



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

**APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)**

OFFICE USE ONLY

APPLICATION #: OSP-0524

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Xtralis (a division of Honeywell)

Manufacturer's Technical Representative: Matthew Brewer

Mailing Address: 12 Clintonville Rd, Northford, CT 06472

Telephone: (385) 414-9325

Email: Matthew.Brewer@Honeywell.com

Product Information

Product Name: Electrical Control Panels on Life Safety/Critical Branch

Product Type: Fire Protection & Security Panels

Product Model Number: See Attachment

General Description: Enclosures contain tubing, batteries, circuit board, sample points, rotary valve assembly, pump assembly, smoke sensor assembly, volumetric chamber assembly and fire panel module tray

Mounting Description: Rigid wall mounted or flexible wall mounted

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: Dynamic Certification Laboratories

Contact Person: Kelly Laplace

Mailing Address: 1315 Greg Parkway #109, Sparks, NV 89431

Telephone: (775) 358-5085

Email: Kelly@shaketest.com

Title: Business Manager





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

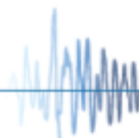
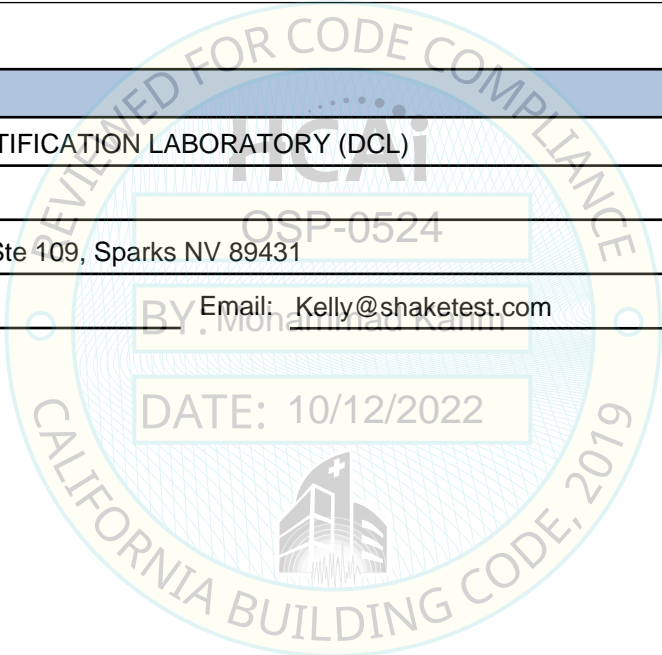
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

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

Testing Laboratory

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)
Contact Person: Kelly Laplace
Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431
Telephone: (775) 358-5085 Email: Kelly@shaketest.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.88

SDS (Design spectral response acceleration at short period, g) = 2.5

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6.0

Ω_0 (System overstrength factor) = 1.5

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

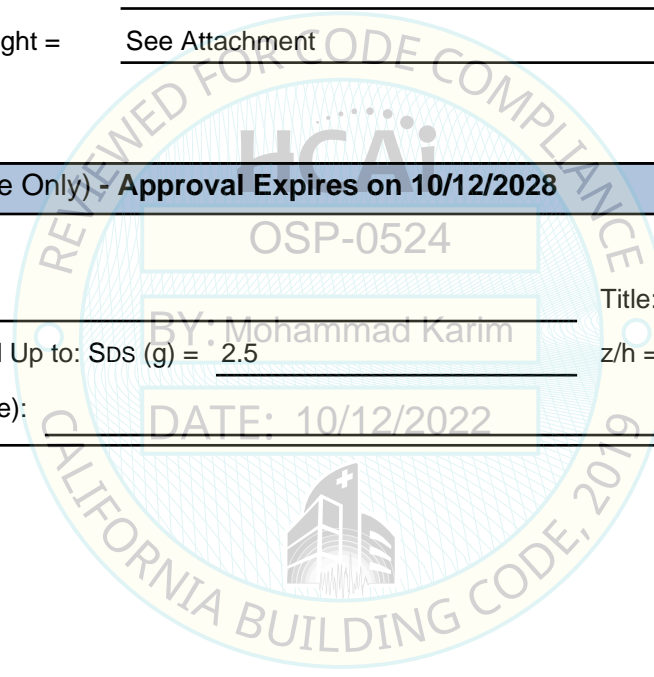
HCAI Approval (For Office Use Only) - Approval Expires on 10/12/2028

