



Sony Ericsson

REPORT

1(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.fct226.doc  |

## Exhibit 11: SAR Test Report of Portable Cellular Phone FCC ID: PY7A1041011 model: T226

**Date of test:** May 13-30, 2003

**Date of Report:** June 1st, 2003

**Laboratory:** SAR Testing Laboratory Sony Ericsson Mobile Communications, Inc. 7001 Development Drive, P.O. Box 13969, Research Triangle Park, NC, 27709, USA

**Tested by:** Dulce Altabella  
Staff Engineer, Antenna Development Group

**Test Responsible:** Dulce Altabella  
Staff Engineer, Antenna Development Group

**Accreditation:** This laboratory is accredited to ISO/IEC 17025-1999 to perform the following electromagnetic exposure tests:



Specific Absorption Rate (SAR)  
Dielectric parameters  
RF power measurement

On the following types of products:  
Wireless communications devices. A2LA certificate #1650-01

**Statement of Compliance:** Sony Ericsson Mobile Communications, Inc declares under its sole responsibility that portable cellular telephone FCC ID PY7A1041011 model T226 to which this declaration relates, is in conformity with the appropriate General Population/Uncontrolled RF exposure standards, recommendations and guidelines (FCC 47 CFR §2.1093). 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)

© Sony Ericsson Mobile Communications, Inc. 2003

This test report shall not be reproduced except in full, without written approval of the laboratory.

The results and statements contained herein relate only to the items tested. The names of individuals involved may be mentioned only in connection with the statements or results from this report.

Sony Ericsson Mobile Communications encourages all feedback, both positive and negative, on this test report.



Sony Ericsson

## REPORT

2(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\lb.fct226.doc |

## Table of Contents

|                                                                          |    |
|--------------------------------------------------------------------------|----|
| 1. Introduction                                                          | 3  |
| 2. Description of the Device Under Test                                  | 3  |
| 2.1 Antenna description                                                  | 3  |
| 2.2 Device description                                                   | 3  |
| 3. Test Equipment Used                                                   | 3  |
| 3.1 Dosimetric System                                                    | 3  |
| 3.2 Additional Equipment                                                 | 4  |
| 4. Electrical parameters of the tissue simulating liquid                 | 4  |
| 5. System Accuracy Verification                                          | 5  |
| 6. Test Results                                                          | 6  |
| 6.1 Head Adjacent Test Results                                           | 6  |
| 6.2 Body-Worn Test Results                                               | 9  |
| References                                                               | 12 |
| Appendix 1: SAR distribution comparison for system accuracy verification | 13 |
| Appendix 2: SAR distribution plots for Phantom Head Adjacent Use         | 23 |
| Appendix 3: SAR distribution plots for Body Worn Configuration           | 39 |
| Appendix 4: Probe Calibration Certificate                                | 64 |
| Appendix 5: Measurement Uncertainty Budget                               | 72 |
| Appendix 6: Photographs of the device under test                         | 76 |



|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\lb.fct226.doc |

## 1. Introduction

The Sony Ericsson SAR Laboratory has performed measurements of the maximum potential exposure to the user of portable cellular phone FCC ID PYA1041011 model T226. The Specific Absorption Rate (SAR) of this product was measured. The applicable RF safety guidelines and the SAR measurement specifications used for the test are described in [1].

## 2. Description of the Device Under Test

### 2.1 Antenna description

|               |                                     |       |
|---------------|-------------------------------------|-------|
| Type          | Internal antenna                    |       |
| Location      | Inside the back cover, near the top |       |
| Dimensions    | Width                               | 32 mm |
|               | Length                              | 30 mm |
| Configuration | Patch antenna                       |       |

### 2.2 Device description

|                                                        |                                   |               |
|--------------------------------------------------------|-----------------------------------|---------------|
| FCC ID Number / Device Model                           | PY7A1041011 / T226                |               |
| Serial number                                          | A6101TVF63                        |               |
| Mode(s) of Operation                                   | GSM 800                           | GSM 1900      |
| Modulation Mode(s)                                     | TDMA                              | TDMA          |
| Target Value for Maximum Output Power Setting          | 32 dBm                            | 30 dBm        |
| Factory Tolerance Window in Power Setting              | +0.8/ -1.0 dB                     | ± 1.0 dB      |
| Duty Cycle                                             | 1/8                               | 1/8           |
| Transmitting Frequency Rang(s)                         | 824-849 MHz                       | 1850-1910 MHz |
| Production Unit or Identical Prototype (47 CFR §2.908) | Identical Prototype               |               |
| Device Category                                        | Portable                          |               |
| RF Exposure Limits                                     | General Population / Uncontrolled |               |

## 3. Test Equipment Used

### 3.1 Dosimetric System

The Sony Ericsson SAR Laboratory utilizes a Dosimetric Assessment System (Dasy3™ v3.1d) manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. The overall RSS uncertainty of the measurement system is  $\pm 0.59\%$  ( $K=1$ ) with an expanded uncertainty of  $\pm 21.17\%$  ( $K=2$ ). The measurement uncertainty budget is given in Appendix 5. The list of calibrated equipment used for the measurements is shown in the following table.



|                                                                             |                             |
|-----------------------------------------------------------------------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA               |
|                                                                             | A                           |
|                                                                             | C:\Dulce\b.fct226.doc       |

| Description                     | Serial Number | Cal Due Date |
|---------------------------------|---------------|--------------|
| DASY3 DAE V1                    | 416           | 11-Dec-2003  |
| DASY3 DAE V1                    | 417           | 11-Dec-2003  |
| E-Field Probe ETDV6             | 1583          | 19-Dec-2003  |
| E-Field Probe ETDV6             | 1586          | 20-Jun-2003  |
| Dipole Validation Kit, DV835V2  | 428           | 14-Jan-2004  |
| S.A.M. Phantom used for 835MHz  | 1031          |              |
| Dipole Validation Kit, DV1800V2 | 217           | 14-Jan-2004  |
| Dipole Validation Kit, DV1900V2 | 537           | 14-Jan-2004  |
| S.A.M. Phantom used for 1900MHz | 1030          |              |

### 3.2 Additional Equipment

| Description                     | Serial Number | Cal Due Date |
|---------------------------------|---------------|--------------|
| Signal Generator HP8648C        | 3537A01598    | 09-Sep-2003  |
| Power Meter 437B                | 3125U113481   | 16-May-2004  |
| Power Meter 437B                | 3110A05257    | 16-May-2004  |
| Power Sensor - 8482H            | MY41090240    | 16-May-2004  |
| Power Sensor - 8482H            | MY41090241    | 16-May-2004  |
| Network Analyzer HP8752C        | 3410A3105     | 23-Aug-2003  |
| Dielectric Probe Kit HP85070B   | US33020390    | 16-Sep-2003  |
| Digital Thermometer 61220-601   | 350078        | 25-Sep-2003  |
| Digital Thermometer 61220-601   | 21117674      | 12-Nov-2003  |
| Thermometer Probe 61220-604     | 99172351      | 25-Sep-2003  |
| Thermometer Probe 61220-604     | 21117824      | 12-Nov-2003  |
| Digital Hygrometer/ Thermometer | 21242911      | 24-Sep-2003  |
| B Power Amplifier 5S1G4         | 19290         | 05-May-2004  |

## 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, along with the temperature of the simulated tissue are shown in the table below. A mass density of  $\rho=1\text{g/cm}^3$  was entered into the system in all the cases. It can be seen that the measured parameters are within tolerance of the recommended limits [1]. During the tests, the ambient temperature of the laboratory was in the range 22.2-23.9°C, the relative humidity was 37.9- 47.5%, and the liquid depth above the ear reference points was more than 150 cm for all the cases. It is seen that the measured parameters are satisfactory for compliance testing.



|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

| f<br>(MHz) | Tissue<br>type | Limits / Measured   | Dielectric Parameters |                |                                  |
|------------|----------------|---------------------|-----------------------|----------------|----------------------------------|
|            |                |                     | $\epsilon_r$          | $\sigma$ (S/m) | Simulated<br>Tissue<br>Temp (°C) |
| 835        | Head           | Measured, 13-May-03 | 41.53                 | 0.89           | 21.7                             |
|            |                | Recommended Limits  | 41.50                 | 0.90           | 20-25                            |
|            | Body           | Measured, 21-May-03 | 56.59                 | 0.97           | 22.4                             |
|            |                | Measured, 29-May-03 | 55.28                 | 0.95           | 22.3                             |
|            |                | Recommended Limits  | 55.20                 | 0.97           | 20-25                            |
| 1900       | Head           | Measured, 19-May-03 | 39.05                 | 1.45           | 21.6                             |
|            |                | Measured, 20-May-03 | 39.88                 | 1.44           | 22.0                             |
|            |                | Measured, 30-May-03 | 39.42                 | 1.45           | 22.0                             |
|            |                | Recommended Limits  | 40.00                 | 1.40           | 20-25                            |
|            | Body           | Measured, 22-May-03 | 52.95                 | 1.53           | 21.3                             |
|            |                | Measured, 28-May-03 | 52.51                 | 1.54           | 21.9                             |
|            |                | Recommended Limits  | 53.30                 | 1.52           | 20-25                            |
|            |                |                     |                       |                |                                  |

The list of ingredients and the percent composition used for the simulated tissue are indicated in the table below.

| Ingredient | 800MHz<br>Head | 800MHz<br>Body | 1800/1900MHz<br>Head | 1900MHz<br>Body |
|------------|----------------|----------------|----------------------|-----------------|
|            |                |                |                      |                 |
| Sugar      | 57.99%         | 56.00%         | --                   | --              |
| DGBE       | --             | --             | 44.92%               | 30.82%          |
| Water      | 39.72%         | 41.76%         | 54.90%               | 68.89%          |
| Salt       | 1.18%          | 0.76%          | 0.18%                | 0.29%           |
| HEC        | 0.92%          | 1.21%          | --                   | --              |
| Bact.      | 0.19%          | 0.27%          | --                   | --              |

## 5. System Accuracy Verification

A system accuracy verification of the DASY3 was performed using the measurement equipment listed in Section 3.1. The daily system accuracy verification occurs within the flat section of the SAM phantom.

A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR indicated on the dipole certification sheet. These tests were done at 835 MHz and/or 1900MHz. These frequencies are within 100MHz of the mid-band frequency of the test device, according to [1]. The test was conducted on the same days as the measurement of the DUT. The results from the system accuracy verification are displayed in the table below (SAR values are normalized to 1W forward power delivered to the dipole). During the tests, the ambient temperature of the laboratory was in the range 22.9-23.6 °C, the relative humidity was in the range 36.1 – 45.8 % and the liquid depth above the ear reference points was above 150 mm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values. The SAR distributions are shown in Appendix 1.

Daily, prior to conducting tests, measurements were made with the RF sources powered off to determine the system noise level. The highest system noise was 0.0003W/kg, which is below the recommended limit in [1].



Sony Ericsson

## REPORT

6(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

| f<br>(MHz) | Tissue<br>Type | Description                   | SAR (W/kg), 1g<br>/ 10g | Dielectric<br>Parameters |                | Tissue<br>Temp (°C) |
|------------|----------------|-------------------------------|-------------------------|--------------------------|----------------|---------------------|
|            |                |                               |                         | $\epsilon_r$             | $\sigma$ (S/m) |                     |
| 835        | Head           | <b>Measured</b> , 13-May-2003 | 9.27 / 6.04             | 41.53                    | 0.89           | 21.7                |
|            |                | <b>Recommended Limits</b>     | 9.50 / 6.20             | 41.50                    | 0.90           | 20-25               |
|            | Body           | <b>Measured</b> , 21-May-2003 | 9.76 / 6.44             | 56.59                    | 0.97           | 22.4                |
|            |                | <b>Measured</b> , 29-May-2003 | 9.51 / 6.28             | 55.28                    | 0.95           | 22.3                |
|            |                | <b>Recommended Limits</b>     | 9.90 / 6.46             | 55.20                    | 0.97           | 20-25               |
| 1900       | Head           | <b>Measured</b> , 19-May-2003 | 42.56 / 22.12           | 39.05                    | 1.45           | 21.2                |
|            |                | <b>Measured</b> , 20-May-2003 | 41.81 / 21.81           | 39.88                    | 1.44           | 22.0                |
|            |                | <b>Measured</b> , 30-May-2003 | 42.82 / 22.20           | 39.42                    | 1.45           | 22.1                |
|            |                | <b>Recommended Limits</b>     | 39.70 / 20.50           | 40.00                    | 1.40           | 20-25               |
|            | Body           | <b>Measured</b> , 22-May-2003 | 41.70 / 21.90           | 52.95                    | 1.53           | 22.0                |
|            |                | <b>Measured</b> , 28-May-2003 | 42.53 / 22.43           | 52.51                    | 1.54           | 22.1                |
|            |                | <b>Recommended Limits</b>     | 40.50 / 20.89           | 53.30                    | 1.52           | 20-25               |

## 6. Test Results

The test sample was operated in a test mode that allows control of the transmitter without the need to place actual phone calls. For the purposes of this test the unit is commanded to test mode and set to the proper channel, transmitter power level and transmit mode of operation. The phone was tested in the configurations stipulated in [1,2]. The phone was positioned into these configurations using the positioner supplied with the DASY 3.1d SAR measurement system.

The Cellular Phone FCC ID PY7A1041011 has the following battery options:

Model #1 – BKB 193 174 EP3/A Battery

This battery was used for SAR testing. The phone was placed in the SAR measurement system with a fully charged battery.

### 6.1 Head Adjacent Test Results

The SAR results shown in tables 1 through 4 are maximum SAR values averaged over 1 gram and 10 grams of phantom tissue. Also shown are the measured conducted output powers, the temperature of the test facility during the test, the temperature of the simulated tissue, the measured drift, and the extrapolated SAR.

The extrapolated SAR corresponds to the measured SAR scaled to the maximum conducted output power.

The humidity and ambient temperature of the test facility were in the ranges 33.4 -48.6% and 21.5-24.5°C, respectively. The SAR measurements were performed using the SAM phantoms listed in section 3.1.

The test conditions indicated as bold numbers in the following table are included in Appendix 2. All other test conditions measured lower SAR values than those included.



Sony Ericsson

## REPORT

7(85)

|                                                                             |                             |
|-----------------------------------------------------------------------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA               |
|                                                                             | A                           |
|                                                                             | C:\Dulce\b.fct226.doc       |

| f (MHz)  | Channel/<br>frequency | Conducted<br>Output Power<br>(dBm) <sup>1</sup> | Left Head (Cheek / Touch Position) |               |                         |                   |                       |
|----------|-----------------------|-------------------------------------------------|------------------------------------|---------------|-------------------------|-------------------|-----------------------|
|          |                       |                                                 | Measured<br>(W/kg)                 | Drift<br>(dB) | Extrapolate<br>d (W/kg) | Amb. Temp<br>(°C) | Simulate<br>Temp (°C) |
| 800 GSM  | 128 / 824             | 32.8                                            | 0.86 / 0.54                        | -0.04         | 0.86 / 0.54             | 23.6              | 22.5                  |
|          | 189 / 837             | 32.6                                            | 1.10 / 0.69                        | -0.07         | 1.10 / 0.69             | 23.5              | 22.6                  |
|          | 251 / 849             | 32.6                                            | <b>1.16 / 0.72</b>                 | 0.07          | <b>1.16 / 0.72</b>      | 23.8              | 21.5                  |
| 1900 GSM | 512 / 1850            | 30.9                                            | <b>0.40 / 0.21</b>                 | 0.05          | <b>0.41 / 0.22</b>      | 24.0              | 21.8                  |
|          | 660/1880              | 30.6                                            | 0.34 / 0.19                        | 0.00          | 0.34 / 0.19             | 23.7              | 22.2                  |
|          | 810/1910              | 30.2                                            | 0.28 / 0.16                        | 0.08          | 0.29 / 0.17             | 23.8              | 22.2                  |

**Table 1: SAR measurement results for the portable cellular telephone FCC ID PY7A1041011 model T226 at maximum output power. Measured against the left head in the Cheek/Touch Position.**

| f (MHz)  | Channel/<br>frequency | Conducted Output<br>Power (dBm) <sup>1</sup> | Right head (Cheek / Touch Position) |               |                         |                   |                       |
|----------|-----------------------|----------------------------------------------|-------------------------------------|---------------|-------------------------|-------------------|-----------------------|
|          |                       |                                              | Measured<br>(W/kg)                  | Drift<br>(dB) | Extrapolate<br>d (W/kg) | Amb. Temp<br>(°C) | Simulate<br>Temp (°C) |
| 800 GSM  | 128 / 824             | 32.8                                         | 0.83 / 0.52                         | -0.04         | 0.83 / 0.52             | 23.4              | 22.5                  |
|          | 189 / 837             | 32.6                                         | <b>1.18 / 0.73</b>                  | -0.03         | <b>1.18 / 0.73</b>      | 22.6              | 22.4                  |
|          | 251 / 849             | 32.6                                         | 1.16 / 0.71                         | -0.03         | 1.16 / 0.71             | 22.6              | 22.4                  |
| 1900 GSM | 512 / 1850            | 30.9                                         | <b>0.48 / 0.26</b>                  | 0.07          | <b>0.50 / 0.26</b>      | 22.3              | 22.0                  |
|          | 660/1880              | 30.6                                         | 0.44 / 0.23                         | -0.01         | 0.45 / 0.24             | 22.4              | 22.0                  |
|          | 810/1910              | 30.2                                         | 0.41 / 0.19                         | -0.06         | 0.41 / 0.20             | 22.3              | 22.0                  |

**Table 2: SAR measurement results for the portable cellular telephone FCC ID PY7A1041011 model T226 at maximum output power. Measured against the right head in the Cheek/Touch Position.**

| F (MHz)  | Channel/<br>frequency | Conducted<br>Output Power<br>(dBm) <sup>1</sup> | Left Head (15° Tilt Position) |            |                         |                   |                       |
|----------|-----------------------|-------------------------------------------------|-------------------------------|------------|-------------------------|-------------------|-----------------------|
|          |                       |                                                 | Measured<br>(W/kg)            | Drift (dB) | Extrapolate<br>d (W/kg) | Amb. Temp<br>(°C) | Simulate<br>Temp (°C) |
| 800 GSM  | 128 / 824             | 32.8                                            | 0.41 / 0.27                   | -0.01      | 0.41 / 0.27             | 23.5              | 22.5                  |
|          | 189 / 837             | 32.6                                            | 0.47 / 0.32                   | -0.08      | 0.47 / 0.32             | 23.4              | 22.5                  |
|          | 251 / 849             | 32.6                                            | <b>0.62 / 0.41</b>            | -0.19      | <b>0.62 / 0.41</b>      | 23.4              | 22.6                  |
| 1900 GSM | 512 / 1850            | 30.9                                            | <b>0.38 / 0.21</b>            | -0.00      | <b>0.39 / 0.22</b>      | 23.4              | 22.0                  |
|          | 660/1880              | 30.6                                            | 0.32 / 0.18                   | -0.02      | 0.32 / 0.18             | 23.5              | 22.2                  |
|          | 810/1910              | 30.2                                            | 0.31 / 0.17                   | 0.11       | 0.32 / 0.17             | 23.8              | 22.2                  |

**Table 3: SAR measurement results for the portable cellular telephone FCC ID PY7A1041011 model T226 at maximum output power. Measured against the left head in the 15° Tilt Position.**

<sup>1</sup> Output power was measured at Sony Ericsson by personnel outside the scope and control of the SAR testing laboratory.

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



Sony Ericsson

REPORT

8(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\lb.fct226.doc |

| F (MHz)  | Channel/<br>frequency | Conducted<br>Output Power<br>(dBm) <sup>1</sup> | Right Head (15° Tilt Position) |            |                         |                   |                       |
|----------|-----------------------|-------------------------------------------------|--------------------------------|------------|-------------------------|-------------------|-----------------------|
|          |                       |                                                 | Measured<br>(W/kg)             | Drift (dB) | Extrapolate<br>d (W/kg) | Amb. Temp<br>(°C) | Simulate<br>Temp (°C) |
| 800 GSM  | 128 / 824             | 32.8                                            | 0.40 / 0.26                    | -0.03      | 0.40 / 0.26             | 22.7              | 34.0                  |
|          | 189 / 837             | 32.6                                            | <b>0.59 / 0.38</b>             | -0.05      | <b>0.59 / 0.38</b>      | 22.7              | 22.4                  |
|          | 251 / 849             | 32.6                                            | 0.58 / 0.38                    | -0.05      | 0.58 / 0.38             | 23.4              | 22.5                  |
| 1900 GSM | 512 / 1850            | 30.9                                            | <b>0.39 / 0.21</b>             | -0.03      | <b>0.40 / 0.22</b>      | 23.8              | 21.5                  |
|          | 660/1880              | 30.6                                            | 0.35 / 0.19                    | -0.01      | 0.36 / 0.20             | 23.9              | 21.6                  |
|          | 810/1910              | 30.2                                            | 0.35 / 0.18                    | -0.04      | 0.36 / 0.18             | 23.4              | 22.0                  |

**Table 4: SAR measurement results for the portable cellular telephone FCC ID PY7A1041011 model T226 at maximum output power. Measured against the right head in the 15° Tilt Position.**



|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## 6.2 Body-Worn Test Results

The SAR results shown in table 5-10 are the maximum SAR values averaged over 1gram and 10 grams of phantom tissue. Also shown are the measured conducted output powers, the temperature of the test facility during the test, the temperature of the simulated tissue after the test, the measured drift and the extrapolated SAR.

The extrapolated SAR corresponds to the measured SAR scaled to the maximum conducted output power.

The humidity and ambient temperature of the test facility were in the ranges 42.2-50.1% and 23.6-24.2°C, respectively.

A “flat” phantom was used for the body-worn tests. This “flat” phantom corresponds to the flat portion of the SAM phantom.

The tissue stimulant depth above the ear canal was verified to be above 150mm in all the measurements. The same device holder described in section 6 was used for positioning the phone. The cellular phone was tested with a headset connected to the device for all body-worn SAR measurements.

The following body-worn accessories were tested for this phone:

-Carry case model ICT-14

-Carry case model ICE-25

-20 mm spacer

A full data set output of the three test conditions with the highest SAR values from the Dasy™ measurement system is included as appendix 3. The test conditions included are indicated as bold numbers in the following table. All other test conditions measured lower SAR values than those included.

| f (MHz)  | Channel/<br>frequency | Conducted<br>Output Power<br>(dBm) <sup>1</sup> | Body Worn PHF: HPB-20<br>Carry Accessory: ICT-14 (Back of phone facing body) |            |                         |                   |                       |
|----------|-----------------------|-------------------------------------------------|------------------------------------------------------------------------------|------------|-------------------------|-------------------|-----------------------|
|          |                       |                                                 | Measured<br>(W/kg)                                                           | Drift (dB) | Extrapolate<br>d (W/kg) | Amb. Temp<br>(°C) | Simulate<br>Temp (°C) |
| 800 GSM  | 128 / 824             | 32.8                                            | <b>0.51 / 0.37</b>                                                           | 0.05       | <b>0.51 / 0.37</b>      | 23.5              | 22.4                  |
|          | 189 / 837             | 32.6                                            | 0.36 / 0.25                                                                  | 0.00       | 0.36 / 0.25             | 24.0              | 22.6                  |
|          | 251 / 849             | 32.6                                            | 0.30 / 0.21                                                                  | -0.03      | 0.30 / 0.21             | 23.5              | 22.4                  |
| 1900 GSM | 512 / 1850            | 30.9                                            | <b>0.63 / 0.39</b>                                                           | -0.09      | <b>0.64 / 0.40</b>      | 24.1              | 22.2                  |
|          | 660/1880              | 30.6                                            | 0.50 / 0.31                                                                  | -0.11      | 0.51 / 0.32             | 24.1              | 22.1                  |
|          | 810/1910              | 30.2                                            | 0.40 / 0.25                                                                  | -0.03      | 0.44 / 0.25             | 23.8              | 21.9                  |

**Table 5: SAR measurement results for the portable cellular telephone FCC ID PY7A1041011 model T226 at maximum output power. Measured against the body with carry accessory ICT-14. Back of the phone facing the flat phantom.**



Sony Ericsson

## REPORT

10(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

| f (MHz)  | Channel/<br>frequency | Conducted<br>Output Power<br>(dBm) <sup>1</sup> | Body Worn PHF: HPB-20<br>Carry Accessory: ICT-14 (Front of phone facing body) |            |                         |                   |                       |
|----------|-----------------------|-------------------------------------------------|-------------------------------------------------------------------------------|------------|-------------------------|-------------------|-----------------------|
|          |                       |                                                 | Measured<br>(W/kg)                                                            | Drift (dB) | Extrapolate<br>d (W/kg) | Amb. Temp<br>(°C) | Simulate<br>Temp (°C) |
| 800 GSM  | 128 / 824             | 32.8                                            | <b>0.26 / 0.18</b>                                                            | -0.05      | <b>0.26 / 0.18</b>      | 23.5              | 22.4                  |
|          | 189 / 837             | 32.6                                            | 0.21 / 0.15                                                                   | 0.00       | 0.21 / 0.15             | 23.5              | 22.4                  |
|          | 251 / 849             | 32.6                                            | 0.18 / 0.12                                                                   | -0.08      | 0.18 / 0.12             | 23.5              | 22.4                  |
| 1900 GSM | 512 / 1850            | 30.9                                            | <b>0.10 / 0.06</b>                                                            | -0.10      | <b>0.10 / 0.06</b>      | 24.0              | 22.0                  |
|          | 660/1880              | 30.6                                            | 0.07 / 0.04                                                                   | -0.08      | 0.07 / 0.05             | 24.0              | 22.2                  |
|          | 810/1910              | 30.2                                            | 0.06 / 0.04                                                                   | 0.01       | 0.06 / 0.04             | 23.9              | 21.8                  |

