850 Body Towards Phantom Middle with GPRS

Date/Time: 2011-5-11 08:11:32

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 mho/m; εr = 56.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:4

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) = 1.13 mW/g

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

Reference Value = 29.3 V/m; Power Drift = -0.068 dB

Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.761 mW/g

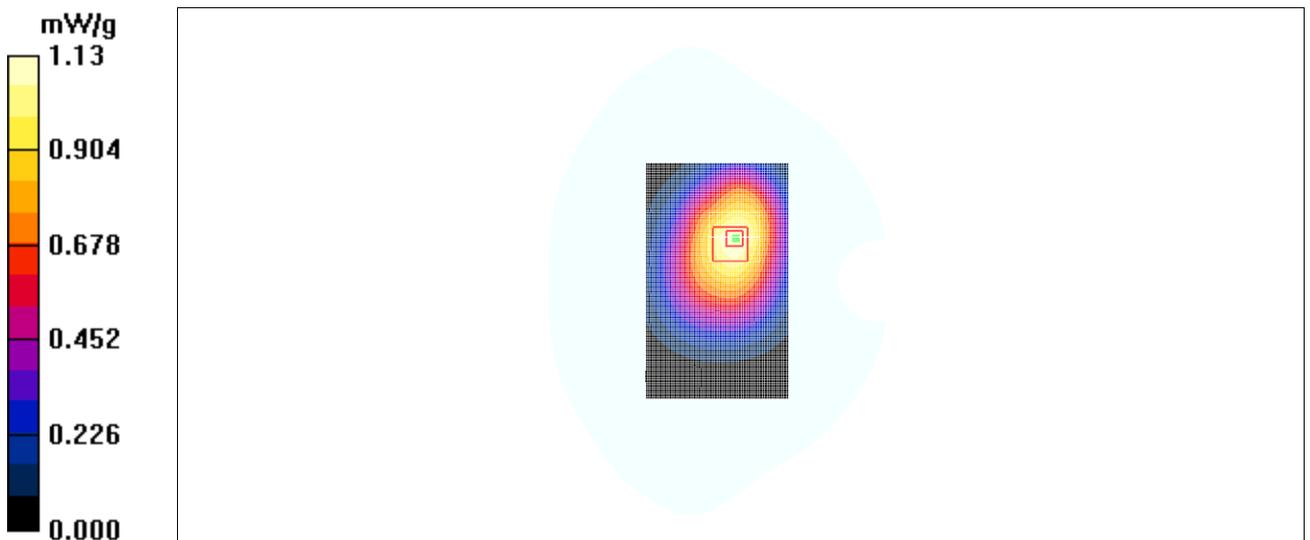Maximum value of SAR (measured) = 1.12 mW/g

Fig. 50   850 MHz CH190

850 Body Towards Phantom Low with GPRS

Date/Time: 2011-5-11 08:42:19

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: f = 825 MHz; σ = 0.94 mho/m; εr = 57.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:4

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) = 0.969 mW/g

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

Reference Value = 27.9 V/m; Power Drift = -0.010 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.911 mW/g; SAR(10 g) = 0.657 mW/g
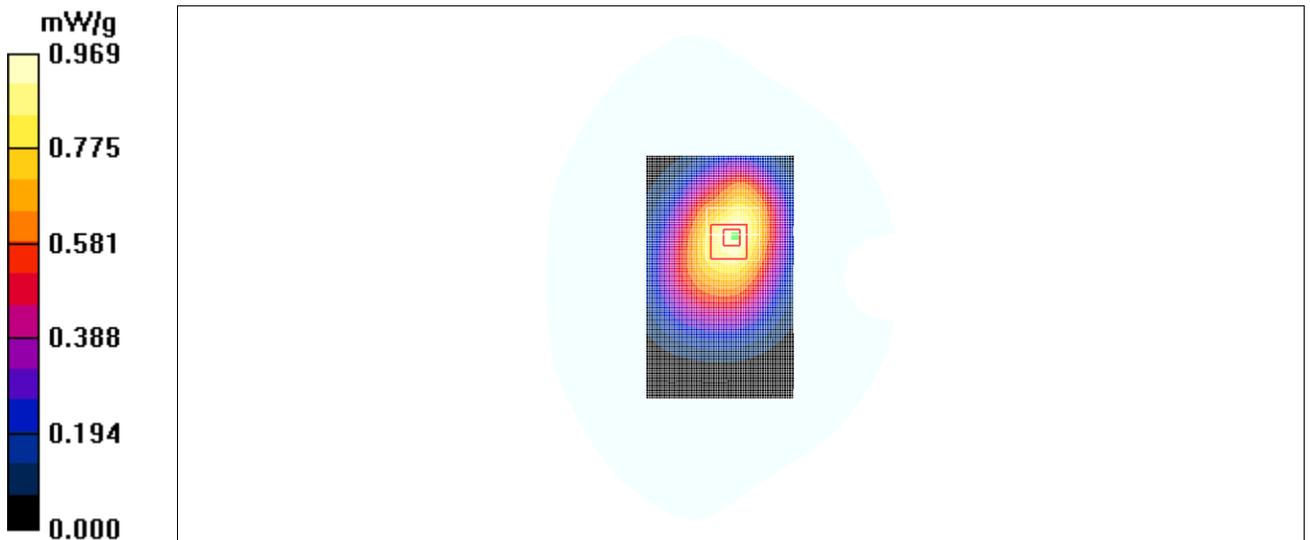
Maximum value of SAR (measured) = 0.964 mW/g

Fig. 51   850 MHz CH128

850 Body Towards Ground High with GPRS

Date/Time: 2011-5-11 09:14:20

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.95 mho/m; εr = 56.0; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:4

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) = 1.11 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 = 0.046 dB

Peak SAR (extrapolated) = 1.39 W/kg

SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.767 mW/g
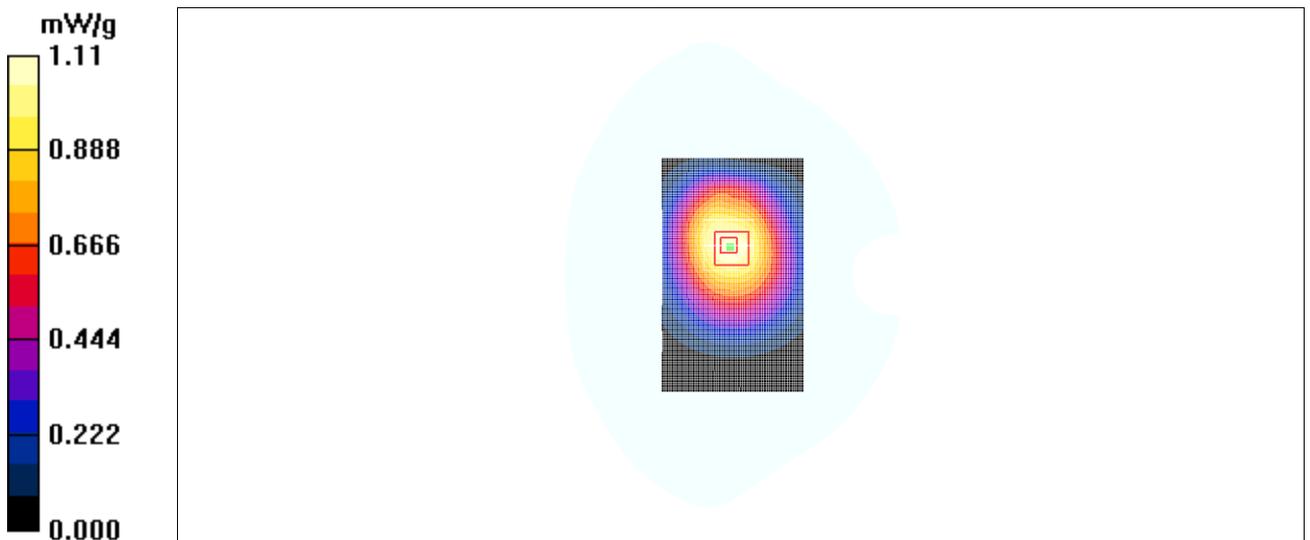
Maximum value of SAR (measured) = 1.12 mW/g

Fig. 52   850 MHz CH251

850 Body Towards Ground Middle with GPRS

Date/Time: 2011-5-11 08:58:57

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 mho/m; εr = 56.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:4

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) = 1.31 mW/g

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

Reference Value = 33.1 V/m; Power Drift = -0.013 dB

Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.906 mW/g
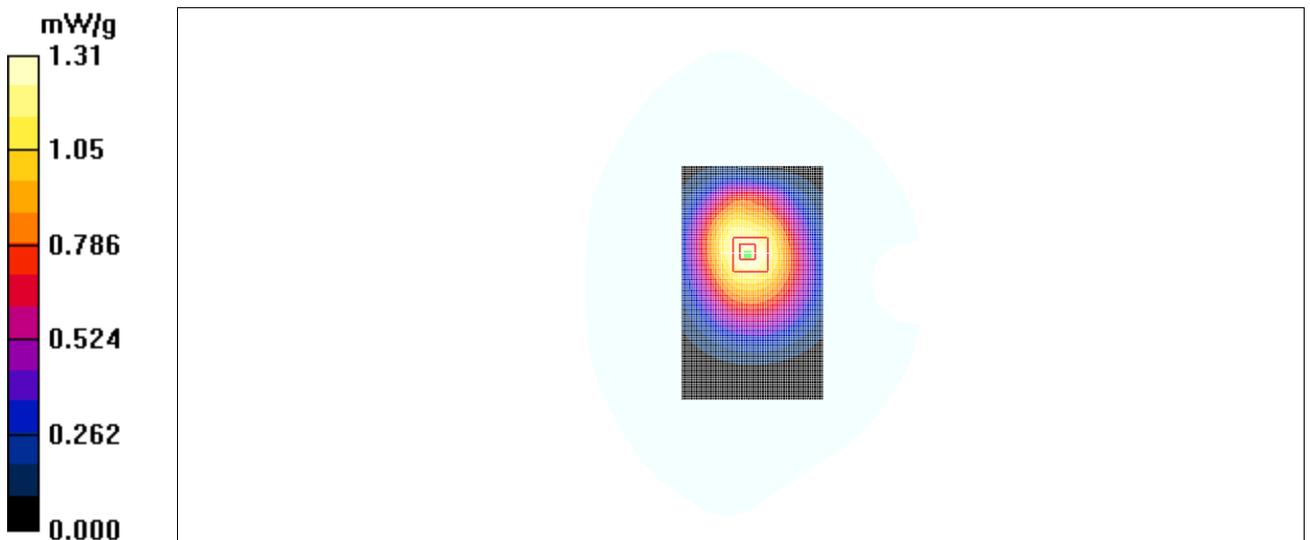
Maximum value of SAR (measured) = 1.32 mW/g

Fig. 53   850 MHz CH190

850 Body Towards Ground Low with GPRS

Date/Time: 2011-5-11 09:29:45

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: f = 825 MHz; σ = 0.94 mho/m; εr = 57.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:4

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) = 1.44 mW/g

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

Reference Value = 34.6 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 1.81 W/kg

SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.987 mW/g

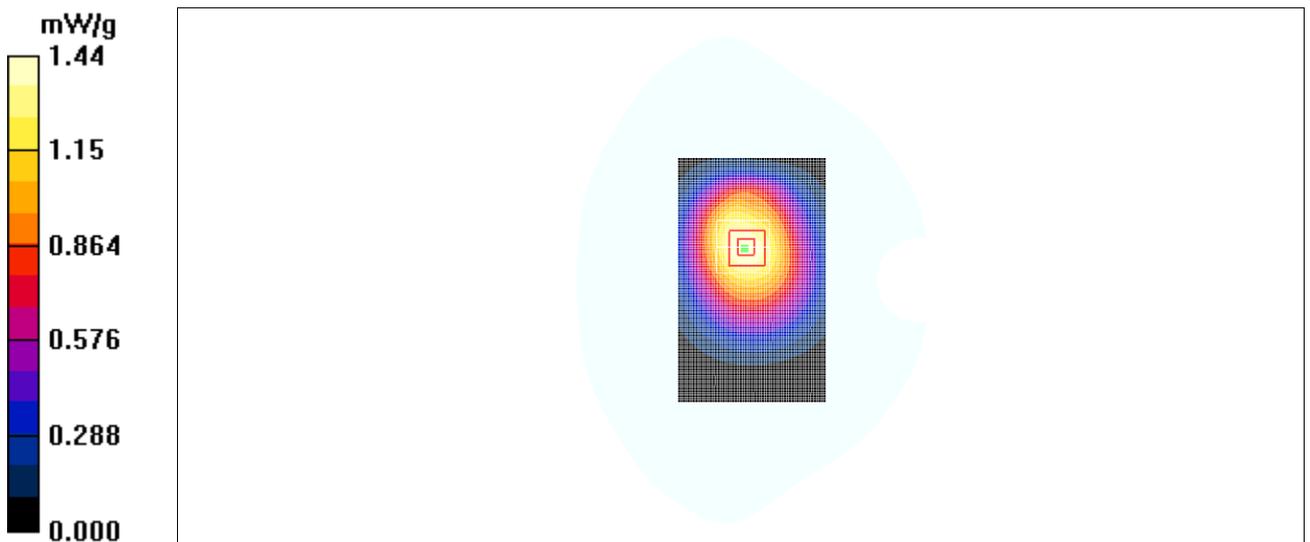Maximum value of SAR (measured) = 1.44 mW/g
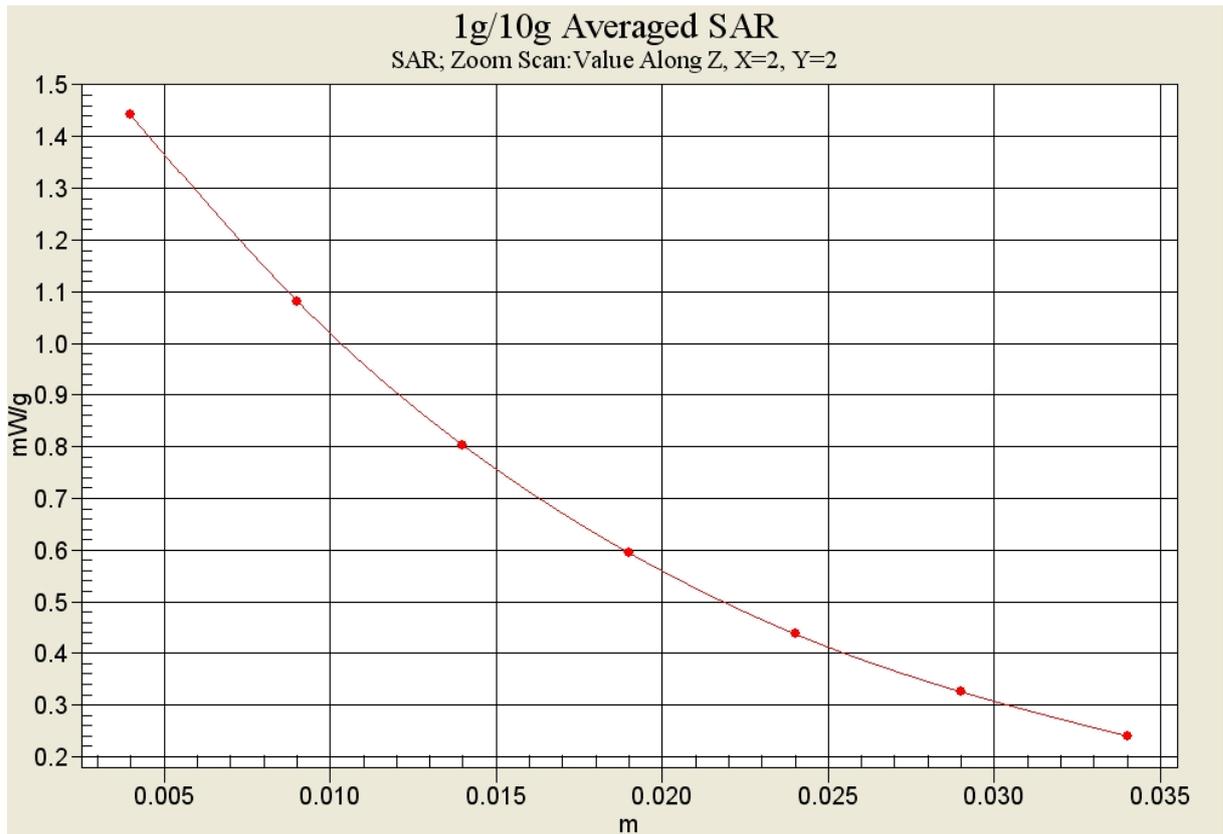

Fig. 54   850 MHz CH128

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

850 Body Left Side High with GPRS

Date/Time: 2011-5-11 10:00:36

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.95 mho/m; εr = 56.0; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:4

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

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

Maximum value of SAR (interpolated) = 0.906 mW/g

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

Reference Value = 30.4 V/m; Power Drift = 0.000 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.853 mW/g; SAR(10 g) = 0.575 mW/g

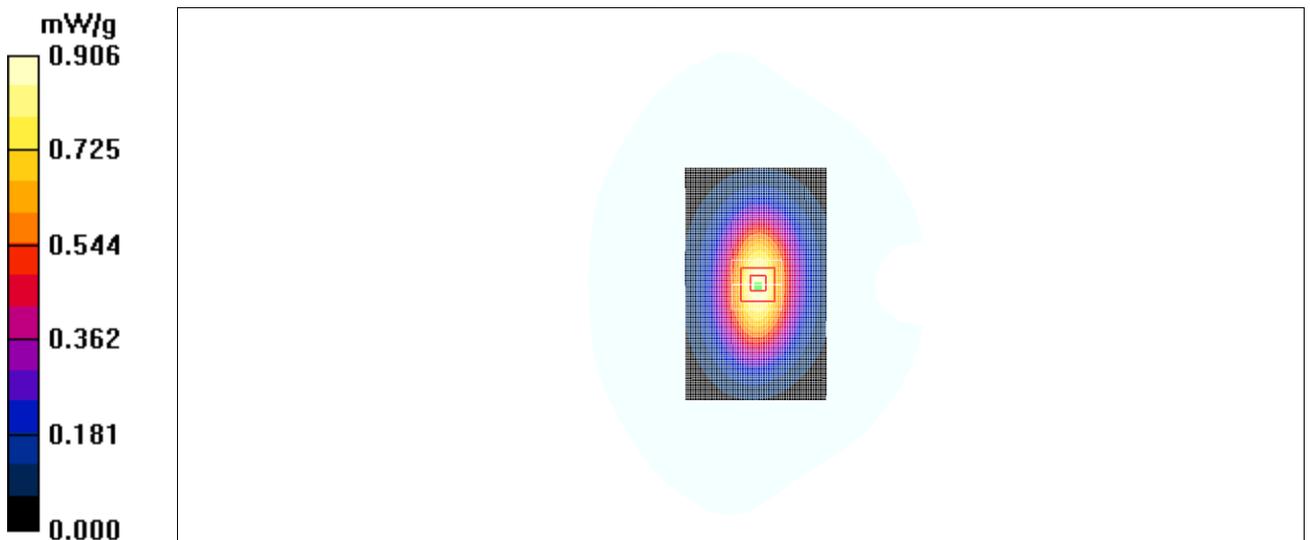Maximum value of SAR (measured) = 0.920 mW/g

Fig. 55   850 MHz CH251

850 Body Left Side Middle with GPRS

Date/Time: 2011-5-11 09:45:18

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 mho/m; εr = 56.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:4

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) = 1.05 mW/g

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

Reference Value = 32.0 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 1.38 W/kg

SAR(1 g) = 0.976 mW/g; SAR(10 g) = 0.661 mW/g

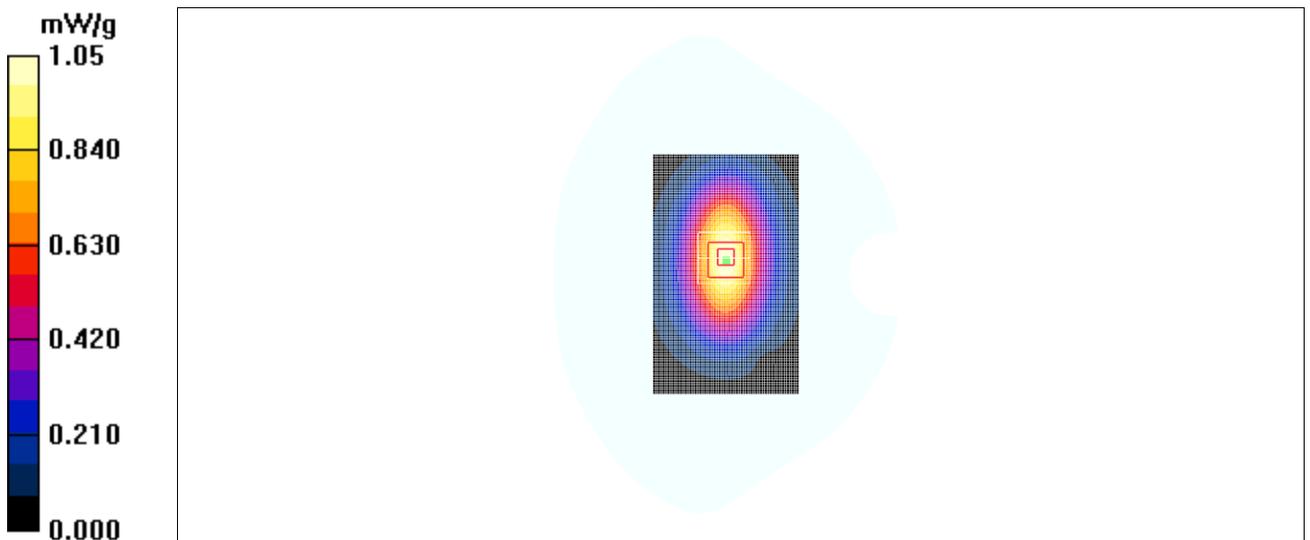Maximum value of SAR (measured) = 1.05 mW/g

Fig. 56   850 MHz CH190

850 Body Left Side Low with GPRS

Date/Time: 2011-5-11 10:15:56

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: f = 825 MHz; σ = 0.94 mho/m; εr = 57.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:4

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) = 0.802 mW/g

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

Reference Value = 28.5 V/m; Power Drift = 0.057 dB

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.751 mW/g; SAR(10 g) = 0.507 mW/g

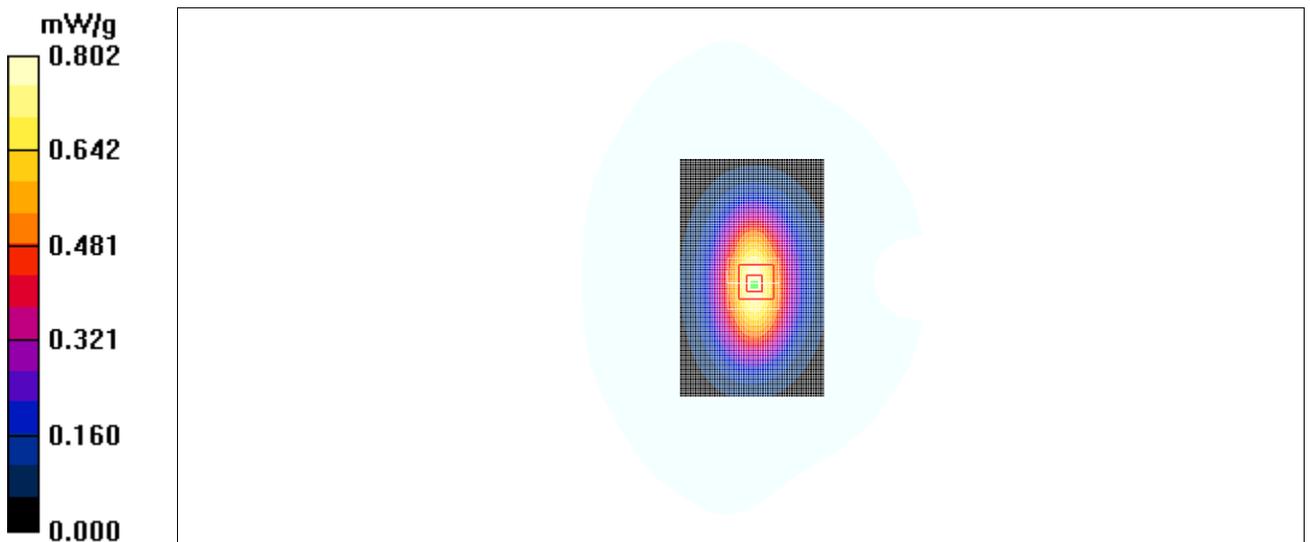Maximum value of SAR (measured) = 0.808 mW/g

Fig. 57   850 MHz CH128

850 Body Right Side Middle with GPRS

Date/Time: 2011-5-11 10:31:27

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 mho/m; εr = 56.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:4

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) = 0.841 mW/g

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

Reference Value = 28.0 V/m; Power Drift = -0.023 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.783 mW/g; SAR(10 g) = 0.539 mW/g

