

## APPENDIX A: TEST CONFIGURATIONS AND TEST DATA

### A1: TEST CONFIGURATION

#### Mode 1



**The bottom of the EUT to the phantom distance is 13mm**

## Mode 2



**The Front of the EUT to the phantom distance is 10mm**

## Mode 3



**The tip of the EUT to the phantom distance is 0mm**

## Mode 4



**The tip of the EUT to the phantom distance is 0mm**

# EUT Photo



# Liquid Level Photo

2450MHz D=152mm



## A2 : TEST DATA

Date/Time: 10/22/03 10:24:10

Test Laboratory: Advance Data Technology

### WPC54G V1.2 Mode 1

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2412 MHz**

Communication System: 802.11b ; Frequency: 2412 MHz; Duty Cycle: 1:1; Modulation type: CCK  
Medium: MSL2450 ( $\sigma = 1.881$  mho/m,  $\epsilon_r = 52.937$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 13mm(The bottom of the EUT to the Phantom)

Antenna type : Internal Antenna ; Air temp. : 23.0 degrees ; Liquid temp. : 22.0 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn541;

- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 1/Area Scan (41x71x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 11.3 V/m

Power Drift = 0.06 dB

Maximum value of SAR = 0.691 mW/g

**Channel 1/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

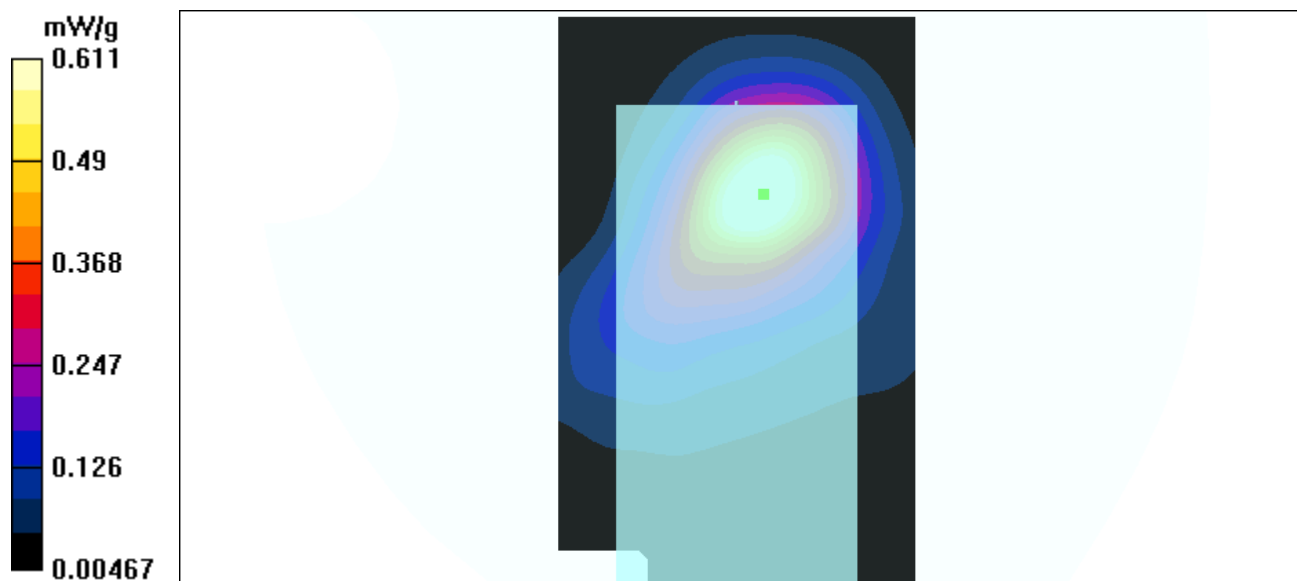
Peak SAR (extrapolated) = 1.15 W/kg

SAR(1 g) = 0.569 mW/g; SAR(10 g) = 0.306 mW/g

Reference Value = 11.3 V/m

Power Drift = 0.06 dB

Maximum value of SAR = 0.611 mW/g



Test Laboratory: Advance Data Technology

### WPC54G V1.2 Mode 1

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2437 MHz**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1; Modulation type: CCK  
Medium: MSL2450 ( $\sigma = 1.927$  mho/m,  $\epsilon_r = 52.876$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 13mm(The bottom of the EUT to the Phantom)  
Antenna type : Internal Antenna ; Air temp. : 23.0 degrees ; Liquid temp. : 22.0 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn541;
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 6/Area Scan (41x71x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 11.3 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.615 mW/g

