



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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ELECTRICAL (EMC & Safety)

Valid To: August 31, 2020

Certificate Number: 3628.01

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

<u>Test Technology:</u>	<u>Test Method(s) ¹:</u>
Electromagnetic Compatibility	
Emissions Radiated and Conducted (3m semi-anechoic chamber, up to 40 GHz)	CFR 47, FCC Part 15 B (using ANSI C63.4:2014); CFR 47, FCC Part 18 (using MP-5:1986); CISPR 11; EN 55011; CISPR 13; EN 55013; AS/NZS CISPR 13; CISPR 14-1; EN 55014-1; CISPR 15; EN 55015; AS/NZS CISPR 15; CISPR 22; EN 55022; AS/NZS CISPR 22; CISPR 32; EN 55032; AS/NZS CISPR 32; EN 50561-1; EN 50561-3; EN 55103-1; EN 61204-3; EN 61326-1; EN 62040-2; IEC 62040-2; IEC 61204-3; IEC 61326-1; ICES-003; ICES-005; BETS-7; VCCI V-3 (up to 6 GHz); VCCI V-4; VCCI-CISPR 32:2016; GB 9254; CNS 13438 (up to 6 GHz); CNS 13439; CNS 13783-1; J 55013; J 55014-1
Current Harmonics	IEC/EN 61000-3-2; AS/NZS 61000.3.2; GB 17625.1
Voltage Fluctuation and Flicker	IEC/EN 61000-3-3; AS/NZS 61000.3.3; GB 17625.2

<u>Test Technology:</u>	<u>Test Method(s) ¹:</u>
<i>Immunity</i> Electrostatic Discharge (ESD)	IEC/EN 61000-4-2; AS/NZS 61000.4.2; GB/T 17626.2
Radiated Immunity	IEC/EN 61000-4-3; AS/NZS 61000.4.3; GB/T 17626.3
Electrical Fast Transient/Burst	IEC/EN 61000-4-4; AS/NZS 61000.4.4; GB/T 17626.4
Surge Immunity	IEC/EN 61000-4-5; AS/NZS 61000.4.5; GB/T 17626.5
Conducted Immunity	IEC/EN 61000-4-6; AS/NZS 61000.4.6; GB/T 17626.6
Power Frequency Magnetic Field Immunity	IEC/EN 61000-4-8; AS/NZS 61000.4.8; GB/T 17626.8
Impulse Magnetic Field Immunity Test	IEC/EN 61000-4-9; AS/NZS 61000.4.9; GB/T 17626.9
Voltage Dips, Short Interruptions, and Line Voltage Variations	IEC/EN 61000-4-11; AS/NZS 61000.4.11; GB/T 17626.11
<i>Generic and Product Specific EMC</i>	IEC/EN 61000-6-1; IEC/EN 61000-6-2; IEC/EN 61000-6-3; IEC/EN 61000-6-4; EN 50130-4; EN 50412-2-1; EN 55103-2; EN 55014-2; EN 55024; EN 61547; IEC 61547; EN 50498; IEC/EN 60945; EN 62310-2; IEC 61543; EN 60601-1-2; IEC/EN 62135-2; IEC/EN 62040-2; IEC/EN 61800-3; IEC/EN 60255-26; CISPR 14-2; CISPR 24; CISPR 16-1-4; EN 61326-2-1; EN 61326-2-2; EN 61326-2-3; EN 61326-2-4; EN 61326-2-5; EN 61326-2-6; IEC/EN 60947-10; EN 60870-2-1; 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 301489-14; EN 301489-17; EN 301489-19; EN 301489-20; EN 301489-23; EN 301489-24; EN 301489-25; EN 301489-26; EN 301489-33; EN 301489-34; EN 301489-35; EN 301489-50; EN 301489-51; EN 301489-52; EN 55035; CISPR 35; GB 4343.2; GB/T 18268.1; GB/T 18268.26; YY 0505; YD 1032

