



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY DALLAS – PLANO WEST
1701 E Plano Pkwy Suite 150
Plano, Texas 75074
Louie Bustillos Phone: 972 209 2566
Louie.Bustillos@element.com

ELECTRICAL

Valid To: December 31, 2025

Certificate Number: 214.19

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 Program ¹ requirements), accreditation is granted to this laboratory to perform the following EMC, Radio, and Telecommunication tests on IT/Multimedia Equipment, Audio Equipment, Industrial Equipment, Radio Equipment, and Cellular Devices, Military/Aerospace, Aircraft Components, and Automotive Components:

<u>Test Technology:</u>	<u>Test Method(s):</u>
Emissions	
Radiated and Conducted	47 CFR, FCC Part 15 (Subpart B) using ANSI C63.4:2014 ² ; 47 CFR, FCC Part 18 using FCC MP-5:1986; GR 1089-CORE; ICES-001 (Issue 5, July 2020); ICES-002 (Issue 7, September 2020) ICES-003 (Issue 7, October 2020) ICES-004 (Issue 5, October, 2022); ICES-005 (Issue 5, December 2018); ICES-006 (Issue 3, July 2018)
International	IEC/CISPR 11 Ed. 6.0 (2015) +A1(2016) CISPR 11 Ed. 6.2 (2019); CISPR 11: 2015 A1:2016 A2:2019 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 14-1:2020; CISPR 14-1 (2005) + A1 (2008) + A2 (2011); CISPR 14-1 (2016); IEC/CISPR 15 (2018); CISPR 15 (2009); CISPR 32 Ed. 2.1 (2015) +A1(2019); CISPR 32 Ed. 1 (2012-01); CISPR 16-2-3:2016; CISPR 16-2-3:2019; CISPR 16-2-1:2014; CISPR 16-2-1:2014+A1:2017

<u>Test Technology:</u>	<u>Test Method(s):</u>
International (<i>continued</i>)	CISPR 16-2-2:2010; CISPR 36:2020
Europe	EN 55014-1 (2006) +A1(2009) +A2(2011); EN 55014-1:2017+A11:2020; EN 55015 (2006) +A2(2009) +(2013); EN 55032 :2015 + AC:2016-07 +A11:2020 +A1:2020; EN 55012; EN 55011: 2016 +A1:2017 +A2:2021; EN 55011: 2016 +A1:2017 +A11:2020 +A2:2021; EN/IEC 55014-1:2021; EN/IEC 55015:2020
Australia / New Zealand	AS/NZS CISPR 32 (2013) +(2015); AS/NZS CISPR 32: 2015 AMD 1:2020 AS/NZS CISPR 22 (2009) +A1(2010) +(2006) AS CISPR 11 (2017); AS/NZS CISPR 11 (2011); AS/NZS CISPR 12 (2013)
Israel	SI 961 Part 32 (2016); SI 961 Part 24
Japan	VCCI-CISPR 32 (2016); VCCI V-3 (2015.4); VCCI V-3:2016
Korea	KS C 9811; KS C 9814-1; KS C 9832; KS C 9816-2-1; KS C 9816-2-2; KS C 9816-2-3
South Africa	SANS 211 Ed. 4.1 (2010); SANS 213 Ed. 4 (2011); SANS 214-1 Ed. 3.1 +CISPR-A2 (2009); SANS 215 Ed. 4.2 (2009); SANS 222 Ed. 6 (2009); SANS 2332 Ed. 1 (2017); SAN 2335 ED. 1 (2018)
Vietnam	QCVN 118 (2018):BTTTT
Taiwan	CNS 15936:2016
Radiated Emissions (MIL/RTCA/DO)	MIL-PRF-28800F; MIL-STD-461 B-G (Methods RE101, RE102, RE103); MIL-STD-462; RTCA/DO-160 C-G (Sections 15, 21)
Conducted emissions (MIL/RTCA/DO)	MIL-STD-461 B-G; (Methods CE101, CE102, CE106); MIL-STD-462; MIL-PRF-28800F; RTCA/DO-160 C-G (Section 21)
Harmonic Current Emissions	IEC 61000-3-2; EN 61000-3-2; KS C 9610-3-2; SANS 61000-3-2 Ed. 3.2 (2009); IEC 61000-3-11 (2017)

