

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

# OFFICE USE ONLY APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP) 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 -Seismic enhancements made to the test units and/or modifications required to address Tested Seismic Enhancements: anomalies during the tests shall be incorporated into the production units. **Applicant Information** Applicant Company Name: Pre Compliance Contact Person: Galen Reid

Email: galen@go-pre.com

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

Telephone: (541) 241-2310

Title: Principal & Program Manager





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

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)
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☐ GR-63-Core
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Testing Laboratory
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BUILDING

WHITE PARTY



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STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY



Overall dimensions and weight =

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

Seismic Parameters	
Design Basis of Equipment or Components	s (Fp/Wp) = See Attached Table 7
SDS (Design spectral response accele	eration at short period, g) = 2.0 @ z/h = 1.0; 2.5@z/h=0
ap (Amplification factor) =	See Attached Table 7
R <sub>P</sub> (Response modification factor) =	See Attached Table 7
$\Omega$ 0 (System overstrength factor) =	2.0
Ip (Importance factor) =	1.5
z/h (Height ratio factor) =	1 and 0
Natural frequencies (Hz) =	See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 10/16/2030								
Date:	10/16/2024 OSP-0479	12						
Name:	Mohammad Karim	Title:	Supervisor, Health Facilities					
Special	Seismic Certification Valid Up to: SDS (g) = 2.0	<u>z/h =</u>	1					
Conditio	n of Approval (if applicable): DATF 10/16/2024							

See Attachment



STATE OF CALIFORNIA - HEALTH AND HUMAN SERVICES AGENCY



Pre No. CC241454-01-R0

Manufacturer: GE Healthcare

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

**Seismic Parameters** 

**Building Codes** 

 $S_{DS} = 2.0g$  for z/h=1

 $S_{DS} = 2.5g \text{ for z/h=0}$ 

 $I_p = 1.5$ 

**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	Subcomponents	Model Number	Max. Dimension				UUT	
(Components)	Subcomponents	Wiodel Nullibel	D	W	H <sup>1</sup>	(lb)	001	
/;	2 Meter Bridge	5693326						
Outside and Turk a Comment	Tube Support P-	0475139720			05.5			
Overhead Tube Support (XR646 system - 2 meter bridge)	X-Ray Tube	46-155400G284	25.8	83.5	35.5- 106.3	820	7	
(ARO40 System 2 meter bridge)	Collimator (AL01C II)	Type: 5234954					100.5	
	Longitudinal Rails	5340818						
	3 Meter Bridge	5693325						
\[ \( \)	Tube Support	5139720	N/		35.5- 106.3	885		
Overhead Tube Support (XR646 system - 3 meter bridge)	X-Ray Tube	46-155400G284	25.8	120.5			8	
	Collimator (AL01C II)	Type: 5234954						
	Longitudinal Rails	5340818						
	2 Meter Bridge	5143542				880		
Overhead Tube Support	Tube Support	5135678-3 & 5135678-4	25.8	000	32.0- 102.6			
(XR656 system - 2 meter bridge)	X-Ray Tube	46-155400G284		83.9			9	
	Collimator (AL01C II)	Type: 5234954						
	Longitudinal Rails	5340818						
	3 Meter Bridge	5127305						
0 1 17 1 0	Tuba Cupport	5135678-3						
Overhead Tube Support (XR656 system - 3 meter bridge)	Tube Support	5135678-4	26.3	157	32.0- 102.6	1,170	Inter	
(XXO30 system - 3 meter bridge)	X-Ray Tube	46-155400G284			102.0			
	Collimator (AL01C II)	Type: 5234954						
	4 Meter Bridge	5189123						
Overhead Tube Support	Tube Support	5135678-3 & 5135678-4	00.0	457	32.0-	4 470	10	
(XR656 system - 4 meter bridge)	X-Ray Tube	46-155400G284	26.3	157	102.6	1,170	10	
	Collimator (AL01C II)	Type: 5234954						
	Longitudinal Rails	5340818	1					



Pre No. CC241454-01-R0

Manufacturer: GE Healthcare

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

Seismic Parameters

**Building Codes** 

 $S_{DS} = 2.0g$  for z/h=1

 $S_{DS} = 2.5g \text{ for z/h=0}$ 

 $I_p = 1.5$ 

**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. C	) jimensi	ons (in)	Wt.	UUT
Assembly	Subcomponents	Model Nullibel	D	W	H <sup>1</sup>	Wt. (lb) 705 705 37 37 37 596 618	001
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>	)4 5370540-20	20	7	17.8	37	12
Workstation	HP Z420 Workstation	5840000-3	20	7	17.8	37	Same
	BY Mohamn	5840000-4	_20	7	17.8	37	Same
Mallata a da	Wall Stand	GCWS-C1	52.9	27	103.5	596	3
Wallstands	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
	PVIA BUILT	JING CO					

#### Notes:

- 1. Patient table weight does not inloude 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 herin.



Pre No. CC241454-01-R0

Manufacturer: **GE Healthcare** 

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

Seismic Parameters

**Building Codes** 

 $S_{DS} = 2.0g$  for z/h=1

 $S_{DS} = 2.5g \text{ for z/h=0}$ 

 $I_p = 1.5$ 

**CBC 2022** 

**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. C	imensio	ons (in)	Wt.	UUT <sup>3</sup>
Assembly	Subcomponents	Model Number	D	W	Н	(lb)	001
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
Dottotto Biit	URP Detector	5340000-X	17.8	23	1	10.5	-,
	9/ USP-0	0479					
	BY: Mohamn	nad Karim	0				
	DATE: 10/	6/2024	V				
			V/				
	ORNIA BUILT						
	BUILD	ING					

## 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.

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Manufacturer: GE Healthcare

Fluoroscopy and Radiography Systems

Model Line: Optima XR646 HD/Discovery XR656 HD

(Definium 656 HD)

