



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

September 12, 2002

RE: Microsoft Corporation

FCC ID: C3KTR1

After a review of the submitted information, I have a few comments on the above referenced Application.

EMC Issue

- 1) Hyper Corp. is not listed as a test site with the FCC. The test report states that the device was tested at UL while the 731 form provided lists information for CCS. Please confirm that the testing for this was performed at UL.

Outstanding Transmitter Issue

- 2) The FCC has required testing of frequency hopping systems to be hop-stopped for tests such as the spurious emissions unless the manufacturer can not provide this mode of operation (see attached document, section 15.31(m)). The purpose behind this is to ensure that the emissions can be adequately captured given that when a unit is typically hopping the results will depend on the hopping speed, spectrum analyzer sweep times, spectrum analyzer span, and maximizing the azimuth and antenna height. Without a "hop-stopped" signal, obtaining fully maximized results for azimuth and antenna height is incredibly time consuming (given the spectrum analyzer sweep times or capture times necessary to maximize the signals) and can still yield questionable results. Please note that the sweep time can significantly affect how the measurements are captured or whether they are missed. Also with wider spans, dynamic range gets reduced and spectrum analyzer may not accurately capture and or display the emissions. Testing while the device is hopping also questions how the devices was fully maximized for azimuth and antenna height given the difficult nature of obtaining data at any given point. Please provide
  - a) new results/plots with the hopping function disabled for low, middle, and high channels, or
  - b) If the manufacturer can not provide a hop stopped mode of operation, then please explain why and provide better supporting detail regarding how the device was fully maximized (spectrum analyzer settings and how care was taken to obtain maximum azimuth and antenna height given the difficulty in fully capturing highest emissions across the band during hopping) when the results were obtained.

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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.