



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

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

OFFICE USE ONLY

**APPLICATION #: OSP-0031**

**HCAI Special Seismic Certification Preapproval (OSP)**

Type:  New  Renewal

**Manufacturer Information**

Manufacturer: Edwards, A Carrier Company

Manufacturer's Technical Representative: Kyle Venzeio

Mailing Address: 8985 Town Center Parkway, Bradenton, FL 34202

Telephone: (941) 739-4207

Email: Samuel.k.venzeio@carrier.com

**Product Information**

Product Name: Electrical Control Panels on Life Safety/Critical Branch

Product Type: Fire Protection & Security Panels

Product Model Number: EST3 & EST4 Fire Protection System

General Description: Fire protection system including control cabinets, CPUs, detectors, pull stations, I/O modules, power supplies, speakers, strobes, and all associated hardware.

Mounting Description: Panels are rigidly wall mounted, See Certified Product Tables

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, Inc.

Contact Person: Galen Reid

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

Telephone: (541) 604-7225

Email: greid@structint.com

Title: Director, TRU Compliance





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

Company Name: STRUCTURAL INTEGRITY ASSOCIATES, INC.  
Name: Andrew Coughlin California License Number: S6082  
Mailing Address: 5215 Hellyer Ave, Suite 101, San Jose, CA 95138-1025  
Telephone: (415) 635-8461 Email: acoughlin@structint.com

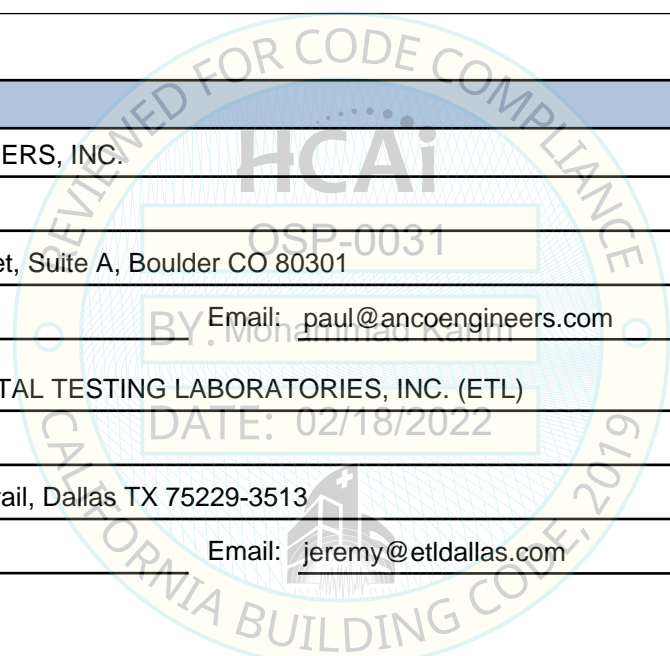
**Certification Method**

GR-63-Core       ICC-ES AC156       IEEE 344       IEEE 693       NEBS 3  
 Other (Please Specify): \_\_\_\_\_

**Testing Laboratory**

Company Name: ANCO ENGINEERS, INC.  
Contact Person: Paul Ibanez  
Mailing Address: 1965 33rd Street, Suite A, Boulder CO 80301  
Telephone: (303) 443-7580 Email: paul@ancoengineers.com

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)  
Contact Person: Jeremy Lange  
Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513  
Telephone: (972) 247-9657 Email: jeremy@etldallas.com





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**Seismic Parameters**

Design Basis of Equipment or Components ( $F_p/W_p$ ) = 1.16 (SDS = 1.54); 1.11 (SDS = 2.46)

SDS (Design spectral response acceleration at short period, g) = 1.54 (z/h = 1); 2.46 (z/h = 0)

$a_p$  (Amplification factor) = 2.5

$R_p$  (Response modification factor) = 6.0

$\Omega_0$  (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

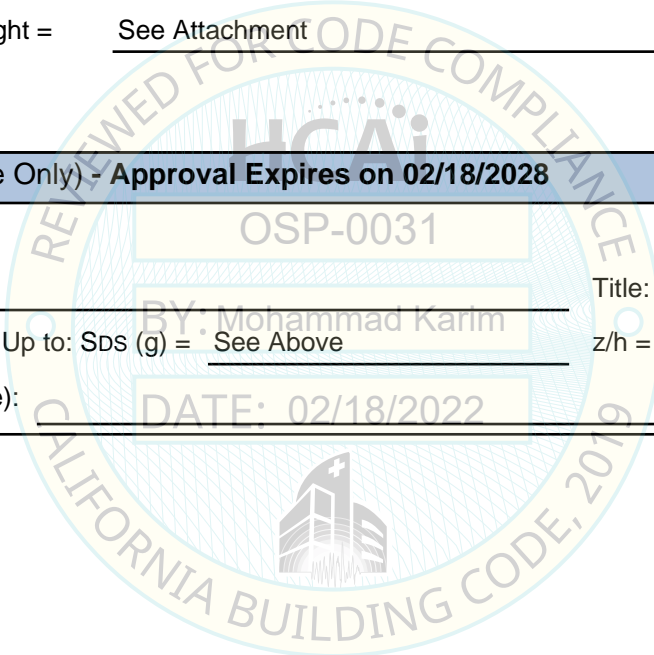
**HCAI Approval (For Office Use Only) - Approval Expires on 02/18/2028**

Date: 2/18/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

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

Condition of Approval (if applicable): DATE: 02/18/2022



# SPECIAL SEISMIC CERTIFICATION CERTIFIED COMPONENT MATRIX

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<b>Manufacturer:</b> Edwards	<b>TABLE 1</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	

**Certified Product Construction Summary:**  
14 gauge carbon steel enclosure

**Certified Options Summary:**  
Surface or Semi-flush mount

**Mounting Configuration:**  
Wall mounted - rigid  
Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

**Building Code:** CBC 2019     **Seismic Certification Limits:**  $S_{DS} = 1.54 g$   $z/h=1.0$   $I_P = 1.5$   
 $S_{DS} = 2.46 g$   $z/h=0.0$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
EST3 & EST4 Backbox Enclosure	3-CAB7B	5.8	28.0	26.0	99.5		60
	3-CAB14B	5.8	28.0	38.0	130.0		2
	3-CAB21B	5.8	28.0	48.0	167.0		3, 58, 59

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<b>Manufacturer:</b> Edwards	<b>TABLE 2</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	

**Certified Product Construction Summary:**  
**Backbox:** 14 gauge carbon steel; **Doors:** 16 gauge carbon steel

**Certified Options Summary:**  
 Surface or Semi-flush mount

**Mounting Configuration:**  
 Wall mounted - rigid  
 Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

**Building Code:** CBC 2019      **Seismic Certification Limits:**  $S_{DS} = 1.54 g$   $z/h=1.0$        $I_P = 1.5$   
 $S_{DS} = 2.46 g$   $z/h=0.0$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
EST3 & EST4 Remote Closet Cabinets (Backbox+Door)	3-RCC7R	6.8	25.5	24.0	128.0		Interp.
	XLS-RCC7R	6.8	25.5	24.0	128.0	Same as 3-RCC7R/branding	Interp.
	ADT-RCC7R	6.8	25.5	24.0	128.0	Same as 3-RCC7R/branding	Interp.
	3-RCC14R	6.8	25.5	36.0	160.0		4
	XLS-RCC14R	6.8	25.5	36.0	160.0	Same as 3-RCC14R/branding	Interp.
	ADT-RCC14R	6.8	25.5	36.0	160.0	Same as 3-RCC14R/branding	Interp.
	3-RCC21R	6.8	25.5	48.0	170.0		5
	XLS-RCC21R	6.8	25.5	48.0	170.0	Same as 3-RCC21R/branding	Interp.
	ADT-RCC21R	6.8	25.5	48.0	170.0	Same as 3-RCC21R/branding	Interp.

