SAR Compliance Test Report

Test report no.:	Not numbered	Date of report:	2002-07-19
Number of pages:	15	Contact person:	Nerina Walton
		Responsible test engineer:	Nerina Walton

Testing laboratory:	Test & Certification Center (TCC) Dallas Nokia Mobile Phones, Inc 6021 Connection Drive Irving TX 75039, USA Tel. +1 972 894 5000 Fax. +1 972 894 4988	Client:	Nokia San Diego 12278 Scripps Summit Dr. San Diego CA 92131, USA Tel. +1 858 831 5000 Fax. +1 858 831 6500

Tested devices:

GMLNPD-1FW, Model 3570
BLC-2, LPS-4, HDC-5, Erica Cover

Supplement reports: -

Testing has been carried out in accordance with:

IEEE P1528-200X, Draft 6.4
    Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques
FCC Supplement C Edition, 01-01
    Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields

Documentation: The documentation of the testing performed on the tested devices is archived for 15 years at Test & Certification Center (TCC) Dallas

Test results: **The tested device complies with the requirements in respect of all parameters subject to the test.**

The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.

Date and signatures:
For the contents:

Randy Leenerts
for Alan Ewing

Alan C. Ewing
TCC Line Manager

2002-07-19

Nerina Walton
Test Engineer

TCC

Test & Certification Center (TCC) - Dallas

Accredited Laboratory
Certificate Number: 1819-01

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1. SUMMARY FOR SAR TEST REPORT

Date of test	2002.06.27 – 2002.07.03
Contact person	Nerina Walton
Test plan referred to	-
FCC ID	GMLNPD-1FW
SN, HW, SW and DUT numbers of tested device	ESN: 235/13971597, HW: Proto B5.0, SW: B100AW17A2, Type: NPD-1FW, DUT: 02-RF-0065, 03 of 19
Accessories used in testing	BLC-2 Battery, LPS-4 Loopset, HDC-5 Headset, Erica Cover
Notes	-
Document code	02-RF-0065
Responsible test engineer	Nerina Walton
Measurement performed by	Nerina Walton

1.1 Maximum Results Found during SAR Evaluation

The equipment is deemed to fulfil the requirements if the measured values are less than or equal to the limit.

1.1.1 Head Configuration

Mode	Ch / f (MHz)	Power (dBm)	Position	Limit (mW/g)	Measured (mW/g)	Result
CDMA 1900	25 / 1851.25	22.9	Left Touch, Antenna Retracted with Regular Cover	1.6	1.14	**PASSED**

1.1.2 Body Worn Configuration

Mode	Ch / f (MHz)	Power (dBm)	Position	Limit (mW/g)	Measured (mW/g)	Result
CDMA 1900	1175 / 1908.75	23.7	Flat, Antenna Retracted with Erica Cover and LPS-4	1.6	0.96	**PASSED**

1.1.3 Measurement Uncertainty

Combined Standard Uncertainty	**± 13.6%**
Expanded Standard Uncertainty (k=2)	**± 27.1%**

2.　　　　**DESCRIPTION OF TESTED DEVICE**

Device category	Portable device
Exposure environment	Uncontrolled exposure
Unit type	Prototype unit
Case type	Fixed case
Mode of Operation	IS95A-1900
Modulation Mode	Quadrature Phase Shift Keying
Duty Cycle	1
Transmitter Frequency Range (MHz)	1851.25 – 1908.75

2.1　　　　**Picture of Phone**

The tested device, GMLNPD-1FW is shown below with the antenna retracted, with both the regular and Erica covers.

The tested device, GMLNPD-1FW, is shown below with the antenna extended.

2.2 **Description of the Antenna**

Type	Retractable whip antenna
Location	Back of phone, right hand side.

2.3 **Battery Options**

There is only one battery available for the tested device, a rechargeable Li-ion battery, BLC-2.

2.4 **Body Worn Accessories**

No body worn accessories are available for the GMLNPD-1FW.

3. **TEST CONDITIONS**

3.1 **Ambient Conditions**

Ambient temperature (°C)	22±2
Tissue simulating liquid temperature (°C)	21±2
Humidity (%)	54

3.2 **RF characteristics of the test site**

Tests were performed in a fully enclosed RF shielded environment.

3.3 **Test Signal, Frequencies, and Output Power**

The device was controlled by using a radio tester. Communication between the device and the tester was established by air link.

Measurements were performed on the lowest, middle and highest channels of the operating band.

The phone was set to maximum power level during all tests and at the beginning of each test the battery was fully charged.

The DASY3 system measures power drift during SAR testing by comparing e-field in the same location at the beginning and at the end of measurement. These records were used to monitor stability of power output.

4. DESCRIPTION OF THE TEST EQUIPMENT

The measurements were performed with an automated near-field scanning system, DASY3, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland.

Test Equipment	Serial Number	Due Date
DASY3 DAE V1	377	11/02
E-field Probe ET3DV6	1505	05/03
Dipole Validation Kit, D1900V2	504	05/03

E-field probe and dipole validation kit calibration records are presented in Appendix C.

Additional equipment (required for validation).

Test Equipment	Model	Serial Number	Due Date
Signal Generator	HP 8648C	3836A04346	06/03
Amplifier	AR 5S1G4	25583	-
Coupler	AR DC7144	25304	-
Power Meter	Boonton 4232A	64701	05/03
Power Sensor	Boonton 51015	32187	05/03
Power Sensor	Boonton 51015	32188	05/03
Thermometer	Omega CL27	T-228450	03/03
Network Analyzer	HP 8720D	US38431353	06/03
Dielectric Probe Kit	Agilent 85070C	US99360172	-

4.1 System Accuracy Verification

The probes are calibrated annually by the manufacturer. Dielectric parameters of the simulating liquids are measured using an Agilent 85070C dielectric probe kit and an HP 8720D network analyzer.

SAR measurements of the tested device were performed within 24 hours of system accuracy verification, which was done using the dipole validation kit.

The dipole antenna, which is manufactured by Schmid & Partner Engineering AG, is matched to be used near a flat phantom filled with tissue simulating solution. Length of 1900MHz dipole is 68mm with an overall height of 300mm. A specific distance holder is used in the positioning to ensure correct spacing between the phantom and the dipole. Manufacturer's reference dipole data is presented in Appendix C.

A power level of 250 mW was supplied to the dipole antenna placed under the flat section of the SAM phantom. Validation results are in the table below and a print out of the validation tests are presented in Appendix A. All the measured parameters were within the specification.

Tissue	f (MHz)	Description	SAR (W/kg), 1g	Dielectric Parameters		Temp (°C)
				ε_r	σ (S/m)	
Head	1900	Measured 06.27.02	43.2	39.7	1.47	20.6
		Measured 06.28.02	44.0	39.3	1.47	20.6
		Measured 07.01.02	43.6	39.6	1.47	20.8
		Reference Result	42.8	38.5	1.44	N/A
Muscle	1900	Measured 07.02.02	43.2	53.9	1.52	20.9
		Measured 07.03.02	42.8	53.6	1.52	20.7
		Reference Result	43.6	51.9	1.58	N/A

4.2 Tissue Simulants

All dielectric parameters of tissue simulants were measured within 24 hours of SAR measurements. The depth of the tissue simulant in the ear reference point of the phantom was 15cm ± 5mm during all tests. Volume for each tissue simulant was 26 litres.

4.2.1 Head Tissue Simulant

The composition of the brain tissue simulating liquid for 1900 MHz is:-

    44.91%   2-(2-butoxyethoxy) Ethanol
    54.88%   De-Ionized Water
    0.21%   Salt

f (MHz)	Description	Dielectric Parameters		Temp (°C)
		ε_r	σ (S/m)	
1880	Measured 06.27.02	39.8	1.45	20.6
	Measured 06.28.02	39.4	1.45	20.6
	Measured 07.01.02	39.7	1.45	20.8
	Recommended Values	40.0	1.40	20-26

Recommended values are adopted from OET Bulletin 65 (97-01) Supplement C (01-01).

4.2.2   Muscle Tissue Simulant

The composition of the muscle tissue simulating liquid for 1900 MHz is:-
        69.02%   De-Ionized Water
        30.76%   Diethylene Glycol Monobutyl Ether
        0.22%   Salt

f (MHz)	Description	Dielectric Parameters		Temp (°C)
		ε_r	σ (S/m)	
1880	Measured 07.02.02	54.0	1.50	20.9
	Measured 07.03.02	53.7	1.50	20.7
	Recommended Values	40.0	1.40	20-26

Recommended values are adopted from OET Bulletin 65 (97-01) Supplement C (01-01).

4.3   Phantoms

"SAM v4.0" phantom", manufactured by SPEAG, was used during the measurement. It has a fiberglass shell integrated into a wooden table. The shape of the shell corresponds to the phantom defined by SCC34-SC2. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.

The thickness of phantom shell is 2 mm except for the ear, where an integrated ear spacer provides a 6 mm spacing from the tissue boundary. Manufacturer reports tolerance in shell thickness to be ±0.1mm.

4.4   Isotropic E-Field Probe ET3DV6

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	Calibration ceritifcate in Appendix C
Frequency	10 MHz to 3 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 3 GHz)
Optical Surface Detection	± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic Range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 16 mm Body diameter: 12 mm Tip diameter: 6.8 mm Distance from probe tip to dipole centers: 2.7 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

5.   DESCRIPTION OF THE TEST PROCEDURE

5.1   Test Positions

The device was placed into a holder using a special positioning tool, which aligns the bottom of the device with the holder and ensures that holder contacts only to the sides of the device. After positioning is done, tool is removed. This method provides standard positioning and separation, and also ensures free space for antenna.

Device holder was provided by SPEAG together with DASY3.

5.1.1   Against Phantom Head

Measurements were made on both the "left hand" and "right hand" side of the phantom.

