



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ELEMENT MATERIALS TECHNOLOGY DALLAS – PLANO WEST

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ELECTRICAL

Valid To: December 31, 2027

Certificate Number: 0214.19

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with A2LA's R256 Accreditation Program 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) <sup>1</sup>:</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Emissions</b>                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Radiated and Conducted<br>(up to 40 GHz) | 47 CFR, FCC Part 15, Subpart B (using ANSI C63.4:2014 <sup>2</sup> );<br>47 CFR, FCC Part 18 (using FCC MP-5:1986);<br>GR 1089-CORE;<br>ICES-001 (Issue 5, July 2020);<br>ICES-002 (Issue 7, September 2020);<br>ICES-003 (Issue 7, October 2020);<br>ICES-004 (Issue 5, October 2022);<br>ICES-005 (Issue 5, December 2018);<br>ICES-006 (Issue 3, July 2018)                                                                                                                       |
| International                            | IEC/CISPR 11 Ed. 6.0 (2015) +A1(2016);<br>CISPR 11 Ed. 6.2 (2019);<br>CISPR 11:2015 A1:2016 A2:2019;<br>IEC/CISPR 11 Ed. 4.1 (2004-06) +A2(2006);<br>IEC/CISPR 11 Ed. 5 (2009-05) +A1(2010);<br>CISPR 14-1:2020;<br>CISPR 14-1 (2005) +A1(2008) +A2(2011);<br>CISPR 14-1 (2016);<br>CISPR 32 Ed. 2.1 (2015) +A1(2019);<br>CISPR 32 Ed. 1 (2012-01);<br>CISPR 16-2-3:2016; CISPR 16-2-3:2019;<br>CISPR 16-2-1:2014; CISPR 16-2-1:2014+A1:2017;<br>CISPR 16-2-2:2010;<br>CISPR 36:2020 |

| <b><u>Test Technology:</u></b>       | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                       |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Europe                               | EN 55014-1 (2006) +A1(2009) +A2(2011);<br>EN 55014-1:2017 +A11:2020<br>EN 55032:2015 +AC:2016-07 +A11:2020 +A1:2020;<br>EN 55011:2016 +A1:2017 +A2:2021;<br>EN 55011:2016 +A1:2017 +A11:2020 +A2:2021;<br>EN/IEC 55014-1:2021; EN/IEC 55015:2020 |
| Australia / New Zealand              | AS/NZS CISPR 32 (2013, 2015);<br>AS/NZS CISPR 32 (2015) AMD 1:2020;<br>AS/NZS CISPR 22 (2009) +A1(2010) +(2006);<br>AS CISPR 11 (2017); AS/NZS CISPR 11 (2011);<br>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;<br>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);<br>SANS 214-1 Ed. 3.1 +CISPR A2 (2009);<br>SANS 215 Ed. 4.2 (2009); SANS 222 Ed. 6 (2009);<br>SANS 2332 Ed. 1 (2017); SANS 2335 Ed. 1 (2018)                                                     |
| Vietnam                              | QCVN 118:2018/BTTTT                                                                                                                                                                                                                              |
| Taiwan                               | CNS 15936:2016                                                                                                                                                                                                                                   |
| Radiated Emissions<br>(MIL/RTCA/DO)  | MIL-PRF-28800F;<br>MIL-STD-461B-G (Methods RE101, RE102, RE103);<br>MIL-STD-462;<br>RTCA/DO-160 C-G (Sections 15, 21)                                                                                                                            |
| Conducted Emissions<br>(MIL/RTCA/DO) | MIL-STD-461B-G, (Methods CE101, CE102, CE106);<br>MIL-STD-462; MIL-PRF-28800F;<br>RTCA/DO-160 C-G (Section 21)                                                                                                                                   |
| Harmonic Current Emissions           | IEC 61000-3-2; EN 61000-3-2;<br>KS C 9610-3-2; SANS 61000-3-2 Ed. 3.2 (2009);<br>IEC 61000-3-11 (2017)                                                                                                                                           |
| Voltage Fluctuations and Flicker     | IEC 61000-3-3; EN 61000-3-3;<br>KS C 9610-3-3; SANS 61000-3-3 Ed. 2 (2009);<br>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;<br>KS C 9610-3-2; SANS 61000-3-2 Ed. 2.2 (2009);<br>IEC 61000-3-11 (2017)                                                                                                                                    |

