



**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-0479**

**HCAI Special Seismic Certification Preapproval (OSP)**

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: GE Healthcare

Manufacturer's Technical Representative: Du Pengfei

Mailing Address: No. 1, Yong Chang North Road, Beijing Ec, Beijing, He 100176

Telephone: (8618) 911-9014 Email: Pengfei.du@gehealthcare.com

**Product Information**

Product Name: Optima XR646, Optima XR646 HD, Discovery XR656 Plus, Discovery XR656 HD (Definium 656 HD)

Product Model Number(s): Varies. See Attachment

Product Category: Fluoroscopy and Radiography Systems

Product Sub-Category: NA

General Description: System components of multiple-component medical diagnostic radiography imaging systems.

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: Pre Compliance

Contact Person: Galen Reid

Mailing Address: 36 SW Wall Street, Bend, OR 97702

Telephone: (541) 241-2310 Email: galen@go-pre.com

Title: Principal & Program Manager





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

Company Name: PRE COMPLIANCE  
Name: Andrew Coughlin California License Number: S6082  
Mailing Address: 36 SW Wall Street, Bend, OR 97702  
Telephone: (415) 635-8461 Email: Andy@go-pre.com

**Certification Method**

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

**Testing Laboratory**

Company Name: CHINA TELECOMMUNICATION TECHNOLOGY LABS (CTTL)  
Contact Person: Ying Deng  
Mailing Address: 299 Tengfei Road, Lianchi District, Baoding City Hebei Province 000000  
Telephone: (8603) 126-7989 Email: dengying1@caict.ac.cn

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: info@etldallas.com





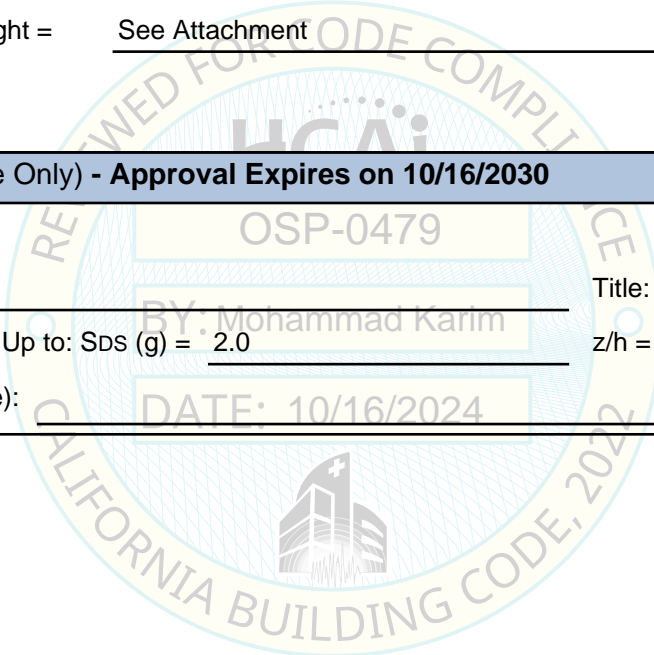
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**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) =	See Attached Table 7
SDS (Design spectral response acceleration at short period, g) =	2.0 @ z/h = 1.0; 2.5@z/h=0
$a_p$ (Amplification factor) =	See Attached Table 7
$R_p$ (Response modification factor) =	See Attached Table 7
$\Omega_0$ (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 10/16/2030**

Date:	10/16/2024		
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):			



**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646/Discovery XR656 Plus

**Seismic Parameters**

$S_{DS} = 2.0g$  for  $z/h=1$        $I_p = 1.5$   
 $S_{DS} = 2.5g$  for  $z/h=0$

**Building Codes**

**CBC 2022**

## TABLE 1      Mounting Configuration: Ceiling Mounted - Rigid

### Construction Summary

Constructed of carbon steel, aluminum, and plastic components

### Options Summary

XR646 Systems: 2 or 3 meter bridge  
XR656 Systems: 2, 3, or 4 meter bridge with 5135678-3 (longitudinal rails) or 5135678-4 (longitudinal rail) tube supports

Assembly (Components)	Subcomponents	Model Number	Max. Dimensions (in)			Wt. (lb)	UUT
			D	W	H <sup>1</sup>		
Overhead Tube Support (XR646 system - 2 meter bridge)	2 Meter Bridge	5693326	25.8	83.5	35.5-106.3	820	7
	Tube Support	5139720					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II)	Type: 5234954					
	Longitudinal Rails	5340818					
Overhead Tube Support (XR646 system - 3 meter bridge)	3 Meter Bridge	5693325	25.8	120.5	35.5-106.3	885	8
	Tube Support	5139720					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II)	Type: 5234954					
	Longitudinal Rails	5340818					
Overhead Tube Support (XR656 system - 2 meter bridge)	2 Meter Bridge	5143542	25.8	83.9	32.0-102.6	880	9
	Tube Support	5135678-3 & 5135678-4					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II)	Type: 5234954					
	Longitudinal Rails	5340818					
Overhead Tube Support (XR656 system - 3 meter bridge)	3 Meter Bridge	5127305	26.3	157	32.0-102.6	1,170	Interp.
	Tube Support	5135678-3 & 5135678-4					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II)	Type: 5234954					
	Longitudinal Rails	5340818					
Overhead Tube Support (XR656 system - 4 meter bridge)	4 Meter Bridge	5189123	26.3	157	32.0-102.6	1,170	10
	Tube Support	5135678-3 & 5135678-4					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II)	Type: 5234954					
	Longitudinal Rails	5340818					

**Notes: 1.** Range of outer height measured from top of longitudinal rail to focal point (x-ray tube center)

# SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENTS

**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646/Discovery XR656 Plus

## Seismic Parameters

$S_{DS} = 2.0g$  for  $z/h=1$        $I_p = 1.5$   
 $S_{DS} = 2.5g$  for  $z/h=0$

## Building Codes

CBC 2022

## TABLE 2

Mounting Configuration: Base or Wall Mounted - Rigid

### Construction Summary

Constructed of carbon steel, aluminum, and plastic components

### Options Summary

URP Detector: "X" is a number which may vary from a value of "1" to "99" and indicates firmware differences.

Assembly	Subcomponents	Model Number	Max. Dimensions (in)			Wt. (lb)	UUT
			D	W	H <sup>1</sup>		
Elevating Table	Table <sup>1</sup>	GCTBL-C2	36.7	94.5	19.7-33.5	705	1
System Cabinets	System Cabinet <sup>2</sup>	5397035	23.8	28	55.3	705	2
	HP Z420 NM Host <sup>3</sup>	5370540-20	20	7	17.8	37	12
Workstation	HP Z420 Workstation	5840000-3	20	7	17.8	37	Same
		5840000-4	20	7	17.8	37	Same
		5840000-3	20	7	17.8	37	Same
Wallstands	Wall Stand	GCWS-C1	52.9	27	103.5	596	3
	Extended Wall Stand	GCEWS-C1	65.7	27	103.5	618	4
Detector (Subcomponent)	URP Detector	5340000-X	17.8	23	1	10	1,3,4

**Notes:**  
 1. Patient table weight does not include the 706 lb. simulated patient load present during testing.  
 2. Unit is anchored to wall and rests on floor without anchoring to it.  
 3. Unit is not a component of the radiography systems listed. It is included to establish a basis for other models listed herein.

# SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENTS

**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646/Discovery XR656 Plus

**Seismic Parameters**  
 $S_{DS} = 2.0g$  for  $z/h=1$   
 $S_{DS} = 2.5g$  for  $z/h=0$   
 $I_p = 1.5$

**Building Codes**  
**CBC 2022**

## TABLE 3 Mounting Configuration: Wall or Base Mounted - Rigid

**Construction Summary**  
 Constructed of carbon steel, aluminum, and plastic components

**Options Summary**  
 URP Detector: "X" is a number which may vary from a value of "1" to "99" and indicates firmware differences.

Assembly	Subcomponents	Model Number <sup>1</sup>	Max. Dimensions (in)			Wt. (lb)	UUT <sup>3</sup>
			D	W	H		
Dongle Assembly <sup>2</sup>	Dongle	5397317-X	6.1	7	3.8	5.5	5
Detector BIN <sup>2</sup>	BIN	5394348	4.7	21	14.2	33	6,11
	URP Detector	5340000-X	17.8	23	1	10.5	

**Notes:**  
 1. "X" is a number which may vary from a value of "1" to "99" and indicates firmware differences.  
 2. URP detector is placed inside the detector bin and BIN weight includes the URP detector weight.  
 3. UUT6 was wall mounted - rigid. UUT11 was base mounted - rigid. Both used URP model 5340000-7. UUT 5 was wall mounted.

