



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY DALLAS - PLANO

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ELECTRICAL

Valid To: January 31, 2022

Certificate Number: 3310.03

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization’s compliance with A2LA’s FDA ASCA Accreditation Program³ requirements) accreditation is granted to this laboratory to perform the following EMC, Product Safety, Radio, and Telecommunication tests on IT/Multimedia Equipment, Audio Equipment, Industrial Equipment, Radio Equipment, Military/Aerospace, Aircraft Components and Automotive Components:

<u>Test Technology:</u>	<u>Test Method(s) ^{1,4}:</u>
Emissions	
<i>U.S.</i>	ANSI C63.10-2009 + (2013); 47 CFR FCC Part 15, Subpart B (using ANSI C63.4(2014)); 47 CFR FCC Part 15, Subparts C, E, F, G, H (using ANSI C63.10(2013)); 47 CFR FCC Part 15, Subpart E (using FCC KDB 905462 D02 (v02)); 47 CFR FCC Part 18 (using FCC MP-5:1986); CISPR 32, Ed. 2.1 (2015) + A1(2019) + (2012-01)
<i>Australia</i>	AS/NZS CISPR 32 (2013) + (2015); AS/NZS CISPR 22 (2009) +A1 (2010); AS CISPR 11 (2017); AS/NZS CISPR 11 (2011); AS/NZS CISPR 12 (2013)
<i>Europe</i>	EN 12895 (2000) + (2015); EN 50270; EN 55011 (2007) + A2 (2007); EN 55011 (2009) + A1 (2010); EN 55012 (2007) + A1 (2009); EN 55013 (2001) + A1 (2003) + A2 (2006) + (2013); EN 55014-1 (2006) + A1 (2009) + A2 (2011) + (2019); EN 55015 (2006) + A2 (2009) + (2013); EN 55022 (1998) + A1(2000) + A2(2003) + (2006) + A1 (2007) + (2010); EN 55032 (2015) + AC (2016) + (2012-05); EN 55103-1 (2009) + A1 (2012); EN 61000-3-2 (2014);

<u>Test Technology:</u>	<u>Test Method(s) ^{1,4}:</u>
Emissions (cont.)	
<i>Europe cont.</i>	<p>EN 61000-3-3 (2013); EN 61000-6-3 (2007) + A1 (2011) + AC (2012); EN 61000-6-3 (2007) + A1 (2011); EN 61131-2 (2008); EN 61326-2-1 (2013) + (2006-05); EN 61326-2-2 (2013); EN 61326-2-3 (2013) + (2006-08); EN 61326-2-6 (2013); EN 62040-2 (2006); ICES-001 Issue 5 (2020); ICES-002 Issue 6, A1 (2013); ICES-003 Issue 6 (April 2019); ICES-005 Issue 4 (Dec 2015); ICES-006 Issue 2 (2009); IEC 60255-26 (2013-05); IEC 61000-3-2 (2018); IEC 61000-3-2 Ed. 4.0 (2014-05); IEC 61000-3-3 (2013) + A1 (2017); IEC 61000-3-3 Ed. 3.0 (2013-05); IEC 61000-3-11 (2000-2008) + (2017); IEC 61000-3-12 Ed. 2.0 (2011); IEC 61000-6-3 (2006) + A1 (2010); IEC 61000-6-3 (2006-06); IEC 61000-6-4 (2006) + A1 (2010) + (2007) + A1 (2011) + (2012-06) + (2018); IEC 61131-2 (2017) Sec. 7.2; IEC 61326-1 Ed. 2.0 (2012); IEC 62040-2 (2016); IEC/EN 61000-3-3 (1995) + A1 (2001) + A2 (2005); IEC/CISPR 11 Ed. 6.0 (2015); CISPR 11 Ed. 6.2 (2019); IEC/CISPR 11, Ed. 4.1 (2004-06) + A2 (2006); IEC/CISPR 11 Ed. 5 (2009-05) + A1 (2010); CISPR 12 (2007) + A1 (2009); CISPR 13, Ed. 4.2 (2006-03); IEC/CISPR 13 Ed. 5.0 (2009-06); IEC/CISPR 14-1, Ed. 5.0 (2005) + A1 (2008) + A2 (2011) + (2016); IEC/CISPR 15 (2018); CISPR 15 (2009); IEC/CISPR 22 Ed. 5 (2005) + A1(2005) + A2 (2006); IEC/CISPR 22 Ed. 6.0 (2008-09); IEC/CISPR 25 (2016) + (2008-03); BS EN 55013 (2013) + A1 (2016); BS EN 61326-2-2 (2006-06)</p>
<i>Israel</i>	SI 961 part 6.1; SI 961 Part 6.2; SI 961 Part 24
<i>Japan</i>	VCCI-CISPR 32 (2016); VCCI V-3 (2015.4)
<i>Korea</i>	<p>KN 301 489-01; KN 301 489-03; KN 301 489-07; KN 301 489-17; KN 301 489-24; KN 301 489-27; KN 61000-6-3 (2012-06); KN 61000-6-4 (2012-06); KN 11; KN 14-1; KN 22; KN 32:2013 + 2015; RRA Public Notification 2011-24 RRA Announce 2012-21, K Only, June 28, 2012; RRA 2013-3 and 2013-24, June 17, 2013; RRA Announce 2013-24, June 17, 2013; RRA 2014-8; RRA 2014-37; RRA Public Notification 2015-27, December 03, 2015 RRA Announce 2015-110, December 03, 2015;</p>

