



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-0668

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: GE Healthcare

Manufacturer's Technical Representative: Tom Farnow

Mailing Address: 3000 N. Grandview Blvd, Waukesha, WI 531881696

Telephone: (888) 406-1101

Email: Tom.Farnow@gehcseismic.com

Product Information

Product Name: Discovery RF180

Product Model Number(s): See Attachment 1

Product Category: Fluoroscopy and Radiography Systems

Product Sub-Category: Fluoroscopy and Radiography Systems

General Description: Discovery RF180 is a multiple component medical imaging system which consists of a table unit, system digital cabinet, generator, and a user interface comprised of a monitor, control console, and extender box for keyboard and mouse input. The system may be configured to include an optional non-tilting manually positioned wallstand unit, and/or optional manually positioned Overhead Tube Suspension (OTS). Evaluation for seismic qualification is limited to basic radiography and fluoroscopy functions related to the diagnostic assessment of trauma.

Mounting Description: Several - See Certified Product Tables -

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: EASE LLC

Contact Person: Jonathan Roberson

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

Telephone: (909) 606-7622

Email: jon@easeco.com

Title: Principal Engineer



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

Company Name: EASE LLC

Name: Jonathan Roberson

California License Number: S4197

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

Telephone: (951) 295-1892

Email: jon@EASECo.com

Certification Method

☐ GR-63-Core

☒ ICC-ES AC156

☐ IEEE 344

☐ IEEE 693

☐ NEBS 3

☐ Other (Please Specify): _____

Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)

Contact Person: Jeremy Lange

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

Telephone: (972) 247-9657

Email: jeremy@etldallas.com

BY: Mohammad Karim

DATE: 07/28/2025



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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = See Attachment 1

Sds (Design spectral response acceleration at short period, g) = 2.0 (z/h = 1); 2.5 (z/h = 0)

a_p (Amplification factor) = See Attachment 1

R_p (Response modification factor) = See Attachment 1

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 0 and 1

Natural frequencies (Hz) = See Attachment 2

Overall dimensions and weight = See Attachment 1

HCAI Approval (For Office Use Only) - Approval Expires on 07/17/2031

Date: 7/28/2025

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: Sds (g) = 2.0 z/h = 1

Condition of Approval (if applicable): BY: Mohammad Karim

DATE: 07/28/2025

ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

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TABLE 1:

Distributor	GE HEALTHCARE													
Manufacturer	GENERAL MEDICAL MERATE SpA (GMM)													
System	Discovery RF180 (5789805) ^[2]													
COMPONENT	IDENTIFICATION NUMBER	APPROX. DIMENSIONS [IN]			MAX. WT. [LB]	MOUNT	BASIS ^[1]	F _P /W _P	S _{DS}	z/h	a _P	R _P	Ω ₀	
		W	D	H										
PATIENT TABLE														
Tilting Table CLISIS EXEL DRF	CS006/G (Model No.) ^[3]	96.85 – 163	79.13 – 87	69.69 – 116.14	3241 ^[7]	Rigid Base	UUT-2005-1	2.40 1.13	2.0 2.5	1 0	1	1 ½	2	
SYSTEM CABINET														
System Digital Cabinet	O-D4000RF-PDT (Type No.) ^[4]	22.36	29.02	35.47	243	Wall/Floor	UUT-2005-2	1.50 1.13	2.0 2.5	1 0	2 ½	6	2	
GENERATOR														
Generator 80kW (H.V. Indico IQ Generator) Series: Opera G800IQ	VZW2558FD822-10 (Part No.) ^[5]	20.08	16.14	41.73	201	Rigid Base	UUT-2005-3	1.50 1.13	2.0 2.5	1 0	2 ½	6	2	
OVERHEAD TUBE SUSPENSION														
Manual Overhead Tube Suspension (OTS)	5769324 (Type No.)	118.5	173.6	49.2 – 116.1	735	Ceiling	UUT-2005-4	3.60 1.50	2.0 2.5	1 0	2 ½	2 ½	2	
WALLSTANDS														
Vertical non-tilting wall stand, RIGHT opening w/ Thales Wireless detector Pixium 3543 EZ - Option CMEDB	5805017 (Type No.) 63124836 (Part No.)	24.41 14.96	16.75 0.59	88.58 18.11	377 6.6	Wall/Floor	UUT-2005-5	2.40 1.13	2.0 2.5	1 0	1	1 ½	2	
Vertical non-tilting wall stand, RIGHT opening w/ Thales Wireless detector Pixium 2430 EZ - Option CMND	5805017 (Type No.) 63125597 (Part No.)	24.41 10.43	16.75 0.59	88.58 12.8	377 4.4									
Vertical non-tilting wall stand, LEFT opening w/ Thales Wireless detector Pixium 3543 EZ – Option CMEDB	5805016 (Type No.) 63124836 (Part No.)	24.41 14.96	16.75 0.59	88.58 18.11	377 6.6	Wall/Floor	INT	2.40 1.13	2.0 2.5	1 0	1	1 ½	2	
Vertical non-tilting wall stand, LEFT opening w/ Thales Wireless detector Pixium 2430 EZ – Option CMND	5805016 (Type No.) 63125597 (Part No.)	24.41 10.43	16.75 0.59	88.58 12.8	377 4.4									

