

1900 Body Bottom Side Middle with EGPRS

Date/Time: 2011-8-4 15:41:51

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.51 \text{ mho/m}$; $\epsilon_r = 52.4$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:2

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Bottom Side Middle/Area Scan (61x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

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

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

Reference Value = 21.2 V/m ; Power Drift = -0.026 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.722 mW/g ; SAR(10 g) = 0.400 mW/g

Maximum value of SAR (measured) = 0.781 mW/g

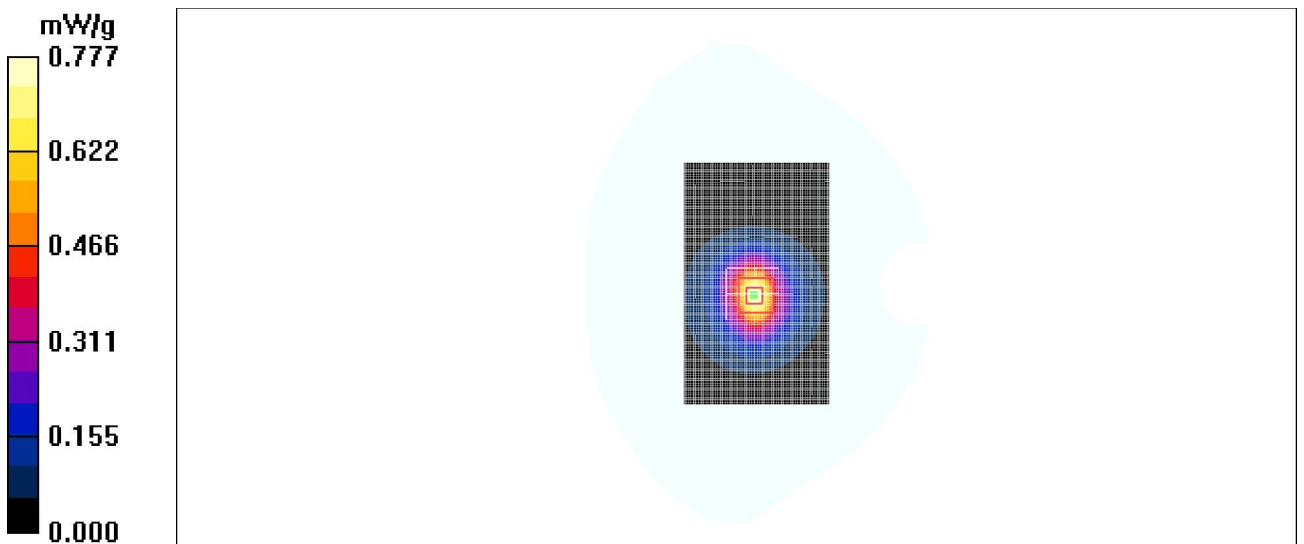


Fig. 58 1900 MHz CH661

1900 Body Bottom Side Middle with Headset_CCB3160A11C1

Date/Time: 2011-8-4 16:02:22

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.51 \text{ mho/m}$; $\epsilon_r = 52.4$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Bottom Side Middle/Area Scan (61x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 0.680 mW/g

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

Reference Value = 19.1 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.620 mW/g; SAR(10 g) = 0.347 mW/g

Maximum value of SAR (measured) = 0.697 mW/g

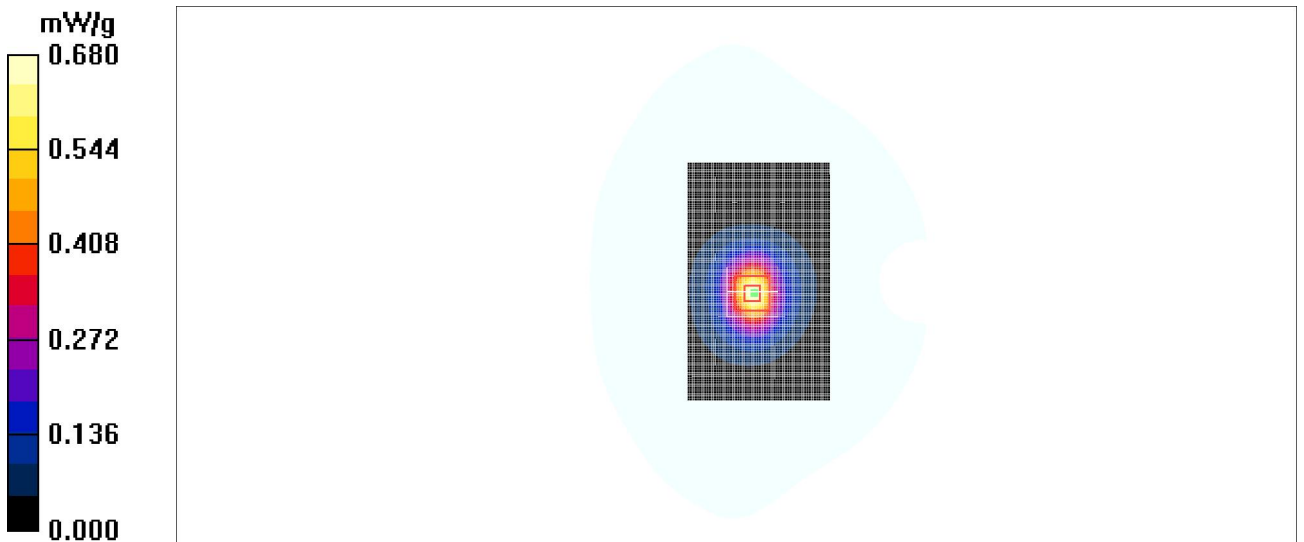


Fig. 59 1900 MHz CH661

1900 Body Bottom Side Middle with Headset_CCB3160A11C2

Date/Time: 2011-8-4 16:25:07

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

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

Maximum value of SAR (interpolated) = 0.648 mW/g

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

Reference Value = 18.7 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 0.979 W/kg

SAR(1 g) = 0.589 mW/g; SAR(10 g) = 0.329 mW/g

Maximum value of SAR (measured) = 0.659 mW/g

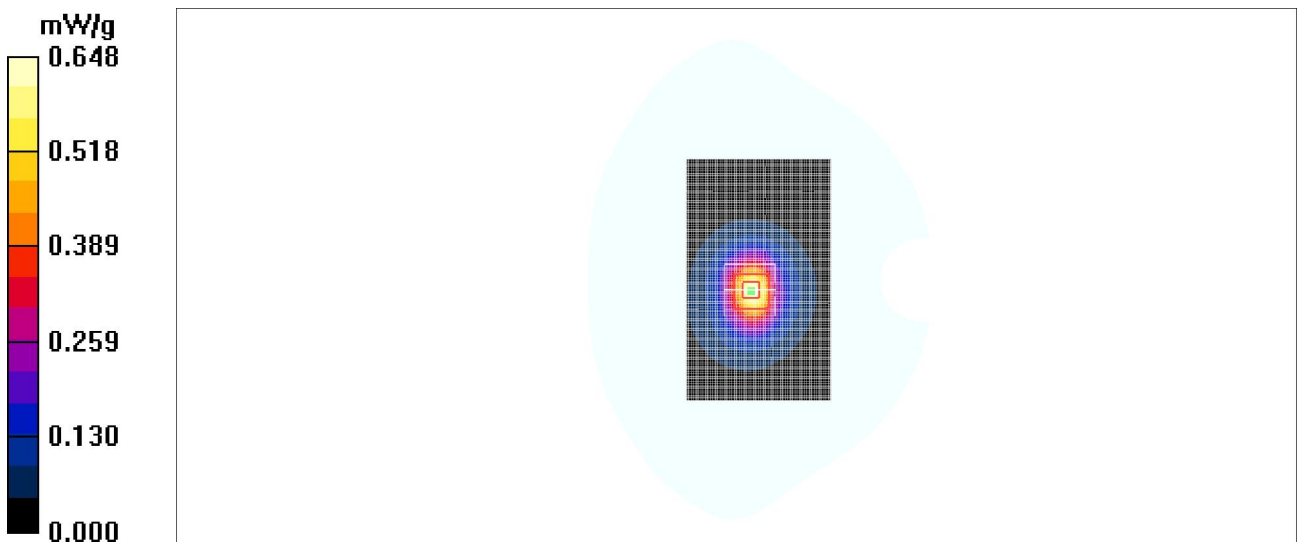


Fig. 60 1900 MHz CH661

WCDMA 1700 Body Towards Phantom High

Date/Time: 2011-8-5 13:21:15

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1752.6$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1752.6 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) = 1.20 mW/g

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

Reference Value = 18.8 V/m; Power Drift = 0.048 dB

Peak SAR (extrapolated) = 1.67 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.665 mW/g

Maximum value of SAR (measured) = 1.15 mW/g

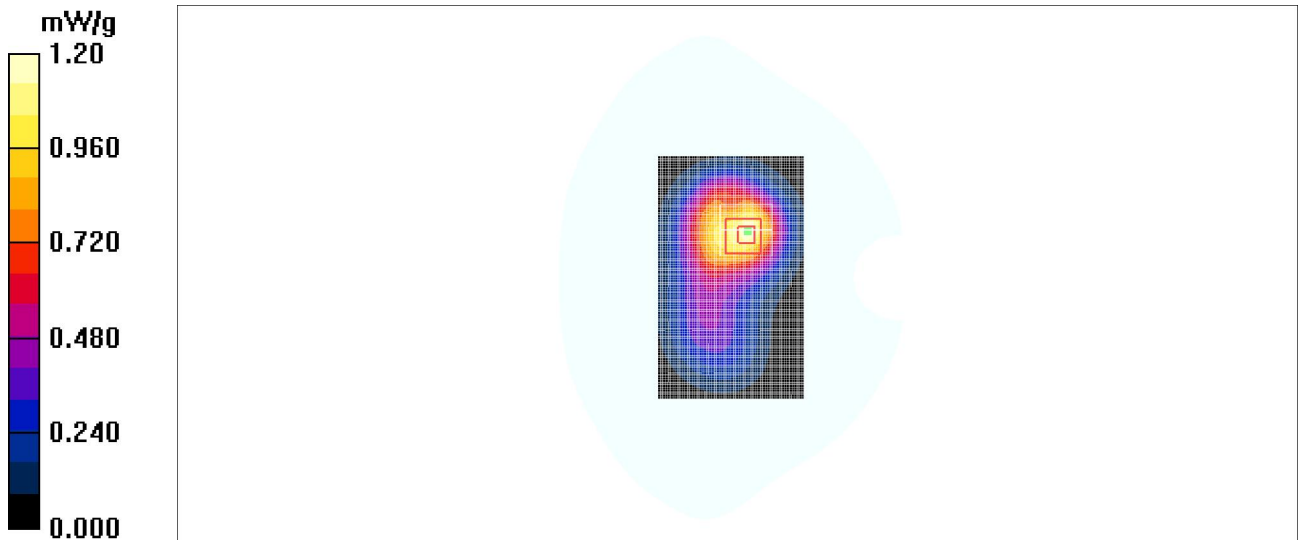


Fig. 61 1700 MHz CH1513

WCDMA 1700 Body Towards Phantom Middle

Date/Time: 2011-8-5 13:40:02

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1732.4 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) = 1.18 mW/g

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

Reference Value = 18.5 V/m; Power Drift = -0.013 dB

Peak SAR (extrapolated) = 1.65 W/kg

SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.647 mW/g

Maximum value of SAR (measured) = 1.13 mW/g

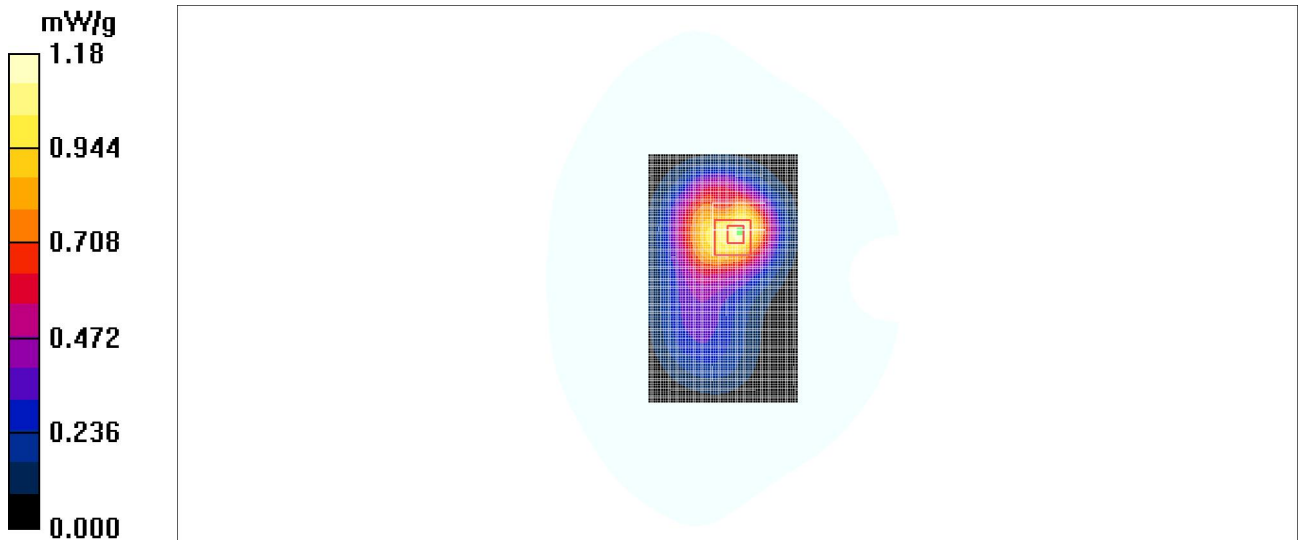


Fig. 62 1700 MHz CH1412

WCDMA 1700 Body Towards Phantom Low

Date/Time: 2011-8-5 14:00:13

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.40$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1712.4 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) = 1.13 mW/g

