



iSLaser™
Pre-DCap Front & BackSide
IC Cross-section
Wafer and PCB Cut for IC extraction



Figure 5: Cu Wires



Figure 6: Ag Wires

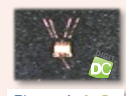


Figure 4: AsGa



iSAcids™
Au Al Cu Ag Compatible
Low Temperature & Polarization

New 2023 Full Stainless Steel & TFE

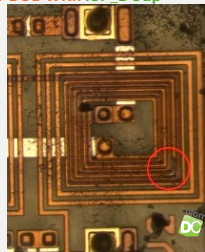
DC has published more than 14 years ago the way to use Acids or Plasma for Cu wires package without any damage

ESREF2011 ... Plasma

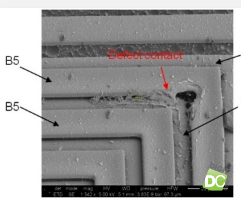
New front side access approach for Low-k dielectric/Cu technologies in plastic package.

iSP_DCap™

Amandine AUBERT - STM
VACUUM PLASMA Decapsulation
Cu / BCB With iSP_DCap™



Optical view of the failed component after resin removal with Vacuum iSP_DCap™ O2 Only.
The red circle corresponds to the defect area



SEM view of the defect

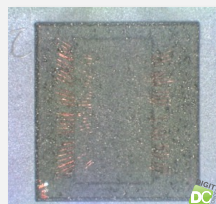
ISTFA2011 ... Acids

New method for decapsulation of Copper wire devices using LASER and sub ambient temperature chemical etch.

iSAcids™

Pascal GOUNET - STM
Matthew LEFEVRE - Digit Concept

LASER + ACIDS DCapsulation
With iSLaser™ and iSAcids™



LASER pre-DCap 2.5W 10KHz 300mm/s 10ns

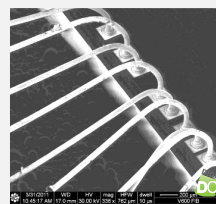


Figure 3b. SEM micrograph showing state of die bonds and wires after decapsulation at 15°C



iSP_DCap™
CNES / DC
Patent
WO 2008/090281 A1
Vacuum Plasma DCapsulation

iSP_RIE™

Reactive Ion Etching

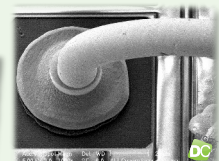
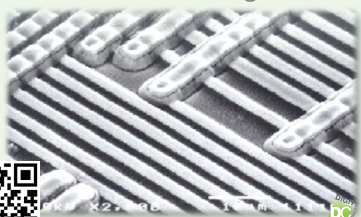


Figure 6. SEM picture of Cu ball-bond after 230 min of plasma etching

ISTFA2014

Comparative Study on Decapsulation for Copper and Silver Wire-Bonded Devices
François KERISIT - Digit Concept

FA Solutions and HighTech Equipment

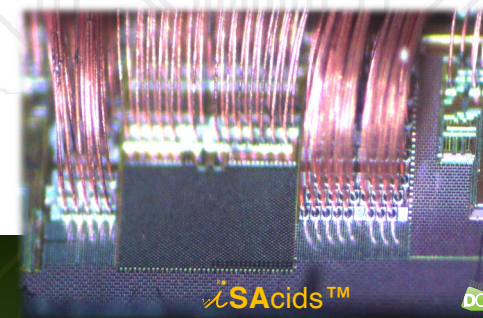
iSLaser™

iMIPlasma™

iSAcids™

iMill™

4 Ways of IC DCap



SPECIAL
CAM WORKSHOP
2025

Release 33 YEARS 1

SESAMEACID™

SESAMETHERMAL™

SESAMELASER™

SESAMEMECHANICAL™

SESAMEPLASMA™

SESAMEDUOLASER™

SESAMEPLASER™

SESAMEENDPT™

A GREEN WORLD WITH DC - LESS ACID - LESS CF4 - AND ALL FOR YOUR FUTURE IC PACKAGES



ASIA AMERICA EUROPE



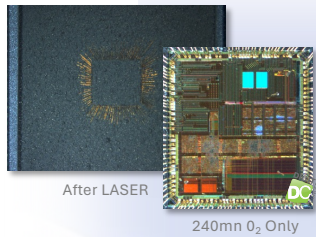
MIPlasma II™ The first one
... and the best one today ...
You will now understand why
It's time to disclose some secrets
you can have with the 2024 Release ☺

Welcome in the future ... it's now !!!



