Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.0 Ω + 6.0 jΩ
Return Loss	- 24.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.7 Ω + 6.5 jΩ
Return Loss	- 22.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.203 ns

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

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	March 28, 2008

DASY5 Validation Report for Head TSL

Date: 09.07.2013

Test Laboratory: SPEAG, Zurich, Switzerland

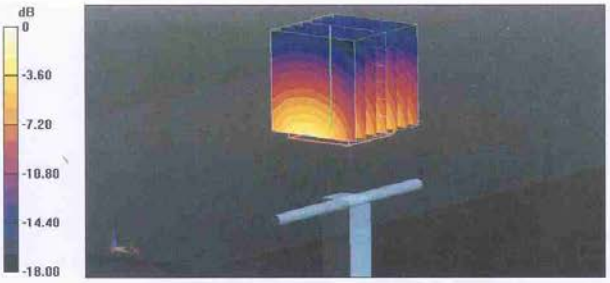
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d101

Communication System: UID 0 - CW ; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.36 S/m; ε_r = 38.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

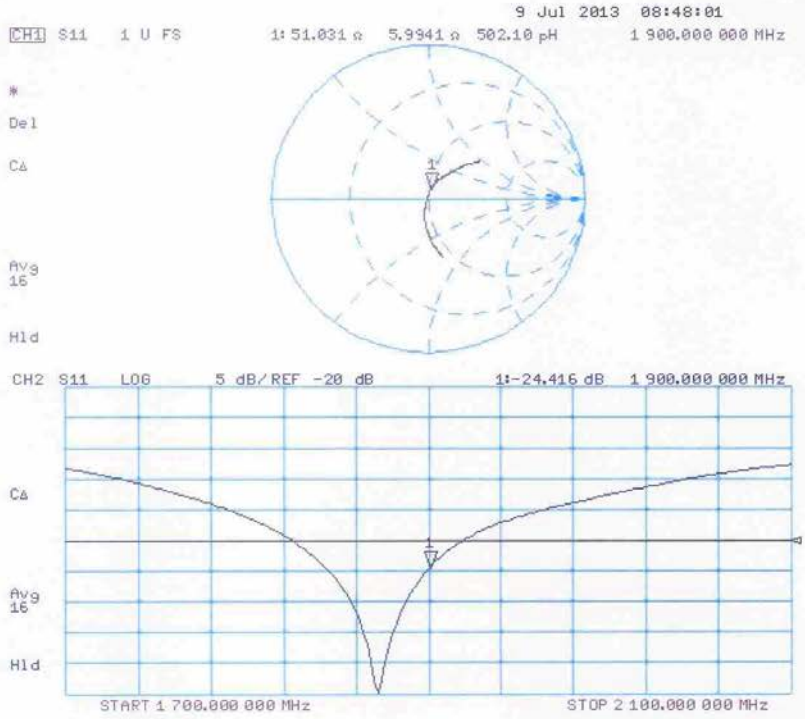
- Probe: ES3DV3 - SN3205; ConvF(4.98, 4.98, 4.98); Calibrated: 28.12.2012;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 25.04.2013
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.435 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 10 W/kg; SAR(10 g) = 5.28 W/kg
Maximum value of SAR (measured) = 12.2 W/kg



0 dB = 12.2 W/kg = 10.86 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 09.07.2013

Test Laboratory: SPEAG, Zurich, Switzerland

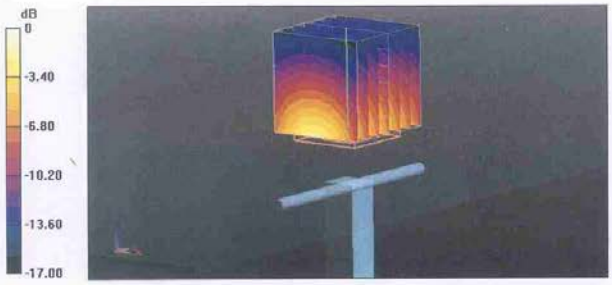
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d101

Communication System: UID 0 - CW ; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.49 S/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

