



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

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

OFFICE USE ONLY

APPLICATION #: OSP-0749

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: NXT Power

Manufacturer's Technical Representative: Cherian Jose

Mailing Address: 7051 W. Wilson Ave, Norridge, IL 60706

Telephone: (312) 310-0894

Email: cherian.jose@nxtpower.com

Product Information

Product Name: UPS and Batteries

Product Type: UPS

Product Model Number: See Attachment

General Description: Uninterruptible Power Supply, 120VAC 50/60Hz, with isolation transformer and internal batteries.

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: Dynamic Certification Laboratories

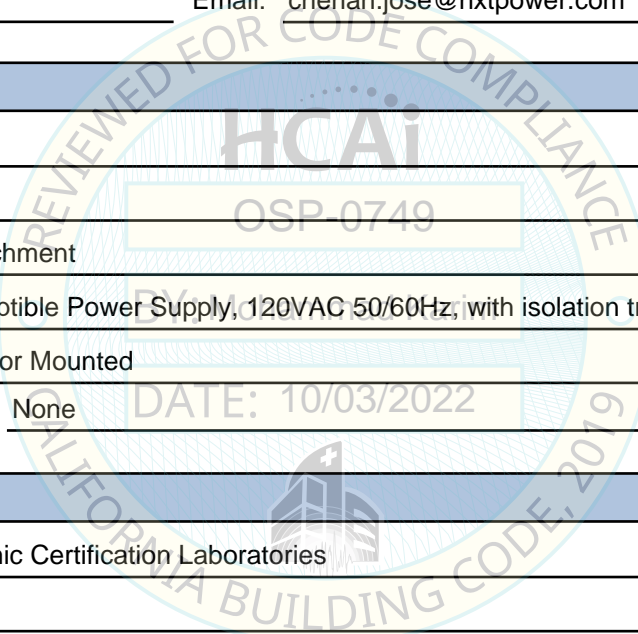
Contact Person: Kelly Laplace

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

Telephone: (775) 358-5085

Email: kelly@shaketest.com

Title: Business Manager





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

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

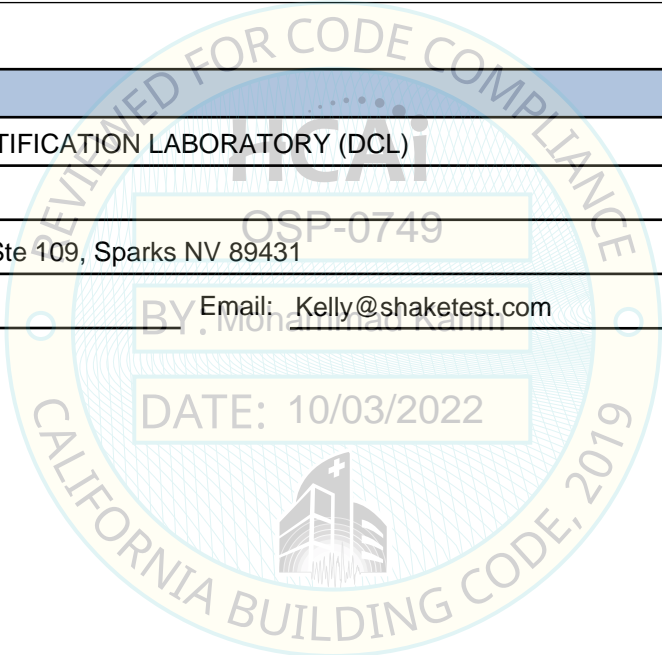
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

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





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

Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.44 (Sds 2.0g, z/h=1); 1.13 (Sds 2.5g, z/h=0)