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

Reference Value = 16.9 V/m; Power Drift = 0.062 dB

Peak SAR (extrapolated) = 1.66 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.637 mW/g

Maximum value of SAR (measured) = 1.14 mW/g

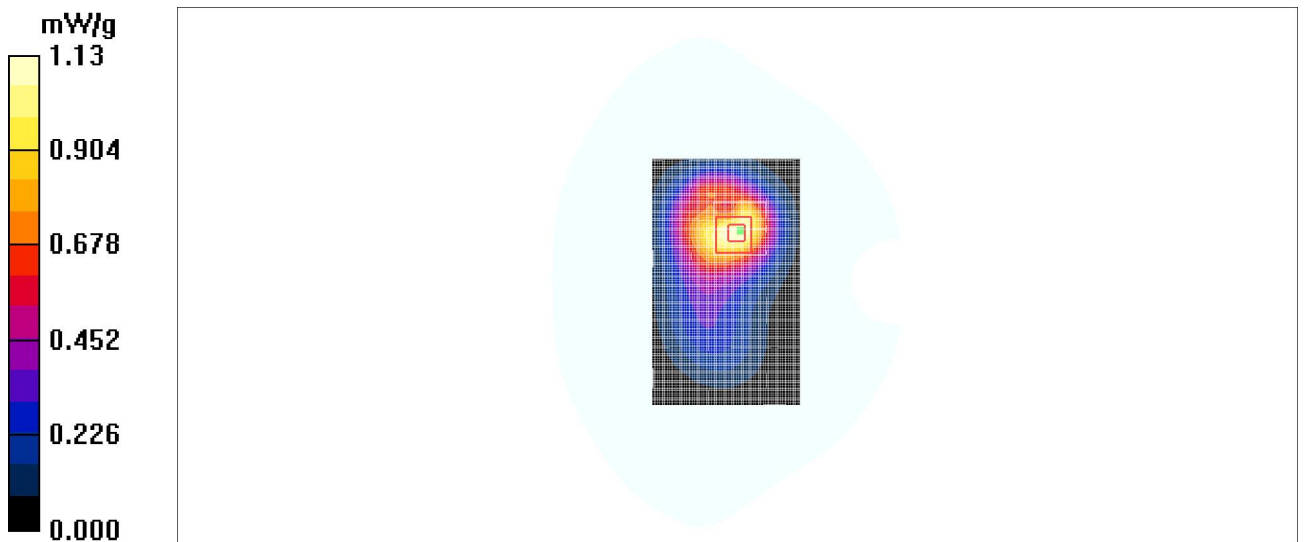


Fig. 63 1700 MHz CH1312

WCDMA 1700 Body Towards Ground High

Date/Time: 2011-8-5 14:25:41

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1752.6$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1752.6 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) = 1.29 mW/g

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

Reference Value = 19.0 V/m; Power Drift = -0.118 dB

Peak SAR (extrapolated) = 1.88 W/kg

SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.730 mW/g

Maximum value of SAR (measured) = 1.26 mW/g

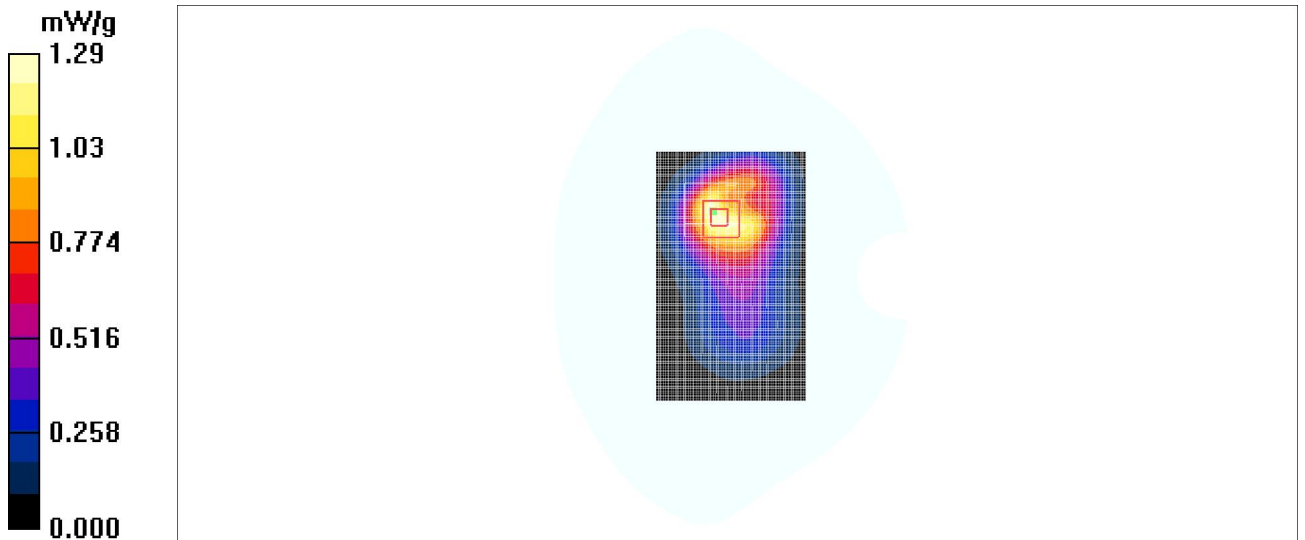


Fig. 64 1700 MHz CH1513

WCDMA 1700 Body Towards Ground Middle

Date/Time: 2011-8-5 14:47:33

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1732.4 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) = 1.32 mW/g

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

Reference Value = 18.7 V/m; Power Drift = 0.050 dB

Peak SAR (extrapolated) = 1.98 W/kg

SAR(1 g) = 1.25 mW/g; SAR(10 g) = 0.763 mW/g

Maximum value of SAR (measured) = 1.31 mW/g

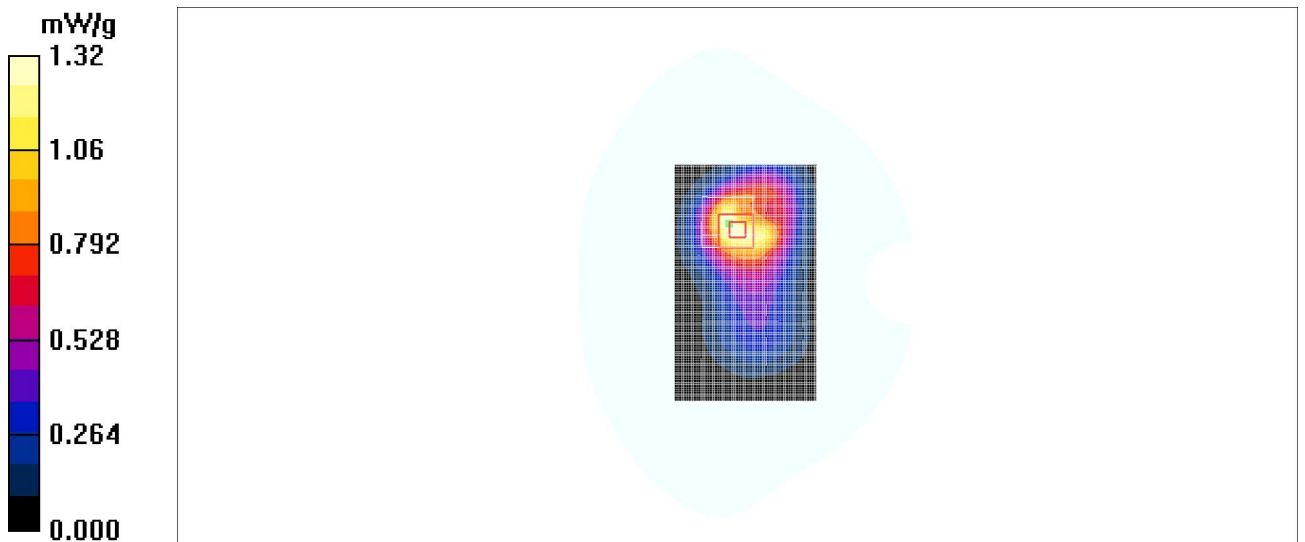


Fig. 65 1700 MHz CH1412

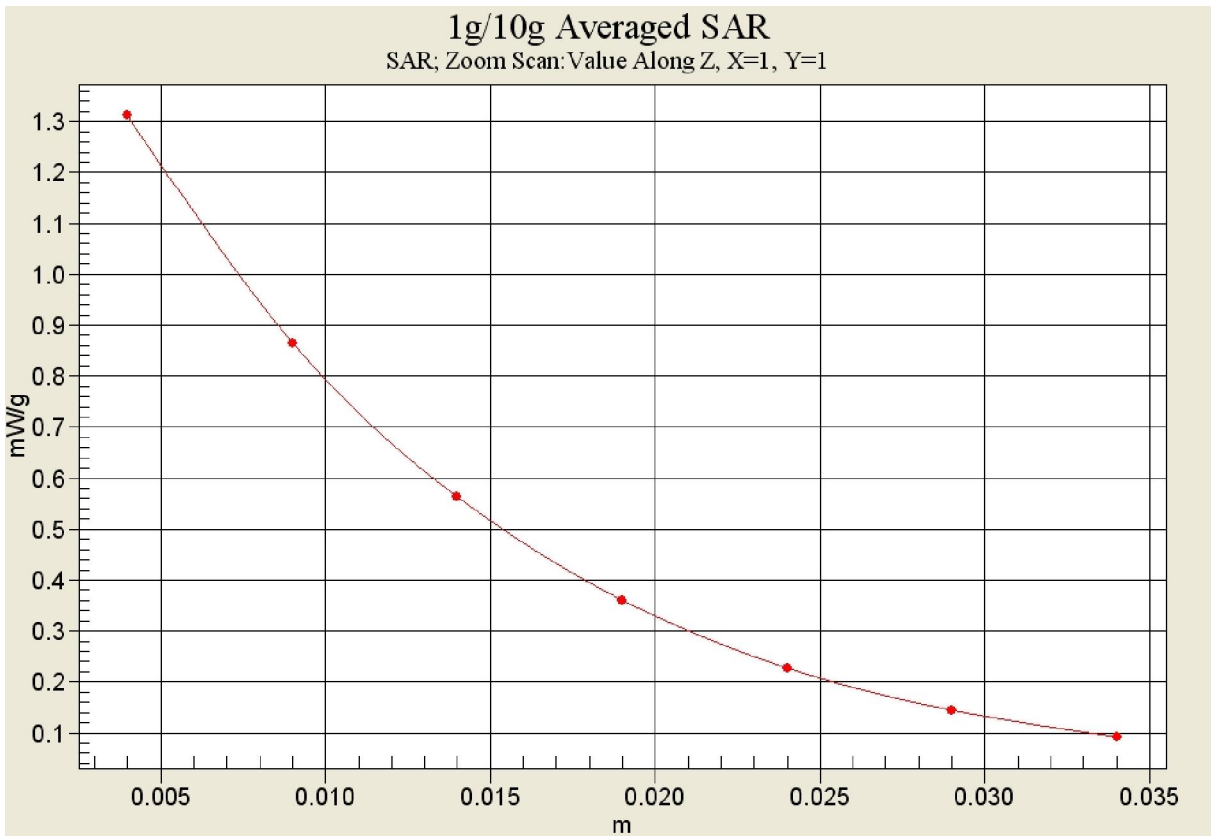


Fig. 65-1 Z-Scan at power reference point (850 MHz CH1412)

WCDMA 1700 Body Towards Ground Low

Date/Time: 2011-8-5 15:04:12

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.40$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1712.4 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) = 1.31 mW/g

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

Reference Value = 17.4 V/m; Power Drift = 0.106 dB

Peak SAR (extrapolated) = 1.96 W/kg

SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.758 mW/g

Maximum value of SAR (measured) = 1.33 mW/g

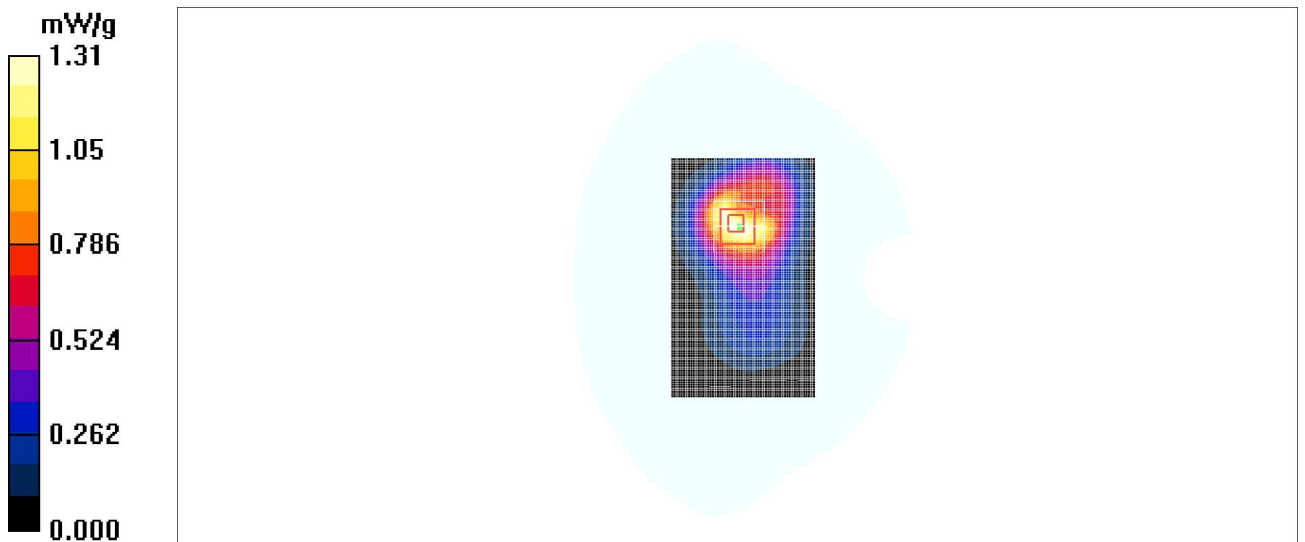


Fig. 66 1700 MHz CH1312

WCDMA 1700 Body Left Side Low

Date/Time: 2011-8-5 15:25:50

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.40$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1712.4 MHz Duty Cycle: 1:1

