

Sierra Wireless Inc.
FCCID: N7NMC7750
CRN: 97166/ 97167

FCC Question 1) Given that a grantee knows their own product, thus 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. 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. Other appropriate information must be provided to support compliance for the simple and basic "keep 20 cm away" condition. As described in FCCTCB 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 sufficient 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.

Applicant Response 1) The integration guide has been updated to include the following statements:

- a) a grantee knows their own product, thus 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. **(This information can be found on PAGE 18-19)**
- b) 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. **(This information can be found on PAGE 18)**
- c) Other appropriate information must be provided to support compliance for the simple and basic "keep 20 cm away" condition. **(This information can be found on PAGE 21)**
- d) As described in FCCTCB 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 sufficient 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. **(This information can be found on PAGE 19)**

FCC Question 2) The install/operating instructions exhibit includes the text: "A user manual with the end product must clearly indicate the operating requirements and conditions that must be observed to ensure compliance with current FCC / IC RF exposure guidelines." Consistent with 2.909(a) grantee's compliance responsibility, please adjust relevant parts of filing where appropriate to clearly identify "operating requirements and conditions" that are to be included in the instructions manual of a host product.

Applicant Response 2) The integration guide has been updated to include the following statements:

- a) "A user manual with the end product must clearly indicate the operating requirements and conditions that must be observed to ensure compliance with current FCC / IC RF exposure guidelines." Consistent with 2.909(a) grantee's compliance responsibility, please adjust relevant parts of filing where appropriate to clearly identify "operating requirements and conditions" that are to be included in the instructions manual of a host product. **(This information can be found on PAGE 20)**

FCC Question 3) 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.

Applicant Response 3) The integration guide has been updated to include the following statements:

- a) 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. **(This information can be found on PAGE 20-21)**

FCC Question 4) MPE exhibit sec.1.2 first line seems inconsistent with other parts of filing, i.e. as we understand device has other modes not enumerated here - please revise relevant portions of this filing as appropriate.

Section 1.2 of the MPE report has been revised to include all operational modes of the module.

FCC Question 5) MPE pg 6 for 800-band shows 499 mW, which seems unclear whether/how that agrees with f-731 => if appropriate please adjust TCB processing procedures to ensure reported power levels are consistent across all portions of this and all future filings ALSO please ensure other bands and modes have consistent power listed across filing, and/or please revise relevant portions of this filing as appropriate.

The MPE tables have been updated using the maximum measured power level as shown in the application. Source-based time-averaging was applied where appropriate. The antenna gain as specified by the manufacturer was used in determining MPE compliance.

FCC Question 6) MPE pg 6 shows 499 mW, and 7.5 dBi antenna gain => ERP 1.71 W => mobile device routine evaluation needed (ERP > 1.5 W), 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. MPE exhibit with apparent issues such as this generally is inexcusable.

The MPE report has been revised using the manufacturer specified antenna gains. The combination of the maximum gain antenna as specified and the source-based time-averaged power is below 1.5W ERP.

Additional Response to Questions 4, 5 & 6) 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 have modified the MPE report as necessary, and it has been uploaded to the application.