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Semiconductor Package EMI Shield Using Metal Clip Attach

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Keywords— *Metal clip; EMI; clip attach; EMI shield; semiconductor*.

I. Problem Identification

- Semiconductor packages may have input/output (I/O) signals that are sensitive and critical to electromagnetic interference (EMI), ultimately affecting and degrading the functionality of the signals

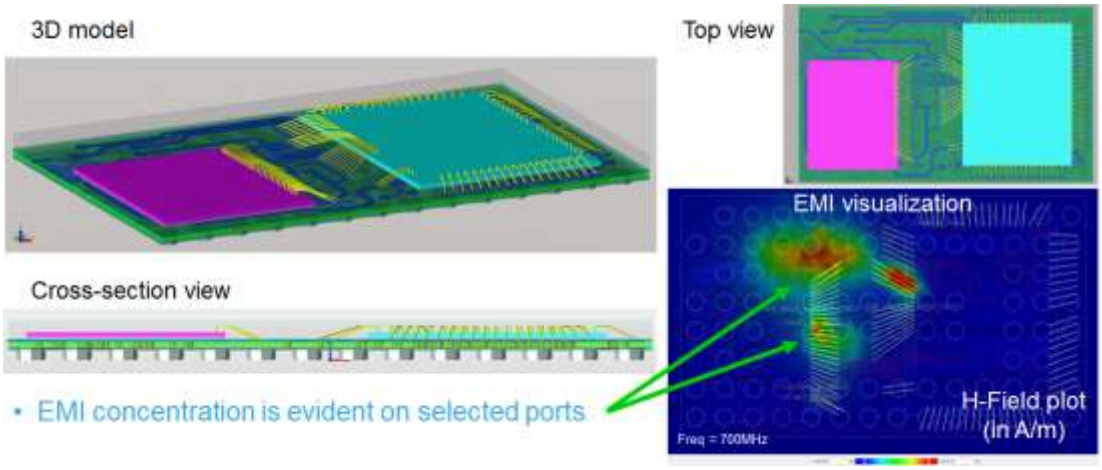

Fig. 1. Example of semiconductor package with EMI problem.

II. Package Design Solution

- The semiconductor package is augmented with metal clips through clip attach process to have EMI protection covering parts of the die, wirebonds, and metal traces
- Metal clips are connected to ground signal net of the semiconductor package to have EMI shielding on affected areas

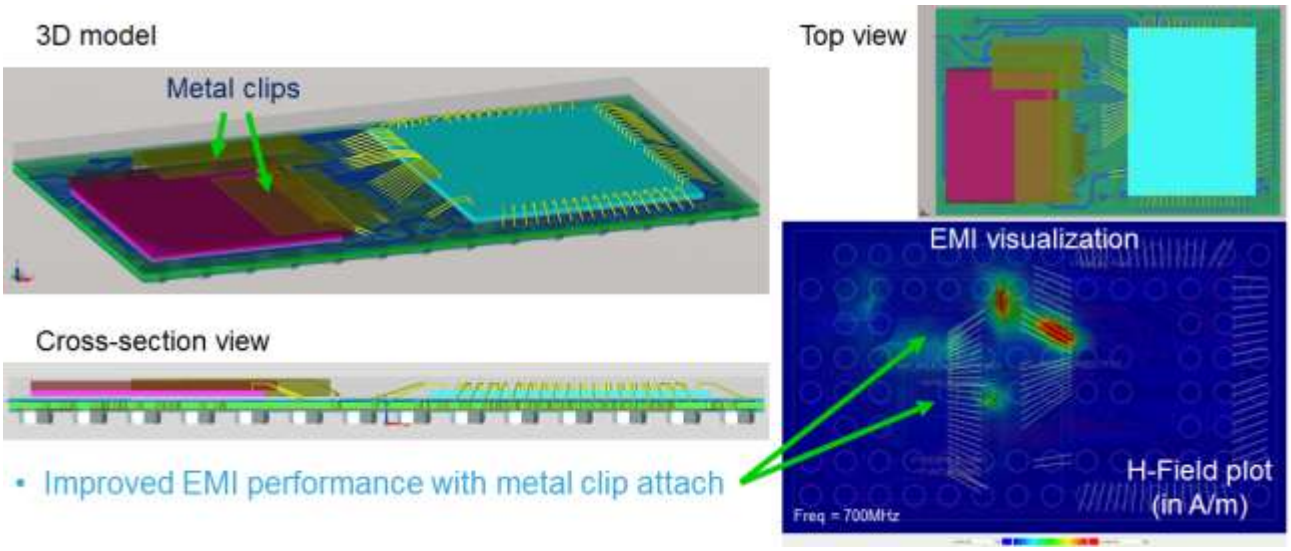

Fig. 2. Improvement on EMI shielding performance.

- Package electrical modeling simulation results confirmed the improvement on EMI shielding performance of the package

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