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Lu et al.

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(54) **GROUND-PLANE SLOTTED TYPE SIGNAL TRANSMISSION CIRCUIT BOARD**

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See application file for complete search history.

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(57) **ABSTRACT**

A ground-plane slotted type signal transmission circuit board is proposed, which is designed for use with a high-speed digital signal processing system for providing a low-loss signal transmission function. The proposed circuit board structure is characterized by the formation of a slotted structure (i.e., elongated cutaway portion) in the ground plane at the beneath of each signal line. Since the slotted structure is a void portion, the electric field of a gigahertz signal being transmitting through the overlaying signal line would be unable to induce electric currents in the void portion of the ground plane. This feature allows the prevention of a leakage current that would otherwise flow from the signal line to the ground plane, and therefore can help prevent unnecessary power loss of the transmitted signal.

20 Claims, 8 Drawing Sheets