Date: 10/12/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.5 z/h = 1

Condition of Approval (if applicable): DATE: 10/12/2022



Special Seismic Certification

Table 1 - Certified Components - Aspirated Detector Units



DCL Project Number: 91922-2201

Manufacturer: Xtralis

Product Line: Aspirated Detector Units

Mounting Configuration: Rigid and Flexible Wall Mount

Test Levels: $S_{DS} = 2.50g$, $z/h=1.0$

Model Number	Manufacturer	Max. Dimensions (in)			Max. Weight (lb.)	Unit
		Depth	Width	Height		
VER-A40-40-STX	Xtralis	5.30	13.90	13.40	12	UUT2a,b
VEA-040-STX		5.20	13.90	13.20	21	UUT4a,b
VEA-040-A00		5.33	13.90	13.20	22	UUT3a,b
VEA-040-A10		5.33	13.90	13.20	23	UUT1a,b

Special Seismic Certification

Table 2 - Certified Components - Battery Backed Power Supplies

DCL Project Number: 91922-2201

Manufacturer: Xtralis

Product Line: Battery Backed Power Supplies

Mounting Configuration: Rigid and Flexible Wall Mount

Test Levels: $S_{DS} = 2.50g$, $z/h=1.0$

Model Number	Manufacturer	Max. Dimensions (in)			Max. Weight (lb.)	Unit
		Depth	Width	Height		
VPS-VEA-115UL-1	Xtralis	5.75	17.50	13.25	60	UUT5a,b
VPS-VEA-115UL-2		5.75	20.00	13.25	62	UUT6a,b

Special Seismic Certification

Table 3 - Certified Subcomponents - Aspirated Detector Units - Enclosures



DCL Project Number: 91922-2201

Certified seismic level : $S_{DS} = 2.50g, z/h=1.0$

Model Number	Manufacturer	Material	Nema Rating	Dimensions (inches)			Max. Loaded Weight (lb)	Unit
				Depth	Width	Height		
LF46415	Xtralis	Aluminum, polycarbonate and ABS plastic	1	5.30	13.90	13.40	12	UUT2a,b
LF46414				5.20	13.90	13.20	21	UUT4a,b
LF46412				5.33	13.90	13.20	22	UUT3a,b
LF46413				5.33	13.90	13.20	23	UUT1a,b

Special Seismic Certification

Table 4 - Certified Subcomponents - Aspirated Detector Units - Tubing

DCL Project Number: 91922-2201

Certified seismic level : $S_{DS} = 2.50g, z/h=1.0$

Model Number	Manufacturer	Material	Description	Unit
Driscoplex 2500	Performance Pipe	Polyethylene	4mm Tube	UUT1,3,4 a,b
Driscoplex 2600			6mm Tube	UUT1,3,4 a,b

Special Seismic Certification

Table 5 - Certified Subcomponents - Aspirated Detector Units - Sample Points

DCL Project Number: 91922-2201

Certified seismic level : $S_{DS} = 2.50g, z/h=1.0$

Model Number	Manufacturer	Material	Description	Unit
VSP-98x-W/Byy*	Xtralis	Nylon	See below	UUT1,3,4 a,b
VSP-98x-W/Byy**				UUT1,3,4 a,b

* x=0,1 for 4mm and 6mm version, W=White or B=Black, yy=none for single and 22 = pack of 22