| <b><u>Test Technology:</u></b>           | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Immunity</b>                          |                                                                                                                                                                                                                                                                                                                                                                                                        |
| Electrostatic Discharge (ESD)            | EN/IEC 61000-4-2;<br>IEC 61000-4-2 Ed. 2.0 (2008-12);<br>KS C 9610-4-2;<br>ISO 13766; GR-1089-CORE;<br>SANS 61000-4-2 Ed. 2 (2009)                                                                                                                                                                                                                                                                     |
| Electrostatic Discharge<br>(MIL/RTCA/DO) | MIL-PRF-28800F; RTCA/DO-160 C-G (Section 25);<br>CS118                                                                                                                                                                                                                                                                                                                                                 |
| Radiated Immunity                        | MIL-STD-461B-G (Methods RS101, RS103);<br>MIL-STD-462; MIL-PRF-28800F;<br>DoD-STD-1399, Section 300 A and B;<br>IEEE P1613; MIL-STD 1275;<br>EN/IEC 55104; ISO 13766-1:2018;<br>ISO 13766-2:2018; EN 13309;<br>GR-1089-CORE; ISO 11452-2;<br>RTCA/DO-160 C-G (Section 20);<br>IEC 61000-4-3; EN 61000-4-3;<br>EN 61000-4-3 (2006) +A1(2008) +A2(2010);<br>KS C 9610-4-3; SANS 61000-4-3 Ed. 3.1 (2008) |
| Electrical Fast/Transient Burst<br>(EFT) | EN/IEC 61000-4-4; KS C 9610-4-4;<br>IEEE P1613; GR-1089-CORE;<br>IEC 61000-4-4(2012-04) + Ed. 2.0 (2004-07) +A1(2010);<br>IEC 61000-4-4 SANS 61000-4-4 Ed. 2.1 (2011)                                                                                                                                                                                                                                  |
| EFT<br>(MIL/RTCA/DO)                     | MIL-PRF-28800F                                                                                                                                                                                                                                                                                                                                                                                         |
| Surge                                    | EN/IEC 61000-4-5; KS C 9610-4-5;<br>IEEE P1613; IEEE 37.90.1;<br>K20; K21; RTCA/DO-160 C-G (Section 22);<br>GR-1089-CORE;<br>IEC 61000-4-5 Ed. 3.1 (2017); IEC 61000-4-5 Ed. 3.0 (May 2014);<br>IEC 61000-4-5 Ed. 1.1 (2005-11); EN 61000-4-5 (2014) +A1(2017);<br>SANS 61000-4-5 Ed. 2 (2006)                                                                                                         |
| Conducted Immunity                       | EN/IEC 61000-4-6; KS C 9610-4-6;<br>GR-1089-CORE;<br>IEC 61000-4-6 Ed. 4.0 (2013); IEC 61000-4-6 Ed. 4 (2008);<br>SANS 61000-4-6 Ed. 2 (2006)                                                                                                                                                                                                                                                          |
| Conducted Immunity<br>(MIL/RTCA/DO)      | MIL-STD-1399;<br>MIL-STD-461B-G (Methods CS101, CS102, CS103, CS104, CS105,<br>CS109, CS114, CS115, CS116, CS117, CS118);<br>MIL-STD-462; MIL-PRF-28800F;<br>RTCA/DO-160C-G (Sections 16, 17, 18,19, 20, 22)                                                                                                                                                                                           |