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

Left Side Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.246 mW/g

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

Reference Value = 10.5 V/m; Power Drift = 0.100 dB

Peak SAR (extrapolated) = 0.340 W/kg

SAR(1 g) = 0.218 mW/g; SAR(10 g) = 0.132 mW/g

Maximum value of SAR (measured) = 0.236 mW/g

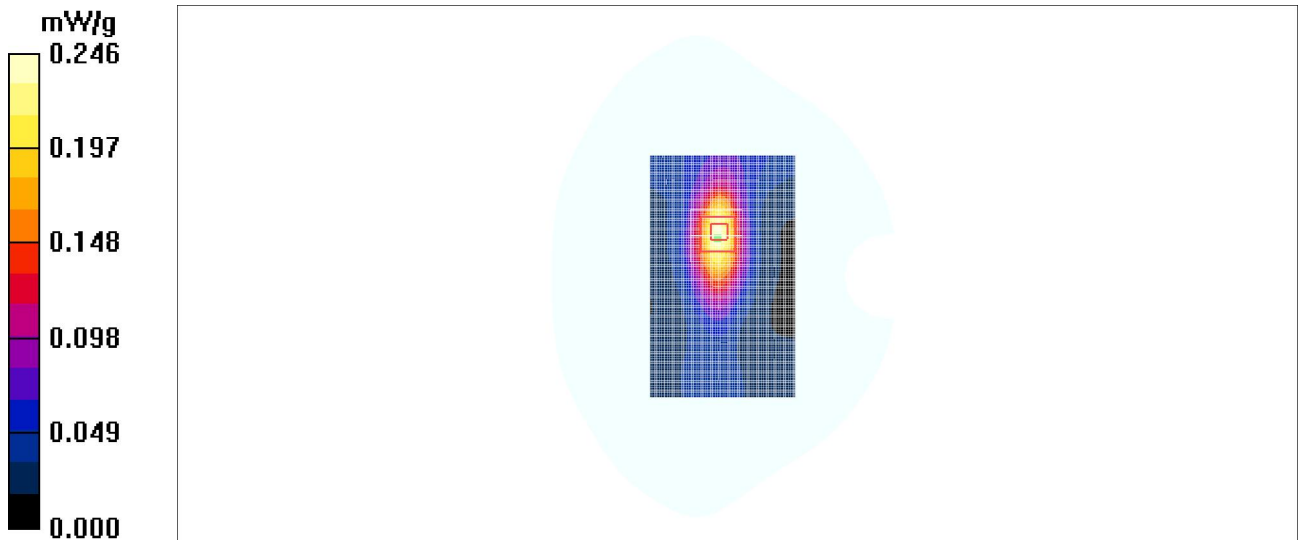


Fig. 67 1700 MHz CH1312

WCDMA 1700 Body Right Side Low

Date/Time: 2011-8-5 15:54:04

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.40$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1712.4 MHz Duty Cycle: 1:1

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

Right Side Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.374 mW/g

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

Reference Value = 14.7 V/m; Power Drift = -0.049 dB

Peak SAR (extrapolated) = 0.512 W/kg

SAR(1 g) = 0.341 mW/g; SAR(10 g) = 0.213 mW/g

Maximum value of SAR (measured) = 0.371 mW/g

Right Side Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.7 V/m; Power Drift = -0.049 dB

Peak SAR (extrapolated) = 0.467 W/kg

SAR(1 g) = 0.304 mW/g; SAR(10 g) = 0.189 mW/g

Maximum value of SAR (measured) = 0.333 mW/g

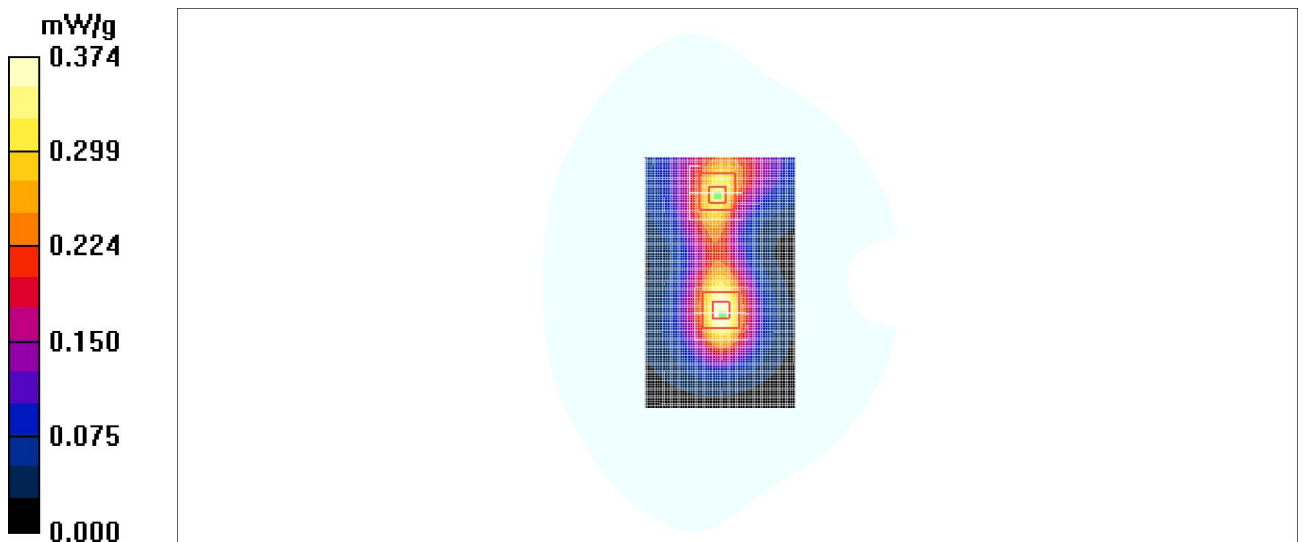


Fig. 68 1700 MHz CH1312

WCDMA 1700 Body Bottom Side High

Date/Time: 2011-8-5 16:11:24

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1752.6$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1752.6 MHz Duty Cycle: 1:1

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

Bottom Side High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.953 mW/g

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

Reference Value = 21.4 V/m; Power Drift = 0.085 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.892 mW/g; SAR(10 g) = 0.503 mW/g

Maximum value of SAR (measured) = 0.991 mW/g

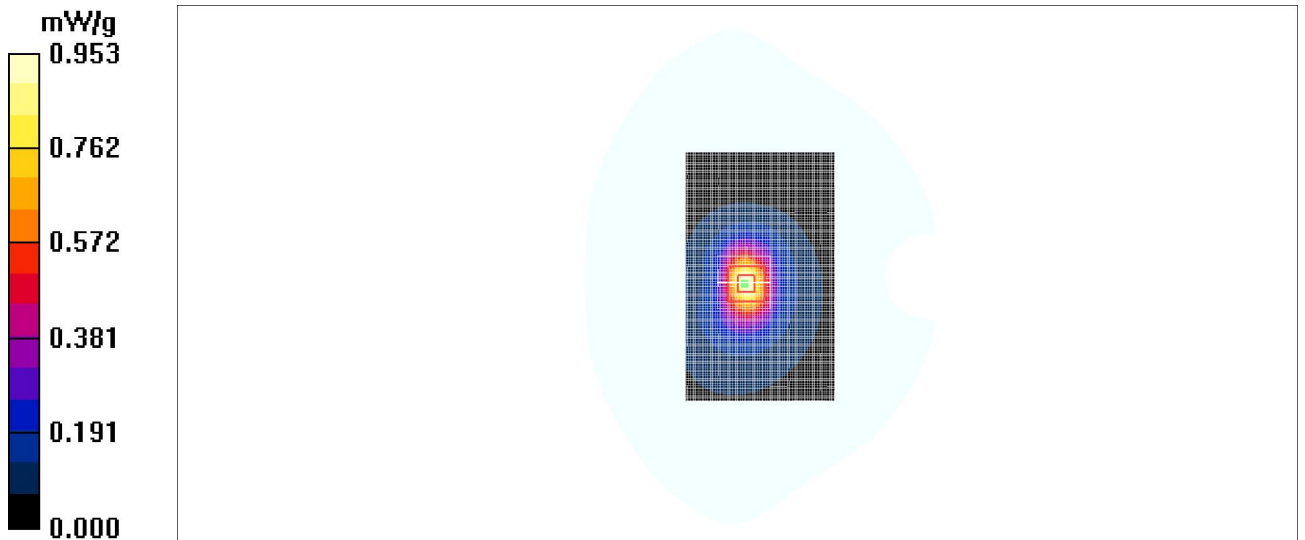


Fig. 69 1700 MHz CH1513

WCDMA 1700 Body Bottom Side Middle

Date/Time: 2011-8-5 16:33:53

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1732.4 MHz Duty Cycle: 1:1

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

Bottom Side Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.08 mW/g

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

Reference Value = 23.7 V/m; Power Drift = 0.007 dB

Peak SAR (extrapolated) = 1.61 W/kg

SAR(1 g) = 1 mW/g; SAR(10 g) = 0.559 mW/g

Maximum value of SAR (measured) = 1.14 mW/g

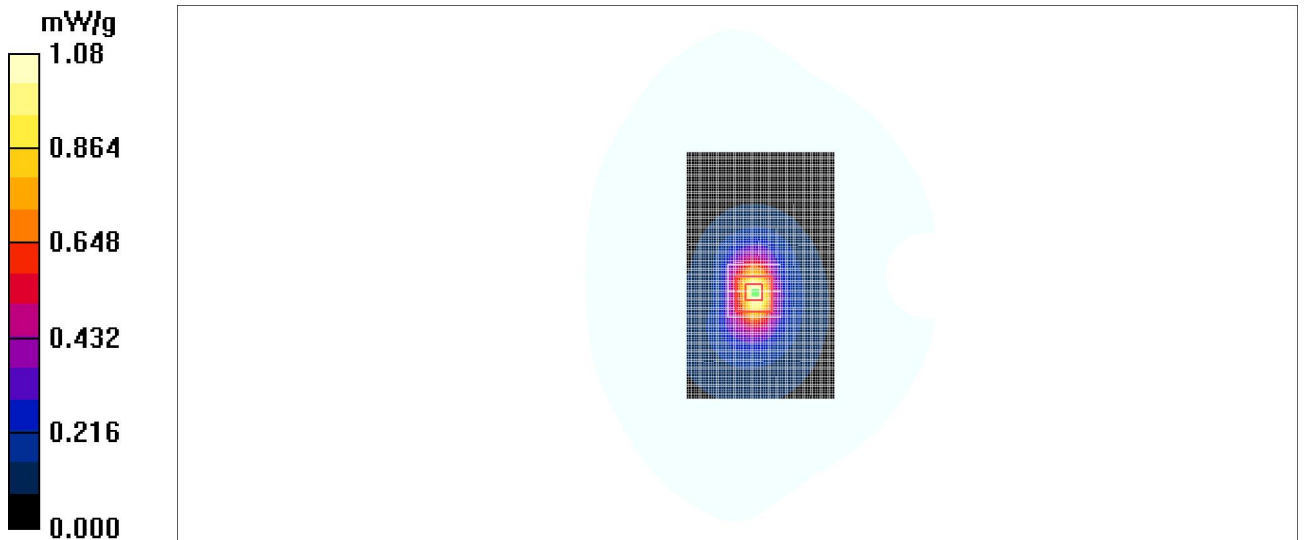


Fig. 70 1700 MHz CH1412

WCDMA 1700 Body Bottom Side Low

Date/Time: 2011-8-5 16:52:27

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.40$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1712.4 MHz Duty Cycle: 1:1

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

Bottom Side Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.12 mW/g

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

Reference Value = 26.3 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 1.60 W/kg

