SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

TUV SUD AMERICA INC.[1]
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ELECTRICAL

Valid To: September 30, 2017 Certificate Number: 2955.11

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 EMC (electromagnetic compatibility) and Telecommunications tests:

Test Technology:	**Test Method(s)[2,3]:**
Emissions[4]	
Conducted	FCC 47 CFR, Part 15, Subpart B (using ANSI C63.4-2009, 2014); CISPR 14-1 (2005+A1:2008+A2:2011); EN 55014-1 (2006+A1:2009+A2:2011); KN 14-1; AS/NZS CISPR 14.1 (2013); CISPR 22 (2005, 2008); EN 55022 (2010+AC:2011); AS/NZS CISPR 22 (2009+A1:2010); VCCI-V3; CNS 13438 (2006); KN 22; TCVN 7189:2009 (CISPR 22:2006); CISPR 32/AC:2013; EN55032/AC:2013; KN 32; AS/NZS CISPR 32 (2013); CISPR 11 (2009+A1:2010); EN 55011 (2009+A1:2010); KN 11; AS/NZS CISPR 11 (2011)
Radiated & Conducted (*ESA only*)	CISPR 25 (2002, 2008); EN 55025
Automotive *(excluding complete vehicle tests)*	EN 12895 (2000); EN 13309 (2010); ISO 13766 (2006); ISO 14982 (1998, 2009); ISO 7637-1 (2002+A1:2008); ISO 7637-2 (1990, 2004, 2008, 2011); ISO 7637-3 (1995, 2007); EN 50498 (2010); ANSI/ASAE EP455 (section 5.16); 97/24/EC; 2015/208/EC; 2009/64/EC; UN ECE R10.04; UN ECE R10.05; KN 41; SAE J1113-41 (2006); SAE J1113-42 (2006, 2010); JDQ 53.3 (sections 8 & 9); JDQ 202; JDQ 203; CLAAS CN 050215;

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Test Technology:	**Test Method(s)[2,3]:**
Emissions (Cont'd)	
Automotive *(Cont'd) (excluding complete vehicle tests)*	Harley Davidson EG812-22613; Harley Davidson EG812-22614; NHTSA-2013-0058 (section D test, RFI/EMI Tests); Volvo STD 515-0003
Avionic	RTCA/DO-160D (section 21); RTCA/DO-160E (sections 21.3 & 21.4); RTCA/DO-160F (sections 21.4 & 21.5); RTCA/DO-160G (sections 21.4 & 21.5); Boeing D6-16050-4; Boeing D6-16050-5; Boeing 787B3-0147
Harmonics	IEC/EN 61000-3-2; IEC/EN 61000-3-12
Voltage Flicker / Fluctuations	IEC/EN 61000-3-3; IEC/EN 61000-3-11
Immunit [4]	
ESD	IEC 61000-4-2 (2001, 2008); EN 61000-4-2; KN 61000-4-2
Radiated Immunity	IEC 61000-4-3 (2002, 2006+A1:2007+A2, 2010); EN 61000-4-3; KN 61000-4-3
EFT/Burst	IEC 61000-4-4 (1995+A1:2000+A2:2001, 2004+A1:2010, 2012); EN 61000-4-4; KN 61000-4-4
Surge	IEC 61000-4-5 (2001, 2005); EN 61000-4-5; KN 61000-4-5
Conducted Immunity	IEC 61000-4-6 (2003, 2006, 2008, 2013+AC:2015); EN 61000-4-6; KN 61000-4-6
Magnetic Field Immunity	IEC 61000-4-8 (2001, 2009); EN 61000-4-8; KN 61000-4-8
Pulse Magnetic Field Immunity	IEC 61000-4-9 (2001); KN 61000-4-9
Voltage Dips, Shorts, Variations	IEC 61000-4-11 (2001, 2004); EN 61000-4-11; KN 61000-4-11
Ring Wave Immunity	IEC 61000-4-12 (2006)
Harmonics and Interharmonics	IEC 61000-4-13
Voltage Fluctuation Immunity	IEC 61000-4-14 (2002, 2009)
Common Mode Disturbance – Conducted Immunity from 0 to 150 kHz	IEC 61000-4-16