| <b><u>Test Technology:</u></b>                                                   | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Frequency Magnetic Field Immunity                                          | EN/IEC 61000-4-8 ( <i>excluding short duration mode</i> );<br>KS C 9610-4-8 ( <i>excluding short duration mode</i> );<br>IEC 61000-4-8; EN 61000-4-8; IEC 61000-4-8, Ed. 1.1 (2001);<br>IEC 61000-4-8 (2009);<br>KS C 9610-4-8; SANS 61000-4-8 Ed. 2 (2009) |
| Pulsed Magnetic Field                                                            | IEC 61000-4-9; EN 61000-4-9;<br>BS EN 61000-4-9 (2016); SANS 61000-4-9 Ed. 1.1 (2003);<br>IEC 61000-4-9 (2016); KS C 9610-4-9                                                                                                                               |
| Damped Oscillatory Magnetic Field                                                | IEC 61000-4-10; EN 61000-4-10;<br>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;<br>IEC 61000-4-11 Ed. 2.1 (2017); EN 61000-4-11 (2004) +A1(2017);<br>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;<br>SANS 61000-4-13 Ed. 1.1 (2009)                                                                                                                                                                                            |
| Mains Voltage Fluctuations                                                       | IEC 61000-4-14; EN 61000-4-14;<br>IEC 61000-4-14:1999 +AMD1:2001 +AMD2:2009;<br>SANS 61000-4-14 Ed. 1.2 (2009)                                                                                                                                              |
| DC Ripple Input Power                                                            | IEC 61000-4-17; EN 61000-4-17;<br>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;<br>IEC 61000-4-28 (1999) +A1(2001) +A2(2009);<br>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;<br>IEC 61000-4-29 (2000);<br>SANS 61000-4-29 Ed. 1 (2005)                                                                                                                                                                    |
| Radiated Fields in Close Proximity                                               | IEC 61000-4-39; EN 61000-4-39;<br>IEC 61000-4-39 (2017)                                                                                                                                                                                                     |
| Power Transients                                                                 | EN 300 132-1; EN 300 132-2;<br>ANSI T1.315; ATT-TP-76200; ATT-TP-76450                                                                                                                                                                                      |
| Power Transients (MIL/RTCA/DO)                                                   | MIL-HDBK-704/2-8;<br>DoD-STD-1399, Section 300 A and B;<br>MIL-STD 1275;<br>RTCA/DO160 C-G Section 16                                                                                                                                                       |
| Lightning                                                                        | RTCA/DO-160 C-G Section 22; GR-1089-CORE;<br>MIL-HDBK-704/2-8;<br>MIL-STD-461G (Method CS117)                                                                                                                                                               |

| <b><u>Test Technology:</u></b>                                                                    | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| 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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Generic/Product Family Standards and Industry Standards <sup>3</sup></b><br>(EMC testing only) | EN/IEC 61000-6-1; KS C 9610-6-1;<br>IEC 61000-6-1 (2016); IEC 61000-6-1, Ed. 2 (2005-03);<br>EN/IEC 61000-6-2; KS C 9610-6-2;<br>EN 61000-6-2 (2016); EN 61000-6-2 (2005) +AC (2005);<br>IEC 61000-6-2 (2016); EN IEC 61000-6-2 (2019);<br>IEC 61000-6-2 Ed. 2.0 (2005-01); EN 61000-6-2 (2005);<br>EN/IEC 61000-6-3; KS C 9610-6-3;<br>EN 61000-6-3 (2007) + A1 (2011) + AC (2012);<br>AS/NZS 61000.6.3;<br>EN/IEC 61000-6-4; KS C 9610-6-4;<br>EN 61000-6-4 (2007) + A1 (2011); IEC 61000-6-3 (2020);<br>IEC 61000-6-4 (2018);<br>AS/NZS 61000.6.4; KS C 9824;<br>CISPR 24; EN 55024;<br>EN 61326; ETSI EN 300 386; GR-1089-CORE;<br>ATT-TP-76200; EN/IEC 60601-1-2; EN 50082;<br>EN 61326; IEC 60601-1-2;<br>CISPR 14-2; KS C 9814-2; EN 55014-2;<br>CISPR 35 (excluding Annexes A and G);<br>EN 55035 (excluding Annexes A and G);<br>KS C 9835 (excluding Annexes A and G);<br>IEEE P1613;<br>KS C 9610-6-2; KS C 9610-6-3; KS C 9610-6-4;<br>EN IEC 61326-1:2021;<br>IEC 61326-2-6 Ed. 2.0 (2012); IEC 61326-3-1 (2008) + (2017);<br>EN IEC 61326-2-6:2021; EN 61326-2-1 (2013);<br>IEC 61326-2-1 (2020); EN IEC 61326-2-1:2021;<br>TCVN 7317:2003 (CISPR 24:1997); AIM 7351731 (2017);<br>AIM 7351731-2021;<br>IEC CISPR 14-2:2020; CISPR 14-2 Ed. 2. (2015) |

