SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

QAI LABORATORIES LTD. [1]
3980 North Fraser Way
Burnaby, BC, Canada, V5J 5K5
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ELECTRICAL

Valid To: May 31, 2023 Certificate Number: 3657.02

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 satellite laboratory location listed below***, to perform the following tests:

Test Technology:	**Supporting Standard(s) / Test Method(s) [2, 3]:**	
Emissions		
Conducted and Radiated [4] *(3m semi-anechoic chambers, up to 40 GHz)*	ANSI C63.4 ANSI C63.4:2014 ANSI C63.10 ANSI C63.17 ANSI C63.17:2013 FCC MP-5:1986 CISPR 11 EN 55011 AS CISPR 11:2017 KS C 9811 CNS 13803 CISPR 13 EN 55013 AS/NZS CISPR 13 AS/NZS CISPR 13 (2013) KN 13 CISPR 14-1 EN 55014-1 CISPR 15 EN 55015 AS/NZS CISPR 15 AS/NZS CISPR 15 (2011) KS C 9815 CNS 14115 CISPR 22 EN 55022	AS/NZS CISPR 22 AS/NZS CISPR 22 (2009+A1:2010) CISPR 32 EN 55032 AS/NZS 32 AS/NZS 32 (2015) KS C 9832 VCCI-32-1 ICES-001; ICES-003 ICES-004; ICES-005 ICES-006; ICES-008 CNS 13439 CNS 13783-1 EN 61000-6-3 IEC 61000-6-3 AS/NZS 61000.6.3 KS C 9610-6-3 AS/NZS CISPR 14-1 AS/NZS CISPR 14-1 (2013) KS C 9814-1 KS C 9610-6-4 IEC 61000-6-4 EN 61000-6-4 AS/NZS 61000.6.4 AS/NZS 61000.6.4 (2012) GB 4343.1

Test Technology:	Supporting Standard(s) / Test Method(s) [2, 3]:	
Emissions [4] Conducted and Radiated [4] *(3m semi-anechoic chambers, up to 40 GHz) (cont.)*	KN 22 TCVN 7189 (2009) TCVN 7317 (2003) KS C 9610-6-4 CNS 13438 (*up to 6 GHz*)	VCCI V-1 VCCI V-2 VCCI V-3 (*up to 6 GHz*) VCCI V-4 VCCI V-15
Harmonics [4]	IEC 61000-3-2 EN 61000-3-2 JIS C 61000-3-2 KS C 9610-3-2 AS/NZS 61000.3.2	IEC 61000-3-12 EN 61000-3-12 KS C 9610-3-12 GB 17625.1
Flicker [4]	IEC 61000-3-3 EN 61000-3-3 IEC 61000-3-11 GB 17625.2	KS C 9610-3-11 EN 61000-3-11 KS C 9610-3-3 AS/NZS 61000.3.3
Immunity		
Electrostatic Discharge (ESD) [4]	IEC 61000-4-2 EN 61000-4-2 KS C 9610-4-2 IEC 60255-22-2	IEEE C37.90.3 ISO 10605 JIS C 61000-4-2
Radiated Immunity	IEC 61000-4-3 KS C 9610-4-3 EN 61000-4-3 IEEE Std. C37.90.2	IEC 60255-22-3 JIS C 1000-4-3 CNS 13306
Electrical Fast Transient (EFT) [4]	IEC 61000-4-4 KS C 9610-4-4 EN 61000-4-4 JIS C 1000-4-4	JIS C 61000-4-4 KS C 9610-4-4 IEC 60255-22-4
Surge [4]	IEC 61000-4-5 KS C 9610-4-5 EN 61000-4-5 IEC C37.90.1 IEEE C62.45 IEEE C37.90.1	IEEE C62.41.1 IEEE C62.41.2 JIS C 1000-4-5 JIS C 61000-4-5 IEC 60255-22-5
Conducted Immunity [4]	IEC 61000-4-6 KS C 9610-4-6 EN 61000-4-6 JIS C 1000-4-6 JIS C 61000-4-6	IEC 61000-4-16 IEC 61000-2-4 EN 61000-2-4 KS C 9610-4-2

