June 21, 2023

Stryker Endoscopy
Lauren Bentley
Senior Manager, Regulatory Affair
5900 Optical Ct
San Jose, California 95138

Re: K230886
Trade/Device Name: Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control
Regulation Number: 21 CFR 876.1500
Regulation Name: Endoscope And Accessories
Regulatory Class: Class II
Product Code: GCJ, HRX
Dated: March 31, 2023
Received: March 31, 2023

Dear Lauren Bentley:

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. Although this letter refers to your product as a device, please be aware that some cleared products may instead be combination products. The 510(k) Premarket Notification Database located at https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm identifies combination product submissions. 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) for devices or postmarketing safety reporting (21 CFR 4, Subpart B) for combination products (see https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820) for devices or current good manufacturing practices (21 CFR 4, Subpart A) for combination products; and, if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

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 https://www.fda.gov/medical-devices/medical-device-safety/medical-device-reporting-mdr-how-report-medical-device-problems.

For comprehensive regulatory information about medical devices and radiation-emitting products, including information about labeling regulations, please see Device Advice (https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance) and CDRH Learn (https://www.fda.gov/training-and-continuing-education/cdrh-learn). Additionally, you may contact the Division of Industry and Consumer Education (DICE) to ask a question about a specific regulatory topic. See the DICE website (https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice) for more information or contact DICE by email (DICE@fda.hhs.gov) or phone (1-800-638-2041 or 301-796-7100).

Sincerely,

Mark Trumbore -S

Digitally signed by Mark Trumbore -S
Date: 2023.06.21 13:37:52 -04'00'

Mark Trumbore, Ph.D.
Assistant Director
DHT4A: Division of General Surgery Devices
OHT4: Office of Surgical
and Infection Control Devices
Office of Product Evaluation and Quality
Center for Devices and Radiological Health

Enclosure

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Food and Drug Administration

Indications for Use

Form Approved: OMB No. 0910-0120
Expiration Date: 06/30/2023
See PRA Statement below.

510(k) Number *(if known)*
K230886

Device Name
Connected OR Hub with Device and Voice Control;
SDC4K Information Management System with Device and Voice Control

Indications for Use *(Describe)*

Connected OR Hub with Device and Voice Control:
The use of the Connected OR Hub with Device and Voice Control is to allow for voice control and remote control of medical device settings by surgeons or operating room personnel, thereby eliminating the need to manually operate those devices compatible with the Connected OR Hub or to rely on verbal communication between the surgeon and other operating room personnel in order to adjust the surgical equipment. It also has additional digital documentation functionality to electronically capture, transfer, store and display medical device data (non-medical device function), which is independent of the functions or parameters of any attached Stryker device.

SDC4K Information Management System with Device and Voice Control:
The use of the SDC4K Information Management System with Device and Voice Control is to allow for voice control and remote control of medical device settings by surgeons or operating room personnel, thereby eliminating the need to manually operate those devices compatible with the SDC4K Information Management System with Device and Voice Control or to rely on verbal communication between the surgeon and other operating room personnel in order to adjust the surgical equipment. It also has additional digital documentation functionality to electronically capture, transfer, store and display medical device data (non-medical device function), which is independent of the functions or parameters of any attached Stryker device.

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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510K Summary

Submitter:

Applicant:	Stryker Endoscopy 5900 Optical Court San Jose, CA 95138
Contact Person:	Lauren Bentley Sr. Manager, Regulatory Affairs Email: lauren.bentley@stryker.com Phone: (408) 754-2473
Date Prepared:	March 31, 2023

Subject Device:

Name of Device:	Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control
Common or Usual Name	Information Management System
Classification Name:	Laparoscope, General & Plastic Surgery (21 C.F.R. §876.1500)
Regulatory Class:	II
Product Code:	GCJ
Subsequent Product Code	HRX
510(k) Review Panel:	General and Plastic Surgery

Predicate Devices:

Manufacturer	Device Name	510(K) Number
Stryker Endoscopy	Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control	K222079

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Device Description:

The Connected OR Hub with Device and Voice Control and SDC4K Information Management System with Device and Voice Control are network compatible hardware platforms that carry out Medical Device Data System (MDDS) functionalities and allows the user to control the state, selection, and settings of compatible connected endoscopic and general surgery devices both wired and wirelessly.

