

Appendix 1

SAR distribution comparisons for System Accuracy Verifications

System Accuracy Verification Measurements for Head SAR Measurements

Test Laboratory: Motorola Mobility - 835MHz System Performance Check

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4D128;

Procedure Notes: Input Power = 200 mW Refl.Pwr = -32.3dB [Sim.Temp@meas](#) = 19.2°C Sim.Temp@SPC = 19°C
Room Temp @ SPC = 21.°C

Communication System: _CW - Dipole; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Validation *HEAD Tissue* ; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.93 \text{ mho/m}$; $\epsilon_r = 41.6$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.08, 6.08, 6.08); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#1 - Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1156;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - System Performance Check Template, Rev.2 (12-Sept-11)/Daily SPC Check/Dipole

Area Scan (5x15x1): Measurement grid: $dx=10\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (measured) = 2.14 mW/g

DASY5, SAM - System Performance Check Template, Rev.2 (12-Sept-11)/Daily SPC Check/0-

Degree, 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 48.422 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.027 mW/g

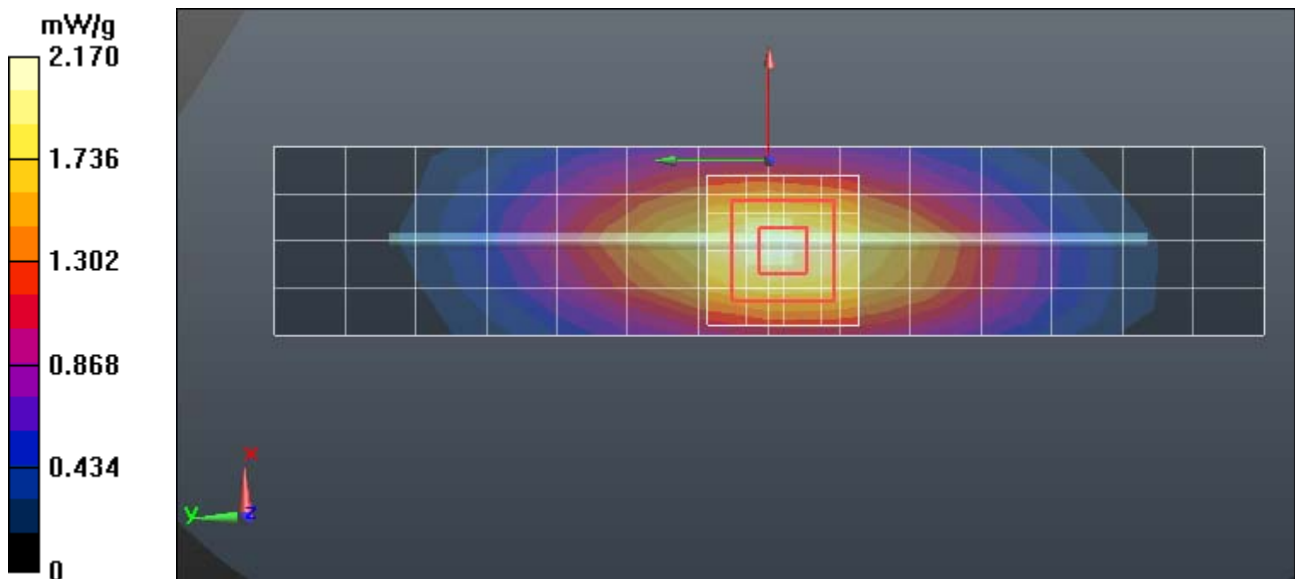
SAR(1 g) = 2 mW/g; SAR(10 g) = 1.3 mW/g

Maximum value of SAR (measured) = 2.16 mW/g

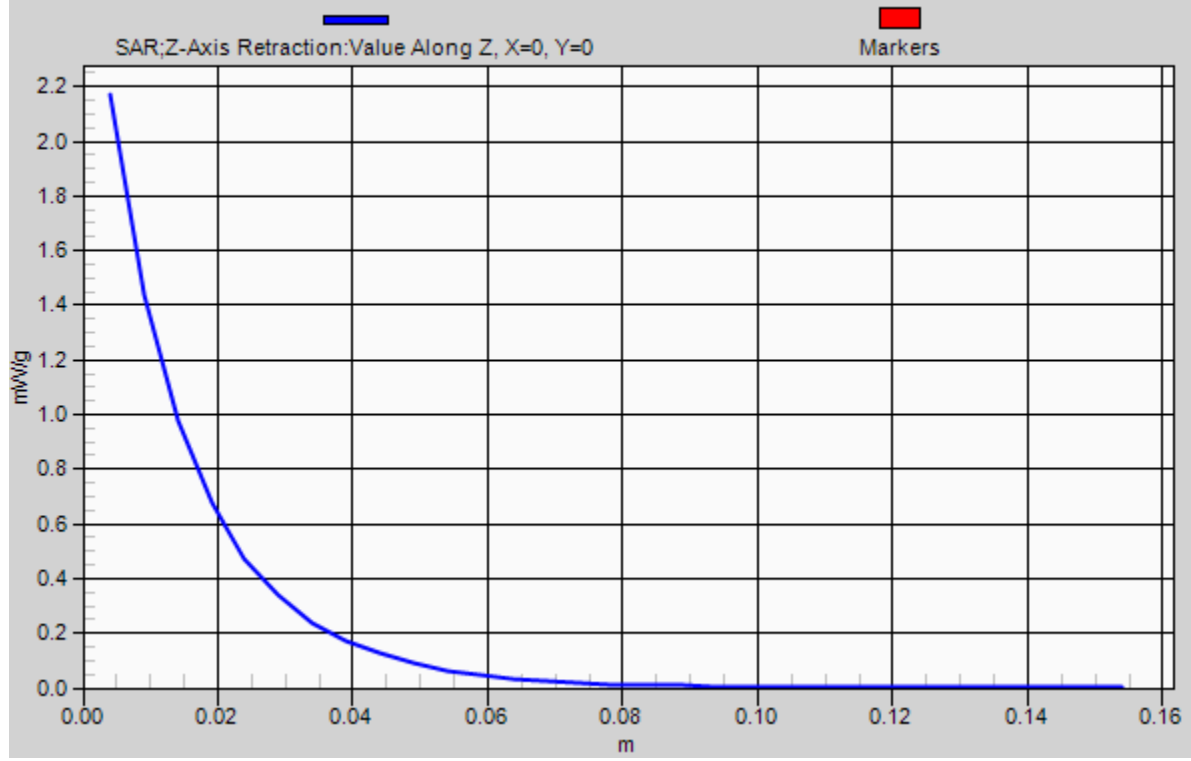
DASY5, SAM - System Performance Check Template, Rev.2 (12-Sept-11)/Daily SPC Check/Z-Axis

Retraction (1x1x31): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=5\text{mm}$

Maximum value of SAR (measured) = 2.17 mW/g



SAR(x,y,z,f0)



Test Laboratory: Motorola Mobility - 1800MHz System Performance Check

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:259tr;

Procedure Notes: Input Power = 200 mW Refl.Pwr = -25.40 dB Sim.Temp@meas = 19.1C Sim.Temp@SPC = 19.1C
Room Temp @ SPC = 21.1C

Communication System: _CW - Dipole; Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: Validation *HEAD Tissue* ; Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.38 \text{ mho/m}$; $\epsilon_r = 38.9$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(5.03, 5.03, 5.03); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC

Check/Dipole Area Scan (4x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (measured) = 6.57 mW/g

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/0-

Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 79.513 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 13.782 mW/g

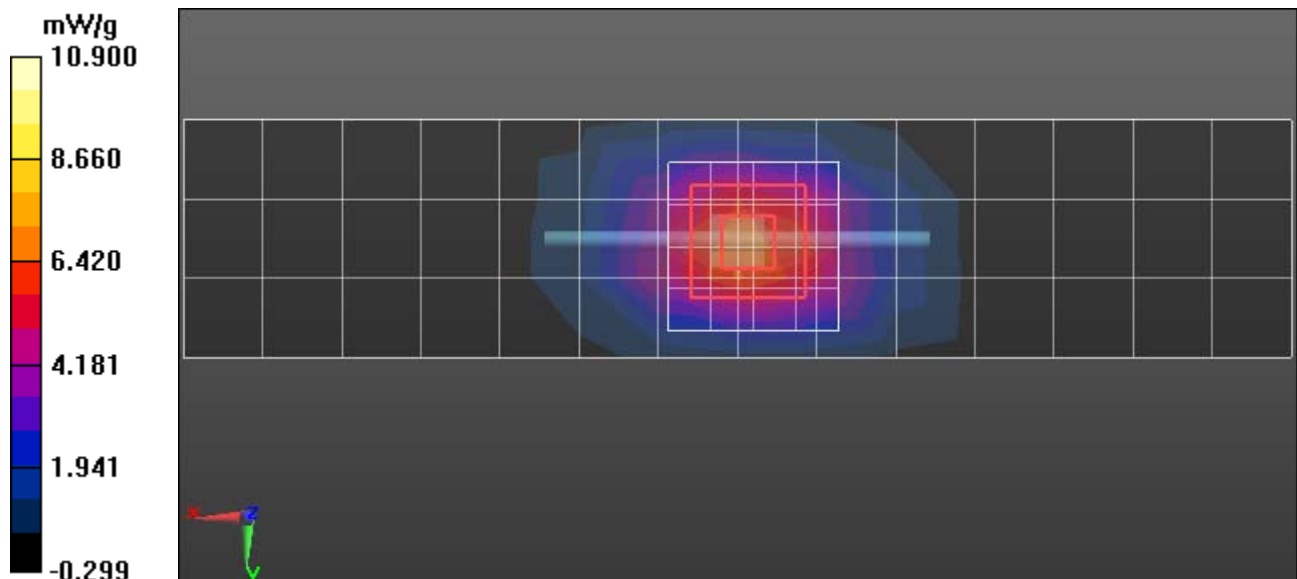
SAR(1 g) = 7.61 mW/g; SAR(10 g) = 4.02 mW/g

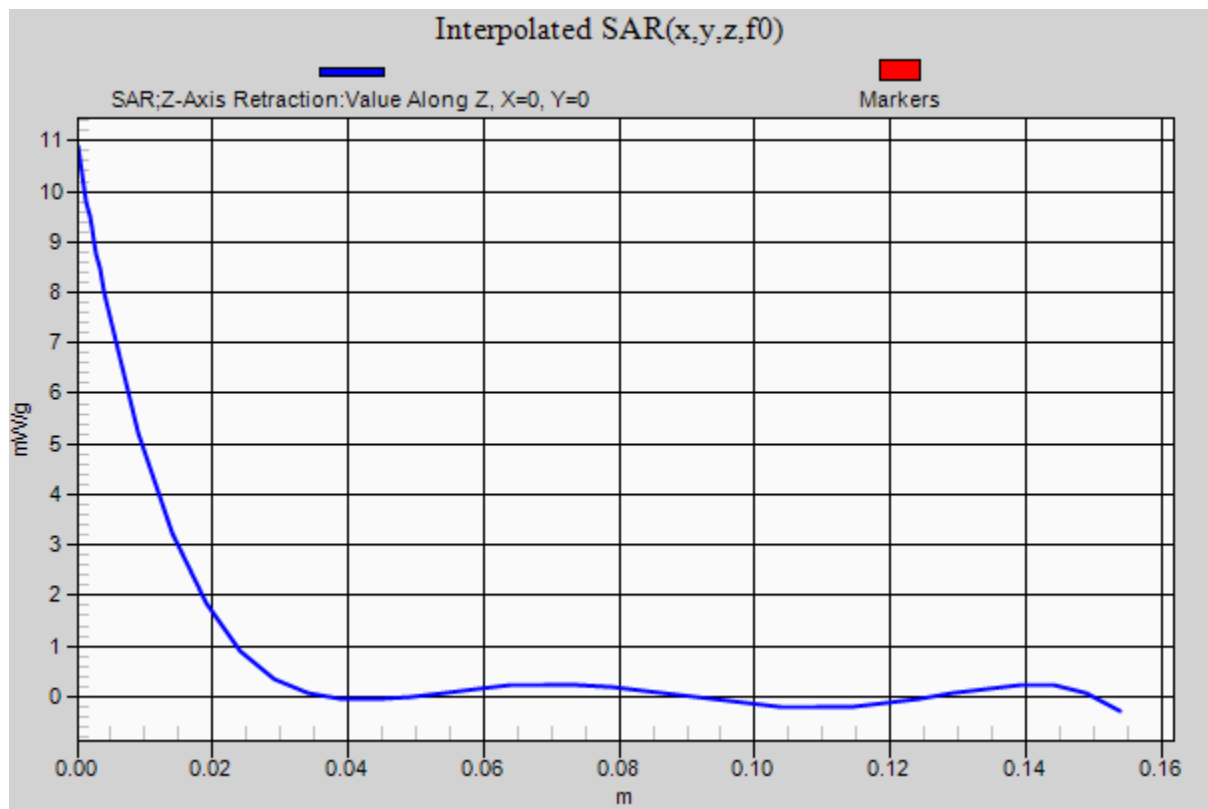
Maximum value of SAR (measured) = 8.52 mW/g

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/Z-

Axis Retraction (1x1x42): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=5\text{mm}$

Maximum value of SAR (interpolated) = 10.9 mW/g





Test Laboratory: Motorola Mobility - 2450MHz System Performance Check

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:877;

Procedure Notes: Input Power = 200 mW Refl.Pwr = -19.90 dB Val Rack Info = R1A Sim.Temp@meas = 19.3C

Sim.Temp@SPC = 19.2C Room Temp @ SPC = 20.8C

Communication System: _CW - Dipole; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: Validation *HEAD Tissue* ; Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.79 \text{ mho/m}$; $\epsilon_r = 38$; $\rho = 1000$

kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3284; ConvF(4.56, 4.56, 4.56); Calibrated: 1/10/2012;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1310; Calibrated: 1/11/2012
- Phantom: R#4, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC

Check/Dipole Area Scan (4x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 8.88 mW/g

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/0-

Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 82.433 V/m; Power Drift = -0.01 dB

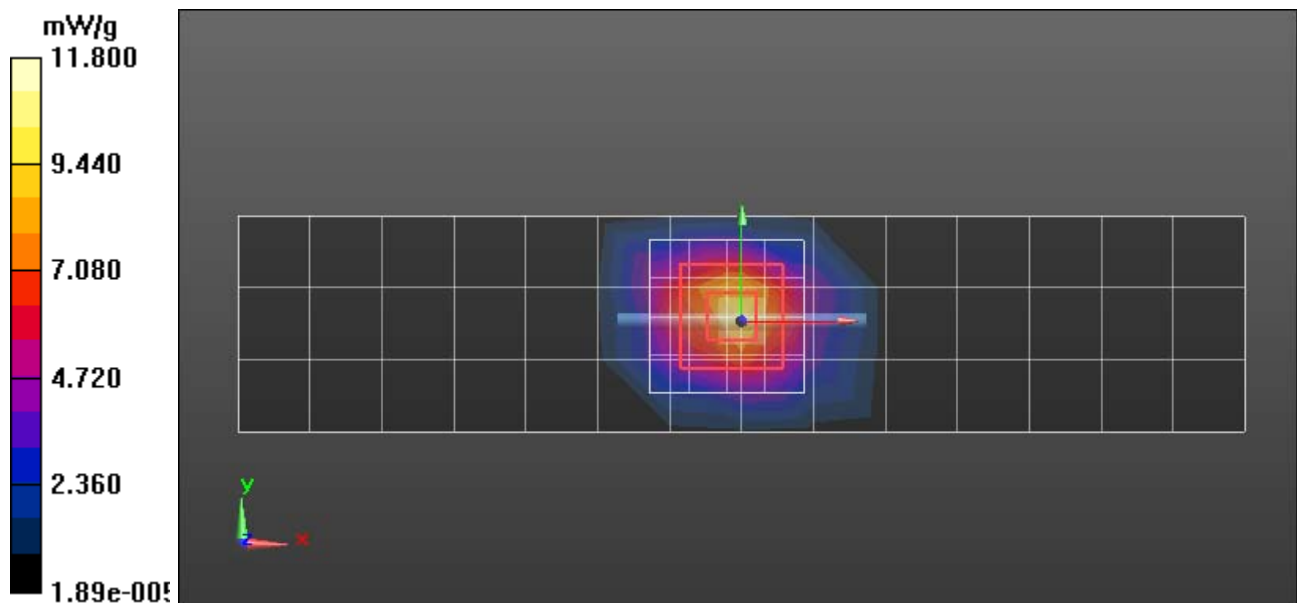
Peak SAR (extrapolated) = 21.745 mW/g

SAR(1 g) = 10.4 mW/g; SAR(10 g) = 4.88 mW/g

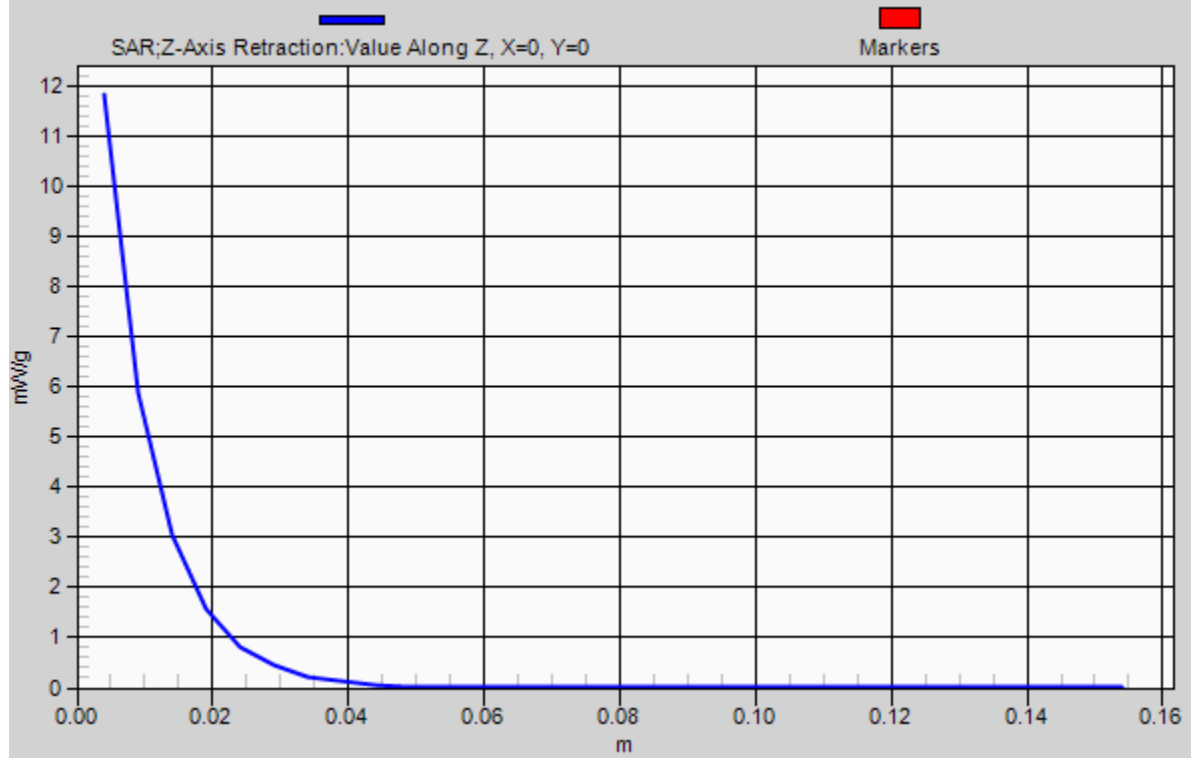
Maximum value of SAR (measured) = 11.8 mW/g

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/Z-

Axis Retraction (1x1x31): Measurement grid: dx=20mm, dy=20mm, dz=5mm



SAR(x,y,z,f0)



Test Laboratory: Motorola Mobility - 5200MHz System Performance Check

DUT: Dipole 5-6GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1098;

Procedure Notes: Input Power = 100 mW Refl.Pwr = -20.50 dB V Sim.Temp@meas = 19.7C Sim.Temp@SPC = 19.7C
Room Temp @ SPC = 20.8C

Communication System: _CW - Dipole; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: Validation *HEAD Tissue* ; Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 4.61 \text{ mho/m}$; $\epsilon_r = 35.8$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(4.74, 4.74, 4.74); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#3 5 GHz HEAD SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1106;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, SAM System Performance Check Template - Rev.3 (15-may-12)/Daily SPC

Check/Dipole Area Scan (5x22x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 13.8 mW/g

DASY5 - 5-6GHz, SAM System Performance Check Template - Rev.3 (15-may-12)/Daily SPC

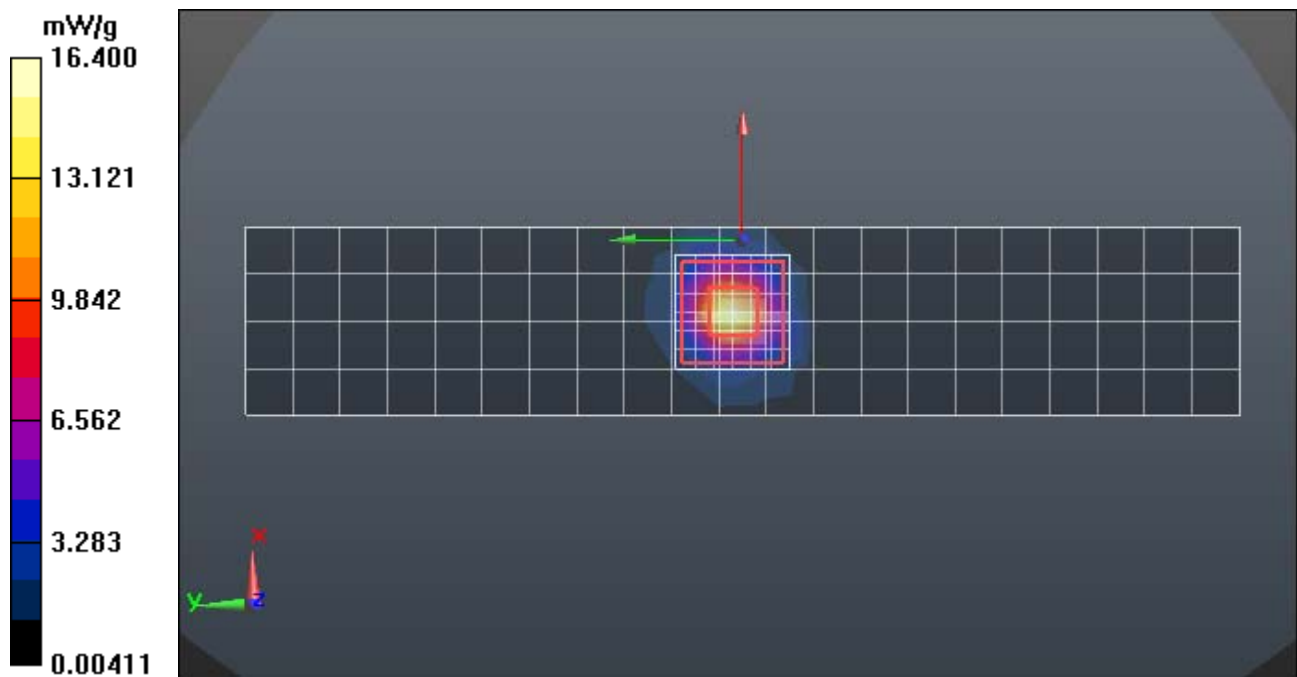
Check/0-Degree, 7x7x12 Cube (7x7x6)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 60.304 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 30.893 mW/g

SAR(1 g) = 7.85 mW/g; SAR(10 g) = 2.25 mW/g

Maximum value of SAR (measured) = 16.4 mW/g



Test Laboratory: Motorola Mobility - 5800MHz System Performance Check

DUT: Dipole 5-6GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1098;

Procedure Notes: Input Power = 100 mW Refl.Pwr = -20.60 dB Sim.Temp@meas = 19.7C Sim.Temp@SPC = 19.6C
Room Temp @ SPC = 20.9C

Communication System: _CW - Dipole; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: Validation *HEAD Tissue* ; Medium parameters used: $f = 5800 \text{ MHz}$; $\sigma = 5.27 \text{ mho/m}$; $\epsilon_r = 34.9$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(4.23, 4.23, 4.23); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#3 5 GHz HEAD SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1106;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, SAM System Performance Check Template - Rev.3 (15-may-12)/Daily SPC

Check/Dipole Area Scan (5x22x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 12.8 mW/g

DASY5 - 5-6GHz, SAM System Performance Check Template - Rev.3 (15-may-12)/Daily SPC

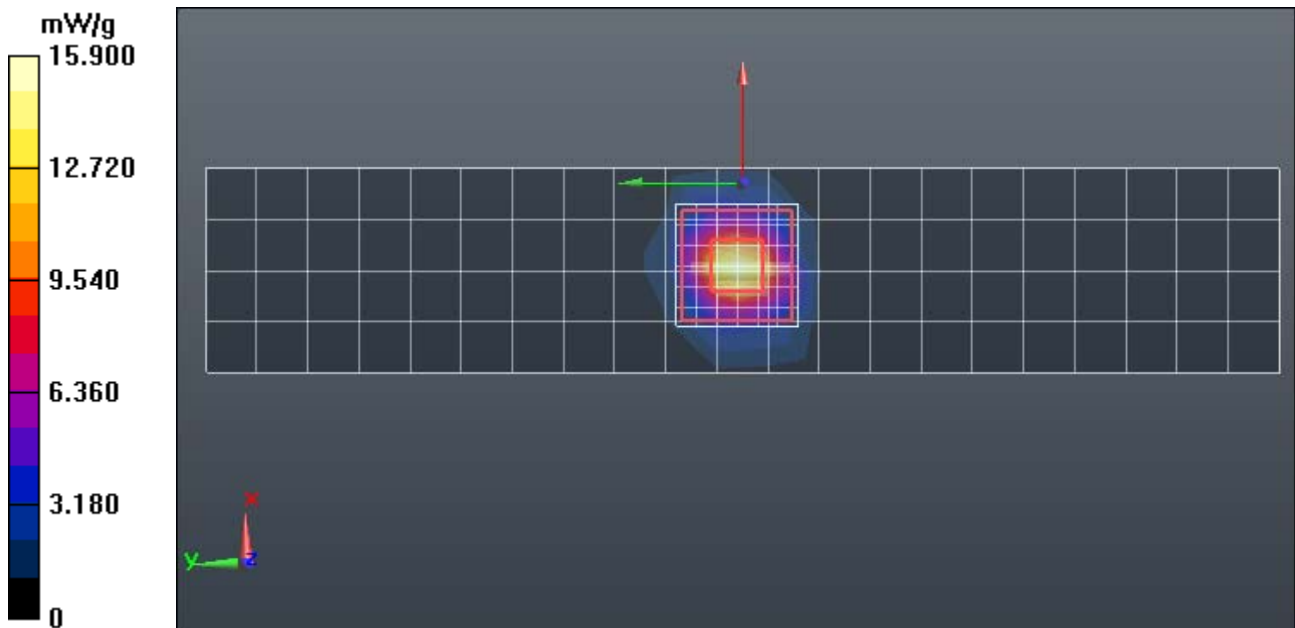
Check/0-Degree, 7x7x12 Cube (7x7x6)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 59.777 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 32.498 mW/g