Test Technology:	**Supporting Standard(s) / Test Method(s) [2, 3]:**	
Magnetic Field Immunity	IEC 61000-4-8 KS C 9610-4-8	EN 61000-4-8 JIS C 1000-4-8
Pulse Magnetic Field	IEC 61000-4-9 EN 61000-4-9	KS C 9610-4-9
Damped Oscillatory Magnetic Field	IEC 61000-4-10 EN 61000-4-10	
Dips, Short Interrupts Voltage Variations [4]	IEC 61000-4-11 EN 61000 4-11	KS C 9610-4-11 JIS C 1000-4-11
Ring Wave [4]	IEC 61000-4-12 EN 61000-4-12	ANSI/IEEE C37.90 ANSI/IEEE C62.41
Harmonics and Interharmonics [4]	IEC 61000-4-13 EN 61000-4-13	
Immunity to Common Mode Disturbances [4]	IEC 61000-4-16 EN 61000-4-16	
Damped Oscillatory Wave Immunity	IEC 61000-4-18	
Automotive EMC (*EMC only*)	ISO 11451-1 ISO 11451-2 ISO 11451-3 ISO 11451-4 [4] ISO 11452-1 ISO 11452-2 (*30 V/m, up to 18 GHz*) ISO 11452-4 (*excluding TWC test method*) ISO 11452-7 ISO 11452-8 ISO 11452-9 ISO 10605 ISO 13766 [4] ISO 13766-1 & 2 ISO 14982 [4] UNECE R10 [4] CAN/CSA CISPR 12 VW TL 81000 (*excluding Radiated Immunity)* CAN CSA No. 281.2-12 / UL 2231-2 Ed. 2 - Clause 24 SAE AS 6023 ABYC S-31	CISPR 12 [4] EN 55012 [4] AS/NZS CISPR 12 [4] AS/NZS CISPR 12:2013 [4] ISO 7637-1 ISO 7637-2 [4] ISO 7637-3 [4] ISO 7637-4 [4] ISO 7637-5 [4] ISO 16750-2 EN 50498 CISPR 25 EN 55025 AS/NZS 25 AS/NZS 25:2010 ICES-002 [4] EN 12895 IEC 61851-21-2 SAE J1113-1 SAE J1113-4 SAE J1113-11 SAE J1113-12 SAE J1113-13 SAE J1113-21

Test Technology:	Supporting Standard(s) / Test Method(s) [2, 3]:	
Generic, Product Family and Industry Standards (*EMC only*) [2]	IEC 61000-6-1 EN 61000-6-1 AS/NZS 61000.6.1 KS C 9610-6-1 IEC 61000-6-2 EN 61000-6-2 AS/NZS 61000-6-2 KS C 9610-6-2 IEC 61547 EN 61547 KS C 9547 EN 50121-1 EN 50121-2 EN 50121-3-1 EN 50121-3-2 EN 50121-4 EN 50121-5 EN 50130-4 EN 55014-2 AS/NZS 14-2 CISPR 14-2 KS C 9814-2 CISPR 20 EN 55020 AS/NZS CISPR 24 CISPR 24 EN 55024 KN 24 CISPR 35 EN 55035 KS C 9835 EN 50083-2 EN 50155 GR-1089 CNS 14674-1 to -3 KS X 3124; KS X 3124; KS X 3137; KS X 3125; KS X 3127; KS X 3128; KS X 3130; KS X 3131; KS X 3136; KS X 3126; KS X 3132; KS X 3139; KS X 3134; KS X 3138 EN 50131-2-2 EN 50131-5-3 EN 62040-2 IEC 62040-2 IEC 60533 EN 50293 IEC 61000-2-2 EN 61000-2-2	Lloyd's Register Type Approval System Test Specification Number 1 (Sections 8, 9, and 21-30) ABS-Rules for Building and Classing – Steel Vessels (Sections 11 to 18) ABS-Rules for Building and Classing – Steel Vessels – Part 4 – Chapter 9 – Section 8 – Table 1 (No.1) KS C 9974-10 EN 60974-1 CNS 14676-1 to -10 CNS 14934-2 & -3 IEC 12184 EN 12184 EN 13309 IEC 62236-1 to -5 IEC 62236-3-2 AS/NZS CISPR 14.1 & .2 EN 61439-1 EN 61800-3 IEC 61000-6-5 EN 61000-6-5 EN 50065-1 EN/IEC 61204-3 EN/IEC 61557-12 IEC 61800-3 EN/IEC 62135-2 JEITA IT-3001 CNS 13783-2 EN 617 EN 618 EN 619 EN 620 EN 12015 EN 12016 EN 14010 EN 50065-2-1 EN 50065-2-2 EN 50065-2-3 EN 50370-1 EN 50370-2 EN 50470-1 EN 50491-5-1 EN 50491-5-2 EN 50491-5-3

