

7.0 SYSTEM PERFORMANCE CHECK

Prior to the SAR evaluations, system checks were performed using a Plexiglas planar phantom and 450MHz dipole (see Appendix E for system validation procedures). The dielectric parameters of the simulated tissue mixture were measured prior to the system performance checks using an ALS-PR-DIEL Dielectric Probe Kit and HP 8753ET Network Analyzer (see Appendix C for measured fluid dielectric parameters). A forward power of 250 mW was applied to the dipole and the system was verified to a tolerance of $\pm 10\%$ from the system validation target SAR value (see Appendix B for system performance check test plots).

SYSTEM PERFORMANCE CHECK EVALUATIONS																
Test Date	Equiv. Tissue	SAR 1g (W/kg)			Dielectric Constant ϵ_r			Conductivity σ (mho/m)			ρ (Kg/m ³)	Amb. Temp. (°C)	Fluid Temp. (°C)	Fluid Depth (cm)	Humid. (%)	Barom. Press. (kPa)
		Sys. Val. Target	Meas.	Dev.	Sys. Val. Target	Meas.	Dev.	Sys. Val. Target	Meas.	Dev.						
Apr 2	Brain	1.28 $\pm 10\%$	1.22	-4.5%	44.4 $\pm 5\%$	43.5	-2.0%	0.88 $\pm 5\%$	0.84	-4.5%	1000	22.4	21.3	≥ 15	31	101.9
Apr 3	Brain	1.28 $\pm 10\%$	1.32	+3.3%	44.4 $\pm 5\%$	44.9	+1.2%	0.88 $\pm 5\%$	0.90	+2.3%	1000	23.8	21.9	≥ 15	31	101.6
Apr 4	Brain	1.28 $\pm 10\%$	1.30	+1.6%	44.4 $\pm 5\%$	44.4	0.0%	0.88 $\pm 5\%$	0.88	0.0%	1000	22.5	22.0	≥ 15	33	101.9

Note(s)	<ol style="list-style-type: none"> The target SAR value is referenced from the System Validation procedure performed by Celltech Labs Inc. (see Appendix E). The target dielectric parameters are referenced from the System Validation procedure performed by Celltech Labs Inc. (see Appendix E). The fluid temperature was measured prior to and after the system performance check to ensure the temperature remained within $\pm 2^\circ\text{C}$ of the fluid temperature reported during the dielectric parameter measurements. The SAR evaluations were performed within 24 hours of the system performance check.
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