



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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ELECTRICAL

Valid To: August 31, 2022

Certificate Number: 4267.02

In recognition of the successful completion of the A2LA evaluation process accreditation is granted to this laboratory to perform the following tests on telecommunications terminal equipment, network equipment, information technology equipment, and medical electrical equipment:

<u>Test Technology:</u>	<u>Test Method(s) ¹:</u>
<i>Emissions</i>	
Conducted and Radiated	FCC Part 18 (using FCC MP-5:1986); FCC Part 15, Subpart B (using ANSI C63.4:2014); ICES-003
Harmonics	EN 61000-3-2; IEC 61000-3-2; AS/NZS 61000.3.2
Flicker	EN 61000-3-3; IEC 61000-3-3; AS/NZS 61000.3.3
<i>Immunity</i>	
Electrostatic Discharge (ESD)	EN 61000-4-2; IEC 61000-4-2
Radiated Immunity	EN 61000-4-3; IEC 61000-4-3
Electrical Fast Transient / Burst	EN 61000-4-4; IEC 61000-4-4
Surge	EN 61000-4-5; IEC 61000-4-5
Conducted Immunity	EN 61000-4-6; IEC 61000-4-6
Magnetic Field Immunity	EN 61000-4-8; IEC 61000-4-8
Pulse Magnetic Field	EN 61000-4-9; IEC 61000-4-9
Dips, Short Interrupts, Voltage Variations	EN 61000-4-11; IEC 61000-4-11

<u>Test Technology:</u>	<u>Test Method(s) ¹:</u>
<i>Product Family Standards</i>	CISPR 11; AS/NZS CISPR 11; CISPR 14-1; AS/NZS CISPR 14.1; CISPR 14-2; AS/NZS CISPR 14.2; CISPR 15 (<i>excluding insertion loss, outdoor lighting</i>); AS/NZS CISPR 15 (<i>excluding insertion loss, outdoor lighting</i>); CISPR 22; AS/NZS CISPR 22; CISPR 24; AS/NZS CISPR 24; CISPR 32; AS/NZS CISPR 32; CISPR 35; EN 50130-4; EN 55011; EN 55014-1; EN 55014-2; EN 55015 (<i>excluding insertion loss, outdoor lighting</i>); EN 55022; EN 55024; EN 55032; EN 55035; EN 61547; IEC 61547; EN 60601-1-2; IEC 60601-1-2; EN 60945 (<i>only EMC</i>); IEC 60945 (<i>only EMC</i>); EN 61000-6-1; IEC 61000-6-1; AS/NZS 61000.6.1; EN 61000-6-2; IEC 61000-6-2; AS/NZS 61000.6.2; EN 61000-6-3; IEC 61000-6-3; AS/NZS 61000.6.3; EN 61000-6-4; IEC 61000-6-4; AS/NZS 61000.6.4; EN 61326-1; IEC 61326-1; EN 62040-2 (<i>excluding Immunity to low-frequency signals</i>); IEC 62040-2 (<i>excluding Immunity to low-frequency signals</i>); EN 50121-3-2; IEC 62236-3-2; ETSI EN 300 386 V1.6.1; ICES-001; ICES-003; J55022(H22); VCCI V-3
<i>Radio (excluding HAC testing)</i>	
FCC Radio Testing	FCC Part 15, Subpart C (using ANSI C63.10:2013); FCC Part 15, Subpart D (using ANSI C63.17:2013); FCC Part 15, Subpart E (using ANSI C63.10:2013); FCC Part 15, Subpart E (using FCC KDB 905462 D02 (v01)); KDB Publication 789033; CFR 47, FCC Parts 22 (cellular), 22 (below 3 GHz), 24, 25 (below 3 GHz), 27, 90 (below 3 GHz), 95 (below 3 GHz), 97 (below 3 GHz), 101 (below 3 GHz), (using ANSI C63.26:2015 and KDB Publication 971168)