**Channel 6/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

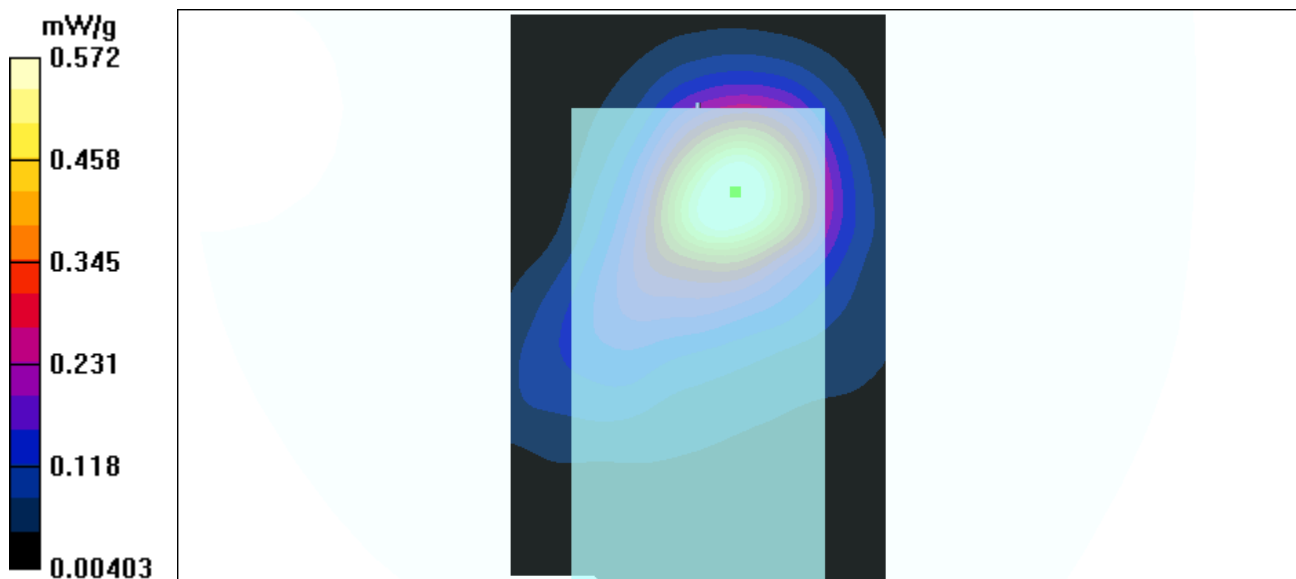
Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.535 mW/g; SAR(10 g) = 0.279 mW/g

Reference Value = 11.3 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.572 mW/g





Test Laboratory: Advance Data Technology

### WPC54G V1-2 Mode 1

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2462 MHz**

Communication System: 802.11b ; Frequency: 2462 MHz; Duty Cycle: 1:1; Modulation type: CCK  
Medium: MSL2450 ( $\sigma = 1.971$  mho/m,  $\epsilon_r = 52.783$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 13mm(The bottom of the EUT to the Phantom)

Antenna type : Internal Antenna ; Air temp. : 23.0 degrees ; Liquid temp. : 22.0 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn541;

- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 11/Area Scan (41x71x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 9.85 V/m

Power Drift = 0.3 dB

Maximum value of SAR = 0.505 mW/g

**Channel 11/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

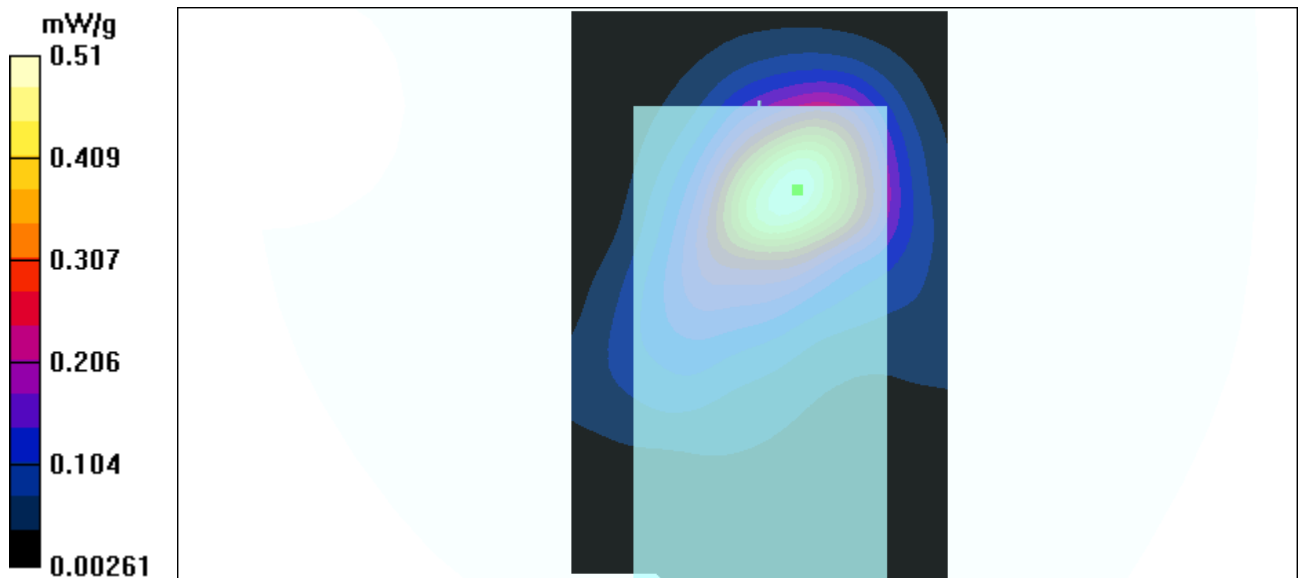
Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.453 mW/g; SAR(10 g) = 0.222 mW/g

