

# APPENDIX A: TEST DATA

## Liquid Level Photo

MSL 2450MHz D=151mm



Test Laboratory: Advance Data Technology

## IBM T43-11b-CH1-Mode 1

**DUT: Wireless N<sub>d</sub> PC Card ; Type: USR5412 ; Test Frequency: 2412 MHz**

Communication System: 802.11b ; Frequency: 2412 MHz ; Duty Cycle: 1:1 ; Modulation type: CCK  
Medium: MSL2450 Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.94$  mho/m;  $\epsilon_r = 51.3$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Low Channel 1/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 1.49 mW/g

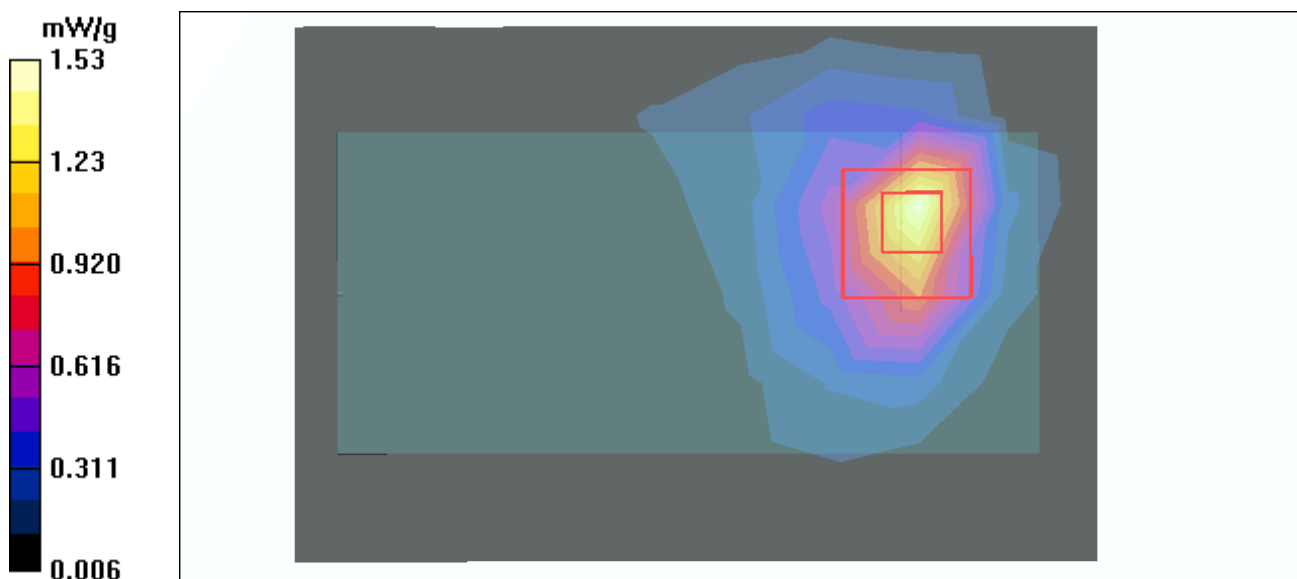
**Low Channel 1/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.1 V/m

Peak SAR (extrapolated) = 3.26 W/kg

**SAR(1 g) = 1.39 mW/g; SAR(10 g) = 0.612 mW/g**

Maximum value of SAR (measured) = 1.53 mW/g



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## IBM T43-11b-CH6-Mode 1

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2437 MHz**

Communication System: 802.11b ; Frequency: 2437 MHz ; Duty Cycle: 1:1 ; Modulation type: CCK  
 Medium: MSL2450 Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.97$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
 Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Mid Channel 6/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 1.60 mW/g

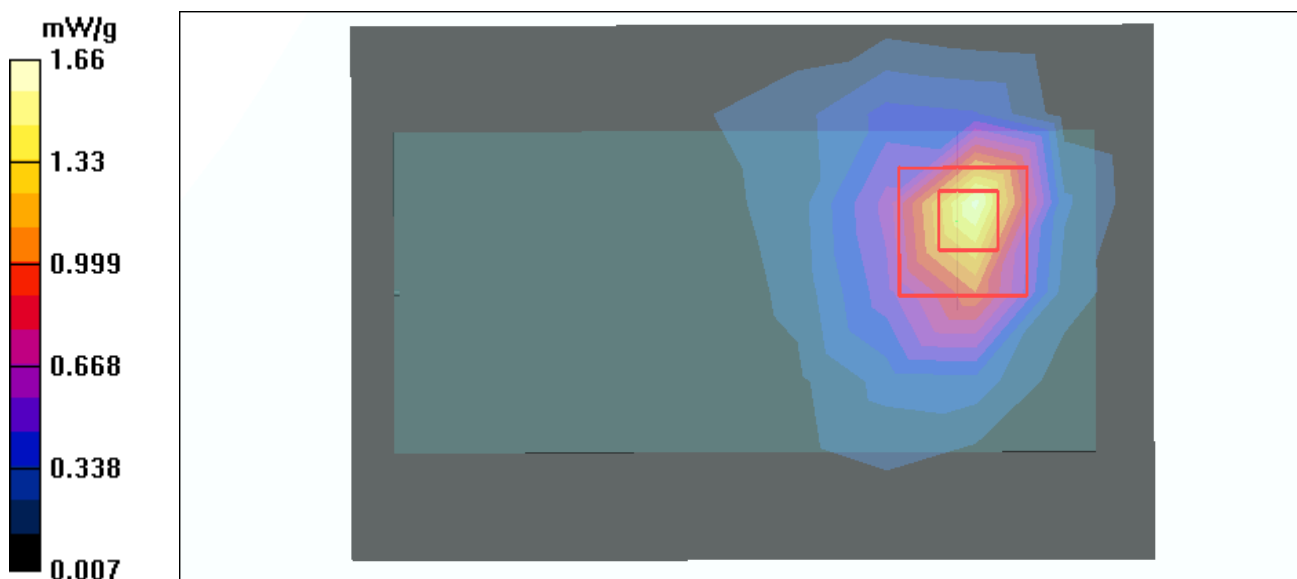
**Mid Channel 6/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

