



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC. ¹

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ELECTRICAL

Valid until: July 31, 2025

Certificate Number: 1627.01

In recognition of the successful completion of the A2LA evaluation process, (including an assessment of the organization's compliance with A2LA's EPA ENERGY STAR[®] Accreditation Program ² requirements and A2LA's FDA ASCA Accreditation Program³ requirements), accreditation is granted to this laboratory at the location listed above, ***as well as the two satellite laboratory locations listed below***, to perform the following Electromagnetic Compatibility (EMC), Telecommunications, and Product Safety tests on the following types of products: Medical, Consumer, Industrial, Automotive, Commercial, Telecommunications, Military, Wireless, Marine, Test and Measurement, Aerospace, Lightning, and Lasers:

Automotive Electromagnetic Compatibility (EMC) Testing

Radiated Emissions Testing (electric and magnetic fields);

Conducted Emissions Testing (voltage, current, pin and transient);

Magnetic Field Immunity Testing (Loop Antenna and Helmholtz Coil Methods);

Radio Frequency Immunity Testing (BCI, ALSE, Near Field and Direct RF Power Injection);

Automotive Transients Testing;

Electrostatic Discharge Testing (operating, handling, and I/O);

Coupled Immunity (pulses and sinusoidal);

Continuous Power Line Disturbances Immunity;

Power Cycling Immunity;

Ground Voltage Offset Immunity;

Voltage Dropout;

Voltage Overstress Immunity;

Low Voltage Transients;

Vehicle Electrical Tests

<u>Automotive Test Technology:</u>	<u>Test Method(s) ⁵:</u>
Radiated Emissions Testing	CISPR25; B21 7110; ES 96200-00
Conducted Emissions Testing	CISPR25; ISO 7637-2; B21 7110; ES 96200-00
Magnetic Field Immunity Testing	ISO 11452-8; B21 7110; ES 96200-00

<u>Automotive Test Technology:</u>	<u>Test Method(s) ⁵:</u>
Radio Frequency Immunity Testing	ISO 11452-2; ISO 11452-4; ISO 11452-9; SAE J1113-21; ISO 11452-3; ISO 11452-5; ISO 11452-7; B21 7110; ES 96200-00
Automotive Transients Immunity Testing	ISO 7637-2; ISO 7637-3 (<i>CCC only</i>); ISO 16750-2 (Load Dump)
Automotive Transients Emissions Testing	ISO 7637-2
Electrostatic Discharge Testing	ISO 10605
Coupled Immunity	FMC1278; JLR-EMC-CS
Continuous Power Line Disturbances Immunity	FMC1278; JLR-EMC-CS; ISO 11452-10
Power Cycling Immunity	FMC1278; JLR-EMC-CS
Ground Voltage Offset Immunity	FMC1278; JLR-EMC-CS
Voltage Dropout	FMC1278
Voltage Overstress Immunity	FMC1278; JLR-EMC-CS
Low Voltage Transients	JLR-EMC-CS
Vehicle Electrical Tests	LV 124-1; LV 124; GS 95003-2; GS 95024-2-1; GS 95024-2-2; ENS0310; CN 05 0215; Cummins 14269, 14387; BSL-003; BSL-006; CS-11809; CS-11979; MBN LV 124-1; DC-10615; DC-10842; PF-9326; 9-90110; CS-2009.1; GMW3172; 7794Z-SAAA-000; ES 39110-00; ES 95400-10; ES 96100-02; JASO D 001-94; MES PW67600; ES-X82010; ES-X82115; 28400NDS02; 28400NDS03; 28401NDS02; J1113-11; J2139; J2628; TSC70212G; VW 80101; VW 80000

Electromagnetic Compatibility (EMC) Testing^{##}

Radiated Emissions Testing (electric and magnetic fields);
Conducted Emissions Testing (voltage and current);
Harmonic Emissions Testing;
Electrostatic Discharge Testing; Electrical Fast Transient Testing;
Radiated Immunity Testing; Conducted Immunity Testing;
Lightning Immunity Testing;
Voltage Dips, Interrupts and Voltage Variations Testing;
Magnetic Immunity Testing;
RF Power Measurements;
Frequency Stability Measurements; Frequency Variations;
Longitudinal Induction Measurements;
Light Flicker Testing;
Low Frequency Disturbance Voltage Testing;
Disturbance Power Measurements;
Power Cross Overvoltage Testing;
Bonding and Grounding;
NEBS Electrical Safety;
Conducted Audio Frequency;
DC Potential Difference;
Short Circuit;
Discontinuous Disturbances;
RF Duty Cycle;
RF Transmission Mask Bandwidth;
Energy Efficiency;
EPA ENERGY STAR

<u>Test Technology:</u>	<u>Test Method(s)</u> ^{5:}
<i>Emissions</i> ^{##}	
Radiated and Conducted Emissions	CFR 47, FCC Part 15, Subpart B (using ANSI C63.4:2014); CFR 47, FCC Part 18 (using FCC OET MP-5:1986); CFR 47, FCC Part 15C (using ANSI C63.10:2013); CFR 47, FCC Part 15E (using ANSI C63.10:2013 and KDB Publication 905462); CFR 47, FCC Part 15F (using ANSI C63.10:2013); ANSI C63.10:2020; CFR 47 FCC Parts 22, 24, 25, 27, 30, 73, 74, 80, 87, 90, 95, 96, 97, 101 (using ANSI C63.26:2015); AS/NZS 1044; AS/NZS 1053; AS/NZS 2064; AS/NZS 3548; ICES-001; ICES-003; ICES-005; ICES-006; CISPR 11; EN 55011; SANS 211; AS CISPR 11; CISPR 13; EN 55013; SANS 213; AS/NZS CISPR 13; CISPR 14-1; EN 55014-1; SANS 214-1; AS/NZS CISPR 14.1; CISPR 15; EN 55015; SANS 215; CISPR 22 ⁴ ; EN 55022 ⁴ ; SANS 222 ⁴ ; AS/NZS CISPR 22 ⁴ ; SI 961 Part 32; CISPR 32; EN 55032; AS/NZS CISPR 32; VCCI-CISPR 32:2016; SANS 2332; CNS 13438 (<i>up to 6 GHz</i>); CNS 13439; CNS 13803; CSA C108.8-M1983; IEC 62236-4

<u>Test Technology:</u>	<u>Test Method(s) ⁵:</u>
Harmonics	IEC 61000-3-2; EN 61000-3-2; AS/NZS 61000.3.2; SANS 61000-3-2; IEC 61000-3-12; EN 61000-3-12; SANS 61000-3-12
Flicker	IEC 61000-3-3; EN 61000-3-3; AS/NZS 61000.3.3; SANS 61000-3-3; IEC 61000-3-11; EN 61000-3-11; SANS 61000-3-11
<i>Immunity</i>	
Electrostatic Discharge (ESD)	IEC 61000-4-2; EN 61000-4-2; AS/NZS 61000.4.2
Radiated Immunity (RFI)	IEC 61000-4-3; EN 61000-4-3; AS/NZS 61000.4.3
Electrical Fast Transient / Burst (EFT)	IEC 61000-4-4; EN 61000-4-4; AS/NZS 61000.4.4
Surge	IEC 61000-4-5; EN 61000-4-5; AS/NZS 61000.4.5; IEC 61000-4-12; EN 61000-4-12; IEC 61000-4-18; EN 61000-4-18
Conducted Immunity	IEC 61000-4-6; EN 61000-4-6; AS/NZS 61000.4.6; EN 61000-4-16
Magnetic Immunity	IEC 61000-4-8; EN 61000-4-8; AS/NZS 61000.4.8; IEC 61000-4-9; EN 61000-4-9
Voltage Dips and Interrupts	IEC 61000-4-11; EN 61000-4-11; EN 61000-4-29; IEC 61000-4-29
DC Ripple	IEC 61000-4-17; EN 61000-4-17
Radiated fields in close proximity	IEC 61000-4-39; EN 61000-4-39
<i>Product Family and Industry Specific Standards</i> (includes Emissions and Immunity tests and EN and IEC equivalents)	ANSI C62.41; ANSI T1.315:2007; AS/NZS 3200.1.2; AS/NZS 61000.6.3; AS/NZS 61000.6.4; AS 62040.2; CISPR 14-2; SANS 214-2; AS/NZS CISPR 14.2; CISPR 16-1-1; SANS 216-1-1; AS/NZS CISPR 16.1.1; CISPR 16-1-2; SANS 216-1-2; AS/NZS CISPR 16.1.2; CISPR 16-1-3; SANS 216-1-3; AS/NZS CISPR 16.1.3; CISPR 16-1-4; SANS 216-1-4; AS/NZS CISPR 16.1.4; CISPR 16-1-5; SANS 216-1-5; AS/NZS CISPR 16.1.5; CISPR 16-2-1; SANS 216-2-1; AS/NZS CISPR 16.2.1; CISPR 16-2-2; SANS 216-2-2; AS/NZS CISPR 16.2.2; CISPR 16-2-3; SANS 216-2-3; AS/NZS CISPR 16.2.3; CISPR 16-2-4; SANS 216-2-4; AS/NZS CISPR 16.2.4; CISPR 16-2-5; AS/NZS CISPR 16.2.5; CISPR 20; SANS 2200; AS/NZS CISPR 20; CISPR 24 ⁴ ; SANS 224 ⁴ ; AS/NZS CISPR 24 ⁴ ; SI 961 Part 24 ⁴ ;

