SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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MECHANICAL

Valid to: May 31, 2023 Certificate Number: 0839.04

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following environmental tests on radio, telecom, and medical devices:

Test Technology:	**Test Method(s)[1]:**
Telecommunication Equipment	
Environmental Conditions and Environmental Tests for Telecommunications Equipment	ETSI EN 300 019-2-0 V2.1.2 (2003-09); ETSI EN 300 019-2-1 V2.1.2 (2000-09); ETSI EN 300 019-2-1 V2.2.1 (2014-10); ETSI EN 300 019-2-1; ETSI EN 300 019-2-2 V2.1.2 (1999-09); ETSI EN 300 019-2-2 V2.3.1 (2013-04); ETSI EN 300 019-2-2; ETSI EN 300 019-2-3 V2.2.2 (2003-04); ETSI EN 300 019-2-3 V2.4.1 (2015-12); ETSI EN 300 019-2-3; ETSI EN 300 019-2-4 V2.2.2 (2003-04); ETSI EN 300 019-2-4 V2.4.1 (2015-12); ETSI EN 300 019-2-4; ETSI EN 300 019-2-5 V3.0.0 (2002-12); ETSI EN 300 019-2-6 V3.0.0 (2002-12); ETSI EN 300 019-2-7 V3.0.1 (2003-04); ETSI EN 300 019-2-8 V2.1.2 (1999-09); ETSI EN 300 019-2-8
Generic Standards	
Guidance for the Correlation and Transformation of Environmental Condition Classes of IEC 60721-3 to the Environmental Tests of IEC 60068	IEC 60721-4-1; IEC 60721-4-2; IEC 60721-4-3: IEC 60721-4-4; IEC 60721-4-5; IEC 60721-4-7
Basic Requirements: Atmospheric Conditioning, Compression, Fixed Displacement or Random Vibration and shock testing	ISTA 2A
Alarm systems - Part 5: Environmental test methods	EN 50130-5:98; EN 50130-5:11

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Test Technology:	**Test Method(s)[1]:**
Generic Standards (cont.)	
Operating conditions – Section 2: Environmental conditions (climatic, mechanical and other non-electrical influences)	IEC 60870-2-2
Altitude & Pressure	
Network Equipment - Building System (NEBS) requirements: Physical Protection, Clause 5.1.3 – Operating Altitude	GR-63-CORE:06
Environmental Testing - Part 2: Tests - Test M: Low Air Pressure	IEC 60068-2-13
Environmental Engineering Considerations and Laboratory Tests:	
Method 500 Procedure I/II Method 504 Procedure I Method 518.1 Procedure I	MIL-STD 810B:67 + Notice 1:69 + Notice 2:69 + Notice 3:70 + Notice 4:70
Method 500.1 Procedure I/II Method 504.1 Procedure I Method 518.1 Procedure I	MIL-STD 810C:75 + Notice 1:81
Method 500.2 Procedure I/II/III Method 520.0 Procedure III	MIL-STD 810D:83 + Notice 1:86
Method 500.3 Procedure I/II/III Method 520.1 Procedure III	MIL-STD 810E:89 + Notice 1:90 + Notice 2:93 + Notice 3:95
Method 500.4 Procedure I/II/III Method 520.2 Procedure III	MIL-STD 810F:00 + Notice 1:00 + Notice 2:02 + Notice 3:03
Method 500.5 Procedure I/II/III Method 520.3 Procedure III	MIL-STD 810G:08
Method 500.6 Procedure I/II/III Method 520.4 Procedure III	MIL-STD-810G_CHG-1:2014
Methods 500.6 Procedure I/II/III Method 520.5 Procedure III	MIL-STD-810H:2019
Section 4.0 Temperature and Altitude test	RTCA DO-160C:89+CHG1:90+CHG2:92+CHG3:93; RTCA/DO-160D:97 + CHG1:00 + CHG2:01 + CHG3:02; RTCA/DO-160E:04; RTCA/DO-160F:07; RTCA/DO-160G:10 + CHG1:14
Environmental Handbook for Defence Material; Section 3: Chapters: 9, 11-13, 15, 20	DEF STAN 00-35, Part 3, Issue 4:06
Environmental Handbook for Defence Material; Section 3: Chapters: 9, 11-13, 15, 20	DEF STAN 00-035, Part 3, Issue 5:17
IEEE Standard Environmental and Testing Requirements for Communications Networking Devices Installed in Electric Power Substations. Section 3.3: Altitude	IEEE Std 1613:09 + A1:11
Communication Networks and Systems in Substations - Part 3: General Requirements. Clause: 5.4 Barometric Pressure	IEC 61850-3
Medical Electrical Equipment Selected clauses (4.2.2c, 4.2.2d)	IEC 60601-1-11:10

