

## **Appendix 1**

### **SAR Distribution Plots for Test System Verification**

## **System Accuracy Verification Measurements for Head SAR Measurements**

Date/Time: 4/26/2013 7:14:15 AM

**Test Lab: Motorola Mobility - CW System Verification for HEAD SAR using Dipoles**  
**DUT Serial: D835V2 - SN:422tr;**

**DASY Configuration:**

- Probe: ES3DV3 - SN3180; ConvF(6.23,6.23,6.23); Calibrated: 2/11/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn656; Calibrated: 2/7/2013
- Phantom: R#1 - Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1156
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for HEAD SAR Dipoles; Frequency: 835.0 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=835$  MHz;  $\sigma = 0.9241$ ;  $\epsilon_r = 41.25$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**<2 GHz, SAM Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.500 mm**

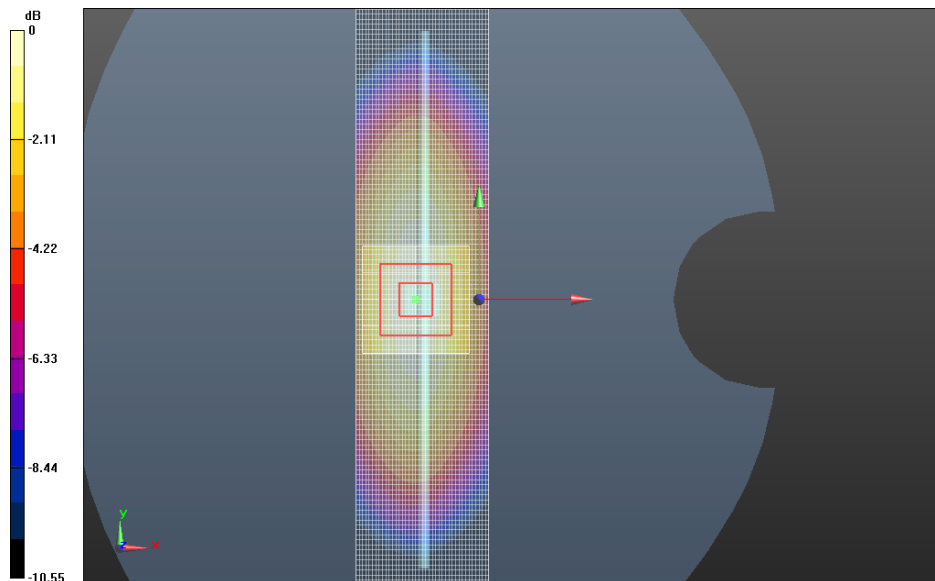
Fast SAR: SAR(1g) = 1.86 W/kg; SAR(10g) = 1.24 W/kg

**<2 GHz, SAM Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 47.630 V/m, Power Drift = -0.017 dB

Averaged SAR: SAR(1g) = 1.85 W/kg; SAR(10g) = 1.22 W/kg



**<2 GHz, SAM Daily SPC Check**

Date/Time: 4/26/2013 9:07:25 AM

**Test Lab: Motorola Mobility - CW System Verification for HEAD SAR using Dipoles**

**DUT Serial: D1800V2 - SN:259tr**

**DASY Configuration:**

- Probe: ES3DV3 - SN3180; ConvF(5.01,5.01,5.01); Calibrated: 2/11/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn656; Calibrated: 2/7/2013
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=1800$  MHz;  $\sigma = 1.371$ ;  $\epsilon_r = 38.30$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**< 2GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.500 mm**

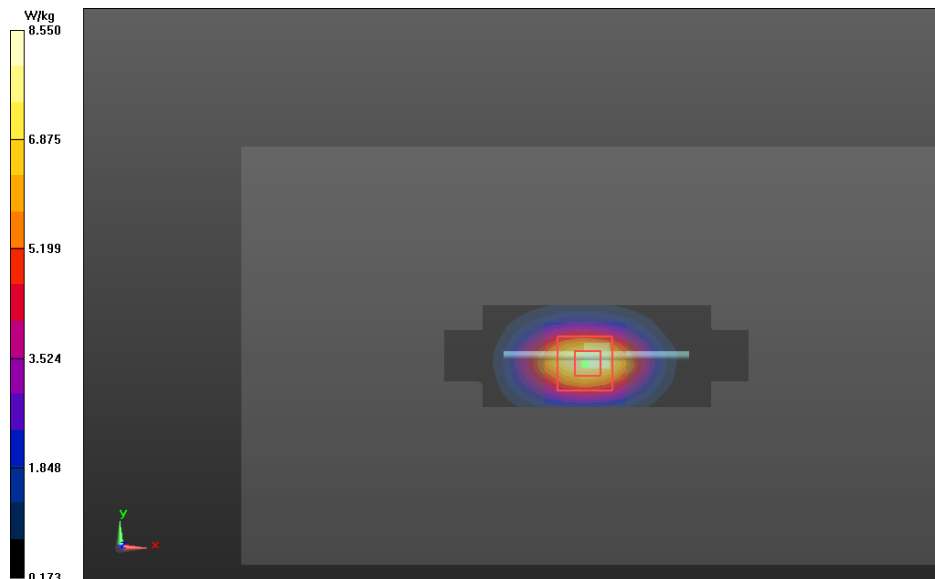
Fast SAR: SAR(1g) = 7.75 W/kg; SAR(10g) = 4.18 W/kg

**< 2GHz, Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 78.336 V/m, Power Drift = -0.040 dB

Averaged SAR: SAR(1g) = 7.65 W/kg; SAR(10g) = 4.04 W/kg



**< 2GHz, Daily SPC Check**

Date/Time: 4/26/2013 8:03:57 AM

**Test Lab: Motorola Mobility - CW System Verification for HEAD SAR using Dipoles****DUT Serial: D835V2 - SN:436tr****DASY Configuration:**

- Probe: ES3DV3 - SN3124; ConvF(6.01,6.01,6.01); Calibrated: 8/20/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 9/3/2012
- Phantom: R#2 Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1235
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for HEAD SAR Dipoles; Frequency: 835.0 MHz; Duty Cycle: 1:1.000

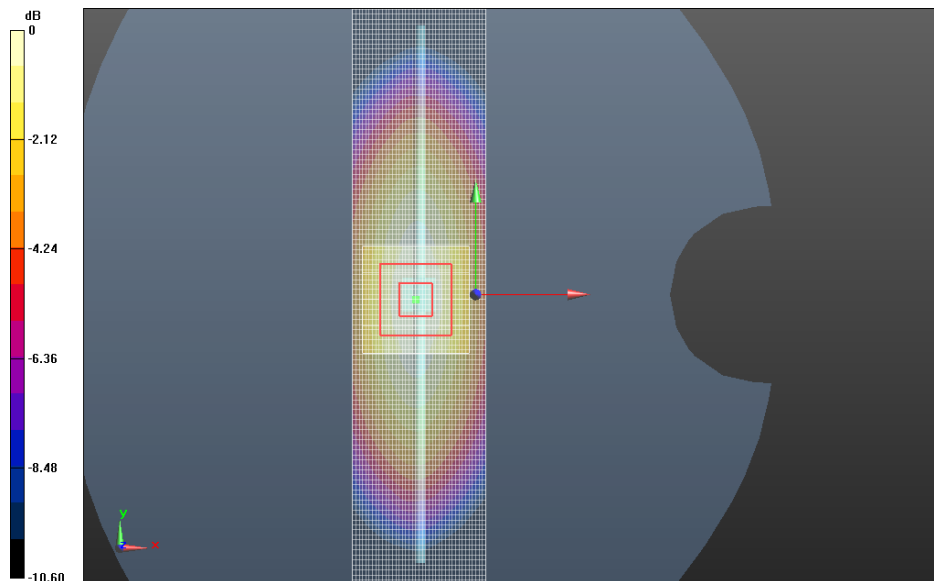
Medium Parameters used:  $f=835$  MHz;  $\sigma = 0.9179$ ;  $\epsilon_r = 41.19$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>**<2 GHz, SAM Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):****Interpolated grid: dx=1.000 mm, dy=1.500 mm**

Fast SAR: SAR(1g) = 1.97 W/kg; SAR(10g) = 1.31 W/kg

**<2 GHz, SAM Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:****Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 49.152 V/m, Power Drift = 0.00944 dB

Averaged SAR: SAR(1g) = 1.96 W/kg; SAR(10g) = 1.29 W/kg

**<2 GHz, SAM Daily SPC Check**

Date/Time: 4/26/2013 7:01:18 AM

**Test Lab: Motorola Mobility - CW System Verification for HEAD SAR using Dipoles**  
**DUT Serial: D1800V2 - SN:2d190**

**DASY Configuration:**

- Probe: ES3DV3 - SN3124; ConvF(5.07,5.07,5.07); Calibrated: 8/20/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 9/3/2012
- Phantom: R#2 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for HEAD SAR Dipoles; Frequency: 1800 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=1800$  MHz;  $\sigma = 1.371$ ;  $\epsilon_r = 38.30$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**< 2GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.500 mm**

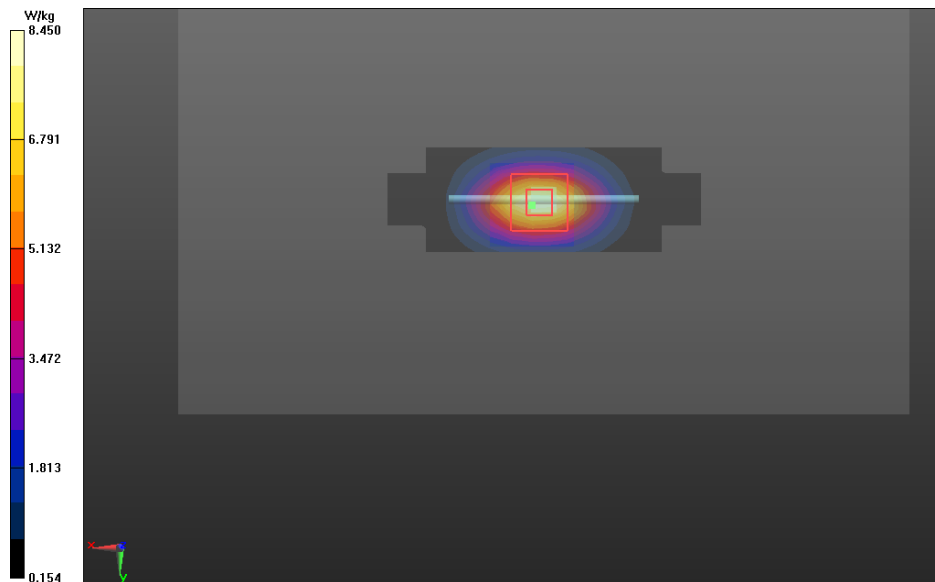
Fast SAR: SAR(1g) = 7.70 W/kg; SAR(10g) = 4.17 W/kg

**< 2GHz, Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 79.415 V/m, Power Drift = 0.025 dB

Averaged SAR: SAR(1g) = 7.61 W/kg; SAR(10g) = 4.03 W/kg



**< 2GHz, Daily SPC Check**

Date/Time: 3/21/2013 4:12:13 PM

## Test Lab: Motorola Mobility - CW System Verification for HEAD SAR using Dipoles

DUT Serial: D2450V2 - SN:863

### DASY Configuration:

- Probe: EX3DV4 - SN3730; ConvF(6.9,6.9,6.9); Calibrated: 8/24/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn699; Calibrated: 9/12/2012
- Phantom: R#3, 2450 WiFi SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1153
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for HEAD SAR Dipoles; Frequency: 2450 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=2450$  MHz;  $\sigma = 1.813$ ;  $\epsilon_r = 37.16$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):

Interpolated grid:  $dx=1.000$  mm,  $dy=1.500$  mm

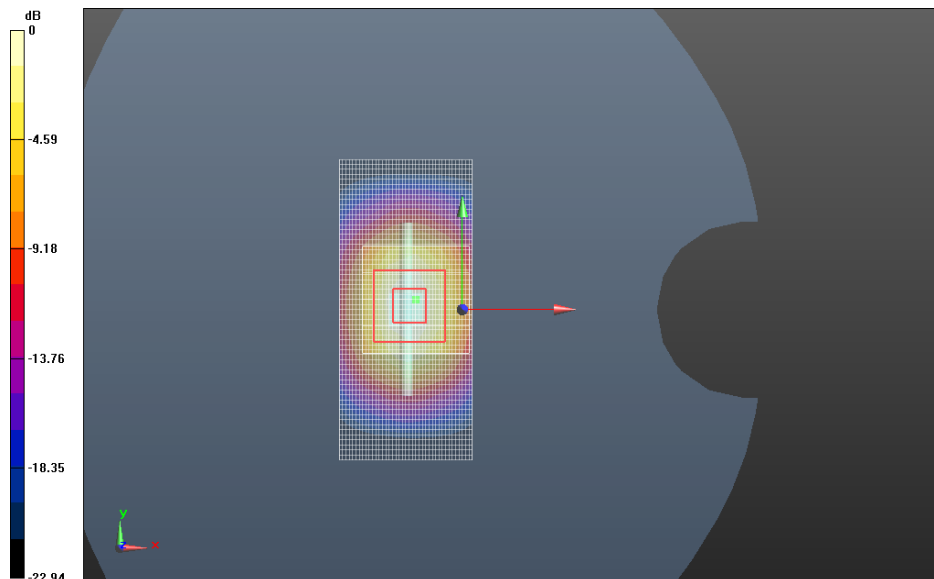
Fast SAR: SAR(1g) = 5.81 W/kg; SAR(10g) = 2.73 W/kg

### Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 59.838 V/m, Power Drift = -0.061 dB

Averaged SAR: SAR(1g) = 5.64 W/kg; SAR(10g) = 2.60 W/kg



Daily SPC Check

Date/Time: 3/29/2013 12:44:02 PM

**Test Lab: Motorola Mobility - CW System Verification for HEAD SAR using Dipoles**  
**DUT Serial: D5GHzV2 - SN:1088**

**DASY Configuration:**

- Probe: EX3DV4 - SN3730; ConvF(4.9,4.9,4.9); Calibrated: 8/24/2012;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn784; Calibrated: 3/6/2013
- Phantom: R#3, 5GHz SAM, REV.2 (13nov12); Type: SAM; Serial: TP-1106
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for HEAD SAR Dipoles; Frequency: 5200 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=5200$  MHz;  $\sigma = 4.707$ ;  $\epsilon_r = 34.83$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**Daily SPC Check/fastSAR, Dipole Area Scan (41x211x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

