March 22, 2000
Supplement to SAR Test Report for Motorola portable cellular phone (FCC ID IHDT6ZB1).

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1. Summary of FCC request for additional information

There was a request for additional information regarding relationship between the use of the product and the SAR test data submitted with the Report for Motorola's portable cellular phone (FCC ID IHDT56ZF1) dated March 7, 2000. The requested information may be summarized as follows:

1. The setup photo included in the SAR report for body-worn configuration does not clearly identify the belt-clip and antenna position. Please provide a separate photo to identify the body-worn SAR test setup. The antenna on this device tilts back towards the body (for body-worn), please clarify if the peak SAR location indicated in the SAR plot is associated with the body of the handset or the antenna.

2. The dielectric constant of tissue parameters used for body-worn SAR tests are too low, where field distributions and conditions could be substantially different than normally expected - about 54 for muscle at 1900 MHZ and 34.9 was used (34 is for muscle above 15 GHz). The difference in field gradients and energy attenuation could result in substantially different 1-g averaged SAR. The difference in parameter could also result in greater uncertainty in E-field probe calibration and SAR results. When there is substantial difference in dielectric parameters, it could becomes difficult to extrapolate 1-g SAR to account for parameter differences. Please comment accordingly or provide test data using appropriate muscle equivalent parameters.

2. Additional Pictures of Body-Worn Configuration

An additional photo showing the phone in the body-worn configuration is shown in figure 1.

Figure 1. Phone in Body-Worn Configuration

The peak SAR location when used in the body-worn configuration is located near the antenna of the phone. The contour plot overlaid on the back of the phone with the belt-clip on is shown in figure 2.

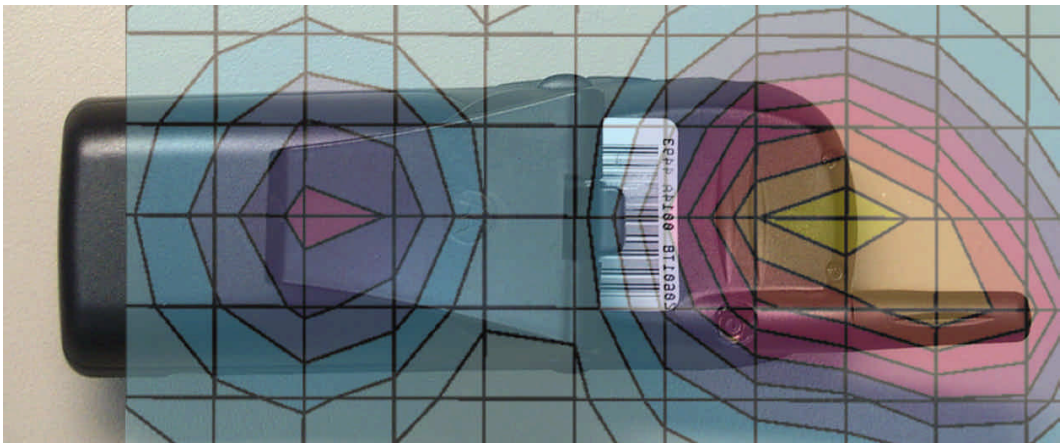

Figure 2. Contour Plot overlaid on Body-Worn Configuration

3. Retest of Body-Worn Configuration

The phantom was filled with a liquid having relative dielectric constant equal to 49.4 and conductivity equal to 1.64 S/m. This mixture is a good dielectric equivalent of muscle in the human body. The composition of the liquid mixture is as follows: 66.1% water; 33.40% Diethylene Gylcol Butyl Ether; 0.5% salt. The highest SAR value was found at the channel 660. The data output of the test condition with the highest SAR values from the Dasy™ measurement system is included as appendix A.

Appendix A

The following pages are printouts from the Dasy™ measurement system of the data as indicated.

s/n 991117-A

Ch660/ Pwr 00/ BeltClip
Amy Twin Phantom Phantom; Section 1 Section; Position: (0°,0°); Frequency: 1880 MHz
Probe: ET3DV6 - SN1506 - Muscle; ConvF(5.67,5.67,5.67); Crest factor: 8.0; Glycol 1900mhz: σ = 1.64 mho/m ε_r = 49.4 ρ = 1.00 g/cm^3
Cube 5x5x7: SAR (1g): 0.247 mW/g, SAR (10g): 0.150 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Penetration depth: 9.7 (8.6, 11.5) [mm]
Powerdrift: -0.59 dB