Dear Mrs. Wu:

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. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

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 contact the Division of Industry and Consumer Education 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. 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 Industry and Consumer Education 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,

Robert Ochs, Ph.D.
Acting Director
Division of Radiological Health
Office of In Vitro Diagnostics
and Radiological Health
Center for Devices and Radiological Health

Enclosure
Indications for Use

510(k) Number (if known)
K142714

Device Name
S8 Exp/S9 Pro Portable Digital Color Doppler Ultrasound System

Indications for Use (Describe)
The SonoScape S8 Exp/S9 Pro system is a general-purpose ultrasonic imaging instrument intended for use by a qualified physician for evaluation of Fetal, Abdominal, Pediatric, Small Organ (breast, testes, thyroid), Cephalic (neonatal and adult), Trans-rectal, Trans-vaginal, Peripheral Vascular, Cerebral Vascular, Musculo-skeletal (Conventional and Superficial), Cardiac (neonatal and adult), Trans-esoph.(Cardiac), Laparoscopic, OB/Gyn and Urology.

Type of Use (Select one or both, as applicable)

☑ Prescription Use (Part 21 CFR 801 Subpart D) ☐ Over-The-Counter Use (21 CFR 801 Subpart C)

CONTINUE ON A SEPARATE PAGE IF NEEDED.

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510(k) Summary

1. Submitter [21 CFR807.92 (a) (1)]

Submitter: SonoScape Company Limited
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Contact Person: Toki Wu
Tel: +86 755 26722890
Fax: +86 755 26722850
Email: wusq@sonoscape.net
Date Prepared September 18, 2014

2. Device [21 CFR807.92 (a)(2)]

Trade Name: S8 Exp/S9 Pro Portable Digital Color Doppler Ultrasound System
Common Name: Diagnostic Ultrasound System and Transducers
Classification Regulatory:

<table>
<thead>
<tr>
<th>Classification Regulatory</th>
<th>FR Number</th>
<th>Product Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultrasonic Pulsed Doppler Imaging System</td>
<td>892.1550</td>
<td>90-IYN</td>
</tr>
<tr>
<td>Ultrasonic Pulsed Echo Imaging System</td>
<td>892.1560</td>
<td>90-IYO</td>
</tr>
<tr>
<td>Diagnostic Ultrasound Transducer</td>
<td>892.1570</td>
<td>90-ITX</td>
</tr>
</tbody>
</table>

Classification Panel: Radiology
Device Class: II

3. Predicate Device(s) [21 CFR 807.92(a) (3)]

The identified predicate devices within this submission are as follows:

SonoScape S8 Exp Portable Digital Color Doppler Ultrasound System K132768
SonoScape S30 Digital Color Doppler Ultrasound System K132527
Philips EPIQ Diagnostic Ultrasound System K132304
Philips CX50 3.0 Diagnostic Ultrasound System K123754

4. Device Description [21 CFR 807.92(a) (4)]

This SonoScape S8 Exp/S9 Pro Portable Digital Color Doppler Ultrasound System is an integrated preprogrammed color ultrasound imaging system, capable of producing high detail resolution intended for clinical diagnostic imaging applications.
The basic principle is that system transmits ultrasonic energy into patient body and implements post processing of received echoes to generate onscreen display of anatomic structures and fluid flow within the body.

This system is a Track 3 device that employs a wide array of probes that include linear array, convex array and phased array with a frequency range of 2.0 MHz to 15.0 MHz. This system consists of a portable console with keyboard control panel, power supply module, color LCD monitor and optional probes.

This system is a portable, general purpose, software controlled, color diagnostic ultrasound system. Its basic function is to acquire ultrasound data and to display the image in B-Mode (including Tissue Harmonic Image), M-Mode, TDI, Color-Flow Doppler, Pulsed Wave Doppler, Continued Wave Doppler and Power Doppler, or the combination of these modes, Elastography, 3D/4D.

The subject of this submission is the addition of new indications, new probes and special function to original SonoScape S8 Exp and the addition of SonoScape S9 Pro.

New indications Trans-esoph.(Cardiac), Cerebral Vascular and Laparoscopic.

New probes Add C613, MPTEE, MPTEE mini, CWD2.0, CWD5.0, PWD2.0 and LAP7 probes.

Special function Elastography.

New Model Add S9 Pro model which is identical to S8 Exp except for the difference of probes configuration.