**Table 6: SAR measurement results for the portable cellular telephone FCC ID PY7A1041011 model T226 at maximum output power. Measured against the body with carry accessory ICT-14. Front of the phone facing the flat phantom.**

| f (MHz)  | Channel/<br>frequency | Conducted<br>Output Power<br>(dBm) <sup>1</sup> | Body Worn PHF: HPB-20<br>Carry Accessory: ICE-25 (Back of phone facing body) |            |                         |                   |                       |
|----------|-----------------------|-------------------------------------------------|------------------------------------------------------------------------------|------------|-------------------------|-------------------|-----------------------|
|          |                       |                                                 | Measured<br>(W/kg)                                                           | Drift (dB) | Extrapolat<br>ed (W/kg) | Amb. Temp<br>(°C) | Simulate<br>Temp (°C) |
| 800 GSM  | 128 / 824             | 32.8                                            | <b>0.46 / 0.33</b>                                                           | -0.01      | <b>0.46 / 0.33</b>      | 23.7              | 22.4                  |
|          | 189 / 837             | 32.6                                            | 0.32 / 0.22                                                                  | -0.02      | 0.32 / 0.22             | 23.9              | 22.5                  |
|          | 251 / 849             | 32.6                                            | 0.31 / 0.22                                                                  | 0.01       | 0.31 / 0.22             | 23.5              | 22.3                  |
| 1900 GSM | 512 / 1850            | 30.9                                            | <b>0.73 / 0.44</b>                                                           | -0.11      | <b>0.75 / 0.44</b>      | 23.8              | 22.0                  |
|          | 660/1880              | 30.6                                            | 0.50 / 0.30                                                                  | -0.08      | 0.51 / 0.31             | 23.8              | 21.9                  |
|          | 810/1910              | 30.2                                            | 0.35 / 0.22                                                                  | -0.07      | 0.36 / 0.22             | 23.3              | 22.0                  |

**Table 7: SAR measurement results for the portable cellular telephone FCC ID PY7A1041011 model T226 at maximum output power. Measured against the body with carry accessory ICE-25. Back of the phone facing the flat phantom.**



Sony Ericsson

## REPORT

11(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

| f (MHz)  | Channel/<br>frequency | Conducted<br>Output Power<br>(dBm) <sup>1</sup> | Body Worn PHF: HPB-20<br>Carry Accessory: spacer ICE-25<br>(Front of phone facing body) |            |                         |                   |                       |
|----------|-----------------------|-------------------------------------------------|-----------------------------------------------------------------------------------------|------------|-------------------------|-------------------|-----------------------|
|          |                       |                                                 | Measured<br>(W/kg)                                                                      | Drift (dB) | Extrapolate<br>d (W/kg) | Amb. Temp<br>(°C) | Simulate<br>Temp (°C) |
| 800 GSM  | 128 / 824             | 32.8                                            | <b>0.34 / 0.24</b>                                                                      | -0.13      | <b>0.34 / 0.24</b>      | 23.6              | 22.1                  |
|          | 189 / 837             | 32.6                                            | 0.19 / 0.13                                                                             | -0.08      | 0.19 / 0.13             | 23.5              | 22.4                  |
|          | 251 / 849             | 32.6                                            | 0.18 / 0.13                                                                             | -0.07      | 0.18 / 0.13             | 23.7              | 22.4                  |
| 1900 GSM | 512 / 1850            | 30.9                                            | <b>0.09 / 0.06</b>                                                                      | -0.11      | <b>0.10 / 0.06</b>      | 23.7              | 22.0                  |
|          | 660/1880              | 30.6                                            | 0.05 / 0.03                                                                             | -0.07      | 0.06 / 0.03             | 23.8              | 21.8                  |
|          | 810/1910              | 30.2                                            | 0.05 / 0.03                                                                             | -0.12      | 0.05 / 0.03             | 23.5              | 21.9                  |

**Table 8: SAR measurement results for the portable cellular telephone FCC ID PY7A1041011 model T226 at maximum output power. Measured against the body with carry accessory ICE-25. Front of the phone facing the flat phantom.**

| f (MHz)  | Channel/<br>frequency | Conducted<br>Output Power<br>(dBm) <sup>1</sup> | Body Worn PHF: HPB-20<br>Carry Accessory: 20 mm (Back of phone facing body) |            |                          |                   |                       |
|----------|-----------------------|-------------------------------------------------|-----------------------------------------------------------------------------|------------|--------------------------|-------------------|-----------------------|
|          |                       |                                                 | Measured<br>(W/kg)                                                          | Drift (dB) | Extrapolate<br>ed (W/kg) | Amb. Temp<br>(°C) | Simulate<br>Temp (°C) |
| 800 GSM  | 128 / 824             | 32.8                                            | 0.41 / 0.29                                                                 | -0.02      | 0.41 / 0.29              | 23.5              | 22.2                  |
|          | 189 / 837             | 32.6                                            | 0.25 / 0.18                                                                 | 0.01       | 0.25 / 0.18              | 23.8              | 22.4                  |
|          | 251 / 849             | 32.6                                            | <b>0.43 / 0.30</b>                                                          | 0.01       | <b>0.43 / 0.30</b>       | 23.8              | 22.3                  |
| 1900 GSM | 512 / 1850            | 30.9                                            | 0.40 / 0.24                                                                 | 0.00       | 0.41 / 0.25              | 24.2              | 22.1                  |
|          | 660/1880              | 30.6                                            | <b>0.70 / 0.43</b>                                                          | -0.03      | <b>0.72 / 0.44</b>       | 24.1              | 22.2                  |
|          | 810/1910              | 30.2                                            | 0.64 / 0.39                                                                 | 0.01       | 0.66 / 0.40              | 23.5              | 21.9                  |

**Table 9: SAR measurement results for the portable cellular telephone FCC ID PY7A1041011 model T226 at maximum output power. Measured against the body with a 20 mm spacer. Back of the phone facing the flat phantom.**



|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |

| f (MHz)  | Channel/<br>frequency | Conducted<br>Output Power<br>(dBm) <sup>1</sup> | Body Worn PHF: HPB-20<br>Carry Accessory: spacer 20 mm (Front of phone facing body) |            |                         |                   |                       |
|----------|-----------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|------------|-------------------------|-------------------|-----------------------|
|          |                       |                                                 | Measured<br>(W/kg)                                                                  | Drift (dB) | Extrapolate<br>d (W/kg) | Amb. Temp<br>(°C) | Simulate<br>Temp (°C) |
| 800 GSM  | 128 / 824             | 32.8                                            | 0.19 / 0.13                                                                         | -0.01      | 0.19 / 0.13             | 23.7              | 22.2                  |
|          | 189 / 837             | 32.6                                            | 0.17 / 0.12                                                                         | -0.01      | 0.17 / 0.12             | 23.5              | 22.2                  |
|          | 251 / 849             | 32.6                                            | <b>0.36 / 0.25</b>                                                                  | -0.08      | <b>0.36 / 0.25</b>      | 23.5              | 22.3                  |
| 1900 GSM | 512 / 1850            | 30.9                                            | <b>0.06 / 0.03</b>                                                                  | -0.03      | <b>0.06 / 0.04</b>      | 24.2              | 22.1                  |
|          | 660/1880              | 30.6                                            | 0.05 / 0.03                                                                         | -0.05      | 0.05 / 0.03             | 24.0              | 22.0                  |
|          | 810/1910              | 30.2                                            | 0.05 / 0.03                                                                         | -0.04      | 0.05 / 0.03             | 23.6              | 21.9                  |

**Table 10: SAR measurement results for the portable cellular telephone FCC ID PY7A1041011 model T226 at maximum output power. Measured against the body with a 20 mm spacer. Front of the phone facing the flat phantom.**

## References

- [1] FCC, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields: Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions," Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01).
- [2] IEEE, "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques," Std 1528-200X, Draft 6.5 – August 20, 2001.

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

13(85)

|                                                                             |               |                             |                         |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                         |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.foct226.doc |

## Appendix 1

### SAR distribution comparison for the system accuracy verification

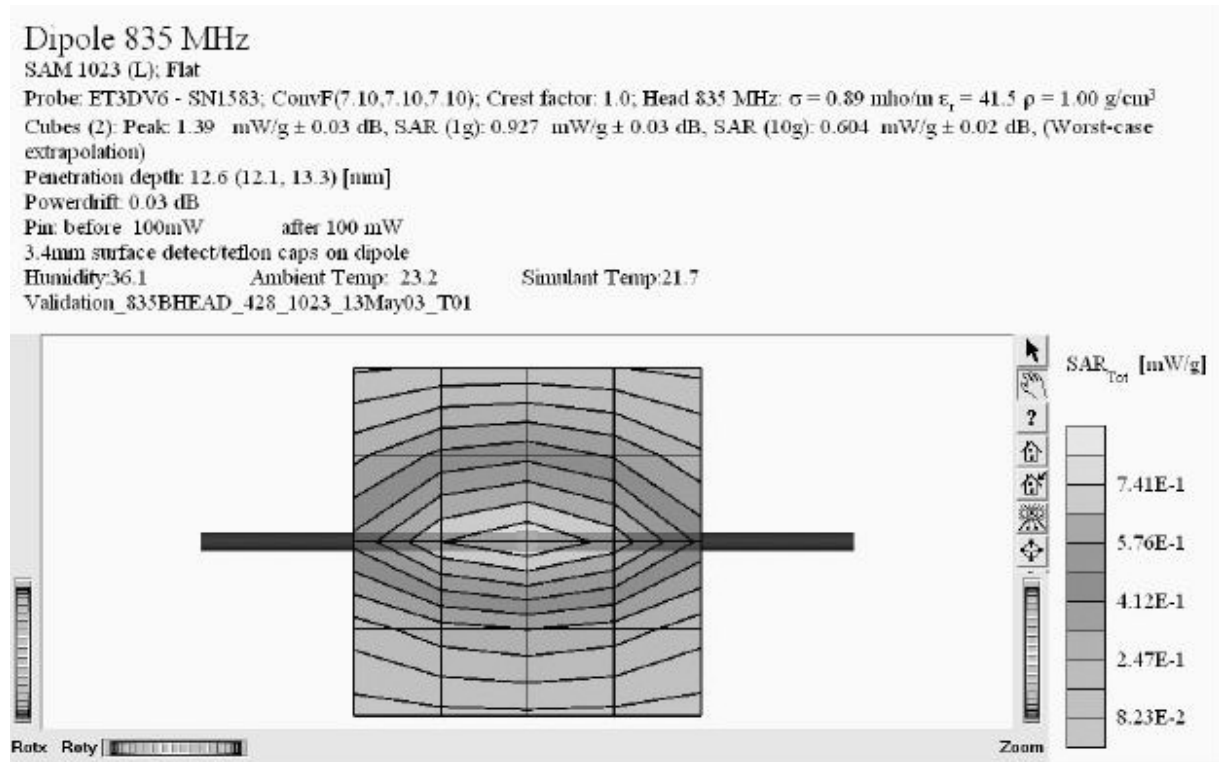


Sony Ericsson

## REPORT

14(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |



**835 MHz SAR distribution of validation dipole antenna from system performance check on May 13, 2003. Using head tissue.**



Sony Ericsson

## REPORT

15(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## Dipole 1900 MHz

SAM 1020(L); Flat

Probe: ET3DV6 - SN1586; ConvF(5.10,5.10,5.10); Crest factor: 1.0; Head 1900 MHz:  $\sigma = 1.45 \text{ mho/m}$ ,  $\epsilon_r = 39.0$ ,  $\rho = 1.00 \text{ g/cm}^3$ Cubes (2): Peak  $7.68 \text{ mW/g} \pm 0.08 \text{ dB}$ , SAR (1g):  $4.29 \text{ mW/g} \pm 0.03 \text{ dB}$ , SAR (10g):  $2.23 \text{ mW/g} \pm 0.01 \text{ dB}$ , (Worst-case extrapolation)

Penetration depth: 8.6 (8.5, 8.9) [mm]

Powerdrift: -0.04 dB

Pin: before 100mW after 100.8 mW

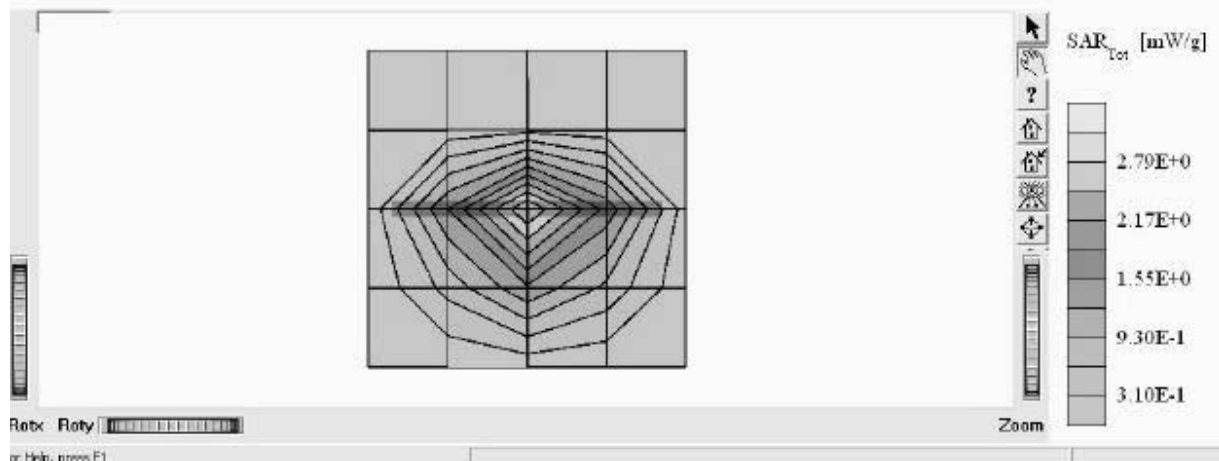
3.4mm surface detect/teflon caps on dipole

Humidity: 43.4

Ambient Temp: 23.6

Simulant Temp: 21.2

Validation\_1900Head\_537\_1020\_19May\_03\_T01



**1900 MHz SAR distribution of validation dipole antenna from system performance check on May 19, 2003. Using head tissue.**

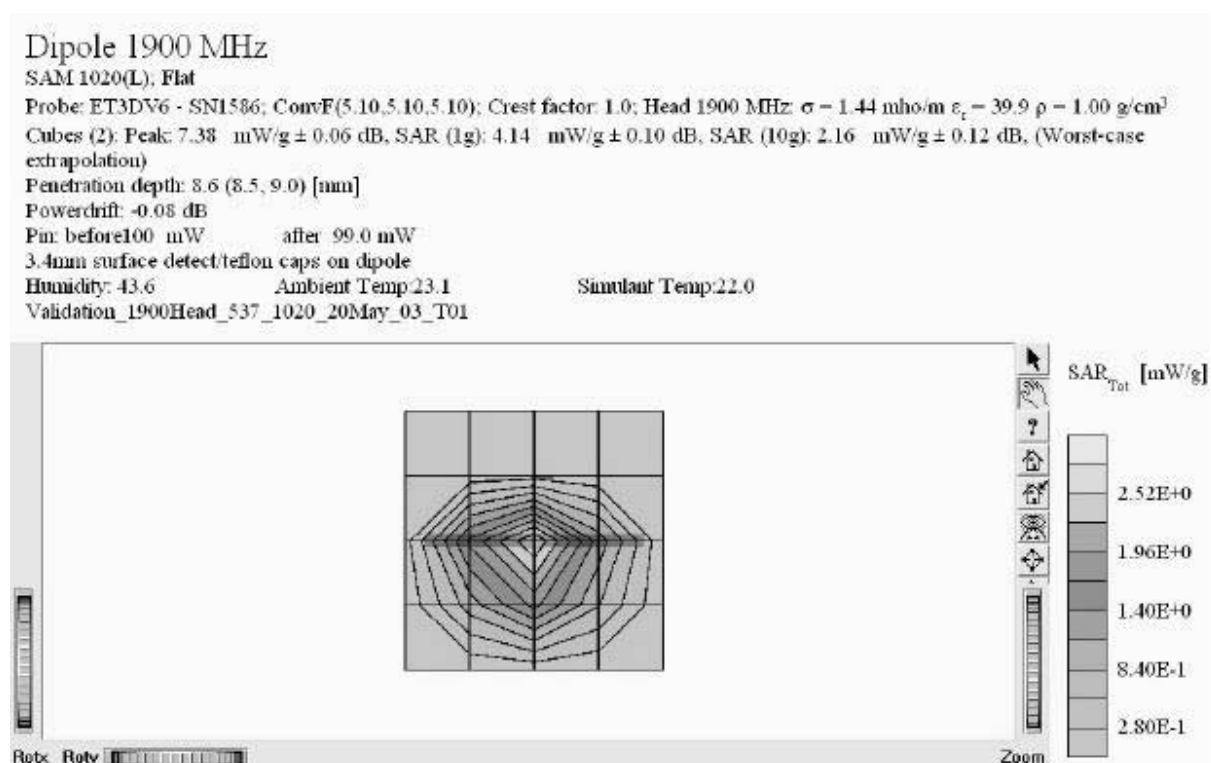


Sony Ericsson

## REPORT

16(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.fct226.doc  |



**1900 MHz SAR distribution of validation dipole antenna from system performance check on May 20, 2003. Using head tissue.**

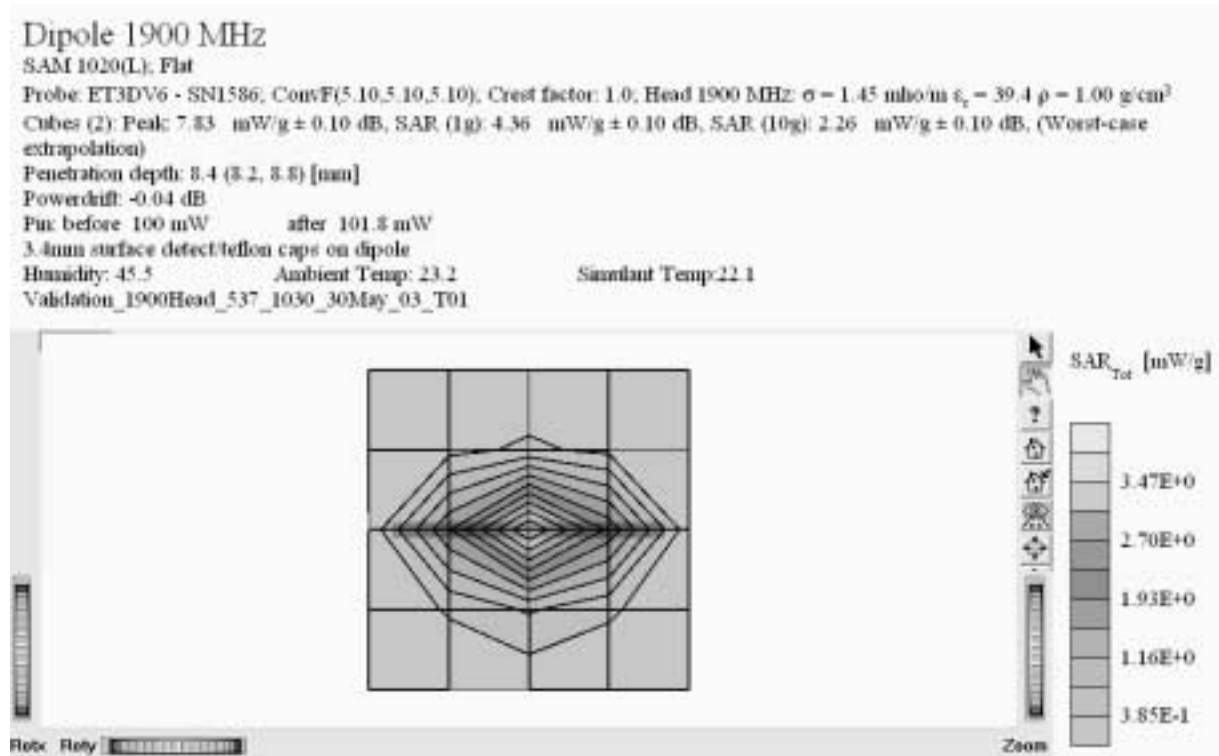


Sony Ericsson

REPORT

17(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |



**1900 MHz SAR distribution of validation dipole antenna from system performance check on May 30, 2003. Using head tissue.**



Sony Ericsson

## REPORT

18(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## Dipole 835 MHz

SAM 1031(R); Flat

Probe: ET3DV6 - SN1586; ConvF(6.30,6.30,6.30); Crest factor: 1.0; Body 835 MHz:  $\sigma = 0.97 \text{ mho/m}$ ,  $\epsilon_r = 56.6$ ,  $\rho = 1.00 \text{ g/cm}^3$ Cubes (2): Peak:  $1.43 \text{ mW/g} \pm 0.09 \text{ dB}$ , SAR (1g):  $0.967 \text{ mW/g} \pm 0.09 \text{ dB}$ , SAR (10g):  $0.638 \text{ mW/g} \pm 0.09 \text{ dB}$ , (Worst-case extrapolation)

Penetration depth: 13.4 (12.8, 14.2) [mm]

Powerdrift: 0.01 dB

Pin: before 100 mW after 99.0 mW

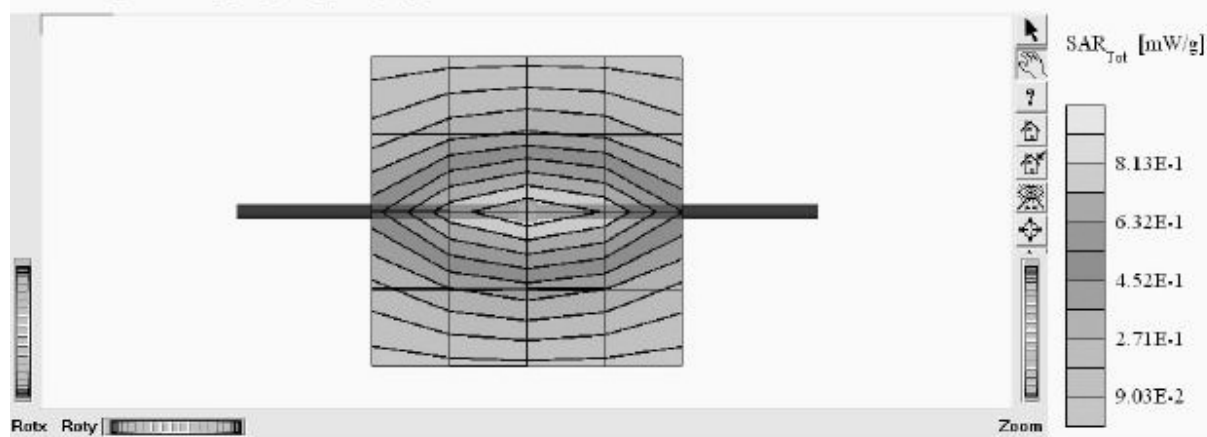
3.4mm surface detect/teflon caps on dipole

Humidity: 45.8

Ambient Temp: 23.0

Simulant Temp: 22.4

Validation\_835BODY\_428\_1023\_21May03\_T01



**835 MHz SAR distribution of validation dipole antenna from system performance check on May 21, 2003. Using muscle tissue.**



Sony Ericsson

## REPORT

19(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\lb.fct226.doc |

## Dipole 835 MHz

SAM 1031(R), Flat

Probe: ET3DV6 - SN1586; ConvF(6.30,6.30,6.30); Crest factor: 1.0; Body 835 MHz:  $\sigma = 0.95 \text{ mho/m}$ ,  $\epsilon_r = 55.3$ ,  $\rho = 1.00 \text{ g/cm}^3$ Cubes (2): Peak:  $1.38 \text{ mW/g} \pm 0.11 \text{ dB}$ , SAR (1g):  $0.937 \text{ mW/g} \pm 0.10 \text{ dB}$ , SAR (10g):  $0.619 \text{ mW/g} \pm 0.10 \text{ dB}$ , (Worst-case extrapolation)

Penetration depth: 13.4 (12.8, 14.2) [mm]

Powerdrift: -0.01 dB

Pin: before 100 mW after 98.5 mW

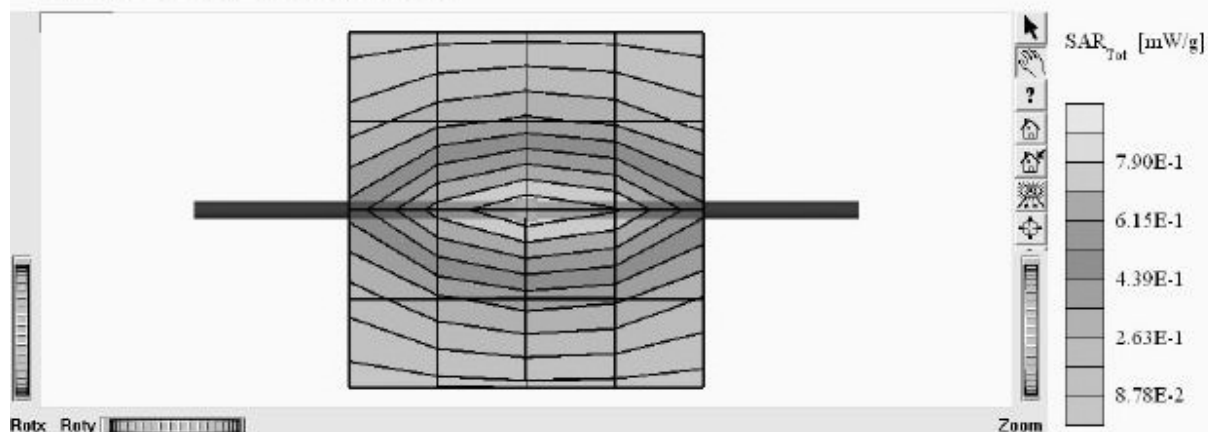
3.4mm surface detect/teflon caps on dipole

Humidity: 44.5

Ambient Temp: 22.9

Simulant Temp: 22.3

Validation\_835BODY\_428\_1031\_29May03\_T01



**835 MHz SAR distribution of validation dipole antenna from system performance check on May 29, 2003. Using muscle tissue.**



