

Test Laboratory: Compliance Certification Services

### 802.11a 5.2GHz

DUT: Broadcom; Type: HP Laptop; Serial: NA

Communication System: 802.11abgn; Frequency: 5200 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5200$  MHz;  $\sigma = 5.34$  mho/m;  $\epsilon_r = 45.9$ ;  $\rho = 1000$  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 Sn427; Calibrated: 10/20/2008
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

#### Lapheld, Main Ant/Area Scan (13x19x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.096 mW/g

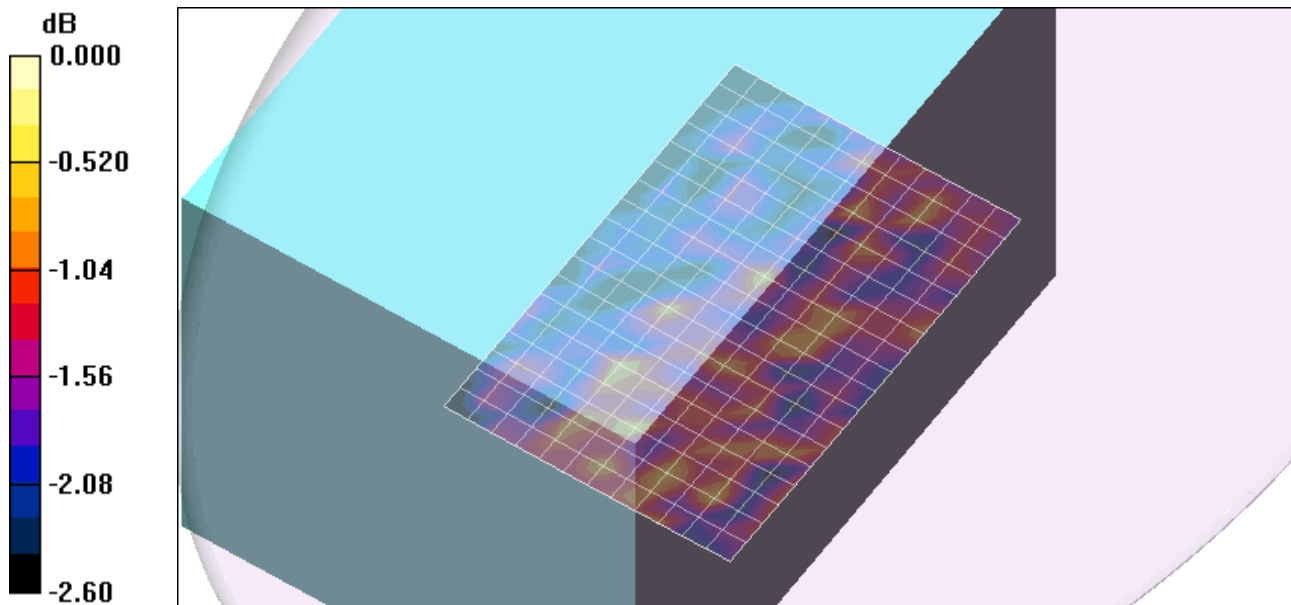
#### Lapheld, Main Ant/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.95 V/m; Power Drift = -0.400 dB

Peak SAR (extrapolated) = 0.110 W/kg

**SAR(1 g) = 0.084 mW/g; SAR(10 g) = 0.079 mW/g**

Maximum value of SAR (measured) = 0.107 mW/g



0 dB = 0.107mW/g

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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 Sn427; Calibrated: 10/20/2008
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Lapheld, Aux Ant/Area Scan (13x19x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.100 mW/g

