



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0551 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☒ New ☐ Renewal

Manufacturer Information

Manufacturer: Siemens Shanghai Medical Equipment LTD

Manufacturer's Technical Representative: Chen Zhonghua

Mailing Address: 278, Zhouzhu Road, Nanhui, 201318 SHANGHAI, China

Telephone: +86 (21) 20606030

Email: zhonghua.chen@siemens-healthineers.com

Product Information

Product Name: Multix Fusion Max System

Product Type: Radiography and Fluoroscopy general medical diagnostic imaging system

Product Model Number: See Attachment

(List all unique product identification numbers and/or part numbers)

General Description: Multiple component system for producing Radiography and Fluoroscopy medical images for a wide variety of medical diagnostic results.

Mounting Description: Rigid floor mounted and Rigid wall mounted.

Applicant Information

Applicant Company Name: W.E. Gundy & Associates, Inc.

Contact Person: Travis Soppe, SE

Mailing Address: 250 Bobwhite Ct, Suite 100, Boise, ID 83706

Telephone: (208) 342-5898 Ext. 115

Email: tsoppe@wegai.com

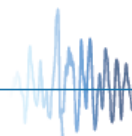
I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant:  Date: 01-31-2018

Title: Vice President Company Name: W.E. Gundy & Associates, Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-759 (REV 12/16/15)



OSHPD

Page 1 of 3



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

Company Name: W.E. Gundy & Associates, Inc.

Name: Travis Soppe, SE California License Number: S6115

Mailing Address: 250 Bobwhite Ct, Suite 100, Boise, ID 83706

Telephone: (208) 342-5898 Ext. 115 Email: tsoppe@wegai.com

Supports and Attachments Preapproval

- ☐ Supports and attachments are preapproved under OPM-
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- ☒ Supports and attachments are not preapproved

Certification Method

☒ Testing in accordance with: ☒ ICC-ES AC156

☐ Other (Please Specify): OSP-0551-10

BY: Timothy J. Piland

DATE: 07/23/2018

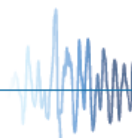
Testing Laboratory

Company Name: IABG mbH

Contact Name: Dr. Steffen Roedling

Mailing Address: Einsteinstrasse 20, Ottobrunn, Germany D-85521

Telephone: +49 (0) 89 / 6088-2052 Email: roedling@iabg.de





OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = See Attachment

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1); 2.50 (z/h = 0)

a_p (In-structure equipment or component amplification factor) = See attachment

R_p (Equipment or component response modification factor) = See attachment

Ω_0 (System overstrength factor) = See attachment

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1 (S_{DS} = 2.00); 0 (S_{DS} = 2.50)

Equipment or Component Natural Frequencies (Hz) = See attachment

Overall dimensions and weight (or range thereof) = See attachment

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) =

S_{DS} (Design spectral response acceleration at short period, g) =

S_{D1} (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Ω_0 (System overstrength factor) = BY: Timothy J. Piland

C_d (Deflection amplification factor) =

I_p (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☐ Calculations ☒ Manufacturer's Catalog

☒ Other(s) (Please Specify): Certified System Matrix, UUT Summary Sheets, Subcomponent Certification Letter

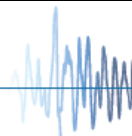
OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature:  Date: July 23, 2018

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = See Above z/h = See Above

Condition of Approval (if applicable):



SIEMENS HEALTHCARE GmbH
SPECIAL SEISMIC CERTIFICATION
CERTIFIED SYSTEM AND COMPONENTS



Manufacturer: Siemens Healthcare GmbH

System: Multix Fusion Max Radiography System

System Component ¹	Siemens Part Number	Dimensions (in)			Weight (lb)	Mounting	UUT
		Width	Depth	Height			
Polydoros RF Rad 80 (with PSU)	10307360	50.9	22.4	21.4	499	floor	UUT-1
RAD MST Patient Table with MAX wi-D Detector	10273206	94.9	31.5	20.3-37.6	812 ²	floor	UUT-2
Bucky Wall Stand with 4343R-RCE Detector	10681703	19.7	28.2	82.9	506	floor	UUT-3
Bucky Wall Stand with MAX wi-D Detector	10961060 10961061 ³⁾	19.7	28.2	82.9	497	floor	UUT-4
SCALANCE W700 Wi-Fi Access Point	10860657	7.9	5.5	8.9	3.7	wall	UUT-5
PC (W520) Imaging System	11020769	13.4	27.4	22.8	88.9	floor	UUT-6
UPS	5P850i	5.9	9.2	13.6	21.8	floor	UUT-7

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) Bariatric Patient Table weight does not include 530lb simulated weight.