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<b>Manufacturer:</b> Edwards	<b>TABLE 3</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	

**Certified Product Construction Summary:**  
16 gauge carbon steel enclosure

**Certified Options Summary:**  
Surface or Semi-flush mount

**Mounting Configuration:**  
Wall mounted - rigid  
Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

**Building Code:** CBC 2019      **Seismic Certification Limits:**  $S_{DS} = 1.54 g$   $z/h=1.0$   $I_P = 1.5$   
 $S_{DS} = 2.46 g$   $z/h=0.0$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
EST3 Annunciator Backbox Enclosures	RLCM/B	3.5	7.8	13.3	4.5		Extrap.
	RLCM/B-S	3.5	7.8	13.3	4.5		Extrap.
	4ANN/B	3.5	11.5	13.3	11.3		Extrap.
	4ANN/B-S	3.5	11.5	13.3	11.3		63
	6ANN/B	3.5	16.0	13.3	20.3		Interp.
	6ANN/B-S	3.5	16.0	13.3	20.3		Interp.
	10ANN/B	3.5	25.5	13.3	22.5		Interp.
	10ANN/B-S	3.5	25.5	13.3	22.5		1
EST4 Annunciator Backbox Enclosures	4-2ANNMT	4.3	10.0	13.8	10.5		62
	4-4ANNMT	5.0	14.5	13.8	19.0		Interp.
	4-6ANNMT	5.3	18.8	13.8	21.3		Interp.
	4-8ANNMT	9.8	17.0	24.0	42.0		Interp.
	4-16ANNMT	9.8	26.5	25.3	63.0		Interp.
	4-24ANNMT	9.8	30.0	43.5	94.0		61
Battery Cabinet	BC-1	7.3	18.3	14.0	82.5		18
Accessory Mounting Enclosure	MFC-A	3.5	8.0	14.0	5.5		54, 55

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<b>Manufacturer:</b> Edwards	<b>TABLE 4</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	

**Certified Product Construction Summary:**  
18 gauge carbon steel enclosure

**Certified Options Summary:**  
Surface or Semi-flush mount

**Mounting Configuration:**  
Wall mounted - rigid  
Note: Installed mounting configuration must be of similar configuration and equivalent strength and stiffness to those tested.

**Building Code: CBC 2019**      **Seismic Certification Limits:**       $S_{DS} = 1.54 g$      $z/h=1.0$        $I_p = 1.5$   
 $S_{DS} = 2.46 g$      $z/h=0.0$

Model Line	Model	Dimensions (in)			Weight (lb)	Notes	UUT
		Depth	Width	Height			
Power Supply	BPS6A/230	3.8	13.3	17.5	30.5		Extrap.
	BPS6CAA	3.8	13.3	17.5	30.5	Different branding	Extrap.
	ADT-BPS6A	3.8	13.3	17.5	30.5	Different branding	Extrap.
	EBPS6A	3.8	13.3	17.5	30.5	Different branding	Extrap.
	EBPS6A/230	3.8	13.3	17.5	30.5	Different branding	Extrap.
	MIRBPS6A	3.8	13.3	17.5	30.5	Different branding	Extrap.
	MIRBPS6A/230	3.8	13.3	17.5	30.5	Different branding	Extrap.
	XLS-BPS6A	3.8	13.3	17.5	30.5	Different branding	Extrap.
	XLS-BPS6A/230	3.8	13.3	17.5	30.5	Different branding	Extrap.
	ZBPS6A	3.8	13.3	17.5	30.5	Different branding	Extrap.
	ZBPS6A/230	3.8	13.3	17.5	30.5	Different branding	Extrap.
	BPS10A	3.8	13.3	17.5	34.0		19
	BPS10A/230	3.8	13.3	17.5	34.0		Interp.
	BPS10CAA	3.8	13.3	17.5	34.0	Different branding	Interp.
	ADT-BPS10A	3.8	13.3	17.5	34.0	Different branding	Interp.
	EBPS10A	3.8	13.3	17.5	34.0	Different branding	Interp.
	EBPS10A/230	3.8	13.3	17.5	34.0	Different branding	Interp.
	MIRBPS10A	3.8	13.3	17.5	34.0	Different branding	Interp.
	MIRBPS10A/230	3.8	13.3	17.5	34.0	Different branding	Interp.
	XLS-BPS10A	3.8	13.3	17.5	34.0	Different branding	Interp.
	XLS-BPS10A/230	3.8	13.3	17.5	34.0	Different branding	Interp.
	ZBPS10A	3.8	13.3	17.5	34.0	Different branding	Interp.
	ZBPS10A/230	3.8	13.3	17.5	34.0	Different branding	Interp.
	APS6A	5.3	15.3	26.5	66.0		Interp.
APS10A	5.3	15.3	26.5	73.5		17	

Note: Difference between 10A/6A is smaller heat sink on 6A. Difference between 120V/230V is assembly option on main board.

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<b>Manufacturer:</b> Edwards <b>Model Line:</b> EST3 & EST4 Fire Protection System		<b>Table Description:</b> Doors			<b>TABLE 5</b>	
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>			$S_{DS} = 1.54 g$ $z/h = 1.0$ $S_{DS} = 2.46 g$ $z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
EST3 Doors	UTC	3-CAB7D	Door for 3-CAB7B		Extrap.	
		XLS-CAB7D	Door for 3-CAB7B	Same as 3-CAB7D/Branding	Extrap.	
		ADT-CAB7D	Door for 3-CAB7B	Same as 3-CAB7D/Branding	Extrap.	
		3-CAB14D	Door for 3-CAB14B		2	
		XLS-CAB14D	Door for 3-CAB14B	Same as 3-CAB14D/Branding	Interp.	
		ADT-CAB14D	Door for 3-CAB14B	Same as 3-CAB14D/Branding	Interp.	
		3-CAB21D	Door for 3-CAB21B		3, 58	
		XLS-CAB21D	Door for 3-CAB21B	Same as 3-CAB21D/Branding	Interp.	
		ADT-CAB21D	Door for 3-CAB21B	Same as 3-CAB21D/Branding	Interp.	
		3-4ANN/D	Door for 4ANN/B		63	
		3-6ANN/D	Door for 6ANN/B		Interp.	
		3-10ANN/D	Door for 10ANN/B		1	
EST4 Doors	UTC	4-2ANND	Door for 2-ANNMT		62	
		4-4ANND	Door for 4-ANNMT		Interp.	
		4-6ANND	Door for 6-ANNMT		Interp.	
		4-CAB8DR	Door for 3-CAB5B or 4-8ANNMT backbox	Red color version of 4-CAB8D	Interp.	
		4-CAB8D	Door for 3-CAB5B or 4-8ANNMT backbox		Interp.	
		4-CAB16DR	Door for 3-CAB7B or 4-16ANNMT backbox	Red color version of 4-CAB16D	60	
		4-CAB16D	Door for 3-CAB7B or 4-16ANNMT backbox		Interp.	
		4-CAB24DR	Door for 3-CAB14B or 4-24ANNMT backbox	Red color version of 4-CAB24D	61	
		4-CAB24D	Door for 3-CAB14B or 4-24ANNMT backbox		Interp.	
		4-CAB24DRL	Door for 3-CAB21B backbox	Red color version of 4-CAB24DL	Interp.	
4-CAB24DL	Door for 3-CAB21B backbox		59			