Seismic Parameters

**Building Codes** 

 $S_{DS} = 2.0g$  for z/h=1

 $S_{DS} = 2.5g \text{ for z/h=0}$ 

 $I_{p} = 1.5$ 

**CBC 2022** 

TABLE 4

**Product Type:** 

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	Subcomponents	Model Number	Max. Dimensions (in)			Wt.	UUT
(Components)	Subcomponents	Model Nullibel	D	W	H <sup>2</sup>	(lb)	
/	4 Meter Bridge Tube Support <sup>3</sup>	5189123 )4 <b>/</b> 5135678-7				1,149	
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284		470.0	36.3-		
(4 meter bridge & 5135678-7)	Collimator (AL01C II eL)	5730663	26.3	172.6	107.1		19
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
	4 Meter Bridge	5189123	V/				
	Tube Support <sup>4</sup>	5135678-8	5//			11/1/9	
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	26.3	172.6	36.3-		Intorn
(4 meter bridge & 5135678-8)	Collimator (AL01C II eL)	5730663			107.1		Interp
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
	4 Meter Bridge	5189123		228	41.7- 112.6	1,219	
	Tube Support <sup>3</sup>	5135678-9					
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	180.1				Interp
(4 meter bridge & 5135678-9)	Collimator (AL01C II eL)	5730663	160.1	220		1,219	interp
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
	4 Meter Bridge	5189123					
	Tube Support <sup>4</sup>	5135678-10					
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	180.1	228	41.7-	1,219	22
(4 meter bridge & 5135678-10)	Collimator (AL01C II eL)	5730663	100.1	220	112.6	1,219	
	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

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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** 

.

 $I_{p} = 1.5$ 

**CBC 2022** 

**Building Codes** 

TABLE 4

Mounting Configuration: Ceiling Mounted - Rigid

 $S_{DS} = 2.0g$  for z/h=1

 $S_{DS} = 2.5g \text{ for z/h=0}$ 

# **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	Subcomponents	Subcomponents Model Number Max. Dimensions (in)		Wt.	UUT						
(Components)	Subcomponents	Model Nullibei	D	W	H <sup>2</sup>	(lb)					
	4 Meter Bridge	5189123									
	Tube Support <sup>5</sup> P-	)4/5135678-11									
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	180.1	228	41.7-	1,219	Cama6				
(4 meter bridge & 5135678-11)	Collimator (AL01C II eL)	5730663	180.1	220	112.6		Same <sup>6</sup>				
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24									
	3 Meter Bridge	5127305	V			36.3- 107.1 1,029					
Overhead Tube Suspension <sup>1</sup> (3 meter bridge & 5135678-7)	Tube Support <sup>3</sup>	5135678-7	5								
	X-Ray Tube	46-155400G2 <mark>84</mark>	26	120	36.3-						
	Collimator (AL01C II eL)	5730663			107.1		Interp.				
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24									
	3 Meter Bridge	5127305		120							
	Tube Support⁴	5135678-8			36.3- 107.1	1,029					
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	26				Intorn				
(3 meter bridge & 5135678-8)	Collimator (AL01C II eL)	5730663	26				Interp.				
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24									
	3 Meter Bridge	5127305									
	Tube Support <sup>3</sup>	5135678-9									
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	127.6	228	41.7-	1,069	Intern				
(3 meter bridge & 5135678-9)	Collimator (AL01C II eL)	5730663	127.6	220	112.6	1,009	Interp.				
	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.



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** 

**Building Codes** 

 $S_{DS} = 2.0g$  for z/h=1

 $S_{DS} = 2.5g \text{ for z/h=0}$ 

 $I_{\rm p} = 1.5$ 

**CBC 2022** 

**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

XR646 Systems: 2 or 3 meter bridge. 156" to 228", 162" to 218",

228", and 12m longitudinal rails

Assembly	Subcomponents	Model Number	Max. Dimensions (in)			Wt.	UUT
(Components)	Subcomponents	Model Nullibei	D	W	H <sup>2</sup>	(lb)	
	3 Meter Bridge	5127305					
	Tube Support <sup>4</sup>	04 /5135678-10					
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	127.6	228	41.7-	1,069	Interp.
(3 meter bridge & 5135678-10)	Collimator (AL01C II eL)	5730663	127.0	220	112.6	1,069	interp.
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
	3 Meter Bridge	5127305	V				
	Tube Support <sup>5</sup>	5135678-11	5	228		1 1 1 1 1 1 1 1 1	
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G2 <mark>84</mark>	127.6		41.7-		0 6
(3 meter bridge & 5135678-11)	Collimator (AL01C II eL)	5730663			112.6		Same <sup>6</sup>
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
	2 Meter Bridge	5143542		82.6	36.3-	927	
	Tube Support <sup>3</sup>	5135678-7					
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	26				Interp.
(2 meter bridge & 5135678-7)	Collimator (AL01C II eL)	5730663	20	02.0	107.1	927	interp.
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24					
	2 Meter Bridge	5143542					
	Tube Support <sup>4</sup>	5135678-8					
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	26	82.6	36.3-	927	Interp.
(2 meter bridge & 5135678-8)	Collimator (AL01C II eL)	5730663	26	02.0	107.1	921	interp.
	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.



Pre No. CC241454-01-R0

Manufacturer: GE Healthcare

Fluoroscopy and Radiography Systems

Model Line: Optima XR646 HD/Discovery XR656 HD

(Definium 656 HD)

**Seismic Parameters** 

**Building Codes** 

 $S_{DS} = 2.0g$  for z/h=1

 $S_{DS} = 2.5g$  for z/h=0

 $I_{\rm p} = 1.5$ 

**CBC 2022** 

TABLE 4

**Product Type:** 

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)  Overhead Tube Suspension <sup>1</sup> (2 meter bridge & 5135678-9)  Overhead Tube Suspension <sup>1</sup> (2 meter bridge & 5135678-10)  Overhead Tube Suspension <sup>1</sup> (2 meter bridge & 5135678-11)	Subcomponents	Model Number	Subcomponents Model Number Max. Dimensions (in		ns (in)	Wt.	UUT						
(Components)	Subcomponents	Model Nullibel	D	W	H <sup>2</sup>	(lb)							
4	2 Meter Bridge  Tube Support <sup>3</sup>	5143542 )475135678-9							E				
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	90.6	228	41.7-	1,022	Interp.						
(2 meter bridge & 5135678-9)	Collimator (AL01C II eL)	5730663		220	112.6	1,022	interp.						
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24											
10	2 Meter Bridge	5143542	N/										
	Tube Support⁴	5135678-10	5'/	228		1022							
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	90.6		41.7- 112.6		Intorn						
	Collimator (AL01C II eL)	5730663					Interp.						
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24											
	2 Meter Bridge	5143542											
	Tube Support <sup>5</sup>	5135678-11											
Overhead Tube Suspension <sup>1</sup>	X-Ray Tube	46-155400G284	90.6	228	41.7-	1,022	Same <sup>6</sup>						
(2 meter bridge & 5135678-11)	Collimator (AL01C II eL)	5730663	90.0	220	112.6	1,022	Same						
	Longitudinal Rails (134" to 228")	46-316480G1 to 46-316480G24											
	4 Meter Bridge	5189123											
Overhead Tube Suspension <sup>7</sup>	Tube Support <sup>3</sup>	5135678-3	26.3	172.6	32.0-	1,170	10						
(4 meter bridge)	X-Ray Tube	46-155400G284		1/2.0	102.6	1,170	10						
	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.



