APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0386 – 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: ARUN, ARUB, ARNU, ARNH, PRHR – See "Table 1. Certified Product List" for a complete listing of model numbers
(List all unique product identification numbers and/or part numbers)

General Description: Split system including heating and air-conditioning units. Seismic enhancements made to the test units and modifications required to address 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 suspended or wall mounted.

Applicant Information

Applicant Company Name: Buehler & Buehler Structural Engineers, Inc.

Contact Person: Scott R. Hooker

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

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

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: Date: 07/31/2015

Title: President Company Name: Buehler & Buehler Structural Engineers, Inc.

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

Company Name: Buehler & Buehler Structural Engineers, Inc.

Name: Scott R. Hooker California License Number: 3937 / Structural

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

Telephone: (916) 443-0303 Email: shooker@bbse.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: QualTech NP

Contact Name: Marie Nemier

Mailing Address: 4600 East Tech Drive, Cincinnati OH

Telephone: (513) 528-7900 Email: mnemier@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) = 1.88

S_{DS} (Design spectral response acceleration at short period, g) = 2.50

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) = 2.5

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1.0

Equipment or Component Natural Frequencies (Hz) = See Table 3

Overall dimensions and weight (or range thereof) = See Table 1

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, 2010: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

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

☒ Other(s) (Please Specify): Operability Test Letter, Certification Letter

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2019

Signature: Date: November 2, 2015

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = 2.50 z/h = 1

Condition of Approval (if applicable):

Special Seismic Certification
OSHPD Preapproval
LG Electronics Multi-V Product Line

Table 1. Certified Product List

Group A LG Multi V™ IV Outdoor Unit UX2/UX3 Frame - Single Module Units

Model Number	Frame Type	Nominal Capacity (Btu/h)	Voltage	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Mounting
ARUB072BTE4	**UX-2**	**72000**	**208/230V**	**UUT-2**	**29 29/32**	**36-7/32**	**66 5/32**	**442**	**Rigid Base Mount**
ARUB072DTE4	UX-2	72000	460V	Interpolated	29 29/32	36-7/32	66 5/32	442	Rigid Base Mount
ARUN072BTE4	UX-2	72000	208/230V	Interpolated	29 29/32	36-7/32	66 5/32	442	Rigid Base Mount
ARUN072DTE4	**UX-2**	**72000**	**460V**	**UUT-1**	**29 29/32**	**36-7/32**	**66 5/32**	**442**	**Rigid Base Mount**
ARUB096BTE4	**UX-3**	**96000**	**208/230V**	**UUT-3**	**29 29/32**	**48-13/16**	**66 5/32**	**563**	**Rigid Base Mount**
ARUB096DTE4	UX-3	96000	460V	Interpolated	29 29/32	48-13/16	66 5/32	563	Rigid Base Mount
ARUN096BTE4	UX-3	96000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	563	Rigid Base Mount
ARUN096DTE4	UX-3	96000	460V	Interpolated	29 29/32	48-13/16	66 5/32	563	Rigid Base Mount
ARUN121BTE4	UX-3	120000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	563	Rigid Base Mount
ARUN121DTE4	UX-3	120000	460V	Interpolated	29 29/32	48-13/16	66 5/32	563	Rigid Base Mount
ARUB121BTE4	UX-3	120000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	563	Rigid Base Mount
ARUB121DTE4	UX-3	120000	460V	Interpolated	29 29/32	48-13/16	66 5/32	563	Rigid Base Mount
ARUN122BTE4	UX-3	120000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	661	Rigid Base Mount
ARUN122DTE4	UX-3	120000	460V	Interpolated	29 29/32	48-13/16	66 5/32	661	Rigid Base Mount
ARUB122BTE4	UX-3	120000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	661	Rigid Base Mount
ARUB122DTE4	UX-3	120000	460V	Interpolated	29 29/32	48-13/16	66 5/32	661	Rigid Base Mount
ARUN144BTE4	UX-3	144000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	628	Rigid Base Mount
ARUN144DTE4	UX-3	144000	460V	Interpolated	29 29/32	48-13/16	66 5/32	628	Rigid Base Mount
ARUB144BTE4	UX-3	144000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	628	Rigid Base Mount
ARUB144DTE4	UX-3	144000	460V	Interpolated	29 29/32	48-13/16	66 5/32	628	Rigid Base Mount
ARUN168BTE4	UX-3	168000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	628	Rigid Base Mount
ARUN168DTE4	UX-3	168000	460V	Interpolated	29 29/32	48-13/16	66 5/32	628	Rigid Base Mount
ARUB168BTE4	UX-3	168000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	628	Rigid Base Mount
ARUB168DTE4	UX-3	168000	460V	Interpolated	29 29/32	48-13/16	66 5/32	628	Rigid Base Mount
LG Multi V™ IV Outdoor Unit Model Numbers below are **ONLY** for use as components in large capacity **triple frame systems**. They cannot be used as standalone models or in a dual frame combination.									
ARUN145BTE4	UX-3	144000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	660	Rigid Base Mount
ARUN145DTE4	UX-3	144000	460V	Interpolated	29 29/32	48-13/16	66 5/32	660	Rigid Base Mount
ARUB145BTE4	UX-3	144000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	660	Rigid Base Mount
ARUB145DTE4	UX-3	144000	460V	Interpolated	29 29/32	48-13/16	66 5/32	660	Rigid Base Mount
ARUN169BTE4	UX-3	168000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	660	Rigid Base Mount
ARUN169DTE4	UX-3	168000	460V	Interpolated	29 29/32	48-13/16	66 5/32	660	Rigid Base Mount
ARUB169BTE4	UX-3	168000	208/230V	Interpolated	29 29/32	48-13/16	66 5/32	660	Rigid Base Mount
ARUB169DTE4	**UX-3**	**168000**	**460V**	**UUT-4**	**29 29/32**	**48-13/16**	**66 5/32**	**660**	**Rigid Base Mount**

Notes:

1. Piping interconnection between multiple units must be a flexible connection.
2. Multiple combinations of the units listed above can be used in LG specified system model configurations of dual and triple frames to attain larger capacity VRF systems. These combinations of outdoor units are included in the scope of this seismic certification.
3. All units are manufactured by LG Electronics.
4. All unit frames and panels are made of light-gage steel.

Group B LG Multi V™ Indoor Ceiling Concealed Ducted - High Static (208/230V)

Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Mounting
ARNU073BGA4	**7500**	**UUT-5**	**17 23/32**	**46 17/32**	**11 23/32**	**86**	**Suspended**
ARNU093BGA4	9600	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU123BGA4	12300	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU153BGA4	15400	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU183BGA4	19100	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU243BGA4	24200	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU283BGA2	28000	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU283BGA4	28000	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU363BGA2	36200	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU363BGA4	36200	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU423BGA2	42000	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU423BGA4	42000	Interpolated	17 23/32	46 17/32	11 23/32	86	Suspended
ARNU483BRA2	48100	Interpolated	23 7/32	48 7/16	14 31/32	110	Suspended
ARNU483BRA4	48100	Interpolated	23 7/32	48 7/16	14 31/32	110	Suspended
ARNU543BRA2	54000	Interpolated	23 7/32	48 7/16	14 31/32	110	Suspended
ARNU543BRA4	**54000**	**UUT-6**	**23 7/32**	**48 7/16**	**14 31/32**	**110**	**Suspended**
ARNU763B8A2	76400	Interpolated	27 3/32	61 1/2	18 1/8	186	Suspended
ARNU763B8A4	76400	Interpolated	27 3/32	61 1/2	18 1/8	186	Suspended
ARNU963B8A2	95900	Interpolated	27 3/32	61 1/2	18 1/8	186	Suspended
ARNU963B8A4	**95900**	**UUT-7**	**27 3/32**	**61 1/2**	**18 1/8**	**186**	**Suspended**

1. All units are manufactured by LG Electronics.
2. All unit frames and panels are made of light-gage steel.

Table 1. Certified Product List

Group C LG Multi V™ Ceiling Cassette 1-Way (208/230V)

Model Number	Nominal Capacity (Btu/h)	Tested/ Extrapolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Mounting
ARNU073TUC4	8,500	same	17 23/32	33 27/32	5 3/16	29	Suspended
ARNU093TUC4	10,900	same	17 23/32	33 27/32	5 3/16	29	Suspended
ARNU123TUC4	**13600**	**UUT-8**	**17 23/32**	**33 27/32**	**5 3/16**	**29**	**Suspended**

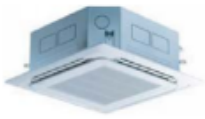
Notes:
1. Extrapolated units are identical to the tested unit with the exception of software.
2. All units are manufactured by LG Electronics.
3. All unit frames and panels are made of light-gage steel.