Test Technology:	**Test Method(s)[1]:**
Altitude & Pressure (cont.)	
Medical Electrical Equipment Selected clauses (4.2.3.1d, 4.2.3.1e)	IEC 60601-1-11
Standard Test Methods for Determining the Effects of High Altitude on Packaging Systems by Vacuum Method	ASTM D6653/D6653M – 01(R2010); ASTM D6653/D6653M
Railway applications — Electronic equipment used on rolling stock (Clause 4.3.1)	EN 50155:17
Temperature and Humidity	
Environmental Testing - Part 2: Tests - Test A: Cold	IEC 60068-2-1:90 + A2:94; IEC 60068-2-1
Environmental Testing - Part 2: Tests - Test B: Dry Heat	IEC 60068-2-2:74 + A1:93 + A2:94; IEC 60068-2-2
Environmental Testing - Part 2: Tests - Test N: Change of Temperature	IEC 60068-2-14:84 + A1:86; IEC 60068-2-14
Environmental Testing - Part 2-30: Tests - Test Db: Damp Heat, Cyclic (12 h + 12 h cycle)	IEC 60068-2-30:80 + A1:85; IEC 60068-2-30
Environmental Testing - Part 2: Tests - Test Z/AD: Composite Temperature/Humidity Cyclic Test	IEC 60068-2-38:74; IEC 60068-2-38
Environmental Testing Part 2: Tests - Test Cb: Damp Heat, Steady State, Primarily for Equipment	IEC 60068-2-56:88
Environmental Testing - Part 2-78: Tests - Test 2-78: Body Cab: Damp Heat, Steady State	IEC 60068-2-78:01; IEC 60068-2-78
Network Equipment – Building System (NEBS) Requirements: Physical Protection Clause 5.1.1.1/2/3; Clause 5.1.2	GR-63-CORE:06
Environmental Engineering Considerations and Laboratory Tests:	
Method 501, Procedure I/II Method 502, Procedure I Method 503, Procedure I Method 507, Procedures I/II/III/IV/V	MIL-STD 810B:67 + Notice 1:69 + Notice 2:69 + Notice 3:70 + Notice 4:70
Method 501.1, Procedure I/II Method 502.1, Procedure I Method 503.1, Procedure I Method 507.1, Procedures I/II/III/IV/V	MIL-STD 810C:75 + Notice 1:81
Method 501.2, Procedure I/II Method 502.2, Procedure I/II/III Method 503.2, Procedure I Method 507.2, Procedures I/II/III	MIL-STD 810D:83 + Notice 1:86
Method 501.3, Procedure I/II Method 502.3, Procedure I/II/III Method 503.3, Procedure I Method 507.3, Procedures I/II/III	MIL-STD 810E:89 + Notice 1:90 + Notice 2:93 + Notice 3:95