5. Intended Use [21 CFR 807.92(a)(5)]

The SonoScape S8 Exp/S9 Pro system is a general-purpose ultrasonic imaging instrument intended for use by a qualified physician for evaluation of Fetal, Abdominal, Pediatric, Small Organ (breast, testes, thyroid), Cephalic (neonatal and adult), Trans-rectal, Trans-vaginal, Peripheral Vascular, Cerebral Vascular, Musculo-skeletal (Conventional and Superficial), Cardiac (neonatal and adult), Trans-esoph.(Cardiac), Laparoscopic, OB/Gyn and Urology.

6. Comparison with the Predicate Devices [21 CFR 807.92(a) (6)]

S8 Exp/S9 Pro Portable Digital Color Doppler Ultrasound System is comparable with and substantially equivalent to the predicate devices:

- SonoScape S8 Exp Portable Digital Color Doppler Ultrasound System K132768
- SonoScape S30 Digital Color Doppler Ultrasound System K132527
- Philips EPIQ Diagnostic Ultrasound System K132304
Philips CX50 3.0 Diagnostic Ultrasound System  K123754

Intended Use Comparison:
Compared with SonoScape S30 (K132527), the Subject Device S8 Exp/S9 Pro has the same intended uses except for Laparoscopic indication which is comparable and equivalent to the Predicate Device Philips CX50 3.0 (K123754) and Cerebral Vascular indication which is comparable and equivalent to the Predicate Device Philips EPIQ (K132304). The detailed analysis can be found in the probes comparison.

Technical Characteristics Comparison:
The basic and main technical features of the Subject Device S8 Exp/S9 Pro are the same as the original SonoScape S8 Exp (K132768), including Design, Operation Controls, Display Modes, Measurement Items, Cine Loop, Power Supply, Operating and Storage Condition and Screen Size. For Operation Modes, Elastography is a special Operation Mode for the Subject Device S8 Exp/S9 Pro, but already employed by many marketed devices and considered Substantially Equivalent to the Predicate Device Philips EPIQ (K132304) and detailed comparison analysis can be found in Substantial Equivalence Comparison. The detailed technical features can be found in General Device Descriptions of the submission.

Probes Comparison:
Subject device S8 Exp/S9 Pro has the similar probes as the predicated device original SonoScape S8 Exp (K132768), SonoScape S30 (K132527), Philips EPIQ (K132304) and Philips CX50 3.0 (K123754).