The device was positioned against phantom according to OET Bulletin 65 (97-01) Supplement C (01-01) . Definitions of terms used in aligning the device to a head phantom are available in IEEE Draft Standard P1528-2001 "Recommended Practice for Determining the Spatial-Peak Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques"

5.1.1.1   Initial Ear Position

The device was initially positioned with the earpiece region pressed against the ear spacer of a head phantom parallel to the "Neck-Front" line defined along the base of the ear spacer that contains the "ear reference point". The "test device reference point" is aligned to the "ear reference point" on the head phantom and the "vertical centerline" is aligned to the "phantom reference plane".

5.1.1.2   Touch Position

"Initial ear position" alignments are maintained and the device is brought toward the mouth of the head phantom by pivoting along the "Neck-Front" line until any point on the display, keypad or mouthpiece portions of the handset is in contact with the phantom or when any portion of a foldout, sliding or similar keypad cover opened to its intended self-adjusting normal use position is in contact with the cheek or mouth of the phantom.

The following picture shows the tested device in the left touch position:
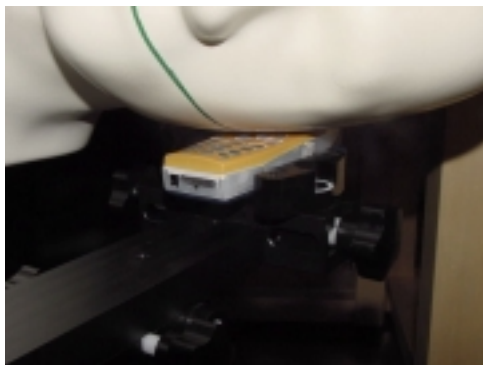
5.1.1.3   Tilt Position

In the "Touch Position", if the earpiece of the device is not in full contact with the phantom's ear spacer and the peak SAR location for the "touch position" is located at the ear spacer region or corresponds to the earpiece region of the handset, the device is returned to the "initial ear position" by rotating it away from the mouth until the earpiece is in full contact with the ear spacer. Otherwise, the device is moved away from the cheek perpendicular to the line passes through both "ear reference points" for approximate 2-3 cm. While it is in this position, the device is tilted away from the mouth with respect to the "test device reference point" by 15°. After the tilt, it is then moved back toward the head perpendicular to the line passes through both "ear reference points" until the device touches the phantom or the ear spacer. If the antenna touches the head first, the positioning process is repeated with a tilt angle less than 15° so that the device and its antenna would touch the phantom simultaneously.

The following picture shows the tested device in the left tilt position:


5.1.2 Body Worn Configuration

Since there are no body worn accessories available for the GMLNPD-1FW, body SAR measurements were performed with the antenna facing towards the flat part of the phantom with a separation distance of 15mm.

Body SAR measurements were performed with the HDC-5 headset connected and were then repeated with the LPS-4 loopset connected.

The following picture shows the tested device in the body test position:-
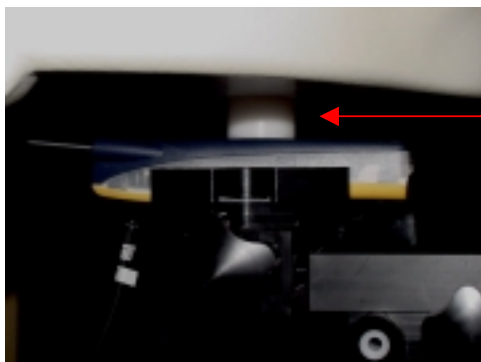
15mm spacer.

Note: the 15mm spacer was removed during the SAR measurement.

5.2   Scan Procedures

First coarse scans are used for quick determination of the field distribution. Next a cube scan, 5x5x7 points; spacing between each point 8x8x5 mm, is performed around the highest E-field value to determine the averaged SAR-distribution over 1g.

5.3   SAR Averaging Methods

The maximum SAR value is averaged over its volume using interpolation and extrapolation.

The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the "Not a knot" -condition [W. Gander, Computermathematik, p. 141-150] (x, y and z -directions) [Numerical Recipes in C, Second Edition, p 123].

The extrapolation is based on least square algorithm [W. Gander, Computermathematik, p.168-180]. Through the points in the first 30 mm in all z-axis, polynomials of order four are calculated. This polynomial is then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1mm from one another.

6. MEASUREMENT UNCERTAINTY

6.1 Description of Individual Measurement Uncertainty

6.1.1 Assessment Uncertainty

Uncertainty description	Uncert. value %	Probability distribution	Div.	c_i	Stand. uncert (1g) %	v_i or v_{eff}
Measurement System						
Probe calibration	± 4.4	normal	1	1	± 4.4	∞
Axial isotropy of the probe	± 4.7	rectangular	√3	$(1-c_p)^{1/2}$	± 1.9	∞
Sph. Isotropy of the probe	± 9.6	rectangular	√3	$(c_p)1^{/2}$	± 3.9	∞
Spatial resolution	± 0.0	rectangular	√3	1	± 0.0	∞
Boundary effects	± 5.5	rectangular	√3	1	± 3.2	∞
Probe linearity	± 4.7	rectangular	√3	1	± 2.7	∞
Detection limit	± 1.0	rectangular	√3	1	± 0.6	∞
Readout electronics	± 1.0	normal	1	1	± 1.0	∞
Response time	± 0.8	rectangular	√3	1	± 0.5	∞
Integration time	± 1.4	rectangular	√3	1	± 0.8	∞
RF ambient conditions	± 3.0	rectangular	√3	1	± 1.7	∞
Mech. constrains of robot	± 0.4	rectangular	√3	**1**	± 0.2	∞
Probe positioning	± 2.9	rectangular	√3	1	± 1.7	∞
Extrap. and integration	± 3.9	rectangular	√3	1	± 2.3	∞
Test Sample Related						
Device positioning	± 6.0	normal	0.89	1	± 6.7	12
Device holder uncertainty	± 5.0	normal	0.84	1	± 5.9	8
Power drift	± 5.0	rectangular	√3	1	± 2.9	∞
Phantom and Setup						
Phantom uncertainty	± 4.0	rectangular	√3	**1**	± 2.3	∞
Liquid conductivity (target)	± 5.0	rectangular	√3	**0.6**	± 1.7	∞
Liquid conductivity (meas.)	± 10.0	rectangular	√3	**0.6**	± 3.5	∞
Liquid permittivity (target)	± 5.0	rectangular	√3	**0.6**	± 1.7	∞
Liquid permittivity (meas.)	± 5.0	rectangular	√3	**0.6**	± 1.7	∞
Combined Standard Uncertainty					± 13.6	
Expanded Standard Uncertainty (k=2)					± 27.1	

7. **RESULTS**

Corresponding SAR distribution print outs of maximum results in every operating mode and position are shown in Appendix B. It also includes Z-plots of maximum measurement results in head and body worn configurations. The SAR distributions are substantially similar or equivalent to the plots submitted regardless of used channel in each mode and position.

7.1 **Head Configuration**

7.1.1   Regular Cover

Mode	Channel/ f (MHz)	Power (dBm)	Antenna	SAR, averaged over 1g (mW/g)			
				Left-hand		Right-hand	
				Touch	Tilt	Touch	Tilt
CDMA 1900	25/1851.25	22.9	extended	0.90	0.96	0.82	0.88
			retracted	1.14	1.14	0.91	1.04
	600/1880.00	23.0	extended	0.81	0.85	0.67	0.78
			retracted	1.07	1.12	0.85	0.98
	1175/1908.75	23.7	extended	0.75	0.80	0.67	0.73
			retracted	1.05	1.10	0.90	1.05

7.1.2   Erica Cover

Mode	Channel/ f (MHz)	Power (dBm)	Antenna	SAR, averaged over 1g (mW/g)			
				Left-hand		Right-hand	
				Touch	Tilt	Touch	Tilt
CDMA 1900	25/1851.25	22.9	extended	0.89	0.96	0.69	0.79
			retracted	0.95	1.02	0.84	0.89
	600/1880.00	23.0	extended	0.73	0.79	0.60	0.68
			retracted	0.88	0.97	0.78	0.90
	1175/1908.75	23.7	extended	0.65	0.72	0.64	0.65
			retracted	0.89	0.93	0.79	0.91

7.2   **Body Worn Configuration**

7.2.1   Regular Cover

Mode	Channel/ f (MHz)	Power (dBm)	Antenna	SAR, averaged over 1g (mW/g)	
				LPS-4	HDC-5
CDMA 1900	25/1851.25	22.9	extended	0.65	0.55
			retracted	0.79	0.54
	600/1880.00	23.0	extended	0.75	0.53
			retracted	0.78	0.54
	1175/1908.75	23.7	extended	0.83	0.73
			retracted	0.95	0.70

7.2.2   Erica Cover

Mode	Channel/ f (MHz)	Power (dBm)	Antenna	SAR, averaged over 1g (mW/g)	
				LPS-4	HDC-5
CDMA 1900	25/1851.25	22.9	extended	0.75	0.54
			retracted	0.74	0.58
	600/1880.00	23.0	extended	0.78	0.64
			retracted	0.77	0.66
	1175/1908.75	23.7	extended	0.93	0.77
			retracted	0.96	0.69

APPENDIX A.

Validation Test Printouts

Dipole 1900 MHz, Validation for Brain Tissue.