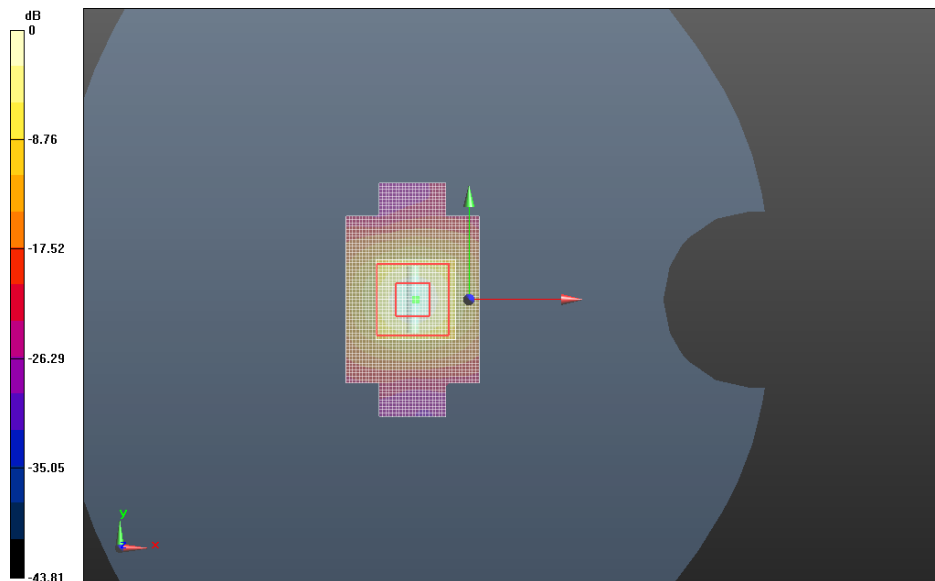
Fast SAR: SAR(1g) = 7.67 W/kg; SAR(10g) = 2.10 W/kg

**Daily SPC Check/CUBE SAR, 7x7x12 (31x31x31)/Cube 0:**

**Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm**

Reference Value = 63.229 V/m, Power Drift = -0.025 dB

Averaged SAR: SAR(1g) = 7.85 W/kg; SAR(10g) = 2.22 W/kg



**Daily SPC Check**

Date/Time: 3/27/2013 6:57:58 PM

**Test Lab: Motorola Mobility - CW System Verification for HEAD SAR using Dipoles**  
**DUT Serial: D5GHzV2 - SN:1088**

**DASY Configuration:**

- Probe: EX3DV4 - SN3730; ConvF(4.24,4.24,4.24); Calibrated: 8/24/2012;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn699; Calibrated: 9/12/2012
- Phantom: R#3, 5GHz SAM, REV.2 (13nov12); Type: SAM; Serial: TP-1106
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for HEAD SAR Dipoles; Frequency: 5800 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=5800$  MHz;  $\sigma = 5.346$ ;  $\epsilon_r = 33.00$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**Daily SPC Check/fastSAR, Dipole Area Scan (41x211x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

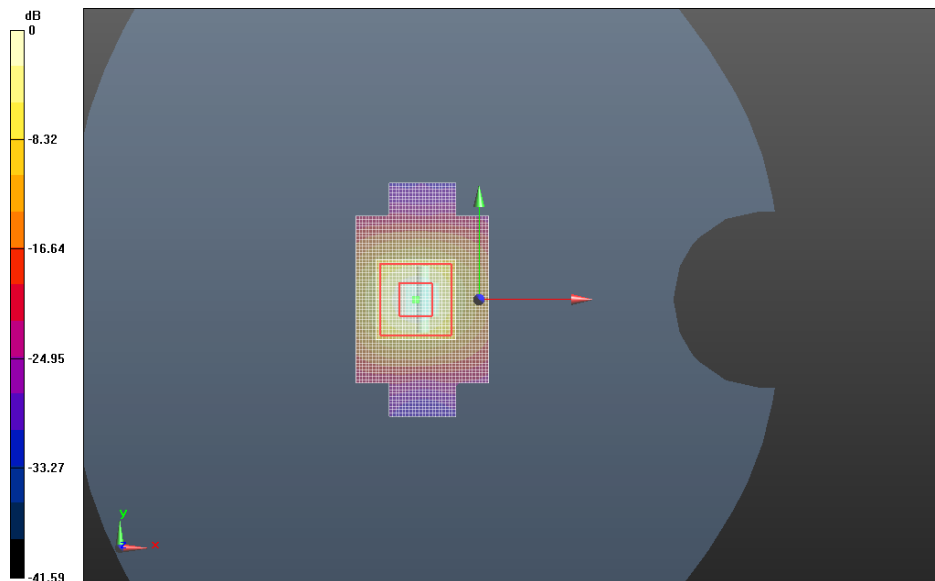
Fast SAR: SAR(1g) = 7.91 W/kg; SAR(10g) = 2.17 W/kg

**Daily SPC Check/CUBE SAR, 7x7x12 (31x31x31)/Cube 0:**

**Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm**

Reference Value = 61.064 V/m, Power Drift = -0.014 dB

Averaged SAR: SAR(1g) = 8.26 W/kg; SAR(10g) = 2.31 W/kg



**Daily SPC Check**

## **System Accuracy Verification Measurements for Body SAR Measurements**

Date/Time: 4/27/2013 10:45:46 PM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles****DUT Serial: D835V2 - SN:422tr****DASY Configuration:**

- Probe: ES3DV3 - SN3180; ConvF(6.05,6.05,6.05); Calibrated: 2/11/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn656; Calibrated: 2/7/2013
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 835.0 MHz; Duty Cycle: 1:1.000

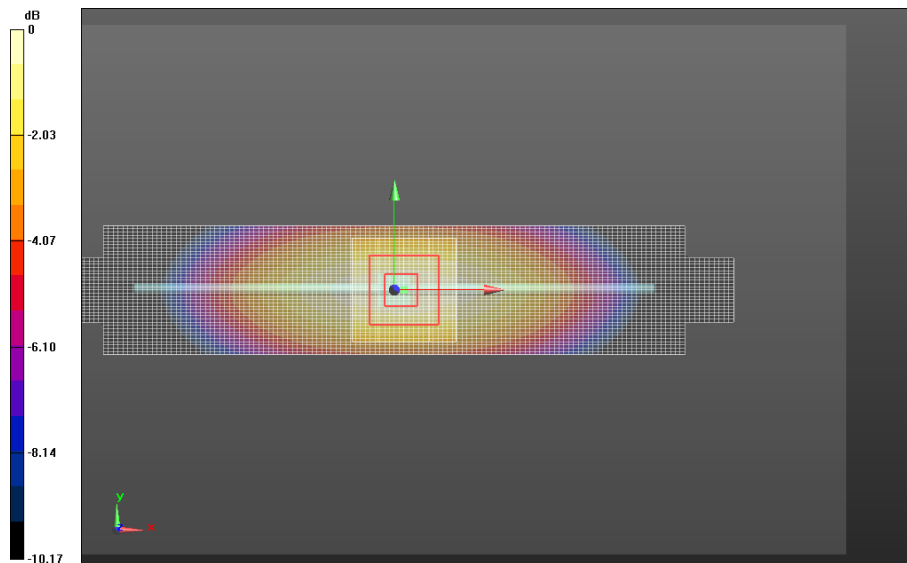
Medium Parameters used:  $f=835$  MHz;  $\sigma = 0.9856$ ;  $\epsilon_r = 52.82$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>**< 2GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):****Interpolated grid: dx=1.000 mm, dy=1.500 mm**

Fast SAR: SAR(1g) = 1.90 W/kg; SAR(10g) = 1.26 W/kg

**< 2GHz, Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:****Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 47.088 V/m, Power Drift = -0.014 dB

Averaged SAR: SAR(1g) = 1.90 W/kg; SAR(10g) = 1.26 W/kg

**< 2GHz, Daily SPC Check**

Date/Time: 4/27/2013 1:26:27 PM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**

**DUT Serial: D1800V2 - SN:259tr**

**DASY Configuration:**

- Probe: ES3DV3 - SN3180; ConvF(4.78,4.78,4.78); Calibrated: 2/11/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn656; Calibrated: 2/7/2013
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 1800 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=1800$  MHz;  $\sigma = 1.386$ ;  $\epsilon_r = 51.28$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**< 2GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.500 mm**

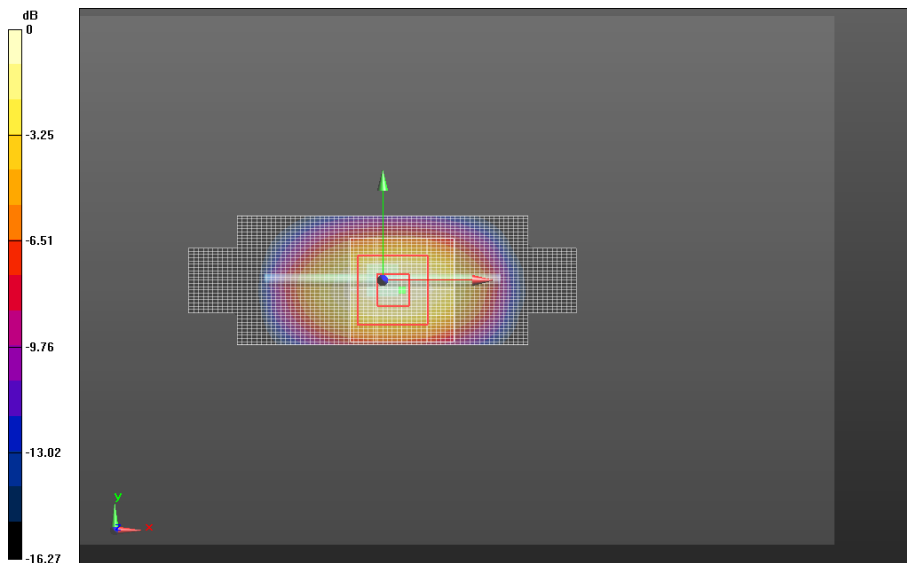
Fast SAR: SAR(1g) = 7.83 W/kg; SAR(10g) = 4.10 W/kg

**< 2GHz, Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 76.650 V/m, Power Drift = -0.012 dB

Averaged SAR: SAR(1g) = 7.70 W/kg; SAR(10g) = 4.11 W/kg



**< 2GHz, Daily SPC Check**

Date/Time: 4/25/2013 3:03:39 PM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**

**DUT Serial: D835V2 - SN:436tr**

**DASY Configuration:**

- Probe: ES3DV3 - SN3124; ConvF(6.02,6.02,6.02); Calibrated: 8/20/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 9/3/2012
- Phantom: R#2 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 835.0 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=835$  MHz;  $\sigma = 1.010$ ;  $\epsilon_r = 53.59$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**< 2GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.500 mm**

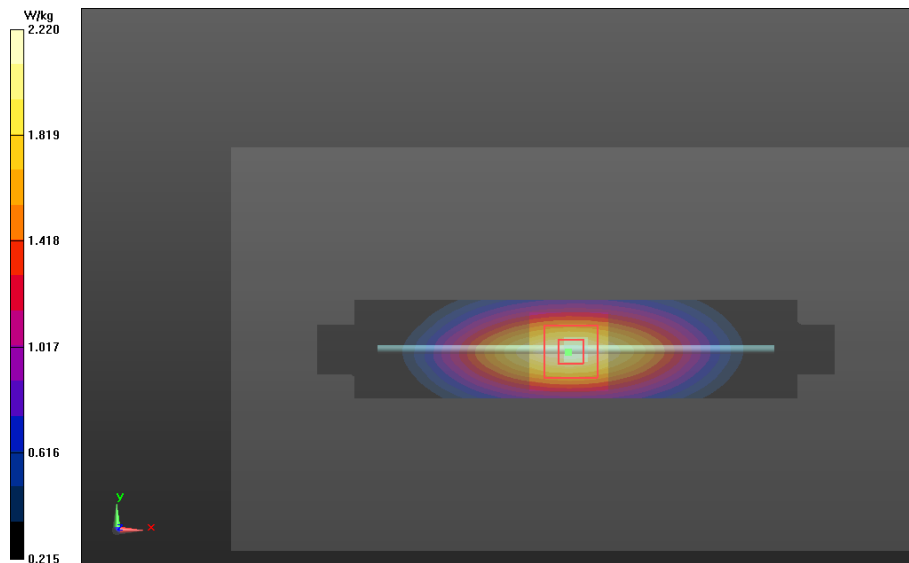
Fast SAR: SAR(1g) = 1.98 W/kg; SAR(10g) = 1.32 W/kg

**< 2GHz, Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 47.621 V/m, Power Drift = -0.00204 dB

Averaged SAR: SAR(1g) = 1.98 W/kg; SAR(10g) = 1.32 W/kg



**< 2GHz, Daily SPC Check**

Date/Time: 4/26/2013 7:38:06 AM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles****DUT Serial: D1800V2 - SN:2d190****DASY Configuration:**

- Probe: ES3DV3 - SN3124; ConvF(4.76,4.76,4.76); Calibrated: 8/20/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 9/3/2012
- Phantom: R#2 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 1800 MHz; Duty Cycle: 1:1.000

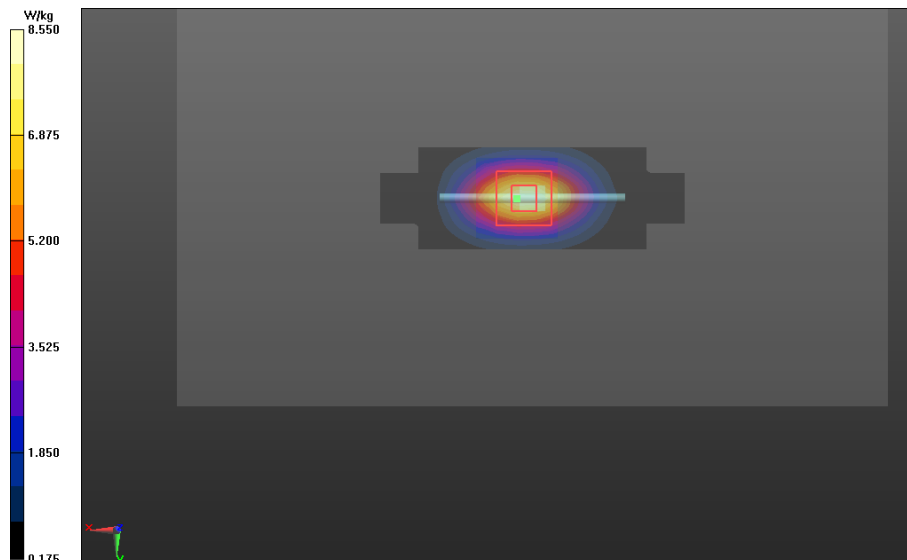
Medium Parameters used:  $f=1800$  MHz;  $\sigma = 1.448$ ;  $\epsilon_r = 49.28$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>**< 2GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):****Interpolated grid: dx=1.000 mm, dy=1.500 mm**

Fast SAR: SAR(1g) = 7.85 W/kg; SAR(10g) = 4.16 W/kg

**< 2GHz, Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:****Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 78.283 V/m, Power Drift = 0.00942 dB

Averaged SAR: SAR(1g) = 7.74 W/kg; SAR(10g) = 4.14 W/kg

**< 2GHz, Daily SPC Check**

Date/Time: 9/26/2013 2:53:05 PM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**  
**DUT Serial: D1800V2 - SN:2d190**

