

Test Laboratory: Compliance Certification Services

## Lapheld\_Main 5.2GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5200 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5200$  MHz;  $\sigma = 5.34$  mho/m;  $\epsilon_r = 45.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(4.08, 4.08, 4.08); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Main Ant\_M Ch 40/Area Scan (7x12x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 0.807 mW/g

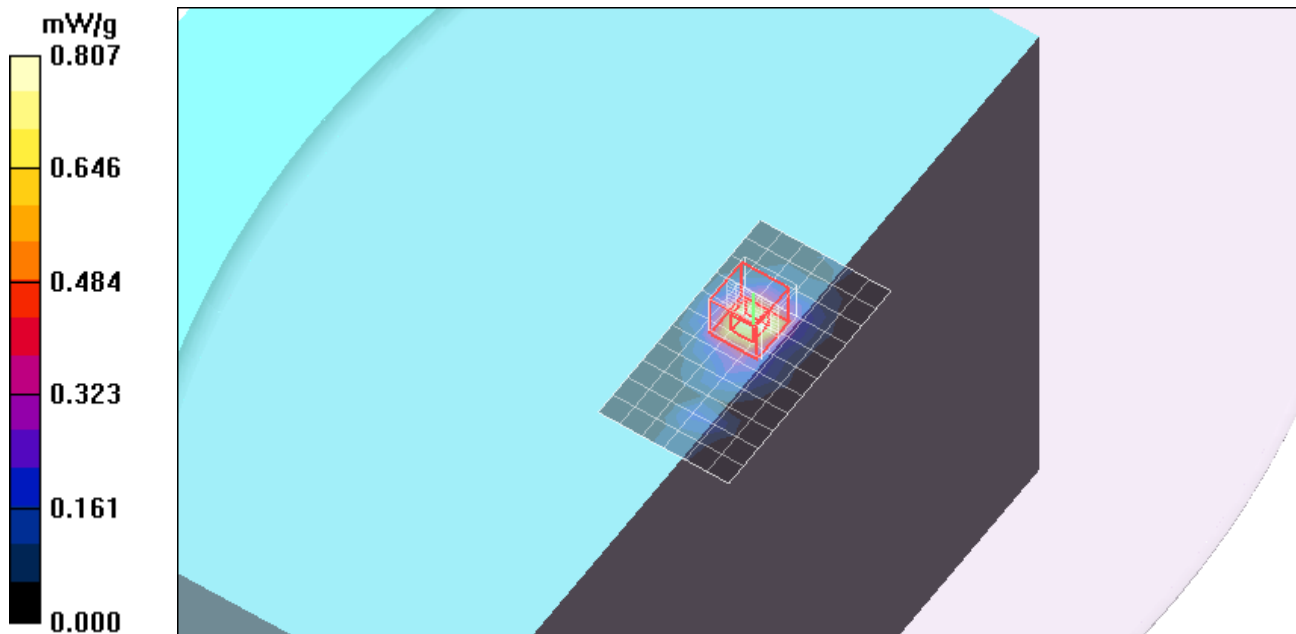
**802.11a\_Main Ant\_M Ch 40/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 13.2 V/m; Power Drift = -0.319 dB

Peak SAR (extrapolated) = 1.82 W/kg

**SAR(1 g) = 0.570 mW/g; SAR(10 g) = 0.208 mW/g**

Maximum value of SAR (measured) = 0.944 mW/g



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## Laptop - Lapheld\_5.3GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5260$  MHz;  $\sigma = 5.3$  mho/m;  $\epsilon_r = 46.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.81, 3.81, 3.81); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Main Ant\_L Ch 52/Area Scan (7x12x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 1.61 mW/g

**802.11a\_Main Ant\_L Ch 52/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

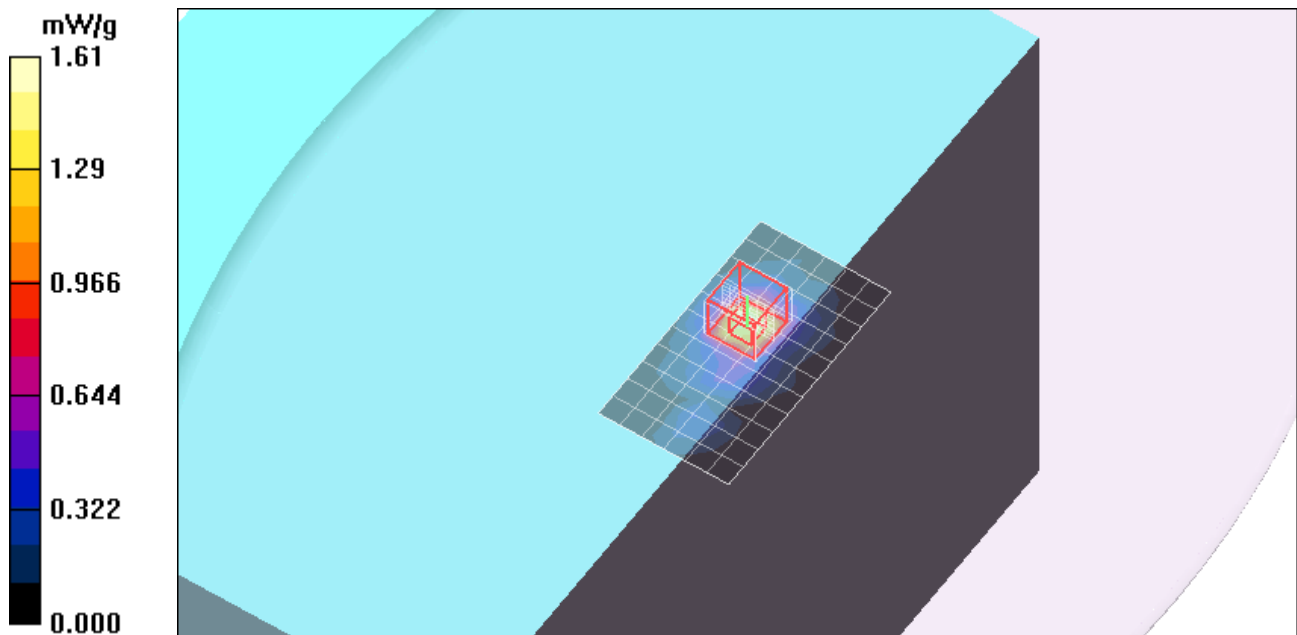
Reference Value = 18.8 V/m; Power Drift = -0.494 dB

Peak SAR (extrapolated) = 3.49 W/kg

**SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.412 mW/g**

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

Maximum value of SAR (measured) = 1.89 mW/g



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### Laptop - Lapheld\_5.3GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5300 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5300 \text{ MHz}$ ;  $\sigma = 5.37 \text{ mho/m}$ ;  $\epsilon_r = 45.5$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.81, 3.81, 3.81); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Main Ant\_M Ch 60/Area Scan (7x12x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 1.59 mW/g

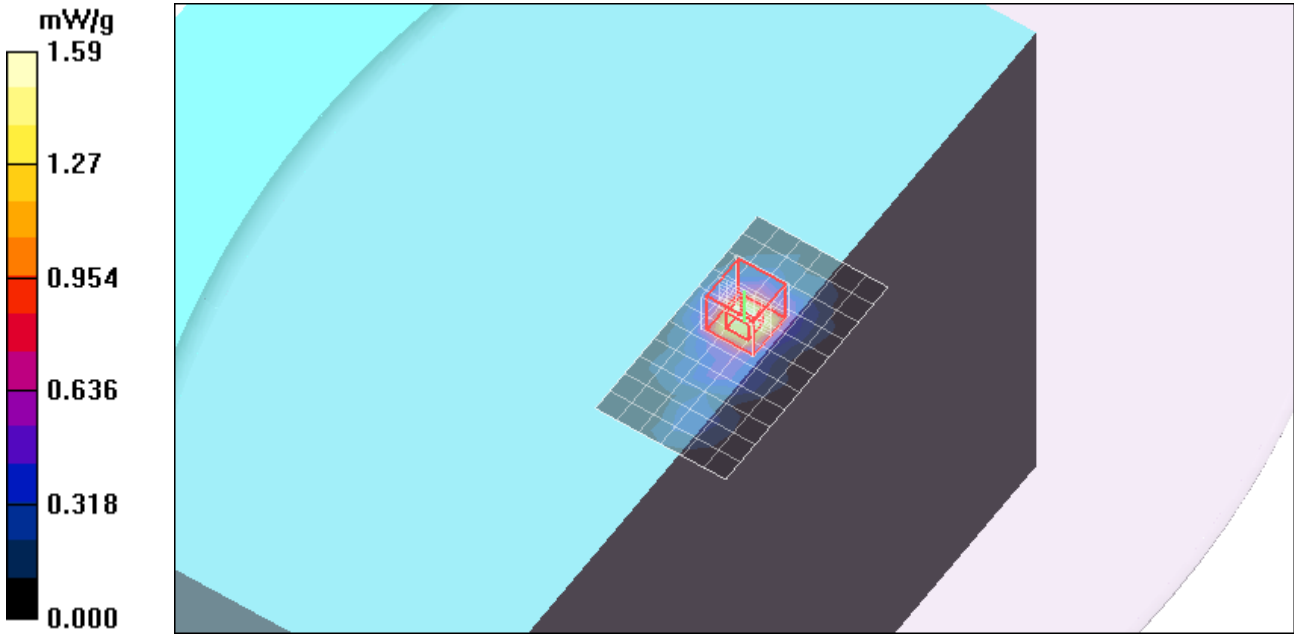
**802.11a\_Main Ant\_M Ch 60/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 18.5 V/m; Power Drift = -0.426 dB

