



APPLICATION FOR PREAPPROVAL

SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

APPLICATION NO.
OSP – 0149 – 10

Check whether application is: NEW RENEWAL

1.0 PHILIPS HEALTHCARE, NORTH AMERICA CARA RAU
Manufacturer *Manufacturer's Technical Representative*

4 Technology Drive, Irvine, CA 92618
Mailing Address

(888) 233-0531
Telephone

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E-mail Address

2.0 Brilliance CT Line, Brightview XCT System Computed Tomography (CT) Diagnostic
MX-16-Slice CT Scanner System, GPP Imaging Systems
Product Name *Product Type*

SEE ATTACHMENTS | 1: BRILLIANCE CT LINE | 2: BRIGHTVIEW XCT | 3: MX-16-SLICE | 4-GPP
Product model No (List all unique product identification numbers and/or serial numbers)

General Description: Rigid Mounted Multi-component Computed Tomography (CT) & Hybrid SPECT/CT Imaging Systems used for medical imaging. Seismic Certification is limited to components identified in the attachments for functions related to CT medical diagnostic imaging only. Seismic support/bracing enhancements incorporated in the test units shall be incorporated in approved components.

3.0 EQUIPMENTANCHORAGE.COM JONATHAN ROBERSON, S.E.
Applicant Company Name *Contact Person*

5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

Mailing Address

(406) 541-EASE (3273)
Telephone

jon@easeco.com
E-mail Address

I hereby agree to reimburse the Office of Statewide Health Planning and Development for the actual costs incurred by the department for review.

it

PRINCIPAL ENGINEER
Title

May 11, 2012
Date

EQUIPMENTANCHORAGE.COM
Company Name



Registered Design Professional Preparing the Report

4.0

EQUIPMENTANCHORAGE.COM

Company Name

Jonathan Roberson, S.E.

S4197

Contact Name

California License Number

5877 Pine Ave, Suite 210, Chino Hills, CA. 91709

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909-606-7622

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California Licensed Structural Engineer Review and Acceptance of the Report

5.0

EQUIPMENTANCHORAGE.COM

Company Name

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Contact Name

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Anchorage Pre-Approval

6.0

- Anchorage is pre-approved under OPA-
(Separate application for anchorage pre-approval is required)
- Anchorage is not Pre-approved

Certification Method

7.0

- Testing in accordance with:
 - ICC-ES AC-156
 - Other (Please Specify):
- Analysis
- Experience data
- Combination of Testing, Analysis, and/or Experience Data (Please Specify):

Testing Laboratory (if applicable)

8.0

Environmental Testing Laboratory, Inc.

Brady Richard

Company Name

Contact Name

11034 Indian Trail, Dallas, TX 75229-3513

Mailing Address

972-247-9657

brady@etldallas.com

Telephone

E-mail:



Approval Parameters

9.0

Design in accordance with ASCE 7-05 Chapter 13: Yes No

Design Basis of Equipment or Components (F_p/W_p) = $1.2 \times S_{DS}$ (Gantry & Patient Tables) / $0.72 \times S_{DS}$ (All others)

S_{DS} (Spectral response acceleration at short period) = 2.0g (MX-16 System & Brilliance CRC) | 2.6g (All others)

a_p (In-structure equipment or component amplification factor) = 1.0 (Gantry & Patient Tables) / 1.0 (All others)

R_p (Equipment or component response modification factor) = 1.5 (Gantry & Patient Tables) / 2.5 (All others)

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component fundamental period(s) = **SEE ATTACHMENTS**

Building period limits (if any) = **NO LIMIT**

Overall dimensions and weight (or range thereof) = **SEE ATTACHMENTS**

Equipment or Components @ grade designed in accordance with ASCE 7-05 Chapter 15: Yes No

Design Basis of Equipment or Components (V/W) =

S_{DS} (Spectral response acceleration at short period) =

S_1 (Spectral response acceleration at 1 second period) =

R (Response modification coefficient) = 1.0

Ω_0 (System overstrength factor) = 1.0

C_d (Deflection amplification factor) = 1.0

I_p (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component fundamental period(s) = Sec

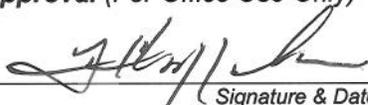
Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2007: Yes No

10.0 List of attachments supporting the special seismic certification of equipment or components:

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Test Report | <input type="checkbox"/> Drawings | <input type="checkbox"/> Manufacturer's Catalog |
| <input type="checkbox"/> Calculations | <input checked="" type="checkbox"/> Others (Please Specify): ATTACHMENT 1: Brilliance CT Line
ATTACHMENT 2: Brightview XCT
ATTACHMENT 3: MX-16-Slice CT
ATTACHMENT 4: Gemini PET/CT | |

11.0 OSHPD Approval (For Office Use Only)



Signature & Date
Timothy J. Piland, SSE
Name & Title

May 27, 2012

December 31, 2016

Approval Expiration Date

S_{DS} (g) = **See Section 9.0** z/h = **1.0**
Special Seismic Certification Valid Up to

Condition of Approval (if any): **Certification is limited to components and functions related to Computed Tomography (CT) medical diagnostic imaging only.**

PHILIPS HEALTHCARE, NORTH AMERICA

SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

System Description:

The systems of the Brilliance family of CT scanners are multiple-component Computed Tomography (CT) imaging systems for use in the medical diagnostic imaging field. Special Seismic Certification is limited to the CT scanner systems identified in Table 1 and the subsystem components identified in Table 2 for functions related to CT imaging services only.

Table 1: Seismic Certified Systems

Brilliance iCT System
Brilliance iCT SP System
Brilliance Big Bore System
Brilliance 64 System
Brilliance 16 System
Ingenuity CT System

Table 2: Seismic Certified Subsystems

Subsystem Component	Manufacturer	Subsystem Part No.	Dimensions (in)			Max. Wt. (lb)	Mount ^A	UUT
			Width	Depth	Height			
GANTRY								
Brilliance 16 Gantry	Philips Healthcare	453567023331	93.7	36.6	80	4180	Floor	B1
Brilliance 64 Gantry	Philips Healthcare	455013309031	93.7	36.6	80	4280	Floor	
Ingenuity CT Gantry	Philips Healthcare	459800029801	93.5	37	78.9	4280	Floor	
Brilliance BIG BORE Gantry	Philips Healthcare	453567079601	99	39	78.7	4464	Floor	
Brilliance iCT Gantry	Philips Healthcare	453567449901	107	37.7	78	5656	Floor	
Brilliance iCT SP Gantry	Philips Healthcare	453567531111	107	37.7	78	5656	Floor	A1
PATIENT TABLE								
Patient Support	Philips Healthcare	453567023322	22.7	107.4	23.4	856	Floor	
Patient Support	Philips Healthcare	453567480181	22.7	107.4	23.4	850	Floor	A2
Patient Support -Bariatric	Philips Healthcare	453567391361	22.7	107.4	23.4	890	Floor	B2
Patient Support -Bariatric	Philips Healthcare	453567480191	22.7	107.4	25.4	890	Floor	
Patient Support -Extended	Philips Healthcare	459800021211	22.7	117.6	25.4	900	Floor	
Patient Support -Extended	Philips Healthcare	459800021201	22.7	117.6	25.4	900	Floor	
POWER DISTRIBUTION UNIT								
PDU	Spellman High Voltage Electronics	459800064811	22	32	48.5	1170	Floor	A3
AIR COMPRESSOR								
Air Compressor	Jun-Air	453567488111	25	22.5	33.75	259	Floor	A4
COMMON HOST (CRC)								
Common Host ^D (DELL T7400 3.00 GHZ)	Philips Healthcare & Dell	455011305161	24	35.5	29.9	313	Floor	A5 B3 & B3-A
Common Host ^E (DELL T5500)	Philips Healthcare & Dell	455011305162	24	35.5	29.9	306	Floor	E1
CIRS								
CIRS,VSD4,1.1GB,2A	Philips Healthcare & Granite Microsystems	453567412261	8.5	21.5	21.3	42 ^B	**	B3-B

