

15th October 2003

Mr. Robert Paxman

Intel Corporation
San Diego CA

Re: FCC ID E2K24CLNS
Applicant: Dell Computer Corporation

Dear Mr. Paxman,

Here are the responses to the questions set by Diane Poole from the FCC.

Question 1.

Please note that TCB's must use 1528 and OET 65C. The SAR report states that 1528 section 7 was used "where applicable". Please explain, if any, the parts of section 7 of IEEE1528 that were not 'applicable'.

1528 is a substantial document with multiple sub-sections contained within each main headed section. Having been one of the key contributors to the creation of this standard I should point out that IEEE-1528 was created ONLY to cover devices which can be used while located near or adjacent to the head. As this device is primarily used either on a desk, or while located in the lap of a user NOT all of IEEE-1528 in its current reiteration is applicable. Within section seven of the IEEE-1528 standard, routines for assessing devices which are primarily cellular/wireless telephones are described, these would NOT be applicable. Details relating to averaging methods, test reporting, equipment lists, validation considerations, and uncertainty considerations ARE applicable.

Please note APREL Laboratories have requested that the FCC provide better training in respect to differentiators between IEEE-1528 and FCC Supplement C. All attendees for the training which starts 15th October will be provided with clearer definitions of what IEEE-1528 means.

Question 2.

Please note that the conducted power measurements listed in the EMC report show a max of 16.75dBm. The conducted power listed in the SAR report show a max of 16.5dBm power. Please note that, when different, the SAR power must be the higher of the two (i.e. is measured at the highest output power of the device). Please also note that the FCC, in accordance with the OET SAR review checklist, requires conducted power to be within 5% between the EMC and SAR report). This is different than the 5% power drift requirement during SAR Measurements.

Please explain why the SAR was not measured at the required higher power. Please provide data whereby SAR is the higher power measured for conducted power (the variance between existing SAR and EMC reports is 6% and while not exceeding by much, it is over the allowed percentage. Please make sure that the EMC and SAR report power is within 5% for conducted power (5%=approx .23dB). Alternately, please provide a reasonable justification for the use of the lower power during SAR testing.

The device tested has a suite of power control software which is used by APREL Laboratories to set the power close to the required limit as defined by the client. This power setting feature has a very limited resolution and as such APREL Laboratories will generally set the power as close to the required limit with a tolerance of around ½ dB. When assessing the power we measure on the Low, Mid, and High channel settings and there may be a slight deviation from the required setting over the full range. When one takes this into account, along with the small attenuation attributable to connectors, and cables the overall tolerance can be from 16.5 to 16.7 dB which would make the measurements valid as the process was within the 5% threshold. For all SAR values assessed, APREL Laboratories always test at a slightly higher setting than what would be required (i.e. Required=16.5 dB, Closest to Actual 16.58 dB Recorded Value=16.5). In situations like this, APREL will always use the higher power setting.

Question 3.

Please note that the SAR report states that the same power level existed at all three frequencies tested (2412, 2437 and 2462MHz). The power measured at these frequencies in the EMC report varied by up to .8dBm. It would be expected that power would also vary by similar values for SAR power measurement. It would also be expected that the power would drift some between the before and after power measurements over the 12 to 16 hours of testing done. The data table in section 6.1 of the SAR report states that there was no power drift between the before and after in this 12 to 16 hour time frame and that the same power was measured at all three frequencies(16.5dBm). Please explain.

The power measured, has been rounded to the required power setting as defined by the client. We have observed that this Mini-PCI card has a relatively stable output power throughout a 40 minute period (after the initial 4 minutes of transmitting). Any drift during this period could be attributable to using a battery cell, but for the purpose of the SAR recorded within this report, it was found that the conservative SAR was measured while using an AC source. It should also be pointed out that the test process to evaluate SAR generally does not exceed a total time of seven minutes for one test case scenario. The results presented in this report attest that no drift over the 5% allowable tolerance was assessed.

Question 4.

Please note that in the document “Test Report - SAR with Yageo-Phicomp Antennas Part 2 of 5.pdf”, a number of values have been replaced with the Question mark (?). While it may be assumed what these values and terms are, the report should properly indicate these values. Please correct the aforementioned document (see pages 2, 5, 6, 7 and 8). Also see “Test Report - SAR with Yageo-Phicomp Antennas Part 3 of 5.pdf” for similar errors.

APREL Laboratories currently use ADOBE PDF version 6.0 and it seems that when you use this software on Office XP these problems occur. The reports will be reformatted and submitted to you when I have eliminated any errors from the PDF process.

Regards,

Stuart Nicol

**Director Product Development,
Dosimetric R&D.**