

FCC

April 5, 2012

RE: FCC ID: SK6XI-N450, Correspondence Numbers: 41529 and 41530

Attention: Andrew Leimer

Please find our responses to your comments on this application below:

1) Concerning the 3/27/12 reply to corresp. 41463, FCC has not accepted different SKU (model) numbers on labels in lieu of the FCC ID labelling scheme described in corresp. 41463. Please submit updated external / enclosure FCC ID labeling as described in corresp. 41463. FYI, alternately appropriate implementation of electronic labelling with associated electronic display access instructions per the provisions of 15.212 and KDB pub. 784748 might be acceptable for multi-module situations such as this.

Response: See the revised label for the XR6000 host system.

2) With consideration of the 3/7/12 reply to corresp. 41193, we were able to proceed with review of the RF exposure (MPE) compliance exhibit, which for the 3/6/12 version we have the following remarks and clarification requests.

a) 1st page, etc - the terms "NII 3", "NII 2" etc do not seem to be defined herein, and also are not FCC rule terms; for this and all future filings please ensure to define terms in test and analysis report exhibits, or use standard FCC rules.

Response: See revised MPE exhibit. Clarification statements have been added to page 1.

b) At 1st page 1st unnumbered table, please append text to explain meaning and use of "EIRP per additional radio."

Response: See revised MPE exhibit. Clarification statements have been added to page 1.

c) At 1st page 1st unnumbered table it has 468 mW EIRP for "NII 3", however we did not see 468 mW in the NII emc/radio test report, albeit we did see 468 mW is listed in the DTS report; please revise to explain and/or for update to use correct test results per bands, etc. Similar remarks apply, please clarify wherefrom is 447 mW for "NII 2", 575 for "5.7 DTS", etc, and/or revise as appropriate.

Response: The EIRP values listed for a single radio operating in a band are the worse case EIRP based on the maximum conducted power across all channels/modes. Using the 468 mW line item for the NII 3 band as an example – the worse case conducted power was 19.7dBm with an

effective gain of 7.0dBi (shown on page 39 of R83928 that was submitted for the original application), resulted in 26.7dBm EIRP or 468 mW. A review of the test report vs the worse case powers listed in the MPE exhibit show consistent values (assuming reasonable rounding differences).

Note, the numbers referenced in the comment relate to the RF exposure exhibit provided for the 2x2 application, SK6XI-N300, not SK6XI-N450. The MPE calculation exhibit for the SK6XI-N450 is different from the SK6XI-N300.

d) Models XR-4000 and XR-6000 have options for 4, 8, 12, 16 radios installed. We note that the original grant under this fccid SK6XI-N300 dated 9/29/11 includes a condition: "the total conducted power combining all modules and all antenna elements is not to exceed the rated maximum power on the grant in each frequency band". Other or different related supporting info and/or explanations remains needed to be sufficient for an exhibit on file in FCC public records. Consider for example pdf page 4 of 8, i.e. analysis for "2400-2483.5MHz". The last row of the last table on this pages seems to indicate that among the 4 / 8 / 12 / 16 options an XR-4000 or XR-6000 could be simultaneously transmitting on three non-overlapping channels (three radios) each with 23.2 dBm = 208.92 mW, call it round to 210 mW. The cited grant condition requires "total conducted power combining all modules" which for these three only means  $P_{sum} = (210 + 210 + 210) = 630$  mW. The cited grant condition requires "not to exceed the rated maximum power on the grant in each frequency band" In this band, the rated maximum on the grant is 207 mW. Therefore, the requirement is for  $P_{sum}$  less-than-or-equal to 207 mW. For this and/or other bands, please revise the MPE exhibit and/or any other related parts of the filing and/or device design to address compliance for "the total conducted power combining all modules and all antenna elements is not to exceed the rated maximum power on the grant in each frequency band".

Response: The original grant note is incorrect. The note should have stated: "The conducted power for any single module shall not exceed the power listed in the grant. In addition, for a host system with multiple modules, the total conducted power for modules operating in a particular band shall not exceed the maximum power limits defined in Part 15."

Note the section that describes the power reduction (pages 4-8) was updated to correct minor typos in the power listed. The powers listed in pages 1-3 have not changed.

The uses of multiple modules operating in the same device are constrained by compliance with the RF conducted power restrictions and RF exposure. Both of these items have been addressed in the original application.

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Xirrus has provided documentation that shows how they back power off based on the number of modules operating in the same band to ensure compliance with the RF conducted power restrictions.

The MPE exhibit provided addresses the RF exposure concerns.

Regards,



Mark Hill  
Staff Engineer

Uploaded Files:  
Host system label exhibit  
Revised MPE calculation