



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0743

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Siemens Healthcare GmbH Manufacturer's

Technical Representative: Don Medlar

Mailing Address: Siemens Str. 3, 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: NAEOTOM Alpha

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: None

Applicant Information

Applicant Company Name: WE Gundy & Associates, Inc

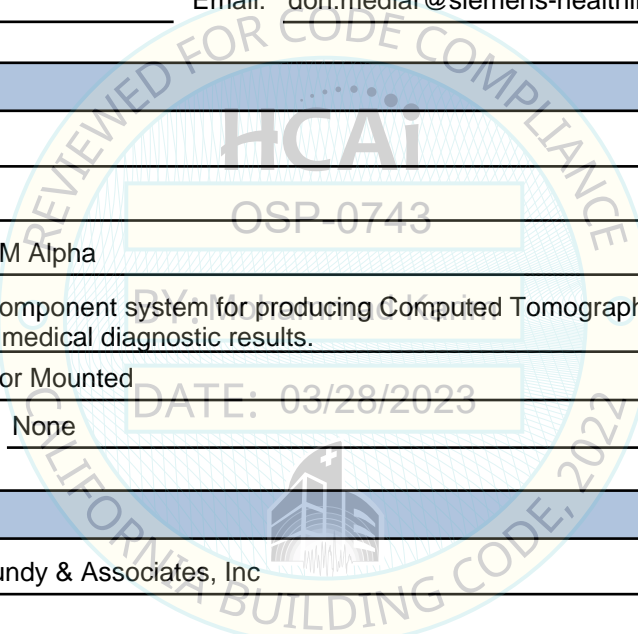
Contact Person: Travis Soppe

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)

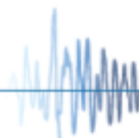
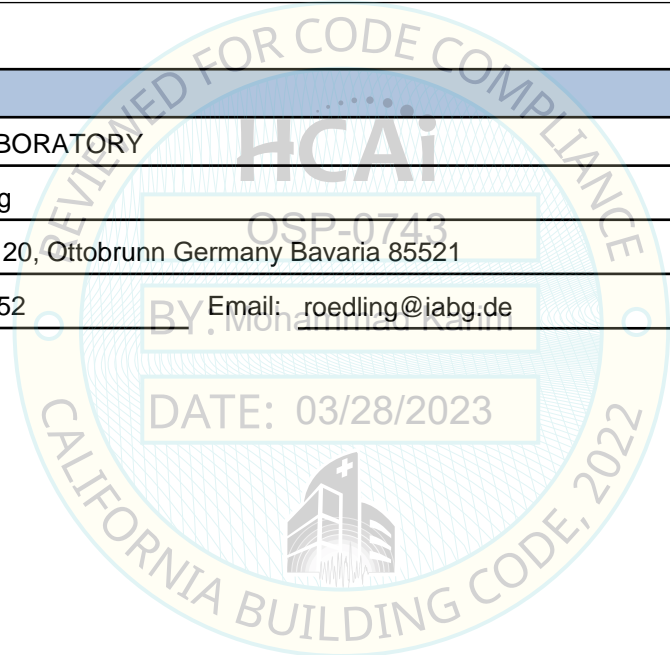
Company Name: W.E. GUNDY & ASSOCIATES INC.
Name: Travis Soppe California License Number: S6115
Mailing Address: P.O. Box 9121, Boise, ID 83707
Telephone: (208) 342-5989 Email: tsoppe@wegai.com

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: Steffen Roedling
Mailing Address: Einsteinstrasse 20, Ottobrunn Germany Bavaria 85521
Telephone: +49 (0) 89 / 6088-2052 Email: roedling@iabg.de





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) =	See Attachments
SDS (Design spectral response acceleration at short period, g) =	2.00 (z/h = 1.0), 2.50 (z/h = 0.0)
a_p (Amplification factor) =	See attachments
R_p (Response modification factor) =	See attachments
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 03/28/2029

Date:	3/28/2023	OSP-0743
Name:	Mohammad Karim	Title: Supervisor, Health Facilities
Special Seismic Certification Valid Up to: SDS (g) =	See Above	z/h = See Above
Condition of Approval (if applicable):	DATE: 03/28/2023	