<u>Test Technology:</u>	<u>Test Method(s) ^{1,4}:</u>
Emissions (cont.)	
<i>Korea cont.</i>	RRA Public Notification 2016-26; RRA Announce 2016-79; RRA Public Notification 2017-19; RRA Announce 2017-71
<i>Vietnam</i>	QCVN 118 (2018): BTTTT; TCVN 7189:2009 (CISPR 22:2006)
Automotive	ISO 7637-2 Ed. 2 (2004) + A1 (2008); ISO 7637-3:2016
Sound and Television Equipment	CNS 13438 (2006); CNS 13439 (2004); EN 55020 (2007) + A11 (2011) + A12 (2016); EN 55035 (2017); EN 55103-2 (1996) + (2009)
Radiated Immunity	ISO 11452-1 (2015)
Electro-Static Discharge (ESD)	ISO 10605 (2008); IEC 61000-4-2, Ed. 2.0 (2008-12); KN 61000-4-2;
Electric Fast Transient Burst (EFT)	IEC 61000-4-4 (2012-04); IEC 61000-4-4, Ed. 2.0 (2004-07) + A1 (2010); KN 61000-4-4;
Surge	IEC 61000-4-5, Ed 1.1 (2005-11); IEC 61000-4-5 Ed. 3.1 (2017); IEC 61000-4-5 (2014) + A1 (2017); IEC 61000-4-5 Ed. 3.0 (May 2014); EN 61000-4-5 (2014) + A1 (2017); KN 61000-4-5;
Voltage Dips and Interruptions	EN 61000-6-7 (2015); IEC 61000-4-6 Ed. 4.0 (2013); IEC 61000-4-6 Ed. 3.0 (2008); KN 61000-4-6; CISPR 16-2-3 (2016); CISPR TR 16-3 Ed. 3 (2015-09)
Magnetic Field	EN 61000-4-3 (2006) + A1 (2008) + A2 (2010); IEC 61000-4-3, Ed. 3.1 (2008-04); IEC 61000-4-3, Ed. 3.0 (2006-02) + A1 (2007) + A2 (2010); IEC 61000-4-3, Ed. 3.2 (2010); KN 61000-4-3;
	EN 61000-4-8; EN 61000-4-8 (2010); IEC 61000-4-8, Ed. 1.1 (2001); IEC 61000-4-8 (2009); KN 61000-4-8;
	IEC 61000-4-9 (2016); BS EN 61000-4-9 (2016); IEC 61000-4-10 (2016);
	IEC 61000-4-11, Ed. 2.1 (2017); EN 61000-4-11 (2004) + A1 (2017); IEC 61000-4-11, Ed. 2 (2004-03); EN 61000-4-11; KN 61000-4-11 (2012);
	IEC 61000-4-13 Ed. 1.1 (2002) + A1 (2009) + A2 (2015);

