

IBM PCB First Article Inspection (FAI) Template *

IBM Integrated Supply Chain: i, p, x, z-Servers, Storage

The Elements listed below must be checked as part of the FAI for all IBM Part Numbers (PN). Ref: IBM ES 53P4944.

FAI must be performed for: 1) All new Production Level PNs, 2) New PCB Supplier for a given PN, and 3) All Major & Mod. PCB PCNs.

FAI must be performed by PCB supplier and reported to IBM. (CM and/or IBM may perform verification FAI as well.)

Sample Size: 3 Cards minimum. One card from each of three randomly selected panels from single Mfg lot unless otherwise specified **.

IBM Part Number:		PART NAME:		
PCB Date Code:				
FAI Date:				
PCB Supplier Name/ Location:				
Customer (CM):				
Required Elements	Spec Reference	Sample Size **	Data	RESULTS:
Product Content Declaration (PCD)	46G3772, 53P6233, 97P3864	Document Submitted?	Yes / No; Date	
First Pass Yields:				
AOI		100%	Yield (% good)	
Electrical Test		100% (all cards from FAI lot)	Yield (% good)	
Final Inspection		100% (all cards from FAI lot)	Yield (% good)	
Visual Inspection:				
- General	53P4082 (see Outline Drawing)	3 Cards Minimum	Pass / Fail	
- Contact Tabs (gold)	61X5956	100% (all cards from lot)	Yield (% good)	
Dimensional Analysis:				
Outline + PANEL Drawing Dimensions	Outline + Panel Drawings	1 card Minimum	Pass / Fail	
Total Card Thickness	X-section Drawing	4 locations, each card	Avg, Max, Min	
Hole sizes: Standard PTHs	Outline Drawing	3 holes/ card minimum	Avg, Max, Min	
Press-fit connector PTHs (all)	Outline Drawing	10 holes across PTH array Min.	Avg, Max, Min	
Flatness: BGA/ CCGA sites	53P4082	10 Cards Minimum	Avg, Max, Min	
Ventura Connector sites	39J1362	10 Cards Minimum	Avg, Max, Min	
Plating Thickness				
- Solderable Surface thickness	See Technology Spec	2 Cards; 3 meas/card		
- Tab Plating Thicknesses (Ni/Au)	61X5956	3 Cards; 3 meas/card/side	Avg, Max, Min	
- Plating Adhesion Test	53P4943			
-- All plating types		2 Cards Minimum	Pass/ Fail	
Construction Analysis				
- FULL Laminate Name/Type and Supplier:				
- Verify Stackup:	Outline/ X-section Drawings	1 Card Minimum	Pass/ Fail	
number of plies, core/fill thicknesses				
- PTH Thickness (Cu): Top,Mid,Bot	53P4082	5 PTHs / 2 cards Minimum	Avg, Max, Min	
- PTH Barrel Quality	53P4082	Solder Float PTHs plus 3 highest aspect ratio PTHs.		
-- Drill Smear			Pass/ Fail	
-- Wicking			Avg, Max, Min	
-- Hole Roughness			Pass/ Fail	
-- Resin Recession			Pass/ Fail	
-- Laminate Voids			Pass/ Fail	
Solder Float Test (6x)				
- Registration Internal Layers	See Technology Spec	5 PTHs Minimum,	Pass/ Fail	
- IP Separation (6x)	53P4943	(3 Cards Minimum)	% IP sep	
Solderability	53P4943		Pass/ Fail	
(perform on BGA and CGA sites)				
Impedance	See Outline Drawing	100%	Yield (Cpk- attach data)	
Rdc	See Outline Drawing	100%	Yield (Cpk- attach data)	
Hipot	See Outline Drawing	100%	Yield (attach test parms)	
Assembly Reflow Simulation	MSA: 245C, PbFree: 245C or 260C		Peak Temp = ?	
	Reqd for PCBs with Thick>0.060", Array Pitch<50mil		Delam?, Cracks?	
	(contact Dept FM2)	(3 Cards Minimum)	External-Internal eval required	
- Laminate Integrity: 5x PeakTemp Reflow	53P4943	(2 Cards Minimum)	Pass/Fail	
- Bow/ Twist				
IST Via Reliability Test	Contact IBM Dept FM2	(6 Cards Minimum)	Cycles to Fail	
Gold Porosity (Gold tabs or LGA)	61X5956	See 61X5956	Pass/ Fail	
LGA	04N5843			
- Visual Inspection	Sec. 3.1	100% (all LGA pads)	Pass/ Fail	
- Ni/Au Overhang (pattern plate process)	Sec. 2.1, 2.2	"5-spot" sites/ 1 LGA	Avg, Max, Min	
- Dish (Site flatness)	Contact IBM Dept FM2			
- Cleanliness	Sec. 3.2	100% (all LGA pads)	Pass/ Fail	

* ALWAYS obtain latest FAI Version from IBM Website:

<http://www-1.ibm.com/procurement/proweb.nsf/ContentDocsByTitle/United+States-Information+for+suppliers>

First Article Inspection results (in English) must be sent to IBM. See required names below.

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