SAR(1 g) = 0.997 mW/g; SAR(10 g) = 0.557 mW/g

Maximum value of SAR (measured) = 1.14 mW/g

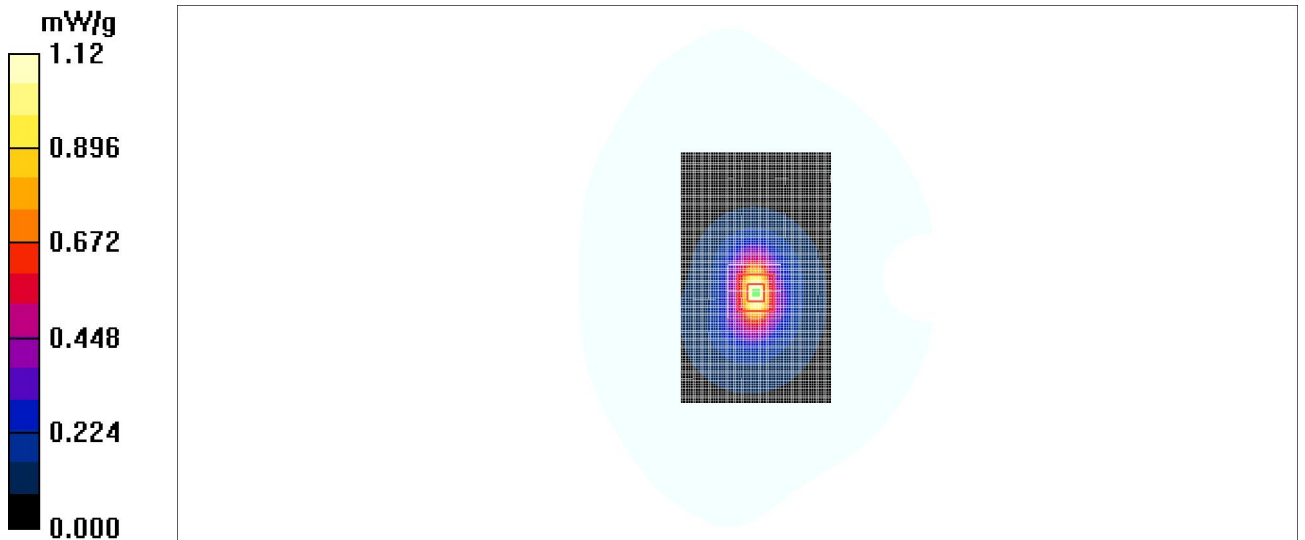


Fig. 71 1700 MHz CH1312

WCDMA 1700 Body Towards Ground Middle with Headset_CCB3160A11C1

Date/Time: 2011-8-5 17:13:02

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1732.4 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) = 1.20 mW/g

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

Reference Value = 21.1 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 1.78 W/kg

SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.716 mW/g

Maximum value of SAR (measured) = 1.22 mW/g

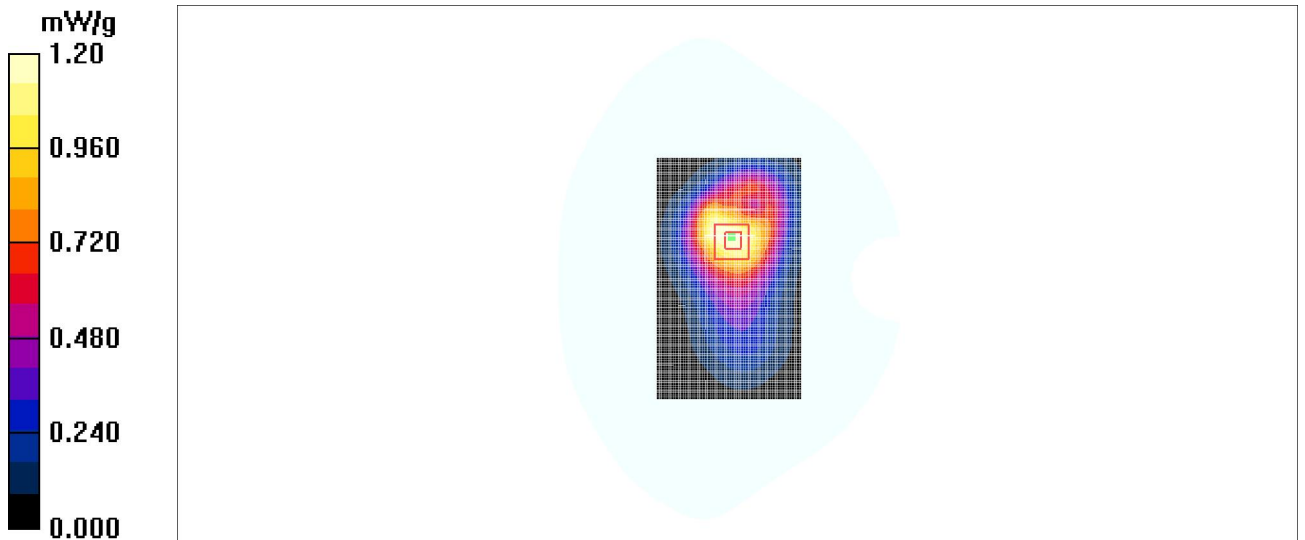


Fig. 72 1700 MHz CH1412

WCDMA 1700 Body Towards Ground Middle with Headset_CCB3160A11C2

Date/Time: 2011-8-5 17:28:54

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1732.4 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) = 1.19 mW/g

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

Reference Value = 22.7 V/m; Power Drift = -0.007 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.708 mW/g

Maximum value of SAR (measured) = 1.20 mW/g

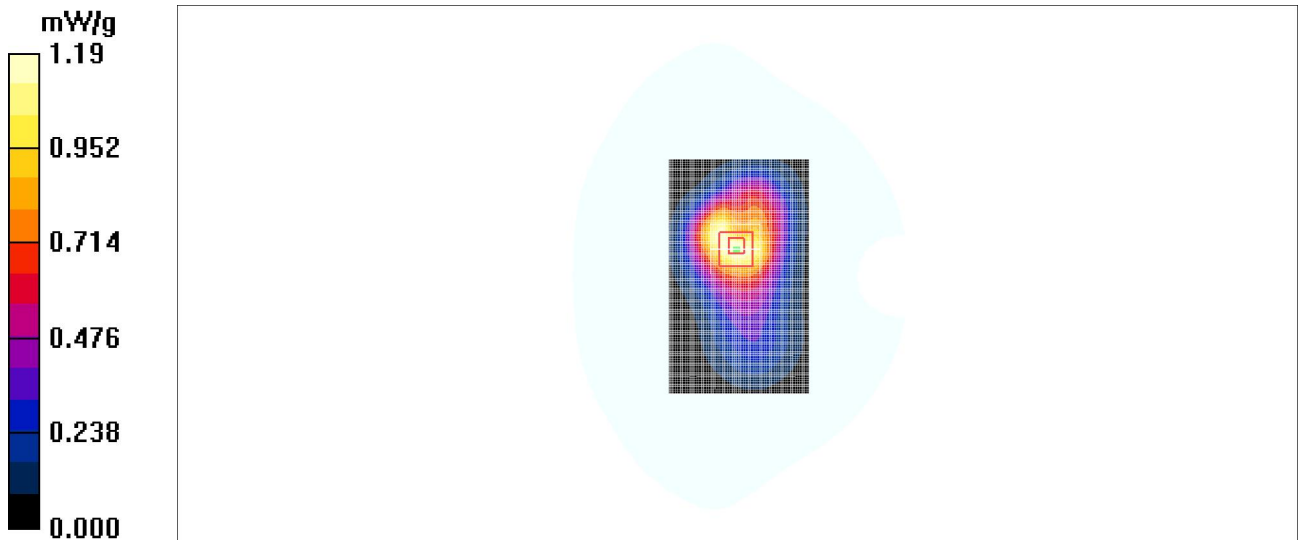


Fig. 73 1700 MHz CH1412

WCDMA 1700 Body Towards Ground Middle with HSDPA

Date/Time: 2011-8-5 17:52:31

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WCDMA 1700 Frequency: 1732.4 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) = 1.30 mW/g

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

Reference Value = 18.2 V/m; Power Drift = -0.092 dB

Peak SAR (extrapolated) = 1.88 W/kg

SAR(1 g) = 1.23 mW/g; SAR(10 g) = 0.746 mW/g

Maximum value of SAR (measured) = 1.25 mW/g

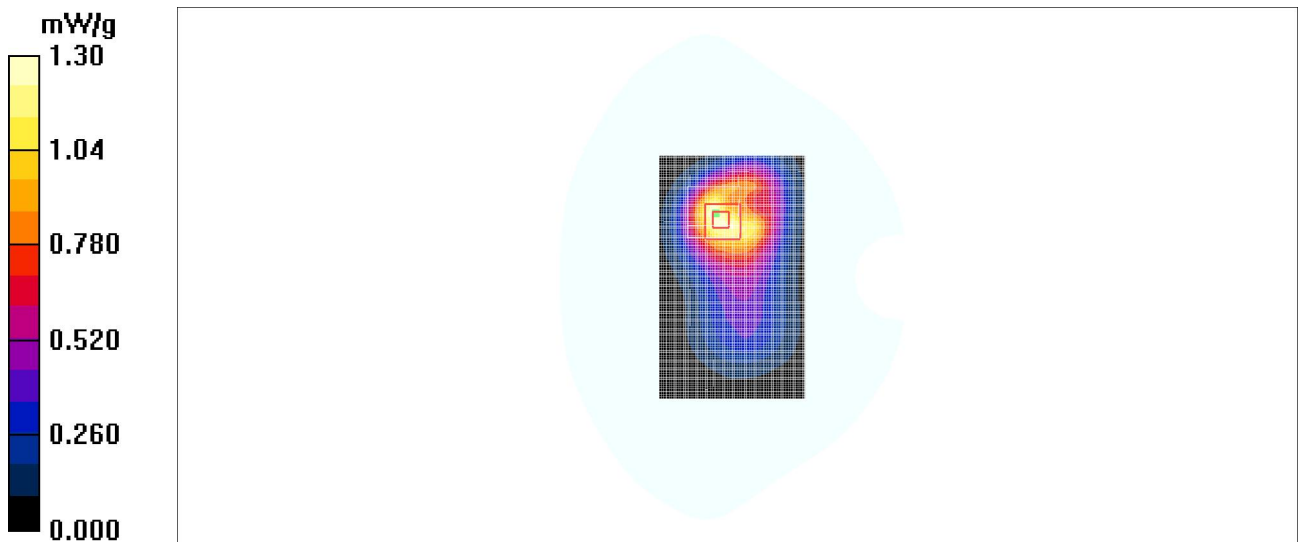


Fig. 74 1700 MHz CH1412

WiFi 802.11b 1Mbps Left Cheek Channel 6

Date/Time: 2011-8-16 14:03:22

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.83$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: Wlan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.064 mW/g