**DASY Configuration:**

- Probe: ES3DV3 - SN3184; ConvF(5.05,5.05,5.05); Calibrated: 5/30/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn378; Calibrated: 5/28/2013
- Phantom: R#2 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 1800 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=1800$  MHz;  $\sigma = 1.458$ ;  $\epsilon_r = 51.30$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**< 2GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.500 mm**

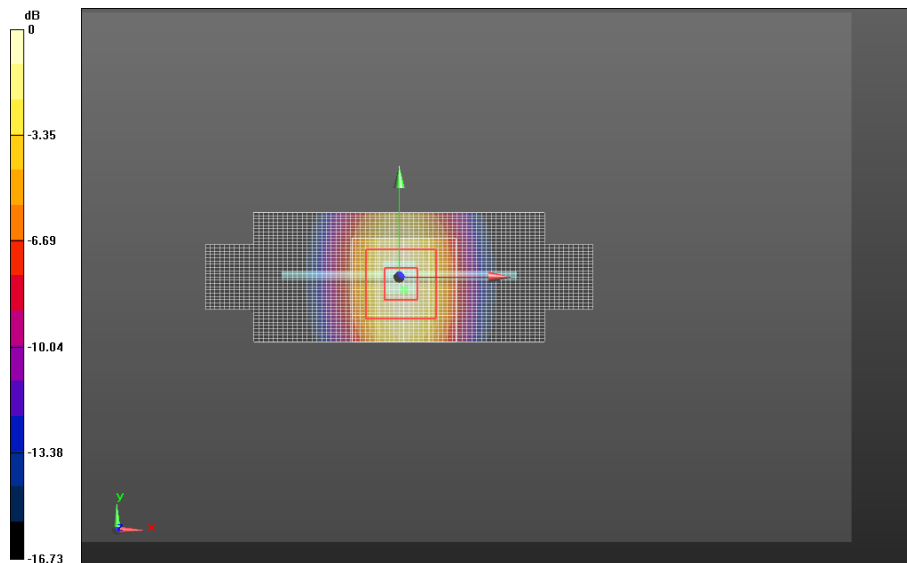
Fast SAR: SAR(1g) = 7.28 W/kg; SAR(10g) = 3.75 W/kg

**< 2GHz, Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 76.539 V/m, Power Drift = -0.036 dB

Averaged SAR: SAR(1g) = 7.38 W/kg; SAR(10g) = 3.93 W/kg



**< 2GHz, Daily SPC Check**

Date/Time: 3/23/2013 9:59:56 AM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**  
**DUT Serial: D2450V2 - SN:863**

**DASY Configuration:**

- Probe: EX3DV4 - SN3730; ConvF(6.86,6.86,6.86); Calibrated: 8/24/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn699; Calibrated: 9/12/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 2450 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=2450$  MHz;  $\sigma = 2.014$ ;  $\epsilon_r = 50.24$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.500 mm**

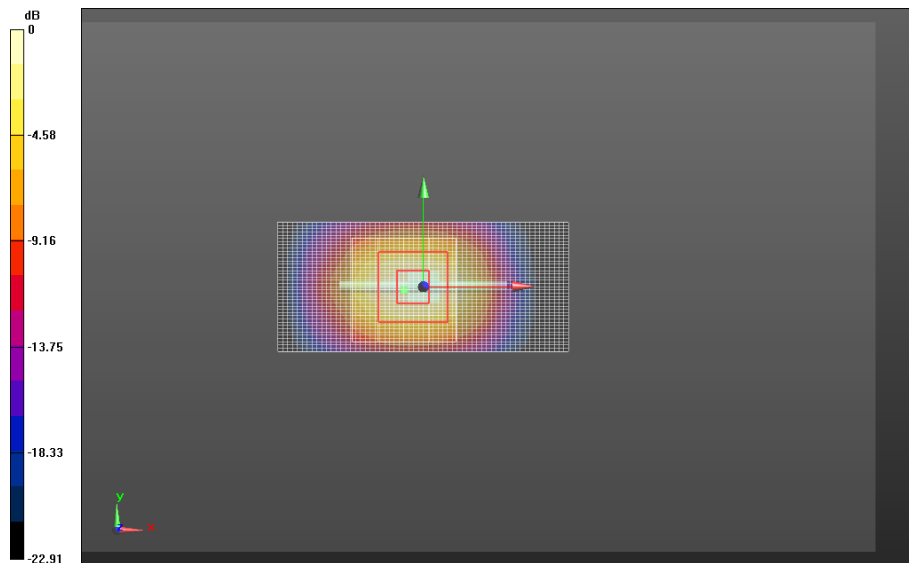
Fast SAR: SAR(1g) = 5.55 W/kg; SAR(10g) = 2.54 W/kg

**Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 52.768 V/m, Power Drift = -0.023 dB

Averaged SAR: SAR(1g) = 5.35 W/kg; SAR(10g) = 2.49 W/kg



**Daily SPC Check**

Date/Time: 9/18/2013 1:17:30 PM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**

**DUT Serial: D2450V2 - SN:740**

**DASY Configuration:**

- Probe: EX3DV4 - SN3728; ConvF(7.13,7.13,7.13); Calibrated: 5/30/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn784; Calibrated: 3/6/2013
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 2450 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=2450$  MHz;  $\sigma = 1.937$ ;  $\epsilon_r = 49.77$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**2-3GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x221x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

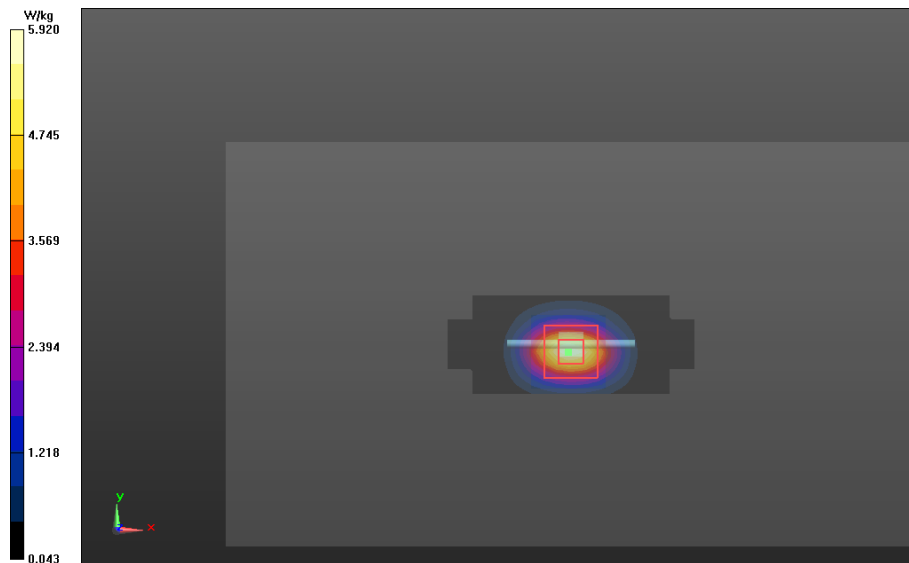
Fast SAR: SAR(1g) = 5.10 W/kg; SAR(10g) = 2.36 W/kg

**2-3GHz, Daily SPC Check/CUBE SAR, 7x7x7 (31x31x36)/Cube 0:**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm, dz=1.000 mm**

Reference Value = 53.657 V/m, Power Drift = -0.00909 dB

Averaged SAR: SAR(1g) = 5.09 W/kg; SAR(10g) = 2.36 W/kg



**2-3GHz, Daily SPC Check**

Date/Time: 10/9/2013 6:26:01 PM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**  
**DUT Serial: D5GHzV2 - SN:1098**

**DASY Configuration:**

- Probe: EX3DV4 - SN3728; ConvF(4.21,4.21,4.21); Calibrated: 5/30/2013;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn784; Calibrated: 3/6/2013
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 5200 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=5200$  MHz;  $\sigma = 5.296$ ;  $\epsilon_r = 47.97$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**5-6GHz, Daily SPC Check/fastSAR, Dipole Area Scan (221x41x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

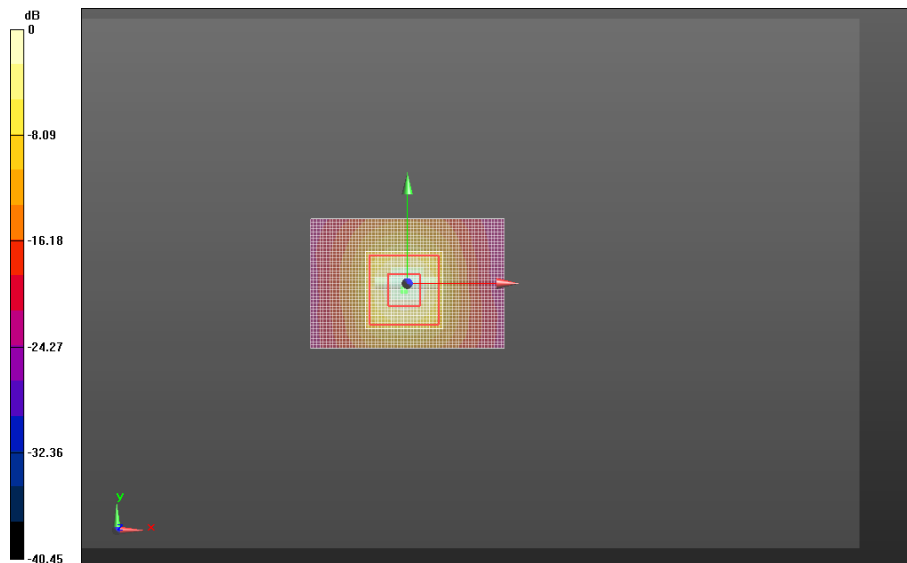
Fast SAR: SAR(1g) = 6.51 W/kg; SAR(10g) = 1.88 W/kg

**5-6GHz, Daily SPC Check/CUBE SAR, 7x7x12 (31x31x31)/Cube 0:**

**Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm**

Reference Value = 58.419 V/m, Power Drift = -0.074 dB

Averaged SAR: SAR(1g) = 7.33 W/kg; SAR(10g) = 2.07 W/kg



**5-6GHz, Daily SPC Check**

Date/Time: 3/30/2013 10:20:02 AM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**  
**DUT Serial: D5GHzV2 - SN:1088****DASY Configuration:**

- Probe: EX3DV4 - SN3730; ConvF(3.81,3.81,3.81); Calibrated: 8/24/2012;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn784; Calibrated: 3/6/2013
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 5800 MHz; Duty Cycle: 1:1.000

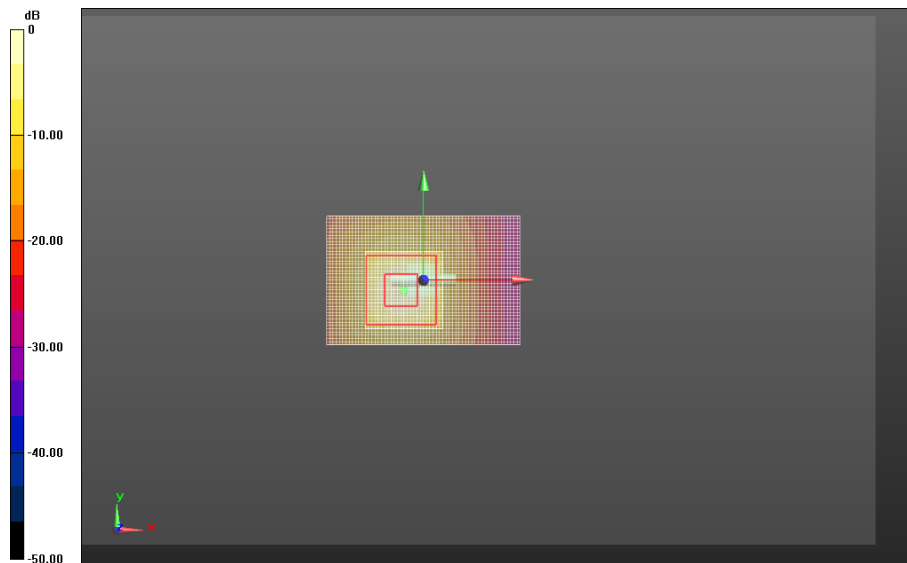
Medium Parameters used:  $f=5800$  MHz;  $\sigma = 6.242$ ;  $\epsilon_r = 44.60$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>**Daily SPC Check/fastSAR, Dipole Area Scan (221x41x1):****Interpolated grid: dx=1.000 mm, dy=1.000 mm**

Fast SAR: SAR(1g) = 5.88 W/kg; SAR(10g) = 1.84 W/kg

**Daily SPC Check/CUBE SAR, 7x7x12 (31x31x31)/Cube 0:****Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm**

Reference Value = 41.057 V/m, Power Drift = -0.111 dB

Averaged SAR: SAR(1g) = 7.26 W/kg; SAR(10g) = 2.02 W/kg

**Daily SPC Check**

Date/Time: 10/9/2013 7:09:00 PM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**  
**DUT Serial: D5GHzV2 - SN:1098**

**DASY Configuration:**

- Probe: EX3DV4 - SN3728; ConvF(3.86,3.86,3.86); Calibrated: 5/30/2013;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn784; Calibrated: 3/6/2013
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 5800 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=5800$  MHz;  $\sigma = 6.207$ ;  $\epsilon_r = 46.49$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**5-6GHz, Daily SPC Check/fastSAR, Dipole Area Scan (221x41x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

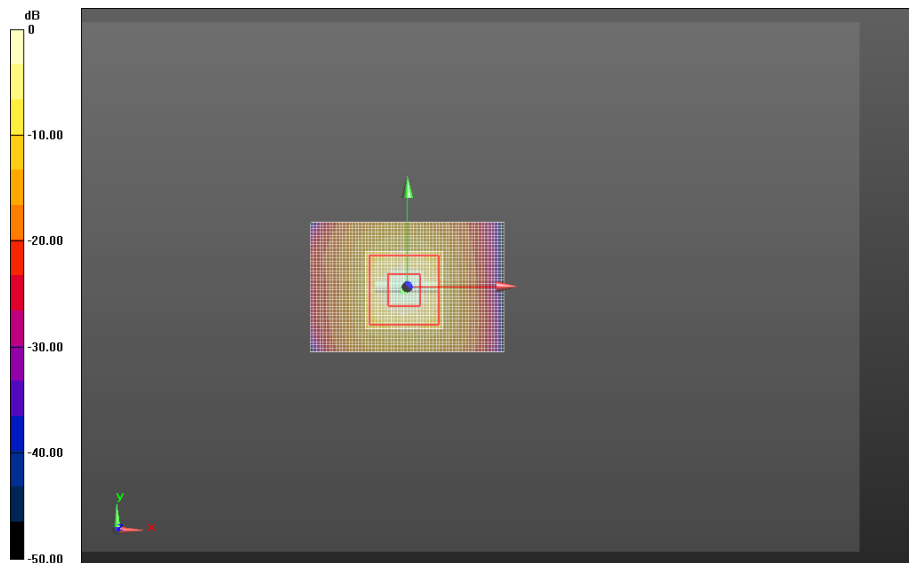
Fast SAR: SAR(1g) = 6.25 W/kg; SAR(10g) = 1.75 W/kg