** x=2,3 for 4mm and 6mm surface mount version, W=White or B=Black, yy=none for single and 22 = pack of 22

Special Seismic Certification

Table 6 - Certified Subcomponents - Aspirated Detector Units - Other Subcomponents

DCL Project Number: 91922-2201

Certified seismic level : $S_{DS} = 2.50g, z/h=1.0$

Model Number	Manufacturer	Material	Unit
Rotary Valve Assembly	Xtralis	Poly Carbonate	UUT1,3,4 a,b
Pump Assembly	Xtralis	EPDM, Polybutylene terephthalate (PBT), steel galvanized	UUT1,3,4 a,b
Smoke Sensor Assembly	Xtralis	Polycarbonate	UUT1,3,4 a,b
Volumetric Chamber Assembly	Xtralis	Polycarbonate	UUT1,3,4 a,b
Firepanel Module Tray	Xtralis	Polycarbonate	UUT2 a,b

Special Seismic Certification

Table 7 - Certified Subcomponents - Battery Backed Power Supplies - Enclosures



DCL Project Number: 91922-2201

Certified seismic level : $S_{DS} = 2.50g, z/h=1.0$

Model Number	Manufacturer	Material	Nema Rating	Dimensions (inches)			Max. Loaded Weight (lb)	Unit
				Depth	Width	Height		
ZCAB-VPS-VEA-1	Altronix	Galvanized carbon steel enclosure	1	5.75	17.50	13.25	60	UUT5a,b
ZCAB-VPS-VEA-2				5.75	20.00	13.25	62	UUT6a,b

Special Seismic Certification

Table 8 - Certified Subcomponents - Battery Backed Power Supplies - Batteries

DCL Project Number: 91922-2201

Certified seismic level : $S_{DS} = 2.50g, z/h=1.0$

Model Number	Manufacturer	Material	Description	Unit
SP12-35	Sigmas Tek	Sealed Lead-Acid	12V battery	UUT5 a,b
PS-12350 NB	Power Sonic	Sealed Lead-Acid	12V battery	UUT6 a,b

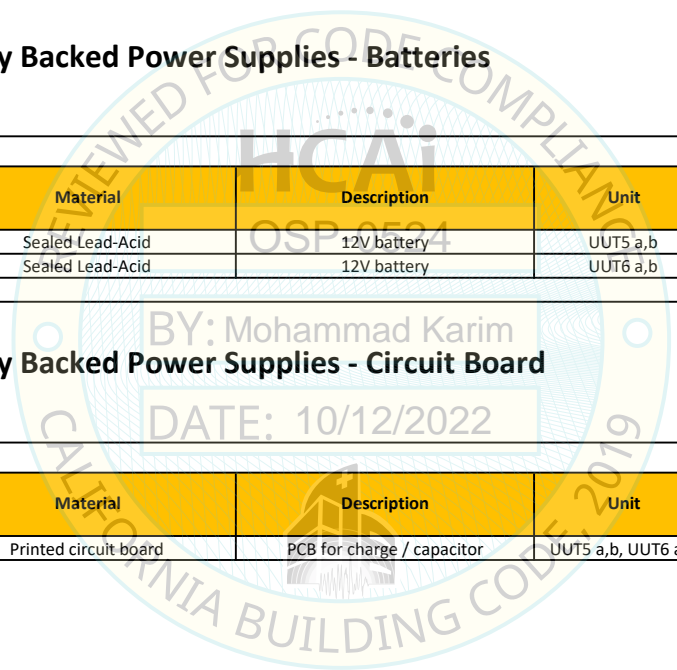
Special Seismic Certification

Table 9 - Certified Subcomponents - Battery Backed Power Supplies - Circuit Board

DCL Project Number: 91922-2201

Certified seismic level : $S_{DS} = 2.50g, z/h=1.0$

Model Number	Manufacturer	Material	Description	Unit
VEA24PS230	Altronix Corp.	Printed circuit board	PCB for charge / capacitor	UUT5 a,b, UUT6 a,b