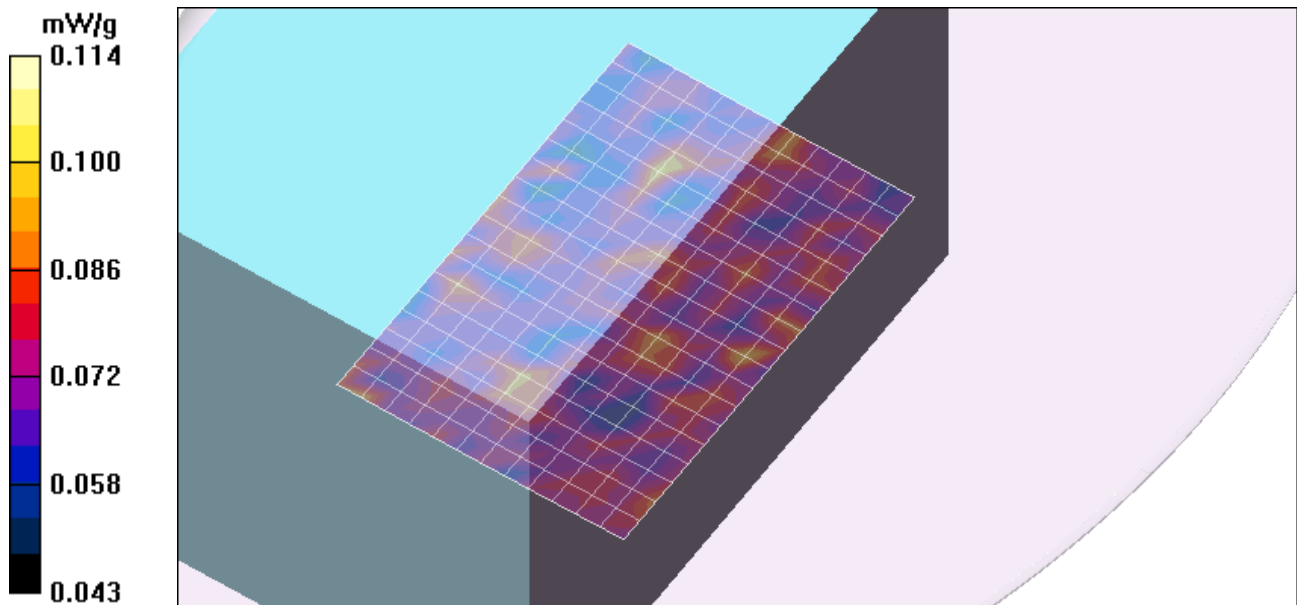
**Lapheld, Aux Ant/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.72 V/m; Power Drift = -0.719 dB

Peak SAR (extrapolated) = 0.131 W/kg

**SAR(1 g) = 0.085 mW/g; SAR(10 g) = 0.079 mW/g**

Maximum value of SAR (measured) = 0.114 mW/g



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### 802.11a 5.3GHz

DUT: Broadcom; Type: HP Laptop; Serial: NA

Communication System: 802.11abgn; Frequency: 5300 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5300 \text{ MHz}$ ;  $\sigma = 5.51 \text{ mho/m}$ ;  $\epsilon_r = 45.9$ ;  $\rho = 1000 \text{ kg/m}^3$

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 Sn427; Calibrated: 10/20/2008
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

