



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT**

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

OFFICE USE ONLY

APPLICATION #: OSP-0093

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: ABB Inc.

Manufacturer's Technical Representative: Michael Bryant

Mailing Address: 6801 Industrial Drive, Mebane, NC 273028603

Telephone: (919) 563-7316

Email: mike.r.bryant@us.abb.com

Product Information

Product Name: ReliaGear LV MCC

Product Model Number(s): ReliaGear LV MCC

Product Category: Motor Control Centers

Product Sub-Category: Motor Control Centers - Low Voltage

General Description: Low voltage motor control centers consisting of up to 3200A bus, starters with motor circuit protectors, variable frequency drives, and softstarters.

Mounting Description: Rigid -

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

Applicant Information

Applicant Company Name: WE Gundy & Associates, Inc

Contact Person: Travis Soppe

Mailing Address: PO Box 9121, Boise, ID 83707

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Title: President





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OFFICE OF STATEWIDE HOSPITAL PLANNING AND DEVELOPMENT

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

Company Name: W.E. GUNDY & ASSOCIATES INC.
Name: Travis Soppe California License Number: S6115
Mailing Address: P.O. Box 9121, Boise, ID 83707
Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Certification Method

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

Testing Laboratory

Company Name: CLARK TESTING LABORATORY, INC.
Contact Person: Suzanne Mazon
Mailing Address: 1801 Route 51, Jefferson Hills PA 15025
Telephone: (412) 387-1001 Email: smazon@clarktesting.com

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

Company Name: WYLE LABORATORIES
Contact Person: Rod Thornberry
Mailing Address: 7800 Highway 20 West, Huntsville AL 35806
Telephone: (256) 837-4411 Email: _____





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.50 for SDS = 2.0 at z/h = 1 and 1.13 for SDS = 2.5 at z/h = 0

SDS (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1.0) and 2.50 (z/h = 0.0)

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

HCAI Approval (For Office Use Only) - Approval Expires on 07/31/2030

Date: 7/31/2024

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.0 z/h = 1

Condition of Approval (if applicable): DATE: 7/31/2024

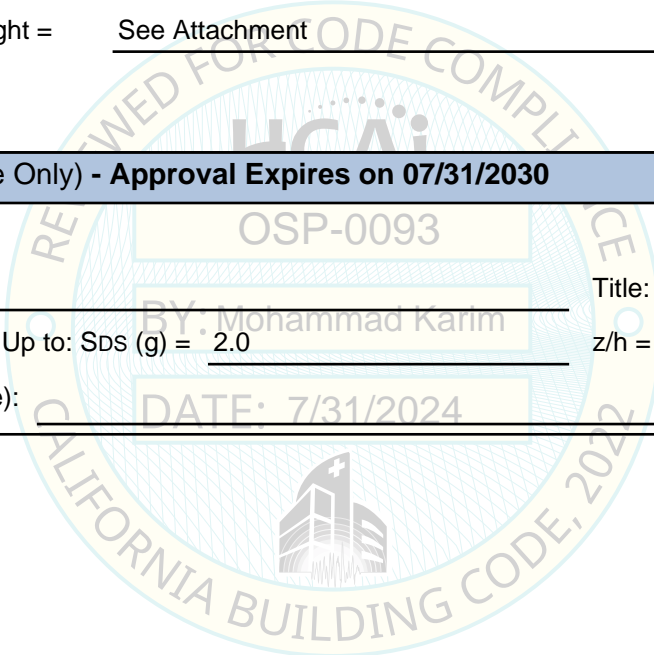




TABLE 1	ABB RELIAGEAR LOW VOLTAGE MCC CERTIFIED PRODUCT LINE MATRIX							
	Identification	Main Bus Amperage	NEMA ¹	Width (in)	Depth (in)	Height (in)	Weight (lbs)	
MCC-1200	1200A	1	36	20	90	510	46	UUT _u -10
MCC-800	800A	1	30	20	91.6	650	22	UUT _v -3A
MCC-600/800	600A/800A	1, 2, 12	20 - 30	20 - 30	90 - 112	350-750	40	interpolated
MCC-600/800	600A/800A	1, 2, 12	30 - 36	20 - 30	90 - 112	350-750	45	interpolated
MCC-3200	3200A	1	24	30	96	847	51	UUT _w -4B
MCC-600/800	600A/800A	3R	20 - 30	27 - 42.5	102.5	350-850	43	interpolated
MCC-600/800	600A/800A	3R	30 - 36	27 - 42.5	102.5	350-850	54	interpolated
MCC-1200/1600	1200A/1600A	1, 2, 12	20 - 30	20 - 30	90 - 112	550-950	38	interpolated
MCC-1200	1200A	3R	20 - 36	27 - 42.5	102.5	550-1150	38	interpolated
MCC-1200/1600	1200A/1600A	1, 2, 12	30 - 36	20 - 30	90 - 112	550-1250	38	interpolated
MCC-3200	3200A	3R	36	45.3	104.7	1328	38	UUT _v -7B
MCC-1600	1600A	3R	20 - 30	27 - 42.5	102.5	550-1150	38	interpolated
MCC-1600	1600A	3R	30 - 36	27 - 42.5	102.5	550-1350	45	interpolated
MCC-3200	3200A	1	36	30	96	1402	51	UUT _w -4A
MCC-2000	2000A	1, 2, 12	20 - 30	20 - 30	90 - 112	550-1250	35	interpolated
MCC-2000	2000A	1, 2, 12	30 - 36	20 - 30	90 - 112	550-1450	36	interpolated
MCC-3200	3200A	3R	40	44	102.3	1503	50	UUT _w -1A
MCC-2000	2000A	3R	20 - 30	27 - 42.5	102.5	550-1350	36	interpolated
MCC-2000	2000A	3R	30 - 36	27 - 42.5	102.5	550-1550	44	interpolated
MCC-3200	3200A	3R	24	45.3	104.7	1600	35	UUT _v -7A
MCC-3200	3200A	3R	36	45.3	105.3	1600	39	UUT _v -2B
MCC-2500	2500A	1, 2, 12	20 - 30	20 - 30	90 - 112	750-1250	33	interpolated
MCC-2500	2500A	1, 2, 12	30 - 36	20 - 30	90 - 112	750-1650	34	interpolated
MCC-3200	3200A	3R	36	44	102.3	1701	41	UUT _w -1B
MCC-3200	3200A	1, 2, 12	20 - 30	20 - 30	90 - 112	750-1350	32	interpolated
MCC-3200	3200A	1, 2, 12	30 - 36	20 - 30	90 - 112	750-1750	33	interpolated
MCC-2500/3200	2500A/3200A	3R	20 - 30	27 - 42.5	102.5	750-1350	35	interpolated
MCC-2500/3200	2500A/3200A	3R	30 - 36	27 - 42.5	102.5	750-1800	40	interpolated
MCC-3200	3200A	3R	36	27 - 42.5	102.5	750-2200	39	interpolated
MCC-3200	3200A	3R	40	45.3	105.3	2186	55	UUT _v -2A