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

Reference Value = 1.21 V/m; Power Drift = 0.146 dB

Peak SAR (extrapolated) = 0.106 W/kg

SAR(1 g) = 0.055 mW/g; SAR(10 g) = 0.027 mW/g

Maximum value of SAR (measured) = 0.064 mW/g

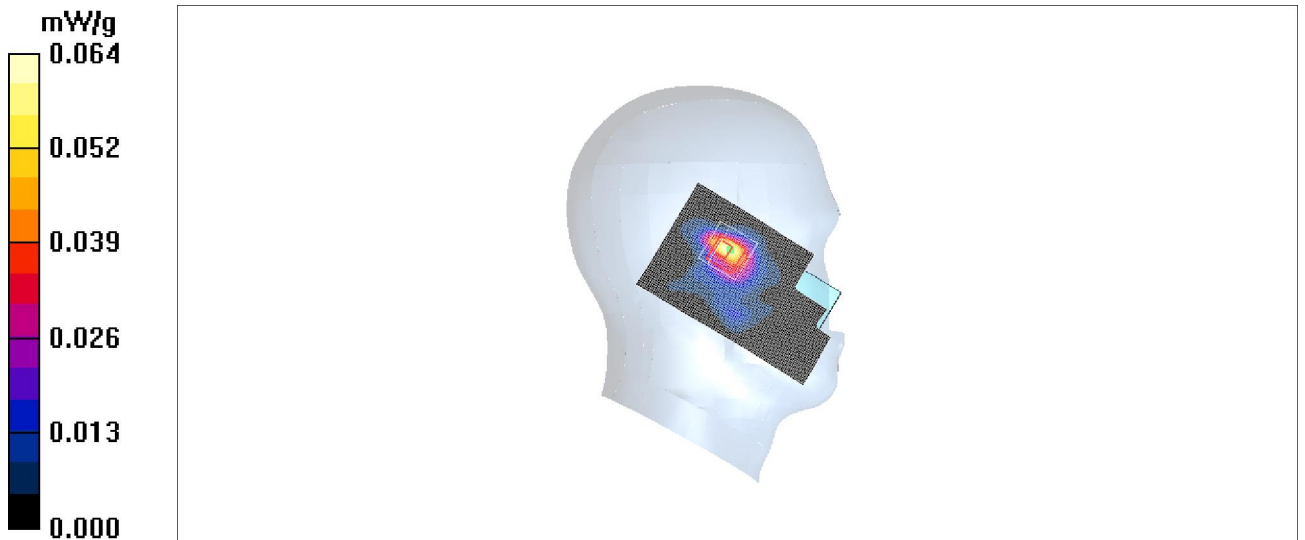


Fig.75 802.11b 1Mbps CH6

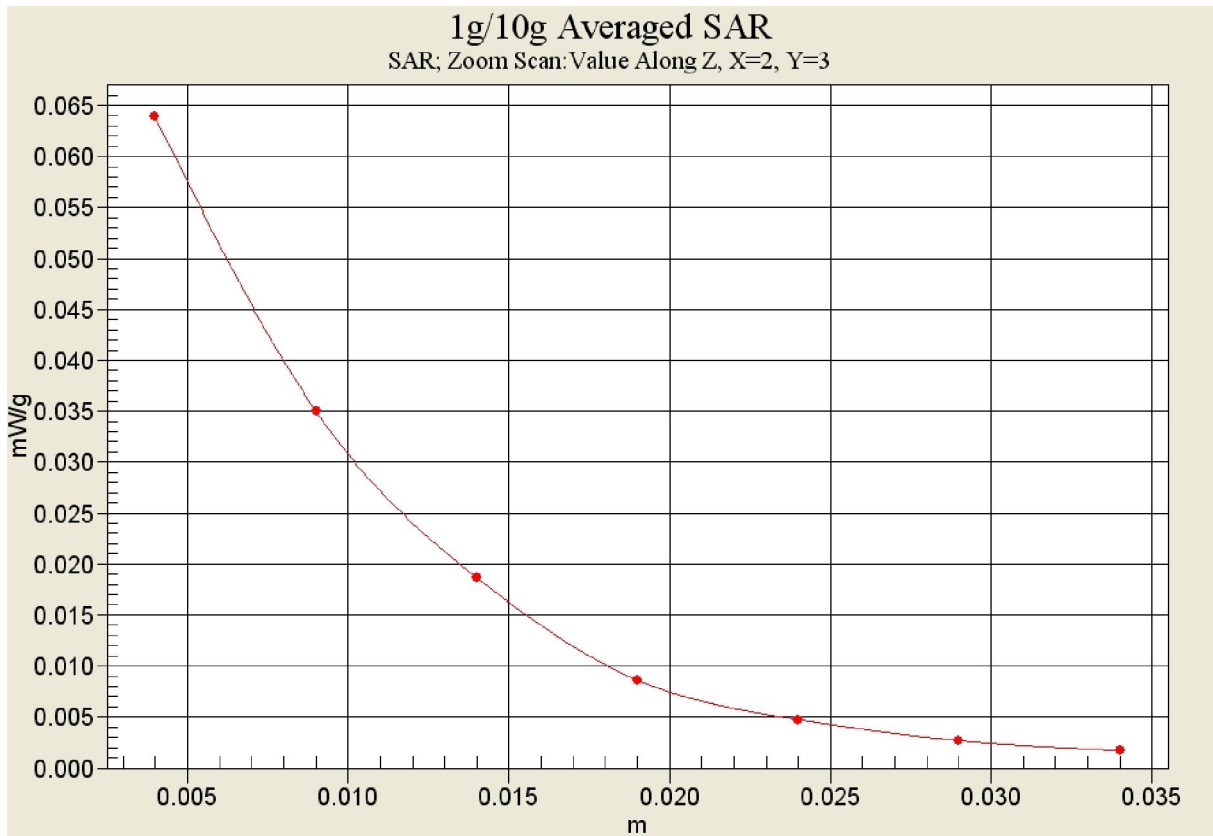


Fig. 75-1 Z-Scan at power reference point (802.11b 1Mbps CH6)

WiFi 802.11b 1Mbps Left Tilt Channel 6

Date/Time: 2011-8-16 14:17:45

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.83$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: Wlan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.017 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.53 V/m; Power Drift = 0.170 dB
Peak SAR (extrapolated) = 0.028 W/kg
SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00764 mW/g
Maximum value of SAR (measured) = 0.018 mW/g

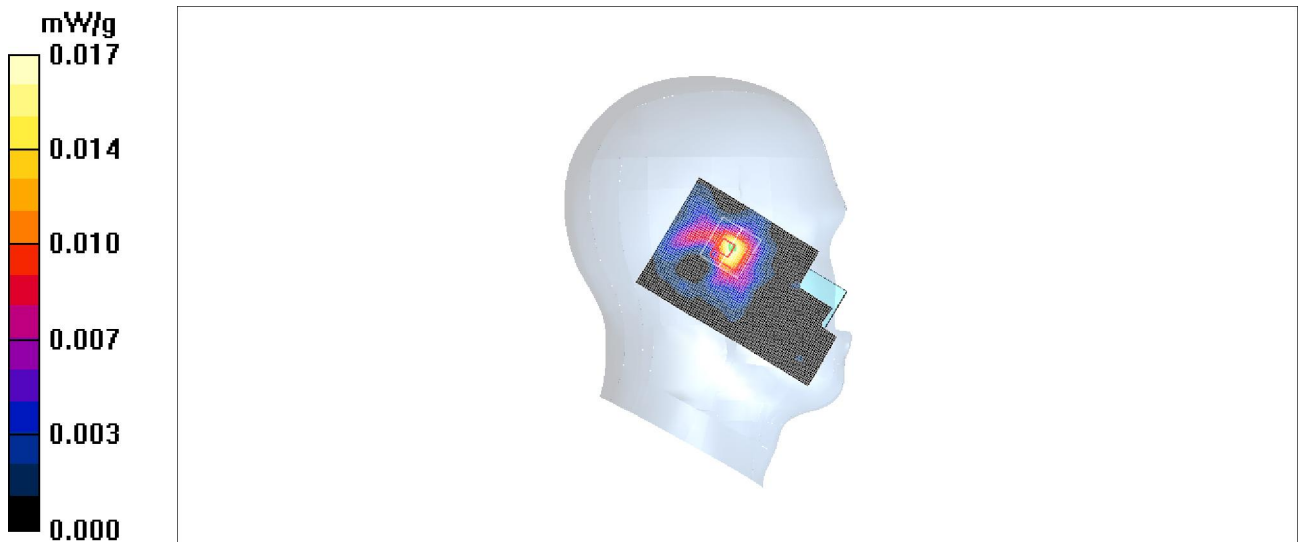


Fig.76 802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Right Cheek Channel 6

Date/Time: 2011-8-16 14:32:27

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.83$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: Wlan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.049 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.01 V/m; Power Drift = 0.120 dB
Peak SAR (extrapolated) = 0.099 W/kg
SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.019 mW/g
Maximum value of SAR (measured) = 0.050 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.01 V/m; Power Drift = 0.120 dB
Peak SAR (extrapolated) = 0.040 W/kg
SAR(1 g) = 0.022 mW/g; SAR(10 g) = 0.014 mW/g
Maximum value of SAR (measured) = 0.028 mW/g

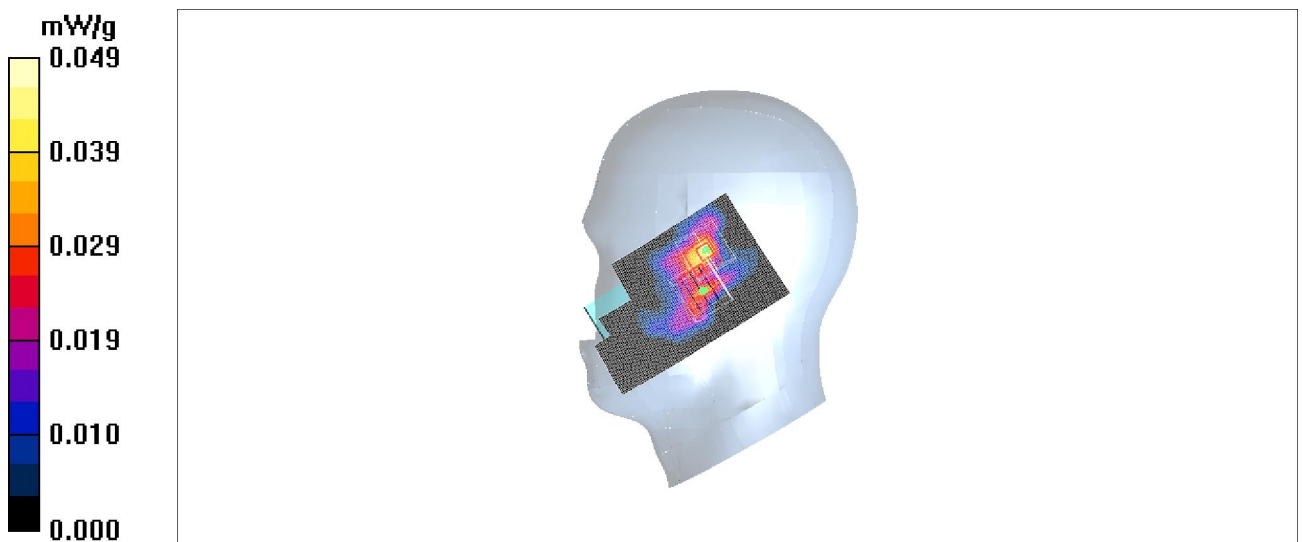


Fig.77 802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Right Tilt Channel 6

Date/Time: 2011-8-16 14:46:53

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.83$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WLAN 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.013 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.828 V/m; Power Drift = 0.107 dB
Peak SAR (extrapolated) = 0.021 W/kg
SAR(1 g) = 0.010 mW/g; SAR(10 g) = 0.00543 mW/g
Maximum value of SAR (measured) = 0.012 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.828 V/m; Power Drift = 0.107 dB
Peak SAR (extrapolated) = 0.018 W/kg
SAR(1 g) = 0.00956 mW/g; SAR(10 g) = 0.00423 mW/g

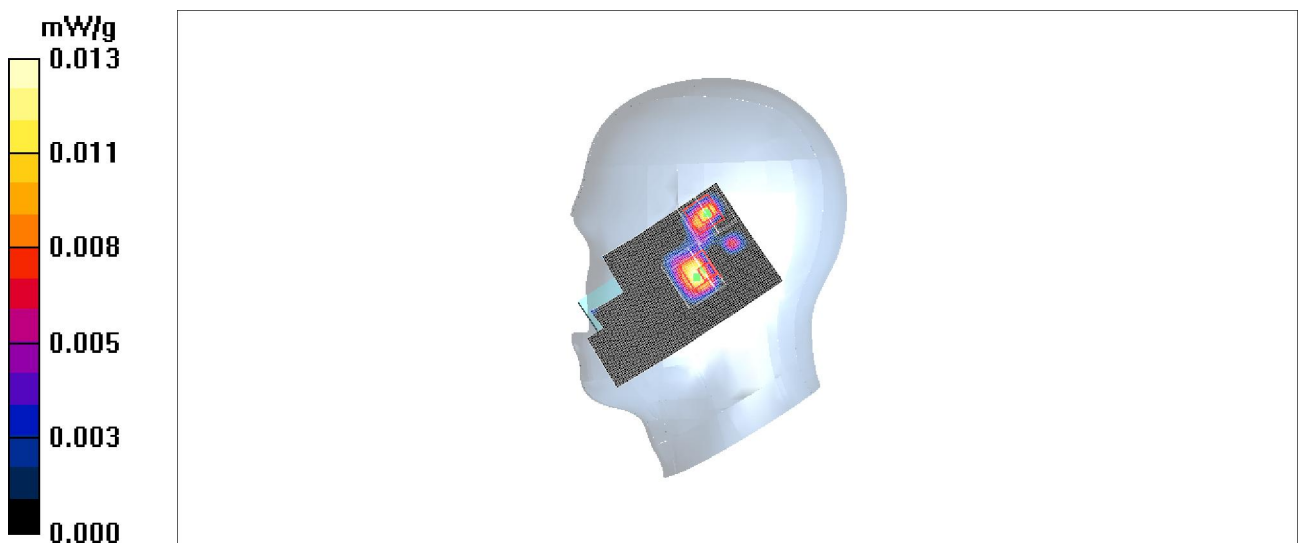


Fig.78 802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Toward Phantom Channel 6

Date/Time: 2011-8-16 15:14:30

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.99$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: Wlan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Toward Phantom Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.019 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.02 V/m; Power Drift = 0.154 dB
Peak SAR (extrapolated) = 0.027 W/kg
SAR(1 g) = 0.00896 mW/g; SAR(10 g) = 0.0039 mW/g
Maximum value of SAR (measured) = 0.010 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.02 V/m; Power Drift = 0.154 dB
Peak SAR (extrapolated) = 0.025 W/kg
SAR(1 g) = 0.00597 mW/g; SAR(10 g) = 0.00186 mW/g
Maximum value of SAR (measured) = 0.006 mW/g

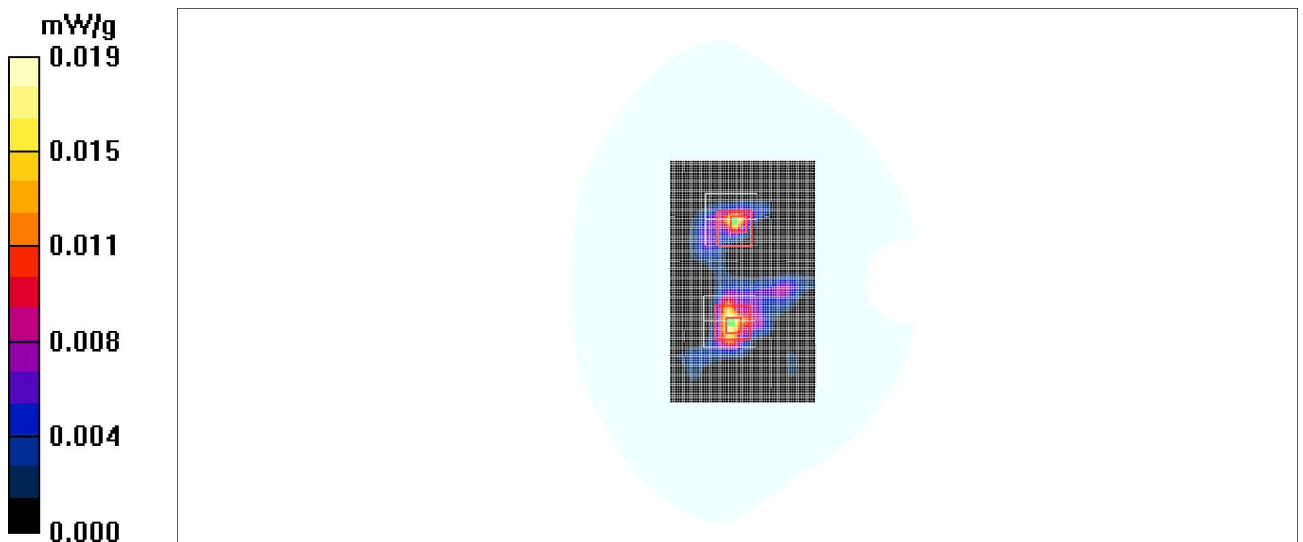


Fig.79 802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Toward Ground Channel 6

