



## **Schedule of Scope to Certificate of Approval Independent Testing Laboratory**

**IECQ Certificate No.: IECQ-L ULTW 16.0003-03**

**CB Certificate No.: 20003649 ITL**

**Schedule Number: IECQ-L ULTW 16.0003-03-S    Rev No.: 5    Revision Date: 2022/07/13    Page 1 of 4**

### **Appendix-1 (20003649 ITL) Schedule of Scope to Certificate of Approval**

<b>Description test</b>	<b>Standard</b>
Scanning Electron Microscope (SEM)	T-SEM-3
Transmission Electron Microscope - Electron Energy Loss Spectroscopy (TEM-EELS)	T-TEM-3
Energy Dispersive Spectrometry of X-ray (EDS)	T-SEM-3, T-TEM-3
Focused Ion Beam microscope (FIB)	T-FIB-3
Secondary Ion Mass Spectrometry (SIMS)	T-SIM-3
Atomic Force Microscope (AFM)	T-SIM-3
Spreading Resistance Probe (SRP)	T-SIM-3
Alpha step	T-SIM-3
X-Ray Diffraction (XRD)	T-SIM-3
X-Ray Photoelectron Spectroscopy (XPS)	T-SIM-3
X-Ray	T-EFA-3
Emission Microscopy (EMMI)	T-EFA-3
EMMI-InGaAs	T-EFA-3
Optical Beam Induced Resistance Change (OBIRCH)	T-EFA-3
Conductive atomic force microscopy (C-AFM)	T-EFA-3
Scanning Acoustic Tomography (SAT)	T-EFA-3

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**DQS-Group - DQS Taiwan Inc., Feng Yuan Dist., Taichung City, Taiwan**





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Optical Microscope (OM)	T-OMI-3
3D Optical Microscope (3D OM)	T-LAB-3
Optical Profiler (OP)	T-SIM-3
IC Layout Imaging	T-OMI-3
Circuitry analysis	T-OMI-3
Auger	T-SIM-3
THEMOS	T-EFA-3
3D X-Ray	T-EFA-3
Latch-up	JESD78
Human Body Mode (HBM)	ANSI/ESDA/JEDEC JS-001, ANSI/ESD STM 5.1, JESD22-A114, MIL-STD-883, AEC-Q100-002
Machine Mode (MM)	ANSI/ESD S5.2, JESD22-A115, AEC-Q100-003
Charge Device Mode (CDM)	ANSI/ESD SP5.3.2, ANSI/ESD S5.3.1, JESD22-C101, ANSI/ESDA/JEDEC JS-002, AEC-Q100-011,
ESD Gun	IEC 61000-4-2
Electrical Overstress (EOS)	IEC 61000-4-5
Transmission Line Pulse (TLP)	ANSI/ESD STM5.5.1, ANSI/ESD SP5.5.2
Wire Bonding	T-EFA-3
IC Package	T-EFA-3
Pull and shear test	MIL-STD-883 method 2011.9 MIL-STD-883 method 2023.7 AEC-Q100-001, EIA/JESD22-B116, JESD22-B117
High Temperature Operation Life test (HTOL)	IEC 60068-2-1, JESD22-A108

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Low Temperature Operation Life test (LTOL)	IEC 60068-2-1, JESD22-A108
Bias Life test (BLT)	JESD22-A108
Temperature Cycling test (TCT)	JESD22-A104
Temperature variation test (TCC)	IEC 60068-2-14/33
Thermal Shock test (TST)	JESD22-A106
High Temperature Storage test (HTST)	IEC 60068-2-2, JESD22-A103
Low Temperature Storage test (LTST)	IEC 60068-2-1, JESD22-A119
Pressure Cooker test (PCT/UB-HAST)	JESD22-A102, JESD22-A118
Highly Accelerated Stress test (HAST)	JESD22-A110
Temperature and Humidity Storage test (THST)	IEC 60068-2-3, JEDEC22 A101
Temperature and Humidity with Bias test (THB)	JEDEC22 A101
High Temperature Reverse Bias test (HTRB)	JESD22-A108
High Temperature Gate Bias test (HTGB)	JESD22-A108
High Humidity High Temperature Reverse Bias test (H3TRB)	JESD22-A101
Intermittent Operational Life test (IOL)	MIL-STD-750 Method 1037
Pre-conditioning test	JESD22-A113
Reflow test	J-STD-020
Solderability test	J-STD-002
Surface Mount Technology (SMT)	IPC-A-610, IPC-A-600
Drop test	ISTA 2A, IEC 60068-2-32
Vibration test and Shock Test	IEC 60068-2-6/27/29/34/64

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Salt atmosphere street test	JESD22-A107, IEC 60068-2-11/52
Gas corrosion test	IEC 60068-2-42/43/49/60
Electro-migration test	IPC TM650 2.6.25
Conductive resistance test	IPC 9701

Technical Reviewer of DQS: Michael Chou    Date: 7/13/2022

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