1. Title:	EUVL Mask Carrier Development
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3. Abstract body:

A comprehensive new approach to mask handling is needed to meet the requirements of EUV lithography. Particle-free mask handling with vacuum compatibile materials is critical to mask carriers and enabling EUV technology. To ensure the availability of mask carriers that will meet EUV needs, the limits of what can be achieved must be understood.

This paper describes the development and testing of a new EUV mask carrier system. The objective was to determine the lowest particle/defect level that can be achieved during mask shipping and vacuum cycling. The process from design through material selection and testing, as well as all elements of the carrier development and supporting data will be presented.

Particle performance on the quality area and backside of the mask at 54 nm defect size from multiple shipping and vacuum cycling tests will be presented. The results demonstrate the new carriers ability to meet the detection levels of current metrology. Improvements in defect metrology and/or EUV processing using the new carrier will be necessary to fully characterize the limits of the design.