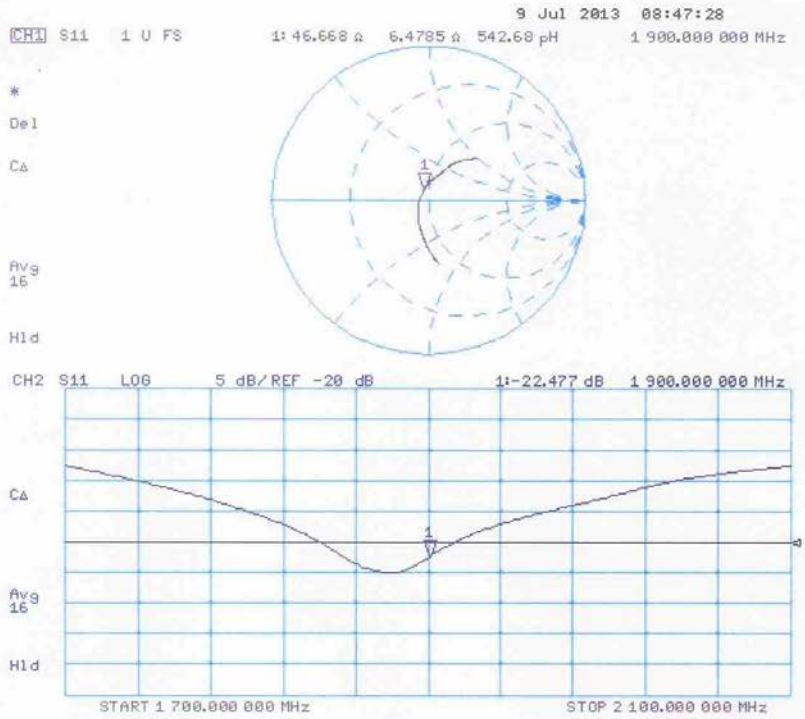
- Probe: ES3DV3 - SN3205; ConvF(4.6, 4.6, 4.6); Calibrated: 28.12.2012;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 25.04.2013
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.435 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 17.4 W/kg
SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.43 W/kg
Maximum value of SAR (measured) = 12.7 W/kg



0 dB = 12.7 W/kg = 11.04 dBW/kg

Impedance Measurement Plot for Body TSL



ANNEX I SPOT CHECK TEST

As the test lab for 1045D from TCT Mobile Limited, we, TMC Beijing, declare on our sole responsibility that, according to "Declaration of changes" provided by applicant, only the Spot check test should be performed. The test results are as below.

The difference between higher value of spot check data and lower value of original data for body 850 is within the measurement uncertainty. So it is acceptable to quote the test results of original sample.

I.1 Internal Identification of EUT used during the spot check test

EUT ID*	IMEI	HW Version	SW Version
EUT1	863538020100157	proto	vF06

*EUT ID: is used to identify the test sample in the lab internally.

I.2 Conducted power of selected case

Table I.1: The conducted power results for GSM850/1900

GSM 850MHz	Conducted Power (dBm)		
	Channel 251(848.8MHz)	Channel 190(836.6MHz)	Channel 128(824.2MHz)
	32.35	/	/
GSM 1900MHz	Conducted Power (dBm)		
	Channel 810(1909.8MHz)	Channel 661(1880MHz)	Channel 512(1850.2MHz)
	29.50	/	/

Table I.2 : The conducted power results for GPRS

GSM 850 GPRS (GMSK)	Measured Power (dBm)		
	251	**190**	**128**
2 Txslots	29.83	/	/
PCS1900 GPRS (GMSK)	Measured Power (dBm)		
	810	**661**	**512**
4 Txslots	24.37	/	/

I.3 Measurement results

The tests were carried out at the same day of the original test.

