



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

EUROFINS ELECTRICAL AND ELECTRONIC TESTING NA, INC.

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ELECTRICAL

Valid To: January 31, 2025

Certificate Number: 0591.02

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance FDA ASCA Accreditation Program¹ requirements), accreditation is granted to this laboratory to perform the following EMC, Telecom, Environmental Simulation, and Safety tests:

Test Technology

Test Method(s)^{2,3}

Radiated and Conducted Emissions

47 CFR FCC Part 15B (using ANSI C63.4:2014);
47 CFR FCC Part 18 (using MP-5:1986);
Industry Canada ICES-001, 002, 003;
CISPR 32; KS C 9832;
EN 55025; EN 55022; CISPR 22;
AS/NZS/CISPR 11; AS/NZS/CISPR 22; AS/NZS/CISPR 32;
RRL 2006-84; RRL 2005-128; RRL 2005-96;
CISPR 11; EN 55011; KS C 9811;
EN 55014-1 (*excluding measurements of clicks*);
KS C 9814-1:2022;
VCCI V-3 (*up to 6 GHz*); VCCI CISPR-32:2016;
ASMI CNS 13763-1; AS/NZS 1044 (Appliances);
IMDA TS EMC; CNS 13438 (*up to 6 GHz*);
CNS 15936:2016; QCVN 118 (2018)

Harmonics and Flicker

EN 61000-3-2; EN 61000-3-3

Immunity

EN/IEC 61000-4-2; KS C 9610-4-2;
EN/IEC 61000-4-3; KS C 9610-4-3;
EN/IEC 61000-4-4; KS C 9610-4-4;
EN/IEC 61000-4-5; KS C 9610-4-5;
EN/IEC 61000-4-6; KS C 9610-4-6;
EN/IEC 61000-4-8; KS C 9610-4-8;
EN/IEC 61000-4-11; KS C 9610-4-11

Test Technology**Test Method(s)^{2,3}**

Family Product or Industry Specific Specifications

EN 55035 (*Excluding Broadcast Receivers*);
CISPR 35 (*Excluding Broadcast Receivers*);
EN/IEC 61000-6-1; EN/IEC 61000-6-2;
EN/IEC 61000-6-3; EN/IEC 61000-6-4;
EN 60669-2-1; IEC 60669-2-1; IEEE/ANSI C63.27;
IEEE/ANSI C62.41; IEEE/ANSI C37.90.1;
IEEE/ANSI C37.90.2; ANSI C12.16; IEEE 1613;
ETSI 300 132-2; ETSI EN 300 123 3-1; ETSI EN 300 386;
Telcordia GR-1089; NTT TR#176002;
EN/IEC 60255-26; EN/IEC 60601-1-2;
IEC 60601-1-2 Edition 4.1 2020-09;
KS C IEC 60601-1-2:2012;
EN/IEC 61326-1; EN/IEC 61326-2-1 to -5; EN/IEC 61850-3;
EN 50065-1; EN 50065-2-1 to -3;
EN 55015; EN 61547; EN 55103-1 to -3;
EN 50091-2; EN 50130-1;
EN 60945; EN 61131-2; EN 55024;
CISPR 24; CISPR 14;
KS C 9835; KS C 9610-6-1; KS C 9610-6-2; KS C 9610-6-3;
KS C 9610-6-4; KS C9547; KN 60945; KS C 9811;
KS C 9815; KN 19;
KS C 9990:2017; KN 50; KN 51; KS X 3141;
RTCA/DO-160G (*only Sections 15 to 22 and 25*) (*excluding reverberating chamber test methods*);
ISO 7176-21;
MIL-STD-461D using MIL-STD 462D (*excluding transient test RS105*);
MIL-STD-461E (*excluding transient test RS105*);
MIL-STD-461F (*excluding reverberating chamber test method RS-103 and transient test RS105*);
MIL-STD-461G (*excluding reverberating chamber test method RS-103 and transient test RS105*);
DOD-STD 1399 Section 070 Part 1 1979;
MIL-STD 1399 Sections 300A and 300B;
EN/IEC 61547; EN/IEC 50103-4; EN/IEC 50270;
EN/IEC 50121-4; EN/IEC 55103-1; EN/IEC 55103-2;
IEC 62236-4; IEC 61851-21-2;
ETSI ES 201 468, v1.4.1 and v1.6.1;
AIM 7351731;
ISO 14708-3 Section 27

