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A Compact Bandpass Filter Using Microstrip Hairpin Resonator for WLAN Applications (Conference Paper)

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Abstract

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This work represents a microstrip hairpin resonator -based bandpass filter for Wireless Local Area Network (WLAN). Two short-circuited microstrip comb-lines have been coupled at the two sides of a rectangular-loop to construct the hairpin resonator . The Taconic TLX-8 material has been used as the substrate to design the filter at a center frequency of 2.45 GHz. The designed filter exhibits a two-pole Chebyshev response with an insertion loss of -0.37 dB and a minimum return loss of -34.03 dB. This compact filter has a fractional bandwidth of 4.37% which sharply selects the entire bandwidth of WLAN frequencies. © 2018 IEEE.

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