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<b>Manufacturer:</b> Edwards	<b>Table Description:</b> Electrical Components	<b>TABLE 6</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 1.54 g$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 2.46 g$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Annunciator / CPU	UTC	3-4ANN	Annunciator /w CPU, 2 of 3- ANNSM	Depopulated 3-10ANN	Interp.
		3-6ANN	Annunciator /w CPU, 2 of 3- ANNSM, 2 of 3-ANNBF	Depopulated 3-10ANN	Interp.
		ADT-6ANN	Annunciator /w CPU, 2 of 3- ANNSM, 2 of 3-ANNBF	Depopulated 3-10ANN	Interp.
		XLS-6ANN	Annunciator /w CPU, 2 of 3- ANNSM, 2 of 3-ANNBF	Depopulated 3-10ANN	Interp.
		3-10ANN	Annunciator /w CPU, 2 of 3-ANNSM, 6 of 3-ANNBF		1
		ADT-10ANN	Annunciator /w CPU, 2 of 3- ANNSM, 6 of 3-ANNBF	Identical to 3-10ANN/branding	Interp.
		XLS-10ANN	Annunciator /w CPU, 2 of 3- ANNSM, 6 of 3-ANNBF	Identical to 3-10ANN/branding	Interp.
Annunciator Display	UTC	3-ANNSM	Annunciator LED Display Support Module		1, 63
		ADT-LDCANN	Remote LCD Command Module	Identical to 3-ANNSM/branding	Interp.
		XLS-LCDANN	Remote LCD Command Module	Identical to 3-ANNSM/branding	Interp.
EST3 LED/Switch Module	UTC	3-12/S1GY	LED Display/Control Module		1, 2, 5, 58
		3-12/S1RY	LED Display/Control Module		1, 2, 5, 58
		3-12/S2Y	LED Display/Control Module		1,2,3,5, 58
		3-12RY	LED Display/Control Module		3, 5, 58
		3-12SG	LED Display/Control Module		3, 58, 63
		3-12SR	LED Display/Control Module		3, 58
		3-12SY	LED Display/Control Module		3, 5, 58

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<b>Manufacturer:</b> Edwards <b>Model Line:</b> EST3 & EST4 Fire Protection System		<b>Table Description:</b> Electrical Components			<b>TABLE 6</b>	
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>			$S_{DS} = 1.54 g$ $z/h = 1.0$ $S_{DS} = 2.46 g$ $z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
EST3 LED/Switch Module	UTC	3-24G	LED Display/Control Module		3, 5, 58	
		3-24R	LED Display/Control Module		3, 5, 58	
		3-24Y	LED Display/Control Module		3, 5, 58	
		3-4/3SGYWR	LED Display/Control Module		63	
		3-6/3S1G2Y	LED Display/Control Module		1, 2, 58	
		3-6/3S1GYR	LED Display/Control Module		1,2,3,5, 58	
EST4 LED/Switch module	UTC	4-24L	LED Display/Control Module	Mounts to EST4 UIRAIL on inner door.	59, 60, 61	
		4-24L24S	LED Display/Control Module	Mounts to EST4 UIRAIL on inner door.	59, 60, 61	
		4-24L18S	LED Display/Control Module	Mounts to EST4 UIRAIL on inner door.	59, 60, 61	
		4-24L12S	LED Display/Control Module	Mounts to EST4 UIRAIL on inner door.	59, 60, 61	
EST3 Display Module	UTC	3-LCD	LDC Display/Control Module		1,2,5	
		3-LCDANN	LDC Display/Control Module		1, 63	
		3-LCDXL1	LDC Display/Control Module		3	
EST4 Display Module	UTC	4-LCD	LDC Display/Control Module		59,60,61, 62	
		4-3LCD	LDC Display/Control Module		58	
		4-LCDAUDEL	LDC Display/Control Module		59	
EST3 Audio Module	UTC	3-ASU	Audio Source Unit		3	
		3-ASU/FT	Audio Source Unit w/ Firefighter Phone		2	
EST4 Audio Module	UTC	4-AUDELS	Audio, Telephone, 1Vrms, and A to D audio	Mounts to 4-CPU	58, 59, 60	
		4-ANNAUDETEL	Audio, A to D audio	Mounts to 4-ANNCPU	59	
EST3 Telephone Module	UTC	3-FTCU	Firefighter Phone		2	

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<b>Manufacturer:</b> Edwards <b>Model Line:</b> EST3 & EST4 Fire Protection System		<b>Table Description:</b> Electrical Components			<b>TABLE 6</b>	
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>			$S_{DS} = 1.54 g \quad z/h = 1.0$ $S_{DS} = 2.46 g \quad z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
EST4 Telephone Module	UTC	4-FT	Firefighter Phone	Mounts to EST4 UIRAIL on inner door	59, 60	
Telephone	UTC	6700-0061	Remote firefighter's telephone (Red)		59, 61	
		6700-0062	Remote firefighter's telephone (Black)	Same as 6700-0061 (color)	Interp.	
Telephone Receptacle	UTC	6702-0200	Receptacle for remote firefighter's telephone handset		59, 61	
Battery Shelf	UTC	3-BATS	Battery Shelf for Single 65AH Cell		4	
Battery Distribution	UTC	3-BTSEN	Battery Cabinet Power Distribution bus & 50A breaker		4	
Power Supply	UTC	3-PPS/M-120	Primary Power Supply 120V		2, 3, 58, 59, 60	
		3-PPS/M-220	Primary Power Supply 220V	Same hardware as 3-PPS/M-120	Interp.	
		4-PPS/M	Primary Power Supply	Same hardware as 3-PPS/M-120	Interp.	
		3-BBC/M-120	Booster Power Supply 120V		2,5	
		3-BBC/M-220	Booster Power Supply 220V	Same hardware as 3-BBC/M-120	Interp.	
		3-BPS/M-120	Booster Power Supply 120V		5	
		3-BPS/M-220	Booster Power Supply 220V	Same hardware as 3-BPS/M-120	Interp.	
Chassis	UTC	3-CHASS4	Chassis Assy for 4 LRMs		3	
		3-CHAS5	Chassis for 5 LRMs		Interp.	
		3-CHAS7	Chassis Assy for 7 LRMs		2, 3, 5, 58, 59, 60, 63	
EST3 CPU	UTC	3-CPU3	Central Processor Module		2, 3, 5, 63	
		3-ANNCPU3	Annunciator CPU w/ RS485 Board		1, 63	

