

EMC Test-Ready Product Checklist

What to have in place before EMC & compliance testing

Use this before booking tests to save time, cost, and minimize retests

1. Product Configuration (Must Be Final or Frozen)

- Final PCB layout (no planned routing or grounding changes) ☐
- Final enclosure, shielding, and mechanical parts ☐
- Final cable types, lengths, and connectors ☐
- All external accessories included (adapters, antennas, chargers) ☐

Small physical changes can significantly affect emissions and immunity. Testing a "nearly final" product often means testing twice.

2. Firmware & Software State

- Stable firmware version loaded ☐
- No planned firmware changes during testing ☐
- Defined operating modes (normal, high load, idle, worst case) ☐
- Clear instructions to trigger worst-case behavior ☐

Firmware controls timing, power states, and communication, all critical for EMC. Changing firmware after testing can invalidate results.

3. Power & Operating Conditions

- Nominal and maximum power configurations ☐
- All supported supply options tested (AC, DC, PoE, battery) ☐
- Worst-case current draw scenarios identified ☐
- Correct grounding and reference setup defined ☐

Many EMC failures only appear under maximum load or uncommon operating states.

4. Product Configuration (Must Be Final or Frozen)

- Clear description of intended use ☐
- Installation environment (industrial, residential, mobile, fixed) ☐
- User interactions that may affect emissions or immunity ☐
- Realistic cable routing and installation assumptions ☐

Test setups must reflect real-world use, not just lab convenience.

5. Documentation (Often Overlooked)

- Product description ☐
- Product test description ☐
- Block diagram (functional, not marketing) ☐
- Electrical schematics (LVD) ☐
- List of critical components and variants (LVD) ☐
- Previous test reports (if any) ☐

Good documentation speeds up testing and prevents incorrect assumptions.

6. Power & Operating Conditions

- Target markets (EU, US, global) ☐
- Applicable directives and standards (EMC, RED, LVD, etc.) ☐
- Required report accreditation or ☐
- Product variants that need to be covered ☐

Passing a test is not the same as having it accepted in every market.

If you answer "no" to any of these, expect delays.