The Connected OR Hub with Device and Voice Control and SDC4K Information Management System with Device and Voice Control consists of the following components:

1) Base Console which includes:
    a) Class I Medical Device Data System (MDDS) functionalities
    b) Optional Device Control feature
    c) Optional Voice Control feature
    d) Optional Video Image Processing (VIP) feature
2) Device Control Package (software activation USB dongle and a handheld Infrared (IR) remote control)
3) Voice Control Package (software activation USB dongle and a wireless headset and base station)
4) Video Image Processing package (software activation USB dongle)
5) Connected OR Spoke (Class I MDDS)

The Connected OR Hub and SDC4K consoles carry out the Medical Device Data System (MDDS) functionalities (i.e. Class I device function or Non-medical function) and can be marketed as standalone devices. When upgraded with the Device Control and/or Voice Control package, the consoles extend their functionalities to control compatible devices from their touchscreen graphical user interface (GUI), spoken commands via headset (voice control input), and an IR remote control or directional keypad from a camera head (device control input). The received user commands are then processed and communicated with the connected controllable devices, allowing the user to control the state, selection, and settings of those devices.

In addition, the Connected OR Hub with Device and Voice Control and SDC4K Information Management System with Device and Voice Control provide compatibility with the Connected OR Spoke (also referred to as “Spoke”) which is a standalone Class I Medical Device Data System. Once the Connected OR Hub with Device and Voice Control or SDC4K Information Management System with Device and Voice Control is connected to the Spoke, Device Control can be extended to compatible devices which are directly connected to the Spoke.

When upgraded with the Video Image Processing (VIP) package, the Connected OR Hub automates an image enhancing algorithm, and removal of surgical smoke through a compatible insufflator.

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Intended Use/Indications for Use:

Subject Devices	Predicate Devices
Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control	**Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control (K222079)**
Connected OR Hub with Device and Voice Control: The use of the Connected OR Hub with Device and Voice Control is to allow for voice control and remote control of medical device settings by surgeons or operating room personnel, thereby eliminating the need to manually operate those devices compatible with the Connected OR Hub or to rely on verbal communication between the surgeon and other operating room personnel in order to adjust the surgical equipment. It also has additional digital documentation functionality to electronically capture, transfer, store and display medical device data (non-medical device function), which is independent of the functions or parameters of any attached Stryker device. **SDC4K Information Management System with Device and Voice Control:** The use of the SDC4K Information Management System with Device and Voice Control is to allow for voice control and remote control of medical device settings by surgeons or operating room personnel, thereby eliminating the need to manually operate those devices compatible with the SDC4K Information Management System with Device and Voice Control or to rely on verbal communication between the surgeon and other operating room personnel in order to adjust the surgical equipment. It also has additional digital documentation functionality to electronically capture, transfer, store and display medical device data (non-medical device function), which is independent of the functions or parameters of any attached Stryker device.	Same as subject devices

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Comparison of Technological Characteristics with the Predicate Device:

Item		Subject Devices	Predicate Devices
		Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control	**Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control**
Manufacturer		Stryker	Same as subject devices
Submission Reference		Current Submission	K222079
Principles of Operation		Use of IR remote control for device control and RF communication for voice control of connected devices.	Same as subject devices
Components		• Console (Connected OR Hub & SDC4K) • Device Control Package • Voice Control Package • Connected OR Hub VIP Package • Connected OR Spoke	Same as subject devices
Feature(s)	Documentation Functionalities (Class I/Non-Medical Device functionalities)	Gathering patient demographic data, Capture, Record, Transfer, Display image/video of various formats, Archiving information	Same as subject devices
	Device Control	Remote control of compatible medical device settings	Same as subject devices
	Voice Control	Voice control of compatible medical device settings	Same as subject devices
	Video Image Processing (VIP)	• Smoke Detection • Enhanced Imaging • Smoke Evacuation *NOTE: The VIP feature is not available on the SDC4K.*	Same as subject devices
Device Control User Interface		• Capacitive Graphical User Interface on LCD touchscreen • Voice recognition and control via wireless headset • Device Control via IR remote control and camera head directional keypad	Same as subject devices
Connection to Controllable Devices		Wired connection: The console's device control ports via device control cables. Wireless connection: The console is connected to the primary Connected OR Spoke via an Ethernet cable, while devices at remote locations within the same OR are connected to the secondary Connected OR Spoke via device control cables. The primary and secondary Spoke act as the wireless transfer medium to transfer device control data to / from the console.	Same as subject devices.

