



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

**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

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: UPS and Batteries

Product Type: UPS

Product Model Number: Liebert GTX4 UPS, Liebert GTX4 External Battery Cabinet, Liebert APS UPS, APS Battery Cabinet, MPH2-PDU, Liebert MicroPod

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: Rigid, Rigid base mounted and rigid rack mounted

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: TRU Compliance, by Structural Integrity Associates

Contact Person: Daniel Zentner

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

Telephone: (541) 292-5839

Email: dzentner@structint.com

Title: Program Manager





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**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

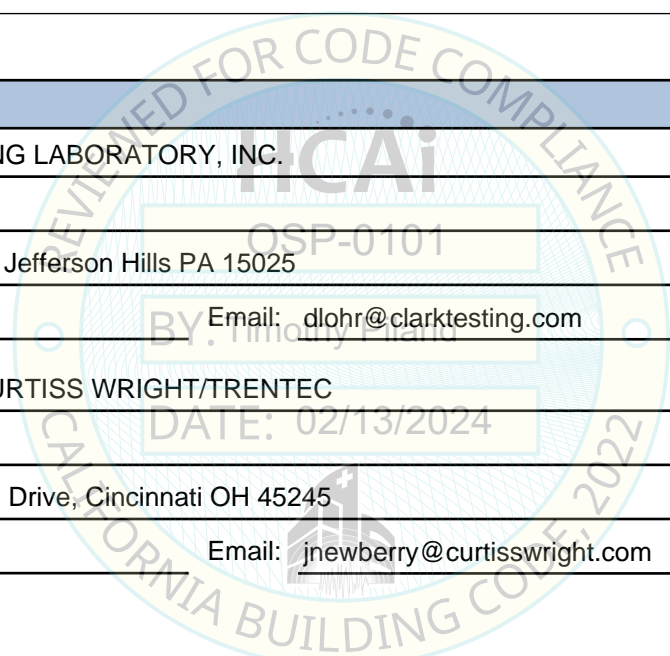
**Certification Method**

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





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**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) =	1.44 (SDS = 2.00, z/h = 1); 1.13 (SDS = 2.50, z/h = 0)
SDS (Design spectral response acceleration at short period, g) =	2.00 (z/h = 1); 2.50 (z/h = 0)
$a_p$ (Amplification factor) =	1
$R_p$ (Response modification factor) =	2.5
$\Omega_0$ (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 02/13/2030**

Date:	2/13/2024	OSP-0101	
Name:	Timothy Piland	BY: Timothy Piland	Title: Senior Structural Engineer
Special Seismic Certification Valid Up to: SDS (g) =	See Above		z/h = See Above
Condition of Approval (if applicable):	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.		



# SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

1900374-CR-001-R2



<b>Manufacturer:</b> Vertiv Corporation	<b>TABLE 1</b>
<b>Model Line:</b> Liebert GXT4 and APS Single Phase UPS	

**Certified Product Construction Summary:**  
Carbon Steel Housing

**Certified Options Summary:**

**Mounting Configuration:**  
Base mounted - rigid in Two Post Rack (See UUT Summaries for directions on installation)  
Note: Installed mounting must be of similar configuration and equivalent strength and stiffness to those tested.

**Building Code: CBC 2022**      **Seismic Certification Limits:**       $S_{DS} = 2.0g$   $z/h = 1.0$        $I_p = 1.5$   
 $S_{DS} = 2.5g$   $z/h = 0.0$

Model Line	Model <sup>1,2,3</sup>	Dimensions (in)			Weight (lbs.)	Notes	UUT
		Depth	Width	Height			
Liebert GXT4 UPS	GXT4-500RT120	16.2	16.9	3.4	40	Input AC - 120 VAC	Extrap.
	GXT4-700RT120	16.2	16.9	3.4	40	Input AC - 120 VAC	Extrap.
	GXT4-1000RT120	16.2	16.9	3.4	40	Input AC - 120 VAC	Extrap.
	GXT4-1500RT120	19.7	16.9	3.4	55	Input AC - 120 VAC	Extrap.
	GXT4-2000RT120	19.5	16.9	3.5	59	Input AC - 120 VAC	1
	GXT4-3000RT120	23.7	16.9	3.4	71	Input AC - 120 VAC	Interp.
	GXT4-3000RT208	24.0	16.9	3.5	80	Input AC - 115-280 VAC	2
	GXT4-5000RT208	28.0	16.9	6.9	141	Input AC - 120/208 VAC	3
	GXT4-6000RT208	26.1	16.9	6.9	132	Input AC - 120/208 VAC	Interp.
	GXT4-6000RTL630	22.6	16.9	8.5	132	Input AC - 208 VAC	Interp.
	GXT4-8000RT208	26.5	16.9	10.3	213	Input AC - 120/208 VAC	Interp.
	GXT4-10000RT208	26.5	17.0	10.5	236	Input AC - 120/208 VAC	4
Liebert GXT4 External Battery Cabinets	GXT4-48VBATT	19.5	16.9	3.5	71		5
	GXT4-72VBATT	23.5	16.9	3.5	97		6
	GXT4-144VBATT	26.0	16.9	3.4	106		7
	GXT4-240VBATT	22.6	16.9	6.8	143		Interp.
	GXT4-288VBATT	26.1	16.9	6.9	184		8
Liebert APS AS5 Series UPS - 10 Bay	AS5	32.0	17.3	27.5	531		21B
Liebert Rack MPH2 Rack PDU	MPHB6224	10.0	19.0	3.5	23		23
	MPHB2341	10.5	19.0	1.8	8		24

**Notes:**  
**1.** See UUT Summary for center of gravity height limit per component.  
**2.** Maximum center of gravity height of configured rack: 36" for GXT4, MPH, and MP2  
**3.** Maximum center of gravity height of configured rack: 38" for AS5













# UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R2



<b>Manufacturer:</b> Vertiv Corporation <b>Model Line:</b> Liebert GXT4 and APS Single Phase UPS								
UUT	Unit Description (mounting)	Report Number (UUT#)	Testing Lab	Year Tested	ISO 17025 Accredited?	S <sub>DS</sub>	z/h	I <sub>p</sub>
1	GXT4-2000RT120 (2-Post Configuration)	Q18601.0, Rev.0 (UUT1)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
2	GXT4-3000RT208 (2-Post Configuration)	Q18601.0, Rev.0 (UUT2)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
3	GXT4-5000RT208 (2-Post Configuration)	Q18601.0, Rev.0 (UUT3)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
4	GXT4-10000RT208 (2-Post Configuration)	Q18601.0, Rev.0 (UUT4)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
5	GXT4-48VBATT (2-Post Configuration)	Q18601.0, Rev.0 (UUT5)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
6	GXT4-72VBATT (2-Post Configuration)	Q18601.0, Rev.0 (UUT6)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
7	GXT4-144VBATT (2-Post Configuration)	Q18601.0, Rev.0 (UUT7)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
8	GXT4-288VBATT (2-Post Configuration)	Q18601.0, Rev.0 (UUT8)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
9-19	NOT USED							
20	Liebert APS EBC (base mounted - rigid)	Q18601.0, Rev.0 (UUT20b)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.11 3.15	1.0 0.0	1.5
21A	Liebert APS AS5 Series (base mounted - rigid)	Q18601.0, Rev.0 (UUT21)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.43 2.64	1.0 0.0	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-R2



**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS

UUT	Unit Description (mounting)	Report Number (UUT#)	Testing Lab	Year Tested	ISO 17025 Accredited?	S <sub>DS</sub>	z/h	I <sub>P</sub>
21B	Liebert APS AS5 Series (2-Post Configuration)	Q18601.0, Rev.0 (UUT21)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.09 3.25	1.0 0.0	1.5
22	AS6A1RCJGNNX223 (base mounted - rigid)	Q18601.0, Rev.0 (UUT22b)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.11 3.15	1.0 0.0	1.5
23	MPHB6224 (2-Post Configuration)	Q18601.0, Rev.0 (UUT23)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
24	MPHB2341 (2-Post Configuration)	Q18601.0, Rev.0 (UUT24)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
25-27	NOT USED							
28	MP2-115A (2-Post Configuration)	Q18601.0, Rev.0 (UUT28)	QualTech-NP by Curtiss-Wright	2018	No <sup>1</sup>	2.33 2.75	1.0 0.0	1.5
29	GXT4-10000RT208-GE (base mounted - rigid)	JID 19-00422, Rev.1 (UUT1)	Clark Testing	2019	Yes	2.0 2.5	1.0 0.0	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-R2



<b>Manufacturer:</b>	Vertiv Corporation	<b>UUT 1</b>
<b>Model Line:</b>	Liebert GXT4 and APS Single Phase UPS	
<b>Model Number:</b>	GXT4-2000RT120	
<b>Serial Number:</b>	1712300555AFBB3	
<b>Test Report:</b>		Q18601.0, Rev.0 (UUT1)



UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
59	19.50	16.88	3.50	7.20	5.72	>33.33

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)	
CBC 2022	ICC-ES AC156	2.33	1.0	1.5	3.73	2.80	1.83	0.73	
		2.75	0.0						

<b>Product Construction Summary:</b>	<b>Test Mounting Details:</b>
Carbon Steel Casing	

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

**Mounting Details Continued:**

UUT1 was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (p/n: 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, plate washer (provided with 2-Post rack) and 5/8" lock washers. UUT1 was attached to the 2-Post rack with a 2U TELECOMRKIT. The kit contains two brackets, each bracket was secured to the rack using eight (8) #12 screws that are supplied with the kit. The UUT was secured to the bracket using eight (8) M4 screws that are supplied with the UPS. 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-R2



**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** GXT4-2000RT120  
**Serial Number:** 1712300555AFBB3

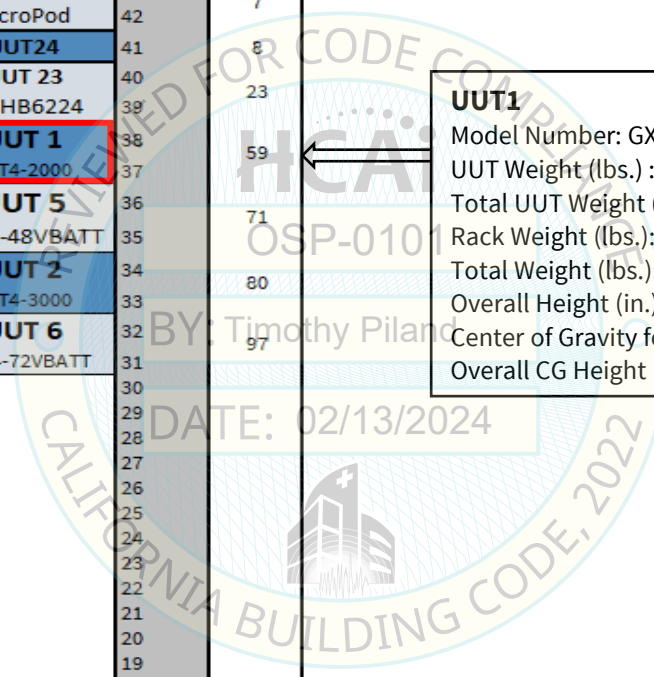
UUT 1

**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	23
73.25	MPHB6224	39	
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			

**UUT1**  
 Model Number: GXT4-2000  
 UUT Weight (lbs.): 59  
 Total UUT Weight (lbs.): 1012  
 Rack Weight (lbs.): 30  
 Total Weight (lbs.): 1042  
 Overall Height (in.): 84  
 Center of Gravity for UUT (in.): 69.75 as limit  
 Overall CG Height (in.) = 36







# UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R2



**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** GXT4-3000RT208  
**Serial Number:** 1723400325AFBD3

**UUT 2**

**Test Report:** Q18601.0, Rev.0 (UUT2)

### 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	23
73.25	MPHB6224	39	
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	97
61	UUT 6	32	
59.25	GXT4-72VBATT	31	141
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	106
36.5		18	
34.75		17	236
33		16	
31.25	UUT 3	15	184
29.5	GTX4-5000	14	
27.75		13	106
26	UUT 7	12	
24.25	GXT4-144VBATT	11	236
22.5		10	
20.75	UUT 4	9	184
19	GXT4-10000	8	
17.25		7	184
15.5		6	
13.75		5	184
12		4	
10.25	UUT 8	3	184
8.5	GTX4-288VBATT	2	
6.75		1	
5			

