

Test Laboratory: Compliance Certification Services

Lap Held Position

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

Communication System: 802.11bgn; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2412$ MHz; $\sigma = 1.96$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 23.0deg. C; Liquid Temperature: 22.0 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 - SN3552; ConvF(7.08, 7.08, 7.08); Calibrated: 5/30/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 SN558; Calibrated: 1/20/2006
- Phantom: SAM 1; Type: SAM 1; Serial: 1185
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

b mode L ch Main Ant/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.438 mW/g

b mode L ch Main Ant/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

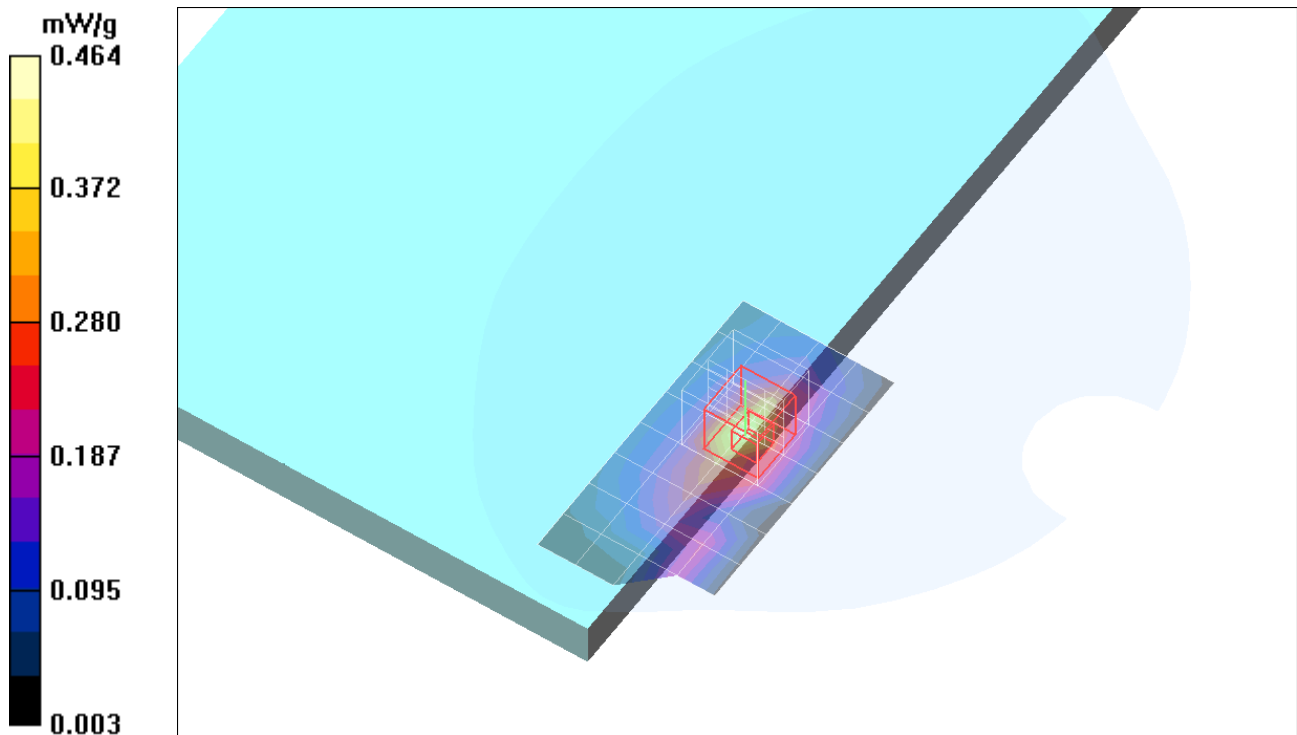
Reference Value = 6.76 V/m; Power Drift = 0.178 dB

Peak SAR (extrapolated) = 0.939 W/kg

SAR(1 g) = 0.424 mW/g; SAR(10 g) = 0.203 mW/g

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

Maximum value of SAR (measured) = 0.464 mW/g



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Lap Held Position

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

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

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 23.0deg. C; Liquid Temperature: 22.0 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 - SN3552; ConvF(7.08, 7.08, 7.08); Calibrated: 5/30/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 SN558; Calibrated: 1/20/2006
- Phantom: SAM 1; Type: SAM 1; Serial: 1185
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

b mode M ch Main Ant/Area Scan (5x19x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.838 mW/g

