



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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MECHANICAL

Valid To: June 30, 2026

Certificate Number: 1633.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following environmental simulation tests and tests fitting the parameters listed:

**Test:**

**Test Method(s):**

**Altitude**

*Altitude -1,312 ft  
to +150,000 ft*

ASTM D4169 Schedule I;  
ASTM D6653/D6653M-13;  
DEF STAN 00-35 Section 3 Test CL11, CL12;  
IEC 60601-1-11, Paragraph 4.2.2;  
GR-63-CORE, Issue 4, Paragraph 4.1.3 and 5.1.3;  
GR-3108-CORE, Issue 3, Paragraph 4.7 Altitude;  
MIL-B-49430C (ER), Paragraph 4.8.7;  
MIL-B-49458C (ER), Paragraph 4.7.7;  
MIL-PRF-49471B (CR), Paragraph 4.7.7;  
MIL-STD-202 Method 105;  
MIL-STD-202F/G Method 105C, Test Conditions A, B, C, F;  
MIL-STD-810 Method 500;  
MIL-STD-810C/E/F Method 500, Procedure I & II;  
MIL-STD-810G/H Method 500.5/6, Procedures I, II, III;  
MIL-STD-883 Method 1001;  
MIL-STD-883E/F/G Method 1001, Test Conditions A, B, C, D;  
RTCA DO-160 Section 4;  
RTCA DO-160D/E/F/G Section 4, Paragraph 4.6.1, Category Ax, Bx, Cx, Dx, Ex, Fx;  
UN Transport of Dangerous Goods, Test T.1

**Temperature/  
Altitude**

*Altitude -1,312 ft  
to +150,000 ft and  
temperature of -  
60°C and +85°C*

MIL-STD-810 Method 504;  
MIL-STD-810C Method 504.1, Procedure I, Category 1,2,3,4,5,6;  
MIL-STD-810D/E/F/G/H Method 520, Procedure I;  
ISO 9022-21, Combined Low Pressure and Ambient Temperature or Dry Heat

**Bench Handling**

MIL-STD-810 Method 516;  
MIL-STD-810C Method 516.2, Procedure V;  
MIL-STD-810D/E/F/G/H Method 516, Procedure VI;  
ISO 9022-3, Mechanical Stress

**Test:****Test Method(s):****Bounce**

*Synchronized  
1" displacement  
Up to 300 R.P.M*

ASTM D999; D999-96, Method A2; ASTM D4169 Schedule F;  
DEF STAN 00-35 Section 2-11 Test M11;  
IEC 68-2-55; IEC 60068-2-55: Test Ee; ISTA 1; ISTA 2; ISTA 3;  
MIL-STD-810 Method 514;  
MIL-STD-810C Method 514.2, Procedures IX Part 2, & X & XI;  
MIL-STD-810D Method 514.3, Category 3, Procedure II;  
MIL-STD-810E Method 514.4, Category 3, Procedure III;  
MIL-STD-810F/G/H Method 514, Category 5, Procedure II

**Drop & Topple**

DEF STAN 00-35 Section 2-04 Test M4;  
IEC 60068-2-31 Test Ec;  
IEC 60068-2-31: 69+A1:82-Test Ec;  
ISO 9022-3 Mechanical Stress;  
QM-333, Paragraph 13.0, Category A, B, C, D

**Drop Test**

DEF STAN 00-35 Section 2-04 Test M4;  
ASTM D1083; ASTM 1083-91, Paragraph 10 & 11 & 12 & 13;  
ASTM D4169 Schedule A;  
ASTM D5276; ASTM D5276-98;  
ASTM D6179; ASTM D5276-14;  
EN 50130-5, Section 21 Free Fall (Operational);  
GR-63-CORE, Issue 4, Paragraph 5.3;  
GR-3108-CORE, Issue 3, Paragraph 6.3.1.2 Drop;  
GR-3108-CORE, Issue 3, Paragraph 6.3.1.4 Drop;  
GR-950-CORE, Issue 2, Paragraph 5.4.5 Vertical Drop;  
IEC 68-2-31; IEC 60068-2-31: Test Ec, Drop & Topple;  
IEC 68-2-32; IEC 60068-2-32: Test Ed, Free Fall;  
IEC 60601-1-11 Paragraph 10.1.3 D;  
IEC 60945 Paragraph 8.6, Drop;  
ISO 16750-3:2003 Paragraph 4.3.2;  
ISTA 1; ISTA 2; ISTA 3;  
MIL-B-49430C (ER), Paragraph 4.8.3;  
MIL-PRF-49471B (CR), Paragraph 3.10;  
MIL-STD-810 and rev C/D/E/F/G/H Method 516-516.2/3/4/5/6/7/8;  
MIL-STD-1344 and rev. 1344A Method 2015;  
ISO 9022-3 Mechanical Stress