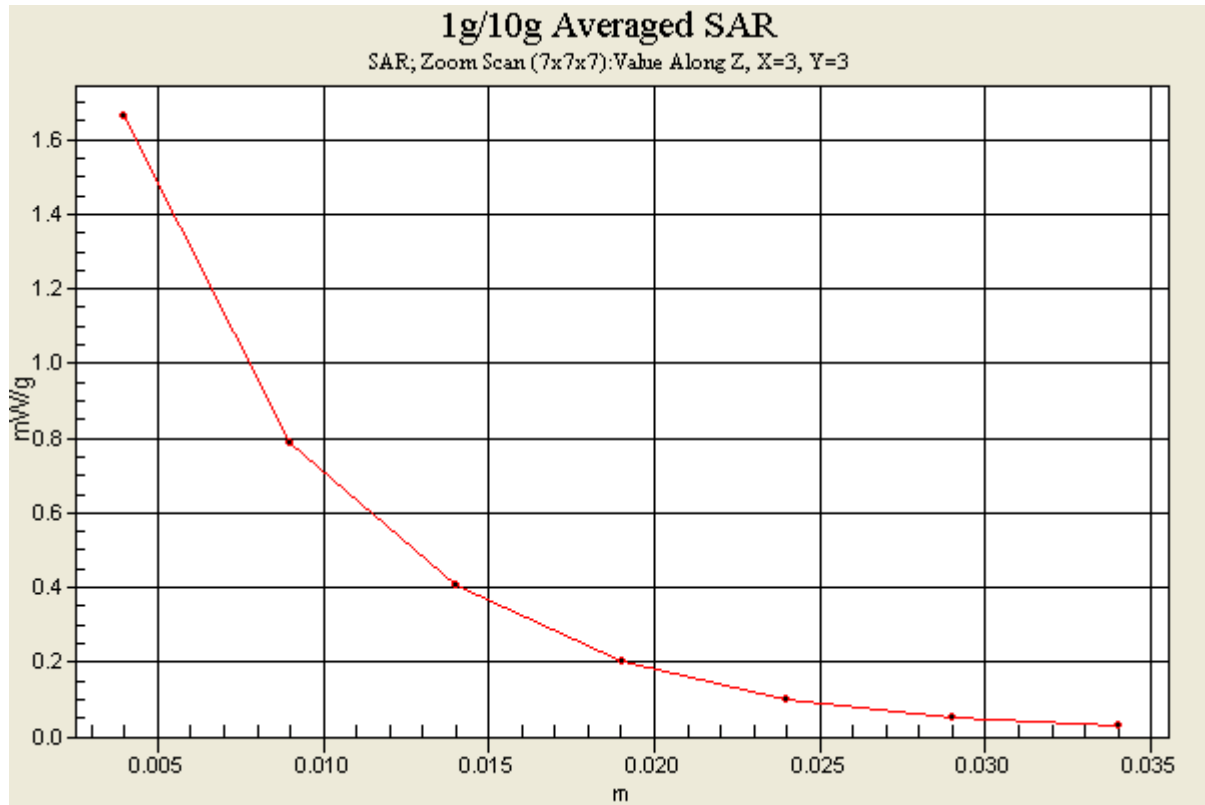
Reference Value = 24.0 V/m

Peak SAR (extrapolated) = 3.54 W/kg

**SAR(1 g) = 1.5 mW/g; SAR(10 g) = 0.655 mW/g**

Maximum value of SAR (measured) = 1.66 mW/g





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## IBM T43-11b-CH11-Mode 1

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2462 MHz**

Communication System: 802.11b ; Frequency: 2462 MHz ; Duty Cycle: 1:1 ; Modulation type: CCK  
 Medium: MSL2450 Medium parameters used:  $f = 2462$  MHz;  $\sigma = 2$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
 Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**High Channel 11/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 1.28 mW/g

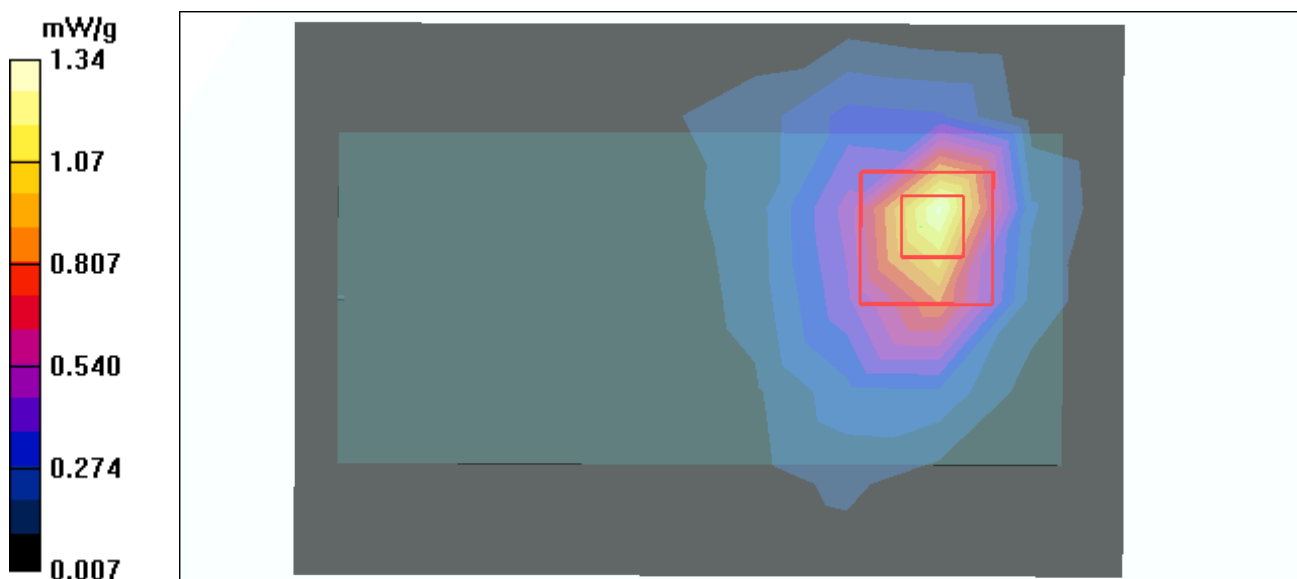
**High Channel 11/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.5 V/m

Peak SAR (extrapolated) = 2.91 W/kg

**SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.529 mW/g**

Maximum value of SAR (measured) = 1.34 mW/g



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## IBM T43-11g-CH1-Mode 2

**DUT: Wireless N<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2412 MHz**

Communication System: 802.11g ; Frequency: 2412 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
 Medium: MSL2450 Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.94$  mho/m;  $\epsilon_r = 51.3$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
 Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Low Channel 1/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 0.459 mW/g

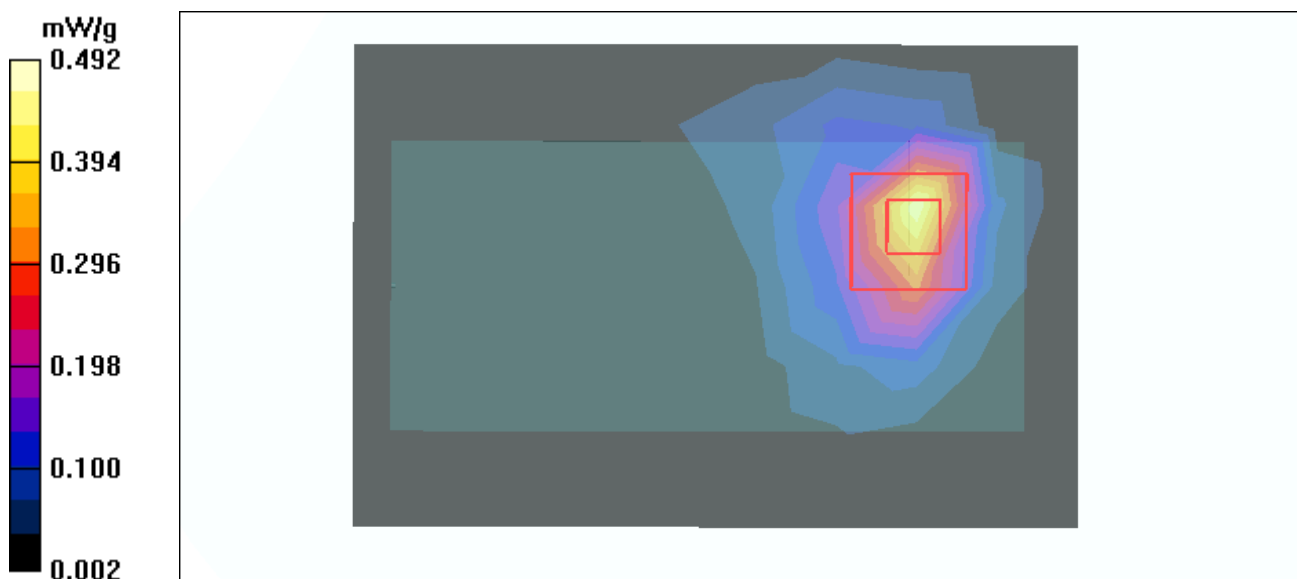
**Low Channel 1/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.0 V/m

Peak SAR (extrapolated) = 1.01 W/kg

**SAR(1 g) = 0.434 mW/g; SAR(10 g) = 0.190 mW/g**

Maximum value of SAR (measured) = 0.492 mW/g



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## IBM T43-11g-CH6-Mode 2

**DUT: Wireless N<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2437 MHz**

Communication System: 802.11g ; Frequency: 2437 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
Medium: MSL2450 Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.97$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Mid Channel 6/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 0.467 mW/g

