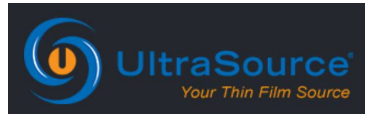


# CASE STUDY



## Ultrasource Thin Films – NH, USA

SEM – US05 Date: 12.09.2020



SYNOVA S.A.  
Route de Genolier 13  
1266 Duillier  
Switzerland  
www.synova.ch

### PRODUCT

#### Thin Film Semi Substrates

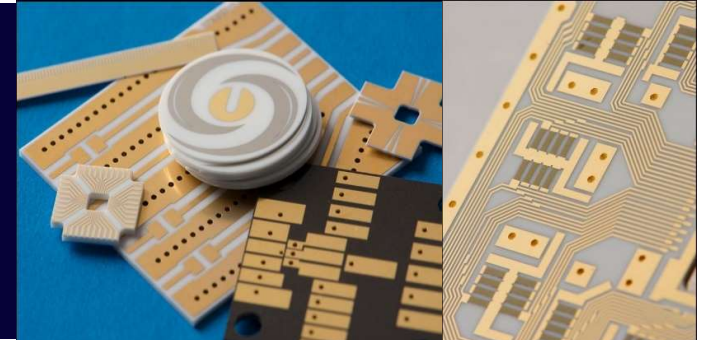
Thin Film Circuits

- Metal Deposition
- Photolithography

Semiconductor circuitized substrates used in a wide variety of applications (Power, MWave, RF)

LMJ used for:

- Drilling via holes in ceramic substrates
- Circuit Singulation



### CHALLENGE

#### Small Hole-Drilling in ceramic materials at high speed

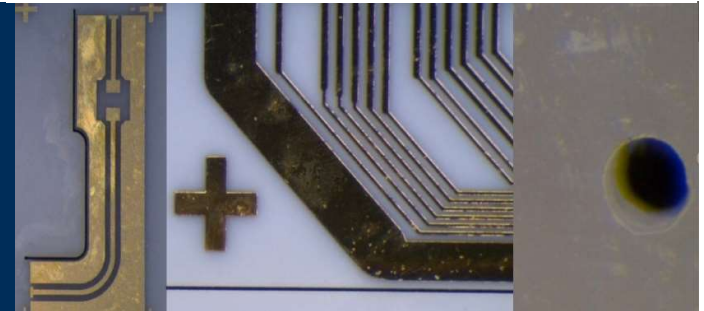
Repeatable and High-Speed process to drill holes and to singulate substrates without damaging the circuit

Main processing criteria:

- Small hole sizes (250 microns)
- Improved Cost of Ownership versus CO2 lasers
- No chipping
- Vertical walls / Tight Tolerances

Machining technologies able to reach these criteria:

- CO2 Lasers
- Laser MicroJet (LMJ) - water jet guided laser technology with breakthrough sensing



### SOLUTION

#### Higher quality, enables new applications, better ROI

LMJ advantages versus CO2:

- Enables processing post
- Lower setup
- Eliminates hole-cleaning step
- Repeatability

Installed machine type:

- 1 x LCS 150
- 100 W green laser