**Compression**

ASTM D4169 Schedule B Warehouse Stacking;  
ASTM D4169 Schedule C Vehicle Stacking;  
ISTA 1; ISTA 2; ISTA 3

**Impact**

ASTM D880;  
ASTM D4169 Schedule J;  
ASTM D6344;  
DEF STAN 00-35 Section 2-05 Test M5;  
EN 50130-5:1998 Section 20, Impact (Operational);  
IEC 60601-1 Paragraph 15.3.3; IEC 62262;  
ISTA 1; ISTA 2; ISTA 3;  
UN Transport of Dangerous Goods 38.3.4, Test T.6, Impact

**Mechanical Push  
Pull and Twist**

GR-950-CORE, Issue 2, Paragraph 6.4.3 Cable Flexing;  
GR-950-CORE, Issue 2, Paragraph 6.4.4 Cable Torsion

**Mechanical Shock**

DEF STAN 00-35 Section 2-03 Test M3, Section 2-06 Test M6,  
Section 2-07 Test M7, Section 2-12 test M12;  
EN 50125 (2003), Paragraph 4.13.2, Shock;  
EN 50130-5 and rev. 1998 Section 19, 20;  
EN 50155 (2017), Paragraph 13.4.11.3, Mechanical Shock

**Test:**

**Test Method(s):**

**Mechanical Shock**  
*(continued)*

GR-3108-CORE, Issue 3, Paragraph 6.3.1.3 Rail Mechanical Shock;  
GR-487-CORE, Issue 2, Paragraph 3.35.1 Transportation Shock;  
GR-487-CORE, Issue 2, Paragraph 3.35.4 Installation Shock;  
IEC 68-2-27;  
IEC 60068-2-27: Test Ea;  
IEC 68-2-29; IEC 60068-2-29: Test Eb;  
IEC 60601-1-11 Paragraph 10.1.2 a, 10.1.3 a, 10.1.3 b;  
IEC 61373, Clause 10, Mechanical Shock;  
ISO 16750-3:2003 Paragraph 4.2, Mechanical Shock;  
MIL-B-49430, Paragraph 4.8.5;  
MIL-B-49458C (ER), Paragraph 4.7.5;  
MIL-PRF-49471B (CR), Paragraph 3.9;  
MIL-STD-202 Method 213;  
MIL-STD-202F/G Method 213B, Test Condition A, B, C, D, E, F, G, H, J, K;  
MIL-STD-810 Method 516;  
MIL-STD-810C Method 516.2, Procedure I, III, IV, VI;  
MIL-STD-810D/E Method 516, Procedure I, II, V, VIII;  
MIL-STD-810F/G/H Method 516, Procedure I, II, III, V, VIII;  
MIL-STD-883 Method 2002;  
MIL-STD-883E/F Method 2002, Test Condition A;  
ISO 16750-3:2003;  
MIL-STD-1344 Method 2004;  
MIL-STD-1344A Method 2004.1, Test Condition A, B, C, E, F, G, H, I;  
RTCA DO-160 Section 7;  
RTCA DO-160D/E/F/G Section 7, Paragraph 7.2.1, 7.2.2, Operational;  
RTCA DO-160D Section 7, Paragraph 7.3.1, 7.3.1.1, Crash Safety;  
RTCA DO-160E/F/G Section 7, Paragraph 7.3.1, 7.3.2, Crash Safety;  
UL-1642 Paragraph 14;  
UL-1642 4ED Rev Aug 2006, Paragraph 14A;  
ISO 9022-3 Mechanical Stress;  
UN Transport of Dangerous Goods 38.3.4, Test T.4, Shock