<u>Test Technology:</u>	<u>Test Method(s) ^{1,4}:</u>
Magnetic Field (cont.)	IEC 61000-4-14:1999 + AMD1:2001 + AMD2:2009
	IEC 61000-4-16 Ed. 2.0 (2015); BS EN 61000-4-16 (2016);
	EN 61000-4-17:1999+A2:2009; IEC 61000-4-17 Ed. 1.2 (2009);
	IEC 61000-4-28 (1999) + A1 (2001) + A2 (2009); EN 61000-4-29 (2001); IEC 61000-4-29 (2000); IEC 61000-4-39 (2017)
Generic/Product Family Immunity Standards	IEC 61000-6-1 (2016); IEC 61000-6-1, Ed. 2 (2005-03); EN 61000-6-1 (2007); KN 61000-6-1 (2012); KN 61000-6-1 (2013); EN 61000-6-2 (2016); EN 61000-6-2 (2005) + AC (2005); IEC 61000-6-2 (2016); EN IEC 61000-6-2 (2019); IEC 61000-6-2, Ed. 2.0 (2005-01); EN 61000-6-2 (2005); KN 61000-6-2(2012); KN 61000-6-2(2013); IEC 61326-2-6 Ed. 2.0 (2012); IEC 61326-3-1 (2008) + (2017); TCVN 7317:2003 (CISPR 24:1997); AIM 7351731 (2017); IEC/CISPR 14-2 Ed. 2. (2015); IEC/CISPR 14-2 Ed. 1.2 (2008); CISPR 20 (2006) + A1 (2013); IEC/CISPR 20 (2006); CISPR 35 (2016); IEC/CISPR 24 (1997); EN 55024 (1998) + A1(2001), A2(2003) + (2010); KN 14-2 (2013, 2014); KN 24 (2012, 2013); KN 35; IEC 60601-1-2 Edition 4.0 2014-02; IEC 60601-1-2, Ed. 2.1 (2004-11); EN 60601-1-2 (2002); IEC 60601-1-2, Ed. 3.0 (2007); EN 60601-1-2 (2007); EN 60945 (2002); IEC 60945 (2002); GR-1089-CORE, Issue 7; GR-1089-CORE, Issue 4; IEC 61000-6-7 (2014)
Immunity - Vehicles	SAE J1113-1 (2018-10); SAE J1113-4 (2014-04); SAE J1113-11 (2017-06); SAE J1113-12 (2017-11); SAE J1113-13 (2015-02); ISO 11452-2 (2004) + (2019); ISO 11452-4 (2011)
Information Technology	IEC 61131-2 (2017) Sec. 7.3; EN 61326-1 (2006) + (2013); EN 61131-6 (2013); IEC 61131-6 (2012); Lloyd's Register - LR Type; Approval System Test Specification 1 (2002, 2013, 2015)
Military and Airborne Equipment	MIL-STD-461E-G, CE101; MIL-STD-461E-G, CE102; MIL-STD-461E-G, CS114; MIL-STD-461E-G, CS118; MIL-STD-461E-G, RE101; MIL-STD-461E-G, RE102; MIL-STD-461E-G, RS103