**5-6GHz, Daily SPC Check/CUBE SAR, 7x7x12 (31x31x31)/Cube 0:**

**Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm**

Reference Value = 53.659 V/m, Power Drift = -0.033 dB

Averaged SAR: SAR(1g) = 6.90 W/kg; SAR(10g) = 1.93 W/kg



**5-6GHz, Daily SPC Check**

Date/Time: 9/16/2013 8:35:48 AM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**  
**DUT Serial: D835V2 - SN:423tr**

**DASY Configuration:**

- Probe: ES3DV3 - SN3284; ConvF(6.42,6.42,6.42); Calibrated: 7/26/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 7/24/2013
- Phantom: R#4 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 835.0 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=835$  MHz;  $\sigma = 1.007$ ;  $\epsilon_r = 53.79$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**< 2GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.500 mm**

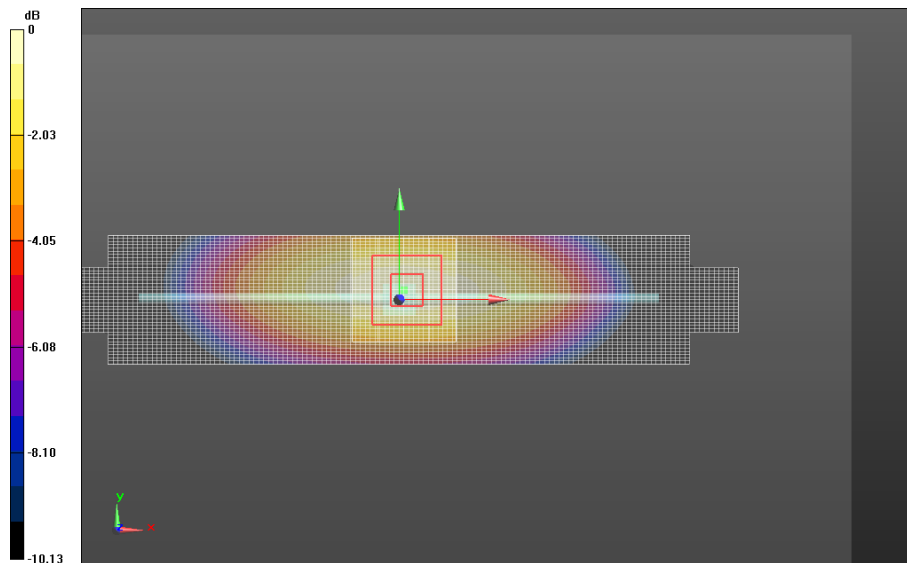
Fast SAR: SAR(1g) = 1.92 W/kg; SAR(10g) = 1.28 W/kg

**< 2GHz, Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 46.540 V/m, Power Drift = -0.015 dB

Averaged SAR: SAR(1g) = 1.92 W/kg; SAR(10g) = 1.27 W/kg



**< 2GHz, Daily SPC Check**

Date/Time: 9/13/2013 4:49:16 PM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**  
**DUT Serial: D1800V2 - SN:2d191**

**DASY Configuration:**

- Probe: ES3DV3 - SN3284; ConvF(4.88,4.88,4.88); Calibrated: 7/26/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 7/24/2013
- Phantom: R#4 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 1800 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=1800$  MHz;  $\sigma = 1.451$ ;  $\epsilon_r = 51.39$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**< 2GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.500 mm**

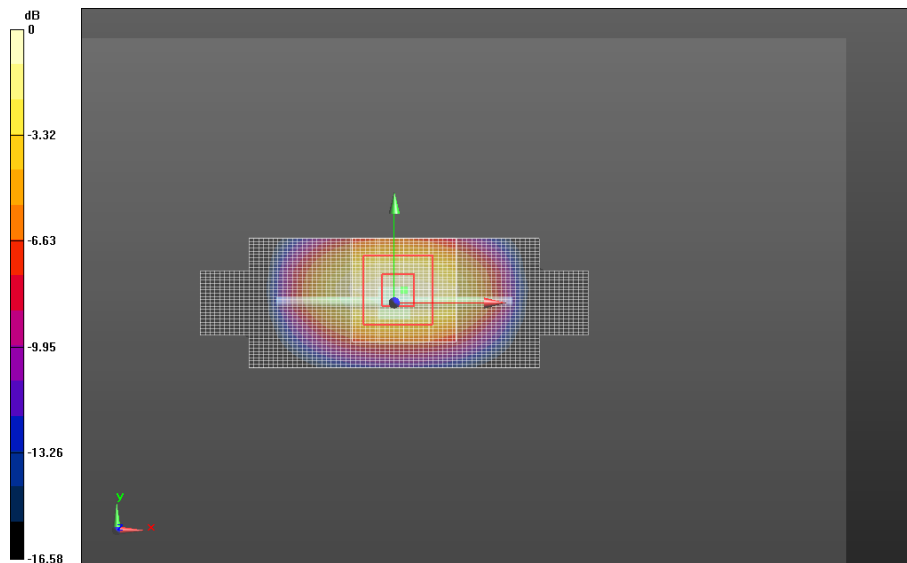
Fast SAR: SAR(1g) = 8.12 W/kg; SAR(10g) = 4.31 W/kg

**< 2GHz, Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 75.833 V/m, Power Drift = -0.012 dB

Averaged SAR: SAR(1g) = 7.97 W/kg; SAR(10g) = 4.24 W/kg



**< 2GHz, Daily SPC Check**

Date/Time: 9/27/2013 3:27:24 PM

**Test Lab: Motorola Mobility - CW System Verification for BODY SAR using Dipoles**  
**DUT Serial: D1800V2 - SN:2d191**

**DASY Configuration:**

- Probe: ES3DV3 - SN3284; ConvF(4.88,4.88,4.88); Calibrated: 7/26/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 7/24/2013
- Phantom: R#4 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: CW for BODY SAR Dipoles; Frequency: 1800 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=1800$  MHz;  $\sigma = 1.443$ ;  $\epsilon_r = 51.63$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**< 2GHz, Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.500 mm**

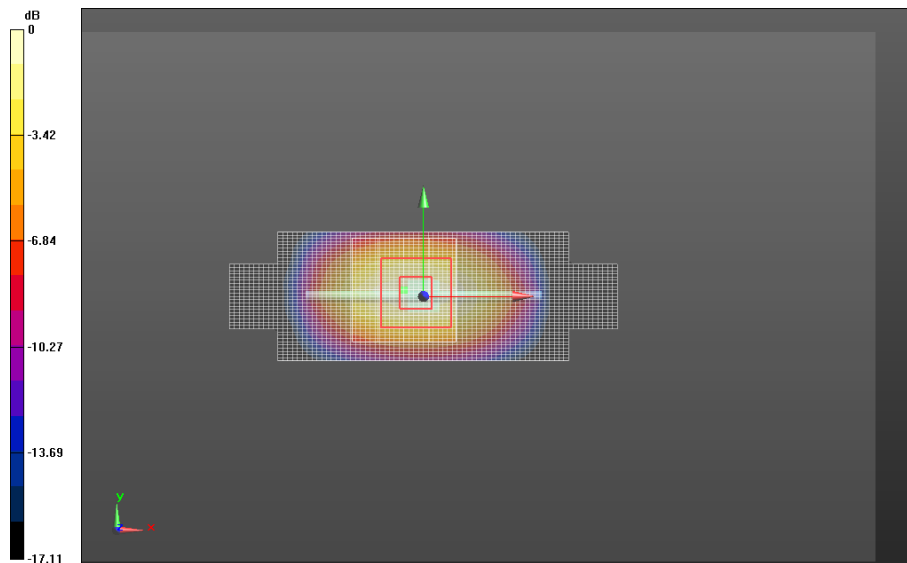
Fast SAR: SAR(1g) = 8.18 W/kg; SAR(10g) = 4.31 W/kg

**< 2GHz, Daily SPC Check/CUBE SAR, 5x5x7 (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 76.024 V/m, Power Drift = 0.00625 dB

Averaged SAR: SAR(1g) = 8.00 W/kg; SAR(10g) = 4.24 W/kg



**< 2GHz, Daily SPC Check**

## **Appendix 2**

### **SAR Distribution Plots for Head-Adjacent Test Results**

Date/Time: 4/26/2013 4:53:57 PM

## Test Lab: Motorola Mobility – GSM 850 Head

### DUT Serial: LXRR1G0009

Procedure Notes: Power Step: 5; Antenna: Internal; Battery: SNN5923A;  
Test Position: Cheek

### DASY Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.01,6.01,6.01); Calibrated: 8/20/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 9/3/2012
- Phantom: R#2 Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1235
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: GPRS Cl. 12; Band: 850; Frequency: 836.6 MHz; Duty Cycle: 1:2.075

Medium Parameters used:  $f=836.6$  MHz;  $\sigma = 0.9195$ ;  $\epsilon_r = 41.17$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Right Head Template/15mm, Area Scan (61x161x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

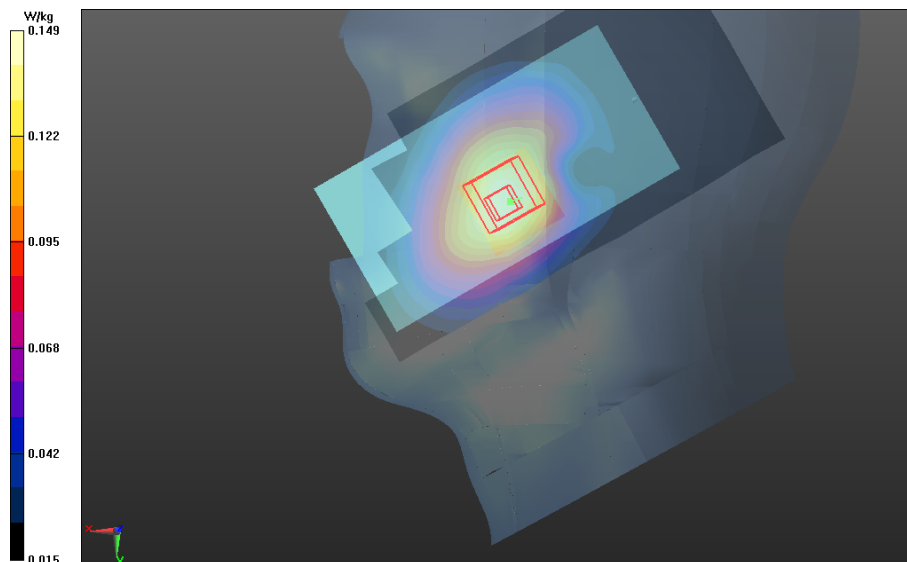
Fast SAR: SAR(1g) = 0.148 W/kg; SAR(10g) = 0.100 W/kg

### 0.6-2GHz Right Head Template/5x5x7 Zoom Scan (0.6-2GHz) (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 12.744 V/m, Power Drift = 0.017 dB

Averaged SAR: SAR(1g) = 0.142 W/kg; SAR(10g) = 0.105 W/kg



0.6-2GHz Right Head Template

Date/Time: 4/26/2013 10:04:53 PM

## Test Lab: Motorola Mobility – WCDMA 850 Head

### DUT Serial: LXRR1G0016

Procedure Notes: Power Step: All Up Bits; Antenna: Internal; Battery: SNN5923A;  
Test Position: Cheek

### DASY Configuration:

- Probe: ES3DV3 - SN3180; ConvF(6.23,6.23,6.23); Calibrated: 2/11/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn656; Calibrated: 2/7/2013
- Phantom: R#1 - Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1156
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: WCDMA; Band: 850; Frequency: 836.0 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=836$  MHz;  $\sigma = 0.9250$ ;  $\epsilon_r = 41.24$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Right Head Template/15mm, Area Scan (61x161x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

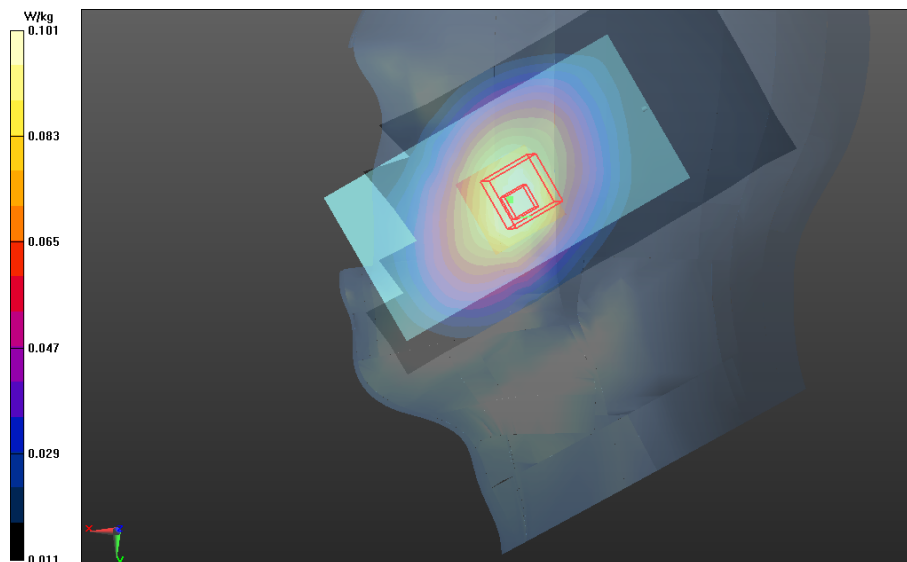
Fast SAR: SAR(1g) = 0.0998 W/kg; SAR(10g) = 0.0682 W/kg

### 0.6-2GHz Right Head Template/5x5x7 Zoom Scan (0.6-2GHz) (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 10.947 V/m, Power Drift = -0.242 dB

Averaged SAR: SAR(1g) = 0.0975 W/kg; SAR(10g) = 0.0729 W/kg



0.6-2GHz Right Head Template

Date/Time: 4/26/2013 10:01:23 PM

## Test Lab: Motorola Mobility – GSM 1900 Head

### DUT Serial: LXRR1G0009

Procedure Notes: Power Step: 0; Antenna: Internal; Battery: SNN5923A;  
Test Position: Cheek

### DASY Configuration:

- Probe: ES3DV3 - SN3124; ConvF(5.07,5.07,5.07); Calibrated: 8/20/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 9/3/2012
- Phantom: R#2 Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1136
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: GPRS Cl. 12; Band: 1900; Frequency: 1880 MHz; Duty Cycle: 1:2.075

Medium Parameters used:  $f=1880$  MHz;  $\sigma = 1.453$ ;  $\epsilon_r = 37.89$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz, Left Head Template/15mm, Area Scan (61x161x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