Automotive EMC

CISPR 12; CISPR 25:2008; CISPR 25:2016; CISPR 25;
EN 55025; SAE J1455; ISO 11451-1, -2; ISO 11452-2;
ISO 11452-4; ISO 11452-9; ISO 13766; ISO 14982;
SAE J1113-1, -4, -13, -21, -22, -42; SAE J551;
ISO 7637-1, -2, -3, -4; ISO 10605; ISO 16750-2

Test Technology

Intentional and Unintentional
Radiators:
(Excluding SAR and HAC)

Test Method(s)^{2,3}

47 CFR FCC Parts 2, 11, 15 C/E/F/G/H (*using ANSI C63.4:2014, ANSI C63.10:2013 and FCC KDB 905462 D02 (v02)*);

47 CFR FCC Parts 22, 24, 25, 27, 30, 73, 74, 80, 87, 90, 95, 97 and 101 (*using ANSI C63.26:2015 and ANSI/TIA-603-E*);

RSS-102 measurement (RF Exposure Evaluation); 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-215; RSS-216; RSS-220; RSS-222; RSS-236; RSS-238; RSS-243; RSS-244; RSS-247; RSS-248; RSS-251; RSS-252; RSS-287; RSS-288; RSS-310; RSS-GEN;

ETSI TS 134.124 (*section 8.2, WCDMA/HSPA (bands I, II, IV, V, VI and VIII) spurious emissions only*);

3GPP TS 34.124 (*section 8.2, WCDMA/HSPA (bands I, II, IV, V, VI and VIII) spurious emissions only*);

ETSI TS 151.010-1 (*sections 12.2.1 and 12.2.2, GSM/GPRS/EDGE (bands 850, 900, 1800 and 1900) spurious emissions only*);

3GPP TS 51.010-1 (*sections 12.2.1 and 12.2.2, GSM/GPRS/EDGE (bands 850, 900, 1800 and 1900) spurious emissions only*);

ETSI EN 300 127; ETSI EN 300 132-1; ETSI EN 300 220-1; ETSI EN 300 220-2; ETSI EN 300 220-3; ETSI EN 300 328; ETSI EN 300 330-1; ETSI EN 300 330-2; ETSI EN 300 339; ETSI EN 300 342-1; ETSI EN 300 342-2;

ETSI EN 300 342-3; ETSI EN 300 385;

ETSI EN 300 431; ETSI EN 300 440-1;

ETSI EN 300 440-2; ETSI EN 300 487;

ETSI EN 300 609-4; ETSI EN 300 630;

ETSI EN 300 683; ETSI EN 300 826-1;

ETSI EN 301 489 series 1-52; ETSI EN 301 502;

ETSI EN 301 511 (*sections 5.2.16 to 5.2.19, GSM/GPRS/EDGE (bands 850, 900, 1800 and 1900) spurious emissions only*); ETSI 301 893;

ETSI 301 908-1; ETSI EN 301 908-11; ETSI EN 301 908-13; ETSI EN 301 908-15;

ETSI EN 301 1128; ETSI EN 301 1216; ETSI EN 301 1271;

ETSI EN 301 2062; ETSI EN 302 208-1;

ETSI EN 302 208-2; ETSI EN 302 502;

ETSI EN 303 413; ETSI EN 303 609;

Technical Requirements for the Radio Equipment for
Other Services than Broadcasting, Maritime,
Aeronautical and Telecommunications Service;

Test Technology

Intentional and Unintentional Radiators (*cont'd*)
(*Excluding SAR and HAC*)

Test Method(s)^{2,3}

RRL Notice No. 2006-84 Conformity Assessment Procedure for Type Official Approval and Type Registration of Radio Equipment RRL Notice No. 2005-128;
RTTE01; IS2045-0; LP0002 (2020); PLMN09; IS2034-1; KS X 3124; KS X 3137; KS X 3125;
KN 301 489-4; KS X 3127; KS X 3128; KS X 3129;
KN 301 489-7, -9, -13, -15, -17, -18, -20, -24, -26, -27, -32;
HKCA 1001; HKCA 1002; HKCA 1003; HKCA 1004;
HKCA 1005; HKCA 1006; HKCA 1007; HKCA 1008;
HKCA 1010; HKCA 1015; HKCA 1016; HKCA 1019;
HKCA 1020; HKCA 1022; HKCA 1026; HKCA 1027;
HKCA 1030; 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 1061; HKCA 1063;

