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Part Number: EFIELDEV

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The E-Field Evaluation Board (EFIELDEV) is designed to demonstrate E-field coupling under various conditions on a Printed Circuit Board (PCB). These experiments will help system designers understand the impact PCB layout techniques have on controlling E-field noise in their design.

The E-Field Evaluation Board PCB supports measurement of capacitive trace-trace coupling, in 1-layer, 2-layer, and 3-layer experiments; in each experiment, Transmitter-to-Receiver PCB trace spacings are varied, to demonstrate how coupling changes with distance.

The 2-layer and 3-layer experiments use 1-plane and 2-planes of shielding to further reduce coupling. Additional measurements demonstrate fringing (non-line-of-sight) and via density effects.

Limited by Gain Bandwidth of the on-board Operational Amplifier buffer/amplifier [needs external 9V] with Gain=1 or 10, experiments are run with frequencies from 10 kHz to 10 MHz from a Function Generator, amplitude measured using an oscilloscope; this range of frequencies illustrates how capacitive coupling is not dependent on frequency.

The PCB has eight experiments, with up to 8 different Transmit-Receive trace-to-trace setups.


[Features](#)
[Package Contents](#)

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[Documentation & Software](#)
[Back To Top](#)

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Electrical Field Evaluation Board Gerbers	11/29/2007 2:26:34 PM	321KB	