<u>Test Technology:</u>	<u>Test Method(s) ^{1,4}:</u>
Product Safety	
<i>Gas Burning Stoves</i>	EN 13611 (2015) + A1 (2016); EN 298 (2012); EN 50156-1 (2015) + A1 (2016);
<i>Medical Devices</i>	ISO 14708-4:2008; IEC 60601-2-2 Edition 6.0 2017-03; EN 60601-2-2, Ed. 5.0 (2009); EN 60601-2-4:2003; IEC 60601-2-4 Ed. 3.0 (2010), Clause 202; IEC 60601-2-50 Edition 2.1 2016-04; EN 60601-2-24 (1998); IEC 60601-2-25 Edition 2.0 2011-10, Clause 202; IEC 60601-2-26 (2003); EN 60601-2-26 (2003); IEC 60601-2-26, Ed. 2.0 (2002-11); IEC 60601-2-26 Ed. 3.0 (2012-05); EN 60601-2-27:2006; IEC 60601-2-27 Edition 3.0 2011-03, Clause 202; IEC 60601-2-30 (1999); EN 60601-2-30 (2000); IEC 60601-2-31 (2008) + A1 (2011); IEC 60601-2-34 Edition 3.0 2011-05; EN 60601-2-37 (2008) + A1 (2015), Clause 202; EN 60601-2-37 (2008); IEC 60601-2-47 (2006), EN 60601-2-47 (2001); IEC 60601-2-47 Edition 2.0 2012-02, Clause 202; IEC 60601-2-49 (2011), Clause 202; EN 60601-2-49 (2015), Clause 202; IEC 60601-2-49 Ed. 2.0 (2011), Clause 202; IEC 80601-2-49 (2018), Clause 202; IEC 80601-2-30 Edition 2.0 2018-03; ISO 80601-2-55 Second Edition 2018-02, Clause 202; ISO 80601-2-61 Second Edition 2017-12 (Corrected Version 2018-02), Clause 202; ISO 80601-2-61 (2011), Clause 202; ISO 9919 Ed. 2.0 (2005), Clause 36; EN 45502-2-3 (2010); ISO 14117 (2012) Sec. 4; ISO 14708-3 (2008); ISO 14708-3 (2017); EN 45502-2-1 (2003); EN 45502-2-2 (2008); KN 60601-1-2; ANSI/AAMI PC69 (2007)
<i>Explosive Atmosphere</i>	IEC 60079-29-4, Ed. 1 (2009), Clause 5.4.17; IEC 60079-29-1, Ed. 2.0 (2016), Clause 5.4.21
<i>Household</i>	IEC 60335-1 Ed. 5.2 (2016); EN 50130-4 (2011); EN 50130-4 (1995) + A1 (1998) + A2 (2003); EN 50130-4 (2011) + A1 (2014); EN 55014-2 (1997); EN 55014-2 (1997) + A1 (2001) + A2 (2008)
<i>Power Supplies</i>	IEC 62040-1-2 (2002); CNS 14757-2 (1992-07)
Radio	
<i>Australia</i>	AS/NZS 2772.2 (2016); AS/NZS 4268 (2017); AS/NZS 4268 (2012) + A1 (2013); AS/NZS 4268 (2008); AS/NZS 4268 (2008) + A1 (2010); AS/NZS 4268 (2012); AS/NZA 4771 (2001) + A1; ACMA (Short Range Devices) Standard 2004 + A1 + A2 (2013) + (2014)