| <b><u>Test Technology:</u></b>                                                                                   | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <b>Generic/Product Family Standards and Industry Standards <sup>3</sup></b><br>(EMC testing only)<br>(continued) | IEC/CISPR 14-2 Ed. 1.2 (2008);<br>CISPR 35 (2016); EN 55035 (2020);<br>KS C 9814-2; KS C 9835;<br>SANS 60601-1-2 Ed. 4 (2018);<br>IEC 60601-1-2 Ed. 2.1 (2004-11);<br>IEC 60601-1-2 Ed. 3.0 (2007);<br>IEC 60601-1-2 Ed. 4.0 (2014);<br>IEC 60601-1-2 Ed. 4.0 (2014) +A1 (2020); KS C IEC 60601-1-2;<br>EN 60601-1-2 (2002); EN 60601-1-2 (2007);<br>EN 60601-1-2 (2015);<br>EN 60601-1-2:2015 +A1:2021;<br>IEC 60601-2-2 (2018), Annex BB;<br>IEC 60601-2-4 Ed. 3.0 (2010), Clause 202;<br>EN 60601-2-24:19;<br>IEC 60601-2-25 Ed. 2.0, (2011-10), Clause 202;<br>IEC 60601-2-26 (2003); EN 60601-2-26 (2003);<br>IEC 60601-2-26, Ed. 2.0 (2002-11);<br>IEC 60601-2-26 Ed. 3.0 (2012-05);<br>IEC 60601-2-27 Ed. 3.0 (2011), Clause 202;<br>IEC 60601-2-27:2005; EN 60601-2-27:2006; EN 4502-2-2 (2008);<br>EN 45502-2-1 (2003); IEC 60601-2-30, Clause 202;<br>IEC 60601-2-31 (2008)+A1 (2011), Clause 202;<br>EN 60601-2-37 (2008) +A1 (2015), Clause 202;<br>IEC 60601-2-47 Ed. 2.0 (2012-02), Clause 202;<br>IEC 60601-2-49 (2011), Clause 202;<br>EN 60601-2-49 (2015), Clause 202;<br>EN/IEC 61000-6-4:2018; EN 61000-6-3; EN IEC 61000-6-3;<br>IEC 80601-2-49 (2018), Clause 202;<br>IEC 60601-2-50, Ed. 2.1 (2016-04);<br>ISO 80601-2-55 (2018), Clause 202;<br>ISO 80601-2-56, Clause 202; ISO 80601-2-61 (2017), Clause 202;<br>ISO 80601-2-61 (2011), Clause 202;<br>ISO 9919 Ed. 2.0 (2005), Clause 36;<br>ISO 14117 (2012) Sections 4 and 5;<br>ISO 14708-1 (2014); ISO 14708-3 (2017-04);<br>ISO 14708-4 (2008-11-15) Clause 27;<br>ISO 14708-4 (2020) Clause 27; ISO 14708-4:2022 Clause 27;<br>EN 60945 (2002) [excluding Clauses 8 and 11];<br>IEC 60945 (2002) [excluding Clauses 8 and 11];<br>GR-1089-CORE, Issue 7;<br>IEC 61000-6-7 (2014); IEC 61000-6-8 (2020);<br>EN 50293:2012; EN 50270:2015; EN 61131-2 (2008);<br>IEC 61131-2 (2017) Sec. 7.3; IEC 61131-6 (2012);<br>EN 61131-6 (2013); IEC 61326-1 (2020); EN 61326-1 (2013);<br>Lloyd's Register - LR Type;<br>Approval System Test Specification 1 (2013, 2015);<br>EN 50130-4 (2011) +A1 (2014); EN 55014-2 (1997);<br>EN 55014-2 (1997) +A1 (2001) +A2 (2008);<br>IEC 60730-1 Ed. 4.0 (2010) +(2013); EN 60730-1 (2011) |

