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## **RF Engines Ltd (RFEL) launches highly configurable, multichannel RF signal generator**

***“Enables challenging RF environments to be recreated in  
Test and Measurement Labs”***

**Newport, Isle of Wight, UK – 02 February 2010** -- RF Engines Limited (RFEL) has developed a highly sophisticated, 32 channel RF signal generator that is designed to enable challenging RF environments to be recreated in labs to test RF equipment. RFEL's world class expertise in RF and signal processing has enabled them to create a complete solution on a Xilinx Virtex-5 FPGA chip than is run within a PC on a PCI-express card. The **PCI Upconverter** is a very flexible and configurable system that replaces racks of expensive RF test equipment offering significant saving for Test and Measurement Laboratories.

“There are so many sources of RF these days such as Tetra, mobile phones, Bluetooth, WiFi, and microwave links, meaning that sensitive equipment can be deluged with signals in a real world environment and not function properly,” explained John Summers, RFEL's CEO. “At the moment, the solution for test laboratories is to use racks of arbitrary waveform generators coupled to mixers and modulators with each channel, and so incurring very high equipment and configuration costs. By contrast, our solution can generate up to 32 simultaneous channels of complex and bespoke test scenarios, so achieving providing huge cost savings.”



In addition, current solutions generate signals from data stored on memory chips so that the signals repeat after a few seconds. By contrast, the PCI Upconverter streams its data from hard disks so that 32 channels of different signals can be generated over several days recreating real environments for proper soak testing. The complex modulated signals themselves can be created in MATLAB or similar programmes with any type of waveform modulation including Frequency hopping, TDMA, FDMA, CW, QPSK and QAM, and the characteristics can be manipulated in real-time. Each channel can be individually programmed with the required bandwidth and being digitally generated, there are no sideband or filtering issues that would be problems with multiple signal analogue systems. The system is controlled via a simple API on a Windows platform, and is provided with a suite of functions that allow direct control from a MATLAB environment. The integral MATLAB Graphical User Interface simplifies operations and makes the system “look and feel” like a piece of test equipment.

## **RF Engines Ltd**

RF Engines Limited (RFEL) is a UK-based electronic systems designer, providing high specification signal processing solutions for FPGAs, as well as supplying digital receiver and complete product solutions for the homeland security, defence, communications and instrumentation markets. Applications include communications base stations, satellite communications systems, test and measurement instrumentation, and bespoke wideband receivers/transceivers.

### **Further Information and illustrations**

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