Test Technology:	Supporting Standard(s) / Test Method(s) [2, 3]:	
Generic, Product Family and Industry Standards (*EMC only*) [2] *(cont.)*	KS C 9610-2-2 EN 55103-2 IEC/EN 61058-1 IEC 60945 EN 60945 KN 60945 IEC/EN 60947-1 DNVGL-CG-0339 (Section 3, Clauses 4, 5, 14, & 15)	EN 50512 EN 55103-1 EN/IEC 60870-2-1 IEC 60947-1
Electric Meter EMC	ANSI C12.1 ANSI C12.20	ANSI/IEEE C37.90 ANSI C136.2
RF Exposure (*Excluding SAR*) [4]	ANSI/IEEE C95 IEC 62233 EN 62233 EN 50364 Health Code 6 EN 62479 EN 62311	EN 62493 AS/NZS 2772.1 AS/NZS 2772.2 ARPANSA RPS3 EN 50360 (MPE Cal only) EN 50385 EN 50401
	Technical Requirements for the Human Protection Against Electromagnetic Waves (MSIP Public Notification 2019-4, Jan 16, 2019); Technical Requirements for Measurement of Electromagnetic Field Strength (RRA Public Notification 2019-3, March 4, 2019) Korean only*	
Medical and Laboratory (*EMC only*) [2, 4]	KS C IEC 60601-1-2 IEC 60601-1-2 EN 60601-1-2 JIS T 0601-1-2 IEC 61326-1 EN 61326-1 IEC 61326-2-1 EN 61326-2-1 IEC 61326-2-2 GB 9706.9 UL 1069 – Clauses 29 & 31 UL 2560 – Clauses 29 & 31 EN 61326-2-2 IEC 61326-2-3 EN 61326-2-3	IEC 61326-2-4 EN 61326-2-4 IEC 61326-2-5 EN 61326-2-5 IEC 61326-2-6 EN 61326-2-6 JIS C 1806-1 AIM 7351731 ISO 10651 ISO 18562-1 ISO 10993-1 ISO 80601-2-12 ISO/TR 13154
Israel EMC	SI 961 Part 32	SI 961 Part 6.2

Test Technology:	Supporting Standard(s) / Test Method(s) [2, 3]:	
South African EMC	SANS 211 SANS 215 SANS 224 SANS 212 SANS 213 SANS 2332 SANS 2200 SANS 2335 SANS 14-2	SANS 61547 SANS 222 SANS 2335 SANS 60439-1 SANS 60439-2 SANS 61204-3 SANS 61326 SANS 61800-3 SANS 620404-2
Radio Communications (*Excluding Protocol Testing, Vibration Simulation and Product Safety*)	ETSI TS 102 883 ETSI EN 103 361 ETSI EN 300 065 ETSI EN 300 086 ETSI EN 300 113 ETSI EN 300 197 ETSI EN 300 198 ETSI EN 300 220-1 ETSI EN 300 220-2 ETSI EN 300 220- 3 ETSI EN 300 220-4 ETSI EN 300 220-3-1 & 2 ETSI EN 300 224 ETSI EN 300 341 ETSI EN 300 296 ETSI EN 300 328 ETSI EN 300 330 ETSI EN 300 373-1, -2, and -3 ETSI EN 300 386 ETSI EN 300 390 ETSI EN 300 433 ETSI EN 300 440 ETSI EN 300 487 ETSI EN 300 674-2-1&2 ETSI EN 300 683 ETSI EN 301 178 ETSI TR 103 524 ETSI EN 301 360 ETSI EN 301 426 ETSI EN 301 427 ETSI EN 301 428 ETSI EN 301 430 ETSI EN 301 459 ETSI EN 301 489-1 to 26 ETSI 301 489-27 to 34 ETSI EN 301 502 ETSI EN 301 511	ETSI EN 301 526 ETSI EN 301 783 ETSI EN 301 841-3 ETSI EN 301 842-5 ETSI EN 301 843-1, 2, 4 to 7 ETSI EN 301 893 ETSI EN 301 908-1 to 22 ETSI EN 301 929 ETSI EN 302 017 ETSI EN 302 018 ETSI EN 302 054 ETSI EN 302 065-1 to 5 ETSI EN 302 066 ETSI EN 302 208 ETSI EN 302 248 ETSI EN 302 296 ETSI EN 302 454 ETSI EN 302 567 ETSI EN 302 571 ETSI EN 302 608 ETSI EN 302 609 ETSI EN 302 858 ETSI EN 303 098-2 ETSI EN 303 132 ETSI EN 303 135 ETSI EN 303 204 ETSI EN 303 276 ETSI EN 303 339 ETSI EN 303 402 ETSI EN 303 406 ETSI EN 303 609 ETSI EN 303 883 3GPP TS 37.113 C-IS2031-0 (IS2031-0) C-IS2034-1 (IS2034-1) LP 0001 LP 0002 RTTE01

