SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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ELECTRICAL

Valid To: December 31, 2020 Certificate Number: 0767.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following Automotive Electromagnetic Compatibility (EMC), Electrical, Military, Commercial, and Industrial EMC, and Telecommunications Tests:

Test Technology:	**Test Method(s):**
Conducted Emissions	Boeing D6-16050-4 Rev. D, Para. 8.1 and 8.2; Boeing D6-16050-5 Rev. B, Para. 8.1 and 8.2; Boeing D6-16050-5 Rev. C, Para. 8.1 and 8.2; Boeing D6-44588 Rev. AA, Para. 3.4.5.3; CFR 47, FCC Part 15, Subparts A & B, Sec. 15.107 (using ANSI C63.4:2014); CFR 47, FCC Part 18, Subparts A & C, Sec. 18.307 (using FCC-MP5:1986); CISPR 11; CISPR 25 Section 6.2; CISPR 32; EN 55011; EN 55022; MIL-STD 461/462 (A, B, C), Methods CE01, CE02, CE03, CE04, CE05, CE06 and CE07; MIL-STD 461 (D, E, F, G), Methods CE101, CE102 and CE106; MIL-STD 462 (D); RTCA/DO-160 (A, B, C, D, E, F, G), Section 21; UK DEF STAN 59-41 (Part 3), Supp. B DCE02, Supp. C DCE03; UK DEF STAN 59-411 (Part 3); SAE J1113-41; SAE J1113-42; UK DEF STAN 59-41 (Part 3), Supp. A DCE01

Test Technology:	**Test Method(s):**
Radiated Emissions	Boeing D6-16050-4 Rev. D, Para. 8.2.2; Boeing D6-16050-5 Rev. B, Para. 8.2.2; Boeing D6-16050-5 Rev. C, Para. 8.2.2; CFR 47, FCC Part 15 Subparts A & B, Sec. 15 (using ANSI C63.4:2014) *(up to 18 GHz)*; CFR 47, FCC Part 18 Subparts A & C Sec. 18. 309 (using FCC-MP-5:1986); CISPR 11 *(up to 1 GHz)*; CISPR 25 Section 6.4; CISPR 32; EN 55011 *(up to 18 GHz)*; EN 55022 *(Class B Devices only, up to 18 GHz)*; EN 55032; MIL-STD 461 (A, B, C)/462, Methods RE01, RE02 and RE03; MIL-STD 461D/462D, Methods RE101, RE102 and RE103; MIL-STD 461 (E, F, G), Methods RE101, RE102 and RE103; RTCA/DO-160 (A, B, C, D, E, F, G), Section 21; SAE J1113-41; UK DEF STAN 59-41 (Part 3), Supp. D DRE01, Supp. E DRE02 and Supp. F DRE03; UK DEF STAN 59-411 (Part 3)
Conducted Susceptibility *(Immunity)*	Boeing D6-16050-4 Rev D, Para. 7.2, 7.3.1, 7.4 and 7.5; Boeing D6-16050-5 Rev B, Para. 7.2, 7.3.1, 7.4 and 7.5; Boeing D6-16050-5 Rev C, Para. 7.2.1, 7.2.2, 7.3.1, 7.4 and 7.5; EN 61000-4-6; IEC 61000-4-6 (2008); MIL-STD 461 (A, B, C)/462, Methods CS01, CS02, CS03, CS04, CS05, CS06, CS07, CS08, CS09, CS10, CS11, CS12 and CS13; MIL-STD 461/462D; MIL-STD 461 (D, E, F, G), Methods CS101, CS103, CS104, CS105, CS109, CS114, CS115 and CS116; MIL-STD 461F, Method CS106; RTCA/DO-160 (A, B, C, D, E, F, G), Sections 17, 18, 20 and 22; SAE J1113-2; SAE J1113-3; SAE J1113-4; SAE J1113-11; SAE J1113-12; SAE J1455 (Sections 4.11.1, 4.11.2); UK DEF STAN 59-41 (Part 3), Supp. G DCS01, Supp. H DCS02, Supp. J DCS03, Supp. K DCS04, Supp. L DCS05, Supp. M DCS06, Supp. P DCS08, Supp. Q DCS09, Supp. S DCS11 and Supp. T DCS12; UK DEF STAN 59-411 (Part 3)

