



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION  
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC  
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0551

HCAI 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 Hwy, Pudong 201318 Shanghai, China

Telephone: +86 (21) 20606030

Email: zhonghua.chen@siemens-healthineers.com

Product Information

Product Name: Fluoroscopy and Radiography Systems

Product Type: NA

Product Model Number: Multitom Fusion Max

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

Mounting Description: Rigid, Floor/Wall Mounted

Tested Seismic Enhancements: None

Applicant Information

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

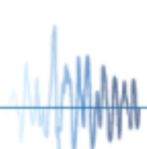
Contact Person: Travis Soppe

Mailing Address: 1199 Shoreline Drive Suite 310, Boise, ID 83702

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Title: President





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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 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): \_\_\_\_\_

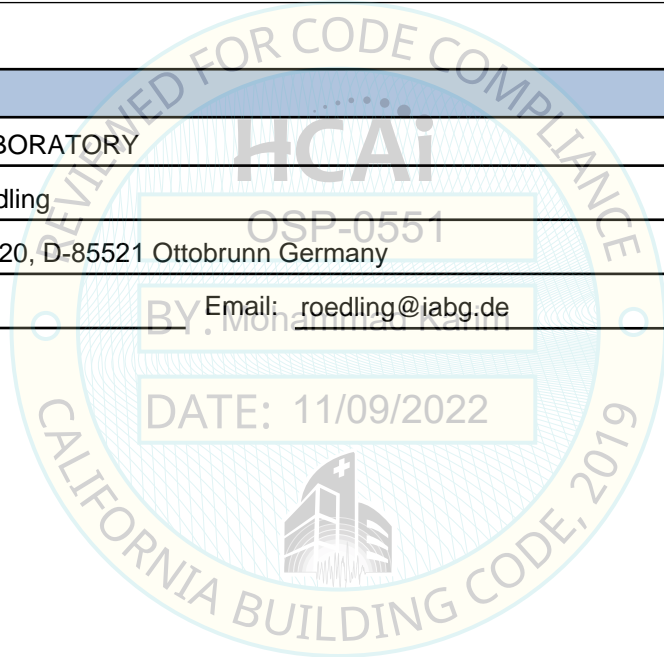
**Testing Laboratory**

Company Name: IABG TEST LABORATORY

Contact Person: Dr. Steffen Roedling

Mailing Address: Einsteinstrasse 20, D-85521 Ottobrunn Germany

Telephone: +49 89 6088 2052 Email: roedling@iabg.de





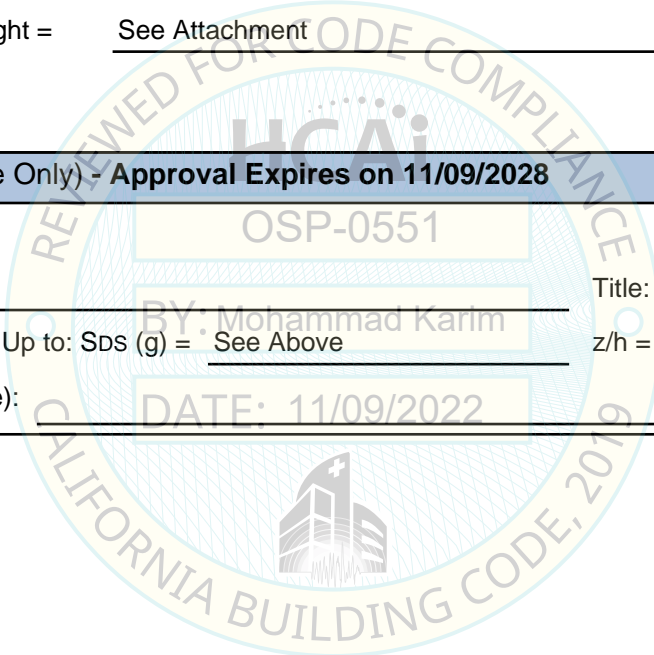
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**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) =	See Attachments
SDS (Design spectral response acceleration at short period, g) =	2.0 at z/h = 1 and 2.5 at z/h = 0
$a_p$ (Amplification factor) =	See attachments
$R_p$ (Response modification factor) =	See attachments
$\Omega_0$ (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 11/09/2028**

Date:	11/9/2022		
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):			