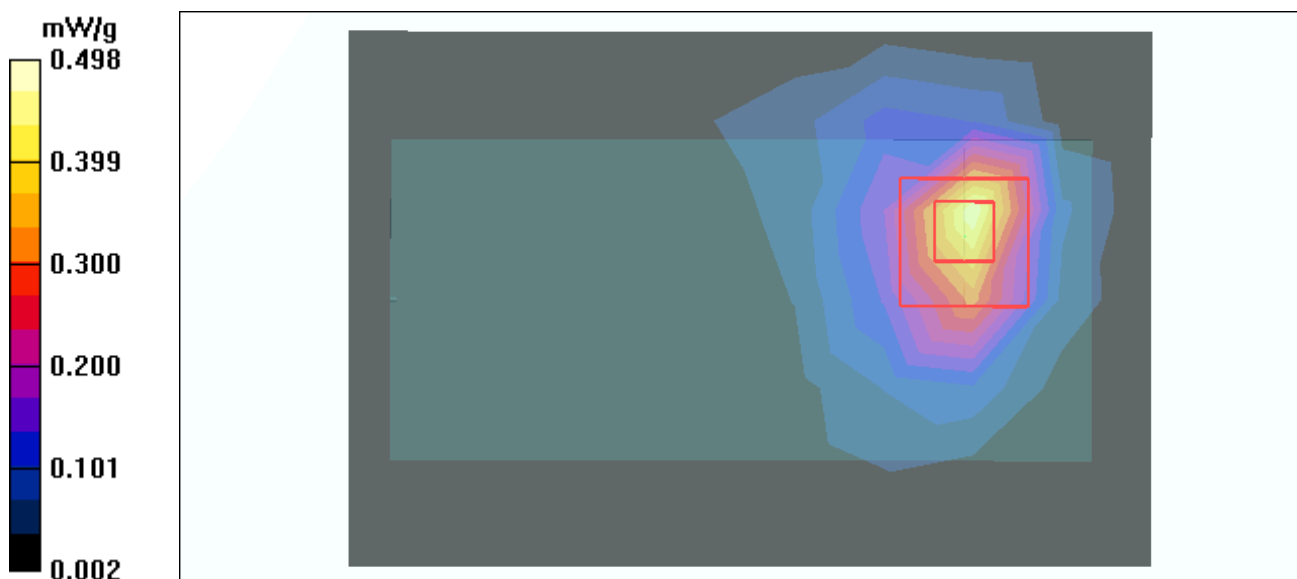
**Mid Channel 6/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.4 V/m

Peak SAR (extrapolated) = 1.04 W/kg

**SAR(1 g) = 0.439 mW/g; SAR(10 g) = 0.193 mW/g**

Maximum value of SAR (measured) = 0.498 mW/g



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**IBM T43-11g-CH11-Mode 2****DUT: Wireless N<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2462 MHz**

Communication System: 802.11g ; Frequency: 2462 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM

Medium: MSL2450 Medium parameters used:  $f = 2462$  MHz;  $\sigma = 2$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$ kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)

Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20

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

- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17

- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202

- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**High Channel 11/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.475 mW/g

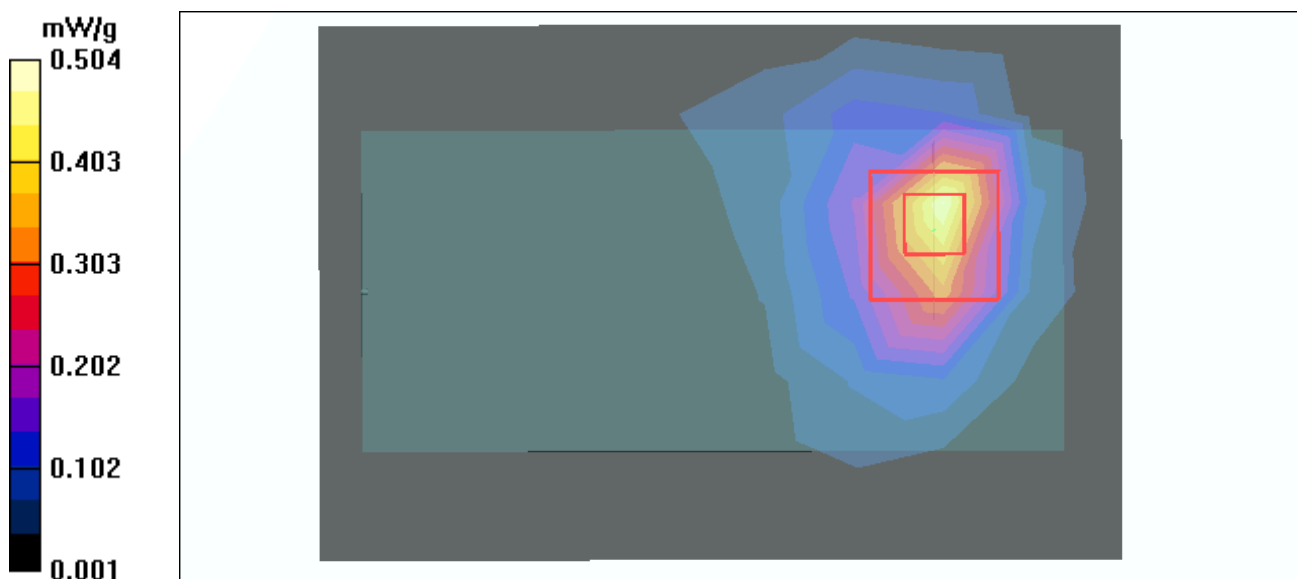
**High Channel 11/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.5 V/m

Peak SAR (extrapolated) = 1.06 W/kg

**SAR(1 g) = 0.446 mW/g; SAR(10 g) = 0.197 mW/g**

Maximum value of SAR (measured) = 0.504 mW/g





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### IBM T43-EWC 20M Dual-CH1-Mode 3

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2412 MHz**

Communication System: 802.11g ; Frequency: 2412 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
 Medium: MSL2450 Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.94$  mho/m;  $\epsilon_r = 51.3$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
 Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Low Channel 1/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 0.436 mW/g

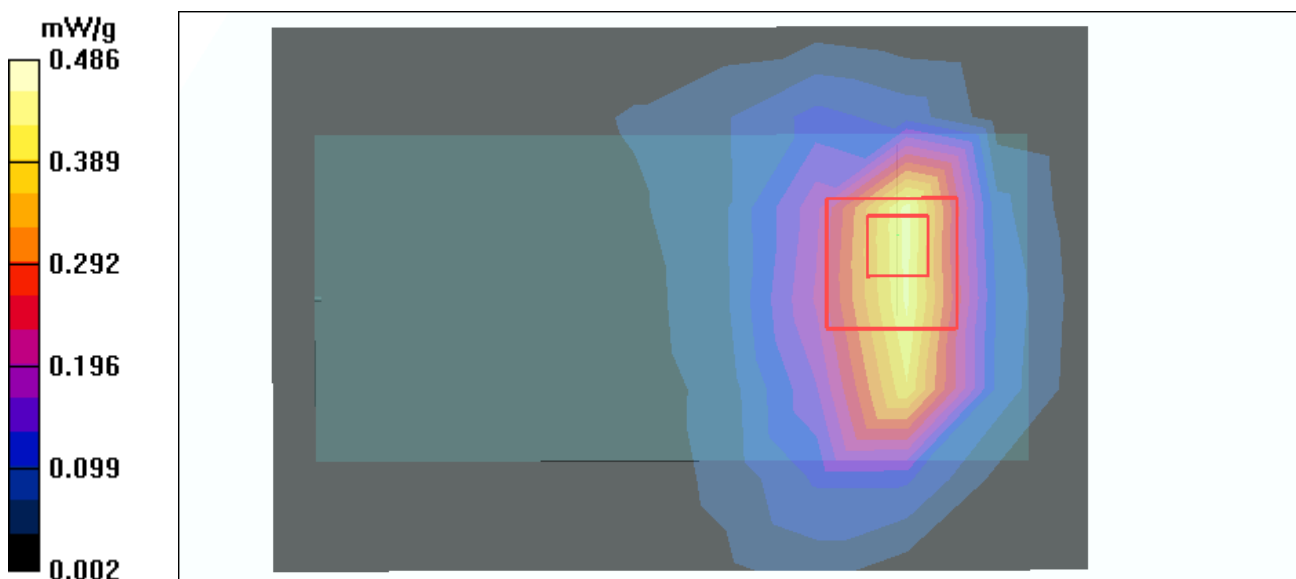
**Low Channel 1/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.8 V/m

Peak SAR (extrapolated) = 0.967 W/kg

**SAR(1 g) = 0.436 mW/g; SAR(10 g) = 0.212 mW/g**

Maximum value of SAR (measured) = 0.486 mW/g



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### IBM T43-EWC 20M Dual-CH6-Mode 3

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2437 MHz**

Communication System: 802.11g ; Frequency: 2437 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
 Medium: MSL2450 Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.97$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
 Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Mid Channel 6/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 0.453 mW/g