<u>Test Technology:</u>	<u>Test Method(s):</u>
Voltage Fluctuations and Flicker	IEC 61000-3-3; EN 61000-3-3; KS C 9610-3-3; SANS 61000-3-3 Ed. 2 (2009); IEC 61000-3-12 Ed. 2.0 (2011); EN 61000-3-12 (2011)
Current Harmonics	IEC/EN 61000-3-2; AS/NZS 61000.3.2; KS C 9610-3-2; SANS 61000-3-2 Ed. 2.2 (2009); IEC 61000-3-11 (2017)
Immunity	
Electrostatic Discharge (ESD)	EN/IEC 61000-4-2; IEC 61000-4-2 Ed. 2.0 (2008-12); KS C 9610-4-2; ISO 13766; GR-1089-CORE; SANS 61000-4-2 Ed. 2 (2009)
Electrostatic Discharge (MIL/RTCA/DO)	MIL-PRF-28800F; RTCA/DO-160 C-G (Section 25); CS118
Radiated Immunity	MIL-STD-461 B-G (Methods RS101, RS103); MIL-STD-462; MIL-PRF-28800F; DoD-STD-1399, Section 300A and B; IEEE P1613; MIL-STD 1275; EN/IEC 55104; ISO 13766-1:2018; ISO 13766-2:2018; EN 13309; GR-1089-CORE; ISO 11452-2; RTCA/DO-160 C-G (Section 20); IEC 61000-4-3; EN 61000-4-3; EN 61000-4-3 (2006) +A1(2008) +A2(2010); KS C 9610-4-3; SANS 61000-4-3 Ed. 3.1 (2008)
Electrical Fast/Transient Burst (EFT)	EN/IEC 61000-4-4; KS C 9610-4-4; IEEE P1613; GR-1089-CORE; IEC 61000-4-4(2012-04) + Ed. 2.0 (2004-07) +A1(2010); IEC 61000-4-4 SANS 61000-4-4 Ed. 2.1 (2011)
EFT (MIL/RTCA/DO)	MIL-PRF-28800F
Surge	EN/IEC 61000-4-5; KS C 9610-4-5; IEEE P1613; IEEE 37.90.1; K20; K21; RTCA/DO-160 C-G (Section 22); GR-1089-CORE; IEC 61000-4-5 Ed. 3.1 (2017); IEC 61000-4-5 Ed. 3.0 (May 2014); IEC 61000-4-5 Ed. 1.1 (2005-11); EN 61000-4-5 (2014) +A1(2017); SANS 61000-4-5 Ed. 2 (2006)
Conducted Immunity	EN/IEC 61000-4-6; KS C 9610-4-6; GR-1089-CORE IEC 61000-4-6 Ed. 4.0 (2013); IEC 61000-4-6 Ed. 4 (2008); SANS 61000-4-5 Ed. 2 (2006)

