APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0547 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: LG Electronics USA, Inc.

Manufacturer's Technical Representative: John Cummings

Mailing Address: 4300 North Point Parkway, Suite 100, Alpharetta, GA 30022

Telephone: (678) 328-6411 Email: John.cummings@lge.com

Product Information

Product Name: LG Multi-V

Product Type: Air Conditioning Units

Product Model Number: ARUM, ARWN, ARWB, ARUB, ARNU, PRHR
(List all unique product identification numbers and/or part numbers)

General Description: Split system including heating and air conditioner units. Seismic enhancements made to the test units and modifications required to address the anomalies observed during the tests shall be incorporated into the production units.

Mounting Description: All units are rigid mounted. Outdoor units are base mounted, indoor units are base mounted, wall mounted, or suspended.

Applicant Information

Applicant Company Name: Buehler Engineering, Inc

Contact Person: Scott R. Hooker

Mailing Address: 600 Q Street, Suite 200, Sacramento, CA 95811

Telephone: (916) 443-0303 Email: shooker@buehlerengineering.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: Date: 07-03-19

Title: President Company Name: Buehler

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

Company Name: Buehler Engineering, Inc

Name: Scott R. Hooker California License Number: S3937

Mailing Address: 600 Q Street, Suite 200, Sacramento, CA 95811

Telephone: (916) 443-0303 Email: shooker@buehlerengineering.com

Supports and Attachments Preapproval

☐ Supports and attachments are preapproved under OPM-
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)

☒ Supports and attachments are not preapproved

Certification Method

☒ Testing in accordance with: ☒ ICC-ES AC156

☐ Other (Please Specify):

Testing Laboratory

Company Name: SESTEC at Pusan National University

Contact Name: Min-uk Gim

Mailing Address: 49, Busandaehak-ro, Mulguem-eup, Yangsan-si, Gyeongsangnam-do, Rep of Korea

Telephone: +82-51-510-8186 Email: kkkmu7@pusan.ac.kr

Testing Laboratory

Company Name: Qual Tech NP

Contact Name: Jason VonNida

Mailing Address: 4600 East Tech Drive, Cincinnati, OH

Telephone: 513-528-7900 Email: jvonnida@curtisswright.com

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

Design Basis of Equipment or Components (F_p/W_p) = See Attachment

S_{DS} (Design spectral response acceleration at short period, g) = See Attachment

a_p (In-structure equipment or component amplification factor) = 2.5

R_p (Equipment or component response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1

Equipment or Component Natural Frequencies (Hz) = See Attachment

Overall dimensions and weight (or range thereof) = See Attachment

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

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

S_{DS} (Design spectral response acceleration at short period, g) =

S_{D1} (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Ω_0 (System overstrength factor) =

C_d (Deflection amplification factor) =

I_p (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☐ Calculations ☒ Manufacturer's Catalog

☒ Other(s) (Please Specify): Operability Test Letter (LG), ISO 17025 Letter (SESTEC)

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature: _____ Date: December 11, 2019

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to: S_{DS} (g) = See Above z/h = 1

Condition of Approval (if applicable):

Table 1. Certified Product List

Group A: LG Multi V™ 5 Air Source Outdoor Unit UXA/UXB Chassis S_{DS} = 2.35g @ z/h=1.0 F_p / W_p = 1.76

Model Number	*Nominal Capacity (BTU/hr)*	*Voltage*	*Tested/ Interpolated*	Length (in)	Width (in)	Height (in)	Max Operating Weight (lbs)	Mounting
ARUM072BTE5	72000	3Φ, 208-230V	UUT-1	36-5/8	29-29/32	66-17/32	423	Rigid Base Mount
ARUM072BTE5	72000	3Φ, 208-230V	Interpolated	36-5/8	29-29/32	66-17/32	430	Rigid Base Mount
ARUM072DTE5	72000	3Φ, 460V	Interpolated	36-5/8	29-29/32	66-17/32	430	Rigid Base Mount
ARUM096BTE5	96000	3Φ, 208-230V	Interpolated	48-13/16	29-29/32	66-17/32	507	Rigid Base Mount
ARUM096DTE5	96000	3Φ, 460V	Interpolated	48-13/16	29-29/32	66-17/32	507	Rigid Base Mount
ARUM121BTE5	119700	3Φ, 208-230V	Interpolated	48-13/16	29-29/32	66-17/32	507	Rigid Base Mount
ARUM121DTE5	119700	3Φ, 460V	Interpolated	48-13/16	29-29/32	66-17/32	507	Rigid Base Mount
ARUM144BTE5	144000	3Φ, 208-230V	Interpolated	48-13/16	29-29/32	66-17/32	639	Rigid Base Mount
ARUM144DTE5	144000	3Φ, 460V	Interpolated	48-13/16	29-29/32	66-17/32	639	Rigid Base Mount
ARUM168BTE5	168000	3Φ, 208-230V	Interpolated	48-13/16	29-29/32	66-17/32	639	Rigid Base Mount
ARUM168DTE5	168000	3Φ, 460V	Interpolated	48-13/16	29-29/32	66-17/32	639	Rigid Base Mount
ARUM192BTE5	192000	3Φ, 208-230V	Interpolated	48-13/16	29-29/32	66-17/32	659	Rigid Base Mount
ARUM192DTE5	192000	3Φ, 460V	Interpolated	48-13/16	29-29/32	66-17/32	659	Rigid Base Mount
ARUM216BTE5	216000	3Φ, 208-230V	Interpolated	48-13/16	29-29/32	66-17/32	659	Rigid Base Mount
ARUM216DTE5	216000	3Φ, 460V	Interpolated	48-13/16	29-29/32	66-17/32	659	Rigid Base Mount
ARUM241BTE5	233100	3Φ, 208-230V	Interpolated	48-13/16	29-29/32	66-17/32	659	Rigid Base Mount
ARUM241DTE5	233100	3Φ, 460V	UUT-2	48-13/16	29-29/32	66-17/32	659	Rigid Base Mount
LG Multi V™ 5 Outdoor System Model Numbers are noted below as components in double and triple frame systems.								
ARUM264BTE5	264000	3Φ, 208-230V	Extrapolated	ARUM096BTE5+ARUM168BTE5				Rigid Base Mount
ARUM264DTE5	264000	3Φ, 460V	Extrapolated	ARUM096DTE5+ARUM168DTE5				Rigid Base Mount
ARUM288BTE5	288000	3Φ, 208-230V	Extrapolated	ARUM096BTE5+ARUM192BTE5				Rigid Base Mount
ARUM288DTE5	288000	3Φ, 460V	Extrapolated	ARUM096DTE5+ARUM192DTE5				Rigid Base Mount
ARUM312BTE5	312000	3Φ, 208-230V	Extrapolated	ARUM096BTE5+ARUM216BTE5				Rigid Base Mount
ARUM312DTE5	312000	3Φ, 460V	Extrapolated	ARUM096DTE5+ARUM216DTE5				Rigid Base Mount
ARUM336BTE5	336000	3Φ, 208-230V	Extrapolated	ARUM121BTE5+ARUM216BTE5				Rigid Base Mount
ARUM336DTE5	336000	3Φ, 460V	Extrapolated	ARUM121DTE5+ARUM216DTE5				Rigid Base Mount
ARUM360BTE5	360000	3Φ, 208-230V	Extrapolated	ARUM144BTE5+ARUM216BTE5				Rigid Base Mount
ARUM360DTE5	360000	3Φ, 460V	Extrapolated	ARUM144DTE5+ARUM216DTE5				Rigid Base Mount
ARUM384BTE5	384000	3Φ, 208-230V	Extrapolated	ARUM168BTE5+ARUM216BTE5				Rigid Base Mount
ARUM384DTE5	384000	3Φ, 460V	Extrapolated	ARUM168DTE5+ARUM216DTE5				Rigid Base Mount
ARUM408BTE5	408000	3Φ, 208-230V	Extrapolated	ARUM192BTE5+ARUM216BTE5				Rigid Base Mount
ARUM408DTE5	408000	3Φ, 460V	Extrapolated	ARUM192DTE5+ARUM216DTE5				Rigid Base Mount
ARUM432BTE5	430500	3Φ, 208-230V	Extrapolated	ARUM216BTE5+ARUM216BTE5				Rigid Base Mount
ARUM432DTE5	430500	3Φ, 460V	Extrapolated	ARUM216DTE5+ARUM216DTE5				Rigid Base Mount
ARUM456BTE5	455700	208-230V	Extrapolated	2 x ARUM121BTE5+ARUM216BTE5				Rigid Base Mount
ARUM456DTE5	455700	460V	Extrapolated	2 x ARUM121DTE5+ARUM216DTE5				Rigid Base Mount
ARUM480BTE5	476700	208-230V	Extrapolated	ARUM121BTE5+ARUM144BTE5+ARUM216BTE5				Rigid Base Mount
ARUM480DTE5	476700	460V	Extrapolated	ARUM121DTE5+ARUM144DTE5+ARUM216DTE5				Rigid Base Mount
ARUM504BTE5	504000	208-230V	Extrapolated	ARUM121BTE5+ARUM168BTE5+ARUM216BTE5				Rigid Base Mount
ARUM504DTE5	504000	460V	Extrapolated	ARUM121DTE5+ARUM168DTE5+ARUM216DTE5				Rigid Base Mount

Piping interconnection between multiple units must be a flexible connection
Extrapolated unit indicates multiple combinations of individual modules with flexible connection in between for listed capacity
Models shown in double and triple frame systems are structurally independent from each other due to required flexible connections.

Table 1. Certified Product List

Group B: LG Multi V™ IV Water Source Outdoor Unit UWC Chassis S_{DS} = 2.00g @ z/h=1.0 F_p / W_p = 1.50

Model Number	*Nominal Capacity (BTU/hr)*	*Voltage*	*Tested/ Interpolated*	Length (in)	Width (in)	Height (in)	Max Operating Weight (lbs)	Mounting
ARWB072BAS4	72000	3Φ, 208-230V	Extrapolated	29-3/4	19-3/4	39-1/4	295	Rigid Base Mount with or w/o rack
ARWB072DAS4	72000	3Φ, 460V	Extrapolated	29-3/4	19-3/4	39-1/4	295	
ARWB096BAS4	96000	3Φ, 208-230V	Extrapolated	29-3/4	19-3/4	39-1/4	295	
ARWB096DAS4	96000	3Φ, 460V	Extrapolated	29-3/4	19-3/4	39-1/4	295	
ARWB121BAS4	119700	3Φ, 208-230V	Extrapolated	29-3/4	19-3/4	39-1/4	295	
ARWB121DAS4	119700	3Φ, 460V	Extrapolated	29-3/4	19-3/4	39-1/4	295	
ARWB144BAS4	144000	3Φ, 208-230V	UUT-B1	29-3/4	19-3/4	39-1/4	295	Rigid Base Mount w/o rack
ARWB144BAS4	144000	3Φ, 208-230V	UUT-B1a	29-3/4	19-3/4	39-1/4	295	Rigid Base Mount with rack
ARWB144DAS4	144000	3Φ, 460V	Interpolated	29-3/4	19-3/4	39-1/4	331	Rigid Base Mount with or w/o rack
ARWB192DAS4	192000	3Φ, 460V	Interpolated	29-3/4	19-3/4	39-1/4	331	
ARWN072BAS4	72000	3Φ, 208-230V	Interpolated	29-3/4	19-3/4	39-1/4	295	
ARWN072DAS4	72000	3Φ, 460V	Interpolated	29-3/4	19-3/4	39-1/4	295	
ARWN096BAS4	96000	3Φ, 208-230V	Interpolated	29-3/4	19-3/4	39-1/4	295	
ARWN096DAS4	96000	3Φ, 460V	Interpolated	29-3/4	19-3/4	39-1/4	295	
ARWN121BAS4	119700	3Φ, 208-230V	Interpolated	29-3/4	19-3/4	39-1/4	295	
ARWN121DAS4	119700	3Φ, 460V	Interpolated	29-3/4	19-3/4	39-1/4	295	
ARWN144BAS4	144000	3Φ, 208-230V	Interpolated	29-3/4	19-3/4	39-1/4	295	
ARWN144DAS4	144000	3Φ, 460V	Interpolated	29-3/4	19-3/4	39-1/4	331	
ARWN192DAS4	192000	3Φ, 460V	UUT-B2	29-3/4	19-3/4	39-1/4	331	Rigid Base Mount w/o rack
ARWN192DAS4	192000	3Φ, 460V	UUT-B2a	29-3/4	19-3/4	39-1/4	331	Rigid Base Mount with rack
LG Multi V™ IV Water Source System Model Numbers are noted below as components in **double** and **triple frame systems**.								
ARWB192BAS4	192000	3Φ, 208-230V	Extrapolated	ARWB121BAS4 + ARWB072BAS4				Rigid Base Mount with or w/o rack
ARWN192BAS4	192000	3Φ, 208-230V	Extrapolated	ARWN121BAS4 + ARWN072BAS4				
ARWB240BAS4	239400	3Φ, 208-230V	Extrapolated	ARWB121BAS4 + ARWB121BAS4				
ARWB240DAS4	239400	3Φ, 460V	Extrapolated	ARWB144DAS4 + ARWB096DAS4				
ARWN240BAS4	239400	3Φ, 208-230V	Extrapolated	ARWN121BAS4 + ARWN121BAS4				
ARWN240DAS4	239400	3Φ, 460V	Extrapolated	ARWN144DAS4 + ARWN096DAS4				
ARWB288BAS4	287700	3Φ, 208-230V	Extrapolated	2 x ARWB144BAS4				
ARWB289DAS4	287700	3Φ, 460V	Extrapolated	2 x ARWB144DAS4				
ARWN288BAS4	287700	3Φ, 208-230V	Extrapolated	2 x ARWN144BAS4				
ARWN289DAS4	287700	3Φ, 460V	Extrapolated	2 x ARWN144DAS4				
ARWB336BAS4	336000	3Φ, 208-230V	Extrapolated	ARWB096BAS4 + 2 x ARWB121BAS4				
ARWB337DAS4	336000	3Φ, 460V	Extrapolated	ARWB144DAS4 + ARWB192DAS4				
ARWN336BAS4	336000	3Φ, 208-230V	Extrapolated	ARWN096BAS4 + 2 x ARWN121BAS4				
ARWN337DAS4	336000	3Φ, 460V	Extrapolated	ARWN144DAS4 + ARWN192DAS4				
ARWB432BAS4	430500	3Φ, 208-230V	Extrapolated	3 x ARWB144BAS4				
ARWB432DAS4	430500	3Φ, 460V	Extrapolated	3 x ARWB144DAS4				
ARWN432BAS4	430500	3Φ, 208-230V	Extrapolated	3 x ARWN144BAS4				
ARWN432DAS4	430500	3Φ, 460V	Extrapolated	3 x ARWN144DAS4				
ARWB480DAS4	472500	3Φ, 460V	Extrapolated	2 x ARWB144DAS4 + ARWB192DAS4				
ARWN480DAS4	472500	3Φ, 460V	Extrapolated	2 x ARWN144DAS4 + ARWN192DAS4				
ARWB576DAS4	571200	3Φ, 460V	Extrapolated	3 x ARWB192DAS4				
ARWN576DAS4	571200	3Φ, 460V	Extrapolated	3 x ARWN192DAS4				

