

Test Laboratory: Compliance Certification Services

## Lap-Held 2.4GHz

DUT: Apple; Type: Laptop; Serial: N/A

Communication System: 802.11bgn; Frequency: 2437 MHz; Duty Cycle: 1:1.03

Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 50.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3554; ConvF(6.14, 6.14, 6.14); Calibrated: 4/24/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 11/16/2007
- Phantom: SAM 2; Type: SAM 2; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**B mode Main Ant- M ch/Area Scan (9x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.622 mW/g

**B mode Main Ant- M ch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

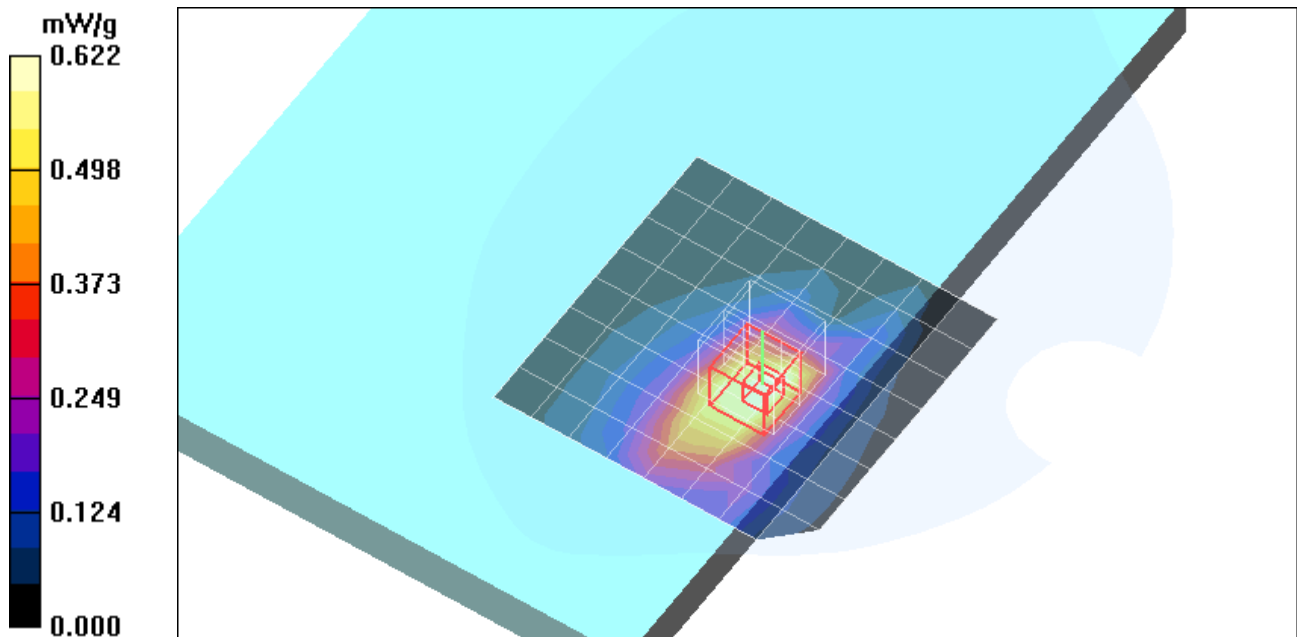
Reference Value = 3.46 V/m; Power Drift = 0.148 dB

