



rfengines

experts in signal processing for FPGA



Newsletter Q4
November 2008

Welcome to another edition of the RF Engines newsletter which we hope you will find interesting and informative. RF Engines has been going from strength to strength with new products and innovative custom solutions for customers. Within the last year, an additional eight specialist systems and VHDL engineers have joined the company, mostly PhDs. The new people have brought in knowledge and experience from working in companies including ARM, Doulos, Toshiba, BAE Systems, DSTL, Imagination and Nujira, and have integrated well with the existing team; we are expecting to grow at a similar rate over the coming year. We have a tremendous wealth of experience to draw upon that enables us to create solutions that really meet your needs.

Please note that in addition to our leading FPGA cores and system-on-chip designs, we also provide a comprehensive system design and consultancy for FPGA based systems, and this type of work is forming an increasing part of our business.

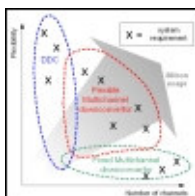
Please don't hesitate to [contact us](#) if we can provide any more information on these items or on any of our other products.

And finally as a normal 'health warning' - you can choose to unsubscribe by hitting the 'SafeUnscribe' button at the end of the text, but we do hope you won't.....!

Best regards for now.

The RFEL team.

New datasheet on RF Engines' HyperSpeed range of high performance FFT cores now available



A new datasheet is now available on the 'HyperSpeed' range of high-performance FFT cores, on our website www.rfel.com. The cores are factory scalable in terms of transform length and processing parallelism and can be built to optimally process complex data streams with very high sample rates from 400MS/s to several GS/s. The cores use a parallel pipelined processing architecture, which allows continuous real time data to be processed with no gaps between frames.

These HyperSpeed FFT cores are intended for use in applications where processing speed is critical and optimum use of available silicon is required. Targeted at Xilinx Virtex 4 and Virtex 5 families of FPGA and transferable to Altera, they can deliver continuous real time processing of complex data at

up to several Giga Samples per second.

[HyperSpeed FFT cores](#)

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QinetiQ contract RF Engines for novel LIDAR project



Specialised FPGA-based hardware design for advanced LIDAR system

RFEL have recently completed the design and supply of prototype hardware and firmware for a novel QinetiQ 3D imaging LIDAR system. LIDAR is an acronym for Light Detection and Ranging, and is an optical technique for measuring distance, speed, movement and other parameters of a distant object. The next stage of QinetiQ's project is likely to see the development of a pre-production system to be used for more extensive field trials.

[QinetiQ's LIDAR project](#)

Further contract with Thales UK



Specialised FPGA design for advanced digital receiver

RFEL have been awarded a further contract by Thales' Land & Joint Systems Division for the rapid supply of a complex FFT-based design on a single Altera Cyclone II FPGA. The design is a key requirement for a new digital receiver design.

The contract is for a complete chip design comprising a bespoke 32,768-point FFT and associated functions and controls, including implementation of specialist algorithms, some proprietary Altera IP, conversion to floating-point magnitude format, and the serialisation of the buffered output data.

The extensive experience that RFEL has in this area of signal processing, coupled with the use of existing IP cores for FPGA, means that RFEL offered Thales a very cost effective and low risk route to achieving a critical processing element in the system.

[Thales UK digital receiver](#)