IMDA TS SRD; IMDA TS LMR; IMDA TS AR;
IMDA TS CT-CTS; IMDA TS WBA; IMDA TS RPG;
IMDA TS UWB;

Technical Requirements for Telecommunications Terminal Equipment (RRA Public Notification 2022-16);
Conformity Assessment Procedure for Telecommunications Terminal Equipment (RRA Announce 2015-104);
Standard Test Procedure on the Technical Requirements for Telecommunications Terminal Equipment (RRA Public Notification 2012-17);
Regulations on Radio Equipment (Ordinance of MSIT NO. 86);
Unlicensed Radio Equipment Established Without Notice (MSIT Public Notification 2022-75);
Technical Requirements for the Human Protection against Electromagnetic Waves (MSIP Public Notification 2015-18);
Technical Requirements for Measurement and Test Procedure of Specific Absorption Rate (SAR) (RRA Public Notification 2015-23);
Technical Requirements for Measurement of Electromagnetic Field Strength (RRA Public Notification 2014-2);
Conformity Assessment Procedure of Radio Equipment (RRA Announce 2015-81);
AZ/NZS 4268, 4295, 4281, 4355, 4365, 4768, 4770, 4771;
ARIB STD-T96;
B1: Specified Radio Equipment Specified in Article 38-2-2, Paragraph 1, Item 1 of the Radio Law;
B2: Specified Radio Equipment Specified in Article 38-2-2, paragraph 1, Item 2 of the Radio Law;
B3: Specified Radio Equipment Specified in Article 38-2-2, Paragraph 1, Item 3 of the Radio Law;
ITU-TL.1200



Test Technology**Test Method(s)^{2,3}****Radio/Wireless**

KS X 3123; Regulations on Radio Equipment (Ordinance of MSIT NO. 63, Dec 24, 2020);
Unlicensed Radio Equipment Established Without Notice (MSIT Public Notification 2020-113, Jan 6, 2021);
Technical Requirements for the Human Protection against Electromagnetic Waves (MSIT Public Notification 2019-4);
Technical Requirements of the Other Service Radio Equipment for Simple radio station, Space station and Earth station (RRA Public Notification 2023-5);
Technical Requirements for Measurement of Electromagnetic Field Strength (RRA Public Notification 2021-22);

KS X 3124; KS X 3137; KS X 3125;
KN 301 489-4; KS X 3127; KS X 3128;
KN 301 489-7; KN 301 489-8; KS X 3130:2014;
KN 301 489-10; KN 301 489-11; KN 301 489-12;
KS X 3131:2014; KN 301 489-14; KS X 3136:2014;
KN 301 489-16; KS X 3126:2020; KS X 3132:2014;
KN 301 489-19; KS X 3139:2014; KN 301 489-21;
KN 301 489-22; KN 301 489-23; KN 301 489-24;
KN 301 489-25; KN 301 489-26; KS X 3134:2014;
KN 301 489-28; KN 301 489-29; KN 301 489-30;
KN 301 489-31; KS X 3138:2015

Mobile Communications

3GPP TS 36.124 (RSE Sec 8.2 only);
3GPP TS 36.143; 3GPP TS 38.124;
3GPP TS 38.113 (Section 7.1 and 7.2 only);
PTCRB PPMD;
PTCRB NAPRD.03;
PVG.04 PTCRB Radiated Spurious Emission

Bluetooth

RF:1;
RF-PHY1 (including 20dBm LE, Core Specification Addendum 5);
RF-PHY2;
RF-PHY3

Over-the-Air

CTIA Test Plan for Wireless Device Over-The-Air Performance;
CTIA Test Plan for RF Performance Evaluation of Wi-Fi;
3GPP TS 34.114 (for OTA Antenna Performance)