Sony Ericsson

## REPORT

20(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## Dipole 1900 MHz

SAM 1030 (R); Flat

Probe: ET3DV6 - SN1583; ConvF(5.10,5.10,5.10); Crest factor: 1.0; Body 1900 MHz:  $\sigma = 1.53 \text{ mho/m}$   $\epsilon_r = 53.0$   $\rho = 1.00 \text{ g/cm}^3$   
 Cubes (2): Peak:  $7.41 \text{ mW/g} \pm 0.04 \text{ dB}$ , SAR (1g):  $4.17 \text{ mW/g} \pm 0.04 \text{ dB}$ , SAR (10g):  $2.19 \text{ mW/g} \pm 0.05 \text{ dB}$ , (Worst-case extrapolation)

Penetration depth: 8.9 (8.6, 9.5) [mm]

Powerdrift: 0.00 dB

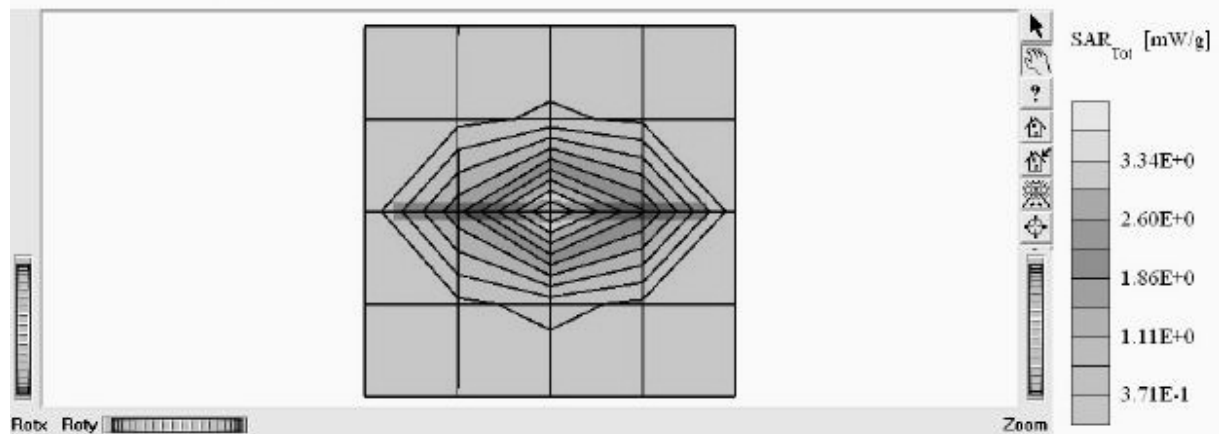
Pin: before 100 mW after 100 mW

3.4mm surface detect/teflon caps on dipole

Humidity: 45.6 Ambient Temp: 23.1

Simulant Temp: 22.0

Validation\_1900Body\_537\_1020\_22May\_03\_T01



**1900 MHz SAR distribution of validation dipole antenna from system performance check on May 22, 2003. Using muscle tissue.**



Sony Ericsson

## REPORT

21(85)

|                                                                             |                             |
|-----------------------------------------------------------------------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA               |
|                                                                             | A                           |
|                                                                             | C:\Dulce\b.fct226.doc       |

## Dipole 1900 MHz

SAM 1030 (R); Flat

Probe: ET3DV6 - SN1583; ConvF(5.10,5.10,5.10); Crest factor: 1.0; Body 1900 MHz:  $\sigma = 1.54 \text{ mho/m}$ ,  $\epsilon_r = 52.5$ ,  $\rho = 1.00 \text{ g/cm}^3$ Cubes (2): Peak:  $7.43 \text{ mW/g} \pm 0.06 \text{ dB}$ , SAR (1g):  $4.19 \text{ mW/g} \pm 0.06 \text{ dB}$ , SAR (10g):  $2.21 \text{ mW/g} \pm 0.06 \text{ dB}$ , (Worst-case extrapolation)

Penetration depth: 8.9 (8.7, 9.5) [mm]

Powerdrift: -0.05 dB

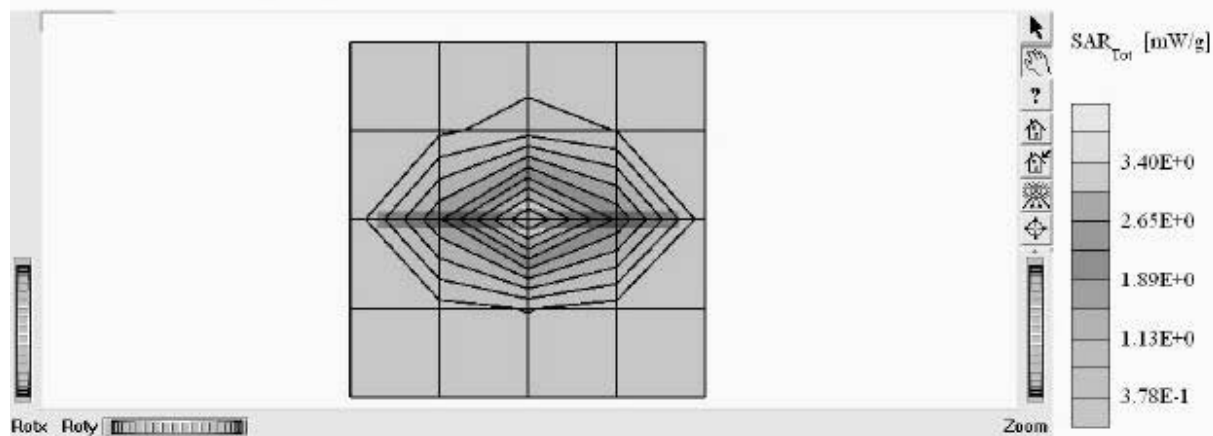
Pin: before 100mW after 98.5 mW

3.4mm surface detect/teflon caps on dipole

Humidity: 45.2 Ambient Temp: 23

Simulant Temp: 22.1

Validation\_1900Body\_537\_1030\_28May\_03\_T01



**1900 MHz SAR distribution of validation dipole antenna from system performance check on May 28, 2003. Using muscle tissue.**

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

22(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\lb.fct226.doc |

## Appendix 2

### SAR distribution plots for Phantom Head Adjacent Use



|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## T226

SAM 1023 (L) Phantom; Left Hand Section; Position: (93°, 61°); Frequency: 849 MHz

Probe: ET3DV6 - SN1583; ConvF(7.10, 7.10, 7.10); Crest factor: 8.0; Head 835 MHz  $\sigma = 0.89$  mho/m  $\epsilon_r = 41.1$   $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7; SAR (1g): 1.16 mW/g, SAR (10g): 0.724 mW/g, (Worst-case extrapolation)

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

Powerdrift: 0.07 dB

SN: A6101TVF63

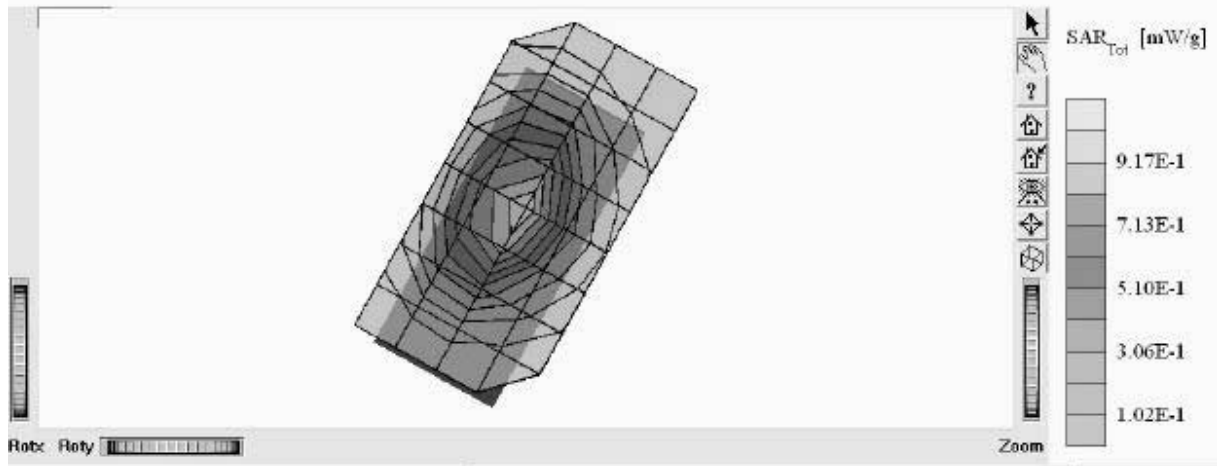
Battery: BKB 193 174 EP3/A

Humidity: 34.7

Ambient Temp: 23.8

Simulant Temp: 21.5

14May03\_T226\_GSM800\_VF63\_CH251\_LC01



**Distribution of maximum SAR in 800 GSM band. Measured against the left hand side of the head in the “Cheek” position.**



Sony Ericsson

## REPORT

24(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |

## T226

SAM 1023 (L) Phantom; Left Hand Section; Position: (93°, 61°); Frequency: 849 MHz

Probe: ET3DV6 - SN1583, ConvF(7.10,7.10,7.10); Crest factor: 8.0; Head 835 MHz:  $\sigma = 0.89$  mho/m  $\epsilon_r = 41.1$   $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7: SAR (1g): 1.16 mW/g, SAR (10g): 0.724 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

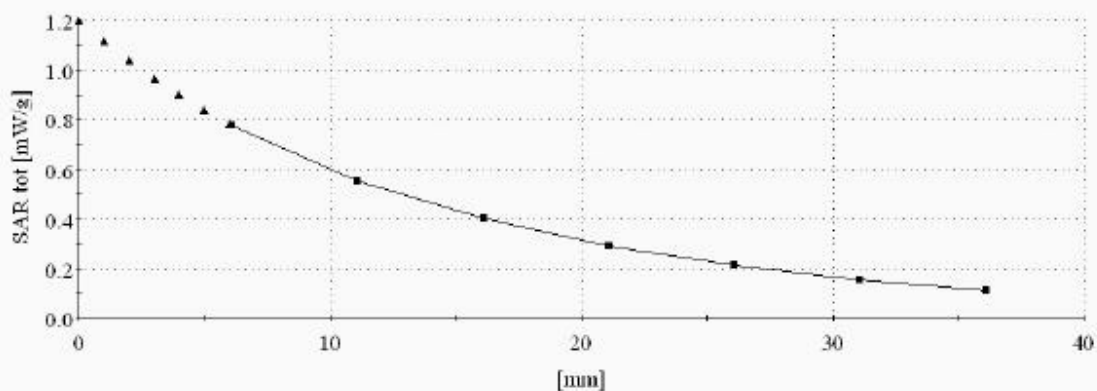
Battery: BKB 193 174 EP3/A

Humidity: 34.7

Ambient Temp: 23.8

Simulant Temp: 21.5

14May03\_T226\_GSM800\_VF63\_CH251\_LC01



**SAR Extrapolation to the phantom inner surface. Measured for Maximum SAR in 800 GSM band, while phone is against the left hand side of the head in the “cheek” position.**



Sony Ericsson

## REPORT

25(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.foct226.doc |

## T226

SAM 1023 (L) Phantom; Right Hand Section; Position: (93°, 299°); Frequency: 837 MHz

Probe: ET3DV6 - SN1583; ConvF(7.10, 7.10, 7.10); Crest factor: 8.0; Head 835 MHz:  $\sigma = 0.39$  mho/m  $\epsilon_r = 41.5$   $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7; SAR (1g): 1.18 mW/g, SAR (10g): 0.730 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.03 dB

SN: A6101TVF63

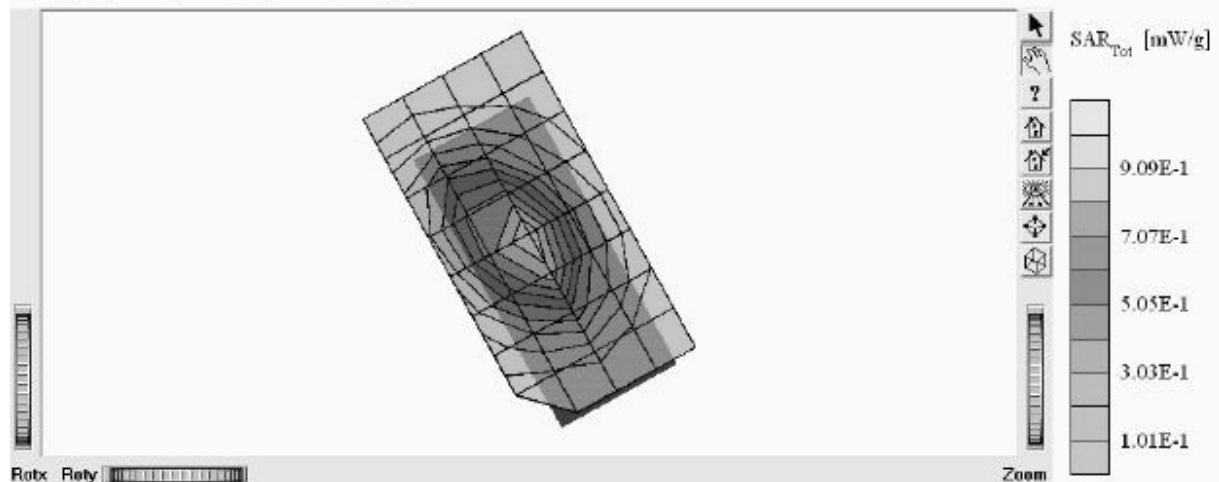
Battery: BKB 193 174 EP3/A

Humidity: 34

Ambient Temp: 22.6

Simulant Temp: 22.4

13May03\_T226\_GSM800\_VF63\_CH189\_RC01



**Distribution of maximum SAR in 800 GSM band. Measured against the right hand side of the head in the “Cheek” position.**



Sony Ericsson

## REPORT

26(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

## T226

SAM 1023 (L) Phantom; Right Hand Section; Position: (93°, 299°); Frequency: 837 MHz

Probe: ET3DV6 - SN1583; ConvF(7.10, 7.10, 7.10); Crest factor: 8.0; Head 835 MHz:  $\sigma = 0.89 \text{ mho/m}$ ,  $\epsilon_r = 41.5$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 1.18 mW/g, SAR (10g): 0.730 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

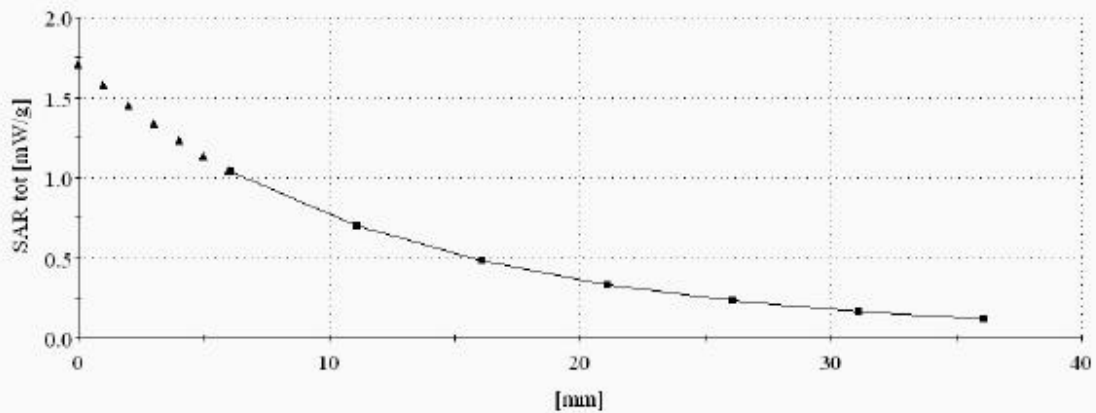
Battery: BKB 193 174 EP3/A

Humidity: 34

Ambient Temp: 22.6

Simulant Temp: 22.4

13May03\_T226\_GSM800\_VF63\_CH189\_RC01



**SAR Extrapolation to the phantom inner surface. Measured for Maximum SAR in 800 GSM band, while phone is against the right hand side of the head in the “cheek” position.**



Sony Ericsson

## REPORT

27(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

T226

SAM 1023 (L) Phantom; Left Hand Section; Position: (108°, 61°); Frequency: 849 MHz

Probe: ET3DV6 - SN1583; ConvF(7.10, 7.10, 7.10); Crest factor: 8.0; Head 835 MHz:  $\sigma = 0.89$  mho/m  $\epsilon_r = 41.1$   $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7; SAR (1g): 0.621 mW/g, SAR (10g): 0.415 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.19 dB

SN: A6101TVF63

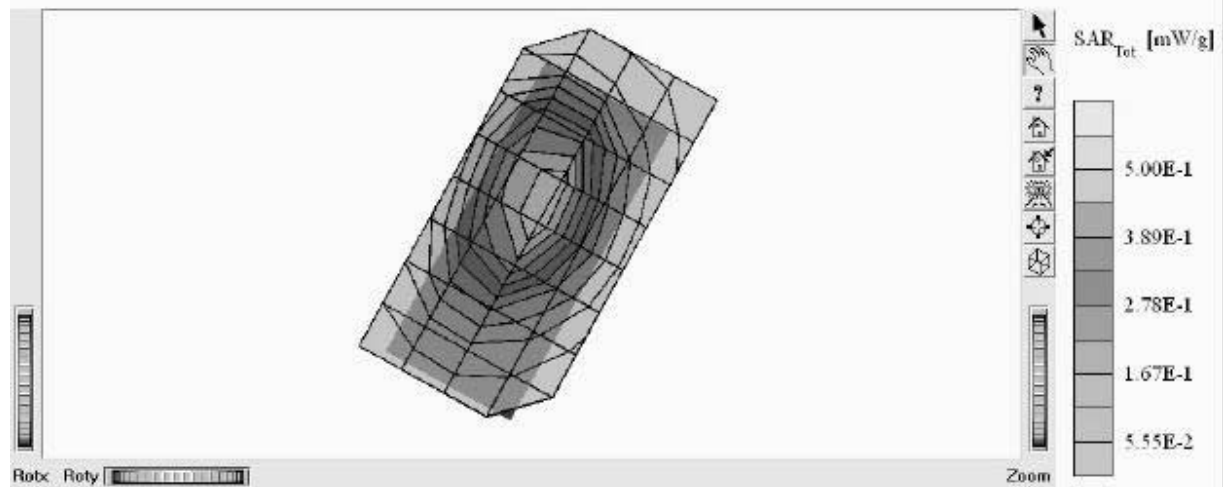
Battery: BKB 193 174 EP3/A

Humidity: 33.0

Ambient Temp: 23.4

Simulant Temp: 22.6

14May03\_T226\_GSM800\_VF63\_CH251\_LT01



**Distribution of maximum SAR in 800 GSM band. Measured against the left hand side of the head in the “tilt” position.**



Sony Ericsson

REPORT

28(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

## T226

SAM 1023 (L) Phantom, Left Hand Section, Position: (108°, 61°), Frequency: 849 MHz

Probe: ET3DV6 - SN1583; ConvF(7.10,7.10,7.10); Crest factor: 8.0; Head 835 MHz:  $\sigma = 0.89 \text{ mho/m}$ ,  $\epsilon_r = 41.1$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7; SAR (1g): 0.621 mW/g, SAR (10g): 0.415 mW/g, (Worst-case extrapolation)

Cube 5x5x7; Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

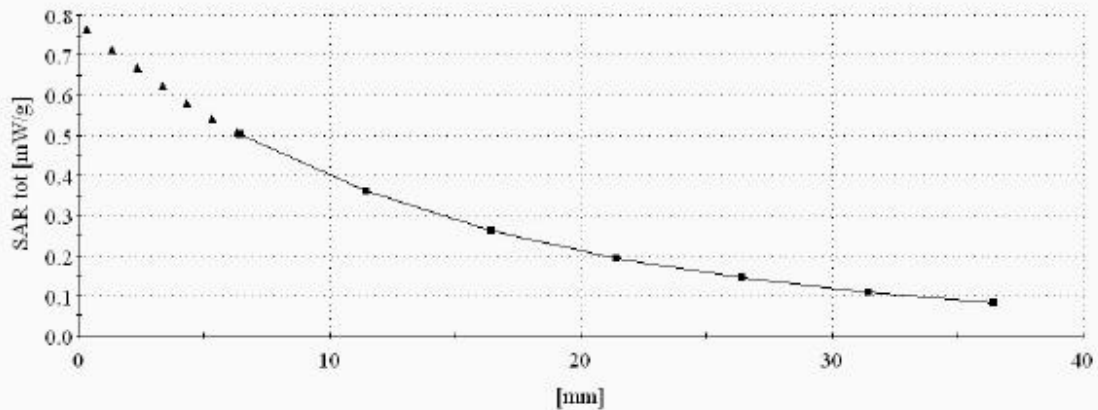
Battery: BKB 193 174 EP3/A

Humidity: 33.0

Ambient Temp: 23.4

Simulant Temp: 22.6

14May03\_T226\_GSM800\_VF63\_CH251\_LT01



**SAR Extrapolation to the phantom inner surface. Measured for Maximum SAR in 800 GSM band, while phone is against the left hand side of the head in the “tilt” position.**



Sony Ericsson

## REPORT

29(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

T226

SAM 1023 (L) Phantom; Right Hand Section; Position: (108°, 299°); Frequency: 837 MHz

Probe: ET3DV6 - SN1583; ConvF(7.10,7.10,7.10); Crest factor: 8.0; Head 835 MHz:  $\sigma = 0.89$  mho/m  $\epsilon_r = 41.5$   $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7; SAR (1g): 0.587 mW/g, SAR (10g): 0.383 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.05 dB

SN: A6101TVF63

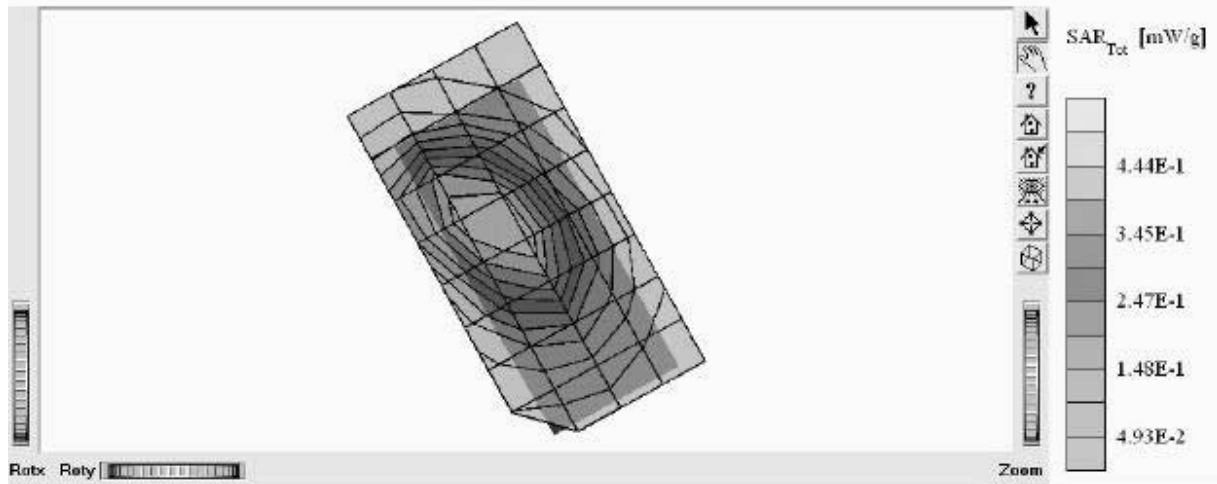
Battery: BKB 193 174 EP3/A

Humidity: 33.6

Ambient Temp: 22.7

Simulant Temp: 22.4

13May03\_T226\_GSM800\_VF63\_CH189\_RT01



**Distribution of maximum SAR in 800 GSM band. Measured against the right hand side of the head in the “tilt” position.**



Sony Ericsson

## REPORT

30(85)

|                                                                             |               |                              |
|-----------------------------------------------------------------------------|---------------|------------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP  |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\lb.foct226.doc |

## T226

SAM 1023 (L) Phantom; Right Hand Section; Position: (108°, 299°); Frequency: 837 MHz

Probe: ET3DV6 - SN1583; ConvF(7.10,7.10,7.10); Crest factor: 8.0; Head 835 MHz:  $\sigma = 0.89$  mho/m  $\epsilon_r = 41.5$   $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7: SAR (1g): 0.587 mW/g, SAR (10g): 0.383 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

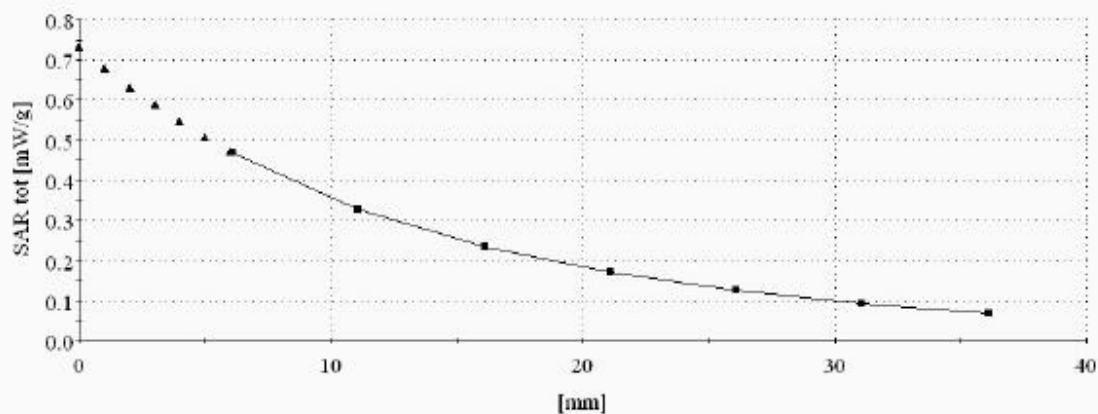
Battery: BKB 193 174 EP3/A

Humidity: 33.6

Ambient Temp: 22.7

Simulant Temp: 22.4

13May03\_T226\_GSM800\_VF63\_CH189\_RT01



**SAR Extrapolation to the phantom inner surface. Measured for Maximum SAR in 800 GSM band, while phone is against the right hand side of the head in the “tilt” position.**