Test Technology:	Supporting Standard(s) / Test Method(s) [2, 3]:	
Australia/New Zealand	• AS/NZS 4268: 2017 - Radio equipment and systems - Short Range Devices) - Limits and methods of measurement • AS/NZS 4280.1 (2017) - 406 MHz satellite distress beacons – Marine emergency position-indicating radio beacons (EPIRB) (IEC61097-2, Ed.3.0 (2008), MOD) • AS/NZS 4280.2 (2017) - 406 MHz satellite distress beacons – Personal locator beacons (PLBs) • AS/NZS 4281 (2007) - Radiocommunications (Cordless Telephone) Standard 2008, Radiocommunications requirements for cordless telephones operating in the 1.7 MHz and between 30 and 41 MHz frequency band • AS/NZS 4295:2015 - Analogue speech (angle modulated) equipment operating in land mobile and fixed service bands in the frequency range 29.7 MHz to 1 GHz. • AS/NZS 4768.1 to .3 - Digital radio equipment operating in land mobile • AS/NZS 4769.1 & .2 - Radiocommunications equipment used in the paging service Angle modulated & modulation • AS/NZS 4771 • AS/NZS 4330 (2006) - Radiocommunications (121.5 MHz and 243.0 MHz Emergency Position Indicating Radio Beacons) Standard 2014 • AS/NZS 4770 (2000) - Radiocommunications (MF and HF equipment - Land Mobile Service) Standard 2003 and 2014; AS/NZS ETSI EN 301 025:2018; AS/NZS ETSI EN 301 178:2018; AS/NZS ETSI EN 302 885:2018; AS/NZS CISPR 32; AS/NZS 4355; AS/NZS 4365; AS/NZS 4583; AS/CA S042.1; AS/CA S042.3; AS/CA S042.4	
HKCA Radio Testing	HKCA 1002 HKTA 1003 HKTA 1004 HKTA 1005 HKTA 1006 HKCA 1007 HKCA 1008 HKTA 1010 HKCA 1015 HKTA 1016 HKTA 1019 HKCA 1020 HKCA 1022 HKTA 1026 HKCA 1033 HKCA 1034	HKCA 1050 HKCA 1052 HKCA 1053 HKCA 1054 HKTA 1056 HKTA 1057 HKTA 1061 HKCA 1064 HKCA 1065 HKCA 1066 HKCA 1067 HKCA 1068 HKCA 1069 HKCA 1070 HKCA 1071 HKCA 1072

