

# SMT Factory Audit Checklist for PCB Assembly Outsourcing

Practical OEM Supplier Evaluation Guide for Hardware Teams & Electronics Buyers

## Why SMT Factory Audits Matter

- ✓ Reduce supplier risk
- ✓ Verify manufacturing capability
- ✓ Avoid hidden quality issues
- ✓ Improve PCB assembly reliability
- ✓ Ensure stable long-term cooperation



## SMT Factory Audit Checklist

Audit Area	What to Check	Manufacturing Risk
ISO 9001	Valid certification	unstable process
AOI inspection	available?	hidden solder defects
X-ray inspection	BGA capability	BGA failure risk
Incoming IQC	component verification	counterfeit parts
Traceability	barcode / MES	difficult recalls
ESD protection	grounded workstations	component damage
Engineering support	DFM review	production errors
Rework process	IPC standards	inconsistent quality

## PCB Assembly Capability Review

Capability	Recommended	Why Important
SMT line	automated	stable production
AOI	standard	defect detection
X-ray	available	BGA/QFN inspection
Nitrogen reflow	preferred	fine-pitch quality
Selective soldering	optional	through-hole quality
Flying probe test	recommended	prototype testing

## Common Supplier Red Flags

Red Flag	Potential Risk
No AOI equipment	solder defects
No engineering review	assembly mistakes
No traceability	recall difficulty
Manual BOM checking only	wrong components
Poor ESD management	latent failures



## Quick Audit Score

Score	Evaluation
90–100	Reliable EMS Partner
70–89	Acceptable with review
<b>Below 70</b>	High manufacturing risk

## Final PCB Supplier Audit Checklist

- ✓ Verify ISO certifications
- ✓ Review AOI / X-ray capability
- ✓ Confirm engineering support
- ✓ Check traceability system
- ✓ Audit ESD management
- ✓ Evaluate DFM review process
- ✓ Review sample production quality
- ✓ Confirm communication efficiency

## Related PCB Engineering Resources

- [Practical PCB engineering resources](#)
- [How to Prepare Gerber and BOM Files](#)
- [How to Audit an SMT Assembly Factory](#)
- [How to Control PCB Assembly Costs](#)