

Appendix 1

SAR Distribution Plots for Test System Verification

System Accuracy Verification Measurements for Head SAR Measurements

Date/Time: 3/18/2013 7:51:45 AM

DUT Serial: D835V2 - SN:436tr

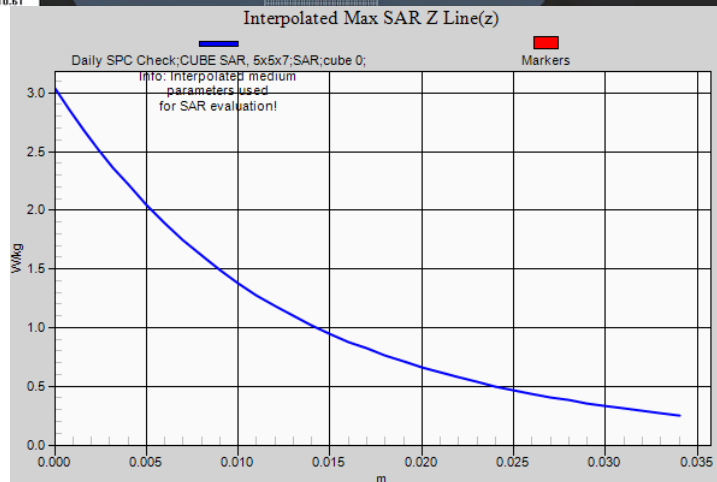
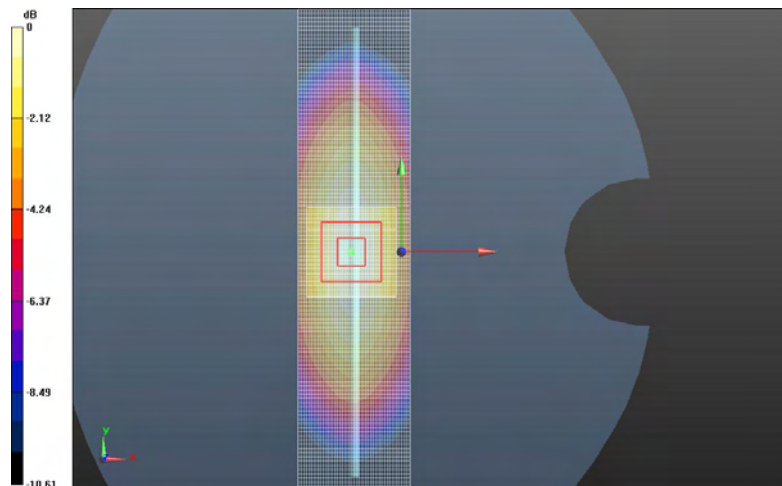
DASY Configuration:

- 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 - Dipole; Communication System Band: CW for SAR Dipoles; Frequency: 835.0 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=835$ MHz; $\sigma = 0.9315$; $\epsilon_r = 41.26$ mho/m; $\rho = 1.000$ kg/m³

Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1): Interpolated grid: dx=1.000 mm, dy=1.500 mm
Fast SAR: SAR(1g) = 2.01 W/kg; SAR(10g) = 1.34 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 = 49.503 V/m, Power Drift = -0.017 dB
Averaged SAR: SAR(1g) = 1.99 W/kg; SAR(10g) = 1.31 W/kg



Date/Time: 3/21/2013 7:57:13 AM

DUT Serial: D835V2 - SN:423tr

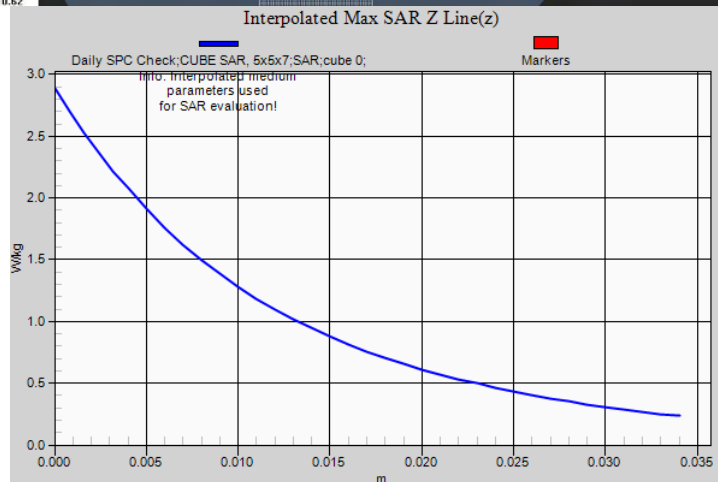
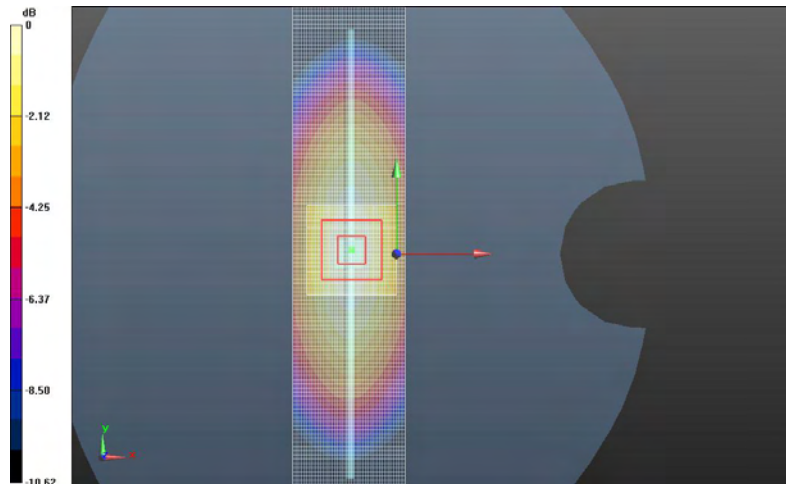
DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(6.23,6.23,6.23); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1132
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: _CW - Dipole; Communication System Band: CW for SAR Dipoles; Frequency: 835.0 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=835$ MHz; $\sigma = 0.9050$; $\epsilon_r = 39.5$ mho/m; $\rho = 1.000$ kg/m³

Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1): Interpolated grid: dx=1.000 mm, dy=1.500 mm
Fast SAR: SAR(1g) = 1.89 W/kg; SAR(10g) = 1.26 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 = 48.393 V/m, Power Drift = 0.00208 dB
Averaged SAR: SAR(1g) = 1.89 W/kg; SAR(10g) = 1.24 W/kg



Date/Time: 3/22/2013 7:28:55 AM

DUT Serial: D1800V2 - SN:2d191

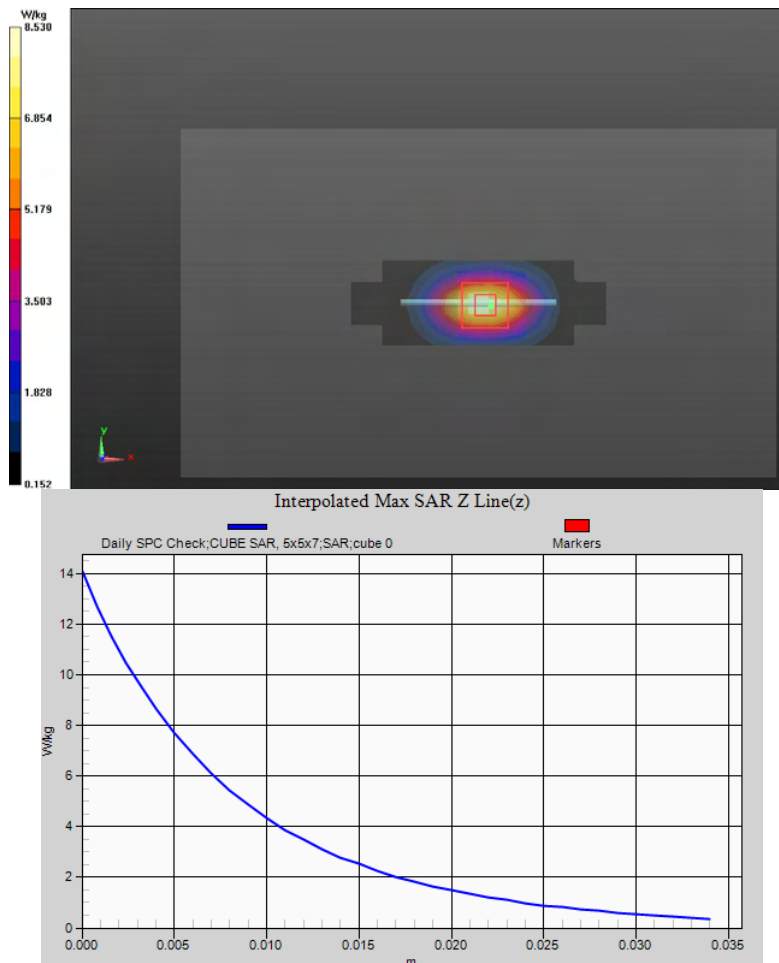
DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(5.15,5.15,5.15); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 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 - Dipole; Communication System Band: CW for SAR Dipoles; Frequency: 1800 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=1800$ MHz; $\sigma = 1.382$; $\epsilon_r = 37.9$ mho/m; $\rho = 1.000$ kg/m³

Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1): Interpolated grid: dx=1.000 mm, dy=1.500 mm
Fast SAR: SAR(1g) = 7.79 W/kg; SAR(10g) = 4.21 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 = 79.943 V/m, Power Drift = -0.032 dB
Averaged SAR: SAR(1g) = 7.66 W/kg; SAR(10g) = 4.05 W/kg



Date/Time: 1/23/2013 9:55:51 AM

DUT Serial: D2450V2 - SN: 863

DASY Configuration:

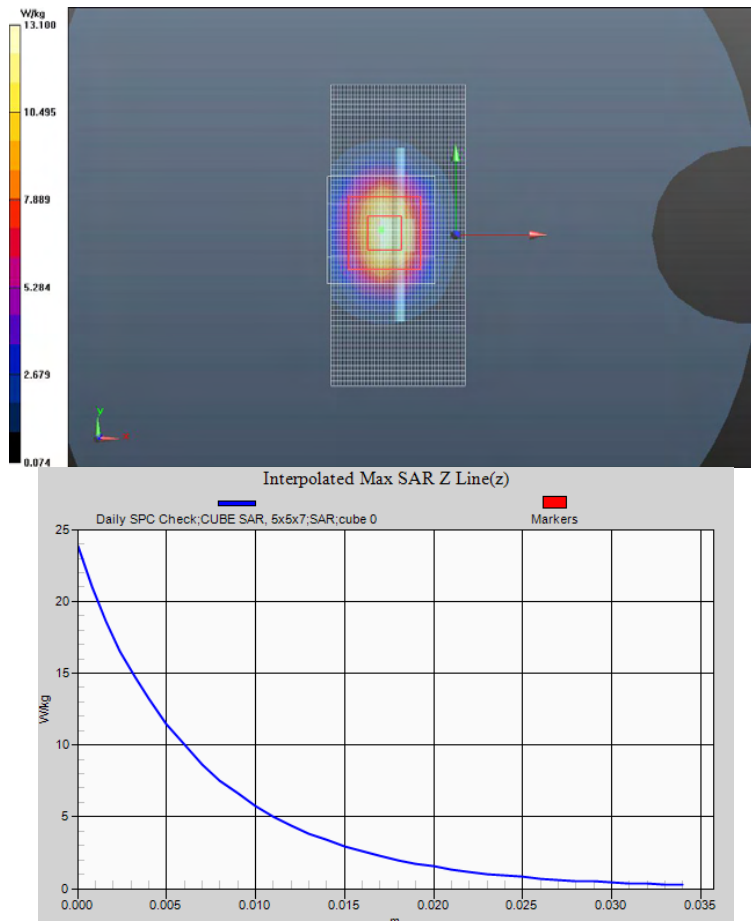
- Probe: ES3DV3 - SN3124; ConvF(4.37,4.37,4.37); Calibrated: 8/20/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 9/3/2012
- Phantom: R#2 Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1136
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: _CW - Dipole; Communication System Band: CW for SAR Dipoles; Frequency: 2450 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=2450$ MHz; $\sigma = 1.851$; $\epsilon_r = 38.53$ mho/m; $\rho = 1000$ kg/m³

Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1): Interpolated grid: dx=1.000 mm, dy=1.500 mm
Fast SAR: SAR(1g) = 11.8 W/kg; SAR(10g) = 5.57 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 = 80.792 V/m, Power Drift = 0.044 dB
Averaged SAR: SAR(1g) = 11.4 W/kg; SAR(10g) = 5.32 W/kg



