CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board
500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

Labtest Certification, Inc.
3128, 20800 Westminster HWY
Richmond B.C. V6V 2W3

has been assessed by ANAB
and meets the requirements of international standard

ISO/IEC 17025:2005

while demonstrating technical competence in the field of

TESTING

Refer to the accompanying Scope of Accreditation for information regarding the types of tests to which this accreditation applies.

AT-2033
Certificate Number

ANAB Approval

Certificate Valid: 09/14/2017-03/04/2018
Version No. 005 Issued: 09/14/2017

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. 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).

ANSI-ASQ National Accreditation Board

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Labtest Certification, Inc.

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TESTING

Valid to: **March 4, 2018** Certificate Number: **AT-2033**

Testing performed in support of FCC DoC and Certification approval procedures

Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments
Unintentional Radiators (FCC Part 15, Subpart B)	• ANSI C63.4-2014		
Industrial, Scientific, and Medical Equipment (FCC Part 18) • Consumer ISM equipment	• FCC MP-5, (February 1986)		
Intentional Radiators (FCC Part 15 Subpart C)	• ANSI C63.10-2013		
UPCS (FCC Part 15, Subpart D) •Unlicensed Personal Communication Systems devices	• ANSI C63.17-2013		
U-NII without DFS Intentional Radiators (FCC Part 15, Subpart E) •Unlicensed National Information Infrastructure Devices (U-NII without DFS)	• ANSI C63.10-2013	KDB Publication 789033	
U-NII with DFS Intentional Radiators (FCC Part 15 Subpart E) • Unlicensed National Information Infrastructure U-NII) Devices with Dynamic Frequency Selection (DFS)	• FCC KDB Publication 905462 D02 UNII DFS Compliance Procedures New Rules v01 (April 8, 2016)		
UWB Intentional Radiators (FCC Part 15, Subpart F) •Ultra-wideband Operation	• ANSI C63.10-2013		
BPL Intentional Radiators (FCC Part 15, Subpart G) •Access Broadband Over Power Line (Access BPL)	• ANSI C63.10-2013		
White Space Device Intentional Radiators (FCC Part 15, Subpart H) •White Space Devices	• ANSI C63.10-2013		

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Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments
Commercial Mobile Services (FCC Licensed Radio Service Equipment) •Part 22 (cellular) •Part 24 •Part 25 (non-microwave) •Part 27	• ANSI/TIA-603-D • TIA-102.CAAA-D	KDB Publication 971168	
General Mobile Radio Services (FCC Licensed Radio Service Equipment) •Part 22 (non-cellular) •Part 90 (non-microwave) •Part 95 •Part 97 •Part 101 (non-microwave)	• ANSI/TIA-603-D • TIA-102.CAAA-D		Microwave Frequencies, as used in this part, refers to frequencies of 890 MHz and above.
Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment) •Part 96	• ANSI/TIA-603-D • TIA-102.CAAA-D	KDB Publication 971168	
Maritime and Aviation Radio Services (FCC Licensed Radio Service Equipment) •Part 80 •Part 87	• ANSI/TIA-603-D		
Microwave and Millimeter Bands Radio Services (FCC Licensed Radio Service Equipment) •Part 25 •Part 74 •Part 90 (90Y, 90Z, DSRC) •Part 101	• ANSI/TIA-603-D • TIA-102.CAAA-D		
Broadcast Radio Services (FCC Licensed Radio Service Equipment) •Part 73 •Part 74 (non-microwave)	• ANSI/TIA-603-D • TIA-102.CAAA-D		
RF Exposure •Devices subject to SAR requirements	• IEEE Std 1528™-2013	KDB Publication 865664 KDB Publication 447498	
Hearing Aid Compatibility (Part 20) •HAC for Commercial mobile services	• ANSI C63.19-2007; or • ANSI C63.19-2011		

