


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

 <p><b>0115</b> Accredited to <b>ISO/IEC 17025:2017</b></p>	<h3>API Microelectronics Ltd</h3> <p><b>Issue No: 038    Issue date: 11 January 2022</b></p>	
	<p><b>Test House Services</b> South Denes Great Yarmouth Norfolk NR30 3PX</p>	<p><b>Contact: Mr J Ellero</b> Tel: +44 (0)1493 743149 Fax: +44 (0)1493 856133 E-Mail: john.ellero@apitech.com Website: <a href="http://micro.apitech.co.uk">http://micro.apitech.co.uk</a></p>

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### DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<p>AEROSPACE EQUIPMENT</p> <p>ELECTRICAL/ELECTRONIC COMPONENTS</p> <p>ELECTRICAL/ELECTRONIC CONNECTORS</p> <p>ELECTRICAL/ELECTRONIC PRODUCTS</p> <p>ELECTRO-MECHANICAL DEVICES</p> <p>MICRO-ELECTRONIC CIRCUITS AND COMPONENTS</p> <p>MISSILE COMPONENTS</p> <p>MOTOR VEHICLE ACCESSORIES AND COMPONENTS</p>	<p><b>ENVIRONMENT TESTS</b> (non-explosive items)</p> <p><b>CLIMATIC - Single Parameters</b></p> <p>HIGH TEMPERATURE Max temp: +250 °C Max chamber size: 0.6 m x 0.6 m x 0.4 m</p> <p>LOW TEMPERATURE Min temp: -80 °C Max chamber size: 1 m x 0.6 m x 0.4 m</p>	<p>BS EN 60068-2-2:2007 Tests Ba, Bb</p> <p>IEC 68-2-2:1974 (1976)</p> <p>MIL-STD 202H:2015 Method 108</p> <p>MIL-STD 202G:2002 Method 108A</p> <p>MIL-STD 883L:2019</p> <p>TM1005.11</p> <p>MIL-STD 810H:2019 Method 501.7</p> <p>MIL-STD 810G:CN1:2014 Method 501.6</p> <p>MIL-STD 810G:2008 Method 501.5</p> <p>MIL-STD 810F:2000 Method 501.4</p> <p>MIL-STD 810E:1989 Method 501.4</p> <p>BS EN 60068-2-1:2007 Tests Aa, Ab</p> <p>IEC 68-2-1:1990</p> <p>MIL-STD 810H:2019 Method 502.7</p> <p>MIL-STD 810G:CN1:2014 Method 502.6</p> <p>MIL-STD 810G:2008 Method 502.5</p> <p>MIL-STD 810F:2000 Method 502.4</p> <p>MIL-STD 810E:1989 Method 502.3</p>



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As listed on Page 1	<p><b>ENVIRONMENT TESTS</b> (non-explosive items) (cont'd)</p> <p><b>CLIMATIC - Single Parameters</b> (cont'd) TEMPERATURE CHANGE (Thermal Shock)</p> <p>Rapid - Air to Air Temp range: -70 °C to +200 °C Max chamber size: 0.6 m x 0.6 m x 0.4 m</p> <p>Gradual Temp range: -70 °C to +200 °C Max chamber size: 0.5 m x 0.5 m x 0.3 m</p> <p>Rapid - Liquid to Liquid Temp range: -74 °C to +160 °C Max chamber size: 0.15 m x 0.15 m x 0.15 m</p> <p>HIGH HUMIDITY - steady state Temp range: +10 °C to +85 °C Humidity range: 10 % rh to 98 % rh Max chamber size: 0.7 m x 0.5 m x 0.8 m</p>	<p>BS EN 60068-2-14:2009 BS EN 60068-2-14:2000 Tests Na, Nb, Nc MIL-STD 202H:2015 Method 107G MIL-STD 750:1A CN2:2016 Methods 1051.9, 1056.8 MIL-STD 750D:1995 Methods 1051.5, 1056.7 MIL-STD 810H:2019 Method 503.7 MIL-STD 810G:CN1:2014 Method 503.6 MIL-STD 810G:2008 Method 503.5 MIL-STD 810F:2000 Method 503.4 MIL-STD 810E:1989 Method 503.3 MIL-STD 883L:2019 Methods 1010.9, 1011.9 MIL-STD 883G:2006 Methods 1010.8, 1011.9 JESD22-A104F November 2020</p> <p>BS EN 60068-2-78:2013 Cab IEC 68-2-56:1988 MIL-STD 202H:2015 Method 103</p>