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** 

Building Codes

 $S_{DS} = 2.0g$  for z/h=1

 $S_{DS} = 2.5g \text{ for z/h=0}$ 

 $I_p = 1.5$ 

**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	Subcomponents	Model Number	Max. C	imensio	ons (in)	Wt.	UUT			
(Components)	Subcomponents	Model Nullibel	D	W	H <sup>2</sup>	(lb)	001			
Overhead Tube Suspension <sup>7</sup>	3 Meter Bridge Tube Support	5693325 )47 5139720	25.8	25.8	120.5	35.5-	885	8		
(3 meter bridge)	X-Ray Tube Collimator (AL01C II)	46-155400G284 5234954		0.0	106.3					
	2 Meter Bridge	5143542				880				
Overhead Tube Suspension <sup>7</sup> (2 meter bridge)	Tube Support <sup>3</sup> X-Ray Tube	5135678-3 46-155400G284	25.8	83.9	32.0- 102.6		9			
(2 meter bridge)	Collimator (AL01C II)	5234954	\$/		102.0					
	2 Meter Bridge	5693326								
	Tube Support	5139720								
	X-Ray Tube	46-155400G284			35.5- 2 106.3 937		937			
	Collimator (AL01C II eL)	5730663		472						
Overhead Tube Suspension <sup>8</sup> (2 meter bridge)	Longitudinal Rails (156" to 228")	5340818	25.8			937		Interp.		
	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.



Pre No. CC241454-01-R0

Manufacturer: GE Healthcare

Fluoroscopy and Radiography Systems

Model Line: Optima XR646 HD/Discovery XR656 HD

(Definium 656 HD)

**Seismic Parameters** 

 $S_{DS} = 2.0g \text{ for z/h=1}$   $I_p = 1.5$ 

 $S_{DS} = 2.5g \text{ for z/h=0}$ 

**Building Codes** 

**CBC 2022** 

TABLE 4

**Product Type:** 

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	Subcomponents	Model Number	Max. Dimensions (in)			Wt.	UUT		
(Components)	Subcomponents	Wiodel Namber	D	W		(lb)			
	3 Meter Bridge	5693325	4						
	Tube Support P-	0475139720	9						
	X-Ray Tube	46-155400G284	[, ,						
	Collimator (AL01C II eL)	5730663		472		954			
Overhead Tube Suspension <sup>8</sup> (3 meter bridge)	Longitudinal Rails (156" to 228")	5340818	26				Interp		
	Longitudinal Rails (162" to 218")	46-316480G8 to 46-316480G22							
	Longitudinal Rails (228")	46-316480G <mark>24</mark>							
	Longitudinal Rails (12m)	5492991							
	VIA								
	BUIL	ING							

#### 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.



Pre No. CC241454-01-R0

Manufacturer: GE Healthcare

Fluoroscopy and Radiography Systems

Model Line: Optima XR646 HD/Discovery XR656 HD

(Definium 656 HD)

**Seismic Parameters** 

 $S_{DS} = 2.0g \text{ for z/h=1}$ 

 $S_{DS} = 2.5g \text{ for z/h=0}$ 

 $I_{\rm p} = 1.5$ 

Building Codes

**CBC 2022** 

TABLE 5

**Product Type:** 

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

Accombly Subcomponents Ma		Madal Nameland	Max. Dimensions (in)			Wt.	UUT
Assembly	Subcomponents	Model Number <sup>1</sup>	D	W	Н	(lb)	001
		GCTBL-C3	36	95	20.0- 33.5	838 <sup>1</sup>	13
4	Table OSP-(	4-GCTBL-C33	36	95	20.0- 33.5	838 <sup>1</sup>	Interp.
Radiographic Table	RY: Mohamn	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)	6/2024 GCTBL-C3333	36.7	94.5	19.7- 33.5	692 <sup>3</sup>	Same <sup>5</sup>
	Motorized Extended	GCEWS-C3	65.7	27	103.5	642	20a,20b
Wallstands	Motorized	GCWS-C3	52.9	27	103.5	624	Interp.
Walistalius	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	FlashPad HD 14 x 17 <sup>6</sup>	5771417	15	18	0.6	7.2	13,21
(Subcomponent)	FlashPad HD 17 x 17	5771717	18	18	0.6	8.4	14,20,23
	System Cabinet <sup>7</sup>	GCC-C3	26	33.3	58	705	16
System Cabinets	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

**Seismic Parameters** 

**Building Codes** 

Product Type: Model Line:

Fluoroscopy and Radiography Systems

Optima XR646 HD/Discovery XR656 HD

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

 $I_p = 1.5$  CBC 2022

(Definium 656 HD)

TABLE 6

Mounting Configuration: Wall Mounted - Rigid

# **Construction Summary**

**Options Summary** 

Constructed of carbon steel, aluminum, and plastic components

Assembly (Manufacturer)	Subcomponents	Model Number	Max. I	Dimensio	ons (in)	Wt. (lb)	UUT
AP Assembly (Aruba Networks, Inc.) (7.1" x 7.1")	AP  Mounting Bracket	5721057 47 5778430	7.1	7.1	3	1.3	17
AP Assembly (Aruba Networks, Inc.) (5.5" x 5.5")	AP BY: Mohamn Mounting Bracket	5845913 nad Karim 5855356	5.5	5.5	0.8	1.3	26
Tether Interface Box (TIB) (GE Hualun Medical Systems, Co. Ltd)	ASSSED ATE. AND	5765910 5876669	<b>5</b> .7	10 10	12.2 12.2	13.4 15	18 27
	PULA BUILT	INGCO					



