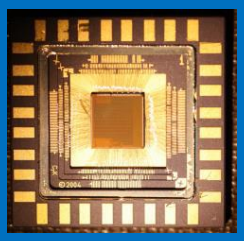
Protec GmbH
Vertrieb elektronischer Bauteile

BAE SYSTEMS

# SPACE COMPONENTS NEWSLETTER *JANUARY 2017*

**Other SpW parts from µRDC:**

**8051XC µController with SpW**
- 8x faster than standard 8051
- IBM 90nm low Power Process, RHBD technology >75 MeV SEL, TID > 1Mrad, 10 to 50MHz Clock, Operating Voltage 1.2V - 3,3V, 70mW @ 50MHz
- 256 bytes (256x8) of on-chip Data RAM
- 64 Kbytes on-chip Program SRAM
- UART w/FIFO & CTS/RTS DTR/DCD Support, I²C, SPI, CRC, PPS, USB
- SpaceWire Multiple Rates, Including 10 Mbps & 50 Mbps
- LVDS Driver/Receiver for SpaceWire & External Support

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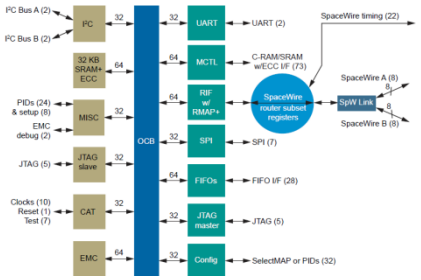
## BAE Systems SpaceWire Products

### SpaceWire Endpoint (8455613-ZZ) and Interface Converter

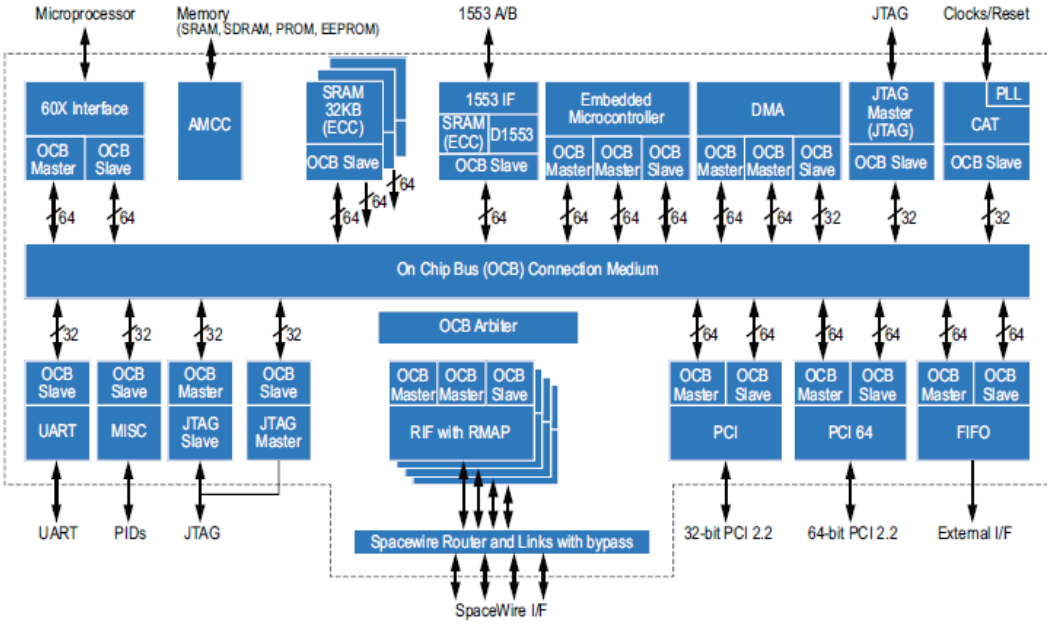
The SpaceWire Endpoint ASIC provides the perfect connection to a SpaceWire network for new and existing instruments. A choice of memory, SPI, I2C, UART, JTAG, Select MAP, programmable interrupts and Discrete and FIFO interfaces may be employed to attach most devices, including fuse-based and RAM-based FPGAs, SRAM, non-volatile memory and simpler devices. SpaceWire RMAP allows fully remote operation of the endpoint. Alternatively, the embedded microcontroller may be used as an intelligent node control.




