



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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ELECTRICAL (EMC)

Valid to: December 31, 2020

Certificate Number: 3902.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above to perform the following electromagnetic compatibility tests:

**Test Technology:**

**Test Method(s)<sup>1</sup>:**

***Emissions – Unintentional Radiators***

Conducted and Radiated  
(3m semi-anechoic chamber)

CFR 47 FCC Part 15B (using ANSI C63.4:2014);  
FCC Part 18 (using FCC OST/MP-5-1986);  
CISPR 11; EN 55011; AS/NZS CISPR 11;  
CISPR 15; EN 55015;  
CISPR 32; EN 55032;  
VCCI V-3 (up to 6 GHz); GB 19286;  
ICES-003; ICES-005;  
IEC/EN 61000-6-3; IEC/EN 61000-6-4

Harmonics

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

Flickers

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

***Immunity***

Electrostatic Discharge (ESD)

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

Radiated Immunity

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

Electrical Fast Transient/Burst (EFT)

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

Surge

IEC/EN 61000-4-5; GB/T 17626.5; YD/T 993

Conducted Immunity

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

Power Frequency Magnetic Field

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

Voltage Dips, Short Interruptions  
Line Voltage Variations

IEC/EN 61000-4-11; GB/T 17626.11;  
IEC 61000-4-29; GB/T 17626.29; EN 61000-4-29

***Generic Standards***

IEC/EN 61000-6-1; IEC/EN 61000-6-2

**Test Technology:**

***Product Family Standards and Industry Standards***

**Test Method(s)<sup>1</sup>:**

CISPR 24; EN 55024; CISPR 35; EN 55035;  
IEC/EN 61547; EN 61326; EN 55103-2;  
EN 300 386; CISPR 14-2; EN 55014-2;  
IEC/EN 60601-1-2; IEC/EN 61326-2-6;  
EN 300 132; ETSI ES 201 468;  
EN 50130-4; GB 7260.2; IEC 62040-2;  
EN 62040-2; YD/T 1095; EN 61204-3; EN 50121-4;  
EN 50121-3-2; GB/T 19287; YD/T968; YD/T983;  
IEC 62493; EN 62493; GB 12668.3; IEC 61800-3;  
EN 61800-3;  
ETSI EN 301 489-1 (*excluding section 9.6*);  
ETSI EN 301 489-3; ETSI EN 301 489-4;  
ETSI EN 301 489-5; ETSI EN 301 489-6;  
ETSI EN 301 489-9; ETSI EN 301 489-13;  
ETSI EN 301 489-15; ETSI EN 301 489-17;  
ETSI EN 301 489-19; ETSI EN 301 489-27;  
ETSI EN 301 489-29; ETSI EN 301 489-31;  
ETSI EN 301 489-34; ETSI EN 301 489-35;  
ETSI EN 301 489-50; ETSI EN 301 489-52;  
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

***Emissions – Intentional Radiators***

Conducted and Radiated

(*up to 40 GHz*)

Unlicensed Radio - FCC

CFR47 FCC Part 2;  
CFR 47 FCC Part 15C (using ANSI C63.10:2013);  
CFR47 FCC Part 15D (using ANSI C63.17:2013);  
CFR47 FCC Part 15E (using ANSI C63.10 :2013 and  
FCC KDB905462 D02 (v02));  
CFR47 FCC Part 15F  
CFR47 FCC Part 20;  
CFR 47 FCC Part 22E, 22F, 22H;  
CFR47 FCC Part 24D, 24E;  
CFR47 FCC Part 25;  
CFR47 FCC Part 27L, 27M, 27H, 27C;  
CFR47 FCC Part 30;  
CFR47 FCC Part 73;  
CFR47 FCC Part 74;  
CFR47 FCC Part 80;  
CFR47 FCC Part 87;  
CFR47 FCC Part 90I, 90K, 90T, 90M, 90S, 90Y,  
90 DSRC;  
CFR47 FCC Part 95;  
CFR47 FCC Part 96;  
CFR47 FCC Part 97;  
CFR47 FCC Part 101 (*using ANSI/TIA-603-E: 2016,  
TIA-102.CAAA-E, ANSI/C 63.26: 2015*)

