

DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC	OFFICE USE ONLY
CERTIFICATION PREAPPROVAL (OSP)	APPLICATION #: OSP-0681
HCAI Special Seismic Certification Preapproval (OSP)	
Type: New X Renewal	
Manufacturer Information	
Manufacturer: Philips Medical Systems DMC GmbH	
Manufacturer's Technical Representative: Ming Xiao	
Mailing Address: Röntgenstraße 24, 22335 Hamburg, Germany	
Telephone: (94034) 971-2306 Email: Ming.Xiao@Phi	lips.com
Product Information	MD
Product Name: Fluoroscopy and Radiography Systems	- H
Product Type: NA	2
Product Model Number: See certified product line matrices	
General Description: Multiple component digital radiography and fluoros	scopy medical diagnostic imaging systems.
Mounting Description: Several – See UUT Sheets, See Certified Product	Tables
Tested Seismic Enhancements: None DATE: 09/14/2023	
	20°
Applicant Information	4
Applicant Company Name: WE Gundy & Associates, Inc	01
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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OSP-0681

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DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION FACILITIES DEVELOPMENT DIVISION

alifornia Licensed Structural Engineer Responsible for the Engineering and Test Report(s)	
Company Name: W.E. GUNDY & ASOCIATES INC.	
lame: Travis Soppe California License Number: S6115	
lailing Address: P.O. Box 9121, Boise, ID 83707	
elephone: (208) 342-5989 Email: tsoppe@wegai.com	
Certification Method	
GR-63-Core X ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3	
Other (Please Specify):	
FOR CODE COL	
esting Laboratory	
Company Name: IABG TEST LABORATORY	
Contact Person: Dr. Steffen Roedling	
Aailing Address: Einsteinstrasse 20, Ottobrunn Bavaria 85521	
elephone: (49896) 088-2052 Email: roedling@iabg.de	
O DATE: 09/14/2023	
PAR	
DATE: 09/14/2023	



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Seismic Parameters	
Design Basis of Equipment or Components	(Fp/Wp) = See Attachments
SDS (Design spectral response accel	eration at short period, g) = 2.0 at z/h = 1 and 2.5 at z/h = 0
ap (Amplification factor) =	See attachments
R _P (Response modification factor) =	See attachments
Ω_0 (System overstrength factor) =	2.0
lp (Importance factor) =	1.5
z/h (Height ratio factor) =	1 and 0
Natural frequencies (Hz) =	See Attachment
Overall dimensions and weight =	See Attachment ODE
HCAI Approval (For Office Use Only)-	Approval Expires on 09/14/2029
Date: 9/14/2023	OSP-0681
Name: Mohammad Karim	Title: Supervisor, Health Facilities

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VG CODE

00/14/2023

z/h =

See Above

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Special Seismic Certification Valid Up to: SDS (g) = See Above

Condition of Approval (if applicable):

OSP-0681



Table 1

PHILIPS MEDICAL SYSTEMS DMC GmbH SPECIAL SEISMIC CERTIFICATION CERTIFIED SYSTEM AND COMPONENTS



System: X-Ray and Fluoroscopy Systems		Ma	nufactur	er: Philips	l Systems DMC GmbH		
System Component ¹	Philips Part Number	-		Weight (lb)	Mounting	UUT ²	
	Mon		spension	U		1	
MCS 1 Monitor	4512-202-03332	72.4	33.9	34.6-70.9	222	ceiling	UUT _x -8
MCS 2 Monitors	4512-202-03342	72.4	33.9	34.6-70.9	244	ceiling	interpolated
MCS 3 Monitors	4512-202-03352	72.4	33.9	34.6-70.9	258	ceiling	UUT _x -7
	Ver	tical St	and VS2				
Vertical Stand 2 VS2 Non-Tilting - Fixed Detector	9897-010-01411 4598-009-4014x	28.3	60.6	482.7	518	floor/wall	UUT _y -1
Vertical Stand 2 VS2 Non-Tilting - Wifi Detector	9897-010-01411 4598-015-74931	28.3	60.6	82.7	478	floor/wall	interpolated
Vertical Stand 2 VS2 Tilting - Wifi Detector	9897-010-01411 4598-015-74931	SP-0	60.6	82.7	493	floor/wall	UUT _y -2
Vertical Stand 2 VS2 Non-Tilting - Wifi Detector	9897-010-01411 4598-012-76111	n 22 81 31 1	ad 66.6 rii	m 82.7	<mark>0 4</mark> 81	floor/wall	interpolated
Vertical Stand 2 VS2 Tilting - Wifi Detector	9897-010-01411 4598-012-76111	(28.31	4/20.23	82.7	493	floor/wall	UUT _y -14
	WI	FI Acce	ess Point	1887 Q			
ARUBA 303 (ARUBA)	3000-055-10841	5.9	5.9	2.9	1	wall	UUT _y -3
ARUBA 305 (ARUBA)	3000-055-10851	JI5.9D	5.9	2.5	2	wall	UUT _y -4