Piping interconnection between multiple units must be a flexible connection.
Extrapolated units are identical to the tested unit with the exception of software.
Models shown in double and triple frame systems are structurally independent from each other due to required flexible connections.
See individual unit max operating weights for units listed in double and triple frame systems. Each unit in a frame system is anchored independently

Group C: LG Multi V Water Mini Water Source Outdoor Unit S_{DS} = 2.00g @ z/h=1.0 F_p / W_p = 1.50

Model Number	*Nominal Capacity (BTU/hr)*	*Voltage*	*Tested/ Interpolated*	Length (in)	Width (in)	Height (in)	Max Operating Weight (lbs)	Mounting
ARWN053GA2	52900	1Φ, 208-230V	UUT-C1	20-5/8	13-1/8	42-1/2	168	Rigid Base Mount

Table 1. Certified Product List

Group D: LG Multi V S Air Source Outdoor Unit (208-230V) S_{DS} = 2.00g @ z/h=1.0 F_p / W_p = 1.50

Model Number	*Nominal Capacity (BTU/hr)*	*Tested/ Interpolated*	Length (in)	Width (in)	Height (in)	Max Operating Weight (lbs)	Mounting
ARUN024GSS4	24000	UUT-D1	37-13/32	13	32-27/32	159	Rigid Base Mount
ARUN038GSS4	38000	UUT-D2	37-13/32	13	54-11/32	211	Rigid Base Mount
ARUN048GSS4	48000	Interpolated	37-13/32	13	54-11/32	211	Rigid Base Mount
ARUN053GSS4	53000	Interpolated	37-13/32	13	54-11/32	211	Rigid Base Mount
ARUB060GSS4	60000	UUT-3	37-13/32	13	54-11/32	265	Rigid Base Mount

Group E: LG Multi V™ Indoor Ceiling Concealed Ducted - High Static S_{DS} = 2.50g @ z/h=1.0 F_p / W_p = 1.88

Model Number	*Nominal Capacity (BTU/hr)*	*Tested/ Interpolated*	Length (in)	Width (in)	Height (in)	Max Operating Weight (lbs)	Mounting
ARNU073BGA4	7500	UUT-E1	46-17/32	17-23/32	11-23/32	84	Suspended
ARNU073M2A4	7500	UUT-4	49-9/32	27-1/4	10-11/16	85	Suspended
ARNU093BGA4	9600	Interpolated	46-17/32	17-23/32	11-23/32	84	Suspended
ARNU093M2A4	9600	Interpolated	49-9/32	27-1/4	10-11/16	85	Suspended
ARNU123BGA4	12300	Interpolated	46-17/32	17-23/32	11-23/32	84	Suspended
ARNU123M2A4	12300	Interpolated	49-9/32	27-1/4	10-11/16	85	Suspended
ARNU153BGA4	15400	Interpolated	46-17/32	17-23/32	11-23/32	84	Suspended
ARNU153M2A4	15400	Interpolated	49-9/32	27-1/4	10-11/16	85	Suspended
ARNU183BGA4	19100	Interpolated	46-17/32	17-23/32	11-23/32	84	Suspended
ARNU183BHA4	19100	Interpolated	34-3/4	17-3/4	10-1/4	59	Suspended
ARNU183M2A4	19100	Interpolated	49-9/32	27-1/4	10-11/16	85	Suspended
ARNU243BGA4	24200	Interpolated	46-17/32	17-23/32	11-23/32	84	Suspended
ARNU243BHA4	24200	UUT-E2	34-3/4	17-3/4	10-1/4	59	Suspended
ARNU243M2A4	24200	Interpolated	49-9/32	27-1/4	10-11/16	85	Suspended
ARNU283BGA4	28000	Interpolated	46-17/32	17-23/32	11-23/32	84	Suspended
ARNU283M2A4	28000	Interpolated	49-9/32	27-1/4	10-11/16	85	Suspended
ARNU283M3A4	28000	Interpolated	49-9/32	27-1/4	14-3/16	97	Suspended
ARNU363BGA4	36200	Interpolated	46-17/32	17-23/32	11-23/32	84	Suspended
ARNU363BRA4	36200	Interpolated	46-17/32	23-7/32	11-23/32	117	Suspended
ARNU363M2A4	36200	Interpolated	49-9/32	27-1/4	10-11/16	85	Suspended
ARNU363M3A4	36200	Interpolated	49-9/32	27-1/4	14-3/16	97	Suspended
ARNU423BGA4	42000	Interpolated	46-17/32	14-23/32	11-23/32	84	Suspended
ARNU423BRA4	42000	Interpolated	48-7/16	23-7/32	14-31/32	117	Suspended
ARNU423M2A4	42000	Interpolated	49-9/32	27-1/4	10-11/16	85	Suspended
ARNU423M3A4	42000	Interpolated	49-9/32	27-1/4	14-3/16	97	Suspended
ARNU483BRA4	48100	Interpolated	48-7/16	23-7/32	14-31/32	117	Suspended
ARNU483M3A4	48100	Interpolated	49-9/32	27-1/4	14-3/16	97	Suspended
ARNU543BRA4	54000	UUT-E3	48-7/16	23-7/32	14-31/32	117	Suspended
ARNU543M3A4	54000	UUT-5	49-9/32	27-1/4	14-3/16	97	Suspended
ARNU763B8A4	76400	Interpolated	61-1/2	27-3/32	18-1/8	192	Suspended
ARNU963B8A4	95900	UUT-E4	61-1/2	27-3/32	18-1/8	192	Suspended

Group F: LG Multi V™ Ceiling Cassette 1-Way (208-230V) S_{DS} = 2.50g @ z/h=1.0 F_p / W_p = 1.88

Model Number	*Nominal Capacity (BTU/hr)*	*Tested/ Interpolated*	Length (in)	Width (in)	Height (in)	Max Operating Weight (lbs)	Mounting
ARNU073TUC4	8500	Extrapolated	33-27/32	17-23/32	5-3/16	30	Suspended
ARNU093TUC4	10900	Extrapolated	33-27/32	17-23/32	5-3/16	30	Suspended
ARNU123TUC4	13600	UUT-F1	33-27/32	17-23/32	5-3/16	30	Suspended
ARNU183TTC4	19100	Extrapolated	46-15/32	17-23/32	5-3/16	34	Suspended
ARNU243TTC4	24200	UUT-F2	46-15/32	17-23/32	5-3/16	34	Suspended

Note: Extrapolated units are identical to the tested unit with the exception of software.

Table 1. Certified Product List

Group G: LG Multi V™ Ceiling Cassette 2-Way (208-230V) S_{DS} = 2.50g @ z/h=1.0 F_p / W_p = 1.88

Model Number	*Nominal Capacity (BTU/hr)*	*Tested/ Interpolated*	Length (in)	Width (in)	Height (in)	Max Operating Weight (lbs)	Mounting
ARNU053TRC4	5500	UUT-G1	22-7/16	22-7/16	8-7/16	31	Suspended
ARNU073TNA4	7500	Interpolated	33-1/16	33-1/16	8-1/32	46	Suspended
ARNU073TRC4	7500	Interpolated	22-7/16	22-7/16	8-7/16	31	Suspended
ARNU093TNA4	9600	Interpolated	33-1/16	33-1/16	8-1/32	46	Suspended
ARNU093TRC4	9600	Interpolated	22-7/16	22-7/16	8-7/16	31	Suspended
ARNU123TNA4	12300	Interpolated	33-1/16	33-1/16	8-1/32	46	Suspended
ARNU123TRC4	12300	Interpolated	22-7/16	22-7/16	8-7/16	31	Suspended
ARNU153TNA4	15400	Interpolated	33-1/16	33-1/16	8-1/32	46	Suspended
ARNU153TQC4	15400	Interpolated	22-7/16	22-7/16	10-3/32	34	Suspended
ARNU183TNA4	19100	Interpolated	33-1/16	33-1/16	8-1/32	46	Suspended
ARNU183TQC4	19100	UUT-G2	22-7/16	22-7/16	10-3/32	34	Suspended
ARNU243TMA4	24200	Interpolated	33-1/16	33-1/16	9-11/16	52	Suspended
ARNU243TNA4	24200	Interpolated	33-1/16	33-1/16	8-1/32	46	Suspended
ARNU243TPC4	24200	Interpolated	33-1/16	33-1/16	8-1/32	46	Suspended
ARNU283TMA4	28000	Interpolated	33-1/16	33-1/16	9-11/16	52	Suspended
ARNU283TPC4	28000	Interpolated	33-1/16	33-1/16	8-1/32	46	Suspended
ARNU363TMA4	36200	Interpolated	33-1/16	33-1/16	9-11/16	52	Suspended
ARNU363TNC4	36200	UUT-G3	33-1/16	33-1/16	9-11/16	54	Suspended
ARNU423TMC4	42000	Interpolated	33-1/16	33-1/16	11-11/32	56	Suspended
ARNU483TMC4	48100	UUT-G4	33-1/16	33-1/16	11-11/32	56	Suspended

Group H: LG Multi V™ Wall Mounted (208/230V) S_{DS} = 2.50g @ z/h=1.0 F_p / W_p = 1.88

Model Number	*Nominal Capacity (BTU/hr)*	*Tested/ Interpolated*	Length (in)	Width (in)	Height (in)	Max Operating Weight (lbs)	Mounting
ARNU053SJA4	5000	Extrapolated	32-3/16	7-7/16	12-7/16	22	Wall Mount
ARNU073SJA4	7500	Extrapolated	32-3/16	7-7/16	12-7/16	22	Wall Mount
ARNU093SJA4	9600	Extrapolated	32-3/16	7-7/16	12-7/16	22	Wall Mount
ARNU123SJA4	12300	Extrapolated	32-3/16	7-7/16	12-7/16	22	Wall Mount
ARNU153SJA4	15400	UUT-6	32-3/16	7-7/16	12-7/16	22	Wall Mount
ARNU183SKA4	19100	Extrapolated	38-3/8	8-1/4	13-15/16	31	Wall Mount
ARNU243SKA4	24200	UUT-7	38-3/8	8-1/4	13-15/16	31	Wall Mount

Extrapolated unit are identical with exception of software and exempt components (circuit boards)

Group J: LG Multi V™ Heat Recovery Units (208/230V) S_{DS} = 2.50g @ z/h=1.0 F_p / W_p = 1.88

Model Number	*Nominal Capacity (BTU/hr)*	*Tested/ Interpolated*	Length (in)	Width (in)	Height (in)	Max Operating Weight (lbs)	Mounting
PRHR023A	n/a	UUT-8	19-1/8	18-15/16	8-5/8	35	Suspended
PRHR033A	n/a	Interpolated	19-1/8	18-15/16	8-5/8	37	Suspended
PRHR043A	n/a	Interpolated	19-1/8	18-15/16	8-5/8	40	Suspended
PRHR063A	n/a	Interpolated	31-1/4	18-15/16	8-5/8	60	Suspended
PRHR083A	n/a	UUT-9	31-1/4	18-15/16	8-5/8	68	Suspended

Table 2. Certified Sub-Component List

Pursuant to section 4.5 of AC 156, below is a list and rationale of major subassemblies/ components. In accordance with item 14 of PIN 55 of OSHPD OSP approval process, components exempt from certification per CBC Section 1705A.13.3.1 need not be listed. These components include piping; electric motors, pumps or compressors less than 20 hp; electrical controllers, switches, transformers, circuit breakers, or fuses up to 10 lbs to 10 amperes.

