



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY

APPLICATION #: OSP-0703

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Carestream Healthcare, Inc.

Manufacturer's Technical Representative: Christopher Kralles

Mailing Address: 1049 Ridge Road West, Rochester, NY 14615

Telephone: On File Email: On File

Product Information

Product Name: Fluoroscopy and Radiography Systems

Product Type: NA

Product Model Number: DRX-Compass

General Description: Multiple component digital x-ray radiography medical diagnostic imaging system

Mounting Description: See Certified Product Tables

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

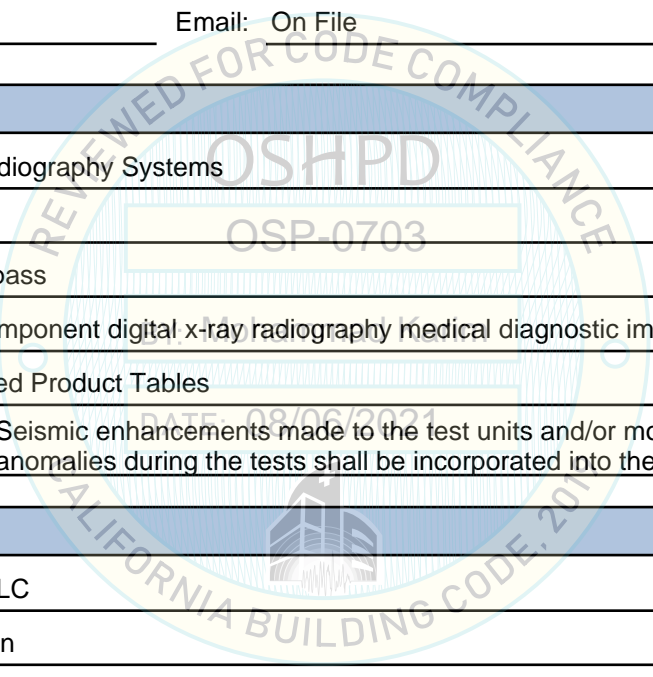
Applicant Company Name: EASE LLC

Contact Person: Jonathan Roberson

Mailing Address: 5877 Pine Ave., Suite 210, Chino Hills, CA 91709

Telephone: (909) 606-7622 Email: jon@EASECo.com

Title: Principal Engineer





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

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

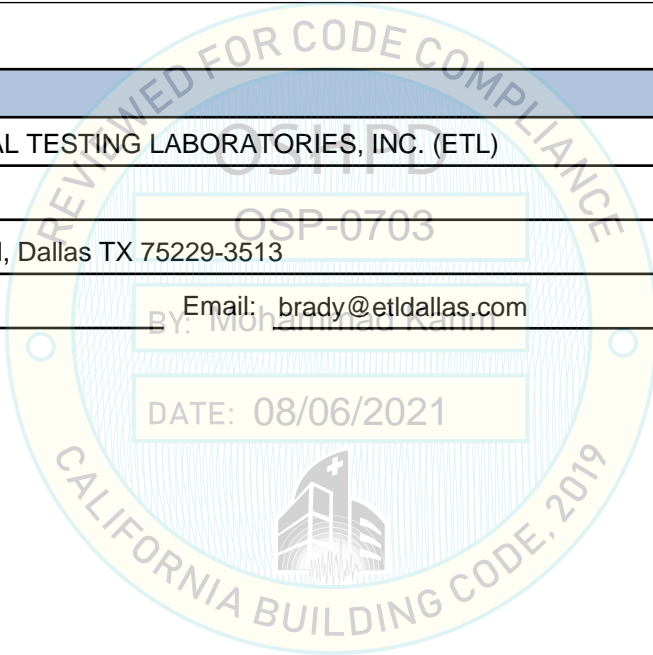
Company Name: EASE
Name: Jonathan Roberson California License Number: S4197
Mailing Address: 5877 Pine Ave., Suite 210, Chino Hills, CA 91709
Telephone: (951) 295-1892 Email: jon@EASECo.com

Certification Method

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

Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)
Contact Person: Brady Richard
Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513
Telephone: (972) 247-9657 Email: brady@etldallas.com