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

a_p (Amplification factor) = 1.0

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

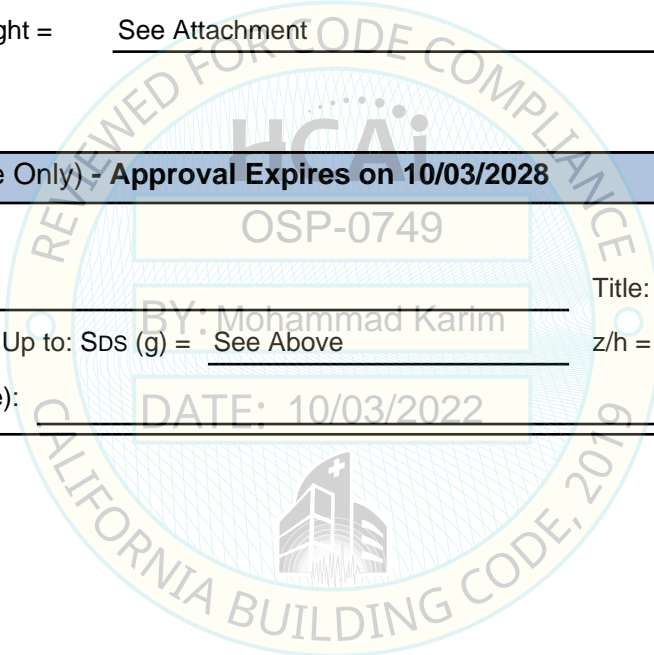
I_p (Importance factor) = 1.5

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

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 10/03/2028			
Date:	<u>10/3/2022</u>	OSP-0749	
Name:	<u>Mohammad Karim</u>	BY: Mohammad Karim	Title: <u>Supervisor, Health Facilities</u>
Special Seismic Certification Valid Up to:	SDS (g) = <u>See Above</u>		z/h = <u>See Above</u>
Condition of Approval (if applicable):	<u>DATE: 10/03/2022</u>		



Special Seismic Certification
Table 1 - Certified Components



DCL Project Number: 02401-2201

Certified Seismic Level: Sds=2.0, z/h=1.0; Sds=2.5, z/h=0.0

Product Type: Uninterruptable Power Supply (UPS)

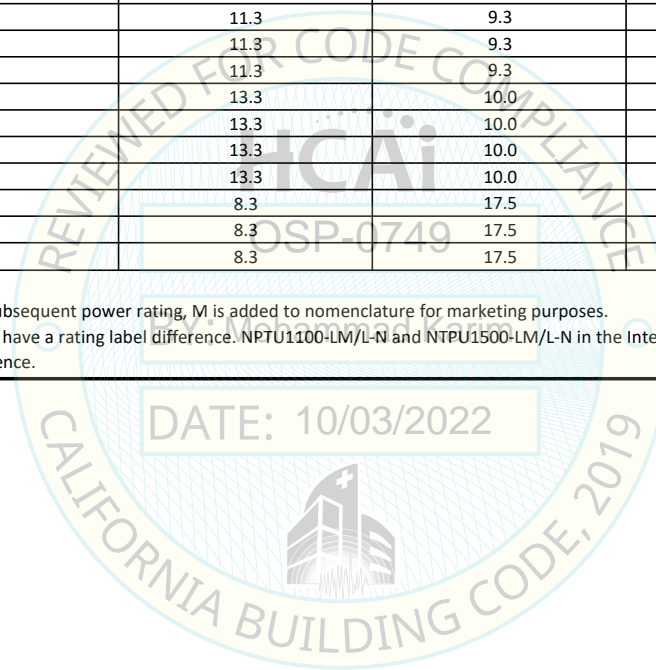
Product Line: Integrity Pro, Integrity Max R/T

Mounting Description: Rigid Base Mount with Cam Straps or Metal Band

Type	Model Number	Max. Dimensions (in)			Max. Weight (lb)	Mounting	Unit
		Depth	Width	Height			
Integrity Pro ^{1,2}	NPTU600-LM-N	17.9	11.3	9.3	56	Rigid Base Mount with Cam Straps	Same as UUT-01
	NPTU600-L-N	17.9	11.3	9.3	56		Same as UUT-01
	NPTU800-LM-N	17.9	11.3	9.3	56		Same as UUT-01
	NPTU800-L-N	17.9	11.3	9.3	56		UUT-01
	NPTU1100-LM-N	20.9	13.3	10.0	96		Same as UUT-02
	NPTU1100-L-N	20.9	13.3	10.0	96		Same as UUT-02
	NPTU1500-LM-N	20.9	13.3	10.0	96		Same as UUT-02
	NPTU1500-L-N	20.9	13.3	10.0	96		UUT-02
Integrity Max R/T ³	NPTU800-OR-N	27.5	8.3	17.5	80	Rigid Base Mount with Metal Band	Same as UUT-03
	NPTU1100-OR-N	27.5	8.3	17.5	80		Same as UUT-03
	NPTU1500-OR-N	27.5	8.3	17.5	80		UUT-03

