

---

## **XECOM APPLICATION NOTE:**

### **Transferable FCC Part 68 Registration**

By selecting one of Xecom's modem modules or registered DAA modules you are entitled to use our FCC Part 68 Registration on your product. No additional FCC Part 68 testing will be required; however, there are rules and guidelines you need to follow.

#### **FCC Part 68 Rules**

The FCC Part 68 Rules were created to protect the telephone network from being damaged by the equipment installed on it. The tests run on Xecom's modem and DAA modules insure that if it is integrated properly into your design, there will be no harm to the network. The rules described here are FCC requirements. The guidelines are provided by Xecom to insure that you do not encounter any network problems with your systems in the field.

The rules you are required to follow by the FCC are pretty simple. They primarily involve proper documentation to prevent problems and to track and correct any problems that do occur.

1. You must incorporate the FCC Part 68 Registration information, as shown on the Xecom module, into a label on the outside of your equipment. The required information includes the manufacturer's name, Xecom, The country of manufacture, USA, the FCC Registration number, and the Ringer Equivalence Number (REN). The Ringer Equivalence Number reports the load the device places on the network ringer. In most installations the maximum acceptable Ringer load is 5. This would allow up to 5 devices each with a Ringer Equivalence of 1 to be connected to the same telephone line.

Upon request Xecom will provide a label with the proper information. This label can be applied to the outside of your system if you choose not to add the FCC Part 68 information to your own printed label.

2. You must include the FCC instructions for the product you are using into the user manual for your equipment. The instructions for each model are listed in the back of the data sheet. These instructions inform the user on the proper installation of the modem and what to do if a network problem occurs.
3. Your design must use an FCC approved RJ11 jack for the telephone network. Most suppliers of RJ11 jacks offer parts which meet these requirements, but be aware that there are jacks being built for uses other than phone line connections. These jacks may not be FCC approved.

#### **Design Guidelines**

Xecom supplies the guidelines below to prevent any network problems from occurring when your systems are installed in the field.

1. Each data sheet includes a typical connection diagram. We recommend that you follow these recommendations as closely as possible. If you do need to make alterations or add circuitry, we recommend that you contact Xecom Technical Support to discuss the proposed changes before implementation. Often component changes can be made or circuitry added without any adverse effects; however, we recommend checking the proposed change before locking it into your design.

## Transferable FCC Part 68 Registration

2. One important safety feature insured by the use of an FCC Registered modem is the isolation of the telephone network from the user equipment. Maintaining this isolation is a key requirement of your system design. To insure that this isolation is not compromised Xecom recommends providing at least a 0.100 inch gap between the Tip and Ring traces and all other circuitry. This includes omitting the power plane, ground plane and any control circuits from the area between the modem/DAA module and the RJ11 telephone jack.
3. FCC Part 68 Rules include Vibration and Drop tests. It is important that all of your circuitry be properly secured so that no critical components are shaken loose.
4. Lightning simulations are part of the FCC Part 68 testing. Xecom's registered modem/DAA modules have integrated lightning protection and survive these tests without additional protection. If you do decide to include additional protection, please contact Xecom Technical Support to review your proposed changes.

The FCC Part 68 Registration Number that you will be using remains Xecom's responsibility even when the modem is installed in your system. If a network problem is reported to us, that involves your equipment, Xecom may require you to stop shipments until the cause of the problem is identified.

If you have any questions regarding compliance with FCC Part 68 Rules please contact Xecom Technical Support.

### **Xecom Technical Support Contacts.**

Telephone: 408-945-6640 ext 27

Fax: 408-942-1349

Email: [Tech@xecom.com](mailto:Tech@xecom.com)