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Title: Program Manager

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

### OFFICE USE ONLY APPLICATION FOR HCAI SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP) APPLICATION #: OSP-0750 **HCAI Special Seismic Certification Preapproval (OSP)** Type: New Renewal **Manufacturer Information** Manufacturer: Philips Healthcare (Suzhou) Co. Ltd. Manufacturer's Technical Representative: Bret Wu Mailing Address: 258, Zhong Yuan Road, Suzhou, China 215024 Telephone: 15040292470 Email: Bret.wu@philips.com **Product Information** Product Name: CT Systems Product Type: NA Product Model Number: CT 3500 General Description: Computed Tomography (CT) Medical Imaging System Mounting Description: Rigid, Floor Mounted Seismic enhancements made to the test units and/or modifications required to address Tested Seismic Enhancements: 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

Email: dzentner@structint.com



STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY



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

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
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Certification Method
☐ GR-63-Core
Other (Please Specify):
EOR CODE CO.
Testing Laboratory
Company Name: CHINA TELECOMMUNICATION TECHNOLOGY LABS (CTTL)
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Mailing Address: No. 299 Tengfei Road, Industrial Park, Lianchi District, Baoding, Hebei, China
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DATE: 03-04-2024



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#### **Seismic Parameters**

Design Basis of Equipment or Components (Fp/Wp) = CT Gantry & Couch: 2.40 (SDS=2.00, z/h=1); 1.13 (SDS = 2.5, z/h=0); Consoles & Host Rack: 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) = 2.0 (z/h = 1); 2.5 (z/h = 0)

 $a_p$  (Amplification factor) = 1.0

Rp (Response modification factor) = 1.5 (CT Gantry & Couch); 2.5 (Consoles & Host Rack)

 $\Omega_0$  (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 03/04/2030

Date: 3/4/2024

Name: Timothy Piland BY: Timothy J Piland Title: Senior Structural Engineer

Special Seismic Certification Valid Up to: Sps (g) = See Above z/h = See Above

Condition of Approval (if applicable):





STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY

## SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX





Manufacturer: Philips Healthcare (Suzhou) Co., Ltd.

Model Line: CT 3500

TABLE 1

#### **Certified Product Construction Summary:**

Gantry: Carbon steel frame with plastic cover. Console & Host rack: Carbon steel enclosure. Couch: Carbon steel frame with plastic cover.

#### **Certified Options Summary:**

Gantry available with either two (2) Physical Panels or two (2) Touch Panels.

#### **Mounting Configuration:**

Base mounted - rigid

Note: Installed mounting must be of similar configuration and equivalent strength and stiffness to those tested.

Building Code: CBC 2022 Seismic Certification Limits:  $S_{DS} = 2.0 \text{ g} \quad \text{z/h=1.0}$   $S_{DS} = 2.5 \text{ g} \quad \text{z/h=0.0}$   $I_{P} = 1.5$ 

Madallina	1134	Dir	nensions	(in)	Weight	N.A.	
Model Line	Model	Depth	Width	Height	(lbs.)	Notes	UUT
CT3500 Gantry	CT64 <mark>PGA1</mark> 00	B\38.5 <sub>Ti</sub>	m_87.1	D;[76.5]	4,131	See Options Summary <sup>1</sup>	1
Kun Dana Canaala	CTC4DC4200	7.0	19.3	18.0	33	Standard	2
KunPeng Console	CT64PGA300	8.5	21.7	17.5	58	Premium	3
Host Rack 01	Host Rack 01	16.9	34.7	29.8	122		4
CT3500 Couch	CT64PVA200	25.2	161.0	34.3	838 2	5/	5
				MAMA			
		PALLEN		MADO	20		
		VIAD	7 11/10/11/11/17	NIGO	9		
		B	JILD:	Ma			

#### Notes:

- 1. UUT1 was tested with one (1) touch panel and one (1) physical panel.
- 2. CT3500 Couch weight does not include the 353 lb. simulated patient load present during testing.