SAR(1 g) = 7.47 mW/g; SAR(10 g) = 2.12 mW/g

Maximum value of SAR (measured) = 15.9 mW/g



System Accuracy Verification Measurements for Body SAR Measurements

Test Laboratory: Motorola Mobility - 835MHz System Performance Check

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4D128;

Procedure Notes: Input Power = 200 mW Refl.Pwr = -19.36 dB Sim.Temp@meas = 19 Sim.Temp@SPC = 19 Room Temp @ SPC = 20.8

Communication System: _CW - Dipole; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Validation *BODY Tissue* ; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1 \text{ mho/m}$; $\epsilon_r = 55.5$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.04, 6.04, 6.04); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC

Check/Dipole Area Scan (4x15x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (measured) = 2.17 mW/g

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/0-

Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 43.724 V/m; Power Drift = -0.03 dB

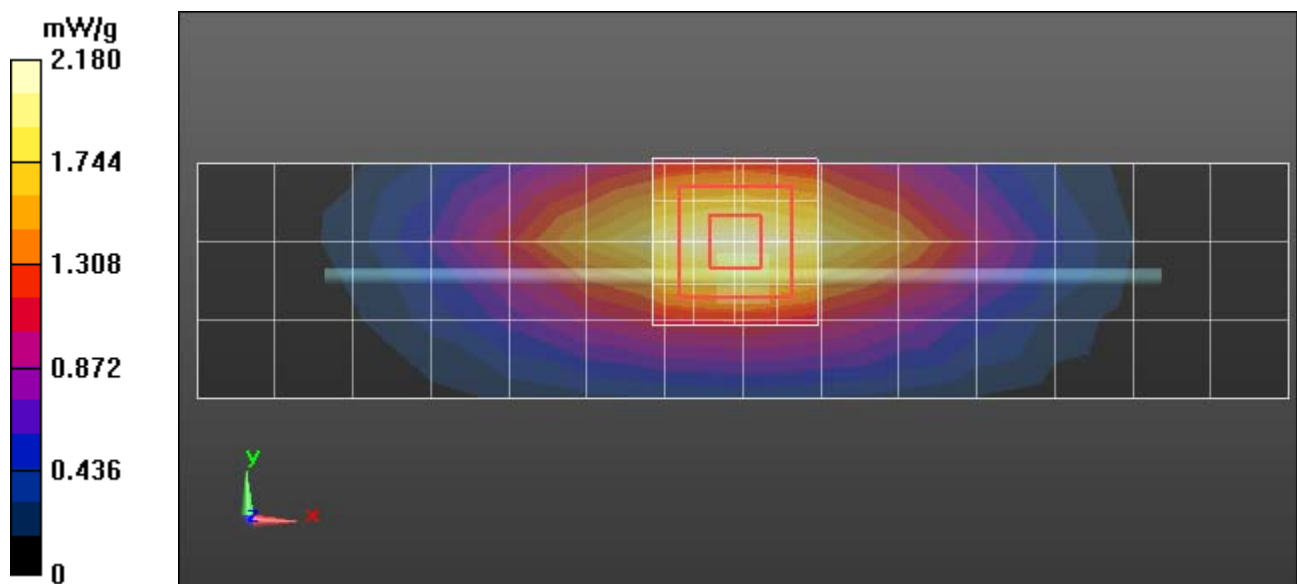
Peak SAR (extrapolated) = 2.977 mW/g

SAR(1 g) = 2.01 mW/g; SAR(10 g) = 1.32 mW/g

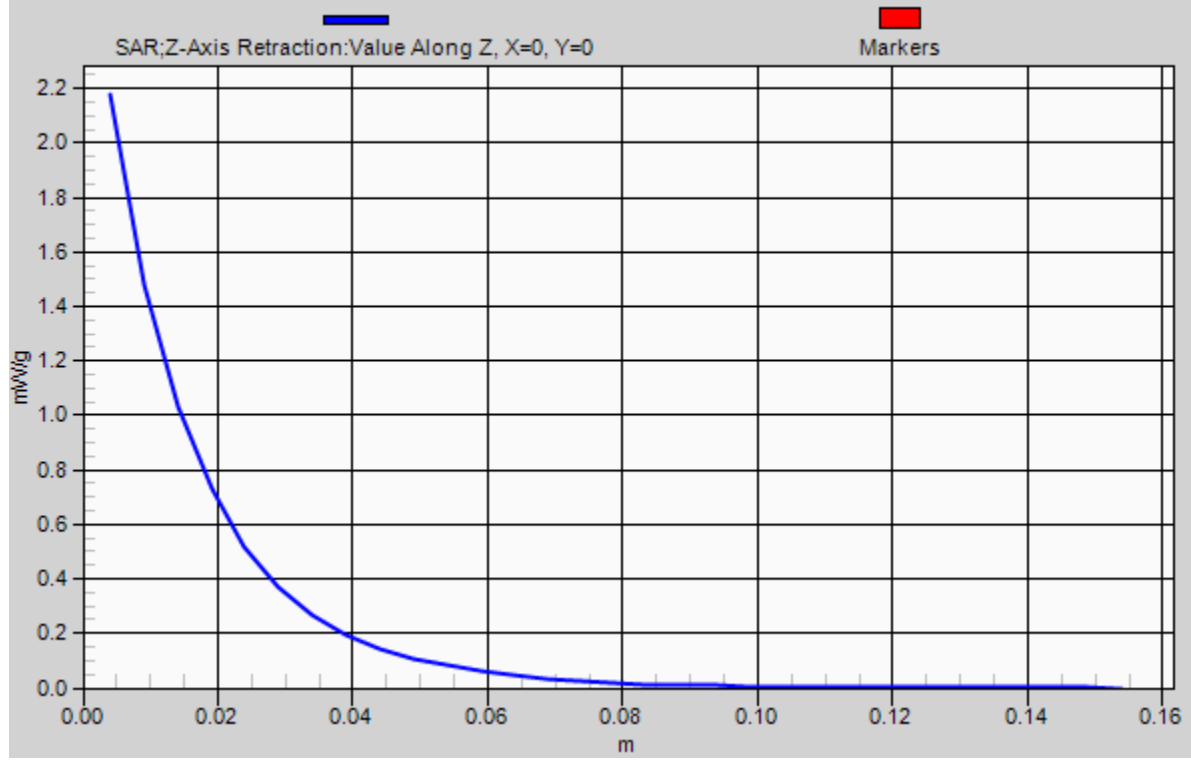
DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/Z-

Axis Retraction (1x1x31): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=5\text{mm}$

Maximum value of SAR (measured) = 2.18 mW/g



SAR(x,y,z,f0)



Test Laboratory: Motorola Mobility - 1800MHz System Performance Check

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:259tr;

Procedure Notes: Input Power = 200 mW Refl.Pwr = -19.38 dB Sim.Temp@meas = 19.0 Sim.Temp@SPC = 19.3 Room Temp @ SPC = 21.1

Communication System: _CW - Dipole; Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: Validation *BODY Tissue* ; Medium parameters used: $f = 1800$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(4.69, 4.69, 4.69); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC

Check/Dipole Area Scan (4x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 6.96 mW/g

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/0-

Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 78.402 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 13.955 mW/g

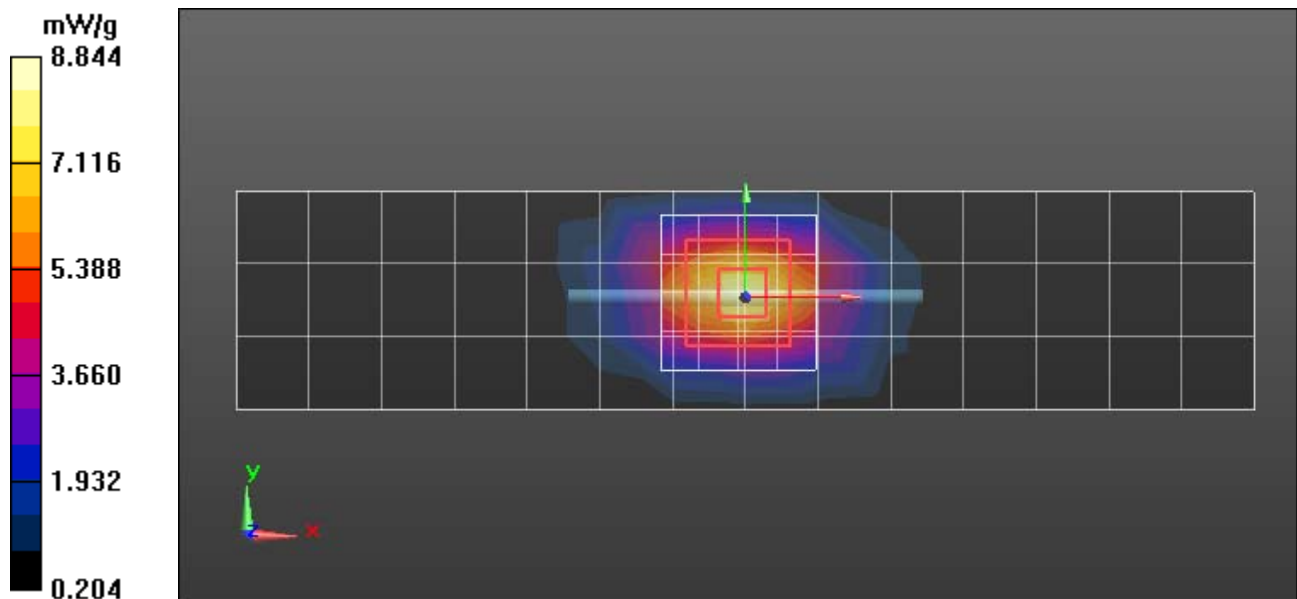
SAR(1 g) = 7.87 mW/g; SAR(10 g) = 4.19 mW/g

Maximum value of SAR (measured) = 8.84 mW/g

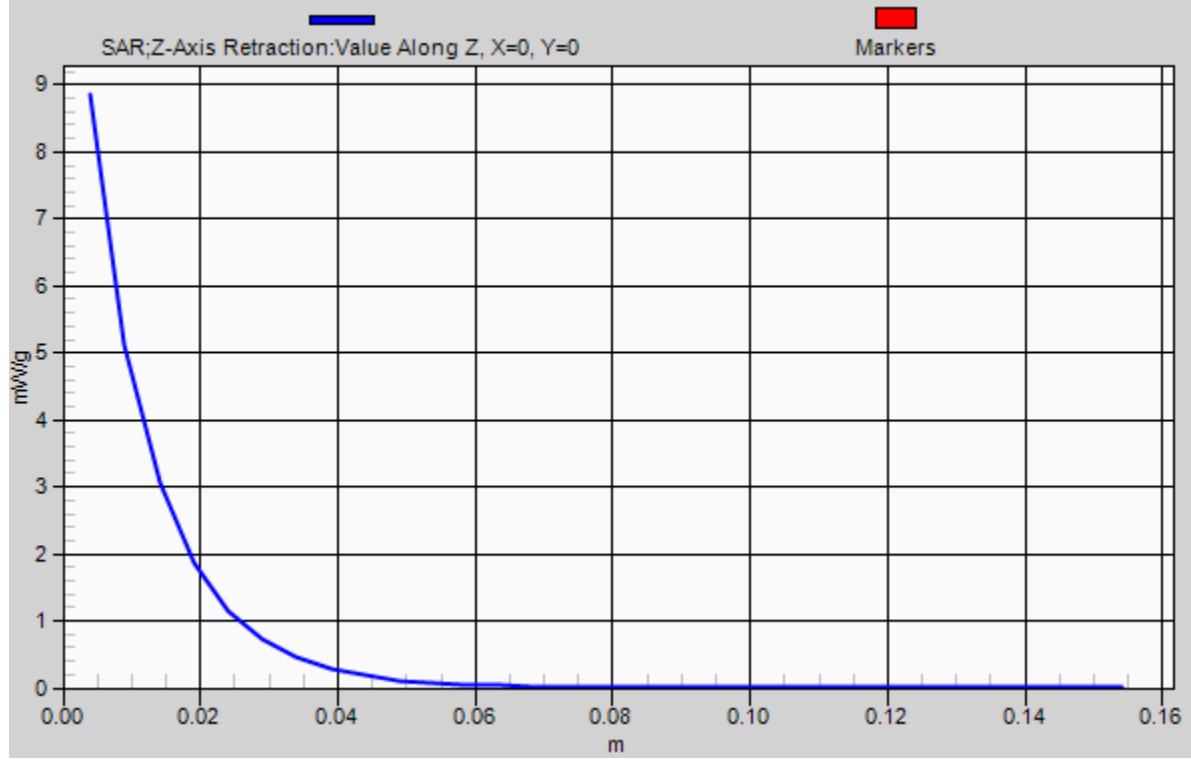
DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/Z-

Axis Retraction (1x1x31): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of SAR (measured) = 8.85 mW/g



SAR(x,y,z,f0)



Test Laboratory: Motorola Mobility - 1800MHz System Performance Check

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN259TR;

Procedure Notes: Input Power = 200 mW Refl.Pwr = -24.21 dB Sim.Temp@meas = 19.7C Sim.Temp@SPC = 21.0C
Room Temp @ SPC = 21.0C

Communication System: _CW - Dipole; Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: Validation *BODY Tissue* ; Medium parameters used: $f = 1800$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(4.69, 4.69, 4.69); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC

Check/Dipole Area Scan (4x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 6.84 mW/g

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/0-

Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 77.743 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 13.747 mW/g

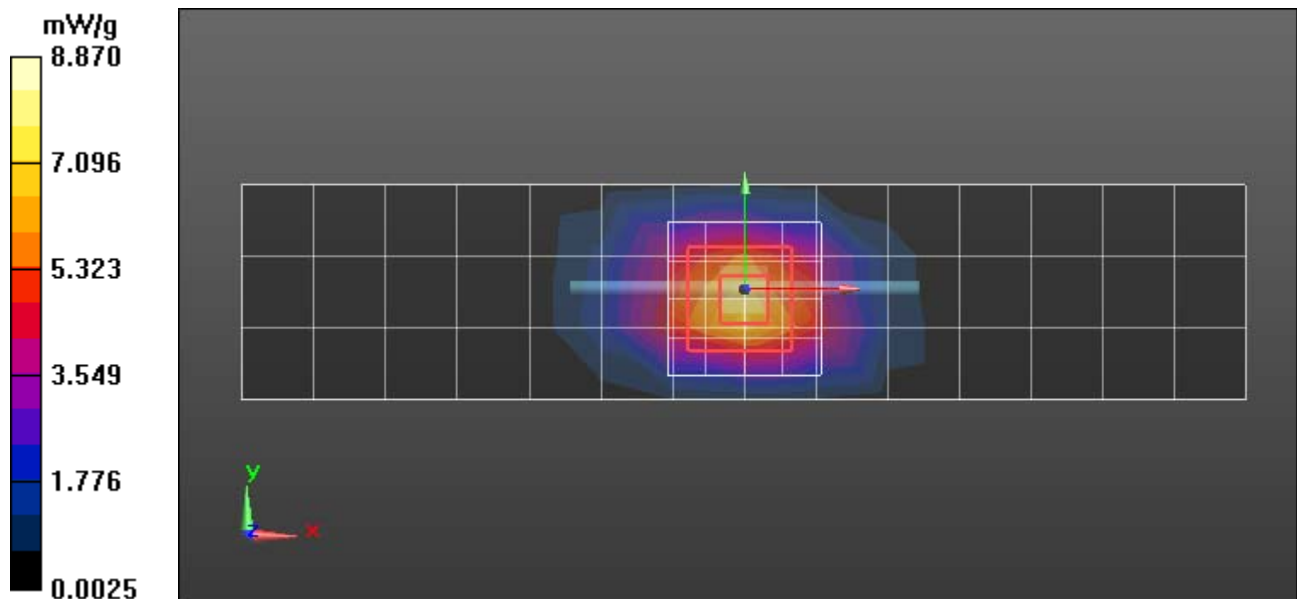
SAR(1 g) = 7.87 mW/g; SAR(10 g) = 4.24 mW/g

Maximum value of SAR (measured) = 8.85 mW/g

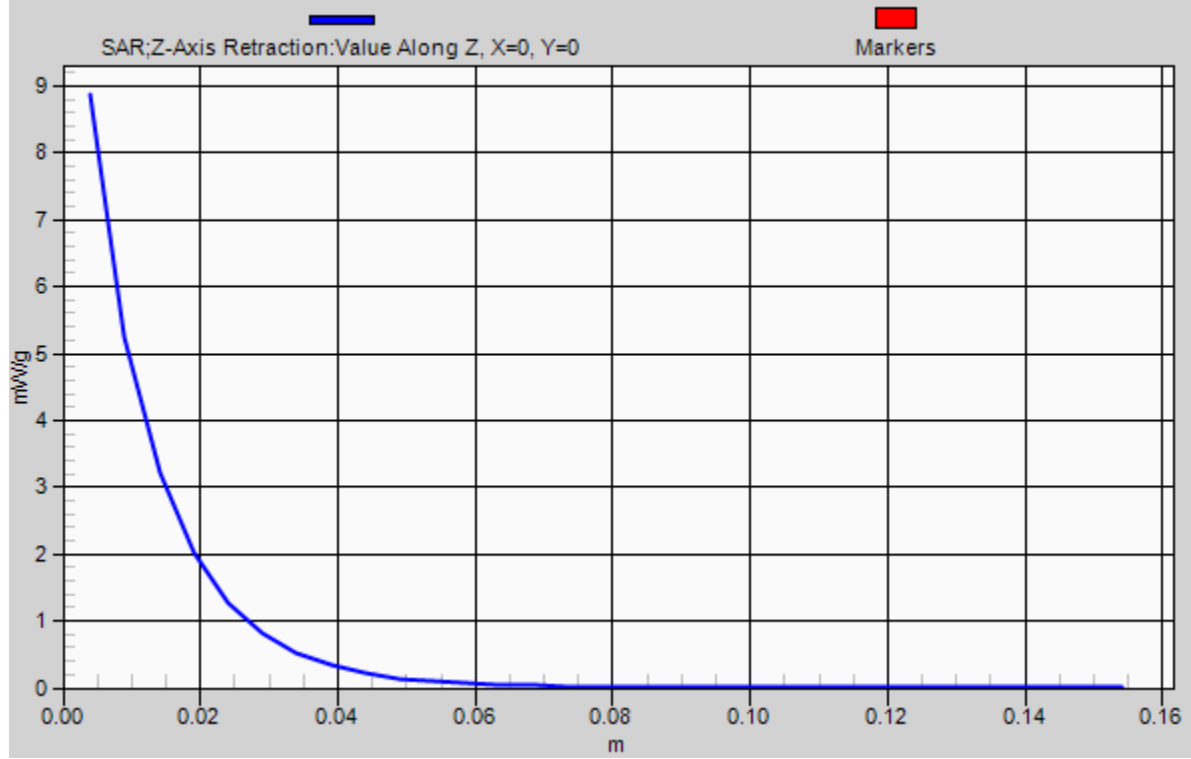
DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/Z-

Axis Retraction (1x1x31): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of SAR (measured) = 8.87 mW/g



SAR(x,y,z,f0)



Test Laboratory: Motorola Mobility - 2450MHz System Performance Check

DUT: HAC Dipole 2450 MHz; Type: CD2450V3; Serial: 863;

Procedure Notes: Input Power = 200 mW Refl.Pwr = -21.0 dB Sim.Temp@meas = 20.3 Sim.Temp@SPC = 19.3 Room Temp @ SPC = 21.2

Communication System: CW - Dipole; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: Validation *BODY Tissue* ; Medium parameters used: $f = 2450$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 51.1$; $\rho = 1000$

kg/m³

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(6.84, 6.84, 6.84); Calibrated: 4/24/2012;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1312; Calibrated: 5/29/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC

Check/Dipole Area Scan (4x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 9.97 mW/g

DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/0-

Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 77.745 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 22.352 mW/g

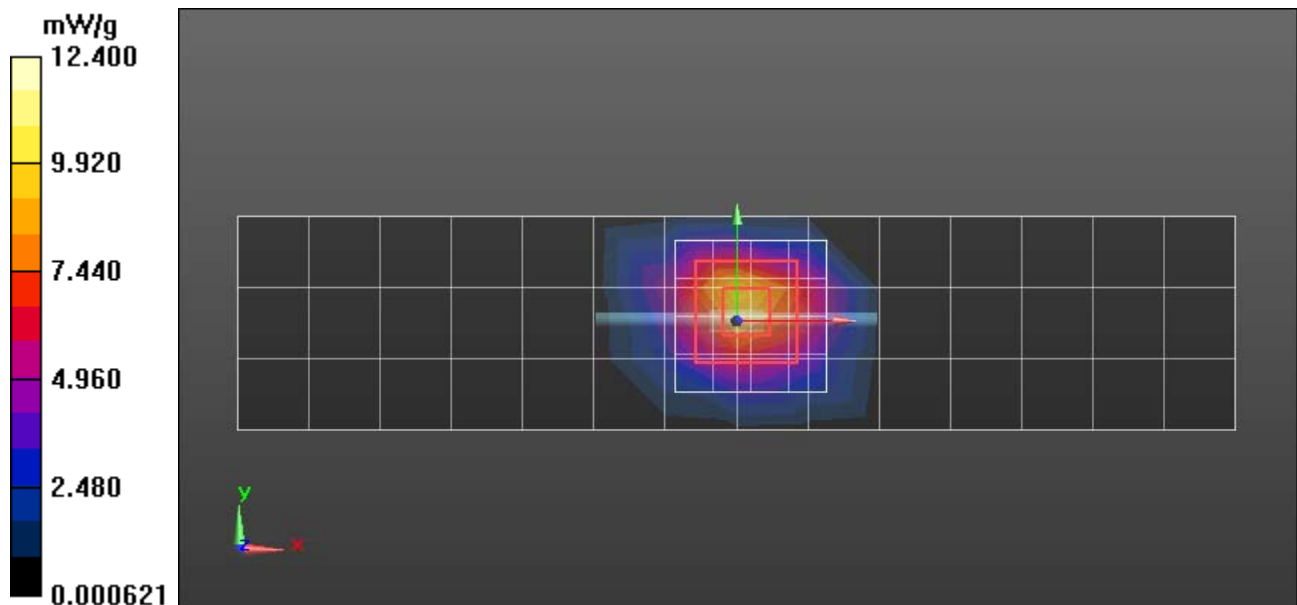
SAR(1 g) = 11.1 mW/g; SAR(10 g) = 5.17 mW/g

Maximum value of SAR (measured) = 12.7 mW/g

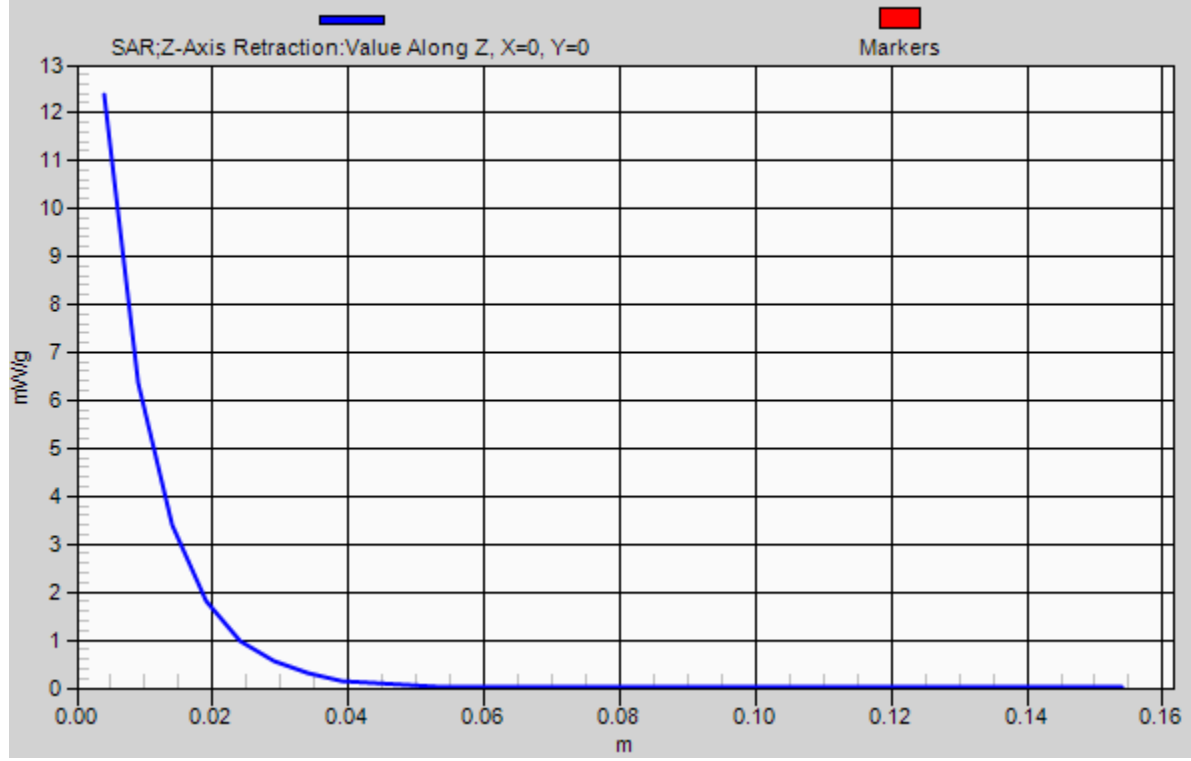
DASY5, Triple Flat System Performance Check Template - Rev.3 (19-Sept-11)/Daily SPC Check/Z-

Axis Retraction (1x1x31): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of SAR (measured) = 12.4 mW/g



SAR(x,y,z,f0)



Test Laboratory: Motorola Mobility - 5200MHz System Performance Check

DUT: Dipole 5-6GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1088;

Procedure Notes: Input Power = 100 mW Refl.Pwr = -19.50 dB Sim.Temp@meas = 19.6C Sim.Temp@SPC = 19.7C
Room Temp @ SPC = 20.5C

Communication System: _CW - Dipole; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: Validation *BODY Tissue* ; Medium parameters used: $f = 5200$ MHz; $\sigma = 5.3$ mho/m; $\epsilon_r = 46.6$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(4.22, 4.22, 4.22); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

**DASY5 - 5-6GHz, Triple Flat System Performance Check Template, Rev.3 (15-May-12)/Daily SPC
Check/Dipole Area Scan (22x5x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 10.1 mW/g