SAR Values (GSM 850 MHz Band - Head)

Frequency		Side	Test Position	Battery Type	SAR(1g) (W/kg)	
MHz	Ch.				Original data	Spot check data
848.8	251	Left	Touch	CAB22D0000C1	1.13	1.08

SAR Values (GSM 850 MHz Band - Body)

Frequency		Mode/Band	Test Position	Spacing (mm)	Battery Type	SAR(1g) (W/kg)	
MHz	Ch.					Original data	Spot check data
848.8	251	GPRS	Rear	10	CAB22D0000C1	1.02	1.09

SAR Values (PCS 1900 MHz Band - Head)

Frequency		Side	Test Position	Battery Type	SAR(1g) (W/kg)	
MHz	Ch.				Original data	Spot check data
1909.8	810	Left	Touch	CAB22D0000C1	0.878	0.635

SAR Values (PCS 1900 MHz Band - Body)

Frequency		Mode/Band	Test Position	Spacing (mm)	Battery Type	SAR(1g) (W/kg)	
MHz	Ch.					Original data	Spot check data
1909.8	810	GPRS	Rear	10	CAB22D0000C1	0.574	0.507

I.4 Reported SAR Comparison

Exposure Configuration	Technology Band	Reported SAR 1g (W/Kg): original	Reported SAR 1g (W/Kg): spot check
Head (Separation Distance 0mm)	GSM 850	1.37	1.34
	PCS 1900	1.08	0.76
Body-worn (Separation Distance 10mm)	GSM 850	1.28	1.27
	PCS 1900	0.87	0.74

I.5 Graphic results

850 Left Cheek High

Date: 2013-12-18
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.907 mho/m; εr = 41.548; ρ = 1000 kg/m^3
Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C
Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3
Probe: EX3DV4 - SN3846 ConvF(8.92, 8.92, 8.92)

Cheek High/Area Scan (51x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.18 W/kg

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.506 V/m; Power Drift = -0.35 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.766 W/kg
Maximum value of SAR (measured) = 1.13 W/kg