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ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

ATTACHMENT PAGE | 2 OF 2

Distributor	GE HEALTHCARE													
Manufacturer	GENERAL MEDICAL MERATE SpA (GMM)													
System	Discovery RF180 (5789805) [2]													
COMPONENT	IDENTIFICATION NUMBER	APPROX. DIMENSIONS [IN]			MAX. WT. [LB]	MOUNT	BASIS [1]	F _P /W _P	S _{DS}	z/h	a _P	R _P	Ω ₀	
		W	D	H										
USER INTERFACE														
Control Console (CLISIS EXEL DRF)	5786779 (Type No.) [6]	17.32	10.63	7.48	18	CTA	UUT-2005-7	1.44 1.13	2.0 2.5	1 0	1	2 ½	2	
RadiForce (23.0") Multitouch Color LCD Monitor w/	MS236WT (Model No.)	21.93	9.75	21.0	22.5	CTA	UUT-2005-8	1.44 1.13	2.0 2.5	1 0	1	2 ½	2	
Desk mount kit (GMM)	162396 (Part No.)													
Monitor Extender Box	O-D4000RF-PDT (EXT Box) (Type No.)	8.25	9.75	5.5	3.5	CTA	UUT-2005-9	1.44 1.13	2.0 2.5	1 0	1	2 ½	2	
Mount	<p>RIGID BASE (FLOOR) MOUNT: free-standing, base-mounted tower configuration with the component rigidly attached to a supporting structure and no lateral support above the base.</p> <p>WALL/FLOOR MOUNT: combined rigid base and rigid wall mount configuration; base of unit bears on and anchored to rigid base (floor) and is attached to a supporting structure with lateral support above the base at a wall.</p> <p>CEILING: equipment is anchored to, and suspended from, a rigid framing system at or slightly above the ceiling line of the room.</p> <p>COUNTERTOP ATTACHED (CTA): equipment is base mount anchored to a built-in countertop or similar horizontal surface providing a fixed, rigid support.</p>													
Notes	<p>1. BASIS</p> <ul style="list-style-type: none">• UUT#: Indicates that new testing was conducted on a unit matching these characteristics.• INT (Interpolated): Indicates model of equipment not specifically tested for which seismic qualification is established through testing of similar models in the product line. <p>2. Discovery RF180 System requires the use of GMM system seismic kit P/N 162435 which contains seismic kits for individual components identified below.</p> <p>3. Tilting Table requires use of GMM Seismic Kit P/N 162436.</p> <p>4. System Digital Cabinet requires use of GMM Seismic Kit P/N 162393.</p> <p>5. Generator requires use of GMM Seismic Kit P/N 162321.</p> <p>6. Control Console requires use of GMM Seismic Kit P/N 162395.</p> <p>7. Weight excludes patient load applied during test. See Attachment 2.</p>													

