

7.0 SYSTEM PERFORMANCE CHECK

Prior to the SAR evaluations a system check was performed at the planar section of the SAM phantom with an 835MHz dipole (see Appendix E for system validation procedures). Prior to the system performance check the dielectric parameters of the simulated tissue mixtures were measured using an ALS-PR-DIEL Dielectric Probe Kit and an 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 $\pm 10\%$ (see Appendix B for system performance check test plots). See Table 1 below for the SAR system manufacturer's reference body SAR values from the DASY4 Operation Manual (see reference [6]).

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)
		835MHz	IEEE Target	Meas.	Dev.	IEEE Target	Meas.	Dev.	IEEE Target	Meas.	Dev.					
3/21/06	Body	2.43 $\pm 10\%$	2.39	-1.6%	55.2 $\pm 5\%$	55.3	+0.2%	0.97 $\pm 5\%$	0.95	-2.1%	1000	23.1	23.0	≥ 15	30	100.9
3/23/06	Brain	2.38 $\pm 10\%$	2.28	-4.2%	41.5 $\pm 5\%$	39.7	-4.3%	0.90 $\pm 5\%$	0.88	-2.2%	1000	21.5	23.5	≥ 15	30	101.1
3/24/06	Brain	2.38 $\pm 10\%$	2.37	-0.4%	41.5 $\pm 5\%$	39.5	-4.8%	0.90 $\pm 5\%$	0.87	-3.3%	1000	23.3	21.8	≥ 15	30	101.1
3/27/06	Body	2.43 $\pm 10\%$	2.40	-1.2%	55.2 $\pm 5\%$	53.7	-2.7%	0.97 $\pm 5\%$	0.94	-3.1%	1000	22.6	20.6	≥ 15	30	101.8
3/28/06	Brain	2.38 $\pm 10\%$	2.50	+5.0%	41.5 $\pm 5\%$	42.1	+1.4%	0.90 $\pm 5\%$	0.91	+1.1%	1000	22.6	20.8	≥ 15	30	101.8
3/29/06	Brain	2.38 $\pm 10\%$	2.44	+2.5%	41.5 $\pm 5\%$	40.8	-1.7%	0.90 $\pm 5\%$	0.90	0.0%	1000	21.8	21.6	≥ 15	30	101.1
Note(s)		1. The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the system performance check. The temperatures listed in the table above were consistent for all measurement periods.														

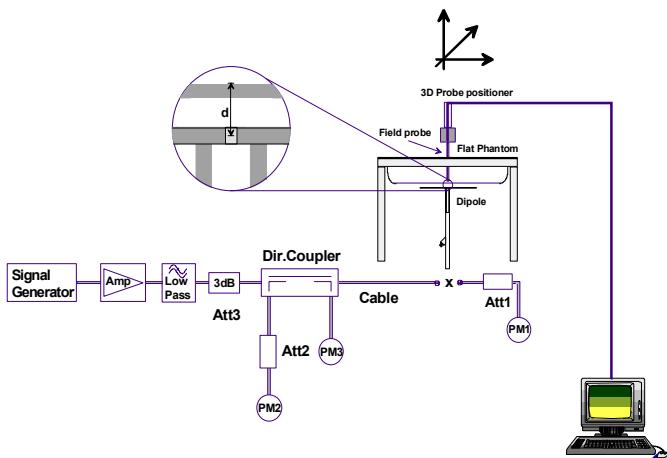


Figure 1. System Performance Check Setup Diagram

Dipole Type	Distance [mm]	Frequency [MHz]	SAR (1g) [W/kg]	SAR (10g) [W/kg]	SAR (peak) [W/kg]
D300V2	15	300	3.02	2.06	4.36
D450V2	15	450	5.01	3.36	7.22
D835V2	15	835	9.71	6.38	14.1
D900V2	15	900	11.1	7.17	16.3
D1450V2	10	1450	29.6	16.6	49.8
D1500V2	10	1500	30.8	17.1	52.1
D1640V2	10	1640	34.4	18.7	59.4
D1800V2	10	1800	38.5	20.3	67.5
D1900V2	10	1900	39.8	20.8	69.6
D2000V2	10	2000	40.9	21.2	71.5
D2450V2	10	2450	51.2	23.7	97.6
D3000V2	10	3000	61.9	24.8	136.7

Table 32.1: Numerical reference SAR values for SPEAG dipoles and flat phantom filled with body-tissue simulating liquid. Note: All SAR values normalized to 1 W forward power.

Table 1. SAR system manufacturer's reference Body SAR values



835MHz Dipole Setup

Company:	M/A-COM, Inc.	Model:	LPE-200	FCC ID:	AXATR-336-A	IC ID:	287194340NA	
DUT Type:	Portable FM PTT Radio Transceiver			Frequency Range(s):	806 - 824 MHz / 851 - 869 MHz			
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