Additional equipment needed in validation

Test Equipment	Model	Serial Number	Due Date
Signal Generator	Agilent E4433B	GB40050947	09/04
Amplifier	Amplifier Research 5S1G4	27573	-
Power Meter	R&S NRT	101143	03/04
Power Sensor	R&S NRT-Z44	10239	03/04
Thermometer	DO9416	1505985462	-
Vector Network Analyzer	Hewlett Packard 8753E	US38432701	05/04
Dielectric Probe Kit	Agilent 85070C	-	-

4.1 System Accuracy Verification

The probes are calibrated annually by the manufacturer. Dielectric parameters of the simulating liquids are measured by using a dielectric probe kit and a vector network analyzer.

The SAR measurement of the DUT were done within 24 hours of system accuracy verification, which was done using the dipole validation kit.

The dipole antenna, which is manufactured by Schmid & Partner Engineering AG, is matched to be used near flat phantom filled with tissue simulating solution. Length of 835 MHz dipole is 161mm with overall height of 330mm. Dipole length for 1900 MHz is 68 mm with overall height of 300mm. A specific distance holder is used in the positioning of both antennas to ensure correct spacing between the phantom and the dipole. Manufacturer's reference dipole data is presented in Appendix C.

Power level of 250 mW was supplied to a dipole antenna placed under the flat section of SAM phantom. The validation results are in the table below and printout of the validation test is presented in Appendix A. All the measured parameters were within the specification.

Tissue	f (MHz)	Description	SAR (W/kg), 1g	Dielectric Parameters		Temp (°C)
				ε_r	σ (S/m)	
Head	835	Measured 05/27/03	2.36	41.7	0.92	22
		Measured 05/28/03	2.30	41.1	0.90	22
		Measured 05/30/03	2.34	40.6	0.90	22
		Reference Result	2.43	41.5	0.89	N/A
Head	1900	Measured 06/02/03	10.7	39.8	1.45	22
		Reference Result	10.3	38.6	1.46	N/A
Muscle	835	Measured 06/05/03	2.47	56.4	0.94	22
		Reference Result	2.53	54.0	0.96	N/A
Muscle	1900	Measured 06/05/03	10.5	52.5	1.56	22
		Reference Result	10.6	51.2	1.59	N/A