**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)

**Seismic Parameters**

$S_{DS} = 2.0g$  for  $z/h=1$        $I_p = 1.5$   
 $S_{DS} = 2.5g$  for  $z/h=0$

**Building Codes**

**CBC 2022**

## TABLE 4      Mounting Configuration: Ceiling Mounted - Rigid

### Construction Summary

Constructed of carbon steel, aluminum, and plastic components

### Options Summary

XR656 Systems: 2 or 3 meter bridge. 134" to 228" longitudinal rails.  
XR646 Systems: 2 or 3 meter bridge. 156" to 228", 162" to 218", 228", and 12m longitudinal rails

Assembly (Components)	Subcomponents	Model Number	Max. Dimensions (in)			Wt. (lb)	UUT
			D	W	H <sup>2</sup>		
Overhead Tube Suspension <sup>1</sup> (4 meter bridge & 5135678-7)	4 Meter Bridge	5189123	26.3	172.6	36.3-107.1	1,149	19
	Tube Support <sup>3</sup>	5135678-7					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>1</sup> (4 meter bridge & 5135678-8)	4 Meter Bridge	5189123	26.3	172.6	36.3-107.1	1,149	Interp.
	Tube Support <sup>4</sup>	5135678-8					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>1</sup> (4 meter bridge & 5135678-9)	4 Meter Bridge	5189123	180.1	228	41.7-112.6	1,219	Interp.
	Tube Support <sup>3</sup>	5135678-9					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>1</sup> (4 meter bridge & 5135678-10)	4 Meter Bridge	5189123	180.1	228	41.7-112.6	1,219	22
	Tube Support <sup>4</sup>	5135678-10					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					

**Notes:**  
**1.** Component of the XR656 HD System only  
**2.** Range of outer height from top of longitudinal rail to focal point (x-ray tube center)  
**3.** US made  
**4.** China made

**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)

**Seismic Parameters**

$S_{DS} = 2.0g$  for  $z/h=1$        $I_p = 1.5$   
 $S_{DS} = 2.5g$  for  $z/h=0$

**Building Codes**

**CBC 2022**

## TABLE 4      Mounting Configuration: Ceiling Mounted - Rigid

### Construction Summary

Constructed of carbon steel, aluminum, and plastic components

### Options Summary

XR656 Systems: 2 or 3 meter bridge. 134" to 228" longitudinal rails.  
XR646 Systems: 2 or 3 meter bridge. 156" to 228", 162" to 218", 228", and 12m longitudinal rails

Assembly (Components)	Subcomponents	Model Number	Max. Dimensions (in)			Wt. (lb)	UUT
			D	W	H <sup>2</sup>		
Overhead Tube Suspension <sup>1</sup> (4 meter bridge & 5135678-11)	4 Meter Bridge	5189123	180.1	228	41.7-112.6	1,219	Same <sup>6</sup>
	Tube Support <sup>5</sup>	5135678-11					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>1</sup> (3 meter bridge & 5135678-7)	3 Meter Bridge	5127305	26	120	36.3-107.1	1,029	Interp.
	Tube Support <sup>3</sup>	5135678-7					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
Overhead Tube Suspension <sup>1</sup> (3 meter bridge & 5135678-8)	3 Meter Bridge	5127305	26	120	36.3-107.1	1,029	Interp.
	Tube Support <sup>4</sup>	5135678-8					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>1</sup> (3 meter bridge & 5135678-9)	3 Meter Bridge	5127305	127.6	228	41.7-112.6	1,069	Interp.
	Tube Support <sup>3</sup>	5135678-9					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					

**Notes:**  
**1.** Component of the XR656 HD System only **2.** Range of outer height from top of longitudinal rail to focal point (x-ray tube center) **3.** US made **4.** China made **5.** Mexico made **6.** Design, construction, materials and grades, quality control and quality assurance methods used in manufacturing for products in the US, Mexico, and China are identical. Manufacturing process at all locations are ISO 13485 certified.



**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)

**Seismic Parameters**

$S_{DS} = 2.0g$  for  $z/h=1$        $I_p = 1.5$   
 $S_{DS} = 2.5g$  for  $z/h=0$

**Building Codes**

**CBC 2022**

## TABLE 4      Mounting Configuration: Ceiling Mounted - Rigid

### Construction Summary

Constructed of carbon steel, aluminum, and plastic components

### Options Summary

XR656 Systems: 2 or 3 meter bridge. 134" to 228" longitudinal rails.  
XR646 Systems: 2 or 3 meter bridge. 156" to 228", 162" to 218", 228", and 12m longitudinal rails

Assembly (Components)	Subcomponents	Model Number	Max. Dimensions (in)			Wt. (lb)	UUT
			D	W	H <sup>2</sup>		
Overhead Tube Suspension <sup>1</sup> (3 meter bridge & 5135678-10)	3 Meter Bridge	5127305	127.6	228	41.7-112.6	1,069	Interp.
	Tube Support <sup>4</sup>	5135678-10					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>1</sup> (3 meter bridge & 5135678-11)	3 Meter Bridge	5127305	127.6	228	41.7-112.6	1,069	Same <sup>6</sup>
	Tube Support <sup>5</sup>	5135678-11					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>1</sup> (2 meter bridge & 5135678-7)	2 Meter Bridge	5143542	26	82.6	36.3-107.1	927	Interp.
	Tube Support <sup>3</sup>	5135678-7					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>1</sup> (2 meter bridge & 5135678-8)	2 Meter Bridge	5143542	26	82.6	36.3-107.1	927	Interp.
	Tube Support <sup>4</sup>	5135678-8					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					

**Notes:**  
**1.** Component of the XR656 HD System only **2.** Range of outer height from top of longitudinal rail to focal point (x-ray tube center) **3.** US made **4.** China made **5.** Mexico made **6.** Design, construction, materials and grades, quality control and quality assurance methods used in manufacturing for products in the US, Mexico, and China are identical. Manufacturing process at all locations are ISO 13485 certified.

**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)

**Seismic Parameters**

$S_{DS} = 2.0g$  for  $z/h=1$        $I_p = 1.5$   
 $S_{DS} = 2.5g$  for  $z/h=0$

**Building Codes**

**CBC 2022**

## TABLE 4      Mounting Configuration: Ceiling Mounted - Rigid

### Construction Summary

Constructed of carbon steel, aluminum, and plastic components

### Options Summary

XR656 Systems: 2 or 3 meter bridge. 134" to 228" longitudinal rails.  
XR646 Systems: 2 or 3 meter bridge. 156" to 228", 162" to 218", 228", and 12m longitudinal rails

Assembly (Components)	Subcomponents	Model Number	Max. Dimensions (in)			Wt. (lb)	UUT
			D	W	H <sup>2</sup>		
Overhead Tube Suspension <sup>1</sup> (2 meter bridge & 5135678-9)	2 Meter Bridge	5143542	90.6	228	41.7-112.6	1,022	Interp.
	Tube Support <sup>3</sup>	5135678-9					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>1</sup> (2 meter bridge & 5135678-10)	2 Meter Bridge	5143542	90.6	228	41.7-112.6	1,022	Interp.
	Tube Support <sup>4</sup>	5135678-10					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>1</sup> (2 meter bridge & 5135678-11)	2 Meter Bridge	5143542	90.6	228	41.7-112.6	1,022	Same <sup>6</sup>
	Tube Support <sup>5</sup>	5135678-11					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
Overhead Tube Suspension <sup>7</sup> (4 meter bridge)	4 Meter Bridge	5189123	26.3	172.6	32.0-102.6	1,170	10
	Tube Support <sup>3</sup>	5135678-3					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II)	5234954					

**Notes:**  
**1.** Component of the XR656 HD System only **2.** Range of outer height from top of longitudinal rail to focal point (x-ray tube center) **3.** US made **4.** China made **5.** Mexico made **6.** Design, construction, materials and grades, quality control and quality assurance methods used in manufacturing for products in the US, Mexico, and China are identical. Manufacturing process at all locations are ISO 13485 certified. **7.** Unit is not a component of the systems identified in this table. It is included here to establish a basis for other models.

**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)

**Seismic Parameters**

$S_{DS} = 2.0g$  for  $z/h=1$        $I_p = 1.5$   
 $S_{DS} = 2.5g$  for  $z/h=0$

**Building Codes**

**CBC 2022**

## TABLE 4      Mounting Configuration: Ceiling Mounted - Rigid

### Construction Summary

Constructed of carbon steel, aluminum, and plastic components

### Options Summary

XR656 Systems: 2 or 3 meter bridge. 134" to 228" longitudinal rails.  
XR646 Systems: 2 or 3 meter bridge. 156" to 228", 162" to 218", 228", and 12m longitudinal rails

Assembly (Components)	Subcomponents	Model Number	Max. Dimensions (in)			Wt. (lb)	UUT
			D	W	H <sup>2</sup>		
Overhead Tube Suspension <sup>7</sup> (3 meter bridge)	3 Meter Bridge	5693325	25.8	120.5	35.5-106.3	885	8
	Tube Support	5139720					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II)	5234954					
Overhead Tube Suspension <sup>7</sup> (2 meter bridge)	2 Meter Bridge	5143542	25.8	83.9	32.0-102.6	880	9
	Tube Support <sup>3</sup>	5135678-3					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II)	5234954					
Overhead Tube Suspension <sup>8</sup> (2 meter bridge)	2 Meter Bridge	5693326	25.8	472	35.5-106.3	937	Interp.
	Tube Support	5139720					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (156" to 228")	5340818					
	Longitudinal Rails (162" to 218")	46-316480G8 to 46-316480G22					
	Longitudinal Rails (228")	46-316480G24					
Longitudinal Rails (12m)	5492991						

**Notes:**  
**1.** Component of the XR656 HD System only **2.** Range of outer height from top of longitudinal rail to focal point (x-ray tube center) **3.** US made **4.** China made **5.** Mexico made **6.** Design, construction, materials and grades, quality control and quality assurance methods used in manufacturing for products in the US, Mexico, and China are identical. Manufacturing process at all locations are ISO 13485 certified. **7.** Unit is not a component of the systems identified in this table. It is included here to establish a basis for other models. **8.** Component of the X646 HD system only.



# SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENTS

Pre No. CC241454-01-R0

**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)

**Seismic Parameters**  
 $S_{DS} = 2.0g$  for  $z/h=1$   
 $S_{DS} = 2.5g$  for  $z/h=0$   
 $I_p = 1.5$

**Building Codes**  
**CBC 2022**

## TABLE 4 Mounting Configuration: Ceiling Mounted - Rigid

### Construction Summary

Constructed of carbon steel, aluminum, and plastic components

### Options Summary

XR656 Systems: 2 or 3 meter bridge. 134" to 228" longitudinal rails.  
XR646 Systems: 2 or 3 meter bridge. 156" to 228", 162" to 218", 228", and 12m longitudinal rails

Assembly (Components)	Subcomponents	Model Number	Max. Dimensions (in)			Wt. (lb)	UUT
			D	W	H <sup>2</sup>		
Overhead Tube Suspension <sup>8</sup> (3 meter bridge)	3 Meter Bridge	5693325	26	472	35.5-106.3	954	Interp.
	Tube Support	5139720					
	X-Ray Tube	46-155400G284					
	Collimator (AL01C II eL)	5730663					
	Longitudinal Rails (156" to 228")	5340818					
	Longitudinal Rails (162" to 218")	46-316480G8 to 46-316480G22					
	Longitudinal Rails (228")	46-316480G24					
	Longitudinal Rails (12m)	5492991					

**Notes:**  
**1.** Component of the XR656 HD System only **2.** Range of outer height from top of longitudinal rail to focal point (x-ray tube center) **3.** US made **4.** China made **5.** Mexico made **6.** Design, construction, materials and grades, quality control and quality assurance methods used in manufacturing for products in the US, Mexico, and China are identical. Manufacturing process at all locations are ISO 13485 certified. **7.** Unit is not a component of the systems identified in this table. It is included here to establish a basis for other models. **8.** Component of the X646 HD system only.

**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)

**Seismic Parameters**

$S_{DS} = 2.0g$  for  $z/h=1$        $I_p = 1.5$   
 $S_{DS} = 2.5g$  for  $z/h=0$

**Building Codes**

**CBC 2022**

## TABLE 5      Mounting Configuration: Base Mounted - Rigid<sup>7</sup>

### Construction Summary

Constructed of carbon steel, aluminum, and plastic components

### Options Summary

Radiographic Tables & Wallstands: 14x17 or 17x17 FlashPad

Assembly	Subcomponents	Model Number <sup>1</sup>	Max. Dimensions (in)			Wt. (lb)	UUT
			D	W	H		
Radiographic Table		GCTBL-C3	36	95	20.0-33.5	838 <sup>1</sup>	13
	Table	GCTBL-C33	36	95	20.0-33.5	838 <sup>1</sup>	Interp.
		GCTBL-C5	33	91.7	20.7-32.5	727 <sup>2</sup>	14a,14b
	Table (China)	GCTBL-C333	36.7	94.5	19.7-33.5	692 <sup>3</sup>	23
	Table (Mexico)	GCTBL-C3333	36.7	94.5	19.7-33.5	692 <sup>3</sup>	Same <sup>5</sup>
Wallstands	Motorized Extended	GCEWS-C3	65.7	27	103.5	642	20a,20b
	Motorized	GCWS-C3	52.9	27	103.5	624	Interp.
	Manual <sup>4</sup>	GCMWS-C5	40.1	27	103.4	537	21
	Non-tilting	GCWS-C5	40.4	27	108.3	554	Interp.
FlashPad HD (Subcomponent)	FlashPad HD 14 x 17 <sup>6</sup>	5771417	15	18	0.6	7.2	13,21
	FlashPad HD 17 x 17	5771717	18	18	0.6	8.4	14,20,23
System Cabinets	System Cabinet <sup>7</sup>	GCC-C3	26	33.3	58	705	16
	System Cabinet	GCC-C4	23.6	35.4	36.7	459	24
	System Cabinet (Mexico)	GCC-C44	23.6	35.4	36.7	459	Same <sup>5</sup>
Workstations <sup>8</sup>	HP Z440 Workstation	8770000-24	17.5	6.6	17	39	15
	HP Z4G4 Workstation	8780000-W27	9.6	22.6	20.1	23	25
	HP Z4G5 Workstation	8790000-W04	9.6	22.6	20.1	23	28

**Notes:**  
**1.** Patient table weight does not include the 705 lb. simulated patient load present during testing. **2.** Patient table weight does not include the 552 lb. simulated patient load present during testing. **3.** Patient table weight does not include the 706 lb. simulated patient load present during testing. **4.** Component of the XR646 systems only. **5.** Design, construction, materials and grades, quality control and quality assurance methods used in manufacturing for products in the US, Mexico, and China are identical. Manufacturing process at all locations are ISO 13485 certified. **6.** Seismically certified units shall have the detector retention bracket present during testing installed when used with 14x17 detector. **7.** System cabinet GCC-C3 - rigid anchored to wall and bears on floor **8.** Monitor is not included, the monitor is portable.

**Manufacturer:** GE Healthcare  
**Product Type:** Fluoroscopy and Radiography Systems  
**Model Line:** Optima XR646 HD/Discovery XR656 HD  
 (Definium 656 HD)

**Seismic Parameters**  
 $S_{DS} = 2.0g$  for  $z/h=1$   $I_p = 1.5$   
 $S_{DS} = 2.5g$  for  $z/h=0$

**Building Codes**  
**CBC 2022**

## TABLE 6

Mounting Configuration: Wall Mounted - Rigid

### Construction Summary

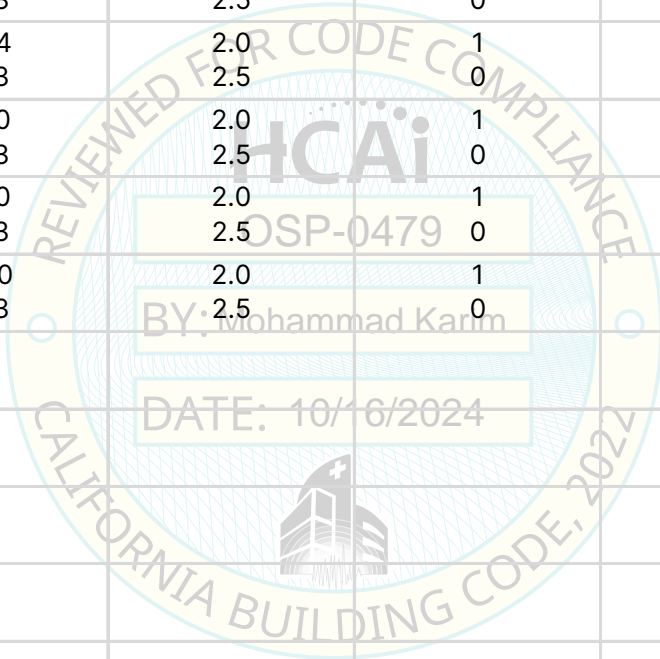
Constructed of carbon steel, aluminum, and plastic components

### Options Summary

Assembly (Manufacturer)	Subcomponents	Model Number	Max. Dimensions (in)			Wt. (lb)	UUT
			D	W	H <sup>1</sup>		
AP Assembly (Aruba Networks, Inc.) (7.1" x 7.1")	AP	5721057	7.1	7.1	3	1.3	17
	Mounting Bracket	5778430					
AP Assembly (Aruba Networks, Inc.) (5.5" x 5.5")	AP	5845913	5.5	5.5	0.8	1.3	26
	Mounting Bracket	5855356					
Tether Interface Box (TIB) (GE Hualun Medical Systems, Co. Ltd)		5765910	5.7	10	12.2	13.4	18
		5876669	5.7	10	12.2	15	27