<u>Test Technology:</u>	<u>Test Method(s) ⁵:</u>
<i>Product Family and Industry Specific Standards (includes Emissions and Immunity tests, and EN and IEC equivalents)</i> (cont.)	CISPR 35; EN 55035; AS/NZS CISPR 35; SANS 2335; CNS 13783-1; ETSI ETR 283; ETS 300 132-1; ETS 300 132-2; ETS 300 386-1; EN 300 386; EN 300 386-2; EN 50083-2; EN 50091-2; EN 50121-3-2; EN 50130-4; EN 50270; EN 54-2; EN 55014-2; EN 55016-1-1; EN 55016-1-2; EN 55016-1-3; EN 55016-1-4; EN 55016-1-5; EN 55016-2-1; EN 55016-2-2; EN 55016-2-3; EN 55016-2-4; EN 55016-2-5; EN 55020; EN 55024 ⁴ ; EN 55103-1; EN 55103-2; EN 60255-26; EN 60555, Part 2; EN 60555, Part 3; EN 60601-1-2; EN 60601-2-2; IEC 60601-2-2; EN 60601-2-24; IEC 60601-2-24; EN 60601-2-47; EN 60669-2-1; IEC 60669-2-1; EN 60945; IEC 60945; EN 61000-6-1; IEC 61000-6-1; SANS 61000-6-1; EN 61000-6-2; IEC 61000-6-2; SANS 61000-6-2; EN 61000-6-3; IEC 61000-6-3; SANS 61000-6-3; EN 61000-6-4; IEC 61000-6-4; AS/NZS 61000.6.4; SANS 61000-6-4; EN TS 61000-6-5; IEC/EN 61000-6-5; IEC/EN 61000-6-7; IEC 61131-2; EN 61131-2; EN 61204-3; IEC 61204-3; EN 61326; SANS 61326; EN 61326-1; IEC 61326-1; SANS 61326-1; EN 61326-2-1; IEC 61326-2-1; SANS 61326-2-1; EN 61326-2-2; IEC 61236-2-2; SANS 61326-2-2; EN 61326-2-3; IEC 61326-2-3; SANS 61326-2-3; EN 61326-2-4; IEC 61326-2-4; SANS 61326-2-4; EN 61326-2-5; IEC 61326-2-5; SANS 61326-2-5; EN 61326-2-6; IEC 61326-2-6; SANS 61326-2-6; EN 61326-3-1; IEC 61326-3-1; EN 61547; IEC 61547; SANS 61547; EN 61800-3; IEC 61800-3; EN 62040-2; IEC 62040-2; EN 62040-3; IEC 62040-3; GR-78-CORE (ESD only); GR-1089-CORE; GR-3108-CORE (Section 5, Issue 2); GR-3160 CORE; IEC 1800-3; IEC 60092-504; EN 60092-504; IEC 60601-1-2; SANS 60601-1-2; IEC TS 61000-6-5; IEC 61850-3; EN 61850-3; IEEE 1613; IEEE C37.90.2:2004; UL 1449; IEC 60947-5-2; EN 60947-5-2; IEC 60947-5-3; EN 60947-5-3
<i>Marine Standards (includes Emissions and Immunity tests)</i>	ABS Steel Vessels 2019 Part 4, Chapter 9, Section 8; ABS High Speed Craft 2020, Part 4, Chapter 7, Section 9; BV Marine Rules NR467 January 2020, Part C, Chapter 3, Sec 6; DNVGL Class Guideline 0339 November 2019; IACS UR E10 Rev.7, 2018; IEC 60533; Lloyd's Register Type Approval System Test Specification Number 1, December 2020; MEPC.108(49), Part 2

<u>Test Technology:</u>	<u>Test Method(s) ⁵:</u>
<i>Defense Aerospace</i>	Defense Standard 59-411 Part 3 Issue 1 Amendment 1 DRE02.B; Defense Standard 59-411 Part 3 Issue 1 Amendment 1 DRE02.B; RTCA/DO-160G (Sections 21.4, 21.5); MIL-STD-461G RS101
<i>Customer Specific Standards</i> <i>(NEBS, Verizon, AT&T (SBC), Qwest Standards)</i>	APC DVT #6; APC DVT #7; APC DVT #8; APC DVT #12; APC DVT #13; ATT-TP-76200; Comcast Headend/Controlled Environment Devices Review Plan; GR-78-CORE (ESD Only); GR-1089-CORE; GR-3108-CORE (Section 5, Issue 2); GR-3160 CORE; Sun Microsystems (Oracle) 990-1151-07; Verizon VZ.TPR.9205
<i>Country Specific Standards</i>	
Australia/New Zealand Radio Standards	AS/NZS 4268; AS/NZS 4295; AS/NZS 4771; RFS29; Radiocommunications (Short Range Devices) Standard 2014; Radiocommunications (Low Interference Potential Devices) Class License 2000; Radiocommunications (Analogue Speech [Angle Modulated] Equipment) Standard 2014
Canada Radio Standards	RSS-GEN; RSS-111; RSS-112; RSS-117; RSS-119; RSS-123; RSS-125; RSS-127; RSS-130; RSS-131; RSS-132; RSS-133; RSS-134; RSS-135; RSS-137; RSS-139; RSS-141; RSS-142; RSS-170; RSS-181; RSS-182; RSS-191; RSS-192; RSS-194; RSS-195; RSS-196; RSS-197; RSS-199; RSS-210; RSS-215; RSS-216; RSS-220; RSS-222; RSS-236; RSS-238; RSS-243; RSS-247; RSS-251; RSS-287; RSS-288; RSS-310
Hong Kong EMC/Radio Standards	HKCA 1002; HKCA 1006; HKCA 1007; HKCA 1008; HKCA 1010; HKCA 1015; HKCA 1026; HKCA 1033; HKCA 1034; HKCA 1035; HKCA 1039; HKCA 1041; HKCA 1042; HKCA 1045; HKCA 1046; HKCA 1048; HKCA 1049; HKCA 1052; HKCA 1061; HKCA 1074
India	TBIC/F/CTI/TEC-2004, 2012
ITU EMC Standards	K.20; K.21; K.41; K.44
Korea EMC/Radio Standards	Regulations on Radio Equipment (Ordinance of MSIT No. 86, Jan 4, 2022); Unlicensed Radio Equipment Established Without Notice (MSIT Public Notification 2023-18, Jun 20, 2023);

<u>Test Technology:</u>	<u>Test Method(s) ⁵:</u>
<i>Country Specific Standards (cont.)</i> Korea Technical Requirements for EMC	Technical Requirements for Radio Equipment for Telecommunication Services (RRA Public Notification 2022-15, Jul 29, 2022); Technical Requirements for the Human Protection against Electromagnetic Waves (MSIT Public Notification 2019-4, Jan 16, 2019); Technical Requirements for Measurement of Electromagnetic Field Strength (RRA Public Notification 2023-11, Jun 30, 2023); Conformity Assessment Test Methods for Radio Equipment: KS X 3123; Conformity Assessment Test Methods for Radio Equipment; Technical Requirements for Electromagnetic Compatibility (RRA Public Notification 2023-13, Jun 30, 2023); Test Methods for Electromagnetic Compatibility (RRA Announcement May 31, 2022)
	KS C 9811:2019; KS C IEC 60601-1-2:2020; KS C 9990:2017; KS C 9814-1:2022; KS C 9814-2:2022; KS C 9815:2023; KS C 9547:2020; KN 50; KN 51; KS X 3124:2020; KS X 3125:2020; KS X 3126:2020; KS X 3129:2020; KS X 3141:2015; KS C 9040-2:2017; KS C IEC 60947-1:2014; KS C IEC 60947-2:2019; KS C IEC 60947-4-1:2018; KS C 9832:2019; KS C 9835:2019; KS C 9800-3:2017; KS X 3140:2014; KS C 9610-6-1:2019; KS C 9610-6-2:2019; KS C 9610-6-3:2023; KS C 9610-6-4:2022
Mexico Radio Standards	NOM-083-SCT1-2002
Conducted Emissions	IFT-015-2018 Technical Provision IFT-015-2018; IFT-014-2018 Part 1 Technical Provision IFT-014-2018; IFT-014-2018 Part 2 Technical Provision IFT-014-2018; IFT-008-2015 Sections: 5.1.4.1, 5.2.1, 5.2.2.1, 5.2.3, 5.3.1.1, 5.3.1.2, 5.3.1.3, 5.3.1.4, 5.3.1.5, 5.3.3, 5.4.1, 5.4.1 Method 1, 5.4.1 Method 2, 5.4.2 (A1-M1, A2, A2-M2, A2-M3, A2-M4), 5.4.3, 5.5.1, 5.5.2, 5.6.1, 5.6.2 (all subsections); NOM-208-SCFI-2016 (all subsections)

<u>Test Technology:</u>	<u>Test Method(s) ⁵:</u>
Radiated Emissions	IFT-015-2018 Technical Provision IFT-015-2018; IFT-014-2018 Part 1 Technical Provision IFT-014-2018; IFT-014-2018 Part 2 Technical Provision IFT-014-2018; IFT-008-2015 Sections: 5.1.4.2, 5.2.1, 5.2.2.1, 5.2.3, 5.3.1.1, 5.3.1.2, 5.3.1.3, 5.3.1.4, 5.3.1.5, 5.3.3, 5.4.1, 5.4.1 Method 1, 5.4.1 Method 2, 5.4.2 (A1-M1, A2, A2-M2, A2-M3, A2-M4), 5.4.3, 5.5.1, 5.5.2, 5.6.1, 5.6.2 (all subsections); NOM-208-SCFI-2016 (all subsections)
Singapore EMC/Radio Standards	IMDA TS EMC, March 2000; IMDA TS LMR, October 2016; IMDA TS SRD, April 2018; IMDA TS CMT, September 2020
Taiwan EMC/Radio Standards	CNS 13438:2006 (<i>up to 6 GHz</i>); LP0002 (2020)
<i>Country Specific Standards (cont.)</i> Vietnam EMC/Radio Standards	QCVN 10:2010/BTTTT; QCVN 18:2022/BTTTT; QCVN 22:2021/BTTTT; QCVN 23:2011/BTTTT; QCVN 25:2011/BTTTT; QCVN 31:2011/BTTTT; QCVN 37:2018/BTTTT; QCVN 42:2011/BTTTT; QCVN 43:2011/BTTTT; QCVN 44:2011/BTTTT; QCVN 47:2015/BTTTT; QCVN 54:2020/BTTTT; QCVN 55:2011/BTTTT; QCVN 65:2021/BTTTT; QCVN 70:2013/BTTTT; QCVN 73:2013/BTTTT; QCVN 74:2020/BTTTT; QCVN 77:2013/BTTTT; QCVN 88:2015/BTTTT; QCVN 92:2015/BTTTT; QCVN 95:2015/BTTTT; QCVN 96:2015/BTTTT; QCVN 110:2017/BTTTT; QCVN 112:2017/BTTTT; QCVN 118:2018/BTTTT; QCVN 122:2020/BTTTT; TCVN 68-255:2006; TCVN 7189:2009; TCVN 7317:2003; TCVN 7600:2010; TCVN 7326-1:2003

<u>Test Technology:</u>	<u>Test Method(s) ⁵:</u>
<i>Radiocommunications</i>	
EU RED Radio Standards (Excluding SAR)	EN 300 220-1; EN 300 220-2; EN 300 220-3; EN 300 330-1; EN 300 330-2; EN 300 440-1; EN 300 440-2; EN 300 328; EN 300 385; EN 300 086-1; EN 300 086-2; EN 300 296-1; EN 300 296-2; EN 300 113-1; EN 300 113-2; EN 300 390-1; EN 300 390-2; EN 300 392-2; EN 300 394-1; EN 300 396-2; EN 303 035-1; EN 303 035-2; EN 300 224-1; EN 300 224-2; EN 300 135-1; EN 300 135-2; EN 300 224-1; EN 300 224-2; EN 300 433-1; EN 300 433-2; EN 301 893; EN 302 208-1; EN 302 208-2; EN 302 502; EN 302 567
EU RED EMC Standards	EN 300 339; EN 301 489-01; EN 301 489-03; EN 301 489-17; EN 301 489-52; EN 302 054-1; EN 302 054-2; EN 302 064-1; EN 302 064-2; EN 302 291-1; EN 302 291-2