3) The 10961061 Bucky Wall Stand is the same as the tested 10961060 configuration. The detector inserts on the left for 10961061 and on the right for 10961060, units are the same and inversed.

SEISMIC CERTIFICATION LIMITS

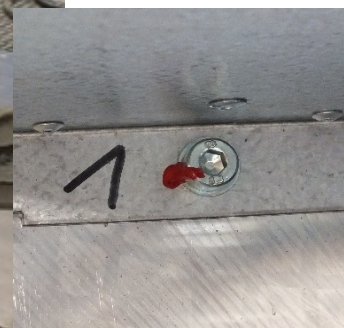
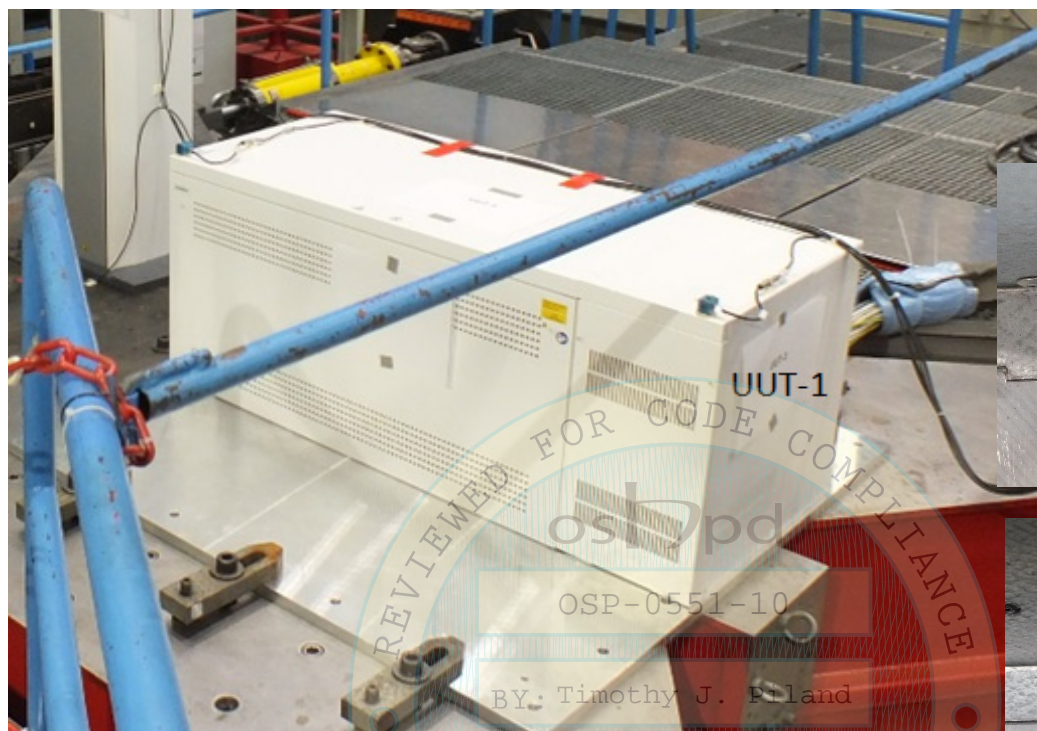
System Component	Code	S _{DS} (g)	z / h	I _P	a _P	R _P	Ω ₀	F _P / W _P
Polydoros RF Rad 80 (with PSU)	CBC 2016 ASCE 7-10	2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13
RAD MST Patient Table with MAX wi-D Detector		2.0	1.0	1.50	1.0	1.5	1.5	2.40
		2.5	0					1.13
Bucky Wall Stand with 4343R-RCE Detector		2.0	1.0	1.50	1.0	1.5	1.5	2.40
		2.5	0					1.13
Bucky Wall Stand with MAX wi-D Detector		2.0	1.0	1.50	1.0	1.5	1.5	2.40
		2.5	0					1.13
SCALANCE W700 Wi-Fi Access Point		2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13
PC (W520) Imaging System		2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13
UPS		2.0	1.0	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13

UUT-1

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid floor mounted with 4 - M8 grade 8.8 bolts and 2 - M10 grade 10.9 bolts.



