

Case Study



ADC IP Generation

“Engaging with MCCI enabled the external validation from the MCCI research team of the ADC requirements and specifications for the intended application. In addition to the IP licensed as a result of the project, we were delighted to have the ability to identify new talent during the engagement, who were hired once the project was completed”. John Ryan, VP Engineering, Rohm Semiconductor.

Overview

Rohm/Powervation designs and delivers energy-efficient solutions for power-supply systems used in networking, storage and computing applications. The company’s digital power IC technology brings fully automatic adaptive control to DC/DC conversion for the first time, in a reliable package that reduces design complexity and cost, increasing power-supply performance and accelerating time to market.

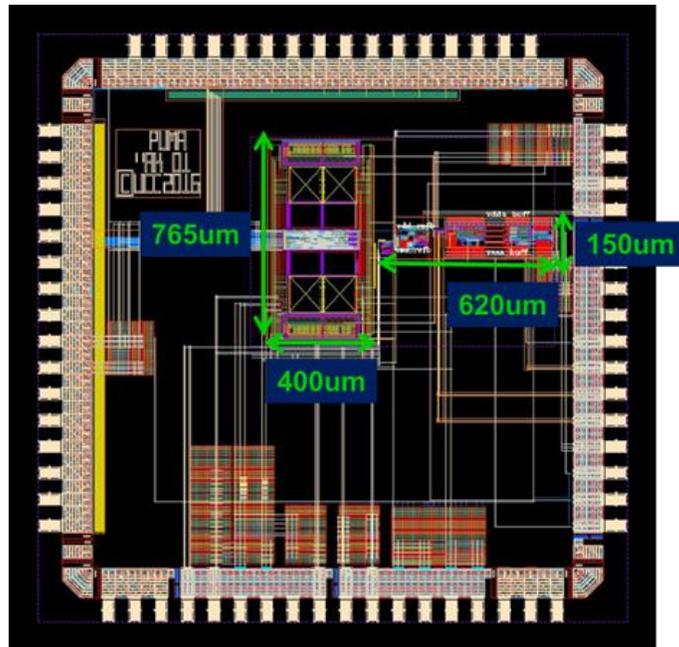


Challenges

A critical component of Rohm power-supply controller solution, is an integrated 11 bit Analog to Digital Converter (ADC), which is used to provide precision measurement of the load voltage, load current and other internal system parameters. Rohm had identified the ADC as one of the blocks which limits the performance that can be achieved with their current generation of products. To enable their fourth generation product family, a significant performance improvement in the ADC performance was essential. They came to MCCI to develop a state-of-the-art ADC, which would enable a significant performance improvement in their next generation of products.

Benefits of Collaboration

Rohm/Powervation engaged with MCCI under an Enterprise Ireland Innovation Partnership agreement, to research and design a new ADC which met the requirements of their application. MCCI's research expertise was leveraged to deliver significant improvements in the ADC signal bandwidth and latency, increasing the efficiency of the power supply as well as reducing the bill of materials. The ADC performance delivered by MCCI enables new market segment opportunities within the power solutions industry for Rohm.



Research Outcomes

Since engaging with MCCI, Powervation have been acquired by multinational electronics company Rohm. The research collaboration enabled the company to develop new IP as well as attracting top engineering talent. This was an important outcome for the design group at Rohm. The successful collaboration and engagement in the MCCI ecosystem, who have established a track record in attracting world class researchers and transferring them to industry.

The engagement with Rohm is another example of creating real impact from research. An important value add of the centre is the creation and commercialisation of IP to benefit industry. We were delighted to see Rohm look to hire some of the researchers involved in this project, gaining from knowledge transfer through researchers in addition to the digital assets created during the research". Donnacha O'Riordan, MCCI, Executive Director.

