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Firmware developments on the TileCoM for the Phase-II Upgrade of the ATLAS Tile Calorimeter

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The Tile Computer on Module (TileCoM) mezzanine board is one of the auxiliary boards of the Tile PreProcessor (TilePPr) for the Phase-II Upgrade of the readout electronics of the ATLAS Tile Calorimeter. This board will be responsible for interfacing the Trigger Data Acquisition (TDAQ) system and TilePPr for system monitoring and configuration. This includes configuration and monitoring of the Advanced Telecommunications Computing Architecture (ATCA) carrier and Compact Processing Module (CPM) onboard sensors through I2C and Gigabit Ethernet. This contribution presents firmware developments on an embedded Linux for the ZYNQ System-on-Chip (SoC) targeting an Avnet Ultra96-V2 Zynq UltraScale+MPSoC evaluation board. This test bench will serve as a basis for the development of the main functionalities of the TileCoM mezzanine board to interface TilePPr and TDAQ system of the Tile Calorimeter.

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