UUT	Unit Description	Report Number	Testing Lab	Year Tested	ISO 17025 Accredited?	S <sub>DS</sub>	z/h	I <sub>P</sub>
1	CT3500 Gantry	No. B22X80516 (UUT1)	CTTL	2022	Yes	2.0 2.5	1.0 0.0	1.5
2	KunPeng Standard Console	No. B22X80516 (UUT2)	CTTL	2022	Yes	2.0 2.5	1.0 0.0	1.5
3	KunPeng Premium Console	No. B22X80516 (UUT3)	CTTL	2022	Yes	2.0 2.5	1.0 0.0	1.5
4	Host Rack 01	No. B22X80516 (UUT4)	RCAREC	2022	Yes	2.0 2.5	1.0 0.0	1.5
5	CT3500 Couch	No. B23X81964 (UUT1)	CTTL	2023	Yes	2.0 2.5	1.0 0.0	1.5
		8	OSP-0750	*****	70			
		BY:	imothy J Piland					
		(((()munnanses						
	\	P. DATE	: 03-04-2024		2			
		Continue		No.				
		WIAE	BUILDING	COX				
otes:						•	•	

#### 2200604-CR-001-R1



Manufacturer: Philips Healthcare (Suzhou) Co., Ltd.

Model Line: CT 3500

Model Number: CT64PGA100

**UUT 1** 

Serial Number: N/A Test Report: No. B22X80516 (UUT1)

U	UΤ	Pro	ope	rties

Weight	Dimension (in)			Dimension (in) Lowest Natural Frequency (I			ncy (Hz)
(lbs.)	Depth	Width	Height	Front-Back	Side-Side	Vertical	
4,131	38.5	87.1	76.5	9.99	15.25	30.50	

#### **UUT Highest Passed Seismic Run Information**

Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Ι <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 OR C	2.0	1.0	1 5	3.20	2.40	1.68	0.68
CBC 2022	ICC-ES ACIS	2.5	0.0	1.5	3.20	2.40	1.00	0.00

#### **Product Construction Summary:**

**Test Mounting Details:** 

Carbon Steel Framing. Plastic Cover.

Options	/Subcom	ponent	Summary:
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Description	Part Number
Physcial Panel (1)	N/A DATE: 03
Touch Panel (1)	N/A DAIE:
	PA
	IA DI
	BUI



UUT1 was base mounted - rigid to the fixture using eight (8) M16 Grade 8.8 screws. The fixture was connected to the table using eight (8) M16 Grade 8.8 screws.

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

#### 2200604-CR-001-R1



**UUT 2** 

Manufacturer: Philips Healthcare (Suzhou) Co., Ltd.

Model Line: CT 3500

Model Number: CT64PGA300 (Standard Console)

Serial Number: N/A Test Report: No. B22X80516 (UUT2)

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Weight	Dimension (in)			Dimension (in) Lowest Natural Frequency (H		
(lbs.)	Depth	Width	Height	Front-Back	Side-Side	Vertical
33	7.0	19.3	18.0	20.51	>33.33	>33.33

#### **UUT Highest Passed Seismic Run Information**

Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Ι <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 OR C	2.0	1.0	1 5	3.20	2.40	1.68	0.68
CBC 2022	ICC-ES ACIS	2.5	0.0	1.5	3.20	2.40	1.00	0.00

#### **Product Construction Summary:**

#### **Test Mounting Details:**

Standard Console. Carbon Steel Enclosure.

	//////////////////////////////////////				
Options/Subcomponent Summary: BV Time					
Description	Part Number				
N/A	N/A DATE 02				
	DAIE: 03				
	PANNIN				
	VIA DI				
	BUI				



UUT2 was base mounted - rigid to the fixture using four (4) M10 Grade 8.8 screws. The fixture was connected to the table using four (4) M16 Grade 8.8 screws.

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

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#### 2200604-CR-001-R1



UUT3

Manufacturer: Philips Healthcare (Suzhou) Co., Ltd.