Notes:

- LM and L products are equivalent in the Integrity Pro line for their subsequent power rating, M is added to nomenclature for marketing purposes.
- NPTU600-LM/L-N and NPTU800-LM/L-N in the Integrity Pro line only have a rating label difference. NPTU1100-LM/L-N and NPTU1500-LM/L-N in the Integrity Pro line only have a rating label difference.
- The units in the Integrity Max R/T line only have a rating label difference.



Special Seismic Certification
Table 2 - Certified Options - Nomenclature Chart

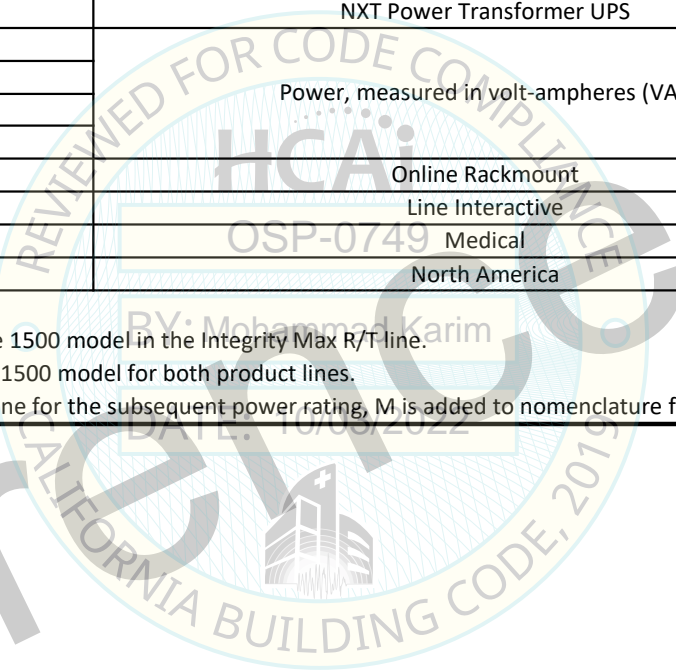


DCL Project Number: 02401-2201
Certified Seismic Level: Sds=2.0, z/h=1.0; Sds=2.5, z/h=0.0
Product Type: Uninterruptable Power Supply (UPS)
Product Line: Integrity Pro, Integrity Max R/T

Example Model Number: ABCD-XXXX-EF/E-G

Example Value	Allowable Values	Definition	Unit
ABCD	NPTU	NXT Power Transformer UPS	UUT-01, UUT-02, UUT-03
XXXX ^{1,2}	600	Power, measured in volt-amperes (VA)	Same as UUT-01
	800		UUT-01
	1100		Same as UUT-02 or UUT-03
	1500		UUT-02, UUT-03
EF ³	OR	Online Rackmount	UUT-03
	L	Line Interactive	UUT-01, UUT-02
	M	Medical	Same as UUT-01 and UUT-02
G	N	North America	UUT-01, UUT-02, UUT-03

Notes:
 1. Model with XXXX value of 800 is only equivalent to the 1500 model in the Integrity Max R/T line.
 2. Models with XXXX value of 1100 are equivalent to the 1500 model for both product lines.
 3. LM and L products are equivalent in the Integrity Pro line for the subsequent power rating, M is added to nomenclature for marketing purposes.