## TABLE 7 SEISMIC PARAMETERS

Component	$F_p/W_p$	$S_{DS}$	$z/h$	$a_p$	$R_p$
Overhead Tube Supports	3.60	2.0	1	2.5	2.5
	1.50	2.5	0		
Patient Tables	2.40	2.0	1	1.0	1.5
	1.13	2.5	0		
Wallstands	2.40	2.0	1	1.0	1.5
	1.13	2.5	0		
System Cabinets	1.44	2.0	1	1.0	2.5
	1.13	2.5	0		
Workstations	1.50	2.0	1	2.5	6.0
	1.13	2.5	0		
Dongle Assembly	1.50	2.0	1	2.5	6.0
	1.13	2.5	0		
Detector BIN	2.40	2.0	1	1.0	1.5
	1.13	2.5	0		



UUT	Model	Test Report	Test Laboratory	S <sub>DS</sub>	z/h	I <sub>p</sub>
1	Elevating Table (GCTBL-C2) (Base mounted - rigid)	SQ12-1609-01 XR646/XR656 Plus (UUT 1)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
2	System Cabinet (5397035) (Wall anchored rigid and bears on floor)	SQ12-1609-01 XR646/XR656 Plus (UUT 2)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
3	Wall Stand (GCWS-C1) (Base mounted - rigid)	SQ12-1609-01 XR646/XR656 Plus (UUT 3)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
4	Extended Wall Stand (GCEWS-C1) (Base mounted - rigid)	SQ12-1609-01 XR646/XR656 Plus (UUT 4)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
5	Dongle Assembly (5397317-X) (Wall mounted - rigid)	SQ12-1609-01 XR646/XR656 Plus (UUT 5)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
6	Detector BIN (5394348) (Wall mounted - rigid)	SQ12-1609-01 XR646/XR656 Plus (UUT 6)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
7	Overhead Tube Support (XR646 System-2 meter bridge) (Ceiling mounted - rigid)	SQ12-1609-01 XR646/XR656 Plus (UUT 7)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
8	Overhead Tube Support (XR646 System-3 meter bridge) (Ceiling mounted - rigid)	SQ12-1609-01 XR646/XR656 Plus (UUT 8)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
9	Overhead Tube Support (XR656 System-2 meter bridge) (Ceiling mounted - rigid)	SQ12-1609-01 XR646/XR656 Plus (UUT 9)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
10	Overhead Tube Support (XR656 System-4 meter bridge) (Ceiling mounted - rigid)	SQ12-1609-01 XR646/XR656 Plus (UUT 10)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
11	Detector BIN (5394348) (Base mounted - rigid)	SQ12-1609-01 XR646/XR656 Plus (UUT 11)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
12	HP Z420 NM Host (5370540-20) (Base mounted - rigid)	SQ12143501 XR646/XR656 Plus (UUT 1)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
13	Radiographic Table (GCTBL-C3) w/FlashPad HD 14x17 (Base mounted - rigid)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 1)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5

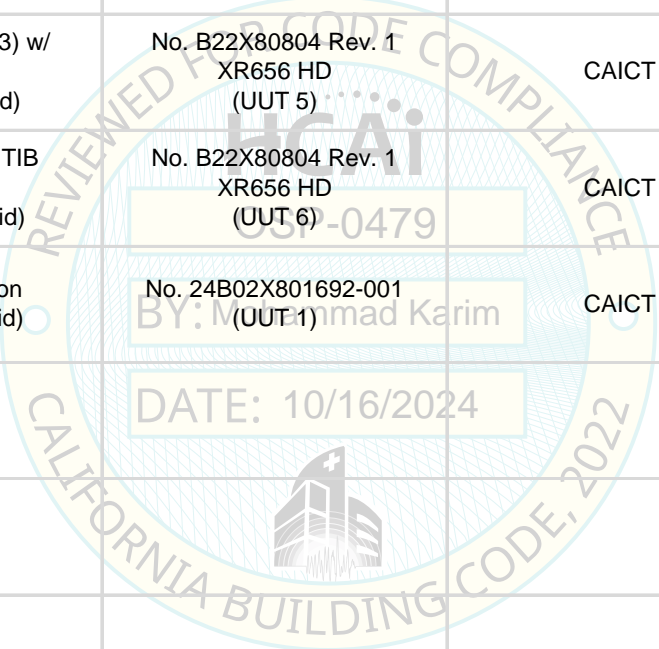
Notes:



UUT	Model	Test Report	Test Laboratory	S <sub>DS</sub>	z/h	I <sub>p</sub>
14a	Radiographic Table (GCTBL-C5) w/FlashPad HD 17x17 w/Detector Tray (Base mounted - rigid)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 2)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
14b	Radiographic Table (GCTBL-C5) w/FlashPad HD 17x17 w/out Detector Tray (Base mounted - rigid)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 2a)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
15	HP Z440 Workstation (8770000-24) (Base mounted - rigid)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 3)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
16	System Cabinet (GCC-C3) (Wall anchored rigid and bears on floor)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 4)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
17	AP Assembly (5720157) w/Mounting Bracket (Wall mounted - Rigid)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 5)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
18	Tether Interface Box, TIB (5765910) (Wall mounted - Rigid)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 6)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
19	Overhead Tube Suspension (4-meter bridge w/Tube Support 5135678-7) (Ceiling mounted - rigid)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 7)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
20a	Motorized Extended Wall (GCEWS-C3) w/FlashPad HD 17x17 with Detector Tray (Base mounted - rigid)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 8)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
20b	Motorized Extended Wall (GCEWS-C3) w/FlashPad HD 17x17 without Detector Tray (Base mounted - rigid)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 8A)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
21	Manual Extended Wall (GCMWS-C5) w/FlashPad HD 14x17 (Base Mounted - rigid)	SQ12-1812-01 r2 XR646 HD/XR656 HD (UUT 9)	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
22	Overhead Tube Suspension (4-meter bridge w/Tube Support 5135678-10) (Ceiling mounted - rigid)	No. B22X80804 Rev. 1 XR656 HD (UUT 1)	CAICT	2.0 2.5	1.0 0.0	1.5

Notes:

UUT	Model	Test Report	Test Laboratory	S <sub>DS</sub>	z/h	I <sub>p</sub>
23	Radiographic Table (GCTBL-C333) w/FlashPad HD 17x17 (Base mounted - rigid)	No. B22X80804 Rev. 1 XR656 HD (UUT 2)	CAICT	2.0 2.5	1.0 0.0	1.5
24	System Cabinet (GCC-C4) (Base Mounted - rigid)	No. B22X80804 Rev. 1 XR656 HD (UUT 3)	CAICT	2.0 2.5	1.0 0.0	1.5
25	HP Z4G4 Workstation (8780000-W27) (Base Mounted - rigid)	No. B22X80804 Rev. 1 XR656 HD (UUT 4)	CAICT	2.0 2.5	1.0 0.0	1.5
26	AP Assembly (5845913) w/ Mounting Bracket (Wall mounted - rigid)	No. B22X80804 Rev. 1 XR656 HD (UUT 5)	CAICT	2.0 2.5	1.0 0.0	1.5
27	Tether Interface Box, TIB (5876669) (Wall mounted - Rigid)	No. B22X80804 Rev. 1 XR656 HD (UUT 6)	CAICT	2.0 2.5	1.0 0.0	1.5
28	HP Z4G5 Workstation (Base Mounted - rigid)	No. 24B02X801692-001 (UUT 1)	CAICT	2.0 2.5	1.0 0.0	1.5
Notes:						



## UUT 1

Test Report# SQ12-1609-01 (UUT1)

Manufacturer: GE Healthcare  
Model Line: Optima XR646/Discovery XR656 Plus  
Model Number: Elevating Table (GCTBL-C2)  
Serial Number: 133632HL0

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1					
2.5	0	1.5	3.2	2.4	1.67	0.67

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>2</sup>	Weight (lbs.) <sup>1</sup>
36.7	94.5	31.0	1,411

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
4.7	14.0	6.7

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:

### List of Included Subcomponents



Description	Model #
URP Detector (GE Healthcare)	5340000-7

<sup>1</sup>Weight listed is the total weight. Individual details are as follows:

Table: 705 lbs.  
Patient: 706 lbs.