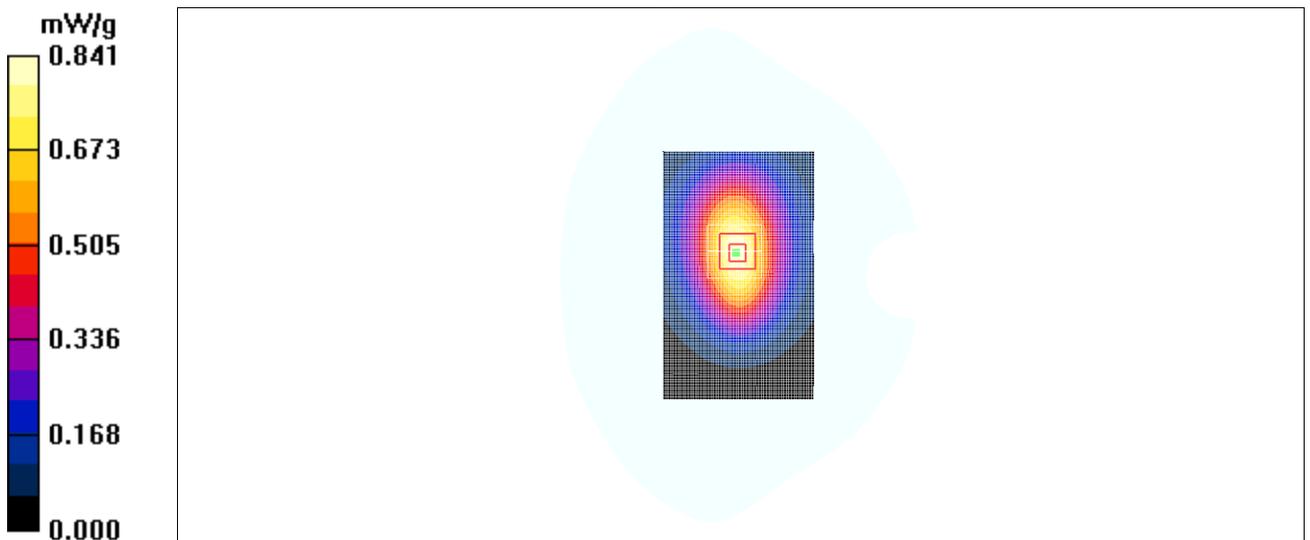Maximum value of SAR (measured) = 0.838 mW/g

Fig. 58   850 MHz CH190

850 Body Bottom Side Middle with GPRS

Date/Time: 2011-5-11 10:46:59

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 mho/m; εr = 56.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:4

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) = 0.107 mW/g

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

Reference Value = 9.91 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.159 W/kg

SAR(1 g) = 0.093 mW/g; SAR(10 g) = 0.054 mW/g

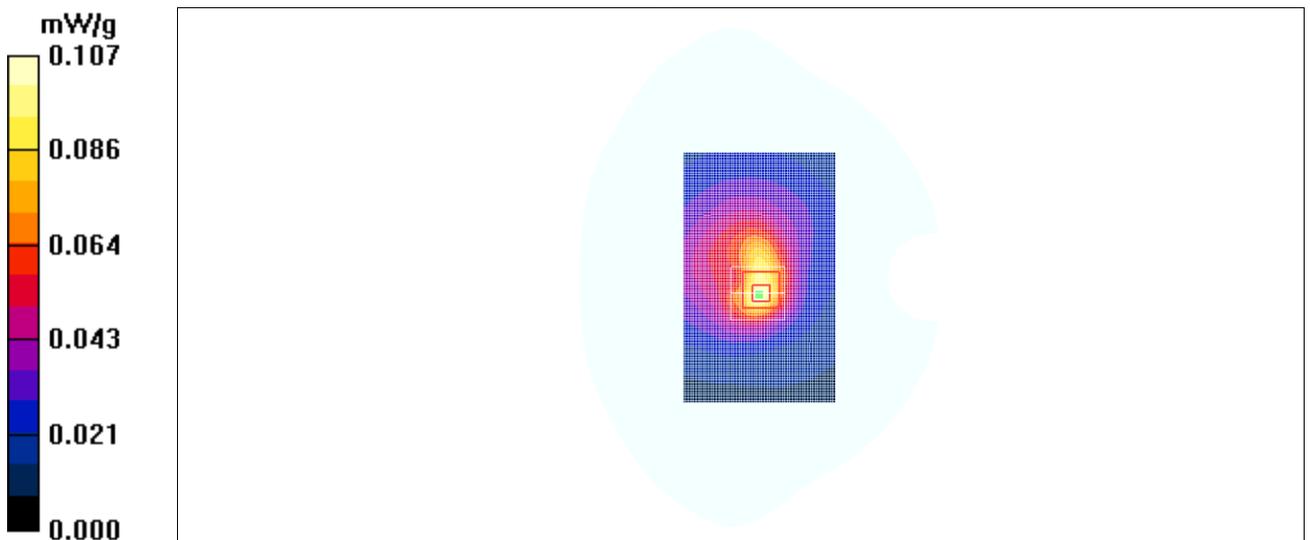Maximum value of SAR (measured) = 0.102 mW/g

Fig. 59   850 MHz CH190

850 Body Towards Ground Low with EGPRS

Date/Time: 2011-5-11 11:03:44

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: f = 825 MHz; σ = 0.94 mho/m; εr = 57.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:4

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) = 1.40 mW/g

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

Reference Value = 35.3 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 1.34 mW/g; SAR(10 g) = 0.975 mW/g

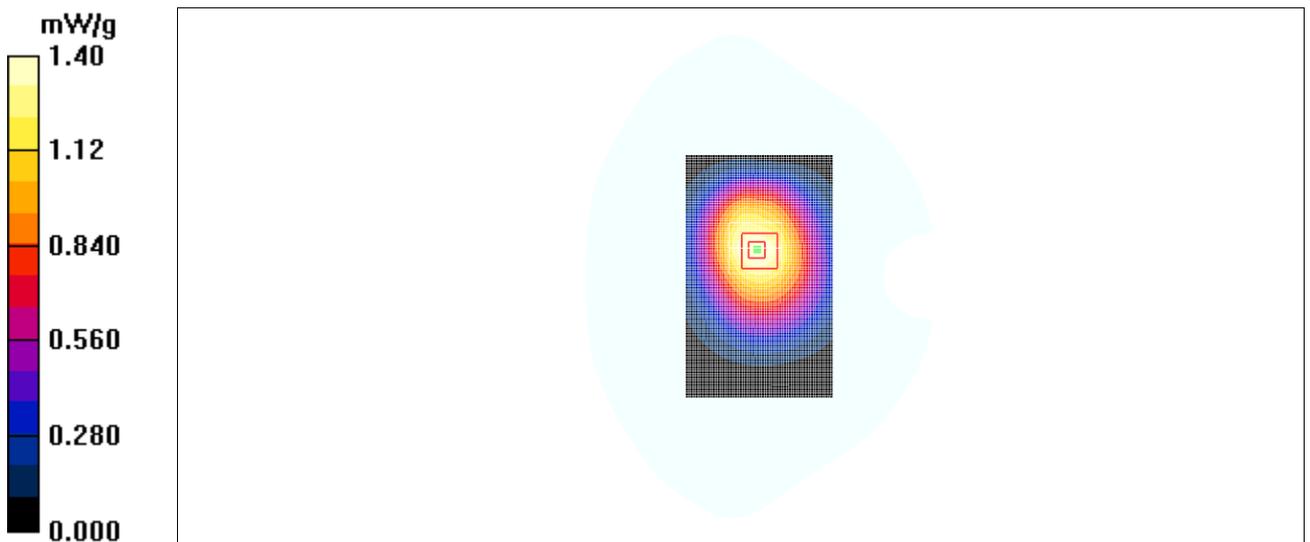Maximum value of SAR (measured) = 1.42 mW/g

Fig. 60   850 MHz CH128

850 Body Towards Ground Low with Headset

Date/Time: 2011-5-11 20:01:36

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: f = 825 MHz; σ = 0.94 mho/m; εr = 57.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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) = 1.35 mW/g

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

Reference Value = 30.8 V/m; Power Drift = -0.087 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 1.28 mW/g; SAR(10 g) = 0.901 mW/g

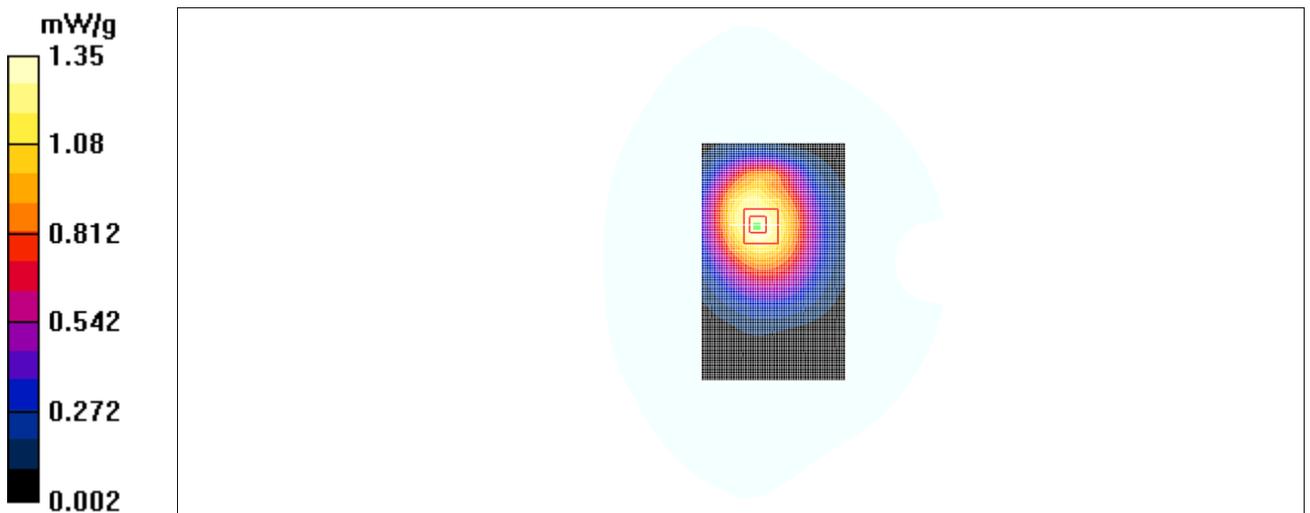Maximum value of SAR (measured) = 1.36 mW/g

Fig. 61   850 MHz CH128

1900 Body Towards Phantom Low with GPRS

Date/Time: 2011-5-11 14:21:15

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 mho/m; εr = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:4

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

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

Maximum value of SAR (interpolated) = 0.706 mW/g

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

Reference Value = 8.33 V/m; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.611 mW/g; SAR(10 g) = 0.349 mW/g

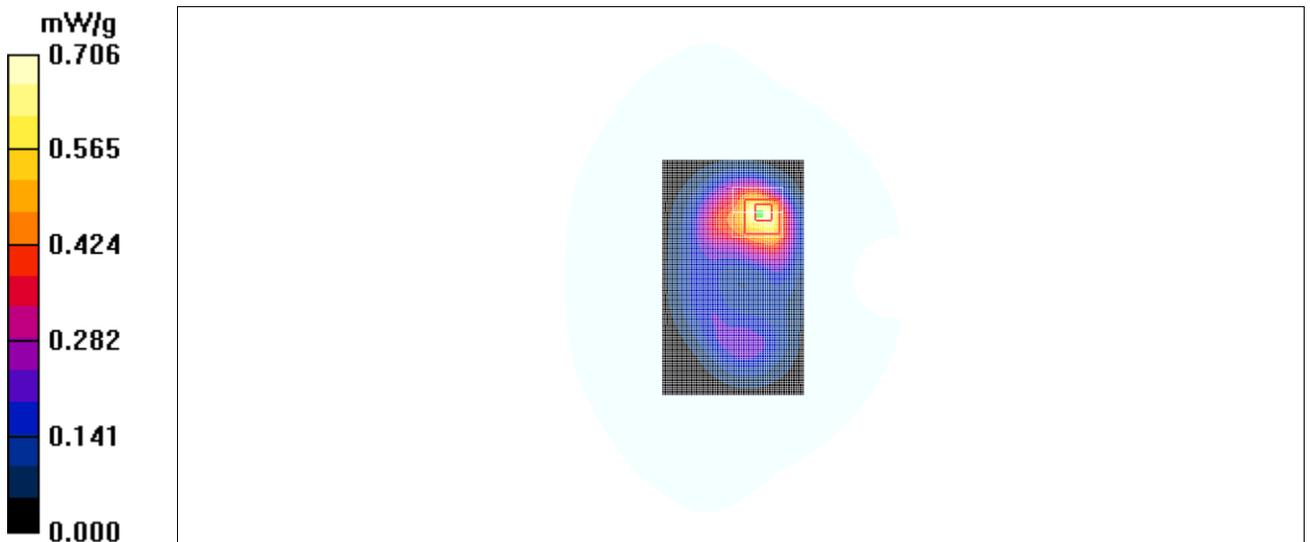Maximum value of SAR (measured) = 0.640 mW/g

Fig. 62 1900 MHz CH512

1900 Body Towards Ground High with GPRS

Date/Time: 2011-5-11 14:52:45

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1910 MHz; σ = 1.52 mho/m; εr = 51.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:4

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) = 0.751 mW/g

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

Reference Value = 8.99 V/m; Power Drift = -0.101 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.684 mW/g; SAR(10 g) = 0.398 mW/g
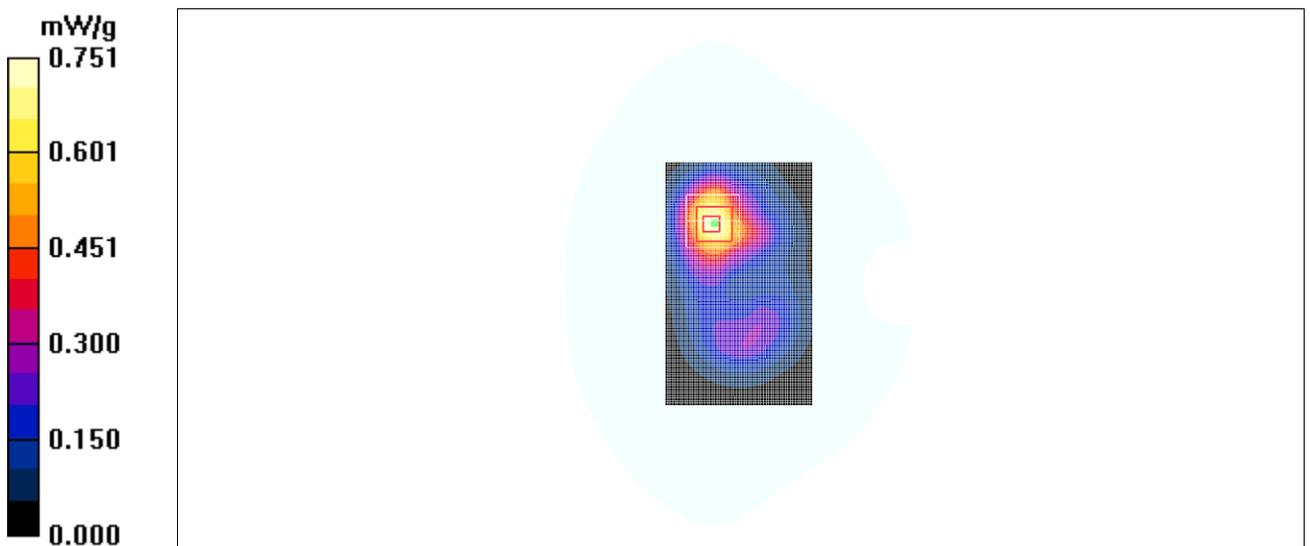
Maximum value of SAR (measured) = 0.744 mW/g
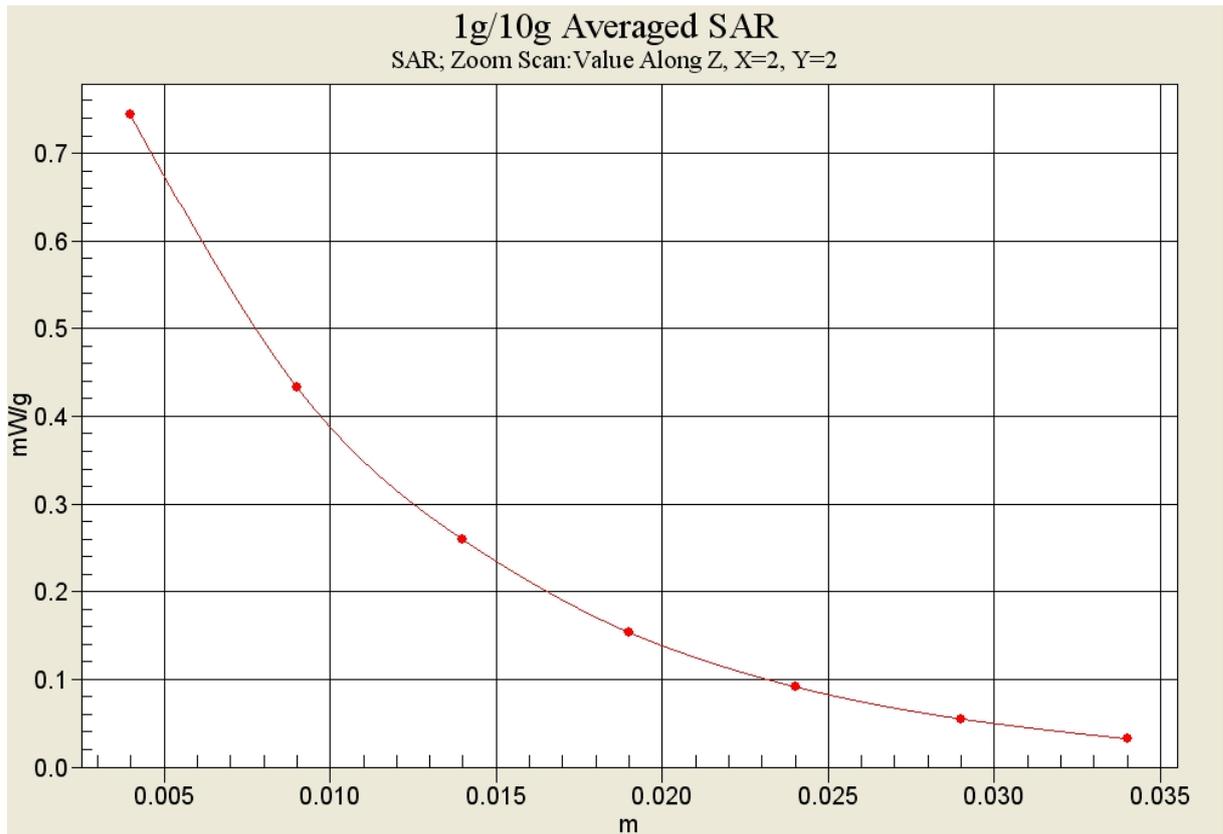

Fig. 63 1900 MHz CH810

Fig. 63-1   Z-Scan at power reference point (1900 MHz CH810)

1900 Body Towards Ground Middle with GPRS

Date/Time: 2011-5-11 14:37:22

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:4

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) = 0.722 mW/g

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

Reference Value = 9.11 V/m; Power Drift = 0.089 dB

Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.673 mW/g; SAR(10 g) = 0.389 mW/g

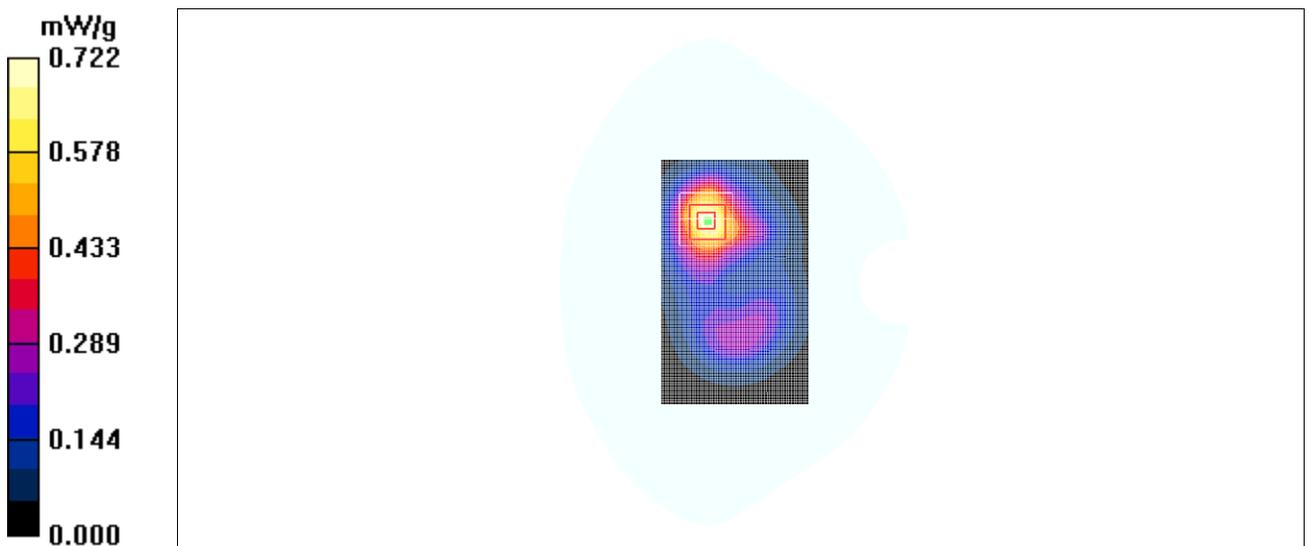Maximum value of SAR (measured) = 0.733 mW/g

Fig. 64 1900 MHz CH661

1900 Body Towards Ground Low with GPRS

Date/Time: 2011-5-11 15:08:11

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 mho/m; εr = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:4

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) = 0.705 mW/g

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

Reference Value = 9.81 V/m; Power Drift = 0.031 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.667 mW/g; SAR(10 g) = 0.382 mW/g

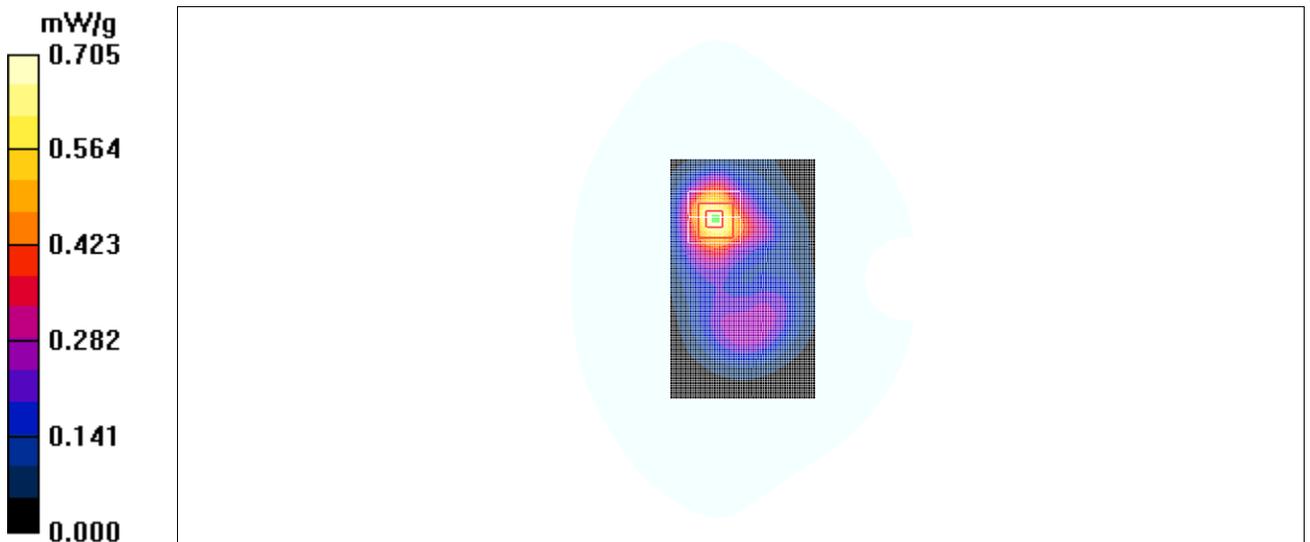Maximum value of SAR (measured) = 0.734 mW/g

Fig. 65 1900 MHz CH512

1900 Body Left Side Low with GPRS

Date/Time: 2011-5-11 15:24:30

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 mho/m; εr = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:4

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

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

Maximum value of SAR (interpolated) = 0.202 mW/g

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

Reference Value = 11.0 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 0.310 W/kg

SAR(1 g) = 0.179 mW/g; SAR(10 g) = 0.102 mW/g

Maximum value of SAR (measured) = 0.195 mW/g

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

Reference Value = 11.0 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 0.270 W/kg

SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.101 mW/g

Maximum value of SAR (measured) = 0.184 mW/g

Fig. 66 1900 MHz CH512

1900 Body Right Side Low with GPRS

Date/Time: 2011-5-11 15:40:01
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 mho/m; εr = 52.7; ρ = 1000 kg/m^3
Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C
Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:4
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Right Side Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.148 mW/g