Group A: LG Multi V™ 5 Air Source Outdoor Unit UXA/UXB Chassis S_{DS} = 2.35g @ z/h=1.0 F_p / W_p = 1.76

Rigid Base Mount

Part Number	*Weight*	*Manufacturer*	*Material*	*Tested / Interpolated*
Heat Exchanger				
ACG74185502	57.3 lb	LTS	Aluminum Fin, Copper Tube	Extrapolated
ACG74185504	61.7 lb	LTS	Aluminum Fin, Copper Tube	UUT-1
ACG74185506	88.2 lb	LTS	Aluminum Fin, Copper Tube	UUT-2
Enclosure - Cabinet				
AAN75070508	35.3 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC, 1.2t	UUT-1
AAN75070517	35.3 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC, 1.2t	Interpolated
AAN75070509	65.9 lb	Jin Yang Co., Ltd	Sheet, Steel SGCC, 1.6t	UUT-2
AGL74852510	15.4 lb	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC, 0.8t	UUT-2
AGL74852511	23.0 lb	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC, 0.8t	UUT-1
MGC63779002	9.6 lb	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC, 0.8t	UUT-2
MGC63799002	14.0 lb	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC, 0.8t	UUT-2
MGC64299102	5.5 lb	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC, 0.8t	UUT-1
MGC63779102	16.1 lb	Jin Yang Co., Ltd	Sheet, Steel SGCC, 0.8t	UUT-2
MGC63779104	16.1 lb	Jin Yang Co., Ltd	Sheet, Steel SGCC, 0.8t	UUT-1
MGC63779202	16.1 lb	Jin Yang Co., Ltd	Sheet, Steel SGCC, 0.8t	UUT-2
MGC63779204	16.1 lb	Jin Yang Co., Ltd	Sheet, Steel SGCC, 0.8t	UUT-1
MGC63798902	11.0 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC, 0.8t	UUT-2
MGC63818902	6.6 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC, 0.8t	UUT-2
MGC64299202	5.3 lb	Lee Seong Ind Co., Ltd	Sheet, Steel SGCC, 0.8t	UUT-1
MJH63754102	6.6 lb	Jin Yang Co., Ltd	Sheet, Steel SGCC, 1.0t	UUT-1, UUT-2
Inverter Printed Circuit Board				
EBR83035702	1.8 lb	Joeng min electronics	Hard Plastic	UUT-1
EBR80908606	1.8 lb	Joeng min electronics	Hard Plastic	Interpolated
EBR80908603	1.8 lb	Joeng min electronics	Hard Plastic	Interpolated
EBR80928303	1.8 lb	Joeng min electronics	Hard Plastic	UUT-2
EBR82376301	1.8 lb	Joeng min electronics	Hard Plastic	Interpolated
EBR83035701	1.8 lb	Joeng min electronics	Hard Plastic	Interpolated
Fan Printed Circuit Board				
EBR79669810	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	UUT-1
EBR79669806	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR79669809	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR79669811	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	UUT-2
Noise Filter Circuit Board				
EAM63430903	2.8 lb	Sang Shin Electronics Co., Ltd.	Hard Plastic	UUT-1
EAM63430904	2.8 lb	Sang Shin Electronics Co., Ltd.	Hard Plastic	Interpolated
EAM63430905	2.8 lb	Sang Shin Electronics Co., Ltd.	Hard Plastic	Interpolated
EAM63430906	2.8 lb	Sang Shin Electronics Co., Ltd.	Hard Plastic	UUT-2
Main Circuit Board				
EBR81880101	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	UUT-1, UUT-2
External Circuit Board				
EBR79669907	< 1 lb	Joeng min electronics	Hard Plastic	UUT-1, UUT-2
PI485 PCB				
EBR80820501	< 1 lb	Daeho Technology Korea Co., Ltd.	Hard Plastic	UUT-1, UUT-2

Subcomponents listed under UUT-1 is certified for Sds=2.50g, all others including interpolated is certified for Sds = 2.35g. See Table 1 for more info.

Table 2. Certified Sub-Component List

Group B - Water Source Outdoor Unit UWC Chassis S_{DS} = 2.00g @ z/h=1.0 F_p / W_p = 1.50

Rigid Base Mount with or w/o rack [UUT-xx: rigid base mounted, UUT-xxA: rigid base mounted with rack)

Part Number	Weight	Manufacturer	Material	Tested / Interpolated
Heat Exchanger				
MDE62021801	49.0 lb	Alfa Laval	Stainless steel	UUT-B1, UUT-B1a
MDE62021803	51.0 lb	Alfa Laval	Stainless steel	UUT-B2, UUT-B2a
Comm. PCB				
EBR74374302	< 1 lb	MSE	Hard Plastic	UUT-B1, B1a, B2 & B2a
PI485 PCB				
EBR74801101	< 1 lb	MSE	Hard Plastic	UUT-B1, B1a, B2 & B2a
Power PCB				
EBR74365001	< 1 lb	Joeng min electronics	Hard Plastic	UUT-B1, B1a, B2 & B2a
External PCB				
EBR74363402	< 1 lb	Joeng min electronics	Hard Plastic	UUT-B1, B1a, B2 & B2a
Converter PCB				
EBR76196401	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	UUT-B1, B1a, B2 & B2a
EBR76546001	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR76981301	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	UUT-B2, UUT-B2a
Inverter PCB				
EBR75420406	< 1 lb	Joeng min electronics	Hard Plastic	UUT-B2, UUT-B2a
EBR76166007	< 1 lb	Joeng min electronics	Hard Plastic	Interpolated
EBR76610203	< 1 lb	Joeng min electronics	Hard Plastic	UUT-B1, UUT-B1a
Noise Filter				
EAM62632201	< 1 lb	Sang Shin Electronics Co., Ltd.	Hard Plastic	Interpolated
EAM62632202	< 1 lb	Sang Shin Electronics Co., Ltd.	Hard Plastic	UUT-B2, UUT-B2a
EAM6263B201	< 1 lb	Sang Shin Electronics Co., Ltd.	Hard Plastic	UUT-B1, UUT-B1a
Main PCB				
EBR76336711	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR76336712	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR76336713	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR76336714	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR76336716	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78043501	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78043502	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78043503	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78043504	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78043505	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78043506	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78043507	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78043508	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	UUT-B1, UUT-B1a
EBR78277401	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78277402	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78277403	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78277404	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	Interpolated
EBR78277406	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	UUT-B2, UUT-B2a

Subcomponents listed certified for Sds=2.00g. See Table 1 for more info.

Group C- Multi V Water Mini Water Source Outdoor Unit S_{DS} = 2.00g @ z/h=1.0 F_p / W_p = 1.50

Rigid Base Mount

Part Number	Weight	Manufacturer	Material	Tested / Interpolated
Heat Exchanger				
MDE62021804	19.2 lb	Alfa Laval	Stainless steel	UUT-C1
Main PCB				
EBR76963803	< 1 lb	Seyoung Co., Ltd.	Hard Plastic	UUT-C1
Inverter PCB				
EBR75228201	< 1 lb	Joeng min electronics	Hard Plastic	UUT-C1
Noise Filter				
EBR81792401	< 1 lb	Joeng min electronics	Hard Plastic	UUT-C1

Subcomponents listed certified for Sds=2.00g. See Table 1 for more info.

Table 2. Certified Sub-Component List

Group D: LG Multi V S Air Source Outdoor Unit S_{DS} = 2.00g @ z/h=1.0 F_p / W_p = 1.50

Rigid Base Mount

Part Number	*Weight (lb)*	*Manufacturer*	*Material*	*Tested / Interpolated*
Heat Exchanger				
ACG74186203	37.9 lb	DongIL Aluminum	Aluminum Fin, Copper Tube	UUT-3
ACG65609419	18.7 lb	DongIL Aluminum	Aluminum Fin, Copper Tube	UUT-D1
ACG73865309	14.9 lb	LTS Korea	Aluminum Fin, Copper Tube	UUT-D2
Display Printed Control Board				
EBR80882201	< 1 lb	Seyoung	Hard Plastic	UUT-3
Inverter Printed Control Board				
EBR83821101	3 lb	Joeng min electronics	Hard Plastic	UUT-3
EBR78509901	1.9 lb	Seyoung	Hard Plastic	UUT-D2
EBR78509902	1.9 lb	Seyoung	Hard Plastic	UUT-D1
Main Printed Control Board				
EBR83822901	< 1 lb	Seyoung	Hard Plastic	UUT-3
EBR77627622	< 1 lb	Seyoung	Hard Plastic	UUT-D1
EBR80272314	< 1 lb	Seyoung	Hard Plastic	UUT-D2
Noise Filter Printed Control Board				
EAM62792405	2.5 lb	Sangshin Electronics	Hard Plastic	UUT-3
EBR81792501	1 lb	Joeng min electronics	Hard Plastic	UUT-D1, UUT-D2
Sensor Printed Control Board				
EBR80100302	< 1 lb	Joeng min electronics	Hard Plastic	UUT-3
Sub PCB Printed Control Board				
EBR80820501	< 1 lb	Daeho Technology	Hard Plastic	UUT-3
EBR74374302	< 1 lb	MSE	Hard Plastic	UUT-D1, UUT-D2
EBR74801101	< 1 lb	MSE	Hard Plastic	UUT-D1, UUT-D2
Enclosure - Panel Side				
MGC39426015	3.4 lb	Kuma Metal	Sheet, Steel SGCC, 1.2t	UUT-3
Enclosure - Panel Front				
AGL34578711	12.2 lb	Kuma Metal	Sheet, Steel SGCC, 1.2t	UUT-3
Enclosure - Panel Rear				
AGL76512811	7.6 lb	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC, 1.2t	UUT-3
Panel Assembly - Side				
AGL76513034	10.8 lb	Bukuk Precision & Ind. Co	Sheet, Steel SGCC, 1.2t	UUT-3
Cover Assembly - Tubing				
ACQ34583420	1.1 lb	Kuma Metal	Sheet, Steel SGCC, 1.2t	UUT-3

Subcomponents listed certified for Sds=2.00g. See Table 1 for more info.

Group E: LG Multi V™ Indoor Ceiling Concealed Ducted - High Static S_{DS} = 2.50g @ z/h=1.0 F_p / W_p = 1.88

Suspended

Part Number	*Weight (lb)*	*Manufacturer*	*Material*	*Tested / Interpolated*
Heat Exchanger				
ADL74001015	9 lb	Dong IL Aluminum Co.,Ltd	Aluminum Fin, Copper Tube	UUT-4
ADL74001016	12 lb	Dong IL Aluminum Co.,Ltd	Aluminum Fin, Copper Tube	Interpolated
ADL74001018	15 lb	Dong IL Aluminum Co.,Ltd	Aluminum Fin, Copper Tube	UUT-5
5421A10027C	9.5 lb	Dong IL Aluminum CO.,LTD.	Aluminum Fin, Copper Tube	UUT-E1
5421A20273A	12.6 lb	Dong IL Aluminum CO.,LTD.	Aluminum Fin, Copper Tube	UUT-E3
5421A20100R	5.9 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	UUT-E2
5421A20217L	22.4 lb	LTS Korea	Aluminum Fin, Copper Tube	UUT-E4
Main Printed Control Board				
EBR81117102	< 1 lb	Joeng min electronics	ABS Plastic	UUT-4
EBR81117116	< 1 lb	Joeng min electronics	ABS Plastic	UUT-5
EBR77384109	< 1 lb	Joeng min electronics	ABS Plastic	Interpolated
EBR77384110	< 1 lb	Joeng min electronics	ABS Plastic	Interpolated
EBR78310704	< 1 lb	Joeng min electronics	ABS Plastic	UUT-E4
EBR79004801	< 1 lb	Joeng min electronics	ABS Plastic	UUT-E2
EBR79004802	< 1 lb	Joeng min electronics	ABS Plastic	UUT-E1
EBR79004804	< 1 lb	Joeng min electronics	ABS Plastic	UUT-E3
Enclosure - Panel Assembly Upper				
AGL74236404	16.3 lb	Maeil Precision Machinery Co., Ltd	SGCC T0.8	UUT-4
AGL74236403	16.3 lb	Maeil Precision Machinery Co., Ltd	SGCC T0.8	UUT-5
Enclosure - Panel Assembly Front				
AGL74234901	7.7 lb	Maeil Precision Machinery Co., Ltd	SGCC T0.6	UUT-4
AGL74234903	6.8 lb	Maeil Precision Machinery Co., Ltd	SGCC T0.6	UUT-5
Enclosure - Panel Assembly Rear				
AGL74235007	4.7 lb	Maeil Precision Machinery Co., Ltd	SGCC T0.6	UUT-4
AGL74235008	6.6 lb	Maeil Precision Machinery Co., Ltd	SGCC T0.6	UUT-5
Enclosure - Panel Assembly Side				
AGL74256831	7.7 lb	Dae Yang Jeong Gi	SGCC T0.8	UUT-4
AGL74256802	3.1 lb	Dae Yang Jeong Gi	SGCC T0.8	UUT-4
AGL74256832	7.1 lb	Dae Yang Jeong Gi	SGCC T0.8	UUT-5
AGL74256804	4.2 lb	Dae Yang Jeong Gi	SGCC T0.8	UUT-5

Subcomponents listed certified for Sds=2.50g. See Table 1 for more info.

Table 2. Certified Sub-Component List

Group F - LG Multi V™ Ceiling Cassette 1-Way (208/230V) S_{DS} = 2.50g @ z/h=1.0 F_p / W_p = 1.88

Suspended

Part Number	*Weight (lb)*	*Manufacturer*	*Material*	*Tested / Interpolated*
Heat Exchanger				
ADL36804601	5.4 lb	LG Electronics Inc.	Aluminum Fin, Copper Tube	UUT-F1
ADL36804501	8.0 lb	LG Electronics Inc.	Aluminum Fin, Copper Tube	UUT-F2
Main PCB				
EBR81221805	< 1 lb	LG Electronics Inc.	ABS Plastic	UUT-F1, UUT-F2

Subcomponents listed certified for Sds=2.50g. See Table 1 for more info.