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<b>Manufacturer:</b> Edwards <b>Model Line:</b> EST3 & EST4 Fire Protection System		<b>Table Description:</b> Electrical Components			<b>TABLE 6</b>	
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>			$S_{DS} = 1.54 g$ $z/h = 1.0$ $S_{DS} = 2.46 g$ $z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
EST4 CPU	UTC	4-CPU	Central Processor Module	Mounts to chassis, 3-CHAS7 or 3-CHAS5	58, 59, 60	
		4-ANNCPU	EST4 Annunciator CPU		59, 61, 62	
		4-NET-AD	Depopulated CPU	Depopulated version of 4-ANNCPU	58, 59, 61	
		4-FWAL1	Depopulated CPU	Depopulated version of 4-ANNCPU	Interp.	
		4-FWAL2	Depopulated CPU	Depopulated version of 4-ANNCPU	Interp.	
		4-FWAL3	Depopulated CPU	Depopulated version of 4-ANNCPU	Interp.	
		4-FWAL4	Depopulated CPU	Depopulated version of 4-ANNCPU	Interp.	
EST3 Communication Card	UTC	3-FIBMB	Fiber Card, /w adaptor card, ribbon cable		3,5	
		SMXHi	Single mode plug-in Transceiver- Long Range	Different frequency than MMXVR	Interp.	
		SMXLO	Single mode plug-in Transceiver- Short Range	Different frequency than MMXVR	Interp.	
		3-RS232	RS232 Communication Card		2,3,5	
		3-RS485A	Network Communication Card, Class A		2, 63	
		3-RS485B	Network Communication Card, Class B	Class A w/wiring change	Interp.	
		3-MODCOM	Modem Communicator and Dialer	Software change from 3-MODCOMP	Interp.	
		3-MODCOMP	Modem Communicator and Dialer	Optional pager	3	
EST4 Communication Network Modules	UTC	4-NET-TP	Twisted Pair		58, 59	
		4-NET-TP-HC	Twisted Pair		61, 62	
		4-NET-CAT	Ethernet CAT5		58, 59, 60, 61, 62	
		4-NET-SM	Single Mode fiber		58, 59	
		4-NET-SMU	Single Mode fiber		58	

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<b>Manufacturer:</b> Edwards <b>Model Line:</b> EST3 & EST4 Fire Protection System		<b>Table Description:</b> Electrical Components			<b>TABLE 6</b>	
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>			$S_{DS} = 1.54 g \quad z/h = 1.0$ $S_{DS} = 2.46 g \quad z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
EST4 Communication Network Modules	UTC	4-NET-SMD	Single Mode fiber		59	
		4-NET-SMH	Single Mode fiber		58, 59	
		4-NET-MM	Multimode fiber		58, 59	
		4-FWAL-CAT	Ethernet CAT5	Same hardware as 4-NET-CAT	Interp.	
		4-FWAL-SM	Single Mode fiber	Same hardware as 4-NET-SM	Interp.	
		4-FWAL-SMU	Single Mode fiber	Same hardware as 4-NET-SMU	Interp.	
		4-FWAL-SMD	Single Mode fiber	Same hardware as 4-NET-SMD	Interp.	
		4-FWAL-SMH	Single Mode fiber	Same hardware as 4-NET-SMH	Interp.	
		4-FWAL-MM	Multimode fiber	Same hardware as 4-NET-MM	Interp.	
Communication 3rd Party Module	UTC	4-NET-XT	DHSL, Long distance CAT5 to twisted pair		58, 59	
Common Relay Module	UTC	4-COMREL	Common relay board, mounted to 4-CPU		58, 59, 60	
EST3 Microphone Module	UTC	3-REMICA	Remote Mic Unit - Ann Mount		1	
		3-REMICP	Remote MIC Panel Mount		5	
EST4 Microphone Module	UTC	4-MIC	Paging Microphone	Mounts to EST4 UIRAIL on inner door	59, 60	
Device Circuit Module	UTC	3-IDC 8/4	Initiating / Indicating Device Circuit Module		3,58,59,60	
Driver Module	UTC	3-LDSM	Annunciator Driver Module		3, 58	
Signal Module	UTC	3-OPS	Off Premise Signal Module		5	
Access Control Module	UTC	3-SAC	Security/Access Control Module		2	

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards <b>Model Line:</b> EST3 & EST4 Fire Protection System		<b>Table Description:</b> Electrical Components			<b>TABLE 6</b>	
<b>Building Code:</b> CBC 2019		<b>Seismic Certification Limits:</b>			$S_{DS} = 1.54 g \quad z/h = 1.0$ $S_{DS} = 2.46 g \quad z/h = 0.0$	
					$I_p = 1.5$	
Component Type	Manufacturer	Model	Description	Notes	UUT	
Loop Controller	UTC	3-AADC1	Analog Driver Controller	Firmware change from 3-SSDC1	Interp.	
		3-DSDC1	Signature Dual Driver Controller	Same as 3-SSDC1/branding	Interp.	
		3-SDC1	Signature Data Card for Controller		2,3,5	
		3-SDC1	Signature Data Card for Controller		3, 58, 59	
		3-SDDC1	Signature Dual Driver Controller		2, 3, 59	
		3-SDDC2	Signature Dual Driver Controller	Firmware change from 3-SDDC1	Interp.	
		3-SSDC1	Signature Single Driver Controller		5, 58, 60	
		3-SSDC2	Signature Single Driver Controller	Firmware change from 3-SSDC1	Interp.	
Cabinet Tamper Switch	UTC	3-TAMP	EST3 Cabinet Tamper Switch	For use with 3-CAB7D,3-CAB14D, 3-CAB21D	2, 58	
		3-TAMP5	EST3 Cabinet Tamper Switch	For use with 4-CAB8D. Identical to 3-TAMP.	Interp.	
		3-TAMPGCC	EST3 Cabinet Tamper Switch	For use with 3-RCC7R,3-RCC14R,3-RCC21R. Identical to 3-TAMP.	Interp.	
		4-TAMP	EST4 Cabinet Tamper Switch	For use with 4-CAB16D,4-CAB24D,4-CAB24DL	59, 60	
Amplifier	UTC	3-ZA20A	20 Watt Zone Amplifier, Class A		58, 60	
		3-ZA20B	20 Watt Zone Amplifier, Class B		59	
		3-ZA30A	30 Watt Zoned Amplifier, Class A		Interp.	
		3-ZA30B	30 Watt Zoned Amplifier, Class B		Interp.	
		3-ZA40A	40 Watt Zoned Amplifier, Class A		2, 5, 58, 60	
		3-ZA40B	40 Watt Zoned Amplifier, Class B		58, 59	
		3-ZA95	95 Watt Zoned Amplifier		3, 58, 59	

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>Table Description:</b> Electrical Components	<b>TABLE 6</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 1.54 g$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 2.46 g$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Accessories	UTC	MN-NETSW1	10/100 Ethernet Network Switching Hub		3,17
		FW-19LCDTS3W	19 Inch touch screen monitor		21
		MN-ABPM	Audio Bridge	25Vrms for MN-FVPN VoIP encoder/decoder	3,17
		FW4UL4	FireWork Computer		20
		PCWD2	FireWorks Computer watchdog Card		20, 21
		FW-SP4I	Four port FireWorks Serial Card		20, 21
		MN-BRKT1	Mounting Bracket for EST3 cabinet	1 chassis space	3,17
		4-BRKT-CS	EST4 chassis side mounting bracket		58
		4-BRKT-CB	EST4 chassis back mounting bracket		59
		4-MPLT	Mounting plate for various accessories		58, 61
		MMXVR	Multimode plug-in Transceiver		3,5
		MN-PASM	Pre-AMP Supervision Module		3,17
		MN-COM1S	TCP/IP to RS232 Interface Module		5
		MN-FVPN	VoIP Unit, audio encoder/decoder		3,17
		SIGA-CC1	Single Riser Output module	Depopulated SIGA-CC2	Interp.
		GSA-CC1	Riser Output module	Same as SIGA-CC1/branding	Interp.
		SIGA-CC1S	Single Riser Output module	Depopulated SIGA-CC2	Interp.
		GSA-CC1S	Riser Output module	Same as SIGA-CC1/branding	Interp.
		SIGA-CC2	Dual Riser Output module		19
		GSA-CC2	Riser Output module	Same as SIGA-CC2/branding	Interp.
SIGA-MAB	Universal input or output module		55		
GSA-MAB	Universal input or output module	Same as SIGA-MAB/branding	Interp.		

