Special Issue

High-Frequency Electromagnetic Technologies for 5G/6G Communications: Antenna Design and Signal Optimization

Message from the Guest Editors

The extremely rapid development of communication systems over the last few decades cannot be overemphasized. As expected, both hardware and software issues are being raised regarding the full implementation of these technologies, prompting a search for efficient solutions. With respect to hardware, as 5G operates from just below 1 GHz to 100 GHz, with the highest usable band (24–100 GHz) facilitating data rates of up to 10 Gbps, suitable antenna configurations include specific arrays. Although it has not yet been officially determined, 6G is expected to operate in the THz band, where severe constraints arise with respect to electromagnetic propagation. Novel THz-radiating structures include (but are not limited to) special versions of photoconductive, horn, lens, microstrip, and on-chip antennas. In wireless communication systems, machine learning (ML) is used to enhance beam-forming and beam-steering techniques to enable their adaption to dynamic channel conditions and enhance their energy efficiency. The ambition of this Special Issue is to showcase the most recent advancements made by internationally renowned scholars in this fascinating research area.

Guest Editors

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Deadline for manuscript submissions

15 March 2026

Electronics

an Open Access Journal by MDPI

Impact Factor 2.6
CiteScore 6.1

mdpi.com/si/250240

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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 guestedited by leading experts in selected topics of interest.

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