System Accuracy Verification Measurements for Body SAR Measurements

Date/Time: 3/19/2013 9:18:28 AM

DUT Serial: D835V2 - SN:436tr

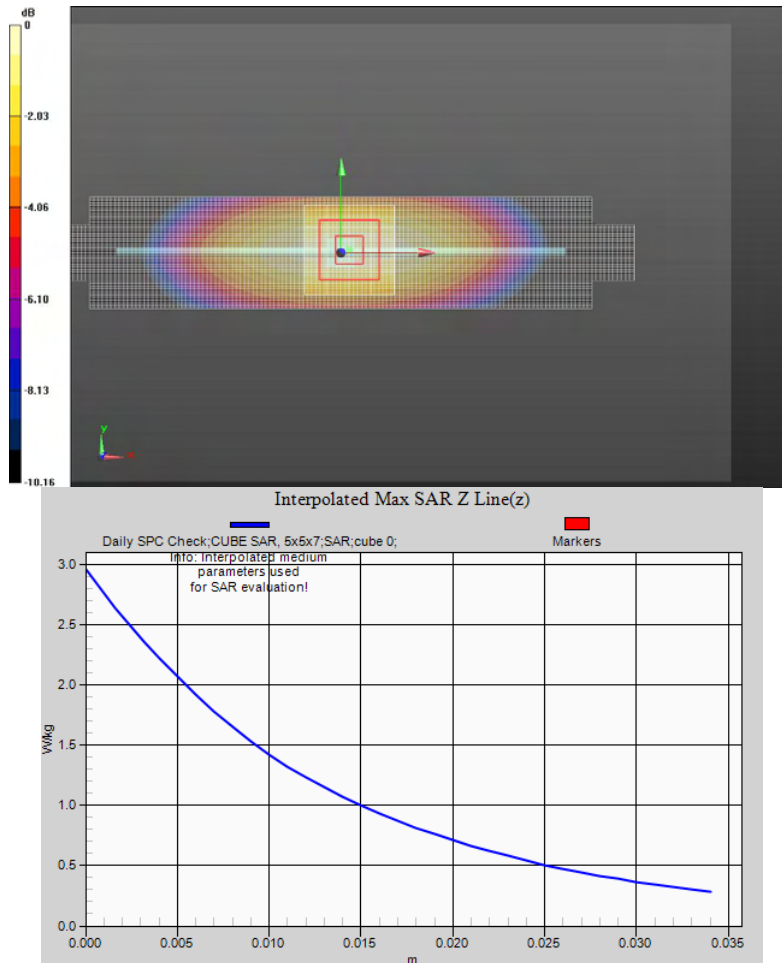
DASY Configuration:

- 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 - Dipole; Communication System Band: CW for SAR Dipoles; Frequency: 835.0 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
 Medium Parameters used: $f=835$ MHz; $\sigma = 0.9965$; $\epsilon_r = 53.68$ mho/m; $\rho = 1.000$ kg/m³

Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1): Interpolated grid: dx=1.000 mm, dy=1.500 mm
 Fast SAR: SAR(1g) = 1.99 W/kg; SAR(10g) = 1.32 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 = 47.824 V/m, Power Drift = 0.015 dB
 Averaged SAR: SAR(1g) = 2.00 W/kg; SAR(10g) = 1.33 W/kg



Date/Time: 3/21/2013 7:42:38 PM

DUT Serial: D835V2 - SN:423tr

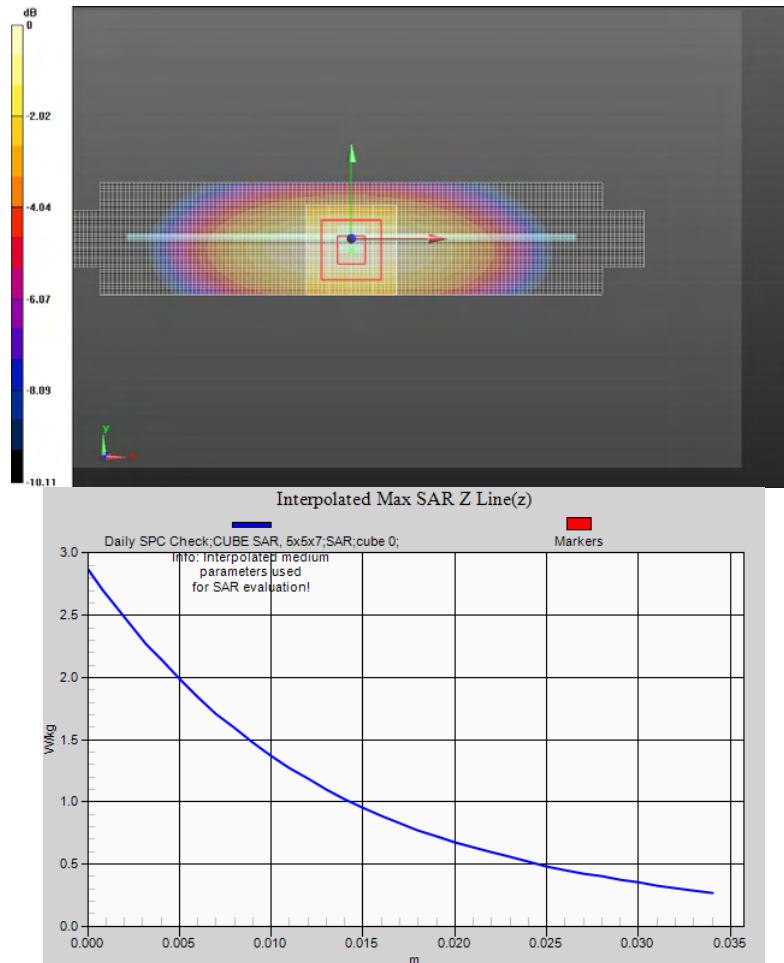
DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(6.16,6.16,6.16); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 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 - Dipole; Communication System Band: CW for SAR Dipoles; Frequency: 835.0 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=835$ MHz; $\sigma = 0.9920$; $\epsilon_r = 53.7$ mho/m; $\rho = 1.000$ kg/m³

Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1): Interpolated grid: dx=1.000 mm, dy=1.500 mm
Fast SAR: SAR(1g) = 1.94 W/kg; SAR(10g) = 1.29 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 = 47.059 V/m, Power Drift = -0.00992 dB
Averaged SAR: SAR(1g) = 1.94 W/kg; SAR(10g) = 1.29 W/kg



Date/Time: 3/23/2013 8:58:47 AM

DUT Serial: D835V2 - SN:423tr

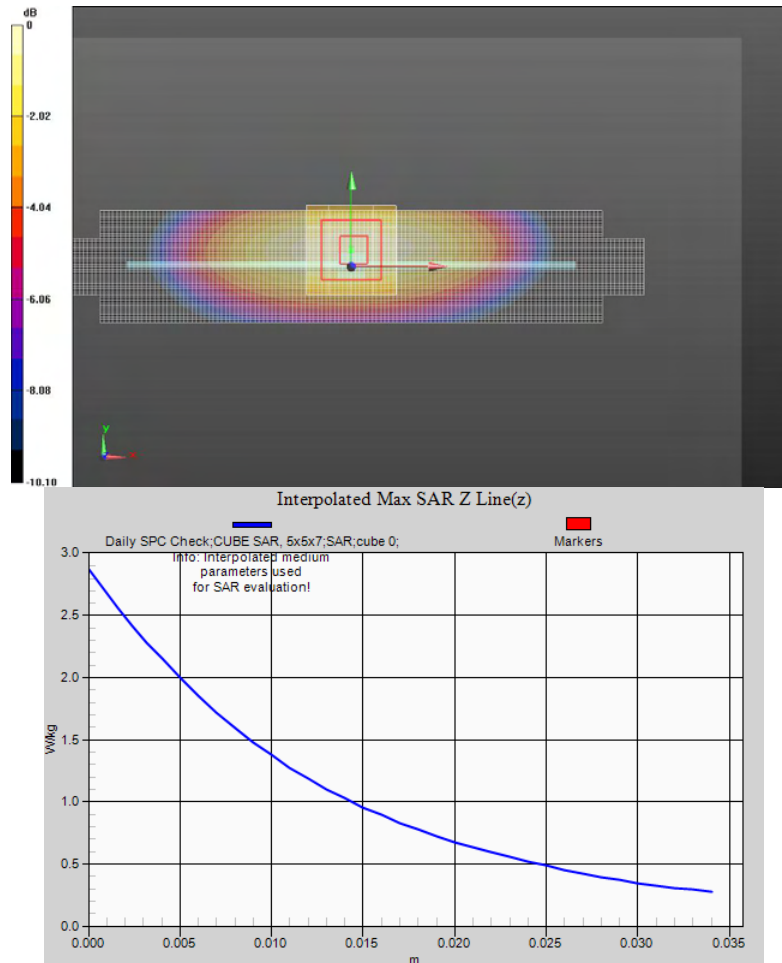
DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(6.16,6.16,6.16); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 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 - Dipole; Communication System Band: CW for SAR Dipoles; Frequency: 835.0 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=835$ MHz; $\sigma = 1.004$; $\epsilon_r = 53.7$ mho/m; $\rho = 1.000$ kg/m³

Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1): Interpolated grid: dx=1.000 mm, dy=1.500 mm
Fast SAR: SAR(1g) = 1.93 W/kg; SAR(10g) = 1.29 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 = 47.273 V/m, Power Drift = -0.026 dB
Averaged SAR: SAR(1g) = 1.93 W/kg; SAR(10g) = 1.28 W/kg



Date/Time: 3/22/2013 7:56:02 AM

DUT Serial: D1800V2 - SN:2d191

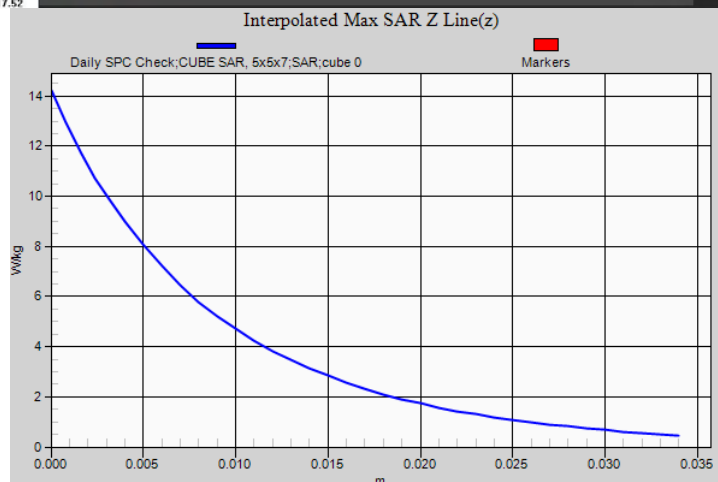
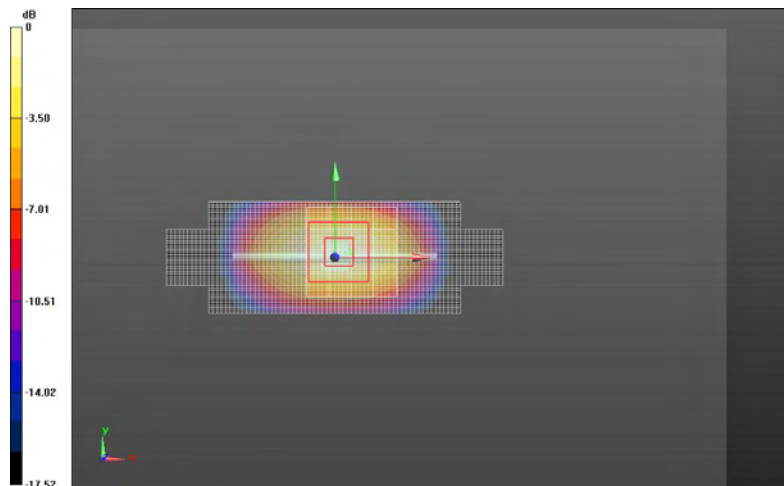
DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(4.83,4.83,4.83); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 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 - Dipole; Communication System Band: CW for SAR Dipoles; Frequency: 1800 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=1800$ MHz; $\sigma = 1.465$; $\epsilon_r = 50.2$ mho/m; $\rho = 1.000$ kg/m³

Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1): Interpolated grid: dx=1.000 mm, dy=1.500 mm
Fast SAR: SAR(1g) = 8.13 W/kg; SAR(10g) = 4.34 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 = 77.218 V/m, Power Drift = -0.030 dB
Averaged SAR: SAR(1g) = 8.04 W/kg; SAR(10g) = 4.27 W/kg



Date/Time: 1/23/2013 6:20:05 PM

DUT Serial: D2450V2 – SN 863

DASY Configuration:

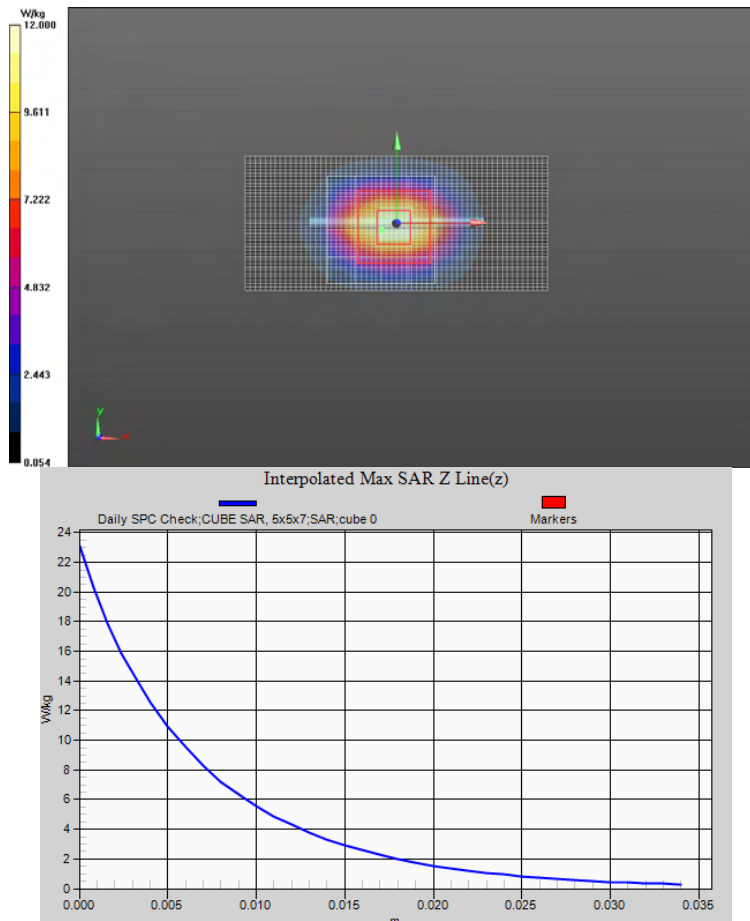
- Probe: ES3DV3 - SN3124; ConvF(4.40,4.40,4.40); Calibrated: 8/20/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 9/3/2012
- Phantom: R#2 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: _CW - Dipole; Communication System Band: CW for SAR Dipoles; Frequency: 2450 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=2450$ MHz; $\sigma = 2.017$; $\epsilon_r = 50.82$ mho/m; $\rho = 1000$ kg/m³

Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1): Interpolated grid: dx=1.000 mm, dy=1.500 mm
Fast SAR: SAR(1g) = 11.2 W/kg; SAR(10g) = 5.15 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 = 78.019 V/m, Power Drift = -0.115 dB
Averaged SAR: SAR(1g) = 10.7 W/kg; SAR(10g) = 4.94 W/kg



Date/Time: 1/23/2013 9:56:24 PM

DUT Serial: D2450V2 – SN 863

DASY Configuration:

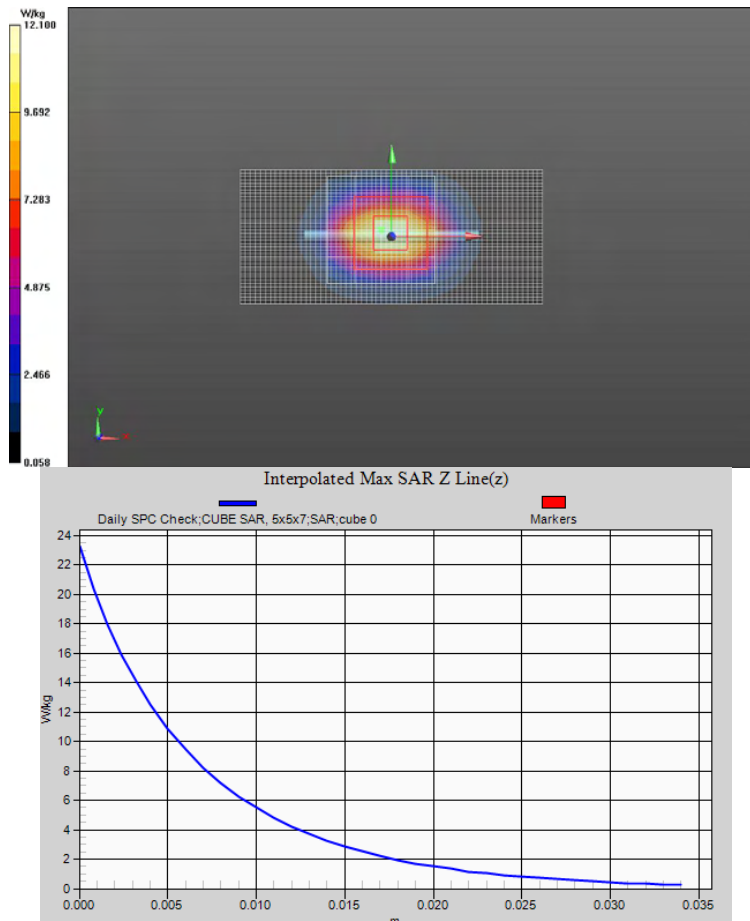
- Probe: ES3DV3 - SN3124; ConvF(4.40,4.40,4.40); Calibrated: 8/20/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn376; Calibrated: 9/3/2012
- Phantom: R#2 Triple Flat Phantom 5.1C (Rev.4); Type: QD 000 P51 CA; Serial: n/a
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: _CW - Dipole; Communication System Band: CW for SAR Dipoles; Frequency: 2450 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=2450$ MHz; $\sigma = 2.017$; $\epsilon_r = 50.82$ mho/m; $\rho = 1000$ kg/m³

Daily SPC Check/fastSAR, Dipole Area Scan (41x141x1): Interpolated grid: dx=1.000 mm, dy=1.500 mm
Fast SAR: SAR(1g) = 10.9 W/kg; SAR(10g) = 5.04 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 = 78.278 V/m, Power Drift = -0.015 dB
Averaged SAR: SAR(1g) = 10.7 W/kg; SAR(10g) = 4.92 W/kg



Appendix 2

SAR Distribution Plots for Head-Adjacent Test Results

Date/Time: 3/21/2013 11:01:15 PM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(6.23,6.23,6.23); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 Sugar SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1132
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: _GPRS Class 11; Communication System Band: 850 MHz; Frequency: 848.8 MHz, Communication System PAR: 4.41 dB; PMF: 1.661; Duty Cycle: 1:2.760
Medium Parameters used: $f=848.8$ MHz; $\sigma = 0.9177$; $\epsilon_r = 41.15$ mho/m; $\rho = 1.000$ kg/m³

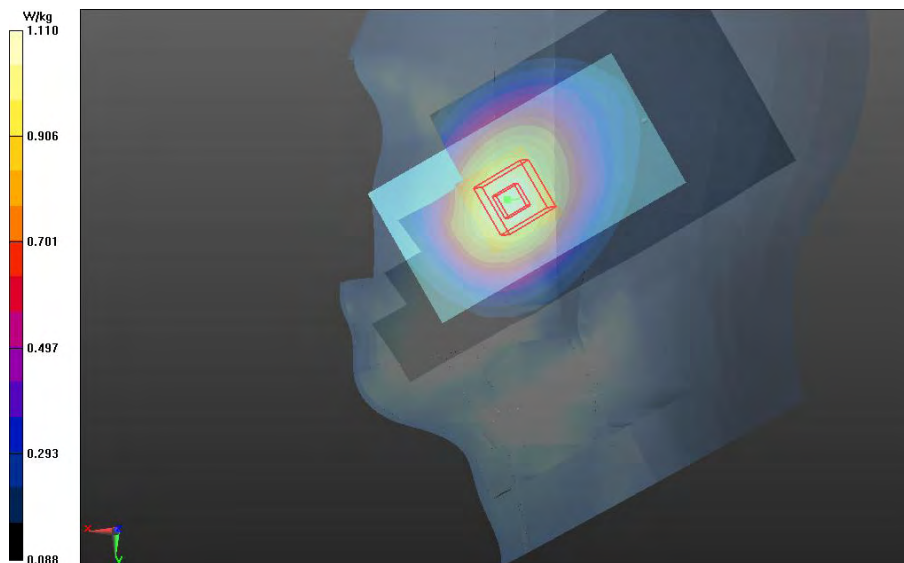
Right Head Template/15mm, Area Scan - Not for 2450 FCC TA... (61x161x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Fast SAR: SAR(1g) = 1.06 W/kg; SAR(10g) = 0.727 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 = 34.990 V/m, Power Drift = -0.098 dB

Averaged SAR: SAR(1g) = 1.05 W/kg; SAR(10g) = 0.803 W/kg



Right Head Template

Date/Time: 3/22/2013 2:29:35 PM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(5.15,5.15,5.15); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1162
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: _GPRS Class 11; Communication System Band: 1900 MHz; Frequency: 1880 MHz, Communication System PAR: 4.41 dB; PMF: 1.661; Duty Cycle: 1:2.760
Medium Parameters used: $f=1880$ MHz; $\sigma = 1.468$; $\epsilon_r = 43.81$ mho/m; $\rho = 1.000$ kg/m³

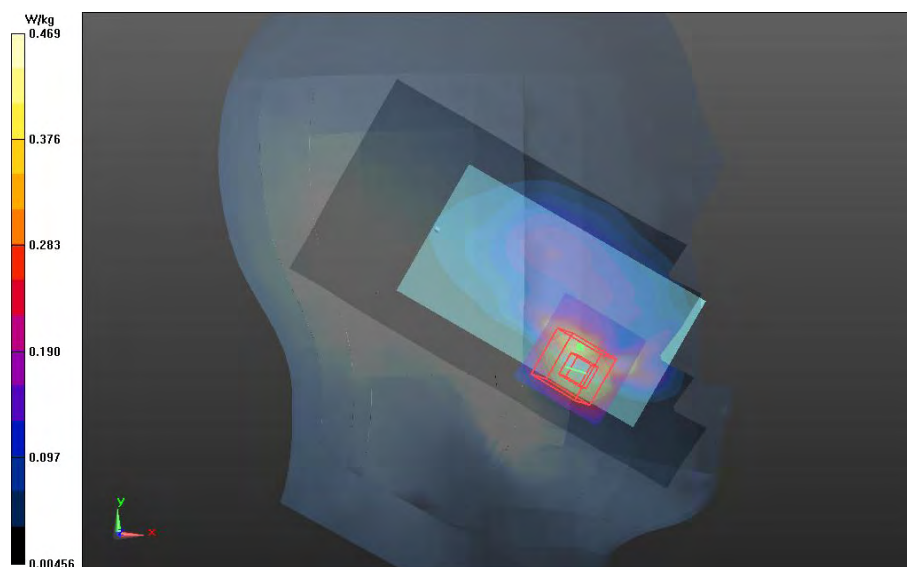
Left Head Template/15mm, Area Scan - NOT for 2450 FCC TA... (61x161x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Fast SAR: SAR(1g) = 0.359 W/kg; SAR(10g) = 0.166 W/kg

Left Head Template/5x5x7 Zoom Scan (<=3GHz) (26x26x36)/Cube 0: Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm

Reference Value = 14.492 V/m, Power Drift = -0.178 dB

Averaged SAR: SAR(1g) = 0.424 W/kg; SAR(10g) = 0.230 W/kg



Left Head Template

Date/Time: 3/18/2013 8:13:10 PM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

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: _WCDMA; Communication System Band: WCDMA-850, Band 5; Frequency: 846.6 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=846.6$ MHz; $\sigma = 0.9430$; $\epsilon_r = 42.95$ mho/m; $\rho = 1.000$ kg/m³

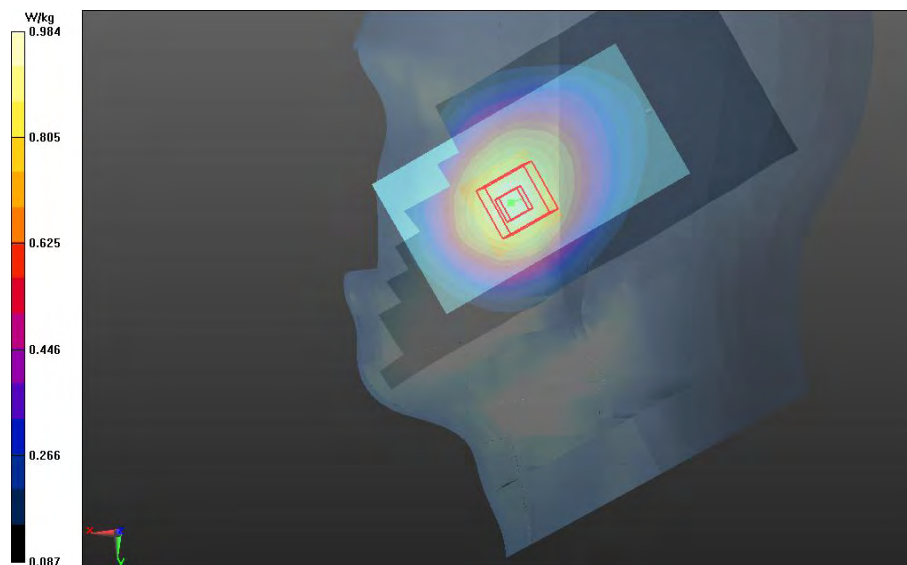
Right Head Template/10mm, Area Scan (91x241x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Fast SAR: SAR(1g) = 0.925 W/kg; SAR(10g) = 0.634 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 = 31.913 V/m, Power Drift = 0.060 dB

Averaged SAR: SAR(1g) = 0.935 W/kg; SAR(10g) = 0.718 W/kg



Right Head Template

Date/Time: 3/22/2013 5:16:17 PM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(5.15,5.15,5.15); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 Glycol SAM (extended range), Rev.2 (24-Feb-12); Type: SAM v4.0; Serial: TP-1162
- DASY52 52.8.5(1059); SEMCAD X Version 14.6.8 (7028)