Right Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.42 V/m; Power Drift = 0.006 dB
Peak SAR (extrapolated) = 0.213 W/kg
SAR(1 g) = 0.131 mW/g; SAR(10 g) = 0.077 mW/g
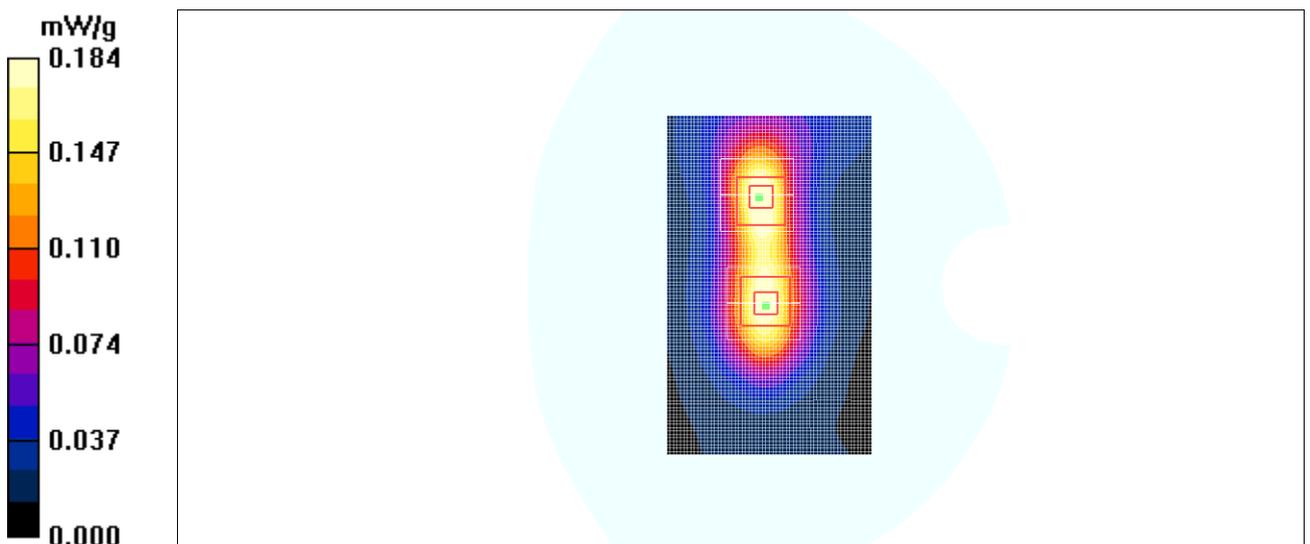Maximum value of SAR (measured) = 0.141 mW/g

Fig. 67 1900 MHz CH512

1900 Body Bottom Side Low with GPRS

Date/Time: 2011-5-11 15:56:03

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 mho/m; εr = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:4

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) = 0.640 mW/g

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

Reference Value = 20.6 V/m; Power Drift = -0.026 dB

Peak SAR (extrapolated) = 0.969 W/kg

SAR(1 g) = 0.579 mW/g; SAR(10 g) = 0.330 mW/g

Maximum value of SAR (measured) = 0.642 mW/g
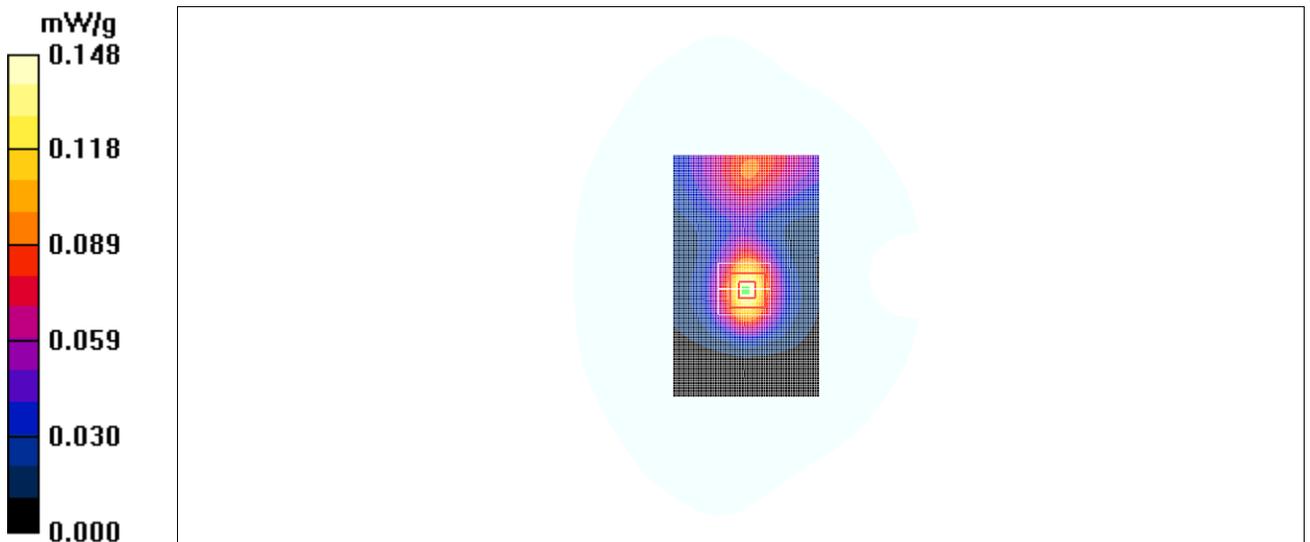

Fig. 68 1900 MHz CH512

1900 Body Towards Ground High with EGPRS

Date/Time: 2011-5-11 16:12:48

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1910 MHz; σ = 1.52 mho/m; εr = 51.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:4

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) = 0.661 mW/g

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

Reference Value = 8.74 V/m; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.602 mW/g; SAR(10 g) = 0.351 mW/g

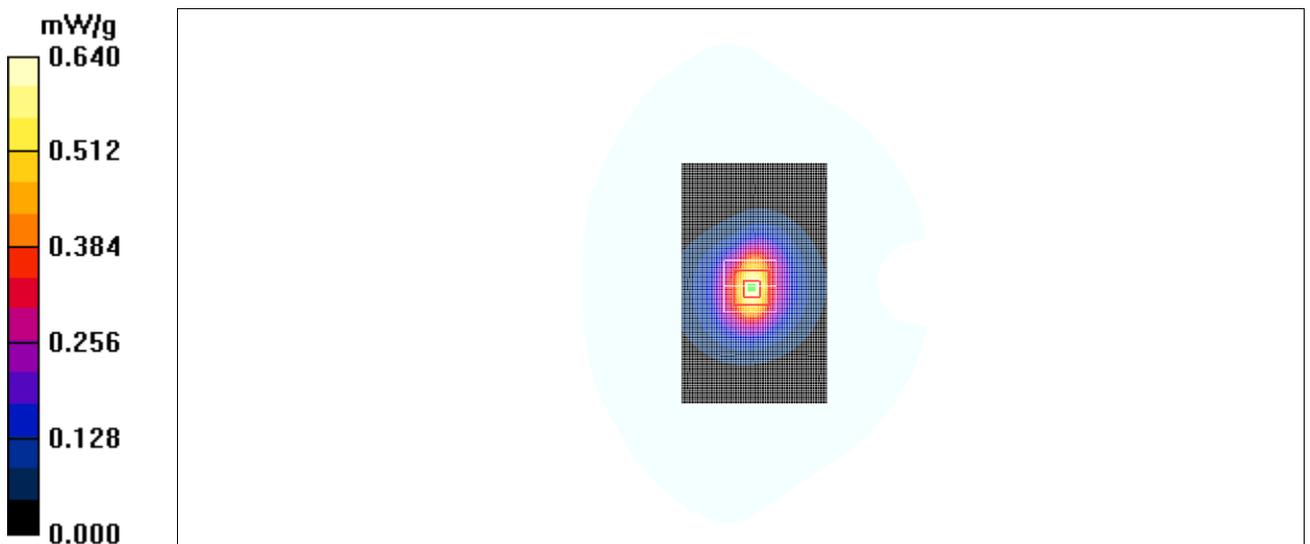Maximum value of SAR (measured) = 0.645 mW/g

Fig. 69 1900 MHz CH810

1900 Body Towards Ground High with Headset

Date/Time: 2011-5-11 19:25:47

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1910 MHz; σ = 1.52 mho/m; εr = 51.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz   Frequency: 1909.8 MHz Duty Cycle: 1:8.3

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) = 0.700 mW/g

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

Reference Value = 8.57 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.654 mW/g; SAR(10 g) = 0.387 mW/g

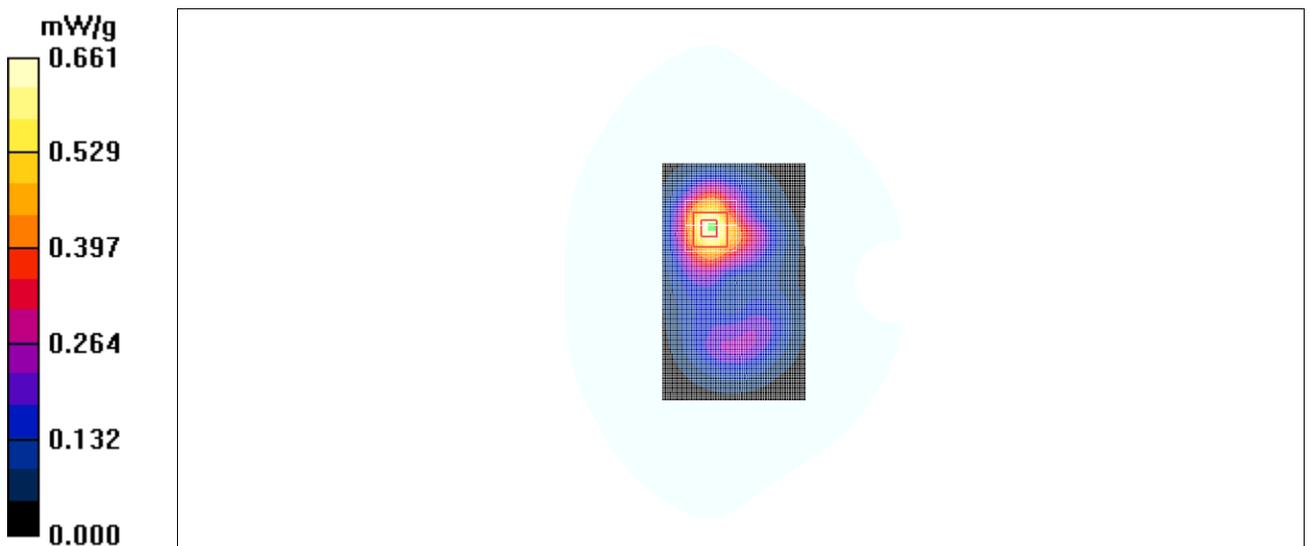Maximum value of SAR (measured) = 0.705 mW/g

Fig. 70 1900 MHz CH810

WCDMA850 Body Towards Phantom High

Date/Time: 2011-5-11 11:37:28

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.95 mho/m; εr = 56.1; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 0.986 mW/g

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

Reference Value = 29.2 V/m; Power Drift = 0.081 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.929 mW/g; SAR(10 g) = 0.676 mW/g

Maximum value of SAR (measured) = 0.984 mW/g

Fig. 71   850 MHz CH4233

WCDMA 850 Body Towards Phantom Middle

Date/Time: 2011-5-11 11:22:04

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; εr = 56.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 1.02 mW/g

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

Reference Value = 29.9 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 1.29 W/kg

SAR(1 g) = 0.964 mW/g; SAR(10 g) = 0.701 mW/g
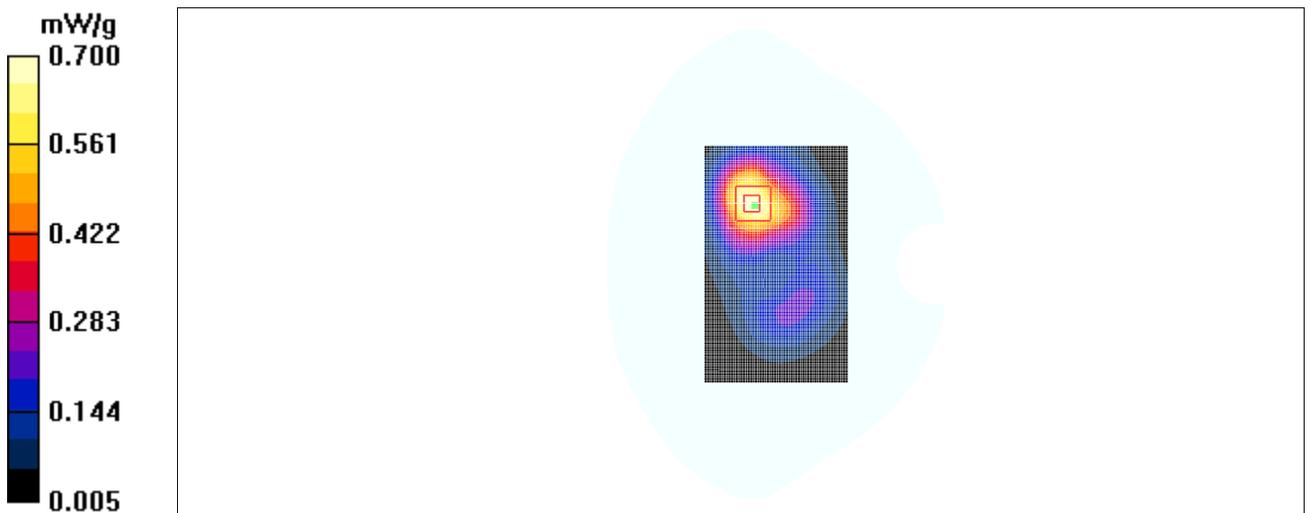
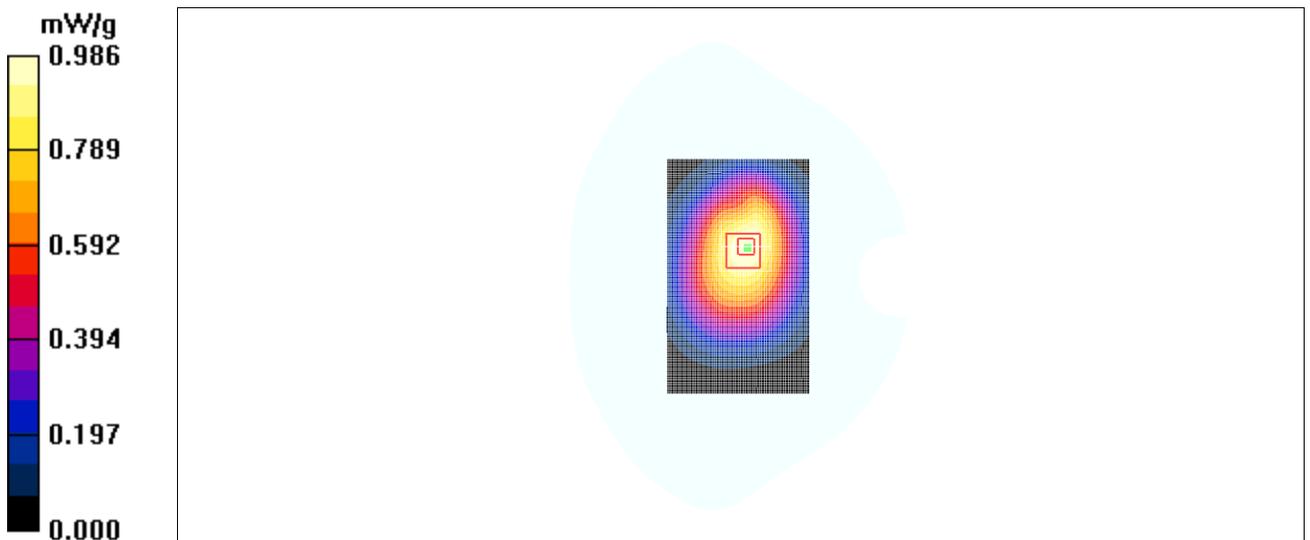Maximum value of SAR (measured) = 1.02 mW/g

Fig. 72   850 MHz CH4182

WCDMA 850 Body Towards Phantom Low

Date/Time: 2011-5-11 11:52:48

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.95 mho/m; εr = 57.0; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 1.02 mW/g

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

Reference Value = 29.6 V/m; Power Drift = 0.097 dB

Peak SAR (extrapolated) = 1.29 W/kg

SAR(1 g) = 0.971 mW/g; SAR(10 g) = 0.706 mW/g

Maximum value of SAR (measured) = 1.03 mW/g

Fig. 73   850 MHz CH4132

WCDMA 850 Body Towards Ground High

Date/Time: 2011-5-11 12:24:34

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.95 mho/m; εr = 56.1; ρ = 1000 kg/m³

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) = 1.05 mW/g

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

Reference Value = 29.9 V/m; Power Drift = -0.004 dB

Peak SAR (extrapolated) = 1.29 W/kg

SAR(1 g) = 0.989 mW/g; SAR(10 g) = 0.718 mW/g

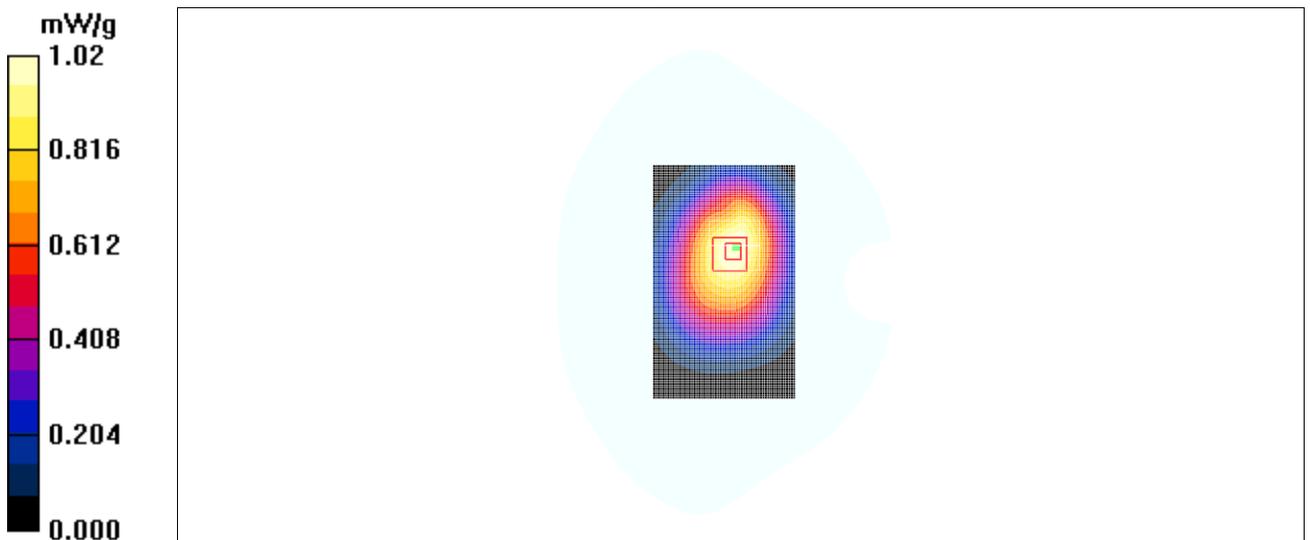Maximum value of SAR (measured) = 1.05 mW/g

Fig. 74   850 MHz CH4233

WCDMA 850 Body Towards Ground Middle

Date/Time: 2011-5-11 12:09:13

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; εr = 56.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 1.14 mW/g

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

Reference Value = 31.5 V/m; Power Drift = -0.054 dB

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.780 mW/g
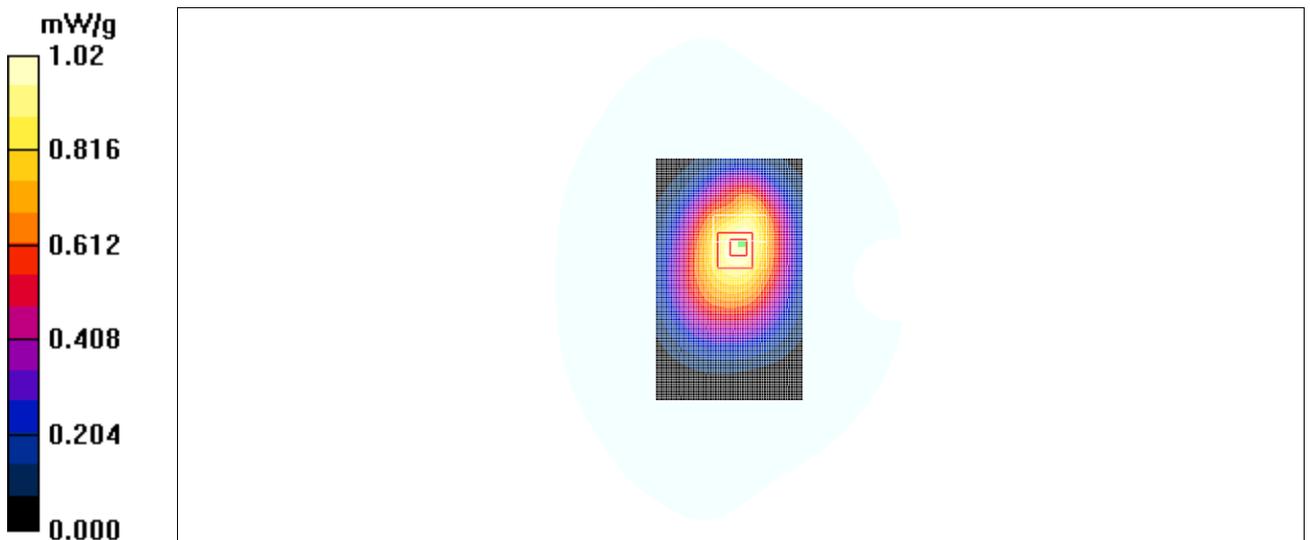
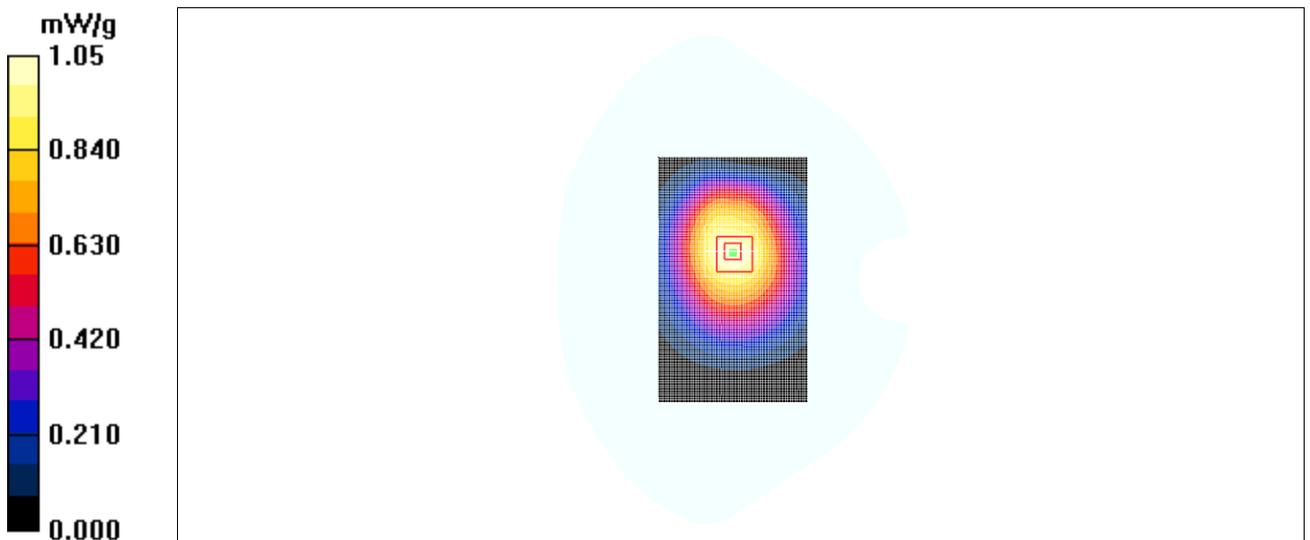Maximum value of SAR (measured) = 1.14 mW/g
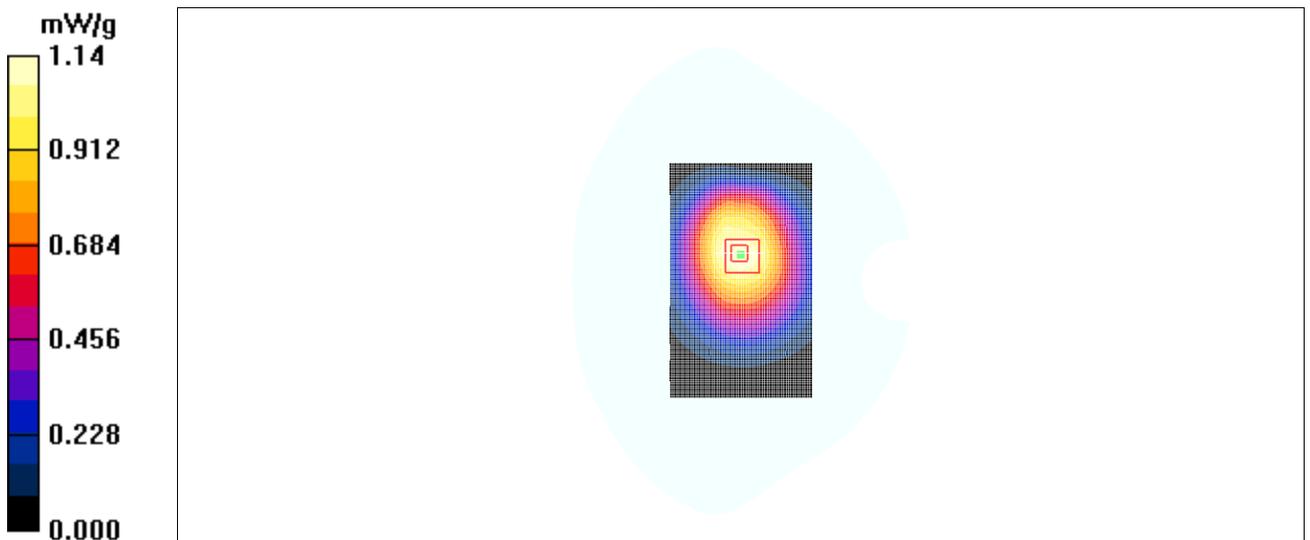
Fig. 75   850 MHz CH4182

