



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

**APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP-0833

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Siemens Medical Solutions USA, Inc.

Manufacturer's Technical Representative: Michael Dulude

Mailing Address: 40 Liberty Boulevard, Malvern, PA 19355

Telephone: (865) 438-9020

Email: michael.dulude@siemens-healthineers.com

Product Information

Product Name: Trinion PET-CT System

Product Model Number(s): See attachment

Product Category: CT Systems

Product Sub-Category: NA

General Description: Multiple component system used for producing Computed Tomography (CT) medical images for diagnostic evaluation.

Mounting Description: Base Mounted Rigid

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: WE Gundy & Associates, Inc

Contact Person: Travis Soppe

Mailing Address: PO Box 9121, Boise, ID 83707

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Title: President





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California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

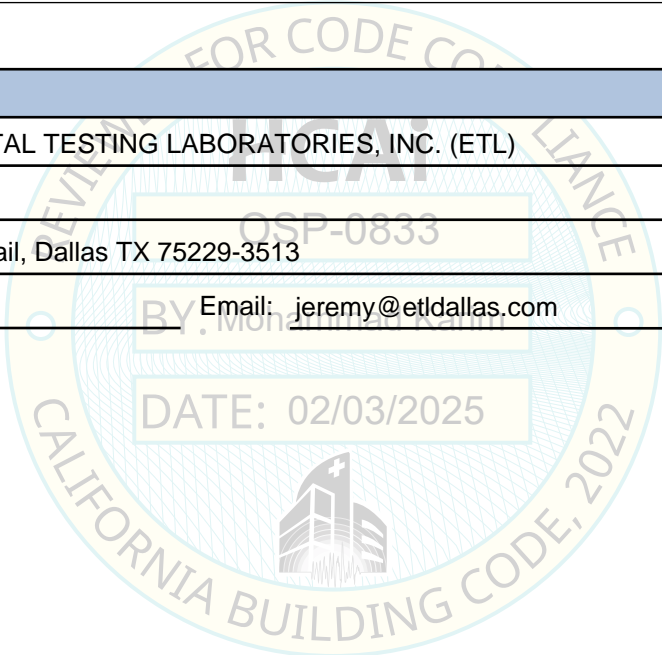
Company Name: W.E. GUNDY & ASSOCIATES INC.
Name: Travis Soppe California License Number: S6115
Mailing Address: P.O. Box 9121, Boise, ID 83707
Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)
Contact Person: Jeremy Lange
Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513
Telephone: (972) 247-9657 Email: jeremy@etldallas.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 2.4 (SDS = 2.0g @ z/h = 1.0) and 1.13 (SDS = 2.5g @ z/h = 0.0)

SDS (Design spectral response acceleration at short period, g) = 2.0 (z/h = 1.0) and 2.50 (z/h = 0.0)

a_p (Amplification factor) = 1.0

R_p (Response modification factor) = 1.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on: 02/06/2031

Date: 2/3/2025

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.0 z/h = 1

Condition of Approval (if applicable): Certification applies only to CT systems. PET systems are not included in the scope of this OSP.

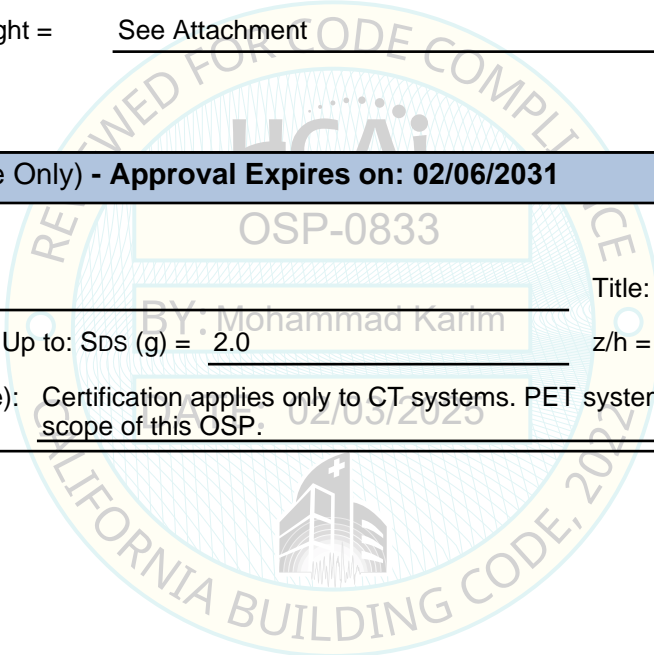


TABLE 1	SIEMENS HEALTHCARE SPECIAL SEISMIC CERTIFICATION CERTIFIED SYSTEM AND COMPONENTS	 WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING
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Manufacturer: Siemens Healthcare