Cybersecurity⁴

CTIA Cybersecurity Certification Test Plan for IoT Devices;
ETSI TS 103 701

**Telecommunications
Analog, xDSL:**

TIA/EIA TSB 31-A,-B;
TIA/TSB-168-A;
TIA-968-B-1, -2 and -3,
CS-03, Part I (Issue 9, Amendment 5, March 2016);
CS-03, Part VIII (Issue 9, Amendment 6, February 2022);
ETSI ES 203 021;
AC/ACIF 02/03/04/06;
DPT-TE-001



Test Technology**Test Method(s)^{2,3}****T1/DS1/E1/ISDN:**

TIA-968-B-1, -2, -3;
TIA/EIA TSB 31-A,-B;
TIA/TSB-168-A
CS-03, Part II, Issue 9, Amendment 1, 2012;
ITU-T G.703;

ITU G.823;
ETSI TBR 2/3/4/12/13;
AC/ACIF 016

NEBS

GR-1089; GR-3108, GR-3160;
Verizon CPE (NEBS Requirements for Customer Premises
Equipment (CPE) Devices);
Verizon Technical Purchasing Requirements (TPR)

**Telecommunications Overvoltage,
Overcurrent Central Office and
Customer Premise**

ITU-T K.20; ITU-T K.21; ITU-T K44; ITU-T K.45

Testing Activities performed under the scope of the U.S FDA ASCA Pilot 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) Pilot Program* published on September 25th, 2020, and in
accordance with all requirements of A2LA R256 *Specific Requirements- FDA ASCA Program*¹

Standards

IEC 60601-1-2 Edition 4.1 2020-09 CONSOLIDATED VERSION

ASCA Doc Number

19-36

¹ These methods have been assessed by A2LA according to A2LA's FDA ASCA Program requirements. Accreditation by A2LA does not imply FDA ASCA-Accreditation. All ASCA-accreditation decisions for testing laboratory applications are made solely by the FDA, a list of approved laboratories can be found at FDA.gov.

² 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*.

³ 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.

⁴ Accreditation to the requirements of the CTIA Certification Test Plan does not imply authorization by the CTIA Certification program. Please see the CTIA website <https://ctiacertification.org/test-labs/> for a listing of Authorized Test Labs (ATLs).



Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1⁵:

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
Unintentional Radiators Part 15B	ANSI C63.4:2014	40000
Industrial, Scientific, and Medical Equipment Part 18	FCC MP-5 (February 1986)	6000
Intentional Radiators Part 15C	ANSI C63.10:2013	40000
U-NIII without DFS Intentional Radiators Part 15E	ANSI C63.10:2013	40000
U-NII with DFS Intentional Radiators Part 15E	FCC KDB 905462 D02 (v02)	40000
UWB Intentional Radiators Part 15F	ANSI C63.10:2013	40000
BPL Intentional Radiators Part 15G	ANSI C63.10:2013	40000
White Space Device Intentional Radiators Part 15H	ANSI C63.10:2013	40000
Commercial Mobile Services (FCC Licensed Radio Service Equipment) Parts 22 (cellular), 24, 25 (below 3 GHz), and 27	ANSI/TIA-603-E; ANSI C63.26:2015	40000
General Mobile Radio Services (FCC Licensed Radio Service Equipment) Parts 22 (non-cellular), 90 (below 3 GHz), 95, 97 (below 3 GHz), and 101 (below 3 GHz)	ANSI/TIA-603-E; ANSI C63.26:2015	40000
Maritime and Aviation Radio Services (FCC Licensed Radio Service Equipment) Parts 80 and 87	ANSI/TIA-603-E; ANSI C63.26:2015	40000
Microwave and Millimeter Bands Radio Services (FCC Licensed Radio Service Equipment) Parts 25, 30, 74, 90 (below 3 GHz), 95, 97 (below 3 GHz), and 101	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.1⁵:

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
Broadcast Radio Services (FCC Licensed Radio Service Equipment) Parts 73 and 74 (Below 3 GHz)	ANSI/TIA-603-E; ANSI C63.26:2015	40000

⁵Accreditation 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

EUROFINS ELECTRICAL AND ELECTRONIC TESTING NA, INC.

Santa Clara, 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 laboratory also meets A2LA R222 - *Specific Requirements - EPA ENERGY STAR Accreditation Program* and 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 6th day of April 2023.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0591.02
Valid to January 31, 2025
Revised July 25, 2023

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