Date/Time: 2011-8-16 15:30:19

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.99$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: Wlan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Toward Ground Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.017 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.53 V/m; Power Drift = 0.110 dB
Peak SAR (extrapolated) = 0.034 W/kg
SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00764 mW/g
Maximum value of SAR (measured) = 0.018 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.53 V/m; Power Drift = 0.110 dB
Peak SAR (extrapolated) = 0.026 W/kg
SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00773 mW/g
Maximum value of SAR (measured) = 0.015 mW/g

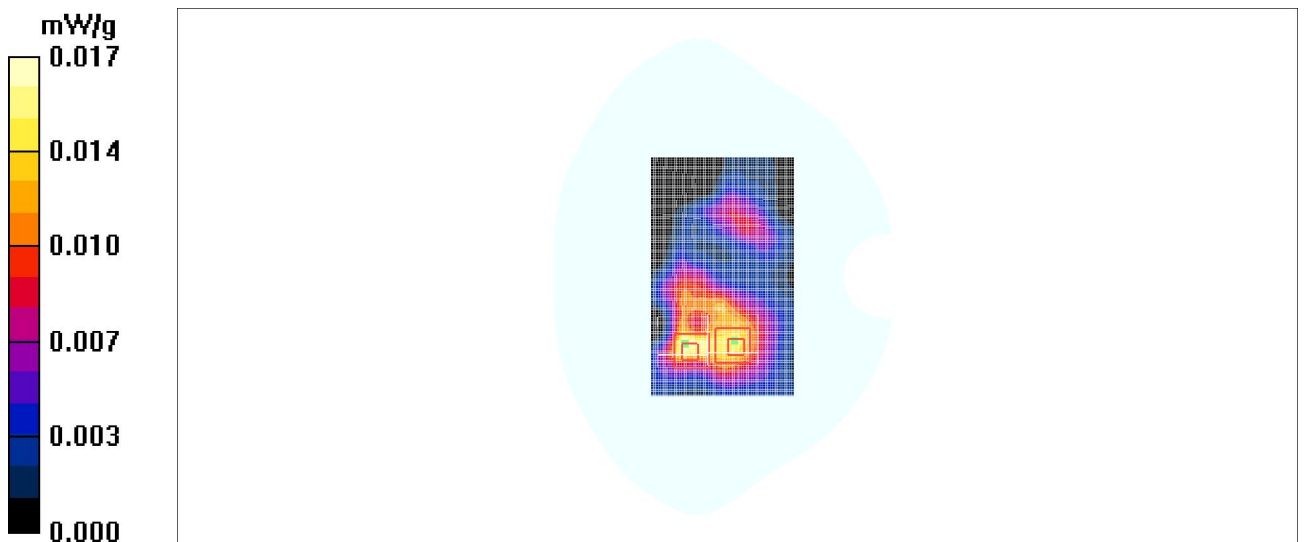


Fig.80 802.11b 1Mbps CH6

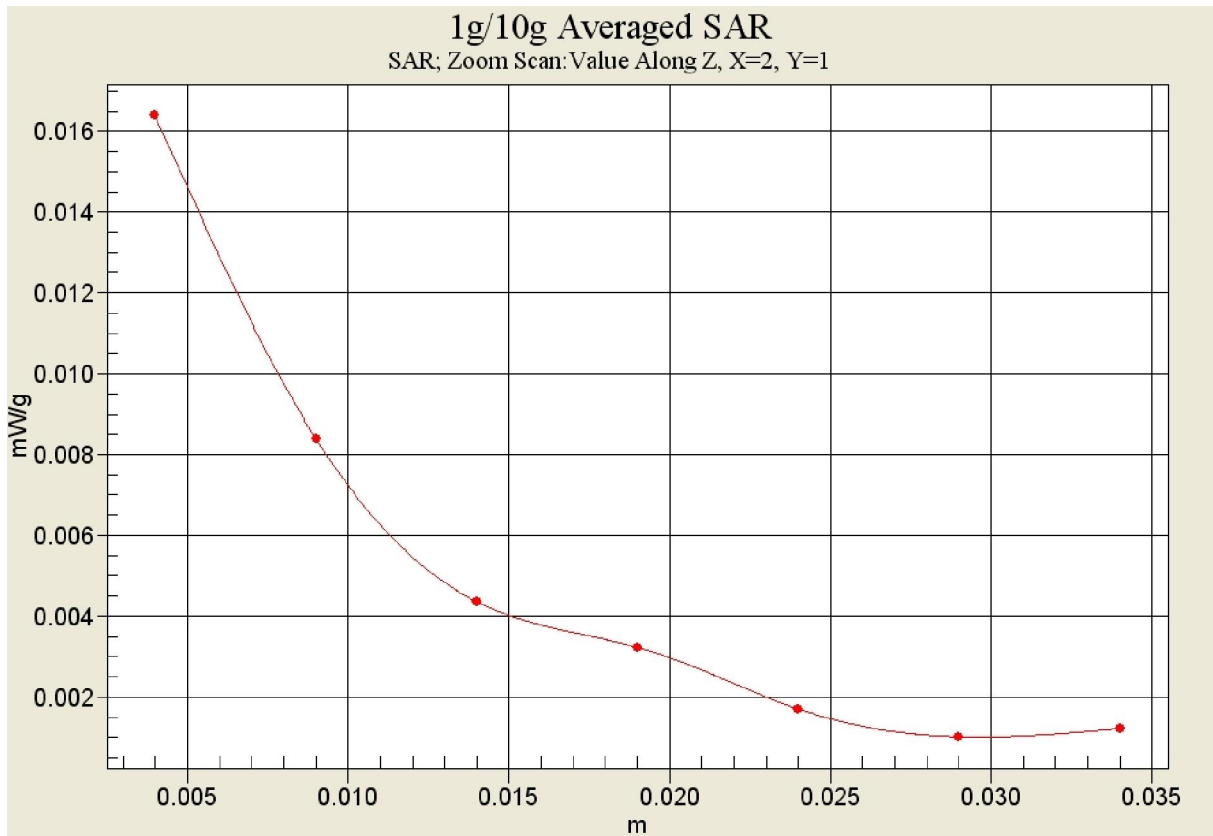


Fig. 80-1 Z-Scan at power reference point (802.11b 1Mbps CH6)

WiFi 802.11b 1Mbps Left Side Channel 6

Date/Time: 2011-8-16 15:46:31

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.99$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: Wlan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Left Side Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.017 mW/g

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

Reference Value = 1.52 V/m; Power Drift = 0.119 dB

Peak SAR (extrapolated) = 0.032 W/kg

SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00498 mW/g

Maximum value of SAR (measured) = 0.013 mW/g

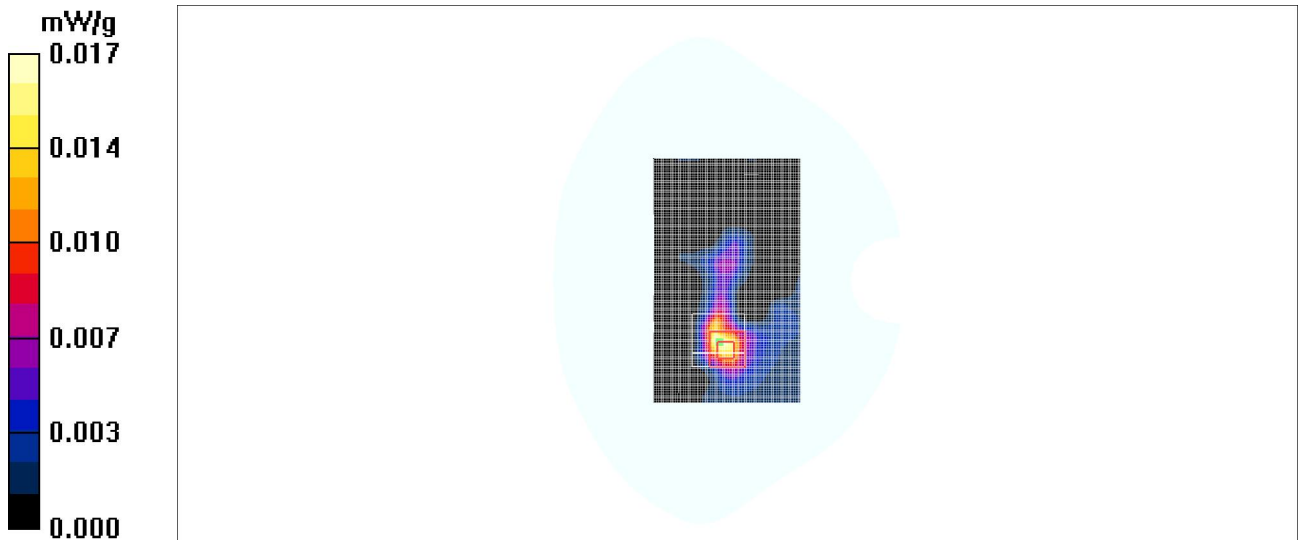


Fig.81 802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Top Side Channel 6

Date/Time: 2011-8-16 16:02:54

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.99$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: Wlan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Top Side Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.004 mW/g

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

Reference Value = 1.07 V/m; Power Drift = 0.140 dB

Peak SAR (extrapolated) = 0.011 W/kg

SAR(1 g) = 0.00201 mW/g; SAR(10 g) = 0.000354 mW/g

Maximum value of SAR (measured) = 0.002 mW/g

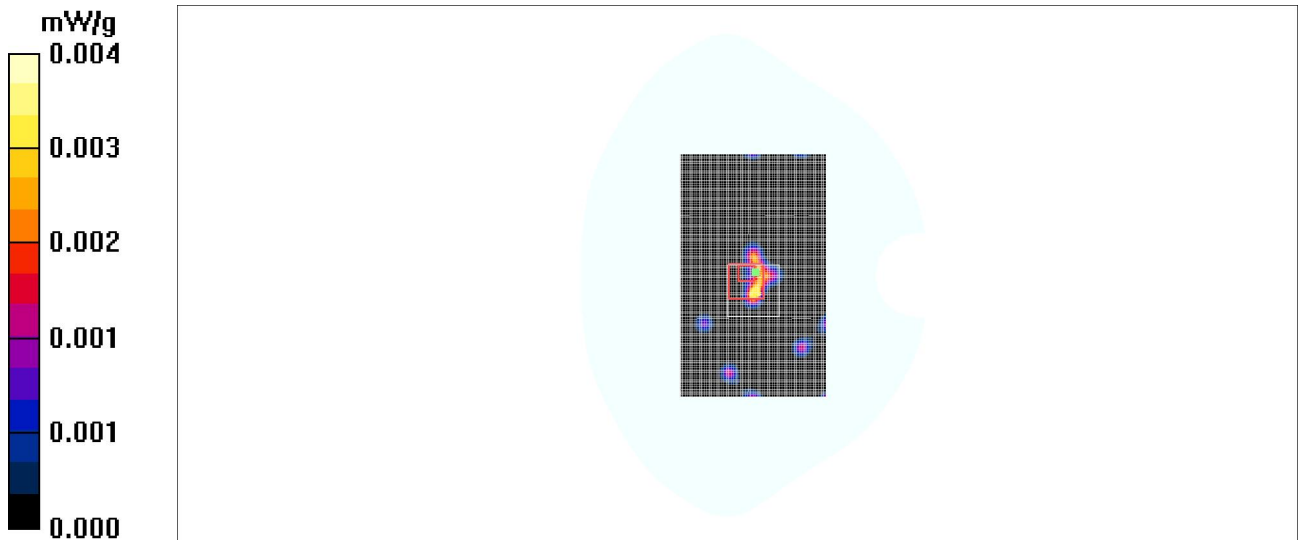


Fig.82 802.11b 1Mbps CH6

ANNEX D SYSTEM VALIDATION RESULTS

835MHz

Date/Time: 2011-8-3 6:52:17

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.90 \text{ mho/m}$; $\epsilon_r = 41.9$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 23.0°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)

System Validation /Area Scan (101x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 2.56 mW/g

