



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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ELECTRICAL

Valid To: September 30, 2025

Certificate Number: 4302.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following electrical tests:

Test Technology:

Test Method(s)¹:

Emissions

Radiated and Conducted
(up to 26.5 GHz)

FCC 47 CFR Part 15, Subpart B (using ANSI C63.4:2014);
FCC 47 CFR Part 18 (using MP-5:1986);
CISPR 11; EN 55011; BS EN 55011; AS/NZS CISPR 11; J55011;
CISPR 12; EN 55012; BS EN 55012;
AS/NZS CISPR 12; CISPR 14-1; EN 55014-1; EN IEC 55014-1;
BS EN 55014-1; BS EN IEC 55014-1; AS/NZS CISPR 14.1;
J55014-1; CISPR 15; EN 55015; EN IEC 55015; BS EN 55015;
BS EN IEC 55015; AS/NZS CISPR 15; J55015; CISPR 22;
EN 55022; J55022; CISPR 32; EN 55032; BS EN 55032;
AS/NZS CISPR 32; J55032;
AS/NZS 61000.6.3; AS/NZS 61000.6.4;
GB 14023; GB 4343.1; GB 4824; GB/T 9254.1; GB/T 17743;
ICES-Gen; ICES-001; ICES-002; ICES-003; ICES-005; J55001

Radio

(excluding SAR and HAC,
up to 26.5GHz)

US

FCC 47 CFR Part 15, Subpart C (using ANSI C63.10:2013);
FCC 47 CFR Part 74 (below 3 GHz); ANSI/TIA-603 E

Canada

RSS-GEN; RSS-210; RSS-310; RSS-247;
RSS-123; RSS-135; RSS-215; RSS-216

Current Harmonics

EN 61000-3-2; EN IEC 61000-3-2;
BS EN 61000-3-2; BS EN IEC 61000-3-2;
GB 17625.1; IEC 61000-3-2;
EN 61000-3-12; BS EN 61000-3-12; IEC 61000-3-12

Test Technology:**Test Method(s)¹:**

Flicker and Fluctuations

EN 61000-3-11; EN IEC 61000-3-11;
BS EN 61000-3-11; BS EN IEC 61000-3-11;
EN 61000-3-3; BS EN 61000-3-3;
GB/T 17625.2;
IEC 61000-3-11; IEC 61000-3-3***Immunity***

Electrostatic Discharge

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

Radiated

*(80 MHz - 6 GHz, 28 V/m)*EN 61000-4-3; BS EN 61000-4-3;
IEC 61000-4-3;
GB/T 17626.3

Electrical Fast Transient/Burst

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

Surge

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

Conducted

GB/T 17626.6; IEC 61000-4-6;
EN 61000-4-6; BS EN 61000-4-6Power Frequency Magnetic
Field*(excluding short duration mode)*GB/T 17626.8; IEC 61000-4-8;
EN 61000-4-8; BS EN 61000-4-8Voltage Dips, Short
Interruptions, and Voltage
VariationsEN 61000-4-11; BS EN 61000-4-11;
GB/T 17626.11; IEC 61000-4-11