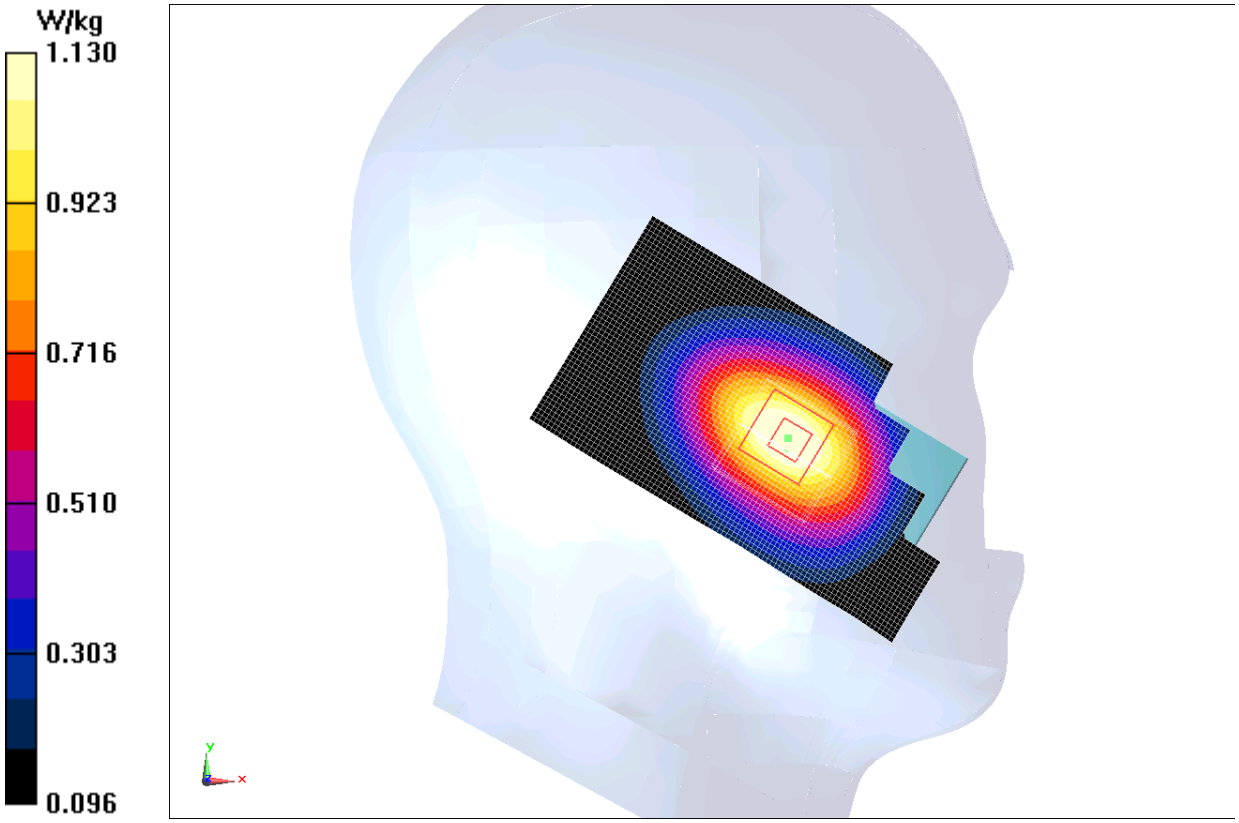


Fig.I.1 850MHz CH251

850 Body Rear High with GPRS

Date: 2013-12-18
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.997 mho/m; εr = 54.289; ρ = 1000 kg/m^3
Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C
Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:4
Probe: EX3DV4 - SN3846 ConvF(8.73, 8.73, 8.73)

Rear High/Area Scan (51x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.12 W/kg

Rear High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 35.679 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.776 W/kg
Maximum value of SAR (measured) = 1.12 W/kg

