


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>0042</p> <p>Accredited to ISO/IEC 17025:2017</p>	<p>TT Electronics Integrated Manufacturing Services Limited t/a TT Cardiff Testing Solutions</p> <p>Issue No: 035 Issue date: 11 March 2021</p>	
	<p>Tregwilym Industrial Estate Rogerstone Newport Wales NP10 9YA</p>	<p>Contact: Huw Jones Tel: +44 (0)1443 290021 Fax: +44 (0)1633 892770 E-Mail: Huw.Jones@ttelelectronics.com Website: www.ttelelectronics.com</p>
<p>Testing performed at the above address only</p>		

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
<p>GENERAL NON-EXPLOSIVE MATERIALS AND EQUIPMENT including:</p> <p>AEROSPACE STRUCTURES, MATERIALS AND EQUIPMENT AGRICULTURAL EQUIPMENT COMPUTERS AND PERIPHERALS CONSTRUCTION PLANT, EQUIPMENT, PRODUCTS AND MATERIALS DOMESTICAL APPLIANCES ELECTRICAL/ELECTRONIC COMPONENTS, CONNECTORS AND PRODUCTS ELECTRO-MECHANICAL DEVICES HYDRAULIC EQUIPMENT AND FITTINGS MARINE EQUIPMENT MECHANICAL PRODUCTS AND PLANT MICRO-ELECTRONIC CIRCUITS AND COMPONENTS MINING COMPONENTS AND EQUIPMENT MOTOR VEHICLE COMPONENTS AND COMPONENTS OFFICE EQUIPMENT PRINTED CIRCUIT BOARDS AND ASSEMBLIES RADAR EQUIPMENT RADIO AND TV EQUIPMENT</p>	<p>ENVIRONMENTAL TESTS (non-explosive items)</p> <p>CLIMATIC Single Parameters</p> <p>HIGH TEMPERATURE Max temp: +300°C Max chamber size: 0.6 m x 0.6 m x 0.6 m</p> <p>LOW TEMPERATURE Min temp: -80°C Max chamber size: 0.4 m x 0.5 m x 0.7 m</p>	<p>BS EN 60068-2-2 : 2007 Test Bb BS EN 60068-2-2:1993 Tests Ba,Bb BS 2011:B:1977(1980) Tests Ba, Bb IEC 68-2-2:1974(1976) Tests Ba,Bb DEF STAN 00-35 Part 3 Issue 4 Test CL1 DEF STAN 07-55:1975 Test B1 MIL STD 202G :2002 Method 108A MIL-STD 202F:1980 Method 108A MIL STD 810G:2002 Method 501.5 MIL STD 810F:2000 Method 501.4 MIL-STD 810E:1989 Method 501.3 MIL-STD 1344A:1977 Method 1005.1 MIL-C 38999J 4.7.33.1 RTCA/DO-160 D / E & F Section 4</p> <p>BS EN 60068-2-1: 2007 Test Ab BS EN 60068-2-1:1993 Tests Aa, Ab BS 2011:A:1977 & 1990 Tests Aa, Ab IEC 68-2-1:1990 Test Aa, Ab DEF STAN 07-55:1975 Test B4 MIL STD 810G:2002 Method 502.5 MIL STD 810F Method 502.4</p>



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<p>GENERAL NON-EXPLOSIVE MATERIALS AND EQUIPMENT including: (cont'd)</p> <p>SAFETY APPLIANCE AND EQUIPMENT</p> <p>SATELLITES AND SUB-ASSEMBLIES</p> <p>SECURITY DEVICES AND ALARMS</p> <p>STRUCTURES AND COMPONENTS</p> <p>TELECOMMUNICATION EQUIPMENT</p>	<p>ENVIRONMENTAL TESTS (non-explosive items) (cont'd)</p> <p>CLIMATIC</p> <p>Single Parameters (cont'd)</p> <p>LOW TEMPERATURE (cont'd)</p> <p>TEMPERATURE CHANGE (Thermal Shock)</p> <p>Max temp: +300°C Chamber size: 0.6 m x 0.6 m x 0.6 m</p> <p>Min temp: -80°C Chamber size: 0.4 m x 0.5 m x 0.7 m</p>	<p>MIL-STD 810E:1989 Method 502.3</p> <p>MIL-C 38999J 4.7.39</p> <p>RTCA/DO-160 D / E & F, Section 4</p> <p>MIL STD 1344A:1977 Method 1002.2</p> <p>DEF STAN 00-35 Part 3 Issue 4 Test CL4</p> <p>BS EN 60068-2-14:2000 BS 2011:N:1985(1987) Tests Na, Nb, Nc</p> <p>IEC 68-2-14:1984 Tests Na, Nb, Nc</p> <p>DEF STAN 00-35 Part 3 Issue4 Test CL14</p> <p>DEF STAN 07-55:1975 Test B14</p> <p>MIL-STD 202F:1980 Method 107G</p> <p>MIL STD 810G:2008 Method 503.5</p> <p>MIL STD 810F:2000 Method 503.4</p> <p>MIL-STD 810E:1989 Method 503.3</p> <p>MIL STD 883G Methods 1010.8,1011.9</p> <p>MIL-STD 883D:1991 Methods 1010.7, 1011.9</p> <p>MIL-STD 1344A:1977 Method 1003.1</p> <p>MIL-C 38999J 4.7.4</p> <p>RTCA/DO-160 D / E & F, Section 5</p> <p>DEF STAN 00-35 Part 3, Issue 4 Test CL5</p> <p>DEF STAN 07-55:1975 Test B5</p> <p>MIL STD 202G:2002 Method 107G</p>