SAM 3 (PCS - Brain / Muscle Tissue)
Frequency: 1900 MHz; Crest factor: 1.0
Validation 1900MHz - Brain Tissue: $\sigma = 1.47$ mho/m $\varepsilon_r = 39.7$ $\rho = 1.00$ g/cm³
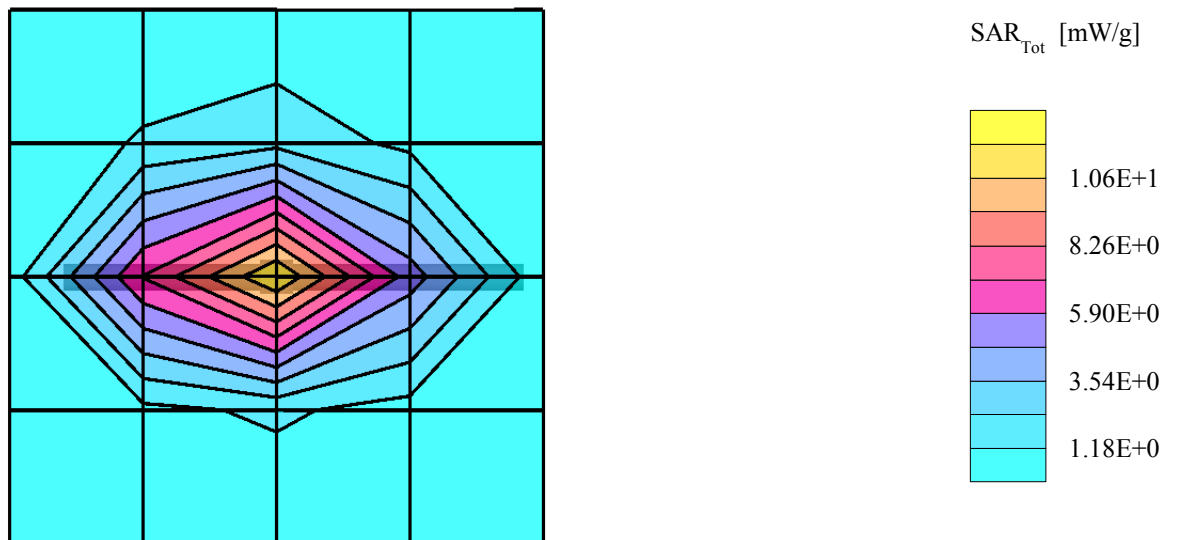Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cubes (2): Peak: 20.6 mW/g $\pm$ 0.01 dB, SAR (1g): 10.8 mW/g $\pm$ 0.01 dB, SAR (10g): 5.48 mW/g $\pm$ 0.01 dB, (Worst-case extrapolation)
Penetration depth: 7.9 (7.5, 8.9) [mm]
Powerdrift: 0.06 dB
Liquid Temperature: 20.6°C
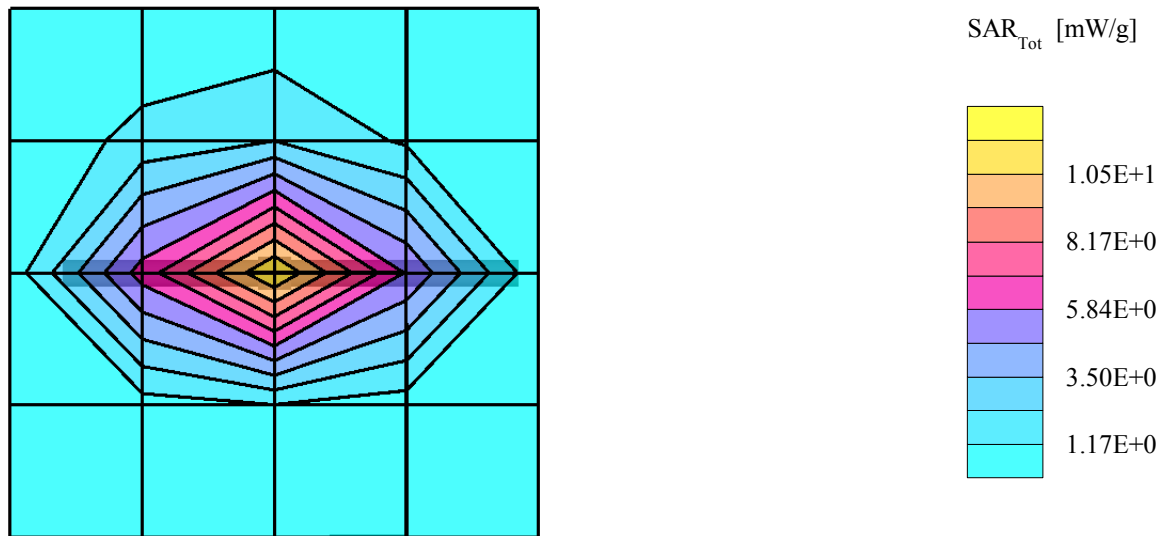
SAR_{Tot} [mW/g]

1.05E+1

8.17E+0

5.84E+0

3.50E+0

1.17E+0

Dipole 1900 MHz, Validation for Brain Tissue.

SAM 3 (PCS - Brain / Muscle Tissue)
Frequency: 1900 MHz; Crest factor: 1.0
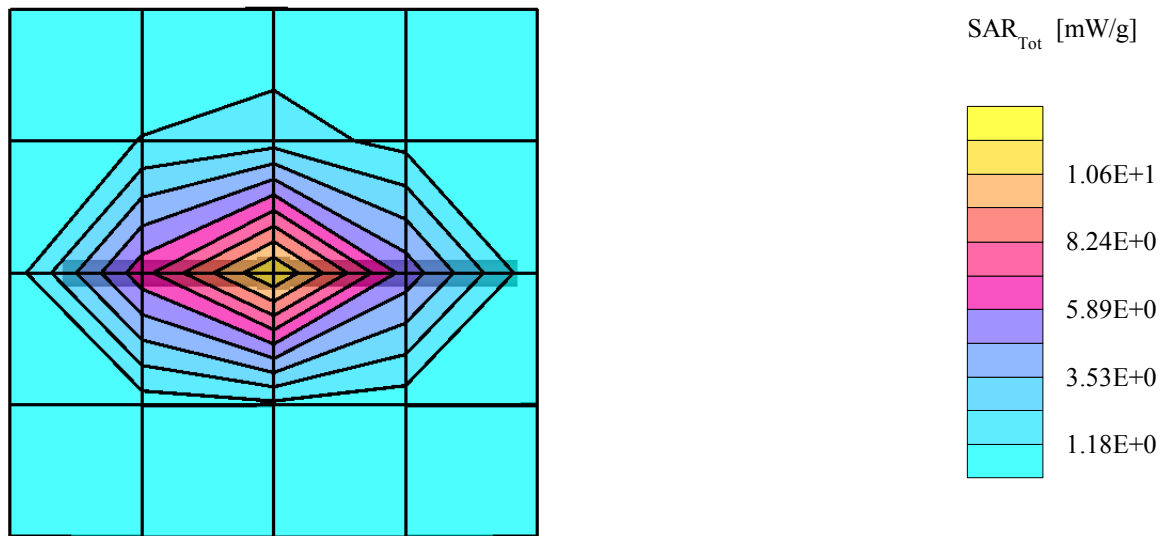Validation 1900MHz - Brain Tissue: $\sigma = 1.47$ mho/m $\varepsilon_r = 39.3$ $\rho = 1.00$ g/cm³
Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cubes (2): Peak: 21.1 mW/g ± 0.04 dB, SAR (1g): 11.0 mW/g ± 0.02 dB, SAR (10g): 5.53 mW/g ± 0.01 dB, (Worst-case extrapolation)
Penetration depth: 7.7 (7.3, 8.6) [mm]
Powerdrift: 0.00 dB
Liquid Temperature: 20.6°C
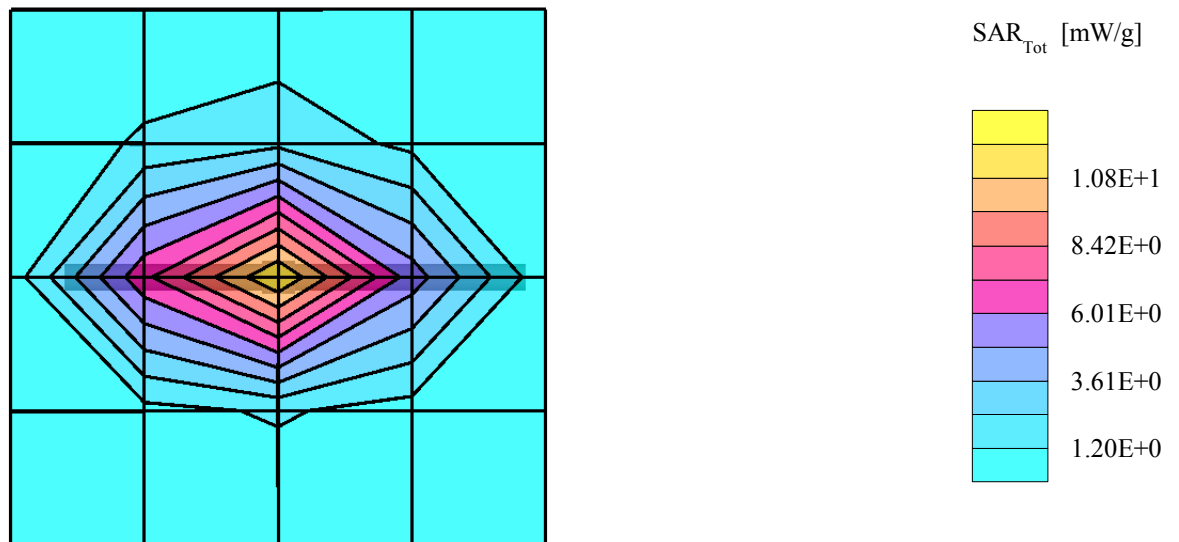
Dipole 1900 MHz, Validation for Brain Tissue.