Harmonics and Interharmonics

EN 61000-4-13; BS EN 61000-4-13;
IEC 61000-4-13; GB/T 17626.13

Test Technology:***Generic/Product Specific EMC Standards*****Test Method(s)¹:**

CISPR 14-2; CISPR 24;
IEC 61547;
CISPR 35;
EN 50270; BS EN 50270;
EN 55014-2; EN IEC 55014-2;
BS EN 55014-2; BS EN IEC 55014-2;
EN 55024; BS EN 55024;
EN 61547; BS EN 61547;
EN 55035; BS EN 55035;
EN 55103-1; EN 55103-2; BS EN 55103-1; BS EN 55103-2;
IEC 60601-1-2; EN 60601-1-2; BS EN 60601-1-2;
IEC 61000-6-3; EN 61000-6-3; EN IEC 61000-6-3;
BS EN 61000-6-3; BS EN IEC 61000-6-3;
IEC 61000-6-4; EN 61000-6-4; EN IEC 61000-6-4;
BS EN 61000-6-4; BS EN IEC 61000-6-4;
IEC 61000-6-1; EN 61000-6-1; EN IEC 61000-6-1;
BS EN 61000-6-1; BS EN IEC 61000-6-1;
IEC 61000-6-2; EN 61000-6-2; EN IEC 61000-6-2;
BS EN 61000-6-2; BS EN IEC 61000-6-2;
IEC 61204-3; EN 61204-3; EN IEC 61204-3;
BS EN 61204-3; BS EN IEC 61204-3;
IEC 61326-1; EN 61326-1; EN IEC 61326-1;
BS EN 61326-1; BS EN IEC 61326-1;
IEC 61326-2-1; EN 61326-2-1; EN IEC 61326-2-1;
BS EN 61326-2-1; BS EN IEC 61326-2-1;
IEC 61326-2-2; EN 61326-2-2; EN IEC 61326-2-2;
BS EN 61326-2-2; BS EN IEC 61326-2-2;
IEC 61326-2-3; EN 61326-2-3; EN IEC 61326-2-3;
BS EN 61326-2-3; BS EN IEC 61326-2-3;
IEC 61326-2-4; EN 61326-2-4; EN IEC 61326-2-4;
BS EN 61326-2-4; BS EN IEC 61326-2-4;
IEC 61326-2-5; EN 61326-2-5; EN IEC 61326-2-5;
BS EN 61326-2-5; BS EN IEC 61326-2-5;
IEC 61326-2-6; EN 61326-2-6; EN IEC 61326-2-6;
BS EN 61326-2-6; BS EN IEC 61326-2-6;
IEC 61131-2; EN 61131-2; BS EN 61131-2;
EN 50130-4; BS EN 50130-4;
EN ISO 14982; BS EN ISO 14982;
GB 17799.3; GB 17799.4; GB/T 4343.2; GB/T 9254.2;
GB/T 17799.1; GB/T 17799.2; GB/T 18268.1; GB/T 18268.21;
GB/T 18268.22; GB/T 18268.23; GB/T 18268.24;
GB/T 18268.25; GB/T 18268.26; GB/T 18595; GB/T 15969.2;
GB/T 21560.3; GB/T 21398; GB/T 19954.1; GB/T 19954.2;
YY9706.102

Automotive Standards

EN 50498; BS EN 50498



Test Technology:**Test Method(s)¹:*****RF Exposure***

MPE Calculation only

RSS-102 measurement (RF Exposure);
IEC 62311; EN 62311; EN IEC 62311;
BS EN 62311; BS EN IEC 62311;
IEC 62479; EN 62479; BS EN 62479Assessment of lighting
equipment related to human
exposure to electromagnetic
fields

IEC 62493; EN 62493; BS EN 62493

Automotive Component EMC Test**Test Technology:****Test Method(s)/Standard(s):**

Electrostatic Discharge

SAE J1113-13; ISO 10605;
GB/T 19951

RF Conducted Emissions

SAE J1113-41; CISPR 25;
GB/T 18655; EN 55025; BS EN 55025

RF Radiated Emissions

UN-R10; SAE J1113-41;
CISPR 25; GB/T 18655;
EN 55025; BS EN 55025
EN 50498; BS EN 50498

RF Magnetic field Emissions

MIL-STD-461G;
GB/T 18387; GB 8702;
ICNIRP

Bulk Current Injection (BCI)

UN-R10;
SAE J1113-4;
ISO 11452-4; ISO 11452-1;
GB/T 33014.4; GB/T 33014.1Absorber-lined Shielded
Enclosure (ALSE) (*up to 6 GHz*)UN-R10;
SAE J1113-21;
ISO 11452-2; ISO 11452-1;
GB/T 33014.2; GB/T 33014.1

Conducted Transient Immunity

UN-R10;
SAE J1113-11; SAE J1113-12;
ISO 7637-2; ISO 7637-3; ISO 7637-1;
GB/T 21437.2; GB/T 21437.3;
EN 50498; BS EN 50498