### Lapheld, Main Ant/Area Scan (13x19x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.121 mW/g

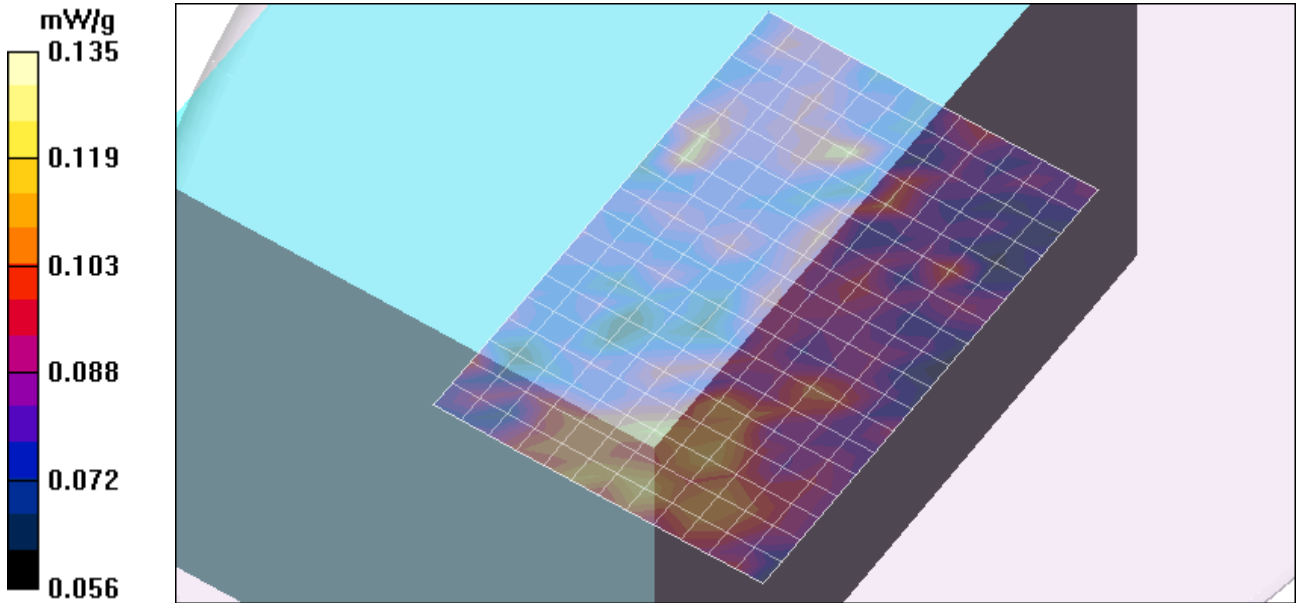
### Lapheld, Main Ant/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.21 V/m; Power Drift = -0.991 dB

Peak SAR (extrapolated) = 0.196 W/kg

**SAR(1 g) = 0.112 mW/g; SAR(10 g) = 0.097 mW/g**

Maximum value of SAR (measured) = 0.135 mW/g



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## 802.11a 5.3GHz

DUT: Broadcom; Type: HP Laptop; Serial: NA

Communication System: 802.11abgn; Frequency: 5300 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5300$  MHz;  $\sigma = 5.51$  mho/m;  $\epsilon_r = 45.9$ ;  $\rho = 1000$  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 Sn427; Calibrated: 10/20/2008
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Lapheld, Aux Ant/Area Scan (13x19x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.115 mW/g

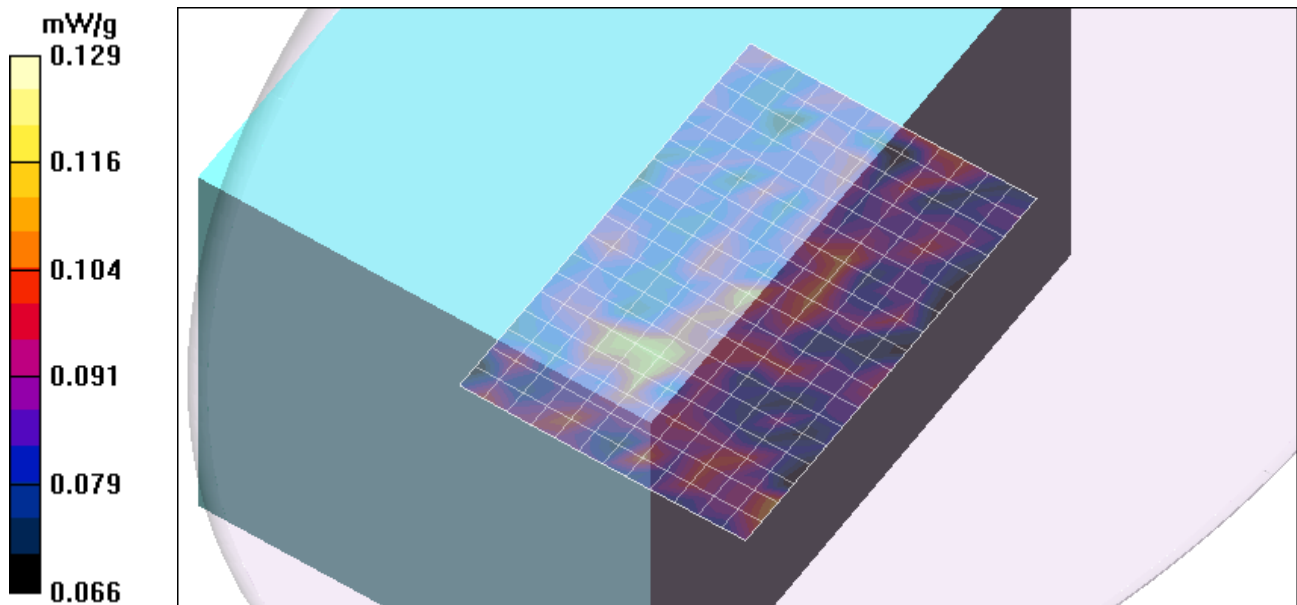
**Lapheld, Aux Ant/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.17 V/m; Power Drift = -0.518 dB