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>Table Description:</b> Electrical Components	<b>TABLE 6</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 1.54 g$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 2.46 g$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Accessories	UTC	SIGA-MCC1	Single output	Depopulated SIGA-MCC2	59, 61
		GSA-MCC1	Single output	Same as SIGA-MCC1/branding	Interp.
		SIGA-MCC1S	Single output, with Sync	Same as SIGA-MCC1	Interp.
		SIGA-MCC2	Dual Riser Output Module		55
		GSA-MCC2	OEM Branding, different functional feature set	Same hardware as SIGA-MCC2/branding	Interp.
		SIGA-MCC2A	Dual Riser Output Module class A		54
		SIGA-MCR	Relay		55
		GSA-MCR	Relay	Same as SIGA-MCR/branding	Interp.
		SIGA-MCRR	Relay	Same hardware as SIGA-MCR/diff. layout	Interp.
		GSA-MCRR	Relay	Same as SIGA-MCRR/branding	Interp.
		SIGA-MCT2	Dual input pre programmed		55, 61
		GSA-MCT2	Dual input	Same as SIGA-MCT2/branding	Interp.
		SIGA-MDM	Digital message module		54
		GSA-MDM	Digital message module	Same as SIGA-MDM/branding	Interp.
		SIGA-MIO	Input/output		55, 61
		SIGA-MM1	Dual input pre programmed	Same as SIGA-CT2	Interp.
		GSA-MM1	Dual input	Same as SIGA-CT2/branding	Interp.
		SIGA-MRM1	Riser monitor		54
		SIGA-RM1	Riser monitor		3
		SIGA-UIO2R	Two slot motherboard		54, 59, 61
GSA-UIO2R	Two slot motherboard	Same as SIGA-UIO2R/branding	Interp.		



# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2101226-CR-001-R0



Manufacturer: Edwards		Table Description: Electrical Components			TABLE 6
Model Line: EST3 & EST4 Fire Protection System					
Building Code: CBC 2019		Seismic Certification Limits:		$S_{DS} = 1.54 g$ $z/h = 1.0$	$I_P = 1.5$
				$S_{DS} = 2.46 g$ $z/h = 0.0$	
Component Type	Manufacturer	Model	Description	Notes	UUT
Accessories	UTC	SIGA-UIO6	Six slot motherboard		55
		GSA-UIO6	Six slot motherboard	Same as SIGA-UIO6/branding	Interp.
		SIGA-UIO6R	Six slot motherboard, riser version	Same hardware as SIGA-UIO6/diff. layout	61
		GSA-UIO6R	Six slot motherboard, riser version	Same as SIGA-UIO6R/branding	Interp.
		SIGA-UM	Universal input or output module		19
		GSA-UM	Universal input or output module	Same as SIGA-UM/branding	Interp.
		SIGA-WTM	Dual input pre programmed	Same hardware as SIGA-CT2	Interp.
		GSA-WTM	Dual input pre programmed	Same as SIGA-UM/branding	Interp.
		4-USBHUB	USB ports / RS485 communication for coded output module 3-CDR3	Isolated and non-isolated USB ports.	58, 59, 61
		CDR3	Coded output module		59
Filler Plate	UTC	3-ANNBF	Filler plate		1
		3-LRMF	Filler plate		3,5
		3-XFP	Filler plate	Same as 3-LRFM	Interp.
		4-FIL	Filler plate		59, 60
Flex Cables	UTC	4-CABL0502	4-LCD to 4-CPU or 4-ANNCPU		59-62
		4-CABL0504	4-LCD or 4-LCDAUDEL to 4-ANNCPU		59,60
		4-CABL0505	Door Rail to Rail		59-62
		4-CABL0507	Door Rail to Rail		Interp.
		4-CABL0509	4-LCDAUDEL to 4-ANNCPU		59,60
		4-CABL0541	4-3LCD to 4-CPU		58
4-CABL0542	4-CPU or 4-ANNCPU w/out LCD to inner door		Interp.		

# SPECIAL SEISMIC CERTIFICATION CERTIFIED SUBCOMPONENT MATRIX

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>Table Description:</b> Batteries	<b>TABLE 7</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System		

<b>Building Code:</b> CBC 2019	<b>Seismic Certification Limits:</b>	$S_{DS} = 1.54 g$ $z/h = 1.0$	$I_p = 1.5$
		$S_{DS} = 2.46 g$ $z/h = 0.0$	

Component Type	Manufacturer	Model	Description	Notes	UUT
Batteries	Leoch	12V1A2	1.2Ah Sealed Lead Acid Battery, 1.3 lbs		Extrap.
		12V4A	4.5Ah Sealed Lead Acid Battery, 3.9 lbs		Extrap.
		12V6A5	7.2Ah Sealed Lead Acid Battery, 5.4 lbs		Extrap.
		12V10A	11Ah Sealed Lead Acid Battery, 7.8 lbs		19
		12V17A	17Ah Sealed Lead Acid Battery, 12.6 lbs		2, 3, 58, 59, 60
		12V18A	18Ah Sealed Lead Acid Battery, 14.8 lbs		2, 3
		12V24A	26Ah Sealed Lead Acid Battery, 20.7 lbs		17
		12V40A	40Ah Sealed Lead Acid Battery, 29.1 lbs		18
		12V50A	50Ah Sealed Lead Acid Battery, 35.3 lbs		Interp.
		12V65A	65Ah Sealed Lead Acid Battery, 42.3 lbs		4

# UNIT UNDER TEST (UUT) SUMMARY SHEET

2101226-CR-001-R0



<b>Manufacturer:</b>		Edwards						
<b>Model Line:</b>		EST3 & EST4 Fire Protection System						
UUT	Unit Description	Report Number	Testing Lab	Year Tested	ISO 17025 Accredited?	S <sub>DS</sub>	z/h	I <sub>p</sub>
1	10ANN/B-S	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
2	3-CAB14B	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
3	3-CAB21B	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
4	3-RCC14R	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
5	3-RCC21R	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
17	APS10A	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
18	BC-1	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
19	BPS10A	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
20	FW4UL4	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
21	FW-19LCDTS3W	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
54	SIGA-UIO2R	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
55	SIGA-UIO6	3925.02	ANCO	2010	No	1.54 2.46	1.0 0.0	1.5
58	EST3: 3-CAB21B w/3-CAB21D	15371 Rev. 1	ETL	2019	Yes	2.00 3.20	1.0 0.0	1.5
59	EST4: 3-CAB21B w/4-CAB24DL	15371 Rev. 1	ETL	2019	Yes	2.00 3.20	1.0 0.0	1.5
60	EST4: 3-CAB7B w/4-CAB16DR	15371 Rev. 1	ETL	2019	Yes	2.00 3.20	1.0 0.0	1.5
61	EST4: 4-24ANNMT w/4-CAB24DR	15371 Rev. 1	ETL	2019	Yes	2.00 3.20	1.0 0.0	1.5
62	EST4: 4-2ANNMT w/4-2ANNND	15371 Rev. 1	ETL	2019	Yes	2.00 3.20	1.0 0.0	1.5
63	EST3: 3-4ANN/B w/3-4ANN/D	15371 Rev. 1	ETL	2019	Yes	2.00 3.20	1.0 0.0	1.5