Communication System: _WCDMA; Communication System Band: WCDMA-1900, Band 2; Frequency: 1852 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=1852.4$ MHz; $\sigma = 1.437$; $\epsilon_r = 43.81$ mho/m; $\rho = 1.000$ kg/m³

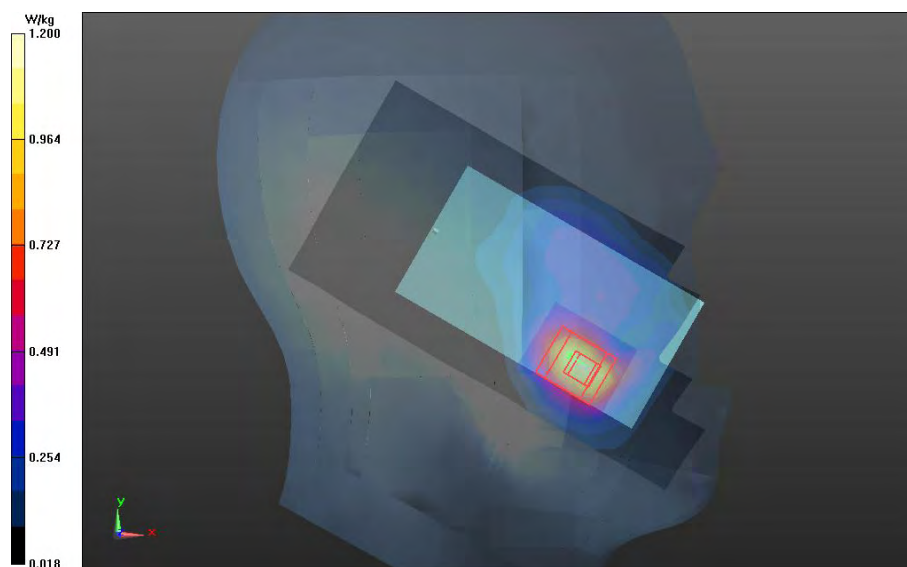
Left Head Template/15mm, Area Scan - NOT for 2450 FCC TA... (61x161x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Fast SAR: SAR(1g) = 0.956 W/kg; SAR(10g) = 0.526 W/kg

Left Head Template/5x5x7 Zoom Scan (<=3GHz) (21x26x36)/Cube 0: Interpolated grid: dx=1.600 mm, dy=1.600 mm, dz=1.000 mm

Reference Value = 25.899 V/m, Power Drift = -0.079 dB

Averaged SAR: SAR(1g) = 1.10 W/kg; SAR(10g) = 0.576 W/kg



Left Head Template

Date/Time: 1/23/2013 5:58:21 PM

DUT Serial: 353207050002579

DASY Configuration:

- Probe: ES3DV3 - SN3124; ConvF(4.37,4.37,4.37); 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: _Wi-Fi 2450MHz; Communication System Band: 2450MHz WIFI; Frequency: 2437 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=2437$ MHz; $\sigma = 1.837$; $\epsilon_r = 38.57$ mho/m; $\rho = 1000$ kg/m³

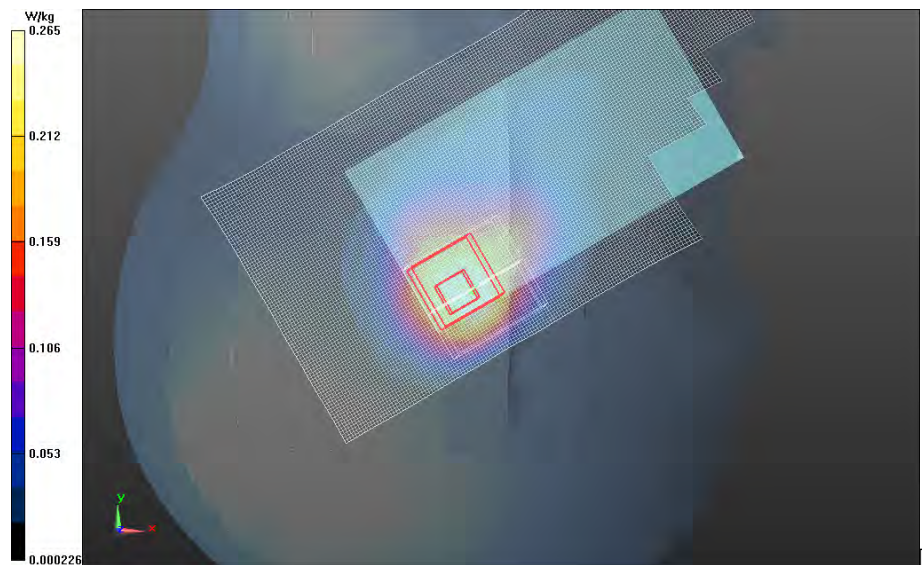
Right Head Template/10mm, Area Scan (91x241x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Fast SAR: SAR(1g) = 0.252 W/kg; SAR(10g) = 0.137 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 = 11.641 V/m, Power Drift = -0.11 dB

Averaged SAR: SAR(1g) = 0.255 W/kg; SAR(10g) = 0.132 W/kg



Right Head Template

Appendix 3

SAR Distribution Plots for Body-Worn Accessory Test Results

Date/Time: 3/21/2013 11:55:52 PM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(6.16,6.16,6.16); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 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: _GSM; Communication System Band: GSM 850; Frequency: 848.8 MHz,
Communication System PAR: 9.19 dB; PMF: 2.881; Duty Cycle: 1:8.300
Medium Parameters used: $f=848.8$ MHz; $\sigma = 1.006$; $\epsilon_r = 54.99$ mho/m; $\rho = 1.000$ kg/m³

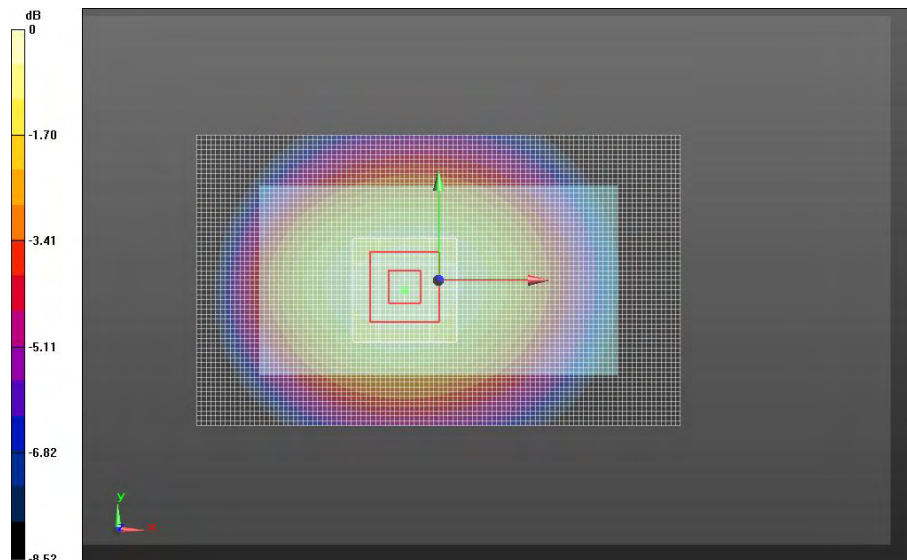
Triple Flat Phone Template/Area Scan (15mm), not for EDGES, not for FCC 2450 TA...
(181x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Fast SAR: SAR(1g) = 0.534 W/kg; SAR(10g) = 0.372 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 = 23.982 V/m, Power Drift = -0.019 dB

Averaged SAR: SAR(1g) = 0.534 W/kg; SAR(10g) = 0.394 W/kg



Triple Flat Phone Template

Date/Time: 3/23/2013 12:40:27 AM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(4.83,4.83,4.83); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 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: _GSM; Communication System Band: GSM 1900; Frequency: 1880 MHz,
Communication System PAR: 9.19 dB; PMF: 2.881; Duty Cycle: 1:8.300
Medium Parameters used: $f=1880$ MHz; $\sigma = 1.566$; $\epsilon_r = 54.98$ mho/m; $\rho = 1.000$ kg/m³

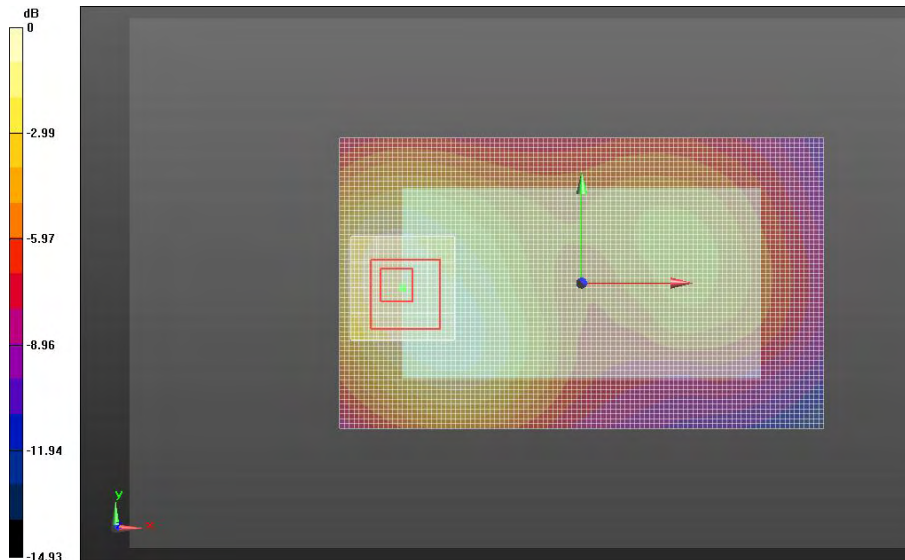
Triple Flat Phone Template/Area Scan (15mm), not for EDGES, not for FCC 2450 TA...
(181x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Fast SAR: SAR(1g) = 0.110 W/kg; SAR(10g) = 0.0682 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 = 8.178 V/m, Power Drift = 0.172 dB

Averaged SAR: SAR(1g) = 0.109 W/kg; SAR(10g) = 0.0705 W/kg



Triple Flat Phone Template

Date/Time: 3/19/2013 2:13:12 PM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

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: _WCDMA; Communication System Band: WCDMA-850, Band 5; Frequency: 836.0 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=836$ MHz; $\sigma = 0.9976$; $\epsilon_r = 55.04$ mho/m; $\rho = 1.000$ kg/m³

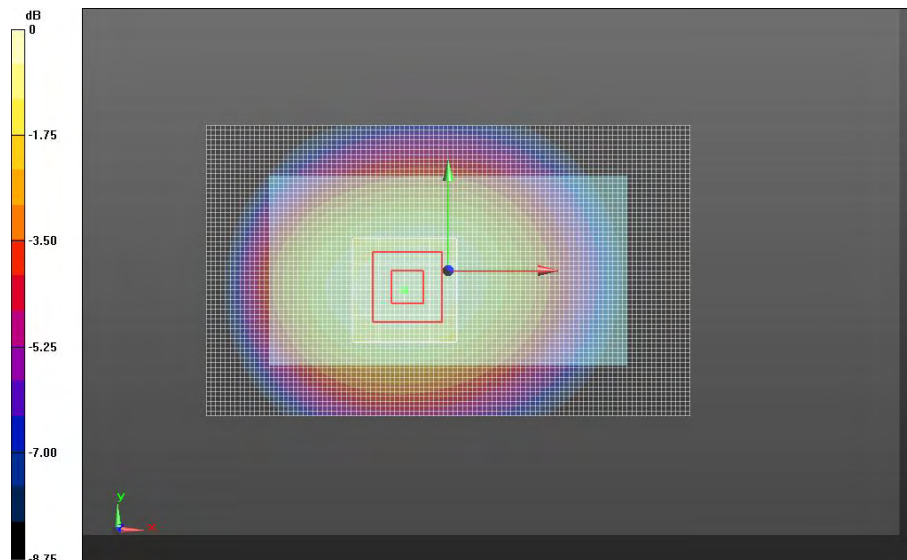
**Triple Flat Phone Template/Area Scan (15mm), not for EDGES, not for FCC 2450 TA...
(181x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm**

Fast SAR: SAR(1g) = 0.603 W/kg; SAR(10g) = 0.419 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 = 25.482 V/m, Power Drift = -0.016 dB

Averaged SAR: SAR(1g) = 0.606 W/kg; SAR(10g) = 0.449 W/kg



Triple Flat Phone Template

Date/Time: 3/22/2013 7:24:22 PM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(4.83,4.83,4.83); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 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; Communication System Band: WCDMA-1900, Band 2; Frequency: 1880 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=1880$ MHz; $\sigma = 1.566$; $\epsilon_r = 54.98$ mho/m; $\rho = 1.000$ kg/m³

