850 Body Towards Ground Low with GPRS

Date/Time: 2011-8-1 17:24:45
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.93 mho/m; εr = 55.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.20 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 35.2 V/m; Power Drift = -0.192 dB
Peak SAR (extrapolated) = 1.50 W/kg
SAR(1 g) = 1.15 mW/g; SAR(10 g) = 0.822 mW/g
Maximum value of SAR (measured) = 1.19 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 35.2 V/m; Power Drift = -0.192 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.932 mW/g; SAR(10 g) = 0.632 mW/g
Maximum value of SAR (measured) = 1.05 mW/g

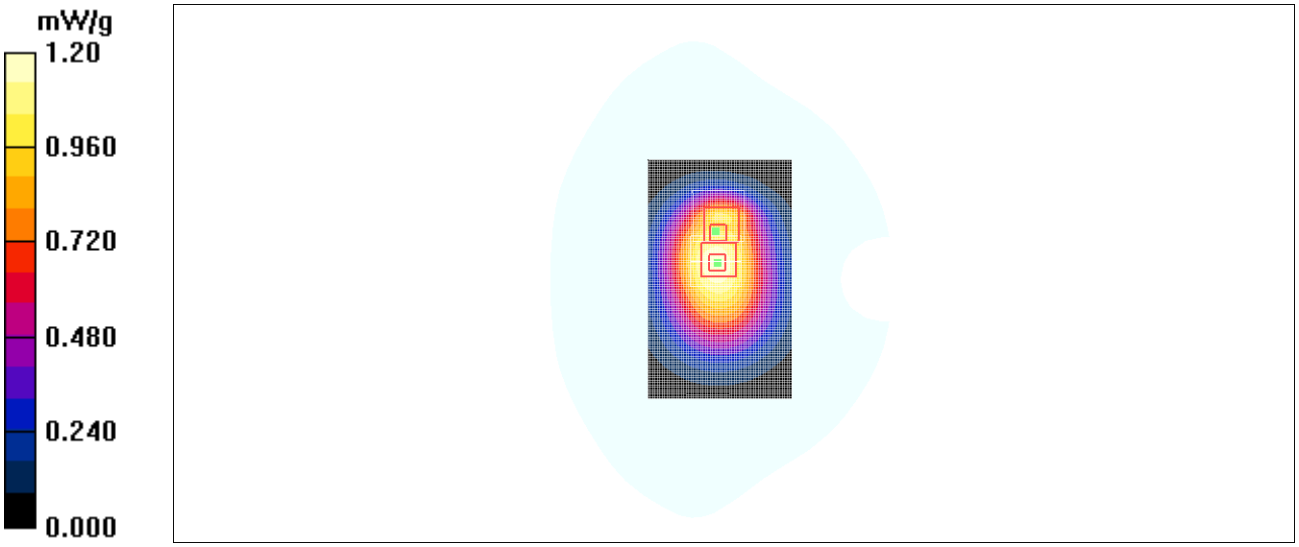


Fig. 54 850 MHz CH128

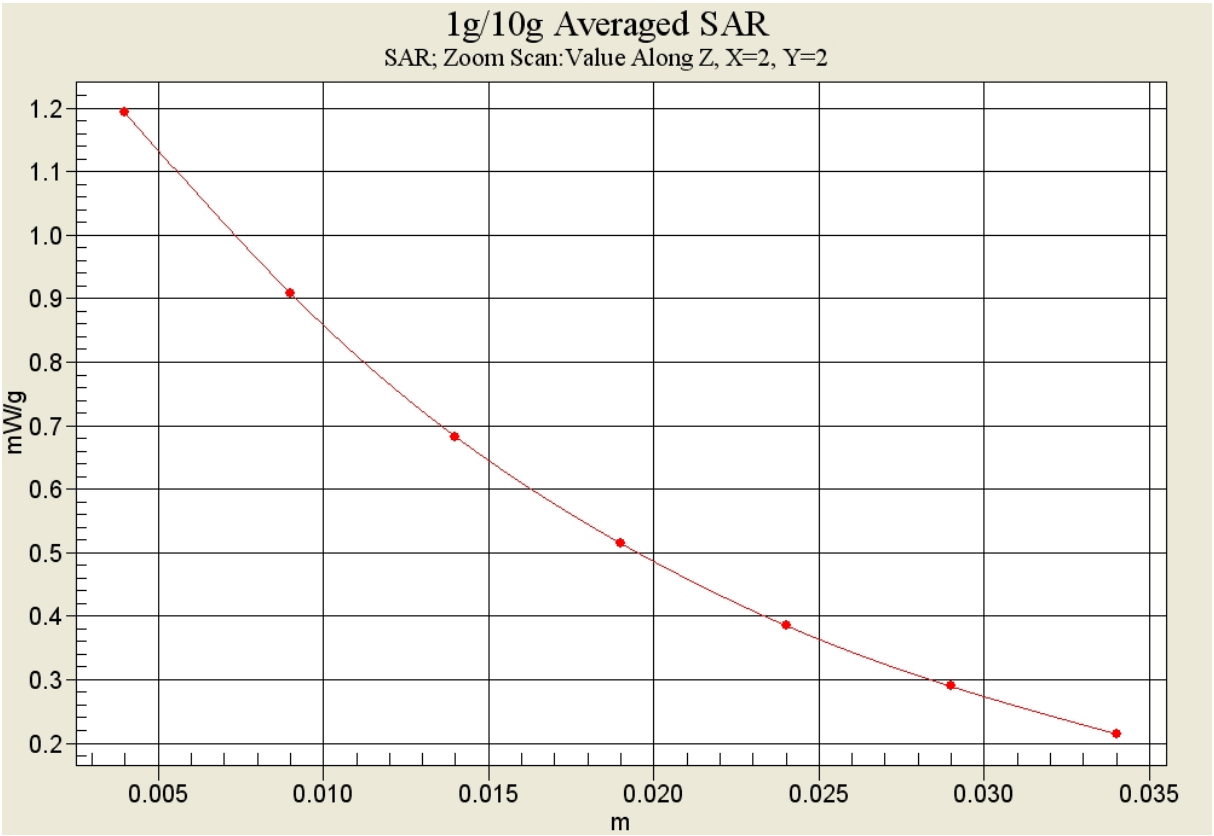


Fig. 54-1 Z-Scan at power reference point (850 MHz CH128)

850 Body Left Side Low with GPRS

Date/Time: 2011-8-1 17:43:51
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.93 mho/m; εr = 55.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Left Side Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.773 mW/g

Left Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.7 V/m; Power Drift = -0.133 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.725 mW/g; SAR(10 g) = 0.501 mW/g
Maximum value of SAR (measured) = 0.774 mW/g

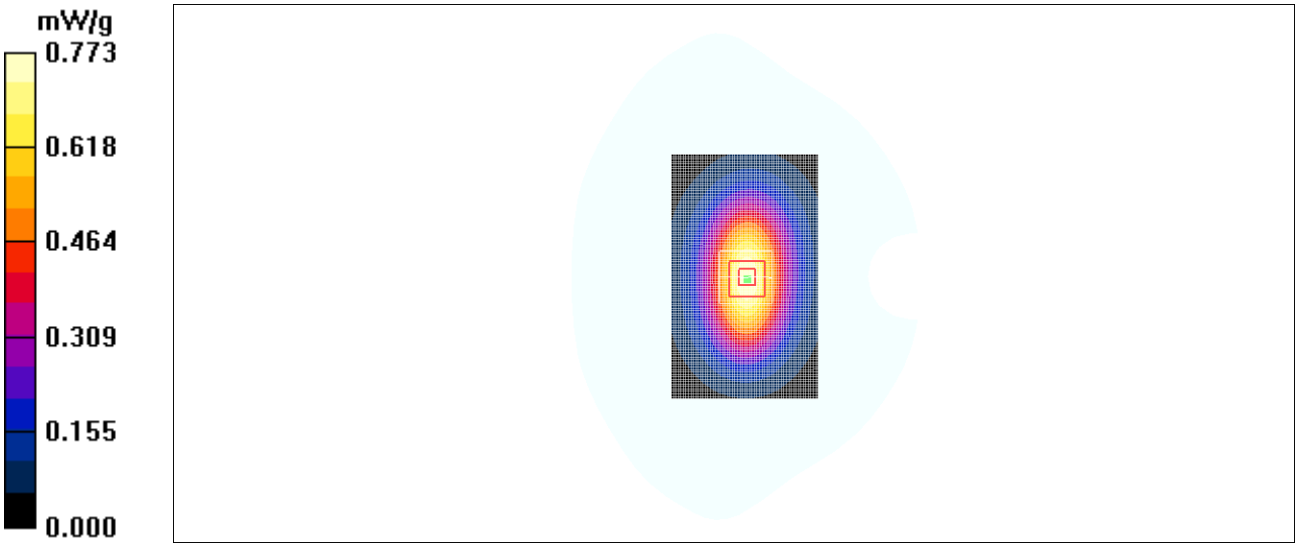


Fig. 55 850 MHz CH128

850 Body Right Side High with GPRS

Date/Time: 2011-8-1 17:59:45
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.94 mho/m; εr = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Right Side High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.941 mW/g

Right Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = 0.111 dB
Peak SAR (extrapolated) = 2.18 W/kg
SAR(1 g) = 0.895 mW/g; SAR(10 g) = 0.613 mW/g
Maximum value of SAR (measured) = 0.944 mW/g

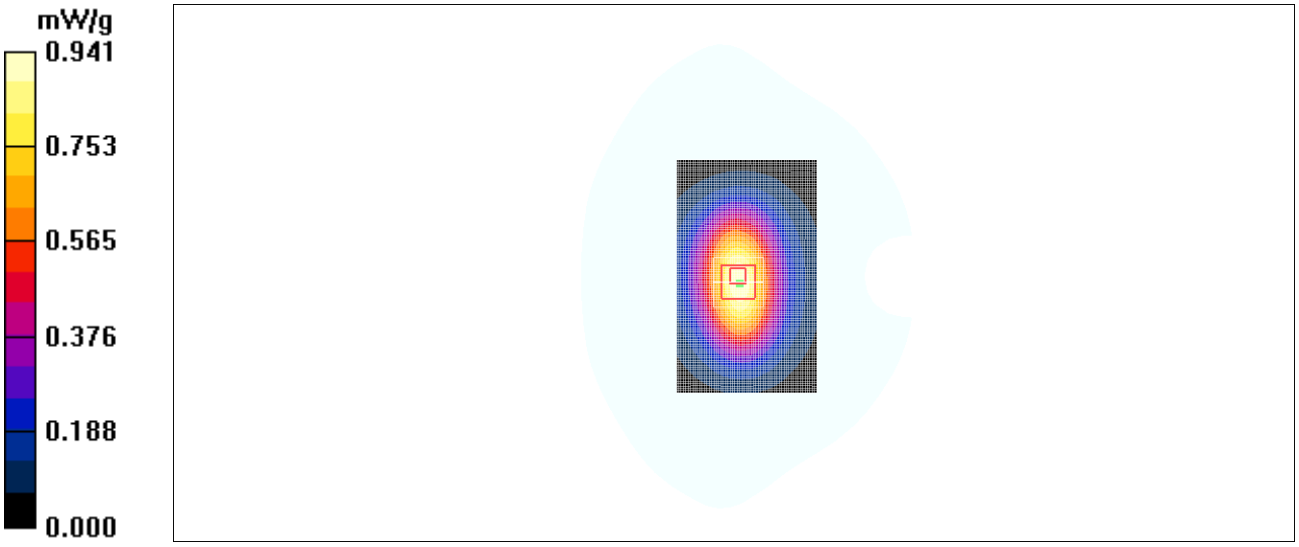


Fig. 56 850 MHz CH251

850 Body Right Side Middle with GPRS

Date/Time: 2011-8-1 18:16:41
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Right Side Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.910 mW/g

Right Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.9 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.833 mW/g; SAR(10 g) = 0.560 mW/g
Maximum value of SAR (measured) = 0.907 mW/g

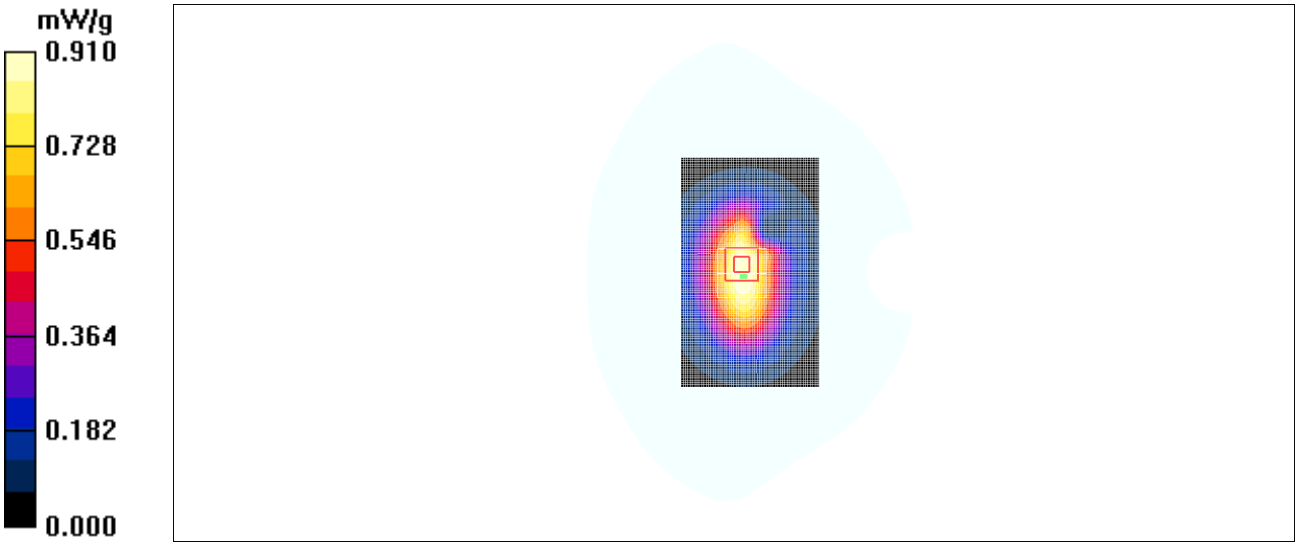


Fig. 57 850 MHz CH190

850 Body Right Side Low with GPRS

Date/Time: 2011-8-1 18:37:11
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.93 mho/m; εr = 55.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Right Side Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.929 mW/g

Right Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30.4 V/m; Power Drift = -0.122 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.839 mW/g; SAR(10 g) = 0.585 mW/g
Maximum value of SAR (measured) = 0.900 mW/g

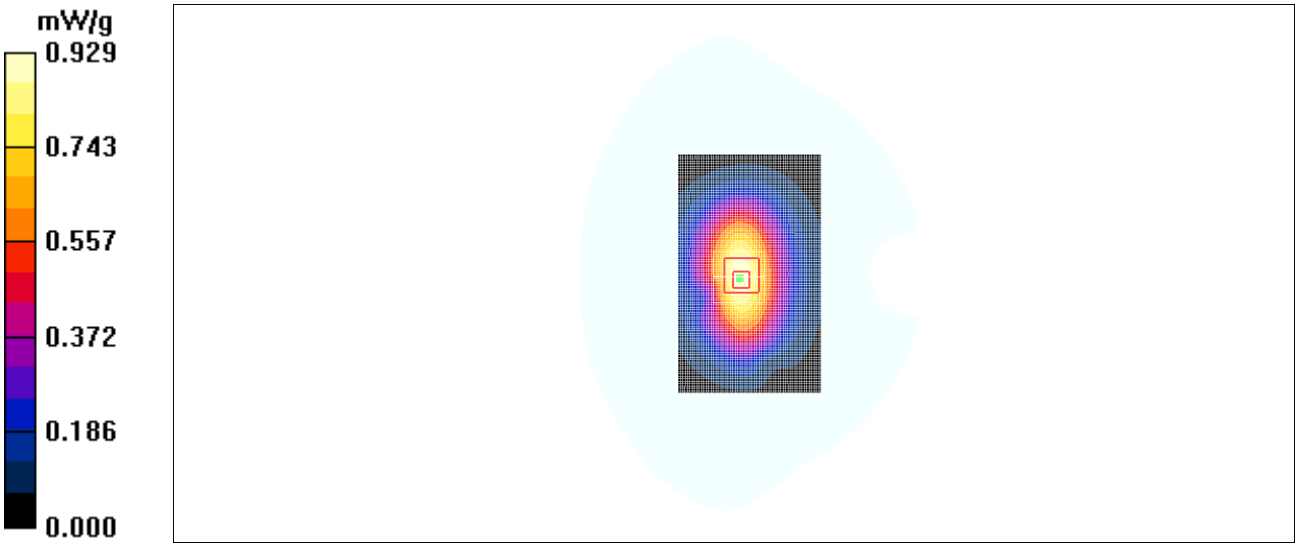


Fig. 58 850 MHz CH128

850 Body Bottom Side Low with GPRS

Date/Time: 2011-8-1 18:55:43
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.93 mho/m; εr = 55.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Bottom Side Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.114 mW/g

Bottom Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.51 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 0.209 W/kg
SAR(1 g) = 0.104 mW/g; SAR(10 g) = 0.064 mW/g
Maximum value of SAR (measured) = 0.114 mW/g

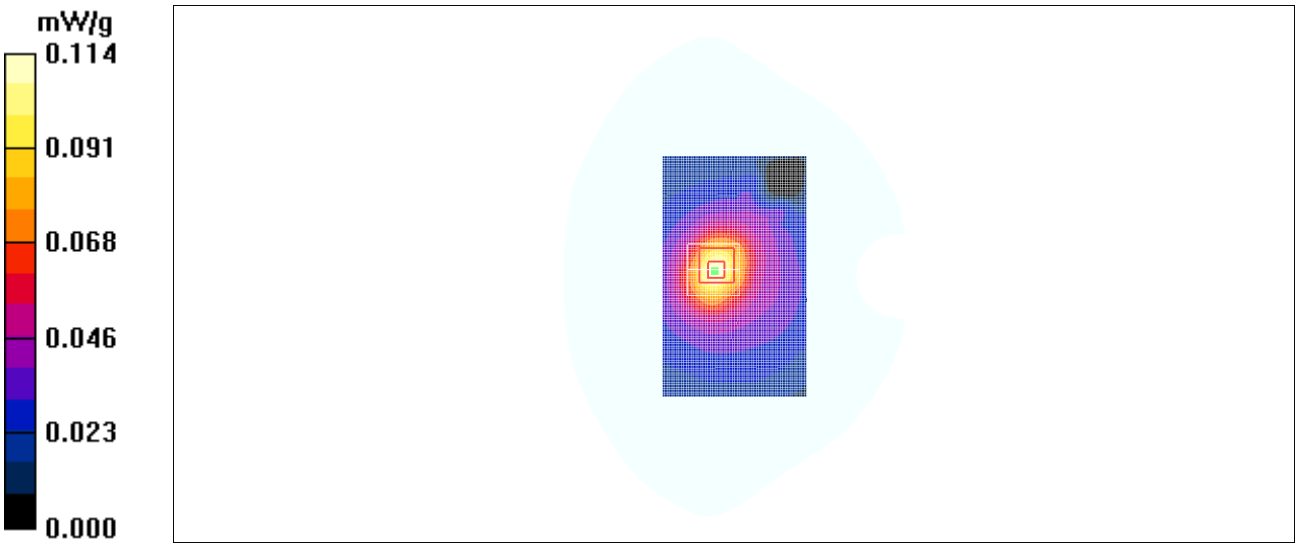


Fig. 59 850 MHz CH128

850 Body Towards Ground Low with EGPRS

Date/Time: 2011-8-1 19:17:48
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.93 mho/m; εr = 55.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.26 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 33.7 V/m; Power Drift = -0.156 dB
Peak SAR (extrapolated) = 1.59 W/kg
SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.808 mW/g
Maximum value of SAR (measured) = 1.21 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 33.7 V/m; Power Drift = -0.156 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.973 mW/g; SAR(10 g) = 0.648 mW/g
Maximum value of SAR (measured) = 1.14 mW/g

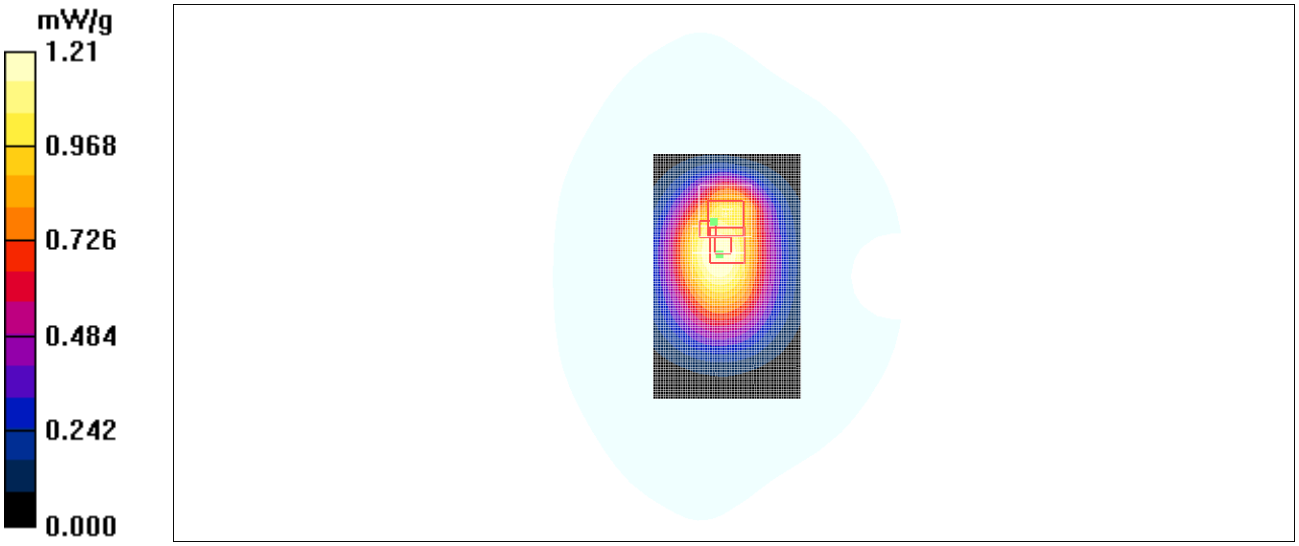


Fig. 60 850 MHz CH128

850 Body Towards Ground Low with Headset_CCB3160A11C1

Date/Time: 2011-8-1 19:38:48
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.93 mho/m; εr = 55.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.834 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.4 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.798 mW/g; SAR(10 g) = 0.586 mW/g
Maximum value of SAR (measured) = 0.842 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.4 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.747 mW/g; SAR(10 g) = 0.518 mW/g
Maximum value of SAR (measured) = 0.825 mW/g

