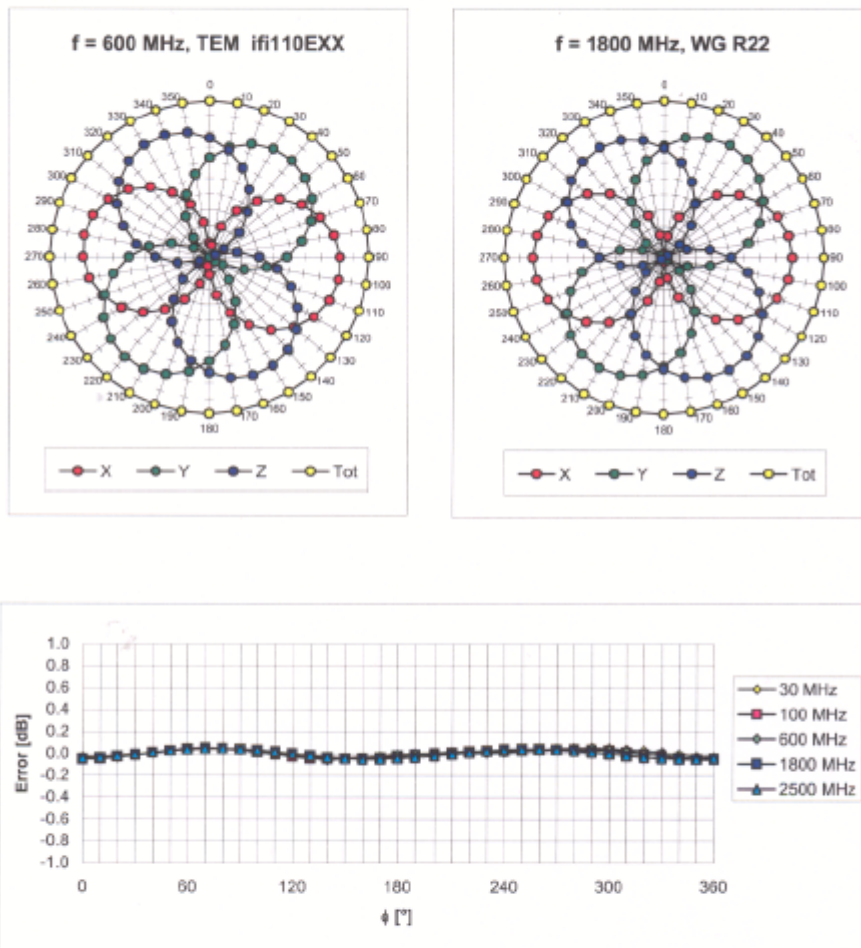


ET3DV6 SN:1604

March 18, 2005

Receiving Pattern ( $\phi$ ),  $\theta = 0^\circ$ Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

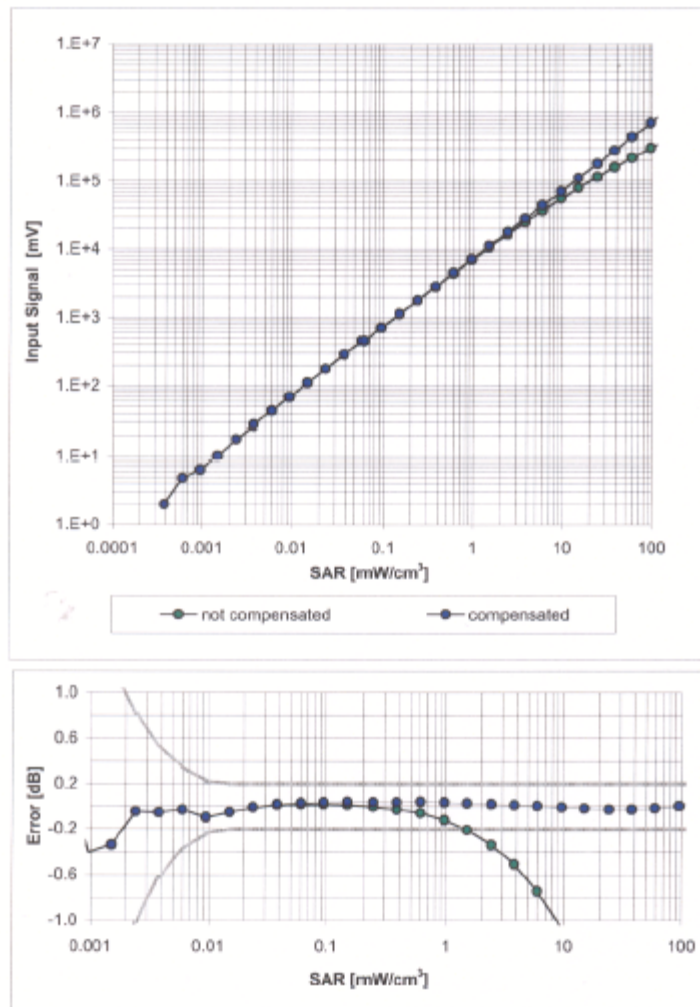
Certificate No: ET3-1604\_Mar05

Page 6 of 9

ET3DV6 SN:1604

March 18, 2005

**Dynamic Range  $f(\text{SAR}_{\text{head}})$**   
(Waveguide R22,  $f = 1800 \text{ MHz}$ )

Uncertainty of Linearity Assessment:  $\pm 0.6\%$  ( $k=2$ )

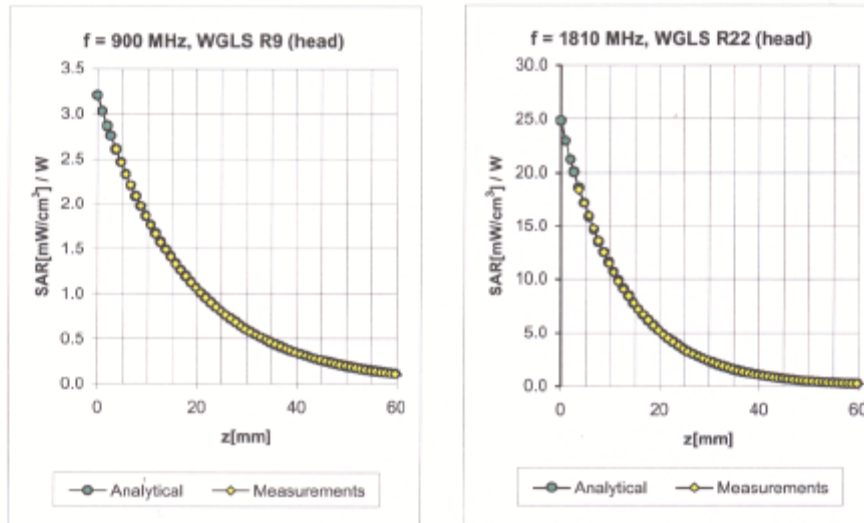
Certificate No: ET3-1604\_Mar05

Page 7 of 9

ET3DV6 SN:1604

March 18, 2005

## Conversion Factor Assessment



| f [MHz] | Validity [MHz] <sup>c</sup> | TSL  | Permittivity | Conductivity | Alpha | Depth | ConvF Uncertainty  |
|---------|-----------------------------|------|--------------|--------------|-------|-------|--------------------|
| 300     | ± 50 / ± 100                | Head | 45.3 ± 5%    | 0.87 ± 5%    | 0.10  | 1.14  | 8.44 ± 13.3% (k=2) |
| 450     | ± 50 / ± 100                | Head | 43.5 ± 5%    | 0.87 ± 5%    | 0.10  | 1.10  | 8.10 ± 13.3% (k=2) |
| 900     | ± 50 / ± 100                | Head | 41.5 ± 5%    | 0.97 ± 5%    | 0.63  | 1.78  | 6.62 ± 11.0% (k=2) |
| 1810    | ± 50 / ± 100                | Head | 40.0 ± 5%    | 1.40 ± 5%    | 0.58  | 2.40  | 5.19 ± 11.0% (k=2) |
| 2450    | ± 50 / ± 100                | Head | 39.2 ± 5%    | 1.80 ± 5%    | 0.66  | 2.25  | 4.58 ± 11.8% (k=2) |
| 450     | ± 50 / ± 100                | Body | 56.7 ± 5%    | 0.94 ± 5%    | 0.06  | 1.40  | 7.54 ± 13.3% (k=2) |
| 900     | ± 50 / ± 100                | Body | 55.0 ± 5%    | 1.05 ± 5%    | 0.53  | 2.02  | 6.27 ± 11.0% (k=2) |
| 1810    | ± 50 / ± 100                | Body | 53.3 ± 5%    | 1.52 ± 5%    | 0.55  | 2.75  | 4.79 ± 11.0% (k=2) |
| 2450    | ± 50 / ± 100                | Body | 52.7 ± 5%    | 1.95 ± 5%    | 0.70  | 2.13  | 4.24 ± 11.8% (k=2) |