<u>Test Technology:</u>	<u>Test Method(s) ¹:</u>
<i>Telecommunications</i>	EN 300386
<i>Radio</i> <i>(excluding HAC)</i>	<p>EN 300220-1; EN 300220-2; EN 300220-4; EN 300220-3-1; EN 300220-3-2; EN 300330-1; EN 300330-2; EN 300330; EN 302208-1; EN 302208-2; EN 302208; EN 302291-1; EN 302291-2; EN 300440-1; EN 300440-2; EN 300440; EN 301893; EN 302502; EN 300328; EN 301511; EN 301908-1; EN 301908-2; EN 301908-3; EN 301908-4; EN 301908-6; EN 301908-10; EN 301908-11; EN 301908-12; EN 301908-13; EN 301908-14; EN 301908-15; EN 300086-1; EN 300086-2; EN 300086; EN 300113-1; EN 300113-2; EN 300113; EN 300390; EN 301166; EN 300422-1; EN 300422-2; EN 300422-3; EN 300422-4; EN 300433; EN 301406; EN 302065; EN 302065-1; EN 302065-2; EN 302065-3; EN 302065-4; EN 302065-5; EN 301357-1; EN 301357-2; EN 301357; EN 300296-1; EN 300296-2; EN 300296; EN 301426; EN 301441; EN 301681; EN 301444; EN 303203-1; EN 303203-2; EN 303203; EN 303204-1; EN 303204-2; EN 303204; EN 302774; EN 302623; EN 302544-1; EN 302544-2; EN 302536-1; EN 302536-2; EN 302536; EN 302537-1; EN 302537-2; EN 302537; EN 302567; EN 302686; EN 302729; EN 303413; EN 302858; EN 303360; EN 303396; EN 303883; EN 302372; EN 302288; EN 303609; EN 303345; EN 301502; EN 301598; EN 302571; EN 301559-1; EN 301559-2; EN 301559; EN 303417;</p> <p>CFR 47, FCC Part 15, Subparts C, D, E, F, H, & G) (using ANSI C63.10:2013, ANSI C63.17:2013, and KDB 905462); ANSI C63.17:2013; KDB 558074; KDB 789033; CFR 47, FCC Part 20; CFR 47, FCC Part 22 (Subpart H); CFR 47, FCC Part 24 (Subpart E); CFR 47, FCC Part 25; CFR 47, FCC Part 27 (Subparts L & M); CFR 47, FCC Part 30;</p>

<u>Test Technology:</u>	<u>Test Method(s) ¹:</u>
<p><i>Radio (cont.)</i> <i>(excluding HAC)</i></p>	<p>CFR 47, FCC Part 73; CFR 47, FCC Part 74 (Subpart E & F & H); CFR 47, FCC Part 80; CFR 47, FCC Part 87; CFR 47, FCC Part 90 (Subpart Y & Z); CFR 47, FCC Part 95; CFR 47, FCC Part 96; CFR 47, FCC Part 97; CFR 47, FCC Part 101; ANSI/TIA 603-E; TIA-102.CAAA-E; KDB 971168; KDB 905462; ANSI C63.26:2015; RSS-GEN; RSS-111; RSS-112; RSS-123; RSS-130; RSS-132; RSS-133; RSS-134; RSS-139; RSS-170; RSS-192; RSS-194; RSS-195; RSS-197; RSS-199; RSS-210; RSS-211; RSS-213; RSS-216; RSS-220; RSS-222; RSS-247; RSS-236; RSS-251; RSS-310; BETS-8; AS/NZS 4268; RCR STD-1; RCR STD-15; RCR STD-33; ARIB STD-T57; ARIB STD-T64; ARIB STD-T66; ARIB STD-T67; ARIB STD-T71; ARIB STD-T89; ARIB STD-T91; ARIB STD-T92; ARIB STD-T93; ARIB STD-T96; ARIB STD-T106; ARIB STD-T108; ARIB STD-T109; ARIB STD-T112; ARIB STD-T73; LP 0002; PLMN 01; PLMN 08; PLMN 09; PLMN 10; YD/T 1082; YD 1139; YD 1169.1; YD 1169.2; YDC 063; YD/T 1031; YD/T 1312.1; YD/T 1596; YD/T 1711; YD/T 1038</p>
<p><i>Electromagnetic Field Radiation Exposure and SAR</i></p>	<p>CFR 47 FCC Part 1; CFR 47 FCC Part 2; IEEE 1528:2013; KDB 865664; KDB 447498; IEEE/ANSI C95.1; IEEE C95.3; EN 50566; IEC/EN 62479; IEC/EN 62311; EN 50360; EN 50385; EN 50364; EN 50383; EN 50400; EN 50401; EN 50371; EN 50375; IEC/EN 60215; IEC/EN 62233; IEC/EN 62209-1; IEC/EN 62209-2; EN 62369-1; EN 62822-3; CLC/TR 50442; RSS-102; SPR-002; Australian Communications Authority Radio Communications (Electromagnetic Radiation – Human Exposure) Standard 2014</p>