Test Technology:	**Test Method(s)[2,3]:**
Immunity[4] (Cont'd)	
Ripple on D.C Input Ports Immunity	IEC 61000-4-17
Power Frequency Variation Immunity	IEC 61000-4-28
Voltage Dips, Shorts, Variations on D.C. Input Ports	IEC 61000-4-29 (2000)
Automotive	ISO 10605 (2001, 2008+AC: 2010+A1:2014); ISO 11452-1 (2005+A1:2008); ISO 11452-2 (2004); ISO 11452-4 (2005, 2011); ISO 11452-5 (2002); ISO 11452-7 (2003+A1:2013); ISO 11452-8 (2007); ISO 11452-10; ISO 16750-2; EN 12895 (2000); EN 13309 (2010); ISO 13766 (2006); ISO 14982 (2009); ISO 7637-1 (2002+A1:2008); ISO 7637-2 (1990, 2004+A1:2008, 2011); ISO 7637-3 (1995, 2007); EN 50498 (2010); SAE J1113-1 (2006, 2012, 2013) (*excluding aircraft*); SAE J1113-2 (2004, 2010) (*excluding aircraft*); SAE J1113-3 (2006, 2010); SAE J1113-4 (2004, 2014); SAE J1113-11 (2006); SAE J1113-11 (2012); SAE J1113-12 (2006); SAE J1113-13 (2004, 2015); SAE J1113-22 (2003, 2010); SAE J1113-21 (2005, 2013); SAE J1113-41 (2006); SAE J1113-42 (2006, 2010); ANSI/ASAE EP455 (sections 5.10, 5.11, 5.12, & 5.16); 97/24/EC; 2015/208/EC; 2009/64/EC; UN ECE R10.04; UN ECE R10.05; KN 41; JDQ 53.3 (sections 8 & 9); JDQ 202; JDQ 203; CLAAS CN 050215; Harley Davidson EG812-22613; Harley Davidson EG812-22614; NHTSA-2013-0058 (section D test RFI/EMI Tests); Volvo STD 515-0003
Medical	AAMI Pacemaker Standard: Labelling Requirements, Performance Requirements, and Terminology for Implantable Artificial Cardiac Pacemakers, August 1975 (FDA Contract No. 223-74-5083); EMCU_W09.30E; EMCU_W09.31E; EMCU_W09.32E; EMCU_W09.33E; EMCU_W09.34E; EMCU_W09.35E

Test Technology:	**Test Method(s)[2,3]:**
Immunity[4] (Cont'd)	
Avionic[5]	RTCA/DO-160D (sections 15, 16, 17, 18, 19, 20, 22, & 25); RTCA/DO-160E (sections 15, 16, 17, 18, 19, 20, 22, & 25); RTCA/DO-160F (sections 15, 16, 17, 18, 19, 20, 22, & 25); RTCA/DO-160G (sections 15, 16, 17, 18, 19, 20, 22, & 25); Boeing D6-16050-4; Boeing D6-16050-5; Boeing 787B3-0147
Generic/Product Family Standards and Industry Standards *(excluding Radiated Emissions)*	IEC/EN/KN 61000-6-1 (2007); IEC/EN/KN 61000-6-2 (2005); IEC 61000-6-3 (2006+A1:2010); EN 61000-6-3:2007/A1:2011/AC:2012; IEC 61000-6-4 (2006+A1:2010); EN 61000-6-4 (2007+A1:2011); KN 61000-6-3; KN 61000-6-4; AS/NZS 61000.6.3 (2007); AS/NZS 61000.6.3:2012; AS/NZS 61000.6.4 (2007); AS/NZS 61000.6.4:2012; EN 50130-4 (2011); EN 55103-2 (2009); EN 50270 (2006); EN 50293 (2012); IEC/EN 61326-1 (2006, 2013); IEC/EN 61326-2-6; IEC/EN 60730-1 (sections 23 & 26); IEC/EN 60730-2-9 (sections 23 & 26); IEC/EN 60730-2-13 (sections 23 & 26); IEC/EN 60730-2-14 (sections 23 & 26); IEC/EN/KN 60601-1-2 (2007+AC:2010); IEC 60601-1-2 (2014); EN 60601-2-24 (1998) (section 36); IEC/EN 61131-2 (2007) (sections 8 & 9); IEC/EN 60118-13 (2005, 2011); EN ISO 11608-1 (section 11); IEC/EN/KN 60945 (section 10); EN 55014-2 (1997+A1:2001+A2:2008); CISPR 14-2 (2008, 2015); KN 14-2; CISPR 24 (2010); EN 55024 (2010); KN 24; KN 35; TCVN 7317:2003 (CISPR 24:1997); ETSI EN 301 489-1; ETSI EN 301 489-3; ETSI EN 301 489-7; ETSI EN 301 489-17; ETSI EN 301 489-24; ETSI EN 301 489-27; ETSI EN 301 489-31; ANSI C63.19; ANSI C12.1 (2001, 2008) (section 4.7.3.12.1); EN 45502-1 (section 27); EN 45502-2-1 (section 27); ISO 14708-3 (section 27); IEC/EN/KN 61800-3; NEMA TS2 (sections 2.1.6, 2.1.7, & 2.1.8); KN 301 489-1, -3, -7, -17, -24, -27, -31; CAN/CSA-C22.2 NO. 60601-1-2-08 (R2014) Collateral standard: Electromagnetic compatibility