SAM 3 (PCS - Brain / Muscle Tissue)
Frequency: 1900 MHz; Crest factor: 1.0
Validation 1900MHz - Brain Tissue: $\sigma = 1.47$ mho/m $\varepsilon_r = 39.6$ $\rho = 1.00$ g/cm³
Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cubes (2): Peak: 20.8　mW/g $\pm$ 0.00 dB, SAR (1g): 10.9　mW/g $\pm$ 0.00 dB, SAR (10g): 5.49　mW/g $\pm$ 0.01 dB, (Worst-case extrapolation)
Penetration depth: 7.7 (7.4, 8.7) [mm]
Powerdrift: 0.00 dB
Liquid Temperature: 20.8°C

SAR_{Tot}　[mW/g]

1.06E+1

8.26E+0

5.90E+0

3.54E+0

1.18E+0

Dipole 1900 MHz, Validation for Muscle Tissue.

SAM 3 (PCS - Brain / Muscle Tissue)
Frequency: 1900 MHz; Crest factor: 1.0
Validation 1900MHz - Muscle Tissue: $\sigma = 1.52$ mho/m $\varepsilon_r = 53.9$ $\rho = 1.00$ g/cm³
Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cubes (2): Peak: 20.3 mW/g ± 0.01 dB, SAR (1g): 10.8 mW/g ± 0.01 dB, SAR (10g): 5.55 mW/g ± 0.01 dB, (Worst-case extrapolation)
Penetration depth: 8.6 (7.8, 10.0) [mm]
Powerdrift: 0.02 dB
Liquid Temperature: 20.9°C

SAR_{Tot} [mW/g]

1.06E+1

8.24E+0

5.89E+0

3.53E+0

1.18E+0

Dipole 1900 MHz, Validation for Muscle Tissue.

SAM 3 (PCS - Brain / Muscle Tissue)
Frequency: 1900 MHz; Crest factor: 1.0
Validation 1900MHz - Muscle Tissue: σ = 1.52 mho/m ε_r = 53.6 ρ = 1.00 g/cm³
Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cubes (2): Peak: 20.3　mW/g ± 0.03 dB, SAR (1g): 10.7　mW/g ± 0.02 dB, SAR (10g): 5.45　mW/g ± 0.00 dB, (Worst-case extrapolation)
Penetration depth: 8.4 (7.7, 9.8) [mm]
Powerdrift: 0.02 dB
Liquid Temperature: 20.7°C

SAR$_{Tot}$ [mW/g]

1.05E+1

8.17E+0

5.83E+0

3.50E+0

1.17E+0
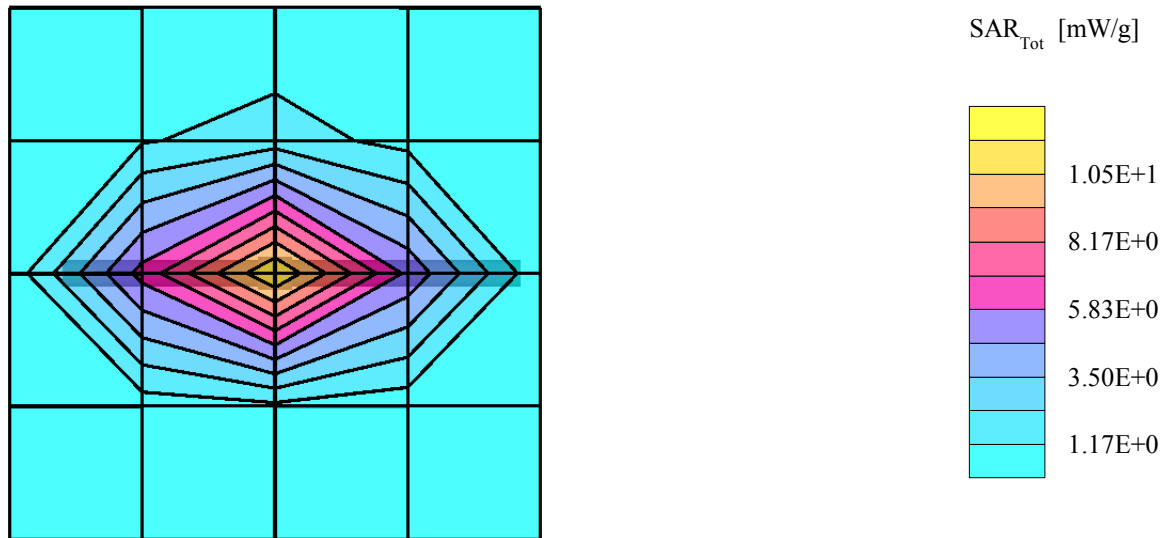
APPENDIX B.

SAR Distribution Printouts

GMLNPD-1FW, CDMA 1900, Channel 25, Regular Cover, Antenna Extended, Left Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
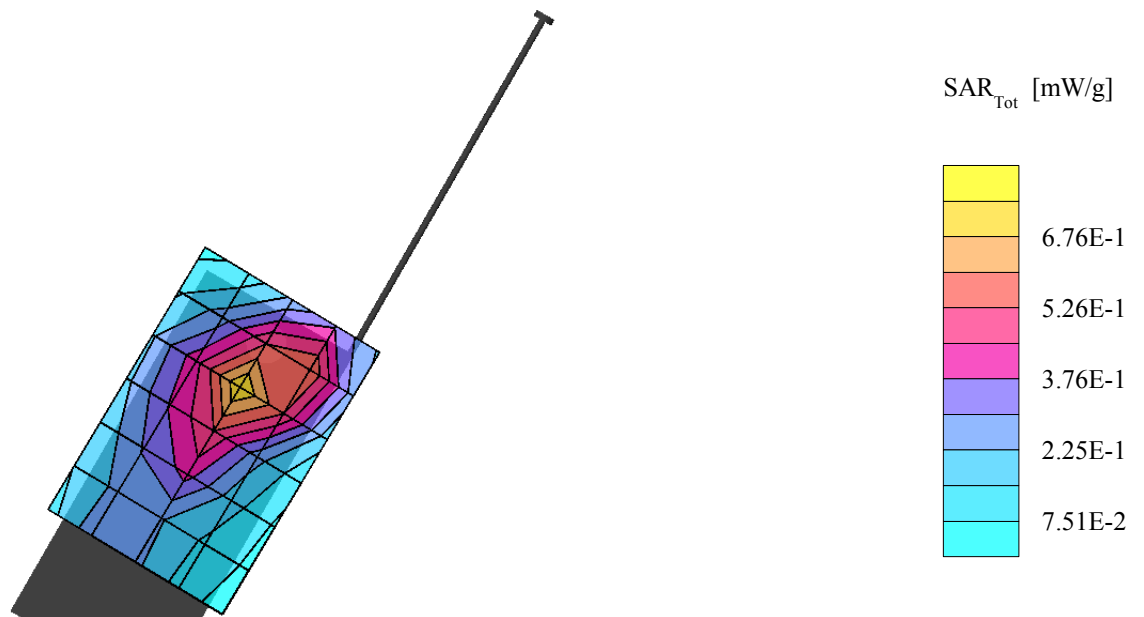PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.8$ $\rho = 1.00$ g/cm^3
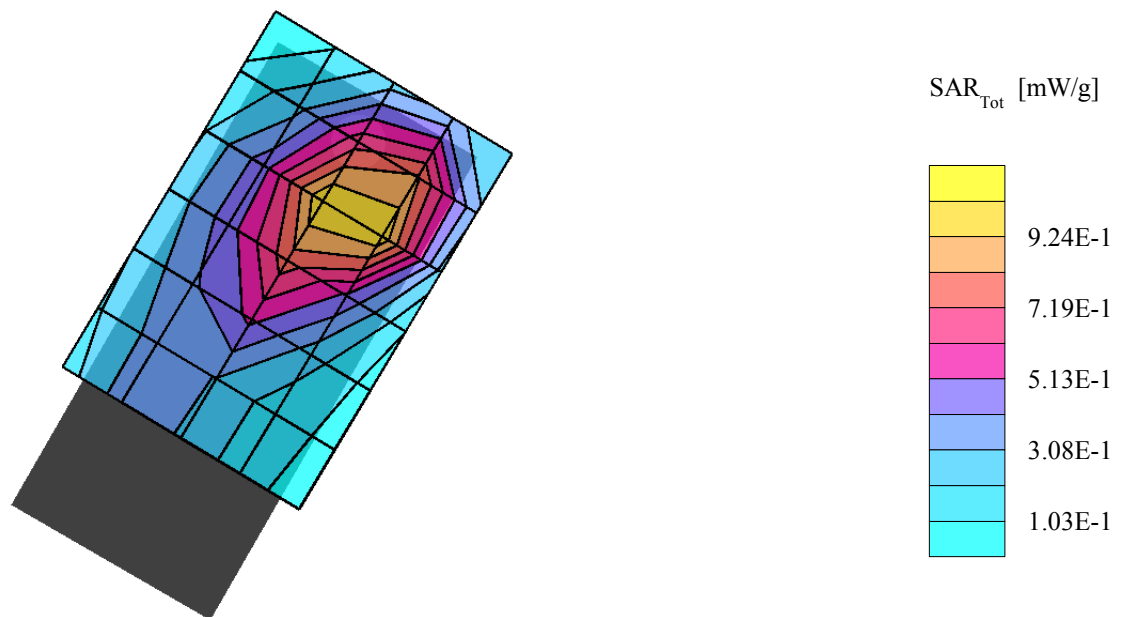Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.904 mW/g, SAR (10g): 0.517 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.06 dB
Liquid Temperature: 20.6°C

SAR_{Tot} [mW/g]