Table 1 Probes Comparison

<table>
<thead>
<tr>
<th>Subject device SonoScape S8 Exp/S9 Pro</th>
<th>Predicate Device SonoScape S8 Exp</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>C322 Micro-curved Array</td>
<td>C322 Micro-curved Array</td>
<td>Same</td>
</tr>
<tr>
<td>C344 Curved Array</td>
<td>C344 Curved Array</td>
<td></td>
</tr>
<tr>
<td>C353 Curved Array</td>
<td>C353 Curved Array</td>
<td></td>
</tr>
<tr>
<td>C354 Curved Array</td>
<td>C354 Curved Array</td>
<td></td>
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<tr>
<td>C362 Curved Array</td>
<td>C362 Curved Array</td>
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</tr>
<tr>
<td>C542 Curved Array</td>
<td>C542 Curved Array</td>
<td></td>
</tr>
<tr>
<td>VC6-2 Curved Array</td>
<td>VC6-2 Curved Array</td>
<td>Same</td>
</tr>
<tr>
<td>C613 Micro-curved Array</td>
<td>C611 Micro-curved Array</td>
<td>SE</td>
</tr>
<tr>
<td></td>
<td>C311 Micro-curved Array</td>
<td>Analysis1a)</td>
</tr>
<tr>
<td>2P1 Phased Array</td>
<td>2P1 Phased Array</td>
<td>Same</td>
</tr>
<tr>
<td>2P2 Phased Array</td>
<td>2P2 Phased Array</td>
<td></td>
</tr>
<tr>
<td>3P1 Phased Array</td>
<td>3P1 Phased Array</td>
<td></td>
</tr>
<tr>
<td>Subject device</td>
<td>Predicate Device</td>
<td>Remark</td>
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<td>--------------------------------</td>
<td>--------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td><strong>Subject device</strong></td>
<td><strong>Predicate Device</strong></td>
<td></td>
</tr>
<tr>
<td>SonoScape S8 Exp/S9 Pro</td>
<td>SonoScape S30</td>
<td></td>
</tr>
<tr>
<td>MPTEE Phased Array (Multi-plane)</td>
<td>MPTEE Phased Array (Multi-plane)</td>
<td>Same</td>
</tr>
<tr>
<td>MPTEE mini Phased Array (Multi-plane)</td>
<td>MPTEE mini Phased Array (Multi-plane)</td>
<td></td>
</tr>
<tr>
<td><strong>Subject device</strong></td>
<td><strong>Predicate Device</strong></td>
<td></td>
</tr>
<tr>
<td>SonoScape S8 Exp/S9 Pro</td>
<td>Philips CX50 3.0</td>
<td></td>
</tr>
<tr>
<td>CWD2.0, 2.0 MHz</td>
<td>D2cwc, 2.0 MHz</td>
<td></td>
</tr>
<tr>
<td>CWD5.0, 5.0 MHz</td>
<td>D5cwc, 5.0 MHz</td>
<td></td>
</tr>
<tr>
<td>Continuous Wave Doppler</td>
<td>Continuous Wave Doppler</td>
<td></td>
</tr>
<tr>
<td>LAP7, Linear Array, 10.0-5.0 MHz</td>
<td>L10-4 lap, Linear Array, 10.0-4.0 MHz</td>
<td></td>
</tr>
<tr>
<td><strong>Subject device</strong></td>
<td><strong>Predicate Device</strong></td>
<td></td>
</tr>
<tr>
<td>SonoScape S8 Exp/S9 Pro</td>
<td>Philips EPIQ</td>
<td></td>
</tr>
<tr>
<td>PWD2.0, 2.0 MHz</td>
<td>D2tcd, 2.0 MHz</td>
<td></td>
</tr>
<tr>
<td>Pulsed Wave Doppler</td>
<td>Pulsed Wave Doppler</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** C344, 2P1, 2P2, 5P1, L741 and 6V1 only for S8 Exp; and 3P1, 5P2 and 8P1 only for S9 Pro.

**SE Analysis 1:**

a) Compared with the predicate device original SonoScape S8 Exp (K132768), there is a new probe (C613) for the subject device. And the frequency, performance and clinical application of C613 probe are the same as C611 for predicate device.

b) Compared with the predicate device Philips CX50 3.0 (K123754), the frequency and clinical application of CWD2.0 and CWD5.0 probe is the same as D2cwc and D5cwc cleared for use with predicate device; the clinical application of LAP7 probe is the same.
as L10-4 lap cleared for use with predicate device, and though the frequency of them is different, they both meet the clinical use.

c) Compared with the predicate device Philips EPIQ (K132304), the frequency and clinical application of PWD2.0 probe is the same as D2tdc cleared for use with predicate device.

*Note: detailed description information about the new probes can be found in Substantial Equivalence Comparison.*

Moreover, compared with predicated devices, the subject device (S8 Exp/S9 Pro) complies with the same regulation and safety standards and has the consistent acoustic output levels. Therefore they can be considered Substantially Equivalent in safety and effectiveness, and no new risk is raised, so the SE is not affected.

7. Non-Clinical Tests [21 CFR 807.92(b) (1)]

The S8 Exp/S9 Pro Portable Digital Color Doppler Ultrasound System has been evaluated for electrical, mechanical, thermal and electromagnetic compatibility safety, biocompatibility and acoustic output. Laboratory tests were conducted to verify that the S8 Exp/S9 Pro system met all design specifications and the S8 Exp/S9 Pro system conformed to applicable medical device standards. Phantom test was conducted to verify that the strain Elastography function was effective and Elastography performance met design specifications, including accuracy and repeatability of strain ratio measurement and etc.

The S8 Exp/S9 Pro system has been designed and manufactured to meet the following standards: IEC 60601-1, IEC 60601-1-2, IEC 60601-2-37, ISO 10993-5, ISO10993-10, UD2, and UD3.

8. Clinical Test [21 CFR 807.92(b) (2)]

No clinical testing was required.

9. Substantially Equivalent Conclusions [21 CFR 807.92(b) (3)]

In accordance with the 21 CFR Part 807 and based on the information provided in this premarket notification, SonoScape Company Limited concludes that S8 Exp/S9 Pro Portable Digital Color Doppler Ultrasound System is substantially equivalent to the predicate devices with regard to safety and effectiveness.