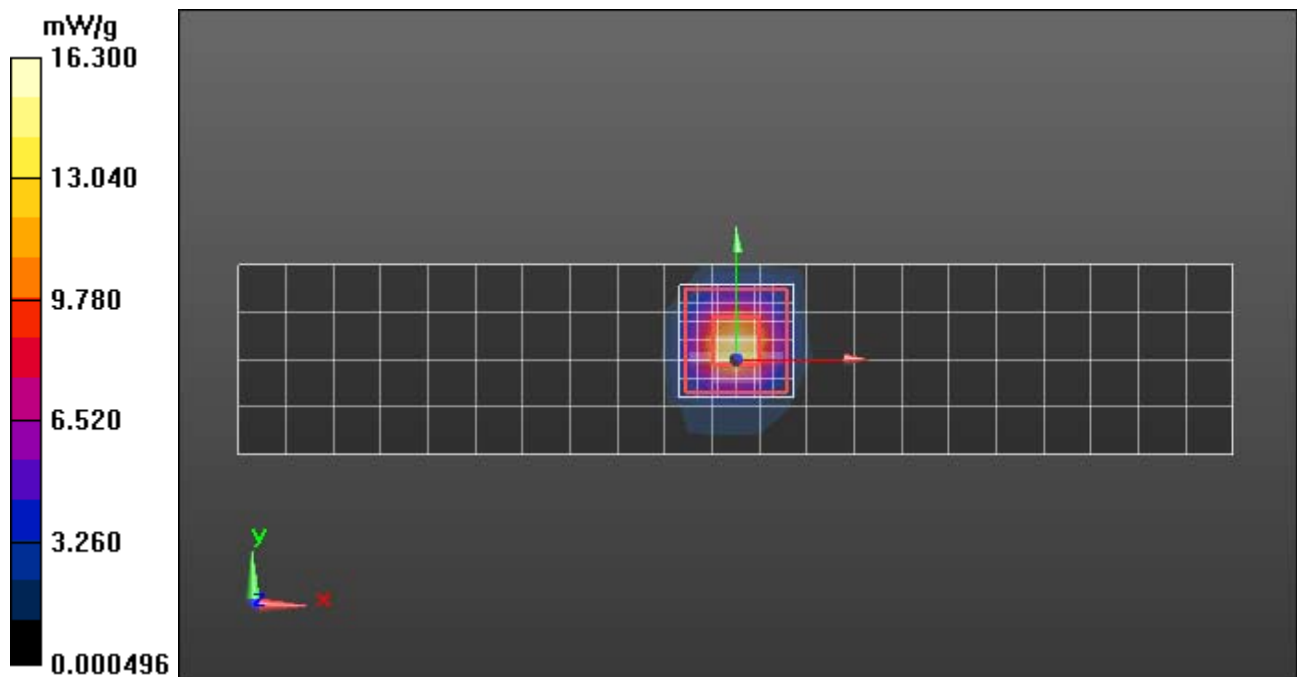
**DASY5 - 5-6GHz, Triple Flat System Performance Check Template, Rev.3 (15-May-12)/Daily SPC
Check/0-Degree, 7x7x12 Cube (7x7x6)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 56.137 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 28.844 mW/g

SAR(1 g) = 7.82 mW/g; SAR(10 g) = 2.21 mW/g

Maximum value of SAR (measured) = 16.3 mW/g



Test Laboratory: Motorola Mobility - 5800MHz System Performance Check

DUT: Dipole 5-6GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1088;

Procedure Notes: Input Power = 100 mW Refl.Pwr = -21.90 dB Sim.Temp@meas = 18.7 Sim.Temp@SPC = 19.2 Room Temp @ SPC = 20.3

Communication System: _CW - Dipole; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: Validation *BODY Tissue* ; Medium parameters used: $f = 5800$ MHz; $\sigma = 6.29$ mho/m; $\epsilon_r = 45.7$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(3.71, 3.71, 3.71); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, Triple Flat System Performance Check Template, Rev.3 (15-May-12)/Daily SPC Check/Dipole Area Scan (22x5x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 11.9 mW/g

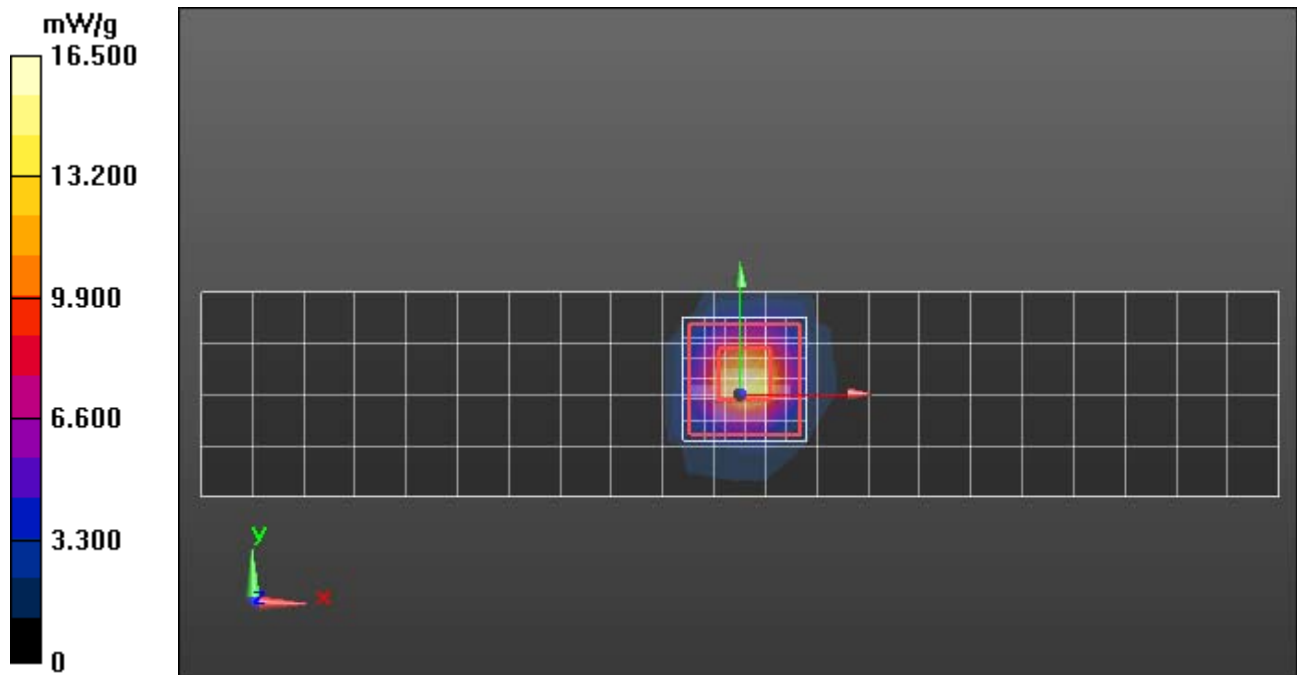
DASY5 - 5-6GHz, Triple Flat System Performance Check Template, Rev.3 (15-May-12)/Daily SPC Check/0-Degree, 7x7x12 Cube (7x7x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 51.786 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 31.552 mW/g

SAR(1 g) = 7.55 mW/g; SAR(10 g) = 2.11 mW/g

Maximum value of SAR (measured) = 16.5 mW/g



Test Laboratory: Motorola Mobility - 5800MHz System Performance Check

DUT: Dipole 5-6GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1088;

Procedure Notes: Input Power = 100 mW Refl.Pwr = -20.50 dB Sim.Temp@meas = 19.6C Sim.Temp@SPC = 19.7C
Room Temp @ SPC = 20.7C

Communication System: _CW - Dipole; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: Validation *BODY Tissue* ; Medium parameters used: $f = 5800$ MHz; $\sigma = 6.17$ mho/m; $\epsilon_r = 45.1$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(3.71, 3.71, 3.71); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, Triple Flat System Performance Check Template, Rev.3 (15-May-12)/Daily SPC Check/Dipole Area Scan (22x5x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 12.1 mW/g

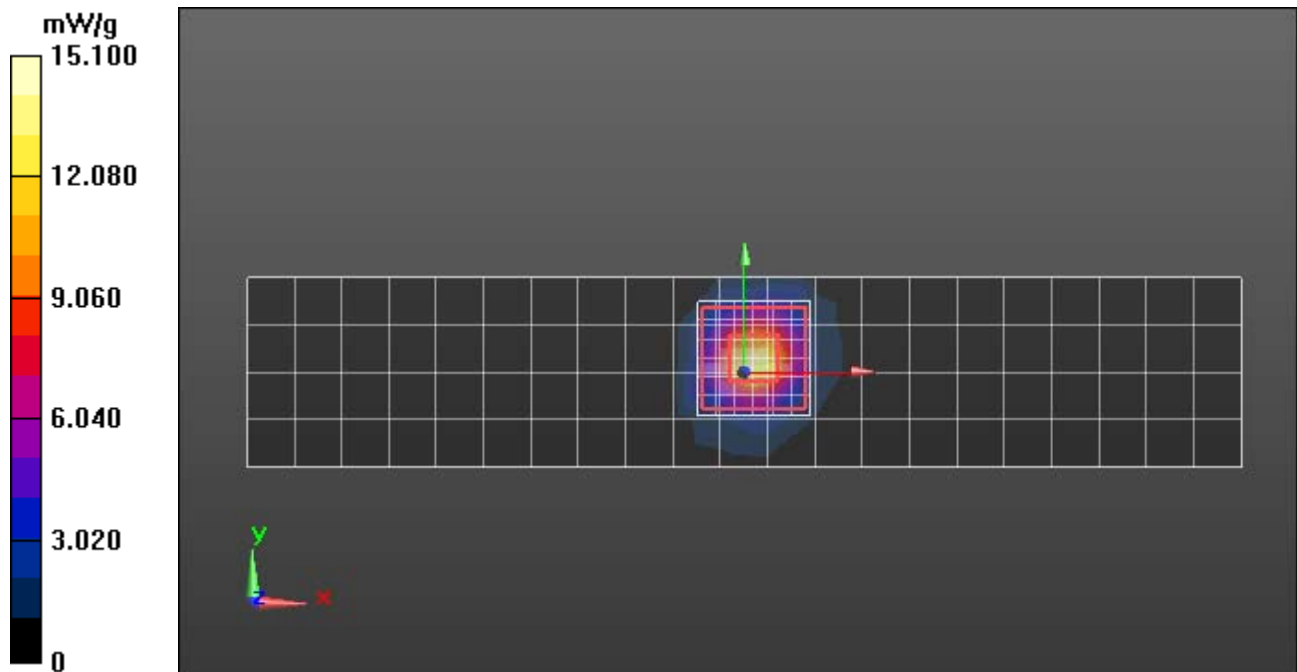
DASY5 - 5-6GHz, Triple Flat System Performance Check Template, Rev.3 (15-May-12)/Daily SPC Check/0-Degree, 7x7x12 Cube (7x7x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 50.822 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 28.496 mW/g

SAR(1 g) = 6.98 mW/g; SAR(10 g) = 1.96 mW/g

Maximum value of SAR (measured) = 15.1 mW/g



Appendix 2

SAR distribution plots for Head Adjacent Test Results

Test Laboratory: Motorola Mobility - GSM 850 MHz Cheek Touch

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: 5 Battery Model #: INTERNAL DEVICE POSITION: CHEEK

Communication System: _GSM; Frequency: 836.6 MHz; Communication System Channel Number: 190; Duty Cycle: 1:8.30042

Medium: Low Freq Head; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.93 \text{ mho/m}$; $\epsilon_r = 41.6$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.08, 6.08, 6.08); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#1 - Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1156;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - Phone against Left Head Template, Rev.3 (29-Sept-11)/Left Head Template/Area

Scan - Normal (15mm) (7x17x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.277 mW/g

DASY5, SAM - Phone against Left Head Template, Rev.3 (29-Sept-11)/Left Head Template/5x5x7

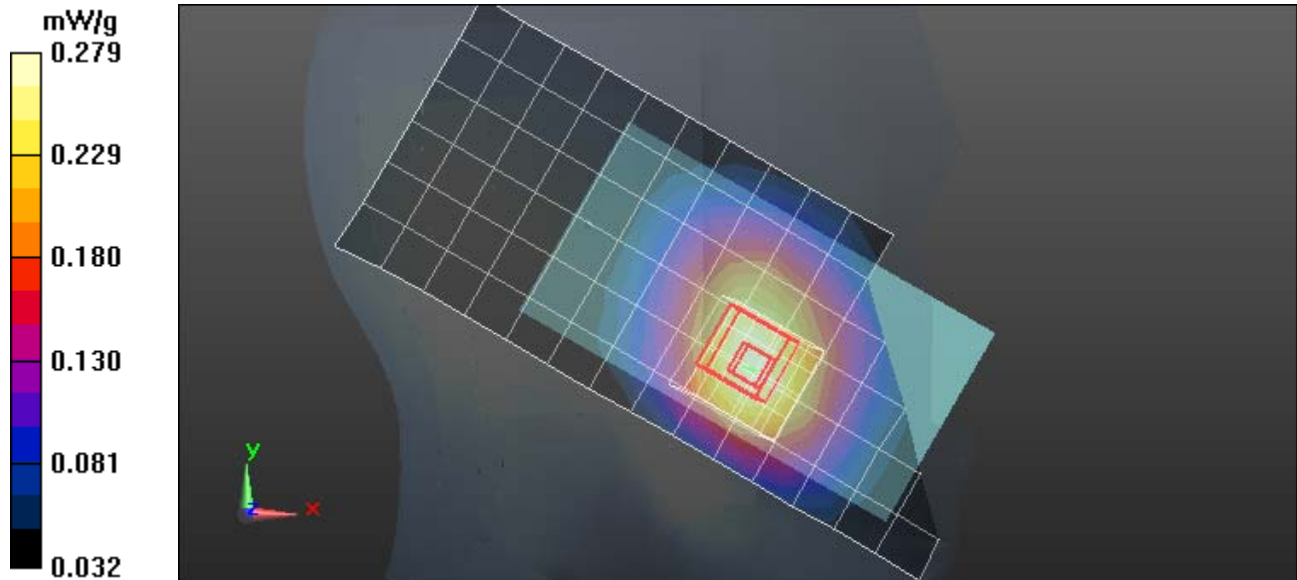
Zoom Scan ($\leq 3\text{GHz}$) (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 17.056 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.345 mW/g

SAR(1 g) = 0.266 mW/g; SAR(10 g) = 0.201 mW/g

Maximum value of SAR (measured) = 0.279 mW/g



Test Laboratory: Motorola Mobility - WCDMA 850 MHz Cheek Touch

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: ALL UP Battery Model #: INTERNAL DEVICE POSITION: CHEEK

Communication System: _WCDMA; Frequency: 836 MHz; Communication System Channel Number: 4180; Duty Cycle: 1:1

Medium: Low Freq Head; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.93 \text{ mho/m}$; $\epsilon_r = 41.6$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.08, 6.08, 6.08); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#1 - Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1156;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - Phone against Left Head Template, Rev.3 (29-Sept-11)/Left Head Template/Area

Scan - Normal (15mm) (7x17x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

DASY5, SAM - Phone against Left Head Template, Rev.3 (29-Sept-11)/Left Head Template/5x5x7

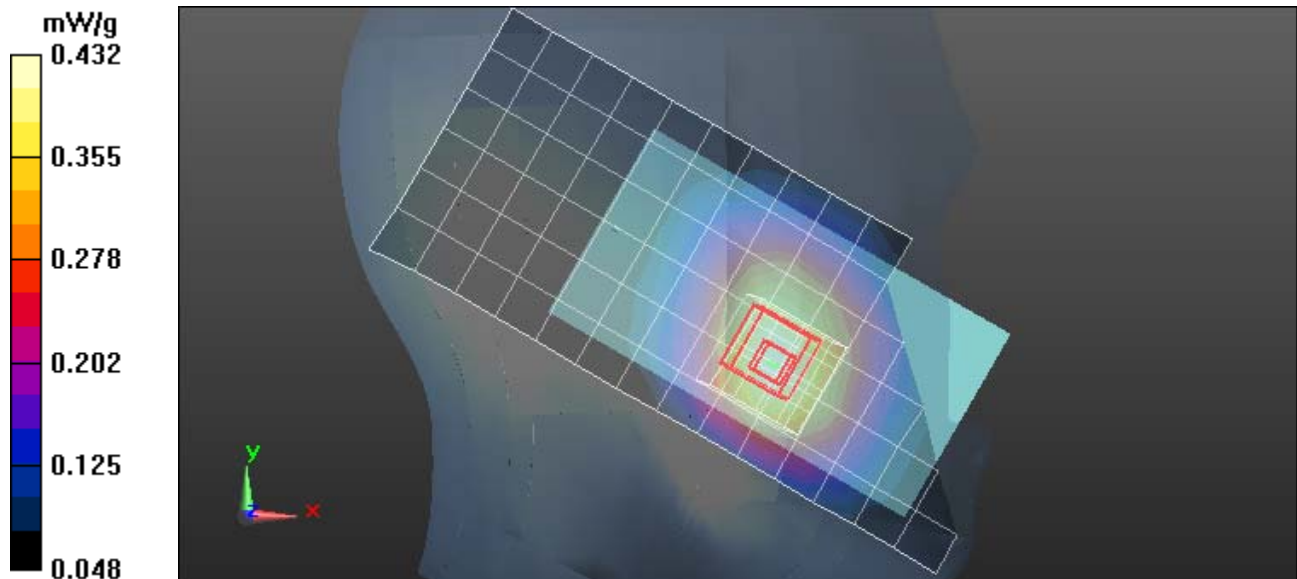
Zoom Scan ($\leq 3\text{GHz}$) (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 21.785 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.533 mW/g

SAR(1 g) = 0.412 mW/g; SAR(10 g) = 0.311 mW/g

Maximum value of SAR (measured) = 0.432 mW/g



Test Laboratory: Motorola Mobility - GSM 1900 MHz Cheek Touch

DUT: DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: 0 Battery Model #: INTERNAL DEVICE POSITION: CHEEK

Communication System: _GSM; Frequency: 1880 MHz; Communication System Channel Number: 661; Duty Cycle: 1:8.30042

Medium: Regular Glycol Head 1750/1880; Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(5.03, 5.03, 5.03); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#1 - Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1319;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

Template/Area Scan - Normal (15mm) (7x17x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.324 mW/g

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

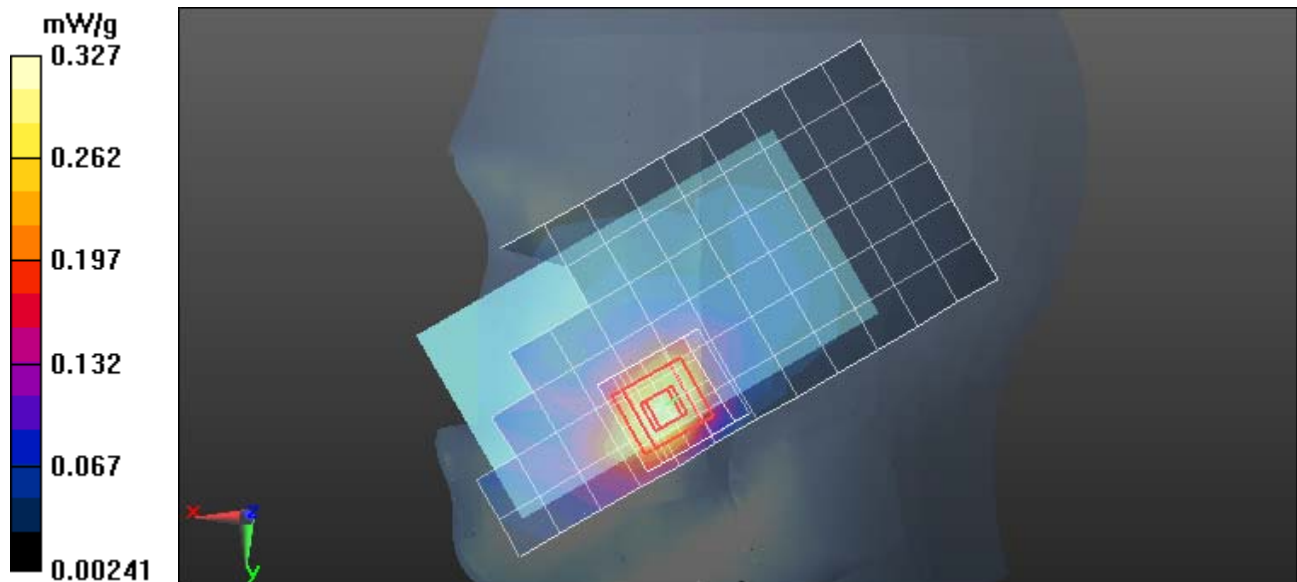
Template/5x5x7 Zoom Scan (≤ 3 GHz) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.935 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.473 mW/g

SAR(1 g) = 0.299 mW/g; SAR(10 g) = 0.182 mW/g

Maximum value of SAR (measured) = 0.327 mW/g



Test Laboratory: Motorola Mobility - WCDMA 1900 MHz Cheek Touch

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: ALL UP Battery Model #: INTERNAL DEVICE POSITION: CHEEK

Communication System: _WCDMA; Frequency: 1880 MHz; Communication System Channel Number: 9400; Duty Cycle: 1:1

Medium: Regular Glycol Head 1750/1880; Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(5.03, 5.03, 5.03); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#1 - Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1319;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

Template/Area Scan - Normal (15mm) (7x17x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.671 mW/g

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

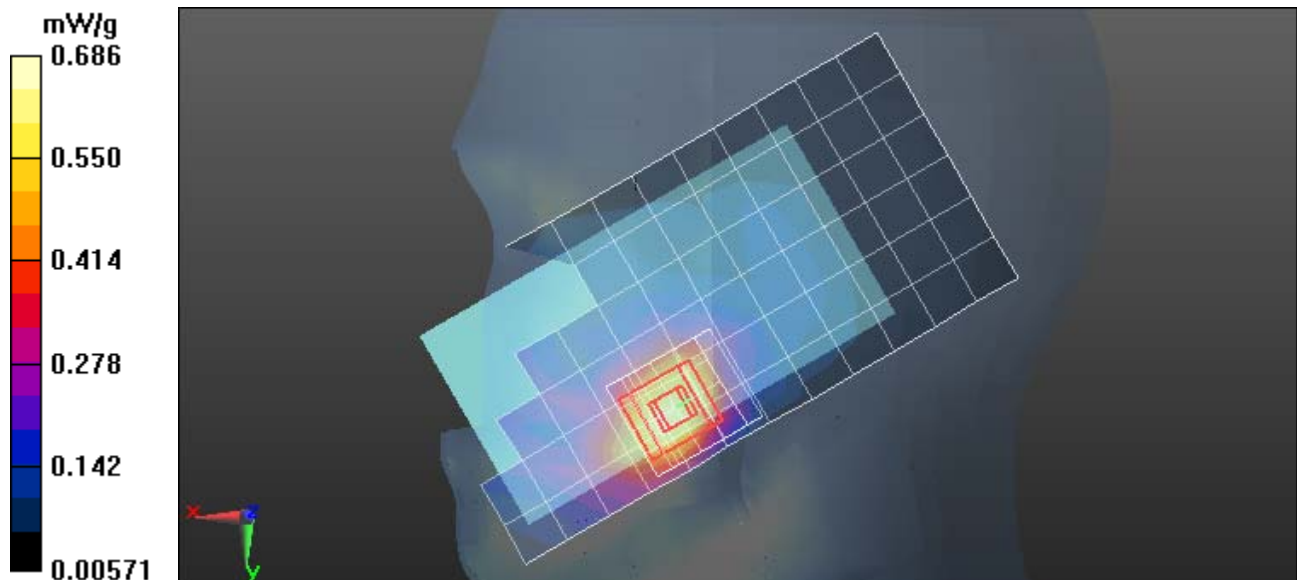
Template/5x5x7 Zoom Scan (<=3GHz) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.125 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.978 mW/g

SAR(1 g) = 0.627 mW/g; SAR(10 g) = 0.382 mW/g

Maximum value of SAR (measured) = 0.686 mW/g



Test Laboratory: Motorola Mobility - WiFi 2450 MHz Cheek Touch

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #: INTERNAL DEVICE POSITION: CHEEK; Pwr Level: 19 / Duty Cycle: 100 / Data Rate: 1M

Communication System: _Wi-Fi 2450MHz; Frequency: 2437 MHz; Communication System Channel Number: 6; Duty Cycle: 1:1

Medium: 2450 TRITON Head; Medium parameters used: $f = 2450$ MHz; $\sigma = 1.79$ mho/m; $\epsilon_r = 38$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3284; ConvF(4.56, 4.56, 4.56); Calibrated: 1/10/2012;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1310; Calibrated: 1/11/2012
- Phantom: R#4 Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1162;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

Template/Area Scan - Normal (15mm) (7x17x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.06 mW/g

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

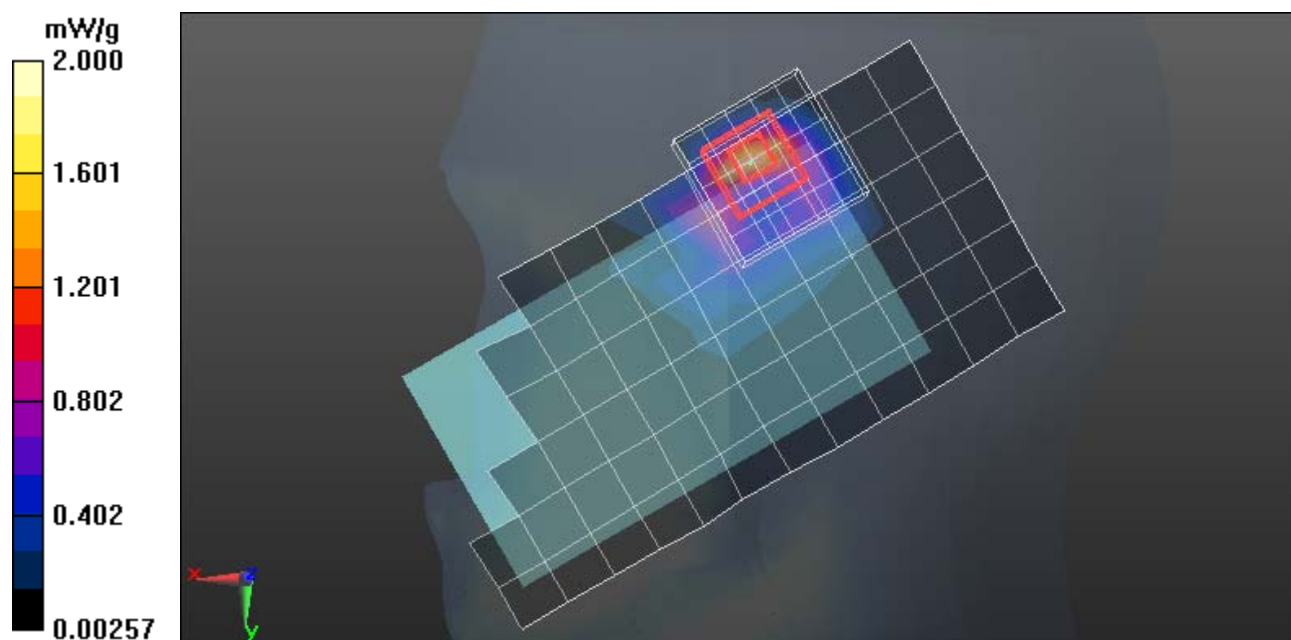
Template/5x5x7 Zoom Scan (<=3GHz) (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.866 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 3.616 mW/g

