



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-0101

HCAI Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: Vertiv Corporation

Manufacturer's Technical Representative: Julian Freeman

Mailing Address: 975 Pittsburgh Drive, Delaware, OH 43015

Telephone: (740) 833-8910

Email: Julian.Freeman@vertiv.com

Product Information

Product Name: Liebert GXT4 and APS Single Phase UPS

Product Model Number(s): Liebert GXT4 UPS, Liebert APS UPS, APS Battery Cabinet, MPH2-PDU, Liebert MicroPod

Product Category: UPS and Batteries

Product Sub-Category: UPS

General Description: Rack mounted and base mounted UPS, single phase power.

Rack mounted units may only be installed in the same model rack, as tested, and cannot exceed the maximum wt. or C.G. as shown on the UUT Sheets. See rack reference sheet at end of OSP.

Mounting Description: Rack mounted - rigid and Base mounted - rigid

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:

Contact Person: Victoria Ahrens

Mailing Address: 233 SW Wilson Ave, Suite 101, Bend, OR 97702

Telephone: (541) 292-5820

Email: vahrens@structint.com

Title:



**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)

Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.

Name: LACHEZAR HANDZHIYSKI

California License Number: S6515

Mailing Address: 5215 Hellyer Avenue, Suite 210, San Jose, CA 95138

Telephone: (669) 437-0200

Email: Lhandzhiyski@StructInt.com

Certification Method

☐ GR-63-Core

☒ ICC-ES AC156

☐ IEEE 344

☐ IEEE 693

☐ NEBS 3

☐ Other (Please Specify): _____

Testing Laboratory

Company Name: CLARK TESTING LABORATORY, INC.

Contact Person: Devon Lohr

Mailing Address: 1801 Route 51, Jefferson Hills PA 15025

Telephone: (412) 387-1001

Email: dlohr@clarktesting.com

Company Name: QUALTECH/CURTISS WRIGHT/TRENTEC

Contact Person: Jerry Newberry

Mailing Address: 4600 East Tech Drive, Cincinnati OH 45245

Telephone: (513) 528-7900

Email: Jnewberry@curtisswright.com



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

Seismic Parameters

Certified Response Spectral Acceleration Factors: (F_p/W_p)

Horizontal (A Flx-H), $g =$ 3.20 (A Rig-H), $g =$ 2.15

Vertical (A Flx-V), $g =$ 1.67 (A Rig-V), $g =$ 0.67

SDS (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1.0); 2.50 (z/h = 0.0)

H_f (Force amplification height factor) = 3.5 (z/h = 1.0); 1.0 (z/h = 0.0)

R_u (Structure ductility reduction factor) = 1.3 (z/h = 1.0); 1.0 (z/h = 0.0)

I_p (Importance factor) = 1.5

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

HCAI Approval (For Office Use Only) - Approval Expires on 09/06/2032

Date: 9/4/2026

Name: Mohammad Karim

Title: Supervisor, Health Facilities

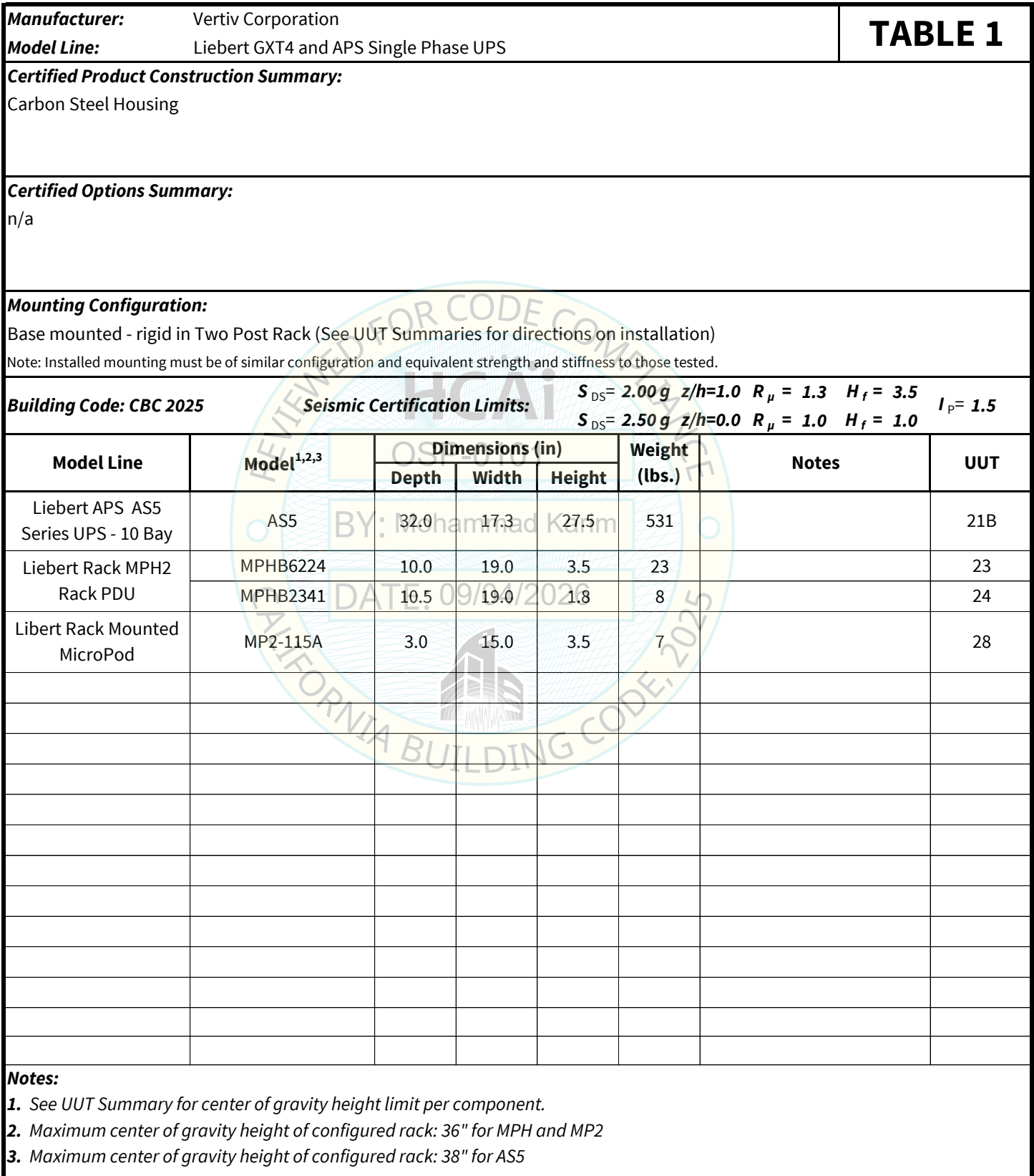
Condition of Approval (if applicable):