Test Technology:**Test Method(s)/Standard(s):**

Conducted Transient Emission	SAE J1113-42; ISO 7637-2; GB/T 21437.2; EN 50498; BS EN 50498
Radiated Immunity from Portable Transmitters	ISO 11452-9; GB/T 33014.9
Immunity to Magnetic Fields	SAE J1113-22; ISO 11452-8; GB/T 33014.8
HV-LV coupling test	CISPR 25; GB/T 18655
Stripline (Emissions)	CISPR 25; GB/T 18655; EN 55025; BS EN 55025
Stripline (Immunity)	UN-R10; SAE J1113-23; ISO 11452-5; GB/T 33014.5; GB/T 33014.1
Electrical Loads	ISO 16750-2; GB/T 28046.2
Generic/Product Specific Automotive Component EMC Standards	TL 81000; VW 80000; PSA B21 7110; PSA B21 7112; Ford EMC-CS-2009; Ford FMC1278; Mazda MES PW 67602; GWM 3097; GWM 3172; GS95002-2; GS95002-3; GS95024-2; GS95025-1; Renault 36-00-808; Nissan 28401NDS02; RNDS-C-00513; Fiat 9.900111/01; Fiat 7 Z0446; Chrysler DC11224; Chrysler CS11979; TSC 0501G; TSC 0502G; TSC 0504G; TSC 0505G; TSC 0506G; TSC7026G; TSC 7034G; TES-0000048; CEVT 8888621495; CEVT 8888790454; CEVT 8888621494; MG 62.21.627; QFC-CC06-001A; JA3700-MH-3; Q/LQB S-52.1; Q/LQB S-5045; Q/LQB C-208; Q/JGAC 1523.029; Q/JGAC 1523.093; GWT A D05-02; GWT A D01; VS-00.35-L-10008; VS-00.34-L-10002; Q/DNQC021; Q/FPT 2800001; Q/FPT 2800002; BAS582; Volvo 331525_Errata; Volvo VEP GEN3 ECM_SPA2; Q/WM J023068B; Q/WM J023011C;



Test Technology:

Generic/Product Specific
Automotive Component EMC
Standards
(continued)

Test Method(s)/Standard(s):

Q/JXP 07JT.022; Q/JXP 07JT.023;
Q/AW TI0015; Q/AW TI0014;
Q/HH-TS001;
Q/JLY J7111029; Q/JLY J7110922; Q/JLY J7110779;
Q/JX 08128; Q/JX 08140;
Q/TJ TE 4600;
AEPMT-2.8.0.003; AEPMT.2.8.0.001;
Q/BNM-TTS-0401;
SMTC 3 800 006; CVTC 37003;
Q/MAT5501;
Q/JIDU 0018; Q/JIDU 0019;
Q/SQR E8-4;
Q/DH-YA07-06; Q/DH-YA07-05A;
MBN 10284-2; MBN 10567; MBN LV124-1;
Q/LP YSY0029;
BT/SGMWJ 08244;
NEV-STD-EE-0007;
Q/DFXK 198;
Q/BYDQ-A1901.706.3;
Q/EQCS-1204;
SYTC 37031;
Q/YX 531;
Jaguar Land Rover JLR-EMC-CS;
Jaguar Land Rover EMC-CS-2010JLR;
JS-TS-ZC-2021-0184;
ES-X82114_G_B_E;
BT/SGMWJ 08244

On the following products and materials:

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; RF Equipment

¹ 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*.



Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1²:

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
<u>Unintentional Radiators</u> Part 15B	ANSI C63.4:2014	26500
<u>Industrial, Scientific, and Medical Equipment</u> Part 18	FCC MP-5:1986	26500
<u>Intentional Radiators</u> Part 15C	ANSI C63.10:2013	26500

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.





Accredited Laboratory

A2LA has accredited

TUV RHEINLAND (GUANGDONG) LTD

Guangzhou, 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 6th day of September 2023.

A blue ink signature of Mr. Trace McInturff, written over a horizontal line.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 4302.01
Valid to September 30, 2025

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