EIZO Corporation
℅ Hiroaki Hashimoto
Senior Manager
153 Shimokashiwano
Hakusan, Ishikawa 924-8566
JAPAN

Re: K221136
Trade/Device Name: RadiForce MX243W
Regulation Number: 21 CFR 892.2050
Regulation Name: Medical image management and processing system
Regulatory Class: Class II
Product Code: PGY
Dated: April 14, 2022
Received: April 19, 2022

Dear Hiroaki Hashimoto:

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,

Jessica Lamb, Ph.D.
Assistant Director
Imaging Software Team
DHT8B: Division of Radiological Imaging Devices and Electronic Products
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.

510(k) Number *(if known)*
K221136

Device Name
RadiForce MX243W

Indications for Use *(Describe)*
This Product is indicated for use in displaying radiological images for review, analysis, and diagnosis by trained medical practitioners. The display is not intended for mammography.

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)

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510(k) Summary K221136

1. Submitter

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Contact Person: Hiroaki Hashimoto
Date of Prepared: April 14th, 2022

2. Device

- Name of Device: RadiForce MX243W
- Common or Usual Name: 61 cm (24.1 inch) class Color LCD Monitor
- Classification Name: Medical image management and processing system (21 CFR 892.2050)
- Regulatory Class: II
- Product Code: PGY

3. Predicate Device

- Name of Device: RadiForce MX242W (K143261)
- Common or Usual Name: 61 cm (24.1 inch) class Color LCD Monitor
- Classification Name: Medical image management and processing system (21 CFR 892.2050)
- Regulatory Class: II
- Product Code: PGY

4. Device Description

RadiForce MX243W is a color LCD monitor for viewing medical images other than those of mammography. The color panel employs in-plane switching (IPS) technology allowing wide viewing angles and the matrix size (or resolution) is 1,920 x 1,200 pixels (2.3MP) with a pixel pitch of 0.270 mm.

Since factory calibrated display modes, each of which is characterized by a specific tone curve (including DICOM GSDF), a specific luminance range and a specific color temperature, are stored in lookup tables within the monitor, the tone curve is e.g. DICOM compliant regardless of the display controller used.

RadiCS is application software to be installed in each workstation offering worry-free quality control of the diagnostic monitors including the RadiForce MX243W based on the QC standards and guidelines and is capable of quantitative tests and visual tests defined by them. The RadiCS and its subset, RadiCS LE, are included in this 510(k) submission as an accessory to the RadiForce MX243W.

RadiCS is of Minor level of concern and that it's being used unchanged from the predicate software. RadiCS supports the functions of the monitor RadiForce MX243W and it's not a medical imaging software.

5. Indications for use

This Product is indicated for use in displaying radiological images for review, analysis, and diagnosis by trained medical practitioners. The display is not intended for mammography.

6. Comparison of Technological Characteristics with the predicate device

The comparison table below enumerates information derived from the product brochure and measured values of the each device and different technological characteristics are discussed in it:

Attributes	Proposed Device: RadiForce MX243W	Predicate Device: RadiForce MX242W
Display Technology		
	TFT Color LCD Panel (IPS)	TFT Color LCD Panel (IPS)
Screen size		
	61cm / 24.1" Aspect ratio: 16 : 10	61cm / 24.1" Aspect ratio: 16 : 10
Backlight type		
	LED	LED
Frame rate and refresh rate		
Scanning Frequency (H / V)	Digital: 31 - 76 kHz / 59 - 61 Hz Frame synchronous mode: 59 - 61 Hz	Digital: 31 - 76 kHz / 59 - 61 Hz (VGA Text: 69 - 71 Hz) Frame synchronous mode: 59 - 61 Hz Analog: 26 - 76 kHz / 49 - 71 Hz (VGA Text: 69 - 71 Hz) Frame synchronous mode: 59 - 61 Hz
Display Interface		
Input video signals	DVI-D (single link) x 1, DisplayPort x 1	DVI-I x 1, DisplayPort x 1
Output video signals	DisplayPort x 1 (daisy chain)	-
Video bandwidth		
	DVI : 25-165 MHz DisplayPort : 25 - 165 MHz	DVI-I (Analog): 25-165 MHz DVI-I (Digital): 165MHz max. DisplayPort: 165MHz max.
Ambient light sensing		
Ambient light sensor	N/A	N/A
Luminance calibration tools		
	Integrated optical sensor External optical sensor Calibration software: RadiCS	Integrated optical sensor External optical sensor Calibration software: RadiCS
Quality-control procedures		
	Software: RadiCS	Software: RadiCS

It is clear that the technological characteristics differences discussed above do not affect the safety and the effectiveness of the MX243W.

7. Performance Testing

The bench tests below were performed on the RadiForce MX243W following the instructions in *"Guidance for Industry and FDA Staff: Display Devices for Diagnostic Radiology"* issued on October 2, 2017:

- Measurement of spatial resolution expressed as modulation transfer function (MTF)
- The maximum number allowed for each type of pixel defects/faults
- Visual check of presence or absence of miscellaneous artifacts on the display screen as specified in TG18 guideline
- Measurement of temporal response
- Measurement of Luminance
- Verification of the conformance to DICOM GSDF as specified in *Assessment of Display Performance for Medical Imaging Systems* by AAPM Task Group 18 (TG18 guideline)
- Measurement of pixel aperture ratio
- Measurement of Color tracking

The test results showed that the RadiForce MX243W has display characteristics equivalent to those of the predicate device, RadiForce MX242W.

Besides, the display characteristics of the RadiForce MX243W meet the pre-defined criteria when criteria are set.

No animal or clinical testing was performed on the RadiForce MX243W.

8. Conclusion

The RadiForce MX243W was determined to be substantially equivalent to the predicate device due to the following reasons:

- The stated intended use is substantially the same as that of the predicate device.
- It was confirmed that the technological characteristics differences from those of the predicate device do not affect the safety or the effectiveness.

The bench tests demonstrated that the display characteristics are equivalent to those of the predicate device.