REVIEWED FOR CODE COMPLIANCE
OSP-0551-10
BY: Timothy J. Filand
DATE: 07/23/2018
CALIFORNIA BUILDING CODE, 2016

Manufacturer: Siemens Healthcare GmbH

Component: Polydoros RF Rad 80 (with PSU)

Model / Serial Number: 10307360 / 3463

UUT Function: X-Ray Generator for Radiography System

UUT Description: Component of Multix Fusion Max Radiography System

Test Location: IABG mbH, Germany

Test Date: October 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
499	50.9"	22.4"	21.4"	26.2	26.7	> 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 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

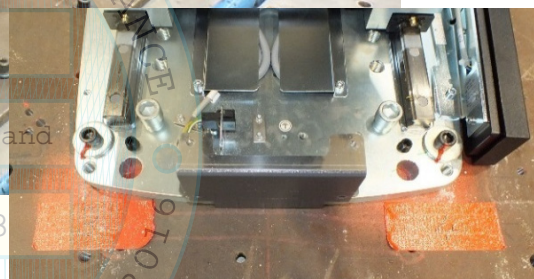
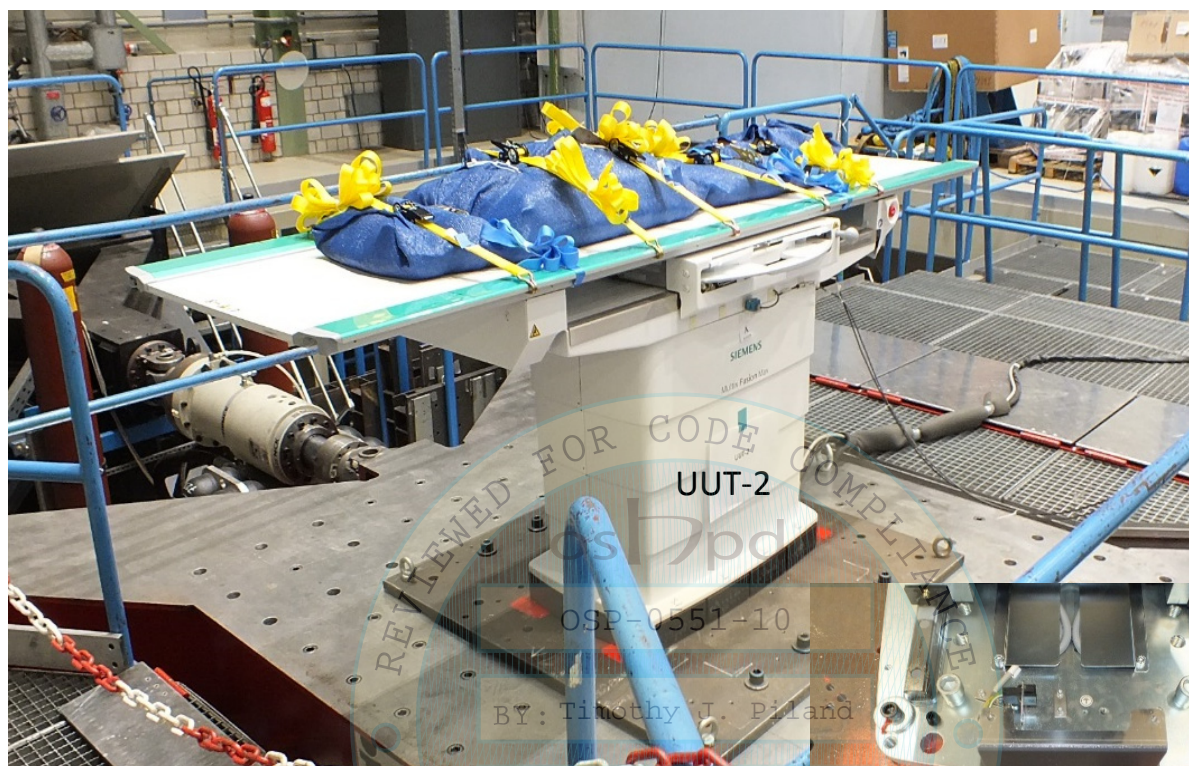
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-2