PHILIPS HEALTHCARE, NORTH AMERICA

SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

Table 2: Seismic Certified Subsystems

Subsystem Component	Manufacturer	Subsystem	Dimensions (in)			Max.	Mount ^A	UUT
		Part No.	Width	Depth	Height	Wt. (lb)		
CIRS,VSD4,1.1GB,6A	Philips Healthcare & Granite Microsystems	453567412272	8.5	21.5	21.3	42 ^B	**	
CIRS,G4-VS400,N2BP1G,ACQ4e	Philips Healthcare & Granite Microsystems	453567554291	8.5	21.5	21.3	42 ^B	**	
CIRS,G4-VS200,N5BP1G,ACQ4e	Philips Healthcare & Granite Microsystems	453567542961	8.5	21.5	21.3	42 ^B	**	
CIRS,G4-VS501,N2BP1G, ACQ4e, GPU	Philips Healthcare & Granite Microsystems	459800032781	8.5	21.5	21.3	45 ^B	**	A5-B
CIRS, G4-VS501,N5BP1G,ACQ4e, GPU	Philips Healthcare & Granite Microsystems	459800032761	8.5	21.5	21.3	45 ^B	**	
CONSOLE UPS								
Console UPS – 3kVA	Tripp Lite	453567368131	5.25	20	18.25	153	Floor	B4-A
External Battery Pack	Tripp Lite	453567368131	3.5	20	18.25		Floor	B4-B
Console UPS – 3.5 kW (5kVA)	Tripp Lite	453567554571	4	26	17.5	300	Floor	A6
External Battery Pack 1	Tripp Lite	453567554571	4	20.5	17.5		Floor	
External Battery Pack 2	Tripp Lite	453567554571	5.375	26	17.5		Floor	
CT BOX								
CT Box	Philips Healthcare	453567027193	15.8	4	2.5	3	CT	B5-A
CT Box	Philips Healthcare	453567111591	15.8	4	2.5	3	CT	A7-A
MONITOR								
LCD Monitor	FIMI S.r.l.	455300008791	16.8	8	17.5	12	CT	B5-B
21" LCD Monitor	Philips	991932952021	17	8	16.5	23	CT	A7-B
KEYBOARD								
Keyboard	Cherry	455018005031	18	6.8	2.3	1	CT	B5-C A7-C
MOUSE								
Mouse	Microsoft	455018005041	3	5.5	1.3	0.1	CT	B5-D A7-D
TILT ACTUATORS								
Right Hand Seismic Actuator	Philips Healthcare	459800121291	---	---	---	---	ƒ	B1
Left Hand Seismic Actuator	Philips Healthcare	459800121281	---	---	---	---	ƒ	B1

Table Notes:

- A) **Mount:** Establishes the general mounting type(s) under which the tabulated components are seismically certified
- **Floor:** a free-standing, base mounted condition with no lateral support above the base and a direct connection between unit base and supporting structure.
 - **CT:** Countertop refers to a condition where the unit sits atop but is not otherwise anchored to a counter, desk, or other piece of fixed furniture.
 - **** :** Unit is located inside Common Host cabinet
 - **ƒ:** Subcomponent is located inside Gantry
- B) Wt included in Common Host weight.
- C) Philips Healthcare = Philips Medical Systems (Cleveland), Inc.
- D) Seismic Certification of Common Host (Dell T7400) requires use of Seismic Enhancements identified for UUT B3 below.
- E) Seismic Certification of Common Host (Dell T5500) requires use of Seismic Enhancements identified for UUT E1 below.

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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

Table 3: Lowest Resonant Frequencies (Hz) of Units Tested: Brilliance iCT System

UUT	LOWEST RESONANT FREQUENCIES (HZ)		
	FRONT-TO-BACK AXIS	SIDE-TO-SIDE AXIS	VERT AXIS
UUT A3: PDU	17.2	12.6	31.0
UUT A5: CRC – Cabinet Top	25.0	8.6	40
UUT A2: Patient Support:	15.5	3.7	5.0
UUT A6: Tripp Lite UPS	>50	42.8	35.8
UUT A4: Air Compressor Cabinet	17.8	5.0	36.1
UUT A7: Operators Console	*	*	*
UUT A1: Gantry:	5.3	7.7	17.9