Test Technology:	**Test Method(s)[2,3]:**
Radio Tests	
(RF Conducted Measurements only)	ETSI EN 300 220-3; ETSI EN 300 330-2; ETSI EN 300 440-2; ETSI EN 300 328 (v1.8.1, v1.9.1; *excluding adaptivity testing*); ETSI EN 301 511 (v9.0.2, V12.1.1; *clauses 4.2.16 and 4.2.17*); ETSI EN 301 839-2 (v1.3.1); ETSI EN 302 195-2 (v1.1.1); ETSI EN 301 908-1 (v6.2.1; *clause 4.2.2*); ARIB STD-T66 (v2.1); HKCA 1002, Issue 6; HKCA 1003, Issue 4; HKCA 1007, Issue 5; HKCA 1008, Issue 3; HKCA 1033, Issue 7; HKCA 1035, Issue 6; HKCA 1039, Issue 4; HKCA 1042, Issue 2; HKCA 1043, Issue 4; HKCA 1044, Issue 1; HKCA 1048, Issue 2; HKCA 1049, Issue 1; HKCA 1052, Issue 2; HKCA 1054, Issue 1; HKCA 1057, Issue 1; HKCA 1061, Issue 1; IDA TS LMR, Issue 1, rev 4; IDA TS SRD, Issue 1, rev 7; IDA TS CMT, Issue 1 (2011); IDA TS UWB, Issue 1, rev 1; IDA TS WBA, Issue 1; LP0002 (2011); QCVN 11:2010/BTTTT; QCVN 12:2010/BTTTT; QCVN 13:2010/BTTTT; QCVN 15:2010/BTTTT; QCVN 18:2010/BTTTT; QCVN 54:2011/BTTTT; QCVN 55:2011/BTTTT; PLMN01 (2007); RTTE01 (2007); AS/NZS 4268 (2012+A1:2013); RSS-210 (Issue 8) (*excluding DFS testing*); RSS-GEN; RSS-247; FCC 47 CFR, Part 15, Subpart C (using ANSI C63.10-2013)
Military	
Emissions & Immunity	MIL-STD-462 (methods CE01, CE02, CE03, CE04, CE07, CS01, CS02, CS06, CS09, RE01, RE02, RS01, RS02, RS03[2], RS06); MIL-STD-462D (methods CE101, CE102, CE106, CS101, CS109, CS114, CS115, CS116, RE101, RE102, RS101, RS103); MIL-STD-461E (methods CE101, CE102, CE106, CS101, CS103, CS104, CS109, CS114, CS115, CS116, RE101, RE102, RE103, RS101, RS103); MIL-STD-461F (methods CE101, CE102, CE106, CS101, CS103, CS104, CS109, CS114, CS115, CS116, RE101, RE102, RS101, RS103)

Test Technology:	**Test Method(s)[2,3]:**
Product Safety Tests[4]	
	EXCLUDED MEASUREMENTS in Product Safety: Abrasion Resistance Test Bottom Fire Enclosure (Hot Flaming Oil) Cathode Ray Tubes Concentration of Flammable Vapors CRT Strength Hand-Transmitted Vibration High Vacuum Devices Human Exposure to UV Radiation Integrated Circuit (IC) Current Limiters Ionizing Radiation Laser (including laser diodes) Light Emitting Diodes (LEDs) Mandrel Test Materials Group Classification Microwave Radiation Partial Discharge Test Pressure Vessels Prevention of Electrostatic Charges Resistance to Environmental Stress Softening Temperature (ISO 306) Tracking Index CTI Ultrasonic Pressure UV Radiation Oscillating Hoop IP Test Dust Test Shock and Vibration Test Oxygen Bomb Test Altitude Test
Measurement Equipment	IEC 61010-1 (2001, 2010); EN 61010-1 (2001, 2012); CAN/CSA C22.2 No. 61010.1; UL 61010-1; IEC 61010-2-010 (2003); EN 61010-2-010 (ed.2):2003; IEC 61010-2-010(ed.3); EN 61010-2-010:2014; CAN/CSA C22.2 No. 61010.2.010; UL 61010A-2-010; IEC 61010-2-030(ed.1); EN 61010-2-030:2010; CAN/CSA C22.2 No. 61010-2-030; UL 61010-2-030; IEC 61010-2-081 (2001+A1:2001); IEC 61010-2-081(ed.2); EN 61010-2-081:2002+A1:2003; EN 61010-2-081:2015; CAN/CSA C22.2 No. 61010.2.081; IEC 61010-2-101 (2002); EN 61010-2-101(ed.1):2002; IEC 61010-2-101(ed.2); CAN/CSA C22.2 No. 61010.2.101
Office Equipment	ANSI/UL 60950-1 (2003); IEC 60950-1 (2001, 2005+A1:2009+A2:2013); IEC 60950-1(ed.1); IEC 60950-1(ed.2); IEC 60950-1(ed.2), A1; IEC 60950-1(ed.2), A1,A2;