**UUT2**  
 Model Number: GXT4-3000  
 UUT Weight (lbs.): 80  
 Total UUT Weight (lbs.): 1012  
 Rack Weight (lbs.): 30  
 Total Weight (lbs.): 1042  
 Overall Height (in.): 84  
 Center of Gravity for UUT (in.): 62.75 as limit  
 Overall CG Height (in.) = 36



# UNIT UNDER TEST (UUT) SUMMARY SHEET


1900374-CR-001-R2



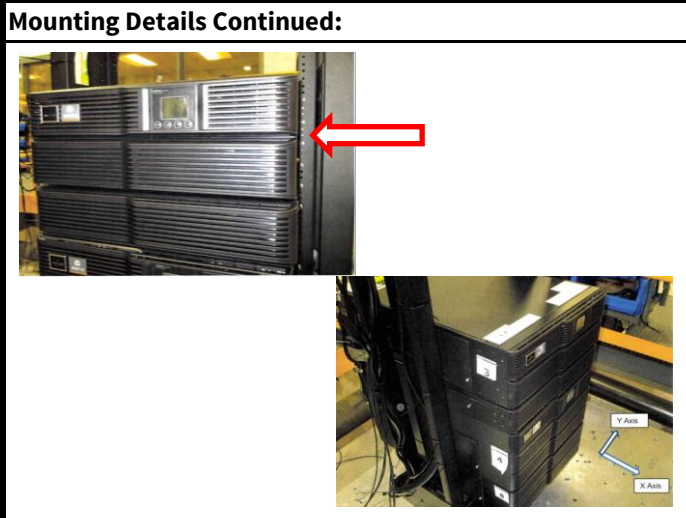
<b>Manufacturer:</b>	Vertiv Corporation	<b>UUT 3</b>
<b>Model Line:</b>	Liebert GXT4 and APS Single Phase UPS	
<b>Model Number:</b>	GXT4-5000RT208	
<b>Serial Number:</b>	1716902401BW923	
		<b>Test Report:</b> Q18601.0, Rev.0 (UUT3)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
141	28.00	16.88	6.88	7.20	5.72	>33.33

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)	
CBC 2022	ICC-ES AC156	2.33	1.0	1.5	3.73	2.80	1.83	0.73	
		2.75	0.0						

<b>Product Construction Summary:</b>	<b>Test Mounting Details:</b>
Carbon Steel Casing	

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



UUT3 was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (p/n: 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 bolt, plate washer (provided with 2-Post rack) and 5/8" lock washers. UUT3 was attached to the 2-Post rack with a 4U TELECOMRKIT. The kit contains two brackets, each bracket was secured to the rack using sixteen (16) #12 screws that are supplied with the kit. The UUT was secured to the bracket using eight (8) M4 screws that are supplied with the UPS. 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-R2



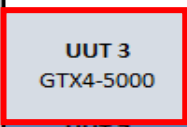
**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** GXT4-5000RT208  
**Serial Number:** 1716902401BW923

**UUT 3**

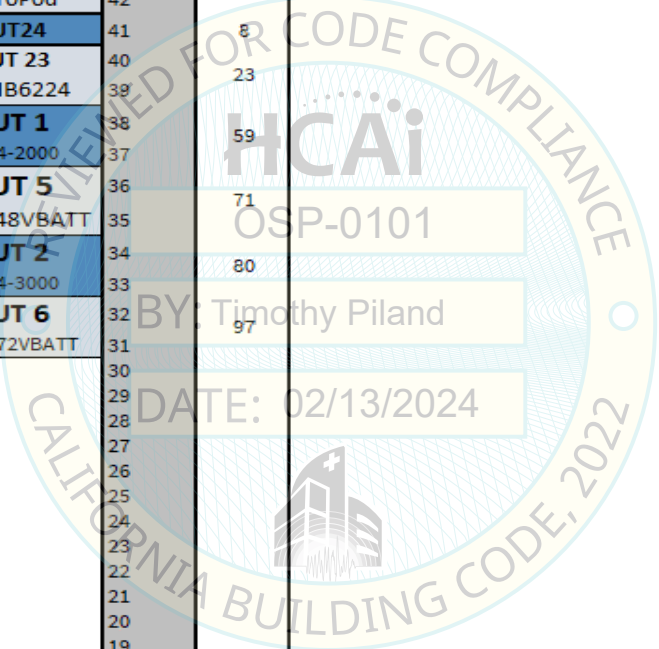
**Test Report:** Q18601.0, Rev.0 (UUT3)

### 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	23
73.25	MPHB6224	39	
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			



**UUT3**  
 Model Number: GTX4-5000  
 UUT Weight (lbs.): 141  
 Total UUT Weight (lbs.): 1012  
 Rack Weight (lbs.): 30  
 Total Weight (lbs.): 1042  
 Overall Height (in.): 84  
 Center of Gravity for UUT (in.): 29.5 as limit  
 Overall CG Height (in.) = 36



# UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R2



<b>Manufacturer:</b>	Vertiv Corporation	<b>UUT 4</b>
<b>Model Line:</b>	Liebert GXT4 and APS Single Phase UPS	
<b>Model Number:</b>	GXT4-10000RT208	
<b>Serial Number:</b>	1723502372BW953	
<b>Test Report:</b>		Q18601.0, Rev.0 (UUT4)

UUT Properties						
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
236	26.50	17.00	10.50	7.20	5.72	>33.33

UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)	
CBC 2022	ICC-ES AC156	2.33	1.0	1.5	3.73	2.80	1.83	0.73	
		2.75	0.0						

<b>Product Construction Summary:</b>	<b>Test Mounting Details:</b>
Carbon Steel Casing	

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



UUT4 was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (p/n: 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, plate washer (provided with 2-Post rack) and 5/8" lock washers. UUT4 was attached to the 2-Post rack with a 4U TELECOMRKIT. The kit contains two brackets, each bracket was secured to the rack using sixteen (16) #12 screws that are supplied with the kit. The UUT was secured to the bracket using eight (8) M4 screws that are supplied with the UPS. 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-R2