WCDMA 850 Body Towards Ground Low

Date/Time: 2011-5-11 12:39:55

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.95 mho/m; εr = 57.0; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 1.16 mW/g

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

Reference Value = 31.9 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 1.1 mW/g; SAR(10 g) = 0.803 mW/g

Maximum value of SAR (measured) = 1.17 mW/g

Fig. 76   850 MHz CH4132

Fig. 76-1   Z-Scan at power reference point (850 MHz CH4132)

WCDMA 850 Body Left Side Middle

Date/Time: 2011-5-11 12:55:30

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; εr = 56.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 0.816 mW/g

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

Reference Value = 28.4 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.763 mW/g; SAR(10 g) = 0.515 mW/g

Maximum value of SAR (measured) = 0.821 mW/g

Fig. 77   850 MHz CH4182

WCDMA 850 Body Right Side Middle

Date/Time: 2011-5-11 13:10:57

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; εr = 56.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 0.745 mW/g

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

Reference Value = 26.7 V/m; Power Drift = 0.045 dB

Peak SAR (extrapolated) = 0.964 W/kg

SAR(1 g) = 0.694 mW/g; SAR(10 g) = 0.478 mW/g

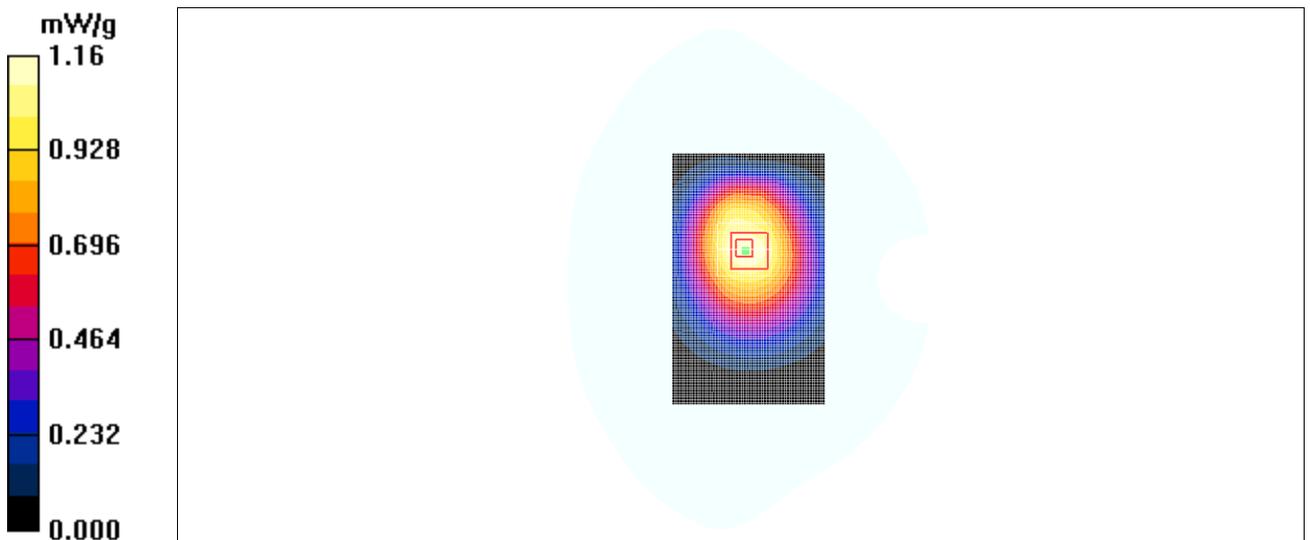Maximum value of SAR (measured) = 0.742 mW/g
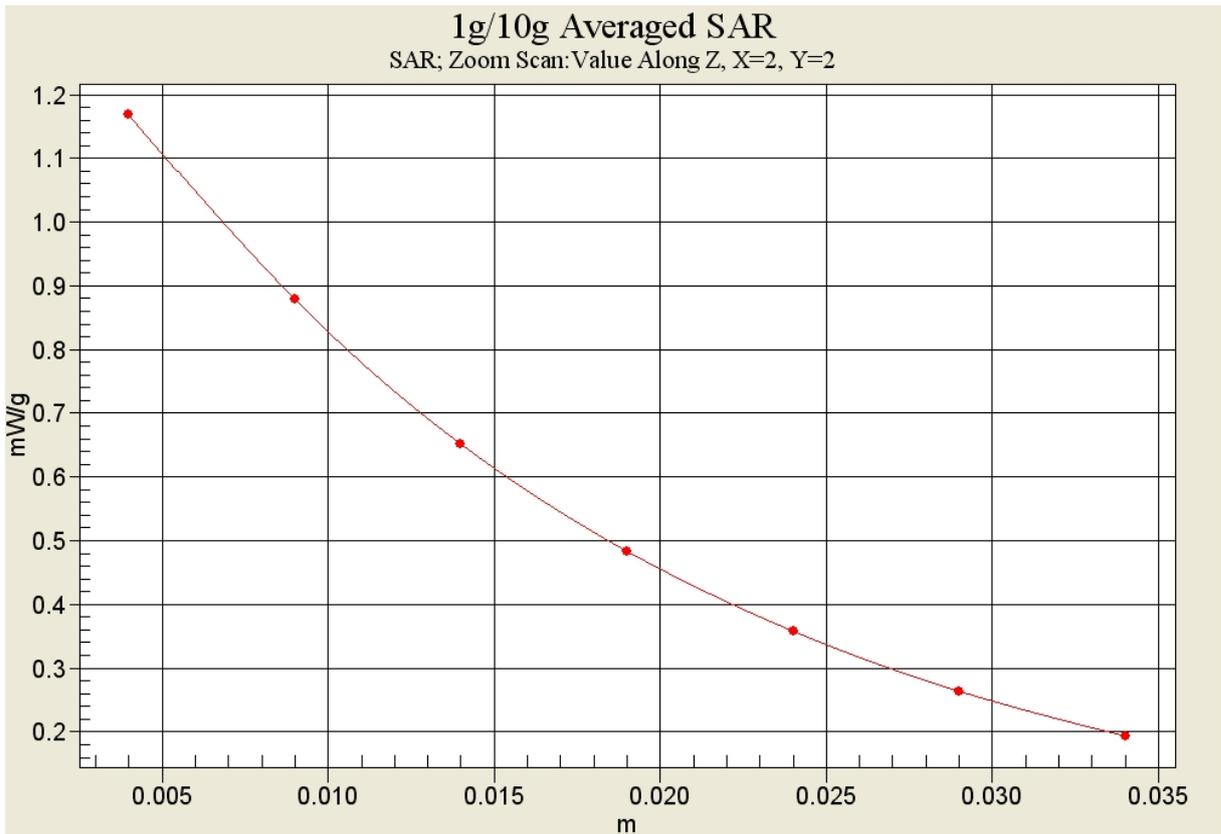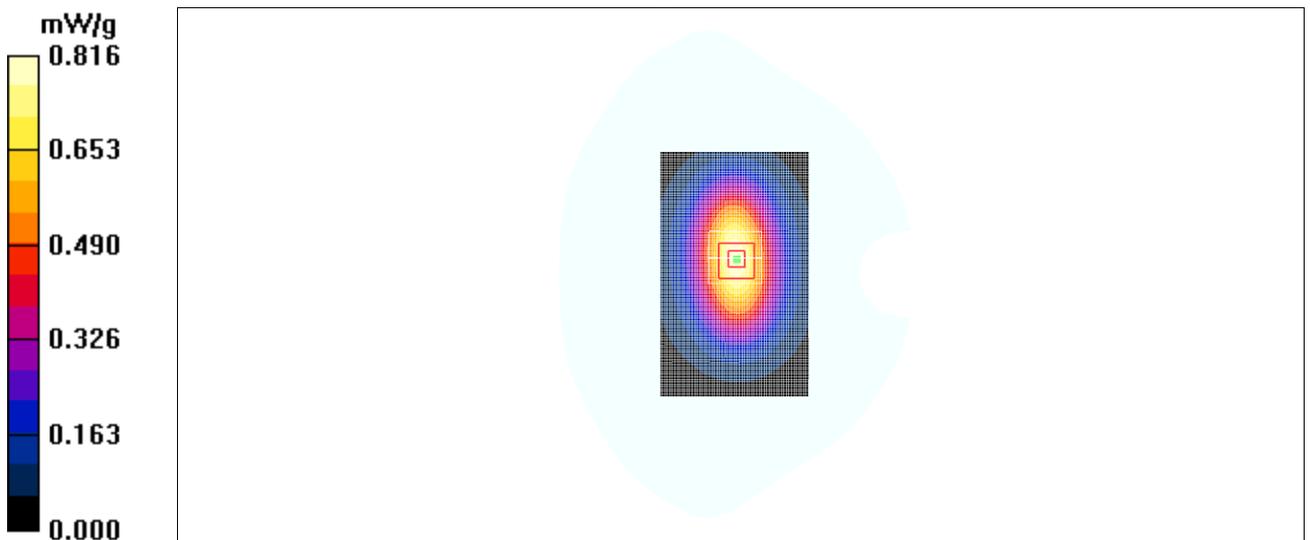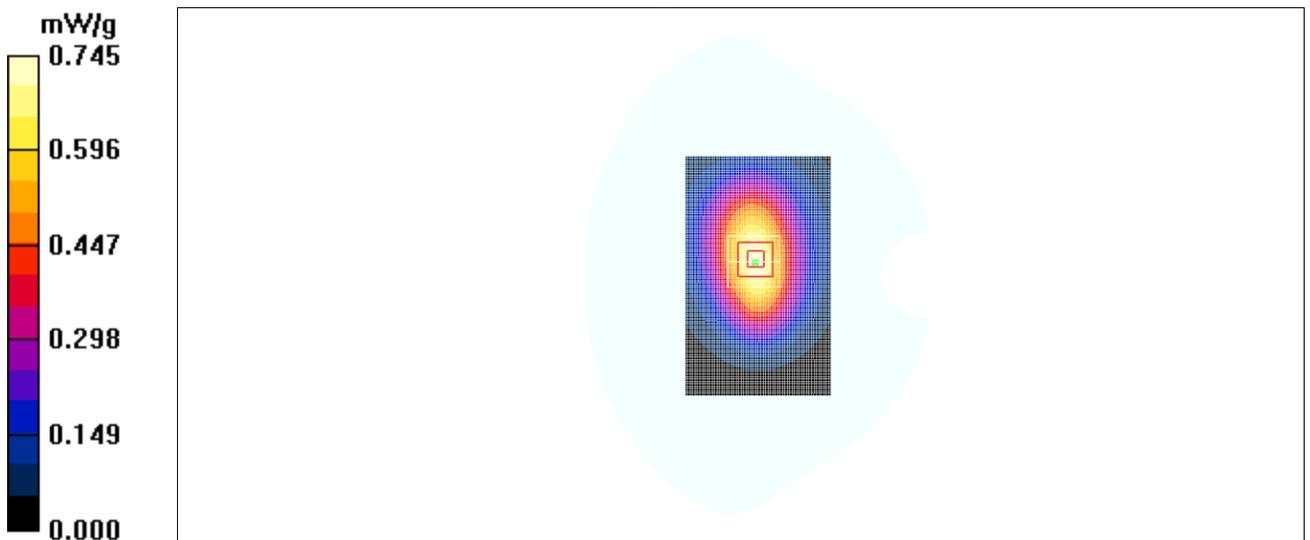

Fig. 78   850 MHz CH4182

WCDMA 850 Body Bottom Side Middle

Date/Time: 2011-5-11 13:26:18

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; εr = 56.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 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) = 0.115 mW/g

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

Reference Value = 9.75 V/m; Power Drift = 0.049 dB

Peak SAR (extrapolated) = 0.178 W/kg

SAR(1 g) = 0.103 mW/g; SAR(10 g) = 0.060 mW/g

Maximum value of SAR (measured) = 0.113 mW/g
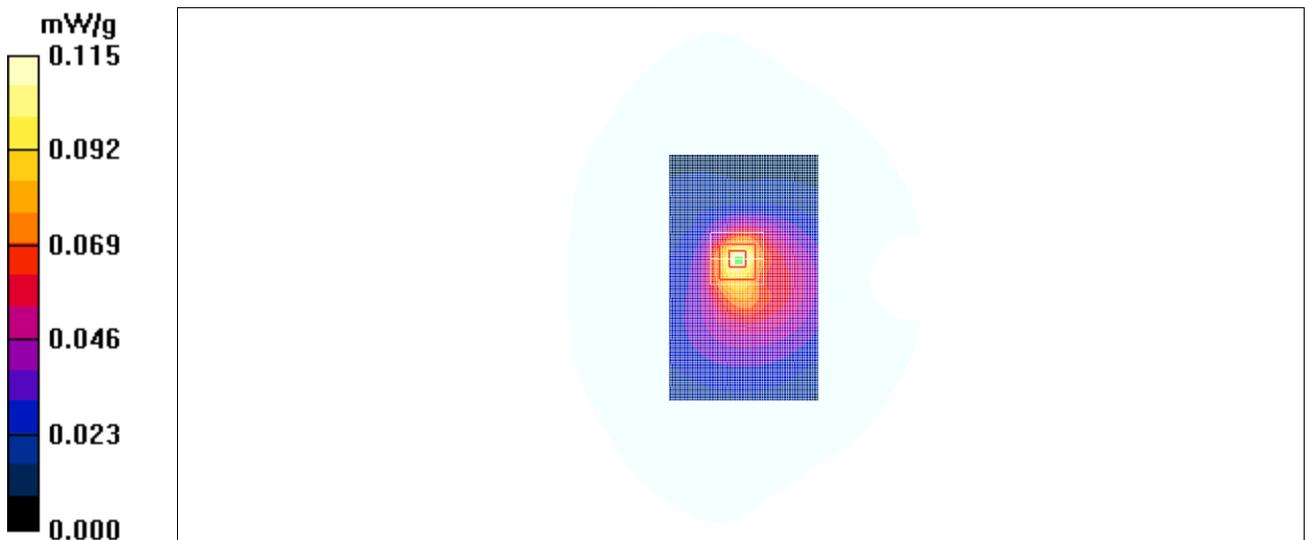
Fig. 79   850 MHz CH4182

WCDMA 850 Body Towards Ground Low with Headset

Date/Time: 2011-5-11 20:19:08

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.95 mho/m; εr = 57.0; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 1.05 mW/g

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

Reference Value = 27.3 V/m; Power Drift = 0.116 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.715 mW/g

Maximum value of SAR (measured) = 1.06 mW/g

Fig. 80   850 MHz CH4132

WCDMA 1900 Body Towards Phantom High

Date/Time: 2011-5-11 16:45:46

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.51 mho/m; εr = 51.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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) = 1.08 mW/g

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

Reference Value = 10.1 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 1.58 W/kg

SAR(1 g) = 0.889 mW/g; SAR(10 g) = 0.517 mW/g

Maximum value of SAR (measured) = 0.947 mW/g

Fig. 81 1900 MHz CH9538

WCDMA 1900 Body Towards Phantom Middle

Date/Time: 2011-5-11 16:30:19

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 1.03 mW/g

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

Reference Value = 9.92 V/m; Power Drift = 0.038 dB

Peak SAR (extrapolated) = 1.58 W/kg

SAR(1 g) = 0.889 mW/g; SAR(10 g) = 0.514 mW/g

Maximum value of SAR (measured) = 0.960 mW/g
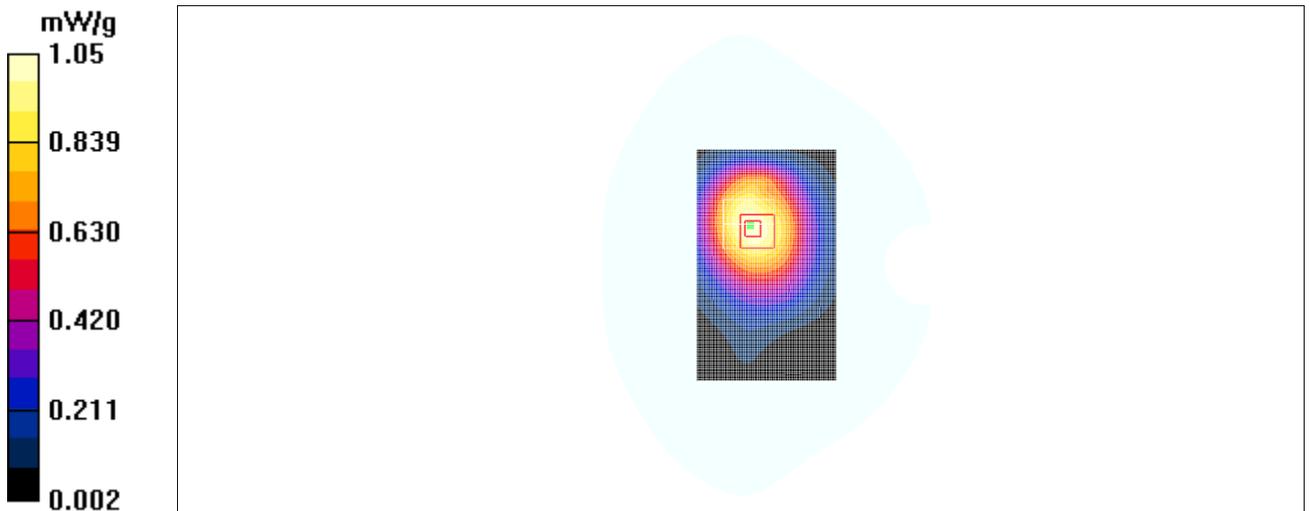

Fig. 82 1900 MHz CH9400

WCDMA 1900 Body Towards Phantom Low

Date/Time: 2011-5-11 17:01:07

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.45 mho/m; εr = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1

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

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 = 10.6 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 1.73 W/kg

SAR(1 g) = 0.977 mW/g; SAR(10 g) = 0.559 mW/g

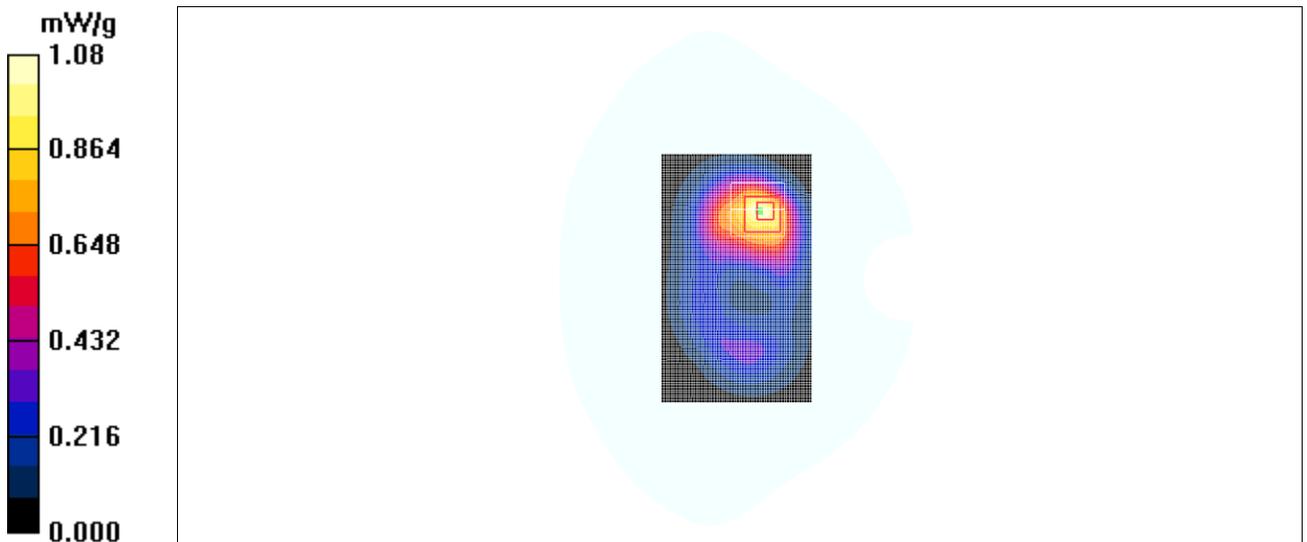Maximum value of SAR (measured) = 1.04 mW/g
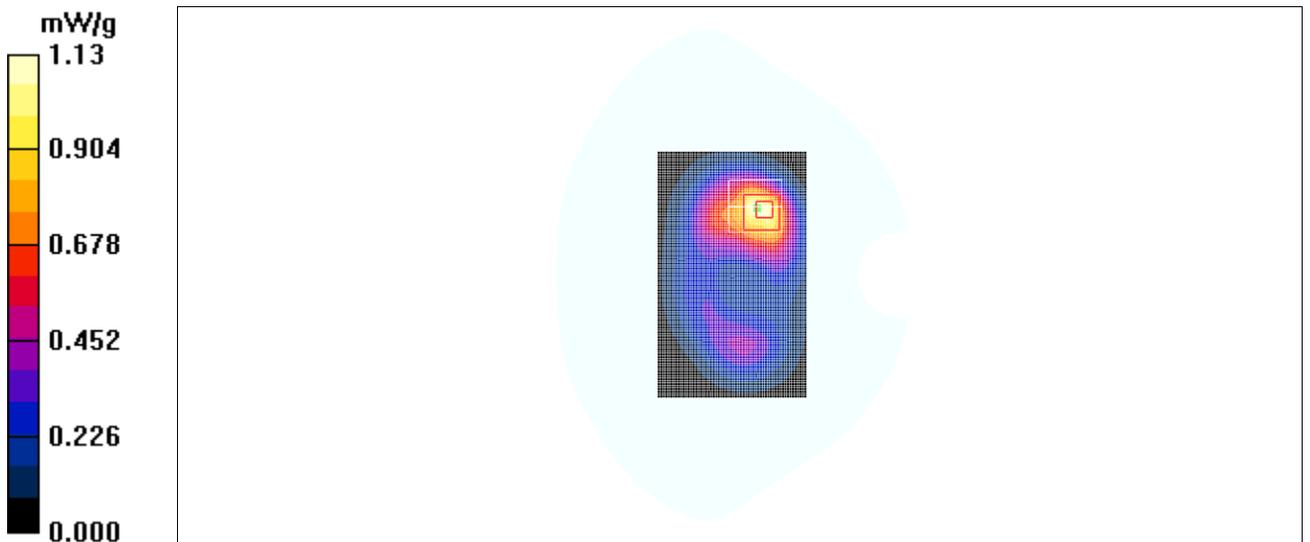
Fig. 83 1900 MHz CH9262

WCDMA 1900 Body Towards Ground High

Date/Time: 2011-5-11 17:32:44

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.51 mho/m; εr = 51.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}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) = 1.06 mW/g

