

AWS 1700 Right Cheek High – Slide down

Date/Time: 2009-5-22 9:20:32

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1753.75$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1753.75 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Cheek High/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.53 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.2 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 2.28 W/kg

SAR(1 g) = 1.43 mW/g; SAR(10 g) = 0.804 mW/g

Maximum value of SAR (measured) = 1.55 mW/g

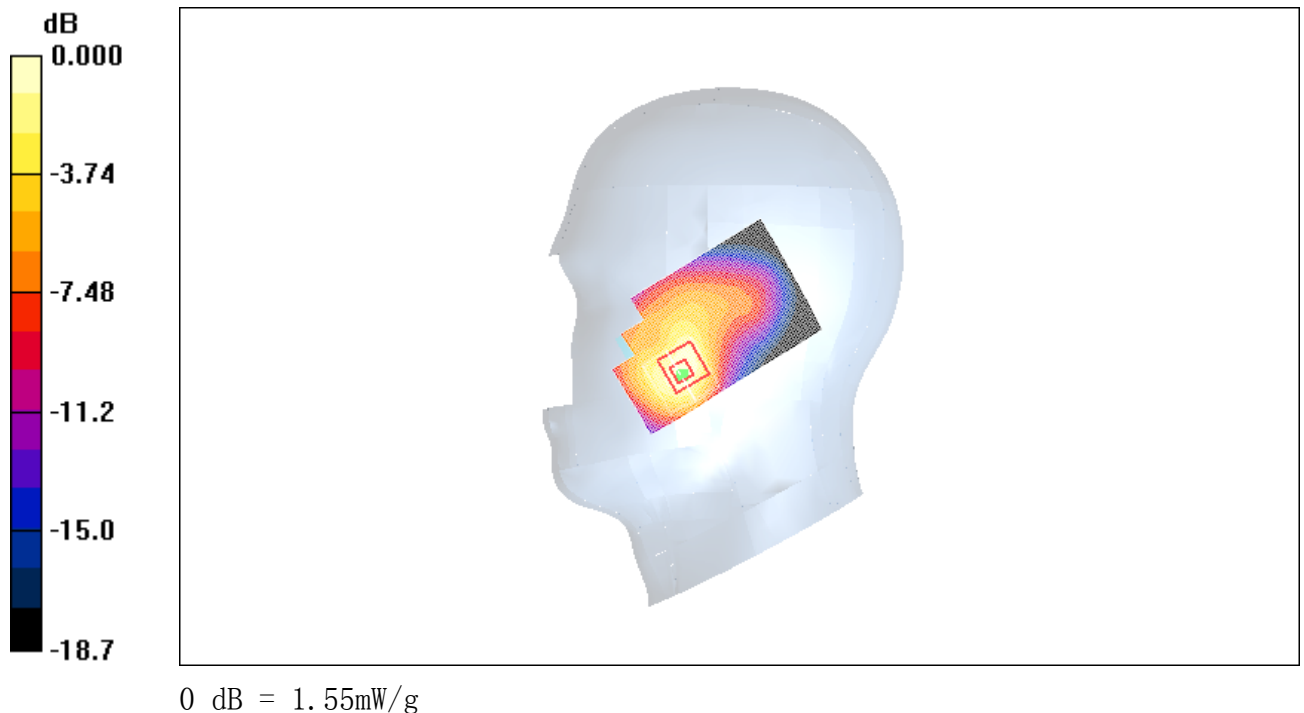


Fig. 71 AWS 1700 MHz CH875 – Slide down

AWS 1700 Right Cheek Middle – Slide down

Date/Time: 2009-5-22 9:34:56

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Cheek Middle/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.47 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.0 V/m; Power Drift = 0.087 dB

Peak SAR (extrapolated) = 2.33 W/kg

SAR(1 g) = 1.42 mW/g; SAR(10 g) = 0.799 mW/g

Maximum value of SAR (measured) = 1.57 mW/g

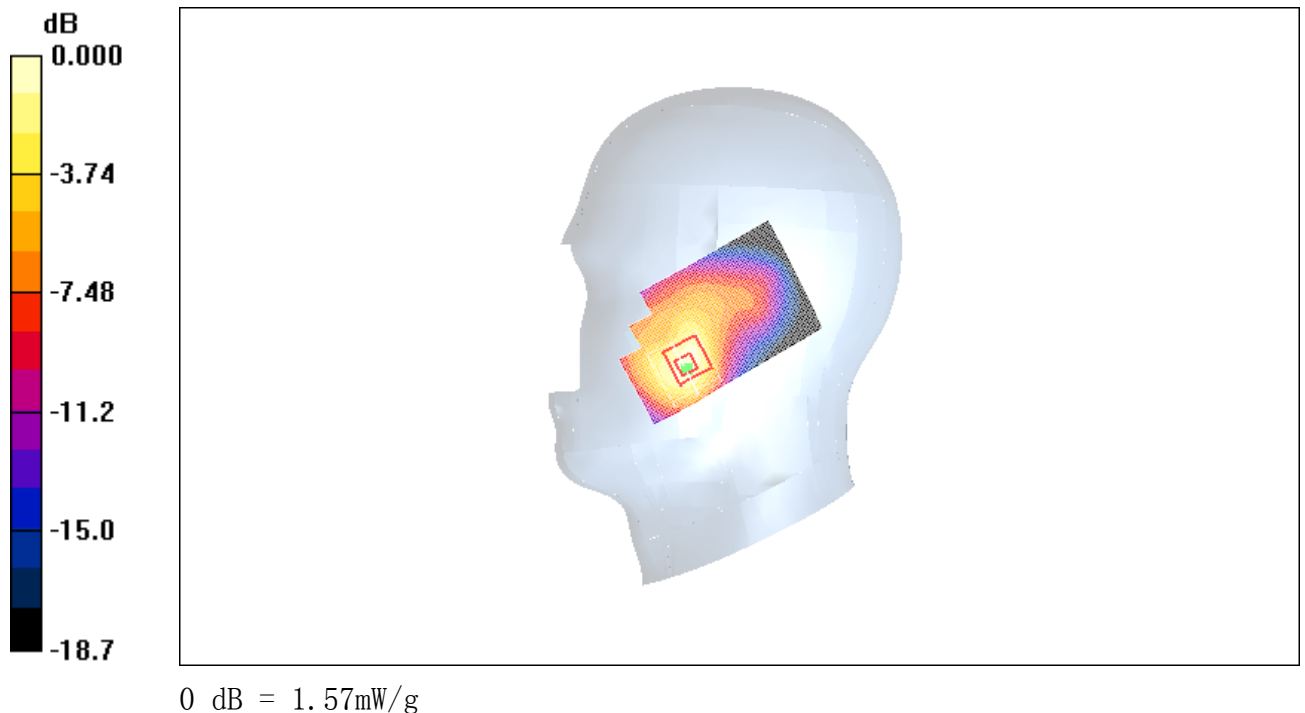


Fig. 72 AWS 1700 MHz CH450 – Slide down

AWS 1700 Right Cheek Low – Slide down

Date/Time: 2009-5-22 9:48:22

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1711.25$ MHz; $\sigma = 1.34$ mho/m; $\epsilon_r = 41.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1711.25 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Cheek Low/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.58 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.8 V/m; Power Drift = -0.102 dB

Peak SAR (extrapolated) = 2.30 W/kg

SAR(1 g) = 1.44 mW/g; SAR(10 g) = 0.815 mW/g

Maximum value of SAR (measured) = 1.56 mW/g

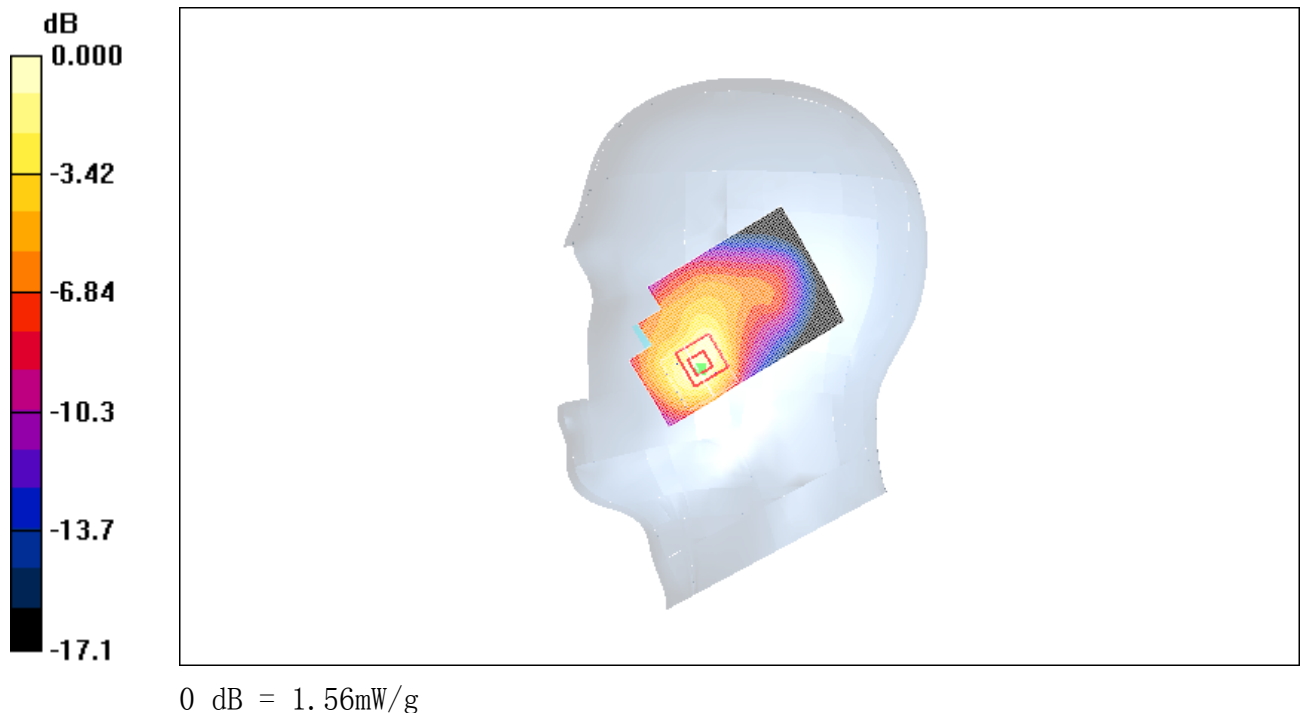


Fig. 73 AWS 1700 MHz CH25 – Slide down

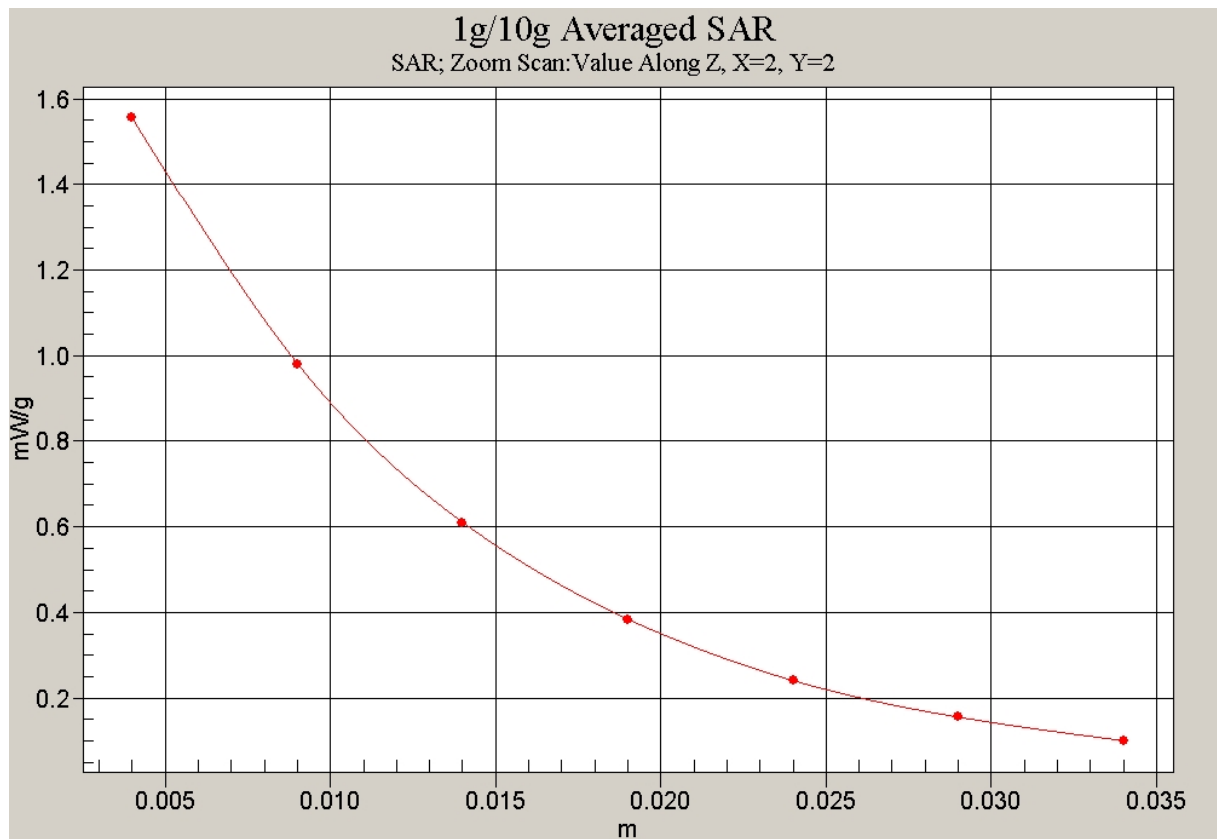


Fig. 74 Z-Scan at power reference point (AWS 1700MHz, CH25)

AWS 1700 Right Tilt High – Slide down

Date/Time: 2009-5-22 10:02:35

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1753.75$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1753.75 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Tilt High/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.448 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.1 V/m; Power Drift = -0.001 dB

Peak SAR (extrapolated) = 0.581 W/kg

SAR(1 g) = 0.400 mW/g; SAR(10 g) = 0.253 mW/g

Maximum value of SAR (measured) = 0.423 mW/g

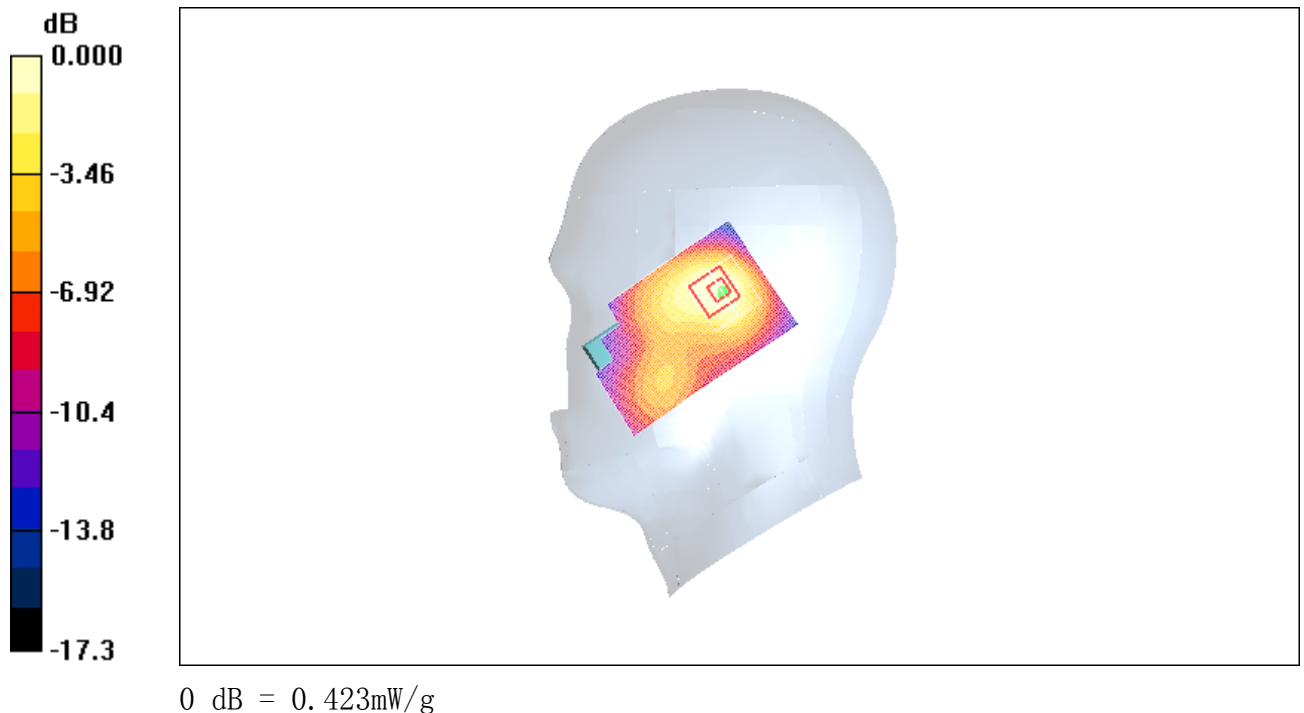


Fig. 75 AWS 1700 MHz CH875 – Slide down

AWS 1700 Right Tilt Middle – Slide down

Date/Time: 2009-5-22 10:16:27

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Tilt Middle/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.463 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.6 V/m; Power Drift = 0.122 dB

