



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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ELECTRICAL

Valid to: April 30, 2019

Certificate Number: 3682.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following Telecommunications, Electromagnetic Compatibility Testing (EMC), and Radio Tests:

Test Technology:

Test Method(s)¹:

Emissions

Radiated and Conducted
(3m semi-anechoic chamber,
150 kHz to 40 GHz)

CFR 47, FCC Part 15, Subpart B,
(using ANSI C63.4:2014); CISPR 32; EN 55032;
CISPR 22; EN 55022;
GB 9254; AS/NZS CISPR 22; ICES-003 issue 6;
VCCI-V-3 (up to 6 GHz)

Harmonic Current Emissions

GB 17625.1; IEC 61000-3-2; EN 61000-3-2

Voltage Fluctuations and Flicker

GB 17625.2; IEC 61000-3-3; EN 61000-3-3

Immunity

Electrostatic Discharge (ESD)

GB/T 17626.2; IEC 61000-4-2; EN 61000-4-2

Radiated Immunity
(80 MHz to 6 GHz, 10 V/m)

GB/T 17626.3; IEC 61000-4-3; EN 61000-4-3

Electrical Fast Transient/Burst (EFT)

GB/T 17626.4; IEC 61000-4-4; EN 61000-4-4

Surge

GB/T 17626.5; IEC 61000-4-5; EN 61000-4-5

Conducted Immunity

GB/T 17626.6; IEC 61000-4-6; EN 61000-4-6

Power Frequency Magnetic Field

GB/T 17626.8; IEC 61000-4-8; EN 61000-4-8

Voltage Dips, Short Interruptions and
Voltage Variations

GB/T 17626.11; IEC 61000-4-11; EN 61000-4-11

Test Technology:

Generic / Product Family / Product Specific Standards

Test Method(s)!

GB/T 17799.1; IEC 61000-6-1; EN 61000-6-1;
GB/T 17799.2; IEC 61000-6-2; EN 61000-6-2;
ETSI EN 301 489-1, -3, -7, -17, -19, -24, -25, -52;
ETSI EN 303 345, 303 417, 300 330; BS EN 55020;
GB/T 17618; GB/T 19484.1; GB/T 22450.1;
CISPR24; EN 55024; YD/T 968; YD 1312.1; YD 1312.2;
YD 1312.3; YD 1312.8; YD/T 1592.1; YD/T 1595.1;
YD/T 1597.1; YD/T 2583.14;
AS/NZS CISPR 24; AS/NZS 61000.6.1

Radio (Transmitter and Receiver)
(excluding HAC testing)

Unlicensed Radio - FCC

CFR 47, FCC Part 15, Subpart C
(using ANSI C63.10:2013); RSS-247; RSS-210; RSS-GEN

CFR 47, FCC PART 15 E (UNII U-NII);
FCC KDB Publication 905462 D02 UNII DFS Compliance Procedures

Licensed Radio - FCC

CFR 47, FCC Parts 22, 24, 25, 27, 90
(using ANSI/TIA-603-C and ANSI/TIA-603-D)

European Union (EU)

ETSI EN 300 328; ETSI EN 301 893;
ETSI EN 300 440-1, -2; ETSI EN 301 511;
ETSI EN 301 908-1, -2, -13;
ETSI EN 303 413; AS/NZS 4268

Japan

MIC Notice No.88 Appendix Nos. 43 & 44;
MIC Notice No.88 Appendix Nos. 45 & 47;
MIC Notice No.88 Annexes 29 & 79;
MIC Notice No.88 Annex 86

RF Performance Measurements

Over-the-Air Performance (OTA)

CTIA Test Plan For Wireless Device Over-the-Air Performance Revision 3.5.2;
3GPP TS 34.114;
3GPP TS 37.144; 3GPP TS 37.544;
CTIA and Wi-Fi Alliance Test Plan for RF Performance Evaluation of Wi-Fi Mobile Converged Devices Version 2.0.2;
YD/T 1484.6; YD/T 2193;
YD/T 1484; YD/T 1977; YD/T 1978;
3GPP TS 25.144;
3GPP TS 25.914;
SFR Antenna Performances;
GSM Association TS-24;
KPI Radio Testing—Required by Bouygues Telecom;
Optus 3G Mobile Handset RF Sensitivity Requirements;
Optus 4G OTA Report Requirements

Test Technology:

Specific Absorption Rate (SAR)
(up to 6 GHz)

Test Method(s)!