8.15E-1

6.33E-1

4.53E-1

2.71E-1

9.05E-2
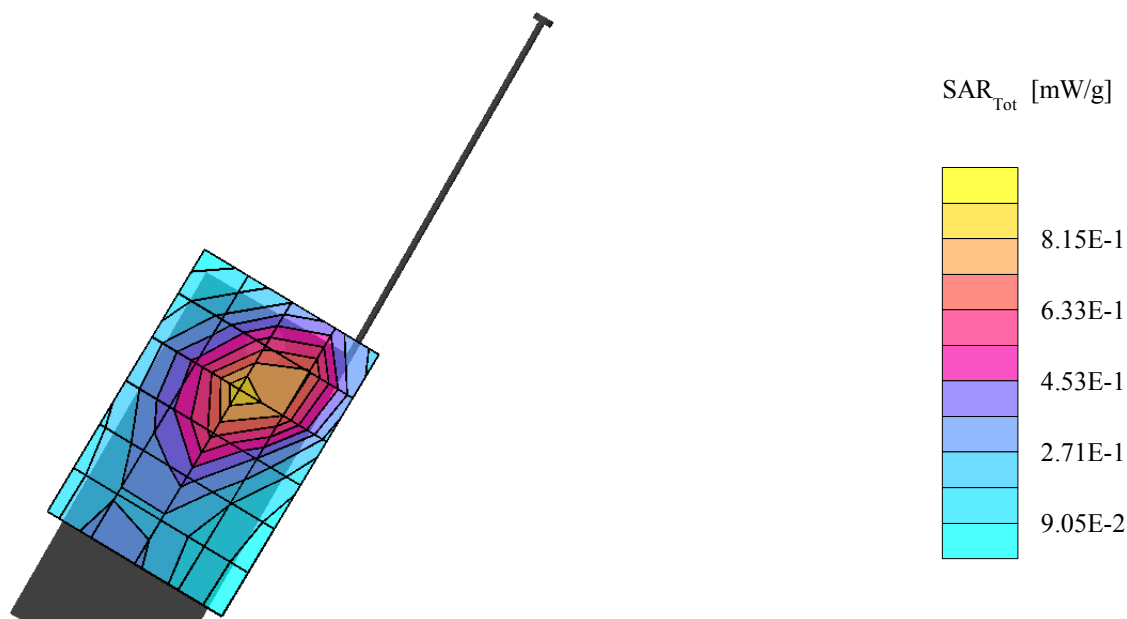
GMLNPD-1FW, CDMA 1900, Channel 600, Regular Cover, Antenna Extended, Left Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1880 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: σ = 1.45 mho/m ε_r = 39.8 ρ = 1.00 g/cm^3
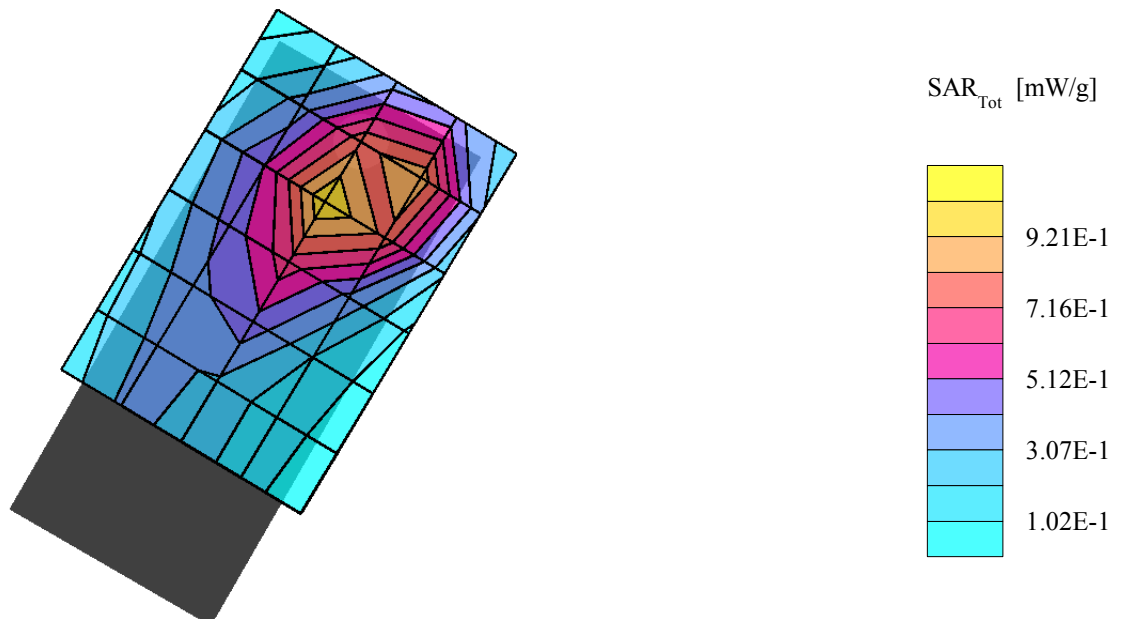Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.807 mW/g, SAR (10g): 0.459 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.05 dB
Liquid Temperature: 20.6°C
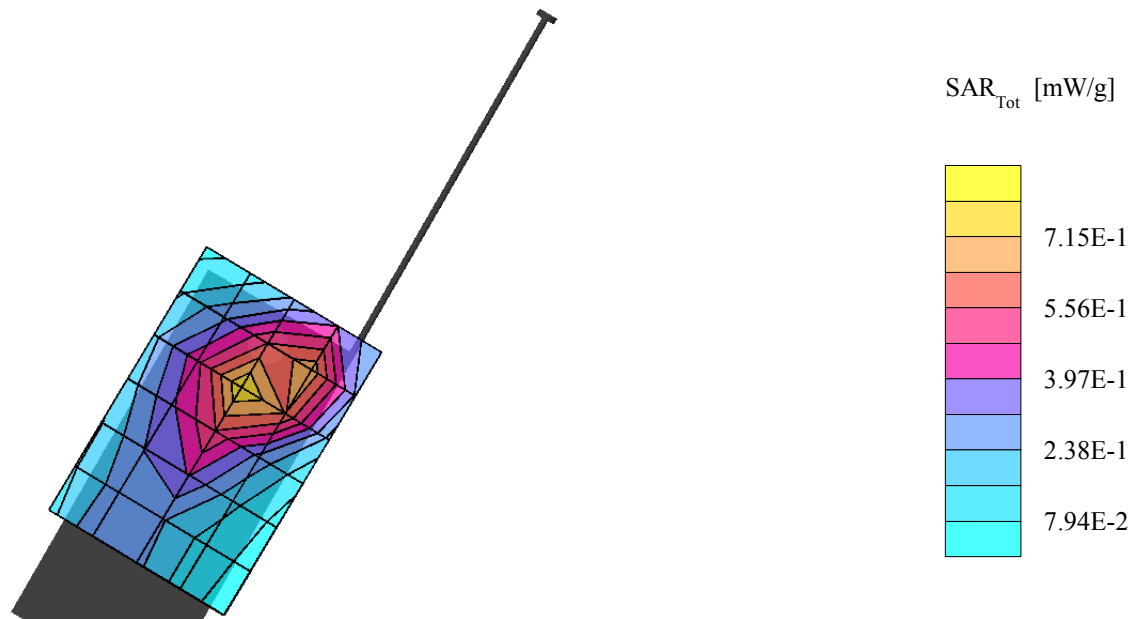
SAR_{Tot} [mW/g]

7.15E-1

5.56E-1

3.97E-1

2.38E-1

7.94E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 1175, Regular Cover, Antenna Extended, Left Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: σ = 1.45 mho/m ε_r = 39.8 ρ = 1.00 g/cm^3
Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.745 mW/g, SAR (10g): 0.414 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.01 dB
Liquid Temperature: 20.6°C

SAR_{Tot} [mW/g]

6.76E-1

5.26E-1

3.76E-1

2.25E-1

7.51E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 25, Regular Cover, Antenna Retracted, Left
Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: σ = 1.45 mho/m ε_r = 39.8 ρ = 1.00 g/cm^3
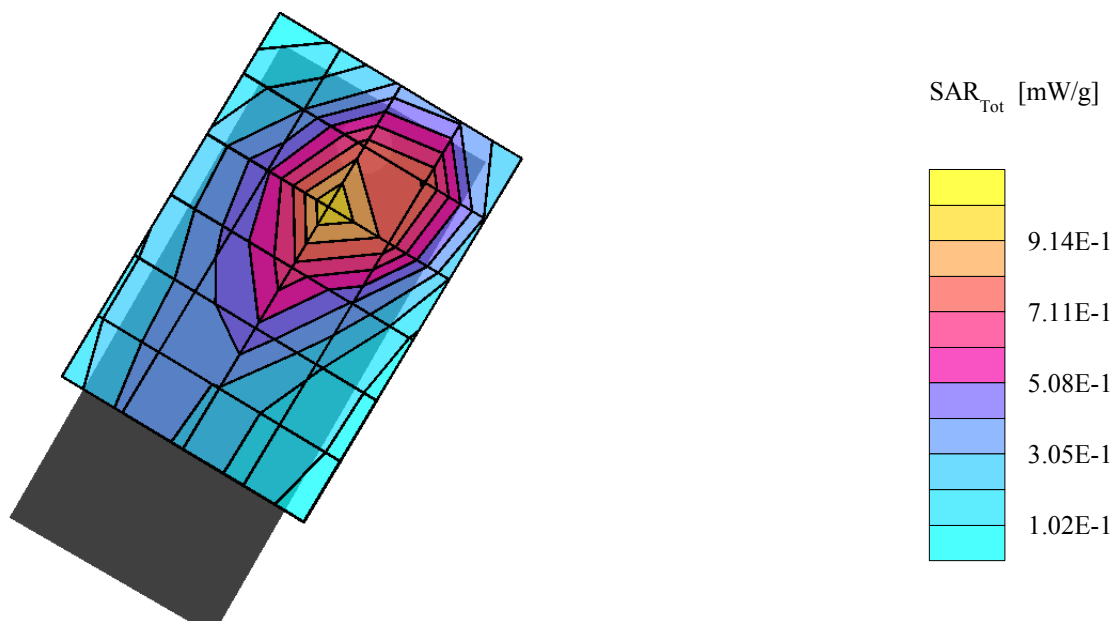Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 1.14 mW/g, SAR (10g): 0.627 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: 0.01 dB
Liquid Temperature: 20.6°C

