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| Prepared (also subject responsible if other)<br>EUS/CV/RF/P Will Stewart |                | No.<br>EUS/CV/R-01:0484/REP |   |                                                                |
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## SAR Test Report: T60d

**Date of test:** April 10-12, and 16, 2001

**Laboratory:** Electromagnetic Near Field and Radio Frequency Dosimetry Laboratory  
Ericsson, Inc.  
7001 Development Drive, P.O. Box 13969,  
Research Triangle Park, NC, 27709, USA

**Test Responsible:** Mark Douglas, Ph.D.  
Senior Technical Leader, Antenna Development Group



This laboratory is accredited to ISO/IEC Guide 25-1990 to perform the following electromagnetic tests:

Specific Absorption Rate (SAR), dielectric parameters, and RF power measurement  
on the following types of products:  
Wireless communications devices

A2LA certificate Number: 1650-01

**Statement of Compliance:** Ericsson, Inc. declares under its sole responsibility that the product

### T60d

to which this declaration relates, is in conformity with the appropriate RF exposure standards, recommendations and guidelines. It also declares that the product was tested in accordance with the appropriate measurement standards, guidelines and recommended practices. Any deviations from these standards, guidelines and recommended practices are noted below:

(none)

|                                                                          |                |                             |   |                                                                |
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## 1. Introduction

In this report, compliance of the Ericsson T60d portable telephone with RF safety guidelines is demonstrated (applicable RF safety guidelines are given in [1]). The device was tested in accordance with the latest available test guidelines [1]. Detailed procedures of the test are described in the *Ericsson SAR Measurement Specification* [1].

## 2. Device Under Test

### 2.1 Antenna description

|                      |                                     |       |
|----------------------|-------------------------------------|-------|
| <b>Type</b>          | Internal antenna                    |       |
| <b>Location</b>      | Inside the back cover, near the top |       |
| <b>Dimensions</b>    | Maximum length                      | 38 mm |
|                      | Maximum width                       | 51 mm |
| <b>Configuration</b> | Patch antenna                       |       |

### 2.2 Device description

|                                                 |               |               |                 |
|-------------------------------------------------|---------------|---------------|-----------------|
| <b>Device model</b>                             | T60d          |               |                 |
| <b>FCC ID</b>                                   | AXATR-417-A2  |               |                 |
| <b>Serial number</b>                            | UA2020480H    |               |                 |
| <b>Mode</b>                                     | 800 AMPS      | 800 TDMA      | 1900 TDMA       |
| <b>Multiple Access Scheme</b>                   | FDMA          | TDMA          | TDMA            |
| <b>Maximum Output Power Setting<sup>1</sup></b> | 26.0 dBm      | 26.0 dBm      | 26.0 dBm        |
| <b>Factory Tolerance in Power Setting</b>       | ± 0.25        | ± 0.25        | ± 0.25          |
| <b>Maximum Peak Output Power<sup>2</sup></b>    | 26.25 dBm     | 26.25 dBm     | 26.25 dBm       |
| <b>Duty Cycle</b>                               | 1             | 1 / 3         | 1 / 3           |
| <b>Transmitting Frequency Range</b>             | 824 – 849 MHz | 824 – 849 MHz | 1850 – 1910 MHz |
| <b>Prototype or Production Unit</b>             | Prototype     |               |                 |

## 3. Test equipment

### 3.1 Dosimetric system

SAR measurements were made using two DASY3 professional systems (software version 3.1c), manufactured by Schmid & Partner Engineering AG and installed in February 1998, and November 2000. The extended SAR assessment uncertainty ( $K = 2$ ) is  $\pm 32\%$  with a  $+15\%$  offset. This assessment uncertainty includes measurement uncertainty ( $\pm 24\%$ ) and phantom uncertainty ( $\pm 10\%$ ), as described in [1]. This results in a total uncertainty range of  $-17\%$  to  $+47\%$ . The equipment list is given below.

| <b>Description</b>             | <b>Serial Number</b> | <b>Due Date</b> |
|--------------------------------|----------------------|-----------------|
| DASY3 DAE V1                   | 369                  | 12/01           |
| E-field probe ET3DV6           | 1538                 | 9/01            |
| E-field probe ET3DV5           | 1337                 | 6/01            |
| Dipole Validation Kit, D900V2  | 049                  | 1/03            |
| Dipole Validation Kit, D1800V2 | 217                  | 12/01           |

<sup>1</sup> This is the conducted power measured at the antenna port when the device is set to its highest power setting. It is measured at the middle of the transmit frequency band. Note that the output power may be different at other frequencies.

<sup>2</sup> This equals the maximum output power setting plus the factory tolerance.

|                                                                          |                |                             |                                                                     |
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### 3.2 Additional equipment

| Description                    | Serial Number | Due Date |
|--------------------------------|---------------|----------|
| Signal Generator HP8648C       | 3537A01598    | 9/02     |
| Dielectric probe kit HP 85070B | US33020256    | 10/01    |
| Network analyser HP 8752C      | 3410A03105    | 7/01     |
| Power meter E4418B             | GB40206594    | 10/01    |
| Power sensor HP 8482H          | 3318A09268    | 8/01     |
| Power meter HP 437B            | 3125U16190    | 3/02     |
| Power sensor HP 8482H          | 2704A06235    | 4/01     |
| Power meter HP 437B            | 3125U13729    | 1/02     |
| Power sensor HP 8482H          | 3318A07097    | 2/02     |

### 4. Electrical parameters of the tissue simulating liquid

Prior to conducting SAR measurements, the relative permittivity,  $\epsilon_r$ , and the conductivity,  $\sigma$ , of the tissue simulating liquids were measured with the dielectric probe kit. These values are shown in the table below. The mass density,  $\rho$ , entered into the DASY3 program is also given. Recommended limits for maximum permittivity, minimum conductivity and maximum mass density are also shown [2]. It is seen that the measured parameters result in an overestimation of SAR compared to the recommended values.

| $f$<br>(MHz) | Tissue type | Limits / Measured      | Dielectric Parameters |                |                             | Chamber Temp. (°C) |
|--------------|-------------|------------------------|-----------------------|----------------|-----------------------------|--------------------|
|              |             |                        | $\epsilon_r$          | $\sigma$ (S/m) | $\rho$ (g/cm <sup>3</sup> ) |                    |
| 835          | Head        | Measured, 4/10/01      | 41.63                 | 0.91           | 1.00                        | 24.6               |
|              |             | Recommended Limits [2] | 46.08                 | 0.74           | 1.03                        | --                 |
|              | Muscle      | Measured, 4/12/01      | 55.63                 | 0.98           | 1.00                        | 21.1               |
|              |             | Measured, 4/16/01      | 55.52                 | 0.98           | 1.00                        | 22.0               |
|              |             | Recommended Limits [2] | 56.11                 | 0.95           | 1.04                        | --                 |
| 1800         | Head        | Measured, 4/11/01      | 39.17                 | 1.76           | 1.00                        | 24.1               |
|              |             | Recommended Limits [2] | 43.54                 | 1.15           | 1.03                        | --                 |
|              | Muscle      | Measured, 4/11/01      | 39.17                 | 1.76           | 1.00                        | 24.1               |
|              |             | Recommended Limits [2] | 54.44                 | 1.39           | 1.04                        | --                 |

### 5. System accuracy verification

A system accuracy verification of the DASY3 was performed using the dipole validation kits listed in Section 3.1. The system verification test was conducted on the same day as the measurement of the DUT. The obtained results are displayed in the table below (SAR values are scaled to 1 Watt power delivered to the antenna). It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values. At 900 MHz and 1800MHz, reference values are taken from the system manufacturer. The distributions of SAR compare well with those of the reference measurements (see Appendix 1).