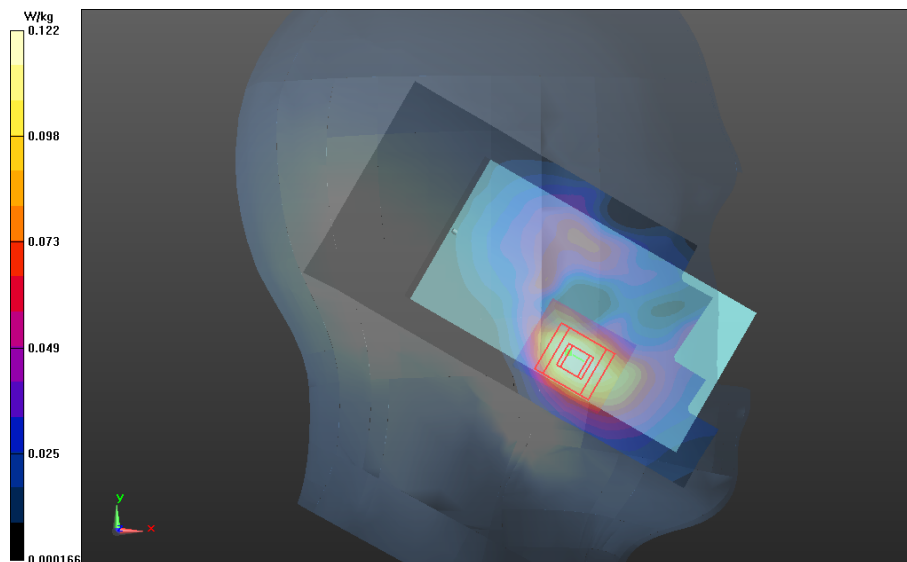
Fast SAR: SAR(1g) = 0.125 W/kg; SAR(10g) = 0.0673 W/kg

### 0.6-2GHz, Left Head Template/5x5x7 Zoom Scan (0.6-2GHz) (21x26x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 7.961 V/m, Power Drift = -0.098 dB

Averaged SAR: SAR(1g) = 0.115 W/kg; SAR(10g) = 0.0694 W/kg



0.6-2GHz, Left Head Template

Date/Time: 4/27/2013 1:40:20 AM

## Test Lab: Motorola Mobility – WCDMA 1900 Head

### DUT Serial: LXRR1G0016

Procedure Notes: Power Step: All Up Bits; Antenna: Internal; Battery: SNN5923A;  
Test Position: Cheek

### DASY Configuration:

- Probe: ES3DV3 - SN3180; ConvF(5.01,5.01,5.01); Calibrated: 2/11/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn656; Calibrated: 2/7/2013
- Phantom: R#1 - Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1319
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: WCDMA; Band: 1900; Frequency: 1880 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=1880$  MHz;  $\sigma = 1.453$ ;  $\epsilon_r = 37.89$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Right Head Template/15mm, Area Scan (61x161x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

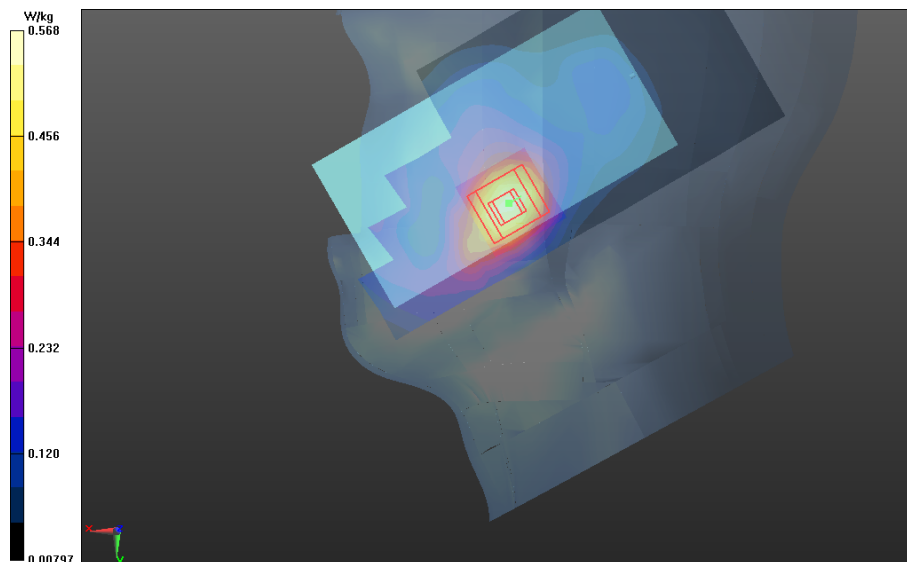
Fast SAR: SAR(1g) = 0.512 W/kg; SAR(10g) = 0.294 W/kg

### 0.6-2GHz Right Head Template/5x5x7 Zoom Scan (0.6-2GHz) (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 16.267 V/m, Power Drift = 0.012 dB

Averaged SAR: SAR(1g) = 0.523 W/kg; SAR(10g) = 0.315 W/kg



0.6-2GHz Right Head Template

**Test Laboratory: Motorola Mobility - 2450MHz WI-FI**

**DUT Serial: LXAA1W0032; FCC ID: IHDT56PA3**

Procedure Notes: Power Step: N/A; Antenna Position: Internal; Accessory Model #: N/A

Battery Model #: SNN5923A; Device Position: Cheek

**DASY Configuration:**

- Probe: EX3DV4 - SN3730; ConvF(6.90,6.90,6.90); Calibrated: 8/24/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn699; Calibrated: 9/12/2012
- Phantom: R#3, 2450 WiFi SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1153
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: 2450MHz WIFI; Frequency: 2437 MHz; Channel: 6; Duty Cycle: 1:1.000

Radio Configuration: 802.11b Mode, 1 Mbps Data Rate

Medium Parameters used:  $f=2437$  MHz;  $\sigma = 1.799$ ;  $\epsilon_r = 37.21$  mho/m;  $\rho = 1000$  kg/m<sup>3</sup>

**Right Head Template/10mm, Area Scan (91x241x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

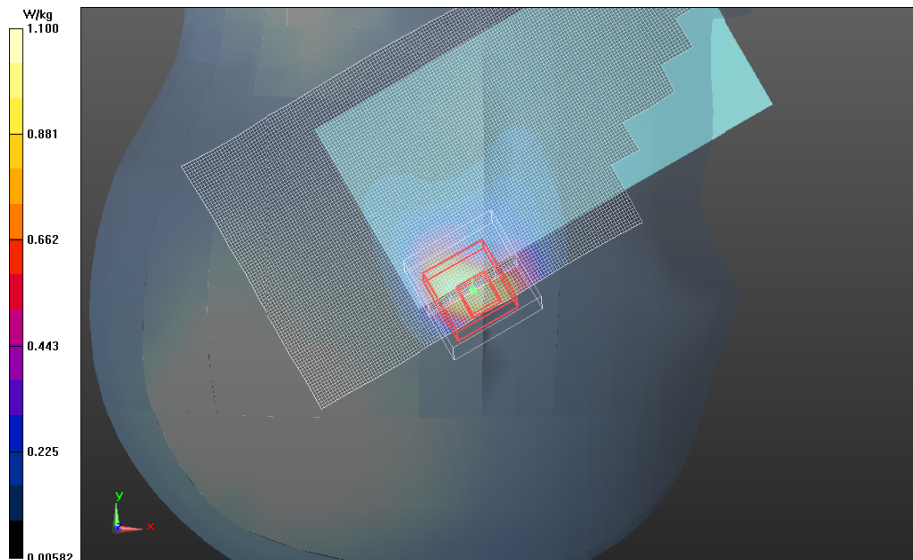
Fast SAR: SAR(1g) = 0.906 W/kg; SAR(10g) = 0.433 W/kg

**Right Head Template/5x5x7 Zoom Scan (<=3GHz) (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 12.817 V/m, Power Drift = -0.066 dB

Averaged SAR: SAR(1g) = 0.965 W/kg; SAR(10g) = 0.430 W/kg



**Right Head Template**

**Test Laboratory: Motorola Mobility - 5210 MHz Wi-Fi**

**DUT Serial: LXAA1W0032; FCC ID: IHDT56PA3**

Procedure Notes: Power Step: N/A; Antenna Position: Internal; Accessory Model #: N/A

Battery Model #: SNN5923A; Device Position: Cheek

**DASY Configuration:**

- Probe: EX3DV4 - SN3730; ConvF(4.90,4.90,4.90); Calibrated: 8/24/2012;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn784; Calibrated: 3/6/2013
- Phantom: R#3, 5GHz SAM, REV.2 (13nov12); Type: SAM; Serial: TP-1106
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: 5210 MHz Sub-Band; Frequency: 5180 MHz; Channel: 36; Duty Cycle: 1:1.000

Radio Configuration: 802.11a Mode, 6 Mbps Data Rate

Medium Parameters used:  $f=5180$  MHz;  $\sigma = 4.688$ ;  $\epsilon_r = 34.88$  mho/m;  $\rho = 1000$  kg/m<sup>3</sup>

**Right Head Template/Area Scan - Normal (10mm) (91x211x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

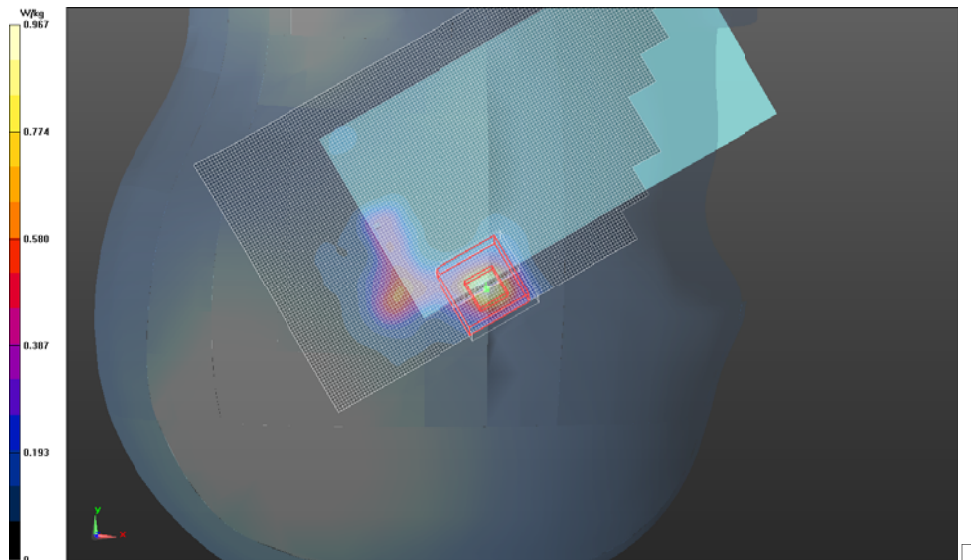
Fast SAR: SAR(1g) = 0.454 W/kg; SAR(10g) = 0.142 W/kg

**Right Head Template/7x7x12 Zoom Scan (5-6GHz) (31x31x31)/Cube 0:**

**Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm**

Reference Value = 10.185 V/m, Power Drift = -0.314 dB

Averaged SAR: SAR(1g) = 0.470 W/kg; SAR(10g) = 0.143 W/kg



**Right Head Template**

**Test Laboratory: Motorola Mobility - 5785 MHz WI-FI**

**DUT Serial: LXAA1W0032; FCC ID: IHDT56PA3**

Procedure Notes: Power Step: N/A; Antenna Position: Internal; Accessory Model #: N/A

Battery Model #: SNN5923A; Device Position: Cheek

**DASY Configuration:**

- Probe: EX3DV4 - SN3730; ConvF(4.24,4.24,4.24); Calibrated: 8/24/2012;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn699; Calibrated: 9/12/2012
- Phantom: R#3, 5GHz SAM, REV.2 (13nov12); Type: SAM; Serial: TP-1106
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: 5785 MHz Sub-Band; Frequency: 5785 MHz; Channel: 157; Duty Cycle: 1:1.000

Radio Configuration: 802.11a Mode, 6 Mbps Data Rate

Medium Parameters used:  $f=5785$  MHz;  $\sigma = 5.332$ ;  $\epsilon_r = 33.04$  mho/m;  $\rho = 1000$  kg/m<sup>3</sup>

**Right Head Template/Area Scan - Normal (10mm) (91x211x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

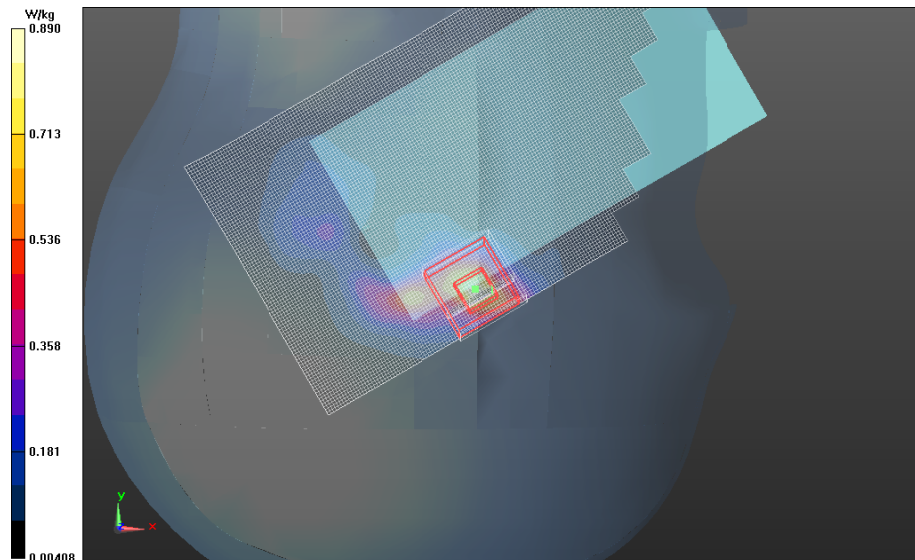
Fast SAR: SAR(1g) = 0.402 W/kg; SAR(10g) = 0.136 W/kg

**Right Head Template/7x7x12 Zoom Scan (5-6GHz) (31x31x31)/Cube 0:**

**Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm**

Reference Value = 8.317 V/m, Power Drift = -0.117 dB

Averaged SAR: SAR(1g) = 0.419 W/kg; SAR(10g) = 0.142 W/kg



**Right Head Template**

## **Appendix 3**

### **SAR Distribution Plots for Body-Worn Accessory Test Results**

Date/Time: 9/16/2013 2:16:21 PM

## Test Lab: Motorola Mobility – GSM 850 Body-Worn

### DUT Serial: LXRR1G0009

Procedure Notes: Power Step: 5; Antenna: Internal; Battery: SNN5923A;  
Test Position: Body Worn, Back of Phone 15 mm from Phantom

### DASY Configuration:

- Probe: ES3DV3 - SN3284; ConvF(6.42,6.42,6.42); Calibrated: 7/26/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 7/24/2013
- Phantom: R#4 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: GPRS Cl. 12; Band: 850; Frequency: 836.6 MHz; Duty Cycle: 1:2.075