# SPECIAL SEISMIC CERTIFICATION

# TABLE 7

# SEISMIC PARAMETERS

Component	F <sub>p</sub> /W <sub>p</sub>	S <sub>DS</sub>	z/h	a <sub>p</sub>	R <sub>p</sub>
Overhead Tube Supports	3.60 1.50	2.0 2.5	1 0	2.5	2.5
Patient Tables	2.40 1.13	2.0 2.5	1 0	1.0	1.5
Wallstands	2.40 1.13	2.0 2.5	1 0	1.0	1.5
System Cabinets	1.44 1.13	2.07 CO 2.5	DE CO	1.0	2.5
Workstations	1.50 1.13	2.0 2.5	1 0	2.5	6.0
Dongle Assembly	1.50 1.13	2.0 2.5 SP-	0479 0	2.5	6.0
Detector BIN	2.40 1.13	2.0 BV • 2.5 ohamn	1 nad Karlm	1.0	1.5
		DATE: 10/	6/2024 DING COE:		



# SPECIAL SEISMIC CERTIFICATION TESTING SUMMARY

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)479	Environmental Testing Laboratory (ETL)	2.0 2.5	1.0 0.0	1.5
6	Detector BIN (5394348) (Wall mounted - rigid)	SQ12-1609-01 B XR646/XR656 Plus (UUT 6)	Environmental Testing rim 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 /202	4 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:	I			1		

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# SPECIAL SEISMIC CERTIFICATION TESTING SUMMARY

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	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:	ı					

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# SPECIAL SEISMIC CERTIFICATION TESTING SUMMARY

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	CAICT	2.0 2.5	1.0 0.0	1.5
	CAL	DATE: 10/16/202	24 &			
		PAVIA	CODE			
		POILDING				
Notes:						



I..

z/h

SDS

2.0

2.5

UUT 1

OSP-0479

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

1 1.5 3.2 2.4 1.67 0.67		-р	· IIX-II	- rig-n	- TIX-V	- Tig-v
	1 0	1.5	3.2	2.4	1.67	0.67

A.... h

A...

# **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)
--	--------	---------	-----------	------

**Highest Passed Test Level** 

Ank

Front-Back Side-Side Vertical 4.7 14.0 6.7

**Building Codes** 

**CBC 2022** 

Test Criteria

## **Construction/Option Summary**

Constructed of carbon steel, aluminum, and plastic components

ICC-ES AC156

# **UUT Mounting Details:**

List of Included Subcomponents

Description Model #

BY: Mohammad KarURP Detector
(GE Healthcare) 5340000-7



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

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

Table: 705 lbs. Patient: 706 lbs.

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)

**GE** Healthcare Manufacturer:

Model Line: Optima XR646/Discovery XR656 Plus

Model Number: System Cabinet (5397035)

Serial Number: 1335366HL3

28

z/h I <sub>p</sub>	A <sub>flx-h</sub>	A <sub>rig-h</sub>	$A_{flx-v}$	
--------------------	--------------------	--------------------	-------------	--

 $\mathbf{A}_{\text{rig-v}}$ SDS 2.0 1 1.5 0.67 3.2 2.4 1.67

**Highest Passed Test Level** 

0 2.5

**Dimensions/Weights** 

Depth (in) Width (in) Height (in) Weight (lbs.) 55.3 705

Lowest Natural Frequency (Hz)

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

**Building Codes** 

**CBC 2022** 

23.8

**Test Criteria** 

ICC-ES AC156

**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic components

**List of Included Subcomponents UUT Mounting Details:** )SP-0479 Description



Model # N/A : Mohammad Karim

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

operational per manufacturer requirement following shake table test. All contents were included in the unit per operating conditions.

anchored to, the floor structure. Unit maintained structural integrity and remained



 $I_p$ 

1.5

UUT 3

SDS

2.0

2.5

z/h

1

0

Test Report# SQ12-1609-01 (UUT3)

 $A_{rig-h}$ 

2.4

 $A_{flx-v}$ 

1.67

 $A_{rig-v}$ 

0.67

Manufacturer: GE Healthcare

Model Line: Optima XR646/Discovery XR656 Plus

Model Number: Wall Stand (GCWS-C1)

Serial Number: 135195HL6

Lowest Natural Frequency (Hz)

**Highest Passed Test Level** 

 $A_{flx-h}$ 

3.2

Front-Back Side-Side Vertical 8.4 4.7 14.4

Dimensions/Weights

**Depth (in)** Width (in) Height (in) Weight (lbs.) 52.9 27 103.5 596

**Building Codes** 

CBC 2022 ICC-ES AC156

**Test Criteria** 

**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic components

## **UUT Mounting Details:**



List of	Include	d Subcomp	onents
	<i>-</i>		

Description Model #

| Ohammad KarURP Detector (GE Healthcare) | 5340000-7

10/16/2024

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** 

SDS

2.0

2.5

Test Report# SQ12-1609-01 (UUT4)

**Highest Passed Test Level** 

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

Serial Number: 135195HL6 z/h  $A_{flx-h}$  $\mathbf{A}_{\text{flx-v}}$  $I_p$  $A_{rig-h}$  $A_{rig-v}$ 1 1.5 2.4 3.2 1.67 0.67 0

**Dimensions/Weights** 

Depth (in) Width (in) Weight (lbs.) Height (in) 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** 

ist of Included Subcomponents

Constructed of carbon steel, aluminum, and plastic components

# **UUT Mounting Details:**



OSP-0479 Description	Model #
Mohammad KarURP Detector (GE Healthcare)	5340000-7

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

E: 10/16/202



UUT 5

SDS

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

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** 

Height (in) Weight (lbs.)
3.8 5.5

**Test Criteria** 

**Lowest Natural Frequency (Hz)** 

 Front-Back
 Side-Side
 Vertical

 N/A
 N/A
 N/A

**Building Codes** 

Depth (in) Width (in)

7

6.1

CBC 2022 ICC-ES AC156

**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic components

# **UUT Mounting Details:**

List of	Include	d Subcc	mponents

Model #

BY: Mohammad Karim N/A O N/A

Description



10/16/2024

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

 $S_{DS}$  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.)
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 ICC-ES AC156

**Test Criteria** 

**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic components

## **UUT Mounting Details:**

List of Included Subcomponents

Description Model #

Iohammad KarURP Detector
(GE Healthcare) 5340000-7

5/8" wall board (5 lbs.) installed in rear slot as storage load.