|                                                                          |                |                             |                                                                     |
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| $f$<br>(MHz) | Tissue<br>type  | Measured /<br>Reference | SAR (W/kg),<br>1 gram/10 gram | Dielectric Parameters |           |                               | Chamber<br>Temp. (°C) |
|--------------|-----------------|-------------------------|-------------------------------|-----------------------|-----------|-------------------------------|-----------------------|
|              |                 |                         |                               | $\epsilon_r$          | $s$ (S/m) | $\rho_r$ (g/cm <sup>3</sup> ) |                       |
| 900          | Head            | Measured, 4/10/01       | 10.80 / 6.87                  | 40.89                 | 0.97      | 1.00                          | 24.7                  |
|              |                 | Reference               | 10.96 / 6.92                  | 41.7                  | 0.94      | 1.00                          | --                    |
| 900          | Muscle          | Measured, 4/12/01       | 11.36 / 7.24                  | 55.03                 | 1.04      | 1.00                          | 22.2                  |
|              |                 | Measured, 4/16/01       | 11.20 / 7.16                  | 54.94                 | 1.04      | 1.00                          | 21.8                  |
|              |                 | Reference               | 11.08 / 7.08                  | 56.1                  | 0.99      | 1.00                          | --                    |
| 1800         | Head/<br>Muscle | Measured, 4/11/01       | 41.04 / 20.60                 | 39.17                 | 1.76      | 1.00                          | 22.6                  |
|              |                 | Reference               | 40.00 / 20.20                 | 40.0                  | 1.72      | 1.00                          | --                    |

## 6. Test results

The measured 1and 10-gram averaged SAR values of the device are provided in Tables 1 through 3. Also shown are the measured conducted output powers and the temperature of the test facility during the test. The depth of the tissue simulating liquid was at least 15 cm. Test commands were used to control the device during the SAR measurements. The phone was supplied with a fully charged battery for the tests.

SAR measured against the head is presented in Table 1. The device was tested on the right-hand phantom (corresponding to the right side of the head) and the left-hand phantom. For 800 AMPS and 1900 TDMA modes, the device was tested at the lowest, middle, and highest frequencies of the transmit band. For 800 TDMA mode, the maximum power is significantly lower than that of AMPS mode, therefore SAR values are also lower.

| mode         | $f$<br>(MHz) | Output<br>Power<br>(dBm) | Left hand                |                     |                                | Right hand               |                     |                                |
|--------------|--------------|--------------------------|--------------------------|---------------------|--------------------------------|--------------------------|---------------------|--------------------------------|
|              |              |                          | Chamber<br>Temp.<br>(°C) | SAR, 1g /10g (W/kg) |                                | Chamber<br>Temp.<br>(°C) | SAR, 1g /10g (W/kg) |                                |
|              |              |                          |                          | measured            | Calculated<br>to max.<br>power |                          | measured            | Calculated<br>to max.<br>power |
| 800<br>AMPS  | 824          | 26.35                    | 24.5                     | 1.35 / 0.97         | <b>1.35 / 0.97</b>             | 24.7                     | 1.35 / 0.92         | <b>1.35 / 0.92</b>             |
|              | 837          | 26.25                    | 24.5                     | 1.31 / 0.91         | 1.31 / 0.91                    | 24.4                     | 1.26 / 0.86         | 1.26 / 0.86                    |
|              | 849          | 26.08                    | 24.3                     | 1.25 / 0.86         | 1.25 / 0.86                    | 24.5                     | 1.08 / 0.73         | 1.08 / 0.73                    |
| 1900<br>TDMA | 1850         | 25.82                    | 22.1                     | 0.29 / 0.14         | 0.30 / 0.15                    | 22.5                     | 0.31 / 0.16         | <b>0.33 / 0.17</b>             |
|              | 1880         | 26.01                    | 22.2                     | 0.25 / 0.14         | 0.27 / 0.15                    | 22.5                     | 0.25 / 0.13         | 0.26 / 0.14                    |
|              | 1910         | 26.21                    | 22.2                     | 0.23 / 0.13         | 0.25 / 0.14                    | 22.5                     | 0.18 / 0.09         | 0.19 / 0.10                    |

**Table 1: SAR measurement results for the Ericsson T60d telephone at highest possible output power.  
Measured against the head.**

For body worn measurements, the device was tested against a flat phantom representing the user's body, using product # SXX 109 4518/1, product # SXX 109 4518/2, and product # SXX 107 6820/55. SAR was measured at the lowest, middle and highest frequencies of the 800 AMPS and 1900 TDMA bands (800 TDMA is not necessary due to the significantly lower output power). Results are given in Tables 2 through 3.

|                                                                          |                |                             |                                                                     |
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| mode         | f<br>(MHz) | Output<br>Power<br>(dBm) | SXX 109 4518/1           |                     |                                | SXX 109 4518/2           |                     |                                |
|--------------|------------|--------------------------|--------------------------|---------------------|--------------------------------|--------------------------|---------------------|--------------------------------|
|              |            |                          | Chamber<br>Temp.<br>(°C) | SAR, 1g /10g (W/kg) |                                | Chamber<br>Temp.<br>(°C) | SAR, 1g /10g (W/kg) |                                |
|              |            |                          |                          | measured            | Calculated<br>to max.<br>power |                          | measured            | Calculated<br>to max.<br>power |
| 800<br>AMPS  | 824        | 26.35                    | 21.7                     | 0.83 / 0.58         | <b>0.83 / 0.58</b>             | 22.3                     | 0.78 / 0.54         | <b>0.78 / 0.54</b>             |
|              | 837        | 26.25                    | 21.7                     | 0.66 / 0.46         | 0.66 / 0.46                    | 22.3                     | 0.67 / 0.46         | 0.67 / 0.46                    |
|              | 849        | 26.08                    | 21.9                     | 0.53 / 0.37         | 0.53 / 0.37                    | 22.3                     | 0.58 / 0.40         | 0.58 / 0.40                    |
| 1900<br>TDMA | 1850       | 25.82                    | 22.2                     | 0.10 / 0.05         | <b>0.11 / 0.05</b>             | 22.6                     | 0.59 / 0.31         | 0.62 / 0.33                    |
|              | 1880       | 26.01                    | 22.1                     | 0.10 / 0.05         | 0.10 / 0.05                    | 22.8                     | 0.61 / 0.32         | 0.65 / 0.34                    |
|              | 1910       | 26.21                    | 22.1                     | 0.09 / 0.04         | 0.09 / 0.05                    | 22.7                     | 0.72 / 0.38         | <b>0.76 / 0.40</b>             |

**Table 2: SAR measurement results for the Ericsson T60d telephone at highest possible output power.  
Measured against the body using carry accessory SXX 109 4518/1 and SXX-109-4518/2.**

| mode         | f<br>(MHz) | Output<br>Power<br>(dBm) | SXX 107 6820/55          |                     |                                |
|--------------|------------|--------------------------|--------------------------|---------------------|--------------------------------|
|              |            |                          | Chamber<br>Temp.<br>(°C) | SAR, 1g /10g (W/kg) |                                |
|              |            |                          |                          | measured            | Calculated<br>to max.<br>power |
| 800<br>AMPS  | 824        | 26.35                    | 22.1                     | 0.77 / 0.55         | <b>0.77 / 0.55</b>             |
|              | 837        | 26.25                    | 21.8                     | 0.72 / 0.50         | 0.72 / 0.50                    |
|              | 849        | 26.08                    | 21.9                     | 0.64 / 0.44         | 0.64 / 0.44                    |
| 1900<br>TDMA | 1850       | 25.82                    | 22.2                     | 0.49 / 0.26         | 0.52 / 0.27                    |
|              | 1880       | 26.01                    | 22.3                     | 0.62 / 0.32         | 0.65 / 0.34                    |
|              | 1910       | 26.21                    | 22.4                     | 0.64 / 0.34         | <b>0.68 / 0.36</b>             |