**Temperature**  
*Temp. range -60°C*  
*to +125°C*  
*Chamber volume*  
*up to 11 m<sup>3</sup>*

DEF STAN 00-35 Section 3 Test CL1, CL4, CL5;  
DNV 2.4 (2006) Paragraph 3.7, Dry Heat;  
DNV 2.4 (2006) Paragraph 3.9, Cold;  
EN 50130-5 Section 8 Dry Heat (Operational);  
EN 50130-5:1998 Section 8 Dry Heat (Operational);  
EN 50130-5:1998 Section 9 Dry Heat (Endurance);  
EN 50130-5:1998 Section 10 Cold (Operational);  
EN 50130-5:1998 Section 11 Temperature Change (Operational);  
EN 50125 (2003), Paragraph 4.3, Temperature;  
EN 50155 (2007), Paragraph 12.2.3, Cooling Test;  
EN 50155 (2007), Paragraph 12.2.14, Low Temperature Storage;  
EN 50155 (2007), Paragraph 12.2.4, Dry heat;  
EN 50155 (2017), Paragraph 13.4.4, Low Temperature Start-up;  
EN 50155 (2017), Paragraph 13.4.5, Dry heat, Cycle A, B, C;  
EN 50155 (2017), Paragraph 13.4.6, Low Temperature Storage;  
EN 50155 (2017), Paragraph 13.4.14, Rapid Temperature Variation;  
GR-63-CORE, Issue 4, Paragraph 5.1 Temperature;  
GR-1221-CORE, Paragraph 6.2.4, High Temperature;  
GR-1221-CORE, Paragraph 6.2.6, Low Temperature;  
GR-3108-CORE, Issue 3, Paragraph 4.2.2 Surface Temperatures;  
GR-3108-CORE, Issue 3, Paragraph 4.4 (R4-15) Low Temperature;  
GR-3108-CORE, Issue 3, Paragraph 4.4 (R4-16) High Temperature;  
GR-3108-CORE, Issue 3, Paragraph 4.5 Cold & Hot Start;  
GR-950-CORE, Issue 2, Paragraph 6.5.1 Accelerated Thermal Aging;  
TIA/EIA 455-4C, High Temperature;  
IEC 68-2-1; IEC 60068-2-1, Test Aa, Ab, Ac, Ad, Low Temperature



**Test:**

**Test Method(s):**

**Temperature**

*Temp. range -60°C  
to +125°C*

*Chamber volume  
up to 11 m<sup>3</sup>*

*(cont.)*

IEC 68-2-2; IEC 60068-2-2, Test Ba, Bb, Bc, Bd, High Temperature;  
IEC 68-2-14; IEC 60068-2-14, Test Na, Nb, Nc, Temperature Cycling;  
IEC 60601-1-11 Paragraph 4.2.1 b Low Temperature;  
IEC 60601-1-11 Paragraph 4.2.2 e Low Temperature;  
IEC 60945 Paragraph 8.2, Dry Heat;  
IEC 60945 Paragraph 8.4, Low Temperature;  
ISO 16750-4 :2006(E) Paragraph 5.1, 5.2, 5.3;  
ISO 16750-4:2006(E) Paragraph 5.6.2.2, 5.6.2.3, 5.7;  
ISTA 3; MIL-STD-202F Method 108A, High Temperature;  
MIL-STD-202G Method 108A, High Temperature;  
MIL-STD-810 Method 501 High Temperature;  
MIL-STD-810 Method 502 Low Temperature;  
MIL-STD-810C/D/E/F/G/H Method 501, Procedure I, II, III High Temperature;  
MIL-STD-810C/D/E/F/G/H Method 502, Procedure I, II, III, Low Temperature;  
MIL-STD-1344 Method 1003;  
MIL-STD-1344A Method 1003.1, Test Condition A, A-1, A-2, A-3;  
MIL-STD-1344A Method 1005, Test Condition 1, 2, 3, 4, 5;  
MIL-STD-1344A Method 1015, Test Condition A, B (Group I, II);  
QM-333, Paragraph 6.0, Category A, B, C, D, Low Temperature;  
QM-333, Paragraph 7.0, Category A, B, C, D, High Temperature;  
RTCA DO-160, Section 4 Low & High Temperature;  
RTCA DO-160D/E/F/G, Section 4, Paragraph 4.5.1, Category Ax, Bx, Cx, Dx, Ex,  
Fx, Temperature;  
RTCA DO-160D/E/F/G, Section 4, Paragraph 4.5.2, Category Ax, Bx, Cx, Dx, Ex,  
Fx, High Temperature;  
RTCA DO-160D/E/F/G, Section 4, Paragraph 4.5.3, Category Ax, Bx, Cx, Dx, Ex,  
Fx, Low Temperature;  
RTCA DO-160D/E/F/G, Section 4, Paragraph 4.5.4, Category Ax, Bx, Cx, Dx, Ex,  
Fx, High Temperature;  
RTCA DO-160, Section 5, Temperature Cycling;  
RTCA DO-160D, Section 5, Paragraph 5.3, Category A, B, C,  
Temperature Cycling;  
RTCA DO-160E/F/G, Section 5, Paragraph 5.3, Category A, B, C, S1, S2,  
Temperature Cycling