<u>Test Technology:</u>	<u>Test Method(s):</u>
Conducted Immunity (MIL/RTCA/DO)	MIL-STD-1399; MIL-STD-461 B-G (Methods CS101, CS102, CS103, CS104, CS105, CS109, CS114, CS115, CS116, CS117, CS118); MIL-STD-462; MIL-PRF-28800F; RTCA/DO-160C-G (Sections 16, 17, 18,19, 20, 22)
Power Frequency Magnetic Field Immunity	EN/IEC 61000-4-8 (excluding short duration mode); KS C 9610-4-8 (excluding short duration mode); IEC 61000-4-8; EN 61000-4-8; IEC 61000-4-8, Ed. 1.1 (2001); IEC 61000-4-8 (2009); KS C 9610-4-8; SANS 61000-4-8 Ed. 2 (2009)
Pulsed Magnetic Field	IEC 61000-4-9; EN 61000-4-9; BS EN 61000-4-9 (2016); SANS 61000-4-9 Ed. 1.1 (2003); IEC 61000-4-9 (2016); KS C 9610-4-9
Damped Oscillatory Magnetic Field	IEC 61000-4-10; EN 61000-4-10; IEC 61000-4-10 (2016); SANS 61000-4-10 Ed. 1.1 (2003)
Voltage Dips, Short Interruptions and Voltage Variations	EN/IEC 61000-4-11; KS C 9610-4-11; IEC 61000-4-11 Ed. 2.1 (2017); EN 61000-4-11 (2004) +A1(2017); IEC 61000-4-11 Ed. 2 (2004-03); SANS 61000-4-11 Ed. 1 (2005)
Mains Harmonics and Interharmonics	IEC 61000-4-13; EN 61000-4-13; SANS 61000-4-13 Ed. 1.1 (2009)
Mains Voltage Fluctuations	IEC 61000-4-14; EN 61000-4-14; IEC 61000-4-14:1999 +AMD1:2001 +AMD2:2009; SANS 61000-4- 14 Ed. 1.2 (2009)
DC Ripple Input Power	IEC 61000-4-17; EN 61000-4-17; EN 61000-4-17:1999+A2:2009; IEC 61000-4-17 Ed. 1.2 (2009)
Variation of Power Frequency	IEC 61000-4-28; EN 61000-4-28; IEC 61000-4-28 (1999) +A1(2001) +A2(2009); SANS 61000-4-28 Ed. 2.1 (2009)
Voltage Dips, Short Interruptions, and Voltage Variations on DC Input Power Port	IEC 61000-4-29; EN 61000-4-29; IEC 61000-4-29 (2000); SANS 61000-4-29 Ed. 1 (2005)
Radiated Fields in Close Proximity	IEC 61000-4-39; EN 61000-4-39; IEC 61000-4-39 (2017)
Power Transients	EN 300 132-1 ; EN 300 132-2; ANSI T1.315; ATT-TP-76200; ATT-TP-76450

<u>Test Technology:</u>	<u>Test Method(s):</u>
Power Transients (MIL/RTCA/DO)	MIL-HDBK-704/2-8; DoD-STD-1399, Section 300A and B; MIL-STD 1275; RTCA/DO160C-G Section 16
Lightning	RTCA/DO-160 C-G (Section 22); GR-1089-CORE; MIL-HDBK-704/2-8; MIL-STD 461 G CS117
Steady State Power Induction	GR-1089-CORE; ETSI EN 300 386; AT&T-TP76200
DC Potential	GR-1089-CORE; AT&T-TP76200
Electrical Safety	GR 1089-CORE; AT&T-TP76200
Bonding & Grounding	GR 1089-CORE; AT&T-TP76200
Insulation Resistance	GR-49-CORE; GR-937-CORE; GR-950-CORE; GR-2916-CORE
Energy Efficiency for Telecom Equipment	ATIS-0600015; VZ.TPR.9205
Heat Dissipation	GR-63-CORE; ATIS-0600010
DC Power Port	GR-1089-CORE (Section 10)
Generic/Product Family Standards and Industry Standards	EN/IEC 61000-6-1; KS C 9610-6-1; IEC 61000-6-1 (2016); IEC 61000-6-1, Ed. 2 (2005-03); EN/IEC 61000-6-2; KS C 9610-6-2; 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); EN/IEC 61000-6-3; KS C 9610-6-3; EN 61000-6-3 (2007) + A1 (2011) + AC (2012); AS/NZS 61000.6.3; EN/IEC 61000-6-4; KS C 9610-6-4; EN 61000-6-4 (2007) + A1 (2011); IEC 61000-6-3 (2020); IEC 61000-6-4 (2018); AS/NZS 61000.6.4; KS C 9824; CISPR 24; EN 55024; EN 61326; ETSI EN 300 386; GR-1089-CORE; ATT-TP-76200; EN/IEC 60601-1-2; EN 50082; EN 61326; IEC 60601-1-2; CISPR 14-2; KS C 9814-2; EN 55014-2; CISPR 35 (excluding Annex A and G) EN 55035 (excluding Annex A and G); KS C 9835 (excluding Annex A and G); IEEE P1613

