



Engineering Process Requirements

= Hardware design =

This document summarizes the process control methodology implemented by [RFhome](#) for all engineering design phases up to production release:

Item	Design phase	Requirements	Comments
1	Feasibility phase	Review product specification, define design targets, development schedule, cost estimates, interface specifications (HW/SW/User), risk analysis.	This phase defines the frame of work and should be kept minimal. Customer provides product requirements document. Results in proposal for contract. Customer sign-off required.
2	Detailed design phase	Review system & circuit level design, electrical schematics, BOM (outline long lead and custom parts), board layout, manufacturing test requirements, HW/SW integration requirements, interface requirements, EMI requirements. Review breadboard test results, if applicable. Check compliance with mechanical specifications.	This phase provides a complete design package for the engineering prototype build. Procurement of long lead items should start early to avoid bottlenecks. Customer sign-off required.
3	Engineering prototype phase	Review prototype test results and compliance with specifications. Review and update documentation (schematics, BOM, layout, engineering test procedures).	This phase validates the electrical design and may require more than one board turn. Engineering test plans should allow complete performance characterization. Define pass/fail criteria. Track defects, take corrective actions and monitor resolution. Advance to next phase only when design meets specs. Customer participation required (parts procurement, final product design, and system level testing). Customer sign-off required.
4	Engineering pilot phase	Review electrical, environmental, and regulatory test results and compliance with specifications. Review and update documentation (schematics, BOM, layout, manufacturing test procedures, user manuals).	This is the last phase prior to manufacturing release and except for the case of a turnkey project, will require customer participation (mechanical tooling, final product assembly and verification, system level testing, user trials, etc).



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			Complete documentation package released to customer. Manufacturing test plans should include only parameters essential for verifying the product performance. Define pass/fail criteria. Customer sign-off required.
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Design changes may occur during the product development cycle. As a general rule, each design change that may occur will be documented and submitted to the customer for approval. Records of design changes will be kept in standard form (ECP – engineering change proposal).

Engineering reviews will be held at the end of each phase to determine if all requirements are met and to validate the advance to the next phase.