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

Reference Value = 11.3 V/m; Power Drift = -0.093 dB

Peak SAR (extrapolated) = 1.67 W/kg

SAR(1 g) = 0.968 mW/g; SAR(10 g) = 0.564 mW/g

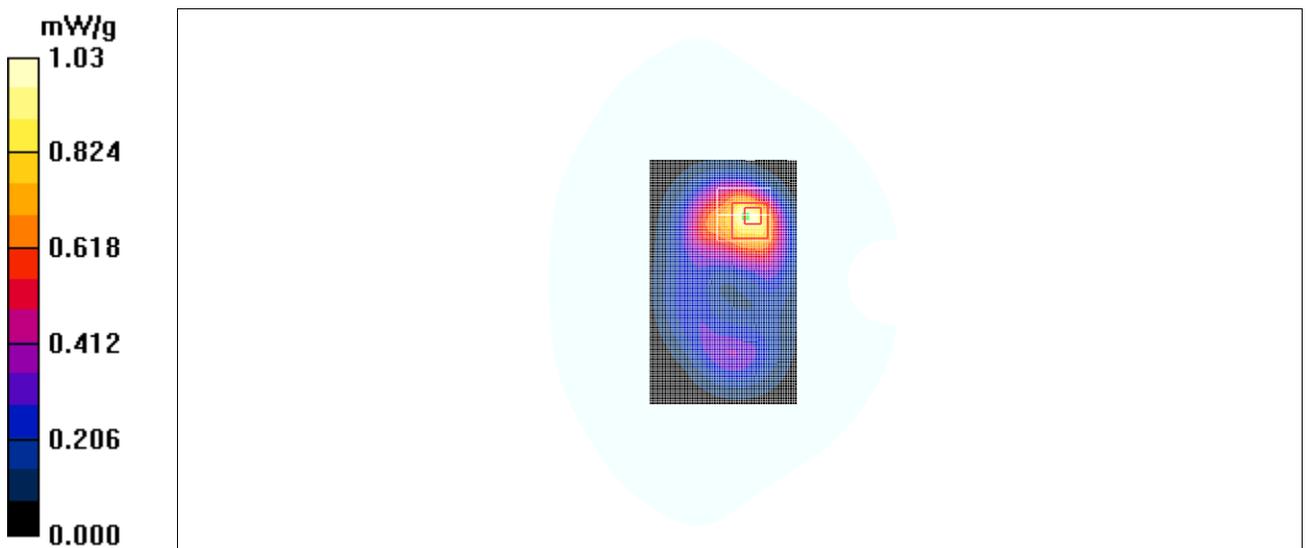Maximum value of SAR (measured) = 1.03 mW/g

Fig. 84 1900 MHz CH9400

WCDMA 1900 Body Towards Ground Middle

Date/Time: 2011-5-11 17:17:21

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 1.14 mW/g

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

Reference Value = 11.6 V/m; Power Drift = 0.020 dB

Peak SAR (extrapolated) = 1.78 W/kg

SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.597 mW/g

Maximum value of SAR (measured) = 1.11 mW/g

Fig. 85 1900 MHz CH9400

Fig. 85-1 Z-Scan at power reference point (1900 MHz CH9400)

WCDMA 1900 Body Towards Ground Low

Date/Time: 2011-5-11 17:48:05

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.45 mho/m; εr = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 1.14 mW/g

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

Reference Value = 12.6 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.591 mW/g

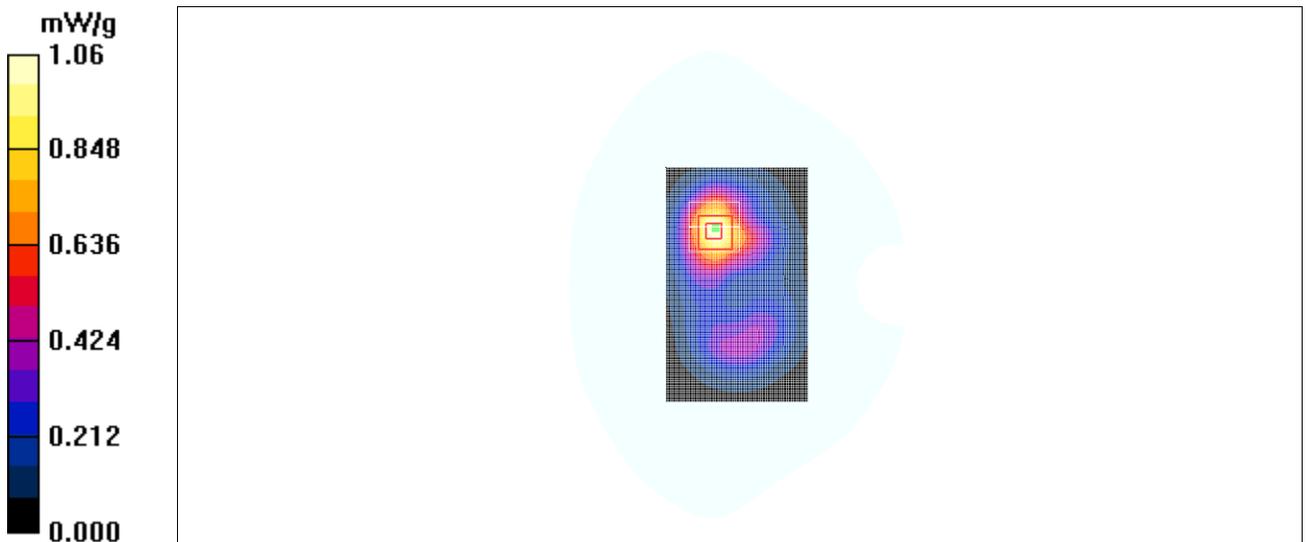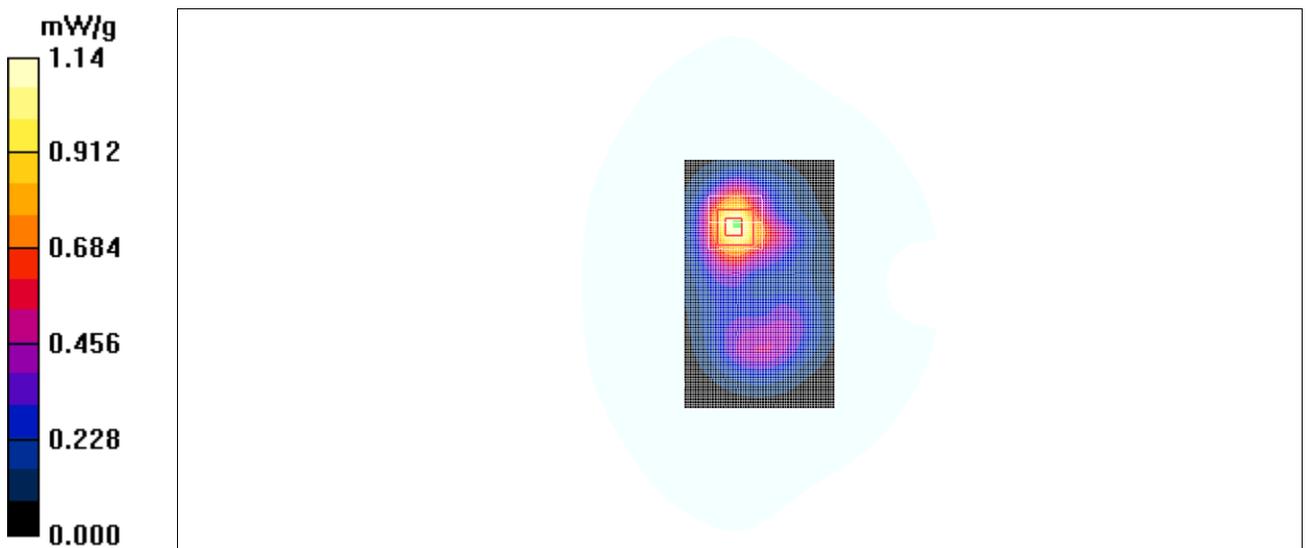Maximum value of SAR (measured) = 1.12 mW/g

Fig. 86 1900 MHz CH9262

WCDMA 1900 Body Left Side Middle

Date/Time: 2011-5-11 18:04:11

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 0.328 mW/g

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

Reference Value = 13.5 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.514 W/kg

SAR(1 g) = 0.294 mW/g; SAR(10 g) = 0.165 mW/g

Maximum value of SAR (measured) = 0.322 mW/g

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

Reference Value = 13.5 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.435 W/kg

SAR(1 g) = 0.264 mW/g; SAR(10 g) = 0.158 mW/g

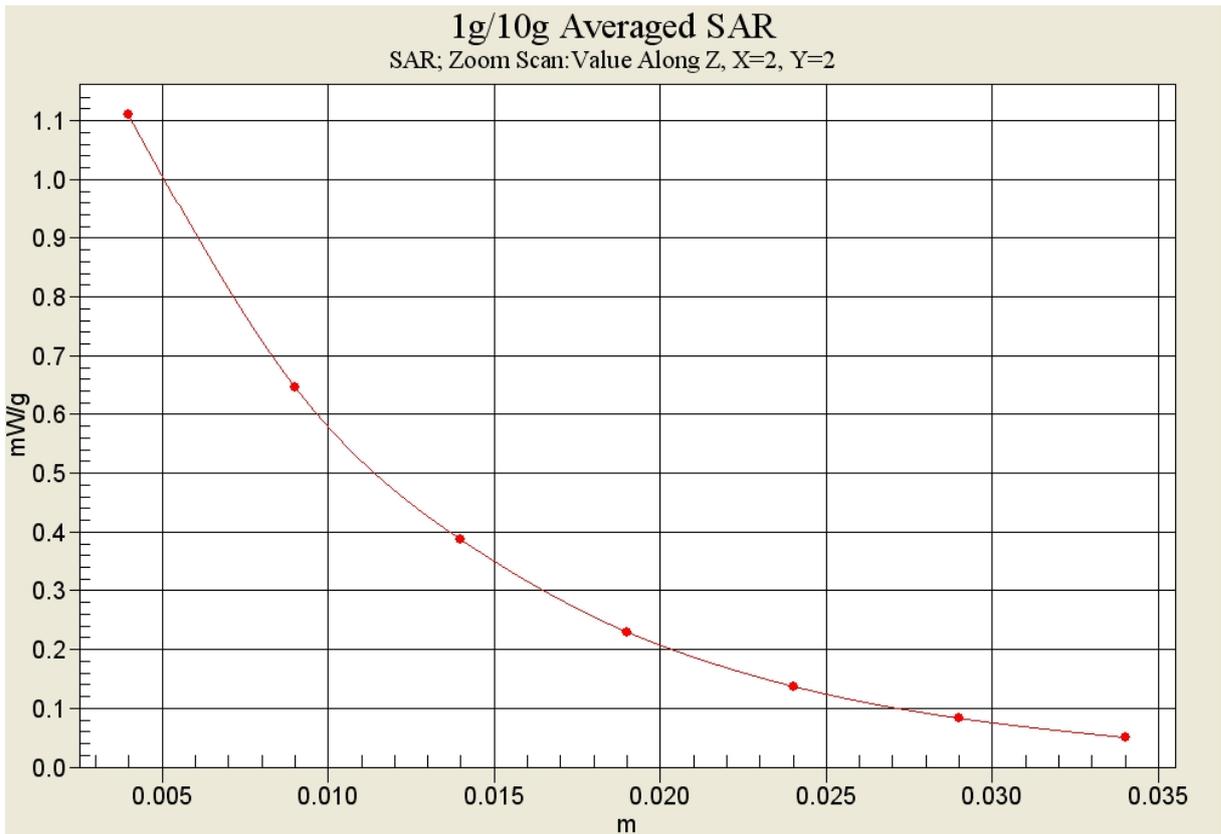Maximum value of SAR (measured) = 0.287 mW/g

Fig. 87 1900 MHz CH9400

WCDMA 1900 Body Right Side Middle

Date/Time: 2011-5-11 18:20:24

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 0.235 mW/g

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

Reference Value = 10.9 V/m; Power Drift = 0.077 dB

Peak SAR (extrapolated) = 0.361 W/kg

SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.125 mW/g

Maximum value of SAR (measured) = 0.233 mW/g

Fig. 88 1900 MHz CH9400

WCDMA 1900 Body Bottom Side High

Date/Time: 2011-5-11 18:52:01

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.51 mho/m; εr = 51.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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) = 0.869 mW/g

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

Reference Value = 23.5 V/m; Power Drift = 0.014 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 0.802 mW/g; SAR(10 g) = 0.452 mW/g
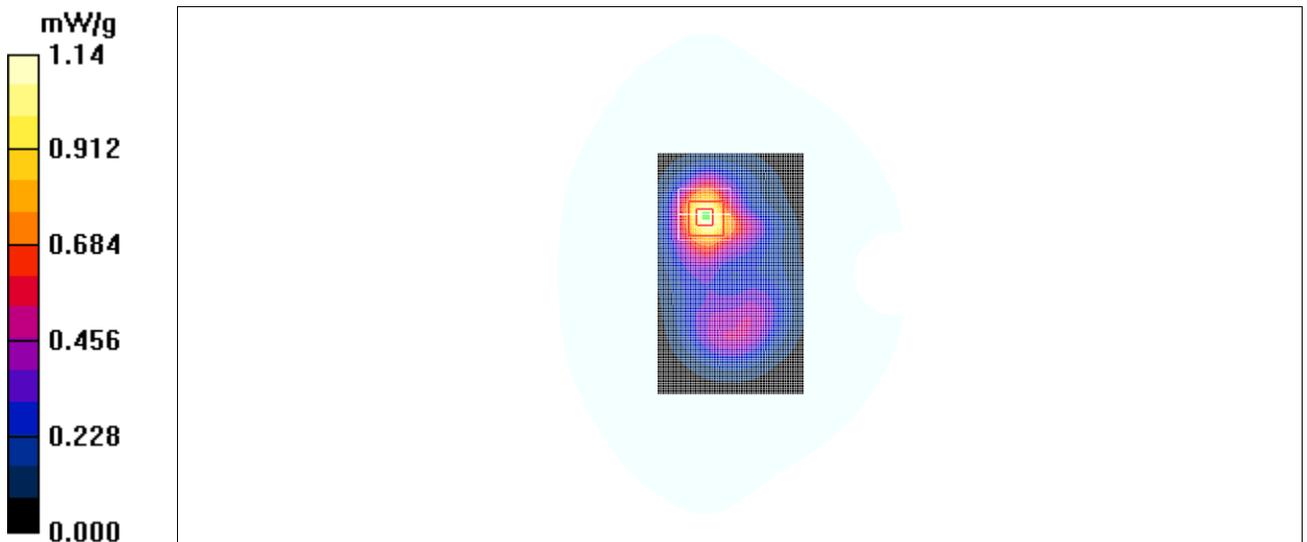
Maximum value of SAR (measured) = 0.891 mW/g
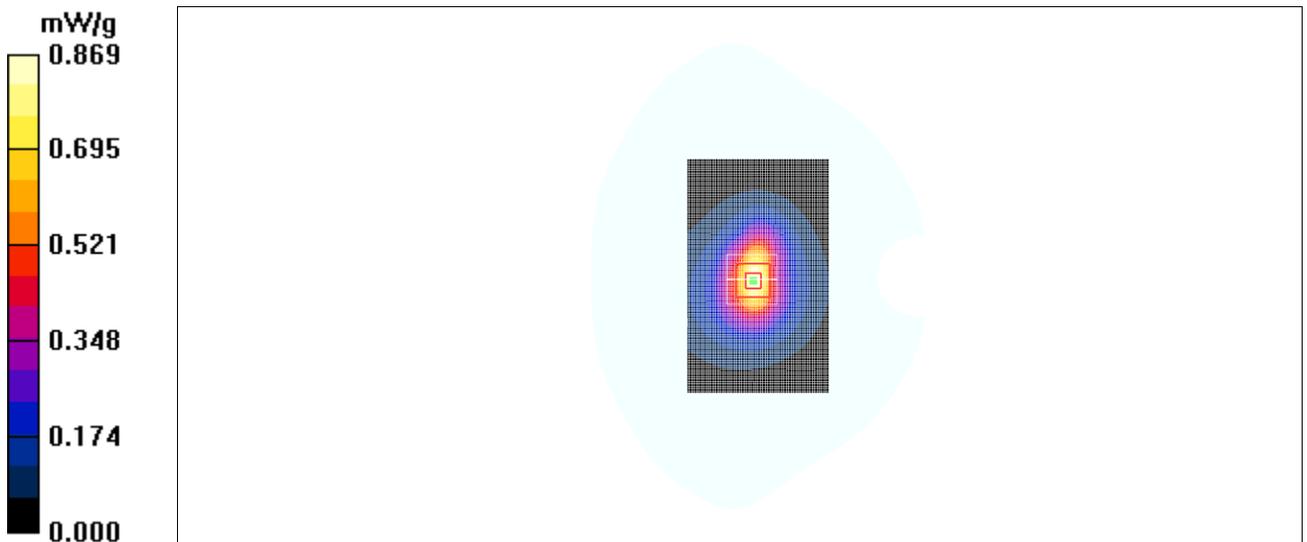
Fig. 89 1900 MHz CH9538

WCDMA 1900 Body Bottom Side Middle

Date/Time: 2011-5-11 18:36:40

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 0.938 mW/g

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

Reference Value = 24.9 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.870 mW/g; SAR(10 g) = 0.495 mW/g
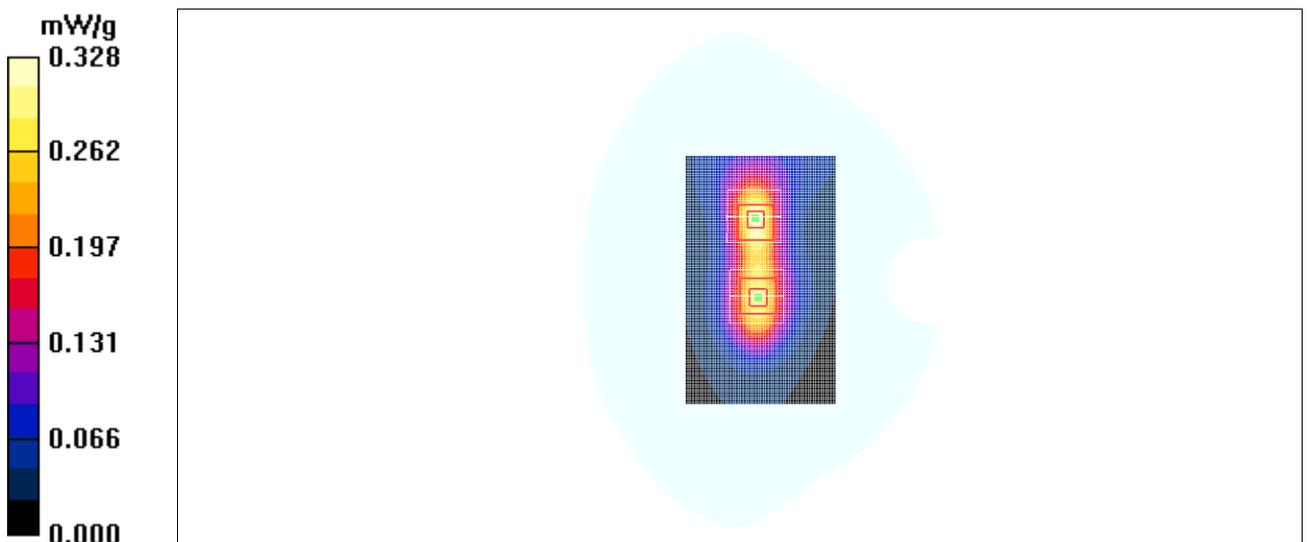
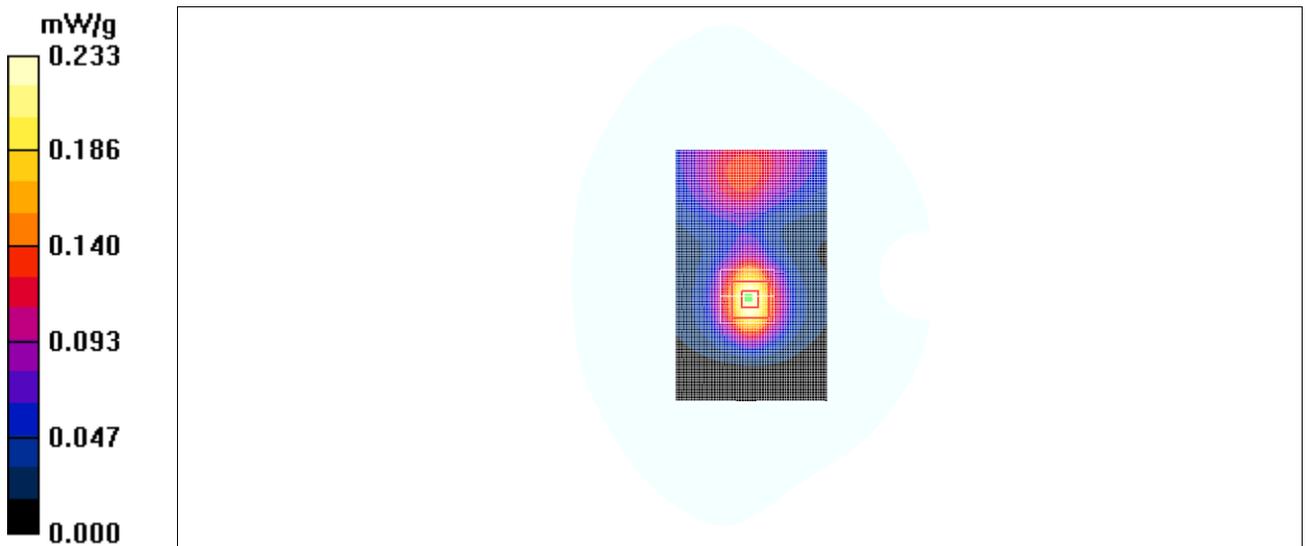Maximum value of SAR (measured) = 0.957 mW/g

Fig. 90 1900 MHz CH9400

WCDMA 1900 Body Bottom Side Low

Date/Time: 2011-5-11 19:07:22

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.45 mho/m; εr = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 0.929 mW/g

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

Reference Value = 24.9 V/m; Power Drift = -0.035 dB

Peak SAR (extrapolated) = 1.44 W/kg

SAR(1 g) = 0.854 mW/g; SAR(10 g) = 0.486 mW/g

Maximum value of SAR (measured) = 0.950 mW/g
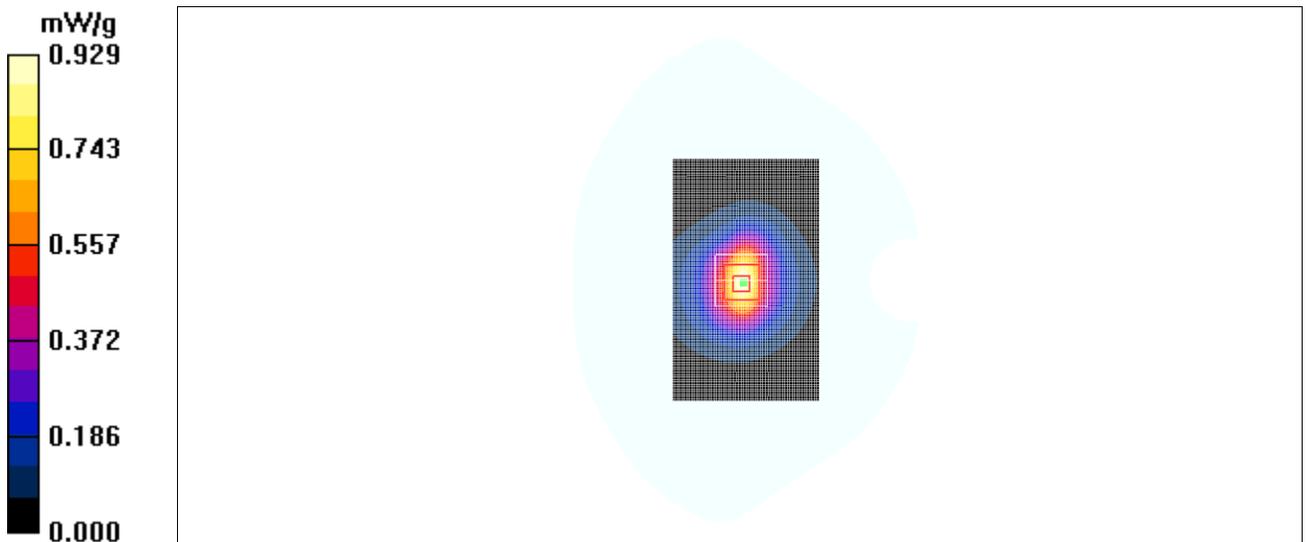
Fig. 91 1900 MHz CH9262

WCDMA 1900 Body Towards Ground Middle with Headset

Date/Time: 2011-5-11 19:43:23

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}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) = 1.12 mW/g

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

Reference Value = 11.1 V/m; Power Drift = 0.074 dB

Peak SAR (extrapolated) = 1.68 W/kg

SAR(1 g) = 0.993 mW/g; SAR(10 g) = 0.587 mW/g

Maximum value of SAR (measured) = 1.08 mW/g

Fig. 92 1900 MHz CH9400

WiFi 802.11b 1Mbps Left Cheek Channel 1

Date/Time: 2011-3-26 8:40:14

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.79 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.036 mW/g

