PREDICTABLE DESIGNS

6 PCB DESIGN MISTAKES THAT STOP PRODUCTION

Checklist

1 No Test Points for Key Signals

- Include test points for power, ground, reset, communication buses, and critical GPIOs.
- Avoid test pads on RF or high-frequency signals.
- Put all test points on one side of the board, preferably the bottom.
- Group and label test points clearly, with nearby ground pads.

2 Missing Part Number and Revision on the PCB

- Always include part number/project name and revision label on the silkscreen.
- Keep it small but visible, e.g., 'PN: 1203, Rev B'.
- Ensure part numbers and revisions match BOM, Gerbers, and pick-and-place files.

3 No Fiducials for Pick-and-Place Alignment

- Add at least two global fiducials, ideally on opposite corners.
- Use local fiducials near QFNs, BGAs, or fine-pitch connectors.
- Keep 1 mm clearance from other copper/silkscreen and avoid soldermask.

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4 No Panelization or Depaneling Strategy

- Plan panelization if boards are under 100x100 mm.
- Add mouse-bite tabs or V-score areas while keeping components away from edges.
- Consult your CM for preferred panelization templates and requirements.

5 Using Hard-to-Source or Obsolete Parts

- Check availability on sites like Octopart or Findchips.
- Ensure parts are available from multiple suppliers and not near end-of-life.
- Avoid parts marked 'Not Recommended for New Designs'.

6 Tight Component Spacing and No Room for Rework

- Leave extra space around connectors, tall components, and rework-prone parts.
- Avoid mixing tall and short components too closely.
- Ensure space for hands, tweezers, and soldering irons for repairs.

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without costly mistakes!

Doing it alone is slow and risky. Small missteps now can become big problems later. Skip the mistakes and launch faster.

Frustrated things aren't moving as fast as you want?

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Meet your guide: John Teel

Hey there, I'm a former microchip design engineer at Texas Instruments and founder of a hardware startup that sold products in hundreds of retail stores. My chip designs are in devices from Apple, Intel, and more.

Now, my full-time focus is helping people like you bring new electronic products to life, without wasting time, money, or risking everything.

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