



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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ELECTRICAL

Valid To: September 30, 2024

Certificate Number: 2742.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following EMC, Product Safety, Radio and Telecommunication tests:

Test Technology:

Test Method(s)^{1,2}:

EN & IEC – Emissions

IEC/CISPR 11; EN 55011;
IEC/CISPR 22; EN 55022;
IEC/CISPR 32; EN 55032;
IEC 61000-3-2; EN 61000-3-2;
IEC 61000-3-3; IEC 61000-3-3

Immunity

IEC 61000-4-2; EN 61000-4-2;
IEC 61000-4-3; EN 61000-4-3;
IEC 61000-4-4; EN 61000-4-4;
IEC 61000-4-5; EN 61000-4-5;
IEC 61000-4-6; EN 61000-4-6;
IEC 61000-4-8; EN 61000-4-8;
IEC 61000-4-11; EN 61000-4-11

Mexico – Emissions

NOM-084-SCT1-2002, Sections: 5.1, 5.2, 5.3, 5.4, 5.5 (includes all subsections); NOM-088/2-SCT1-2002, Sections: 6.1, 6.2, 6.3, 6.4 (includes all subsections); IFT-008-2015, Sections: 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7 (includes all subsections except 5.3.4 and 5.3.5); IFT-008-2015, Subsections: 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.M1, 5.4.1.M2, 5.4.2. A1-M1, 5.4.2. A2, 5.4.2. A2-M2, 5.4.2. A2-M3, 5.4.2. A2-M4, 5.4.3, 5.5.1, 5.5.2, 5.6.1, 5.6.1.1, 5.6.1.2, 5.6.2; IFT-004-2016 Subsections: 6.1.1, 6.1.2.2, 6.1.3.2, 6.1.3.3, 6.1.3.4, 6.1.4.2, 6.1.5, 6.1.6, 6.1.7, 6.1.8.2, 6.1.8.3, 6.1.8.4, 6.1.9, 6.1.10.1, 6.1.10.2, 6.1.11, 6.1.12.2.1

Test Technology:**Test Method(s)^{1, 2:}**

Korea – Emissions & Immunity

KS C IEC 60601-1-2:2012;
KS X 3140:2014; KS C IEC 60947-1:2017;
KS C IEC 60947-2:2019;
KS C IEC 60947-4-1:2016;
KS C 9800-3:2017; KS C 9040-2:2017;
KS B 6955:2019; KS B 6945:2019;
KN 61000-2-2; KN 61000-2-4;
KN 61000-3-2; KN 61000-3-3; KN 61000-3-11;
KN 61000-3-12;
KN 61000-4-2; KN 61000-4-3; KN 61000-4-4; KN 61000-4-5;
KN 61000-4-6; KN 61000-4-8; KN 61000-4-9; KN 61000-4-11;
KS C 9610-6-1:2019; KS C 9610-6-2:2019;
KS C 9610-6-3:2017; KS C 9610-6-4:2022;
KS C 9811:2019; KS C 9814-1:2022;
KS C 9814-2; KS C 9815:2019;
KN 16-1-1; KN 16-1-2; KN 16-1-3; KN 16-1-4; KN 16-1-5;
KN 16-2-1; KN 16-2-2; KN 16-2-3; KN 16-2-4;
KS X 3143:2020; KN 20; KN 22; KN 24;
KS C 9832:2019;
KS C 9835:2019; KS C 9990:2017; KN 50; KN 51;
KS X 3141:2015;
KS X 3124:2020; KS X 3137:2014; KS X 3125:2020;
KS X 3127:2014; KS X 3128:2014; KS X 3130:2014;
KS X 3131:2014; KS X 3136:2014; KS X 3126:2020;
KS X 3132:2014; KS X 3139:2014; KS X 3134:2014;
KS X 3138:2015; KS X 3135:2020; KS X 3129:2020

Israel EMC & Immunity

SI 961 Part 32; SI 961 Part 24

US – Emissions
(up to 40 GHz)47 CFR FCC Part 18 (using MP-5:1986);
47 CFR FCC Part 15, Subpart B (using ANSI C63.4:2014)