OSP-0101

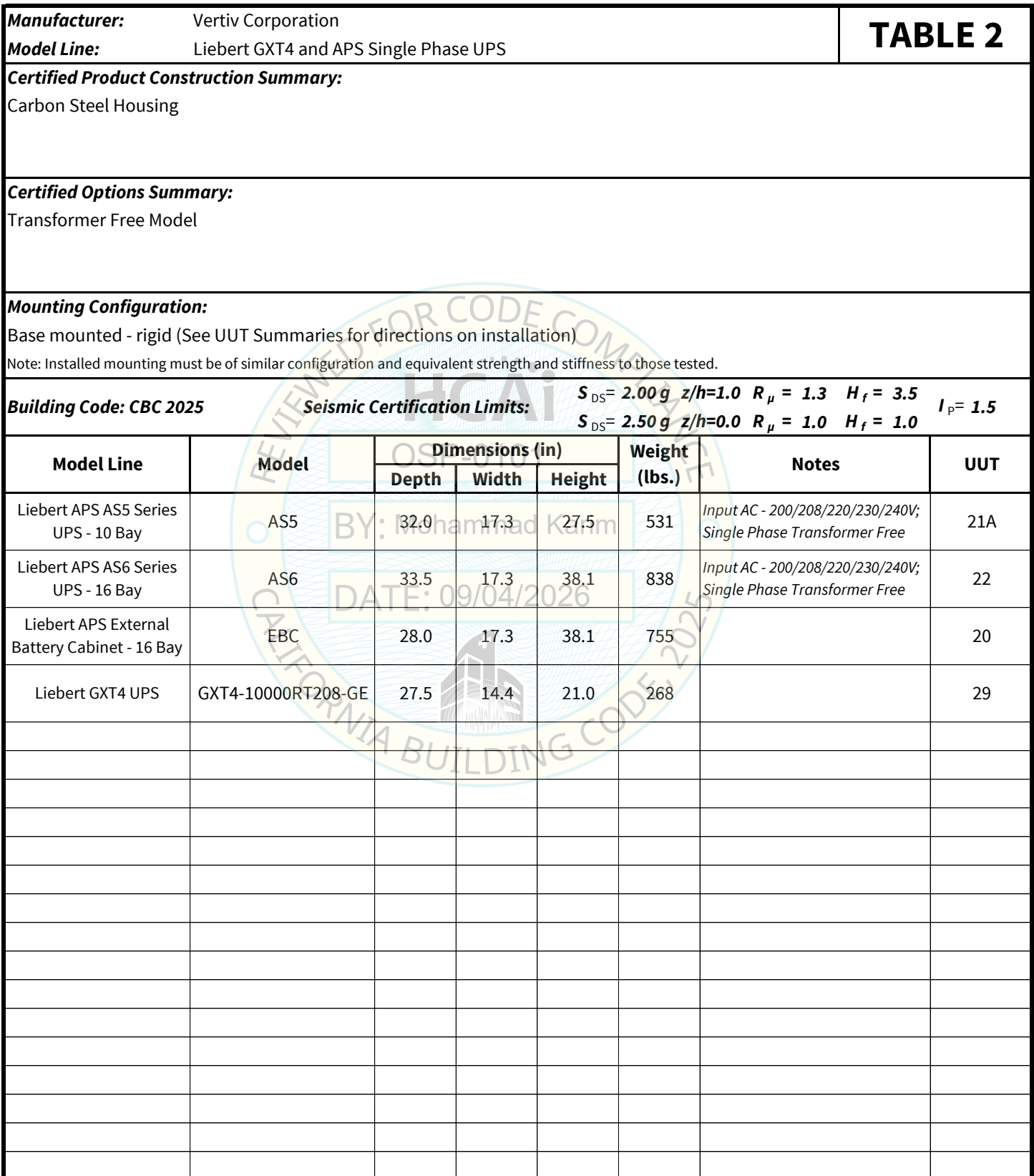
BY: Mohammad Karim

DATE: 09/04/2026

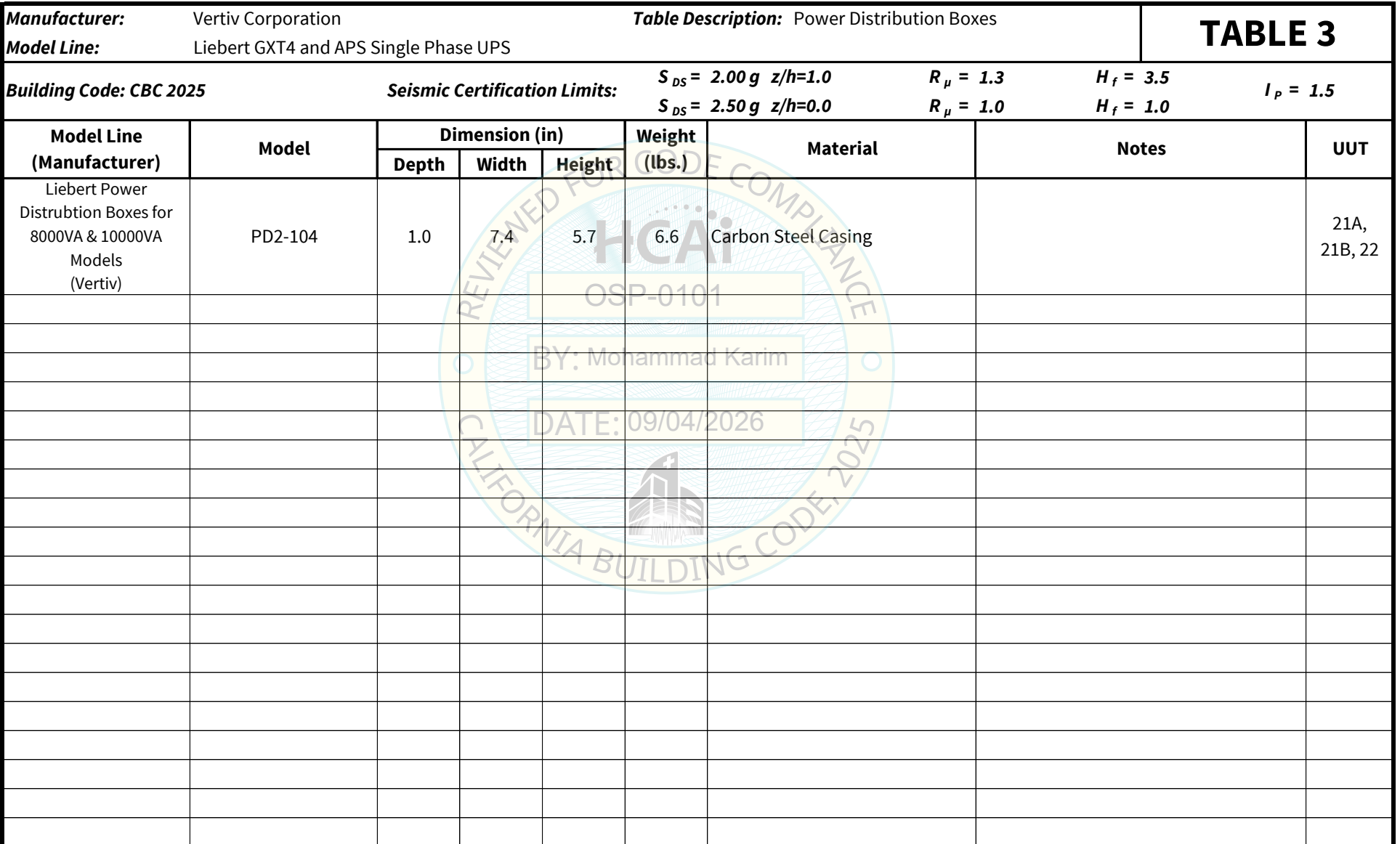
1900374-CR-001-R4



1900374-CR-001-R4



1900374-CR-001-R4



UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4



Manufacturer: Vertiv Corporation										
Model Line: Liebert GXT4 and APS Single Phase UPS										
UUT	Unit Description (mounting)	Report Number (UUT#)	Testing Lab	Tested	ISO 17025?	S _{DS}	z/h	R _μ	H _f	I _p
1-19	NOT USED									
20	Liebert APS EBC (base mounted - rigid)	Q18601.0, Rev.0 (UUT20b)	QualTech-NP by Curtiss-Wright	19-Jan. 2018	No ¹	2.11 3.15	1.0 0.0	1.3 1.0	3.5 1.0	1.5
21A	Liebert APS AS5 Series (base mounted - rigid)	Q18601.0, Rev.0 (UUT21, test run 3)	QualTech-NP by Curtiss-Wright	12-Jan. 2018	No ¹	2.43 2.64	1.0 0.0	1.3 1.0	3.5 1.0	1.5