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As listed on Page 1	<p><b>ENVIRONMENT TESTS (cont'd)</b></p> <p><b>CLIMATIC - Single Parameters (cont'd)</b> HIGH HUMIDITY - cyclic Temp range: +10 °C to +85 °C Humidity range: 10 % rh to 98 % rh Max chamber size: 0.6 m x 0.6 m x 0.4 m</p> <p><b>PRESSURE, LOW</b> Min pressure: 1000 Pa (equiv altitude 31,200 m) Max chamber size: 0.3 m x 0.2 m x 0.2 m</p>	<p>BS EN 60068-2-30:1999 BS EN 60068-2-30:2005 MIL-STD 202H:2015 Method 106 MIL-STD 202F:1980 Method 106F MIL-STD 750:1A CN2:2016 Method 1021.4 MIL-STD 750D:1995 Method 1021.2 MIL-STD 810H:2019 Method 507.7 MIL-STD 810:CN1:2014 Method 507.6 MIL-STD 810G:2008 Method 507.5 MIL-STD 810F:2000 Method 507.4 MIL-STD 810E:1989 Method 507.3 MIL-STD 883L:2019 Method 1004.7</p> <p>BS EN 60068-2-13:1999 MIL-STD 202H:2015 Method 105 MIL-STD 750:1A CN2:2016 Method 1001.4 MIL-STD 750D:1995 Method 1001.1 MIL-STD 750E:2006 Method 1001.2 MIL-STD 810H:2019 Method 500.6 MIL-STD 810G:CN2:2014 Method 500.6 MIL-STD 810G:2008 Method 500.5 MIL-STD 810F:2000 Method 500.4 MIL-STD 810E:1989 Method 500.3 MIL-STD 883L:2019 Method 1001</p>



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As listed on Page 1	<p><b>ENVIRONMENT TESTS</b> (non-explosive items) (cont'd)</p> <p><b>DYNAMIC - Single Parameters</b></p> <p>VIBRATION - sinusoidal Freq range: 5 to 5000 Hz Peak thrust: 7.6 kN Max pk/pk displacement: ± 12.5 mm Slip table: 0.61 m x 0.61 m Temp range: -55°C to +150°C - including cyclic</p> <p>Chamber size: 0.4 m x 0.4 m x 0.3 m</p> <p>Freq range: 2 to 2500 Hz Peak thrust: 20 kN Max pk/pk displacement: ± 25 mm Slip table: 0.7 m x 0.7 m</p> <p>VIBRATION - random Freq range: 5 to 4000 Hz RMS thrust: 6 kN Max pk/pk displacement: ± 12.5 mm Slip table: 0.61 m x 0.61 m Temp range: -55 °C to +150 °C - including cyclic Chamber size: 0.4 m x 0.4 m x 0.3 m</p> <p>Freq range: 2 to 2500 Hz RMS thrust: 20 kN Max pk/pk displacement: ± 25 mm Slip table: 0.7 m x 0.7 m</p>	<p>BS EN 60068-2-6:2008 BS EN 60068-2-50:2000 BS EN 60068-2-51:2000 MIL-STD 202H:2015 Method 201, 204 MIL-STD 750:1A CN2:2016 Method 2046.2, 2051.1, 2056.3,2057.4 MIL-STD 750D:1995 Methods 2046.1, 2051.1, 2056, 2057.1 MIL-STD 810H:2019 Method 514.8 MIL STD 810G:CN1:2014 Method 514.7 MIL STD 810G:2008 Method 514.6 MIL STD 810F:2000 Method 514.5 MIL-STD 810E:1989 Method 514.4 MIL-STD 883L:2019 Method 2007.3 EIA 364-28E EIA 364-28F</p> <p>BS EN 60068-2-64:2008 MIL-STD 202H:2015 Method 214 MIL-STD 810H:2019 Method 514.8 MIL STD 810G:CN1:2014 Method 514.7 MIL-STD 810G:2008 Method 514.6 MIL-STD 810F:2000 Method 514.5 MIL-STD 810E:1989 Method 514.4 MIL-STD 883L:2019 Method 2026</p>