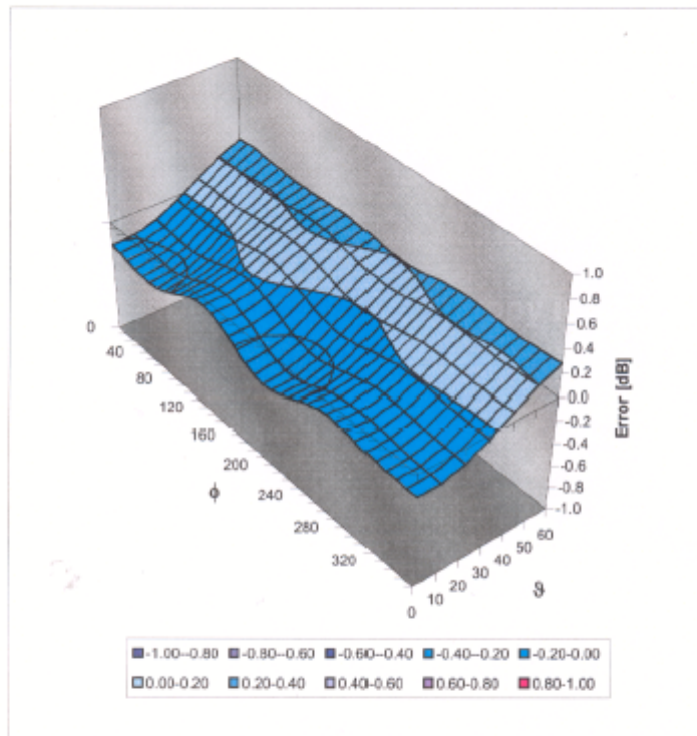
<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Certificate No: ET3-1604\_Mar05

Page 8 of 9

ET3DV6 SN:1604

March 18, 2005

**Deviation from Isotropy in HSL**Error ( $\phi$ ,  $\theta$ ),  $f = 900$  MHzUncertainty of Spherical Isotropy Assessment:  $\pm 2.6\%$  ( $k=2$ )

Schmid &amp; Partner Engineering AG

**s p e a g**

Zaughausstrasse 43, 8004 Zurich, Switzerland  
Phone +41 1 245 9700, Fax +41 1 245 9779  
info@speag.com, <http://www.speag.com>

## Additional Conversion Factors for Dosimetric E-Field Probe

Type:

ET3DV6

Serial Number:

1604

Place of Assessment:

Zurich

Date of Assessment:

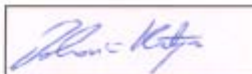
March 21, 2005

Probe Calibration Date:

March 18, 2005

Schmid & Partner Engineering AG hereby certifies that conversion factor(s) of this probe have been evaluated on the date indicated above. The assessment was performed using the FDTD numerical code SEMCAD of Schmid & Partner Engineering AG. Since the evaluation is coupled with measured conversion factors, it has to be recalculated yearly, i.e., following the re-calibration schedule of the probe. The uncertainty of the numerical assessment is based on the extrapolation from measured value at 900 MHz or at 1800 MHz.

Assessed by:



ET3DV6-SN:1604

Page 1 of 2

March 21, 2005

Schmid &amp; Partner Engineering AG

**s p e a g**

Zeughausstrasse 43, 8004 Zurich, Switzerland  
Phone +41 1 245 9700, Fax +41 1 245 9779  
info@speag.com, <http://www.speag.com>

**Dosimetric E-Field Probe ET3DV6 SN:1604**Conversion factor ( $\pm$  standard deviation)

|                    |       |                                 |                                                                               |
|--------------------|-------|---------------------------------|-------------------------------------------------------------------------------|
| <b>f = 150 MHz</b> | ConvF | <b>9.0 <math>\pm</math> 10%</b> | $\epsilon_r = 52.3 \pm 5\%$<br>$\sigma = 0.76 \pm 5\%$ mho/m<br>(head tissue) |
| <b>f = 150 MHz</b> | ConvF | <b>8.6 <math>\pm</math> 10%</b> | $\epsilon_r = 61.9 \pm 5\%$<br>$\sigma = 0.80 \pm 5\%$ mho/m<br>(body tissue) |
| <b>f = 300 MHz</b> | ConvF | <b>7.9 <math>\pm</math> 9%</b>  | $\epsilon_r = 58.2 \pm 5\%$<br>$\sigma = 0.92 \pm 5\%$ mho/m<br>(body tissue) |

**Important Note:**

**For numerically assessed probe conversion factors, parameters Alpha and Delta in the DASY software must have the following entries: Alpha = 0 and Delta = 1.**

**Please see also Section 4.7 of the DASY4 Manual.**

**APPENDIX C – DIPOLE CALIBRATION CERTIFICATES**

Calibration Laboratory of  
Schmid & Partner  
Engineering AG  
Zeughausstrasse 43, 8004 Zurich, Switzerland

Client

Bay Area

Certificate No: CD835V3-1012\_Feb05

**CALIBRATION CERTIFICATE**

Object

CD835V3 - SN: 1012

Calibration procedure(s)

QA CAL-20.v2  
Calibration procedure for dipoles in air

Calibration date:

February, 24, 2005

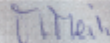
Condition of the calibrated item

In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&amp;TE critical for calibration)

| Primary Standards           | ID #             | Cal Date (Calibrated by: Certificate No.) | Scheduled Calibration  |
|-----------------------------|------------------|-------------------------------------------|------------------------|
| Power meter EPM E442        | GB37480704       | 12-Oct-04 (METAS, No. 251-00412)          | Oct-05                 |
| Power sensor HP 8481A       | US37292783       | 12-Oct-04 (METAS, No. 251-00412)          | Oct-05                 |
| Reference 20 dB Attenuator  | SN: 5086 (20g)   | 10-Aug-04 (METAS, No 251-00402)           | Aug-05                 |
| Reference 10 dB Attenuator  | SN: 5047.2 (10r) | 10-Aug-04 (METAS, No 251-00402)           | Aug-05                 |
| Reference Probe ER3DV6      | SN 2328          | 06-Oct-04 (SPEAG, No. ER3-2328_Oct04)     | Oct-05                 |
| DAE4                        | SN 601           | 07-Jan-05 (SPEAG, No. DAE4-601_Jan05)     | Jan-06                 |
| Secondary Standards         | ID #             | Check Date (in house)                     | Scheduled Check        |
| Power sensor HP 8481A       | MY41092312       | 10-Aug-03 (SPEAG, in house check Jan-04)  | In house check: Oct-05 |
| Power sensor HP 8481A       | MY41093315       | 10-Aug-03 (SPEAG, in house check Jan-04)  | In house check: Oct-05 |
| RF generator Agilent E6251A | US41140111       | 4-Aug-03 (Agilent)                        | In house check: Aug-05 |
| Network Analyzer HP 8753E   | US37390585 S4206 | 18-Oct-01 (SPEAG, in house check Nov-04)  | In house check: Nov-05 |
| Probe H3DV6                 | SN: 6065         | 10-Oct-04 (SPEAG, No. H3-6065-Oct04)      | Calibration, Oct-05    |

|                |              |                       |                                                                                      |
|----------------|--------------|-----------------------|--------------------------------------------------------------------------------------|
|                | Name         | Function              | Signature                                                                            |
| Calibrated by: | Mike Meil    | Laboratory Technician |  |
| Approved by:   | Fin Bornholt | Technical Director    |  |

Issued: February 27, 2005

This calibration certificate is issued as an intermediate solution until the specific calibration procedure is submitted and accepted in the frame of the accreditation of the Calibration Laboratory of Schmid & Partner Engineering AG (based on ISO/IEC 17025 International Standard)

Certificate No: CD835V3-1012\_Feb05

Page 1 of 6

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland

#### References

- [1] ANSI-PC63.19-2003 (Draft)  
American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids.

#### Methods Applied and Interpretation of Parameters:

- *Coordinate System:* y-axis is in the direction of the dipole arms. z-axis is from the basis of the antenna (mounted on the table) towards its feed point between the two dipole arms. x-axis is normal to the other axes. In coincidence with standard [1], the measurement planes (probe sensor center) are selected to be at a distance of 10 mm above the top edge of the dipole arms.
- *Measurement Conditions:* Further details are available from the hardcopies at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated. The forward power to the dipole connector is set with a calibrated power meter connected and monitored with an auxiliary power meter connected to a directional coupler. While the dipole under test is connected, the forward power is adjusted to the same level.
- *Antenna Positioning:* The dipole is mounted on a HAC Test Arch phantom using the matching dipole positioner with the arms horizontal and the feeding cable coming from the floor. The measurements are performed in a shielded room with absorbers around the setup to reduce the reflections. It is verified before the mounting of the dipole under the Test Arch phantom, that its arms are perfectly in a line. It is installed on the HAC dipole positioner with its arms parallel below the dielectric reference wire and able to move elastically in vertical direction without changing its relative position to the top center of the Test Arch phantom. The vertical distance to the probe is adjusted after dipole mounting with a DAQY4 Surface Check job. Before the measurement, the distance between phantom surface and probe tip is verified. The proper measurement distance is selected by choosing the matching section of the HAC Test Arch phantom with the proper device reference point (upper surface of the dipole) and the matching grid reference point (tip of the probe) considering the probe sensor offset. The vertical distance to the probe is essential for the accuracy.
- *Feed Point Impedance and Return Loss:* These parameters are measured using a HP 8753E Vector Network Analyzer. The impedance is specified at the SMA connector of the dipole. The influence of reflections was eliminating by applying the averaging function while moving the dipole in the air, at least 70cm away from any obstacles.
- *E-field distribution:* E field is measured in the x-y-plane with an isotropic ER3D-field probe with 100 mW forward power to the antenna feed point. In accordance with [1], the scan area is 20mm wide, its length exceeds the dipole arm length (180 or 90mm). The sensor center is 10 mm (in z) above the top of the dipole arms. Two 3D maxima are available near the end of the dipole arms. Assuming the dipole arms are perfectly in one line, the average of these two maxima (in subgrid 2 and subgrid 8) is determined to compensate for any non-parallelity to the measurement plane as well as the sensor displacement. The E-field value stated as calibration value represents the maximum of the interpolated 3D-E-field, 10mm above the dipole surface.
- *H-field distribution:* H-field is measured with an isotropic H-field probe with 100mW forward power to the antenna feed point, in the x-y-plane. The scan area and sensor distance is equivalent to the E-field scan. The maximum of the field is available at the center (subgrid 5) above the feed point. The H-field value stated as calibration value represents the maximum of the interpolated H-field, 10mm above the dipole surface at the feed point.