21B	Liebert APS AS5 Series (2-Post Configuration)	Q18601.0, Rev.0 (UUT21, test run 1)	QualTech-NP by Curtiss-Wright	19-Jan. 2018	No ¹	2.09 3.25	1.0 0.0	1.3 1.0	3.5 1.0	1.5
22	AS6A1RCJGNNX223 (base mounted - rigid)	Q18601.0, Rev.0 (UUT22b)	QualTech-NP by Curtiss-Wright	19-Jan. 2018	No ¹	2.11 3.15	1.0 0.0	1.3 1.0	3.5 1.0	1.5
23	MPHB6224 (2-Post Configuration)	Q18601.0, Rev.0 (UUT23)	QualTech-NP by Curtiss-Wright	12-Jan. 2018	No ¹	2.33 2.75	1.0 0.0	1.3 1.0	3.5 1.0	1.5
24	MPHB2341 (2-Post Configuration)	Q18601.0, Rev.0 (UUT24)	QualTech-NP by Curtiss-Wright	12-Jan. 2018	No ¹	2.33 2.75	1.0 0.0	1.3 1.0	3.5 1.0	1.5
25-27	NOT USED									
28	MP2-115A (2-Post Configuration)	Q18601.0, Rev.0 (UUT28)	QualTech-NP by Curtiss-Wright	12-Jan. 2018	No ¹	2.33 2.75	1.0 0.0	1.3 1.0	3.5 1.0	1.5
29	GXT4-10000RT208-GE (base mounted - rigid)	JID 19-00422, Rev.1 (UUT1)	Clark Testing	2-April 2019	Yes	2.00 2.50	1.0 0.0	1.3 1.0	3.5 1.0	1.5

