

ECSS-Q-ST-60-03

ASIC, FPGA and IP Core Product Assurance

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- ECSS-Q-ST-60-02C is now obsolete and superseded by
 - ECSS-E-ST-20-40C - ASIC, FPGA and IP Core Engineering – 11th October 2023
 - ECSS-Q-ST-60-03C – ASIC, FPGA and IP Core Product Assurance – 11th October 2023
- These 2 new ECSSes are the result of the collaborative engineering efforts of ASIC/FPGA engineering experts and product assurance experts (gathered in a common ECSS WG created in 2019).
- Analogous to the co-engineering requirements in software standards,
 - TEC-EDM is book captain for ECSS-E-ST-20-40
 - TEC-QQS is book captain for ECSS-Q-ST-60-03

What was moved to ECSS-Q-ST-60-03 (from ECSS-Q-ST-60-02)

- **All PA requirements**

- Section 6 – Quality assurance system
- Clause 4.1.2.b
 - “The organization shall comply with the requirements specified in ECSS-Q-ST-10”
- Clause A.2.1.a.2
 - “Role, tasks and responsibilities of product assurance personnel in conformance with ECSS-Q-ST-10 and ECSS-Q-ST-20; “
- Clause 6.1.b
 - “ ECSS-Q-ST-30 clause “criticality classification of functions and products” shall apply

- **All CM requirements**

- Clause B.2.1.9
 - “ The ADP shall include identification of a configuration management system in conformance with ECSS-M-ST-40

ECSS-Q-ST-60-03 does not modify the generic ECSS requirements previously defined in ECSS-Q-ST-60-02:

- PA requirements (ECSS-Q-ST-10),
- QA requirements (ECSS-Q-ST-20),
- Dependability requirements (ECSS-Q-ST-30), and
- Configuration (ECSS-M-ST-40).

ECSS-Q-ST-60-03 translates the requirements of these ECSSes and adapts them to the context of the DEVICE engineering domain defined in ECSS-E-ST-20-40

DEVICE
integrated circuit or an IP Core

NOTE1: A DEVICE can be a digital, analogue or mixed-signal ASIC, a programmed FPGA, a blank FPGA, a microprocessor, and a model of an IC function that is conceived for reuse as an IP Core.

NOTE2 : A DEVICE can also be a group of dice or chiplets interconnected and integrated inside a single package, such as a system-in-package or a multi-chip-module

What is new in ECSS-Q-ST-60-03 (since ECSS-Q-ST-60-02)

- Co-engineering with ECSS-E-ST-20-40
 - Including alignment to ECSS-E-ST-20-40 workflow and phase reviews (see E-20-40 presentation)
- Tailoring by criticality
- Reuse of both IP Cores and complete DEVICE – with qualification status assessment and definition of delta-qualification activities in the context of a given project in a DEVICE Reuse File, as well as license/IPR requirements
- Qualification status assessment and maintenance
- Deactivated and Unreachable DEVICE functions
- Metrication programme
- Security Assurance
- Process Assessment and Improvement
- Independent Verification and Validation for Category A

Any questions?

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