

**American Telecommunications Certification Body Inc.**

6731 Whittier Ave, McLean, VA 22101

August 22, 2004

RE: FCC ID: QVT-525A\_ATCB001612

Attention: Kathy Grzovic / Desmond Fraser

I have a few comments on this Application. Please note that further comments may arise in response to answers provided to the questions below.

1. Please provide photos of the transmitters with shielding removed.

Response: Please refer to the revised Internal Photograph exhibit uploaded with this response.

2. Please note that it appears that you have only provided block diagrams of the non-transmitter sections. Please provide the block diagrams of the transmitters I the device.

Response: Please see the revised block diagram exhibit uploaded with this response.

3. Please note that it appears you have only provided the schematics for the non-transmitter sections of the device. Please also note that there appears to be two distinct WLAN devices in the host. Please provide the schematics for the transmitters.

Response: Please see the revised schematic exhibit uploaded with this response.

4. Please note that this is not a licensed device whereby MPE is addressed at the time of installation but is a part 15.247 device whereby a required MPE exhibit must be provided. Please provide the required MPE exhibits for this device.

Response: Please refer to the RF exposure exhibit uploaded with this response.

5. Please note that you have provided a technical description of the host but have not provided the required technical description of the operation of the transmitters. How do these transmitters work? Do they transmit simultaneously? Have certain functions been disabled? IF so, how and to what extent?

Response: Please see the revised technical description uploaded with this response.

6. Please note that if the two transmitters do transmit simultaneously there may be additional problems that may need to be addressed with this application. These may include the necessity to apply directly to the FCC for a grant of authorization. The FCC has recently stated that simultaneous transmission for EMC of dual transmitters will be evaluated by the FCC and that the 20cm separation distance may not apply to the EMC of the transmitters. This cannot be determined until a complete and accurate description of the WLAN transmitters and how they function in the device is provided.

Response: Please see the additional information provided with this response, and please advise how to proceed given this information.

7. Please note that the manual indicates that this device is professionally installed (see page 18 of the manual). However, the antenna specifications provided state that the antenna terminals are reverse N types. Also please note that must contain a statement that so indicates. Please provide a manual that clearly identifies this as a professionally installed device.

Response: This is not a professionally installed device. Please see the revised manual uploaded with this response.



## American Telecommunications Certification Body Inc.

6731 Whittier Ave, McLean, VA 22101

8. Please note that the external photos show three antenna connectors. The report states that these are identical ports. Testing was done using three identical antennae connected to the three ports. The manual states, "The 802.11g port uses an external directional antenna or omnidirectional antenna (purchased separately)." The test report does not indicate any testing in the external high gain antenna configuration as specified on page 18 of the report. Please retest the device in the specified high gain antenna configuration specified in the manual.

Response: The device is to be used and certified with only the antennas as presented in the report. The antenna references above were incorrectly included in the manual. Please refer to the revised manual uploaded with this response.

9. Please also provide information specific to antenna mentioned on page 18 of the manual. Please include specific antenna gain and type information. Please also provide information on the configuration whereby the other two ports may also be used with external antennae connected to them? If so, what external antenna can be used on these antenna ports? If only one of these three ports can use a high gain external antenna as stated in the manual, please explain how the other ports are prevented from use in this configuration. Please provide the necessary information about the use of these external antennae ports.

Response: Please see the revised antenna information uploaded with this response.

10. Please note that page 20 of the report shows that the device is not compliant and cannot be certified as is. Please note that the frequencies shown on the plots show levels in the 12GHz range that is equal to or higher than the fundamental at 2.4GHz. Please resubmit when the device is made compliant.

Response: The graph on page 20 of the report was corrupt. Please see the revised test report uploaded with this application.

11. Please note that the 802.11a/g card in the system operates in the UNII bands and in the 15.247 bands. However, the operational description only states the 15.247 bands. And the report only provided information on the 802.11g 15.247 band. Please note that there has been no information provided as to how the 802.11a/g card has had the UNII frequencies disabled, nor has the report provided conducted power or radiated information on the downward compatible 802.11b function of this transmitter. Please provide information on how the UNII frequency operation is permanently disabled in the system. Please also provide information on how the 802.11b functionality is disabled in this transmitter. If the 802.11b functionality has not been disabled and can be used, please provide the necessary conducted output power, radiated emissions, band edge compliance and PPSD information of this configuration.

Response: Both WLAN cards operate only in the authorized 2.4 GHz band. The 802.11a operation has been disabled from the NL-5354MP card via firmware; the user cannot enable this operation. Both 802.11b and 802.11g emissions were investigated from the NL-5354MP card. The 802.11g emissions as presented in the report represent worst case operation. The peak power levels from both modes of operation are identical (controlled to be identical via internal firmware). The 802.11g mode of operation uses OFDM with 24 sub-channels to fill the spectrum in each channel, which represents a wider RF spectrum vs the 802.11b mode of operation.

Dennis Ward  
mailto:dward@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.