**Notes:**

# UNIT UNDER TEST (UUT) SUMMARY SHEET

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>UUT 1</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 10ANN/B-S <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
16 gauge carbon steel enclosure

**Options/Subcomponent Summary:**  
3-ANNCPU3; 3-LCD; 3-ANNBF blank filler plate; 3-REMICA remote mic unit; 3-12/S1GY Led strip w/3-ANNSM; 3-12/S1RY Led strip w/3-ANNSM; 3-12/S2Y Led strip w/3-ANNSM; 3-6/3S1G2Y Led strip w/3-ANNSM; 3-6/3S1GYR Led strip w/3-ANNSM

<b>UUT Properties</b>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
22.5	3.5	25.5	13.3	N/A	N/A	N/A

<b>UUT Highest Passed Seismic Run Information</b>									
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 2019	ICC-ES AC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66	
		2.46	0.0						

**Test Mounting Details:**



The unit was rigid wall mounted using two ungraded 3/16" toggle bolts through a 5/8" drywall covered wall fixture. 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



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<b>Manufacturer:</b> Edwards	<b>UUT 2</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 3-CAB14B <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
14 gauge carbon steel enclosure

**Options/Subcomponent Summary:**  
3-CAB14D Door; 3-CHAS7 Chassis assembly; 3-CPU3 Central Processor Module; 3-SDDC1 Signature Dual Driver Controller; 3-SDC1 Signature Data Card for Controller; 3-SAC Security/Access Control Module; 3-ZA40A 40W Zoned Amplifier; 3-RS485A Network Communication Card; 3-RS232 Communication Card; 3-ASU/FT Audio Source w/Firefighter Telephone; 3-LCD Liquid Crystal Display Module; 3-PPS/M-120 Primary Power Supply 120V; 3-BBC/M-120 Booster Power Supply 120V; 3-12/S1GY, 3-12/S1RY, 3-12/S2Y LED Display/Control Modules; 3-6/3S1G2Y, 3-6/3S1GYR LED Groups; 18Ah Lead Acid Battery.

<b>UUT Properties</b>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
130.0	5.8	26.5	37.5	N/A	N/A	N/A

<b>UUT Highest Passed Seismic Run Information</b>									
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 2019	ICC-ESAC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66	
		2.46	0.0						

**Test Mounting Details:**

Unistrut was rigid mounted to a 5/8" fire-rated drywall covered wall fixture using (6) ungraded 3/16" toggle bolts. The unit was rigid wall mounted to unistrut using (4) ungraded 1/4" bolts into spring nuts.  
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

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<b>Manufacturer:</b> Edwards	<b>UUT 3</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 3-CAB21B <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
14 gauge carbon steel enclosure

**Options/Subcomponent Summary:**  
3-CAB21D, One 3-CHAS7, One 3-CHAS4, One 3-CPU3, One 3-SDDC1, Two 3-DC1, One 3-IDC 8/4, One 3-MODCOMP, One 3-OPS, One 3-LDSM, One 3LRMF, One 3-ZA95, One 3-RS232, One 3-FIBMB, Two MMXVR, One 3ASU/FT, One MN-NETSW1, One MN-FVPN, One MN-ABPM, One MNPASM, One MN-BRKT1, One MN-COM1S, One 3-LCDXL1, One 3PPS/M-120, One 3-12/S2Y, One 3-12RY, One 3-6/3S1GYR, One 312SY, One 3-24G, One 3-24R, One 3-24Y, Two 12V18A

**UUT Properties**

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
156.5	5.8	26.5	48.0	N/A	N/A	N/A

**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 2019	ICC-ES AC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66
		2.46	0.0					

**Test Mounting Details:**



Unistrut was rigid mounted to a 5/8" fire-rated drywall covered wall fixture using (6) ungraded 3/16" toggle bolts. The unit was rigid wall mounted to unistrut using (4) ungraded 1/4" bolts into spring nuts. 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

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<b>Manufacturer:</b> Edwards	<b>UUT 4</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 3-RCC14R <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
Backbox: 14 gauge carbon steel; Door: 16 gauge carbon steel

**Options/Subcomponent Summary:**  
(1) 3-BTSEN; (1) 3-BATS; (2) 12V-65Ah Batteries

**UUT Properties**

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
160.0	6.8	25.5	36.0	N/A	N/A	N/A

**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 2019	ICC-ES AC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66
		2.46	0.0					

**Test Mounting Details:**



Unistrut was rigid mounted to a 5/8" fire-rated drywall covered wall fixture using (6) ungraded 3/16" toggle bolts. The unit was rigid wall mounted to unistrut using (4) ungraded 1/4" bolts into spring nuts.  
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

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>UUT 5</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 3-RCC21R <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
Backbox: 14 gauge carbon steel; Door: 16 gauge carbon steel

**Options/Subcomponent Summary:**  
Three - 3-CHAS7, One 3-CPU3, One 3-LRMF, Eleven 3-ZA40A, One 3RS232, One 3-FIBMB, Two MMXVR, One 3-REMICP, One 3-LCD, One 3-PPS/M-120, Two 3-BPS/M-120, One 3-BBC/M-120, Two 3-12/S1GY, Two 3-12/S1RY, One 3-12/S2Y, One 3-12RY, One 3-12SG, One 3-12SR, One 3-12SY, One 3-24G, One 3-24R, One 3-24Y, One 3-6/3S1G2Y, One 3-6/3S1GYR, Two 12V-26Ah Batteries

**UUT Properties**

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
169.5	6.8	25.0	48.0	N/A	N/A	N/A

**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 2019	ICC-ESAC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66
		2.46	0.0					

**Test Mounting Details:**



Unistrut was rigid mounted to a 5/8" fire-rated drywall covered wall fixture using (9) ungraded 3/16" toggle bolts. The unit was rigid wall mounted to unistrut using (6) ungraded 1/4" bolts into spring nuts. 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

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>UUT 17</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> APS10A <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
16 gauge carbon steel enclosure

**Options/Subcomponent Summary:**  
MN-NETSW1, MN-FVPN, MN-ABPM, MN-PASM, MN-BRKT, SIGA-CT2, SIGA-IO & (2) 12V24A Batteries

**UUT Properties**

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
73.5	5.3	15.3	26.5	N/A	N/A	N/A

**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 2019	ICC-ES AC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66
		2.46	0.0					

**Test Mounting Details:**



Unistrut was rigid mounted to a 5/8" fire-rated drywall covered wall fixture using (4) ungraded 3/16" toggle bolts. The unit was rigid wall mounted to unistrut using (4) ungraded 1/4" bolts into spring nuts. 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

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>UUT 18</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> BC-1 <b>Serial Number:</b> N/A	