Sony Ericsson

## REPORT

31(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

T226

SAM 1020(L) Phantom; Left Hand Section; Position: (93°,61°); Frequency: 1850 MHz

Probe: ET3DV6 - SN1586; ConvF(5.10,5.10,5.10); Crest factor: 8.0; Head 1900 MHz:  $\sigma = 1.44 \text{ mho/m}$   $\epsilon_r = 39.9$   $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7; SAR (1g): 0.404 mW/g, SAR (10g): 0.215 mW/g, (Worst-case extrapolation)

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

Powerdrift: 0.05 dB

SN: A6101TVF63

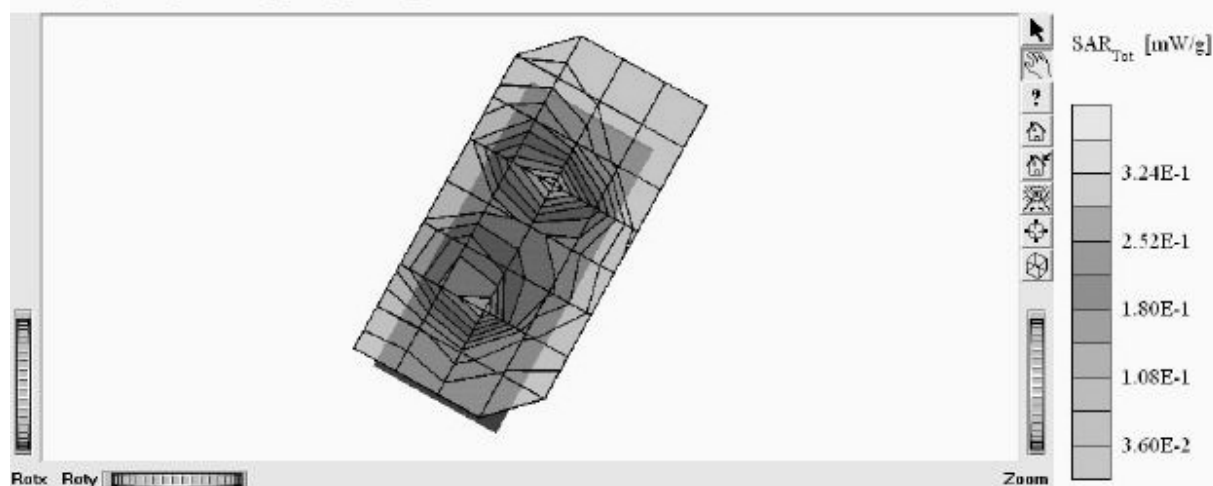
Battery: BKB 193 174 EP3/A

Humidity: 45.3

Ambient Temp: 24.0

Simulant Temp: 21.8

20May03\_T226\_GSM1900\_VF63\_CH512\_LC01



**Distribution of maximum SAR in 1900 GSM band. Measured against the left hand side of the head in the “cheek” position.**



Sony Ericsson

## REPORT

32(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

## T226

SAM 1020(L) Phantom; Left Hand Section; Position: (93°, 61°); Frequency: 1850 MHz

Probe: ET3DV6 - SN1586; ConvF(5.10,5.10,5.10); Crest factor: 8.0; Head 1900 MHz:  $\sigma = 1.44 \text{ mho/m}$ ,  $\epsilon_r = 39.9$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.404 mW/g, SAR (10g): 0.215 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

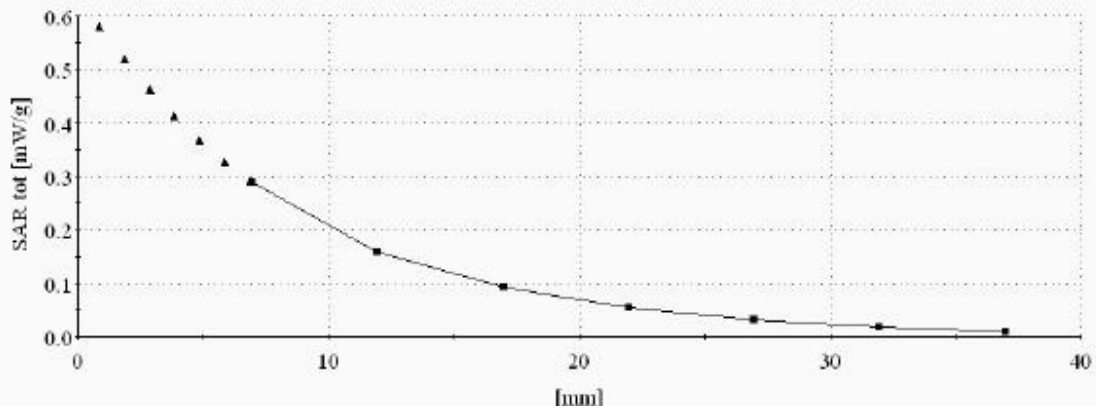
Battery: BKB 193 174 EP3/A

Humidity: 45.3

Ambient Temp: 24.0

Simulant Temp: 21.8

20May03\_T226\_GSM1900\_VF63\_CH512\_LC01



**SAR Extrapolation to the phantom inner surface. Measured for Maximum SAR in 1900 GSM band, while phone is against the left hand side of the head in the “cheek” position.**

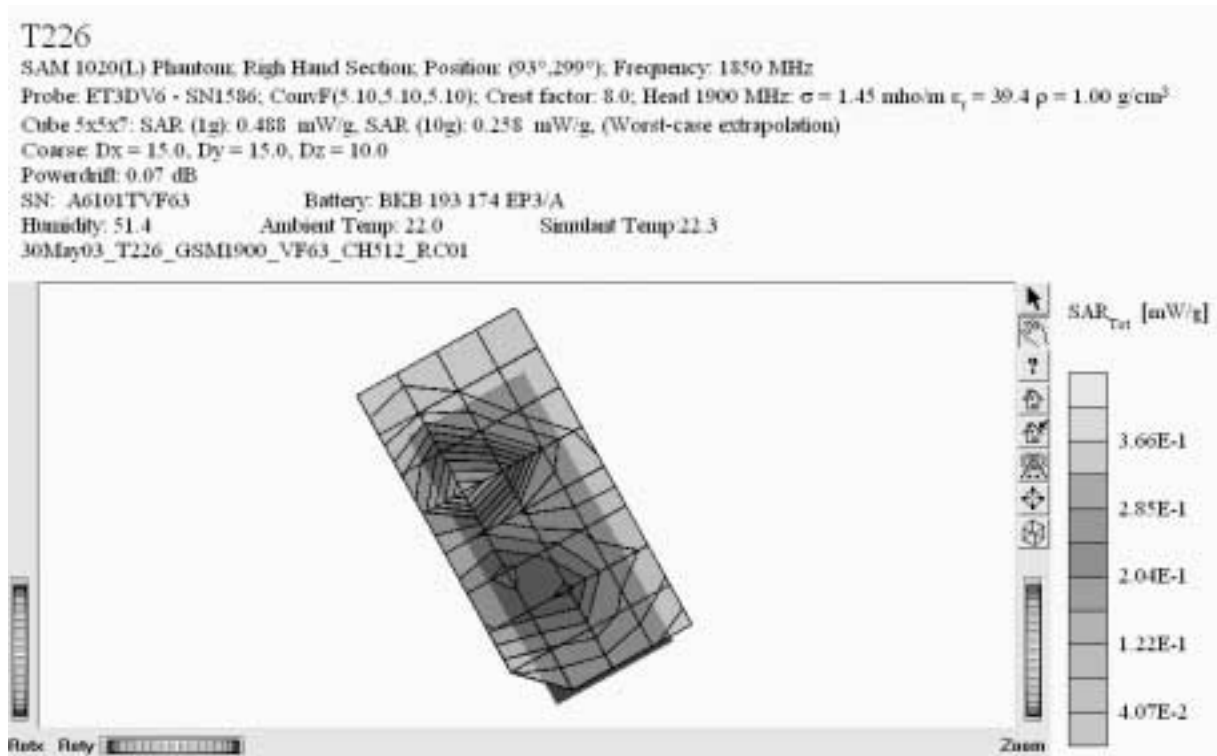


Sony Ericsson

## REPORT

33(85)

|                                                                             |                             |
|-----------------------------------------------------------------------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA               |
|                                                                             | A                           |
|                                                                             | C:\Dulce\b.fct226.doc       |



**Distribution of maximum SAR in 1900 GSM band. Measured against the right hand side of the head in the “cheek” position.**



Sony Ericsson

REPORT

34(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |

## T226

SAM 1020(L) Phantom; Right Hand Section; Position: (93°, 299°); Frequency: 1850 MHz

Probe: ET3DV6 - SN1586; ConvF(5,10,5,10,5,10); Crest factor: 3.0; Head 1900 MHz:  $\sigma = 1.45 \text{ mho/m}$ ,  $\epsilon_r = 39.4$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.433 mW/g, SAR (10g): 0.258 mW/g. (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

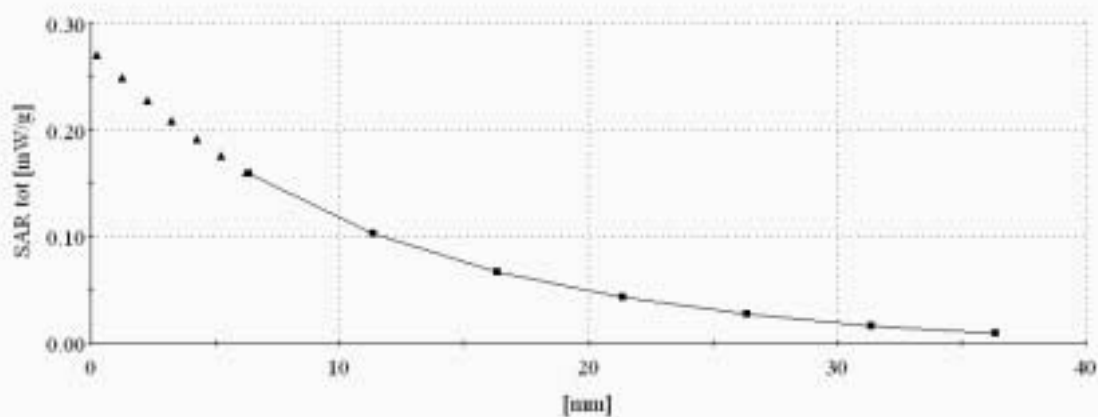
Battery: BKB 193 174 EP3/A

Humidity: 51.4

Ambient Temp: 22.0

Santant Temp: 22.3

30May03\_T226\_GSM1900\_VF63\_CH512\_RC01



**SAR Extrapolation to the phantom inner surface. Measured for Maximum SAR in 1900 GSM band, while phone is against the right hand side of the head in the “cheek” position.**



Sony Ericsson

## REPORT

35(85)

|                                                                             |                             |
|-----------------------------------------------------------------------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA               |
|                                                                             | A                           |
|                                                                             | C:\Dulce\b.fct226.doc       |

T226

SAM 1020(L) Phantom; Left Hand Section; Position: (108°, 61°); Frequency: 1850 MHz

Probe: ET3DV6 - SN1586; ConvF(5.10, 5.10, 5.10); Crest factor: 8.0; Head 1900 MHz:  $\sigma = 1.44$  mho/m,  $\epsilon_r = 39.9$ ,  $\rho = 1.00$  g/cm<sup>3</sup>

Cube 5x5x7; SAR (1g): 0.386 mW/g, SAR (10g): 0.215 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.00 dB

SN: A6101TVF63

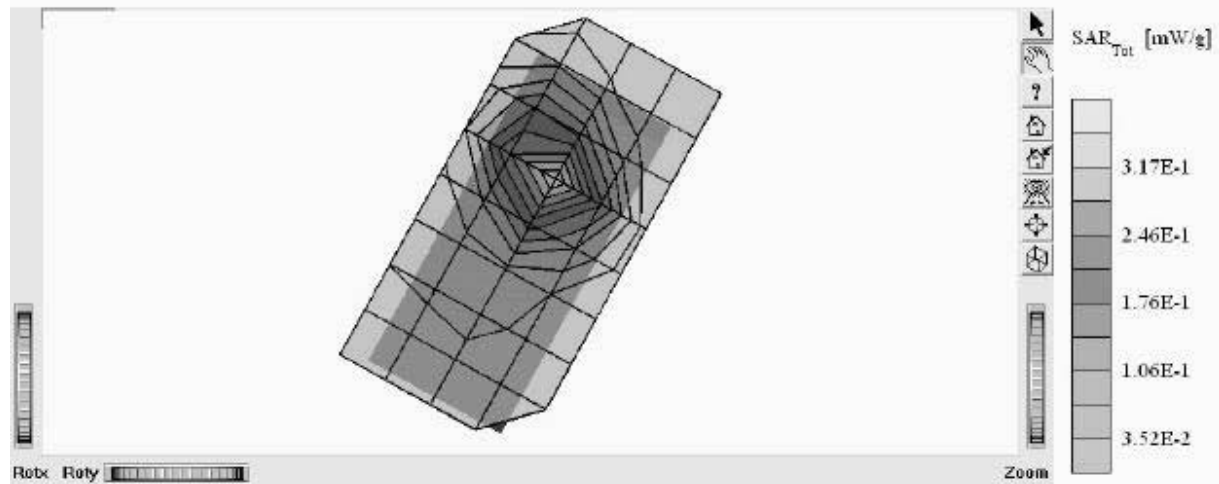
Battery: BKB 193 174 EP3/A

Humidity: 43.1

Ambient Temp: 23.4

Simulant Temp: 22.0

20May03\_T226\_GSM1900\_VF63\_CH512\_LT01



**Distribution of maximum SAR in 1900 GSM band. Measured against the left hand side of the head in the “tilt” position.**



Sony Ericsson

## REPORT

36(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## T226

SAM 1020(L) Phantom; Left Hand Section; Position: (108°, 61°); Frequency: 1850 MHz

Probe: ET3DV6 - SN1586; ConvF(5.10,5.10,5.10); Crest factor: 8.0; Head 1900 MHz:  $\sigma = 1.44 \text{ mho/m}$   $\epsilon_r = 39.9$   $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.386 mW/g, SAR (10g): 0.215 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

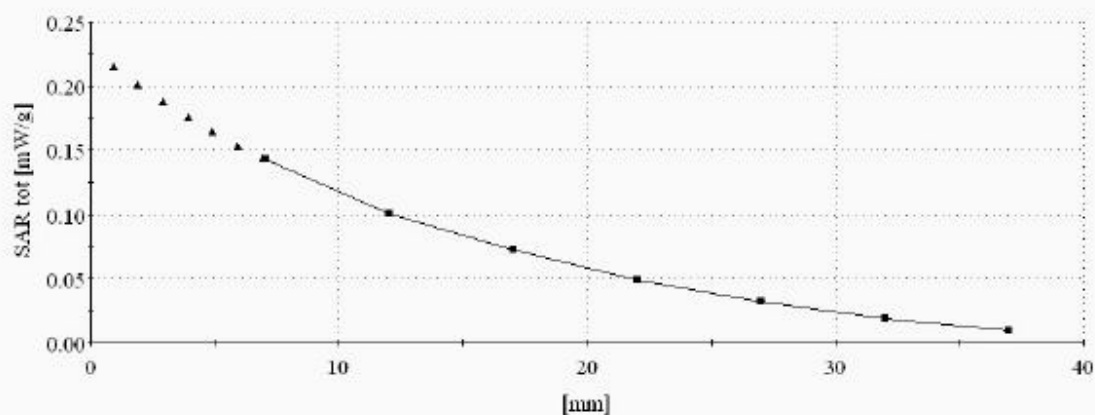
Battery: BKB 193 174 EP3/A

Humidity: 43.1

Ambient Temp: 23.4

Simulant Temp: 22.0

20May03\_T226\_GSM1900\_VF63\_CH512\_LT01



**SAR Extrapolation to the phantom inner surface. Measured for Maximum SAR in 1900 GSM band, while phone is against the left hand side of the head in the “tilt” position.**



Sony Ericsson

## REPORT

37(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

T226

SAM 1020(L) Phantom; Right Hand Section; Position: (108°, 299°); Frequency: 1850 MHz

Probe: ET3DV6 - SN1536; ConvF(5,10,5,10,5,10); Crest factor: 3.0; Head 1900 MHz:  $\sigma = 1.45 \text{ mho/m}$ ,  $\epsilon_r = 39.0$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7; SAR (1g): 0.388 mW/g, SAR (10g): 0.215 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.03 dB

SN: A6101TVF63

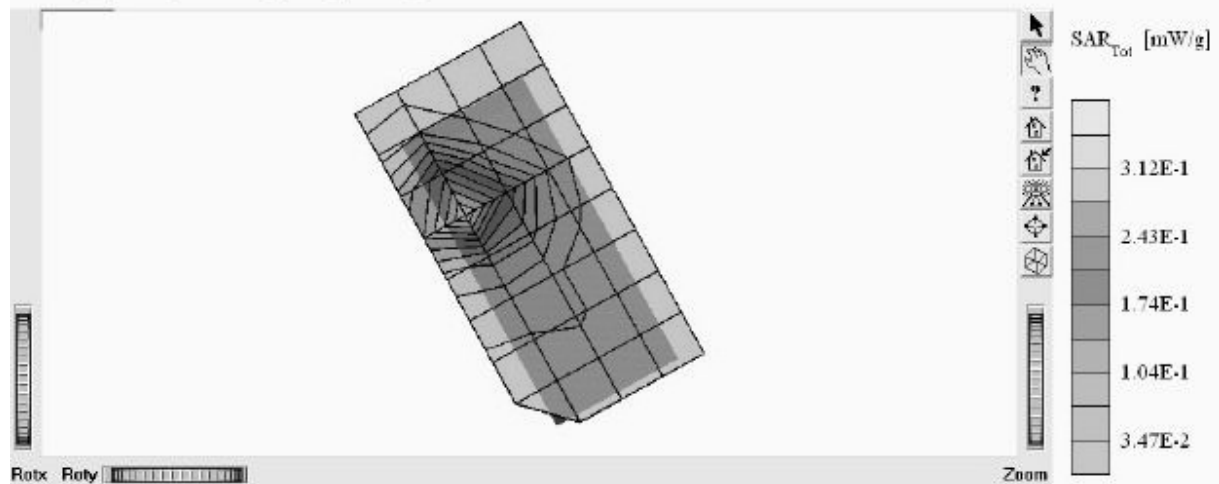
Battery: BKB 193 174 EP3/A

Humidity: 43

Ambient Temp: 23.8

Simulant Temp: 21.5

19May03\_T226\_GSM1900\_VF63\_CH512\_RT01



**Distribution of maximum SAR in 1900 GSM band. Measured against the right hand side of the head in the “tilt” position.**



Sony Ericsson

## REPORT

38(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |

## T226

SAM 1020(L) Phantom; Right Hand Section; Position: (108°, 299°); Frequency: 1850 MHz

Probe: ET3DV6 • SN1586; ConvF(5.10,5.10,5.10); Crest factor: 3.0; Head 1900 MHz:  $\sigma = 1.45 \text{ mho/m}$   $\epsilon_r = 39.0$   $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.388 mW/g, SAR (10g): 0.215 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

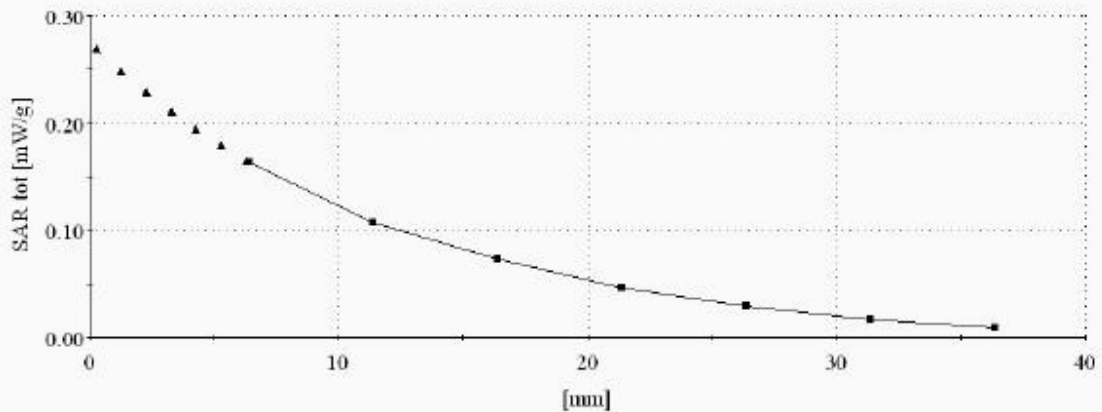
Battery: BKB 193 174 EP3/A

Humidity: 43

Ambient Temp: 23.8

Simulant Temp: 21.5

19May03\_T226\_GSM1900\_VF63\_CH512\_RT01



**SAR Extrapolation to the phantom inner surface. Measured for Maximum SAR in 1900 GSM band, while phone is against the right hand side of the head in the “tilt” position.**

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

39(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

### Appendix 3

#### SAR distribution plots for Body Worn Configuration



Sony Ericsson

## REPORT

40(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## T226

SAM 1031(R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 824 MHz

Probe: ET3DV6 - SN1586; ConvF(6.30,6.30,6.30); Crest factor: 8.0; Body 835 MHz:  $\sigma = 0.97 \text{ mho/m}$ ,  $\epsilon_r = 56.6$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7; SAR (1g): 0.514 mW/g, SAR (10g): 0.368 mW/g, (Worst-case extrapolation)

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

Power drift: 0.05 dB

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

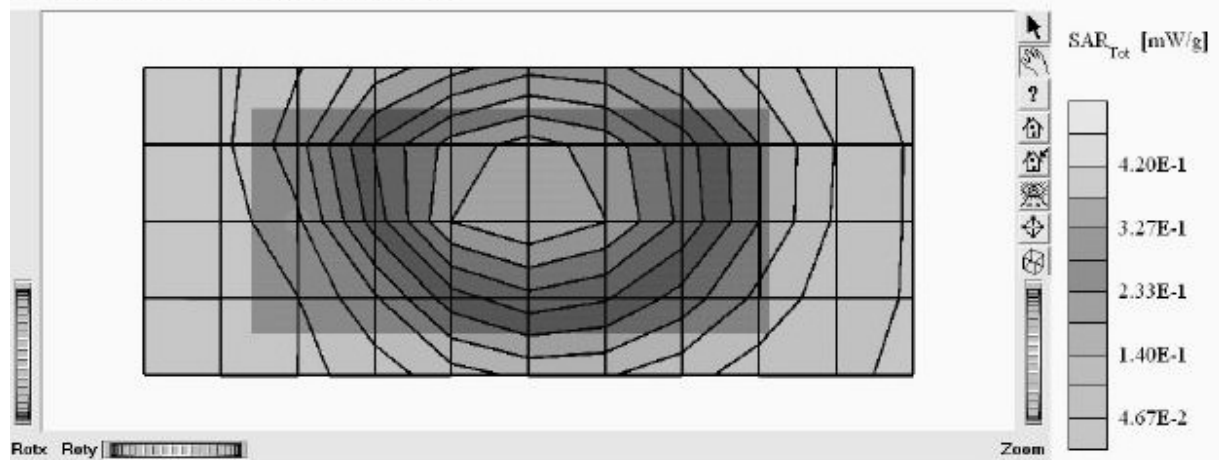
Holster: ICT-14

Humidity: 45.5

Ambient Temp: 23.5

Simulant Temp: 22.4

21May03\_T226\_GSM800\_VF63\_CH128\_BB01



**Distribution of maximum SAR in 800 GSM band. Measured with back of device facing the body using carry accessory ICT-14 and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

REPORT

41(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\lb.fct226.doc |

## T226

SAM 1031(R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 824 MHz

Probe: ET3DV6 - SN1586; ConvF(6.30,6.30,6.30); Crest factor: 8.0; Body 835 MHz:  $\sigma = 0.97 \text{ mho/m}$   $\epsilon_r = 56.6$   $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.514 mW/g, SAR (10g): 0.368 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

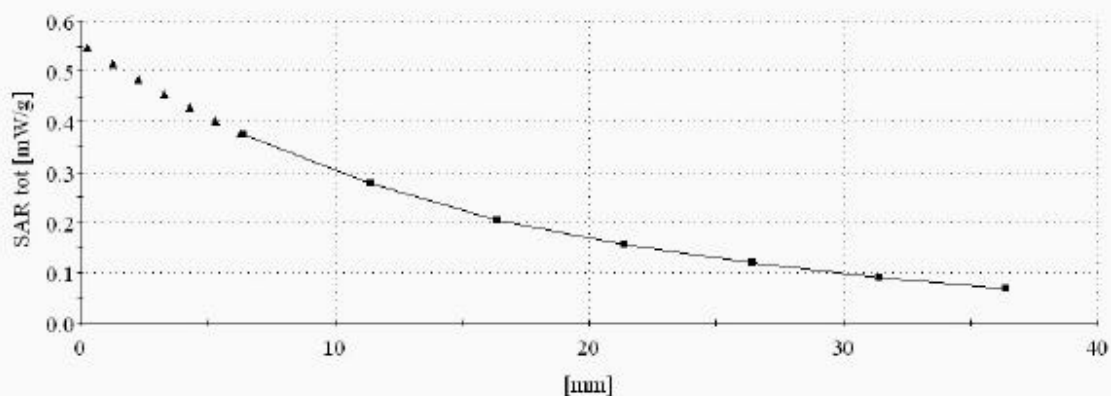
Holster: ICT-14

Humidity: 45.5

Ambient Temp: 23.5

Simulant Temp: 22.4

21May03\_T226\_GSM800\_VF63\_CH128\_BB01



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while phone is against the body using carry accessory ICT-14 and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