Test Technology:	Supporting Standard(s) / Test Method(s) [2, 3]:	
HKCA Radio Testing *(cont.)*	HKCA 1035 HKTA 1036 HKTA 1037 HKTA 1039 HKCA 1041 HKCA 1042 HKCA 1043 HKCA 1044 HKTA 1045 HKCA 1046 HKTA 1047 HKCA 1048 HKTA 1049	HKCA 1073 HKCA 1074 HKCA 1075 HKCA 1076 HKCA 1077 HKCA 1078 HKCA 1080 HKTA 1260 HKTA 1263 HKTA 1266 HKTA 1277 HKTA 1283
Vietnam EMC & Radio Testing	QCVN 118:2018/BTTT (CISPR 32) TCVN 7189:2009 (CISPR 22) TCVN 7317:2003 (CISPR 24) QCVN 11:2010/BTTTT QCVN 12:2015/BTTTT QCVN 13:2010/BTTTT QCVN 14:2010/BTTTT QCVN 15:2015/BTTTT QCVN 16:2010/BTTTT QCVN 18:2014/BTTTT QCVN 47:2015/BTTTT QCVN 54:2011/BTTTT	QCVN 55:2011/BTTTT QCVN 65:2011/BTTTT QCVN 73:2013/BTTTT QCVN 74/2013/BTTTT QCVN 75:2013/BTTTT QCVN 76:2013/BTTTT QCVN 95:2015/BTTTT QCVN 96:2015/BTTTT QCVN 99:2015/BTTTT QCVN 101:2016/BTTTT QCVN 112:2017/BTTTT QCVN 114:2017/BTTTT QCVN 118:2018/BTTTT
Singapore Radio Testing (*excluding Protocol, SAR, and Product Safety*)	IMDA TS SRD IMDA TS AR IMDA TS WBA IMDA TS LMR IMDA TS RPG IMDA TS CBS IMDA TS UWB	IMDA TS EMC IMDA TS GMPCS IMDA TS CMT IMDA TS WSD IMDA TS IOT IMDA TS DSRC IMDA TS DVB-T2 IRD
Japan Radio Testing	ARIB Standard STD-T57 ARIB Standard STD-T66 ARIB Standard STD-T67	ARIB Standard STD-T70 ARIB Standard STD-T81 ARIB Standard STD-T82
	Article 2 paragraph 1, Item 19 = 2.4 GHz Article 2 paragraph 1, Item 19-2 = 2.4 GHz Article 2 paragraph 1, Item 19-3 = 5 GHz Article 2 paragraph 1, Item 19-5 = 4.9 GHz Article 2 paragraph 1, Item 19-6 = 4.9 GHz Article 2 paragraph 1, Item 19-9 = 4.9 GHz Article 2 paragraph 1, Item 19-10 = 4.9 GHz	

Test Technology:	Supporting Standard(s) / Test Method(s) [2, 3]:	
Korea Radio Testing	Regulations on Radio Equipment (Ordinance of MSIT No. 63, Dec 24, 2020 Korean only* Unlicensed Radio Equipment Established Without Notice (MSIT Public Notification 2020-59, Oct 16, 2020) Korean only* Technical Requirements for Radio Equipment for Maritime Services (RRA Public Notification 2019-13, Aug 16, 2019) Korean only* Technical Requirements for Radio Equipment for Aeronautical Services (RRA Public Notification 2020-5, Sept 22, 2020) Korean only* Technical Requirements for Radio Equipment for Telecommunication Services (RRA Public Notification 2019-9, Jun 3, 2019) Korean only* Technical Requirements of the Other Service Radio Equipment for Simple radio station, Space station, and Earth station (RRA Public Notification 2018-26, Nov 13, 2018) Korean only* Technical Requirements of Radio Wave Application (RRA Public Notification 2016-20, Sep 27, 2016) Korean only* Measurements of the High-frequency Output of Radio Wave Application Equipment and Antenna Power Calculation Methods (RRA Public Notification 2016-2, Apr 4, 2016) Korean only* Conformity Assessment Procedure of Radio Equipment: Applicable KS Standards (Table 2) Korean only* KS X 3123 Conformity assessment test methods for radio equipment	
Canada Radio Testing	RSS-GEN RSS-102 (RF Exposure only) RSS-111 RSS-112 RSS-117 RSS-119 RSS-123 RSS-125 RSS-127 RSS-130 RSS-131 RSS-132 RSS-133 RSS-197 RSS-199	RSS-134 RSS-135 RSS-137 RSS-139 RSS-140 RSS-141 RSS-142 RSS-170 RSS-181 RSS-182 RSS-191 RSS-192 RSS-194 RSS-195 RSS-196

