November 7, 2003

RESPONSE TO FCC QUESTIONS ON THE SAR REPORT FOR AMBIT ACER TRAVELMATE 660

FCC ID# MCLT60H6773

SAR Report originally submitted: September 9, 2003

3. SAR report Fig. 5 – Was laptop display open for test?

Response:

Yes. Perhaps we should have clarified this important point in the report and will do so in the future.

4. In this and future reports, please clarify whether Figs. 12-14 are system verification data or if these are background supporting information. All data plots pertaining to this report need to show test date, setup information, etc. Please mark all background information e.g. Table 3 using "FOR INFO ONLY".

Response:

Figure 12 pertains to system verification since it allows us to show that a fourth-order polynomial fit is needed both at 5.25 GHz and at 5.8 GHz to get **measured** SAR distributions for the system verification setup (shown in Figs. 10, 11) to agree with (numerical) FDTD-calculated variation of SAR with depth in the body-simulant planar phantom. Figures 13 and 14 are background supporting information.

Resubmitted here are new Figs. 13, 14 and Tables 3 and 4 marked "FOR INFO ONLY". The date for all of the data pertaining to this report is given in Table 5 of the report.

5. Please submit text and/or revised plots to describe/show not just antenna position but also laptop-case position for SAR plots in Annex G.

Response:

As given in the last paragraph on p. 8 in the text of the SAR report, the SAR was relatively low and generally too little to measure except for the highest SAR region in proximity to the radiating antenna. The highest SAR region was, therefore, sampled with a coarser step size of 8.0 mm over three overlapping areas for a total scan area of 11.2 × 19.2 cm surrounding the antenna for each of the measurement frequencies. The SAR data thus measured is given in Figs. G.1 to G.9 for this region of dimensions 11.2 × 19.2 cm covered by 14 × 24 measurements points using a step size of 8.0 mm.

Table 3. The measured dielectric constants and conductivities σ for some fluids for frequencies 5.25 and 5.8 GHz.

Fluid	5.25 GHz		5.8 GHz	
	ε′	σ S/m	ε′	σ S/m
1. Deionized water	72.97	5.54	71.82	6.61
2. Deionized water (96%), HEC (4%)	68.89	5.81	67.78	6.90
3. Deionized water (82%), polyethylene powder (16%), HEC (2%)	49.31	4.77	47.99	5.64
4. Mannitol (31.5%), deionized water (67.5%), HEC (1%)	47.59	5.80	47.30	6.74
5. Sugar (31%), deionized water (68.0%), HEC (1%)	48.79	6.82	46.86	7.83

Table 4. Comparison of the measured and calculated peak 1-g SAR at 5.25 and 5.8 GHz.

	5.25 GHz			5.8 GHz		
	ε′	σ S/m	1-g SAR W/kg	ε′	σ S/m	1-g SAR W/kg
FCC body [2]; calculated	48.9	5.36	3.57	48.2	6.00	3.95
Fluid 3 of Table 3, water/PEP/HEC; measured	49.3	4.77	3.55	48.0	5.64	3.91
Fluid 4 of Table 3, Mannitol/water/HEC; measured	47.6	5.80	3.59	47.3	6.74	3.93
Fluid 5 of Table 3, sugar/water/HEC; measured	48.8	6.82	3.62	46.9	7.83	3.94

