This file contains the TMP UT SAR Report Appendix A SAR Probe Validation plots made at 900 and 1800 MHz and a Page 14 change-page to the body of the report.

Contrary to what had been stated in the initial release of the SAR Report, the validation testing was performed using a 10 milliwatt test signal power into the calibration dipole, not an amplified 1.0 Watt signal as had been stated. This change page corrects that error.

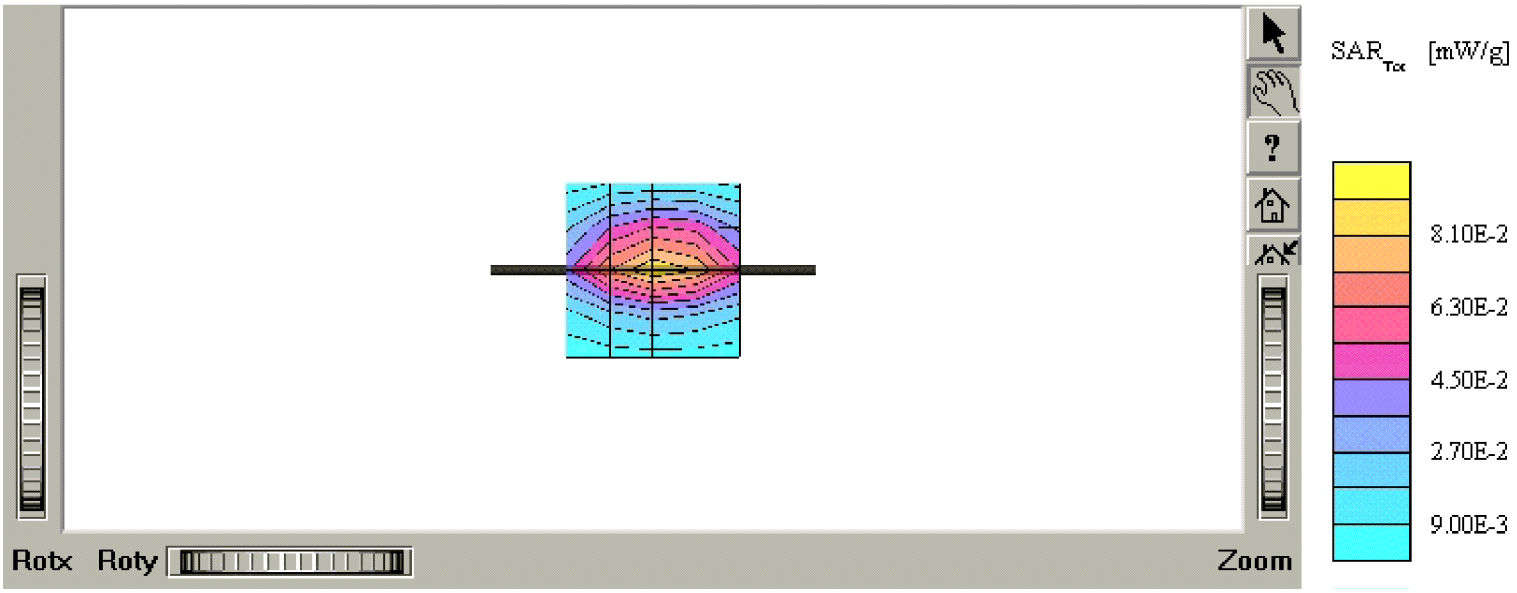
8 SAR TEST SYSTEM VALIDATION

Before the test, the system was validated using a symmetric dipole designed to be impedance matched when pressed against a machined dielectric spacer, touching the phantom filled with the brain simulating fluid. The separation distance between the validation dipole and the flat phantom is maintained at 10 mm from dipole centre to solution surface with a machined plastic spacer, manufactured for the validation kit. The measured permitivity and conductivity was entered into the DASY settings window (there are slight variations in the permitivity from day to day due to evaporation, although water is added to minimise the variation) Generally the validation is performed using a signal generator and high power amplifier to generate a very stable 1.0 Watt continuous wave signal. In the case of the Tri-Mode UT SAR test the power amplifier was not available and the signal generator was used by itself to generate a 0.01 Watt continuous wave signal. This was deemed acceptable since the lower power dipole SAR was actually more representative of the range of the expected Globalstar SAR measurement range.

The 0.01 Watt signal was checked with an HP RF power meter (calibrated to 1800 MHz) several times over a 30 minute period (to eliminate drift by reaching stable temperature), then input to the validation dipole. Then the DASY3 system was put through an automated validation cycle to determine if the correct SAR is measured. The correct SAR for a 1.0 Watt signal was determined by Schmid & Partner to be 39.9 mW/gm for the type D1800V2 dipole, and 9.44 mW/gm for the D900V2 dipole. The corresponding correct SAR values for a 0.01 Watt signal are 0.399 mW/gm for the type D1800V2 dipole and 0.0944 mW/gm for the type D900V2 dipole. These values measured indicate that the system is measuring correctly at these frequencies.

Since these validation dipoles are designed to validate at a specific frequency, we cannot validate the system at 1620 MHz. What is done is to validate at 1800 MHz and change the parameters of the liquid, probe, and device in the DASY software to compensate for the change in frequency. To change the conversion factors for the probe for the 1600 MHz Globalstar transmit frequency, the conversion factors for the probe are based on a linear interpolation from the conversion factors supplied for the probe at 1500 MHz and 1800MHz, which are 5.3 and 5.0 respectively. Interpolating these values gives 5.2 , the frequency response for the electric field in a TEM cell is quite flat with changing frequency. Although calibration of the probe was done at 1800 MHz and 900 MHz, the probe data indicate that the probe can be used safely at 1600 MHz with interpolated conversion factors.

SAR (1g): 0.0965 [mW/g] ± 0.25 dB, SAR (10g): 0.0631 [mW/g] ± 0.24 dB
Cubes (2) (Worst-case extrapolation)
Generic Twin Phantom; Flat Section
Probe: ET3DV5 - SN1348; ConvF(5.90,5.90,5.90)
Brain 900 MHz: σ = 0.82 [mho/m] ε_r = 42.8 ρ = 1.00 [g/cm^3]
File Name: Val 900 6-24-99.DA3
Operator: DWS



SAR (1g): 0.374 [mW/g] ± 0.32 dB, SAR (10g): 0.191 [mW/g] ± 0.29 dB
Cubes (2) (Worst-case extrapolation)
Generic Twin Phantom; Flat Section
Probe: ET3DV5 - SN1348; ConvF(5.00,5.00,5.00)
Brain 1800 MHz: σ = 1.62 [mho/m] ε_r = 42.3 ρ = 1.00 [g/cm^3]
File Name: Val 1800 MHz 6-21-99a.DA3
Operator: DWS