



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD
Shenzhen Branch
No.1 Workshop, M-10, Middle Section,
Science and Technology Park
Shenzhen, Guangdong, 518057, People's Republic of China
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ELECTRICAL

Valid to: September 30, 2021

Certificate Number: 6399.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above, *as well as the two satellite laboratory locations listed below¹*, to perform the following EMC and Telecommunications tests:

Test Technology:

Test Method(s)²:

Emissions

Radiated and Conducted

CFR 47, FCC Part 15 Subpart B (using ANSI C63.4:2014);
CFR 47, FCC Part 18 (using MP-5:1986); CISPR 11; EN 55011;
BS EN 55011; AS/NZS CISPR 11; AS CISPR 11; CISPR 13;
EN 55013; BS EN 55013; AS/NZS CISPR 13; CISPR 14-1;
EN 55014-1; BS EN 55014-1; AS/NZS CISPR 14.1; CISPR 15;
EN 55015; BS EN 55015; EN IEC 55015; BS EN IEC 55015;
AS/NZS CISPR 15; AS CISPR 15; CISPR 22; EN 55022;
BS EN 55022; AS/NZS CISPR 22; EN 55032; BS EN 55032;
CISPR 32; VCCI V-3 (up to 6 GHz); ICES-001; ICES-003;
ICES-005; VCCI CISPR 32; AS/NZS CISPR 32; EN 50561-1;
BS EN 50561-1; EN 50412-2-1; BS EN 50412-2-1; EN 50498;
BS EN 50498; EN 55025; BS EN 55025; CISPR 25;
AS CISPR 14.1; BETS-7; CISPR 16-2-1; CISPR 16-2-2;
CISPR 16-2-3

Harmonic Current Emissions

IEC 61000-3-2; EN 61000-3-2; BS EN 61000-3-2;
EN IEC 61000-3-2; BS EN IEC 61000-3-2

Flicker Emissions

IEC 61000-3-3; EN 61000-3-3; BS EN 61000-3-3

Immunity

Electrostatic Discharge (ESD)

IEC 61000-4-2; EN 61000-4-2; BS EN 61000-4-2

Radiated Immunity (*up to 6 GHz*)

IEC 61000-4-3; EN 61000-4-3; BS EN 61000-4-3;
EN IEC 61000-4-3; BS EN IEC 61000-4-3

Electrical Fast Transient/Burst
(EFT)

IEC 61000-4-4; EN 61000-4-4; BS EN 61000-4-4

Test Technology:

Surge

Conducted Immunity

Power Frequency Magnetic Fields

Voltage Dips, Short Interruptions
and Variations***Generic/Product Family/ Product
Specific Standards*****Test Method(s)²:**

IEC 61000-4-5; EN 61000-4-5; BS EN 61000-4-5

IEC 61000-4-6; EN 61000-4-6; BS EN 61000-4-6

IEC 61000-4-8; EN 61000-4-8; BS EN 61000-4-8

IEC 61000-4-11; EN 61000-4-11; BS EN 61000-4-11;
EN IEC 61000-4-11; BS EN IEC 61000-4-11

EN 61000-6-1; BS EN 61000-6-1; IEC 61000-6-1;
EN IEC 61000-6-1; BS EN IEC 61000-6-1; EN 61000-6-2;
BS EN 61000-6-2; IEC 61000-6-2; EN IEC 61000-6-2;
BS EN IEC 61000-6-2; EN 61000-6-3; BS EN 61000-6-3;
IEC 61000-6-3; AS/NZS 61000.6.3; EN 61000-6-4;
BS EN 61000-6-4; IEC 61000-6-4; AS/NZS 61000.6.4;
AS 61000.6.4;
EN IEC 61000-6-4; BS EN IEC 61000-6-4; CISPR 14-2;
EN 55014-2; BS EN 55014-2; CISPR 20; EN 55020; BS EN 55020;
CISPR 24; EN 55024; BS EN 55024; EN 60601-1-2;
BS EN 60601-1-2; IEC 60601-1-2; EN 61326-2-6;
BS EN 61326-2-6; IEC 61326-2-6; EN 61326-1; BS EN 61326-1;
IEC 61326-1; EN 61326-2-1; BS EN 61326-2-1; IEC 61326-2-1;
EN 61326-2-2; BS EN 61326-2-2; IEC 61326-2-2; EN 61326-2-3;
BS EN 61326-2-3; IEC 61326-2-3; EN 61326-2-4;
BS EN 61326-2-4; IEC 61326-2-4; EN 61547; BS EN 61547;
IEC 61547; EN 61204-3; BS EN 61204-3; IEC 61204-3; GB/T
21560.3; EN 50130-4; BS EN 50130-4; EN 301489-1;
EN 301489-3; EN 301489-4; EN 301489-5; EN 301489-6;
EN 301489-7; EN 301489-8; EN 301489-9; EN 301489-13;
EN 301489-17; EN 301489-19; EN 301489-23; EN 301489-24;
EN 301489-33; EN 301489-34; EN 301489-50; EN 301 489-52;
EN 301 489-53; EN 55035; BS EN 55035; CISPR 35; EN 60945;
BS EN 60945; IEC 60945; ISO 7637-1; BS ISO 7637-1 ;
ISO 7637-2; BS ISO 7637-2; EN 301843-1; EN 301843-2;
EN 301843-5; IEC 60533; EN IEC 61204-3; BS EN IEC 61204-3;
ECE R10.05; EN 301 489-27; EN 301 489-29; EN 301 489-31;
EN 301 489-35; EN 61439-1; BS EN 61439-1; IEC 61439-1;
EN IEC 63044-5-1; BS EN IEC 63044-5-1; IEC 63044-5-1;
EN IEC 63044-5-2; BS EN IEC 63044-5-2; IEC 63044-5-2;
EN IEC 63044-5-3; BS EN IEC 63044-5-3; IEC 63044-5-3;
IEC 62599-2 ; EN IEC 62040-2; BS EN IEC 62040-2;
IEC PAS 62825; AIM 7351731; ETSI TS 136 113;
3GPP TS 36.113; ETSI TS 137 113; 3GPP TS 37.113;
ETSI TS 138 113; 3GPP TS 38.113