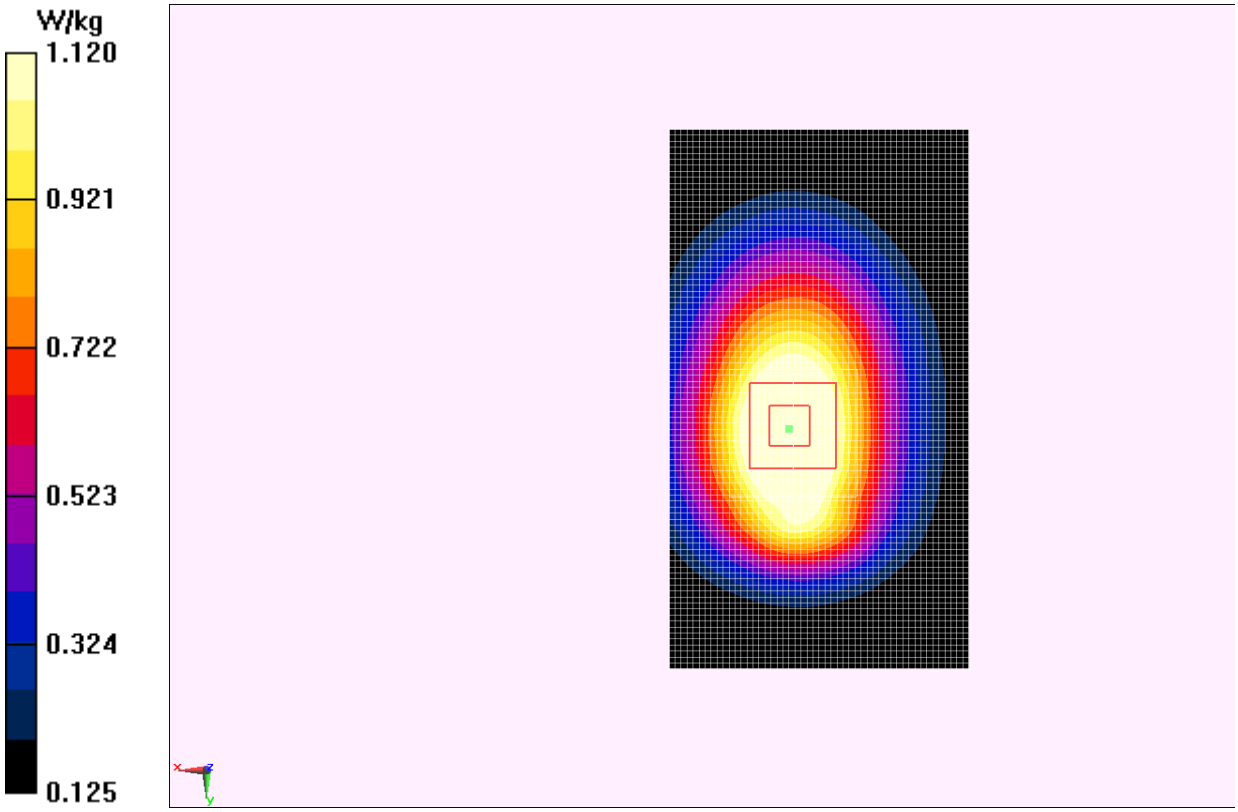


Fig.I.2 850 MHz CH251

1900 Left Cheek High
Date: 2013-12-19
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.412 S/m; εr = 39.224; ρ = 1000 kg/m^3
Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C
Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3
Probe: EX3DV4 - SN3846 ConvF(7.57, 7.57, 7.57)

Cheek High/Area Scan (51x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.18 W/kg

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.506 V/m; Power Drift = -0.35 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.766 W/kg
Maximum value of SAR (measured) = 1.13 W/kg

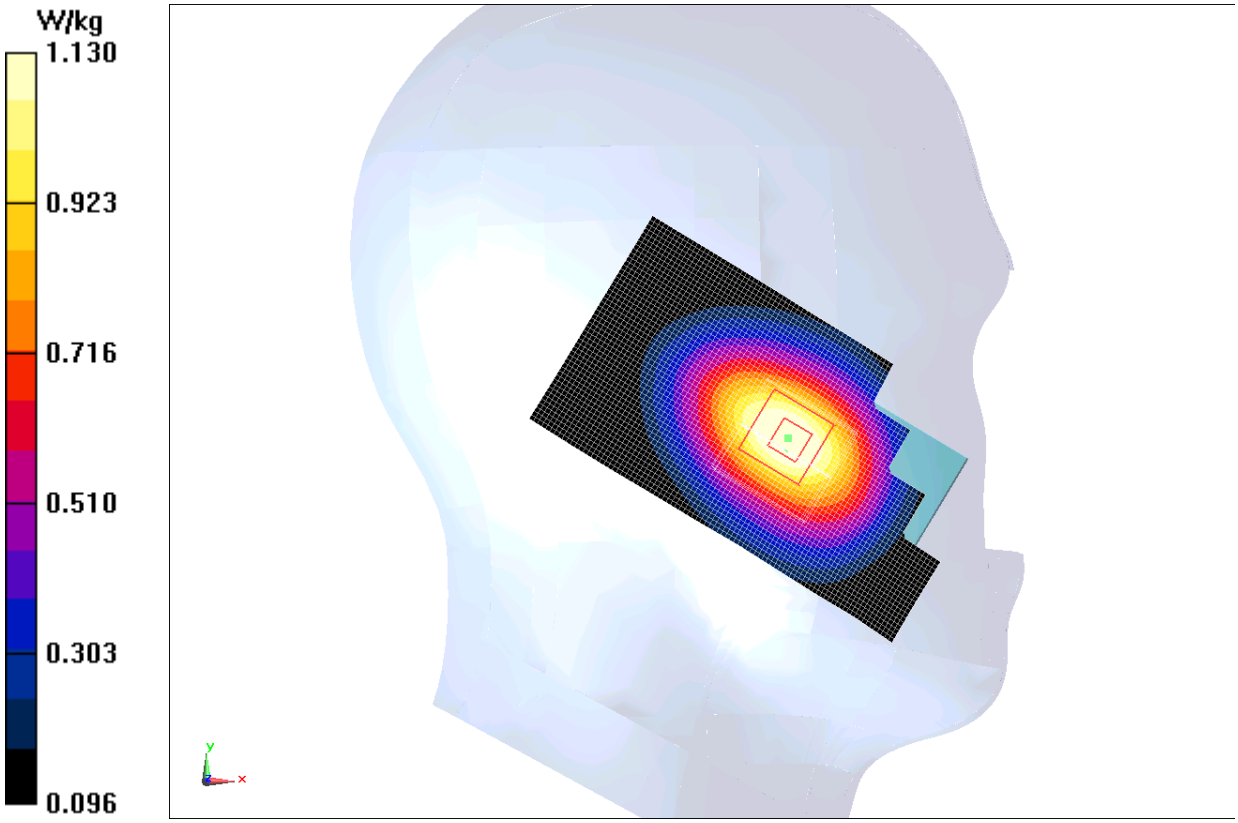


Fig.I.3 1900 MHz CH810

1900 Body Rear High with GPRS

Date: 2013-12-19
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.485 mho/m; εr = 50.647; ρ = 1000 kg/m^3
Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C
Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2
Probe: EX3DV4 - SN3846 ConvF(7.03, 7.03, 7.03)