Notes: * = Not Monitored

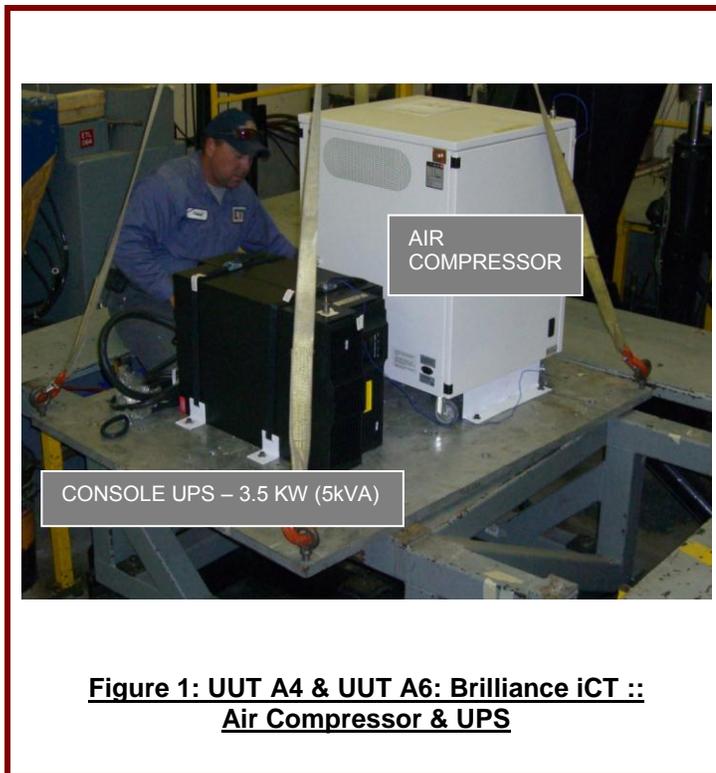


Figure 1: UUT A4 & UUT A6: Brilliance iCT :: Air Compressor & UPS

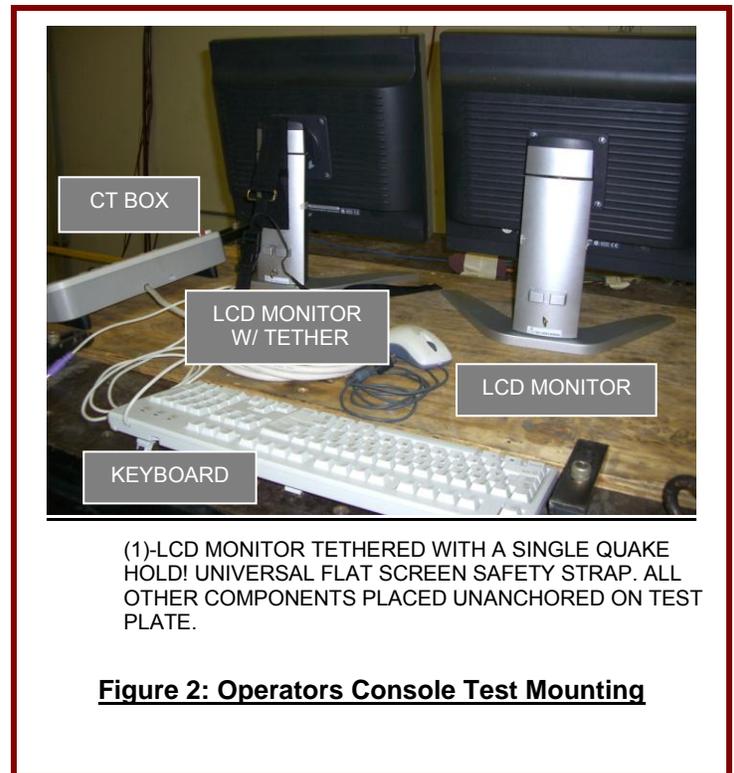


Figure 2: Operators Console Test Mounting

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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

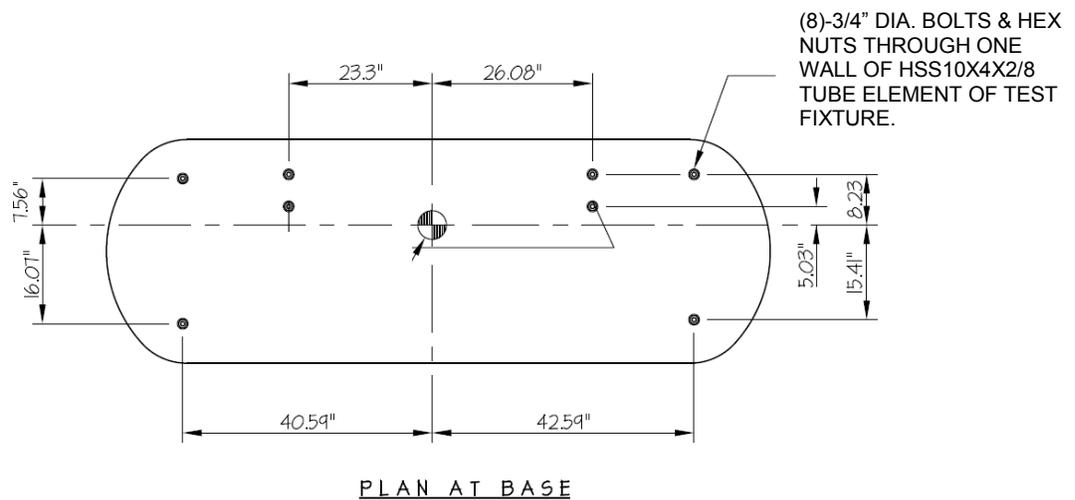


Figure 3: UUT A1: Brilliance iCT Gantry Test Mounting

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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems



Figure 4: UUT A2: Brilliance iCT :: Patient Support - Standard



Figure 5: UUT B2: Patient Support - Bariatric



Figure 6: UUT A5: Brilliance iCT :: CRC



Figure 7: UUT A3: Brilliance iCT :: PDU

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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

TEST SPECIMEN SUMMARY: Brilliance 16 Gantry

Name: Brilliance 16: Gantry
UTT Number: B1
Manufacturer: Philips Medical Systems (Cleveland), Inc.
UUT Function: Primary element of CT diagnostic imaging .
Description: Sub-component of the **Brilliance 16 CT Scanner System**

Seismically Certified Enhancements:

1. Seismic Tilt Actuators at each end of gantry.
 - a. Right Hand Seismic Actuator P/N 459800121291
 - b. Left Hand Seismic Actuator P/N 459800121281

Identification: Gantry Label System Label
Model # 453567023331 Model # 453567005721
Serial # 144 Serial # 6044

Dimensions: 39.5" H x 93.7" W x 36.6" D

Weight: 4140 LBS

Mounting: Floor

LOWEST RESONANT FREQUENCY:	<u>F/B AXIS</u> 7.624	<u>S/S AXIS</u> 5.175	<u>VERT AXIS</u> 20.05
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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

TEST SPECIMEN SUMMARY: Patient Support – Bariatric

- Name:** Brilliance 16: Patient Support – Bariatric
- UTT Number:** B2
- Manufacturer:** Philips Medical Systems (Cleveland), Inc.
- UUT Function:** Patient table used for passing patient into scan area during image acquisition.
- Description:** Sub-component of the **Brilliance 16 CT Scanner System**

- Identification:** Philips Part # 453567391361
- Dimensions:** 23.4 H x 22.7 W x 107.4 D
- Weight:** 876 lbs (table) + 600 lbs (simulated patient load)
- Mounting:** Floor

LOWEST RESONANT FREQUENCY:	<u>F/B AXIS</u> 4.748	<u>S/S AXIS</u> 3.935	<u>VERT AXIS</u> 6.306
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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

TEST SPECIMEN SUMMARY: Common Host

Name: Brilliance 16: Rapid View Console (aka Common Host system; or CRC)
UTT Number: B3
Manufacturer: Philips Medical Systems (Cleveland), Inc.
UUT Function: Cabinet used to house the CIRS and a Common Host computer.
Description: Sub-component of the **Brilliance 16 CT Scanner System**
LCC CRC DVI, HOST T7400 3.0GHz
The Common Host system cabinet is a housing containing the Common Host and CIRS computer towers. These components are mounted on sliding shelves that allow the computers to slide in and out of the cabinet for servicing. The cabinet includes fans, surge suppression, and an interface panel mounted at the rear for power and data distribution.

Seismically Certified Enhancements:

1. Shelf Retaining Clip: the retaining clip is located just inside the front door at the base of the unit, centered between the sliding shelves. (See Figure 10 & Figure 11)
2. CFS Top Guide Brackets: Cold formed steel guide brackets are provided at the top edge of each computer to laterally restrain computers under seismic ground motion. (See Figure 9)
3. Rubber feet were placed on the bottom of the Dell PC
4. Foam, adhesive backed sheets were put on the bottom of the sliding shelves.

