CHARACTERIZATIONS OF ADVANCED I-LINE PROXIMITY PROCESS USING KARL SUSS MA-150 TO ACHIEVE SUBMICRON RESOLUTION. ***J. Ross, K. Tokunaga, M. Slocum, W. Johnson, S. Kenny*** *and D. Ewbank*, Department of Microelectronics, jross@cesr.net, kxt3362@osfmail.rit.edu, mas9372@rit.edu, waj5211@rit.edu, swk8173@yahoo.com, deeemc@vmsmail.rit.edu*

An advanced i-line proximity process has been characterized to achieve submicron resolution using the Karl Suss MA-150. Submicron resolution enables the design of more complex devices. The dose to clear for OIR 620 resist was found using an exposure gap of 10um in order to determine correct exposure time for resist thickness. After characterization of the resist; the effects on resolution were found for the broadband exposure and i-line filter for Hard Contact, (0–3um gap), Soft Contact (0–9um gap) and Proximity (10um gap) with a 1x ETM mask. The final characterization found was minimum CD using multiple exposure process which included a broadband exposure, exposure with an i-line filter, and exposure with BARC to minimize standing waves. Future work to be performed will include a DOE to optimize this process.