<u>Test Technology:</u>	<u>Test Method(s):</u>
Generic/Product Family Standards and Industry Standards <i>(continued)</i>	KS C 9610-6-2; KS C 9610-6-3; KS C 9610-6-4; EN IEC 61326-1:2021; IEC 61326-2-6 Ed. 2.0 (2012); IEC 61326-3-1 (2008) + (2017); EN IEC 61326-2-6:2021; EN 61326-2-1 (2013); IEC 61326-2-1 (2020); EN IEC 61326-2-1:2021; TCVN 7317:2003 (CISPR 24:1997); AIM 7351731 (2017); AIM 7351731-2021; IEC CISPR 14-2:2020; CISPR 14-2 Ed. 2. (2015); IEC/CISPR 14-2 Ed. 1.2 (2008); CISPR 20 (2006) +A1 (2013); IEC/CISPR 20 (2006); IEC/CISPR 24 (1997); EN 55024 (1998) +A1(2001), A2(2003), (2010); CISPR 35 (2016); EN 55035 (2020); KS C 9814-2; KS C 9835; SANS 60601-1-2 Ed. 4 (2018); IEC 60601-1-2 Ed. 2.1 (2004-11); IEC 60601-1-2 Ed. 3.0 (2007); IEC 60601-1-2 Ed. 4.0 (2014); IEC 60601-1-2 Ed. 4.0 (2014) +A1 (2020); KS C IEC 60601-1-2; EN 60601-1-2 (2002); EN 60601-1-2 (2007); EN 60601-1-2 (2015) EN 60601-1-2:2015 +A1:2021; IEC 60601-2-2 (2018), Annex BB; IEC 60601-2-4 Ed. 3.0 (2010), clause 202; EN 60601-2-24:19; IEC 60601-2-25 Ed. 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); IEC 60601-2-27 Ed. 3.0 (2011), clause 202; IEC 60601-2-27:2005; EN 60601-2-27:2006; EN 4502-2-2 (2008); EN 45502-2-1 (2003); IEC 60601-2-30, clause 202; IEC 60601-2-31 (2008)+A1 (2011), clause 202; EN 60601-2-37 (2008) +A1 (2015), clause 202; IEC 60601-2-47 Ed. 2.0 (2012-02), clause 202; IEC 60601-2-49 (2011), clause 202; EN 60601-2-49 (2015), clause 202; EN/IEC 61000-6-4:2018; EN 61000-6-3; EN IEC 61000-6-3; IEC 80601-2-49 (2018), clause 202; IEC 60601-2-50, Ed. 2.1 (2016-04); ISO 80601-2-55 (2018), clause 202; ISO 80601-2-56, clause 202; ISO 80601-2-61 (2017), clause 202; ISO 80601-2-61 (2011), clause 202; ISO 9919 Ed. 2.0 (2005), clause 36; ISO 14117 (2012) sections 4 and 5; ISO 14708-1 (2014); ISO 14708-3 (2017-04); ISO 14708-4 (2008-11-15) clause 27; ISO 14708-4 (2020) clause 27; ISO 14708-4:2022 Clause 27; EN 60945 (2002) [excluding clauses 8 and 11]