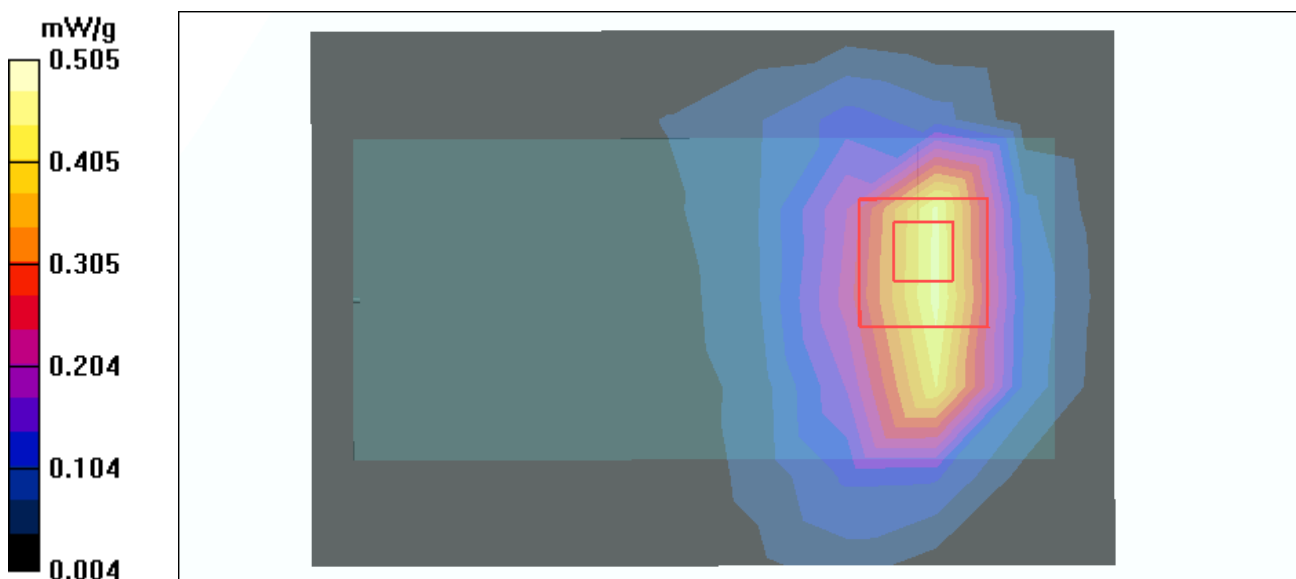
**Mid Channel 6/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.1 V/m

Peak SAR (extrapolated) = 1.00 W/kg

**SAR(1 g) = 0.460 mW/g; SAR(10 g) = 0.226 mW/g**

Maximum value of SAR (measured) = 0.505 mW/g



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### IBM T43-EWC 20M Dual-CH11-Mode 3

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2462 MHz**

Communication System: 802.11g ; Frequency: 2462 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
Medium: MSL2450 Medium parameters used:  $f = 2462$  MHz;  $\sigma = 2$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**High Channel 11/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 0.395 mW/g

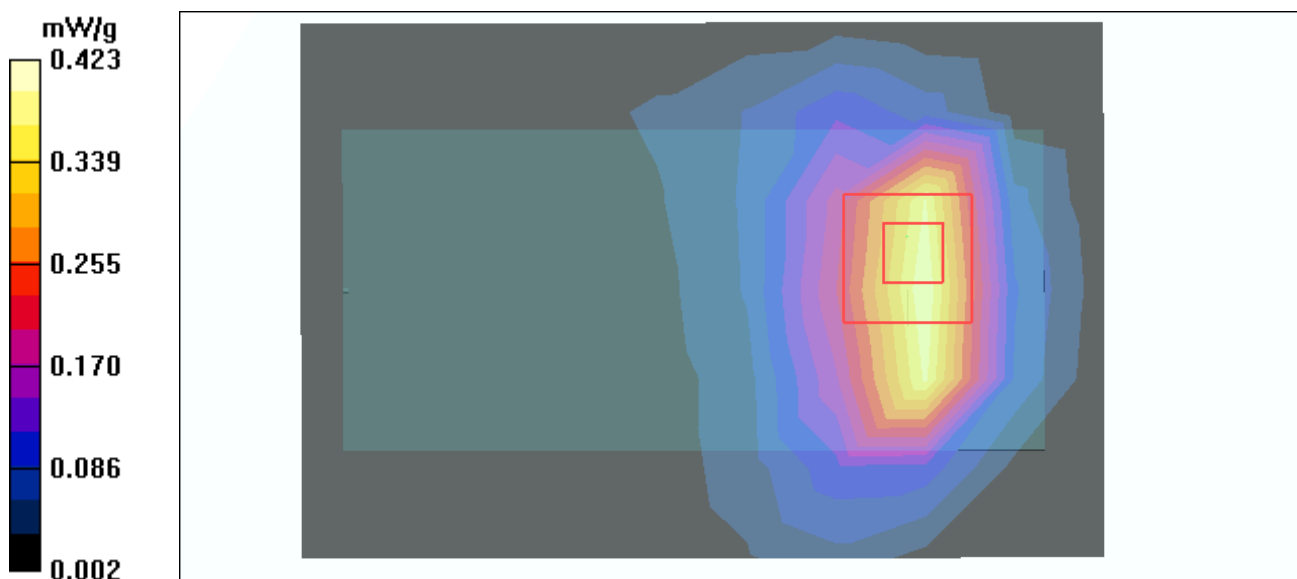
**High Channel 11/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.9 V/ma

Peak SAR (extrapolated) = 0.833 W/kg

**SAR(1 g) = 0.389 mW/g; SAR(10 g) = 0.194 mW/g**

Maximum value of SAR (measured) = 0.423 mW/g



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**IBM T43-EWC 40M Dual-CH3-Mode 4****DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2422 MHz**

Communication System: 802.11g ; Frequency: 2422 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
Medium: MSL2450 Medium parameters used:  $f = 2422$  MHz;  $\sigma = 1.95$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Low Channel 3/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.235 mW/g

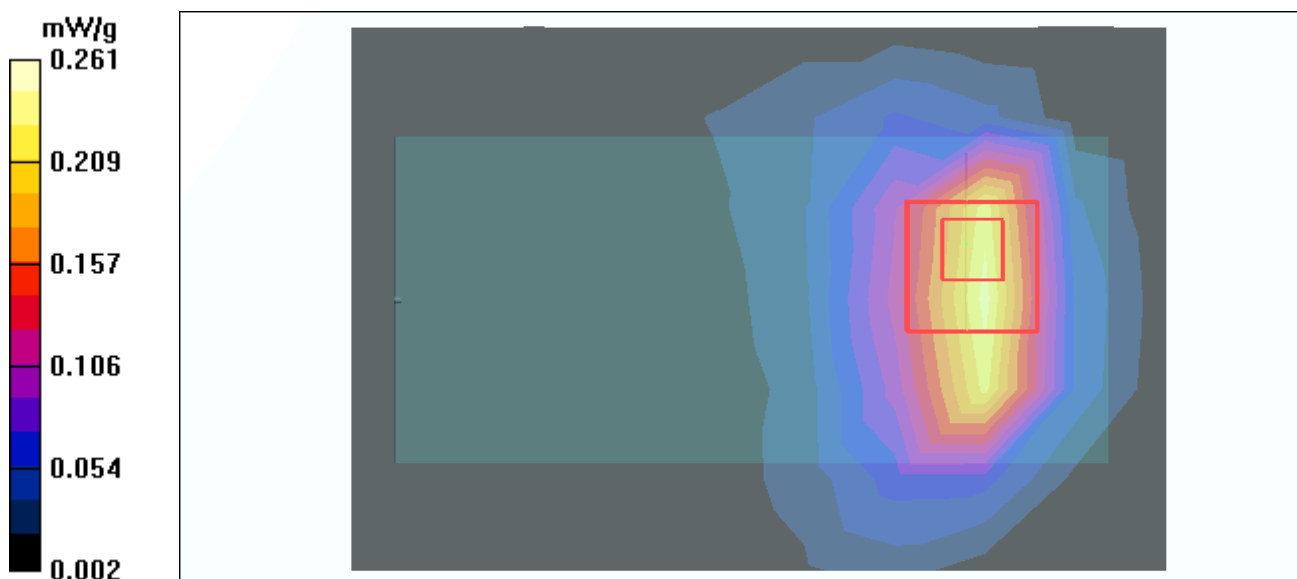
**Low Channel 3/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.4 V/m

