

**Attachment 1**

K990491

**Summary of Safety and Effectiveness**

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.

**I. General Information**

Device Name: Angio-CT MIYABI

Classification Name: § 892.1750:  
Computed tomography X-ray system  
§ 892.1600  
Angiographic x-ray system

Propriety Trade Name: Angio-CT MIYABI

Classification: Class II

Performance Standards: 21 CFR Subchapter J, Federal  
Diagnostic X-ray Equipment Standard

Establishment Regist. Number: 2240869

Address: Siemens Medical Systems, Inc.  
186 Wood Avenue South  
Iselin, NJ 08830

Contact Person: Kathleen M. Rutherford  
Manager, Regulatory Submissions  
(732) 321-4779

## II. Safety and Effectiveness Information Supporting the Substantial Equivalence Determination

### Device Description:

The Angio-CT MIYABI system is a combination of a CT and an Angiography system. The SOMATOM Plus 4 system is a whole body X-ray computed tomography scanner which features a continuously rotating tube-detector system and functions according to the fan beam principle. The Multistar Plus is a ceiling-suspended double C-arm for single plane general vascular imaging as well as interventional techniques.

### Intended Use:

The SOMATOM Plus 4 is intended to produce cross-sectional images of the body by computer reconstruction of x-ray transmission data from either the same axial plane taken at different angles or spiral planes\* taken at different angles. (\*Spiral planes: the axial planes resulted from the continuous rotation of detectors and x-ray tube and the simultaneous movement of the sliding gantry). The Multistar Plus is a ceiling-suspended double C-arm for single plane general vascular imaging as well as interventional techniques.

Angio-CT MIYABI is a combined system, which allows interventional radiological techniques, and whole body x-ray computed tomography scanning on a single patient without moving the patient from one table to another especially after or during interventional surgery (e.g. stenting, coiling, local chemical therapy, embolization).

### Technological Characteristics:

The Angio-CT MIYABI system is a combination of a CT and an Angiography system.

### General Safety and Effectiveness Concerns:

All components of the Angio-CT MIYABI system subject to the Federal Diagnostic Equipment Performance Standard and applicable regulations of 21CFR § 1020.30 and § 1020.33 are certified to meet those requirements; and an initial report as per 21 CFR § 1002.10 will be filed with the Center for Devices and Radiological Health (CDRH). To minimize electrical, mechanical, and radiation hazards, Siemens adheres to recognized and established industry practice. The SOMATOM is designed to meet the ELECTRICAL AND MECHANICAL SAFETY STANDARD IEC 601-1 and UL 187 X-RAY EQUIPMENT STANDARD FOR SAFETY.

### Substantial Equivalence:

The Angio-CT MIYABI operating with SOMARIS 4 (SOMATOM Plus 4) and SW-Version 3.0 (Multistar Plus) software is substantially equivalent to the SOMATOM Plus 4 and Multistar Plus systems with Koordinat M in commercial distribution.

  
Signature

2/16/99  
Date



APR 5 1999

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850Alicia Bustos-Juergensen  
Technical Specialist  
Siemens Medical Systems, Inc.  
186 Wood Avenue South  
Iselin, NJ 08830Re: K990491  
Angio-CT MIYABI  
Dated: February 16, 1999  
Received: February 17, 1999  
Regulatory class: II  
21 CFR 892.1600/Procode: 90 IXI  
21 CFR 892.1750/Procode: 90 JAK

Dear Ms. Bustos-Juergensen:

We have reviewed your Section 510(k) notification of intent to market the device referenced above and we 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). 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 (Premarket Approval), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 895. A substantially equivalent determination assumes compliance with the Current Good Manufacturing Practice requirements, as set forth in the Quality System Regulation (QS) for Medical Devices: General regulation (21 CFR Part 820) and that, through periodic QS inspections, the Food and Drug Administration (FDA) will verify such assumptions. Failure to comply with the GMP regulation may result in regulatory action. In addition, FDA may publish further announcements concerning your device in the Federal Register. Please note: this response to your premarket notification submission does not affect any obligation you might have under sections 531 through 542 of the Act for devices under the Electronic Product Radiation Control provisions, or other Federal laws or regulations.

This letter will allow you to begin marketing your device as described in your 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4613. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or (301) 443-6597, or at its internet address "<http://www.fda.gov/cdrh/dsma/dsmamain.html>".

Sincerely yours,

CAPT Daniel G. Schultz, M.D.  
Acting Director, Division of Reproductive,  
Abdominal, Ear, Nose and Throat,  
and Radiological Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

## Attachment 2

### Indication for use

510(k) Number (if known): K990491

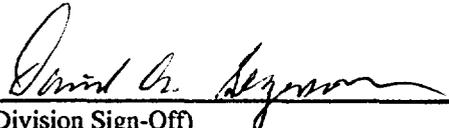
Device Name: Angio-CT MIYABI

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The SOMATOM Plus 4 is intended to produce cross-sectional images of the body by computer reconstruction of x-ray transmission data from either the same axial plane taken at different angles or spiral planes\* taken at different angles. (\*spiral planes: the axial planes resulted from the continuous rotation of detectors and x-ray tube, and the simultaneous movement of the sliding gantry.)

The Multistar Plus is a ceiling-suspended double C-arm for single plane general vascular imaging as well as interventional techniques.

Angio-CT MIYABI is a combined system, which allows interventional radiological techniques, and whole body x-ray computed tomography scanning on a single patient without moving the patient from one table to another especially after or during interventional procedure performed under image intensified visualization (e.g. stenting, coiling, local chemical therapy, embolization).

  
\_\_\_\_\_  
(Division Sign-Off)  
Division of Reproductive, Abdominal, ENT,  
and Radiological Devices  
510(k) Number: K990491

Prescription Use  \_\_\_\_\_  
(Per 21 CFR 801.109)