Group G - LG Multi V™ Ceiling Cassette 4-Way (208/230V) S_{DS} = 2.50g @ z/h=1.0 F_p / W_p = 1.88

Suspended

Part Number	*Weight (lb)*	*Manufacturer*	*Material*	*Tested / Interpolated*
Heat Exchanger				
ADL55996003	3.0 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	UUT-G1
ADL55996002	6.1 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	Interpolated
ADL55996001	7.8 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	UUT-G2
ADL32881103	10.7 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	Interpolated
ADL32881102	13.2 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	Interpolated
ADL73841702	14.9 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	UUT-G3
ADL73841802	15.1 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	Interpolated
ADL32881101	15.6 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	Interpolated
ADL73841801	18.0 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	UUT-G4
ADL73841803	12.1 lb	Lotte Aluminum	Aluminum Fin, Copper Tube	Interpolated
Main PCB				
EBR81221804	< 1 lb	MSE	ABS Plastic	UUT-G1, G2, G3 and G4
EBR39187715	< 1 lb	MSE	ABS Plastic	Extrapolated
EBR79629502	< 1 lb	MSE	ABS Plastic	Extrapolated
EBR78401707	< 1 lb	MSE	ABS Plastic	Extrapolated

Subcomponents listed certified for Sds=2.50g. See Table 1 for more info.

Group H: LG Multi V™ Indoor Ceiling Concealed Ducted - High Static S_{DS} = 2.50g @ z/h=1.0 F_p / W_p = 1.88

Wall Mount

Part Number	*Weight (lb)*	*Manufacturer*	*Material*	*Tested / Interpolated*
Heat Exchanger				
ADL74920901	3.4 lb	Dong IL Aluminum CO., Ltd.	Aluminum Fin, Copper Tube	UUT-6
ADL74761211	5.6 lb	Dong IL Aluminum CO., Ltd.	Aluminum Fin, Copper Tube	UUT-7
Main Printed Control Board				
EBR82077501	< 1 lb	MSE	ABS Plastic	UUT-7
EBR82077502	< 1 lb	MSE	ABS Plastic	Extrapolated
EBR82077503	< 1 lb	MSE	ABS Plastic	Extrapolated
EBR82077504	< 1 lb	MSE	ABS Plastic	Extrapolated
EBR82077505	< 1 lb	MSE	ABS Plastic	Extrapolated
EBR82077506	< 1 lb	MSE	ABS Plastic	UUT-6
EBR82077507	< 1 lb	MSE	ABS Plastic	Extrapolated
Enclosure - Panel Assembly				
ABW74052408	2.2 lb	Dae Yeong Electronics Co., Ltd.	Plastic	UUT-6
ABW74032618	3.1 lb	Dae Yeong Electronics Co., Ltd.	Plastic	UUT-7
AEB75524601	2.9 lb	ShinSung Delta Tech Co., Ltd.	Plastic	UUT-6
AEB74384533	2.0 lb	Sebok	Plastic	UUT-7
AEB74424757	1.4 lb	Jawoo Platech Co,. Ltd.	Plastic	UUT-6
AEB75524701	4.2 lb	Jawoo Platech Co,. Ltd.	Plastic	UUT-7

Subcomponents listed certified for Sds=2.50g. See Table 1 for more info.

Table 2. Certified Sub-Component List

Group J: LG Multi V™ Heat Recovery Units S_{DS} = 2.50g @ z/h=1.0 F_p / W_p = 1.88

Suspended

Part Number	*Weight (lb)*	*Manufacturer*	*Material*	*Tested / Interpolated*
Main Printed Control Board				
EBR82017101	< 1 lb	LG Electronics Inc.	Hard Plastic	UUT-8,UUT-9
Expansion Valve - EEV				
MJX63992003	< 1 lb	Sanhua	Copper	UUT-8,UUT-9
Enclosure - Panel Assembly				
MAM65045003	4.2 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Base panel	UUT-8
MAM65824003	3.1 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Base panel	Interpolated
MAM65824002	3.1 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Base panel	Interpolated
MAM65824001	3.1 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Base panel	Interpolated
MAM65824102	4.9 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Base panel	Interpolated
MAM65824101	4.9 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Base panel	Interpolated
MAM64284203	4.9 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Base panel	UUT-9
MAZ66148403	1.8 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Bracket	UUT-8
MAZ67164503	1.1 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Bracket	Interpolated
MAZ67164502	1.1 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Bracket	Interpolated
MAZ67164501	1.1 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Bracket	Interpolated
MAZ67164602	1.8 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Bracket	Interpolated
MAZ67164601	1.8 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Bracket	Interpolated
MAZ66089601	<1 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Bracket	Interpolated
MAZ66089605	<1 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Bracket	Interpolated
MAZ34257911	2.9 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Bracket	UUT-9
MAZ66323801	8.6 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Bracket	UUT-8, UUT-9
MAZ67164201	<1 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Bracket	Interpolated
MCK70110801	4.2 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Top cover	UUT-8
MCK71145601	3.3 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Top cover	Interpolated
MCK71145602	5.1 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Top cover	Interpolated
MCK69188003	8.6 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8 Top cover	UUT-9
MCK70285802	3.8 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Cover, Control	UUT-8
ACQ90393501	5.5 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Cover, Control	Interpolated
ACQ90393502	5.5 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Cover, Control	Interpolated
ACQ91543301	5.5 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Cover, Control	Interpolated
ACQ91543302	5.5 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Cover, Control	Interpolated
MCK71145501	3.9 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Cover, Control	Interpolated
MCK71145502	3.8 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Cover, Control	Interpolated
MCK70285801	7.5 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Cover, Control	UUT-9
AGL74553006	5.7 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Side Cabinet	UUT-8
AGL74553005	5.7 lb	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0 Side Cabinet	UUT-9

Subcomponents listed certified for Sds=2.50g. See Table 1 for more info.

UUT-1 Test Summary

Testing Lab: SESTEC
Testing Report: 2019-K-001(#1/9)
Test Sample Name: ARUM072BTE5 (UUT-1)

Model Number	Nominal Capacity (BTU/hr)	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (in)	Width (in)	Height (in)
ARUM072BTE5	72000	423	Rigid Base Mount	X	Front-Back	4.8	36-5/8	29-29/32	66-17/32
				Y	Side-Side	5.0			
				Z	Vertical	>33.3			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Catalog. Refer to Nomenclature.

Attachment Method base mounted units are bolted to a rigid fixture with 4-1/2" φ CS (SM45C) bolts. Fixture is bolted to shake table with 9- 1 1/4" φ high strength bolts,
See Figure UUT-1.1
Seismic Modifications: None **Test Anomaly:** None

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.50	1.0	4.00g	3.00g	1.67g	0.68g

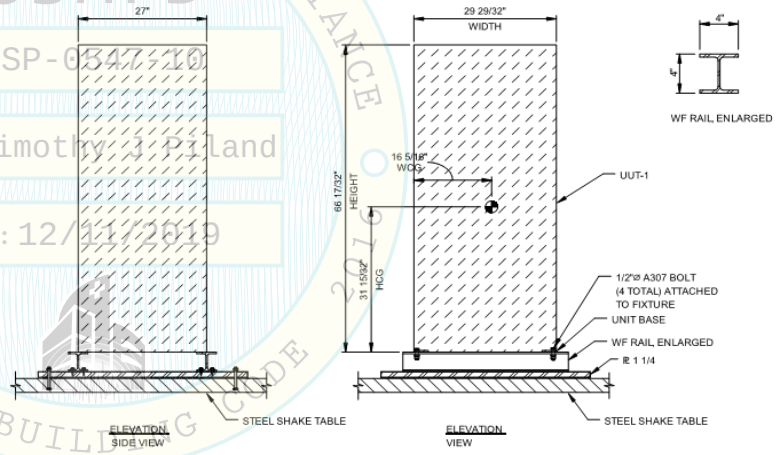


Figure UUT-1.1: Unit on the shake tab

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-1 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	62	ACG74185504	LTS	Aluminum Fin, Copper Tube
Fan Motor	31.5 lb	EAU43080022	C&M	Aluminum
Compressor	67.9 lb	TBZ37957201	LG	Cast Iron
Enclosure cabinet	35.3 lb	AAN75070508	Dae Yang Jeong Gi	Sheet, Steel SGCC, 1.2t
Enclosure cabinet	23 lb 5.5lb	AGL74852511 MGC64299102	Maeil Precision Machinery Co, Ltd	Sheet, Steel SGCC, 0.8t
Enclosure cabinet	16.1 lb	MGC63779104 MGC63779204	Jin Yang Co, Ltd.	Sheet, Steel SGCC, 0.8t
Enclosure cabinet	5.3 lb	MGC64299202	Lee Song ind Co, Ltd.	Sheet, Steel SGCC, 0.8t
Enclosure cabinet	6.6	MJH63754102	Jin Yang Co., Ltd.	Sheet, Steel SGCC, 1.0t
Inverter Printed Circuit Board	1.8 lb	EBR83035702	Joeng min electronics	Hard Plastic
Fan Printed Circuit Board	< 1 lb	EBR79669810	Seyoung Co.,Ltd.	Hard Plastic
Noise Filter Circuit Board	2.8 lb	EAM63430903	Sang Shin Electronics Co.,Ltd.	Hard Plastic
Main Circuit Board	< 1 lb	EBR81880101	Seyoung Co.,Ltd.	Hard Plastic
External Circuit Board	< 1 lb	EBR79669907	Joeng min electronics	Hard Plastic
PI485 PCB	< 1 lb	EBR80820501	Daeho Technology Korea Co.,Ltd	Hard Plastic

UUT-2 Test Summary

Testing Lab: SESTEC
Testing Report: 2019-K-001(#2/9)
Test Sample Name: ARUM241DTE5 (UUT-2)

Model Number	Nominal Capacity (BTU/hr)	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (in)	Width (in)	Height (in)
ARUM241DTE5	231100	659	Rigid Base Mount	X	Front-Back	4.8	48-13/16	29-29/32	66-17/32
				Y	Side-Side	5.3			
				Z	Vertical	26.8			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Catalog. Refer to Nomenclature.

Attachment Method base mounted units are bolted to a rigid fixture with 4-1/2" φ CS (SM45C) bolts. Fixture is bolted to shake table with 9- 1 1/4" φ high strength bolts
See Figure UUT-2.1
Seismic Modifications: None **Test Anomaly:** None

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.35	1.0	3.76g	2.82g	1.57g	0.64g

Figure UUT-2.1: Unit on the shake table

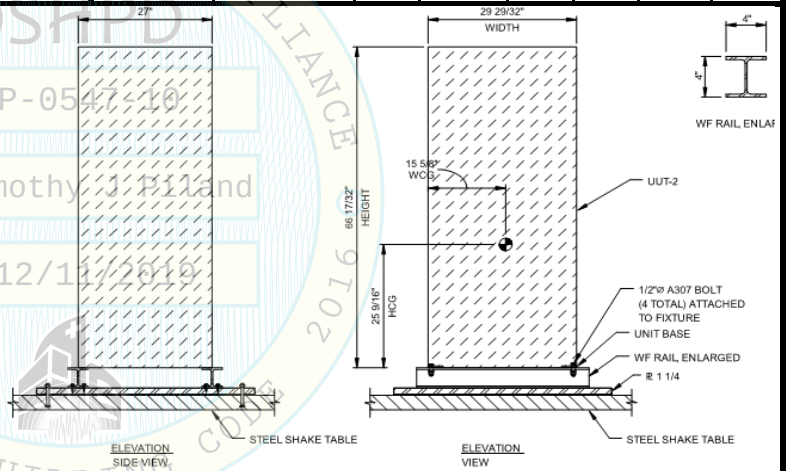


Figure UUT-2.2: Mounting Detail

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-2 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	88.2 lb	ACG74185506	LTS	Aluminum Fin, Copper Tube
Fan Motor	19.8 lb	EAU43080021	SCD	Aluminum
Compressor	70.1 lb	TBZ37957001	LG	Cast Iron
Enclosure cabinet	65.9 lb	AAN75070509	Jin Yang Co., Ltd	Sheet, Steel SGCC, 1.2t
Enclosure cabinet	15.4 lb 9.6 lb 14 lb	AGL74852510 MGC63779002 MGC63799002	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC, 0.8t
Enclosure cabinet	11.0 6.6 lb	MGC63798902 MGC63818902	Dae Yang Jeong Gi	Sheet, Steel SGCC, 0.8t
Enclosure cabinet	16.1 lb	MGC63779102 MGC63779202	Jin Yang Co., Ltd	Sheet, Steel SGCC, 0.8t
Enclosure cabinet	6.6 lb	MJH63754102	Jin Yang Co., Ltd	Sheet, Steel SGCC, 1.0t
Inverter Printed Circuit Board	< 5 lbs	EBR80928303	Joeng min electronics	Hard Plastic
Fan Printed Circuit Board	< 1 lb	EBR79669811	Seyoung Co.,Ltd.	Hard Plastic
Noise Filter Circuit Board	< 5 lbs	EAM63430906	Sang Shin Electronics Co.,Ltd.	Hard Plastic
Main Circuit Board	< 1 lb	EBR81880101	Seyoung Co.,Ltd.	Hard Plastic
External Circuit Board	< 1 lb	EBR79669907	Joeng min electronics	Hard Plastic
PI485 PCB	< 1 lb	EBR80820501	Daeho Technology Korea Co.,Ltd.	Hard Plastic

UUT-3 Test Summary

Testing Lab: SESTEC
Testing Report: 2019-K-001(#3/9)
Test Sample Name: ARUB060GSS4 (UUT-3)

Model Number	Nominal Capacity (BTU/hr)	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (in)	Width (in)	Height (in)
ARUB060GSS4	60000	265	Rigid Base Mount	X	Front-Back	4.8	37-7/16	13	54-3/8
				Y	Side-Side	5.3			
				Z	Vertical	26.8			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Catalog. Refer to Nomenclature.