- System clock speed: up to 100 MHz
- EMC: 16 Dhrystone MIPS @ 80 MHz
- External memory interface:
- up to 2.56 Gb/s (32 bits @ 80 MHz)
- SpaceWire link @ 320 MHz maximum
- SPI @ 1 Mb/s
- I2C @ 100 Kb/s or 400 Kb/s

### SpaceWire Router 4 Port

The RADNET SpW-RB4 application specific standard product (ASSP) provides connection between SpaceWire fabric and alternative interfaces (1553, UART, JTAG, PCI 32, PCI 64, PID) along with access to large capacity SRAM/DRAM memory.
The RADNET SpW-RB4 ASSP is a member of the RADNET family of high-performance radiation-hardened networking products. An extremely flexible, general purpose connection device and processor bridge ASSP, it integrates a wide variety of interfaces and is compatible with the SpaceVPX standard.



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**SpW testing and Cables 4Links:**

- SpaceWire Interfaces and Bridges
  - Ether Space Link
  - Diagnostic Interface DSI
- SpW Monitors
  - Multi-link Analyzer
  - Multi-link Recorder
- SpW Simulators
  - Flexible Router FSR
  - RMAP Responder SRR
- SpW Network Devices
  - Router
  - Absolute Time Interface
- SpW Cables and Assembly's



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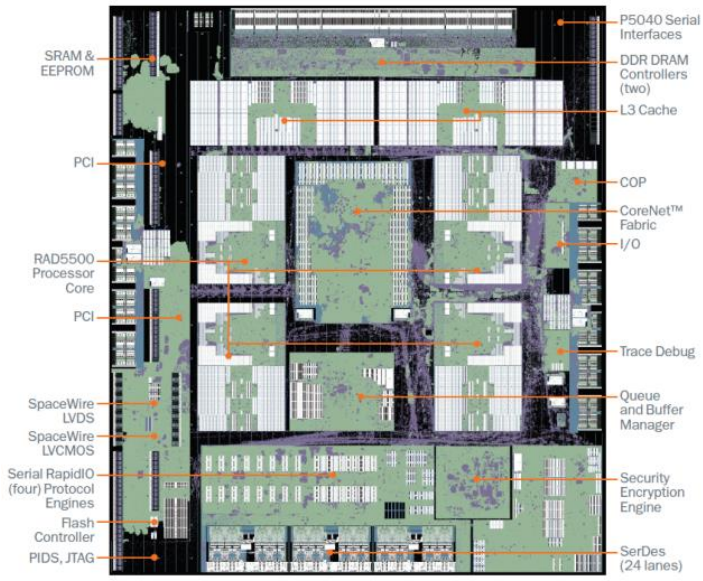
## Next Generation Processors

### with 3.7 GFlops including 16Port SpaceWire Router & High Speed SerDes

The RAD5545™ multi-core processor - the first member of the new RAD5500™ product family - will provide a 10X performance increase over the heritage RAD750®. Integrated cache and advanced bridge functions further reduce SWaP (Size, Weight, and Power). The licensed QorIQ® Power Architecture™ platform from Freescale Semiconductor facilitates portability of heritage software. Through the QorIQ Power Architecture system-on-a-chip platform combined with 45nm SOI technology from the IBM Trusted Foundry.




The RAD5545 system-on-chip (SoC) microprocessor offers a balanced combination of three capabilities - Power Architecture processors for portability of heritage software, large memory capacity powered by dual interleaved DDR3 DRAM memory interfaces, and high I/O throughput based on serializer/deserializer (SerDes) high-speed links. The RAD5545 SoC microprocessor singlehandedly replaces multiple cards of previous generations with four RAD5500™ 32/64-bit Power Architecture processor cores, three levels of on-die cache, four RapidIO® (SRIO) ports, and a 16-port SpaceWire router.

**Features:**

- Processor throughput of up to 5.6 giga operations per second (GOPS)/3.7 GFLOPS
- Memory bandwidth of up to 102 Gb/s and I/O throughput of up to 64 Gb/s
- 16-port router supports space-specific SpaceWire serial protocol