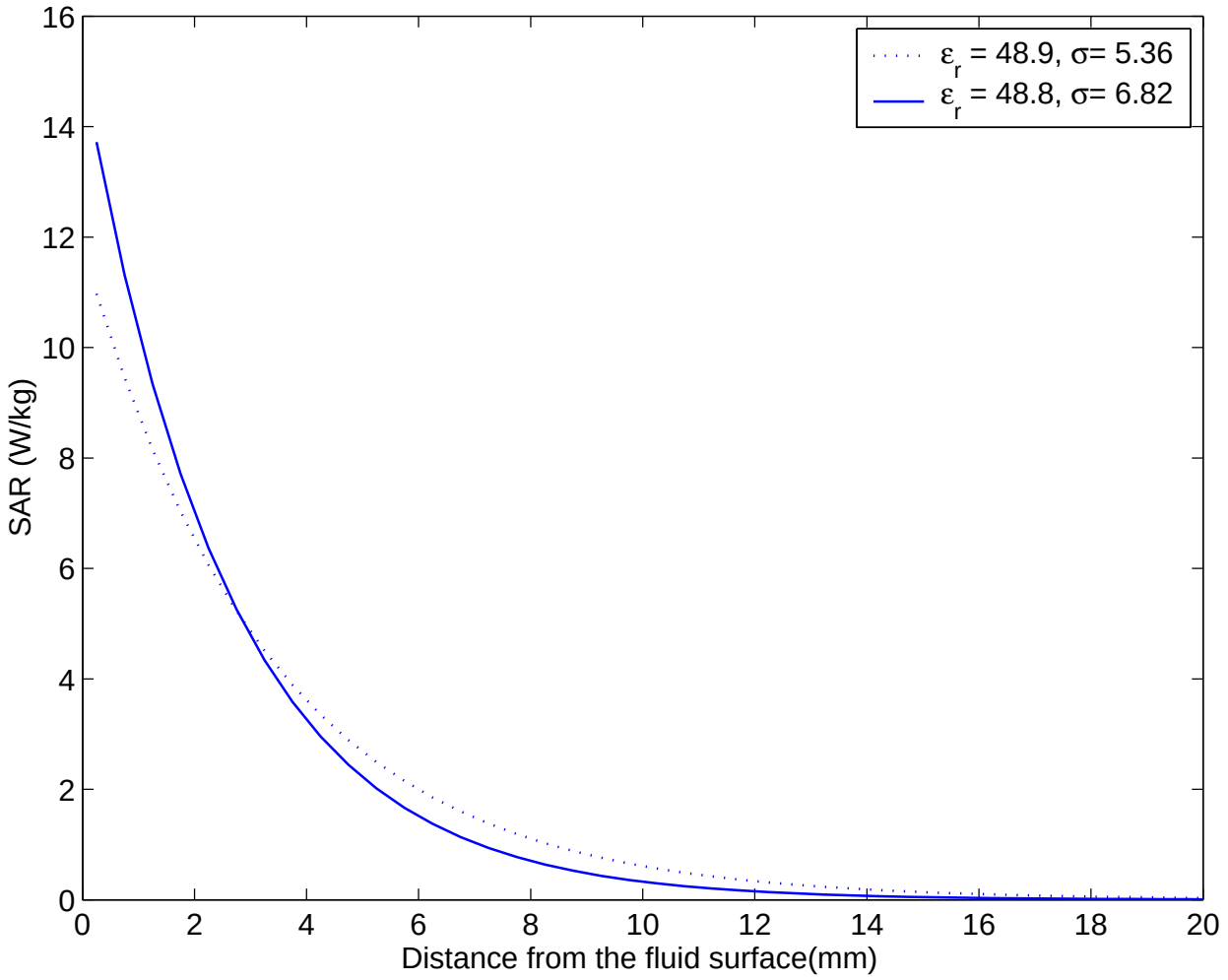

Fig. 13. Comparison of the FDTD-calculated variations of the SAR with depth for the FCC-recommended dielectric properties ($\varepsilon' = 48.9$, $\sigma = 5.36$ S/m) and the sugar/water/HEC fluid 5 ($\varepsilon' = 48.8$, $\sigma = 6.82$ S/m) at **5.25 GHz**. Assumed for calculations is the WR187 rectangular waveguide radiator placed 10 mm below the bottom surface of the tissue-simulant fluid in a flat phantom of base thickness 2 mm with ($\varepsilon_r = 2.56$). Radiated power = 100 mW.

