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| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## RF EXPOSURE EVALUATION

## SPECIFIC ABSORPTION RATE

### **SAR TEST REPORT**

FOR THE

**PALM, INC.**

**PORTABLE DUAL-BAND PCS/CELLULAR CDMA2000 PHONE WITH BLUETOOTH**

**MODEL(S): TREO XXX**

**FCC ID: O8FJIMI**

**IC: 3905A-JIMI**

#### Test Report Serial Number

**082205O8F-T664-S24C**  
Issue 1.1

#### Test Report Issue Date

**September 09, 2005**

#### Test Lab

**Celltech Compliance Testing & Engineering Lab  
(Celltech Labs Inc.)  
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**Test Report Prepared by:**

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*Jonathan Hughes*

**Jonathan Hughes  
General Manager  
Celltech Labs Inc.**

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## DECLARATION OF COMPLIANCE SAR RF EXPOSURE EVALUATION

### Test Lab

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### Applicant Information

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Sunnyvale, CA 94085-2801  
United States

**FCC IDENTIFIER:** O8FJIMI  
**IC IDENTIFIER:** 3905A-JIMI  
**Model(s):** Treo XXX

**FCC Rule Part(s):** 47 CFR §2.1093; IC RSS-102 Issue 1 (Provisional)  
**Test Procedure(s):** FCC OET Bulletin 65, Supplement C (01-01)  
IEEE Standard 1528-2003  
**FCC Classification:** PCS Licensed Transmitter held to ear (PCE)  
**Device Description:** Portable Dual-Band PCS/Cellular CDMA2000 Phone with co-located Bluetooth

**Tx Frequency Range(s):** 1851.25 - 1908.75 MHz (PCS CDMA)  
824.70 - 848.31 MHz (Cellular CDMA)  
2402 - 2480 MHz (Bluetooth)  
**Max. RF Output Power Tested:** 23.8 dBm Conducted (PCS CDMA)  
24.0 dBm Conducted (Cellular CDMA)  
0 dBm Peak Conducted (Bluetooth)  
**Battery Type(s) Tested:** Lithium-ion 3.7 VDC (P/N: 157-10014-00)  
**Antenna Type(s) Tested:** Fixed Stubby (Dual-Band CDMA)  
Internal (Bluetooth)

**Body-Worn Accessories Tested:** Leather Side Case with Belt-Clip (SKU#3180WW)  
Leather Pouch and Swivel Belt-Clip (SKU#3179WW)  
**Additional Configuration(s) Tested:** 1.5 cm Air-Gap Spacing (Front and Back Sides of DUT)  
**Audio Accessories Tested:** Generic Ear-Microphone

**Max. SAR Levels Evaluated:** Head: 1.26 W/kg (PCS Band); 1.26 W/kg (Cellular Band)  
Body: 0.548 W/kg (PCS Band); 1.01 W/kg (Cellular Band)

Celltech Labs Inc. declares under its sole responsibility that this wireless portable device has demonstrated compliance with the Specific Absorption Rate (SAR) RF exposure requirements specified in FCC 47 CFR §2.1093 and Health Canada's Safety Code 6. The device was tested in accordance with the measurement standards and procedures specified in FCC OET Bulletin 65, Supplement C (Edition 01-01), Industry Canada RSS-102 Issue 1 (Provisional), and IEEE Standard 1528-2003 for the General Population / Uncontrolled Exposure environment. All measurements were performed in accordance with the SAR system manufacturer recommendations.

I attest to the accuracy of data. All measurements were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

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**Tested By:**



**Sean Johnston**  
Compliance Technologist  
Celltech Labs Inc.

**Reviewed By:**



**Spencer Watson**  
Senior Compliance Technologist  
Celltech Labs Inc.

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## 1.0 INTRODUCTION

This measurement report demonstrates that the Palm, Inc. Model: Treo XXX Dual-Band PCS/Cellular CDMA2000 Phone with Bluetooth FCC ID: O8FJIMI, complies with the SAR (Specific Absorption Rate) RF exposure requirements specified in FCC 47 CFR §2.1093 (see reference [1]) and Health Canada's Safety Code 6 (see reference [2]) for the General Population / Uncontrolled Exposure environment. The test procedures described in FCC OET Bulletin 65, Supplement C, Edition 01-01 (see reference [3]), IC RSS-102 Issue 1 (Provisional) (see reference [4]), and IEEE Standard 1528-2003 (see reference [5]) were employed. A description of the product, operating configuration, detailed summary of the test results, methodology and procedures used in the evaluation, equipment used, and the various provisions of the rules are included within this test report.

## 2.0 DESCRIPTION of Device Under Test (DUT)

|                                  |                                                                |                |                             |                   |
|----------------------------------|----------------------------------------------------------------|----------------|-----------------------------|-------------------|
| FCC Rule Part(s)                 | 47 CFR §2.1093                                                 |                |                             |                   |
| IC Rule Part(s)                  | RSS-102 Issue 1 (Provisional)                                  |                |                             |                   |
| FCC Device Classification        | PCS Licensed Transmitter held to ear (PCE)                     |                |                             |                   |
| IC Device Classification         | 2 GHz Personal Communications Services                         |                | RSS-133 Issue 3             |                   |
|                                  | 800 MHz Cellular Telephone Employing New Technology            |                | RSS-132 Issue 1 (Prov.)     |                   |
| Test Procedure(s)                | FCC OET Bulletin 65, Supplement C (01-01)                      |                |                             |                   |
|                                  | IC RSS-102 Issue 1 (Provisional)                               |                |                             |                   |
|                                  | IEEE Standard 1528-2003                                        |                |                             |                   |
| Device Description               | Portable Dual-Band PCS/Cellular CDMA2000 Phone with Bluetooth  |                |                             |                   |
| FCC IDENTIFIER                   | O8FJIMI                                                        |                |                             |                   |
| IC IDENTIFIER                    | 3905A-JIMI                                                     |                |                             |                   |
| Model(s)                         | Treo XXX                                                       |                |                             |                   |
| Serial No. of Sample Tested      | PWVC0835H0AX                                                   |                | Identical Prototype         |                   |
| Tx Frequency Range(s)            | 1851.25 - 1908.75 MHz                                          |                | PCS CDMA                    |                   |
|                                  | 824.70 - 848.31 MHz                                            |                | Cellular CDMA               |                   |
|                                  | 2402 - 2480 MHz                                                |                | Bluetooth                   |                   |
| Max. RF Output Power Tested      | 23.8 dBm                                                       | Conducted      | 1851.25 MHz                 | PCS Band          |
|                                  | 23.8 dBm                                                       | Conducted      | 1880.00 MHz                 |                   |
|                                  | 23.3 dBm                                                       | Conducted      | 1908.75 MHz                 |                   |
|                                  | 24.0 dBm                                                       | Conducted      | 824.70 MHz                  | Cellular Band     |
|                                  | 23.8 dBm                                                       | Conducted      | 836.52 MHz                  |                   |
|                                  | 24.0 dBm                                                       | Conducted      | 848.31 MHz                  |                   |
|                                  | 0 dBm                                                          | Peak Conducted | FHSS                        | Bluetooth         |
| Battery Type(s) Tested           | Lithium-ion                                                    |                | 3.7 VDC                     | P/N: 157-10014-00 |
| Antenna Type(s) Tested           | External Stubby                                                |                | Dual-Band CDMA              |                   |
|                                  | Internal                                                       |                | Bluetooth                   |                   |
| Body-Worn Accessories Tested     | Leather Side Case (contains Metal Snap) with Belt-Clip         |                |                             | SKU#3180WW        |
|                                  | Leather Pouch and Swivel Belt-Clip (Plastic with Metal Spring) |                |                             | SKU#3179WW        |
|                                  | Leather Latch Case (No metal, > 1.5 cm separation distance)    |                |                             | SKU#3196WW        |
| Additional Configurations Tested | 1.5 cm Air-Gap Spacing                                         |                | Front and Back Sides of DUT |                   |
| Audio Accessories Tested         | Generic Ear-Microphone                                         |                |                             |                   |

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

### 3.0 SAR MEASUREMENT SYSTEM

Celltech Labs Inc. SAR measurement facility utilizes the Dosimetric Assessment System (DASY™) manufactured by Schmid & Partner Engineering AG (SPEAG™) of Zurich, Switzerland. The DASY4 measurement system is comprised of the measurement server, robot controller, computer, near-field probe, probe alignment sensor, specific anthropomorphic mannequin (SAM) phantom, and various planar phantoms for brain and/or body SAR evaluations. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF). A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The Staubli robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the DASY4 measurement server. The DAE4 utilizes a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16-bit AD-converter and a command decoder and control logic unit. Transmission to the DASY4 measurement server is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe-mounting device includes two different sensor systems for frontal and sidewise probe contacts. The sensor systems are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.



DASY4 Measurement System with SAM Phantom



DASY4 Measurement System with SAM Phantom

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## 4.0 MEASUREMENT SUMMARY

### HEAD SAR EVALUATION RESULTS - Cellular CDMA

| Band                                  | Mode | Freq. (MHz)     | Channel | Antenna Type                           | Battery Type | Phantom Section      | Test Position  | Cond. Power Before Test (dBm)        | SAR Drift During Test (dB) | Measured SAR 1g (W/kg) | Scaled SAR 1g (+ 0.2 dB Cond. Pwr.) |              |                 |
|---------------------------------------|------|-----------------|---------|----------------------------------------|--------------|----------------------|----------------|--------------------------------------|----------------------------|------------------------|-------------------------------------|--------------|-----------------|
|                                       |      |                 |         |                                        |              |                      |                |                                      |                            |                        | SAR (W/kg)                          |              | Cond. Pwr. (dB) |
| Cellular                              | CDMA | 836.52          | 384     | Stubby                                 | Li-ion       | Right Ear            | Cheek/Touch    | 23.8                                 | 0.0783                     | P 1.06<br>S 1.03       | P 1.11<br>S 1.08                    | 24.0<br>24.0 |                 |
| Cellular                              | CDMA | 824.70          | 1013    | Stubby                                 | Li-ion       | Right Ear            | Cheek/Touch    | 24.0                                 | 0.296                      | P 1.01<br>S 0.942      | P 1.06<br>S 0.986                   | 24.2<br>24.2 |                 |
| Cellular                              | CDMA | 848.31          | 777     | Stubby                                 | Li-ion       | Right Ear            | Cheek/Touch    | 24.0                                 | -0.0870                    | P 1.17<br>S 1.15       | P 1.23<br>S 1.20                    | 24.2<br>24.2 |                 |
| Cellular                              | CDMA | 836.52          | 384     | Stubby                                 | Li-ion       | Right Ear            | Ear/Tilt (15°) | 23.8                                 | 0.0403                     | 1.05                   | 1.10                                | 24.0         |                 |
| Cellular                              | CDMA | 824.70          | 1013    | Stubby                                 | Li-ion       | Right Ear            | Ear/Tilt (15°) | 24.0                                 | 0.0484                     | 1.14                   | 1.19                                | 24.2         |                 |
| Cellular                              | CDMA | 848.31          | 777     | Stubby                                 | Li-ion       | Right Ear            | Ear/Tilt (15°) | 24.0                                 | 0.0677                     | 1.20                   | 1.26                                | 24.2         |                 |
| Cellular                              | CDMA | 836.52          | 384     | Stubby                                 | Li-ion       | Left Ear             | Cheek/Touch    | 23.8                                 | -0.0209                    | 1.01                   | 1.06                                | 24.0         |                 |
| Cellular                              | CDMA | 824.70          | 1013    | Stubby                                 | Li-ion       | Left Ear             | Cheek/Touch    | 24.0                                 | 0.0190                     | 0.855                  | 0.895                               | 24.2         |                 |
| Cellular                              | CDMA | 848.31          | 777     | Stubby                                 | Li-ion       | Left Ear             | Cheek/Touch    | 24.0                                 | -0.0477                    | 1.10                   | 1.15                                | 24.2         |                 |
| Cellular                              | CDMA | 836.52          | 384     | Stubby                                 | Li-ion       | Left Ear             | Ear/Tilt (15°) | 23.8                                 | 0.0470                     | 0.850                  | 0.890                               | 24.0         |                 |
| Cellular                              | CDMA | 824.70          | 1013    | Stubby                                 | Li-ion       | Left Ear             | Ear/Tilt (15°) | 24.0                                 | 0.00982                    | 0.720                  | 0.754                               | 24.2         |                 |
| Cellular                              | CDMA | 848.31          | 777     | Stubby                                 | Li-ion       | Left Ear             | Ear/Tilt (15°) | 24.0                                 | 0.00854                    | 0.928                  | 0.972                               | 24.2         |                 |
| ANSI / IEEE C95.1 1999 - SAFETY LIMIT |      |                 |         | BRAIN: 1.6 W/kg (averaged over 1 gram) |              |                      |                | Spatial Peak - Uncontrolled Exposure |                            |                        |                                     |              |                 |
| Test Date(s)                          |      | August 23, 2005 |         |                                        |              | Relative Humidity    |                |                                      | 31                         |                        | %                                   |              |                 |
| Measured Fluid Type                   |      | 835 MHz Brain   |         |                                        |              | Atmospheric Pressure |                |                                      | 101.8                      |                        | kPa                                 |              |                 |
| Dielectric Constant<br>ε <sub>r</sub> |      | IEEE Target     |         | Measured                               | Deviation    | Ambient Temperature  |                |                                      | 22.9                       |                        | °C                                  |              |                 |
|                                       |      | 41.5            | ± 5%    | 41.3                                   | -0.5%        | Fluid Temperature    |                |                                      | 22.7                       |                        | °C                                  |              |                 |
| Conductivity<br>σ (mho/m)             |      | IEEE Target     |         | Measured                               | Deviation    | Fluid Depth          |                |                                      | ≥ 15                       |                        | cm                                  |              |                 |
|                                       |      | 0.90            | ± 5%    | 0.87                                   | -3.3%        | ρ (Kg/m³)            |                |                                      | 1000                       |                        |                                     |              |                 |

Note(s):

- The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
- If the SAR levels measured at the mid channel were  $\geq 3$  dB below the SAR limit, SAR evaluation for the low and high channels was optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]).
- Secondary peak SAR levels within 2 dB of the primary were reported (P = Primary, S = Secondary).
- The power drift of the DUT during the SAR evaluations was measured by the DASY4 system.
- The measured SAR levels were scaled up by +0.2 dB ( $\leq 5\%$ ) to report worst-case SAR levels with a  $\leq +5\%$  increase in conducted power.
- The DUT was not evaluated for Head SAR with the Bluetooth co-transmitting due to the fact that the Bluetooth is intended for body-worn operation only with a corresponding Bluetooth device.
- The Lithium-ion battery was fully charged prior to each SAR evaluation.
- The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the SAR evaluations. The temperatures reported were consistent for all measurement periods.
- The dielectric parameters of the simulated tissue mixture were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C for measured fluid dielectric parameters).
- The SAR measurements were performed within 24 hours of the system performance check.

|                         |                                                   |                                                                                                                |         |        |                                     |        |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|-------------------------------------|--------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI                          | Model: | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         | Freq.: | 1851.25-1908.75 / 824.70-848.31 MHz |        |          |                                                                                       |
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| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## MEASUREMENT SUMMARY (Cont.)