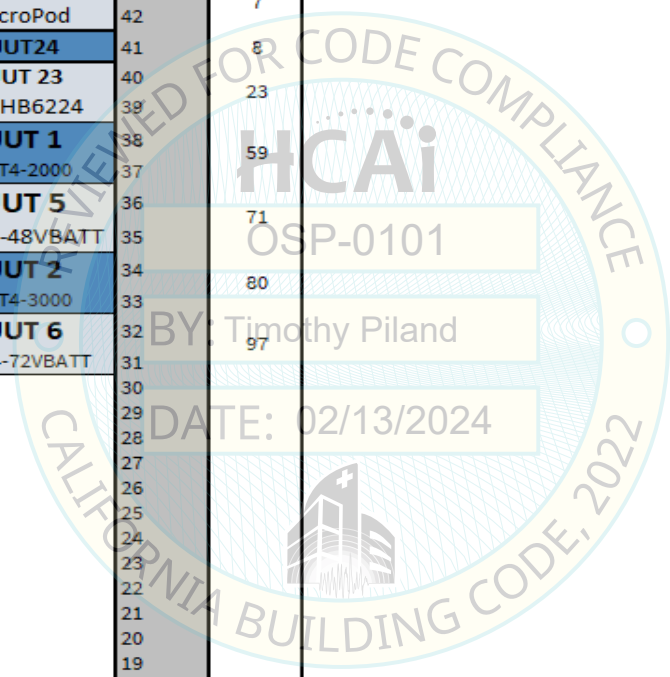
**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** GXT4-10000RT208  
**Serial Number:** 1723502372BW953

**UUT 4**

**Test Report:** Q18601.0, Rev.0 (UUT4)

### 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	23
73.25	MPHB6224	39	
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			



**UUT4**  
 Model Number: GXT4-10000  
 UUT Weight (lbs.): 236  
 Total UUT Weight (lbs.): 1012  
 Rack Weight (lbs.): 30  
 Total Weight (lbs.): 1042  
 Overall Height (in.): 84  
 Center of Gravity for UUT (in.): 17.25 as limit  
 Overall CG Height (in.) = 36





# UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R2



**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** GXT4-48VBATT  
**Serial Number:** 1716500039AGC73

**UUT 5**

**Test Report:** Q18601.0, Rev.0 (UUT5)

### 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	23
73.25	MPHB6224	39	
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	141
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	106
38.25	UUT 7	19	
36.5	GXT4-144VBATT	18	
34.75		17	236
33		16	
31.25	UUT 3	15	
29.5	GTX4-5000	14	
27.75		13	184
26		12	
24.25	UUT 4	11	
22.5	GXT4-10000	10	
20.75		9	
19		8	
17.25		7	
15.5		6	
13.75		5	
12		4	
10.25	UUT 8	3	
8.5	GTX4-288VBATT	2	
6.75		1	
5			

**UUT5**  
 Model Number: GXT4-48VBATT  
 UUT Weight (lbs.): 71  
 Total UUT Weight (lbs.): 1012  
 Rack Weight (lbs.): 30  
 Total Weight (lbs.): 1042  
 Overall Height (in.): 84  
 Center of Gravity for UUT (in.): 66.25 as limit  
 Overall CG Height (in.) = 36





# UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R2



**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** GXT4-72VBATT  
**Serial Number:** 1715200425ADC83

**UUT 6**

**Test Report:** Q18601.0, Rev.0 (UUT6)

### 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	23
73.25	MPHB6224	39	
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			

**UUT6**

Model Number: GXT4-72VBATT  
 UUT Weight (lbs.): 97  
 Total UUT Weight (lbs.): 1012  
 Rack Weight (lbs.): 30  
 Total Weight (lbs.): 1042  
 Overall Height (in.): 84  
 Center of Gravity for UUT (in.): 59.25 as limit  
 Overall CG Height (in.) = 36



# UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R2



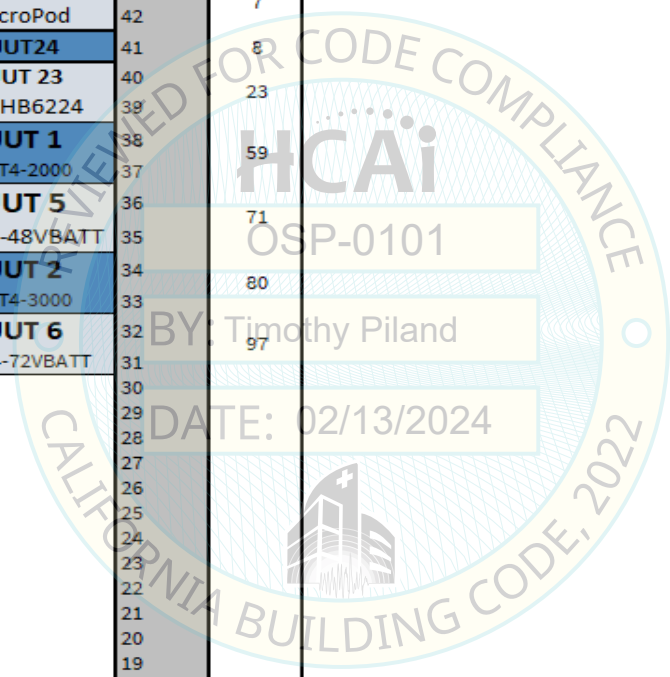
**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** GXT4-144VBATT  
**Serial Number:** 1705000062BY983

**UUT 7**

**Test Report:** Q18601.0, Rev.0 (UUT7)

### 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	23
73.25	MPHB6224	39	
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			



**UUT7**  
 Model Number: GXT4-144VBATT  
 UUT Weight (lbs.): 106  
 Total UUT Weight (lbs.): 1012  
 Rack Weight (lbs.): 30  
 Total Weight (lbs.): 1042  
 Overall Height (in.): 84  
 Center of Gravity for UUT(in.): 24.24 as limit  
 Overall CG Height (in.) = 36



# UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R2




<b>Manufacturer:</b>	Vertiv Corporation	<b>UUT 8</b>
<b>Model Line:</b>	Liebert GXT4 and APS Single Phase UPS	
<b>Model Number:</b>	GXT4-288VBATT	
<b>Serial Number:</b>	17185000066BY993	
<b>Test Report:</b>		Q18601.0, Rev.0 (UUT8)