Notes:
1. QualTech-NP by Curtiss Wright was not ISO 17025 accredited at the time of testing but has been reviewed by TRU Compliance and found to meet the requirements for ICC-ES AC156 testing. Review form is on file with TRU Compliance.

UNIT UNDER TEST (UUT) SUMMARY SHEET

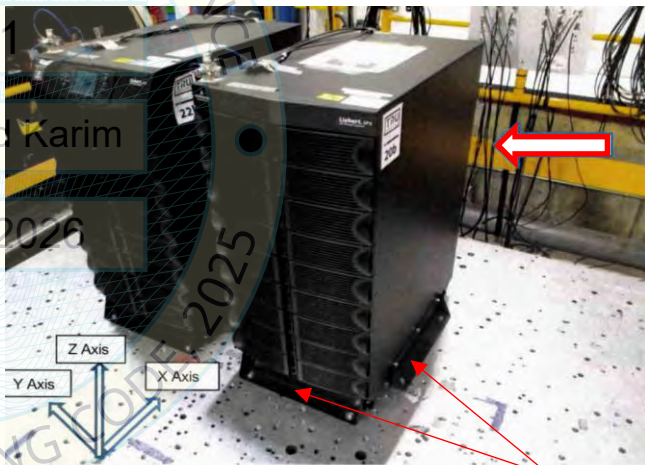
1900374-CR-001-R4



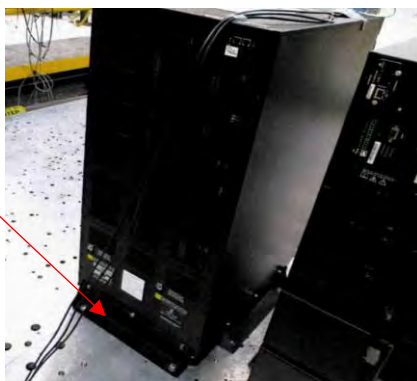
Manufacturer:	Vertiv Corporation	UUT 20
Product Type:	Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets	
Model Line:	Liebert GXT4 and APS Single Phase UPS	
Model Number:	EBC-16 Bay	
Serial Number:	1613000009AW113	Test Report: Q18601.0, Rev.0 (UUT20b)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
755	28.00	17.25	38.13	26.17	7.56	23.14

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S _{DS} (g)	z/h	R _μ	H _f	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2025	ICC-ES AC 156-24	2.11	1.0	1.3	3.5	1.5	3.38	2.27	2.10	0.84
		3.15	0.0	1.0	1.0					

Product Construction Summary:	Test Mounting Details:
Carbon Steel Casing	

Options/Subcomponent Summary:		
Description	Mfr.	Part Number
n/a	n/a	n/a

Test Mounting Details Continued:	UUT20 was base mounted-rigid to the shake table using four (4) mounting brackets (PN: 63122695), one on each side of the unit. Mounting brackets are supplied by the manufacturer and affixed to the shake table using two (2) 3/8"-16 Grade 5 hex bolts, lock washers and flat washers. A total of eight (8) 3/8" -16 bolts were used to mount the unit to shake table. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.
	

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4



Manufacturer:	Vertiv Corporation	UUT 21A
Product Type:	Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets	
Model Line:	Liebert GXT4 and APS Single Phase UPS	
Model Number:	AS5-10 Bay	
Serial Number:	1725000161AU043	Test Report: Q18601.0, Rev.0 (UUT21)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
531	32.00	17.25	27.50	23.91	12.59	>33.33

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S _{DS} (g)	z/h	R _μ	H _f	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2025	ICC-ES AC 156-24	2.43	1.0	1.3	3.5	1.5	3.89	2.62	1.76	0.70
		2.64	0.0	1.0	1.0					

Product Construction Summary:	Test Mounting Details:
Carbon Steel Casing	

Options/Subcomponent Summary:			UUT21A was base mounted-rigid to the shake table using two (2) mounting brackets (PN: 63122695), one on each side of the unit. Mounting brackets are supplied by the manufacturer and affixed to the shake table using two (2) 3/8"-16 Grade 5 hex bolts, lock washers and flat washers. A total of eight (8) 3/8" -16 bolts were used to mount unit to shake table. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.
Description	Mfr.	Part Number	
Liebert Power Distrubtion Boxes for 8000VA and 10000VA Models	Vertiv	PD2-104	

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4



Manufacturer:	Vertiv Corporation	UUT 21B
Product Type:	Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets	
Model Line:	Liebert GXT4 and APS Single Phase UPS	
Model Number:	AS5-10 Bay	
Serial Number:	1725000161AU043	Test Report: Q18601.0, Rev.0 (UUT21)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
531	32.00	17.25	27.50	6.96	5.14	>33.33

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S _{DS} (g)	z/h	R _μ	H _f	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2025	ICC-ES AC 156-24	2.09	1.0	1.3	3.5	1.5	3.34	2.25	2.17	0.87
		3.25	0.0	1.0	1.0					

Product Construction Summary:	Test Mounting Details:
Carbon Steel Casing	

Options/Subcomponent Summary:		
Description	Mfr.	Part Number
Liebert Power Distrubtion Boxes for 8000VA and 10000VA Models	Vertiv	PD2-104

Test Mounting Details Continued:
 Four (4) M4 Screws

UUT21B was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (PN: SB85219084) 19" (W) x 84" (H). The 2-Post racked was mounted to the shake table using four (4) 5/8"-11 Grade 8 hex bolts with plate washer (provided with 2-Post rack) and 5/8" lock washers.