General Notes:

¹ NEMA 1,2, 12 & 3R enclosures are constructed of carbon steel. The enclosure design is identical for the 1, 2, and 12 designs therefore the rating is listed as 1, 2, 12.

² Subscript indicates the stest report in which the units were qualified:
_u - 17244 / _v - 17179 / _w - 16991 / _x - 52870-1 / _y - 8639 / _z - 3380-R

³ Multiple UUT's were seismically tested to seismically certify the variety of sub-components of the MCC product line. The heavier, more seismically vulnerable tested sections are listed in the product matrix on the first page for interpolation of the product line. The remainder of the tested UUT's (< 850lb) are presented on the second page. The UUT's tested prior to 2023 do not have listed center of gravities.

TABLE 1	ABB RELIAGEAR LOW VOLTAGE MCC CERTIFIED PRODUCT LINE MATRIX							 WEGAI <small>W. E. GUNDY & ASSOCIATES, INC.</small> <small>STRUCTURAL & EARTHQUAKE ENGINEERING</small>
	Identification	Main Bus Amperage	NEMA ¹	Width (in)	Depth (in)	Height (in)	Weight (lbs)	
MCC-1200	1200A	1	30	20	90	311	48	UUT _u -9A
MCC-600	600A	1	20	20	90	339	45	UUT _u -11A
MCC-600	600A	1	20	20	90	361	49	UUT _w -8A
MCC-600	600A	1	20	20	91.6	368	50	UUT _v -6A
MCC-800	800A	1	20	20	92	378	NA	UUT _z -3A
MCC-600	600A	1	20	20	90	383	NA	UUT _z -4A
MCC-600	600A	1	20	20	90	383	NA	UUT _z -4C
MCC-600	600A	1	20	20	90	400	48	UUT _u -11B
MCC-600	600A	1	20	20	91.6	400	50	UUT _v -6B
MCC-1200	1200A	1	30	20	90	430	54	UUT _u -9B
MCC-600	600A	1	20	20	90	451	NA	UUT _y -2
MCC-1200	1200A	1	20	20	91.6	470	38	UUT _v -5B
MCC-600	600A	1	20	20	112	478	NA	UUT _z -4B
MCC-1200	1200A	1	36	20	90	510	46	UUT _u -10
MCC-800	800A	1	30	20	91.6	568	64	UUT _v -3B
MCC-600	600A	1	20	20	90	550	NA	UUT _x -A
MCC-800	800A	1	30	20	92	568	NA	UUT _z -3B
MCC-600	600A	1	20	20	90	572	NA	UUT _x -B
MCC-1200	1200A	1	20	20	91.6	648	35	UUT _v -5A
MCC-3200	3200A	1	24	30	96	748	51	UUT _w -4C
MCC-600	600A	1	20	20	92	749	26	UUT _w -8B
MCC-600	600A	3R	20	20	102.5	823	NA	UUT _z -1B
MCC-600	600A	3R	20	20	102.5	823	NA	UUT _z -1A

General Notes:

¹ NEMA 1,2, 12 & 3R enclosures are constructed of carbon steel. The enclosure design is identical for the 1, 2, and 12 designs therefore the rating is listed as 1, 2, 12.

² Subscript indicates the stest report in which the units were qualified:
_u - 17244 / _v - 17179 / _w - 16991 / _x - 52870-1 / _y - 8639 / _z - 3380-R

³ Multiple UUT's were seismically tested to seismically certify the variety of sub-components of the MCC product line. The heavier sections are listed in the product matrix on the first page for interpolation and the remainder of the tested UUT's are presented on the second page.