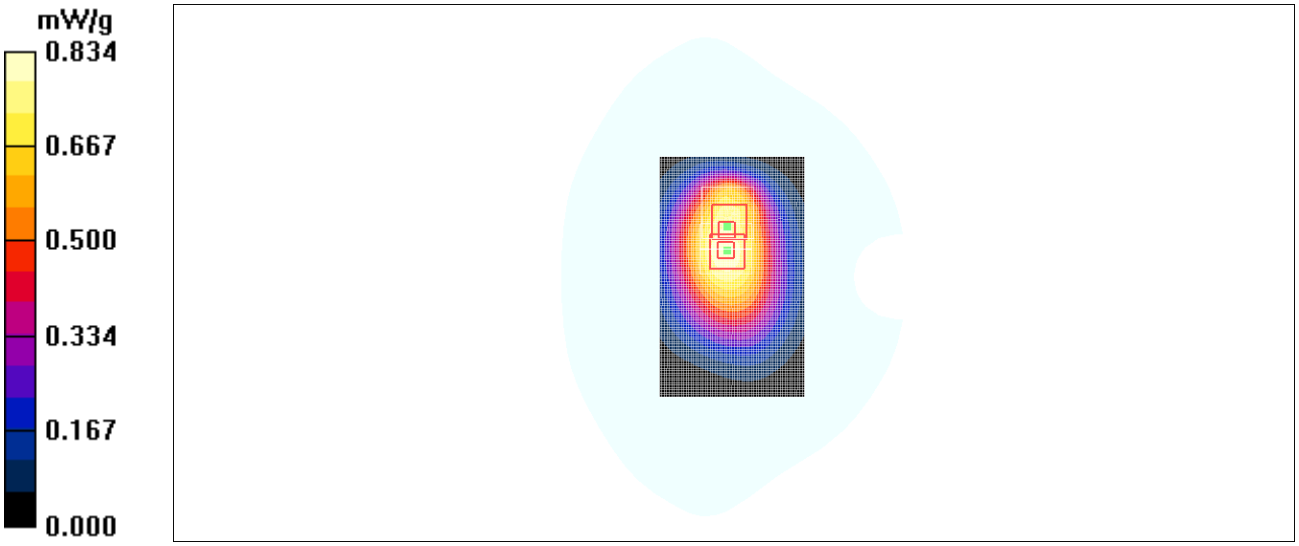


Fig. 61 850 MHz CH128

850 Body Towards Ground Low with Headset_CCB3160A11C2

Date/Time: 2011-8-1 19:57:09
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.93 mho/m; εr = 55.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.987 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.7 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 1.20 W/kg
SAR(1 g) = 0.928 mW/g; SAR(10 g) = 0.685 mW/g
Maximum value of SAR (measured) = 0.975 mW/g

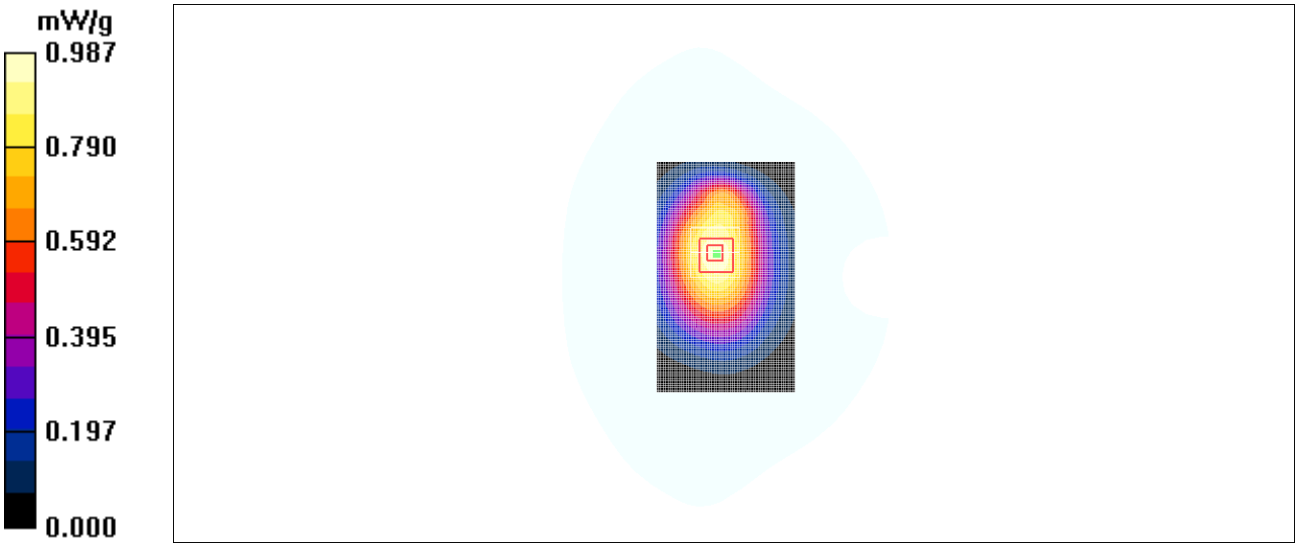


Fig. 62 850 MHz CH128

1900 Body Towards Phantom High with GPRS

Date/Time: 2011-8-2 15:27:44
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; εr = 40.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Phantom High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.535 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.715 W/kg
SAR(1 g) = 0.456 mW/g; SAR(10 g) = 0.285 mW/g
Maximum value of SAR (measured) = 0.500 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.712 W/kg
SAR(1 g) = 0.439 mW/g; SAR(10 g) = 0.274 mW/g
Maximum value of SAR (measured) = 0.485 mW/g

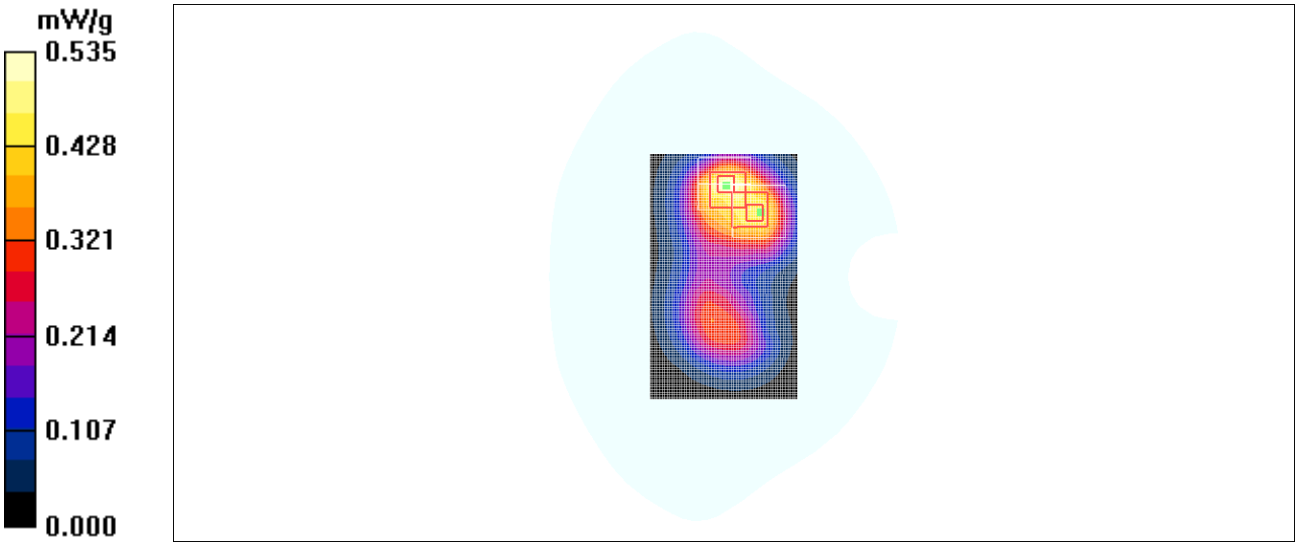


Fig. 63 1900 MHz CH810

1900 Body Towards Ground High with GPRS

Date/Time: 2011-8-2 15:49:34
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; εr = 40.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Ground High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.776 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.79 V/m; Power Drift = -0.146 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.648 mW/g; SAR(10 g) = 0.387 mW/g
Maximum value of SAR (measured) = 0.702 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.79 V/m; Power Drift = -0.146 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.633 mW/g; SAR(10 g) = 0.361 mW/g
Maximum value of SAR (measured) = 0.676 mW/g

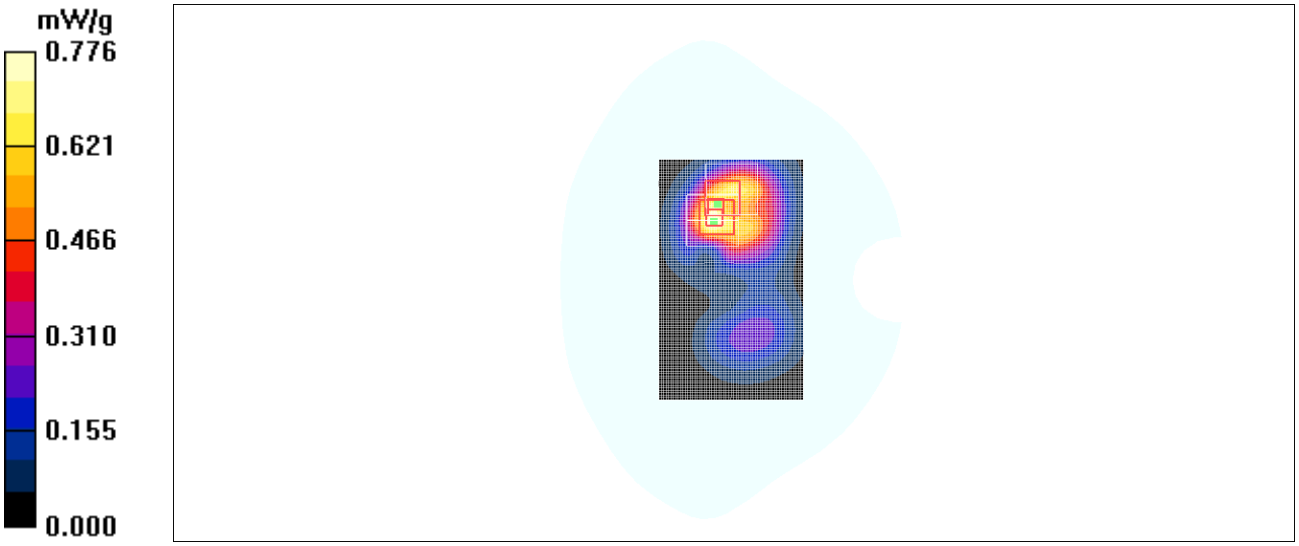


Fig. 64 1900 MHz CH810

1900 Body Left Side High with GPRS

Date/Time: 2011-8-2 16:01:24
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; εr = 40.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Left Side High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.198 mW/g

Left Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.97 V/m; Power Drift = -0.122 dB
Peak SAR (extrapolated) = 0.268 W/kg
SAR(1 g) = 0.164 mW/g; SAR(10 g) = 0.096 mW/g
Maximum value of SAR (measured) = 0.176 mW/g

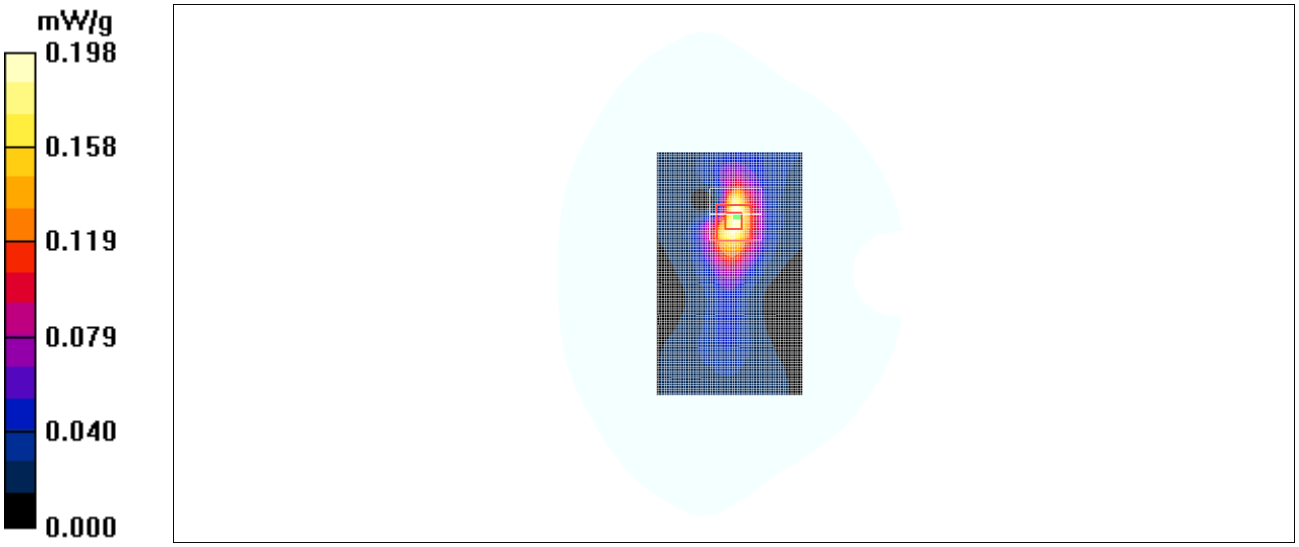


Fig. 65 1900 MHz CH810

1900 Body Right Side High with GPRS

Date/Time: 2011-8-2 16:25:22
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; εr = 40.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Right Side High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.265 mW/g

Right Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.60 V/m; Power Drift = 0.007 dB
Peak SAR (extrapolated) = 0.382 W/kg
SAR(1 g) = 0.237 mW/g; SAR(10 g) = 0.139 mW/g
Maximum value of SAR (measured) = 0.258 mW/g

Right Side High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.60 V/m; Power Drift = 0.007 dB
Peak SAR (extrapolated) = 0.400 W/kg
SAR(1 g) = 0.237 mW/g; SAR(10 g) = 0.140 mW/g
Maximum value of SAR (measured) = 0.249 mW/g

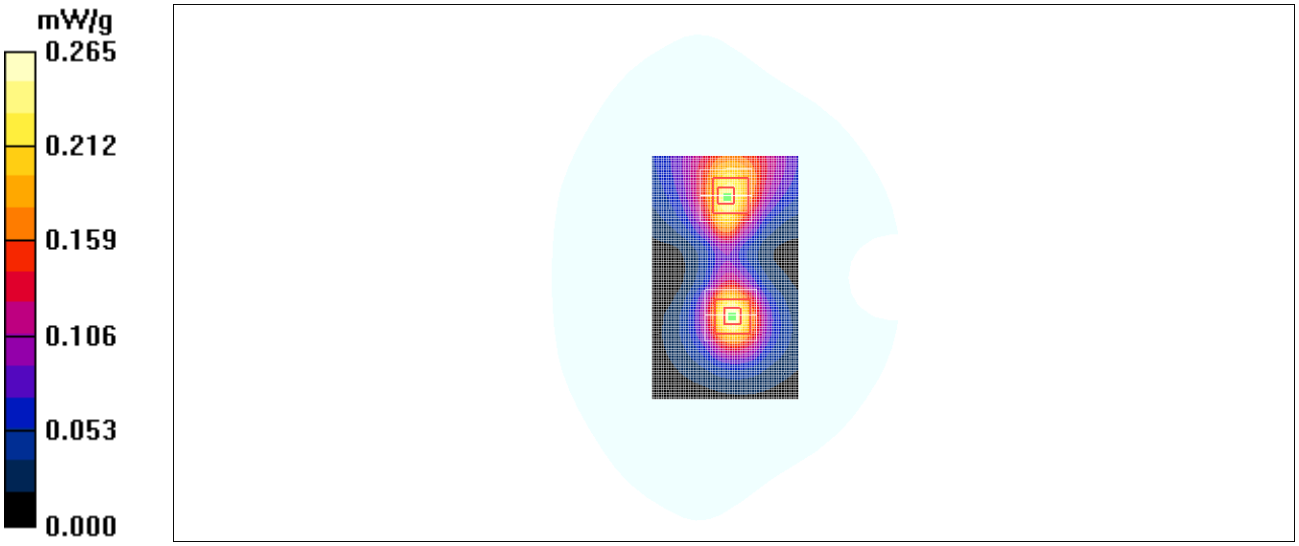


Fig. 66 1900 MHz CH810

1900 Body Bottom Side High with GPRS

Date/Time: 2011-8-2 16:46:52
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.55 mho/m; εr = 52.7; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Bottom Side High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.821 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 = -0.144 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.739 mW/g; SAR(10 g) = 0.412 mW/g
Maximum value of SAR (measured) = 0.832 mW/g

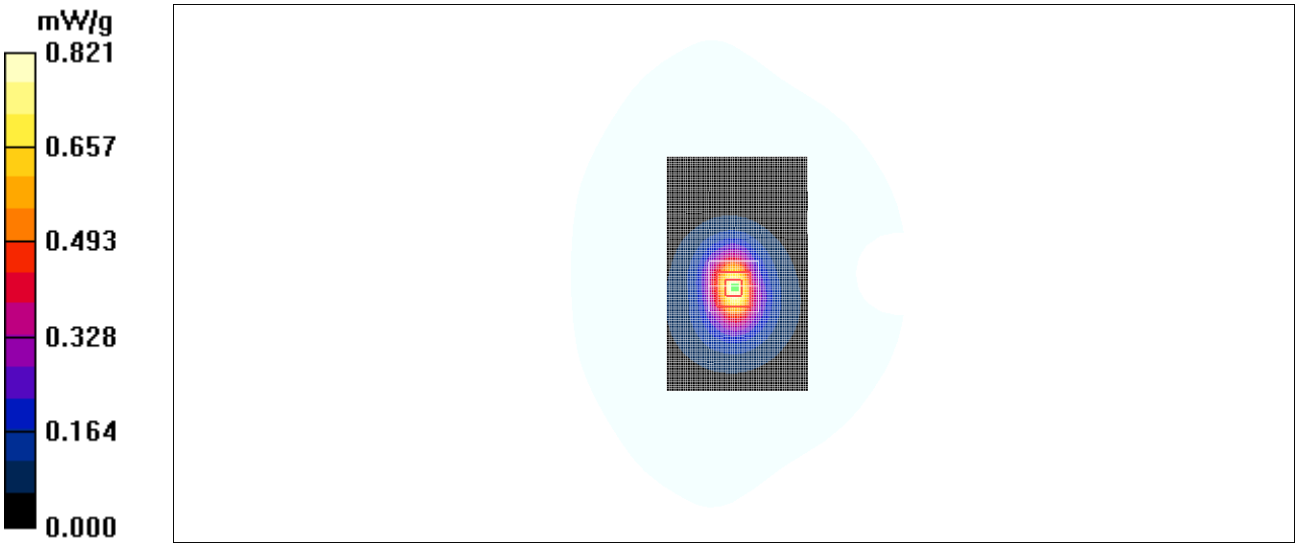


Fig. 67 1900 MHz CH810

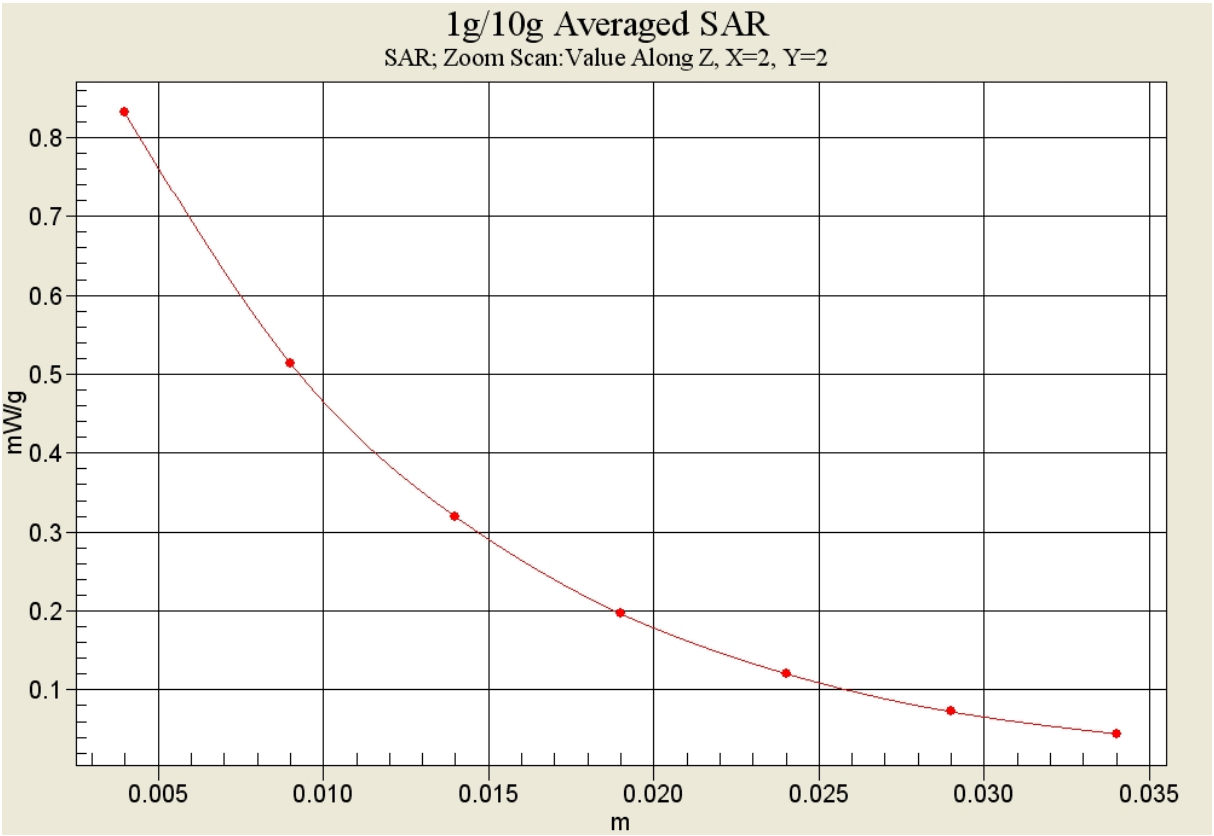


Fig. 67-1 Z-Scan at power reference point (1900 MHz CH810)

1900 Body Bottom Side Middle with GPRS

Date/Time: 2011-8-2 17:02:44
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.2; ρ = 1000 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=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.726 mW/g

Bottom Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = 0.068 dB
Peak SAR (extrapolated) = 0.979 W/kg
SAR(1 g) = 0.646 mW/g; SAR(10 g) = 0.367 mW/g
Maximum value of SAR (measured) = 0.729 mW/g