System: Trinion PET CT System

System Component ¹	Siemens Part Number	Dimensions (in)			Weight (lb)	Mounting	UUT ²
		Width	Depth	Height			
Combined PET/CT Gantries³							
Biograph Trinion EP CT64 (HP2 3 Ring)	10756474	89.3	61.3	76.1	5158	Floor	UUT _y -1
Biograph Trinion EP CT128 (HP4 3 Ring)	10756478	89.3	61.3	76.1	5370	Floor	interpolated
Biograph Trinion EP2 CT64 (HP2 4 Ring)	10756476	89.3	61.3	76.1	5386	Floor	interpolated
Biograph Trinion EP2 CT128 (HP4 4 Ring)	10756479	89.3	61.3	76.1	5408	Floor	interpolated
Biograph Trinion.X EP5 CT64 (HP2 6 Ring)	11713854	89.3	61.3	76.1	5435	Floor	interpolated
Biograph Trinion.X EP5 CT128 (HP4 6 Ring)	11713856	89.3	61.3	76.1	5457	Floor	interpolated
Biograph Trinion.X EP8 CT64 (HP2 8 Ring)	11713857	89.3	61.3	76.1	5549	Floor	interpolated
Biograph Trinion.X EP8 CT64 (HP4 8 Ring)	11713858	89.3	61.3	76.1	5571	Floor	UUT _z -1

Patient Table⁴							
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PHS - Neo X	10755469	16.0	148.0 - 239.7	46.0	1501	Floor	UUT _z -2
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¹ All components are manufactured by Siemens Healthcare unless noted. Part numbers listed uniquely identify type of component, manufacturer, and material of construction for each sub-component within the tested units.

² The units were tested at different times and the subscripts on the UUT reference the following lab test reports:
y - 17163 Rev.2 / z - 17323 Rev.2

³ The PET gantries for UUT_y-1 and UUT_z-1 do not have special seismic certification and are not included as certified components. The certification applies only to the components of the CT systems.

⁴ Patient table weight listed does not include simulated patient weight used for test. See UUT summary sheet for simulated patient weight.

SEISMIC CERTIFICATION LIMITS								
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System Component	Code	S _{DS} (g)	z / h	I _P	a _P	R _P	Ω ₀	F _P / W _P
CT Gantries	CBC 2022	2.0	1.0	1.5	1.0	1.5	2.0	2.40
		2.5	0					1.13
Patient Table	ASCE 7-16	2.0	1.0	1.5	1.0	1.5	2.0	2.40
		2.5	0					1.13

UUT_y-1

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (32) 5/8" diameter grade 5 bolts.



Manufacturer: Siemens Medical Solutions USA	Test Location: ETL (Dallas, TX)
Component: Biograph Trinion EP CT64 (HP2 3 Ring)	Test Date: September 2024
Model Number: 10756474	Report Number: 17163 Rev.1
UUT Function: Continuous rotating x-ray to generate diagnostic imaging	
UUT Description: Combined CT Gantry and PET Gantry for the Trinion PET CT system.	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
5,158	89.3	61.3	76.1	8.5	12.4	8.4

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of content during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test. The PET gantry does not have special seismic certification and is not included as certified component. The certification applies only to the components of the CT system.

UUT_{Z-1}

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (32) 5/8" diameter grade 5 bolts.



Manufacturer: Siemens Medical Solutions USA	Test Location: ETL (Dallas, TX)
Component: Biograph Trinion.X EP8 CT64 (HP4 8 Ring)	Test Date: June 2024
Model Number: 11713858	Report Number: 17323 Rev.1

UUT Function: Continuous rotating x-ray to generate diagnostic imaging

UUT Description: Combined CT Gantry and PET Gantry for the Trinion PET CT system.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
5,571	89.3	61.3	76.1	7.4	11.4	15.8

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	SDS (g)	z / h	I _p	AFLX-H (g)	ARIG-H (g)	AFLX-V (g)	ARIG-V (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of content during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test. The PET gantry does not have special seismic certification and is not included as certified component. The certification applies only to the components of the CT system.

UUT_{Z-2}

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (34) 1/2" diameter grade 8 bolts.



BY: Mohammad Karim

Manufacturer: Siemens Medical Solutions USA **Test Location:** ETL (Dallas, TX)

Component: PHS – Neo X **Test Date:** June 2024

Model Number: 10755469 **Report Number:** 17323 Rev.1

UUT Function: Motorized patient support

UUT Description: Patient Table for the Trinion PET CT system.

UUT PROPERTIES

Weight (lb) with Patient	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,981	16.0	193.0	46.0	N/A	3.8	4.6

The patient table moves vertically and horizontally to accommodate different positions and procedures. The system was tested in the normal operating position, with a tabletop vertical height of 36.1 inches, horizontally centered, and with a total simulated patient weight of 480lbs.

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.