Identification: Philips Part #: 455011305161; Serial #: 720466

Dimensions: 24" W x 35.5" D x 30" H

Weight: 306 lbs (includes CIRS and HOST)

Mounting: Floor

**LOWEST RESONANT
FREQUENCY:**

F/B AXIS
24.380

S/S AXIS
9.737

VERT AXIS
25.960



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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems



Figure 8: Specimen Interior

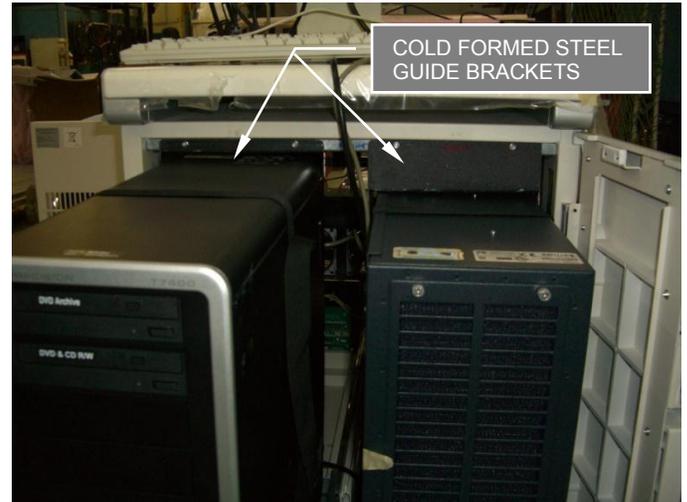


Figure 9: Inside Label

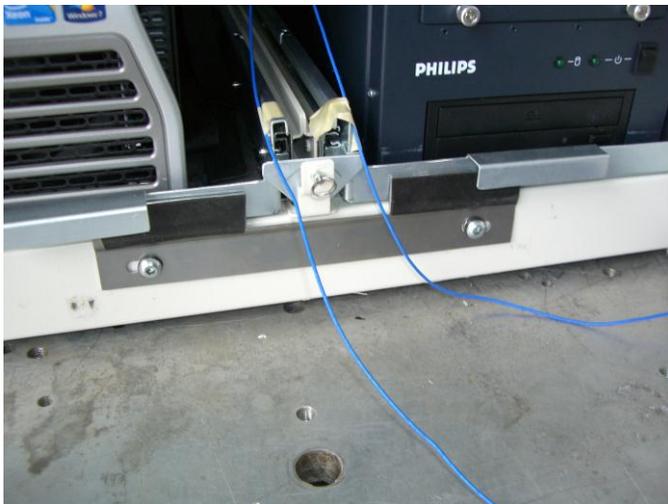


Figure 10: Detail of Sliding Shelf Retaining Clip

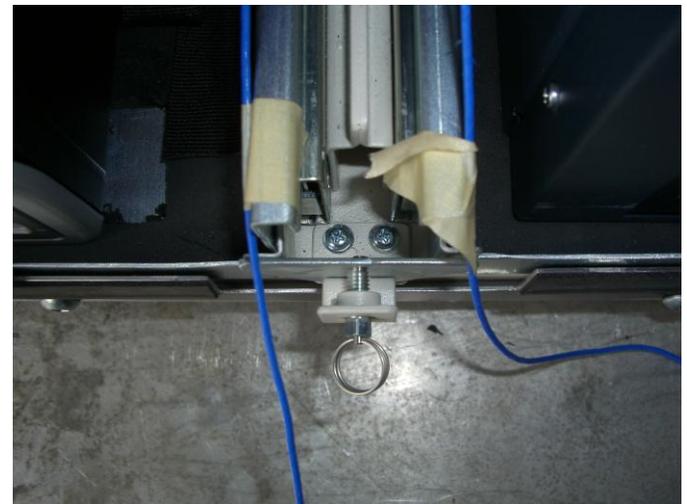


Figure 11: Detail of Sliding Shelf Retaining Clip

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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

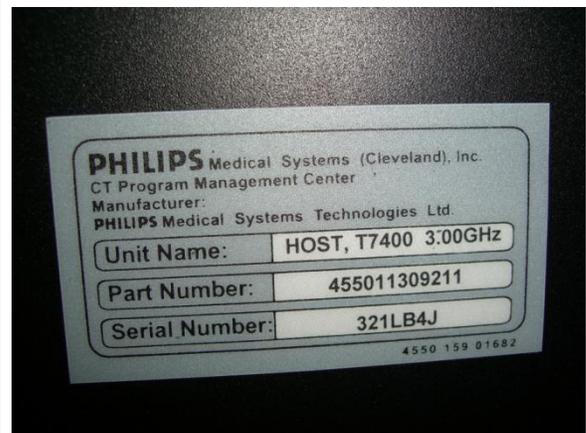
ATTACHMENT 1: Brilliance CT Systems

TEST SPECIMEN SUMMARY: Common Host

Name: Brilliance 16: Rapid View Console – Common Host Computer
UTT Number: B3-A
Manufacturer: Philips Medical Systems (Cleveland), Inc. & DELL
UUT Function: Image acquisition workstation.
Description: Sub-component of the **Brilliance 16 CT Scanner System**
Unit is housed within the Rapid View Console (CRC)
Dell Precision T7400 3.00 GHz
Identification: Philips Part #: 4550 113 09211;
Serial No. 321LB4J
Dell Precision T7400

Dimensions: 21.3" H x 8.5" W x 21.5" D
Weight: Wt included in CRC weight above
Mounting: Mounted within CRC

LOWEST RESONANT FREQUENCY:	<u>F/B AXIS</u> 6.596	<u>S/S AXIS</u> 9.737	<u>VERT AXIS</u> 15.150
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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

TEST SPECIMEN SUMMARY: CIRS

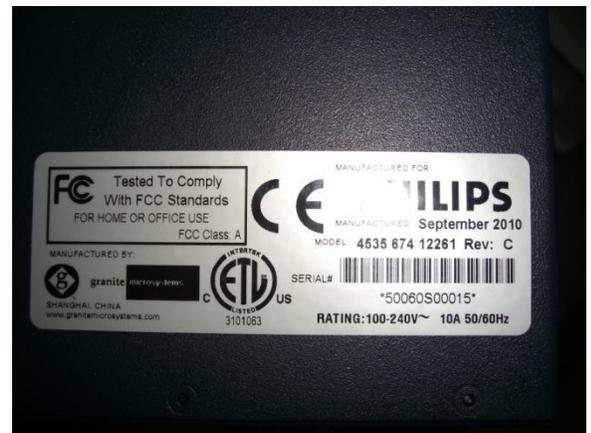
- Name:** Brilliance 16: Rapid View Console - CIRS Computer
- UTT Number:** B3-B
- Manufacturer:** Philips Medical Systems (Cleveland), Inc. & Granite Microsystems
- UUT Function:** Image acquisition & reconstruction workstation.
- Description:** Sub-component of the **Brilliance 16 CT Scanner System**
Unit is housed within the Rapid View Console (CRC)
- Identification:** Philips Part #: 4535 674 12261;
- Dimensions:** 8.5" W x 21.5" D x 21.3" H
- Weight:** 42 lbs
- Mounting:** Mounted within CRC

**LOWEST RESONANT
FREQUENCY:**

F/B AXIS
17.720

S/S AXIS
5.608

VERT AXIS
40.550



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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