Notes:

¹ All components are manufactured by Philips Medical Systems DMC GmbH unless noted in (). The part numbers listed uniquely identify the 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 seismic certification test reports: w = TAB3-PB-19-020-V1 x = TAB3-PB-20-129-V1 y = TAB3-PB-20-127-V1

SEISMIC CERTIFICATION LIMITS												
System Component	Code	S _{DS} (g)	z / h	I _P	a _P	R _P	Ω ₀	$\mathbf{F}_{\mathbf{P}}$ / $\mathbf{W}_{\mathbf{P}}$				
	CBC	2.0	1.0	1.50	2.5	2.5	2.0	3.60				
Monitor Suspensions	2022	2.5	0	1.30	2.3	2.5	2.0	1.50				
Vartical Stand VS2	CBC	2.0	1.0	1.50	1.50	1.50	1.0	1.5	2.0	2.40		
Vertical Stand VS2	2022	2.5	0	1.30	1.0	1.3	2.0	1.13				
WIFI Access Point	CBC	2.0	1.0	1.50	1.0	2.5	2.0	1.44				
	2022	2.5	0	1.30	1.0	2.5	2.0	1.13				

Table 1

PHILIPS MEDICAL SYSTEMS DMC GmbH SPECIAL SEISMIC CERTIFICATION CERTIFIED SVSTEM AND COMPONENTS



CERTIF	TED SY	YSTEN	M ANI	D COM	IPONE	NTS	STRUCTURAL & EAR	THQUAKE ENGINEERIN
System: X-Ray and Fluoros	scopy Sys	tems	Ma	nufactur	er: Philips	s Medica	l Systems Dl	MC GmbH
System Component ¹	Phi	-		mension	, <i>,</i>	Weight	Mounting	UUT ²
System component	Part N	umber		Length	Height	(lb)	8	001
		PC	/ User l	Interface	•			
AWS-DI - CombiDiagnost	4512-20	2-04321	6.7	17.0	17.0	25	floor	UUT _y -5
AWS-DI - ProxiDiagnost	3000-06	2-16541	6.7	17.0	17.0	24	floor	interpolate
AWS-DI3	3000-10	0-11091	8.0	17.0	13.2	31	floor	interpolate
AWS-2X PC - DigitalDiagnost	4512-20	1-11781	8.5	E10.90	17.6	33	floor	UUT _w -4
	, NY	Jninterr	uptible	Power S	upply			
UPS GXT4-1000RT230	4598-01	0-49611	3.3	16.9	19.7	33	floor	UUT _y -9
	- ALTROR	VIA BU		INGC	005-12			
	SEIS	MIC CF	ERTIFI	CATION	N LIMITS			
System Component	Code	S _{DS} (g)	z / h	I _P	a _P	R _P	Ω ₀	$\mathbf{F}_{\mathbf{P}}$ / $\mathbf{W}_{\mathbf{P}}$
PC / User Interface	CBC 2022	2.0 2.5	1.0 0	1.50	2.5	6.0	2.0	1.50 1.13
Uninterruptible Power Supply	CBC 2022	2.0 2.5	1.0 0	1.50	2.5	6.0	2.0	1.50 1.13

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Floor/wall mount with $3 - \frac{1}{2}$ inch grade 8 bolts (90 ft-lbs torque) with washers to the floor combined with $2 - \frac{3}{8}$ inch grade 8 bolts (35 ft-lbs torque) with washers to the wall fixture. The electrical box is mounted to wall fixture with $4 - \frac{1}{4}$ inch grade 8 bolts (10 ft-lbs torque) with washers.



