

# American Telecommunications Certification Body Inc.

6731 Whittier Ave, McLean, VA 22101

January 28, 2005

RE: AEPTEC Microsystems Inc. / 3e Technologies International

FCC ID: QVT-528

I have a few comments on this Application. Depending on your responses, kindly understand there may be additional comments.

1.) This device consists of three identical 802.11g radios set to different channels and directional antennas, and one 802.11b radio connected to a single omnidirectional antenna. Does the Applicant intend for the 802.11g radios to always be connected to 5dBi or less omnidirectional antennas?

Response: Please note the 802.11b radio is the subject of this certification. Three additional modularly approved radios are also contained in the device (FCC ID QVT-WLAN-MP1). Intermod and spurious emissions were tested to account for the combination of the radios.

The 802.11b radio will only be used with 5 dBi or less omnidirectional antennas.

The 802.11g previously modularly approved radios will only be used with 14 dBi or less directional antennas (a 24 dBi antenna was incorrectly referenced in the original test report).

2.) It is noted that directional antennas are specified exclusively for use with the 802.11g radios. If the Applicant intends for a wide variety of antennas to be used with this system [yagi, parabolic, etc.], you are reminded of the requirement for supplying antenna specifications and photographs for each antenna type. No specifications are currently provided for the 24dBi grid.

Response: The 802.11g previously modularly approved radios will only be used with 14 dBi or less directional antennas (a 24 dBi antenna was incorrectly referenced in the original test report).

3.) It is unclear if the RF Exposure exhibit considers the effective total RF "illumination" which would occur when all antennas are transmitting simultaneously and aligned along the same vector.

Response: The antennas will never transmit along the same vector, and will be separated by a minimum of 5 feet. Please refer to the applicant's attestation letter uploaded with this response. Because of the installation distance, RF exposure was only evaluated for the 802.11b radio card. RF exposure effects for the previously modularly approved 802.11g cards can be found in the QVT-WLAN-MP1 application.

4.) The Manual shows a drawing where the three 802.11g transmitters are terminated with whip antennas mounted directly onto connectors at the NEMA enclosure. Was this configuration tested for intermod and spurious emissions in addition to both the directional antennas? If possible, kindly provide photographs of this setup.

Response: The setup referenced above in the original manual was not valid. The user's manual has been revised. Please refer to the revised user's manual uploaded with this response.

5.) Since the 802.11g radio directional antennas can be pointed in any direction, it seems reasonable that worst case radiated intermod could occur with all antennas aligned along the same vector. Was this investigated for both the 14 and 24 dBi antennas?

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Response: The antennas will never transmit along the same vector, and will be separated by a minimum of 5 feet. Please refer to the applicant's attestation letter uploaded with this response.

6.) The radiated band edge measurement should be repeated for each antenna type. This means I expect to see data for the 5dBi whips, the 14dBi panel, and the 24dBi grid. Please review.

Response: The band edge measurements were performed with the 5 dBi whip antenna on the 802.11b card (the subject of this certification). Band edge measurements with the 14 dBi antenna are contained in the application for the previously modularly approved 802.11g radio (FCC ID QVT-WLAN-MP1). The system will not be used with a 24 dBi antenna (a 24 dBi antenna was incorrectly referenced in the test report).

7.) This device claims to use one 802.11b CCK radio and three 802.11g OFDM radios in typical operations. Therefore data for both the 802.11b and 802.11g radios should be presented. This should include all the parameters listed in Part 2 and Part 15C as necessary.

Response: The 802.11g radio was previously modularly approved (FCC ID QVT-WLAN-MP1).

8.) Please remember that the video bandwidth of all peak power sensors should be wider than the 6dB bandwidth of the emission to be measured. My memory may be off, but I do not recall the Agilent power meter you use in your Test Report is quick enough to capture the peak emission. Kindly review your procedure. FYI: The FCC has changed some of language in 15.247 to allow the use of RMS power measurements. This may work to the advantage of the Applicant. See 15.247(b)(3). You should also be aware that in general the highest Pout occurs when 802.11b/g radios are transmitting at their slowest bit rate.

Response: Please note that only the 802.11b power was investigated for this application (power measurements for the 802.11g devices are contained under FCC ID QVT-WLAN-MP1). We concur with your email dated Thursday, June 19, 2003 2:31 PM to Joe Dichoso that the 5 MHz sensors produce accurate results for 802.11b signals. We have correlated this with diode detector measurements as well. We investigated the various data rates and presented the worst case data in the report.

9.) Because of the potential total EIRP involved, it would be prudent to provide more robust antenna installation instructions. If indoor as well as outdoor installations are possible, this should also be addressed.

Response: Please refer to the revised manual uploaded with this response.

William H. Graff  
President and Director of Engineering  
mailto: whgraff@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.