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A new test-bench design and performance testing of a Low Voltage Power Supply (LVPS) for the ATLAS Tile Calorimeter front-end electronics

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We present test-station designs for testing the latest version of a switch-mode power supply for the front-end electronics of the ATLAS hadronic Tile Calorimeter (TileCal) at the LHC. We further discuss the steps taken to test the new TileCal LVPS (Low Voltage Power Supply), using a custom-based software to perform tests and graphically display and record all performance metrics. The test station checks performances and electrical specifications laid out by the TileCal and ensures protection against over-temperature, over-voltage and over-current risks. This test station will be built above the previous generation of testing stations used in the initial production of the TileCal system and will power the next generation of upgraded LVPS hardware.

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