Refer

Special Seismic Certification



Table 3 - Certified Subcomponents - Integrity Pro Line

DCL Project Number: 02401-2201

Certified Seismic Level: Sds=2.0, z/h=1.0; Sds=2.5, z/h=0.0

Product Type: Uninterruptable Power Supply (UPS)

Product Line: Integrity Pro

Mounting Description: Rigid Base Mount with Cam Straps

Enclosures					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
NPTU800-L-N-ENC	Ablerex	16.7" L x 7.1" W x 9.3" H, NEMA 1	Carbon Steel	10.7	UUT-01
NPTU1500-L-N-ENC	Ablerex	19.7" L x 8.7" W x 9.8" H, NEMA 1	Carbon Steel	13.9	UUT-02
Boards					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
800 PRO Power PCBA	Ablerex	Main power 390 x 150 x 2.0 mm	94-V0 Fiberglass	1.8	UUT-01
1500 PRO Power PCBA	Ablerex	Main power PCBA	94-V0 Fiberglass	2.1	UUT-02
Fans					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
DFB802512H	Suzhou Kingmot	80 x 25 mm	Plastic, Copper, Lamination Steel	<0.1	UUT-01
YDH8025B12	Shenzhen YCC Fan	80 x 25 mm	Plastic, Copper, Lamination Steel	<0.1	UUT-02
DFS602012M	YoungLin	60 x 20 mm	Plastic, Copper, Lamination Steel	<0.1	UUT-02
Fuses, Breakers, Trips, and Accessories					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
UDE-A	Conquer	4A, 500V	Carbon, Copper, Epoxy	<0.1	UUT-01
L1-15A	Topstone	15A, 250V	Plastic and Tinned Copper	<0.1	UUT-01
Type 257	Littelfuse	32A, 40V	Plastic and Tinned Copper	<0.1	UUT-01
MST 002	Conquer	2A, 250V	Ceramic, Copper	<0.1	UUT-01, UUT-02
MST 004	Conquer	4A, 250V	Ceramic, Copper	<0.1	UUT-02
L1-20A	Topstone	20A, 250V	Plastic, Tinned Copper	<0.1	UUT-02
Type 314	Littelfuse	30A, 125V	Ceramic, Glass, Tinned Copper	<0.1	UUT-02
Batteries and Battery Accessories					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
HR1234	CSB	12V 34W VRLA Battery	ABS, Lead, Acid	5.8	UUT-01, UUT-02
Transformers					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
TX1 800	Ablerex	Output Isolation	Silicon Steel, Copper, Polyethylene Bobbin	25.6	UUT-01
TX1 1500	Ablerex	Output Isolation	Silicon Steel, Copper, Polyethylene Bobbin	47.2	UUT-02
Display					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
PC-540	Chi Mei	180 x 25 x 232 mm	94-V0 Fiberglass and LCD	<0.1	UUT-01, UUT-02

Special Seismic Certification



Table 4 - Certified Subcomponents - Integrity Max R/T Line

DCL Project Number: 02401-2201

Certified Seismic Level: Sds=2.0, z/h=1.0; Sds=2.5, z/h=0.0

Product Type: Uninterruptable Power Supply (UPS)

Product Line: Integrity Max R/T

Mounting Description: Rigid Base Mount with Metal Band

Enclosures					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
NPTU1500-OR-N-ENC	Ablerex	26.6" L x 3.3" W x 17.3" H, NEMA 1	Carbon Steel	15.8	UUT-03
Boards					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
1500 RT Power PCBA	Ablerex	Main power 320 x 235 x2.0 mm	94-V0 Fiberglass	8.3	UUT-03
1500 RT Filter PCBA	Ablerex	Filter PCB 102x60x2.0 mm	94-V0 Fiberglass	0.3	UUT-03
Fans					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
DFB802512H	Suzhou Kingmot	80x25mm	Plastic, Copper, Lamination Steel	<0.1	UUT-03
Fuses, Breakers, Trips, and Accessories					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
L1-20A	Topstone	20A, 250V	Plastic, Tinned copper	<0.1	UUT-03
ADA	Conquer	20A, 250V	Ceramic, Plated brass	<0.1	UUT-03
MST 003	Conquer	3A, 250V	Glass, Tinned copper	<0.1	UUT-03
Type 314	Littelfuse	30A, 120V	Ceramic, Plated brass	<0.1	UUT-03
Batteries and Battery Accessories					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
NPW45-12	Yuasa	12V, 45W, VRLA Battery	ABS, Lead, Acid	5.7	UUT-03
HR12134	CSB	12V, 34W, VRLA Battery	ABS, Lead, Acid	5.8	UUT-03
Transformers					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
TX1 1500OL	Ablerex	Output Isolation	Silicon Steel, Copper, Polyethylene Bobbin	45.4	UUT-03
Display					
Manufacturer Model Number	Manufacturer	Description	Material	Weight (lb)	Unit
PC-540	Chi Mei	180 x 25 mm LCD	94-V0 Fiberglass and LCD	0.5	UUT-03