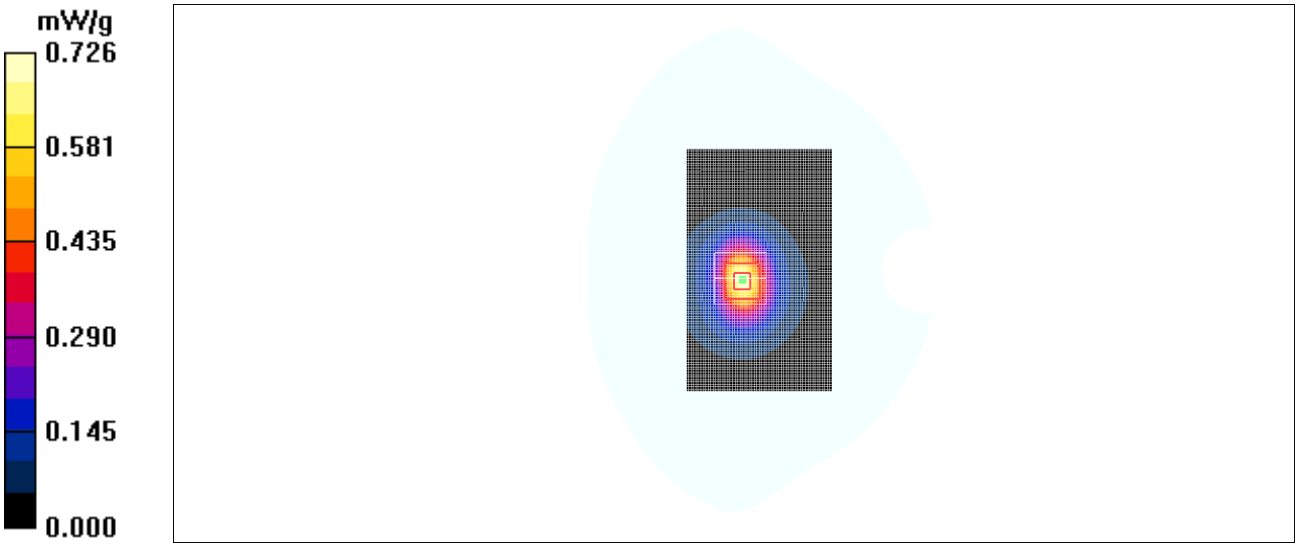


Fig. 68 1900 MHz CH661

1900 Body Bottom Side Low with GPRS

Date/Time: 2011-8-2 17:20:34
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; εr = 53.6; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Bottom Side Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.550 mW/g

Bottom Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 0.819 W/kg
SAR(1 g) = 0.499 mW/g; SAR(10 g) = 0.275 mW/g
Maximum value of SAR (measured) = 0.555 mW/g

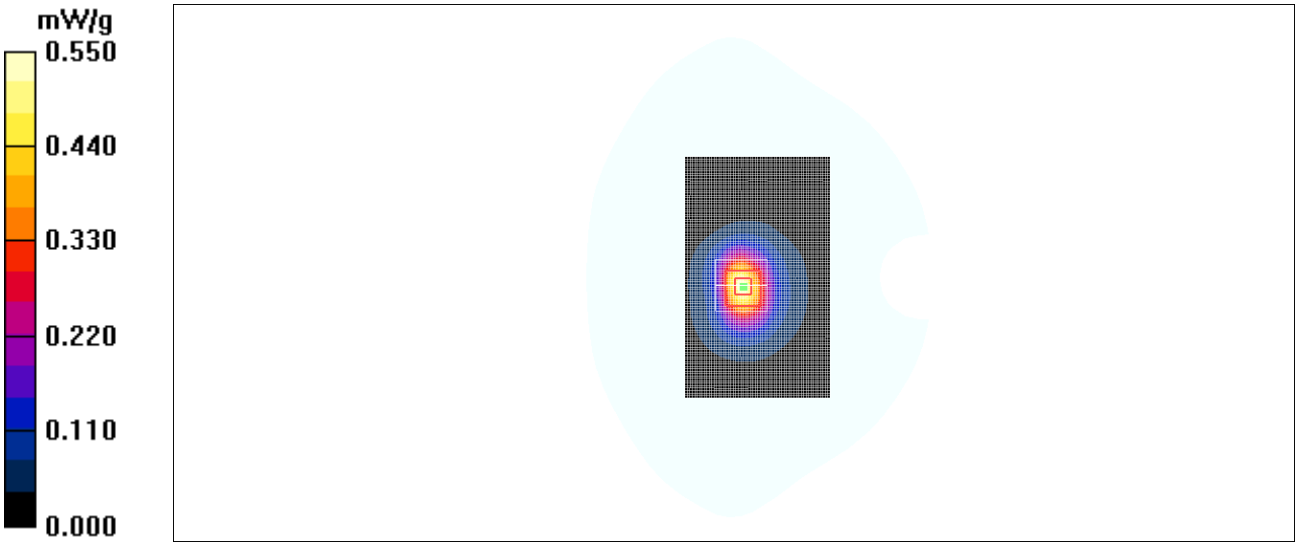


Fig. 71 1900 MHz CH512

1900 Body Bottom Side High with EGPRS

Date/Time: 2011-8-2 17:39:15
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.55 mho/m; εr = 52.7; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Bottom Side High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.782 mW/g

Bottom Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.0 V/m; Power Drift = 0.052 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.717 mW/g; SAR(10 g) = 0.402 mW/g
Maximum value of SAR (measured) = 0.794 mW/g

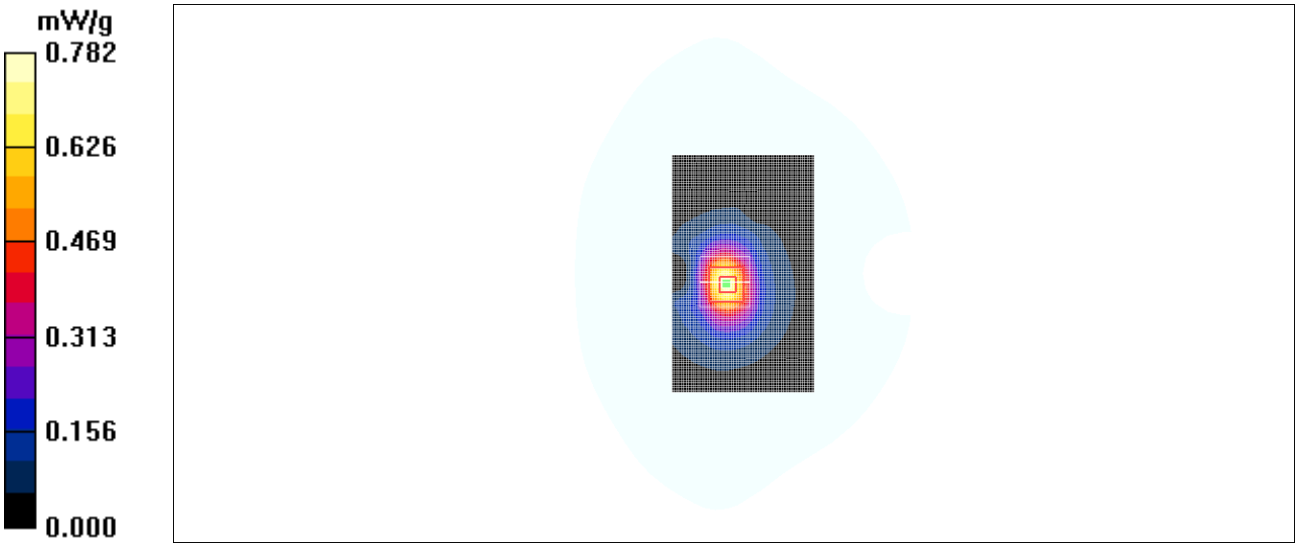


Fig. 70 1900 MHz CH810

1900 Body Bottom Side High with Headset_CCB3160A11C1

Date/Time: 2011-8-2 17:57:24
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.55 mho/m; εr = 52.7; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Bottom Side High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.607 mW/g

Bottom Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.3 V/m; Power Drift = -0.062 dB
Peak SAR (extrapolated) = 0.906 W/kg
SAR(1 g) = 0.548 mW/g; SAR(10 g) = 0.305 mW/g
Maximum value of SAR (measured) = 0.615 mW/g

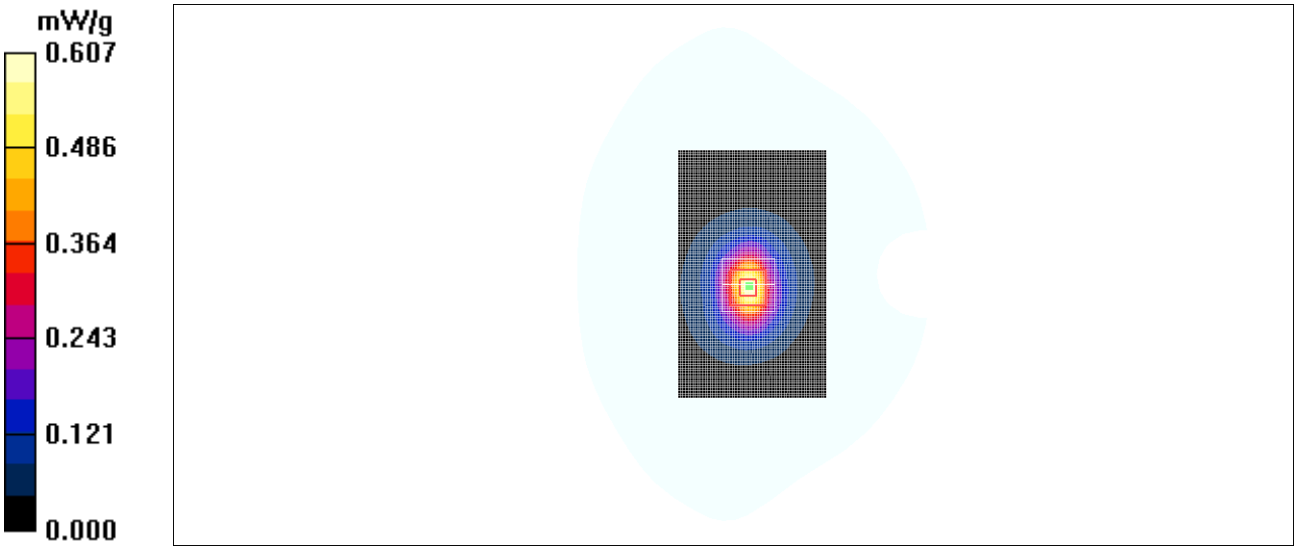


Fig. 71 1900 MHz CH810

1900 Body Bottom Side High with Headset_CCB3160A11C2

Date/Time: 2011-8-2 18:15:15
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.55 mho/m; εr = 52.7; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Bottom Side High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.590 mW/g

Bottom Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.0 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 0.882 W/kg
SAR(1 g) = 0.533 mW/g; SAR(10 g) = 0.295 mW/g
Maximum value of SAR (measured) = 0.598 mW/g

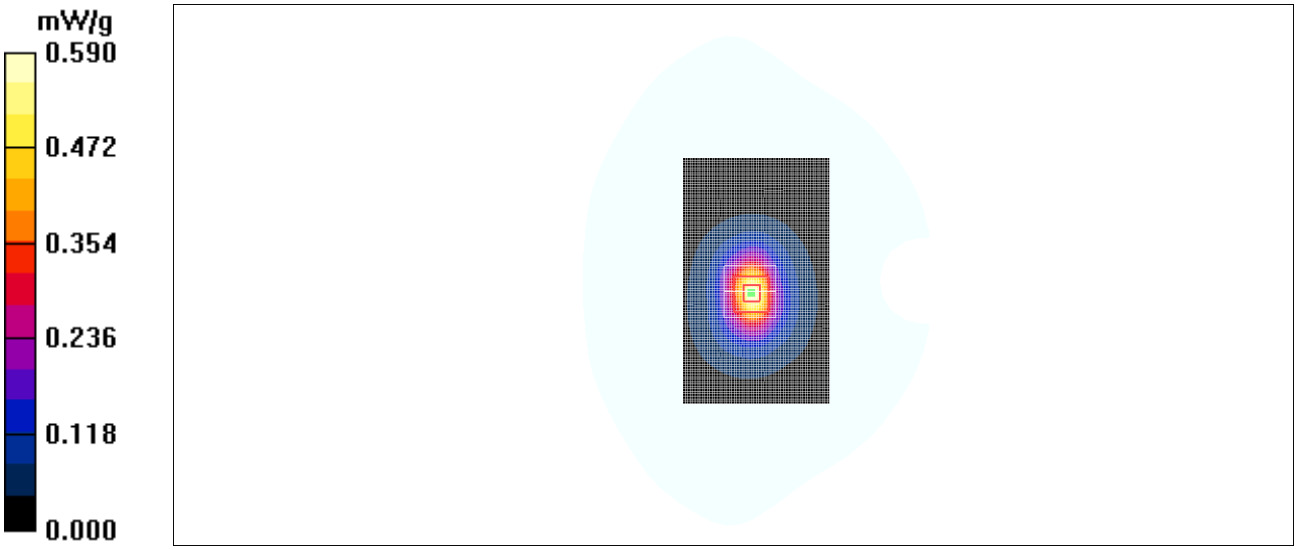


Fig. 72 1900 MHz CH810

WCDMA 850 Body Towards Phantom High
Date/Time: 2011-8-1 20:25:33
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.94 mho/m; εr = 54.6; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 846.6 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Phantom High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.786 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.1 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 0.943 W/kg
SAR(1 g) = 0.733 mW/g; SAR(10 g) = 0.542 mW/g
Maximum value of SAR (measured) = 0.776 mW/g

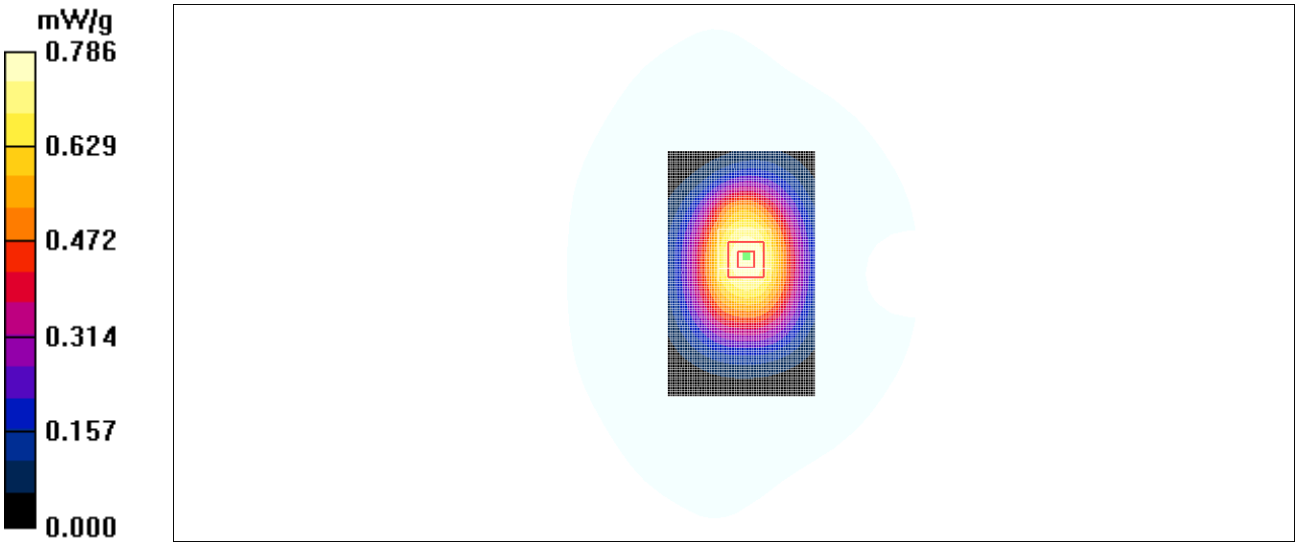


Fig. 73 850 MHz CH4233

WCDMA 850 Body Towards Phantom Middle

Date/Time: 2011-8-1 20:43:15
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Phantom Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.01 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30.8 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.948 mW/g; SAR(10 g) = 0.703 mW/g
Maximum value of SAR (measured) = 0.998 mW/g

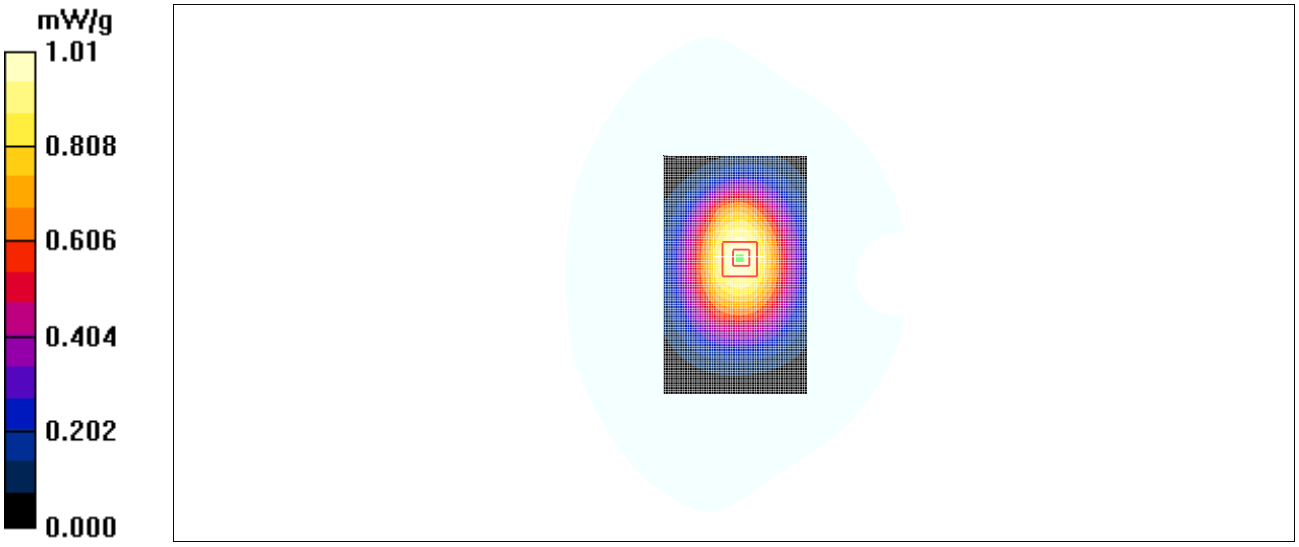


Fig. 74 850 MHz CH4182

WCDMA 850 Body Towards Phantom Low
Date/Time: 2011-8-1 21:02:46
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.94 mho/m; εr = 55.5; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 826.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Phantom Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.746 mW/g

Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.7 V/m; Power Drift = -0.078 dB
Peak SAR (extrapolated) = 0.906 W/kg
SAR(1 g) = 0.710 mW/g; SAR(10 g) = 0.526 mW/g
Maximum value of SAR (measured) = 0.746 mW/g

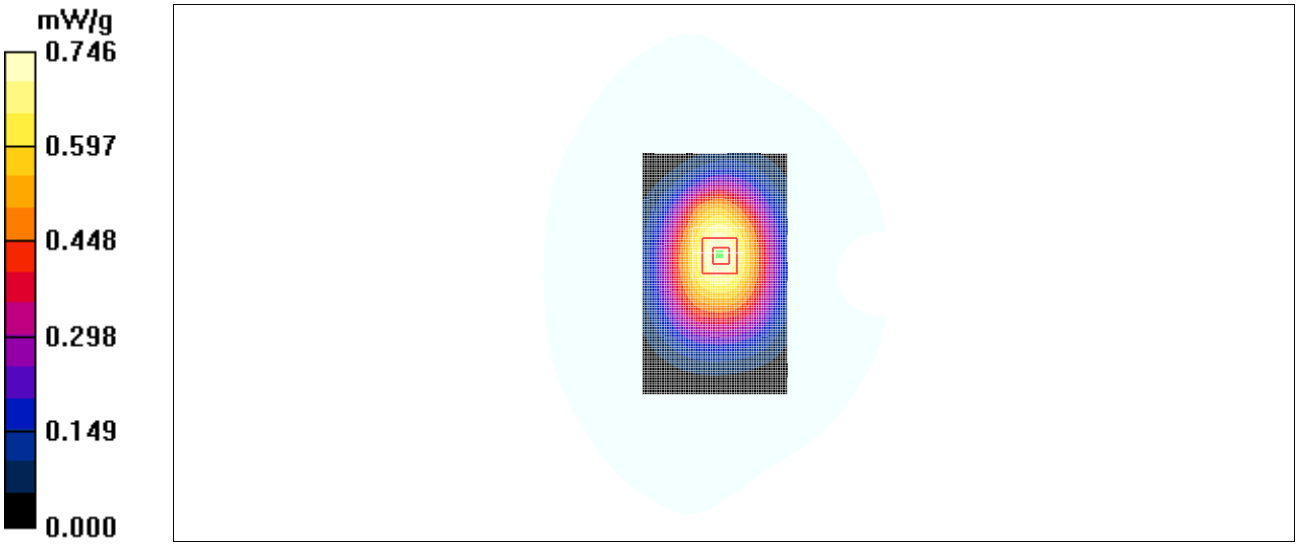


Fig. 75 850 MHz CH4132

WCDMA 850 Body Towards Ground High

Date/Time: 2011-8-1 21:20:23
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.94 mho/m; εr = 54.6; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 846.6 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.949 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30.3 V/m; Power Drift = -0.188 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.891 mW/g; SAR(10 g) = 0.654 mW/g
Maximum value of SAR (measured) = 0.938 mW/g

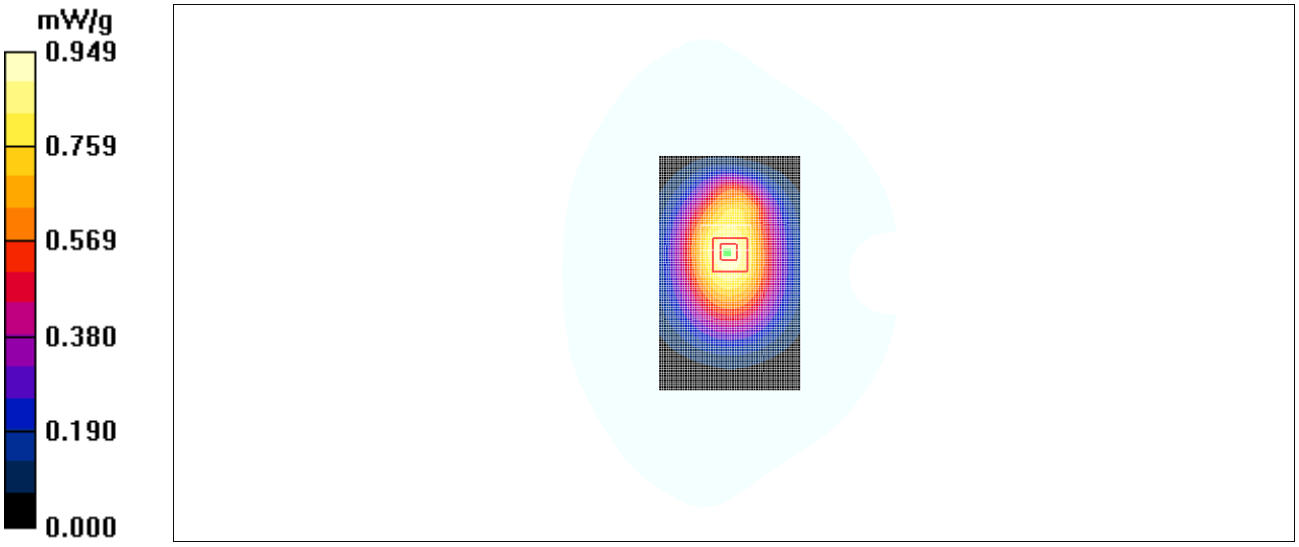


Fig. 76 850 MHz CH4233

WCDMA 850 Body Towards Ground Middle
Date/Time: 2011-8-1 21:43:49
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