### HEAD SAR EVALUATION RESULTS - PCS CDMA

| Test Date                             | Band | Mode | Freq. (MHz)     | Chan. | Antenna Type | Battery Type                           | Phantom Section | Test Position          | Cond. Power Before Test (dBm) | SAR Drift During Test (dB) | Measured SAR 1g (W/kg)               |        | Scaled SAR 1g (+ 0.2 dB Cond. Pwr.) |                 |      |      |
|---------------------------------------|------|------|-----------------|-------|--------------|----------------------------------------|-----------------|------------------------|-------------------------------|----------------------------|--------------------------------------|--------|-------------------------------------|-----------------|------|------|
|                                       |      |      |                 |       |              |                                        |                 |                        |                               |                            |                                      |        | SAR (W/kg)                          | Cond. Pwr. (dB) |      |      |
| Aug 24                                | PCS  | CDMA | 1880.00         | 600   | Stubby       | Li-ion                                 | Right Ear       | Cheek/Touch            | 23.8                          | 0.195                      | P                                    | 0.917  | P                                   | 0.960           | 24.0 |      |
|                                       |      |      |                 |       |              |                                        |                 |                        |                               |                            | S                                    | 0.742  | S                                   | 0.777           | 24.0 |      |
| Aug 24                                | PCS  | CDMA | 1851.25         | 25    | Stubby       | Li-ion                                 | Right Ear       | Cheek/Touch            | 23.8                          | -0.00835                   | P                                    | 0.867  | P                                   | 0.908           | 24.0 |      |
|                                       |      |      |                 |       |              |                                        |                 |                        |                               |                            | S                                    | 0.679  | S                                   | 0.711           | 24.0 |      |
| Aug 24                                | PCS  | CDMA | 1908.75         | 1175  | Stubby       | Li-ion                                 | Right Ear       | Cheek/Touch            | 23.3                          | 0.0694                     | P                                    | 0.711  | P                                   | 0.745           | 23.5 |      |
|                                       |      |      |                 |       |              |                                        |                 |                        |                               |                            | S                                    | 0.534  | S                                   | 0.559           | 23.5 |      |
| Aug 23                                | PCS  | CDMA | 1880.00         | 600   | Stubby       | Li-ion                                 | Right Ear       | Ear/Tilt (15°)         | 23.8                          | 0.239                      | 1.20                                 |        | 1.26                                |                 | 24.0 |      |
| Aug 23                                | PCS  | CDMA | 1851.25         | 25    | Stubby       | Li-ion                                 | Right Ear       | Ear/Tilt (15°)         | 23.8                          | -0.0698                    | 1.12                                 |        | 1.17                                |                 | 24.0 |      |
| Aug 23                                | PCS  | CDMA | 1908.75         | 1175  | Stubby       | Li-ion                                 | Right Ear       | Ear/Tilt (15°)         | 23.3                          | -0.164                     | 0.928                                |        | 0.972                               |                 | 23.5 |      |
| Aug 24                                | PCS  | CDMA | 1880.00         | 600   | Stubby       | Li-ion                                 | Left Ear        | Cheek/Touch            | 23.8                          | -0.123                     | P                                    | 0.912  | P                                   | 0.955           | 24.0 |      |
|                                       |      |      |                 |       |              |                                        |                 |                        |                               |                            | S                                    | 0.786  | S                                   | 0.823           | 24.0 |      |
| Aug 24                                | PCS  | CDMA | 1851.25         | 25    | Stubby       | Li-ion                                 | Left Ear        | Cheek/Touch            | 23.8                          | -0.0054                    | P                                    | 0.839  | P                                   | 0.879           | 24.0 |      |
|                                       |      |      |                 |       |              |                                        |                 |                        |                               |                            | S                                    | 0.823  | S                                   | 0.862           | 24.0 |      |
| Aug 24                                | PCS  | CDMA | 1908.75         | 1175  | Stubby       | Li-ion                                 | Left Ear        | Cheek/Touch            | 23.3                          | 0.00878                    | P                                    | 0.704  | P                                   | 0.737           | 23.5 |      |
|                                       |      |      |                 |       |              |                                        |                 |                        |                               |                            | S                                    | 0.654  | S                                   | 0.685           | 23.5 |      |
| Aug 23                                | PCS  | CDMA | 1880.00         | 600   | Stubby       | Li-ion                                 | Left Ear        | Ear/Tilt (15°)         | 23.8                          | -0.0116                    | 1.17                                 |        | 1.23                                |                 | 24.0 |      |
| Aug 23                                | PCS  | CDMA | 1851.25         | 25    | Stubby       | Li-ion                                 | Left Ear        | Ear/Tilt (15°)         | 23.8                          | -0.181                     | 1.18                                 |        | 1.24                                |                 | 24.0 |      |
| Aug 23                                | PCS  | CDMA | 1908.75         | 1175  | Stubby       | Li-ion                                 | Left Ear        | Ear/Tilt (15°)         | 23.3                          | -0.0623                    | 0.937                                |        | 0.981                               |                 | 23.5 |      |
| ANSI / IEEE C95.1 1999 - SAFETY LIMIT |      |      |                 |       |              | BRAIN: 1.6 W/kg (averaged over 1 gram) |                 |                        |                               |                            | Spatial Peak - Uncontrolled Exposure |        |                                     |                 |      |      |
| Test Date(s)                          |      |      | August 23, 2005 |       |              | August 24, 2005                        |                 |                        | Test Date(s)                  |                            |                                      | Aug 23 |                                     | Aug 24          |      | Unit |
| Measured Fluid Type                   |      |      | 1880 MHz Brain  |       |              |                                        |                 |                        | Relative Humidity             |                            |                                      | 30     |                                     | 31              |      | %    |
| Dielectric Constant<br>ε <sub>r</sub> |      |      | IEEE Target     |       | Date         | Measured                               | Deviation       | Atmospheric Pressure   |                               |                            | 101.5                                |        | 102.0                               |                 | kPa  |      |
|                                       |      |      | 40.0            | ± 5%  | Aug 23       | 38.5                                   | -3.8%           | Ambient Temperature    |                               |                            | 25.3                                 |        | 24.0                                |                 | °C   |      |
|                                       |      |      |                 |       | Aug 24       | 38.2                                   | -4.5%           |                        |                               |                            |                                      |        |                                     |                 |      |      |
| Conductivity<br>σ (mho/m)             |      |      | 1880 MHz Brain  |       |              |                                        |                 |                        | Fluid Temperature             |                            |                                      | 23.3   |                                     | 23.5            |      | °C   |
|                                       |      |      | IEEE Target     |       | Date         | Measured                               | Deviation       | Fluid Depth            |                               |                            | ≥ 15                                 |        | ≥ 15                                |                 | cm   |      |
|                                       |      |      | 1.40            | ± 5%  | Aug 23       | 1.40                                   | 0.0%            | ρ (Kg/m <sup>3</sup> ) |                               |                            | 1000                                 |        |                                     |                 |      |      |
|                                       |      |      |                 |       | Aug 24       | 1.35                                   | -3.6%           |                        |                               |                            |                                      |        |                                     |                 |      |      |

#### Note(s):

- The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
- If the SAR levels measured at the mid channel were  $\geq 3$  dB below the SAR limit, SAR evaluation for the low and high channels was optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]).
- Secondary peak SAR levels within 2 dB of the primary were reported (P = Primary, S = Secondary).
- The power drift of the DUT during the SAR evaluations was measured by the DASY4 system.
- The measured SAR levels were scaled up by +0.2 dB ( $\leq 5\%$ ) to report worst-case SAR levels with a  $\leq +5\%$  increase in conducted power.
- The DUT was not evaluated for Head SAR with the Bluetooth co-transmitting due to the fact that the Bluetooth is intended for body-worn operation only with a corresponding Bluetooth device.
- The Lithium-ion battery was fully charged prior to each SAR evaluation.
- The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the SAR evaluations. The temperatures reported were consistent for all measurement periods.
- The dielectric parameters of the simulated tissue mixture were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C for measured fluid dielectric parameters).
- The SAR measurements were performed within 24 hours of the system performance check.

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## MEASUREMENT SUMMARY (Cont.)

### BODY-WORN SAR EVALUATION RESULTS - PCS CDMA

| Band                                  | Mode | Freq. (MHz) | Chan. | Antenna Type    | Battery Type | Accessories                           |          | DUT Position to Planar Phantom | Separ. Distance to Planar Phantom (cm) | Cond. Power Before Test (dBm)        | SAR Drift During Test (dB) | Measured SAR 1g (W/kg) | Scaled SAR 1g (+ 0.2 dB Cond. Pwr.) |                  |
|---------------------------------------|------|-------------|-------|-----------------|--------------|---------------------------------------|----------|--------------------------------|----------------------------------------|--------------------------------------|----------------------------|------------------------|-------------------------------------|------------------|
|                                       |      |             |       |                 |              | Body-Worn                             | Audio    |                                |                                        |                                      |                            |                        | SAR (W/kg)                          | Cond. Pwr. (dBm) |
| PCS                                   | CDMA | 1880        | 600   | Stubby          | Li-ion       | Side Case with Belt-Clip              | Ear-Mic  | Front                          | 1.4                                    | 23.8                                 | -0.184                     | 0.446                  | 0.467                               | 24.0             |
| PCS                                   | CDMA | 1880        | 600   | Stubby          | Li-ion       | Pouch and Swivel Belt-Clip            | Ear-Mic  | Back                           | 2.5                                    | 23.8                                 | -0.107                     | 0.260                  | 0.272                               | 24.0             |
| PCS                                   | CDMA | 1880        | 600   | Stubby          | Li-ion       | None (Air-Gap Spacing)                | Ear-Mic  | Back                           | 1.5                                    | 23.8                                 | -0.159                     | 0.481                  | 0.504                               | 24.0             |
| PCS                                   | CDMA | 1880        | 600   | Stubby          | Li-ion       | None (Air-Gap Spacing)                | Ear-Mic  | Back                           | 1.5                                    | 23.8                                 | -0.187                     | 0.523                  | 0.548                               | 24.0             |
| Bluetooth*                            |      | FHSS        |       |                 |              |                                       |          |                                |                                        | 0                                    |                            |                        |                                     | 0                |
| PCS                                   | CDMA | 1880        | 600   | Stubby          | Li-ion       | None (Air-Gap Spacing)                | Ear-Mic  | Front                          | 1.5                                    | 23.8                                 | -0.186                     | 0.405                  | 0.424                               | 24.0             |
| ANSI / IEEE C95.1 1999 - SAFETY LIMIT |      |             |       |                 |              | BODY: 1.6 W/kg (averaged over 1 gram) |          |                                |                                        | Spatial Peak - Uncontrolled Exposure |                            |                        |                                     |                  |
| Test Date(s)                          |      |             |       | August 24, 2005 |              | *August 30, 2005                      |          |                                | Test Date(s)                           |                                      |                            | Aug. 24                | Aug. 30                             | Unit             |
| Measured Fluid Type                   |      |             |       | 1880 MHz Body   |              |                                       |          |                                | Relative Humidity                      |                                      |                            | 30                     | 34                                  | %                |
| Fluid Parameters                      |      |             |       | IEEE Target     |              | Date                                  | Measured | Deviation                      | Atmospheric Pressure                   |                                      |                            | 101.8                  | 102.2                               | kPa              |
| Dielectric Constant $\epsilon_r$      |      |             |       | 53.3            | $\pm$ 5%     | Aug 24                                | 51.0     | -4.3%                          | Ambient Temperature                    |                                      |                            | 25.5                   | 23.4                                | °C               |
|                                       |      |             |       |                 |              | Aug 30                                | 50.9     | -4.5%                          |                                        |                                      |                            |                        |                                     |                  |
| Conductivity $\sigma$ (mho/m)         |      |             |       | 1.52            | $\pm$ 5%     | Aug 24                                | 1.51     | -0.7%                          | Fluid Temperature                      |                                      |                            | 23.5                   | 23.5                                | °C               |
|                                       |      |             |       |                 |              | Aug 30                                | 1.58     | +3.9%                          |                                        |                                      |                            |                        |                                     |                  |
| $\rho$ (Kg/m³)                        |      |             |       | 1000            |              |                                       |          |                                | Fluid Depth                            |                                      |                            | $\geq$ 15              | $\geq$ 15                           | cm               |

Note(s):

- \* Bluetooth Co-located Simultaneous Transmit evaluation.
- 1. The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
- 2. If the SAR levels measured at the mid channel were  $\geq 3$  dB below the SAR limit, SAR evaluation for the low and high channels was optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]).
- 3. The power drift of the DUT during the SAR evaluations was measured by the DASY4 system.
- 4. The measured SAR levels were scaled up by +0.2 dB ( $\leq 5\%$ ) to report worst-case SAR levels with a  $\leq +5\%$  increase in conducted power.
- 5. The Lithium-ion battery was fully charged prior to each SAR evaluation.
- 6. The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the SAR evaluations. The temperatures reported were consistent for all measurement periods.
- 7. The dielectric parameters of the simulated tissue mixture were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C for measured fluid dielectric parameters).
- 8. The SAR measurements were performed within 24 hours of the system performance check.

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## MEASUREMENT SUMMARY (Cont.)

### BODY-WORN SAR EVALUATION RESULTS - Cellular CDMA

| Band                                  | Mode | Freq.<br>(MHz) | Chan.           | Antenna<br>Type | Battery<br>Type                       | Accessories                   |           | DUT<br>Position<br>to Planar<br>Phantom | Separ.<br>Distance to<br>Planar<br>Phantom<br>(cm) | Cond.<br>Power<br>Before<br>Test<br>(dBm) | SAR<br>Drift<br>During<br>Test<br>(dB) | Measured<br>SAR 1g<br>(W/kg) | Scaled SAR 1g<br>(+ 0.2 dB<br>Cond. Pwr.) |                       |      |
|---------------------------------------|------|----------------|-----------------|-----------------|---------------------------------------|-------------------------------|-----------|-----------------------------------------|----------------------------------------------------|-------------------------------------------|----------------------------------------|------------------------------|-------------------------------------------|-----------------------|------|
|                                       |      |                |                 |                 |                                       | Body-Worn                     | Audio     |                                         |                                                    |                                           |                                        |                              | SAR<br>(W/kg)                             | Cond.<br>Pwr.<br>(dB) |      |
| Cellular                              | CDMA | 836.52         | 384             | Stubby          | Li-ion                                | Side Case<br>with Belt-Clip   | Ear-Mic   | Front                                   | 1.4                                                | 23.8                                      | -0.0791                                | 0.841                        | 0.881                                     | 24.0                  |      |
| Cellular                              | CDMA | 824.70         | 1013            | Stubby          | Li-ion                                | Side Case<br>with Belt-Clip   | Ear-Mic   | Front                                   | 1.4                                                | 24.0                                      | -0.0952                                | 0.593                        | 0.621                                     | 24.2                  |      |
| Cellular                              | CDMA | 848.31         | 777             | Stubby          | Li-ion                                | Side Case<br>with Belt-Clip   | Ear-Mic   | Front                                   | 1.4                                                | 24.0                                      | -0.0212                                | 0.861                        | 0.902                                     | 24.2                  |      |
| Cellular                              | CDMA | 848.31         | 777             | Stubby          | Li-ion                                | Side Case<br>with Belt-Clip   | Ear-Mic   | Front                                   | 1.4                                                | 24.0                                      | -0.107                                 | 0.961                        | 1.01                                      | 24.2                  |      |
| Bluetooth*                            |      | FHSS           |                 |                 |                                       |                               |           |                                         |                                                    | 0                                         |                                        |                              |                                           | 0                     |      |
| Cellular                              | CDMA | 836.52         | 384             | Stubby          | Li-ion                                | Pouch and<br>Swivel Belt-Clip | Ear-Mic   | Back                                    | 2.5                                                | 23.8                                      | -0.0542                                | 0.248                        | 0.260                                     | 24.0                  |      |
| Cellular                              | CDMA | 836.52         | 384             | Stubby          | Li-ion                                | None<br>(Air-Gap Spacing)     | Ear-Mic   | Back                                    | 1.5                                                | 23.8                                      | -0.0730                                | 0.618                        | 0.647                                     | 24.0                  |      |
| Cellular                              | CDMA | 836.52         | 384             | Stubby          | Li-ion                                | None<br>(Air-Gap Spacing)     | Ear-Mic   | Front                                   | 1.5                                                | 23.8                                      | -0.0974                                | 0.636                        | 0.666                                     | 24.0                  |      |
| ANSI / IEEE C95.1 1999 - SAFETY LIMIT |      |                |                 |                 | BODY: 1.6 W/kg (averaged over 1 gram) |                               |           |                                         |                                                    | Spatial Peak - Uncontrolled Exposure      |                                        |                              |                                           |                       |      |
| Test Date(s)                          |      |                | August 25, 2005 |                 | *August 30, 2005                      |                               |           | Test Date(s)                            |                                                    |                                           | Aug. 25                                |                              | Aug. 30                                   |                       | Unit |
| Measured Fluid Type                   |      |                | 835 MHz Body    |                 |                                       |                               |           | Relative Humidity                       |                                                    |                                           | 30                                     |                              | 34                                        |                       | %    |
| Fluid Parameters                      |      |                | IEEE Target     |                 | Date                                  | Measured                      | Deviation | Atmospheric Pressure                    |                                                    |                                           | 102.2                                  |                              | 102.2                                     |                       | kPa  |
| Dielectric Constant<br>ε <sub>r</sub> |      |                | 55.2            | ± 5%            | Aug 25                                | 54.0                          | -2.2%     | Ambient Temperature                     |                                                    |                                           | 24.1                                   |                              | 24.2                                      |                       | °C   |
|                                       |      |                |                 |                 | Aug 30                                | 53.8                          | -2.5%     |                                         |                                                    |                                           |                                        |                              |                                           |                       |      |
| Conductivity<br>σ (mho/m)             |      |                | 0.97            | ± 5%            | Aug 25                                | 0.98                          | +1.0%     | Fluid Temperature                       |                                                    |                                           | 23.5                                   |                              | 23.3                                      |                       | °C   |
|                                       |      |                |                 |                 | Aug 30                                | 0.97                          | 0.0%      |                                         |                                                    |                                           |                                        |                              |                                           |                       |      |
| ρ (Kg/m <sup>3</sup> )                |      |                | 1000            |                 |                                       |                               |           | Fluid Depth                             |                                                    |                                           | ≥ 15                                   |                              | ≥ 15                                      |                       | cm   |

Note(s):

- \* Bluetooth Co-located Simultaneous Transmit evaluation.
- 1. The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
- 2. If the SAR levels measured at the mid channel were  $\geq 3$  dB below the SAR limit, SAR evaluation for the low and high channels was optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]).
- 3. The power drift of the DUT during the SAR evaluations was measured by the DASY4 system.
- 4. The measured SAR levels were scaled up by +0.2 dB ( $\leq 5\%$ ) to report worst-case SAR levels with a  $\leq +5\%$  increase in conducted power.
- 5. The Lithium-ion battery was fully charged prior to each SAR evaluation.
- 6. The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the SAR evaluations. The temperatures reported were consistent for all measurement periods.
- 7. The dielectric parameters of the simulated tissue mixture were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C for measured fluid dielectric parameters).
- 8. The SAR measurements were performed within 24 hours of the system performance check.

