FCC

September 11, 2012

RE: FCC ID: SK6XI-N450
Correspondence Reference Number: 42569
Form 731 Confirmation Number: EA188173

Attention: Jyun-Cheng Chen

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

1. On FCC ID label: spelling out the number of radios (modules) on the label was what I was asking for in my 8/16 inquiry. No other action is needed if this is already the practice

    Response: Noted.

2. However, apparently XR-2000 may also consist of 2 modules according to the label exhibit (XR-2220 and XR-2230 contain 2 modules while XR-2420 and XR-2430 have 4 modules). Both the cover letter and the DFS expedited review request letter indicate that XR-2000 is for 4 module configurations. Please clarify

    Response: The XR-2000 will be sold supporting either 2 or 4 modules, as indicated by the label exhibit. The cover letters and DFS expedite review request letters have been updated for consistency.

3.   With the host processor heavily involves in the DFS detection, please elaborate on why using different host CPUs (and software platform/tool-chain associated with each CPU) would not result in different DFS performance. Explanation does not need to go into detail but should consist of all key elements related to DFS performance and be convincing enough to a software/system engineer who reviews this application in the future.

    Response: The host processors used in all current Xirrus products are the same family of Cavium processors and use the same core CPU. The differences are in number of CPU cores per device and peripherals. The software platform/tool-chain used is the same for all devices. The host CPU is doing pattern matching for DFS detection which is not a CPU intensive function. The processing power of the smallest CPU, utilizing 2 cores, used in the Xirrus product family is more than sufficient to perform the DFS detection functions.

4. MPE report is missing analysis for the 2 module case

   Response: As stated on page 1 of the MPE exhibits…"As the XR1000 only supports two radios, the existing calculations represent a worse case condition."

   The user's manual specifies a worse case separation distance of 30cm for all models. See pdf page 253 of "DRAFT5_ArrayGuide_XR_Rel6.1_RevD_Commentable-(2 of 2).pdf" file uploaded.

5. On the subject of EMC tests for hosts with multiple radios: Part 15.31(h) has been in existence for years, therefore it is not just an RF exposure issue. In this case, since the module is limited to specific hosts, it should be tested with a host in its real-life configuration, i.e., multiple radios transmitting at the same time. The Commission has not provided detail guidelines on how to construct test conditions in such cases other than asking applicants to identify the worst cases. The difficulty for us to suggest detail test cases arises from the fact that not only the worst case is a function of the frequencies, power levels, antennas and operation modes of other radios but also the specific designs of module separation (in space, frequency, time, code), geometry, layout, placement, and material. Given that we did not ask for this in previous grant of this device, we would not insist on one in this case. However, the applicant and test lab are advised that when we can arrive at a general guideline, the practice of testing only one module in a multiple module transmitters would no longer be acceptable. You are welcome to provide inputs on this subject matter. We will ask you to identify and test worst condition in future applications.

   Response: Noted.

Note – All responses, including uploaded exhibits, have been either provided by or reviewed by Xirrus.

Regards,

Mark Hill
Staff Engineer

Uploaded exhibits:
Cover Letter
DFS Expedite Request Letter