Record Nr. UNINA9910631082303321 Autore Liu Leibo **Titolo** Software Defined Chips: Volume II / / by Leibo Liu, Shaojun Wei, Jianfeng Zhu, Chenchen Deng Singapore:,: Springer Nature Singapore:,: Imprint: Springer,, 2023 Pubbl/distr/stampa **ISBN** 981-19-7636-8 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (330 pages) Collana **Engineering Series** Disciplina 621.3815 Soggetti **Electronics** Electronic circuits Microprocessors Computer architecture Microprogramming Logic design Electronics and Microelectronics, Instrumentation **Electronic Circuits and Systems Processor Architectures** Control Structures and Microprogramming Logic Design Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. Programming model -- Hardware Security and Reliability -- Technical Nota di contenuto Difficulties and Development Trend -- Current Application Fields --Future Application Prospects. Sommario/riassunto This book is the second volume of a two-volume book set which introduces software-defined chips. In this book, the programming model of the software-defined chips is analyzed by tracing the coevolution of modern general-purpose processors and programming models. The enhancement in hardware security and reliability of the software-defined chips are described from the perspective of dynamic and partial reconfiguration. The challenges and prospective trends of

software-defined chips are also discussed. Current applications in the fields of artificial intelligence, cryptography, 5G communications, etc.,

are presented in detail. Potential applications in the future, including post-quantum cryptography, evolutionary computing, etc., are also discussed. This book is suitable for scientists and researchers in the areas of electrical and electronic engineering and computer science. Postgraduate students, practitioners and professionals in related areas are also potentially interested in the topic of this book.