**Test:****Temperature &  
Humidity**

*Humidity range  
15% up to 95% RH  
Chamber volume  
up to 11 m<sup>3</sup>*

**Test Method(s):**

ASTM D4332;  
DEF STAN 00-35 Section 3 Test CL2, CL7;  
DNV 2.4 (2006) Paragraph 3.8, Damp Heat;  
EN 50125 (2003), Paragraph 4.4, Humidity;  
EN 50130-5, Section 12 Damp Heat, Steady State (Operational);  
EN 50130-5:1998, Section 13 Damp Heat (Endurance);  
EN 50130-5:1998, Section 14 Damp Heat Cycling (Operational);  
EN 50130-5:1998, Section 15 Damp Heat Cycling (Endurance);  
EN 50155 (2007), Paragraph 12.2.5, Damp Heat Cyclic;  
EN 50155 (2017), Paragraph 13.4.7, Damp Heat Cyclic;  
TIA/EIA 455-5C, Method A, Condition A, B, C, D, E, Humidity;  
TIA/EIA 455-5C, Method B/C Humidity;  
GR-63-CORE, Issue 1 & 2 & 3 & 4, Humidity;  
GR-1221-CORE, Paragraph 6.2.5, Humidity;  
GR-1221-CORE, Paragraph 6.2.8, Humidity;  
GR-3108-CORE, Issue 3, Paragraph 4.4 (R4-17) High Humidity;  
GR-3108-CORE, Issue 3, Paragraph 4.6 Humidity Cycling;  
GR-487-CORE, Issue 2, Paragraph 3.34.2 High Humidity Cycling;  
GR-950-CORE, Issue 2, Paragraph 6.5.3, Humidity;  
IEC 68-2-3, Test Ca, Humidity Replaced by IEC 60068-2-78;  
IEC 68-2-30, IEC 60068-2-30 Test Db, Humidity;  
IEC 68-2-38, Test Z/AD, Humidity;  
IEC 68-2-56, Test Cb, Humidity Superseded by IEC 60068-2-78:2001;  
IEC 60601-1-11, Paragraph 4.2.1 c & 4.2.2 h, Humidity;  
IEC 60945 Paragraph 8.3, Damp Heat;  
ISTA 1; ISTA 2; ISTA 3;  
MIL-STD-202F/G Method 103B, Test Condition A, B, C, D, Humidity;  
MIL-STD-202F/G Method 106, Humidity;  
MIL-STD-810 Method 507 Humidity;  
MIL-STD-810C Method 507.1, Procedure I, II, III, IV, V, Humidity;  
MIL-STD-810D/E/F/G/H Method 507, Procedure I, II, III, Humidity;  
MIL-STD-883E/F Method 1004.7, Humidity;  
MIL-STD-1344 Method 1002;  
MIL-STD-1344A Method 1002.2, Type I, Condition A, B, C, D;  
MIL-STD-1344A Method 1002.2, Type II & III;  
RTCA DO-160D/E/F/G, Section 6, Category A, B, C, Humidity;  
ISO 9022-2, Cold, Heat, and Humidity