## REPORT

42(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.fct226.doc  |

## T226

SAM 1031(R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 824 MHz

Probe: ET3DV6 - SN1586; ConvF(6.30,6.30,6.30); Crest factor: 3.0; Body: 335 MHz;  $\sigma = 0.97 \text{ mho/m}$ ,  $\epsilon_r = 56.6$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7; SAR (1g): 0.261 mW/g; SAR (10g): 0.182 mW/g. (Worst-case extrapolation)

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

Powerdrift: -0.05 dB

SN: A6101TVF63

Battery: BKB 193-174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

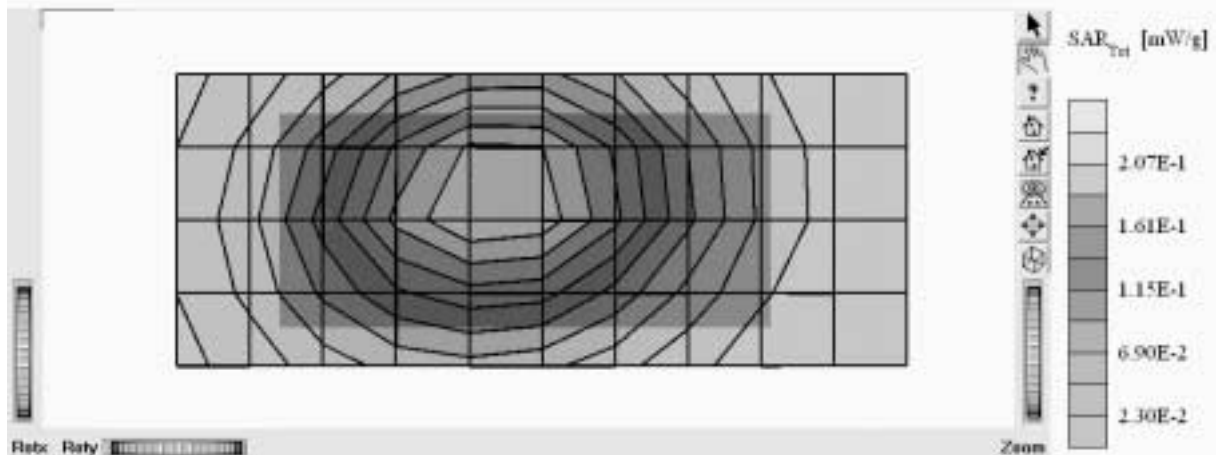
Holster: ICT-14

Humidity: 45.5

Ambient Temp: 23.5

Simulant Temp: 22.4

21May03\_T226\_GSM800\_VF63\_CH123\_BF01



**Distribution of maximum SAR in 800 GSM band. Measured with front of device facing the body using carry accessory ICT-14 and hands free accessory RLF 501 25/04 (HPE-14).**



|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

**T226**

SAM 1031(R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 824 MHz

Probe: ET3DV6 - SN1586; ConvF(6.30,6.30,6.30); Crest factor: 8.0; Body 835 MHz:  $\sigma = 0.97 \text{ mho/m}$   $\epsilon_r = 56.6$   $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.261 mW/g, SAR (10g): 0.182 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

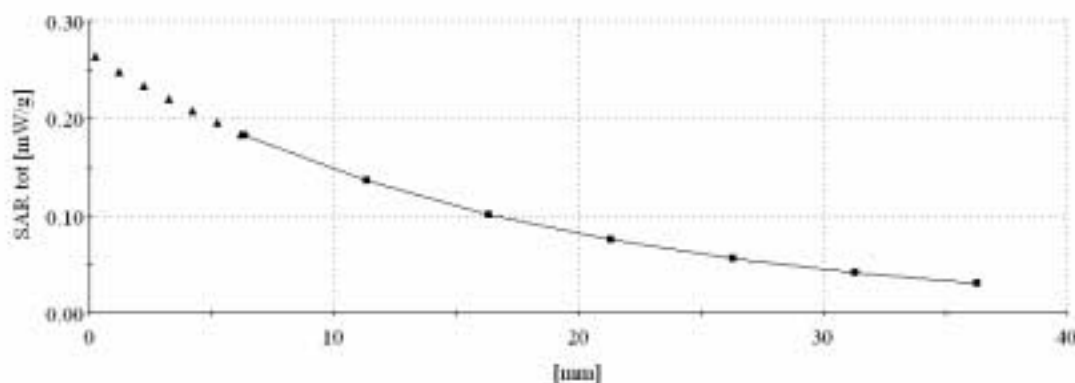
Holster: ICT-14

Humidity: 45.5

Ambient Temp: 23.5

Simulant Temp: 22.4

21May03\_T226\_GSM800\_VF63\_CH128\_BF01



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while front of the phone is against the body using carry accessory ICT-14 and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

## REPORT

44(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## T226

SAM 1031(R) Phantom; Flat Section; Position: (90°,270°); Frequency: 824 MHz

Probe: ET3DV6 - SN1586; ConvF(6.30,6.30,6.30); Crest factor: 8.0; Body 835 MHz:  $\sigma = 0.97 \text{ nho/m}$ ,  $\epsilon_r = 56.6$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.461 mW/g, SAR (10g): 0.326 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.01 dB

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

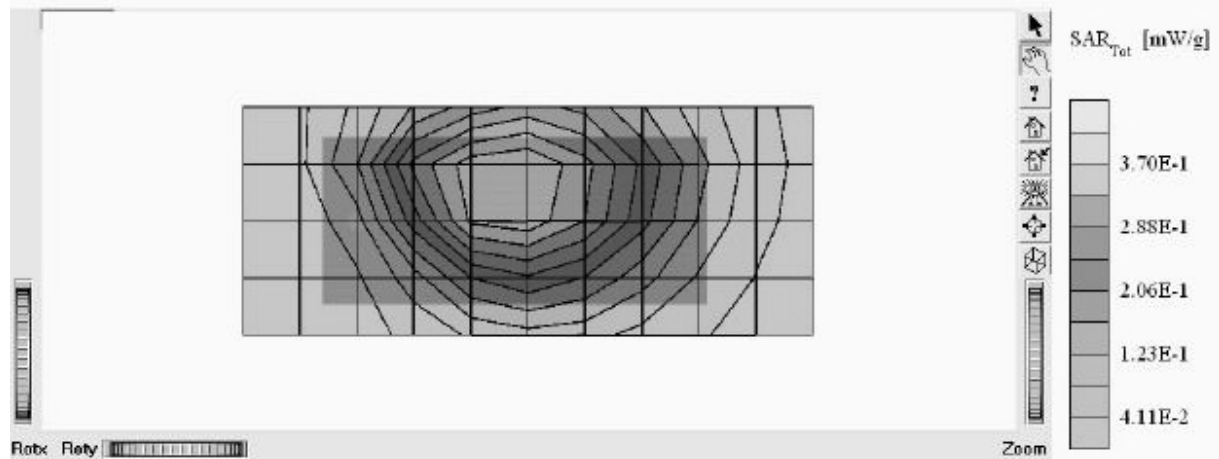
Holster: ICE-25

Humidity: 45.7

Ambient Temp: 23.7

Simulant Temp: 22.4

21May03\_T226\_GSM800\_VF63\_CH128\_BB02



**Distribution of maximum SAR in 800 GSM band. Measured with front of device facing the body using carry accessory ICE-25 and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

## REPORT

45(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## T226

SAM 1031(R) Phantom, Flat Section; Position: (90°, 270°); Frequency: 824 MHz

Probe: ET3DV6 • SN1586; ConvF(6.30,6.30,6.30); Crest factor: 8.0; Body S35 MHz:  $\sigma = 0.97 \text{ mho/m}$ ,  $\epsilon_r = 56.6$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.461 mW/g, SAR (10g): 0.326 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

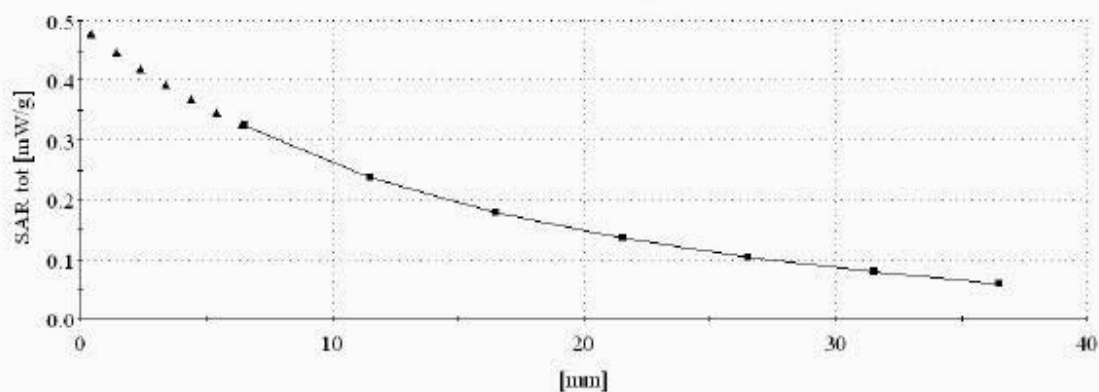
Holster: ICE-25

Humidity: 45.7

Ambient Temp: 23.7

Simulant Temp: 22.4

21May03\_T226\_GSM800\_VF63\_CH128\_BB02



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while back of the phone is against the body using carry accessory ICE-25 and hands free accessory RLF 501 25/04 (HPE-14).**

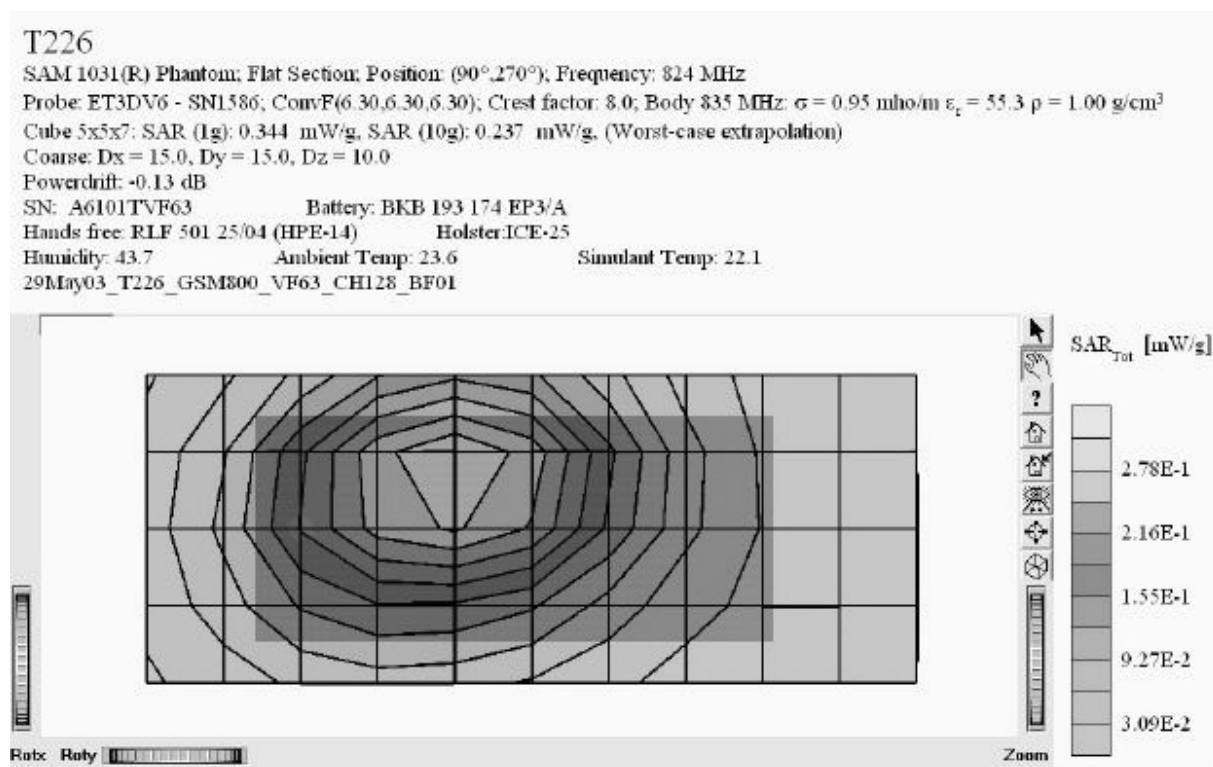


Sony Ericsson

## REPORT

46(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.foct226.doc |



**Distribution of maximum SAR in 800 GSM band. Measured with front of device facing the body using carry accessory ICE-25 and hands free accessory RLF 501 25/04 (HPE-14).**



|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |

**T226**

SAM 1031(R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 824 MHz

Probe: ET3DV6 - SN1586; ConvF(6.30,6.30,6.30); Crest factor: 3.0; Body 835 MHz;  $\sigma = 0.95 \text{ mho/m}$   $\epsilon_r = 55.3$   $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.344 mW/g, SAR (10g): 0.237 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

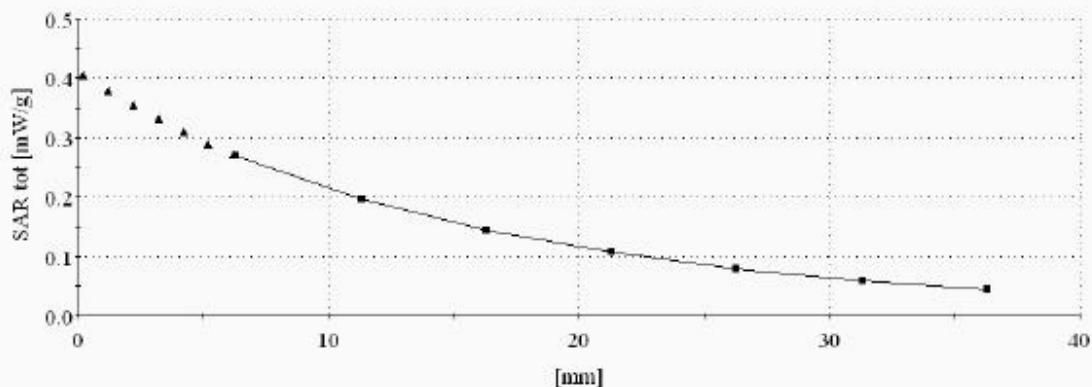
Holster: ICE-25

Humidity: 43.7

Ambient Temp: 23.6

Simulant Temp: 22.1

29May03\_T226\_GSM800\_VF63\_CH128\_BF01



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while front of the phone is against the body using carry accessory ICE-25 and hands free accessory RLF 501 25/04 (HPE-14).**

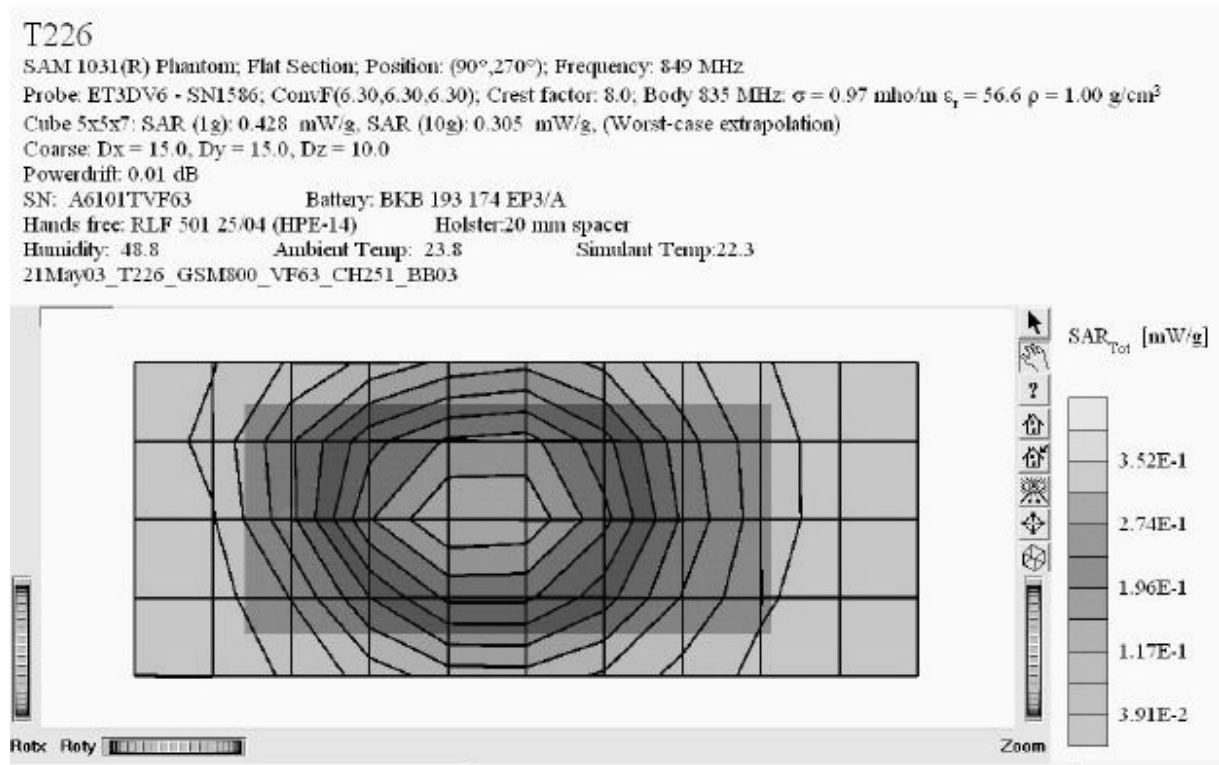


Sony Ericsson

## REPORT

48(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |



**Distribution of maximum SAR in 800 GSM band. Measured with back of device facing the body using a 20 mm spacer and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

## REPORT

49(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |

## T226

SAM 1031(R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 849 MHz

Probe: ET3DV6 • SN1586; ConvF(6.30,6.30,6.30); Crest factor: 8.0; Body 835 MHz:  $\sigma = 0.97 \text{ mho/m}$   $\epsilon_r = 56.6$   $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.428 mW/g, SAR (10g): 0.305 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

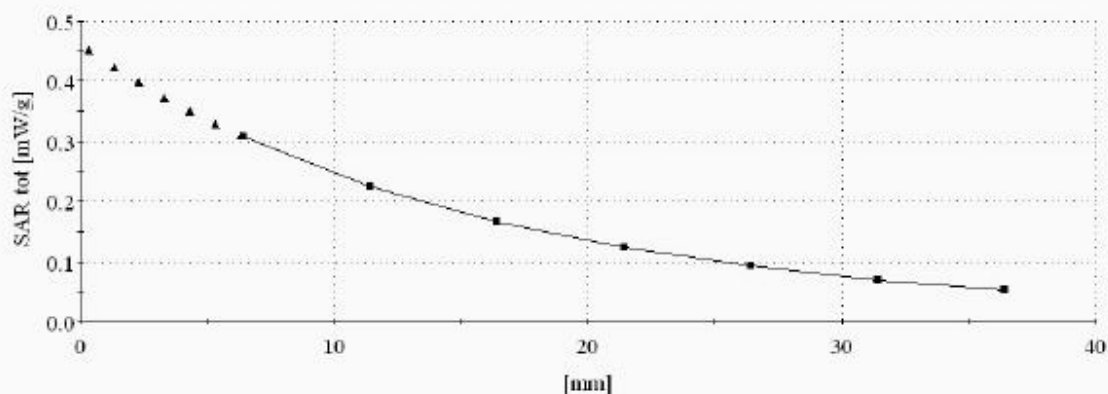
Holster: 20 mm spacer

Humidity: 48.8

Ambient Temp: 23.8

Simulant Temp: 22.3

21May03\_T226\_GSM800\_VF63\_CH251\_BB03



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while back of the phone is against the body using a 20 mm spacer and hands free accessory RLF 501 25/04 (HPE-14).**



|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

## T226

SAM 1031(R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 849 MHz

Probe: ET3DV6 - SN1586; ConvF(6.30,6.30,6.30); Crest factor: 3.0; Body 835 MHz:  $\sigma = 0.97 \text{ mho/m}$ ,  $\epsilon_r = 56.6$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7; SAR (1g): 0.365 mW/g, SAR (10g): 0.254 mW/g. (Worst-case extrapolation)

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

Powerdrift: -0.08 dB

SN:A6101TS

Battery: BKB 193 1162 (BST-22)

Hands free: RLF 501 25/04 (HPE-14)

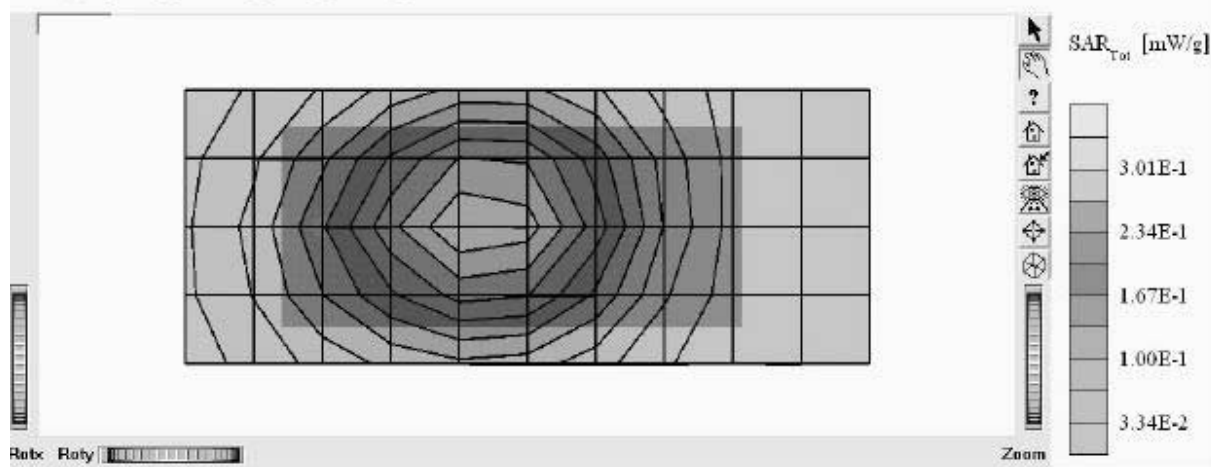
Holster: 20 mm spacer

Humidity: 47

Ambient Temp: 23.5

Simulant Temp: 22.3

21May03\_T226\_GSM800\_VF63\_CH251\_BF03



**Distribution of maximum SAR in 800 GSM band. Measured with front of device facing the body using a 20 mm spacer and hands free accessory (RLF 501 25/04 (HPE-14)).**



|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

**T226**

SAM 1031(R) Phantom; Flat Section; Position: (90°,270°); Frequency: 849 MHz

Probe: ET3DV6 - SN1586; ConvF(6.30,6.30,6.30); Crest factor: 8.0; Body 835 MHz:  $\sigma = 0.97 \text{ mho/m}$   $\epsilon_r = 56.6$   $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.365 mW/g, SAR (10g): 0.254 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN:A6101TS

Battery: BKB 193 1162 (BST-22)

Hands free: RLF 501 25/04 (HPE-14)

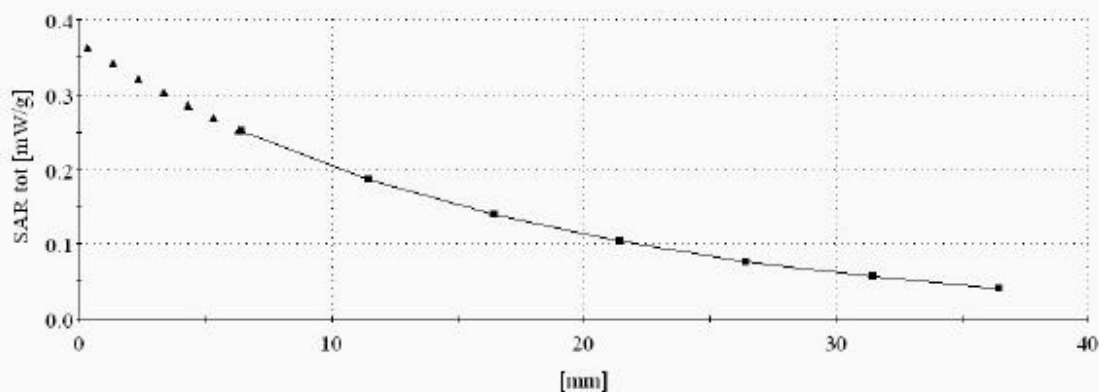
Holster: 20 mm spacer

Humidity: 47

Ambient Temp: 23.5

Simulant Temp: 22.3

21May03\_T226\_GSM800\_VF63\_CH251\_BF03



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while phone is against the body using a 20 mm spacer and hands free accessory (RLF 501 25/04 (HPE-14)).**

