PROJECT / RF IC Design Automation

RAPID

Main Objective:

The RAPID project addresses Radio Frequency (RF) Integrated Circuit (IC) design automation. The RAPID project aims at developing, implementing and testing an innovative RF IC design automation solution, AIDA-RF, which will support designers on reducing the RF ICs design's time-to-market and, simultaneously, make possible the efficient exploration of larger design spaces using machine learning techniques. In order to achieve this goal, within the time period of the project, AIDA-RF will be built on top of AIDAsoft environment (www.aidasoft.com), fully developed by ICG-Lx team at IT and which has one module, AIDA-C, already in use by the international microelectronic industry. The proof of concept will be made by producing 2 RF ICs prototypes during the time frame of the project and by producing additional design examples of RF building blocks. Additionally, the RAPID proposal intends to explore the automatic generation of soft and hard intellectual properties (IP), which will correspond to a ready to use fully characterized RF building block with or without layout description, respectively. Finally, the proposed approach will be implemented as a standalone application with interfaces with major CAD tools, such as, CADENCE IC Design Framework, so that, in can be easily embedded in the traditional RF IC design flow, and, so, be massively used by IC designers.

Reference: UIDB/EEA/50008/2020, Funding: IT/LA, Start Date: 01-07-2016

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Groups: Integrated Circuits - Lx, Wireless Circuits – Lx, Pattern and Image Analysis – Lx

Partners: Instituto de Telecomunicações

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