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

Seismic Parameters

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

SDS (Design spectral response acceleration at short period, g) = 2.0 and 2.5

a_p (Amplification factor) = See Attachment

R_p (Response modification factor) = See Attachment

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

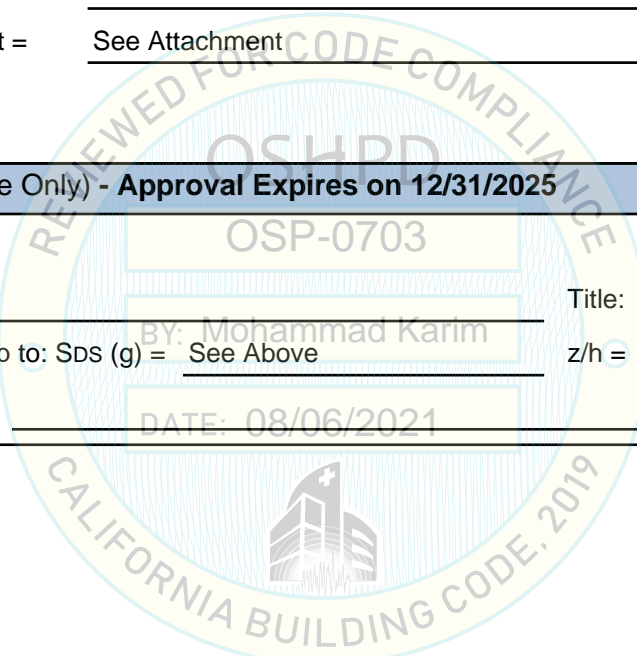
OSHPD Approval (For Office Use Only) - Approval Expires on 12/31/2025

Date: 8/6/2021

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: 08/06/2021



ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

ATTACHMENT PAGE | 1 OF 2

TABLE 1:

System Manufacturer		Carestream Health, Inc.							S _{DS} = 2.0 at z/h = 1 S _{DS} = 2.5 at z/h = 0			
System		DRX-Compass										
COMPONENT	IDENTIFICATION NUMBER	APPROX. DIMENSIONS (IN.)			APPROX. WT. (LB.)	MOUNT	BASIS ^[1]	F _P /W _P	a _P	R _P	Ω ₀	
		W	D	H								
OVERHEAD X-RAY TUBE												
OTC, includes: ^[2] Motorized Z motion Motorized X & Y motion Motorized Alpha motion Rails: 4m Longitudinal x 3.2m Transverse Ralco R221 ACH DHHS Collimator Canon E7354FX X-Ray Tube	AL2444	157.5	126.0	50.9 – 111.4	869	Ceiling	UUT-2102-1	3.60	2 ½	2 ½	2	
PATIENT TABLE												
Patient Table, includes: ^[2] Removable Grid	AL2447	86.0	35.7	22 – 32.4	570 ^[3]	Rigid Base	UUT-2102-2	2.40	1	1 ½	2	
3543C Wireless Detector	AC2603											
WALL STAND												
Wall Stand, includes: ^[2] Motorized Z motion Motorized Tilt motion Removable Grid	AL2446	26.3	33.7	88.8	480	Wall / Floor	UUT-2102-3	2.40	1	1 ½	2	
3543C Wireless Detector	AC2603											
CONSOLES												
Engage Flex Pro Computer (HP) ^[2]	6VD21UP#AB2	4.0	15.0	13.5	17.5	Rigid Base	UUT-2004-13	1.44	1	2 ½	2	
POWER DISTRIBUTION												
PDU ^[2]	AL0473	14.2	14.8	5.7	31.5	Rigid Base	UUT-2102-4	1.44	1	2 ½	2	
Generator ^[2]	AL2445	25.5	13.5	24.1	163	Rigid Base	UUT-2102-5	1.50	2 ½	6	2	


Table continues next page


ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

ATTACHMENT PAGE | 2 OF 2

TABLE 1:

System Manufacturer		Carestream Health, Inc.							S _{DS} = 2.0 at z/h = 1 S _{DS} = 2.5 at z/h = 0			
System		DRX-Compass										
COMPONENT	IDENTIFICATION NUMBER	APPROX. DIMENSIONS (IN.)			APPROX. WT. (LB.)	MOUNT	BASIS ^[1]	F _P /W _P	a _P	R _P	Ω ₀	
		W	D	H								
USER INTERFACE												
Control Box	^[2] AJ2518	4.8	5.3	2.7	1.5	Rigid Base	UUT-2102-6	1.44	1	2 ½	2	
Wireless Access Point (D-Link)	D-Link DAP-2553	7.8	4.7	1.5	0.9	Rigid Base	UUT-1605-11	1.44	1	2 ½	2	
Keyboard (HP)	^[2] KU-0316	18	6.75	0.75	2	CTA	UUT-1605-13	1.44	1	2 ½	2	
Power over Ethernet (Microsemi)	PD-3501G/AC	2.3	5.6	1.5	0.75	CTA	UUT-2004-17	1.44	1	2 ½	2	
24" E24T G4 LCD Touch Monitor (HP)	AL2347	21.3	5.6	16.2	10.5	CTA	UUT-2102-7	1.44	1	2 ½	2	
Desk Mount (Peerless)	LCT100S											
24" E24T G4 LCD Touch Monitor (HP)	AL2347	21.3	5.8	17.7	10.5	Wall	UUT-2102-8	1.44	1	2 ½	2	
Wall Mount	AL4161											
Mount	<p><u>Rigid Base</u>: free-standing, base-mounted tower configuration with the component rigidly attached to a supporting structure and no lateral support above the base.</p> <p><u>CTA (Countertop, Anchored)</u>: unit is anchored to a counter, desk, or other piece of fixed furniture.</p> <p><u>Wall</u>: component fully supported by a building wall structure</p> <p><u>Wall/Floor</u>: combined rigid base and rigid wall mount configuration; base of unit bears on and anchored to attached to a supporting structure with lateral support above the base at a wall.</p> <p><u>Ceiling</u>: unit is anchored to and suspended from a framing system at the ceiling line of the room.</p>											
Notes	<ol style="list-style-type: none"> BASIS: <ul style="list-style-type: none"> UUT-#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. Requires use of Carestream DRX-Compass System Seismic Kit P/N: AK9918 Patient table weight does not include 520 LB patient load present during test. 											

UUT-1605-11 Wireless Access Point						
<i>Manufacturer:</i> D-Link						
<i>Identification:</i> Model No.: DAP-2553						
<i>Description:</i> Component of DRX-Compass System						
<i>Mounting:</i> Rigid Base (Floor) Mounted using: (2) lines of 1/2" x 4.5" 3M Dual Lock SJ3541 (TYPE 400) mated to SJ3542 (TYPE 170)						
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
7.8	4.7	1.5	0.9	>50	43.25	>50
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _P	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]
2.0	1	1.5	3.20	2.40	1.68	0.68
2.5	0					
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						

UUT-1605-13 Keyboard						
<i>Manufacturer:</i> Carestream Health Inc.						
<i>Identification:</i> Model No.: KU-0316						
<i>Description:</i> Component of DRX-Compass System						
<i>Mounting:</i> Rigid Base (Floor) Mounted using: (2) lines of 1/2" x 5.25" 3M Dual Lock SJ3541 (TYPE 400) mated to SJ3542 (TYPE 170)						
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
18	6.75	0.75	2	>50	>50	27.9
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _P	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]
2.0	1	1.5	3.20	2.40	1.68	0.68
2.5	0					
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						

ATTACHMENT 2: TEST SPECIMEN SUMMARY

ATTACHMENT PAGE | 2 OF 6

UUT-2004-13 Engage Flex Pro Computer						
Manufacturer:		HP				
Identification:		Part No.: 6VD21UP#AB2 Serial No.: 4CE02418BL				
Description:		Component of Carestream DRX-Compass Requires the use of seismic kit P/N: AK9918				
Mounting:		Rigid Base (Floor) mounted using (2) 1/2" SAE J429 Grade 5 bolts into threaded aluminum plate through Carestream provided mounting bracket.				
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
4.0	15.0	13.5	17.5	27.58	17.52	12.91
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						