Licensed Radio - FCC



**Test Technology:**

Canada

European Union (EU)

**Test Method(s)<sup>1</sup>:**

RSS-GEN; RSS-210; RSS-310; RSS-247;  
RSS-123; RSS-137; RSS-216;  
RSS-236; RSS-119; RSS-182;  
RSS-125; RSS-127;  
RSS-132; RSS-133; RSS-139; RSS-199;  
RSS-130; RSS-131; SPR-002

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 300 330;  
ETSI EN 300 440; ETSI EN 300 328;  
ETSI EN 301 893; ETSI EN 302 502;  
ETSI EN 303 258; ETSI EN 302 208;  
ETSI EN 301 357; ETSI EN 300 422-1;  
ETSI EN 300 422-2; ETSI EN 300 422-3;  
ETSI EN 300 422-4; ETSI EN 300 487;  
ETSI EN 303 417; ETSI EN 303 345;  
ETSI EN 303 413; ETSI EN 301 839;  
ETSI EN 302 195; ETSI EN 302 537;  
ETSI EN 301 559; ETSI EN 303 203;  
ETSI EN 303 204; ETSI EN 300 086;  
ETSI EN 300 113;  
ETSI EN 300 219; ETSI EN 300 296;  
ETSI EN 300 390; ETSI EN 300 341;  
ETSI EN 301 166; ETSI EN 302 561;  
ETSI EN 300 392-2; ETSI EN 300 394-1;  
ETSI EN 300 396-2; ETSI EN 300 433;  
ETSI EN 301 783; ETSI EN 303 405;  
ETSI EN 303 035-1; ETSI EN 303 035-2;  
ETSI EN 301 178; ETSI EN 301 929;  
ETSI EN 302 885; ETSI EN 300 720;  
ETSI EN 303 402; ETSI EN 301 025;  
ETSI EN 300 698;  
ETSI EN 300 373-1; ETSI EN 300 373-2;  
ETSI EN 300 373-3;  
ETSI EN 301 511; ETSI EN 301 502;  
ETSI EN 303 609;  
ETSI EN 301 908-1; ETSI EN 301 908-2;  
ETSI EN 301 908-3; ETSI EN 301 908-4;  
ETSI EN 301 908-5; ETSI EN 301 908-6;  
ETSI EN 301 908-7; ETSI EN 301 908-11;  
ETSI EN 301 908-13; ETSI EN 301 908-14;  
ETSI EN 301 908-15;  
ETSI EN 301 406

**Test Technology:**

Australia

Japan

***Specific Absorption Rate (SAR)***

**Test Method(s)<sup>1</sup>:**

AS/NZS 4268; AS/NZS 4355;  
AS/NZS 4771;  
AS/NZS 4365;  
AS/NZS 4295;  
AS/NZS 4768.1, AS/NZS 4768.2;  
AS/NZS 4280.1, AS/NZS 4280.2;  
AS/NZS 4415.1, AS/NZS 4415.2;  
AS/CA S042.1, AS/CA S042.3,  
AS/CA S042.4;

Article 2 Paragraph 1 Item 19  
Article 2 Paragraph 1 Item 19-2  
Article 2 Paragraph 1 Item 19-3  
Article 2 Paragraph 1 Item 19-3-2  
Article 2 Paragraph 1 Item 1-10  
Article 2 Paragraph 1 Item 1-11  
Article 2 Paragraph 1 Item (11)-3(XZ)  
Article 2 Paragraph 1 Item (11)-7(MW)  
Article 2 Paragraph 1 Item (11)-19

IEEE Std.1528:2013, IEEE Std. C95.1;  
IEC 62209-1, IEC 62209-2, IEC 62232, IEC 62311,  
IEC 62479;  
FCC OET Bulletin 65 Supplement C,  
CFR FCC Part2.1091, CFR FCC Part2.1093;  
RSS102;  
EN 50360, EN 50566, EN 62311, EN 62479,  
EN 50663, EN 50385, EN 50401, EN 50364,  
EN 62209-1, EN 62209-2, EN 62232, EN62369-1;  
Australian Communications Authority "Radio  
communications (Electromagnetic Radiation-Human  
Exposure) Standard"  
AS/NZS 2772.2, RPS3;  
GB21288, YD/T 1644.1, YD/T 1644.2, GB/T28446.1

<sup>1</sup> 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.

