

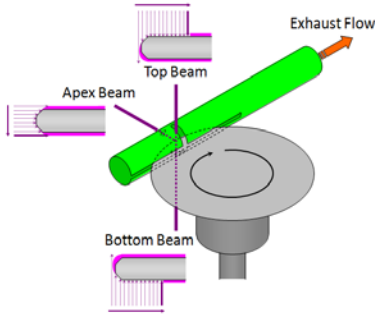
# Custom Wafer Edge Film Removal Solutions

## Send us Your Wafers for Laser edge process development

Film 1
Film 2
Si Substrate

The LEC-300 Laser Edge System removes a wide variety of films from wafer edges (top, bottom, and apex)

### Laser Edge Process Schematic



All edges are removed in a single sequential process step.

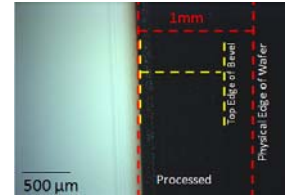
### Laser Edge Process



### Edge Placement Accuracy

Target	1.00mm ± 0.05mm
Result	1.00mm ± 0.01mm

Reading	Edge Width (mm)
1	1.00
2	1.00
3	1.00
4	0.98
5	1.01
6	1.01
<b>Average</b>	<b>1.00</b>
<b>σ</b>	<b>0.01</b>



### Features

- ≤ 0.5mm edge removal
- Precise edge / no undercutting
- Versatile/multiple recipes
- Atmospheric, room temp tool
- In-situ laser beam diagnostics

### Benefits

- Increased active area on wafer
- CoO < \$0.54/wf, OpEx < \$0.10/wf
- Eliminate shadow masks
- No corrosive by-products
- No chemical abatement cost

### Additional Notes

- Cost of ownership per wafer is 50% to 75% less than the cost of current methods
- The cleaning process uses only laser radiation in air eliminating the need for corrosive chemicals or vacuum system
- Typical process times – 20 to 40 sec/wafer

### Budgetary Quote Requirements

- Film stack details: material and thickness for each layer and deposition technique for each layer (for instance PECVD)
- Optical constants (n&k) of each film in the stack is helpful but not required
- Stop layer is typically silicon, if another stop needed, identify stop layer material, thickness and under-layer details
- Next two steps in process flow (for instance Plasma Etch and Wet Clean)
- A minimum of 2 wafers to be used for BKM process development and 10 to 15 wafers for demonstration of process results
- UV Tech will provide a detailed written report and analytical data provided by Nanolab with recommended BKM
- Price quotation will include UVTech services and an estimate of analytical lab costs.
- Please specify data requirement: EDS, profilometry, SEM, SIMS and others available.

### Demonstrated Applications

Single Layer and Tri-layer Resist  
Spin On ARC/hard mask  
CVD ARC/hard mask

Post-etch Polymer

Metals: TiN, NiPt, W

Multilayer stacks

### LEC-300 Laser Edge Cleaning System



### Specifications

Wafer Size	300mm
Footprint	109" L x 69" W x 104" H
Laser	10W, 355nm Solid State
Throughput	≥60 WPH
Processing Area	Top, Bottom, Apex
Temperature, Pressure	Ambient, Atmospheric

300mm tool available for demo and applications development at our lab or for sale to customer.

\*Patents Issued and Pending