TEST SPECIMEN SUMMARY: Console UPS

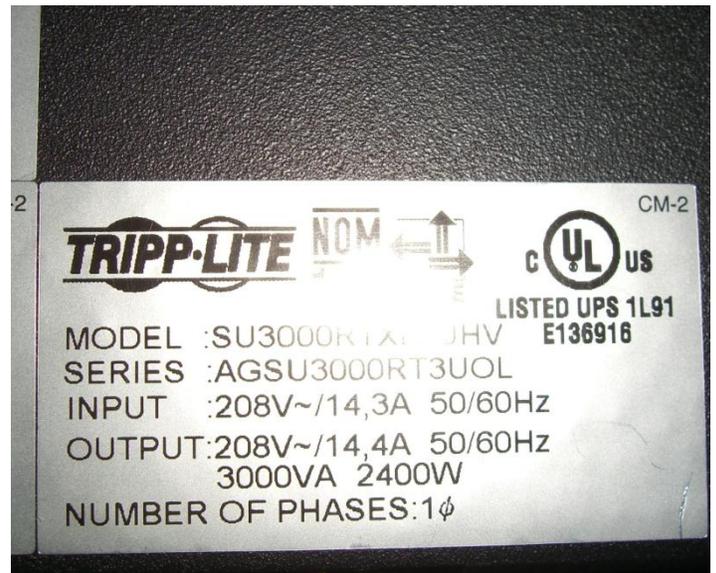
- Name:** Brilliance 16: TRIPP LITE 3kVA UPS
- UTT Number:** B4-A
- Manufacturer:** TRIPP LITE
- UUT Function:** Single phase Uninterruptible Power Supply provides emergency power backup to the Operators Console and CRC
- Description:** Sub-component of the **Brilliance 16 CT Scanner System**
UPS & Battery Pack are mounted together. Battery pack s described in the following section.
- Identification:** Philips Part # 453567368131;
TRIPP LITE Series # AGSU3000RT3UOL;
Model # SU3000RTXL3UHV;
Serial #9838FLCPS578600035
- Dimensions:** 5.25" W x 20" D x 18.25" H
- Weight:** 116 lb
- Mounting:** Floor: Mounted together with Battery Pack

**LOWEST RESONANT
FREQUENCY:**

F/B AXIS
26.47

S/S AXIS
20.85

VERT AXIS
>50



PHILIPS HEALTHCARE, NORTH AMERICA

SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

TEST SPECIMEN SUMMARY: Console UPS

- Name:** Brilliance 16: TRIPP LITE 3kVA UPS-Battery Pack
- UTT Number:** B4-B
- Manufacturer:** TRIPP LITE
- UUT Function:** DC power back-up source for the UPS supporting the Operators Console and CRC.
- Description:** Sub-component of the **Brilliance 16 CT Scanner System**
UPS & Battery Pack are mounted together. UPS is described in the preceding section.
- Identification:** Philips Part #: 453567368131;
TRIPP LITE Series # AGBP53 64;
Model # BP72V15-24; Serial # 9830EY0BP606500033
- Dimensions:** 3.5" W x 20" D x 18.25" H
- Weight:** Calculated into UPS weight
- Mounting:** Floor: Mounted together with UPS

**LOWEST RESONANT
FREQUENCY:**

F/B AXIS
42.67

S/S AXIS
20.85

VERT AXIS
>50



PHILIPS HEALTHCARE, NORTH AMERICA

SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

TEST SPECIMEN SUMMARY: Operator's Console

Name: Brilliance 16: Operator's Console : LCD Monitor 1 & 2
UTT Number: B5-B
Manufacturer: FIMI S.r.l.
UUT Function: Part of the Operator's Console control and interface system..
Description: Sub-components of the **Brilliance 16 CT Scanner System** Operators Console
Identification: Philips Part # 455300008791;
FIMI Model #Q19CHS991932952051;

Monitor 1:	Monitor 2
Serial # AN001044000130	Serial # AN00144000173

Dimensions: 16.75" W x 8" D x 17.5" H
Weight: 12lbs
Mounting: Countertop:



Monitor 1



Monitor 2



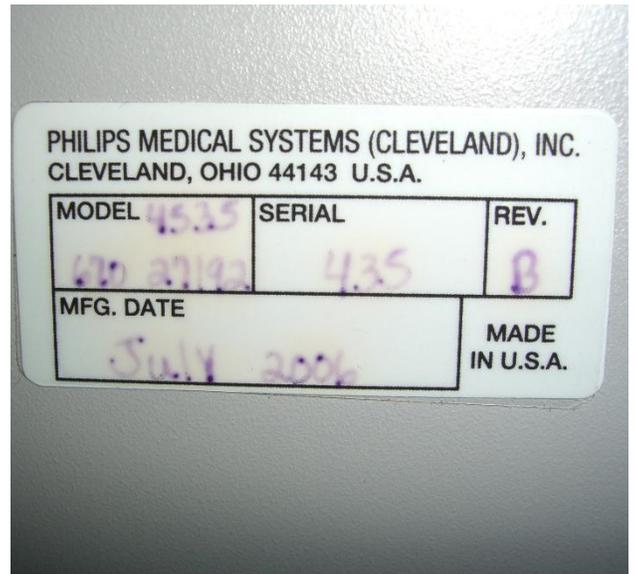
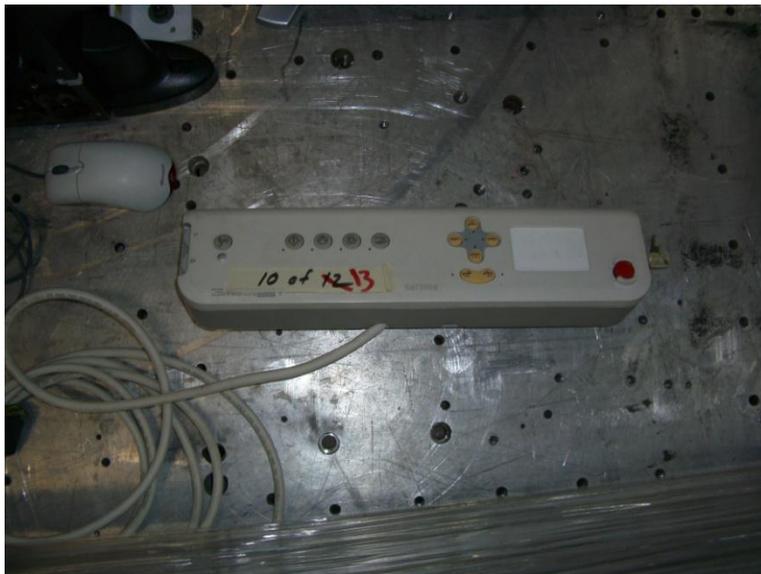
PHILIPS HEALTHCARE, NORTH AMERICA

SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

TEST SPECIMEN SUMMARY: Operator's Console

- Name:** Brilliance 16: Operator's Console – CT Box
- UTT Number:** B5-A
- Manufacturer:** Philips Medical Systems (Cleveland), Inc.
- UUT Function:** Part of the Operator's Console control and interface system.
For control of CT functions remotely.
- Description:** Sub-component of the **Brilliance 16 CT Scanner System**
- Identification:** Philips Part # 453567027193;
Model # 453562027192; Serial # 435 [REV B]
- Dimensions:** 16" W x 4" D x 4" H
- Weight:** 4 lbs
- Mounting:** Countertop:



PHILIPS HEALTHCARE, NORTH AMERICA

SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

TEST SPECIMEN SUMMARY: Operator's Console

Name: Brilliance 16: Operator's Console – Keyboard

UTT Number: B5-C

Manufacturer: Cherry Corp

UUT Function: Part of the Operator's Console control and interface system.