<u>Test Technology:</u>	<u>Test Method(s) ¹:</u>
Radio Communications	RSS-129; RSS-130; RSS-132; RSS-133; RSS-139; RSS-199; RSS-119; RSS-247; RSS-210; RSS-GEN; ETSI EN 300 086; ETSI EN 300 113; ETSI EN 300 219; ETSI EN 300 296; ETSI EN 301 489-1; ETSI EN 301 489-3; ETSI EN 301 489-5; ETSI EN 301 489-6; ETSI EN 301 489-9; ETSI EN 301 489-15; ETSI EN 301 489-17; ETSI EN 301 489-19; ETSI EN 301 489-33; ETSI EN 301 489-34; ETSI EN 301 511; ETSI EN 301 908-1; ETSI EN 301 908-2; ETSI EN 301 908-4; ETSI EN 301 908-13; ETSI EN 303 413; ETSI EN 300 220-1; ETSI EN 300 220-2; ETSI EN 300 220-3-1; ETSI EN 300 220-3-2; ETSI EN 300 220-4; ETSI EN 300 328; ETSI EN 300 330; ETSI EN 300 440; ETSI EN 301 357; ETSI EN 301 406 ETSI EN 301 893; ETSI EN 302 208; ETSI EN 303 417; ETSI EN 300 440; AS/NZS 4268; 3GPP TS 51 010-1; 3GPP TS 51 010-2; 3GPP TS 34.121-1; 3GPP TS 34.121-2; 3GPP TS 36.521-1; MIC Notice No.88 Annex29; MIC Notice No.88 Annex30; MIC Notice No.88 Annex43; MIC Notice No.88 Annex44; MIC Notice No.88 Annex45; MIC Notice No.88 Annex86
Bluetooth	RF.TS.5.0.1; RF-PHY1.TS.5.0.1; RF-PHY2.TS.5.0.1; External Protocol:1 TCRL 2017-2; Traditional Profile:1 TCRL 2017-2; GATT-Based Profile & Service:1.TCRL 2017-2
SAR / RF Exposure	IEEE Std. 1528:2013; RSS-102 (SAR); RSS-102 (RF Exposure); KDB 447498 D01; KDB 447498 D02; KDB 248227 D01; KDB 941225 D01; KDB 941225 D05; KDB 941225 D05A; KDB 941225 D06; KDB 941225 D07; KDB 865664 D01; KDB 865664 D02; KDB 648474 D04; KDB 643646 D01; EN 50360; EN 50566; EN 62209-1; EN 62209-2; EN 62311; EN 62479; EN 50364; EN 62391; EN 50663; MIC Notice No.88 Annex79