<u>Test Technology:</u>	<u>Test Method(s):</u>
Generic/Product Family Standards and Industry Standards (<i>cont.</i>)	IEC 60945 (2002) [excluding clauses 8 and 11]; GR-1089-CORE, Issue 7; IEC 61000-6-7 (2014); IEC 61000-6-8 (2020); EN 50293:2012; EN 50270:2015; EN 61131-2 (2008); IEC 61131-2 (2017) Sec. 7.3; IEC 61131-6 (2012); EN 61131-6 (2013); IEC 61326-1 (2020); EN 61326-1 (2013); Lloyd's Register - LR Type; Approval System Test Specification 1 (2013, 2015); EN 50130-4 (2011) +A1 (2014); EN 55014-2 (1997); EN 55014-2 (1997) +A1 (2001) +A2 (2008); IEC 60730-1 Ed. 4.0 (2010) +(2013); EN 60730-1 (2011); IEC 62040-1-2 (2002); EN 12895:2015 +A1:2019; EN 300 386 V1.6.1:2016; EN 300 386 V2.2.0:2020; AS/CA S042 (2015); AS/CA S042.4 (2011); AS/CA S042.1:2020; AS/CA S042.4:2022; AS/CA S042.5:2022
Automotive EMC	CISPR 25; ISO 7637-2; ISO 7637-1 (2015); ISO 14982 (1998); EN ISO 14892 (2010); ISO 16750-1 (2018); ISO 16750-2 (2012); ISO 11452-1; ISO 11452-2; ISO 11452-4; ISO 10605; ISO 11452-8 (2015); SAE J1113-1 (2018-01); SAE J1113-11 (2017-06); SAE J1113-12 (2017-11); SAE J1113-13 (2015-02); SAE J1113-26 (2014-04); SAE J1113-4 (2014-04)
Radio	
US (FCC)	47 CFR FCC Part 15, Subpart C (using ANSI C63.10-2013); ANSI C63.10-2020; 47 CFR FCC Part 15, Subpart D (using ANSI C63.17:2013); 47 CFR FCC Part 15, Subpart E with and without DFS (using ANSI C63.10:2013 and FCC KDB Publication 905462 D02 (v02)); ANSI C63.10-2020; 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 TIA-102.CAAA-E, ANSI/TIA-603-E); ANSI C63.10:2020; ANSI C63.27:2017; ANSI C63.27:2021
Canada (ISED)	RSS-111; RSS-112; RSS-117; RSS-119; RSS-123; RSS-125; RSS-127; RSS-130; RSS-131; RSS-132; RSS-133; RSS-134; RSS-135; RSS-137; RSS-139; RSS-140; RSS-141; RSS-142; RSS-170; RSS-181; RSS-191; RSS-192; RSS-194; RSS-195; RSS-196; RSS-197; RSS-199; RSS-210; RSS-211; RSS-213; RSS-215; RSS-216; RSS-220; RSS-222; RSS-236; RSS-238; RSS-243; RSS-244; RSS-246; RSS-247; RSS-248; RSS-251; RSS-287; RSS-288; RSS-310; RSS-GEN
Europe (excluding Protocol Testing)	ETSI EN 300 220-1 V3.1.1 (2017-02); ETSI EN 300 220-1 V2.4.1 (2012-05); ETSI EN 300 220-2 V3.1.1 (2017-02)