TABLE 2

**ABB RELIAGEAR LOW VOLTAGE MCC
CERTIFIED SUBCOMPONENT MATRICES**



ID/Catalog Number	Manufacturer	Description	Weight (lbs)	Representative UUT ¹
Molded Case Circuit Breakers / Switches				
1SDA*R1	ABB	3.2-125 A Tmax XT1 / XT1-D	1 - 3	extrapolated
1SDA*R1	ABB	15-125 A Tmax XT2 / XT2-D	2 - 4	extrapolated
1SDA074830R1	ABB	125A Tmax XT2	4	UUT _w -1B
1SDA*R1	ABB	80-225 A Tmax XT3 / XT3-D	3 - 5	interpolated
1SDA*R1	ABB	25-250 A Tmax XT4 / XT4-D	5 - 8	interpolated
1SDA075459R1	ABB	250A Tmax XT4	5	UUT _v -5B
1SDA*R1	ABB	300-600 A Tmax XT5 / XT5-D	7 - 10	interpolated
1SDA102522R1	ABB	400 A Tmax XT5	9	UUT _v -3B
1SDA*R1	ABB	600-800 A Tmax XT6 / XT6-D	21 - 27	interpolated
1SDA*R1	ABB	600-1200 A Tmax XT7 / XT7-D	21 - 28	interpolated
1SDA103000R1	ABB	600-1200 A Tmax XT7	28	UUT _v -3A / UUT _v -5A
Air Circuit Breakers				
S*	GE	15-30 A S* Type	5 - 6	extrapolated
SELA36AI0030	GE	30A S* Type	6	UUT _x -1 / UUT _x -2
S*	GE	30-400A S* Type	7 - 16	interpolated
SGLA36AI0400	GE	400A S* Type	16	UUT _x -1 / UUT _x -2
S*	GE	400-600A S* Type	14 - 16	interpolated
SGLA36AI0600	GE	600A S* Type	16	UUT _y -2
S*	GE	600-1200A S* Type	42 - 48	interpolated
SKPA36AT1200	GE	1200A S* Type	48	UUT _z -3
Z1****A	ABB	E _{max} E1.2 250-1200A	31 - 35	extrapolated
Z1****A	ABB	E _{max} 1.2 250A-1200A (Draw-out)	90 - 103	extrapolated
Z2HCUFBE000A000000XA	ABB	E _{max} 2 E2.2 800A	115	UUT _w -4C
Z2HEUJAE000A000000XA	ABB	E _{max} 2 E2.2 1600A (Draw-out)	128	UUT _w -4B
Z2****A	ABB	E _{max} 2 E2.2 800A-2000A	115 - 148	interpolated
Z2****B	ABB	E _{max} 2 E2.2 800A-1600A (Draw-out)	128 - 150	interpolated
Z2****B	ABB	E _{max} 2 E2.2 2000A (Draw-out)	135 - 239	interpolated
Z4****A	ABB	E _{max} 2 E4.2 800A-3200A	161 - 203	interpolated
Z4VHUNBE000A000000XA	ABB	E _{max} 2 E4.2 3200A	201	UUT _w -4A
Z4****B	ABB	E _{max} 2 E4.2 800A-2500A (Draw-out)	261	interpolated
Z4VHUNAE000A000000XB	ABB	E _{max} 2 E4.2 3200A (Draw-out)	300	UUT _v -2A
General Notes:				


TABLE 2		ABB RELIAGEAR LOW VOLTAGE MCC CERTIFIED SUBCOMPONENT MATRICES			 W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING
ID/Catalog Number	Manufacturer	Description	Weight (lbs)	Representative UUT ¹	
Drives					
ACS580-01-017A-2	ABB	ACS580 R1	10	UUT _v -6B	
AC*580-01-*-*	ABB	AC*580 R1 to R9	10 - 214	interpolated	
AC*580-04-*-*	ABB	AC*580 R10	357	interpolated	
ACS580-04-820A-4	ABB	ACS580 R11	441	UUT _v -2B	
Starters					
AF26-30-00-13 (1SBL237001)	ABB	Size 1	1	UUT _v -5B	
AF*	ABB	Size 1 - 7	1 - 33	interpolated	
AF750-30-11 (1SFL637001)	ABB	Size 7	33	UUT _v -3A	
CR306C104	GE / ABB	Size 1	4	UUT _z -1	
CR360L*	GE / ABB	Open Lighting Contactor 30A - 200A	3 - 48	interpolated	
CR309*	GE / ABB	FVR Size 00 - 4	7 - 49	interpolated	
CR305*	GE / ABB	FVNR Size 1 - 6	1 - 50	interpolated	
CR306*	GE / ABB	Size 00 - 5	4 - 55	interpolated	
CR306HH104	GE / ABB	Size 5	55	UUT _x -1 / UUT _x -2	
CR309S002BHD	GE / ABB	FVR Size 5	115	UUT _v -3B	
169C6383CEG1	GE / ABB	Vacuum FVNR Size 4	27	UUT _z -4	
169C6*	GE / ABB	Vacuum FVNR Size 4 - 6	27	interpolated	
169C6383BXG3	GE / ABB	Vacuum FVNR Size 6	27	UUT _z -3	
V201K4CU	EATON	Vacuum Contactor FVNR Size 4	1	UUT _z -4	
V201K*	EATON	Vacuum Contactor FVNR Size 4 - 6	1 - 32	interpolated	
V201K6CJZ1	EATON	Vacuum Contactor FVNR Size 6	32	UUT _z -3	
Solid State Starters					
PSTX45-600-70	ABB	PSTX 45 A	10	UUT _v -5B	
PSTX*-600-70	ABB	PSTX 30 - 570 A	10 - 60	interpolated	
PSTX570-600-70	ABB	PSTX 570 A	60	UUT _v -3A	
QT10008U11DS	GE	RV XT (SSS) Size 1	4	UUT _z -1	
QC2GDP	GE	RV BP(SSS) Size 1	7	UUT _z -1	
QT20580U11DS	GE	RV XT (SSS) Size 6	70	UUT _z -3	
QC2TDP	GE	RV BP(SSS) Size 6	84	UUT _z -3	
General Notes:					
CR309* starter consists of (2) CR305* starters with interlock mechanism					