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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## 5.0 DETAILS OF SAR EVALUATION

The Palm, Inc. Model: Treo XXX Dual-Band PCS/Cellular CDMA2000 Phone with Bluetooth FCC ID: O8FJIMI was compliant for localized Specific Absorption Rate (SAR) based on the test provisions and conditions described below. The detailed test setup photographs are shown in Appendix D.

### Ear-held Configuration

- 1) The DUT was tested in an ear-held configuration on both the left and right sections of the SAM phantom at the mid channel of the operating band. If the SAR level at the mid channel of the frequency band for each test configuration (left ear, right ear, cheek/touch, ear/tilt) was  $\geq 3$  dB below the SAR limit, measurements at the low and high channels were optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]).
  - a) The handset was placed in the device holder in a normal operating position with the test device reference point located along the vertical centerline on the front of the device aligned to the ear reference point, with the center of the earpiece touching the center of the ear spacer of the SAM phantom.
  - b) With the handset positioned parallel to the cheek, the test device reference point was aligned to the ear reference point on the head phantom, and the vertical centerline was aligned to the phantom reference plane (initial ear position).
  - c) While maintaining the three alignments, the body of the handset was gradually adjusted to each of the following test positions:
    - Cheek/Touch Position: the handset was brought toward the mouth of the head phantom by pivoting against the ear reference point until any point of the mouthpiece or keypad touched the phantom.

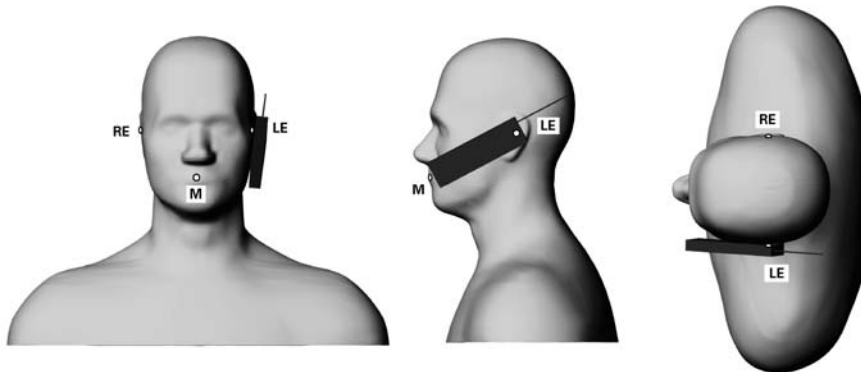


Figure 1. Phone position 1, "cheek" or "touch" position. The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning, are indicated (Shoulders are shown for illustration only).

- Ear/Tilt Position: With the phone aligned in the Cheek/Touch position, the handset was tilted away from the mouth with respect to the test device reference point by 15 degrees.

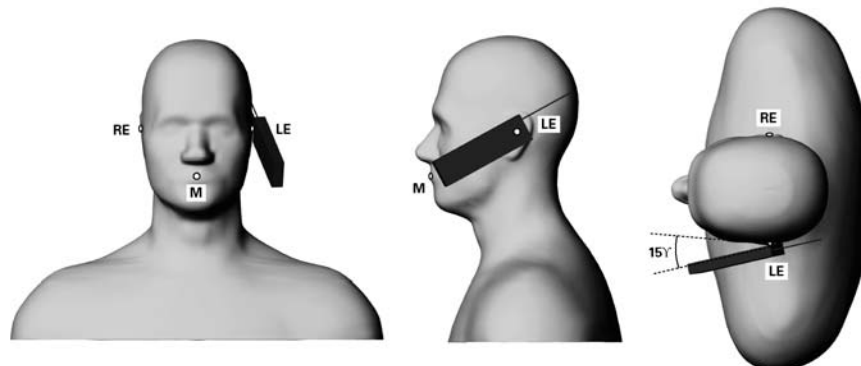


Figure 2. Phone position 2, "tilted position." The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning, are indicated (Shoulders are shown for illustration only).

## DETAILS OF SAR EVALUATION (Cont.)

### Body-worn Configuration

- 2) The DUT was tested in a body-worn configuration placed inside the Leather Side Case and Belt-Clip accessory (SKU#3180WW). The front side of the DUT (keypad side) was placed facing parallel to the outer surface of the SAM phantom (planar section) with the belt-clip touching the phantom surface (the Leather Side Case with Belt-Clip accessory is designed so that the DUT is positioned with the front keypad side facing the user's body). The Leather Side Case with Belt-Clip accessory provided a 1.4 cm separation distance between the front side of the DUT (keypad side) and the outer surface of the SAM phantom (planar section). A generic ear-microphone accessory was connected to the audio port of the DUT for the duration of the tests.
- 3) The DUT was tested in a body-worn configuration placed inside the Fitted Leather Pouch with Swivel Belt-Clip accessory (SKU#3179WW). The back side of the DUT was placed facing parallel to the outer surface of the SAM phantom (planar section) with the attached swivel belt-clip accessory touching the phantom surface (the Fitted Leather Pouch accessory is designed so that the DUT is positioned with the back side facing the user's body). The Fitted Leather Pouch with Swivel Belt-Clip accessory provided a 2.5 cm separation distance between the back side of the DUT and the outer surface of the SAM phantom (planar section). A generic ear-microphone accessory was connected to the audio port of the DUT for the duration of the tests.
- 4) The DUT was tested in a body-worn configuration with an "air-gap" spacing of 1.5 cm between the front side (keypad side) and the outer surface of the SAM phantom (planar section). The DUT was also tested with an "air-gap" spacing of 1.5 cm between the back side (battery side) and the outer surface of the SAM phantom (planar section). No body-worn accessories were used with the DUT in the "air-gap" spacing test configurations for the purpose of allowing for generic body-worn holster/case/clip accessories that do not contain any metallic components and provide a minimum separation distance of 1.5 cm between the phone and the user's body. A generic ear-microphone accessory was connected to the audio port of the DUT for the duration of the tests.
- 5) Co-located transmit tests were performed with the CDMA and Bluetooth transmitting simultaneously in the worst-case single-transmit body-worn configuration for both the PCS and Cellular bands.

### Test Modes & Power Settings

- 6) The DUT was tested with a modulated CDMA signal generated by the Will'Tek 4303 Mobile Service Tester in the "always up" power control mode.
- 7) For the co-transmit body-worn SAR evaluations the Bluetooth was enabled via internal software with the DUT transmitting to a remote Bluetooth headset device.
- 8) The conducted power levels were measured prior to each test according to the procedures described in FCC 47 CFR §2.1046 using a Gigatronics 8652A Universal Power Meter.
- 9) The power drift of the DUT during the SAR evaluations was measured by the DASY4 system.
- 10) The measured SAR levels were scaled up by +0.2 dB ( $\leq 5\%$ ) to report worst-case SAR levels with a  $\leq +5\%$  increase in conducted power.
- 11) The Lithium-ion battery was fully charged prior to each SAR evaluation.

### Test Conditions

- 12) The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter checks and the SAR evaluations. The temperatures reported were consistent for all measurement periods.
- 13) The dielectric parameters of the simulated tissue mixtures were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C for measured fluid dielectric parameters).
- 14) The SAR measurements were performed within 24 hours of the system performance check.

## 6.0 EVALUATION PROCEDURES

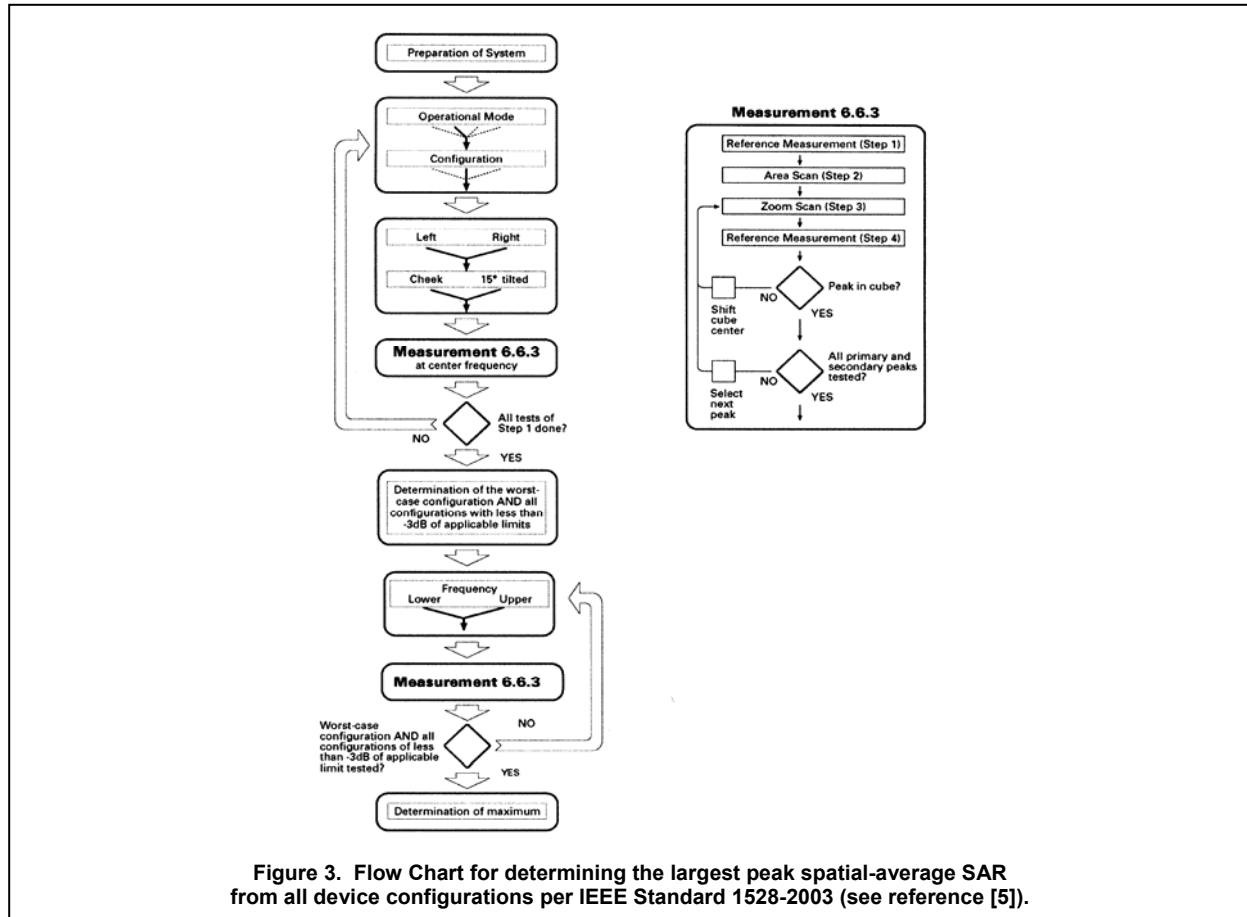
- (i) The evaluation was performed in the applicable area of the phantom depending on the type of device being tested. For devices held to the ear during normal operation, both the left and right ear positions were evaluated using the SAM phantom.
- (ii) For certain body-worn and face-held devices a planar phantom was used.
- The SAR was determined by a pre-defined procedure within the DASY4 software. Upon completion of a reference and optical surface check, the exposed region of the phantom was scanned near the inner surface with a grid spacing of 15mm x 15mm.

An area scan was determined as follows:

- Based on the defined area scan grid, a more detailed grid is created to increase the points by a factor of 10. The interpolation function then evaluates all field values between corresponding measurement points.
- A linear search is applied to find all the candidate maxima. Subsequently, all maxima are removed that are >2 dB from the global maximum. The remaining maxima are then used to position the cube scans.

A 1g and 10g spatial peak SAR was determined as follows:

- Extrapolation is used to find the points between the dipole center of the probe and the surface of the phantom. This data cannot be measured, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.4 mm (see probe calibration document in Appendix F). The extrapolation was based on trivariate quadratics computed from the previously calculated 3D interpolated points nearest the phantom surface.
- Interpolated data is used to calculate the average SAR over 1g and 10g cubes by spatially discretizing the entire measured cube. The volume used to determine the averaged SAR is a 1mm grid (42875 interpolated points).
- A zoom scan volume of 32 mm x 32 mm x 30 mm (5x5x7 points) centered at the peak SAR location determined from the area scan is used for all zoom scans for devices with a transmit frequency < 800 MHz. Zoom scans for frequencies ≥ 800 MHz are determined with a scan volume of 30 mm x 30 mm x 30 mm (7x7x7 points) to ensure complete capture of the peak spatial-average SAR.



|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## 7.0 SYSTEM PERFORMANCE CHECK

Prior to the SAR evaluations a system check was performed at the planar section of the phantom with an 835MHz dipole and a 1900MHz dipole (see Appendix E for system validation procedures). The dielectric parameters of the simulated tissue mixture were measured prior to the system performance check using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C for measured fluid dielectric parameters). A forward power of 250mW was applied to the dipole and the system was verified to a tolerance of  $\pm 10\%$  (see Appendix B for system performance check test plots). See Table 1 below for the SAR system manufacturer's reference body SAR values from the DASY4 Operation Manual, April 2005 (see reference [6]).

### SYSTEM PERFORMANCE CHECK EVALUATIONS

| Test Date | Equiv. Tissue (MHz) | SAR 1g (W/kg)     |       |       | Dielectric Constant $\epsilon_r$ |       |       | Conductivity $\sigma$ (mho/m) |       |       | $\rho$ (Kg/m <sup>3</sup> ) | Amb. Temp. (°C) | Fluid Temp. (°C) | Fluid Depth (cm) | Humid. (%) | Barom. Press. (kPa) |
|-----------|---------------------|-------------------|-------|-------|----------------------------------|-------|-------|-------------------------------|-------|-------|-----------------------------|-----------------|------------------|------------------|------------|---------------------|
|           |                     | IEEE/SPEAG Target | Meas. | Dev.  | IEEE Target                      | Meas. | Dev.  | IEEE Target                   | Meas. | Dev.  |                             |                 |                  |                  |            |                     |
| 8/22/05   | 835 Brain           | 2.38 $\pm 10\%$   | 2.54  | +6.7% | 41.5 $\pm 5\%$                   | 41.6  | +0.2% | 0.90 $\pm 5\%$                | 0.92  | +2.2% | 1000                        | 25.5            | 23.8             | $\geq 15$        | 30         | 101.1               |
| 8/23/05   | 1900 Brain          | 9.93 $\pm 10\%$   | 10.4  | +4.7% | 40.0 $\pm 5\%$                   | 38.4  | -4.0% | 1.40 $\pm 5\%$                | 1.42  | +1.4% | 1000                        | 25.6            | 23.3             | $\geq 15$        | 30         | 101.5               |
| 8/25/05   | 835 Brain           | 2.38 $\pm 10\%$   | 2.45  | +2.9% | 41.5 $\pm 5\%$                   | 40.7  | -1.9% | 0.90 $\pm 5\%$                | 0.90  | 0.0%  | 1000                        | 24.2            | 23.1             | $\geq 15$        | 31         | 102.2               |
| 8/30/05   | 1900 Body           | 9.95 $\pm 10\%$   | 10.4  | +4.6% | 53.3 $\pm 5\%$                   | 50.7  | -4.9% | 1.52 $\pm 5\%$                | 1.59  | +4.6% | 1000                        | 23.4            | 23.5             | $\geq 15$        | 34         | 102.2               |
| 8/30/05   | 835 Body            | 2.43 $\pm 10\%$   | 2.49  | +2.5% | 55.2 $\pm 5\%$                   | 53.8  | -2.5% | 0.97 $\pm 5\%$                | 0.97  | 0.0%  | 1000                        | 24.7            | 23.3             | $\geq 15$        | 33         | 102.2               |

Note(s):

1. The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the system performance check. The temperatures reported in the above table were consistent for all measurement periods.