<u>Test Technology:</u>	<u>Test Method(s) ¹:</u>
<i>Over-the-Air Performance</i>	CTIA Test Plan for Wireless Device Over-the-Air-Performance (only clauses 5.2, 5.4-5.11, 6.2, 6.4-6.10, 6.15); CTIA Test Plan for RF Performance Evaluation of Wi-Fi; Mobile Converged Devices (excluding IEEE802.11n); 3GPP TS 34.114; 3GPP TS 25.144; 3GPP TR 37.902; ANSI/IEEE Std. 149 (only clauses 11, 12, 16)
<i>Automotive EMC</i>	CISPR 25; EN 50498 (Only test Broadband Radiated disturbances, Narrowband disturbances); EN 55025; ISO 10605 (excluding clause 10); ISO 11452-2; ISO 11452-4
<i>Product Safety</i>	
IT and Office Equipment	IEC 60950-1 ³ ; EN 60950-1 ³ ; UL 60950-1 ³ ; AS/NZS 60950-1 ³ ; CNS 14336-1; IEC 60950-22; EN 60950-22
Electronics, Entertainment	IEC 62368-1 ³ ; EN 62368-1 ³ ; UL 62368-1 ³ ; AS/NZS 62368-1 ³ ; IEC 60065; EN 60065; UL 60065; AS/NZS 60065
Miscellaneous	IEC 60695-2-10; EN 60695-2-10
Luminaires	IEC 60598-1; EN 60598-1; AS/NZS 60598.1 (above standards excluding clauses 4.4, 4.12.4, 4.12.5, 4.20, 4.24, 5.2.10.3, 10.3, 14.3); IEC 61347-1; EN 61347-1; AS/NZS 61347-1; IEC 61347-2-13; EN 61347-2-13; AS/NZS 61347-2-13
Household and Similar Equipment	IEC 60335-1; EN 60335-1; IEC 60335-2-8; EN 60335-2-8; IEC 60335-2-9; EN 60335-2-9; IEC 60335-2-13; EN 60335-2-13; IEC 60335-2-14; EN 60335-2-14; IEC 60335-2-15; EN 60335-2-15; IEC 60335-2-32; EN 60335-2-32; IEC 60335-2-23; EN 60335-2-23; IEC 60335-2-80; EN 60335-2-80; IEC 60335-2-84; EN 60335-2-84 (all above standards excluding clauses 10.3, 14, 16.2, 13.2, 22.3, 22.7, 22.16, 22.32, 22.47, 22.48, 23.3, 24, 25.15)

¹ When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is expected 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.

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.1 ²:

Rule Subpart/Technology	Test Method	Maximum Frequency
Unintentional Radiators Part 15B	ANSI C63.4:2014	40000 MHz
Industrial, Scientific, and Medical Equipment Part 18	FCC MP-5 (February 1986)	40000 MHz
Intentional Radiators Part 15C	ANSI C63.10:2013	40000 MHz
Unlicensed Personal Communication Systems Devices Part 15D	ANSI C63.17:2013	40000 MHz
U-NII without DFS Intentional Radiators Part 15E	ANSI C63.10:2013	40000 MHz
U-NII with DFS Intentional Radiators Part 15E	FCC KDB 905462 D02 (v02)	40000 MHz
Commercial Mobile Services (FCC Licensed Radio Service Equipment) Parts 22 (cellular), 24, 25 (below 3 GHz), and 27	ANSI C63.26-2015	40000 MHz
General Mobile Radio Services (FCC Licensed Radio Service Equipment) Parts 22 (non-cellular), 90 (below 3 GHz), 95 (below 3 GHz), 97 (below 3 GHz), and 101(below 3 GHz)	ANSI C63.26-2015	40000 MHz
RF Exposure Devices Subject to SAR Requirements	IEEE Std 1528:2013	6000 MHz

² 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.

³Exclusion Tables

Standard	Clause	Test/Remarks
IEC/EN/AS/NZS 60950-1	1.5 4.28 4.3.6 4.3.12 4.3.13 6.2.2 7 Annex Z	Components Cathode ray tubes Direct plug-in equipment Flammable liquids Radiation Impulse Test Connection to Cable Distribution Systems Protection against excessive sound pressure from personal music players
IEC/EN 60950-22	8.2 8.3 8.5.2 9.2 11	Resistance to ultra-violet radiation Resistance to corrosion Oil resistance Protection from plants and vermin Outdoor equipment containing valve regulated or vented batteries
IEC/EN 60065	6 14 18	Hazardous radiations Components Mechanical strength of picture tubes and protection against the effects of implosion
IEC/EN/AS/NZS 62368-1	4.7 5.4.4.6 10 Annex C Annex G Annex U	Equipment for direct insertion into mains socket-outlets Thin sheet material Radiation Ultra-violet radiation Components Cathode ray tubes



Accredited Laboratory

A2LA has accredited

KEHU-MORLAB TEST LABORATORY

Xiamen, People's Republic of China

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 18th day of February 2021.

A blue ink signature of Trace McInturff.

Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 4267.02
Valid to August 31, 2022

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