Test Technology:	Supporting Standard(s) / Test Method(s) [2, 3]:	
Canada Radio Testing *(cont.)*	RSS-210 RSS-211 RSS-213 RSS-215 RSS-216 RSS-220 RSS-222 RSS-236 SRSP-325.25 ICES-GEN	RSS-238 RSS-243 RSS-244 RSS-247 RSS-251 RSS-252 RSS-287 RSS-288 RSS-310 SRSP-338.6
Canada Radio Testing	BETS-1 BETS-4 (EMC Only) BETS-5 (EMC Only) BETS-6	BETS-7 (EMC Only) BETS-8 BETS-9 (EMC Only)
Avionic EMC Testing	RTCA/DO 160 C (Sections 15 to 22)	RTCA/DO 160 D/E/F/G (Sections 15 to 22, & 25)
MIL-STD EMC Testing	MIL-STD 1275 B/C/D/E MIL-STD-188-125-1 MIL-STD-704A	MIL-STD-1474 MIL-HDBK-1908, Grade A3 MIL-HDBK-2036
MIL-STD-461A/B/C (MIL-STD-462)	CE01 CE02 CE03 CE04 CE05 CE06 CE07 RE01 RE02 RE03	CS01 CS02 CS03 CS04 CS05 CS06 CS07 CS09 CS10 CS11 CS12 RS01 RS03
MIL-STD-461D (MIL-STD-462)	CE101 CE102 CE106 RE101 RE102 RE103	CS101 CS103 CS104 CS105 CS109 CS114 (*maximum of Curve 4 from 10 kHz to 400 MHz*) CS115 CS116

Test Technology:	**Supporting Standard(s) / Test Method(s) [2, 3]:**	
MIL-STD-461E	CE101 CE102 CE106 RE101 RE102 RE103	CS101 CS103 CS104 CS105 CS109 CS114 (*maximum of Curve 4 from 10 kHz to 400 MHz*) CS115 CS116 RS101 RS103 (*20 V/m at 1 metre distance from 10 kHz to 18 GHz*)
MIL-STD-461F	CE101 CE102 CE106 RE101 RE102 RE103 RS101 RS103 (*20 V/m at 1 metre distance from 10 kHz to 18 GHz*)	CS101 CS103 CS104 CS105 CS106 CS109 CS114 (*maximum of Curve 4 from 10 kHz to 400 MHz*) CS115 CS116
MIL-STD-461G	CE101 CE102 CE106 RE101 RE102 RE103 CS101 CS103 CS104 CS105	CS109 CS114 (*maximum of Curve 4 from 10 kHz to 400 MHz*) CS115 CS116 CS117 CS118 RS101 RS103 (*20 V/m at 1 metre distance from 10 kHz to 18 GHz*)
MIL-STD-461D/E MIL-STD-462D/G	CE101 CE102 CE106 RE101 RE102 RE103 RS101 RS103 (*20 V/m at 1 metre distance from 10 kHz to 18 GHz*)	CS101 CS103 CS104 CS105 CS106 CS109 CS114 (*maximum of Curve 4 from 10 kHz to 400 MHz*) CS115 CS116

Test Technology:	Supporting Standard(s) / Test Method(s) [2, 3]:	
DEF STAN 59-411 Part 3 Section 3 Issue 1 Amdt 1 (dated 16 May 2003) Tests, per the following DEF STAN 59-411 Part 3 Section 3 Amdt 1 Test Methods	DCE01.B, DCE02.A/B, DCE03.B DRE01.A/B, DRE02.A/B, DRE03.A/B	DRS01.A/B, DRS02.A/B, DRS03.B, DCS01.B, DCS02.A/B, DCS03.B, DCS04.B, DCS05.B, DCS06.B, DCS08.B, DCS09.B, DCS10.A/B, DCS12.B
MIL-STD-704F	28 VDC Power Test Methods specified in MIL-HDBK-704-1 (dated 9 April 2004) and MIL-HDBK-704-8 (dated 9 April 2004) Single Phase 115 VAC 60 Hz Power Test Methods specified in MIL-HDBK-704-1 (dated 9 April 2004) and MIL-HDBK-704-6 (09 April 2004)	
MIL-STD-1399/300B	ELECTRIC POWER, ALTERNATING CURRENT	

[1] *This accreditation covers testing performed at the main laboratory listed above, and the satellite laboratory listed below*:

UBC Malcom Knapp Research Forest
QAI Laboratories EMC Test Facility
14500 Silver Valley Road
Maple Ridge, BC, Canada, V4R 2R3

