



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

June 28, 2004

RE: FCC ID: AK8IRF303U\_ATCB001453  
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 provide separate test setup photos as required by the FCC.
3. Please note that no letter of confidentiality has been provided. If confidentiality is requested, you will need to provide this letter stating which of the allowed exhibits are to be confidential.
4. Please note that the conducted emissions plots only show peak readings and do not show passing average data and there is only one configuration (11mbs channel 11) that shows passing average data in tabular form. Please provide evidence that all of the failing conducted plot data has been averaged and is compliant with the average limit as required. Please note that this is the case in both the DTS and the UNII reports.
5. 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 means 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 may be significantly higher than reported. Please explain and 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? If so, this must be made clear in the report).
6. Please note that for the UNII device 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.
7. Please explain if this device can have simultaneous transmission on the 15.247 and the 15.407 bands. If so, please provide an MPE report showing the combined power calculations and please provide radiated emissions data with simultaneous transmission.
8. Please note that the rf exposure statement in the users 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.
9. Please note that while the report states on page 10 that "cabling was taken into consideration", it does not 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.
10. 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 testing 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.

11. 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).



Dennis Ward

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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.