<sup>2</sup>Min Height: 19.7"  
Max Height: 33.5"  
Tested Height: 31"

UUT was rigid base mounted using (4) 1/2" Grade 8 bolts torqued to 40 ft-lb on an aluminum plate. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 2

Test Report# SQ12-1609-01 (UUT2)

 Manufacturer: GE Healthcare  
 Model Line: Optima XR646/Discovery XR656 Plus  
 Model Number: System Cabinet (5397035)  
 Serial Number: 1335366HL3

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1		3.2	2.4	1.67	0.67
2.5	0	1.5				

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
23.8	28	55.3	705

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

**Building Codes**  
 CBC 2022

**Test Criteria**  
 ICC-ES AC156

**Construction/Option Summary**  
 Constructed of carbon steel, aluminum, and plastic components

**UUT Mounting Details:**



**List of Included Subcomponents**

Description	Model #
N/A	N/A

UUT was anchored to wall using (1) 3/16" steel bracket at top with (4) 1/4" self tapping, self-threading, hex washer head sheet metal (Tek) screws through 5/8" drywall to 4x16ga steel track backing plate in wall and (2) M12 bolts (P/N 3212284) to cabinet. Also using (2) 5/16" steel brackets, on each side. Each bracket secured with (3) 1/4" Tek screws through 5/8" drywall to 4x16ga steel track backing plate in wall and (2) M5 Class 8.8 screws (P/N 5694430) to cabinet. Unit bears on but is not anchored to, the floor structure. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

# SPECIAL SEISMIC CERTIFICATION UUT SUMMARY

## UUT 3

Test Report# SQ12-1609-01 (UUT3)

Manufacturer: GE Healthcare  
 Model Line: Optima XR646/Discovery XR656 Plus  
 Model Number: Wall Stand (GCWS-C1)  
 Serial Number: 135195HL6

Highest Passed Test Level						
$S_{DS}$	$z/h$	$I_p$	$A_{flx-h}$	$A_{rig-h}$	$A_{flx-v}$	$A_{rig-v}$
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
52.9	27	103.5	596

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
8.4	4.7	14.4

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
URP Detector (GE Healthcare)	5340000-7

UUT was rigid base mounted using (4) 5/8" Grade 8 bolts torqued to 60 ft-lbs.  
 Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 4

Test Report# SQ12-1609-01 (UUT4)

Manufacturer: GE Healthcare  
 Model Line: Optima XR646/Discovery XR656 Plus  
 Model Number: Extended Wall Stand (GCEWS-C1)  
 Serial Number: 135195HL6

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1					
2.5	0	1.5	3.2	2.4	1.67	0.67

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
65.7	27	103.5	618

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
8.7	3.3	5.0

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

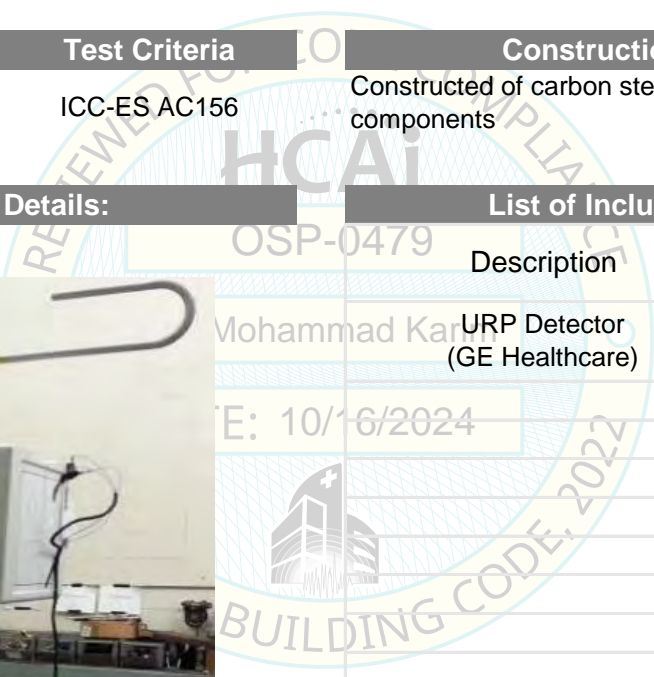
### UUT Mounting Details:



UUT was rigid base mounted using (4) 5/8" Grade 8 bolts torqued to 60 ft-lbs.  
 Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

### List of Included Subcomponents

Description	Model #
URP Detector (GE Healthcare)	5340000-7



## UUT 5

Test Report# SQ12-1609-01 (UUT5)

Manufacturer: GE Healthcare  
 Model Line: Optima XR646/Discovery XR656 Plus  
 Model Number: Dongle Assembly (5397317-X)  
 Serial Number: N/A

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

### Dimensions/Weights

Depth (in)	Width (in)	Height (in)	Weight (lbs.)
6.1	7	3.8	5.5

### Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
N/A	N/A	N/A

### Building Codes

CBC 2022

### Test Criteria

ICC-ES AC156

### Construction/Option Summary

Constructed of carbon steel, aluminum, and plastic components

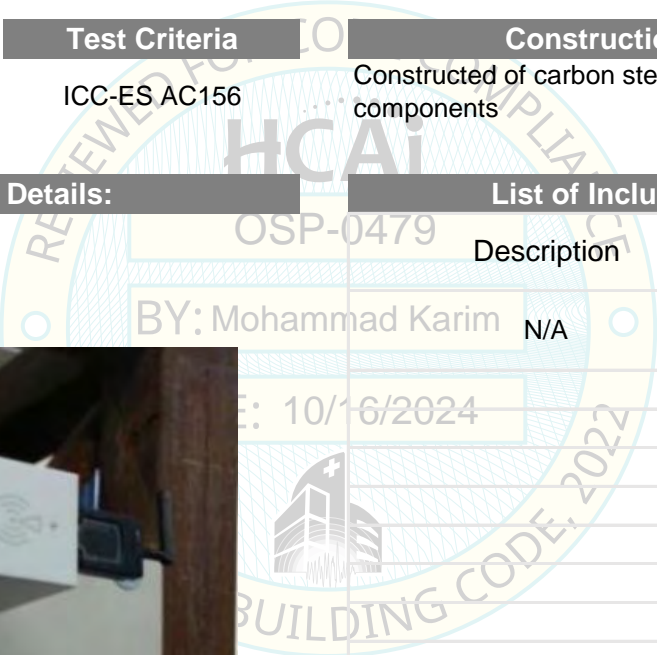
### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
BY: Mohammad Karim N/A	N/A

UUT was rigid wall mounted using (2) #10 screws. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.



## UUT 6

Test Report# SQ12-1609-01 (UUT6)

Manufacturer: GE Healthcare  
 Model Line: Optima XR646/Discovery XR656 Plus  
 Model Number: Detector BIN (5394348)  
 Serial Number: 300752382-184-04

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1		3.2	2.4	1.67	0.67
2.5	0	1.5				

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
4.7	21	14.2	33.0

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
URP Detector (GE Healthcare)	5340000-7
5/8" wall board (5 lbs.) installed in rear slot as storage load.	N/A

UUT was rigid wall mounted using (3) #10 hex washer head Tek screws and 1-1/4" o.d. fender washer provided at bottom connection point. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.



## UUT 7

Test Report# SQ12-1609-01 (UUT7)

**Manufacturer:** GE Healthcare  
**Model Line:** Optima XR646/Discovery XR656 Plus  
**Model Number:** Overhead Tube Support (XR646 system - 2 meter bridge)

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
25.8	83.5	72.0	820

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



UUT was rigid ceiling mounted using 1/2" bolts and unistrut P1010 channel nuts with springs at each end and 26" o.c. Typical each longitudinal rail (5 locations each rail/10 locations total). Unistrut parallel to rail. The bridge system was powered on and locked by an electromagnetic brake when testing, same as normal use. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

### List of Included Subcomponents

Description	Model #
Collimator (AL01C II) (GE Healthcare)	Type: 5234954
Longitudinal Rails (GE Healthcare)	5340818
OTS 2M Bridge (GE Healthcare)	5693326
Tube Support (GE Healthcare)	5139720
X-Ray Tube (GE Healthcare)	46-I54400G284

<sup>1</sup>Height from top of longitudinal rail to focal point (x-ray tube center):

Min Height: 35.5"  
Max Height: 106.3"

## UUT 8

Test Report# SQ12-1609-01 (UUT8)

**Manufacturer:** GE Healthcare  
**Model Line:** Optima XR646  
**Model Number:** Overhead Tube Support (XR646 system - 3 meter bridge)

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
25.8	120.5	72.0	885

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
Collimator (AL01C II) (GE Healthcare)	Type: 5234954
Longitudinal Rails (GE Healthcare)	5340818
OTS 3M Bridge (GE Healthcare)	5693325
Tube Support (GE Healthcare)	5139720
X-Ray Tube (GE Healthcare)	46-I54400G284

<sup>1</sup>Height from top of longitudinal rail to focal point (x-ray tube center):

Min Height: 35.5"  
 Max Height: 106.3"

UUT was rigid ceiling mounted using 1/2" bolts and unistrut P1010 channel nuts with springs at each end and 26" o.c. Typical each longitudinal rail (5 locations each rail/10 locations total). Unistrut parallel to rail. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 9

Test Report# SQ12-1609-01 (UUT9)

**Manufacturer:** GE Healthcare  
**Model Line:** Optima XR656 Plus  
**Model Number:** Overhead Tube Support (XR656 system - 2 meter bridge)

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
25.8	83.9	72.0	880

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
Collimator (AL01C II) (GE Healthcare)	Type: 5234954
Longitudinal Rails (GE Healthcare)	5340818
OTS 2M Bridge (GE Healthcare)	5143542
Tube Support (GE Healthcare)	5135678-3
X-Ray Tube (GE Healthcare)	46-I54400G284

<sup>1</sup>Height from top of longitudinal rail to focal point (x-ray tube center):

Min Height: 32.0"  
 Max Height: 102.6"

UUT was rigid ceiling mounted using 1/2" bolts and unistrut P1010 channel nuts with springs at each end and 26" o.c. Typical each longitudinal rail (5 locations each rail/10 locations total). Unistrut parallel to rail. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 10