Peak SAR (extrapolated) = 0.129 W/kg

**SAR(1 g) = 0.106 mW/g; SAR(10 g) = 0.094 mW/g**

Maximum value of SAR (measured) = 0.129 mW/g



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### 802.11a 5.5 GHz

DUT: Broadcom; Type: HP Laptop; Serial: NA

Communication System: 802.11abgn; Frequency: 5600 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.93$  mho/m;  $\epsilon_r = 45.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

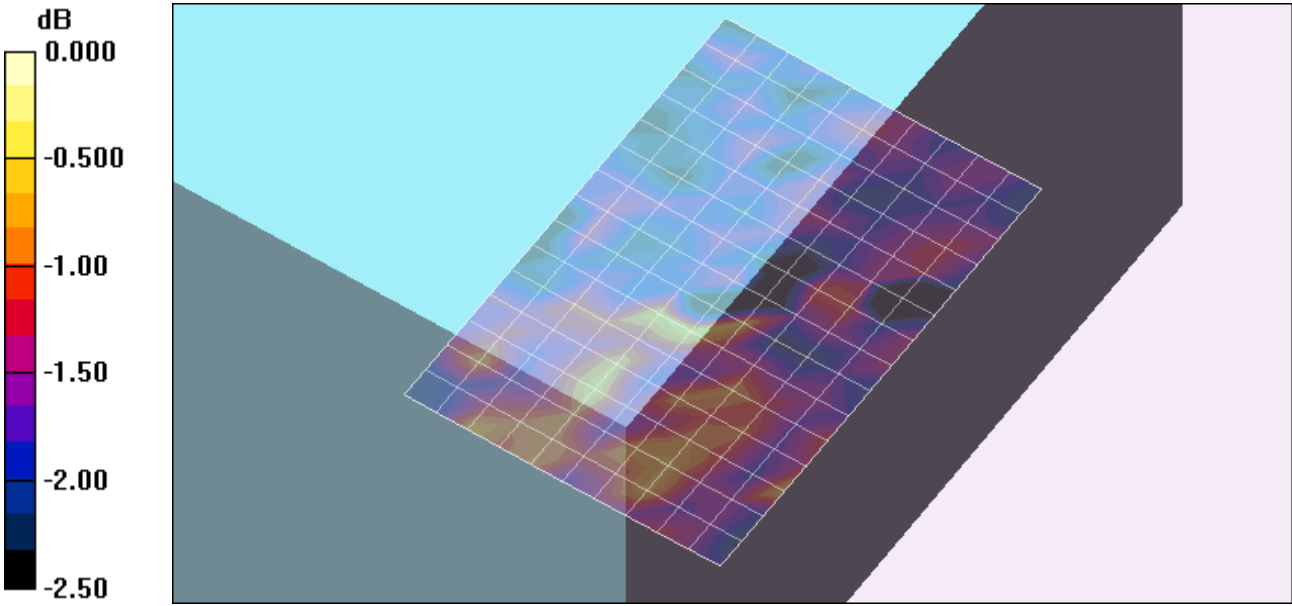
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

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 Sn427; Calibrated: 10/20/2008
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Lapheld, Main Ant/Area Scan (11x16x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 0.123 mW/g