Model Line: CT 3500

Model Number: CT64PGA300 (Premium Console)

Serial Number: N/A Test Report: No. B22X80516 (UUT3)

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Weight	Dimension (in)			Lowest Natural Frequency (Hz)			
(lbs.)	Depth	Width	Height	Front-Back	Side-Side	Vertical	
58	8.5	21.7	17.5	11.52	27.73	>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 OR C	2.0	1.0	1.5	3.20	2.40	1.68	0.68
	ICC-ES ACIS	2.5	0.0	1.5	3.20	2.40	1.00	0.00

#### **Product Construction Summary:**

**Test Mounting Details:** 

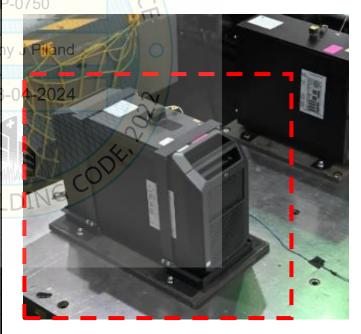
Premium Console. Carbon Steel Enclosure.

Options	/Subcom	ponent S	ummary:
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Description

N/A	N/A DATE O
	DAIE: 0.
	IA DI
	BUI

**Part Number** 



UUT3 was base mounted - rigid to the fixture using four (4) M10 Grade 8.8 screws. The fixture was connected to the table using four (4) M16 Grade 8.8 screws.

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

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#### 2200604-CR-001-R1



Manufacturer: Philips Healthcare (Suzhou) Co., Ltd.

Model Line: CT 3500 Model Number: Host Rack 01 **UUT 4** 

Serial Number: N/A Test Report: No. B22X80516 (UUT4)

UL	JΤ	Pro	per	ties
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Weight	Dimension (in)			Lowest Natural Frequency (Hz)			
(lbs.)	Depth	Width	Height	Front-Back	Side-Side	Vertical	
122	16.9	34.7	29.8	11.72	27.34	>33.33	

#### **UUT Highest Passed Seismic Run Information**

Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Ι <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 OR C	2.0	1.0	1 5	3.20	2.40	1.68	0.68
	ICC-ES ACIS	2.5	0.0	1.5	3.20	2.40	1.00	0.00

#### **Product Construction Summary:**

**Test Mounting Details:** 

Carbon Steel Enclosure.

Options	/Subcom	ponent Summary	:
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Options/Subcomponer	nt Summary: BV Timothy J Piland	The same of the sa
Description	Part Number	
N/A	N/A DATE: 03-04-2024	21
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	BUILDING	
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UUT4 was base mounted - rigid to the fixture using six (6) M10 Grade 8.8 screws. The fixture was connected to the table using eight (8) M16 Grade 8.8 screws.

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

#### 2200604-CR-001-R1



UUT 5

Manufacturer: Philips Healthcare (Suzhou) Co., Ltd.

Model Line: CT 3500 Model Number: CT64PVA200

Serial Number: Test Report: No. B23X81964 (UUT1) N/A

UUT Properties									
Weight	Dimension (in)			Lowest Natural Frequency (Hz)					
(lbs.)¹	Depth Width Height		Front-Back	Side-Side	Vertical				
1 101	25.2	161.0	24.2	7.60	12.60	7.01			

#### **UUT Highest Passed Seismic Run Information**

Building Code	Test Criteria	S <sub>DS</sub> (g)	z/h	Ι <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 OR C	2.0	1.0	1 5	3.20	2.40	1.68	0.68
	ICC-ES ACIS	2.5	0.0	1.5	3.20	2.40	1.00	0.00

#### **Product Construction Summary:**

**Test Mounting Details:** 

Q235 Carbon Steel Frame. Plastic Cover.

Options/Subcomponent Summary:

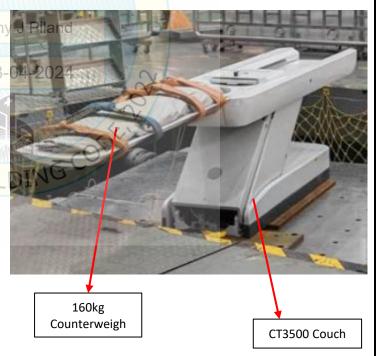
Description	Part Number
N/A	N/A BATE
	DATE: 0.
	PA
	1A Divis
	BUI

#### **Test Mounting Details:**

<sup>1</sup> Weight listed is the total weight. Individual details are as follows:

Couch: 838.0 lbs.

Counterweigh: 352.8 lbs.



UUT5 was base mounted - rigid to the fixture using four (4) M16 Grade 8.8 screws. The fixture was connected to the table using eight (8) M16 Grade 8.8 screws.

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