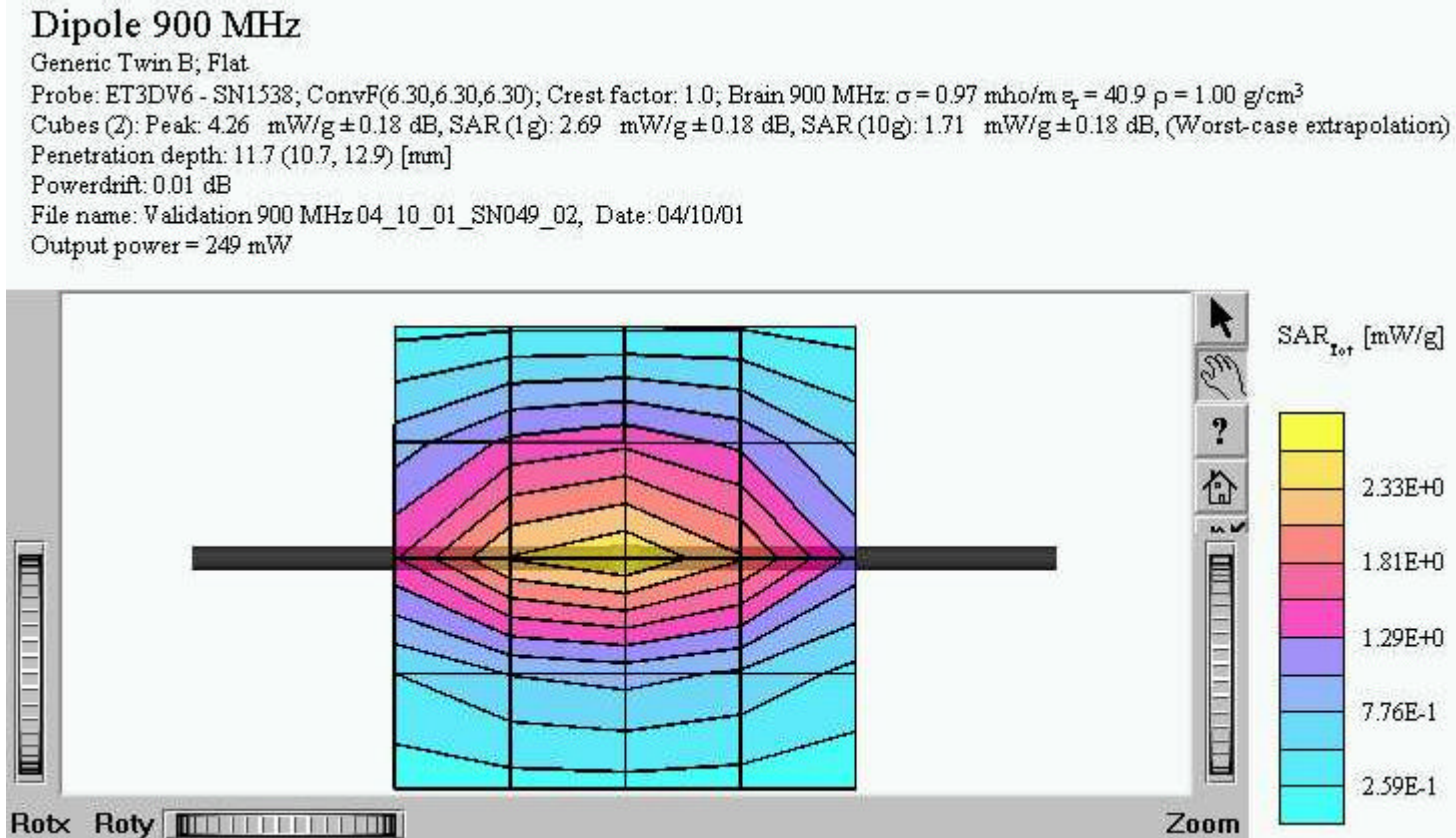
**Table 3: SAR measurement results for the Ericsson T60d telephone at highest possible output power.  
Measured against the body using carry accessory SXX 107 6820/55.**

## References

- [1] C. Törnevik, M. Siegbahn, T. Persson, M. Douglas, and R. Plicanic, "Ericsson SAR measurement specification", Internal Document ERA/TF-00:037, March 2001.
- [2] Federal Communications Commission, "Tissue Dielectric Properties," <http://www.fcc.gov/fcc-bin/dielec.sh>.

|                                                                          |                |                             |                                                                  |
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## Appendix 1: SAR distribution comparison for system accuracy verification



**900 MHz SAR distribution of validation dipole antenna from system accuracy verification test on April 10, 2001.  
Using brain tissue.**

|                                                                          |                |                             |   |                                                                |
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**Validation Dipole D900V2 SN:049, d = 15 mm**

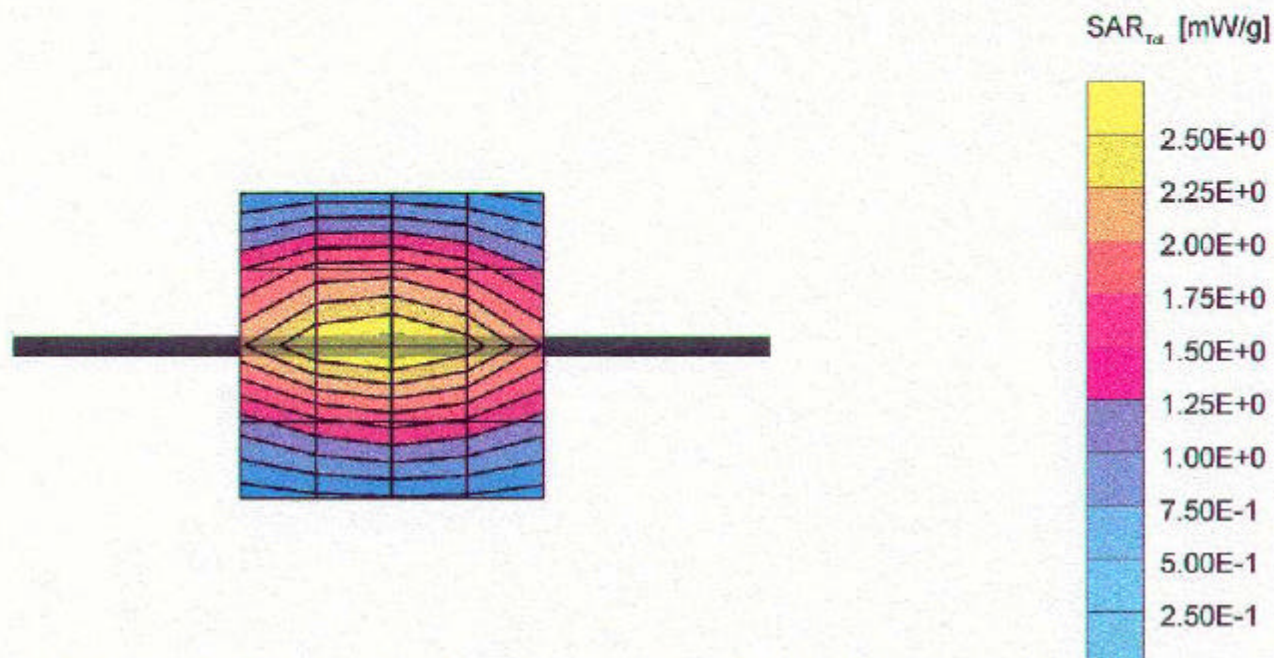
Frequency: 900 MHz; Antenna Input Power: 250 [mW]

