

A high-performance, low-power, flexible platform for next-generation on-board payload data processing applications

Beese, T.

Clear Speed

Next-generation on-board payload processing needs include: • High performance • High power efficiency • High numerical accuracy through floating point • High data throughput • Full programmability • Powerful software development tools To meet all these needs in future satellite systems, a solution will need to provide a flexible platform that can be manufactured on silicon processes that enable radiation hardening while exploiting commercially available designs and programming tools to maximize efficiencies. About ClearSpeed Technology plc ClearSpeed Technology plc is a European company, headquartered in Bristol, UK. ClearSpeed is recognized as the world's leading provider of high performance and high power efficiency processors and solutions for compute-intensive applications. ClearSpeed's current products include the CSX600, a 40 GFLOP processor that consumes just 10 watts and is fully programmable in C. The CSX600 is supported by a powerful set of standard software development tools including the industry standard GNU debugger and the Eclipse integrated development environment. A broad set of application libraries for FFTs and other math functions assist developers in porting their applications. Figure 1 - ClearSpeed's CSX600 processor, e620 accelerator board, and debugging and profiling tools ClearSpeed recently announced an agreement releasing its next generation processor design to BAE Systems for satellite programmes.