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The ATLAS ITk Strip End-of-Substructure Card - From design to production

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The building blocks of the ATLAS Strip Tracker for HL-LHC are modules that host silicon sensors and front-end electronics. The modules are mounted on carbon-fiber substructures hosting up to 14 modules per side. An End-of-Substructure (EoS) card on each substructure side connects up to 28 differential data lines at 640 Mbit/s to lpGBT and VL+ ASICs that provide data serialization and 10 GBit/s optical data transmission to the off-detector systems respectively. A dedicated, magnetic-field resistant DC-DC converter provides both 1.2 and 2.5 V to the EoS using the rad-hard bPol ASICS from CERN. Overall almost 2000 EoS card need to be manufactured.
The EoS card recently went into production and we report on our first experience during production and integration. Additionally we report results from recent quality assurance tests as well as lessons learned throughout the project from design to production.

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