Peak SAR (extrapolated) = 0.519 W/kg

**SAR(1 g) = 0.233 mW/g; SAR(10 g) = 0.115 mW/g**

Maximum value of SAR (measured) = 0.261 mW/g



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## IBM T43-EWC 40M Dual-CH6-Mode 4

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2437 MHz**

Communication System: 802.11g ; Frequency: 2437 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
 Medium: MSL2450 Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.97$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
 Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Mid Channel 6/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 0.227 mW/g

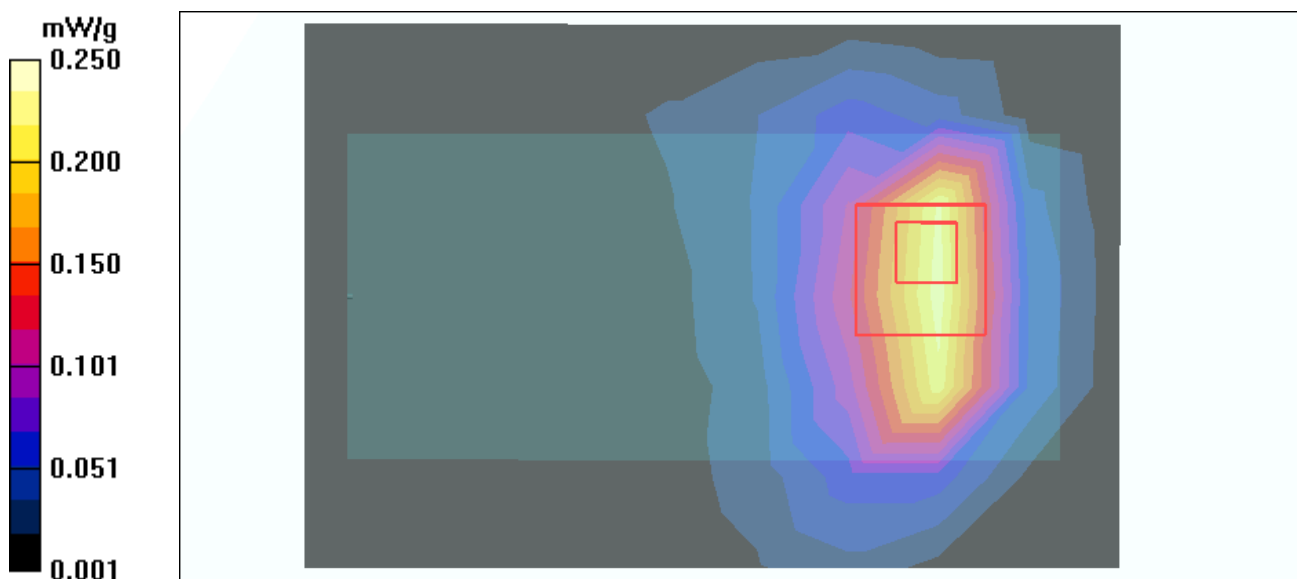
**Mid Channel 6/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.4 V/m

Peak SAR (extrapolated) = 0.483 W/kg

**SAR(1 g) = 0.228 mW/g; SAR(10 g) = 0.113 mW/g**

Maximum value of SAR (measured) = 0.250 mW/g



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## IBM T43-EWC 40M Dual-CH9-Mode 4

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2452 MHz**

Communication System: 802.11g ; Frequency: 2452 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
 Medium: MSL2450 Medium parameters used:  $f = 2452$  MHz;  $\sigma = 1.99$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 7 mm (The bottom side of the EUT to the Phantom)  
 Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**High Channel 9/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 0.216 mW/g

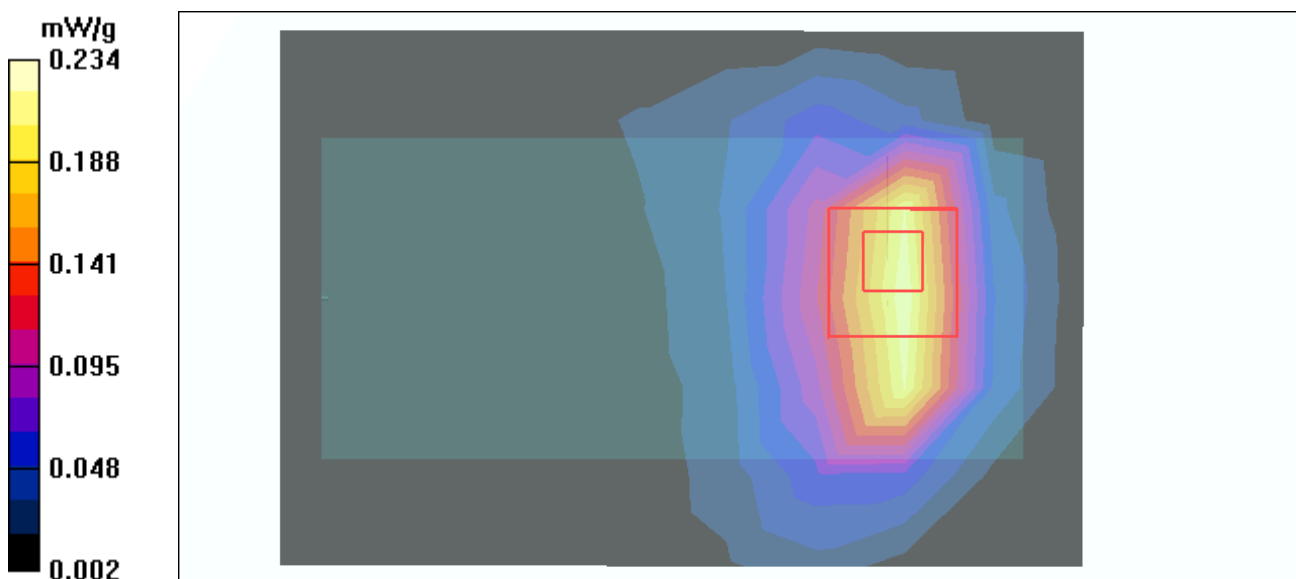
**High Channel 9/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.1 V/m

Peak SAR (extrapolated) = 0.466 W/kg

**SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.108 mW/g**

Maximum value of SAR (measured) = 0.234 mW/g



Test Laboratory: Advance Data Technology

## C600-11b-CH6-Mode 5

**DUT: Wireless N<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2437 MHz**

Communication System: 802.11b ; Frequency: 2437 MHz ; Duty Cycle: 1:1 ; Modulation type: CCK  
 Medium: MSL2450 Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.97$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 12 mm (The bottom side of the EUT to the Phantom)

Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Mid Channel 6/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.796 mW/g

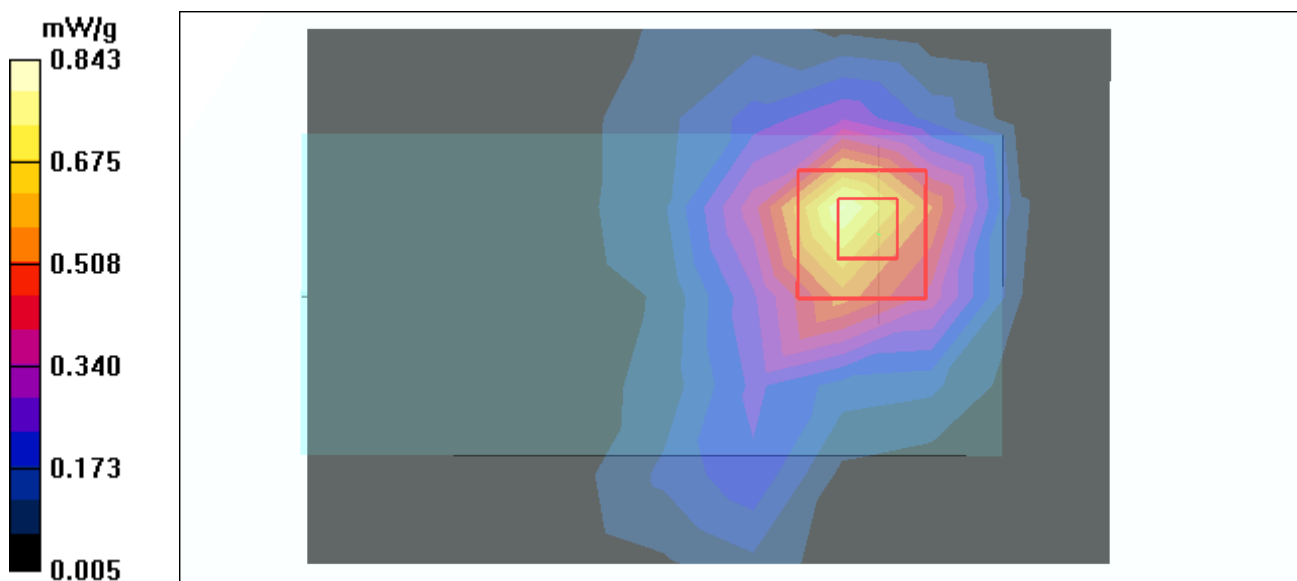
**Mid Channel 6/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.1 V/m