Special Seismic Certification
Table 10 - Tested Units



DCL Project Number: 91922-2201

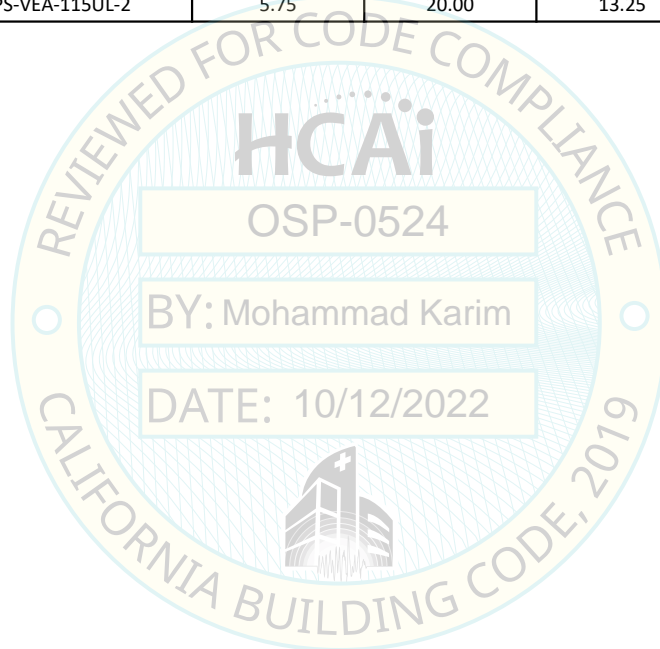
Manufacturer: Xtralis

Product Line: Aspirated Detector Units and Battery Backed Power Supplies

Mounting Configuration: Rigid and Flexible Wall Mount

Test Levels: $S_{DS} = 2.50g$, $z/h=1.0$

Product Line:	Model Number	Dimensions (in)			Max. Operating Weight (lb)	Unit
		Depth	Width	Height		
Aspirated Dectector Units	VER-A40-40-STX	5.30	13.90	13.40	12	UUT2a,b
	VEA-040-STX	5.20	13.90	13.20	21	UUT4a,b
	VEA-040-A00	5.33	13.90	13.20	22	UUT3a,b
	VEA-040-A10	5.33	13.90	13.20	23	UUT1a,b
Battery Backed Power Supplies	VPS-VEA-115UL-1	5.75	17.50	13.25	60	UUT5a,b
	VPS-VEA-115UL-2	5.75	20.00	13.25	62	UUT6a,b



UUT1a,b UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 91922-2201

Manufacturer: Xtralis

Product Line: Aspirated detector units

Model Number: VEA-040-A10

Product Construction Summary:

Aluminum, polycarbonate and ABS plastic enclosure, NEMA 1

Options / Component Summary:

Tubing, sample points, rotary valve assembly, pump assembly, smoke sensor assembly, volumetric chamber assembly

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

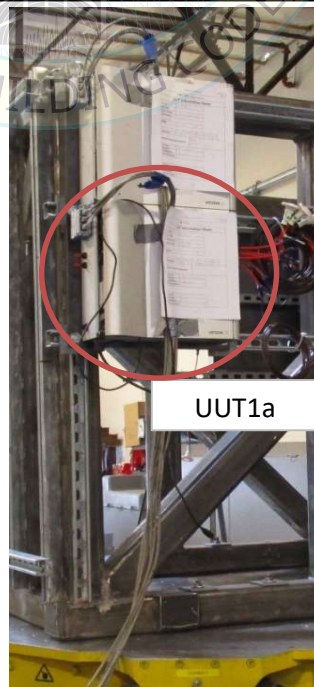
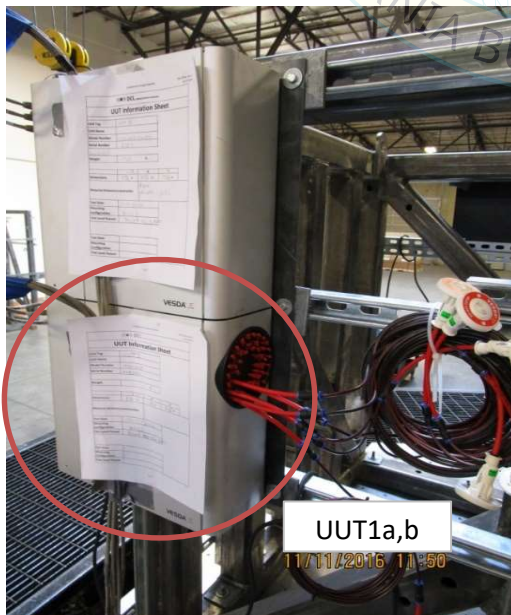
Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
23	5.33	13.90	13.20	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