SAR(1 g) = 1.5 mW/g; SAR(10 g) = 0.594 mW/g

Maximum value of SAR (measured) = 2.00 mW/g



Test Laboratory: Motorola Mobility - WiFi 5210 MHz Cheek Touch

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #:INTERNAL; DEVICE POSITION: CHEEK; Pwr Level: 15 / Duty Cycle: 100 / Data Rate: 6M

Communication System: _WIFI 5-6GHz; Frequency: 5220 MHz; Communication System Channel Number: 44; Duty Cycle: 1:1

Medium: 5.2 - 5.6 GHz HEAD; Medium parameters used: $f = 5210$ MHz; $\sigma = 4.62$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(4.74, 4.74, 4.74); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#3 5 GHz HEAD SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1106;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, Right Head SAM Template - Rev.3 (4-April-12)/Right Head Template/Area Scan - Normal (10mm) (10x25x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.00 mW/g

DASY5 - 5-6GHz, Right Head SAM Template - Rev.3 (4-April-12)/Right Head Template/7x7x12

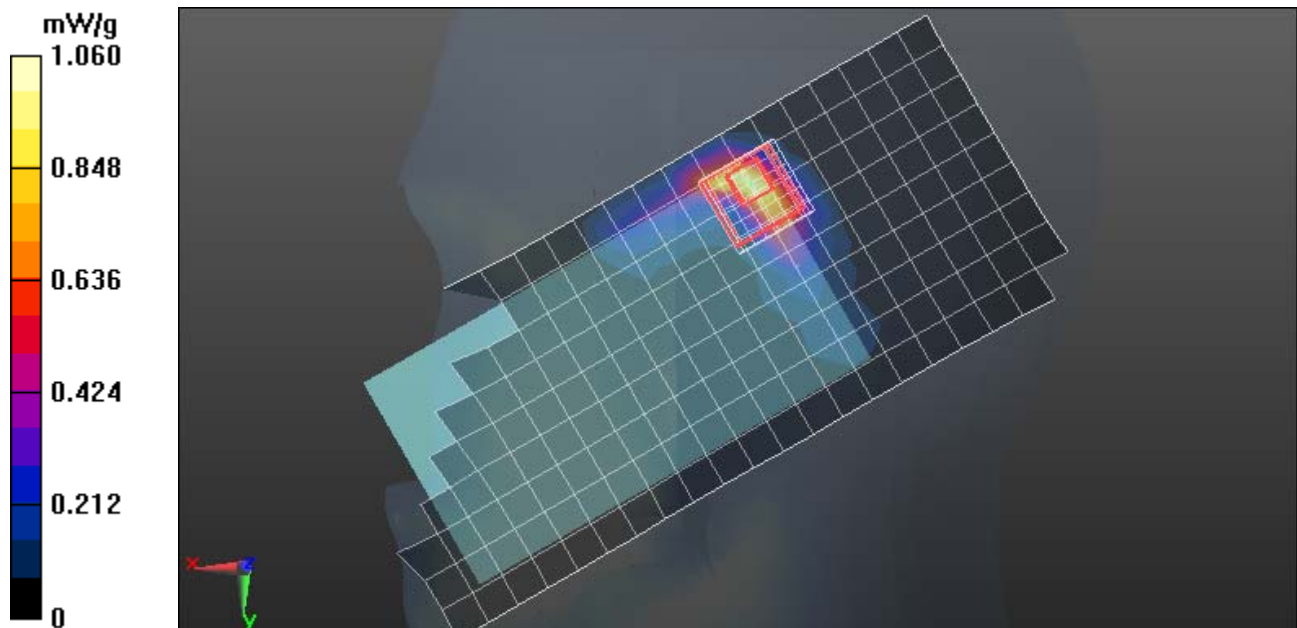
Zoom Scan (5-6GHz) (7x7x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 9.802 V/m; Power Drift = -0.44 dB

Peak SAR (extrapolated) = 2.042 mW/g

SAR(1 g) = 0.496 mW/g; SAR(10 g) = 0.164 mW/g

Maximum value of SAR (measured) = 1.06 mW/g



Test Laboratory: Motorola Mobility - WiFi 5785 MHz Cheek Touch

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #:INTERNAL; DEVICE POSITION: CHEEK Pwr Level: 15 / Duty Cycle: 100 / Data Rate: 6M

Communication System: _WIFI 5-6GHz; Frequency: 5745 MHz; Communication System Channel Number: 149; Duty Cycle: 1:1

Medium: 5.785 GHz HEAD; Medium parameters used: $f = 5785$ MHz; $\sigma = 5.25$ mho/m; $\epsilon_r = 34.9$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(4.23, 4.23, 4.23); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#3 5 GHz HEAD SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1106;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, Right Head SAM Template - Rev.3 (4-April-12)/Right Head Template/Area Scan - Normal (10mm) (10x25x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.84 mW/g

DASY5 - 5-6GHz, Right Head SAM Template - Rev.3 (4-April-12)/Right Head Template/7x7x12

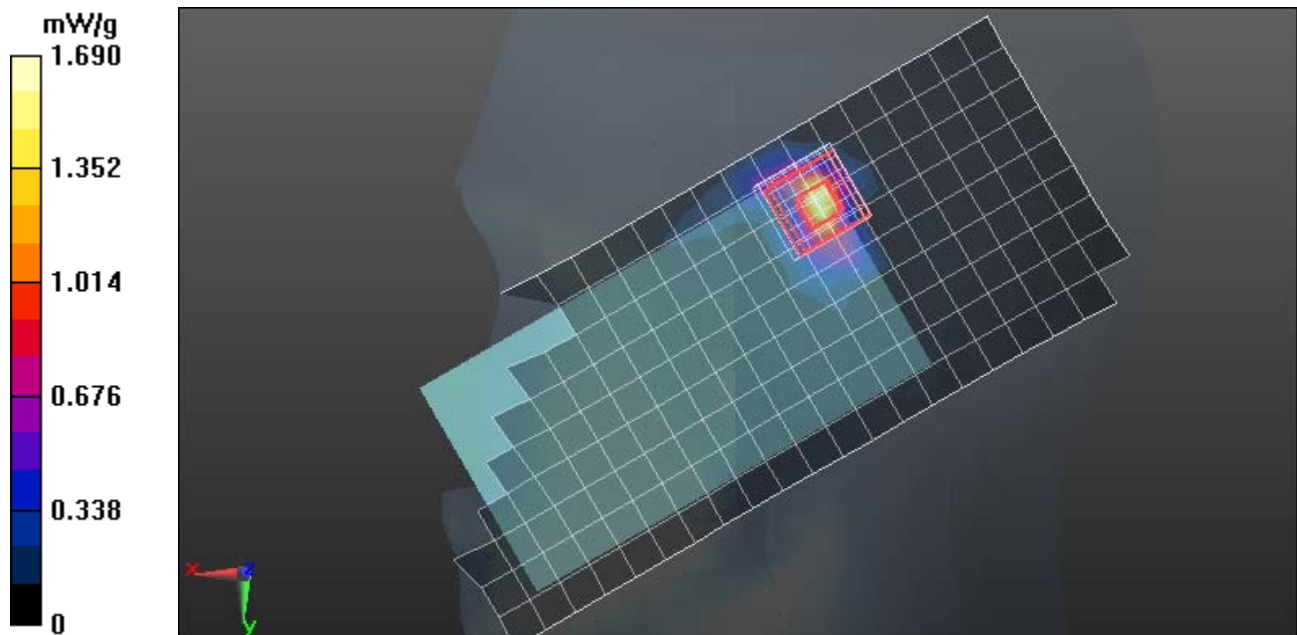
Zoom Scan (5-6GHz) (7x7x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 10.339 V/m; Power Drift = -0.94 dB

Peak SAR (extrapolated) = 3.794 mW/g

SAR(1 g) = 0.780 mW/g; SAR(10 g) = 0.215 mW/g

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



Test Laboratory: Motorola Mobility - GSM 1900 MHz 15 Degree Tilt

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: 0 Battery Model #: INTERNAL DEVICE POSITION: TILT

Communication System: _GSM; Frequency: 1880 MHz; Communication System Channel Number: 661; Duty Cycle: 1:8.30042

Medium: Regular Glycol Head 1750/1880; Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(5.03, 5.03, 5.03); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#1 - Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1319;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - Phone against Left Head Template, Rev.3 (29-Sept-11)/Left Head Template/Area Scan - Normal (15mm) (7x17x1): Measurement grid: dx=15mm, dy=15mm

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

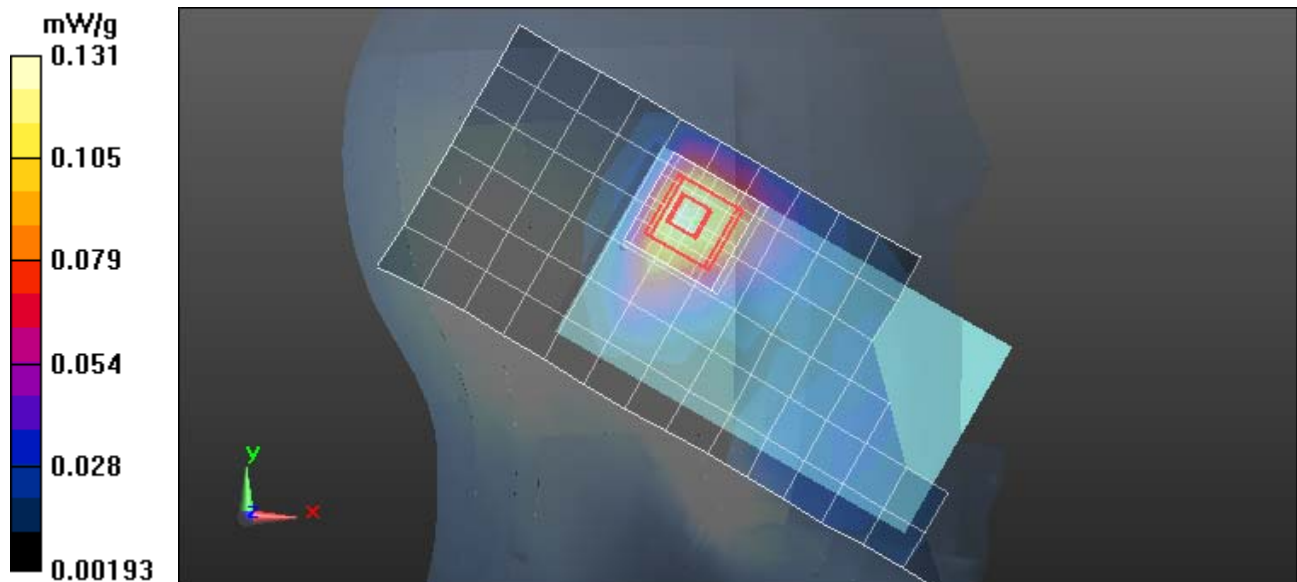
DASY5, SAM - Phone against Left Head Template, Rev.3 (29-Sept-11)/Left Head Template/5x5x7 Zoom Scan (<=3GHz) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.309 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 0.191 mW/g

SAR(1 g) = 0.123 mW/g; SAR(10 g) = 0.073 mW/g

Maximum value of SAR (measured) = 0.131 mW/g



Test Laboratory: Motorola Mobility - WCDMA 1900 MHz 15 Degree Tilt

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: ALL UP Battery Model #: INTERNAL DEVICE POSITION: TILT

Communication System: _WCDMA; Frequency: 1880 MHz; Communication System Channel Number: 9400; Duty Cycle: 1:1

Medium: Regular Glycol Head 1750/1880; Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(5.03, 5.03, 5.03); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#1 - Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1319;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - Phone against Left Head Template, Rev.3 (29-Sept-11)/Left Head Template/Area Scan - Normal (15mm) (7x17x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.249 mW/g

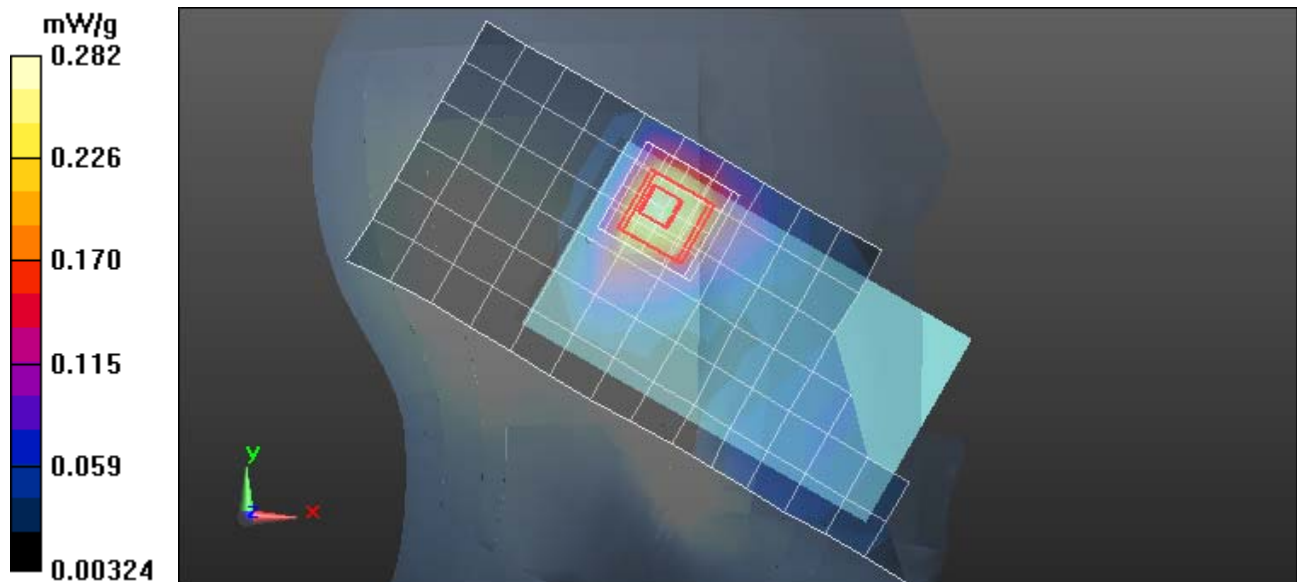
DASY5, SAM - Phone against Left Head Template, Rev.3 (29-Sept-11)/Left Head Template/5x5x7 Zoom Scan (<=3GHz) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.137 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.406 mW/g

SAR(1 g) = 0.263 mW/g; SAR(10 g) = 0.157 mW/g

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



Test Laboratory: Motorola Mobility - GSM 850 MHz 15 Degree Tilt

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: 5 Battery Model #: INTERNAL DEVICE POSITION: TILT

Communication System: _GSM; Frequency: 836.6 MHz; Communication System Channel Number: 190; Duty Cycle: 1:8.30042

Medium: Low Freq Head; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.93 \text{ mho/m}$; $\epsilon_r = 41.6$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.08, 6.08, 6.08); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#1 - Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1156;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

Template/Area Scan - Normal (15mm) (7x17x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

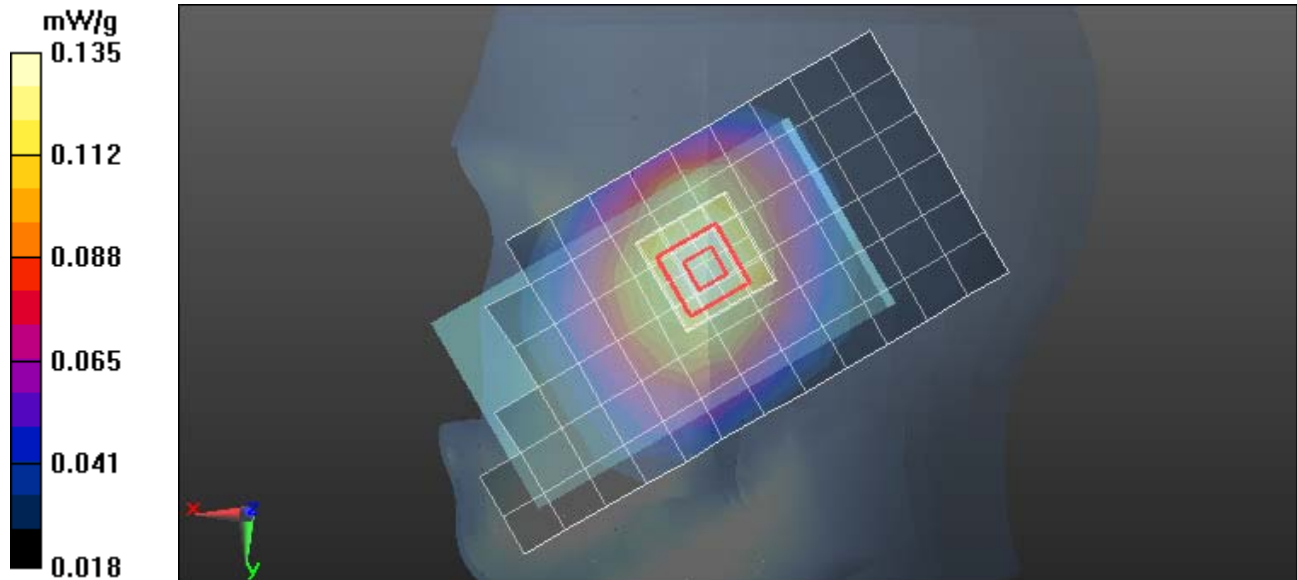
Template/5x5x7 Zoom Scan ($\leq 3\text{GHz}$) (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.818 V/m; Power Drift = -0.34 dB

Peak SAR (extrapolated) = 0.156 mW/g

SAR(1 g) = 0.130 mW/g; SAR(10 g) = 0.101 mW/g

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



Test Laboratory: Motorola Mobility - WCDMA 850 MHz 15 Degree Tilt

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: ALL UP Battery Model #: INTERNAL DEVICE POSITION: TILT

Communication System: _WCDMA; Frequency: 836 MHz; Communication System Channel Number: 4180; Duty Cycle: 1:1

Medium: Low Freq Head; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.93 \text{ mho/m}$; $\epsilon_r = 41.6$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.08, 6.08, 6.08); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#1 - Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1156;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

Template/Area Scan - Normal (15mm) (7x17x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.229 mW/g

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

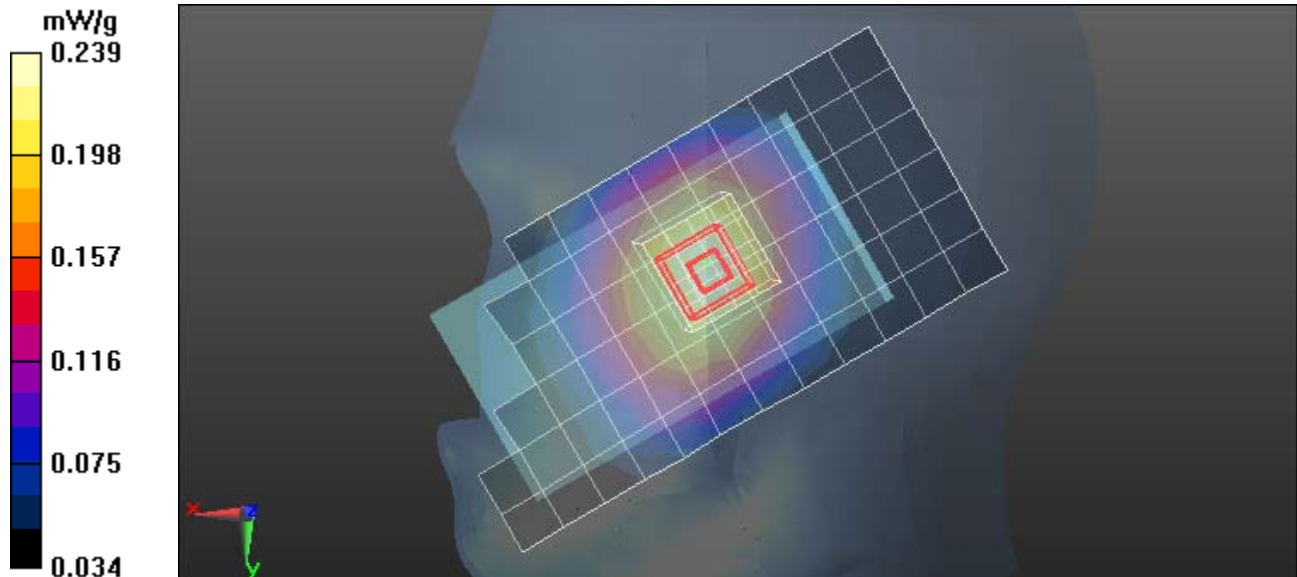
Template/5x5x7 Zoom Scan ($\leq 3\text{GHz}$) (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.686 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.282 mW/g

SAR(1 g) = 0.228 mW/g; SAR(10 g) = 0.176 mW/g

Maximum value of SAR (measured) = 0.239 mW/g



Test Laboratory: Motorola Mobility - WiFi 2450 MHz 15 Degree Tilt

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #: INTERNAL DEVICE POSITION: TILT; Pwr Level: 19 / Duty Cycle: 100 / Data Rate: 1M

Communication System: _Wi-Fi 2450MHz; Frequency: 2437 MHz; Communication System Channel Number: 6; Duty Cycle: 1:1

Medium: 2450 TRITON Head; Medium parameters used: $f = 2450$ MHz; $\sigma = 1.79$ mho/m; $\epsilon_r = 38$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3284; ConvF(4.56, 4.56, 4.56); Calibrated: 1/10/2012;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1310; Calibrated: 1/11/2012
- Phantom: R#4 Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1162;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

Template/Area Scan - Normal (15mm) (7x17x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.514 mW/g

DASY5, SAM - Phone against RIGHT head template - Rev.2 (29-Sept-11)/Right Head

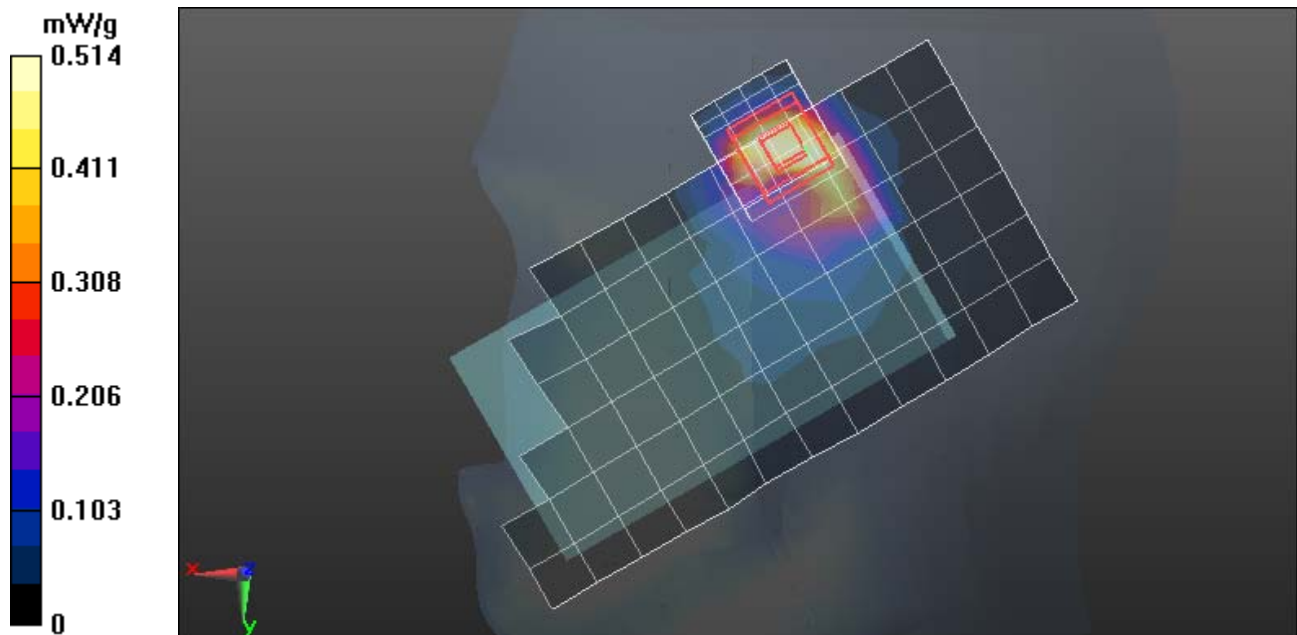
Template/5x5x7 Zoom Scan (<=3GHz) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.833 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.556 mW/g

SAR(1 g) = 0.647 mW/g; SAR(10 g) = 0.265 mW/g

Maximum value of SAR (measured) = 0.711 mW/g



Test Laboratory: Motorola Mobility - WiFi 5210 MHz 15 Degree Tilt

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #:INTERNAL; DEVICE POSITION: Tilt Pwr Level: 15 / Duty Cycle: 100 / Data Rate: 6M

Communication System: _WIFI 5-6GHz; Frequency: 5220 MHz; Communication System Channel Number: 44; Duty Cycle: 1:1

Medium: 5.2 - 5.6 GHz HEAD; Medium parameters used: $f = 5210$ MHz; $\sigma = 4.62$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(4.74, 4.74, 4.74); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#3 5 GHz HEAD SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1106;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, Right Head SAM Template - Rev.3 (4-April-12)/Right Head Template/Area Scan - Normal (10mm) (10x25x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.853 mW/g

DASY5 - 5-6GHz, Right Head SAM Template - Rev.3 (4-April-12)/Right Head Template/7x7x12

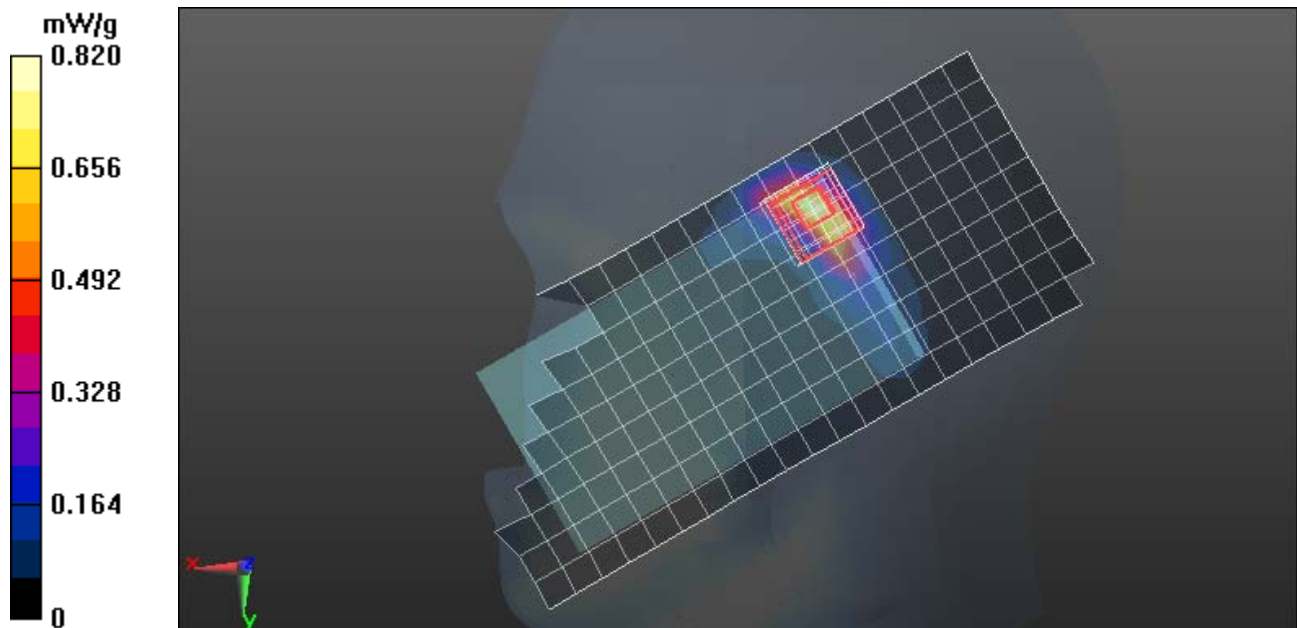
Zoom Scan (5-6GHz) (7x7x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 8.643 V/m; Power Drift = 0.20 dB