Peak SAR (extrapolated) = 1.64 W/kg

**SAR(1 g) = 0.763 mW/g; SAR(10 g) = 0.384 mW/g**

Maximum value of SAR (measured) = 0.843 mW/g



Date/Time: 2006/4/15 20:37:57

Test Laboratory: Advance Data Technology

## C600-11g-CH11-Mode 6

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2462 MHz**

Communication System: 802.11g ; Frequency: 2462 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM

Medium: MSL2450 Medium parameters used:  $f = 2462$  MHz;  $\sigma = 2$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 12 mm (The bottom side of the EUT to the Phantom)

Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20

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

- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17

- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202

- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**High Channel 11/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.282 mW/g

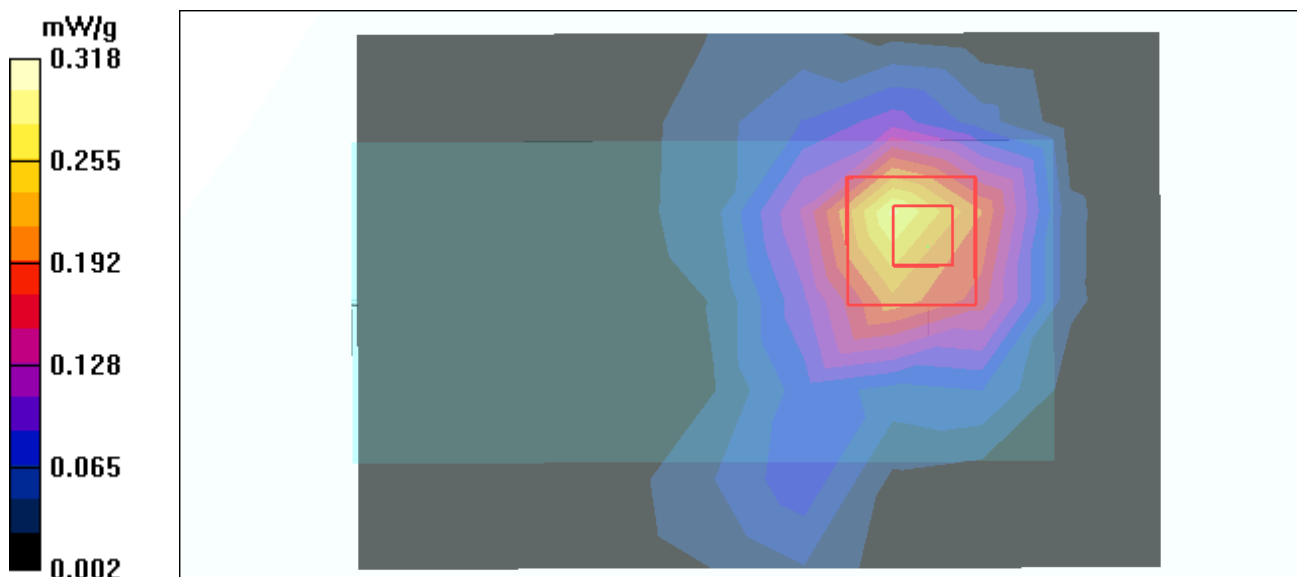
**High Channel 11/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.45 V/m

Peak SAR (extrapolated) = 0.642 W/kg

**SAR(1 g) = 0.292 mW/g; SAR(10 g) = 0.147 mW/g**

Maximum value of SAR (measured) = 0.318 mW/g





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Test Laboratory: Advance Data Technology

## **C600-EWC 20M Dual-CH6-Mode 7**

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2437 MHz**

Communication System: 802.11g ; Frequency: 2437 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
Medium: MSL2450 Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.97$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 12 mm (The bottom side of the EUT to the Phantom)

Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Mid Channel 6/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.368 mW/g

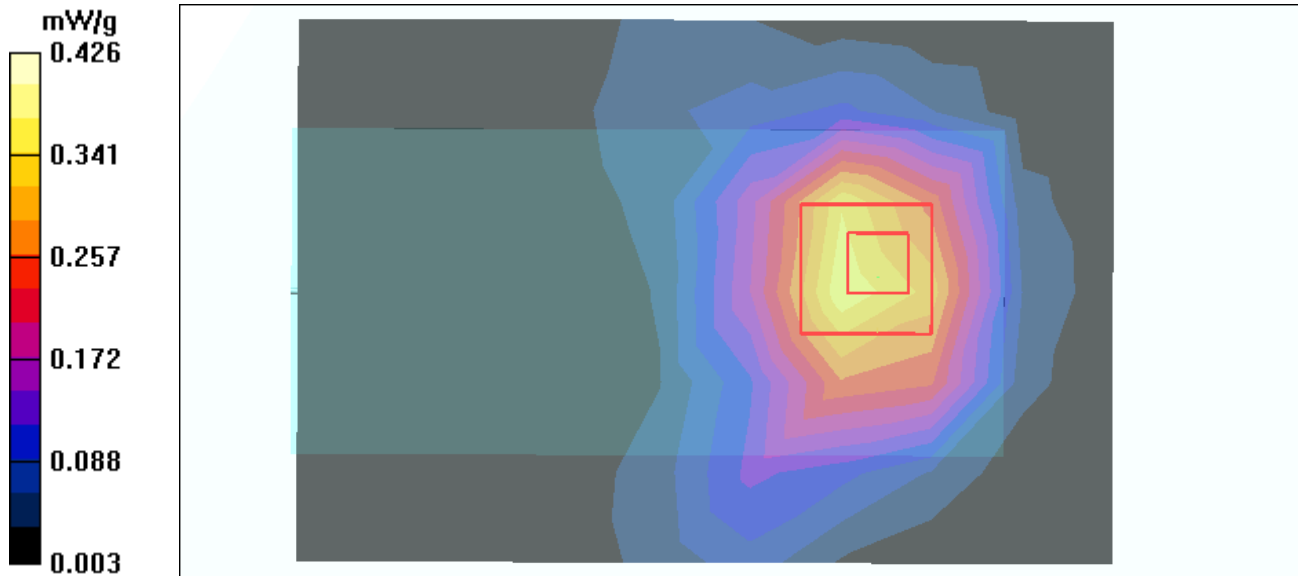
**Mid Channel 6/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.3 V/m

Peak SAR (extrapolated) = 0.824 W/kg

**SAR(1 g) = 0.394 mW/g; SAR(10 g) = 0.210 mW/g**

Maximum value of SAR (measured) = 0.426 mW/g



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Test Laboratory: Advance Data Technology

## C600-EWC 40M Dual-CH3-Mode 8

**DUT: Wireless N<sub>d</sub> PC Card ; Type: USR5412 ; Test Frequency: 2422 MHz**

Communication System: 802.11g ; Frequency: 2422 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
 Medium: MSL2450 Medium parameters used:  $f = 2422$  MHz;  $\sigma = 1.95$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 12 mm (The bottom side of the EUT to the Phantom)

Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Low Channel 3/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.348 mW/g

