



GEOCONNECTICS

RELIABILITY TESTING LABORATORY

EMC

(ELECTROMAGNETIC
COMPATIBILITY)

OUR VOCATION

Electrical contacts & transmission lines

Conductive metal parts

Insulating parts

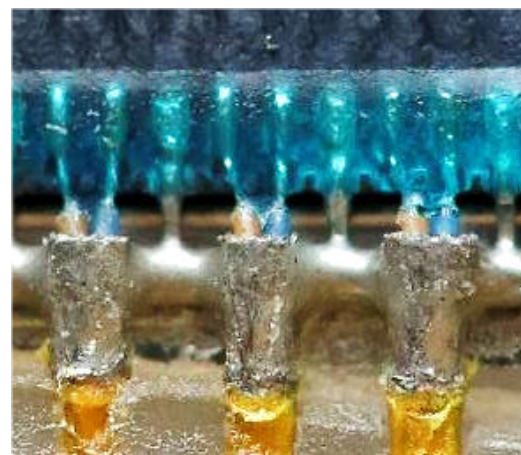
The vocation of our company is especially the characterization of electrical contact.

We characterize the conductive metal parts through which circulates electrical energy.
We also characterize the insulating parts which isolate the current flow.

We work in the fields of aeronautics, automotive, electrical engineering, aerospace, military, electro medical devices, electronics, energy...



Devices under test: cables and connectors



OUR QUALITY APPROACH

We have an **R&D label** called "Agrément crédit d'impôt recherche" allowing our French customers to obtain a tax deduction of 30% on theirs R&D projects.

We are accredited according the standard CEI 17025 by **COFRAC** since the 14 April 2020. Our accreditation perimeter is built on EN 60512 standards (contact resistance). Scope 1-6763 available on the COFRAC website.

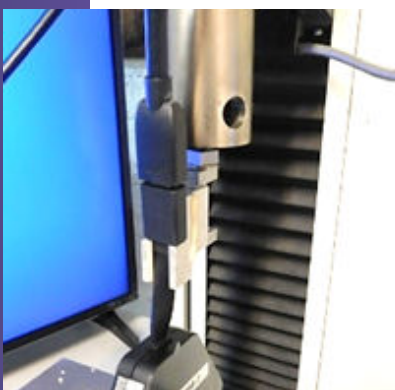
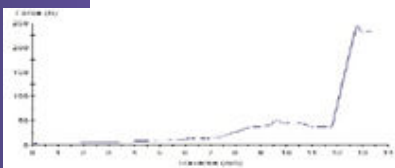
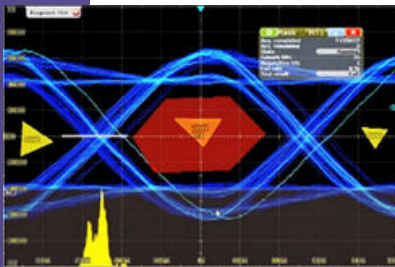
FROM BASIC MEASUREMENTS TO ADVANCES SIGNAL INTEGRITY



ELECTROMAGNETIC COMPATIBILITY

OUR SERVICES

✓	Conducteur 5m - 7mm (28AWG)
✓	Conducteur 10m - 8mm (26AWG)
✓	Conducteur 15m - 9mm (24AWG)
✓	Conducteur 20m - 10mm (22AWG)



> Frequency domain, time domain

We perform basic tests

- Check the presence of each conductors
- Tests the ability bandwidth requirements
- Cable troubleshooting
- Measures the gauge (AWG) of the conductors.

> Enhanced frequency & time domain

We perform cable parameters and signal integrity

- Z0 characteristic impedance - Attenuation (loss of conductor, of dielectric) - Velocity of propagation- DC resistance – Capacitance -Physical dimensions & ϵ_r
- Return loss
- Eye pattern
- Screening attenuation

< Eye pattern & VNA : S-parameter

> Reliability test

We perform reliability tests

- Climatic, heating,
- Vibrations, mechanical shocks,
- Corrosion
- Bending, torsion test of cable
- Mating unmating of connectors

< Dynamic stress test - Mating unmating



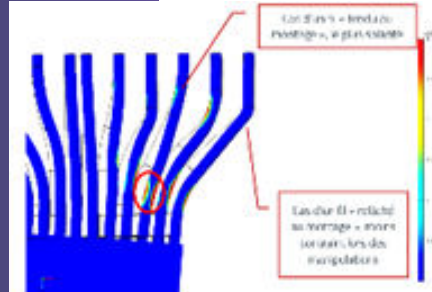
ELECTROMAGNETIC COMPATIBILITY

OUR SERVICES

> Software simulation

We do multi-physical software simulations

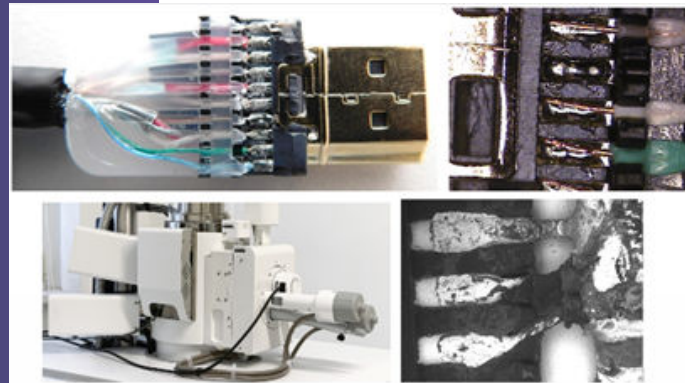
- Mechanical, electrical,
- Thermal simulations
- Non-linear electrical contacts
- Magnetic coupling
- RF- transmission line



Strain of wire during bending

> Construction analysis

Check of wiring, soldering, physical dimensions



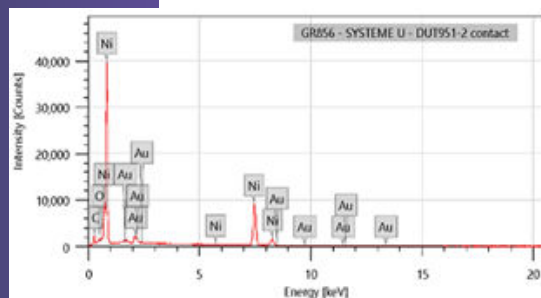
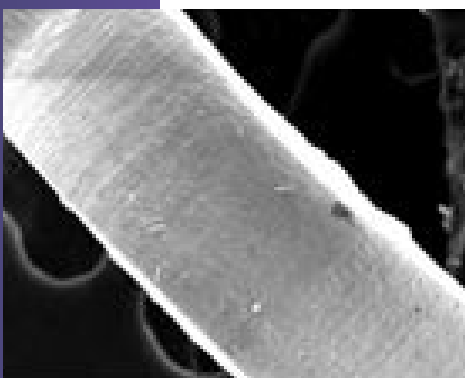
SEM & optical investigations



> Expertise of failure

We realise failure investigations on isolating and metal parts

- Chemical composition and thickness of conductive coatings
- SEM imaging, IMC growing
- DSC and infrared composition of isolating parts
- X ray 3D tomography



X-ray scan >

< Chemical composition of contacts and shield

