

RoHS directive status of development and evaluation boards

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The RoHS directive status of development kits and evaluation boards has always been unclear and hotly debated within the electronics industry with no legally binding decisions being made. The German government decided many years ago that printed circuit boards sold separately to users, for example, to increase computer memory or add new functions to PCs would be regarded as separate products within the scope of the RoHS and WEEE directives even though they do not have their own enclosures or a separate power supply. All other EU States now have the same opinion. The RoHS directive's scope is electrical and electronic equipment that falls in categories 1 – 7 and 10 of the WEEE directive. There is no requirement for products to have their own enclosures and they can use any power source including batteries, USB cables, etc. The RoHS directive does not limit its scope except that the product should depend on electricity to function and so clearly single PCBs sold, loaned or given separately to users will be in scope if their main functions are in one of the eight RoHS categories.

The only published guidance on development kits and evaluation boards is available from the UK RoHS enforcement body NMO - This states:

Semiconductor Evaluation Boards

The term Evaluation boards covers a broad range of products from some fairly simple products to fully integrated complex systems. In most cases an evaluation board is effectively a single board computer allowing connection of peripherals and/or input devices to facilitate the programming and testing of chips. Therefore most evaluation boards are included under Category 3 IT Equipment of the WEEE directive and must therefore comply with RoHS. On rare occasions these boards may be considered consumables and fall outside the scope of RoHS as described in the commission FAQ

This implies that most types of evaluation board are effectively single board computers and so are in category 3 of the WEEE directive. This is correct for any product whose main function is IT and these will be in scope of the RoHS directive. It is clear therefore that any development boards that are intended to be used to program ICs will be in scope. NMO admit that some evaluation boards will not be in category 3 although they mention only those that are consumables as examples of those that will be outside scope.

Although many evaluation boards provide information as their main function and so are in scope of RoHS, there will be some exceptions. Category 3 is specifically “information technology and telecommunications equipment” and so not simply the

provision of “information” such as the time that would be obtained by an electrically powered clock (regarded as category 4) or a measurement instrument (these provide information on temperature, etc.) which would be in category 9 and so currently excluded from RoHS. Evaluation boards are available for example for designing lithium battery charger circuits. These have no IT function (so not category 3) and are not intended to charge lithium batteries (so not category 6 – tools). In fact there does not appear to be any WEEE categories that are appropriate for this type of evaluation board.

Effect of RoHS Recast on status

The scope of the RoHS directive will become an “open scope” which means that all electrical equipment is in scope unless it is specifically excluded. A new exclusion states “equipment specifically designed solely for the purposes of research and development only made available on a business to business basis”. This is intended to exclude development and evaluation boards as these are intended only for research purposes although any types that are also sold to students (B2C) or used for education (i.e. not R&D) would not be excluded. The recast directive is likely to enter force April or May 2011 when it is published in the Official Journal.

RoHS outside EU

There is RoHS-type substance restriction legislation in a growing number of countries worldwide as well as in several US States. These existing and planned substance restrictions apply to a more limited scope than EU RoHS and none yet include development or evaluation boards.

Conclusion

In conclusion therefore, many single PCBs supplied as evaluation boards will be in the original scope of RoHS, especially if they have an IT function as most types do but the scope will change to specifically exclude these. To determine whether a development board is currently in scope of EU-RoHS after the recast, it will be necessary to review each type of board on a case by case basis to determine whether they are designed solely for R&D purposes and will be used only by businesses, otherwise they will be in scope. Where there is any doubt, only the courts can give a legally binding opinion. Evaluation and development boards are not subject to RoHS-type substance restrictions anywhere outside EU.