Manufacturer: Philips Medical Systems DMC GmbH	Test Location: IABG mbH, Germany
Component: Vertical Stand 2 VS2 Non-Tilting - Fixed Detector	Test Date: September 2020
	16
Model Number: 9897-010-01411 / 4598-009-4014x	Report Number: TAB3-PB-20-127-V1
UUT Function: Vertical X-Ray imaging system	

UUT Description: Vertical stand detector for X-Ray and Fluoroscopy Systems Non-Tilting with RCE Fixed detector: 4598-009-4014x

UUT PROPERTIES

Waight (1h)	Din	nensions (in	ches)		Natural Frequency (Hz)						
Weight (lb)	Width	Depth	Hei	ght	FB	SS	5	V			
359	28.3	60.6	82	.7	na	na	ı	na			
SEISMIC TEST PARAMETERS											
Building Code	e / Test Criteria	$S_{DS}(g)$	z / h	Ip	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$			
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			

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Floor/wall mount with $3 - \frac{1}{2}$ inch grade 8 bolts (90 ft-lbs torque) with washers to the floor combined with $2 - \frac{3}{8}$ inch grade 8 bolts (35 ft-lbs torque) with washers to the wall fixture. The electrical box is mounted to wall fixture with $4 - \frac{1}{4}$ inch grade 8 bolts (10 ft-lbs torque) with washers.



Model Number: 9897-010-01411 / 4598-015-74931

UUT Function: Vertical X-Ray imaging system

UUT Description: Vertical stand detector for X-Ray and Fluoroscopy Systems Tilting with EZ Small 1.2 Wifi detector: 4598-015-74931

UUT PROPERTIES

Weight (11)	Din	nensions (in	ches)		Natural Frequency (Hz)						
Weight (lb)	Width	Depth Height			FB	SS	5	V			
493	28.3	60.6	82	.7	na	na	ı	na			
	SEISMIC TEST PARAMETERS										
Building Code	e / Test Criteria	S _{DS} (g)	z / h	Ip	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$			
CDC 2022 / I			1.0	1.5	3.20	2.40					
CBC 2022 / ICC-ES AC156		2.50	0.0	1.5			1.67	0.67			

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Floor/wall mount with $3 - \frac{1}{2}$ inch grade 8 bolts (90 ft-lbs torque) with washers to the floor combined with $2 - \frac{3}{8}$ inch grade 8 bolts (35 ft-lbs torque) with washers to the wall fixture. The electrical box is mounted to wall fixture with $4 - \frac{1}{4}$ inch grade 8 bolts (10 ft-lbs torque) with washers.



Manufacturer: Philips Medical Systems DMC GmbH	Test Location: IABG mbH, Germany
Component: Vertical Stand 2 VS2 Tilting - Wifi Detector	Test Date: September 2020
Model Number: 9897-010-01411 / 4598-012-76111	Report Number: TAB3-PB-20-127-V1
IIIIT Encodiante Vantical V Daving ain a gratan	

UUT Function: Vertical X-Ray imaging system

UUT Description: Vertical stand detector for X-Ray and Fluoroscopy Systems Tilting with Skyplate E Wifi detector: 4598-012-76111

UUT PROPERTIES

W/ 1 (11)	ches)		Natural Frequency (Hz)								
Weight (lb)	Width	Depth Height			FB	SS	S	V			
493	28.3	60.6	82	.7	na	na	l	na			
SEISMIC TEST PARAMETERS											
Building Code	e / Test Criteria	S _{DS} (g)	z / h	Ip	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$			
CBC 2022 / ICC-ES AC156		2.00	1.0	1.5	3.20	2.40					
	CC-ES ACI30	2.50	0.0	1.5			1.67	0.67			

UNIT UNDER TEST (UUT) UUT_y-3 **SUMMARY SHEET** Mounting Details: Wall mount with 4 - size 3 wood screws. UUT-4 UUT-3 Accesspoint Aruba 505 Aruba 303 **Nohammad** Manufacturer: ARUBA Test Location: IABG mbH, Germany Component: ARUBA 303 Test Date: September 2020 Model Number: 3000-055-10841 Report Number: TAB3-PB-20-127-V1 **UUT Function:** WIFI Module UUT Description: WIFI access point for X-Ray and Fluoroscopy Systems **UUT PROPERTIES Dimensions (inches)** Natural Frequency (Hz) Weight (lb) Width Depth Height FB SS V 1 5.9 5.9 2.9 na na na SEISMIC TEST PARAMETERS Building Code / Test Criteria z / h $A_{RIG-V}(g)$ $S_{DS}(g)$ Ip $A_{FLX-H}(g)$ $A_{RIG-H}(g) | A_{FLX-V}(g)$ 3.20 2.00 1.0 1.5 2.40 ----CBC 2022 / ICC-ES AC156 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.