Testing performed in support of FCC DoC and Certification approval procedures

Type of Device Examples	Scope of Accreditation	Supporting FCC Guidance	Comments
Signal Boosters (Part 20) •Wideband Consumer signal boosters •Provider-specific signal boosters •Industrial signal boosters	• FCC KDB Publication 935210 D03 Signal Booster Measurements v04(February 12, 2016) • FCC KDB Publication 935210 D04 Provider Specific Booster Measurements v02 (February 12, 2016) • FCC KDB Publication 935210 D05 Indus Booster Basic Meas v01r01 (February 12, 2016)		

Electromagnetic Compatibility (EMC)

Test Method	Test Specification(s)	Range	Comments
Unintentional Radiators	ANSI C63.4-2003 ANSI C63.4-2009		
Radiated and Conducted Emissions	ANSI C63.4:2014; FCC OST/MP-05 (1986); ICES-001(2006); ICES-002(2013); ICES-003(2016); ICES-005(2009); CISPR 16-1-1(2015); CISPR 16-1-2(2014); CISPR 16-1-3(2006); CISPR 16-2-1(2014); CISPR 16-2-2(2010); CISPR 16-2-3(2014); CISPR 16-2-5(2008); CISPR 16-4-2(2014); EN 55016-1-1(2010); EN 55016-1-2(2014); EN 55016-1-3(2006); EN 55016-1-4(2010); EN 55016-2-1(2014); EN 55016-2-2(2011); EN 55016-2-3(2014); EN 55016-4-2(2014); CISPR 11(2012); EN 55011(2013); AS/NZS CISPR 11(2013); KN 11 (RRA Announce 2015-110, Dec, 03, 2015); VCCI V-3 (up to 6 GHz); VCCI V-5; CNS 13438	9 kHz to 40 GHz	

Electromagnetic Compatibility (EMC)

Test Method	Test Specification(s)	Range	Comments
Harmonics Emissions	IEC 61000-3-2 (2014); EN 61000-3-2 (2014); AS/NZS 61000-3-2(2014); KN 61000-3-2 (RRA Announce 2016-79, Dec, 19, 2016)		
Flicker Emissions	IEC 61000-3-3 (2013); EN 61000-3-3 (2013); AS/NZS 61000-3-3(2013); KN 61000-3-3 (RRA Announce 2016-79, Dec, 19, 2016)		
ESD Immunity Testing	IEC 61000-4-2(2008); EN 61000-4-2(2009); KN 61000-4-2 (RRA Announce 2015-110, Dec, 03, 2015)		
RF Immunity Radiated Immunity	IEC 61000-4-3(2010); IEC 61000-4-20(2010); EN 61000-4-3(2010); EN 61000-4-20(2010); KN 61000-4-3 (RRA Announce 2015-110, Dec, 03, 2015)	Up to 2.7 GHz, 20 V/m	
EFT	IEC 61000-4-4 (2011); EN 61000-4-4(2012); KN 61000-4-4 (RRA Announce 2015-110, Dec, 03, 2015)		
Surge	IEC 61000-4-5 (2014); EN 61000-4-5 (2014); KN 61000-4-5 (RRA Announce 2015-110, Dec, 03, 2015)		
Conducted Immunity	IEC 61000-4-6 (2013); EN 61000-4-6 (2014); KN 61000-4-6 (RRA Announce 2015-110, Dec, 03, 2015)		
Low Frequency Magnetic Immunity	IEC 61000-4-8 (2009); EN 61000-4-8(2010); KN 61000-4-8 (RRA Announce 2015-110, Dec, 03, 2015)		
Pulse Field Immunity	IEC 61000-4-9(1994); EN 61000-4-9(1994); KN 61000-4-9 (RRA Announce 2015-110, Dec, 03, 2015)		
Damped Oscillatory Field Immunity	IEC 61000-4-10(1994); EN 61000-4-10(1994)		
Power Dips and Interrupts	IEC 61000-4-11 (2004); EN 61000-4-11 (2004); KN 61000-4-11 (RRA Announce 2015-110, Dec, 03, 2015)		

Electromagnetic Compatibility (EMC)

