

ART

gp

mp

hp

hpH

UNIVERSAL TESTING PLATFORM Modular, Scalable, Universal SECS/GEM Compliant



RETE: STATE OF THE ART APPROACH TO QUALIFY CHIPS FOR ZERO DEFECT & 100% YIELD

CUSTOMER BENEFIT	DEVICE
<ul style="list-style-type: none"> • Zero Defect & Zero Scraps • Shorter Time to Market • COO minimization • UNIVERSAL Test Platform • Industry 4.0 readiness • Competitivy • Sustainability 	<ul style="list-style-type: none"> • SOC • Multi die systems • MEMS • Memory • Smart Power ICs • Power SiC & GaN, • Photonics IC

POWER FROM 0W TO MORE THAN 1000W

VOLTAGE FROM 0V TO 6000V

TEMPERATURE FROM -40°C TO +175°C

Universal Testing Platform.

TfR tester to combine stress and test in the same insertion.

Configurable by HW kits and SW libraries to manage different IC families: low/high power SOC, Memories, MEMS, smART Power...

Management of External Test/stress Instruments (on Fixture BOST IPs) to extend test and stress capabilities for the specific IC family.

Scalable to approach engineering, Reliability and Production tests with the same platform, development and test environment.

UNIVERSAL RELIABILITY TEST SYSTEM FOR LOW POWER SOC, MEMS, MEMORIES ICS

UP TO 5W



- Massive Parallel Stress and Test approach
up to 12k ICs per System (2 Oven Configuration)
- **Thermal Chamber with Air Cooling Technology.**
High Temperature Uniformity: $\pm 3^{\circ}\text{C}$ at full load.
- Automation Ready System for integration in Production Plants.

HTOL, LTOL, HTRB, ELFR, TDBI - Trials

RELIABILITY TEST SYSTEM FOR MEDIUM POWER ICS

UP TO 20W



- Massive Parallel Stress and Test approach - **up to 1k, PTC ICs per System** (2 Oven Configuration - 20W ICs)
- **Per Device Active Temperature Control** combined with **Air Cooling thermal Chamber Technology**
- High Temperature accuracy on device case/junction temperature: $\pm 3^{\circ}\text{C}$
- Automation Ready System for integration in Production Plants

HTOL, LTOL, ELFR, TDBI - Trials

RELIABILITY TEST SYSTEM FOR HIGH POWER ICs

UP TO 100W



- Massive Parallel Stress and Test approach
up to 288 ICs per System (2 Oven Configuration - 100W ICs)
- In situ test capabilities with on board Test IPs
- **Per Device Active Temperature Control** combined with
Local Air Cooling Technology
- High Temperature accuracy on device case/junction
temperature: $\pm 3^{\circ}\text{C}$

HTOL, LTOL, ELFR, TDBI - Trials

RELIABILITY TEST SYSTEM FOR HIGH POWER DENSITY GPUs, IPUs, AI AND COMMUNICATION PROCESSORS

MORE THAN 1000W



- Two phases liquid cooling technology for **very high power density > 150W/cm²**
- **Per Device Active Temperature Control within $\pm 3^{\circ}\text{C}$**
- **Hot-spots thermal management** for Multi die systems
- **Fast reaction to prevent thermal run away** and accurate thermal control $\pm 3^{\circ}\text{C}$
- In-situ test capabilities and extended data collection to enable effective **learning from fail**
- Adaptive stress based on real-time **calculation of DUT equivalent lifetime**, to guarantee the target mission profile for each DUT

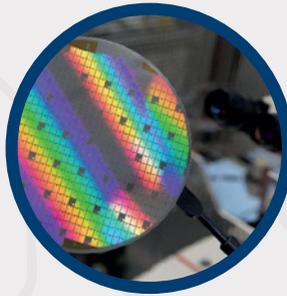
HTOL, ELFR, TDBI - Trials

UNIQUE SELLING PROPOSITION

**state-of-the-art test
and reliability flow, that ensures:**



**Early Detection of issues
in the Design Process**



**Shorten Time to Market
and CoO minimization**



**Zero defect and zero
scraps Production**

**... moving from a Pass-Fail
to Learn From Fail approach**

FIXTURES

FIXTURES FOR Q&R AND MANUFACTURING ENVIRONMENT



ART gp



ART mp



ART hp



ART hpH

- Consolidated design rules and qualified building blocks to optimize Fixtures performances and reliability.
- Qualified components libraries and application of consolidated Design for Manufacturing rules.
- BoST IPs to Maximize test and stress coverage, including high accuracy parametric measurement for an effective Test for Reliability (TfR) flow.
- Fixture Robustness optimized for extreme conditions and continuous handling.
- Signal and Power Integrity simulation / optimization service to guarantee and optimize electrical performance versus test application specs.
- Thermal Simulation to Guarantee Stress Temperature accuracy at extreme conditions.