**Lapheld, Main Ant/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm  
Reference Value = 4.08 V/m; Power Drift = 0.045 dB  
Peak SAR (extrapolated) = 0.139 W/kg  
**SAR(1 g) = 0.112 mW/g; SAR(10 g) = 0.106 mW/g**  
Maximum value of SAR (measured) = 0.138 mW/g



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### 802.11a 5.5 GHz

DUT: Broadcom; Type: HP Laptop; Serial: NA

Communication System: 802.11abgn; Frequency: 5600 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.93$  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 Sn427; Calibrated: 10/20/2008
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

### Lapheld, Aux Ant/Area Scan (11x16x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.125 mW/g

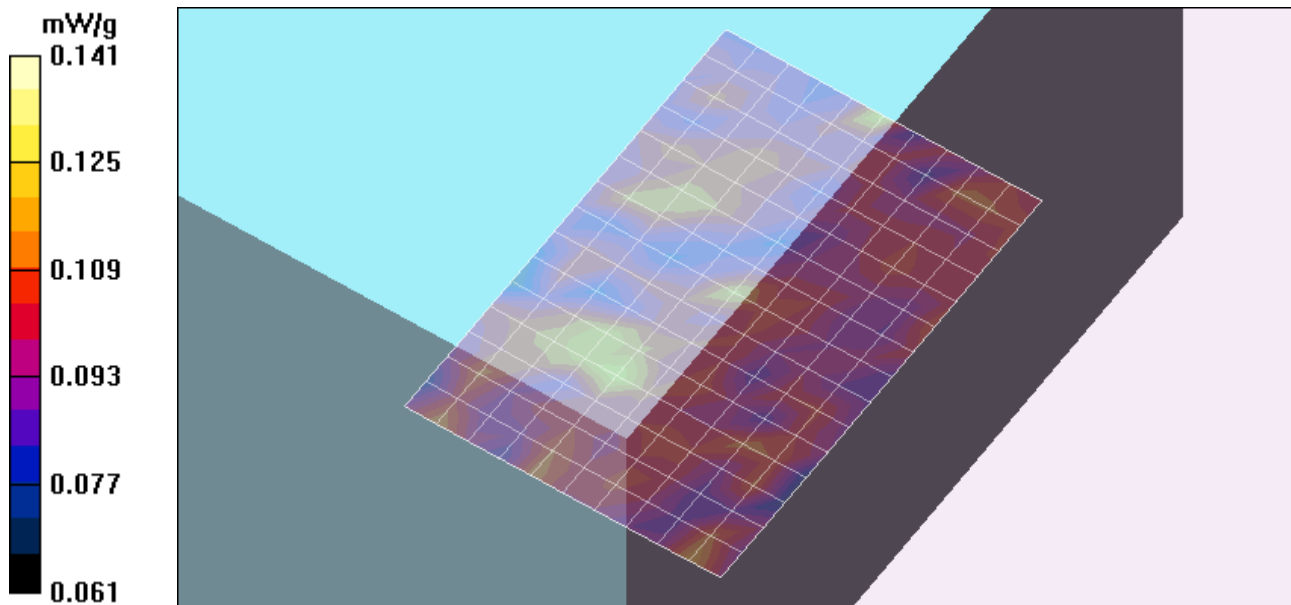
### Lapheld, Aux Ant/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.02 V/m; Power Drift = 0.595 dB

Peak SAR (extrapolated) = 0.178 W/kg

**SAR(1 g) = 0.119 mW/g; SAR(10 g) = 0.109 mW/g**

Maximum value of SAR (measured) = 0.141 mW/g



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## 802.11a 5.8 GHz

DUT: Broadcom; Type: HP Laptop; Serial: NA

Communication System: 802.11abgn; Frequency: 5785 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 5785$  MHz;  $\sigma = 6.2$  mho/m;  $\epsilon_r = 44.7$ ;  $\rho = 1000$  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(3.84, 3.84, 3.84); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 10/20/2008
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Lapheld, Main Ant/Area Scan (11x16x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 0.129 mW/g