UUT21B was mounted to rack using Rack Solutions Shelf Kit (PN: 2USHL-100) and one and a half (1.5) 2-Post Conversion Brackets (PN: 2POST-7UKIT) and two Chatsworth rear strap (PN: 12086-719). The unit was affixed to the shelf kit and brackets using eight (8) M4 bolts at each of the units ears.

Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4



Manufacturer: Vertiv Corporation
Product Type: Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets
Model Line: Liebert GXT4 and APS Single Phase UPS
Model Number: AS5-10 Bay
Serial Number: 1725000161AU043

UUT 21B

Test Report: Q18601.0, Rev.0 (UUT21)

Product Rack Configuration Summary:

Height (in.)	Rack Configuration 2: 2 Post Rack		Weight (lbs.)
	Position on Rack	Position on Rack	
84	RMU		
80.25	UUT28	43	7
78.5	MicroPod	42	
76.75	UUT24	41	8
75	UUT 23	40	23
73.25	MPH66224	39	
71.5	UUT 1	38	
69.75	GXT4-2000	37	59
68	UUT 5	36	71
66.25	GXT4-48VBATT	35	
64.5	UUT 2	34	80
62.75	GXT4-3000	33	
61	UUT 6	32	97
59.25	GXT4-72VBATT	31	
57.5		30	
55.75		29	
54		28	
52.25		27	
50.5		26	
48.75		25	
47		24	
45.25		23	
43.5		22	
41.75		21	
40		20	
38.25		19	
36.5		18	
34.75		17	
33		16	
31.25		15	
29.5		14	
27.75		13	
26		12	
24.25		11	
22.5		10	
20.75		9	
19		8	
17.25		7	
15.5		6	
13.75		5	
12		4	
10.25		3	
8.5		2	
6.75		1	
5			

UUT 21B
AS5-10Bay

531

UUT21B

Model Number: AS5-10 Bay
 UUT Weight (lbs.): 531
 Total UUT Weight (lbs.): 876
 Rack Weight (lbs.): 30
 Total Weight (lbs.): 906
 Overall Height (in.): 84
 Center of Gravity for UUT (in.): 20.75 as limit
 Overall CG Height (in.) = 38.6

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4

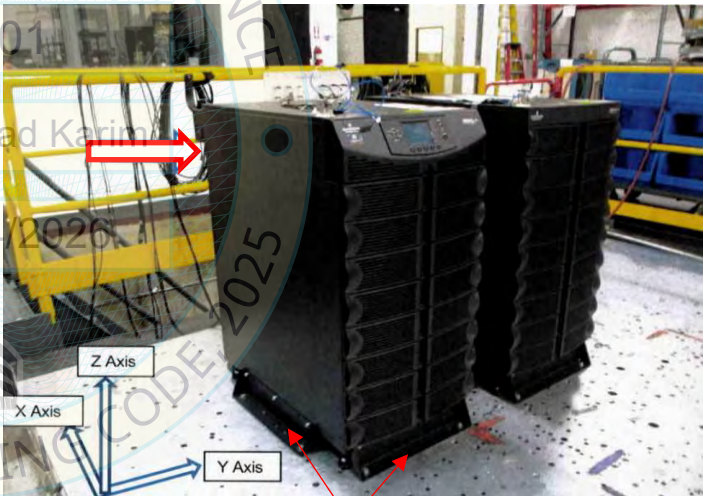


Manufacturer:	Vertiv Corporation	UUT 22
Product Type:	Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets	
Model Line:	Liebert GXT4 and APS Single Phase UPS	
Model Number:	AS6-16 Bay	
Serial Number:	1703800256AU053	Test Report: Q18601.0, Rev.0 (UUT22b)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
838	33.50	17.25	38.13	9.92	14.72	30.85

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S _{DS} (g)	z/h	R _μ	H _f	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2025	ICC-ES AC 156-24	2.11	1.0	1.3	3.5	1.5	3.38	2.27	2.10	0.84
		3.15	0.0	1.0	1.0					

Product Construction Summary: Test Mounting Details:

Carbon Steel Casing										
---------------------	---	--	--	--	--	--	--	--	--	--

Options/Subcomponent Summary:			UUT22 was base mounted-rigid to the shake table using four (4) mounting brackets (PN: 63122695), one on each side of the unit. Mounting brackets are supplied by the manufacturer and affixed to the shake table using two (2) 3/8"-16 Grade 5 hex bolts, lock washers and flat washers. A total of eight (8) 3/8" -16 bolts were used to mount unit to shake table. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.
Description	Mfr.	Part Number	
Liebert Power Distrubtion Boxes for 8000VA and 10000VA Models	Vertiv	PD2-104	