<u>Test Technology:</u>	<u>Test Method(s):</u>
Europe (excluding Protocol Testing) (cont.)	ETSI EN 300 220-2 V3.2.1 (2018-06); 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 300 330 V2.1.1 (2017-02); ETSI EN 300 422-1 V2.2.2 (2021-11); 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 301 166 V2.1.1 (2016-11); ETSI EN 301 357 V2.1.1 (2017-06); ETSI EN 301 502 V12.5.2 (2017-03); ETSI EN 301 511 V12.5.1 (2017-03); ETSI EN 301 511 V12.1.1 (2015-06); ETSI EN 301 839 V2.1.1 (2016-04) ETSI EN 301 893 V2.1.1 (2017-05); ETSI EN 301 908-1 V13.1.1 (2019-11); EN 301 908-1 V15.2.1:2023-01; ETSI EN 301 908-1 V15.1.1 (2021-09); ETSI EN 301 908-13 V11.1.1 (2016-07); ETSI EN 301 908-13 V11.1.2 (2017-07); ETSI EN 301 908-13 V13.2.1 (2022-02); ETSI EN 301 908-14 V11.1.2 (2017-04); ETSI EN 301 908-14 V13.1.1 (2019-09); ETSI EN 301 908-14 V15.1.1 (2021-09); ETSI EN 302 195 V2.1.1 (2016-06); ETSI EN 302 208 V3.1.1 (2016-11); ETSI EN 302 208 V3.3.1 (2020-05); ETSI EN 302 208 V3.4.1 (2023-12); ETSI EN 302 537 V2.1.1 (2016-10); ETSI EN 303 413 V1.1.1 (2017-06); ETSI EN 303 413 V1.2.1 (2021-04); ETSI EN 303 417 V1.1.1 (2017-09); ETSI EN 301 489-1 V2.1.1 (2017-02); ETSI EN 301 489-1 V2.2.3 (2019-11); ETSI EN 301 489-3 V2.1.1 (2019-03); ETSI EN 301 489-3 V2.3.2 (2023-01); ETSI EN 301 489-5 V2.1.1 (2016-11); ETSI EN 301 489-6 V2.1.1 (2016-11); ETSI EN 301 489-6 V2.2.1 (2019-04); ETSI EN 301 489-9 V1.4.1 (2007-11); ETSI EN 301 489-9 V2.1.1 (2019-04); ETSI EN 301 489-17 V3.1.1 (2017-02); ETSI EN 301 489-17 V3.2.4 (2020-09); ETSI EN 301 489-19 V2.1.1 (2019-04)



<u>Test Technology:</u>	<u>Test Method(s):</u>
Europe (excluding Protocol Testing) (cont.)	ETSI EN 301 489-19 v2.2.1 (2022-09); ETSI EN 301 489-23 V1.5.1 (2011-11); ETSI EN 301 489-23 V1.5.1 (2011-11); ETSI EN 301 489-27 V2.1.1 (2016-12); ETSI EN 301 489-27 V2.2.1 (2019-04); ETSI EN 301 489-29 V2.1.1 (2016-12); ETSI EN 301 489-29 V2.2.1 (2019-04); ETSI EN 301 489-31 V2.1.1 (2016-11); ETSI EN 301 489-31 V2.2.1 (2019-04); ETSI EN 301 489-33 V2.1.1 (2016-11); ETSI EN 301 489-34 V2.1.1 (2019-04); ETSI EN 301 489-35 V.2.1 (2016-12); ETSI EN 301 489-50 V2.1.1 (2017-02); ETSI EN 301 489-50 V2.3.1 (2021-03); ETSI EN 301 489-51 V2.1.1 (2019-04); ETSI EN 301 489-52 V1.2.1 (2021-11); ETSI EN 303 454 V1.1.1 (2018-01)
Hong Kong	HKCA 1007, Issue 5 (March 2012); HKCA 1008, Issue 4 (November 2013); HKCA 1015, Issue 4 (February 2003); HKCA 1033, Issue 7 (March 2012); HKCA 1035, Issue 7 (May 2016); HKCA 1039, Issue 6 (June 2015); HKCA 1042, Issue 2 (February 2003); HKCA 1048, Issue 2 (June 2008); HKCA 1049, Issue 1 (April 2005); HKCA 1052, Issue 5 (June 2022)
Korea	KS X 3123; KS X 3124; KS X 3125; KS X 3126; KS X 3134; KS C 9995; RRA Public Notification 2018-18, Dec. 7, 2018; Equipment to be Subject of Test Procedure for Electromagnetic Field Strength and Specific Absorption Rate (RRA Public Notification 2023-12, Jun 30, 2023); RRA Announce 2021-10, Feb 8, 2021; RRA Public Notification 2019-32, Dec. 31, 2019; Technical Requirements for Measurement of Electromagnetic Field Strength (RRA Public Notification 2023-11, Jun 30, 2023); Technical Requirements for the Human Protection against Electromagnetic Waves (MSIT Public Notification 2019-4, Jan 16, 2019); Notice on Conformity Assessment of Broadcasting and Communications Equipment (RRA Public Notification 2023-3, Feb 3, 2023); Unlicensed Radio Equipment Established Without Notice (MSIT Public Notification 2023-18, June 20, 2023); Regulations on Radio Equipment (Ordinance of MSIT No. 86, Jan 4, 2022)

