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PCB Failure Test Procedure Flow

Decision Path based on Standardized Test Templates

START: Failed PCB Received (Triage)

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1. Non-Destructive Initial Assessment (MSA-T)

Check for obvious damage, contamination, ESD indicators.

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Primary Failure Symptom Identified?

Short/Open/No Power (Electrical)

2A. Execute EIC-T (Electrical Isolation)

DMM, Kelvin, Current Injection, Thermal Hotspot.

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Short/Open Localized (Physical Evidence Found)?

- **NO** → Go to Step 2B (Functional Stress)
- **YES** → **3. Execute MSA-T (DPA: Cross-Section / X-Ray / C-SAM)**

Verify physical root cause at the failure site.

Functional Error/Intermittent (System)

2B. Execute ACF-T (Active Functional Test)

Thermal cycle, signal integrity, power sequence monitoring.

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Failure Reproducible (IC/Timing Fault Confirmed)?

- **NO** → Check for hidden structural damage (Go to Step 3 NDI)
- **YES** → **3. Execute MSA-T (DPA: IC Decapsulation / Micro-Section)**

Verify component integrity and internal failure mechanism.

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END: Document Findings & Issue Failure Analysis Report (FAR)