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)

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

2 meter bridge)

**Highest Passed Test Level** z/h  $A_{rig-h}$  $I_p$  $A_{flx-h}$ 

 $A_{flx-v}$  $A_{rig-v}$  $S_{DS}$ 2.0 1 1.5 3.2 2.4 1.67 0.67 0 2.5

**Dimensions/Weights** 

Depth (in) Width (in) Height (in)<sup>1</sup> 25.8 72.0 83.5

Weight (lbs.) 820

Lowest Natural Frequency (Hz)

**List of Included Subcomponents** 

Model #

5340818

5693326

5139720

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

**Building Codes** 

**Test Criteria** 

**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic components

**CBC 2022** 

ICC-ES AC156

**UUT Mounting Details:** 



X-Ray Tube 46-I54400G284 (GE Healthcare)

Min Height: 35.5"



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

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. 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.



**UUT8** 

Test Report# SQ12-1609-01 (UUT8)

Manufacturer: GE Healthcare Model Line: Optima XR646

Model Number: Overhead Tube Support (XR646 system -

3 meter bridge)

 $S_{DS}$  **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

**Highest Passed Test Level** 

**Dimensions/Weights** 

Width (in) Height (in)<sup>1</sup>
120.5 72.0

Weight (lbs.) 885 **Lowest Natural Frequency (Hz)** 

Front-Back N/A

0

2.5

Side-Side N/A Vertical N/A

**Building Codes** 

Depth (in)

25.8

CBC 2022

Test Criteria

ICC-ES AC156

**Construction/Option Summary** 

**List of Included Subcomponents** 

Constructed of carbon steel, aluminum, and plastic components

## **UUT Mounting Details:**



Description	Model #
nmad   Collimator (AL01C II) (GE Healthcare)	Type: 5234954
Longitudinal Rails (GE Healthcare)	5340818
OTS 3M <mark>Bridge</mark> (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"	
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

Overhead Tube Support (XR656 system -Model Number:

2 meter bridge)

SDS 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

**Highest Passed Test Level** 

**Dimensions/Weights** 

Depth (in) Width (in) Height (in)<sup>1</sup> 83.9

72.0

Weight (lbs.) 880

Lowest Natural Frequency (Hz)

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

0

2.5

Vertical N/A

**Building Codes** 

25.8

**CBC 2022** 

**Test Criteria** 

ICC-ES AC156

**Construction/Option Summary** 

List of Included Subcomponents

Constructed of carbon steel, aluminum, and plastic components

## **UUT Mounting Details:**



10/ center):

List of illoladed (	Juboompononts
Description	Model #
mad   Collimator (AL01C II) (GE Healthcare)	Type: 5234954
6/20 Longitudinal Rails (GE Healthcare)	5340818
OTS 2M <mark>Bridge</mark> (GE H <mark>ealthc</mark> are)	5143542
Tube Support (GE Healthcare)	5135678-3
X-Ray Tube (GE Healthcare)	46-154400G284

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

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)

**GE** Healthcare **Highest Passed Test Level** Manufacturer: Model Line: SDS z/h  $I_p$  $A_{rig-h}$  $A_{flx-v}$  $A_{rig-v}$ Discovery XR656 Plus  $A_{flx-h}$ Model Number: Overhead Tube Support (XR656 system -2.0 1 1.5 3.2 2.4 1.67 0.67 4 meter bridge) 0 2.5

**Dimensions/Weights** 

Depth (in) Width (in) Height (in)<sup>1</sup>
26.3 157 72.0

Weight (lbs.) 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 Subcomponent	S
-0479 Descripti	ion Mode	el#
nmad   Collimator (AL (GE Health		34954
/16/20 Longitudinal	Rails 53408	818
OTS 4M Br (GE Health	ridge 5189	123
Tube Supp (GE Health		78-3
X-Ray Tu (GE Health	46-154411	0G284

<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**

OSP-0479

Test Report# SQ12-1609-01 (UUT11)

GE Hualun Medical Systems, Co, Ltd Manufacturer: 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>	$A_{flx-h}$	$A_{rig-h}$	$A_{flx-v}$	$A_{rig-v}$
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0	1.5	5.2	۷.4	1.07	0.07

# **Dimensions/Weights**

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

Lowest	: Natural Frequen	cy (Hz)
Front-Back	Side-Side	Vertical

14.7

Building Codes

**CBC 2022** 

**Test Criteria** 

ICC-ES AC156

# **Construction/Option Summary**

30.8

Constructed of carbon steel, aluminum, and plastic components

## **UUT Mounting Details:**

# **List of Included Subcomponents**

Description Model # BY: Mohammad KarURP Detector 5340000-7 (GE Healthcare) 10/16/2024

1.2

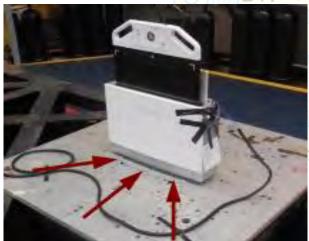


table test. All contents were included in the unit per operating conditions.



**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

**z/h**  $I_p$   $A_{flx-h}$   $A_{rig-h}$   $A_{flx-v}$   $A_{rig-v}$ 1 1.5 3.2 2.4 1.67 0.67

2.5 0

SDS

2.0

Dimensions/Weights

 Depth (in)
 Width (in)
 Height (in)
 Weight (lbs.)