SAR$_{Tot}$ [mW/g]

9.24E-1

7.19E-1

5.13E-1

3.08E-1

1.03E-1

GMLNPD-1FW, CDMA 1900, Channel 600, Regular Cover, Antenna Retracted, Left Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1880 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.8$ $\rho = 1.00$ g/cm^3
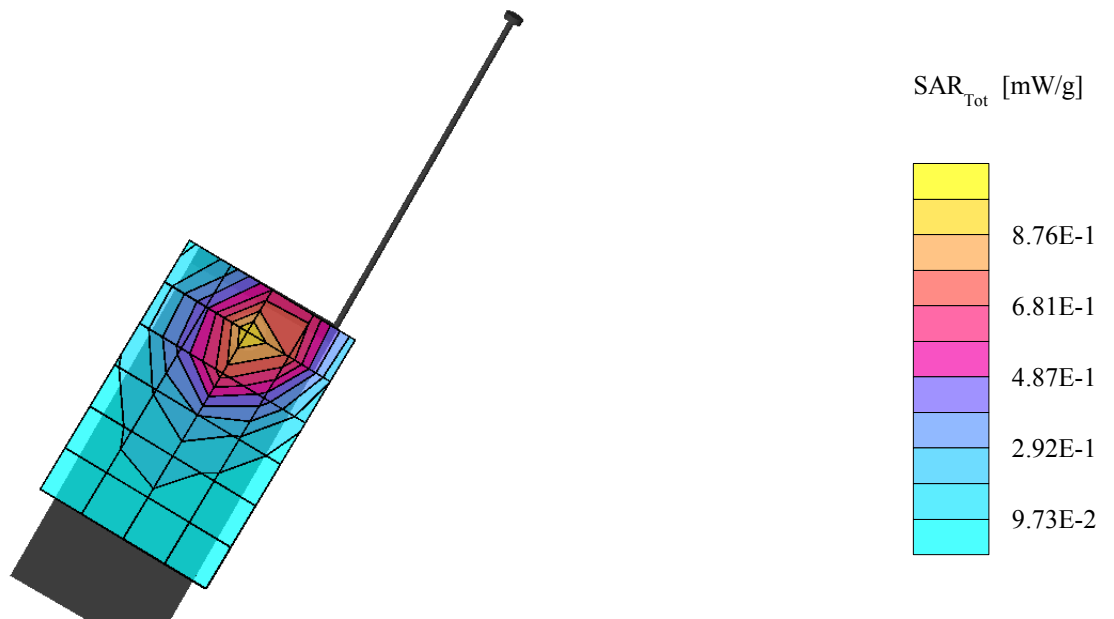Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 1.07 mW/g, SAR (10g): 0.600 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: 0.04 dB
Liquid Temperature: 20.6°C

SAR$_{Tot}$ [mW/g]

9.21E-1

7.16E-1

5.12E-1

3.07E-1

1.02E-1

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 1175, Regular Cover, Antenna Retracted, Left Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.8$ $\rho = 1.00$ g/cm^3
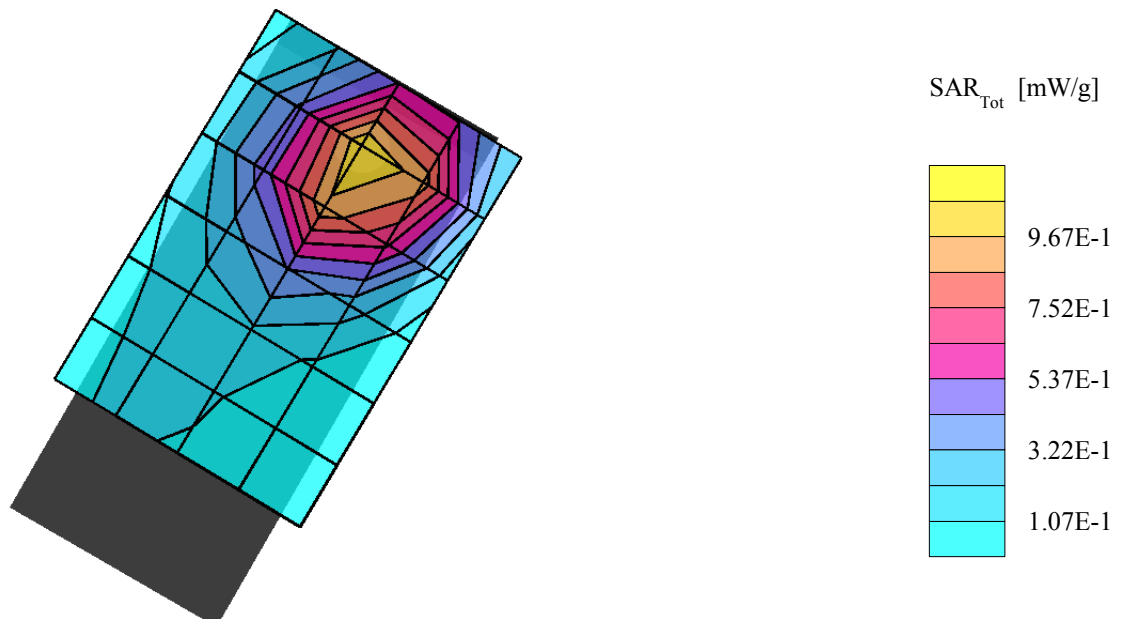Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 1.05 mW/g, SAR (10g): 0.583 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.14 dB
Liquid Temperature: 20.6°C

SAR$_{Tot}$ [mW/g]

9.14E-1

7.11E-1

5.08E-1

3.05E-1

1.02E-1

GMLNPD-1FW, CDMA 1900, Channel 25, Regular Cover, Antenna Extended, Left Tilt Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
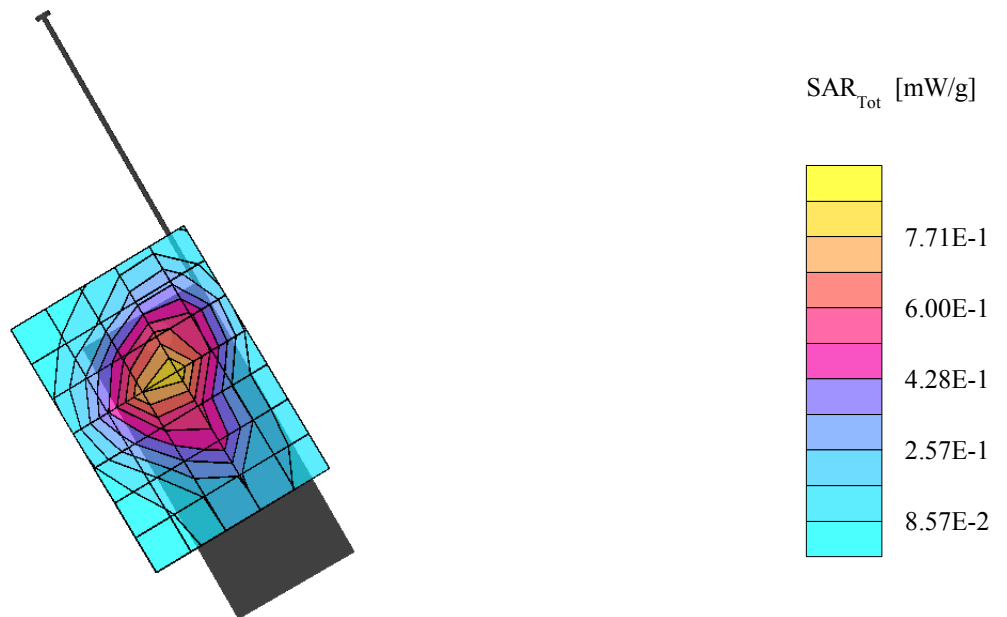PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.8$ $\rho = 1.00$ g/cm^3
Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.960 mW/g, SAR (10g): 0.544 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.01 dB
Liquid Temperature: 20.6°C

SAR_{Tot} [mW/g]

8.76E-1

6.81E-1

4.87E-1

2.92E-1

9.73E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 25, Regular Cover, Antenna Retracted, Left Tilt Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.8$ $\rho = 1.00$ g/cm^3
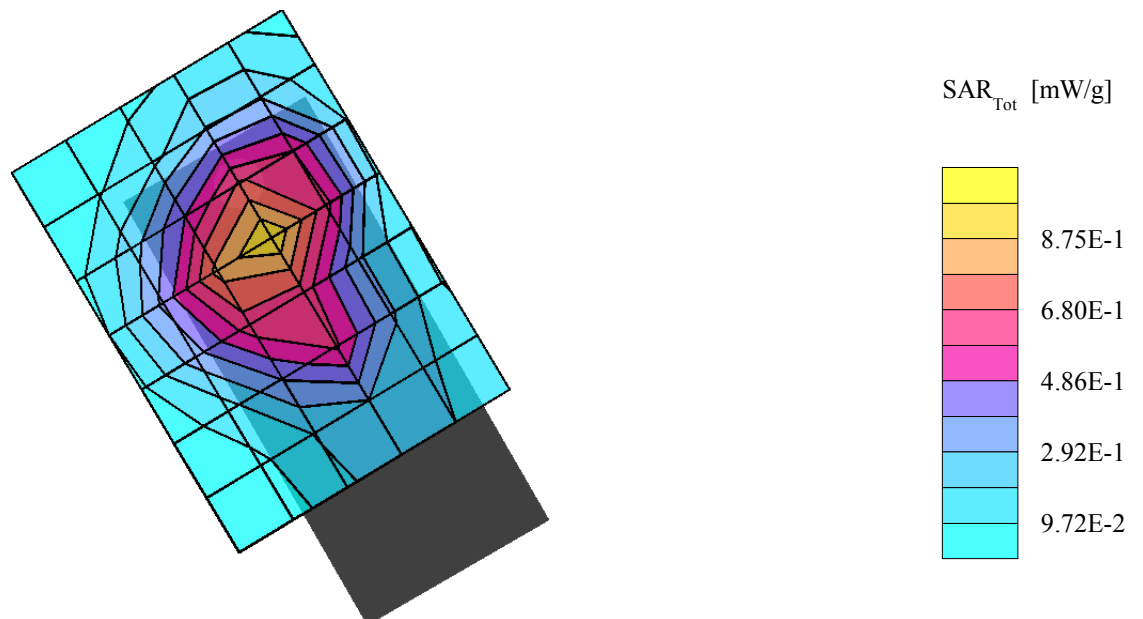Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 1.14 mW/g, SAR (10g): 0.644 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: 0.06 dB
Liquid Temperature: 20.6°C

