



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY

APPLICATION #: OSP-0691

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Siemens Healthcare GmbH, Diagnostic Imaging, Computed Tomography

Manufacturer's Technical Representative: Don Medlar

Mailing Address: Siemensstr. 3, D-91301 Forchheim, Germany

Telephone: +49 (9191) 18-6521

Email: don.medlar@siemens-healthineers.com

Product Information

Product Name: CT Systems

Product Type: NA

Product Model Number: SOMATOM X.cite CT System

General Description: Multiple component system for producing Computed Tomography (CT) medical images for a wide variety of medical diagnostic results.

Mounting Description: Rigid, Floor Mounted

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)

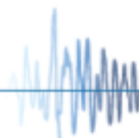
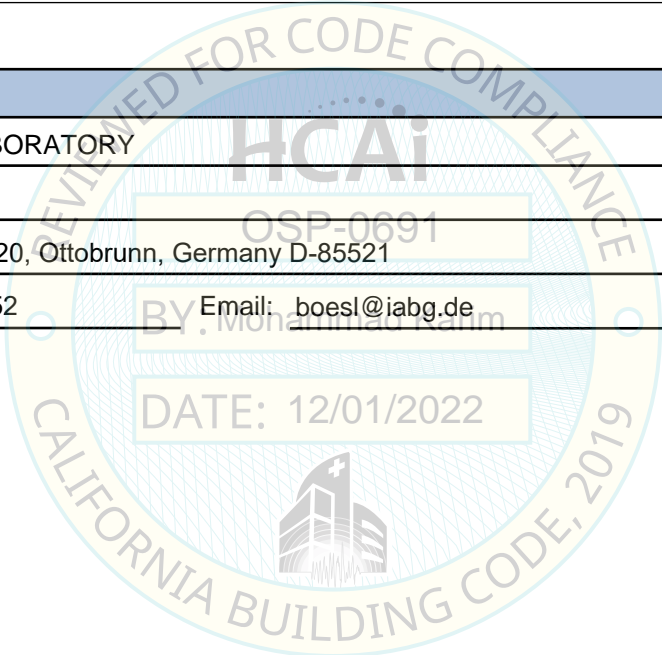
Company Name: W.E. GUNDY & ASSOCIATES INC.
Name: Travis Soppe California License Number: S6115
Mailing Address: P.O. Box 9121, Boise, ID 83707
Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Certification Method

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

Testing Laboratory

Company Name: IABG TEST LABORATORY
Contact Person: Florian Bosl
Mailing Address: Einsteinstrasse 20, Ottobrunn, Germany D-85521
Telephone: +49 (0) 89 / 6088-2052 Email: boesl@iabg.de





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) =	<u>See Attachments</u>
SDS (Design spectral response acceleration at short period, g) =	<u>2.0 at $z/h = 1.0$ and 2.5 at $z/h = 0$</u>
a_p (Amplification factor) =	<u>See attachments</u>
R_p (Response modification factor) =	<u>See attachments</u>
Ω_0 (System overstrength factor) =	<u>See Attachment</u>
I_p (Importance factor) =	<u>1.5</u>
z/h (Height ratio factor) =	<u>1 and 0</u>
Natural frequencies (Hz) =	<u>See Attachment</u>
Overall dimensions and weight =	<u>See Attachment</u>

HCAI Approval (For Office Use Only) - Approval Expires on 12/01/2028

Date:	<u>12/1/2022</u>	OSP-0691
Name:	<u>Mohammad Karim</u>	Title: <u>Supervisor, Health Facilities</u>
Special Seismic Certification Valid Up to: SDS (g) =	<u>See Above</u>	$z/h =$ <u>See Above</u>
Condition of Approval (if applicable):	<u>DATE: 12/01/2022</u>	

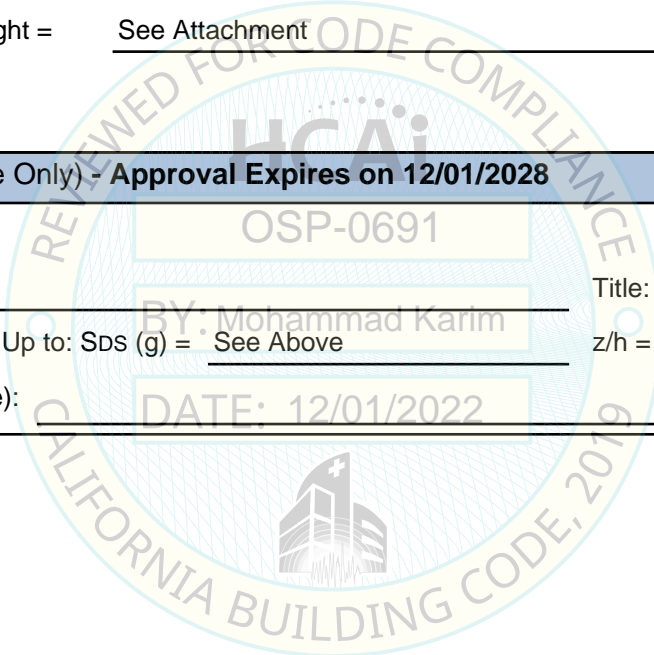


TABLE 1	SIEMENS HEALTHCARE GmbH SPECIAL SEISMIC CERTIFICATION CERTIFIED SYSTEM AND COMPONENTS	 WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING
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Manufacturer: Siemens Healthcare GmbH