**Lapheld, Main Ant/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

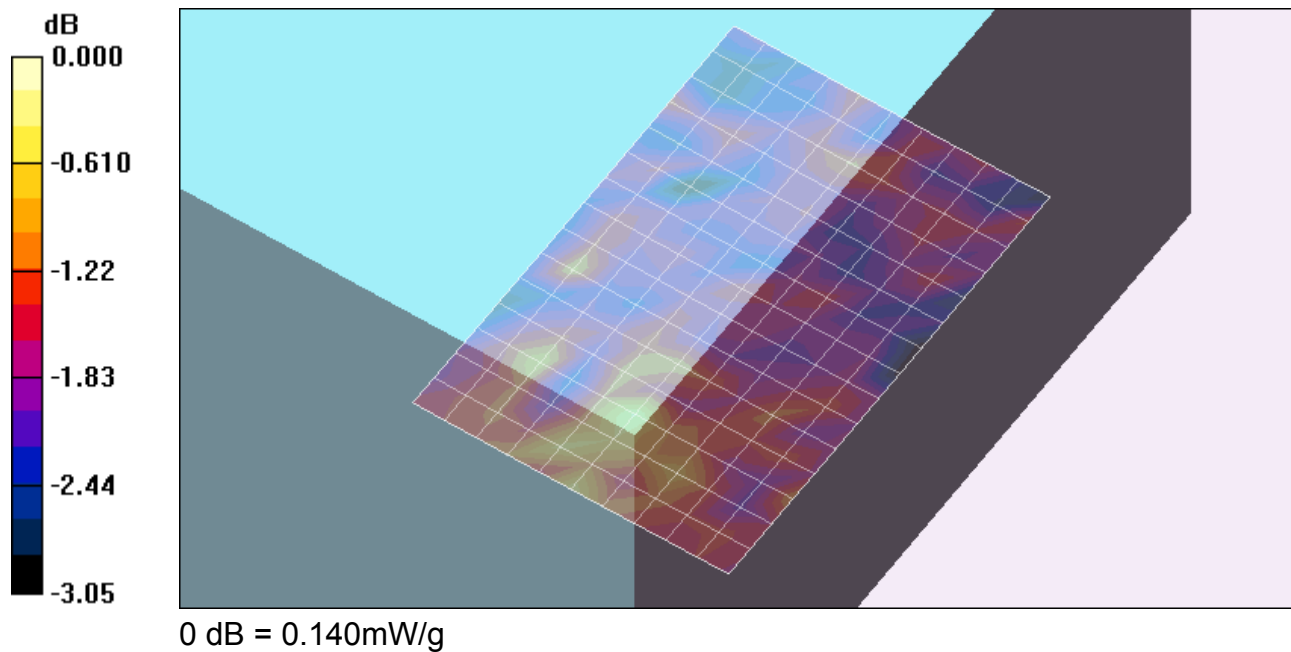
Reference Value = 4.21 V/m; Power Drift = -0.525 dB

Peak SAR (extrapolated) = 0.259 W/kg

**SAR(1 g) = 0.117 mW/g; SAR(10 g) = 0.105 mW/g**

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

Maximum value of SAR (measured) = 0.140 mW/g



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## 802.11a 5.8 GHz

DUT: Broadcom; Type: HP Laptop; Serial: NA

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

Medium parameters used (interpolated):  $f = 5785$  MHz;  $\sigma = 6.2$  mho/m;  $\epsilon_r = 44.7$ ;  $\rho = 1000$  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(3.84, 3.84, 3.84); Calibrated: 3/23/2009
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 10/20/2008
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Lapheld, Aux Ant/Area Scan (11x16x1):** Measurement grid: dx=10mm, dy=10mm

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

Maximum value of SAR (measured) = 0.123 mW/g

**Lapheld, Aux Ant/Zoom Scan (7x7x9)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.13 V/m; Power Drift = -0.574 dB

Peak SAR (extrapolated) = 0.138 W/kg

**SAR(1 g) = 0.107 mW/g; SAR(10 g) = 0.101 mW/g**

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

Maximum value of SAR (measured) = 0.134 mW/g