Test Technology:	**Test Method(s)[1]:**
Temperature and Humidity (cont.)	
Environmental Engineering Considerations and Laboratory Tests (*cont.*):	
Method 501.4, Procedure I/II Method 502.4, Procedure I/II/III Method 503.4, Procedure I/II Method 507.4, Procedure I	MIL-STD 810F:00 + Notice 1:00 + Notice 2:02 + Notice 3:03
Method 501.5, Procedure I/II Method 502.5, Procedure I/II/III Method 503.5, Procedure I Method 507.5, Procedure I/II	MIL-STD 810G:08
Method 501.6, Procedure I/II Method 502.6, Procedure I/II/III Method 503.6, Procedure I Method 507.6, Procedure I/II	MIL-STD-810G_CHG-1:2014
Method 501.7, Procedure I/II Method 502.7, Procedure I/II/III Method 503.7 Procedure I Method 507.6 Procedure I/II	MIL-STD-810H:2019
Section 5.0 Temperature Variation Test Section 6.0 Humidity Test	RTCA DO-160C:89+CHG1:90+CHG2:92+CHG3:93 RTCA/DO-160D: 97 + CHG1:00 + CHG2:01+ CHG3:02; RTCA/DO-160E:04; RTCA/DO-160F:07; RTCA/DO-160G:10 + CHG1:14
Preferred Atmosphere	ASTM D4332-01; ASTM D4332-01(2006)[1]; ASTM D4332
Accelerated Aging of Sterile Barrier Systems for Medical Devices	ASTM F1980-07(R2011); ASTM F1980
Standard Practice for Climatic Stressing of Packaging Systems for Single Parcel Delivery	ASTM F2825
Specification for Environmental Testing of Switching and Transmission Equipment at India Paragraph 8.0, Category A, B, C, D, Humidity Paragraph 10.0, Category A, B, C, D, Humidity Paragraph 6.0, Category A, B, C, D, Low Temperature Paragraph 7.0, Category A, B, C, D, High Temperature Paragraph 9.0, Category A, B, C, D, Thermal Shock	QM-333
Environmental Handbook for Defence Material; Section 3: Chapters: 1, 2, 4, 5, 7, 14, 21	DEF STAN 00-35 Part 3, Issue 4: 06
Environmental Handbook for Defence Material; Section 3: Chapters: 1, 2, 4, 5, 6, 7, 14, 21	DEF STAN 00-035, Part 3, Issue 5:17

Test Technology:	**Test Method(s)[1]:**
Temperature and Humidity (cont.)	
IEEE Standard Environmental and Testing Requirements for Communications Networking Devices Installed in Electric Power Substations. Section: 3.1: Usual service conditions	IEEE Std 1613:09 + A1:11
Communication Networks and Systems in Substations - Part 3: General Requirements. Clauses: 5.2 Temperature 5.3 Humidity	IEC 61850-3
Needle-based Injection Systems for Medical use - Requirements and Test Methods - Part 1: Needle-based Injection Systems. Sections: 10.2 Cool, standard and warm atmosphere testing 10.4 Life-cycle testing 10.6 Dry-heat and cold-storage testing 10.7 Damp-heat testing 10.8 Cyclical testing	ISO 11608-1
Pen-injectors for medical use - Part 4: Requirements and Test Methods for electronic and electromechanical pen-injectors. Sections: 6.1 Standard atmosphere 6.2 Cool atmosphere 6.3 Hot atmosphere 7.1 Preconditioning in dry heat atmosphere 7.2 Preconditioning in cold storage atmosphere 7.3 Preconditioning in cyclical atmosphere 7.9 Preconditioning for damp heat	ISO 11608-4
Medical Electrical Equipment Selected clauses (4.2.1, 4.2.2, 4.2.3)	IEC 60601-1-11:10
Medical Electrical Equipment Selected clauses (4.2.1, 4.2.2, 4.2.3.1, and 4.2.3.2)	IEC 60601-1-11
Railway applications — Electronic equipment used on rolling stock (Clauses 4.3.2, 4.3.3, 4.3.4, 4.3.7, 13.4.4, 13.4.5, 13.4.6, 13.4.7, 13.4.14)	EN 50155:17
Mechanical Shock	
Environmental Testing - Part 2: Tests - Test Ea and Guidance: Shock	IEC 60068-2-27:87; IEC 60068-2-27
Environmental Testing - Part 2: Tests - Test Eb and Guidance: Bump	IEC 60068-2-29:87
Environmental testing - Part 2: Tests - Test Eh: Hammer Tests	IEC 60068-2-75
Railway Applications – Rolling Stock Equipment - Shock and Vibration Tests	IEC 61373

