



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0703

HCAI 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: (888) 777-2072 Email: seismicckralles@gmail.com

Product Information

Product Name: DRX-Compass

Product Model Number(s): See Attachment 1

Product Category: Fluoroscopy and Radiography Systems

Product Sub-Category: Fluoroscopy and Radiography Systems

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

Mounting Description: Several - 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



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

Company Name: EASE LLC

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: Jeremy Lange

Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513

Telephone: (972) 247-9657

Email: jeremy@etldallas.com

BY: Mohammad Karim

DATE: 08/11/2025



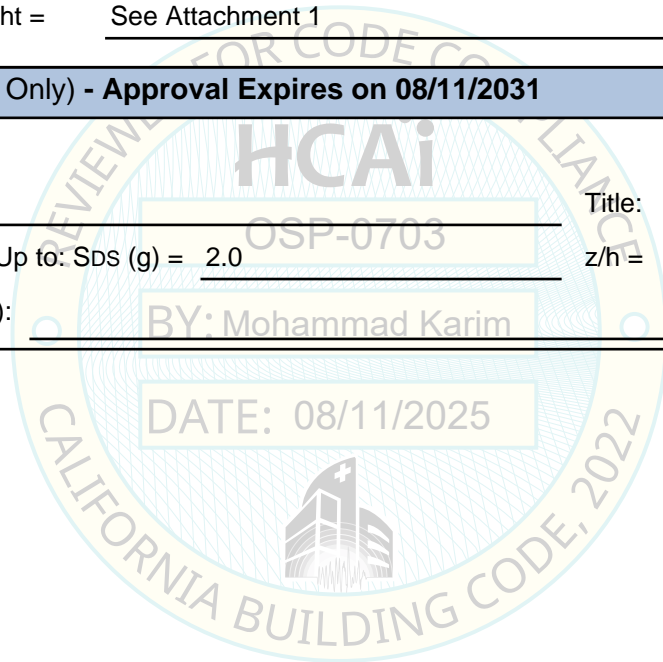
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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) =	See Attachment 1
Sds (Design spectral response acceleration at short period, g) =	2.0 (z/h = 1); 2.5 (z/h = 0)
a_p (Amplification factor) =	See Attachment 1
R_p (Response modification factor) =	See Attachment 1
Ω_0 (System overstrength factor) =	2.0
I_p (Importance factor) =	1.5
z/h (Height ratio factor) =	0 and 1
Natural frequencies (Hz) =	See Attachment 2
Overall dimensions and weight =	See Attachment 1

HCAI Approval (For Office Use Only) - Approval Expires on 08/11/2031

Date:	8/11/2025	
Name:	Mohammad Karim	Title: Supervisor, Health Facilities
Special Seismic Certification Valid Up to: Sds (g) =	2.0	z/h = 1
Condition of Approval (if applicable):		



ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

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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	<p>1. BASIS:</p> <ul style="list-style-type: none">• UUT-#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. <p>2. Requires use of Carestream DRX-Compass System Seismic Kit P/N: AK9918</p> <p>3. Patient table weight does not include 520 LB patient load present during test.</p>										

ATTACHMENT 2: TEST SPECIMEN SUMMARY

ATTACHMENT PAGE | 1 OF 6

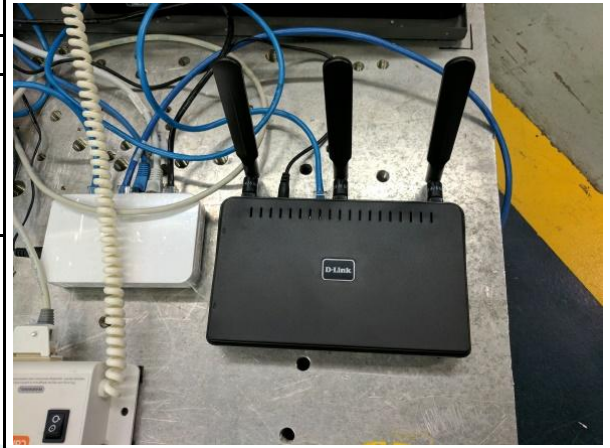
UUT-1605-11 Wireless Access Point

Manufacturer: D-Link

Identification: Model No.: DAP-2553

Description: Component of DRX-Compass System

Mounting: Rigid Base (Floor) Mounted using:
(2) lines of ½" x 4.5" 3M Dual Lock SJ3541 (TYPE 400) mated
to SJ3542 (TYPE 170)

**Dimensions [in]**

Width	Depth	Height
7.8	4.7	1.5

Weight [lb]

0.9

Lowest Resonant Frequency [Hz]

Front - Axis	Side - Axis	Vert - Axis
>50	43.25	>50

ICC-ES AC156 Shake Table Test Parameters**Code: 2022 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

Manufacturer: Carestream Health Inc.