Peak SAR (extrapolated) = 0.624 W/kg

SAR(1 g) = 0.431 mW/g; SAR(10 g) = 0.273 mW/g

Maximum value of SAR (measured) = 0.453 mW/g

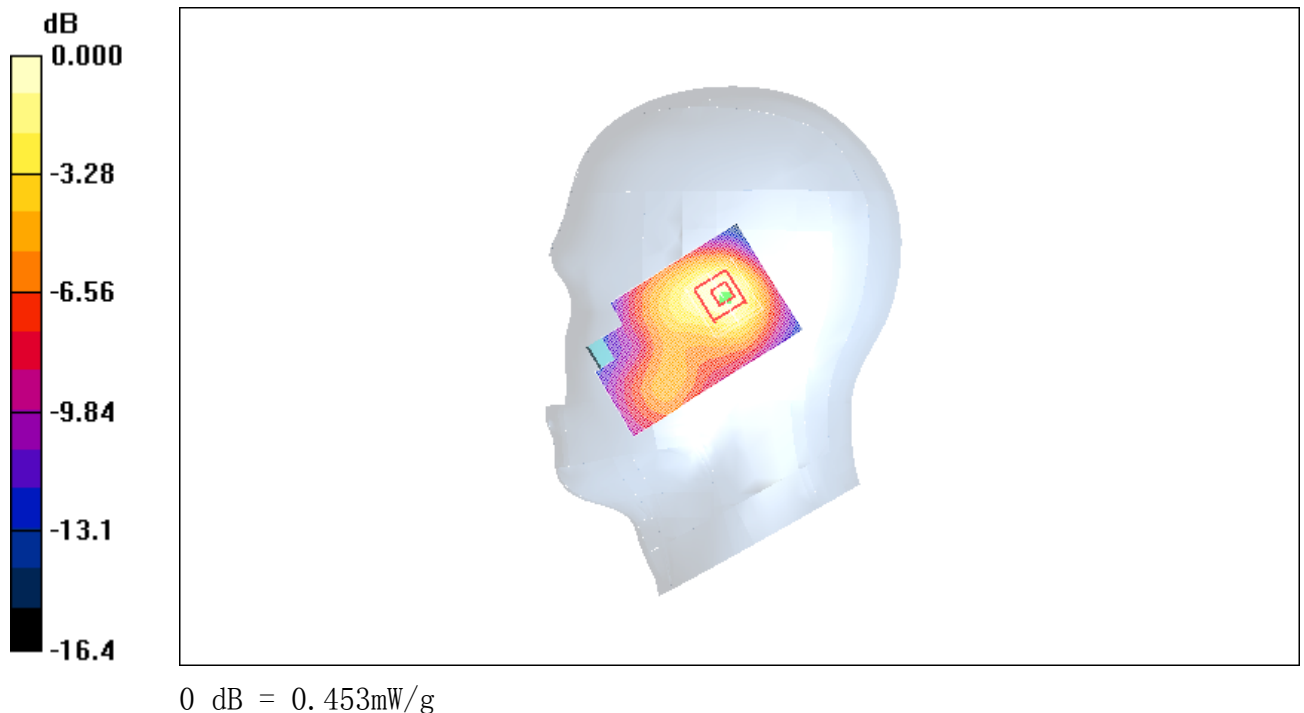


Fig. 76 AWS 1700 MHz CH450 – Slide down

AWS 1700 Right Tilt Low – Slide down

Date/Time: 2009-5-22 10:30:42

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1711.25$ MHz; $\sigma = 1.34$ mho/m; $\epsilon_r = 41.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1711.25 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Tilt Low/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.534 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.8 V/m; Power Drift = -0.156 dB

Peak SAR (extrapolated) = 0.661 W/kg

SAR(1 g) = 0.471 mW/g; SAR(10 g) = 0.304 mW/g

Maximum value of SAR (measured) = 0.490 mW/g

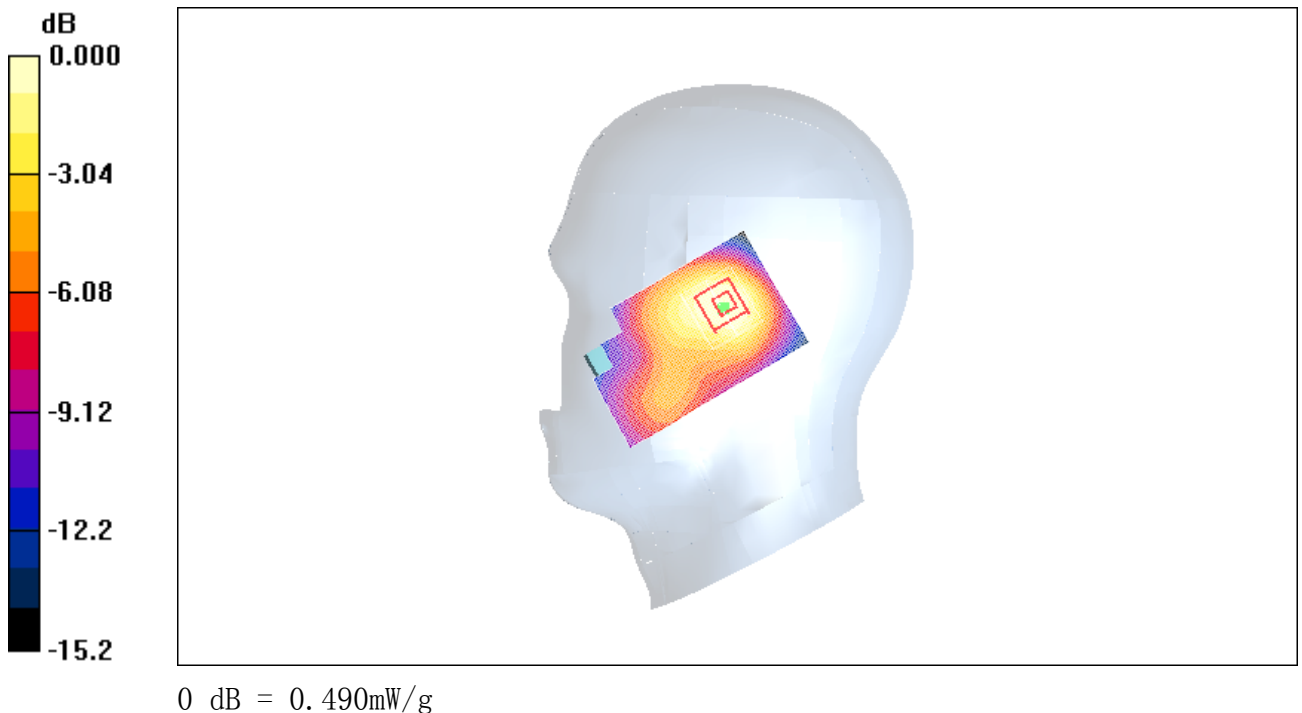


Fig. 77 AWS 1700 MHz CH25 – Slide down

AWS 1700 Left Cheek High – Slide up

Date/Time: 2009-5-22 10:45:29

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1753.75$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1753.75 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Cheek High/Area Scan (51x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.728 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.18 V/m; Power Drift = 0.110 dB

Peak SAR (extrapolated) = 0.984 W/kg

SAR(1 g) = 0.641 mW/g; SAR(10 g) = 0.379 mW/g

Maximum value of SAR (measured) = 0.701 mW/g

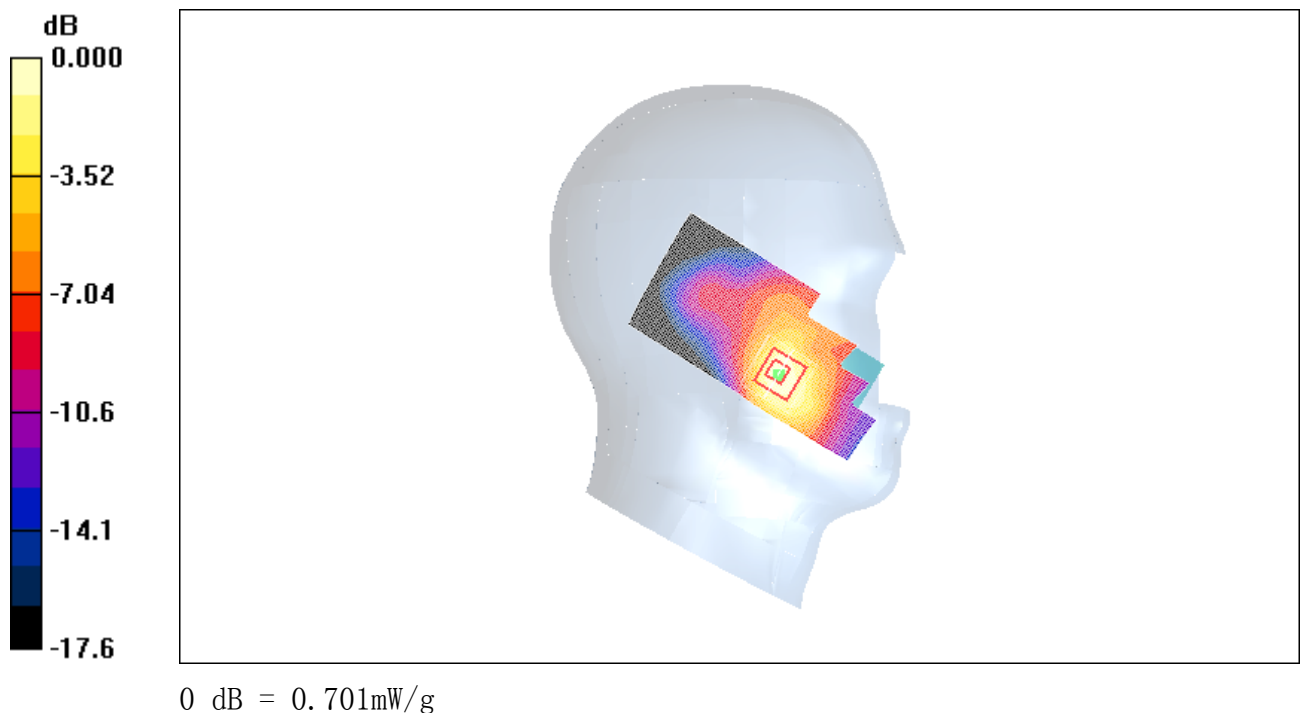


Fig. 78 AWS 1700 MHz CH875 – Slide up

AWS 1700 Left Cheek Middle – Slide up

Date/Time: 2009-5-22 10:59:04

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Cheek Middle/Area Scan (51x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.777 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.41 V/m; Power Drift = 0.130 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.698 mW/g; SAR(10 g) = 0.413 mW/g

Maximum value of SAR (measured) = 0.752 mW/g

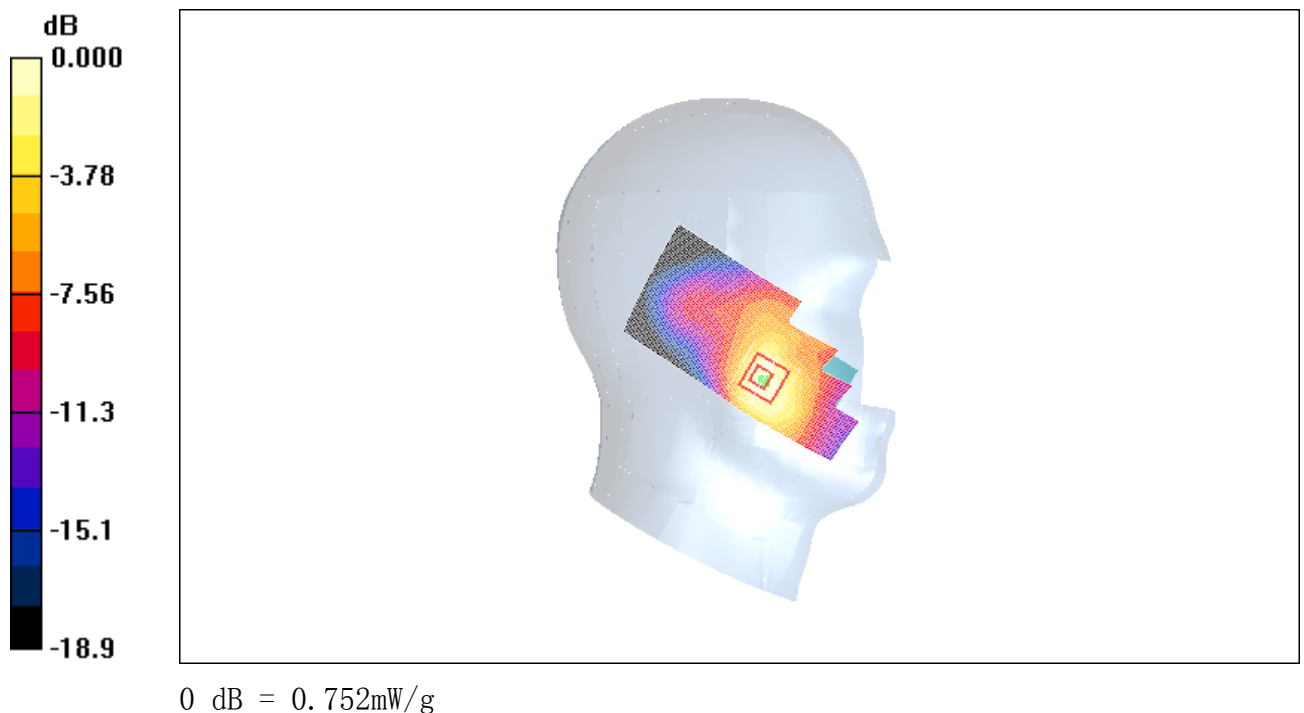


Fig. 79 AWS 1700 MHz CH450 – Slide up

AWS 1700 Left Cheek Low – Slide up

Date/Time: 2009-5-22 11:14:21

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1711.25$ MHz; $\sigma = 1.34$ mho/m; $\epsilon_r = 41.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1711.25 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Cheek Low/Area Scan (51x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.925 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.73 V/m; Power Drift = -0.140 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.814 mW/g; SAR(10 g) = 0.480 mW/g

Maximum value of SAR (measured) = 0.886 mW/g

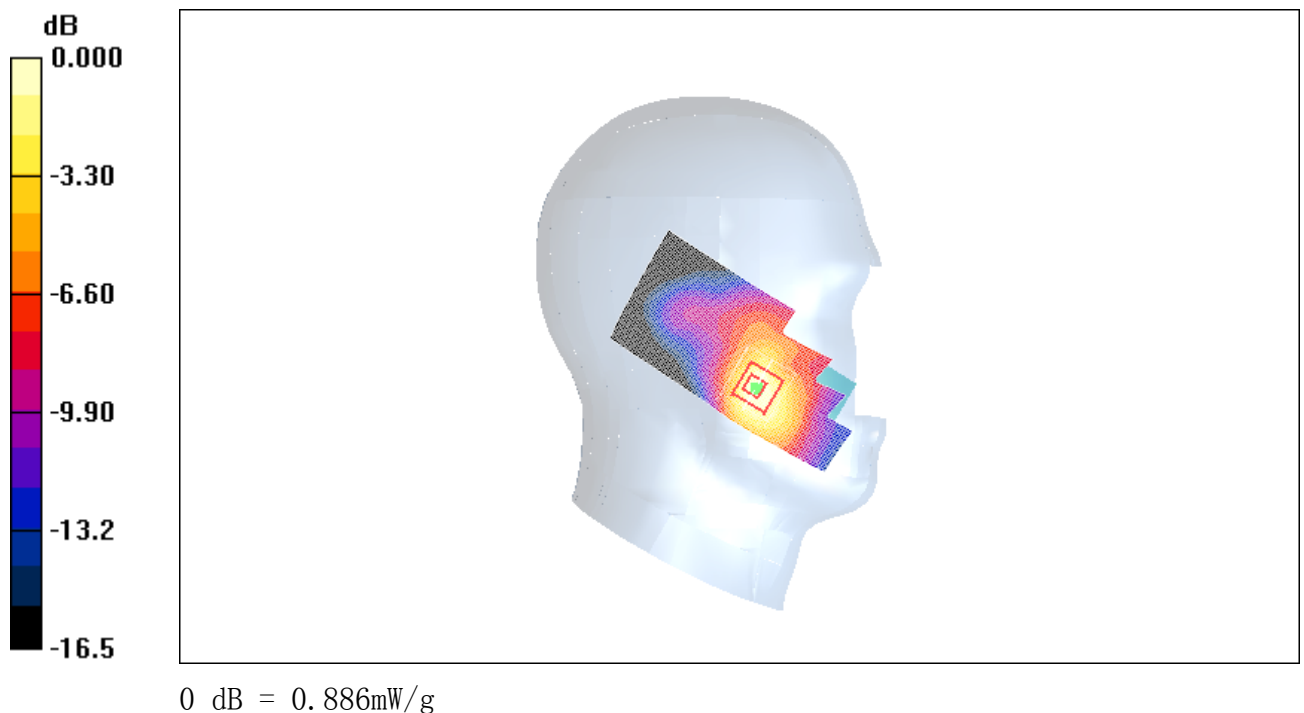


Fig. 80 AWS 1700 MHz CH25 – Slide up

AWS 1700 Left Tilt High – Slide up

Date/Time: 2009-5-22 11:28:07

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1753.75$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1753.75 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Tilt High/Area Scan (51x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.161 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.59 V/m; Power Drift = -0.183 dB

Peak SAR (extrapolated) = 0.213 W/kg

SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.090 mW/g

Maximum value of SAR (measured) = 0.152 mW/g

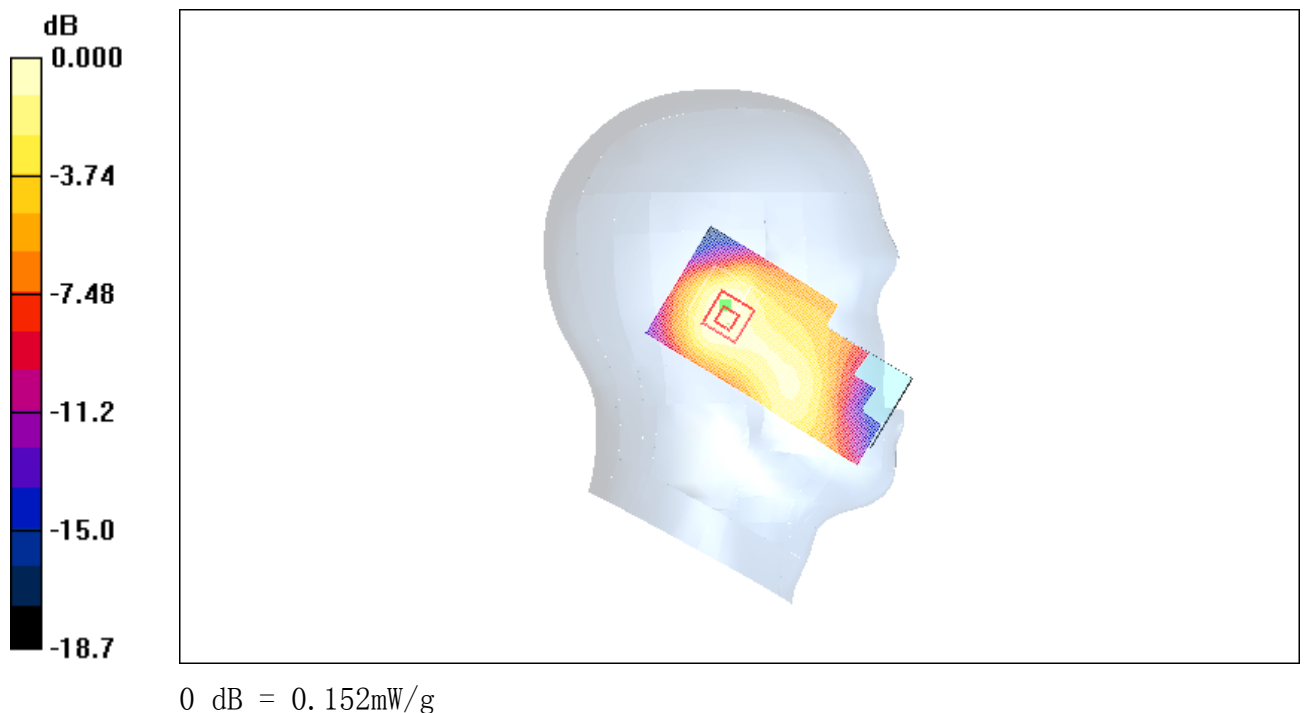


Fig. 81 AWS 1700 MHz CH875 – Slide up

AWS 1700 Left Tilt Middle – Slide up

Date/Time: 2009-5-22 11:42:15

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Tilt Middle/Area Scan (51x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.209 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.2 V/m; Power Drift = -0.007 dB