Radio (Transmitter and Receiver)*(excluding HAC testing)*

Unlicensed Radio – FCC

(To 40GHz)

CFR 47, FCC Part 2;

CFR 47, FCC Part 15 Subpart C/D/E (using ANSI C63.4:2014,
ANSI C63.10:2013, and ANSI C63.17:2013);

FCC Part 15 Subpart E with DFS (Using KDB 905462 D02 (v02));

FCC Part 1.1307 and 1.1310; FCC Part 15F

Test Technology:

Licensed Radio – FCC

Test Method(s)²:

CFR 47, FCC Parts 22, 24E, 25, 30, 27L (using ANSI/TIA-603-E);
CFR 47, FCC Part 20 (using ANSI C63.26:2015); CFR 47, FCC
Parts 73, 74, 80, 87, 95, and 101 (using ANSI/TIA-603-E);
CFR 47, FCC Parts 96 (using ANSI/TIA-603-E);
ANSI C63.26:2015;
CFR 47, FCC Parts 90, 95B, 95C, 97 (using ANSI/TIA-603-E)

Australia

AS/NZS 4268; AS/NZS 4365; AS/NZS 4295; AS/NZS 4768.1;
AS/NZS 4768.2; AS/NZS IEC 62287.1; AS/NZS IEC 62287.2;
AS/NZS ETSI EN 301 025

Canada

RSS-GEN; RSS-131; RSS-132; RSS-133; RSS-139; RSS-199;
RSS-210; RSS-213; RSS-216; RSS-247 (with DFS);
RSS-247 (without DFS); RSS-310; RSS-213; RSS-123; RSS-111;
RSS-197; RSS-252; RSS-119; RSS-220; RSS-130; RSS-236;
RSS-182; RSS-181; RSS-287; RSS-288; RSS-140; RSS-192;
RSS-195; RSS-243; RSS-244; RSS-246

Japan

Article 2-1 Item 19; Article 2-1 Item 19-2; Article 2-1 Item 19-2-2;
Article 2-1 Item 19-3; Article 2-1 Item 19-3-2;
Article 2-1 Item 19-3-3

European Union (EU)

EN 300220-1; EN 300220-2; EN 300330-1; EN 300330-2;
EN 300440-1; EN 300440-2; EN 300086-1; EN 300086-2;
EN 300135-1; EN 300135-2; EN 300219-1; EN 300219-2;
EN 300386; EN 300390-1; EN 300390-2; EN 300328;
EN 301893; EN 300433-1; EN 300433-2; EN 300296-1;
EN 300296-2; EN 300113-1; EN 300113-2; EN 300394-1;
EN 300422-1; EN 300422-2; EN 300609-4; EN 301357-1;
EN 301357-2; EN 301502; EN 303 417; EN 300 422-3;
EN 300 422-4; EN 303 609; EN 300 330; EN 300 440;
EN 300220-3-1; EN 300220-3-2; EN 300220-4; EN 300086;
EN 300296; EN 301357; EN 303340; EN 303345; EN 303372-2;
EN 303413; EN 302 217-2; EN 300 433; EN 300 113;
EN 300 394-1; EN 300 698; EN 301 025; EN 303 258; EN 303 354;
EN 302 065-1; EN 302 065-2; EN 302 065-3; EN 302 065-4;
EN 302 065-5; EN 62287-1; BS EN 62287-1; IEC 62287-1;
IEC 62238; EN 61108-1; BS EN 61108-1; IEC 61108-1;
EN 61108-2; BS EN 61108-2; IEC 61108-2; EN 61108-3;
BS EN 61108-3; IEC 61108-3; EN 61108-4; BS EN 61108-4;
IEC 61108-4; IEC 61097-3; IEC 61097-7; EN 61162-1;
BS EN 61162-1; IEC 61162-1; EN 61162-2; BS EN 61162-2;
IEC 61162-2; EN 61993-1; BS EN 61993-1; IEC 61993-1;
EN 62288; BS EN 62288; IEC 62288; EN 62287-2;
BS EN 62287-2; IEC 62287-2; EN 300 390; EN 300 392-2;
EN 303 405; EN 302 561; EN 301 559; EN 301 839; EN 302 195;
EN 302 537; EN 303 203; EN 303 520; EN 303 345-1;
IEC 61097-2; IEC 62388; EN 62388; BS EN 62388; IEC 61993-2;
EN IEC 61993-2; BS EN IEC 61993-2; WINNF-TS-0122;
IEC 61097-14; IEC 61097-12; IEC 61097-8; IEC 61097-9;
IEC 61097-1; EN 61097-1; BS EN 61097-1; IEC 62376; EN 62376;
BS EN 62376; IEC 61996-1; EN 61996-1; BS EN 61996-1;

Test Technology:

European Union (EU) (*cont.*)

