Special Issue

Microwave Integrated Core-Chips

Message from the Guest Editors

Core chips (CCs), also called multi-function chips (MFCs), are highly integrated MMICs that perform all the core functions of a TRM, and thus they allow the combination of phased array controls, switches and amplifiers on the same chip, possibly with embedded digital controls and interfaces. The main challenge in developing compact and efficient core chips is combining a high level of integration with high yield and repeatability and, possibly, low cost. Moreover, enabling digital/RF integration is also challenging from a technological standpoint, requiring MMIC processes capable of offering simultaneously high cut-off frequencies and thus good RF performance (up to Ka-band) and digital features, such as complementary transistors with efficient switching behavior. At present, depending on the most demanding aspect of a specific core chip, the preferred technology can be selected, and both Si-based and compound semiconductor technologies are still in the race. This Special Issue will include technical papers covering all the various aspects of core-chip development, from enabling technologies to specific sub-components demonstrators and complete CC modules.

Guest Editors

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Electronics is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guest-edited by leading experts in selected topics of interest.

Editor-in-Chief

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