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 = 34.5 V/m; Power Drift = -0.105 dB
Peak SAR (extrapolated) = 1.59 W/kg
SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.884 mW/g
Maximum value of SAR (measured) = 1.30 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 34.5 V/m; Power Drift = -0.105 dB
Peak SAR (extrapolated) = 1.56 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.753 mW/g
Maximum value of SAR (measured) = 1.25 mW/g

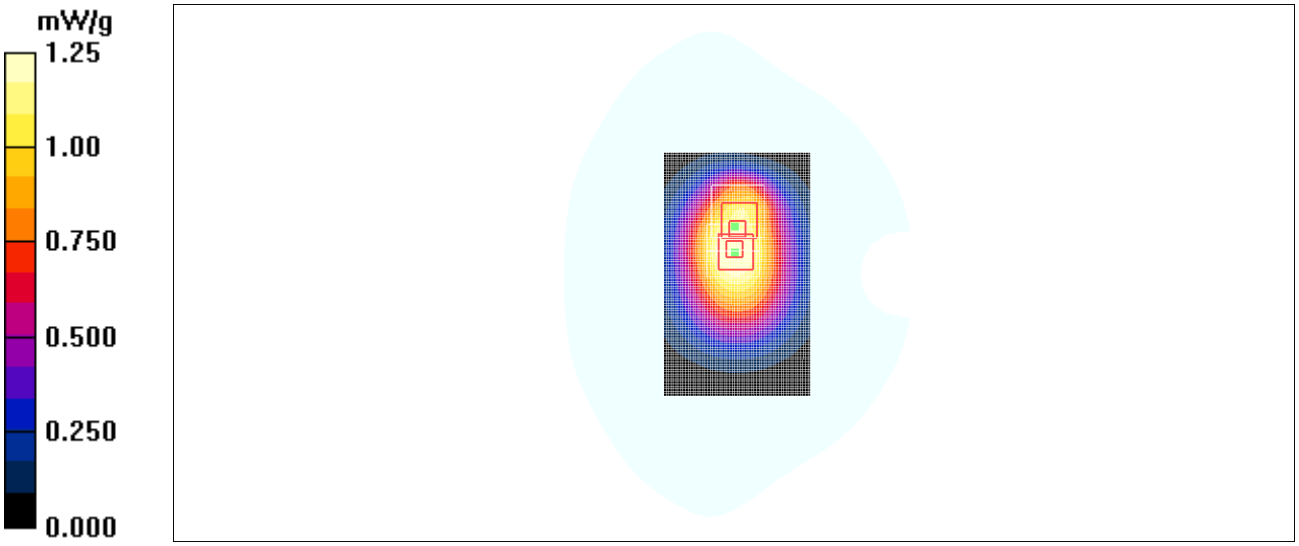


Fig. 77 850 MHz CH4182

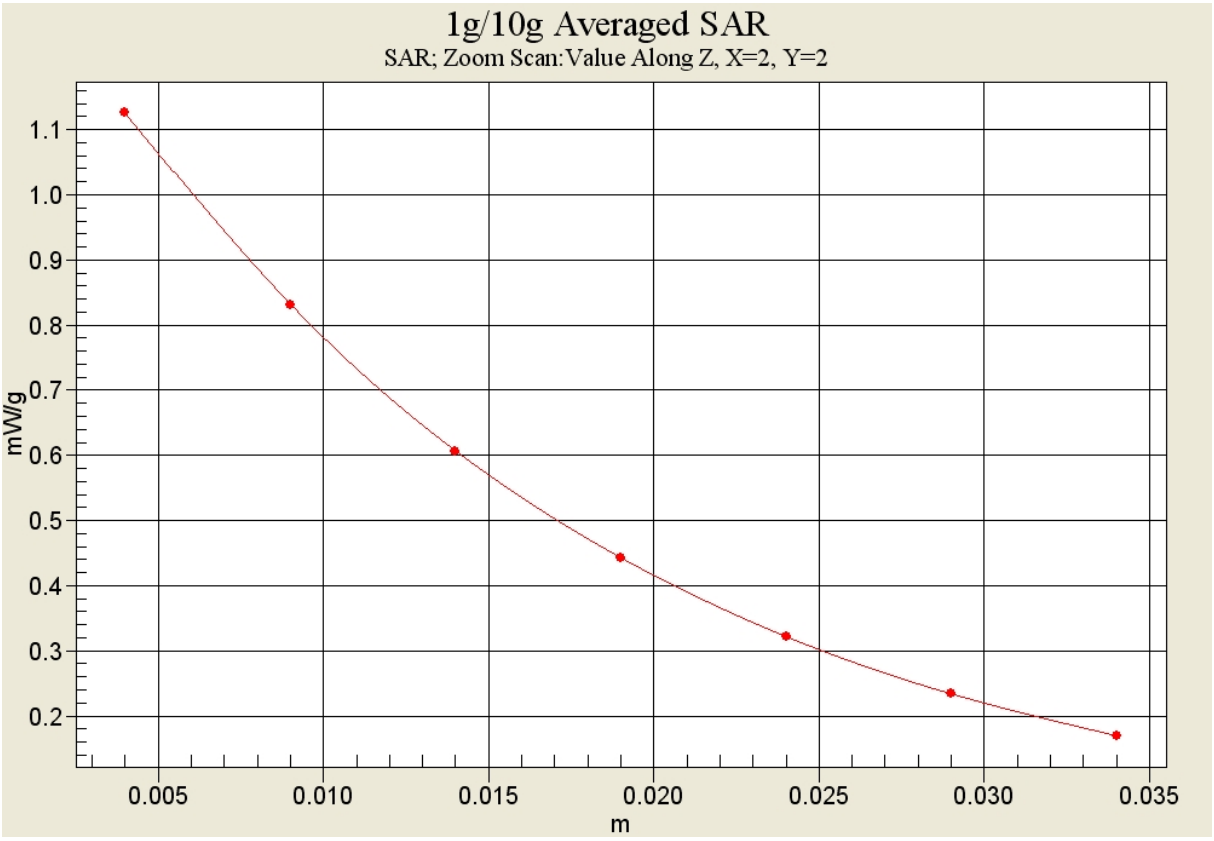


Fig. 77-1 Z-Scan at power reference point (850 MHz CH4182)

WCDMA 850 Body Towards Ground Low
Date/Time: 2011-8-1 22:02:16
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.94 mho/m; εr = 55.5; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 826.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.947 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.3 V/m; Power Drift = 0.072 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.902 mW/g; SAR(10 g) = 0.662 mW/g
Maximum value of SAR (measured) = 0.953 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.3 V/m; Power Drift = 0.072 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.840 mW/g; SAR(10 g) = 0.572 mW/g
Maximum value of SAR (measured) = 0.931 mW/g

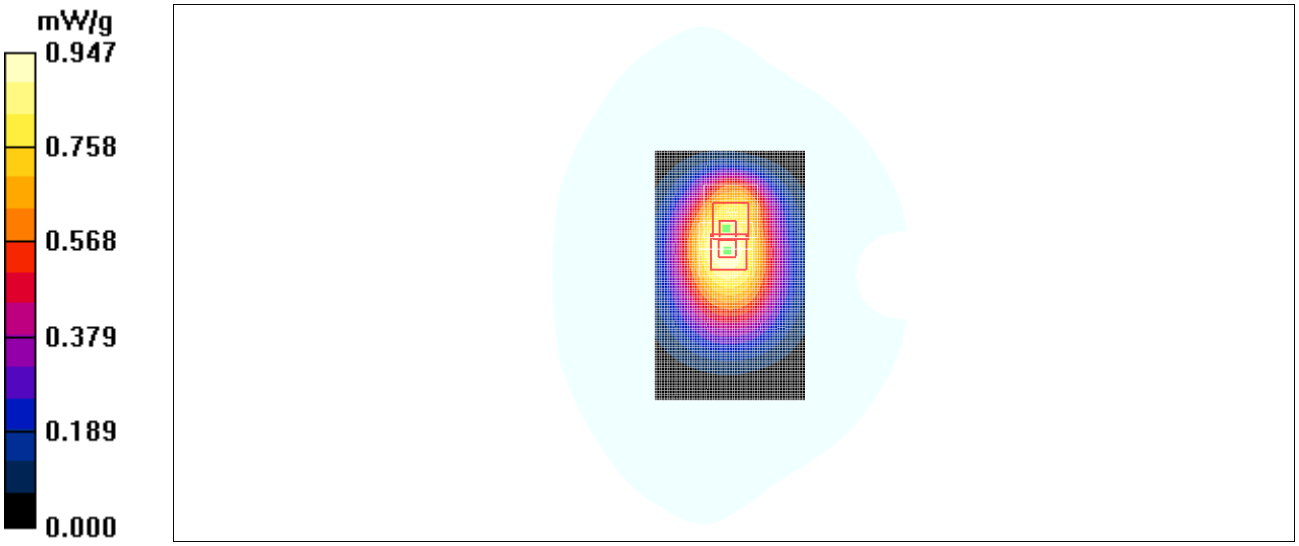


Fig. 78 850 MHz CH4132

WCDMA 850 Body Left Side Middle
Date/Time: 2011-8-1 22:21:36
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Left Side Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.817 mW/g

Left Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.8 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.779 mW/g; SAR(10 g) = 0.535 mW/g
Maximum value of SAR (measured) = 0.831 mW/g

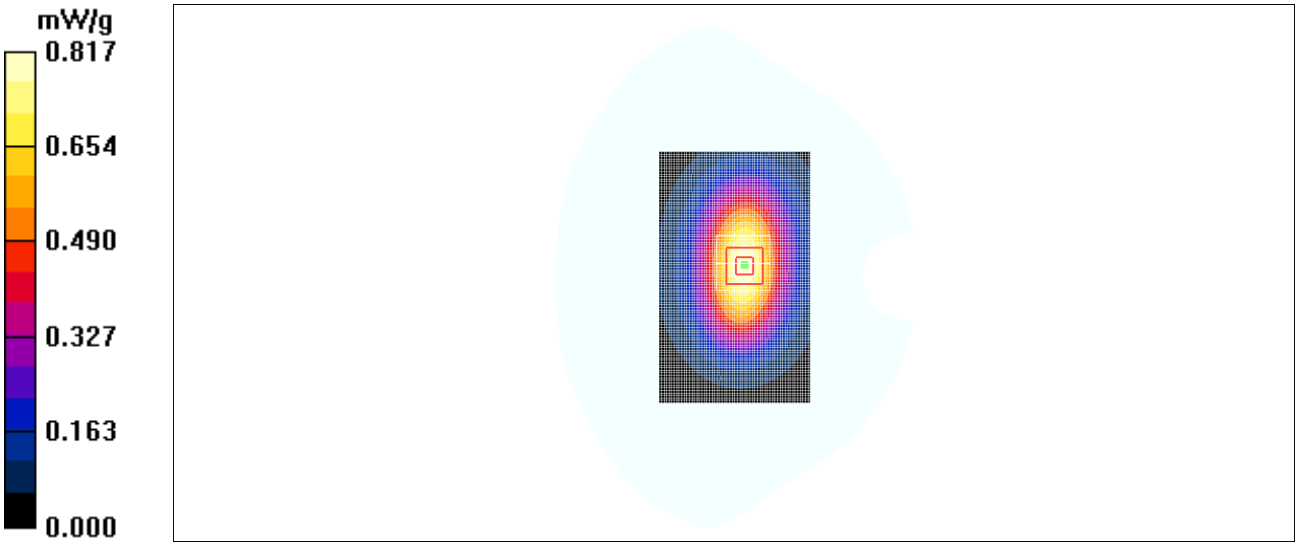


Fig. 79 850 MHz CH4182

WCDMA 850 Body Right Side High
Date/Time: 2011-8-1 22:39:56
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.94 mho/m; εr = 54.6; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 846.6 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Right Side High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.705 mW/g

Right Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.4 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 0.929 W/kg
SAR(1 g) = 0.663 mW/g; SAR(10 g) = 0.457 mW/g
Maximum value of SAR (measured) = 0.711 mW/g

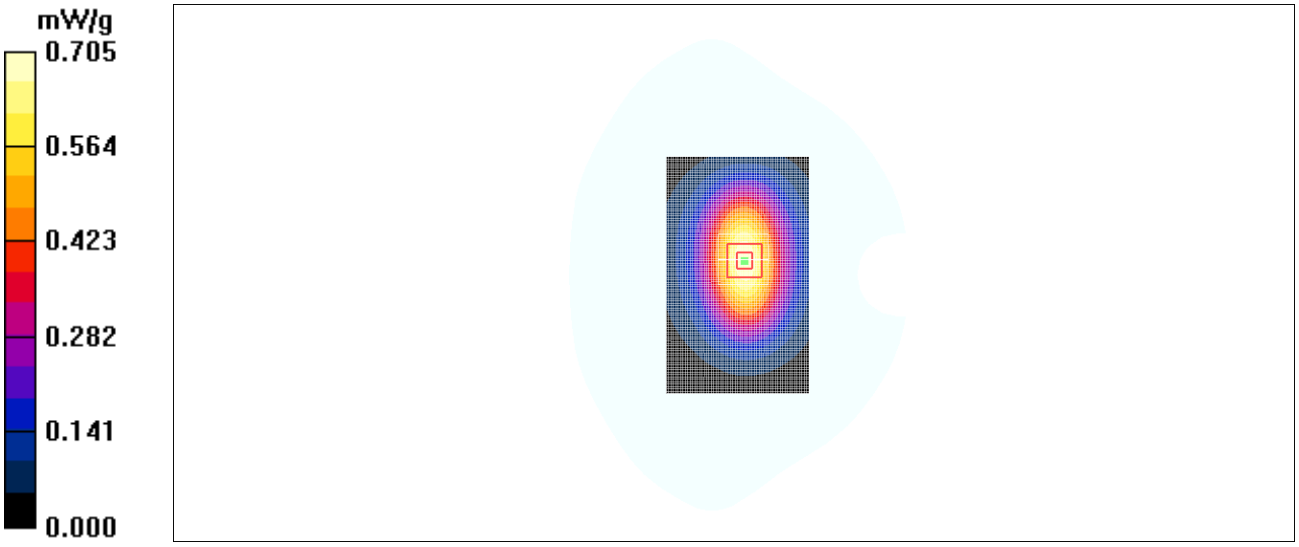


Fig. 80 850 MHz CH4233

WCDMA 850 Body Right Side Middle
Date/Time: 2011-8-1 22:56:17
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Right Side Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.959 mW/g

Right Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.7 V/m; Power Drift = -0.077 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.886 mW/g; SAR(10 g) = 0.613 mW/g
Maximum value of SAR (measured) = 0.945 mW/g

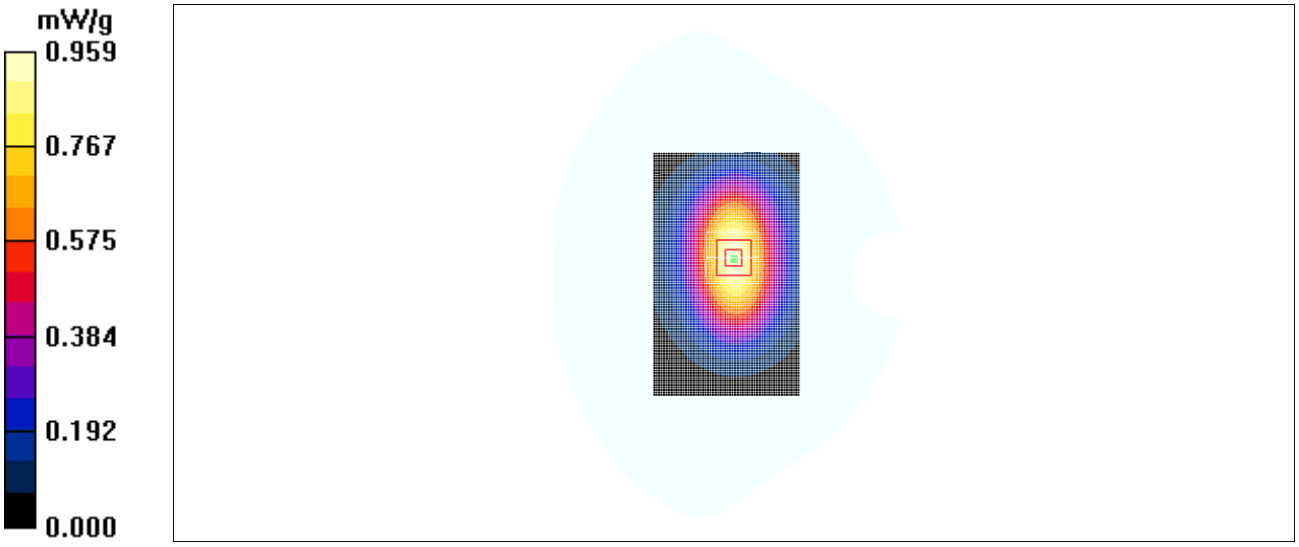


Fig. 81 850 MHz CH4182

WCDMA 850 Body Right Side Low
Date/Time: 2011-8-1 23:18:24
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.94 mho/m; εr = 55.5; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 826.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Right Side Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.680 mW/g

Right Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.2 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.889 W/kg
SAR(1 g) = 0.641 mW/g; SAR(10 g) = 0.445 mW/g
Maximum value of SAR (measured) = 0.684 mW/g

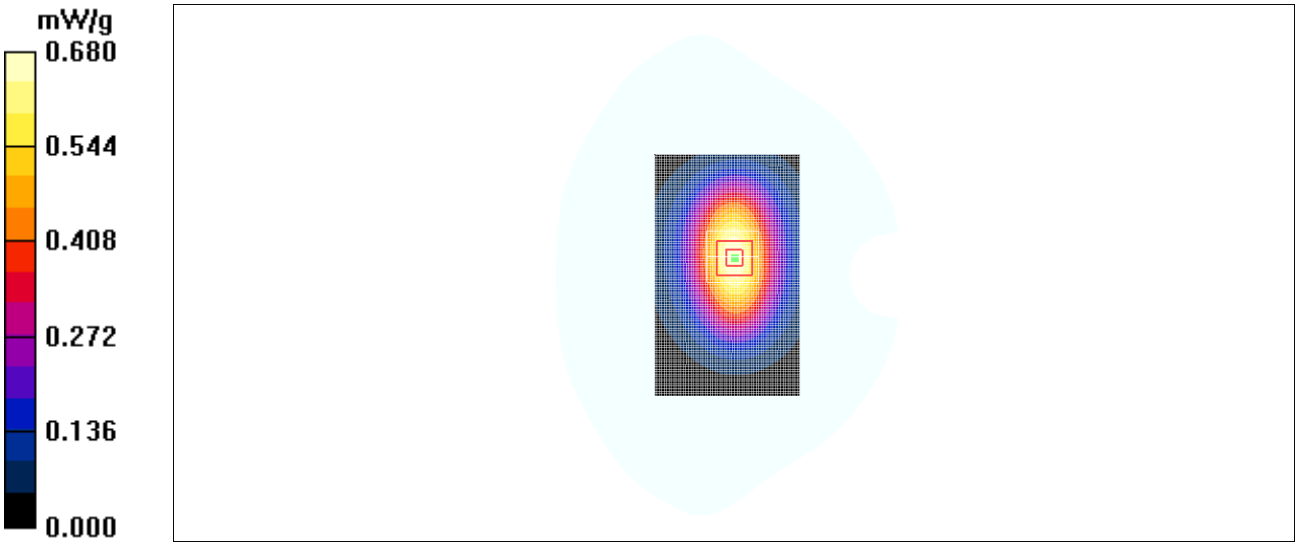


Fig. 82 850 MHz CH4132

WCDMA 850 Body Bottom Side Middle
Date/Time: 2011-8-1 23:36:29
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 826.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Bottom Side Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.085 mW/g

Bottom Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.39 V/m; Power Drift = 0.062 dB
Peak SAR (extrapolated) = 0.128 W/kg
SAR(1 g) = 0.076 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.081 mW/g

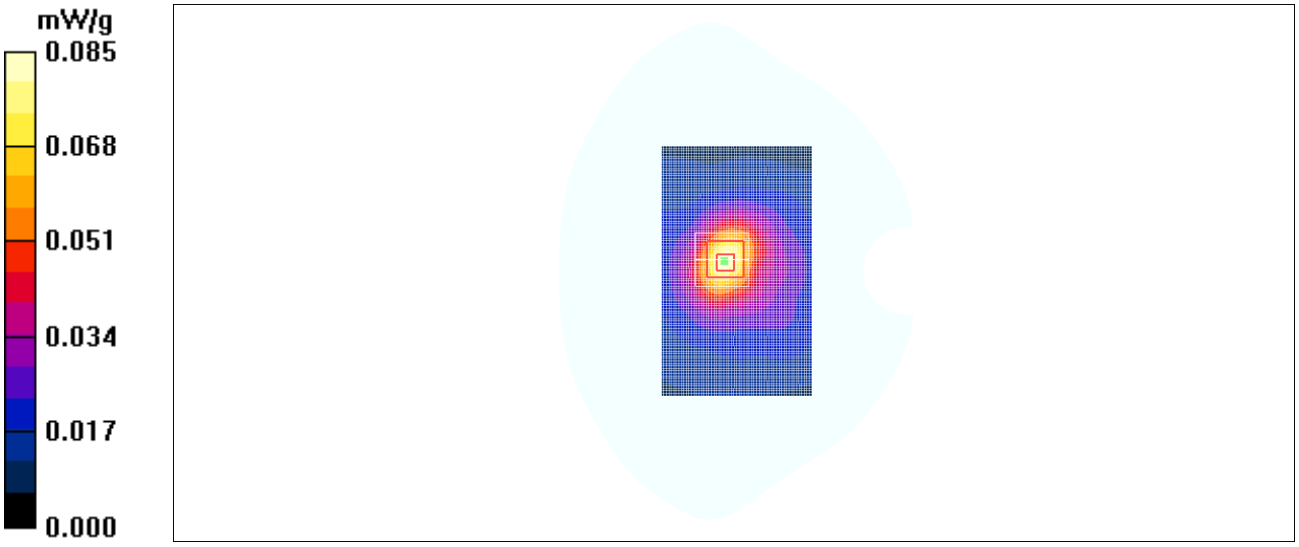


Fig. 83 850 MHz CH4182

WCDMA 850 Body Towards Ground Middle with Headset_CCB3160A11C1
Date/Time: 2011-8-1 23:58:09
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.04 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.0 V/m; Power Drift = 0.064 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.999 mW/g; SAR(10 g) = 0.735 mW/g
Maximum value of SAR (measured) = 1.05 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.0 V/m; Power Drift = 0.064 dB
Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.898 mW/g; SAR(10 g) = 0.616 mW/g
Maximum value of SAR (measured) = 1.00 mW/g