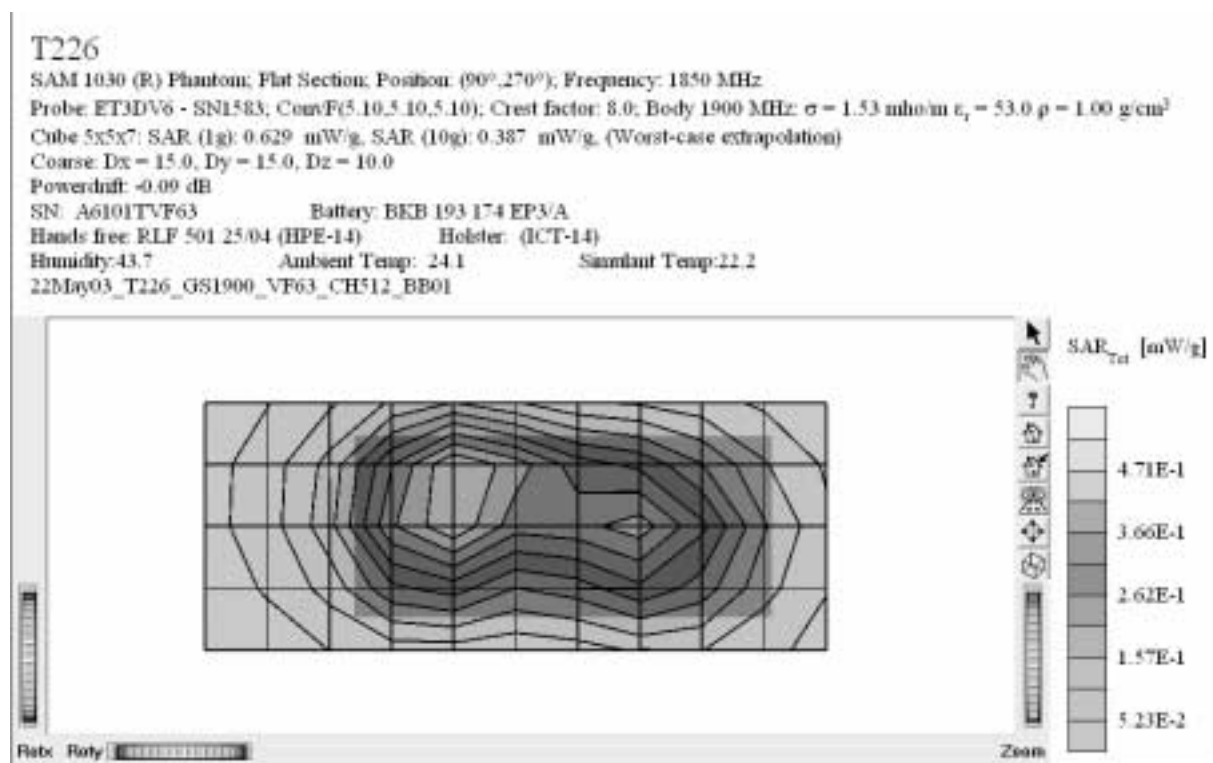


Sony Ericsson

## REPORT

52(85)

|                                              |                       |
|----------------------------------------------|-----------------------|
| Prepared (also subject responsible if other) | No.                   |
| SEM/CV/PF/P Dulce Altabella                  | SEM/CB/D-03:0359/REP  |
| Approved                                     | Checked               |
| SEM/CV/PF/P Dulce Altabella                  | DA                    |
|                                              | A                     |
|                                              | C:\Dulce\b.fct226.doc |



**Distribution of maximum SAR in 1900 GSM band. Measured with back of device facing the body using carry accessory ICT-14 and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

REPORT

53(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |

## T226

SAM 1030 (R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 1850 MHz

Probe: ET3DV6 - SN1583; ConvF(5.10,5.10,5.10); Crest factor: 3.0; Body 1900 MHz:  $\sigma = 1.53 \text{ mho/m}$ ,  $\epsilon_r = 53.0$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.629 mW/g, SAR (10g): 0.387 mW/g. (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

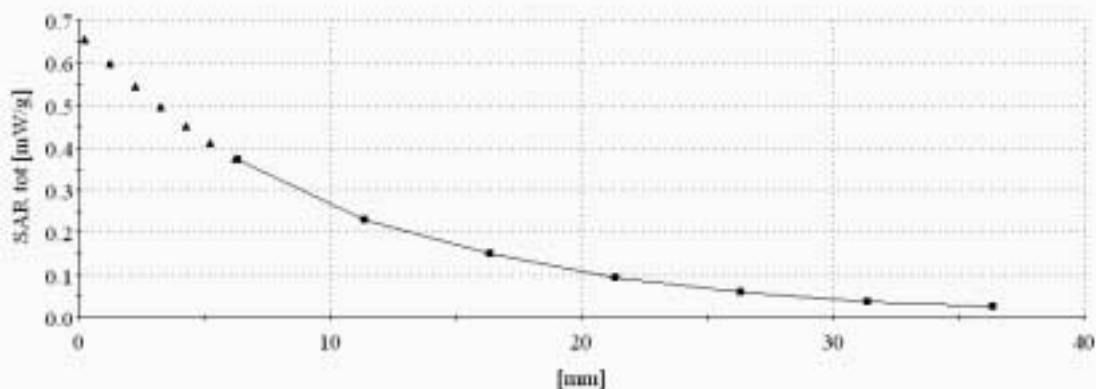
Holster: (ICT-14)

Humidity: 43.7

Ambient Temp: 24.1

Simulant Temp: 22.2

22May03\_T226\_GS1900\_VF63\_CH512\_BB01



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while back of the phone is against the body using carry accessory ICT-14 and hands free accessory RLF 501 25/04 (HPE-14).**

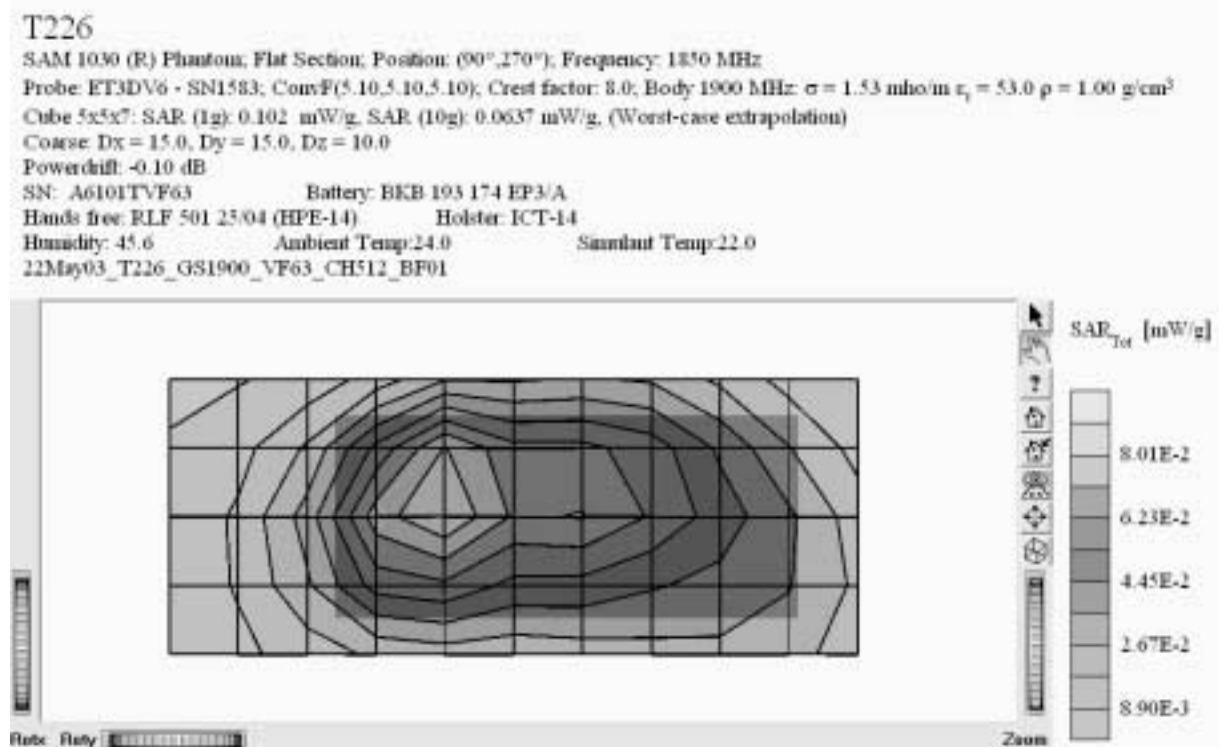


Sony Ericsson

## REPORT

54(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.fct226.doc  |



**Distribution of maximum SAR in 1900 GSM band. Measured with front of device facing the body using carry accessory ICT-14 and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

REPORT

55(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |

## T226

SAM 1030 (R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 1850 MHz.

Probe: ET3DV6 - SN1583; CouP(5,10,5,10,5,10); Crest factor: 3.0; Body 1900 MHz:  $\sigma = 1.53 \text{ mho/m}$ ,  $\epsilon_r = 53.0$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.102 mW/g, SAR (10g): 0.0637 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

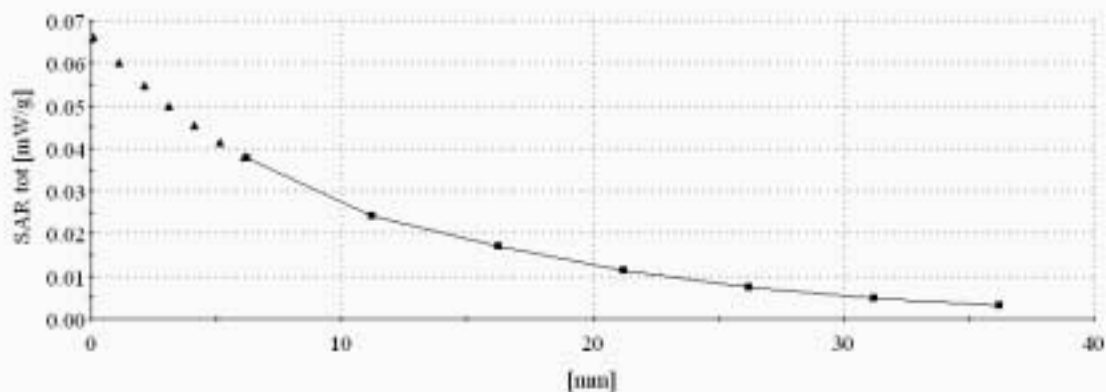
Holster: ICT-14

Humidity: 45.6

Ambient Temp: 24.0

Simulant Temp: 22.0

22May03\_T226\_GS1900\_VF63\_CH512\_BF01



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while front of the phone is against the body using carry accessory ICT-14 and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

## REPORT

56(85)

|                                                                             |                             |
|-----------------------------------------------------------------------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA               |
|                                                                             | A                           |
|                                                                             | C:\Dulce\b.foct226.doc      |

## T226

SAM 1030 (R) Phantom, Flat Section, Position: (90°, 270°), Frequency: 1850 MHz

Probe: ET3DV6 • SN1583; ConvF(5.10, 5.10, 5.10); Crest factor: 8.0; Body 1900 MHz:  $\sigma = 1.53 \text{ mho/m}$ ,  $\epsilon_r = 53.0$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7; SAR (1g): 0.733 mW/g, SAR (10g): 0.445 mW/g, (Worst-case extrapolation)

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

Powerdrift: -0.11 dB

SN: A610ITVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

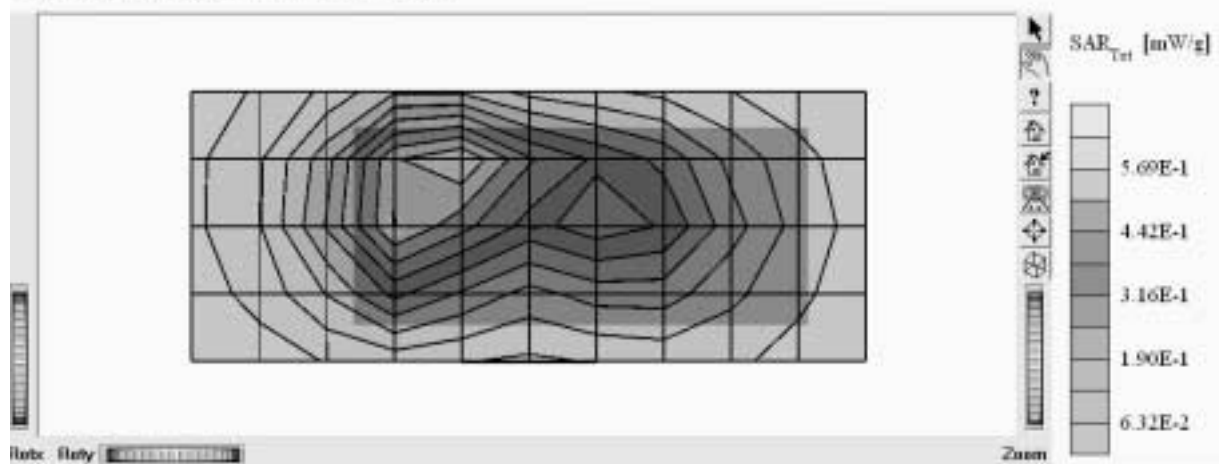
Holster ICE-25

Humidity: 45

Ambient Temp: 23.8

Simulant Temp: 22.0

22May03\_T226\_GS1900\_VF63\_CH512\_BB01



APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

57(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

**Distribution of maximum SAR in 1900 GSM band. Measured with back of device facing the body using carry accessory ICE-25 and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

REPORT

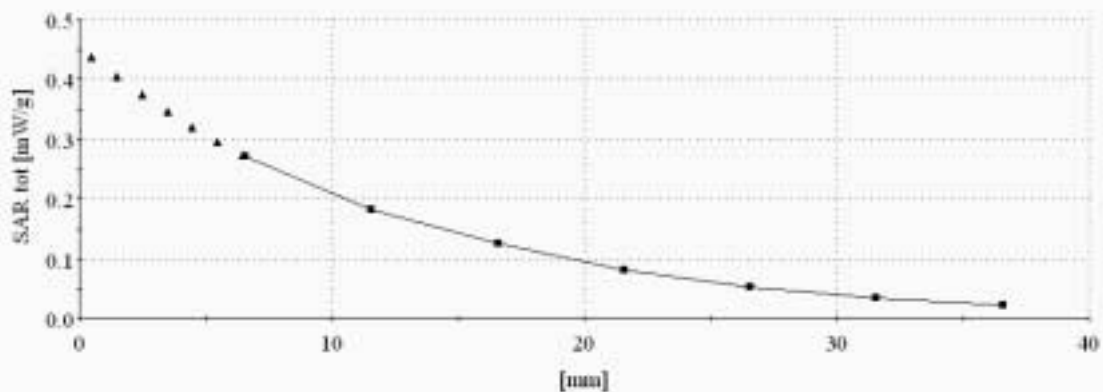
58(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

## T226

SAM 1030 (R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 1850 MHz  
 Probe: ET3DV6 - SN1583; ConvF(5.10, 5.10, 5.10); Crest factor: 8.0; Body 1900 MHz:  $\sigma = 1.53 \text{ mho/m}$ ,  $\epsilon_r = 53.0$ ,  $\rho = 1.00 \text{ g/cm}^3$   
 Cube 5x5x7: SAR (1g): 0.733 mW/g, SAR (10g): 0.445 mW/g, (Worst-case extrapolation)  
 Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63 Battery: BKB 193 174 EP3/A  
 Hands free: RLF 501 25/04 (HPE-14) Holster: ICE-25  
 Humidity: 45 Ambient Temp: 23.8 Simulant Temp: 22.0  
 22May03\_T226\_GS1900\_VF63\_CH512\_BB02



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while back of the phone is against the body using carry accessory ICE-25 and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

## REPORT

59(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.fct226.doc  |

T226

SAM 1030 (R) Phantom, Flat Section, Position: (90°, 270°), Frequency: 1850 MHz

Probe: ET3DV6 - SN1583; ConstF(5.10, 5.10, 5.10); Crest factor: 3.0; Body 1900 MHz:  $\sigma = 1.53 \text{ mho/m}$ ,  $\epsilon_r = 53.0$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7; SAR (1g): 0.0955 mW/g, SAR (10g): 0.0592 mW/g. (Worst-case extrapolation)

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

Powerdrift: -0.11 dB

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

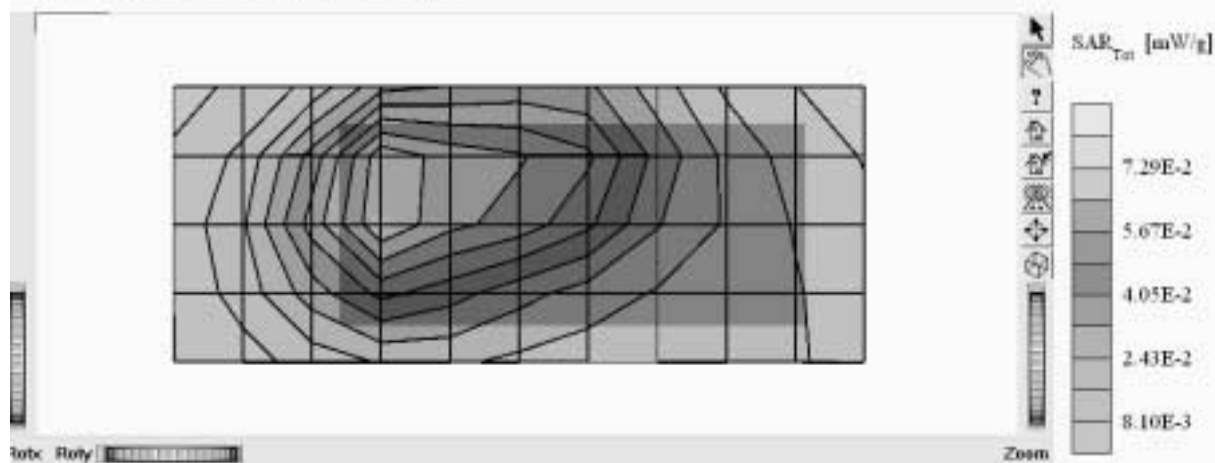
Holsterice-25

Humidity: 45.3

Ambient Temp: 23.7

Simulant Temp: 22.0

22May03\_T226\_GS1900\_VF63\_CH512\_BF02



**Distribution of maximum SAR in 1900 GSM band. Measured with front of device facing the body using carry accessory ICE-25 and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

## REPORT

60(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## T226

SAM 1030 (R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 1850 MHz

Probe: ET3DV6 - SN1583, ConvF(5.10.5.10.5.10); Crest factor: 8.0; Body 1900 MHz:  $\sigma = 1.53 \text{ mho/m}$ ,  $\epsilon_r = 53.0$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.0955 mW/g, SAR (10g): 0.0592 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

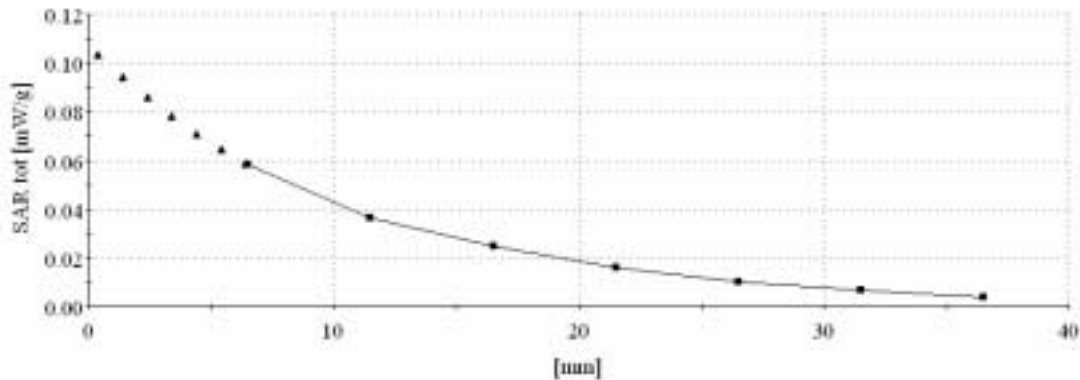
Holsterice-25

Humidity: 45.3

Ambient Temp: 23.7

Simulant Temp: 22.0

22May03\_T226\_GS1900\_VF63\_CH512\_BF02



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while front of the phone is against the body using carry accessory ICE-25 and hands free accessory RLF 501 25/04 (HPE-14).**

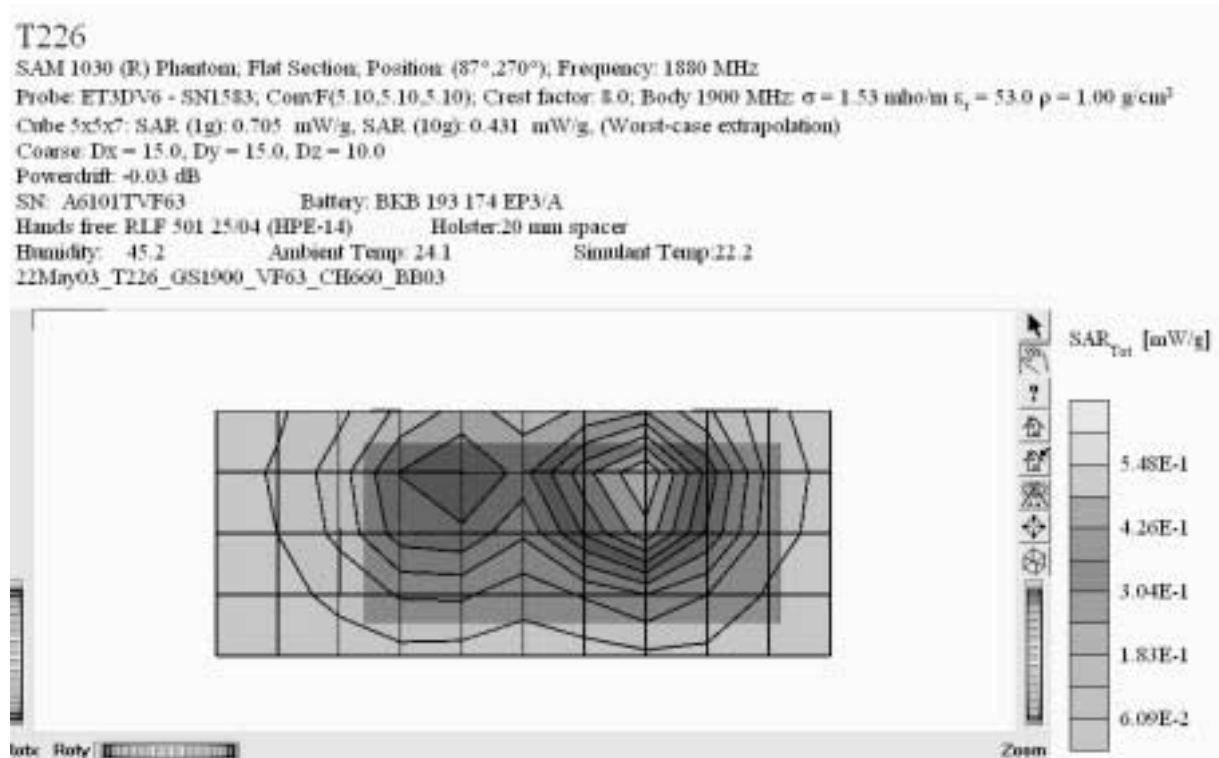


Sony Ericsson

REPORT

61(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |



**Distribution of maximum SAR in 1900 GSM band. Measured with back of device facing the body using a 20mm spacer and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

REPORT

62(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |

## T226

SAM 1030 (R) Phantom, Flat Section, Position: (37°, 170°), Frequency: 1880 MHz

Probe: ET3DV6 - SN1583, ConvF(5.10, 5.10, 5.10), Crest factor: 8.0, Body 1900 MHz:  $\sigma = 1.53 \text{ nHo/m}$ ,  $\epsilon_r = 53.0$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.705 mW/g, SAR (10g): 0.431 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

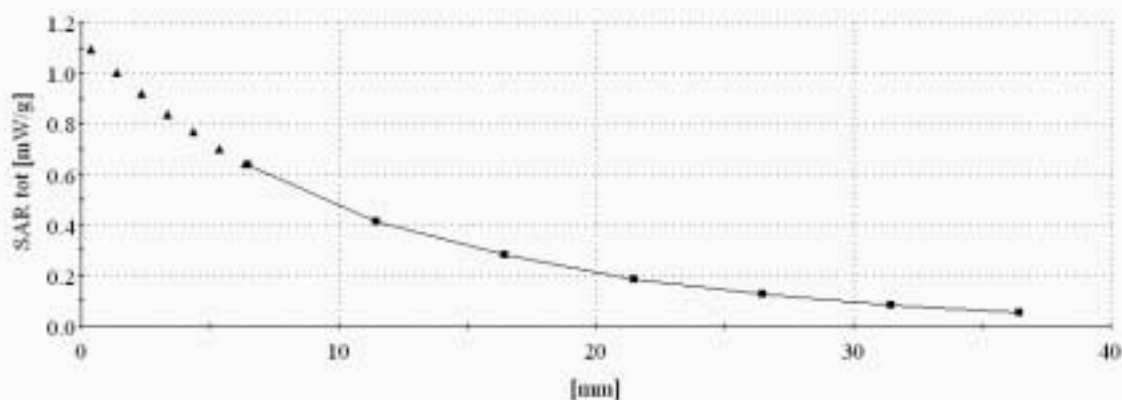
Holster: 20 mm spacer

Humidity: 45.2

Ambient Temp: 24.1

Sunlight Temp: 22.2

12May03\_T226\_GS1900\_VF63\_CH660\_BB03



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while back of the phone is against the body using a 20 mm spacer and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

## REPORT

63(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.foct226.doc |

T226

SAM 1030 (R) Phantom; Flat Section; Position: (90°, 270°); Frequency: 1850 MHz

Probe: ET3DV6 - SN1583; ConnF(5,10,5,10,5,10); Crest factor: 3.0; Body 1900 MHz:  $\sigma = 1.53 \text{ mho/m}$ ,  $\epsilon_r = 53.0$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.0601 mW/g, SAR (10g): 0.0371 mW/g. (Worst-case extrapolation)