Peak SAR (extrapolated) = 3.58 W/kg

**SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.421 mW/g**

Maximum value of SAR (measured) = 1.89 mW/g



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## Laptop - Lapheld\_5.3GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5320$  MHz;  $\sigma = 5.45$  mho/m;  $\epsilon_r = 46$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.81, 3.81, 3.81); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Main Ant\_H Ch 64/Area Scan (7x12x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 1.38 mW/g

**802.11a\_Main Ant\_H Ch 64/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

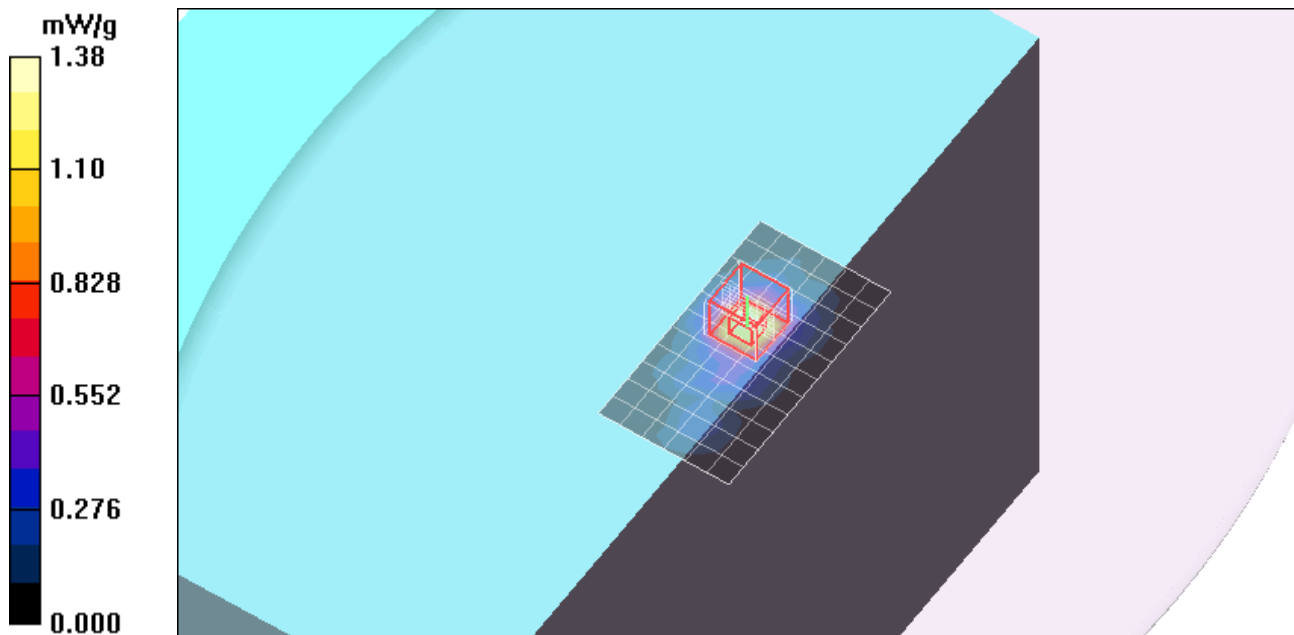
Reference Value = 17.1 V/m; Power Drift = -0.393 dB

Peak SAR (extrapolated) = 3.09 W/kg

**SAR(1 g) = 0.995 mW/g; SAR(10 g) = 0.365 mW/g**

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

Maximum value of SAR (measured) = 1.65 mW/g



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## Laptop - Lapheld\_5.6GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5500 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.5$  mho/m;  $\epsilon_r = 46.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.76, 3.76, 3.76); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Main Ant\_L Ch 100/Area Scan (7x13x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.908 mW/g

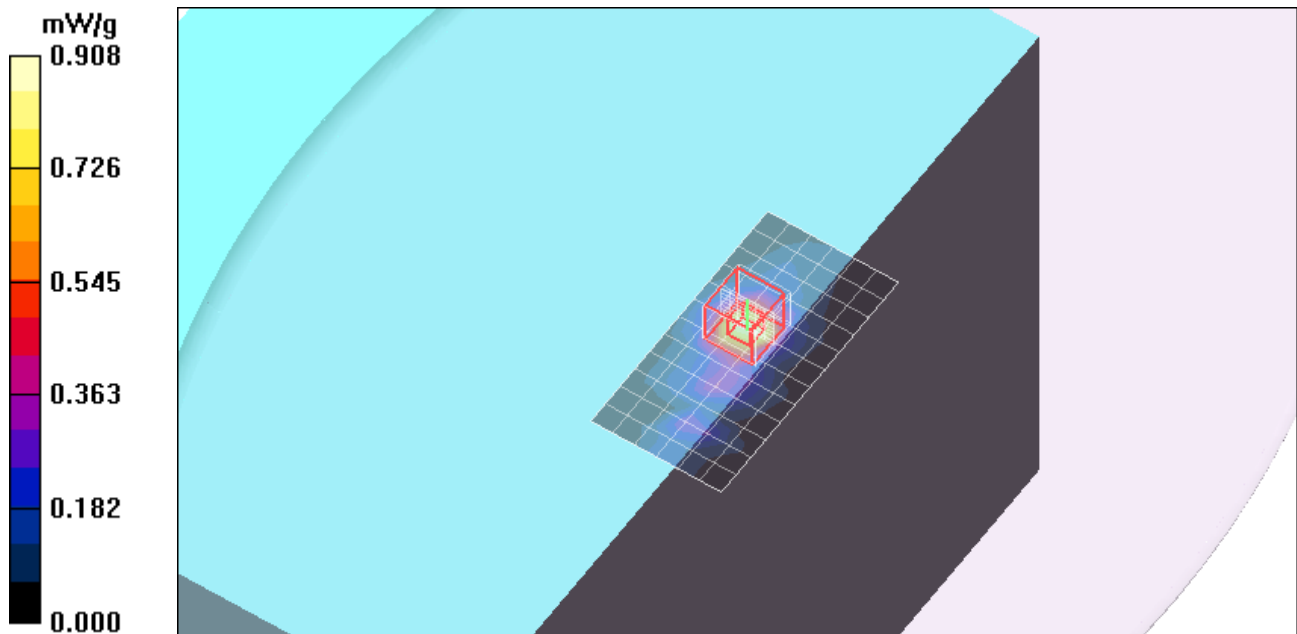
**802.11a\_Main Ant\_L Ch 100/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 13.6 V/m; Power Drift = -0.271 dB

Peak SAR (extrapolated) = 2.12 W/kg

**SAR(1 g) = 0.627 mW/g; SAR(10 g) = 0.227 mW/g**

Maximum value of SAR (measured) = 1.01 mW/g



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### Laptop - Lapheld\_5.6GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5600 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.79$  mho/m;  $\epsilon_r = 46.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

