



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

BALAZS NANOANALYSIS
Air Liquide Electronics US LP
46409 Landing Parkway
Fremont, CA 94538
Karla Buechler Phone: (510) 624-4007

Valid To: June 30, 2022

Certificate Number: 1439.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on chemicals and air analysis, ultra-pure water, and wafers:

<u>Test Description(s)</u>	<u>Test Method(s)</u>
<u>Bacterial Examination of Water</u>	
Cultured Bacteria in Water	BAL-82013-SOP
<u>Determination of Boron and/or Phosphorus in SiO₂ (BPSG, BSG, PSG Films) by ICP-OES</u>	
Determination of Boron and/or Phosphorous and/or Germanium in SiO ₂ (BPSG, BSG, PSG Films) by ICP-OES	BAL-82700-SOP
Wafer Mapping for BPSG, PSG, BSG Films	BAL-82705-SOP
<u>Determination of Particles</u>	
Determination of Particles by SEM – Direct Counting Method	BAL-82012-SOP
<u>Determination of Phosphorous in SiO₂ (BPSG and PSG Films) by Colorimetry</u>	
Determination of Phosphorous in SiO ₂ (BPSG and PSG Films) by Colorimetry	BAL-82704-SOP
Wafer Mapping for BPSG, PSG, BSG Films	BAL-82705-SOP
<u>Determination of Trace Anions & Cations</u>	
Determination of Anions and Ammonium in Air and Inert Gases	BAL-82005-SOP
	BAL-82009-SOP
Determination of Trace Anions, Cations, and Organic Acids in UPW by Ion Chromatography	BAL-82008-SOP
Determination of Trace Anions & Cations in UPW by Ion Chromatography	
Leachable Ionics, Trace Elements, TOC & Particles	BAL-82001-SOP

<u>Test Description(s)</u>	<u>Test Method(s)</u>
<u>Determination of Trace Elements on Wafers by VPD ICP-MS</u>	
Quantitative Analysis of Trace Elements on Silicon Wafers by Vapor Phase Decomposition and ICP-MS	BAL-82714-SOP
<u>Determination of Trace Metals in Chemicals by ICP-MS</u>	
Determination of Trace Metals in Chemicals by High Resolution ICP-MS Elements: Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Ga, Ge, Au, Fe, Pb, Li, Mg, Mn, Mo, Ni, K, Ag, Na, Sr, Sn, Ti, V, Zn, Zr	BAL-82520-SOP
Determination of Trace Metals in Chemicals by ICP-MS Elements: Al, As, Sb, Ba, Bi, B, Cd, Ca, Cr, Co, Cu, Ga, Ge, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, K, Ag, Na, Sr, Sn, Ti, W, V, Zn	BAL-82518-SOP
<u>Determination of Trace Metals in Ultra-Pure Water (UPW)</u>	
Leachable Ionics, Trace Elements, TOC & Particles Elements: Al, As, Sb, Ba, Bi, B, Cd, Ca, Cr, Co, Cu, Ga, Ge, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, K, Ag, Na, Sr, Sn, Ti, W, V, Zn	BAL-82001-SOP
Measurement of Trace Metals in UPW by High Resolution ICP-MS Elements: Al, As, Sb, Ba, Bi, B, Cd, Ca, Cr, Co, Cu, Ga, Ge, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, K, Ag, Na, Sr, Sn, Ti, W, V, Zn	BAL-82519-SOP
Measurement of Trace Metals in UPW by ICP-MS Elements: Al, As, Sb, Ba, Bi, B, Cd, Ca, Cr, Co, Cu, Ga, Ge, Fe, Pb, Li, Mg, Mn, Hg, Mo, Ni, K, Ag, Na, Sr, Sn, Ti, W, V, Zn	BAL-82521-SOP
<u>Non-Routine Analysis</u>	
Non-Routine Analysis of Solid Samples by SARIS Laser Ablation ICP-MS	BAL-82522-SOP
<u>Organic Analysis by Thermal Desorption (TD) GC-MS</u>	
Analysis of Semi-Volatile Organics in Water	BAL-82810-SOP
GC-MS Identification of Organics on Wafers, Broken	BAL-82802-SOP
Identification of Organics on Full Wafer by GC-MS	BAL-82811-SOP
Organic Contaminants in Air and Inert Gases	BAL-82803-SOP
Outgassing by TD GC-MS	BAL-82808-SOP
<u>Solvent Assays by LC, GC, or GC-MS</u>	
Area % Assay for Solvents or Mixtures by Gas Chromatography	BAL-82804-SOP
Liquid Chromatography	BAL-82827-SOP
Qualitative Analysis of Liquid Samples by GC-MS	BAL-82809-SOP
<u>Spectroscopy Analysis</u>	
Analysis by FTIR Spectroscopy	BAL-82818-SOP
Analysis by Raman Spectroscopy	BAL-82819-SOP
Analysis by UV-VIS Spectroscopy	BAL-82817-SOP
<u>Thermal Analysis</u>	
Analysis by Differential Scanning Calorimetry (DSC)	BAL-82815-SOP

<u>Test Description(s)</u>	<u>Test Method(s)</u>
<u>Thermal Analysis (cont'd)</u>	
Thermogravimetric Analysis (TGA)	BAL-82816-SOP
<u>Wet Chemistry</u>	
City Water Analysis for pH	BAL-82014-SOP
Determination of Dissolved Silica in UPW by Colorimetry	BAL-82015-SOP
Determination of Total Oxidizable Carbon (TOC) in UPW	BAL-82004-SOP
Leachable Ionics, Trace Elements, TOC & Particles	BAL-82001-SOP





Accredited Laboratory

A2LA has accredited

BALAZS NANOANALYSIS

Fremont, CA

for technical competence in the field of

Chemical 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 9th day of October 2020.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1439.01
Valid to June 30, 2022

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