Test Report# SQ12-1609-01 (UUT10)

**Manufacturer:** GE Healthcare  
**Model Line:** Discovery XR656 Plus  
**Model Number:** Overhead Tube Support (XR656 system - 4 meter bridge)

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
26.3	157	72.0	1,170

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



UUT was rigid ceiling mounted using 1/2" bolts and unistrut P1010 channel nuts with springs at each end and 26" o.c. Typical each longitudinal rail (5 locations each rail/10 locations total). Unistrut parallel to rail. The bridge system was powered on and locked by an electromagnetic brake when testing, same as normal use. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

### List of Included Subcomponents

Description	Model #
Collimator (AL01C II) (GE Healthcare)	Type: 5234954
Longitudinal Rails (GE Healthcare)	5340818
OTS 4M Bridge (GE Healthcare)	5189123
Tube Support (GE Healthcare)	5135678-3
X-Ray Tube (GE Healthcare)	46-I54400G284
<sup>1</sup> Height from top of longitudinal rail to focal point (x-ray tube center):	
Min Height: 32.0"	
Max Height: 102.6"	

**UUT 11**

Test Report# SQ12-1609-01 (UUT11)

Manufacturer: GE Hualun Medical Systems, Co, Ltd  
 Model Line: Optima XR646/Discovery XR656 Plus  
 Model Number: Detector BIN (5394348)  
 Serial Number: 300752382-184-04

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1		3.2	2.4	1.67	0.67
2.5	0	1.5				

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
4.7	21	14.2	33.0

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
1.2	30.8	14.7

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

**UUT Mounting Details:**

**List of Included Subcomponents**



Description	Model #
URP Detector (GE Healthcare)	5340000-7

UUT was rigid base mounted using (6) 1/4" hex socket countersunk machine screws to tapped holes in aluminum plate. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 12

Test Report# SQ12-1609-01 (UUT11)

**Manufacturer:** HP  
**Model Line:** Optima XR646/Discovery XR656 Plus  
**Model Number:** HP Z420 NM Host (5370540-20)  
**Serial Number:** CZC4270858

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.)
20	7	17.8	37.0

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
18.8	32.9	>33.3

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:

### List of Included Subcomponents



Description	Model #
N/A	N/A

UUT was rigid base mounted strapped into GE-provided Computer Seismic Base anchored to interface plate with (4) 1/4" hex head bolts and washers. UUT was secured to mounting bracket with (2) 1" wide straps. Mounting bracket and straps provided by GE (P/N 5813338). Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 13

Test Report# SQ12-1812-01 (UUT1)

Manufacturer: GE Hualun Medical Systems, Co, Ltd  
 Model Line: Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)  
 Model Number: Radiographic Table (GCTBL-C3) w/FlashPad HD 14x17  
 Serial Number: SEIS TBL-01

Highest Passed Test Level							
<b>S<sub>DS</sub></b>	<b>z/h</b>	<b>I<sub>p</sub></b>	<b>A<sub>flx-h</sub></b>	<b>A<sub>rig-h</sub></b>	<b>A<sub>flx-v</sub></b>	<b>A<sub>rig-v</sub></b>	
2.0	1						
2.5	0	1.5	3.2	2.4	1.67	0.67	

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>2</sup>	Weight (lbs.) <sup>1</sup>
95	36	33.5	838

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
2.12	>33.3	8.01

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

**Construction/Option Summary**  
 Constructed of carbon steel, aluminum, and plastic components. Table also referred to as "Global G3 Table"

### UUT Mounting Details:

### List of Included Subcomponents



Description	Model #
Detector: GE FlashPad HD 3543 wireless removable detector	Model No: 5771417-ENG Serial No: 31736417E1502
X-Ray Grid (Anti-scatter Grid): 120cm by Mitaya Mfg. Co. Ltd.	GE P/N: 46-286129P74
<sup>1</sup> Weight listed is the table weight. 706 lbs. simulated patient load present during testing is not listed.	
<sup>2</sup> Min Height: 20.0" Max Height: 33.5"	

UUT was rigid base mounted using (4) 1/2" SAE J429 Grade 8 bolts to tapped holes in aluminum plate. Detector tray included a retention bracket, which GE states is part of the standard mfd product, to secure 14x17 detector to the tray during testing. Bracket must be removed to exchange detectors and re-installed when 14x17 detector is used.  
 Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 14a

Test Report# SQ12-1812-01 (UUT2)

**Manufacturer:** GE Hualun Medical Systems, Co, Ltd  
**Model Line:** Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)  
**Model Number:** Radiographic Table (GCTBL-C5) w/FlashPad HD 17x17 & Detector Tray  
**Serial Number:** SEIS TBL-02

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>2</sup>	Weight (lbs.) <sup>1</sup>
33	91.7	33.3	727

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
5.06	3.4	7.81

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

**Construction/Option Summary**  
 Constructed of carbon steel, aluminum, and plastic components. Table also referred to as "G3 Standard Table" and "Chogri Table"

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
Detector: GE FlashPad HD 4543 wireless removable detector	Model No: 5781717-ENG Serial No: 31823717E2437
X-Ray Grid (Anti-scatter Grid): 110cm by Mitaya Mfg. Co. Ltd.	GE P/N: 46-286129P73
<sup>1</sup> Weight listed is the table weight. 552 lbs. simulated patient load present during testing is not listed.	
<sup>2</sup> Min Height: 20.7" Max Height: 33.25"	

UUT was rigid base mounted using (4) 3/8" SAE J429 Grade 8 bolts to tapped holes in aluminum plate and torqued to 25 ft-lbs. UUT used a FlashPad HD 17x17 with detector tray release latch screws. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.



## UUT 14b

Test Report# SQ12-1812-01 (UUT2A)

**Manufacturer:** GE Hualun Medical Systems, Co, Ltd  
**Model Line:** Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)  
**Model Number:** Radiographic Table (GCTBL-C5) w/FlashPad HD 17x17  
**Serial Number:** SEIS TBL-02

Highest Passed Test Level							
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>	
2.0	1	1.5	3.2	2.4	1.67	0.67	
2.5	0						

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>2</sup>	Weight (lbs.) <sup>1</sup>
33	91.7	33.3	727

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
5.06	3.39	7.81

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

**Construction/Option Summary**  
 Constructed of carbon steel, aluminum, and plastic components. Table also referred to as "G3 Standard Table" and "Chogri Table"

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
Detector: GE FlashPad HD 4343 wireless removable detector	Model No: 5781717-ENG Serial No: 31823717E2437
X-Ray Grid (Anti-scatter Grid): 110cm by Mitaya Mfg. Co. Ltd.	GE P/N: 46-286129P73
<sup>1</sup> Weight listed is the table weight. 552 lbs. simulated patient load present during testing is not listed.	
<sup>2</sup> Min Height: 20.7" Max Height: 32.25"	

UUT was rigid base mounted using (4) 3/8" SAE J429 Grade 8 bolts to tapped holes in aluminum plate and torqued to 25 ft-lbs. UUT used a FlashPad HD 17x17 without detector tray release latch screws. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 15

Test Report# SQ12-1812-01 (UUT3)

**Manufacturer:** HP  
**Model Line:** Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)  
**Model Number:** HP Z440 Workstation (8770000-24)  
**Serial Number:** 4CV813W6R4

### Highest Passed Test Level

S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1					
2.5	0	1.5	3.2	2.4	1.67	0.67

### Dimensions/Weights

Depth (in)	Width (in)	Height (in)	Weight (lbs.) <sup>1</sup>
17.5	6.6	17.0	34

### Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
11.2	30.40	16.6

### Building Codes

CBC 2022

### Test Criteria

ICC-ES AC156

### Construction/Option Summary

Constructed of carbon steel, aluminum, and plastic components.

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
NIC	350-T2 & 350-T4 1GbE RJ45
HP Z440 Workstation	2EL23UC#AB2
NVIDIA K2200	
Dual Port Canbus Card	
Single Port Adapter	
<sup>1</sup> Weight listed is with bracket	

UUT was rigid base mounted using (4) 3/8" SAE J429 Grade 8 bolts through steel mounting bracket to tapped holes in aluminum plate. PC secured to mounting bracket with (2) 1" wide straps. Mounting brackets & straps provided by GE (P/N 5813338). Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

# SPECIAL SEISMIC CERTIFICATION UUT SUMMARY

## UUT 16

Test Report# SQ12-1812-01 (UUT4)

Manufacturer: GE Hualun Medical Systems, Co, Ltd  
 Model Line: Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)  
 Model Number: System Cabinet (GCC-C3)  
 Serial Number: SEIS CAB-01

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.) <sup>1</sup>
26	33.3	58.0	705

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
12.93	9.40	17.58

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components.