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

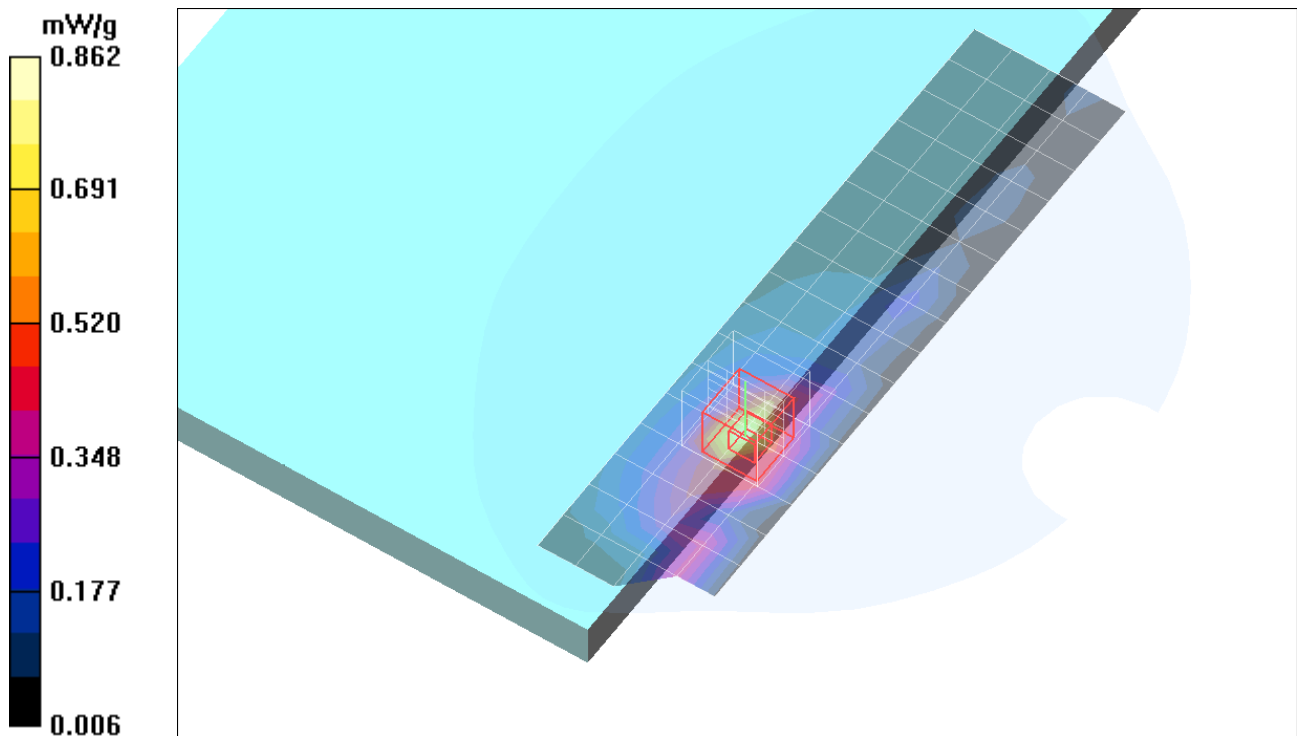
Reference Value = 7.91 V/m; Power Drift = 0.102 dB