Attachment Method base mounted units are bolted to a rigid fixture with 4-1/2" φ CS (SM45C) bolts. Fixture is bolted to shake table with 9- 1 1/4" φ high strength bolts
See Figure UUT-3.1
Test Anomaly: one screw fell out on front lower left at panel
Screw is not essential in the connection of the unit to mounting bracket

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.00	1.0	3.2g	2.4g	1.3g	0.54g

Figure UUT-3.1: Unit on the shake table

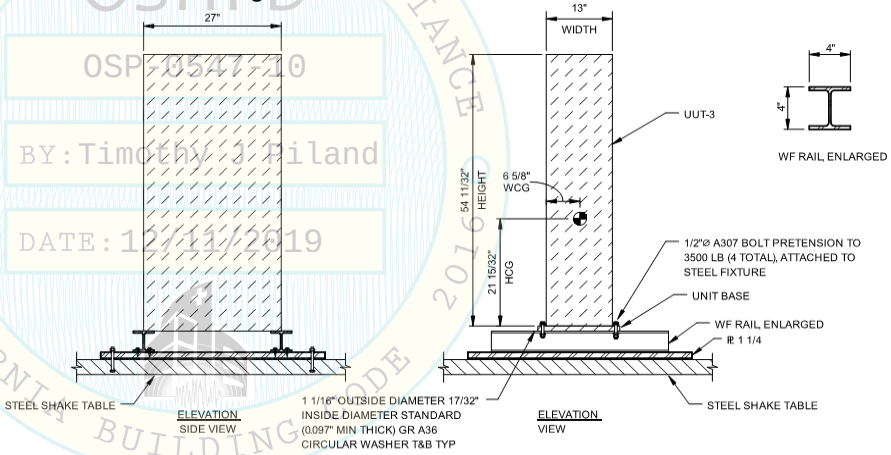


Figure UUT-3.2: Mounting Detail

Figure UUT-3.3: Lower left front screw fell out during test- base material pullout failure

Figure UUT-3.4: Lower left front screw fell out

Figure UUT-3.5: Location of screw failure

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-3 Summary Tested Sub-Component

Sub-Component	Weight	Part Number	Manufacturer	Material
Heat Exchanger	37.9 lb	ACG74186203	DongIL Aluminum	Aluminum Fin, Copper Tube
Fan Motor	4.9 lb, 4.9 lb	4681A20172Q, 4681A20172R	SCD, SCD	Aluminum
Compressor	66.1 lb	TBZ38235901	LG	Cast Iron
Display Printed Control Board	<1 lb	EBR80882201	Seyoung	Hard Plastic
Inverter Printed Circuit Board	3 lbs	EBR83821101	Joeng min electronics	Hard Plastic
Main Printed Circuit Board	< 1 lb	EBR83822901	Seyoung	Hard Plastic
Noise Filter Circuit Board	2.5 lb	EAM62792405	Sangshin Electronics	Hard Plastic
Main Circuit Board	< 1 lb	EBR83822901	Seyoung	Hard Plastic
Sensor Printed Control Board	< 1 lb	EBR80100302	Joeng min electronics	Hard Plastic
Sub PCB Printed Control Board	< 1 lb	EBR80820501	Daeho Technology	Hard Plastic
Enclosure - Panel Side	3.4 lb	MGC39426015	Kuma Metal	Sheet, Steel SGCC, 1.2t
Enclosure - Panel Front	12.2 lb	AGL34578711	Kuma Metal	Sheet, Steel SGCC, 1.2t
Enclosure Rear	7.6 lb	AGL76512811	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC, 1.2t
Enclosure -Side	10.8 lb	AGL76513034	Bukuk Precision & Ind. Co	Sheet, Steel SGCC, 1.2t
Cover Assembly - Tubing	1.1 lb	EBR80100302	Bukuk Precision & Ind. Co	Sheet, Steel SGCC, 1.2t

UUT-4 Test Summary

Testing Lab: SESTEC
Testing Report: 2019-K-001(#4/9)
Test Sample Name: ARNU073M2A4 (UUT-4)

Model Number	Nominal Capacity (BTU/hr)	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (in)	Width (in)	Height (in)
ARNU073M2A4	7500	84	Rigid Base Mount	X	Front-Back	NA	49-9/32	27-1/4	10-11/16
				Y	Side-Side	NA			
				Z	Vertical	NA			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Catalog. Refer to Nomenclature.

Attachment Method Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ unistrut rod stiffeners and (8)1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, See Figure UUT-4.1
Seismic Modifications: None **Test Anomaly:** None

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.50	1.0	4.00g	3.00g	1.68g	0.68g

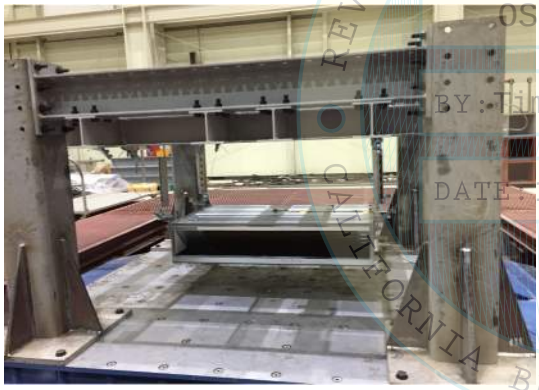


Figure UUT-4.1: Unit on the shake table

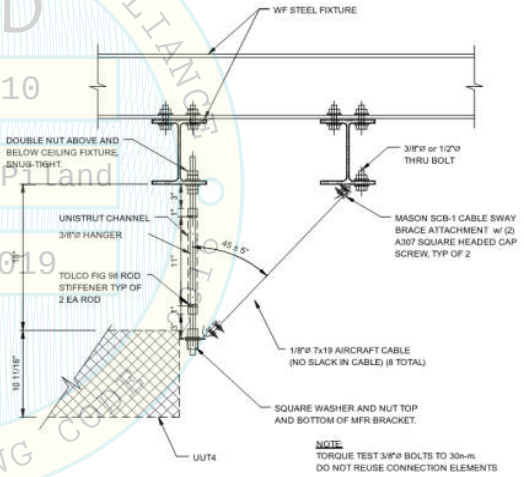


Figure UUT-4.2: Mounting Detail

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-4 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	9 lb	ADL74001015	Dong IL Aluminum Co.,Ltd	Aluminum Fin, Copper Tube
Fan Motor	15.2 lb	EAU37067103	C&M INCORPORATED	Aluminum
Enclosure - Panel Assembly Upper	16.3 lb	AGL74236404	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC T0.8
Enclosure - Panel Assembly Front	7.7 lb	AGL74234901	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC T0.6
Enclosure - Panel Assembly Rear	4.7 lb	AGL74235007	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC T0.6
Enclosure - Panel Assembly Side	7.7 lb, 3.1 lb	AGL74256831 , AGL74256802	Maeil Precision Machinery Co., Ltd	Sheet, Steel SGCC T0.8
Main Printed Circuit Board	< 1 lb	EBR81117102	Joeng min electronics	Hard Plastic

UUT-5 Test Summary

Testing Lab: SESTEC
Testing Report: 2019-K-001(#5/9)
Test Sample Name: ARNU543M3A4 (UUT-5)

Model Number	Nominal Capacity (BTU/hr)	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (in)	Width (in)	Height (in)
ARNU543M3A4	54000	97	Rigid Base Mount	X	Front-Back	NA	49-9/32	27-1/4	14-3/16
				Y	Side-Side	NA			
				Z	Vertical	NA			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Catalog. Refer to Nomenclature.

Attachment Method Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ unistrut rod stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, See Figure UUT-5.1.
Seismic Modifications: None **Test Anomaly:** None

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.50	1.0	4.00g	3.00g	1.67g	0.68g

Figure UUT-5.1: Unit on the shake table

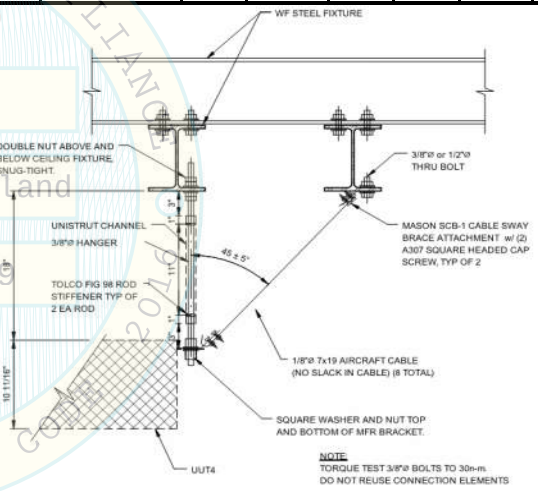


Figure UUT-5.2: Mounting Detail

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-5 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	15 lb	ADL74001018	Dong IL Aluminum Co.,Ltd	Aluminum Fin, Copper Tube
Fan Motor	14.8 lb	EAU37067120	C&M INCORPORATED	Aluminum
Enclosure - Panel Assembly Upper	16.3 lb	AGL74236403	Maeil Precision Machinery Co., Ltd	Sheet , Steel SGCC T0.8
Enclosure - Panel Assembly Front	6.8 lb	AGL74234903	Maeil Precision Machinery Co., Ltd	Sheet , Steel SGCC T0.6
Enclosure - Panel Assembly Rear	6.6 lb	AGL74235008	Maeil Precision Machinery Co., Ltd	Sheet , Steel SGCC T0.6
Enclosure - Panel Assembly Side	7.1 lb, 3.8 lb	AGL74256832 , AGL74256804	Maeil Precision Machinery Co., Ltd	Sheet , Steel SGCC T0.8
Main Circuit Board	< 1 lb	EBR81117116	Joeng min electronics	Hard Plastic

UUT-6 Test Summary

Testing Lab: SESTEC
Testing Report: 2019-K-001(#6/9)
Test Sample Name: ARNU153SJA4 (UUT-6)

Model Number	Nominal Capacity (BTU/hr)	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (in)	Width (in)	Height (in)
ARNU153SJA4	15400	22	Rigid Base Mount	X	Front-Back	NA	32-3/16	7-7/16	12-7/16
				Y	Side-Side	NA			
				Z	Vertical	NA			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Catalog. Refer to Nomenclature.

Attachment Method Mounting plate for wall mounted unit was attached to vertical steel fixture w/ (5) screws See Figure UUT-6.1.

Seismic Modifications: None

Test Anomaly: None

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.50	1.0	4.00g	3.00g	1.67g	0.68g

Figure UUT-6.1: Unit on the shake table

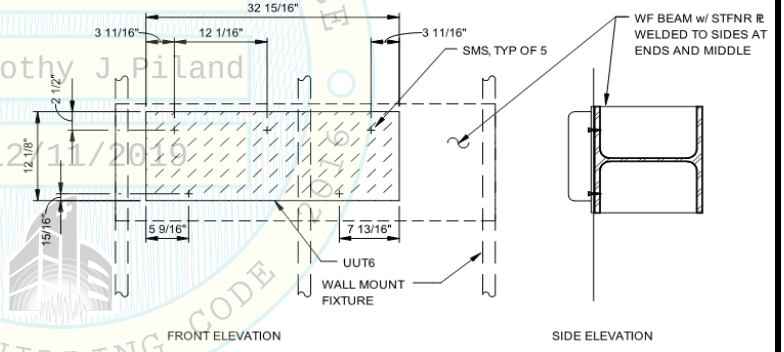


Figure UUT-6.2: Mounting Detail

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-6 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	3.4 lb	ADL74920901	Dong IL Aluminum CO.,Ltd.	Aluminum Fin, Copper Tube
Fan Motor	1.8 lb	EAU62004010	Nidec Shibaura Electronics Co., Ltd.	Aluminum
Main Printed Control Board	<1 lb	EBR82077506	MSE	Hard Plastic
Enclosure - Panel Assembly Side	2.2 lb	ABW74052408	Dae Yeong Electronics .Co., Ltd	Plastic
Enclosure - Panel Assembly Side	2.9 lb	AEB75524601	ShinSung Delta Tech Co., Ltd	Plastic
Enclosure - Panel Assembly Side	1.4 lb	AEB74424757	Jawoo Platech Co,. Ltd	Plastic

UUT-7 Test Summary

Testing Lab: SESTEC
Testing Report: 2019-K-001(#7/9)
Test Sample Name: ARNU243SKA4 (UUT-7)

Model Number	Nominal Capacity (BTU/hr)	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (in)	Width (in)	Height (in)
ARNU243SKA4	24200	31	Rigid Base Mount	X	Front-Back	NA	38-3/8	8-1/4	13-15/16
				Y	Side-Side	NA			
				Z	Vertical	NA			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Catalog. Refer to Nomenclature.

Attachment Method Mounting plate for wall mounted unit was attached to vertical steel fixture w/ (5) screws See Figure UUT-7.1.

Seismic Modifications: None

Test Anomaly: None

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.50	1.0	4.00g	3.00g	1.67g	0.68g

Figure UUT-7.1: Unit on the shake table

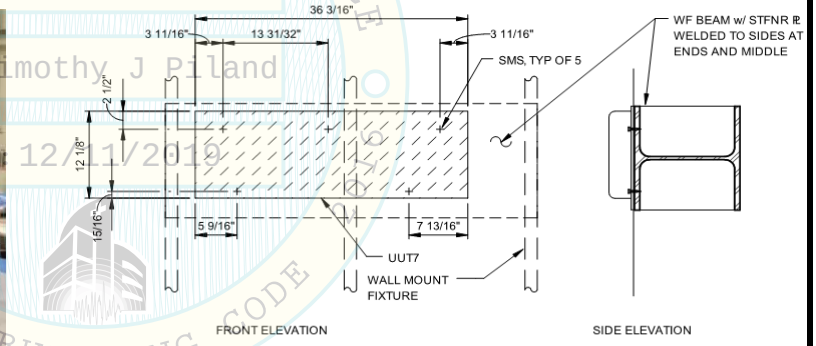


Figure UUT-6.2: Mounting Detail

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-7 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	5.6 lb	ADL74761211	Dong IL Aluminum CO.,Ltd.	Aluminum Fin, Copper Tube
Fan Motor	3.2 lb	EAU62543503	Nidec Shibaura Electronics Co., Ltd.	Aluminum
Main Printed Control Board	<1	EBR82077501	MSE	Hard Plastic
Enclosure - Panel Assembly Side	3.1 lb	ABW74052408	Dae Yeong Electronics .Co., Ltd	Plastic
Enclosure - Panel Assembly Side	2 lb	AEB74384533	Sebok	Plastic
Enclosure - Panel Assembly Side	4.2 lb	AEB75524701	Jawoo Platech Co,. Ltd	Plastic

UUT-8 Test Summary

Testing Lab: SESTEC
Testing Report: 2019-K-001(#8/9)
Test Sample Name: PRHR023A (UUT-8)

Model Number	Nominal Capacity (BTU/hr)	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (in)	Width (in)	Height (in)
PRHR023A	n/a	35	Rigid Base Mount	X	Front-Back	NA	19-1/8	18-15/16	8-5/8
				Y	Side-Side	NA			
				Z	Vertical	NA			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Catalog. Refer to Nomenclature.

