

Procurement Specification for Multi-Layer Printed Circuit Board

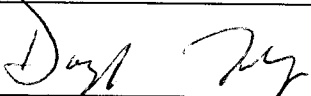
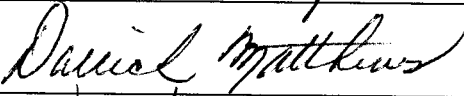
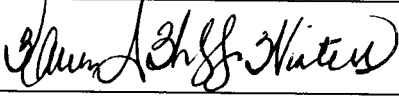
Document Number: BY-105

Revision: B

Release Date: 25 April 2016

Note: Printed copies of this document are considered uncontrolled unless stamped "Controlled Document" or equivalent. It is strongly suggested that the revision level of this document be verified prior to use by accessing the Luminator network.

Approvals

Department	Approval (Signature)	Date
Doug Toby VP, Strategic and Global Sourcing		4/25/2016
Darrick Mathews Director, Program Management		4/25/2016
Kareen Huff-Winters Director, Quality Assurance		4/25/2016

Document History

Revision	Description	Date
A	Initial release	5 August 2015
B	Correct Typos in para numbering and reference correct IPC document in para 6.6.2	25 April 2016

1.0 Purpose

1.0 Purpose

This document is intended to define requirements for Electronic Manufacturing Services (EMS) suppliers to validate process controls at the bare board manufacturer. Proof of this validation will come in form of providing cross section results of thermally stressed coupons or actual boards that validate the drawing and requirements of this document.

2.0 Scope

This requirement is applicable to all Luminator procured multilayer CCA's at time of first article inspection (FAI) and any time the bare board supplier is changed thereafter. The results are to be submitted with FAI report and with the first shipment when a new supplier is used to fabricate the bare board.

3.0 Definitions

3.1 FAI: First Article Inspection

3.2 EMS: Electronic Manufacturing Services

3.3 PCB: Printed Circuit Board

4.0 References

4.1 IPC-6012

4.2 IPC-TM-650

4.3 Form 902759.

5.0 Responsibility

5.1 When required by Purchase Orders or Drawing Specifications, the EMS supplier is responsible for flowing the requirements of this document to the PCB house.

6.0 Procedure

6.1 Sample Requirements

6.2 The smallest plated through hole will be required for cross-sectional analysis after thermal stressing per IPC-TM-650, method 2.6.8 (solder float). This plated through hole shall have the same pad sizes used in the artwork.

6.3 The cross sectioned holes must come from a production panel, i.e. drilled and plated from an actual production lot.

6.4 The preferred process is to include these holes in the outer extremes of the production panel artwork (break-aways) with pads on each interlayer to provide evidence of acceptable registration on all inner layers.

The other option is to cut and cross section the actual board. If the actual board option is used multiple holes may be required if interconnects to all layers can't be identified on one hole.

6.5 Cross-sections will be required on a minimum of two holes one cut in the X and one in the Y direction of the board.

6.6 Testing requirements

6.6.1 The test requirements and results will be documented using Form 902759.

6.6.2 The mounted x-cross sections and the test report must be delivered with the First Article shipment, and anytime there is a change to the bare board suppliers.

6.6.3 The test coupons must be prepared per IPC-TM-650 method 2.1.1 or 2.1.1.2. PTH shall be evaluated at 100X with referee examinations at 200X. Each side of the hole shall be examined independently.

6.7 Order of Precedence – In case of conflicts of this requirement, the following precedence will apply:

6.7.1 Purchase order requirements

6.7.2 Drawings and referenced specification on drawings

6.7.3 Procurement Specifications (reference IPC-6012 Class 2)