

Surface Mount Technology (SMT) Quality Readiness Checklist

Is Your Electronics Manufacturing Line Equipped to Prevent and Catch Defects Before They Escalate?

From solder paste to inspection and issue resolution, every stage of the SMT process introduces quality risks. This checklist helps you evaluate whether your manufacturing operations and your supporting quality system are robust enough to control defects, capture deviations, and drive continuous improvement.

Evaluation Area	Key Questions to Consider	Comments/Notes
1. Solder Paste Printing & Material Control	Are your foundations for reliable solder joints firmly in place?	
	☐ Are stencil designs validated and version-controlled for each product?	
	☐ Is solder paste storage, shelf life, and lot traceability documented?	
	☐ Are printing parameters standardized, reviewed, and recorded per job?	
	☐ Do operators perform and log regular underside stencil cleaning?	
	☐ Are first-article inspections and paste deposits verified before production?	
	☐ Are SPI (Solder Paste Inspection) results captured and reviewed for trend analysis?	
	☐ Are paste-related defects linked back to specific stencils or paste lots?	
2. Component Placement Accuracy & Control	Is your placement process optimized for precision and traceability?	
	☐ Are feeder setups verified and documented at the start of each run?	
	☐ Are fiducial alignment checks consistently enforced and logged?	
	☐ Are placement errors like mispicks, drops, or skewed components tracked by lot?	
	☐ Are component orientations verified against maintained libraries?	
	☐ Are changeovers and recipe switches governed by controlled instructions?	
	☐ Can placement data be linked to inspection results and NCRs?	

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3. Reflow Process Monitoring & Control	Are thermal profiles stable, monitored, and deviations documented?	
	☐ Are reflow profiles validated for each PCB and component set?	
	☐ Is real-time thermal monitoring implemented for all reflow zones?	
	☐ Are alarms triggered when zone temperatures exceed control limits?	
	☐ Are profile deviations automatically captured and reviewed by engineering or quality?	
	☐ Can reflow data be tied to specific lots, products, and process outcomes?	
	☐ Are temperature anomalies linked to nonconformances and corrective actions?	
4. Inspection, Defect Detection & Line Response	Are you catching critical defects early—and closing the loop?	
	☐ Are Automated Optical Inspection (AOI) results captured digitally and reviewed regularly?	
	☐ Are first-pass yield and escape rates tracked by product or shift?	
	☐ Can defects be tied to specific machines, profiles, or material batches?	
	☐ Are operators empowered to stop the line for repeat anomalies?	
	☐ Are corrective actions triggered for repeated false calls or escapes?	
	☐ Are X-ray inspection results (e.g., for BGAs) documented and reviewed where applicable?	
5. Integrated Quality System & Issue Resolution	Is your quality system closing the loop between detection and resolution?	
	☐ Are process deviations or inspection failures triggering NCRs in your EQMS?	
	☐ Can you trace defects back to reflow profiles, paste parameters, or placements?	
	☐ Is root cause analysis initiated for recurring issues?	

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5. Integrated Quality System & Issue Resolution	 Are CAPAs tracked to closure with documented effectiveness checks?	
	 Can quality teams view trends across processes, products, and shifts?	
	 Is your system audit-ready, with centralized records and role-based access?	
	 Do engineering, quality, and compliance teams operate within one connected platform?	

Readiness Score

Total Checkmarks	Your Readiness Level	Action Plan
26–33	 World-class	Maintain momentum, refine further with CQ.AI insights
18–25	 Operational gaps	Strengthen traceability, monitoring, and integration
Below 18	 High-risk exposure	Consider a connected EQMS for system-wide control

How ComplianceQuest Helps You Stay Ahead of SMT Quality Risks

ComplianceQuest’s modern, AI-powered EQMS connects the dots across inspection results, thermal deviations, and issue resolution, giving you **real-time visibility and control across your SMT process**:

 **Real-Time Process & Defect Capture**
 Capture thermal deviations, inspection findings, and process alerts automatically.

 **Closed-Loop Nonconformance & CAPA**
 Auto-trigger NCRs, investigations, and CAPAs based on data trends or critical events.

 **CQ.AI Predictive Insights**
 Detect recurring risks by product, process, or line—before defects escape.

 **One Connected Platform**
 Centralize data, workflows, documentation, and reporting—ready for audits, always.

Want to see how ComplianceQuest can help your SMT line run smarter, cleaner, and more reliably?

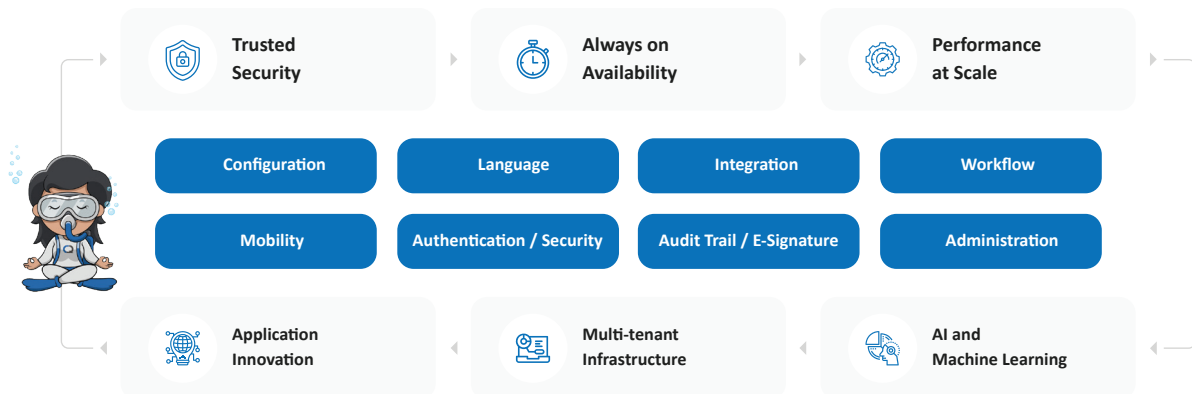
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CQ Solutions Powered by Platform

100% modern cloud infrastructure supports innovation

ComplianceQuest is a 100% native force.com application suite. As such, ComplianceQuest solutions inherit all attributes of the Salesforce platform.



About ComplianceQuest

Transform to a fully connected business with a **next-generation AI-powered Product Lifecycle, Quality, Safety, and Supplier Management platform, built on Salesforce**. Our connected suite of solutions helps businesses of all sizes increase quality, safety and efficiency as they bring their products from concept to customer success. Our intelligent data-driven platform comes with best-in-class integrated processes to mitigate risks, protecting your employees, suppliers and brand reputation, and to increase innovation, compliance, profit and customer loyalty. ComplianceQuest is pre-validated and easy to implement, use, and maintain, allowing for streamlined communication and collaboration across the product value chain.

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- Visit www.compliancequest.com
- Email us at marketing@compliancequest.com
- Call us at **408-458-8343**