Peak SAR (extrapolated) = 0.950 W/kg

**SAR(1 g) = 0.472 mW/g; SAR(10 g) = 0.249 mW/g**

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

Maximum value of SAR (measured) = 0.508 mW/g



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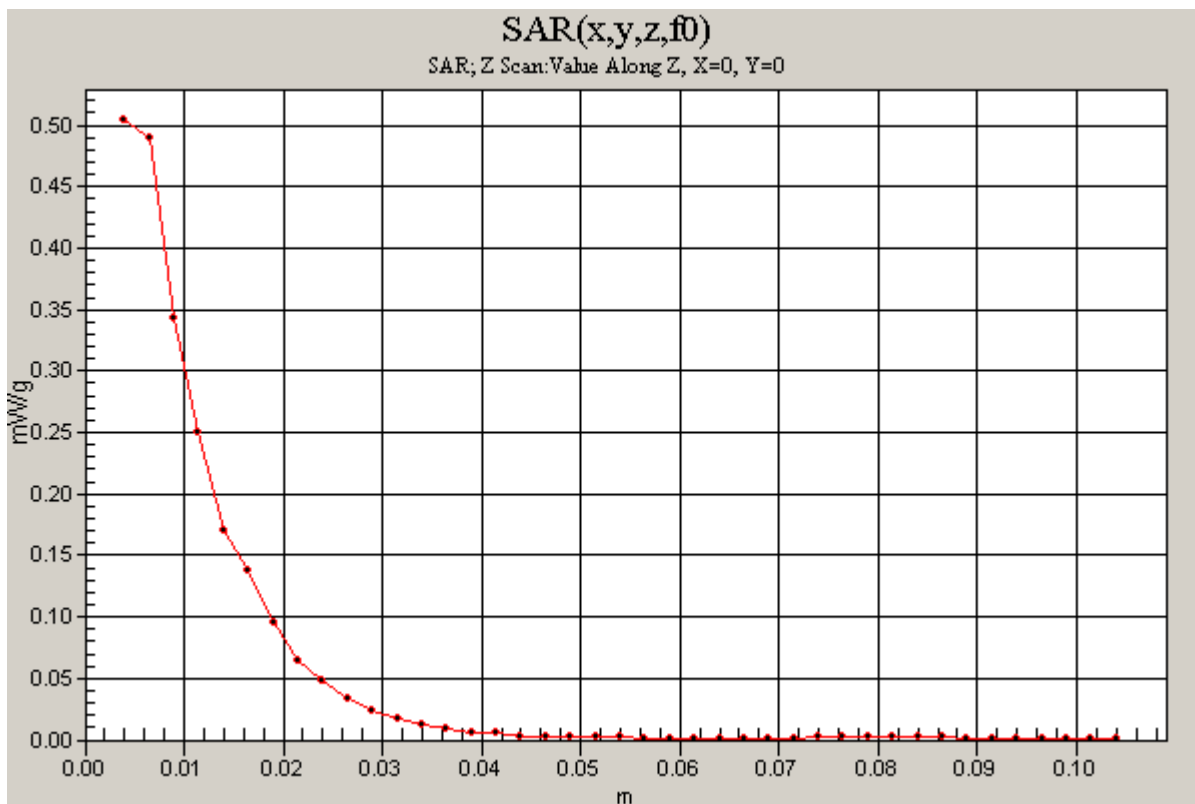
DUT: Apple; Type: Laptop; Serial: N/A

Communication System: 802.11bgn; Frequency: 2437 MHz; Duty Cycle: 1:1.03

**B mode Main Ant- M ch/Z Scan (1x1x41):** Measurement grid: dx=20mm, dy=20mm, dz=2.5mm

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

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



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## Lap-Held 2.4GHz

DUT: Apple; Type: Laptop; Serial: N/A

Communication System: 802.11bgn; Frequency: 2437 MHz; Duty Cycle: 1:1.09

Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 51$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3554; ConvF(6.14, 6.14, 6.14); Calibrated: 4/24/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 11/16/2007
- Phantom: SAM 2; Type: SAM 2; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**b mode Main ant - M ch (Co-Tx)/Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.535 mW/g

