

Novatel Wireless Inc.
FCCID: PKRNVWE362
CRN: 96659/ 96660

1. The grantee is aware that the option to utilize procedures referenced in KDB pub 616217 SUPPLEMENT is available to them and had requested guidance prior to testing through KDB inquiry 689615. Given that there were no reference laptops available suitable to the E362 module (with LTE functionality) this option was not selected. For this program the grantee prefers to test each host in the most conservative mode as outlined in KDB pub 616216 SUPPLEMENT and proceed with Class I changes on subsequent similar platforms. The applicable sections of KDB 447498 will be followed. The Integration guide has been updated to provide additional details with respect to the rules and FCC references. All future module applications that can be used in a portable configuration will be evaluated according to KDB pub 616217 Supplement

2. The integration guide has been updated to address the following statements:

Comment	Response
<p>A grantee knows their own product, and filings need to provide appropriate information to support and demonstrate how integrators and users will be able to comply with RF exposure compliance requirements. The grantee is responsible and must ensure its OEM integrators and distributors are provided with and following the necessary installation and implementation instructions/requirements and relevant grant restrictions to incorporate the approved transmitters and antennas.</p>	<p>Please refer to the revised integration guide. Section 1 covers general integration guidelines. FCC Grant Conditions:</p> <ul style="list-style-type: none"> • This device is mobile with respect to RF Exposure compliance: pg 4 • The antenna must be used at a distance of 20cm: pg 4 • Must not be collocated: Guidelines pg 4 • Specific guidelines regarding RF Exposure: pg 4 • Host responsibility: pg 4 • Antenna gain information: pg5
<p>The instructions must clearly identify the minimum antenna-to-user separation distances applicable to all qualified host products, in terms of general and/or specific and/or example configurations and the relevant antenna installation locations and orientations required and/or acceptable for the allowed host product configurations.</p>	<p>Please refer to the revised integration guide. Section 1 covers general integration guidelines. Section 3.0 of the revised installation guide details collocation and other radiating antennas. Section 4 covers antenna distance measurements for portable/mobile designations.</p>
<p>Other appropriate information must be provided to support compliance for the simple and basic "keep 20 cm away" condition.</p>	<p>Please refer to the revised integration guide. Section 1 covers general integration guidelines for portable and mobile conditions. Section 4 covers antenna distance measurements with respect to 20cm.</p>

<p>As described in FCC-TCB conference presentations at minimum in the past year, for device types like this operating with external antennas, where instructions and/or RF exposure compliance exhibits have not provided appropriate general and/or specific and/or example antenna and cabling descriptions, and typical or specific means to install and operate to maintain mobile device conditions, then pursuant to 2.1091(d)(4) filings need to address SAR compliance for portable device conditions and operations, i.e. using KDB pub 447498 or KDB pub 616217 methods. Please revise relevant portions of this filing as appropriate.</p>	<p>Please refer to the revised integration guide. Section 1 covers general integration guidelines for portable and mobile conditions. Section 2 covers specific details of mobile and portable examples.</p>
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3. The integration guide has been updated to address the following statements:

<p>The install/operating instructions exhibit includes the text: "All instructions relating to the integration of the module described on the FCC Grant notes must be followed." This seems inconsistent with 2.909(a) grantee's compliance responsibility, i.e. install/operating instructions should be explicit about ALL device requirements, and must not rely on cross-reference to whatever are "FCC Grant notes." Please revise relevant portions of this filing as appropriate.</p>	<p>See the response in number 2 for specific grant note details. Please refer to the revised integration guide.</p>
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4. The integration guide has been updated to address the following statements:

<p>The install/operating instructions exhibit includes the text: "Per §2.1091 of the FCC rules, embedded modules are defined as "mobile devices"" - this appears to be a misinterpretation of 2.1091 - in conjunction with the considerations of item 2) above, please revise relevant portions of this filing as appropriate.</p>	<p>Please refer to the revised integration guide. A detailed response is available in section 2 of this communication.</p>
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5. The integration guide has been updated to address the following statements:

<p>To permit inevitable use in typical modern multi-transmitter products and applications, if not in filing already please revise/amend to provide install/operating requirements to address KDB pub. 447498 D01 item 8) conditions. Other appropriate information must be provided to support compliance beyond a simple and basic bygone-era "must not be co-located" statement.</p>	<p>Please refer to the revised integration guide. Section 1 covers general integration guidelines and collocation reference.. Section 3.0 of the revised installation guide details collocation and other radiating antenna information</p>
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6. MPE exhibit sec. 1.2 first and second lines seem mutually inconsistent, i.e. second line mentions device is only CDMA/EvDO and LTE capable - please revise relevant portions of this filing as appropriate.

PCTEST Response:

This typo was the result of an oversight on the part of PCTEST TCB. The test lab has corrected the typo.

7. MPE pg 5 shows 266 mW, but f-731 shows 233 mW => apparently there may be fundamental TCB Q/C issue; please adjust TCB processing procedures where appropriate Please revise relevant portions of this filing as appropriate.
8. MPE pg 5 shows 266 mW, and 9.92 dBi antenna gain => ERP 1.59 W => mobile device routine evaluation needed, i.e. MPE measurement => this filing apparently non-conforming with 2.962(f)(1) => apparently there may be fundamental TCB Q/C issue; please adjust TCB processing procedures where appropriate Please revise relevant portions of this filing as appropriate.
9. MPE pg 6 800 and 1900 band powers do not appear to correspond to f-731 listing - please revise relevant portions of this filing as appropriate. Note also RF exposure MPE evaluation needs to use actual maximum source-based time-averaged conducted power, AND for the appropriate GSM/EDGE multislots classes. MPE exhibit with apparent issues such as this is inexcusable.

PCTEST Response to Questions 7, 8 and 9:

Based upon Kwok Chan's statements and the Additional info located on p. 7 in the FCC/TCB Conference Call, June 29, 2010 Minutes, as well as Slide 43 of the April 2010 TCB Workshop presentation "2010-04-28-05 RF Exposure Procedure Review - 042010 TCB - KC", our TCB specifically instructed the test lab to perform the MPE calculations, used to determine the maximum permissible antenna gains per band, using the highest output power level specified in the tune-up procedure, if this level was higher than the measured level (it was). The MPE report states this in Section 1.4, at the top of page 5. This was done to ensure that the use of an antenna with gain as specified on the grant of certification would not result in non-compliant operation if the unit to which it was attached had an output level higher than the level of the device tested in the EMC report, but still within the bounds set by the tune-up procedure. This type of "scaling" was also specifically addressed in a question to the FCC during the most recent TCB Workshop, and the response from FCC staff was that it was applicable to SAR, MPE and ERP/EIRP measurements to ensure continuing compliance of production units. We are currently communicating with the FCC regarding these issues under KDB605986. Depending on the outcome of those discussions, we will instruct the applicant to revise the installation guide with the proper maximum permissible antenna gains, and the test lab to modify the MPE report as necessary, and they will be uploaded to the application.