<u>Test Technology:</u>	<u>Test Method(s) ¹:</u>
<i>Acoustic Testing</i>	EN 50332-1; EN 50332-2; EN 50332-3
<i>Product Safety</i>	
TRON	IEC 60065; EN 60065; AS/NZS 60065; UL 60065; CAN/CSA-C22.2 No. 60065:16; <i>EXCLUDED MEASUREMENTS:</i> <ul style="list-style-type: none"> - Ionizing radiation test - Laser radiation test - Light emitting diodes test (LEDs) - Softening temperature test - Mandrel test - Measurement of transient voltages- impulse test - Proof tracking index (PTI) (IEC 60122) - Passive flammability test (IEC 60384-1) - PTC thermistors-flammability test (Annex G) - Flexible cords – flexing test (IEC 60227-2) - Mechanical strength of CRTs - Fragmentation test - Splash treatment - Flammability test
MED ¹	IEC 60601-1; EN 60601-1; AS/NZS60601.1; AS/AAMI ES60601-1; CAN/CSA-C22.2 No. 60601-1:14; IEC 60601-1-6; EN 60601-1-6; <i>EXCLUDED MEASUREMENTS:</i> <ul style="list-style-type: none"> - Not accredited for RISK ASSESSMENT - Defibrillation protection - Pressure vessels - X-radiation - Microwave radiation - Lasers - Sterilization - Lithium batteries per IEC 60086-4 and IEC 62133 - Ingress of water or particulate matter - IP testing - Protection against hazards of ignition of flammable anesthetic mixtures

Test Technology:	Test Method(s) ¹:
<i>Product Safety (cont.)</i>	
OFF	IEC 60950-1; EN 60950-1; AS/NZS 60950.1; ANSI/UL 60950-1; CAN/CSA-C22.2 No.60950-1-07; <i>EXCLUDED MEASUREMENTS:</i> <ul style="list-style-type: none"> - Cathode ray tube - Flammable liquids - Ionizing radiation - Effect of UV radiation on material - Test to resistance on fire - Flammability test - Impulse (1.2/50µs) test - Mandrel test - IP testing
ITAV	IEC 62368-1; EN 62368-1; AS/NZS 62368.1; ANSI/UL 62368.1; CAN/CSA-C22.2 No. 62368-1-14; IEC 62368-3 <i>EXCLUDED MEASUREMENTS:</i> <ul style="list-style-type: none"> - Cathode ray tube - Flammable liquids - Ionizing radiation - Effect of UV radiation on material - Test to resistance on fire - Flammability test - Impulse (1.2/50µs) test - Mandrel test - IP testing
MEAS	IEC 61010-1; EN 61010-1; UL 61010-1; CAN/CSA-C22.2 No. 60601-1-12; <i>EXCLUDED MEASUREMENTS:</i> <ul style="list-style-type: none"> - Flammability test - Ionizing radiation - UV radiation - Microwave radiation - Ultrasonic pressure - IP testing - Laser sources - Interlock Reliability

On the following products or types of products:

Information Technology Equipment (ITE), Telecommunications Network Equipment (TNE), Household Appliances

¹ The laboratory is only accredited for testing activities outlined within the test methods listed above. Reference to any other activity within these standards, such as risk management or risk assessment, does not fall within the laboratory's accredited capabilities.