<u>Test Technology:</u>	<u>Test Method(s) ^{1,4}:</u>
<i>Canaa (ISED)</i>	RSS-117; RSS-119; RSS-123; RSS-130; RSS-131; RSS-132; RSS-133; RSS-134; RSS-139; RSS-140; RSS-142; RSS-170; RSS-181; RSS-193; RSS-194; RSS-195; RSS-196; RSS-197; RSS-199; RSS-210; RSS-211; RSS-213; RSS-216; RSS-220; RSS-222; RSS-236; RSS-238; RSS-243; RSS-244; RSS-246; RSS-247; RSS-251; RSS-287; RSS-310; RSS-GEN
<i>European Radio</i>	ETSI EN 300 220-1 V3.1.1 (2017-02); ETSI EN 300 220-1 V2.3.1 (2010-02); ETSI EN 300 220-1 V2.4.1 (2012-05); ETSI EN 300 220-2 V3.1.1 (2017-02); ETSI EN 300 220-2 V2.1.1 (2007-06); ETSI EN 300 220-3-1 V2.1.1 (2016-12); ETSI EN 300 220-3-2 V1.1.1 (2017-02); ETSI EN 300 220-4 V1.1.1 (2017-02); ETSI EN 300 328 V2.1.1 (2016-11); ETSI EN 300 328 V2.2.2 (2019-07); ETSI EN 300 328 V1.9.1 (2015-02); ETSI EN 300 328 V1.7.1 (2006-10); ETSI EN 300 328 V1.8.1 (2012-06); ETSI EN 300 330 V2.1.1 (2017-02); ETSI EN 300 330-1 V1.8.1 (2015-03); ETSI EN 300 330-2 V1.3.1 (2006-04); ETSI EN 300 330-1 V1.7.1 (2010-02); ETSI EN 300 330-2 V1.6.1 (2015-03); ETSI EN 300 330-2 V1.5.1 (2010-02); ETSI EN 300 422-1 V2.1.1 (2016-09); ETSI EN 300 422-1 V2.1.2 (2017-01); ETSI EN 300 422-2 V2.1.1 (2017-02); ETSI EN 300 422-3 V2.1.1 (2017-02); ETSI EN 300 422-4 V2.1.1 (2017-05); ETSI EN 300 440 V2.1.1 (2017-03); ETSI EN 300 440 V2.2.1 (2018-07); ETSI EN 300 440-2 V1.4.1 (2010-08); ETSI EN 301 166 V2.1.1 (2016-11); ETSI EN 301 166-1 V1.3.2 (2009-11); ETSI EN 301 166-2 V1.2.2 (2008-08); ETSI EN 301 166-2 V1.2.3; ETSI EN 301 357 V2.1.1 (2017-06); ETSI EN 301 357-1 V1.4.1 (2008-11); ETSI EN 301 357-2 V1.4.1 (2007-12); ETSI EN 301 489-1 V2.1.1 (2017-02); ETSI EN 301 489-1 V2.2.3 (2019-11); ETSI EN 301 489-1 V1.8.1 (2008-04); ETSI EN 301 489-1 V1.9.2 (2011-09); ETSI EN 301 489-3 V2.1.1 (2019-03); ETSI EN 301 489-3 V1.4.1 (2002-08); ETSI EN 301 489-3 V1.6.1 (2013-08); ETSI EN 301 489-5 V2.1.1 (2016-11); ETSI EN 301 489-5 V1.3.1 (2002-08); ETSI EN 301 489-6 V2.1.1 (2016-11); ETSI EN 489-7 V1.3.1 (2005-11); ETSI EN 301 489-8 V1.2.1 (2002-08); ETSI EN 301 489-9 V1.4.1 (2007-11); ETSI EN 301 489-17 V3.1.1 (2017-02); ETSI EN 301 489-17 V2.1.1 (2009); ETSI EN 301 489-17 V2.2.1 (2012-09); ETSI EN 301 489-19 V2.1.1 (2019-04); ETSI EN 301 489-23 V1.5.1 (2011-11); ETSI EN 301 489-24 V1.5.1 (2010-10); ETSI EN 301 489-27 V2.1.1 (2016-12); ETSI EN 301 489-27 V2.2.1 (2019-04); ETSI EN 301 489-27 V1.1.1 (2004-06); ETSI EN 301 489-29 V2.1.1 (2016-12); ETSI EN 301 489-29 V2.2.1 (2019-04); ETSI EN 301 489-29 V1.1.1 (2009-02); ETSI EN 301 489-31 V2.1.1 (2016-11); ETSI EN 301 489-31 V2.2.1 (2019-04); ETSI EN 301 489-31 V1.1.1 (2005); ETSI EN 301 489-50 V2.1.1 (2017-02);