System: SOMATOM X.cite CT System

System Component ¹	Siemens Part Number	Dimensions (in)			Weight (lb)	Mounting	UUT ²
		Width	Depth	Height			
Gantries							
X.cite (air cooled)	11330001	99.8	37.7	78.1	4409	floor	UUT _x -1
X.cite (water cooled)	11330001	99.8	37.7	78.1	4638	floor	interpolated
X.ceed (water cooled)	11330002	99.8	37.7	78.1	4748	floor	UUT _y -2

Patient Table³

Vitus PHS	11061336	27.8	100.8-182.7	14.8-38.0	1040	floor	UUT _x -3
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UPS - IRS Rack

UPS-IRS Rack IRSxp1e	11331272	15.4	32.7	22.5	181	floor	UUT _x -2
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Notes:

¹ All components are manufactured by Siemens Healthcare GmbH 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's reference the following lab test reports:
x - TAB3-PB-20-140-V1 / y - TAB3-PB-21-074-V1

³ Patient table weights listed do not include simulated patient weight used for test. See UUT summary sheet for simulated patient weight.

SEISMIC CERTIFICATION LIMITS

System Component	Code	S _{DS} (g)	z / h	I _p	a _p	R _p	Ω ₀	F _p / W _p
Gantries	CBC 2022	2.0	1.0	1.50	1.0	1.5	2.0	2.40
Patient Table	CBC 2022	2.0	1.0	1.50	1.0	1.5	2.0	2.40
UPS-IRS Rack	CBC 2022	2.0	1.0	1.50	1.0	2.5	2.0	1.44

UUT_{x-1}

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



Mounting Details: Rigid floor mounted with (5) 5/8" grade 8 bolts



Manufacturer: Siemens Healthcare GmbH	Test Location: IABG mbH, Germany
Component: X.cite Gantry (air cooled)	Test Date: September 2020
Model Number: 11330001	Report Number: TAB3-PB-20-140-V1
UUT Function: Continuous rotating x-ray to generate diagnostic imaging	
UUT Description: Gantry with air cooling for the SOMATOM X.Cite CT system.	
UUT Modifications: Modifications required for the UUT to pass the seismic test will be incorporated in the standard production units.	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
4,410	99.8	37.7	78.1	12.6	6.6	24.5

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{ds} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	-	-
	2.50	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.

UUT_y-2

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



Mounting Details: Rigid floor mounted with (5) 5/8" grade 8 bolts



Manufacturer: Siemens Healthcare GmbH	Test Location: IABG mbH, Germany
Component: X.ceed Gantry (water cooled)	Test Date: May 2021
Model Number: 11330002	Report Number: TAB3-PB-21-074-V1
UUT Function: Continuous rotating x-ray to generate diagnostic imaging	
UUT Description: Gantry with water cooling for the SOMATOM X.Ceed CT system.	
UUT Modifications: Modifications required for the UUT to pass the seismic test will be incorporated in the standard production units.	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
4,748	99.8	37.7	78.1	12.5	6.4	24.5

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	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.

UUT_{x-3}

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



Mounting Details: Rigid floor mounted with (6) 5/8" grade 8 bolts.



Manufacturer: Siemens Healthcare GmbH • **Test Location:** IABG mbH, Germany

Component: Vitus PHS **Test Date:** September 2020

Model Number: 11061336 **Report Number:** TAB3-PB-20-140-V1

UUT Function: Motorized patient support

UUT Description: Patient table for the SOMATOM X.cite CT system

UUT PROPERTIES

Weight (lb) with Patient	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,580	27.8	100.8 – 182.7	14.8 – 38.0	16.6	7.6	11.3

The patient table moves vertically and horizontally to accommodate different positions and procedures. The system was tested in the normal operating position, with the table top extended 39.4 inches, vertically extended 38 inches, and with a total simulated patient weight of 540lbs.

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	SDS (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	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.

UUT_{x-2}

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



Mounting Details: Rigid Floor mounting using Siemens provided seismic restraint kit SN:10432402. Seismic restraint kit includes three 1" wide hand tightened cam buckle straps (560lb WLL) looped thru angle brackets positioned on the long and short sides of the unit. The six angle brackets are attached to the table with individual 3/8" grade 5 bolts.



Manufacturer: Siemens Healthcare GmbH	Test Location: IABG mbH, Germany
Component: UPS-IRS Rack - IRSxple	Test Date: September 2020
Model Number: 11331272	Report Number: TAB3-PB-20-140-V1
UUT Function: Combined Uninterruptable Power System and Image Reconstruction System	
UUT Description: Component of the SOMATOM X.cite CT system.	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
181	15.4	32.7	22.5	22.7	7.6	> 33

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	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.