**1 Measurement Conditions**

DASY system configuration, as far as not given on page 1.

|                                           |                     |                      |
|-------------------------------------------|---------------------|----------------------|
| <b>DASY Version</b>                       | DASY4               | V4.5 B13             |
| <b>DASY PP Version</b>                    | SEMCAD              | V1.8 B144            |
| <b>Phantom</b>                            | HAC Test Arch       | SD HAC P01 BA, #1002 |
| <b>Distance Dipole Top - Probe Center</b> | 10 mm               |                      |
| <b>Scan resolution</b>                    | dx, dy = 5 mm       | area = 20 x 180 mm   |
| <b>Frequency</b>                          | 835 MHz $\pm$ 1 MHz |                      |
| <b>Forward power at dipole connector</b>  | 20.0 dBm = 100mW    |                      |
| <b>Input power drift</b>                  | < 0.05 dB           |                      |

**2 Maximum Field values**

| <b>H-field 10 mm above dipole surface</b> | condition            | interpolated maximum |
|-------------------------------------------|----------------------|----------------------|
| Maximum measured                          | 100 mW forward power | <b>0.446 A/m</b>     |

Uncertainty for H-field measurement: 8.2% (k=2)

| <b>E-field 10 mm above dipole surface</b> | condition            | interpolated maximum |
|-------------------------------------------|----------------------|----------------------|
| Maximum measured above high end           | 100 mW forward power | 166.9 V/m            |
| Maximum measured above low end            | 100 mW forward power | 160.1 V/m            |
| Averaged maximum above arm                | 100 mW forward power | <b>163.5 V/m</b>     |

Uncertainty for E-field measurement: 12.8% (k=2)

**3 Appendix****3.1 Antenna Parameters**

| <b>Frequency</b> | <b>Return Loss</b> | <b>Impedance</b>           |
|------------------|--------------------|----------------------------|
| 800 MHz          | 15.9 dB            | ( 39.5-j9.9 ) Ohm          |
| <b>835 MHz</b>   | <b>28.7 dB</b>     | <b>( 51.0 + j3.6 ) Ohm</b> |
| 900 MHz          | 19.8 dB            | ( 50.2 - j10.3 ) Ohm       |
| 950 MHz          | 18.5 dB            | ( 49.1 + j11.9 ) Ohm       |
| 960 MHz          | 15.2 dB            | ( 59.9 + j16.4 ) Ohm       |

**3.2 Antenna Design and Handling**

The calibration dipole has a symmetric geometry with a built-in two stub matching network, which leads to the enhanced bandwidth.

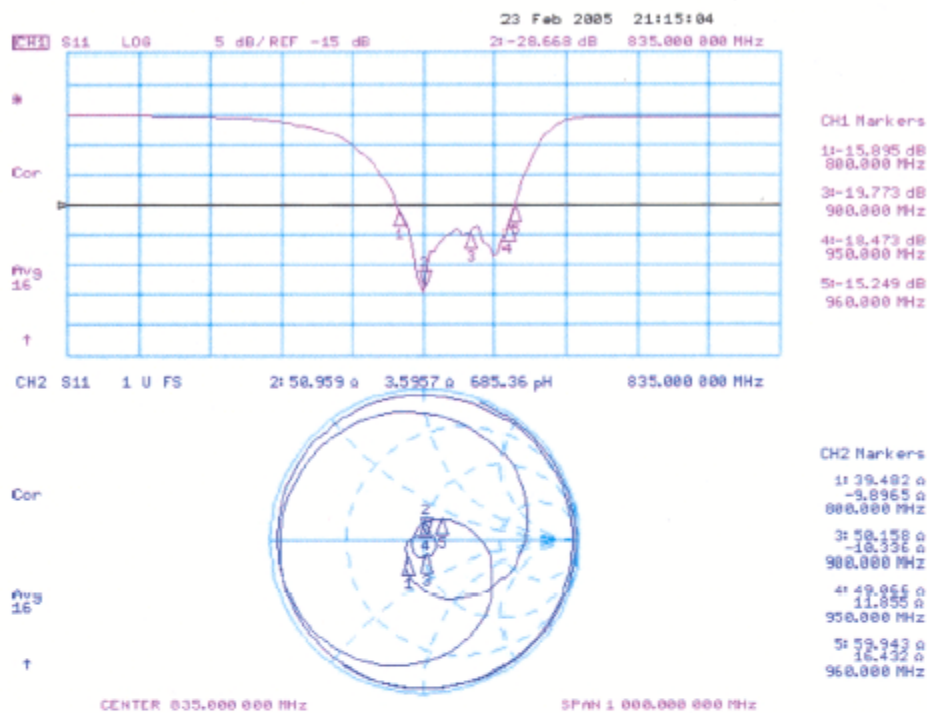
The dipole is built of standard semirigid coaxial cable. The internal matching line is open ended. The antenna is therefore open for DC signals.

Do not apply force to dipole arms, as they are liable to bend. The soldered connections near the feedpoint may be damaged. After excessive mechanical stress or overheating, check the impedance characteristics to ensure that the internal matching network is not affected.

After long term use with 40W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

### 3.3 Measurement Sheets

#### 3.3.1 Return Loss and Smith Chart



#### 3.3.2 DASY4 H-field result

See page 5

#### 3.3.3 DASY4 E-Field result

See page 6

## APPENDIX D - TEST SYSTEM VERIFICATIONS SCANS

### Liquid Measurement Result

2005-06-09

| Simulant | Freq [MHz] | Parameters   | Liquid Temp [°C] | Target Value | Measured Value | Deviation | Limits [%] |
|----------|------------|--------------|------------------|--------------|----------------|-----------|------------|
| Body     | 835        | $\epsilon_r$ | 22.0             | 55.2         | 55.9           | 1.27      | $\pm 5$    |
|          |            | $\sigma$     | 22.0             | 0.97         | 0.96           | -1.03     | $\pm 5$    |
|          |            | lg SAR       | 22.0             | 8.872        | 8.10           | -8.70     | $\pm 10$   |
| Head     | 835        | $\epsilon_r$ | 22.0             | 41.5         | 41.5           | 0.00      | $\pm 5$    |
|          |            | $\sigma$     | 22.0             | 0.90         | 0.89           | -1.11     | $\pm 5$    |
|          |            | lg SAR       | 22.0             | 9.5          | 9.65           | 1.58      | $\pm 10$   |

$\epsilon_r$  = relative permittivity,  $\sigma$  = conductivity and  $\rho=1000\text{kg/m}^3$

Date/Time: 6/8/2005 11:02:48 AM

Test Laboratory: Bay Area Compliance Lab Corp.