Wireless Coexistence

TV Broadcast Receiver
Performance

Radio Communications

Mobile Terminals and Modules
GSM/WCDMA/LTE/5G-NR

Radiated Spurious Emissions***RF Exposure*****Test Method(s)²:**

EN 301 178; EN 301 925; EN 50131-5-3; IEC 62642-5-3;
CBRS Alliance Certification Test Plan CBRSA-TS-9001 V1.0.0;
EN 303 039; EN 302 208; EN 303 345-2;
EN 303 345-3; EN 303 345-4; EN 303 345-5; EN 302 018; EN 300
674-2-2; EN 300 674-2-1; EN 302 571

AAMI TIR69; ANSI C63.27:2017

IDA/MDA TS DVB-T2 IRD; SKMM MTSFB TC T004,
MCMC MTSFB TC T011; NorDig-Unified Test Plan; AS4933.1;
Requirements for Terrestrial Digital Video Broadcasting Receivers
UAE; Minimum Requirements for DVB-T2 Devices in Germany;
QCVN 63/BTTTT; NBTC BS 4002-2555 & (No.2) B.E. 2556

EN 301406; EN 301511; EN 301908-1; EN 301908-2;
EN 301908-3; EN 301908-8; EN 301908-11; EN 301908-12;
EN 301908-13; EN 301908-14; EN 301908-15; EN 301908-18;
EN 302291-1; EN 302291-2; EN 302208-1; EN 302208-2;
EN 302217-2-2; EN 302217-3; EN 302217-4-2; EN 302502;
EN 300609-4; EN 303035-1; EN 303035-2; AS/CA S042.1;
AS/ACIF S042.3; AS/CA S042.4;
3GPP TS51.010-1 (Clauses 12.2.1 and 12.2.2);
3GPP TS 34.124 (Chapter 8.1 & 8.2);
3GPP TS 36.124 (Chapter 8.1 & 8.2);
EN 301 908-24; ETSI TS 138 521-3;
3GPP TS 38.521-3; ETSI TS 138 521-1; 3GPP TS 38.521-1;
ETSI TS 137 145-1; 3GPP TS 37.145-1; ETSI TS 137 145-2;
3GPP TS 37.145-2; ETSI TS 137 141; 3GPP TS 37.141;
ETSI TS 138 141-1; 3GPP TS 38.141-1; ETSI TS 136 141;
3GPP TS 36.141; ETSI TS 125 141; 3GPP TS 25.141;
ETSI TS 125 142; 3GPP TS 25.142; ETSI TS 138 104;
3GPP TS 38.104; ETSI TS 137 104; 3GPP TS 37.104;
ETSI TS 136 104; 3GPP TS 36.104; ETSI TS 125 104;
3GPP TS 25.104; ETSI TS 125 105; 3GPP TS 25.105;
ETSI TS 138 101-1; ETSI TS 138 101-3; ETSI TS 136 521-1;
ETSI TS 134 121-1; ETSI TS 151.010-1

3GPP TS 38.124

EN 62311; BS EN 62311; IEC 62311; EN IEC 62311; BS EN IEC
62311; EN 62493; BS EN 62493; IEC 62493; EN 62479; BS EN
62479; IEC 62479; EN 62369-1; BS EN 62369-1;
IEC 62369-1; EN 50385; BS EN 50385; EN 50383; EN 62232; IEC
62232; BS EN 62232; EN 50364; BS EN 50364; EN 50663; BS EN
50663; EN 50665; BS EN 50665; EN 50384; BS EN 50384; CFR
47, FCC Part 2.1091; CFR 47, FCC Part 2.1093; RSS-102 (RF
Exposure, Nerve Stimulation); Safety Code 6; KDB 447498 D01;
Australian Communications Authority "Radiocommunications
(Electromagnetic Radiation – Human Exposure) Standard"

Test Technology:***Safety Test***

Audio, Video, IT

Test Method(s)²:

IEC 60065; EN 60065; AS/NZS 60065; UL 60065; BS EN 60065;
CAN/CSA-C22.2 No.60065; IEC 60950-1; EN 60950-1;
BS EN 60950; AS/NZS 60950.1; UL 60950-1;
CAN/CSA-C22.2 No. 60950-1-07; IEC 60950-22; EN 60950-22;
UL 60950-22; CSA C22.2 No. 60950-22; IEC 62368-1;
EN 62368-1; AS/NZS 62368.1; UL 62368-1;
CAN/CSA-C22.2 No. 62368-1; IEC 62368-3; EN IEC 62368-3;
BS EN IEC 62368; BS EN IEC 62368-1; UL 1740; UL 3100;
UL 4200A; UL 9990; UL 696; CSA C22.2 No. 149

Household Appliances

IEC 60335-1; EN 60335-1; BS EN 60335-1; AS/NZS 60335.1; UL
60335-1 IEC 60335-2-29; EN 60335-2-29; BS EN 60335-2-29;
AS/NZS 60335.2.29; UL 60335-2-29; CSA-E60335-2-29;
IEC 60335-2-114; AS/NZS 60335.2.114; UL 244A; UL 991;
UL 1004-1; UL 1004-2; UL 1004-3; UL 1004-7; UL 1450;
UL 1998; CSA C22.2 No. 68; CSA C22.2 No. 100; UL 583;
ANSI/ITSDF B56.1; ANSI/ITSDF B56.5

