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(54) Title: ASSESSING MICRO-VIA FORMATION IN A PCB SUBSTRATE MANUFACTURING PROCESS

(57) Abstract: Embodiments of the invention include methods and systems of assessing micro-via formation in a substrate manufacturing process. In one embodiment of the invention, a microvia opening is drilled through a top dielectric layer of a multilayer printed circuit board (PCB) substrate, the multilayer PCB substrate including the microvia opening is desmeared down to a capture pad in a conductive layer; a sequential electrochemical reduction analysis is performed over the capture pad within the microvia opening to determine if there is any existing contamination in the bottom of the microvia opening. If a contaminant is found, production is put on hold and appropriate actions are taken to understand the source of contamination. Without any contamination, the microvias along with the remaining circuitry of the PCB substrate may be plated with a seed layer of Electroless plating followed by electrolytic plating.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H05K G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	YOUNG T ET AL: "Thermal reliability of laser ablated microvias and standard through-hole technologies as a function of materials and processing" IPC PRINTED CIRCUITS EXPO. PROCEEDINGS OF THE TECHNICAL CONFERENCE IPC NORTHBROOK, IL, USA, 2000, pages S09fa-j, XP008064625 pages 2-8	1-18
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	US 5 535 101 A (MILES ET AL) 9 July 1996 (1996-07-09) columns 3-4; figure 2 -----	15-17

INTERNATIONAL SEARCH REPORT

Information on patent family members

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