

Nutaq's 2014 Software-Defined Radio Academic US National Contest Sponsored by MathWorks and Xilinx

Nutaq is proud to announce its 2014 Academic US National Contest, a chance for you and your team to win a [Nutaq PicoSDR](#) FPGA-based software-defined radio development platform, a Model-Based Design Kit (MBDK), a MIMO OFDM reference design (QAM-64), and software development tools from MathWorks and Xilinx – a \$16,000 value! The contest aims at encouraging innovation and supporting academics in their efforts to develop tomorrow's technologies.

The grand prize:

- A Nutaq 2x2 MIMO PicoSDR (Virtex-6 SX315T) with PCIe expansion and MIMO OFDM reference design (QAM-64)
- MathWorks MATLAB and Simulink with the Signal Processing Toolbox
- Xilinx ISE Design Suite System Edition and System Generator for DSP

Are you an active member of the research community working in one of the following fields?

- Software-defined radio
- Small cells
- Tactical data links
- Radars
- Cognitive radio
- Unmanned vehicles links
- Signals intelligence and electronic warfare
- Satellite communication
- Localization algorithms
- Wireless spectrum analysis and monitoring
- Channel sounding and channel emulation



<http://content.nutaq.com/2014ContestRegistration.html>

No purchase is required. Submit your project idea to enter the contest.

As a provider of software-defined radio (SDR) platforms for prototyping new cognitive radio waveforms and protocol stacks, Nutaq has announced its 2014 Academic US National Contest. Registration is easy: submit a brief project idea and the team with the best project idea wins an SDR kit. The contest aims at encouraging innovation and supporting academics in their efforts to develop tomorrow's technologies. The submitted project proposals are evaluated by an independent expert committee based on criteria available on the contest web page. Research groups are asked to submit a project proposal. The team who submitted the project proposal that receives the highest scores wins the grand prize.

Proposed Project (15 pts)

Describe the proposed project and explain why it is innovative. Throughout the evaluation of the project description, the independent technical committee seeks a global understanding of the proposed project, its innovative aspects, and how it pushes the boundaries of modern technology.

Features of the PicoSDR 2x2 (50 pts)

Identify features of the PicoSDR-2x2 that are essential to the project. This section will receive a lot of consideration; the more each feature is used to its full potential, the higher the score. On the software side, the independent technical committee will be focusing on the use of the model-based design kit (MBDK) and the use of GNU Radio, both of which are proven to substantially reduce development time. The SDR platform provided to the winning team as part of the grand prize is 2x2 MIMO, a large FPGA (Virtex-6 SX315T), and is equipped with a rear PCI Express connector. The independent technical committee will be looking for the use of Nutaq's PCI Express drivers, the substantial use of FPGA resources, and the use of 2x2 MIMO in the proposed projects.

Project Outcome (15 pts)

Describe how the outcome of the research project will be shared with the community. Previous projects can be used as examples to describe how the group typically shares the outcome of their work (e.g. through publications or industry/government partnerships). The independent technical committee will be looking for the team's previous participation in journal papers, conference papers, blogs, and industry whitepapers to determine the potential impact the proposed project could have on modern technology and ensure the outcome will be properly conveyed.

Team Introduction (20 pts)

Introduce the team working on the proposed research project. In this part, the independent technical committee seeks information on the team structure. The lead professor, research assistants, Ph.D. students, and any resources to be involved in the project's execution can be listed to help highlight the team's capabilities to execute the proposed project. The name of the legal entity receiving the prize (hardware and software licences) must be stated.

The scores will be compiled and 10 finalists will be asked to submit a full abstract describing in-depth their research project. The abstracts will be evaluated based on the same criteria to choose the winner of our grand prize. The goal is to put an SDR kit into the hands of the team that has put forward the best project idea. The winners have full ownership of the project's outcome and any intellectual property developed along the way. Detailed rules are available at <http://content.nutaq.com/2014ContestDetails.html>.

Nutaq wishes to thank its sponsors for making this contest possible. Good luck, to all participants. May the best SDR project win!

The Nutaq Team

About Nutaq

Nutaq is a leader in supplying digital signal processing (DSP) boards, systems, design services and OEM products for the wireless, smart vision, scientific and defense markets. Nutaq develops platforms and solutions incorporating field-programmable gate arrays (FPGA) and digital signal processors (DSP). Nutaq's objective your projects with our expertise and experience.