Peak SAR (extrapolated) = 1.74 W/kg

SAR(1 g) = 0.779 mW/g; SAR(10 g) = 0.369 mW/g

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

Maximum value of SAR (measured) = 0.862 mW/g



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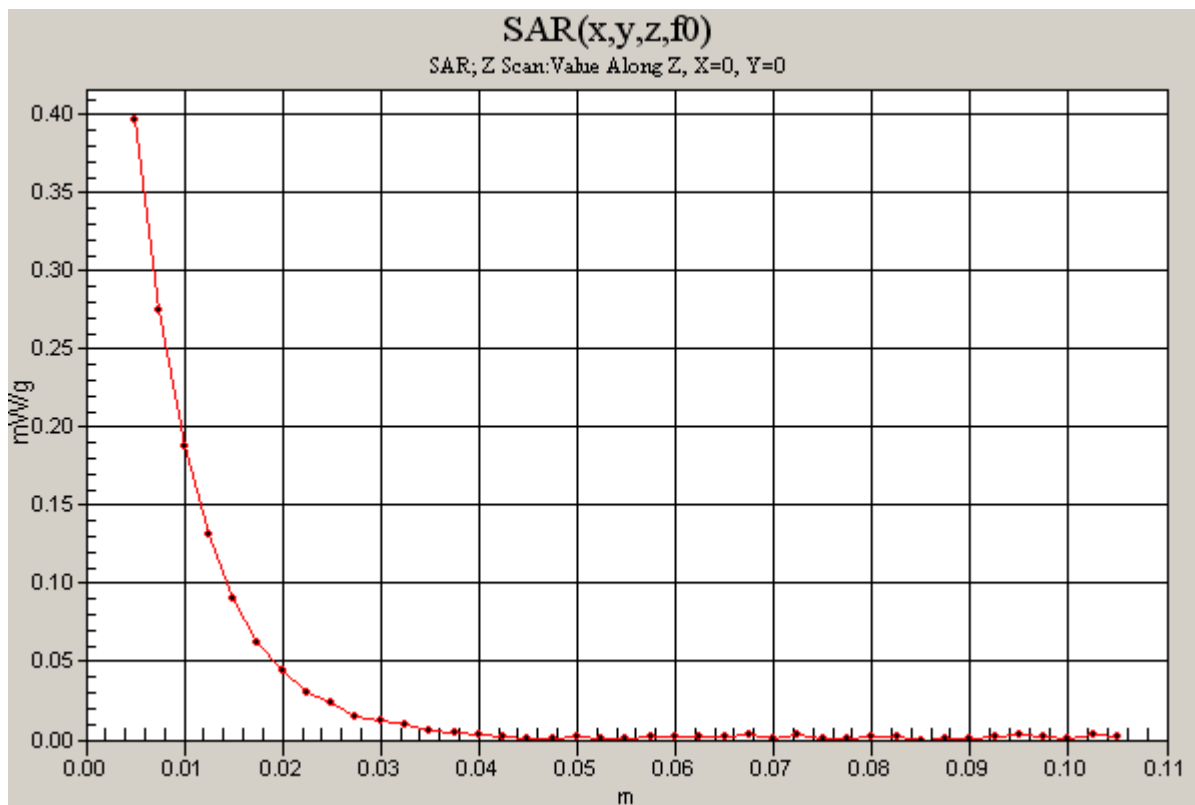
DUT: Apple MacBook Pro; Type: Laptop; Serial: N/A

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

b mode M ch Main Ant/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) = 0.397 mW/g



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Lap Held Position

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

Communication System: 802.11bgn; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 2.04$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 23.0deg. C; Liquid Temperature: 22.0 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 - SN3552; ConvF(7.08, 7.08, 7.08); Calibrated: 5/30/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 SN558; Calibrated: 1/20/2006
- Phantom: SAM 1; Type: SAM 1; Serial: 1185
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

b mode H ch Main Ant/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.375 mW/g

b mode H ch Main Ant/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

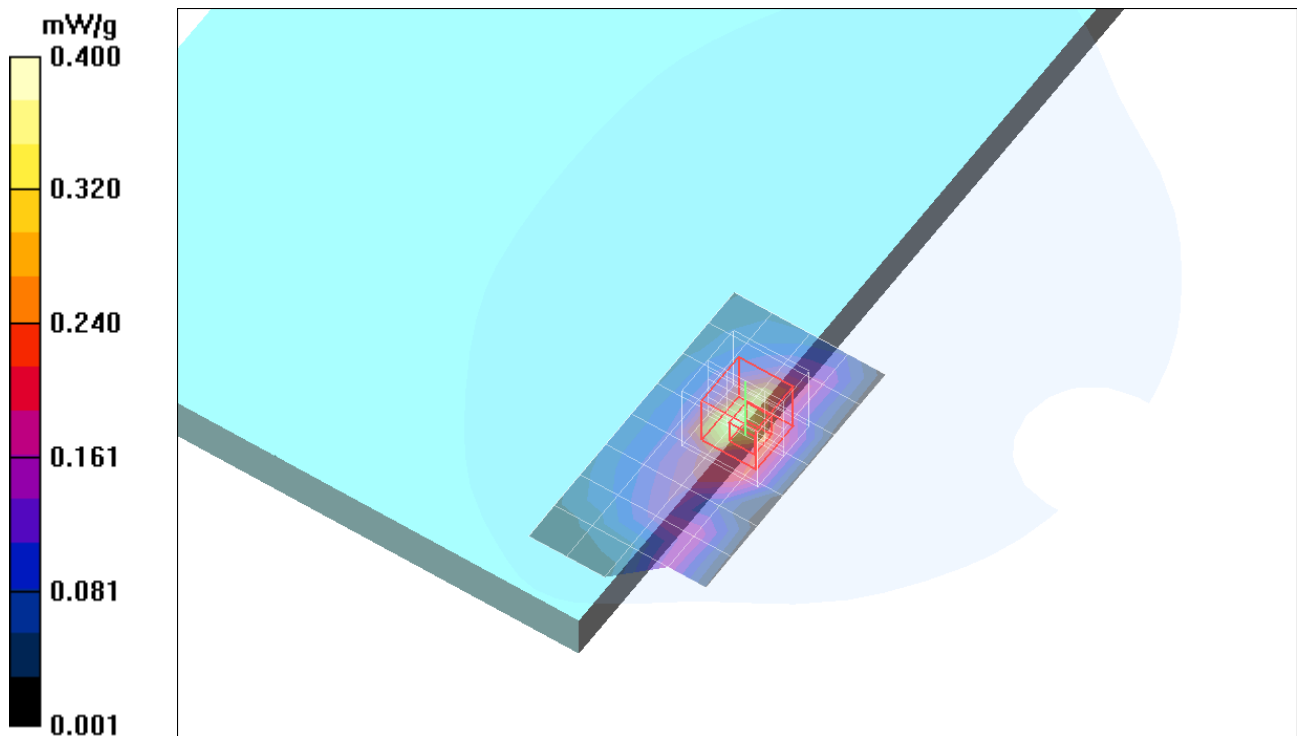
Reference Value = 13.8 V/m; Power Drift = -0.177 dB