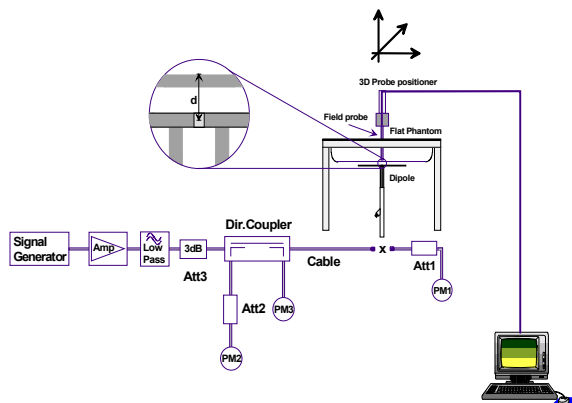


Figure 4. System Performance Check Setup Diagram

| Dipole Type | Distance [mm] | Frequency [MHz] | SAR (1g) [W/kg] | SAR (10g) [W/kg] | SAR (peak) [W/kg] |
|-------------|---------------|-----------------|-----------------|------------------|-------------------|
| D300V2      | 15            | 300             | 3.02            | 2.06             | 4.36              |
| D450V2      | 15            | 450             | 5.01            | 3.36             | 7.22              |
| D835V2      | 15            | 835             | 9.71            | 6.38             | 14.1              |
| D900V2      | 15            | 900             | 11.1            | 7.17             | 16.3              |
| D1450V2     | 10            | 1450            | 29.6            | 16.6             | 49.8              |
| D1500V2     | 10            | 1500            | 30.8            | 17.1             | 52.1              |
| D1640V2     | 10            | 1640            | 34.4            | 18.7             | 59.4              |
| D1800V2     | 10            | 1800            | 38.5            | 20.3             | 67.5              |
| D1900V2     | 10            | 1900            | 39.8            | 20.8             | 69.6              |
| D2000V2     | 10            | 2000            | 40.9            | 21.2             | 71.5              |
| D2450V2     | 10            | 2450            | 51.2            | 23.7             | 97.6              |
| D3000V2     | 10            | 3000            | 61.9            | 24.8             | 136.7             |

Table 32.1: Numerical reference SAR values for SPEAG dipoles and flat phantom filled with body-tissue simulating liquid. Note: All SAR values normalized to 1 W forward power.

Table 1. SAR system manufacturer's reference Body SAR values



835MHz Dipole Setup



1900MHz Dipole Setup

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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## 8.0 SIMULATED EQUIVALENT TISSUES

The 1880/1900MHz simulated equivalent tissue mixtures consist of Glycol-monobutyl, water, and salt. The 835MHz simulated tissue mixtures consist of a viscous gel using hydroxethylcellulose (HEC) gelling agent and saline solution. Preservation with a bactericide was added and visual inspection was made to ensure air bubbles were not trapped during the mixing process. The fluids were prepared according to standardized procedures and measured for dielectric parameters (permittivity and conductivity).

| 1880/1900MHz TISSUE MIXTURES |                |                |               |                |
|------------------------------|----------------|----------------|---------------|----------------|
| INGREDIENT                   | 1900 MHz Brain | 1880 MHz Brain | 1900 MHz Body | 1880 MHz Body  |
|                              | System Check   | DUT Evaluation | System Check  | DUT Evaluation |
| Water                        | 55.85 %        | 55.85 %        | 69.85 %       | 69.85 %        |
| Glycol Monobutyl             | 44.00 %        | 44.00 %        | 29.89 %       | 29.89 %        |
| Salt                         | 0.15 %         | 0.15 %         | 0.26 %        | 0.26 %         |

| 835MHz TISSUE MIXTURES |                               |                               |
|------------------------|-------------------------------|-------------------------------|
| INGREDIENT             | 835 MHz Brain                 | 835 MHz Body                  |
|                        | System Check & DUT Evaluation | System Check & DUT Evaluation |
| Water                  | 40.71 %                       | 53.79 %                       |
| Sugar                  | 56.63 %                       | 45.13 %                       |
| Salt                   | 1.48 %                        | 0.98 %                        |
| HEC                    | 0.99 %                        | --                            |
| Bactericide            | 0.19 %                        | 0.10 %                        |

## 9.0 SAR SAFETY LIMITS

| EXPOSURE LIMITS                                                  | SAR (W/kg)                                               |                                                  |
|------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------|
|                                                                  | (General Population / Uncontrolled Exposure Environment) | (Occupational / Controlled Exposure Environment) |
| Spatial Average<br>(averaged over the whole body)                | 0.08                                                     | 0.4                                              |
| Spatial Peak<br>(averaged over any 1 g of tissue)                | 1.60                                                     | 8.0                                              |
| Spatial Peak<br>(hands/wrists/feet/ankles<br>averaged over 10 g) | 4.0                                                      | 20.0                                             |

Notes:

1. Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.
2. Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.

## 10.0 ROBOT SYSTEM SPECIFICATIONS

### Specifications

**POSITIONER:** Stäubli Unimation Corp. Robot Model: RX60L  
**Repeatability:** 0.02 mm  
**No. of axis:** 6

### Data Acquisition Electronic (DAE) System

#### Cell Controller

**Processor:** AMD Athlon XP 2400+  
**Clock Speed:** 2.0 GHz  
**Operating System:** Windows XP Professional

#### Data Converter

**Features:** Signal Amplifier, multiplexer, A/D converter, and control logic  
**Software:** DASY4 software  
**Connecting Lines:** Optical downlink for data and status info.  
 Optical uplink for commands and clock

### DASY4 Measurement Server

**Function:** Real-time data evaluation for field measurements and surface detection  
**Hardware:** PC/104 166MHz Pentium CPU; 32 MB chipdisk; 64 MB RAM  
**Connections:** COM1, COM2, DAE, Robot, Ethernet, Service Interface

### E-Field Probe

**Model:** ET3DV6  
**Serial No.:** 1387  
**Construction:** Triangular core fiber optic detection system  
**Frequency:** 10 MHz to 6 GHz  
**Linearity:**  $\pm 0.2$  dB (30 MHz to 3 GHz)

### Phantom(s)

**Type:** SAM V4.0C  
**Shell Material:** Fiberglass  
**Thickness:**  $2.0 \pm 0.1$  mm  
**Volume:** Approx. 25 liters

## 11.0 PROBE SPECIFICATION (ET3DV6)

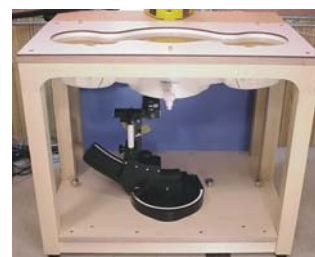
|                    |                                                                                                                                                              |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction:      | Symmetrical design with triangular core<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g. glycol) |
| Calibration:       | In air from 10 MHz to 2.5 GHz<br>In brain simulating tissue at frequencies of 900 MHz and 1.8 GHz (accuracy $\pm 8\%$ )                                      |
| Frequency:         | 10 MHz to >6 GHz; Linearity: $\pm 0.2$ dB<br>(30 MHz to 3 GHz)                                                                                               |
| Directivity:       | $\pm 0.2$ dB in brain tissue (rotation around probe axis)<br>$\pm 0.4$ dB in brain tissue (rotation normal to probe axis)                                    |
| Dynamic Range:     | 5 $\mu$ W/g to >100 mW/g; Linearity: $\pm 0.2$ dB                                                                                                            |
| Surface Detection: | $\pm 0.2$ mm repeatability in air and clear liquids over diffuse reflecting surfaces                                                                         |
| Dimensions:        | Overall length: 330 mm<br>Tip length: 16 mm<br>Body diameter: 12 mm<br>Tip diameter: 6.8 mm<br>Distance from probe tip to dipole centers: 2.7 mm             |
| Application:       | General dosimetry up to 3 GHz<br>Compliance tests of portable phone                                                                                          |



ET3DV6 E-Field Probe

## 12.0 SAM PHANTOM V4.0C

The SAM phantom V4.0C is a fiberglass shell phantom with a 2.0 mm ( $\pm 0.2$  mm) shell thickness for left and right head and flat planar area integrated in a wooden table. The shape of the fiberglass shell corresponds to the phantom defined by SCC34-SC2. The device holder positions are adjusted to the standard measurement positions in the three sections (see Appendix G for specifications of the SAM phantom V4.0C).



SAM Phantom V4.0C

## 13.0 DEVICE HOLDER

The DASY4 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of  $65^\circ$ . The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections.



Device Holder

|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 08220508F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## 14.0 TEST EQUIPMENT LIST

| USED | TEST EQUIPMENT DESCRIPTION               | ASSET NO. | SERIAL NO. | DATE CALIBRATED | CALIBRATION DUE DATE |
|------|------------------------------------------|-----------|------------|-----------------|----------------------|
| x    | Schmid & Partner DASY4 System            | -         | -          | -               | -                    |
| x    | -DASY4 Measurement Server                | 00158     | 1078       | N/A             | N/A                  |
| x    | -Robot                                   | 00046     | 599396-01  | N/A             | N/A                  |
|      | -DAE4                                    | 00019     | 353        | 15Jun05         | 15Jun06              |
| x    | -DAE3                                    | 00018     | 370        | 25Jan05         | 25Jan06              |
| x    | -ET3DV6 E-Field Probe                    | 00016     | 1387       | 18Mar05         | 18Mar06              |
|      | -ET3DV6 E-Field Probe                    | 00017     | 1590       | 20May05         | 20May06              |
|      | -EX3DV4 E-Field Probe                    | 00125     | 3547       | 21Jan05         | 21Jan06              |
|      | -300 MHz Validation Dipole               | 00023     | 135        | 26Oct04         | 26Oct05              |
|      | -450 MHz Validation Dipole               | 00024     | 136        | 04Nov04         | 04Nov05              |
| x    | -835 MHz Validation Dipole               | 00022     | 411        | Brain           | 30Mar05              |
| x    |                                          |           |            | Body            | 12Apr05              |
|      | -900 MHz Validation Dipole               | 00020     | 054        | Brain           | 10Jun05              |
|      |                                          |           |            | Body            | 10Jun05              |
|      | -1800 MHz Validation Dipole              | 00021     | 247        | Brain           | 14Jun05              |
|      |                                          |           |            | Body            | 14Jun05              |
| x    | -1900 MHz Validation Dipole              | 00032     | 151        | Brain           | 17Jun05              |
| x    |                                          |           |            | Body            | 22Apr05              |
|      | -2450 MHz Validation Dipole              | 00025     | 150        | Brain           | 30Sep04              |
|      |                                          |           |            | Body            | 22Apr05              |
|      | -5000 MHz Validation Dipole              | 00126     | 1031       | Brain           | 11Jan05              |
|      |                                          |           |            | Body            | 11Jan05              |
| x    | -SAM Phantom V4.0C                       | 00154     | 1033       | N/A             | N/A                  |
|      | -Barski Planar Phantom                   | 00155     | 03-01      | N/A             | N/A                  |
|      | -Plexiglas Planar Phantom                | 00156     | 161        | N/A             | N/A                  |
|      | -Validation Planar Phantom               | 00157     | 137        | N/A             | N/A                  |
|      | HP 85070C Dielectric Probe Kit           | 00033     | N/A        | N/A             | N/A                  |
| x    | ALS-PR-DIEL Dielectric Probe Kit         | 00160     | 260-00953  | N/A             | N/A                  |
| x    | Gigatronics 8652A Power Meter            | 00110     | 1835801    | 16Apr05         | 16Apr06              |
|      | Gigatronics 8652A Power Meter            | 00008     | 1835267    | 29Apr05         | 29Apr06              |
|      | Gigatronics 8652A Power Meter            | 00007     | 1835272    | 18Oct04         | 18Oct05              |
| x    | Gigatronics 80701A Power Sensor          | 00011     | 1833542    | 08Oct04         | 08Oct05              |
| x    | Gigatronics 80701A Power Sensor          | 00109     | 1834366    | 16Apr05         | 16Apr06              |
| x    | HP 8753ET Network Analyzer               | 00134     | US39170292 | 04May05         | 04May06              |
| x    | WillTek 4303 Mobile Service Tester       | n/a       | 1141417    | 09Jun04         | 09Jun06              |
| x    | HP 8648D Signal Generator                | 00005     | 3847A00611 | 29Apr05         | 29Apr06              |
| x    | Rohde & Schwarz SMR40 Signal Generator   | 00006     | 100104     | 12Apr05         | 12Apr06              |
| x    | Amplifier Research 5S1G4 Power Amplifier | 00106     | 26235      | N/A             | N/A                  |

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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## 15.0 MEASUREMENT UNCERTAINTIES

| UNCERTAINTY BUDGET FOR DEVICE EVALUATION |                         |                          |             |          |                              |                                    |
|------------------------------------------|-------------------------|--------------------------|-------------|----------|------------------------------|------------------------------------|
| Error Description                        | Uncertainty Value<br>±% | Probability Distribution | Divisor     | ci<br>1g | Uncertainty Value<br>±% (1g) | V <sub>i</sub> or V <sub>off</sub> |
| <b>Measurement System</b>                |                         |                          |             |          |                              |                                    |
| Probe calibration                        | 5.5                     | Normal                   | 1           | 1        | 5.5                          | ∞                                  |
| Axial isotropy of the probe              | 4.7                     | Rectangular              | 1.732050808 | 0.7      | 1.9                          | ∞                                  |
| Spherical isotropy of the probe          | 9.6                     | Rectangular              | 1.732050808 | 0.7      | 3.9                          | ∞                                  |
| Spatial resolution                       | 0                       | Rectangular              | 1.732050808 | 1        | 0.0                          | ∞                                  |
| Boundary effects                         | 1                       | Rectangular              | 1.732050808 | 1        | 0.6                          | ∞                                  |
| Probe linearity                          | 4.7                     | Rectangular              | 1.732050808 | 1        | 2.7                          | ∞                                  |
| Detection limit                          | 1                       | Rectangular              | 1.732050808 | 1        | 0.6                          | ∞                                  |
| Readout electronics                      | 0.3                     | Normal                   | 1           | 1        | 0.3                          | ∞                                  |
| Response time                            | 0.8                     | Rectangular              | 1.732050808 | 1        | 0.5                          | ∞                                  |
| Integration time                         | 2.6                     | Rectangular              | 1.732050808 | 1        | 1.5                          | ∞                                  |
| RF ambient conditions                    | 3                       | Rectangular              | 1.732050808 | 1        | 1.7                          | ∞                                  |
| Mech. constraints of robot               | 0.4                     | Rectangular              | 1.732050808 | 1        | 0.2                          | ∞                                  |
| Probe positioning                        | 2.9                     | Rectangular              | 1.732050808 | 1        | 1.7                          | ∞                                  |
| Extrapolation & integration              | 1                       | Rectangular              | 1.732050808 | 1        | 0.6                          | ∞                                  |
| <b>Test Sample Related</b>               |                         |                          |             |          |                              |                                    |
| Device positioning                       | 2.9                     | Normal                   | 1           | 1        | 2.9                          | 12                                 |
| Device holder uncertainty                | 3.6                     | Normal                   | 1           | 1        | 3.6                          | 8                                  |
| Power drift                              | 5                       | Rectangular              | 1.732050808 | 1        | 2.9                          | ∞                                  |
| <b>Phantom and Setup</b>                 |                         |                          |             |          |                              |                                    |
| Phantom uncertainty                      | 4                       | Rectangular              | 1.732050808 | 1        | 2.3                          | ∞                                  |
| Liquid conductivity (target)             | 5                       | Rectangular              | 1.732050808 | 0.64     | 1.8                          | ∞                                  |
| Liquid conductivity (measured)           | 2.5                     | Normal                   | 1           | 0.64     | 1.6                          | ∞                                  |
| Liquid permittivity (target)             | 5                       | Rectangular              | 1.732050808 | 0.6      | 1.7                          | ∞                                  |
| Liquid permittivity (measured)           | 2.5                     | Normal                   | 1           | 0.6      | 1.5                          | ∞                                  |
| <b>Combined Standard Uncertainty</b>     |                         |                          |             |          | <b>10.58</b>                 |                                    |
| <b>Expanded Uncertainty (k=2)</b>        |                         |                          |             |          | <b>21.16</b>                 |                                    |

Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003 (see reference [5])

|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 08220508F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## MEASUREMENT UNCERTAINTIES (Cont.)

| UNCERTAINTY BUDGET FOR SYSTEM VALIDATION |                         |                          |             |          |                              |                                    |
|------------------------------------------|-------------------------|--------------------------|-------------|----------|------------------------------|------------------------------------|
| Error Description                        | Uncertainty Value<br>±% | Probability Distribution | Divisor     | ci<br>1g | Uncertainty Value<br>±% (1g) | V <sub>i</sub> or V <sub>eff</sub> |
| <b>Measurement System</b>                |                         |                          |             |          |                              |                                    |
| Probe calibration                        | 5.5                     | Normal                   | 1           | 1        | 5.5                          | ∞                                  |
| Axial isotropy of the probe              | 4.7                     | Rectangular              | 1.732050808 | 1        | 2.7                          | ∞                                  |
| Spherical isotropy of the probe          | 0                       | Rectangular              | 1.732050808 | 1        | 0.0                          | ∞                                  |
| Spatial resolution                       | 0                       | Rectangular              | 1.732050808 | 1        | 0.0                          | ∞                                  |
| Boundary effects                         | 1                       | Rectangular              | 1.732050808 | 1        | 0.6                          | ∞                                  |
| Probe linearity                          | 4.7                     | Rectangular              | 1.732050808 | 1        | 2.7                          | ∞                                  |
| Detection limit                          | 1                       | Rectangular              | 1.732050808 | 1        | 0.6                          | ∞                                  |
| Readout electronics                      | 0.3                     | Normal                   | 1           | 1        | 0.3                          | ∞                                  |
| Response time                            | 0                       | Rectangular              | 1.732050808 | 1        | 0.0                          | ∞                                  |
| Integration time                         | 0                       | Rectangular              | 1.732050808 | 1        | 0.0                          | ∞                                  |
| RF ambient conditions                    | 3                       | Rectangular              | 1.732050808 | 1        | 1.7                          | ∞                                  |
| Mech. constraints of robot               | 0.4                     | Rectangular              | 1.732050808 | 1        | 0.2                          | ∞                                  |
| Probe positioning                        | 2.9                     | Rectangular              | 1.732050808 | 1        | 1.7                          | ∞                                  |
| Extrapolation & integration              | 1                       | Rectangular              | 1.732050808 | 1        | 0.6                          | ∞                                  |
| <b>Test Sample Related</b>               |                         |                          |             |          |                              |                                    |
| Dipole Positioning                       | 2                       | Normal                   | 1.732050808 | 1        | 1.2                          | ∞                                  |
| Power & Power Drift                      | 4.7                     | Normal                   | 1.732050808 | 1        | 2.7                          | ∞                                  |
| <b>Phantom and Setup</b>                 |                         |                          |             |          |                              |                                    |
| Phantom uncertainty                      | 4                       | Rectangular              | 1.732050808 | 1        | 2.3                          | ∞                                  |
| Liquid conductivity (target)             | 5                       | Rectangular              | 1.732050808 | 0.64     | 1.8                          | ∞                                  |
| Liquid conductivity (measured)           | 2.5                     | Normal                   | 1           | 0.64     | 1.6                          | ∞                                  |
| Liquid permittivity (target)             | 5                       | Rectangular              | 1.732050808 | 0.6      | 1.7                          | ∞                                  |
| Liquid permittivity (measured)           | 2.5                     | Normal                   | 1           | 0.6      | 1.5                          | ∞                                  |
| <b>Combined Standard Uncertainty</b>     |                         |                          |             |          | <b>8.79</b>                  |                                    |
| <b>Expanded Uncertainty (k=2)</b>        |                         |                          |             |          | <b>17.57</b>                 |                                    |

Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003 (see reference [5])

|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## 16.0 REFERENCES

- [1] Federal Communications Commission, "Radiofrequency radiation exposure evaluation: portable devices", Rule Part 47 CFR §2.1093: 1999.
- [2] Health Canada, "Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz", Safety Code 6: 1999.
- [3] Federal Communications Commission, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields", OET Bulletin 65, Supplement C (Edition 01-01), FCC, Washington, D.C.: June 2001.
- [4] Industry Canada, "Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields", Radio Standards Specification RSS-102 Issue 1 (Provisional): September 1999.
- [5] IEEE Standard 1528-2003, "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques": December 2003.
- [6] Schmid & Partner Engineering AG, "DASY4 Manual" V4.5: April 2005.

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## APPENDIX B - SYSTEM PERFORMANCE CHECK DATA

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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Date Tested: 08/22/2005

## System Performance Check (Brain) - 835 MHz Dipole

**DUT: Dipole 835 MHz; Model: D835V2; Type: System Performance Check; Serial: 411; Calibrated: 03/30/2005**

Ambient Temp: 25.5 °C; Fluid Temp: 23.8 °C; Barometric Pressure: 101.1 kPa; Humidity: 30%

Communication System: CW  
Forward Conducted Power: 250 mW  
Frequency: 835 MHz; Duty Cycle: 1:1  
Medium: HSL835 ( $\sigma = 0.92$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

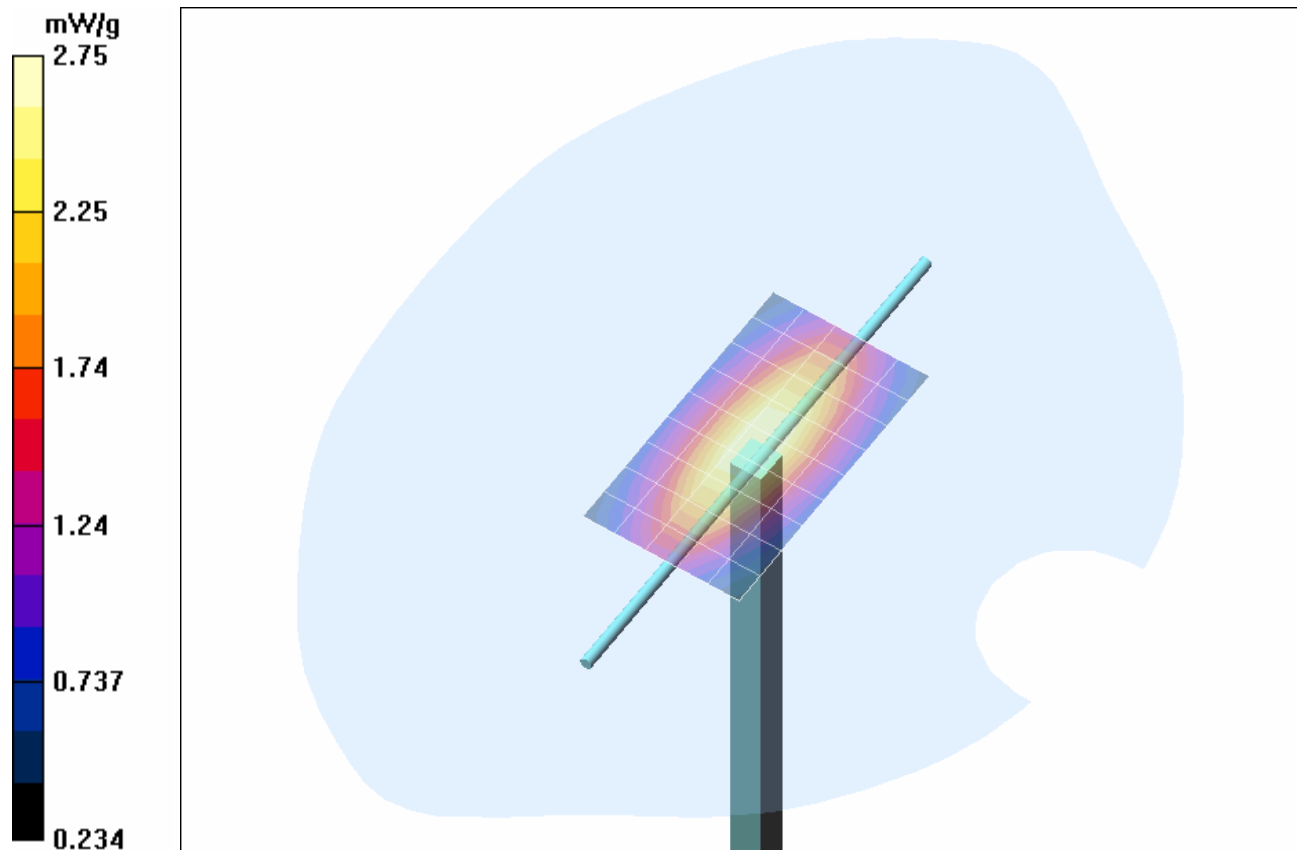
- Probe: ET3DV6 - SN1387; ConvF(6.47, 6.47, 6.47); Calibrated: 18/03/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 25/01/2005
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

### 835 MHz Dipole - System Performance Check/Area Scan (6x10x1):

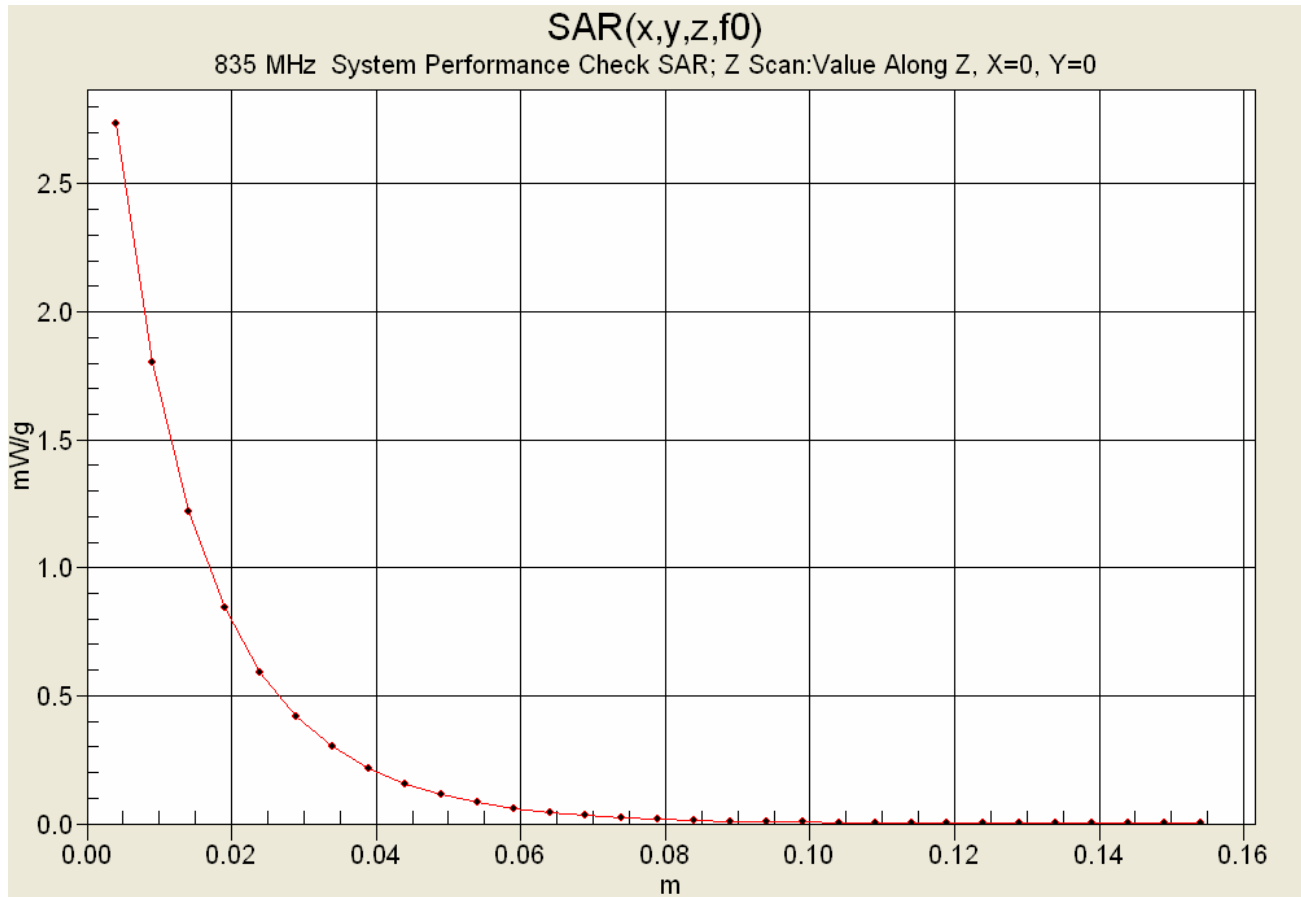
Measurement grid: dx=10mm, dy=10mm

### 835 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 56.2 V/m; Power Drift = 0.014 dB  
Peak SAR (extrapolated) = 3.89 W/kg  
**SAR(1 g) = 2.54 mW/g; SAR(10 g) = 1.64 mW/g**



## Z-Axis Scan



Date Tested: 08/23/2005

## System Performance Check (Brain) - 1900 MHz Dipole

**DUT: Dipole 1900 MHz; Model: D1900V2; Type: System Performance Check; Serial: 151; Calibrated: 06/17/2005**

Ambient Temp: 25.6 °C; Fluid Temp: 23.3 °C; Barometric Pressure: 101.5 kPa; Humidity: 30%

Communication System: CW

Forward Conducted Power: 250 mW

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL1900 ( $\sigma = 1.42$  mho/m;  $\epsilon_r = 38.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

- Probe: ET3DV6 - SN1387; ConvF(5.18, 5.18, 5.18); Calibrated: 18/03/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 25/01/2005
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

### 1900 MHz Dipole - System Performance Check/Area Scan (5x8x1):

Measurement grid: dx=15mm, dy=15mm

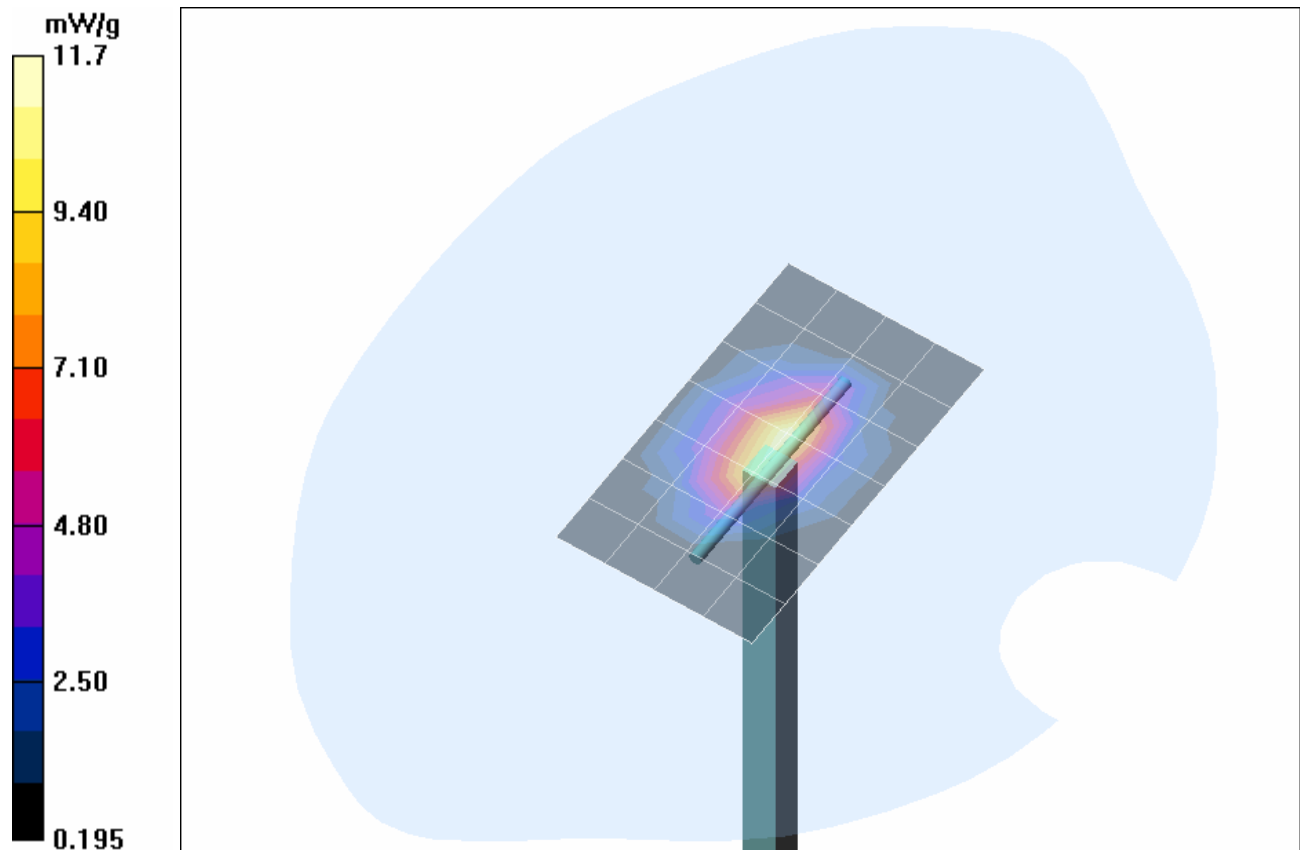
### 1900 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

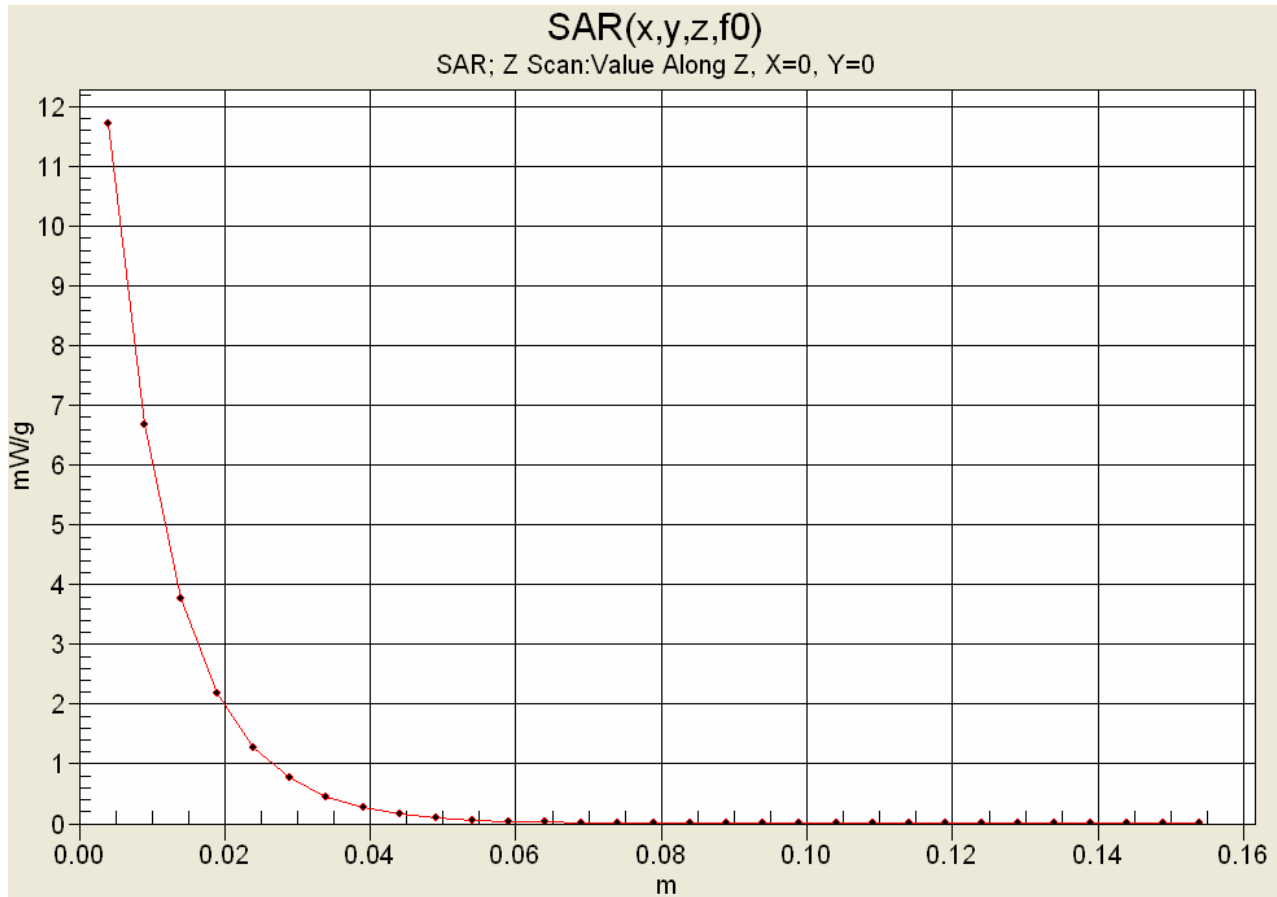
Reference Value = 96.0 V/m; Power Drift = -0.014 dB

Peak SAR (extrapolated) = 18.1 W/kg

**SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.45 mW/g**



## Z-Axis Scan



Date Tested: 08/25/2005

## System Performance Check (Brain) - 835 MHz Dipole

**DUT: Dipole 835 MHz; Model: D835V2; Type: System Performance Check; Serial: 411; Calibrated: 03/30/2005**

Ambient Temp: 24.2 °C; Fluid Temp: 23.1 °C; Barometric Pressure: 102.2 kPa; Humidity: 31%

Communication System: CW  
Forward Conducted Power: 250 mW  
Frequency: 835 MHz; Duty Cycle: 1:1  
Medium: HSL835 ( $\sigma = 0.90$  mho/m;  $\epsilon_r = 40.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

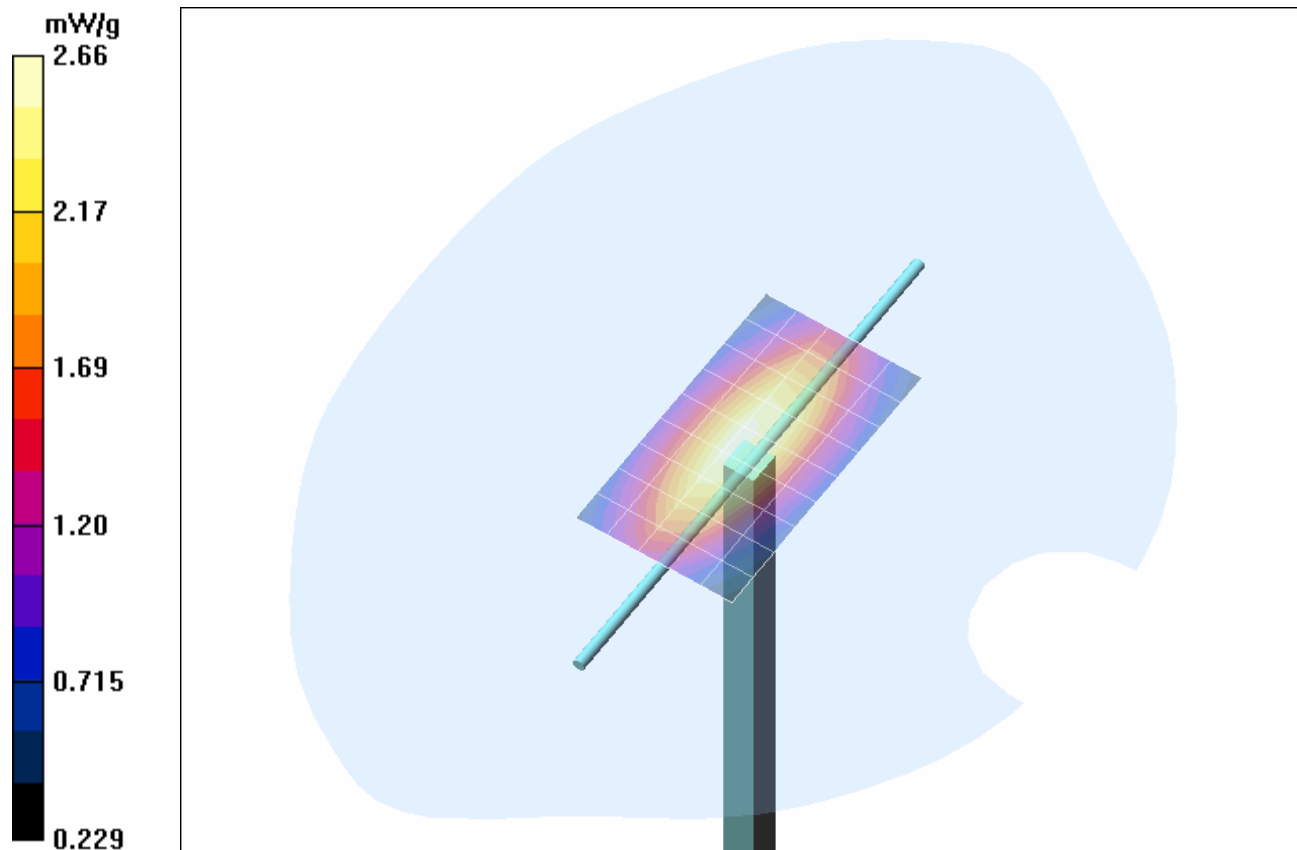
- Probe: ET3DV6 - SN1387; ConvF(6.47, 6.47, 6.47); Calibrated: 18/03/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 25/01/2005
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

### 835 MHz Dipole - System Performance Check/Area Scan (6x10x1):

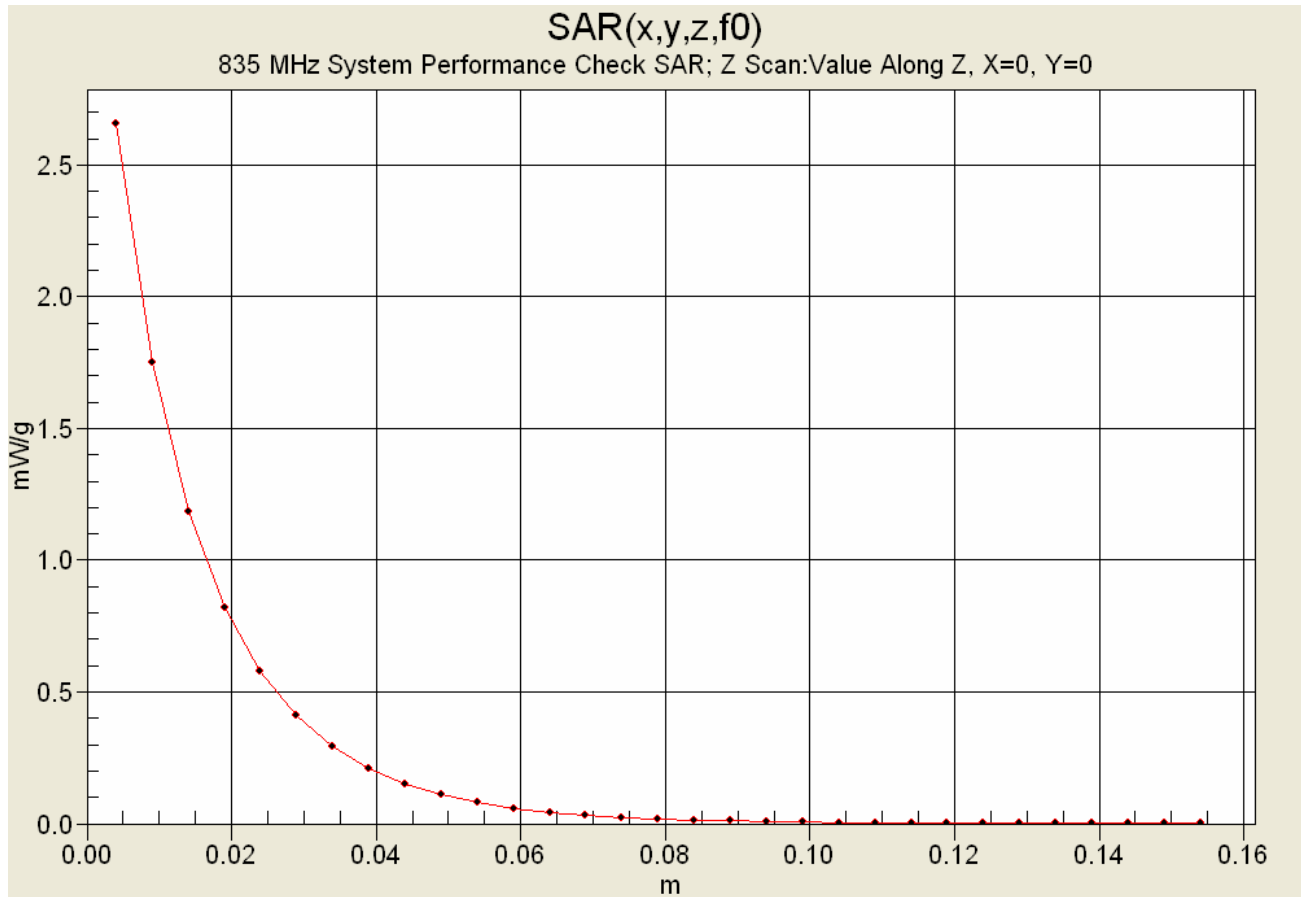
Measurement grid: dx=10mm, dy=10mm

### 835 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 56.6 V/m; Power Drift = -0.022 dB  
Peak SAR (extrapolated) = 3.74 W/kg  
**SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.59 mW/g**



## Z-Axis Scan



Date Tested: 08/30/2005

## System Performance Check (Body) - 1900 MHz Dipole

**DUT: Dipole 1900 MHz; Model: D1900V2; Type: System Performance Check; Serial: 151; Calibrated: 04/22/2005**

Ambient Temp: 23.4 °C; Fluid Temp: 23.5 °C; Barometric Pressure: 102.2 kPa; Humidity: 34%

Communication System: CW

Forward Conducted Power: 250 mW

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: M1900 ( $\sigma = 1.59$  mho/m;  $\epsilon_r = 50.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

- Probe: ET3DV6 - SN1387; ConvF(4.75, 4.75, 4.75); Calibrated: 18/03/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 25/01/2005
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

### 1900 MHz Dipole - System Performance Check/Area Scan (5x8x1):

Measurement grid: dx=15mm, dy=15mm

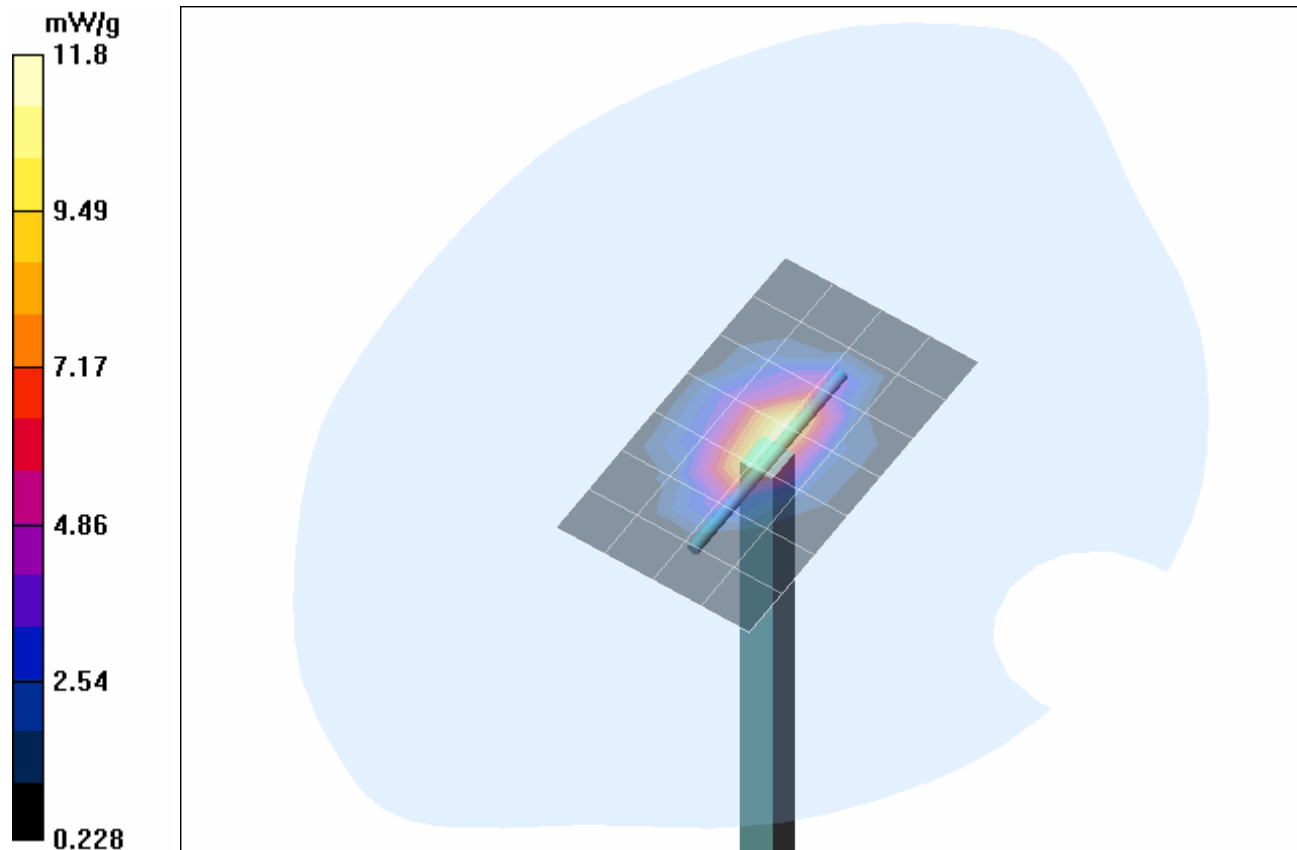
### 1900 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

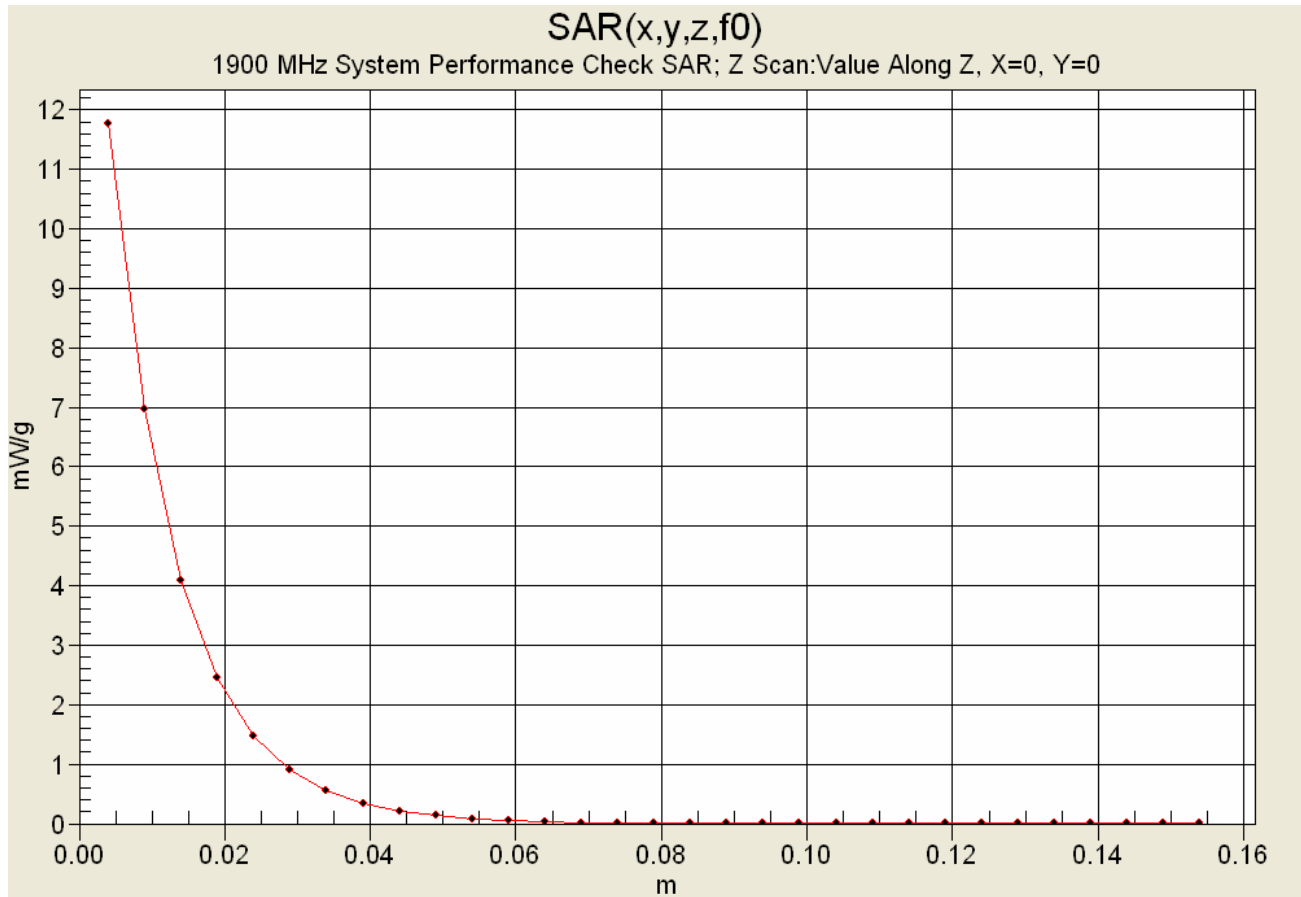
Reference Value = 93.1 V/m; Power Drift = -0.055 dB

Peak SAR (extrapolated) = 17.9 W/kg

**SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.54 mW/g**



## Z-Axis Scan



Date Tested: 08/30/2005

## System Performance Check (Body) - 835 MHz Dipole

**DUT: Dipole 835 MHz; Model: D835V2; Type: System Performance Check; Serial: 411; Calibrated: 04/12/2005**

Ambient Temp: 24.7 °C; Fluid Temp: 23.3 °C; Barometric Pressure: 102.2 kPa; Humidity: 33%

Communication System: CW

Forward Conducted Power: 250 mW

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: M835 ( $\sigma = 0.97$  mho/m;  $\epsilon_r = 53.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>)

- Probe: ET3DV6 - SN1387; ConvF(6.1, 6.1, 6.1); Calibrated: 18/03/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 25/01/2005
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

### 835 MHz Dipole - System Performance Check/Area Scan (6x10x1):

Measurement grid: dx=10mm, dy=10mm

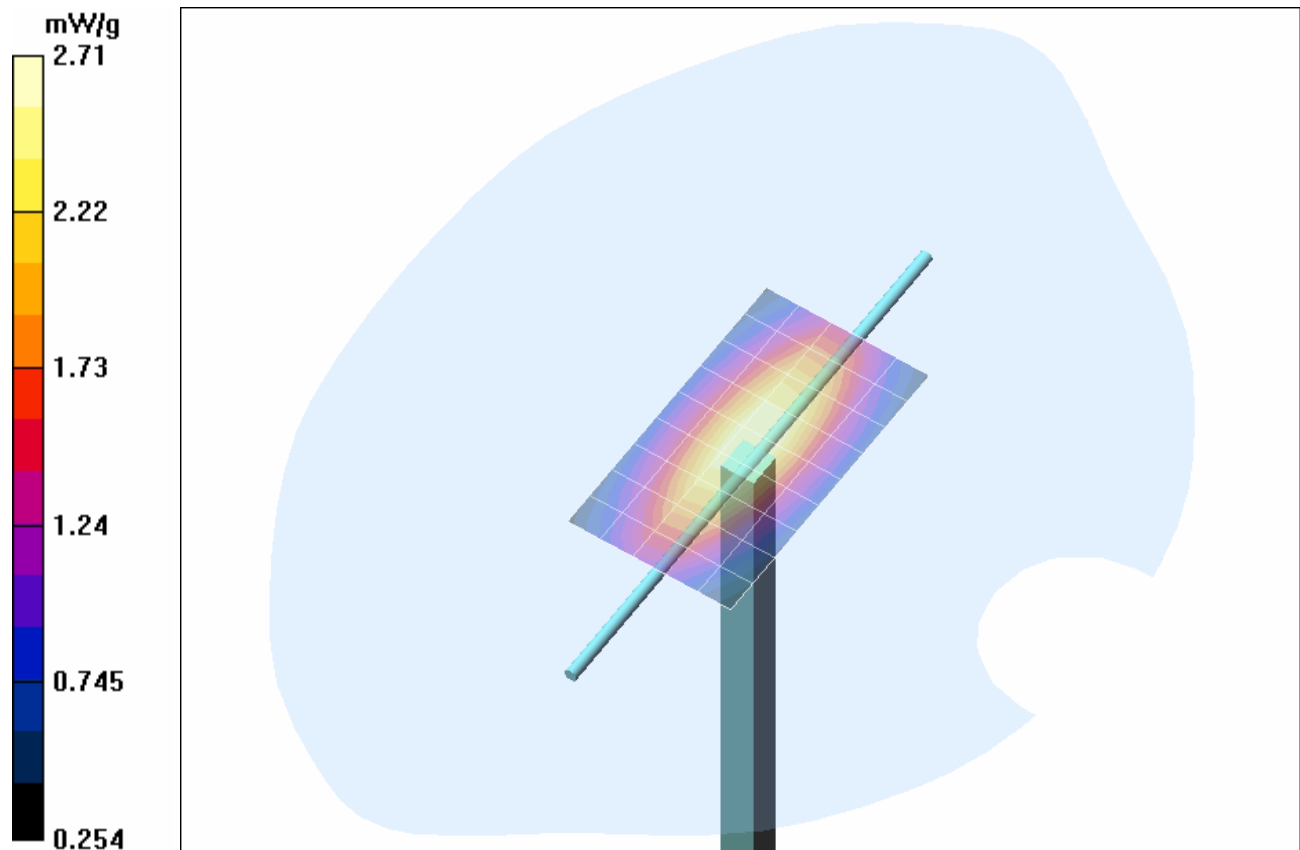
### 835 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

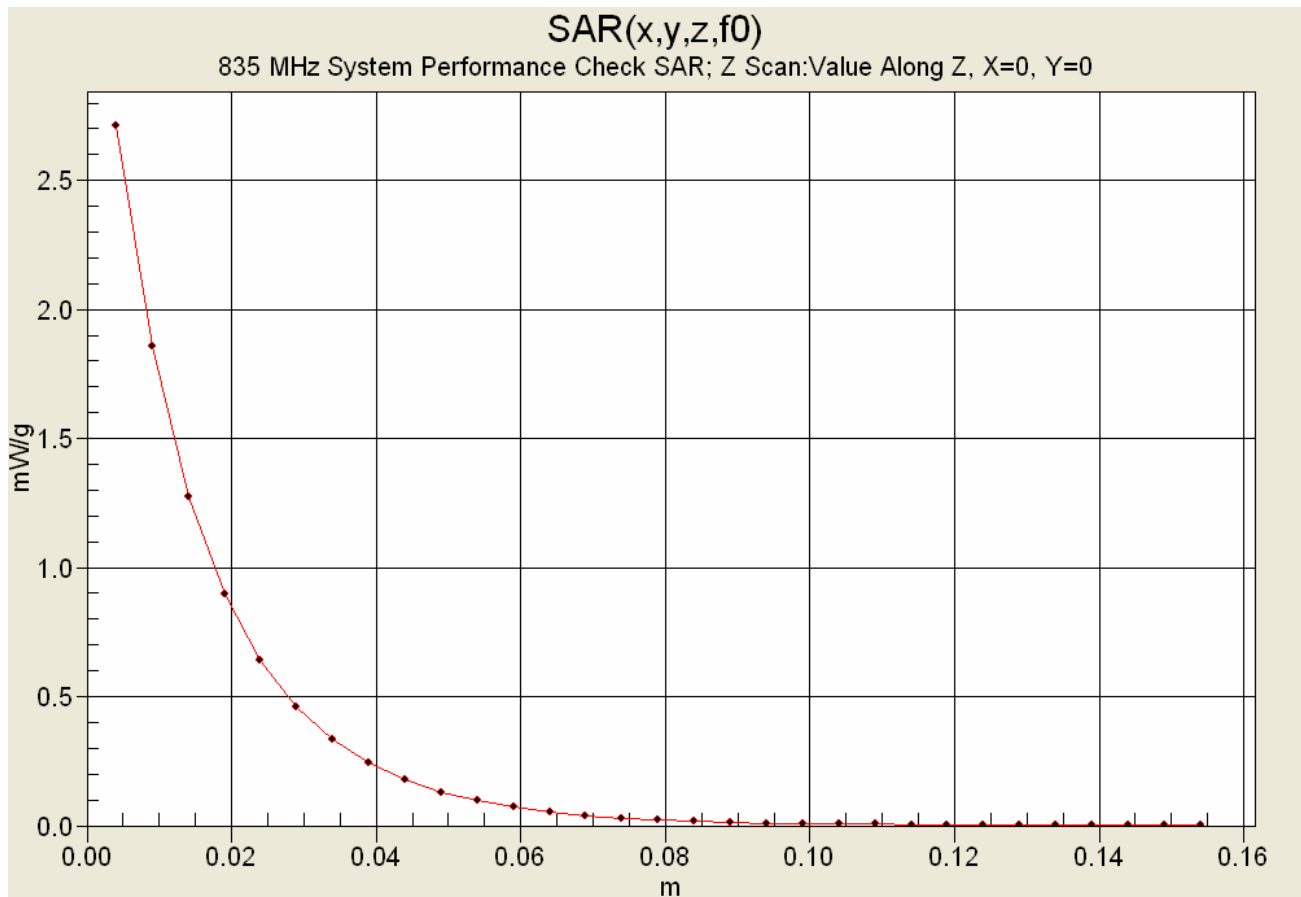
Reference Value = 55.0 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 3.60 W/kg

**SAR(1 g) = 2.49 mW/g; SAR(10 g) = 1.64 mW/g**



## Z-Axis Scan



|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## APPENDIX C - MEASURED FLUID DIELECTRIC PARAMETERS

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093              |
|                         |                     |               | IC RSS-102              |

### 835 MHz DUT Evaluation (Head)

\*\*\*\*\*

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Tue 23/Aug/2005

Freq Frequency (GHz)

FCC\_eH FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon

FCC\_sH FCC OET 65 Supplement C (June 2001) Limits for Head Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eH | FCC_sH | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 0.7350 | 42.02  | 0.89   | 42.38  | 0.78   |
| 0.7450 | 41.97  | 0.89   | 41.83  | 0.80   |
| 0.7550 | 41.92  | 0.89   | 41.37  | 0.82   |
| 0.7650 | 41.86  | 0.89   | 41.15  | 0.83   |
| 0.7750 | 41.81  | 0.90   | 41.09  | 0.84   |
| 0.7850 | 41.76  | 0.90   | 41.09  | 0.85   |
| 0.7950 | 41.71  | 0.90   | 41.17  | 0.85   |
| 0.8050 | 41.66  | 0.90   | 41.50  | 0.85   |
| 0.8150 | 41.60  | 0.90   | 41.54  | 0.86   |
| 0.8250 | 41.55  | 0.90   | 41.52  | 0.86   |
| 0.8350 | 41.50  | 0.90   | 41.29  | 0.87   |
| 0.8450 | 41.50  | 0.91   | 41.01  | 0.88   |
| 0.8550 | 41.50  | 0.92   | 40.51  | 0.89   |
| 0.8650 | 41.50  | 0.93   | 40.06  | 0.91   |
| 0.8750 | 41.50  | 0.94   | 39.79  | 0.93   |
| 0.8850 | 41.50  | 0.95   | 39.58  | 0.94   |
| 0.8950 | 41.50  | 0.96   | 39.60  | 0.95   |
| 0.9050 | 41.50  | 0.97   | 39.88  | 0.95   |
| 0.9150 | 41.50  | 0.98   | 40.17  | 0.95   |
| 0.9250 | 41.48  | 0.98   | 40.33  | 0.95   |
| 0.9350 | 41.46  | 0.99   | 40.37  | 0.95   |

### 835 MHz System Performance Check (Brain)

\*\*\*\*\*

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Mon 22/Aug/2005

Freq Frequency (GHz)

FCC\_eH FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon

FCC\_sH FCC OET 65 Supplement C (June 2001) Limits for Head Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eH | FCC_sH | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 0.7350 | 42.02  | 0.89   | 42.71  | 0.83   |
| 0.7450 | 41.97  | 0.89   | 42.48  | 0.83   |
| 0.7550 | 41.92  | 0.89   | 42.36  | 0.84   |
| 0.7650 | 41.86  | 0.89   | 42.21  | 0.85   |
| 0.7750 | 41.81  | 0.90   | 42.05  | 0.86   |
| 0.7850 | 41.76  | 0.90   | 42.11  | 0.87   |
| 0.7950 | 41.71  | 0.90   | 42.05  | 0.88   |
| 0.8050 | 41.66  | 0.90   | 41.96  | 0.89   |
| 0.8150 | 41.60  | 0.90   | 41.96  | 0.90   |
| 0.8250 | 41.55  | 0.90   | 41.79  | 0.91   |
| 0.8350 | 41.50  | 0.90   | 41.57  | 0.92   |
| 0.8450 | 41.50  | 0.91   | 41.47  | 0.92   |
| 0.8550 | 41.50  | 0.92   | 41.41  | 0.93   |
| 0.8650 | 41.50  | 0.93   | 41.13  | 0.94   |
| 0.8750 | 41.50  | 0.94   | 40.92  | 0.95   |
| 0.8850 | 41.50  | 0.95   | 40.77  | 0.96   |
| 0.8950 | 41.50  | 0.96   | 40.75  | 0.97   |
| 0.9050 | 41.50  | 0.97   | 40.66  | 0.98   |
| 0.9150 | 41.50  | 0.98   | 40.68  | 0.99   |
| 0.9250 | 41.48  | 0.98   | 40.69  | 0.99   |
| 0.9350 | 41.46  | 0.99   | 40.65  | 1.01   |

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093              |
|                         |                     |               | IC RSS-102              |

### 1880 MHz DUT Evaluation (Head)

\*\*\*\*\*

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Tue 23/Aug/2005

Freq Frequency (GHz)

FCC\_eH FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon

FCC\_sH FCC OET 65 Supplement C (June 2001) Limits for Head Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eH | FCC_sH | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 1.8000 | 40.00  | 1.40   | 38.82  | 1.32   |
| 1.8100 | 40.00  | 1.40   | 38.79  | 1.32   |
| 1.8200 | 40.00  | 1.40   | 38.77  | 1.34   |
| 1.8300 | 40.00  | 1.40   | 38.58  | 1.35   |
| 1.8400 | 40.00  | 1.40   | 38.69  | 1.35   |
| 1.8500 | 40.00  | 1.40   | 38.68  | 1.36   |
| 1.8600 | 40.00  | 1.40   | 38.63  | 1.36   |
| 1.8700 | 40.00  | 1.40   | 38.48  | 1.38   |
| 1.8800 | 40.00  | 1.40   | 38.54  | 1.40   |
| 1.8900 | 40.00  | 1.40   | 38.37  | 1.41   |
| 1.9000 | 40.00  | 1.40   | 38.36  | 1.42   |
| 1.9100 | 40.00  | 1.40   | 38.36  | 1.42   |
| 1.9200 | 40.00  | 1.40   | 38.32  | 1.44   |
| 1.9300 | 40.00  | 1.40   | 38.29  | 1.45   |
| 1.9400 | 40.00  | 1.40   | 38.19  | 1.46   |
| 1.9500 | 40.00  | 1.40   | 38.18  | 1.47   |
| 1.9600 | 40.00  | 1.40   | 38.11  | 1.48   |
| 1.9700 | 40.00  | 1.40   | 37.95  | 1.49   |
| 1.9800 | 40.00  | 1.40   | 38.01  | 1.50   |
| 1.9900 | 40.00  | 1.40   | 37.92  | 1.50   |
| 2.0000 | 40.00  | 1.40   | 37.87  | 1.52   |

### 1880 MHz DUT Evaluation (Head)

\*\*\*\*\*

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Wed 24/Aug/2005

Freq Frequency (GHz)

FCC\_eH FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon

FCC\_sH FCC OET 65 Supplement C (June 2001) Limits for Head Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eH | FCC_sH | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 1.7800 | 40.03  | 1.39   | 38.70  | 1.24   |
| 1.7900 | 40.02  | 1.39   | 38.54  | 1.28   |
| 1.8000 | 40.00  | 1.40   | 38.64  | 1.25   |
| 1.8100 | 40.00  | 1.40   | 38.56  | 1.30   |
| 1.8200 | 40.00  | 1.40   | 38.29  | 1.28   |
| 1.8300 | 40.00  | 1.40   | 38.48  | 1.28   |
| 1.8400 | 40.00  | 1.40   | 38.48  | 1.32   |
| 1.8500 | 40.00  | 1.40   | 38.37  | 1.33   |
| 1.8600 | 40.00  | 1.40   | 38.18  | 1.31   |
| 1.8700 | 40.00  | 1.40   | 38.22  | 1.32   |
| 1.8800 | 40.00  | 1.40   | 38.17  | 1.35   |
| 1.8900 | 40.00  | 1.40   | 37.68  | 1.37   |
| 1.9000 | 40.00  | 1.40   | 37.97  | 1.36   |
| 1.9100 | 40.00  | 1.40   | 37.91  | 1.37   |
| 1.9200 | 40.00  | 1.40   | 37.80  | 1.40   |
| 1.9300 | 40.00  | 1.40   | 37.80  | 1.37   |
| 1.9400 | 40.00  | 1.40   | 37.72  | 1.40   |
| 1.9500 | 40.00  | 1.40   | 37.93  | 1.38   |
| 1.9600 | 40.00  | 1.40   | 37.71  | 1.42   |
| 1.9700 | 40.00  | 1.40   | 37.87  | 1.43   |
| 1.9800 | 40.00  | 1.40   | 38.05  | 1.44   |

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093              |
|                         |                     |               | IC RSS-102              |

### 1880 MHz DUT Evaluation (Body)

\*\*\*\*\*

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Wed 24/Aug/2005

Freq Frequency(GHz)

FCC\_eH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon

FCC\_sH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma

FCC\_eB FCC Limits for Body Epsilon

FCC\_sB FCC Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 1.8000 | 53.30  | 1.52   | 51.38  | 1.42   |
| 1.8100 | 53.30  | 1.52   | 51.32  | 1.43   |
| 1.8200 | 53.30  | 1.52   | 51.29  | 1.44   |
| 1.8300 | 53.30  | 1.52   | 51.17  | 1.45   |
| 1.8400 | 53.30  | 1.52   | 51.26  | 1.47   |
| 1.8500 | 53.30  | 1.52   | 51.25  | 1.47   |
| 1.8600 | 53.30  | 1.52   | 51.09  | 1.49   |
| 1.8700 | 53.30  | 1.52   | 51.10  | 1.50   |
| 1.8800 | 53.30  | 1.52   | 50.98  | 1.51   |
| 1.8900 | 53.30  | 1.52   | 51.01  | 1.53   |
| 1.9000 | 53.30  | 1.52   | 51.01  | 1.54   |
| 1.9100 | 53.30  | 1.52   | 50.86  | 1.54   |
| 1.9200 | 53.30  | 1.52   | 50.90  | 1.56   |
| 1.9300 | 53.30  | 1.52   | 50.87  | 1.56   |
| 1.9400 | 53.30  | 1.52   | 50.78  | 1.58   |
| 1.9500 | 53.30  | 1.52   | 50.70  | 1.58   |
| 1.9600 | 53.30  | 1.52   | 50.53  | 1.60   |
| 1.9700 | 53.30  | 1.52   | 50.74  | 1.62   |
| 1.9800 | 53.30  | 1.52   | 50.59  | 1.62   |
| 1.9900 | 53.30  | 1.52   | 50.50  | 1.64   |
| 2.0000 | 53.30  | 1.52   | 50.46  | 1.65   |

### 1900 MHz System Performance Check (Brain)

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Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Tue 23/Aug/2005

Freq Frequency(GHz)

FCC\_eH FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon

FCC\_sH FCC OET 65 Supplement C (June 2001) Limits for Head Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eH | FCC_sH | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 1.8000 | 40.00  | 1.40   | 38.82  | 1.32   |
| 1.8100 | 40.00  | 1.40   | 38.79  | 1.32   |
| 1.8200 | 40.00  | 1.40   | 38.77  | 1.34   |
| 1.8300 | 40.00  | 1.40   | 38.58  | 1.35   |
| 1.8400 | 40.00  | 1.40   | 38.69  | 1.35   |
| 1.8500 | 40.00  | 1.40   | 38.68  | 1.36   |
| 1.8600 | 40.00  | 1.40   | 38.63  | 1.36   |
| 1.8700 | 40.00  | 1.40   | 38.48  | 1.38   |
| 1.8800 | 40.00  | 1.40   | 38.54  | 1.40   |
| 1.8900 | 40.00  | 1.40   | 38.37  | 1.41   |
| 1.9000 | 40.00  | 1.40   | 38.36  | 1.42   |
| 1.9100 | 40.00  | 1.40   | 38.36  | 1.42   |
| 1.9200 | 40.00  | 1.40   | 38.32  | 1.44   |
| 1.9300 | 40.00  | 1.40   | 38.29  | 1.45   |
| 1.9400 | 40.00  | 1.40   | 38.19  | 1.46   |
| 1.9500 | 40.00  | 1.40   | 38.18  | 1.47   |
| 1.9600 | 40.00  | 1.40   | 38.11  | 1.48   |
| 1.9700 | 40.00  | 1.40   | 37.95  | 1.49   |
| 1.9800 | 40.00  | 1.40   | 38.01  | 1.50   |
| 1.9900 | 40.00  | 1.40   | 37.92  | 1.50   |
| 2.0000 | 40.00  | 1.40   | 37.87  | 1.52   |

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093              |
|                         |                     |               | IC RSS-102              |

### 835 MHz DUT Evaluation (Body)

\*\*\*\*\*

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Thu 25/Aug/2005

Freq Frequency (GHz)

FCC\_eH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon

FCC\_sH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma

FCC\_eB FCC Limits for Body Epsilon

FCC\_sB FCC Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 0.7350 | 55.59  | 0.96   | 54.98  | 0.89   |
| 0.7450 | 55.55  | 0.96   | 55.04  | 0.89   |
| 0.7550 | 55.51  | 0.96   | 55.16  | 0.90   |
| 0.7650 | 55.47  | 0.96   | 54.96  | 0.91   |
| 0.7750 | 55.43  | 0.97   | 54.80  | 0.89   |
| 0.7850 | 55.39  | 0.97   | 54.90  | 0.92   |
| 0.7950 | 55.36  | 0.97   | 54.35  | 0.91   |
| 0.8050 | 55.32  | 0.97   | 54.02  | 0.95   |
| 0.8150 | 55.28  | 0.97   | 54.29  | 0.96   |
| 0.8250 | 55.24  | 0.97   | 54.08  | 0.96   |
| 0.8350 | 55.20  | 0.97   | 54.02  | 0.98   |
| 0.8450 | 55.17  | 0.98   | 54.58  | 0.98   |
| 0.8550 | 55.14  | 0.99   | 54.34  | 0.99   |
| 0.8650 | 55.11  | 1.01   | 54.28  | 1.00   |
| 0.8750 | 55.08  | 1.02   | 53.78  | 1.00   |
| 0.8850 | 55.05  | 1.03   | 53.91  | 1.02   |
| 0.8950 | 55.02  | 1.04   | 53.43  | 1.02   |
| 0.9050 | 55.00  | 1.05   | 53.53  | 1.03   |
| 0.9150 | 55.00  | 1.06   | 53.41  | 1.05   |
| 0.9250 | 54.98  | 1.06   | 53.42  | 1.05   |
| 0.9350 | 54.96  | 1.07   | 53.44  | 1.07   |

### 835 MHz System Performance Check (Brain)

\*\*\*\*\*

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Thu 25/Aug/2005

Freq Frequency (GHz)

FCC\_eH FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon

FCC\_sH FCC OET 65 Supplement C (June 2001) Limits for Head Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eH | FCC_sH | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 0.7350 | 42.02  | 0.89   | 41.68  | 0.81   |
| 0.7450 | 41.97  | 0.89   | 41.51  | 0.82   |
| 0.7550 | 41.92  | 0.89   | 41.88  | 0.81   |
| 0.7650 | 41.86  | 0.89   | 41.33  | 0.83   |
| 0.7750 | 41.81  | 0.90   | 41.38  | 0.82   |
| 0.7850 | 41.76  | 0.90   | 41.56  | 0.85   |
| 0.7950 | 41.71  | 0.90   | 41.14  | 0.84   |
| 0.8050 | 41.66  | 0.90   | 40.64  | 0.85   |
| 0.8150 | 41.60  | 0.90   | 41.04  | 0.88   |
| 0.8250 | 41.55  | 0.90   | 40.81  | 0.88   |
| 0.8350 | 41.50  | 0.90   | 40.65  | 0.90   |
| 0.8450 | 41.50  | 0.91   | 40.67  | 0.90   |
| 0.8550 | 41.50  | 0.92   | 40.66  | 0.92   |
| 0.8650 | 41.50  | 0.93   | 40.49  | 0.92   |
| 0.8750 | 41.50  | 0.94   | 40.03  | 0.93   |
| 0.8850 | 41.50  | 0.95   | 39.96  | 0.95   |
| 0.8950 | 41.50  | 0.96   | 40.02  | 0.92   |
| 0.9050 | 41.50  | 0.97   | 39.72  | 0.95   |
| 0.9150 | 41.50  | 0.98   | 39.60  | 0.97   |
| 0.9250 | 41.48  | 0.98   | 39.52  | 0.96   |
| 0.9350 | 41.46  | 0.99   | 39.44  | 0.97   |

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

### 1900 MHz System Performance Check & 1880 MHz DUT Evaluation (Body)

\*\*\*\*\*

Celltech Labs Inc.s

Test Result for UIM Dielectric Parameter

Tue 30/Aug/2005

Freq Frequency(GHz)

FCC\_eH FCC Bulletin 65 Supplement C ( June 2001) Limits for Head Epsilon

FCC\_sH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma

FCC\_eB FCC Limits for Body Epsilon

FCC\_sB FCC Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 1.8000 | 53.30  | 1.52   | 51.23  | 1.53   |
| 1.8100 | 53.30  | 1.52   | 51.04  | 1.48   |
| 1.8200 | 53.30  | 1.52   | 51.21  | 1.51   |
| 1.8300 | 53.30  | 1.52   | 51.26  | 1.51   |
| 1.8400 | 53.30  | 1.52   | 51.03  | 1.53   |
| 1.8500 | 53.30  | 1.52   | 51.02  | 1.55   |
| 1.8600 | 53.30  | 1.52   | 50.94  | 1.55   |
| 1.8700 | 53.30  | 1.52   | 50.98  | 1.58   |
| 1.8800 | 53.30  | 1.52   | 50.89  | 1.58   |
| 1.8900 | 53.30  | 1.52   | 50.75  | 1.59   |
| 1.9000 | 53.30  | 1.52   | 50.69  | 1.59   |
| 1.9100 | 53.30  | 1.52   | 50.89  | 1.58   |
| 1.9200 | 53.30  | 1.52   | 50.73  | 1.64   |
| 1.9300 | 53.30  | 1.52   | 50.44  | 1.61   |
| 1.9400 | 53.30  | 1.52   | 50.45  | 1.64   |
| 1.9500 | 53.30  | 1.52   | 50.55  | 1.64   |
| 1.9600 | 53.30  | 1.52   | 50.49  | 1.64   |
| 1.9700 | 53.30  | 1.52   | 50.33  | 1.67   |
| 1.9800 | 53.30  | 1.52   | 50.47  | 1.67   |
| 1.9900 | 53.30  | 1.52   | 50.35  | 1.70   |
| 2.0000 | 53.30  | 1.52   | 50.24  | 1.70   |

### 835 MHz System Performance Check & DUT Evaluation (Muscle)

\*\*\*\*\*

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Tue 30/Aug/2005

Freq Frequency(GHz)

FCC\_eH FCC Bulletin 65 Supplement C ( June 2001) Limits for Head Epsilon

FCC\_sH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma

FCC\_eB FCC Limits for Body Epsilon

FCC\_sB FCC Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 0.7350 | 55.59  | 0.96   | 54.78  | 0.86   |
| 0.7450 | 55.55  | 0.96   | 54.67  | 0.88   |
| 0.7550 | 55.51  | 0.96   | 54.55  | 0.89   |
| 0.7650 | 55.47  | 0.96   | 54.60  | 0.91   |
| 0.7750 | 55.43  | 0.97   | 54.46  | 0.92   |
| 0.7850 | 55.39  | 0.97   | 54.26  | 0.92   |
| 0.7950 | 55.36  | 0.97   | 54.46  | 0.93   |
| 0.8050 | 55.32  | 0.97   | 54.13  | 0.94   |
| 0.8150 | 55.28  | 0.97   | 54.17  | 0.92   |
| 0.8250 | 55.24  | 0.97   | 54.17  | 0.95   |
| 0.8350 | 55.20  | 0.97   | 53.82  | 0.97   |
| 0.8450 | 55.17  | 0.98   | 53.48  | 0.98   |
| 0.8550 | 55.14  | 0.99   | 53.54  | 0.99   |
| 0.8650 | 55.11  | 1.01   | 53.69  | 1.00   |
| 0.8750 | 55.08  | 1.02   | 53.73  | 1.01   |
| 0.8850 | 55.05  | 1.03   | 53.31  | 1.02   |
| 0.8950 | 55.02  | 1.04   | 52.98  | 1.03   |
| 0.9050 | 55.00  | 1.05   | 53.32  | 1.04   |
| 0.9150 | 55.00  | 1.06   | 53.03  | 1.05   |
| 0.9250 | 54.98  | 1.06   | 53.13  | 1.05   |
| 0.9350 | 54.96  | 1.07   | 52.86  | 1.07   |

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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|                         |                     |               |                         |
|-------------------------|---------------------|---------------|-------------------------|
| Test Report Serial No.: | 082205O8F-T664-S24C | Rev. No.:     | Revision 1              |
| Date of Report Issue:   | Sept. 09, 2005      | Test Date(s): | August 22-25 & 30, 2005 |
| Description of Test:    | RF Exposure         | SAR           | FCC 2.1093 IC RSS-102   |

## APPENDIX G - SAM PHANTOM CERTIFICATE OF CONFORMITY

|                         |                                                   |                                                                                                                |         |        |            |                                     |          |                                                                                       |
|-------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|--------|------------|-------------------------------------|----------|---------------------------------------------------------------------------------------|
| Applicant:              | Palm, Inc.                                        | FCC ID:                                                                                                        | O8FJIMI | IC ID: | 3905A-JIMI | Model:                              | Treo XXX |  |
| DUT Type:               | Portable Dual-Band CDMA 2000 Phone with Bluetooth |                                                                                                                |         |        | Freq.:     | 1851.25-1908.75 / 824.70-848.31 MHz |          |                                                                                       |
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# Schmid & Partner Engineering AG

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## Certificate of conformity / First Article Inspection

|                       |                                                                          |
|-----------------------|--------------------------------------------------------------------------|
| Item                  | SAM Twin Phantom V4.0                                                    |
| Type No               | QD 000 P40 BA                                                            |
| Series No             | TP-1002 and higher                                                       |
| Manufacturer / Origin | Untersee Composites<br>Hauptstr. 69<br>CH-8559 Fruthwilen<br>Switzerland |

### Tests

The series production process used allows the limitation to test of first articles.  
Complete tests were made on the pre-series Type No. QD 000 P40 AA, Serial No. TP-1001 and on the series first article Type No. QD 000 P40 BA, Serial No. TP-1006. Certain parameters have been retested using further series units (called samples).

| Test                 | Requirement                                                                             | Details                                                              | Units tested                 |
|----------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------|------------------------------|
| Shape                | Compliance with the geometry according to the CAD model.                                | IT'IS CAD File (*)                                                   | First article,<br>Samples    |
| Material thickness   | Compliant with the requirements according to the standards                              | 2mm +/- 0.2mm in specific areas                                      | First article,<br>Samples    |
| Material parameters  | Dielectric parameters for required frequencies                                          | 200 MHz – 3 GHz<br>Relative permittivity < 5<br>Loss tangent < 0.05. | Material sample<br>TP 104-5  |
| Material resistivity | The material has been tested to be compatible with the liquids defined in the standards | Liquid type HSL 1800 and others according to the standard.           | Pre-series,<br>First article |

### Standards

- [1] CENELEC EN 50361
- [2] IEEE P1528-200x draft 6.5
- [3] IEC PT 62209 draft 0.9

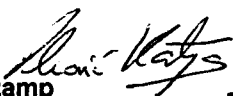
(\*) The IT'IS CAD file is derived from [2] and is also within the tolerance requirements of the shapes of [1] and [3].

### Conformity

Based on the sample tests above, we certify that this item is in compliance with the uncertainty requirements of SAR measurements specified in standard [1] and draft standards [2] and [3].

Date 18.11.2001

Signature / Stamp



**Schmid & Partner  
Engineering AG**



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