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

Reference Value = 4.20 V/m; Power Drift = 0.097 dB

Peak SAR (extrapolated) = 0.056 W/kg

SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.018 mW/g
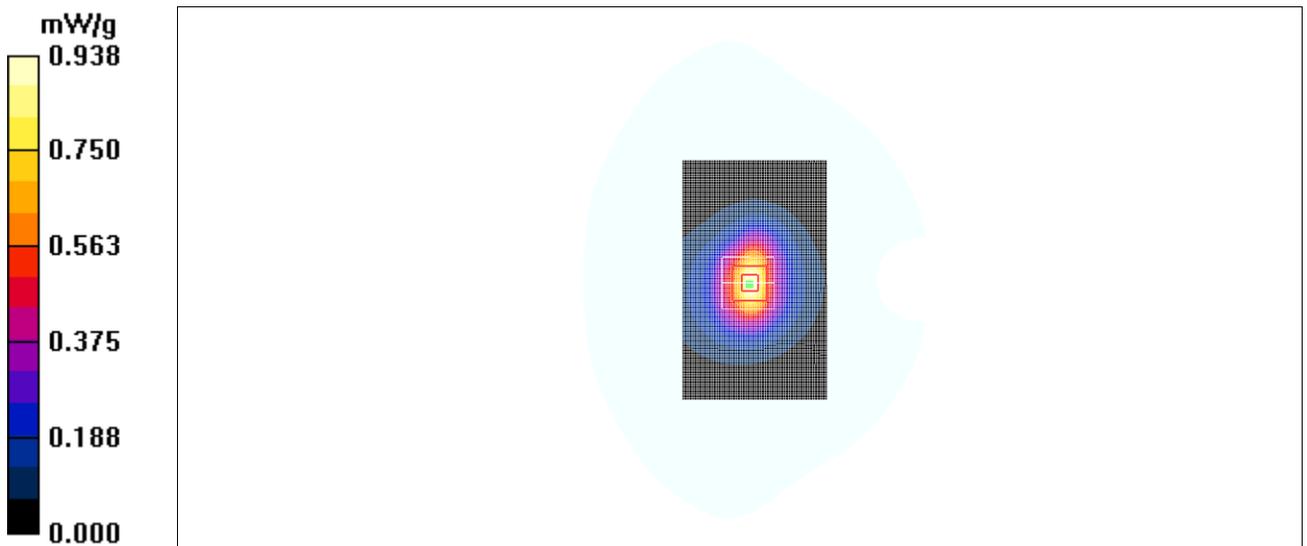
Maximum value of SAR (measured) = 0.032 mW/g
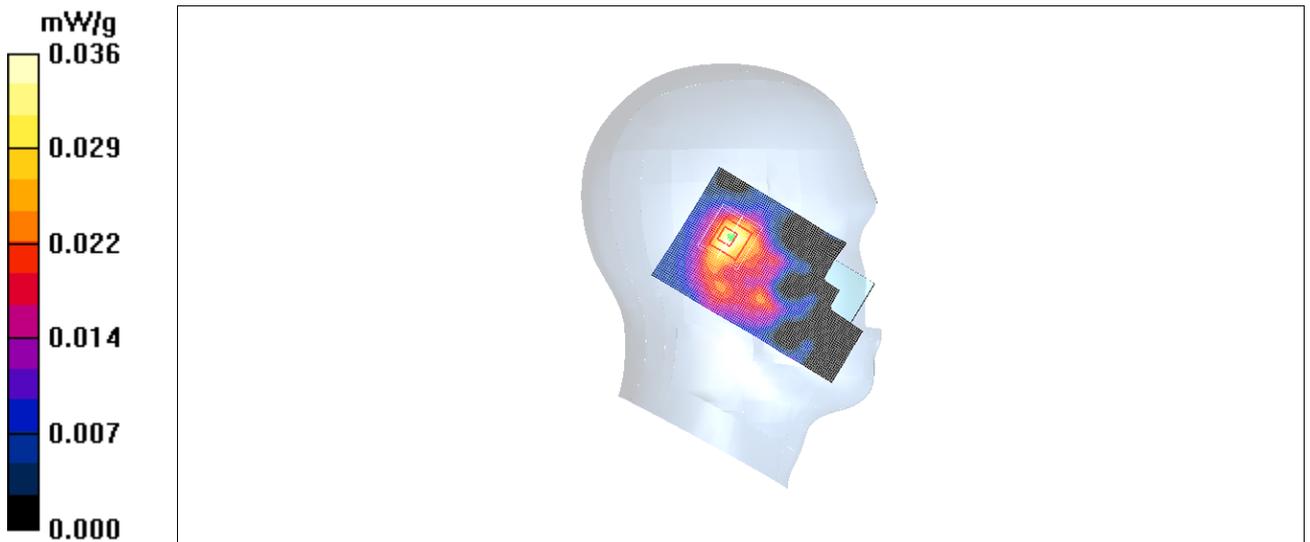
Fig.93   802.11b 1Mbps CH1
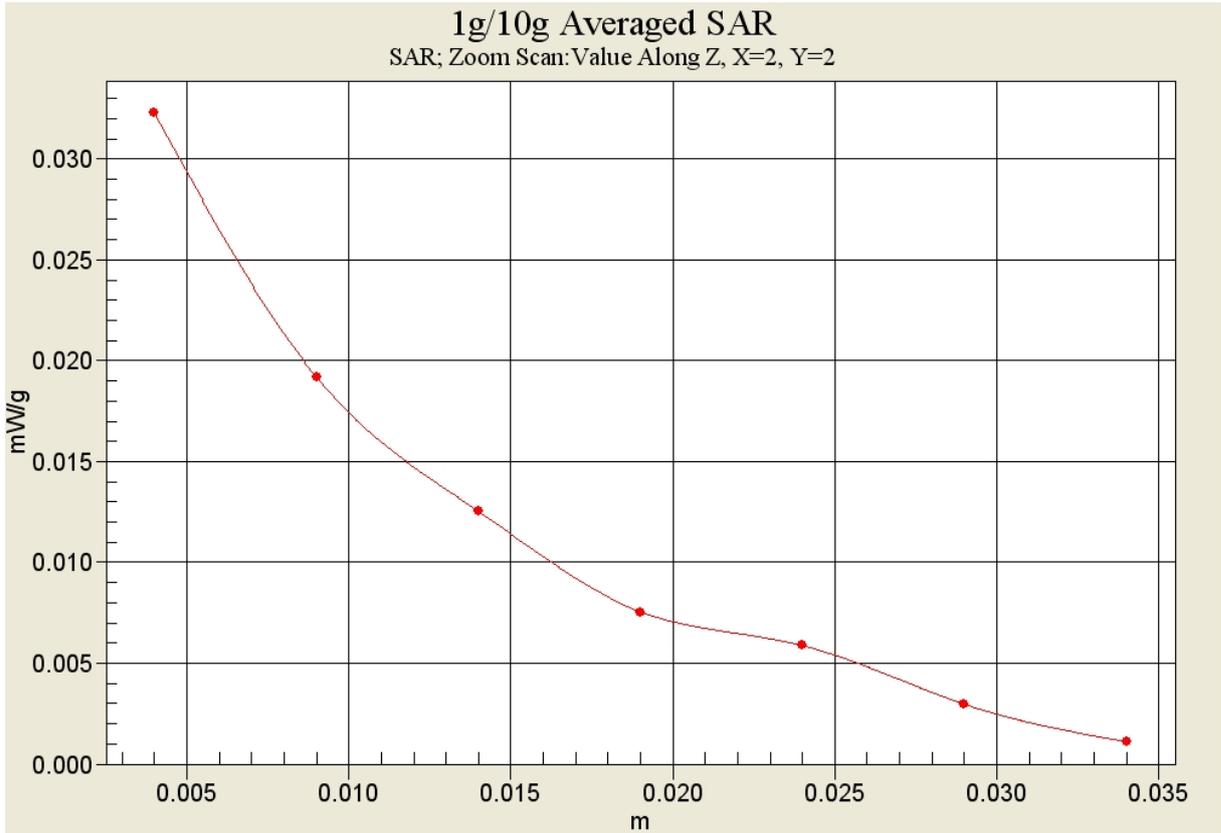
Fig. 93-1   Z-Scan at power reference point (802.11b 1Mbps CH1)

WiFi 802.11b 1Mbps Left Tilt Channel 1

Date/Time: 2011-3-26 8:57:09

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.79 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.044 mW/g

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

Reference Value = 3.58 V/m; Power Drift = 0.144 dB

Peak SAR (extrapolated) = 0.035 W/kg

SAR(1 g) = 0.022 mW/g; SAR(10 g) = 0.013 mW/g

Maximum value of SAR (measured) = 0.024 mW/g
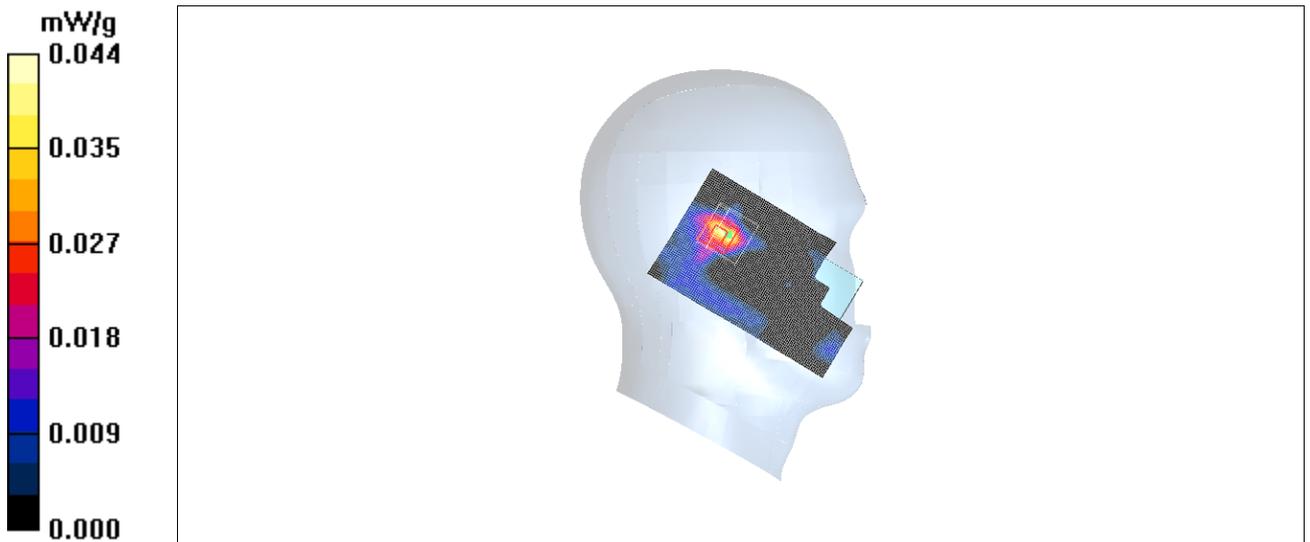
Fig.94   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Right Cheek Channel 1

Date/Time: 2011-3-26 9:14:51

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.79 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.024 mW/g

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

Reference Value = 2.23 V/m; Power Drift = 0.126 dB

Peak SAR (extrapolated) = 0.046 W/kg

SAR(1 g) = 0.020 mW/g; SAR(10 g) = 0.011 mW/g
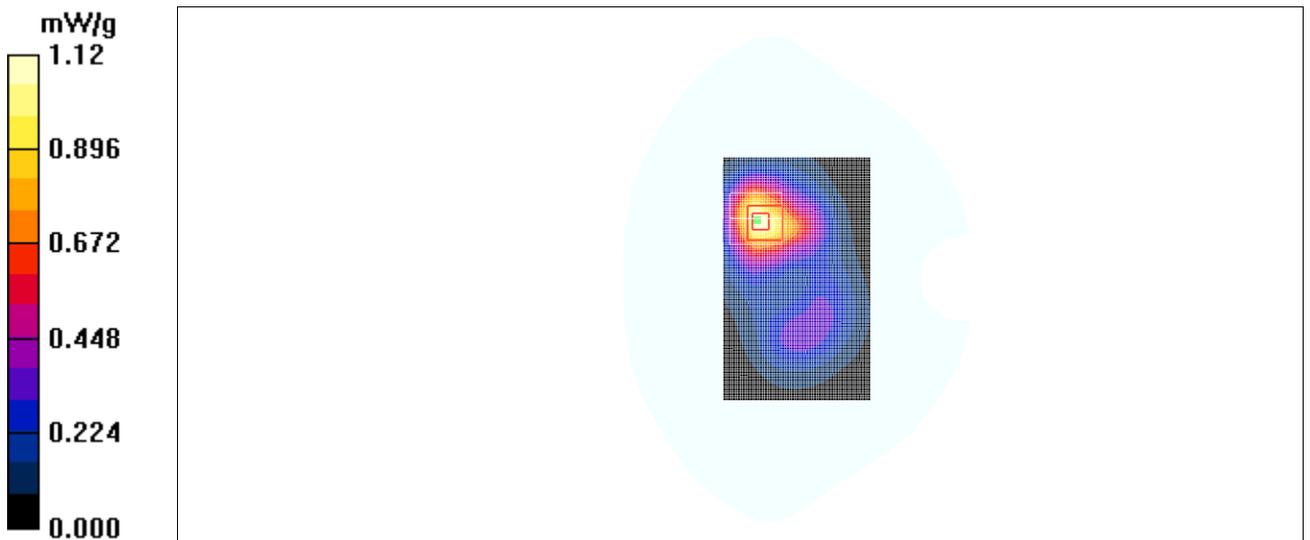
Maximum value of SAR (measured) = 0.022 mW/g

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

Reference Value = 2.23 V/m; Power Drift = 0.126 dB

Peak SAR (extrapolated) = 0.042 W/kg

SAR(1 g) = 0.021 mW/g; SAR(10 g) = 0.011 mW/g

Maximum value of SAR (measured) = 0.024 mW/g
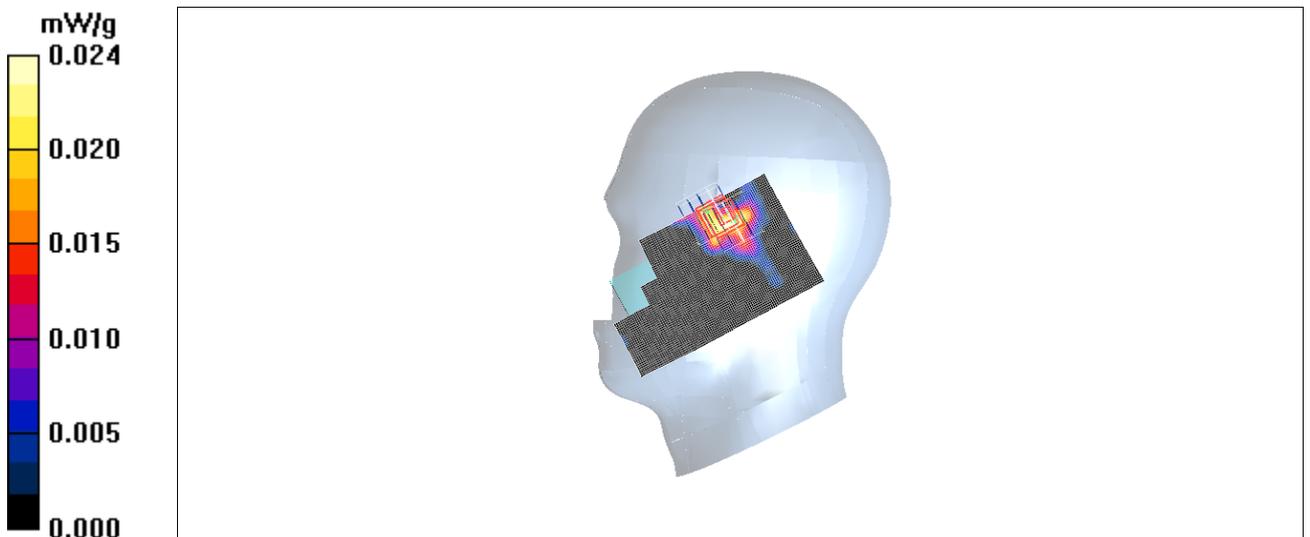
Fig.95   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Right Tilt Channel 1

Date/Time: 2011-3-26 9:31:29

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.79 mho/m; $ε_r$ = 39.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

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

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

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

Reference Value = 1.52 V/m; Power Drift = -0.151 dB

Peak SAR (extrapolated) = 0.007 W/kg

SAR(1 g) = 0.00271 mW/g; SAR(10 g) = 0.000706 mW/g

Maximum value of SAR (measured) = 0.006 mW/g

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

Reference Value = 1.52 V/m; Power Drift = -0.151 dB

Peak SAR (extrapolated) = 0.007 W/kg

SAR(1 g) = 0.000303 mW/g; SAR(10 g) = 7.11e-005 mW/g

Maximum value of SAR (measured) = 0.005 mW/g

Fig.96   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Toward Phantom Channel 1

Date/Time: 2011-3-26 14:02:42

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 52.6; ρ = 1000 kg/m³

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

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.035 mW/g

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

Reference Value = 2.63 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.037 W/kg

SAR(1 g) = 0.019 mW/g; SAR(10 g) = 0.011 mW/g

Maximum value of SAR (measured) = 0.021 mW/g

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

Reference Value = 2.63 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.029 W/kg

SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00944 mW/g

Maximum value of SAR (measured) = 0.019 mW/g
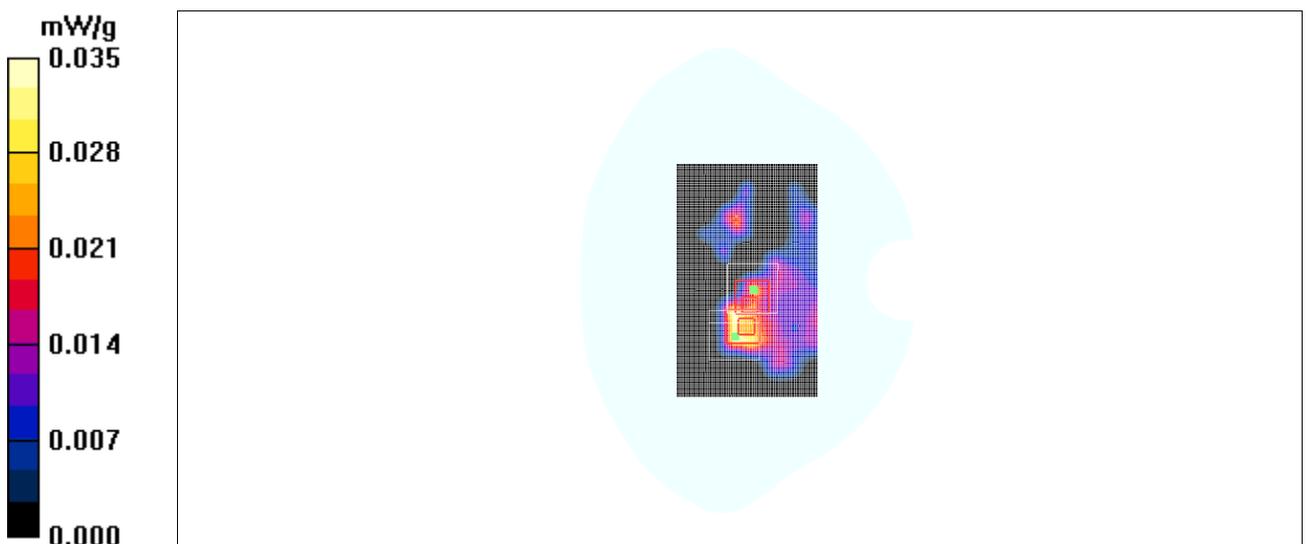
Fig.97   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Toward Ground Channel 1

Date/Time: 2011-3-26 14:20:54

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.285 mW/g

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

Reference Value = 7.29 V/m; Power Drift = 0.150 dB

Peak SAR (extrapolated) = 0.600 W/kg

SAR(1 g) = 0.266 mW/g; SAR(10 g) = 0.110 mW/g

Maximum value of SAR (measured) = 0.307 mW/g

Fig.98   802.11b 1Mbps CH1
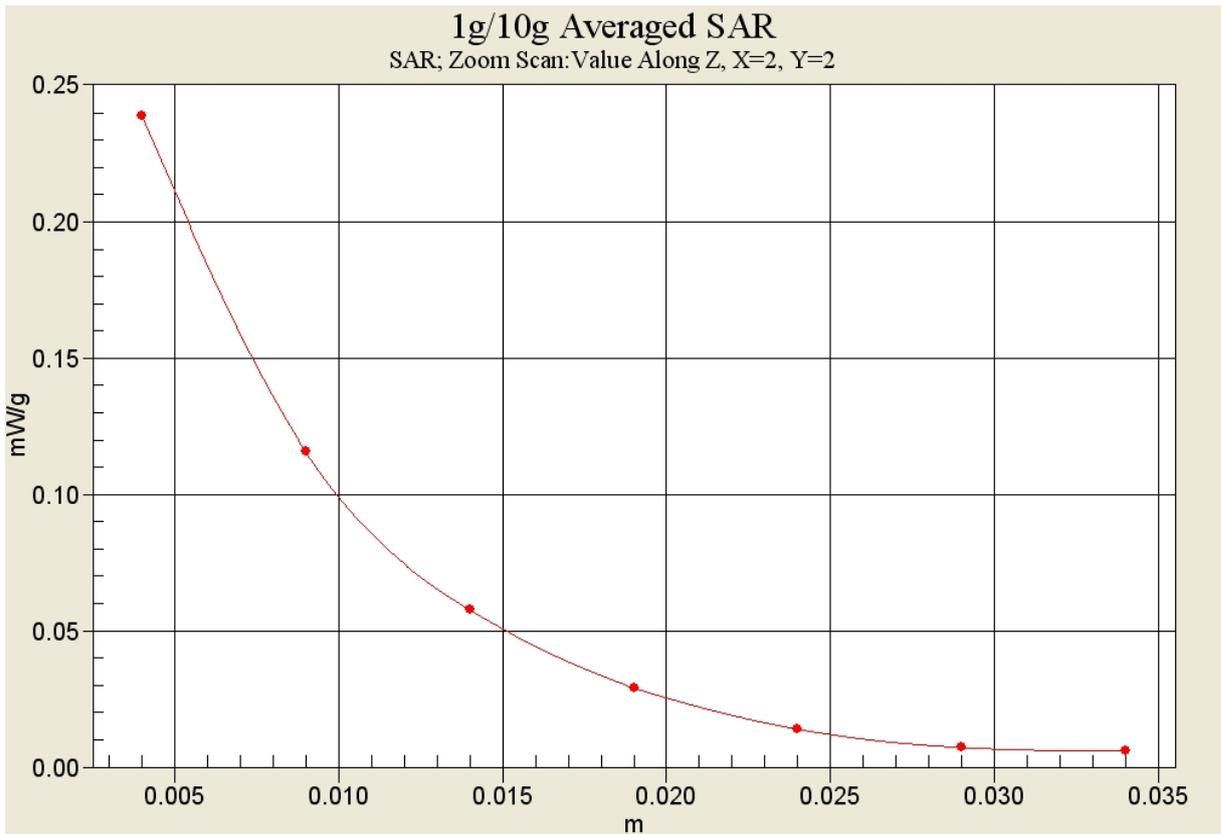
Fig. 98-1   Z-Scan at power reference point (802.11b 1Mbps CH1)