**Manufacturer:** Siemens Healthcare GmbH

**System:** Multix Fusion Max Radiography System

System Component <sup>1</sup>	Siemens Part Number	Dimensions (in)			Weight (lb)	Mounting	UUT
		Width	Depth	Height			
<b>Bucky Wall Stand</b>							
Bucky Wall Stand with MAX wi-D Detector	10961060	19.7	28.2	82.9	497	floor	UUT-4
Bucky Wall Stand with MAX wi-D Detector	10961061	19.7	28.2	82.9	497	floor	interpolated
Bucky Wall Stand with 4343R-RCE Detector	10681703	19.7	28.2	82.9	506	floor	UUT-3
<b>Patient Table</b>							
RAD MST Patient Table with MAX wi-D Detector	10273206	94.9	31.5	20.3-37.6	812 <sup>2</sup>	floor	UUT-2
<b>Generator</b>							
Polydoros RF Rad 80 (with PSU)	10307360	50.9	22.4	21.4	499	floor	UUT-1
<b>PC / UPS / WIFI Access</b>							
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
SCALANCE W700 Wi-Fi Access Point	10860657	7.9	5.5	8.9	3.7	wall	UUT-5

**General Notes:**

<sup>1</sup> All components are manufactured by Siemens Healthcare GmbH unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

<sup>2</sup> Weight listed does not include 530bs simulated patient weight.

**SEISMIC CERTIFICATION LIMITS**

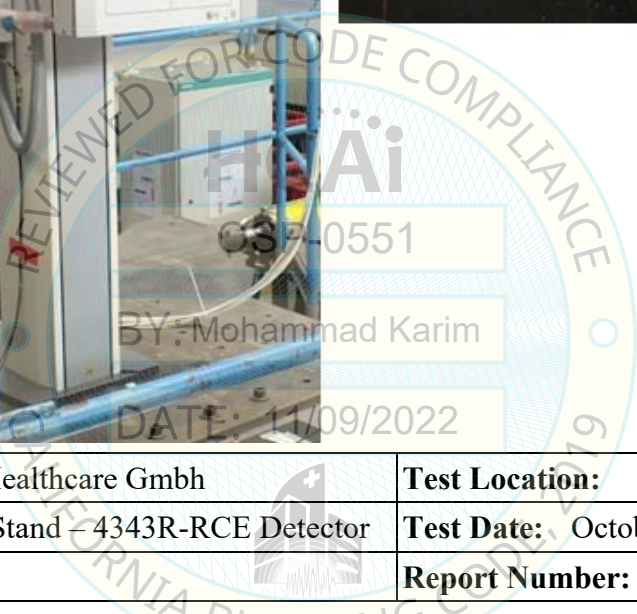
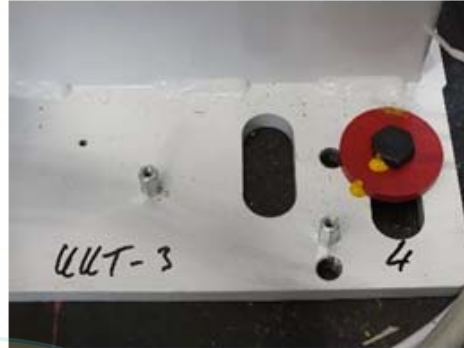
System Component	Code	S <sub>DS</sub> (g)	z / h	I <sub>p</sub>	a <sub>p</sub>	R <sub>p</sub>	Ω <sub>0</sub>	F <sub>p</sub> / W <sub>p</sub>
Bucky Wall Stand	CBC 2022	2.0	1	1.50	1.0	1.5	2.0	2.40
		2.5	0					1.13
Patient Table	CBC 2022	2.0	1	1.50	1.0	1.5	2.0	2.40
		2.5	0					1.13
Generator	CBC 2022	2.0	1	1.50	2.5	6.0	2.0	1.50
		2.5	0					1.13
PC / UPS / WIFI Access	CBC 2022	2.0	1	1.50	1.0	2.5	2.0	1.44
		2.5	0					1.13

**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.



<b>Manufacturer:</b> Siemens Healthcare GmbH	<b>Test Location:</b> IABG
<b>Component:</b> Bucky Wall Stand – 4343R-RCE Detector	<b>Test Date:</b> October 2017
<b>Model Number:</b> 10681703	<b>Report Number:</b> TAF4-PB-17-343-V1
<b>UUT Function:</b> Digital system used for making X-ray exposures of the body	
<b>UUT Description:</b> Component of the Multix Fusion Max Radiography System. Tested with 4343R-RCE Detector – Pixium 4343RCE – Siemens 11020773	