Test Technology:	**Test Method(s)[2,3]:**
Product Safety Tests[4] (Cont'd)	
Office Equipment *(Cont'd)*	EN 60950-1 (2006+A11:2009+A1:2010+A12:2011+A2:2013); UL 60950-1 (2001, 2003, 2007); CAN/CSA-C22.2 No 60950-1; AS/NZS 60950.1 (2003+A1:2006+A2:2008+A3:2008, 2011)
Audio Visual Equipment	AS/NZS 60065 (2012); CAN/CSA C22.2 60065; EN 60065 (2001+A1:2005+A11:2008+A2:2010+A12:2011); IEC 60065 (2001+A1:2005+A2:2010); IEC 60065(ed.8); EN 60065:2014; UL 60065
Household Appliances	AS/NZS 60335-1; CAN/CSA C22.2 60335-1 (2011); EN 60335-1 (2002+A11+A1+A12+A2+A13+A14+A15; 2012); IEC 60335-1 (2001+A1:2004+A2:2006, 2010); UL 60335-1 (2004; 2011); AS/NZS 60335-2-3; CAN/CSA-E60335-2-3 (2006; 2013); IEC 60335-2-3 (ed.5 2002+A1+A2, ed.6 2012); EN 60335-2-3 (2002+A1+A2+A11); UL 60335-2-3; AS/NZS 60335-2-8; CAN/CSA-E60335-2-8 (2006); EN 60335-2-8 (2003+A1+A2); IEC 60335-2-8 (ed.2 2002+A1+A2, ed.3 2012); UL 60335-2-8 (2006)
Medical Equipment	ANSI/AAMI ES60601-1:2005+A1:2012; CAN/CSA C22.2 No. 601.1-M90+60601-1-08; CAN/CSA C22.2 No. 60601.1(2014); EN 60601-1/A2:1995, 2006; IEC 60601-1(1998+A1:1991+A2:1995, 2005+A1:2012); UL 60601-1:2003; CAN/CSA C22.2 No. 60601-1-1:2002; EN 60601-1-1:2001; IEC 60601-1-1:2000; EN 60601-1-4/A1:1996; IEC 60601-1-4:1996; CAN/CSA C22.2 No. 60601-1-4; CAN/CSA C22.2 No. 60601-1-6:2008, 2011; EN 60601-1-6:2007, 2010; IEC 60601-1-6:2004, 2006; IEC 60601-1-6:2010+A1:2013; EN 60601-1-6:2010+A1:2015; CAN/CSA C22.2 No. 60601-1-08:2008, 2013; EN 60601-1-8:2007+A1:2013; IEC 60601-1-8:2006; AAMI HA60601-1-11:2011; ANSI/AAMI HA60601-1-11:2015-11-15; CAN/CSA C22.2.60601-1-11:2011; IEC 60601-1-11:2010; EN 60601-1-11:2010; IEC 60601-1-11:2015; EN 60601-1-11:2015; IEC 60601-2-10:2012; EN 60601-2-10/A1:2001; CAN/CSA C22.2.60601-2-18:2001, 2011; IEC 60601-2-18:1996, 2009; EN 60601-2-18:1996+A1:2000; CSA/C22.2.60601-2-31:2009; EN 60601-2-31/A1:2011; IEC 60601-2-31:2008+A1:2011; EN 60601-2-34:2000; IEC 60601-2-34:2000, 2011; AAMI IEC 62304:2006; IEC 62304:2006; EN 62304:2008; AAMI IEC 62366:2007; EN 62366:2008; IEC 62366:2007; IEC 62366:2007+A1:2014; EN 62366:2008+A1:2015; JIS T0601-1:2012