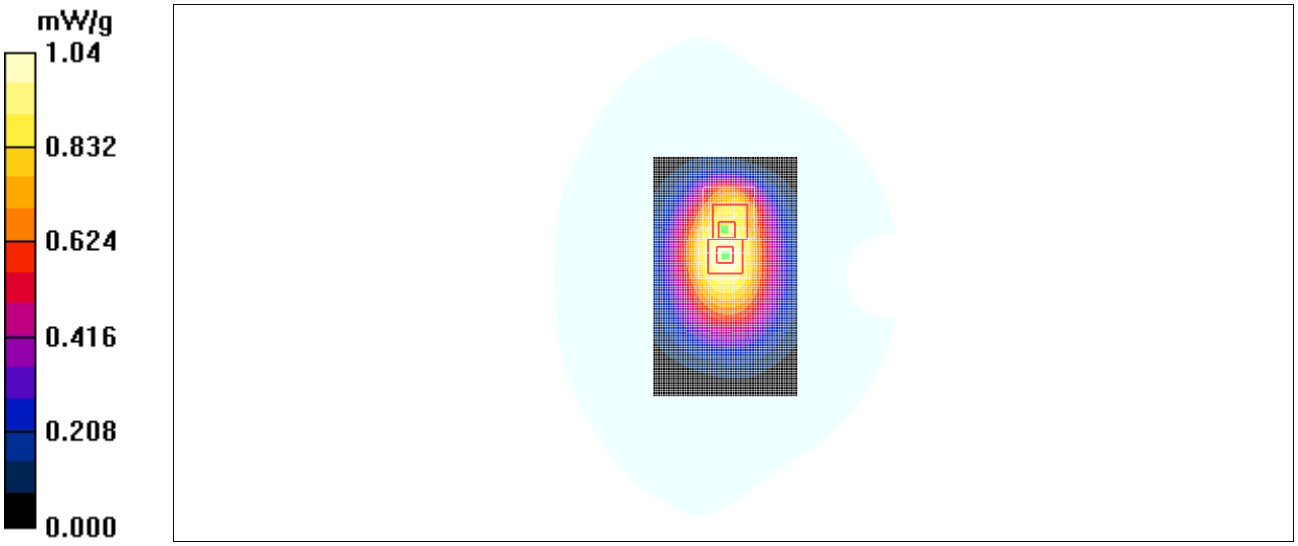


Fig. 84 850 MHz CH4182

WCDMA 850 Body Towards Ground Middle with Headset_CCB3160A11C2
Date/Time: 2011-8-2 0:21:46
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.06 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.9 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 1 mW/g; SAR(10 g) = 0.740 mW/g
Maximum value of SAR (measured) = 1.05 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.9 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 1.19 W/kg
SAR(1 g) = 0.851 mW/g; SAR(10 g) = 0.581 mW/g
Maximum value of SAR (measured) = 0.957 mW/g

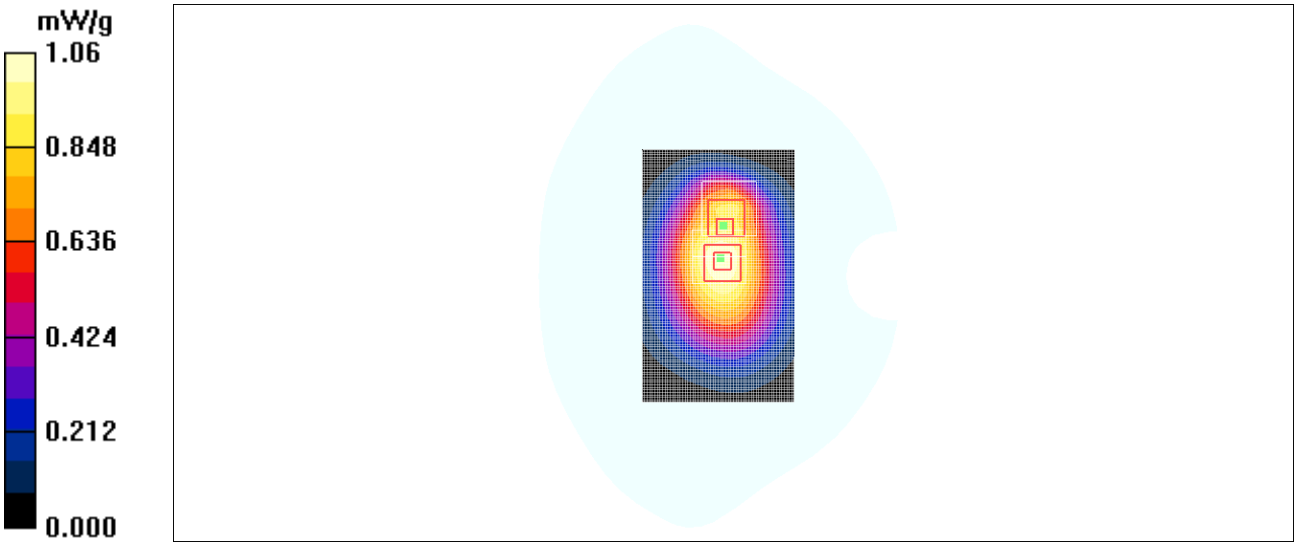


Fig. 85 850 MHz CH4182

WCDMA 1900 Body Towards Phantom Middle

Date/Time: 2011-8-2 18:41:51
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Phantom Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.786 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.167 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.727 mW/g; SAR(10 g) = 0.460 mW/g
Maximum value of SAR (measured) = 0.774 mW/g

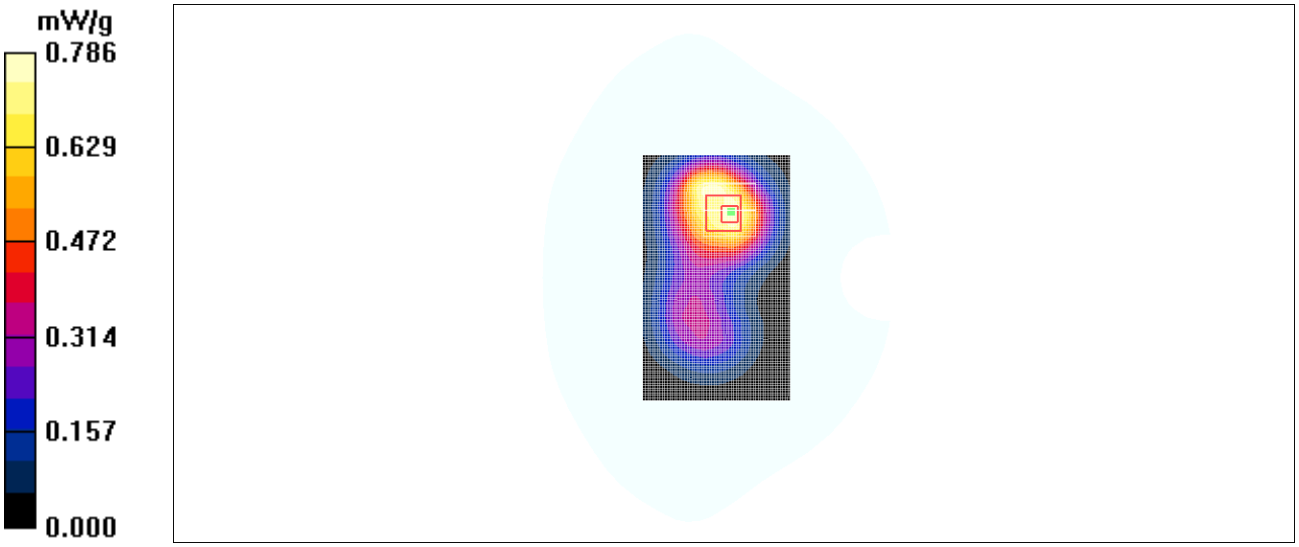


Fig. 86 1900 MHz CH9400

WCDMA 1900 Body Towards Ground High

Date/Time: 2011-8-2 19:03:15
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 52.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Ground High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.787 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.20 V/m; Power Drift = -0.194 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.717 mW/g; SAR(10 g) = 0.431 mW/g
Maximum value of SAR (measured) = 0.753 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.20 V/m; Power Drift = -0.194 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.659 mW/g; SAR(10 g) = 0.410 mW/g
Maximum value of SAR (measured) = 0.735 mW/g

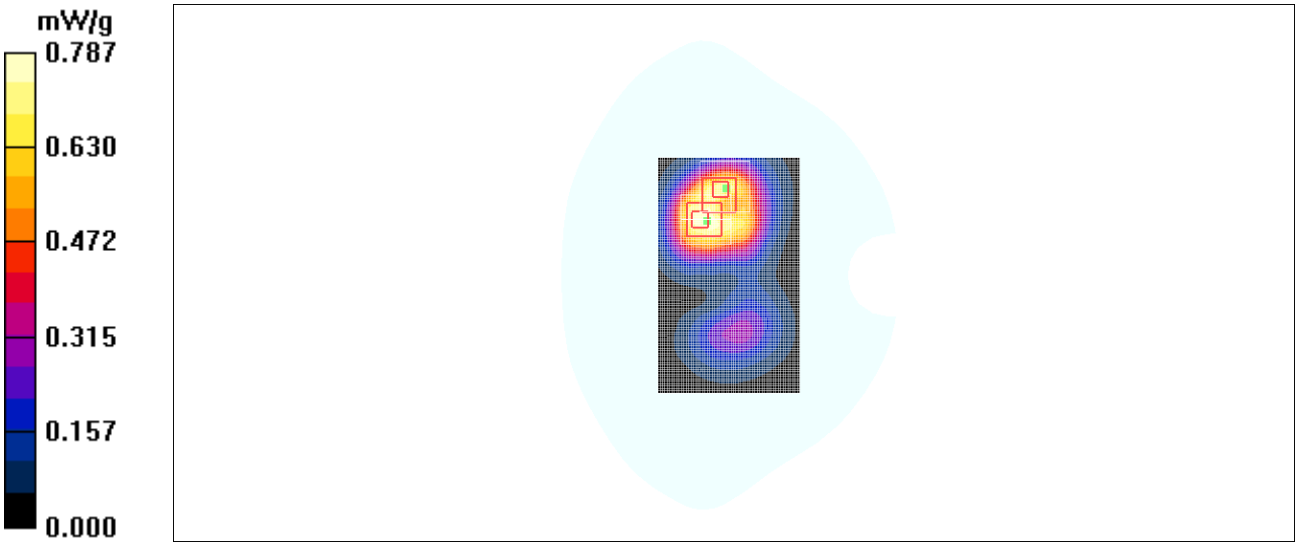


Fig. 87 1900 MHz CH9538

WCDMA 1900 Body Towards Ground Middle
Date/Time: 2011-8-2 19:27:42
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Ground Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.887 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.38 V/m; Power Drift = -0.118 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.782 mW/g; SAR(10 g) = 0.472 mW/g
Maximum value of SAR (measured) = 0.876 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.38 V/m; Power Drift = -0.118 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.811 mW/g; SAR(10 g) = 0.477 mW/g
Maximum value of SAR (measured) = 0.879 mW/g

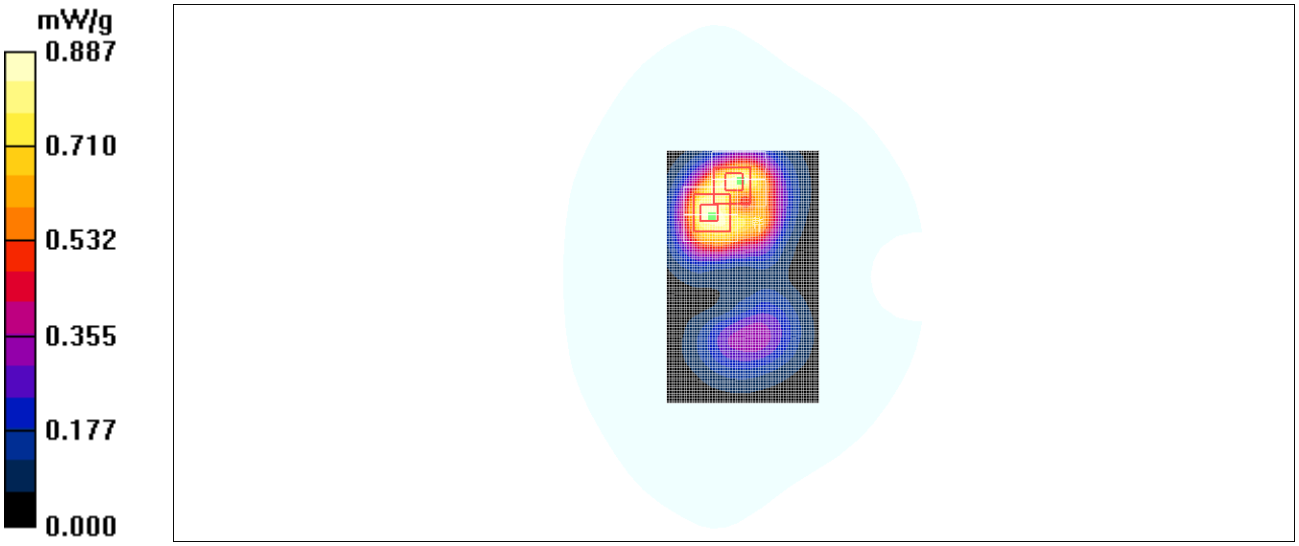


Fig. 88 1900 MHz CH9400

WCDMA 1900 Body Towards Ground Low
Date/Time: 2011-8-2 19:46:59
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.48 mho/m; εr = 53.6; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Ground Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.714 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.07 V/m; Power Drift = 0.119 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.653 mW/g; SAR(10 g) = 0.367 mW/g
Maximum value of SAR (measured) = 0.715 mW/g

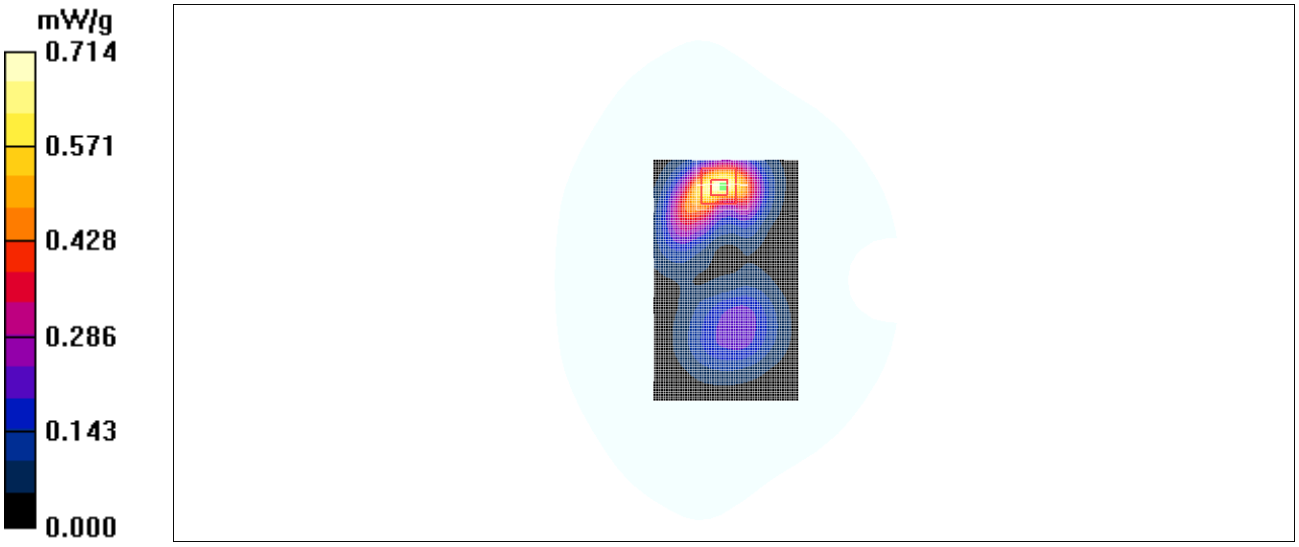


Fig. 89 1900 MHz CH9262

WCDMA 1900 Body Left Side Middle

Date/Time: 2011-8-2 20:04:22
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Left Side Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.154 mW/g

Left Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.73 V/m; Power Drift = -0.134 dB
Peak SAR (extrapolated) = 0.221 W/kg
SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.078 mW/g
Maximum value of SAR (measured) = 0.147 mW/g

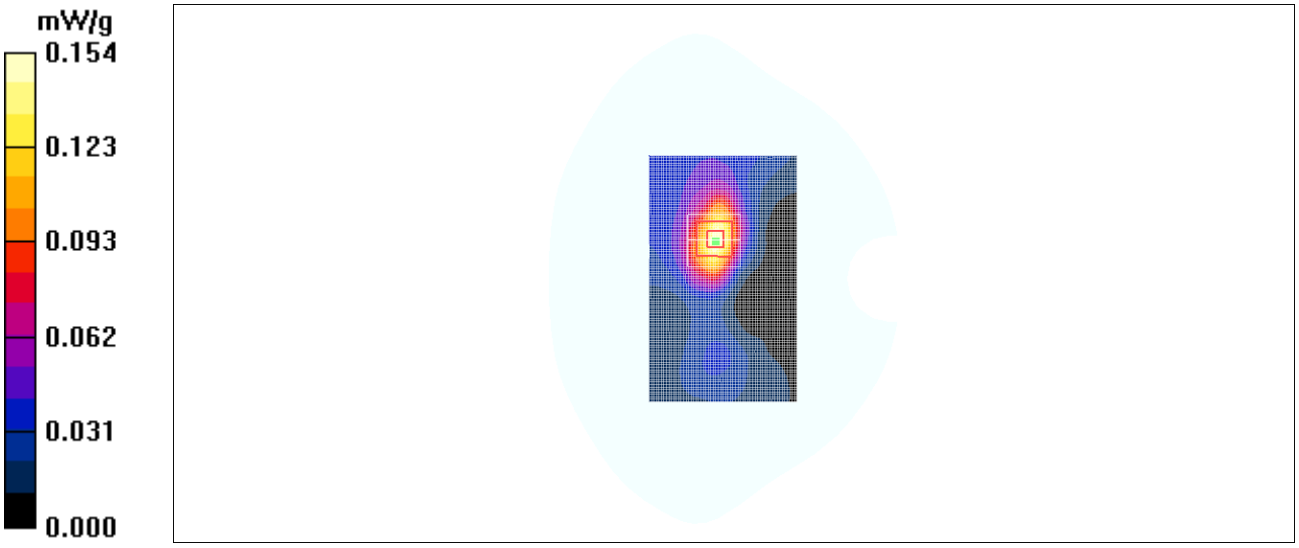


Fig. 90 1900 MHz CH9400

WCDMA 1900 Body Right Side Middle
Date/Time: 2011-8-2 20:27:21
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Right Side Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.318 mW/g

Right Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.7 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 0.457 W/kg
SAR(1 g) = 0.287 mW/g; SAR(10 g) = 0.170 mW/g
Maximum value of SAR (measured) = 0.317 mW/g

Right Side Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.7 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 0.426 W/kg
SAR(1 g) = 0.266 mW/g; SAR(10 g) = 0.163 mW/g
Maximum value of SAR (measured) = 0.288 mW/g

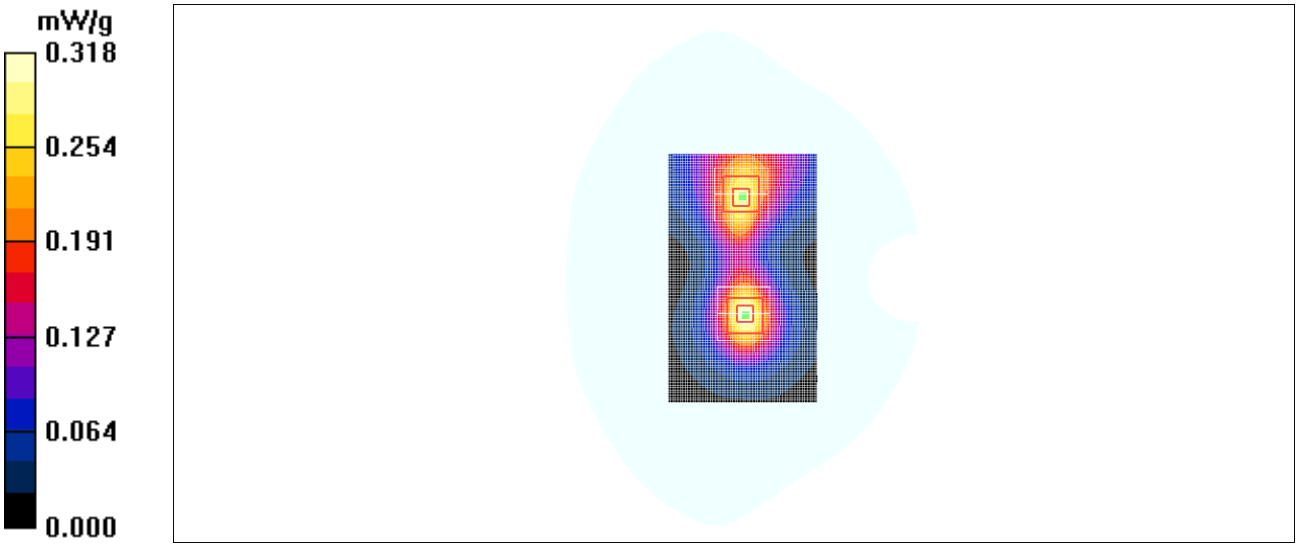


Fig. 91 1900 MHz CH9400

WCDMA 1900 Body Bottom Side High

Date/Time: 2011-8-2 20:49:14
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 52.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Bottom Side High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.871 mW/g

Bottom Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.1 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.778 mW/g; SAR(10 g) = 0.433 mW/g
Maximum value of SAR (measured) = 0.871 mW/g

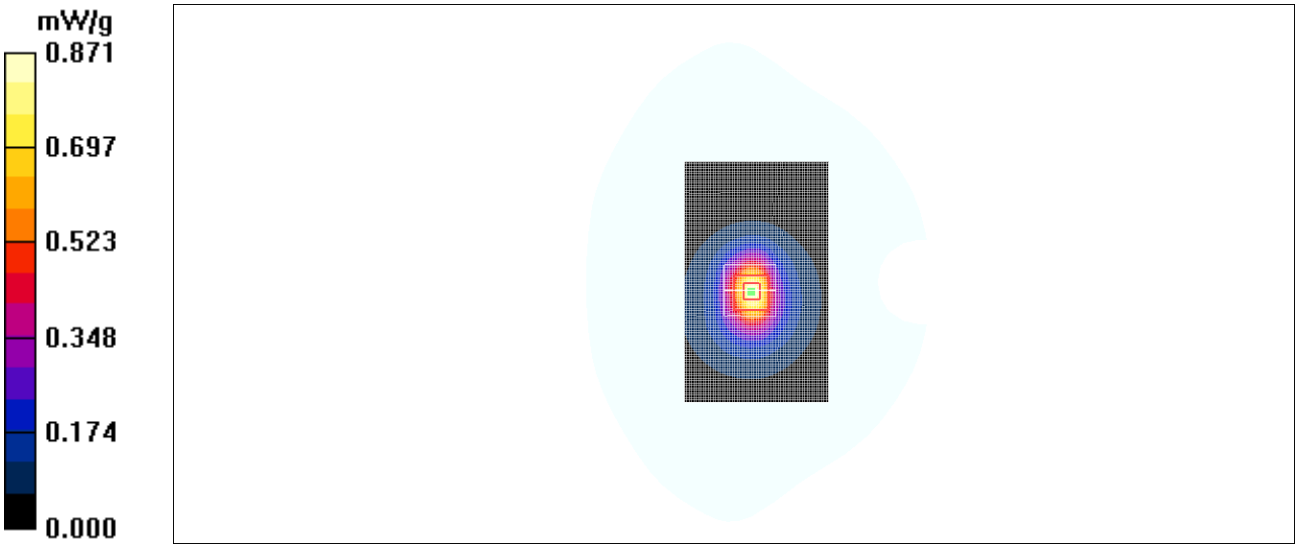


Fig. 92 1900 MHz CH9538

WCDMA 1900 Body Bottom Side Middle
Date/Time: 2011-8-2 21:07:26
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1
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) = 1.10 mW/g