Test Technology:	Test Method(s) [2, 3]:	
Emissions		
Conducted and Radiated *(10m OATS, up to 1 GHz)*	47 CFR FCC Part 18 (using FCC OST/MP-5:1986); 47 CFR FCC Part 15, Subpart B (using ANSI C63.4:2014)	
	FCC MP-5:1986 CISPR 11 EN 55011 AS CISPR 11:2017 KS C 9811 CISPR 12 EN 55012 AS/NZS CISPR 12 AS/NZS CISPR 12 (2013) VCCI-CISPR 32 VCCI-32-1 VCCI V-15	CISPR 22 EN 55022 AS/NZS CISPR 22 AS/NZS CISPR 22 (2009+A1:2010) KN 22 CISPR 32 EN 55032 AS/NZS 32 (2015); AS/NZS CISPR 32 KS C 9832 ICES-001 ICES-003 ICES-005 ICES-006

On the following systems and products:
Wireless/radio devices and electromechanical and electronic equipment for: information technology (ITE); industrial, scientific, and medical (ISM) applications; residential service; household appliances, small tools and similar apparatus; receivers; licensed and unlicensed transmitters/transceivers; UPS systems; alarm/security systems; central office telephone equipment; heavy industrial equipment; marine equipment; consumer audio/video equipment; professional audio/video equipment; arc welders; PLC controllers; lifts, escalators and passenger conveyers; land vehicles and electrical subassemblies / components for: commercial and military land vehicles, commercial aircraft, military and naval ships, submarines and small craft, commercial ships, yachts and small craft; and scientific and laboratory apparatus.

[2] 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.

[3] When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is expected 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*.

[4] This laboratory meets A2LA R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories for these tests.

Testing Activities Performed in Support of FCC Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1 [5]:		
Rule Subpart/Technology	**Test Method(s)**	**Maximum Frequency (MHz)**
Unintentional Radiators (FCC Part 15B)	ANSI C63.4-2014	40000
Industrial, Scientific, and Medical Equipment (FCC Part 18)	FCC MP-5 (February 1986)	67000
Intentional Radiators (FCC Part 15C)	ANSI C63.10-2013	67000
Unlicensed Personal Communication Systems Devices (FCC Part 15D)	ANSI C63.17-2013	67000
U-NII without DFS Intentional Radiators (FCC Part 15E)	ANSI C63.10-2013	67000
U-NII with DFS Intentional Radiators (FCC Part 15E)	FCC KDB 905462 D02 (v02)	67000
UWB Intentional Radiators (FCC Part 15F)	ANSI C63.10-2013	67000
BPL Intentional Radiators (FCC Part 15G)	ANSI C63.10-2013	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.1 [5]:		
Rule Subpart/Technology	**Test Method(s)**	**Maximum Frequency (MHz)**
White Space Device Intentional Radiators (FCC Part 15H)	ANSI C63.10-2013	67000
Commercial Mobile Services (FCC Licensed Radio Service Equipment) Part 22 (cellular), Part 24, Part 25 (below 3 GHz) and Part 27	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26-2015	67000
General Mobile Radio Services (FCC Licensed Radio Service Equipment) Part 22 (non-cellular), Part 90 (below 3 GHz), Part 95, Part 97 (below 3 GHz), and Part 101 (below 3 GHz)	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26-2015	67000
Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment) Part 96	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26-2015	67000
Maritime and Avionics Radio Services (FCC Licensed Radio Service Equipment) Part 80 and Part 87	ANSI/TIA-603-E; ANSI C63.26-2015	67000
Microwave and Millimeter Bands Radio Services (FCC Licensed Radio Service Equipment) Parts 25, 30, 74, 90 (above 3 GHz), 95 (above 3 GHz), 97 (above 3 GHz), and 101	ANSI/TIA-603-E TIA-102.CAAA-E ANSI C63.26-2015	67000
Broadcast Radio Services (FCC Licensed Radio Service Equipment) Part 73 and Part 74 (below 3 GHz)	ANSI/TIA-603-E TIA-102.CAAA-E ANSI C63.26-2015	67000
Signal Boosters (Part 20) (Wideband Consumer Signal Boosters, Provider-specific Signal Boosters, and Industrial Signal Boosters), Section 90.219	ANSI C63.26-2015 FCC KDB Publication 935210 D03, D04 and D05	67000

[5] 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

QAI LABORATORIES LTD.

Burnaby, British Columbia, Canada

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 8th day of December 2020.

Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3657.02
Valid to May 31, 2023
Revised February 23, 2023

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