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THE ESCC QPL TOOL: FORTY YEARS OF QUALIFIED COMPONENT IN SPACE

Abstract

The ESCC Qualified Parts List (QPL) is a European tool that has guaranteed the access to a stable supply of reliable, space-qualified EEE parts for four decades and counting. The ESCC QPL is the list of European EEE Parts and technologies qualified to the rules of the ESCC Specification System and certified by ESA, intended for use in Space. Through the qualification program the EEE parts manufacturing process is controlled and the full traceability of the product and its supply chain is guaranteed. Periodic testing, non-conformances reporting, audit and follow-up are inherent to the qualification program as well. The availability of ESCC Qualified components has benefitted and continues to benefit all ESA projects in terms of cost and lead time efficiency: pre-approval of components (No-PAD/NSPAR required), simplified screening flow according to ECSS-Q-ST-60 rules (LVT/LAT is optional), export license free procurement, high product maturity (TRL9) and low rate of obsolescence. As a matter of fact, ESCC QPL EEE parts have been flying on every single ESA mission delivered by the various ESA directorates of Science, EO, Telecommunication, Navigation, Robotic and Explorations for more than 40 years. The ESCC QPL list is published on the ESCIES.org web site on a monthly basis. There are currently 45 European manufacturers holding a total of 130 QPL/QML certificates and offering 335 different part types across 33 different component technologies, delivering space-worthy components to companies in Europe and across the world. The European Space Components Coordination (ESCC) is a long-running partnership of European space agencies and companies, representing an essential gatekeeper to ensure electrical, electronic and electromechanical parts are fully qualified for use in space. It is to highlight that one important best practice in the ESCC system of qualification is the fact that the system relies on the support from the NSA's with an ESCC Executive Implementation Agreement (EIA) in place. Currently 130 ESCC qualification certificates across 8 European countries are supported by 5 NSA's (ESA, CNES, DLR, UKSA, EI) with a ESCC EIA in place.

The ESCC Qualified Parts List (QPL) as a solid European building block will assure the access to a stable supply of ready available space-qualified EEE parts for future space missions.