Power Supply

IEC 61558-1; EN 61558-1; EN IEC 61558-1; BS EN IEC 61558-1;
AS/NZS 61558.1; IEC 61558-2-1; EN 61558-2-1; IEC 61558-2-2;
EN 61558-2-2; IEC 61558-2-3; EN 61558-2-3; IEC 61558-2-4;
EN 61558-2-4;
IEC 61558-2-5; EN 61558-2-5; IEC 61558-2-6; EN 61558-2-6;
BS EN 61558-2-6; AS/NZS 61558.2.6; IEC 61558-2-7;
EN 61558-2-7; BS EN 61558-2-7; AS/NZS 61558.2.7, UL 697;
IEC 61558-2-8; EN 61558-2-8; IEC 61558-2-13; EN 61558-2-13;
IEC 61558-2-16; EN 61558-2-16; BS EN 61558-2-16;
AS/NZS 61558.2.16; IEC 61347-2-13; EN 61347-2-13;
AS 61347.2.13; UL8750; CSA C22.2 No. 250-13; UL 1012;
CSA C22.2 No. 107.1; UL 1310; CSA C22.2 No. 223; IEC 62477-1;
EN 62477-1; AS/NZS 4763; IEC 62040-1; EN 62040-1; UL1778;
CSA C22.2 No. 107.3; IEC 62040-3; EN 62040-3; UL 458; UL 508;
UL 508A; UL 508C; UL 962A; UL 1236; UL 1564; UL 2089;
UL 2202; UL 2738; UL 5085; CSA C22.2 No. 66;
CSA C22.2 No. 107.2; CSA C22.2 No. 173; AS 62040.1;
EN IEC 62040-1; BS EN IEC 62040-1; BS EN 62040-3;
AS IEC 62477.1; BS EN 62477-1; EN IEC 61558-1;
BS EN 61558-2-1; BS EN 61558-2-2; BS EN 61558-2-3;
BS EN 61558-2-8; BS EN 61558-2-4; BS EN 61558-2-5;
BS EN 61558-2-13

Electrical Equipment

IEC 61010-1; EN 61010-1; UL 61010-1; BS EN 61010-1;
CSA C22.2.61010.1; IEC 61010-2-010; EN 61010-2-010;
UL 61010-2-010; BS EN 61010-2-010; CSA C22.2.61010.2.010;
IEC 61010-2-011; EN 61010-2-011; UL 61010-2-11;
CSA C22.2.61010-2-011; BS EN 61010-2-011; IEC 61010-2-012;
EN 61010-2-012; UL 61010-2-12; CSA C22.2.61010-2-012;
BS EN 61010-2-012; IEC 61010-2-030; EN 61010-2-030;
UL 61010-2-030; CSA C22.2.61010-2-030; BS EN 61010-2-030;
IEC 61010-2-032; EN 61010-2-032; UL 61010-2-032;
BS EN 61010-2-032; CSA C22.2.61010.2.032; IEC 61010-2-033;
EN 61010-2-033; UL 61010-2-033; CSA C22.2.61010-2-033;
BS EN 61010-2-033; IEC 61010-031; EN 61010-031;

Test Technology:**Test Method(s)²:**

Electrical Equipment
(cont.)

UL 61010-031; BS EN 61010-031; CSA C22.2.61010.031;
IEC 61010-2-201; EN 61010-2-201; UL 61010-2-201;
BS EN IEC 61010-2-201; CSA C22.2.61010-2-201;
IEC 61243-3; EN 61243-3

Electrical Accessories

IEC 60320-1; EN 60320-1; UL 60320-1; UL 1363;
CAN/CSA-C22.2 No. 60320-1; AS/NZS 60320.1;
IEC 60320-2-2; EN 60320-2-2; AS/NZS 60320.2.2;
IEC 60320-2-3; EN 60320-2-3; IEC 60320-2-4; EN 60320-2-4;
IEC 60320-3; EN 60320-3; IEC 61984; EN 61984;
IEC 61535; EN 61535; SASO 2203; SASO 2815;
IEC 60884-1; VDE 0620-1; VDE 0620-2-1; SANS 60884-1;
IEC 60884-2-1; IEC 60884-2-3; IEC 60884-2-5; IEC 60884-2-7;
BS 1363-1; BS 1363-2; BS 1363-3; BS 1363-4; BS 1363-5;
BS 8546; BS 5733; EN 50075; AS/NZS 3112; AS/NZS 3122;
AS/NZS 3105; AS/NZS 3120; AS/NZS 3199; AS/NZS 3100;
AS/NZS 3133; SS 145-1; SS 145-2; SS 241; SS 246; SS 307;
SS 403; MS 589-1; MS 589-2; IRAM 2063; IRAM 2073;
IEC 61058-1; EN 61058-1; IEC 61058-1-1; EN 61058-1-1;
IEC 61058-1-2; EN 61058-1-2; IEC 61058-2-1; EN 61058-2-1;
IEC 61058-2-5; EN 61058-2-5; IEC 60669-1; EN 60669-1;
IEC 60669-2-1; EN 60669-2-1; IEC 60669-2-5; EN 60669-2-5;
IEC 60998-1; EN 60998-1; IEC 60998-2-1; EN 60998-2-1;
IEC 60998-2-2; EN 60998-2-2; IEC 61242; EN 61242; IEC 60799;
EN 60799; IEC 60670-1; EN 60670-1; SANS 1661; SANS 164-0;
SANS 164-1; SANS 164-2; SANS 164-2-1; SANS 164-2-2;
SANS 164-3; SANS 164-4; SANS 164-5; SANS 164-6;
UL 498, UL 498A; IEC 60730-1; EN 60730-1; UL60730-1;
CSA C22.2 No. E60730-1; IEC 60670-21; EN 60670-21;
IEC 60670-22; EN 60670-22; SS 145-3; Abnt Nbr Nm 60884-1;
Abnt Nbr Nm 60669-1; NBR 14136; UL 61058-1; UL 61058-1-1;
UL 61058-1-2; UL 9990

