



22-Mar-02

Re: FCC ID H9PCC4137

Subject: Response to Correspondence Reference Number: 22319
(731 Confirmation Number EA248305)

Joe

Each Item you raised is followed by the response.

1) Are you requesting modular approval? If so, provide appropriate justification per the Public Notice on Modular approvals.

Response to Item 1

No, the request for Modular or Host Independent Approval is withdrawn, the request for Portable approval remains.

2) Provide photos of the permanently attached omni directional antenna.

Response to Item 2

The radio is internally mounted with the antenna inaccessible when sold to consumers.

3) The cover letter indicates 100 mW output power. Please explain.

Response to Item 3

For marketing purposes, the card is offered as a 100 mW device.

4) The output power was measured with only a 3 MHz RBW. The RBW, VBW must be greater than the 6 dB bandwidth or use a Peak power meter.

Response to Item 4

PCTest remeasured the output power using a peak power meter and each channel power increased by .5 dB. Please find the corrected output power data sheet.
(CC-4137 Revised Output Power)

5) Provide calculations to show how the conducted power spectral density limit was obtained from the radiated measurement.

Response to Item 5

We set the Resolution BW and the Video BW to 3 kHz and measured the EUT at a 3-meter distance in the auto sweep mode while maximizing the turntable and antenna settings. Once these setting were maximized, we set the spectrum analyzer sweep to 1000 seconds and obtained



a measured level. We used the signal substitution method to obtain a final reading and then subtracted the 2 dBi of the antenna from the reading to convert it to a conducted reading.

6) Ensure that the SAR test was performed at the proper output power and the output power in the EMC report and SAR report agree.

Response to Item 6

Please find the attached revised SAR plots with the correct power levels and with the reevaluated SAR levels with a conductivity of 1.95 S/m.

SAR questions.

1. SAR test setup photos do not seem to match any other external or internal photos. Please submit photos and descriptions clearly showing device configurations and support equipment used in SAR tests.

Response to Item 1

Please find the attached new SAR photos of the outside of the unit and of the SAR test setup. Please note that after the level and the channel software codes have been sent to the unit the serial connection was removed for the SAR test. Only the power connection remained during testing and it is over 8 cm from the RF section and the antenna so it has no effect on the SAR readings.

2. FYI probe factors must be shown on all plots. In future filings you will be asked to re-submit new plots.

Response to Item 2

Noted, all future plots will include the probe factor.

3. SAR setup photos seem to show integral antenna. What is purpose of End Cap C antenna exhibit. We may need SAR for both versions.

Response to Item 3

The photo is of the device with the End Cap C antenna attached. There is only one version and one antenna.

4. What are expected end-use configurations? How does SAR setup and results apply to expected final device configurations?

Response to Item 4

The card is almost exclusively used by printer companies, imbedded inside portable printers. The minimum separation will be greater than the 1 cm distance used in the SAR testing.



5. *Body probe cal done at conductivity=2.85. Device test for body done at conductivity=2.2. Suppl C calls for body conductivity=1.95. Please show explicit analysis of expected change in SAR if conductivity=1.95 was used throughout filing.*

Response to Item 5

During the calibration, the conductivity of the liquid was 2.85 S/m and we used 2.2 S/m during the testing. This means that the real SAR values should increase by $2.85/2.2$ or by a factor of 1.29. We reevaluated the SAR from the 2.2 S/m used during test down to the standard of 1.95 S/m with the Dasy 3 revaluation software. Now we only have to increase the SAR values by multiplying them by the 1.29 factor to account for the calibration in a different liquid. This will lead to a maximum SAR value of $.214 \text{ W/kg} * 1.29$ or $.272 \text{ W/kg}$.

6. *Cover letter requests "portable host-independent approval." In general FCC cannot issue "module grant" for portable configurations unless the output is substantially low and there are no SAR issues so that SAR tests are not required to show compliance for whatever product the module is used for. For SAR tests submitted in this filing, some demonstration or final product configuration info is needed. At present it is not clear whether SAR may increase or decrease in final devices. FCC cannot approve unknown operating configurations and exposure conditions because RF exposure for portable devices are generally dependently on the final product configuration.*

Response to Item 6

The request for Host-Independent approval is withdrawn, the request for Portable approval remains.

Joe,

Regards,

Mark S. Luksich