**b mode Main ant - M ch (Co-Tx)/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm,

dy=7.5mm, dz=5mm

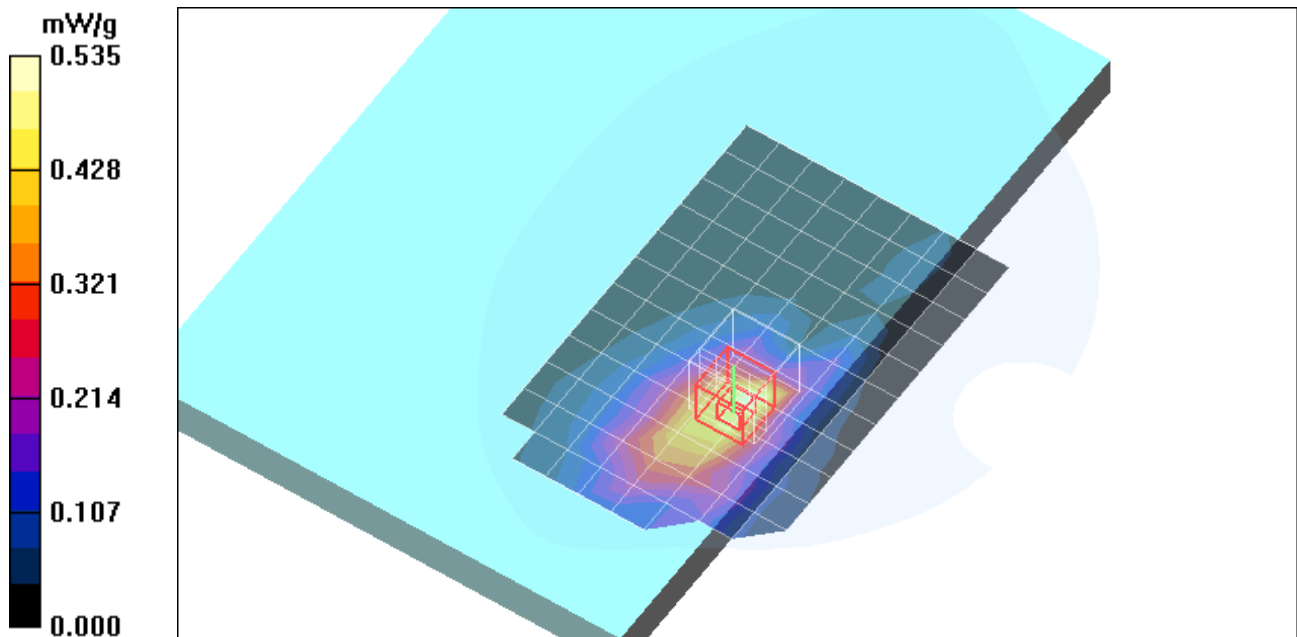
Reference Value = 5.03 V/m; Power Drift = -0.013 dB