Medium Parameters used:  $f=836.6$  MHz;  $\sigma = 1.008$ ;  $\epsilon_r = 53.77$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Triple Flat Phone Template/Area Scan (15mm), not for EDGES (181x101x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

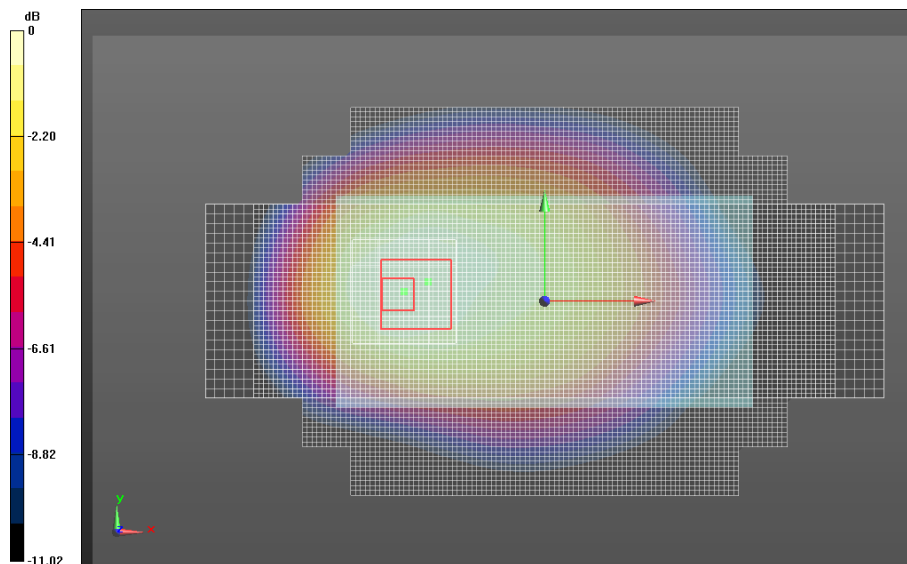
Fast SAR: SAR(1g) = 0.108 W/kg; SAR(10g) = 0.0752 W/kg

### 0.6-2GHz Triple Flat Phone Template/5x5x7 Zoom Scan (0.6-2GHz) (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 10.481 V/m, Power Drift = 0.168 dB

Averaged SAR: SAR(1g) = 0.106 W/kg; SAR(10g) = 0.0767 W/kg



0.6-2GHz Triple Flat Phone Template

Date/Time: 9/16/2013 3:36:17 PM

## Test Lab: Motorola Mobility – WCDMA 850 Body-Worn

### DUT Serial: LXRR1G0016

Procedure Notes: Power Step: All Up Bits; Antenna: Internal; Battery: SNN5923A;  
Test Position: Body Worn, Front of Phone 15 mm from Phantom

### DASY Configuration:

- Probe: ES3DV3 - SN3284; ConvF(6.42,6.42,6.42); Calibrated: 7/26/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 7/24/2013
- Phantom: R#4 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: WCDMA; Band: 850; Frequency: 836.0 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=836$  MHz;  $\sigma = 1.008$ ;  $\epsilon_r = 53.78$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Triple Flat Phone Template/Area Scan (15mm), not for EDGES (181x101x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

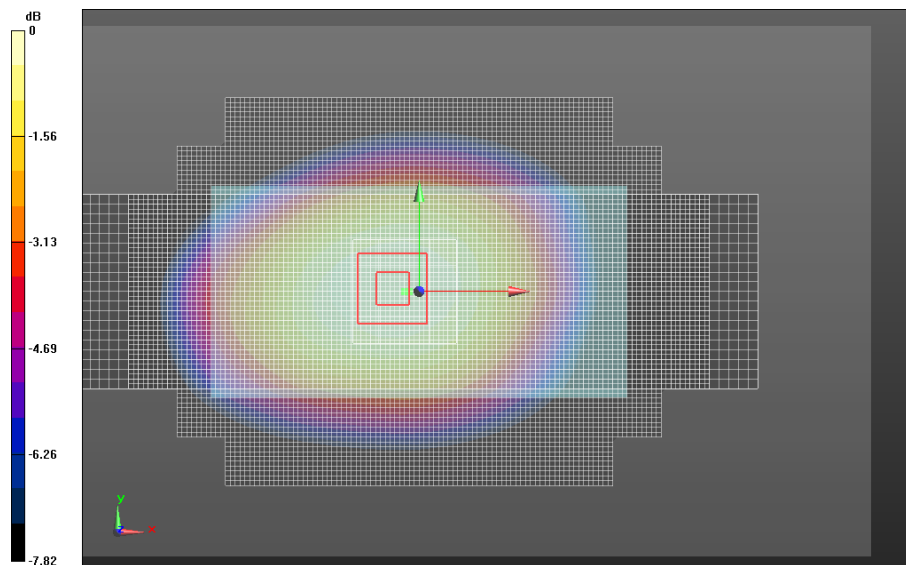
Fast SAR: SAR(1g) = 0.114 W/kg; SAR(10g) = 0.0805 W/kg

### 0.6-2GHz Triple Flat Phone Template/5x5x7 Zoom Scan (0.6-2GHz) (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 11.143 V/m, Power Drift = 0.025 dB

Averaged SAR: SAR(1g) = 0.117 W/kg; SAR(10g) = 0.0891 W/kg



0.6-2GHz Triple Flat Phone Template

Date/Time: 9/13/2013 9:03:30 PM

## Test Lab: Motorola Mobility – GSM 1900 Body-Worn

### DUT Serial: LXRR1G0009

Procedure Notes: Power Step: 0; Antenna: Internal; Battery: SNN5923A;  
Test Position: Body Worn, Back of Phone 15 mm from Phantom

### DASY Configuration:

- Probe: ES3DV3 - SN3284; ConvF(4.88,4.88,4.88); Calibrated: 7/26/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 7/24/2013
- Phantom: R#4 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: GPRS Cl. 12; Band: 1900; Frequency: 1880 MHz; Duty Cycle: 1:2.075

Medium Parameters used:  $f=1880$  MHz;  $\sigma = 1.546$ ;  $\epsilon_r = 51.10$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Triple Flat Phone Template/Area Scan (15mm), not for EDGES (181x101x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

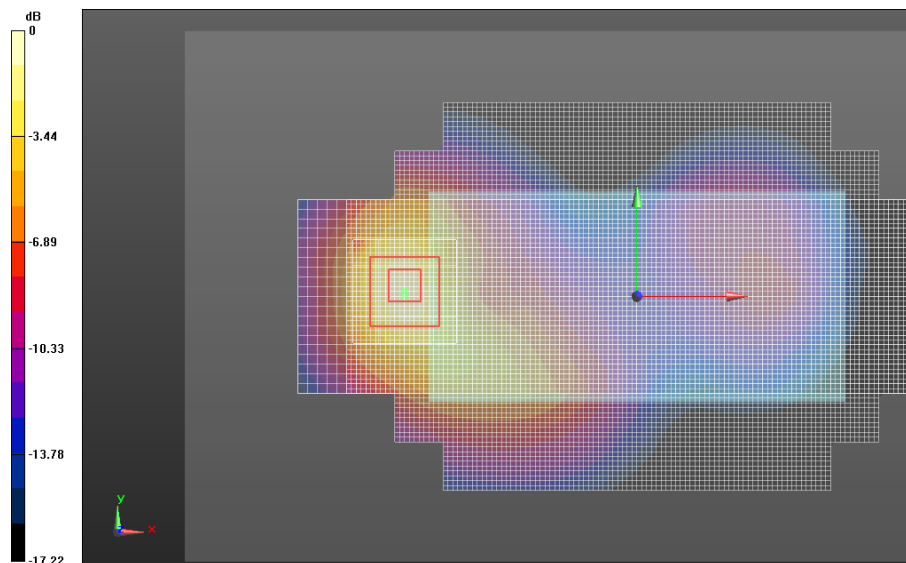
Fast SAR: SAR(1g) = 0.314 W/kg; SAR(10g) = 0.170 W/kg

### 0.6-2GHz Triple Flat Phone Template/5x5x7 Zoom Scan (0.6-2GHz) (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 15.297 V/m, Power Drift = -0.100 dB

Averaged SAR: SAR(1g) = 0.337 W/kg; SAR(10g) = 0.187 W/kg



0.6-2GHz Triple Flat Phone Template

Date/Time: 9/14/2013 12:03:19 AM

## Test Lab: Motorola Mobility – WCDMA 1900 Body-Worn

### DUT Serial: LXRR1G0016

Procedure Notes: Power Step: All Up Bits; Antenna: Internal; Battery: SNN5923A;  
 Test Position: Body Worn, Back of Phone 15 mm from Phantom

### DASY Configuration:

- Probe: ES3DV3 - SN3284; ConvF(4.88,4.88,4.88); Calibrated: 7/26/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 7/24/2013
- Phantom: R#4 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: WCDMA; Band: 1900; Frequency: 1908 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=1907.6$  MHz;  $\sigma = 1.582$ ;  $\epsilon_r = 50.99$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Triple Flat Phone Template/Area Scan (15mm), not for EDGES (181x101x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

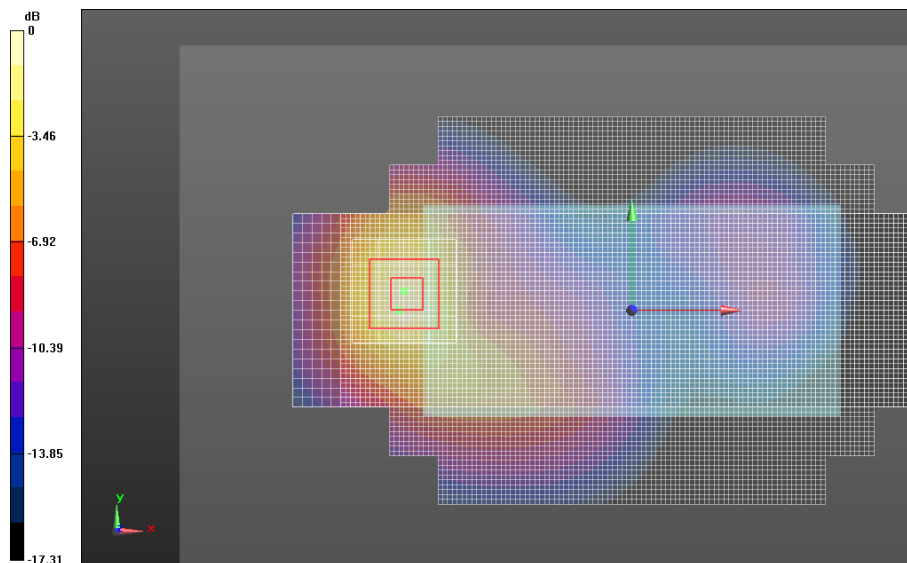
Fast SAR: SAR(1g) = 0.815 W/kg; SAR(10g) = 0.451 W/kg

### 0.6-2GHz Triple Flat Phone Template/5x5x7 Zoom Scan (0.6-2GHz) (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 22.818 V/m, Power Drift = -0.059 dB

Averaged SAR: SAR(1g) = 0.885 W/kg; SAR(10g) = 0.487 W/kg



0.6-2GHz Triple Flat Phone Template

Date/Time: 9/19/2013 9:32:35 AM

## Test Lab: Motorola Mobility – Wi-Fi 2.4 GHz Body-Worn

### DUT Serial: LXAA1W0032

Procedure Notes: Power Step: N/A; Antenna: Internal; Battery: SNN5923A;

Test Position: Body Worn, Back of Phone 15 mm from Phantom

### DASY Configuration:

- Probe: EX3DV4 - SN3728; ConvF(7.13,7.13,7.13); Calibrated: 5/30/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn784; Calibrated: 3/6/2013
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: Wi-Fi 2450MHz; Band: 2450 MHz; Frequency: 2437 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=2437$  MHz;  $\sigma = 1.921$ ;  $\epsilon_r = 48.52$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 2-3GHz Triple Flat Phone Template/Area Scan (10mm) (261x141x1):

Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

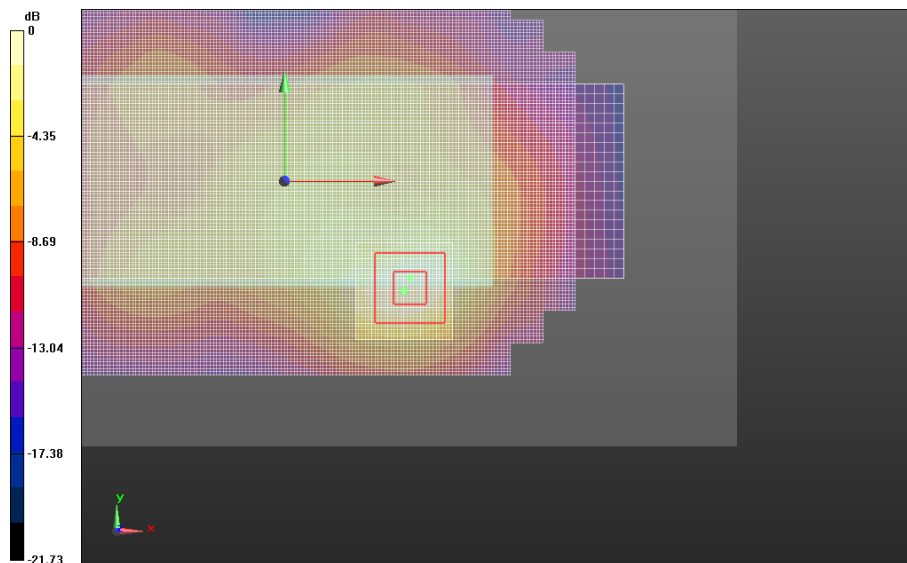
Fast SAR: SAR(1g) = 0.157 W/kg; SAR(10g) = 0.0794 W/kg

### 2-3GHz Triple Flat Phone Template/7x7x7 Zoom Scan (2-3GHz) (31x31x36)/Cube 0:

Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm,  $dz=1.000$  mm

Reference Value = 9.224 V/m, Power Drift = 0.013 dB

Averaged SAR: SAR(1g) = 0.160 W/kg; SAR(10g) = 0.0821 W/kg



2-3GHz Triple Flat Phone Template

Date/Time: 10/9/2013 10:29:49 PM

## Test Lab: Motorola Mobility - Wi-Fi 5.2 GHz Body-Worn

**DUT Serial: LXAA1W0032**

Procedure Notes: Power Step: N/A; Antenna: Internal; Battery: SNN5923A;  
 Test Position: Body Worn, Back of Phone 15 mm from Phantom

**DASY Configuration:**

- Probe: EX3DV4 - SN3728; ConvF(4.21,4.21,4.21); Calibrated: 5/30/2013;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn784; Calibrated: 3/6/2013
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: \_WIFI; Band: 5210 MHz Sub-Band; Frequency: 5180 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=5180$  MHz;  $\sigma = 5.268$ ;  $\epsilon_r = 48.02$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