Canada – Emissions

ICES-001; ICES-003; ICES-005; ICES-006

Vietnam – Emission & Immunity

QCVN 118:2018/BTTTT;
TCVN 7317:2003 (CISPR 24:1997);
QCVN 112:2017/BTTTT;
QCVN 114:2017/BTTTTAustralia / New Zealand –
Emissions and ImmunityAS/NZS CISPR 11; AS/NZS CISPR 14.1; AS/NZS CISPR 22;
AS/NZS CISPR 24; AS/NZS CISPR 32; AS/NZS 61000.3.2;
AS/NZS 61000.3.3; AS/NZS 61000.6.3; AS/NZS 61000.6.4

Japan – Emissions

JEITA IT-3001; VCCI-CISPR 32:2016 (up to 6 GHz)

China – Emissions

GB9254; GB17625.1

Taiwan – Emissions

CNS 13438 (up to 6 GHz); CNS 13783-1;
CNS 13803; CNS 13439

Singapore – Emissions & Immunity IMDA TS EMC

Test Technology:

US – Radio

Canada – Radio

CE – Radio

Test Method(s)^{1,2:}

47 CFR FCC Part 15, Subparts C, D, E, F, H
(using ANSI C63.10-2013, ANSI C63.17-2013, KDB 905462);
47 CFR FCC Parts 20, 22, 24, 25, 27, 73, 74, 80, 87, 90, 95, 96,
97, 101 (using TIA-603-E-2016, ANSI/TIA-102.CAAA-E,
ANSI C63.26:2015)

RSS-102 measurement (SAR, RF Exp., NS, LPD); SPR-002;
RSS-HAC; 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-140; 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-211; RSS-213; RSS-215; RSS-216; RSS-220; RSS-222;
RSS-236; RSS-238; RSS-243; RSS-244; RSS-246; RSS-247;
RSS-248; RSS-251; RSS-252; RSS-287; RSS-288; RSS-310;
RSS-Gen

ETSI EN 300 086-1; ETSI EN 300 224-1; ETSI EN 300 224-2;
ETSI EN 300 279; ETSI EN 300 339; ETSI EN 300 385;
ETSI EN 301 502; ETSI EN 301 511; ETSI EN 301 751;
ETSI EN 301 753; ETSI EN 301 783-2; ETSI EN 301 796;
ETSI EN 301 797; ETSI EN 301 839-1; ETSI EN 301 839-2;
ETSI EN 301 840-2; ETSI EN 301 843-1; ETSI EN 301 843-2;
ETSI EN 301 843-3; ETSI EN 301 843-4; ETSI EN 301 843-5;
ETSI EN 301 843-6; ETSI EN 301 893; ETSI EN 301 908-01;
ETSI EN 301 908-02; ETSI EN 301 908-03;
ETSI EN 301 908-04; ETSI EN 301 908-05;
ETSI EN 301 908-06; ETSI EN 301 908-07;
ETSI EN 301 908-08; ETSI EN 301 908-09;
ETSI EN 301 908-10; ETSI EN 301 908-11;
ETSI EN 301 908-13; ETSI EN 301 929-2; ETSI EN 302 017-1;
ETSI EN 302 017-2; ETSI EN 302 018-2;
ETSI EN 302 054-2; ETSI EN 302 064-2; ETSI EN 302 066-2;
ETSI EN 302 077-2; ETSI EN 302 195-2; ETSI EN 302 208-1;
ETSI EN 302 208-2; ETSI EN 302 217-1; ETSI EN 302 217-2-
1; ETSI EN 302 217-2-2; ETSI EN 302 217-3;
ETSI EN 302 217-4-1; ETSI EN 302 217-4-2;
ETSI EN 302 245-2; ETSI EN 302 288-1; ETSI EN 302 288-2;
ETSI EN 302 291-1; ETSI EN 302 291-2;
ETSI EN 302 296; ETSI EN 302 297; ETSI EN 302 326-1;
ETSI EN 302 326-2; ETSI EN 302 326-3; ETSI EN 302 372-2;
ETSI EN 302 426; ETSI EN 302 454-2; ETSI EN 302 480;
ETSI EN 302 500-1; ETSI EN 302 500-2; ETSI EN 302 502;
ETSI EN 302 510-2; ETSI EN 302 625; ETSI EN 300 086-2;
ETSI EN 300 113-1; ETSI EN 300 113-2; ETSI EN 300 197;
ETSI EN 300 198; ETSI EN 300 220; ETSI EN 300 220-1;
ETSI EN 300 220-2; ETSI EN 300 220-3; ETSI EN 300 296-1;
ETSI EN 300 296-2; ETSI EN 300 328; ETSI EN 300 330-1;
ETSI EN 300 330-2; ETSI EN 300 390-1;
ETSI EN 300 390-2; ETSI EN 300 422-1;
ETSI EN 300 422-2; ETSI EN 300 440-1; ETSI EN 300 440-2;