**Vibration**

*Sine, Random,  
Sine on Random,  
Random on  
Random.*

*Freq. range:*

*3- 2,300 Hz*

*Displacement:*

*up to 2"*

*Force rating of  
6,400 kg*

ASTM D999, Method A1, B, C, Sine Vibration;  
ASTM D999, ASTM D999-96, D999-2001 Method A1, B, C, Sine Vibration;  
ASTM D4169 Schedule D/E;  
ASTM D4728, Random Vibration;  
ASTM D4728, ASTM D4728-95, D4728-2006 Random Vibration;  
DEF STAN 00-35 Section 2-01 Test M1;  
DNV 2.4 (2006) Paragraph 3.6, Sine & Random Vibration;  
EN 50125 (2003), Paragraph 4.13.1, Vibration;  
EN 50155 (2007), Paragraph 12.2.11, Random Vibration;  
EN 50155 (2017), Paragraph 13.4.11.2, Random Vibration Long Life;  
EN 50155 (2017), Paragraph 13.4.11.4, Random Vibration Functional;  
EN 50155 (2017), Paragraph 13.4.13, ESS;  
EN 50130-5, Section 22, 23 Vibration, Sinusoidal;  
GR-63-CORE, Issue 4, Paragraph 5.4.2, Sine & Random Vibration;  
GR-63-CORE, Paragraph 5.4.3, Random Vibration;  
GR-3108-CORE, Issue 3, Paragraph 6.3.1.5 Random Vibration;  
GR-3108-CORE, Issue 3, Paragraph 6.3.3 Sine Vibration & Random Vibration;  
GR-487-CORE, Issue 2, Paragraph 3.35.3 Transportation Random Vibration;  
GR-487-CORE, Issue 2, Paragraph 3.35.5 Induced Vibration;  
GR-1221-CORE, Paragraph 6.2.2, Sine Vibration;  
IEC 68-2-6, IEC 60068-2-6, Test Fc, Sine Vibration;  
IEC 68-2-34 Test Fd, Random Vibration;  
IEC 68-2-36, Test Fdb, Random Vibration Superseded by IEC 60068-2-64;  
IEC 68-2-64 Test Fh, Random Vibration;  
IEC 60601-1-11, Paragraph 10.1.2 b & 10.1.3 c;  
IEC 60945 Paragraph 8.7, Vibration;  
IEC 61373, Clause 8, Functional Random Vibration;  
IEC 61373, Clause 9, Long Life Random Vibration;  
ISO 16750-3:2003;  
ISTA 1; ISTA 2; ISTA 3;  
MIL-B-49430, Paragraph 4.8.6, Sine Vibration;  
MIL-B-49458C (ER), Paragraph 4.8.6, Sine Vibration;  
MIL-PRF-49471B (CR), Paragraph 4.7.6;  
MIL-STD-202F/G Method 201A, Sine Vibration;  
MIL-STD-202 Method, Sine Vibration;  
MIL-STD-202F/G Method 204D, Test Conditions A, B, C, D, E, G, H,  
Sine Vibration;  
MIL-STD-202 Method 214, Random Vibration;  
MIL-STD-202F/G Method 214, Condition I & II, Test Conditions A, B, C, D, E, F,  
G, H, J, K, Random Vibration;  
MIL-STD-810 and rev. C/D/E/F/G/H Method 514-514.2/3/4/5/6/7/8 &  
method 519.3;  
MIL-STD-1344 Method 1015, Condition B (Group III) Sine Vibration;  
MIL-STD-1344A Method 1015, Condition B (Group III) Sine Vibration;  
MIL-STD-1344 Method 2005;  
MIL-STD-1344A Method 2005.1, Condition I, II, III, IV, V (A, B, C, D, E, F,  
G, H, J, K), VI (A, B, C, D, E, F, G, H, J, K);  
RTCA DO-160 Section 8;  
RTCA DO-160D Section 8, Category S, S2, H, H2, R, R2, T, T2, U, Vibration;  
RTCA DO-160E/F/G Section 8, Category S, H, Z, R, U, U2, Vibration;  
TIA/EIA 455-11B, TIA/EIA 455-11B, Condition I, II, III, IV, VI Sine & Random  
Vibration;  
TIA/EIA 455-11B, TIA/EIA 455-11B, Condition VII, Random Vibration;  
TIA/EIA 455-11C, TIA/EIA 455-11C, Condition I, II, III, IV, VI, VII, Sine &  
Random Vibration;  
QM-333 Paragraph 12.0, Category A, B, C, D, Sine Vibration;  
UL-1642, Paragraph 15, Sine Vibration;  
UN Transport of Dangerous Goods 38.3.4, Test T.3, Sine Vibration;  
ISO 9022-3 Mechanical Stress