Description: Sub-component of the **Brilliance 16 CT Scanner System**

Identification: Philips Part # 455018005031

Dimensions: 2" H x 18" W x 6 5/8" D

Weight: 1 lbs

Mounting: Countertop

Name: Brilliance 16: Operator's Console – Keyboard

UTT Number: B5-D

Manufacturer: Microsoft

UUT Function: Part of the Operator's Console control and interface system.

Description: Sub-component of the **Brilliance 16 CT Scanner System**

Identification: Philips Part # 455018005041

Dimensions: 3" W x 5.5" D x 1.3" H (manufacturer's specs)

Weight: 0.1 lbs (manufacturer's specs)

Mounting: Countertop

Importance Factor (I_p): 1.5

PHILIPS HEALTHCARE, NORTH AMERICA

SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 1: Brilliance CT Systems

UUT-E1	Common Host (Dell T5500) Cabinet (aka Rapid View Console; or CRC)
MANUFACTURER:	Philips Medical Systems (Cleveland), Inc & Granite Microsystems
MODEL:	Model Number: 4550 113 05162
FUNCTION:	Cabinet used to house the CIRS and a Common Host computer.
DESCRIPTION:	<p>Sub-component of several systems in the Brilliance CT Scanner System product line. The Common Host system cabinet is a housing containing the Common Host and CIRS computer towers. These components are mounted on shelves which slide in and out of the cabinet, allowing access for servicing. The cabinet includes fans, surge suppression, and an interface panel mounted at the rear for power and data distribution.</p> <p><u>Seismically Qualified Enhancements:</u></p> <ol style="list-style-type: none"> <u>Shelf Retaining Clip:</u> the retaining clip is located just inside the front door at the base of the unit, and centered between the sliding shelves. <u>Top Guide Brackets:</u> Cold formed steel guide brackets are provided at the top edge of each computer to laterally restrain computers under seismic ground motion. <u>Spacing Bracket:</u> A spacing bracket is attached to the mounting shelf at the rear of the Common Host (T5500) computer to prevent movement of the computer. Screws secure the bracket to both the shelf and the computer.
RESTRICTIONS:	Indoor use. Operating Temperature: 32° F - 104° F
MOUNTING:	<u>Rigid Base Mounted:</u> (4) - 3/8" Cap Screws To ETL Interface Plate # 4: Aluminum Plate 48 1/4" X 1" X 4 1/2" which was then mounted to the shake table

UUT PROPERTIES:

DIMENSIONS (in.)			WEIGHT (lb.)	LOWEST RESONANT FREQUENCY (Hz.)		
WIDTH	DEPTH	HEIGHT		Y-Axis	X-Axis	Z-Axis
24	34.8	29.9	306	12.51	25.26	11.1



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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 2: Brightview XCT System

Brightview XCT System Description:

The Brightview XCT is a multiple component hybrid nuclear medicine (SPECT) and CT imaging system designed entirely for nuclear medicine use in the medical diagnostic imaging field. Special Seismic Certification is limited to components identified in Table 1 for functions related to CT imaging services only.

TABLE 1: SEISMIC QUALIFIED COMPONENTS: PHILIP'S BRIGHTVIEW XCT SYSTEM (System Part No. 453560462131)

COMPONENT	MANUF.	MODEL NO.	DIMENSIONS			MAX. WT. (LBS)	MOUNT	NOTES
			W (IN)	D (IN)	H (IN)			
Gantry	Philips	4535 604 62291	86	78	94	3952	Floor	UUT3
• X-Ray Generator	Philips	4535 604 62431	Located within Gantry					
• COLLIMATOR, LEGP	Philips	4535 604 62431	Located within Gantry					
Patient Table	Philips	4535 604 62301	21	95	45	474+500lb patient	Floor	UUT2
High Voltage Generator	Communications & Power Industry (CPI)	4535 604 62431 CPI Model: VZW2930FE3-03	25	18	51	334	Floor	UUT1
Acquisition Terminal (Wall Mount)	Philips	4535 608 19371	26	21	36	120	Wall	UUT4
• Wall Mount Bracket	iTD	N/A						
• VG930M-3 LCD Monitor	Viewsonic	VS11369	16.8	9.1	18.9	16		
• Keyboard & Mouse	Keytronic	E05366P1	18.1	6.7	1.6	< 1		
• CT Control Box	EsterLine Advanced Input Systems	9375-00509-002/1	7	3	3	2		
• KVM (Keyboard, Video, Mouse) Extender	Black Box	ServSwitch Brand CAT5 KVM Micro Extender	4.4	3.1	1	< 1		
Acquisition Terminal (Cart)	Philips	4535 608 18221	26	24	62	50	Free-standing	UUT5
• VG930M-3 LCD Monitor	Viewsonic	VS11369	16.8	9.1	18.9	16	Mounted to Cart	
• Keyboard	Keytronic	E05366P1	18.1	6.7	1.6	< 1	Countertop	
X-Ray Control Room Station	Philips	4535 604 71341	-	-	-	-	Countertop	UUT6
• VG930M-3 LCD Monitor	Viewsonic	VS11369	16.8	9.1	18.9	16		
• Keyboard & mouse	Keytronic	E05366P1	18.1	6.7	1.6	< 1		
• CT Control Box	EsterLine Advanced Input Systems	9375-00509-002/1	7	3	3	2		
• KVM (Keyboard, Video, Mouse) Extender	Black Box	ServSwitch Brand CAT5 KVM Micro Extender	4.4	3.1	1	< 1		
APC Smart-UPS RT 5000VA 208V	American Power Conversion Corp (APC)	4535 602 68521 APC Model: SURTD5000XLT	5.5	26.7	17.5	127	Floor	UUT7
• UPS Cable Kit	Philips	4535 608 21771	-	-	-	-	-	

Notes:

A) In the table above, mounting configurations are defined as follows:

- **Floor** refers to a free-standing, floor-mounted condition, with no lateral supports at the top that are affixed to adjacent supporting elements.
- **Wall Mounted** refers to a condition where the unit is completely supported by a vertical wall structure without any support provided by floor or countertop.
- **Countertop** refers to a condition where the unit sits atop but is not otherwise anchored to a counter, desk, or other piece of fixed furniture.
- **Free-Standing** refers to a condition where the unit bears on the floor but is not otherwise anchored.