**On the following products or types of products:**

Information Technology Equipment (ITE), Industrial, Scientific and Medical Equipment (ISM);  
Household Appliances, Electric Tools and similar Apparatus; Electrical Lighting and similar Equipment;  
Unintentional Radiators; Intentional Radiators; Sound and Television Broadcast Receivers and associated Equipment.

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<sup>2</sup>:

| <b>Rule Subpart/Technology</b>   | <b>Test Method</b>                                     | <b>Maximum Frequency (MHz)</b> |
|--|--|--------------------------------|
| Unintentional Radiators<br>Part 15B  | ANSI C63.4:2014  | 18000                          |
| Industrial, Scientific, and Medical Equipment<br>Part 18   | FCC MP-5 (February 1986)                               | 18000                          |
| Intentional Radiators<br>Part 15C  | ANSI C63.10:2013                                       | 40000                          |
| Unlicensed Personal Communication Systems<br>Part 15D  | ANSI C63.17:2013                                       | 40000                          |
| U-NII without DFS Intentional Radiators<br>Part 15E  | ANSI C63.10:2013                                       | 40000                          |
| U-NII with DFS Intentional Radiators<br>Part 15E   | FCC KDB 905462 D02 (v02)                               | 40000                          |
| UWB Intentional Radiators<br>Part 15F  | ANSI C63.10:2013                                       | 40000                          |
| Commercial Mobile Services (FCC Licensed Radio Service Equipment)<br>Parts 22 (cellular), 24, 25 (below 3 GHz), and 27   | ANSI/TIA-603-E;<br>TIA-102.CAAA-E;<br>ANSI C63.26:2015 | 40000                          |
| General Mobile Radio Services (FCC Licensed Radio Service Equipment)<br>Parts 22 (non-cellular), 90 (below 3 GHz), 95, 97 (below 3 GHz), and 101 (below 3 GHz) | ANSI/TIA-603-E;<br>TIA-102.CAAA-E;<br>ANSI C63.26:2015 | 40000                          |
| RF Exposure<br>Devices Subject to SAR Requirements   | IEEE Std 1528:2013                                     | 6000                           |
| Maritime and Aviation Radio Services<br>Parts 80 and 87  | ANSI/TIA-603-E;<br>ANSI C63.26:2015                    | 40000                          |
| <u>Microwave and Millimeter Bands Radio Services</u><br>Parts 25, 30, 74, 90 (M, DSRC, Y, Z), Part 95 (M and L), and 101                                       | ANSI/TIA-603-E;<br>TIA-102.CAAA-E;<br>ANSI C63.26:2015 | 40000                          |

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<sup>2</sup>:

| <b>Rule Subpart/Technology</b>   | <b>Test Method</b>                                    | <b>Maximum Frequency (MHz)</b> |
|--|---|--------------------------------|
| Broadcast Radio Services<br>Parts 73 and 74 (below 3 GHz)  | ANSI/TIA-603-E<br>TIA-102.CAAA-E<br>ANSI C63.26: 2015 | 40000                          |
| Signal Boosters<br>Part 20 (Wideband Consumer Signal Boosters, Provider-specific Signal Boosters, and Industrial Signal Boosters),<br>Section 90.219 | ANSI C63.26: 2015                                     | 40000                          |

<sup>2</sup> 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

### SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO., LTD.

*Shenzhen, 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 3<sup>rd</sup> day of December 2018.

A stylized black ink signature of the President and CEO, written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 3902.01  
Valid to December 31, 2020

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