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FOREWORD

Special Section on Analog Circuits and Related SoC Integration Technologies

The rapid progress of IOT (Internet Of Things) demands the evolution of integrated circuits in many fields such as information system, health/biomedicine, and energy management. Recent analog circuits and its integration technologies have made a great contribution in these fields. Challenges toward enhanced functionality as well as excellent performance of analog circuits, while keeping low power and low cost, are strongly demanded for the next-generation applications.

Considering the strong and steady desire for innovations in analog technologies, we, editorial committee, would like to publish "Special Section on Analog Circuits and Related SoC Integration Technologies" in this year, also. This special section includes two invited papers and five submitted papers. One of the invited papers contributed by Mr. Ohguro (Toshiba Corporation). This paper describes the process, layout and device technologies of FinFET to obtain highperformance RF and analog/mixed-signal circuits. The other invited paper contributed by Dr. Okada (Tokyo Institute of Technology). In this paper, the importance and perspective for digitally-assisted analog and RF circuits are discussed, especially related to wireless transceivers. The five submitted papers describe various interesting circuit techniques related to clock generation, A/D conversion, and voltage generation We hope this special section will contribute to sharing new ideas and knowledge among readers, and hopefully trigger readers' new challenges for innovation of analog technology.

On behalf of the editorial committee of this special section, I would like to express our sincere appreciation to all the authors of the submitted papers. Also, I would like to thank all the reviewers and all the following committee members for their contribution to this editorial work based on their excellent expertise. Finally, I would like to express my heartfelt gratitude to Dr. Masanori Furuta for his devoted work.

Takahiro Miki, Guest Editor-in-Chief

Takahiro Miki *(Member)* received B.S., M.S., and Ph.D. degrees in electronics engineering from Osaka University, Japan, in 1980, 1982, and 1994. He joined, Mitsubishi Electric Corporation, Japan, in 1982 and moved to Renesas Technology Corporation, Japan, in 2003. He is currently with Renesas Electronics Corporation, Japan. In these companies, he has been engaged in the research and development of analog and mixed-signal circuits, including data converters, wireless communication circuits, sensor interface circuits, analog circuits for power control, and automated device sizing system. He has been a member of several international technical conference including Symposium on VLSI circuits (1998–2003), Custom Integrated Circuit conference (2003–2011), and International Solid-State Circuits Conference (2012–). Dr. Miki is a member of IEICE and a senior member of IEEE.