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Item	Subject Devices	Predicate Devices
	Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control	**Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control**
Controllable Devices	**Stryker Devices: Class II Devices** • Surgical Cameras (K132785, K182160, K200310, K202592, K210088, K211202, K212511, K214046, K220895, K222130, K230216) • Light Sources (K142310, K151243, K173866, K182160, K191046, K192292, K202592, K210088, K211202, K214046, K221611) • Insufflators (K063367, K170784, K201361) • Pumps (K123441, K191259) • RF Probes and Shaver System (K071859, K121855, K160050, K171391) • Wireless Monitor (K081995) **Class I/ II 510(k) exempt devices** • Ceiling Mounted Room Lights (Class II, Product Code: FSY) • Wired Monitor (Class I device)	Same as subject device
Embedded Software Design	Microsoft Windows 10	Same as subject device
Electronic Circuit Design	• Custom designed chipset, storage solution and Capture Card. • CD/DVD drive: Not included in chassis • On-board storage: Hard Disk Drive (HDD) and Solid-State Drive (SSD)	Same as subject device
Video Input and Output	(Connected OR Hub with Device and Voice Control) Input: DVI, RGBHV and HDMI Output: DVI, HDMI (SDC4K Information Management System with Device and Voice Control) Input: HDMI Output: HDMI	Same as subject device
Communication Protocol(s)	Wired: SIDNE, DCM Wireless: DCM, SIDNE, SFB	Wired: SIDNE, DCM Wireless: SIDNE, SFB
Data Transfer, Documentation and Storage (Class I/Non-Medical functionality)	• Wireless Standard: WLAN 802.11a/b/g/n/ac • Frequency: 2.4GHz and 5GHz	Same as subject device

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Item	Subject Devices	Predicate Devices
	Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control	**Connected OR Hub with Device and Voice Control; SDC4K Information Management System with Device and Voice Control**
Wireless technology for Device and Voice Control	• Voice Control headset (DECT technology) • IR Remote (Infrared) • Connected OR Spoke (WiFi)	Same as subject device
Power rating	100-240VAC ~50/60 Hz, 4A/2A maximum	Same as subject device
Electrical Safety	ANSI/AAMI ES60601-1	Same as subject device
EMC	IEC 60601-1-2	Same as subject device

Performance Data:

Testing was completed in accordance with the following:

Summary of Testing Utilizing Well-Established Methods		
Test	**Method**	**Results**
Software	Software functional verification (Device and Voice Control with Spoke)	Pass
Performance Testing - Bench	Network Security	Pass
	Memory Profiling and Performance	Pass

NOTE: The Connected OR Hub and SDC4K Information Management Systems with Device and Voice Control Packages are not patient contacting; therefore, biocompatibility testing is not required to support the determination of substantial equivalence.

NOTE: The Connected OR Hub and SDC4K Information Management Systems with Device and Voice Control Packages do not require clinical studies to support the determination of substantial equivalence.

Conclusions:

The Connected OR Hub with Device and Voice Control and SDC4K Information Management System with Device and Voice Control are the same or similar in design, intended use, principles of operation, technological characteristics and safety features to the predicate devices. In summary, the Connected OR Hub with Device and Voice Control and SDC4K Information Management System with Device and Voice Control are the same or similar with respect to safety and effectiveness to the legally marketed predicate devices.