Group D LG Multi V™ Ceiling Cassette 2-Way (208/230V)

Model Number	Nominal Capacity (Btu/h)	Tested/ Extrapolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Mounting
ARNU183TLC2	19100	same	21 21/32	32 11/16	8 27/32	55	Suspended
ARNU183TLC4	19100	same	21 21/32	32 11/16	8 27/32	55	Suspended
ARNU243TLC2	24200	same	21 21/32	32 11/16	8 27/32	55	Suspended
ARNU243TLC4	**24200**	**UUT-9**	**21 21/32**	**32 11/16**	**8 27/32**	**55**	**Suspended**

Notes:
1. Extrapolated units are identical to the tested unit with the exception of software.
2. All units are manufactured by LG Electronics.
3. All unit frames and panels are made of light-gage steel.

Group E LG Multi V™ Ceiling Cassette 4-Way (208/230V)



Model Number	Nominal Capacity (Btu/h)	Tested/ Interpolated	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)	Mounting
ARNU053TRC2	5000	Extrapolated	22 7/16	22 7/16	8 7/16	28	Suspended
ARNU053TRC4	**5000**	**UUT-10**	**22 7/16**	**22 7/16**	**8 7/16**	**28**	**Suspended**
ARNU073TRC2	7500	Interpolated	22 7/16	22 7/16	8 7/16	28	Suspended
ARNU073TRC4	7500	Interpolated	22 7/16	22 7/16	8 7/16	31	Suspended
ARNU093TRC2	9600	Interpolated	22 7/16	22 7/16	8 7/16	31	Suspended
ARNU093TRC4	9600	Interpolated	22 7/16	22 7/16	8 7/16	31	Suspended
ARNU123TRC2	12300	Interpolated	22 7/16	22 7/16	8 7/16	31	Suspended
ARNU123TRC4	12300	Interpolated	22 7/16	22 7/16	8 7/16	31	Suspended
ARNU153TQC2	15400	Interpolated	22 7/16	22 7/16	10 3/32	34	Suspended
ARNU153TQC4	15400	Interpolated	22 7/16	22 7/16	10 3/32	34	Suspended
ARNU183TQC2	19100	Interpolated	22 7/16	22 7/16	10 3/32	34	Suspended
ARNU183TQC4	**19100**	**UUT-11**	**22 7/16**	**22 7/16**	**10 3/32**	**34**	**Suspended**
ARNU243TPC2	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
ARNU283TPC2	28000	Interpolated	33 1/16	33 1/16	8 1/32	46	Suspended
ARNU283TPC4	28000	Interpolated	33 1/16	33 1/16	8 1/32	46	Suspended
ARNU363TNC2	36200	Interpolated	33 1/16	33 1/16	9 11/16	54	Suspended
ARNU363TNC4	**36200**	**UUT-12**	**33 1/16**	**33 1/16**	**9 11/16**	**54**	**Suspended**
ARNU423TMC2	42000	Interpolated	33 1/16	33 1/16	11 11/32	58	Suspended
ARNU423TMC4	42000	Interpolated	33 1/16	33 1/16	11 11/32	58	Suspended
ARNU483TMC2	48100	Interpolated	33 1/16	33 1/16	11 11/32	58	Suspended
ARNU483TMC4	**48100**	**UUT-13**	**33 1/16**	**33 1/16**	**11 11/32**	**58**	**Suspended**

1. All units are manufactured by LG Electronics.
2. All unit frames and panels are made of light-gage steel.

Special Seismic Certification
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Table 1. Certified Product List

Group F LG Multi V™ Wall Mounted / ART COOL Mirror (208/230V)

Model Number	*Nominal Capacity (Btu/h)*	*Tested/ Interpolated*	*Length (in)*	*Width (in)*	*Height (in)*	*Operating Weight (lbs)*	*Mounting*
ARNU073SEL2	7500	Extrapolated	6 1/2	35 1/4	11 3/32	20	Wall Mount
ARNU093SEL2	9600	Extrapolated	6 1/2	35 1/4	11 3/32	20	Wall Mount
ARNU123SEL2	12300	Extrapolated	6 1/2	35 1/4	11 3/32	20	Wall Mount
ARNU153SEL2	15400	Extrapolated	6 1/2	35 1/4	11 3/32	20	Wall Mount
ARNU053SBL4	**5500**	**UUT-14**	**8 15/32**	**35 1/4**	**11 3/8**	**23**	**Wall Mount**
ARNU073SBL4	7500	Interpolated	8 15/32	35 1/4	11 3/8	23	Wall Mount
ARNU093SBL4	9600	Interpolated	8 15/32	35 1/4	11 3/8	23	Wall Mount
ARNU123SBL4	12300	Interpolated	8 15/32	35 1/4	11 3/8	23	Wall Mount
ARNU153SBL4	15400	Interpolated	8 15/32	35 1/4	11 3/8	23	Wall Mount
ARNU073SER2	7500	Interpolated	6 1/2	36 1/32	11 3/32	25	Wall Mount
ARNU093SER2	9600	Interpolated	6 1/2	36 1/32	11 3/32	25	Wall Mount
ARNU123SER2	12300	Interpolated	6 1/2	36 1/32	11 3/32	25	Wall Mount
ARNU153SER2	15400	Interpolated	6 1/2	36 1/32	11 3/32	25	Wall Mount
ARNU183S5L2	19100	Interpolated	7	42 29/32	11 13/16	27	Wall Mount
ARNU243S5L2	24200	Interpolated	7	42 29/32	11 13/16	27	Wall Mount
ARNU183SCL4	19100	Interpolated	10 1/32	40 9/16	12 25/32	31	Wall Mount
ARNU243SCL4	**24200**	**UUT-15**	**10 1/32**	**40 9/16**	**12 25/32**	**31**	**Wall Mount**

1. All units are manufactured by LG Electronics.
2. All unit frames and panels are made of light-gage steel.

Group G LG Multi V™ Heat Recovery Units (208/230V)

Model Number	*Nominal Capacity (Btu/h)*	*Tested/ Extrapolated*	*Length (in)*	*Width (in)*	*Height (in)*	*Operating Weight (lbs)*	*Mounting*
PRHR022A	-	same	24 9/32	32 23/32	8 19/32	40	Suspended
PRHR032A	-	same	24 9/32	32 23/32	8 19/32	44	Suspended
PRHR042A	**-**	**UUT-16**	**24 9/32**	**32 23/32**	**8 19/32**	**46**	**Suspended**

Notes:
1. Extrapolated units are identical to the tested unit with the exception of software
2. All units are manufactured by LG Electronics.
3. All unit frames and panels are made of light-gage steel.