UUT1a,b was attached to the shake table interface fixture with six 1032 screws with nylon nuts. For UUT1a, the fixture was bolted directly to the shake table. For UUT1b, the fixture was attached to the shake table with spring isolators.



UUT2a,b UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 91922-2201

Manufacturer: Xtralis

Product Line: Aspirated detector units

Model Number: VER-A40-40-STX

Product Construction Summary:

Aluminum, polycarbonate and ABS plastic enclosure, NEMA 1

Options / Component Summary:

Firepanel module tray

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

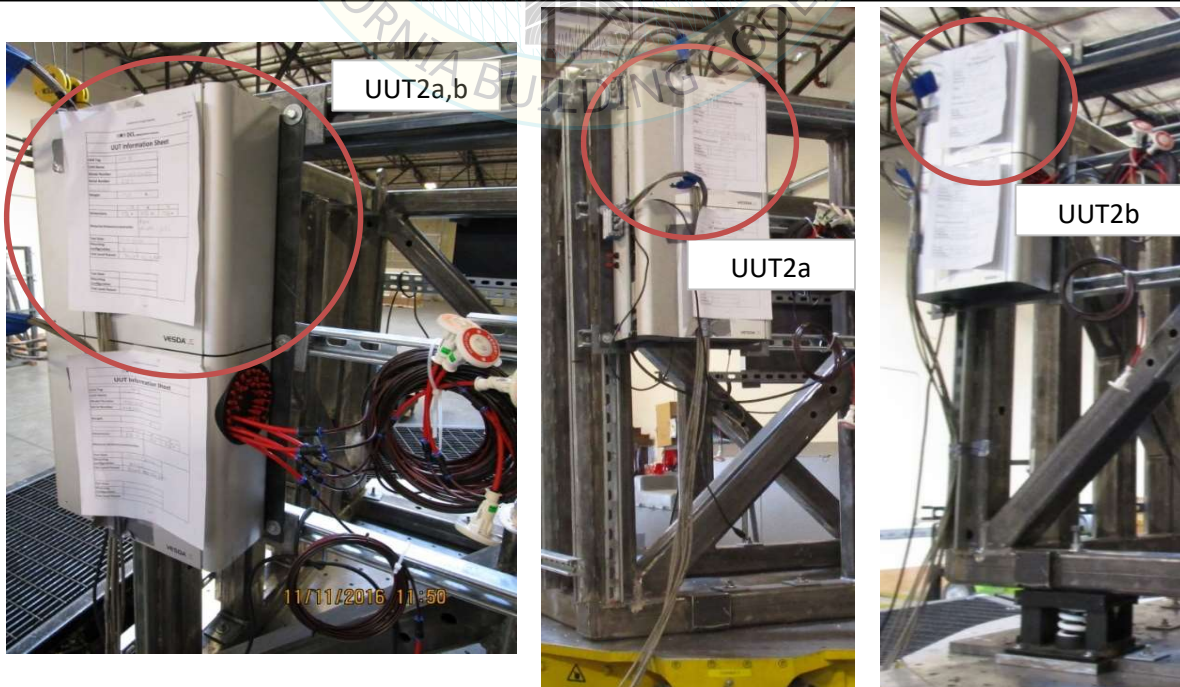
Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
12	5.30	13.90	13.40	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

UUT2a,b was attached to the shake table interface fixture with six 1032 screws with nylon nuts. For UUT2a, the fixture was bolted directly to the shake table. For UUT2b, the fixture was attached to the shake table with spring isolators.