<b><u>Test:</u></b>	<b><u>Test Method(s):</u></b>
<b>Altitude</b> <i>Altitude -1,312 ft to +150,000 ft</i>	ASTM D4169 Schedule I
<b>Foreign Objects</b>	ISO 20653 Degrees of Protection (IP-Code), IP1x, IP2x, IP3x, IP4x; IEC 529 Degrees of Protection Provided by Enclosure (IP Code); IEC 60529-2001 COR 1 2003, Against Ingress of Solid Foreign Objects, (IP-Code), IP1x, IP2x, IP3x, IP4x
<b>Immersion</b>	DEF STAN 00-35 Section 3 Test CL29; IEC 60529 and rev. 2001,2003, Temporary Immersion IPx7, IPx8; IEC 60945 Paragraph 8.9, Immersion; ISO 16750-4:2006(E) Paragraph 5.4.3; ISO 20653 and rev. 2006 Degrees of Protection (IP-Code), IPx7, IPx8; MIL-STD-810 and rev. C/D/E/F/G/H Method 512
<b>Pressure Cooker</b>	IPC-TM-650; IPC-TM-650, Test Number 2.6.16.1
<b>Rain (Water Test)</b>	EN 50125 (2003), Paragraph 4.6, Rain; EN 50130-5 Section 16 Ingress of Water (Operational); EN 50130-5:1998 Section 16 Ingress of Water (Operational); IEC 68-2-18; IEC 60068-2-18, Test Rb2; IEC 60601-1-11 Paragraph 8.3.1 Falling Water (IPx1); IEC 60529-2001 COR 1 2003, Drip Box IPx1, Paragraph 14.2.1; IEC 60529-2001 COR 1 2003, Drip Box IPx2, Paragraph 14.2.2; IEC 60529-2001 COR 1 2003, Oscillating Tubes IPx3, Paragraph 14.2.3a; IEC 60529-2001 COR 1 2003, Spray Nozzle IPx3, Paragraph 14.2.3b; IEC 60529-2001 COR 1 2003, Oscillating Tubes IPx4, Paragraph 14.2.4a; IEC 60529-2001 COR 1 2003, Spray Nozzle IPx4, Paragraph 14.2.4b; IEC 60529-2001 COR 1 2003, Water Jet IPx5, Paragraph 14.2.5 & 14.2.6; IEC 60945 Paragraph 8.8, Rain & Spray; ISO 20653 Degrees of Protection (IP-Code); ISO 20653: 2006 Degrees of Protection (IP-Code), IPx1, IPx2, IPx3, IPx4, IPx4K, IPx5, IPx6, IPx6K, IPx9K; MIL-STD-108, Splashproof; MIL-STD-108E, Splashproof, Paragraph 4.9

**Test:**

**Test Method(s):**

**Salt Fog (Spray)**

*Physical Size*

*W78xD68xH110*

*cm*

ASTM B117;  
DEF STAN 00-35 Section 4 Test CN2;  
EN 50130-5 Section 18, Salt Mix Cycling (Endurance);  
EN 50130-5:1998 Section 18, Salt Mix Cycling (Endurance);  
EN 50155 (2007), Paragraph 12.2.10, Salt Mist;  
EN 50155 (2017), Paragraph 13.4.10, Salt Mist;  
DNV 2.4 (2006) Paragraph 3.10, Salt Mist;  
IEC 68-2-11, Test Ka, Salt Fog, Corrigendum 1999;  
IEC 68-2-52, IEC 60068-2-52, Test Kb, Salt Fog, Cyclic;  
IEC 60945 Paragraph 8.12, Corrosion (Salt Mist);  
ISO 16750-4:2006(E) Paragraph 5.5.1, 5.5.2;  
GMW 14872 Cyclic Corrosion Laboratory Test – November 2006;  
GR-3108-CORE, Issue 3, Paragraph 6.2 Salt Fog Exposure;  
GR-487-CORE, Issue 2, Paragraph 3.34.1 Salt Fog;  
GR-950-CORE, Issue 2, Paragraph 6.5.7 Test B, Salt Fog;  
MIL-STD-202 Method 101;  
MIL-STD-202F/G Method 101, Test Condition A & B;  
MIL-STD-810 Method 509;  
MIL-STD-810C/D/E/F/G/H Method 509, Procedure I;  
MIL-STD-883 Method 1009;  
MIL-STD-883E/F Method 1009, Test Condition A, B, C, F;  
MIL-STD-1344 Method 1001;  
MIL-STD-1344A Method 1001.1, Test Condition A, B, C, D;  
RTCA DO-160 Section 14;  
RTCA DO-160D Section 14;  
RTCA DO-160E/F/G Section 14;  
ISO 9022-4 Salt Mist

**Thermal Shock**

Temp. range:

-60°C to +120°C

Three Zone

Chamber

Cart size:

60x60x60 cm

DEF STAN 00-35 Section 3 Test CL14;  
GR-1221-CORE, Paragraph 6.2.7, Thermal Shock;  
IEC 60601-1-11 Paragraph 4.2.3 Thermal Shock;  
GR-487-CORE, Issue 2, Paragraph 3.27, Thermal Shock;  
IEC 60945 Paragraph 8.5, Thermal Shock;  
ISO 16750-4:2006(E) Paragraph 5.3.2;  
MIL-STD-202 Method 107 Thermal Shock;  
MIL-STD-202F/G Method 107, Test Condition A, A-1, A-2, A-3, Thermal Shock;  
MIL-STD-202F/G Method 107, Test Condition B, B-1, B-2, B-3, Thermal Shock;  
MIL-STD-202F/G Method 107, Test Condition F, F-1, F-2, F-3, Thermal Shock;  
MIL-STD-202 Method 107 Thermal Shock;  
MIL-STD-810C/D/E/F Method 503, Procedure I, Thermal Shock;  
MIL-STD-810F Method 503.4, Procedure II, Thermal Shock;  
MIL-STD-810G/H Method 503.5/6/7, Procedure I-A, I-B, I-C, I-D Thermal Shock;  
MIL-STD-883 Method 1010, Thermal Shock;  
MIL-STD-883E Method 1010.7, Test Condition A, B, C, F, Thermal Shock;  
MIL-STD-883F Method 1010.7, Test Condition A, B, C, Thermal Shock;  
QM-333, Paragraph 9.0, Category A, B, C, D, Thermal Shock;  
UN Transport of Dangerous Goods 38.3.4, Test T.2, Thermal Test



<b><u>Test:</u></b>	<b><u>Test Method(s):</u></b>
<b>Dust</b>	EN 50130-5, Section 26 Dust (Endurance); EN 50130-5:1998, Section 26 Dust (Endurance); IEC 60068-2-68, Test L, Dust & Sand; IEC 60068-2-68 1ed 94, Test L, Dust & Sand; IEC 60529-2001, COR 1 2003, Degrees of Protection Provided by Enclosures (IP Code); IEC 60601-1-11, Paragraph 8.3.1, Ingress Protection (IP2x); ISO 20653 Degrees of Protection (IP-Code), IP5Kx, IP6Kx; ISO 20653: 2006 Degrees of Protection (IP-Code), IP5Kx, IP6Kx; RTCA DO-160, Section 12
<b>Icing</b>	RTCA DO-160D/E, Section 24, Category A, C; ISO 16750-4:2006(E) Paragraph 5.4.2

**GMW 3172 General Specification Electrical/Electronic**

***Temperature Paragraph***

- 8.4.2 Low Temperature Wakeup
- 9.4.1 High Temperature Degradation
- 9.4.9 Minimum Non-Operating Temperature
- 9.3.1.6 Thermal Cycle Profile Used During All Vibration Tests

***Low Pressure Paragraphs***

- 7.4.1 High Altitude Operation Overheating Analysis.

***Thermal Shock Paragraphs***

- 9.4.2 Thermal Shock Air-To-Air (TS).
- 9.4.3 Power Temperature Cycle (PTC).
- 9.4.4 Thermal Shock/Water Splash

***Humidity Paragraphs***

- 9.4.5 Humid Heat Cyclic (HHC).
- 9.4.6 Humid Heat Constant (HHCO).

***Icing Paragraphs***

- 8.4.3 Frost.
- 9.5.5 Water Freeze

***Salt Fog Paragraph***

- 9.4.7 Salt Mist
- 9.4.8 Salt Spray.

***Dust Paragraph***

- 9.5.1 Dust.

***Water Paragraph***

- 9.5.2 Water.
- 9.5.3 Seal.
- 9.5.4 Leakage Check

***Sugar Water Paragraph***

- 9.5.6 Sugar Water Function Impairment.



# Accredited Laboratory

A2LA has accredited

## QUALITECH

*Petah-Tikva, Israel*

for technical competence in the field of

## Mechanical 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 15<sup>th</sup> day of July 2024.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 1633.02  
Valid to June 30, 2026

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