

## The AMAC ASIC for the ATLAS ITk silicon strip detector: Results of prototype wafer testing

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A new silicon strip charged particle detector (ITk strips) is a major component of the future upgrade of the ATLAS experiment for the high luminosity LHC. The Autonomous Monitoring and Control (AMAC) chip is an application specific integrated circuit designed to monitor voltages and currents on each ITk module, and to control power to the front-end readout electronics. To guarantee the reliability of the AMAC, a comprehensive probe station testing procedure has been developed, which allows for the testing of the digital and analog functionality of every AMAC to be installed in an ITk module. To date, the probe station has successfully tested over one thousand prototype AMAC chips, validating most of the functionality while also identifying non-optimal features that will be adjusted in the newer chip version. I will present the probe-station setup, the functionality of the AMAC that was tested, and the results of probing the wafers with prototypes.

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No

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