### UUT Mounting Details:



UUT was anchored to wall using (1) 5mm steel bracket (P/N 5692807) at top with (6) 1/4" self tapping, self-threading, hex washer head sheet metal (Tek) screws through 5/8" drywall to 4x16ga steel track backing plate in wall and (2) M12 bolts (P/N 3212284) to cabinet. Also using (2) 5mm steel brackets (P/N 5692809), one each side. Each bracket secured with (3) 1/4" Tek screws through 5/8" drywall to 4x16ga steel track backing plate in wall and (2) M5 Class 8.8 screws (P/N 5694430) to cabinet. Unit bears on but is not anchored to, the floor structure.

Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

### List of Included Subcomponents

Description	Model #
N/A	N/A
<sup>1</sup> Weight listed: Reported: 705 lbs. Measured: 679 lbs.	

## UUT 17

Test Report# SQ12-1812-01 (UUT5)

Manufacturer: Aruba Networks, Inc.  
 Model Line: Optima XR646 HD/Discovery XR656 HD (Definium 656 HD)  
 Model Number: AP Assembly (5720157) w/mounting bracket  
 Serial Number: CNBXHHB2KM

Highest Passed Test Level							
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>	
2.0	1						
2.5	0	1.5	3.2	2.4	1.67	0.67	

Dimensions/Weights			
Depth (in)	Width (in)	Height (in)	Weight (lbs.) <sup>1</sup>
7.1	7.1	3.0	1.4

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components.

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
Wireless Access Point Aruba	APIN0215

UUT was rigid wall mounted using (4) #8 self-tapping, self-threading, hex washer head sheet metal (Tek) screws through 5/8" drywall to 4x16ga steel track backing plate in wall. Mounting bracket GE (P/N 5778430). Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.



## UUT 19

Test Report# SQ12-1812-01 (UUT7)

Manufacturer: GE Hualun Medical Systems, Co, Ltd  
 Model Line: Discovery XR656 HD (Definium 656 HD)  
 Model Number: Overhead Tube Support (4 meter bridge w/ Tube support 5135678-7)

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1					
2.5	0	1.5	3.2	2.4	1.67	0.67

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
26.3	172.6	72.0	1,092

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
4 Meter Bridge (GE Healthcare)	5189123
Longitudinal Rails (134") (GE Healthcare)	46-316480G1
Collimator (AL01C II eL) (GE Healthcare)	5730663
Tube Support (GE Healthcare)	5135678-7
X-Ray Tube (GE Healthcare)	46-I54400G284

<sup>1</sup>Height from top of longitudinal rail to focal point (x-ray tube center):

Min Height: 36.3"
Max Height: 107.1"

UUT was rigid ceiling mounted using 1/2" bolts and unistrut P1010 channel nuts with springs at each end and 26" o.c. Typical each longitudinal rail (6 locations each rail/12 locations total) Unistrut parallel to rail. The bridge system was powered on and locked by an electromagnetic brake when testing, same as normal use. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

Pre No. CC241454-01-R0

## UUT 20a

Test Report# SQ12-1812-01 (UUT8)

**Manufacturer:** GE Hualun Medical Systems, Co, Ltd  
**Model Line:** Optima XR646 HD / Discovery XR656 HD (Definium 656 HD)  
**Model Number:** Motorized Extended Wall (GCEWS-C3) w/FlashPad HD 17x17 w/detector tray


Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

**Serial Number:** Seis Ex WS-01

Dimensions/Weights				Lowest Natural Frequency (Hz)		
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)	Front-Back	Side-Side	Vertical
65.7	27	103.5	642	3.75	8.05	6.97

Building Codes	Test Criteria	Construction/Option Summary
CBC 2022	ICC-ES AC156	Constructed of carbon steel, aluminum, and plastic components

UUT Mounting Details:	List of Included Subcomponents																																				
	<table border="1"> <thead> <tr> <th>Description</th> <th>Model #</th> </tr> </thead> <tbody> <tr> <td>                     Detector:                      GE FlashPad HD wireless removable detector                 </td> <td>                     Model No. 5781717-ENG                      Serial No. 31825717E2451                 </td> </tr> <tr> <td>                     X-Ray Grid (Anti-Scatter Grid):                      130cm by Mitaya Mfg. Co. Ltd.                 </td> <td>                     GE P/N 46-286129P75                 </td> </tr> <tr> <td colspan="2">                     *Grid holder tray included a supplemental latching mechanism, which is not part of the standard mfd product, to secure grid within tray during test.                 </td> </tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Description	Model #	Detector: GE FlashPad HD wireless removable detector	Model No. 5781717-ENG Serial No. 31825717E2451	X-Ray Grid (Anti-Scatter Grid): 130cm by Mitaya Mfg. Co. Ltd.	GE P/N 46-286129P75	*Grid holder tray included a supplemental latching mechanism, which is not part of the standard mfd product, to secure grid within tray during test.																													
	Description	Model #																																			
	Detector: GE FlashPad HD wireless removable detector	Model No. 5781717-ENG Serial No. 31825717E2451																																			
X-Ray Grid (Anti-Scatter Grid): 130cm by Mitaya Mfg. Co. Ltd.	GE P/N 46-286129P75																																				
*Grid holder tray included a supplemental latching mechanism, which is not part of the standard mfd product, to secure grid within tray during test.																																					

UUT was rigid base mounted using (4) 5/8" SAE J429 Grade 8 bolts to tapped holes in aluminum plate.  
 UUT20a used a FlashPad HD 17x17 with detector tray release latch screws.  
 Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 20b

Test Report# SQ12-1812-01 (UUT8A)

Manufacturer: GE Hualun Medical Systems, Co, Ltd  
 Model Line: Optima XR646 HD / Discovery XR656 HD (Definium 656 HD)  
 Model Number: Motorized Extended Wall (GCEWS-C3) w/FlashPad HD 17x17 w/out detector tray  
 Serial Number: SEIS EX WS-01

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights				Lowest Natural Frequency (Hz)		
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)	Front-Back	Side-Side	Vertical
65.7	27	103.5	642	3.75	8.05	6.97

Building Codes	Test Criteria	Construction/Option Summary
CBC 2022	ICC-ES AC156	Constructed of carbon steel, aluminum, and plastic components

UUT Mounting Details:	List of Included Subcomponents
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UUT was rigid base mounted using (4) 5/8" SAE J429 Grade 8 bolts to tapped holes in aluminum plate. UUT20b used a FlashPad HD 17x17 without detector tray release latch screws. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

Description	Model #
Detector: GE FlashPad HD wireless removable detector	Model No. 5781717-ENG Serial No. 31825717E2451
X-Ray Grid (Anti-Scatter Grid): 130cm by Mitaya Mfg. Co. Ltd.	GE P/N 46-286129P75
*Grid holder tray included a supplemental latching mechanism, which is not part of the standard mfd product, to secure grid within tray during test.	



Pre No. CC241454-01-R0

## UUT 21

Test Report# SQ12-1812-01 (UUT9)

**Manufacturer:** GE Hualun Medical Systems, Co, Ltd  
**Model Line:** Optima XR646 HD / Discovery XR656 HD (Definium 656 HD)  
**Model Number:** Manual Extended Wall (GCMWS-C5) w/FlashPad HD 14x17

Highest Passed Test Level						
<b>S<sub>DS</sub></b>	<b>z/h</b>	<b>I<sub>p</sub></b>	<b>A<sub>flx-h</sub></b>	<b>A<sub>rig-h</sub></b>	<b>A<sub>flx-v</sub></b>	<b>A<sub>rig-v</sub></b>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
<b>Depth (in)</b>	<b>Width (in)</b>	<b>Height (in)<sup>1</sup></b>	<b>Weight (lbs.)</b>
40.4	27	103.5	537

Lowest Natural Frequency (Hz)		
<b>Front-Back</b>	<b>Side-Side</b>	<b>Vertical</b>
9.72	9.49	>33.3

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



UUT was rigid base mounted using (4) 5/8" SAE J429 Grade 8 bolts to tapped holes in aluminum plate. Detector tray included a retention bracket which GE states is part of the standard mfd product, to secure 14x17 detector to the tray during test. Bracket must be removed to exchange detectors and re-installed when 14x17 is used. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

### List of Included Subcomponents

Description	Model #
Detector: GE FlashPad HD 3543 wireless removable detector	Model No. 5771417 Serial No. 31736417E1502
X-Ray Grid (Anti-Scatter Grid): 120cm by Mitaya Mfg. Co. Ltd.	GE P/N 46-286129P74
*Grid holder tray included a supplemental latching mechanism, which is not part of the standard mfd product, to secure grid within tray during test.	