 20
 7
 17.8
 37.0

**UUT Mounting Details:** 

**Lowest Natural Frequency (Hz)** 

**Highest Passed Test Level** 

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

Description

# BY: Mohammad Karim N/A : 10/1 6/2024 UILDING

List of	Includ	led Suk	ocompon	ents

Model #

im <sub>N/A</sub> O

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

Optima XR646 HD/Discovery XR656 HD Model Line:

(Definium 656 HD)

Radiographic Table (GCTBL-C3) Model Number:

w/FlashPad HD 14x17

SEIS TBL-01 Serial Number:

Highest Passed Test Level						
S <sub>DS</sub>	z/h	I <sub>p</sub>	$A_{flx-h}$	$A_{rig-h}$	$A_{flx-v}$	$A_{rig-v}$
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0	1.0	0.2	۷.٦	1.07	0.07

## **Dimensions/Weights**

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

**Lowest Natural Frequency (Hz)** 

Front-Back Side-Side Vertical >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** 

Model # Detector: Model No: 5771417-ENG GE FlashPad HD 3543 wireless Serial No: 31736417E1502 removable detector 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

5.06

Test Report# SQ12-1812-01 (UUT2)

Manufacturer: GE Hualun Medical Systems, Co, Ltd Optima XR646 HD/Discovery XR656 HD Model Line:

(Definium 656 HD)

Radiographic Table (GCTBL-C5) Model Number:

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>	$A_{flx-h}$	$A_{rig-h}$	$A_{flx-v}$	$A_{rig-v}$
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0	1.0	0.2	۷.٦	1.07	0.07

## **Dimensions/Weights**

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

**Lowest Natural Frequency (Hz)** 

Front-Back Side-Side Vertical 3.4 7.81

**Building Codes** 

**Test Criteria** 

**Construction/Option Summary** 

**CBC 2022** 

ICC-ES AC156

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
DING	

<sup>1</sup>Weight listed is the table weight. 552 lbs. simulated patient

load present during testing is no	ot 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>	$A_{flx-h}$	$A_{rig-h}$	$A_{flx-v}$	$A_{rig-v}$
2.0	1	1.5	3.2	2.4	1.67	0.67
2.5	0	1.0	0.2	۷.٦	1.07	0.07

## **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	
ING		

<sup>1</sup>Weight listed is the table weight. 552 lbs. simulated patient load present during testing is not listed.

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.



 $I_p$ 

1.5

**UUT 15** 

SDS

2.0

2.5

11.2

z/h

1

0

Test Report# SQ12-1812-01 (UUT3)

 $A_{rig-h}$ 

2.4

 $A_{\text{flx-v}}$ 

1.67

16.6

 $A_{rig-v}$ 

0.67

HP Manufacturer:

Optima XR646 HD/Discovery XR656 HD Model Line:

(Definium 656 HD)

Model Number: HP Z440 Workstation (8770000-24)

Serial Number: 4CV813W6R4

**Highest Passed Test Level** 

 $A_{flx-h}$ 

3.2

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

CODFC

**Lowest Natural Frequency (Hz) Front-Back** Side-Side Vertical

30.40

**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				
nr	Description nad Karim	Model #			
)/-	NIC 6/2024	350-T2 & 350-T4 1GbE RJ45			
)/  }	HP Z440 Workstation	2EL23UC#AB2			
	NVIDIA K2200				
M/()	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.



**UUT 16** 

CODF

Test Report# SQ12-1812-01 (UUT4)

Manufacturer: GE Hualun Medical Systems, Co, Ltd

Optima XR646 HD/Discovery XR656 HD Model Line:

(Definium 656 HD)

System Cabinet (GCC-C3) Model Number:

Serial Number: SEIS CAB-01

Highest Passed Test Level						
S <sub>DS</sub>	z/h	$I_p$	$A_{flx-h}$	$A_{rig-h}$	$A_{flx-v}$	

 $A_{rig-v}$ 2.0 1 1.5 0.67 3.2 2.4 1.67

0 2.5

**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

12.93 9.40 Vertical 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:**



# **List of Included Subcomponents**

Y: Mohammad K	Description	Model #
ΛΤΕ· 10/16/26	N/A	N/A
/		

UUT was anchored to wall using (1) 5mm steel bracket (P/N 5692807) at top with (6) 1/4" self tapping, selfthreading, 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.

<sup>1</sup>Weight listed:

Reported: 705 lbs. Measured: 679 lbs.

Pre Compliance www.go-pre.com (541) 241-2310

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Test Report# SQ12-1812-01 (UUT5)

Manufacturer: Aruba Networks, Inc.

Optima XR646 HD/Discovery XR656 HD Model Line:

(Definium 656 HD)

AP Assembly (5720157) w/mounting Model Number:

bracket

CNBXHHB2KM Serial Number:

	111911	COLI	assca ic	St Ecve	4
_	₹/h	I	Δ	Δ	Δ

SDS  $A_{rig-v}$  $A_{flx-v}$ 

2.0 1 1.67 1.5 3.2 2.4 0.67 2.5 0

	Dimens	ions/Weights		Lowes	t Natural Frequenc	cy (Hz)
Depth (in)	Width (in)	Height (in)	Weight (lbs.) <sup>1</sup>	Front-Back	Side-Side	Vertical
7.1	7.1	3.0	1.4 R CO	DE N/A	N/A	N/A

0479

**Building Codes** 

operating conditions.

**Test Criteria** 

**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic ICC-ES AC156 components.

**CBC 2022** 

**UUT Mounting Details:** 



Model #



Wireless Access Point Aruba	APIN0215

UUT was rigid wall mounted using (4) #8 self-tapping, selfthreading, 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



**UUT 18** 

CODEC

16/2024

10/

Test Report# SQ12-1812-01 (UUT6)

Manufacturer: GE Hualun Medical Systems, Co, Ltd Optima XR646 HD/Discovery XR656 HD Model Line:

(Definium 656 HD)

Model Number: Tether Interface Box, TIB (5765910)

Serial Number: N/A

$S_{DS}$	z/h	I <sub>p</sub>	$A_{flx-h}$	$A_{rig-h}$	$A_{flx-v}$	$A_{rig-v}$
2.0	1	4 5	2.0	0.4	4.07	0.07

**Highest Passed Test Leve** 

0 2.5

1.67 0.67

**Dimensions/Weights** 

Height (in) Depth (in) Width (in) Weight (lbs.)<sup>1</sup> 5.7 10 12.2 13

**Lowest Natural Frequency (Hz)** 

**Front-Back** Side-Side N/A N/A

Vertical N/A

Model #

N/A

**Building Codes** 

**CBC 2022** 

**Test Criteria** 

ICC-ES AC156

**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic components.

Description

N/A

#### **UUT Mounting Details:**



#### **List of Included Subcomponents**

DING	
aro com	(5/11) 2/11 2210

UUT was rigid wall mounted using (2) 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. Tether stored in box during testing. 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** 