WiFi 802.11b 1Mbps Left Side Channel 1

Date/Time: 2011-3-26 14:39:54

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.196 mW/g

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

Reference Value = 5.50 V/m; Power Drift = 0.121 dB

Peak SAR (extrapolated) = 0.348 W/kg

SAR(1 g) = 0.177 mW/g; SAR(10 g) = 0.085 mW/g
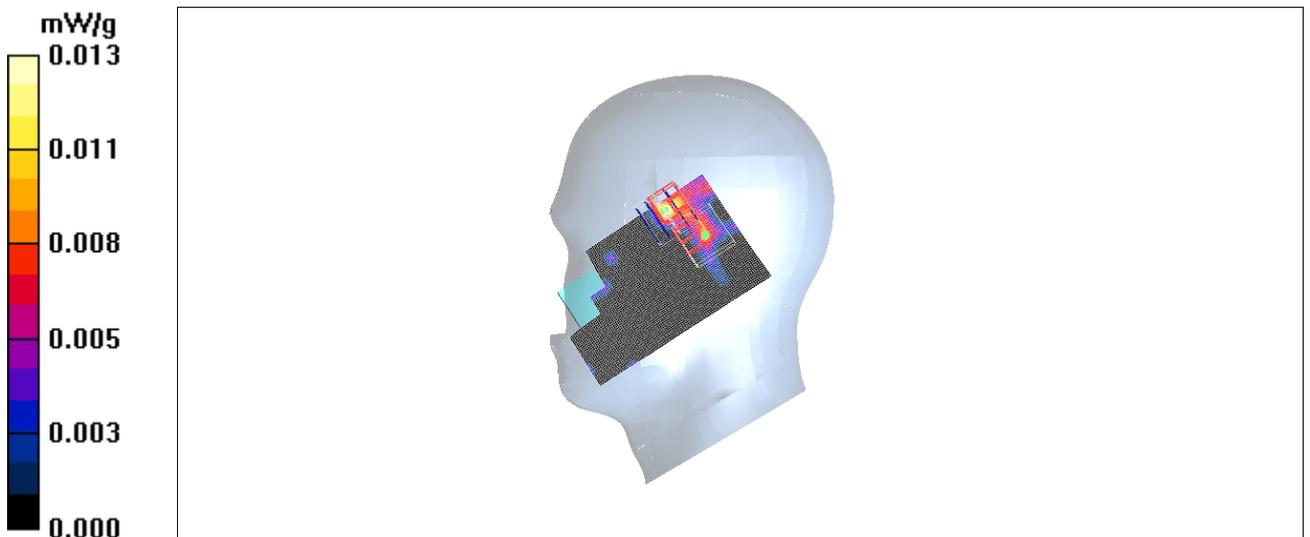
Maximum value of SAR (measured) = 0.198 mW/g
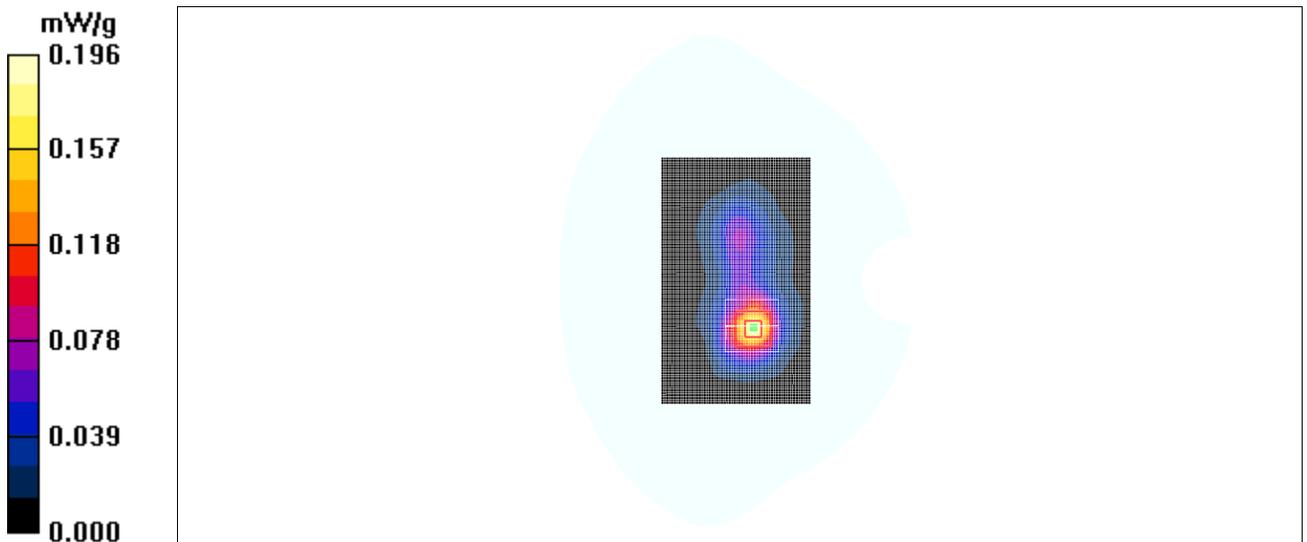
Fig.99   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Top Side Channel 1

Date/Time: 2011-3-26 14:57:22

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.025 mW/g

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

Reference Value = 1.83 V/m; Power Drift = -0.134 dB

Peak SAR (extrapolated) = 0.048 W/kg

SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00562 mW/g

Maximum value of SAR (measured) = 0.016 mW/g

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

Reference Value = 1.83 V/m; Power Drift = -0.134 dB

Peak SAR (extrapolated) = 0.020 W/kg

SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.00469 mW/g

Maximum value of SAR (measured) = 0.013 mW/g
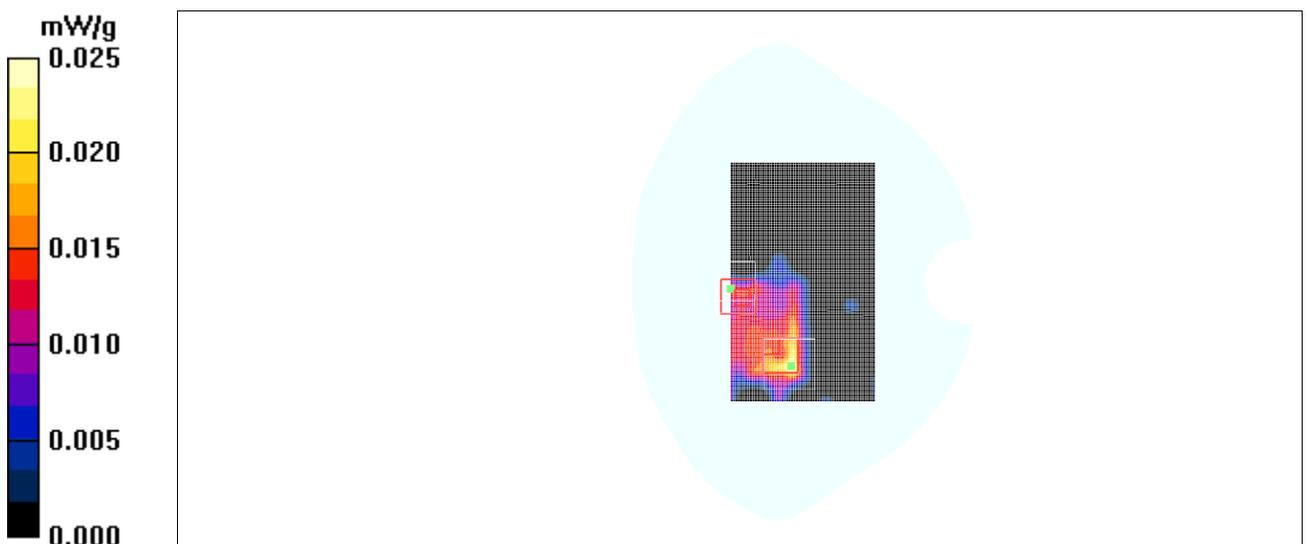
Fig.100   802.11b 1Mbps CH1

ANNEX D   SYSTEM VALIDATION RESULTS

835MHz

Date/Time: 2011-3-24 7:25:21
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.91 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 = 54.2 V/m; Power Drift = 0.061 dB
Peak SAR (extrapolated) = 3.32 W/kg
SAR(1 g) = 2.29 mW/g; SAR(10 g) = 1.48 mW/g
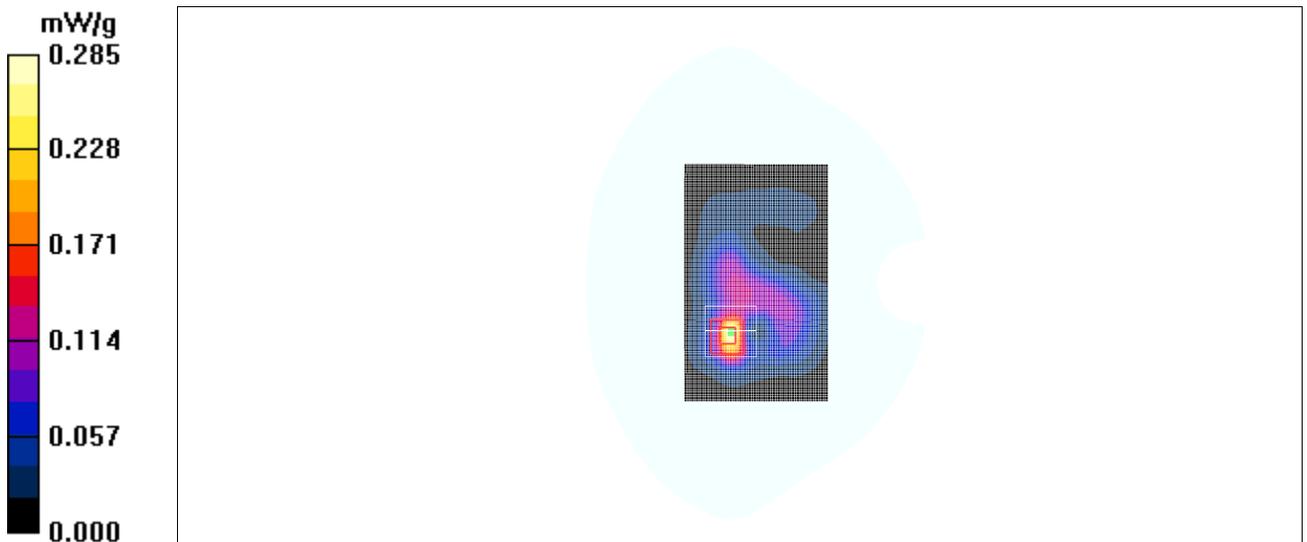Maximum value of SAR (measured) = 2.44 mW/g

0 dB = 2.44mW/g

Fig.101 validation 835MHz 250mW

835MHz

Date/Time: 2011-5-11 07:36:15
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.96 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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) = 2.68 mW/g

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.7 V/m; Power Drift = 0.092 dB
Peak SAR (extrapolated) = 3.44 W/kg
SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.54 mW/g
Maximum value of SAR (measured) = 2.56 mW/g
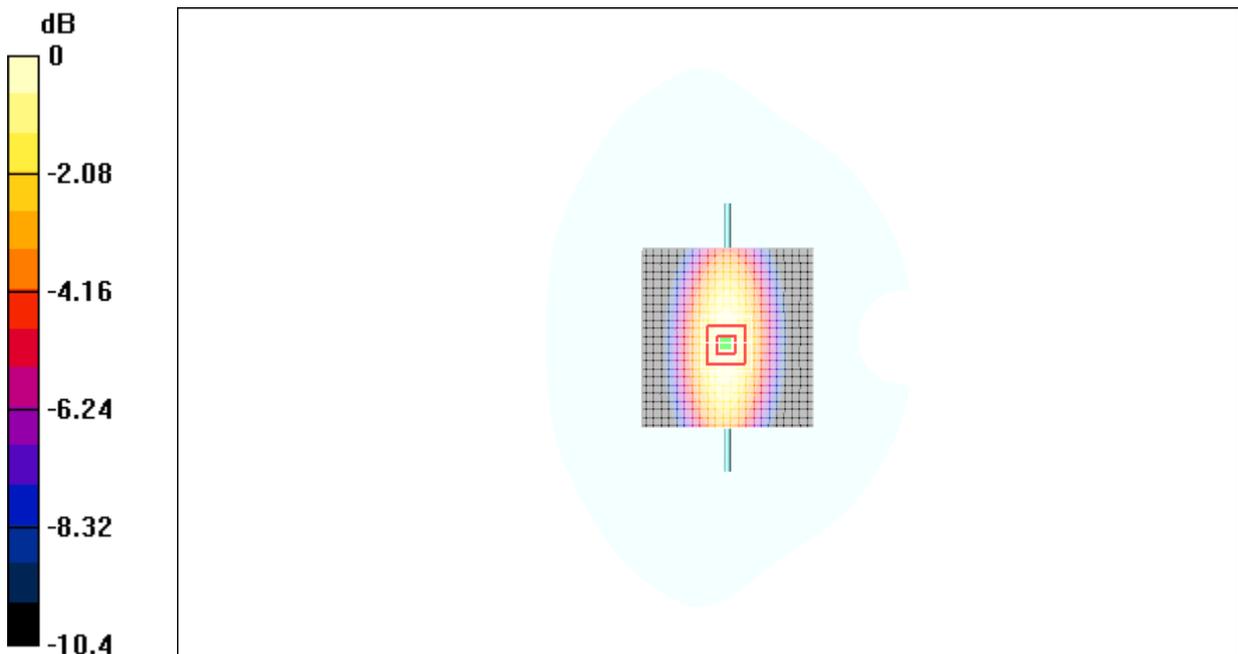
0 dB = 2.56mW/g

Fig.102 validation 835MHz 250mW

1900MHz

Date/Time: 2011-3-25 7:28:19

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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) = 11.2 mW/g

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

Reference Value = 87.8 V/m; Power Drift = -0.055 dB

Peak SAR (extrapolated) = 14.7 W/kg

SAR(1 g) = 9.61 mW/g; SAR(10 g) = 4.97 mW/g

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

0 dB = 10.5mW/g
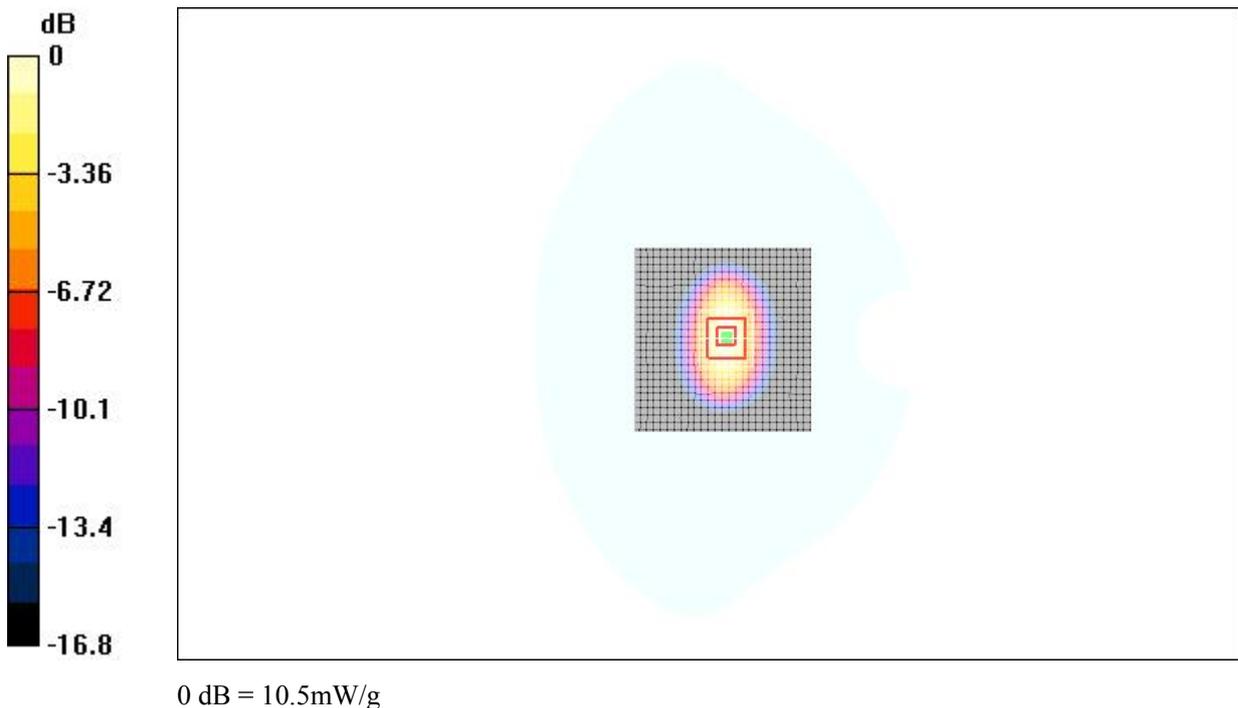
Fig.103 validation 1900MHz 250mW

1900MHz

Date/Time: 2011-5-11 13:52:00
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.50 mho/m; ε_r = 52.0; ρ = 1000 kg/m^3
Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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) = 11.5 mW/g
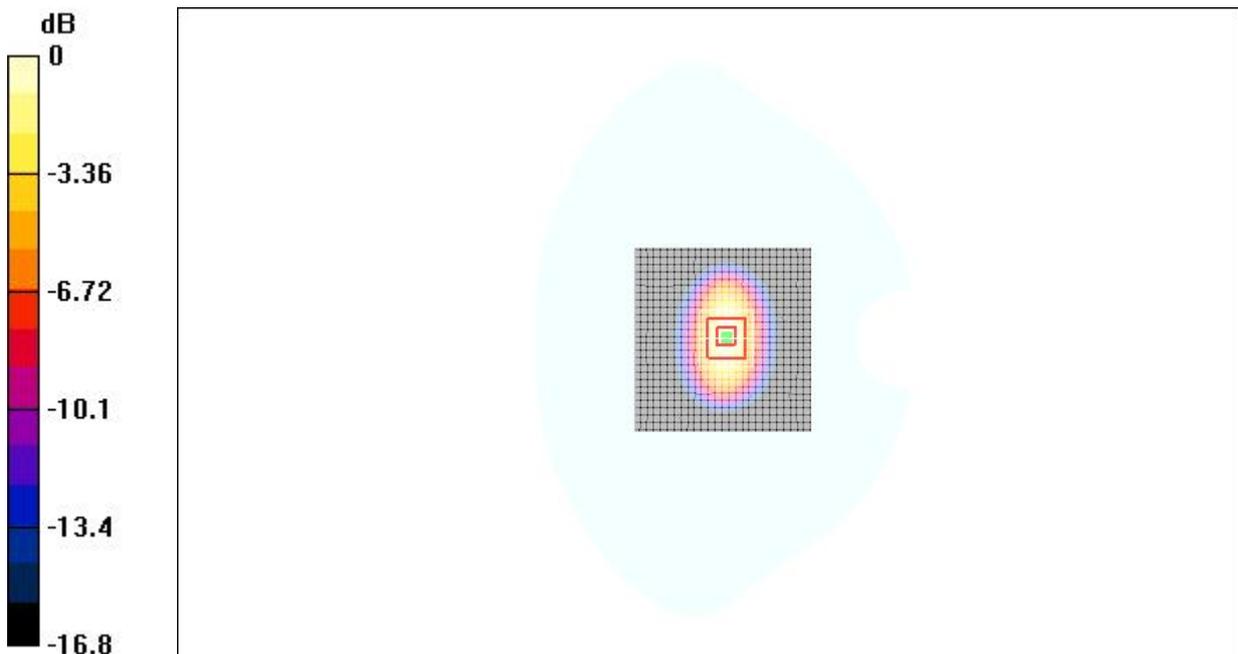
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.9 V/m; Power Drift = 0.051 dB
Peak SAR (extrapolated) = 15.2 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.21 mW/g
Maximum value of SAR (measured) = 10.8 mW/g

0 dB = 10.8mW/g

Fig.104 validation 1900MHz 250mW

2450MHz

Date/Time: 2011-3-26 7:32:41
Electronics: DAE4 Sn771
Medium: Head 2450
Medium parameters used: f = 2450 MHz; σ = 1.82 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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
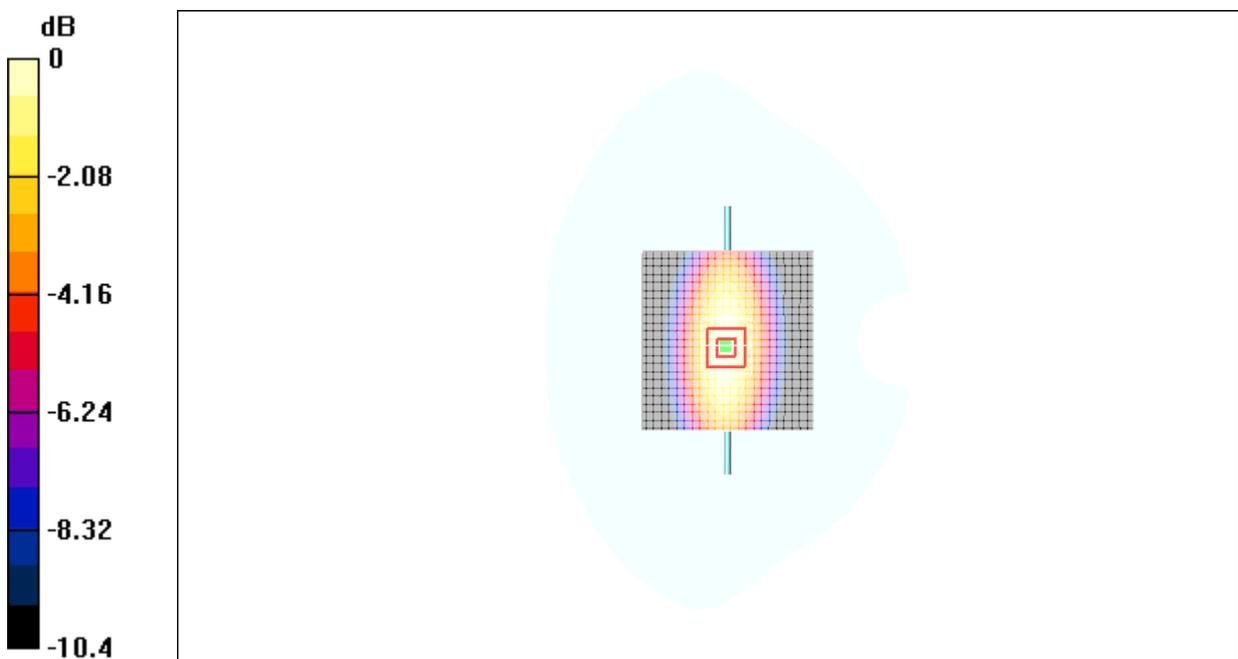Maximum value of SAR (interpolated) = 13.9 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 86.2 V/m; Power Drift = 0.085 dB
Peak SAR (extrapolated) = 18.8 W/kg
SAR(1 g) = 12.8 mW/g; SAR(10 g) = 5.9 mW/g
Maximum value of SAR (measured) = 14.1 mW/g

0 dB = 14.1mW/g

Fig.105 validation 2450MHz 250mW

2450MHz

Date/Time: 2011-3-26 13:20:07
Electronics: DAE4 Sn771
Medium: Body 2450
Medium parameters used: f = 2450 MHz; σ = 1.97 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC   Liquid Temperature: 22.5^{o}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) = 15.8 mW/g

**System Validation/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 82.1 V/m; Power Drift = 0.069 dB
Peak SAR (extrapolated) = 24.3 W/kg
SAR(1 g) = 12.9 mW/g; SAR(10 g) = 5.9 mW/g
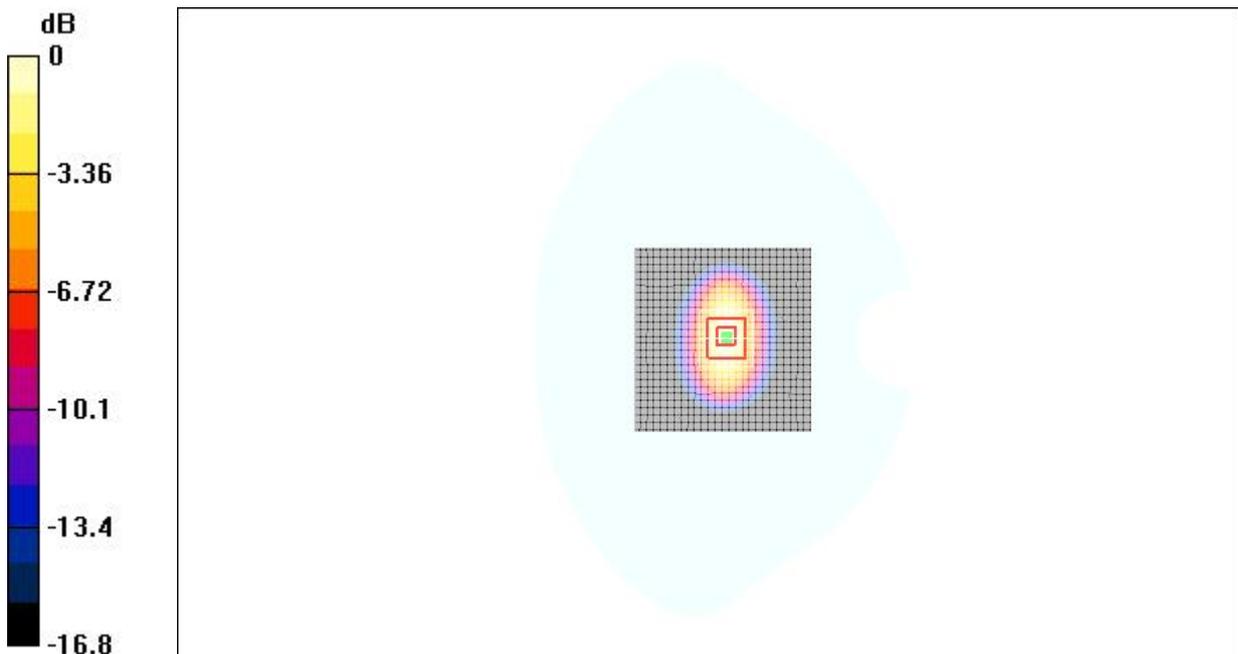Maximum value of SAR (measured) = 14.5 mW/g
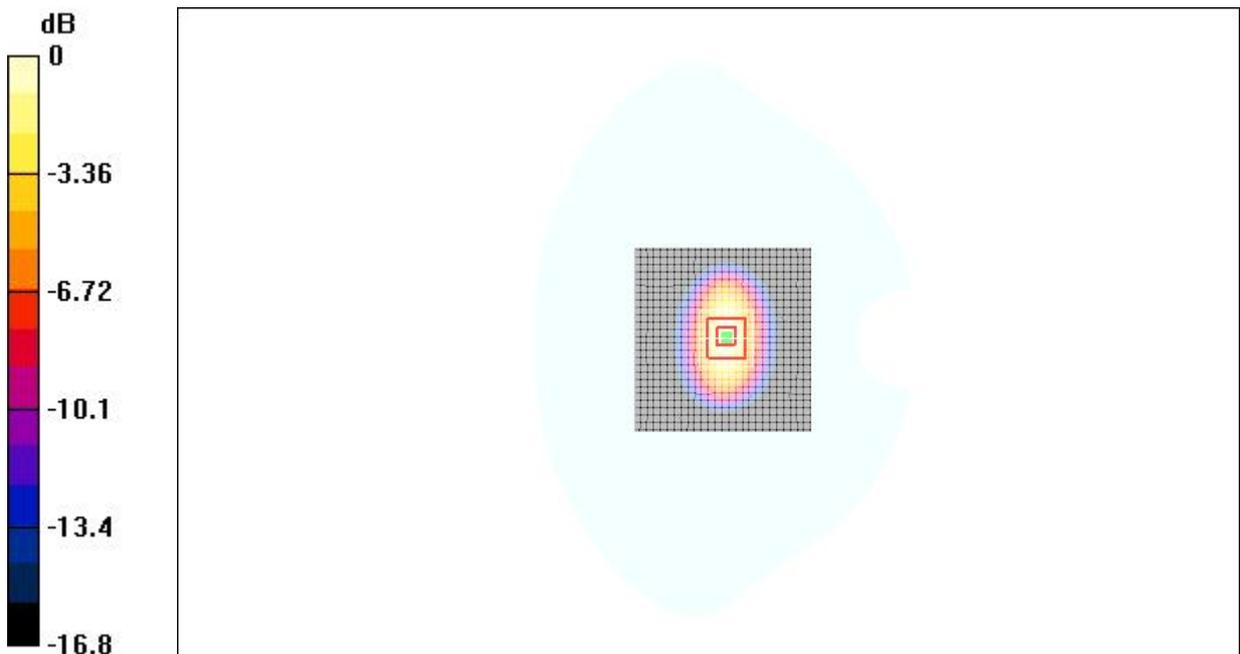
0 dB = 14.5mW/g

Fig.106 validation 2450MHz 250mW

ANNEX E   PROBE CALIBRATION CERTIFICATE

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

ilac-MRA

SWISS CALIBRATION

S Schweizerischer Kalibrierdienst
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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)^{0}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.

