Record Nr. UNINA9911002557203321 Autore Ortega Cisneros Susana Titolo Integrated Circuit Design: Tape-out Process with Open-Source Tools / / by Susana Ortega Cisneros, Emilio Isaac Baungarten Leon, Pedro Mejia Alvarez Cham:,: Springer Nature Switzerland:,: Imprint: Springer., 2025 Pubbl/distr/stampa **ISBN** 9783031921087 9783031921070 Edizione [1st ed. 2025.] Descrizione fisica 1 online resource (118 pages) Collana SpringerBriefs in Computer Science, , 2191-5776 Altri autori (Persone) Baungarten LeonEmilio Isaac Mejia AlvarezPedro Disciplina 004.22 Soggetti Microprocessors Computer architecture Electronic circuits Open source software **Processor Architectures** Electronic Circuits and Systems Open Source Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto 1: Introduction -- 2: Physical Design Flow -- 3: Process Design Kit --4: Introduction to OpenLane -- 5: Macro-Cells and RAM-Cells with OpenLane -- 6: Exploring OpenLane through Case Studies and Exercises -- 7: Caravel. This book provides a structured and comprehensive pathway through Sommario/riassunto the complexities of Electronic Design Automation (EDA) tools and processes. It focuses on OpenLane and Caravel EDA tools, due to their current major role in the open-source IC design ecosystem. OpenLane provides a robust and flexible platform that automates the entire digital design flow from Register Transfer Level (RTL) to Graphic Data System II (GDSII), making it an ideal tool for teaching and learning the physical design process. Caravel, on the other hand, serves as an opensource System on a Chip (SoC) platform, allowing designers to integrate

and test their designs in a versatile, real-world environment. It complements OpenLane by enabling users to package and validate their designs, bridging the gap between theoretical knowledge and practical implementation. Together, these tools provide a way to understand the full tape-out process in a way that is accessible to students, researchers, and professionals alike.