UUT-2004-17 Power over Ethernet						
Manufacturer:		Microsemi				
Identification:		Model No.: PD-3501G/AC Serial No.: C20156555000001551				
Description:		Component of Carestream DRX-Compass system Requires the use of seismic kit P/N: AK9918				
Mounting:		Countertop (attached) mounted using (2) #10 Teks screws into 3/4" plywood base				
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
2.3	5.6	1.5	0.75	18.11	> 50	12.58
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						



ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT-2102-1 OTC						
<i>Manufacturer:</i>		Carestream Health, Inc.				
<i>Identification:</i>		Part No.: AL2444		Serial No.: SC0108		
<i>Description:</i>		Component of Carestream DRX-Compass System Requires the use of seismic kit P/N: AK9918 <u>Includes:</u> Motorized Z motion, X & Y motion, and Alpha motion Ceiling Rails: 4M Longitudinal x 3.2M Transverse Ralco R221 ACH DHHS Collimator Canon E7354FX X-Ray Tube *Tested Height = 80"				
<i>Mounting:</i>		<u>Ceiling mounted</u> with (2) – M10x30 Class 10.9 SHCS through Carestream longitudinal rail mounting clips and channel nut block at every longitudinal rail / Unistrut P1001 intersection. Typical each intersection of (2) Longitudinal rails spaced approx. 77.8" apart (O.C.) and (6) – Unistrut P1001 supports spaced 26" apart. Each Unistrut P1001 supports spans perpendicular to longitudinal rails and is attached to HSS frame members spaced 40" max o.c. w/ (2) – ½" DIA SAE J429 Grade 8 bolts and Unistrut P1010 channel nuts.				
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
157.5	126.0	50.9 – 111.4*	869	---	---	---
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]
2.0	1	1.5	3.20	2.40	1.68	0.68
2.5	0					
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						



UUT-2102-2 Patient Table						
<i>Manufacturer:</i>		Carestream Health, Inc.				
<i>Identification:</i>		Part No.: AL2447		Serial No.: ST0108		
<i>Description:</i>		Component of Carestream DRX-Compass System Requires the use of seismic kit P/N: AK9918 <u>Includes:</u> DRX Plus 3543C Wireless Detector Part No.: AC2603 Serial No.: 210530100525 Patient Test Load = 520 LB *Tested Height = 30"				
<i>Mounting:</i>		<u>Rigid Base (Floor) mounted</u> using (6) – 1/2" dia. SAE J429 Grade 5 Hex bolts w/ Standard Washers				
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
86.0	35.7	22 – 32.4*	570	5.84	5.61	9.99
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]
2.0	1	1.5	3.20	2.40	1.68	0.68
2.5	0					
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						



ATTACHMENT 2: TEST SPECIMEN SUMMARY


UUT-2102-3 Wall Stand						
Manufacturer:		Carestream Health, Inc.				
Identification:		Part No.: AL2446 Serial No.: SW0108				
Description:		Component of Carestream DRX-Compass System Requires the use of seismic kit P/N: AK9918 Includes Motorized Z motion, Motorized Tilt Motion. <u>Includes:</u> DRX Plus 3543C Wireless Detector Part No.: AC2603 Serial No.: 210530100525				
Mounting:		Wall / Floor mounted using (4) – 1/2" dia. SAE J429 Grade 5 Hex bolts w/ Standard Washers into floor and (4) – 1/4" Teks HWH Screws through Carestream bracket into wall with 16 ga steel backing plate				
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
26.3	33.7	88.8	480	---	---	---
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						




UUT-2102-4 PDU						
Manufacturer:		Carestream Health, Inc.				
Identification:		Part No.: AL0473 Serial No.: SSP0011				
Description:		Component of Carestream DRX-Compass System Requires the use of seismic kit P/N: AK9918 which contains the external bracket.				
Mounting:		Rigid Base (Floor) mounted using (2) – 1/2" dia. SAE J429 Grade 5 Hex bolts w/ Standard Washers through Carestream provided bracket				
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
14.2	14.8	5.7	31.5	>50	37.87	>50
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						