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT-2005-1 CLISIS EXEL DRF Tilting Table

MANUFACTURER:	GENERAL MEDICAL MERATE SpA (GMM)
IDENTIFICATION:	Model No.: CS006/G S/N: 01280
DESCRIPTION:	<p>Component of GE Healthcare Discovery RF180 System</p> <p>Production equivalent prototype unit that includes enhancements relative to then-current standard production.</p> <ul style="list-style-type: none"> - Horizontal Configuration (0°) w/ Patient Load of 502.5 lb - Included modifications to address anomalies observed in testing. These modifications will, in part, be included in future production units. The balance of the modifications will be included in GMM System Seismic Kit P/N 162435. <p>*Tested Configuration 1: (96.85" width, 79.13" depth, and 108.65" height); Tested Configuration 2: (106.5" width, 79.13" depth, 102.5" height)</p>
MOUNTING:	Rigid Base (Floor) mounted using (15) – 1/2" dia. SAE J429 GR 5 hex head bolts to interface.



DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Longit. (X)-Axis	Transv. (Y)-Axis	Vert. (Z)-Axis
96.85 – 163*	79.13 – 87*	69.69 – 116.14*	3241 + Patient	3.73	4.59	4.67
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS				CODE: 2022 CBC		
S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	3.2	2.4	1.68	0.68
2.5	0					

Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.

UUT-2005-2 System Digital Cabinet

MANUFACTURER:	GENERAL MEDICAL MERATE SpA (GMM)
IDENTIFICATION:	Type No.: O-D4000RF-PDT S/N: 38737
DESCRIPTION:	<p>Component of GE Healthcare Discovery RF180 System</p> <p>Mounting Brackets included in GMM Seismic Kit P/N 162393.</p>
MOUNTING:	<p>Wall/Floor mounted: Wall mount with bracket by GMM with (2) – 1/4" DIA HWH TEK SCREWS w/ 1" x 9/16" washers to 5/8" Gyp Board over 16 GA steel track backing plate. Floor mount with bracket by GMM with (2) – 3/8" DIA SAE J429 Grade 5 Bolts to interface frame.</p>



DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Longit. (X)-Axis	Transv. (Y)-Axis	Vert. (Z)-Axis
22.36	29.02	35.47	243	N/A	N/A	N/A
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS				CODE: 2022 CBC		
S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	3.2	2.4	1.68	0.68
2.5	0					

Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT-2005-3 Generator 80kW (H.V. Indico IQ Generator) Series: Opera G800IQ

MANUFACTURER :	Communications & Power Industries Canada, Inc. (CPI) & GENERAL MEDICAL MERATE SpA (GMM)
IDENTIFICATION:	Part No.: VZW2558FD822-10 S/N: AMQ01955A20
DESCRIPTION:	Component of GE Healthcare Discovery RF180 System Mounting Plate is included in GMM Seismic Kit P/N 162321.
MOUNTING:	Rigid Base (Floor) mounted using (4) – M12 CLASS 8.8 bolts to interface frame.



DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Longit. (X)-Axis	Transv. (Y)-Axis	Vert. (Z)-Axis
20.08	16.14	41.73	201	11.57	17.69	9.57
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						CODE: 2022 CBC
S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	3.2	2.4	1.68	0.68
2.5	0					

Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.