Peak SAR (extrapolated) = 1.570 mW/g

SAR(1 g) = 0.404 mW/g; SAR(10 g) = 0.140 mW/g

Maximum value of SAR (measured) = 0.820 mW/g



Test Laboratory: Motorola Mobility - WiFi 5785 MHz 15 Degree Tilt

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #:INTERNAL; DEVICE POSITION: TILT Pwr Level: 15 / Duty Cycle: 100 / Data Rate: 6M

Communication System: _WIFI 5-6GHz; Frequency: 5745 MHz; Communication System Channel Number: 149; Duty Cycle: 1:1

Medium: 5.785 GHz HEAD; Medium parameters used: $f = 5785 \text{ MHz}$; $\sigma = 5.25 \text{ mho/m}$; $\epsilon_r = 34.9$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(4.23, 4.23, 4.23); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#3 5 GHz HEAD SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1106;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, Right Head SAM Template - Rev.3 (4-April-12)/Right Head Template/Area Scan - Normal (10mm) (10x25x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (measured) = 1.49 mW/g

DASY5 - 5-6GHz, Right Head SAM Template - Rev.3 (4-April-12)/Right Head Template/7x7x12

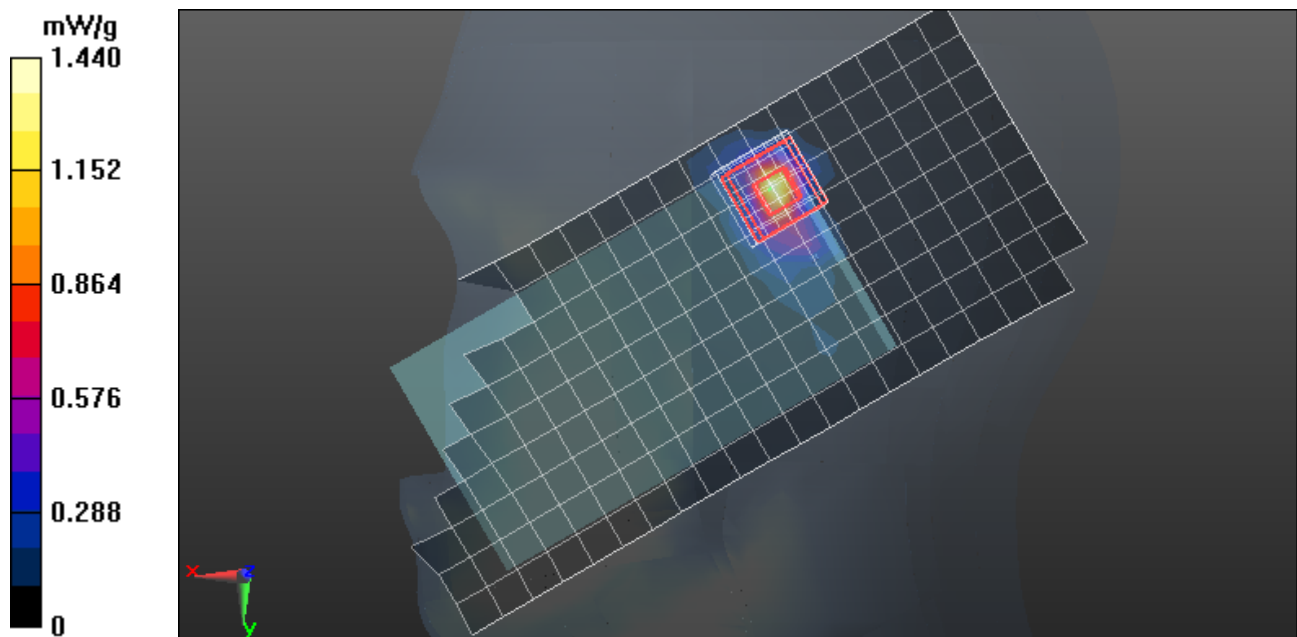
Zoom Scan (5-6GHz) (7x7x6)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 9.362 V/m; Power Drift = -1.50 dB

Peak SAR (extrapolated) = 3.059 mW/g

SAR(1 g) = 0.666 mW/g; SAR(10 g) = 0.179 mW/g

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



Appendix 3

SAR distribution plots for Body Worn Test Results

Test Laboratory: Motorola Mobility - GSM 850 MHz Body Worn

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: 5 Battery Model #: INTERNAL; BODY WORN, FRONT OF PHONE 25MM FROM PHANTOM

Communication System: _GSM; Frequency: 836.6 MHz; Communication System Channel Number: 190; Duty Cycle: 1:8.30042

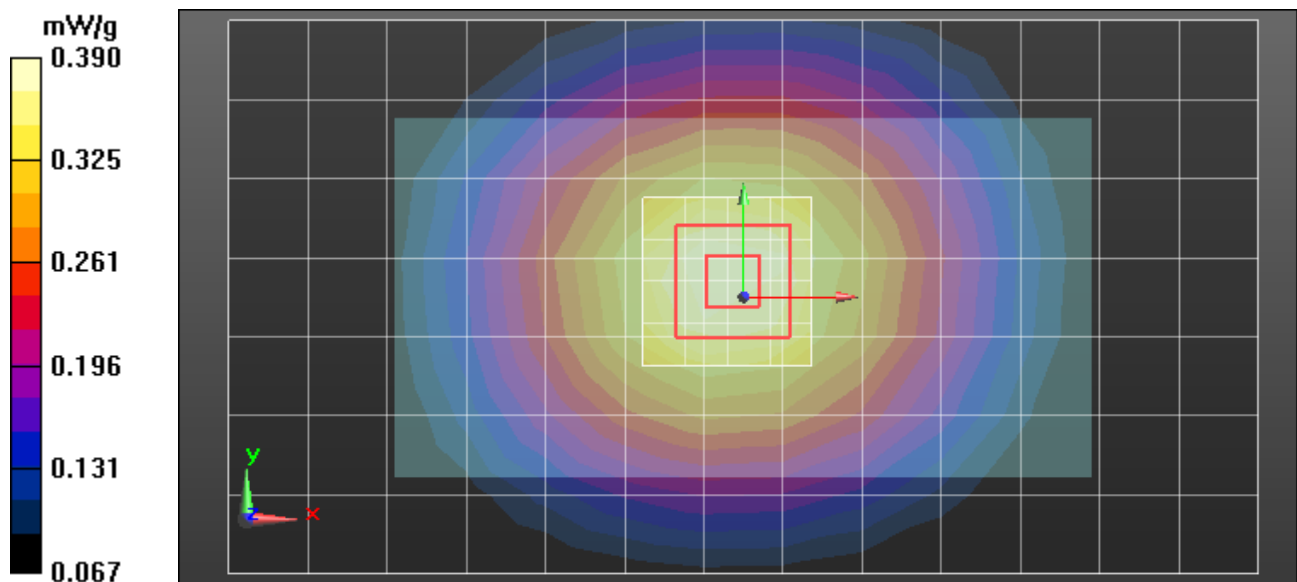
Medium: Low Freq Body; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1 \text{ mho/m}$; $\epsilon_r = 55.5$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.04, 6.04, 6.04); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/Area Scan - Normal Body (15mm) (14x8x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.381 mW/g

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/5x5x7 Zoom Scan ($\leq 3\text{GHz}$) (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 19.297 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.471 mW/g
SAR(1 g) = 0.370 mW/g; SAR(10 g) = 0.279 mW/g
Maximum value of SAR (measured) = 0.390 mW/g



Test Laboratory: Motorola Mobility - WCDMA 850 MHz Body Worn

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: ALL BITS UP Battery Model #: INTERNAL; BODY WORN, FRONT OF PHONE 25MM FROM PHANTOM

Communication System: _WCDMA; Frequency: 836 MHz; Communication System Channel Number: 4180; Duty Cycle: 1:1

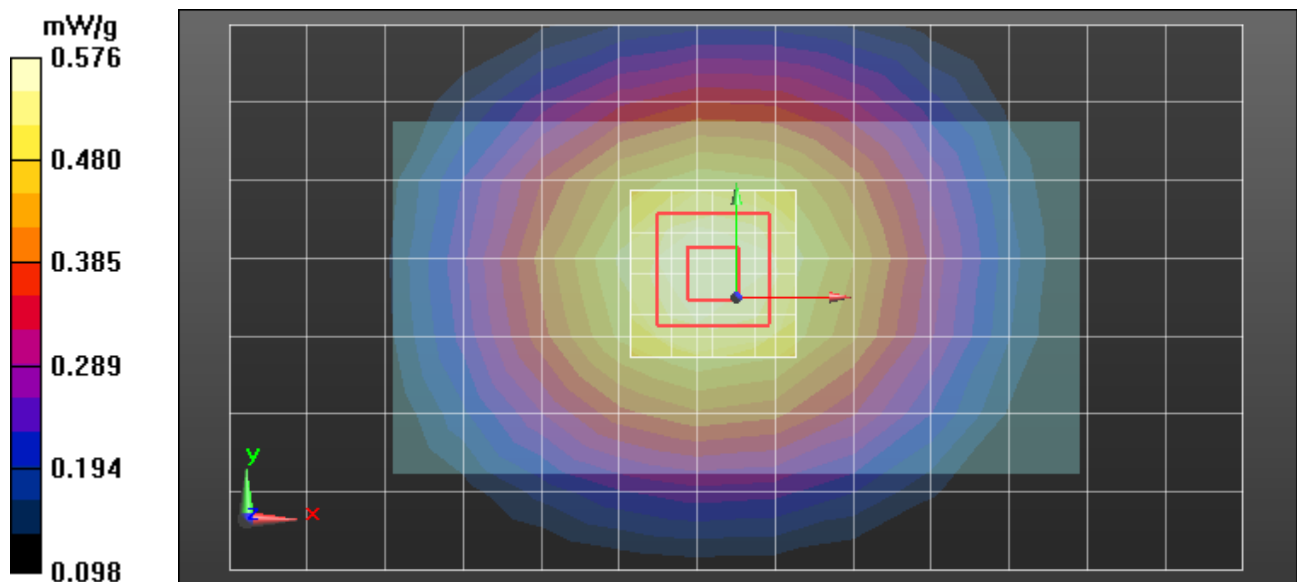
Medium: Low Freq Body; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1 \text{ mho/m}$; $\epsilon_r = 55.5$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.04, 6.04, 6.04); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/Area Scan - Normal Body (15mm) (14x8x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.574 mW/g

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/5x5x7 Zoom Scan ($\leq 3\text{GHz}$) (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 23.945 V/m ; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.703 mW/g
SAR(1 g) = 0.548 mW/g ; SAR(10 g) = 0.414 mW/g
Maximum value of SAR (measured) = 0.576 mW/g



Test Laboratory: Motorola Mobility - GPRS 1900 MHz (Class 10) Body Worn

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: 0 Battery Model #: INTERNAL; BODY WORN, FRONT OF PHONE 25MM FROM PHANTOM HIGHEST BODY GPRS CLASS 10 (2 Upslots)

Communication System: _GPRS Class 10; Frequency: 1880 MHz; Communication System Channel Number: 661; Duty Cycle: 1:4.14954

Medium: Regular Glycol Body 1750/1880; Medium parameters used: $f = 1880$ MHz; $\sigma = 1.59$ mho/m; $\epsilon_r = 51.4$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(4.69, 4.69, 4.69); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/Area Scan -

Normal Body (15mm) (14x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.271 mW/g

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/5x5x7 Zoom

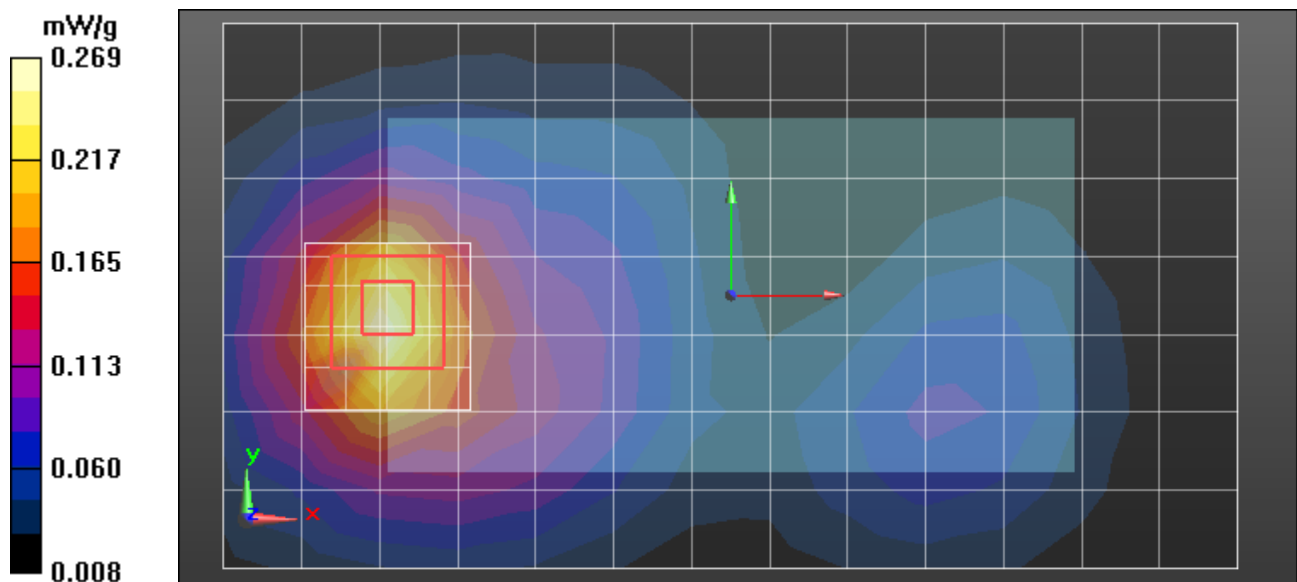
Scan (<=3GHz) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.139 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.386 mW/g

SAR(1 g) = 0.242 mW/g; SAR(10 g) = 0.144 mW/g

Maximum value of SAR (measured) = 0.269 mW/g



Test Laboratory: Motorola Mobility - WCDMA 1900 MHz Body Worn

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: ALL UP Battery Model #: INTERNAL; BODY WORN, FRONT OF PHONE 25MM FROM PHANTOM

Communication System: _WCDMA; Frequency: 1880 MHz; Communication System Channel Number: 9400; Duty Cycle: 1:1

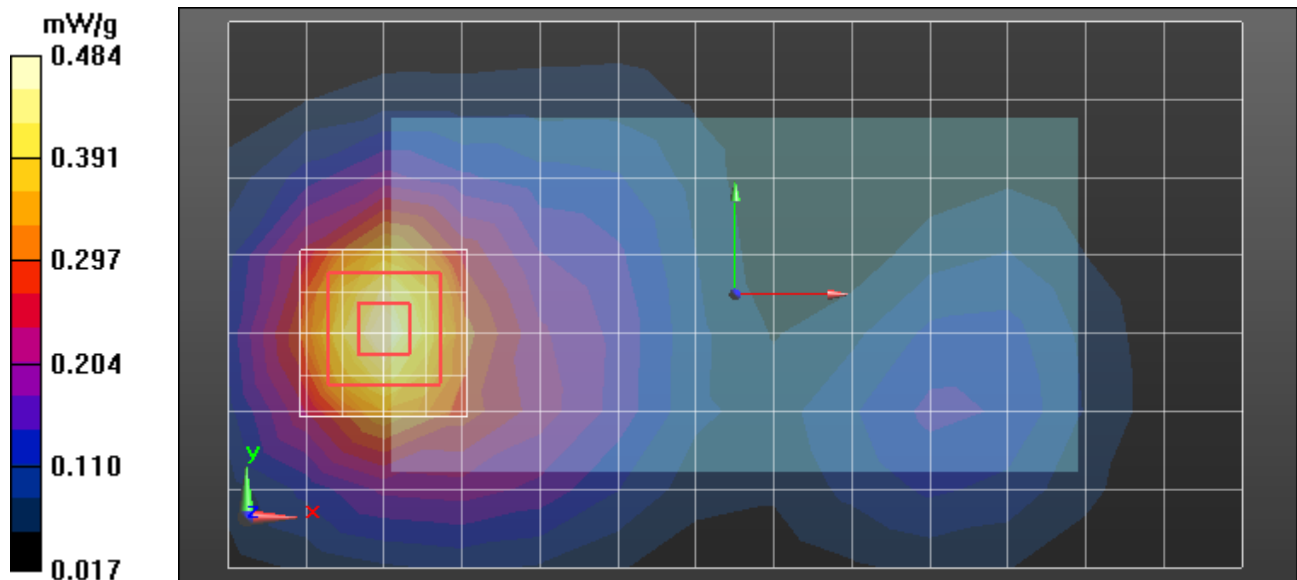
Medium: Regular Glycol Body 1750/1880; Medium parameters used: $f = 1880$ MHz; $\sigma = 1.59$ mho/m; $\epsilon_r = 51.4$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(4.69, 4.69, 4.69); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/Area Scan - Normal Body (15mm) (14x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.486 mW/g

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/5x5x7 Zoom Scan (<=3GHz) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.420 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.710 mW/g
SAR(1 g) = 0.445 mW/g; SAR(10 g) = 0.272 mW/g
Maximum value of SAR (measured) = 0.484 mW/g



Test Laboratory: Motorola Mobility - WiFi 5785 MHz Body Worn

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #:INTERNAL; Body Worn, Front of Phone 25mm from Phantom

Pwr Level: 15 / Duty Cycle: 100 / Data Rate: 6M

Communication System: _WIFI 5-6GHz; Frequency: 5745 MHz; Communication System Channel Number: 149; Duty Cycle: 1:1

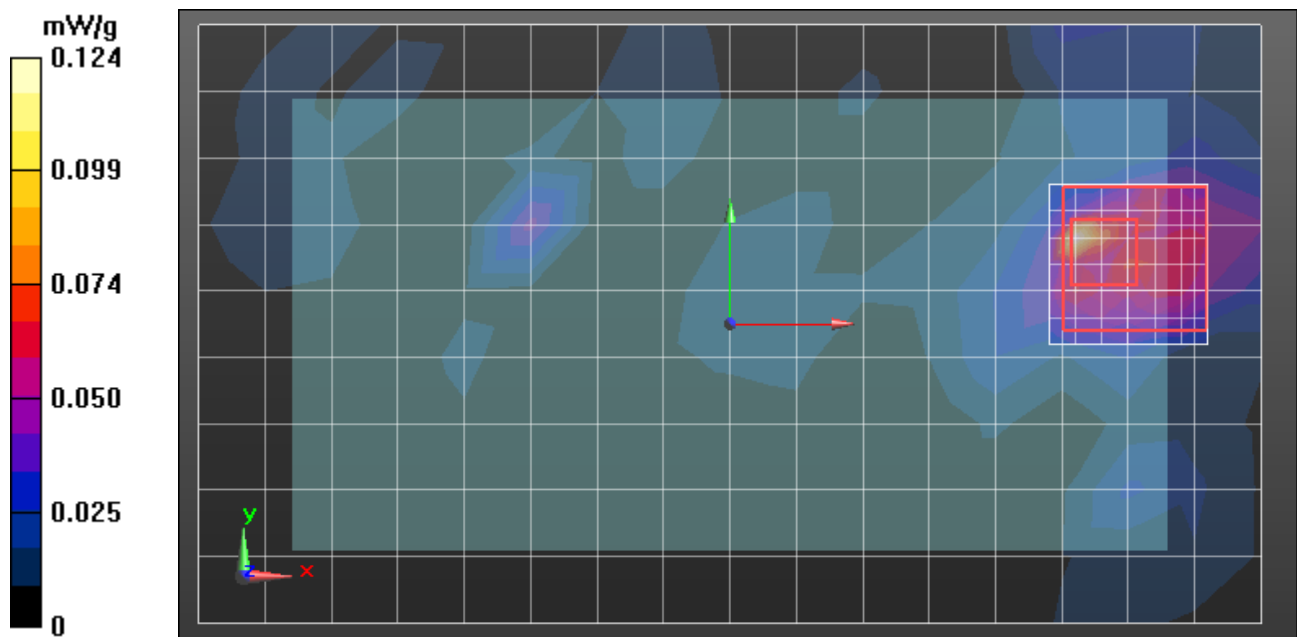
Medium: 5.785 GHz BODY; Medium parameters used: $f = 5785 \text{ MHz}$; $\sigma = 6.27 \text{ mho/m}$; $\epsilon_r = 45.7$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(3.71, 3.71, 3.71); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, TRIPLE Flat Phone Template, Rev.2 (4-April-12)/TRIPLE Flat Phone Against Flat Section/Phone Area Scan - Normal Body (10mm) (17x10x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (measured) = 0.0624 mW/g

DASY5 - 5-6GHz, TRIPLE Flat Phone Template, Rev.2 (4-April-12)/TRIPLE Flat Phone Against Flat Section/7x7x12 Zoom Scan (5-6GHz) (7x7x6)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$
Reference Value = 3.126 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.516 mW/g
SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.017 mW/g
Maximum value of SAR (measured) = 0.124 mW/g



Test Laboratory: Motorola Mobility - WiFi 2450 MHz Body Worn

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #:INTERNAL; Body Worn, Back of Phone 25mm from Phantom

Pwr Level: 19 / Duty Cycle: 100 / Data Rate: 1M

Communication System: _Wi-Fi 2450MHz; Frequency: 2437 MHz; Communication System Channel Number: 6; Duty Cycle: 1:1

Medium: 2450 Triton Body; Medium parameters used: $f = 2450$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 51.1$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(6.84, 6.84, 6.84); Calibrated: 4/24/2012;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1312; Calibrated: 5/29/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/Area Scan - Normal Body (15mm) (14x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.0310 mW/g

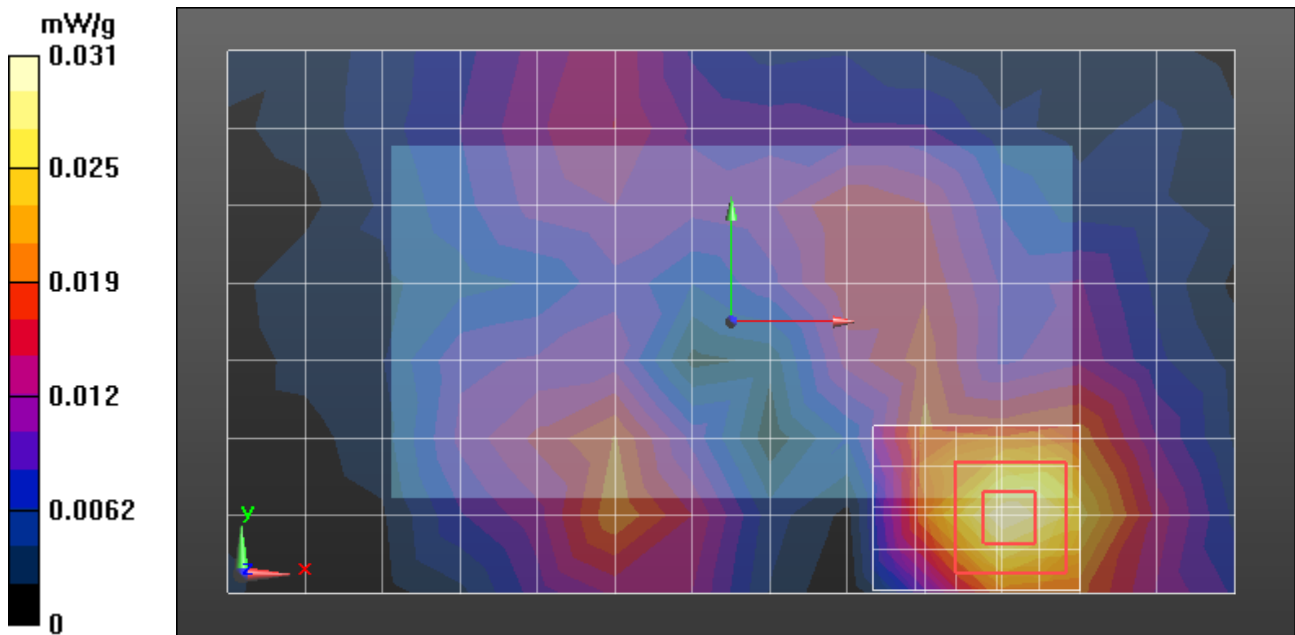
DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/5x5x7 Zoom Scan (<=3GHz) (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.645 V/m; Power Drift = 0.20 dB

Peak SAR (extrapolated) = 0.049 mW/g

SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.016 mW/g

Maximum value of SAR (measured) = 0.0312 mW/g



Test Laboratory: Motorola Mobility - WiFi 5210 MHz Body Worn

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #:INTERNAL; Body Worn, Back of Phone 25mm from Phantom

Pwr Level: 15 / Duty Cycle: 100 / Data Rate: 6M

Communication System: _WIFI 5-6GHz; Frequency: 5220 MHz; Communication System Channel Number: 44; Duty Cycle: 1:1

Medium: 5.2 - 5.6 GHz BODY; Medium parameters used: $f = 5210$ MHz; $\sigma = 5.31$ mho/m; $\epsilon_r = 46.6$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(4.22, 4.22, 4.22); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, TRIPLE Flat Phone Template, Rev.2 (4-April-12)/TRIPLE Flat Phone Against Flat Section/Phone Area Scan - Normal Body (10mm) (17x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.0760 mW/g