Reference Value = 9.85 V/m

Power Drift = 0.3 dB

Maximum value of SAR = 0.51 mW/g



Test Laboratory: Advance Data Technology

### WPC54G V1-2 Mode 2

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2412 MHz**

Communication System: 802.11b ; Frequency: 2412 MHz; Duty Cycle: 1:1; Modulation type: CCK  
Medium: MSL2450 ( $\sigma = 1.881$  mho/m,  $\epsilon_r = 52.937$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 10 mm(The front of the EUT to the Phantom)  
Antenna type : Internal Antenna ; Air temp. : 23 degrees ; Liquid temp. : 22 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn541; Calibrated: 2003/1/14
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 1/Area Scan (41x71x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 11.8 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.633 mW/g

**Channel 1/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

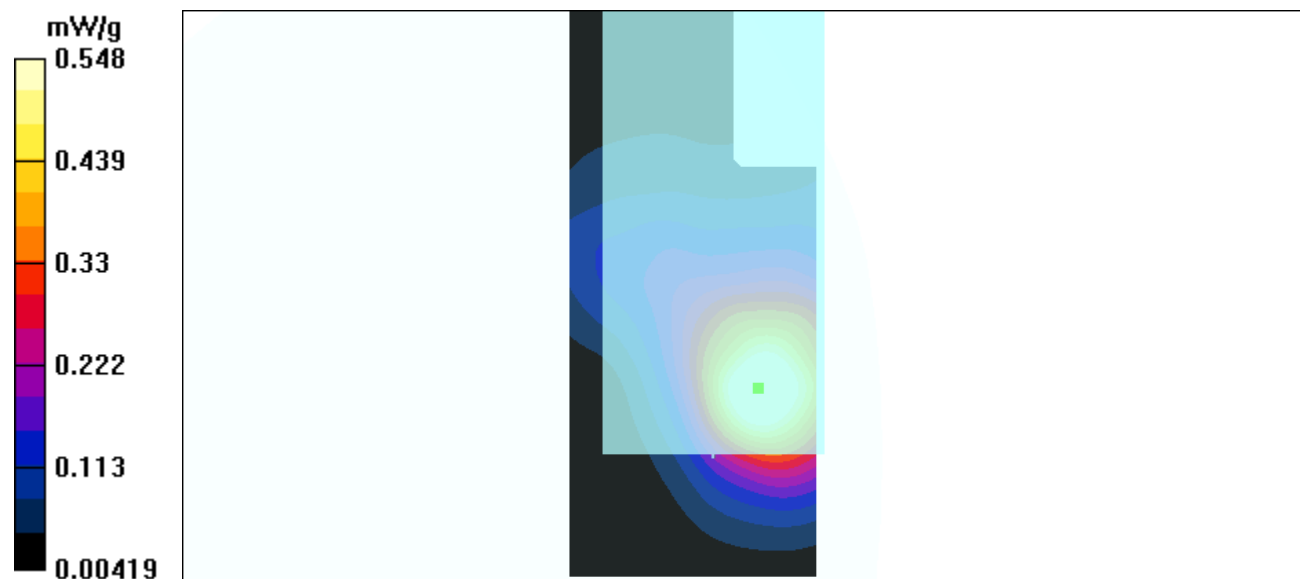
Peak SAR (extrapolated) = 1.01 W/kg

SAR(1 g) = 0.521 mW/g; SAR(10 g) = 0.283 mW/g

Reference Value = 11.8 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.548 mW/g



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## WPC54G V1.2 Mode 2

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2437 MHz**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1; Modulation type: CCK  
Medium: MSL2450 ( $\sigma = 1.927$  mho/m,  $\epsilon_r = 52.876$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 10 mm(The front of the EUT to the Phantom)

Antenna type : Internal Antenna ; Air temp. : 23 degrees ; Liquid temp. : 22 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn541; Calibrated: 2003/1/14

- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 6/Area Scan (41x71x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 11.8 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.553 mW/g

