

ABSTRACT**PRINTED CIRCUIT BOARDS WITH IN-BOARD SHIELDED
CIRCUITRY AND METHOD OF PRODUCING THE SAME**

A PCB board with in-board EMI shielding in which a prescribed electrical circuitry within a PCB is shielded from EMI by fabricating a uniform metal shielding enclosure therearound. The shielded circuitry may be a single metal trace, a group of interconnected traces in the same or different layers of the same PCB, or a complete electrical circuitry spanning many different layers and locations within the same PCB. Using the same technology, groups of electrical circuitry that require isolation because of EMI may be fabricated together in proximity, with each group shielded from the EMI of the others. The metal shield contains a top shield in a layer above the circuitry, a bottom shield in a layer below the circuitry, and side shields adjacent the circuitry. There is no gap in the shielding structure, except whether the prescribed circuitry connects to another circuitry.

FIGURE 6