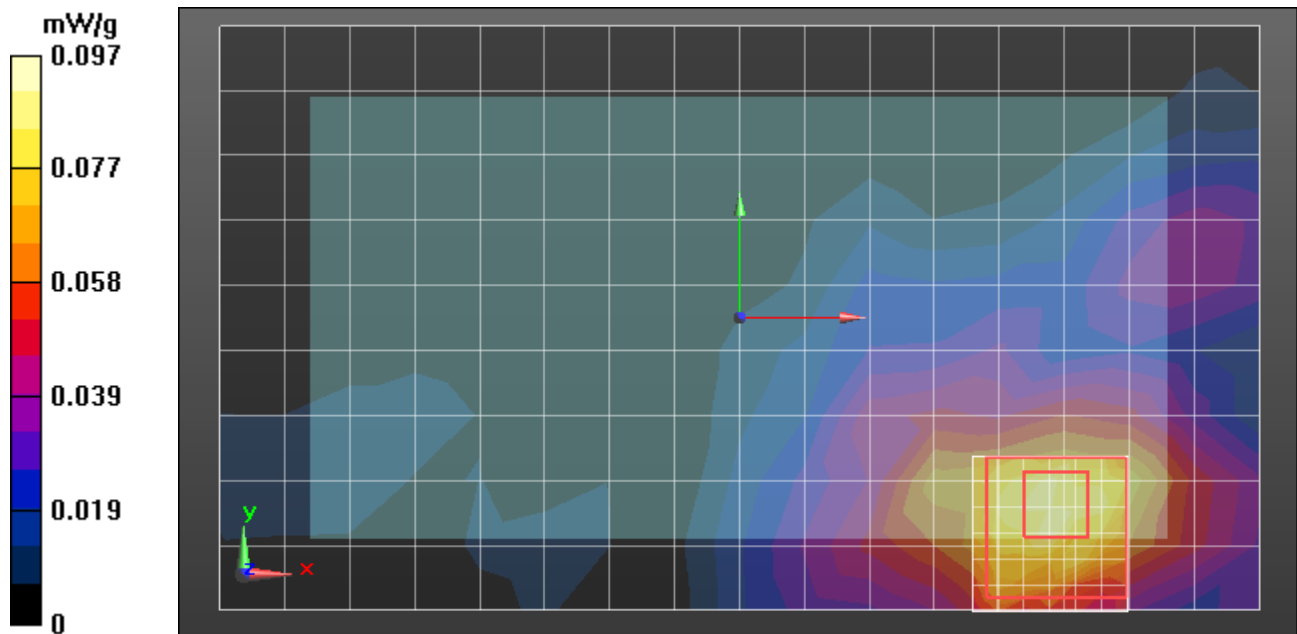
DASY5 - 5-6GHz, TRIPLE Flat Phone Template, Rev.2 (4-April-12)/TRIPLE Flat Phone Against Flat Section/7x7x12 Zoom Scan (5-6GHz) - to correct max on border (7x7x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 4.448 V/m; Power Drift = 0.23 dB

Peak SAR (extrapolated) = 0.169 mW/g

SAR(1 g) = 0.052 mW/g; SAR(10 g) = 0.021 mW/g

Maximum value of SAR (measured) = 0.0966 mW/g



Appendix 4

SAR distribution plots for Mobile Hotspot Test Results

Test Laboratory: Motorola Mobility - GPRS 1900 MHz (Class 10) Mobile Hotspot

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: 0 Battery Model #: INTERNAL Device Position = BOTTOM EDGE OF PHONE 10MM AWAY FROM PHANTOM

Communication System: _GPRS Class 10; Frequency: 1880 MHz; Communication System Channel Number: 661; Duty Cycle: 1:4.14954

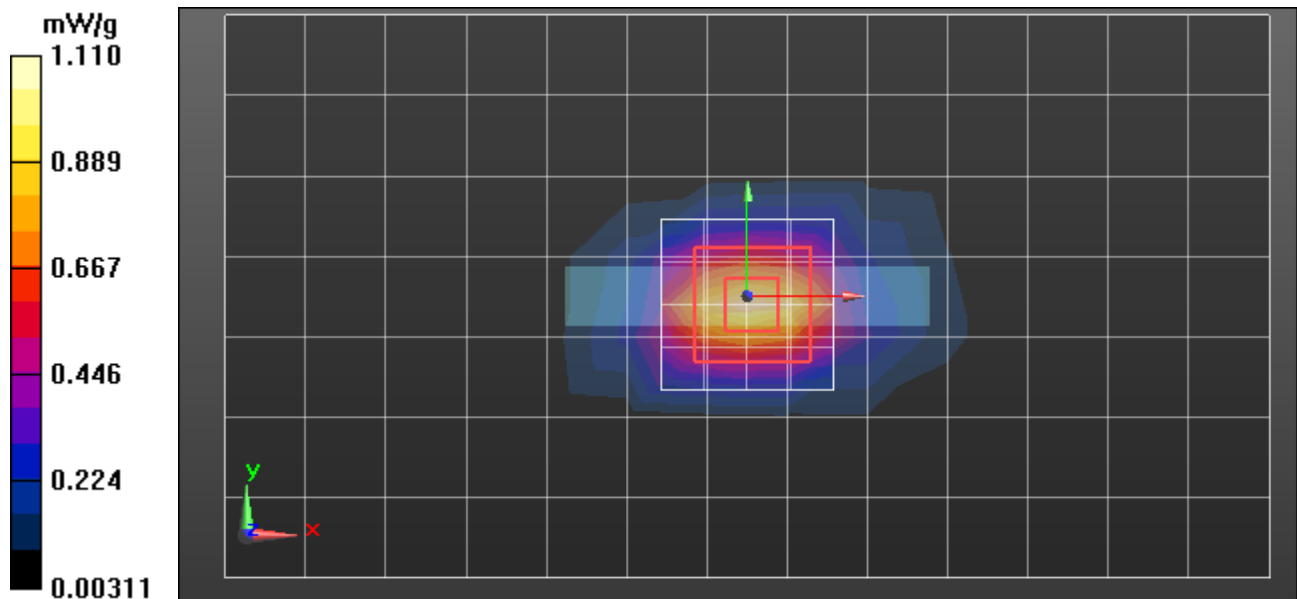
Medium: Regular Glycol Body 1750/1880; Medium parameters used: $f = 1880$ MHz; $\sigma = 1.59$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(4.69, 4.69, 4.69); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/Area Scan - Normal Body (15mm) (14x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.742 mW/g

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/5x5x7 Zoom Scan (<=3GHz) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.252 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 1.748 mW/g
SAR(1 g) = 0.973 mW/g; SAR(10 g) = 0.495 mW/g
Maximum value of SAR (measured) = 1.11 mW/g



Test Laboratory: Motorola Mobility - WCDMA 1900 MHz Mobile Hotspot

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: ALL UP BITS Battery Model #: INTERNAL Device Position = BOTTOM EDGE OF PHONE 10MM AWAY FROM PHANTOM

Communication System: _WCDMA; Frequency: 1907.6 MHz; Communication System Channel Number: 9538; Duty Cycle: 1:1

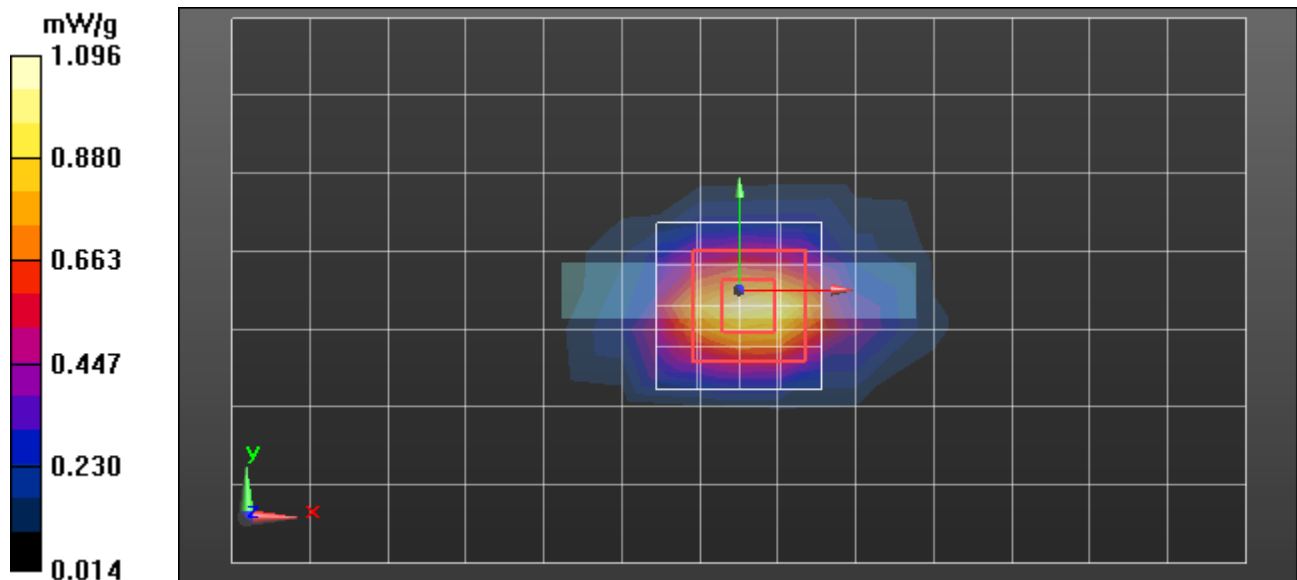
Medium: Regular Glycol Body 1750/1880; Medium parameters used: $f = 1880$ MHz; $\sigma = 1.59$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(4.69, 4.69, 4.69); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/Area Scan - Normal Body (15mm) (14x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.933 mW/g

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/5x5x7 Zoom Scan (<=3GHz) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.561 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 1.780 mW/g
SAR(1 g) = 0.970 mW/g; SAR(10 g) = 0.487 mW/g
Maximum value of SAR (measured) = 1.10 mW/g



Test Laboratory: Motorola Mobility - GPRS 850 MHz (Class 10) Mobile Hotspot

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: 5 Battery Model #: INTERNAL Device Position = LEFT EDGE OF PHONE 10MM AWAY FROM PHANTOM GPRS Class 10 (2 Upslots)

Communication System: _GPRS Class 10; Frequency: 836.6 MHz; Communication System Channel Number: 190; Duty Cycle: 1:4.14954

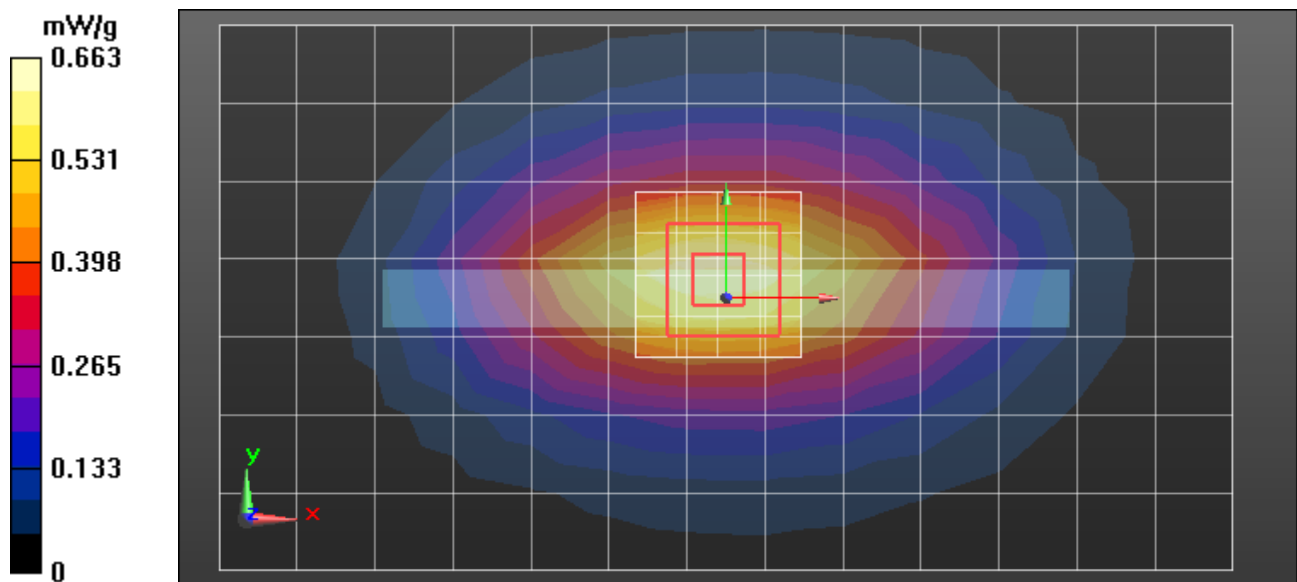
Medium: Low Freq Body; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1 \text{ mho/m}$; $\epsilon_r = 55.5$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.04, 6.04, 6.04); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/Area Scan - Normal Body (15mm) (14x8x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.639 mW/g

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/5x5x7 Zoom Scan ($\leq 3\text{GHz}$) (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 24.826 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.893 mW/g
SAR(1 g) = 0.619 mW/g; SAR(10 g) = 0.420 mW/g
Maximum value of SAR (measured) = 0.663 mW/g



Test Laboratory: Motorola Mobility - WiFi 2450 MHz Mobile Hotspot

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #:INTERNAL; HOTSPOT POSITION, LEFT EDGE OF PHONE 10MM FROM PHANTOM

Pwr Level: 19 / Duty Cycle: 100 / Data Rate: 1M

Communication System: _Wi-Fi 2450MHz; Frequency: 2437 MHz; Communication System Channel Number: 6; Duty Cycle: 1:1

Medium: 2450 Triton Body; Medium parameters used: $f = 2450$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 51.1$; $\rho = 1000$ kg/m³

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(6.84, 6.84, 6.84); Calibrated: 4/24/2012;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1312; Calibrated: 5/29/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/Area Scan -

Normal Body (15mm) (14x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.263 mW/g

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/5x5x7 Zoom

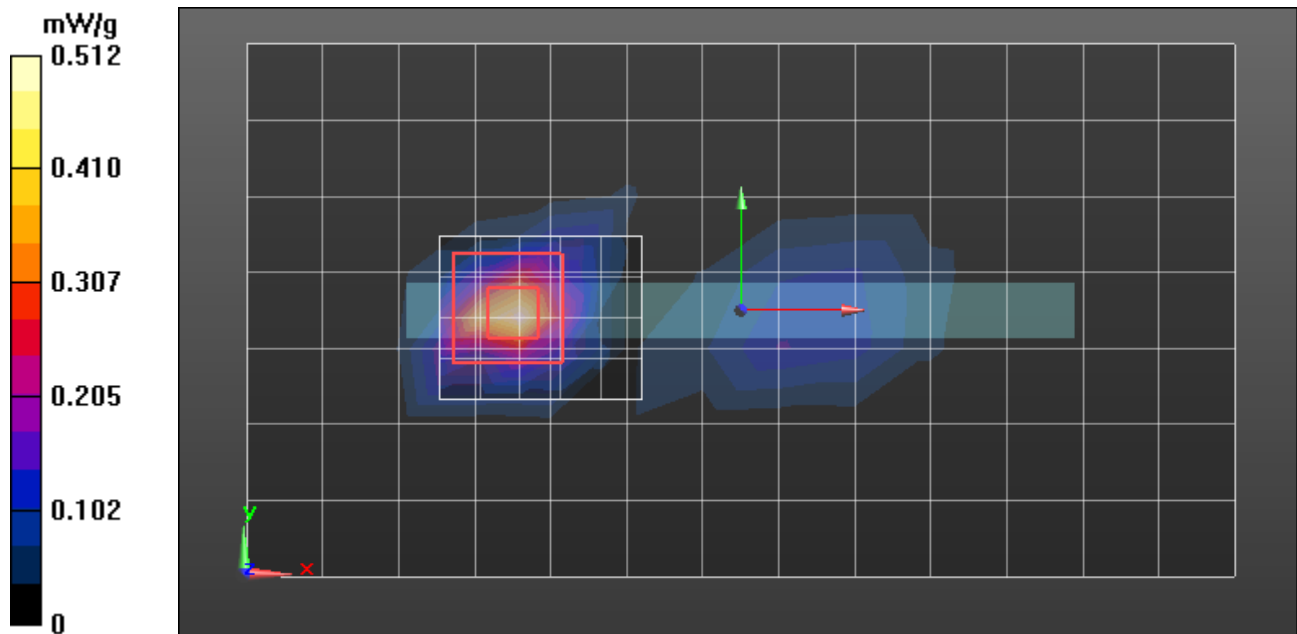
Scan (<=3GHz) (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.694 V/m; Power Drift = 0.36 dB

Peak SAR (extrapolated) = 1.091 mW/g

SAR(1 g) = 0.417 mW/g; SAR(10 g) = 0.125 mW/g

Maximum value of SAR (measured) = 0.512 mW/g



Test Laboratory: Motorola Mobility - WCDMA 850 MHz Mobile Hotspot

DUT: Serial: LVUE250086; FCC ID: IHDT56NG7

Procedure Notes: Pwr Step: ALL UP BITS Battery Model #: INTERNAL Device Position = RIGHT EDGE OF PHONE 10MM AWAY FROM PHANTOM

Communication System: _WCDMA; Frequency: 836 MHz; Communication System Channel Number: 4180; Duty Cycle: 1:1

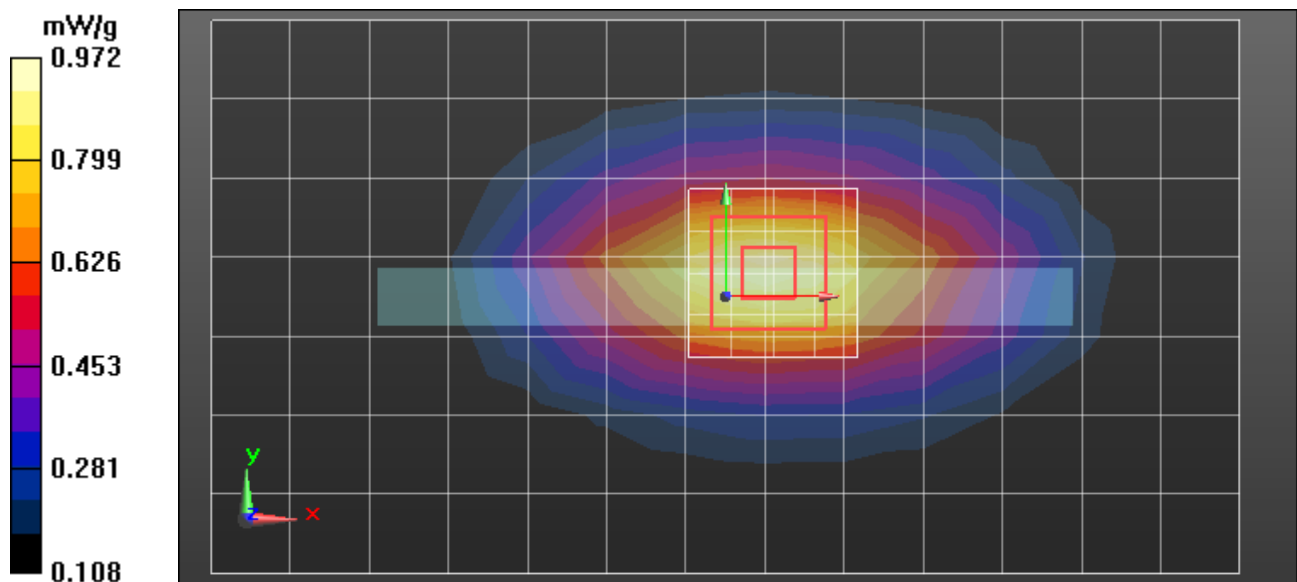
Medium: Low Freq Body; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1 \text{ mho/m}$; $\epsilon_r = 55.5$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.04, 6.04, 6.04); Calibrated: 8/23/2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 8/31/2011
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/Area Scan - Normal Body (15mm) (14x8x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.942 mW/g

DASY5, Triple Flat Phone Template - Rev.5 (6-April-12)/Triple Flat Phone Template/5x5x7 Zoom Scan ($\leq 3\text{GHz}$) (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 30.552 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.303 mW/g
SAR(1 g) = 0.905 mW/g; SAR(10 g) = 0.614 mW/g
Maximum value of SAR (measured) = 0.972 mW/g



Test Laboratory: Motorola Mobility - WiFi 5785 MHz Mobile Hotspot

Serial: LVUEB20043; FCC ID: IHDT56NG7

Procedure Notes: Battery Model #:INTERNAL; HOTSPOT POSITION, TOP EDGE OF Phone 10MM FROM PHANTOM

Pwr Level: 15 / Duty Cycle: 100 / Data Rate: 6M

Communication System: _WIFI 5-6GHz; Frequency: 5745 MHz; Communication System Channel Number: 149; Duty Cycle: 1:1

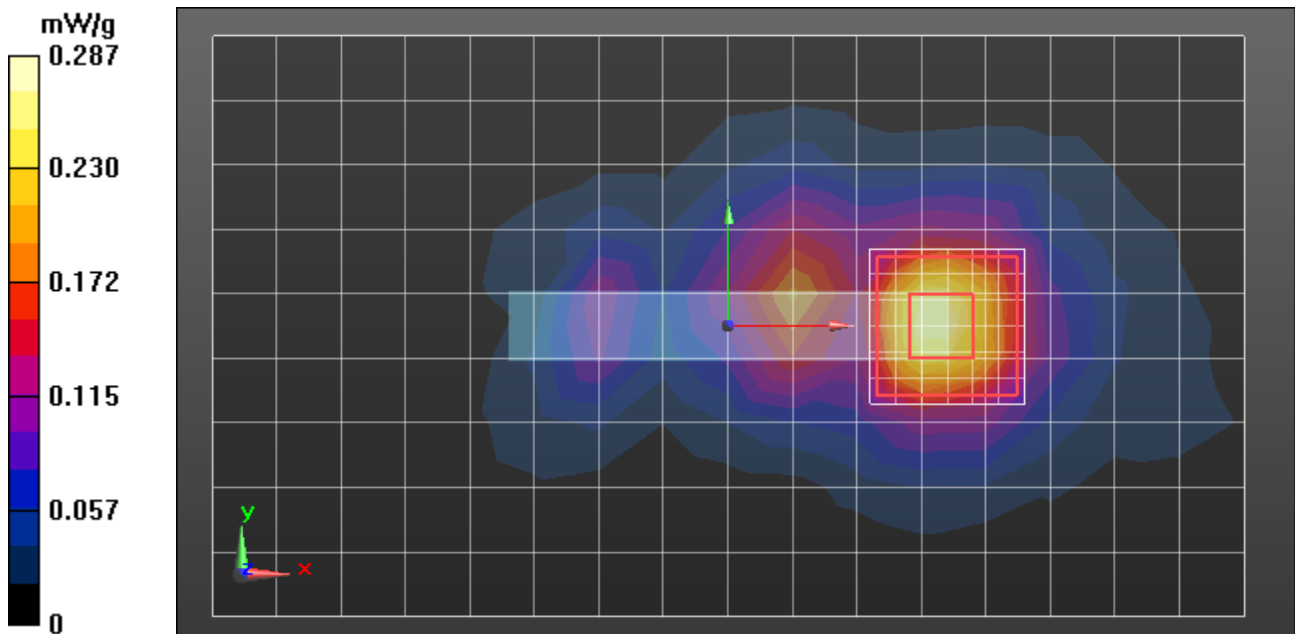
Medium: 5.785 GHz BODY; Medium parameters used: $f = 5785 \text{ MHz}$; $\sigma = 6.15 \text{ mho/m}$; $\epsilon_r = 45.2$; $\rho = 1000 \text{ kg/m}^3$

DASY4 Configuration:

- Probe: EX3DV4 - SN3728; ConvF(3.71, 3.71, 3.71); Calibrated: 4/24/2012;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 5/23/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a;
- ; SEMCAD X Version 14.6.5 (6469)

DASY5 - 5-6GHz, TRIPLE Flat Phone Template, Rev.2 (4-April-12)/TRIPLE Flat Phone Against Flat Section/Phone Area Scan - Normal Body (10mm) (17x10x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (measured) = 0.250 mW/g

DASY5 - 5-6GHz, TRIPLE Flat Phone Template, Rev.2 (4-April-12)/TRIPLE Flat Phone Against Flat Section/7x7x12 Zoom Scan (5-6GHz) (7x7x6)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$
Reference Value = 7.784 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.529 mW/g
SAR(1 g) = 0.148 mW/g; SAR(10 g) = 0.053 mW/g
Maximum value of SAR (measured) = 0.287 mW/g



Appendix 5

Measurement Uncertainty Budget

Uncertainty Budget for Device Under Test, for 735 MHz to 3 GHz

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i> = <i>f</i> (<i>d</i> , <i>k</i>)	<i>f</i>	<i>g</i>	<i>h</i> = <i>c</i> × <i>f</i> / <i>e</i>	<i>i</i> = <i>c</i> × <i>g</i> / <i>e</i>	<i>k</i>
Uncertainty Component	Description IEEE1528(2003) / IEC62209-1(2005)	Tol. (± %)	Prob Dist	Div.	<i>c_i</i> (1 g)	<i>c_i</i> (10 g)	1 g <i>u_i</i> (±%)	10 g <i>u_i</i> (±%)	<i>v_i</i>
Measurement System									
Probe Calibration [ES3DV3]	E.2.1 / 7.2.1	6.0	N	1.00	1	1	6.0	6.0	∞
Axial Isotropy	E.2.2 / 7.2.1.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Hemispherical Isotropy	E.2.2 / 7.2.1.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3 / 7.2.1.5	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4 / 7.2.1.3	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5 / 7.2.1.4	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6 / 7.2.1.6	0.3	N	1.00	1	1	0.3	0.3	∞
Response Time	E.2.7 / 7.2.1.7	1.1	R	1.73	1	1	0.6	0.6	∞
Integration Time	E.2.8 / 7.2.1.8	1.1	R	1.73	1	1	0.6	0.6	∞
RF Ambient Conditions - Noise	E.6.1 / 7.2.3.6	3.0	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1 / 7.2.3.6	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mech. Tolerance	E.6.2 / 7.2.2.1	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning w.r.t Phantom	E.6.3 / 7.2.2.3	1.4	R	1.73	1	1	0.8	0.8	∞
Max. SAR Evaluation (ext., int., avg.)	E.5 / 7.2.4	3.4	R	1.73	1	1	2.0	2.0	∞
Test sample Related									
Test Sample Positioning	E.4.2 / 7.2.2.4	3.4	N	1.00	1	1	3.4	3.4	79
Device Holder Uncertainty	E.4.1 / 7.2.2.4.2	4.5	N	1.00	1	1	4.5	4.5	11
SAR drift	6.6.2 / 7.2.3.5	0.0	R	1.73	1	1	0.0	0.0	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	E.3.1 / 7.2.2.2	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity (target)	E.3.2 / 7.2.3.3	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measurement)	E.3.3 / 7.2.3.3	2.5	N	1.00	0.64	0.43	1.6	1.1	6
Liquid Permittivity (target)	E.3.2 / 7.2.3.4	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (measurement)	E.3.2 / 7.2.3.4	2.3	N	1.00	0.6	0.49	1.4	1.1	6
Combined Standard Uncertainty			RSS				11	11	372
Expanded Uncertainty (95% CONFIDENCE LEVEL)			<i>k</i> =2				22	22	