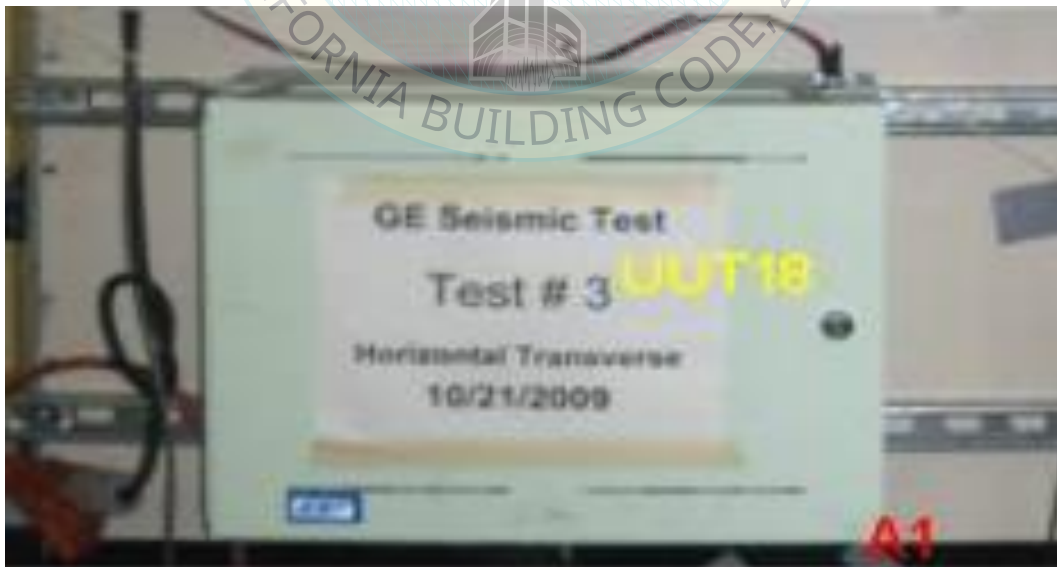
**Product Construction Summary:**  
16 gauge carbon steel enclosure

**Options/Subcomponent Summary:**  
(2) 40Ah Batteries

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
82.5	7.3	18.3	14.0	N/A	N/A	N/A

<i>UUT Highest Passed Seismic Run Information</i>									
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 2019	ICC-ESAC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66	
		2.46	0.0						

**Test Mounting Details:**



Unistrut was rigid mounted to a 5/8" fire-rated drywall covered wall fixture using (6) ungraded 3/16" toggle bolts. The unit was rigid wall mounted to unistrut using (4) ungraded 1/4" bolts into spring nuts.  
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

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>UUT 19</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> BPS10A <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
18 gauge carbon steel enclosure

**Options/Subcomponent Summary:**  
(2) 12V 10Ah Batteries

**UUT Properties**

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
34.0	3.8	13.3	17.5	N/A	N/A	N/A

**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 2019	ICC-ES AC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66
		2.46	0.0					

**Test Mounting Details:**



Unistrut was rigid mounted to a 5/8" fire-rated drywall covered wall fixture using (4) ungraded 3/16" toggle bolts. The unit was rigid wall mounted to unistrut using (4) ungraded 1/4" bolts into spring nuts. 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



2101226-CR-001-R0

<b>Manufacturer:</b> Edwards	<b>UUT 20</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> FW4UL4 <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
Fireworks controller PC Mounted using sliding RETMA rack rails.

**Options/Subcomponent Summary:**  
FW-SP4I, PCWD2, FW-RACKPC, FW-RACKSD, FW-19LCDT3RACK

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
43.0	7.0	17.0	20.0	N/A	N/A	N/A

<i>UUT Highest Passed Seismic Run Information</i>									
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 2019	ICC-ESAC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66	
		2.46	0.0						

**Test Mounting Details:**

The unit was rigid wall mounted to the test fixture in the only possible configuration using (4) ungraded #10-32 screws. 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



2101226-CR-001-R0

<b>Manufacturer:</b> Edwards	<b>UUT 21</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> FW-19LCDT3W <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
Designed to mount directly to a standard RETMA cabinet.

**Options/Subcomponent Summary:**  
FW-SP4I, PCWD2, FW-RACKPC, FW-RACKSD, FW-19LCDT3RACK

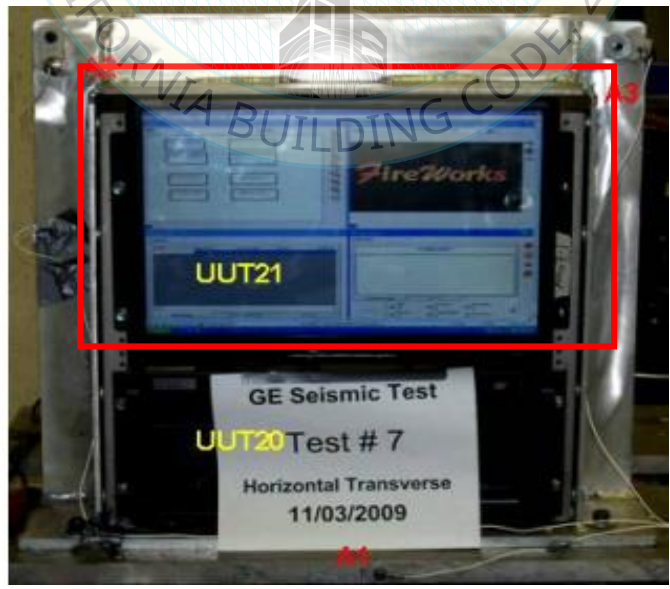
**UUT Properties**

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
16.0	2.8	17.3	11.5	N/A	N/A	N/A

**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 2019	ICC-ESAC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66
		2.46	0.0					

**Test Mounting Details:**



The unit was rigid wall mounted to the test fixture in the only possible configuration using (4) ungraded #10-32 screws. 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

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>UUT 54</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> SIGA-UIO2R <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
Interface board fastened to an MFC-A wall mounting box

**Options/Subcomponent Summary:**  
SIGA-UIO2R populated with: SIGA-MCC2A (Dual Output Signal Module); SIGA-MDM (Digital Message Module)

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
3.6	3.5	7.8	13.8	N/A	N/A	N/A

<i>UUT Highest Passed Seismic Run Information</i>									
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 2019	ICC-ESAC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66	
		2.46	0.0						

**Test Mounting Details:**



The unit was rigid wall mounted using two ungraded 3/16" toggle bolts through a 5/8" drywall covered wall fixture. 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

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>UUT 55</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> SIGA-UIO6 <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
Interface board fastened to an MFC-A wall mounting box

**Options/Subcomponent Summary:**  
SIGA-UIO6 populated with: SIGA-MIO (Digital Message Module); SIGA-MCC2 (Dual Output); SIGA-MRM1 (Rider Monitor); SIGA-MCT2 (Dual Input); SIGA-MCR (Relay); SIGA-MAB (Universal)

**UUT Properties**

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
5.5	3.5	7.8	13.8	N/A	N/A	N/A

**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 2019	ICC-ES AC156	1.54	1.0	1.5	2.46	1.85	1.64	0.66
		2.46	0.0					

**Test Mounting Details:**



The unit was rigid wall mounted using two ungraded 3/16" toggle bolts through a 5/8" drywall covered wall fixture. 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



2101226-CR-001-R0

<b>Manufacturer:</b> Edwards	<b>UUT 58</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 3-CAB21B <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
EST3, 14 gauge carbon steel lobby enclosure (3-CAB21B backbox with 3-CAB21D door).

**Options/Subcomponent Summary:**  
4-3LCD, 3-12/S1GY, 3-12/S1RY, 3-12/S2Y, 3-12RY, 3-12SG, 3-12SR, 3-12SY, 3-24G, 3-24R, 3-24Y, 3-6/3S1G2Y, 3-6/3S1GYR, 4-CPU w/ 4-AUDTELS, 3-PPS/M, 3-SSDC1 w/ 3-SDC1, 3-LDSM, 3-IDC 8/4, 3-ZA20A, 3-ZA40A, 3-ZA40B, 3-BPS/M, 3-ZA40, 3-LDSM, 3-ZA95, 4-NET-AD, 4-USBHUB, 4-NET-XT, 4-COMREL, 4-NET-MM, 4-NET-SM, 4-NET-SMU, 4-NET-SMH, 3-TAMP, 3-PPS, 3-CHAS7, 3-CHAS7, 4-MPLT, Batteries 12V17AH, 4-NET-AD mounted on 4-BRKT-CS, 4-NET-CAT, 4-NET-T.