Peak SAR (extrapolated) = 0.721 W/kg

SAR(1 g) = 0.340 mW/g; SAR(10 g) = 0.159 mW/g

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

Maximum value of SAR (measured) = 0.400 mW/g



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Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 23.0deg. C; Liquid Temperature: 22.0 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 - SN3552; ConvF(7.08, 7.08, 7.08); Calibrated: 5/30/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 SN558; Calibrated: 1/20/2006
- Phantom: SAM 1; Type: SAM 1; Serial: 1185
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

b mode M ch AUX Ant/Area Scan (5x19x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.410 mW/g

b mode M ch AUX Ant/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

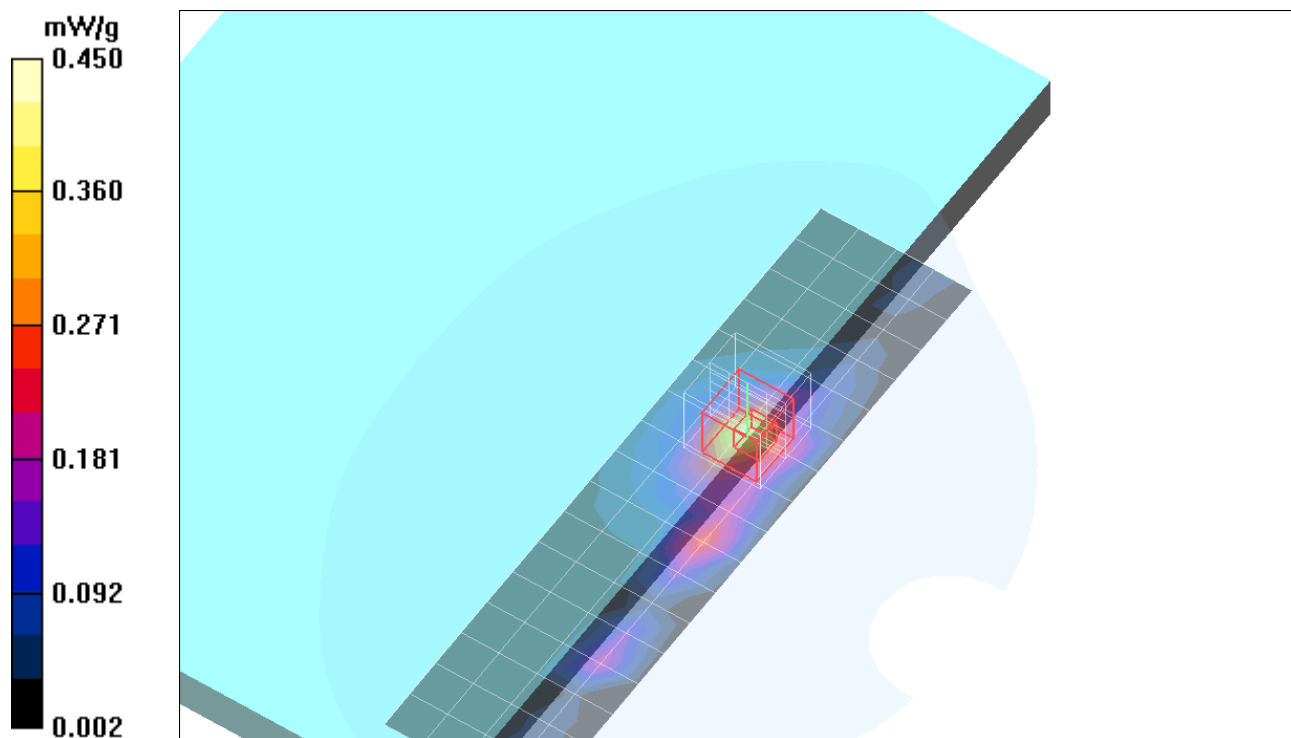
Reference Value = 8.61 V/m; Power Drift = 0.128 dB