Peak SAR (extrapolated) = 1.04 W/kg

**SAR(1 g) = 0.534 mW/g; SAR(10 g) = 0.274 mW/g**

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

Maximum value of SAR (measured) = 0.624 mW/g



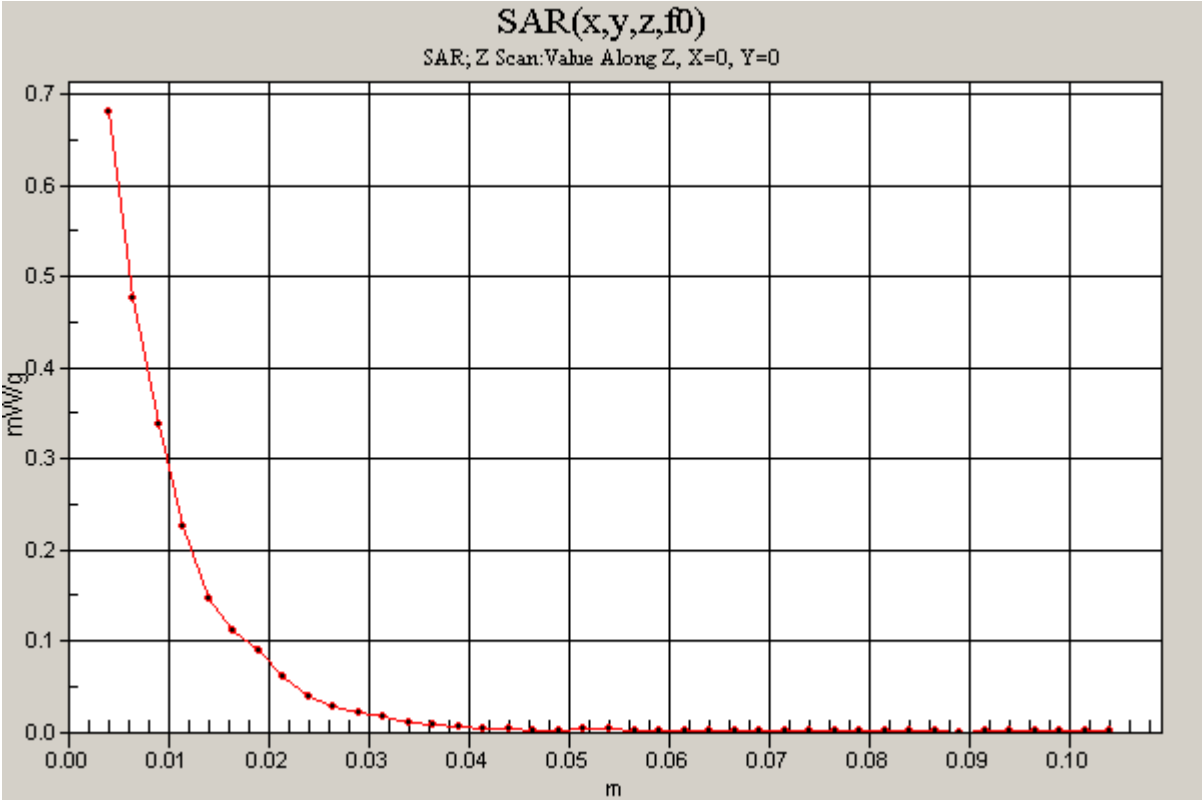
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### Lap-Held 2.4GHz

DUT: Apple; Type: Laptop; Serial: N/A

Communication System: 802.11bgn; Frequency: 2437 MHz;Duty Cycle: 1:1.09

**b mode Main ant - M ch (Co-Tx)/Z Scan (1x1x41):** Measurement grid: dx=20mm, dy=20mm, dz=2.5mm  
[Info: Interpolated medium parameters used for SAR evaluation.](#)  
Maximum value of SAR (measured) = 0.680 mW/g



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## Lap-Held 2.4GHz

DUT: Apple; Type: Laptop; Serial: N/A

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Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 50.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3554; ConvF(6.14, 6.14, 6.14); Calibrated: 4/24/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 11/16/2007
- Phantom: SAM 2; Type: SAM 2; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**G mode Main Ant- M ch/Area Scan (8x10x1):** Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.420 mW/g

**G mode Main Ant- M ch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

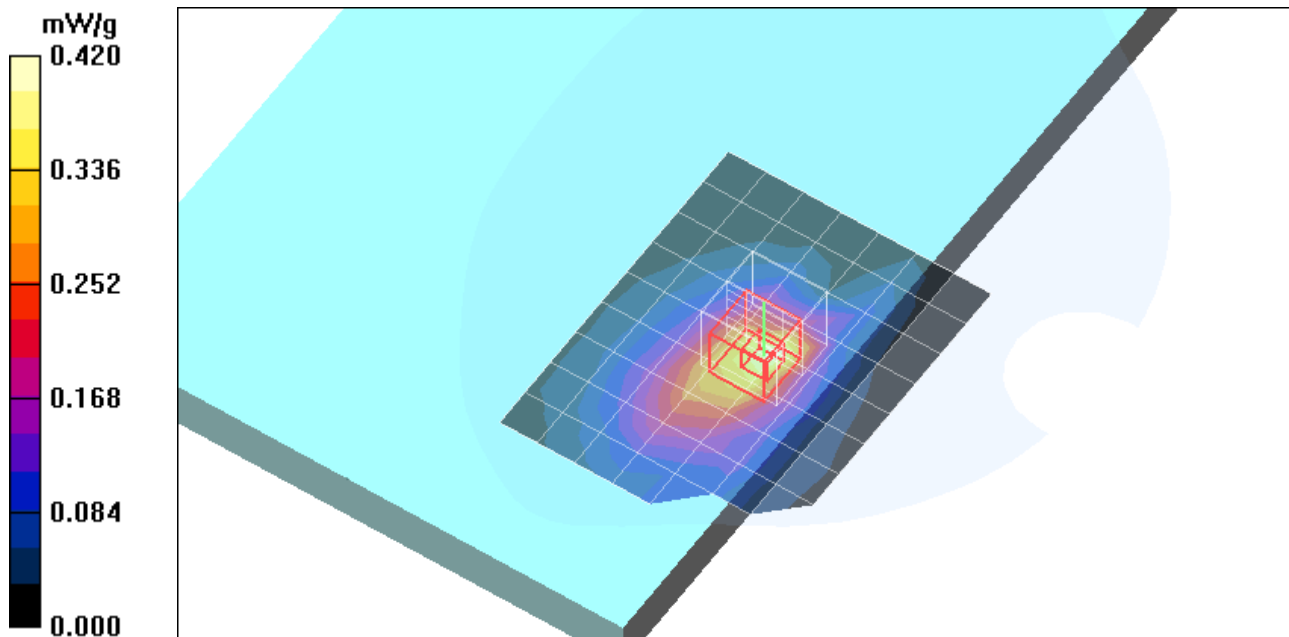
Reference Value = 14.9 V/m; Power Drift = -0.120 dB