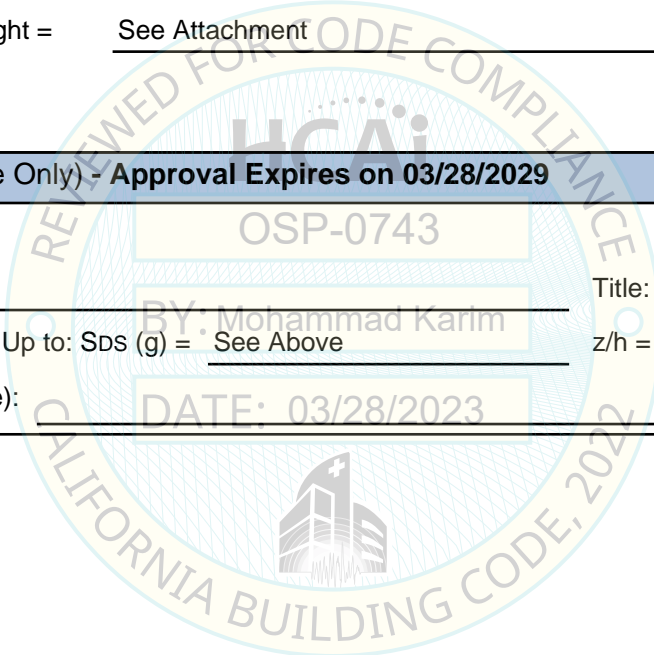


TABLE 1	SIEMENS HEALTHCARE GmbH SPECIAL SEISMIC CERTIFICATION CERTIFIED SYSTEM COMPONENTS	 WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING
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Manufacturer: Siemens Healthcare GmbH

System: NAEOTOM Alpha CT System

System Component ¹	Siemens Part Number	Dimensions (in)			Weight (lb)	Mounting	UUT
		Width	Depth	Height			
Gantry							
NAEOTOM Alpha	11330003	94.5	49.8	78.3	5953	floor	UUT _x -2
Image Reconstruction and UPS Systems							
ALON UPS-cabinet	11501140	34.8	40.5	50.8	895	floor / wall	UUT _y -3
Computer IRS XL20-1H	11513711	30.7	12.1	19.6	79	floor	UUT _x -4
UPS Rack - IRSxp2e and UPS GXT-05	11501180	15.4	32.7	22.5	149	floor	UUT _x -5
IRSxp2a	11652201	7.0	21.7	17.1	44	floor	UUT _x -6

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 - TA-B-000477-V1 / y - TA-B-000478-V1

SEISMIC CERTIFICATION LIMITS

System Component	Code	S _{DS} (g)	z / h	I _P	a _p	R _P	Ω ₀	F _P / W _P
Gantry	CBC 2022	2.0	1.0	1.50	1.0	1.5	2.0	2.40
		2.5	0					1.13
IRS and UPS Systems	CBC 2022	2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13

UUT_{x-2}

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



Mounting Details: Rigid floor mounted with (4) 5/8" grade 8 bolts



Manufacturer: Siemens Healthcare GmbH	Test Location: IABG mbH, Germany
Component: NAEOTOM Alpha Gantry	Test Date: March 2022
Model Number: 11330003	Report Number: TA-B-000477-V1

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

UUT Description: Gantry for the NAEOTOM Alpha CT system.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
5,953	94.5	49.8	78.3	9.8	18.2	> 33