Test Technology:	**Test Method(s)[2,3]:**
Product Safety Tests[4] (Cont'd)	
Industry Standards	UL 22, UL 73, UL 197, UL 250, UL 291, UL 325, UL 399, UL 471, UL 499, UL 507, UL 508, UL 508A, UL 508C, UL 588, UL 751, UL 763, UL 778, UL 859, UL 873, UL 935, UL 963, UL 979, UL 982, UL 987, UL 998, UL 1004-1, UL 1004-2, UL 1004-4, UL 1012, UL 1017, UL 1026, UL 1082, UL 1236, UL 1278, UL 1310, UL 1431, UL 1450, UL 1563, UL 1573, UL 1598, UL 1647, UL 1740, UL 1741, UL 1778, UL 1838, UL 1993, UL 1995, UL 2111, UL 2200, UL 5085-1, UL 5085-3

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

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ELECTRICAL (EMC)

Test Technology:	**Test Method(s) [2,3]:**
Emissions	
Radiated & Conducted	FCC 47 CFR, Part 15, Subpart B (using ANSI C63.4-2009, 2014); CISPR 22 (2005, 2008); EN 55022 (2010+AC:2011); AS/NZS CISPR 22 (2009+A1:2010); VCCI-V3 (*up to 6 GHz*); CNS 13438 (2006) (*up to 6 GHz*); KN 22; CISPR 32 (2012+AC:2012+AC:2013; EN55032 (2012+AC:2012+AC:2013; KN 32; CISPR 14-1 (2005+A1:2008+A2:2011); EN 55014-1 (2006+A1:2009+A2:2011); KN 14-1; AS/NZS CISPR 14.1 (2013); CISPR 12 (2007+A1:2009); EN 55012 (2007+A1:2009); AS/NZS CISPR 12 (2013); TCVN 7189:2009 (CISPR 22:2006); FCC 47 CFR, Part 18 (using OST-MP5); CISPR 11 (2009+A1:2010); EN 55011 (2009+A1:2010); KN 11; AS/NZS CISPR 11 (2011); EN 61326-1 (2013); ICES-001 (Issue 4); ICES-002 (Issue 6); ICES-003 (Issue 5)
Harmonics	IEC/EN 61000-3-2; IEC/EN 61000-3-12
Voltage Flicker / Fluctuations	IEC/EN 61000-3-3; IEC/EN 61000-3-11
Immunity[4]	
ESD	IEC 61000-4-2 (2001, 2008); EN 61000-4-2; KN 61000-4-2

Test Technology:	**Test Method(s) [2,3]:**
Immunity[4] (Cont'd)	
Radiated Immunity	IEC 61000-4-3 (2002, 2006+A1:2007+A2:2010); EN 61000-4-3; KN 61000-4-3
EFT/Burst	IEC 61000-4-4 (1995+A1:2000+A2:2001, 22004+A1:2010, 2012); EN 61000-4-4; KN 61000-4-4
Surge	IEC 61000-4-5 (2001, 2005); EN 61000-4-5; KN 61000-4-5
Conducted Immunity	IEC 61000-4-6 (2003, 2006, 2008, 2013+AC:2015); EN 61000-4-6; KN 61000-4-6
Magnetic Field Immunity	IEC 61000-4-8 (2001, 2009); EN 61000-4-8; KN 61000-4-8
Pulse Magnetic Field Immunity	IEC 61000-4-9 (2001); KN 61000-4-9
Voltage Dips, Shorts, Variations	IEC 61000-4-11 (2001, 2004); EN 61000-4-11; KN 61000-4-11; IEC/EN/KN 61000-4-34
Generic/Product Family Standards and Industry Standards	IEC/EN/KN 61000-6-1 (2007); IEC/EN/KN 61000-6-2 (2005); AS/NZS 61000.6.1 (2006); AS/NZS 61000.6.2 (2006); IEC 61000-6-3 (2006+A1:2010); EN 61000-6-3 (2007+A1:2011); EN 61000-6-3:2007/A1:2011/AC:2012; IEC 61000-6-4 (2006+A1:2010); EN 61000-6-4 (2007+A1:2011); KN 61000-6-3; KN 61000-6-4; AS/NZS 61000.6.3 (2007); AS/NZS 61000.6.3:2012; AS/NZS 61000.6.4 (2007); AS/NZS 61000.6.4:2012; EN 50130-4 (2011); EN 55103-2 (2009); EN 50270 (2006); EN 50293 (2012); IEC/EN 61326-1 (2006, 2013); IEC/EN 61326-2-6; IEC/EN 60730-1 (sections 23 & 26); IEC/EN 60730-2-9 (sections 23 & 26); IEC/EN 60730-2-13 (sections 23 & 26); IEC/EN 60730-2-14 (sections 23 & 26); IEC/EN/KN 60601-1-2 (2007+AC:2010); IEC 60601-1-2 (2014); EN 60601-2-24 (1998) (section 36); IEC 61131-2 (2007) (sections 8 & 9); EN 60118-13 (2011); EN ISO 11608-1 (section 11); IEC/EN/KN 60945 (section 10); EN 55014-2 (1997+A1:2001+A2:2008); CISPR 14-2 (2008, 2015); KN 14-2; CISPR 24 (2010); EN 55024 (2010); KN 24; KN 35; TCVN 7317:2003 (CISPR 24:1997); ETSI EN 301 489-1; ETSI EN 301 489-3; ETSI EN 301 489-7; ETSI EN 301 489-17; ETSI EN 301 489-24; ETSI EN 301 489-27; ETSI EN 301 489-31; KN 301 489-1, -3, -7, -17, -24, -27, -31; CAN/CSA-C22.2 NO. 60601-1-2-08 (R2014) Collateral standard: Electromagnetic compatibility