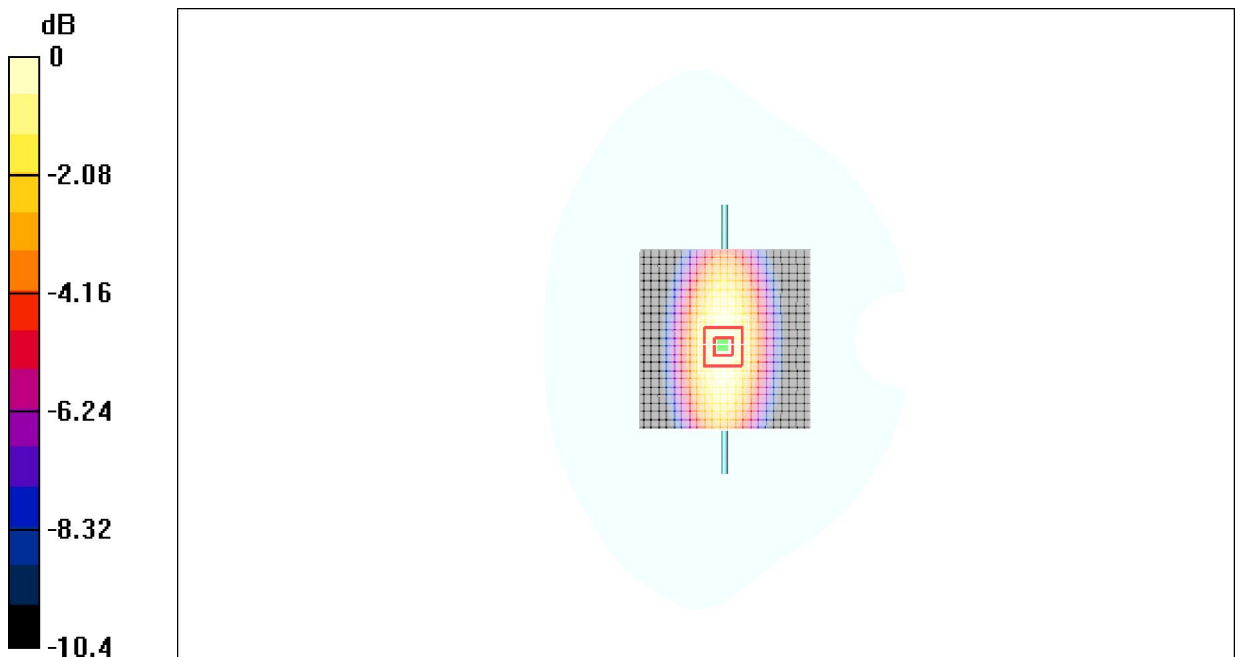
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 54.9 V/m; Power Drift = -0.098 dB

Peak SAR (extrapolated) = 3.38 W/kg

SAR(1 g) = 2.34 mW/g; SAR(10 g) = 1.51 mW/g

Maximum value of SAR (measured) = 2.49 mW/g



0 dB = 2.49mW/g

Fig.83 validation 835MHz 250mW

835MHz

Date/Time: 2011-8-3 12:02:17

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.95 \text{ mho/m}$; $\epsilon_r = 54.2$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

System Validation /Area Scan (101x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 2.57 mW/g

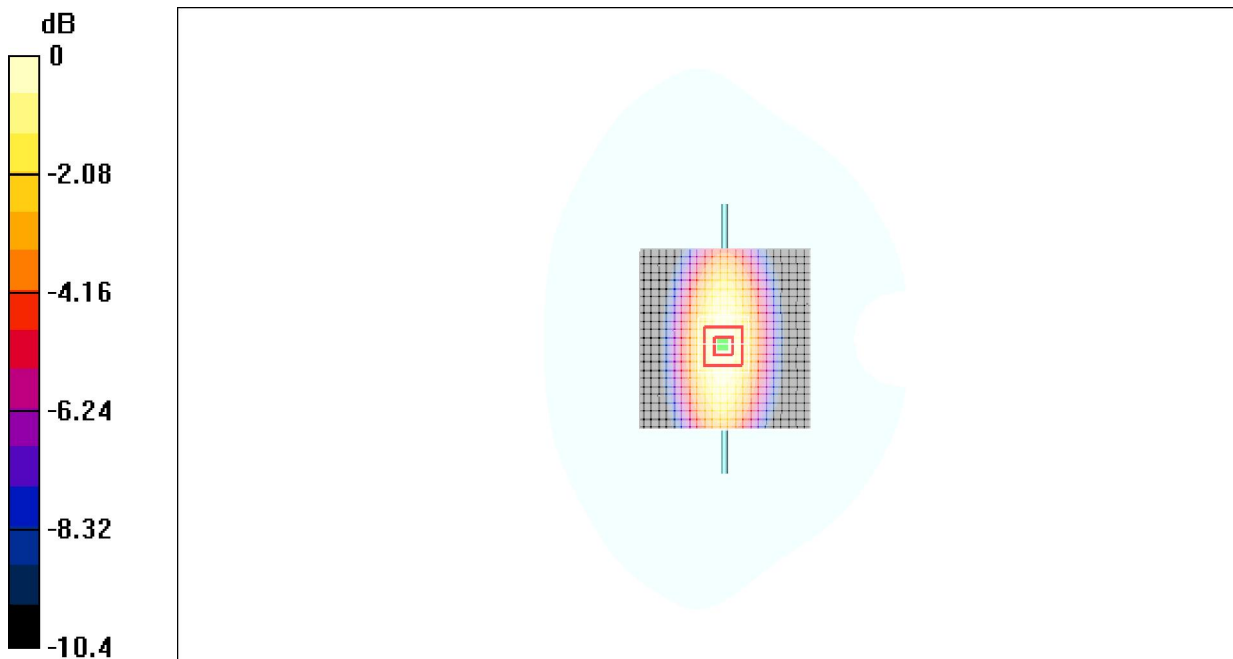
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$,
 $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 51.2 V/m ; Power Drift = 0.086 dB

Peak SAR (extrapolated) = 3.35 W/kg

SAR(1 g) = 2.44 mW/g ; SAR(10 g) = 1.56 mW/g

Maximum value of SAR (measured) = 2.51 mW/g



0 dB = 2.51 mW/g

Fig.84 validation 835MHz 250mW

1900MHz

Date/Time: 2011-8-4 7:07:21

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.40$ mho/m; $\epsilon_r = 40.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°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=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.4 mW/g

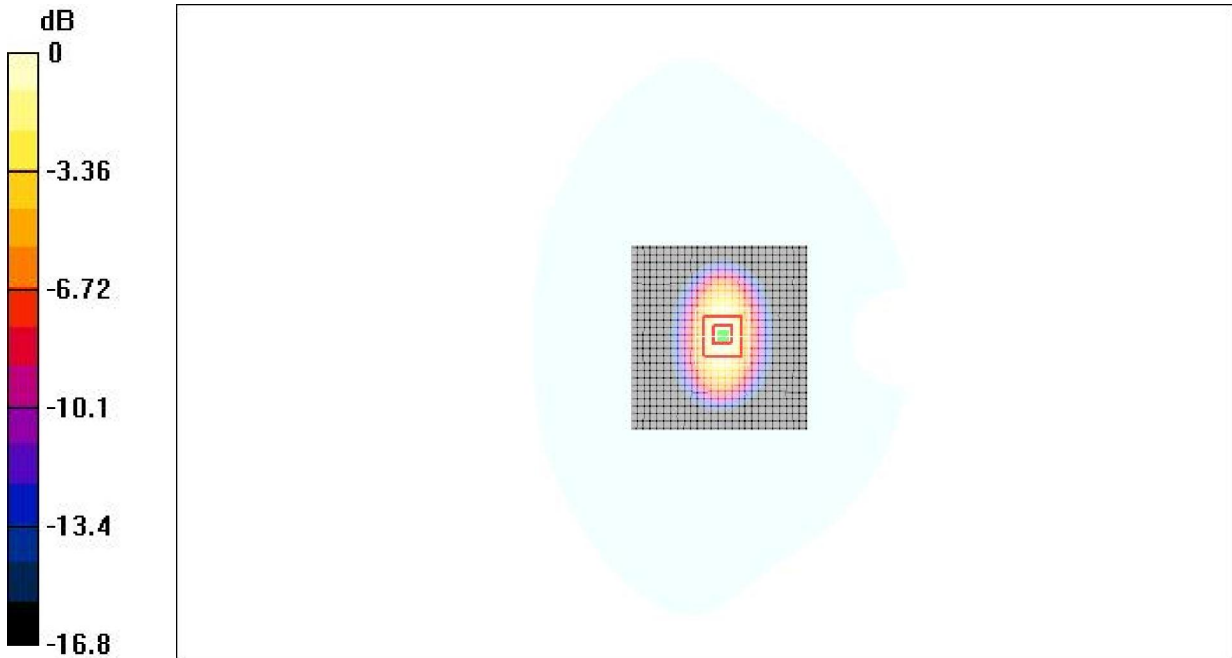
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.0 V/m; Power Drift = 0.058 dB

Peak SAR (extrapolated) = 14.8 W/kg

SAR(1 g) = 9.69 mW/g; SAR(10 g) = 4.98 mW/g

Maximum value of SAR (measured) = 10.6 mW/g



0 dB = 10.6mW/g

Fig.85 validation 1900MHz 250mW

1900MHz

Date/Time: 2011-8-4 12:17:20

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.54 \text{ mho/m}$; $\epsilon_r = 52.1$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

System Validation/Area Scan (101x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 11.5 mW/g

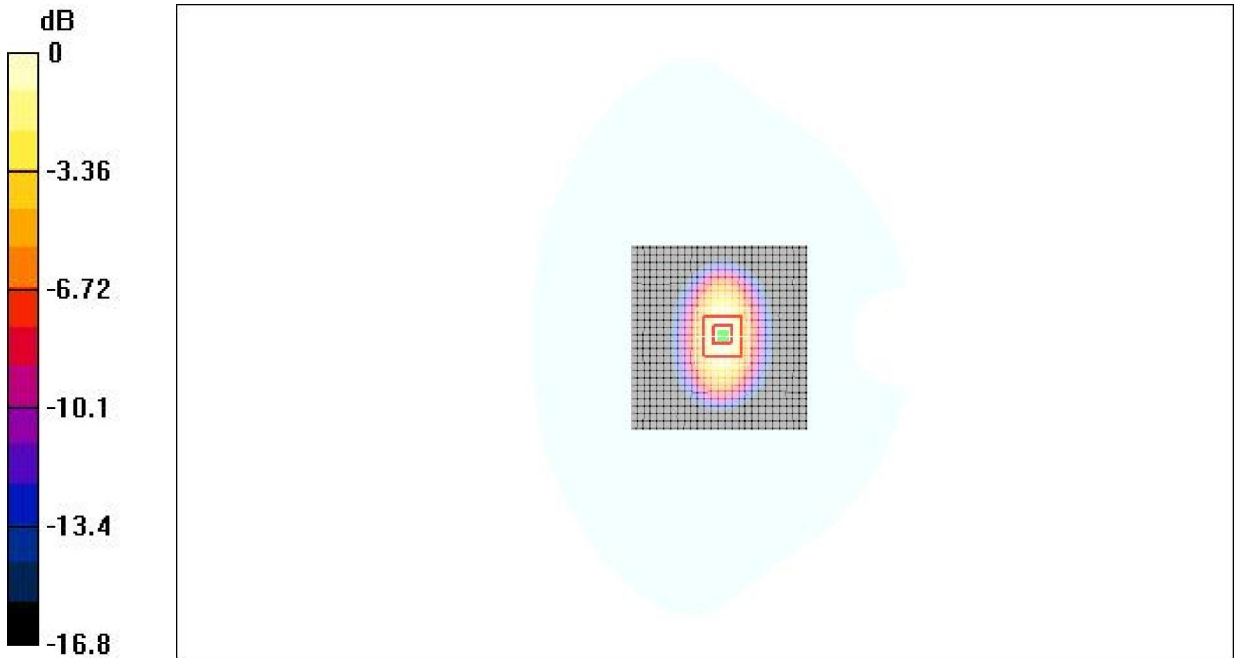
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$,
 $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 92.2 V/m ; Power Drift = -0.066 dB

Peak SAR (extrapolated) = 15.7 W/kg

SAR(1 g) = 10.3 mW/g ; SAR(10 g) = 5.20 mW/g

Maximum value of SAR (measured) = 11.0 mW/g



0 dB = 11.0mW/g

Fig.86 validation 1900MHz 250mW

1800MHz

Date/Time: 2011-8-5 7:09:03

Electronics: DAE4 Sn771

Medium: Head 1800 MHz

Medium parameters used: $f=1800$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°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) = 13.4 mW/g

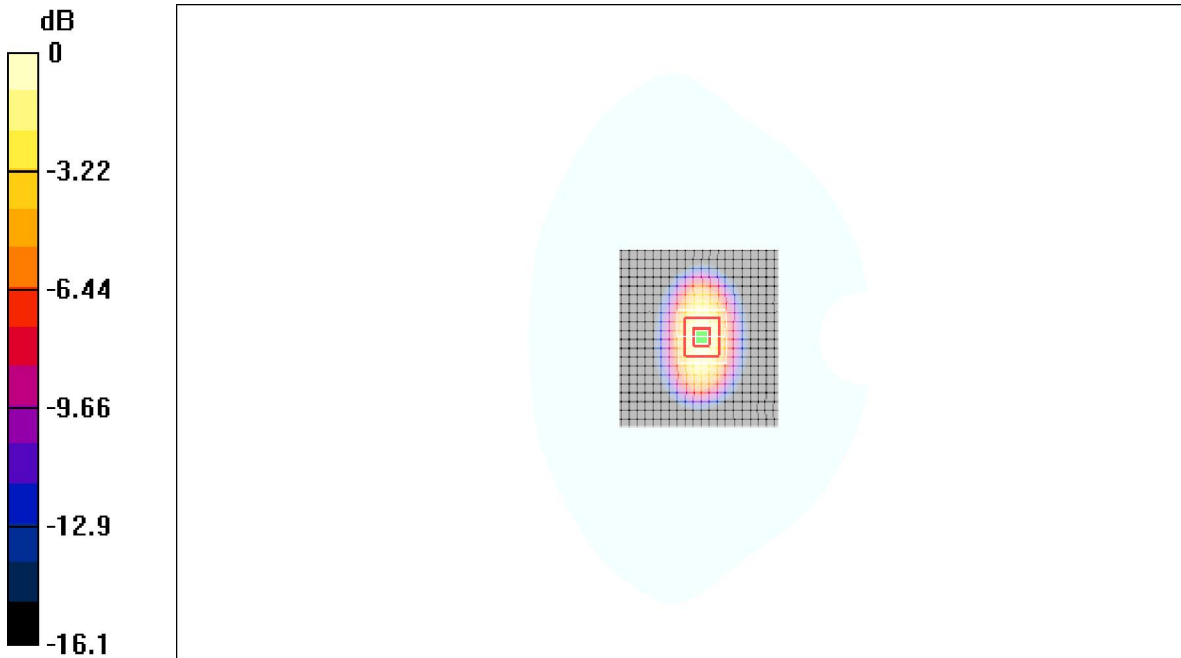
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.2 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 14.4 W/kg