Peak SAR (extrapolated) = 0.904 W/kg

SAR(1 g) = 0.408 mW/g; SAR(10 g) = 0.189 mW/g

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

Maximum value of SAR (measured) = 0.450 mW/g



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Medium parameters used (interpolated): $f = 2412$ MHz; $\sigma = 1.96$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 23.0deg. C; Liquid Temperature: 22.0 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 - SN3552; ConvF(7.08, 7.08, 7.08); Calibrated: 5/30/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 SN558; Calibrated: 1/20/2006
- Phantom: SAM 1; Type: SAM 1; Serial: 1185
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

g mode L ch/Area Scan (5x19x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.441 mW/g

g mode L ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.78 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 0.945 W/kg

SAR(1 g) = 0.436 mW/g; SAR(10 g) = 0.215 mW/g

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

Maximum value of SAR (measured) = 0.480 mW/g

g mode L ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.78 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 0.476 W/kg

SAR(1 g) = 0.212 mW/g; SAR(10 g) = 0.105 mW/g

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

Maximum value of SAR (measured) = 0.231 mW/g

g mode L ch/Zoom Scan (5x5x7)/Cube 2: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

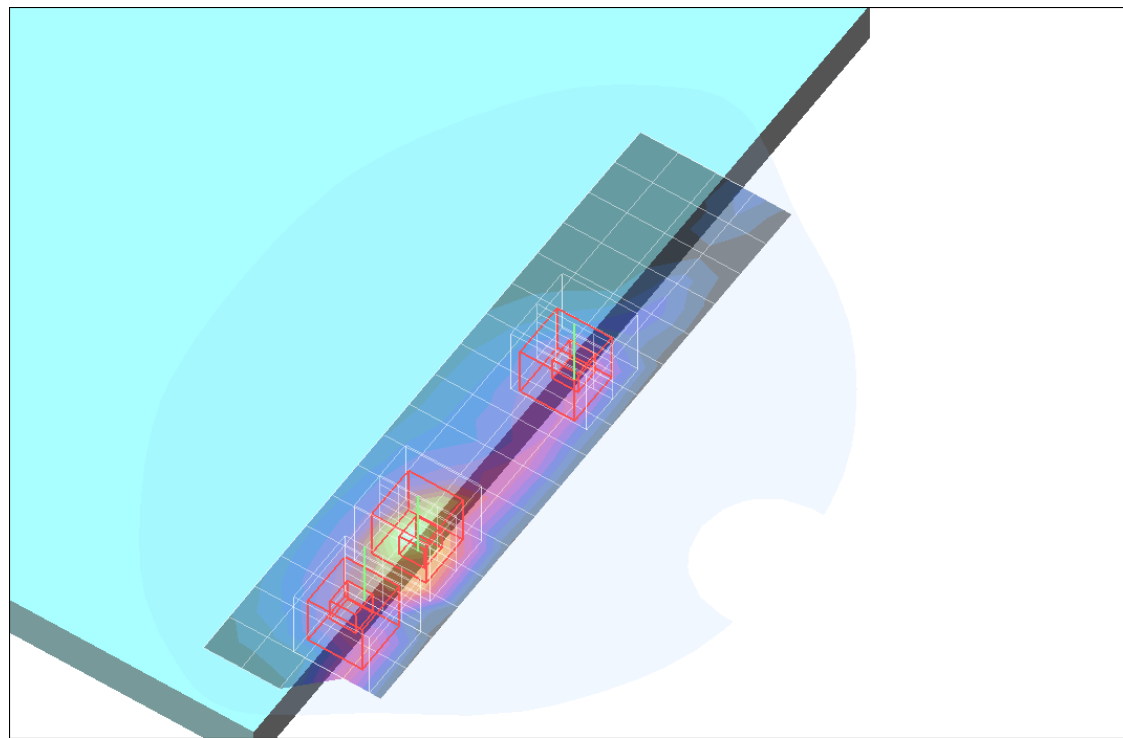
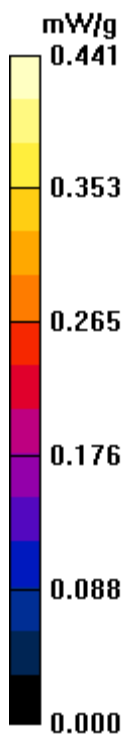
Reference Value = 8.78 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 0.399 W/kg