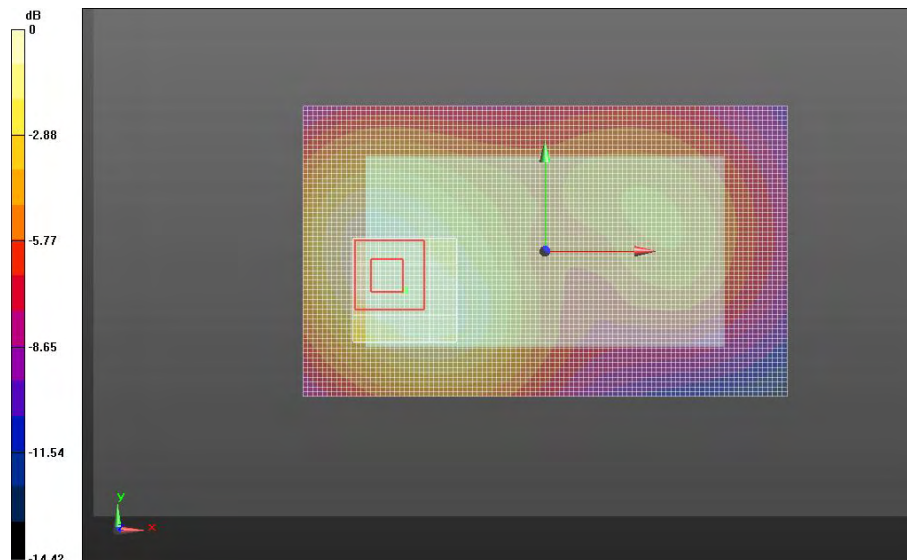
Triple Flat Phone Template/Area Scan (15mm), not for EDGES, not for FCC 2450 TA...
(181x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Fast SAR: SAR(1g) = 0.213 W/kg; SAR(10g) = 0.132 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 = 11.702 V/m, Power Drift = -0.010 dB

Averaged SAR: SAR(1g) = 0.210 W/kg; SAR(10g) = 0.136 W/kg



Triple Flat Phone Template

Date/Time: 1/24/2013 7:07:23 PM

DUT Serial: 353207050002579

DASY Configuration:

- Probe: ES3DV3 - SN3124; ConvF(4.40,4.40,4.40); 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: _Wi-Fi 2450MHz; Communication System Band: 2450MHz WIFI; Frequency: 2437 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=2437$ MHz; $\sigma = 1.991$; $\epsilon_r = 51.05$ mho/m; $\rho = 1000$ kg/m³

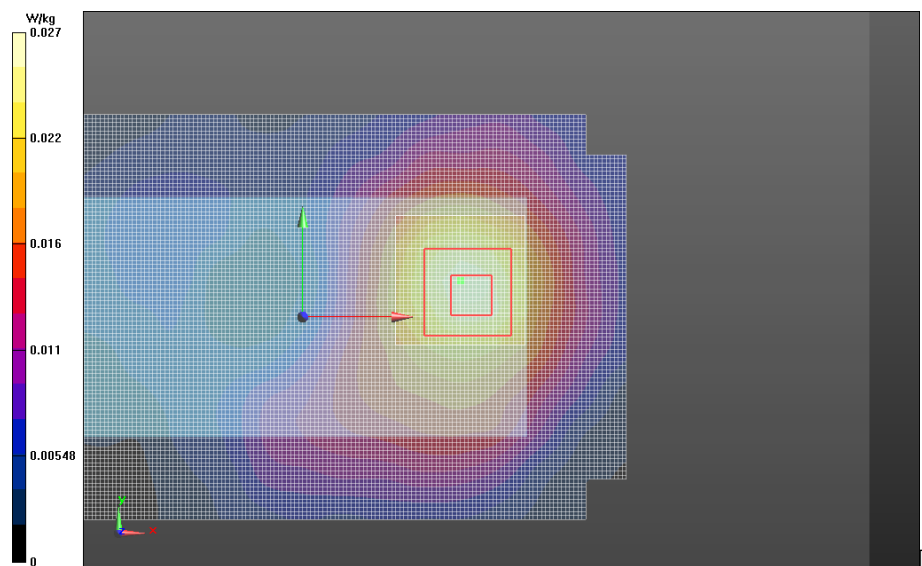
Triple Flat Phone Template/Area Scan (10mm) (261x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Fast SAR: SAR(1g) = 0.0247 W/kg; SAR(10g) = 0.0143 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 = 3.676 V/m, Power Drift = -0.034 dB

Averaged SAR: SAR(1g) = 0.0257 W/kg; SAR(10g) = 0.0149 W/kg



Triple Flat Phone Template

Appendix 4

SAR Distribution Plots for Mobile Hotspot Test Results

Date/Time: 3/23/2013 10:01:11 AM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(6.16,6.16,6.16); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 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 Class 11; Communication System Band: 850 MHz; Frequency: 836.6 MHz, Communication System PAR: 4.41 dB; PMF: 1.661; Duty Cycle: 1:2.760
Medium Parameters used: $f=836.6$ MHz; $\sigma = 1.006$; $\epsilon_r = 55.03$ mho/m; $\rho = 1.000$ kg/m³

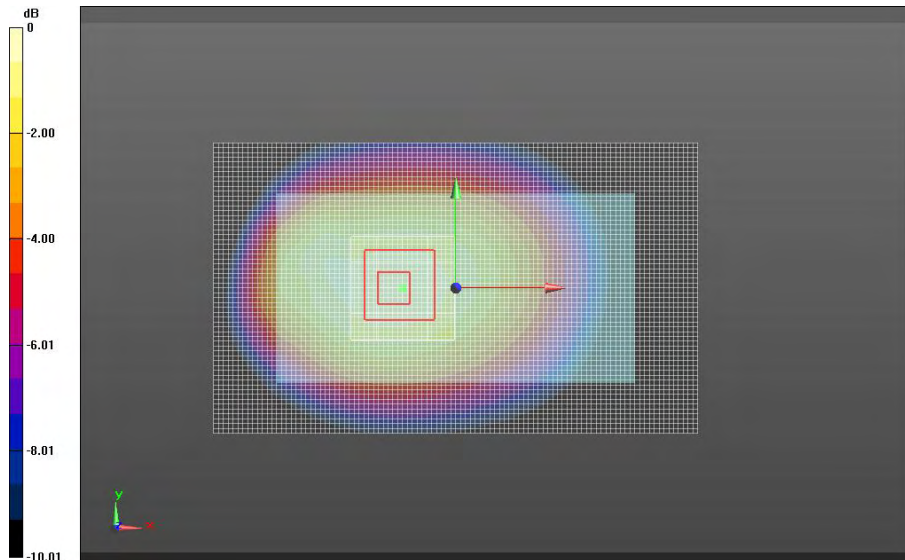
Triple Flat Phone Template/Area Scan (15mm), not for EDGES, not for FCC 2450 TA... (181x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Fast SAR: SAR(1g) = 1.29 W/kg; SAR(10g) = 0.893 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 = 37.578 V/m, Power Drift = -0.014 dB

Averaged SAR: SAR(1g) = 1.31 W/kg; SAR(10g) = 0.958 W/kg



Triple Flat Phone Template

Date/Time: 3/23/2013 2:29:37 AM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(4.83,4.83,4.83); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 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 Class 11; Communication System Band: 1900 MHz; Frequency: 1880 MHz, Communication System PAR: 4.41 dB; PMF: 1.661; Duty Cycle: 1:2.760
Medium Parameters used: $f=1880$ MHz; $\sigma = 1.566$; $\epsilon_r = 54.98$ mho/m; $\rho = 1.000$ kg/m³

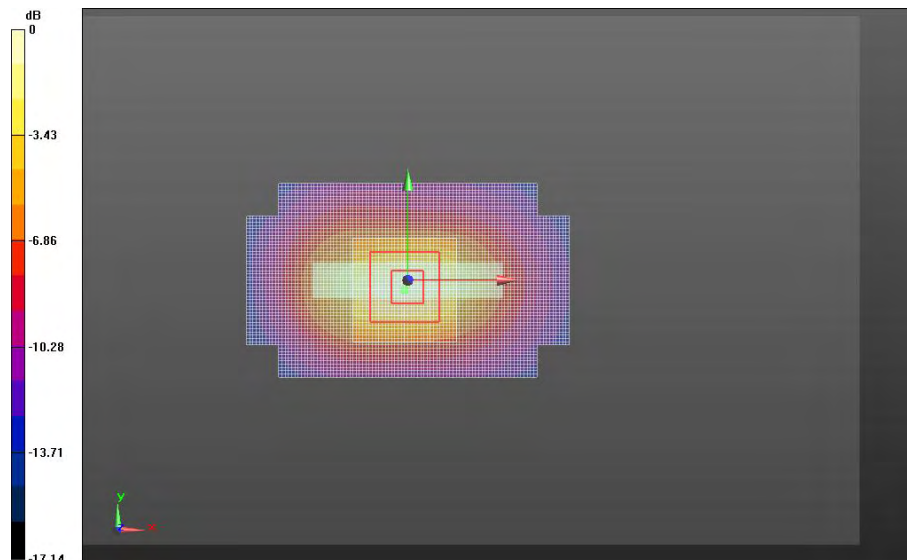
Triple Flat Phone Template/Area Scan (10mm) (261x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Fast SAR: SAR(1g) = 0.694 W/kg; SAR(10g) = 0.358 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 = 18.522 V/m, Power Drift = -0.055 dB

Averaged SAR: SAR(1g) = 0.689 W/kg; SAR(10g) = 0.368 W/kg



Triple Flat Phone Template

Date/Time: 3/19/2013 4:02:44 PM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

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: _WCDMA; Communication System Band: WCDMA-850, Band 5; Frequency: 826.4 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=826.4$ MHz; $\sigma = 0.9872$; $\epsilon_r = 55.04$ mho/m; $\rho = 1.000$ kg/m³

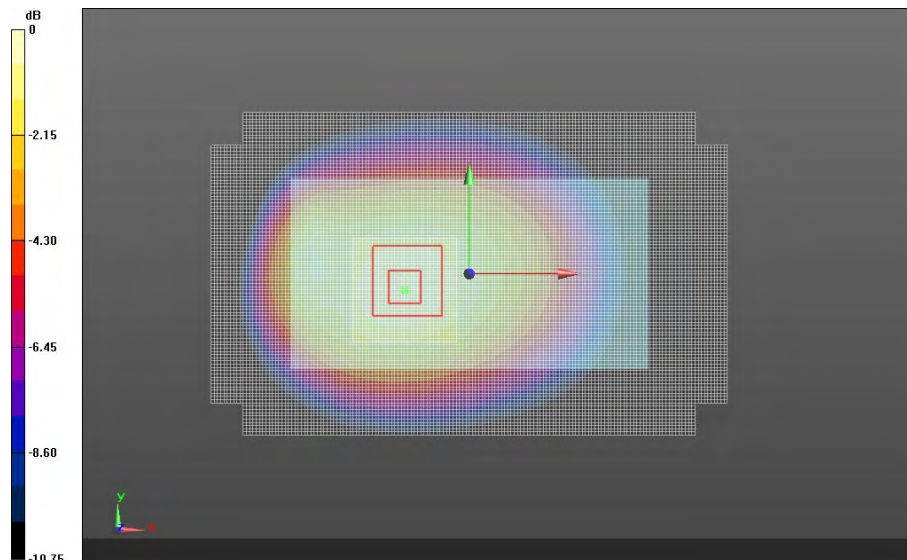
Triple Flat Phone Template/Area Scan (10mm) (261x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Fast SAR: SAR(1g) = 1.23 W/kg; SAR(10g) = 0.845 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 = 36.320 V/m, Power Drift = 0.037 dB

Averaged SAR: SAR(1g) = 1.24 W/kg; SAR(10g) = 0.901 W/kg



Triple Flat Phone Template

Date/Time: 3/22/2013 10:57:48 PM

Test Lab: Motorola Mobility

DUT Serial: 353205050050515

DASY Configuration:

- Probe: ES3DV3 - SN3037; ConvF(4.83,4.83,4.83); Calibrated: 9/13/2012;
- Sensor-Surface: 4 mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn703; Calibrated: 9/11/2012
- Phantom: R#4 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; Communication System Band: WCDMA-1900, Band 2; Frequency: 1908 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=1907.6$ MHz; $\sigma = 1.601$; $\epsilon_r = 54.98$ mho/m; $\rho = 1.000$ kg/m³

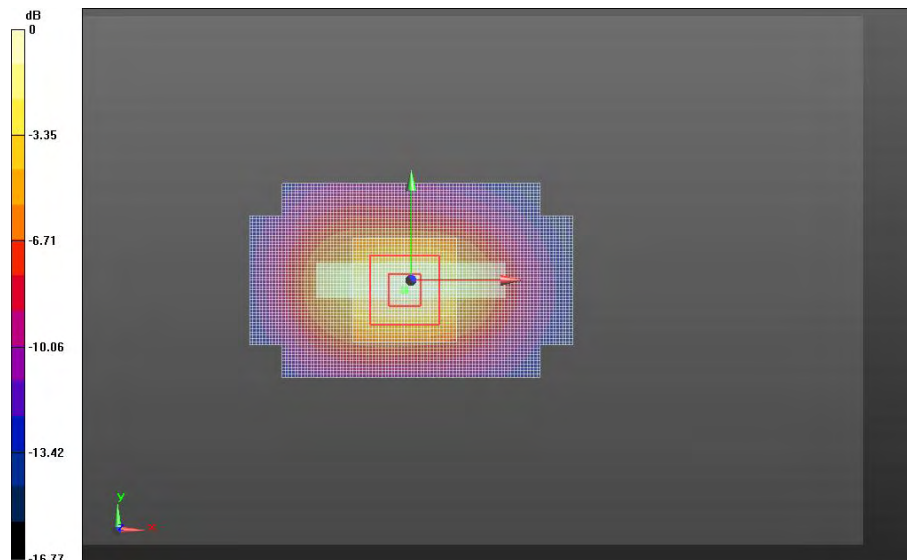
Triple Flat Phone Template/Area Scan (10mm) (261x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Fast SAR: SAR(1g) = 1.20 W/kg; SAR(10g) = 0.628 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 = 24.981 V/m, Power Drift = -0.038 dB