Peak SAR (extrapolated) = 0.291 W/kg

SAR(1 g) = 0.193 mW/g; SAR(10 g) = 0.122 mW/g

Maximum value of SAR (measured) = 0.210 mW/g

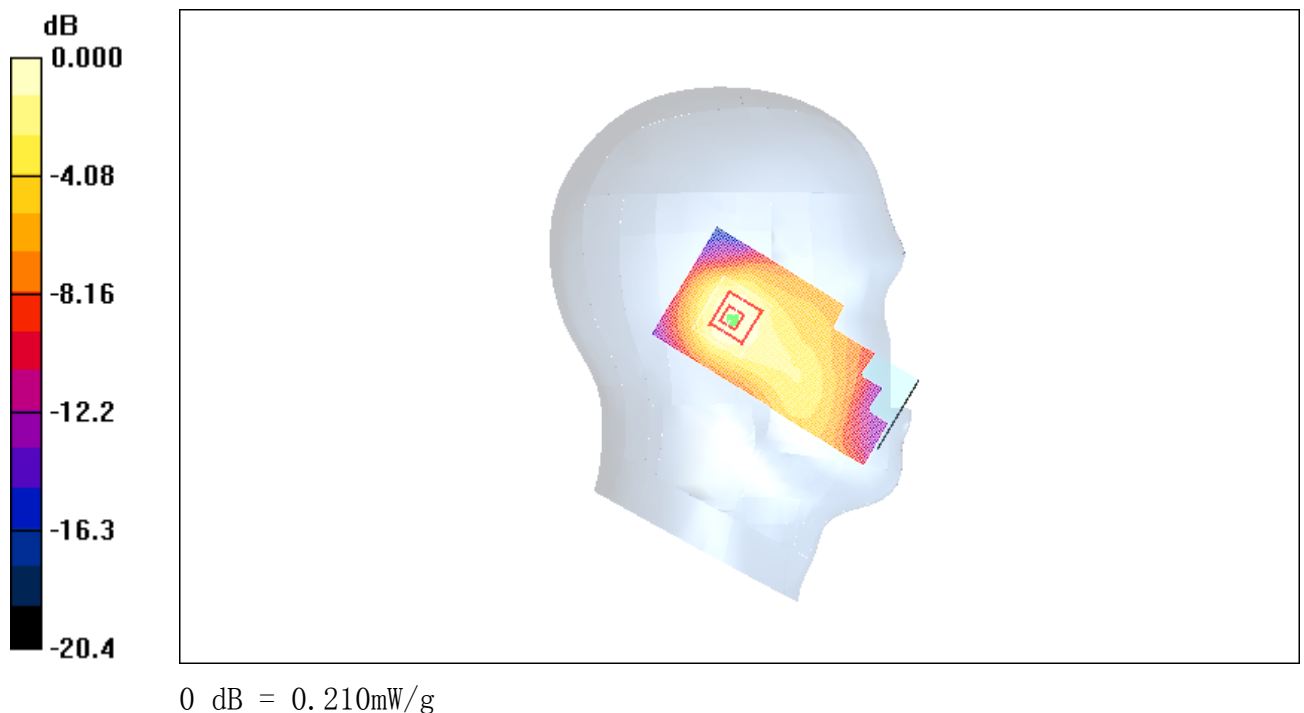


Fig. 82 AWS 1700 MHz CH450 – Slide up

AWS 1700 Left Tilt Low – Slide up

Date/Time: 2009-5-22 11:56:25

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1711.25$ MHz; $\sigma = 1.34$ mho/m; $\epsilon_r = 41.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1711.25 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Tilt Low/Area Scan (51x101x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.221 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 10.7 V/m; Power Drift = 0.083 dB

Peak SAR (extrapolated) = 0.295 W/kg

SAR(1 g) = 0.204 mW/g; SAR(10 g) = 0.133 mW/g

Maximum value of SAR (measured) = 0.219 mW/g

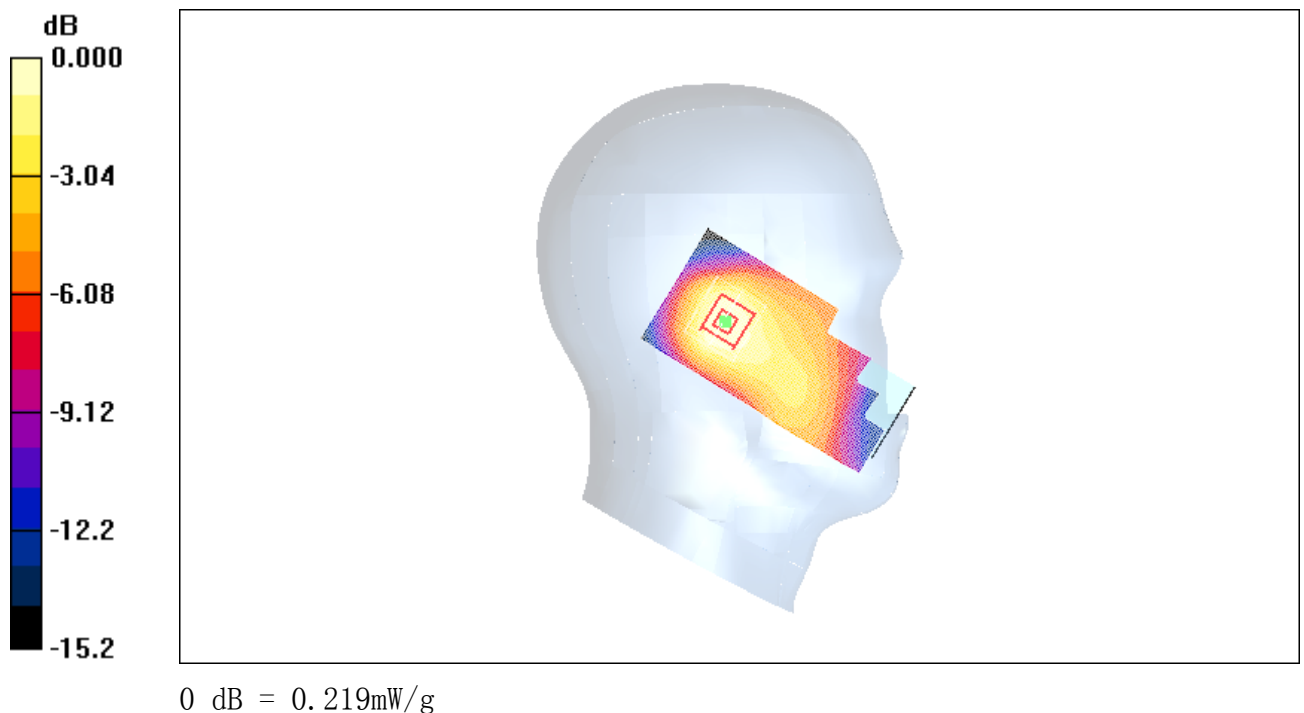


Fig. 83 AWS 1700 MHz CH25 – Slide up

AWS 1700 Right Cheek High – Slide up

Date/Time: 2009-5-22 12:10:42

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1753.75$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1753.75 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Cheek High/Area Scan (51x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.498 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.09 V/m; Power Drift = -0.104 dB

Peak SAR (extrapolated) = 0.694 W/kg

SAR(1 g) = 0.464 mW/g; SAR(10 g) = 0.278 mW/g

Maximum value of SAR (measured) = 0.488 mW/g

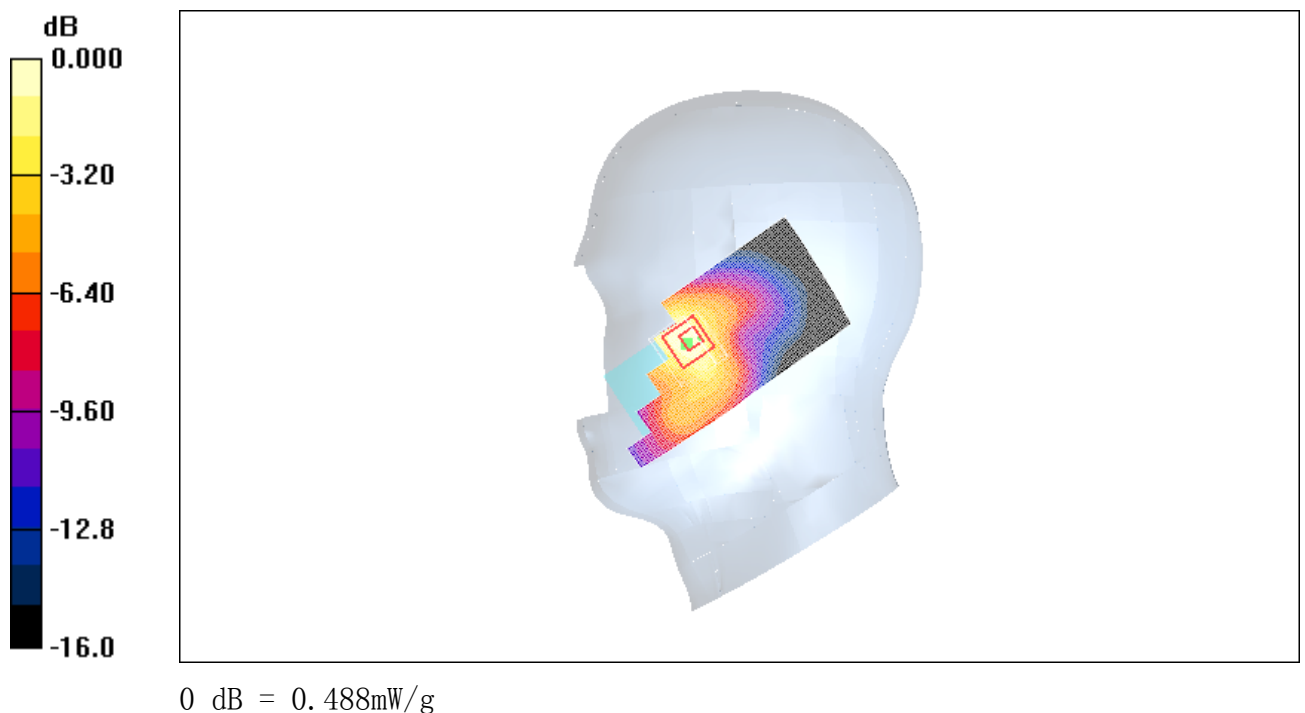


Fig. 84 AWS 1700 MHz CH875 – Slide up

AWS 1700 Right Cheek Middle – Slide up

Date/Time: 2009-5-22 12:24:37

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Cheek Middle/Area Scan (51x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.520 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.24 V/m; Power Drift = 0.108 dB

Peak SAR (extrapolated) = 0.703 W/kg

SAR(1 g) = 0.471 mW/g; SAR(10 g) = 0.288 mW/g

Maximum value of SAR (measured) = 0.481 mW/g

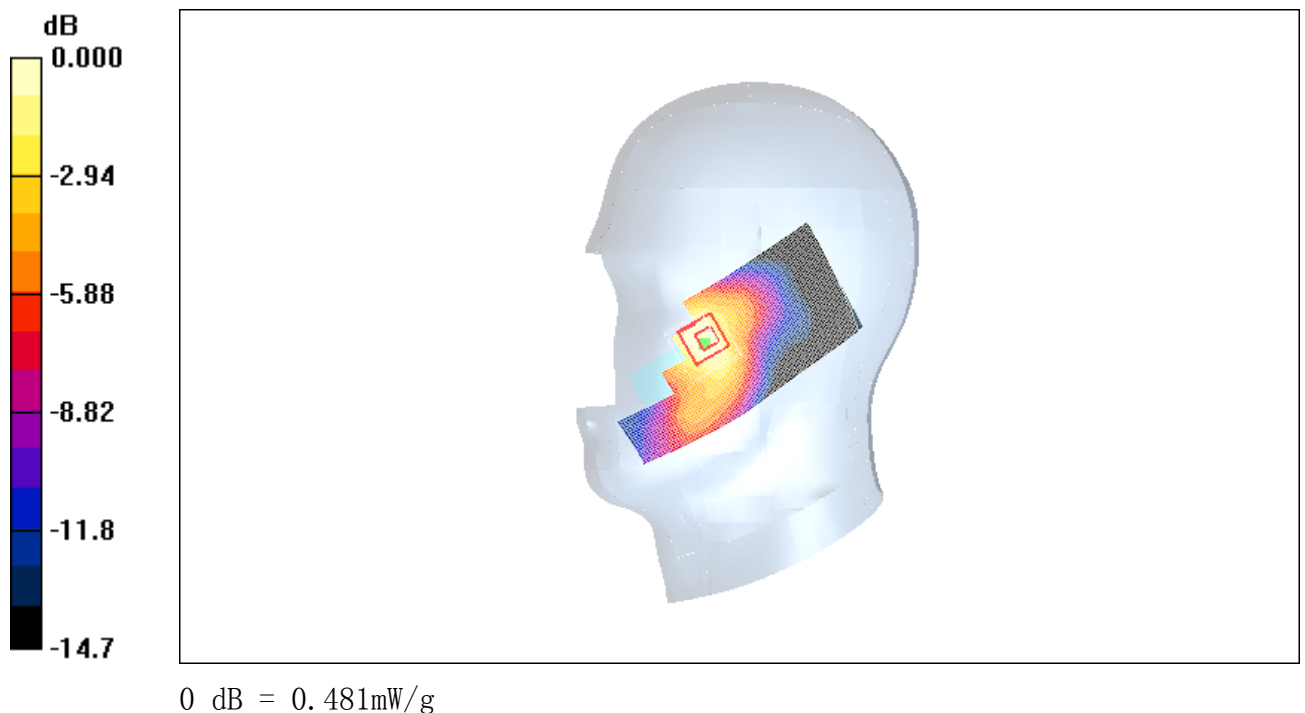


Fig. 85 AWS 1700 MHz CH450 – Slide up

AWS 1700 Right Cheek Low – Slide up

Date/Time: 2009-5-22 12:38:19

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1711.25$ MHz; $\sigma = 1.34$ mho/m; $\epsilon_r = 41.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1711.25 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Cheek Middle/Area Scan (51x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.568 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.79 V/m; Power Drift = 0.142 dB

Peak SAR (extrapolated) = 0.802 W/kg

SAR(1 g) = 0.532 mW/g; SAR(10 g) = 0.324 mW/g

Maximum value of SAR (measured) = 0.547 mW/g

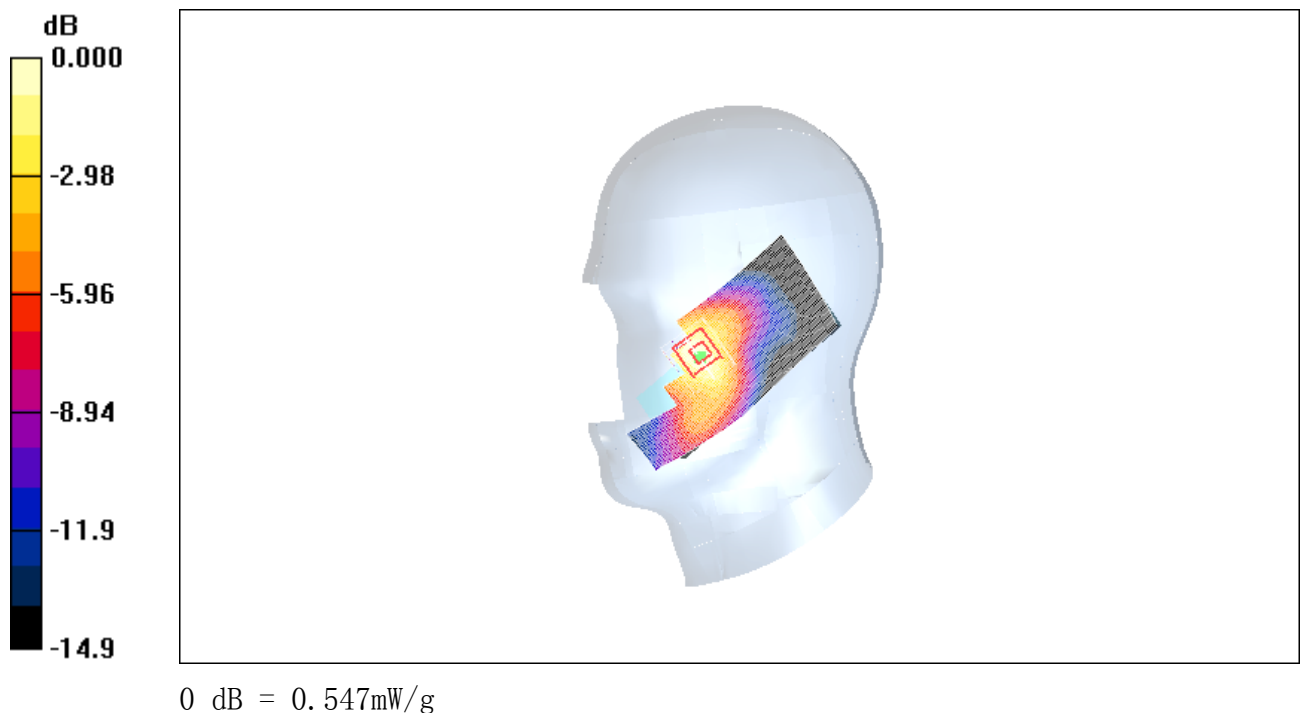


Fig. 86 AWS 1700 MHz CH25 – Slide up

AWS 1700 Right Tilt High – Slide up

Date/Time: 2009-5-22 12:52:11

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1753.75$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1753.75 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Tilt High/Area Scan (51x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.204 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.41 V/m; Power Drift = 0.099 dB