Peak SAR (extrapolated) = 0.782 W/kg

**SAR(1 g) = 0.394 mW/g; SAR(10 g) = 0.206 mW/g**

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

Maximum value of SAR (measured) = 0.430 mW/g



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Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 50.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3554; ConvF(6.14, 6.14, 6.14); Calibrated: 4/24/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 11/16/2007
- Phantom: SAM 2; Type: SAM 2; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**B mode Aux Ant - M ch/Area Scan (8x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.290 mW/g

**B mode Aux Ant - M ch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

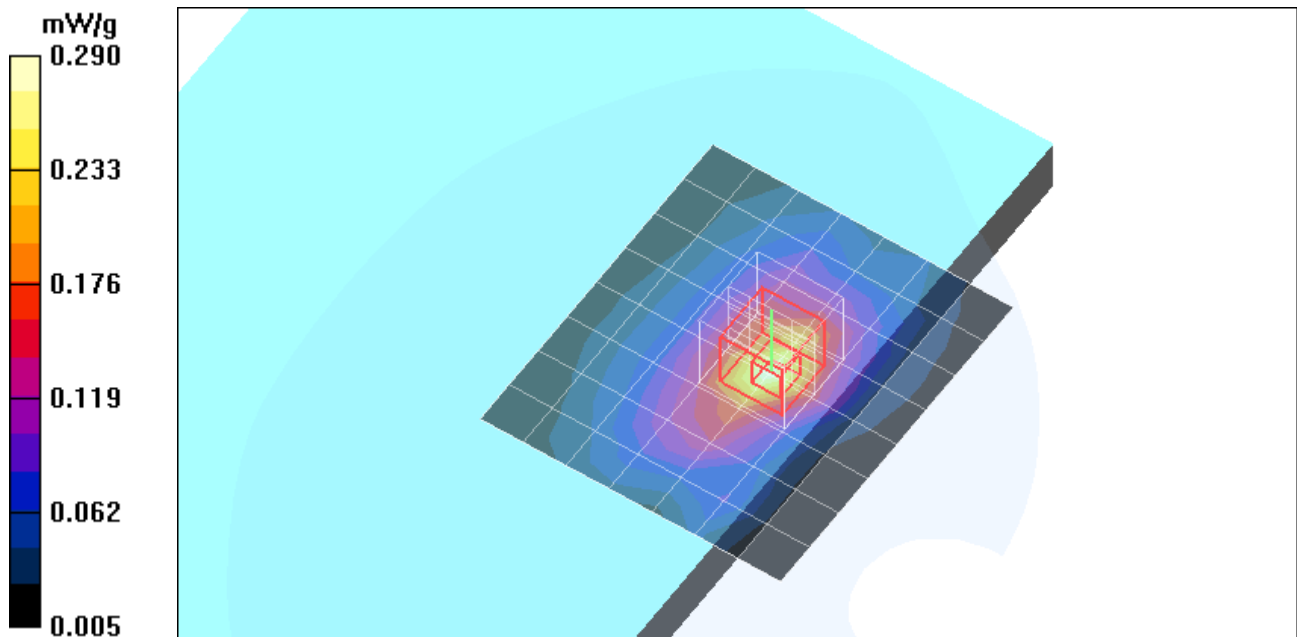
Reference Value = 6.98 V/m; Power Drift = -0.155 dB