Averaged SAR: SAR(1g) = 1.20 W/kg; SAR(10g) = 0.647 W/kg



Triple Flat Phone Template

Date/Time: 1/23/2013 9:12:59 PM

DUT Serial: 353207050002579

DASY Configuration:

- Probe: ES3DV3 - SN3124; ConvF(4.40,4.40,4.40); 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: _Wi-Fi 2450MHz; Communication System Band: 2450MHz WIFI; Frequency: 2437 MHz, Communication System PAR: 0.00 dB; PMF: 1.000; Duty Cycle: 1:1.000
Medium Parameters used: $f=2437$ MHz; $\sigma = 1.999$; $\epsilon_r = 50.86$ mho/m; $\rho = 1000$ kg/m³

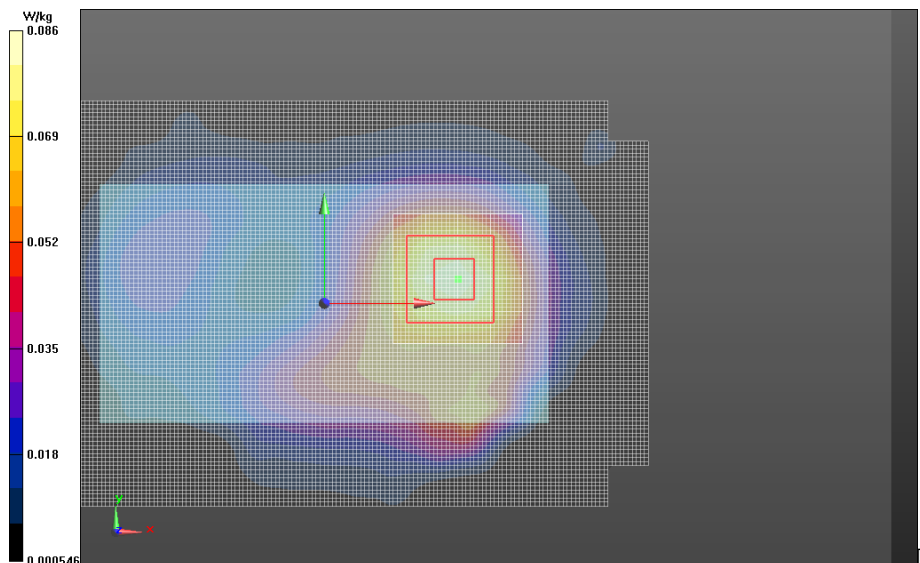
Triple Flat Phone Template/Area Scan (10mm) (261x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Fast SAR: SAR(1g) = 0.0786 W/kg; SAR(10g) = 0.0443 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 = 5.781 V/m, Power Drift = 0.030 dB

Averaged SAR: SAR(1g) = 0.0794 W/kg; SAR(10g) = 0.0456 W/kg



Triple Flat Phone Template

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> |
|---|---|---------------|--------------|-------------------|-------------------------------|--------------------------------|-------------------------------------|--------------------------------------|----------------------|
| Uncertainty Component | Description IEEE 1528(2003) / IEC 62209-1(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 | 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 | ∞ |
| 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 | 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 |
| Combined Standard Uncertainty | | | | RSS | | | 11 | 11 | 390 |
| Expanded Uncertainty (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> |
|--|--------------------------------------|---------------|--------------|-------------------|-------------------------------|--------------------------------|-------------------------------------|--------------------------------------|----------------------|
| Uncertainty Component | Description IEC 62209-2 (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 | 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 | ∞ |
| 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 | 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 |
| Combined Standard Uncertainty | | | RSS | | | | 12 | 12 | 557 |
| Expanded Uncertainty (95% CONFIDENCE LEVEL) | | | <i>k=2</i> | | | | 24 | 24 | |

Appendix 6

Probe Calibration Certificates

**Calibration Laboratory of
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Zeughausstrasse 43, 8004 Zurich, Switzerland



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Accreditation No.: **SCS 108**

Client **Motorola MDb**

Certificate No: **ES3-3124_Aug12**

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 20, 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 | 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 | 20-Jun-12 (No. DAE4-660 Jun12) | Jun-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: August 20, 2012 |
| This calibration certificate shall not be reproduced except in full without written approval of the laboratory. | | | |

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Accreditation No.: **SCS 108**

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 20, 2012

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 ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A | 1.27 | 1.30 | 1.30 | $\pm 10.1 \%$ |
| DCP (mV) ^B | 98.9 | 102.1 | 100.4 | |

Modulation Calibration Parameters

| UID | Communication System Name | PAR | | A dB | B dB | C dB | VR mV | Unc ^C (k=2) |
|-----|---------------------------|------|---|---------|---------|---------|----------|---------------------------|
| 0 | CW | 0.00 | X | 0.00 | 0.00 | 1.00 | 158.7 | $\pm 3.3 \%$ |
| | | | Y | 0.00 | 0.00 | 1.00 | 163.3 | |
| | | | Z | 0.00 | 0.00 | 1.00 | 160.2 | |

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: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 | 6.23 | 6.23 | 6.23 | 0.21 | 2.37 | ± 12.0 % |
| 835 | 41.5 | 0.90 | 6.01 | 6.01 | 6.01 | 0.57 | 1.31 | ± 12.0 % |
| 1810 | 40.0 | 1.40 | 5.07 | 5.07 | 5.07 | 0.66 | 1.33 | ± 12.0 % |
| 1950 | 40.0 | 1.40 | 4.88 | 4.88 | 4.88 | 0.80 | 1.19 | ± 12.0 % |
| 2450 | 39.2 | 1.80 | 4.37 | 4.37 | 4.37 | 0.67 | 1.42 | ± 12.0 % |
| 2600 | 39.0 | 1.96 | 4.26 | 4.26 | 4.26 | 0.80 | 1.30 | ± 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

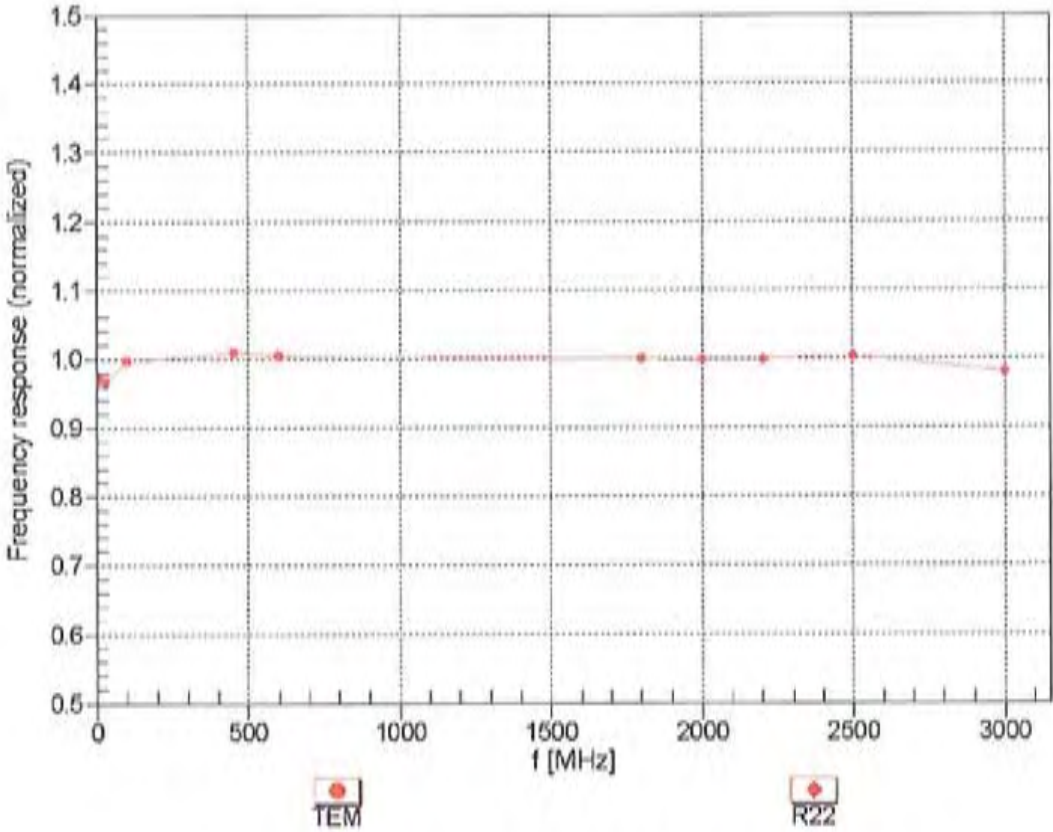
Calibration Parameter Determined in Body Tissue Simulating Media

| f (MHz) ^c | Relative Permittivity ^e | Conductivity (S/m) ^f | ConvF X | ConvF Y | ConvF Z | Alpha | Depth (mm) | Unct. (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|-------|------------|-------------|
| 750 | 55.5 | 0.96 | 6.15 | 6.15 | 6.15 | 0.50 | 1.45 | ± 12.0 % |
| 835 | 55.2 | 0.97 | 6.02 | 6.02 | 6.02 | 0.52 | 1.46 | ± 12.0 % |
| 1810 | 53.3 | 1.52 | 4.76 | 4.76 | 4.76 | 0.62 | 1.57 | ± 12.0 % |
| 1950 | 53.3 | 1.52 | 4.81 | 4.81 | 4.81 | 0.52 | 1.63 | ± 12.0 % |
| 2450 | 52.7 | 1.95 | 4.40 | 4.40 | 4.40 | 0.72 | 1.15 | ± 12.0 % |
| 2600 | 52.5 | 2.16 | 4.19 | 4.19 | 4.19 | 0.80 | 0.98 | ± 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.

^e 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.

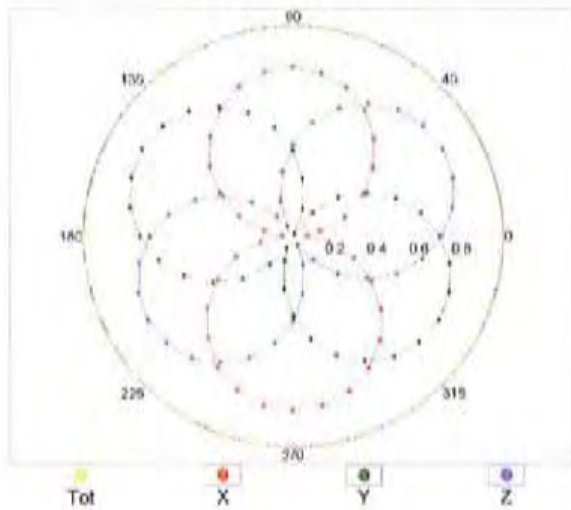
Frequency Response of E-Field (TEM-Cell:ifi1110 EXX, Waveguide: R22)



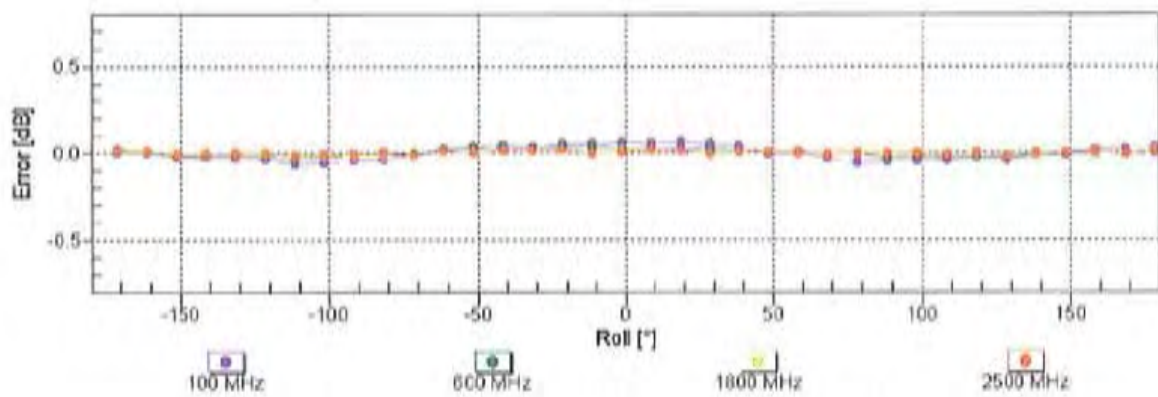
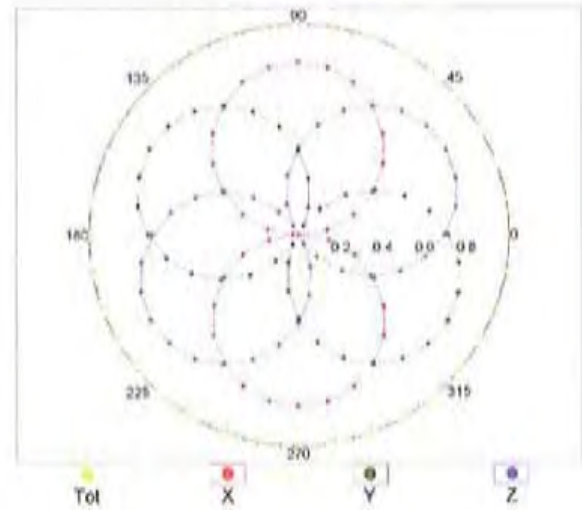
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