**TRIPLE Flat Phone Against Flat Section/Area Scan - Body (10mm) (281x161x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

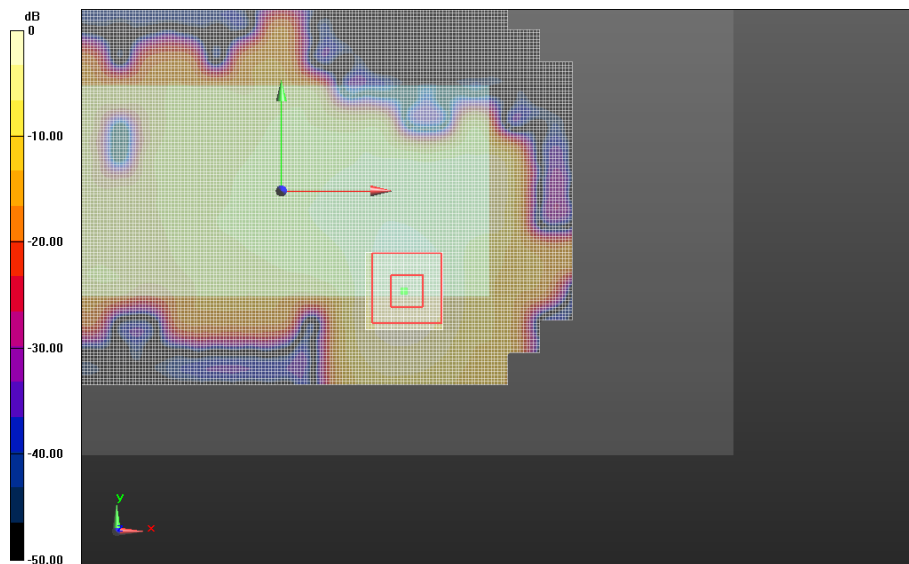
Fast SAR: SAR(1g) = 0.246 W/kg; SAR(10g) = 0.0962 W/kg

**TRIPLE Flat Phone Against Flat Section/7x7x12 Zoom Scan (5-6GHz) (31x31x31)/Cube 0:**

**Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm**

Reference Value = 9.968 V/m, Power Drift = -0.088 dB

Averaged SAR: SAR(1g) = 0.256 W/kg; SAR(10g) = 0.0992 W/kg



**TRIPLE Flat Phone Against Flat Section**

Date/Time: 10/10/2013 3:43:50 AM

## Test Lab: Motorola Mobility – Wi-Fi 5.8 GHz Body-Worn

**DUT Serial: LXAA1W0032**

Procedure Notes: Power Step: N/A; Antenna: Internal; Battery: SNN5923A;  
 Test Position: Body Worn, Back of Phone 15 mm from Phantom

### DASY Configuration:

- Probe: EX3DV4 - SN3728; ConvF(3.86,3.86,3.86); Calibrated: 5/30/2013;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn784; Calibrated: 3/6/2013
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: \_WIFI; Band: 5785 MHz Sub-Band; Frequency: 5785 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=5785$  MHz;  $\sigma = 6.188$ ;  $\epsilon_r = 46.53$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### TRIPLE Flat Phone Against Flat Section/Area Scan - Body (10mm) (281x161x1):

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

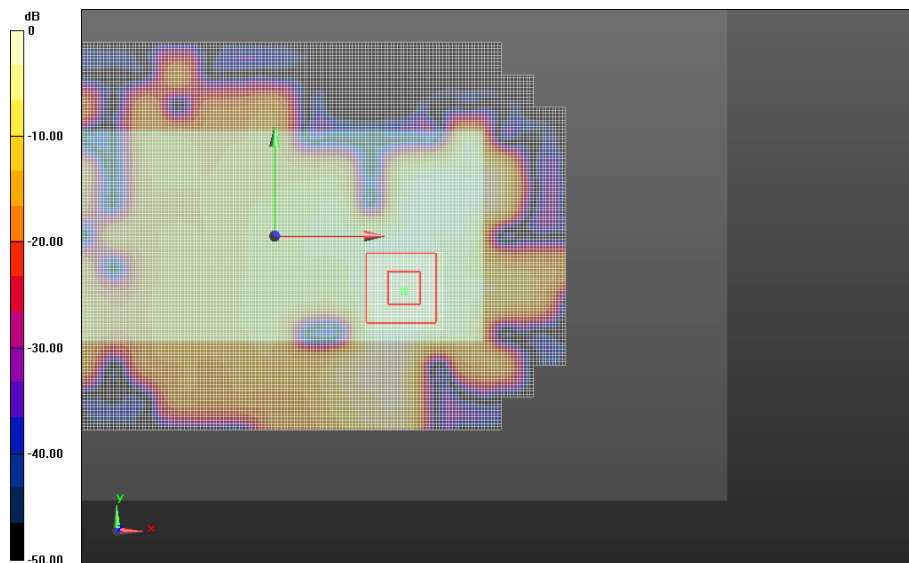
Fast SAR: SAR(1g) = 0.194 W/kg; SAR(10g) = 0.0746 W/kg

### TRIPLE Flat Phone Against Flat Section/7x7x12 Zoom Scan (5-6GHz) (31x31x31)/Cube 0:

**Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm**

Reference Value = 6.572 V/m, Power Drift = 0.00866 dB

Averaged SAR: SAR(1g) = 0.201 W/kg; SAR(10g) = 0.0726 W/kg



**TRIPLE Flat Phone Against Flat Section**

## **Appendix 4**

### **SAR Distribution Plots for Mobile Hotspot Test Results**

Date/Time: 4/25/2013 8:21:06 PM

## Test Lab: Motorola Mobility – GSM 850 Mobile Hotspot

### DUT Serial: LXRR1G0009

Procedure Notes: Power Step: 5; Antenna: Internal; Battery: SNN5923A;  
Test Position: Back of Phone 10 mm from Phantom

### DASY Configuration:

- Probe: ES3DV3 - SN3124; ConvF(6.02,6.02,6.02); Calibrated: 8/20/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 9/3/2012
- Phantom: R#2 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: GPRS Cl. 12; Band: 850; Frequency: 836.6 MHz; Duty Cycle: 1:2.075

Medium Parameters used:  $f=836.6$  MHz;  $\sigma = 1.012$ ;  $\epsilon_r = 53.57$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Triple Flat Phone Template/Area Scan (15mm), not for EDGES (181x101x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

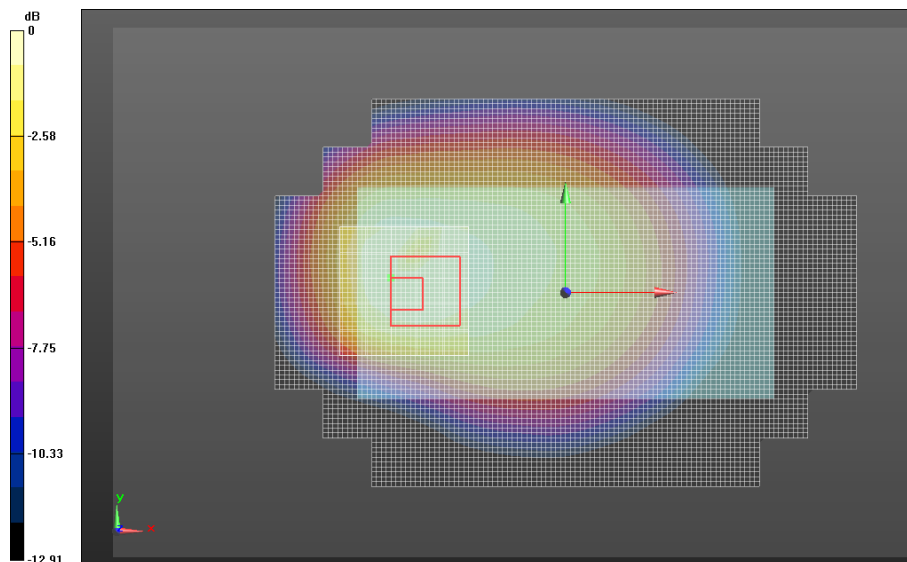
Fast SAR: SAR(1g) = 0.0976 W/kg; SAR(10g) = 0.0670 W/kg

### 0.6-2GHz Triple Flat Phone Template/5x5x7 Zoom Scan (0.6-2GHz) (26x26x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 10.179 V/m, Power Drift = -0.095 dB

Averaged SAR: SAR(1g) = 0.0924 W/kg; SAR(10g) = 0.0654 W/kg



0.6-2GHz Triple Flat Phone Template

Date/Time: 4/27/2013 11:38:45 PM

## Test Lab: Motorola Mobility – WCDMA 850 Mobile Hotspot

### DUT Serial: LXRR1G0016

Procedure Notes: Power Step: All Up Bits; Antenna: Internal; Battery: SNN5923A;  
Test Position: Right Edge of Phone 10 mm from Phantom

### DASY Configuration:

- Probe: ES3DV3 - SN3180; ConvF(6.05,6.05,6.05); Calibrated: 2/11/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn656; Calibrated: 2/7/2013
- Phantom: R#-1, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: WCDMA; Band: 850; Frequency: 836.0 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=836$  MHz;  $\sigma = 0.9866$ ;  $\epsilon_r = 52.81$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Triple Flat Phone Template/Area Scan (10mm) (261x141x1):

Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

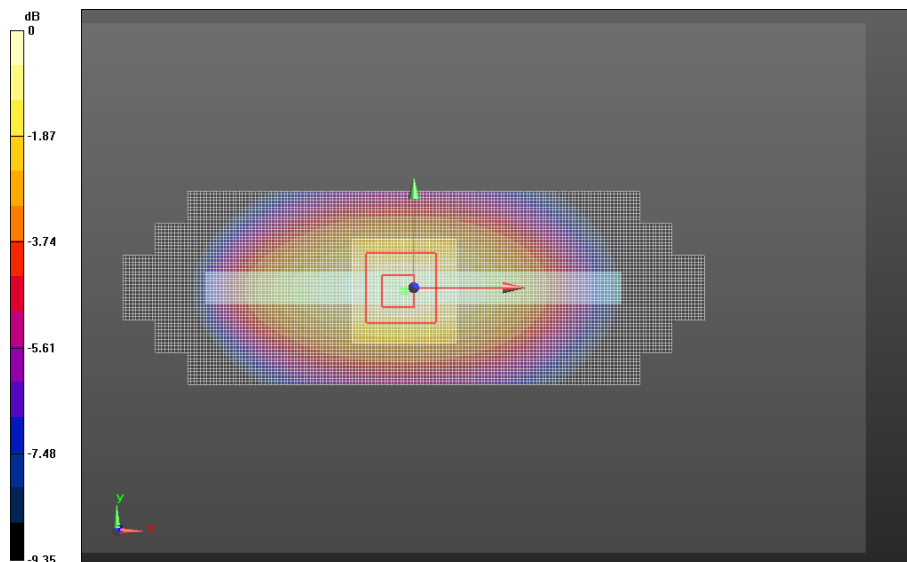
Fast SAR: SAR(1g) = 0.166 W/kg; SAR(10g) = 0.112 W/kg

### 0.6-2GHz Triple Flat Phone Template/5x5x7 Zoom Scan (0.6-2GHz) (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 13.567 V/m, Power Drift = -0.142 dB

Averaged SAR: SAR(1g) = 0.167 W/kg; SAR(10g) = 0.115 W/kg



**0.6-2GHz Triple Flat Phone Template**

Date/Time: 9/27/2013 4:38:46 PM

## Test Lab: Motorola Mobility – GSM 1900 Mobile Hotspot

### DUT Serial: LXRR1G0009

Procedure Notes: Power Step: 0; Antenna: Internal; Battery: SNN5923A;  
Test Position: Bottom Edge of Phone 10 mm from Phantom

### DASY Configuration:

- Probe: ES3DV3 - SN3284; ConvF(4.88,4.88,4.88); Calibrated: 7/26/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn440; Calibrated: 7/24/2013
- Phantom: R#4 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: GPRS Cl. 12; Band: 1900; Frequency: 1910 MHz; Duty Cycle: 1:2.075

Medium Parameters used:  $f=1910$  MHz;  $\sigma = 1.572$ ;  $\epsilon_r = 51.25$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Triple Flat Phone Template/Area Scan (10mm) (261x141x1):

Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

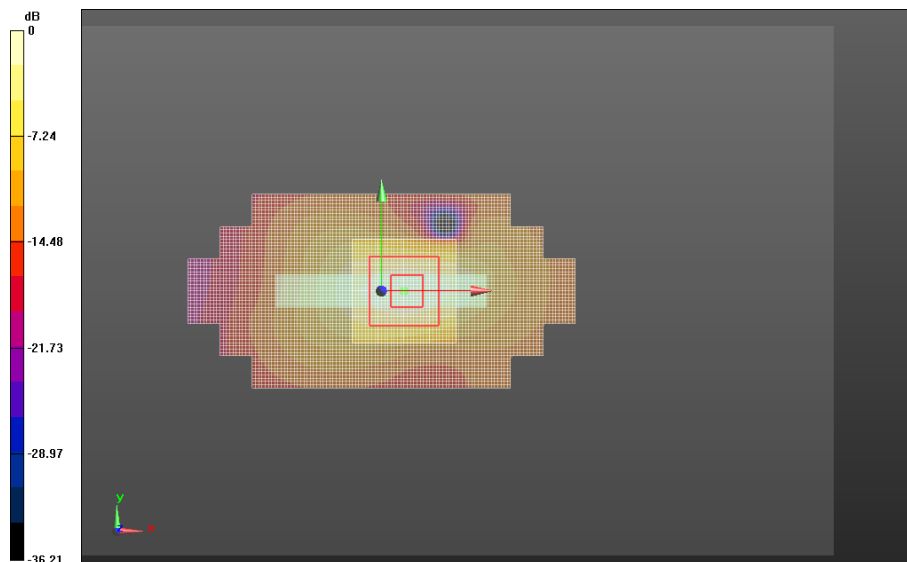
Fast SAR: SAR(1g) = 0.914 W/kg; SAR(10g) = 0.434 W/kg

### 0.6-2GHz Triple Flat Phone Template/5x5x7 Zoom Scan (0.6-2GHz) (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 24.935 V/m, Power Drift = 0.021 dB

Averaged SAR: SAR(1g) = 0.904 W/kg; SAR(10g) = 0.450 W/kg



**0.6-2GHz Triple Flat Phone Template**

Date/Time: 9/26/2013 4:44:03 PM

## Test Lab: Motorola Mobility – WCDMA 1900 Mobile Hotspot

### DUT Serial: LXRR1G0016

Procedure Notes: Power Step: All Up Bits; Antenna: Internal; Battery: SNN5923A;  
Test Position: Bottom Edge of Phone 10 mm from Phantom