Test Technology:**Test Method(s)^{1, 2:}**CE – Radio (*cont.*)

ETSI EN 300 454-1; ETSI EN 300 454-2; ETSI EN 300 718-2;
ETSI EN 301 166-1; ETSI EN 301 166-2; ETSI EN 301 357-1;
ETSI EN 301 357-2; ETSI EN 301 390; ETSI EN 301 908-15;
ETSI EN 302 065-1; ETSI EN 303 883; ETSI TS 102 883;
ETSI TS 103 361; ETSI EN 301 489-33; ETSI EN 301 489-50;
ETSI EN 303 413; ETSI EN 300 386

Mexico – Radio

NOM-083-SCT1-2002; NOM-121-SCT1-2009;
NOM-EM-016-SCFI-2015, IFT-004-2016 with
NOM-196-SCFI-2016, IFT-005-2016 with NOM-218-SCFI-
2017, IFT-008-2015 with NOM-208-SCFI-2016

Israel – Radio

Wireless Telegraph Ordinance (Ordinance Non-Application
Directive), 1982; Frequencies for GSM and UMTS Networks;
Checklist for Conformance Approval for DECT Equipment in
the Spectrum Division, July 2010; Type Approval – Licensed
Frequencies;
Type Approval – Licensed Exempt Frequencies

IMDA – Radio

IMDA TS DSRC; IMDA TS WSD;
IMDA TS DVB-T2 IRD; IMDA TS CT-CTS;
IMDA TS SRD; IMDA TS AR;
IMDA TS GMPCS; IMDA TS CMT;
IMDA TS CBS; IMDA TS UWB;
IMDA TS WBA; IMDA TS LMR

Vietnam – Radio

QCVN 10:2010/BTTTT; QCVN 11:2010/BTTTT;
QCVN 12:2015/BTTTT; QCVN 13:2010/BTTTT;
QCVN 14:2010/BTTTT; QCVN 15:2015/BTTTT;
QCVN 16:2018/BTTTT; QCVN 17:2010/BTTTT;
QCVN 19:2010/BTTTT; QCVN 20:2010/BTTTT;
QCVN 21:2010/BTTTT; QCVN 29:2011/BTTTT;
QCVN 30:2011/BTTTT; QCVN 31:2011/BTTTT;
QCVN 37:2018/BTTTT; QCVN 41:2016/BTTTT;
QCVN 42:2011/BTTTT; QCVN 43:2011/BTTTT;
QCVN 44:2018/BTTTT; QCVN 45:2011/BTTTT;
QCVN 47:2015/BTTTT; QCVN 53:2017/BTTTT;
QCVN 54:2020/BTTTT; QCVN 55:2011/BTTTT;
QCVN 56:2011/BTTTT; QCVN 65:2021/BTTTT;
QCVN 66:2018/BTTTT; QCVN 73:2013/BTTTT;
QCVN 74:2020/BTTTT; QCVN 77:2013/BTTTT;
QCVN 86:2019/BTTTT; QCVN 88:2015/BTTTT;
QCVN 91:2015/BTTTT; QCVN 92:2015/BTTTT;
QCVN 93:2015/BTTTT; QCVN 94:2015/BTTTT;
QCVN 95:2015/BTTTT; QCVN 96:2015/BTTTT;
QCVN 103:2016/BTTTT; QCVN 110:2017/BTTTT;
QCVN 111:2017/BTTTT; QCVN 116:2017/BTTTT;
QCVN 117:2020/BTTTT