Table 2. Certified Sub-Components

Group A - LG Multi V™ IV Outdoor Unit UX2/UX3 Frame - Single and Combined Module Units

Compressor				
Part Number	***Nominal capacity***	***Voltage***	***Material***	***Tested / Interpolated***
JQA048MBA	**59,500Btu/h**	**220V**	**Gray Cast Iron**	**UUT-2**
JQA048MAA	**59,800Btu/h**	**380V**	**Gray Cast Iron**	**UUT-1, UUT-4**
JBA068MBA	**84,000Btu/h**	**220V**	**Gray Cast Iron**	**UUT-3**
JBA068MAA	**84,000Btu/h**	**380V**	**Gray Cast Iron**	**UUT-4**

Heat Exchanger		
Part Number	***Material***	***Tested / Interpolated***
ACG35862608	**Al Fin, Cu Tube**	**UUT-1, UUT-2**
ACG35862610	**Al Fin, Cu Tube**	**UUT-3, UUT-4**

Fan Motor			
Part Number	***Voltage***	***Material***	***Tested / Interpolated***
EAU43080007	**380V**	**Aluminum**	**UUT-1, UUT-4**
EAU61423601	**200V~230V**	**Aluminum**	**UUT-3, UUT-2**

Printed Circuit Board			
Description	***Part Number***	***Material***	***Tested / Interpolated***
Comm. PCB	**EBR74374302**	**ABS Plastic**	**UUT-1,UUT-3, UUT-4**
Converter PCB	**EBR76196401**	**ABS Plastic**	**UUT-2**
Converter PCB	**EBR76546001**	**ABS Plastic**	**UUT-1,UUT-4**
Converter PCB	EBR76981301	ABS Plastic	Interpolated
External PCB	**EBR74363401**	**ABS Plastic**	**UUT-1,UUT-3, UUT-4**
Fan PCB	**EBR73910904**	**ABS Plastic**	**UUT-3**
Fan PCB	**EBR73910905**	**ABS Plastic**	**UUT-2**
Fan PCB	**EBR74364901**	**ABS Plastic**	**UUT-4**
Fan PCB	**EBR75420601**	**ABS Plastic**	**UUT-1**
Inverter PCB	EBR75420402	ABS Plastic	Interpolated
Inverter PCB	**EBR76166005**	**ABS Plastic**	**UUT-1,UUT-4**
Inverter PCB	**EBR76166006**	**ABS Plastic**	**UUT-4**
Inverter PCB	**EBR76610201**	**ABS Plastic**	**UUT-2**
Inverter PCB	EBR76610202	ABS Plastic	Interpolated
Inverter PCB	**EBR77098001**	**ABS Plastic**	**UUT-3**
Main PCB	EBR77177101	ABS Plastic	Interpolated
Main PCB	EBR77177102	ABS Plastic	Interpolated
Main PCB	EBR77177103	ABS Plastic	Interpolated
Main PCB	EBR77177104	ABS Plastic	Interpolated
Main PCB	EBR77177105	ABS Plastic	Interpolated
Main PCB	**EBR77177106**	**ABS Plastic**	**UUT-4**

Table 2. Certified Sub-Components

Printed Circuit Board			
Description	***Part Number***	***Material***	***Tested / Interpolated***
Main PCB	EBR77177107	ABS Plastic	Extrapolated
Main PCB	EBR77177108	ABS Plastic	Extrapolated
Main PCB	EBR77177109	ABS Plastic	Extrapolated
Main PCB	**EBR77177110**	**ABS Plastic**	**UUT-1**
Main PCB	**EBR77177501**	**ABS Plastic**	**UUT-2**
Main PCB	**EBR77177502**	**ABS Plastic**	**UUT-3**
Main PCB	EBR77177503	ABS Plastic	Interpolated
Main PCB	EBR77177504	ABS Plastic	Interpolated
Main PCB	EBR77177505	ABS Plastic	Interpolated
Main PCB	EBR77177506	ABS Plastic	Interpolated
Main PCB	EBR77177507	ABS Plastic	Interpolated
Main PCB	EBR77177508	ABS Plastic	Interpolated
Main PCB	EBR77177509	ABS Plastic	Interpolated
Main PCB	EBR77177510	ABS Plastic	Interpolated
Main PCB	EBR77177518	ABS Plastic	Interpolated
Main PCB	EBR77177519	ABS Plastic	Interpolated
Main PCB	EBR77177520	ABS Plastic	Interpolated
Main PCB	EBR77177521	ABS Plastic	Interpolated
Main PCB	EBR77177111	ABS Plastic	Interpolated
Main PCB	EBR77177112	ABS Plastic	Interpolated
Main PCB	EBR77177113	ABS Plastic	Interpolated
Main PCB	EBR77177114	ABS Plastic	Interpolated
Main PCB	EBR77177522	ABS Plastic	Interpolated
Main PCB	EBR77177523	ABS Plastic	Interpolated
Main PCB	EBR77177524	ABS Plastic	Interpolated
Main PCB	EBR77177525	ABS Plastic	Interpolated
Main PCB	EBR77177115	ABS Plastic	Interpolated
Main PCB	EBR77177116	ABS Plastic	Interpolated
Main PCB	EBR77177117	ABS Plastic	Interpolated
Main PCB	EBR77177118	ABS Plastic	Interpolated
Noise Filter	**EAM37530601**	**ABS Plastic**	**UUT-1, UUT-2**
Noise Filter	EAM62532001	ABS Plastic	Interpolated
Noise Filter	**EAM62632201**	**ABS Plastic**	**UUT-4**
Noise Filter	EAM62632202	ABS Plastic	Interpolated
Noise Filter	EAM62632301	ABS Plastic	Interpolated
Noise Filter	**EAM62792401**	**ABS Plastic**	**UUT-3**
PI485 PCB	**EBR74801101**	**ABS Plastic**	**UUT-1**
PI485 PCB	**EBR74801101**	**ABS Plastic**	**UUT-3, UUT-4, UUT-2**
Power PCB	**EBR76886201**	**ABS Plastic**	**UUT-3, UUT-4**
Power PCB	**EBR74365001**	**ABS Plastic**	**UUT-1, UUT-2**
Power PCB	EBR74365001	ABS Plastic	Extrapolated

Table 2. Certified Sub-Components

Reverse Valve			
Description	*Part Number*	*Material*	*Tested / Interpolated*
Valve,Reverse	5220AP3777C	CU	UUT-1,UUT-2
Valve,Reverse	5220A20039A	CU	UUT-3, UUT-4

Expansion Valve			
Description	*Part Number*	*Material*	*Tested / Interpolated*
Main EEV	AJU73472405	CU	UUT-1, UUT-2, UUT-3, UUT-4
Main EEV	AJU73472406	CU	UUT-1, UUT-2, UUT-3, UUT-4

Service Valve			
Description	*Part Number*	*Material*	*Tested / Interpolated*
Valve,Service	5220A20029M	CU	UUT-1,UUT-2,UUT-3
Valve,Service	MJX62253901	CU	UUT-1,UUT-2,UUT-3,UUT-4
Valve,Service	MJX62792301	CU	UUT-1,UUT-2,UUT-3,UUT-4
Valve,Service	MJX62254101	CU	UUT-3
Valve,Service	MJX62253801	CU	UUT-4
Valve,Service	MJX62254001	CU	UUT-4

Other		
Description	*Material*	*Tested / Interpolated*
Cabinet	Steel Galvanized Coated Carbon	UUT-1, UUT-2, UUT-3, UUT-4

Table 2. Certified Sub-Components

Group B - LG Multi V™ Indoor Ceiling Concealed Ducted - High Static (208/230V)

Heat Exchanger		
Part Number	***Material***	***Tested / Interpolated***
5421A10027C	Al Fin, Cu Tube	UUT-5
5421A20273A	Al Fin, Cu Tube	UUT-6
5421A20217L	Al Fin, Cu Tube	UUT-7

Fan Motor		
Part Number	***Material***	***Tested / Interpolated***
EAU37067106	Carbon Steel/Polyester resin	UUT-5
4681A20169B	Carbon Steel/Polyester resin	UUT-6
EAU39857401	Carbon Steel/Polyester resin	UUT-7

Printed Circuit Board		
Part Number	***Material***	***Tested / Interpolated***
EBR79004802	ABS Plastic	UUT-5
EBR79004804	ABS Plastic	UUT-6,UUT-7

Expansion Valve		
Part Number	***Material***	***Tested / Interpolated***
AJU36719713	Copper, Resin	UUT-5, UUT-6,UUT-7

Group C - LG Multi V™ Ceiling Cassette 1-Way (208/230V)

Heat Exchanger		
Part Number	***Material***	***Tested / Interpolated***
ADL36804601	Al Fin, Cu Tube	UUT-8

Fan Motor		
Part Number	***Material***	***Tested / Interpolated***
4681A20091V	Copper, Resin	UUT-8

Printed Circuit Board		
Part Number	***Material***	***Tested / Interpolated***
EBR81221805	ABS Plastic	UUT-8

Expansion Valve		
Part Number	***Material***	***Tested / Interpolated***
AJU32452001	Copper, Resin	UUT-8

Table 2. Certified Sub-Components

Group D - LG Multi V™ Ceiling Cassette 2-Way (208/230V)

Heat Exchanger		
Part Number	***Material***	***Tested / Interpolated***
5421A20269C	**Al Fin, Cu Tube**	**UUT-9**
5421A20269D	**Al Fin, Cu Tube**	**UUT-9**

Fan Motor		
Part Number	***Material***	***Tested / Interpolated***
4681A20091V	**Carbon Steel/Polyester resin**	**UUT-9**

Printed Circuit Board		
Part Number	***Material***	***Tested / Interpolated***
EBR39187717	ABS Plastic	Same
EBR69493302	**ABS Plastic**	**UUT-9**

Notes:
1. Extrapolated sub-components are identical to the tested unit with the exception of software.