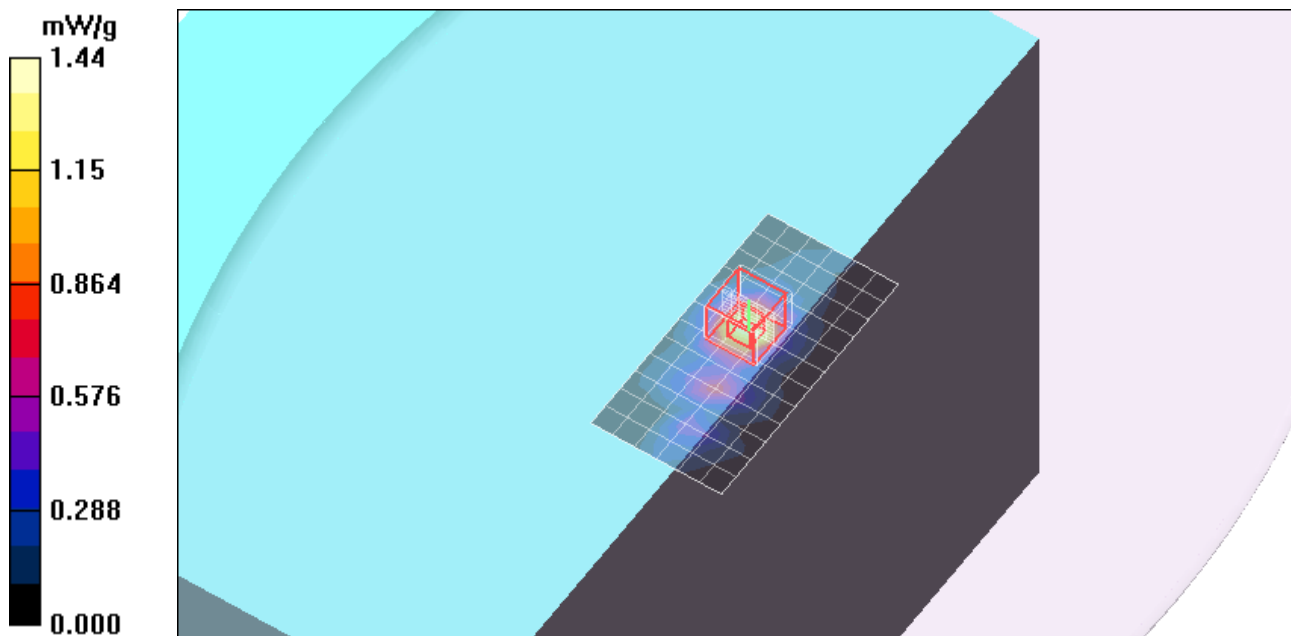
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.61, 3.61, 3.61); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Main Ant\_M Ch 120/Area Scan (7x13x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 1.44 mW/g

**802.11a\_Main Ant\_M Ch 120/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm  
Reference Value = 16.9 V/m; Power Drift = -0.381 dB  
Peak SAR (extrapolated) = 3.20 W/kg  
**SAR(1 g) = 0.992 mW/g; SAR(10 g) = 0.355 mW/g**  
Maximum value of SAR (measured) = 1.68 mW/g



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## Laptop - Lapheld\_5.6GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5700 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5700$  MHz;  $\sigma = 6.02$  mho/m;  $\epsilon_r = 46$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.84, 3.84, 3.84); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Main Ant\_H Ch 140/Area Scan (7x13x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 1.26 mW/g

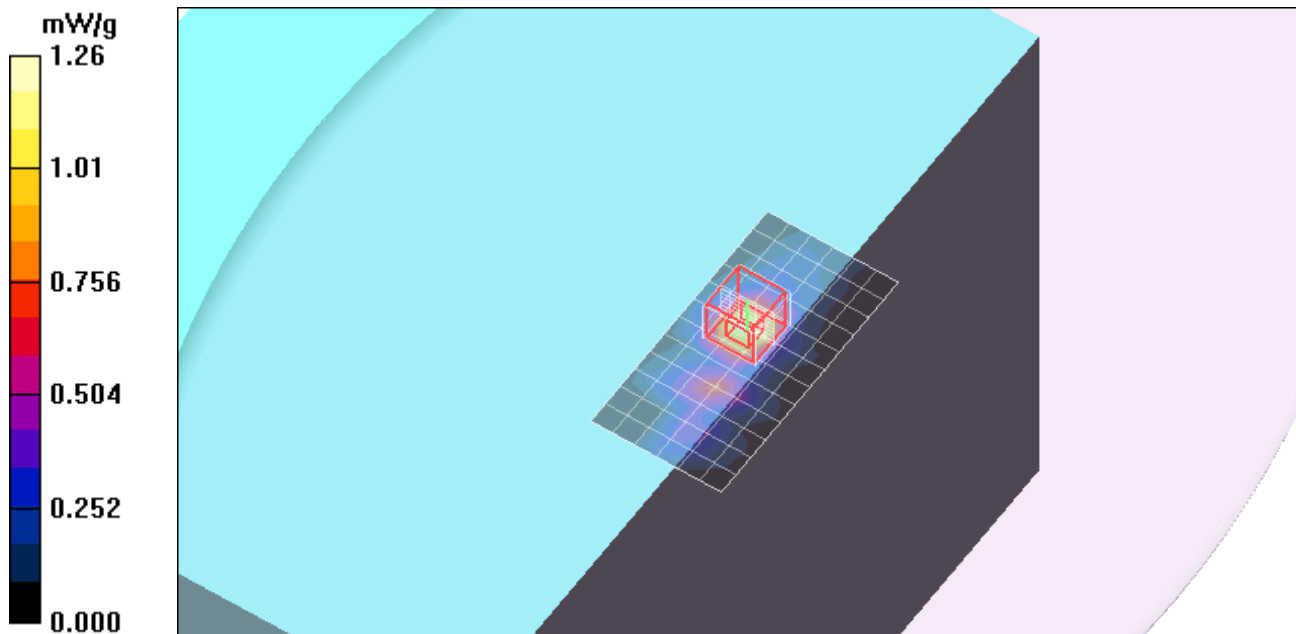
**802.11a\_Main Ant\_H Ch 140/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 15.8 V/m; Power Drift = -0.320 dB

Peak SAR (extrapolated) = 2.82 W/kg

**SAR(1 g) = 0.862 mW/g; SAR(10 g) = 0.319 mW/g**

Maximum value of SAR (measured) = 1.43 mW/g



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## Laptop - Lapheld\_5.8GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5785$  MHz;  $\sigma = 6.07$  mho/m;  $\epsilon_r = 45.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.84, 3.84, 3.84); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Main Ant\_M Ch 157/Area Scan (7x12x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 0.717 mW/g

**802.11a\_Main Ant\_M Ch 157/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

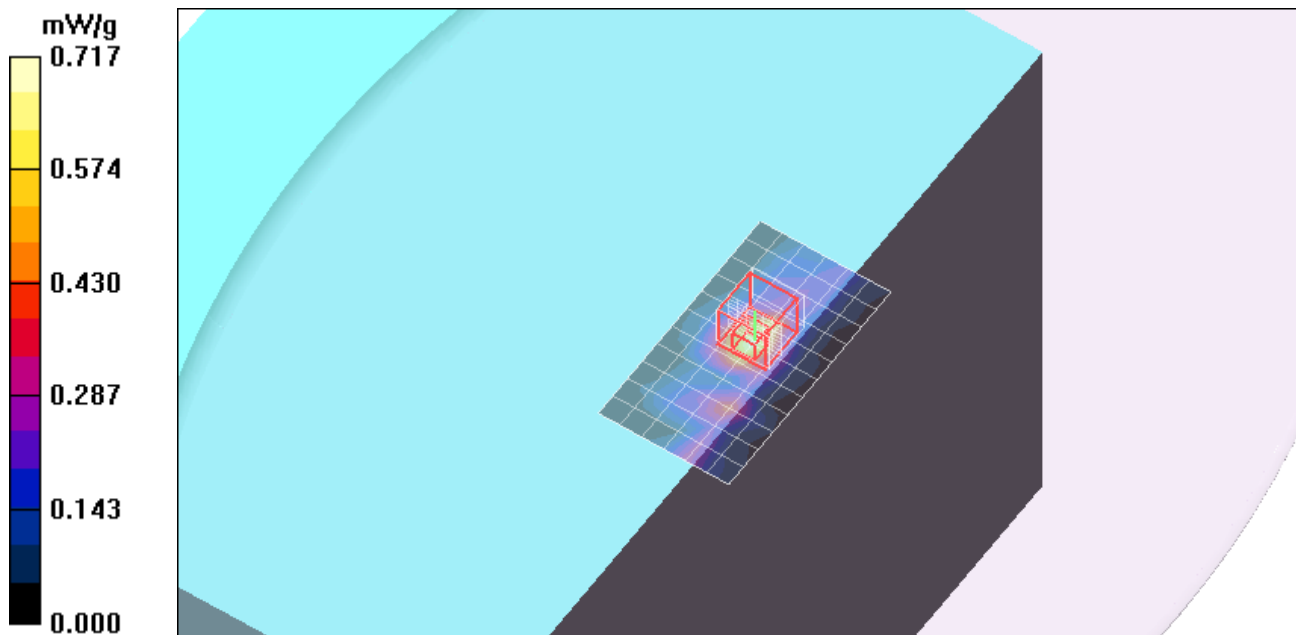
Reference Value = 12.0 V/m; Power Drift = -0.119 dB

Peak SAR (extrapolated) = 1.50 W/kg

**SAR(1 g) = 0.441 mW/g; SAR(10 g) = 0.150 mW/g**

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

Maximum value of SAR (measured) = 0.770 mW/g





Test Laboratory: Compliance Certification Services

## Lapheld\_Aux 5.2GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5200 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5200$  MHz;  $\sigma = 5.34$  mho/m;  $\epsilon_r = 45.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(4.08, 4.08, 4.08); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Aux Ant\_M Ch 40/Area Scan (8x11x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 0.562 mW/g

