



CHECKLIST PDF

WHAT YOUR MANUFACTURER CHECKS VS. WHAT THEY DON'T

THE CORE IDEA

Assembly feasibility is not design correctness.

Before building your board, your manufacturer runs a Design-for-Manufacturability (DFM) review. It confirms one thing: that your design can be **assembled** on their line. It says nothing about whether the design actually **works**. That falls on you. Every item below sits on one side of that line.

THEY CHECK Assembly feasibility (DFM) · reference only	YOU MUST CHECK Because no one else will
• Component footprints match the selected packages • Pad sizes fall within the manufacturer's process limits • Solder-mask openings are within tolerance • Spacing is adequate for pick-and-place • Reflow-oven clearances are met • Panelization, fiducials, and tooling holes are correct • Parts availability and lead times • Polarity and orientation on the assembly drawing • Netlist continuity <i>their one design-adjacent check, and not always</i> HANDLED FOR YOU	☐ The schematic has no connection errors ☐ Every pinout is correct for each component ☐ Pull-up and pull-down resistors are properly valued ☐ Component values match the circuit's requirements ☐ Parts can handle the expected load currents ☐ Thermal design holds up under operating conditions, not just assembly ☐ The EMC design will pass certification testing ☐ The firmware actually works before it's loaded YOUR RESPONSIBILITY

BOTTOM LINE

Build a flawed design perfectly and you've still got a flawed product. Everything on the left is the manufacturer's job. **Everything on the right is yours.**

WHY THIS HAPPENS

■ Why they stay silent

Manufacturers work build-to-print. They build exactly what you send, and they build it correctly. They won't modify or bless your design, because any suggestion creates liability for them. Assembly pricing doesn't include an engineering review. This is a division of responsibility, not negligence.

■ What a design mistake really costs

Your first articles will look beautiful and pass inspection. Then full production ships with hidden functional defects, built exactly to your files. You pay for the scrap, the rework, and the schedule slip, and field failures can surface weeks or months later.

BEFORE YOU HAND OFF

Five steps to validate your design before production

The manufacturer guarantees a faithful build. These five steps are how you guarantee a working product.

1 ☐ **Get an independent schematic and layout review.**
Have someone other than the original designer look for the functional errors the factory won't.

2 ☐ **Test prototypes in the real enclosure, under real operating conditions.**
Heat, fit, and interference all behave differently once the board is boxed up.

3 ☐ **Write a functional test spec, then build a fixture to run it.**
Define what "working" means with clear pass/fail criteria before parts arrive, and give yourself a repeatable way to prove it.

4 ☐ **Deliver a complete data package.**
Gerbers, centroid file, BOM, assembly drawing, and test spec. Leave nothing open to interpretation.

5 ☐ **Inspect the first article yourself before green-lighting production.**
Air-ship real samples (photos aren't enough), and confirm the board powers up and runs firmware before you approve the full run.