Certificate No: ES3DV3-3149_Sep10   Page 1 of 9

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

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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., $\vartheta = 0$ 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:

- *NORMx,y,z*: Assessed for E-field polarization $\vartheta = 0$ (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 E²-field uncertainty inside TSL (see below *ConF*).

- *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 *ConF*.

- *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.

- *ConF 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 * ConF whereby the uncertainty corresponds to that given for *ConF*. A frequency dependent *ConF* 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 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
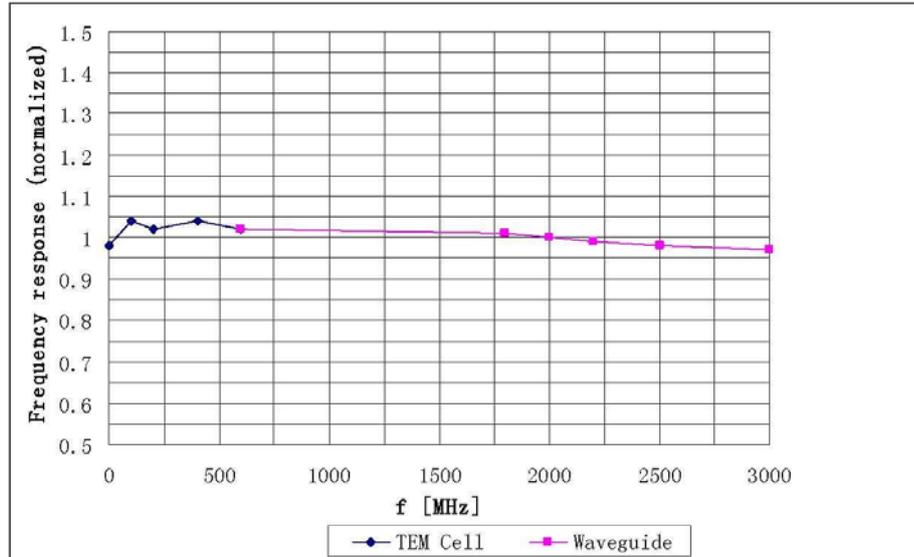
Uncertainty of Frequency Response of E-field: ±5.0% (k=2)

ES3DV3 SN: 3149   September 25, 2010

Receiving Pattern (Φ), θ =0°
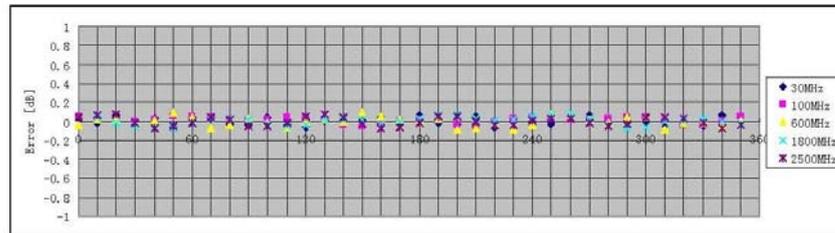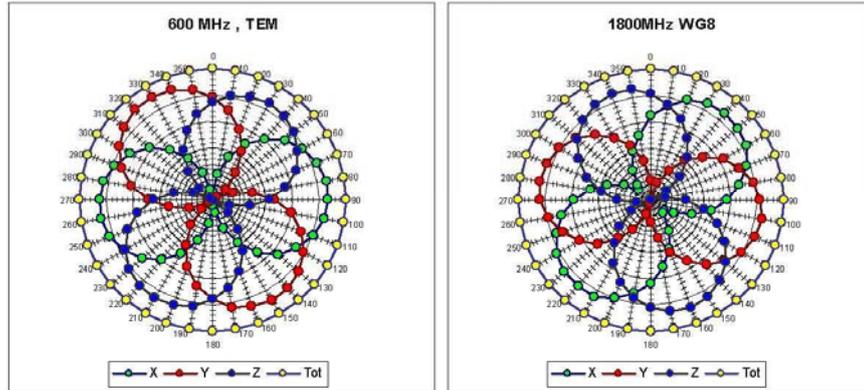
Uncertainty of Axial Isotropy Assessment: ±0.5% (k=2)

ES3DV3 SN: 3149   September 25, 2010

Dynamic Range f(SAR_head)
(Waveguide: WG8, f = 1800 MHz)
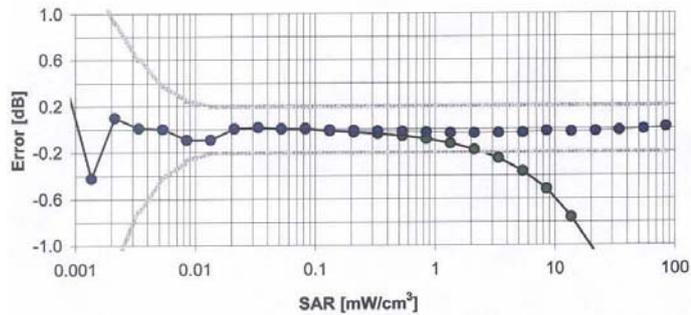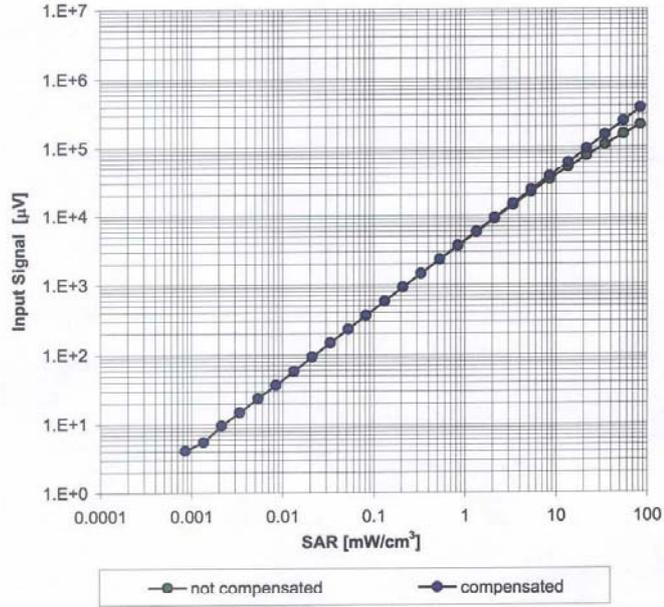
Uncertainty of Linearity Assessment: ±0.5% (k=2)

ES3DV3 SN: 3149   September 25, 2010

Conversion Factor Assessment
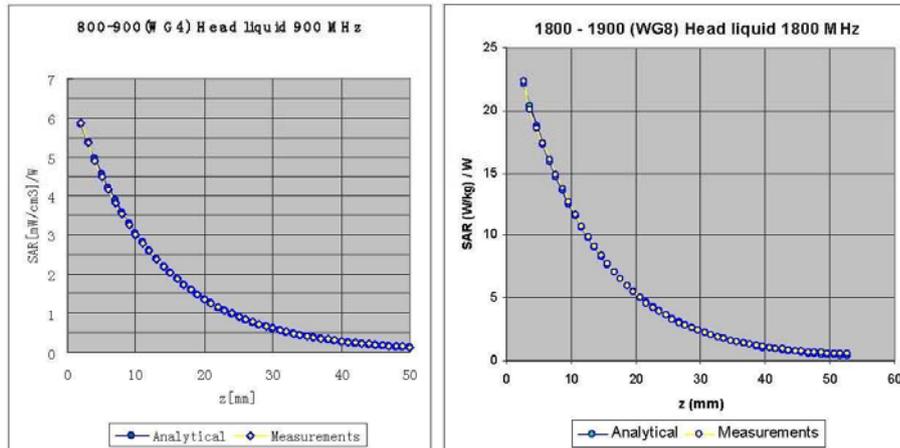
f[MHz]	Validity[MHz][C]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
850	±50 /±100	Head	41.5±5%	0.90±5%	0.91	1.13	6.56	±11.0% (k=2)
900	±50 /±100	Head	41.5±5%	0.97±5%	0.83	1.26	6.34	±11.0% (k=2)
1800	±50 /±100	Head	40.0±5%	1.40±5%	0.69	1.47	5.18	±11.0% (k=2)
1900	±50 /±100	Head	40.0±5%	1.40±5%	0.72	1.38	5.03	±11.0% (k=2)
2100	±50 /±100	Head	39.8±5%	1.49±5%	0.66	1.34	4.58	±11.0% (k=2)
850	±50 /±100	Body	55.2±5%	0.97±5%	0.76	1.26	6.22	±11.0% (k=2)
900	±50 /±100	Body	55.0±5%	1.05±5%	0.99	1.06	6.02	±11.0% (k=2)
1800	±50 /±100	Body	53.3±5%	1.52±5%	0.75	1.34	4.97	±11.0% (k=2)
1900	±50 /±100	Body	53.3±5%	1.52±5%	0.62	1.33	4.68	±11.0% (k=2)
2100	±50 /±100	Body	53.5±5%	1.57±5%	0.68	1.34	4.35	±11.0% (k=2)

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

Certificate No: ES3DV3-3149_ Sep10   Page 8 of 9

ES3DV3 SN: 3149   September 25, 2010

Deviation from Isotropy
Error (Φ , θ), f = 900 MHz
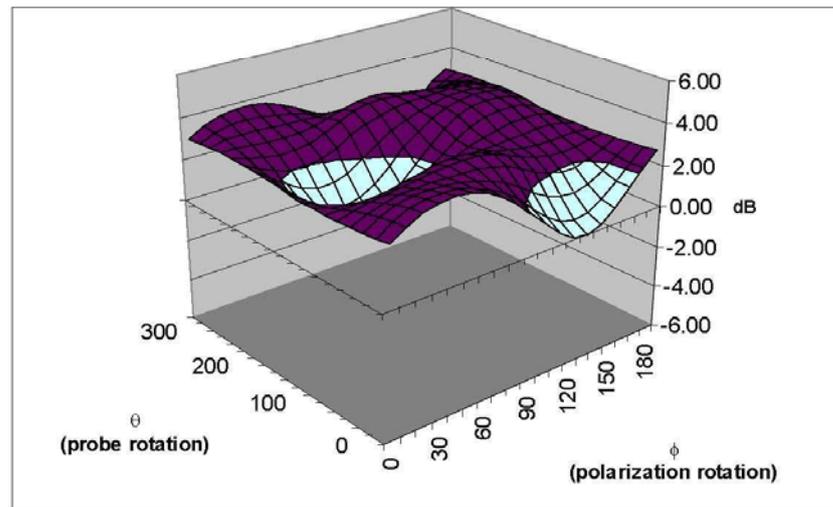
Uncertainty of Spherical Isotropy Assessment: ±2.5% (k=2)

TMC

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Accreditation No.: **SCS 108**

Client TMC China

Certificate No: EX3DV4-3617_Jul10

CALIBRATION CERTIFICATE

Object	**EX3DV4-SN: 3617**
Calibration procedure(s)	**QA CAL-01.v6** **Calibration procedure for dosimetric E-field probes**
Calibration date:	**July 9, 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)^{0}C and humidity<70%

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID#	Cal Data (Calibrated by, Certification NO.)	Scheduled Calibration
Power meter E4419B	GB41293874	6-May-10 (METAS, NO. 251-00388)	May-11
Power sensor E4412A	MY41495277	6-May-10 (METAS, NO. 251-00388)	May-11
Reference 3 dB Attenuator	SN:S5054 (3c)	12-Aug-09 (METAS, NO. 251-00403)	Aug-10
Reference 20 dB Attenuator	SN:S5086 (20b)	4-May-10 (METAS, NO. 251-00389)	May-11
Reference 30 dB Attenuator	SN:S5129 (30b)	12-Aug-09 (METAS, NO. 251-00404)	Aug-10
DAE4	SN:617	11-Jun-10 (SPEAG, NO.DAE4-907_Jun10)	Jun-11
Reference Probe ES3DV2	SN: 3013	13-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: July 9, 2010

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

Certificate No: EX3DV4-3617_Jul10   Page 1 of 9

Calibration Laboratory of
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S Swiss Calibration Service

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 *ConF*).
- *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 *ConF*.
- *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.
- *ConF 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 * ConF whereby the uncertainty corresponds to that given for *ConF*. A frequency dependent *ConF* 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.

Certificate No: EX3DV4-3617_Jul10   Page 2 of 9

EX3DV4 SN: 3617   July 9, 2010

Probe EX3DV4

SN: 3617

Manufactured: May 3, 2007

Calibrated: July 9, 2010

Calibrated for DASY4 System

EX3DV4 SN: 3617   July 9, 2010
DASY – Parameters of Probe: EX3DV4 SN:3617

Sensitivity in Free Space[A]   Diode Compression[B]

NormX	0.420±10.1%	$\mu V/(V/m)^2$	DCP X	89mV
NormY	0.440±10.1%	$\mu V/(V/m)^2$	DCP Y	88mV
NormZ	0.310±10.1%	$\mu V/(V/m)^2$	DCP Z	91mV

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

Boundary Effect

TSL   2450MHz   Typical SAR gradient: 11% per mm

Sensor Center to Phantom Surface Distance		2.0 mm	3.0 mm
SARbe[%]	Without Correction Algorithm	3.7	1.8
SARbe[%]	With Correction Algorithm	0.1	0.0

TSL   5200MHz   Typical SAR gradient: 25% per mm

Sensor Center to Phantom Surface Distance		2.0 mm	3.0 mm
SARbe[%]	Without Correction Algorithm	10.1	3.7
SARbe[%]	With Correction Algorithm	0.2	0.1

Sensor Offset

Probe Tip to Sensor Center   1.0 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.

Certificate No: EX3DV4-3617_Jul10   Page 4 of 9
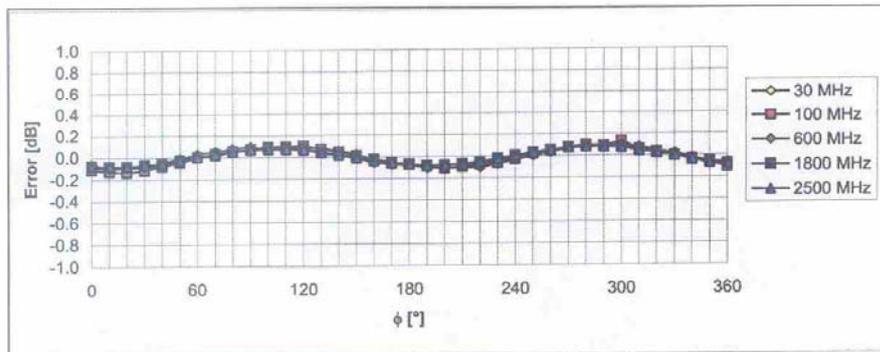
EX3DV4 SN: 3617

July 9, 2010

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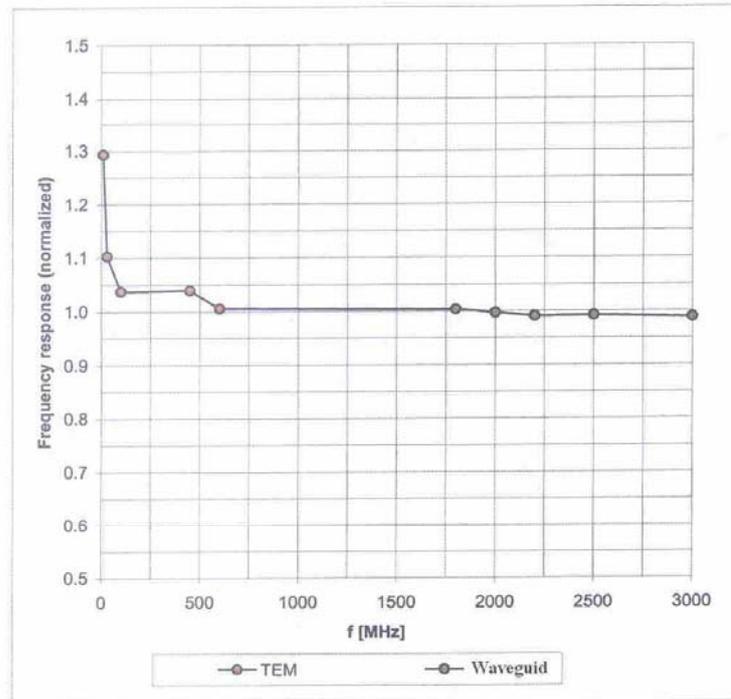
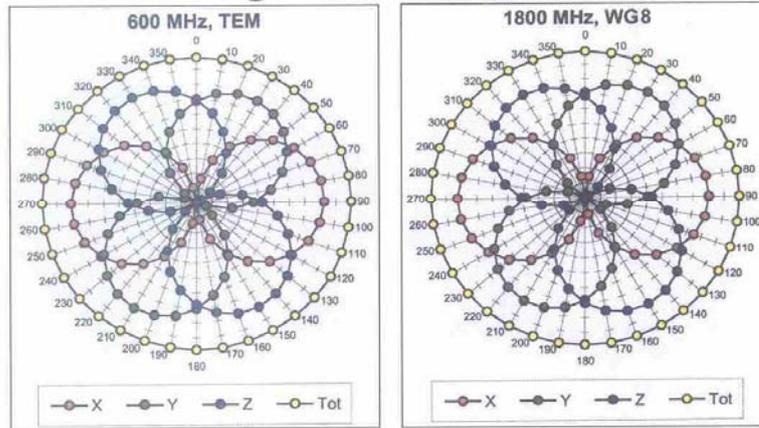**Uncertainty of Frequency Response of E-field:** $\pm 6.3\%$ (k=2)

EX3DV4 SN: 3617   July 9, 2010

Receiving Pattern (Φ), θ = 0°

600 MHz, TEM

1800 MHz, WG8

Legend: —X— —Y— —Z— —Tot
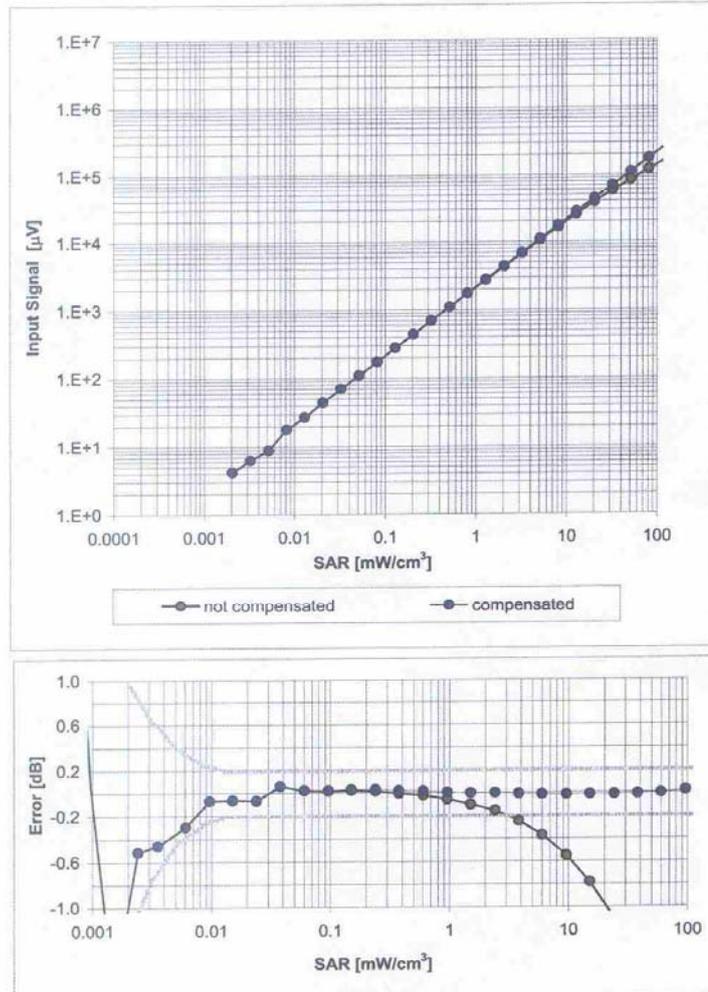

Uncertainty of Axial Isotropy Assessment: ±0.5% (k=2)

EX3DV4 SN: 3617   July 9, 2010

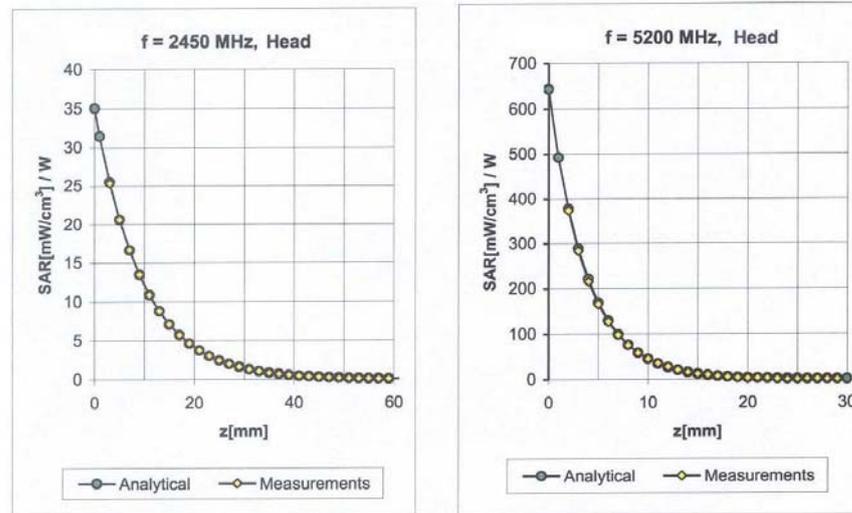## Dynamic Range f(SAR$_{head}$)
(Waveguide: WG8, f = 1800 MHz)

Uncertainty of Linearity Assessment: ±0.6% (k=2)

Conversion Factor Assessment

f[MHz]	Validity[MHz]^C	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
2300	±50 / ±100	Head	39.5±5%	1.67±5%	0.33	1.02	7.23	±11.8% (k=2)
2450	±50 / ±100	Head	39.2±5%	1.80±5%	0.33	1.00	7.19	±11.8% (k=2)
2600	±50 / ±100	Head	39.0±5%	1.96±5%	0.36	1.21	7.16	±11.8% (k=2)
3500	±50 / ±100	Head	37.9±5%	2.91±5%	0.34	1.35	6.48	±11.8% (k=2)
5200	±50 / ±100	Head	36.0±5%	4.66±5%	0.35	1.60	5.33	±13.1% (k=2)
5800	±50 / ±100	Head	35.3±5%	5.27±5%	0.35	1.60	4.69	±13.1% (k=2)
2300	±50 / ±100	Body	52.8±5%	1.85±5%	0.30	1.01	6.95	±11.8% (k=2)
2450	±50 / ±100	Body	52.7±5%	1.95±5%	0.36	1.00	6.88	±11.8% (k=2)
2600	±50 / ±100	Body	52.5±5%	2.16±5%	0.36	1.05	6.84	±11.8% (k=2)
3500	±50 / ±100	Body	51.3±5%	3.30±5%	0.33	1.40	5.02	±11.8% (k=2)
5200	±50 / ±100	Body	49.0±5%	5.30±5%	0.35	1.70	4.64	±13.1% (k=2)
5800	±50 / ±100	Body	48.2±5%	6.00±5%	0.30	1.70	4.53	±13.1% (k=2)

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