**Channel 6/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

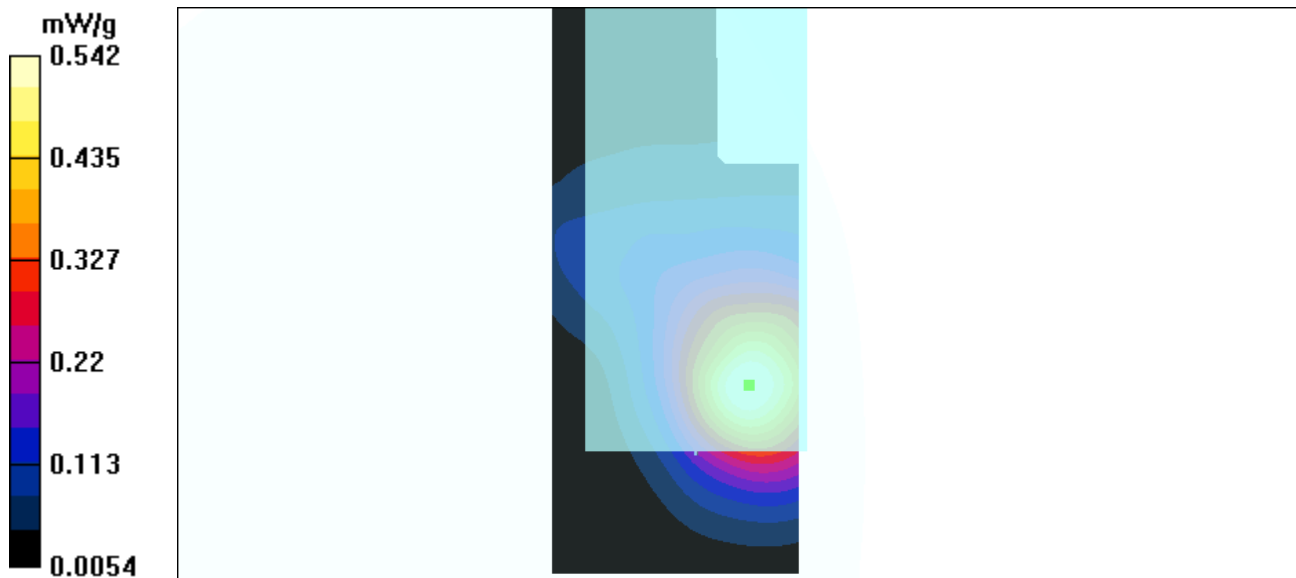
Peak SAR (extrapolated) = 0.994 W/kg

SAR(1 g) = 0.505 mW/g; SAR(10 g) = 0.27 mW/g

Reference Value = 11.8 V/m

Power Drift = -0.05 dB

Maximum value of SAR = 0.542 mW/g



Test Laboratory: Advance Data Technology

## WPC54G V1.2 Mode 2

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2462 MHz**

Communication System: 802.11b ; Frequency: 2462 MHz; Duty Cycle: 1:1; Modulation type: CCK  
Medium: MSL2450 ( $\sigma = 1.971$  mho/m,  $\epsilon_r = 52.783$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 10 mm(The front of the EUT to the Phantom)  
Antenna type : Internal Antenna ; Air temp. : 23 degrees ; Liquid temp. : 22 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn541; Calibrated: 2003/1/14
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 11/Area Scan (41x71x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 10.7 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.466 mW/g

**Channel 11/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

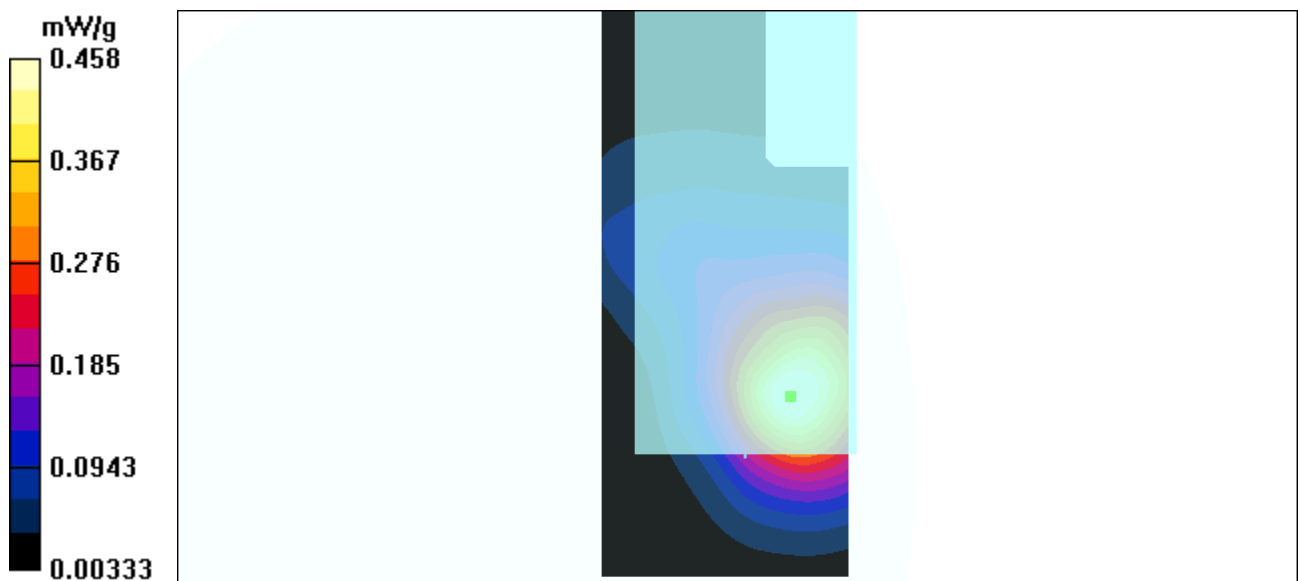
Peak SAR (extrapolated) = 0.841 W/kg

SAR(1 g) = 0.433 mW/g; SAR(10 g) = 0.229 mW/g

Reference Value = 10.7 V/m

Power Drift = 0.2 dB

Maximum value of SAR = 0.458 mW/g



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### WPC54G V1.2 Mode 3

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2412 MHz**

Communication System: 802.11b ; Frequency: 2412 MHz; Duty Cycle: 1:1; Modulation type: CCK