SAR(1 g) = 0.192 mW/g; SAR(10 g) = 0.103 mW/g

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

Maximum value of SAR (measured) = 0.201 mW/g



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Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 23.0deg. C; Liquid Temperature: 22.0 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 - SN3552; ConvF(7.08, 7.08, 7.08); Calibrated: 5/30/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 SN558; Calibrated: 1/20/2006
- Phantom: SAM 1; Type: SAM 1; Serial: 1185
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

g mode M ch/Area Scan (5x19x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.506 mW/g

g mode M ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.70 V/m; Power Drift = 0.138 dB

Peak SAR (extrapolated) = 1.11 W/kg

SAR(1 g) = 0.509 mW/g; SAR(10 g) = 0.249 mW/g

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

Maximum value of SAR (measured) = 0.557 mW/g

g mode M ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

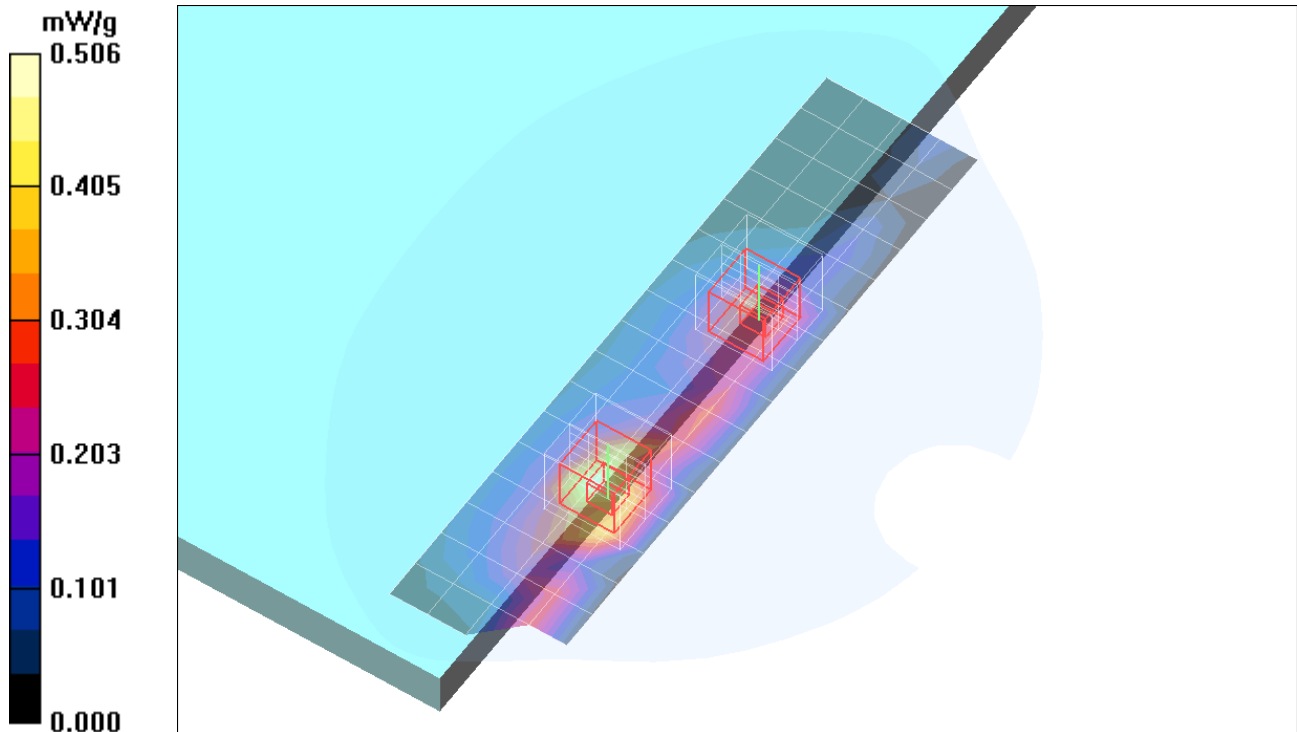
Reference Value = 9.70 V/m; Power Drift = 0.138 dB

Peak SAR (extrapolated) = 0.626 W/kg

SAR(1 g) = 0.296 mW/g; SAR(10 g) = 0.152 mW/g

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

Maximum value of SAR (measured) = 0.312 mW/g



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Medium parameters used (interpolated): $f = 2462 \text{ MHz}$; $\sigma = 2.04 \text{ mho/m}$; $\epsilon_r = 52$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Room Ambient Temperature: 23.0deg. C; Liquid Temperature: 22.0 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 - SN3552; ConvF(7.08, 7.08, 7.08); Calibrated: 5/30/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 SN558; Calibrated: 1/20/2006
- Phantom: SAM 1; Type: SAM 1; Serial: 1185
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

g mode H ch/Area Scan (5x19x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.301 mW/g

g mode H ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.67 V/m; Power Drift = 0.001 dB