Attachment Method Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ unistrut rod stiffeners and (8)1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, See Figure UUT-8.1
Seismic Modifications: None **Test Anomaly:** None

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.50	1.0	4.00g	3.00g	1.67g	0.68g

Figure UUT-8.1: Unit on the shake table

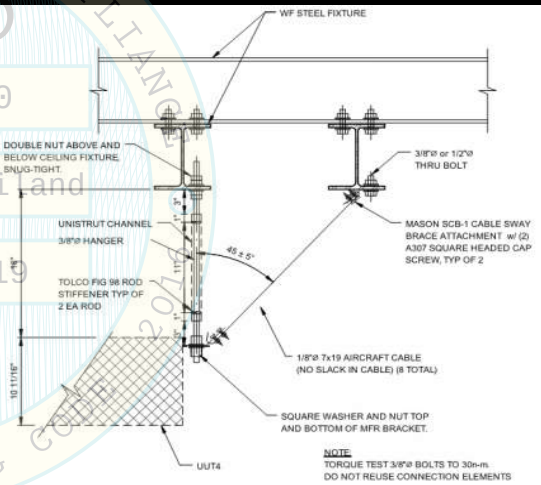


Figure UUT-8.2: Mounting Detail

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-8 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Main Circuit Board	< 1 lb	EBR82017101	LG Electronics Inc	Hard Plastic
Expansion Valve - EEV	< 1 lb	MJX63992003	Sanhua	Copper
Enclosure cabinet - base	4.2 lb	MAM65045003	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8
Enclosure cabinet - bracket	1.8 lb	MAZ66148403	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8
Enclosure cabinet - bracket	8.6 lb	MAZ66323801	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0
Enclosure cabinet - top cover	4.2 lb	MCK70110801	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8
Enclosure cabinet - control cover	3.8 lb	MCK70285802	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0
Enclosure cabinet - side	5.7 lb	AGL74553006	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0

UUT-9 Test Summary

Testing Lab: SESTEC
Testing Report: 2019-K-001(#9/9)
Test Sample Name: PRHR083A (UUT-9)

Model Number	Nominal Capacity (BTU/hr)	Measured Operating Weight (lbs)	Mounting	Excitation Direction		Frequency (Hz)	Length (in)	Width (in)	Height (in)
PRHR083A	n/a	68	Rigid Base Mount	X	Front-Back	NA	31-1/4	18-15/16	8-5/8
				Y	Side-Side	NA			
				Z	Vertical	NA			

Notes: Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Catalog. Refer to Nomenclature.

Attachment Method Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ unistrut rod stiffeners and (8)1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, See Figure UUT-9.1
Seismic Modifications: None **Test Anomaly:** None

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.50	1.0	4.00g	3.00g	1.67g	0.68g

Figure UUT-9.1: Unit on the shake table

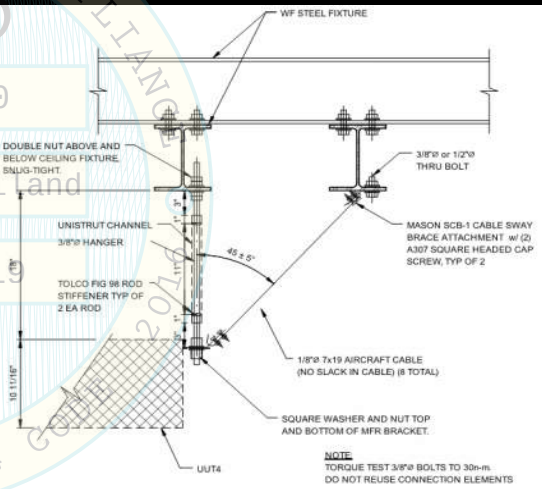


Figure UUT-9.2: Mounting Detail

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-9 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Main Circuit Board	< 1 lb	EBR82017101	LG Electronics Inc	Hard Plastic
Expansion Valve - EEV	< 1 lb	MJX63992003	Sanhua	Copper
Enclosure cabinet - base	4.2 lb	MAM64284203	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8
Enclosure cabinet - bracket	2.9 lb	MAZ34257911	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8
Enclosure cabinet - bracket	8.6 lb	MAZ66323801	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0
Enclosure cabinet - top cover	8.6 lb	MCK69188003	Dae Yang Jeong Gi	Sheet, Steel SGCC T0.8
Enclosure cabinet - control cover	7.5 lb	MCK70285801	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0
Enclosure cabinet - side	5.7 lb	AGL74553005	Dae Yang Jeong Gi	Sheet, Steel SGCC T1.0

UUT-B1 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1732. 0 Rev2
Testing Unit Num: Q1732-01-01-04

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARWB144BAS4	144000	295	Rigid Base Mount	X	Front - Back	7.3	29-3/4	19-3/4	39-1/4
				Y	Side - Side	23.1			
				Z	Vertical	>33.3			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Base mounted units were base mounted to shake table w/ (4) 1/2 dia Grade 8 bolts (Figure UUT-B1.2)

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.3	1	3.68g	2.76g	1.88g	0.76g

Figure UUT-B1.1: Unit on the shake table
UUT-B1, UUT-B2 (Left to Right in Picture)

Figure UUT-B1.2: Mounting Details

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-B1 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	49.0 lb	MDE62021801	Alfa Laval	Stainless steel
Compressor	67.2 lb	JQA048MBA	LG Electronics Inc.	Gray Cast Iron
Comm. PCB	<1 lb	EBR74374302	MSE	ABS Plastic
PI485 PCB	<1 lb	EBR74801101	MSE	ABS Plastic
Power PCB	<1 lb	EBR74365001	Joeng min electronics	ABS Plastic
External PCB	<1 lb	EBR74363402	Joeng min electronics	ABS Plastic
Converter PCB	<1 lb	EBR76196401	Seyoung Co., Ltd.	ABS Plastic
Inverter PCB	<1 lb	EBR76610203	Joeng min electronics	ABS Plastic
Noise Filter	<1 lb	EAM6263B201	Sang Shin Electronics Co., Ltd.	ABS Plastic
Main PCB	<1 lb	EBR78043508	Seyoung Co., Ltd.	ABS Plastic

UUT-B1a Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1732. 0 Rev2
Testing Unit Num: Q1732-01-01-05

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARWB144BAS4	144000	295	Rigid Base Mount on Rack	X	Front - Back	7.4	29-3/4	19-3/4	39-1/4
				Y	Side - Side	9.1			
				Z	Vertical	>33.3			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Rigid Base Mount with rack -component was base mounted to Rack w/ (4) 1/2 dia Grade 8 bolts. Rack was base mounted to shake table w/ (4) 5/8 dia Grade 8 bolts (Figure UUT-B1a.2)

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.60	1.0	4.16g	3.12g	1.88g	0.76g

Figure UUT-B1a.1: Unit on the shake table (UUTB2a, UUTB1a Left to Right in picture)

Figure UUT-B1a.2: Mounting Details

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-B1a Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	49.0 lb	MDE62021801	Alfa Laval	Stainless steel
Compressor	67.2 lb	JQA048MBA	LG Electronics Inc.	Gray Cast Iron
Comm. PCB	<1 lb	EBR74374302	MSE	ABS Plastic
PI485 PCB	<1 lb	EBR74801101	MSE	ABS Plastic
Power PCB	<1 lb	EBR74365001	Joeng min electronics	ABS Plastic
External PCB	<1 lb	EAM6263B201	Joeng min electronics	ABS Plastic
Converter PCB	<1 lb	EBR76196401	Seyoung Co., Ltd.	ABS Plastic
Inverter PCB	<1 lb	EBR76610203	Joeng min electronics	ABS Plastic
Noise Filter	<1 lb	EAM6263B201	Sang Shin Electronics Co., Ltd.	ABS Plastic
Main PCB	<1 lb	EBR78043508	Seyoung Co., Ltd.	ABS Plastic

UUT-B2 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1732. 0 Rev2
Testing Unit Num: Q1732-01-01-06

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARWN192DAS4	192000	331	Rigid Base Mount	X	Front - Back	7.1	29-3/4	19-3/4	39-1/4
				Y	Side - Side	23.9			
				Z	Vertical	>33.3			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method

Base mounted units were base mounted to shake table w/ (4) 1/2 dia Grade 8 bolts (Figure UUT-B2.2)

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.3	1	3.68g	2.76g	1.88g	0.76g

Figure UUT-B2.1: Unit on the shake table

Figure UUT-B2.2: Mounting Details

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-B2 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	51.0 lb	MDE62021803	Alfa Laval	Stainless steel
Compressor	81.6 lb	JBA068MAA	LG Electronics Inc.	Gray Cast Iron
Comm. PCB	<1 lb	EBR74374302	MSE	ABS Plastic
PI485 PCB	<1 lb	EBR74801101	MSE	ABS Plastic
Power PCB	<1 lb	EBR74365001	Joeng min electronics	ABS Plastic
External PCB	<1 lb	EBR74363402	Joeng min electronics	ABS Plastic
Converter PCB	<1 lb	EBR76196401	Seyoung Co., Ltd.	ABS Plastic
Converter PCB	<1 lb	EBR76981301	Seyoung Co., Ltd.	ABS Plastic
Inverter PCB	<1 lb	EBR75420406	Joeng min electronics	ABS Plastic
Noise Filter	<1 lb	EAM62632202	Sang Shin Electronics Co., Ltd.	ABS Plastic
Main PCB	<1 lb	EBR78277406	Seyoung Co., Ltd.	ABS Plastic

UUT-B2a Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1732. 0 Rev2
Testing Unit Num: Q1732-01-01-07

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARWN192DAS4	192000	331	Rigid Base Mount	X	Front - Back	6.4	29-3/4	19-3/4	39-1/4
				Y	Side - Side	7.8			
				Z	Vertical	>33.3			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Rigid Base Mount with rack -component was base mounted to Rack w/ (4) 1/2 dia Grade 8 bolts. Rack was base mounted to shake table w/ (4) 5/8 dia Grade 8 bolts (Figure UUT-B2a.2)

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.60	1.0	4.16g	3.12g	1.88g	0.76g

Figure UUT-B2a.1: Unit on the shake table (UUT23A, UUT22A Left to Right in picture)

Figure UUT-B2a.2 Mounting Details

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-B2a Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	51.0 lb	MDE62021803	Alfa Laval	Stainless steel
Compressor	81.6 lb	JBA068MAA	LG Electronics Inc.	Gray Cast Iron
Comm. PCB	<1 lb	EBR74374302	MSE	ABS Plastic
PI485 PCB	<1 lb	EBR74801101	MSE	ABS Plastic
Power PCB	<1 lb	EBR74365001	Joeng min electronics	ABS Plastic
External PCB	<1 lb	EBR74363402	Joeng min electronics	ABS Plastic
Converter PCB	<1 lb	EBR76196401	Seyoung Co., Ltd.	ABS Plastic
Converter PCB	<1 lb	EBR76981301	Seyoung Co., Ltd.	ABS Plastic
Inverter PCB	<1 lb	EBR75420406	Joeng min electronics	ABS Plastic
Noise Filter	<1 lb	EAM62632202	Sang Shin Electronics Co., Ltd.	ABS Plastic
Main PCB	<1 lb	EBR78277406	Seyoung Co., Ltd.	ABS Plastic

UUT-C1 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1732. 0 Rev2
Testing Unit Num: Q1732-01-01-08

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARWN053GA2	52900	168	Rigid Base Mount	X	Front - Back	17.6	20-1/8	13-5/8	42-1/2
				Y	Side - Side	24.5			
				Z	Vertical	>33.3			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method

Base mounted units were base mounted to shake table w/ (4) 1/2 dia Grade 8 bolts (Figure UUT-C1.2)

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.3	1	3.68g	2.76g	1.88g	0.76g

Figure UUT-C1.1: Unit on the shake table

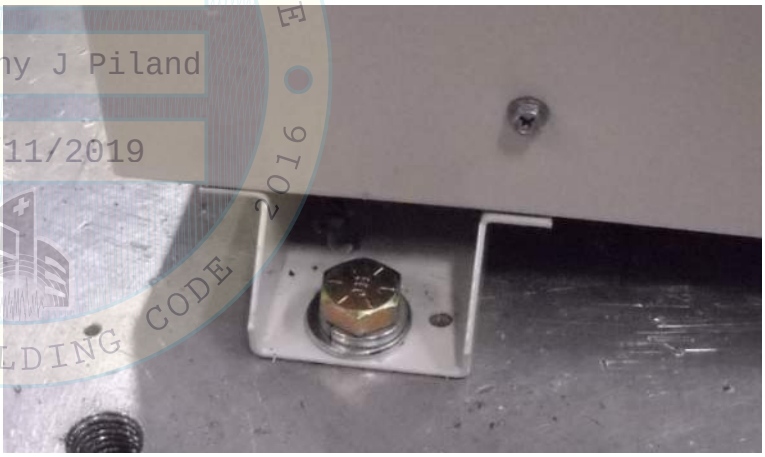


Figure UUT-C1.2: Mounting Details

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-C1 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	19.2 lb	MDE62021804	Alfa Laval	Stainless steel
Compressor	41.7 lb	GPT442MBA	LG Electronics Inc.	Cast Iron
Main PCB	<1 lb	EBR76963803	Seyoung Co.,LTD.	ABS Plastic
Inverter PCB	<1 lb	EBR75228201	Joeng min electronics	ABS Plastic
Noise Filter	<1 lb	EBR81792401	Joeng min electronics	ABS Plastic