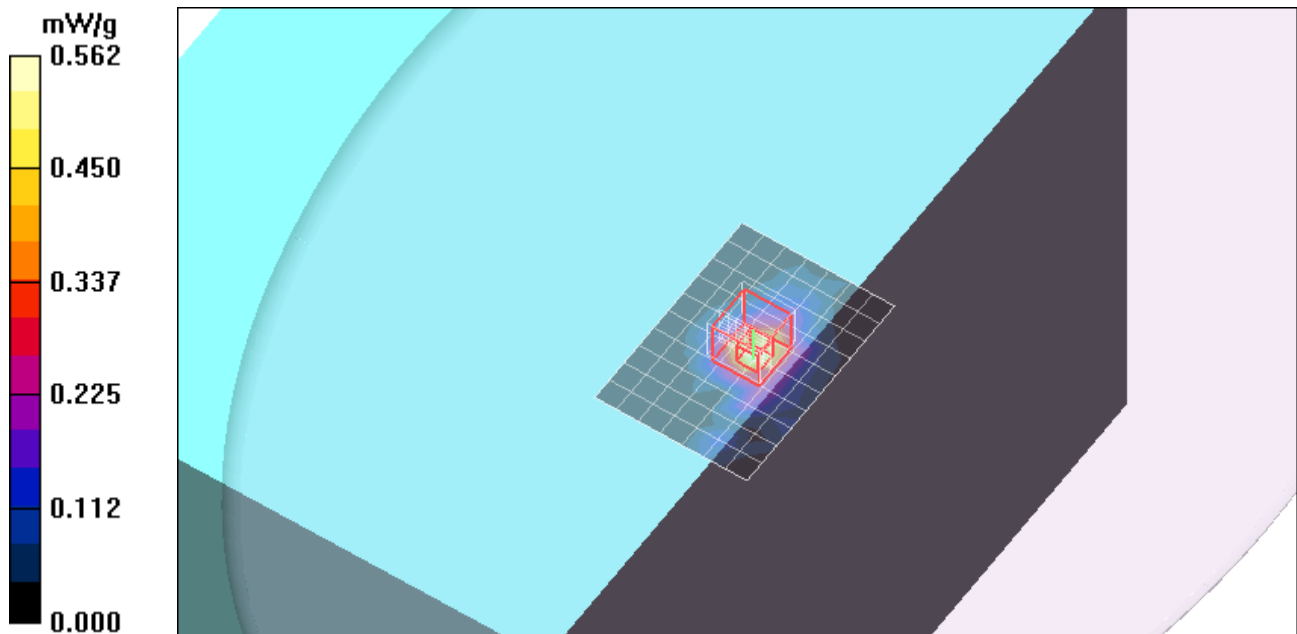
**802.11a\_Aux Ant\_M Ch 40/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 11.1 V/m; Power Drift = 0.006 dB

Peak SAR (extrapolated) = 1.18 W/kg

**SAR(1 g) = 0.369 mW/g; SAR(10 g) = 0.141 mW/g**

Maximum value of SAR (measured) = 0.565 mW/g



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## Laptop - Lapheld\_5.3GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5260$  MHz;  $\sigma = 5.3$  mho/m;  $\epsilon_r = 46.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.81, 3.81, 3.81); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Aux Ant\_L Ch 52/Area Scan (7x11x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 1.29 mW/g

**802.11a\_Aux Ant\_L Ch 52/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

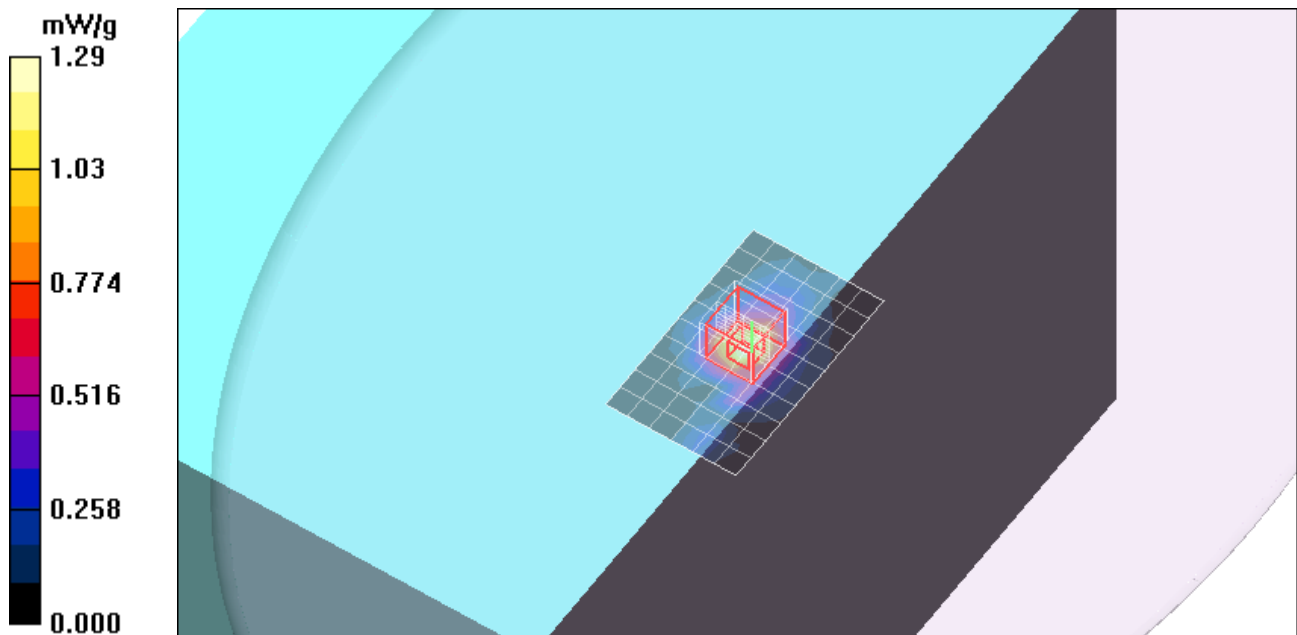
Reference Value = 17.0 V/m; Power Drift = 0.014 dB

Peak SAR (extrapolated) = 2.36 W/kg

**SAR(1 g) = 0.836 mW/g; SAR(10 g) = 0.314 mW/g**

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

Maximum value of SAR (measured) = 1.32 mW/g



Test Laboratory: Compliance Certification Services

## Laptop - Lapheld\_5.3GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5300 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5300$  MHz;  $\sigma = 5.37$  mho/m;  $\epsilon_r = 45.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.81, 3.81, 3.81); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Aux Ant\_M Ch 60/Area Scan (7x11x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 1.57 mW/g

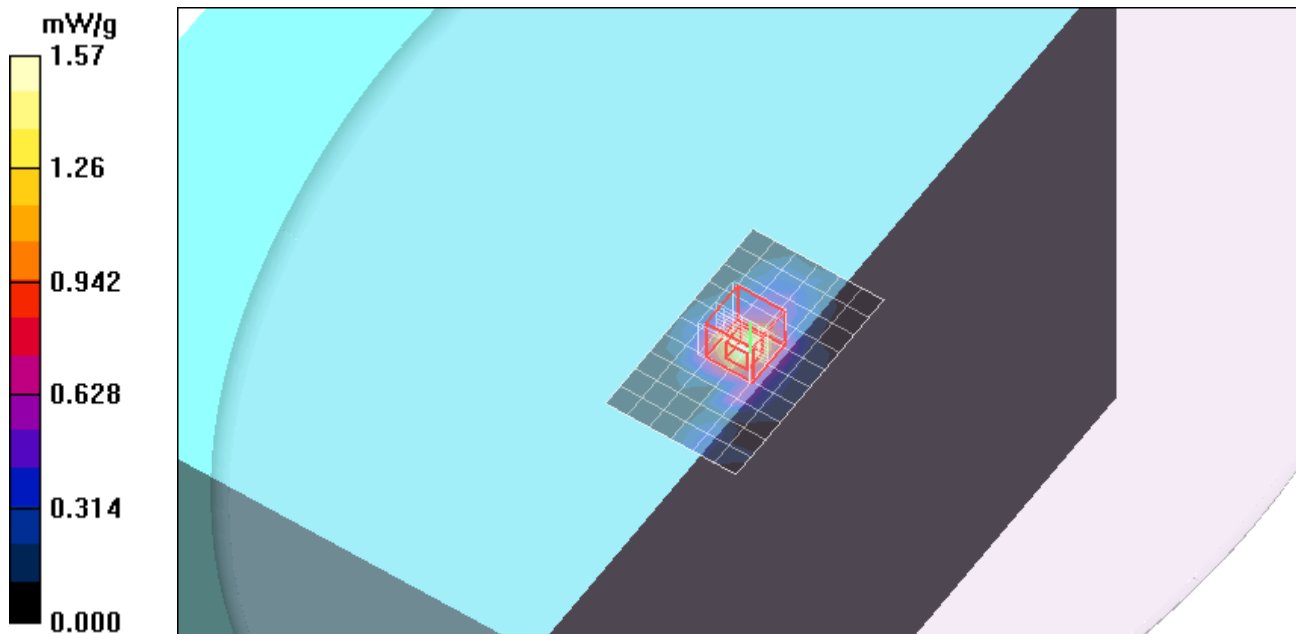
**802.11a\_Aux Ant\_M Ch 60/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 18.3 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 2.96 W/kg

**SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.397 mW/g**

Maximum value of SAR (measured) = 1.56 mW/g



Test Laboratory: Compliance Certification Services

## Laptop - Lapheld\_5.3GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5320$  MHz;  $\sigma = 5.45$  mho/m;  $\epsilon_r = 46$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.81, 3.81, 3.81); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Aux Ant\_H Ch 64/Area Scan (7x11x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 1.21 mW/g

**802.11a\_Aux Ant\_H Ch 64/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

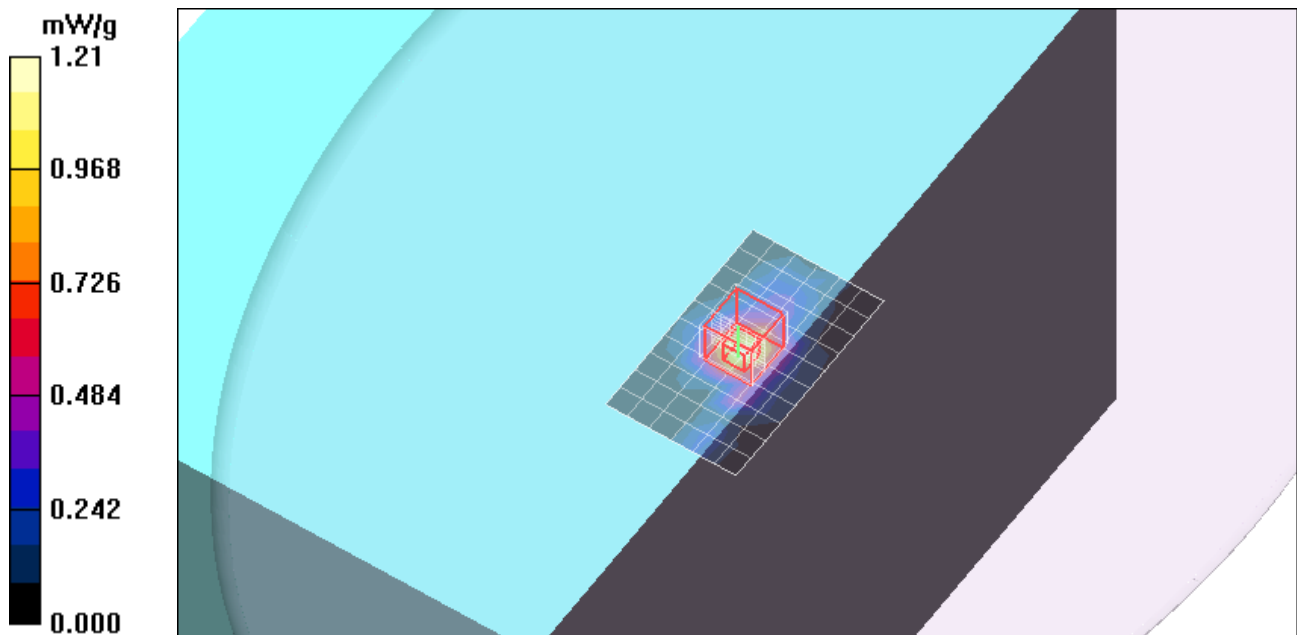
Reference Value = 16.1 V/m; Power Drift = -0.026 dB

Peak SAR (extrapolated) = 2.32 W/kg

**SAR(1 g) = 0.768 mW/g; SAR(10 g) = 0.300 mW/g**

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

Maximum value of SAR (measured) = 1.20 mW/g



Test Laboratory: Compliance Certification Services

### Laptop - Lapheld\_5.6GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5600 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.79$  mho/m;  $\epsilon_r = 46.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

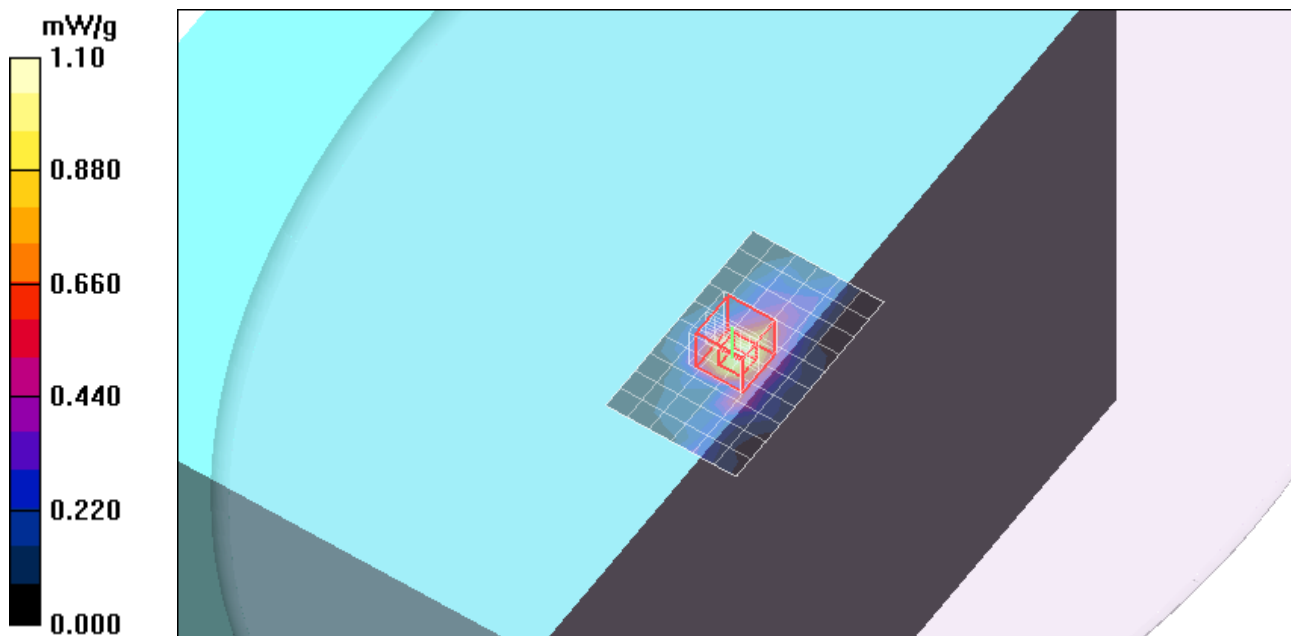
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.61, 3.61, 3.61); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Aux Ant\_M Ch 120/Area Scan (7x11x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 1.10 mW/g

**802.11a\_Aux Ant\_M Ch 120/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm  
Reference Value = 14.4 V/m; Power Drift = -0.005 dB  
Peak SAR (extrapolated) = 2.31 W/kg  
**SAR(1 g) = 0.728 mW/g; SAR(10 g) = 0.278 mW/g**  
Maximum value of SAR (measured) = 1.19 mW/g



Test Laboratory: Compliance Certification Services

## Laptop - Lapheld\_5.8GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5745$  MHz;  $\sigma = 5.91$  mho/m;  $\epsilon_r = 45.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.84, 3.84, 3.84); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Aux Ant\_L Ch 149/Area Scan (7x11x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 1.20 mW/g

**802.11a\_Aux Ant\_L Ch 149/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

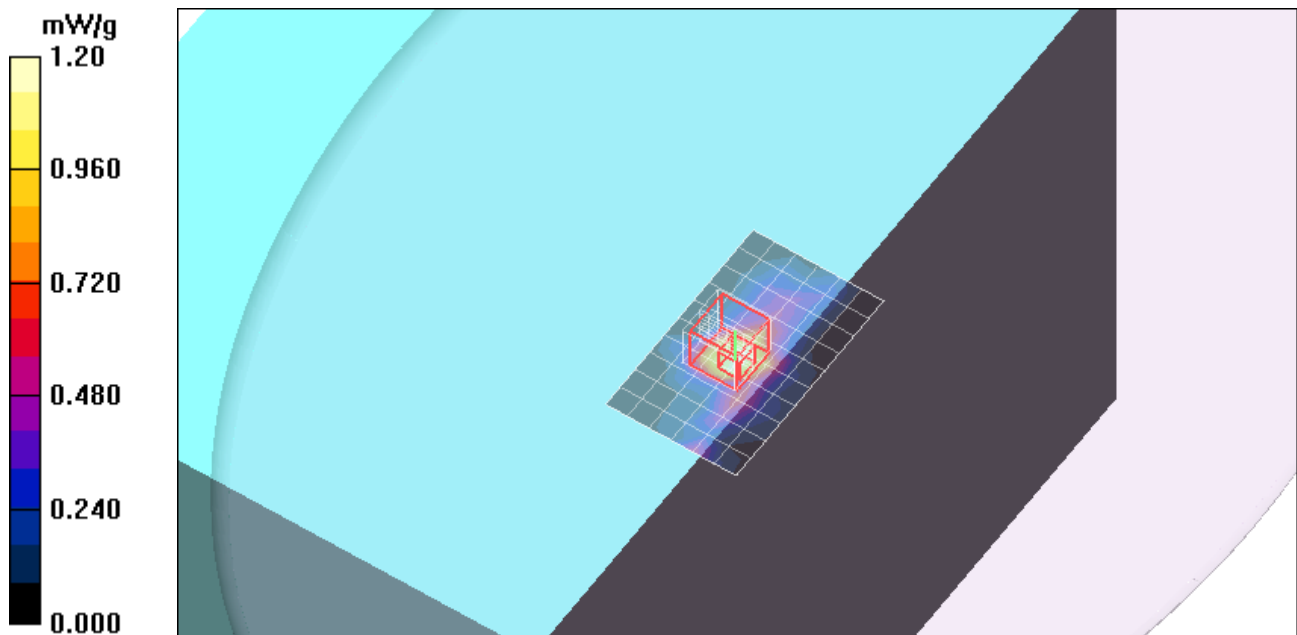
Reference Value = 15.1 V/m; Power Drift = -0.179 dB