TABLE 2		ABB RELIAGEAR LOW VOLTAGE MCC CERTIFIED SUBCOMPONENT MATRICES			 WEGAI <small>W.E. GUNDY & ASSOCIATES, INC.</small> <small>STRUCTURAL & EARTHQUAKE ENGINEERING</small>
ID/Catalog Number	Manufacturer	Description	Weight (lbs)	Representative UUT ¹	
Transformers (CPT, Potential, and Distribution)					
M9T22B4311	AFP	5kVA	80	UUT _v -5B	
M9T22B43** / 87021*****	AFP	5kVA - 25 kVA	80 - 160	interpolated	
M9T22B43** / 87021*****	AFP	25kVA	160	UUT _w -8B	
830014200	AFP	37.5kVA	350	UUT _v -7B	
9T58K*	GE / ABB	0.05kVA - 0.15kVA 208V - 600V	3	extrapolated	
9T58K0504G37	GE / ABB	0.15kVA	6	UUT _x -1 / UUT _x -2	
9T58K*	GE / ABB	0.15kVA - 0.30kVA 208V - 600V	6 - 8	interpolated	
9T58R0507G76	GE / ABB	0.30kVA	8	UUT _z -3 / UUT _z -4	
9T58K*	GE / ABB	0.30kVA - 0.50kVA 208V - 600V	8 - 12	interpolated	
9T58R0000G09	GE / ABB	0.50kVA	12	UUT _z -3	
9T58K1810	GE / ABB	0.50kVA	12	UUT _v -3B	
9T58K2983	GE / ABB	3kVA	47	UUT _w -1B	
9T58K*	GE / ABB	0.50kVA - 3kVA 240V - 600V	12 - 52	interpolated	
9T58K2815	GE / ABB	3kVA	52	UUT _w -8B	
9T*	GE / ABB	3kVA - 7.5kVA	47 - 388	interpolated	
9T21B9110	GE / ABB	25kVA	388	UUT _v -7A	
9T*	GE / ABB	30kVA - 45kVA	297 - 480	interpolated	
9T10V1003	GE / ABB	45kVA	480	UUT _w -1B	
2VT469-480	GE-ITI	VT	5	UUT _z -1	
3P528-301	GE-ITI	CT for NEMA 5 & 6	12	UUT _v -3B	
B100-2989-5	MIC	CPT	4	UUT _x -1 / UUT _x -2	
B100-2989-5	Micron	0.10kVA	5	UUT _x -1	
Harmonic Filters					
273A7844CWP4	GE	Filter	1	UUT _z -1	
KDR*	TCI	1/2-200 HP Line Reactor	8 - 50	interpolated	
V1K*A00	TCI	2-250 A Load Filter	8 - 65	interpolated	
V1K250A00	TCI	250 A Load Filter	65	UUT _v -5B	
KDR*	TCI	125-500 HP Line Reactor	65 - 150	interpolated	
KDRS47H	TCI	450-500 HP Line Reactor	150	UUT _v -5A	
General Notes:					


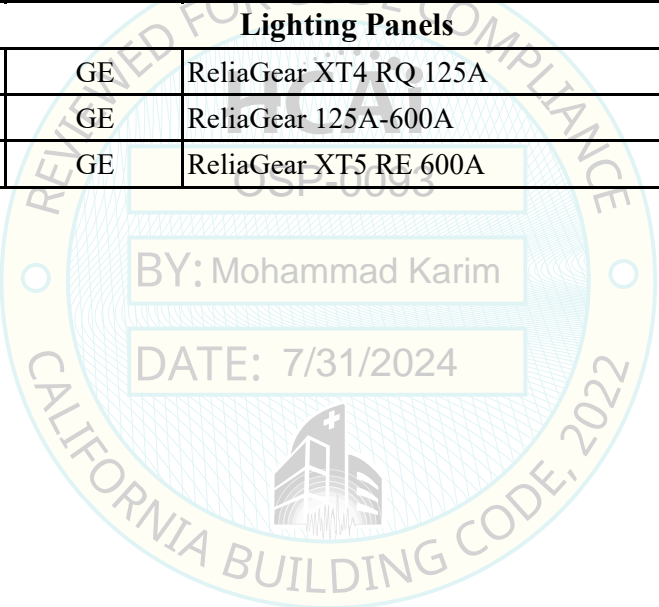

TABLE 2	ABB RELIAGEAR LOW VOLTAGE MCC CERTIFIED SUBCOMPONENT MATRICES			 WEGAI <small>W.E. GUNDY & ASSOCIATES, INC.</small> <small>STRUCTURAL & EARTHQUAKE ENGINEERING</small>
ID/Catalog Number	Manufacturer	Description	Weight (lbs)	Representative UUT ¹
Surge Protective Device (SPD)				
TPME480D06ME	GE / ABB	25kA per mode, 50kA per phase	24	UUT _z -4
TPHE*/TPME*/TME*/ATME*	GE / ABB	23kA-300kA/mode, 50kA-600kA/phase	24 - 31	interpolated
TPHE*, THE*	GE / ABB	300kA per mode, 600kA per phase	31	interpolated
TPHE480D20ME	GE / ABB	200kA per mode, 400kA per phase	31	UUT _z -1
Automatic Transfer Switches				
OXA30U3X4QT	GE / ABB	TruONE 3 Pole 30A	27	UUT _u -9A
OX*	GE / ABB	TruONE 30A - 1200A	27 - 97	interpolated
OXA1200U3S4QT	GE / ABB	TruONE 4 Pole 1200A	97	UUT _u -10
Lighting Panels				
RQF-ML-INTERIOR-N	GE	ReliaGear XT4 RQ 125A	30	UUT _u -11B
RQ*, RL*, RE*, RS*	GE	ReliaGear 125A-600A	15 - 80	interpolated
REK-SLT-INT-N	GE	ReliaGear XT5 RE 600A	80	UUT _u -9B
General Notes: <div style="text-align: center;">  <p>BY: Mohammad Karim</p> <p>DATE: 7/31/2024</p> </div>				