Bottom Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.2 V/m; Power Drift = -0.079 dB
Peak SAR (extrapolated) = 1.63 W/kg
SAR(1 g) = 0.989 mW/g; SAR(10 g) = 0.552 mW/g
Maximum value of SAR (measured) = 1.11 mW/g

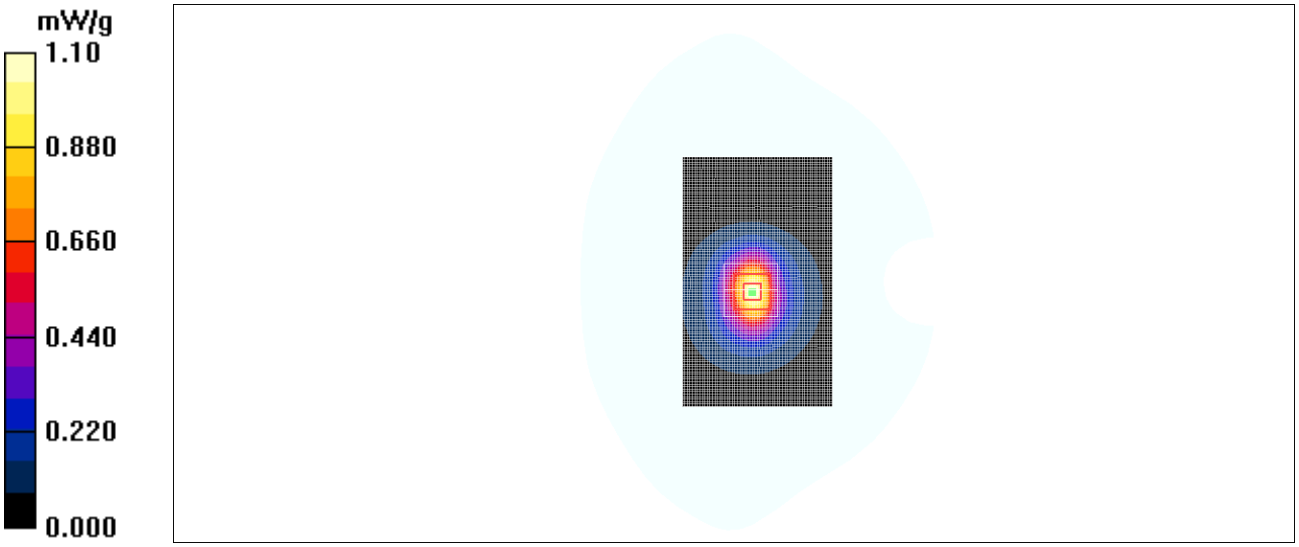


Fig. 93 1900 MHz CH9400

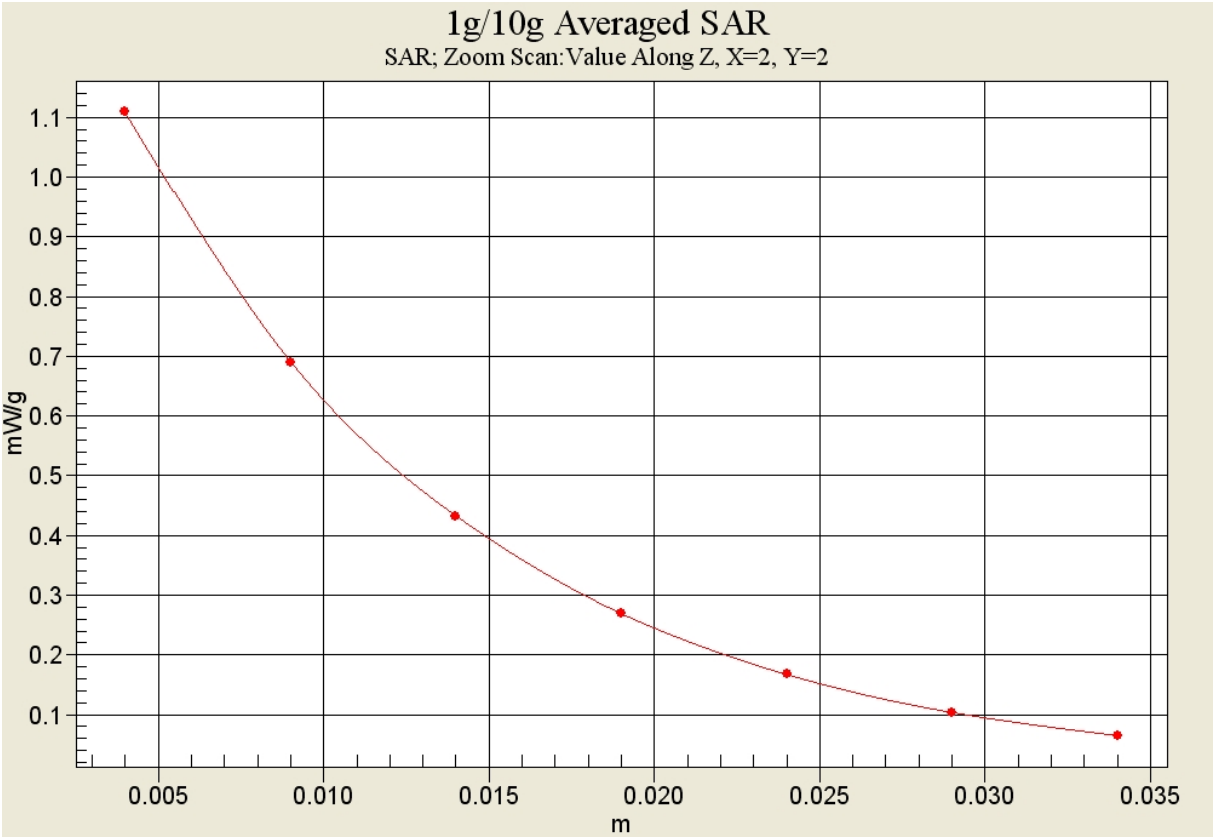


Fig. 93-1 Z-Scan at power reference point (1900 MHz CH9400)

WCDMA 1900 Body Bottom Side Low

Date/Time: 2011-8-2 21:26:33
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.48 mho/m; εr = 53.6; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Bottom Side Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.829 mW/g

Bottom Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.2 V/m; Power Drift = -0.059 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.754 mW/g; SAR(10 g) = 0.422 mW/g
Maximum value of SAR (measured) = 0.849 mW/g

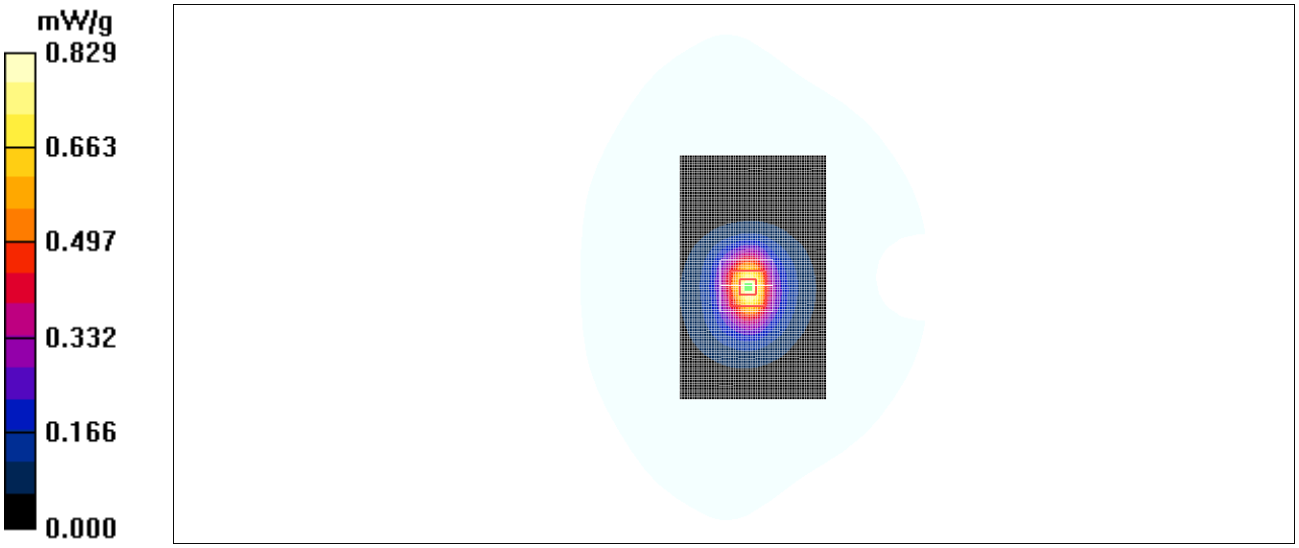


Fig. 94 1900 MHz CH9262

WCDMA 1900 Body Bottom Side Middle with Headset_CCB3160A11C1
Date/Time: 2011-8-2 21:43:31
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1
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) = 0.870 mW/g

Bottom Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.7 V/m; Power Drift = -0.103 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.804 mW/g; SAR(10 g) = 0.450 mW/g
Maximum value of SAR (measured) = 0.903 mW/g

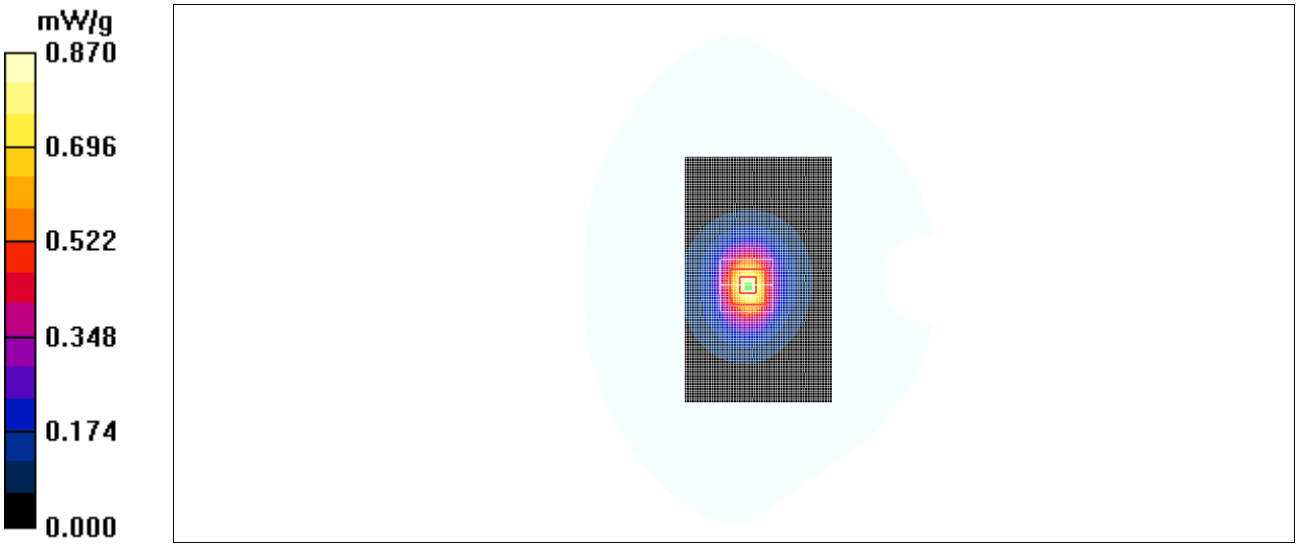


Fig. 95 1900 MHz CH9400

WCDMA 1900 Body Bottom Side Middle with Headset_CCB3160A11C2
Date/Time: 2011-8-2 21:59:14
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1
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) = 0.854 mW/g

Bottom Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.9 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.784 mW/g; SAR(10 g) = 0.439 mW/g
Maximum value of SAR (measured) = 0.872 mW/g

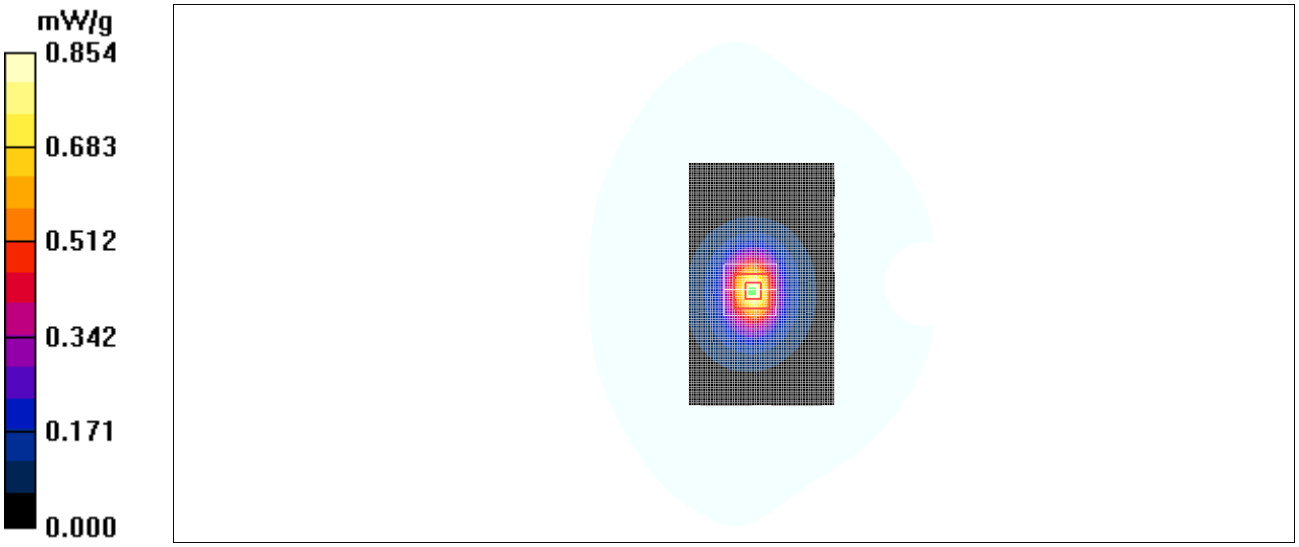


Fig. 96 1900 MHz CH9400

WiFi 802.11b 1Mbps Left Cheek Channel 6
Date/Time: 2011-8-16 8:02:23
Electronics: DAE4 Sn771
Medium: Head 2450 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.83 mho/m; εr = 39.5; ρ = 1000 kg/m^3
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) = 0.027 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.55 V/m; Power Drift = 0.072 dB
Peak SAR (extrapolated) = 0.037 W/kg
SAR(1 g) = 0.020 mW/g; SAR(10 g) = 0.011 mW/g
Maximum value of SAR (measured) = 0.023 mW/g

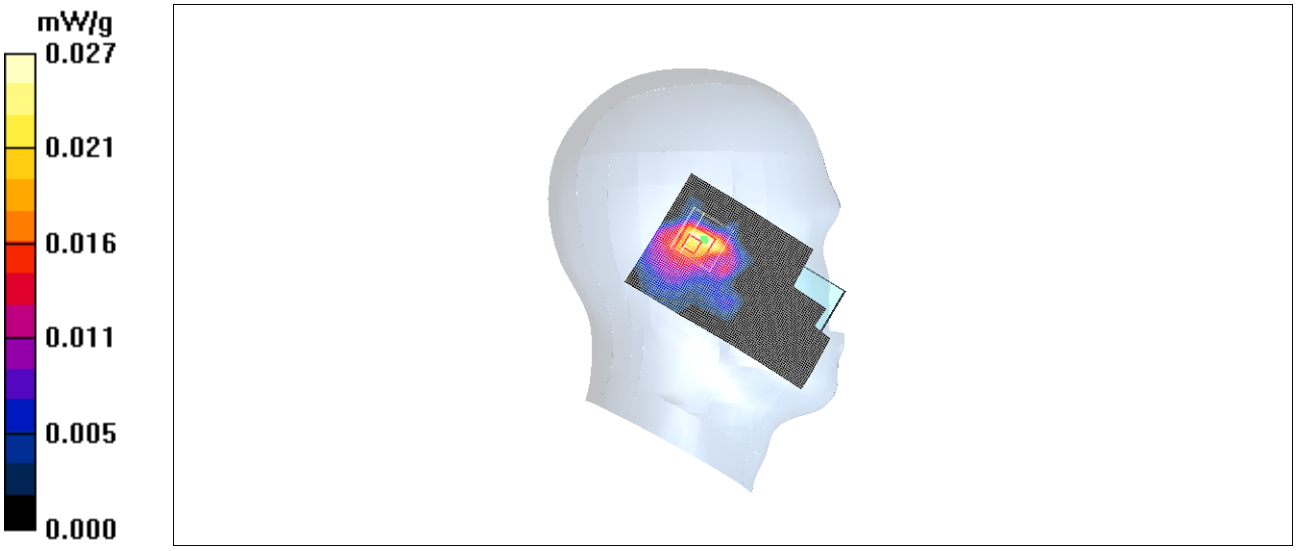


Fig.97 802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Left Tilt Channel 6

Date/Time: 2011-8-16 8:19:32
Electronics: DAE4 Sn771
Medium: Head 2450 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.83 mho/m; εr = 39.5; ρ = 1000 kg/m^3
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) = 0.023 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.17 V/m; Power Drift = 0.148 dB
Peak SAR (extrapolated) = 0.031 W/kg
SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00919 mW/g
Maximum value of SAR (measured) = 0.019 mW/g

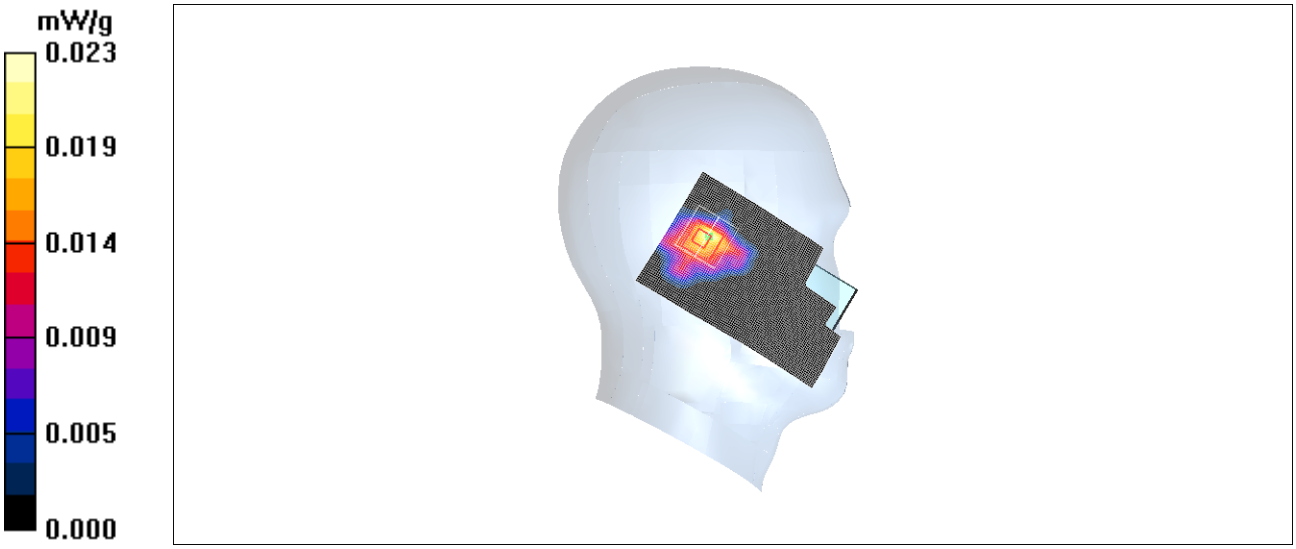


Fig.98 802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Right Cheek Channel 6
Date/Time: 2011-8-16 8:39:58
Electronics: DAE4 Sn771
Medium: Head 2450 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.83 mho/m; εr = 39.5; ρ = 1000 kg/m^3
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) = 0.042 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.94 V/m; Power Drift = 0.170 dB
Peak SAR (extrapolated) = 0.064 W/kg
SAR(1 g) = 0.030 mW/g; SAR(10 g) = 0.014 mW/g
Maximum value of SAR (measured) = 0.033 mW/g

