

Radiation Hardened Integrated Circuits FAQs

Q1A: Are integrated circuits (IC) which are acquired, tested, or otherwise used by the United States Government (USG) or by persons or entities in a contractual relationship with the USG, considered to be “rated as radiation hardened” under Export Control Classification Number (ECCN) 3A001.a.1 or meeting or exceeding the characteristics set forth in ECCN 9A515.d or e?

A1A: No. Unless designed, rated, certified, or otherwise specified or described as meeting by the manufacturer to meet control parameters described in ECCNs 3A001.a.1 or 9A515.d. or .e, integrated circuits, manufactured using existing commercial fabrication technologies, which are acquired, tested, or otherwise used by, for, or under contract with the United States Government are not considered to be “rated as radiation hardened” under ECCNs 3A001.a.1 or 9A515.e or .d. Thus, subsequent use of integrated circuits does not change the classification of the underlying standard process technology. For example, if a 3A991 integrated circuit is “tested” by the USG and meets the radiation-hardened parameters in 3A001.a.1, the classification of the IC does not change from 3A991 and the underlying standard process technology does not change its classification from 3E991.

Q1B: Further, what is the impact to the classification of those standard fabrication process technologies that do not meet the “required” standard (as defined in Part 772 of the Export Administration Regulations), used to manufacture ICs that are acquired, tested, or otherwise used by the United States Government or by persons or entities in a contractual relationship with the USG?

A1B: There is no impact to the classification of those standard fabrication process technologies. Under the EAR, only that portion of the technology that is “required” is controlled under 3E001 as it relates to 3A001.a.1. or 9E001 as it relates to 9A515.d or .e.

However, if the foundry were to deviate from its standard fabrication process (e.g. the addition of special process steps that are intended (and needed) to produce an IC that meets or exceeds the parameters in 3A001.a.1 or 9A515.d. or .e), then those additional process steps (along with the IC design data) may be “required” technology and thus controlled under 3E001 or 9E515, respectively.

Q2: In developing Program Protection Plans to prevent the release of controlled technology during the lifecycle of an acquisition, can the United States Government rely on industry technology control plans for programs using onshore foundries for integrated circuit production?

A2: Yes. For Department of Defense acquisition programs relying on onshore foundries for integrated circuit production and which include approved Program Protection Plans, authorized program personnel may rely, as necessary, on existing industry technology control plans to assist in certifying that an export of technical data does not occur during the production of integrated circuits.