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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 2: Brightview XCT System

Table 2: Lowest Resonant Frequencies (Hz) of Units Tested

UUT	LOWEST RESONANT FREQUENCIES (HZ)		
	FRONT-TO-BACK AXIS	SIDE-TO-SIDE AXIS	VERTICAL
High Voltage Generator:	4.206	6.469	24.14
Patient Table:	6.558	2.548	9.51
Gantry:	4.767	5.298	4.833



Figure 12: Brightview XCT Gantry Test Mounting

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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 2: Brightview XCT System



Figure 13: Brightview XCT :: Patient Table



Figure 14: Brightview XCT :: APC Smart-UPS RT 5000VA 208V



Figure 15: Brightview XCT :: Acquisition Terminal (Cart)

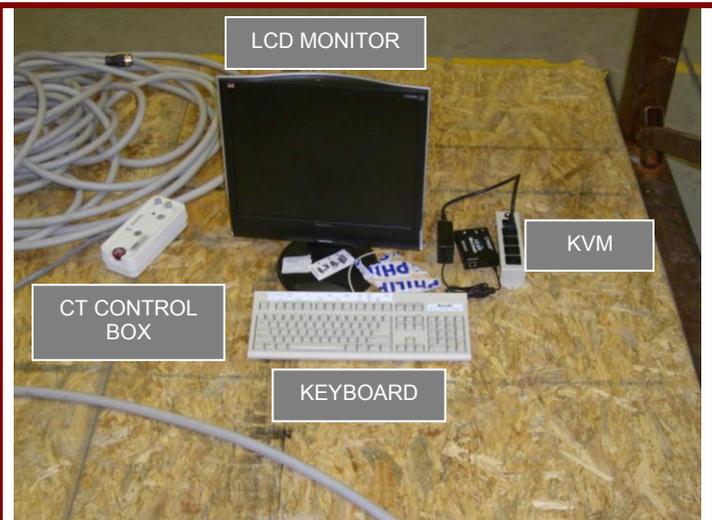


Figure 16: Brightview XCT :: X-Ray Control Room Station

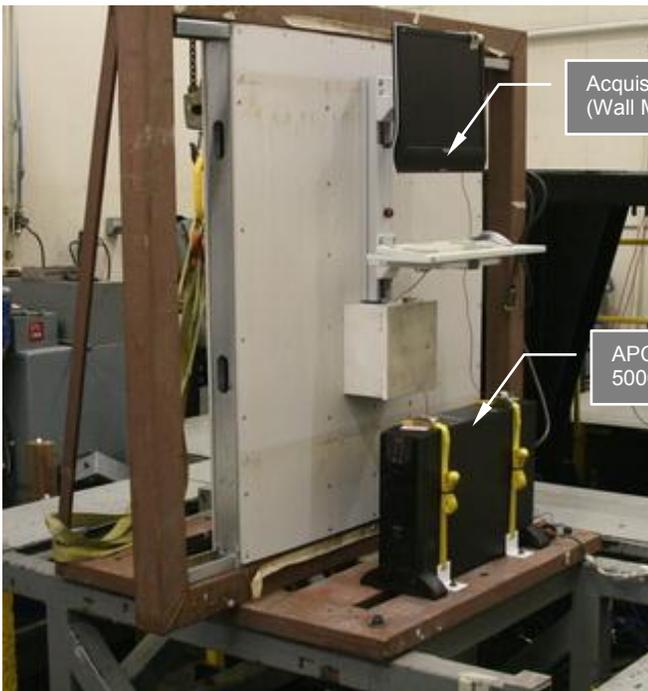
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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 2: Brightview XCT System



Figure 17: Brightview XCT :: High Voltage Generator



Acquisition Terminal
(Wall Mount)

APC Smart-UPS RT
5000VA 208V



Figure 18: Brightview XCT :: Acquisition Terminal (Wall Mount) & UPS

PHILIPS HEALTHCARE, NORTH AMERICA

SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 3: MX-16 Slice CT Scanner System

MX-16 Slice CT Scanner System Description:

The MX 16 is a multiple-component Computed Tomography (CT) imaging system for use in the medical diagnostic imaging field. Special Seismic Certification is limited to components identified in Table 1 for functions related to CT imaging services only.

Table 1: Seismic Certified Subsystems

Philips and Neusoft Medical Systems MX-16-Slice CT Scanner System (Part No. 989605656511)

Subsystem Component	Manufacturer	Subsystem	Dimensions (in)			Max.	Mount ^A	UUT
		Part No.	Width	Depth	Height	Wt. (lb)		
MX-16-Slice Gantry	PNMS	4541 101 20021	87	35.04	74.29	4270	FLOOR	D3
Patient Couch (Patient Table)	PNMS	4541 101 20041	23.5	88.27	33.93	767+350lb Patient	FLOOR	D2
UPS	APC	4541 102 52411	7.75	27.75	17	126	FLOOR	D4
Console & Recon Box	PNMS	4541 101 20061	24	26	28.6	196.5	FLOOR	D5
Operators Console:								
• CT Box	PNMS	4541 100 60526	2.76	16.54	4.25	1.98	CT	D1A
• 19" LCD Monitor	Big Tide	4541 102 44811	22.6	14.5	22.4	16.7	CT	D1B
• Keyboard	Dell	4541 102 54451	18.11	6.3	1.18	1.87	CT	D1C
• Mouse	Dell	4541 102 54451	2.36	4.72	1.575	0.22	CT	D1D

Table Notes:

- A) **Mount:** Establishes the general mounting type(s) under which the tabulated components are seismically certified
- **Floor:** a free-standing, base mounted condition with no lateral support above the base and a direct connection between unit base and supporting structure.
 - **CT:** Countertop refers to a condition where the unit sits atop but is not otherwise anchored to a counter, desk, or other piece of fixed furniture.
- B) PNMS = Philips & Neusoft Medical Systems Co., Ltd.

PHILIPS HEALTHCARE, NORTH AMERICA

SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 3: MX-16 Slice CT Scanner System

TEST SPECIMEN SUMMARY: Operator's Console

Name: MX 16 CT Operators Console: Keyboard, Monitor, Mouse, CT Box

UTT Number: D1

Manufacturer: See Below

UUT Function: Part of operator control and interface system.

Description: Subcomponents of the **MX-16-Slice CT Scanner System**

MANUF	Description	Subsystem Part No.
Philips & Nuesoft	CT Box	P/N 4541 100 60526
BIGTIDE	19" LCD Monitor for Medical	P/N 4541 102 44811
Dell	Keyboard	P/N 4541 102 54451 *
Dell	Mouse	P/N 4541 102 54451 *

*Included as part of Host Computer found in Console & Recon Box

Identification: See above

Dimensions: See Table 1 above

Weight: See Table 1 above

Mounting: Countertop (unanchored)



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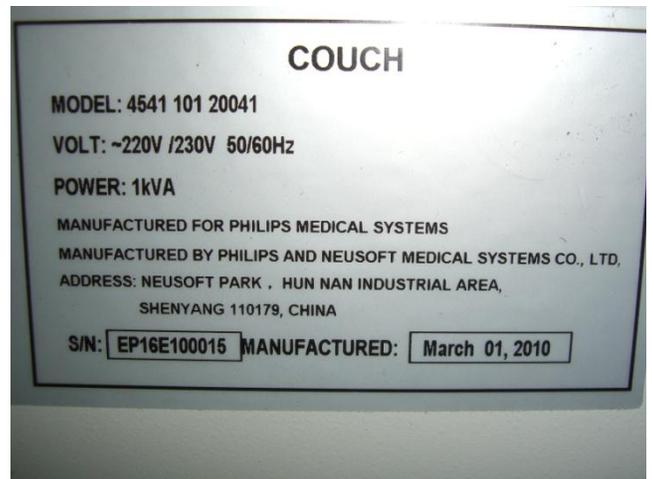
SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 3: MX-16 Slice CT Scanner System

