

## AZ nLOF 2020 Photoresist Procedure for 2um lines/spaces April 2020

- 1) Clean PR off mask:
  - a. Acetone
  - b. IPA
  - c. DI SRD
  - d. O<sub>2</sub> RIE 3min 100 W Technics Etcher
  - e. DI SRD
- 2) Clean and Dehydrate Si Wafer immediately prior to spinning
  - a. O<sub>2</sub> plasma 100W
  - b. 2 min
  - c. Technics Etcher
- 3) Spin CEE 100 Spinner
  - a. Use chuck that is slightly smaller than substrate
  - b. HMDS 3000 rpm 30 sec
  - c. nLOF 2020 3000rpm 60 sec
- 4) Hot plate bake wafer 110C 1 min
- 5) Suss Aligner
  - a. Hard N<sub>2</sub> contact
  - b. 15 sec expose 7mW/cm<sup>2</sup> (~105 mJ/cm<sup>2</sup>)
- 6) Hot plate wafer post exposure bake
  - a. 110 C
  - b. 2 min
- 7) Develop 300MIF 3 minutes
- 8) DI rinse 2 min, SRD
- 9) Microscope inspection and measurements
- 10) Liftoff deposition
  - a. Keep total film thickness less than 1/3 of photoresist height (PR ~2um, so film max ~670nm)
  - b. Denton 80: keep power less than or equal to 50W
  - c. Denton 635: keep power less than or equal to 100 W
  - d. TMV: keep power less than or equal to 100 W
  - e. E-gun: Keep temperature readout below 40C
- 11) Liftoff in Lauda bath
  - a. Kwik strip at 80C
  - b. 2 hours or until all nLOF photoresist is dissolved
  - c. IPA dip
  - d. Ultrasonication in water if necessary (do not allow to dry until all the film is lifted off)