**UUT Properties**

Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
184	26.13	16.88	6.88	7.20	5.72	>33.33

**UUT Highest Passed Seismic Run Information**

Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2022	ICC-ES AC156	2.33	1.0	1.5	3.73	2.80	1.83	0.73
		2.75	0.0					

<b>Product Construction Summary:</b>	<b>Test Mounting Details:</b>
Carbon Steel Casing	

**Options/Subcomponent Summary:**

Description	Mfr.	Part Number
Liebert Internal Batteries - GXT4	Vertiv	GXT4-288VBATKIT



UUT5 was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (p/n: 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, plate washer (provided with 2-Post rack) and 5/8" lock washers. UUT5 was attached to the 2-Post rack with a 2U TELECOMRKIT. The kit contains two brackets, each bracket was secured to the rack using eight (8) #12 screws that are supplied with the kit. The UUT was secured to the bracket using eight (8) M4 screws that are supplied with the UPS. 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-R2



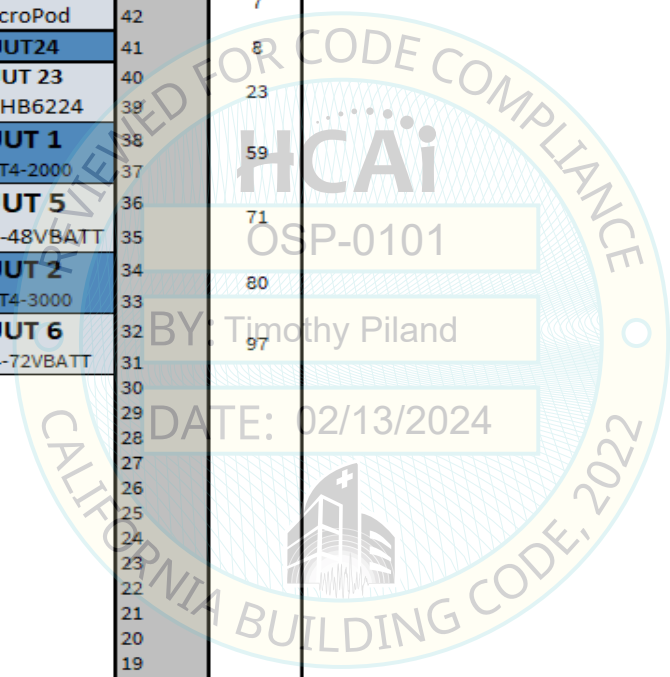
**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** GXT4-288VBATT  
**Serial Number:** 17185000066BY993

**UUT 8**

**Test Report:** Q18601.0, Rev.0 (UUT8)

### 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	23
73.25	MPHB6224	39	
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			



**UUT8**  
 Model Number: GXT4-288VBATT  
 UUT Weight (lbs.) : 184  
 Total UUT Weight (lbs.): 1012  
 Rack Weight (lbs.): 30  
 Total Weight (lbs.): 1042  
 Overall Height (in.): 84  
 Center of Gravity for UUT (in.): 8.5 as limit  
 Overall CG Height (in.) = 36



# UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R2



<b>Manufacturer:</b>	Vertiv Corporation	<b>UUT 20</b>
<b>Model Line:</b>	Liebert GXT4 and APS Single Phase UPS	
<b>Model Number:</b>	EBC-16 Bay	
<b>Serial Number:</b>	161300009AW113	
<b>Test Report:</b>		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 <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)	
CBC 2022	ICC-ES AC156	2.11	1.0	1.5	3.38	2.53	2.10	0.84	
		3.15	0.0						

<b>Product Construction Summary:</b>	<b>Test Mounting Details:</b>
Carbon Steel Casing	

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

<b>Mounting Details Continued:</b>

UUT20 was base mounted-rigid to the shake table using four (4) mounting brackets (p/n: 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.





# UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R2



**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** AS5-10 Bay  
**Serial Number:** 1725000161AU043

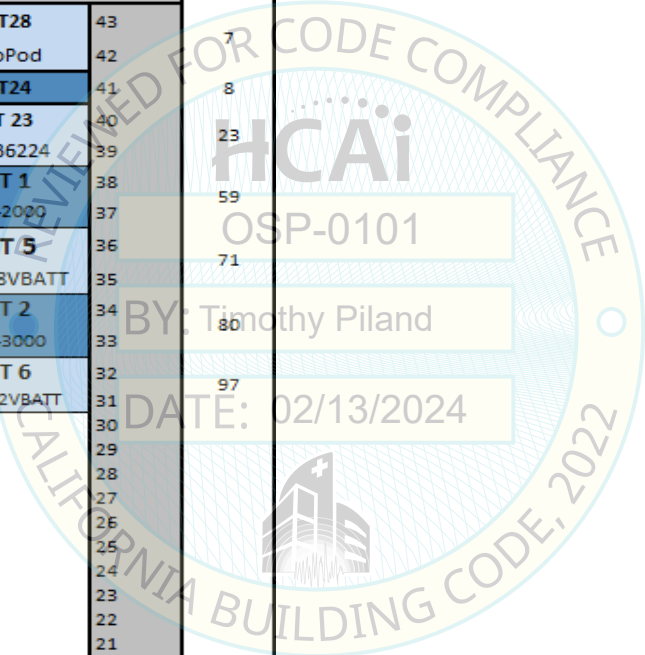
**UUT 21B**

**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	8
76.75	UUT24	41	23
75	UUT 23	40	
73.25	MPHB6224	39	
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		15	
29.5		14	
27.75		13	
26		12	
24.25		11	
22.5		10	
20.75	UUT 21B	9	531
19	AS5-10Bay	8	
17.25		7	
15.5		6	
13.75		5	
12		4	
10.25		3	
8.5		2	
6.75		1	
5			

**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-R2



<b>Manufacturer:</b> Vertiv Corporation	<b>UUT 23</b>
<b>Model Line:</b> Liebert GXT4 and APS Single Phase UPS	
<b>Model Number:</b> MPH6224	
<b>Serial Number:</b> V16J2600147	
<b>Test Report:</b> Q18601.0, Rev.0 (UUT23)	