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

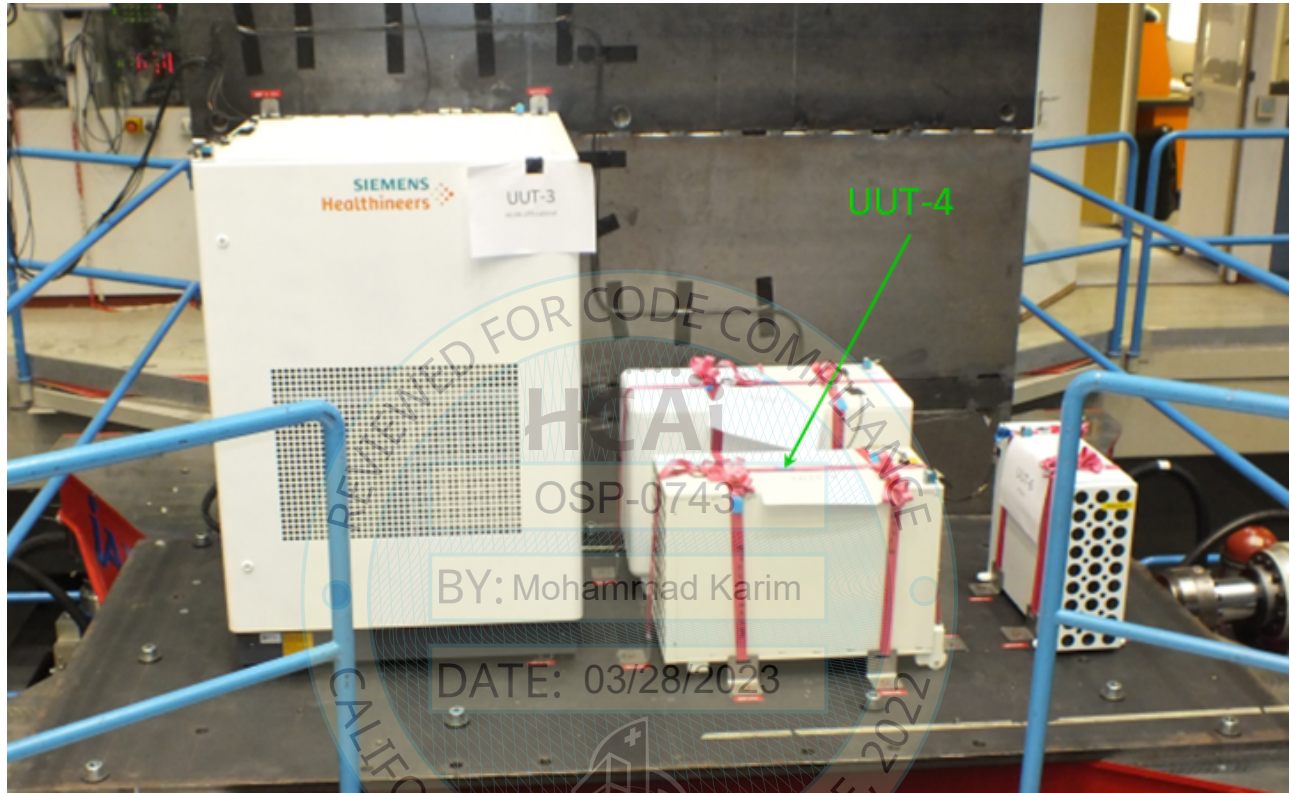
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_x-4

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



Mounting Details: Rigid Floor mounting using Siemens provided seismic restraint kit SN:11500840. 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: Computer IRS XL20-1H	Test Date: March 2022
Model Number: 11513711	Report Number: TA-B-000477-V1

UUT Function: Image Reconstruction System

UUT Description: Component of the NAEOTOM Alpha CT system.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
79.4	30.7	12.1	19.6	23.9	17.9	> 33

