Guide to CE Marking

All electronic products sold within the European Union are required to be CE Marked. However I find that there is a large amount of confusion and misunderstanding, with people struggling to find what is required of their product. The legal responsibility for compliance with the CE mark remains with the company that either owns the manufacturing rights for the product, or imports it into the EU. It is not possible to "outsource" this legal responsibility to a third party. Test and compliance houses can provide third party validation that a product has been produced and tested against the required standards. Test houses can also advise on the standards against a specific product should be tested, bear in mind that it is ultimately you who has responsibility for compliance so some research and general understanding is advisable.

From the UK Department of Trade guidelines on CE marking a definition of for CE marking is "a declaration by the manufacturer that the product meets all the appropriate provisions of the relevant legislation implementing certain European Directives".

Typical areas covered by the legislation are EMC, EMI, Safety and Environmental laws. EMC - The unwanted Electromagnetic energy generated by your product. There are normally limits for both conducted and radiated emissions. EMI - The ability of your equipment to withstand electromagnetic interference from other sources without malfunctioning or interrupting its normal operation. ESD - Electrostatic Discharge testing involves testing the ability of your equipment to withstand the high voltages that occur when static discharges occur. A typical source of ESD is when a person walks on a carpet, generating a few thousand volts of potential. Safety - Safety testing can cover the electrical, mechanical and fire related safety tests. Environmental - The most well known environmental legislation is the RoHS directive covering hazardous substances such as lead, however there is also the WEEE directive covering end of life disposal. An up coming piece of legislation is the Energy Using Products directive which will come into force in the near future.

In addition to the areas outlined previously, some products such as wireless equipment are required to meet specific legislation, with testing required by an authorised body or so called "notified body". A common misconception is that ISM or so called "license free" radios do not require type approval testing - this is not true. As this testing can be expensive it is wise to research the costs prior to commencing a development, as it can effect the direction you take. For example it is possible to buy pre-approved modules, removing the burden of type approvals. Equipment that does not require testing by a notified body can be self certified.

A "technical construction file" should be created. The TCF contains all the technical details of the product, including assessments of legislative compliance with test reports from the appropriate test houses or internal testing. In addition to the legal requirements you may wish to or are contractually required to test and comply with industry or military standards, such USB, Bluetooth, IP ratings, MIL810 etc. It is important to remember that while these may add a level of credibility to a product they can incur large costs. In a similar manner to type approvals it is wise to get preliminary costing for the approvals phase. While these voluntary standards add credibility to a product, they will have an impact on the unit cost of your product.