Peak SAR (extrapolated) = 0.691 W/kg

SAR(1 g) = 0.308 mW/g; SAR(10 g) = 0.149 mW/g

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

Maximum value of SAR (measured) = 0.338 mW/g

g mode H ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.67 V/m; Power Drift = 0.001 dB

Peak SAR (extrapolated) = 0.426 W/kg

SAR(1 g) = 0.180 mW/g; SAR(10 g) = 0.081 mW/g

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

Maximum value of SAR (measured) = 0.248 mW/g

g mode H ch/Zoom Scan (5x5x7)/Cube 2: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

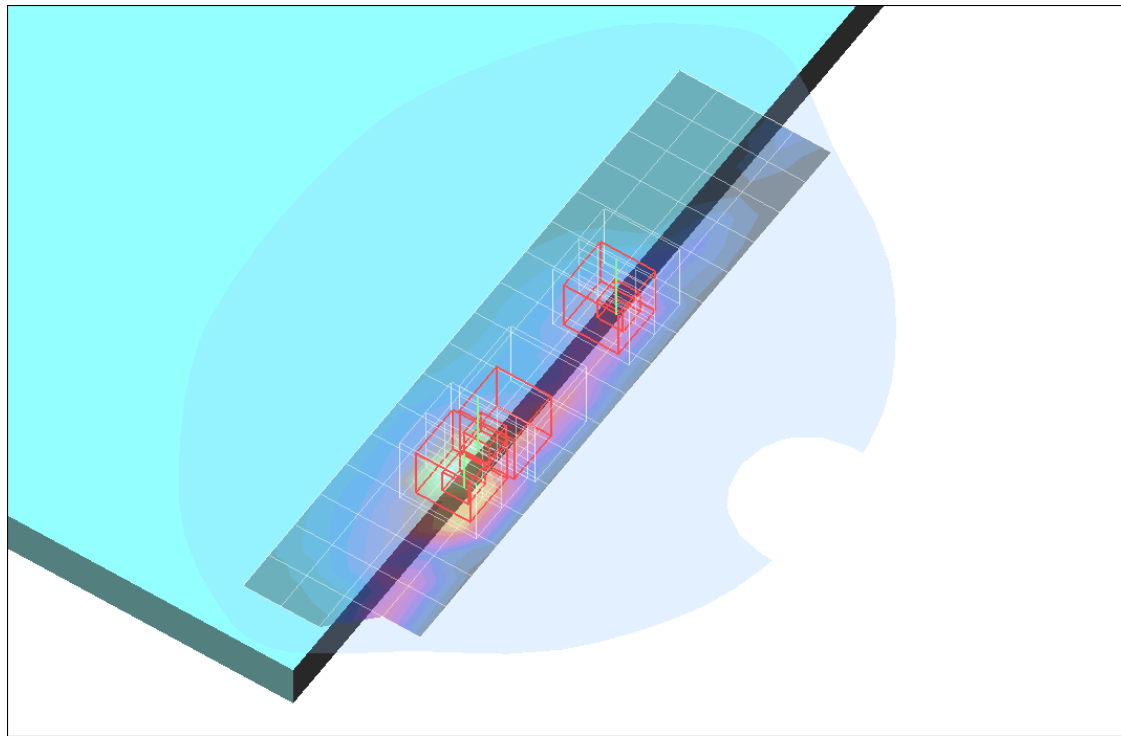
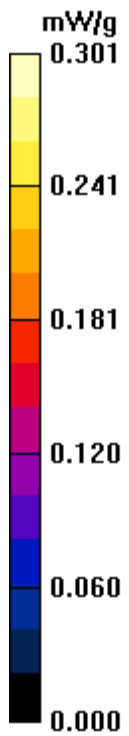
Reference Value = 6.67 V/m; Power Drift = 0.001 dB

Peak SAR (extrapolated) = 0.318 W/kg

SAR(1 g) = 0.146 mW/g; SAR(10 g) = 0.074 mW/g

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

Maximum value of SAR (measured) = 0.155 mW/g



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

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 23.0deg. C; Liquid Temperature: 22.0 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 - SN3552; ConvF(7.08, 7.08, 7.08); Calibrated: 5/30/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 SN558; Calibrated: 1/20/2006
- Phantom: SAM 1; Type: SAM 1; Serial: 1185
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