UUT3a,b UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 91922-2201

Manufacturer: Xtralis

Product Line: Aspirated detector units

Model Number: VEA-040-A00

Product Construction Summary:

Aluminum, polycarbonate and ABS plastic enclosure, NEMA 1

Options / Component Summary:

Tubing, sample points, rotary valve assembly, pump assembly, smoke sensor assembly, volumetric chamber assembly

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

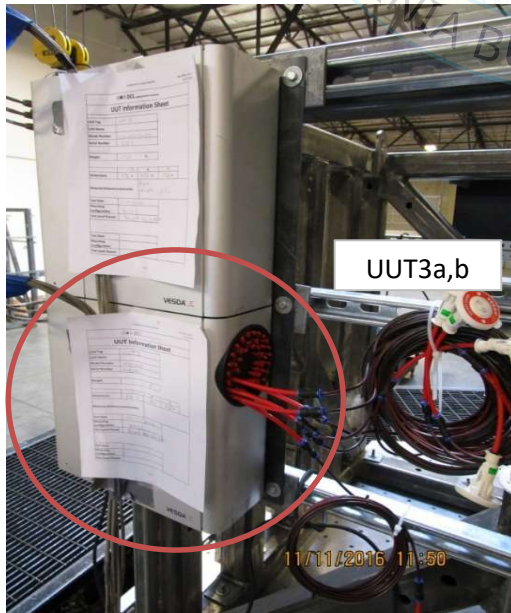
Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
22	5.33	13.90	13.20	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

UUT3a,b was attached to the shake table interface fixture with six 1032 screws with nylon nuts. For UUT3a, the fixture was bolted directly to the shake table. For UUT3b, the fixture was attached to the shake table with spring isolators.



UUT4a,b UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 91922-2201

Manufacturer: Xtralis

Product Line: Aspirated detector units

Model Number: VEA-040-STX

Product Construction Summary:

Aluminum, polycarbonate and ABS plastic enclosure, NEMA 1

Options / Component Summary:

Tubing, sample points, rotary valve assembly, pump assembly, smoke sensor assembly, volumetric chamber assembly

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

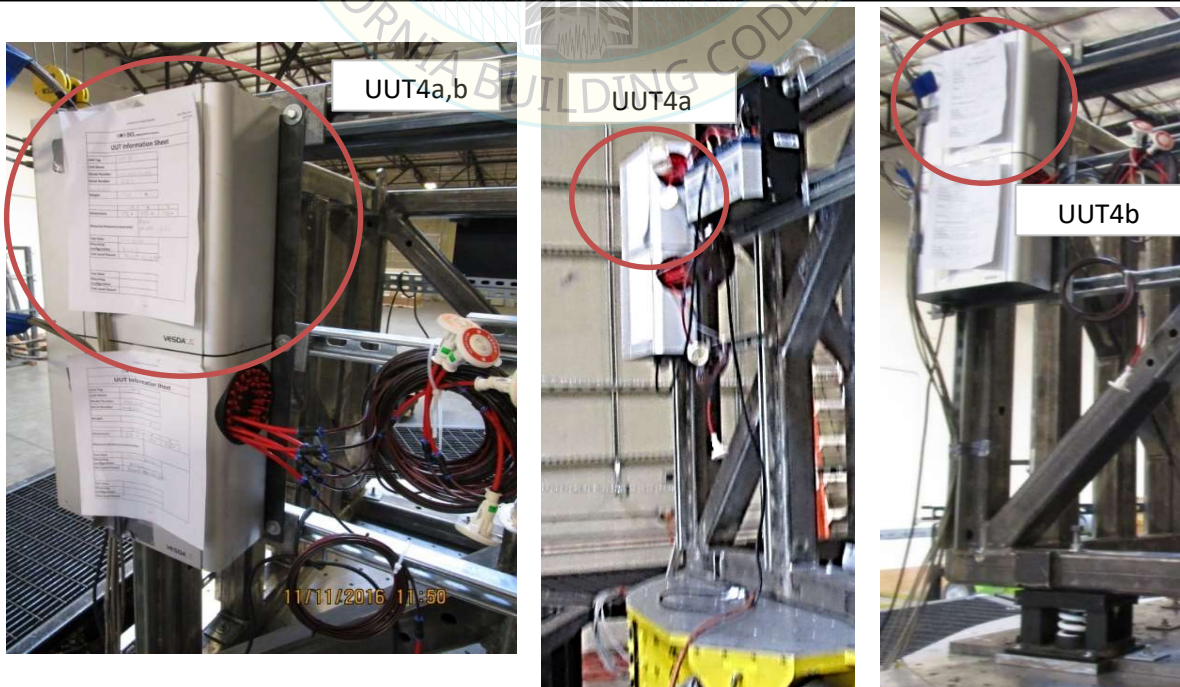
Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
21	5.20	13.90	13.20	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