Generic Twin Phantom: Flat Section; Grid Spacing: Dx = 15.0, Dy = 15.0, Dz = 10.0

Probe: ET3DV6 - SN1507; ConvF(6.35,6.35,6.35) at 900 MHz; IEEE1528 900 MHz;  $\sigma = 0.94$  mho/m  $\epsilon_r = 41.7$   $\rho = 1.00$  g/cm<sup>3</sup>Cubes (2): Peak: 4.43 mW/g  $\pm 0.03$  dB, SAR (1g): 2.74 mW/g  $\pm 0.02$  dB, SAR (10g): 1.73 mW/g  $\pm 0.02$  dB, (Worst-case extrapolation)

Penetration depth: 11.6 (10.4, 13.2) [mm]

Powerdrift: -0.00 dB



900 MHz SAR distribution of validation dipole antenna from reference measurement. Using brain tissue.

|                                                                          |                |                             |   |                                                                |
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## Dipole 900 MHz

Generic Twin B, Flat

Probe: ET3DV5 - SN1337; ConvF(5.39,5.39,5.39); Crest factor: 1.0; Muscle 900 MHz:  $\sigma = 1.04 \text{ mho/m}$ ,  $\epsilon_r = 55.0$ ,  $\rho = 1.00 \text{ g/cm}^3$

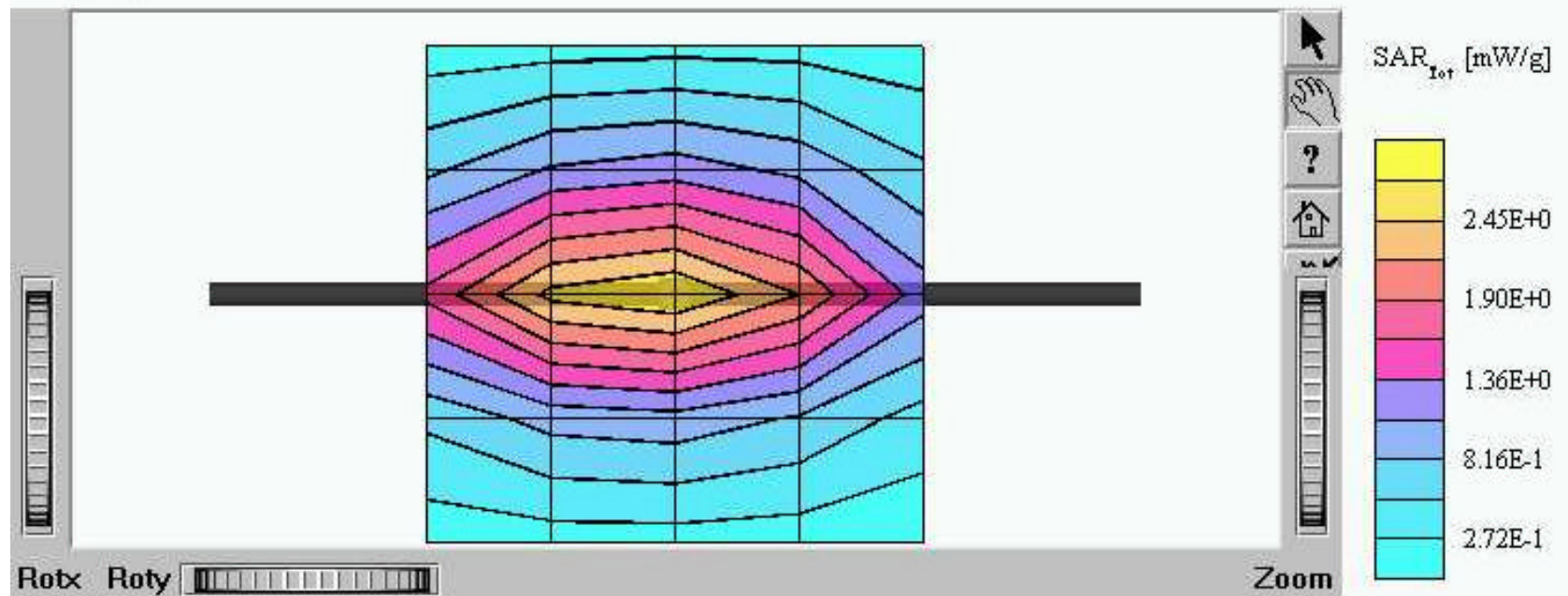
Cubes (Z): Peak:  $4.47 \text{ mW/g} \pm 0.14 \text{ dB}$ , SAR (1g):  $2.84 \text{ mW/g} \pm 0.12 \text{ dB}$ , SAR (10g):  $1.81 \text{ mW/g} \pm 0.11 \text{ dB}$ , (Worst-case extrapolation)

Penetration depth: 12.2 (11.2, 13.6) [mm]

Powerdrift: 0.01 dB

File name: Validation 900 MHz 04\_12\_01\_SN049, Date: 04/12/01

Output power = 250 mW



900 MHz SAR distribution of validation dipole antenna from system accuracy verification test on April 12, 2001. Using muscle tissue.

|                                                                          |                |                             |   |                                                                |
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## Dipole 900 MHz

Generic Twin B, Flat

Probe: ET3DV5 - SN1337; ConvF(5.39,5.39,5.39); Crest factor: 1.0; Muscle 900 MHz:  $\sigma = 1.04$  mho/m  $\epsilon_r = 54.9$   $\rho = 1.00$  g/cm<sup>3</sup>

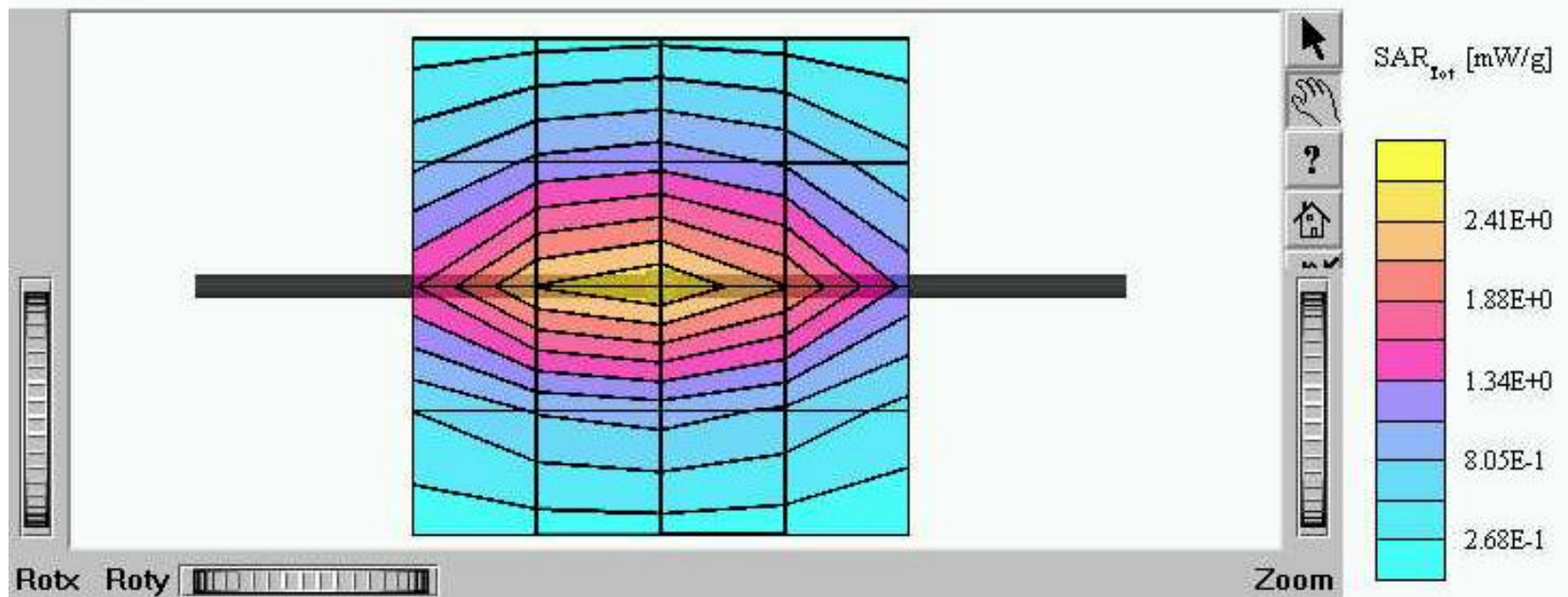
Cubes (2): Peak: 4.38 mW/g  $\pm 0.18$  dB, SAR (1g): 2.80 mW/g  $\pm 0.17$  dB, SAR (10g): 1.79 mW/g  $\pm 0.16$  dB, (Worst-case extrapolation)

