American Telecommunications Certification Body Inc.
6731 Whittier Ave, McLean, VA 22101

February 4, 2008

RE: Andrew Corporation

FCC ID: BCR-RPT-IONM5B9017

I have a few comments on this Application. Please answer all of the questions and reply with each answer under each question as a response letter. Please be aware depending on the answers to the questions there may be more questions.

1. Regarding MPE, note that you reference the FCC allows for indoor fixed installation. This may be allowed, but note that what we are concerned with is the location of the antennas and not the unit itself. For instance, if antenna can be located in hallways of buildings, depending on the building, this may only meet 20 cm requirements (i.e. I've seen leaky coax installaions for subways and underground shopping areas where the cable is placed at head height along stairwells and initial cable runs and certain hallways and therefore these situations would be subject to mobile classification). Remember that mobile classification is simply meaning that the EUT to user antenna distance only meets a 20 cm distance and does not actually deal with the logical meaning of the word mobile (such as device as movable or mounted in position). Without fully understanding antenna types, gains, and installation procedures which clearly show/explain how antennas are mounted indoor, 20 cm would seem reasonable. If you wish to adjust this for fixed indoor installation (referring to antenna locations), please provide further information regarding types of antennas, user installation instructions to support this, etc. Typically there is information showing how antennas must be mounted on permanent indoor structures and located in such a way that their antennas meet minimum spacing requirements (as shown in appropriate MPE calculations – however this must take into consideration all RF output from the antenna, not just a band – see 3) below). Otherwise we will continue based on the information provided for indoor mobile operation. You may wish to clarify what is meant by an indoor fixed installation (i.e. in these situations where is the antennas mounted). If the antennas are still mounted outdoors, on towers or roof tops, etc – then this would be a fixed installation. However if the manufacturer expects to use antennas such as leaky coax (or other indoor antenna installations) to be used in subway runs, underground areas, tunnels, inside buildings, etc. – then many of these situations could be deemed mobile installations unless detailed installation information clearly shows otherwise.

   Please clarify.

   Note: Generally speaking FCC has stated that Pico-base stations, Micro-base stations and other fixed-mounted transmitters operating with indoor antenna(s) meet MPE Categorical Exclusion Limits established in §2.1091. If not, it must be clear how antenna to user installation is ensure to meet with necessary distances.

Since this is a licensed device the type of antenna used is not defined by the equipment manufacturer. I am not sure how we can predict the MPE without a clear definition of the antenna(s). This is the reason we included maximum antenna gain and separation

distance in the installation manual. In the case of leaky coaxial cable the loss associated with the propagation characteristics of this type of radiator would correlate to an "antenna gain" of about -50 dBi. My contention is that RF Exposure is dealt with as part of the site licensing procedure and that we must demonstrate for equipment authorization that the device can meet rf exposure requirements if properly installed (i.e. that the user manual does not recommend any installation that would violate the rf exposure rules.

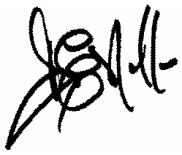
3. Depending on 2) above, if mobile installations will exist or fixed indoor antenna installations, then MPE must consider all possible RF output for purposes of its calculations. For instance you would calculate maximum RF exposure of all RF power out of a single antenna and using the same distance in each equation (much as has already been provided in the MPE exhibits. However you must then take this one step further and show that the sum of the ratios of density to the respective limits is < 1 such as:

   Power Density1/Limit1 + Power Density2/Limit2 + repeat for n number of outputs…. < 1
   Given the current ratio shown (i.e. 800 MHz is about 0.87 or 87%, and 1900 MHz is about 0.50 or 50%, the sum is > 1 or 100%). Note that this calculation must be for the worse case sum of all possible RF into a single antenna element.

Again this has to be dealt with under the site license and this product should not be seen as mobile installation as relates to the method of installation OR minimum separation distance from nearby persons.

1.

Thank you,



Douglas E. Noble
Examining Engineer

mailto: dnoble@americanTCB.com

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information may result in application termination. Correspondence should be considered part of the permanent submission and may be viewed from the Internet after a Grant of Equipment Authorization is issued.

Please do not respond to this correspondence using the email reply button. In order for your response to be processed expeditiously, you must submit your documents through the AmericanTCB.com website. Also, please note that partial responses increase processing time and should not be submitted.

Any questions about the content of this correspondence should be directed to the sender.