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Wall mount with 4 - size 3 wood screws.

		UUT-4 Accesspoint Aruba 505	And and a second	4/202	23			
Manufacturer			24422222222	MAM	t Location:			ny
Component:					t Date: Sept			* 7 1
	r: 3000-055-10	851		Rep	ort Number	: TAB3-PI	B-20-127	-V1
	: WIFI Module	, VIA	RITT	TNG	9			
UUT Descript	ion: WIFI acces	s point for 2	X-Ray and	Fluoros	copy System	IS		
		1	UUT PRO	PERTI	ES			
Weight (lb)	Din	nensions (in	ches)		N	latural Freq	uency (H	z)
	Width	Depth	Hei		FB	SS	5	V
2	5.9	5.9	2.	5	na	na	ı	na
		SEISM	IIC TEST	PARA	METERS			
Building Code	e / Test Criteria	S _{DS} (g)	z / h	IP	$A_{FLX-H}(g)$	$A_{RIG-H}(g)$	A _{FLX-V} (§	g) $A_{RIG-V}(g)$
		2.00	1.0	1.5	3.20	2.40		
CBC 2022 / I	CC-ES AC156	2.50	0.0	1.5			1.67	0.67
	as full of contents du ural integrity during	iring testing a			l before and aft	er the ICC-ES	S AC156 te	st. The unit





UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rails and connecting parts of the component bolt to Unistrut grid with 2 - M10 bolts at each intersecting location (spaced at 25.6" on center). The Unistrut grid consisted of MURPO#150969 MPR-41/82/2.0 H-Profiles (Unistrut P1001 equivalent) anchored with 2 - M10 bolts with clamping claws (MURPO 157219) at each intersection to the ceiling fixture framing spaced at 23.6" on center.



 Manufacturer:
 Philips Medical Systems DMC GmbH
 Test Location:
 IABG mbH, Germany

 Component:
 MCS 3 Monitors
 Test Date:
 September 2020

 Model Number:
 4512-202-03352
 Report Number:
 TAB3-PB-20-127-V1

 UUT Function:
 Suspension of monitors used for medical equipment

 UUT Description:
 Monitor suspension for X-Ray and Fluoroscopy Systems

 UUT PROPERTIES

Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)					
	Width	Depth	He	ight	FB	SS	5	V		
258	72.4	33.9	34.6	-70.9	> 33	27	.0	> 33		
SEISMIC TEST PARAMETERS										
Building Code / Test Criteria		$S_{DS}(g)$	z / h	Ip	$A_{FLX-H}(g)$	$A_{RIG-H}\left(g ight)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$		
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		



UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rails and connecting parts of the component bolt to Unistrut grid with 2 - M10 bolts at each intersecting location (spaced at 25.6" on center). The Unistrut grid consisted of MURPO#150969 MPR-41/82/2.0 H-Profiles (Unistrut P1001 equivalent) anchored with 2 - M10 bolts with clamping claws (MURPO 157219) at each intersection to the ceiling fixture framing spaced at 23.6" on center.



Manufacturer: Philips Medical Systems DMC GmbH	Test Location: IABG mbH, Germany				
Component: MCS 1 Monitor	Test Date: September 2020				
Model Number: 4512-202-03332	Report Number: TAB3-PB-20-127-V1				
UUT Function: Suspension of monitor used for medical equipment					
UUT Description: Monitor suspension for X-Ray and Fluoroscopy Systems					

UUT PROPERTIES										
Weight (lb)	Dimensions (inches)				Natural Frequency (Hz)					
	Width	Depth	He	ight	FB	SS	5	V		
222	72.4	33.9	34.6	34.6-70.9		27.	.0	24.9		
SEISMIC TEST PARAMETERS										
Building Code / Test Criteria		$S_{DS}(g)$	z / h	Ip	$A_{FLX-H}(g)$	$A_{RIG-H}\left(g ight)$	$A_{FLX-V}(g)$	$A_{RIG-V}(g)$		
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		

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Rigid floor mounting using Phillips provided seismic restraint kit 4512-134-74741. Seismic restraint kit includes a hand tightened cam buckle strap looped thru angle brackets on each side of the unit. The angle brackets are attached to the table with individual ³/₈ inch grade 8 bolts.