| <b><u>Test Technology:</u></b>                                                                                   | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| <b>Generic/Product Family Standards and Industry Standards <sup>3</sup></b><br>(EMC testing only)<br>(continued) | IEC 62040-1-2 (2002); EN 12895:2015 +A1:2019;<br>EN 300 386 V1.6.1:2016; EN 300 386 V2.2.0:2020;<br>AS/CA S042 (2015); AS/CA S042.4 (2011); AS/CA S042.1:2020;<br>AS/CA S042.4:2022; AS/CA S042.5:2022                                                                                                                                                                                                                                                                                                                                                             |
| <b>Automotive EMC</b>                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Radiated & Conducted Emissions                                                                                   | CISPR 12 (2007) + A1 (2009); EN 55012;<br>CISPR 25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Conducted Transient Immunity Broadband & Narrowband Emissions                                                    | ISO 7637-2; ISO 7637-1 (2015);<br>ISO 16750-1 (2018); ISO 16750-2 (2012)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Radio</b>                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| US (FCC)<br>(up to 40 GHz)                                                                                       | 47 CFR FCC Part 15, Subpart C (using ANSI C63.10-2013);<br>ANSI C63.10-2020; ANSI C63.30;<br>47 CFR FCC Part 15, Subpart D (using ANSI C63.17:2013);<br>47 CFR FCC Part 15, Subpart E with and without DFS<br>(using ANSI C63.10:2013 and FCC KDB Publication<br>905462 D02 (v02));<br>ANSI C63.10-2020; ANSI C63.10-2020+Cor. 1-2023+C63.10a-2024;<br>47 CFR FCC Parts 20, 22, 24, 25, 27, 30, 73, 74, 80, 87, 90, 95, 96,<br>97 and 101 (using ANSI C63.26:2015, TIA-102.CAAA-E, and<br>ANSI/TIA-603-E);<br>ANSI C63.10:2020; ANSI C63.27:2017; ANSI C63.27:2021 |
| Canada (ISED)                                                                                                    | RSS-GEN; RSS-111; RSS-112; RSS-117; RSS-119; RSS-123;<br>RSS-125; RSS-127; RSS-130; RSS-131; RSS-132; RSS-133;<br>RSS-134; RSS-135; RSS-137; RSS-139; RSS-140; RSS-141;<br>RSS-142; RSS-170; RSS-181; RSS-192; RSS-194; RSS-195;<br>RSS-196; RSS-197; RSS-199; RSS-210 ( $\leq 40$ GHz);<br>RSS-211 ( $\leq 40$ GHz); RSS-213; RSS-215; RSS-216 ( $\leq 40$ GHz);<br>RSS-220 ( $\leq 40$ GHz); RSS-222; RSS-236; RSS-238; RSS-243;<br>RSS-244; RSS-246; RSS-247; RSS-248;<br>RSS-287; RSS-288; RSS-310                                                             |
| Europe<br>(excluding Protocol Testing)                                                                           | ETSI EN 300 220-1 V3.1.1 (2017-02);<br>ETSI EN 300 220-1 V2.4.1 (2012-05);<br>ETSI EN 300 220-2 V3.1.1 (2017-02)<br>ETSI EN 300 220-2 V3.2.1 (2018-06);<br>ETSI EN 300 220-3-1 V2.1.1 (2016-12);<br>ETSI EN 300 220-3-2 V1.1.1 (2017-02);<br>ETSI EN 300 220-4 V1.1.1 (2017-02);<br>ETSI EN 300 328 V2.1.1 (2016-11);<br>ETSI EN 300 328 V2.2.2 (2019-07);<br>ETSI EN 300 330 V2.1.1 (2017-02);<br>ETSI EN 300 422-1 V2.2.2 (2021-11)                                                                                                                              |



