



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP – 0409 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: SIEMENS HEALTHCARE

Manufacturer's Technical Representative: Carri Catalano

Mailing Address: 51 Valley Stream Parkway, Malvern, PA 19355

Telephone: (888) 826-9702 Email: On File

Product Information

Product Name: LUMINOS AGILE MAX

Product Type: Radiography & Fluoroscopy medical imaging system

Product Model Number: See Attachment 1

(List all unique product identification numbers and/or part numbers)

General Description: Components of multiple-component Radiography & Fluoroscopy (R&F) medical imaging system. Seismic enhancements incorporated into the test units and enhancements required to address anomalies observed during the tests shall be incorporated into the certified units. Motorized transverse table motion in both vertical & horizontal positions is excluded from Special Seismic Certification

Mounting Description: See Attachment 1

Applicant Information

Applicant Company Name: EASE Co.

Contact Person: JONATHAN ROBERSON, S.E.

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

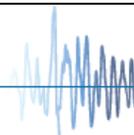
Telephone: (909) 606-7622 Email: j.roberson@easeco.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant:  Date: 9/02/14

Title: Principal Engineer Company Name: EASE LLC

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"



osHPD



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

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

Company Name: EASE LLC

Name: Jonathan Roberson, S.E. California License Number: S4197

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

Telephone: (909) 606-7622 Email: j.roberson@easeco.com

Supports and Attachments Preapproval

- Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____

Testing Laboratory

Company Name: Environmental Testing Laboratory, Inc.

Contact Name: Brady Richard

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

Telephone: (972) 247-9657 Email: brady@etldallas.com





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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: Yes No

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

S_{DS} (Design spectral response acceleration at short period, g) = See Attachment 1, Table 1

a_p (In-structure equipment or component amplification factor) = See Attachment 1, Table 1

R_p (Equipment or component response modification factor) = See Attachment 1, Table 1

Ω_0 (System overstrength factor) = See Attachment 1, Table 1

I_p (Importance factor) = **1.5**

z/h (Height factor ratio) = See Attachment 1, Table 1

Equipment or Component Natural Frequencies (Hz) = See Attachment 2

Overall dimensions and weight (or range thereof) = See Attachment 1, Table 1

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: Yes No

Design Basis of Equipment or Components (V/W) = _____

S_{DS} (Design spectral response acceleration at short period, g) = _____

S_{D1} (Design spectral response acceleration at 1 second period, g) = _____

R (Response modification coefficient) = _____

Ω_0 (System overstrength factor) = _____

C_d (Deflection amplification factor) = _____

I_p (Importance factor) = **1.5**

Height to Center of Gravity above base = _____

Equipment or Component Natural Frequencies (Hz) = _____

Overall dimensions and weight (or range thereof) = _____

Tank(s) designed in accordance with ASME BPVC, 2010: Yes No

List of Attachments Supporting Special Seismic Certification

Test Report(s) Drawings Calculations Manufacturer's Catalog

Other(s) (Please Specify): Attachments 1 & 2

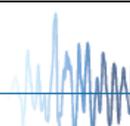
OSHDP Approval (For Office Use Only) – Approval Expires on December 31, 2019

Signature:  Date: March 27, 2015

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = See Above z/h = See Above

Condition of Approval (if applicable): _____



ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

TABLE 1:

System Manufacturer		SIEMENS HEALTHCARE													
System		LUMINOS AGILE MAX "SEISMIC EDITION"													
COMPONENT	MODEL NUMBER	APPROX. DIMENSIONS (IN.)			APPROX. WT (LB.)	MOUNT	BASIS ^[1]	F _p /W _p	S _{DS}	z/h	a _p	R _p	Ω ₀		
		W	D	H											
TABLE STANDS															
Luminos Agile MAX "Seismic Edition" w/:	10762200	82.7	87.5	77	3970 ^[2]	Floor	UUT-6A UUT-6B	2.40	2.0	1	1	1 ½	1 ½		
• Trixell MAX wi-D Portable Detector	10762402	18.3	15.1	0.3	7										
WALL STANDS															
Tilting Bucky Wall Stand (Right-sided Tray) w/:	10681704	30	28.1	82.9	643	Floor	UUT-2	2.40	2.0	1	1	1 ½	1 ½		
• Trixell MAX wi-D Portable Detector	10762402	18.3	15.1	0.3	7										
Tilting Bucky Wall Stand (Left-sided Tray) w/:	10681705	30	28.1	82.9	643	Floor	SAME ^[3]	2.40	2.0	1	1	1 ½	1 ½		
• Trixell MAX wi-D Portable Detector	10762402	18.3	15.1	0.3	7										
IMAGING SYSTEM															
Fluorospot Compact (FLC)	10762482	13.4	26	21.7	86	Floor	UUT-3	1.44	2.0	1	1	2 ½	2 ½		
GENERATOR CABINETS															
Polydoros F80-2 Generator Cabinet	10096925	31.5	17.25	86.5	826	Floor/Wall	UUT-9	1.44	2.0	1	1	2 ½	2 ½		
X-RAY TUBE SUSPENSIONS															
3D Stand Ysio Semi-motorized w/ 3m Transverse Track, Fully Synchronized	7042232	167	119	32 / 103 ^[4]	770	Ceiling	UUT-10	3.60	2.0	1	2 ½	2 ½	2 ½		
3D Stand Ysio Semi-motorized w/ 4m Transverse Track, Fully Synchronized	7042240	167	172	32 / 103 ^[4]	815	Ceiling	INT	3.60	2.0	1	2 ½	2 ½	2 ½		
3D Stand Ysio Fully-motorized w/ 4m Transverse Track, Fully Automated	7042224	167	172	32 / 103 ^[4]	890	Ceiling	UUT-11	3.60 1.56	2.0 2.6	1 0	2 ½	2 ½	2 ½		
MONITOR SUSPENSIONS															
Display Ceiling Suspension w/ TUI (2 Monitors)	10052164	167	27.9 / 55.1	63 / 102	440	Ceiling	UUT-8	3.60 1.56	2.0 2.6	1 0	2 ½	2 ½	2 ½		
Display Ceiling Suspension w/o TUI (2 monitors)	10094053	167	27.9 / 55.1	50 / 89	419	Ceiling	INT	3.60	2.0	1	2 ½	2 ½	2 ½		
Display Ceiling Suspension w/ TUI (1 Monitor)	10052163	168	27.9 / 55.1	63 / 102	419	Ceiling	INT	3.60	2.0	1	2 ½	2 ½	2 ½		

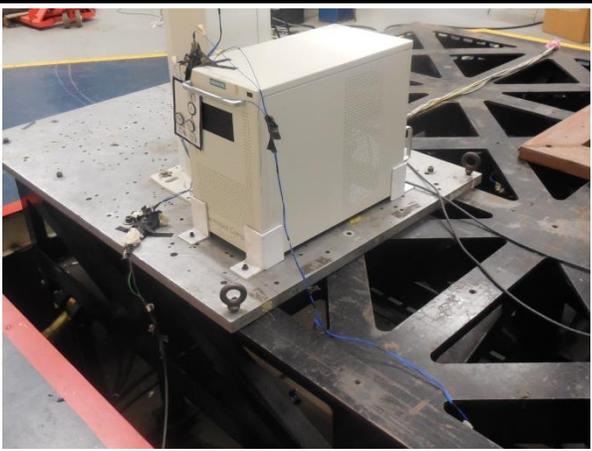
ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

TABLE 1:

<i>System Manufacturer</i>		SIEMENS HEALTHCARE													
<i>System</i>		LUMINOS AGILE MAX "SEISMIC EDITION"													
COMPONENT	MODEL NUMBER	APPROX. DIMENSIONS (IN.)			APPROX. WT (LB.)	MOUNT	BASIS ^[1]	F_P/W_P	S_{DS}	z/h	a_P	R_P	Ω₀		
		W	D	H											
Display Ceiling Suspension w/o TUI (1 Monitor)	10094052	168	27.9 / 55.1	50 / 89	397	Ceiling	UUT-12	3.60	2.0	1	2 ½	2 ½	2 ½		
MISC															
SCALANCE W700 WiFi Access Point	10860657	7.875	3.11	6.22	5.5	Wall	UUT-7	1.44	2.0	1	1	2 ½	2 ½		
<i>Mount</i>	<p><u>Floor (Rigid Base)</u>: free-standing, base-mounted condition with the component rigidly attached to a supporting structure and no lateral support above the base.</p> <p><u>Floor/Wall</u>: free-standing, base-mounted condition with the component rigidly attached to a supporting structure and additional lateral support at the top to an adjacent wall.</p> <p><u>Wall Mounted</u>: refers to a condition where the unit is fully supported a building wall or partition.</p> <p><u>Ceiling Suspended</u>: refers to a condition where the unit is anchored to and suspended from a framing system at or slightly above the ceiling line of the room.</p>														
<i>Notes</i>	<ol style="list-style-type: none"> 1. BASIS: <ul style="list-style-type: none"> • UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. • SAME: Model is physically, mechanically & electrically the same as test specimen. Difference is limited to model number, color and/or software. • INT (Interpolated or Extrapolated): indicates a model that was not specifically tested, and by which seismic certification is established through evaluation of testing of other, similar models in the product line. 2. Weight of Luminos Agile Max Table does not include 400 lb. patient load present during testing. 3. Model is mirror image of tested model, with bucky tray access on opposite side of unit. 4. Measured to Focal Point. 														

ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT- 2 TILTING BUCKY WALL STAND										
MANUFACTURER:		Siemens Healthcare								
IDENTIFICATION:		Model No.: 10681704								
DESCRIPTION:		Component of the Luminos Agile Max system, "Seismic Edition".								
MOUNTING:		Rigid Base (Floor) Mounted using (4) – 5/8" dia GR 8 hex head bolts with washers to aluminum interface plate.								
PROPERTIES:										
DIMENSIONS (in.)					Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height				Side-Axis	Front-Axis	Vertical-Axis		
30	28.1	82.9			643	9.1	11.7	9.1		
SHAKE TABLE TEST PARAMETERS										
Code	Test Criteria	S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)		
CBC 2013	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54		
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test										

UUT- 3 FLUOROSPOT COMPACT (FLC)										
MANUFACTURER:		Siemens Healthcare								
IDENTIFICATION:		Model No.: 10762482								
DESCRIPTION:		Component of the Luminos Agile Max system, "Seismic Edition".								
MOUNTING:		Rigid Base (Floor) Mounted using (4) – 3/8" dia GR 8 Allen head cap bolts to aluminum interface plate.								
PROPERTIES:										
DIMENSIONS (in.)					Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height				Side-Axis	Front-Axis	Vertical-Axis		
13.4	26	21.7			86	48.7	42.3	>50		
SHAKE TABLE TEST PARAMETERS										
Code	Test Criteria	S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)		
CBC 2013	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54		
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test										

ATTACHMENT 2: TEST SPECIMEN SUMMARY

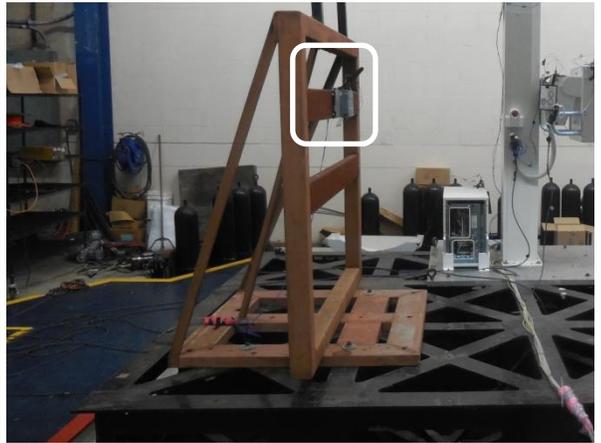
UUT- 6A		LUMINOS AGILE MAX TABLE						
MANUFACTURER:	Siemens Healthcare							
IDENTIFICATION:	Model No.: 10762200							
DESCRIPTION:	Component of the Luminos Agile Max system, "Seismic Edition".							
MOUNTING:	Rigid Base (Floor) Mounted using (12) – 3/4" dia GR 8 hex head bolts to interface plate.							
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		Side-Axis	Front-Axis	Vertical-Axis		
82.7	87.5	77	3970 + 400 Patient	3.2	3.6	3.3		
SHAKE TABLE TEST PARAMETERS								
Code	Test Criteria	S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
CBC 2013	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								



UUT- 6B		LUMINOS AGILE MAX TABLE						
MANUFACTURER:	Siemens Healthcare							
IDENTIFICATION:	Model No.: 10762200							
DESCRIPTION:	Component of the Luminos Agile Max system, "Seismic Edition".							
MOUNTING:	Rigid Base (Floor) Mounted using (12) – 3/4" dia GR 8 hex head bolts to interface plate.							
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		Side-Axis	Front-Axis	Vertical-Axis		
82.7	87.5	77	3970	3.5	4.6	3.9		
SHAKE TABLE TEST PARAMETERS								
Code	Test Criteria	S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
CBC 2013	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								

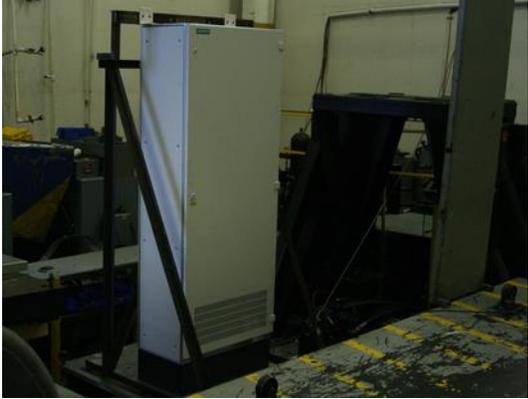


ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT- 7 WIRELESS DETECTOR WAY POINT								
MANUFACTURER:	Siemens							
IDENTIFICATION:	Model No.: SCALANCE W700							
DESCRIPTION:	Component of the Luminos Agile Max system, "Seismic Edition".							
MOUNTING:	Rigid Wall Mounted using (4) – #12 S.M.S. w/ washers to steel interface frame.							
								
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		Side-Axis	Front-Axis	Vertical-Axis		
7.875	3.11	6.22	5.5	N/A	N/A	N/A		
SHAKE TABLE TEST PARAMETERS								
Code	Test Criteria	S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
CBC 2013	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								

UUT- 8 Display Ceiling Suspension w/ TUI (2 Monitors)								
MANUFACTURER:	Mavig							
IDENTIFICATION:	Model No.: 10052164							
DESCRIPTION:	Component of the Luminos Agile Max system, "Seismic Edition". Dual LCD monitors with Touch User Interface (TUI)							
MOUNTING:	Ceiling Suspended using (20)-M10 bolts to ETL interface frame.							
NOTES:	Weight does not include mounting hardware or power/data cabling.							
								
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		Side-Axis	Front-Axis	Vertical-Axis		
167	27.9 / 55.1	63 / 102	393	N/A	N/A	N/A		
SHAKE TABLE TEST PARAMETERS								
Code	Test Criteria	S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
CBC 2013	ICC-ES AC156	2.0	1	1.5	3.2	2.40	1.34	0.54
		2.6	0	1.5	2.6	1.04	1.74	0.70
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								

ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT- 9 Polydoros F80 Generator Cabinet								
MANUFACTURER:	Siemens Healthcare							
IDENTIFICATION:	KMAT: 7738680							
DESCRIPTION:	Component of the Luminos dRF System							
MOUNTING:	Rigid Wall/Floor Mounted using (4) – ¼” dia. HWH SMS to wall & (2) – 3/8” dia. Allen head cap screws to aluminum interface plate.							
								
