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Research Article

Low-Cost Transceiver Architectures for 60 GHz Ultra Wideband WLANs

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Abstract

Millimeter-wave multiport transceiver architectures dedicated to 60 GHz UWB short-range communications are proposed in this paper. Multi-port circuits based on 90° hybrid couplers are intensively used for phased antenna array, millimeter-wave modulation and down-conversion, as a low-cost alternative to the conventional architecture. This allows complete integration of circuits including antennas, in planar technology, on the same substrate, improving the overall transceiver performances.