January 13, 2023

Quality Electrodynamics, LLC
Eric Yeh
Senior Regulatory Affairs Specialist
6655 Beta Drive Suite 100
Mayfield Village, Ohio 44143

Re: K223429
Trade/Device Name: Contour Knee
Regulation Number: 21 CFR 892.1000
Regulation Name: Magnetic Resonance Diagnostic Device
Regulatory Class: Class II
Product Code: MOS
Dated: November 11, 2022
Received: November 14, 2022

Dear Eric Yeh:

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,

Daniel M. Krainak, Ph.D.
Assistant Director
Magnetic Resonance and Nuclear Medicine Team
DHT8C: Division of Radiological Imaging
and Radiation Therapy Devices
OHT8: Office of Radiological Health
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.

Submission Number *(if known)*

K223429

Device Name

Contour Knee

Indications for Use *(Describe)*

The Contour Knee is intended for use with Siemens 0.55T MR systems to produce diagnostic images of knee anatomy that can be interpreted by a trained physician.

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.

This section applies only to requirements of the Paperwork Reduction Act of 1995.

DO NOT SEND YOUR COMPLETED FORM TO THE PRA STAFF EMAIL ADDRESS BELOW.

The burden time for this collection of information is estimated to average 79 hours per response, including the time to review instructions, search existing data sources, gather and maintain the data needed and complete and review the collection of information. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden, to:

Department of Health and Human Services
Food and Drug Administration
Office of Chief Information Officer
Paperwork Reduction Act (PRA) Staff
PRAStaff@fda.hhs.gov

"An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB number."

K223429

510(k) Summary

Prepared on: 2023-01-12

Contact Details

21 CFR 807.92(a)(1)

Applicant Name	Quality Electrodynamics, LLC
Applicant Address	6655 Beta Drive, Suite 100 Mayfield Village OH 44143 United States
Applicant Contact Telephone	440-484-2940
Applicant Contact	Mr. Eric Yeh
Applicant Contact Email	eric.yeh@qualedyn.com

Device Name

21 CFR 807.92(a)(2)

Device Trade Name	Contour Knee
Common Name	Magnetic resonance diagnostic device
Classification Name	Coil, Magnetic Resonance, Specialty
Regulation Number	892.1000
Product Code	MOS

Legally Marketed Predicate Devices

21 CFR 807.92(a)(3)

Predicate #	Predicate Trade Name (Primary Predicate is listed first)	Product Code
K183111	Contour 24	MOS

Device Description Summary

21 CFR 807.92(a)(4)

The Contour Knee is a receive-only, 12-channel phased array coil designed for magnetic resonance imaging (MRI) using the Siemens 0.55T MR systems. The Contour Knee is intended to be used for imaging knee anatomy.

Intended Use/Indications for Use

21 CFR 807.92(a)(5)

The Contour Knee is intended for use with Siemens 0.55T MR systems to produce diagnostic images of knee anatomy that can be interpreted by a trained physician.

Indications for Use Comparison

21 CFR 807.92(a)(5)

The Indications for Use statement for the Contour Knee is not identical to that of the predicate device (Contour 24); however, the differences do not affect the safety or effectiveness of the device relative to the predicate device. Both Indications for Use statements for the proposed Contour Knee and predicate Contour 24 indicate that the device is intended to be used in conjunction with a MR system to produce images of human anatomy and that the images can be interpreted by a trained physician. The indications for use statements differ only in that the proposed Contour Knee is intended to be used with 0.55T Siemens MR systems instead of 1.5T Siemens MR systems, and intended for use to image knee anatomy instead of general human anatomy.

Technological Comparison

21 CFR 807.92(a)(6)

At a high level, the proposed and predicate device are based on the following same technological elements:

- Receive-only phased array RF coil
- Active PIN diode switching blocking circuitry. Passive blocking circuitry.

• Materials used for flame retardancy and biocompatibility: Polycarbonate and aramid felt with a polyurethane coated nylon fabric cover

The following technological differences exist between the proposed and predicate device:
• Number of channels (12 (proposed device) versus 24 (predicate device))
• Intended for use (knee anatomy (proposed device) versus general human anatomy (predicate device))
• Flexible blanket-like enclosure for anterior coil elements, rigid plastic housing for posterior coil elements (proposed device) versus flexible blanket-like enclosure (predicate device))
• Compatible with Siemens 0.55T MR systems (proposed device) versus compatible with Siemens 1.5T MR systems (predicate device)

Non-Clinical and/or Clinical Tests Summary & Conclusions 21 CFR 807.92(b)

The signal-to-noise ratio (SNR) and image uniformity of the Contour Knee were measured on a 0.55T Siemens MR System, manufactured by Siemens Healthineers. The SNR and uniformity of the Contour Knee were analyzed per NEMA MS-9 (using alternate method 2.5 from MS-6) and uniformity was analyzed using NEMA MS-9 (primary method from MS-6) and was found to conform to predetermined acceptance criteria.

In accordance with the FDA Guidance for Industry: Guidance for the Submission of Premarket Notifications for Magnetic Resonance Diagnostic Devices, clinical images from volunteer scanning of knee anatomy were obtained from a Siemens 0.55T MR system. These images were used to demonstrate that the Contour Knee produces diagnostic quality images of the intended anatomy. No adverse events were reported or recorded.

The electrical safety and electromagnetic compatibility and biocompatibility data support the safety of the Contour Knee and the bench testing per the IEC standards and diagnostic quality sample clinical images demonstrates the performance and effectiveness of the device under the specified use conditions. This testing demonstrates that the Contour Knee performs as well as or better than the predicate device.