Identification: Model No.: KU-0316

Description: Component of DRX-Compass System

Mounting: Rigid Base (Floor) Mounted using:
(2) lines of ½" x 5.25" 3M Dual Lock SJ3541 (TYPE 400)
mated to SJ3542 (TYPE 170)

**Dimensions [in]**

Width	Depth	Height
18	6.75	0.75

Weight [lb]

2

Lowest Resonant Frequency [Hz]

Front - Axis	Side - Axis	Vert - Axis
>50	>50	27.9

ICC-ES AC156 Shake Table Test Parameters**Code: 2022 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

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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: 2022 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-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: 2022 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

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UUT-2102-1 OTC						
Manufacturer:		Carestream Health, Inc.				
Identification:		Part No.: AL2444		Serial No.: SC0108		
Description:		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"				
Mounting:		Ceiling mounted 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*		N/A	N/A	N/A
ICC-ES AC156 Shake Table Test Parameters						Code: 2022 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						
Manufacturer:		Carestream Health, Inc.				
Identification:		Part No.: AL2447 Serial No.: ST0108				
Description:		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 <div>*Tested Height = 30"</div>				
Mounting:		<u>Rigid Base (Floor) mounted</u> using (6) – 1/2" dia. SAE J429 Grade 5 Hex bolts w/ Standard Washers				
Dimensions [in]			Weight [lb]	Lowest Resonant Frequency [Hz]		
Width	Depth	Height		Front - Axis	Side - Axis	Vert - Axis
86.0	35.7	22 – 32.4*		5.84	5.61	9.99
ICC-ES AC156 Shake Table Test Parameters				Code: 2022 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

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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:	<u>Wall / Floor mounted</u> 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	N/A	N/A	N/A
ICC-ES AC156 Shake Table Test Parameters						Code: 2022 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:	<u>Rigid Base (Floor) mounted</u> 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: 2022 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

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UUT-2102-5 Generator						
Manufacturer:		Carestream Health, Inc.				
Identification:		Part No.: AL2445 Serial No.: 1282				
Description:		Component of Carestream DRX-Compass System				
		Requires mounting hardware included in Seismic Kit P/N: AK9918				
Mounting:		Rigid Base (Floor) mounted using (4) – 1/2" dia. SAE J429 Grade 5 Hex bolts w/ Standard Washers through Carestream provided bracket				
Dimensions [in]				Weight [lb]	Lowest Resonant Frequency [Hz]	
Width	Depth	Height	Front - Axis		Side - Axis	Vert - Axis
25.5	13.5	24.1	23.40		40.08	45.16
ICC-ES AC156 Shake Table Test Parameters						Code: 2022 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						
Manufacturer:		Carestream Health, Inc.				
Identification:		Part No.: AJ2518 Serial No.: <None>				
Description:		Component of Carestream DRX-Compass System				
		Requires use of mounting hardware included in Seismic Kit P/N: AK9918				
Mounting:		Countertop mounted using (3) #10 x 3/4" Pan head Teks screws				
Dimensions [in]				Weight [lb]	Lowest Resonant Frequency [Hz]	
Width	Depth	Height	Front - Axis		Side - Axis	Vert - Axis
4.8	5.3	2.7	>50		42.50	7.71
ICC-ES AC156 Shake Table Test Parameters						Code: 2022 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.						

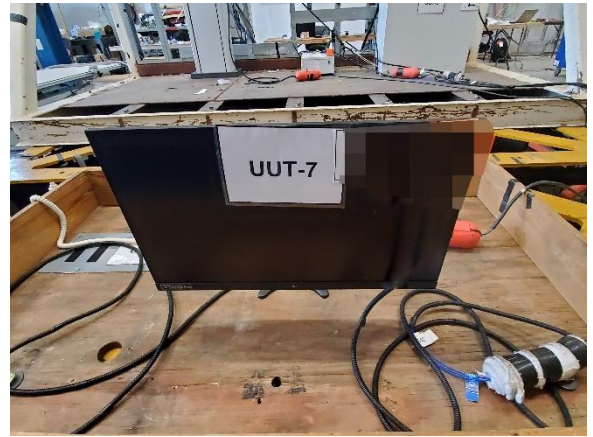


ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT-2102-7 LCD Monitor (Desk)

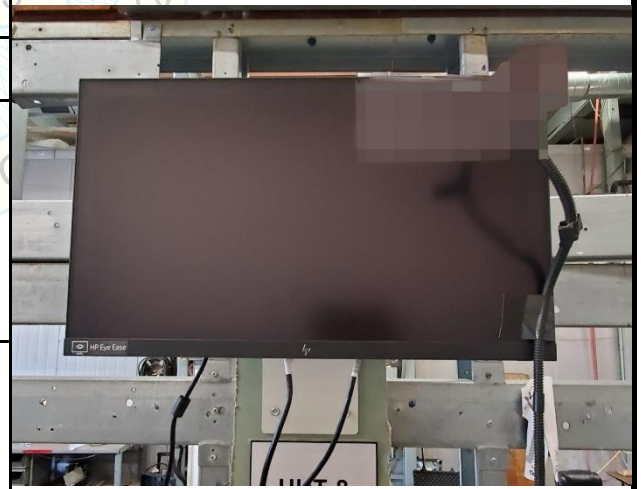
Manufacturer:	HP / Peerless
Identification:	Part No.: AL2347 Serial No.: <None>
Description:	Component of Carestream DRX-Compass System 24" LCD Monitor Model No.: HSD-0059-Q <u>Including:</u> Desk Mount (Peerless) P/N: LCT100S
Mounting:	<u>Countertop mounted</u> using Peerless desk mount M10 thru bolt 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: 2022 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-2102-8 LCD Monitor (Wall)

Manufacturer:	HP / Carestream
Identification:	Part No.: AL2347 Serial No.: <None>
Description:	Component of Carestream DRX-Compass System 24" LCD Monitor Model No.: HSD-0059-Q <u>Including:</u> Wall Mount (Carestream) P/N: AL4161
Mounting:	<u>Wall mounted</u> using (4) – 1/4" Tek's 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	N/A	N/A	N/A
ICC-ES AC156 Shake Table Test Parameters						Code: 2022 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.						