

Supervisor's recommendation

Author: **Ing. Dominik Malčík**

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Title: **Analysis of attacks on (micro)chips and development of enhancement of their robustness/security**

Supervisor: **Prof. Ing., Dipl.-Ing. Martin Drahanský, Ph.D.**

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We know each other with Dominik Malčík since 2010, when he started solving the MSc. thesis entitled "*Microscopic Analysis of Chips Security*" and successfully defended this in 2011. Since 2011 he has become a full member of the STRaDe research group at FIT BUT as a Ph.D. student. He chose a very challenging topic, which is usually solved by entire research teams with extensive technical equipment. Dominik showed endurance in constant work with various partners outside the Faculty of Information Technology at BUT, which was necessary due to a lack of advanced professional (and very expensive) equipment at our faculty. He published most of the results as a sole author, i.e. without having a big team behind him. During the solution, we managed to arrange contacts in key companies, which play a significant role in solving hardware oriented technical problems. Colleagues from the Faculty of Chemistry at BUT also helped significantly. I don't want to forget to mention that based on the thesis' results, we were invited by NXP Semiconductors Germany GmbH, State Printing Works of Securities (CZ) and MONET+ a.s. (CZ) to discuss further cooperation and possible joint projects, which shows an interest of these three high-tech subjects in the results that have been achieved.

Dominik is an extremely purposeful and very hard-working person. I really appreciate his ability not to give up and finish the work he started. His technical and professional knowledge led to the preparation of a methodology for chip analysis, and in a relatively short time he managed to acquire such knowledge that large teams collect for a huge number of years. Throughout the time, he devoted himself to his own business activities, which further increases my admiration in strength and motivation to bring his dissertation to the final stage and submit it, including the continuous publication of relevant results. When he could, he also helped with various activities of our research group.

Hereby, in conclusion, I definitely recommend his work to defend and to award the Ph.D. title.

In Brno on 2020-08-31