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid Floor mounted with 4 - M12 grade 10.9 bolts



Manufacturer: Siemens Healthcare GmbH

Component: RAD MST Patient Table

Model / Serial Number: 10273206 / 2109

UUT Function: Motorized patient table used for X-Ray imaging

UUT Description: Multix Fusion Max Radiography System patient table with MAX wi-D Detector (Pixium 3543EXZH - Siemens 11105032)

Test Location: IABG mbH, Germany

Test Date: October 2017

UUT PROPERTIES

Weight (lb) with Patient	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,342	94.9"	31.5"	20.3"-37.6"	7.9	3.6	11.1

The patient table moves vertically and horizontally to accommodate different patients and procedures. The system was tested in the tallest configuration (37.6") with no horizontal extension and a total simulated patient weight of 530lbs.

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 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

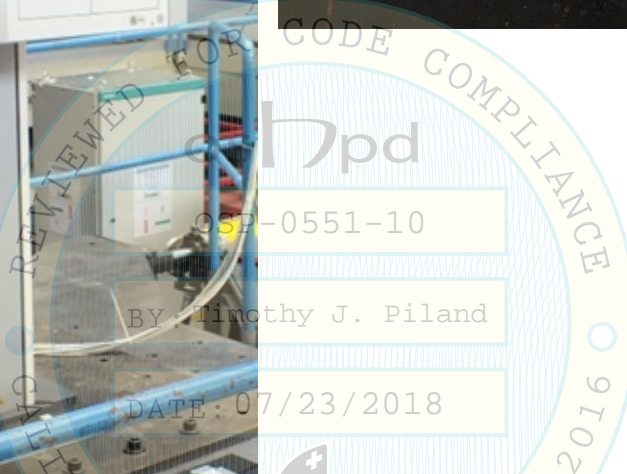
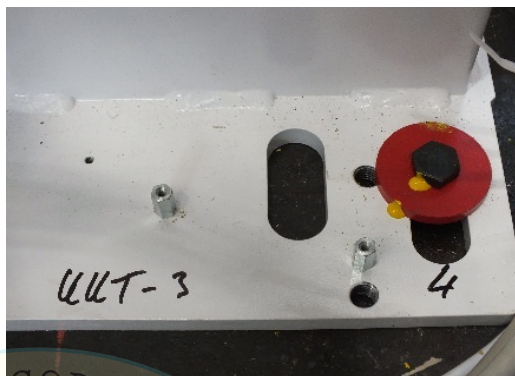
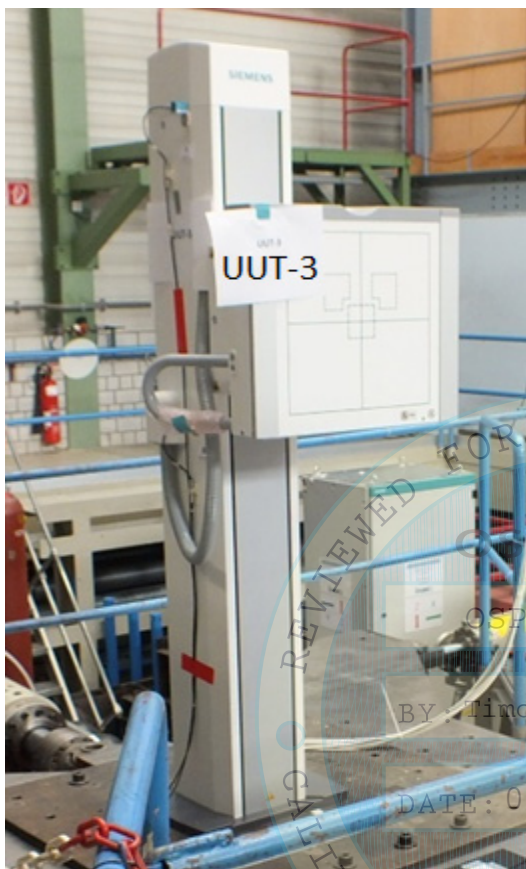
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-3

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid floor mounted with 4 - M12 grade 10.9 bolts torqued to 60 ft-lbs.