Test Method	Test Specification(s)	Range	Comments
Ring Wave Immunity	IEC 61000-4-12 (2006); EN 61000-4-12 (2006)		
Harmonics and Interharmonics	IEC 61000-4-13 (2009); EN 61000-4-13 (2009)		
Damped oscillatory wave immunity test	IEC 61000-4-18 (2006); EN 61000-4-18(2007)		
Generic EMC Standards	IEC 61000-6-1(2005) IEC 61000-6-3(2006) EN 61000-6-1(2007) EN 61000-6-3(2017/AC:2012) AS/NZS 61000.6.3(2012) KN 61000-6-1(RRA Announce 2016-79, Dec, 19, 2016) KN 61000-6-3(RRA Announce 2016-79, Dec, 19, 2016) IEC 61000-6-2(2005) IEC 61000-6-4(2006/A1:2010) EN 61000-6-2(2005) EN 61000-6-4(2007/A1:2011) AS/NZS 61000.6.4(2012) KN 61000-6-2 (RRA Announce 2016-79, Dec, 19, 2016) KN 61000-6-4* (RRA Announce 2016-79, Dec, 19, 2016)		
Product Type EMC Standards Multimedia Equipment	CISPR 22 (2010) CISPR 24(2010) CISPR 32(2015) EN 55022(2011) EN55024 (2010) EN 55032(2015) AS/NZS CISPR 22(2010) AS/NZS CISPR 32(2013) AS/NZS CISPR 24(2009) KN 32 (RRA Announce 2015-110, Dec, 03, 2015) KN35 (RRA Announce 2016-79, Dec, 19, 2016)		
Product Type EMC Standards Household appliances	CISPR 14-1(2011) EN 55014-1 (2012) CISPR 14-2(2015) EN55014-2(2015) AS/NZS CISPR 14-1(2013) KN 14-1(RRA Announce 2016-79, Dec, 19, 2016)		

Electromagnetic Compatibility (EMC)

Test Method	Test Specification(s)	Range	Comments
Product Type EMC Standards Measurement Control & Laboratory	IEC 61326-1(2012) IEC 61326-2(2012) EN 61326-1(2013) EN 61326-2(2013)		
Product Type EMC Standards Medical Devices	IEC 60601-1-2(Ed3 & Ed.4) EN 60601-1-2(2015) KN 60101-1-2(RRA Announce 2016-79, Dec, 19, 2016)		
Product Type EMC Standards Lifts, escalators and moving walks	EN 12015(2014) EN 12016(2013)		
Product Type EMC Standards Alarm systems	EN 50130-4(2011)		
Product Type EMC Standards Audio, video, audio-visual and entertain-ment; lighting control apparatus for professional use	EN 55103-1(2012) EN 55103-2(2009)		
Product Type EMC Standards Signaling on low-voltage electrical installation	EN50065-1(2011) EN50065-2-1(2003) EN50065-2-2(2003) EN50065-2-3(2003)		
Product Type EMC Standards Lighting and similar equipment	CISPR 15(2009) EN 55015(2013) IEC 61547(2009) EN 61547(2009) KN 61547(RRA Announce 2016-79, Dec, 19, 2016)		
Product Type EMC Standards Gases, toxic gases or oxygen	EN 50270(2006)		
Product Type EMC Standards Electricity metering equipment (a.c.)	IEC 62053-22(2003) EN 62053-22(2003)		
Product Type EMC Standards Railway applications	IEC 62236-1, 2, 3, 4, 5(2008) EN 50121-1,2,3,4,5(2015)		
Product Type EMC Standards Automotive	CISPR 12(2009) CISPR 25(2008) EN 55012(2012) EN 55025(2008) AS/NZS CISPR 12(2013) ISO 7637-2		
Product Type EMC Standards Maritime	IEC 60945(2002) EN 60945(2002) Lloyd TA02(2002) DNVGL-CG-0339		

Electromagnetic Compatibility (EMC)