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As listed on Page 1	<p><b>ENVIRONMENT TESTS</b> (non-explosive items) (cont'd)</p> <p><b>DYNAMIC - Single Parameters</b> (cont'd)</p> <p><b>SHOCK</b> (half sine, sawtooth, trapezoidal, ambient temperature) Max severity: 30 000 g Max item mass: 22 kg Max item size: 0.2 m x 0.2 m x 0.2 m Temp range: -55 °C to +150 °C Chamber size: 0.4 m x 0.4 m x 0.3 m</p> <p><b>BUMP</b> (ambient temperature) Max item mass: 23 kg Max item size: 0.3 m x 0.3 m x 0.6 m Max severity: 40 g Temp range: -55 °C to +150 °C Chamber size: 0.4 m x 0.4 m x 0.3 m</p>	<p>BS EN 60068-2-27:2009 MIL-STD 202H:2015 Method 213 MIL-STD 750:1A CN2:2016 Method 2016.2 MIL-STD 750D:1995 Method 2016.2 MIL-STD 810H:2019 Method 516.8 MIL-STD 810G:CN1:2014 Method 516.7 MIL-STD 810G:2008 Method 516.6 MIL-STD 810F:2000 Method 516.5 MIL-STD 810E:1989 Method 516.5 MIL-STD 883L:2019 Methods 2002.5 MIL-STD 1344A:1977 Method 2004.1</p> <p>BS EN 60068-2-29:1993 (w/drawn) BS EN 60068-2-27:2009</p>



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	<p><b>MISCELLANEOUS PARAMETERS</b></p> <p>RESISTANCE TO SOLVENTS/ CONTAMINATING FLUIDS</p> <p>Solvents and contamination fluids as specified</p>	<p>BS EN 60068-2-45:1993 MIL-STD 202H:CN1 2018 Method 215 MIL-STD 202H:2015 Method 215 MIL-STD 202F:1980 Method 215J MIL-STD 750:1A CN2:2016 Method 1022.7 MIL-STD 750D:1995 Method 1022.5 MIL-STD 883F:2004 Method 2015.12 MIL-STD 883G:2006 Method 2015.13 MIL-STD 883L:2019 Method 2015.14</p>



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ELECTRICAL/ELECTRONIC COMPONENTS, CONNECTORS AND PRODUCTS	<p><b>ELECTRICAL TESTS</b></p> <p>Insulation resistance</p> <p>DC Voltage: 1 mV to 1 kV up to 1TΩ</p> <p>AC Voltage: 1 mV to 200 V 200 V to 1 kV (45 Hz to 20 kHz)</p> <p>DC Current: 1 μA to 10 A</p> <p>AC Current: 1 μA to 2 A (45 Hz to 5 kHz) 2 A to 10 A (45 Hz to 1 kHz)</p> <p>DC Resistance: 100 μΩ to 20 MΩ 20 MΩ to 1 TΩ (1 V to 999 V)</p> <p>Capacitance: 200 pF to 1.9 F (100 Hz/120 Hz) up to 200 mF at 1 kHz up to 2000 μF at 10 kHz up to 20 μF at 100 kHz up to 2048 pF at 1 MHz</p> <p>Inductance: up to 1 kH (100 Hz/120 Hz) up to 6.4 kH at 1 kHz up to 20 H at 10 kHz up to 2 H at 100 kHz up to 2 mH at 1 MHz</p>	<p>MIL-STD 1344A:1977 Method 3003.1 MIL-STD 883L:2019 Method 1003</p> <p>Documented In-House Procedure QAP7:Issue 4:2021</p>



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ELECTRICAL/ELECTRONIC COMPONENTS, CONNECTORS AND PRODUCTS (cont'd)	<b>ELECTRICAL TESTS</b> (cont'd)  Dissipation factor: 0 to 1 (100 Hz to 100 kHz) 0 to 0.1 at 1 MHz  Conductance: 0.1 $\mu$ S to 100 S (100 Hz to 1 MHz)  Frequency: 5 Hz to 100 MHz	
END		