

Low Voltage Power Supply production, hardware upgrade and testing for the ATLAS TileCal Front-End Electronics system

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The large-scale production of the LVPS bricks will involve the complete replacement of all power supply “bricks” in the TileCal (Tile Calorimeter) front-end electronics for the LHC-HL upgrade. A total of 1024 LV bricks (half needed for the entire detector) will be produced by the University of the Witwatersrand. Such an operation comprises of several steps which include the development of two new custom quality assurance test stations. The initial test station will quantify a multitude of performance metrics of a LVPS brick, whereas the Burn-In test station would perform an endurance type test and subject the LVPS brick to a stressed environment. Both these custom test stations ensure the reliability and quality of a new LVPS which will power the next generation of the upgraded hardware system of ATLAS at CERN

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