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BSI Standards Publication

Flexible printed circuit boards (FPCBs) — Method of compensation of impedance variations

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee EPL/501, Electronic Assembly Technology.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Flexible printed circuit boards (FPCBs) – Method of compensation of impedance variations

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FLEXIBLE PRINTED CIRCUIT BOARDS (FPCBs) – METHOD OF COMPENSATION OF IMPEDANCE VARIATIONS

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IEC TR 63017, which is a technical report, has been prepared by IEC technical committee 91: Electronics assembly technology.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
91/1283/DTR	91/1308/RVC

Full information on the voting for the approval of this technical report can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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FLEXIBLE PRINTED CIRCUIT BOARDS (FPCBs) – METHOD OF COMPENSATION OF IMPEDANCE VARIATIONS

1 Scope

This Technical Report specifies a compensation method of Cu linewidth according to impeadance reduction by using noise suppression materials (hereafter referred to as NSMs) for FPCBs.

This Technical Report presents an optimum result for maintaining a designated performance of FPCBs by using NSMs. It also indicates a measuring method for an impedance variation of FPCBs using NSMs with the prevailing TDR (time domain reflectometry) method. This method is resticted to measuring only the variation of an impedance value in accordance with the variation of the Cu linewidth by using NSMs for FPCBs. This report, however, neither determines nor indicates the structure or material of FPCBs.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IPC 2141A *Design Guide for High-Speed Controlled Impedance Circuits Boards*
http://www.ipc.org/

3 Apparatus

3.1 Time domain reflectometry

Time domain reflectometry (hereafter referred to as TDR) is utilized to identify the impedance data at the specific frequency range of FPCBs.

3.2 Block diagram for impedance measuring

Figure 1 gives one example of a TDR setup.

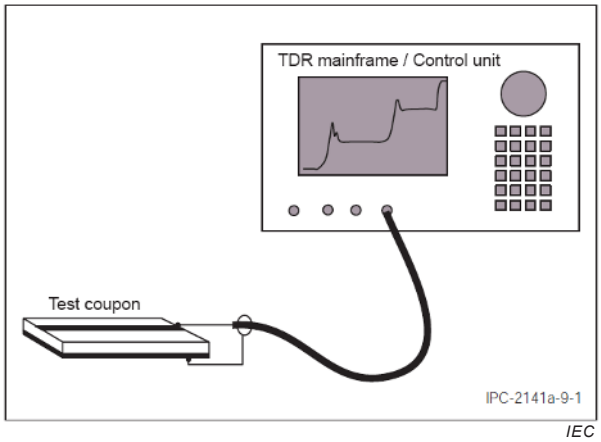

Figure 1 – TDR test system