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

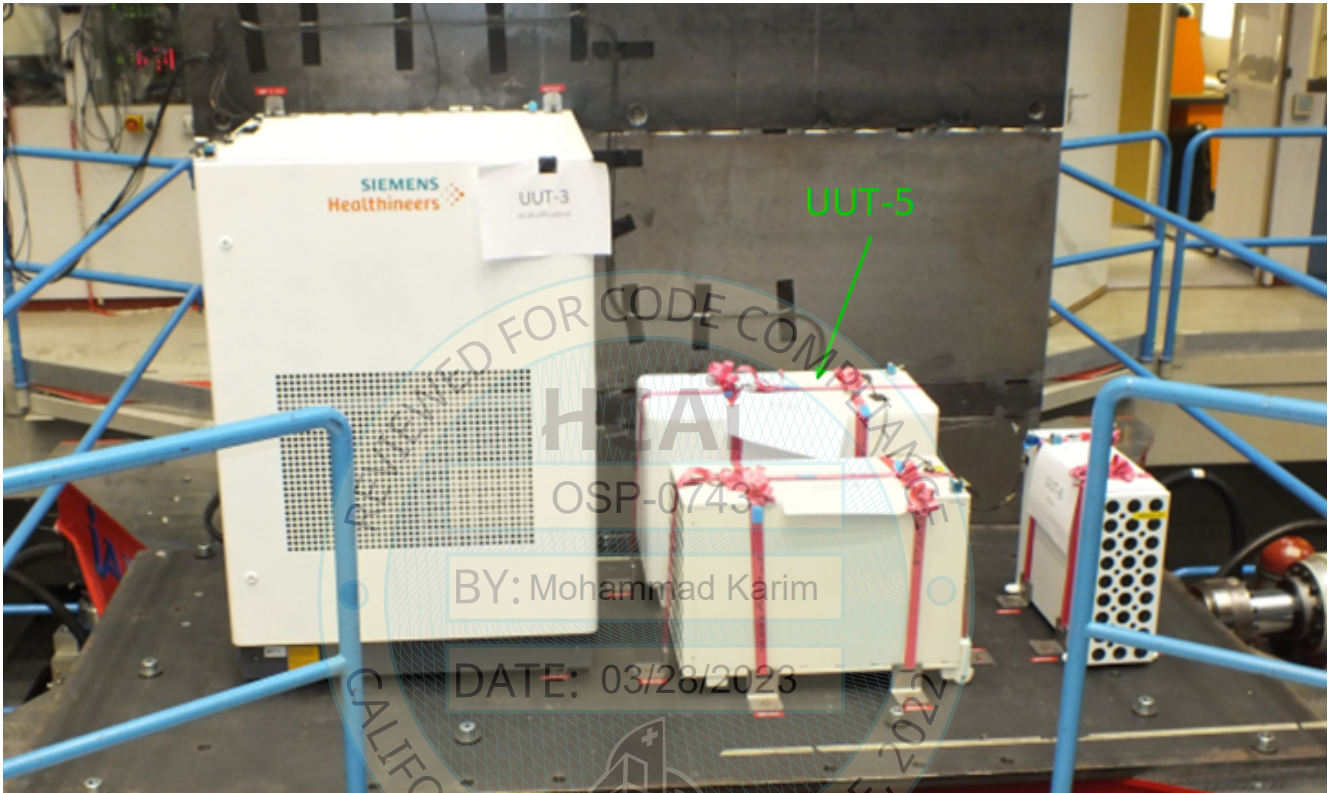
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_{x-5}

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



Mounting Details: Rigid Floor mounting using Siemens provided seismic restraint kit SN:11500840. 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 Rack: IRSxp2e & UPS GXT-05 **Test Date:** March 2022

Model Number: 11501180 **Report Number:** TA-B-000477-V1

UUT Function: Combined Uninterruptable Power System and Image Reconstruction System

UUT Description: Component of the NAEOTOM Alpha CT system.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
149.0	15.4	32.7	22.5	> 33	9.8	> 33

