Silicon Mobility

Internship
Description

Software Application Development for DCDC Converter
(SM-STC 004 / 2023)

What we offer

Company	**SILICON MOBILITY SAS** *(registration number 815 085 659 000 RCS Grasse)* Head office : Les Aqueducs – Bât 2 – 535, route des Lucioles – 06560 Valbonne Sophia-Antipolis The Automotive industry is living a revolution. Electrification, autonomous driving, diverse mobility, and connectivity are trends that are changing the industry's rules. Among all decisive topics revolutionizing cars in the next future, Silicon Mobility is committed to supporting the rapid advent of electric and hybrid cars. Silicon Mobility is a technology leader for cleaner, safer, and smarter mobility. The company designs, develops and sells flexible, real-time, safe, and open semiconductor solutions for the automotive industry used to increase energy efficiency and reduce pollutant emissions while keeping passengers safe. We are looking for a motivated candidate to join our company in Sophia-Antipolis on the French Riviera. Please contact us: **internship2023@silicon-mobility.com**
Offer ref.	SM-STC 004-2023
Subject – Offer title	Software Application Development for DCDC Converter
Duration	5-6 months– between February/March/April and September 2023
Work hours	35 hours per week, job location at Silicon Mobility office
Education	Last year of Master (BAC+5 or equivalent)
Content/ mission	As part of the R&D System and Software team, the intern will participate in the development of the embedded software for DC-DC converter control application for Silicon Mobility's OLEA® FPCU System-on-Chip dedicated to automotive applications. The intern will contribute to the development, integration, and configuration of the software modules from specification down to verification using dedicated testing tools, covering the AGILE development flow with the project team. The purpose of this internship is to analyse, define, develop, configure, and test the software solution. During the internship period, several tasks will be addressed: 1. Requirements analysis As part of this task, the intern will get familiar with the proposed DC-DC control algorithm, the architecture of OLEA® FPCU, the development tools used including OLEA® COMPOSER environment and flow. A particular attention will be paid to the interface and resources to be used by the DC-DC application and the relevant safety concepts. 2. System and Software specification Based on the previous analysis, the intern will have to write a detailed specification of the solution in collaboration with other R&D team members as well as the customer support team. This specification shall cover following aspects: • Software modules definition and interfaces, configuration, and integration principles • Embedded software design for code generation • User guide and engineering documentation compliant with the ISO 26262 standard. 3. System and Software development

	During this task, the intern will have to develop, integrate, and validate the different components of the embedded software.
Profile required	For this internship, we are looking for a candidate with good knowledge of embedded systems, embedded C programming, and high-level programming language. Good skills in hardware design for embedded systems would be appreciated. The candidate shall be autonomous, rigorous with a strong team spirit. English speaking is required.
Expected Skills/knowledge	• General knowledge of microcontroller development • Development of embedded software on ARM processor • Critical real-time embedded software on ARM processor • Requirements analysis and specifications writing • Notions of planning and project management • Quality management skills
Remuneration	€1400/month + Tickets Restaurant + Public transport