<u>Test Technology:</u>	<u>Test Method(s):</u>
Korea (<i>cont.</i>)	Unlicensed Radio Equipment Established Without Notice RRA Announce 2011-32, Korean only (Dec 27, 2011); RRA Public Notification 2012-21 (Nov. 06, 2012); RRA Announce 2013-33 Korean only, (Jul. 26, 2013); RRA Notice 2014-2, Korean only (Feb. 4, 2014); RRA Announce 2014-90 (Dec. 23, 2014); RRA Announce 2015-81, Korean only (Sep. 30, 2015); RRA Announce 2015-135 (Jan. 5, 2016); RRA Notice 2017-7, Korean only (Aug. 4, 2017); RRA Public Notification 2015-23 (Nov. 18, 2015); RRA Public Notification 2017-8 (Aug. 28, 2017); RRA Public Notification 2011-24 (Dec. 23, 2011); RRA Announce 2012-21, Korean only (Jun. 28, 2012); RRA 2013-3 and 2013-24, June 17, 2013, Korean only; RRA 2014-8 and RRA 2014-37 (Jun. 23, 2014); RRA Public Notification 2015-27 (Dec. 03, 2015); RRA Announce 2015-110 (Dec. 03, 2015); RRA Public Notification 2016-26 (Dec. 19, 2016); RRA Announce 2016-79 (Dec. 19, 2016); RRA Public Notification 2017-19 (Dec. 28, 2017); RRA Announce 2017-71 (Dec. 28, 2017)
Taiwan	LP0002 (2020); IS2019 (2020); RTTE01 (2020)
Singapore	IMDA TS CMT (September 2020); IMDA TS LMR Issue 1 (October 2016); IMDA TS SRD Issue 1, Rev. 3 (Sept 2023) IMDA TS UWB Issue 1 (October 2016); IMDA TS WBA Issue 1 (October 2016)
Vietnam	QCVN 15 (2015):BTTTT; QCVN 18 (2022):BTTTT; QCVN 54 (2020):BTTTT; QCVN 55 (2011):BTTTT; QCVN 65 (2021):BTTTT; QCVN 73 (2013):BTTTT; QCVN 74 (2020):BTTTT; QCVN 75 (2013):BTTTT; QCVN 76 (2013):BTTTT; QCVN 88 (2015):BTTTT; QCVN 91 (2015):BTTTT; QCVN 95 (2015):BTTTT; QCVN 96 (2015):BTTTT; QCVN 99 (2015):BTTTT; QCVN 103 (2016):BTTTT; QCVN 112 (2017):BTTTT; QCVN 118 (2018):BTTTT
RF Exposure (excluding SAR and HAC)	RSS-102; RSS-102.NS.MEAS; SPR-002; IEEE Std C95.3 (2002); IEEE Std C95.3:2021; EN 50364 (2018) + (2010); EN 50383 (2010); EN 50566 (2017); EN 50663 (2017); EN 62233 (2008); EN IEC 62311 (2020); EN 62311 (2008); KCC Public Notification 2012-1

<u>Test Technology:</u>	<u>Test Method(s):</u>
RF Exposure (excluding SAR and HAC) <i>(cont.)</i>	ACA Standard 2007 +A1 (2011); ACA Standard (2013, 2014); H46-2/99-273E; IEEE Std11451(2005) +A1(2010); ARPANSA RPS S-1 Rev 1; AS/NZS 2772.2:2016 +A1:2018

On the following products or types of products:

Telecommunications Terminal Equipment (TTE); Network Equipment; Information Technology Equipment (ITE); Industrial, Commercial, and Military Test Equipment.