US FCC

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1 ⁶ :		
Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
Unintentional Radiators (FCC Part 15, Subpart B)	ANSI C63.4-2014	40000
Industrial, Scientific, and Medical Equipment (FCC Part 18) • Consumer ISM equipment	FCC MP-5:1986	40000
Intentional Radiators (FCC Part 15 Subpart C)	ANSI C63.10-2013	40000
U-NII without DFS Intentional Radiators (FCC Part 15, Subpart E) • Unlicensed National Information Infrastructure Devices (U-NII without DFS)	ANSI C63.10-2013	40000
U-NII with DFS Intentional Radiators (FCC Part 15 Subpart E) • Unlicensed National Information Infrastructure U-NII) Devices with Dynamic Frequency Selection (DFS)	FCC KDB Publication 905462 D02 UNII DFS Compliance Procedures New Rules v02 (April 8, 2016)	40000

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1 ⁶:

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
UWB Intentional Radiators (FCC Part 15, Subpart F) • Ultra-wideband Operation	ANSI C63.10-2013	40000
Commercial Mobile Services (FCC Licensed Radio Service Equipment) • Part 22 (cellular) • Part 24 • Part 25 (below 3 GHz) • Part 27	ANSI/TIA-603-E; ANSI C63.26-2015	40000
General Mobile Radio Services (FCC Licensed Radio Service Equipment) • Part 22 (non-cellular) • Part 90 (below 3 GHz) • Part 95 (below 3 GHz) • Part 97 (below 3 GHz) • Part 101 (below 3 GHz)	ANSI/TIA-603-E; ANSI C63.26-2015	40000
Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment) • Part 96	ANSI/TIA-603-E; ANSI C63.26-2015	40000
Maritime and Aviation Radio Services (FCC Licensed Radio Service Equipment) • Part 80 • Part 87	ANSI/TIA-603-E; ANSI C63.26-2015	40000
Microwave and Millimeter Bands Radio Services (FCC Licensed Radio Service Equipment) • Part 25 • Part 30 • Part 74 • Part 90 (above 3 GHz) • Part 95 (above 3 GHz) • Part 97 (above 3 GHz) • Part 101	ANSI/TIA-603-E; ANSI C63.26-2015	40000
Broadcast Radio Services (FCC Licensed Radio Service Equipment) • Part 73 • Part 74 (below 3 GHz)	ANSI/TIA-603-E; ANSI C63.26-2015	40000

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1 ⁶ :		
Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
Signal Boosters (Part 20) <ul style="list-style-type: none"> • Wideband Consumer signal boosters • Provider-specific signal boosters • Industrial signal boosters Signal Boosters (Section 90.219)	ANSI C63.26-2015	40000

⁶ Accreditation does not imply acceptance to the FCC equipment authorization program. Please see the FCC website (<https://apps.fcc.gov/oetcf/eas/>) for a listing of FCC approved laboratories.

Specific Type of Radio Equipment		Cert. Ord. Ref., Art. 2, Para. 1	Japanese Test Method
Citizen Radio		Item 3	Schedule 13
Cordless Telephone		Item 7	Schedule 21
Specified Low Power Radio Equipment	Telemetry, Data Transmission Tele-Control	Item 8	Schedule 22-1 (Notification Section 1 No.1) / Schedule 22-2 (Notification Section 1 No.2) / Schedule 22-3 (Notification Section 1 No.3)
	Medical Telemeter	Item 8	Schedule 22-4 (Notification Section 2)
	Body Implantable Medical Telemetry and Body Implantable Medical Data Transmission	Item 8	Schedule 22-5 (Notification Section 3)
	433 MHz Data Transmission Used for International Transportation	Item 8	Schedule 22-6 (Notification Section 4)
	Radio Call	Item 8	Schedule 22-7 (Notification Section 5)
	Radio Microphones	Item 8	Schedule 22-8 (Notification Section 6)
	Radio Microphone for Hearing Aid	Item 8	Schedule 22-9 (Notification Section 7)
	Wireless Phone	Item 8	Schedule 22-10 (Notification Section 8)
	Wireless Phone for Voice-Assisted	Item 8	Schedule 22-11 (Notification Section 9)
	Radio Equipment for Use in Identification of Moving Objects	Item 8	Schedule 22-12 (Notification Section 10) / Schedule 22-13 (Notification Section 10) 953.5 MHz only non-frequency hopping

Specific Type of Radio Equipment		Cert. Ord. Ref., Art. 2, Para. 1	Japanese Test Method
Specified Low Power Radio Equipment	Millimeter Wave Radar	Item 8	Schedule 22-14 (Notification Section 11)
	Radio Equipment for Millimeter Wave Image Transmission or Data Transmission	Item 8	Schedule 22-15 (Notification Section 12)
	Detection Sensor for Moving Objects	Item 8	Schedule 22-16 (Notification Section 13)
	Animal Detection Reporting System	Item 8	Schedule 22-17 (Notification Section 14)
Low Power Security System		Item 13	Schedule 36
2.4 GHz Band Advanced Low-Power Data Communication System (2400-2483.5 MHz)		Item 19	Schedule 43
2.4 GHz Band Low Power Data Communications System (2471-2497 MHz)		Item 19-2	Schedule 44
2.4 GHz Band Advanced Low Power Data Communications System (For Model Aircraft Radio Control)		Item 19-2-2	Schedule 43
2.4 GHz Band Low Power Data Communications System (For Model Aircraft Radio Control)		Item 19-2-3	Schedule 44
5.2, 5.3 GHz Band Low Power Data Communication System		Item 19-3	Schedule 45
5.6 GHz Band Low-Power Data Communication System		Item 19-3-2	Schedule 45
Quasi-Millimeter Wave Band Low-Power Data Communication System		Item 19-4	Schedule 46
Land Mobile Station For 5 GHz Band Wireless Access System (0.01 Watt or Less Power Antenna)		Item 19-11	Schedule 47
Digital Cordless Telephone in Narrowband TDMA		Item 21	Schedule 50
Digital Cordless Telephone (DECT) in broadband TDMA		Item 21-2	Schedule 81
Digital Cordless Telephone in OFDMA / TDMA Method (sPHS)		Item 21-3	Schedule 82
Phs Land Mobile Station		Item 22	Schedule 50
Mobile Station for Dedicated Short-Range Communications System		Item 32	Schedule 64
Test Station for Dedicated Short-Range Communications System		Item 33-2	Schedule 64
Ultra-Wide Band (UWB) Radio System		Item 47	Schedule 70
Ultra-Wide Band (UWB) Radar System		Item 47-2	Schedule 83

<u>Test Technology:</u>	<u>Test Method(s) ^{2,5}:</u>
RF Exposure (<i>excluding SAR</i>)	ANSI C95.1; FCC OET Bulletin 65; FCC OET Bulletin 65 Supplement C; RSS-102 measurement (NS); RSS-102 measurement (RF Exp.); EN 62311; IEC / EN 62479
Color Measurements	ANSI C78.376:2001; ANSI C78.377:2015; CIE 13.3-1995; CIE 15:2004; IES LM-16:1993; IES LM-58-13; IES TM-30-15
Electrical Measurement	IES LM-9-09; IES LM-45:2015; IES LM-66-14; ANSI C78.389:2004; ANSI C82.2:2002; ANSI C82.77-10:2014; IEC 62301 Ed. 2.0:2011; CAN/CSA-C62301:11; ANSI C62.41.2-2002; Energy Star [®] Recommended Practice - Light Source Flicker; Energy Star [®] Run Up Time Test Method Sept 2015; Energy Star [®] Start Time Test Method Sept 2015; Energy Star [®] Test Method -Noise Sept 2015
Life Tests	IES LM-40-10; IES LM-47-12; IES LM-49-12; IES LM-65-14; IES LM-80-21; Energy Star [®] Lamps V 2.1; Energy Star Lamps V 2.1; Energy Star [®] Ambient Temperature Life Test Method Sept 2015; Energy Star [®] Elevated Temperature Life Test Method Sept 2015; Energy Star [®] Elevated Temperature Light Output Ratio Test Method Sept 2015
Photometric Measurements	IES LM-41-14; IES LM-46-04; IES LM-54-12; IES LM-79-08; IES LM-82-12; IES LM-84-14; IES LM-10-96; IES LM-20-13; IES TM-21-11; 10 CFR Part 430 Appendix W Subpart B 81 FR 59385; 81 FR 43403; Energy Star [®] Recommended Practice -Light Output on a Dimmer
Electrical, Photometric, Color, Life Testing	Energy Star Lamps V 2.1; Energy Star Luminaires V 2.2
In-Situ Temperature Testing	ANSI/UL 1598 Sections 19.7, 19.10-16; UL 1598C; ANSI/UL 153; ANSI/UL 1574:2004 Section 54

Telecommunications Testing:

Telecommunications Registration; General Test Methods; Lightning Surge; Drop Testing; Balance Testing; Signal Power (metallic and longitudinal); Frequency Measurements; Pulse Templates; Leakage Testing; Impedance Testing; Hearing Aid Compatibility Testing (*excluding volume control*); Protocol Analysis and Jitter Testing.

<u>Telecom Standard:</u>	<u>Title ⁵:</u>
<i>Taiwan Standards</i>	RTTE01 (2020) 2.4 GHz Radio-frequency Telecommunication Terminal Equipment Technical Specification (<i>excluding PSTN</i>)

Product Safety Testing:

Power Input*, Permanence of Marking*, Accessibility*, Permissibly Limits*, Energy Hazard Measurement*, SELV Circuits*, TNV Limits*, Limited Current*, Capacitor Discharge / Voltage Limitation*, Ring Signal, Humidity Conditioning, Creepage / Clearance / Distance Thru Insulation (*excluding CTI*)*, Limited Power Measurement*, Ground Bond / Earthing*, Ground Continuity*, Temperature*, Stability*, Applied Force*, Steel Sphere Impact*, Impact Hammer*, Mold Stress, Battery Reverse Current*, Ball Pressure, Leakage Current*, Component Abnormal*, Electric Strength*, Impulse, Overvoltage, Acoustic Sound Pressure, 130mm / 20mm flame, Needle Flame, Hot Flaming Oil, Locked Rotor/Motor Armature*, Vibration, Bump, Drop, Strain Relief*, Torque*, Insulation Resistance*, Sound Level, Handle Loading*, Liquid Overflow*, Spillage*, Liquid Leakage*, Transformer Shorts / Overloads*, Rain Test, Wall Mount, Laser Radiation (*excluding x-ray*), Voltage Surge, Functionality*, Protective Impedance Abnormal, Capacitor Short Circuit Abnormal, Output Abnormal*, Multi-Supply Abnormal*, Cooling Abnormal*, Heating Device Abnormal*, Interlock Abnormal, Rigidity*, Cleaning*, Push*, Pull*, Direct Plug-in Moment, Starting Current, Component Short Circuit*, Glow Wire, Cord Tag Permanence, Flexing, Hot Wire Ignition, Coating Adhesion, Short Circuit Withstand Test*, Single Cell Failure Test*, Large Scale Fire Test*

* This laboratory performs field testing activities for these tests.

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
<i>North American Standards</i>	
FCC 16 CFR 1505	Electric Toys
FCC 21 CFR 1040.10	Performance Standard for Laser Products
UL 50E	Enclosures for Electrical Equipment, Environmental Considerations
UL 67	Panelboards
UL 153	Portable Electric Luminaires
UL 197	Standard for Commercial Electric Cooking Appliances
UL 250	Household Refrigerators and Freezers
UL 498	Attachment Plugs and Receptacles
UL 498A	Current Taps and Adapters
UL 499	Electric Heating Appliances
UL 507	Electric Fans
UL 508	Industrial Control Equipment
UL 508A	Industrial Control Panels
UL 588	Seasonal and Holiday Decorative Products

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
UL 763	Standard for Motor-Operated Commercial Food Preparing Machines
UL 817	Cord Sets and Power-Supply Cords
UL 859	Electric Personal Grooming Appliances
UL 857	Busways
UL 869A	Standard for Reference Standard for Service Equipment
UL 935	Standard for Fluorescent-Lamp Ballasts
UL 982	Motor-operated Household Food Preparing Machines
UL 991	Standard for Tests for Safety-Related Controls Employing Solid-State Devices
UL 1008	Transfer Switch Equipment
UL 1012	Power Units other than Class 2
UL 1026	Electric Household Cooking and Food Serving Appliances
UL 1082	Household Electric Coffee Makers and Brewing-type Appliances
UL 1083	Household Electric Skillets and Frying-type Appliances
UL 1310	Class 2 Power Units
UL 1363	Re-locatable Power Taps
UL 1431	Personal Hygiene and Health Care Appliances
UL 1561	Dry-Type General Purpose and Power Transformers
UL 1598	Luminaires
UL 1647	Motor-operated Massage and Exercise Machines
UL 1786	Direct Plug-in Nightlights
UL 1838	Low Voltage Landscape Lighting Systems
UL 1993	Self-ballasted Lamps and Lamp Adapters
UL 1973	ANSI/CAN/UL Batteries for Use in Stationary and Motive Auxiliary Power Applications
UL 1998	Software in Programmable Components
UL 2202	DC Charging Equipment for Electric Vehicles
UL 5085	Low Voltage Transformers
UL 5500	Standard for Safety for Remote Software Updates
UL 8750	Standard for Light Emitting Diode (LED) Equipment for use in Lighting Products
UL 9540	Energy Storage Systems and Equipment
UL 60065	Audio, Video and Similar Electronic Apparatus – Safety Requirements
UL 60335-1	Household and Similar Electrical Appliances
UL 60335-2-3	Safety of Household and Similar Appliances, Part 2: Particular Requirements for Electronic Irons
UL 60335-2-8	Shavers, Hair Clippers, and Similar Appliances
UL 60335-2-34	Motor-compressors
UL 60601-1 ⁴	Medical Electrical Equipment. Part 1: General Requirements for Safety
UL 60730-1	Automatic Electrical Controls - Part 1: General Requirements
UL 2594	Electric Vehicle Supply Equipment
ANSI/AAMI ES60601-1 ⁴	Medical Electrical Equipment. Part 1: General Requirements for Basic Safety and Essential Performance

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
ANSI/AAMI 60601-1-8	Medical electrical equipment — Part 1-8: General requirements for basic safety and essential performance — Collateral standard: General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems
ANSI/AAMI 60601-1-11	Medical Electrical Equipment and Medical Electrical Systems Used in the Home Healthcare Environment
ANSI/AAMI 60601-1-12	Medical Electrical Equipment — Part 1-12: General requirements for basic safety and essential performance — Collateral Standard: Requirements for medical electrical equipment and medical electrical systems used in the emergency medical services environment
ANSI/AAMI 62304	Medical device software — Software life cycle processes
ANSI/AAMI 62366-1	Medical devices — Part 1: Application of usability engineering to medical devices
ANSI/AAMI 60601-2-16	Medical electrical equipment - Part 2-16: Particular requirements for basic safety and essential performance of haemodialysis, haemodiafiltration and haemofiltration equipment
ANSI/AAMI 60601-2-25	Medical Electrical Equipment - Part 2-25: Particular Requirements For The Basic Safety And Essential Performance Of Electrocardiographs
ANSI/AAMI 60601-2-27	MEDICAL ELECTRICAL EQUIPMENT – Part 2-27: Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment
ANSI/AAMI 80601-2-30	Medical electrical equipment — Part 2-30: Particular requirements for basic safety and essential performance of automated non-invasive sphygmomanometers
ANSI/AAMI 80601-2-35	Medical electrical equipment — Part 2-35: Particular requirements for the basic safety and essential performance of heating devices using blankets, pads or mattresses and intended for heating in medical use
ANSI/AAMI 60601-2-39	Medical electrical equipment – Part 2-39: Particular requirements for basic safety and essential performance of peritoneal dialysis equipment
ANSI/AAMI 60601-2-47	Medical electrical equipment – Part 2-47: Particular requirements for the basic safety and essential performance of ambulatory electrocardiographic systems
ANSI/AAMI 60601-2-49 ANSI/AAMI 80601-2-49	Medical electrical equipment – Part 2-49: Particular requirements for the basic safety and essential performance of multifunction patient monitoring equipment

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
ANSI/AAMI 80601-2-77	Medical electrical equipment — Part 2-77: Particular requirements for the basic safety and essential performance of robotically assisted surgical equipment
ANSI/AAMI 80601-2-78	Medical electrical equipment — Part 2-78: Particular requirements for basic safety and essential performance of medical robots for rehabilitation, assessment, compensation or alleviation
UL 60745-1	Hand-Held Motor-operated Electric Tools
UL 60745-2-1	Drills and Impact Drills
UL 60745-2-2	Screwdrivers and Impact Wrenches
UL 60745-2-3	Grinders, Polishers, and Disk-type Sanders
UL 60745-2-4	Sanders and Polishers, other than Disk-type
UL 60745-2-5	Circular Saws
UL 60745-2-6	Hammers
UL 60745-2-8	Shears and Nibblers
UL 60745-2-9	Tappers
UL 60745-2-11	Reciprocating Saws
UL 60745-2-12	Concrete Vibrators
UL 60745-2-14	Planers
UL 60745-2-17	Routers and Trimmers
UL 60745-2-18	Strapping Tools (formerly 745-2-34)
UL 60745-2-19	Jointers (formerly 745-2-37)
UL 60745-2-20	Portable Band Saws (formerly 745-2-33)
UL 60745-2-21	Drain Cleaners (formerly 745-2-35)
UL 60950-1	Information Technology Equipment – Safety – Part 1: General Requirements
UL 60950-21	Information Technology Equipment – Safety – Part 21: Remote Power Feeding
UL 60950-22	Information Technology Equipment – Safety – Part 22: Equipment Installed Outdoors
UL 60950-23	Information Technology Equipment – Safety – Part 23: Large Data Storage Equipment
UL 61010-1	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory use, Part 1: General Requirements
UL 61010-2-010	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory use, Part 1: Particular Requirements for Laboratory Equipment for the Heating of Materials
UL 61010-2-030	Information Technology Equipment – Safety – Part 2-030: Particular Requirements for Testing and Measuring Circuits
UL 61010-031	Information Technology Equipment – Safety – Part 031: Hand-held Probe Assemblies for Electrical Measurement and Test

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
UL 61010-2-011	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-011: Particular requirements for refrigerating equipment
UL 61010-2-012	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-012: Particular requirements for climatic and environmental testing and other temperature conditioning equipment
UL 61010-2-020	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-020: Particular requirements for laboratory centrifuges
UL 61010-2-051	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-051: Particular requirements for laboratory equipment for mixing and stirring
UL 61010-2-081	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes
UL 61010-2-101	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment
UL 61010-2-201	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-201: Particular requirements for control equipment
UL 62109-1	Standard for Safety of power converters for use in photovoltaic power systems – Part 1: General requirements
UL 62368-1	Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements
UL 1741	Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources
UL 1778	Uninterruptible Power Systems
<i>Australian/New Zealand Standards</i>	
AS/NZS 60065	Approval and Test Specification – Mains Operated Electronic and Related Equipment for Household and Similar General Use
AS/NZS 60950.1	Information Technology Equipment – Safety – General Requirements
<i>Canadian Standards</i>	
CAN/CSA C22.2 No. 0.8	Safety Functions Incorporating Electronics Technology
CAN/CSA C22.3 No. 9	Interconnection of distributed energy resources and electricity supply systems
CAN/CSA C22.2 No. 12	Portable Electric Luminaires
CAN/CSA C22.2 No. 21	Cord Sets and Power-Supply Cords
CAN/CSA C22.2 No. 37	Seasonal and Holiday Decorative Products
CAN/CSA C22.2 No. 42-10	Attachment Plugs and Receptacles

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
CAN/CSA C22.2 No. 46	Movable and Wall or Ceiling-hung Electric Room Heaters
CAN/CSA C22.2 No. 63	Household Refrigerators and Freezers
CAN/CSA C22.2 No. 64	Household Electric Coffee Makers and Brewing-type Appliances
CAN/CSA C22.2 No. 66.2	Low Voltage Transformers – Part 2: General Purpose Transformers
CAN/CSA C22.2 No. 68	Motor-operated Massage and Exercise Machines
CAN/CSA C22.2 No. 68-09	Motor-operated appliances (household and commercial)
CAN/CSA C22.2 No. 74	Fluorescent Lamp Ballasts
CAN/CSA C22.2 No. 94.1	Enclosures for Electrical Equipment, Non-environmental Considerations
CAN/CSA C22.2 No. 107.1	General Use Power Supplies
CAN/CSA C22.2 No. 107.2	Battery Chargers
CAN/CSA C22.2 No. 107.3	Uninterruptible Power Systems
CAN/CSA C22.2 No. 109	Commercial Electric Cooking Appliances
CAN/CSA C22.2 No. 113	Electric Fans
CAN/CSA C22.2 No. 195	Motor-operated Household Food Preparing Machines
CAN/CSA C22.2 No. 223	Class 2 Power Units
CAN/CSA C22.2 No. 250	Luminaires
CAN/CSA C22.2 No. 250.4	Portable Electric Luminaires
CAN/CSA C22.2 No. 250.13	LED Equipment for Use in Lighting Products
CAN/CSA C22.2 No. 290	Photovoltaic combiners and recombiners
CAN/CSA C22.2 No. 330	Photovoltaic rapid shutdown systems
CAN/CSA C22.2 No. 1993	Self-ballasted Lamps and Lamp Adapters
CAN/CSA E335-2-13	Household Electric Skillets and Frying-type Appliances
CAN/CSA C22.2 No. 745-2-3	Grinders, Polishers, and Disk-type Sanders
CAN/CSA C22.2 No. 1335.1	Electric Heating Appliances
CAN/CSA C22.2 No. 60065	Audio, Video, and Similar Electronic Apparatus – Safety Requirements
CAN/CSA C22.2 No. 60335-1	Household and Similar Electrical Appliances
CAN/CSA C22.2 No. 60335-2-3	Safety Requirements and Similar Electrical Appliances, Part 2: Particular Requirements for Electric Irons
CAN/CSA C22.2 No. 60335-2-5	Dishwashers
CAN/CSA C22.2 No. 60335-2-8	Shavers, Hair Clippers, and Similar Appliances
CAN/CSA C22.2 No. 60335-2-9	Grills, Toasters and Similar Portable Cooking Appliances
CAN/CSA C22.2 No. 60335-2-13	Deep Fat Fryers, Frying Pans and Similar Appliances
CAN/CSA C22.2 No. 60335-2-23	Appliances for Skin or Hair Care
CAN/CSA C22.2 No. 60335-2-34	Motor Compressors
CAN/CSA C22.2 No. 60601-1 ⁴	Medical Electrical Equipment. Part 1: General Requirements for Safety and Essential Performance
CSA C22.2 No. 60601-1-2	Medical Electrical Equipment. Part 1-2: General requirements for basic safety and essential performance. Collateral Standard: Electromagnetic disturbances
CAN/CSA C22.2 No. 60601-1-6	Medical electrical equipment – Part 1-6: General requirements for basic safety and essential performance – Collateral standard: Usability

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
CAN/CSA C22.2 No. 60601-1-8	Medical electrical equipment — Part 1-8: General requirements for basic safety and essential performance — Collateral standard: General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems
CAN/CSA C22.2 No. 60601-1-9	Medical electrical equipment – Part 1-9: General requirements for basic safety and essential performance – Collateral Standard: Requirements for environmentally conscious design
CAN/CSA C22.2 No. 60601-1-11	Medical Electrical Equipment and Medical Electrical Systems Used in the Home Healthcare Environment
CAN/CSA C22.2 No. 60601-1-12	Medical Electrical Equipment — Part 1-12: General requirements for basic safety and essential performance — Collateral Standard: Requirements for medical electrical equipment and medical electrical systems used in the emergency medical services environment
CSA/CEI 62304	Medical device software — Software life cycle processes
CSA 62366-1	Medical devices — Part 1: Application of usability engineering to medical devices
CAN/CSA C22.2 No. 60601-2-10	Medical electrical equipment – Part 2-10: Particular requirements for the basic safety and essential performance of nerve and muscle stimulators
CAN/CSA C22.2 No. 80601-2-12	Medical electrical equipment – Part 2-12: Particular Requirements for Basic Safety and Essential Performance of Critical Care Ventilators
CAN/CSA C22.2 No. 60601-2-16	Medical electrical equipment - Part 2-16: Particular requirements for basic safety and essential performance of haemodialysis, haemodiafiltration and haemofiltration equipment
CAN/CSA C22.2 No. 60601-2-18	Medical Electrical Equipment - Part 2-18: Particular Requirements For The Basic Safety And Essential Performance Of Endoscopic Equipment
CAN/CSA C22.2 No. 60601-2-22	Medical electrical equipment – Part 2-22: Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment
CAN/CSA C22.2 No. 60601-2-24	Medical electrical equipment – Part 2-24: Particular requirements for the basic safety and essential performance of infusion pumps and controllers
CAN/CSA C22.2 No 60601-2-25	Medical Electrical Equipment - Part 2-25: Particular Requirements For The Basic Safety And Essential Performance Of Electrocardiographs
CAN/CSA C22.2 No. 60601-2-26	Medical electrical equipment — Part 2-26: Particular requirements for the basic safety and essential performance of electroencephalographs
CAN/CSA C22.2 No. 60601-2-27	MEDICAL ELECTRICAL EQUIPMENT – Part 2-27: Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
CAN/CSA C22.2 No. 80601-2-30	Medical electrical equipment — Part 2-30: Particular requirements for basic safety and essential performance of automated non-invasive sphygmomanometers
CAN/CSA C22.2 No. 80601-2-35	Medical electrical equipment — Part 2-35: Particular requirements for the basic safety and essential performance of heating devices using blankets, pads or mattresses and intended for heating in medical use
CAN/CSA C22.2 No. 60601-2-37	Medical electrical equipment – Part 2-37: Particular requirements for the basic safety and essential performance of ultrasonic medical diagnostic and monitoring equipment
CAN/CSA C22.2 No. 60601-2-39	Medical electrical equipment – Part 2-39: Particular requirements for basic safety and essential performance of peritoneal dialysis equipment
CAN/CSA C22.2 No. 60601-2-46	Medical electrical equipment - Part 2-46: Particular requirements for the basic safety and essential performance of operating tables
CAN/CSA C22.2 No. 60601-2-47	Medical electrical equipment – Part 2-47: Particular requirements for the basic safety and essential performance of ambulatory electrocardiographic systems
CAN/CSA C22.2 No. 60601-2-49 CAN/CSA C22.2 No. 80601-2-49	Medical electrical equipment – Part 2-49: Particular requirements for the basic safety and essential performance of multifunction patient monitoring equipment
CAN/CSA C22.2 No. 60601-2-52	Medical electrical equipment — Part 2-52: Particular requirements for the basic safety and essential performance of medical beds
CAN/CSA C22.2 No. 80601-2-55	Medical electrical equipment – Part 2-55: Particular Requirements for the Basic Safety and Essential Performance of Respiratory Gas Monitors
CAN/CSA C22.2 No. 60601-2-57	Non-Laser Light Source Equipment Intended for Therapeutic, Diagnostic, Monitoring and Cosmetic/Aesthetic Use
CAN/CSA C22.2 No. 80601-2-60	Medical electrical equipment — Part 2-60: Particular requirements for the basic safety and essential performance of dental equipment
CAN/CSA C22.2 No. 80601-2-61	Medical electrical equipment — Part 2-61: Particular requirements for basic safety and essential performance of pulse oximeter equipment
CAN/CSA C22.2 No. 80601-2-67	Medical electrical equipment — Part 2-67: Particular requirements for basic safety and essential performance of oxygen-conserving equipment
CAN/CSA C22.2 No. 80601-2-69	Medical electrical equipment — Part 2-69: Particular requirements for basic safety and essential performance of oxygen concentrator equipment
CAN/CSA C22.2 No. 80601-2-70	Medical electrical equipment — Part 2-70: Particular requirements for basic safety and essential performance of sleep apnoea breathing therapy equipment

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
CAN/CSA C22.2 No. 80601-2-72	Medical electrical equipment — Part 2-72: Particular requirements for basic safety and essential performance of home healthcare environment ventilators for ventilator-dependent patient
CAN/CSA C22.2 No. 80601-2-74	Medical electrical equipment — Part 2-74: Particular requirements for basic safety and essential performance of respiratory humidifying equipment
CAN/CSA C22.2 No. 80601-2-77	Medical electrical equipment — Part 2-77: Particular requirements for the basic safety and essential performance of robotically assisted surgical equipment
CAN/CSA C22.2 No. 80601-2-78	Medical electrical equipment — Part 2-78: Particular requirements for basic safety and essential performance of medical robots for rehabilitation, assessment, compensation or alleviation
CAN/CSA C22.2 No. 80601-2-79	Medical electrical equipment — Part 2-79: Particular requirements for basic safety and essential performance of ventilatory support equipment for ventilatory impairment
CAN/CSA C22.2 No. 80601-2-80	Medical electrical equipment — Part 2-80: Particular requirements for basic safety and essential performance of ventilatory support equipment for ventilatory insufficiency
CAN/CSA C22.2 No. 80601-2-84	Medical electrical equipment — Part 2-84: Particular requirements for the basic safety and essential performance of ventilators for the emergency medical services environment
CAN/CSA C22.2 No. 60745-1	Hand-Held Motor-Operated Electric Tools
CAN/CSA C22.2 No. 60745-2-1	Drills and Impact Drills
CAN/CSA C22.2 No. 60745-2-2	Screwdrivers and Impact Wrenches
CAN/CSA C22.2 No. 60745-2-3	Grinders, Polishers and Disk-type Sanders
CAN/CSA C22.2 No. 60745-2-4	Sanders and Polishers, Other Than Disk-type
CAN/CSA C22.2 No. 60745-2-5	Circular Saws
CAN/CSA C22.2 No. 60745-2-6	Hammers
CAN/CSA C22.2 No. 60745-2-8	Shears and Nibblers
CAN/CSA C22.2 No. 60745-2-9	Tappers
CAN/CSA C22.2 No. 60745-2-11	Reciprocating Saws
CAN/CSA C22.2 No. 60745-2-12	Concrete Vibrators
CAN/CSA C22.2 No. 60745-2-14	Planers
CAN/CSA C22.2 No. 60745-2-17	Routers and Trimmers
CAN/CSA C22.2 No. 60745-2-18	Strapping Tools
CAN/CSA C22.2 No. 60745-2-19	Plate Jointers
CAN/CSA C22.2 No. 60745-2-20	Portable Band Saws
CAN/CSA C22.2 No. 60745-2-21	Drain Cleaners
CAN/CSA C22.2 No. 60950-1	Information Technology Equipment – Safety – Part 1: General Requirements
CAN/CSA C22.2 No. 60950-21	Information Technology Equipment – Safety – Part 21: Remote Power Feeding
CAN/CSA C22.2 No. 60950-22	Information Technology Equipment – Safety – Part 22: Equipment Installed Outdoors
CAN/CSA C22.2 No. 60950-23	Information Technology Equipment – Safety – Part 23: Large Data Storage Equipment

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
CAN/CSA C22.2 No. 61010-1	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use, Part 1: General Requirements
CAN/CSA C22.2 No. 61010-2-010	Laboratory Equipment for the Heating of Materials
CAN/CSA C22.2 No. 61010-2-030	Testing and Measuring Circuits
CAN/CSA C22.2 No. 61010-031	Hand-Held Probe Assemblies for Electrical Measurement and Test
CAN/CSA C22.2 No. 61010-2-011	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-011: Particular requirements for refrigerating equipment
CAN/CSA C22.2 No. 61010-2-012	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-012: Particular requirements for climatic and environmental testing and other temperature conditioning equipment
CAN/CSA C22.2 No. 61010-2-020	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-020: Particular requirements for laboratory centrifuges
CAN/CSA C22.2 No. 61010-2-051	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-051: Particular requirements for laboratory equipment for mixing and stirring
CAN/CSA C22.2 No. 61010-2-081	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes
CAN/CSA C22.2 No. 61010-2-101	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment
CAN/CSA C22.2 No. 61010-2-201	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-201: Particular requirements for control equipment
CAN/CSA C22.2 No. 62109-1	Safety of Power Converters for use in Photovoltaic Power Systems – Part 1: General Requirements
CAN/CSA C22.2 No. 62109-2	Safety of Power Converters for use in Photovoltaic Power Systems – Part 2: Particular Requirements for Inverters
CAN/CSA C22.2 No. 62368-1	Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements
<i>International Standards</i>	
IEEE 1547	IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems
IEEE 1547.1	Standard for Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems
California Rule 21	California Rule 21 Grid code
Hawaii Rule 14H	Hawaii Rule 14H Grid code
EN ISO 14121-1	Safety of Machinery – Risk Assessment – Part 1: Principles

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
IEC 60065	Audio, Video and Similar Electronic Apparatus – Safety Requirements
EN 60065	Audio, Video and Similar Electronic Apparatus – Safety Requirements ³
EN 60204-1 IEC 60204	Safety of Machinery – Electrical Equipment of Machines – Part 1: Specification for General Requirements
EN 60335-1; IEC 60335-1:2010	Household and Similar Electrical Appliances
IEC 60335-2-3; EN 60335-2-3	Household and Similar Electrical Appliances – Safety – Part 2-3: Particular Requirements for Electric Irons
IEC 60335-2-6; EN 60335-2-6	Household and Similar Electrical Appliances – Safety – Part 2-6: Particular Requirements for Stationary Cooking Ranges, Hobs, Ovens, and Similar Appliances
IEC 60335-2-8; EN 60335-2-8	Household and Similar Electrical Appliances – Safety – Particular Requirements for Shavers, Hair Clippers, and Similar Appliances
IEC 60335-2-9 ; EN 60335-2-9	Household and Similar Electrical Appliances: Particular Requirements for Grills, Toasters and Similar Portable Cooking Appliances
IEC 60335-2-13; EN 60335-2-13	Household and Similar Electrical Appliances: Particular Requirements for Deep Fat Fryers, Frying Pans, and Similar Appliances
IEC 60335-2-14; EN 60335-2-14	Household and Similar Electrical Appliances – Safety – Part 2-14: Particular Requirements for Kitchen Machines
IEC 60335-2-15; EN 60335-2-15	Household and Similar Electrical Appliances: Particular Requirements for Appliances for Heating Liquids
IEC/EN 60335-2-23; AS/NZS 60335.2.23	Household and Similar Electrical Appliances – Safety – Part 2-23: Particular Requirements for Appliances for Skin or Hair Care
IEC 60335-2-34; EN 60335-2-34	Household and Similar Electrical Appliances – Safety – Particular Requirements for Motor-compressors
IEC 60335-2-80; EN 60335-2-80	Household and Similar Electrical Appliances: Particular Requirements for Fans
IEC/EN 60601-1	Medical Electrical Equipment. Part 1: General Requirements for Safety and Essential Performance
IEC/EN 60601-1-1	Medical Electrical Equipment - Part 1-1: General Requirements for Safety - Collateral Standard: Safety Requirements for Medical Electrical Systems
IEC/EN 60601-1-6	Medical electrical equipment – Part 1-6: General requirements for basic safety and essential performance – Collateral standard: Usability
IEC/EN 60601-1-8	Medical electrical equipment — Part 1-8: General requirements for basic safety and essential performance — Collateral standard: General requirements, tests and guidance for alarm systems in medical electrical equipment and medical electrical systems
IEC/EN 60601-1-9	Medical electrical equipment – Part 1-9: General requirements for basic safety and essential performance – Collateral Standard: Requirements for environmentally conscious design

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
IEC/EN 60601-1-10	Medical electrical equipment — Part 1-10: General requirements for basic safety and essential performance — Collateral standard: Requirements for the development of physiologic closed-loop controller
IEC/EN 60601-1-11	Medical Electrical Equipment and Medical Electrical Systems Used in the Home Healthcare Environment
IEC/EN 60601-1-12	Medical Electrical Equipment — Part 1-12: General requirements for basic safety and essential performance — Collateral Standard: Requirements for medical electrical equipment and medical electrical systems used in the emergency medical services environment
IEC/EN 62304	Medical device software — Software life cycle processes
IEC/EN 62366	Medical devices: Application of usability engineering to medical devices
IEC/EN 62366-1	Medical devices — Part 1: Application of usability engineering to medical devices
IEC /EN 60601-2-10	Medical electrical equipment – Part 2-10: Particular requirements for the basic safety and essential performance of nerve and muscle stimulators
ISO 80601-2-12	Medical electrical equipment – Part 2-12: Particular Requirements for Basic Safety and Essential Performance of Critical Care Ventilators
IEC/EN 60601-2-16	Medical electrical equipment - Part 2-16: Particular requirements for basic safety and essential performance of haemodialysis, haemodiafiltration and haemofiltration equipment
IEC/EN 60601-2-18	Medical Electrical Equipment - Part 2-18: Particular Requirements For The Basic Safety And Essential Performance Of Endoscopic Equipment
IEC/EN 60601-2-22	Medical electrical equipment – Part 2-22: Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment
IEC/EN 60601-2-24	Medical electrical equipment – Part 2-24: Particular requirements for the basic safety and essential performance of infusion pumps and controllers
IEC/EN 60601-2-25	Medical Electrical Equipment - Part 2-25: Particular Requirements For The Basic Safety And Essential Performance Of Electrocardiographs
IEC/EN 60601-2-26	Medical electrical equipment — Part 2-26: Particular requirements for the basic safety and essential performance of electroencephalographs
IEC 80601-2-26	Medical Electrical Equipment - Part 2-26: Particular Requirements For The Basic Safety And Essential Performance Of Electroencephalograph
IEC/EN 60601-2-27	Medical electrical equipment – Part 2-27: Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment
IEC/EN 80601-2-30	Medical electrical equipment — Part 2-30: Particular requirements for basic safety and essential performance of automated non-invasive sphygmomanometers
IEC/EN 80601-2-35	Medical electrical equipment — Part 2-35: Particular requirements for the basic safety and essential performance of heating devices using blankets, pads or mattresses and intended for heating in medical use

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
IEC/EN 60601-2-37	Medical electrical equipment – Part 2-37: Particular requirements for the basic safety and essential performance of ultrasonic medical diagnostic and monitoring equipment
IEC/EN 60601-2-39	Medical electrical equipment – Part 2-39: Particular requirements for basic safety and essential performance of peritoneal dialysis equipment
IEC/EN 60601-2-46	Medical electrical equipment - Part 2-46: Particular requirements for the basic safety and essential performance of operating tables
IEC/EN 60601-2-47	Medical electrical equipment – Part 2-47: Particular requirements for the basic safety and essential performance of ambulatory electrocardiographic systems
IEC/EN 60601-2-49 IEC/EN 80601-2-49	Medical electrical equipment – Part 2-49: Particular requirements for the basic safety and essential performance of multifunction patient monitoring equipment
IEC/EN 60601-2-52	Medical electrical equipment — Part 2-52: Particular requirements for the basic safety and essential performance of medical beds
ISO 80601-2-55	Medical electrical equipment – Part 2-55: Particular Requirements for the Basic Safety and Essential Performance of Respiratory Gas Monitors
IEC/EN 60601-2-57	Medical Electrical Equipment - Part 2-57: Particular Requirements For The Basic Safety And Essential Performance Of Non-Laser Light Source Equipment Intended For Therapeutic, Diagnostic, Monitoring And Cosmetic/Aesthetic Use
ISO 80601-2-60	Medical electrical equipment — Part 2-60: Particular requirements for the basic safety and essential performance of dental equipment
ISO 80601-2-61	Medical electrical equipment — Part 2-61: Particular requirements for basic safety and essential performance of pulse oximeter equipment
ISO 80601-2-67	Medical electrical equipment — Part 2-67: Particular requirements for basic safety and essential performance of oxygen-conserving equipment
ISO 80601-2-69	Medical electrical equipment — Part 2-69: Particular requirements for basic safety and essential performance of oxygen concentrator equipment
ISO 80601-2-70	Medical electrical equipment — Part 2-70: Particular requirements for basic safety and essential performance of sleep apnoea breathing therapy equipment
ISO 80601-2-72	Medical electrical equipment — Part 2-72: Particular requirements for basic safety and essential performance of home healthcare environment ventilators for ventilator-dependent patient
ISO 80601-2-74	Medical electrical equipment — Part 2-74: Particular requirements for basic safety and essential performance of respiratory humidifying equipment
IEC/EN 80601-2-77	Medical electrical equipment — Part 2-77: Particular requirements for the basic safety and essential performance of robotically assisted surgical equipment
IEC/EN 80601-2-78	Medical electrical equipment — Part 2-78: Particular requirements for basic safety and essential performance of medical robots for rehabilitation, assessment, compensation or alleviation

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
ISO 80601-2-79	Medical electrical equipment — Part 2-79: Particular requirements for basic safety and essential performance of ventilatory support equipment for ventilatory impairment
ISO 80601-2-80	Medical electrical equipment — Part 2-80: Particular requirements for basic safety and essential performance of ventilatory support equipment for ventilatory insufficiency
ISO 80601-2-84	Medical electrical equipment — Part 2-84: Particular requirements for the basic safety and essential performance of ventilators for the emergency medical services environment
ISO 80601-2-87	Medical electrical equipment — Part 2-87: Particular requirements for basic safety and essential performance of high-frequency ventilators
ISO 80601-2-90	Medical electrical equipment — Part 2-90: Particular requirements for basic safety and essential performance of respiratory high-flow therapy equipment
IEC 62471; EN 62471	Photobiological Safety of Lamps and Lamp Systems
EN 60825-1; IEC 60825-1	Safety of Laser Products Part 1: Equipment Classification, Requirements and User's Guide
IEC 60825-2; EN 60825-2	Safety of Laser Products – Part 2: Safety of Optical Communication Systems
IEC 60825-4; EN 60825-4	Safety of Laser Products – Part 4: Laser Guards
IEC 60950-1; EN 60950-1	Information Technology Equipment – Safety – Part 1: General Requirements
IEC 60950-21; EN 60950-21	Information Technology Equipment – Safety – Part 21: Remote Power Feeding
IEC 60950-22; EN 60950-22	Information Technology Equipment – Safety – Part 22: Equipment Installed Outdoors
IEC 60950-23; EN 60950-23	Information Technology Equipment – Safety – Part 23: Large Data Storage Equipment
IEC 61010-1; EN 61010-1	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements
IEC 61010-2-010; EN 61010-2-10	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 2-010: Particular Requirements for Laboratory Equipment for the Heating of Materials
IEC 61010-2-030; EN 61010-2-030	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 2-030: Particular Requirements for Testing and Measuring Circuits
IEC 61010-031; EN 61010-031	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 031: Safety Requirements for Hand-Held Probe Assemblies for Electrical Measurement and Test
IEC 61010-2-011; EN 61010-2-011	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-011: Particular requirements for refrigerating equipment

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
IEC 61010-2-012; EN 61010-2-012	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-012: Particular requirements for climatic and environmental testing and other temperature conditioning equipment
IEC/EN 61010-2-020	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-020: Particular requirements for laboratory centrifuges
IEC/EN 61010-2-051	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-051: Particular requirements for laboratory equipment for mixing and stirring
IEC/EN 61010-2-081	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes
IEC/EN 61010-2-101	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment
IEC/EN 61010-2-201	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-201: Particular requirements for control equipment
IEC 62368-1; EN 62368-1	Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements
IEC 60745-1; EN 60745-1	Hand-held Motor-operated Electric Tools - Safety – Part 1: General Requirements
IEC 60745-2-1; EN 60745-2-1	Hand-held Motor-operated Electric Tools - Safety - Part 2-1: Particular Requirements for Drills and Impact Drills
IEC 60745-2-2; EN 60745-2-2	Hand-held Motor-operated Electric Tools - Safety – Part 2-2: Particular Requirements for Screwdrivers and Impact Wrenches
IEC 60745-2-3; EN 60745-2-3	Hand-held Motor-operated Electric Tools - Safety – Part 2-3: Particular requirements for Grinders, Polishers, and Disk-type Sanders
IEC 60745-2-4; EN 60745-2-4	Hand-held Motor-operated Electric Tools - Safety – Part 2-4: Particular Requirements for Sanders and Polishers other than Disk-type
IEC 60745-2-5; EN 60745-2-5	Hand-held Motor-operated Electric Tools - Safety – Part 2-5: Particular Requirements for Circular Saws
IEC 60745-2-6; EN 60745-2-6	Hand-held Motor-operated Electric Tools - Safety – Part 2-6: Particular Requirements for Hammers
IEC 60745-2-8; EN 60745-2-8	Hand-held Motor-operated Electric Tools - Safety – Part 2-8: Particular Requirements for Shears and Nibblers
IEC 60745-2-9; EN 60745-2-9	Hand-held Motor-operated Electric Tools - Safety – Part 2-9: Particular Requirements for Tappers
IEC 60745-2-11; EN 60745-2-11	Hand-held Motor-operated Electric Tools - Safety – Part 2-11: Particular Requirements for Reciprocating Saws
IEC 60745-2-12; EN 60745-2-12	Hand-held Motor-operated Electric Tools - Safety – Part 2-12: Particular Requirements for Concrete Vibrators

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
IEC 60745-2-14; EN 60745-2-14	Hand-held motor-operated Electric Tools - Safety – Part 2-14: Particular Requirements for Planers
IEC 60745-2-17; EN 60745-2-17	Hand-held Motor-operated Electric Tools - Safety – Part 2-17: Particular Requirements for Routers and Trimmers
IEC 60745-2-18; EN 60745-2-18	Hand-held Motor-operated Electric Tools - Safety – Part 2-18: Particular Requirements for Strapping Tools
IEC 60745-2-19; EN 60745-2-19	Hand-held Motor-operated Electric Tools - Safety – Part 2-19: Particular Requirements for Jointers
IEC 60076	Power Transformers
IEC 61558	Power Transformers, Power Supplies, Reactor and Similar Products
IEC 62109-1	Safety of power converters for use in photovoltaic power systems - Part 1: General requirements
IEC 62109-2	Safety of power converters for use in photovoltaic power systems - Part 2: Particular requirements for inverters
IEC 62477-1	Safety requirements for power electronic converter systems and equipment - Part 1: General
IEC 62909-1	Bi-directional grid connected power converters - Part 1: General requirements
IEC 62040-1	Uninterruptible power systems (UPS) - Part 1: Safety requirements
IEC 62116	Utility-interconnected photovoltaic inverters - Test procedure of islanding prevention measures
IEC 62485-1	Safety requirements for secondary batteries and battery installations - Part 1: General safety information
IEC 62485-5	Safety requirements for secondary batteries and battery installations - Part 5: Safe operation of stationary lithium ion batteries
IEC 61439 -1	Low-voltage switchgear and controlgear assemblies - Part 1: General rules
IEC 61439 -2	Low-voltage switchgear and controlgear assemblies - Part 2: Power switchgear and controlgear assemblies
IEC 61439 -6	Low-voltage switchgear and controlgear assemblies – Part 6: Busbar trunking systems (busways)
IEC 61851-1	Electric vehicle conductive charging system - Part 1: General requirements
IEC 60730-1	Automatic electrical controls - Part 1: General requirements
IEC 62619	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium cells and batteries, for use in industrial applications
IEC 62933 -1	Electrical energy storage (EES) systems - Part 1: Vocabulary
IEC 62933-2	Electrical energy storage (EES) systems - Part 2-1: Unit parameters and testing methods - General specification
IEC 62933-3	Electrical energy storage (EES) systems - Part 3-1: Planning and performance assessment of electrical energy storage systems - General specification

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
IEC 62933-4	Electrical energy storage (EES) systems - Part 4-1: Guidance on environmental issues - General specification
IEC 62933-5	Electrical energy storage (EES) systems – Part 5-1: Safety considerations for grid-integrated EES systems – General specification
<i>Israeli Standards</i>	
SI 62368 Part 1	Audio/Video, Information and Communication Technology Equipment - Safety Requirement
<i>Marine Standards</i>	
Electrical Safety	DNV Standard for Certification No. 2.4 (2006); Lloyd's Register Type Approval System (2002); IACS req. Rev.6, 2014:E10; ABS Steel Vessels 2016, Part 4, Chapter 9, Section 7; ABS High Speed Craft 2016, Part 4, Section 11; BV Marine Rules Pt C, Chapter 3, Sec 6; 46 CFR Part 162.060-30; DNVGL CG-0339; MEPC.174(5q8); MEPC 107(49) Part 3; BV BWMS Guidance Note NI 538 DT R01 E

Testing Activities performed under the scope of the U.S FDA ASCA Program Specifications: *Basic Safety and Essential Performance of Medical Electrical Equipment, Medical Electrical Systems, and Laboratory Medical Equipment – Standards Specific Information for the Accreditation Scheme for Conformity Assessment (ASCA) Program* published on September 25th, 2020, and in accordance with all requirements of A2LA R256 *Specific Requirements- FDA ASCA Program*³

Standards

ASCA Doc #

IEC 60601-1 Edition 3.2 2020-08 CONSOLIDATED VERSION	19-49
IEC 60601-1-10 Edition 1.1 2013-11	19-9
IEC 60601-1-10 Edition 1.2 2020-07 CONSOLIDATED VERSION	19-37
IEC 60601-1-11 Edition 2.0 2015-01	19-14
IEC 60601-1-11 Edition 2.1 2020-07 CONSOLIDATED VERSION	19-38
IEC 60601-1-12 Edition 1.0 2014-06	19-15
IEC 60601-1-12 Edition 1.1 2020-07 CONSOLIDATED VERSION	19-39
IEC 60601-1-2 Edition 4.0 2014-02	19-8
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IEC 60601-1-6 Edition 3.1 2013-10	5-89
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IEC 60601-1-8 Edition 2.1 2012-11	5-76
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IEC 60601-2-10 Edition 2.1 2016-04	17-16
IEC 60601-2-16 Edition 5.0 2018-4	9-121
IEC 60601-2-18: Edition 3.0 2009-08	9-114
IEC 60601-2-22 Edition 3.1 2012-10	12-268
IEC 60601-2-25 Edition 2.0 2011-10	3-105
IEC 60601-2-27 Edition 3.0 2011-03	3-126
IEC 60601-2-35 Edition 2.0 2020-09	6-483
IEC 60601-2-37 Edition 2.1 2015	12-293
IEC 60601-2-39 Edition 3.0 2018-04	9-149

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IEC 60601-2-47 Edition 2.0 2012-02	3-155
IEC 60601-2-52 Edition 1.0 2009-12	6-321
IEC 60601-2-52 Edition 1.1 2015-03 CONSOLIDATED VERSION	6-489
IEC 60601-2-57 Edition 1.0 2011-01	12-242
ANSI UL 61010-1 3rd Ed dated May 12 2012 with revision through July 19 2019	19-41
IEC 61010-1 Edition 3.1 2017-01 CONSOLIDATED VERSION	19-34
ISO 80601-2-12 Second edition 2020-02	1-146
IEC 80601-2-30: Edition 2.0 2018-03	3-123
IEC 80601-2-35 Edition 2.1 2016-04	6-390
ISO 80601-2-55 Second edition 2018-02	1-140
ISO 80601-2-56 Second edition 2017-03	6-421
IEC 80601-2-60 Edition 2.0 2019-06	4-262
ISO 80601-2-61 Second edition 2017-12 (Corrected version 2018-02)	1-139
ISO 80601-2-69 First edition 2014-07-15	1-102
ISO 80601-2-69 Second edition 2020-11	1-148
ISO 80601-2-70 First Edition 2015-01-15	1-115
ISO 80601-2-70 Second edition 2020-11	1-151
ISO 80601-2-72 First edition 2015-04-11	1-105
ISO 80601-2-74 First edition 2017-05	1-138
IEC 80601-2-77 Edition 1.0 2019-07	6-438
ISO 80601-2-79 First edition 2018-07	1-143
ISO 80601-2-80 First edition 2018-07	1-144
ISO 80601-2-84 First edition 2020-07	1-160
ANSI AAMI ES60601-1:2005/(R)2012 & A1:2012 C1:2009/(R)2012 & A2:2010/(R)2012 (Cons. Text) [Incl. AMD2:2021]	19-46
ANSI AAMI ES60601-1:2005/(R)2012 and A1:2012 C1:2009/(R)2012 and A2:2010/(R)2012 (Consolidated Text)	19-4
ANSI AAMI HA60601-1-11:2015	19-16
ANSI AAMI HA60601-1-11:2015 [Including AMD1:2021]	19-47

¹ This accreditation covers testing performed at the main laboratory listed above, and at the two satellite laboratories indicated below:

BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC.

**168 Ayer Rd.
Littleton, MA 01460**

<u>Test Technology:</u>	<u>Test Method(s) ⁵:</u>
<i>EPA ENERGY STAR[®] Testing ²</i>	
<i>Electronics and Office Equipment</i>	
Uninterruptible Power Supplies	ENERGY STAR Product Specification for Uninterruptible Power Supplies (UPS) (v2.0, Jan-2019); ENERGY STAR Test Method for Uninterruptible Power Supplies, Rev. Dec-2017
Telephony (Cordless Telephones only)	ENERGY STAR Product Specification for Telephony (v3.0, October 2014); ENERGY STAR Test Method for Telephony (<i>Analog Only</i>), Rev. Nov-2013



<u>Test Technology:</u>	<u>Test Method(s) ⁵:</u>
Computers	ENERGY STAR Product Specification for Computers (v8.0, October 2020); ENERGY STAR Test Method for Computers, Rev. Oct-2019
<i>Audio/Video</i>	ENERGY STAR Product Specification for Audio/Video (v3.0, May 2013); ENERGY STAR Test Method for Audio/Video, Rev. July-2012
<i>Other</i>	
Water Coolers	ENERGY STAR Product Specification for Water Coolers (v3.0, Jun 2021); ENERGY STAR Test Method for Water Coolers, Rev. Mar-2013
AC Output Devices	IEC 62040-3
DC Output Devices	ATIS-0600015

BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC.
775 Montague Expressway
Milpitas, CA 95035

<u>Product Safety Standard³:</u>	<u>Title:</u>
<i>North American Standards</i>	<i>Excluding test methods relating to: Laser, Photobiological, Vibration, Ionizing Radiation, Specially Protected Equipment (IP rated), Sound Pressure Level, Fluid Pressure and Leakage, and Resistance to Fire</i>
UL 507	Electric Fans
UL 60065	Audio, Video and Similar Electronic Apparatus – Safety Requirements
UL 60335-1	Household and Similar Electrical Appliances
UL 60601-1 ⁴	Medical Electrical Equipment. Part 1: General Requirements for Safety
ANSI/AAMI ES60601-1 ⁴	Medical Electrical Equipment. Part 1: General Requirements for Basic Safety and Essential Performance
ANSI/AAMI HA60601-1-11	Medical Electrical Equipment and Medical Electrical Systems Used in the Home Healthcare Environment
ANSI/AAMI 60601-2-47	Basic Safety and Essential Performance of Ambulatory Electrocardiographic Systems
UL 60950-1	Information Technology Equipment – Safety – Part 1: General Requirements
UL 60950-21	Information Technology Equipment – Safety – Part 21: Remote Power Feeding
UL 60950-22	Information Technology Equipment – Safety – Part 22: Equipment Installed Outdoors

