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In this paper effectiveness of spread spectrum modulation techniques to the electromagnetic interference (EMI) suppression is investigated. Comparative evaluation of spread spectrum methods is reviewed and demonstrated with the aid of function generator and EMI receiver. Obtained results indicate advantageous features of random carrier frequency modulation (CFM), which results in more steady spectral distribution.

For a switch mode dc-dc converter, random and periodical sinusoidal CFM is systematically tested. Based on disturbance voltage measurements using Line Impedance Stabilization Network (LISN) and EMI receiver, conducted emission spectra are evaluated in function of the defined randomness index R and frequency range. For the acceptable range of R variations up the 20dB EMI suppression level was reached.

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