



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

BALAZS NANOANALYSIS
 AIR LIQUIDE ELECTRONICS US LP
 46409 Landing Parkway
 Fremont, CA 94538
 Mr. Thomas Fister Phone: 510 624 4007

CHEMICAL

Valid To: June 30, 2020

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 types of tests on chemicals and air analysis, ultra-pure water, and wafer:

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

<u>Test Description(s)</u>	<u>Test Method(s)</u>
<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 Elements on Wafers by VPD ICP-MS</u>	
Quantitative Analysis of Trace Elements on Silicon Wafers by VPD	BAL-82714-SOP
<u>Determination of Trace Metals in Ultra-Pure Water (UPW)</u>	
Measurement of Trace Metals in UPW by ICP-MS	BAL-82518-SOP
Leachable Ionics, Trace Elements, TOC & Particles	BAL-82001-SOP
Measurement of Trace Metals in UPW by High Resolution ICP-MS	BAL-82519-SOP
<u>Determination of Trace Metals in Chemicals by ICP-MS</u>	
Determination of Trace Metals in Chemicals by ICP-MS	BAL-82518-SOP
Determination of Trace Metals in Chemicals by High Resolution ICP-MS	BAL-82520-SOP
<u>Non-Routine Analysis</u>	
Non-Routine Analysis of Solid Materials by Laser Ablation ICP-MS	BAL-82522-SOP
<u>Organic Analysis by Thermal Desorption (TD) GC-MS</u>	
GC-MS Identification of Organics on Wafers, Broken	BAL-82802-SOP
Outgassing by TD GC-MS	BAL-82808-SOP
Organic Contaminants in Air and Inert Gases	BAL-82803-SOP
Analysis of Semi-Volatile Organics in Water	BAL-82810-SOP
Identification of Organics on Full Wafer by GC-MS	BAL-82811-SOP
<u>Solvent Assays by GC or GC-MS</u>	
Area % Assay for Solvents or Mixtures by Gas Chromatography	BAL-82804-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 UV-VIS Spectroscopy	BAL-82817-SOP
Analysis by Raman Spectroscopy	BAL-82819-SOP
<u>Thermal Analysis</u>	
Analysis by Differential Scanning Calorimetry (DSC)	BAL-82815-SOP
Thermogravimetric Analysis (TGA)	BAL-82816-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 17025:2005 *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 24th day of July 2018.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 1439.01
Valid to June 30, 2020

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