Penetration depth: 12.2 (11.2, 13.6) [mm]

Powerdrift: 0.02 dB

File name: Validation 900 MHz 04\_16\_01\_SN049, Date: 04/16/01

Output power = 250 mW



900 MHz SAR distribution of validation dipole antenna from system accuracy verification test on April 16, 2001.  
Using muscle tissue.

|                                                                          |                |                             |   |                                                                |
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**Validation Dipole D900V2 SN:049, d = 15 mm**

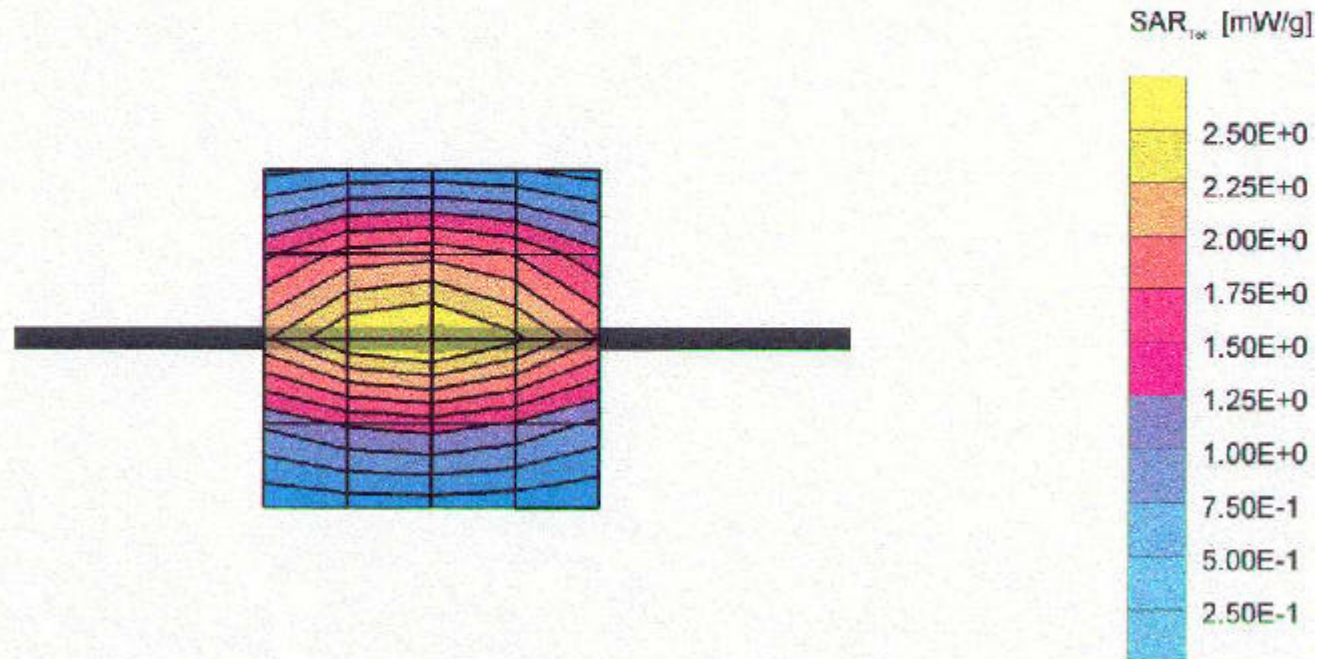
Frequency: 900 MHz; Antenna Input Power: 250 [mW]

Generic Twin Phantom; Flat Section; Grid Spacing: Dx = 15.0, Dy = 15.0, Dz = 10.0

Probe: ET3DV6 - SN1507; ConvF(6.17,6.17,6.17) at 900 MHz; Muscle 900 MHz;  $\sigma = 0.99$  mho/m  $\epsilon_r = 56.1$   $\rho = 1.00$  g/cm<sup>3</sup>Cubes (2): Peak: 4.42 mW/g  $\pm 0.03$  dB, SAR (1g): 2.77 mW/g  $\pm 0.02$  dB, SAR (10g): 1.77 mW/g  $\pm 0.02$  dB, (Worst-case extrapolation)

Penetration depth: 12.2 (10.7, 14.2) [mm]

Powerdrift: -0.01 dB



Schmid &amp; Partner Engineering AG, Zurich, Switzerland

**900 MHz SAR distribution of validation dipole antenna from reference measurement. Using muscle tissue.**

|                                                                          |                |                             |   |                                                                |
|--------------------------------------------------------------------------|----------------|-----------------------------|---|----------------------------------------------------------------|
| Prepared (also subject responsible if other)<br>EUS/CV/RF/P Will Stewart |                | No.<br>EUS/CV/R-01:0484/REP |   |                                                                |
| Approved<br>EUS/CV/RF/P Mark Douglas                                     | Checked<br>MGD | 2001-4-25                   | C | U:\FCC Submittals\FCC_417 Ditto<br>Nicole\XHIBIT11\New SAR.doc |

## Dipole 1800 MHz

Generic Twin A; Flat

Probe: ET3DV6 - SN1538; ConvF(5.67,5.67,5.67); Crest factor: 1.0; Brain 1800 MHz:  $\sigma = 1.76 \text{ mho/m}$   $\epsilon_r = 39.2$   $\rho = 1.00 \text{ g/cm}^3$

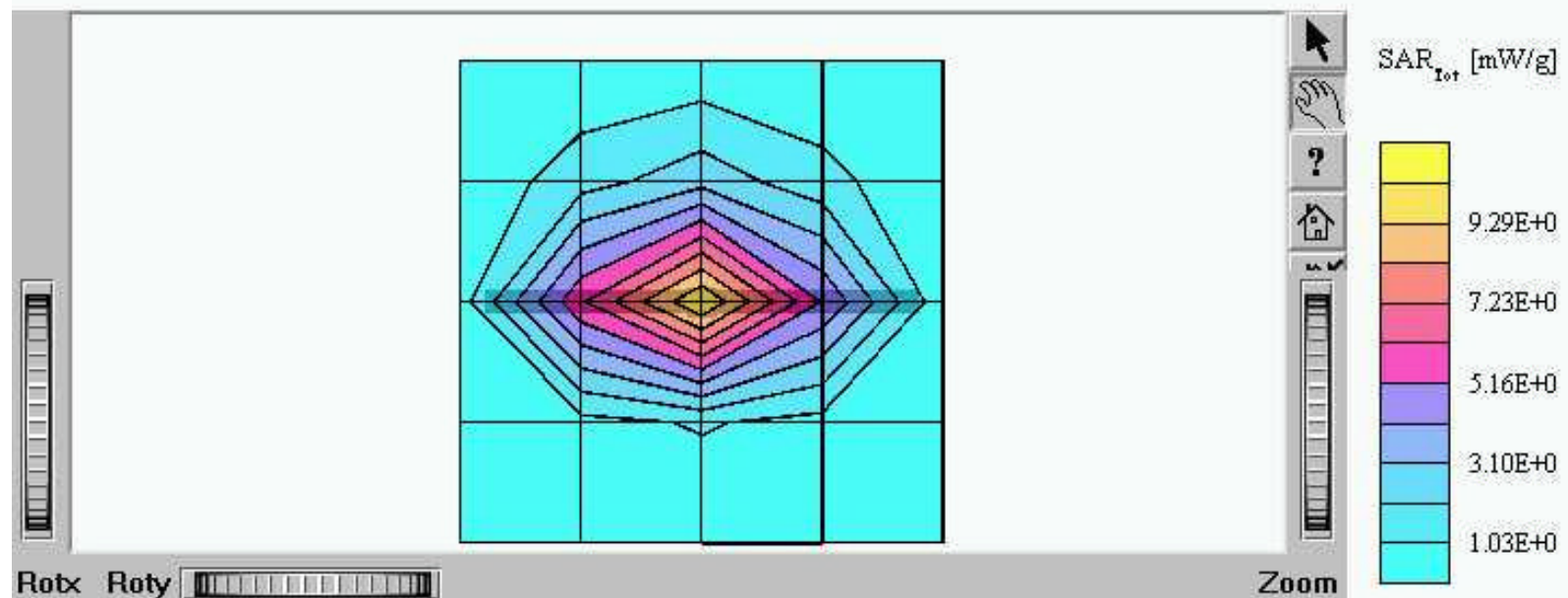
Cubes (2): Peak:  $19.9 \text{ mW/g} \pm 0.17 \text{ dB}$ , SAR (1g):  $10.3 \text{ mW/g} \pm 0.16 \text{ dB}$ , SAR (10g):  $5.17 \text{ mW/g} \pm 0.15 \text{ dB}$ , (Worst-case extrapolation)

Penetration depth: 7.3 (7.0, 8.0) [mm]

Powerdrift: 0.01 dB

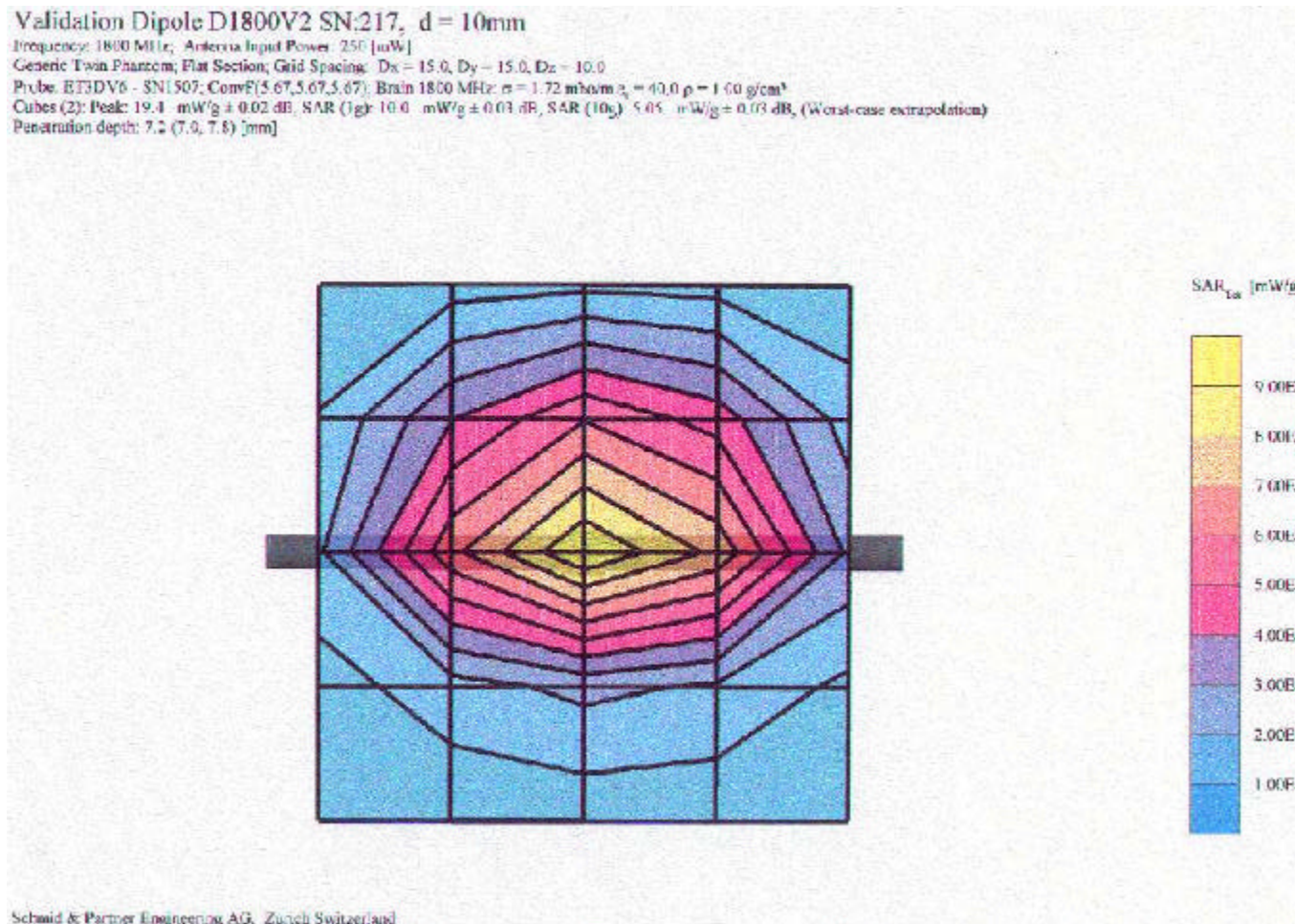
File name: Validation 1800 MHz 04\_11\_01\_SN217, Date: 04/11/01

Output power = 251 mW



1800 MHz SAR distribution of validation dipole antenna from system accuracy verification test on April 11, 2001.  
Using head/muscle tissue.

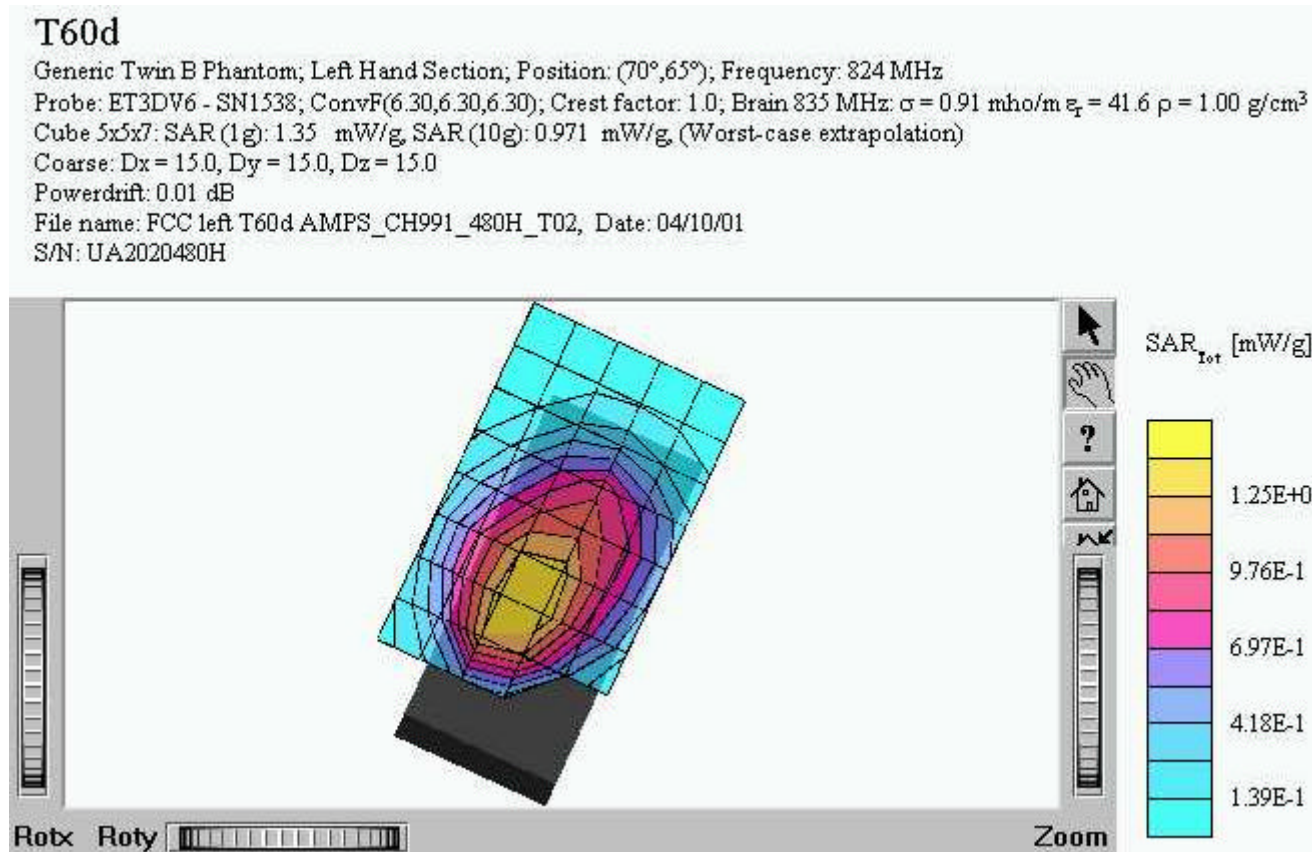
|                                                                          |                |                             |                                                                     |
|--------------------------------------------------------------------------|----------------|-----------------------------|---------------------------------------------------------------------|
| Prepared (also subject responsible if other)<br>EUS/CV/RF/P Will Stewart |                | No.<br>EUS/CV/R-01:0484/REP |                                                                     |
| Approved<br>EUS/CV/RF/P Mark Douglas                                     | Checked<br>MGD | 2001-4-25                   | C<br>U:\FCC Submittals\FCC_417 Ditto<br>Nicole\XHIBIT11\New SAR.doc |



1800 MHz SAR distribution of validation dipole antenna from reference measurement.  
Using head/muscle tissue.

|                                                                          |                |                             |   |                                                                |
|--------------------------------------------------------------------------|----------------|-----------------------------|---|----------------------------------------------------------------|
| Prepared (also subject responsible if other)<br>EUS/CV/RF/P Will Stewart |                | No.<br>EUS/CV/R-01:0484/REP |   |                                                                |
| Approved<br>EUS/CV/RF/P Mark Douglas                                     | Checked<br>MGD | 2001-4-25                   | C | U:\FCC Submittals\FCC_417 Ditto<br>Nicole\XHIBIT11\New SAR.doc |

## Appendix 2: SAR distribution plots



**Distribution of maximum SAR in 800 AMPS band. Scan region covers left side.  
 Measured against the head.**

|                                                                          |                |                             |                                                                     |
|--------------------------------------------------------------------------|----------------|-----------------------------|---------------------------------------------------------------------|
| Prepared (also subject responsible if other)<br>EUS/CV/RF/P Will Stewart |                | No.<br>EUS/CV/R-01:0484/REP |                                                                     |
| Approved<br>EUS/CV/RF/P Mark Douglas                                     | Checked<br>MGD | 2001-4-25                   | C<br>U:\FCC Submittals\FCC_417 Ditto<br>Nicole\XHIBIT11\New SAR.doc |

## T60d

Generic Twin B Phantom; Right Hand Section; Position: (70°,65°); Frequency: 824 MHz

Probe: ET3DV6 - SN1538; ConvF(6.30,6.30,6.30); Crest factor: 1.0; Brain 835 MHz:  $\sigma = 0.91$  mho/m  $\epsilon_r = 41.6$   $\rho = 1.00$  g/cm<sup>3</sup>

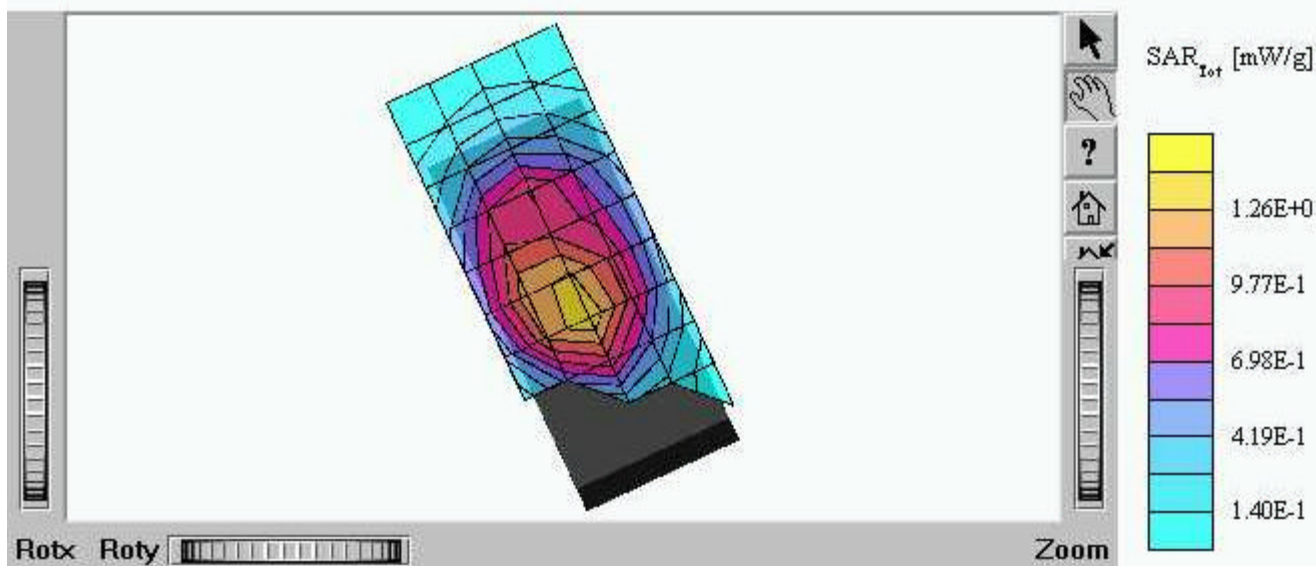
Cube 5x5x7: SAR (1g): 1.35 mW/g, SAR (10g): 0.925 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.01 dB

File name: FCC right T60d AMPS\_CH991\_480H\_T02, Date: 04/10/01

S/N: UA2020480H



|                                                                          |                |                             |                                                                     |
|--------------------------------------------------------------------------|----------------|-----------------------------|---------------------------------------------------------------------|
| Prepared (also subject responsible if other)<br>EUS/CV/RF/P Will Stewart |                | No.<br>EUS/CV/R-01:0484/REP |                                                                     |
| Approved<br>EUS/CV/RF/P Mark Douglas                                     | Checked<br>MGD | 2001-4-25                   | C<br>U:\FCC Submittals\FCC_417 Ditto<br>Nicole\XHIBIT11\New SAR.doc |

## T60d

Generic Twin A Phantom; Right Hand Section; Position: (70°,65°); Frequency: 1850 MHz

Probe: ET3DV6 - SN1538; ConvF(5.67,5.67,5.67); Crest factor: 3.0; Brain 1800 MHz:  $\sigma = 1.76 \text{ mho/m}$   $\epsilon_r = 39.2$   $\rho = 1.00 \text{ g/cm}^3$

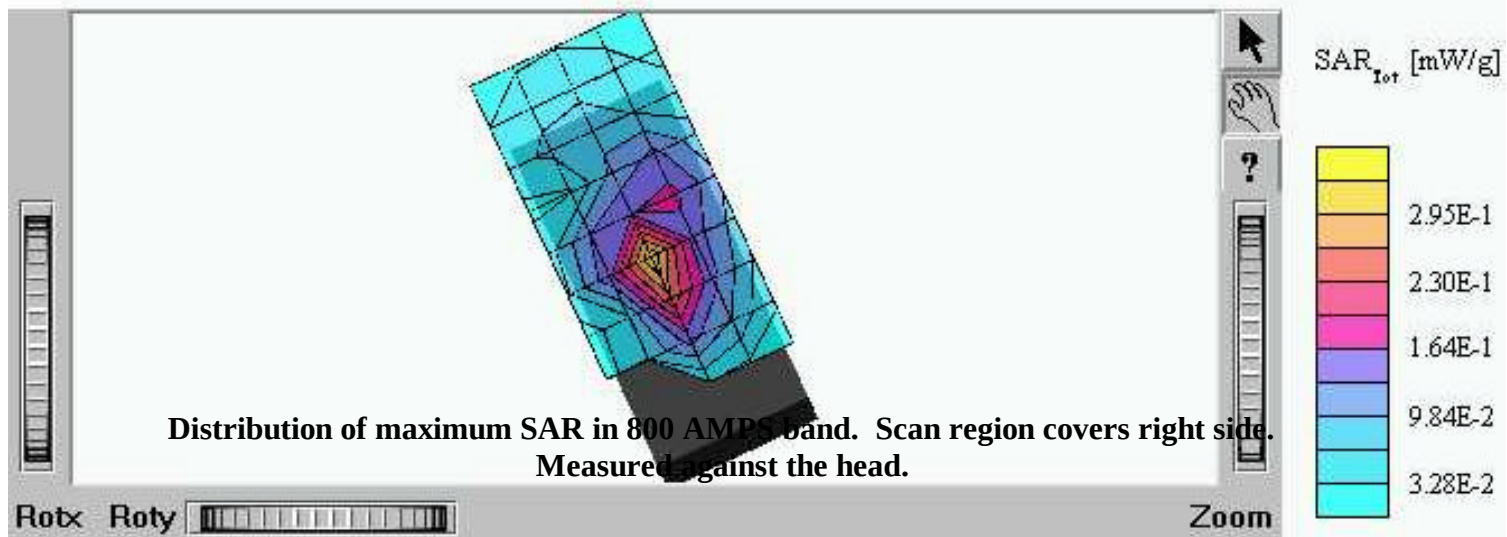
Cube 5x5x7: SAR (1g): 0.309 mW/g, SAR (10g): 0.160 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.07 dB

File name: FCC right T60d PCS\_CH0002\_480H\_T01, Date: 04/11/01

S/N: UA2020480H



|                                                                          |                |                             |                                                                     |
|--------------------------------------------------------------------------|----------------|-----------------------------|---------------------------------------------------------------------|
| Prepared (also subject responsible if other)<br>EUS/CV/RF/P Will Stewart |                | No.<br>EUS/CV/R-01:0484/REP |                                                                     |
| Approved<br>EUS/CV/RF/P Mark Douglas                                     | Checked<br>MGD | 2001-4-25                   | C<br>U:\FCC Submittals\FCC_417 Ditto<br>Nicole\XHIBIT11\New SAR.doc |

**Distribution of maximum SAR in 1900 PCS band. Measured against the head.**

|                                                                          |                |                             |   |                                                                |
|--------------------------------------------------------------------------|----------------|-----------------------------|---|----------------------------------------------------------------|
| Prepared (also subject responsible if other)<br>EUS/CV/RF/P Will Stewart |                | No.<br>EUS/CV/R-01:0484/REP |   |                                                                |
| Approved<br>EUS/CV/RF/P Mark Douglas                                     | Checked<br>MGD | 2001-4-25                   | C | U:\FCC Submittals\FCC_417 Ditto<br>Nicole\XHIBIT11\New SAR.doc |

**T60d**

Generic Twin B; Flat

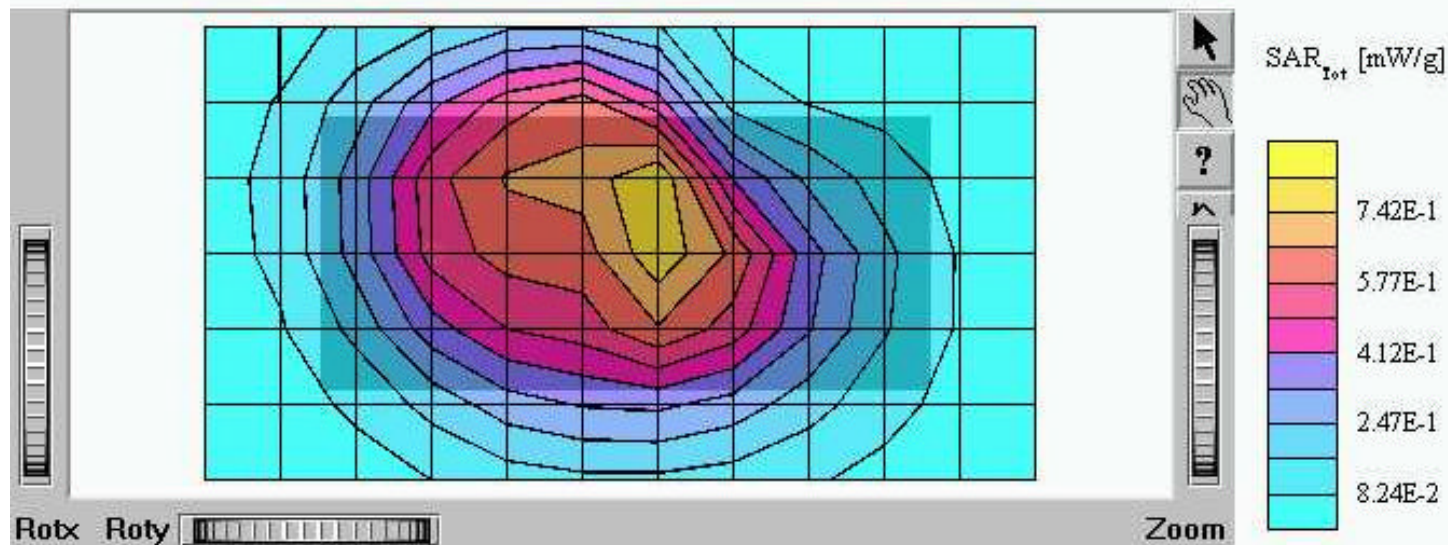
Probe: ET3DV5 - SN1337; ConvF(5.39,5.39,5.39); Crest factor: 1.0; Muscle 835 MHz:  $\sigma = 0.98$  mho/m  $\epsilon_r = 55.5$   $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7: Peak: 1.29 mW/g, SAR(1g): 0.828 mW/g, SAR(10g): 0.575 mW/g, (Worst-case extrapolation)

Penetration depth: 14.8 (13.6, 16.2) [mm]

Powerdrift: 0.10 dB

File name: FCC body T60d AMPS\_CH991\_480H\_BF01, Date: 04/16/01



Distribution of maximum SAR in 800 AMPS band. Measured against the body using product # SXX -109-4518/1 as a carry case.