Peak SAR (extrapolated) = 0.280 W/kg

SAR(1 g) = 0.192 mW/g; SAR(10 g) = 0.121 mW/g

Maximum value of SAR (measured) = 0.211 mW/g

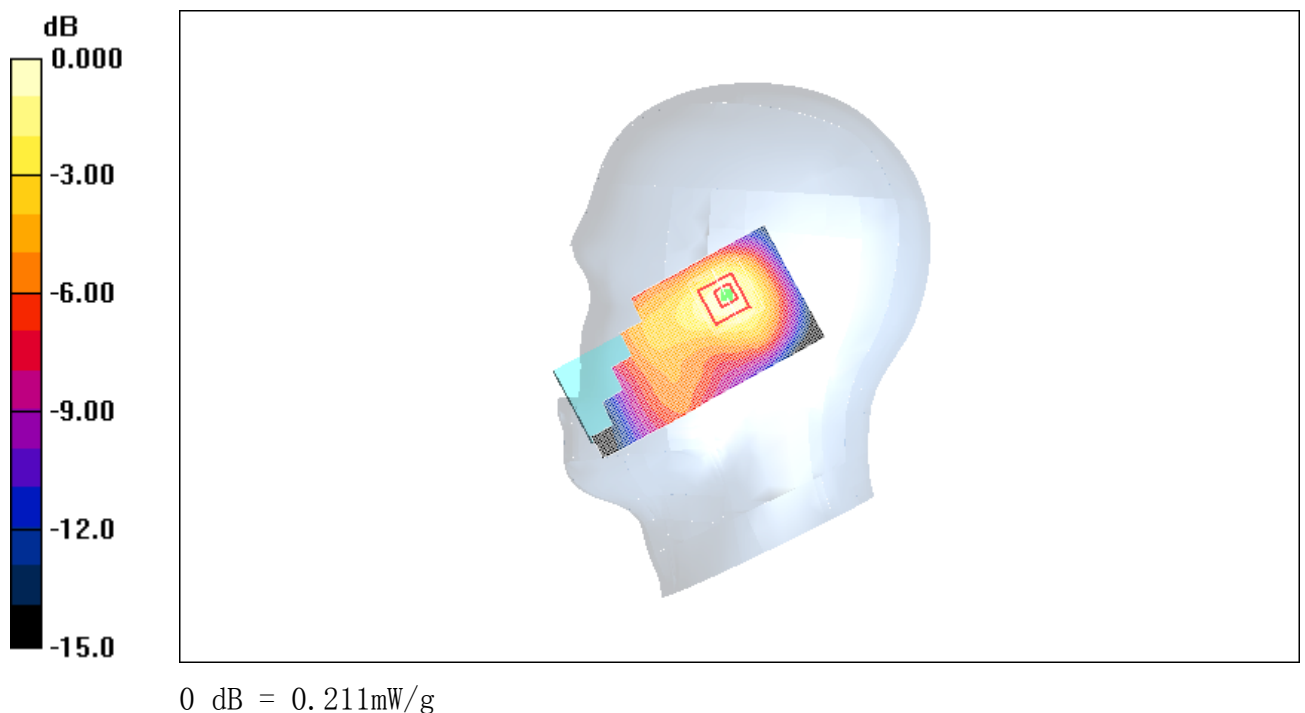


Fig. 87 AWS 1700 MHz CH875 – Slide up

AWS 1700 Right Tilt Middle – Slide up

Date/Time: 2009-5-22 13:06:31

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Tilt Middle/Area Scan (51x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.210 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.61 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 0.289 W/kg

SAR(1 g) = 0.197 mW/g; SAR(10 g) = 0.125 mW/g

Maximum value of SAR (measured) = 0.218 mW/g

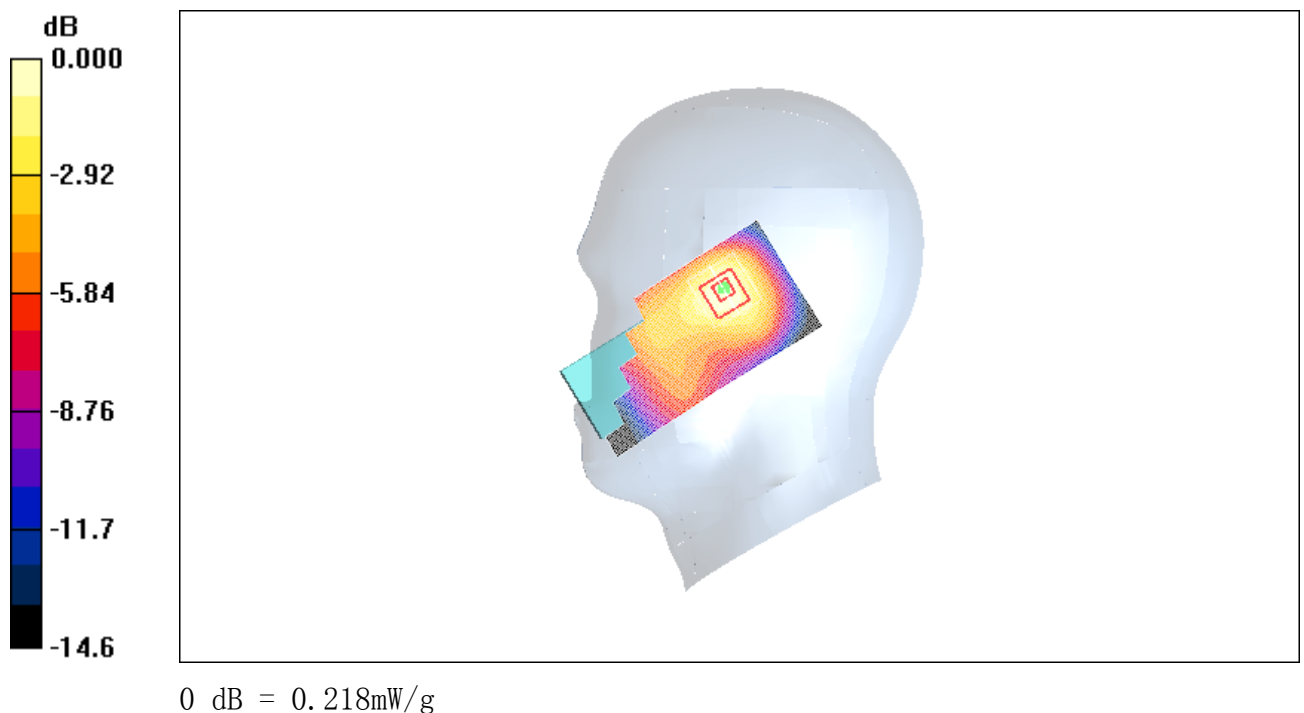


Fig. 88 AWS 1700 MHz CH450 – Slide up

AWS 1700 Right Tilt Low – Slide up

Date/Time: 2009-5-22 13:20:46

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used (interpolated): $f = 1711.25$ MHz; $\sigma = 1.34$ mho/m; $\epsilon_r = 41.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1711.25 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

Tilt Low/Area Scan (51x101x1): Measurement grid: $dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.242 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 9.49 V/m; Power Drift = -0.111 dB

Peak SAR (extrapolated) = 0.317 W/kg

SAR(1 g) = 0.217 mW/g; SAR(10 g) = 0.139 mW/g

Maximum value of SAR (measured) = 0.238 mW/g

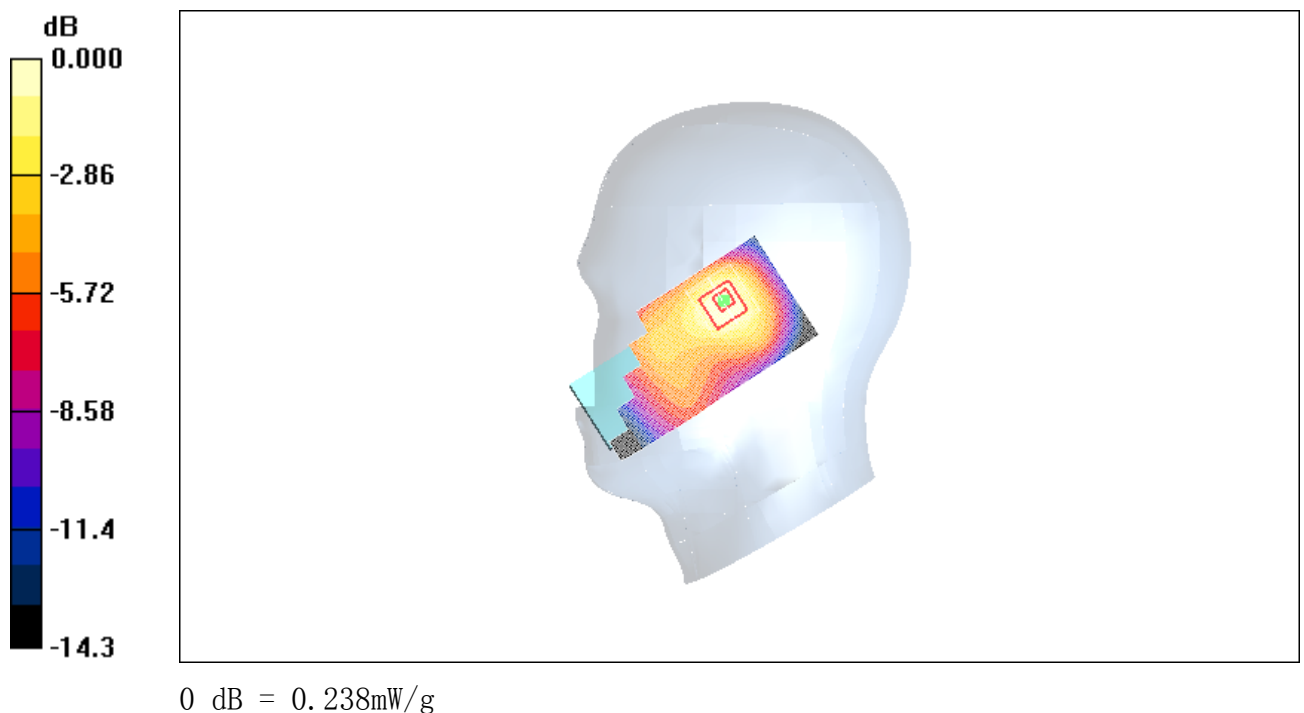


Fig. 89 AWS 1700 MHz CH25 – Slide up

AWS 1700 Body Towards Phantom High – Slide down

Date/Time: 2009-5-22 13:52:09

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1753.75$ MHz; $\sigma = 1.50$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1753.75 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Phantom High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.296 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.7 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 0.406 W/kg

SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.168 mW/g

Maximum value of SAR (measured) = 0.286 mW/g

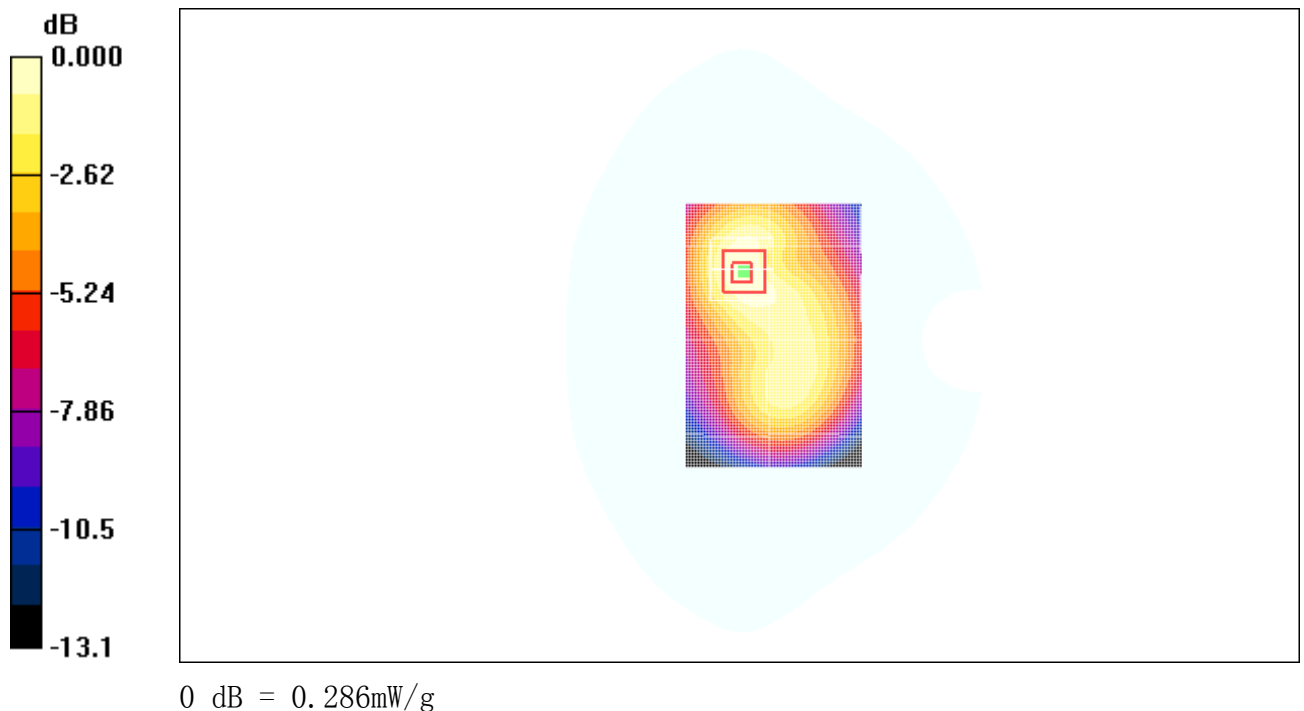


Fig. 90 AWS 1700 MHz CH875 – Slide down

AWS 1700 Body Towards Phantom Middle – Slide down

Date/Time: 2009-5-22 14:06:24

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Phantom Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

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

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.9 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 0.392 W/kg

SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.161 mW/g

Maximum value of SAR (measured) = 0.274 mW/g

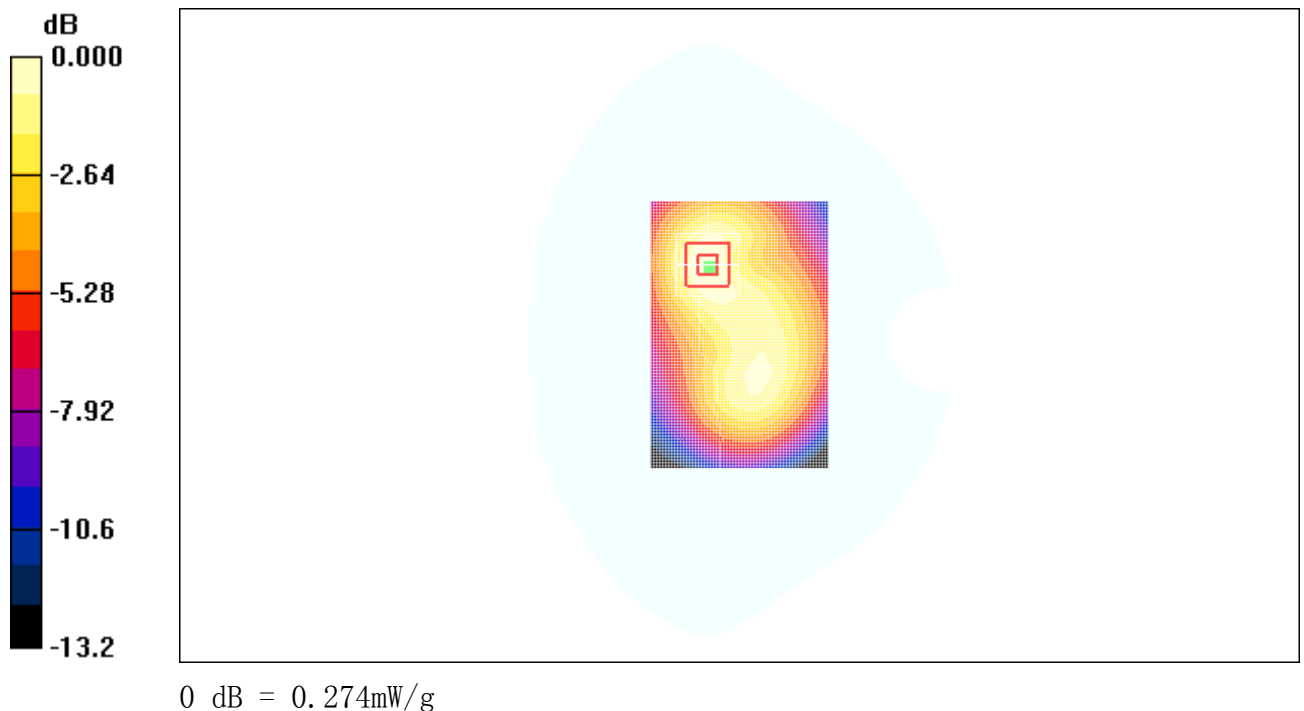


Fig. 91 AWS 1700 MHz CH450 – Slide down

AWS 1700 Body Towards Phantom Low – Slide down

Date/Time: 2009-5-22 14:20:39

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1711.25$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1711.25 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Phantom Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.311 mW/g

Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.6 V/m; Power Drift = -0.185 dB

Peak SAR (extrapolated) = 0.435 W/kg

SAR(1 g) = 0.282 mW/g; SAR(10 g) = 0.178 mW/g

Maximum value of SAR (measured) = 0.304 mW/g

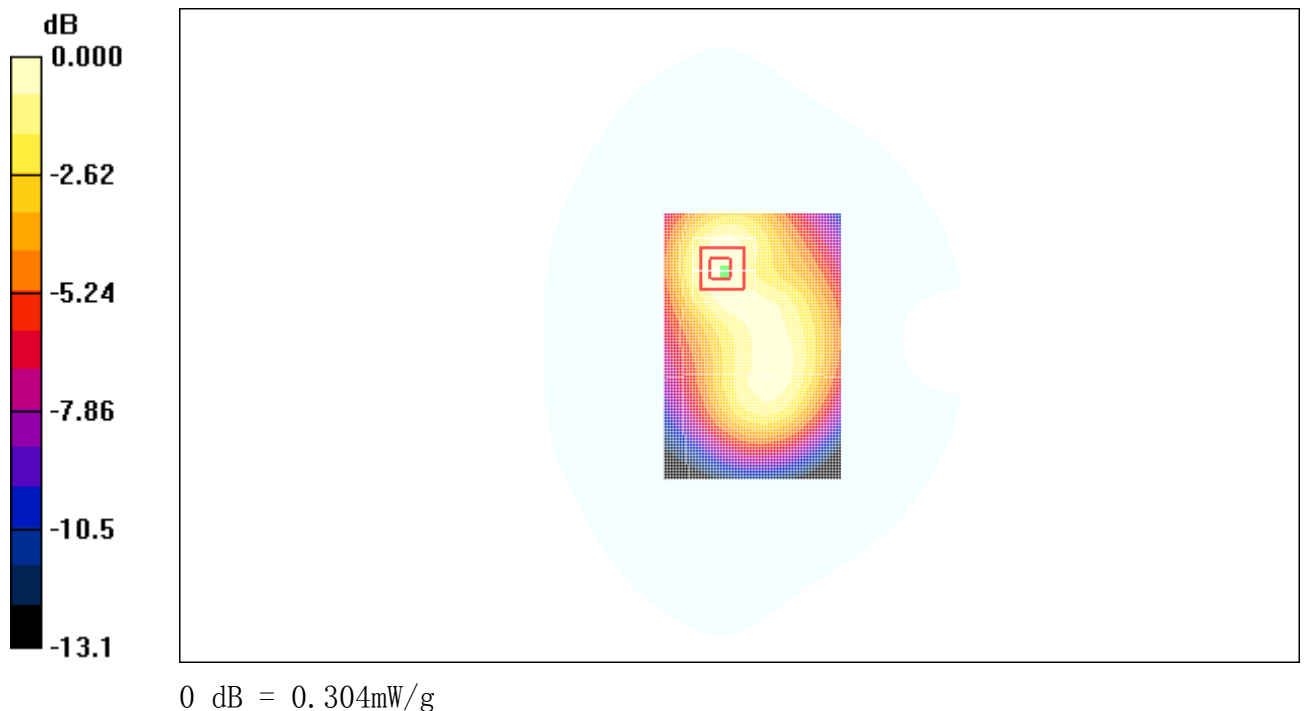


Fig. 92 AWS 1700 MHz CH25 – Slide down

AWS 1700 Body Towards Ground High – Slide down

Date/Time: 2009-5-22 14:34:11

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1753.75$ MHz; $\sigma = 1.50$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1753.75 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Ground High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.817 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.4 V/m; Power Drift = -0.006 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.748 mW/g; SAR(10 g) = 0.440 mW/g