Medium: MSL2450 ( $\sigma = 1.881$  mho/m,  $\epsilon_r = 52.94$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 0mm(The tip of the EUT to the Phantom)

Antenna type : Internal Antenna ; Air temp. : 23.0 degrees ; Liquid temp. : 22.0 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn541;

- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 1/Area Scan (41x41x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 20.4 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 1.03 mW/g

**Channel 1/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

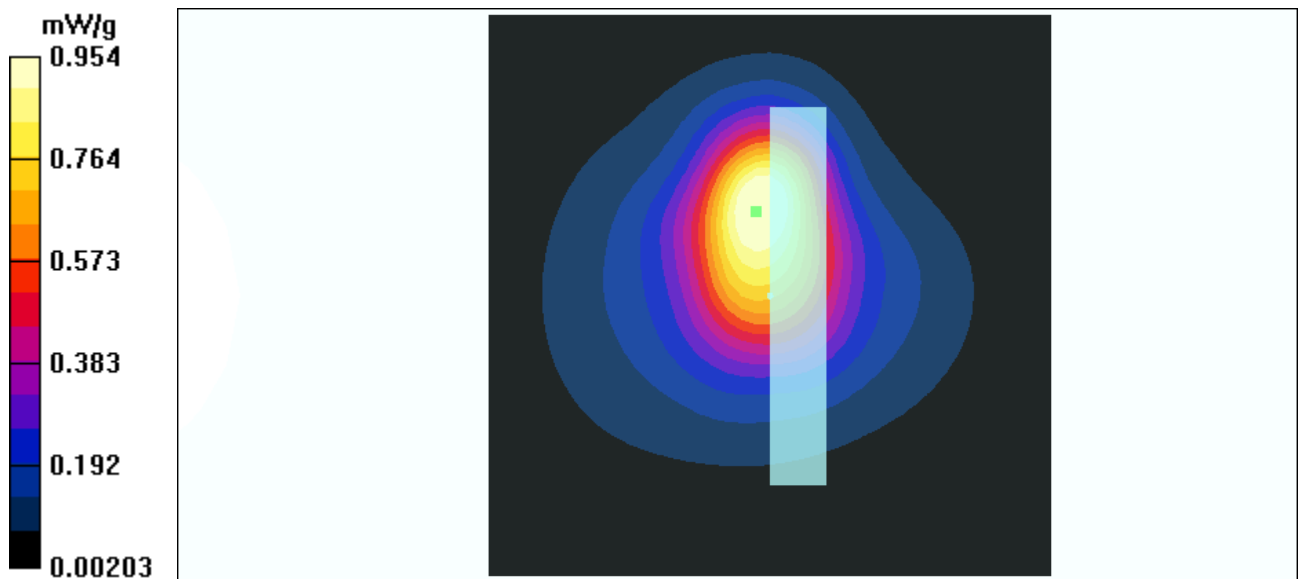
Peak SAR (extrapolated) = 2.01 W/kg

SAR(1 g) = 0.849 mW/g; SAR(10 g) = 0.356 mW/g

Reference Value = 20.4 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.954 mW/g



Test Laboratory: Advance Data Technology

### WPC54G V1.2 Mode 3

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2437 MHz**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1; Modulation type: CCK

Medium: MSL2450 ( $\sigma = 1.927$  mho/m,  $\epsilon_r = 52.88$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 0mm(The tip of the EUT to the Phantom)

Antenna type : Internal Antenna ; Air temp. : 23.0 degrees ; Liquid temp. : 22.0 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn541;

- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 6/Area Scan (41x41x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 20.5 V/m