Group E - LG Multi V™ Ceiling Cassette 4-Way (208/230V)

Heat Exchanger		
Part Number	***Material***	***Tested / Interpolated***
ADL55996003	**Al Fin, Cu Tube**	**UUT-10**
ADL55996002	Al Fin, Cu Tube	Interpolated
ADL55996001	**Al Fin, Cu Tube**	**UUT-11**
ADL32881103	Al Fin, Cu Tube	Interpolated
ADL32881102	Al Fin, Cu Tube	Interpolated
ADL73841702	**Al Fin, Cu Tube**	**UUT-12**
ADL32881101	Al Fin, Cu Tube	Interpolated
ADL73841801	**Al Fin, Cu Tube**	**UUT-13**

Fan Motor		
Part Number	***Material***	***Tested / Interpolated***
EAU32165801	**Carbon Steel/Polyester resin**	**UUT-10**
4681A20168B	**Carbon Steel/Polyester resin**	**UUT-11**
EAU31898201	**Carbon Steel/Polyester resin**	**UUT-12**
4681A20172J	**Carbon Steel/Polyester resin**	**UUT-13**

Printed Circuit Board		
Part Number	***Material***	***Tested / Interpolated***
EBR81221804	**ABS Plastic**	**UUT-10, UUT-11, UUT-12, UUT-13**
EBR39187715	ABS Plastic	Same

Notes:
1. Extrapolated sub-components are identical to the tested unit with the exception of software.

Table 2. Certified Sub-Components

Group F - LG Multi V™ Wall Mounted / ART COOL Mirror (208/230V)

Heat Exchanger		
Part Number	***Material***	***Tested / Interpolated***
ADL73761601	Al Fin, Cu Tube	Extrapolated
5421A20260Q	**Al Fin, Cu Tube**	**UUT-14**
ADL34982606	Al Fin, Cu Tube	Interpolated
5421A20260D	Al Fin, Cu Tube	Interpolated
5421A20221H	**Al Fin, Cu Tube**	**UUT-15**

Fan Motor		
Part Number	***Material***	***Tested / Interpolated***
4681A20091U	**Carbon Steel/Polyester resin**	**UUT-14, UUT-15**

Printed Circuit Board		
Part Number	***Material***	***Tested / Interpolated***
EBR62766417	ABS Plastic	Extrapolated
EBR62766416	ABS Plastic	Extrapolated
EBR62766415	ABS Plastic	Extrapolated
EBR62766414	ABS Plastic	Extrapolated
EBR78225707	**ABS Plastic**	**UUT-14**
EBR78225706	ABS Plastic	Interpolated
EBR78225705	ABS Plastic	Interpolated
EBR78225704	ABS Plastic	Interpolated
EBR62766412	ABS Plastic	Interpolated
EBR62766418	ABS Plastic	Interpolated
EBR62766419	ABS Plastic	Interpolated
EBR62766420	ABS Plastic	Interpolated
EBR62766413	ABS Plastic	Interpolated
EBR62766411	ABS Plastic	Interpolated
EBR78225703	ABS Plastic	Interpolated
EBR78225702	ABS Plastic	Interpolated
EBR78225701	**ABS Plastic**	**UUT-15**

Expansion Valve		
Part Number	***Material***	***Tested / Interpolated***
AJU32452014	Copper, Resin	Extrapolated
AJU32452001	**Copper, Resin**	**UUT-14**
AJU32452002	**Copper, Resin**	**UUT-15**

Group G - LG Multi V™ Heat Recovery Units (208/230V)

Printed Circuit Board			
Description	***Part Number***	***Material***	***Tested / Interpolated***
Main PCB	**EBR78268001**	**Hard Plastic**	**UUT-16**

Expansion Valve			
Description	***Part Number***	***Material***	***Tested / Interpolated***
EEV	**AJU36719707**	**CU**	**UUT-16**

Other		
Description	***Material***	***Tested / Interpolated***
Cabinet	**Steel Galvanized Coated Carbon**	**UUT-16**

Table 3. UUT Summary

Model Number	UUT Mark	Nominal Capacity (Btu/h)	Mounting	Excitation Direction	Frequency (Hz)	Length (in)	Width (in)	Height (in)	Operating Weight (lbs)
ARUN072DTE4	UUT-1	72000	Rigid Base Mount	X	9.5	29-29/32	36-7/32	66-5/32	442
				Y	5.7				
				Z	-				
ARUB072BTE4	UUT-2	72000	Rigid Base Mount	X	8.0	29-29/32	36-7/32	66-5/32	441
				Y	10.3				
				Z	-				
ARUB096BTE4	UUT-3	96000	Rigid Base Mount	X	24.5	29-29/32	48-13/16	66-5/32	563
				Y	7.3				
				Z	-				
ARUB169DTE4	UUT-4	168000	Rigid Base Mount	X	8.7	29-29/32	48-13/16	66-5/32	660
				Y	6.9				
				Z	28.4				
ARNU073BGA4	UUT-5	7500	Suspended	X	-	17-23/32	46 17/32	11-23/32	86
				Y	-				
				Z	-				
ARNU543BRA4	UUT-6	54000	Suspended	X	-	23-7/32	48-7/16	14-31/32	117
				Y	-				
				Z	-				
ARNU963B8A4	UUT-7	95900	Suspended	X	-	27-3/32	61-1/2	18 1/8	186
				Y	-				
				Z	-				
ARNU123TUC4	UUT-8	12300	Suspended	X	-	17 23/32	33 27/32	5 3/16	29
				Y	-				
				Z	-				
ARNU243TLC4	UUT-9	24200	Suspended	X	-	21-21/32	32-11/16	8-27/32	55
				Y	-				
				Z	-				
ARNU053TRC4	UUT-10	5000	Suspended	X	-	22-7/16	22-7/16	8-7/16	28
				Y	-				
				Z	-				
ARNU183TQC4	UUT-11	19100	Suspended	X	-	22-7/16	22-7/16	10-3/32	34
				Y	-				
				Z	-				
ARNU363TNC4	UUT-12	48100	Suspended	X	-	33-1/16	33-1/16	9 11/16	54
				Y	-				
				Z	-				
ARNU483TMC4	UUT-13	36200	Suspended	X	-	33-1/16	33-1/16	11 11/32	58
				Y	-				
				Z	-				
ARNU053SBL4	UUT-14	5500	Wall Mount	X	-	8 15/32	35 1/4	11 3/8	23
				Y	-				
				Z	-				
ARNU243SCL4	UUT-15	24200	Wall Mount	X	-	10 1/32	40 9/16	12 25/32	31
				Y	-				
				Z	-				
PRHR042A	UUT-16	-	Suspended	X	-	24-9/32	32-23/32	8-19/32	46
				Y	-				
				Z	-				

1. Unit frequencies were measured prior to AC156 testing.
2. Weight as tested
3. Excitation Direction: X = front to back; Y = side to side; Z = vertical
4. All units were charged with refrigerant before AC156 testing.
5. All units were tested, retained structural integrity and satisfied the operability tests before and after the shake tabel tests.