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4

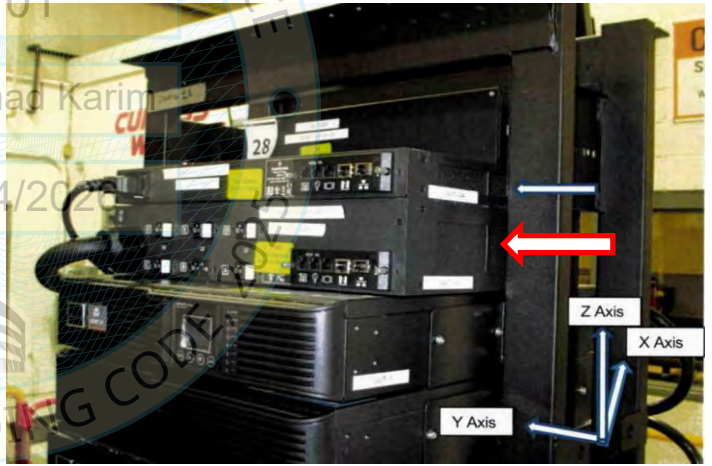


Manufacturer:	Vertiv Corporation	UUT 23
Product Type:	Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets	
Model Line:	Liebert GXT4 and APS Single Phase UPS	
Model Number:	MPHB6224	
Serial Number:	V16J2600147	Test Report: Q18601.0, Rev.0 (UUT23)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
23	10.00	19.00	3.50	7.20	5.72	>33.33

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S _{DS} (g)	z/h	R _μ	H _f	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2025	ICC-ES AC 156-24	2.33	1.0	1.3	3.5	1.5	3.73	2.51	1.83	0.73
		2.75	0.0	1.0	1.0					

Product Construction Summary: Test Mounting Details:

Carbon Steel Casing										
---------------------	---	--	--	--	--	--	--	--	--	--

Options/Subcomponent Summary:		
Description	Mfr.	Part Number
n/a	n/a	n/a

Test Mounting Details Continued:

Four (4) M4 Screws 	UUT23 was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (PN: SB85219084) 19" (W) x 84" (H). The 2-Post rack was base mounted-rigid to the shake table using four (4) 5/8"-11 Grade 8 hex bolts with plate washer (provided with 2-Post rack) and 5/8" lock washers. UUT23 was attached to the 2-Post rack using four (4) M4 screws at its ears. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.
---	---

TRU Compliance, by Structural Integrity Associates, Inc.

844-TRU-0200 | info@trucompliance.com

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4



Manufacturer: Vertiv Corporation
Product Type: Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets
Model Line: Liebert GXT4 and APS Single Phase UPS
Model Number: MPHB6224
Serial Number: V16J2600147

UUT 23

Test Report: Q18601.0, Rev.0 (UUT23)

Product Rack Configuration Summary:

Height (in.)	Rack Configuration 1A: 2 Post Rack		Weight (lbs.)
	Position on Rack	Position on Rack	
84	RMU		
80.25	UUT28	43	
78.5	MicroPod	42	7
76.75	UUT24	41	8
75	UUT 23	40	23
73.25	MPHB6224	39	59
71.5	UUT 1	38	
69.75	GXT4-2000	37	
68	UUT 5	36	71
66.25	GXT4-48VBATT	35	
64.5	UUT 2	34	80
62.75	GXT4-3000	33	
61	UUT 6	32	97
59.25	GXT4-72VBATT	31	
57.5		30	
55.75		29	
54		28	
52.25		27	
50.5		26	
48.75		25	
47		24	
45.25		23	
43.5		22	
41.75		21	
40		20	
38.25		19	
36.5		18	
34.75		17	
33		16	
31.25	UUT 3	15	141
29.5	GTX4-5000	14	
27.75		13	
26	UUT 7	12	106
24.25	GXT4-144VBATT	11	
22.5		10	
20.75	UUT 4	9	236
19	GXT4-10000	8	
17.25		7	
15.5		6	
13.75		5	
12		4	
10.25	UUT 8	3	184
8.5	GTX4-288VBATT	2	
6.75		1	
5			

UUT23

Model Number: MPHB6224
 UUT Weight (lbs.): 23
 Total UUT Weight (lbs.): 1012
 Rack Weight (lbs.): 30
 Total Weight (lbs.): 1042
 Overall Height (in.): 84
 Center of Gravity for UUT(in.): 73.25" limit
 Overall CG Height (in.) = 36

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4



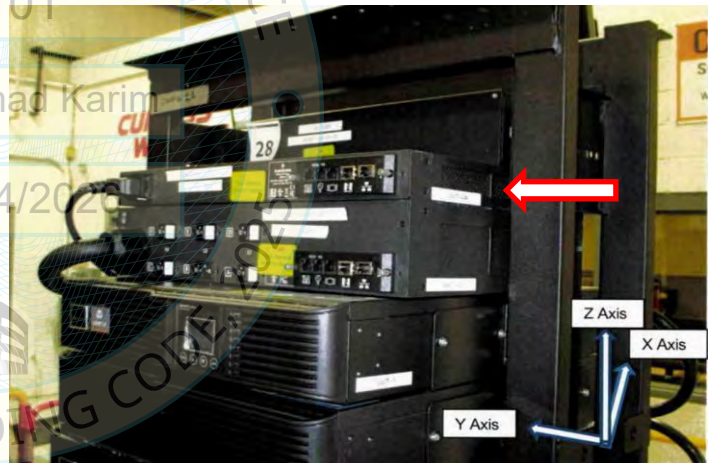
Manufacturer:	Vertiv Corporation	UUT 24
Product Type:	Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets	
Model Line:	Liebert GXT4 and APS Single Phase UPS	
Model Number:	MPH82341	
Serial Number:	V16E2600129	Test Report: Q18601.0, Rev.0 (UUT1)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
8	10.50	19.00	1.75	7.20	5.72	>33.33