Test Technology:	**Test Method(s) [2,3]:**
Generic/Product Family Standards and Industry Standards (Cont'd)	
Automotive	ISO 10605 (2001, 2008+AC:2010+A1:2014); ISO 11451-1; ISO 11451-2; ISO 11451-4; EN 12895 (2000); EN 13309 (2010); ISO 13766 (2006); ISO 14982 (2009); ISO 7637-1 (2002+A1:2008); ISO 7637-2 (1990, 2004+A1:2008, 2011) 97/24/EC; 2015/208/EC; 2009/64/EC; UN ECE R10.04; UN ECE R10.05; KN 41
Radio Tests	ETSI EN 300 220-3; ETSI EN 300 330-2; ETSI EN 300 440-2; ETSI EN 300 328 (v1.8.1, v1.9.1; *excluding adaptivity testing*); ETSI EN 301 511 (v9.0.2; *clauses 4.2.16 and 4.2.17*); ETSI EN 301 839-2 (v1.3.1); ETSI EN 302 195-2 (v1.1.1); ETSI EN 301 908-1 (v6.2.1; *clause 4.2.2*); ARIB STD-T66 (v2.1); HKCA 1002, Issue 6; HKCA 1003, Issue 4; HKCA 1007, Issue 5; HKCA 1008, Issue 3; HKCA 1033, Issue 7; HKCA 1035, Issue 6; HKCA 1039, Issue 4; HKCA 1042, Issue 2; HKCA 1043, Issue 4; HKCA 1044, Issue 1; HKCA 1048, Issue 2; HKCA 1049, Issue 1; HKCA 1052, Issue 2; HKCA 1054, Issue 1; HKCA 1057, Issue 1; HKCA 1061, Issue 1; IDA TS LMR, Issue 1, rev 4; IDA TS SRD, Issue 1, rev 7; IDA TS CMT, Issue 1 (2011); IDA TS UWB, Issue 1, rev 1; IDA TS WBA, Issue 1; LP0002 (2011); QCVN 11:2010/BTTTT; QCVN 12:2010/BTTTT; QCVN 13:2010/BTTTT; QCVN 15:2010/BTTTT; QCVN 18:2010/BTTTT; QCVN 54:2011/BTTTT; QCVN 55:2011/BTTTT; PLMN01 (2007); RTTE01 (2007); AS/NZS 4268 (2012); RSS-210 (Issue 8) (*excluding DFS testing*); RSS-GEN; RSS-247; FCC 47 CFR, Part 15, Subpart C (using ANSI C63.10-2013)

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

[3] 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.

[4] Field testing services are available for this test and this laboratory meets A2LA R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories for this test.

[5] Laboratory utilizes RADHAZ procedures for high level testing.

Accredited Laboratory

A2LA has accredited

TUV SUD AMERICA INC.

New Brighton, MN

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *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 8 January 2009*).

Presented this 18th day of November 2015.

President & CEO
For the Accreditation Council
Certificate Number 2955.11
Valid to September 30, 2017

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