Test Technology:

Korea – Radio

Test Method(s)^{1, 2:}

Regulations on Radio Equipment
(Ordinance of MSIT No. 86, Jan 4, 2022);
Unlicensed Radio Equipment Established Without Notice
(MSIT Public Notification 2022-20, May 10, 2022);
Technical Requirements for Radio Equipment for Maritime
Services (RRA Public Notification 2021-20, Nov. 17, 2021);
Technical Requirements for Radio Equipment for Aeronautical
Services (RRA Public Notification 2021-14, Aug 12, 2021);
Technical Requirements for Radio Equipment for
Telecommunication Services (RRA Public Notification 2022-15,
Jul 29, 2022);
Technical Requirements of the Other Service Radio Equipment
for Simple Radio Station, Space Station and Earth Station
(RRA Public Notification 2021-35, Dec 28, 2021);
Technical Requirements of Radio Wave Application
(RRA Public Notification 2016-20, Sep 27, 2016);
Measurements of the high-frequency output of radio wave
application equipment and antenna power calculation methods
(RRA Public Notification 2016-2);
Technical Requirements for Radio Equipment of Standard of
Safety Facility (RRA Public Notification 2016-20);
Technical Requirements for the Human Protection against
Electromagnetic Waves
(MSIT Public Notification 2019-4, Jan 16, 2019);
Technical Requirements for Measurement and Test Procedure of
Specific Absorption Rate (RRA Public Notification 2018-18,
Dec 7, 2018);
Technical Requirements for Measurement of Electromagnetic
Field Strength (RRA Public Notification 2021-22, Nov 29,
2021);
Equipment to be Subject of Test Procedure for Electromagnetic
Field Strength and Specific Absorption Rate
(RRA Public Notification 2021-16, Oct 12, 2021);
KS X 3123

Taiwan – Radio

LP0002:2020;
PLMN ALL:2020 (PLMN01, PLMN08, PLMN10 only);
PLMN07:2020

Australia – New Zealand –Radio

AS 2772.2; AS/NZS 4281; AS/NZS 4771;
Radiocommunications (Short range devices) Standard 2014
(AS/NZS 4268, AS/NZS 4268.1, AS/NZS 4268.2);
Radiocommunications (406 MHz Satellite Distress Beacons)
Standard 2014 (AS/NZS 4280, AS/NZS 4280.1:2017, AS/NZS
4280.2:2017);
Radiocommunications (Cordless Telephone) Standard 2008
(AS/NZS 4281:2007);
Radiocommunications (Analogue Speech (Angle Modulated
Equipment) Standard 2014 (AS/NZS 4295:2015);
Radiocommunications (121.5 MHz and 243.0 MHz Emergency
Position Indicating Radio Beacons) Standard 2014 (AS/NZS
4330:2006);



Test Technology:**Test Method(s)^{1, 2:}**

Australia – New Zealand –Radio
(cont.)

Radiocommunications (UHF CB Radio Equipment) Standard 2011 (No.1) (AS/NZS 4365:2011);
Radiocommunications (VHF Radiotelephone Equipment – Maritime Mobile Service) Standard 2018 AS/NZS ETSI EN 301 025:2018, AS/NZS ETSI EN 302 885:2018, ETSI EN 301 025, ETSI EN 301 178, ETSI EN 302 885 V2.2.2 (2017-03);
Radiocommunications (MF and HF Radiotelephone Equipment – International Maritime Mobile Service) Standard 2014 (AS/NZS 4582:2004), ETS 300 373:1995 MOD;
Radiocommunications (118 MHz to 137 MHz Amplitude Modulated Equipment – Aeronautical Radio Service) Standard 2012 (AS/NZS 4583:2016);
Radiocommunications (Paging Service Equipment) Standard 2014 (AS/NZS 4769.1:2000, AS/NZS 4769.2:2000);
Radiocommunications (MF and HF equipment – Land Mobile Service) Standard 2014 (AS/NZS 4770:2000);
Radiocommunications (Digital Cordless Communications Devices – DECT Devices) Standard 2017;
Radiocommunications (Digital Cordless Communications Devices – PHS Devices) Standard 2007;
AR IB RCR STD-28; ETSI EN 301 406