Peak SAR (extrapolated) = 2.72 W/kg

**SAR(1 g) = 0.849 mW/g; SAR(10 g) = 0.317 mW/g**

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

Maximum value of SAR (measured) = 1.37 mW/g



Test Laboratory: Compliance Certification Services

## Laptop - Lapheld\_5.8GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5785$  MHz;  $\sigma = 6.07$  mho/m;  $\epsilon_r = 45.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.84, 3.84, 3.84); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Aux Ant\_M Ch 157/Area Scan (7x11x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 1.38 mW/g

**802.11a\_Aux Ant\_M Ch 157/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

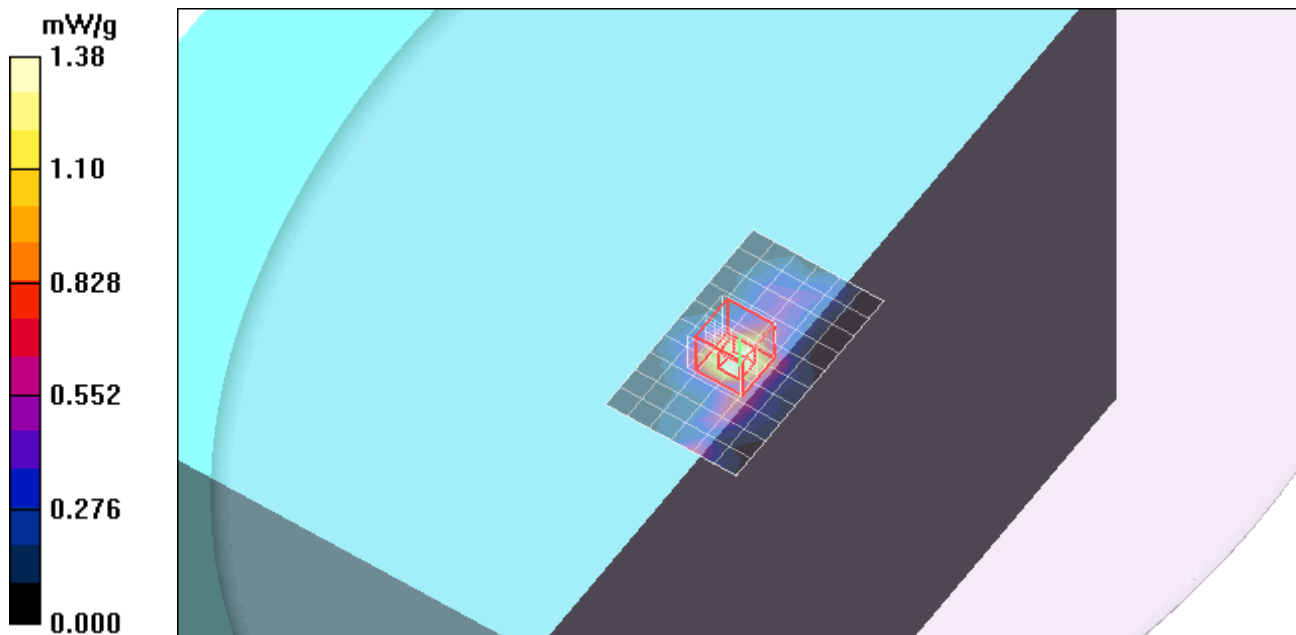
Reference Value = 16.2 V/m; Power Drift = 0.149 dB

Peak SAR (extrapolated) = 3.17 W/kg

**SAR(1 g) = 0.984 mW/g; SAR(10 g) = 0.377 mW/g**

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

Maximum value of SAR (measured) = 1.59 mW/g



Test Laboratory: Compliance Certification Services

## Laptop - Lapheld\_5.8GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5825 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5825$  MHz;  $\sigma = 6.13$  mho/m;  $\epsilon_r = 45.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.84, 3.84, 3.84); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11a\_Aux Ant\_H Ch 165/Area Scan (7x11x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 1.45 mW/g

**802.11a\_Aux Ant\_H Ch 165/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

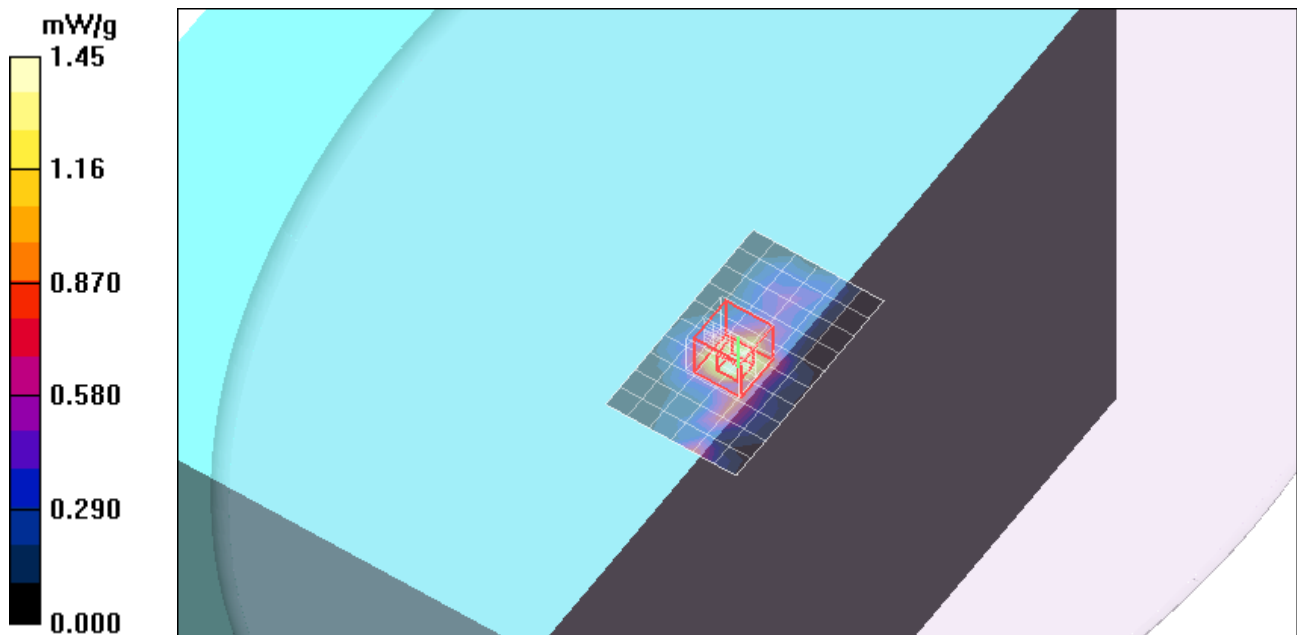
Reference Value = 16.5 V/m; Power Drift = 0.116 dB

Peak SAR (extrapolated) = 3.16 W/kg

**SAR(1 g) = 0.991 mW/g; SAR(10 g) = 0.382 mW/g**

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

Maximum value of SAR (measured) = 1.60 mW/g





Test Laboratory: Compliance Certification Services

## Laptop - Lapheld\_5.8GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5745$  MHz;  $\sigma = 5.91$  mho/m;  $\epsilon_r = 45.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.84, 3.84, 3.84); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11n HT20\_Main&Aux Ant\_Ch 149/Area Scan (8x14x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 1.20 mW/g