### UUT Properties

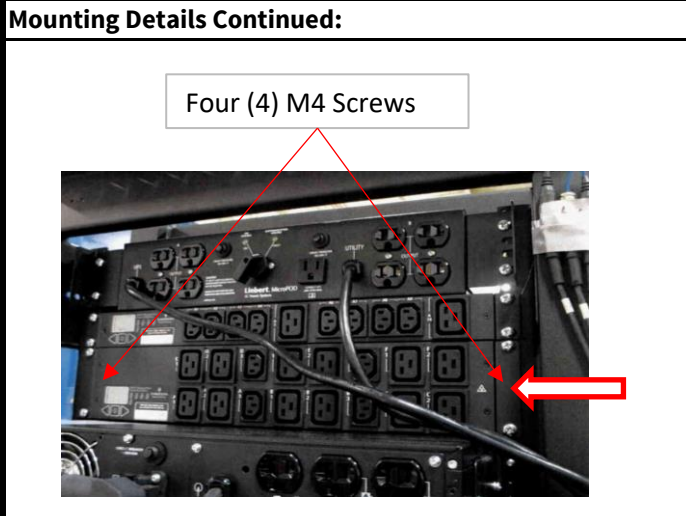
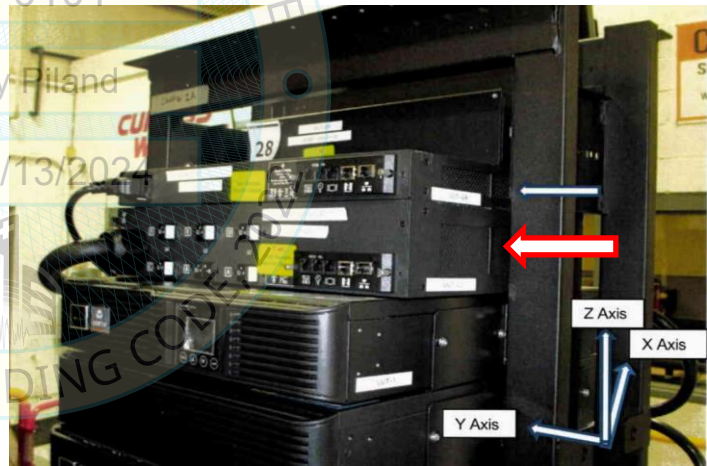
Weight (lbs.)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
23	10.00	19.00	3.50	7.20	5.72	>33.33

### UUT Highest Passed Seismic Run Information

Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2022	ICC-ES AC156	2.33	1.0	1.5	3.73	2.80	1.83	0.73
		2.75	0.0					

<b>Product Construction Summary:</b> Carbon Steel Casing	<b>Test Mounting Details:</b>
---	-------------------------------

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



UUT23 was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (p/n: 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 it 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-R2



**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** MPHB6224  
**Serial Number:** V16J2600147

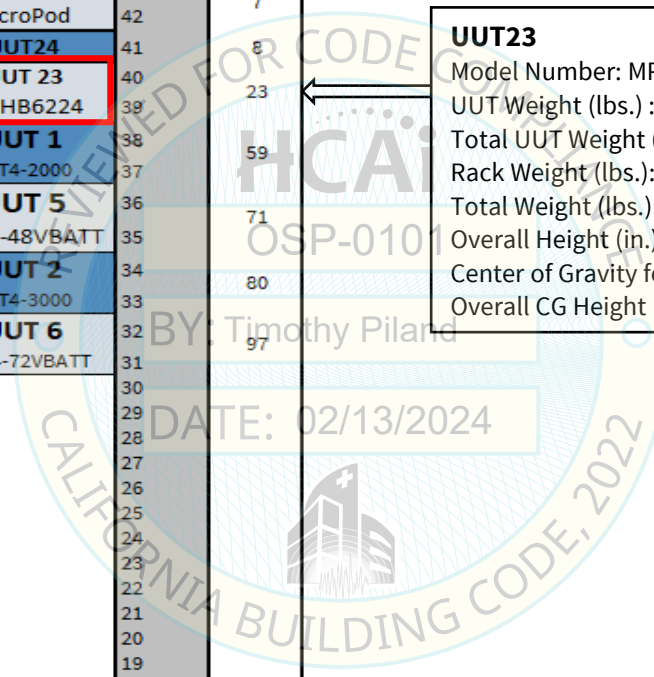
**UUT 23**

**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	7
78.5	MicroPod	42	
76.75	UUT24	41	8
75	UUT 23 MPHB6224	40	23
73.25	UUT 1	39	
71.5	GXT4-2000	38	59
69.75	UUT 5	37	
68	GXT4-48VBATT	36	71
66.25	UUT 2	35	
64.5	GXT4-3000	34	80
62.75	UUT 6	33	
61	GXT4-72VBATT	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	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-R2



<b>Manufacturer:</b> Vertiv Corporation	<b>UUT 24</b>
<b>Model Line:</b> Liebert GXT4 and APS Single Phase UPS	
<b>Model Number:</b> MPH82341	
<b>Serial Number:</b> V16E2600129	
<b>Test Report:</b> 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

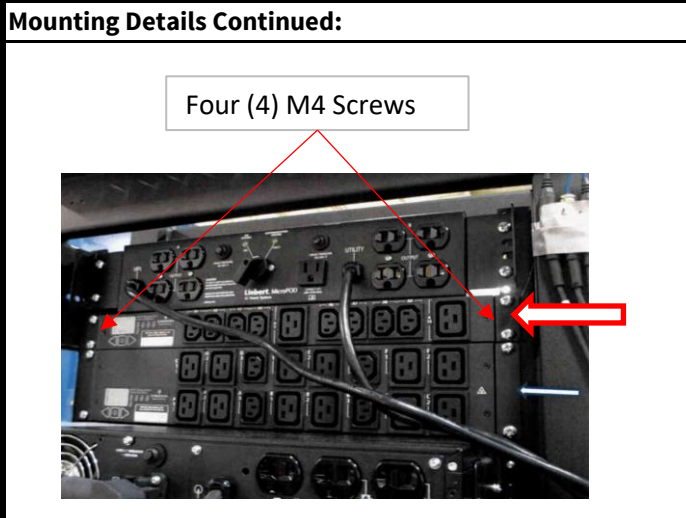
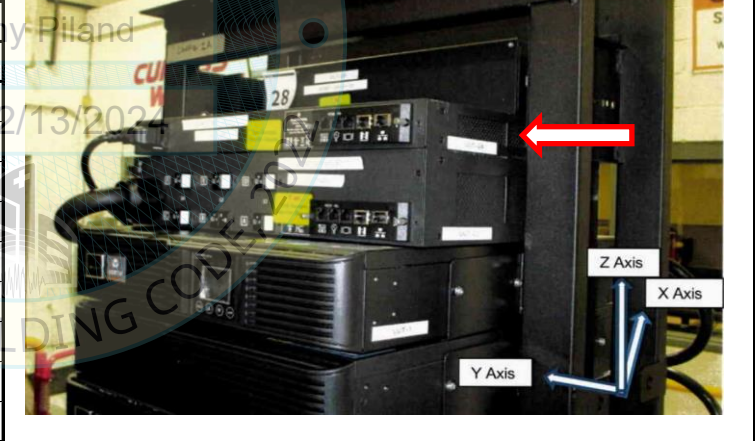
UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)	
CBC 2022	ICC-ES AC156	2.33	1.0	1.5	3.73	2.80	1.83	0.73	
		2.75	0.0						

