Record Nr. UNINA9910299821503321 Autore Zhao Dixian Titolo CMOS 60-GHz and E-band Power Amplifiers and Transmitters / / by Dixian Zhao, Patrick Reynaert Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2015 **ISBN** 3-319-18839-9 Edizione [1st ed. 2015.] Descrizione fisica 1 online resource (188 p.) Collana Analog Circuits and Signal Processing, , 1872-082X Disciplina 621.382 Soggetti Electronic circuits **Electronics** Microelectronics Circuits and Systems **Electronic Circuits and Devices** Electronics and Microelectronics, Instrumentation 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 at the end of each chapters and index. Nota di contenuto Introduction -- PA and Transmitter Basics -- mm-Wave Active and Passive Devices -- Low-Power and Efficiency Enhancement Techniques for mm-Wave PAs -- mm-Wave Outphasing Transmitter -- mm-Wave Broadband Direct-Conversion TX towards 10+Gb/s -- mm-Wave Broadband Power Amplifier towards 20+dBm -- Conclusion and Outlook. Sommario/riassunto This book focuses on the development of design techniques and methodologies for 60-GHz and E-band power amplifiers and transmitters at device, circuit and layout levels. The authors show the recent development of millimeter-wave design techniques, especially of power amplifiers and transmitters, and presents novel design concepts, such as "power transistor layout" and "4-way parallel-series power combiner", that can enhance the output power and efficiency of power amplifiers in a compact silicon area. Five state-of-the-art 60-GHz and E-band designs with measured results are demonstrated to prove the

effectiveness of the design concepts and hands-on methodologies

presented. This book serves as a valuable reference for circuit designers to develop millimeter-wave building blocks for future 5G applications.