Test Method	Test Specification(s)	Range	Comments
Product Type EMC Standards UPS and Power Units	IEC 61800-3(2004) EN 61800-3(2004) IEC 62040-2(2006) EN 62040-2(2006) AS 62040-2(2008)		
Military Conducted Emissions	MIL-STD-461E, F, G: Methods CE101, CE102, CE106 MIL-STD-462D Methods CE101, CE102, CE106 MIL-STD-462 Methods CE01, CE02, CE03, CE06		
Military Radiated Emissions	MIL-STD-461E, F, G: Methods RE101, RE102 and RE103 MIL-STD-462D: Methods RE101, RE102 and RE 103 MIL-STD-462: Methods RE01, RE02 and RE03		
Conducted Susceptibility	MIL-STD-461E, F, G: Methods CS101, CS 103; CS 104; CS 105, CS109, CS114, CS115, CS116 MIL-STD- 462D: Methods CS101, CS103, CS114, CS115, CS116; CS118 MIL-STD-462: Methods, CS01, CS02, CS03, CS04, CS05, CS06, CS08		
Radiated Susceptibility	MIL-STD-461/462D: Methods RS101, RS103 MIL-STD-461E, F, G: Methods RS101, RS103		

Radio

Test Method	Test Specification(s)	Range	Comments
Australia/New Zealand	AS/NZS 4268(2012) AS/NZS 4295(2015) AS/NZS 4365(2011)		

Radio

Test Method	Test Specification(s)	Range	Comments
Europe	ETSI EN 300 113-1, v1.7.1(2011) ETSI EN 300 113-2, v.1.5.1(2011) ETSI EN 300 220-1, v2.4.1(2012) ETSI EN 300 220-2, v.2.4.1 (2012) ETSI EN 300 220-3, v.2.4.1(2012) ETSI EN 300 328, v 2.1.1(2016) ETSI EN 300 330-1, v1.8.1(2015) ETSI EN 300 330-2, v1.6.1(2015) ETSI EN 300 390-1, v1.2.1(2000) ETSI EN 300 390-2, v1.1.1(2000) ETSI EN 300 440-1, v1.6.1(2010) ETSI EN 300 440-2, v1.4.1(2010) ETSI EN 301 489-1, v1.9.2(2011) ETSI EN 301 489-2, v1.3.1(2002) ETSI EN 301 489-3, v1.6.1(2013) ETSI EN 301 489-4, v2.2.1(2015) ETSI EN 301 489-5, v2.1.1(2016) ETSI EN 301 489-11, v1.3.1(2006) ETSI EN 301 489-13, v1.2.1(2002) ETSI EN 301 489-17, v2.2.1(2012)		
Canada	RSS-Gen (2014) RSS-102 (2015, excluding SAR) RSS-111(2014), RSS-112(2008) RSS-117(2016), RSS-119(2015) RSS-123(2015), RSS-125(2000) RSS-127(2009), RSS-130(2013) RSS-131(2003), RSS-132(2013) RSS-133(2013), RSS-134(2016) RSS-135(2009), RSS-137(2009) RSS-139(2015), RSS-141(2010) RSS-142(2013), RSS-170(2015) RSS-181(1971), RSS-182(2012) RSS-191(2008), RSS-192(2008) RSS-194(2007), RSS-195(2014) RSS-210(2016), RSS-211(2015) RSS-213(2015), RSS-215(2009) RSS-216(2016), RSS-220(2009) RSS-236(2012), RSS-238(2013) RSS-243(2010), RSS-244(2013) RSS-247(2015), RSS-251(2014) RSS-287(2014), RSS-288(2012) RSS-310(2015)		
Hongkong	HKCA 1039; HKCA 1042; HKCA 1049; HKCA 1020; HKCA 1043; HKCA 1056		

Radio

Test Method	Test Specification(s)	Range	Comments
Mexico	NOM-084sct1-2002 NOM-088/1-SCT1-2002 NOM-088/2-SCT1-2002 NOM-EM-016-SCF1-2015		
South Korea	RRA Announce 2016-11, Jun, 13, 2016 RRA Announce 2016-20, Sep, 27, 2016 MIC Announce 2016-124, Nev, 30, 2016 MIC Announce 2016-125, Nev, 30, 2016		

Note:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site.
2. This scope is formatted as part of a single document including Certificate of Accreditation No. AT-2033.

Vice President