<u>Test Technology:</u>	<u>Test Method(s) ^{1,4}:</u>
Radio (cont.) <i>European cont.</i>	ETSI EN 301 489-50 V1.2.1 (2013-03); ETSI EN 301 489-51 V2.1.1 (2019-04); ETSI EN 301 502 V12.5.2 (2017-03); ETSI EN 301 502 V10.2.1 (2012-11); ETSI EN 301 502 V11.1.1 (2014-07); ETSI EN 301 502 V9.2.1 (2010-10); ETSI EN 301 511 V12.5.1 (2017-03); ETSI EN 301 511 V12.1.1 (2015-06); ETSI EN 301 511 V9.0.2 (2003-03); ETSI EN 301 839 V2.1.1 (2016-04); ETSI EN 301 839 V2.1.1 (2016-04); ETSI EN 301 839-1 V1.2.1 (2007-07); ETSI EN 301 839-1 V1.3.1 (2009-10); ETSI EN 301 839-2 V1.3.1; ETSI EN 301 893 V2.1.1 (2017-05); ETSI EN 301 893 V1.8.1 (2015-03); ETSI EN 301 893 V1.5.1:2008; ETSI EN 301 893 V1.6.1 (2011-11); ETSI EN 301 893 V1.7.1 (2012-06); ETSI EN 301 908-1 V11.1.1 (2016-07); ETSI EN 301 908-1 V7.1.1 (2015-03); ETSI EN 301 908-1 V5.2.1 (2011-05); ETSI EN 301 908-1 V6.2.1 (2013-04); ETSI EN 301 908-2 V11.1.2 (2017-08); ETSI EN 301 908-2 V7.1.1 (2015-12); ETSI EN 301 908-2 V11.1.1 (2016-07); ETSI EN 301 908-2 V5.2.1 (2011-07); ETSI EN 301 908-2 V6.2.1 (2013-10); ETSI EN 301 908-3 V11.1.3 (2017-04); ETSI EN 301 908-11 V11.1.2 (2017-01); ETSI EN 301 908-11 V5.2.1 (2011-07); ETSI EN 301 908-13 V11.1.1 (2016-07); ETSI EN 301 908-13 V7.1.1 (2015-12); ETSI EN 301 908-13 V4.2.1 (2010-03); ETSI EN 301 908-13 V6.2.1 (2013-10); ETSI EN 301 908-13 V11.1.2 (2017-07); ETSI EN 301 908-14 V11.1.2 (2017-04); ETSI EN 301 908-15 V11.1.2 (2017-01); ETSI EN 301 908-15 V5.2.1; ETSI EN 302 195 V2.1.1 (2016-06); ETSI EN 302 195-2 V1.1.1 (2004-03); ETSI EN 302 208 V3.1.1 (2016-11); ETSI EN 302 208-1 V2.1.1 (2015-02); ETSI EN 302 208-1 V1.3.1 (2010-02); ETSI EN 302 208-1 V1.4.1 (2011-11); ETSI EN 302 208-2 V2.1.1 (2015-02); ETSI EN 302 208-2 V1.2.1 (2008-04); ETSI EN 302 208-2 V1.4.1 (2011-11); EN 302 291-1 V.1.1.1; EN 302 291-2 V1.1.1; ETSI EN 302 537 V2.1.1 (2016-10); ETSI EN 303 413 V1.1.1 (2017-06);

<u>Test Technology:</u>	<u>Test Method(s) ^{1,4}:</u>
Radio (cont.) <i>European cont.</i>	ETSI EN 303 417 V1.1.1 (2017-09); EN 303 454 V1.1.1 (2018-01); EN 302 195-1 V1.1.1 (2004-03); BS EN 50385 (2017); BS EN 50401 (2017); EN 50385 (2002);
<i>HKCA</i>	HKCA 1002, Issue 6 (January 2008); HKCA 1007, Issue 5 (March 2012); HKCA 1008, Issue 4 (November 2013); HKCA 1008, Issue 3 (February 2003); HKCA 1010, Issue 1 (June 2003); HKCA 1015, Issue 4 (February 2003); HKCA 1020, Issue 7 (November 2011); HKCA 1033, Issue 7 (March 2012); HKCA 1034, Issue 3 (October 2009); HKCA 1035, Issue 6 (May 2011); HKCA 1039, Issue 6 (June 2015); HKCA 1039, Issue 4 (October 2010); HKCA 1039, Issue 5 (June 2013); HKCA 1041, Issue 1 (February 2003); HKCA 1042, Issue 2 (February 2003); HKCA 1043, Issue 4 (June 2008); HKCA 1044, Issue 1 (February 2003); HKCA 1046, Issue 3 (September 2008); HKCA 1048, Issue 2, (June 2008); HKCA 1049, Issue 1 (April 2005); HKCA 1050, Issue 1 (January 2006); HKCA 1052, Issue 2 (September 2012); HKCA 1053, Issue 1 (June 2008); HKTA 1002, Issue 6 (January 2008); HKTA 1007, Issue 5 (March 2012); HKTA 1008, Issue 3 (February 2003); HKTA 1010, Issue 1, (June 2003); HKTA 1015, Issue 4 (February 2003); HKTA 1020, Issue 7 (November 2011); HKTA 1033, Issue 7 (March 2012); HKTA 1034, Issue 3 (Oct 2009); HKTA 1035, Issue 6 (May 2011); HKTA 1039, Issue 4 (October 2010); HKTA 1041, Issue 1 (February 2003); HKTA 1043, Issue 4 (June 2008); HKTA 1044, Issue 1 (February 2003); HKTA 1046, Issue 3 (September 2008); HKTA 1048, Issue 2 (June 2008); HKTA 1049, Issue 1 (April 2005); HKTA 1050, Issue 1 (January 2006); HKTA 1052, Issue 1 (January 2008); HKTA 1053, Issue 1 (June 2008); HKTA 1054, Issue 1 (September 2008)
<i>Korea</i>	KS X 3123 (2015, 2017); RRA Public Notification 2012-21; RRA Notice 2014-2; RRA Notice 2017-7
<i>Singapore (IMDA)</i>	IDA TS CMT Issue 1 (June 2011); IDA TS LMR Issue 1 Rev 5 (June 2014); IDA TS LMR Issue 1 Rev 4 (June 2011); IDA TS SRD Issue 1 Rev 6 (May 2011); IDA TS SRD Issue 1 Rev 7 (April 2013); IDA TS UWB Issue 1 Rev 1 (May 2011); IDA TS WBA Issue 1 Rev 1 (May 2011); IDA TS WBA Issue 1 Rev 2 (November 2012); IMDA TS CMT (July 2017); IMDA TS CMT (October 2016); IMDA TS LMR Issue 1 (October 2016); IMDA TS SRD Issue 1 (October 2016); IMDA TS SRD (April 2018); IMDA TS UWB Issue 1 (October 2016); IMDA TS WBA Issue 1 (October 2016); IS 2019-0 (September 1998); IS 2019-0 (May 2012)