TEST SPECIMEN SUMMARY: Patient Couch

Name: MX 16 CT Patient Couch
UTT Number: D2
Manufacturer: Philips & Neusoft Medical Systems Co., Ltd.
UUT Function: Patient support and positioning during procedures.
Description: Subcomponent of the **MX-16-Slice CT Scanner System**
Identification: Subsystem Part No.: 4541 101 20041;
Serial No.: EP16E100015
Dimensions: 23.5" W x 88.27" D x 33.93" H
Weight: 767 lbs. +350 lb Simulated Patient Load
Mounting: Floor: (4) - 1/2" Cap Screws to ETL Plate #2: Aluminum Plate.
Lowest Resonance Frequency:

<u>F/B</u>	<u>S/S</u>	<u>VERT</u>
19.8	3.1	5.52



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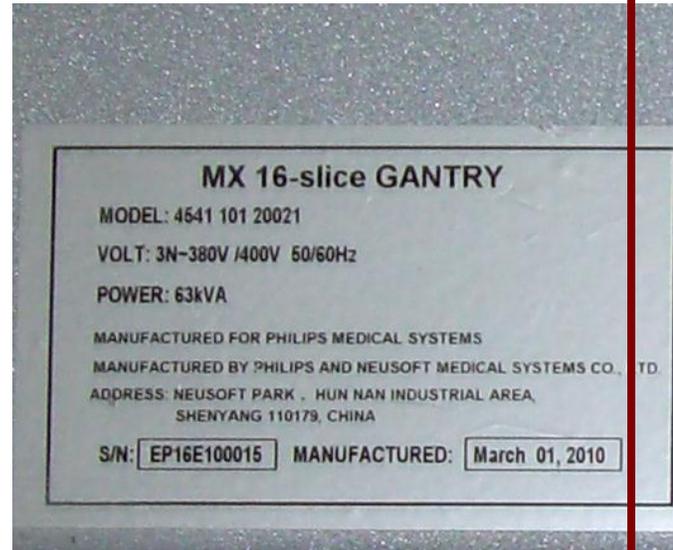
SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 3: MX-16 Slice CT Scanner System

TEST SPECIMEN SUMMARY: Gantry

Name: MX-16-Slice Gantry
UTT Number: D3
Manufacturer: Philips & Neusoft Medical Systems Co., Ltd.
UUT Function: Primary element of CT diagnostic imaging.
Description: Subcomponent of the **MX-16-Slice CT Scanner System**
Identification: Subsystem Part No.: 4541 101 20021
Serial No.: EP16E100015
Dimensions: 87" W x 35.04" D x 74.29" H
Weight: 4270 lbs.
Mounting: Floor: (4) - 5/8" Dia bolt to ETL Plate #C2 :Steel Tube table extension platform

Lowest Resonance	<u>F/B</u>	<u>S/S</u>	<u>VERT</u>
Frequency:	5.7	5.5	18.2



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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 3: MX-16 Slice CT Scanner System

TEST SPECIMEN SUMMARY: UPS

Name: Philips MX 16 UPS
UTT Number: D4
Manufacturer: American Power Conversion (APC)
UUT Function: Single phase Uninterruptible Power Supply provides emergency power backup only to the Operators Console and Console & Recon Box
Description: Subcomponent of the **MX-16-Slice CT Scanner System**
APC Smart-UPS 3000
Identification: Subsystem Part No.: 4541 102 52411
APC Model No.: US0944111016;
Serial No.: SUA30001
Dimensions: 7 3/4" W x 27 3/4" D x 17" H
Weight: 126 lbs.
Mounting: Floor: (4) - 3/8" Cap Screws to ETL #5: Aluminum Plate.
Lowest Resonance Frequency:

	F/B	S/S	VERT
	>50	25.8	28.9



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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 3: MX-16 Slice CT Scanner System

TEST SPECIMEN SUMMARY: Console & Recon Box

Name: MX-16-Slice Console & Recon Box
UTT Number: D5
Manufacturer: Philips & Neusoft Medical Systems Co., Ltd.
UUT Function: Component of the **MX-16-Slice CT Scanner System**
Image reconstruction and carry out diagnosis, management, and output of images.
Description: Subcomponent of the **MX-16-Slice CT Scanner System**
Computer: DELL Precision T5400.
Identification: Label #1 Part No.: 4541 101 20061; Serial No.: EP16E100015
Label #2 Part No.: 4541 102 79451; Serial No.: 1001000011
Label #3 Part No.: 4541 102 51512
Dimensions: 24" W x 26" D x 28 5/8" H
Weight: 196.5 lbs.
Mounting: Floor: (4) – 3/8" Cap Screws to ETL Plate #5: Aluminum Plate.
Lowest Resonance Frequency:

<u>F/B</u>	<u>S/S</u>	<u>VERT</u>
20.3	25.8	24.4



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SPECIAL SEISMIC CERTIFICATION OF COMPUTED TOMOGRAPHY (CT) IMAGING SYSTEMS

ATTACHMENT 4: Gemini TF PET/CT Systems

Description:

The systems of the Gemini TF family are multiple-component hybrid PET/CT imaging systems for use in the medical diagnostic imaging field. Special Seismic Certification is limited to subsystem components identified in Table 1.

Table 1: Seismic Certified Subsystems

Subsystem Component	Manufacturer	Subsystem Model / Part No.	Dimensions (in)			Max. Wt. (lb)	Mount ^A	UUT
			Width	Depth	Height			
Gemini Power Protection (GPP) Cabinet	Granite Medsystems	4598 000 20201	24	36	30.25	409	Floor	F1
• 3 KVA UPS	Chloride	A3K0XHU	--	---	---	---	GPP	

Table Notes:

- A) **Mount:** Establishes the general mounting type(s) under which the tabulated components are seismically certified
- **Floor:** a free-standing, base mounted condition with no lateral support above the base and a direct connection between unit base and supporting structure.
 - **GPP:** Unit is rack-mounted within the GPP Cabinet

TEST SPECIMEN SUMMARY:

UUT-F1		Gemini Power Protection (GPP) Cabinet				
MANUFACTURER:	Granite Medsystems					
IDENTIFICATION:						
Part No.:	4598 000 20201 REVC					
Serial No.:	11289M00004					
DESCRIPTION:	Subsystem component of several Gemini PET/CT systems (3) – Chloride 3 KVA UPS (Model A3K0XHU) rack mounted within the Granite Medsystems enclosure.					
MOUNTING:	Rigid Base mounted with (4) – 3/8" Cap Screws through holes tapped in a 72" x 1.5" x 48" Aluminum Plate.					
UUT PROPERTIES:						
DIMENSIONS (in.)			WEIGHT (lb.)	LOWEST RESONANT FREQUENCY (Hz.)		
WIDTH	DEPTH	HEIGHT		Front-to-Back	Side-to-Side	Vertical
24	36	30.25	409	20.8	9.3	22.2