## UUT 22

Test Report# B22X80804 Rev.1 (UUT1)

**Manufacturer:** GE Hualun Medical Systems, Co, Ltd  
**Model Line:** Discovery XR656 HD (Definium 656 HD)  
**Model Number:** Overhead Tube Suspension (4 meter bridge w/ Tube support 5135678-10)

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1					
2.5	0	1.5	3.2	2.4	1.67	0.67

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
180.1	228	72.0	1,219

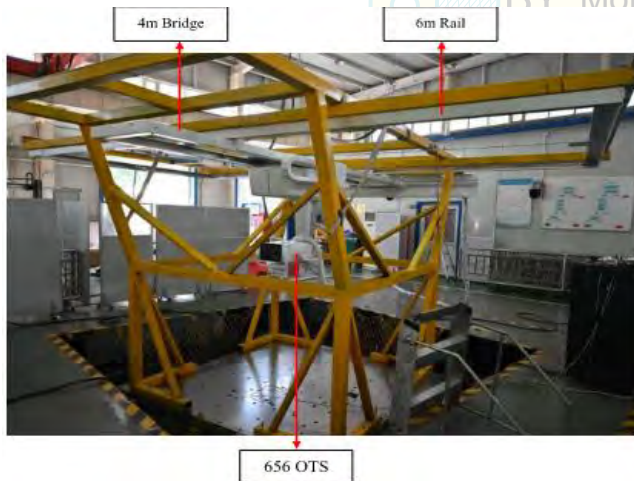
Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
Collimator (AL01C II eL) (GE Healthcare)	5730663
Longitudinal Rails (228") (GE Healthcare)	46-316480G24
OTS 4M Bridge (GE Healthcare)	5189123
Tube Support (GE Healthcare)	5135678-10
X-Ray Tube (GE Healthcare)	46-I54400G284

UUT was rigid ceiling mounted. The 6m rail and 4m bridge are connected to the fixture with (24) M12 screws. The fixture is connected to the table with (16) M16 screws. The bridge system was powered on and locked by an electromagnetic brake when testing, same as normal use. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

<sup>1</sup> Outer height from top of longitudinal rail to the lowest point:
Min Height: 41.7"
Max Height: 112.6"

## UUT 23

Test Report# B22X80804 Rev.1 (UUT2)

Manufacturer: GE Hualun Medical Systems, Co, Ltd  
 Model Line: Discovery XR656 HD (Definium 656 HD)  
 Model Number: Radiographic Table (GCTBL-C333)  
 w/FlashPad HD 17x17

Highest Passed Test Level						
$S_{DS}$	z/h	$I_p$	$A_{flx-h}$	$A_{rig-h}$	$A_{flx-v}$	$A_{rig-v}$
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.) <sup>2</sup>
36.7	94.5	33.5	692

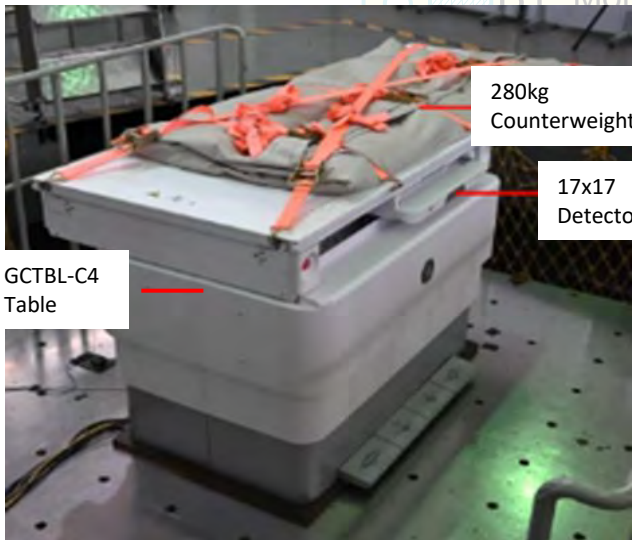
Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
8.2	2.91	3.54

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
Detector: GE FlashPad HD 4343 wireless removable detector	5771717
<sup>2</sup> Weight listed is the table weight with the detector. 706 lbs. simulated patient load present during testing is not included.	
Min Height: 19.7"	
Max Height: 33.5" <sup>1</sup>	

UUT was rigid base mounted using (4) M12 screws. The fixture is connected to the table using (4) M16 screws. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 24

Test Report# B22X80804 Rev.1 (UUT3)

Manufacturer: GE Hualun Medical Systems, Co, Ltd  
Model Line: Optima XR646 HD / Discovery XR656  
HD (Definium 656 HD)  
Model Number: System Cabinet (GCC-C4)

### Highest Passed Test Level

S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1					
2.5	0	1.5	3.2	2.4	1.67	0.67

### Dimensions/Weights

Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
23.6	35.4	36.7	459

### Lowest Natural Frequency (Hz)

Front-Back	Side-Side	Vertical
11	12.77	>33.3

### Building Codes

CBC 2022

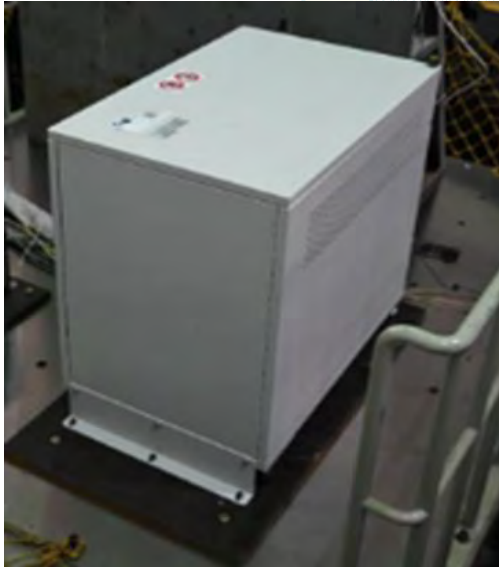
### Test Criteria

ICC-ES AC156

### Construction/Option Summary

Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
Mohammad Karim	
N/A	N/A

UUT was rigid base mounted to the fixture using (6) M8 screws. The fixture is connected to the table using (4) M16 screws. Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 25

Test Report# B22X80804 Rev.1 (UUT4)

Manufacturer: HP  
 Model Line: Optima XR646 HD / Discovery XR656 HD (Definium 656 HD)  
 Model Number: HP Z4G4 Workstation (8780000-W27)

Highest Passed Test Level						
<b>S<sub>DS</sub></b>	<b>z/h</b>	<b>I<sub>p</sub></b>	<b>A<sub>flx-h</sub></b>	<b>A<sub>rig-h</sub></b>	<b>A<sub>flx-v</sub></b>	<b>A<sub>rig-v</sub></b>
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
9.6	22.6	20.1	23

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
23.5	>33.3	>33.3

Building Codes	Test Criteria	Construction/Option Summary
CBC 2022	ICC-ES AC156	Constructed of carbon steel, aluminum, and plastic components

UUT Mounting Details:	List of Included Subcomponents
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Description	Model #
Mohammad Karim	
N/A	N/A

UUT is connected to seismic bracket frame by belt. The seismic bracket frame is connected to fixture by (4) M6 bolts  
 Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

## UUT 26

Test Report# B22X80804 Rev.1 (UUT5)

Manufacturer: Aruba Networks, Inc.  
 Model Line: Discovery XR656 HD (Definium 656 HD)  
 Model Number: AP Assembly (5845913) w/mounting bracket

Highest Passed Test Level						
$S_{DS}$	z/h	$I_p$	$A_{flex-h}$	$A_{rig-h}$	$A_{flex-v}$	$A_{rig-v}$
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0					

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
5.5	5.5	0.8	1.3

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



UUT was rigid wall mounted to the fixture using (4) M4 screws. The fixture is connected to the table using (6) M16 screws. Mounting bracket (GE P/N 5855356). Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

### List of Included Subcomponents

Description	Model #
N/A	N/A

## UUT 27

Test Report# B22X80804 Rev.1 (UUT6)

Manufacturer: GE Hualun Medical Systems, Co, Ltd  
 Model Line: Discovery XR656 HD (Definium 656 HD)  
 Model Number: Tether Interface box, TIB (5876669)

Highest Passed Test Level							
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>	
2.0	1						
2.5	0	1.5	3.2	2.4	1.67	0.67	

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
5.7	10	12.2	15

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
N/A	N/A	N/A

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

### UUT Mounting Details:



### List of Included Subcomponents

Description	Model #
N/A	N/A

UUT was rigid wall mounted to the fixture using (2) M8 screws. The fixture is connected to the table using (6) M16 screws.  
 Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

**UUT 28**

Test Report# 24B02X801692 (UUT1)

Manufacturer: HP  
 Model Line: Optima XR646 HD / Discovery XR656 HD (Definium 656 HD)  
 Product Name: HP Z4G5 Workstation  
 Model Number: 8790000-W04

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	A <sub>flx-v</sub>	A <sub>rig-v</sub>
2.0	1		3.2	2.4	1.67	0.67
2.5	0	1.5				

Dimensions/Weights			
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)
9.6	22.6	20.1	23

Lowest Natural Frequency (Hz)		
Front-Back	Side-Side	Vertical
26.56	15.23	>33.3

Building Codes
CBC 2022

Test Criteria
ICC-ES AC156

Construction/Option Summary
Constructed of carbon steel, aluminum, and plastic components

**UUT Mounting Details:**

**List of Included Subcomponents**



Description	Model #
N/A	N/A

UUT is connected to seismic bracket frame by belt. The seismic bracket frame is connected to fixture by (4) M6 bolts  
 Unit maintained structural integrity and remained operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.