TABLE 3	ABB RELIAGEAR LOW VOLTAGE MCC UNIT UNDER TEST INDEX				 WEGAI <small>W.E. GUNDY & ASSOCIATES, INC.</small> <small>STRUCTURAL & EARTHQUAKE ENGINEERING</small>	
	UUT	Identification	Test Dates	Report #	Lab	Tested S _{DS} (g)
						$z / h = 1.0$
UUT _u -9A	MCC-1200	December 2023	17244	ETL	2.00	
UUT _u -9B	MCC-1200	December 2023	17244	ETL	2.00	
UUT _u -10	MCC-1200	December 2023	17244	ETL	2.00	
UUT _u -11A	MCC-600	December 2023	17244	ETL	2.00	
UUT _u -11B	MCC-600	December 2023	17244	ETL	2.00	
UUT _v -2A	MCC-3200	October 2023	17179	ETL	2.00	
UUT _v -2B	MCC-3200	October 2023	17179	ETL	2.00	
UUT _v -3A	MCC-800	October 2023	17179	ETL	2.00	
UUT _v -3B	MCC-800	October 2023	17179	ETL	2.00	
UUT _v -5A	MCC-1200	October 2023	17179	ETL	2.00	
UUT _v -5B	MCC-1200	October 2023	17179	ETL	2.00	
UUT _v -6A	MCC-600	October 2023	17179	ETL	2.00	
UUT _v -6B	MCC-600	October 2023	17179	ETL	2.00	
UUT _v -7A	MCC-3200	October 2023	17179	ETL	2.00	
UUT _v -7B	MCC-3200	October 2023	17179	ETL	2.00	
UUT _w -1A	MCC-3200	May 2023	16991	ETL	2.00	
UUT _w -1B	MCC-3200	May 2023	16991	ETL	2.00	
UUT _w -4A	MCC-3200	May 2023	16991	ETL	2.00	
UUT _w -4B	MCC-3200	May 2023	16991	ETL	2.00	
UUT _w -4C	MCC-3200	May 2023	16991	ETL	2.00	
UUT _w -8A	MCC-600	May 2023	16991	ETL	2.00	
UUT _w -8B	MCC-600	May 2023	16991	ETL	2.00	
UUT _x -A	MCC-600	December 2005	52870-1	Wyle	2.00	
UUT _x -B	MCC-600	December 2005	52870-1	Wyle	2.00	
UUT _y -2	MCC-600	November 2008	8639	Clark	2.00	
UUT _z -1A	MCC-600	December 2013	3380-R	Clark	2.25	
UUT _z -1B	MCC-600	December 2013	3380-R	Clark	2.25	
UUT _z -3A	MCC-800	December 2013	3380-R	Clark	2.00	
UUT _z -3B	MCC-800	December 2013	3380-R	Clark	2.00	
UUT _z -4A	MCC-600	December 2013	3380-R	Clark	2.50	
UUT _z -4B	MCC-600	December 2013	3380-R	Clark	2.50	
UUT _z -4C	MCC-600	December 2013	3380-R	Clark	2.50	

UUT_u-9A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.

UUT_u-9A



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 1200A Reliagear LV MCC	Test Date: December 2023
Model Number: MCC-1200	Report Number: 17244
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 1200A main bus and ABB TruONE 3 pole 30A ATS	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
311	30.0	20.0	90.0	5.3	6.5	30.0

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_u-9B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 1200A Reliagear LV MCC	Test Date: December 2023
Model Number: MCC-1200	Report Number: 17244
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 1200A main bus and ReliaGear XT5 RE 600A lighting panel	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
430	30.0	20.0	90	5.3	6.5	30.0

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLEX-H} (g)	A _{RIG-H} (g)	A _{FLEX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_u-10

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 1200A Reliagear LV MCC	Test Date: December 2023
Model Number: MCC-1200	Report Number: 17244

UUT Function: Electrical operation and control of motors for industrial applications

UUT Description: NEMA 1 carbon steel enclosure with 1200A main bus and ABB TruONE 4 Pole 1200A ATS

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
510	36	20	90	7.4	7.1	26.4

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_u-11A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.

UUT_u-11A



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 600A Reliagear LV MCC	Test Date: December 2023
Model Number: MCC-600	Report Number: 17244
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 600A main bus (MLO)	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
339	20.0	20.0	90.0	8.4	7.9	29.8

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_u-11B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



UUT_u-11B

Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 600A Reliagear LV MCC	Test Date: December 2023
Model Number: MCC-600	Report Number: 17244
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 600A main bus and ReliaGear XT4 RQ 125A lighting panel	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
400	20.0	20.0	90.0	8.4	7.9	29.8

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_v-2A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.

UUT_v-2A



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 3200A Reliagear LV MCC	Test Date: October 2023
Model Number: MCC-3200	Report Number: 17179
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 3R carbon steel enclosure with 3200A main bus, ABB Emax2 E4.2 3200A draw-out circuit breaker	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
2,186	40.0	45.3	105.3	4.6	6.5	23.5

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_v-2B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



UUT_v-2B

Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 3200A Reliagear LV MCC	Test Date: October 2023
Model Number: MCC-3200	Report Number: 17179
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 3R carbon steel enclosure with 3200A main bus and ABB ACS580 R11 drive	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,600	36.0	45.3	105.3	4.6	6.5	23.5

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_v-3A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.

UUT_v-3A



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 800A Reliagear LV MCC	Test Date: October 2023
Model Number: MCC-800	Report Number: 17179
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 800A main bus, ABB 1200A Tmax XT7 circuit breaker, ABB Size 7 starter, and ABB PSTX 570A solid state starter	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
650	30.0	20.0	91.6	7.2	8.3	24.0

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_v-3B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



UUT_v-3B

Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 800A Reliagear LV MCC	Test Date: October 2023
Model Number: MCC-800	Report Number: 17179
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 800A main bus, ABB 400A Tmax XT5 circuit breaker, ABB FVR Size 5 starter, ABB 0.50kVA transformer, and GE ITI NEMA 5 & 6 CT	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
568	30.0	20.0	91.6	7.2	8.3	24.0

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_v-5A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.

UUT_v-5A



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 1200A Reliagear LV MCC	Test Date: October 2023
Model Number: MCC-1200	Report Number: 17179

UUT Function: Electrical operation and control of motors for industrial applications

UUT Description: NEMA 1 carbon steel enclosure with 1200A main bus, ABB Tmax XT7 circuit breaker, and TCI 450-500 HP line reactor

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
648	20.0	20.0	91.6	8.4	7.2	19.6

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_v-5B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



UUT_v-5B

Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 1200A Reliagear LV MCC	Test Date: October 2023
Model Number: MCC-1200	Report Number: 17179
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 1200A main bus, ABB Tmax XT4 circuit breaker, ABB Size 1 starter, ABB PSTX 45A solid state starter, AFP 5kVA transformer, and TCI 250A load filter	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
470	20.0	20.0	91.6	8.4	7.2	19.6

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_v-6A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.

UUT_v-6A



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 600A Reliagear LV MCC	Test Date: October 2023
Model Number: MCC-600	Report Number: 17179
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 600A main bus (MLO)	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
368	20.0	20.0	91.6	10.4	9.3	17.6

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_v-6B

UNIT UNDER TEST (UUT) SUMMARY SHEET



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



UUT_v-6B

Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 600A Reliagear LV MCC	Test Date: October 2023
Model Number: MCC-600	Report Number: 17179
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 600A main bus and ABB ACS580 R1 drive	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
400	20.0	20.0	91.6	10.4	9.3	17.6

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_v-7A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.

UUT_v-7A



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 3200A Reliagear LV MCC	Test Date: October 2023
Model Number: MCC-3200	Report Number: 17179
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 3R carbon steel enclosure with 3200A main bus and ABB 25kVA transformer	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,600	24.0	45.3	104.7	5.4	3.9	5.3

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_v-7B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



UUT_v-7B

Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 3200A Reliagear LV MCC	Test Date: October 2023
Model Number: MCC-3200	Report Number: 17179
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 3R carbon steel enclosure with 3200A main bus and AFP 37.5kVA transformer	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,328	36.0	45.3	104.7	5.4	3.9	5.3

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_w-1A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.

UUT_w-1A



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 3200A Reliagear LV MCC	Test Date: May 2023
Model Number: MCC-3200	Report Number: 16991
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 3R carbon steel enclosure with 3200A main bus (MLO)	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,503	40.0	44.0	102.3	3.2	3.8	19.4

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_w-1B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



UUT_w-1B

Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 3200A Reliagear LV MCC	Test Date: May 2023
Model Number: MCC-3200	Report Number: 16991
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 3R carbon steel enclosure with 125A ABB Tmax XT2 Circuit Breaker, 45kVA ABB distribution transformer and 3kVA ABB CPT	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,701	36.0	44.0	102.3	3.2	3.8	19.4

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_w-4A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 3200A Reliagear LV MCC	Test Date: May 2023
Model Number: MCC-3200	Report Number: 16991
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 3200A bus and ABB Emax E4.2 circuit breaker (3200A Fixed)	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,402	36.0	30.0	96.0	6.0	7.3	15.8

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_w-4B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 3200A ReliGear LV MCC	Test Date: May 2023
Model Number: MCC-3200	Report Number: 16991
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 3200A bus and ABB Emax E2.2 circuit breaker (1600A Draw-out)	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
847	24.0	30.0	96.0	6.0	7.3	15.8

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_w-4C

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



UUT_w-4C

Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 3200A Reliagear LV MCC	Test Date: May 2023
Model Number: MCC-3200	Report Number: 16991
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 3200A bus and ABB Emax E2.2 circuit breaker (800A Fixed)	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
748	24.0	30.0	96.0	6.0	7.3	15.8

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

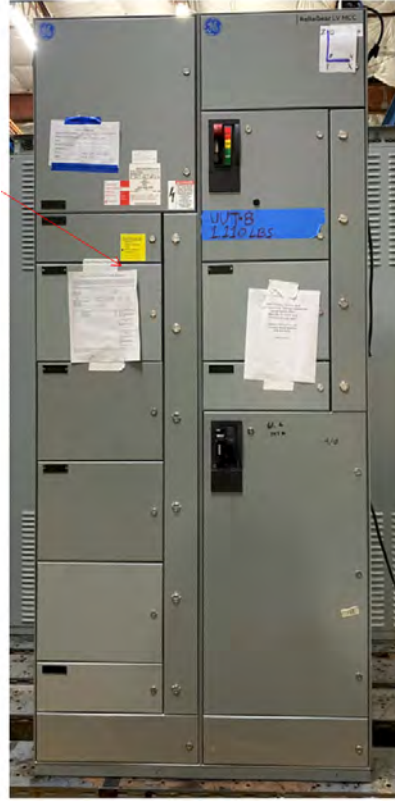
UUT_w-8A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.

