JHYPCB PCBA Process Checklist

A Procurement & Quality Engineer's Guide to Verifying PCB Assembly

Document Information

Item	Details
Document Title	PCBA Process Checklist for Procurement Teams
Version	1.0
Last Updated	[Insert current date]
Applicable Standards	IPC-A-610, ISO 9001:2015, RoHS
Prepared by	JHYPCB Quality Engineering Team

How to Use This Checklist

This checklist is designed for procurement professionals, quality engineers, and supply chain managers who need to audit or verify a PCB assembly provider's process capability. Use it during:

- **Supplier evaluation** — Before placing your first order
- **First-article inspection** — When receiving prototype or initial production units
- **Ongoing quality audits** — For repeat orders and long-term partnerships

For each item, check `✓ Pass`, `⚠ Needs Review`, or `✗ Fail`. Add comments where needed.

Section 1: Pre-Assembly Preparation

#	Checkpoint	Status	Comments
1.1	PCB design files (Gerber, BOM, Centroid) are complete and reviewed	☐	
1.2	DFM (Design for Manufacturability) report has been generated and issues resolved	☐	
1.3	Component sourcing: All parts are available, no long-lead or EOL (End of Life) components	☐	
1.4	Solder paste type (lead-free vs. leaded) and IPC classification are specified	☐	
1.5	Stencil design matches pad layout; aperture size verified for fine-pitch components	☐	

Section 2: SMT Assembly Process

#	Checkpoint	Status	Comments
2.1	Solder paste inspection (SPI) is performed on 100% of boards	☐	
2.2	SPI data shows paste volume, height, and alignment within CPK > 1.33	☐	
2.3	Pick-and-place machine calibration records are up to date	☐	
2.4	First-article placement has been verified before full production	☐	
2.5	Reflow oven profile is customized for this specific PCB (not a generic profile)	☐	
2.6	Reflow thermal profile report is available (KIC or equivalent)	☐	
2.7	Nitrogen is used during reflow (if specified for your product)	☐	

Section 3: Inspection & Quality Control

#	Checkpoint	Status	Comments
3.1	Automated Optical Inspection (AOI) is performed on all SMT boards	☐	
3.2	AOI system is 3D (for fine-pitch and BGA components)	☐	
3.3	X-ray inspection (AXI) is performed on all BGA, LGA, and QFN components	☐	
3.4	X-ray void percentage report is available (IPC-A-610: <25% void per ball)	☐	
3.5	Statistical Process Control (SPC) data is being collected and reviewed	☐	
3.6	SPC control limits are defined and alarms trigger on drift	☐	
3.7	Final visual inspection (FVI) with magnification is performed on every board	☐	

Section 4: THT & Mixed Technology (if applicable)

#	Checkpoint	Status	Comments
4.1	Selective soldering (not wave soldering) is used for mixed-technology boards	☐	
4.2	Nitrogen atmosphere is used during selective soldering	☐	
4.3	THT solder joint fillets meet IPC-A-610 acceptance criteria	☐	
4.4	No damage to adjacent SMT components from selective soldering process	☐	

Section 5: Testing & Functional Verification

#	Checkpoint	Status	Comments
5.1	Flying probe test is performed on prototypes (no fixture required)	☐	
5.2	In-Circuit Test (ICT) is performed for medium-to-high volume orders	☐	

#	Checkpoint	Status	Comments
5.3	Boundary scan (JTAG) is used for dense digital boards (if applicable)	☐	
5.4	Custom functional test is performed per customer specification (if provided)	☐	
5.5	Test reports and failure logs are provided with shipment	☐	

Section 6: Cleaning, Packaging & Documentation

#	Checkpoint	Status	Comments
6.1	PCBs are cleaned with deionized (DI) water after soldering	☐	
6.2	ESD-safe packaging is used (bags, trays, or custom foam)	☐	
6.3	Moisture barrier bags with desiccant and humidity indicator are used	☐	
6.4	Certificate of Conformance (COC) is included with each shipment	☐	
6.5	Packing list matches BOM and quantities ordered	☐	
6.6	Labeling includes P/N, rev, date code, and PO number	☐	

Section 7: Certifications & Compliance

#	Checkpoint	Status	Comments
7.1	ISO 9001:2015 certification is current	☐	
7.2	RoHS compliance documentation is available	☐	
7.3	UL recognition is current (for PCB manufacturing)	☐	
7.4	IATF 16949 (automotive) or ISO 13485 (medical) is available if required	☐	
7.5	Conflict minerals reporting is available upon request	☐	

Section 8: Documentation & Traceability

#	Checkpoint	Status	Comments
8.1	Batch-level traceability is maintained for all materials	☐	
8.2	First-article inspection report is provided	☐	
8.3	SPC summary report is provided (upon request)	☐	
8.4	X-ray and AOI inspection images are archived and available	☐	
8.5	Non-conformance report (NCR) and 8D corrective action process is documented	☐	

Summary & Approval

Total Items Checked	Pass	Needs Review	Fail
[Enter total]	[Enter count]	[Enter count]	[Enter count]

Overall Assessment:

Threshold	Recommendation
100% Pass	Proceed with order / approve supplier
80–99% Pass	Proceed with conditions (address Needs Review items)
<80% Pass	Do not proceed; require corrective action

Checked by (Name/Title): _____

Date: _____

Supplier Name: JHYPCB

Supplier Representative: _____

Notes & Next Steps

This checklist is based on IPC-A-610, ISO 9001:2015, and industry best practices for PCB assembly procurement. For questions or custom checklist items, contact JHYPCB Engineering at sales@pcbjhy.com.