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		Side-Axis	Front-Axis	Vertical-Axis		
31.5	17.25	86.5	826	11.8	10.1	31.0		
SHAKE TABLE TEST PARAMETERS								
Code	Test Criteria	S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
CBC 2013	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								

UUT- 10 X-Ray Tube Stand with 3-meter Transverse Track, Fully Synchronized								
MANUFACTURER:	Siemens Healthcare							
IDENTIFICATION:	Model No. 7042232							
DESCRIPTION:	Component of the Luminos dRF System 3D Stand Ysio semi-motorized 3m: 7042232 Carriage 3D V 3m semi 7043578 Tube stand 3D V semi-motorized 7042034 Collimator AL02 II -D 10092609 Optitop 150/40/80HC-100 3345209							
MOUNTING:	Ceiling Suspended using (2) – M10 bolts @ (5) locations along each longitudinal rail to Unistrut P1000 supports. (20 bolts total)							
NOTES:	Weight and width parameters documented below represent length of longitudinal rails cut to fit within test frame. Discrepancies between other published and measured dimensions are due to differences in selected points of reference.							
								
PROPERTIES:								
DIMENSIONS (in.)			Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)				
Width	Depth	Height		Side-Axis	Front-Axis	Vertical-Axis		
120	126	106	754	N/A	N/A	N/A		
SHAKE TABLE TEST PARAMETERS								
Code	Test Criteria	S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
CBC 2013	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test.								

ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT- 11 X-Ray Tube Stand with 4-meter Transverse Track, Fully Automated								
MANUFACTURER: Siemens Healthcare								
IDENTIFICATION: Model No.: 7042224								
DESCRIPTION: Component of the Ysio System								
3D Stand Ysio Fully-motorized 4m: 7042224								
Carriage 3D V 4m fully 7042349								
Tube stand 3D V fully-automated 7042018								
Collimator AL02 II -D 10092609								
Optitop 150/40/80HC-100 3345209								
MOUNTING: Ceiling Suspended using (2) – M10 bolts @ (5) locations along each longitudinal rail to Unistrut P1000 supports. (20 bolts total).								
NOTES: Listed width excludes length of longitudinal rails. Height is measured B.O. transverse rail to B.O. Collimator								
PROPERTIES:								
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height			Side-Axis	Front-Axis	Vertical-Axis	
24.0	172.5	50		887.5	N/A	N/A	N/A	
SHAKE TABLE TEST PARAMETERS								
Code	Test Criteria	S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
CBC 2013	ICC-ES AC156	2.0	1	1.5	3.2	2.40	1.34	0.54
		2.6	0	1.5	2.6	1.04	1.74	0.70
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								

UUT- 12 Display Ceiling Suspension w/ (1) monitor (DCS-1)								
MANUFACTURER: Siemens Healthcare								
IDENTIFICATION: Model No.: 10094052								
DESCRIPTION: Component of the Luminos dRF System								
MOUNTING: Ceiling Suspended using (2) – M10 bolts each rail, ea. of (5) Unistrut P1000 supports.								
NOTES: Weight represents length of longitudinal rails cut to fit within test frame and does not include weight of cables and mounting hardware.								
PROPERTIES:								
DIMENSIONS (in.)				Weight (lb.)	LOWEST RESONANT FREQUENCY (Hz.)			
Width	Depth	Height			Side-Axis	Front-Axis	Vertical-Axis	
168	28	50 / 89		290	N/A	N/A	N/A	
SHAKE TABLE TEST PARAMETERS								
Code	Test Criteria	S _{DS} (G)	z/h	I _p	A _{FLX-H} (G)	A _{RIG-H} (G)	A _{FLX-V} (G)	A _{RIG-V} (G)
CBC 2013	ICC-ES AC156	2.0	1.0	1.5	3.2	2.4	1.34	0.54
Unit maintained structural integrity and functionality after the ICC-ES AC 156 test								