Maximum value of SAR (measured) = 0.825 mW/g

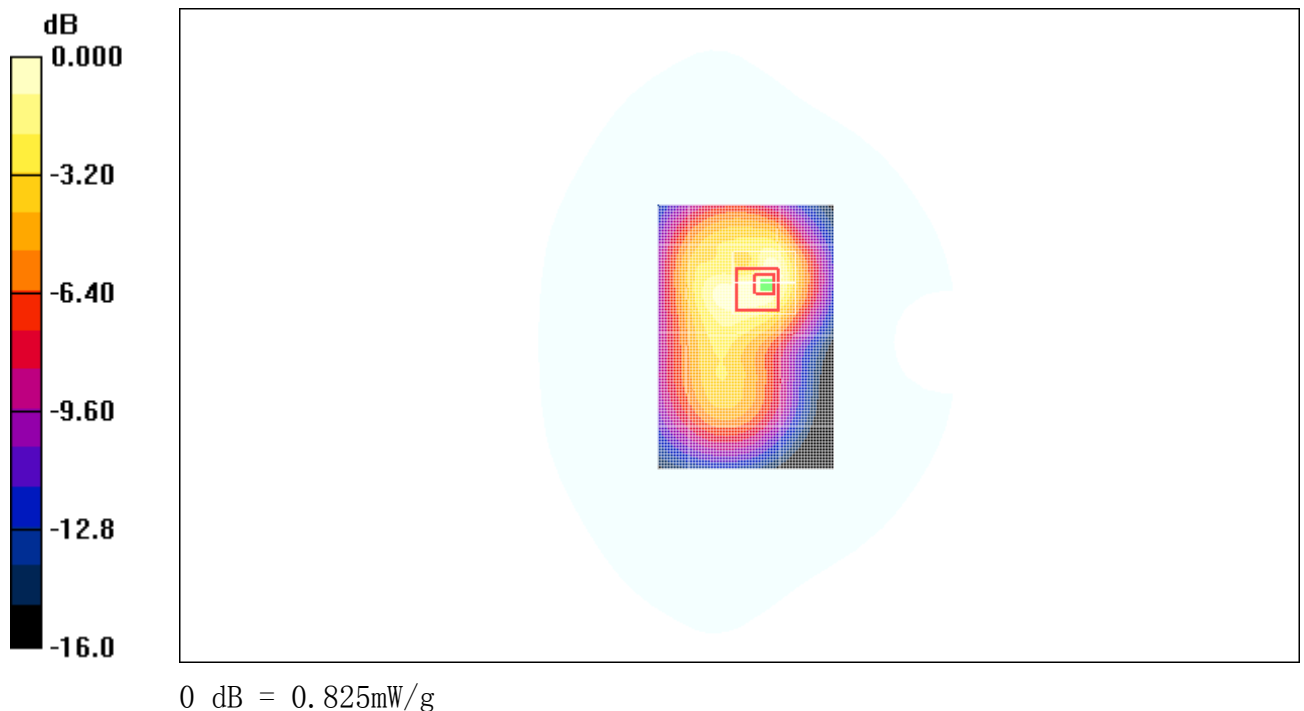


Fig. 93 AWS 1700 MHz CH875 – Slide down

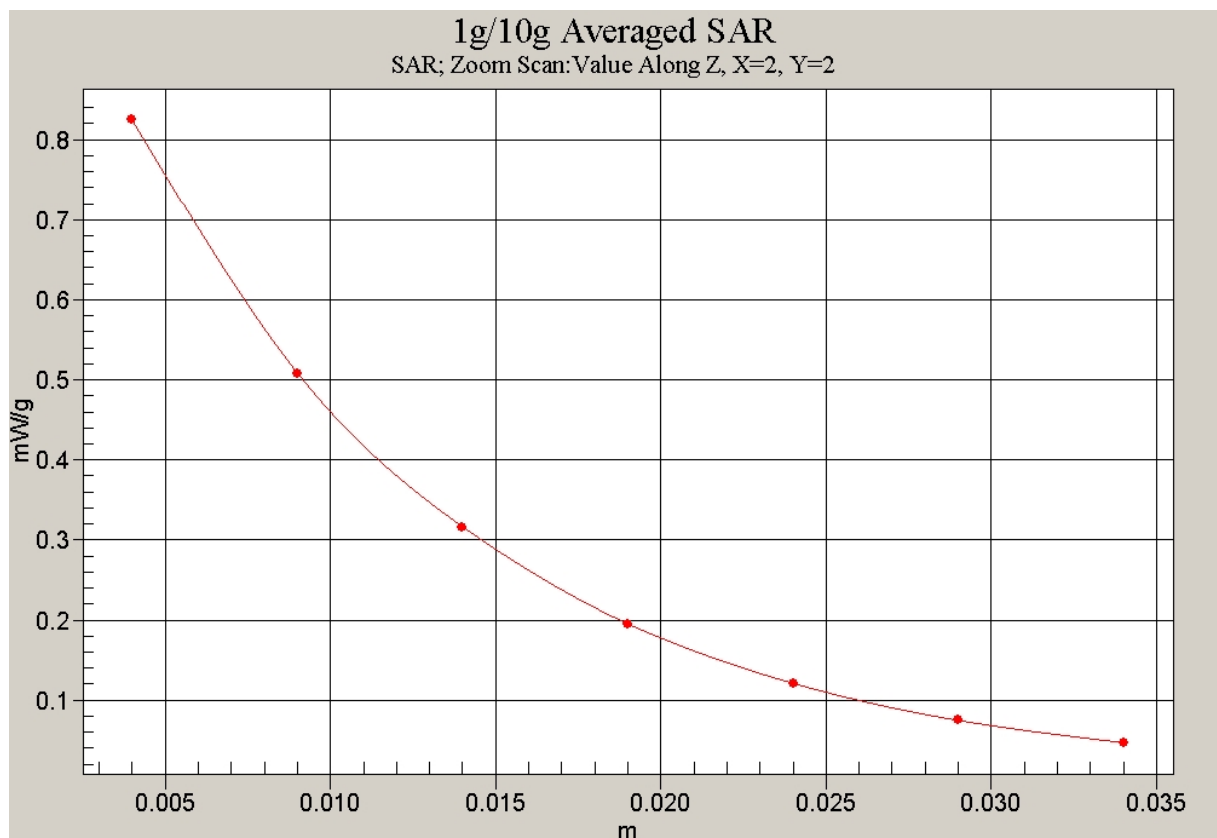


Fig. 94 Z-Scan at power reference point (AWS 1700MHz, Body, Towards Ground, CH875)

AWS 1700 Body Towards Ground Middle – Slide down

Date/Time: 2009-5-22 14:48:08

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Ground Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.728 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.2 V/m; Power Drift = -0.014 dB

Peak SAR (extrapolated) = 1.11 W/kg

SAR(1 g) = 0.670 mW/g; SAR(10 g) = 0.395 mW/g

Maximum value of SAR (measured) = 0.739 mW/g

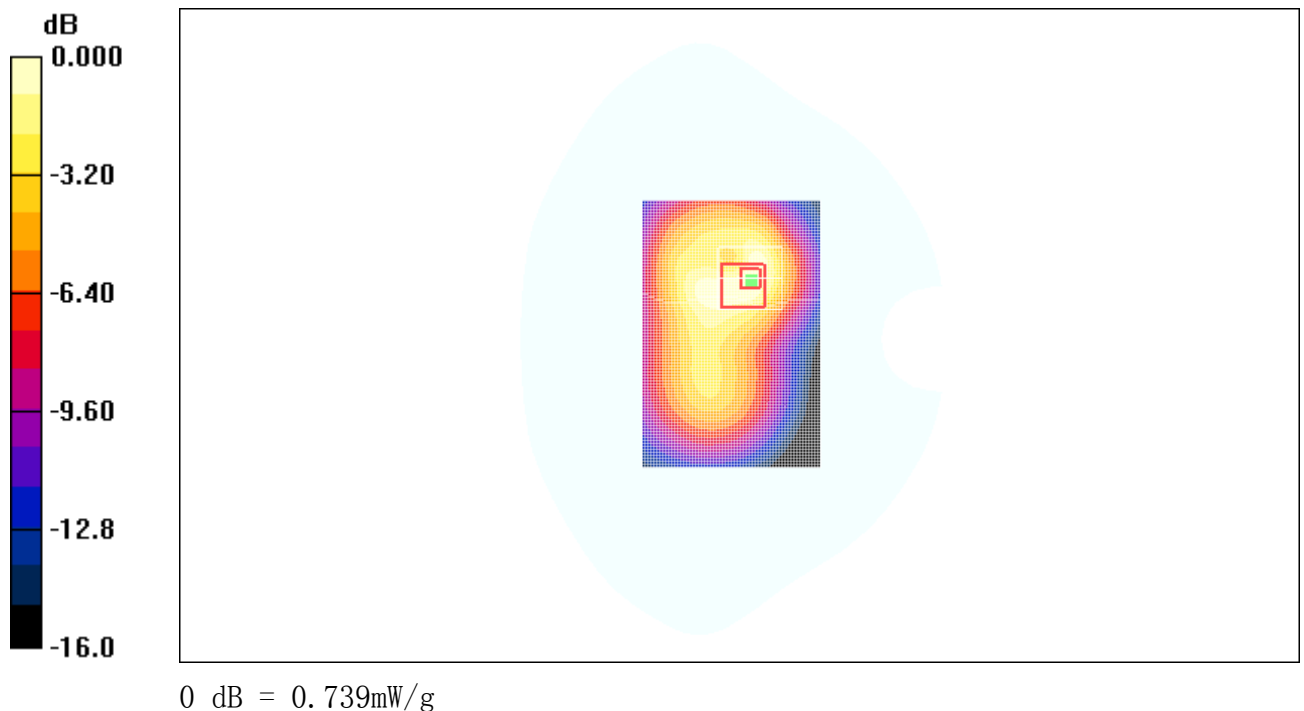


Fig. 95 AWS 1700 MHz CH450 – Slide down

AWS 1700 Body Towards Ground Low – Slide down

Date/Time: 2009-5-22 15:02:44

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1711.25$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1711.25 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Ground Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.801 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.7 V/m; Power Drift = -0.112 dB

Peak SAR (extrapolated) = 1.20 W/kg

SAR(1 g) = 0.730 mW/g; SAR(10 g) = 0.432 mW/g

Maximum value of SAR (measured) = 0.794 mW/g

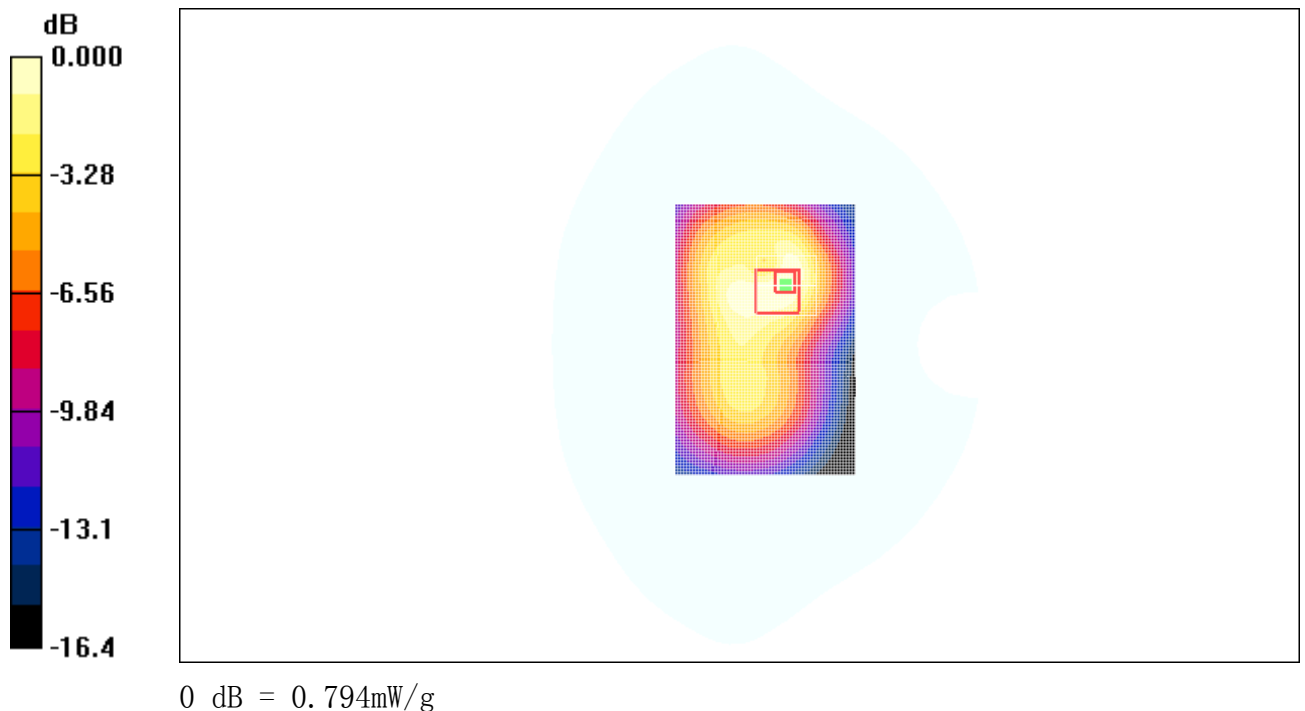


Fig. 96 AWS 1700 MHz CH25 – Slide down

AWS 1700 Body Towards Phantom High – Slide up

Date/Time: 2009-5-22 15:17:58

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1753.75$ MHz; $\sigma = 1.50$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1753.75 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Phantom High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.426 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.6 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 0.629 W/kg

SAR(1 g) = 0.400 mW/g; SAR(10 g) = 0.251 mW/g

Maximum value of SAR (measured) = 0.433 mW/g

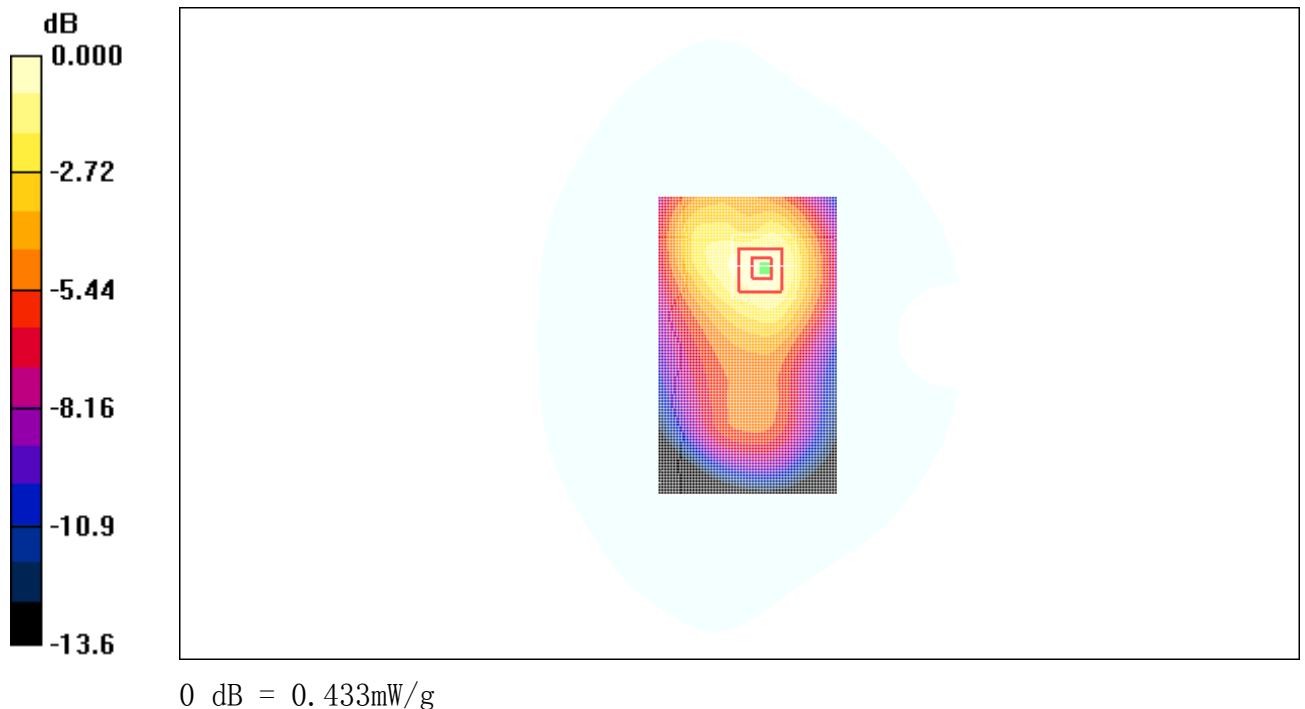


Fig. 97 AWS 1700 MHz CH875 – Slide up

AWS 1700 Body Towards Phantom Middle – Slide up

Date/Time: 2009-5-22 15:31:54

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Phantom Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.444 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.3 V/m; Power Drift = -0.037 dB