Manufacturer: Siemens Healthcare GmbH

Component: Bucky Wall Stand - T DST mot Detector **Model / Serial Number:** 10681703 / 2061

UUT Function: Vertical X-Ray imaging system

UUT Description: Multix Fusion Max Radiography System bucky wall stand with 4343R-RCE Detector (Pixium 4343RCE - Siemens 11020773)

Test Location: IABG mbH, Germany

Test Date: October 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
506	19.7"	28.2"	82.9"	12.4	8.2	> 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 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

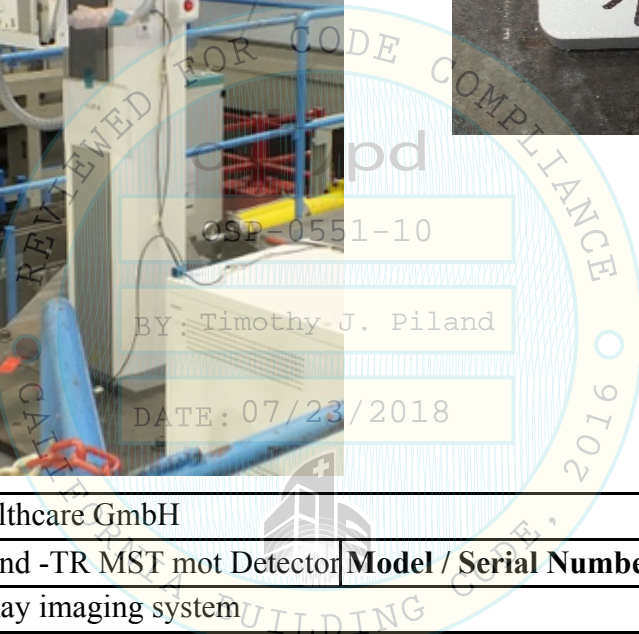
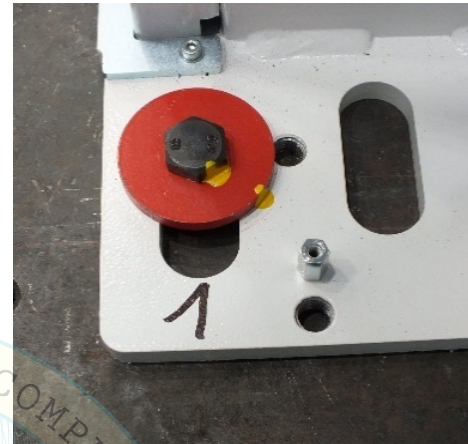
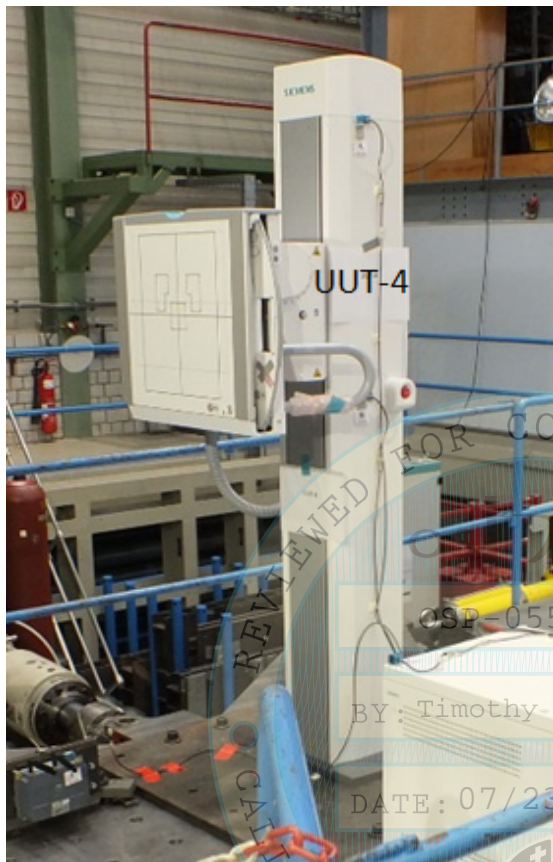
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-4

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid floor mounted with 4 - M12 grade 10.9 bolts torqued to 60 ft-lbs.