Table 4. UUT Summary Sub-Component List

UUT-1			
Sub-Component	***Description***	***Part Number***	***Material***
Compressor	59,800Btu/h, 380V	JQA048MAA	Gray Cast Iron
Heat Exchanger	7 mm x 0.3 mm coil	ACG35862608	Al Fin, Cu Tube
Fan Motor	380V	EAU43080007	Aluminum
Printed Circuit Board	Comm. PCB	EBR74374302	ABS Plastic
Printed Circuit Board	PI485 PCB	EBR74801101	ABS Plastic
Printed Circuit Board	Power PCB	EBR74365001	ABS Plastic
Printed Circuit Board	External PCB	EBR74363401	ABS Plastic
Printed Circuit Board	Noise Filter	EAM37530601	ABS Plastic
Printed Circuit Board	Inverter PCB	EBR76166005	ABS Plastic
Printed Circuit Board	Fan PCB	EBR75420601	ABS Plastic
Printed Circuit Board	Converter PCB	EBR76546001	ABS Plastic
Printed Circuit Board	Main PCB	EBR77177110	ABS Plastic
Reverse Valve	Valve,Reverse	5220AP3777C	CU
Expansion Valve	Main EEV	AJU73472405	CU
Expansion Valve	Main EEV	AJU73472406	CU
Service Valve	Valve,Service	5220A20029M	CU
Service Valve	Valve,Service	MJX62253901	CU
Service Valve	Valve,Service	MJX62792301	CU
Other	Cabinet	-	SGCC

UUT-2			
Sub-Component	***Description***	***Part Number***	***Material***
Compressor	59,500Btu/h, 220V	JQA048MBA	Gray Cast Iron
Heat Exchanger	7 mm x 0.3 mm coil	ACG35862608	Al Fin, Cu Tube
Fan Motor	200V~230V	EAU61423601	Aluminum
Printed Circuit Board	Comm. PCB	EBR74374302	ABS Plastic
Printed Circuit Board	PI485 PCB	EBR74801101	ABS Plastic
Printed Circuit Board	Power PCB	EBR74365001	ABS Plastic
Printed Circuit Board	External PCB	EBR74363401	ABS Plastic
Printed Circuit Board	Noise Filter	EAM37530601	ABS Plastic
Printed Circuit Board	Inverter PCB	EBR76610201	ABS Plastic
Printed Circuit Board	Fan PCB	EBR73910905	ABS Plastic
Printed Circuit Board	Converter PCB	EBR76196401	ABS Plastic
Printed Circuit Board	Main PCB	EBR77177501	ABS Plastic
Reverse Valve	Valve,Reverse	5220AP3777C	CU
Expansion Valve	Main EEV	AJU73472405	CU
Expansion Valve	Main EEV	AJU73472406	CU
Service Valve	Valve,Service	5220A20029M	CU
Service Valve	Valve,Service	MJX62253901	CU
Service Valve	Valve,Service	MJX62253901	CU
Service Valve	Valve,Service	MJX62792301	CU
Other	Cabinet	-	SGCC

Table 4. UUT Summary Sub-Component List

UUT-3			
Sub-Component	***Description***	***Part Number***	***Material***
Compressor	84,000Btu/h, 208V-230V	JBA068MBA	Gray Cast Iron
Heat Exchanger	7 mm x 0.3 mm coil	ACG35862610	Al Fin, Cu Tube
Fan Motor	208V-230V	EAU61423601	Aluminum
Fan Motor	200V~230V	EAU61423601	Aluminum
Printed Circuit Board	Main PCB	EBR77177502	ABS Plastic
Printed Circuit Board	Comm. PCB	EBR74374302	ABS Plastic
Printed Circuit Board	PI485 PCB	EBR74801101	ABS Plastic
Printed Circuit Board	External PCB	EBR74363401	ABS Plastic
Printed Circuit Board	Power PCB	EBR76886201	ABS Plastic
Printed Circuit Board	Fan PCB	EBR73910904	ABS Plastic
Printed Circuit Board	Inverter PCB	EBR77098001	ABS Plastic
Printed Circuit Board	Noise Filter	EAM62792401	ABS Plastic
Reverse Valve	Valve,Reverse	5220A20039A	CU
Expansion Valve	Main EEV	AJU73472405	CU
Expansion Valve	Main EEV	AJU73472406	CU
Service Valve	Valve,Service	5220A20029M	CU
Service Valve	Valve,Service	MJX62253901	CU
Service Valve	Valve,Service	MJX62254101	CU
Service Valve	Valve,Service	MJX62792301	CU
Other	Cabinet	-	SGCC

UUT-4			
Sub-Component	***Description***	***Part Number***	***Material***
Compressor	59,800Btu/h, 380V	JQA048MAA	Gray Cast Iron
Compressor	84,000Btu/h, 380V	JBA068MAA	Gray Cast Iron
Heat Exchanger	7 mm x 0.3 mm coil	ACG35862610	Al Fin, Cu Tube
Fan Motor	380V	EAU43080007	Aluminum
Fan Motor	380V	EAU43080007	Aluminum
Printed Circuit Board	Main PCB	EBR77177106	ABS Plastic
Printed Circuit Board	Comm. PCB	EBR74374302	ABS Plastic
Printed Circuit Board	PI485 PCB	EBR74801101	ABS Plastic
Printed Circuit Board	External PCB	EBR74363401	ABS Plastic
Printed Circuit Board	Power PCB	EBR76886201	ABS Plastic
Printed Circuit Board	Noise Filter	EAM62632201	ABS Plastic
Printed Circuit Board	Inverter PCB	EBR76166005	ABS Plastic
Printed Circuit Board	Inverter PCB	EBR76166006	ABS Plastic
Printed Circuit Board	Fan PCB	EBR74364901	ABS Plastic
Printed Circuit Board	Converter PCB	EBR76546001	ABS Plastic
Printed Circuit Board	Converter PCB	EBR76546001	ABS Plastic
Reverse Valve	Valve,Reverse	5220A20039A	CU
Expansion Valve	Main EEV	AJU73472405	CU
Expansion Valve	Main EEV	AJU73472406	CU
Service Valve	Valve,Service	MJX62253901	CU
Service Valve	Valve,Service	MJX62254001	CU
Service Valve	Valve,Service	MJX62253801	CU
Service Valve	Valve,Service	MJX62792301	CU
Other	Cabinet	-	SGCC

Table 4. UUT Summary Sub-Component List

UUT-5			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.3 mm coil	5421A10027C	Al Fin, Cu Tube
Fan Motor	Sirocco Fan 154W	EAU37067106	Carbon Steel/Polyester resin
Fan Motor	Sirocco Fan 154W	EAU37067106	Carbon Steel/Polyester resin
Printed Circuit Board	Main PCB	EBR79004802	ABS Plastic
Expansion Valve	Main EEV	AJU36719713	Copper, Resin

UUT-6			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.3 mm coil	5421A20273A	Al Fin, Cu Tube
Fan Motor	Sirocco Fan 185W	4681A20169B	Carbon Steel/Polyester resin
Fan Motor	Sirocco Fan 185W	4681A20169B	Carbon Steel/Polyester resin
Printed Circuit Board	Main PCB	EBR79004804	ABS Plastic
Expansion Valve	Main EEV	AJU36719713	Copper, Resin

UUT-7			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.22 mm coil	5421A20217L	Al Fin, Cu Tube
Fan Motor	Sirocco Fan 375W	EAU39857401	Carbon Steel/Polyester resin
Fan Motor	Sirocco Fan 375W	EAU39857401	Carbon Steel/Polyester resin
Printed Circuit Board	Main PCB	EBR79004804	ABS Plastic
Expansion Valve	Main EEV	AJU36719713	Copper, Resin

UUT-8			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.3 mm coil	ADL36804601	Al Fin, Cu Tube
Fan Motor	Cross Flow Fan 30W	4681A20091V	Copper, Resin
Printed Circuit Board	Main PCB	EBR81221805	ABS Plastic
Expansion Valve	Main EEV	AJU32452001	Copper, Resin

UUT-9			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.3 mm coil	5421A20269C	Al Fin, Cu Tube
Heat Exchanger	7 mm x 0.3 mm coil	5421A20269D	Al Fin, Cu Tube
Fan Motor	Cross Flow Fan 30W	4681A20091V	Carbon Steel/Polyester resin
Printed Circuit Board	Main PCB	EBR69493302	ABS Plastic

UUT-10			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.28 mm coil	ADL55996003	Al Fin, Cu Tube
Fan Motor	Turbo Fan 40W	EAU32165801	Carbon Steel/Polyester resin
Printed Circuit Board	Main PCB	EBR81221804	ABS Plastic