UUT-D1 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1732. 0 Rev2
Testing Unit Num: Q1732-01-01-09

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARUN024GSS4	24000	159	Rigid Base Mount	X	Front - Back	9.4	37-13/32	13	32-27/32
				Y	Side - Side	16.8			
				Z	Vertical	>33.3			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method

Base mounted units were base mounted to shake table w/ (4) 1/2 dia Grade 8 bolts

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.3	1	3.68g	2.76g	1.88g	0.76g

Figure UUT-D1.1: Unit on the shake table

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-D1 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	18.7 lb	ACG65609419	DongIL Aluminium	Aluminum Fin, Copper Tube
Compressor	41.7 lb	GPT442MAA	Joeng min electronics	Cast Iron
Fan Motor	5.5 lb	4681A20172Q	Joeng min electronics	Aluminium
Inverter PCB	1.9 lb	EBR78509902	Seyoung	ABS Plastic
Main PCB	<1 lb	EBR77627622	Seyoung	ABS Plastic
Noise Filter Control Board	<1 lb	EBR81792501	Joeng min electronics	ABS Plastic
Sub PCB	<1 lb	EBR74374302	MSE	ABS Plastic
Sub PCB	<1 lb	EBR74801101	MSE	ABS Plastic

UUT-D2 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1732. 0 Rev2
Testing Unit Num: Q1732-01-01-10

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARUN038GSS4	38000	211	Rigid Base Mount	X	Front - Back	4.9	37-13/32	13	54-11/32
				Y	Side - Side	7.8			
				Z	Vertical	>33.3			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method

Base mounted units were base mounted to shake table w/ (4) 1/2 dia Grade 8 bolts (Figure UUT-D2.2)

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.3	1	3.68g	2.76g	1.88g	0.76g

Figure UUT-D2.1: Unit on the shake table

Figure UUT-D2.2: Mounting Details

Notes: The UUTs were full of contents during the test.
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-D2 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	14.9 lb	ACG73865309	LTS Korea	Aluminum Fin, Copper Tube
Compressor	41.7 lb	GPT442MAA	LG Electronics Inc.	Cast Iron
Fan Motor	5.5 lb	4681A20172Q	SCD	Aluminium
Inverter PCB	1.9 lb	EBR78509901	Seyoung	ABS Plastic
Main PCB	<1 lb	EBR80272314	Seyoung	ABS Plastic
Noise Filter Control Board	<1 lb	EBR81792501	Joeng min electronics	ABS Plastic
Sub PCB	<1 lb	EBR74374302	MSE	ABS Plastic
Sub PCB	<1 lb	EBR74801101	MSE	ABS Plastic

UUT-E1 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1526.0 Rev 2
Testing Unit Num: Q1526-05-01-01

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARNU073BGA4	7500	84	Suspended	X	Front - Back	NA	46-17/32	17-23/32	11-23/32
				Y	Side - Side	NA			
				Z	Vertical	NA			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ rods stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, See Figure UUT-E1.2

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.95	1.0	4.72g	3.54g	1.98g	0.8g

Figure UUT-E1.1: Unit on the shake table

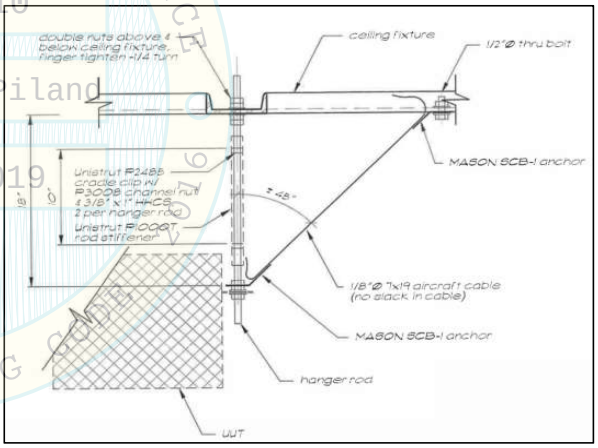


Figure UUT-E1.2: Mounting Details

Notes: Unit maintained structural integrity and remained functional per manufacture requirements after shake table test
Unit tested full of pressurized helium

UUT-E1 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	9.5 lb	5421A10027C	Dong IL Aluminum CO.,LTD.	Al Fin, Cu Tube
Fan Motor	14.8 lb	EAU37067106	C&M	Carbon Steel/Polyester resin
Fan Motor	14.8 lb	EAU37067106	C&M	Carbon Steel/Polyester resin
Printed Circuit Board	< 1 lb	EBR79004802	Joeng min electronics	ABS Plastic

UUT-E2 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1740.0 Rev 0
Testing Unit Num: Q1740-04-01-01

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARNU243BHA4	24200	59	Suspended	X	Front - Back	NA	34-3/4	17-3/4	10-1/4
				Y	Side - Side	NA			
				Z	Vertical	NA			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ rods stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end. See Figure UUT-E2.2

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	3.25	1.0	5.20g	3.90g	2.18g	0.88g

Figure UUT-E2.1: Unit on the shake table

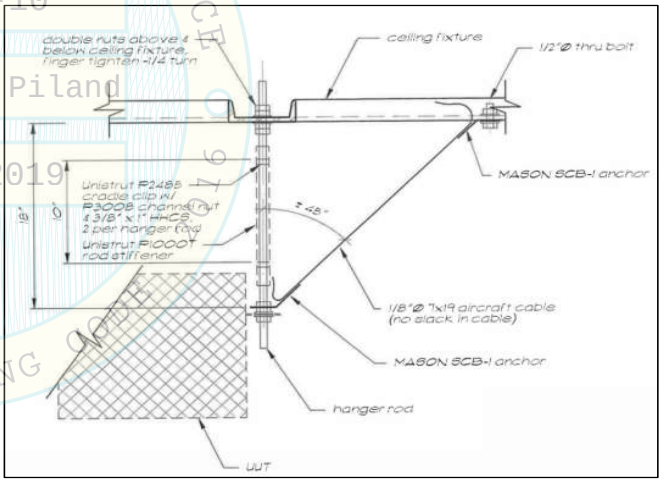


Figure UUT-E2.2: Mounting Details

Notes: Unit tested full of pressurized helium
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-E2 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	5.9 lb	5421A20100R	Lotte Aluminium	Al Fin, Cu Tube
Fan Motor	28.7 lb	4681A20197F	Nidec Shibaura	Carbon Steel/Polyester resin
Inverter PCB	< 1 lb	EBR79004801	Joeng min electronics	ABS Plastic

UUT-E3 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1526.0 Rev 2
Testing Unit Num: Q1526-06-01-01

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARNU543BRA4	54000	117	Suspended	X	Front - Back	NA	48-7/16	23-7/32	14-31/32
				Y	Side - Side	NA			
				Z	Vertical	NA			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ rods stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, See Figure UUT-E3.2

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.95	1.0	4.72g	3.54g	1.98g	0.8g

Figure UUT-E3.1: Unit on the shake table

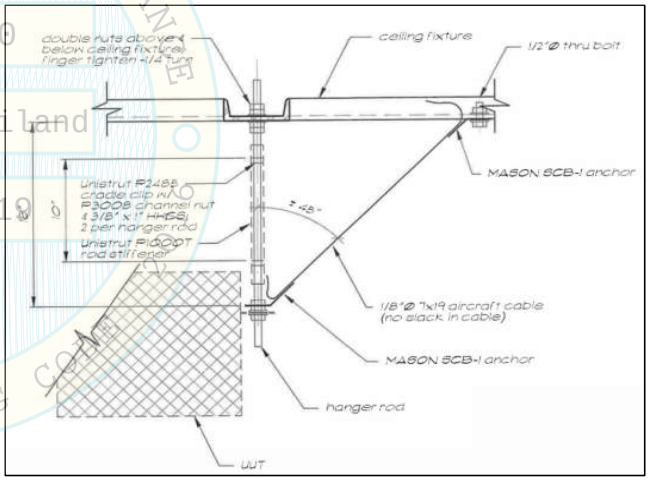


Figure UUT-E3.2: Mounting Details

Notes: Unit maintained structural integrity and remained functional per manufacture requirements after shake table test
Unit tested full of pressurized helium

UUT-E3 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	12.6 lb	5421A20273A	Dong IL Aluminum CO.,LTD.	Al Fin, Cu Tube
Fan Motor	6.6 lb	4681A20169B	Shibaura	Carbon Steel/Polyester resin
Fan Motor	6.6 lb	4681A20169B	Shibaura	Carbon Steel/Polyester resin
Printed Circuit Board	< 1 lb	EBR79004804	Joeng min electronics	ABS Plastic

UUT-E4 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1526.0 Rev 2
Testing Unit Num: Q1526-07-01-01

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARNU963B8A4	95900	192	Suspended	X	Front - Back	NA	61-1/2	27-3/32	18-1/8
				Y	Side - Side	NA			
				Z	Vertical	NA			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method	Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ rods stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, See Figure UUT E4.2
Test Anomaly	During the test, the unit became disengaged from its hanger rods, and the test run was aborted before completion. The specimen was subjected to a second seismic simulation.

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.95	1.0	4.72g	3.54g	1.98g	0.8g

Figure UUT-E4.1: Unit on the shake table

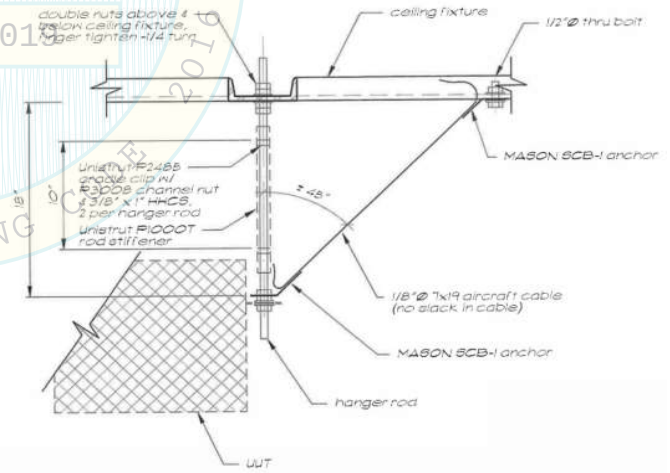


Figure UUT-E4.2: Mounting Details

Notes: Unit maintained structural integrity and remained functional per manufacture requirements after shake table test
Unit tested full of pressurized helium

UUT-E4 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	22.4 lb	5421A20217L	LTS Korea	Al Fin, Cu Tube
Fan Motor	13.2 lb	EAU39857401	Panasonic	Carbon Steel/Polyester resin
Fan Motor	13.2 lb	EAU39857401	Panasonic	Carbon Steel/Polyester resin
Printed Circuit Board	< 1 lb	EBR78310704	Joeng min electronics	ABS Plastic

UUT-F1 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1526.0 Rev 2
Testing Unit Num: Q1526-08-01-01

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARNU123TUC4	13600	30	Suspend-ed	X	Front - Back	NA	33-27/32	17-23/32	5-3/16
				Y	Side - Side	NA			
				Z	Vertical	NA			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ rods stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, See Figure UUT F1.2

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.95	1.0	4.72g	3.54g	1.98g	0.8g

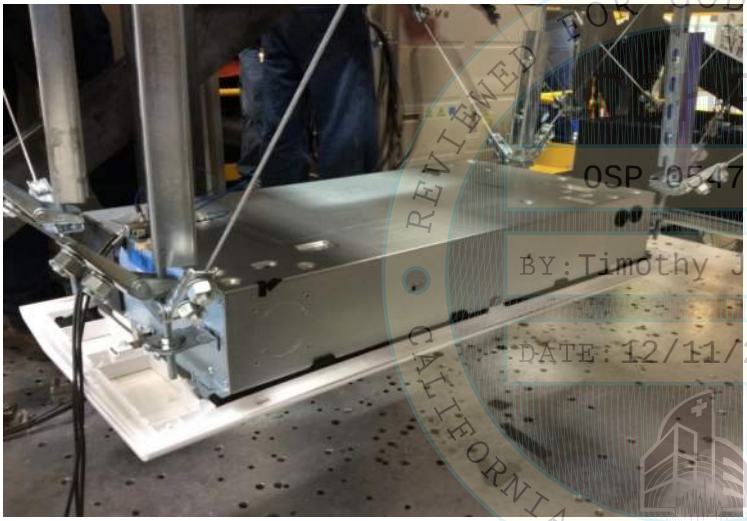


Figure UUT-F1.1: Unit on the shake table

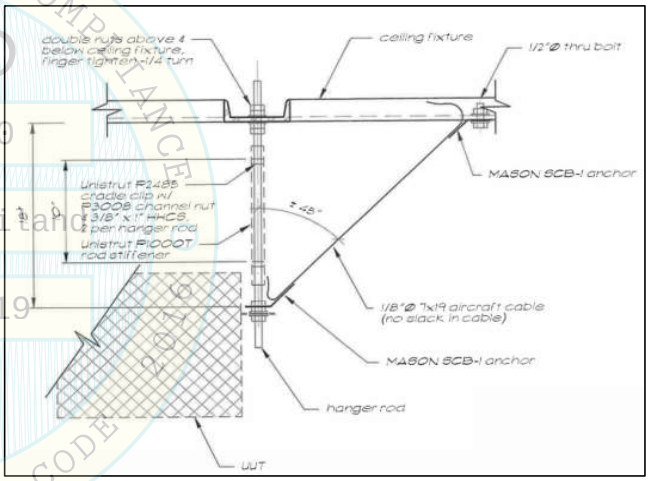


Figure UUT-F1.2: Mounting Details

Notes: Unit maintained structural integrity and remained functional per manufacture requirements after shake table test
Unit tested full of pressurized helium