Power Drift = -0.003 dB

Maximum value of SAR = 0.949 mW/g

**Channel 6/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

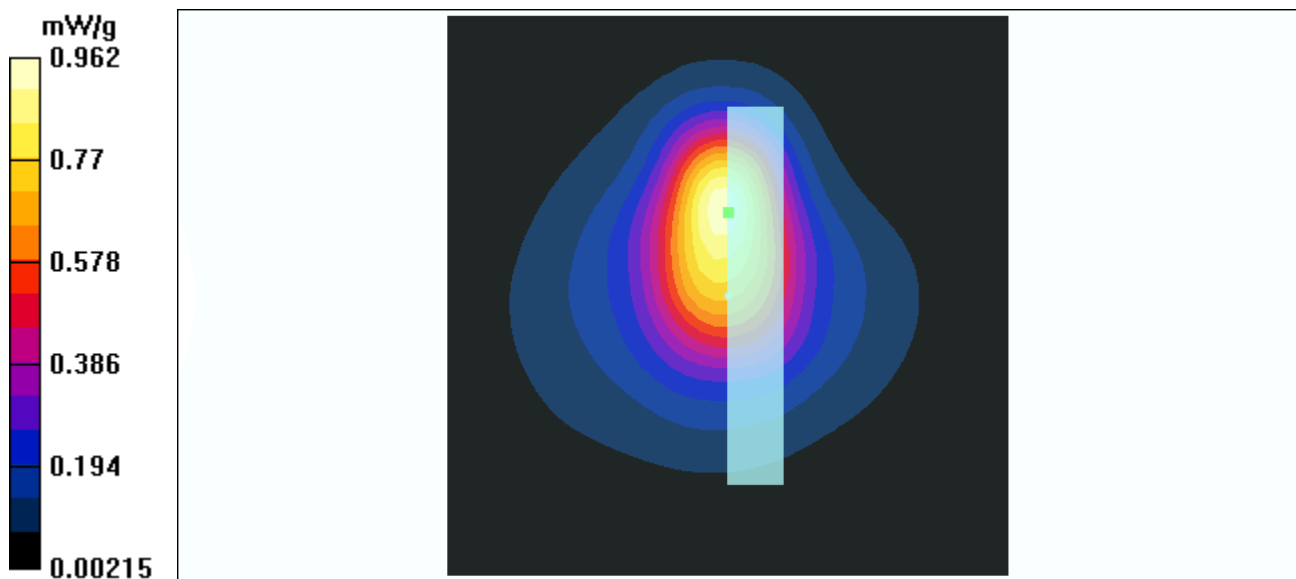
Peak SAR (extrapolated) = 2.05 W/kg

SAR(1 g) = 0.847 mW/g; SAR(10 g) = 0.351 mW/g

Reference Value = 20.5 V/m

Power Drift = -0.003 dB

Maximum value of SAR = 0.962 mW/g



Test Laboratory: Advance Data Technology

### WPC54G V1.2 Mode 3

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2462 MHz**

Communication System: 802.11b ; Frequency: 2462 MHz; Duty Cycle: 1:1; Modulation type: CCK

Medium: MSL2450 ( $\sigma = 1.971$  mho/m,  $\epsilon_r = 52.78$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 0mm(The tip of the EUT to the Phantom)

Antenna type : Internal Antenna ; Air temp. : 23.0 degrees ; Liquid temp. : 22.0 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn541;

- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 11/Area Scan (41x41x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 19.9 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.895 mW/g

**Channel 11/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

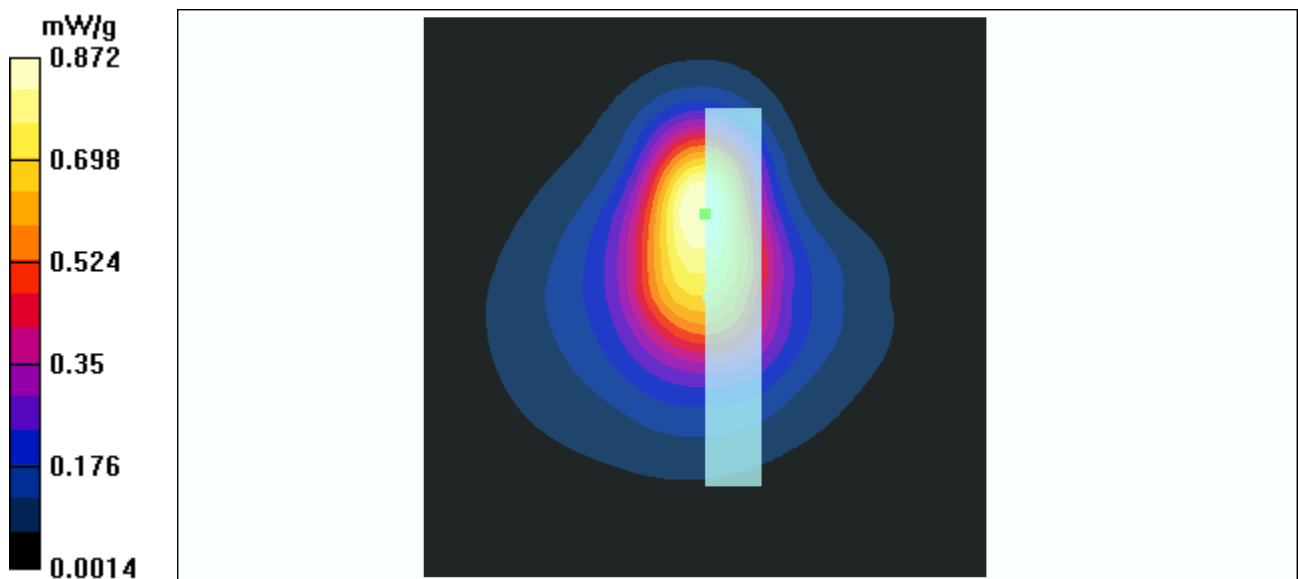
Peak SAR (extrapolated) = 1.87 W/kg

SAR(1 g) = 0.765 mW/g; SAR(10 g) = 0.321 mW/g

Reference Value = 19.9 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.872 mW/g



