



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

June 28, 2004

RE: FCC ID: AK8IRF302U\_ATCB001452  
Attention: Hiroka Umeyama / Hisayuki Kioka

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. FYI. Please note that the definition of a Limited Modular Approval is a module that has been approved while tested in a specific host. Please note that this transmitter has not been tested in a specific host and is therefore not an LMA. It however, is a modular approval for use that is restricted to mobile devices only. Please note that the antenna cable used in the testing will not allow the device to be installed by the OEM or OEM integrator into any laptop or notebook computer.
2. Please note that the rf exposure statement in the OEM installation manual does not address the mobile only condition of this device. Please provide a manual which contains a caution to the OEM or OEM integrator that the device can only be installed in mobile devices which must maintain a minimum of 20 cm from the user.
3. Please note that as compliance of this device requires ferrites on the antenna cable. As the ferrites are used to reduce the emissions (standing waves) on the cable, and since it not know how these emissions may or may not be affected by cables of longer length, and as it has not been shown that a longer cable would be complaint under the same circumstances, the specific ferrites shown on the cable and the specific cable shown MUST be sold and installed as part of this device. Please note that this needs to be made clear in the installation guide as to how to install the ferrites and cable.
4. Please note that while the report states on page 10 that "cabling was taken into consideration", it does specify what cables were considered. Were these the antenna cables? What was considered? If you have investigated the effects of longer cables with the ferrites and the transmitter, please provide evidence or clarification of such investigation.
5. Please note that the rf radiation statement in the manual is incorrect. Please note that the statement says the device was tested and found compliant. Please note that this is not the case. SAR nor MPE tested was performed. Only MPE calculations have been provided with this device to show that the 20cm distance is within MPE. Please correct your manual to remove the inference that the device has been tested for rf exposure and please provide the proper 20cm separation distance requirement in the manual.
6. Please note that as this device can only be installed by the OEM or OEM integrator, the installation manual must clearly indicate that the Host must have a label on the outside that clearly states "Contains TX FCC ID: AK8IRF302U" or similar. Please provide an OEM installation manual that provides this information to the OEM installer.
7. Please note that item 2 of the file "Installation Manual(IRF302U).pdf" states 15.247(b)(4) as an rf exposure limit. Please note that this is a power limit not an rf exposure limit. Please correct the document to reflect the proper rule part for rf exposure limits (i.e. 15.247(b)(5)).
8. Please note that the report states that the peak conducted power was measured using an analyzer. Please note that when using an analyzer to make power measurements you must consider the resolution bandwidth correction factor. Please note that the plots show that the resolution bandwidth was only 1 MHz for these measurements. Please note that this mean an analyzer resolution bandwidth correction factor of  $10\log(\text{OBW}/\text{res BW})$  must be used. For the 11Mhz OBW the correction factor would be  $10\log(11/1)$  or 10.4dB. for the 16MHz OBW the correction factor would be  $10\log(16.4/1)$  or 12.1dB. This means that the power reported in the conducted power measurements is significantly higher than reported. Please explain and please provide test data as specified in the FCC accepted measurement procedures for power measurements using an analyzer. Alternately, please explain why these numbers should be

considered correct (i.e. does the analyzer account for the low resolution bandwidth in relation to the fundamental).

9. Please note that the Output power does not appear to have been measured in accordance with the accepted FCC techniques specified in DA-02-2138A1 (i.e. res bw = 1MHz; video bw=3MHz). Please explain.



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.