Uncertainty Budget for Device Under Test for 3 to 6 GHz

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	$e = f(d,k)$	<i>f</i>	<i>g</i>	$h = c \times f / e$	$i = c \times g / e$	<i>k</i>
Uncertainty Component	Description IEC62209-2(2010)	Tol. (± %)	Prob Dist	Div.	<i>c_i</i> (1 g)	<i>c_i</i> (10 g)	1 g <i>u_i</i> (±%)	10 g <i>u_i</i> (±%)	<i>v_i</i>
Measurement System									
Probe Calibration [EX3DV4]	7.2.2.1	6.6	N	1.00	1	1	6.6	6.6	∞
Axial Isotropy	7.2.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Hemispherical Isotropy	7.2.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	7.2.2.6	2.0	R	1.73	1	1	1.2	1.2	∞
Linearity	7.2.2.5	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	7.2.2	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	7.2.2.7	0.3	N	1.00	1	1	0.3	0.3	∞
Response Time	7.2.2.8	1.1	R	1.73	1	1	0.6	0.6	∞
Integration Time	7.2.2.9	1.1	R	1.73	1	1	0.6	0.6	∞
RF Ambient Conditions - Noise	7.2.4.5	3.0	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	7.2.4.5	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mech. Tolerance	7.2.3.1	1.0	R	1.73	1	1	0.6	0.6	∞
Probe Positioning w.r.t Phantom	7.2.3.3	4.0	R	1.73	1	1	2.3	2.3	∞
Max. SAR Evaluation (ext., int., avg.)	7.2.5.3	4.0	R	1.73	1	1	2.3	2.3	∞
Test sample Related									
Test Sample Positioning	7.2.3.4	3.4	N	1.00	1	1	3.4	3.4	79
Device Holder Uncertainty	7.2.3.4	4.5	N	1.00	1	1	4.5	4.5	11
SAR drift	7.2.2.10	0.0	R	1.73	1	1	0.0	0.0	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	7.2.3.2	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity (target)		5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measurement)	7.2.4.3	3.4	N	1.00	0.64	0.43	2.2	1.5	6
Liquid Permittivity (target)		10.0	R	1.73	0.6	0.49	3.5	2.8	∞
Liquid Permittivity (measurement)	7.2.4.3	2.6	N	1.00	0.6	0.49	1.6	1.3	6
Combined Standard Uncertainty									
			RSS				12	12	508
Expanded Uncertainty (95% CONFIDENCE LEVEL)									
			<i>k</i> =2				24	24	

Appendix 6

Probe Calibration Certificate



Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Motorola MDb**

Certificate No: **ES3-3124_Aug11**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3124**

Calibration procedure(s) **QA CAL-01.v8, QA CAL-23.v4, QA CAL-25.v4
Calibration procedure for dosimetric E-field probes**

Calibration date: **August 23, 2011**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

Calibrated by:	Name Katja Pokovic	Function Technical Manager	Signature 
Approved by:	Niels Kuster	Quality Manager	

Issued: August 23, 2011

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * frequency_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; VR_{x,y,z}**: A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe ES3DV3

SN:3124

Manufactured: July 11, 2006
Calibrated: August 23, 2011

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3124

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V/m})^2$) ^A	1.26	1.30	1.30	$\pm 10.1 \%$
DCP (mV) ^B	100.9	98.2	100.9	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc ^E (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	116.0	$\pm 2.7 \%$
			Y	0.00	0.00	1.00	109.7	
			Z	0.00	0.00	1.00	115.4	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E^2 -field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter; uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3124

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^c	Relative Permittivity ^f	Conductivity (S/m) ^f	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	6.26	6.26	6.26	1.00	1.00	± 12.0 %
835	41.5	0.90	6.08	6.08	6.08	1.00	1.00	± 12.0 %
1810	40.0	1.40	5.03	5.03	5.03	1.00	1.12	± 12.0 %
1950	40.0	1.40	4.83	4.83	4.83	1.00	1.12	± 12.0 %
2450	39.2	1.80	4.40	4.40	4.40	1.00	1.12	± 12.0 %

^c Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^f At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: ES3DV3- SN:3124

Calibration Parameter Determined in Body Tissue Simulating Media

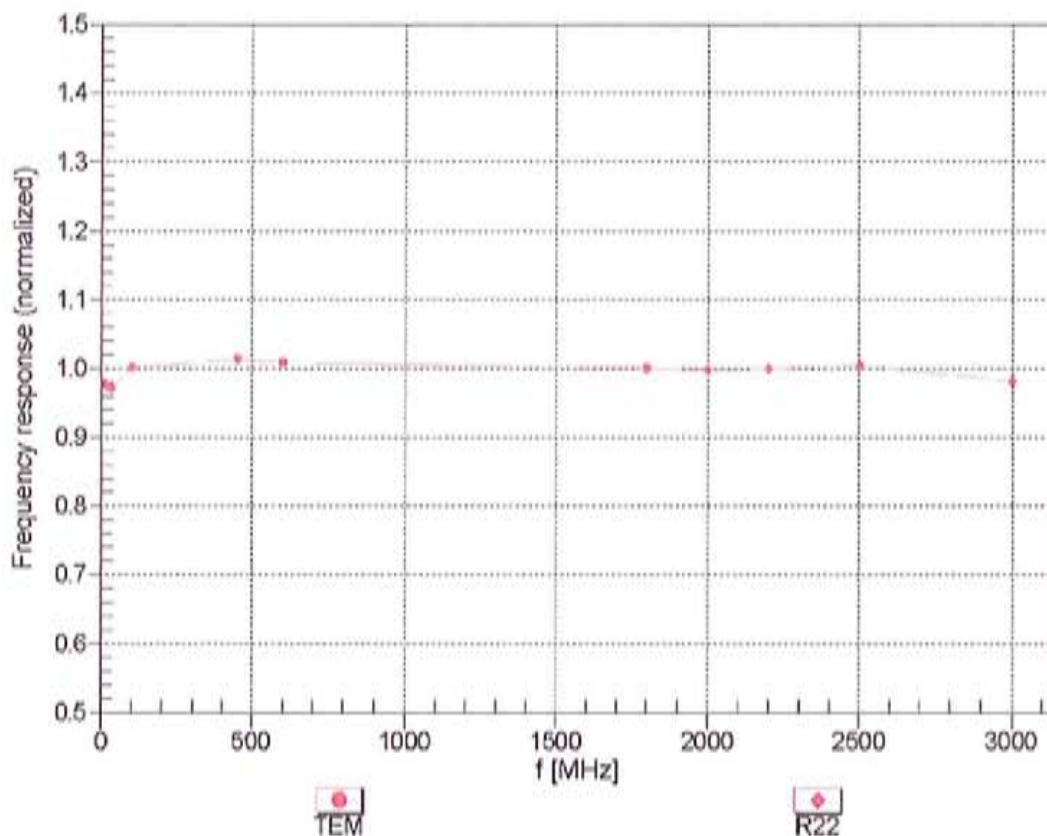
f (MHz) ^c	Relative Permittivity ^f	Conductivity (S/m) ^f	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	6.09	6.09	6.09	1.00	1.00	± 12.0 %
835	55.2	0.97	6.04	6.04	6.04	1.00	1.00	± 12.0 %
1810	53.3	1.52	4.69	4.69	4.69	1.00	1.18	± 12.0 %
1950	53.3	1.52	4.70	4.70	4.70	1.00	1.16	± 12.0 %
2450	52.7	1.95	4.21	4.21	4.21	1.00	1.00	± 12.0 %

^c Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^f At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

Frequency Response of E-Field

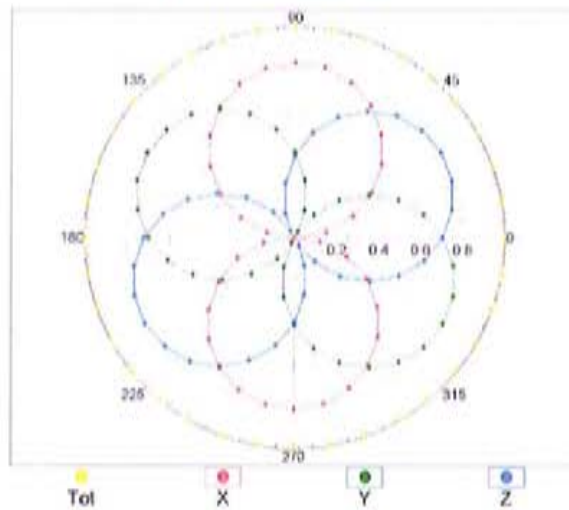
(TEM-Cell: ifi110 EXX, Waveguide: R22)



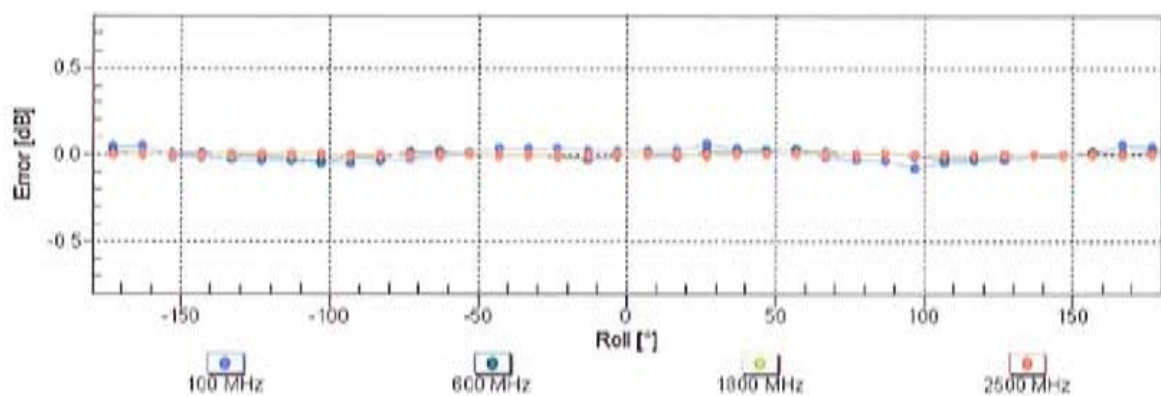
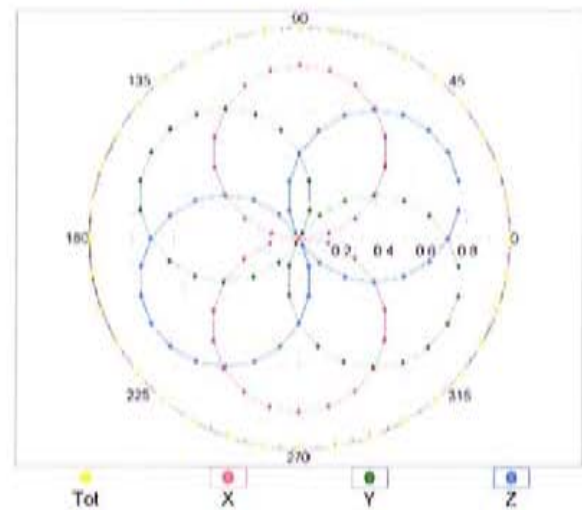
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

Receiving Pattern (ϕ), $\theta = 0^\circ$

f=600 MHz, TEM

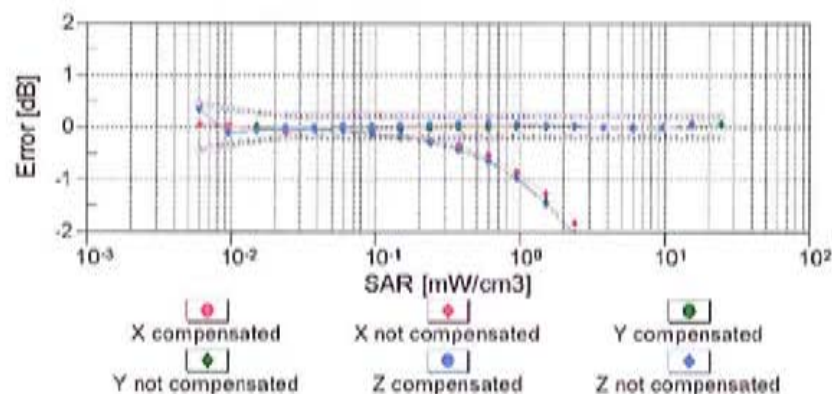
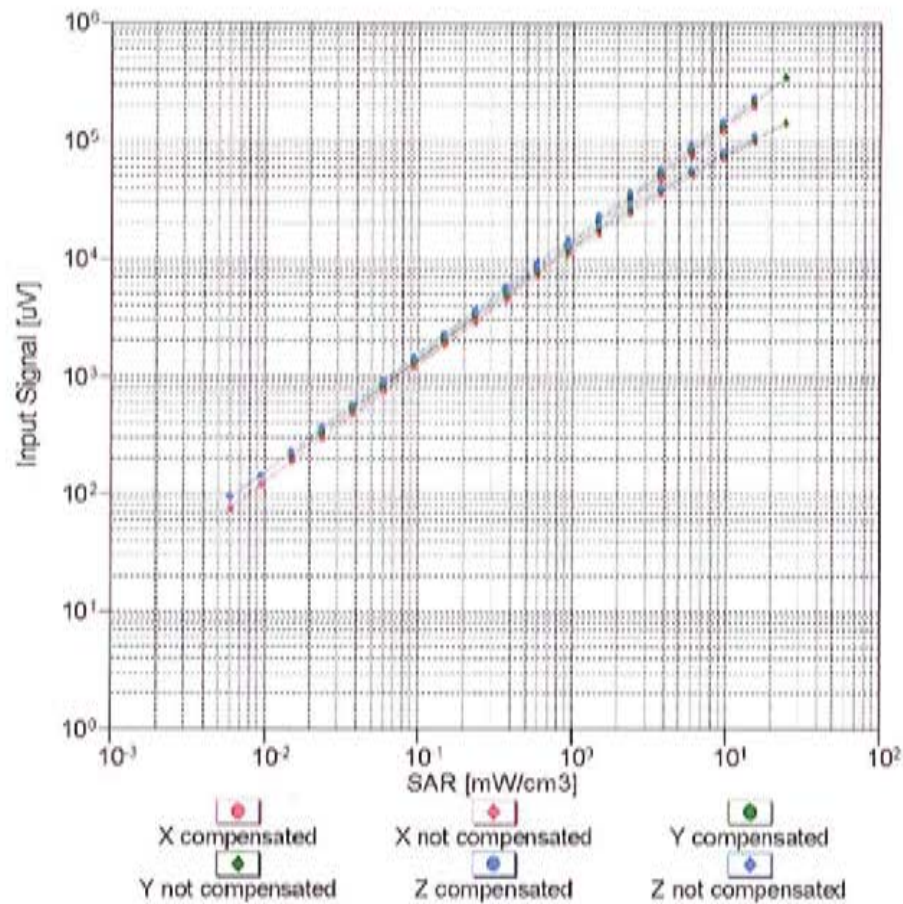


f=1800 MHz, R22



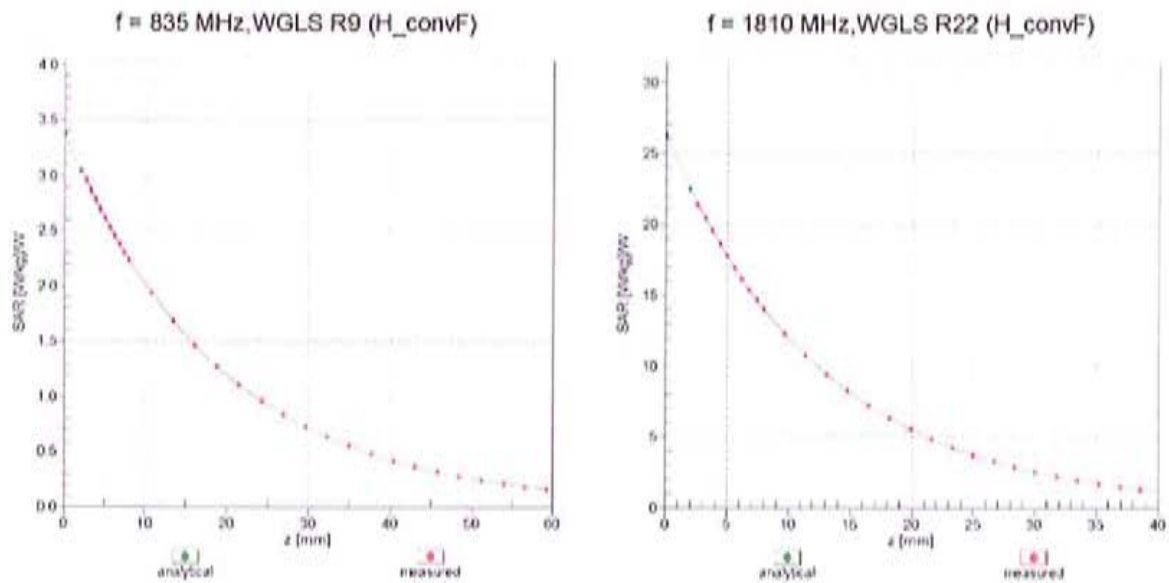
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range f(SAR_{head}) (TEM cell , f = 900 MHz)



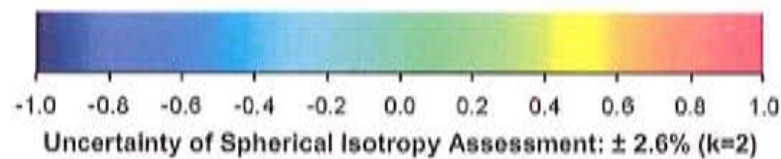
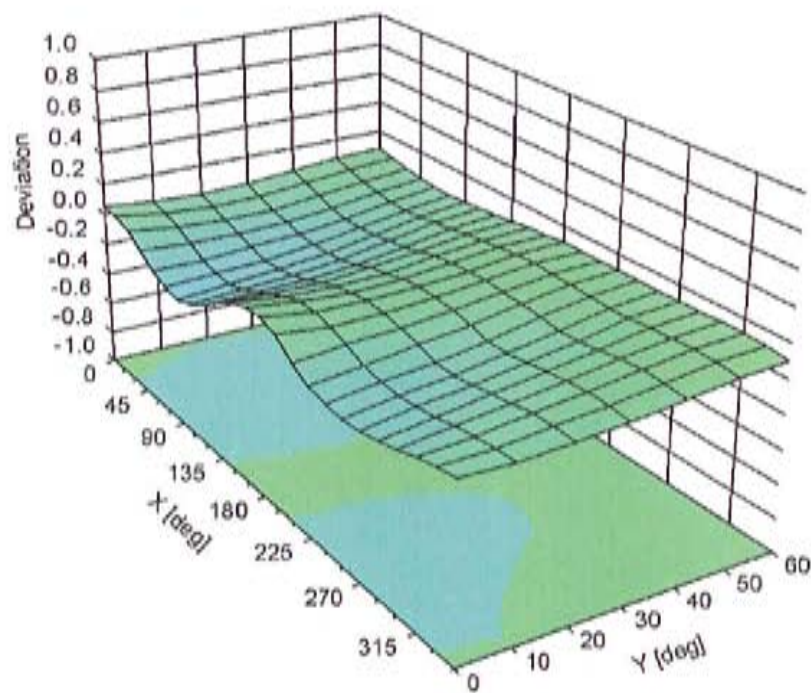
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ , θ), $f = 900 \text{ MHz}$



DASY/EASY - Parameters of Probe: ES3DV3 - SN:3124

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm



Accredited by the Swiss Accreditation Service (SAS)
 The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Motorola MDb**

Certificate No: **ES3-3284_Jan12**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3284**

Calibration procedure(s) **QA CAL-01.v8, QA CAL-23.v4, QA CAL-25.v4**
Calibration procedure for dosimetric E-field probes

Calibration date: **January 10, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
Issued: January 10, 2012			
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\theta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; VR_{x,y,z}**: A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe ES3DV3

SN:3284

Manufactured: June 7, 2010
Calibrated: January 10, 2012

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3284

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V/m})^2$) ^A	1.24	1.22	1.10	± 10.1 %
DCP (mV) ^B	104.0	99.5	102.4	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc ^C (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	109.4	±2.5 %
			Y	0.00	0.00	1.00	110.9	
			Z	0.00	0.00	1.00	105.7	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter; uncertainty not required.

^C Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3284

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^c	Relative Permittivity ^f	Conductivity (S/m) ^f	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	6.44	6.44	6.44	0.80	1.20	± 12.0 %
835	41.5	0.90	6.18	6.18	6.18	0.80	1.18	± 12.0 %
1810	40.0	1.40	5.33	5.33	5.33	0.80	1.22	± 12.0 %
1950	40.0	1.40	5.08	5.08	5.08	0.80	1.24	± 12.0 %
2450	39.2	1.80	4.56	4.56	4.56	0.80	1.25	± 12.0 %

^c Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^f At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3284

Calibration Parameter Determined in Body Tissue Simulating Media

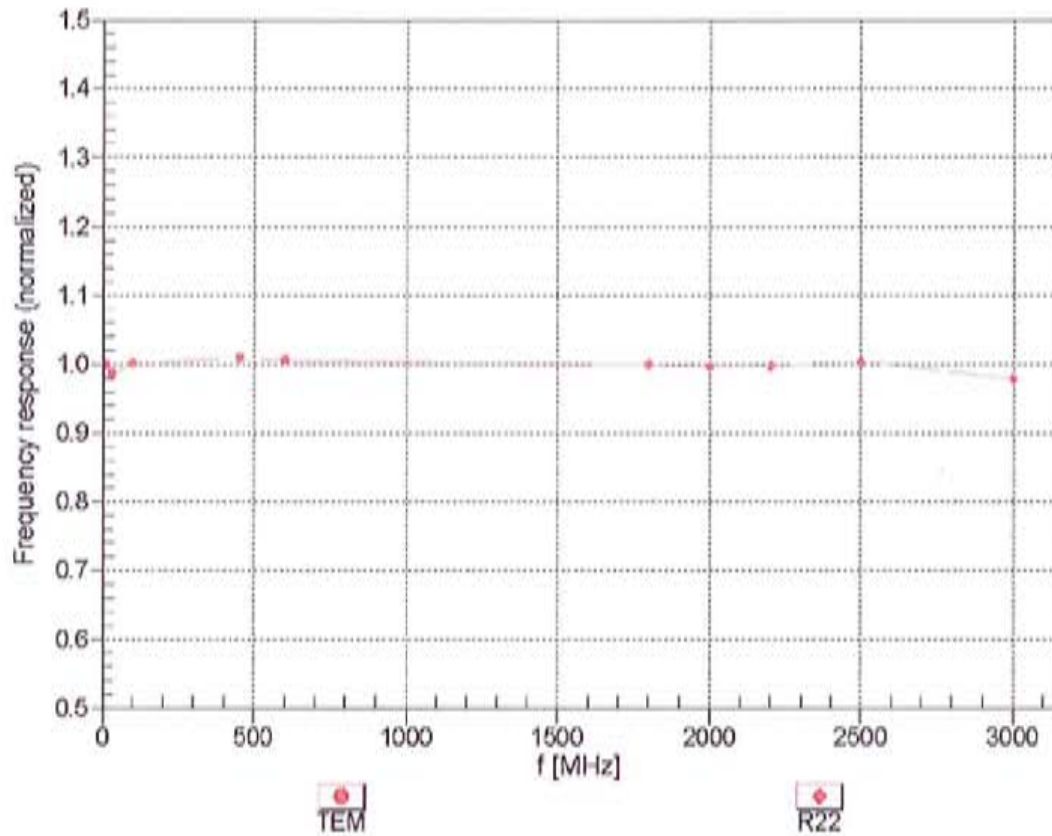
f (MHz) ^c	Relative Permittivity ^f	Conductivity (S/m) ^f	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	6.36	6.36	6.36	0.80	1.00	± 12.0 %
835	55.2	0.97	6.28	6.28	6.28	0.80	1.00	± 12.0 %
1810	53.3	1.52	5.28	5.28	5.28	0.80	1.40	± 12.0 %
1950	53.3	1.52	5.20	5.20	5.20	0.69	1.49	± 12.0 %
2450	52.7	1.95	4.56	4.56	4.56	0.80	1.00	± 12.0 %

^c Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^f At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

Frequency Response of E-Field

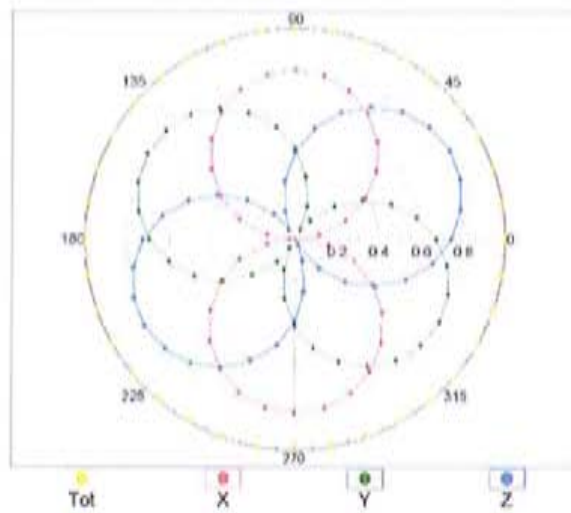
(TEM-Cell: ifi110 EXX, Waveguide: R22)



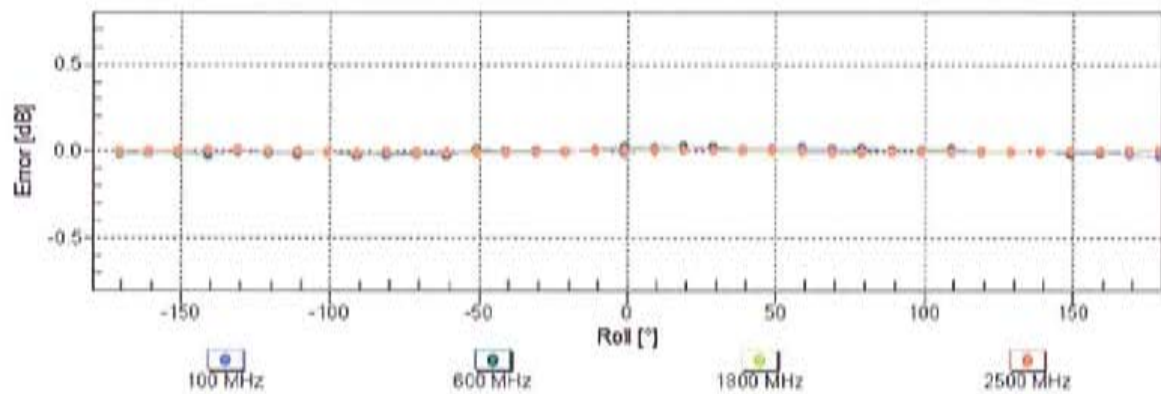
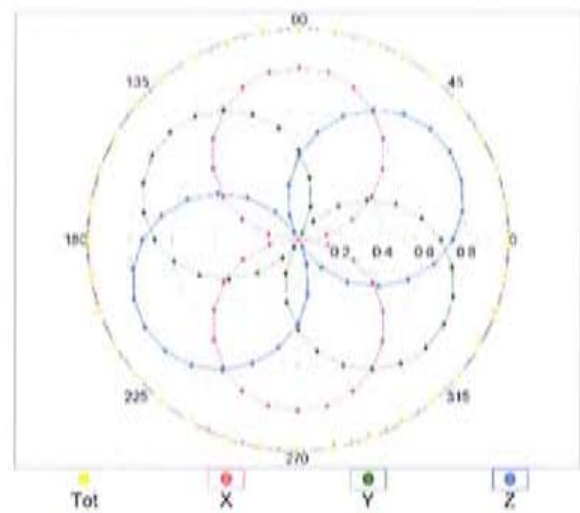
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\theta = 0^\circ$