Hong Kong – Radio

HKCA 1001; HKCA 1002; HKCA 1003; HKCA 1004; HKCA 1006; HKCA 1007; HKCA 1008; HKCA 1010; HKCA 1015; HKCA 1016; HKCA 1019; HKCA 1020; HKCA 1022; HKCA 1026; HKCA 1033; HKCA 1034; HKCA 1035; HKCA 1036; HKCA 1037; HKCA 1039; HKCA 1041; HKCA 1042; HKCA 1043; HKCA 1044; HKCA 1045; HKCA 1046; HKCA 1047; HKCA 1048; HKCA 1049; HKCA 1050; HKCA 1052; HKCA 1053; HKCA 1054; HKCA 1056; HKCA 1057; HKCA 1061; HKCA 1064; HKCA 1065; HKCA 1066; HKCA 1067; HKCA 1068; HKCA 1069; HKCA 1070; HKCA 1071; HKCA 1072; HKCA 1073; HKCA 1074; HKCA 1075; HKCA 1076; HKCA 1077; HKCA 1080; HKCA 1081

Japan – Radio

ARIB STD-T66; ARIB STD-T81; ARIB STD-T89;
ARIB STD-T90; ARIB STD-T94 Fascicle 1;
RCR STD-1; RCR STD-29; RCR STD-33

SAR & RF Exposure

ANSI C95.1; AS/NZS 2772.2:2011;
CNS 14958-1; CNS 14959; EN 50371; EN 50383; EN 62233;
EN 62311; EN 62479; EN 50360; EN 50361; EN 50364;
FCC OET Bulletin 65 Supplement C; FCC OET Bulletin 65;
H46-2/99-273E; IEEE/IEC 62209-1528-2020; IEEE 1528:2013;
IEC 62209-1; IEC 62209-2; MSIP Public Notification 2015-17;
MSIP Public Notification 2015-18;
NZS 2772.1; Resolution N 533;
RRA Public Notification 2015-23

Japan – Notification No. 88 of
MIC 2004

Table No 13
Table No 21

CB Radio
Cordless Telephone



Test Technology:**Test Method(s)^{1, 2:}**

Table Nos 22-1 thru 22-17	Low Power Radio Equipment
Table No 36	Low Power Security System
Table No 43	Low Power Data Communication in the 2.4 GHz Band
Table No 44	Low Power Data Communication in the 2.4 GHz Band
Table No 45	Low Power Data Communication in the 5.2, 5.3, 5.6 GHz Bands
Table No 46	Low Power Data Communication in the 25 and 27 GHz Bands
Table No 47	Base Station for 5 GHz Band Wireless Access System
Table No 47	Base Station for 5 GHz Band Wireless Access System (low spurious type)
Table No 47	Land Mobile Relay for 5 GHz Band Wireless Access System (limited for use in special zones)
Table No 47	Land Mobile Relay for 5 GHz Band Wireless Access System (limited for use in special zones, low spurious type)
Table No 47	Land Mobile Relay for 5 GHz Band Wireless Access System
Table No 47	Land Mobile Relay for 5 GHz Band Wireless Access System (low spurious type)
Table No 47	Land Mobile Relay for 5 GHz Band Wireless Access System (low power type)
Table No 50	Digital Cordless Telephone
Table No 50	PHS Base Station
Table No 50	PHS Land Mobile Station
Table No 50	PHS Relay Station
Table No 50	PHS Test Station
Table No 64	Mobile Station for Dedicated Short Range Communication Systems
Table No 64	Base Station for Dedicated Short Range Communication Systems
Table No 64	Test Station for Dedicated Short Range Communication Systems
Table No 70	UWB (Ultra-Wide Band) Radio System
Mobile Communications	3GPP TS 34.124 (sec. 8.2 only); 3GPP TS 51.010-1 (sec 12.2.1 & 12.2.2); 3GPP TS 36.124 (sec 8.2 only); PTCRB PPMD; PTCRB NAPRD.03
OTA (Over The Air)	CTIA Test Plan for Wireless Device Over-the-Air Performance; CTIA Test Plan for RF Performance Evaluation of Wi-Fi Mobile Converged Devices; 3GPP TS 34.114; Verizon Wireless Test Specifications: LTE Over the Air Radiated Performance Test Plan; Over-The-Air Radiated Performance for CDMA and LTE MultiMode Devices Test Plan 5G_NR_FR1_RFOTA_TestPlan
Bluetooth	Bluetooth Radio Conformance Testing: RF:1; RF-PHY1 (including 20 dBm LE, Core Spec, Addendum 5); RF-PHY2