Test Technology:	**Test Method(s)[1]:**
Mechanical Shock (cont.)	
Environmental Engineering Considerations and Laboratory Tests:	
Method 516 Procedure I/III/IV	MIL-STD 810B:67 + Notice 1:69 + Notice 2:69 + Notice 3:70 + Notice 4:70
Method 516.2 Procedure I/III/IV	MIL-STD 810C:75 + Notice 1:81
Method 516.3 Procedure I/II/V	MIL-STD 810D:83 + Notice 1:86
Method 516.4 Procedure I/II/V	MIL-STD 810E:89 + Notice 1:90 + Notice 2:93 + Notice 3:95
Method 516.5 Procedure I/II/V	MIL-STD 810F: 00 + Notice 1:00 + Notice 2:02 + Notice 3:03
Method 516.6 Procedure I/II/V	MIL-STD 810G:08
Method 516.7, Procedure I/II/V	MIL-STD-810G_CHG-1:2014
Method 516.8, Procedure I/II/V	MIL-STD-810H:2019
Section 7.0 Operational Shock and Crash Safety Test	RTCA DO-160C:89+CHG1:90+CHG2:92+CHG3:93; RTCA/DO-160D:97+CHG1:00+CHG2:01+CHG3:02; RTCA/DO-160E:04; RTCA/DO-160F:07; RTCA/DO-160G:10 + CHG1:14
Environmental Handbook for Defence Material; Section 2: Chapters: 03, 12	DEF STAN 00-35 Part 3, Issue 4:06
Environmental Handbook for Defence Material; Section 2: Chapters: 03, 12	DEF STAN 00-035, Part 3, Issue 5:17
IEEE Standard Environmental and Testing Requirements for Communications Networking Devices Installed in Electric Power Substations. Section: 9 Vibration and shock	IEEE Std 1613:09 + A1:11
Pen-injectors for Medical use - Part 4: Requirements and Test Methods for Electronic and Electromechanical Pen-injectors. Section: 7.6 Preconditioning by shock	ISO 11608-4
Medical electrical equipment Selected clauses (10.1.2a, 10.1.3a, 10.1.3b)	IEC 60601-1-11:10; IEC 60601-1-11
Railway applications — Electronic equipment used on rolling stock (Clauses 4.3.5, 13.4.11)	EN 50155:17
Vibration Testing	
Environmental Testing - Part 2: Tests - Test Fc: Vibration (Sinusoidal)	IEC 60068-2-6:95; IEC 60068-2-6
Basic Environmental Testing Procedures Part 2: Tests - Test Ee and Guidance: Bounce	IEC 60068-2-55:87; IEC 60068-2-55
Environmental Testing - Part 2: Tests - Test Fh: Vibration, Broad-band Random (Digital Control) and Guidance	IEC 60068-2-64:93; IEC 60068-2-64

Test Technology:	**Test Method(s)[1]:**
Vibration Testing (cont.)	
Network Equipment - Building System (NEBS) Requirements: Physical Protection Clause 5.4.2 - Office vibration Clause 5.4.3 - Transportation vibration	GR-63-CORE:06
Specification for Environmental Testing of Switching and Transmission Equipment at India Paragraph 12.0, Category A, B, C, D, Sine Vibration	QM-333
Environmental Engineering Considerations and Laboratory Tests:	
Method 514 Random Vibration Method 519.1, Gunfire Vibration	MIL-STD 810B:67 + Notice 1:69 + Notice 2:69 + Notice 3:70 + Notice 4:70
Method 514.2, Random Vibration Method 519.2, Gunfire Vibration	MIL-STD 810C:75 + Notice 1:81
Method 514.3, Random Vibration Method 519.3, Gunfire Vibration	MIL-STD 810D:83 + Notice 1:86
Method 514.4, Random Vibration Method 519.4, Gunfire Vibration	MIL-STD 810E:89 + Notice 1:90 + Notice 2:93 + Notice 3:95
Method 514.5, Random Vibration, Method 519.5, Gunfire Vibration	MIL-STD 810F:00 + Notice 1:00 + Notice 2:02 + Notice 3:03
Method 514.6, Random Vibration, Method 519.6, Gunfire Vibration Method 528, Mechanical Vibrations of Shipboard Equipment	MIL-STD 810G:08
Method 514.7, Random Vibration, Method 519.7, Gunfire Vibration Method 528.1, Mechanical Vibrations of Shipboard Equipment	MIL-STD-810G_CHG-1:2014
Method 514.8, Random Vibration, Method 519.8, Gunfire Vibration Method 528.1, Mechanical Vibrations of Shipboard Equipment	MIL-STD-810H:2019
Mechanical Vibrations of Shipboard Equipment	MIL-STD 167 -1A:05
Section 8.0 Vibration Test	RTCA DO-160C:89+CHG1:90+CHG2:92+CHG3:93 RTCA/DO-160D: 97 + CHG1:00 + CHG2:01 + CHG3:02; RTCA/DO-160E:04; RTCA/DO-160F:07; RTCA/DO-160G:10 + CHG1:14
Performance Testing of Shipping Containers and System	ASTM D4169-99[1]; ASTM D4169-08[1]; ASTM D4169-09; ASTM D4169-14; ASTM D4169
Vibration Testing	ASTM D999-01; ASTM D999 ASTM D4728-06(R2012); ASTM D4728

Test Technology:	**Test Method(s)[1]:**
Vibration Testing (cont.)	
Environmental Handbook for Defence Material; Section 2: Chapter: 01	DEF STAN 00-35 Part 3, Issue 4:06
Environmental Handbook for Defence Material; Section 2: Chapter: 01	DEF STAN 00-035, Part 3, Issue 5:17
IEEE Standard Environmental and Testing Requirements for Communications Networking Devices Installed in Electric Power Substations. Section: 9 Vibration and Shock	IEEE Std 1613:09 + A1:11
Communication networks and Systems in Substations - Part 3: General Requirements Section: 5.5 Mechanical and Seismic	IEC 61850-3
Needle-based Injection Systems for Medical use — Requirements and Test Methods — Part 1: Needle-based Injection Systems. Section: 10.9 Vibration Testing	ISO 11608-1
Pen-injectors for Medical use - Part 4: Requirements and Test Methods for Electronic and Electromechanical Pen-injectors. Section: 7.5 Preconditioning by Vibration	ISO 11608-4
Medical Electrical Equipment Selected Clauses (10.1.2b, 10.1.3c)	IEC 60601-1-11:10; IEC 60601-1-11:15+A1:20
Railway applications — Electronic equipment used on rolling stock (Clauses 4.3.5, 13.4.11)	EN 50155:17
Rain or Water (Immersion), Dust, and Salt Fog	
Environmental Testing - Part 2: Tests - Test Ka: Salt Mist	IEC 60068-2-11
Environmental Testing - Part 2: Tests - Test R and Guidance: Water	IEC 60068-2-18
Environmental Testing. Part 2: Tests - Test Kb: Salt Mist, Cyclic (Sodium Chloride solution)	IEC 60068-2-52:96; IEC 60068-2-52
Degrees of Protection Provided by Enclosure (IP Code)	IEC 60529:89 + A1:99 + A2:13 (*excluding IPX9*)
Enclosures for Electrical Equipment, Environmental Considerations (8.2, 8.3, 8.4.1.2, 8.6)	UL 50E
Environmental Testing - Part 2: Tests - Test L: Dust and Sand	IEC 60068-2-68
Medical Electrical Equipment Selected clauses (8.3.1)	IEC 60601-1-11:10; IEC 60601-1-11
Standard Practice for Operating Salt Spray (Fog) Apparatus	ASTM B117-11; ASTM B117-16; ASTM B117-18; ASTM B117

Test Technology:	**Test Method(s)[1]:**
Rain or Water (Immersion), Dust, and Salt Fog (cont.)	
Environmental Engineering Considerations and Laboratory Tests:	
Method 506, Rain, Method 509, Salt Fog, Method 510, Dust Test Method 512, Leakage (Immersion)	MIL-STD 810B:67 + Notice 1:69 + Notice 2:69 + Notice 3:70 + Notice 4:70
Method 506.1, Rain, Method 509.1, Salt Fog, Method 510.1, Dust (Fine Sand) Method 512.1, Leakage (Immersion)	MIL-STD 810C:75 + Notice 1:81
Method 506.2, Rain, Method 509.2, Salt Fog, Procedure I Method 510.2, Sand and Dust Method 512.2, Leakage (Immersion)	MIL-STD 810D:83 + Notice 1:86
Method 506.3, Rain, Method 509.3 Salt Fog, Method 510.3, Sand and Dust Method 512.3, Leakage (Immersion)	MIL-STD 810E:89 + Notice 1:90 + Notice 2:93 + Notice 3:95
Method 506.4, Rain, Method 509.4, Salt Fog, Method 510.4, Sand and Dust, Method 512.4, Immersion	MIL-STD 810F:00 + Notice 1:00 + Notice 2:02 + Notice 3:03
Method 506.5, Rain, Method 509.5, Salt Fog, Method 510.5, Sand and Dust, Method 512.5, Immersion	MIL-STD 810G:08
Method 506.6, Rain, Method 509.6, Salt Fog, Method 510.6, Sand and Dust, Method 512.6, Immersion	MIL-STD-810G_CHG-1:2014
Method 506.6, Rain, Method 509.7, Salt Fog, Method 510.7, Sand and Dust, Method 512.6, Immersion	MIL-STD-810H:2019
Section 10.0 Waterproofness Test, Section 12.0 Sand and Dust Test, Section 14.0 Salt Fog Test	RTCA DO-160C:89+CHG1:90+CHG2:92+CHG3:93 RTCA/DO-160D:97 + CHG1:00 + CHG2:01 + CHG3:02; RTCA/DO-160E:04; RTCA/DO-160F:07; RTCA/DO-160G:10 + CHG1:14
Pen-injectors for Medical use - Part 4: Requirements and Test Methods for Electronic and Electromechanical Pen-injectors. Section: 7.8 Preconditioning for Dust Test	ISO 11608-4
Environmental Handbook for Defence Material; Section 3: Chapters: 25-29	DEF STAN 00-35 Part 3, Issue 4:06

Test Technology:	**Test Method(s)[1]:**
Rain or Water (Immersion), Dust, and Salt Fog (cont.)	
Environmental Handbook for Defence Material; Section 3: Chapters: 25-29	DEF STAN 00-035, Part 3, Issue 5:17
Railway applications — Electronic equipment used on rolling stock (Sections 13.4.10 and 13.4.12)	EN 50155:17
Free Fall / Drop	
Environmental Testing - Part 2: Tests - Test Ec: Topple	IEC 60068-2-31:69 + A1:82; IEC 60068-2-31
Environmental Testing - Part 2: Tests - Test Ed: Free Fall (Procedure 1)	IEC 60068-2-32:75 + A1:88 + A2:90;
Network Equipment - Building System (NEBS) Requirements: Physical Protection - Clause 5.3.1 Handling Drop Tests - Packaging Equipment - Clause 5.3.2, Unpackaged Equipment Drop Test	GR-63-CORE:06
Environmental Engineering Considerations and Laboratory Tests	
Method 516.1, Shock, Procedure II, V	MIL-STD 810B:67 + Notice 1:69 + Notice 2:69 + Notice 3:70 + Notice 4:70
Method 516.2, Shock, Procedure II, V	MIL-STD 810C:75 + Notice 1:81
Method 516.3, Shock, Procedure IV, VI	MIL-STD 810D:83 + Notice 1:86
Method 516.4, Shock, Procedure IV, VI	MIL-STD 810E:89 + Notice 1:90 + Notice 2:93 + Notice 3:95
Method 516.5, Shock, Procedure IV, VI	MIL-STD 810F:00 + Notice 1:00 + Notice 2:02 + Notice 3:03
Method 516.6 Shock, Procedure IV, VI	MIL-STD 810G:08
Method 516.7 Shock, Procedure IV, VI	MIL-STD-810G_CHG-1:2014
Method 516.8 Shock, Procedure IV, VI	MIL-STD-810H:2019
Paragraph 13.0, Category A, B, C, D	QM-333
Handling Drop	ASTM D4169-99; ASTM D4169-08; ASTM D4169-09; ASTM D4169-14; ASTM D4169
Drop Test of Loaded Containers by Free Fall	ASTM D5276-98(R2017); ASTM D5276
Standard Test Methods for Rough Handling of Unitized Loads and Large Shipping Cases and Crates	ASTM D6179-07(R2014); ASTM D6179
Standard Test Method for Concentrated Impacts to Transport Packages	ASTM D6344
Standard test Method for Determining Compressive Resistance of shipping Containers, Components, and Unit Loads	ASTM D642-00; ASTM D642-15; ASTM D642
Communication Networks and Systems in Substations - Part 3: General Requirements Clause: 5.5 Mechanical and Seismic	IEC 61850-3