Test Laboratory: Advance Data Technology

### WPC54G V1.2 Mode 4

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2412 MHz**

Communication System: 802.11g ; Frequency: 2412 MHz; Duty Cycle: 1:1; Modulation type: OFDM

Medium: MSL2450 ( $\sigma = 1.881$  mho/m,  $\epsilon_r = 52.94$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 0mm(The tip of the EUT to the Phantom)

Antenna type : Internal Antenna ; Air temp. : 23.0 degrees ; Liquid temp. : 22.0 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn541;

- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 1/Area Scan (41x41x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 9.13 V/m

Power Drift = 0.4 dB

Maximum value of SAR = 0.176 mW/g

**Channel 1/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

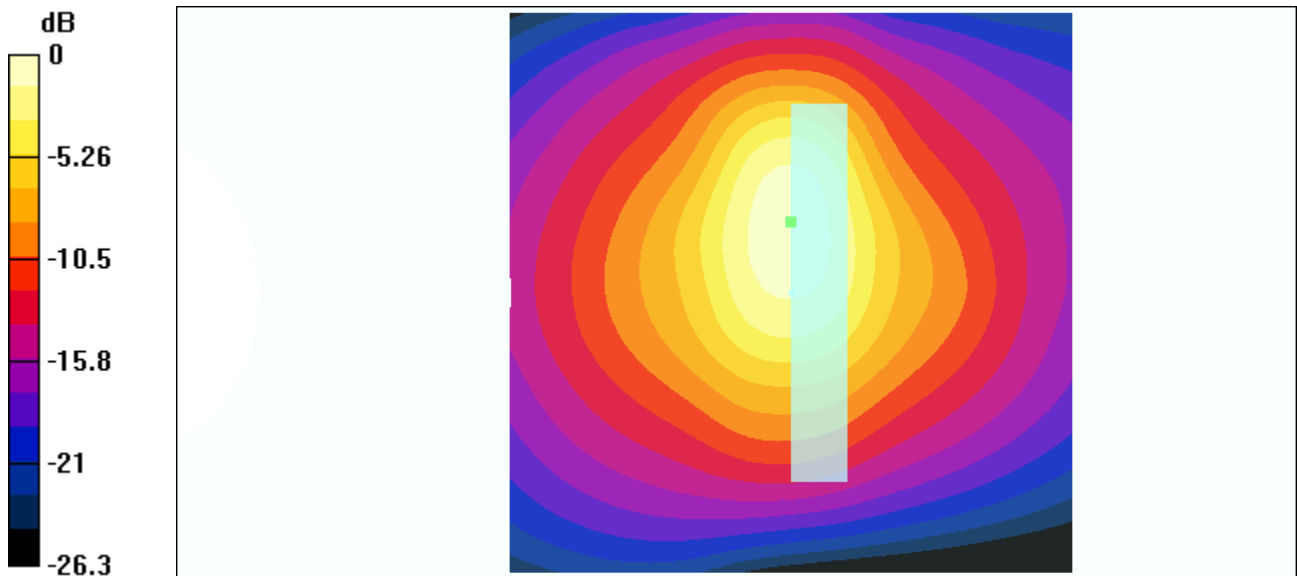
Peak SAR (extrapolated) = 0.406 W/kg

SAR(1 g) = 0.175 mW/g; SAR(10 g) = 0.0746 mW/g

Reference Value = 9.13 V/m

Power Drift = 0.4 dB

Maximum value of SAR = 0.199 mW/g



0 dB = 0.199mW/g



Test Laboratory: Advance Data Technology

### WPC54G V1-2 Mode 3

**DUT: Wireless-G Notebook Adapter ; Type: WPC54G V1.2 ; Test Channel Frequency: 2412 MHz**

Communication System: 802.11b ; Frequency: 2412 MHz; Duty Cycle: 1:1; Modulation type: CCK  
Medium: MSL2450 ( $\sigma = 1.881$  mho/m,  $\epsilon_r = 52.94$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm

Phantom section: Flat Section ; Separation distance : 0mm(The tip of the EUT to the Phantom)

Antenna type : Internal Antenna ; Air temp. : 23.0 degrees ; Liquid temp. : 22.0degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1687; ConvF(4.4, 4.4, 4.4); Calibrated: 2002/9/28

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn541; Calibrated: 2003/1/14

- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150

- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**Channel 1/Area Scan (41x41x1):** Measurement grid: dx=20mm, dy=20mm