Table 4. UUT Summary Sub-Component List

UUT-11			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.28 mm coil	ADL55996001	Al Fin, Cu Tube
Fan Motor	Turbo Fan 40W	4681A20168B	Carbon Steel/Polyester resin
Printed Circuit Board	Main PCB	EBR81221804	ABS Plastic

UUT-12			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.28 mm coil	ADL73841702	Al Fin, Cu Tube
Fan Motor	Turbo Fan 124W	EAU31898201	Carbon Steel/Polyester resin
Printed Circuit Board	Main PCB	EBR81221804	ABS Plastic

UUT-13			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.28 mm coil	ADL73841801	Al Fin, Cu Tube
Fan Motor	Turbo Fan 124W	4681A20172J	Carbon Steel/Polyester resin
Printed Circuit Board	Main PCB	EBR81221804	ABS Plastic

UUT-14			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.32 mm coil	5421A20260Q	Al Fin, Cu Tube
Fan Motor	Cross Flow Fan 20W	4681A20091U	Carbon Steel/Polyester resin
Printed Circuit Board	Main PCB	EBR78225707	ABS Plastic
Expansion Valve	Main EEV	AJU32452001	Copper, Resin

UUT-15			
Sub-Component	***Description***	***Part Number***	***Material***
Heat Exchanger	7 mm x 0.32 mm coil	5421A20221H	Al Fin, Cu Tube
Fan Motor	Cross Flow Fan 20W	4681A20091U	Carbon Steel/Polyester resin
Printed Circuit Board	Main PCB	EBR78225701	ABS Plastic
Expansion Valve	Main EEV	AJU32452002	Copper, Resin

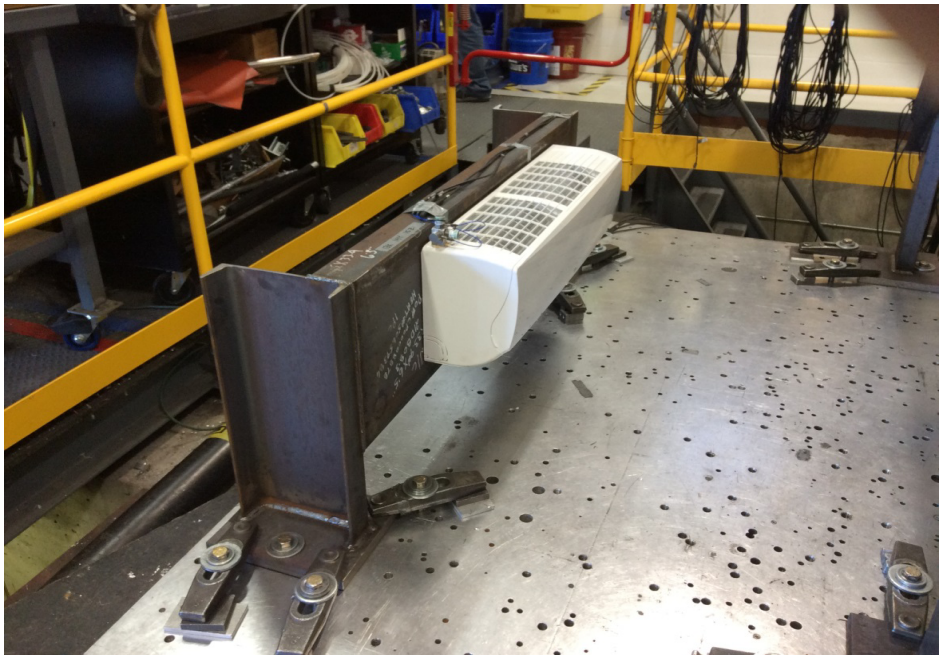
UUT-16			
Sub-Component	***Description***	***Part Number***	***Material***
Printed Circuit Board	Main PCB	EBR78268001	ABS Plastic
Expansion Valve	EEV	AJU36719707	CU
Other	Enclosure	Cabinet	SGCC

Shake Table Test Setup Test #1

UUT Designation	UUT-14
Identification No.	ARNU053SBL4
Attachment Method	Wall unit: mounted to manufacturer's bracket w/ (4) #10 screws and to vertical fixture w/ (3) 3/8" diameter Grade 2 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 2013	AC 156	2.95	1.0	4.72	3.54	1.98	0.8



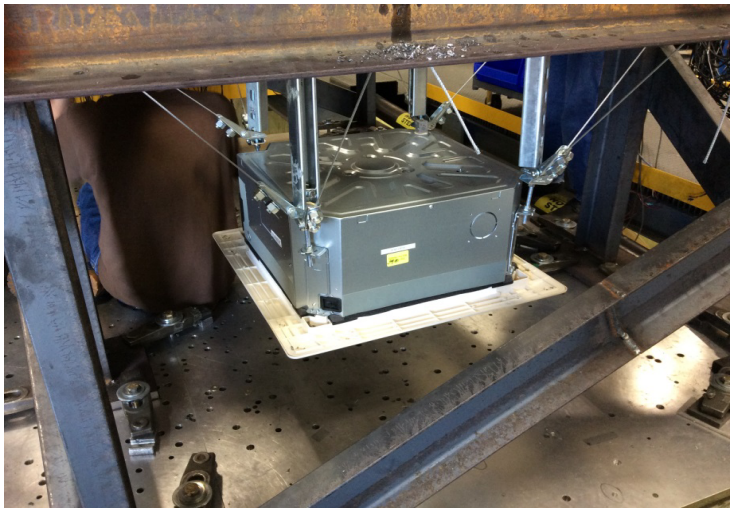
Notes: The UUT was full of contents (refrigerant & water) during the test.
The structural integrity of the component attachments and force-resisting systems was maintained
After the test, the UUT was functional and operated within LG operational limits.

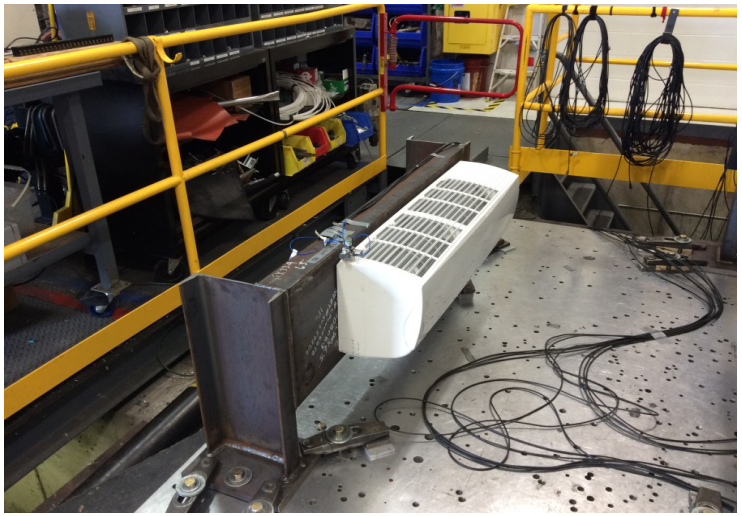
Shake Table Test Setup Test #2

UUT Designation	UUT-11, UUT-15
Identification No.	ARNU183TQC4, ARNU243SCL4
Attachment Method	Indoor units: suspended from steel fixture using (4) 3/8" dia x 1'-6" long A36 hanger rods w/ Unistrut P2485k seismic cradle clip assembly. (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips ea end were provided at 45 degrees at each corner, in each orthogonal direction. Wall units: mounted to manufacturer's bracket w/ (4) #10 screws and to vertical fixture w/ (3) 3/8" diameter Grade 2 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 2013	AC 156	2.95	1.0	4.72	3.54	1.98	0.8





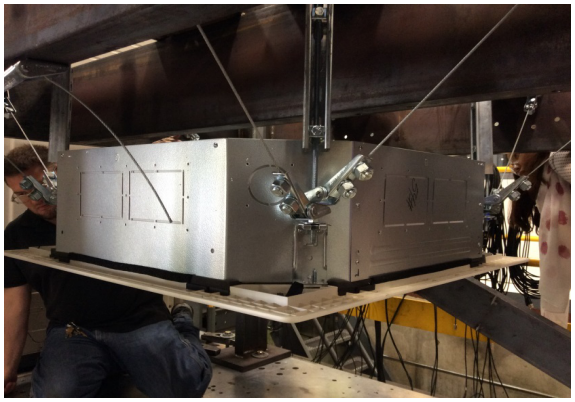
Notes: The UUT's were full of contents (refrigerant & water) during the test.
The structural integrity of the component attachments and force-resisting systems was maintained on all UUT's
After the test, all UUT's were functional and operated within LG operational limits

Shake Table Test Setup Test #3

UUT Designation	UUT-1, UUT-3, UUT-10, UUT-12
Identification No.	ARUN072DTE4, ARUB096BTE4, ARNU053TRC4, ARNU363TNC4
Attachment Method	Outdoor units: base mounted to shake table w/ (8) 3/8" dia. Grade 8 bolts. Indoor units: suspended from steel fixture using (4) 3/8" dia x 1'-6" long A36 hanger rods w/ Unistrut P2485k seismic cradle clip assembly. (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips ea end were provided at 45 degrees at each corner, in each orthogonal direction.