CODEC

Test Report# SQ12-1812-01 (UUT7)

Manufacturer: GE Hualun Medical Systems, Co, Ltd Discovery XR656 HD (Definium 656 HD) Model Line:

Overhead Tube Support (4 meter bridge Model Number:

w/ Tube support 5135678-7)

1119110011 40004 1001 20101									
$S_{DS}$	z/h	l <sub>p</sub>	$\mathbf{A}_{flx-h}$	$\mathbf{A}_{rig-h}$	$\mathbf{A}_{flx-v}$	$\mathbf{A}_{rig-v}$			
2.0	1	1.5	3.2	2.4	1.67	0.67			

2.5

**Dimensions/Weights** 

Depth (in) Width (in) Height (in)<sup>1</sup> 72.0 26.3 172.6

Weight (lbs.) 1,092

**Lowest Natural Frequency (Hz)** 

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

**Building Codes** 

**Test Criteria** 

**Construction/Option Summary** 

**CBC 2022** 

ICC-ES AC156

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 (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.

-(	List of Included Subcomponents				
ma	Description ded Karim	Model #			
12 6	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"	
Min Height: 36.3"  Max Height: 107.1"	



UUT 20a

Test Report# SQ12-1812-01 (UUT8)

Vertical

6.97

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	l <sub>p</sub>	$A_{flx-h}$	A <sub>rig-h</sub>	$A_{flx-v}$	$A_{rig-v}$				
2.0	1	1.5	3.2	2.4	1.67	0.67				
2.5	0		5.2	۷.4	1.07	0.07				

Serial Number: Seis Ex WS-01

Dimensions/Weights				Lowes	t Natural Frequenc	cy (Hz)
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)	Front-Back	Side-Side	Ve
65.7	27	103.5	642	3.75	8.05	(

**Building Codes** 

**CBC 2022** 

**Test Criteria** 

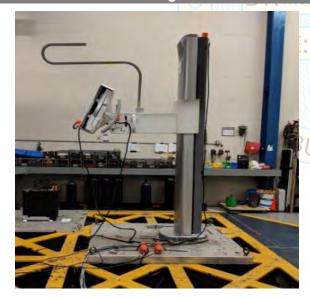
**ICC-ES AC156** 

**Construction/Option Summary** 

ist of Included Subcomponents

Constructed of carbon steel, aluminum, and plastic components

#### **UUT Mounting Details:**



Description	Model #
Detector: GE FlashPad HD wireles removable detector	Model No. 5781717-ENG Serial No. 31825717E2451
X-Ray Grid (Anti-Scatter G 130cm by Mitaya Mfg. Co.	

\*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 Optima XR646 HD / Discovery XR656 Model Line:

HD (Definium 656 HD)

Motorized Extended Wall (GCEWS-C3) Model Number:

w/FlashPad HD 17x17 w/out detector

tray

Serial Number: SEIS EX WS-01

Highest Passed Test Level									
S <sub>DS</sub>	z/h	l <sub>p</sub>	$A_{flx-h}$	$A_{rig-h}$	$A_{flx-v}$	$A_{rig-v}$			
2.0	1	1.5	3.2	2.4	1.67	0.67			
2.5	0	1.0	5.2	۷.٦	1.07	0.07			

	Dimens	ions/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** 

**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 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. 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.



**UUT 21** 

CODEC

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									
	S <sub>DS</sub>	z/h	l <sub>p</sub>	$A_{flx-h}$	$A_{rig-h}$	$\mathbf{A}_{flx-v}$	$A_{rig-v}$		
	2.0	1	1.5	3.2	2.4	1.67	0.67		
	2.5	0		5.2	۷.٦	1.07	0.07		

#### **Dimensions/Weights**

Depth (in) Width (in) Height (in) Weight (lbs.)
40.4 27 103.5 537

**Lowest Natural Frequency (Hz)** 

Front-Back Side-Side Vertical 9.72 9.49 >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

· Mohamn	Description and Karim	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 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.



Test Report# B22X80804 Rev.1 (UUT1)

Manufacturer:	GE Hualun Medical Systems, Co, Ltd		High	est Pa	ssed Te	st Leve	el	
Model Line:	Discovery XR656 HD (Definium 656 HD)	S <sub>DS</sub>	z/h	I <sub>p</sub>	$A_{flx-h}$	$A_{rig-h}$	$A_{flx-v}$	$A_{rig-v}$
		2.0	1	15	3.2	24	1.67	0.67
Model Number:	Overhead Tube Suspension (4 meter	2.5	Ο	1.5	5.2	2.4	1.07	0.07

Dimensions/Weights			Lowes	t Natural Frequenc	cy (Hz)	
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)	Front-Back	Side-Side	Vertical
180.1	228	72.0	1,219 0	DE N/A	N/A	N/A

0479

**Building Codes** 

**Test Criteria** 

bridge w/ Tube support 5135678-10)

**Construction/Option Summary** 

Model #

5730663

46-316480G24

5189123

5135678-10

46-I54400G284

**CBC 2022** 

ICC-ES AC156

Constructed of carbon steel, aluminum, and plastic components

Collimator (AL01C II eL)

(GE Healthcare) Longitudinal Rails (228")

> (GE Healthcare) OTS 4M Bridge

(GE Healthcare) Tube Support

(GE Healthcare) X-Ray Tube

(GE Healthcare)

# RY Mohammad Kari Description

**UUT Mounting Details: List of Included Subcomponents** 

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.