Laser Test

IEC 60825-1; EN 60825-1; 21 CFR 1040.10

Electrical Vehicles

IEC 61851-1; EN 61851-1; IEC 61851-23; EN 61851-23;
UL 2231-1; UL 2231-2; UL 2594; UL 2251

Electrical Performance

Sound Pressure Test

EN 50332-1; EN 50332-2; IEC 60268-7; ISO 3744; ISO 3745;
ISO 3746; ISO 7779

IP Test

IEC 60529; EN 60529

Environmental Test

IEC 60068-2-1; IEC 60068-2-2; IEC 60068-2-3; IEC 60068-2-30;
IEC 60068-2-6

Fire Hazard Testing

IEC 60112; IEC 60695-11-5; IEC 60695-11-10; IEC 60695-2-10

Energy Test

IEC 62087; EN 62087; SANS 62087; AS/NZS 62087.1;
IEC 62301; CAN/CSA C62301; EN 50563; EN 50564;
CAN/CSA C381.1; AS/NZS 4665.1; CAN/CSA C381.2;
AS/NZS 5813.1; IEC 62623; EN 62623; AN/NZS 5815.1;

Test Technology:

Energy Test (*cont.*)

Energy Star

Medical Equipment**Test Method(s)²:**

10 CFR Part 430 Appendix Z to Subpart B;
EPA “Test Method for Calculating the Energy Efficiency of Single-Voltage External AC-DC and AC-AC Power Supplies”;
10 CFR Section 430.23(aa) (Appendix Y to Subpart B of Part 430);
UAE.S 5010-8; TCVN 9536; TCVN 9537; TCVN 9538;
IEC 62087-7; EN 62087-7

ENERGY STAR® Program Requirements Product Specification for Computers, Test Method;
ENERGY STAR® Program Requirements Product Specification for Imaging Equipment, Test Method;
ENERGY STAR® Program Requirements for Audio/Video Test Method;
ENERGY STAR® Program Requirements for Displays Final Test Method;
Appendix H to Subpart B of 10 CFR Part 430; CEA-2037-A; CEA Procedure for DAM Testing: For TVs

IEC 60601-1; EN 60601-1; ANSI/AAMI ES60601-1;
CAN/CSA-C22.2 No. 60601-1; IEC 60601-1-6; EN 60601-1-6;
CAN/CSA-C22.2 No. 60601-1-6; IEC 62366; EN 62366;
ANSI/AAMI/IEC 62366; CAN/CSA-IEC 62366;
IEC 62366-1; EN 62366-1; CAN/CSA-IEC 62366-1;
ANSI/AAMI/IEC 62366-1; IEC 60601-1-8; EN 60601-1-8;
ANSI/AAMI/IEC 60601-1-8; CAN/CSA-C22.2 No. 60601-1-8;
IEC 60601-1-11; EN 60601-1-11; ANSI/AAMI HA60601-1-11;
CAN/CSA-C22.2 No. 60601-1-11; IEC 60601-1-12;
EN 60601-1-12; ANSI/AAMI/IEC 60601-1-12;
CAN/CSA-C22.2 No. 60601-1-12; IEC 60601-2-10;
EN 60601-2-10; CAN/CSA-C22.2 No.60601-2-10; ISO 80601-2-12;
EN ISO 80601-2-12; CAN/CSA-C22.2 No. 80601-2-12;
ISO 80601-2-13; EN ISO 80601-2-13;
CAN/CSA-C22.2 No. 80601-2-13; IEC 80601-2-30;
EN IEC 80601-2-30; AAMI/IEC 80601-2-30;
CSA C22.2 NO. 80601-2-30; IEC 60601-2-40; EN 60601-2-40;
CAN/CSA-C22.2 No. 60601-2-40; ISO 80601-2-55;
EN ISO 80601-2-55; CAN/CSA-C22.2 No. 80601-2-55;
ISO 80601-2-56; EN ISO 80601-2-56; IEC 60601-2-57;
EN 60601-2-57; CAN/CSA-C22.2 No. 60601-2-57;
ISO 80601-2-61; EN ISO 80601-2-61;
CAN/CSA-C22.2 No. 80601-2-61; ISO 80601-2-70;
CAN/CSA-C22.2 No.80601-2-70; ISO 80601-2-72;
EN ISO 80601-2-72; CAN/CSA-C22.2 No.80601-2-72;
ISO 80601-2-74; EN ISO 80601-2-74; CSA C22.2 No.80601-2-74;
ISO 80601-2-79; EN ISO 80601-2-79; ISO 80601-2-80;
EN ISO 80601-2-80; IEC 60601-2-83; EN IEC 60601-2-83;
ISO 80601-2-84; ISO 11195; ASTM E 1112; ASTM E 1965;
IEC 60601-1-3; EN 60601-1-3; CAN/CSA-C22.2 No. 60601-1-3;
IEC 60601-2-18; EN 60601-2-18; CAN/CSA-C22.2 No. 60601-2-18
IEC 60601-2-28; EN 60601-2-28; CSA C22.2 NO. 60601-2-28;
IEC 60601-2-44; EN 60601-2-44; CAN/CSA-C22.2 No. 60601-2-44
IEC 60601-2-45; EN 60601-2-45; CAN/CSA-C22.2 No. 60601-2-45
IEC 60601-2-54; EN 60601-2-54; CAN/CSA-C22.2 No. 60601-2-54