Test Technology:**Test Method(s) ^{1, 2}:*****Product Family/Generic Standards***

AS/NZS 1044; AS/NZS 2279.3; AS/NZS 3548; AS/NZS 4251.1; AS/NZS 4251.2; AS/NZS CISPR 24; AS/NZS 61000.6.3;
AS/NZS 61000.6.4; ANSI C63.27; EN 50121-3-2; EN 12184; EN 50083-2; EN 50090-2-2; EN 50091-2; EN 50121-4; EN 50130-4; EN 50130-4 + A12; EN 50412-2-1; EN 50491-5-1; EN 50491-5-2; EN 50491-5-3; EN 55015; EN 55024; EN 60601-1-2; EN 302 480; EN 61000-6-1; EN 61000-6-2; EN 61000-6-3; EN 61000-6-4; EN 61204-3; EN 61326-1; IEC 61326-1; EN 61326-2-1; IEC 61326-2-1; EN 61326-2-2; IEC 61326-2-2; EN 61326-2-3; EN 61326-2-4; EN 61326-2-5; EN 61547; ETSI EN 301 489-01 (*excluding section 9.6*); ETSI EN 301 489-02; ETSI EN 301 489-03; ETSI EN 301 489-04; ETSI EN 301 489-05; ETSI EN 301 489-06; ETSI EN 301 489-07; ETSI EN 301 489-08; ETSI EN 301 489-09; ETSI EN 301 489-10; ETSI EN 301 489-11; ETSI EN 301 489-12; ETSI EN 301 489-13; ETSI EN 301 489-14; ETSI EN 301 489-15; ETSI EN 301 489-16; ETSI EN 301 489-17; ETSI EN 301 489-18; ETSI EN 301 489-19; ETSI EN 301 489-20; ETSI EN 301 489-22; ETSI EN 301 489-23; ETSI EN 301 489-24; ETSI EN 301 489-25; ETSI EN 301 489-26; ETSI EN 301 489-27; ETSI EN 301 489-28; ETSI EN 301 489-31; ETSI EN 301 489-32; ETSI EN 301 489-52; IEC/CISPR 24; IEC 60601-1-2; IEC 60945; IEC/CISPR 35; EN 55035; NOM-EM-017-SCFI-2016

Product Safety***North American Standards***

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

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 ²

Medical Electrical Equipment. Part 1: General Requirements for Safety

ANSI/AAMI ES60601-1 ²

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

Test Technology:**Test Method(s)^{1, 2:}**

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
Australian/New Zealand Standards 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
Canadian Standards CAN/CSA C22.2 No. 66.2	Low Voltage Transformers – Part 2: General Purpose Transformers

Test Technology:**Test Method(s)^{1, 2:}**

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 ²	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
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