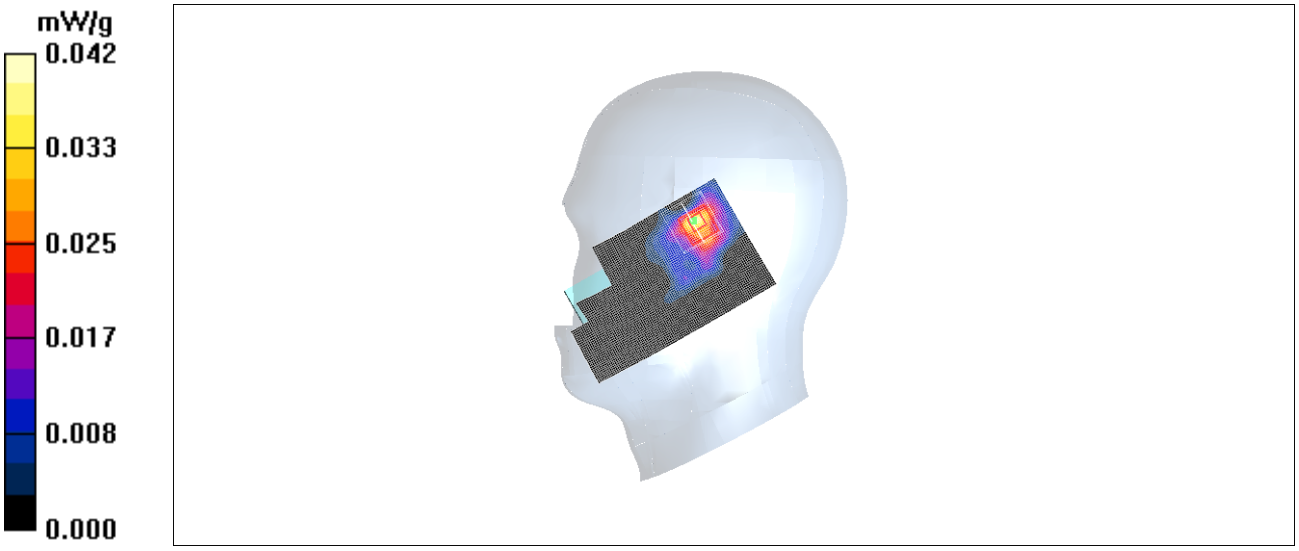


Fig.99 802.11b 1Mbps CH6

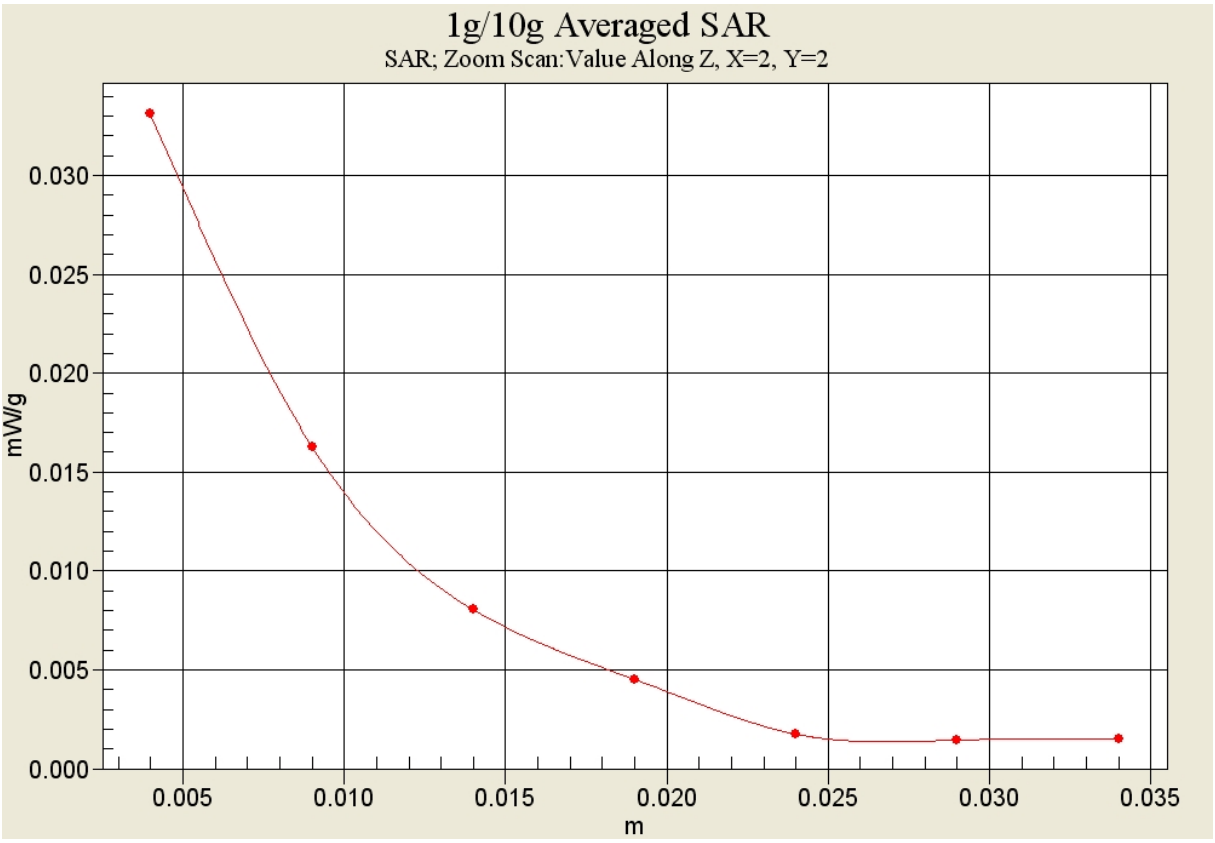


Fig. 99-1 Z-Scan at power reference point (802.11b 1Mbps CH6)

WiFi 802.11b 1Mbps Right Tilt Channel 6
Date/Time: 2011-8-16 8:58:28
Electronics: DAE4 Sn771
Medium: Head 2450 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.83 mho/m; εr = 39.5; ρ = 1000 kg/m^3
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) = 0.022 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.97 V/m; Power Drift = 0.147 dB
Peak SAR (extrapolated) = 0.027 W/kg
SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00751 mW/g
Maximum value of SAR (measured) = 0.018 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.97 V/m; Power Drift = 0.147 dB
Peak SAR (extrapolated) = 0.040 W/kg
SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00808 mW/g
Maximum value of SAR (measured) = 0.018 mW/g

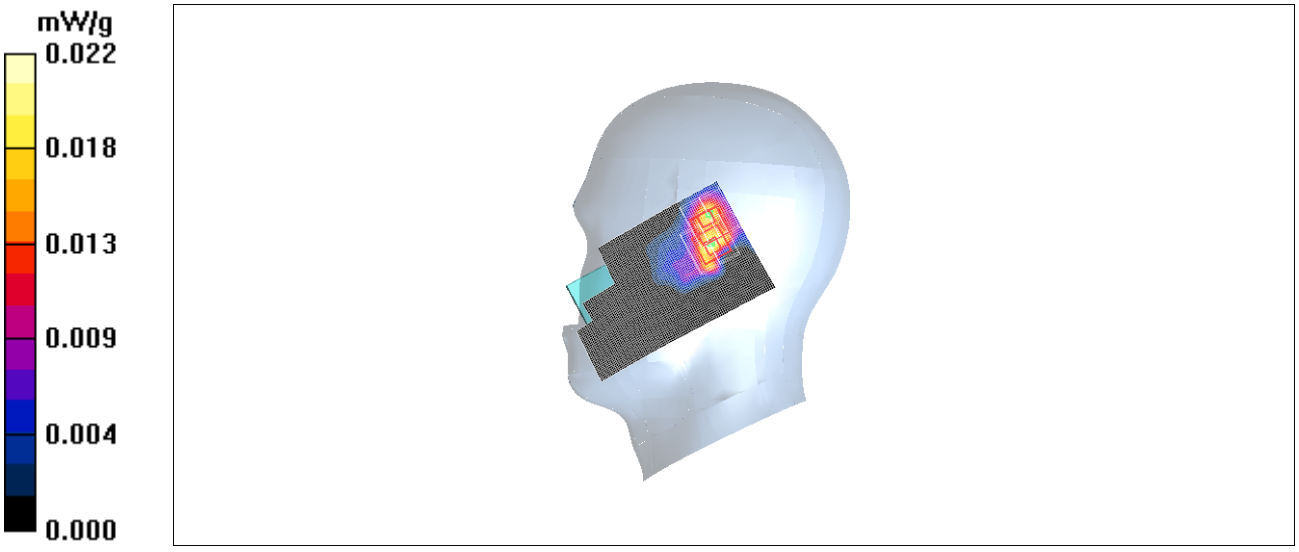


Fig.100 802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Toward Phantom Channel 6
Date/Time: 2011-8-16 12:32:35
Electronics: DAE4 Sn771
Medium: Body 2450 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.99 mho/m; εr = 52.4; ρ = 1000 kg/m^3
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) = 0.016 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.952 V/m; Power Drift = 0.137 dB
Peak SAR (extrapolated) = 0.045 W/kg
SAR(1 g) = 0.00978 mW/g; SAR(10 g) = 0.00421 mW/g
Maximum value of SAR (measured) = 0.009 mW/g

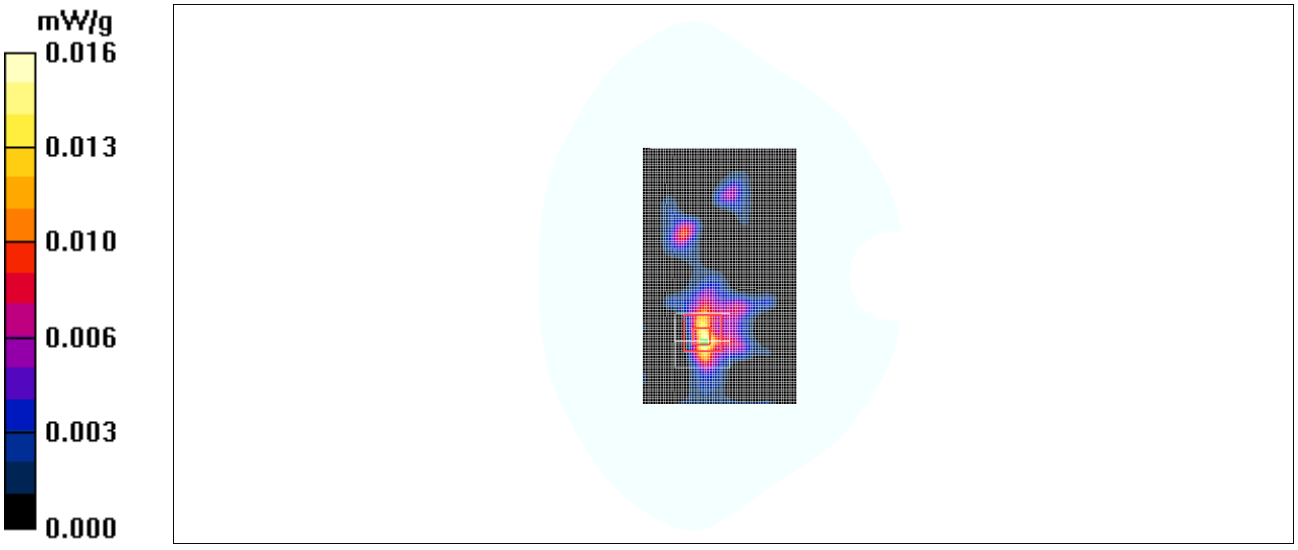


Fig.101 802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Toward Ground Channel 6

Date/Time: 2011-8-16 12:51:05
Electronics: DAE4 Sn771
Medium: Body 2450 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.99 mho/m; εr = 52.4; ρ = 1000 kg/m^3
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) = 0.025 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.13 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 0.041 W/kg
SAR(1 g) = 0.021 mW/g; SAR(10 g) = 0.012 mW/g
Maximum value of SAR (measured) = 0.023 mW/g

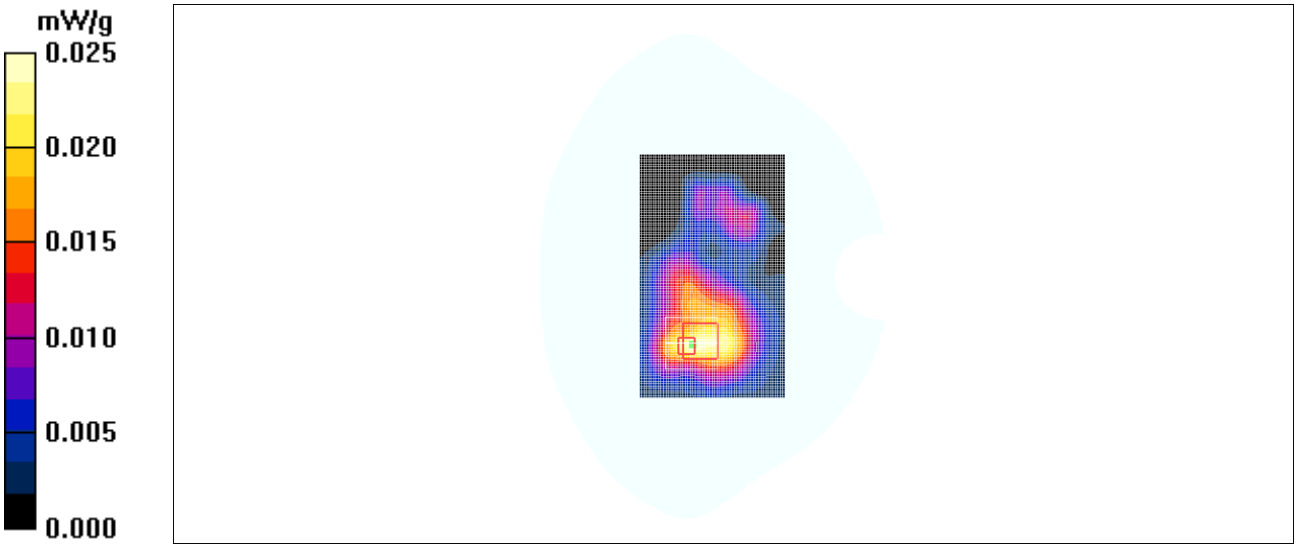


Fig.102 802.11b 1Mbps CH6

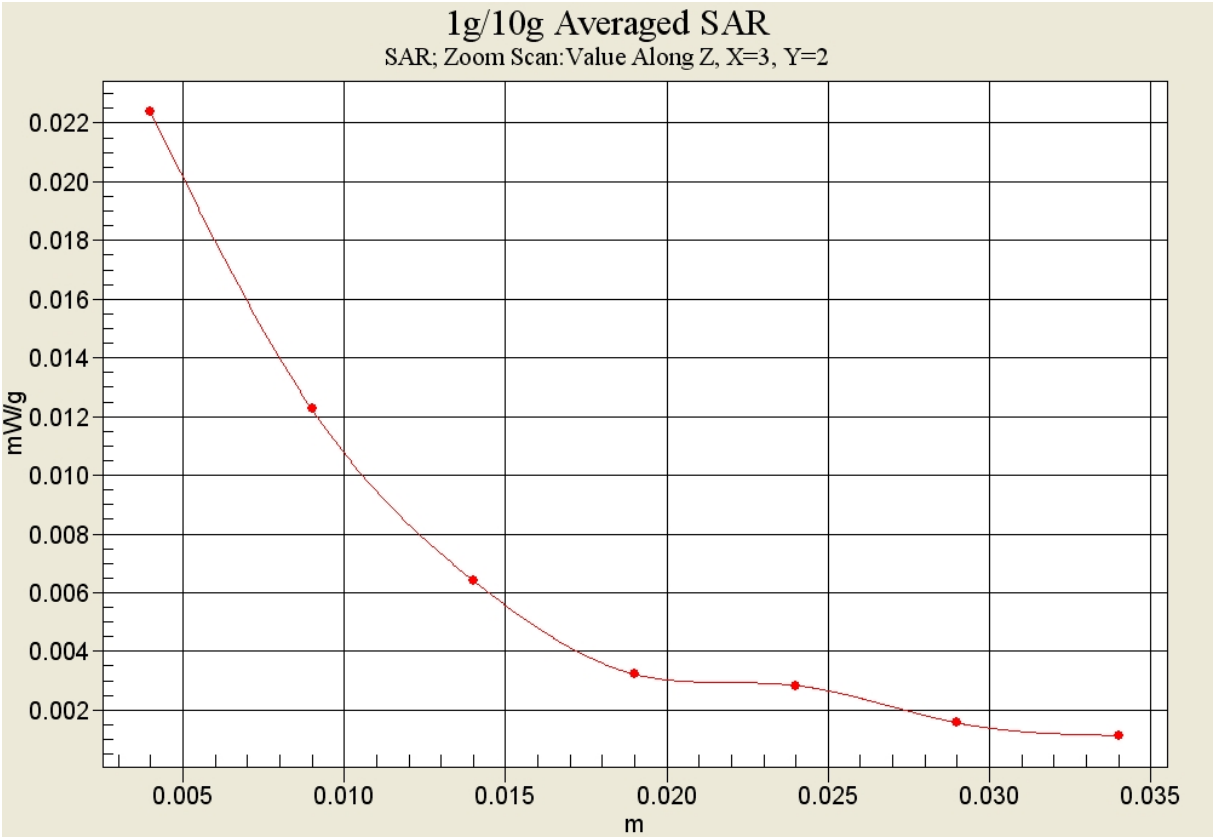


Fig. 102-1 Z-Scan at power reference point (802.11b 1Mbps CH6)

WiFi 802.11b 1Mbps Left Side Channel 6

Date/Time: 2011-8-16 13:14:32
Electronics: DAE4 Sn771
Medium: Body 2450 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.99 mho/m; εr = 52.4; ρ = 1000 kg/m^3
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) = 0.016 mW/g

Left Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.97 V/m; Power Drift = 0.121 dB
Peak SAR (extrapolated) = 0.030 W/kg
SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00561 mW/g
Maximum value of SAR (measured) = 0.014 mW/g

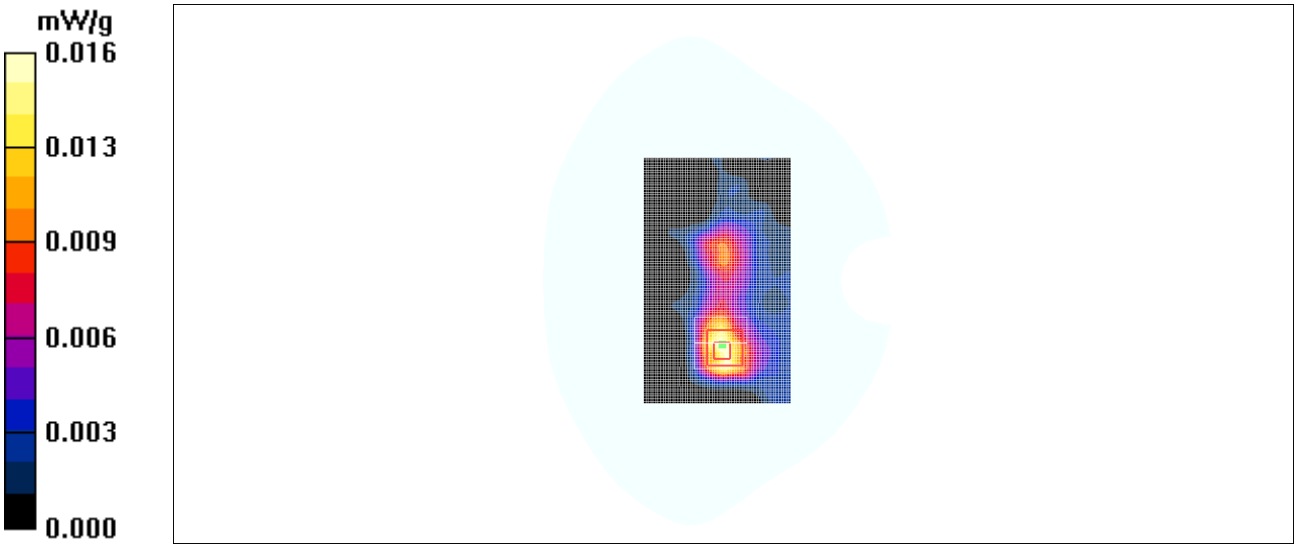


Fig.103 802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Top Side Channel 6
Date/Time: 2011-8-16 13:30:47
Electronics: DAE4 Sn771
Medium: Body 2450 MHz
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.99 mho/m; εr = 52.4; ρ = 1000 kg/m^3
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) = 0.014 mW/g

Top Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.45 V/m; Power Drift = 0.131 dB
Peak SAR (extrapolated) = 0.020 W/kg
SAR(1 g) = 0.00991 mW/g; SAR(10 g) = 0.00475 mW/g
Maximum value of SAR (measured) = 0.011 mW/g

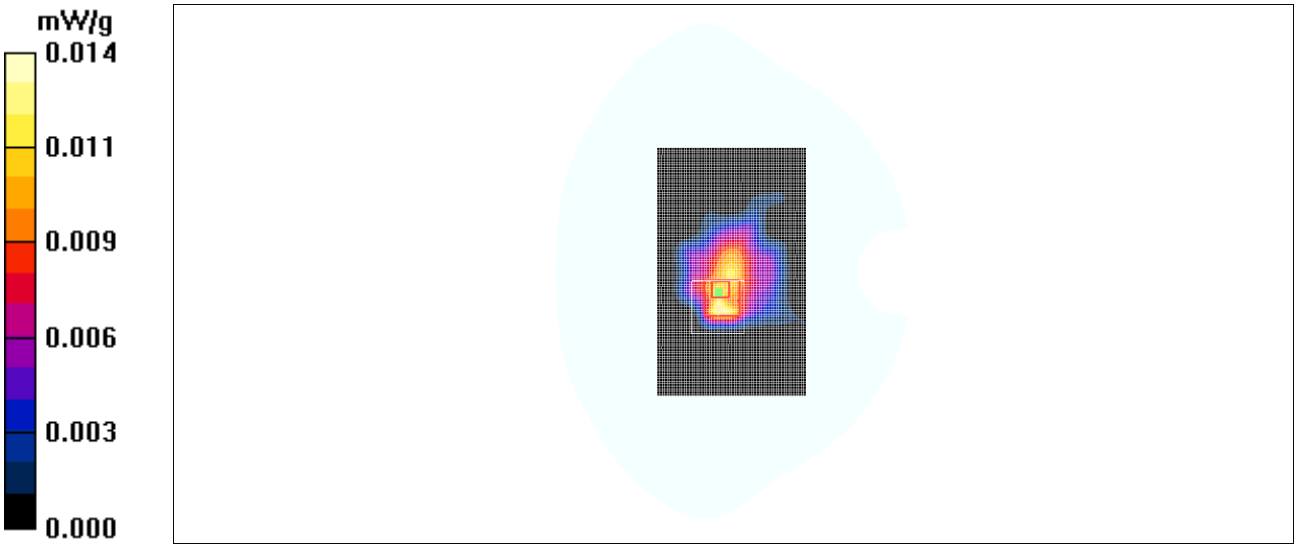


Fig.104 802.11b 1Mbps CH6

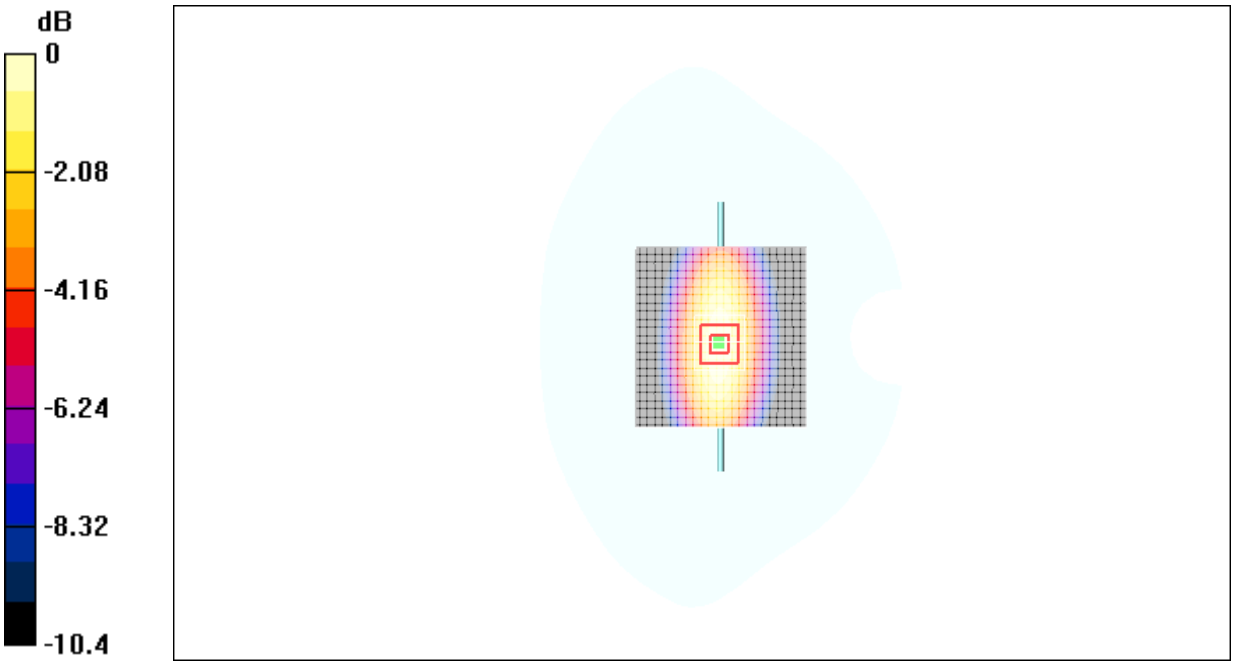
ANNEX D SYSTEM VALIDATION RESULTS

835MHz

Date/Time: 2011-8-1 7:04:12
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.90 mho/m; ε_r = 41.9; ρ = 1000 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=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.51 mW/g