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

Powerdrift: -0.03 dB

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

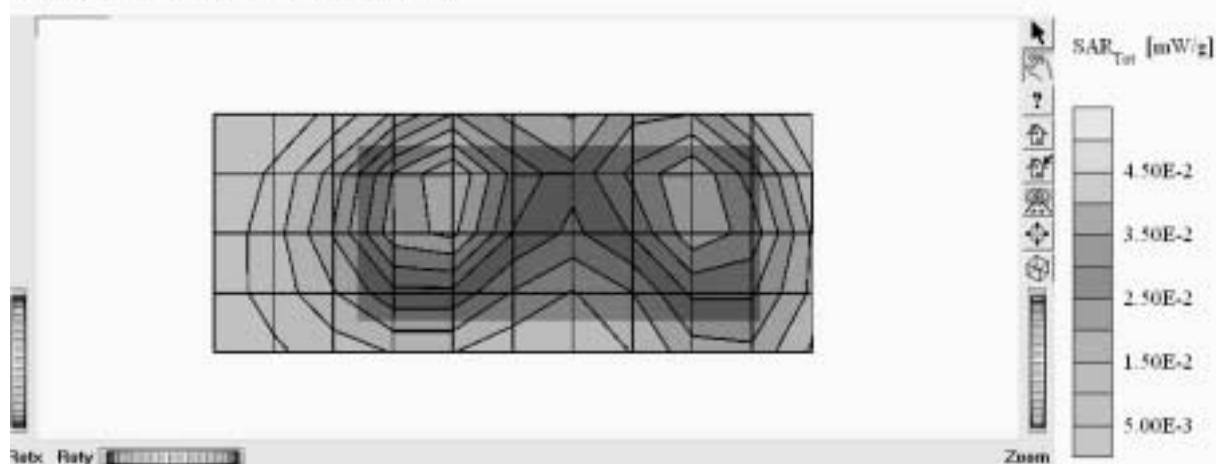
Holster: 20 mm spacer

Humidity: 44.8

Ambient Temp: 24.2

Simulant Temp: 22.1

22May03\_T226\_GS1900\_VF63\_CH512\_BF03



**Distribution of maximum SAR in 1900 GSM band. Measured with front of device facing the body using a 20mm spacer and hands free accessory RLF 501 25/04 (HPE-14).**



Sony Ericsson

## REPORT

64(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

## T226

SAM 1030 (R) Phantom, Flat Section, Position: (87°, 170°); Frequency: 1880 MHz

Probe: ET3DV6 - SN1583; ConvF(5,10,5,10,5,10); Crest factor: 8.0; Body 1900 MHz:  $\sigma = 1.53 \text{ mho/m}$ ,  $\epsilon_r = 53.0$ ,  $\rho = 1.00 \text{ g/cm}^3$ 

Cube 5x5x7: SAR (1g): 0.705 mW/g, SAR (10g): 0.431 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

SN: A6101TVF63

Battery: BKB 193 174 EP3/A

Hands free: RLF 501 25/04 (HPE-14)

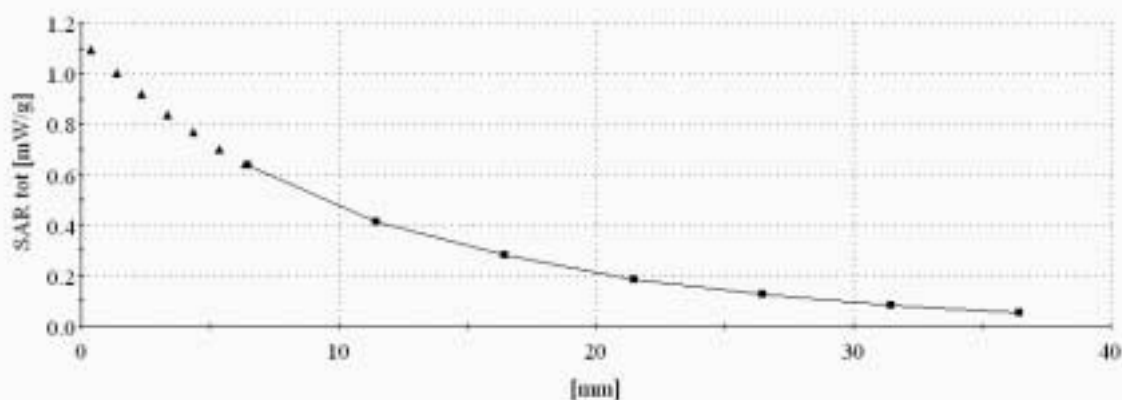
Holster: 20 mm spacer

Humidity: 45.2

Ambient Temp: 24.1

Simulant Temp: 22.2

22May03\_T226\_GS1900\_VF63\_CH660\_BB03



**SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while front of the phone is against the body using a 20 mm spacer and hands free accessory RLF 501 25/04 (HPE-14).**

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

65(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.foct226.doc |

## Appendix 4

### Probe Calibration Certificate



Sony Ericsson

## REPORT

66(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.fct226.doc  |

ET3DV6 SN:1586

June 20, 2002

**DASY3 - Parameters of Probe: ET3DV6 SN:1586**

## Sensitivity in Free Space

## Diode Compression

|       |                                                 |       |           |    |
|-------|-------------------------------------------------|-------|-----------|----|
| NormX | <b>1.81</b> $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP X | <b>97</b> | mV |
| NormY | <b>1.78</b> $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP Y | <b>97</b> | mV |
| NormZ | <b>1.72</b> $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP Z | <b>97</b> | mV |

## Sensitivity in Tissue Simulating Liquid

|         |                              |                             |                               |
|---------|------------------------------|-----------------------------|-------------------------------|
| Head    | 835 MHz                      | $\epsilon_r = 41.5 \pm 5\%$ | $\sigma = 0.90 \pm 5\%$ mho/m |
| Head    | 900 MHz                      | $\epsilon_r = 41.5 \pm 5\%$ | $\sigma = 0.97 \pm 5\%$ mho/m |
| ConvF X | <b>6.6</b> $\pm 9.5\%$ (k=2) | Boundary effect:            |                               |
| ConvF Y | <b>6.6</b> $\pm 9.5\%$ (k=2) | Alpha                       | <b>0.33</b>                   |
| ConvF Z | <b>6.6</b> $\pm 9.5\%$ (k=2) | Depth                       | <b>2.61</b>                   |
| Head    | 1900 MHz                     | $\epsilon_r = 40.0 \pm 5\%$ | $\sigma = 1.40 \pm 5\%$ mho/m |
| Head    | 1800 MHz                     | $\epsilon_r = 40.0 \pm 5\%$ | $\sigma = 1.40 \pm 5\%$ mho/m |
| ConvF X | <b>5.1</b> $\pm 9.5\%$ (k=2) | Boundary effect:            |                               |
| ConvF Y | <b>5.1</b> $\pm 9.5\%$ (k=2) | Alpha                       | <b>0.51</b>                   |
| ConvF Z | <b>5.1</b> $\pm 9.5\%$ (k=2) | Depth                       | <b>2.40</b>                   |

## Boundary Effect

| Head | 835 MHz                                             | Typical SAR gradient: 5 % per mm  |      |      |
|------|-----------------------------------------------------|-----------------------------------|------|------|
|      | Probe Tip to Boundary                               |                                   | 1 mm | 2 mm |
|      | SAR <sub>iso</sub> [%] Without Correction Algorithm |                                   | 9.1  | 5.0  |
|      | SAR <sub>iso</sub> [%] With Correction Algorithm    |                                   | 0.4  | 0.6  |
| Head | 1900 MHz                                            | Typical SAR gradient: 10 % per mm |      |      |
|      | Probe Tip to Boundary                               |                                   | 1 mm | 2 mm |
|      | SAR <sub>iso</sub> [%] Without Correction Algorithm |                                   | 11.9 | 8.1  |
|      | SAR <sub>iso</sub> [%] With Correction Algorithm    |                                   | 0.3  | 0.3  |

## Sensor Offset

|                            |                                 |    |
|----------------------------|---------------------------------|----|
| Probe Tip to Sensor Center | <b>2.7</b>                      | mm |
| Optical Surface Detection  | <b>1.7 <math>\pm</math> 0.2</b> | mm |



Sony Ericsson

REPORT

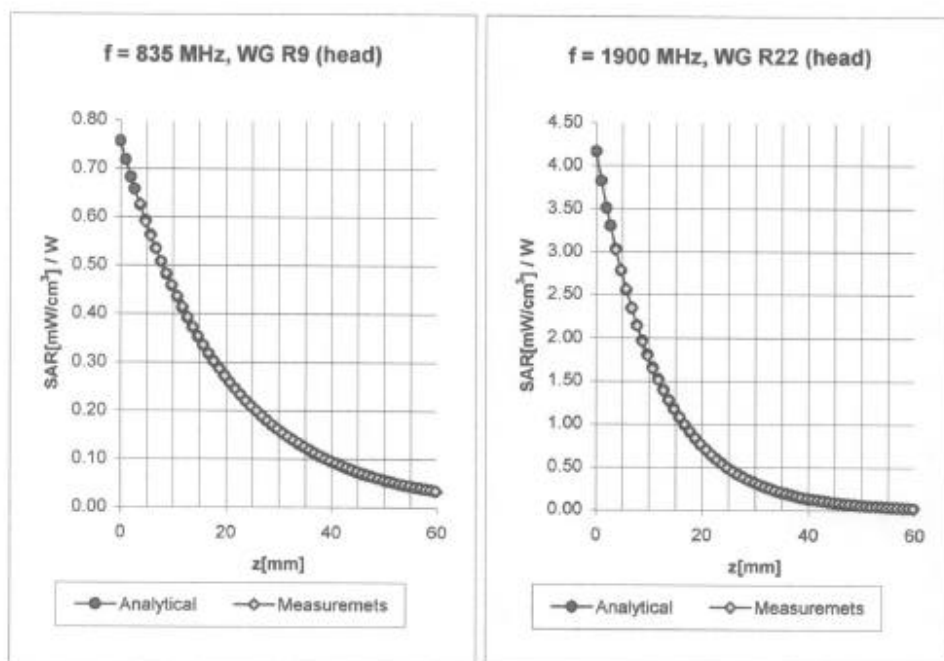
67(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fact226.doc |

ET3DV6 SN:1586

June 20, 2002

## Conversion Factor Assessment



|      |          |                             |                               |
|------|----------|-----------------------------|-------------------------------|
| Head | 835 MHz  | $\epsilon_r = 41.5 \pm 5\%$ | $\sigma = 0.90 \pm 5\%$ mho/m |
| Head | 900 MHz  | $\epsilon_r = 41.5 \pm 5\%$ | $\sigma = 0.97 \pm 5\%$ mho/m |
|      | ConvF X  | 6.6 $\pm 9.5\%$ (k=2)       | Boundary effect:              |
|      | ConvF Y  | 6.6 $\pm 9.5\%$ (k=2)       | Alpha 0.33                    |
|      | ConvF Z  | 6.6 $\pm 9.5\%$ (k=2)       | Depth 2.61                    |
| Head | 1900 MHz | $\epsilon_r = 40.0 \pm 5\%$ | $\sigma = 1.40 \pm 5\%$ mho/m |
| Head | 1800 MHz | $\epsilon_r = 40.0 \pm 5\%$ | $\sigma = 1.40 \pm 5\%$ mho/m |
|      | ConvF X  | 5.1 $\pm 9.5\%$ (k=2)       | Boundary effect:              |
|      | ConvF Y  | 5.1 $\pm 9.5\%$ (k=2)       | Alpha 0.51                    |
|      | ConvF Z  | 5.1 $\pm 9.5\%$ (k=2)       | Depth 2.40                    |



Sony Ericsson

REPORT

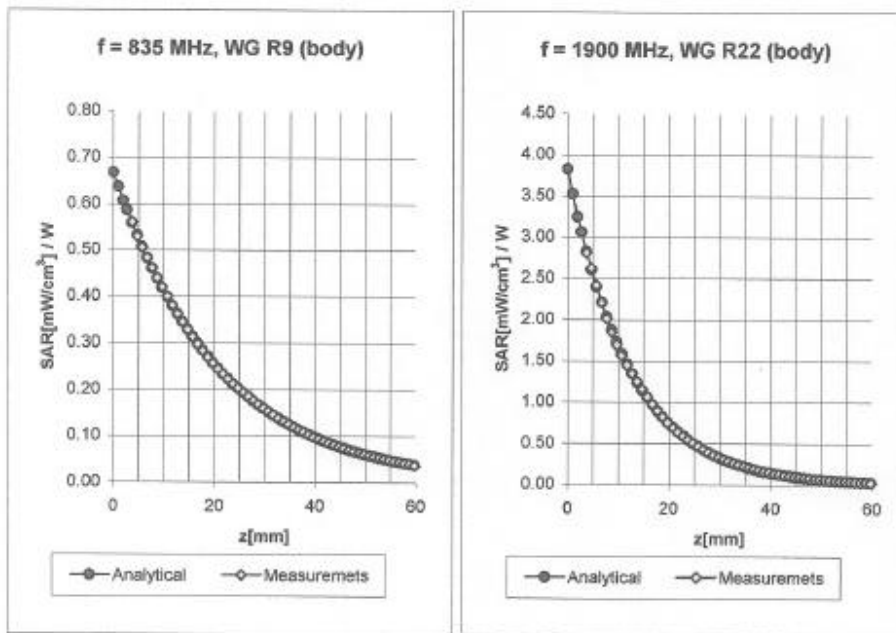
68(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

ET3DV6 SN:1586

June 20, 2002

### Conversion Factor Assessment



|      |          |                             |                                       |
|------|----------|-----------------------------|---------------------------------------|
| Body | 835 MHz  | $\epsilon_r = 55.2 \pm 5\%$ | $\sigma = 0.97 \pm 5\% \text{ mho/m}$ |
| Body | 900 MHz  | $\epsilon_r = 55.0 \pm 5\%$ | $\sigma = 1.05 \pm 5\% \text{ mho/m}$ |
|      | ConvF X  | $6.3 \pm 9.5\% (k=2)$       | Boundary effect:                      |
|      | ConvF Y  | $6.3 \pm 9.5\% (k=2)$       | Alpha 0.34                            |
|      | ConvF Z  | $6.3 \pm 9.5\% (k=2)$       | Depth 2.67                            |
| Body | 1900 MHz | $\epsilon_r = 53.3 \pm 5\%$ | $\sigma = 1.52 \pm 5\% \text{ mho/m}$ |
| Body | 1800 MHz | $\epsilon_r = 53.3 \pm 5\%$ | $\sigma = 1.52 \pm 5\% \text{ mho/m}$ |
|      | ConvF X  | $4.8 \pm 9.5\% (k=2)$       | Boundary effect:                      |
|      | ConvF Y  | $4.8 \pm 9.5\% (k=2)$       | Alpha 0.72                            |
|      | ConvF Z  | $4.8 \pm 9.5\% (k=2)$       | Depth 2.08                            |



Sony Ericsson

REPORT

69(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

ET3DV6 SN:1583

December 19, 2002

**DASY - Parameters of Probe: ET3DV6 SN:1583****Sensitivity in Free Space****Diode Compression**

|       |                                          |       |    |    |
|-------|------------------------------------------|-------|----|----|
| NormX | 1.72 $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP X | 93 | mV |
| NormY | 1.92 $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP Y | 93 | mV |
| NormZ | 1.86 $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP Z | 93 | mV |

**Sensitivity in Tissue Simulating Liquid**

|         |                       |                             |                                       |
|---------|-----------------------|-----------------------------|---------------------------------------|
| Head    | 835 MHz               | $\epsilon_r = 41.5 \pm 5\%$ | $\sigma = 0.90 \pm 5\% \text{ mho/m}$ |
| Head    | 900 MHz               | $\epsilon_r = 41.5 \pm 5\%$ | $\sigma = 0.97 \pm 5\% \text{ mho/m}$ |
| ConvF X | 7.1 $\pm 9.5\%$ (k=2) | Boundary effect:            |                                       |
| ConvF Y | 7.1 $\pm 9.5\%$ (k=2) | Alpha                       | 0.36                                  |
| ConvF Z | 7.1 $\pm 9.5\%$ (k=2) | Depth                       | 2.31                                  |
| Head    | 1900 MHz              | $\epsilon_r = 40.0 \pm 5\%$ | $\sigma = 1.40 \pm 5\% \text{ mho/m}$ |
| Head    | 1800 MHz              | $\epsilon_r = 40.0 \pm 5\%$ | $\sigma = 1.40 \pm 5\% \text{ mho/m}$ |
| ConvF X | 5.6 $\pm 9.5\%$ (k=2) | Boundary effect:            |                                       |
| ConvF Y | 5.6 $\pm 9.5\%$ (k=2) | Alpha                       | 0.49                                  |
| ConvF Z | 5.6 $\pm 9.5\%$ (k=2) | Depth                       | 2.42                                  |

**Boundary Effect**

|      |                        |                              |                                   |      |
|------|------------------------|------------------------------|-----------------------------------|------|
| Head | 835 MHz                |                              | Typical SAR gradient: 5 % per mm  |      |
|      | Probe Tip to Boundary  |                              | 1 mm                              | 2 mm |
|      | SAR <sub>100</sub> [%] | Without Correction Algorithm | 8.2                               | 4.5  |
|      | SAR <sub>100</sub> [%] | With Correction Algorithm    | 0.3                               | 0.4  |
| Head | 1900 MHz               |                              | Typical SAR gradient: 10 % per mm |      |
|      | Probe Tip to Boundary  |                              | 1 mm                              | 2 mm |
|      | SAR <sub>100</sub> [%] | Without Correction Algorithm | 11.7                              | 8.0  |
|      | SAR <sub>100</sub> [%] | With Correction Algorithm    | 0.3                               | 0.4  |

**Sensor Offset**

|                            |               |    |
|----------------------------|---------------|----|
| Probe Tip to Sensor Center | 2.7           | mm |
| Optical Surface Detection  | 1.5 $\pm$ 0.2 | mm |



Sony Ericsson

REPORT

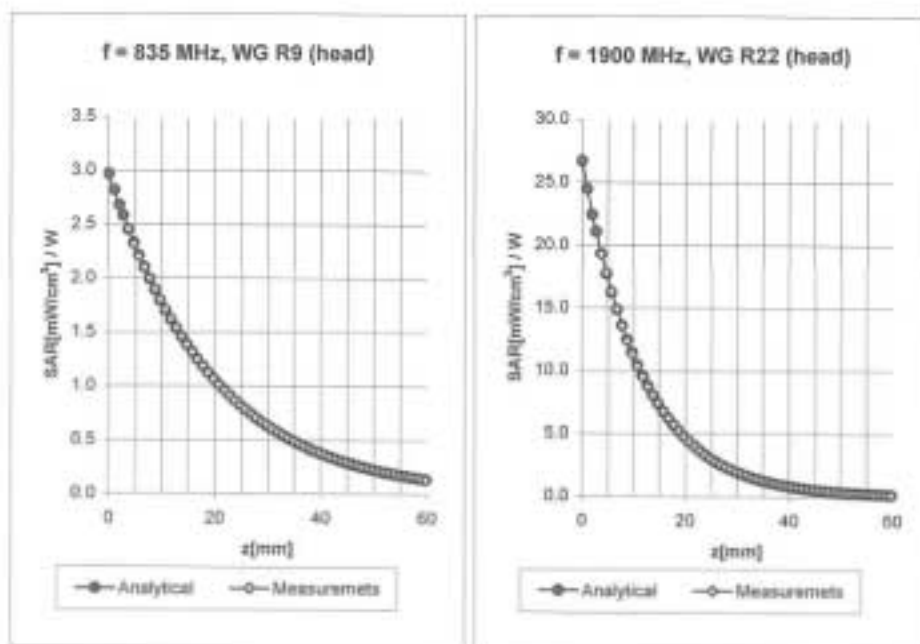
70(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |

ET3DV6 SN:1583

December 19, 2002

## Conversion Factor Assessment



|      |          |                             |                               |      |
|------|----------|-----------------------------|-------------------------------|------|
| Head | 835 MHz  | $\epsilon_r = 41.5 \pm 5\%$ | $\sigma = 0.90 \pm 5\%$ mho/m |      |
| Head | 900 MHz  | $\epsilon_r = 41.5 \pm 5\%$ | $\sigma = 0.97 \pm 5\%$ mho/m |      |
|      | ConvF X  | $7.1 \pm 9.5\%$ (k=2)       | Boundary effect:              |      |
|      | ConvF Y  | $7.1 \pm 9.5\%$ (k=2)       | Alpha                         | 0.36 |
|      | ConvF Z  | $7.1 \pm 9.5\%$ (k=2)       | Depth                         | 2.31 |
| Head | 1900 MHz | $\epsilon_r = 40.0 \pm 5\%$ | $\sigma = 1.40 \pm 5\%$ mho/m |      |
| Head | 1800 MHz | $\epsilon_r = 40.0 \pm 5\%$ | $\sigma = 1.40 \pm 5\%$ mho/m |      |
|      | ConvF X  | $5.6 \pm 9.5\%$ (k=2)       | Boundary effect:              |      |
|      | ConvF Y  | $5.6 \pm 9.5\%$ (k=2)       | Alpha                         | 0.49 |
|      | ConvF Z  | $5.6 \pm 9.5\%$ (k=2)       | Depth                         | 2.42 |



Sony Ericsson

REPORT

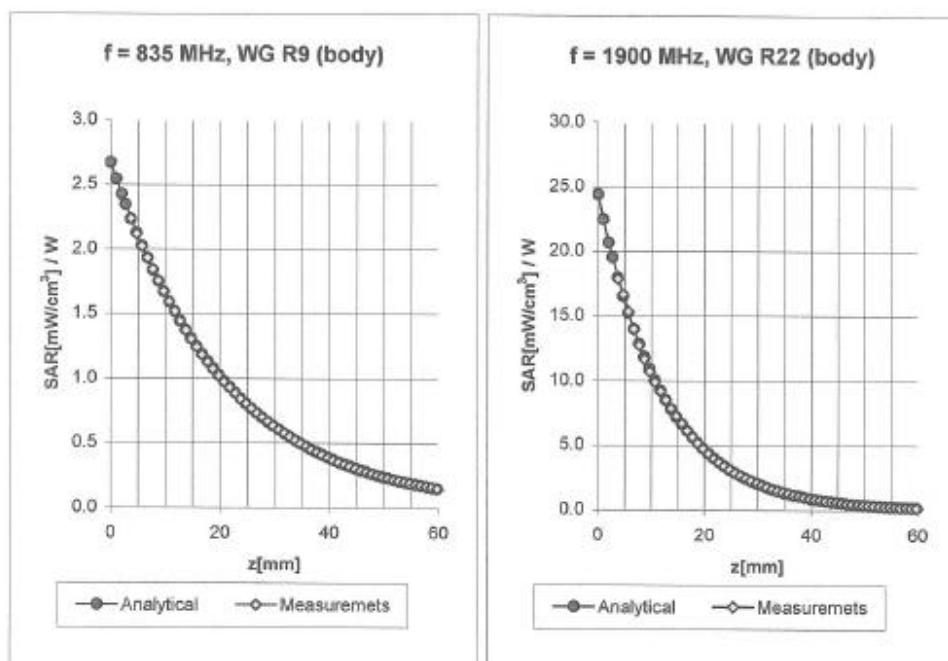
71(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

ET3DV6 SN:1583

December 19, 2002

## Conversion Factor Assessment



|      |          |                             |                               |
|------|----------|-----------------------------|-------------------------------|
| Body | 835 MHz  | $\epsilon_r = 55.2 \pm 5\%$ | $\sigma = 0.97 \pm 5\%$ mho/m |
| Body | 900 MHz  | $\epsilon_r = 55.0 \pm 5\%$ | $\sigma = 1.05 \pm 5\%$ mho/m |
|      | ConvF X  | $6.8 \pm 9.5\%$ (k=2)       | Boundary effect:              |
|      | ConvF Y  | $6.8 \pm 9.5\%$ (k=2)       | Alpha 0.35                    |
|      | ConvF Z  | $6.8 \pm 9.5\%$ (k=2)       | Depth 2.46                    |
| Body | 1900 MHz | $\epsilon_r = 53.3 \pm 5\%$ | $\sigma = 1.52 \pm 5\%$ mho/m |
| Body | 1800 MHz | $\epsilon_r = 53.3 \pm 5\%$ | $\sigma = 1.52 \pm 5\%$ mho/m |
|      | ConvF X  | $5.1 \pm 9.5\%$ (k=2)       | Boundary effect:              |
|      | ConvF Y  | $5.1 \pm 9.5\%$ (k=2)       | Alpha 0.69                    |
|      | ConvF Z  | $5.1 \pm 9.5\%$ (k=2)       | Depth 2.11                    |

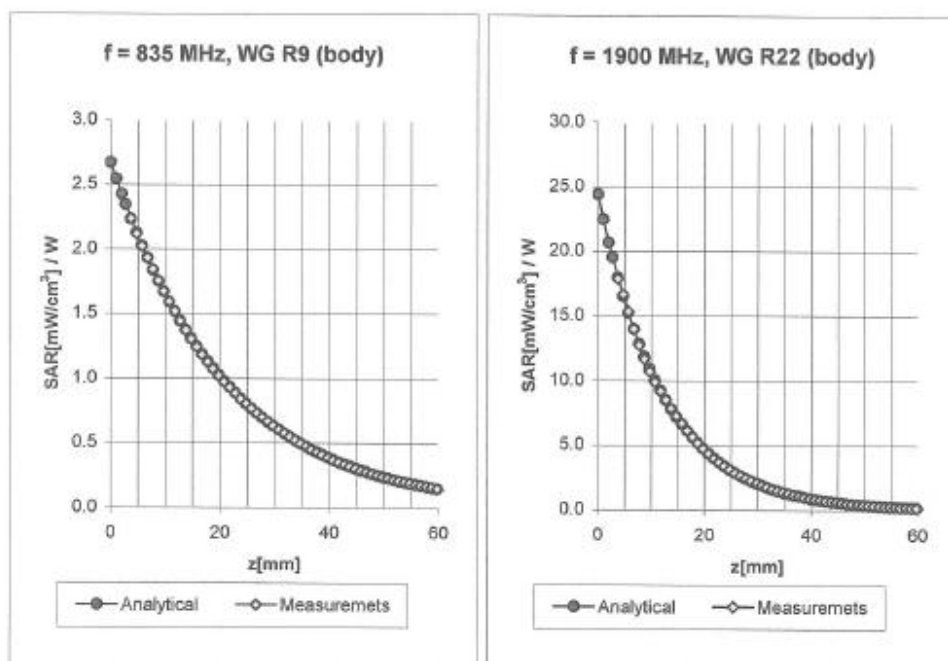


|                                                                             |                             |
|-----------------------------------------------------------------------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA               |
|                                                                             | A                           |
|                                                                             | C:\Dulce\b.foct226.doc      |

