

OUR STRENGTHS

- ▷ Electrical tests
- ▷ Environmental tests
- ▷ Physical analysis

COMMUNICATIONS & SECURITY

COMPONENT QUALIFICATION

Ensure product quality & increase the supply chain reliability





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Thanks to his Component Engineering Laboratory (CEL), THALES offers a wide range of services in terms of component expertise, ranging from the electrical test to the technological analysis. The CEL, jointly with the French Space National Research Center (CNES), has developed know-how skills in the spatial field for more than 15 years. Both teams share a common platform regrouping facilities over more than 700 m² to perform component physical analysis and electrical tests

Benefiting from this significant experience, the CEL has asserted its commitment to check for the component conformity and to provide a validation report complying with the normative criteria.

It is mandatory to perform the conformity analysis to certify the electronic system quality and the component reliability to customers. It is particularly useful to eliminate obsolescence, and infringement issues, even when the components are supplied by second hand dealers or brokers.

Electrical tests

Thanks to the platform dedicated to electrical tests, test solutions adapted to given products can be developed.

The platform covers various tests such as the batch characterization and selection (screening), the qualification of components used outside of their nominal range (up rating), the electrostatic discharge (ESD) sensitivity testing and the latch-up immunity over a wide range of components (passive, discrete, digital, memory, mixed and analog components).

Environmental tests

Within the scope of Thales activities it is possible to perform environmental tests in order to ensure an optimal reliability and robustness of the products.

- The various tests which can be performed thanks to the laboratory equipment include the thermal cycling, harsh environmental tests and storage like the Pressure Cooker Test (PCT) and the Highly Accelerated Stress Test (HAST).

- Aging tests such as the (static or dynamic) burn-in test, the life test at high and low temperatures and the ON/OFF test are also performed.



Physical analysis

Physical analyses are performed for all types of electronic components (integrated circuits, transistors, diodes, coils, quartz components, etc.) in conformity with military standards MIL STD 883, 750, etc.

- X-radiography
- Inspection with Scanning Electron Microscope (SEM) and optical visual inspection
- Opening of mechanical and chemical boxes and laser ablation
- Mechanical traction test and chip and wire shear test
- Test for large and thin leakages
- Inner gas analysis
- Particle Impact Noise Detection test (PIND test)
- Weldability
- Integrity of the threshold treatment

Our laboratory is equipped with exceptional equipment used for the physical expertise activity such as high resolution electronic microscopes (Field Emission Gun, FEG), Focused Ion Beams (FIB) and an Inductively Coupled Plasma (ICP). Thanks to this equipment, the front-end analysis of copper and aluminum chips can be performed.