SAR(1 g) = 9.47 mW/g; SAR(10 g) = 4.88 mW/g

Maximum value of SAR (measured) = 12.5 mW/g



0 dB = 12.5mW/g

Fig.87 validation 1800MHz 250mW

1800MHz

Date/Time: 2011-8-5 12:14:50

Electronics: DAE4 Sn771

Medium: Body 1800 MHz

Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.50 \text{ mho/m}$; $\epsilon_r = 52.3$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

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

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

System Validation/Area Scan (101x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 11.7 mW/g

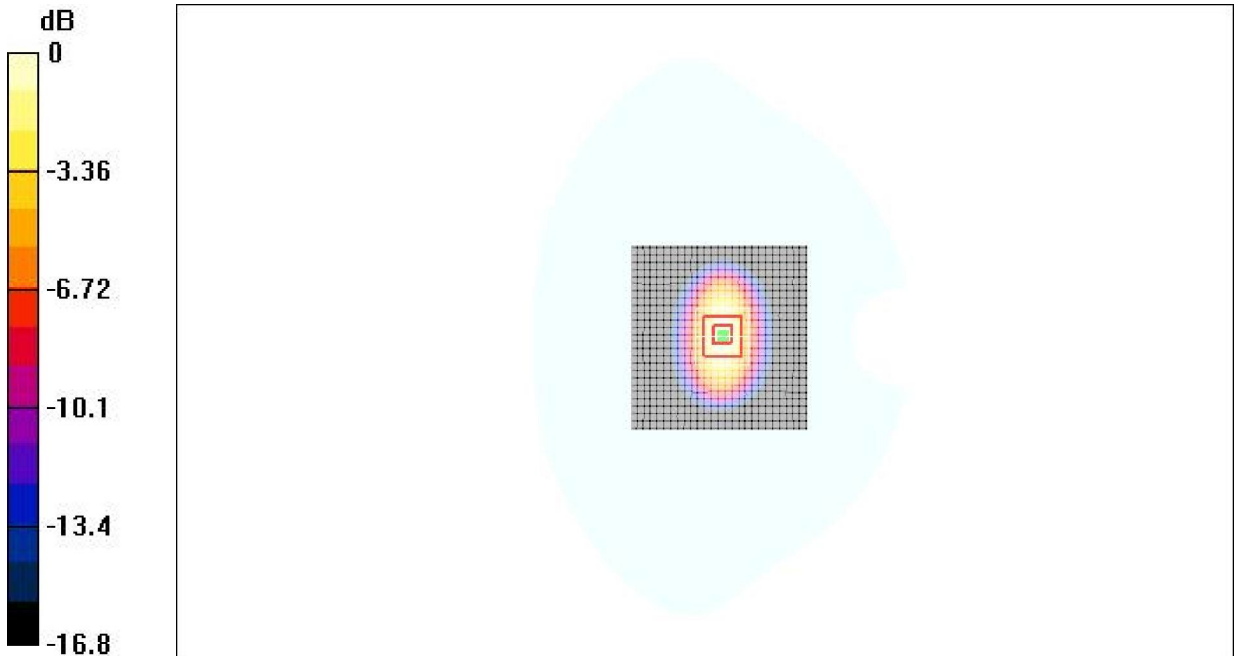
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$,
 $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 94.4 V/m ; Power Drift = -0.064 dB

Peak SAR (extrapolated) = 16.1 W/kg

SAR(1 g) = 10.5 mW/g ; SAR(10 g) = 5.39 mW/g

Maximum value of SAR (measured) = 11.2 mW/g



0 dB = 11.2mW/g

Fig.88 validation 1800MHz 250mW

2450MHz

Date/Time: 2011-8-16 7:12:35

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.82$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

System Validation/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 14.2 mW/g

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

Reference Value = 87.0 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 18.8 W/kg

SAR(1 g) = 12.85 mW/g; SAR(10 g) = 5.94 mW/g

Maximum value of SAR (measured) = 14.0 mW/g

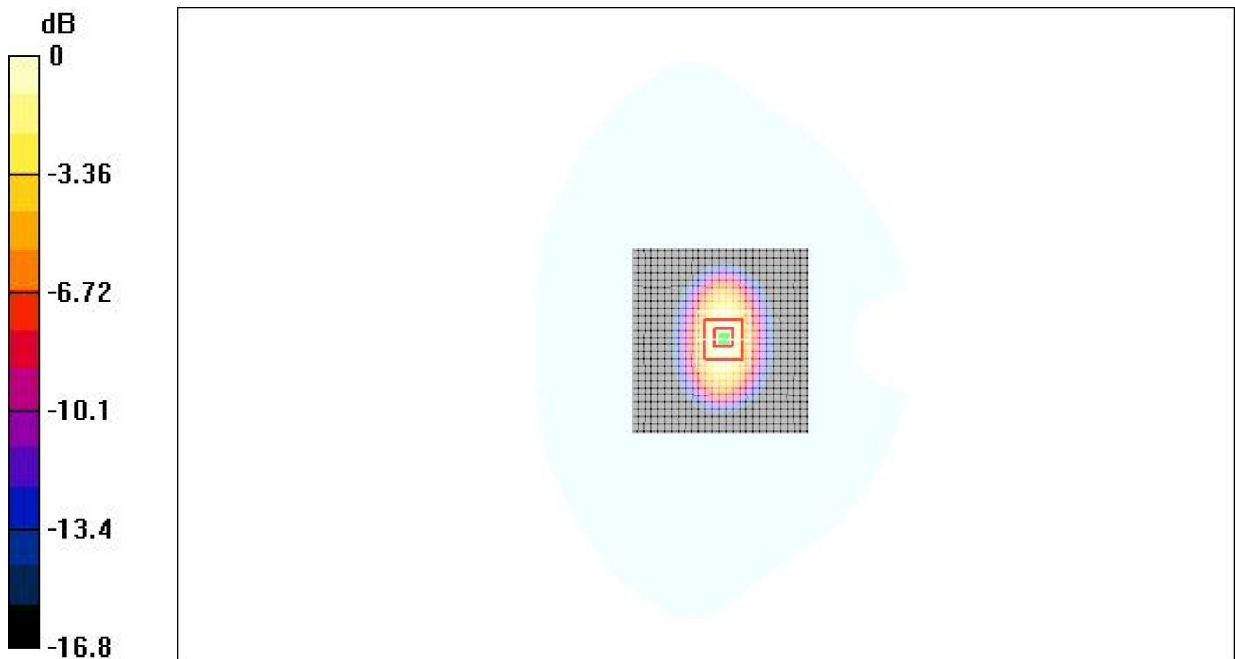


Fig.89 validation 2450MHz 250mW

2450MHz

Date/Time: 2011-8-16 7:36:44

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.93$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0oC Liquid Temperature: 22.5°C

Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(6.88, 6.88, 6.88)

System Validation/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 14.8 mW/g

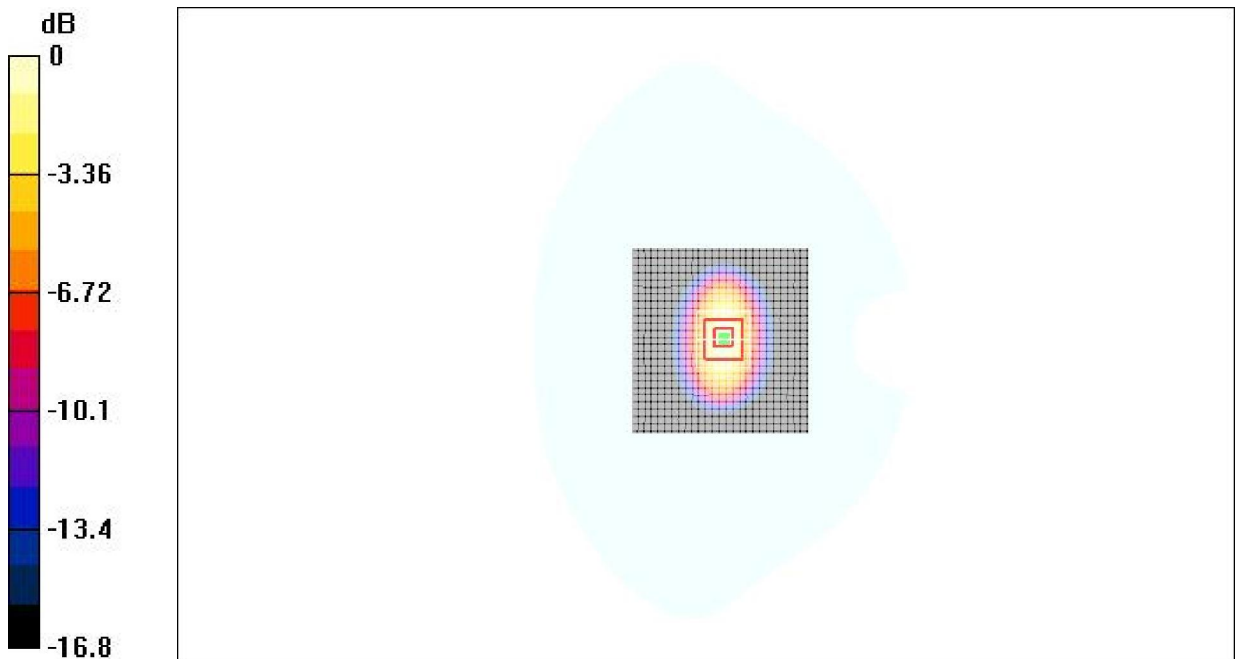
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.4 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 22.5 W/kg

SAR(1 g) = 12.87 mW/g; SAR(10 g) = 5.915 mW/g

Maximum value of SAR (measured) = 14.1 mW/g



0 dB = 14.1mW/g

Fig.90 validation 2450MHz 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_Sep10**

CALIBRATION CERTIFICATE

| | |
|----------------------------------|---|
| Object | ES3DV3-SN: 3149 |
| Calibration procedure(s) | QA CAL-01.v6 Calibration procedure for dosimetric E-field probes |
| Calibration date: | September 25, 2010 |
| 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)⁰C 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 | 5-May-10 (METAS, NO. 251-00388) | May-11 |
| Power sensor E4412A | MY41495277 | 5-May-10 (METAS, NO. 251-00388) | May-11 |
| Reference 3 dB Attenuator | SN:S5054 (3c) | 10-Aug-10 (METAS, NO. 251-00403) | Aug-11 |
| Reference 20 dB Attenuator | SN:S5086 (20b) | 3-May-10 (METAS, NO. 251-00389) | May-11 |
| Reference 30 dB Attenuator | SN:S5129 (30b) | 10-Aug-10 (METAS, NO. 251-00404) | Aug-11 |
| DAE4 | SN:617 | 10-Jun-10 (SPEAG, NO.DAE4-907_Jun10) | Jun-11 |
| Reference Probe ES3DV2 | SN: 3013 | 12-Jan-10 (SPEAG, NO. ES3-3013_Jan10) | Jan-11 |

| Secondary Standards | ID# | Check Data (in house) | Scheduled Calibration |
|---------------------------|--------------|---|------------------------|
| RF generator HP8648C | US3642U01700 | 4-Aug-99(SPEAG, in house check Oct-09) | In house check: Oct-10 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01(SPEAG, in house check Nov-09) | In house check: Nov-10 |

| Name | Function | Signature |
|---------------|-------------------|-----------|
| Katja Pokovic | Technical Manager | |

| | | | |
|--------------|--------------|-----------------|--|
| Approved by: | Niels Kuster | Quality Manager | |
|--------------|--------------|-----------------|--|

Issued: **September 25, 2010**

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

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



S Schweizerischer Kalibrierdienst
S Service suisse d'étalonnage
C 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 |
| ConF | 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:

- 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

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*.
- **DCP_{x,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

September 25, 2010

Probe ES3DV3

SN: 3149

Manufactured: June 12, 2007

Calibrated: September 25, 2010

Calibrated for DASY4 System

ES3DV3 SN: 3149

September 25, 2010

DASY – Parameters of Probe: ES3DV3 SN:3149

Sensitivity in Free Space^A

Diode Compression^B

| | | | | |
|-------|------------|-----------------|-------|------|
| NormX | 1.14±10.1% | $\mu V/(V/m)^2$ | DCP X | 94mV |
| NormY | 1.23±10.1% | $\mu V/(V/m)^2$ | DCP Y | 95mV |
| NormZ | 1.29±10.1% | $\mu V/(V/m)^2$ | 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.