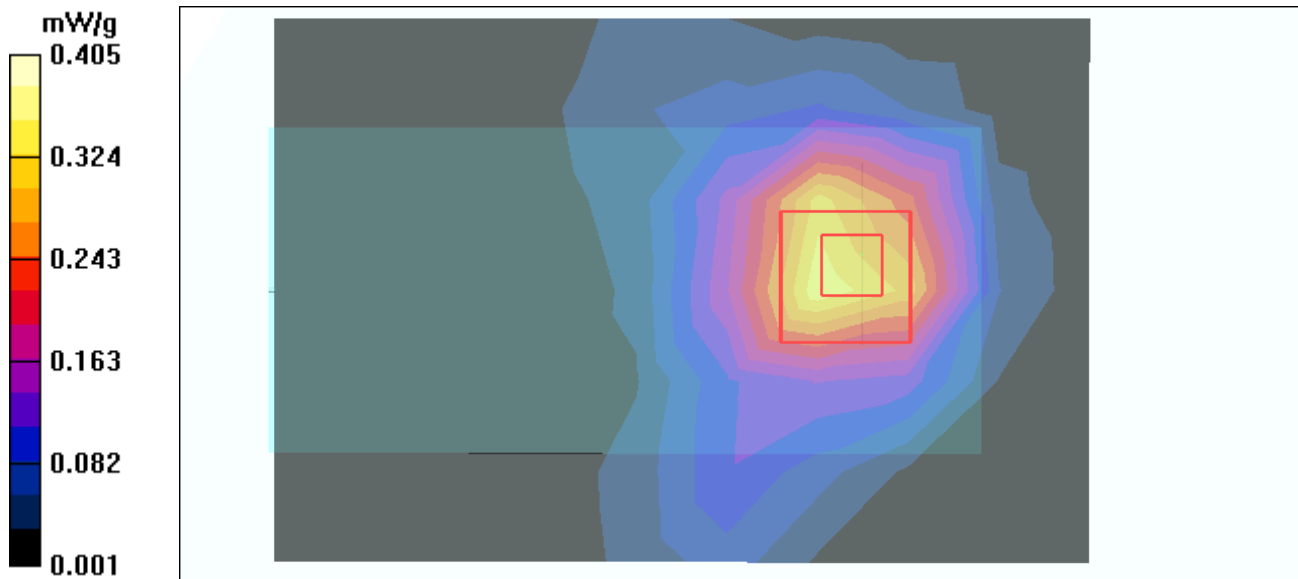
**Low Channel 3/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.9 V/m

Peak SAR (extrapolated) = 0.794 W/kg

SAR(1 g) = **0.379 mW/g**; SAR(10 g) = 0.203 mW/g

Maximum value of SAR (measured) = 0.405 mW/g



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Test Laboratory: Advance Data Technology

### D600-11b-CH6-Mode 9

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2437 MHz**

Communication System: 802.11b ; Frequency: 2437 MHz ; Duty Cycle: 1:1 ; Modulation type: CCK  
 Medium: MSL2450 Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.97$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 16 mm (The bottom side of the EUT to the Phantom)

Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Mid Channel 6/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

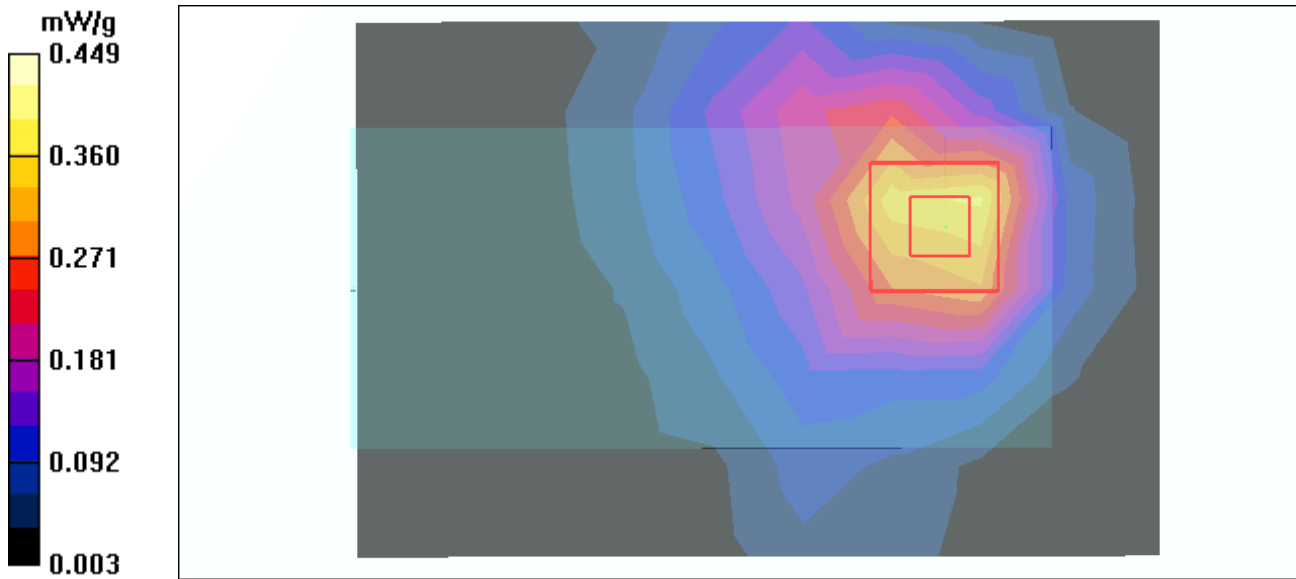
Maximum value of SAR (measured) = 0.366 mW/g

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

Reference Value = 14.1 V/m

Peak SAR (extrapolated) = 0.860 W/kg

SAR(1 g) = **0.407 mW/g**; SAR(10 g) = **0.204 mW/g**  
 Maximum value of SAR (measured) = 0.449 mW/g



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Test Laboratory: Advance Data Technology

## D600-11g-CH11-Mode 10

**DUT: Wireless N<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2462 MHz**

Communication System: 802.11g ; Frequency: 2462 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
 Medium: MSL2450 Medium parameters used:  $f = 2462$  MHz;  $\sigma = 2$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm  
 Phantom section: Flat Section ; Separation distance : 16 mm (The bottom side of the EUT to the Phantom)  
 Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

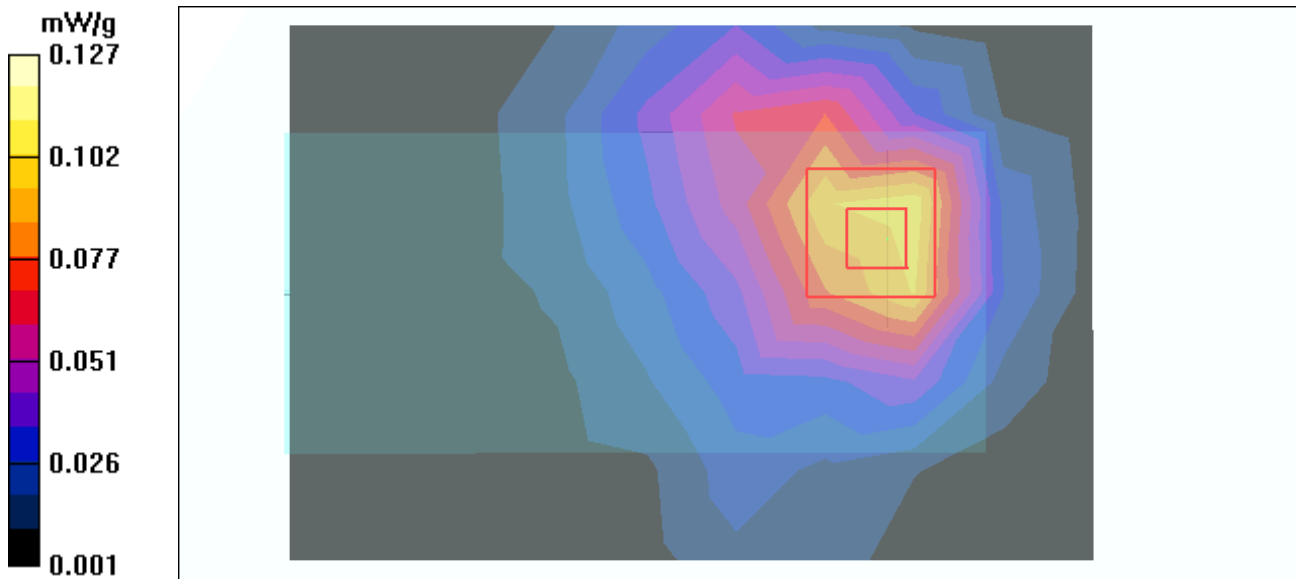
DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**High Channel 11/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 0.100 mW/g