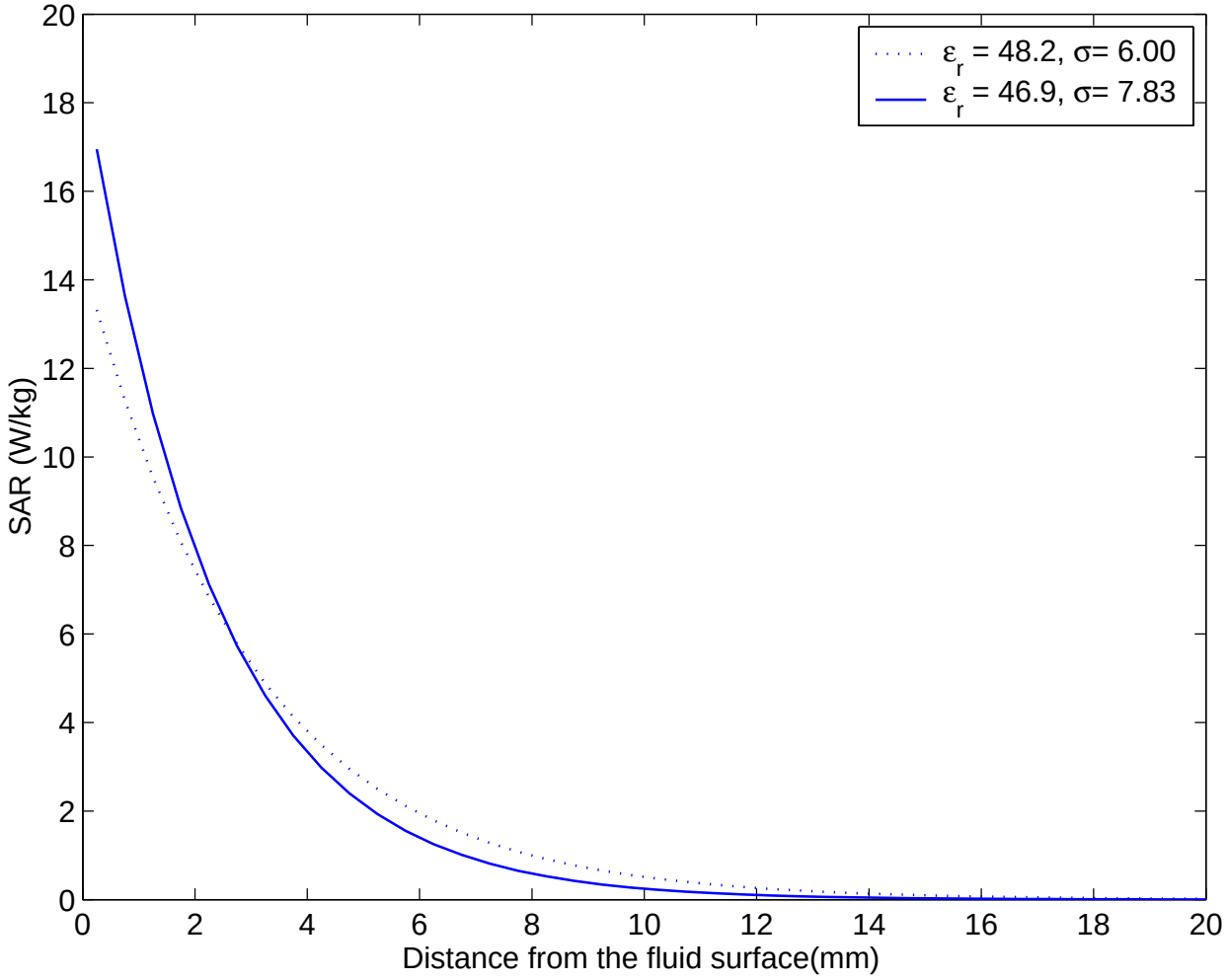

Fig. 14. Comparison of the FDTD-calculated variations of the SAR with depth for the FCC-recommended dielectric properties ($\varepsilon' = 48.2$, $\sigma = 6.00$ S/m) and the sugar/water/HEC fluid 5 ($\varepsilon' = 46.9$, $\sigma = 7.83$ S/m) at **5.8 GHz**. Assumed for calculations is the WR187 rectangular waveguide radiator placed 10 mm below the bottom surface of the tissue-simulant fluid in a flat phantom of base thickness 2 mm with ($\varepsilon_r = 2.56$). Radiated power = 100 mW.