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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
International Standards	
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 (1998, 2000, 2014)	Audio, Video and Similar Electronic Apparatus – Safety Requirements
IEC 60065 (2001/A1:2005/A2:2010); EN 60065 (2002/A1:2006/A11:2008/A2:2010/ A12:2011/ 2014/ AC:2016)	Audio, Video and Similar Electronic Apparatus – Safety Requirements 3
EN 60335-1:2012 (A1:2004, A2:2006 A11:2004, A12:2006, A13:2008, A14:2010, A15:2011/A2:2016); IEC 60335-1:2010 (A1:2004, A2:2006, A:2013)	Household and Similar Electrical Appliances
IEC 60601-1-1 (2000) ² ; EN 60601-1-1 (2001) ²	Medical Electrical Equipment – Part 1: General Requirements for Safety 1: Collateral Standard: Safety Requirements for Medical Electrical Systems
IEC 60601-1:2005 ² + Corr.1:2006/ Corr.2:2007/A1:2012; EN 60601-1 (2006, 2012); IEC 80601-2-60	Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance
IEC 60601-1-4 (1999, 2000 Edition 1.1); EN 60601-1-4	Collateral Standard: Programmable Electrical Medical Systems
IEC 60601-1-6 (2010 Edition 3.0, 2013 Edition 3.1); EN 60601-1-6	General Requirements for Basic Safety and Essential Performance – Collateral Standard: Usability
IEC 60601-1-11 (2010, 2011, 2015); EN 60601-1-11	General Requirements for Basic Safety and Essential Performance – Collateral Standard: Requirements for Medical Electrical Equipment and Medical Electrical Systems used in the Home Healthcare Environment
IEC 60601-2-10 (2001, 2012 Edition 2.0); EN 60601-2-10	Particular Requirements for the Safety of Nerve and Muscle Stimulators
IEC 60601-2-18 (2009 Edition 3.0); EN 60601-2-18	Particular Requirements for the Basic Safety and Essential Performance of Endoscopic Equipment

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IEC 60601-2-26 (2002, 2012 Edition 3.0);
EN 60601-2-26
IEC 60601-2-27 (2005, 2011 Edition 3.0, 2012 Edition 3.0);
EN 60601-2-27
IEC 60601-2-46 (1998, 2010 Edition 2.0);
EN 60601-2-46
IEC 60601-2-47 (2001, 2012 Edition 2.0)
IEC 60601-2-52 (2009, A:2010; A1:2015);
EN 60601-2-52
IEC 60950-1 (2005 /A1:2006 /A2:2010, 2013);
EN 60950-1 (2006 /A11:2009 /A1:2010 /A12:2010 / A2:2013)
IEC 60950-21 (2002);
EN 60950-21 (2003)
IEC 60950-22 (2005; 2016);
EN 60950-22 (2006, 2010)
IEC/EN 60950-23 (2005)

IEC/EN 61010-1 (2001, 2010, 2014, 2010/AMD1:2016)
IEC/EN 61010-2-010 (2003, 2014 Edition 3.0)

IEC/EN 61010-2-030 (2010)

IEC/EN 61010-031 (2002, A1:2008)

IEC/EN 61010-2-011

IEC/EN 61010-2-012

IEC/EN 61010-2-020

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Particular Requirements for the Safety of Electroencephalographs

Particular Requirements for the Safety of Electrocardiographic Monitoring Equipment

Particular Requirements for the Safety of Operating Tables

Particular Requirements for the Safety, Including Essential Performance of Ambulatory Electrocardiographic Systems
Particular Requirements for the Safety of Electrically Operated Hospital Beds

Information Technology Equipment – Safety – Part 1: General Requirements

Information Technology Equipment – Safety – Part 21: Remote Power Feeding
Information Technology Equipment – Safety – Part 22: Equipment Installed Outdoors
Information Technology Equipment – Safety – Part 23: Large Data Storage Equipment
Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 1: General Requirements

Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 2-010: Particular Requirements for Laboratory Equipment for the Heating of Materials
Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 2-030: Particular Requirements for Testing and Measuring Circuits
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
Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-011: Particular requirements for refrigerating equipment
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
Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-020: Particular requirements for laboratory centrifuges