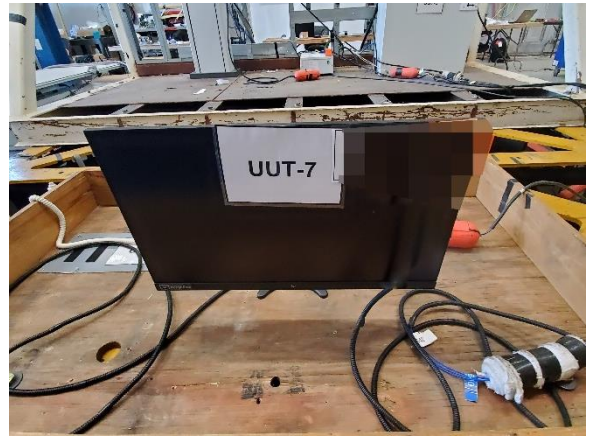


ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT-2102-5 Generator							
<i>Manufacturer:</i> Carestream Health, Inc.							
<i>Identification:</i> Part No.: AL2445 Serial No.: 1282							
<i>Description:</i> Component of Carestream DRX-Compass System							
Requires mounting hardware included in Seismic Kit P/N: AK9918							
<i>Mounting:</i> Rigid Base (Floor) mounted using (4) – 1/2" dia. SAE J429 Grade 5 Hex bolts w/ Standard Washers through Carestream provided bracket							
Dimensions [in]				Lowest Resonant Frequency [Hz]			
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis	
25.5	13.5	24.1	163	23.40	40.08	45.16	
ICC-ES AC156 Shake Table Test Parameters							Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]	
2.0	1	1.5	3.20	2.40	1.68	0.68	
2.5	0						
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.							

UUT-2102-6 Control Box							
<i>Manufacturer:</i> Carestream Health, Inc.							
<i>Identification:</i> Part No.: AJ2518 Serial No.: <None>							
<i>Description:</i> Component of Carestream DRX-Compass System							
Requires use of mounting hardware included in Seismic Kit P/N: AK9918							
<i>Mounting:</i> Countertop mounted using (3) #10 x 3/4" Pan head Teks screws							
Dimensions [in]				Lowest Resonant Frequency [Hz]			
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis	
4.8	5.3	2.7	1.5	>50	42.50	7.71	
ICC-ES AC156 Shake Table Test Parameters							Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]	
2.0	1	1.5	3.20	2.40	1.68	0.68	
2.5	0						
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.							

UUT-2102-7 LCD Monitor (Desk)						
<i>Manufacturer:</i>		HP / Peerless				
<i>Identification:</i>		Part No.: AL2347 Serial No.: <None>				
<i>Description:</i>		Component of Carestream DRX-Compass System 24" LCD Monitor Model No.: HSD-0059-Q <u>Including:</u> Desk Mount (Peerless) P/N: LCT100S				
<i>Mounting:</i>		<u>Countertop mounted</u> using Peerless desk mount M10 thru bolt w/ nut and grommet				
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
21.3	5.6	16.2	10.5	11.96	8.07	12.66
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLEX-H} [G]	A _{RIG-H} [G]	A _{FLEX-V} [G]	A _{RIG-V} [G]
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						



UUT-2102-8 LCD Monitor (Wall)						
<i>Manufacturer:</i>		HP / Carestream				
<i>Identification:</i>		Part No.: AL2347 Serial No.: <None>				
<i>Description:</i>		Component of Carestream DRX-Compass System 24" LCD Monitor Model No.: HSD-0059-Q <u>Including:</u> Wall Mount (Carestream) P/N: AL4161				
<i>Mounting:</i>		<u>Wall mounted</u> using (4) – 1/4" Teks HWH Screws through Carestream bracket into wall with 16 ga steel backing plate				
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
21.3	5.8	17.7	10.5	---	---	---
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLEX-H} [G]	A _{RIG-H} [G]	A _{FLEX-V} [G]	A _{RIG-V} [G]
2.0 2.5	1 0	1.5	3.20	2.40	1.68	0.68
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						