**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 <sub>DS</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIg-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIg-V</sub> (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

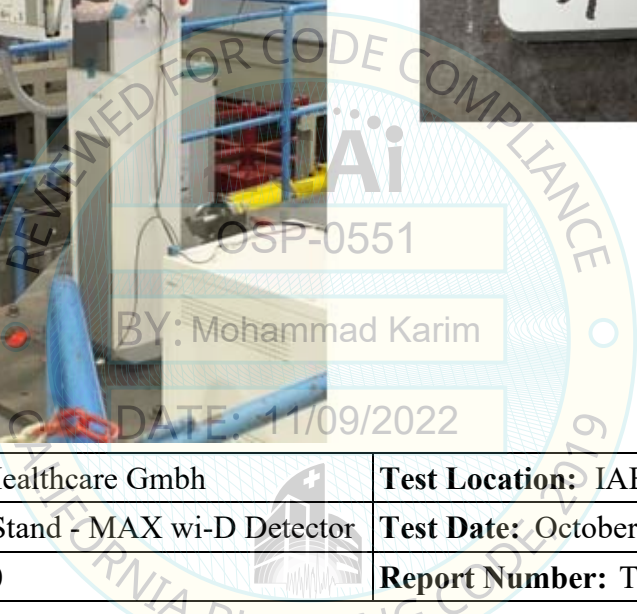
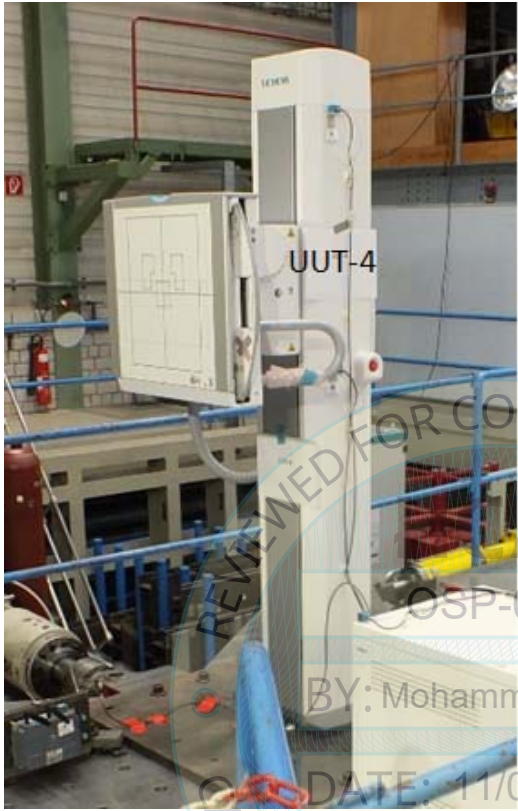
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

**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.



<b>Manufacturer:</b> Siemens Healthcare GmbH	<b>Test Location:</b> IABG
<b>Component:</b> Bucky Wall Stand - MAX wi-D Detector	<b>Test Date:</b> October 2017
<b>Model Number:</b> 10961060	<b>Report Number:</b> TAF4-PB-17-343-V1
<b>UUT Function:</b> Digital system used for making X-ray exposures of the body	
<b>UUT Description:</b> Component of the Multix Fusion Max Radiography System. Tested with MAX wi-D Detector – Pixium 3543EZh – Siemens 11105032	

**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 <sub>DS</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (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.

**UUT-2**

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



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



<b>Manufacturer:</b> Siemens Healthcare GmbH	<b>Test Location:</b> IABG
<b>Component:</b> RAD MST Patient Table	<b>Test Date:</b> October 2017
<b>Model Number:</b> 10273206	<b>Report Number:</b> TAF4-PB-17-343-V1
<b>UUT Function:</b> Digital system used for making X-ray exposures of the body	
<b>UUT Description:</b> Component of the Multix Fusion Max Radiography System. Tested with MAX wi-D Detector – Pixium 3543EZh – Siemens 11105032	

**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 <sub>DS</sub> (g)	z / h	I <sub>p</sub>	A <sub>AFLX-H</sub> (g)	A <sub>ARIG-H</sub> (g)	A <sub>AFLX-V</sub> (g)	A <sub>ARIG-V</sub> (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.