Peak SAR (extrapolated) = 0.647 W/kg

SAR(1 g) = 0.417 mW/g; SAR(10 g) = 0.264 mW/g

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

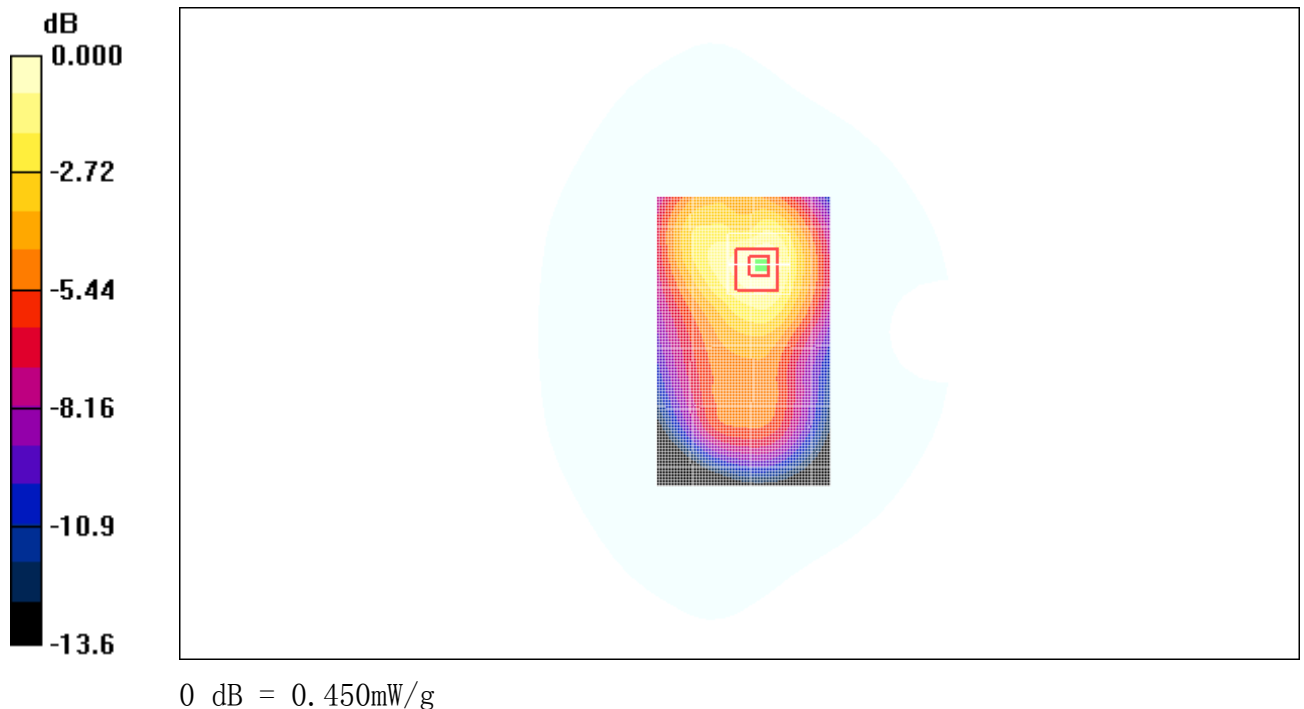


Fig. 98 AWS 1700 MHz CH450 – Slide up

AWS 1700 Body Towards Phantom Low – Slide up

Date/Time: 2009-5-22 15:46:02

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1711.25$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1711.25 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Phantom Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.523 mW/g

Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.8 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 0.758 W/kg

SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.311 mW/g

Maximum value of SAR (measured) = 0.524 mW/g

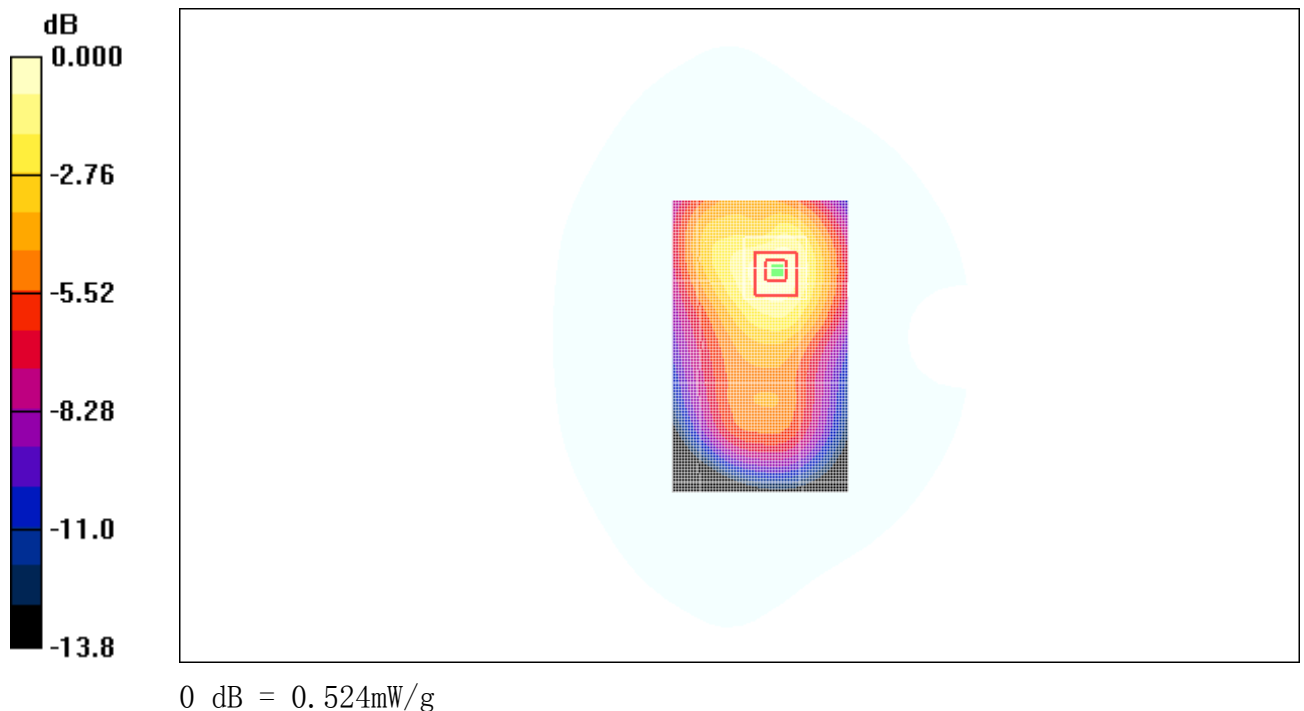


Fig. 99 AWS 1700 MHz CH25 – Slide up

AWS 1700 Body Towards Ground High – Slide up

Date/Time: 2009-5-22 16:00:13

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1753.75$ MHz; $\sigma = 1.50$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1753.75 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Ground High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.609 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.4 V/m; Power Drift = -0.104 dB

Peak SAR (extrapolated) = 0.943 W/kg

SAR(1 g) = 0.572 mW/g; SAR(10 g) = 0.363 mW/g

Maximum value of SAR (measured) = 0.627 mW/g

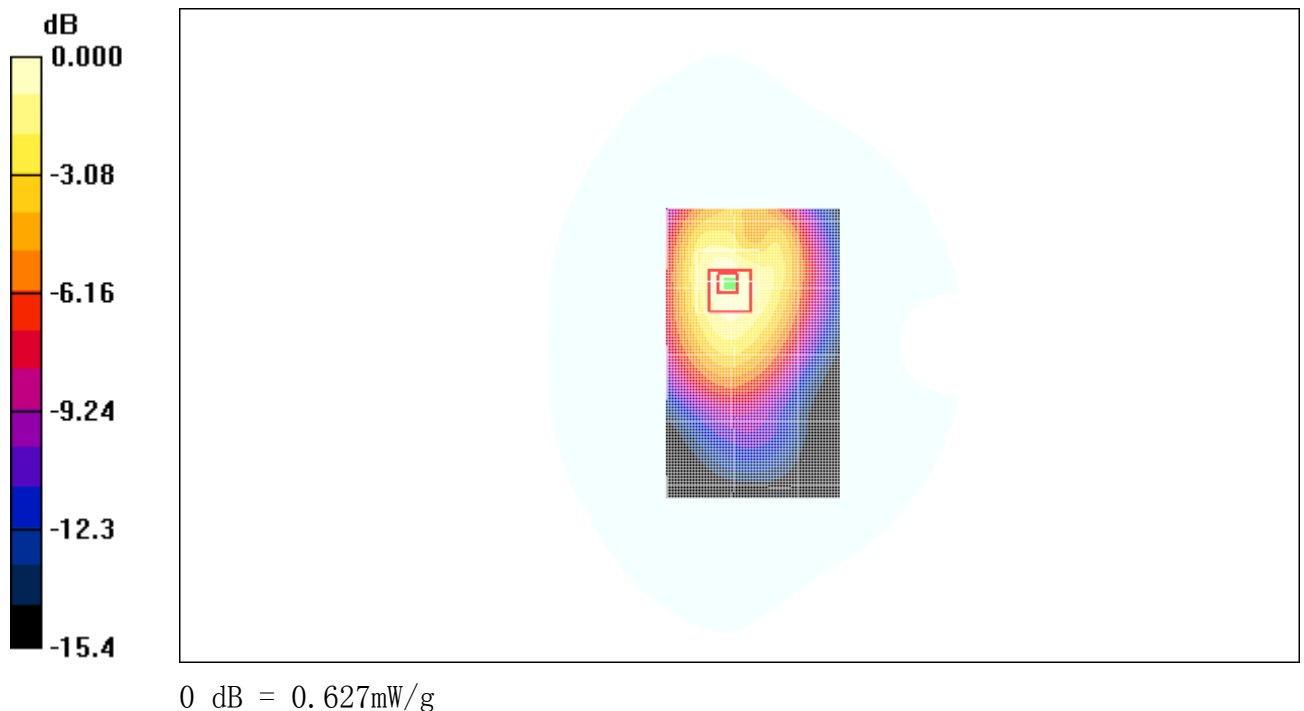


Fig. 100 AWS 1700 MHz CH875 – Slide up

AWS 1700 Body Towards Ground Middle – Slide up

Date/Time: 2009-5-22 16:14:34

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Ground Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.669 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.1 V/m; Power Drift = 0.088 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.624 mW/g; SAR(10 g) = 0.401 mW/g

Maximum value of SAR (measured) = 0.681 mW/g

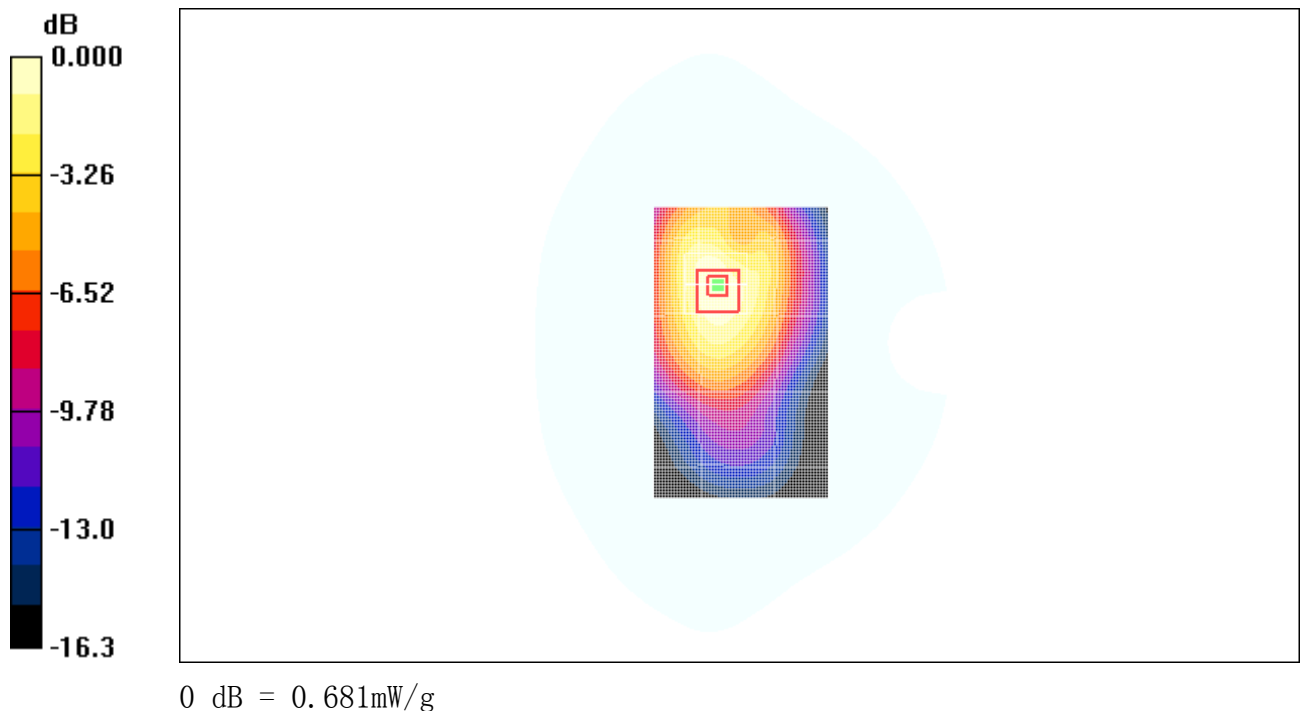


Fig. 101 AWS 1700 MHz CH450 – Slide up

AWS 1700 Body Towards Ground Low – Slide up

Date/Time: 2009-5-22 16:28:45

Electronics: DAE4 Sn771

Medium: Body 1800

Medium parameters used (interpolated): $f = 1711.25$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CDMA 1700 Frequency: 1711.25 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(4.97, 4.97, 4.97)

Toward Ground Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.778 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.3 V/m; Power Drift = -0.087 dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.727 mW/g; SAR(10 g) = 0.471 mW/g

Maximum value of SAR (measured) = 0.796 mW/g

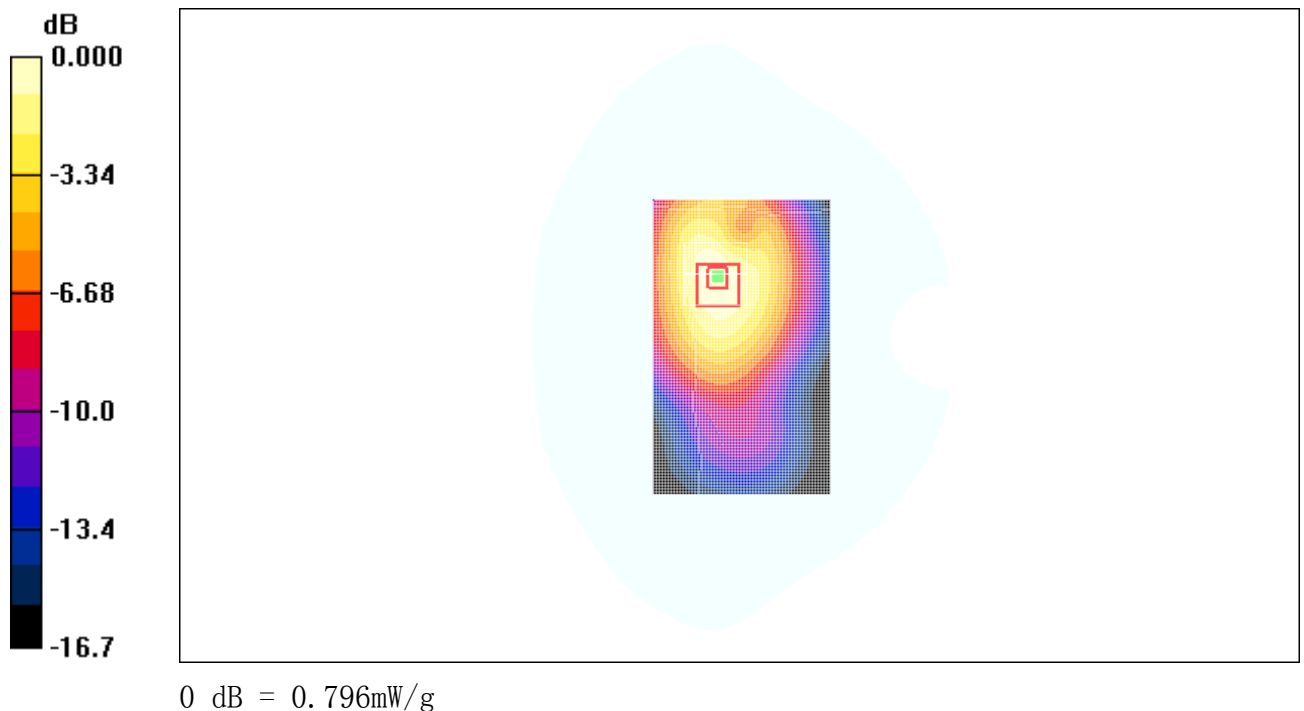


Fig. 102 AWS 1700 MHz CH25 – Slide up

ANNEX D SYSTEM VALIDATION RESULTS

835MHz

Date/Time: 2009-5-20 7:15:02

Electronics: DAE4 Sn771

Medium: Head 835

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.90 \text{ mho/m}$; $\epsilon_r = 40.4$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

835MHz/Area Scan (101x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 2.68 mW/g

835MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 56.8 V/m ; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.50 mW/g ; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.69 mW/g

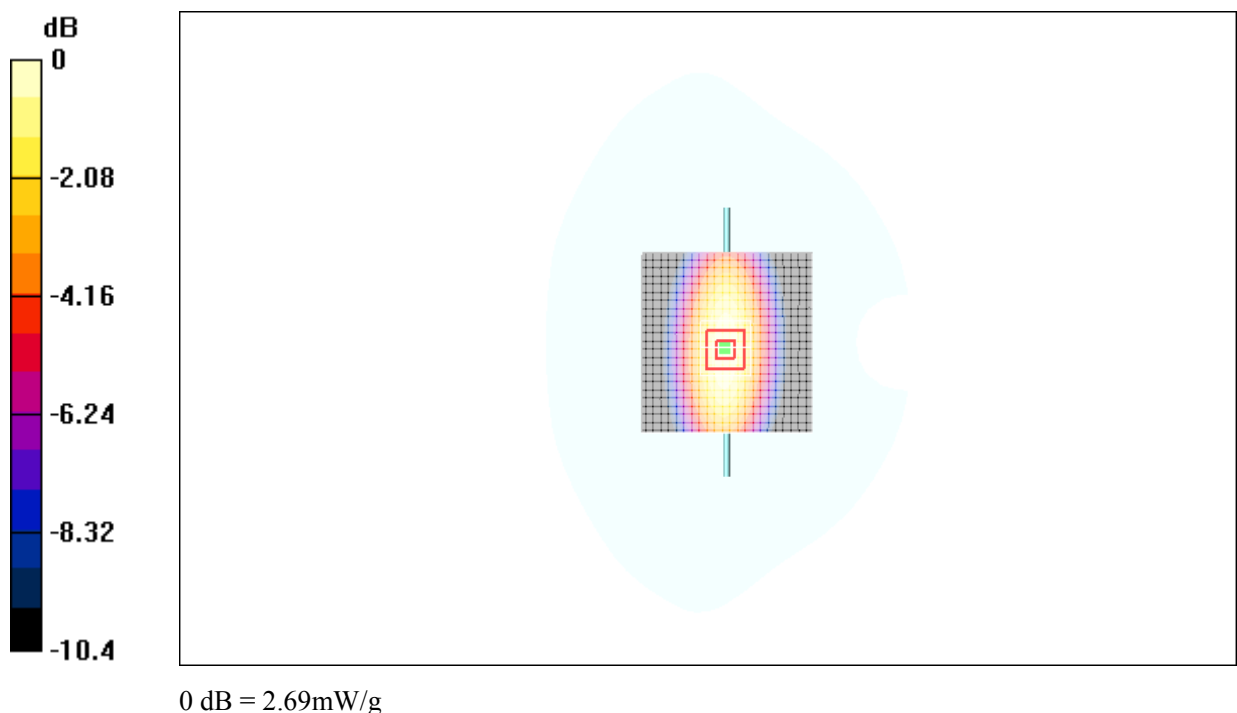


Fig.103 validation 835MHz 250mW

1900MHz

Date/Time: 2009-5-21 7:12:33

Electronics: DAE4 Sn771

Medium: Head 1900

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.42 \text{ mho/m}$; $\epsilon_r = 39.2$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

