Abstracts

Chip-type LTCC-MLC baluns using the stepped impedance method

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A chip-type low-temperature co-fired ceramic (LTCC) multilayer ceramic (MLC) balun is presented in this paper. This balun is designed using the stepped impedance method. It uses a multilayer structure, meander lines, and multisection coupled lines. The use of multisection couple lines that have various characteristic impedance ratios can shrink the length of a quarter-wavelength coupled-transmission line and makes it very easy to match various impedances of balanced output. The proposed chip-type balun operates over a bandwidth of 2.25-2.65 GHz. The in-band phase and amplitude balances are excellent because of the symmetric structure and transmission-line trimming section. Measured results of the chip-type LTCC-MLC balun match well with the computer simulation.

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