656 OTS

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)

GE Hualun Medical Systems, Co, Ltd Manufacturer: Discovery XR656 HD (Definium 656 HD) Model Line:

Radiographic Table (GCTBL-C333) Model Number:

w/FlashPad HD 17x17

1119110011 40004 1001 20101							
$S_{DS}$	z/h	l <sub>p</sub>	$\mathbf{A}_{flx-h}$	$\mathbf{A}_{rig-h}$	$\mathbf{A}_{flx-v}$	$\mathbf{A}_{rig-v}$	
2.0	1	1.5	3.2	2.4	1.67	0.67	
2.5	Λ	1.5	5.2	۷.٦	1.07	0.07	

**Highest Passed Test Level** 

#### **Dimensions/Weights**

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

**Lowest Natural Frequency (Hz)** 

Front-Back Side-Side Vertical 2.91 3.54

**Building Codes** 

**Test Criteria** 

**Construction/Option Summary** 

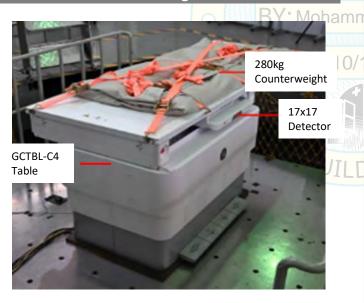
**CBC 2022** 

ICC-ES AC156

Constructed of carbon steel, aluminum, and plastic components

8.2

#### **UUT Mounting Details:**



List of Inclu	ided Sub	compon	ent

nad Kari Description	Model #
Detector: GE FlashPad HD 4343 wireless removable detector	5771717
DING	

<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"	
Min Height: 19.7"  Max Height: 33.5"	

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)

>33.3

Model #

N/A

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>	$A_{flx-h}$	A <sub>rig-h</sub>	$A_{flx-v}$	$A_{rig-v}$	
2.0	1	1.5	3.2	2.4	1.67	0.67	
2.5	0	1.5	5.2	۷.٦	1.07	0.07	

#### **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

**Building Codes** 

CBC 2022 ICC-ES AC156

**Test Criteria** 

**Construction/Option Summary** 

12.77

Constructed of carbon steel, aluminum, and plastic components

11

Description

N/A

CODEC

Mohammad Karim

10/16/2024

#### **UUT Mounting Details:**

#### List of Included Subcomponents

RI ITI E	TNG	
OILL	DING	
18		
ake		

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.



SDS

Test Report# B22X80804 Rev.1 (UUT4)

ΗP Manufacturer:

Optima XR646 HD / Discovery XR656 Model Line:

HD (Definium 656 HD)

HP Z4G4 Workstation (8780000-W27) Model Number:

**Highest Passed Test Level** 

 $A_{flx-h}$ z/h  $I_p$  $A_{\text{flx-v}}$  $A_{rig-h}$  $A_{rig-v}$ 

2.0 1 1.5 3.2 2.4 1.67 0.67 2.5 0

**Dimensions/Weights** 

Weight (lbs.) Depth (in) Width (in) Height (in)<sup>1</sup>

20.1 9.6 22.6

**Front-Back** 23

RCODEC

**Lowest Natural Frequency (Hz)** Side-Side

23.5 >33.3

>33.3

Vertical

**Building Codes** 

**Test Criteria** 

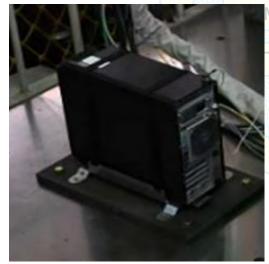
**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic components

**CBC 2022** ICC-ES AC156

#### **UUT Mounting Details:**

#### **List of Included Subcomponents**



Mohammad	Description	Model #
	N/A	N/A
E: 10/16/	2024	

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.	Highest Passed Test Level						
Model Line:	Discovery XR656 HD (Definium 656 HD)	S <sub>DS</sub>	z/h	I <sub>p</sub>	$A_{flx-h}$	A <sub>rig-h</sub>	$A_{flx-v}$	A <sub>rig-v</sub>
		2.0	1	1.5	3.2	24	1.67	0.67
Model Number:	AP Assembly (5845913) w/mounting	2.5	0	1.5	5.2	2.4	1.07	0.07

bracket

Dimensions/Weights			Lowest	t Natural Frequenc	cy (Hz)	
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)	Front-Back	Side-Side	Vertical
5.5	5.5	8.0	1.3	N/A	N/A	N/A

OR CODE

**Building Codes** 

CBC 2022

**Test Criteria** 

ICC-ES AC156

**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic components

Description

N/A

#### **UUT Mounting Details:**



List of Included Subcomponents
--------------------------------

Model #

N/A

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.



**UUT 27** 

Test Report# B22X80804 Rev.1 (UUT6)

Manufacturer:	GE Hualun Medical Systems, Co, Ltd		High	nest Pa	ssed Te	est Leve	el	
Model Line:	Discovery XR656 HD (Definium 656 HD)	S <sub>DS</sub>	z/h	I <sub>p</sub>	$A_{flx-h}$	A <sub>rig-h</sub>	$A_{flx-v}$	A <sub>rig-v</sub>
		2.0	1	1.5	3.2	24	1.67	0.67
Model Number:	Tether Interface box, TIB (5876669)	2.5	0	1.5	3.2	2.4	1.07	0.07

Dimensions/Weights				Lowes	t Natural Frequenc	cy (Hz)	
Depth (in)	Width (in)	Height (in) <sup>1</sup>	Weight (lbs.)	Front-Back	Side-Side	Vertical	
5.7	10	12.2	15	N/A	N/A	N/A	
OR CODE CO							

**Building Codes** 

**CBC 2022** 

**Test Criteria** 

ICC-ES AC156

**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic components

Description

N/A

#### **UUT Mounting Details:**



List of	Included	d Subcom	ponents
	4 7		

Model #

N/A

DING	
TINIO	

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.



CODE

Test Report# 24B02X801692 (UUT1)

2.4

ΗP Manufacturer:

Optima XR646 HD / Discovery XR656 Model Line:

HD (Definium 656 HD)

**Product Name:** HP Z4G5 Workstation

8790000-W04 Model Number:

**Highest Passed Test Level** z/h

 $A_{flx-h}$ SDS  $I_p$  $A_{\text{flx-v}}$  $A_{rig-h}$  $A_{rig-v}$ 2.0 1

3.2

0 2.5

1.67 0.67

**Dimensions/Weights** 

Weight (lbs.) Depth (in) Width (in) Height (in)<sup>1</sup>

> 20.1 22.6 23

**Lowest Natural Frequency (Hz)** 

**Front-Back** 26.56

Side-Side 15.23

Vertical >33.3

**Building Codes** 

9.6

**Test Criteria** 

**Construction/Option Summary** 

Constructed of carbon steel, aluminum, and plastic components

1.5

**CBC 2022** 

ICC-ES AC156

#### **UUT Mounting Details:**

#### **List of Included Subcomponents**



Mohammad Karin	escription	Model #
	N/A	N/A
F: 10/16/2024		

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.

Pre Compliance www.go-pre.com (541) 241-2310