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.9 V/m; Power Drift = -0.121 dB
Peak SAR (extrapolated) = 3.34 W/kg
SAR(1 g) = 2.29 mW/g; SAR(10 g) = 1.47 mW/g
Maximum value of SAR (measured) = 2.45 mW/g



0 dB = 2.45mW/g

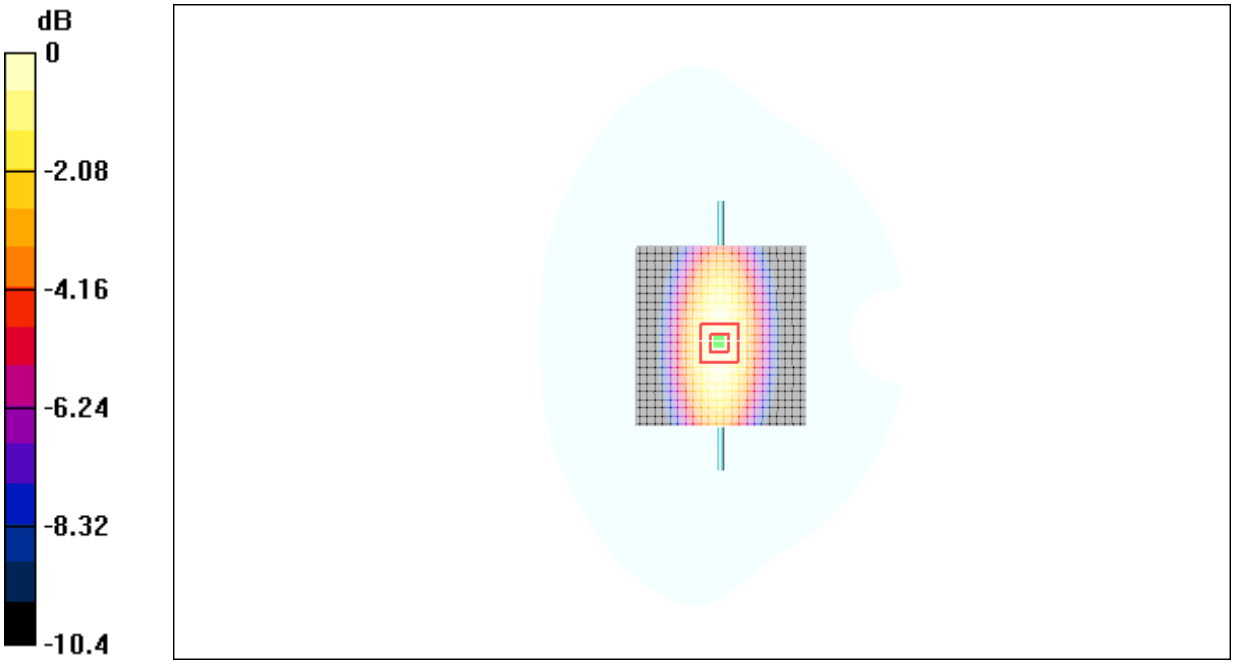
Fig.105 validation 835MHz 250mW

835MHz

Date/Time: 2011-8-1 14:58:06
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.95 mho/m; ε_r = 54.2; ρ = 1000 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=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.53 mW/g

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 51.2 V/m; Power Drift = 0.111 dB
Peak SAR (extrapolated) = 3.36 W/kg
SAR(1 g) = 2.41 mW/g; SAR(10 g) = 1.55 mW/g
Maximum value of SAR (measured) = 2.48 mW/g



0 dB = 2.48mW/g

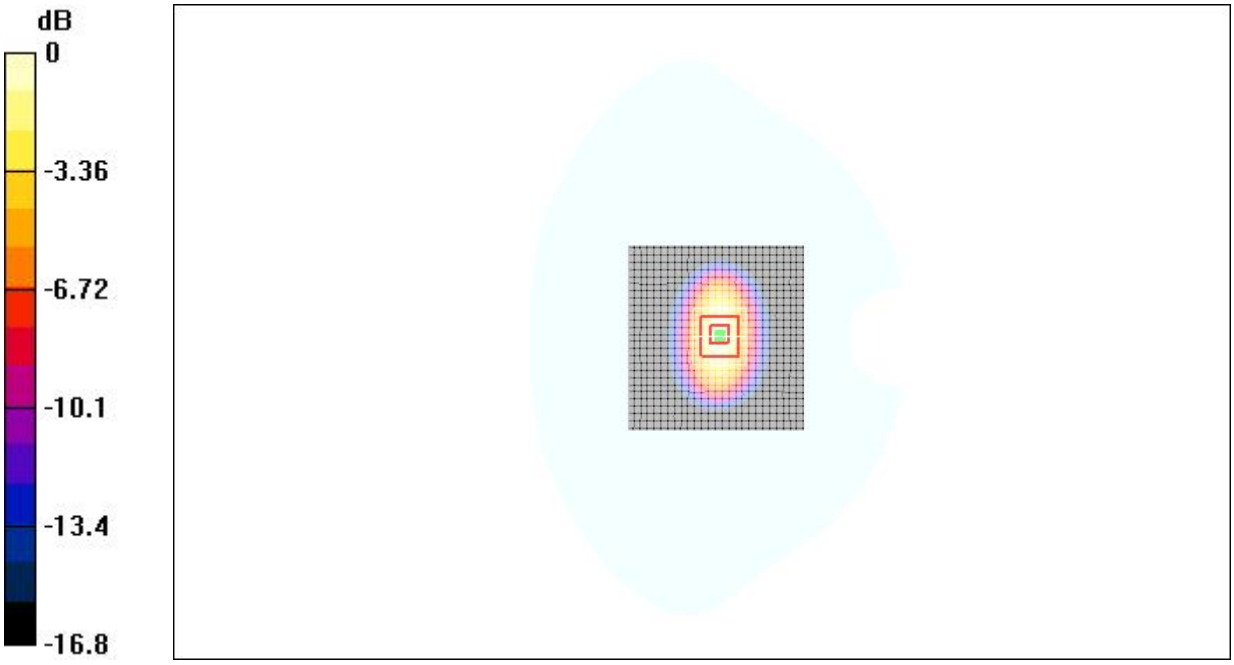
Fig.106 validation 835MHz 250mW

1900MHz

Date/Time: 2011-8-2 7:11:25
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.40 mho/m; ε_r = 40.5; ρ = 1000 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(5.03, 5.03, 5.03)

System Validation/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.1 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.1 V/m; Power Drift = -0.125 dB
Peak SAR (extrapolated) = 14.3 W/kg
SAR(1 g) = 9.61 mW/g; SAR(10 g) = 4.96 mW/g
Maximum value of SAR (measured) = 10.1 mW/g



0 dB = 10.1mW/g

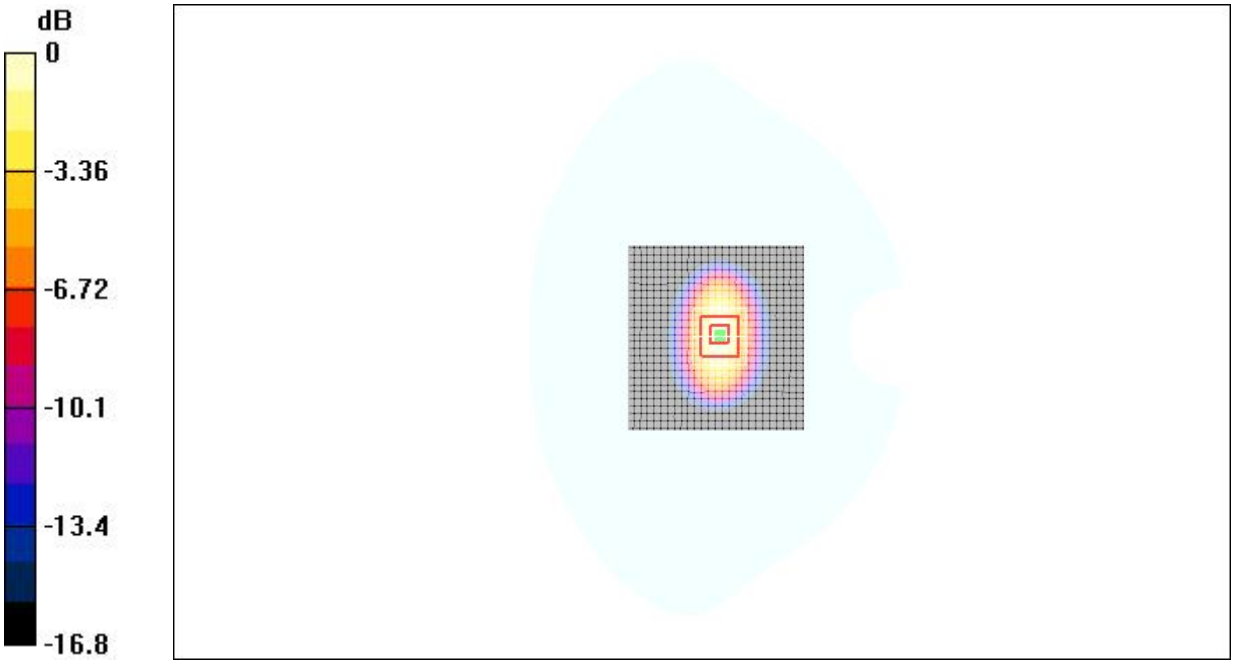
Fig.107 validation 1900MHz 250mW

1900MHz

Date/Time: 2011-8-2 14:39:51
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.54 mho/m; ε_r = 52.1; ρ = 1000 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=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.3 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.2 V/m; Power Drift = 0.102 dB
Peak SAR (extrapolated) = 15.4 W/kg
SAR(1 g) = 10.28 mW/g; SAR(10 g) = 5.14 mW/g
Maximum value of SAR (measured) = 10.9 mW/g



0 dB = 10.9mW/g

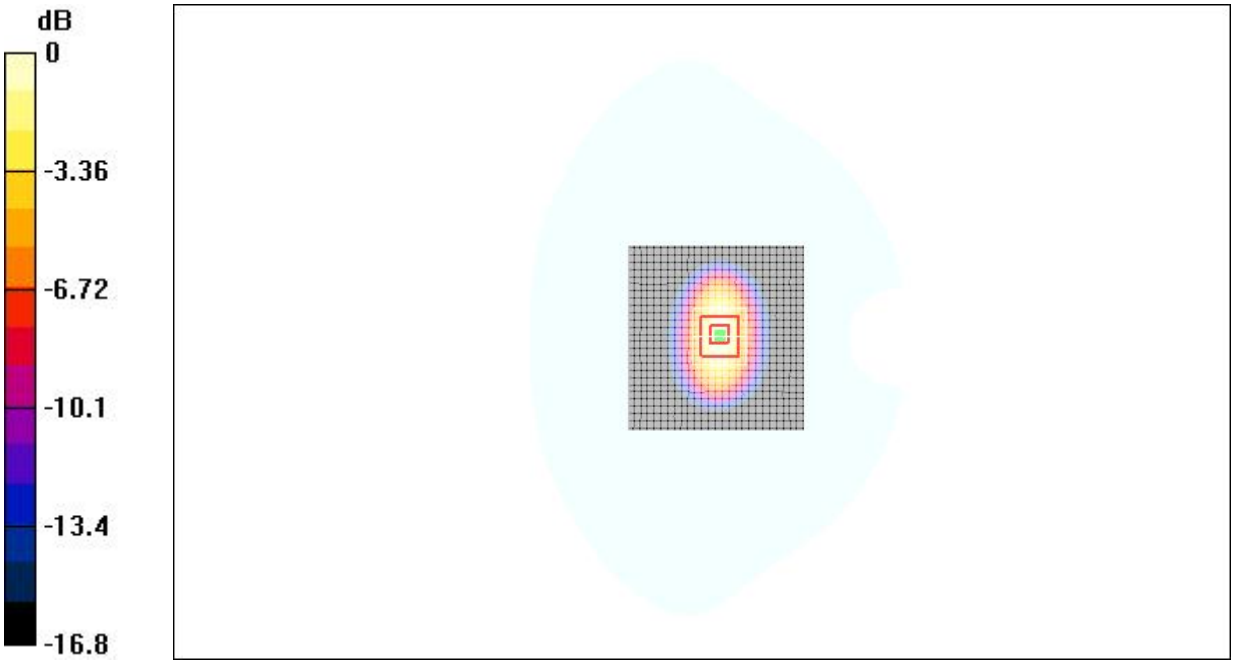
Fig.108 validation 1900MHz 250mW

2450MHz

Date/Time: 2011-8-16 7:12:35
Electronics: DAE4 Sn771
Medium: Head 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.82 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
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



0 dB = 14.0mW/g

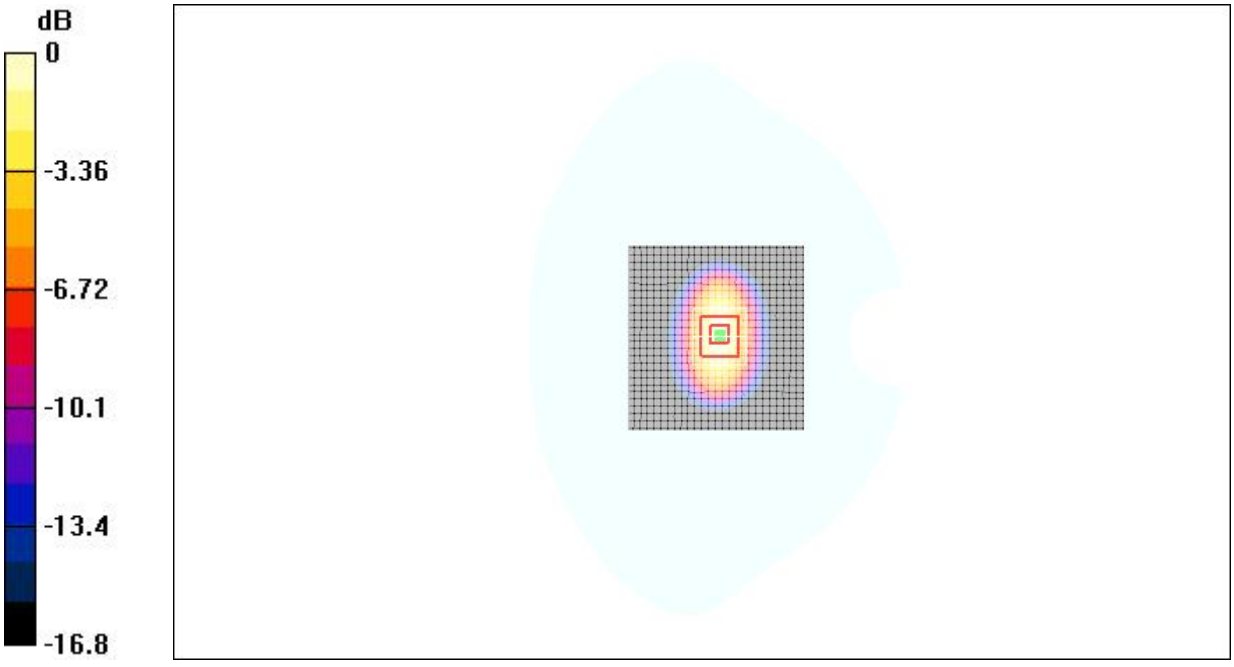
Fig.109 validation 2450MHz 250mW

2450MHz

Date/Time: 2011-8-16 7:36:44
Electronics: DAE4 Sn771
Medium: Body 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.93 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
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.110 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)°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	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
Calibrated by:	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
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
NORMx,y,z	sensitivity in free space
ConF	sensitivity in TSL / NORMx,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., ϑ = 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:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,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 ≤ 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 *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe ES3DV3

SN: 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

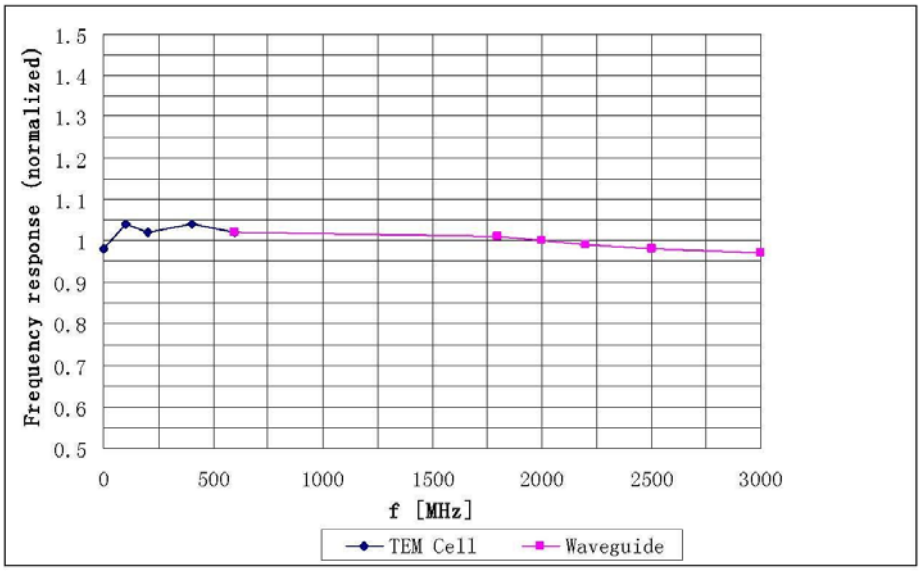
Probe Tip to Sensor Center	2.0 mm

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2,which for a normal distributio 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 **September 25, 2010**

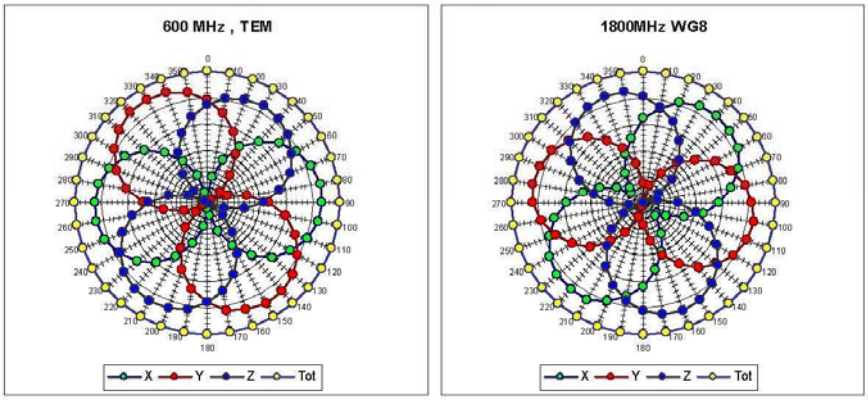
Frequency Response of E-Field

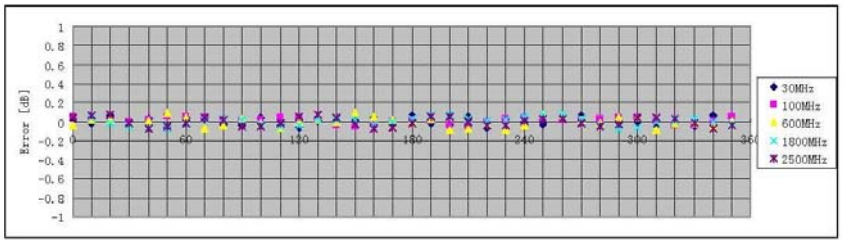


Uncertainty of Frequency Response of E-field: ±5.0% (k=2)

ES3DV3 SN: 3149 **September 25, 2010**

Receiving Pattern (ϕ), θ =0°

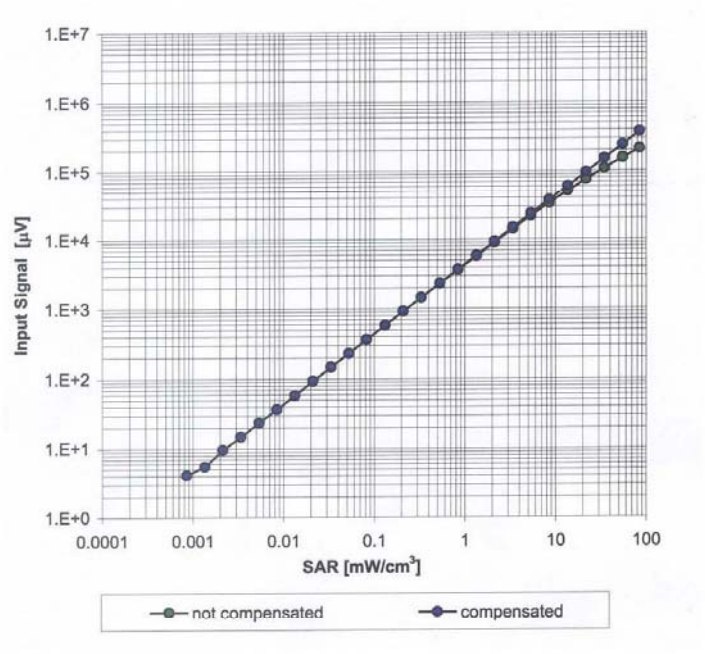


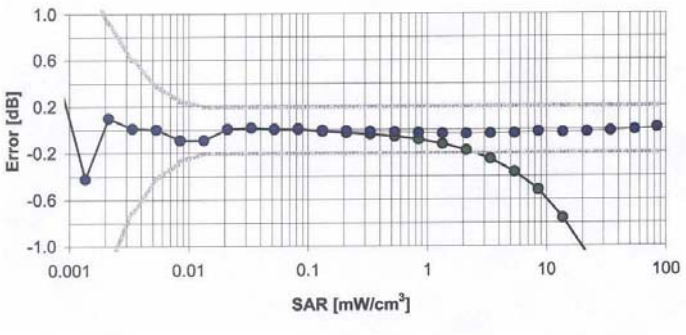


Uncertainty of Axial Isotropy Assessment: ±0.5% (k=2)

Dynamic Range f(SAR_{head})

(Waveguide: WG8, f = 1800 MHz)





Uncertainty of Linearity Assessment: ±0.5% (k=2)