UUT-2005-4 Manual Overhead Tube Suspension (OTS)

MANUFACTURER:	GENERAL MEDICAL MERATE SpA (GMM)
IDENTIFICATION:	Type No.: 5769324 S/N: 37500
DESCRIPTION:	Component of GE Healthcare Discovery RF180 System Telescoping tube extended with focal point 63" below support.
MOUNTING:	Ceiling mounted with (2) – 3/8" DIA SAE J429 GRADE 5 Hex Bolts w/ Unistrut P1008 channel nuts through a GMM mounting bracket to Unistrut P1001 support. Connection to Longitudinal Rail at mounting bracket made with (1) – M10x30 Class 8.8, screw cage, plain washer, and M10 nut. Typical each intersection of (2) Longitudinal rails spaced approx. 76.8" apart (out-to-out) and (6) – Unistrut P1001 supports spaced 27.6" apart. Each Unistrut P1001 supports spans perpendicular to longitudinal rails and is attached to HSS frame members spaced 40" max o.c. w/ (2) – 1/2" DIA SAE J429 Grade 8 bolts and Unistrut P1010 channel nuts.



DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Longit. (X)-Axis	Transv. (Y)-Axis	Vert. (Z)-Axis
118.5	173.6	49.2 – 116.1	735	N/A	N/A	N/A
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS						CODE: 2022 CBC
S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	3.2	2.4	1.68	0.68
2.5	0					

Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT-2005-5 Vertical Non-tilting Wall Stand, RIGHT opening w/ 3543 EZ DETECTOR

MANUFACTURER:	GENERAL MEDICAL MERATE SpA (GMM)
IDENTIFICATION:	Type No.: 5805017 S/N: 37569
DESCRIPTION:	Component of Discovery RF180 System <u>Includes detector:</u> Thales Wireless detector Pixium 3543 EZ - Option CMEDB 14.96" x 0.59" x 18.11", 6.6 [lb] Part No.: 63124836
MOUNTING:	<u>Wall/Floor mounted:</u> Wall attachment: GMM bracket at top with (2) – M6 Class 8.8 bolts to holes tapped in 3/8" THK x 6.3" W x 4" H steel plate welded to test frame. Floor Attachment: (4) – 1/2" DIA SAE J429 Grade 5 Bolts to interface.

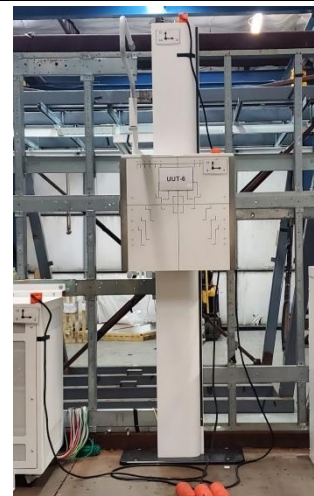


DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Longit. (X)-Axis	Transv. (Y)-Axis	Vert. (Z)-Axis
24.41	16.75	88.58	377	N/A	N/A	N/A
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS				CODE: 2022 CBC		
S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	3.2	2.4	1.68	0.68
2.5	0					

Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.

UUT-2005-6 Vertical Non-tilting Wall Stand, LEFT opening w/ 2430 EZ DETECTOR

MANUFACTURER:	GENERAL MEDICAL MERATE SpA (GMM)
IDENTIFICATION:	Type No.: 5805016 S/N: 37569
DESCRIPTION:	Component of Discovery RF180 System <u>Includes detector:</u> Thales Wireless detector Pixium 2430 EZ - Option CMND 10.43" x 0.59" x 12.8", 4.4 [lb] Part No.: 63125597
MOUNTING:	<u>Wall/Floor mounted:</u> Wall attachment: GMM bracket at top with (2) – M6 Class 8.8 bolts to holes tapped in 3/8" THK x 6.3" W x 4" H steel plate welded to test frame. Floor Attachment: (4) – 1/2" DIA SAE J429 Grade 5 Bolts to interface.



