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ALIEN_®

Attention: American TCB
6731 Whittier Ave
Suite C110
McLean, VA 22101

October 19, 2006

Subject: Professional installation of the Alien Technology ALR9890-RR intentional radiator operating under FCC part 90 Location and Monitoring Service (non-multilateration LMS) regulations

Dear Reviewer,

Alien Technology has developed and is preparing to market RFID interrogators operating under FCC part 90 Location and Monitoring Service (non-multilateration LMS) regulations. The intent of Alien Technology is to market and sell these integrators to professional organizations that specialize in installing this market application. The ALR9890-RR interrogator has been tested to the requirements of FCC part 90 and has meet all specifications required. The specific operating environment of the ALR9890-RR interrogator is as follows.

The ALR9890-RR interrogator has been developed to meet the market need of inventorying railroad boxcars as they roll by specific track locations. This system is presently in use by most major railroad companies in the United States. As some additional background, every railroad boxcar, container car or any other car being used on the rail lines in the United States has a "passive" RFID tag on each side of the car. As the car rolls by an RFID interrogator at specific locations, the car is inventoried as having been by that location. This assists the rail companies in keeping track of the thousands of railroad cars throughout the US.

The railroad companies have professional contractors whose job it is to install, obtain the necessary permits and licenses and set up the network for the rail companies at locations desired by these companies. The sites where the interrogator can be installed could be at metropolitan transportation hubs or in remote locations. The contractors performing these installations, for the rail companies, are the professional installers of our product. The ALR9890-RR interrogator is only available to these professional organizations.

Professional installation of the ALR9890-RR interrogator consists of :

- 1) Obtaining a site license from the FCC for use of the interrogator under part 90 regulations
- 2) Installing the interrogator, routing the antenna cable to the antenna along the rail siding, supplying power and network connections to the interrogator.
- 3) Selecting one of the 21 available channels in the interrogator and that specified by the site license. The desired operating channel for the interrogator is selected by the professional installer, using configuration software. The channel selected is stored in nonvolatile memory in the interrogator. The channel stored in non volatile memory can only be changed by the professional installer.
- 4) Powering up the system, testing the interrogator and networking the interrogator into the rail road inventory network

It should be noted that the only two variables that the professional installer has control over that could affect compliance with FCC part 90 regulations are 1) the output frequency and 2) the gain of the antenna. The power output of the interrogator is factory set and cannot be accessed by the professional installer. In addition the type of



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cable used to connect the integrator to the antenna is specified in the users manual as well as the type of antenna to be used. The type of antenna to be used will be restricted to not have more than 10 dBi of gain thus assuring that the maximum radiated power achievable is 20 Watts EIRP. As previously noted channel selection is controlled to the selection of 21 channels located between 910.75 MHz and 920.75 MHz.

Alien Technology hopes that the information provided in this letter is sufficient for American TCB to provide an FCC grant for use of the ALR9890-RR interrogator for use in part 90 railroad boxcar inventory applications. If there is additional information or clarification needed please do not hesitate to ask.

Regards

Robert Martin
Sr Engineer