

1. Record Nr.	UNINA9910438042503321
Autore	Fasthuber Robert
Titolo	Energy-efficient communication processors : design and implementation for emerging wireless systems // Robert Fasthuber [and three others]
Pubbl/distr/stampa	New York : , : Springer, , 2013
ISBN	1-4614-4992-8
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (xxii, 289 pages) : illustrations
Collana	Gale eBooks
Disciplina	621.3981
Soggetti	Wireless communication systems Electronic systems - Energy consumption Electronic data processing - Distributed processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Context and State-of-the-Art -- Processor Template for the Wireless Domain -- Case Study 1: MIMO Detector -- Case Study 2: FIR Filter -- Case study 3: FFT -- Front-End Design for the Processor Template -- Back-End Design for the Processor Template.
Sommario/riassunto	This book describes a new design approach for energy-efficient, Domain-Specific Instruction set Processor (DSIP) architectures for the wireless baseband domain. The innovative techniques presented enable co-design of algorithms, architectures and technology, for efficient implementation of the most advanced technologies. To demonstrate the feasibility of the author's design approach, case studies are included for crucial functionality of advanced wireless systems with increased computational performance, flexibility and reusability. Designers using this approach will benefit from reduced development/product costs and greater scalability to future process technology nodes. Describes a DSIP architecture explicitly for the wireless domain, significantly more efficient than methods commonly in use; Includes an efficient DSIP architecture template, which can be reused for specific designs; Uses holistic design approach, considering all relevant requirements and combining many innovative/disruptive design concepts; Enables design portability, given changing target

devices.

---