FOREWORD

Special Section on Microwave and Millimeter-Wave Technologies

It is my great pleasure and honor to announce the publication of the Special Section on Microwave and Millimeter-wave Technologies. This Special Section focuses on the latest research and developments, and the high-quality reviews related to the area of microwave and millimeter-wave technologies.

Microwave and millimeter wave technologies support modern society in various fields. They have been used worldwide for information communication applications such as 5G and satellite communications, radar and positioning applications such as weather radar and GPS, and energy applications such as microwave ovens and plasma heating. In the future, they are expected to continue to create new applications including Beyond 5G/6G, IoT, intelligent mobility, health monitoring, wireless power transfer, and microwave chemical processes, and so on. Further research and developments based on theory, design, simulation, measurement, system etc. are essential for microwave and millimeter-wave technologies to build a sustainable future society.

On behalf of the Editorial Committee, I would like to thank all authors for submitting their works to this Special Section. After careful reviews by the Editorial Committee, six invited papers and seven regular papers have been accepted for publication. The first invited paper features a nonradiative dielectric waveguide (NRD guide) invented by Professor Emeritus Tsukasa Yoneyama, Tohoku University and Tohoku Institute of Technology, who passed away in 2023. His great research achievements are and will continue to contribute to millimeter-wave/THz-wave technologies and applications. The subsequent five invited papers mainly focus on noncommunication applications, such as radar, microwave heating, and wireless power transfer.

Last but certainly not least, I would also like to express my sincere gratitude to the Editorial Committee members who have extensively contributed to this Special Section, all anonymous reviewers for their careful and thorough reviews, and the members of the IEICE Publication Department for their devoted services.

The members of the editorial committee of this Special Section are:
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Tomohiko Mitani *(Member)* received the B.E. degree in electrical and electronic engineering, the M.E. degree in informatics, and the Ph.D. in electrical engineering from Kyoto University, Kyoto, Japan, in 1999, 2001, and 2006, respectively. He was an Assistant Professor with the Radio Science Center for Space and Atmosphere, Kyoto University, in 2003. He has been an Associate Professor with the Research Institute for Sustainable Humanosphere, Kyoto University, since 2012. His current research interests include microwave heating application and microwave power transfer. He was a board member of Japan Society of Electromagnetic Wave Energy Applications (JEMEA) from 2014 to 2024. He was a treasurer of IEEE MTT-S Kansai Chapter from 2014 to 2017, and from 2019 to 2021. He has been a technical committee chair of IEEE MTT-S Kansai Chapter since 2022. He received the JEMEA Award in 2022.