Test Technology:	**Test Method(s)[1]:**
Free Fall / Drop (cont.)	
Needle-based injection Systems for Medical use - Requirements and Test Methods - Part 1: Needle-based Injection Systems. Section: 10.5 Free-fall Testing	ISO 11608-1
Pen-injectors for Medical use - Part 4: Requirements and Test Methods for Electronic and Electromechanical Pen-injectors. Section: 7.4 Preconditioning by Free Fall	ISO 11608-4
Medical Electrical Equipment Selected clauses (10.1.3d)	IEC 60601-1-11:10; IEC 60601-1-11
Contamination by Fluids	
Method 504, Contamination by Fluids	MIL-STD 810F:00 + Notice 1:00 + Notice 2:02 + Notice 3:03
Method 504.1, Contamination by Fluids	MIL-STD 810G:08
Method 504.2, Contamination by Fluids	MIL-STD-810G_CHG-1:2014
Method 504.3, Contamination by Fluids	MIL-STD-810H:2019
Section 11.0 Fluids Susceptibility Test	RTCA DO-160C:89+CHG1:90+CHG2:92+CHG3:93; RTCA/DO-160D: 97 + CHG1:00 + CHG2:01 + CHG3:02; RTCA/DO-160E:04; RTCA/DO-160F:07; RTCA/DO-160G:10+ CHG1:14
Explosive Atmosphere	
Method 511 Explosive Atmosphere	MIL-STD 810B:67 + Notice 1:69 + Notice 2:69 + Notice 3:70 + Notice 4:70
Method 511.1 Explosive Atmosphere	MIL-STD 810C:75 + Notice 1:81
Method 511.2 Explosive Atmosphere	MIL-STD 810D:83 + Notice 1:86
Method 511.3 Explosive Atmosphere	MIL-STD 810E:89 + Notice 1:90 + Notice 2:93 + Notice 3:95
Method 511.4 Explosive Atmosphere	MIL-STD 810F:00 + Notice 1:00 + Notice 2:02 + Notice 3:03
Method 511.5 Explosive Atmosphere	MIL-STD 810G:08
Method 511.6 Explosive Atmosphere	MIL-STD-810G_CHG-1:2014
Method 511.7 Explosive Atmosphere	MIL-STD-810H:2019
Section 9.0 Explosive Proofness Test	RTCA DO-160C:89+CHG1:90+CHG2:92+CHG3:93 RTCA/DO-160D: 97 + CHG1:00 + CHG2:01 + CHG3:02; RTCA/DO-160E:04; RTCA/DO-160F:07; RTCA/DO-160G:10+ CHG1:14
Solar Radiation (Sunshine)	
Environmental Testing - Part 2-5: Tests - Test Sa: Simulated Solar radiation at Ground Level and Guidance for Solar Radiation Testing	IEC 60068-2-5:75; EN 60068-2-5:99; IEC 60068-2-5; EN 60068-2-5
Method 505, Procedure I	MIL-STD-810:62
Method 505.1, Procedure I	MIL-STD-810A:64
Method 505, Procedure I, II	MIL-STD-810B:67 + Notice 1:69 + Notice 2:69 + Notice 3:70 + Notice 4:70
Method 505.1, Procedure I, II	MIL-STD 810C:75 + Notice 1:81