Peak SAR (extrapolated) = 0.533 W/kg

**SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.133 mW/g**

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

Maximum value of SAR (measured) = 0.287 mW/g



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## Lap-Held 2.4GHz

DUT: Apple; Type: Laptop; Serial: N/A

Communication System: 802.11bgn; Frequency: 2437 MHz; Duty Cycle: 1:1.09

Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 50.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3554; ConvF(6.14, 6.14, 6.14); Calibrated: 4/24/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 11/16/2007
- Phantom: SAM 2; Type: SAM 2; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**G mode Aux Ant- M ch/Area Scan (8x10x1):** Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.407 mW/g

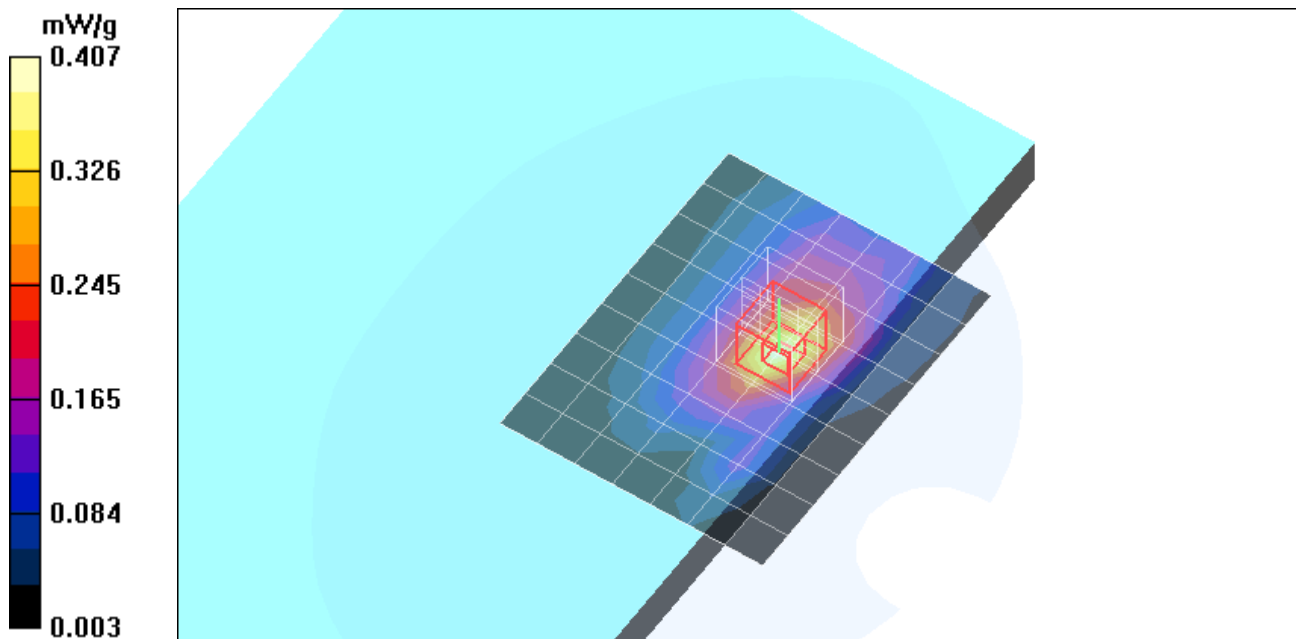
**G mode Aux Ant- M ch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 2.19 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 0.778 W/kg