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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 (2010; 2014); EN 62368-1	Audio/Video, Information and Communication Technology Equipment – Part 1: Safety Requirements
IEC 62366-1 (2015); EN 62366-1	Medical Devices - Part 1: Application of Usability Engineering to Medical Devices
ISO 80601-2-12	Medical electrical equipment – Part 2-12: Particular Requirements for Basic Safety and Essential Performance of Critical Care Ventilators
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
Israeli Standards SI 62368 Part 1	Audio/Video, Information and Communication Technology Equipment - Safety Requirement

*Limitations for listed standards are indicated by italics and Scope excludes protocol sections of applicable standards.

¹ When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is required to be using the current version within one year of the date of publication, per part C., Section 1 of A2LA R101 - General Requirements - Accreditation of ISO-IEC 17025 Laboratories.

² The laboratory is only accredited for testing activities outlined within the test methods listed above. Reference to any other activity within these standards, such as risk management or risk assessment, does not fall within the laboratory's accredited capabilities.

Testing Activities Performed in Support of FCC Declaration of Conformity and Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1³

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
<u>Unintentional Radiators</u> Part 15B	ANSI C63.4:2014	40000
<u>Industrial, Scientific, and Medical Equipment</u> Part 18	FCC MP-5 (February 1986)	40000
<u>Intentional Radiators</u> Part 15C	ANSI C63.10:2013	260000
<u>Unlicensed Personal Communication Systems Devices</u> Part 15D	ANSI C63.17:2013	20000
<u>U-NII without DFS Intentional Radiators</u> Part 15E	ANSI C63.10:2013	40000
<u>U-NII with DFS Intentional Radiators</u> Part 15E	FCC KDB 905462 D02 (v02)	40000
<u>UWB Intentional Radiators</u> Part 15F	ANSI C63.10:2013	200000
<u>White Space Device Intentional Radiators</u> Part 15H	ANSI C63.10:2013	40000
<u>Commercial Mobile Services (FCC Licensed Radio Service Equipment)</u> Parts 22 (cellular), 24, 25 (below 3 GHz), and 27	ANSI/TIA-603-E; ANSI/TIA-102.CAAA-E; ANSI C63.26-2015	260000
<u>General Mobile Radio Services (FCC Licensed Radio Service Equipment)</u> Parts 22 (non-cellular), 90 (below 3 GHz), 95 (below 3 GHz), 97 (below 3 GHz), and 101 (below 3 GHz)	ANSI/TIA-603-E; ANSI/TIA-102.CAAA-E; ANSI C63.26-2015	260000
<u>Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment)</u> Part 96	ANSI/TIA-603-E; ANSI/TIA-102.CAAA-E; ANSI C63.26-2015	260000
<u>Maritime and Aviation Radio Services</u> Parts 80 and 87	ANSI/TIA-603-E; ANSI C63.26-2015	260000

Testing Activities Performed in Support of FCC Declaration of Conformity and Certification in
Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1³

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
<u>Microwave and Millimeter Bands Radio Services</u>		
Parts 25, 30, 74, 90 (below 3 GHz), 95 (above 3 GHz), 97 (below 3 GHz) and 101	ANSI/TIA-603-E; ANSI C63.26-2015	260000
<u>Broadcast Radio Services</u>		
Parts 73 and 74 (below 3 GHz)	ANSI/TIA-603-E; ANSI C63.26-2015	260000
<u>RF Exposure</u>		
Devices Subject to SAR Requirements	IEEE Std 1528:2013	6000
<u>Signal Boosters</u>		
Part 20 (Wideband Consumer Signal Boosters, Provider-specific signal boosters, and Industrial Signal Boosters) Signal Boosters (Section 90.219)	ANSI C63.26-2015	260000

³Accreditation 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.



Accredited Laboratory

A2LA has accredited

BUREAU VERITAS CONSUMER PRODUCTS SERVICES, INC.

Milpitas, CA

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 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 11th day of November 2022.

A blue ink signature of Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2742.01
Valid to September 30, 2024

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