Reference Value = 20.4 V/m

Maximum value of SAR = 1.03 mW/g

**Channel 1/Zoon Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

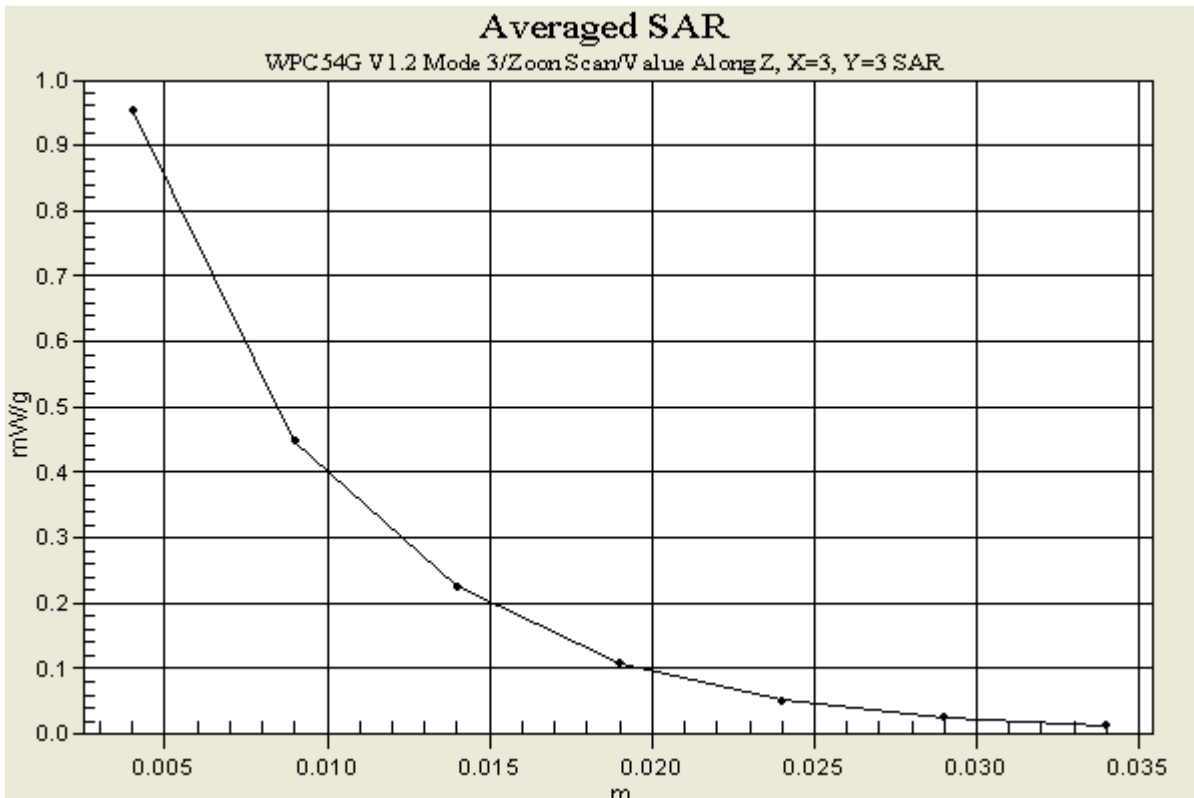
Peak SAR (extrapolated) = 2.01 W/kg

SAR(1 g) = 0.849 mW/g; SAR(10 g) = 0.356 mW/g

Reference Value = 20.4 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.954 mW/g



### A3 : SYSTEM VALIDATION

Date/Time: 10/22/03 09:54:08

Test Laboratory: Advance Data Technology

#### SystemPerformanceCheck-Body 2450-2003-10-22

#### DUT: Dipole 2450 MHz ; Type: D2450V2

Communication System: CW ; Frequency: 2450 MHz; Duty Cycle: 1:1; Modulation type: CW  
Medium: MSL2450 ( $\sigma = 1.949$  mho/m,  $\epsilon = 52.81$ ,  $\rho = 1000$  kg/m<sup>3</sup>) ; Liquid level : 152mm  
Phantom section: Flat Section ; Separation distance : 10mm(The feetpoint of the dipole to the Phantom)  
Air temp. : 23.0 degrees ; Liquid temp. : 22 degrees

#### DASY4 Configuration:

- Probe: ET3DV6 - SN1686; ConvF(4.5, 4.5, 4.5); Calibrated: 2003/6/18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510;
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP-1150
- Measurement SW: DASY4, V4.1 Build 47; Postprocessing SW: SEMCAD, V1.6 Build 115

**d=10mm, Pin=100mW/Area Scan (61x61x1):** Measurement grid: dx=15mm, dy=15mm  
Reference Value = 30 V/m  
Power Drift = 0.05 dB  
Maximum value of SAR = 1.32 mW/g

**d=10mm, Pin=100mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Peak SAR (extrapolated) = 2.85 W/kg  
SAR(1 g) = 5.71 mW/g; SAR(10 g) = 2.62 mW/g  
Reference Value = 30 V/m  
Power Drift = 0.05 dB  
Maximum value of SAR = 1.30 mW/g

