

SpaceWire Node Interface IP Core

TELETEL S.A., together with Thales Alenia Space and Airbus Defence and Space, have been working on the development of an IP Core under ESA contract 4000113046 (SpaceWire Node Interface IP Core) aiming at providing a solution helping non-SpW experts to integrate advanced SpaceWire functionality in their flight equipment. The IP Core contains RMAP, NDCP, CPTP and TDP protocol engines and can be provided as a single SpW Port Node or a Node with an integrated SpW Switch. Each protocol block can be independently configured allowing the user to customize the implementation to its own requirements (size of memory blocks, maximum number of RMAP pending transactions etc.). In addition, the IP Core allows the user to include its own technology primitives for implementation on different target ASIC technologies. The design has been validated on TELETEL's SpW Xilinx-based SpW G2 board and also on SkyLab's PicoSky development board for ProASIC3 meeting all the functional and performance requirements. The presentation gives an overview of the top-level design, capabilities and possibilities in configuring the IP-core and expected resource usage and performance for various configurations.