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

f=600 MHz,TEM

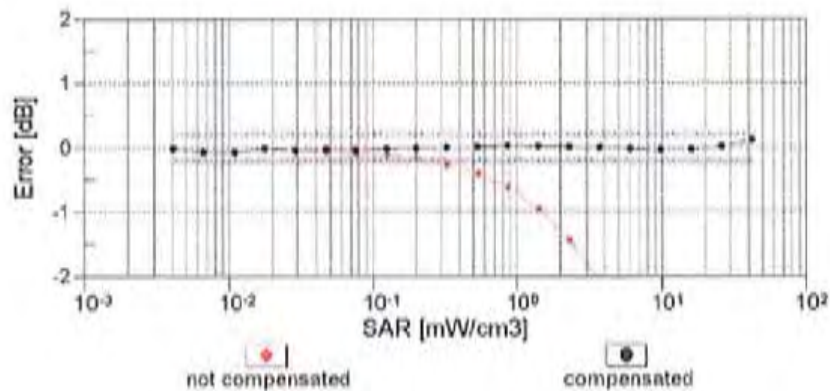
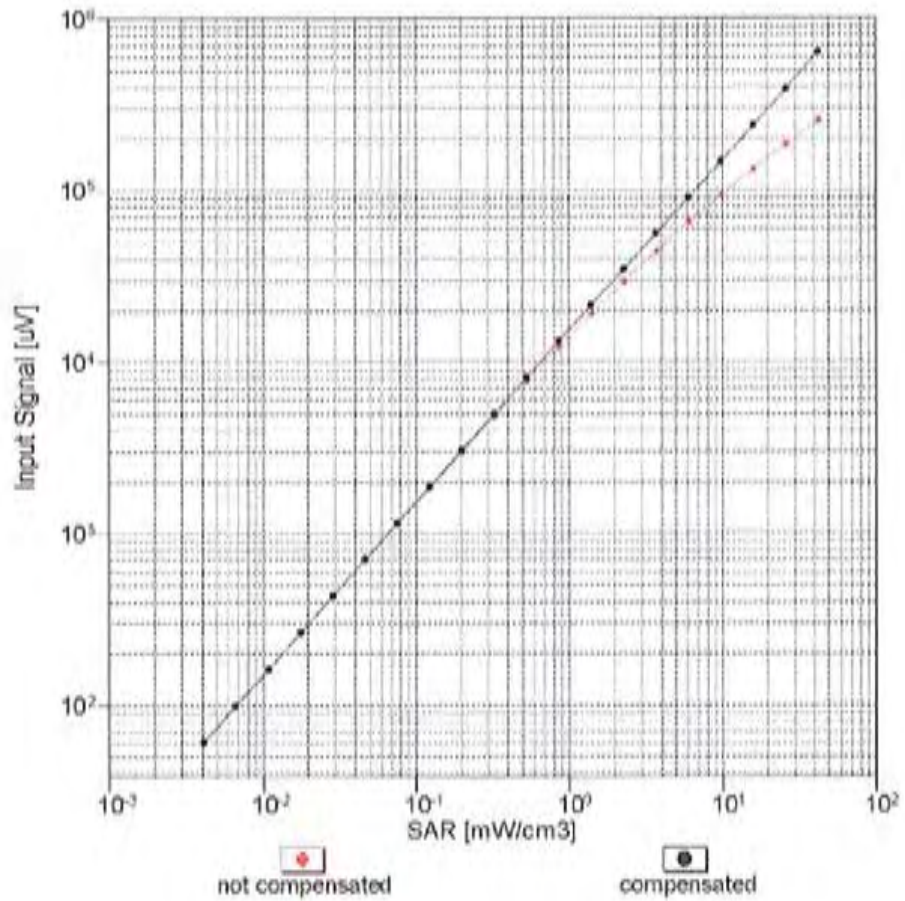


f=1800 MHz,R22



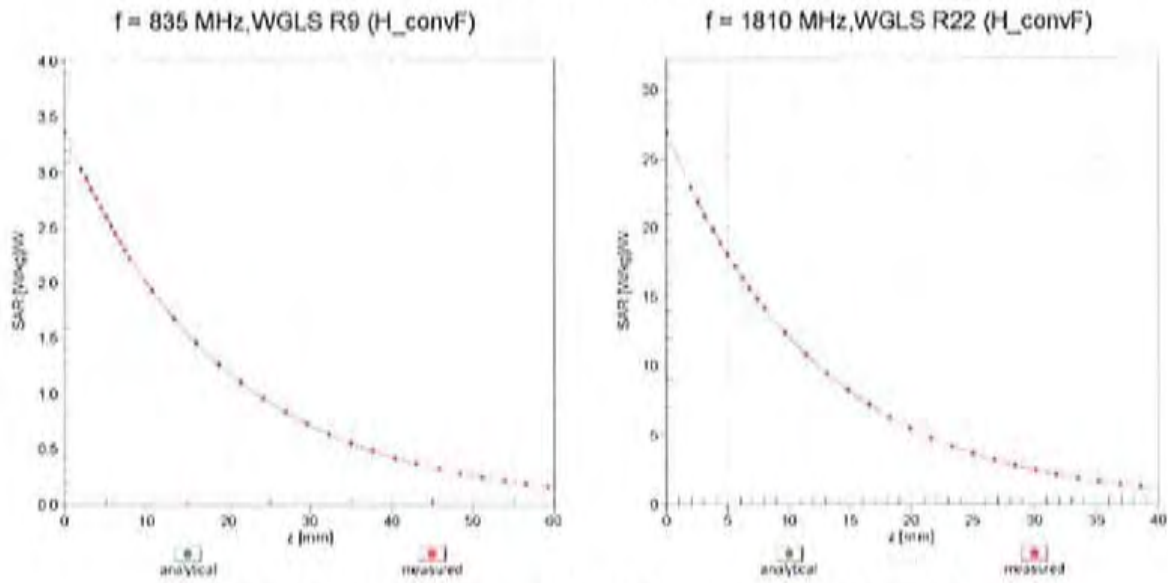
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

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

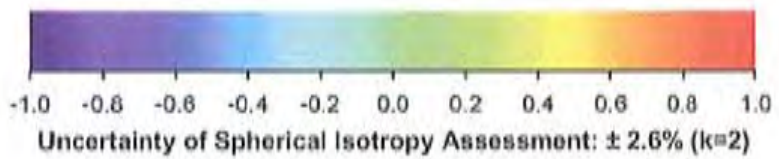
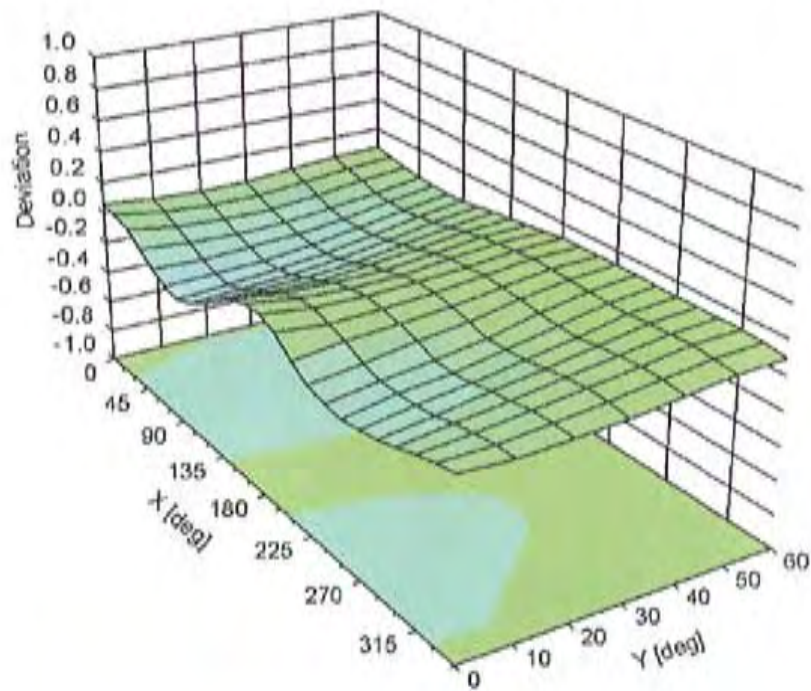


Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (ϕ , θ), f = 900 MHz



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

Other Probe Parameters

| | |
|---|------------|
| Sensor Arrangement | Triangular |
| Connector Angle (°) | 128.4 |
| 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 |

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Motorola MDb**

Certificate No: **ES3-3037_Sep12**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3037**

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



Calibration date: **September 13, 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 | 20-Jun-12 (No. DAE4-660_Jun12) | Jun-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 |

| | | | |
|---|--------------------------------|-----------------------------------|--|
| Calibrated by: | Name Claudio Leubler | Function Laboratory Technician | Signature  |
| Approved by: | Katja Pokovic | Technical Manager |  |
| | | | Issued: September 18, 2012 |
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Accreditation No.: **SCS 108**

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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:3037

Manufactured: August 21, 2003
Calibrated: September 13, 2012

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3037

Basic Calibration Parameters

| | Sensor X | Sensor Y | Sensor Z | Unc (k=2) |
|--|----------|----------|----------|---------------|
| Norm ($\mu\text{V}/(\text{V/m})^2$) ^A | 1.13 | 0.84 | 0.97 | $\pm 10.1 \%$ |
| DCP (mV) ^B | 102.8 | 103.8 | 101.9 | |

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 | 148.4 | $\pm 3.5 \%$ |
| | | | Y | 0.00 | 0.00 | 1.00 | 162.2 | |
| | | | Z | 0.00 | 0.00 | 1.00 | 177.4 | |

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:3037

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 | 6.46 | 6.46 | 6.46 | 0.24 | 2.00 | ± 12.0 % |
| 835 | 41.5 | 0.90 | 6.23 | 6.23 | 6.23 | 0.72 | 1.15 | ± 12.0 % |
| 1810 | 40.0 | 1.40 | 5.15 | 5.15 | 5.15 | 0.78 | 1.16 | ± 12.0 % |
| 1950 | 40.0 | 1.40 | 4.96 | 4.96 | 4.96 | 0.79 | 1.15 | ± 12.0 % |
| 2450 | 39.2 | 1.80 | 4.43 | 4.43 | 4.43 | 0.77 | 1.22 | ± 12.0 % |
| 2600 | 39.0 | 1.96 | 4.23 | 4.23 | 4.23 | 0.80 | 1.22 | ± 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:3037

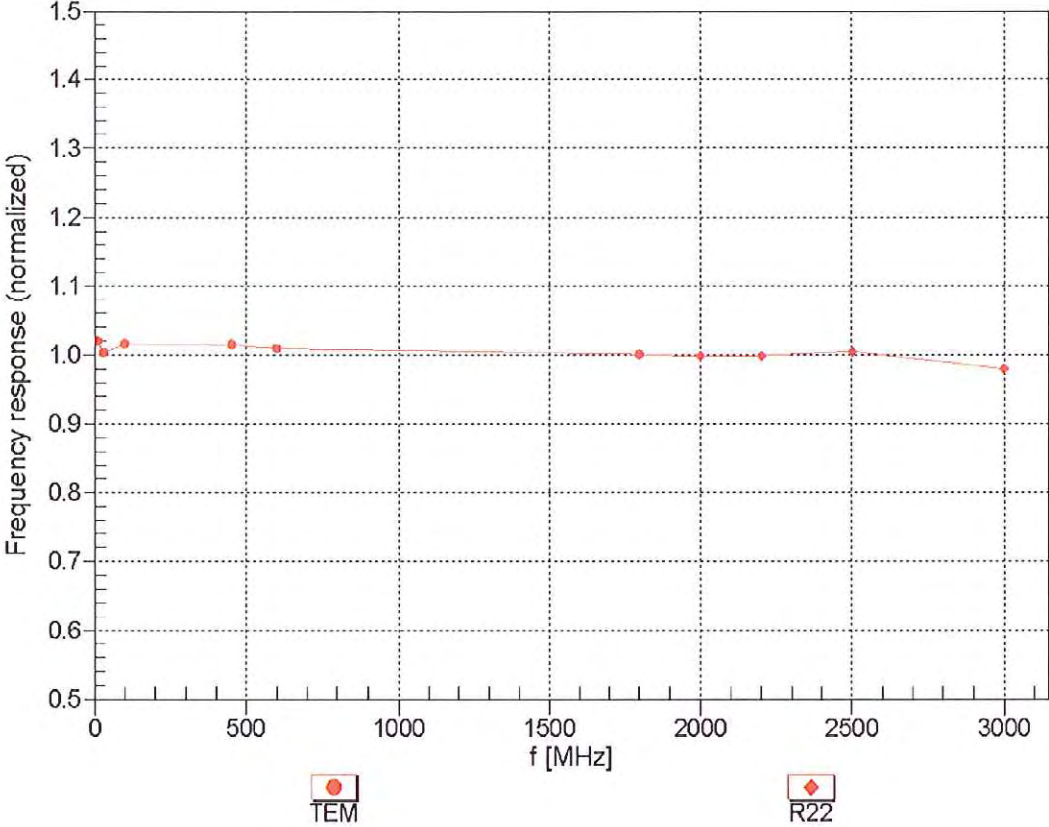
Calibration Parameter Determined in Body Tissue Simulating Media

| 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 | 6.22 | 6.22 | 6.22 | 0.51 | 1.37 | ± 12.0 % |
| 835 | 55.2 | 0.97 | 6.16 | 6.16 | 6.16 | 0.34 | 1.69 | ± 12.0 % |
| 1810 | 53.3 | 1.52 | 4.83 | 4.83 | 4.83 | 0.66 | 1.32 | ± 12.0 % |
| 1950 | 53.3 | 1.52 | 4.76 | 4.76 | 4.76 | 0.63 | 1.31 | ± 12.0 % |
| 2450 | 52.7 | 1.95 | 4.13 | 4.13 | 4.13 | 0.80 | 0.98 | ± 12.0 % |
| 2600 | 52.5 | 2.16 | 3.92 | 3.92 | 3.92 | 0.80 | 0.98 | ± 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:ifi1110 EXX, Waveguide: R22)