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S _{DS} (g)	z/h	R _μ	H _f	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2025	ICC-ES AC 156-24	2.33	1.0	1.3	3.5	1.5	3.73	2.51	1.83	0.73
		2.75	0.0	1.0	1.0					

Product Construction Summary:	Test Mounting Details:
Carbon Steel Casing	

Options/Subcomponent Summary:		
Description	Mfr.	Part Number
n/a	n/a	n/a



Test Mounting Details Continued:
Four (4) M4 Screws

UUT24 was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (PN: SB85219084) 19" (W) x 84" (H). The 2-Post rack was base mounted-rigid to the shake table using four (4) 5/8"-11 Grade 8 hex bolts with plate washer (provided with 2-Post rack) and 5/8" lock washers. UUT24 was attached to the 2-Post rack using four (4) M4 screws at the ears. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4



Manufacturer: Vertiv Corporation
Product Type: Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets
Model Line: Liebert GXT4 and APS Single Phase UPS
Model Number: MPH82341
Serial Number: V16E2600129

UUT 24

Test Report: Q18601.0, Rev.0 (UUT1)

Product Rack Configuration Summary:

Height (in.)	Rack Configuration 1A: 2 Post Rack		Weight (lbs.)
	Position on Rack	Position on Rack	
84	RMU		
80.25	UUT28	43	7
78.5	MicroPod	42	
76.75	UUT24	41	8
75	UUT 23	40	
73.25	MPHB6224	39	23
71.5	UUT 1	38	59
69.75	GXT4-2000	37	
68	UUT 5	36	71
66.25	GXT4-48VBATT	35	
64.5	UUT 2	34	80
62.75	GXT4-3000	33	
61	UUT 6	32	97
59.25	GXT4-72VBATT	31	
57.5		30	
55.75		29	
54		28	
52.25		27	
50.5		26	
48.75		25	
47		24	
45.25		23	
43.5		22	
41.75		21	
40		20	
38.25		19	
36.5		18	
34.75		17	
33		16	
31.25	UUT 3	15	141
29.5	GTX4-5000	14	
27.75		13	
26	UUT 7	12	106
24.25	GXT4-144VBATT	11	
22.5		10	
20.75	UUT 4	9	236
19	GXT4-10000	8	
17.25		7	
15.5		6	
13.75		5	
12		4	
10.25	UUT 8	3	184
8.5	GTX4-288VBATT	2	
6.75		1	
5			

UUT24

Model Number: MPH82341
 UUT Weight (lbs.): 8
 Total UUT Weight (lbs.): 1012
 Rack Weight (lbs.): 30
 Total Weight (lbs.): 1042
 Overall Height (in.): 84
 Center of Gravity for UUT (in.): 75.88" limit
 Overall CG Height (in.) = 36

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4



Manufacturer:	Vertiv Corporation	UUT 28
Product Type:	Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets	
Model Line:	Liebert GXT4 and APS Single Phase UPS	
Model Number:	MP2-115A	
Serial Number:	1716100024AG333	Test Report: Q18601.0, Rev.0 (UUT28)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
7	3.00	15.00	3.50	7.20	5.72	>33.33

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S _{DS} (g)	z/h	R _μ	H _f	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2025	ICC-ES AC 156-24	2.33	1.0	1.3	3.5	1.5	3.73	2.51	1.83	0.73
		2.75	0.0	1.0	1.0					

Product Construction Summary: Test Mounting Details:

Carbon Steel Casing										
---------------------	--	--	--	--	--	--	--	--	--	--

Options/Subcomponent Summary:		
Description	Mfr.	Part Number
n/a	n/a	n/a

Test Mounting Details Continued:

Four (4) M4 Screws	UUT28 was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (PN: SB85219084) 19" (W) x 84" (H). The 2-Post rack was base mounted-rigid to the shake table using four (4) 5/8"-11 Grade 8 hex bolts with plate washer (provided with 2-Post rack) and 5/8" lock washers. UUT28 was attached to the 2-Post rack using four (4) M4 screws at the ears. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.
---------------------------	---

TRU Compliance, by Structural Integrity Associates, Inc.

844-TRU-0200 | info@trucompliance.com

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4



Manufacturer: Vertiv Corporation
Product Type: Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets
Model Line: Liebert GXT4 and APS Single Phase UPS
Model Number: MP2-115A
Serial Number: 1716100024AG333

UUT 28

Test Report: Q18601.0, Rev.0 (UUT28)

Product Rack Configuration Summary:

Height (in.)	Rack Configuration 1A: 2 Post Rack		Weight (lbs.)
	Position on Rack	Position on Rack	
84		RMU	
80.25		43	
78.5		42	7
76.75		41	8
75		40	
73.25		39	23
71.5		38	59
69.75		37	
68		36	71
66.25		35	
64.5		34	80
62.75		33	
61		32	97
59.25		31	
57.5		30	
55.75		29	
54		28	
52.25		27	
50.5		26	
48.75		25	
47		24	
45.25		23	
43.5		22	
41.75		21	
40		20	
38.25		19	
36.5		18	
34.75		17	
33		16	
31.25		15	141
29.5		14	
27.75		13	
26		12	106
24.25		11	
22.5		10	
20.75		9	
19		8	236
17.25		7	
15.5		6	
13.75		5	
12		4	
10.25		3	184
8.5		2	
6.75		1	
5			

