



The Sapphire MegPie is a single-wafer Megasonic transducer for cleaning and sonochemical processing. It applies a uniform dose of acoustic energy to a rotating substrate. The MegPie will improve process efficiency and lower process time. It is easy to retrofit to your single-substrate processing tool.

### Features & Benefits

- Particle-neutral sapphire resonator – no particles added to the process
- Patented crystal bond to the resonator
- Patented RF connection to the crystal
- Redundant internal RTD temperature monitoring
- Available in 100mm to 450mm+
- Custom sizes available
- Sapphire resonator compatible with **all** processing chemistries
- Uniform **direct** acoustic energy applied to the process
- Increased process efficiency
- Reduced process time
- Reduced process chemistry usage
- No moving parts to maintain
- No consumables – works better than brushes

### Technical Specifications

- Power density: 0.05 – 2.0 Watts/cm<sup>2</sup>
- Standard operating frequency: 925 kHz; other frequencies available on request
- Mounting height: 0.02" – 0.14" (0.5mm – 3.5mm)
- Process fluid temperature: 15°C – 60°C
- Process fluid required depends on the substrate size and RPM:  
0.5 – 3.0 lpm
- Operating RPM: 1–100
- Nitrogen or CDA purge: 10 lpm
- Mounting with 3 x M6 female threaded bosses
- Use with IMPulse RF electronics

### Processes Supported

- Post-CMP cleaning
- TSV
- Pre-SOIC bond cleaning
- SU-8 develop
- Lift off
- Resist strip
- LIGA processes
- Mask cleaning
- Etch assist
- Plating pre-cleaning
- Pre-plating bubble removal
- Post-laser cleaning