Test Technology:	**Test Method(s)[1]:**
Solar Radiation (Sunshine) (cont.)	
Method 505.2, Procedure I, II	MIL-STD 810D:83 + Notice 1:86
Method 505.3, Procedure I, II	MIL-STD 810E:89 + Notice 1:90 + Notice 2:93 + Notice 3:95
Method 505.4, Procedure I, II	MIL-STD 810F:00 + Notice 1:00 + Notice 2:02 + Notice 3:03
Method 505.5, Procedure I, II	MIL-STD 810G:08
Method 505.6, Procedure I, II	MIL-STD-810G_CHG-1:2014
Method 505.7, Procedure I, II	MIL-STD-810H:2019
Paragraphs 24, 25 Simulated Solar Radiation	EN 50130-5:98; EN 50130-5
Acceleration	
Method 513, 513.1, Procedure I, II	MIL-STD-810B:67 + Notice 1:69 + Notice 2:69 + Not 3:70 + Notice 4:70
Method 513.2, Procedure I, II	MIL-STD 810C:75 + Notice 1:81
Method 513.3, Procedure I, II (centrifuge)	MIL-STD 810D:83 + Notice 1:86
Method 513.4, Procedure I, II (centrifuge)	MIL-STD 810E:89 + Notice 1:90 + Notice 2:93 + Not 3:95
Method 513.5, Procedure I, II (centrifuge), III	MIL-STD 810F:00 + Notice 1:00 + Notice 2:02 +Noti 3:03
Method 513.6, Procedure I, II (centrifuge), III	MIL-STD 810G:08
Method 513.7, Procedure I, II (centrifuge), III	MIL-STD-810G_CHG-1:2014
Method 513.8, Procedure I, II (centrifuge), III, IV	MIL-STD-810H:2019
Section 7.0 Operational Shock and Crash Safety Test (7.3.3)	RTCA DO-160C:89+CHG1:90+CHG2:92+CHG3:93; RTCA/DO-160D: 97 + CHG1:00 + CHG2:01 +CHG3:02; RTCA/DO-160E:04; RTCA/DO-160F:07; RTCA/DO-160G:10+ CHG1:14
Icing	
Method 521.0 Icing/Freezing Rain	MIL-STD 810D:83 + Notice 1:86
Method 521.1 Icing/Freezing Rain	MIL-STD 810E:89 + Notice 1:90 + Notice 2:93 + Notice 3:95
Method 521.2 Icing/Freezing Rain	MIL-STD 810F:00 + Notice 1:00 + Notice 2:02 + Notice 3:03
Method 521.3 Icing/Freezing Rain	MIL-STD 810G:08
Method 521.4 Icing/Freezing Rain	MIL-STD-810G_CHG-1:2014
Method 521.4 Icing/Freezing Rain	MIL-STD-810H:2019
Section 24.0 Icing	RTCA DO-160C:89+CHG1:90+CHG2:92+CHG3:93 RTCA/DO-160D: 97 + CHG1:00 + CHG2:01 + CHG3:02; RTCA/DO-160E:04; RTCA/DO-160F:07; RTCA/DO-160G:10+ CHG1:14

Test Technology:	**Test Method(s)[1]:**
Highly Accelerated Life Test	
Cold Temperature Steps Hot Temperature Steps Rapid Temperature Changes Random Vibration - 3 Axis Combined Temperature and Vibration Highly Accelerated Stress Screening (HASS) Stress Profile Definition	GM Worldwide Engineering Standards Test Procedure Analysis GMW8287

[1] Note: 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 part C., Section 1 of A2LA *R101 - General Requirements-Accreditation of ISO-IEC 17025 Laboratories*.

Accredited Laboratory

A2LA has accredited

HERMON LABORATORIES

Binyamina, 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 15th day of September 2021.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0839.04
Valid to May 31, 2023

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