Test Technology:	**Test Method(s):**
Radiated Susceptibility *(Immunity)*	Boeing D6-16050-4 Rev D Para. 7.2 and 7.3.2; Boeing D6-16050-5 Rev B, Para. 7.2 and 7.3.2; Boeing D6-16050-5 Rev C, Para. 7.2 and 7.3.2; EN 61000-4-3; IEC 61000-4-3; MIL-STD 461/462 (A, B, C), Methods RS01, RS02, RS03, RS04, RS05 and RS06; MIL-STD 461 (D, E, F, G), Methods RS101, RS103 and RS105; RTCA/DO-160 (A, B, C, D, E, F, G), Section 19, 20; UK DEF STAN 59-41 (Part 3), Supp. U DRS01, Supp. V DRS02; UK DEF STAN 59-411 (Part 3)
Lightning Test	Airbus ABD0100.1.2, Para. 3.2.2; Boeing D6-36440 Rev E, Para. 7.3.3.7; Boeing D6-16050-4 Rev D, Para. 7.4; Boeing D6-16050-5 Rev B & C, Para. 7.4; Boeing 5PTA0040A; RTCA/DO-160 (D, E, F, G), Section 22; SAE ARP5412
Electrostatic Discharge (ESD)	Boeing D6-16050-4 Rev D Para. 7.1 and 7.1.1; Boeing D6-16050-5 Rev B, Para. 7.1; Boeing D6-16050-5 Rev C, Para. 7.1; EN 61000-4-2; IEC 801-2; ISO 10605; SAE J1113-13; RTCA/DO-160 (D, E, F, G), Section 25; UK DEF STAN 59-41 (Part 3), Supp. R DCS10; UK DEF STAN 59-411 (Part 3)
Electrical Fast Transient	EN 61000-4-4; IEC 61000-4-4
Surge Immunity	ANSI C62.41; EN 61000-4-5; IEC 61000-4-5
Magnetic Field Immunity	DOD-STD-1399, Section 70; EN 61000-4-8; IEC 61000-4-8; SAE J1113-22; UK DEF STAN 59-41, (Part 3), Supp W DMFS01; UK DEF STAN 59-411 (Part 3)
Voltage Dips, Interruptions, Variations and Transients	EN 61000-4-11; IEC 61000-4-11; MIL-STD 704 (A, B, C, D, E, F); MIL-STD 1399, Section 300 A, B; MIL-STD 1275 (A, B, C, D, E)

Test Technology:	**Test Method(s):**
Magnetic Effect	RTCA/DO-160, Section 15
Power Input	RTCA/DO-160, Section 16
Power Quality	MIL-STD 1399, Section 300 A, B; MIL-STD 704 (A, B, C, D, E, F); MIL-STD 1275 (A, B, C, D, E); UK DEF STAN 61-5 (Part 6)
Electrical Tests	
Dielectric Withstand Voltage	MIL-STD 202G, Method 301
Insulation Resistance	MIL-STD 202G, Method 302
Contact Resistance	MIL-STD 202G, Method 307
Contact Chatter	MIL-STD 202G, Method 310
Temperature Rise vs. Resistance	MIL-STD 202G, Method 304

On the following types of materials and products:
Aerospace Components & Systems; Automotive Components & Systems; Shipboard Components & Systems; Railroad & Industrial Vehicle Components & Systems; Information Technology & Telecommunication Equipment & Systems; Electrical & Electronic Components & Systems; Medical Electronic Equipment; Military Equipment & Hardware

Testing Activities Performed in Support of FCC Declaration of Conformity and Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1:[1]

Rule Subpart/Technology	**Test Method**	**Maximum Frequency**
Unintentional Radiators Part 15B	ANSI C63.4:2014	18 GHz
Industrial, Scientific, and Medical Equipment Part 18	FCC MP-5 (February 1986)	18 GHz

[1]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

DAYTON T. BROWN, INC.

Bohemia, NY

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 13th day of December 2018.

Senior Director, Accreditation Services
For the Accreditation Council
Certificate Number 0767.02
Valid to December 31, 2020
Revised January 10, 2019

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