**High Channel 11/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 7.21 V/m

Peak SAR (extrapolated) = 0.589 W/kg  
 SAR(1 g) = **0.115 mW/g**; SAR(10 g) = **0.057 mW/g**  
 Maximum value of SAR (measured) = 0.127 mW/g



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Test Laboratory: Advance Data Technology

### **D600-EWC 20M Dual-CH6-Mode 11**

**DUT: Wireless N<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2437 MHz**

Communication System: 802.11g ; Frequency: 2437 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
 Medium: MSL2450 Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.97$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm  
 Phantom section: Flat Section ; Separation distance : 16 mm (The bottom side of the EUT to the Phantom)  
 Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

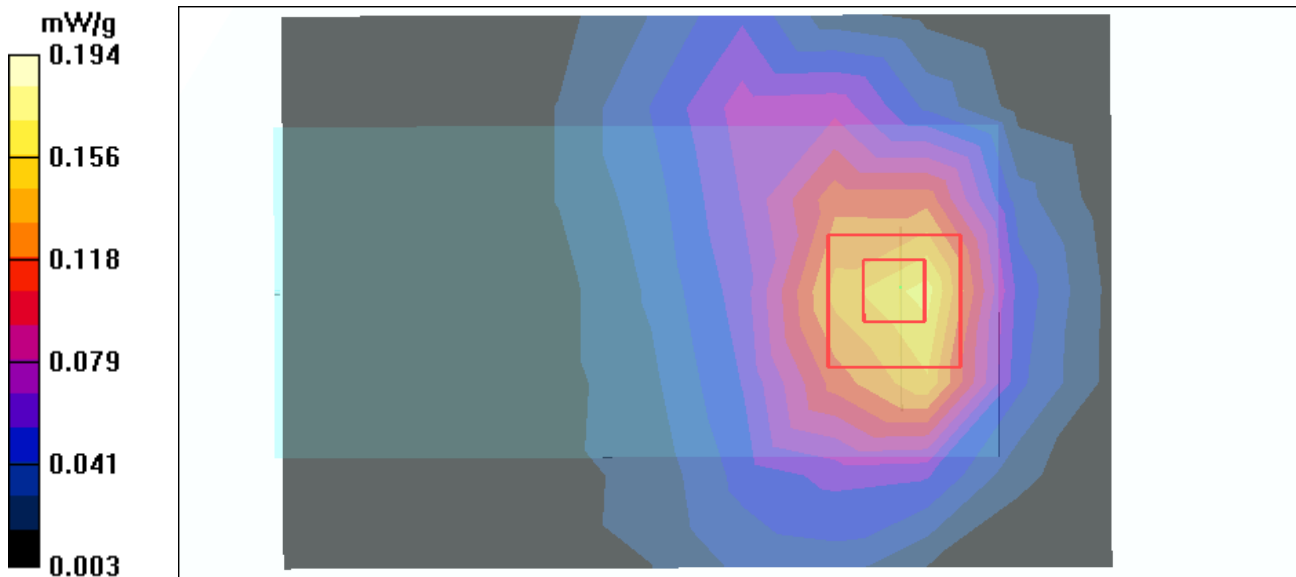
DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Mid Channel 6/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (measured) = 0.162 mW/g

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

Reference Value = 9.46 V/m  
 Peak SAR (extrapolated) = 0.371 W/kg  
**SAR(1 g) = 0.175 mW/g; SAR(10 g) = 0.094 mW/g**  
 Maximum value of SAR (measured) = 0.194 mW/g



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Test Laboratory: Advance Data Technology

### **D600-EWC 40M Dual-CH3-Mode 12**

**DUT: Wireless Nd<sub>1</sub> PC Card ; Type: USR5412 ; Test Frequency: 2422 MHz**

Communication System: 802.11g ; Frequency: 2422 MHz ; Duty Cycle: 1:1 ; Modulation type: OFDM  
 Medium: MSL2450 Medium parameters used:  $f = 2422$  MHz;  $\sigma = 1.95$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ; Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 16 mm (The bottom side of the EUT to the Phantom)

Antenna type : Printed Antenna ; Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2005/8/17
- Phantom: SAM 12 ; Type: SAM V4.0 ; Serial: TP 1202
- Measurement SW: DASY4, V4.6 Build 23 ; Postprocessing SW: SEMCAD, V1.8 Build 161

**Low Channel 3/Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.165 mW/g

**Low Channel 3/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm,

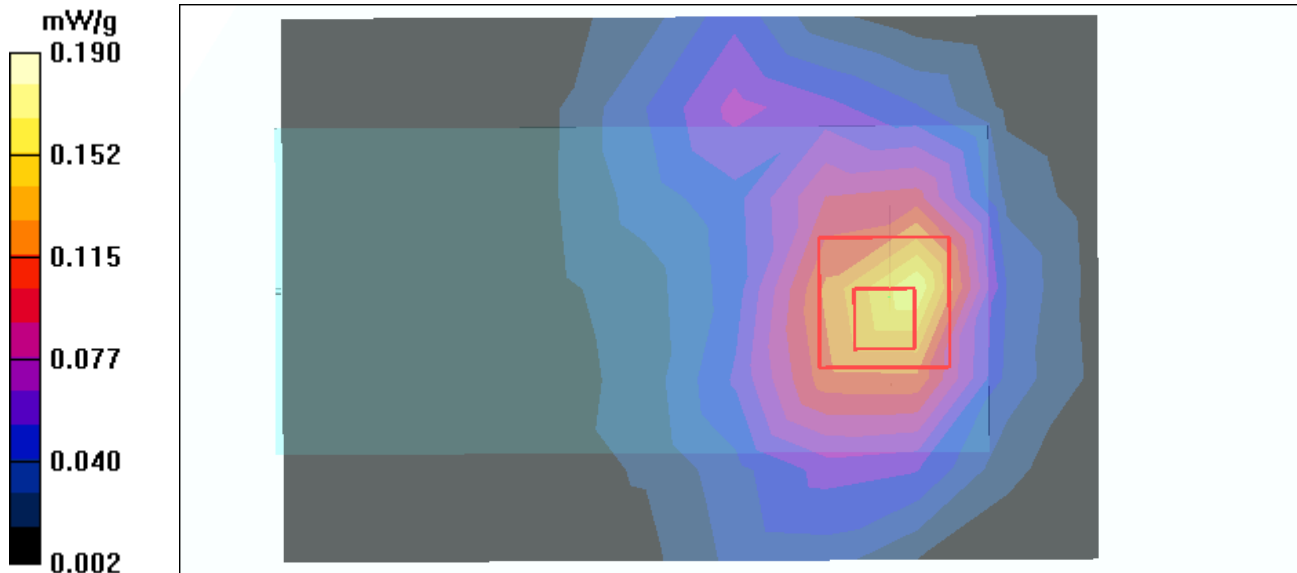
dz=5mm

Reference Value = 9.60 V/m

Peak SAR (extrapolated) = 0.576 W/kg

**SAR(1 g) = 0.176 mW/g; SAR(10 g) = 0.087 mW/g**

Maximum value of SAR (measured) = 0.190 mW/g



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Test Laboratory: Advance Data Technology

## System Validation Check-MSL 2450MHz

**DUT: Dipole 2450 MHz ; Type: D2450V2 ; Serial: 716 ; Test Frequency: 2450 MHz**

Communication System: CW ; Frequency: 2450 MHz; Duty Cycle: 1:1; Modulation type: CW

Medium: MSL2450; Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.98$  mho/m;  $\epsilon_r = 51.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> ;

Liquid level : 151 mm

Phantom section: Flat Section ; Separation distance : 10 mm (The feetpoint of the dipole to the Phantom) Air temp. : 23.4 degrees ; Liquid temp. : 22.4 degrees

DASY4 Configuration:

- Probe: ET3DV6 - SN1790 ; ConvF(4.35, 4.35, 4.35) ; Calibrated: 2004/12/20

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

- Electronics: DAE3 Sn510; Calibrated: 2005/8/17

- Phantom: SAM 12; Type: SAM V4.0; Serial: TP 1202

- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

**d=10mm, Pin=250mW/Area Scan (5x7x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 14.3 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.7 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 28.3 W/kg

SAR(1 g) = **12.9 mW/g**; SAR(10 g) = 5.9 mW/g