Test Technology:**Test Method(s)²:*****Medical Equipment (cont.)***

IEC 60601-2-63; EN 60601-2-63; CAN/CSA-C22.2 No. 60601-2-63
IEC 60601-2-65; EN 60601-2-65; CAN/CSA-C22.2 No. 60601-2-65

IVD Equipment

IEC 61010-1; EN 61010-1; CAN/CSA-C22.2 NO. 61010-1;
UL 61010-1; IEC 61010-2-010; EN IEC 61010-2-010;
CAN/CSA-C22.2 No. 61010-2-010; UL 61010-2-010;
IEC 61010-2-081; EN IEC 61010-2-081;
CAN/CSA-C22.2 No.61010-2-081; ANSI/UL 61010-2-081;
IEC 61010-2-101; EN 61010-2-101;
CAN/CSA-C22.2 No. 61010-2-101; UL 61010-2-101

On the following products or types of products:

Industrial, Scientific, Medical (ISM) Equipment; Sound and Television Broadcast Receivers and associated Equipment; Electrical Lighting and similar Equipment; Information Technology Equipment (ITE); Low Voltage Power Supplies; Measurement, Control and Laboratory Equipment.

¹The accreditation covers testing performed at the main laboratory listed above, and the two satellite laboratories listed below

No. 2, Jianghao Industrial Factory Area
No. 430, Jihua Road, Bantian Street
Longgang District, Shenzhen, Guangdong, People's Republic of China

Test Technology**Test Method(s)²****Battery Safety Test**

UL 1642; UL 2054; UL 2056; ANSI/UL 2271; CAN/ULC-S2271;
ANSI/UL 2272; CAN/UL 2272; ANSI/UL 2595;
CSA C22.2 No. 0.23; ANSI/UL 2743; CAN/UL 2743; ANSI/UL
2849; CAN/UL 2849; UL 3030; ANSI/UL 8139;
CAN/UL 8139; ST/SG/AC.10/11/ Section 38.3; IEC 62133;
EN 62133; CAN/CSA-C22.2 No. 62133; UL 62133; IEC 62133-1;
EN 62133-1; IEC 62133-2; EN 62133-2; IEC 61960-1;
IEC 61960-3; EN 61960-3; IEC 61960-4; IEC 61951-1;
EN 61951-1; IEC 61951-2; EN 61951-2; IEC 61959; IEC 62281;
EN IEC 60086-4; IEC 60086-1; EN 60086-1; IEC 60086-2;
EN 60086-2; IEC 60086-3; IEC 60086-4; EN 60086-4;
IEC 60086-5; EN 60086-5; EN 50604-1; IEC 62619; IEC 62620;
EN 62619; EN 62620; ANSI/UL 2580; CAN/UL 2580;
IEC 62660-1; IEC 62660-2; IEC 62660-3; ANSI/UL1973;
CAN/UL 1973; EN17128; ANSI C18 1M PART 1;
ANSI C18.1M Part2; ANSI C18.2M Part 1; ANSI C18.2M PART 2;
ANSI C18.3M PART 1; ANSI C18.3M PART 2; UN ECE R136;
UN ECE R100; ISO 13849-1; ISO 13849-2; BS EN 62061;
IEC 63056; EN 63056; IEC 63057; EN 63057; ABNT NBR 15940;
NFPA 79; CSA C22.2 No. 14; CAN/CSA-Z434; ISO/TS 15066;
ISO 10218-1; EN ISO 12100; IEC 60204-1; EN 60204-1;
ISO 6469-1; UL 810; UL 810A; UL 810B; IEC 62391-1;
IEC 62391-2; IEC 62576; ISO/TS 4210-10; IEC 62485-1;
IEC 62485-2; IEC 62485-5; IEC 61427-1; IEC 61427-2

Test Technology:

Test Method(s):

Emissions

Radiated (*ALSE Method*) and Conducted

CISPR 25 (sections 6.2, 6.3, and 6.4);
EN 55025 (sections 6.2, 6.3, and 6.4);
BS EN 55025 (sections 6.2, 6.3, and 6.4);
E/ECE/324/Add. 9 R10 (sections 6.5 and 6.6);
ISO 13766-1 (sections 4.5 and 4.6);
EN ISO 13766-1 (sections 4.5 and 4.6);
BS EN ISO 13766-1 (sections 4.5 and 4.6);
EN 50498 (sections 7.1 and 7.2);
BS EN 50498 (sections 7.1 and 7.2);
EN 13309 (sections 4.5 and 4.6);
SAE J1113-41 (section 5 and section 7);
E/ECE/324/Add. 115 R116 (Annex 9)

Conducted Emissions

CISPR 16-2-1

Disturbance Power

CISPR 16-2-2

Radiated Emissions

CISPR 16-2-3

Harmonic Current Emissions

IEC 61000-3-2; EN 61000-3-2; BS EN 61000-3-2;
EN IEC 61000-3-2; BS EN IEC 61000-3-2

Flicker Emissions

IEC 61000-3-3; EN 61000-3-3; BS EN 61000-3-3

Conducted and Transient

ISO 7637-2; BS ISO 7637-2; EN 13309 (section 4.9);
E/ECE/324/Add. 9 R10 (section 6.9); EN 50498 (section 7.3);
BS EN 50498 (section 7.3); SAE J1113-42

Immunity

Electrostatic Discharge (ESD)