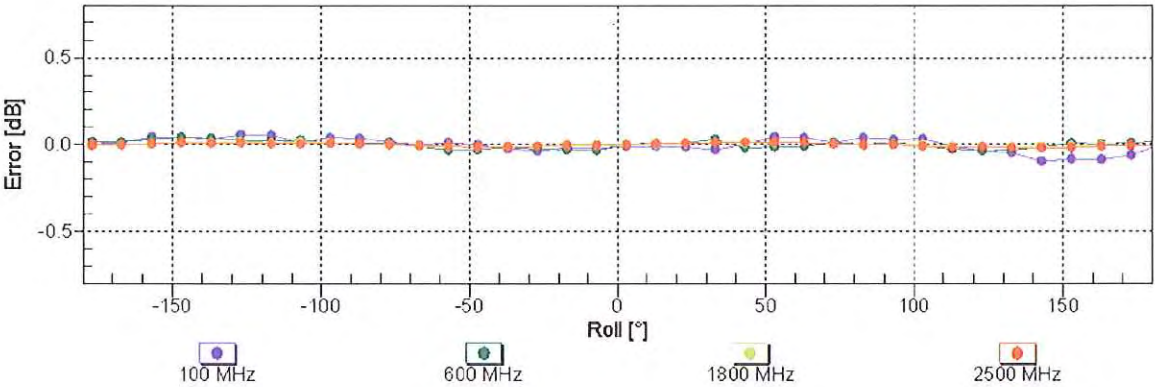
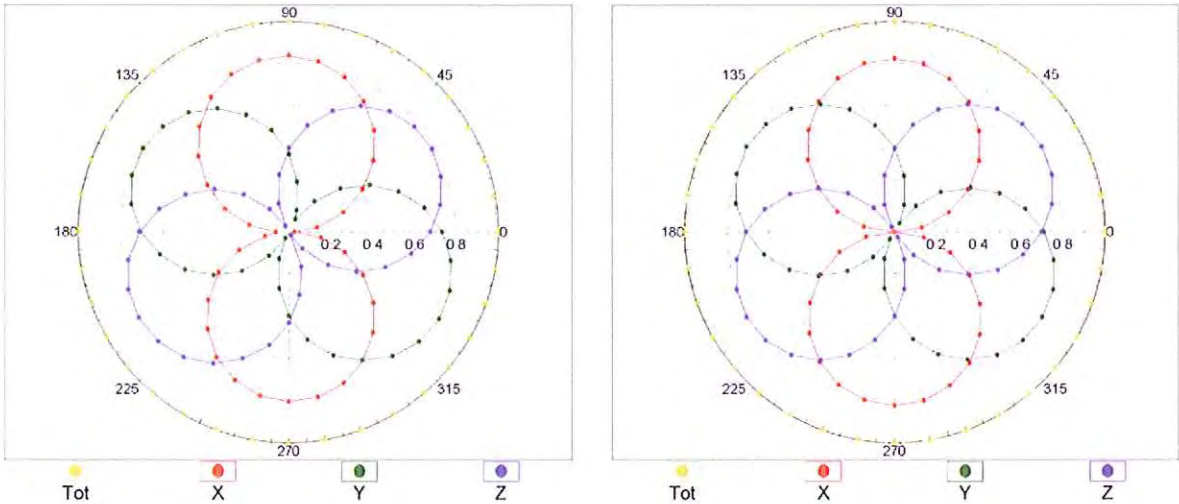


Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

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

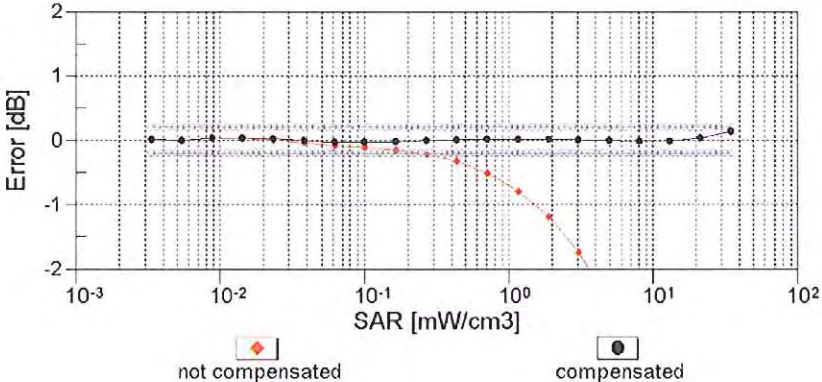
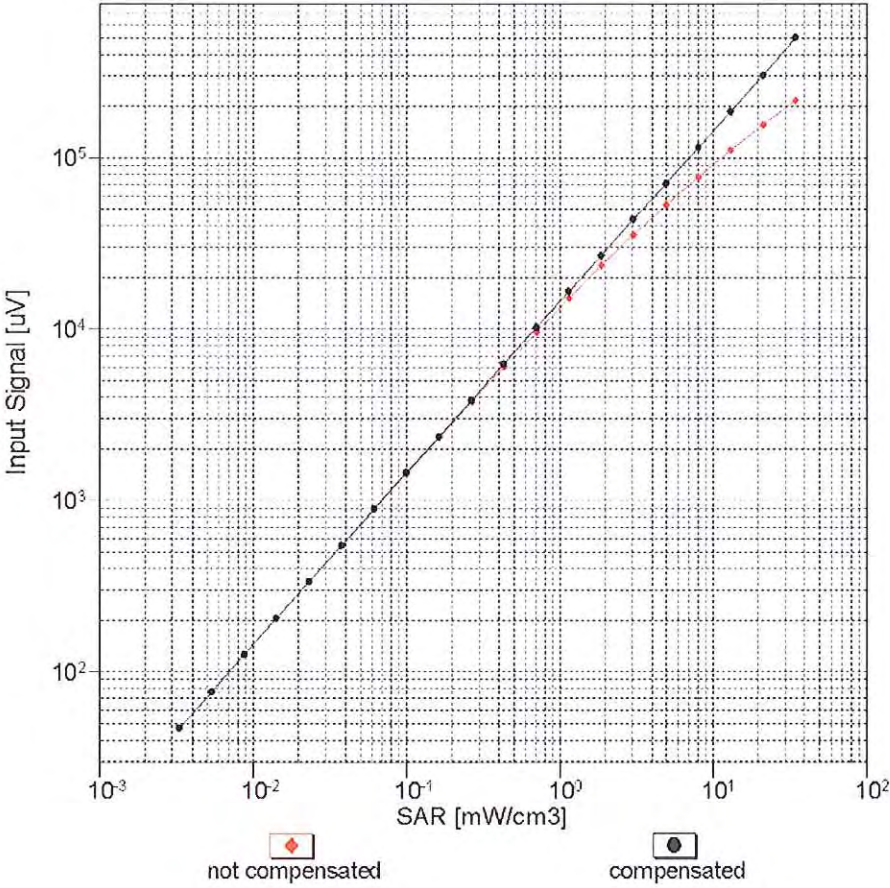
f=600 MHz,TEM

f=1800 MHz,R22



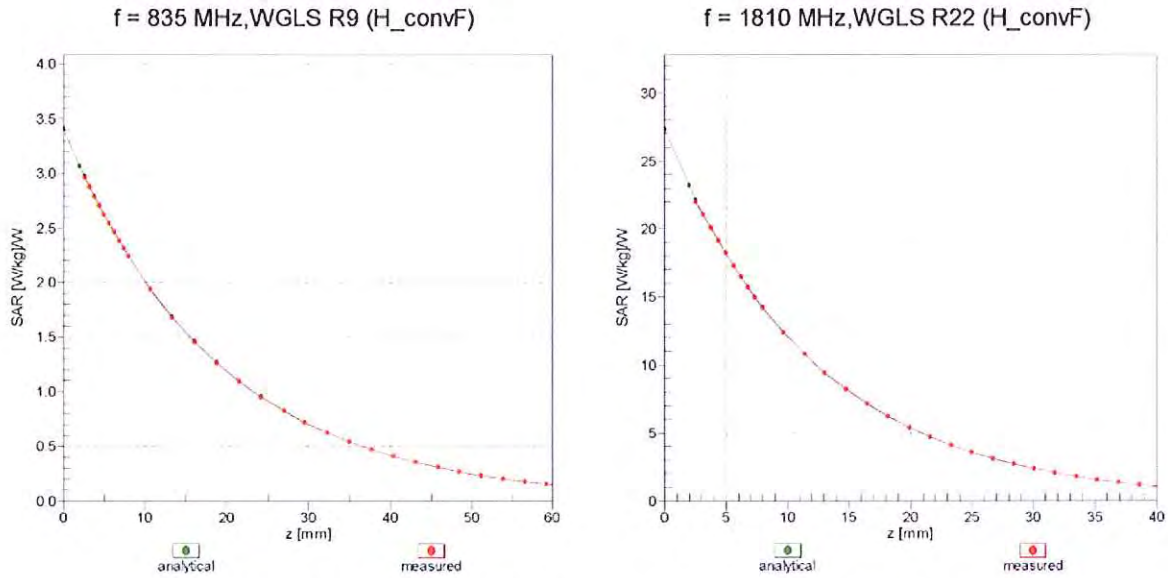
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

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

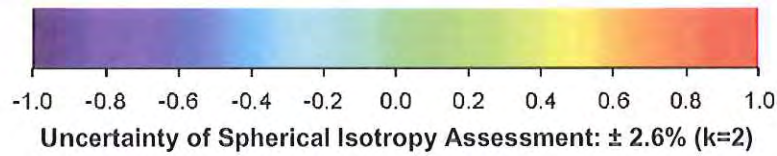
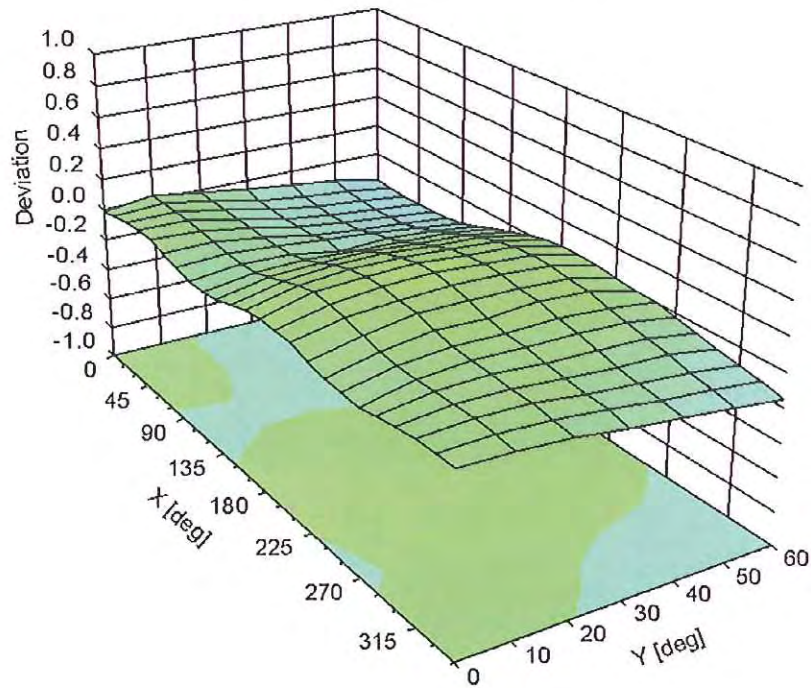


Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (ϕ, θ), f = 900 MHz



DASY/EASY - Parameters of Probe: ES3DV3 - SN:3037

Other Probe Parameters

| | |
|---|------------|
| Sensor Arrangement | Triangular |
| Connector Angle (°) | 103 |
| 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 |