**802.11n HT20\_Main&Aux Ant\_Ch 149/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

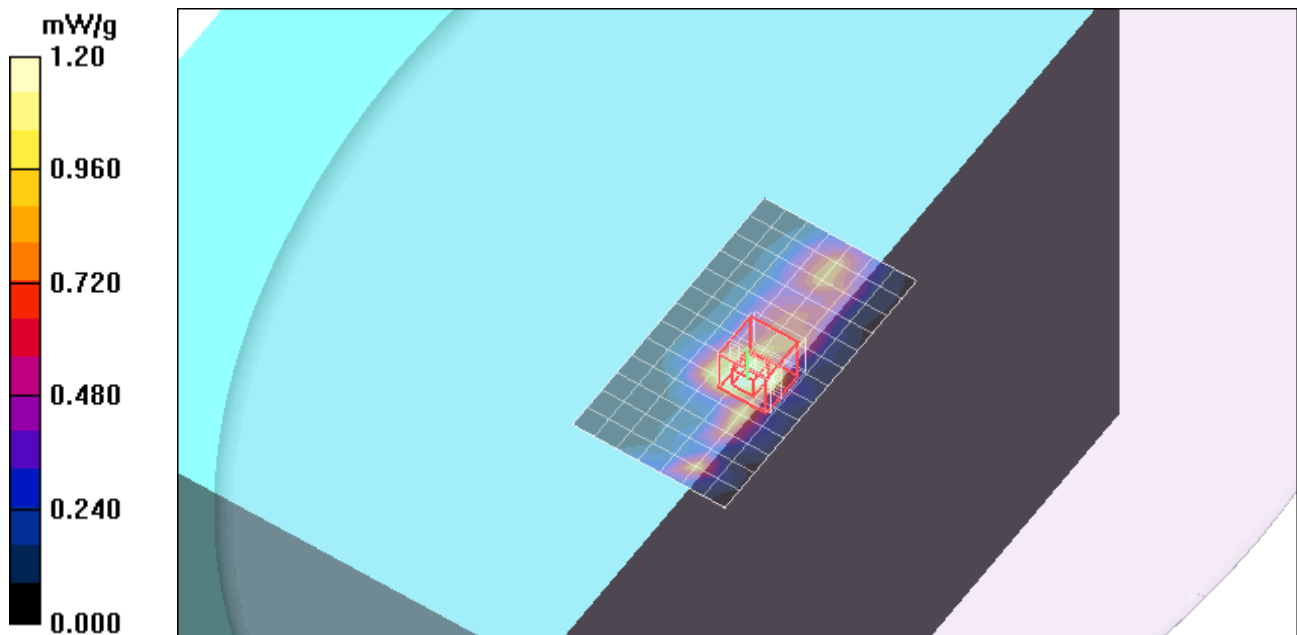
Reference Value = 15.6 V/m; Power Drift = 0.092 dB

Peak SAR (extrapolated) = 2.87 W/kg

**SAR(1 g) = 0.887 mW/g; SAR(10 g) = 0.319 mW/g**

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

Maximum value of SAR (measured) = 1.44 mW/g



Test Laboratory: Compliance Certification Services

## Laptop - Lapheld\_5.8GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5785$  MHz;  $\sigma = 6.07$  mho/m;  $\epsilon_r = 45.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.84, 3.84, 3.84); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11n HT20\_Main&Aux Ant\_Ch 157/Area Scan (9x16x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 1.40 mW/g

**802.11n HT20\_Main&Aux Ant\_Ch 157/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

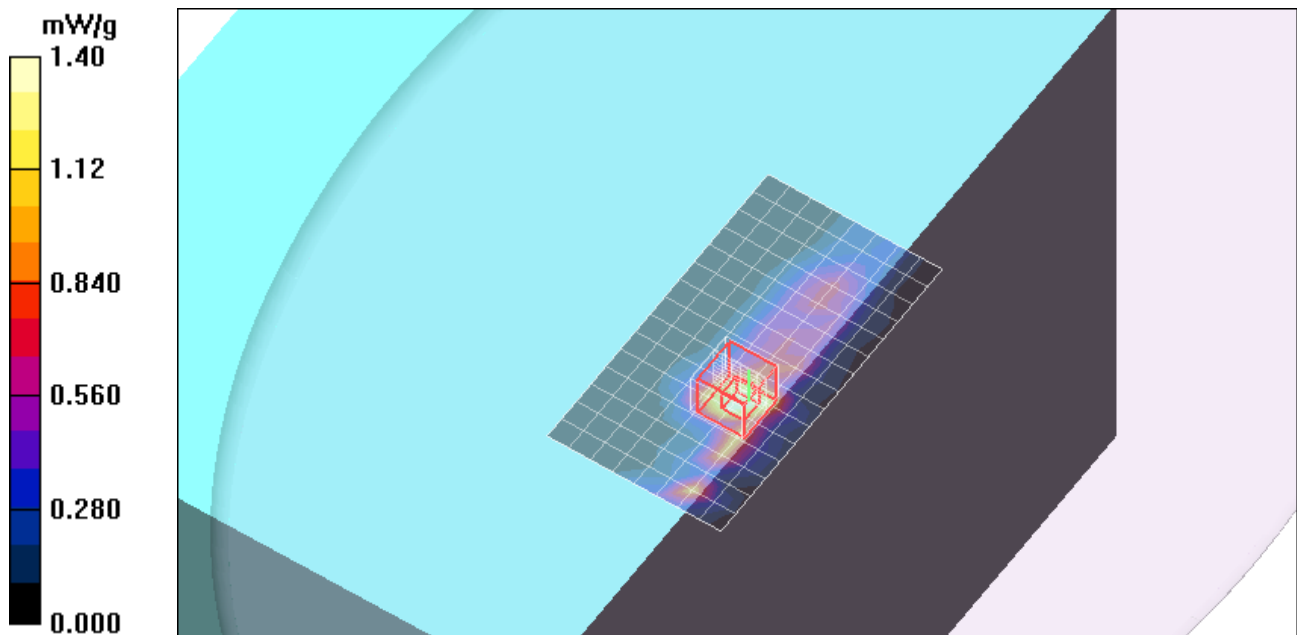
Reference Value = 16.2 V/m; Power Drift = 0.052 dB

Peak SAR (extrapolated) = 3.14 W/kg

**SAR(1 g) = 0.976 mW/g; SAR(10 g) = 0.379 mW/g**

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

Maximum value of SAR (measured) = 1.61 mW/g



Test Laboratory: Compliance Certification Services

## Laptop - Lapheld\_5.8GHz

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5825 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5825$  MHz;  $\sigma = 6.13$  mho/m;  $\epsilon_r = 45.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.84, 3.84, 3.84); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11n HT20\_Main&Aux Ant\_Ch 165/Area Scan (8x14x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 1.35 mW/g

**802.11n HT20\_Main&Aux Ant\_Ch 165/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

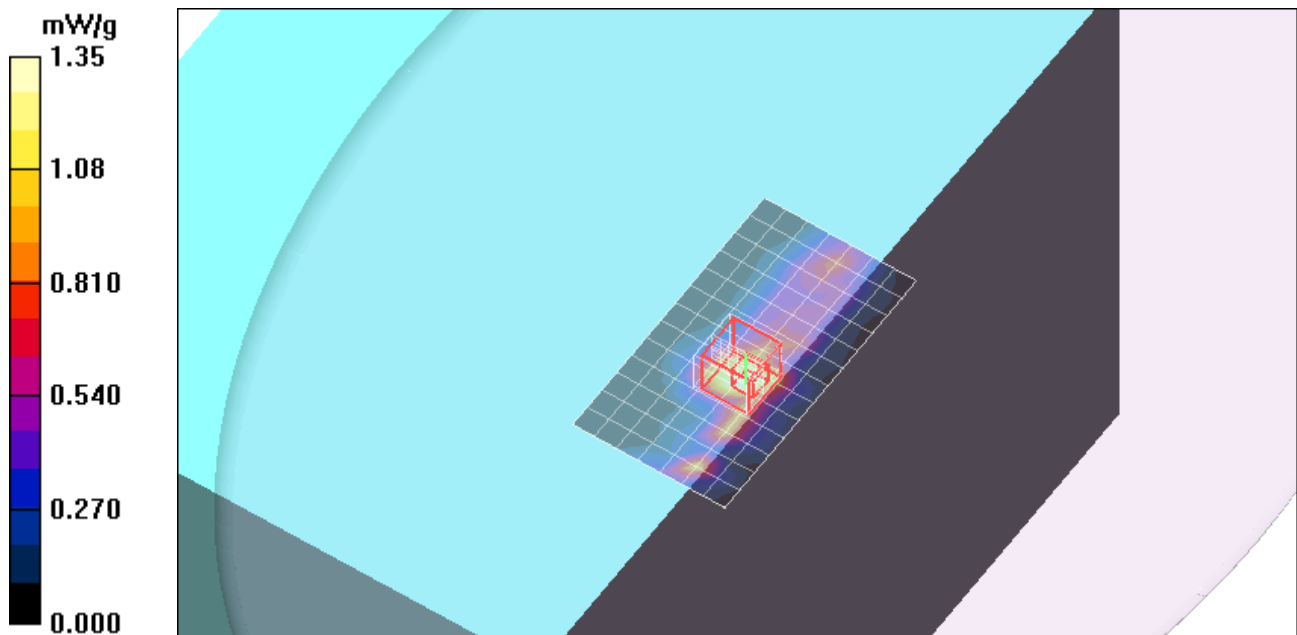
Reference Value = 16.0 V/m; Power Drift = 0.087 dB

