Special Issue

Advancements in Power Amplifier Design and Linearization Techniques for Wireless Communication Systems

Message from the Guest Editors

This Special Issue, explores cutting-edge developments in power amplifier (PA) technology, focusing on efficiency, linearity, and performance optimization for modern wireless networks. As 5G, 6G, and beyond demand higher data rates, wider bandwidths, and greater energy efficiency, PAs must support these requirements while minimizing distortion and spectral regrowth. It covers emerging PA architectures, including Doherty power amplifiers, load-modulated balanced amplifiers (LMBAs), outphasing PAs, and envelope tracking, which enhance their efficiency and bandwidth capabilities. Additionally, advanced linearization techniques such as digital predistortion (DPD) and machine learning-based methods are explored to mitigate nonlinearities. The rise in phased arrays, massive MIMO, and beamforming further emphasizes the need for high-efficiency low-distortion PA designs and fosters the development of dedicated multi-input PA architectures and linearization techniques. By integrating innovative research, this Special Issue aims to advance the development of next-generation high-performance PAs for wireless communication systems.

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

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