UUT-F1 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	5.4 lb	ADL36804601	LG Electronics Inc.	Al Fin, Cu Tube
Fan Motor	1.8 lb	4681A20091V	Shibaura	Copper, Resin
Printed Circuit Board	<1 lb	EBR81221805	LG Electronics Inc.	ABS Plastic

UUT-F2 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1732. 0 Rev2
Testing Unit Num: Q1732-01-01-12

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARNU243TTC4	24200	34	Suspended	X	Front - Back	NA	46-15/32	17-23/32	5-3/16
				Y	Side - Side	NA			
				Z	Vertical	NA			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ rods stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, (Figure UUT-F2.2)

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	3.00	1.0	4.80g	3.60g	2.21g	0.89g

Figure UUT-F2.1: Unit on the shake table

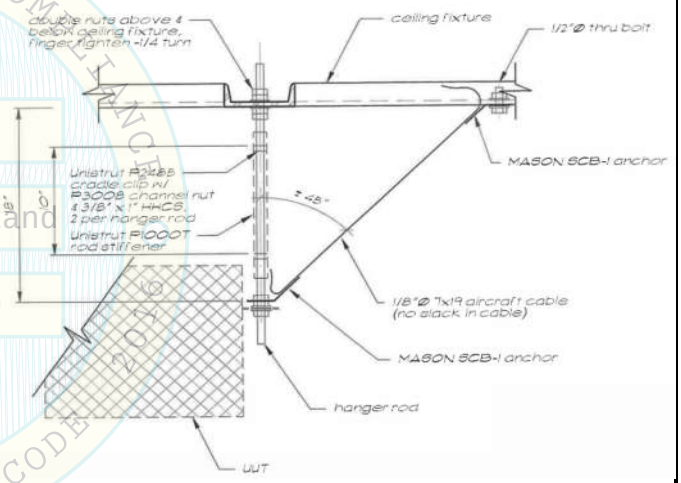


Figure UUT-F2.2: Mounting Details

Notes: Unit tested full of pressurized helium
Unit maintained structural integrity and remained functional per manufacture requirements after shake table test

UUT-F2 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	8.0 lb	ADL36804501	LG Electronics Inc.	Aluminum Fin, Copper Tube
Fan Motor	2.3 lb	EAU62004010	Shibaura	Copper, Resin
Printed Circuit Board	<1 lb	EBR81221805	LG Electronics Inc.	ABS Plastic

UUT-G1 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1526.0 Rev 2
Testing Unit Num: Q1526-10-01-01

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARNU053TRC4	5500	31	Suspended	X	Front - Back	NA	22-7/16	22-7/16	8-7/16
				Y	Side - Side	NA			
				Z	Vertical	NA			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ rods stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, See Figure UUT G2.2

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.95	1.0	4.72g	3.54g	1.98g	0.8g

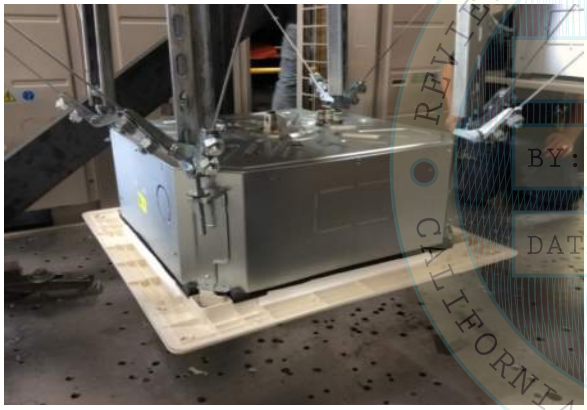


Figure UUT-G1.1: Unit on the shake table

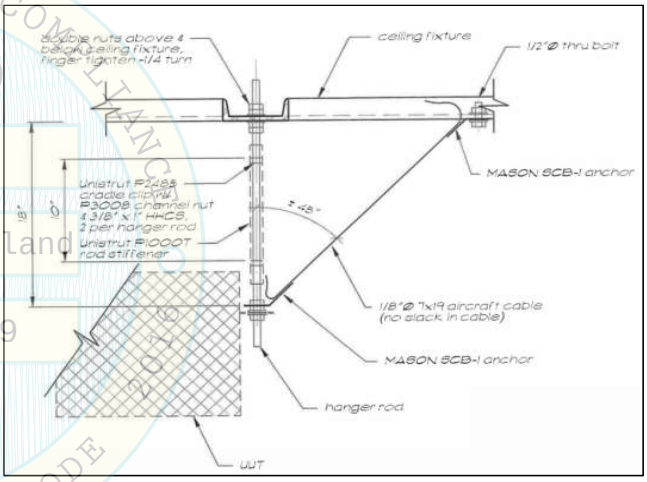


Figure UUT-G1.2: Mounting Details

Notes: Unit maintained structural integrity and remained functional per manufacture requirements after shake table test
Unit tested full of pressurized helium

UUT-G1 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	3.0 lb	ADL55996003	Lotte Aluminium	Al Fin, Cu Tube
Fan Motor	3.5 lb	EAU32165801	Panasonic	Carbon Steel/Polyester resin
Printed Circuit Board	<1 lb	EBR81221804	MSE	ABS Plastic

UUT-G2 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1526.0 Rev 2
Testing Unit Num: Q1526-11-01-01

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARNU183TQC4	19100	34	Suspended	X	Front - Back	NA	22-7/16	22-7/16	10-3/32
				Y	Side - Side	NA			
				Z	Vertical	NA			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method	Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ rods stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end.
Seismic Modifications	Unit support brackets were too narrow to allow mason clips to rest on bracket, see (Figure UUT-G2.2)

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.95	1.0	4.72g	3.54g	1.98g	0.8g

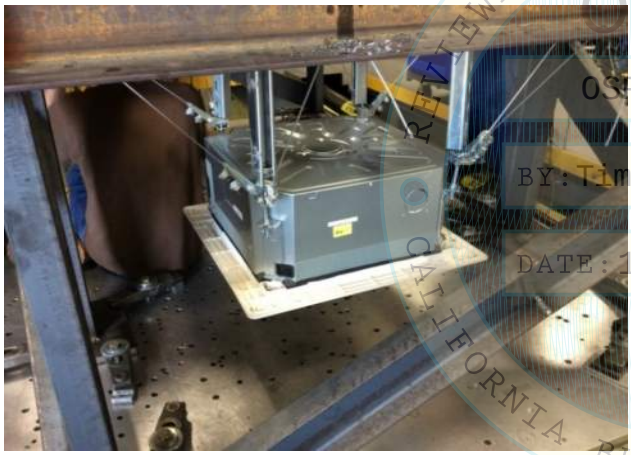


Figure UUT-G2.1: Unit on the shake table

Figure UUT-G2.2: Detail of brace connection

Notes: Unit maintained structural integrity and remained functional per manufacture requirements after shake table test
Unit tested full of pressurized helium

UUT-G2 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	7.8 lb	ADL55996001	Lotte Aluminium	Al Fin, Cu Tube
Fan Motor	8.6 lb	4681A20168B	Shibaura	Carbon Steel/Polyester resin
Printed Circuit Board	<1 lb	EBR81221804	MSE	ABS Plastic

UUT-G3 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1526.0 Rev 2
Testing Unit Num: Q1526-12-01-01

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARNU363TNC4	36200	54	Suspend-ed	X	Front - Back	NA	33-1/16	33-1/16	9-11/16
				Y	Side - Side	NA			
				Z	Vertical	NA			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ rods stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, See Figure UUT 12.2

Seismic Modifications: The attachment of the mounting ears was enhanced by the addition of one set per mounting ear compromising two (2) 10-32 machine screws, with flat and lock washers and nuts (SIM UUT-G3)

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.95	1.0	4.72g	3.54g	1.98g	0.8g

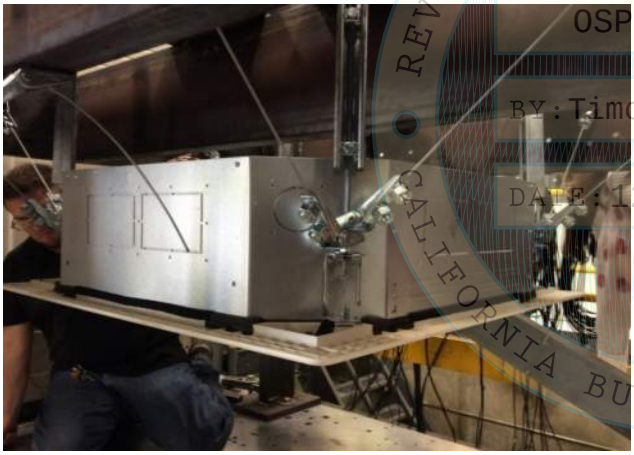


Figure UUT-G3.1: Unit on the shake table

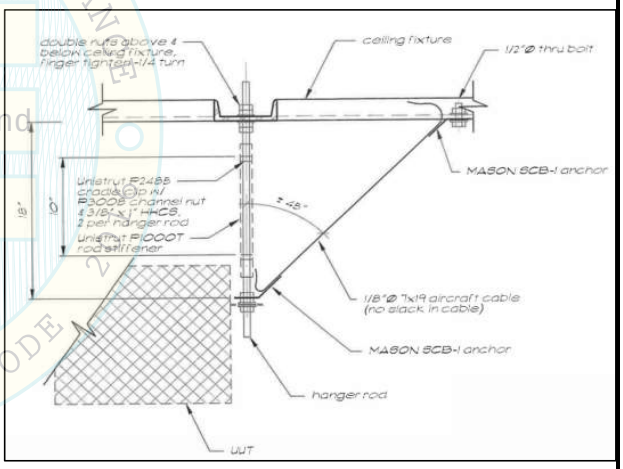


Figure Figure UUT-G3.2: Mounting Details

Notes: Unit maintained structural integrity and remained functional per manufacture requirements after shake table test
Unit tested full of pressurized helium

UUT-G3 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	14.9 lb	ADL73841702	Lotte Aluminium	Al Fin, Cu Tube
Fan Motor	6.6 lb	EAU31898201	Panasonic	Carbon Steel/Polyester resin
Printed Circuit Board	<1 lb	EBR81221804	MSE	ABS Plastic

UUT-G4 Test Summary

Testing Lab: Curtiss Wright - Qual Tech
Testing Report: Q1526.0 Rev 2
Testing Unit Num: Q1526-13-01-02

Model Number	*Nominal Capacity (Btu/h)*	Operating Weight (lbs)	*Mounting*	*Excitation Direction*		*Frequency* (Hz)*	Length (in)	Width (in)	Height (in)
ARNU483TMC4	48100	56	Suspended	X	Front - Back	NA	33-1/16	33-1/16	11-11/32
				Y	Side - Side	NA			
				Z	Vertical	NA			

* Frequencies are for units prior to ICC ES AC-156 testing.
Model Number is based on nomenclature from the LG Electronics Catalog

Attachment Method: Indoor units were suspended from steel fixture using (4) 3/8" dia A36 hanger rods w/ rods stiffeners and (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips at each end, see (Figure UUT-G4.2)

Seismic Modifications: The attachment of the mounting ears was enhanced by the addition of one set per mounting ear compromising two (2) 10-32 machine screws, with flat and lock washers and nuts (Figure UUT-G4.3)

Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2016	AC 156	2.95	1.0	4.72g	3.54g	1.98g	0.8g

Figure UUT-G4.1: Unit on the shake table

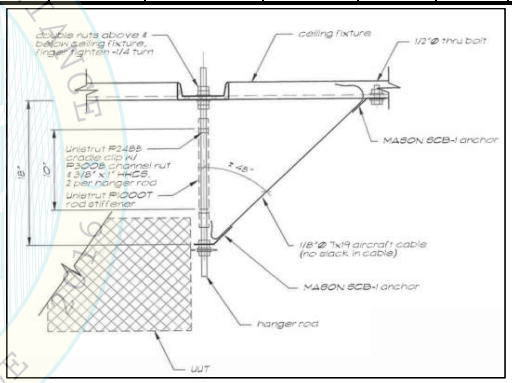
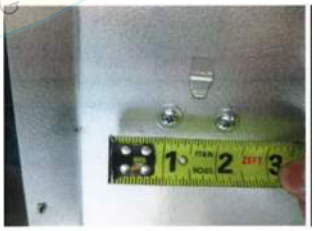


Figure UUT-G4.2: Mounting Details



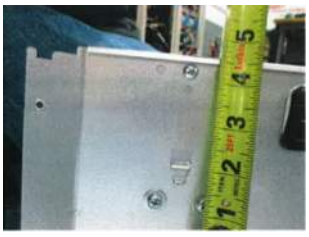


Figure UUT-G4.3: Modifications/Anomaly

Notes: Unit maintained structural integrity and remained functional per manufacture requirements after shake table test
Unit tested full of pressurized helium

UUT-G4 Summary Tested Sub-Component

Sub-Component	*Weight*	*Part Number*	*Manufacturer*	*Material*
Heat Exchanger	18.0 lb	ADL73841801	Lotte Aluminium	Al Fin, Cu Tube
Fan Motor	8.6 lb	4681A20172J	Shibaura	Carbon Steel/Polyester resin
Printed Circuit Board	<1 lb	EBR81221804	MSE	ABS Plastic