MIPlasma II™

Release 2006 - 2024



➤ Fully automatic : choose your recipe and start during the day or the night. **That's all !!!**

➤ Atmospheric Plasma DCapsulation
O₂ only or all other gases

➤ **Au Al Cu Ag** wires SiC, GaN Compatible

➤ **Automatic alignment by LASER** during the process to have always the same distance between MIP Source and component for a better etch rate

➤ Advanced Camera HR autofocus with full record of the picture during the DCapsulation: **Second Large screen** to see all the details.

➤ Depassivation

➤ Ready for More-than-Moore (MTM) technologies

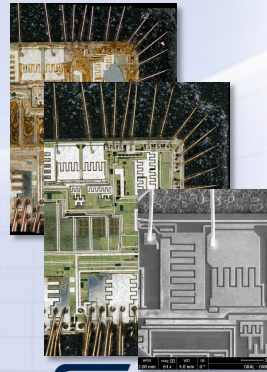
➤ And more ...

For more information

iMIP@digit-concept.com



CNES / DIGIT CONCEPT SAS
PATENT WO 2008/090281



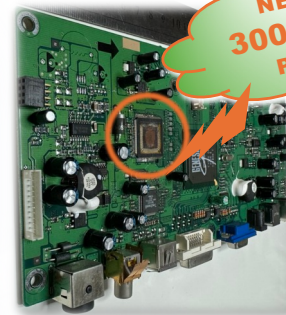
ST Pascal GOUNET
Polyimide removal too



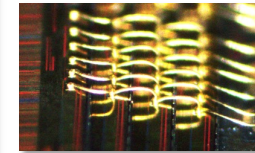
Four stacked DRAM
down to substrate

MIPlasma II XL™

Release 2006 - 2024



NEW for 2024
300x300mm
PCB Holder



➤ IC stay in place so no need to de-solder this one
(**no Thermal and Mechanical Stress = Less Artefact**)
➤ & you have all the components around for the tests after (**no need to resolder**).

➤ **Advanced measurement of the height** of all components at the surface of the PCB to take care if it's possible without damage anything

➤ **No Ultrasonics damage** for sensitive IC ...

➤ Choose to remove the fillers (SiO₂) between
Liquid Blow, CO₂ Blast (Patented) or Ultrasonics Bath.

➤ The 3 in standard ☺

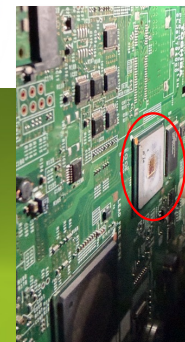
➤ The new iMIP IIXL 2024 is **already installed** at Customer plants!

World premiere ☺

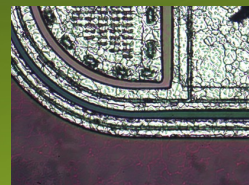
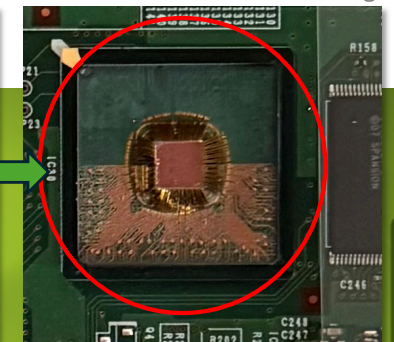
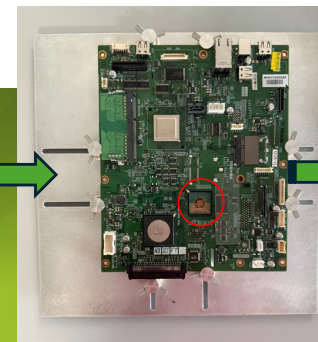
... expected for long time



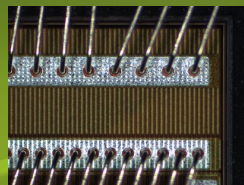
During MIP
PCB 250x220mm



After MIP
and SLP500 LASER to remove EMC and conformal coating



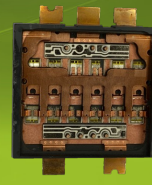
SiC



GaN



Smart Card with
Finger Print IC



Large Power
Package

FULL RANGE OF IC DECAPSULATOR

SESAMEACID™
SESAMELASER™

SESAMETHERMAL™
SESAMEMECHANICAL™

SESAMEPLASM™
SESAMEPLASER™

SESAMEDUALASER™
SESAMEENDPT™



More than 250 Equipments installed in the World