HT20 mode M ch/Area Scan (5x19x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.298 mW/g

HT20 mode M ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.59 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 0.641 W/kg

SAR(1 g) = 0.295 mW/g; SAR(10 g) = 0.146 mW/g

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

Maximum value of SAR (measured) = 0.323 mW/g

HT20 mode M ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

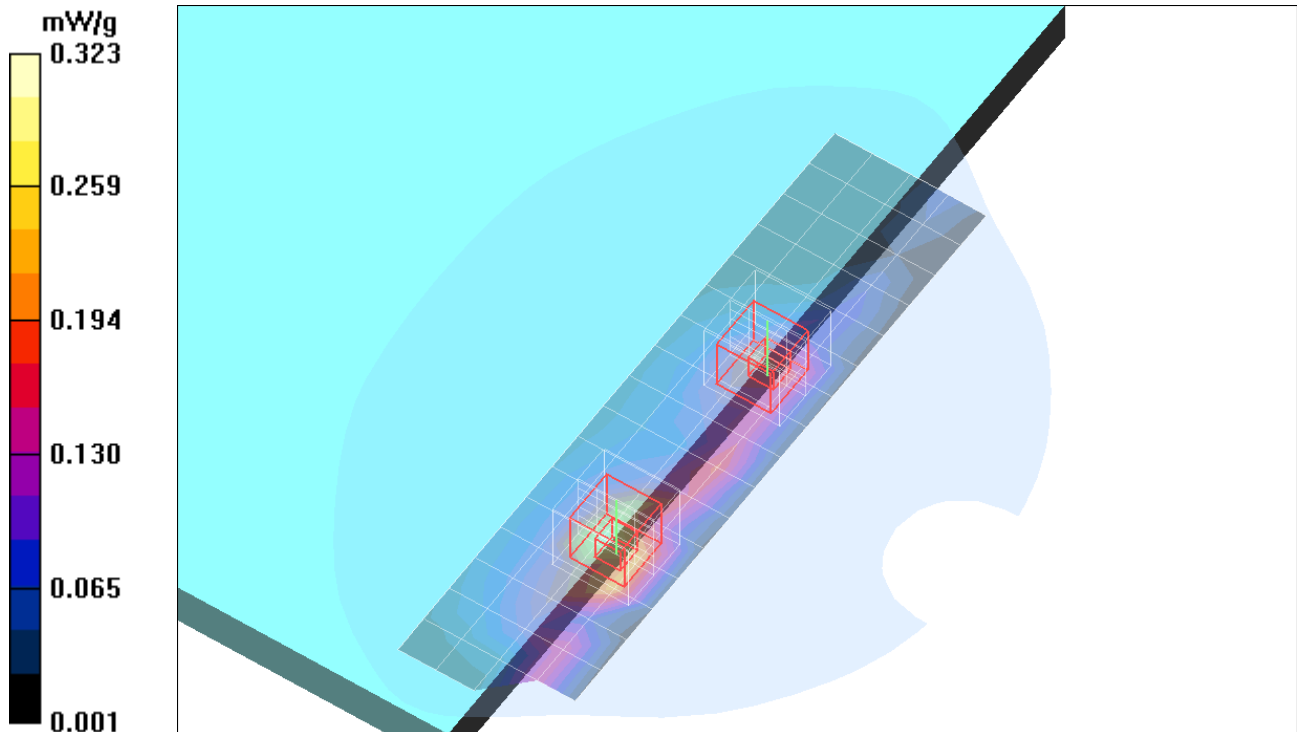
Reference Value = 7.59 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 0.403 W/kg

SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.095 mW/g

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

Maximum value of SAR (measured) = 0.198 mW/g



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Lap Held Position

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

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Room Ambient Temperature: 23.0deg. C; Liquid Temperature: 22.0 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 - SN3552; ConvF(7.08, 7.08, 7.08); Calibrated: 5/30/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 SN558; Calibrated: 1/20/2006
- Phantom: SAM 1; Type: SAM 1; Serial: 1185
- Measurement SW: DASY4, V4.7 Build 21; Postprocessing SW: SEMCAD, V1.8 Build 170

HT40 mode M ch/Area Scan (5x19x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum value of SAR (measured) = 0.171 mW/g

HT40 mode M ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.70 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.369 W/kg

SAR(1 g) = 0.170 mW/g; SAR(10 g) = 0.083 mW/g

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

Maximum value of SAR (measured) = 0.185 mW/g

HT40 mode M ch/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.70 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.214 W/kg

SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.052 mW/g

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

Maximum value of SAR (measured) = 0.106 mW/g