$f=600$ MHz, TEM

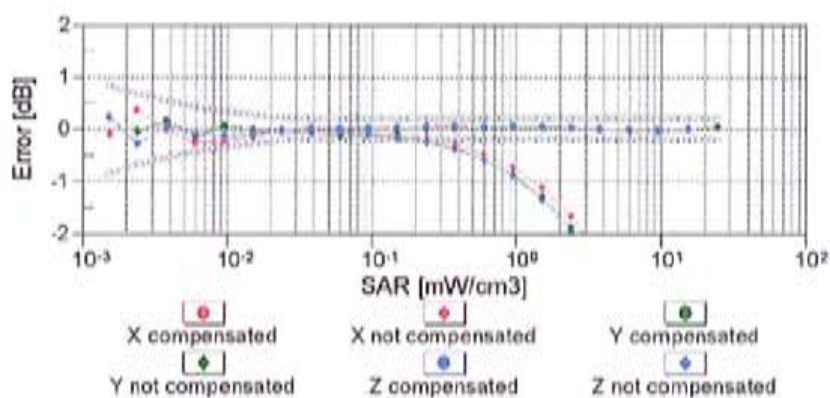
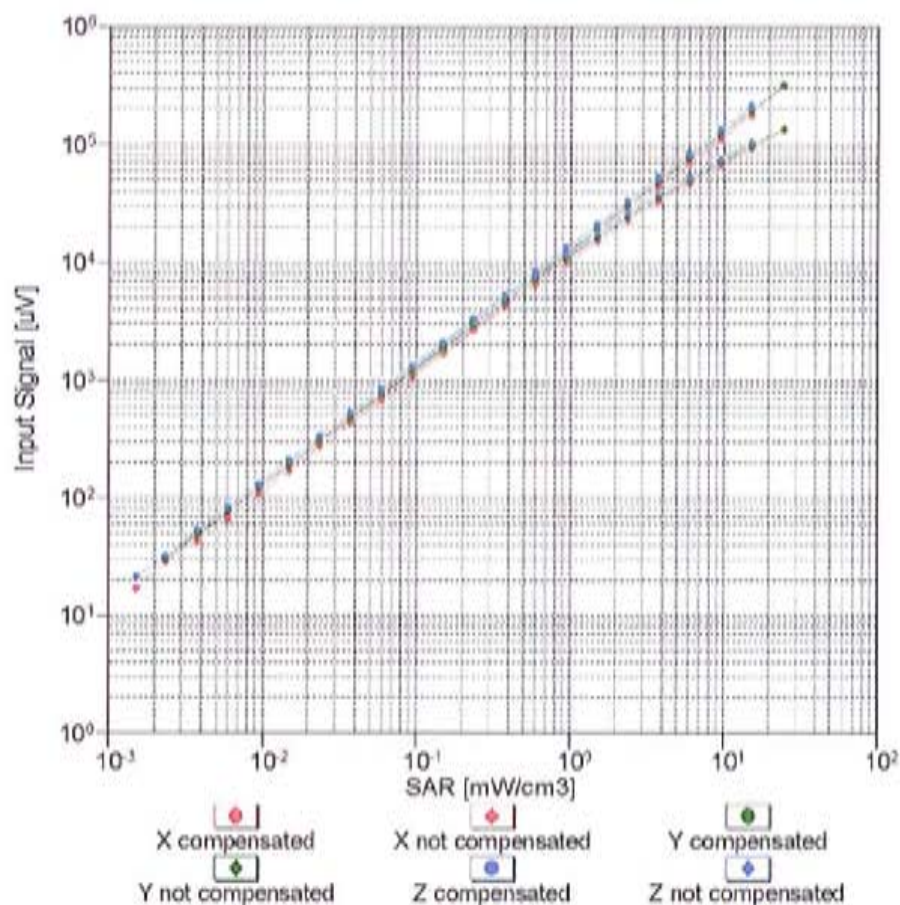


$f=1800$ MHz, R22



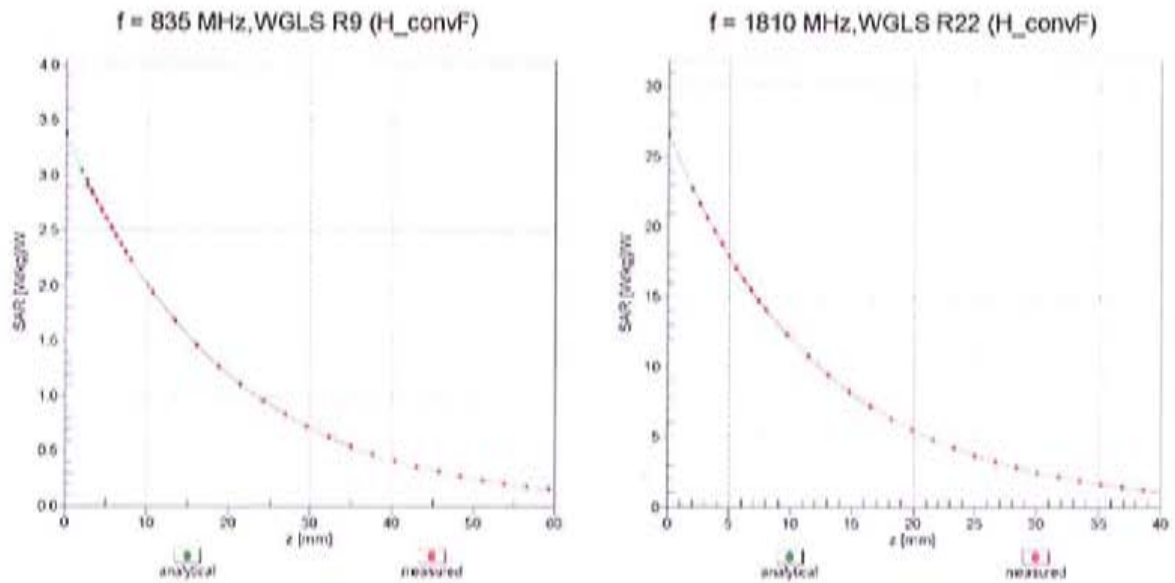
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (TEM cell , $f = 900 \text{ MHz}$)



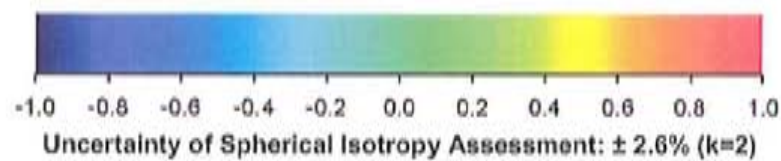
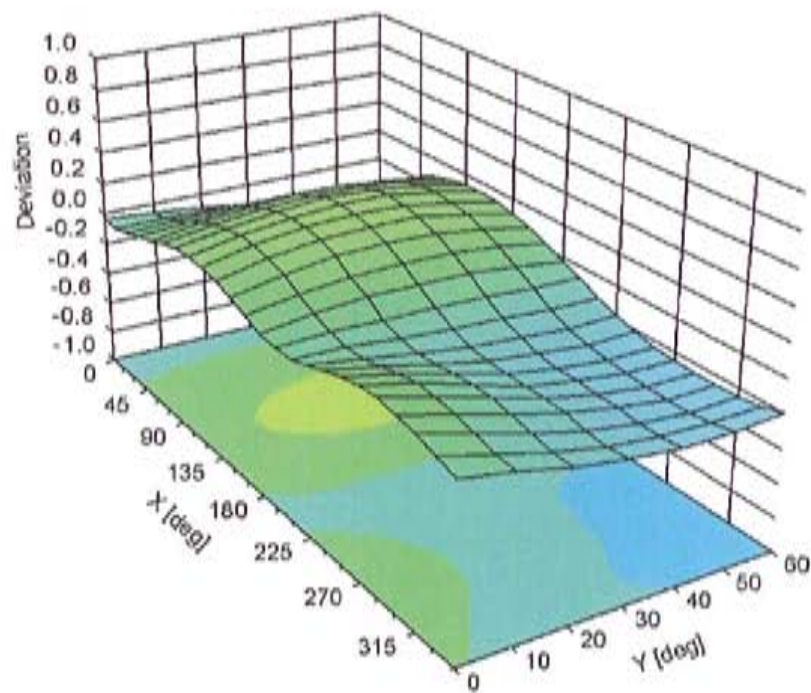
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), $f = 900 \text{ MHz}$



DASY/EASY - Parameters of Probe: ES3DV3 - SN:3284**Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm



Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Motorola MDb**

Certificate No: **EX3-3728_Apr12**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3728**

Calibration procedure(s) **QA CAL-01.v8, QA CAL-14.v3, QA CAL-23.v4, QA CAL-25.v4**
Calibration procedure for dosimetric E-field probes

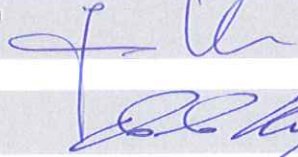
Calibration date: **April 24, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 660	10-Jan-12 (No. DAE4-660_Jan12)	Jan-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
Issued: April 25, 2012			
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E^2 -field uncertainty inside TSL (see below **ConvF**).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of **ConvF**.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; VR_{x,y,z}**: A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV4

SN:3728

Manufactured: October 19, 2009
Calibrated: April 24, 2012

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3728

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V/m})^2$) ^A	0.48	0.45	0.50	$\pm 10.1 \%$
DCP (mV) ^B	99.3	100.3	102.1	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc ^E (k=2)
0	CW	0.00	X	0.00	0.00	1.00	155.3	$\pm 3.3 \%$
			Y	0.00	0.00	1.00	155.9	
			Z	0.00	0.00	1.00	120.3	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E^2 -field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3728

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	9.24	9.24	9.24	0.50	0.76	± 12.0 %
835	41.5	0.90	8.83	8.83	8.83	0.32	0.97	± 12.0 %
1810	40.0	1.40	7.61	7.61	7.61	0.80	0.58	± 12.0 %
1950	40.0	1.40	7.43	7.43	7.43	0.77	0.57	± 12.0 %
2450	39.2	1.80	6.86	6.86	6.86	0.25	0.98	± 12.0 %
2600	39.0	1.96	6.71	6.71	6.71	0.35	0.86	± 12.0 %
5200	36.0	4.66	4.74	4.74	4.74	0.40	1.80	± 13.1 %
5300	35.9	4.76	4.43	4.43	4.43	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.14	4.14	4.14	0.50	1.80	± 13.1 %
5800	35.3	5.27	4.23	4.23	4.23	0.45	1.80	± 13.1 %

^C Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3728

Calibration Parameter Determined in Body Tissue Simulating Media

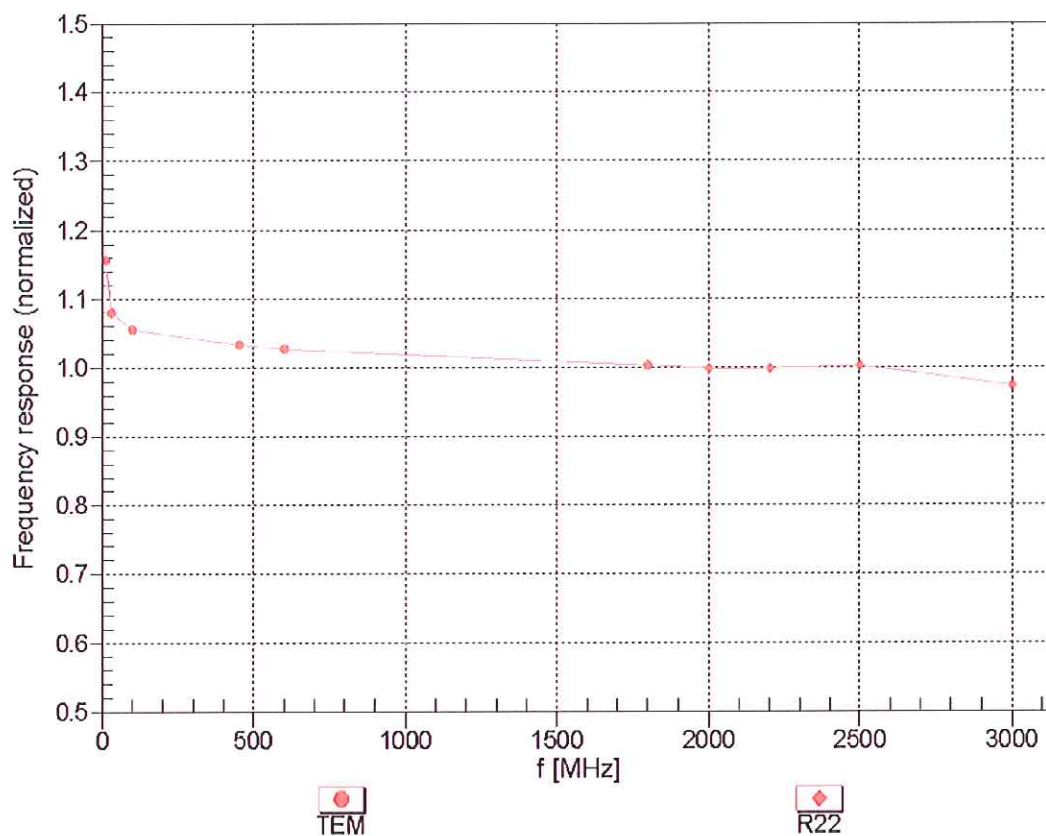
f (MHz) ^c	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Uct. (k=2)
750	55.5	0.96	9.16	9.16	9.16	0.25	1.16	± 12.0 %
835	55.2	0.97	9.05	9.05	9.05	0.36	0.97	± 12.0 %
1810	53.3	1.52	7.29	7.29	7.29	0.28	1.10	± 12.0 %
1950	53.3	1.52	7.31	7.31	7.31	0.40	0.89	± 12.0 %
2450	52.7	1.95	6.84	6.84	6.84	0.80	0.50	± 12.0 %
2600	52.5	2.16	6.45	6.45	6.45	0.80	0.57	± 12.0 %
5200	49.0	5.30	4.22	4.22	4.22	0.50	1.90	± 13.1 %
5300	48.9	5.42	4.11	4.11	4.11	0.50	1.90	± 13.1 %
5600	48.5	5.77	3.37	3.37	3.37	0.60	1.90	± 13.1 %
5800	48.2	6.00	3.71	3.71	3.71	0.60	1.90	± 13.1 %

^c Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

Frequency Response of E-Field

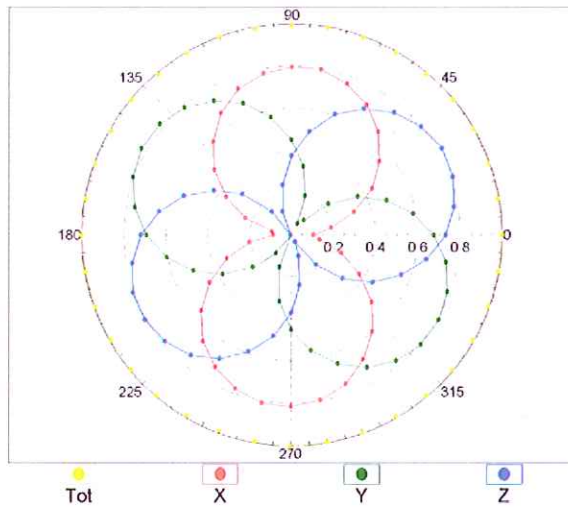
(TEM-Cell:ifi110 EXX, Waveguide: R22)



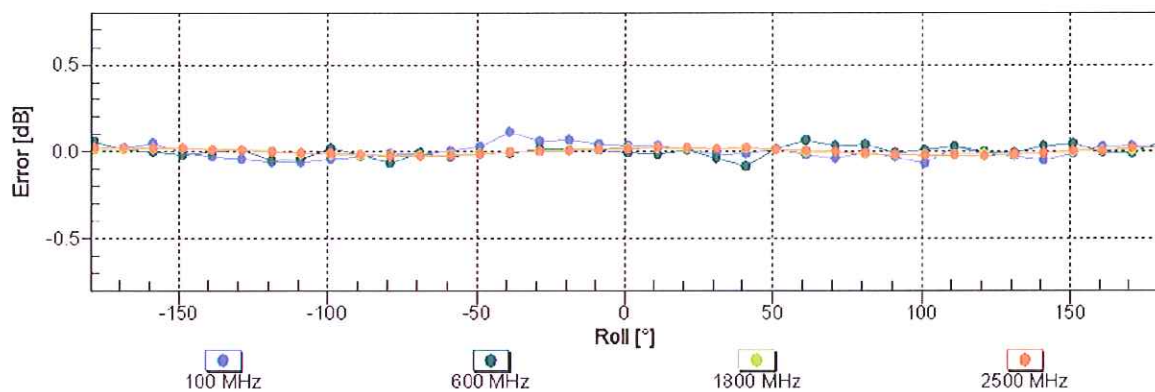
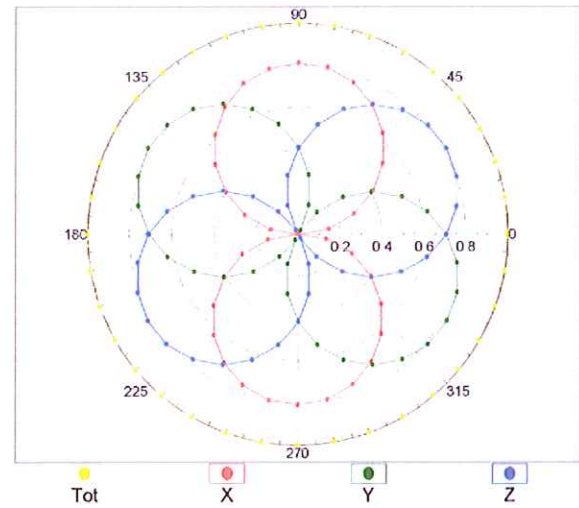
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\vartheta = 0^\circ$

f=600 MHz, TEM

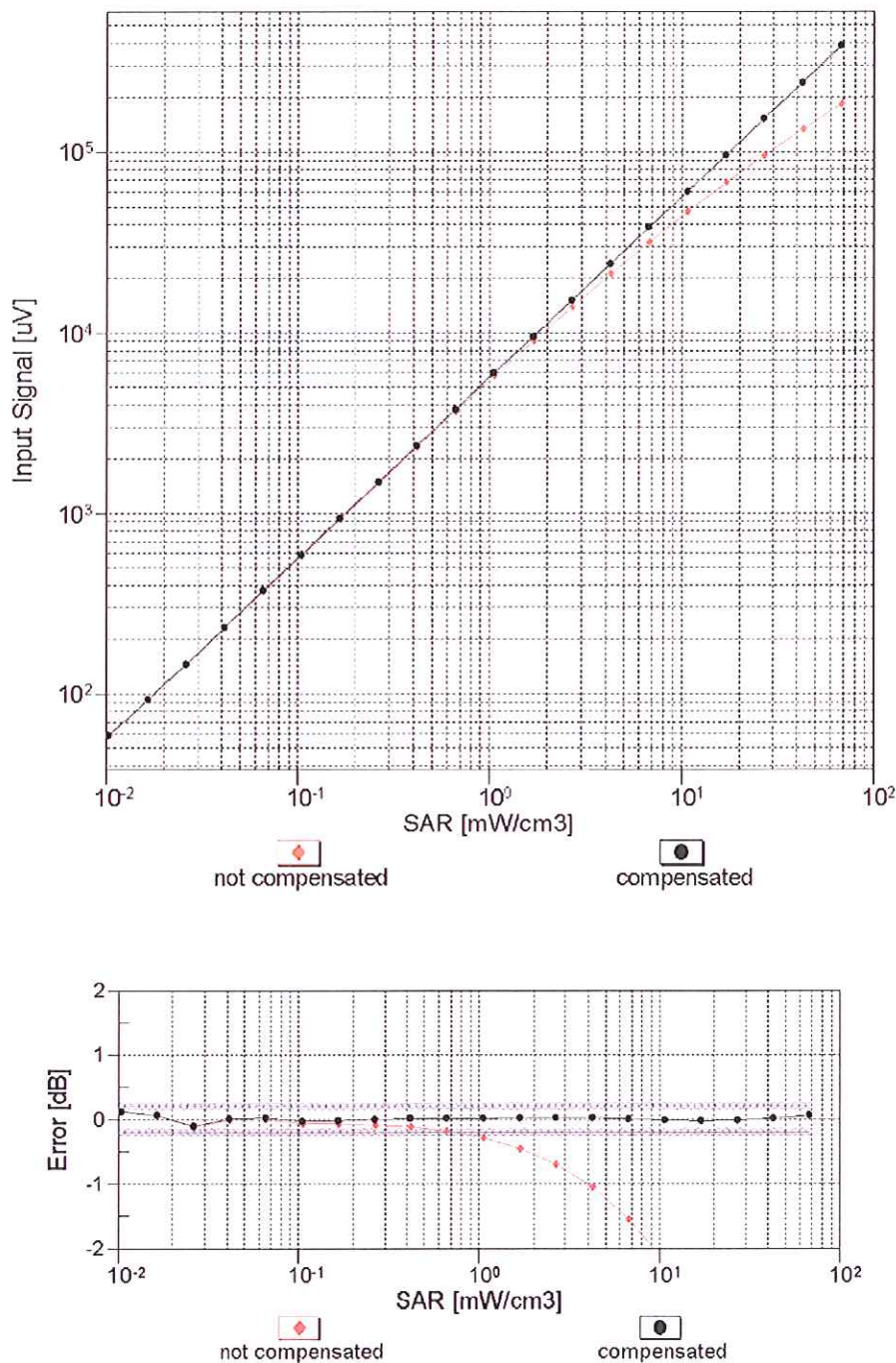


f=1800 MHz, R22



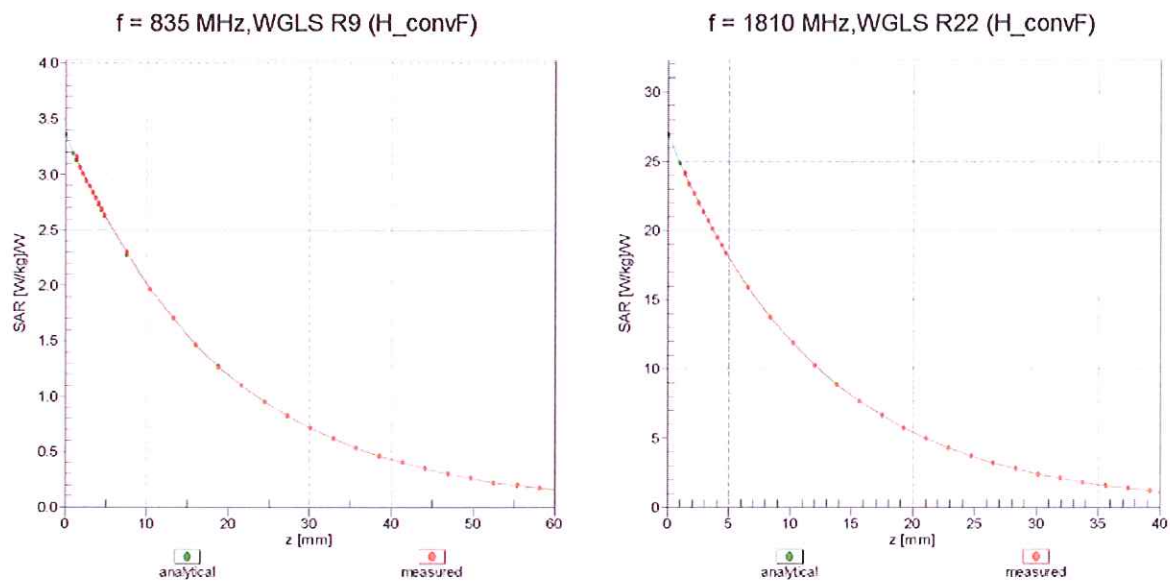
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range f(SAR_{head})
(TEM cell , f = 900 MHz)



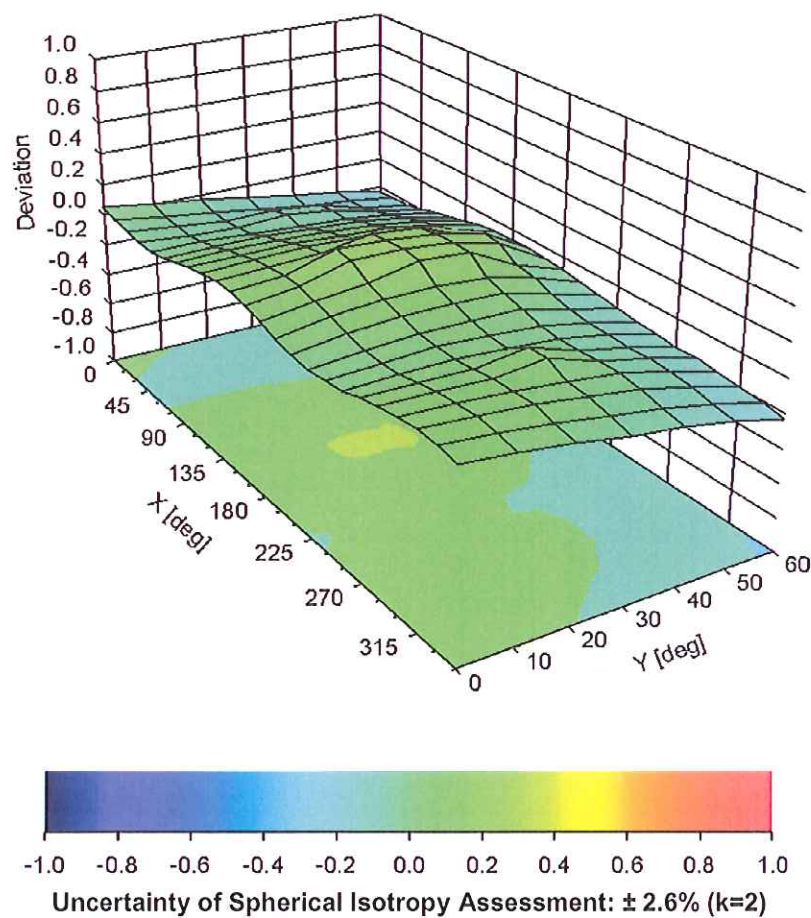
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), $f = 900 \text{ MHz}$



DASY/EASY - Parameters of Probe: EX3DV4 - SN:3728

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	151.1
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm