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Sommario/riassunto

Fundamentals of 5G Mobile Networks provides an overview of the key features of the 5th Generation (5G) mobile networks, discussing the motivation for 5G and the main challenges in developing this new technology. This book provides an insight into the key areas of research that will define this new system technology paving the path towards future research and development. The book is multi-disciplinary in nature, and aims to cover a whole host of intertwined subjects that will predominantly influence the 5G landscape, including Future Internet, cloud computing, small cells and self-organizing networks (SONs), cooperative communications, dynamic spectrum management and cognitive radio, Broadcast-Broadband convergence, 5G security challenge, and green RF. The book aims to be the first of its kind towards painting a holistic perspective on 5G Mobile, allowing 5G stakeholders to capture key technology trends on different layering domains and to identify potential inter-disciplinary design aspects that need to be solved in order to deliver a 5G Mobile system that operates seamlessly as a piece of the 5G networking jigsaw. Key features: * Addresses the fundamentals of 5G mobile networks serving as a useful study guide for mobile researchers and system engineers aiming to position their research in this fast evolving arena. * Develops the Small cells story together with next?]generation SON (self-organizing

networks) systems as solutions for addressing the unprecedented traffic demand and variations across cells. * Elaborates Mobile Cloud technology and Services for future communication platforms, acting as a source of inspiration for corporations looking for new business models to harness the 5G wave. * Discusses the open issues facing broad?]scale commercial deployment of white space networks, including the potential for applications towards the future 5G standard. * Provides a scientific assessment for broadcast and mobile broadband convergence coupled together with a 'win-win' convergence solution to harmonize the broadcasting and mobile industry. * Describes the key components, trends and challenges, as well as the system requirements for 5G transceivers to support multi?]standard radio, a source of inspiration for RF engineers and vendors to tie down the requirements and potential solutions for next generation handsets.