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 2013	AC 156	2.95	1.0	4.72	3.54	1.98	0.8



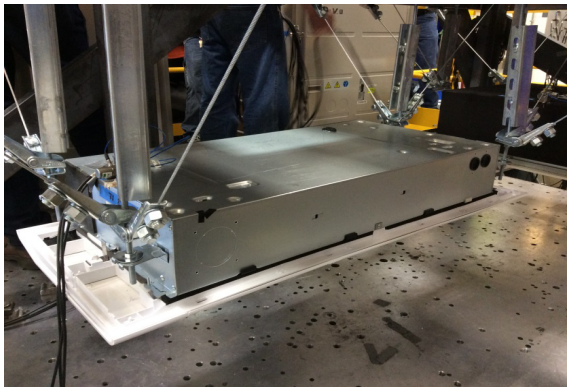
Notes: The UUT's were full of contents (refrigerant & water) during the test.
The structural integrity of the component attachments and force-resisting systems was maintained on all UUT's
After the test, all UUT's were functional and operated within LG operational limits

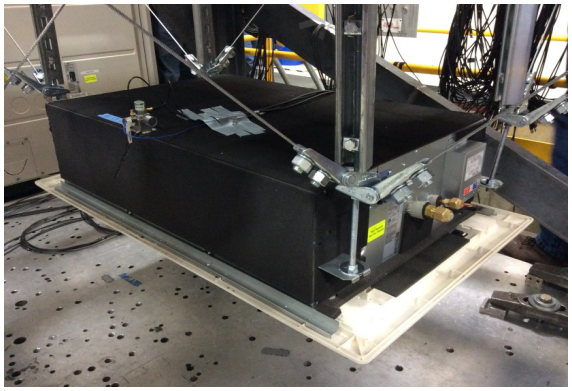
Shake Table Test Setup Test #4

UUT Designation	UUT-2, UUT-4, UUT-8, UUT-9
Identification No.	ARUB072BTE4, ARUB169DTE4, ARNU123TUC4, ARNU243TLC4
Attachment Method	Outdoor units: base mounted to shake table w/ (8) 3/8" dia. Grade 8 bolts. Indoor units: suspended from steel fixture using (4) 3/8" dia x 1'-6" long A36 hanger rods w/ Unistrut P2485k seismic cradle clip assembly. (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips ea end were provided at 45 degrees at each corner, in each orthogonal direction.

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 2013	AC 156	2.95	1.0	4.72	3.54	1.98	0.8





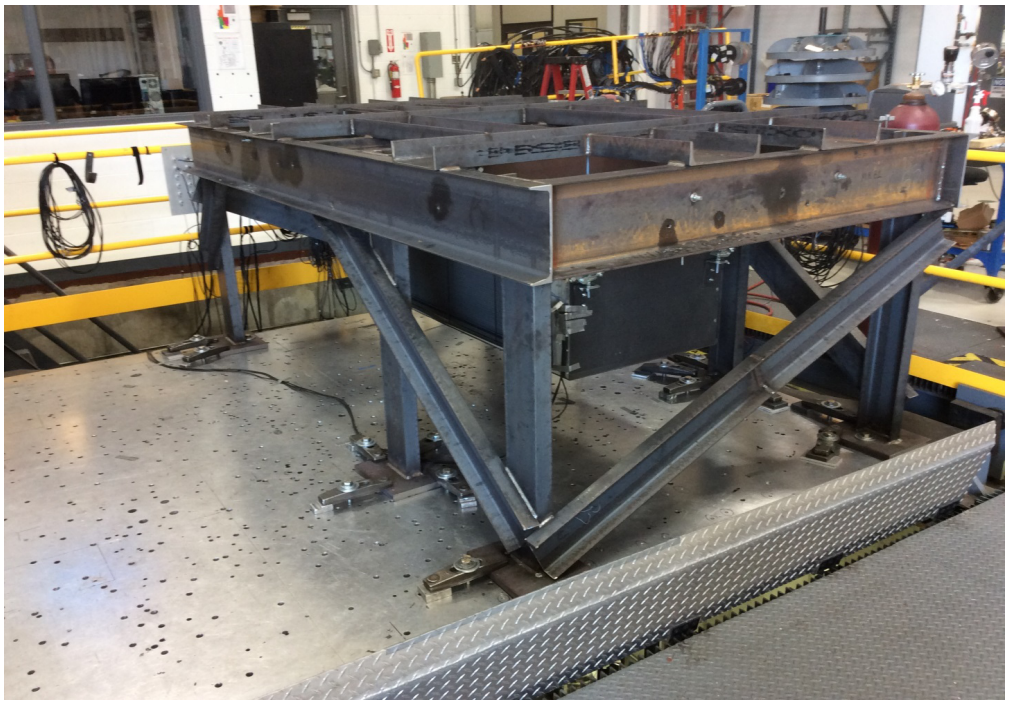
Notes: The UUT's were full of contents (refrigerant & water) during the test.
The structural integrity of the component attachments and force-resisting systems was maintained on all UUT's
After the test, all UUT's were functional and operated within LG operational limits

Shake Table Test Setup Test #5

UUT Designation	UUT-7
Identification No.	ARNU963B8A4
Attachment Method	Indoor units: suspended from steel fixture using (4) 3/8" dia x 1'-6" long A36 hanger rods w/ Unistrut P2485k seismic cradle clip assembly. (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips ea end were provided at 45 degrees at each corner, in each orthogonal direction.

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 2013	AC 156	2.95	1.0	4.72	3.54	1.98	0.8



Notes: The UUT was full of contents (refrigerant & water) during the test
The structural integrity of the component attachments and force-resisting systems was maintained
After the test, the UUT was functional and operated within LG operational limits

Shake Table Test Setup Test #6

UUT Designation	UUT-5, UUT-16
Identification No.	ARNU073BGA4, PRHR042A
Attachment Method	Indoor units: suspended from steel fixture using (4) 3/8" dia x 1'-6" long A36 hanger rods w/ Unistrut P2485k seismic cradle clip assembly. (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips ea end were provided at 45 degrees at each corner, in each orthogonal direction.

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 2013	AC 156	2.95	1.0	4.72	3.54	1.98	0.8

Notes: The UUT's were full of contents (refrigerant & water) during the test.
The structural integrity of the component attachments and force-resisting systems was maintained on all UUT's
After the test, all UUT's were functional and operated within LG operational limits

Shake Table Test Setup Test #7

UUT Designation	UUT-6
Identification No.	ARNU543BRA4
Attachment Method	Indoor units: suspended from steel fixture using (4) 3/8" dia x 1'-6" long A36 hanger rods w/ Unistrut P2485k seismic cradle clip assembly. (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips ea end were provided at 45 degrees at each corner, in each orthogonal direction.