UUT_w-8A



Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 600A Reliagear LV MCC	Test Date: May 2023
Model Number: MCC-600	Report Number: 16991
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 600A main bus (MLO)	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
361	20.0	20.0	92.0	7.5	6.0	20.7

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

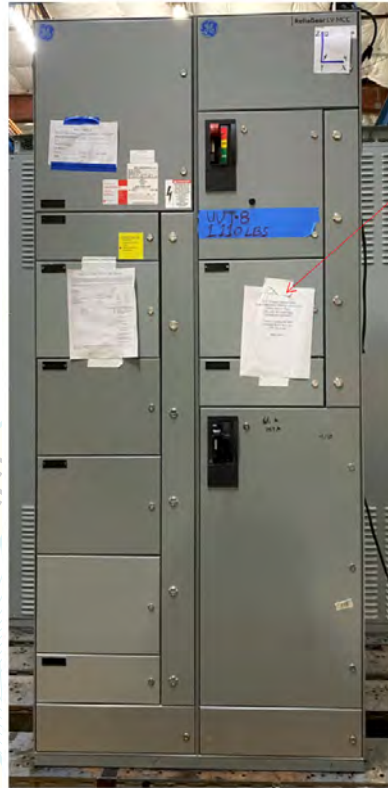
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_w-8B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



UUT_w-8B

Manufacturer: ABB, Inc.	Test Location: ETL (Dallas, TX)
Component: 600A Reliagear LV MCC	Test Date: May 2023
Model Number: MCC-600	Report Number: 16991
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 600A main bus, ABB 3kVA transformer and AFP 25kVA transformer	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
749	20.0	20.0	92.0	7.5	6.0	20.7

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{AFLX-H} (g)	A _{ARIG-H} (g)	A _{AFLX-V} (g)	A _{ARIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

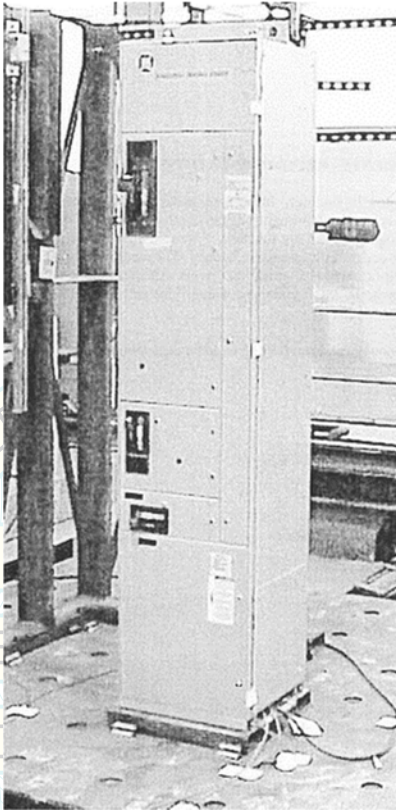
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_x-A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc.	Test Location: Wyle Laboratories (AL)
Component: 600A Evolution E9000	Test Date: December 2005
Model Number: MCC-600	Report Number: 52870-1
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 30A & 400A circuit breakers, 150VA CPT, and FVNR size 5 starter	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
550	20.0	20.0	90.0	8.7	5.1	9.7

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

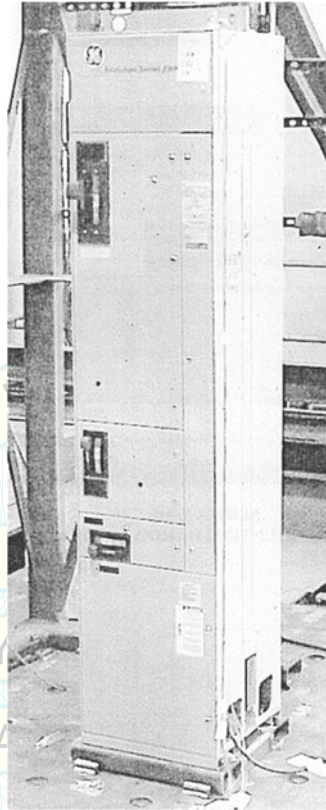
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_x-B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc.	Test Location: Wyle Laboratories (AL)
Component: 600A Evolution E9000	Test Date: December 2005
Model Number: MCC-600	Report Number: 52870-1
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 30A & 400A circuit breakers, 150VA CPT, potential transformer, and size 5 starter.	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
572	20.0	20.0	90.0	6.0	5.8	8.9

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

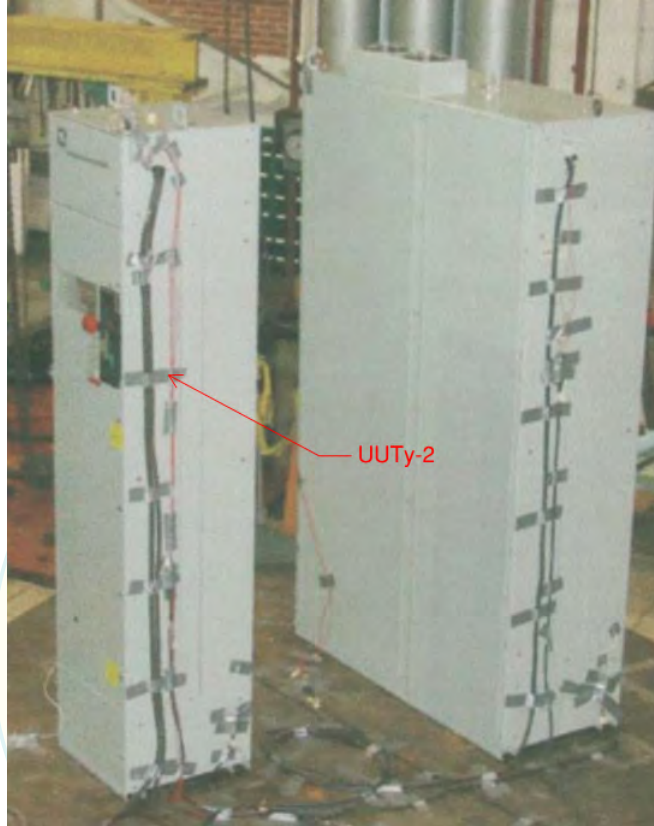
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_y-2

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc.	Test Location: Clark Testing (PA)
Component: 600A Evolution E9000 MCC	Test Date: November 2008
Model Number: MCC-600	Report Number: 8639
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 600A circuit breaker and 300VA CPT	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
451	20.0	20.0	91.5	8.6	5.4	> 33.0

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_z-1A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 8 bolts.