| <b><u>Test Technology:</u></b>                        | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| Europe<br>(excluding Protocol Testing)<br>(continued) | ETSI EN 300 422-2 V2.1.1 (2017-02);<br>ETSI EN 300 422-3 V2.1.1 (2017-02);<br>ETSI EN 300 422-4 V2.1.1 (2017-05);<br>ETSI EN 300 440 V2.1.1 (2017-03);<br>ETSI EN 300 440 V2.2.1 (2018-07);<br>ETSI EN 301 166 V2.1.1 (2016-11);<br>ETSI EN 301 357 V2.1.1 (2017-06);<br>ETSI EN 301 357 V2.1.1 (2017-06);<br>ETSI EN 301 502 V12.5.2 (2017-03);<br>ETSI EN 301 511 V12.5.1 (2017-03);<br>ETSI EN 301 511 V12.1.1 (2015-06);<br>ETSI EN 301 839 V2.1.1 (2016-04);<br>ETSI EN 301 893 V2.1.1 (2017-05);<br>ETSI EN 301 908-1 V13.1.1 (2019-11);<br>EN 301 908-1 V15.2.1:2023-01;<br>ETSI EN 301 908-1 V15.1.1 (2021-09);<br>ETSI EN 301 908-13 V11.1.1 (2016-07);<br>ETSI EN 301 908-13 V11.1.2 (2017-07);<br>ETSI EN 301 908-13 V13.2.1 (2022-02);<br>ETSI EN 301 908-14 V11.1.2 (2017-04);<br>ETSI EN 301 908-14 V13.1.1 (2019-09);<br>ETSI EN 301 908-14 V15.1.1 (2021-09);<br>ETSI EN 302 195 V2.1.1 (2016-06);<br>ETSI EN 302 208 V3.1.1 (2016-11);<br>ETSI EN 302 208 V3.3.1 (2020-05);<br>ETSI EN 302 208 V3.4.1 (2023-12);<br>ETSI EN 302 537 V2.1.1 (2016-10);<br>ETSI EN 303 413 V1.1.1 (2017-06);<br>ETSI EN 303 413 V1.2.1 (2021-04);<br>ETSI EN 303 417 V1.1.1 (2017-09);<br>ETSI EN 301 489-1 V2.1.1 (2017-02);<br>ETSI EN 301 489-1 V2.2.3 (2019-11);<br>ETSI EN 301 489-3 V2.1.1 (2019-03);<br>ETSI EN 301 489-3 V2.3.2 (2023-01);<br>ETSI EN 301 489-5 V2.1.1 (2016-11);<br>ETSI EN 301 489-6 V2.1.1 (2016-11);<br>ETSI EN 301 489-6 V2.2.1 (2019-04);<br>ETSI EN 301 489-9 V1.4.1 (2007-11);<br>ETSI EN 301 489-9 V2.1.1 (2019-04);<br>ETSI EN 301 489-17 V3.1.1 (2017-02);<br>ETSI EN 301 489-17 V3.2.4 (2020-09);<br>ETSI EN 301 489-19 V2.1.1 (2019-04);<br>ETSI EN 301 489-19 v2.2.1 (2022-09);<br>ETSI EN 301 489-23 V1.5.1 (2011-11);<br>ETSI EN 301 489-23 V1.5.1 (2011-11);<br>ETSI EN 301 489-27 V2.1.1 (2016-12);<br>ETSI EN 301 489-27 V2.2.1 (2019-04);<br>ETSI EN 301 489-29 V2.1.1 (2016-12);<br>ETSI EN 301 489-29 V2.2.1 (2019-04) |