SAR$_{Tot}$ [mW/g]

9.67E-1

7.52E-1

5.37E-1

3.22E-1

1.07E-1

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 25, Regular Cover, Antenna Extended, Right Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.4$ $\rho = 1.00$ g/cm^3
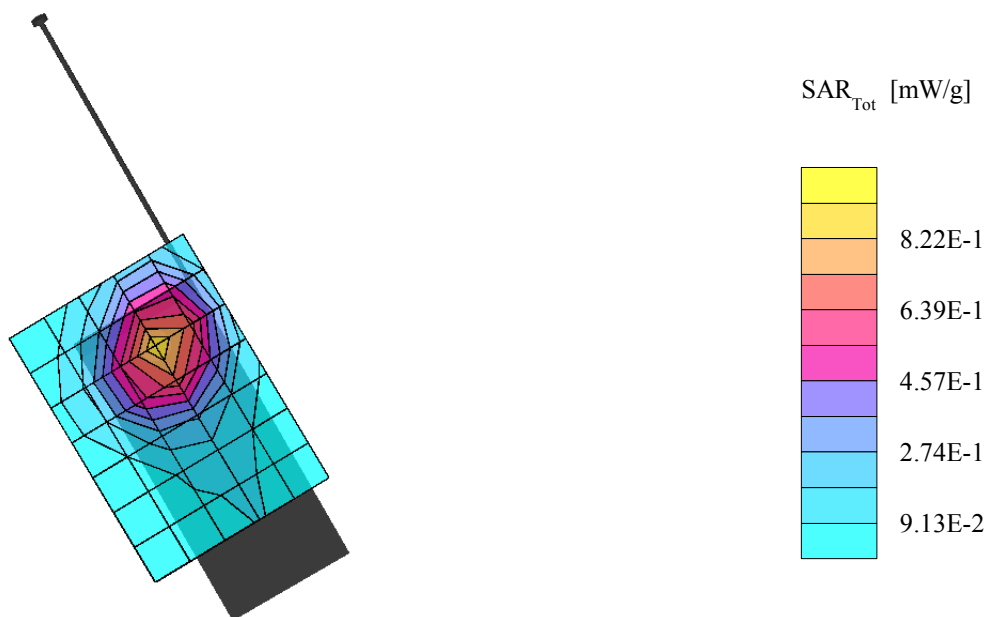Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.817 mW/g, SAR (10g): 0.488 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.08 dB
Liquid Temperature: 20.6°C

SAR$_{Tot}$ [mW/g]

7.71E-1

6.00E-1

4.28E-1

2.57E-1

8.57E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 25, Regular Cover, Antenna Retracted, Right Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.8$ $\rho = 1.00$ g/cm^3
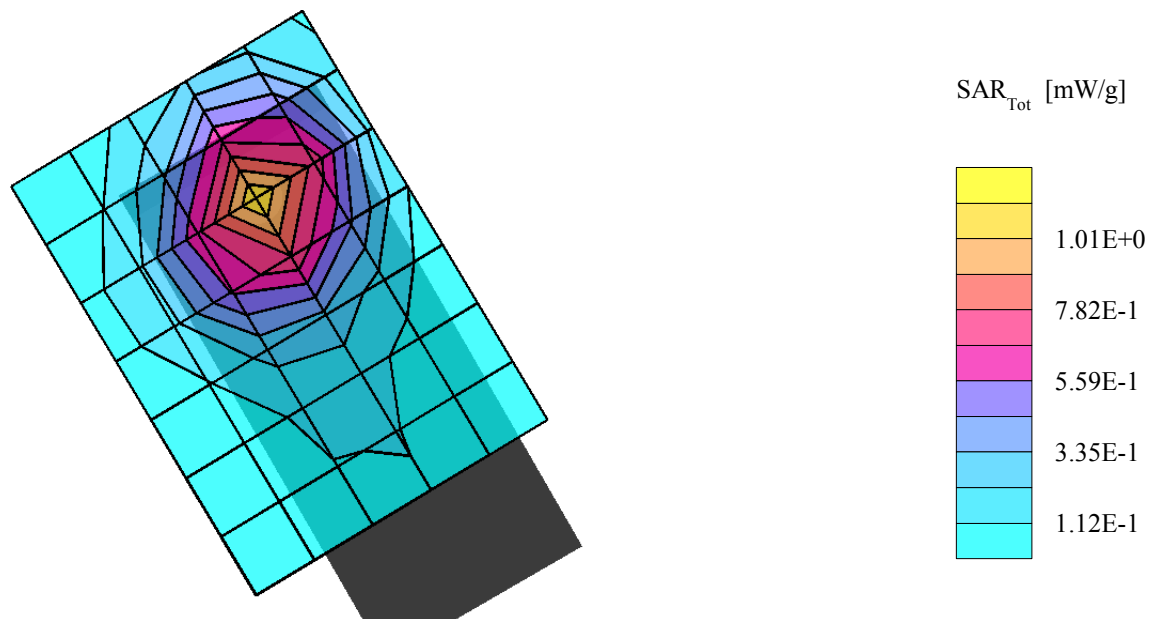Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.910 mW/g, SAR (10g): 0.538 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: 0.04 dB
Liquid Temperature: 20.6°C

SAR_{Tot} [mW/g]

8.75E-1

6.80E-1

4.86E-1

2.92E-1

9.72E-2

GMLNPD-1FW, CDMA 1900, Channel 25, Regular Cover, Antenna Extended, Right Tilt Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: σ = 1.45 mho/m ε_r = 39.4 ρ = 1.00 g/cm³
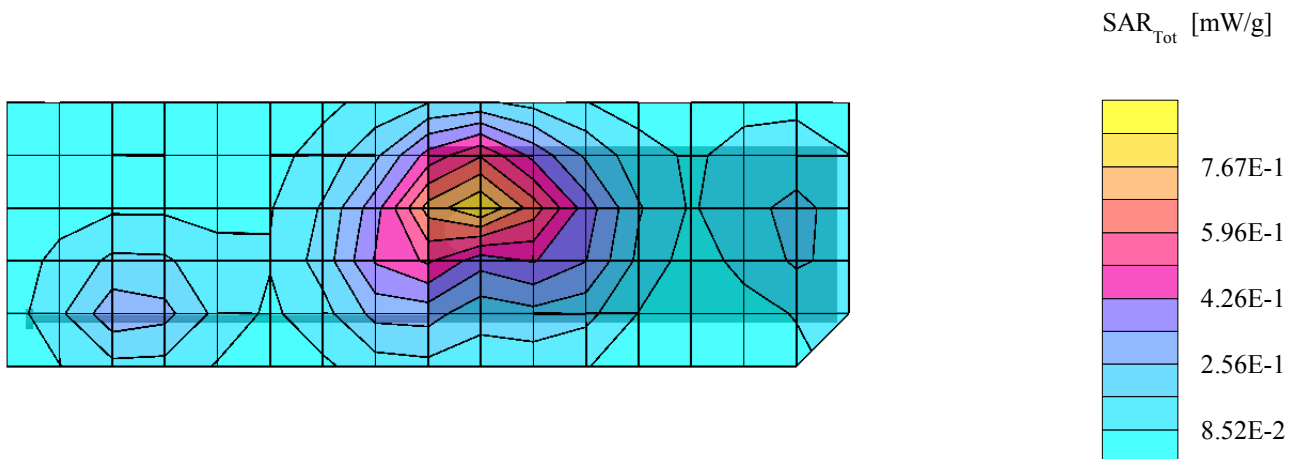Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.877 mW/g, SAR (10g): 0.507 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.08 dB
Liquid Temperature: 20.6°C

SAR_{Tot} [mW/g]

8.22E-1

6.39E-1

4.57E-1

2.74E-1

9.13E-2

GMLNPD-1FW, CDMA 1900, Channel 1175, Regular Cover, Antenna Retracted, Right Tilt Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: σ = 1.45 mho/m ε_r = 39.8 ρ = 1.00 g/cm^3
Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 1.05 mW/g, SAR (10g): 0.591 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.03 dB
Liquid Temperature: 20.6°C

SAR$_{Tot}$ [mW/g]

