**1. Regulatory considerations**

**1.1 RoHS regulation**

In this project, the only physical material is *Digilent 410-292 Nexys 4 DDR Artix-7 Development Board.* Its serial number is 410-292, type is Nexys 4, and manufacturer is Digilent. According to EU Directives 2011/65/EU and 2015/863, 10 kinds of hazardous substances in electrical and electronic equipment are restricted. In the specification given by manufacturer, the concentration of Cadmium is 0.01% and the others’ concentration are 0.1%. Since the device will be connected to computer and provided with voltage, it must be capable of being worked in higher temperature required by lead-free soldering. The manufacturer and retailers also provide a Declaration of Conformity illustrates this electrostatic discharge sensitive device has been handled and packed under conditions that meet the administrative and technical requirements of the ANSI/ESD S20.20:2014 and BS EN 61340-5-1:2007 Electrostatic Control Standards. Therefore, when testing the program on this board, the risk of hardware will be minimized. Each module of this board is available from RS components, which means they have met RoHS regulation.

**1.2 WEEE regulation**

WEEE is a complex mixture of materials and components. Such kind of component id quite dangerous because of their hazardous elements which may cause some environmental and health problems. Therefore, how to recycle these equipment are quite essential. The specification of *Digilent 410-292 Nexys 4 DDR Artix-7 Development Board* shows that the concentration of harmful elements are less or equal than 0.1%. Moreover, the manufacturer has joined the producer compliance scheme (PCS) so that its sales are under supervision. Since it does not contain any batteries, it is not necessary to subtract and report separately. In UK, there are three retailers selling this product, Farnell UK, Rapid Electronics and RS Components Ltd. On their website, all of them have sale areas larger than 400 square meters and accept small WEEE for free from private household customer services or not need to purchase new equipment. Therefore, this development board meets WEEE regulation.