ANSI/IEEE C95.1; IEEE Std 1528;
IEEE Std 1528:2013; IEEE 1528a; BS EN 62209-2;
EN 50360; IEC 62209-1, -2; EN 62209-1, -2; GB 8702;
IEC 62311; EN 62311; IEC 62479;
EN 62479; ICNIRP; YD/T 1644.1; GB 21288;
YD/T1644.2; EN 50566; RSS-102;
Australian Communications Authority
“Radiocommunications (Electromagnetic Radiation –
Human Exposure) Standard 2003”;
AS/NZS 2772.2; ARPANSA RPS3;
Specific Absorption Rate(SAR) Estimation for Cellular
Phone;
MIC Announcement No. 88 Annex 79 - Head SAR Test
Method

Radio Communications
WCDMA/GSM

ETSI TS 102 221; ETSI TS 102 230-1; ETSI TS 125 101;
3GPP TS 25.101; ETSI TS 125 133; 3GPP TS 25.133;
ETSI TS 126 131; 3GPP TS 26.131; ETSI TS 126 132;
3GPP TS 26.132; 3GPP TS 31 101; ETSI TS 131 102;
3GPP TS 31.102; ETSI TS 131 111; 3GPP TS 31.111;
3GPP TS 31 120; ETSI TS 131 121; 3GPP TS 31.121;
ETSI TS 131 124; 3GPP TS 31.124; ETSI TS 134 108;
3GPP TS 34.108; ETSI TS 134 109; 3GPP TS 34.109;
ETSI TS 134 121; 3GPP TS 34.121-1; ETSI TS 134 123-1;
3GPP TS 34.123-1; ETSI TS 134 123-2;
3GPP TS 34.123-2; ETSI TS 134 123-3;
3GPP TS 34.123-3; ETSI TS 134 171; 3GPP TS 34.171;
ETSI TS 151 010-1; 3GPP TS 51.010-1;
ETSI TS 151 010-2; 3GPP TS 51.010-2;
3GPP TS 51.010-4; 3GPP TS 34.121-2

LTE

ETSI TS 136 101; 3GPP TS 36.101;
ETSI TS 136 124; 3GPP TS 36.124;
ETSI TS 136 133; 3GPP TS 36.133;
ETSI TS 136 523-1; 3GPP TS 36.523-1;
ETSI TS 136 523-2; 3GPP TS 36.523-2;
ETSI TS 136 523-3; 3GPP TS 36.523-3;
ETSI TS 136 521-1; 3GPP TS 36.521-1;
ETSI TS 136 521-3; 3GPP TS 36.521-3;
3GPP TS 36.521-2; ETSI 137 571-1, -2, -3;
3GPP TS 37.571-1; 3GPP TS 37.571-2;
3GPP TS 37.571-3; ETSI TS 102 230-1; 3GPP TS 31.121;
3GPP TS 31.124; 3GPP TS 26.131; 3GPP TS 26.132

Application Enablers

OMA-ETS-DM; OMA-ETS-FUMO; OMA-ETS-MMS;
OMA-ETS-SUPL; OMA-ETS-SUPL-V1_0;
OMA-ETS-SUPL-V2_0; IMTC Ref A&B 3G-324M;
IMTC 3G-324M

Test Technology:

Test Method(s)¹:

Radio Communications (cont.)