System Validation/Area Scan (101x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 11.2 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 92.1 V/m ; Power Drift = 0.1 dB

Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 9.91 mW/g ; SAR(10 g) = 5.27 mW/g

Maximum value of SAR (measured) = 11.3 mW/g

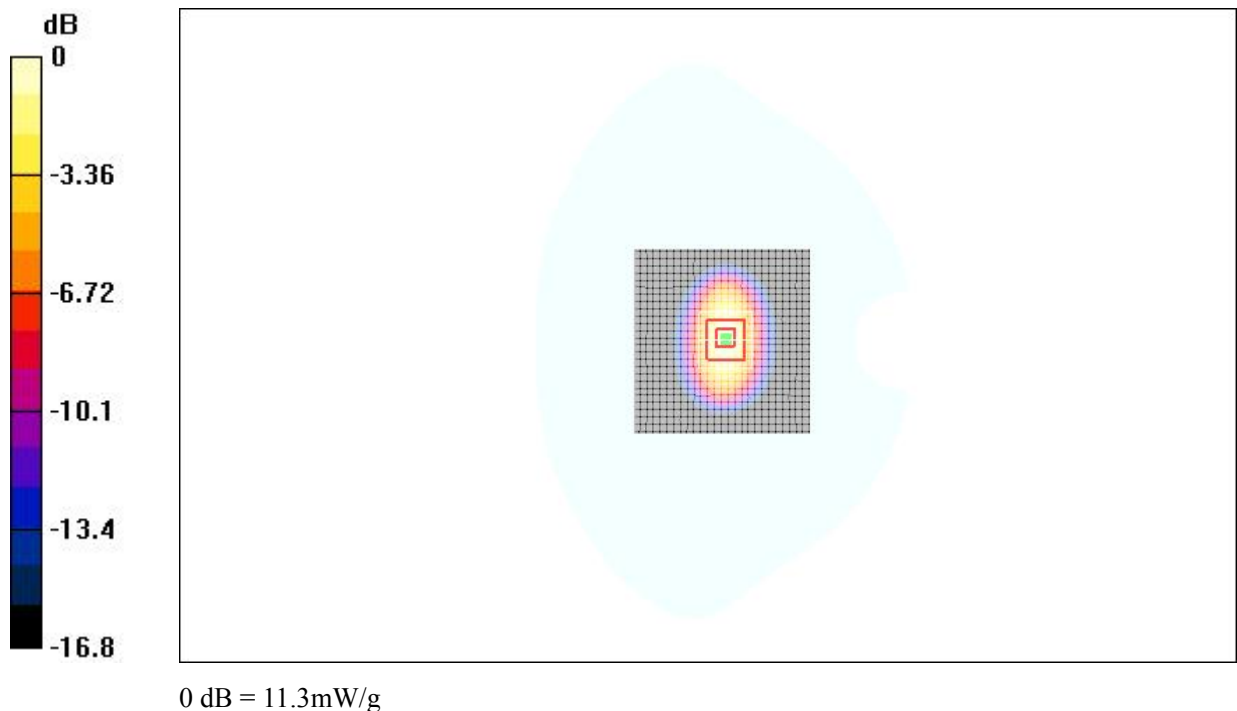


Fig.104 validation 1900MHz 250mW

1800MHz

Date/Time: 2009-5-22 7:17:20

Electronics: DAE4 Sn771

Medium: Head 1800

Medium parameters used: $f=1800$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3149 ConvF(5.18, 5.18, 5.18)

System Validation/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 10.5 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.2 V/m; Power Drift = 0.1 dB

Peak SAR (extrapolated) = 15.3 W/kg

SAR(1 g) = 9.22 mW/g; SAR(10 g) = 5 mW/g

Maximum value of SAR (measured) = 10.5 mW/g

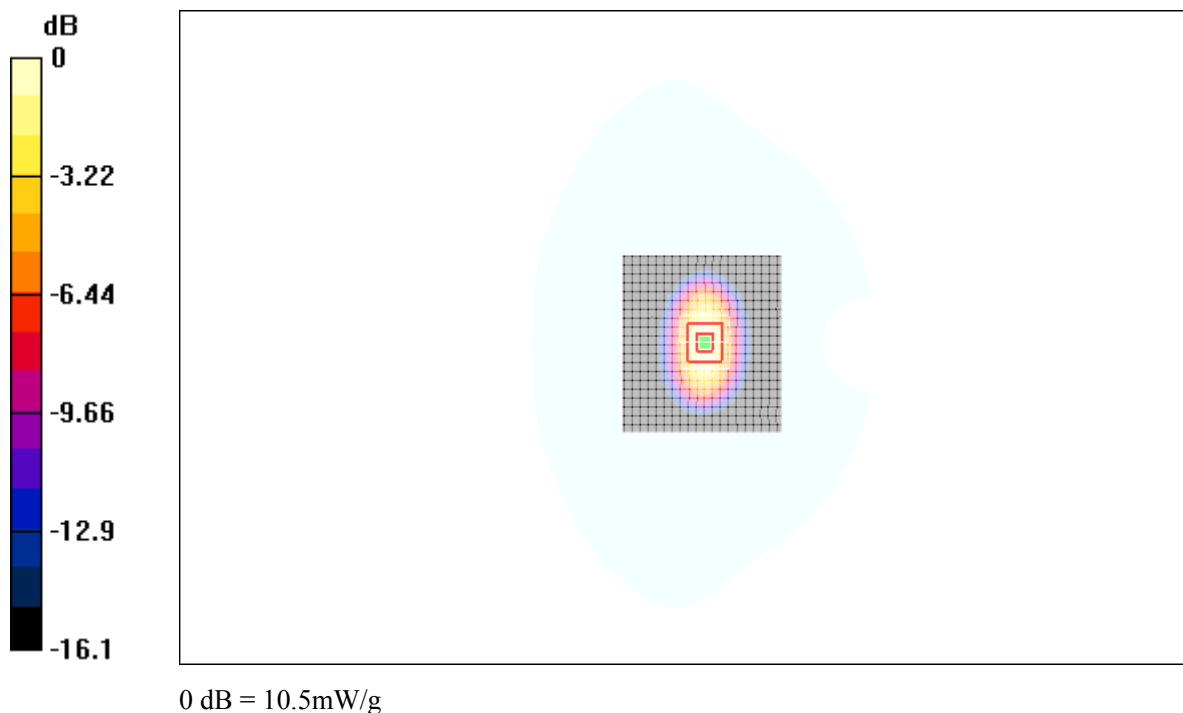


Fig.105 validation 1800MHz 250mW

ANNEX E PROBE CALIBRATION CERTIFICATE

**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

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

Accreditation No.: **SCS 108**

Client **TMC China**

Certificate No: **ES3DV3-3149_Oct08**

CALIBRATION CERTIFICATE

Object	ES3DV3-SN: 3149
Calibration procedure(s)	QA CAL-01.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	October 1, 2008
Condition of the calibrated item	In Tolerance

This calibration certify 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 at an environment temperature (22±3)°C and humidity<70%

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID#	Cal Data (Calibrated by, Certification NO.)	Scheduled Calibration
Power meter E4419B	GB41293874	6-May-08 (METAS, NO. 251-00388)	May-09
Power sensor E4412A	MY41495277	6-May-08 (METAS, NO. 251-00388)	May-09
Reference 3 dB Attenuator	SN:S5054 (3c)	11-Aug-08 (METAS, NO. 251-00403)	Aug-09
Reference 20 dB Attenuator	SN:S5086 (20b)	4-May-08 (METAS, NO. 251-00389)	May-09
Reference 30 dB Attenuator	SN:S5129 (30b)	11-Aug-08 (METAS, NO. 251-00404)	Aug-09
DAE4	SN:617	11-Jun-08 (SPEAG, NO.DAE4-907_Jun08)	Jun-09
Reference Probe ES3DV2	SN: 3013	13-Jan-08 (SPEAG, NO. ES3-3013_Jan08)	Jan-09

Secondary Standards	ID#	Check Data (in house)	Scheduled Calibration
RF generator HP8648C	US3642U01700	4-Aug-99(SPEAG, in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01(SPEAG, in house check Nov-07)	In house check: Nov-09

Calibrated by:	Katja Pokovic	Technical Manager	
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Approved by:	Niels Kuster	Quality Manager	
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Issued: October 1, 2008

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

Certificate No: **ES3DV3-3149_Oct08**

Page 1 of 9

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

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

Accreditation No.: SCS 108

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
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 effect 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.
- DCPx,y,z:** DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- 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.

ES3DV3 SN: 3149

October 1, 2008

Probe ES3DV3

SN: 3149

Manufactured: June 12, 2007

Calibrated: October 1, 2008

Calibrated for DASY4 System

ES3DV3 SN: 3149

October 1, 2008

DASY – Parameters of Probe: ES3DV3 SN:3149

Sensitivity in Free Space^A

Diode Compression^B

NormX	1.14±10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	94mV
NormY	1.23±10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	95mV
NormZ	1.29±10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	91mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)
Please see Page 8

Boundary Effect

TSL 900MHz Typical SAR gradient: 5% per mm

Sensor Center to Phantom Surface Distance		3.0 mm	4.0 mm
SARbe[%]	Without Correction Algorithm	3.8	1.6
SARbe[%]	With Correction Algorithm	0.8	0.7

TSL 1810MHz Typical SAR gradient: 10% per mm

Sensor Center to Phantom Surface Distance		3.0 mm	4.0 mm
SARbe[%]	Without Correction Algorithm	6.8	3.6
SARbe[%]	With Correction Algorithm	0.4	0.2

Sensor Offset

Probe Tip to Sensor Center 2.0 mm

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%.

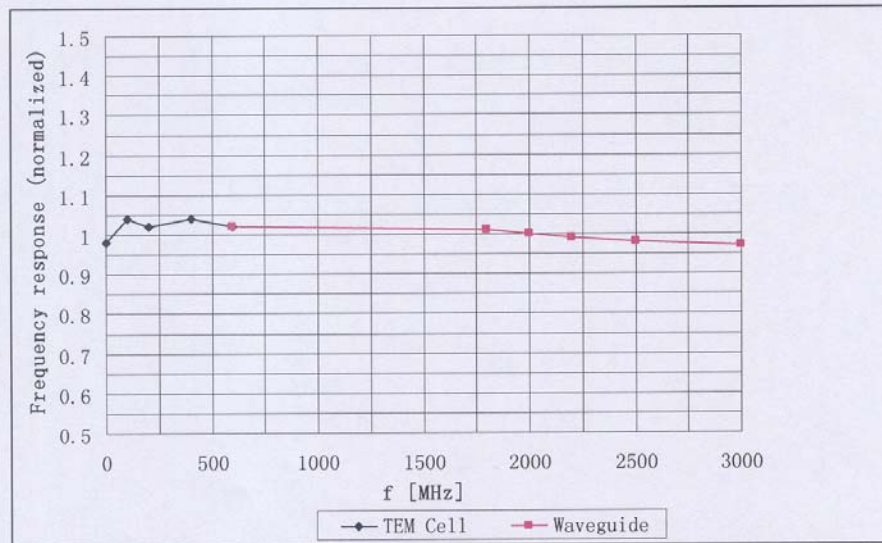
^A The uncertainties of NormX,Y,Z do not affect the E^2 -field uncertainty inside TSL (see Page 8).

^B Numerical linearization parameter: uncertainty not required.

ES3DV3 SN: 3149

October 1, 2008

Frequency Response of E-Field

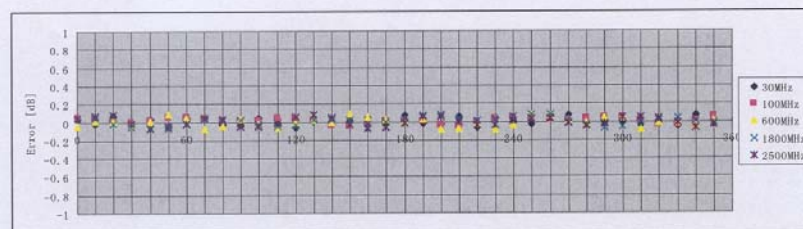
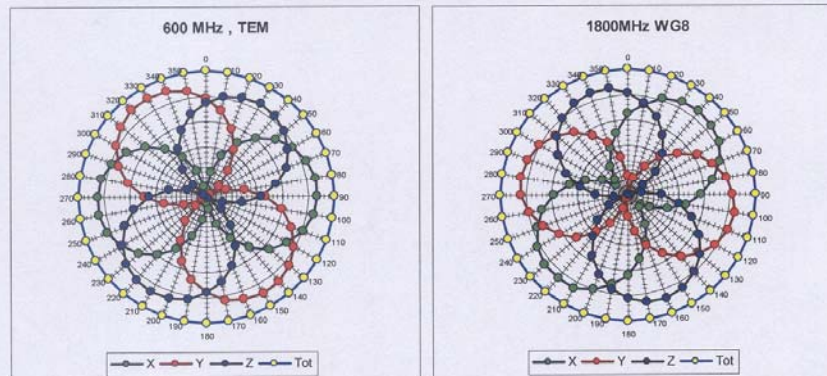


Uncertainty of Frequency Response of E-field: $\pm 5.0\%$ ($k=2$)

ES3DV3 SN: 3149

October 1, 2008

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

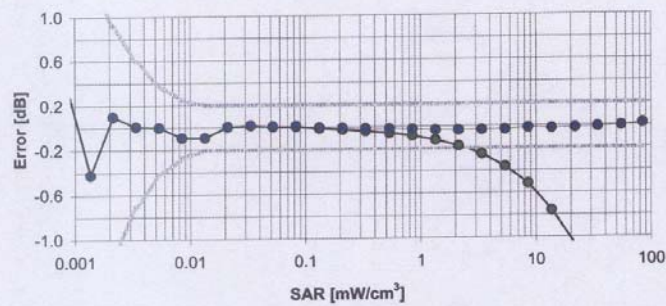
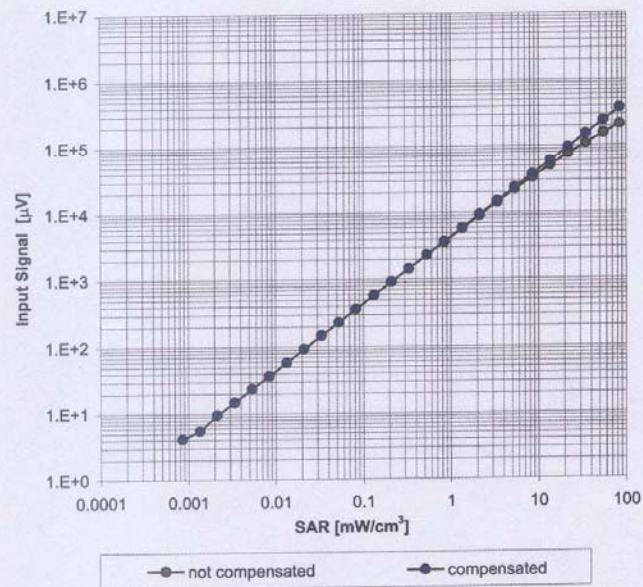


Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

ES3DV3 SN: 3149

October 1, 2008

Dynamic Range f(SAR_{head}) (Waveguide: WG8, f = 1800 MHz)

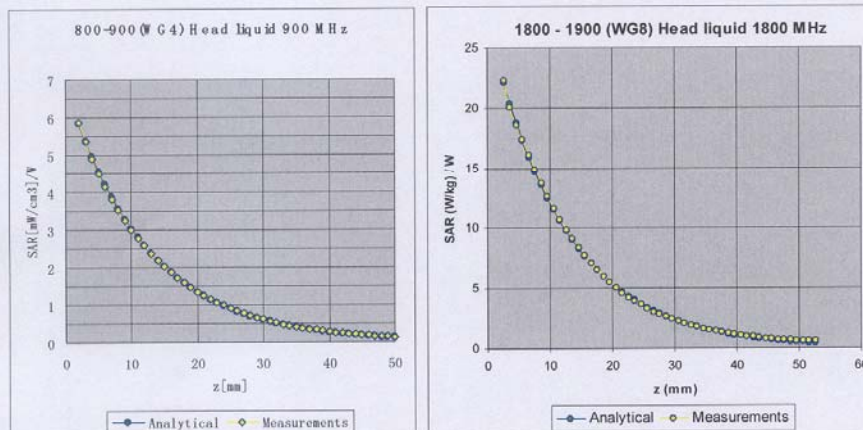


Uncertainty of Linearity Assessment: $\pm 0.5\%$ (k=2)

ES3DV3 SN: 3149

October 1, 2008

Conversion Factor Assessment



f[MHz]	Validity[MHz] ^C	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
850	±50 / ±100	Head	41.5±5%	0.90±5%	0.91	1.13	6.56	±11.0% (k=2)
900	±50 / ±100	Head	41.5±5%	0.97±5%	0.83	1.26	6.34	±11.0% (k=2)
1800	±50 / ±100	Head	40.0±5%	1.40±5%	0.69	1.47	5.18	±11.0% (k=2)
1900	±50 / ±100	Head	40.0±5%	1.40±5%	0.72	1.38	5.03	±11.0% (k=2)
850	±50 / ±100	Body	55.2±5%	0.97±5%	0.76	1.26	6.22	±11.0% (k=2)
900	±50 / ±100	Body	55.0±5%	1.05±5%	0.99	1.06	6.02	±11.0% (k=2)
1800	±50 / ±100	Body	53.3±5%	1.52±5%	0.75	1.34	4.97	±11.0% (k=2)
1900	±50 / ±100	Body	53.3±5%	1.52±5%	0.62	1.33	4.68	±11.0% (k=2)