| <b><u>Test Technology:</u></b>                        | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Europe<br>(excluding Protocol Testing)<br>(continued) | ETSI EN 301 489-31 V2.1.1 (2016-11);<br>ETSI EN 301 489-31 V2.2.1 (2019-04);<br>ETSI EN 301 489-33 V2.1.1 (2016-11)<br>ETSI EN 301 489-34 V2.1.1 (2019-04);<br>ETSI EN 301 489-35 V.2.1 (2016-12);<br>ETSI EN 301 489-50 V2.1.1 (2017-02);<br>ETSI EN 301 489-50 V2.3.1 (2021-03);<br>ETSI EN 301 489-51 V2.1.1 (2019-04);<br>ETSI EN 301 489-52 V1.2.1 (2021-11);<br>ETSI EN 303 454 V1.1.1 (2018-01)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Hong Kong                                             | HKCA 1007, Issue 5 (March 2012);<br>HKCA 1008, Issue 4 (November 2013);<br>HKCA 1033, Issue 7 (March 2012);<br>HKCA 1035, Issue 7 (May 2016);<br>HKCA 1039, Issue 7 (August 2024);<br>HKCA 1042, Issue 2 (February 2003);<br>HKCA 1048, Issue 2 (June 2008);<br>HKCA 1049, Issue 1 (April 2005);<br>HKCA 1052, Issue 5 (June 2022)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Korea                                                 | KS X 3123; KS X 3124; KS X 3125;<br>KS X 3126; KS X 3134; KS C 9995;<br>RRA Public Notification 2018-18, Dec. 7, 2018;<br>Equipment to be Subject of Test Procedure for Electromagnetic Field<br>Strength and Specific Absorption Rate<br>(RRA Public Notification 2023-12, Jun 30, 2023);<br>RRA Announce 2021-10, Feb 8, 2021;<br>RRA Public Notification 2019-32, Dec. 31, 2019;<br>Technical Requirements for Measurement of Electromagnetic Field<br>Strength (RRA Public Notification 2023-11, Jun 30, 2023);<br>Technical Requirements for the Human Protection against<br>Electromagnetic Waves<br>(MSIT Public Notification 2019-4, Jan 16, 2019);<br>Notice on Conformity Assessment of Broadcasting and<br>Communications Equipment<br>(RRA Public Notification 2023-3, Feb 3, 2023);<br>Unlicensed Radio Equipment Established Without Notice<br>(MSIT Public Notification 2025-14, Mar. 27, 2025);<br>Regulations on Radio Equipment<br>(Ordinance of MSIT No. 86, Jan 4, 2022)<br>Unlicensed Radio Equipment Established Without Notice<br>RRA Announce 2011-32, Korean only (Dec 27, 2011);<br>RRA Public Notification 2012-21 (Nov. 06, 2012);<br>RRA Announce 2013-33 Korean only, (Jul. 26, 2013);<br>RRA Notice 2014-2, Korean only (Feb. 4, 2014);<br>RRA Announce 2014-90 (Dec. 23, 2014);<br>RRA Announce 2015-81, Korean only (Sep. 30, 2015);<br>RRA Announce 2015-135 (Jan. 5, 2016) |

| <b><u>Test Technology:</u></b>                                     | <b><u>Test Method(s) <sup>1</sup>:</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Korea<br>(continued)                                               | RRA Notice 2017-7, Korean only (Aug. 4, 2017);<br>RRA Public Notification 2015-23 (Nov. 18, 2015)<br>RRA Public Notification 2017-8 (Aug. 28, 2017);<br>RRA Public Notification 2011-24 (Dec. 23, 2011);<br>RRA Announce 2012-21, Korean only (Jun. 28, 2012);<br>RRA 2013-3 and 2013-24, June 17, 2013, Korean only;<br>RRA 2014-8 and RRA 2014-37 (Jun. 23, 2014);<br>RRA Public Notification 2015-27 (Dec. 03, 2015);<br>RRA Announce 2015-110 (Dec. 03, 2015);<br>RRA Public Notification 2016-26 (Dec. 19, 2016);<br>RRA Announce 2016-79 (Dec. 19, 2016);<br>RRA Public Notification 2017-19 (Dec. 28, 2017);<br>RRA Announce 2017-71 (Dec. 28, 2017) |
| Taiwan                                                             | LP0002 (2020); IS2019 (2020); RTTE01 (2020)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Singapore                                                          | IMDA TS CMT (September 2020);<br>IMDA TS LMR Issue 1 (October 2016);<br>IMDA TS SRD Issue 1, Rev. 3 (September 2023);<br>IMDA TS UWB Issue 1 (October 2016);<br>IMDA TS WBA Issue 1 (October 2016)                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Vietnam                                                            | QCVN 15 (2015):BTTT; QCVN 18 (2022):BTTT;<br>QCVN 54 (2020):BTTT; QCVN 55 (2011):BTTT;<br>QCVN 65 (2021):BTTT; QCVN 73 (2013):BTTT;<br>QCVN 74 (2020):BTTT; QCVN 75 (2013):BTTT;<br>QCVN 76 (2013):BTTT; QCVN 88 (2015):BTTT;<br>QCVN 91 (2015):BTTT; QCVN 95 (2015):BTTT;<br>QCVN 96 (2015):BTTT; QCVN 99 (2015):BTTT;<br>QCVN 103 (2016):BTTT; QCVN 112 (2017):BTTT;<br>QCVN 118:2018/BTTT                                                                                                                                                                                                                                                                |
| <b>RF Exposure</b><br>(excluding SAR, APD,<br>IPD and HAC testing) | RSS-102; RSS-102.NS.MEAS; SPR-002;<br>IEEE Std C95.3 (2002); IEEE Std C95.3:2021;<br>EN 50364 (2018) + (2010); EN 50383 (2010); EN 50566 (2017);<br>EN 50663 (2017); EN 62233 (2008);<br>EN IEC 62311 (2020); EN 62311 (2008);<br>KCC Public Notification 2012-1<br>ACA Standard 2007 +A1 (2011); ACA Standard (2013, 2014);<br>H46-2/99-273E;<br>IEEE Std11451(2005) +A1(2010); ARPANSA RPS S-1 Rev 1;<br>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.