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.

² ANSI C63.4a:2017 is used to perform NSA in support of ANSI C63.4:2014 and should not be considered its own test method.

Testing Activities performed under the scope of the U.S FDA ASCA Pilot Program Specifications: <i>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</i> published on September 25th, 2020, and in accordance with all requirements of A2LA R256 <i>Specific Requirements- FDA ASCA Program</i> ³ :	
<u>Standards:</u>	<u>Document Number:</u>
IEC 60601-2-50, Edition 2.1, 2016 (<i>EMC testing only</i>)	6-450
ISO 80601-2-55, 2018 (<i>EMC testing only</i>)	1-140
IEC 60601-2-25 Edition 2.0, 2011-10 (<i>EMC testing only</i>)	3-105
IEC 60601-2-27 Edition 3.0, 2011-03 (<i>EMC testing only</i>)	3-126
IEC 80601-2-30, Edition 2.0, 2018-03 (<i>EMC testing only</i>)	3-123
IEC 60601-2-34, Edition 3.0, 2011-05 (<i>EMC testing only</i>)	3-115
IEC 60601-2-47 Edition 2.0, 2012-02 (<i>EMC testing only</i>)	3-155
IEC 60601-1-2 Edition 4.1 2020-09 CONSOLIDATED VERSION	19-36

³ These 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.

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 ⁴:

Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
Unintentional Radiators		
Part 15B	ANSI C63.4-2014	40000
Industrial, Scientific, and Medical Equipment		
Part 18	FCC MP-5 (February 1986)	40000
Intentional Radiators		
Part 15C	ANSI C63.10-2013	40000
Unlicensed Personal Communications (UPCS)		
Part 15D	ANSI C63.17-2013	40000
U-NII without DFS Intentional Radiators		
Part 15E	ANSI C63.10-2013	40000
U-NII with DFS Intentional Radiators		
Part 15E	KDB 905462 D02 (v02)	40000
UWB Intentional Radiators		
Part 15F	ANSI C63.10-2013	40000
Commercial Mobile Services (FCC Licensed Radio Service Equipment)		
Parts 22 (cellular), 24, 25 (below 3 GHz), and 27	ANSI/TIA-603-E; ANSI/TIA-102.CAAA-E; ANSI C63.26:2015	40000
General Mobile Radio Services (FCC Licensed Radio Service Equipment)		
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; ANSI/TIA-102.CAAA-E; ANSI C63.26:2015	40000
Citizens Broadband Radio Services		
Part 96	ANSI/TIA-603-E; ANSI/TIA-102.CAAA-E; ANSI C63.26:2015	40000
Maritime and Aviation Radio Services		
Parts 80 and 87	ANSI/TIA-603-E; ANSI C63.26:2015	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 ⁴ :		
Rule Subpart/Technology	Test Method	Maximum Frequency (MHz)
Microwave and Millimeter Bands Radio Services		
Part 25, Part 30, Part 74, Part 90 (above 3 GHz), Part 95 (above 3 GHz), Part 97 (above 3 GHz), and Part 101	ANSI/TIA-603-E; ANSI/TIA-102.CAAA-E; ANSI C63.26:2015	40000
Broadcast Radio Services		
Parts 73 and 74 (below 3 GHz)	ANSI/TIA-603-E; ANSI/TIA-102.CAAA-E; ANSI C63.26:2015	40000
Signal Boosters		
Part 20 (Wideband Consumer Signal Boosters, Provider-specific Signal Boosters, and Industrial Signal Boosters), Section 90.219	ANSI C63.26:2015	40000

⁴ 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

ELEMENT MATERIALS TECHNOLOGY DALLAS – PLANO WEST

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 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 27th day of February 2024

A blue ink signature of Trace McInturff, written in a cursive style.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 214.19
Valid to December 31, 2025

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