**SAR(1 g) = 0.370 mW/g; SAR(10 g) = 0.188 mW/g**

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



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## Lap-Held 2.4GHz

DUT: Apple; Type: Laptop; Serial: N/A

Communication System: 802.11bgn; Frequency: 2437 MHz; Duty Cycle: 1:1.09

Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 51$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3554; ConvF(6.14, 6.14, 6.14); Calibrated: 4/24/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 11/16/2007
- Phantom: SAM 2; Type: SAM 2; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**N mode SISO 40MHz - M ch/Area Scan (8x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.132 mW/g

**N mode SISO 40MHz - M ch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

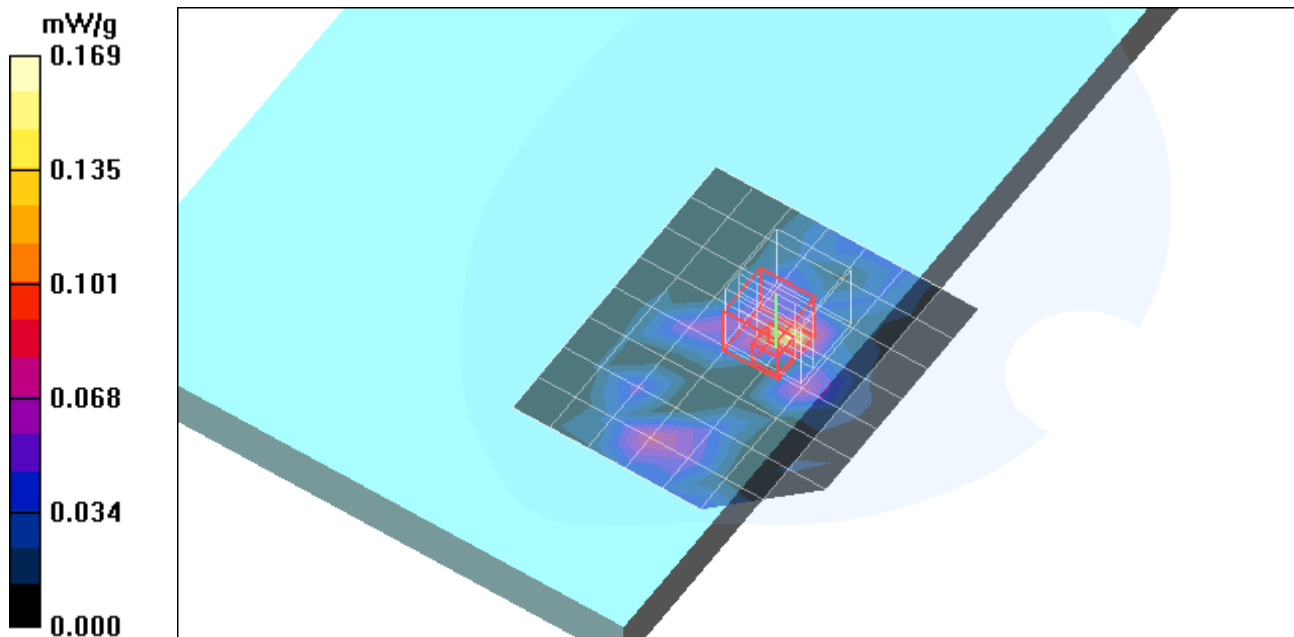
Reference Value = 4.85 V/m; Power Drift = 0.161 dB

Peak SAR (extrapolated) = 0.344 W/kg

**SAR(1 g) = 0.111 mW/g; SAR(10 g) = 0.040 mW/g**

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

Maximum value of SAR (measured) = 0.169 mW/g





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Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 51$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3554; ConvF(6.14, 6.14, 6.14); Calibrated: 4/24/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 11/16/2007
- Phantom: SAM 2; Type: SAM 2; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**N mode SISO 20MHz CDD MCS 0 - M ch/Area Scan (8x17x1):** Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.354 mW/g

**N mode SISO 20MHz CDD MCS 0 - M ch/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.1 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 1.20 W/kg

