

AMICSA 2014 - Fifth International Workshop on Analogue and Mixed-Signal Integrated Circuits for Space Applications

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Creating and Updating Standards for New Analog and Mixed-Signal ICs for Space Missions

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On December 20, 2013, the Defense Logistics Agency (DLA) released revision K of microcircuit specification, MIL-PRF-38535. This document revision is significant because it updates existing requirements and creates requirements for new analog and mixed-signal integrated circuits (ICs) including those that are built as flip-chips and with columns attached. It also introduces and enables Class Y, a new category of microcircuits for space. Development of Class Y was a NASA-led initiative for the space community to infuse new technology into military/space standards. With the availability of analog-to-digital (A/D) and digital-to-analog (D/A) converters operating in gigahertz (GHz) frequencies, the screening and qualification of such microcircuits is being reviewed by the industry and government users with the goal of clarifying and adding to the existing requirements. Lastly, a summary will be given of radiation characteristics of analog ICs. These single event and total dose radiation characteristics will be presented at the next Nuclear and Space Radiation Effects Conference (NSREC).

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