

# Schedule

Element Testing Services (S) Pte Ltd  
Block 4010  
Ang Mo Kio Ave 10 Techplace 1  
#01-11 & #03-12  
Singapore 569626

Certificate No. : LA-2022-0817-E  
Issue No. : 4  
Date : 29 December 2023  
Expiry of Certificate : 04 February 2026  
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FIELD OF TESTING : Electrical Testing

MATERIALS / PRODUCTS TESTED	TESTS / PROPERTIES	STANDARD METHODS / TECHNIQUES / EQUIPMENT
Any Electronic Products or Components	1. Vibration Testing	<p>MIL-STD-810C Method 514.2 Method 516.2, applicable only to:</p> <ul style="list-style-type: none"> <li>• Procedure 1 &amp; 5 (for terminal peak sawtooth pulse)</li> <li>• Procedure 2, trapezoidal pulse up to 50g, 10 ms</li> </ul> <p>MIL-STD-810D Method 514.3 Method 516.3, applicable only to:</p> <ul style="list-style-type: none"> <li>• Procedure 1 &amp; 5 (for terminal peak sawtooth pulse)</li> <li>• Procedure 2, trapezoidal pulse up to 50g, 10 ms</li> </ul> <p>MIL-STD-810E Method 514.4 Method 516.4, applicable only to:</p> <ul style="list-style-type: none"> <li>• Procedure 1 &amp; 5 (for terminal peak sawtooth pulse)</li> <li>• Procedure 2, trapezoidal pulse up to 50g, 10 ms</li> </ul> <p>MIL-STD-810F Method 514.5 Method 516.5, applicable only to:</p> <ul style="list-style-type: none"> <li>• Procedure 1 &amp; 5 (for terminal peak sawtooth pulse)</li> <li>• Procedure 2, trapezoidal pulse up to 50g, 10 ms</li> </ul> <p>MIL-STD-810G Method 514.6 - Vibration Method 516.6 – Shock, applicable only to:</p> <ul style="list-style-type: none"> <li>• Procedure 1 &amp; 5 (for terminal peak sawtooth pulse)</li> <li>• Procedure 2, trapezoidal pulse up to 50g, 10 ms</li> </ul>

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MATERIALS / PRODUCTS TESTED	TESTS / PROPERTIES	STANDARD METHODS / TECHNIQUES / EQUIPMENT
	Vibration Testing (Continue)	MIL-STD-810H Method 514.8 – Vibration Method 516.8 – Shock, applicable only to: • Procedure 1 & 5 (for terminal peak sawtooth pulse) • Procedure 2, trapezoidal pulse up to 50g, 10 ms  MIL-STD-202H Method 213B (up to 100g at vertical configuration only) Method 201A Method 204D (all tests except F) Method 214A (test condition up to G)  MIL-STD-883G Method 2026 (random vibration, test condition A to K)  IEC 60068-2-6: 2007 Test Fc : Vibration (Sinusoidal) IEC 60068-2-27: 2008 Test Ea : Shock  RTCA / DO-160D & G Section 7 – Operational Shock Section 8 – Vibration  MIL-STD-167-1A Mechanical Vibrations of shipboard equipment (Type I - Environmental Vibration), *Min starting frequency 5 Hz  ISTA Procedure 3A: 2018 (Vibration) ISTA Procedure 1A, 2A: 2014-16, 2011-12 (Vibration)  ETSI EN 300019-2-3 (Stationary use at weather protected locations) *min starting frequency 5 Hz  GMW 3172: 2014 *Min starting frequency 5 Hz  IEC 61373 CORRIGENDUM 1 Edition 2 Year 2010 *Min starting frequency 5 Hz

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	<p>2. Climatic Testing (-50 °C to 150 °C)</p> <p>Burn-in Testing (up to 200 °C only)</p>	<p>MIL-STD-810C Method 501.1 High Temperature (RH 10 % or higher) Method 502.1 Low Temperature Method 507.1 Humidity</p> <p>MIL-STD-810D Method 501.2 High Temperature (RH 10 % or higher) Method 502.2 Low Temperature Method 507.2 Humidity</p> <p>MIL-STD-810E Method 501.3 High Temperature (RH 10 % or higher) Method 502.3 Low Temperature Method 507.3 Humidity</p> <p>MIL-STD-810F Method 501.4 High Temperature (RH 10 % or higher) Method 502.4 Low Temperature Method 507.4 Humidity</p> <p>MIL-STD-810G Method 501.5 - High Temperature (RH 10 % or higher) Method 502.5 - Low Temperature Method 503.5 - Temperature Shock Method 507.5 – Humidity</p> <p>MIL-STD-810H Method 501.7 - High Temperature (RH 10 % or higher) Method 502.7 - Low Temperature Method 503.7 - Temperature Shock Method 507.6 – Humidity</p> <p>IEC 60068-2-1: 2007 (Cold Test A) IEC 60068-2-2: 2007 (Dry Heat, steady state) IEC 60068-2-3: 1969 (Damp Heat, steady) IEC 60068-2-14: 2023 (only for Test Na) IEC 60068-2-30: 2005 (Damp Heat, cyclic) IEC 60068-2-78: 2012 (Damp Heat, steady state Test Cab)</p>

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MATERIALS / PRODUCTS TESTED	TESTS / PROPERTIES	STANDARD METHODS / TECHNIQUES / EQUIPMENT
	Climatic Testing (Continue)	RTCA / DO – 160D Section 5 : Temperature Variation Section 6 : Humidity  ISTA Procedure 1A, 2A: 2014-16, 2011-12 (climatic)  MIL-STD-202H Method 106G Moisture Resistance Method 103B Humidity (steady state) Method 108A Life Elevated Temperature (up to 200 °C)
	3. Dust Testing	IEC 60529:1989/AMD2:2013/COR1:2019 5X IEC 60529:1989/AMD2:2013/COR1:2019 6X (with under pressure)
	4. Water Ingress Protection Testing	IEC 60529:1989/AMD2:2013/COR1:2019 IP X3 IEC 60529:1989/AMD2:2013/COR1:2019 IP X4 IEC 60529:1989/AMD2:2013/COR1:2019 IP X5 IEC 60529:1989/AMD2:2013/COR1:2019 IP X6 IEC 60529:1989/AMD2:2013/COR1:2019 IP X7 IEC 60529:1989/AMD2:2013/COR1:2019 X8
	5. Drop Testing (Free Fall - up to 45 kg)	IEC 60068-2-31: 2008 ISTA Procedure 3A: 2018 ISTA Procedure 1A, 2A: 2014-16, 2011-12

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## Approved Signatories:

- Mr Edward Choong – All tests
- Mr Alvin Teo – For item 1
- Mr Gary Soon – For item 1
- Mr Ryan Chua – For item 2
- Mr Dennis Tan – For item 2, 3, 4 and 5
- Ms Winnie Tan – For item 2, 3, 4 and 5

## Note :

This laboratory is accredited in accordance with the recognised International Standard ISO/IEC 17025. A laboratory's fulfilment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and **management system requirements** that are necessary for it to consistently deliver technically valid test results. The **management system requirements** in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001.