IEC 61000-4-2; EN 61000-4-2; BS EN 61000-4-2;
ISO 10605 (*excluding section 10*);
BS ISO 10605 (*excluding section 10*); EN 13309 (section 4.8);
ISO 13766-1 (section 4.8); ISO 13766-2 (section 5.3.4);
SAE J1113-13 (section 5.9); E/ECE/324/Add. 115 R116 (Annex 9);
EN ISO 13766-1 (section 4.8); BS EN ISO 13766-1 (section 4.8);
EN ISO 13766-2 (section 5.3.4); BS EN ISO 13766-2 (section 5.3.4)

Radiated Immunity (Up to 6 GHz)

IEC 61000-4-3; EN 61000-4-3; BS EN 61000-4-3

Electrical Fast Transient/Burst (EFT)

IEC 61000-4-4; EN 61000-4-4; BS EN 61000-4-4

Surge

IEC 61000-4-5; EN 61000-4-5; BS EN 61000-4-5

Conducted Immunity

IEC 61000-4-6; EN 61000-4-6; BS EN 61000-4-6

Power Frequency Magnetic Fields

IEC 61000-4-8; EN 61000-4-8; BS EN 61000-4-8

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

Voltage Dips, Short Interruptions
and Variations

IEC 61000-4-11; EN 61000-4-11; BS EN 61000-4-11;
EN IEC 61000-4-11; BS EN IEC 61000-4-11

Conducted Transient

ISO 7637-2 (section 4.4); BS ISO 7637-2 (section 4.4);
SAE J1113-11; SAE J1113-12 (*excluding DCC /CIC method*);
EN 50498 (section 7.4); BS EN 50498 (section 7.4);
EN 13309 (section 4.9); ISO 13766-1(section 4.9);
ISO 13766-2 (section 5.3.3); EN ISO 13766-1 (section 4.9);
BS EN ISO 13766-1 (section 4.9); EN ISO 13766-2 (section 5.3.3);
BS EN ISO 13766-2 (section 5.3.3);
E/ECE/324/Add. 9 R10 (section 6.8);
ISO 7637-3 (*excluding DCC method*);
BS ISO 7637-3 (*excluding DCC method*);
ISO 16750-2 (*excluding sections 4.10.3*);
BS ISO 16750-2 (*excluding sections 4.10.3*);
E/ECE/324/Add. 115 R116 (Annex 9)

Absorber Lined Shielded
Enclosure (ALSE)
RF Immunity (200 MHz
to 6 GHz)
Up to 200 V/m (Metallic Bench
Only)
Up to 600 V/m (Radar Pulse
Only)

ISO 11452-2; BS ISO 11452-2; ISO 13766-1 (section 4.7);
ISO 13766-2 (section 5.3.1); EN 13309 (section 4.7);
E/ECE/324/Add. 9 R10 (section 6.7);
SAE J1113-21 (section 7); E/ECE/324/Add. 115 R116 (Annex 9);
EN ISO 13766-1 (section 4.7); BS EN ISO 13766-1 (section 4.7);
EN ISO 13766-2 (section 5.3.1); BS EN ISO 13766-2 (section 5.3.1)

Bulk current Injection RF
Immunity

ISO 11452-4 (*excluding TWC method*);
BS ISO 11452-4 (*excluding TWC method*);
ISO 13766-1 (*section 4.7 excluding TWC method*);
E/ECE/324/Add. 9 R10 (section 6.7); EN 13309 (section 4.7);
SAE J1113-4; EN ISO 13766-1(*section 4.7 excluding TWC method*);
BS EN ISO 13766-1 (*section 4.7 excluding TWC method*);
EN ISO 13766-2 (*section 5.3.1 excluding TWC method*);
BS EN ISO 13766-2 (*section 5.3.1 excluding TWC method*)

Immunity to Magnetic Field

ISO 11452-8; BS ISO 11452-8; SAE J1113-22

Portable Transmitters
(80 MHz to 6 GHz), (Max Power:
20W)

ISO 11452-9; BS ISO 11452-9

***Generic/Product Family/Product
Specific Standards***

CFR 47, FCC Part 15 Subpart B (using ANSI C63.4:2014);
CISPR 14-1; EN 55014-1; BS EN 55014-1; AS/NZS CISPR 14.1;
AS CISPR 14.1; CISPR 15; EN 55015; BS EN 55015;
EN IEC 55015; BS EN IEC 55015; AS/NZS CISPR 15;
AS CISPR 15; EN 55032; BS EN 55032; CISPR 32; ICES-003;
ICES-005; VCCI-CISPR 32; AS/NZS CISPR 32; BETS-7;
EN 61000-6-1; BS EN 61000-6-1; IEC 61000-6-1;
EN IEC 61000-6-1; BS EN IEC 61000-6-1; EN 61000-6-2;
BS EN 61000-6-2; IEC 61000-6-2; EN IEC 61000-6-2;
BS EN IEC 61000-6-2; EN 61000-6-3; BS EN 61000-6-3;
IEC 61000-6-3; AS/NZS 61000.6.3; EN 61000-6-4;
BS EN 61000-6-4; IEC 61000-6-4; EN IEC 61000-6-4;

Test Technology:**Test Method(s):*****Generic/Product Family/Product
Specific Standards (cont.)***