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 2013	AC 156	2.95	1.0	4.72	3.54	1.98	0.8

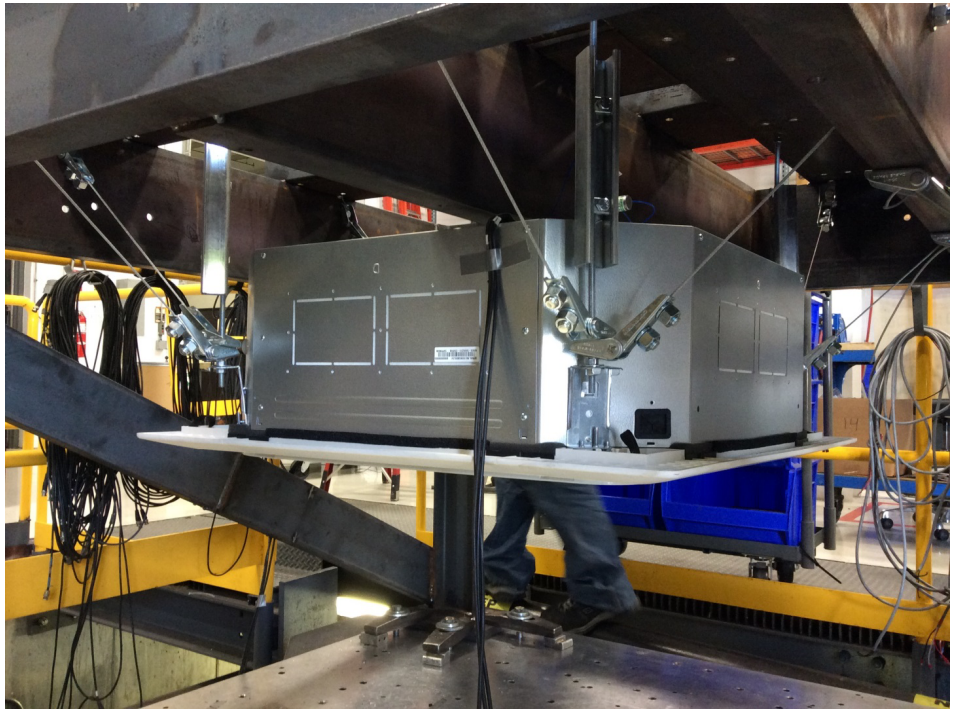
Notes: The UUT was full of contents (refrigerant & water) during the test
The structural integrity of the component attachments and force-resisting systems was maintained
After the test, the UUT was functional and operated within LG operational limits

Shake Table Test Setup Test #8

UUT Designation	UUT-13
Identification No.	ARNU483TMC4
Attachment Method	Indoor units: suspended from steel fixture using (4) 3/8" dia x 1'-6" long A36 hanger rods w/ Unistrut P2485k seismic cradle clip assembly. (8) 1/8" dia aircraft cable braces w/ Mason SCB-1 clips ea end were provided at 45 degrees at each corner, in each orthogonal direction.

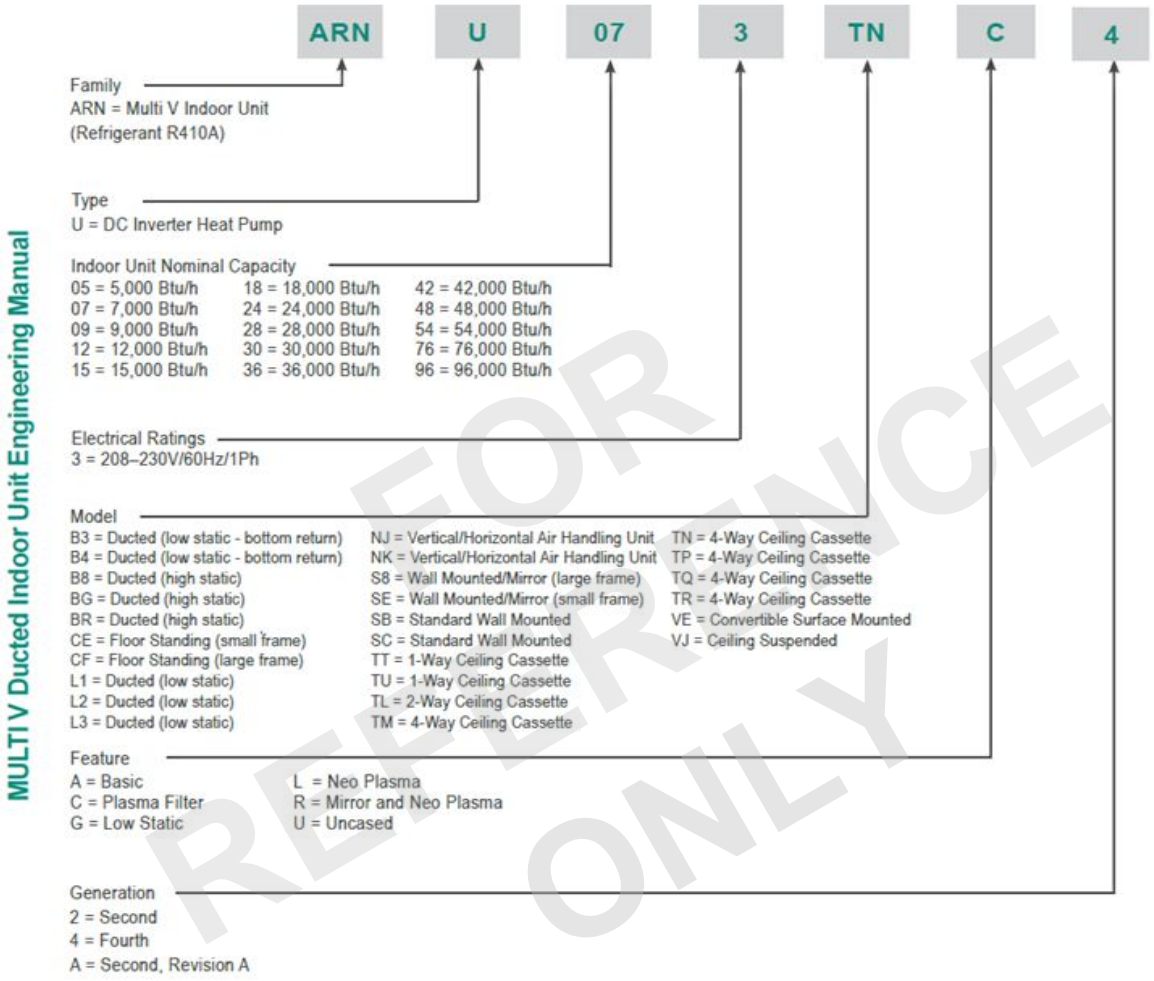
Seismic Parameters

Building Code	Test Criteria	S_{DS} (g)	z/h	Horizontal		Vertical	
				A_{FLX-H}	A_{RIG-H}	A_{FLX-V}	A_{RIG-V}
CBC 2013	AC 156	2.95	1.0	4.72	3.54	1.98	0.8



Notes: The UUT was full of contents (refrigerant & water) during the test
The structural integrity of the component attachments and force-resisting systems was maintained
After the test, the UUT was functional and operated within LG operational limits

Model Number Nomenclature



FOR REFERENCE ONLY

2. Multiple combinations of the units listed above can be used in LG specified system model configurations of dual and triple fran

These combinations of outdoor units are included in the scope of this seismic certification.

Outdoor Units (ODU)

MULTI V IV Outdoor Unit Engineering Manual

ARU	N	072	B	T	E	4

Family
ARU = Multi V Outdoor Unit (Refrigerant R410A)

Type
N = Inverter Heat Pump
B = Inverter Heat Recovery

Nominal Capacity
(Nominal cooling capacity in Btu/h)

072 = 72,000	192 = 192,000	312 = 312,000	432 = 432,000
096 = 96,000	216 = 216,000	336 = 336,000	456 = 456,000
121 = 121,000	240 = 240,000	360 = 360,000	480 = 480,000
144 = 144,000	264 = 264,000	384 = 384,000	504 = 504,000
168 = 168,000	288 = 288,000	408 = 408,000	

Electrical Ratings
B = 208–230V/60Hz/3Ph
D = 460V/60Hz/3Ph

Airflow Configuration
T = Top Discharge

Efficiency
E = High Efficiency

Generation
4 = Fourth

FOR REFERENCE ONLY

Heat Recovery Units (HRU)

PRHR	02	2A

Family
PRHR = Multi V Heat Recovery (HR) unit (Refrigerant R410A)

Number of Ports
02 = Two Ports
03 = Three Ports
04 = Four Ports

Series Number
2A = Series Number

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