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

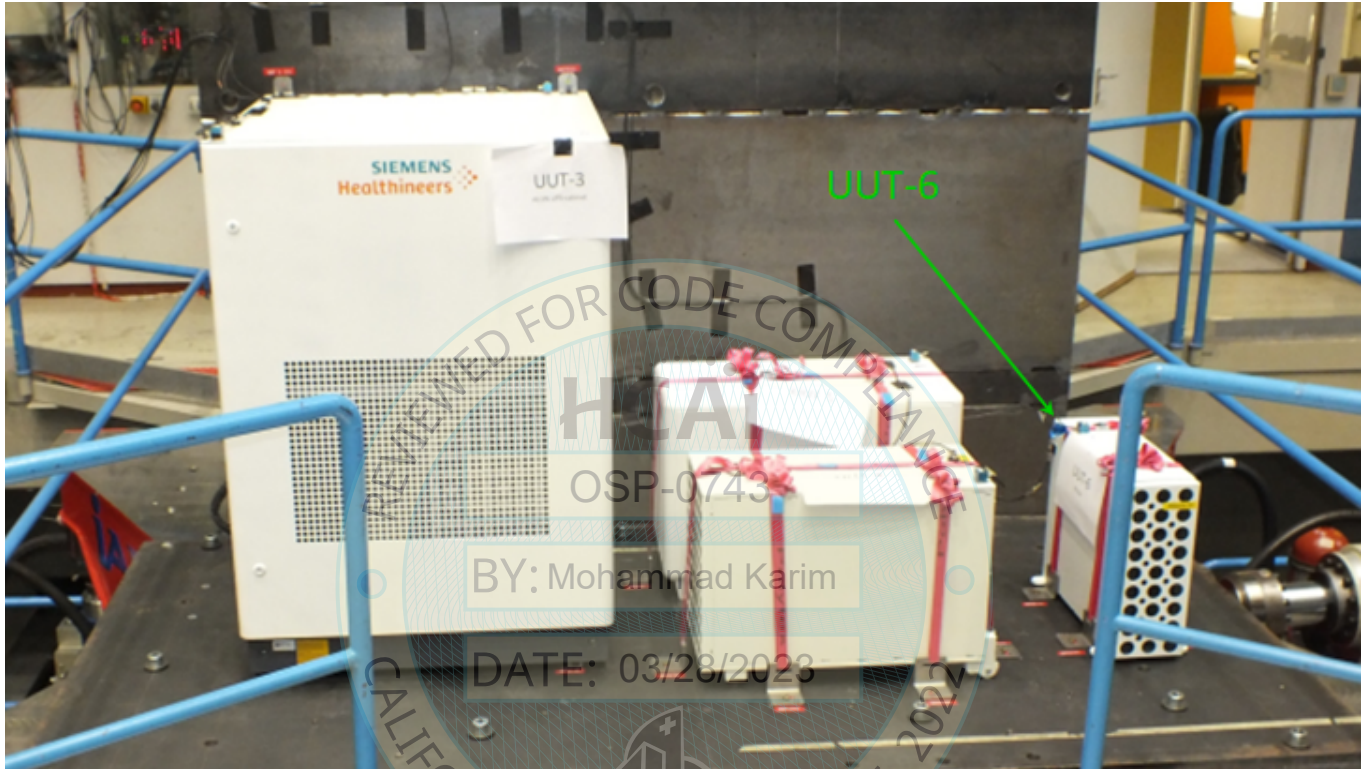
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_x-6

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



Mounting Details: Rigid Floor mounting using Siemens provided seismic restraint kit SN:11500840. Seismic restraint kit includes two 1" wide hand tightened cam buckle straps (560lb WLL) looped thru angle brackets positioned on the long side of the unit. The four angle brackets are attached to the table with individual 3/8" grade 5 bolts.



Manufacturer: Siemens Healthcare GmbH	Test Location: IABG mbH, Germany
Component: IRSxp2a	Test Date: March 2022
Model Number: 11652201	Report Number: TA-B-000477-V1

UUT Function: Image Reconstruction System

UUT Description: Component of the NAEOTOM Alpha CT system.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
44.1	7.0	21.7	17.1	> 33	16.7	> 33

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_y-3

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



Mounting Details: Rigid combined floor and wall mounting using Siemens provided seismic restraint kit SN:11500841. Seismic restraint kit includes an angle wall bracket connecting the UUT to the wall with 2 – 3/8" grade 5 bolts and floor brackets connecting the UUT to the floor with 4 – 3/8" grade 5 bolts.



Manufacturer: Siemens Healthcare GmbH	Test Location: IABG mbH, Germany
Component: ALON UPS-cabinet	Test Date: September 2022
Model Number: 11501140	Report Number: TA-B-000478-V1

UUT Function: Uninterruptible power supply

UUT Description: Component of the NAEOTOM Alpha CT system.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
895	34.8	40.5	50.8	N/A	N/A	N/A

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.