**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  
 HCAi  
 OSP-0551  
 BY: Mohammad Karim  
 DATE: 11/09/2022

<b>Manufacturer:</b> Siemens Healthcare GmbH	<b>Test Location:</b> IABG
<b>Component:</b> Polydoros RF Rad 80 with PSU	<b>Test Date:</b> October 2017
<b>Model Number:</b> 10307360	<b>Report Number:</b> TAF4-PB-17-343-V1
<b>UUT Function:</b> Power distribution to Multitom Fusion Rax	
<b>UUT Description:</b> Component of the Multix Fusion Max Radiography System.	

**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 <sub>Ds</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLEX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLEX-V</sub> (g)	A <sub>RIG-V</sub> (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.



**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.



<b>Manufacturer:</b> Siemens Healthcare GmbH	<b>Test Location:</b> IABG
<b>Component:</b> PC (W520) Imaging System	<b>Test Date:</b> October 2017
<b>Model Number:</b> 11020769	<b>Report Number:</b> TAF4-PB-17-343-V1
<b>UUT Function:</b> Computational processing for image system	
<b>UUT Description:</b> Component of the Multix Fusion Max Radiography System.	

**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 <sub>DS</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (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

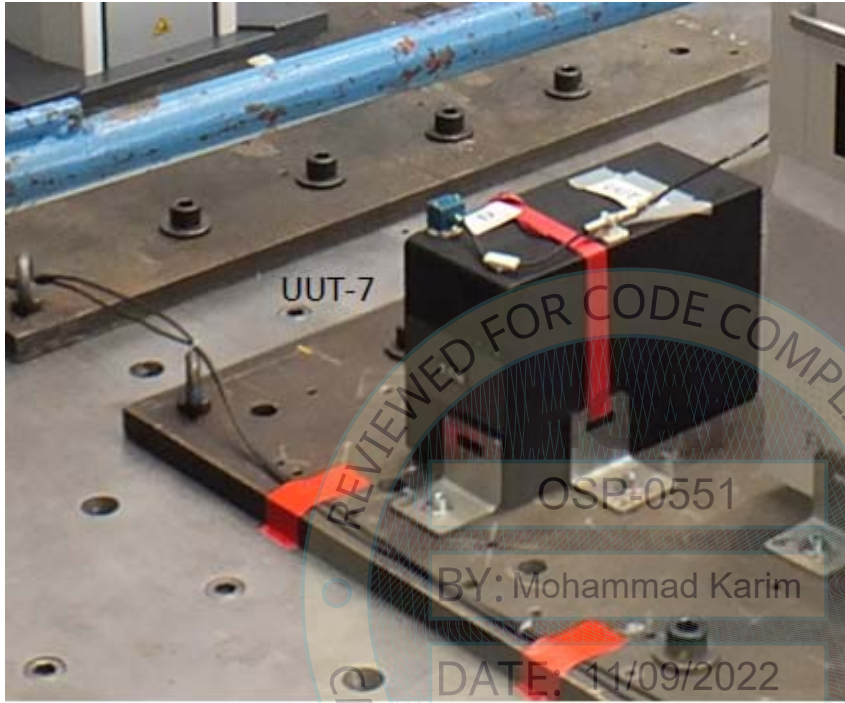
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

**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.



<b>Manufacturer:</b> Siemens Healthcare GmbH	<b>Test Location:</b> IABG
<b>Component:</b> UPS	<b>Test Date:</b> October 2017
<b>Model Number:</b> 5P850i	<b>Report Number:</b> TAF4-PB-17-343-V1
<b>UUT Function:</b> Uninterruptable power supply system	
<b>UUT Description:</b> Component of the Multix Fusion Max Radiography System.	

**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 <sub>DS</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (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.

**UUT-5**

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



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



<b>Manufacturer:</b> Siemens Healthcare GmbH	<b>Test Location:</b> IABG
<b>Component:</b> SCALANCE W700 – Wi-Fi Access Point	<b>Test Date:</b> October 2017
<b>Model Number:</b> 10860657	<b>Report Number:</b> TAF4-PB-17-343-V1
<b>UUT Function:</b> Wi-Fi Module	
<b>UUT Description:</b> Component of the Multix Fusion Max Radiography System.	

**UUT PROPERTIES**

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
4	7.9	5.5	8.9	NA	NA	NA

**SEISMIC TEST PARAMETERS**

Building Code / Test Criteria	S <sub>Ds</sub> (g)	z / h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (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.