<u>Test Technology:</u>	<u>Test Method(s) ^{1,4}:</u>
<i>Taiwan</i>	LP 0002; PLMN08 (2018); PLMN01 (2012) + (2007); PLMN04 (2007) + (2003); PLMN05 (2007) + (2003); PLMN08 (2012) + (2007); PLMN09 (2012) + (2008); RTTE01 (2007)
<i>U.S. FCC</i>	47 CFR FCC Parts 20, 22, 24, 25, 27, 73, 74, 80, 87, 90, 95, 96, 97, and 101 (using ANSI C63.26(2015) and/or TIA-102.CAAA-E, ANSI/TIA-603-E)
<i>Vietnam</i>	QCVN 110 (2017): BTTTT; QCVN 111 (2017): BTTTT; QCVN 117 (2018): BTTTT; QCVN 11 (2010): BTTTT; QCVN 12 (2015): BTTTT; QCVN 12 (2010): BTTTT; QCVN 13 (2010): BTTTT; QCVN 15 (2015): BTTTT; QCVN 15 (2010): BTTTT; QCVN 16 (2010): BTTTT; QCVN 16 (2018): BTTTT; QCVN 18 (2014): BTTTT; QCVN 41 (2011): BTTTT; QCVN 41 (2016): BTTTT; QCVN 42 (2011): BTTTT; QCVN 54 (2011): BTTTT; QCVN 55 (2011): BTTTT; QCVN 65 (2013): BTTTT; QCVN 73 (2013): BTTTT; QCVN 74 (2013): BTTTT; QCVN 75 (2013): BTTTT; QCVN 76 (2013): BTTTT; QCVN 88 (2015): BTTTT; QCVN 91 (2015): BTTTT; QCVN 94 (2015): BTTTT; QCVN 95 (2015): BTTTT; QCVN 96 (2015): BTTTT; QCVN 99 (2015): BTTTT; QCVN 112 (2017): BTTTT; TCN 68-192:2003; TCN 68-242:2006; TCN 68-243:2006
Telecommunications	ETSI EN 300 386 V1.5.1 (2010-10); ETSI EN 300 386 V1.6.1 (2012-09); AS/CA S042 (2015); AS/CA S042.1 (2011); AS/CA S042.1 (2010) + A1 (2013); AS/CA S042.1 (2020); AS/ACIF S042.3 (2005); AS/CA S042.4 (2011); QCVN 103 (2016): BTTTT
RF Exposure	ACA Standard 2014; RSS-102 (RF, NS); EN 50360 (2017); EN 50364 (2010) + (2018); EN 50383 (2010); EN 50566 (2017); EN 50663 (2017); EN 62233 (2008); EN 62209-1 (2016); EN IEC 62311 (2020); EN 62311 (2008); EN 62369-1 (2009); EN 62479 (2010-12); H46-2/99-273E; IEEE Std C95.1 (2005) + A1 (2010);

¹ 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*.

