William Arvin

From: Arvikar, Ram <rarvikar@vectron.com>
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To: PublicComments
Subject: RIN 0694-AF64

Vectron International (http:// www.vectron.com), a leading manufacturer of crystals and crystal-based oscillators for use in commercial and in defense articles had previously submitted its comments (reference: email to publiccomments@bis.doc.gov, December 22, 2012 in response to RIN 0694-0045) requesting the classification of crystals and crystal oscillator under the category 3A611.y

In the most recent request for comments to the proposed rule, RIN 0694-AF64, July 25, 2013 BIS has apparently reviewed the requests from many commentators requesting the addition of some commodities to the 3A611.y category but did not elect to move such items to this category. BIS however has stated that " ….BIS will consider whether to add more items to .y structure. The public is encouraged to provide justification why particular types of items , regardless of how they would be modified for any military items, are nonetheless so insignificant as not to warrant more than AT-only controls."

As described in our previous submission, crystals and crystal oscillators components are used primarily as frequency control or timing devices in a diverse range of applications in both commercial telecommunications and military/ defense applications. The primary purpose of these devices is to provide a stable frequency source or "clock" source to be used as a reference in an electronic circuit whether used in commercial telecommunications or in military applications. Vectron designs and manufactures such components for leading telecommunications companies such as Alcatel-Lucent, Nokia-Siemens, Motorola, Cisco who use the oscillators as a frequency source in the telephone network systems. Other market segments can include measurement and monitoring equipment, healthcare, tests-set & instrumentation. When used in defense applications these components provide the same purpose and function and associated military end-items/systems can range from missiles, aircrafts, military communications, space satellites for customers such as Raytheon, Boeing, General Dynamics, Lockheed Martin, Thales, various space agencies including NASA, etc. A key aspect in making the determination of whether the item is commercial or military has always been the modification needed or whether it is "specially designed". Oscillators used for military/space/defense applications use the same circuit design and manufacturing process as that for oscillators intended for telecommunications and commercial applications. However because of the requirements for military applications, the oscillators are typically "screened" and undergo additional testing and screening because of the higher levels of robustness (e.g. in order to survive higher levels of shock and vibration) and reliability requirements. Mere testing should not make the items "specially designed".

Vectron has received commodity jurisdiction from State that has ruled some space and military oscillators as EAR-controlled. On the commerce CCL side, references to crystal oscillator are few. Oscillators which typically utilize bulk acoustic and surface acoustic wave devices, can be classified based on certain special characteristics such as frequency (3A001.c.1: Surface acoustic wave devices exceeding 6 GHz or 3A001.c.2: bulk acoustic wave devices exceeding 6GHz) and low phase noise threshold as per 3A001.b(10), but generally many other types of oscillators are not listed as controlled on the CCL. Oscillators are commercially available from a variety of sources both in the U.S. and from many

foreign sources in China, Taiwan, Korea, Japan, Russia, New Zealand to name a few. Vectron regularly imports and sells "COTS" oscillators made by off-shore suppliers to many defense customers.

Vectron has been closely monitoring the ongoing reform and applauds the effort to reform the USML and make the commodities better-defined and remove the vagueness and confusion of such terms as " specially designed, modified, amended configured etc.." and control the commodities because they are vital for U.S. national security. The new definition of "specially designed" should allow exporters like Vectron to better identify , to the extent possible, components that would be controlled on the USML (if they are specifically enumerated) or on the CCL (again if specifically enumerated under the revised categories)or be classified as EAR99. For example in the latest revised USML XV Spacecraft systems and Related Categories, oscillators are clearly enumerated under XV(e)(15) as ''Space-qualified'' oscillator for radar in paragraph (a) of this category with phase noise less than -120 dBc/Hz + (20 log10(RF) (in GHz)) measured at 2 KHz*RF (in GHz) from carrier." Since Vectron does not make oscillators for radars as defined in Category XV this removes oscillators from the USML control. Till now Vectron has exported oscillators for space use, for commercial and research satellites, under ITAR licenses.

Vectron believes that crystals and crystals oscillators used in military electronics should be viewed as " items in normal commercial use " and when "specially designed" would not or does not alter the characteristics or function or the status to place them on the USML (oscillators are not specifically enumerated on the proposed USML Category XI) or under the category 3A611.x.

Vectron would be pleased to provide any additional information or data required in support of our proposal (Ram Arvikar, Tel: 603-577-6860, rarvikar@vectron.com)

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