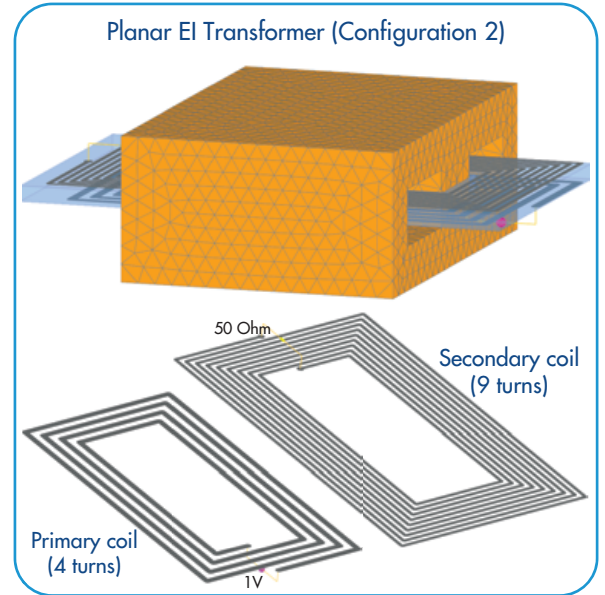
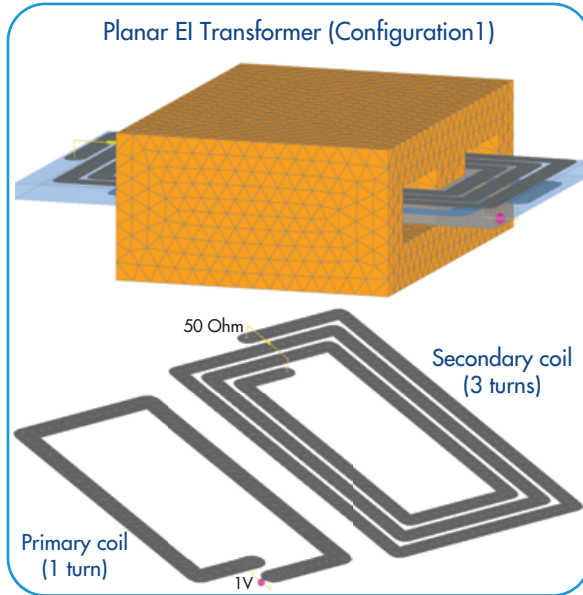




MODELING OF PLANAR TRANSFORMER WITH FERRITE EI CORE

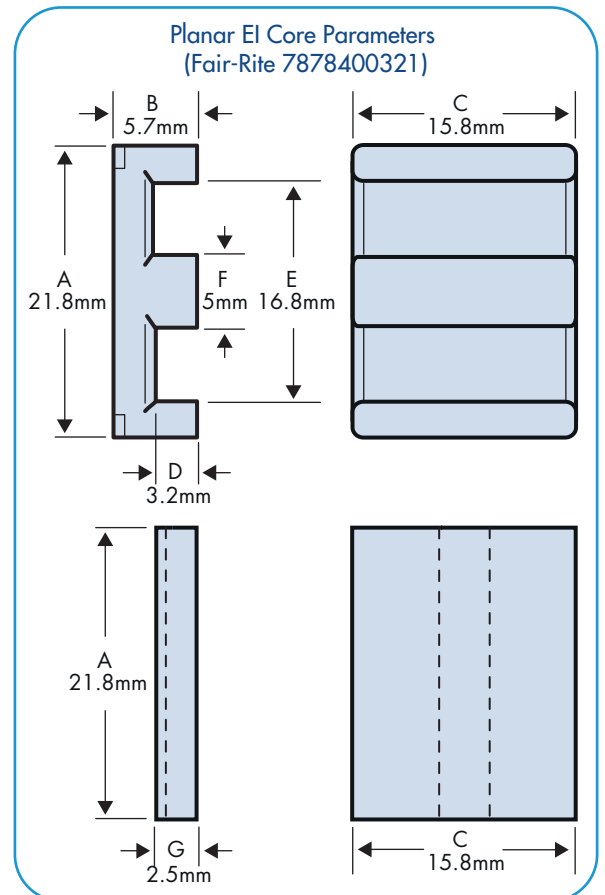
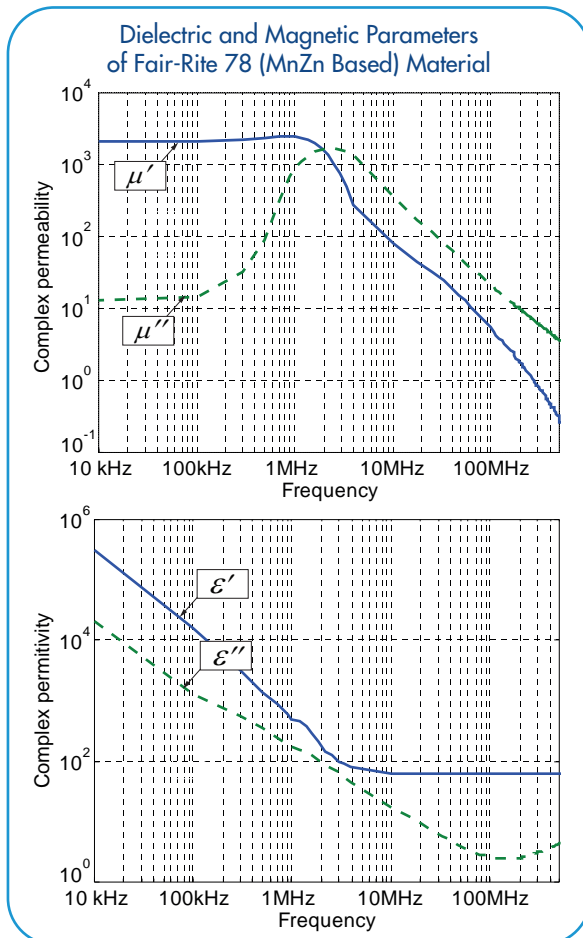
Introduction