**Product Construction Summary:**  
Carbon Steel Casing

**Test Mounting Details:**

**Options/Subcomponent Summary:**

Description	Mfr.	Part Number
n/a	n/a	n/a



UUT24 was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (p/n: 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-R2



**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** MPH82341  
**Serial Number:** V16E2600129

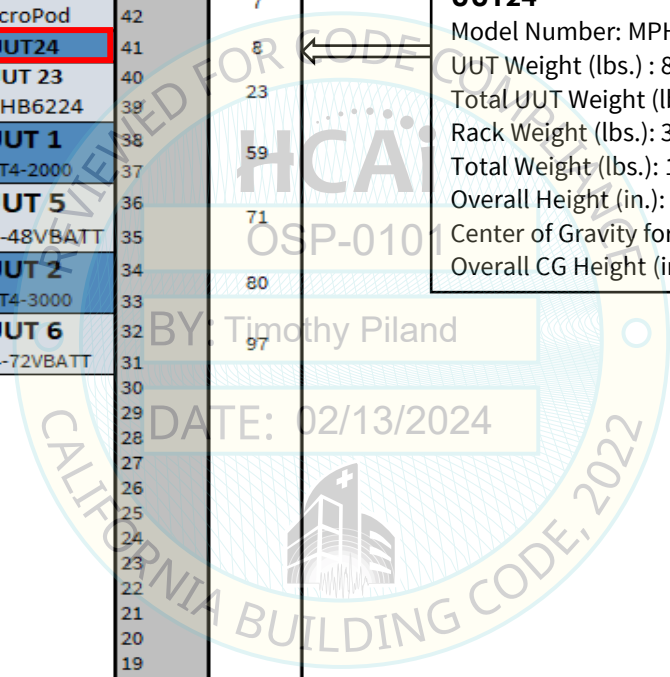
**UUT 24**

**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	23
73.25	MPHB6224	39	
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	141
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	106
38.25		19	
36.5		18	236
34.75		17	
33		16	184
31.25	UUT 3	15	
29.5	GTX4-5000	14	
27.75		13	106
26	UUT 7	12	
24.25	GXT4-144VBATT	11	236
22.5		10	
20.75	UUT 4	9	184
19	GXT4-10000	8	
17.25		7	184
15.5		6	
13.75		5	184
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-R2



<b>Manufacturer:</b>	Vertiv Corporation	<b>UUT 28</b>
<b>Model Line:</b>	Liebert GXT4 and APS Single Phase UPS	
<b>Model Number:</b>	MP2-115A	
<b>Serial Number:</b>	1716100024AG333	
<b>Test Report:</b>		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

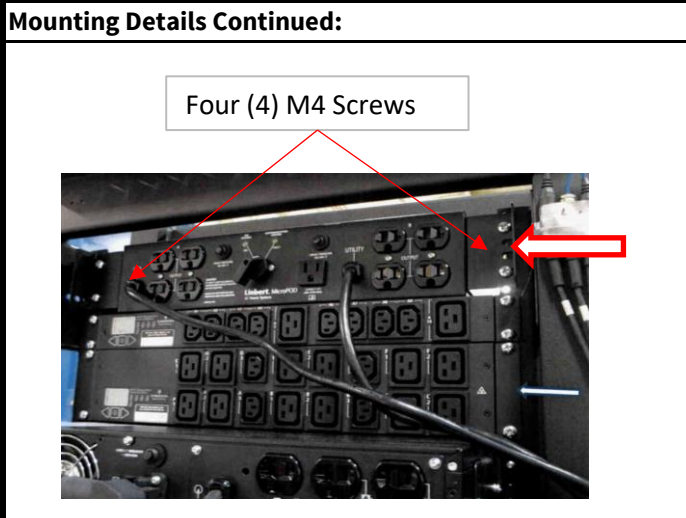
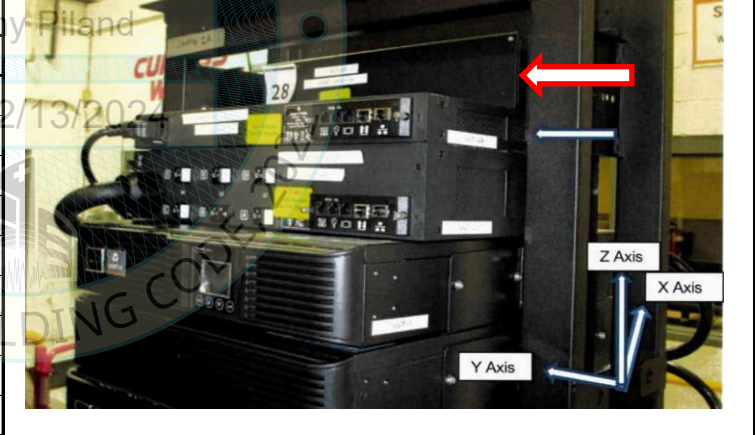
UUT Highest Passed Seismic Run Information									
Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	I <sub>P</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)	
CBC 2022	ICC-ES AC156	2.33	1.0	1.5	3.73	2.80	1.83	0.73	
		2.75	0.0						

**Product Construction Summary:**  
Carbon Steel Casing

**Test Mounting Details:**

**Options/Subcomponent Summary:**

Description	Mfr.	Part Number
n/a	n/a	n/a



UUT28 was mounted to a 2-Post B-Line (Eaton) Seismic Relay Rack (p/n: 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.