### DASY Configuration:

- Probe: ES3DV3 - SN3184; ConvF(5.05,5.05,5.05); Calibrated: 5/30/2013;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn378; Calibrated: 5/28/2013
- Phantom: R#2 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.7(1137); SEMCAD X Version 14.6.8 (7028)

Communication System: WCDMA; Band: 1900; Frequency: 1880 MHz; Duty Cycle: 1:1.000

Medium Parameters used:  $f=1880$  MHz;  $\sigma = 1.556$ ;  $\epsilon_r = 50.89$  mho/m;  $\rho = 1.000$  kg/m<sup>3</sup>

### 0.6-2GHz Triple Flat Phone Template/Area Scan (10mm) (261x141x1):

Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

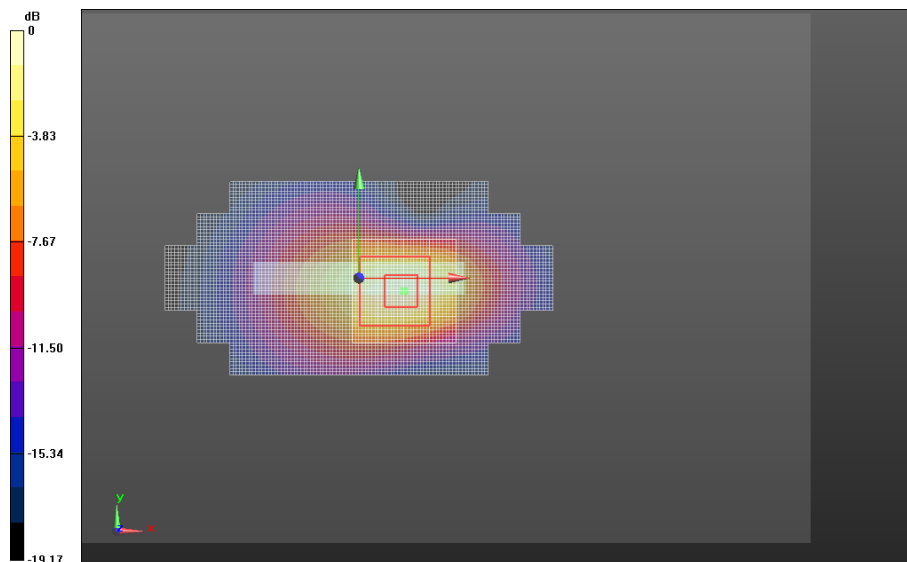
Fast SAR: SAR(1g) = 0.789 W/kg; SAR(10g) = 0.376 W/kg

### 0.6-2GHz Triple Flat Phone Template/5x5x7 Zoom Scan (0.6-2GHz) (21x21x36)/Cube 0:

Interpolated grid:  $dx=1.600$  mm,  $dy=1.600$  mm,  $dz=1.000$  mm

Reference Value = 22.694 V/m, Power Drift = 0.026 dB

Averaged SAR: SAR(1g) = 0.769 W/kg; SAR(10g) = 0.383 W/kg



0.6-2GHz Triple Flat Phone Template

**Test Laboratory: Motorola Mobility - 2450MHz WI-FI Mobile Hotspot Exposure**

**DUT Serial: LXAA1W0032; FCC ID: IHDT56PA3**

Procedure Notes: Power Step: N/A; Antenna Position: Internal; Accessory Model #: N/A

Battery Model #: SNN5923A; Device Position: Left Edge of Phone 10 mm from Phantom

**DASY Configuration:**

- Probe: EX3DV4 - SN3730; ConvF(6.86,6.86,6.86); Calibrated: 8/24/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn699; Calibrated: 9/12/2012
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: 2450MHz WIFI; Frequency: 2437 MHz; Channel: 6; Duty Cycle: 1:1.000

Radio Configuration: 802.11b mode, 1 Mbps data rate

Medium Parameters used:  $f=2437$  MHz;  $\sigma = 1.998$ ;  $\epsilon_r = 50.28$  mho/m;  $\rho = 1000$  kg/m<sup>3</sup>

**Triple Flat Phone Template/Area Scan (10mm) (261x141x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

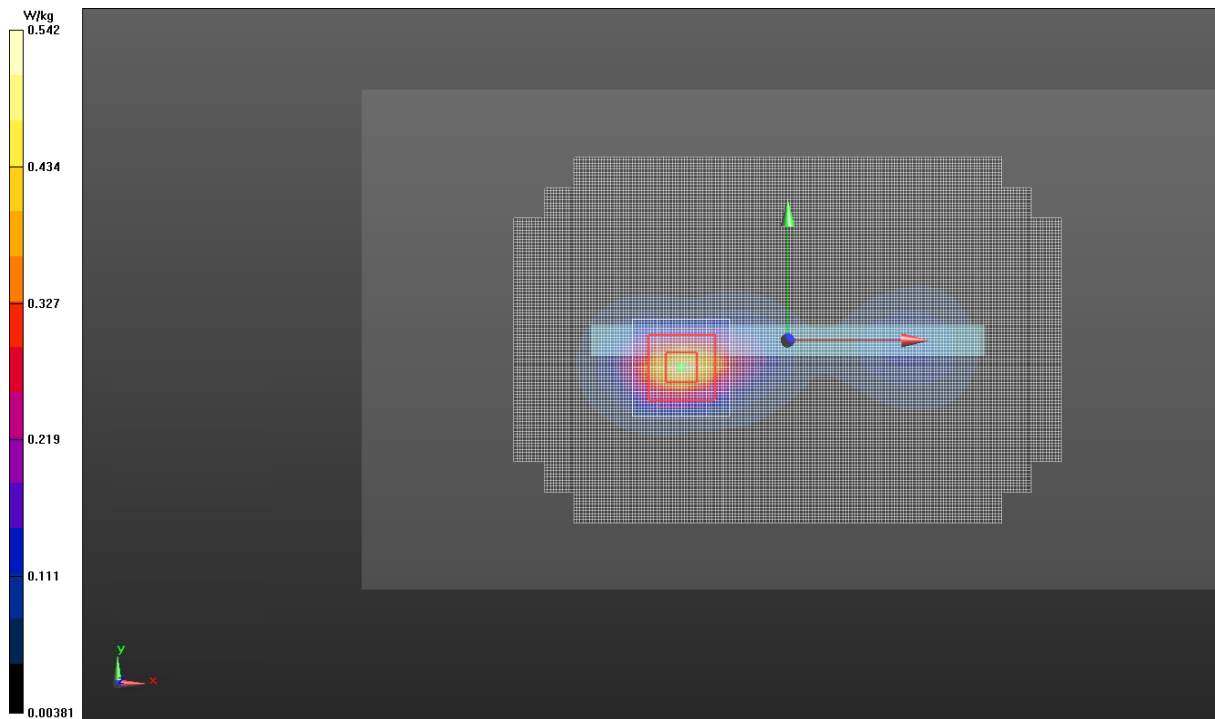
Fast SAR: SAR(1g) = 0.441 W/kg; SAR(10g) = 0.200 W/kg

**Triple Flat Phone Template/5x5x7 Zoom Scan (<=3GHz) (21x21x36)/Cube 0:**

**Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm**

Reference Value = 10.552 V/m, Power Drift = 0.041 dB

Averaged SAR: SAR(1g) = 0.455 W/kg; SAR(10g) = 0.210 W/kg



**Triple Flat Phone Template**

**Test Laboratory: Motorola Mobility - 5785 MHz WI-FI Mobile Hotspot Exposure**

**DUT Serial: LXAA1W0032; FCC ID: IHDT56PA3**

Procedure Notes: Power Step: N/A; Antenna Position: Internal; Accessory Model #: N/A

Battery Model #: SNN5923A; Device Position: Left Edge of Phone 10 mm from Phantom

**DASY Configuration:**

- Probe: EX3DV4 - SN3730; ConvF(3.81,3.81,3.81); Calibrated: 8/24/2012;
- Sensor-Surface: 2 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn784; Calibrated: 3/6/2013
- Phantom: R#-3, Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: 5785 MHz Sub-Band; Frequency: 5785 MHz; Channel: 157; Duty Cycle: 1:1.000

Radio Configuration: 802.11a mode, 6 Mbps data rate

Medium Parameters used:  $f=5785$  MHz;  $\sigma = 6.223$ ;  $\epsilon_r = 44.65$  mho/m;  $\rho = 1000$  kg/m<sup>3</sup>

**TRIPLE Flat Phone Against Flat Section/Area Scan - Body (10mm) (281x161x1):**

**Interpolated grid: dx=1.000 mm, dy=1.000 mm**

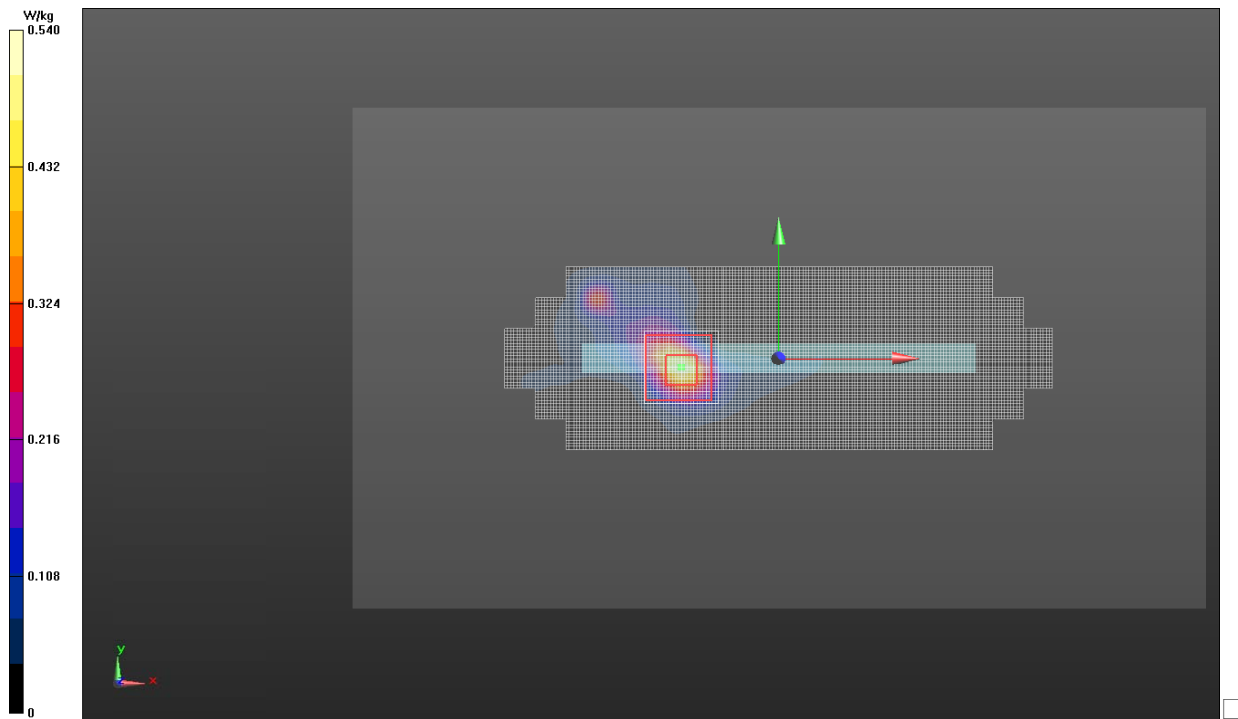
Fast SAR: SAR(1g) = 0.246 W/kg; SAR(10g) = 0.0738 W/kg

**TRIPLE Flat Phone Against Flat Section/7x7x12 Zoom Scan (5-6GHz) (31x31x31)/Cube 0:**

**Interpolated grid: dx=0.800 mm, dy=0.800 mm, dz=0.400 mm**

Reference Value = 6.832 V/m, Power Drift = -0.047 dB

Averaged SAR: SAR(1g) = 0.255 W/kg; SAR(10g) = 0.0752 W/kg



**TRIPLE Flat Phone Against Flat Section**

# **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 = f(d,k)</i>	<i>f</i>	<i>g</i>	<i>h = c x f / e</i>	<i>i = c x g / e</i>	<i>k</i>
<b>Uncertainty Component</b>	Description IEEE 1528(2003) / IEC 62209-1(2005)	Tol. (± %)	Prob Dist	Div.	<i>c<sub>i</sub></i> (1 g)	<i>c<sub>i</sub></i> (10 g)	1 g <i>u<sub>i</sub></i> (±%)	10 g <i>u<sub>i</sub></i> (±%)	<i>v<sub>i</sub></i>
<b>Measurement System</b>									
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	2.9	R	1.73	1	1	1.7	1.7	∞
Max. SAR Evaluation (ext., int., avg.)	E.5 / 7.2.4	3.4	R	1.73	1	1	2.0	2.0	∞
<b>Test sample Related</b>									
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	
<b>Phantom and Tissue Parameters</b>									
Phantom Uncertainty	E.3.1 / 7.2.2.2	6.1	R	1.73	1	1	3.5	3.5	∞
SAR Correction		1.9	R	1.73	1	0.84	1.1	0.9	∞
Liquid Conductivity (measurement)	E.3.3 / 7.2.3.3	1.3	N	1.00	0.64	0.43	0.9	0.6	6
Liquid Permittivity (measurement)	E.3.2 / 7.2.3.4	0.7	N	1.00	0.6	0.49	0.4	0.3	6
<b>Combined Standard Uncertainty</b>				RSS			11	11	390
<b>Expanded Uncertainty</b> (95% CONFIDENCE LEVEL)				<i>k=2</i>			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>	<i>e = f(d,k)</i>	<i>f</i>	<i>g</i>	<i>h = c x f / e</i>	<i>i = c x g / e</i>	<i>k</i>
<b>Uncertainty Component</b>	Description IEC 62209-2 (2010)	Tol. (± %)	Prob Dist	Div.	<i>c<sub>i</sub></i> (1 g)	<i>c<sub>i</sub></i> (10 g)	1 g <i>u<sub>i</sub></i> (±%)	10 g <i>u<sub>i</sub></i> (±%)	<i>v<sub>i</sub></i>
<b>Measurement System</b>									
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	6.7	R	1.73	1	1	3.9	3.9	∞
Max. SAR Evaluation (ext., int., avg.)	7.2.5.3	4.0	R	1.73	1	1	2.3	2.3	∞
<b>Test sample Related</b>									
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	
<b>Phantom and Tissue Parameters</b>									
Phantom Uncertainty	7.2.3.2	6.6	R	1.73	1	1	3.8	3.8	∞
SAR Correction	7.2.4.3	1.9	R	1.73	1	0.84	1.1	0.9	∞
Liquid Conductivity (measurement)	7.2.4.3	1.4	N	1.00	0.64	0.43	0.9	0.6	6
Liquid Permittivity (measurement)	7.2.4.3	0.7	N	1.00	0.6	0.49	0.4	0.4	6
<b>Combined Standard Uncertainty</b>			RSS				12	12	557
<b>Expanded Uncertainty (95% CONFIDENCE LEVEL)</b>			<i>k=2</i>				24	24	