File Name: [050608\\_ET\\_1604\\_SystemValidationCheck\\_D835\\_Body.da4](#)**DUT: Dipole 835 MHz; Type: CD835V3; Serial: CD835V3 - SN:1012****Program Name: System Performance Check at 835 MHz**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.96 \text{ mho/m}$ ;  $\epsilon_r = 55.9$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.27, 6.27, 6.27); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**d=15mm, Pin=1W/Area Scan (61x121x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$ 

Maximum value of SAR (interpolated) = 8.16 mW/g

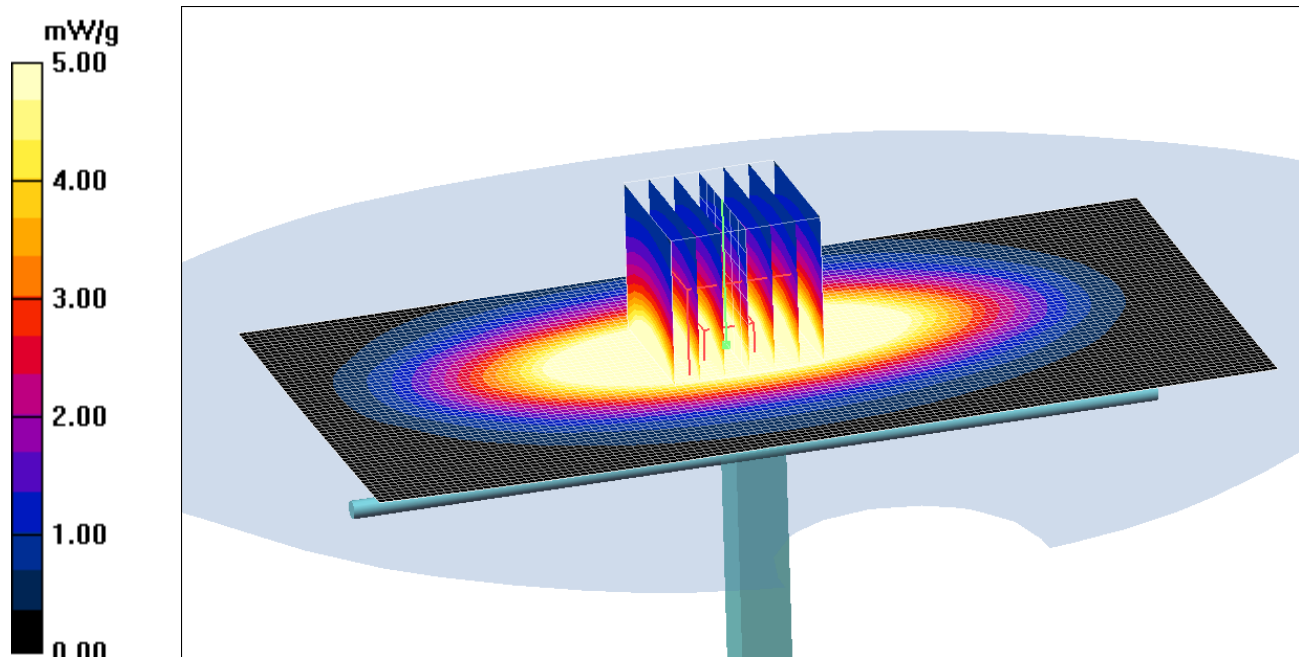
**d=15mm, Pin=1W/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$ 

Reference Value = 97.5 V/m; Power Drift = -0.012 dB

Peak SAR (extrapolated) = 11.6 W/kg

**SAR(1 g) = 8.10 mW/g; SAR(10 g) = 4.91 mW/g**

Maximum value of SAR (measured) = 8.34 mW/g



Date/Time: 6/9/2005 5:52:04 PM

Test Laboratory: Bay Area Compliance Lab Corp.

File Name: [050608\\_ET\\_1604\\_SystemValidationCheck\\_D835\\_Head.da4](#)**DUT: Dipole 835 MHz; Type: CD835V3; Serial: CD835V3 - SN:1012****Program Name: System Performance Check at 835 MHz**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.89 \text{ mho/m}$ ;  $\epsilon_r = 41.5$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.62, 6.62, 6.62); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**d=15mm, Pin=1W 4/Area Scan (61x121x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$ 

Maximum value of SAR (interpolated) = 10.3 mW/g

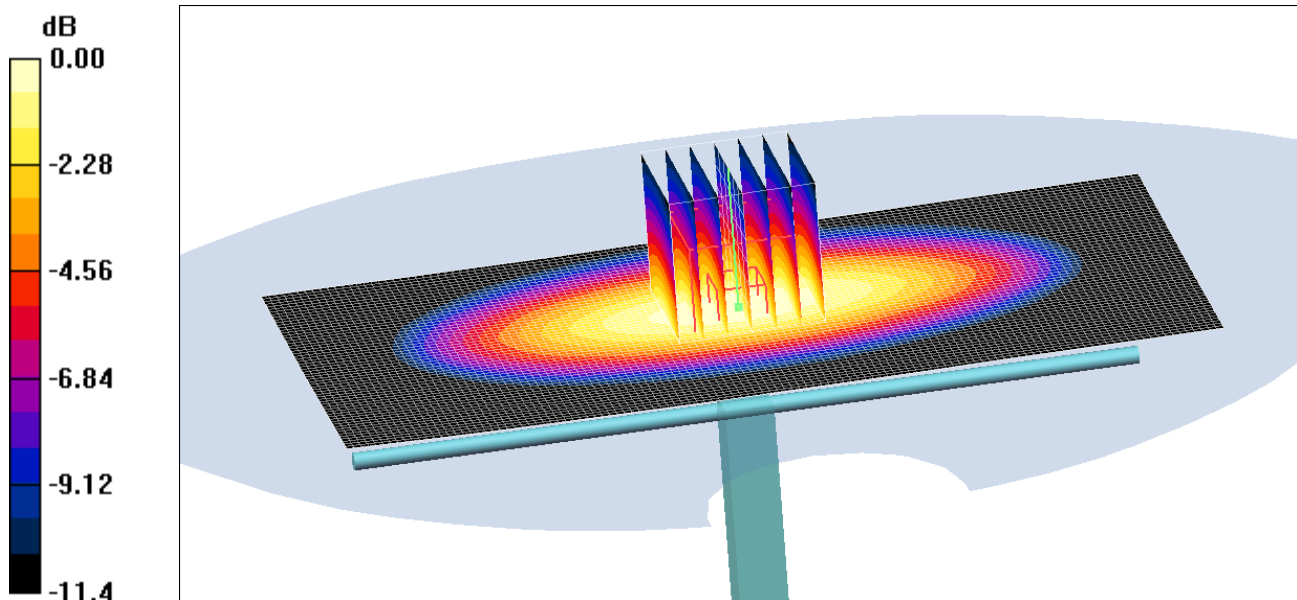
**d=15mm, Pin=1W 4/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$ 

Reference Value = 112.7 V/m; Power Drift = 0.010 dB

Peak SAR (extrapolated) = 14.8 W/kg

**SAR(1 g) = 9.65 mW/g; SAR(10 g) = 6.13 mW/g**

Maximum value of SAR (measured) = 10.5 mW/g



0 dB = 10.5mW/g

## APPENDIX E - EUT SCANS

Date/Time: 6/9/2005 2:35:24 PM

Test Laboratory: Bay Area Compliance Lab Corp.

File Name: [050609\\_ZTE\\_Body\\_Mid\\_chn\\_Compag\\_Notebook.da4](#)**DUT: DUT; Type: Sample; Serial: 300511194096****Program Name: ZTE**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.52$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 55.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.27, 6.27, 6.27); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**1.5cm Body position - Middle chn\_V/Area Scan (71x81x1):** Measurement grid: dx=15mm, dy=15mm[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (interpolated) = 0.014 mW/g

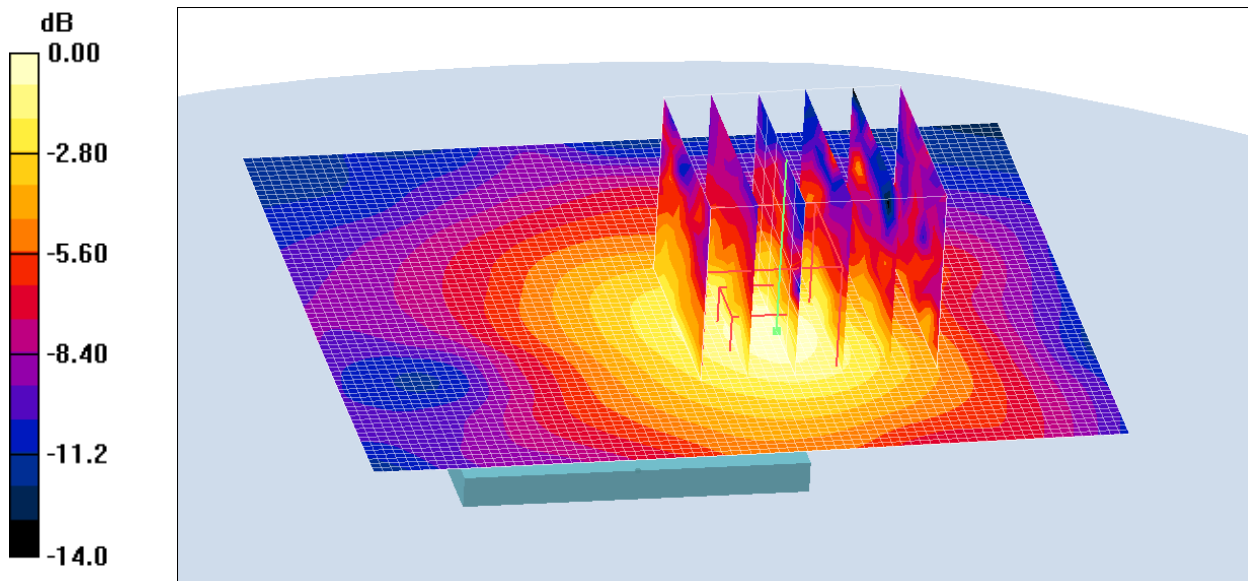
**1.5cm Body position - Middle chn\_V/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 2.98 V/m; Power Drift = -0.244 dB

Peak SAR (extrapolated) = 0.030 W/kg

**SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00748 mW/g**[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (measured) = 0.015 mW/g



0 dB = 0.015mW/g

**Plot #1**

Date/Time: 6/9/2005 2:18:22 PM

Test Laboratory: Bay Area Compliance Lab Corp.

File Name: [050609\\_ZTE\\_Body\\_Mid\\_chn\\_Compag\\_Notebook.da4](#)**DUT: DUT; Type: Sample; Serial: 300511194096****Program Name: ZTE**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.52$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 55.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.27, 6.27, 6.27); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**1.5cm Body position - Middle chn\_H 2/Area Scan (71x81x1):** Measurement grid: dx=15mm, dy=15mm[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (interpolated) = 0.187 mW/g

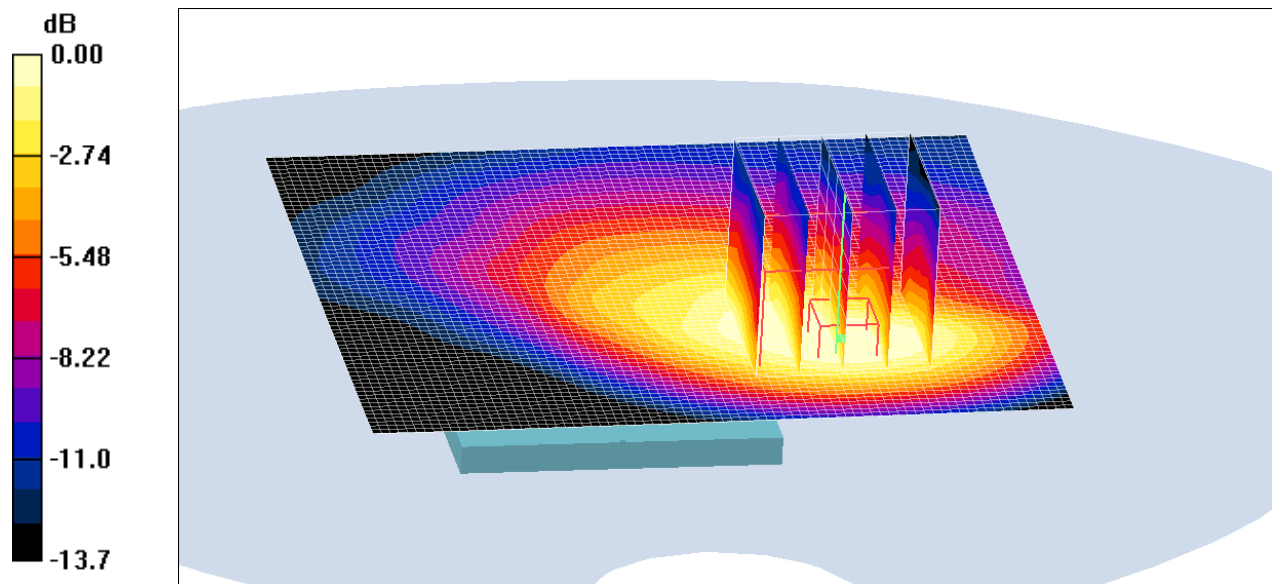
**1.5cm Body position - Middle chn\_H 2/Zoom Scan 2 (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.51 V/m; Power Drift = 0.32dB

Peak SAR (extrapolated) = 0.267 W/kg

**SAR(1 g) = 0.155 mW/g; SAR(10 g) = 0.094 mW/g**[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (measured) = 0.170 mW/g



0 dB = 0.170mW/g

**Plot #2**

Date/Time: 6/9/2005 10:43:35 AM

Test Laboratory: Bay Area Compliance Lab Corp.

File Name: [050609\\_ZTE\\_Body\\_Mid\\_chn\\_Dell Notebook.da4](#)**DUT: DUT; Type: Sample; Serial: 300511194096****Program Name: ZTE**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.52$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 55.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.27, 6.27, 6.27); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**1.5cm Body position - Middle chn\_V/Area Scan (81x81x1):** Measurement grid: dx=15mm, dy=15mm[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (interpolated) = 0.01 mW/g

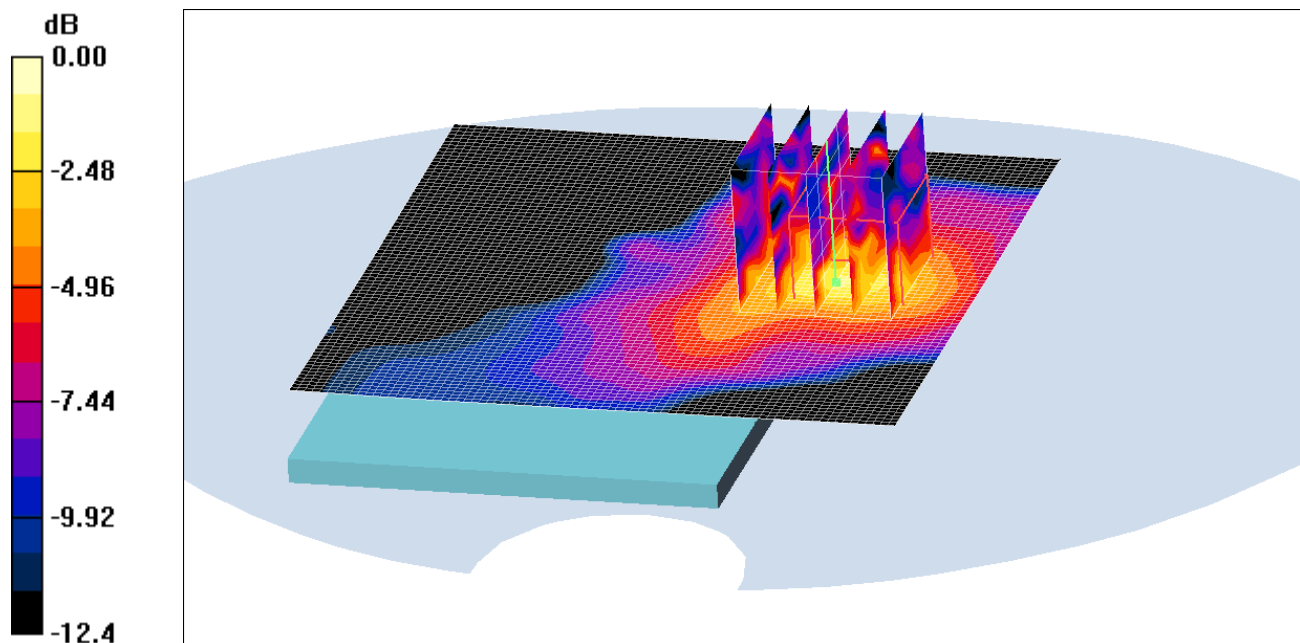
**1.5cm Body position - Middle chn\_V/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.93 V/m; Power Drift = -0.408 dB

Peak SAR (extrapolated) = 0.017 W/kg

**SAR(1 g) = 0.00621 mW/g; SAR(10 g) = 0.00243 mW/g**[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (measured) = 0.01 mW/g



0 dB = 0.010mW/g

**Plot #3**

Date/Time: 6/9/2005 9:57:48 AM

Test Laboratory: Bay Area Compliance Lab Corp.

File Name: [050609\\_ZTE\\_Body\\_Mid\\_chn\\_Dell Notebook.da4](#)**DUT: DUT; Type: Sample; Serial: 300511194096****Program Name: ZTE**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.52$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 55.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.27, 6.27, 6.27); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**1.5cm Body position - Middle chn\_H/Area Scan (71x81x1):** Measurement grid: dx=15mm, dy=15mm[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (interpolated) = 0.212 mW/g

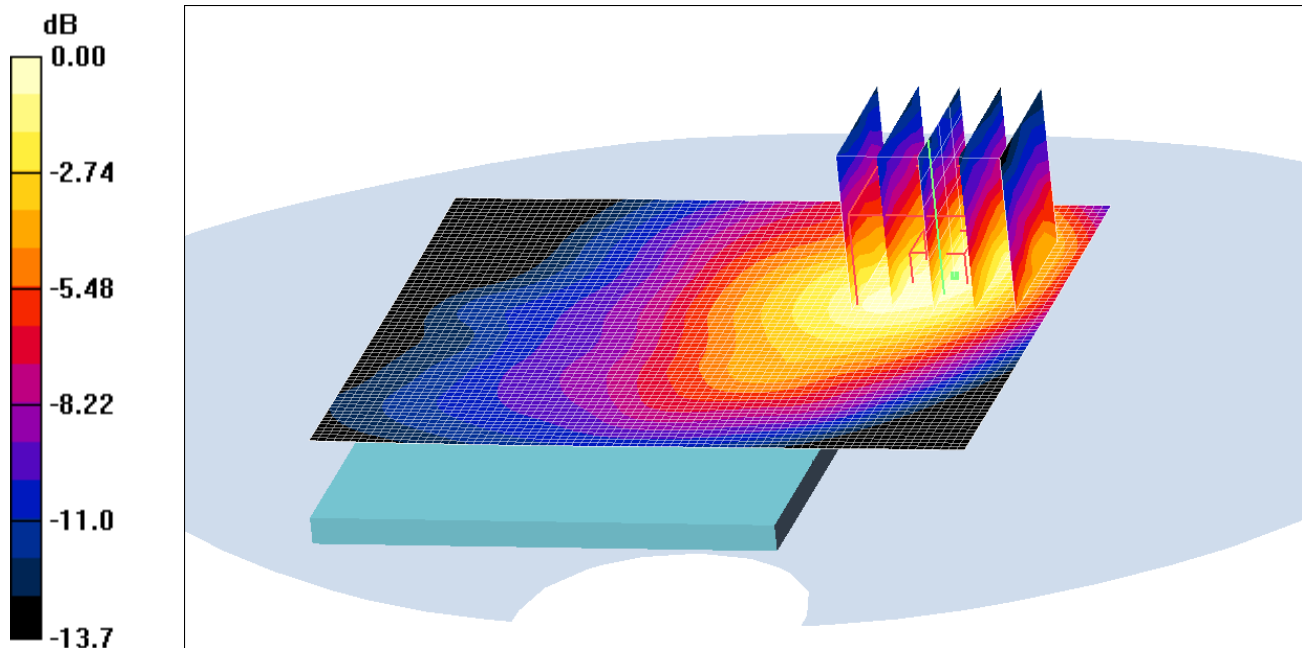
**1.5cm Body position - Middle chn\_H/Zoom Scan 2 (5x5x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.4 V/m; Power Drift = 0.01dB

Peak SAR (extrapolated) = 0.392 W/kg

**SAR(1 g) = 0.207 mW/g; SAR(10 g) = 0.121 mW/g**[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (measured) = 0.226 mW/g



0 dB = 0.226mW/g

**Plot #4**

Test Laboratory: Bay Area Compliance Lab Corp.

File Name: [050609\\_ZTE\\_Body\\_Mid\\_chn\\_Sony Notebook.da4](#)

**DUT: DUT; Type: Sample; Serial: 300511194096**

**Program Name: ZTE**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.52$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 55.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.27, 6.27, 6.27); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**1.5cm Body position - Middle chn\_V 2/Area Scan (71x81x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (interpolated) = 0.046 mW/g

**1.5cm Body position - Middle chn\_V 2/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

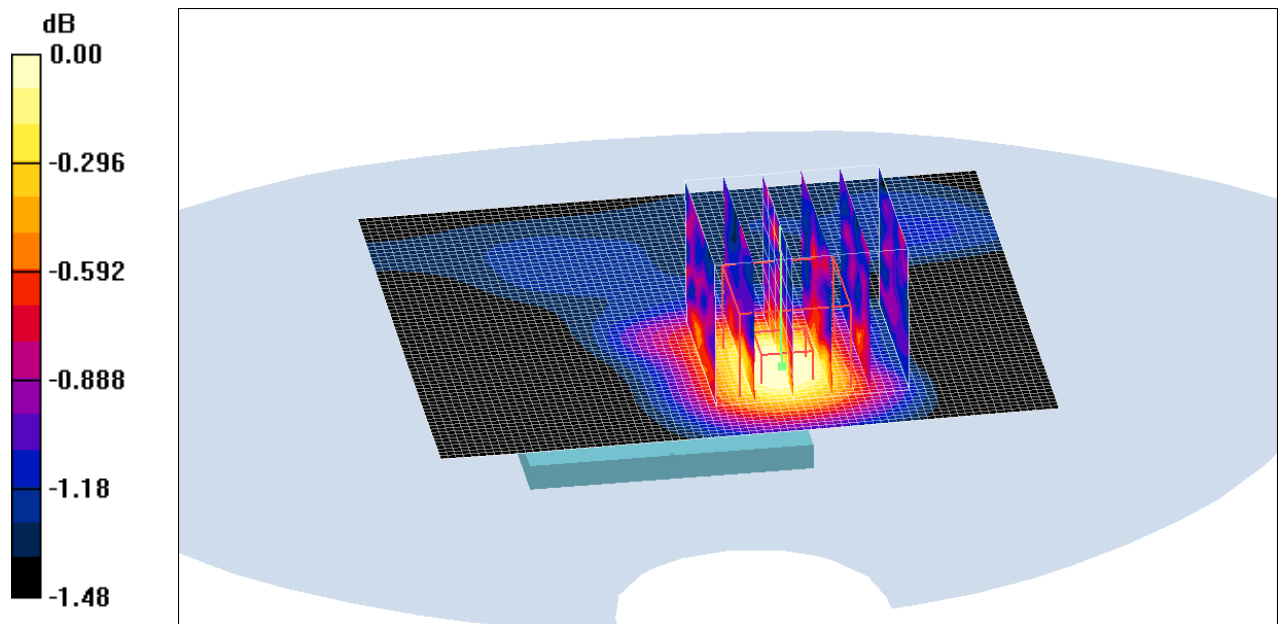
Reference Value = 6.45 V/m; Power Drift = -0.209 dB

Peak SAR (extrapolated) = 0.049 W/kg

**SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.039 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (measured) = 0.045 mW/g



0 dB = 0.045mW/g

**Plot #5**

Date/Time: 6/9/2005 12:07:24 PM

Test Laboratory: Bay Area Compliance Lab Corp.

File Name: [050609\\_ZTE\\_Body\\_Mid\\_chn\\_Sony\\_Notebook.da4](#)**DUT: DUT; Type: Sample; Serial: 300511194096****Program Name: ZTE**

Communication System: CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.52$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 55.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.27, 6.27, 6.27); Calibrated: 3/18/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 6/1/2004
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**1.5cm Body position - Middle chn\_H 2/Area Scan (71x81x1):** Measurement grid: dx=15mm, dy=15mm[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (interpolated) = 0.619 mW/g

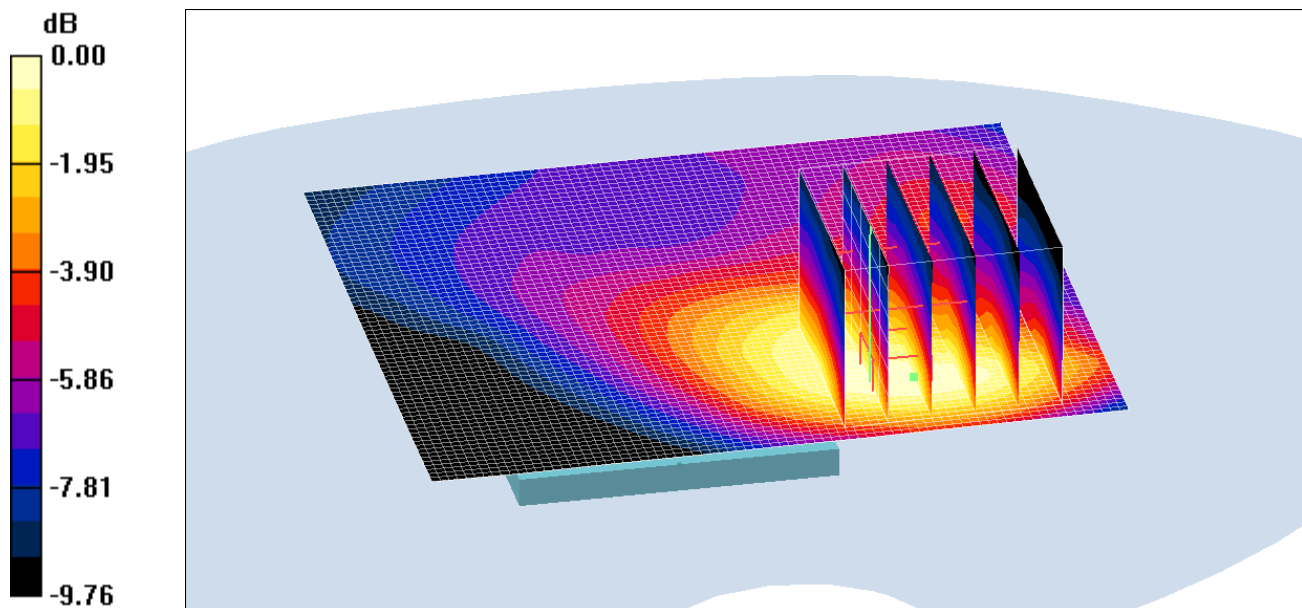
**1.5cm Body position - Middle chn\_H 2/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.5 V/m; Power Drift = 0.301 dB

Peak SAR (extrapolated) = 0.877 W/kg

**SAR(1 g) = 0.552 mW/g; SAR(10 g) = 0.353 mW/g**[Info: Interpolated medium parameters used for SAR evaluation!](#)

Maximum value of SAR (measured) = 0.600 mW/g



0 dB = 0.609mW/g

**Plot #6**

## APPENDIX F – CONDUCTED OUTPUT POWER MEASUREMENT

### Provision Applicable

The measured peak output power should be greater and within 5% than EMI measurement.

### Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

### Test equipment

Hewlett Packard HP8564E Spectrum Analyzer, Calibration Due Date: 2005-10-04.

Hewlett Packard HP 7470A Plotter, Calibration not required.

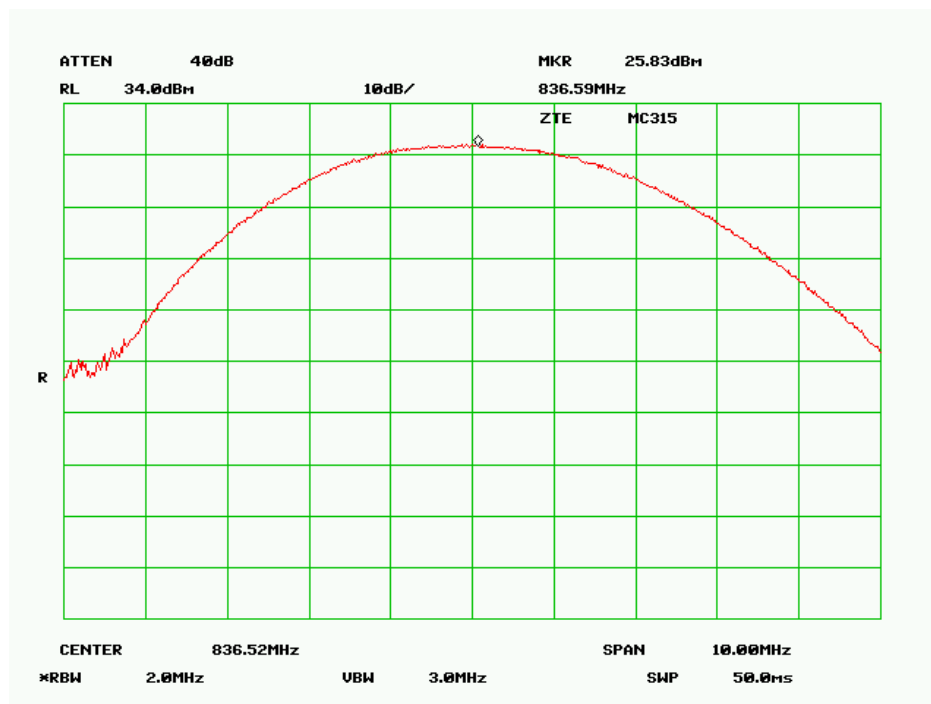
A.H. Systems SAS200 Horn Antenna, Calibration Due Date: 2005-05-31

Com-Power AB-100 Dipole Antenna, Calibration Due Date: 2005-09-05

### Test Results

| Channel | Frequency (MHz) | Output Power in dBm | Output Power in W | Limit in W |
|---------|-----------------|---------------------|-------------------|------------|
| MIDDLE  | 836.52          | 25.83               | 0.383             | 7          |

Please refer to the following plots.



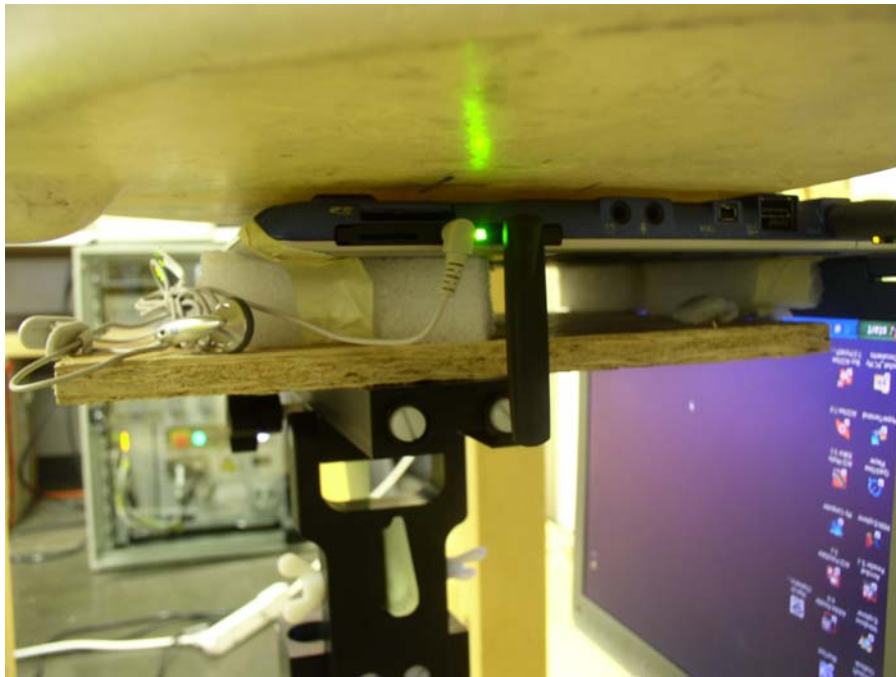
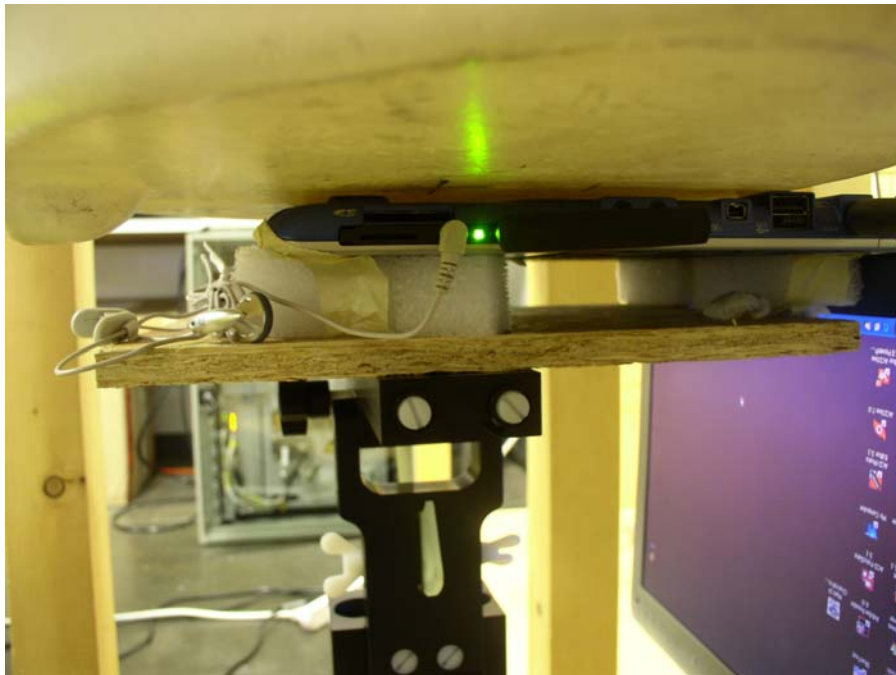
## APPENDIX G – EUT TEST POSITION PHOTOS

### Compaq – Body Back Touching -V



### Compaq – Body Back Touching -H

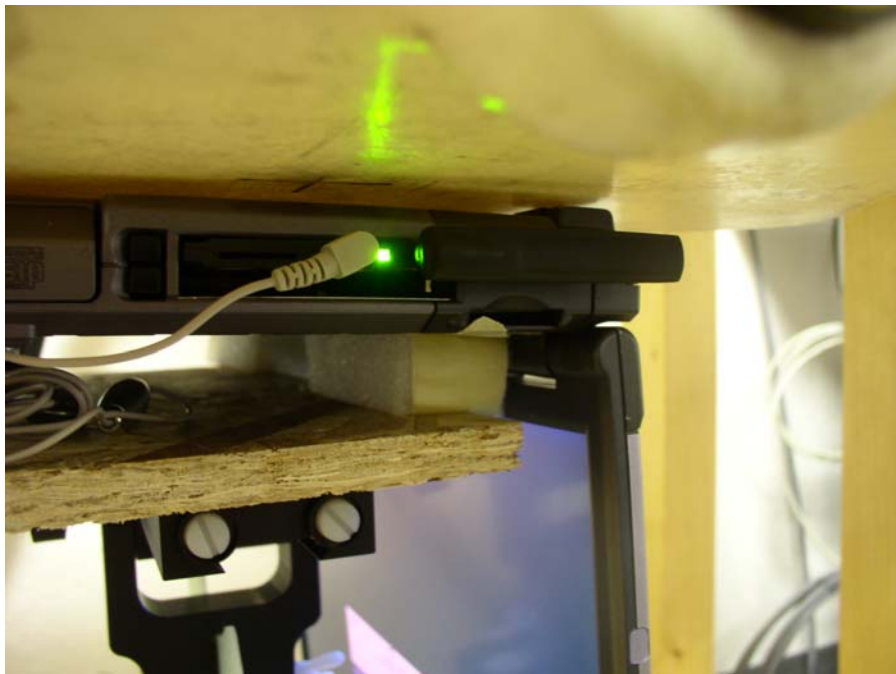


**Dell – Body Back Touching -V****Dell – Body Back Touching -H**

### **Sony – Body Back Touching -V**



### **Sony – Body Back Touching -H**



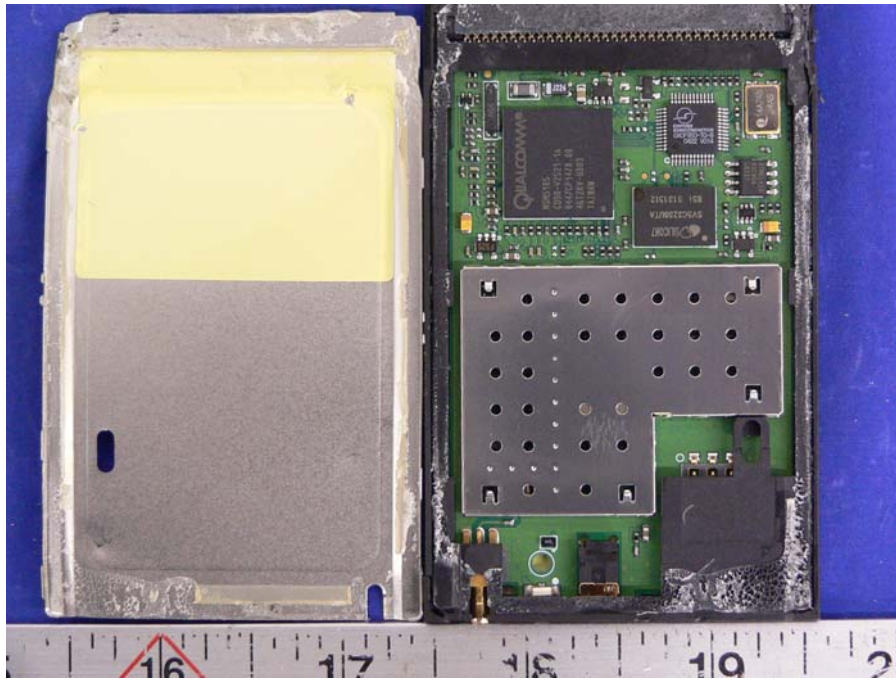
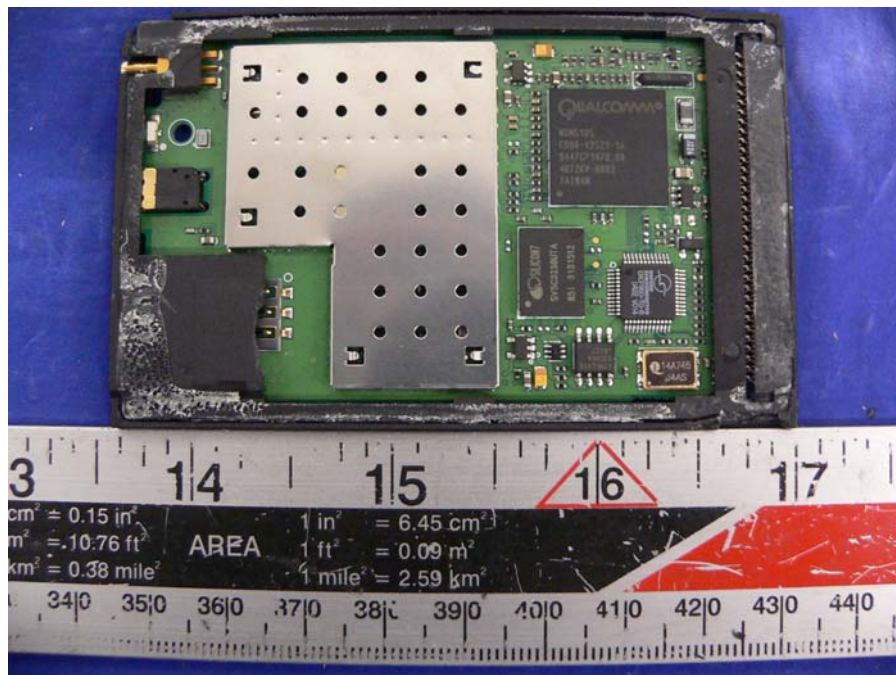
## APPENDIX H – EUT & ACCESSORIES PHOTOS

### EUT - Front View

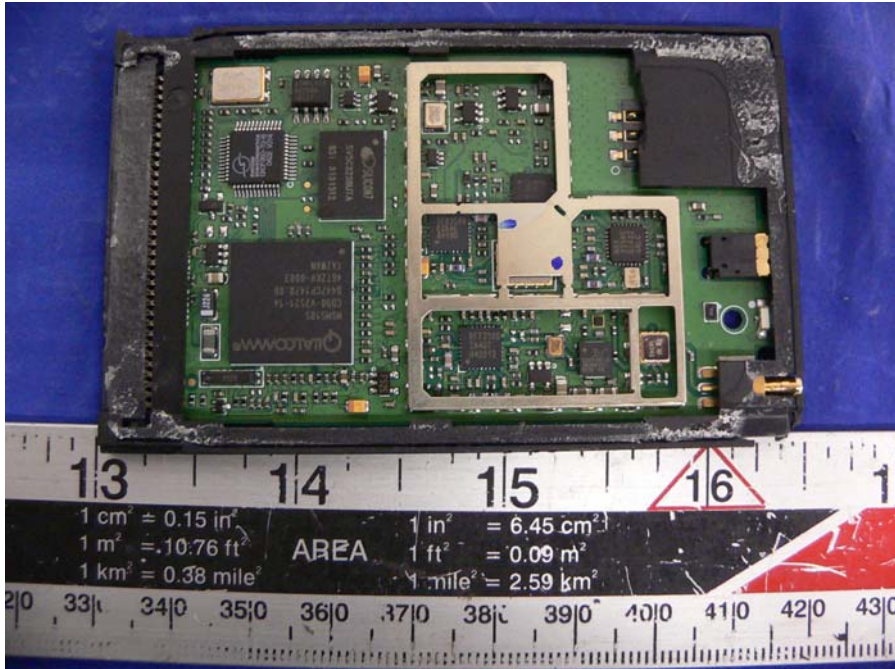


### EUT – Rear View



**EUT – Cover off View****EUT – Component View**

**EUT – Solder View****EUT – Port View 1**

**EUT – Port View 2****EUT – Component View with RF Shield off**

**Antenna View****Earphone View**

## APPENDIX I - INFORMATIVE REFERENCES

---

- [1] Federal Communications Commission, "Report and order: Guidelines for evaluating the environmental effects of radiofrequency radiation", Tech. Rep. FCC 96-326, FCC, Washington, D.C. 20554, 1996.
- [2] David L. Means Kwok Chan, Robert F. Cleveland, "Evaluating compliance with FCC guidelines for human exposure to radiofrequency electromagnetic fields", Tech. Rep., Federal Communication Commission, Office of Engineering & Technology, Washington, DC, 1997.
- [3] Thomas Schmid, Oliver Egger, and Niels Kuster, "Automated E-field scanning system for dosimetric assessments", IEEE Transactions on Microwave Theory and Techniques, vol. 44, pp. 105-113, Jan. 1996.
- [4] Niels Kuster, Ralph Kastle, and Thomas Schmid, "Dosimetric evaluation of mobile communications equipment with known precision", IEEE Transactions on Communications, vol. E80-B, no. 5, pp. 645-652, May 1997.
- [5] CENELEC, "Considerations for evaluating of human exposure to electromagnetic fields (EMFs) from mobile telecommunication equipment (MTE) in the frequency range 30MHz - 6GHz", Tech. Rep., CENELEC, European Committee for Electrotechnical Standardization, Brussels, 1997.
- [6] ANSI, ANSI/IEEE C95.1-1992: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz, The Institute of Electrical and Electronics Engineers, Inc., New York, NY 10017, 1992.
- [7] Katja Pokovic, Thomas Schmid, and Niels Kuster, "Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies", in ICECOM '97, Dubrovnik, October 15-17, 1997, pp. 120-24.
- [8] Katja Pokovic, Thomas Schmid, and Niels Kuster, "E-field probe with improved isotropy in brain simulating liquids", in Proceedings of the ELMAR, Zadar, Croatia, 23-25 June, 1996, pp. 172-175.
- [9] Volker Hombach, Klaus Meier, Michael Burkhardt, Eberhard Kuhn, and Niels Kuster, "The dependence of EM energy absorption upon human head modeling at 900 MHz", IEEE Transactions on Microwave Theory and Techniques, vol. 44, no. 10, pp. 1865-1873, Oct. 1996.
- [10] Klaus Meier, Ralf Kastle, Volker Hombach, Roger Tay, and Niels Kuster, "The dependence of EM energy absorption upon human head modeling at 1800 MHz", IEEE Transactions on Microwave Theory and Techniques, Oct. 1997, in press.
- [11] W. Gander, Computermathematik, Birkhaeuser, Basel, 1992.
- [12] W. H. Press, S. A. Teukolsky, W. T. Vetterling, and B. P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second Edition, Cambridge University Press, 1992. Dosimetric Evaluation of Sample device, month 1998 9
- [13] NIS81 NAMAS, "The treatment of uncertainty in EMC measurement", Tech. Rep., NAMAS Executive, National Physical Laboratory, Teddington, Middlesex, England, 1994.
- [14] Barry N. Taylor and Christ E. Kuyatt, "Guidelines for evaluating and expressing the uncertainty of NIST measurement results", Tech. Rep., National Institute of Standards and Technology, 1994. Dosimetric Evaluation of Sample device, month 1998 10.