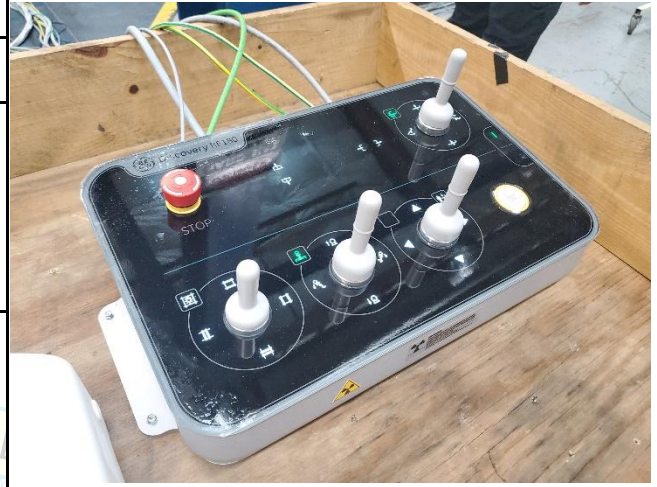
DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Longit. (X)-Axis	Transv. (Y)-Axis	Vert. (Z)-Axis
24.41	16.75	88.58	377	N/A	N/A	N/A
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS				CODE: 2022 CBC		
S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	3.2	2.4	1.68	0.68
2.5	0					

Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT-2005-7 Control Console (CLISIS EXEL DRF)**MANUFACTURER:** GENERAL MEDICAL MERATE SpA (GMM)**IDENTIFICATION:** Type No.: 5786779
S/N: 37384**DESCRIPTION:** Component of Discovery RF180 System

- Requires use of GMM Seismic Kit 162395.**MOUNTING:** Rigid Base (Countertop Attached) with
(4) – #10 x 3/4" SMS to 3/4" plywood.**DIMENSIONS (in.)**

Width	Depth	Height
17.32	10.63	7.48

Weight (lb.)
18

LOWEST RESONANT FREQUENCY (Hz.)

Longit. (X)-Axis	Transv. (Y)-Axis	Vert. (Z)-Axis
>50	>50	48.08

ICC-ES AC156 SHAKE TABLE TEST PARAMETERS

CODE: 2022 CBC

S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	3.2	2.4	1.68	0.68
2.5	0					

Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.

UUT-2005-8 RadiForce (23.0") Multitouch Color LCD Monitor w/ GMM Desk Mount Kit**MANUFACTURER:** EIZO / GMM**IDENTIFICATION:** Model No.: MS236WT
S/N: 24244099**DESCRIPTION:** Component of Discovery RF180 SystemIncludes Desk Mount Kit:
GMM Desk Mount Kit
Part No.: 162396**MOUNTING:** Rigid Base (Countertop Attached) with
(4) – #10 x 3/4" SMS to 3/4" plywood.**DIMENSIONS (in.)**

Width	Depth	Height
21.93	9.75	21.0

Weight (lb.)
22.5

LOWEST RESONANT FREQUENCY (Hz.)

Longit. (X)-Axis	Transv. (Y)-Axis	Vert. (Z)-Axis
4.32	7.45	11.75

ICC-ES AC156 SHAKE TABLE TEST PARAMETERS


CODE: 2022 CBC

S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0	1	1.5	3.2	2.4	1.68	0.68
2.5	0					

Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.

ATTACHMENT 2: TEST SPECIMEN SUMMARY

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UUT-2005-9 Monitor Extender Box						
MANUFACTURER GENERAL MEDICAL MERATE SpA (GMM)						
IDENTIFICATION: Type No.: O-D4000RF-PDT (EXT Box) S/N: N/A						
DESCRIPTION: Component of Discovery RF180 System						
MOUNTING: Rigid Base (Countertop Attached) with (2) – #10 x 3/4" SMS to 3/4" plywood.						
DIMENSIONS (in.)				LOWEST RESONANT FREQUENCY (Hz.)		
Width	Depth	Height	Weight (lb.)	Longit. (X)-Axis	Transv. (Y)-Axis	Vert. (Z)-Axis
8.25	9.75	5.5	3.5	>50	>50	14.86
ICC-ES AC156 SHAKE TABLE TEST PARAMETERS				CODE: 2022 CBC		
S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
2.0 2.5	1 0	1.5	3.2	2.4	1.68	0.68
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						