This application note demonstrates modeling of planar transformer with ferrite EI core in EMCoS Studio environment. Model is constructed based on Fair-Rite EI 22/8 planar core (part number 7878400321). Two different configurations of primary and secondary transformer coils printed on FR4 dielectric substrate are investigated:



Simulation Model Description

Dielectric and magnetic parameters of Fair-Rite 78 MnZn based material were used for modeling of transformer ferrite core. Frequency range is from 10 kHz up to 100 MHz.

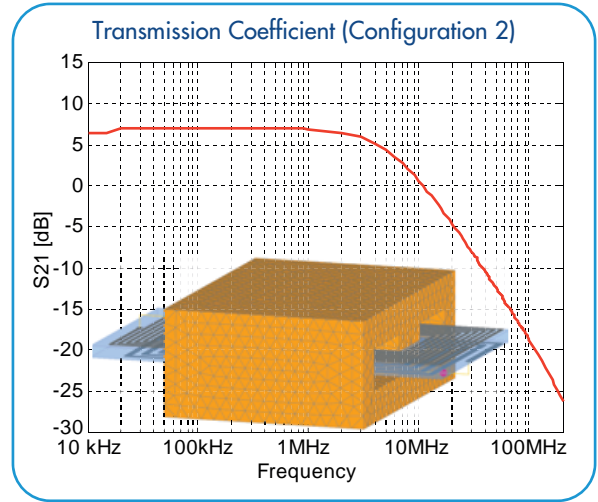
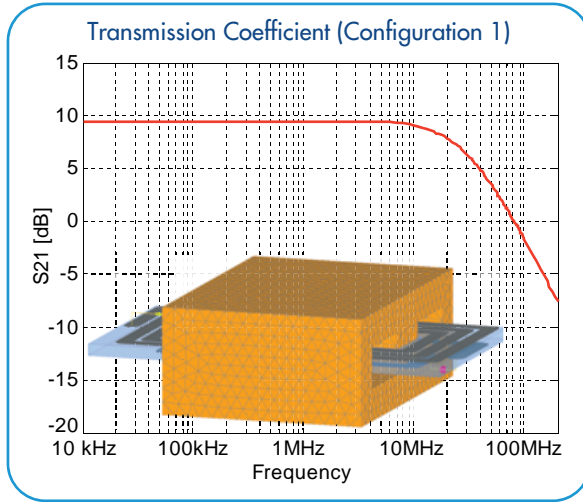




MODELING OF PLANAR TRANSFORMER WITH FERRITE EI CORE

Results

Transmission coefficients for both transformer configurations are displayed below:



B total near field distribution plots for two frequencies (100 kHz and 10 MHz) are presented below. Both transformer models with different configuration of the coils are considered:

