Abstracts

Analysis and design of a high-performance planar Marchand balun

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This paper presents an enhanced Marchand balun that offers excellent amplitude and phase balance performance. The enhanced Marchand balun is designed using compensated coupled lines. It employs capacitive compensation, a renowned technique for compensating the unequal even- and odd-mode phase velocities encountered in parallel-coupled microstrips. Analysis carried out in this study has proven that the finite directivity of coupled lines significantly affects the balun performance. The proposed capacitively-compensated Marchand balun is demonstrated at 2.1 GHz and has offered excellent results.

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