IPC-2581C

Generic Requirements for Printed Board Assembly Products Manufacturing Description Data and Transfer Methodology

Developed by the Digital Product Model Exchange (DPMX) Subcommittee (2-16) of the Electronics Product Data Description Committee (2-10) of IPC

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Users of this publication are encouraged to participate in the development of future revisions.

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IPC

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Generic Requirements for Printed Board Assembly Products Manufacturing Description Data and Transfer Methodology

1 SCOPE

This standard specifies the XML schema that represents the intelligent data file format used to describe printed board and printed board assembly products with details sufficient for tooling, manufacturing, assembly, and inspection requirements. This format may be used for transmitting information between a printed board designer and a manufacturing or assembly facility. The data is most useful when the manufacturing cycle includes computer-aided processes and numerical control machines.

The data can be defined in either English or International System of Units (SI) units.

1.1 Purpose The generic format requirements are provided in a series of standards focused on printed board manufacturing, assembly, and inspection testing. This standard series consists of a generic standard (IPC-2581) that contains all the general requirements. There are seven sectional standards that are focused on the XML details necessary to accumulate information in the single file, that address the needs of the manufacturing disciplines producing a particular product.

The sectional standards (IPC-2582 through 2588) paraphrase the important requirements and provide suggested usage and examples for the topic covered by the sectional standard.

1.2 Notation Although the data would be contained in a single file, the file can have different purposes as described in Section 4. The XML schema used for this standard follows the notations set forth by the W3C and is as follows:

- element – Element appears exactly one time
- element? – Element may appear 0 or 1 times
- element* – Element may appear 0 or more times
- element+ – Element may appear 1 or more times

Any IPC-2581 file is composed of a high level element (`IPC-2581`) that contains up to six sub-elements:

- Content – information about the contents of the IPC-2581 file
- LogisticHeader – information pertaining to the order and supply data
- HistoryRec – change information of the file
- Bom – Bill of Materials (Material List) information
- Ecad – Computer Aided Design (engineering) information
- Avl – Approved Vendors List information

2 APPLICABLE DOCUMENTS

The following documents contain requirements which, when referenced, constitutes provisions of IPC-2581. At the time of publication, the editions indicated were valid. All documents are subject to revision and parties entering into agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the documents indicated below.

The revision of the document in effect at the time of solicitation **shall** take precedence.

IPC-T-50 Terms and Definitions for Interconnecting and Packaging Electronic Circuits

IPC-2501 Definition for Web-Based Exchange of XML Data

IPC-2524 PWB Fabrication Data Quality Rating System

IPC-2511 Generic Requirements for Implementation of Product Manufacturing Description Data and Transfer XML Schema Methodology