ET3DV6 SN:1583

December 19, 2002

## Conversion Factor Assessment



|         |                       |                             |                                       |
|---------|-----------------------|-----------------------------|---------------------------------------|
| Body    | 835 MHz               | $\epsilon_r = 55.2 \pm 5\%$ | $\sigma = 0.97 \pm 5\% \text{ mho/m}$ |
| Body    | 900 MHz               | $\epsilon_r = 55.0 \pm 5\%$ | $\sigma = 1.05 \pm 5\% \text{ mho/m}$ |
| ConvF X | $6.8 \pm 9.5\% (k=2)$ | Boundary effect:            |                                       |
| ConvF Y | $6.8 \pm 9.5\% (k=2)$ | Alpha                       | 0.35                                  |
| ConvF Z | $6.8 \pm 9.5\% (k=2)$ | Depth                       | 2.46                                  |
| Body    | 1900 MHz              | $\epsilon_r = 53.3 \pm 5\%$ | $\sigma = 1.52 \pm 5\% \text{ mho/m}$ |
| Body    | 1800 MHz              | $\epsilon_r = 53.3 \pm 5\%$ | $\sigma = 1.52 \pm 5\% \text{ mho/m}$ |
| ConvF X | $5.1 \pm 9.5\% (k=2)$ | Boundary effect:            |                                       |
| ConvF Y | $5.1 \pm 9.5\% (k=2)$ | Alpha                       | 0.69                                  |
| ConvF Z | $5.1 \pm 9.5\% (k=2)$ | Depth                       | 2.11                                  |

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

73(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.foct226.doc |

## Appendix 5

### Measurement Uncertainty Budget



Sony Ericsson

REPORT

74(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |

**1. Table 1. Uncertainty Budget for System Performance Check (Dipole & flat phantom)**

| <i>a</i>                                                                                       | <i>b</i> | <i>c</i>   | <i>d</i>    | $e = f(d,k)$ | <i>f</i>    | <i>g</i>     | $h = c \times f / e$ | $i = c \times g / e$ | <i>k</i> |
|------------------------------------------------------------------------------------------------|----------|------------|-------------|--------------|-------------|--------------|----------------------|----------------------|----------|
| Uncertainty Component                                                                          | Sec.     | Tol. (± %) | Prob. Dist. | Div.         | $c_i$ (1-g) | $c_i$ (10-g) | 1-g $u_i$ (±%)       | 10-g $u_i$ (±%)      | $v_i$    |
| <b>Measurement System</b>                                                                      |          |            |             |              |             |              |                      |                      |          |
| Probe Calibration ( $k=1$ )                                                                    | E.2.1    | 4.8        | N           | 1            | 1           | 1            | 4.8                  | 4.8                  | ∞        |
| Axial Isotropy                                                                                 | E.2.2    | 4.7        | R           | 1.73         | 0.707       | 0.707        | 1.9                  | 1.9                  | ∞        |
| Hemispherical Isotropy                                                                         | E.2.2    | 9.6        | R           | 1.73         | 0.707       | 0.707        | 3.9                  | 3.9                  | ∞        |
| Boundary Effect                                                                                | E.2.3    | 8.3        | R           | 1.73         | 1           | 1            | 4.8                  | 4.8                  | ∞        |
| Linearity                                                                                      | E.2.4    | 4.7        | R           | 1.73         | 1           | 1            | 2.7                  | 2.7                  | ∞        |
| System Detection Limits                                                                        | E.2.5    | 1.0        | R           | 1.73         | 1           | 1            | 0.6                  | 0.6                  | ∞        |
| Readout Electronics                                                                            | E.2.6    | 1.0        | N           | 1            | 1           | 1            | 1.0                  | 1.0                  | ∞        |
| Response Time                                                                                  | E.2.7    | 0.0        | R           | 1.73         | 1           | 1            | 0.0                  | 0.0                  | ∞        |
| Integration Time                                                                               | E.2.8    | 0.0        | R           | 1.73         | 1           | 1            | 0.0                  | 0.0                  | ∞        |
| RF Ambient Conditions                                                                          | E.6.1    | 3.0        | R           | 1.73         | 1           | 1            | 1.7                  | 1.7                  | ∞        |
| Probe Positioner Mechanical Tolerance (corresponds to the mechanical constraints of the robot) | E.6.2    | 0.4        | R           | 1.73         | 1           | 1            | 0.2                  | 0.2                  | ∞        |
| Probe Positioning with respect to Phantom Shell                                                | E.6.3    | 2.9        | R           | 1.73         | 1           | 1            | 1.7                  | 1.7                  | ∞        |
| Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation                | E.5      | 3.9        | R           | 1.73         | 1           | 1            | 2.3                  | 2.3                  | ∞        |
| <b>Dipole</b>                                                                                  |          |            |             |              |             |              |                      |                      |          |
| Dipole Axis to Liquid Distance                                                                 | 8, E.4.2 | 1.0        | R           | 1.73         | 1           | 1            | 0.6                  | 0.6                  | ∞        |
| Input Power and SAR Drift Measurement                                                          | 8, 6.6.2 | 5.0        | R           | 1.73         | 1           | 1            | 2.9                  | 2.9                  | ∞        |
| <b>Phantom and Tissue Parameters</b>                                                           |          |            |             |              |             |              |                      |                      |          |
| Phantom Uncertainty - shell thickness tolerance                                                | E.3.1    | 4.0        | R           | 1.73         | 1           | 1            | 2.3                  | 2.3                  | ∞        |
| Liquid Conductivity - deviation from target values (5)                                         | E.3.2    | 4.2        | R           | 1.73         | 0.64        | 0.43         | 1.55                 | 1.04                 | ∞        |
| Liquid Conductivity - measurement uncertainty (6)                                              | E.3.3    | 6.20       | R           | 1.73         | 0.64        | 0.43         | 2.29                 | 1.54                 | ∞        |
| Liquid Permittivity - deviation from                                                           | E.3.2    | 3.3        | R           | 1.73         | 0.6         | 0.49         | 1.14                 | 0.93                 | ∞        |



Sony Ericsson

## REPORT

75(85)

|                                                                             |               |  |                             |                       |  |
|-----------------------------------------------------------------------------|---------------|--|-----------------------------|-----------------------|--|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               |  | No.<br>SEM/CB/D-03:0359/REP |                       |  |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA |  | A                           | C:\Dulce\b.fct226.doc |  |

|                                                       |       |      |     |      |     |      |       |       |          |
|-------------------------------------------------------|-------|------|-----|------|-----|------|-------|-------|----------|
| target values (5)                                     |       |      |     |      |     |      |       |       |          |
| Liquid Permittivity - measurement uncertainty (6)     | E.3.3 | 6.08 | R   | 1.73 | 0.6 | 0.49 | 2.11  | 1.72  | $\infty$ |
| <b>Combined Standard Uncertainty</b>                  |       |      | RSS |      |     |      | 10.59 | 10.29 |          |
| <b>Expanded Uncertainty</b><br>(95% CONFIDENCE LEVEL) |       |      |     |      |     |      | 21.17 | 20.59 |          |

**2. Table 2. Uncertainty Budget for the Device Under Test**

| <i>a</i>                                                                                       | <i>b</i> | <i>c</i>   | <i>d</i>    | <i>e = f(d,k)</i> | <i>f</i>                   | <i>g</i>                    | <i>h = c x f / e</i>          | <i>i = c x g / e</i>           | <i>k</i>             |
|------------------------------------------------------------------------------------------------|----------|------------|-------------|-------------------|----------------------------|-----------------------------|-------------------------------|--------------------------------|----------------------|
| Uncertainty Component                                                                          | Sec.     | Tol. (± %) | Prob. Dist. | Div.              | <i>c<sub>i</sub></i> (1-g) | <i>c<sub>i</sub></i> (10-g) | 1-g <i>u<sub>i</sub></i> (±%) | 10-g <i>u<sub>i</sub></i> (±%) | <i>v<sub>i</sub></i> |
| <b>Measurement System</b>                                                                      |          |            |             |                   |                            |                             |                               |                                |                      |
| Probe Calibration ( <i>k</i> =1)                                                               | E.2.1    | 4.8        | N           | 1                 | 1                          | 1                           | 4.8                           | 4.8                            | $\infty$             |
| Axial Isotropy                                                                                 | E.2.2    | 4.7        | R           | 1.73              | 0.707                      | 0.707                       | 1.9                           | 1.9                            | $\infty$             |
| Hemispherical Isotropy                                                                         | E.2.2    | 9.6        | R           | 1.73              | 0.707                      | 0.707                       | 3.9                           | 3.9                            | $\infty$             |
| Boundary Effect                                                                                | E.2.3    | 8.3        | R           | 1.73              | 1                          | 1                           | 4.8                           | 4.8                            | $\infty$             |
| Linearity                                                                                      | E.2.4    | 4.7        | R           | 1.73              | 1                          | 1                           | 2.7                           | 2.7                            | $\infty$             |
| System Detection Limits                                                                        | E.2.5    | 1.0        | R           | 1.73              | 1                          | 1                           | 0.6                           | 0.6                            | $\infty$             |
| Readout Electronics                                                                            | E.2.6    | 1.0        | N           | 1                 | 1                          | 1                           | 1.0                           | 1.0                            | $\infty$             |
| Response Time                                                                                  | E.2.7    | 0.8        | R           | 1.73              | 1                          | 1                           | 0.5                           | 0.5                            | $\infty$             |
| Integration Time                                                                               | E.2.8    | 1.4        | R           | 1.73              | 1                          | 1                           | 0.8                           | 0.8                            | $\infty$             |
| RF Ambient Conditions                                                                          | E.6.1    | 3.0        | R           | 1.73              | 1                          | 1                           | 1.7                           | 1.7                            | $\infty$             |
| Probe Positioner Mechanical Tolerance (corresponds to the mechanical constraints of the robot) | E.6.2    | 0.4        | R           | 1.73              | 1                          | 1                           | 0.2                           | 0.2                            | $\infty$             |
| Probe Positioning with respect to Phantom Shell                                                | E.6.3    | 2.9        | R           | 1.73              | 1                          | 1                           | 1.7                           | 1.7                            | $\infty$             |
| Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation                | E.5      | 3.9        | R           | 1.73              | 1                          | 1                           | 2.3                           | 2.3                            | $\infty$             |
| <b>Test sample Related</b>                                                                     |          |            |             |                   |                            |                             |                               |                                |                      |
| Test Sample Positioning                                                                        | E.4.2    | 1.2        | N           | 1                 | 1                          | 1                           | 1.2                           | 1.2                            | 4                    |
| Device Holder Uncertainty                                                                      | E.4.1    | 1.2        | R           | 1.73              | 1                          | 1                           | 0.7                           | 0.7                            | 4                    |
| Output Power Variation - SAR drift measurement (4)                                             | 6.6.2    | 5.0        | R           | 1.73              | 1                          | 1                           | 2.9                           | 2.9                            | $\infty$             |
| Phantom and Tissue Parameters                                                                  |          |            |             |                   |                            |                             |                               |                                |                      |



Sony Ericsson

## REPORT

76(85)

|                                                                             |                             |
|-----------------------------------------------------------------------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA               |
|                                                                             | A                           |
|                                                                             | C:\Dulce\b.fct226.doc       |

|                                                        |       |      |     |      |      |      |       |       |          |
|--------------------------------------------------------|-------|------|-----|------|------|------|-------|-------|----------|
| Phantom Uncertainty (shape and thickness tolerances)   | E.3.1 | 4.0  | R   | 1.73 | 1    | 1    | 2.3   | 2.3   | $\infty$ |
| Liquid Conductivity - deviation from target values (5) | E.3.2 | 4.2  | R   | 1.73 | 0.64 | 0.43 | 1.6   | 1.0   | $\infty$ |
| Liquid Conductivity - measurement uncertainty (6)      | E.3.3 | 6.20 | R   | 1.73 | 0.64 | 0.43 | 2.3   | 1.5   | $\infty$ |
| Liquid Permittivity - deviation from target values (5) | E.3.2 | 3.3  | R   | 1.73 | 0.6  | 0.49 | 1.1   | 0.9   | $\infty$ |
| Liquid Permittivity - measurement uncertainty (6)      | E.3.3 | 6.08 | R   | 1.73 | 0.6  | 0.49 | 2.1   | 1.7   | $\infty$ |
| <b>Combined Standard Uncertainty</b>                   |       |      | RSS |      |      |      | 10.71 | 10.40 |          |
| <b>Expanded Uncertainty</b><br>(95% CONFIDENCE LEVEL)  |       |      | K=2 |      |      |      | 21.41 | 20.80 |          |

Table 4a. Values for  $\epsilon'$ 

| Uncertainty Component                | Tolerance<br>( $\pm\%$ ) | Probability Distribution | Divisor | $c_i$ | Standard Uncertainty ( $\pm\%$ ) | $v_i$ or $v_{eff}$ |
|--------------------------------------|--------------------------|--------------------------|---------|-------|----------------------------------|--------------------|
| Repeatability (n repeats)            | 0.97                     | N                        | 1       | 1     | 0.97                             | 4                  |
| Network analyzer uncertainty sources | 8.38                     | R                        | 1.73    | 1     | 4.83                             | $\infty$           |
| Dielectric Error Sources             | 5.93                     | R                        | 1.73    | 1     | 3.42                             | $\infty$           |
| <b>Combined standard uncertainty</b> |                          |                          |         |       | 6.08                             |                    |

Table 4b. Values for  $\sigma$ 

| Uncertainty Component                | Tolerance<br>( $\pm\%$ ) | Probability Distribution | Divisor | $c_i$ | Standard Uncertainty ( $\pm\%$ ) | $v_i$ or $v_{eff}$ |
|--------------------------------------|--------------------------|--------------------------|---------|-------|----------------------------------|--------------------|
| Repeatability (n repeats)            | 1.85                     | N                        | 1       | 1     | 1.85                             | 4                  |
| Network analyzer uncertainty sources | 8.38                     | R                        | 1.73    | 1     | 4.83                             | $\infty$           |
| Dielectric Error Sources             | 5.93                     | R                        | 1.73    | 1     | 3.42                             | $\infty$           |
| <b>Combined standard uncertainty</b> |                          |                          |         |       | 6.20                             |                    |

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

77(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.foct226.doc |

## Appendix 6

### Photographs of the device under test

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

78(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |



**Front view of device**



**Back view of device**

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

79(85)

|                                                                             |               |                             |
|-----------------------------------------------------------------------------|---------------|-----------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A<br>C:\Dulce\b.foct226.doc |



**Side view of device**

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

80(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |



**Front, back, and side views of carry accessory model ICT-14.**

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**

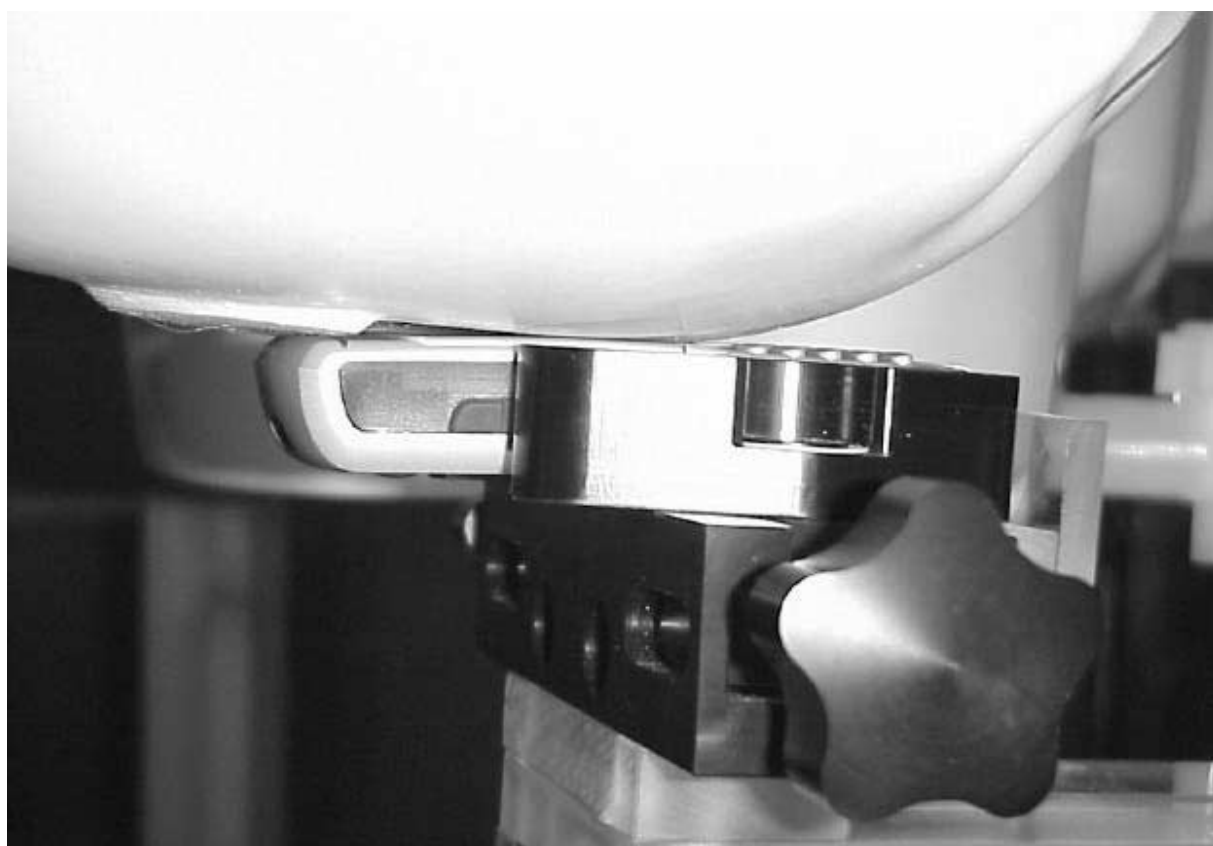


**Sony Ericsson**

REPORT

81(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |



**Position of device against head phantom using the “cheek” position**

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

82(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.foct226.doc |



**Position of device against head phantom using the “tilt” position**

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**

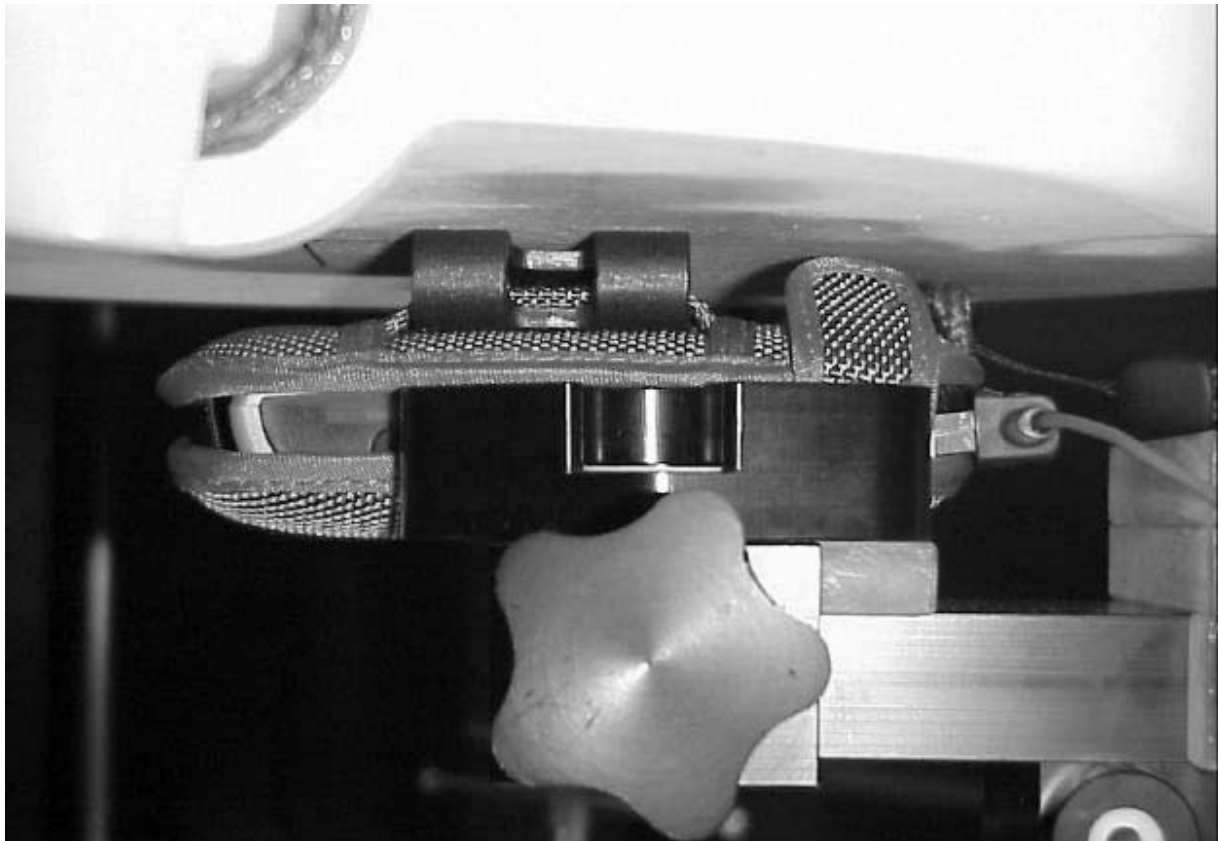


**Sony Ericsson**

REPORT

83(85)

|                                                                             |               |                             |                        |
|-----------------------------------------------------------------------------|---------------|-----------------------------|------------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                        |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\lb.fct226.doc |



**Position of device against flat phantom using carry accessory ICT-14 with hands free accessory RLF 501 25/04 (HPE-14).**

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**

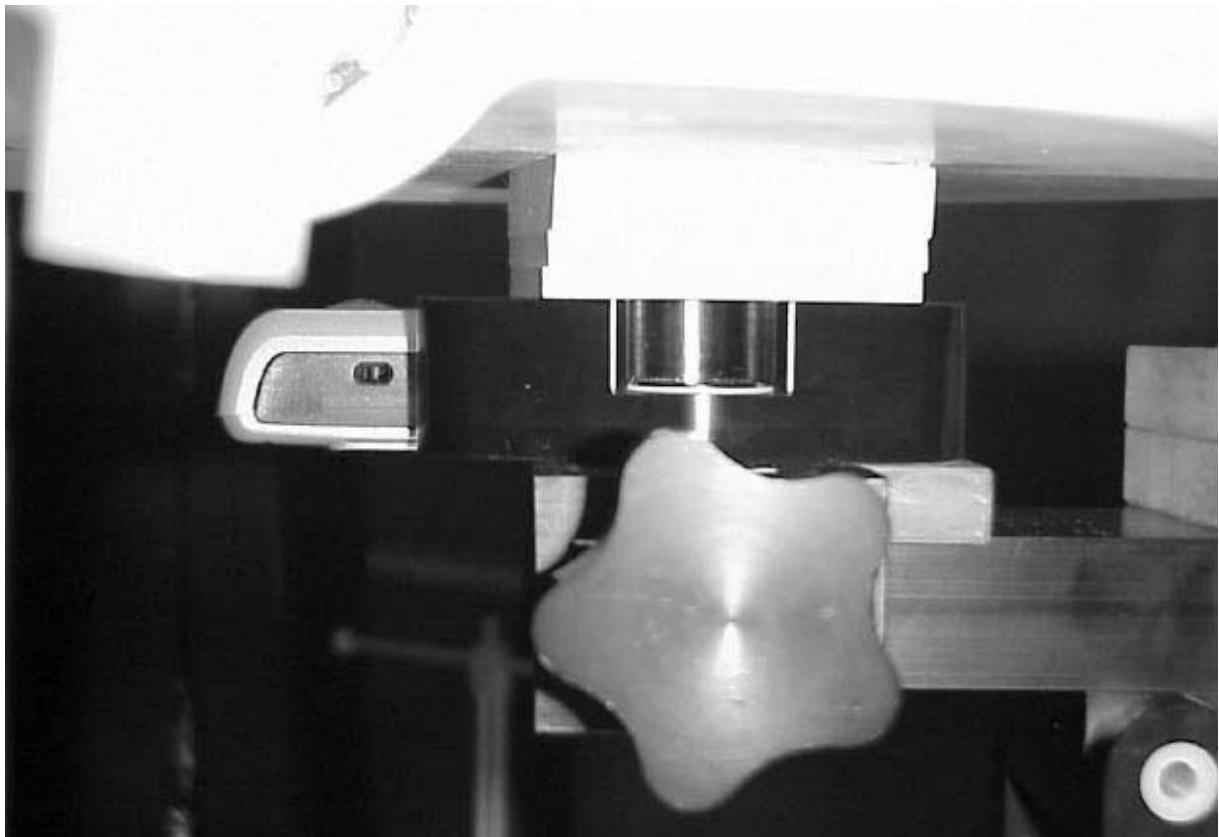


**Sony Ericsson**

REPORT

84(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |



**Position of device against flat phantom using a 20 mm spacer with hands free accessory RLF 501 25/04 (HPE-14).**

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7A1041011**



**Sony Ericsson**

REPORT

85(85)

|                                                                             |               |                             |                       |
|-----------------------------------------------------------------------------|---------------|-----------------------------|-----------------------|
| Prepared (also subject responsible if other)<br>SEM/CV/PF/P Dulce Altabella |               | No.<br>SEM/CB/D-03:0359/REP |                       |
| Approved<br>SEM/CV/PF/P Dulce Altabella                                     | Checked<br>DA | A                           | C:\Dulce\b.fct226.doc |



**Position of device against flat phantom using carry accessory ICE-25 with hands free accessory RLF 501 25/04 (HPE-14).**