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(s)	Maximum Frequency
Unintentional Radiators (FCC Part 15, Subpart B)	<ul style="list-style-type: none"> • ANSI C63.4:2014 	40000 MHz
Industrial, Scientific, and Medical Equipment (FCC Part 18) <ul style="list-style-type: none"> • Consumer ISM equipment 	<ul style="list-style-type: none"> • FCC MP-5 (February 1986) 	40000 MHz
Intentional Radiators (FCC Part 15 Subpart C)	<ul style="list-style-type: none"> • ANSI C63.10:2013 	500000 MHz
UPCS (FCC Part 15, Subpart D) <ul style="list-style-type: none"> • Unlicensed Personal Communication Systems devices 	<ul style="list-style-type: none"> • ANSI C63.17:2013 	20000 MHz
U-NII without DFS Intentional Radiators (FCC Part 15, Subpart E) <ul style="list-style-type: none"> • Unlicensed National Information Infrastructure Devices (U-NII without DFS) 	<ul style="list-style-type: none"> • ANSI C63.10:2013 • KDB Publication 789033 	40000 MHz
U-NII with DFS Intentional Radiators (FCC Part 15 Subpart E) <ul style="list-style-type: none"> • Unlicensed National Information Infrastructure U-NII) Devices with Dynamic Frequency Selection (DFS) 	<ul style="list-style-type: none"> • FCC KDB Publication 905462 D02 UNII DFS Compliance Procedures New Rules v02 	40000 MHz
UWB Intentional Radiators (FCC Part 15, Subpart F) <ul style="list-style-type: none"> • Ultra-wideband Operation 	<ul style="list-style-type: none"> • ANSI C63.10:2013 	40000 MHz
BPL Intentional Radiators (FCC Part 15, Subpart G) <ul style="list-style-type: none"> • Access Broadband Over Power Line (Access BPL) 	<ul style="list-style-type: none"> • ANSI C63.10:2013 	40000 MHz
White Space Device Intentional Radiators (FCC Part 15, Subpart H) <ul style="list-style-type: none"> • White Space Devices 	<ul style="list-style-type: none"> • ANSI C63.10:2013 	40000 MHz
Commercial Mobile Services (FCC Licensed Radio Service Equipment) <ul style="list-style-type: none"> • Part 22 (cellular) • Part 24 • Part 25 (below 3GHz) • Part 27 	<ul style="list-style-type: none"> • ANSI/TIA-603-E-2016; • ANSI/TIA-102.CAAA-E-2016; • ANSI C63.26:2015 • KDB Publication 971168 	40000 MHz
General Mobile Radio Services (FCC Licensed Radio Service Equipment)19 <ul style="list-style-type: none"> • Part 22 (non-cellular) • Part 90 (below 3GHz) • Part 95 	<ul style="list-style-type: none"> • ANSI/TIA-603-E-2016; • ANSI/TIA-102.CAAA-E-2016; • ANSI C63.26-2015 	40000 MHz



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(s)	Maximum Frequency
<ul style="list-style-type: none"> • Part 97 (below 3GHz) • Part 101 (below 3GHz) 		
Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment) <ul style="list-style-type: none"> • Part 96 	<ul style="list-style-type: none"> • ANSI/TIA-603-E-2016; • ANSI/TIA-102.CAAA-E-2016; • ANSI C63.26-2015; • KDB Publication 971168 • KDB Publication 940660 	500000 MHz
Maritime and Aviation Radio Services (FCC Licensed Radio Service Equipment) <ul style="list-style-type: none"> • Part 80 • Part 87 	<ul style="list-style-type: none"> • ANSI/TIA-603-E-2016; • ANSI C63.26-2015 	500000 MHz
Microwave and Millimeter Bands Radio Services (FCC Licensed Radio Service Equipment) <ul style="list-style-type: none"> • Part 25 • Part 30 • Part 74 • Part 90 (M DSRC, Y, Z) • Part 95 (M and L) • Part 101 	<ul style="list-style-type: none"> • ANSI/TIA-603-E-2016; • ANSI/TIA-102.CAAA-E-2016; • ANSI C63.26-2015; • KDB Publication 653005 	500000 MHz
Broadcast Radio Services (FCC Licensed Radio Service Equipment) <ul style="list-style-type: none"> • Part 73 • Part 74 (below 3GHz) 	<ul style="list-style-type: none"> • ANSI/TIA-603-E-2016; • ANSI/TIA-102.CAAA-E-2016; • ANSI C63.26-2015 	40000 MHz
RF Exposure <ul style="list-style-type: none"> • Devices subject to SAR requirements 	<ul style="list-style-type: none"> • IEEE Std. 1528TM:2013 • KDB Publication 865664 • KDB Publication 447498 	6000 MHz
Signal Boosters (Part 20) <ul style="list-style-type: none"> • Wideband Consumer signal boosters • Provider-specific signal boosters • Industrial signal boosters 	<ul style="list-style-type: none"> • ANSI C63.26:2015 • FCC KDB Publication 935210 D03, D04 and D05 	500000 MHz



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(s)	Maximum Frequency
Signal Boosters (Part 90.219)		

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

MRT TECHNOLOGY (SUZHOU) CO., LTD.

Suzhou, Jiangsu, 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 July 2018.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3628.01
Valid to August 31, 2020
Revised March 22, 2019

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