Bluetooth RF Conformance Tests

TS, TSS & TP as outlined in the Bluetooth Qualification Program Test Case Reference List (TCRL);

Bluetooth Profile Conformance Tests

TS, TSS & TP as outlined in the Bluetooth Qualification Program Test Case Reference List (TCRL)

Bluetooth Profile Interoperability Tests

TS, TSS & TP as outlined in the Bluetooth Qualification Program Test Case Reference List (TCRL)

Acoustic Testing

EN 50332-1; EN 50332-2; YD/T 1538; YD/T 1884; Recommendation ITU-T P.1100 (Narrow-band hands-free communication in motor vehicles) (01/2015)-Acoustics; Recommendation ITU-T P.1110 (Wideband hands-free communication in motor vehicles) (01/2015)-Acoustics

Electrical Product Safety

**see Table #1 exclusion list below*

GB 4943.1; YD/T 965; IEC/EN 60950-1; (excluding clauses detailed in Table #1 below *) CSA 22.2 No.60950-1; AS/NZS 60950.1

On the following products or types of products:

Radio Equipment and Telecommunications Terminal Equipment (R&TTE), Information Technology Equipment (ITE)

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.

Exclusion Tables

*Table #1: Clauses excluded for electrical product safety

Clause	Test
2.10.3.4	MEASUREMENT OF TRANSIENT LEVELS
4.5.2, 4.5	BALL PRESSURE TEST
4.7.3.6	HIGH VOLTAGE (OVER 4 KV) FLAME TEST
5.3	SURGE TESTS
6.2.2.1	IMPULSE TEST
	SOUND LEVEL
6.3	PROTECTION OF THE TELECOMMUNICATION WIRING SYSTEM PROTECTION FROM OVERHEATING
6.5	SHORT DURATION IMPULSE
6.5.3	ACOUSTIC PRESSURE - ON-HOOK / OFF-HOOK
ANNEX A.6 – V-0, V-1, V2	FLAME TEST
ANNEX A.2.7	NEEDLE FLAME TEST
ANNEX A.3, 4.7.3.2	HIGH CURRENT ARCING IGNITION TEST

Clause	Test
ANNEX A.4, 4.7.3.2	ENCLOSURE HOT WIRE IGNITION TEST
ANNEX A.5, 4.6.2	HOT FLAMING OIL TEST
ANNEX A.7 - HBF, HF-1, HF-2	FLAMMABILITY TEST
ANNEX H, 4.3.13	IONIZING RADIATION MEASUREMENT TEST
ANNEX K.2, 1.5.3	200 CYCLE THERMOSTAT TEST
ANNEX K.3, 1.5.3	10,000 CYCLE THERMOSTAT ENDURANCE TEST
ANNEX K.4, 1.5.3	1000 CYCLE TEMPERATURE LIMITER TEST
ANNEX K.5, 1.5.3, 4.5.1	200 CYCLE THERMAL CUT-OUT TEST
6.4 - ANNEX NAC	OVERVOLTAGE TEST

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.1¹:

Rule Subpart/Technology	Test Method	Maximum Frequency
Unintentional Radiators Part 15B	ANSI C63.4:2014	40 GHz
Intentional Radiators Part 15C	ANSI C63.10:2013	26.5 GHz
U-NIII without DFS Intentional Radiators Part 15E	ANSI C63.10:2013	40 GHz
U-NIII with DFS Intentional Radiators Part 15E	FCC KDB 905462 D02 (v01)	40 GHz
Commercial Mobile Services (FCC Licensed Radio Service Equipment) Parts 22 (cellular), 24, 25 (non-microwave), and 27	ANSI/TIA-603-D	40 GHz
Devices Subject to SAR Requirements	IEEE Std 1528:2013	6 GHz

¹ 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.



Accredited Laboratory

A2LA has accredited

EAST CHINA INSTITUTE OF TELECOMMUNICATIONS

Shanghai, 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 17025:2005 *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 8 January 2009).



Presented this 15th day of March 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 3682.01
Valid to April 30, 2019
Revised February 21, 2019

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