Peak SAR (extrapolated) = 3.18 W/kg

**SAR(1 g) = 0.950 mW/g; SAR(10 g) = 0.355 mW/g**

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

Maximum value of SAR (measured) = 1.58 mW/g



Test Laboratory: Compliance Certification Services

**Laptop - Lapheld\_5.6GHz**

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5510 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5510$  MHz;  $\sigma = 5.57$  mho/m;  $\epsilon_r = 46.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.76, 3.76, 3.76); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11n HT40\_Main&Aux Ant\_Ch 102/Area Scan (8x12x1):** Measurement grid: dx=10mm, dy=10mm[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.992 mW/g

**802.11n HT40\_Main&Aux Ant\_Ch 102/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 14.3 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 2.09 W/kg

**SAR(1 g) = 0.682 mW/g; SAR(10 g) = 0.263 mW/g**[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.09 mW/g

**802.11n HT40\_Main&Aux Ant\_Ch 102/Zoom Scan 2 (7x7x9)/Cube 0:** Measurement grid:

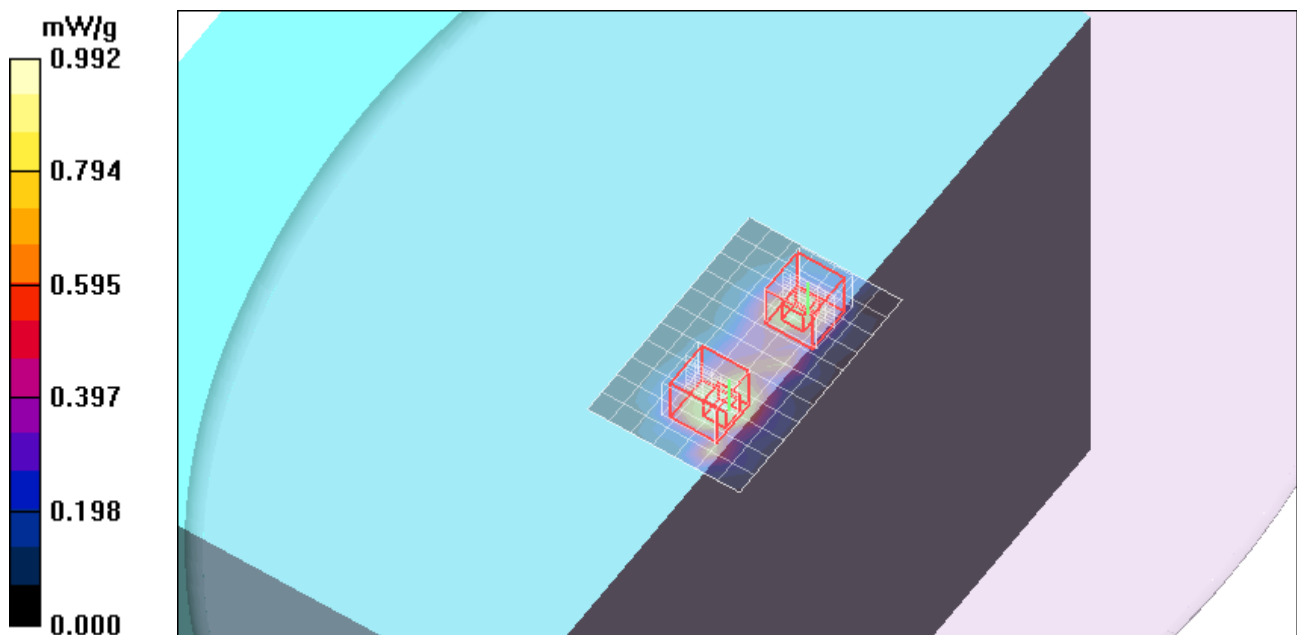
dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 14.3 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 1.74 W/kg

**SAR(1 g) = 0.560 mW/g; SAR(10 g) = 0.217 mW/g**[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.894 mW/g



Test Laboratory: Compliance Certification Services

**Laptop - Lapheld\_5.6GHz**

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5590 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5590$  MHz;  $\sigma = 5.8$  mho/m;  $\epsilon_r = 46$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.61, 3.61, 3.61); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11n HT40\_Main&Aux Ant\_Ch 118/Area Scan (8x12x1):** Measurement grid: dx=10mm, dy=10mm[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.29 mW/g

**802.11n HT40\_Main&Aux Ant\_Ch 118/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 15.8 V/m; Power Drift = -0.111 dB

Peak SAR (extrapolated) = 2.58 W/kg

**SAR(1 g) = 0.837 mW/g; SAR(10 g) = 0.311 mW/g**[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.36 mW/g

**802.11n HT40\_Main&Aux Ant\_Ch 118/Zoom Scan 2 (7x7x9)/Cube 0:** Measurement grid:

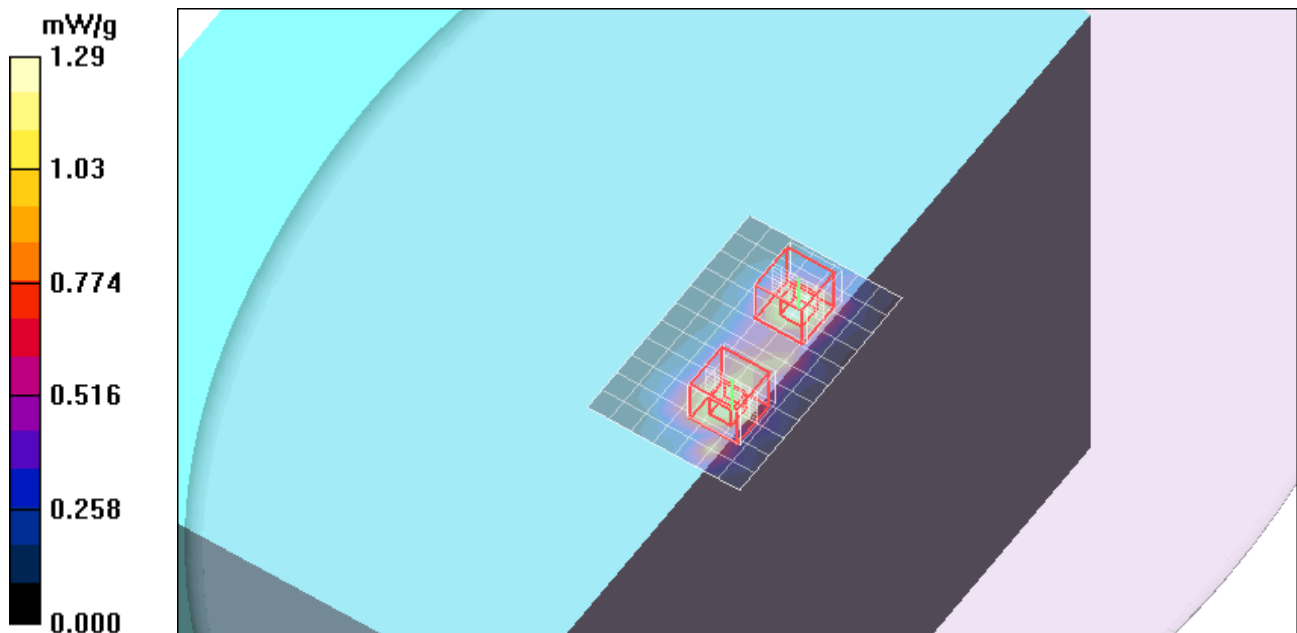
dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 15.8 V/m; Power Drift = -0.111 dB

Peak SAR (extrapolated) = 2.54 W/kg

**SAR(1 g) = 0.786 mW/g; SAR(10 g) = 0.309 mW/g**[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.31 mW/g



Test Laboratory: Compliance Certification Services

**Laptop - Lapheld\_5.6GHz**

DUT: Apple; Type: NA; Serial: NA

Communication System: 802.11abgn; Frequency: 5670 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5670$  MHz;  $\sigma = 5.91$  mho/m;  $\epsilon_r = 45.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.61, 3.61, 3.61); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 9/15/2009
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**802.11n HT40\_Main&Aux Ant\_Ch 134/Area Scan (8x12x1):** Measurement grid: dx=10mm, dy=10mm[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.69 mW/g

**802.11n HT40\_Main&Aux Ant\_Ch 134/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 17.8 V/m; Power Drift = -0.070 dB

Peak SAR (extrapolated) = 3.51 W/kg

**SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.425 mW/g**[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.74 mW/g

**802.11n HT40\_Main&Aux Ant\_Ch 134/Zoom Scan (7x7x9)/Cube 1:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 17.8 V/m; Power Drift = -0.070 dB

Peak SAR (extrapolated) = 3.48 W/kg

**SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.392 mW/g**[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.72 mW/g