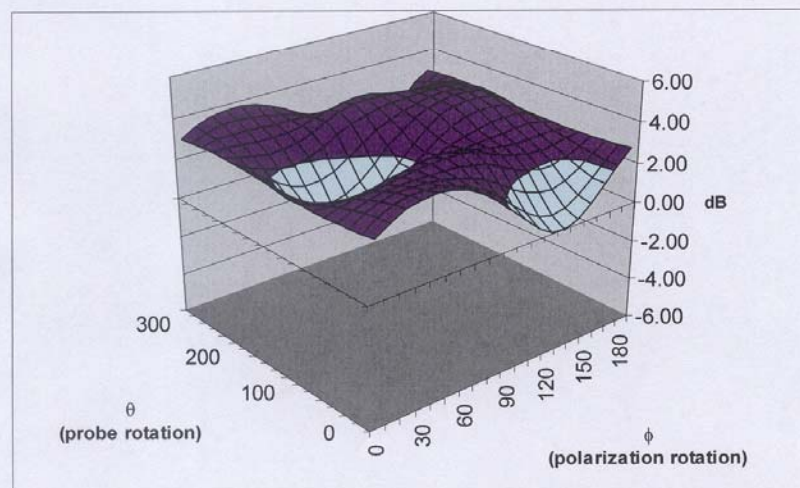
^C The validity of ±100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

ES3DV3 SN: 3149

October 1, 2008

Deviation from Isotropy

Error (ϕ , θ), $f = 900$ MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.5\%$ ($k=2$)

ANNEX F DIPOLE CALIBRATION CERTIFICATE

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

Accreditation No.: SCS 108

Client TMC China

Certificate No: D835V2-443_Feb09

CALIBRATION CERTIFICATE

Object	D835V2-SN: 443
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	February 18, 2009
Condition of the calibrated item	In Tolerance

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 at an environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID#	Cal Data (Calibrated by, Certification NO.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	01-Oct-08 (METAS, NO. 217-00608)	Oct-09
Power sensor 8481A	US37292783	01-Oct-08 (METAS, NO. 217-00608)	Oct-09
Reference 20 dB Attenuator	SN:5086 (20g)	08-Aug-08 (METAS, NO. 217-00591)	Aug-09
Reference 10 dB Attenuator	SN:5047_2 (10r)	08-Aug-08 (METAS, NO. 217-00591)	Aug-09
DAE4	SN:601	28-Jan-09 (SPEAG, NO.DAE4-601_Jan09)	Jan-10
Reference Probe ET3DV6 (HF)	SN: 1507	17-Oct-08 (SPEAG, NO. ET3-1507_Oct08)	Oct-09
Secondary Standards	ID#	Check Data (in house)	Scheduled Calibration
Power sensor HP 8481A	MY41092317	18-Oct-02(SPEAG, in house check Oct-07)	In house check: Oct-09
RF generator Aglient E4421B	MY41000676	11-May-05(SPEAG, in house check Nov-07)	In house check: Nov -09
Network Analyzer HP 8753E	US37390585S4206	18-Oct-01(SPEAG, in house check Oct-08)	In house check: Oct -09

	Name	Function	Signature
Calibrated by:	Marcel Fehr	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Director	

Issued: February 19, 2009

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

Certificate No: D835V2-443_Feb09

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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

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
- CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- DASY4 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	39.9 $\pm$ 6 %	0.88 mho/m $\pm$ 6 %
Head TSL temperature during test	(21.2 $\pm$ 0.2) °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.48 mW / g
SAR normalized	normalized to 1W	9.90 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	9.70 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.60 mW / g
SAR normalized	normalized to 1W	6.40 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	6.31 mW / g $\pm$ 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.5 Ω - 6.8 j Ω
Return Loss	- 25.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.402 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	September 3, 2001

DASY4 Validation Report for Head TSL

Date/Time: 18.02.2009 10:13:45

Test laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; serial: D835V2-SN: 443

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL 835 MHz;

Medium parameters used: $f=835$ MHz; $\sigma=0.88$ mho/m; $\epsilon_r=39.9$; $\rho=1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6-SN1507(HF); ConvF(6.01,6.01,6.01); Calibrated: 17.10.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.1_2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA;
- Measurement SW: DASY, V4.7 Build 53; Post processing SW: SEMCAD, V1.8 Build 172

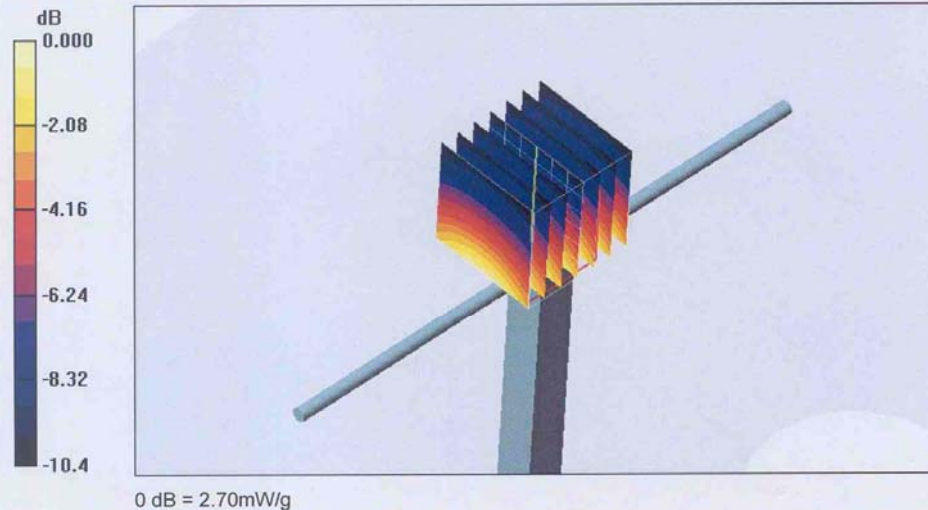
Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.6 V/m; Power Drift = 0.010 dB

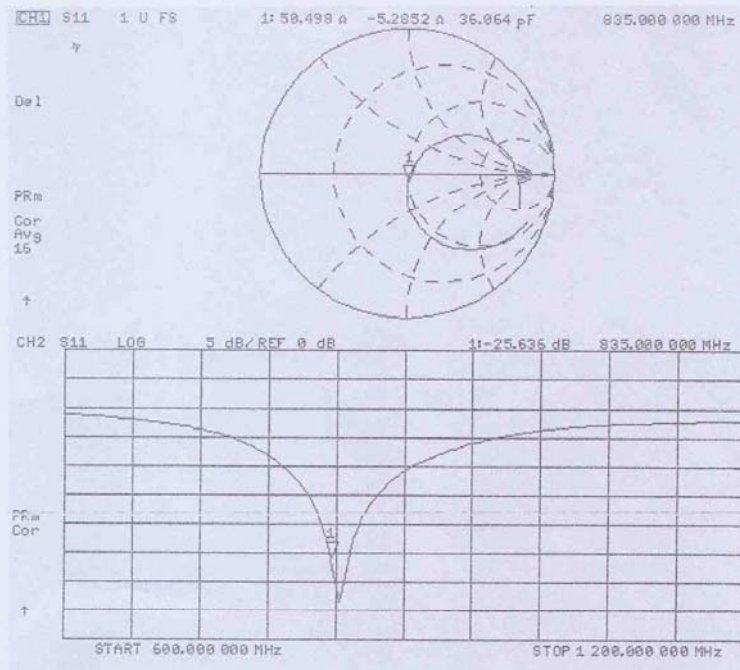
Peak SAR (extrapolated) = 3.72 W/kg

SAR(1 g) = 2.48 mW/g; SAR(10 g) = 1.60 mW/g

Maximum value of SAR (measured) = 2.70 mW/g



Impedance measurement Plot for Head TSL



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Client TMC China

Accreditation No.: SCS 108

Certificate No: D1900V2-541_Feb09

CALIBRATION CERTIFICATE

Object	D1900V2-SN: 541
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	February 19, 2009
Condition of the calibrated item	In Tolerance

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 at an environment temperature (22±3)°C and humidity<70%

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID#	Cal Data (Calibrated by, Certification NO.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	01-Oct-08 (METAS, NO. 217-00608)	Oct-09
Power sensor 8481A	US37292783	01-Oct-08 (METAS, NO. 217-00608)	Oct-09
Reference 20 dB Attenuator	SN:5086 (20g)	08-Aug-08 (METAS, NO. 217-00591)	Aug-09
Reference 10 dB Attenuator	SN:5047_2 (10r)	08-Aug-08 (METAS, NO. 217-00591)	Aug-09
DAE4	SN:601	28-Jan-09 (SPEAG, NO.DAE4-601_Jan09)	Jan-10
Reference Probe ET3DV6 (HF)	SN: 1507	17-Oct-08 (SPEAG, NO. ET3-1507_Oct08)	Oct-09
Secondary Standards	ID#	Check Data (in house)	Scheduled Calibration
Power sensor HP 8481A	MY41092317	18-Oct-02(SPEAG, in house check Oct-07)	In house check: Oct-09
RF generator Agilent E4421B	MY41000676	11-May-05(SPEAG, in house check Nov-07)	In house check: Nov -09
Network Analyzer HP 8753E	US37390585S4206	18-Oct-01(SPEAG, in house check Oct-08)	In house check: Oct -10

	Name	Function	Signature
Calibrated by:	Marcel Fehr	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Director	

Issued: February 20, 2009

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

Certificate No: D1900V2-541_Feb09

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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- a) 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
- b) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- d) DASY4 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	38.9 $\pm$ 6 %	1.38 mho/m $\pm$ 6 %
Head TSL temperature during test	(22.1 $\pm$ 0.2) °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	condition	
SAR measured	250 mW input power	9.73 mW /g
SAR normalized	normalized to 1W	38.9 mW /g
SAR for nominal Head TSL parameters ¹	normalized to 1W	38.6 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.09 mW /g
SAR normalized	normalized to 1W	20.4 mW /g
SAR for nominal Head TSL parameters ¹	normalized to 1W	20.2 mW / g $\pm$ 16.5 % (k=2)

¹ Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$48.4 \Omega - 8.9 j\Omega$
Return Loss	- 26.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.214 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	October 4 , 2001

DASY4 Validation Report for Head TSL

Date/Time: 19.02.2009 09:37:10

Test laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; serial: D1900V2-SN: 541

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL 1900 MHz;

Medium parameters used: $f=1900$ MHz; $\sigma=1.38$ mho/m; $\epsilon_r=38.9$; $\rho=1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6-SN1507(HF); ConvF(5.03, 5.03, 5.03); Calibrated: 17.10.2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.1_2009
- Phantom: Flat Phantom 4.9L; Type: QD00P49AA;
- Measurement SW: DASY, V4.7 Build 53; Post processing SW: SEMCAD, V1.8 Build 172

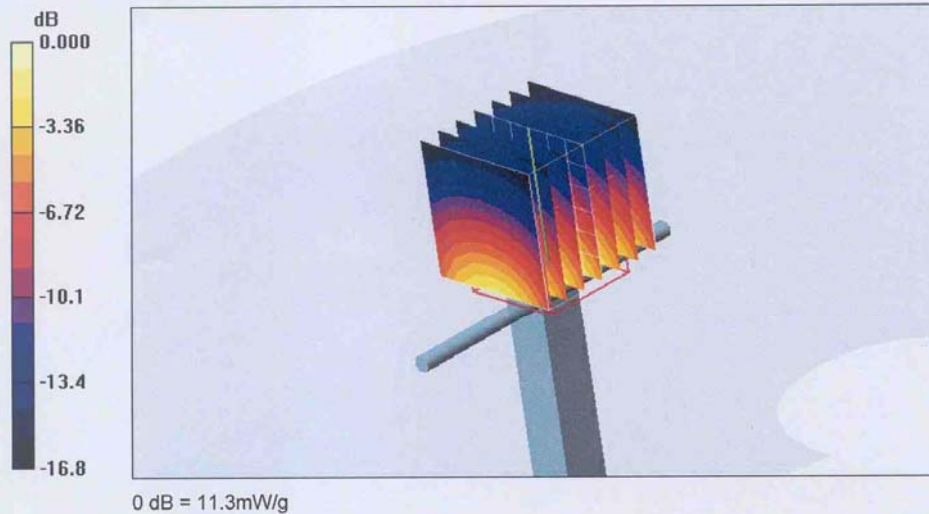
Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.1 V/m; Power Drift = 0.059 dB

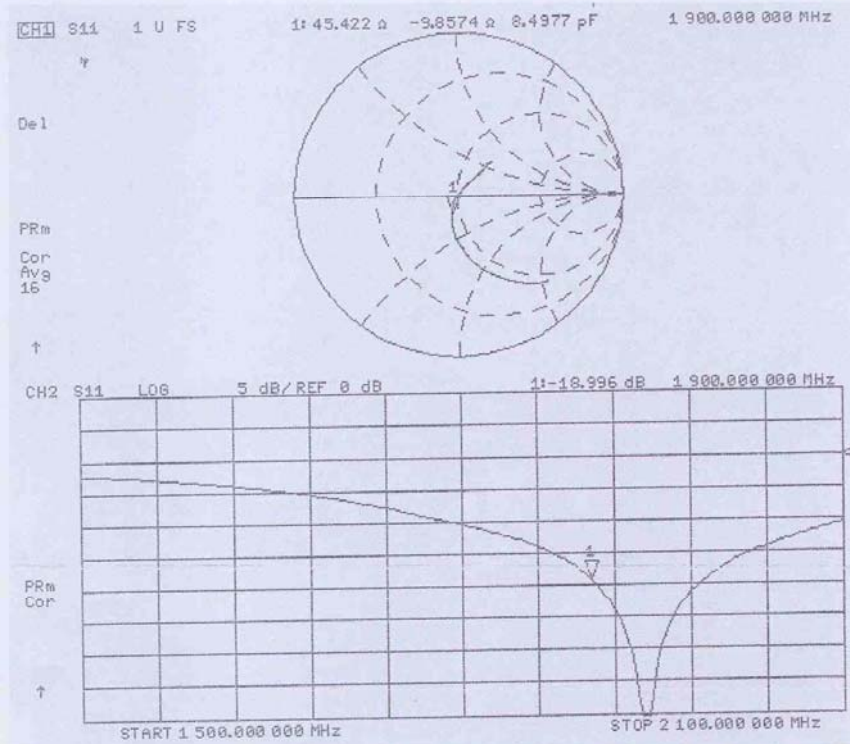
Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 9.73 mW/g; SAR(10 g) = 5.09 mW/g

Maximum value of SAR (measured) = 11.3 mW/g



Impedance measurement Plot for Head TSL



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Accreditation No.: **SCS 108**

Client **TMC**

Certificate No: **D1800V2-2d145_Dec07**

CALIBRATION CERTIFICATE

Object **D1800V2 - SN: 2d145**

Calibration procedure(s) **QA CAL-05.v7
Calibration procedure for dipole validation kits**

Calibration date: **December 11, 2007**

Condition of the calibrated item **In Tolerance**

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 (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-07 (METAS, No. 217-00736)	Oct-08
Power sensor HP 8481A	US37292783	04-Oct-07 (METAS, No. 217-00736)	Oct-08
Reference 20 dB Attenuator	SN: 5086 (20g)	07-Aug-07 (METAS, No. 217-00718)	Aug-08
Reference 10 dB Attenuator	SN: 5047.2 (10r)	07-Aug-07 (METAS, No. 217-00718)	Aug-08
Reference Probe ET3DV6 (HF)	SN: 1507	26-Oct-07 (SPEAG, No. ET3-1507_Oct07)	Oct-08
DAE4	SN 601	30-Jan-07 (SPEAG, No. DAE4-601_Jan07)	Jan-08
Secondary Standards	ID #	Check Date (In house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-07)	In house check: Oct-08
RF generator R&S SMT-06	100005	4-Aug-99 (SPEAG, in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Oct-07)	In house check: Oct-08

	Name	Function	Signature
Calibrated by:	Marcel Fehr	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: December 11, 2007

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Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- a) 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
- b) 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
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- d) DASY4 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1800 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	39.0 $\pm$ 6 %	1.40 mho/m $\pm$ 6 %
Head TSL temperature during test	(21.0 $\pm$ 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	condition	
SAR measured	250 mW input power	9.60 mW /g
SAR normalized	normalized to 1W	38.4 mW /g
SAR for nominal Head TSL parameters ¹	normalized to 1W	37.9 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.06 mW /g
SAR normalized	normalized to 1W	20.2 mW /g
SAR for nominal Head TSL parameters ¹	normalized to 1W	20.0 mW / g $\pm$ 16.5 % (k=2)

¹ Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	48.0 jΩ - 2.2 jΩ
Return Loss	- 30.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.214 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 14, 2006

DASY4 Validation Report for Head TSL

Date/Time: 11.12.2007 12:41:50

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: SN:2d145

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

Medium: HSL U10 BB;

Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.4 \text{ mho/m}$; $\epsilon_r = 39.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(4.99, 4.99, 4.99); Calibrated: 26.10.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.01.2007
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

$P_{in} = 250 \text{ mW}$; $d = 10 \text{ mm}$ /Zoom Scan (7x7x7)/Cube 0:

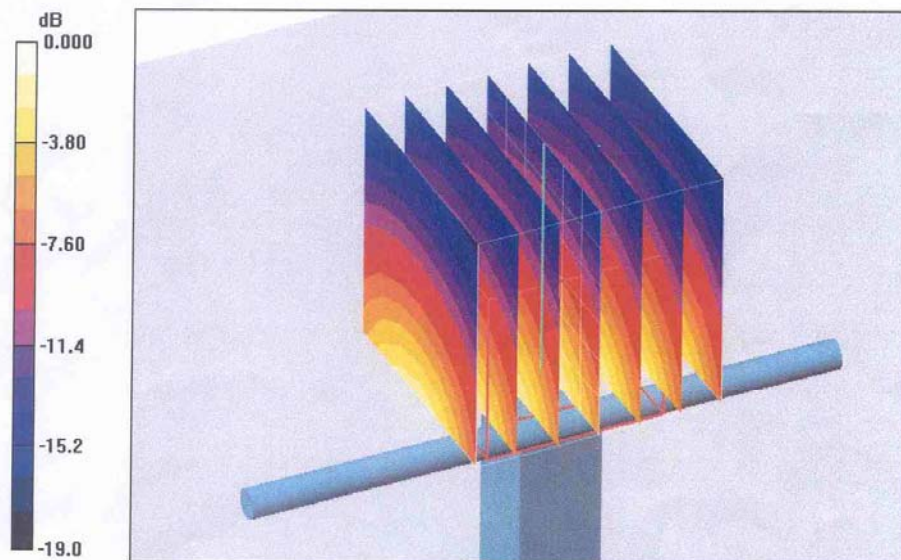
Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 92.3 V/m ; Power Drift = 0.067 dB

Peak SAR (extrapolated) = 16.8 W/kg

SAR(1 g) = 9.6 mW/g ; SAR(10 g) = 5.06 mW/g

Maximum value of SAR (measured) = 10.8 mW/g



0 dB = 10.8 mW/g

Impedance Measurement Plot for Head TSL

