S1813 Photolithography process (Positive)

1. Make sure fume exhaust is operational.
2. Clean the substrate, mask, and spinner bowl
3. Dry the substrate: 3-5 minutes at 120C on hotplate
4. Spin on photoresist:
    - Center sample on spinner and check vacuum.
    - 5 seconds at 900 RPM (this clears excess resist to avoid splash-back)
    - 60 seconds at 4000 RPM (1.3 micron film)
5. Softbake the resist:
    - 1 minute on hotplate at 110C Note: alternative softbake at 90C will increase resist sensitivity, requiring shorter exposure times.
6. Align and expose using mask aligner:
    - Broadband G, H, I-line: 436nm, 405nm, 365nm (make sure 365m I-line filter is not in path and lamp control on CI-2),
    - About 8 seconds at 18mW/cm2 controlling intensity (CI2=405nm). This dose, ~140 mJ/cm all lines 2 may need to be optimized for your substrate (e.g. up to 3* that dose is required over Cu). S1813 datasheet shows 82mJ/cm^2 at 435nm as threshold for complete exposure (somewhat less sensitivity to shorter wavelengths included in our source).
7. Develop:
    - Develop with MF319 developer for 60 seconds (pattern usually shows in 5 seconds)