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<p>GENERAL NON-EXPLOSIVE MATERIALS AND EQUIPMENT including: (cont'd)</p> <p>As listed on Pages 1 and 2</p>	<p>ENVIRONMENTAL TESTS (non-explosive items) (cont'd)</p> <p>MISCELLANEOUS (cont'd)</p> <p>ROBUSTNESS OF TERMINATIONS and CONNECTOR CONTACTS</p> <p>Tensile Compression Bending Torsion Torque</p> <p>MICROSECTIONING</p> <p>Plating thickness Photomicrography magnification up to 1500X</p> <p>CONTACT RESISTANCE dc resistance between 2 points on a surface.</p> <p>Min $1\mu\Omega$</p> <p>INSULATION RESISTANCE</p> <p>Max voltage: 1 kV dc Max resistance: 1 TΩ</p> <p>VOLTAGE PROOF</p> <p>Max voltage: 5 kV dc or ac 50 Hz</p>	<p>BS EN 60068-2-21:2006 BS 2011:U:1984 IEC 68-2-21:1983 MIL-STD 202G:2002 MIL-STD 202F:1980 Method 211A MIL-STD 1344A:1977 Methods 2002.1, 2006.2, 2007.1, 2010.1, 2014 MIL-C 38999J 4.7.2, 4.7.11, 4.7.19, 4.7.31, 4.7.37, 4.7.38</p> <p>MIL-G 45204B:1969 Documented In-House Procedure TP 009:Issue 1:1994</p> <p>BS 5772:Part 2:1979 Tests 2a, 2b, 2f MIL-STD 202G:2002 MIL-STD 202F:1980 Methods 303, 307 MIL-STD 1344A:1977 Methods 3004.1, 3007 MIL-C 38999J 4.7.13, 4.7.24</p> <p>BS 5772:Part 2:1979 Test 3a MIL-STD 202G:2002 MIL-STD 202F:1980 Method 302 MIL-STD 1344A:1977 Method 3003.1 MIL-C 38999J 4.7.9</p> <p>BS 5772:Part 2:1979 Test 4a MIL-STD 202G:2002 MIL-STD 202F:1980 Method 301 MIL-STD 1344A:1977 Method 3001.1 MIL-C 38999J 4.7.10</p>



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Testing performed at main address only

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
GENERAL NON-EXPLOSIVE MATERIALS AND EQUIPMENT including: (cont'd) As listed on Pages 1 and 2	ENVIRONMENTAL TESTS (non-explosive items) (cont'd) FUNCTIONAL TESTS/ANCILLARY MEASUREMENTS DC VOLTAGE 10 μ V to 12 kV AC VOLTAGE 10 μ V to 6 kV DC CURRENT 10 μ A to 2 kA AC CURRENT 10 μ A to 2 kA DC RESISTANCE 1 $\mu\Omega$ to 1 T Ω CAPACITANCE 10 pF to 100 mF INDUCTANCE 1 μ H to 100 H FREQUENCY 1 Hz to 1.3 GHz LINEAR 1 μ m to 200 mm MASS 10 mg to 120 kg FORCE 0.05 N to 12 kN (tensile) 0.05 N to 1.2 kN (compression) RUBBER HARDNESS 30 IRHD to 100 IRHD	Documented In-House Procedures (as agreed with client) MP 001:Issue 1:1997 MP 002:Issue 1:1997 MP 003:Issue 1:1997 MP 004:Issue 1:1997 MP 005:Issue 1:1997 MP 006:Issue 1:1997 MP 007:Issue 1:1997 MP 008:Issue 1:1997 MP 014:Issue 1:1997 MP 015:Issue 1:1997 MP 016:Issue 1:1997 MP 019:Issue 2:2007

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