

A SPACEWIRE ACTIVE BACKPLANE SPECIFICATION FOR SPACE SYSTEMS

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Short Paper

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ABSTRACT

The paper introduces a SpaceWire active backplane specification that is based on a design developed for the Modular Architecture for Robust Computing (MARC) project. The specification is for a modular architecture that incorporates facilities to support “Hot swapping” and “Plug and Play” approaches.

The paper details the network and power architecture, the electrical interfaces and the potential connector designs that will carry the high speed SpaceWire signals with controlled impedance between modules. The specification limits the mechanical requirements to the connector interface; this permits the module and unit mechanical details to be controlled by the user.

The developments required to permit realisation of the standard within a space environment are identified.