Manufacturer: Siemens Healthcare GmbH

Component: Bucky Wall Stand -TR MST mot Detector **Model / Serial Number:** 10961060 / 1031

UUT Function: Vertical X-Ray imaging system

UUT Description: Multix Fusion Max Radiography System bucky wall stand with MAX wi-D Detector (Pixium 3543EZ - Siemens 11105032).

Test Location: IABG mbH, Germany

Test Date: October 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
497	19.7"	28.2"	82.9"	12.9	8.4	12.8

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 2016 / 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.

UUT-5

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid wall mounted with 4 - M4 grade 8.8 bolts



Manufacturer: Siemens Healthcare GmbH

Component: SCALANCE W700 Wi-Fi Access Point **Model Number:** 10860657

UUT Function: Wi-Fi Module

UUT Description: Component of Multix Fusion Max Radiography System

Test Location: IABG mbH, Germany

Test Date: October 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
4	7.9"	5.5"	8.9"	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 2016 / 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.

UUT-6

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid Floor mounting using Siemens provided seismic restraint kit (11107393). Seismic restraint kit includes a 1" wide hand tightened cam buckle strap (992lb WLL) looped thru angle brackets positioned on the long side of the unit. The four angle brackets are attached to the table with individual M10 grade 10.9 bolts.



Manufacturer: Siemens Healthcare GmbH

Component: PC (W520) Imaging System

Model / Serial Number: 11020769 / 1146

UUT Function: Computational processing for image system

UUT Description: Component of Multix Fusion Max Radiography System

Test Location: IABG mbH, Germany

Test Date: October 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
89	13.4"	27.4"	22.8"	27.5	15.5	> 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 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

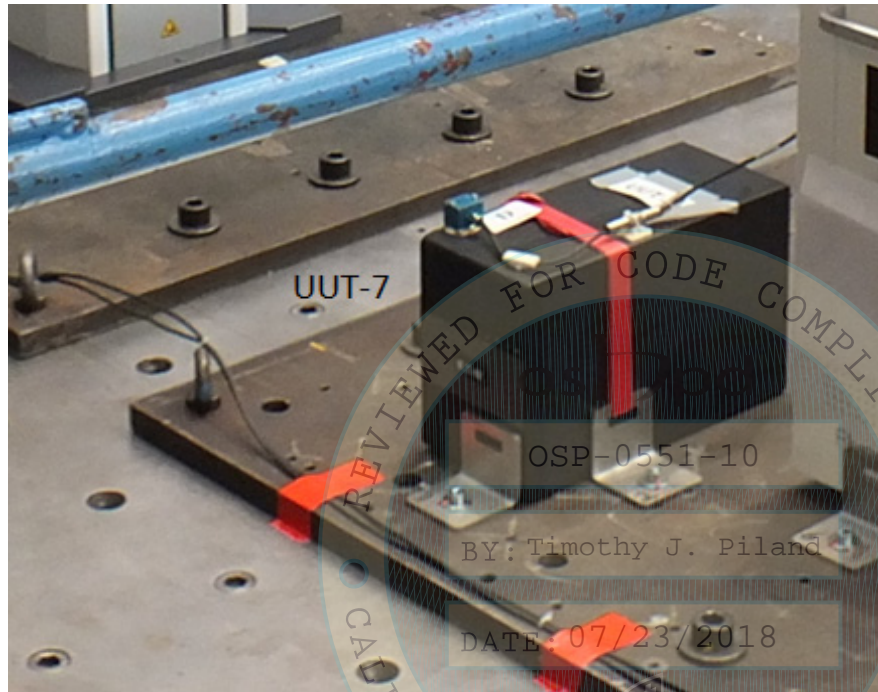
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-7

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid Floor mounting using Siemens provided seismic restraint kit (11107393). Seismic restraint kit includes a 1" wide hand tightened cam buckle strap (992lb WLL) looped thru angle brackets positioned on the long side of the unit. The four angle brackets are attached to the table with individual M10 grade 10.9 bolts.



Manufacturer: Siemens Healthcare GmbH

Component: UPS

Model / Serial Number: 5P850i / P111G39321

UUT Function: Uninterruptable power supply

UUT Description: Component of Multix Fusion Max Radiography System

Test Location: IABG mbH, Germany

Test Date: October 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
22	5.9"	9.2"	13.6"	> 33	26.4	> 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 2016 / 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.