Special Seismic Certification

Table 5 - Tested Units



DCL Project Number: 02401-2201

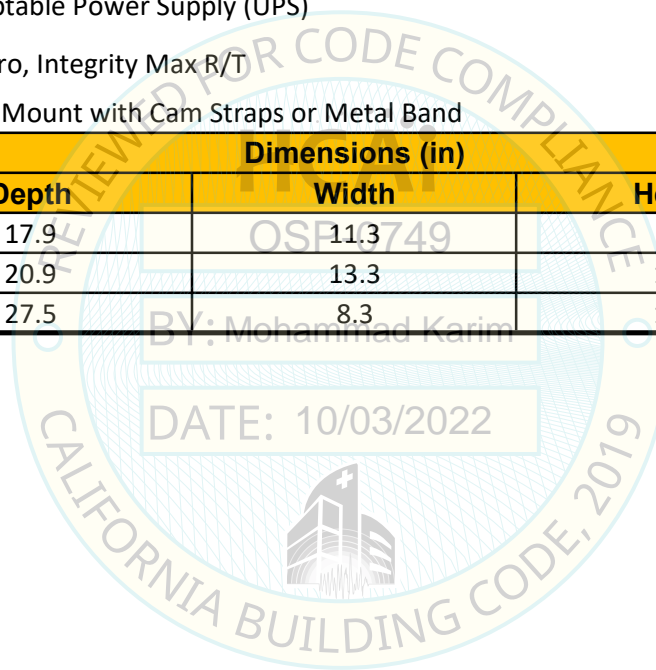
Certified Seismic Level: Sds=2.0, z/h=1.0; Sds=2.5, z/h=0.0

Product Type: Uninterruptable Power Supply (UPS)

Product Line: Integrity Pro, Integrity Max R/T

Mounting Description: Rigid Base Mount with Cam Straps or Metal Band

Model Number	Dimensions (in)			Weight (lb)	Unit
	Depth	Width	Height		
NPTU800-L-N	17.9	11.3	9.3	56	UUT-01
NPTU1500-L-N	20.9	13.3	10.0	96	UUT-02
NPTU1500-OR-N	27.5	8.3	17.5	80	UUT-03



UUT-01 UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 02401-2201

Manufacturer: NXT Power

Product Line: Integrity Pro

Model Number: NPTU800-L-N

Product Construction Summary: Powder Coated Carbon Steel

Options / Component Summary:

Uninterruptible Power Supply (UPS) with display, fan, fuses, overload protectors, batteries, cam straps, transformer, and a rigid mounting bracket.

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

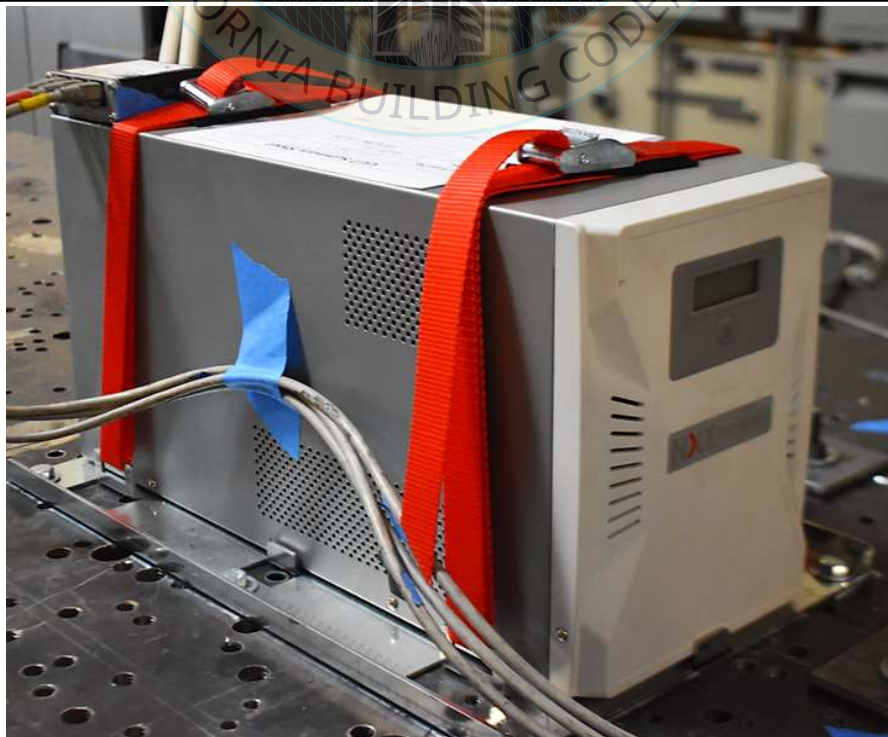
Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
56	17.9	11.3	9.3	29.0	>33.3	>33.3