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 ²:

Rule Subpart/Technology	Test Method(s)	Maximum Frequency
<u>Unintentional Radiators</u> Part 15B	ANSI C63.4:2014	220000 MHz
<u>Industrial, Scientific, and Medical Equipment</u> Part 18	FCC MP-5:1986	220000 MHz
<u>Intentional Radiators</u> Part 15C	ANSI C63.10:2013	220000 MHz
<u>Unlicensed Personal Communication Systems Devices</u> Part 15D	ANSI C63.17:2013	220000 MHz
<u>U-NII without DFS Intentional Radiators</u> Part 15E	ANSI C63.10:2013	220000 MHz
<u>U-NII with DFS Intentional Radiators</u> Part 15E	FCC KDB 905462 D02 (v02)	220000 MHz
<u>UWB Intentional Radiators</u> Part 15F	ANSI C63.10:2013	220000 MHz
<u>BPL Intentional Radiators</u> Part 15G	ANSI C63.10:2013	220000 MHz
<u>White Space Device Intentional Radiators</u> Part 15H	ANSI C63.10:2013	220000 MHz
<u>Commercial Mobile Services (FCC Licensed Radio Service Equipment)</u> Parts 22 (cellular), 24, 25 (below 3 GHz), and 27	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	220000 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; TIA-102.CAAA-E; ANSI C63.26:2015	220000 MHz
<u>Citizens Broadband Radio Services (FCC Licensed Radio Service Equipment)</u>		

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 ²:

Rule Subpart/Technology	Test Method(s)	Maximum Frequency
Part 96	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	220000 MHz
<u>Maritime and Aviation Radio Services</u>		
Parts 80 and 87	ANSI/TIA-603-E; ANSI C63.26:2015	220000 MHz
<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; TIA-102.CAAA-E; ANSI C63.26:2015	220000 MHz
<u>Broadcast Radio Services</u>		
Parts 73 and 74 (below 3 GHz)	ANSI/TIA-603-E; TIA-102.CAAA-E; ANSI C63.26:2015	220000 MHz
<u>RF Exposure</u>		
Devices Subject to SAR Requirements	IEEE Std 1528:2013	6000 MHz
<u>Signal Boosters</u>		
Part 20 (Wideband Consumer Signal Boosters, Provider-specific Signal Boosters, and Industrial Signal Boosters), Section 90.219	ANSI C63.26:2015	220000 MHz

²Accreditation 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.

Testing Activities performed under the scope of the U.S FDA ASCA Pilot Program Specifications: *Basic Safety and Essential Performance of Medical Electrical Equipment, Medical Electrical Systems, and Laboratory Medical Equipment – Standards Specific Information for the Accreditation Scheme for Conformity Assessment (ASCA) Pilot Program* published on September 25th, 2020, and in accordance with all requirements of A2LA R256 *Specific Requirements- FDA ASCA Program*¹

Standards

IEC 60601-1-2 Edition 4.0 2014-02

IEC 60601-2-2 Edition 6.0 2017-03

IEC 60601-2-25 Edition 2.0 2011-10

IEC 60601-2-27 Edition 3.0 2011-03

IEC 60601-2-34 Edition 3.0 2011-05

IEC 60601-2-47 Edition 2.0 2012-02

IEC 60601-2-50 Edition 2.1 2016-04

IEC 80601-2-30 Edition 2.0 2018-03

ISO 80601-2-55 Second Edition 2018-02

ISO 80601-2-61 Second edition 2017-12 (Corrected version 2018-02)

³These methods have been assessed by A2LA according to A2LA’s FDA ASCA Program requirements. Accreditation by A2LA does not imply FDA ASCA-Accreditation. All ASCA-accreditation decisions for testing laboratory applications are made solely by the FDA, a list of approved laboratories can be found at FDA.gov.

⁴ 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.



Accredited Laboratory

A2LA has accredited

ELEMENT MATERIALS TECHNOLOGY DALLAS - PLANO

Plano, TX

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 laboratory also meets A2LA R256 - Specific Requirements - FDA ASCA Program. 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 21st day of January 2021.

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

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3310.03
Valid to January 31, 2022

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