BS EN IEC 61000-6-4; AS/NZS 61000.6.4; CISPR 14-2;
EN 55014-2; BS EN 55014-2; EN 60601-1-2; BS EN 60601-1-2;
IEC 60601-1-2; EN 300386; EN 61547; BS EN 61547; IEC 61547;
EN IEC 62040-2; BS EN IEC 62040-2; EN 55024; BS EN 55024;
CISPR 24; EN 301489-1; EN 301489-3; EN 301489-4;
EN 301489-5; EN 301489-6; EN 301489-9; EN 301489-13;
EN 301489-17; EN 301489-19; EN 301489-27; EN 301489-29;
EN 301489-31; EN 301489-33; EN 301489-34; EN 301489-35;
EN 301489-50; EN 301 489-52; EN 301 489-53; EN 55035;
BS EN 55035; CISPR 35; EN 15194; BS EN 15194; EN 50121-3-2;
BS EN 50121-3-2; EN 50155; BS EN 50155; EN 50121-1;
BS EN 50121-1; EN 50121-2; BS EN 50121-2; EN 50121-3-1;
BS EN 50121-3-1; EN 50121-4; BS EN 50121-4; EN 50121-5;
BS EN 50121-5; EN 17128

***Radio (Transmitter and Receiver)
(excluding HAC testing)***

Unlicensed Radio – FCC (Up to
40 GHz)

CFR 47, FCC Part 2;
CFR 47, FCC Part 15 Subpart C/D/E (using ANSI C63.4:2014,
ANSI C63.10:2013, and ANSI C63.17:2013);
FCC Part 15 Subpart E with DFS (Using KDB 905462 D02 (v02));
FCC Part 15F (Using ANSI C63.10:2013)

Licensed Radio – FCC

CFR 47, FCC Parts 22, 24E, 25, 30, 27L (using ANSI/TIA-603-E);
CFR 47, FCC Part 20 (using ANSI C63.26:2015);
CFR 47, FCC Parts 73, 74, 80, 87, 95, and 101 (using ANSI/TIA-
603-E); CFR 47, FCC Parts 96 (using ANSI/TIA-603-E);
ANSI C63.26:2015;
CFR 47, FCC Parts 90, 95B, 95C, 97 (using ANSI/TIA-603-E)

Australia

AS/NZS 4268

Canada

RSS-GEN; RSS-210; RSS-213; RSS-216; RSS-247 (with DFS);
RSS-247 (without DFS); RSS-310

European Union (EU)

EN 300220-1; EN 300220-2; EN 300328;
EN 301893; EN 300422-1; EN 300422-2; EN 303417;
EN 300422-3; EN 300422-4; EN 300 330; EN 300 440;
EN 300220-3-1; EN 300220-3-2; EN 300220-4; EN 300086;
EN 300296; EN 301357; EN 303413; EN 300433

Radio Communications

Mobile Terminals and Modules
GSM/WCDMA/LTE/5G-NR

EN 301908-1

Test Technology:***RF Exposure*****Test Method(s)²:**

EN 62311; BS EN 62311; IEC 62311; EN IEC 62311;
 BS EN IEC 62311; EN 62493; BS EN 62493; IEC 62493;
 EN 62479; BS EN 62479; IEC 62479; EN 62369-1; BS EN 62369-1;
 IEC 62369-1; EN 50385; BS EN 50385; EN 50384; BS EN 50384;
 EN 50383; EN 62232; BS EN 62232; IEC 62232; EN 50364;
 BS EN 50364; EN 50663; BS EN 50663; EN 50665; BS EN 50665;
 CFR 47, FCC Part 2.1091; CFR 47, FCC Part 2.1093;
 CFR 47, FCC Part 1.1307 and 1.1310; RSS-102 (RF Exposure);
 Safety Code 6; Australian Communications Authority
 “Radiocommunications (Electromagnetic Radiation – Human
 Exposure) Standard”

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.

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1³:

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
<u>Unintentional Radiators</u> Part 15B	ANSI C63.4:2014	40000
<u>Industrial, Scientific, and Medical Equipment</u> Part 18	FCC MP-5 (February 1986)	18000
<u>Intentional Radiators</u> Part 15C	ANSI C63.10:2013	40000
<u>Unlicensed Personal Communication Systems Devices</u> Part 15D	ANSI C63.17:2013	40000
<u>U-NII without DFS Intentional Radiators</u> Part 15E	ANSI C63.10:2013	40000
<u>U-NII with DFS Intentional Radiators</u> Part 15E	FCC KDB 905462 D02 (v02)	40000
<u>UWB Intentional Radiators</u> Part 15F	ANSI C63.10:2013	40000
<u>Commercial Mobile Services (FCC Licensed Radio Service Equipment)</u> Parts 22 (cellular), 24, 25 (non-microwave), and 27	ANSI/TIA-603-E	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.1³:

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
<u>General Mobile Radio Services (FCC Licensed Radio Service Equipment)</u> Parts 22 (non-cellular), 90 (below 3 GHz), 95 (below 3 GHz), 97 (below 3 GHz), and 101 (below 3 GHz)	ANSI/TIA-603-E	40000
<u>Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment)</u> Parts 96	ANSI/TIA-603-E	40000
<u>Maritime and Aviation Radio Services</u> Parts 80 and 87	ANSI/TIA-603-E	40000
<u>Microwave and Millimeter Bands Radio Services</u> Parts 25, 30, 74, 90 (above 3 GHz), 95 (above 3 GHz), 97 (above 3 GHz), and 101	ANSI/TIA-603-E	40000
<u>Broadcast Radio Services</u> Parts 73 and 74 (non-microwave)	ANSI/TIA-603-E	40000
<u>Signal Boosters</u> Part 20 (Wideband Consumer Signal Boosters, Provider-specific signal boosters, and Industrial Signal Boosters)	ANSI C63.26:2015	40000

³Accreditation 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

SGS-CSTC STANDARDS TECHNICAL SERVICES 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 24th day of May 2021.

A blue ink signature of the Vice President, Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 6399.01
Valid to September 30, 2021

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