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
UL 60950-23	Information Technology Equipment – Safety – Part 23: Large Data Storage Equipment
UL 61010-1	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory use, Part 1: General Requirements
UL 61010-2-010	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory use, Part 1: Particular Requirements for Laboratory Equipment for the Heating of Materials
UL 61010-2-030	Information Technology Equipment – Safety – Part 2-030: Particular Requirements for Testing and Measuring Circuits
UL 61010-031	Information Technology Equipment – Safety – Part 031: Hand-held Probe Assemblies for Electrical Measurement and Test
UL 61010-2-011	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-011: Particular requirements for refrigerating equipment
UL 61010-2-012	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-012: Particular requirements for climatic and environmental testing and other temperature conditioning equipment
UL 61010-2-020	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-020: Particular requirements for laboratory centrifuges
UL 61010-2-051	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-051: Particular requirements for laboratory equipment for mixing and stirring
UL 61010-2-081	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes
UL 61010-2-101	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment
UL 61010-2-201	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-201: Particular requirements for control equipment
UL 62109-1	Standard for Safety of power converters for use in photovoltaic power systems – Part 1: General requirements
UL 62368-1	Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements
UL 1741	Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources
UL 1778	Uninterruptible Power Systems
<i>Australian/New Zealand Standards</i>	
AS/NZS 60065	Approval and Test Specification – Mains Operated Electronic and Related Equipment for Household and Similar General Use
AS/NZS 60950.1	Information Technology Equipment – Safety – General Requirements

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
<i>Canadian Standards</i>	
CAN/CSA C22.2 No. 66.2	Low Voltage Transformers – Part 2: General Purpose Transformers
CAN/CSA C22.2 No. 107.1	General Use Power Supplies
CAN/CSA C22.2 No. 113	Electric Fans
CAN/CSA C22.2 No. 60065	Audio, Video, and Similar Electronic Apparatus – Safety Requirements
CAN/CSA C22.2 No. 60335-1	Household and Similar Electrical Appliances
CAN/CSA C22.2 No. 60601-1 ⁴	Medical Electrical Equipment. Part 1: General Requirements for Safety and Essential Performance
CSA C22.2 No. 60601-1-2	Medical Electrical Equipment. Part 1-2: General requirements for basic safety and essential performance. Collateral Standard: Electromagnetic disturbances
CAN/CSA C22.2 No. 60601-1-6	Usability
CAN/CSA C22.2 No. 60601-1-11	Medical Electrical Equipment and Medical Electrical Systems Used in the Home Healthcare Environment
CAN/CSA C22.2 No. 60601-2-10	Nerve and Muscle Stimulators
CAN/CSA C22.2 No. 60601-2-18	Hand-held Motor-operated Electric Tools Endoscopic Equipment
CAN/CSA C22.2 No. 60601-2-47	Ambulatory Electrocardiographic Systems
CAN/CSA C22.2 No. 60950-1	Information Technology Equipment – Safety – Part 1: General Requirements
CAN/CSA C22.2 No. 60950-21	Information Technology Equipment – Safety – Part 21: Remote Power Feeding
CAN/CSA C22.2 No. 60950-22	Information Technology Equipment – Safety – Part 22: Equipment Installed Outdoors
CAN/CSA C22.2 No. 60950-23	Information Technology Equipment – Safety – Part 23: Large Data Storage Equipment
CAN/CSA C22.2 No. 61010-1	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use, Part 1: General Requirements
CAN/CSA C22.2 No. 61010-2-010	Laboratory Equipment for the Heating of Materials
CAN/CSA C22.2 No. 61010-2-030	Testing and Measuring Circuits
CAN/CSA C22.2 No. 61010-031	Hand-Held Probe Assemblies for Electrical Measurement and Test
CAN/CSA C22.2 No. 61010-2-011	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-011: Particular requirements for refrigerating equipment
CAN/CSA C22.2 No. 61010-2-012	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-012: Particular requirements for climatic and environmental testing and other temperature conditioning equipment

<u>Product Safety Standard ⁵:</u>	<u>Title:</u>
CAN/CSA C22.2 No. 61010-2-020	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-020: Particular requirements for laboratory centrifuges
CAN/CSA C22.2 No. 61010-2-051	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-051: Particular requirements for laboratory equipment for mixing and stirring
CAN/CSA C22.2 No. 61010-2-081	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes
CAN/CSA C22.2 No. 61010-2-101	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment
CAN/CSA C22.2 No. 61010-2-201	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-201: Particular requirements for control equipment
CAN/CSA C22.2 No. 62109-1	Safety of Power Converters for use in Photovoltaic Power Systems – Part 1: General Requirements
CAN/CSA C22.2 No. 62109-2	Safety of Power Converters for use in Photovoltaic Power Systems – Part 2: Particular Requirements for Inverters
CAN/CSA C22.2 No. 62368-1	Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements
<i>International Standards</i>	
IEEE 1547	IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems
IEEE 1547.1	Standard for Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems
IEC 60065; EN 60065	Audio, Video and Similar Electronic Apparatus – Safety Requirements 3
EN 60335-1; IEC 60335-1	Household and Similar Electrical Appliances
IEC/EN 60601-1	Medical Electrical Equipment. Part 1: General Requirements for Safety and Essential Performance
IEC/EN 60601-1-1	Medical Electrical Equipment– Part 1: General Requirements for Safety - Collateral Standard: Safety Requirements for Medical Electrical Systems
IEC 60601-1-6; EN 60601-1-6	Medical electrical equipment – Part 1-6: General requirements for basic safety and essential performance – Collateral standard: Usability

<u>Product Safety Standard³:</u>	<u>Title:</u>
IEC 60601-1-11; EN 60601-1-11	Medical Electrical Equipment and Medical Electrical Systems Used in the Home Healthcare Environment
IEC 62366-1; EN 62366-1	Medical Devices - Part 1: Application of Usability Engineering to Medical Devices
IEC 60601-2-10; EN 60601-2-10	Medical electrical equipment – Part 2-10: Particular requirements for the basic safety and essential performance of nerve and muscle stimulators
ISO 80601-2-12	Medical electrical equipment – Part 2-12: Particular Requirements for Basic Safety and Essential Performance of Critical Care Ventilators
IEC 60601-2-18; EN 60601-2-18	Medical Electrical Equipment - Part 2-18: Particular Requirements For The Basic Safety And Essential Performance Of Endoscopic Equipment
IEC/EN 60601-2-26	Medical electrical equipment — Part 2-26: Particular requirements for the basic safety and essential performance of electroencephalographs
IEC/EN 60601-2-27	Medical electrical equipment – Part 2-27: Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment
IEC/EN 60601-2-46	Medical electrical equipment - Part 2-46: Particular requirements for the basic safety and essential performance of operating tables
IEC/EN 60601-2-47	Medical electrical equipment – Part 2-47: Particular requirements for the basic safety and essential performance of ambulatory electrocardiographic systems
IEC/EN 60601-2-52	Medical electrical equipment — Part 2-52: Particular requirements for the basic safety and essential performance of medical beds
ISO 80601-2-55	Medical electrical equipment – Part 2-55: Particular Requirements for the Basic Safety and Essential Performance of Respiratory Gas Monitors
ISO 80601-2-61	Medical electrical equipment – Part 2-61: Particular Requirements for Basic Safety and Essential Performance of Pulse-oximeter Equipment
ISO 80601-2-72	Medical Electrical Equipment – Part 2-72: Particular Requirements for Basic safety and essential performance of Home Healthcare environment Ventilators for Ventilator-dependent Patients
IEC 60950-1; EN 60950-1	Information Technology Equipment – Safety – Part 1: General Requirements
IEC 60950-21; EN 60950-21	Information Technology Equipment – Safety – Part 21: Remote Power Feeding
IEC 60950-22; EN 60950-22	Information Technology Equipment – Safety – Part 22: Equipment Installed Outdoors
IEC 60950-23	Information Technology Equipment – Safety – Part 23: Large Data Storage Equipment

<u>Product Safety Standard[†]:</u>	<u>Title:</u>
IEC 61010-1; EN 61010-1	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements
IEC 61010-2-010; EN 61010-2-10	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 2-010: Particular Requirements for Laboratory Equipment for the Heating of Materials
IEC 61010-2-030; EN 61010-2-030	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 2-030: Particular Requirements for Testing and Measuring Circuits
IEC 61010-031; EN 61010-031	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 031: Safety Requirements for Hand-Held Probe Assemblies for Electrical Measurement and Test
IEC 61010-2-011; EN 61010-2-011	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-011: Particular requirements for refrigerating equipment
IEC 61010-2-012; EN 61010-2-012	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-012: Particular requirements for climatic and environmental testing and other temperature conditioning equipment
IEC/EN 61010-2-020	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-020: Particular requirements for laboratory centrifuges
IEC/EN 61010-2-051	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-051: Particular requirements for laboratory equipment for mixing and stirring
IEC/EN 61010-2-081	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes
IEC/EN 61010-2-101	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment
IEC/EN 61010-2-201	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-201: Particular requirements for control equipment
IEC 62368-1; EN 62368-1	Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements
<i>Israeli Standards</i>	
SI 62368 Part 1	Audio/Video, Information and Communication Technology Equipment - Safety Requirement

[†] Accreditation does not imply acceptance to the FCC equipment authorization program. Please see the FCC website (<https://apps.fcc.gov/oetcf/eas/>) for a listing of FCC approved laboratories.

²A2LA provides accreditation to the U.S. EPA's *Conditions and Criteria for Recognition of Laboratories for the ENERGY STAR Program* by verifying an organization's compliance to A2LA document *R222 - Specific Requirements - EPA ENERGY STAR Accreditation Program* and to the related test methods listed above.

Accreditation by A2LA does not infer Recognition by the EPA for ENERGY STAR testing. Please verify this organization's recognition status by using the EPA's searchable database, located at http://www.energystar.gov/index.cfm?fuseaction=recognized_bodies_list.show_RCB_search_form

³ This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.

⁴ This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method(s) itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method(s) has been withdrawn.

⁵ When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard measurement method, per part C., Section 1 of A2LA *R101 - General Requirements- Accreditation of ISO-IEC 17025 Laboratories*.



Accredited Laboratory

A2LA has accredited

BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC.

Littleton, MA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the A2LA R222 - Specific Requirements - EPA ENERGY STAR Accreditation Program and the A2LA R256 – Specific Requirements – FDA ASCA Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 28th day of July 2021.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1627.01
Valid to July 31, 2025
Revised December 14, 2023

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.