UUT4a,b was attached to the shake table interface fixture with six 1032 screws with nylon nuts. For UUT4a, the fixture was bolted directly to the shake table. For UUT4b, the fixture was attached to the shake table with spring isolators.



UUT5a,b UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 91922-2201

Manufacturer: Xtralis

Product Line: Battery backed power supplies

Model Number: VPS-VEA-115UL-1

Product Construction Summary:
Galvanized carbon steel enclosure

Options / Component Summary:
12V batteries and circuit board

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

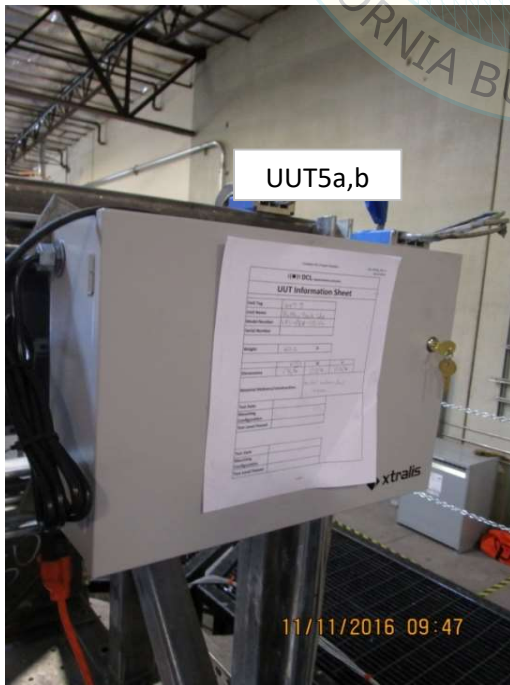
Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
60	5.75	17.50	13.25	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

UUT5a,b was attached to the shake table interface fixture with four 1/4" diameter Grade 5 bolts. For UUT5a, the fixture was bolted directly to the shake table. For UUT5b, the fixture was attached to the shake table with spring isolators.



UUT6a,b UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 91922-2201

Manufacturer: Xtralis

Product Line: Battery backed power supplies

Model Number: VPS-VEA-115UL-2

Product Construction Summary:
Galvanized carbon steel enclosure

Options / Component Summary:
12V batteries and circuit board

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
62	5.75	20.00	13.25	N/A	N/A	N/A

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	1.67	0.67

Unit Mounting Description:

UUT6a,b was attached to the shake table interface fixture with four 1/4" diameter Grade 5 bolts. For UUT6a, the fixture was bolted directly to the shake table. For UUT6b, the fixture was attached to the shake table with spring isolators.



UUT6a,b



Rigid fixture mounting for UUT6a



Flexible fixture mounting for UUT6b