# UNIT UNDER TEST (UUT) SUMMARY SHEET

1900374-CR-001-R2



**Manufacturer:** Vertiv Corporation  
**Model Line:** Liebert GXT4 and APS Single Phase UPS  
**Model Number:** MP2-115A  
**Serial Number:** 1716100024AG333

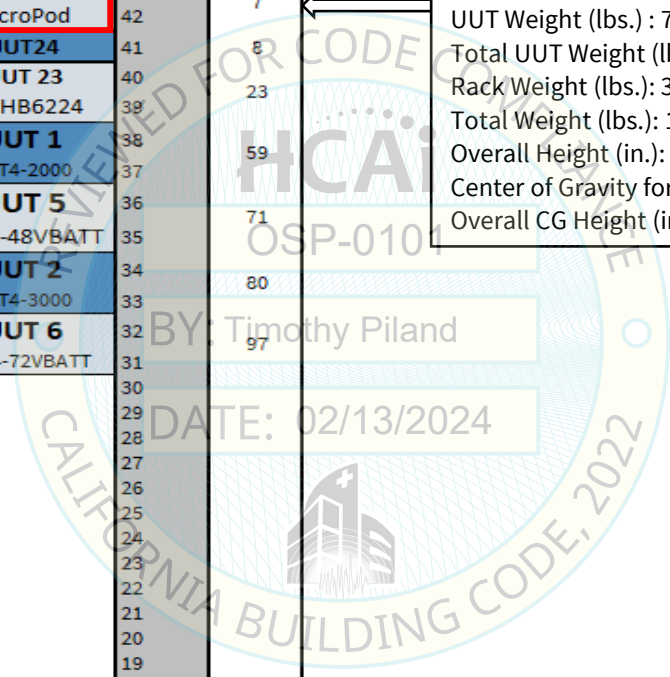
**UUT 28**

**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	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	
69.75	GXT4-2000	37	59
68	UUT 5	36	
66.25	GXT4-48VBATT	35	71
64.5	UUT 2	34	
62.75	GXT4-3000	33	80
61	UUT 6	32	
59.25	GXT4-72VBATT	31	97
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			

**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-R2




<b>Manufacturer:</b>	Vertiv Corporation	<b>UUT 29</b>
<b>Model Line:</b>	Liebert GXT4 and APS Single Phase UPS	
<b>Model Number:</b>	GXT4-10000RT208-GE	
<b>Serial Number:</b>	n/a	
<b>Test Report:</b>		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 <sub>DS</sub> (g)	z/h	I <sub>p</sub>	A <sub>FLX-H</sub> (g)	A <sub>RIG-H</sub> (g)	A <sub>FLX-V</sub> (g)	A <sub>RIG-V</sub> (g)
CBC 2022	ICC-ES AC156	2.0	1.0	1.5	3.20	2.40	1.67	0.67
		2.5	0.0					

<b>Product Construction Summary:</b>	<b>Test Mounting Details:</b>
Carbon Steel Casing	

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

<b>Mounting Details Continued:</b>

<div style="border: 1px solid black; padding: 5px; display: inline-block;">Mounting Brackets</div>

UUT29 was base mounted-rigid to the shake table using two (2) mounting brackets (p/n: 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.

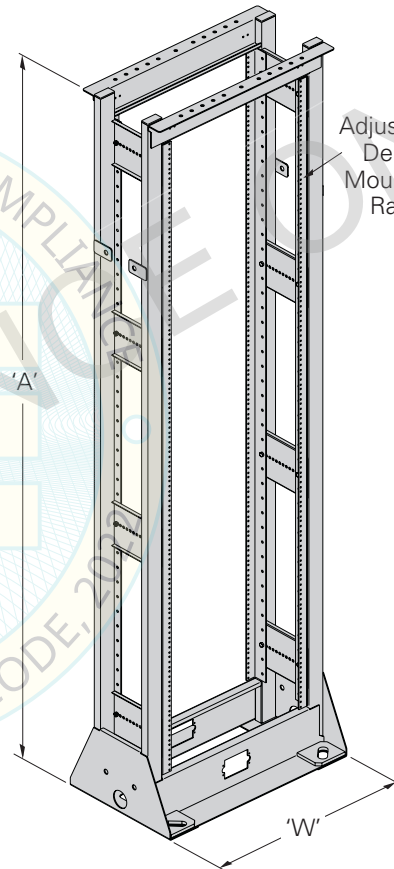
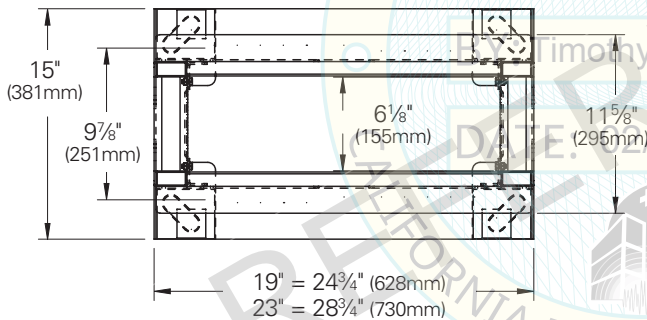
# Network Equipment Racks & Accessories

## 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)
<b>19" (482mm) Rack Width</b>				
→ <b>SB85219084</b> _____	84" (2133)	24 3/4" (628)	43	113 (51.3)
<del>SB85219096</del> _____	<del>96" (2438)</del>	<del>24 3/4" (628)</del>	<del>49</del>	<del>124 (56.2)</del>
<del><b>23" (584mm) Rack Width</b></del>				
<del>SB85223084</del> _____	<del>84" (2133)</del>	<del>28 3/4" (730)</del>	<del>43</del>	<del>117 (53.1)</del>
<del>SB85223096</del> _____	<del>96" (2133)</del>	<del>28 3/4" (730)</del>	<del>49</del>	<del>127 (57.6)</del>

Specify part number and finish when ordering.