Tim,

Here is the justification for the sma connector

Our client wishes to certify a ZigBee Evaluation/developer board which will be marketed and sold in small quantities to commercial developers who will use it for R&D purposes. The purpose of this product is to allow developers to evaluate the clients ZigBee technology using the boards to emulate multiple possible end uses. This allows companies to develop their products and applications for ZigBee technology based on our clients chipset and software more quickly. This is a standard model in the semiconductor industry and chipset manufacturer are expected to provide such hardware. It is equivalent to a commercial developer purchasing a ZigBee chipset and all the components identified (usually minimal), designing their own evaluation board, putting it together and testing the "technology" in their specific application. In the case of this developer kit, which is shipped as a populated evaluation board, the board has been tested and is fully compliant with the 15.247 Technical specifications. The board in question, however, uses an SMA connector and a miniature screw-on antenna, which allows commercial developers in R&D environments some flexibility for evaluating the boards (i.e. Conducted measurements etc). Although this seems to be in violation of rule part 15.203, in this application this allows the R&D developer the flexibility to assess the technology using what ever antenna/connector combination they wish using an otherwise compliant board. This avoids the problems associated with the developer mechanically modifying a certified design to make conducted measurements or evaluate different antennas. Since the end application here is not for product or any commercial deployment for productized or consumer use, but purely for evaluation purposes, it would seem that the requirements of the rules and 15.203 don't really make sense and in fact put wireless chipset manufacutures at a business disadvantage. Customers expect development hardware that allows them the flexibility to verify their designs without having to build hardware. As there is an exemption for professional installations, in this case the product is going to commercial developers who are familiar with RF and the compliance effect of making any modifications, it would seem that this exemption could be applied, as previously stated this product is delivered to commercial developers, not end user consumers.

Thanks

Glen Moore