<sup>1</sup> When the date, edition, version, etc. is not identified in the scope of accreditation, laboratories may use the version that immediately precedes the current version for a period of one year from the date of publication of the standard measurement method, per Annex A, Part C of A2LA R101 - *General Requirements: Accreditation of Conformity Assessment Bodies*.

<sup>2</sup> 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.

<sup>3</sup> 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.

| 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: |                                                             |                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------|
| 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;<br>ANSI C63.10:2020                       | 40000                   |
| Unlicensed Personal Communications (UPCS)                                                                                                                 |                                                             |                         |
| Part 15D                                                                                                                                                  | ANSI C63.17:2013                                            | 40000                   |
| U-NII without DFS Intentional Radiators                                                                                                                   |                                                             |                         |
| Part 15E                                                                                                                                                  | ANSI C63.10:2013;<br>ANSI C63.10:2020                       | 40000                   |
| U-NII with DFS Intentional Radiators                                                                                                                      |                                                             |                         |
| Part 15E                                                                                                                                                  | KDB 905462 D02 (v02)                                        | 40000                   |
| UWB Intentional Radiators                                                                                                                                 |                                                             |                         |
| Part 15F                                                                                                                                                  | ANSI C63.10:2013;<br>ANSI C63.10:2020                       | 40000                   |
| Commercial Mobile Services<br>(FCC Licensed Radio Service Equipment)                                                                                      |                                                             |                         |
| Parts 22 (cellular), 24, 25 (below 3 GHz),<br>and 27                                                                                                      | ANSI/TIA-603-E;<br>ANSI/TIA-102.CAAA-E;<br>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:

| Rule Subpart/Technology                                                                                                    | Test Method                                                 | Maximum Frequency (MHz) |
|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------|
| General Mobile Radio Services<br>(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;<br>ANSI/TIA-102.CAAA-E;<br>ANSI C63.26:2015 | 40000                   |
|                                                                                                                            |                                                             |                         |
| Citizens Broadband Radio Services                                                                                          |                                                             |                         |
| Part 96                                                                                                                    | ANSI/TIA-603-E;<br>ANSI/TIA-102.CAAA-E;<br>ANSI C63.26:2015 | 40000                   |
|                                                                                                                            |                                                             |                         |
| Maritime and Aviation Radio Services                                                                                       |                                                             |                         |
| Parts 80 and 87                                                                                                            | ANSI/TIA-603-E;<br>ANSI C63.26:2015                         | 40000                   |
|                                                                                                                            |                                                             |                         |
| 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;<br>ANSI/TIA-102.CAAA-E;<br>ANSI C63.26:2015 | 40000                   |
|                                                                                                                            |                                                             |                         |
| Broadcast Radio Services                                                                                                   |                                                             |                         |
| Parts 73 and 74 (below 3 GHz)                                                                                              | ANSI/TIA-603-E;<br>ANSI/TIA-102.CAAA-E;<br>ANSI C63.26:2015 | 40000                   |
|                                                                                                                            |                                                             |                         |
| Signal Boosters                                                                                                            |                                                             |                         |
| Parts 20 (Wideband Consumer Signal Boosters, Provider-specific Signal Boosters, and Industrial Signal Boosters) and 90.219 | ANSI C63.26:2015                                            | 40000                   |

Note: 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 31<sup>st</sup> day of October 2025.

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

Mr. Trace McInturff, Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 0214.19  
Valid to December 31, 2027

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