**SAR(1 g) = 0.425 mW/g; SAR(10 g) = 0.192 mW/g**

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

Maximum value of SAR (measured) = 0.364 mW/g

**N mode SISO 20MHz CDD MCS 0 - M ch/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

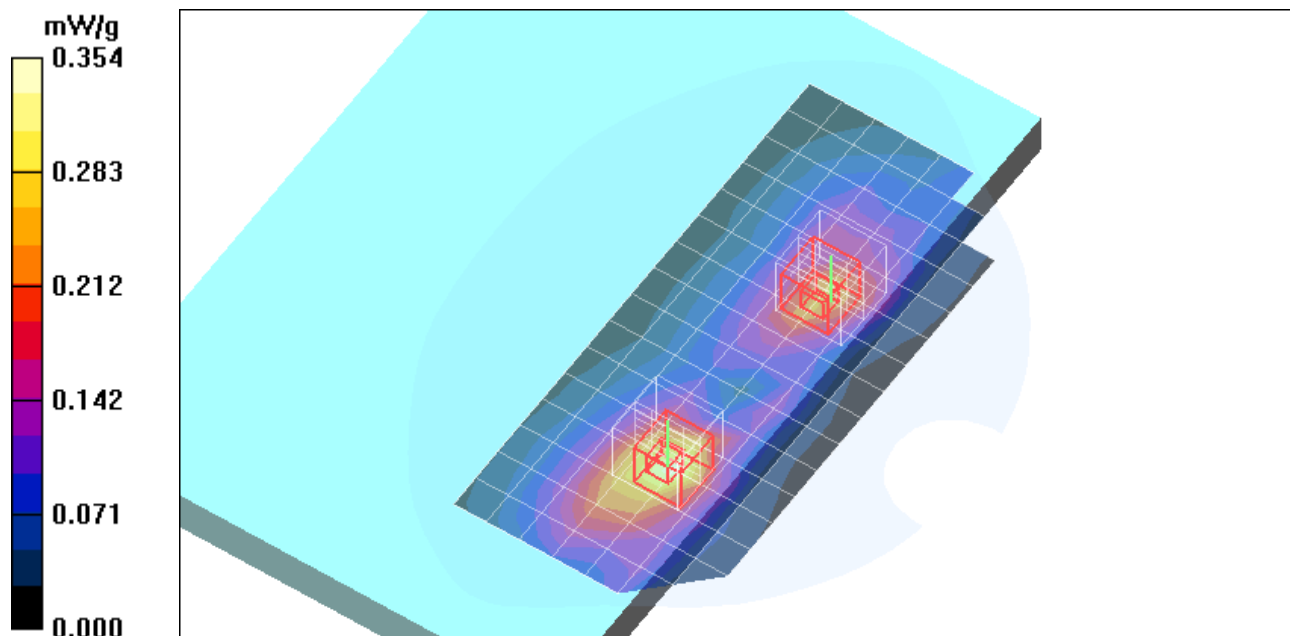
Reference Value = 13.1 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 0.372 W/kg

**SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.100 mW/g**

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

Maximum value of SAR (measured) = 0.202 mW/g



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Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 51$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Room Ambient Temperature: 23.0 deg. C; Liquid Temperature: 22.0 deg. C

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3554; ConvF(6.14, 6.14, 6.14); Calibrated: 4/24/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn500; Calibrated: 11/16/2007
- Phantom: SAM 2; Type: SAM 2; Serial: 1050
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**N mode 40MHz SDM MCS 15 - M ch/Area Scan (8x17x1):** Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.144 mW/g

**N mode 40MHz SDM MCS 15 - M ch/Zoom Scan Cube 0 (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.35 V/m; Power Drift = 0.008 dB

Peak SAR (extrapolated) = 0.245 W/kg

**SAR(1 g) = 0.112 mW/g; SAR(10 g) = 0.061 mW/g**

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

Maximum value of SAR (measured) = 0.138 mW/g

**N mode 40MHz SDM MCS 15 - M ch/Zoom Scan Cube 0 (5x5x7)/Cube 1:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.35 V/m; Power Drift = 0.008 dB

Peak SAR (extrapolated) = 0.180 W/kg

**SAR(1 g) = 0.087 mW/g; SAR(10 g) = 0.046 mW/g**

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

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