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	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0					

Unit Mounting Description:

UUT-01 was rigidly base-mounted to the steel shake table interface plate with (6) 3/8" grade 5 bolts and washers. The UPS unit was attached to the rigid mounting bracket (Part 001-00089-01-FNL) with (2) cam straps (Part 018-00076). The rigid mounting bracket was made with 0.1" thick steel having a width of 11.3" and depth of 17.9" while featuring 0.8" tall flanges along the sides in the Y-direction. Both cam straps had a width of 1", length of 87", utility polyester construction, breaking strength of 3,585 pounds, and were spaced 12.8" in the Y-direction. The steel shake table interface plate was attached to the shake table with M12 threaded rods.



Overall view of UUT-01

UUT-02

UNIT UNDER TEST (UUT)

Summary Sheet



DCL Project Number: 02401-2201

Manufacturer: NXT Power

Product Line: Integrity Pro

Model Number: NPTU1500-L-N

Product Construction Summary: Powder Coated Carbon Steel

Options / Component Summary:

Uninterruptible Power Supply (UPS) with display, fan, fuses, overload protectors, batteries, CAM straps, transformer, and a rigid mounting bracket.

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
96	20.9	13.3	10.0	22.0	>33.3	>33.3

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	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0					

Unit Mounting Description:

UUT-02 was rigidly base-mounted to the steel shake table interface plate with (6) 3/8" grade 5 bolts and washers. The UPS unit was attached to the rigid mounting bracket (Part 001-00090-01-FNL) with (2) cam straps (Part 018-00076). The rigid mounting bracket was made with 0.1" thick steel having a width of 13.3" and depth of 20.9" while featuring 0.8" tall flanges along the sides in the Y-direction. Both cam straps had a width of 1", length of 87", utility polyester construction, breaking strength of 3,585 pounds, and were spaced 15.5" in the Y-direction. The steel shake table interface plate was attached to the shake table with M12 threaded rods.



Overall view of UUT-02

UUT-03 UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 02401-2201

Manufacturer: NXT Power

Product Line: Integrity Max R/T

Model Number: NPTU1500-OR-N

Product Construction Summary: Powder Coated Carbon Steel

Options / Component Summary:

Uninterruptible Power Supply (UPS) with display, fan, fuses, overload protectors, batteries, metal band, transformer, and a rigid mounting bracket.

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
80	27.5	8.3	17.5	10.0	>33.3	>33.3

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	2.00	1.0	1.5	3.20	2.40	1.67	0.67
		2.50	0.0					

Unit Mounting Description:

UUT-03 was rigidly base-mounted to the steel shake table interface plate with (6) 3/8" grade 5 bolts and washers. The UPS unit was secured to the rigid mounting bracket (Part 001-00136-01-FNL) with (1) metal band (Part 001-00137-01-FNL) secured with (6) 1/4" grade 5 threaded rods, washers, lock washers, and nuts. The rigid mounting bracket was made with 0.1" thick steel having a width of 8.3" and depth of 27.5" while featuring 0.8" tall flanges along the sides in the Y-direction. The metal band was constructed with 0.1" thick steel while being 5" in width, 8" in depth, and 17.5" in height. The steel shake table interface plate was attached to the shake table with M12 threaded rods.



Overall view of UUT-03