Internship Proposal 2022

Company

ESEO

10 Boulevard Jeanneteau CS 90717, 49107 Angers Cedex 2, France

Université d'Angers, Polytech Angers, 62 avenue Notre Dame du lac, 49000 Angers

Principal location ESEO, 10 Boulevard Jeanneteau, Angers

Duration 3 to 6 months depending on the profile

Title Electrical Fast Transient Immunity Characterization of Integrated Circuits

Keywords

Electrical Fast Transient (EFT), Integrated Circuit (IC)

Content

The electric fast transient (EFT)/Burst testing method is widely performed in accordance to the IEC 61000-4-4 standard in order to analyze the conducted electromagnetic susceptibility of integrated circuits (ICs) to transient-conducted interference.

The EFT signal is produced by the generator, consisting of series of bursts that can be injected into either functional or power supply pins of ICs using magnetic or electric coupling. Consequently, this electromagnetic interference is responsible for causing temporary malfunction or even permanent damage of the IC. EFT generator can produce interference pulses in groups with high repetitive frequency, amplitude (up to 5 kV) and short rise time.

Ongoing project works would require assessing the electromagnetic immunity of ICs. As a case study, it involves testing the functionality of the IC device under test (DUT) against the different amplitude levels of the EFT pulse disturbance until the IC failure or malfunction is observed. The EFT measurement test would be performed for characterizing its electromagnetic compatibility and develop reliability model to predict its long-term electromagnetic robustness against the behavioral stresses.

These objectives will be pursued with the achievement of different tasks. (1) Immunity characterization of an IC under various EFT pulse disturbances, and (2) Simulation and measurements of a real case study.

Profile

Experience level: 1st or 2nd year of Master/ Engineering school

Electrical Engineering/ Electronic Engineering or DUT physical measures

The student will have knowledge in the field of electronics. He/she should be comfortable with programming, electronics and classic office tools.

Application

Please send your CV, motivation letter, and the contact details of two references to:

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