<b>UUT Properties</b>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
149.0	5.8	28.0	52.0	N/A	N/A	N/A

<b>UUT Highest Passed Seismic Run Information</b>									
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 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	2.13	0.85	
		3.20	0.0						

**Test Mounting Details:**



UUT 58 was rigid mounted to a wall fixture using six (6) 1/4" ungraded bolts and flat washers. 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



2101226-CR-001-R0

<b>Manufacturer:</b> Edwards	<b>UUT 59</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 3-CAB21B <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
EST4, 14 gauge carbon steel lobby enclosure (3-CAB21B backbox with 4-CAB24DL door).

**Options/Subcomponent Summary:**  
4-LCD, 4-24L24S, 4-24L18S, 4-24L12S, 4-24L, 4-LCDAUTEL, 4-FT, 4-MIC, 4-FIL, 4-CPU w/ 4-AUDTELS, 3-PPS/M, 3-SDDC1 w/ 3-SDC1 x2, 3-IDC 8/4, 3-ZA20B, 3-ZA40B, 3-OPS, 3-ZA95, 4-NET-AD, 4-NET-XT, 4-COMREL, 4-NET-MM, 4-NET-SM, 4-NET-CAT, 4-NET-TP, 4-NET-SMU, 4-NET-SMH, 3-PPS, 4-ANNCPU W/ANNAUDTEL mounted on 4-BRKT-CB, 3-CHAS7, 4-MPLT, Batteries 12V17AH.

<b>UUT Properties</b>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
166.5	5.8	28.0	52.0	N/A	N/A	N/A

<b>UUT Highest Passed Seismic Run Information</b>									
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 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	2.13	0.85	
		3.20	0.0						

**Test Mounting Details:**



UUT 59 was rigid mounted to a wall fixture using six (6) 1/4" ungraded bolts and flat washers. 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

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>UUT 60</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 3-CAB7B <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
EST4, 14 gauge carbon steel lobby enclosure (3-CAB7B backbox with 4-CAB16DR door).

**Options/Subcomponent Summary:**  
4-LCD, 4-24L24S, 4-24L18S, 4-24L12S, 4-24L, 4-FIL, 4-FT, 4-MIC, 4-CPU w/ 4-AUDTELS, 3-PPS/M, 3-IDC 8/4, 3-SSDC1, 3-ZA20A, 3-ZA40A, 4-COMREL, 4-NET-CAT, 3-PPS, 12V17AH Battery, 3-CHAS.

**UUT Properties**

Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
99.5	5.8	28.0	26.0	N/A	N/A	N/A

**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 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	2.13	0.85
		3.20	0.0					

**Test Mounting Details:**



UUT 60 was rigid mounted to a wall fixture using four (4) 1/4" ungraded bolts and flat washers. 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



2101226-CR-001-R0

<b>Manufacturer:</b> Edwards	<b>UUT 61</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 4-24ANNMT <span style="float: right;"><b>Serial Number:</b> N/A</span>	

**Product Construction Summary:**  
EST4, 16 gauge carbon steel annunciator enclosure (4-24ANNMT backbox with 4-CAB24DR door).

**Options/Subcomponent Summary:**  
4-LCD, 4-24L18S, 4-24L12S, 4-24L, 4-LCDAUTEL, 4-FT, 4-MIC, 4-24L24S, 4-ANNCPU, 4-NET-AD, 4-ANNCPU W/4-annaudtels, SIGA-UIO2R, SIGA-UIO6R, 4-USBHUB, 4-NET-CAT, 4-NET-TP-HC.

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
94.0	9.8	30.0	43.5	N/A	N/A	N/A

<i>UUT Highest Passed Seismic Run Information</i>									
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 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	2.13	0.85	
		3.20	0.0						

**Test Mounting Details:**



UUT 61 was rigid mounted to a wall fixture using six (6) 3/16" ungraded bolts and flat washers. 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

2101226-CR-001-R0



<b>Manufacturer:</b> Edwards	<b>UUT 62</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 4-2ANNMT <b>Serial Number:</b> N/A	

**Product Construction Summary:**  
EST4, 16 gauge carbon steel annunciator enclosure (4-2ANNMT backbox with 4-2ANND door).

**Options/Subcomponent Summary:**  
4-LCD, 4-ANNCPU, 4-NET-CAT, 4-NET-TP-HC.

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
10.5	4.3	10.3	13.8	N/A	N/A	N/A

<i>UUT Highest Passed Seismic Run Information</i>									
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 2019	ICC-ESAC156	2.00	1.0	1.5	3.20	2.40	2.13	0.85	
		3.20	0.0						

**Test Mounting Details:**



UUT 62 was rigid mounted to a wall fixture using four (4) 3/16" ungraded bolts and flat washers. 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



2101226-CR-001-R0

<b>Manufacturer:</b> Edwards	<b>UUT 63</b>
<b>Model Line:</b> EST3 & EST4 Fire Protection System	
<b>Model Number:</b> 3-4ANN/B <span style="float: right;"><b>Serial Number:</b> N/A</span>	

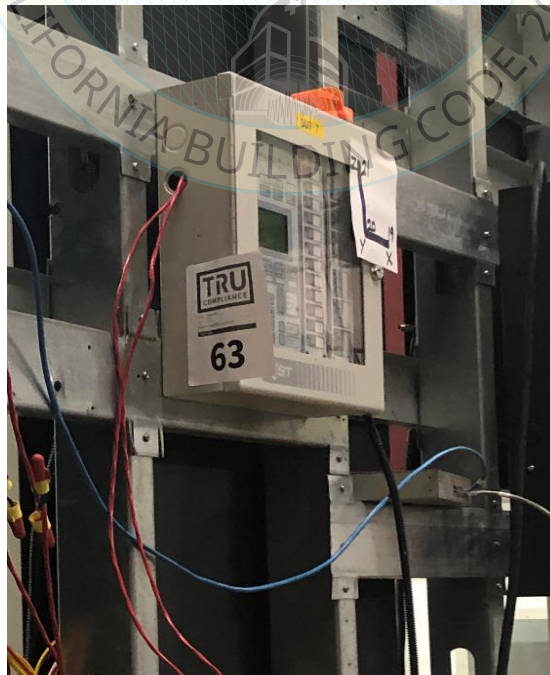
**Product Construction Summary:**  
EST3, 16 gauge carbon steel annunciator enclosure (3-4ANN/B backbox with 3-4ANND door).

**Options/Subcomponent Summary:**  
3-LCDANN, 3-12SG, 3-4/3SGYWR, 3-ANNCPU w/3-RS485A, 3-ANNSM.

<i>UUT Properties</i>						
Weight (lb)	Dimension (in)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
11.3	3.5	11.5	13.3	N/A	N/A	N/A

<i>UUT Highest Passed Seismic Run Information</i>									
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 2019	ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	2.13	0.85	
		3.20	0.0						

**Test Mounting Details:**



UUT 63 was rigid mounted to a wall fixture using four (4) 3/16" ungraded bolts and flat washers. Unit maintained structural integrity and remained functional per manufacturer requirement after shake table test. Contents were included in testing per operating conditions.