Rear High/Area Scan (51x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.529 W/kg

Rear High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.741 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.844 W/kg
SAR(1 g) = 0.507 W/kg; SAR(10 g) = 0.288 W/kg
Maximum value of SAR (measured) = 0.559 W/kg

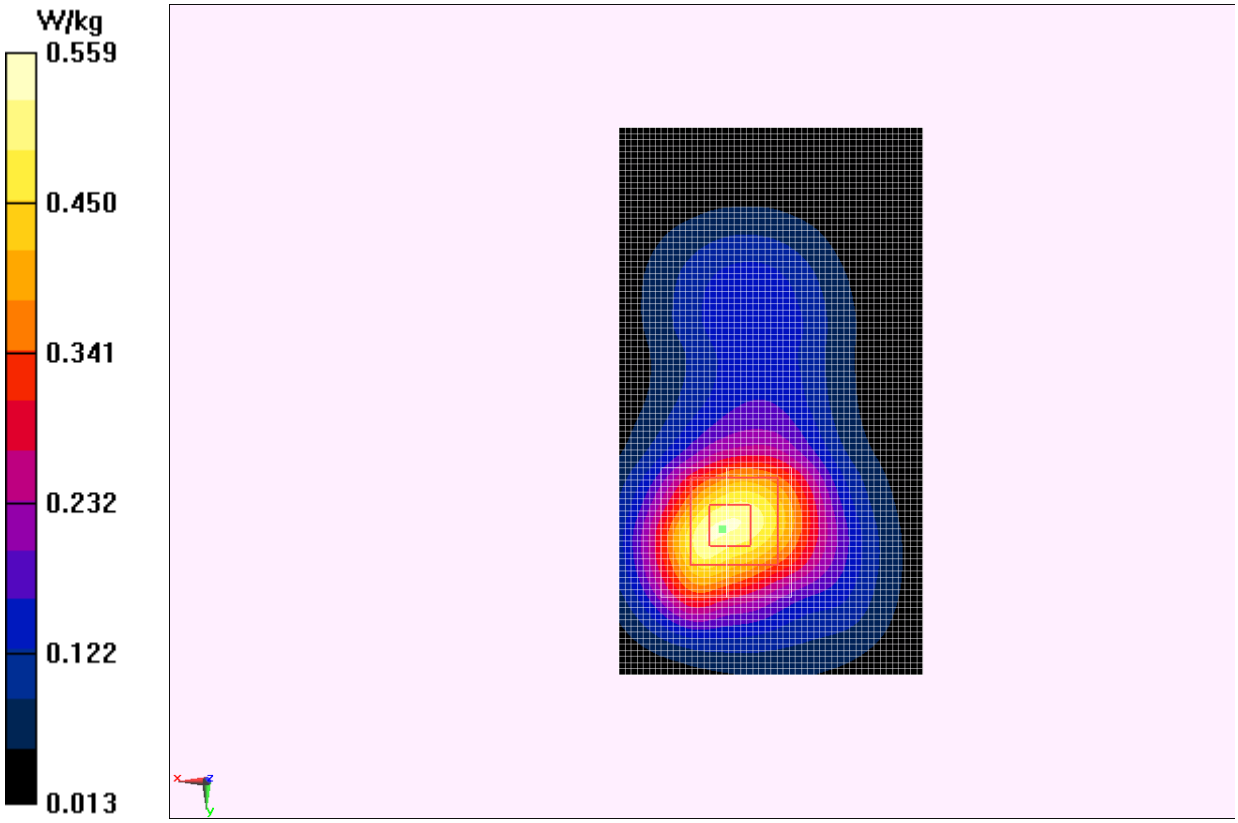


Fig.I.4 1900 MHz CH810