UUT28

Model Number: MP2-115A
 UUT Weight (lbs.): 7
 Total UUT Weight (lbs.): 1012
 Rack Weight (lbs.): 30
 Total Weight (lbs.): 1042
 Overall Height (in.): 84
 Center of Gravity for UUT (in.): 78.5 limit
 Overall CG Height (in.) = 36

UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R4



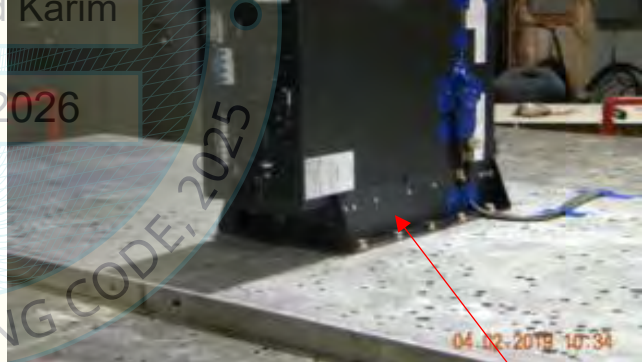
Manufacturer:	Vertiv Corporation	UUT 29
Product Type:	Uninterruptible Power Supply (UPS) Rack with UPS and External Battery Cabinets	
Model Line:	Liebert GXT4 and APS Single Phase UPS	
Model Number:	GXT4-10000RT208-GE	
Serial Number:	n/a	Test Report: JID 19-00422, Rev.1 (UUT1)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
268	27.50	14.38	21.00	29.67	25.52	>33.33

UUT Highest Passed Seismic Run Information										
Building Code	Test Criteria	S _{DS} (g)	z/h	R _μ	H _f	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2025	ICC-ES AC 156-24	2.11	1.0	1.3	3.5	1.5	3.38	2.27	2.10	0.84
		3.15	0.0	1.0	1.0					

Product Construction Summary:	Test Mounting Details:
Carbon Steel Casing	

Options/Subcomponent Summary:		
Description	Mfr.	Part Number
n/a	n/a	n/a



Test Mounting Details Continued:	
	UUT29 was base mounted-rigid to the shake table using two (2) mounting brackets (PN: 63240chm), one on each side of the unit. Mounting brackets are supplied by the manufacturer and affixed to the shake table using five (5) 1/2"-13 hex head Grade 8 bolts with flat washers and lock washers. A total of ten (10) 1/2"-13 bolts were used to mount unit to shake table. Torqued to 50 ft./lbs. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.

Mounting Brackets

Mounting Brackets

SPECIAL SEISMIC CERTIFICATION
CERTIFIED COMPONENT MATRIX

1900374-CR-001-R4



B-Line Two-Post Relay Rack Details

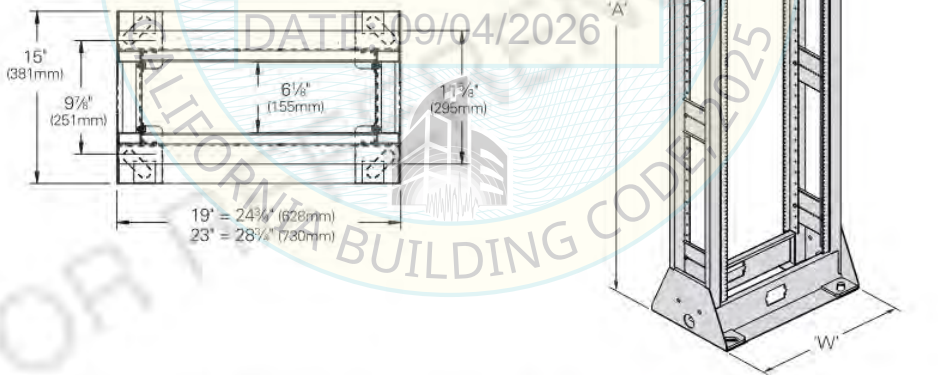
Network Equipment Racks & Accessories

Two-Post Relay Rack

Two-Post Seismic Relay Rack
19" & 23" Panel Mounting, Welded Steel

- Independently tested to NEBS GR-63-CORE Seismic Zone 4 standard; and for 900 lbs. (408kg) of equipment
- Independent testing conducted in accordance with ICBO AC156 standard for use up to 900 lbs. (408kg)
- Conformance to EIA/ECA-310-E
- Mounting rail spacing is adjustable from 3" (76mm) to 8" (203mm)
- 43 RMU (rack mounting units)
- Open top, bottom, and sides permit unlimited cable management options
- Industry standard mounting holes on sides allow attachment of vertical cable managers
- Top angles drilled for runway attachment
- Openings in front and rear of base for duplex receptacle mounting
- Holes for grounding provided in four locations
- Tubular steel frame provides a high degree of strength to weight ratio
- See page ii for link to OPM approvals
- Concrete installation requires (4) AWA-62-350 (sold separately)
- Finish : Flat black powder coat (FB)
Telco gray powder coat (TG)

Network equipment racks & accessories



Part Number	'A' Height In. (mm)	'W' Spacing In. (mm)	Mounting Spaces	Shipping Weight Lbs. (kg)
19" (482mm) Rack Width				
SB85219084	84" (2133)	24 3/4" (628)	43	113 (51.3)
SB85219096	96" (2438)	24 3/4" (628)	49	124 (56.2)
23" (584mm) Rack Width				
SB85223084	84" (2133)	28 3/4" (730)	43	117 (53.1)
SB85223096	96" (2438)	28 3/4" (730)	49	127 (57.6)

Specify part number and finish when ordering.