,<br>30 ~ 85%RH  |
| <b>Operating Temperature</b> | 10°C ~ 40°C<br>(50°F~104°F),<br>15% ~ 90%RH                              | 10°C ~ 40°C,<br>15% ~ 95%RH  |
| <b>Material</b>              | ABS housing and<br>rubber keys   | ABS housing and<br>rubber keys   |
| <b>Temperature value</b>     | Yes  | Yes  |
| <b>Sets of memory</b>        | 3*80, total 240  | 3*30, total 90   |
| <b>Number of Push Bottom</b> | 5  | 5  |
| <b>Storage pouch</b>         | Yes  | Yes  |
| <b>Cuff size</b>             | Arm circumference approx.<br>23-43 mm(9~17 inches)                       | Arm circumference approx.<br>23-43 mm(9~17 inches)                       |
| <b>Unit Weight</b>           | Approx. 400g<br>including batteries                                      | Approx. 265g<br>excluding batteries                                      |

**Changes from the predicate devices HL888SF (K060835):**

- \* 5 push buttons’ positions, shapes, changing of exterior casing design
- \* Additional product features of Irregular Heartbeat Detector, Personal Target Limits, and PC Link functions

For the product features of irregular heartbeat detector, was compared with the other predicate device Omron HEM 780N3 (K061822).

For the product features of Personal Target Limits, was compared with the other predicate device Nissei WS-1100 (K080177).

**7. Discussion of Clinical Tests Performed:**

HL868BF is compliant to the ANSI/AAMI SP-10:2002+A1:2003+A2:2006 Standard for Manual, electronic, or automated sphygmomanometers. All the relevant activities were performed by designate individual(s) and the results demonstrated that the predetermined acceptance criteria were fully met.

4/4

**8. Discussion of Non-Clinical Tests Performed for Determination of Substantial Equivalence are as follows:**

The subject device was tested to evaluate its safety and effectiveness, including the followings:

- a. **Safety Test:** IEC 60601-1:1988+A1:1991+A2:1995 Medical electrical equipment - Part 1: General requirements for basic safety and essential performance
- b. **EMC Test:** IEC 60601-1-2:2001+A1:2004 Medical Electrical Equipment - Part 1-2: General requirements for safety - collateral standard: Electromagnetic compatibility - Requirements and Test
- c. **Biocompatibility Test:** ISO 10993-1:2003 Biological Evaluation of Medical Devices - Part 1: Evaluation and Testing
- d. **Biocompatibility Test:** ISO 10993-5:1999 Biological evaluation of medical devices - Part 5: Tests for in vitro cytotoxicity
- e. **Biocompatibility Test:** ISO 10993-10:2002, Biological evaluation of medical devices - Part 10: Tests for irritation and delayed-type hypersensitivity
- f. **Reliability Test:** ANSI/AAMI SP-10:2002+A1:2003+A2:2006 Standard for Manual, electronic, or automated sphygmomanometers

**9. Conclusions:**

The subject device was tested and fulfilled the requirements from those standards mentioned above, and it's concluded that the subject device is substantially equivalent to the predicate devices.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

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SEP 30 2009

Re: K092161  
Trade/Device Name: Fully Automatic (NIBP) Blood Pressure Monitor, Model HL868BF  
Regulatory Number: 21 CFR 870.1130  
Regulation Name: Noninvasive Blood Pressure Measurement System  
Regulatory Class: Class II (Two)  
Product Code: DXN  
Dated: August 28, 2009  
Received: August 31, 2009

Dear Mr. Li:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please go to <http://www.fda.gov/AboutFDA/CentersOffices/CDRH/CDRHOffices/ucm115809.htm> for the Center for Devices and Radiological Health's (CDRH's) Office of Compliance. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR Part 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to <http://www.fda.gov/MedicalDevices/Safety/ReportaProblem/default.htm> for the CDRH's Office of Surveillance and Biometrics/Division of Postmarket Surveillance.

You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 796-7100 or at its Internet address <http://www.fda.gov/MedicalDevices/ResourcesforYou/Industry/default.htm>.

Sincerely yours,



Bram D. Zuckerman, M.D.  
Director  
Division of Cardiovascular Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

## Indication for Use

510(k) Number (if known): K092161

Device Name: Full Automatic (NIBP) Blood Pressure Monitor, Model HL868BF

### Indications for Use:

HL868BF Measures automatically human's Systolic, Diastolic blood pressure and heart rate by using the oscillometric method. All values can be read out in one LCD panel. Measurement position is at human being's upper arm. The intended use of this over-the-counter device is for over the age of 18 with arm circumference ranging from 9 inches to 17 inches (23 cm to 43 cm) and for home use.

When the device detects the appearance of irregular heartbeats during measurement, an indicated symbol will appear with measuring readings. And this device can let the memory data be transferred to the connected personal computer (PC) via USB cable.

Prescription Use \_\_\_\_\_  
(Part 21 CFR 801 Subpart D)

AND/OR

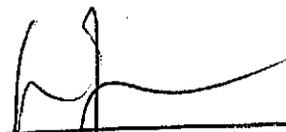
Over-The-Counter Use   V    
(21 CFR 801 Subpart C)

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OF NEEDED)

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Concurrence of CDRH, Office of Devices Evaluation (ODE)

Page 1 of   1  



(Division Sign-Off)  
Division of Cardiovascular Devices  
510(k) Number: K092161