Manufacturer: ABB, Inc.	Test Location: Clark Testing (PA)
Component: 600A Evolution E9000 MCC	Test Date: December 2013 – January 2014
Model Number: MCC-600	Report Number: 3380-R
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 3R carbon steel enclosure with 20A circuit breaker, 200kA SPD, voltage transformer, VFD size 1, FVNR size 1 starter, GE Filter, and size 1 solid state starters	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
823	20.0	20.0	102.5	17.9	8.4	> 33.0

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIX-H} (g)	A _{FLX-V} (g)	A _{RIX-V} (g)
CBC 2022 / ICC-ES AC156	2.25	1.0	1.5	3.60	2.70	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_z-1B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 8 bolts.



Manufacturer: ABB, Inc.	Test Location: Clark Testing (PA)
Component: 600A Evolution E9000 MCC	Test Date: December 2013 – January 2014
Model Number: MCC-600	Report Number: 3380-R

UUT Function: Electrical operation and control of motors for industrial applications
UUT Description: NEMA 3R carbon steel enclosure with 20A circuit breaker, 200kA SPD, voltage transformer, VFD size 1, FVNR size 1 starter, GE Filter, and size 1 solid state starters

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
823	20.0	20.0	102.5	17.9	8.4	> 33.0

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.25	1.0	1.5	3.60	2.70	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

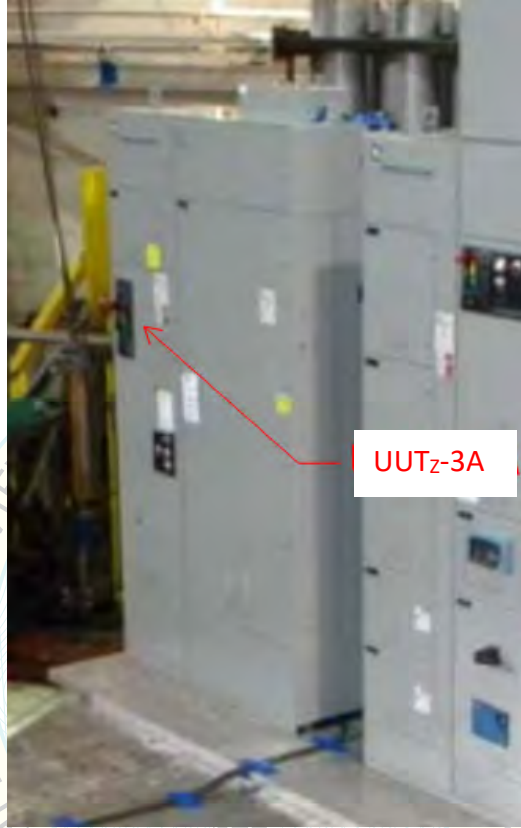
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_z-3A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc. **Test Location:** Clark Testing (PA)

Component: 800A Evolution E9000 MCC **Test Date:** December 2013 – January 2014

Model Number: MCC-800 **Report Number:** 3380-R

UUT Function: Electrical operation and control of motors for industrial applications

UUT Description: NEMA 1 carbon steel enclosure with 600A & 1200A circuit breakers, 300VA & 500VA CPTs, (2) size 6 solid state starters, and FVNRV size 6 vacuum starter

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
378	20.0	20.0	91.5	7.9	5.8	> 33.0

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_z-3B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc. **Test Location:** Clark Testing (PA)

Component: 800A Evolution E9000 MCC **Test Date:** December 2013 – January 2014

Model Number: MCC-800 **Report Number:** 3380-R

UUT Function: Electrical operation and control of motors for industrial applications

UUT Description: NEMA 1 carbon steel enclosure with 600A & 1200A circuit breakers, 300VA & 500VA CPTs, (2) size 6 solid state starters, and FVNRV size 6 vacuum starter

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
568	30.0	20.0	91.5	7.9	5.8	> 33.0

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_z-4A

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc.	Test Location: Clark Testing (PA)
Component: 600A Evolution E9000 MCC	Test Date: December 2013 – January 2014
Model Number: MCC-600	Report Number: 3380-R
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 250A circuit breaker, 300VA CPT, 25kA SPD, and FVNRV size 4 vacuum starter	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
383	20.0	20.0	92.0	11.2	10.4	12.2

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_z-4B

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc. **Test Location:** Clark Testing (PA)

Component: 600A Evolution E9000 MCC **Test Date:** December 2013 – January 2014

Model Number: MCC-600 **Report Number:** 3380-R

UUT Function: Electrical operation and control of motors for industrial applications

UUT Description: NEMA 1 carbon steel enclosure with 250A circuit breaker, 300VA CPT, 25kA SPD, and FVNRV size 4 vacuum starter

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
478	20.0	20.0	112.0	11.2	10.4	12.2

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.

UUT_z-4C

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Floor mounted with (4) 1/2" diameter grade 5 bolts.



Manufacturer: ABB, Inc.	Test Location: Clark Testing (PA)
Component: 600A Evolution E9000 MCC	Test Date: December 2013 – January 2014
Model Number: MCC-600	Report Number: 3380-R
UUT Function: Electrical operation and control of motors for industrial applications	
UUT Description: NEMA 1 carbon steel enclosure with 250A circuit breaker, 300VA CPT, 25kA SPD, and FVNRV size 4 vacuum starter	

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
383	20.0	20.0	92.0	11.2	10.4	12.2

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S _{DS} (g)	z / h	I _p	A _{FLX-H} (g)	A _{RIG-H} (g)	A _{FLX-V} (g)	A _{RIG-V} (g)
CBC 2022 / ICC-ES AC156	2.50	1.0	1.5	4.00	3.00	--	--
	2.50	0.0	1.5	--	--	1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 test.