1.01E+0

7.82E-1

5.59E-1

3.35E-1

1.12E-1

GMLNPD-1FW, CDMA 1900, Channel 1175, Regular Cover, Antenna Extended, 15mm Spacer on Back of Phone + LPS-4 Loopset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
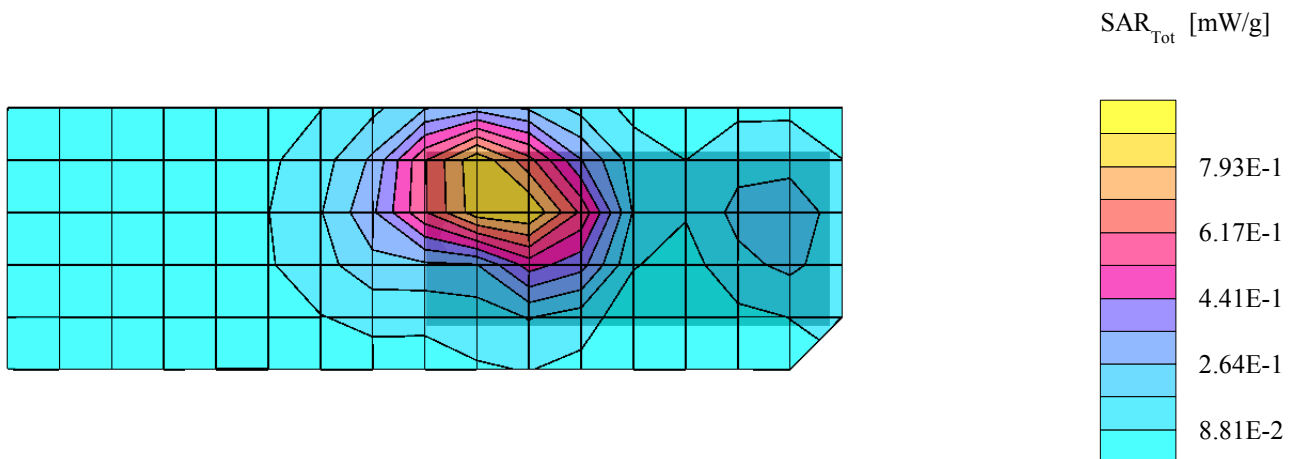PCS Band - Muscle Tissue: σ = 1.50 mho/m ε_r = 53.7 ρ = 1.00 g/cm^3
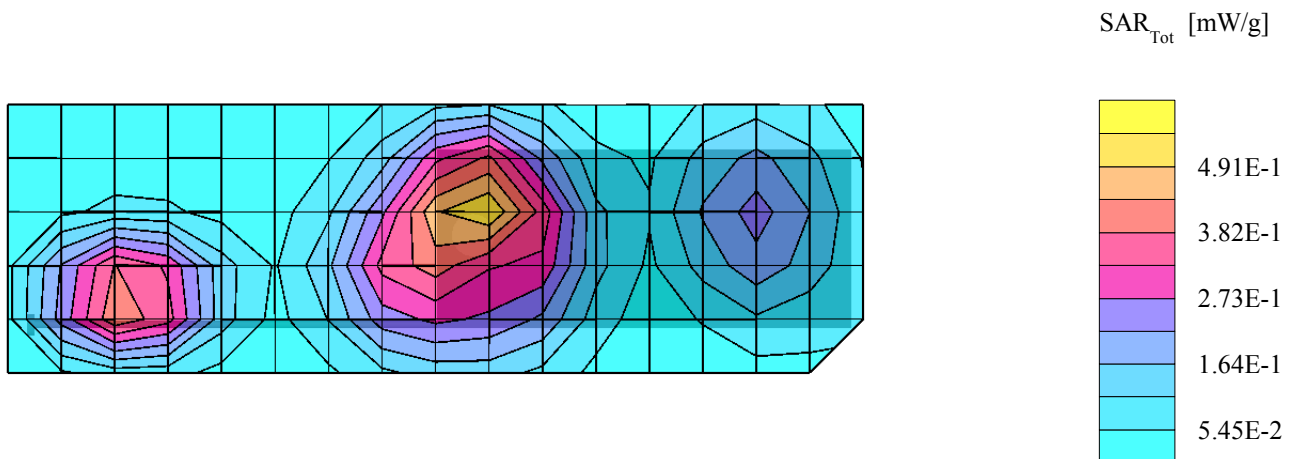Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.825 mW/g, SAR (10g): 0.474 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: -0.01 dB
Liquid Temperature: 20.7°C

SAR$_{Tot}$ [mW/g]

7.67E-1

5.96E-1

4.26E-1

2.56E-1

8.52E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 1175, Regular Cover, Antenna Retracted, 15mm Spacer on Back of Phone + LPS-4 Loopset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: $\sigma = 1.50$ mho/m $\varepsilon_r = 53.7$ $\rho = 1.00$ g/cm³
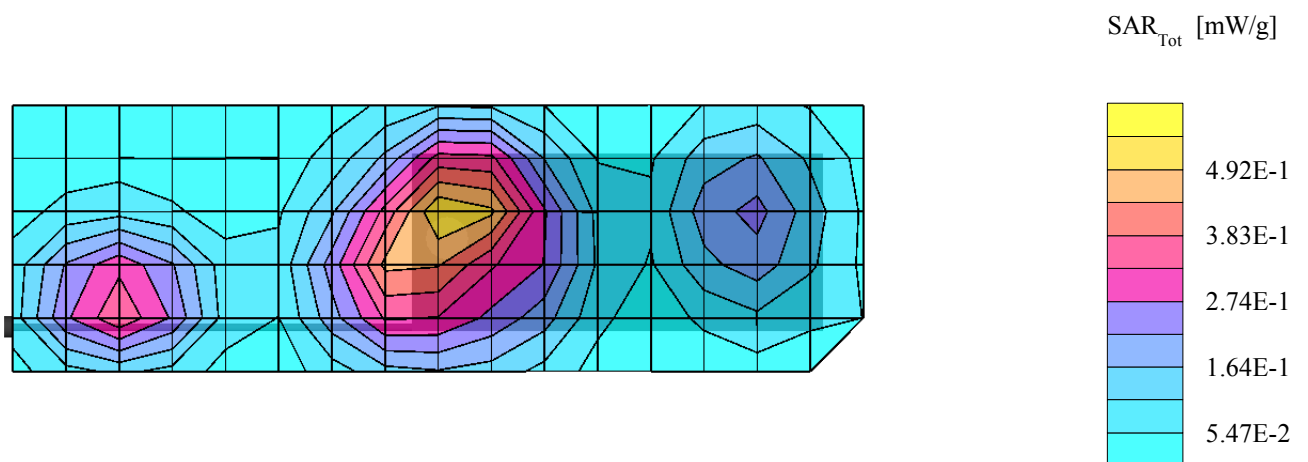Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.948 mW/g, SAR (10g): 0.546 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: -0.07 dB
Liquid Temperature: 20.7°C

SAR_{Tot} [mW/g]

7.93E-1
6.17E-1
4.41E-1
2.64E-1
8.81E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 25, Regular Cover, Antenna Extended, 15mm Spacer on Back of Phone + HDC-5 Headset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: σ = 1.50 mho/m ε_r = 53.7 ρ = 1.00 g/cm³
Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.547 mW/g, SAR (10g): 0.324 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: 0.11 dB
Liquid Temperature: 20.7°C

SAR$_{Tot}$ [mW/g]

4.91E-1
3.82E-1
2.73E-1
1.64E-1
5.45E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 600, Regular Cover, Antenna Extended, 15mm
Spacer on Back of Phone + HDC-5 Headset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1880 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: σ = 1.50 mho/m ε_r = 53.7 ρ = 1.00 g/cm³
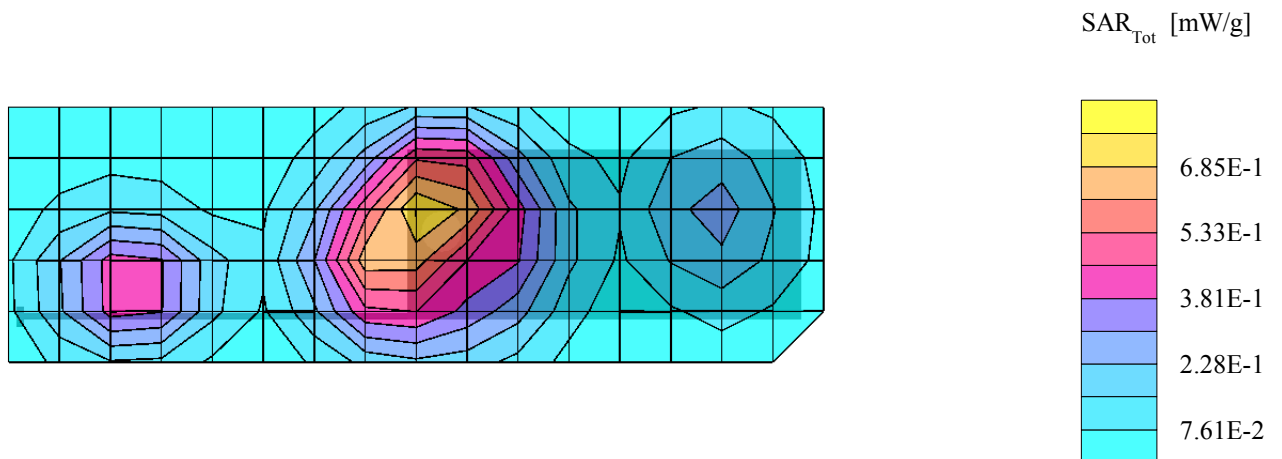Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.530 mW/g, SAR (10g): 0.319 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: 0.03 dB
Liquid Temperature: 20.7°C

SAR_{Tot} [mW/g]

4.92E-1

3.83E-1

2.74E-1

1.64E-1

5.47E-2

GMLNPD-1FW, CDMA 1900, Channel 1175, Regular Cover, Antenna Extended, 15mm Spacer on Back of Phone + HDC-5 Headset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: $\sigma = 1.50$ mho/m $\varepsilon_r = 53.7$ $\rho = 1.00$ g/cm^3
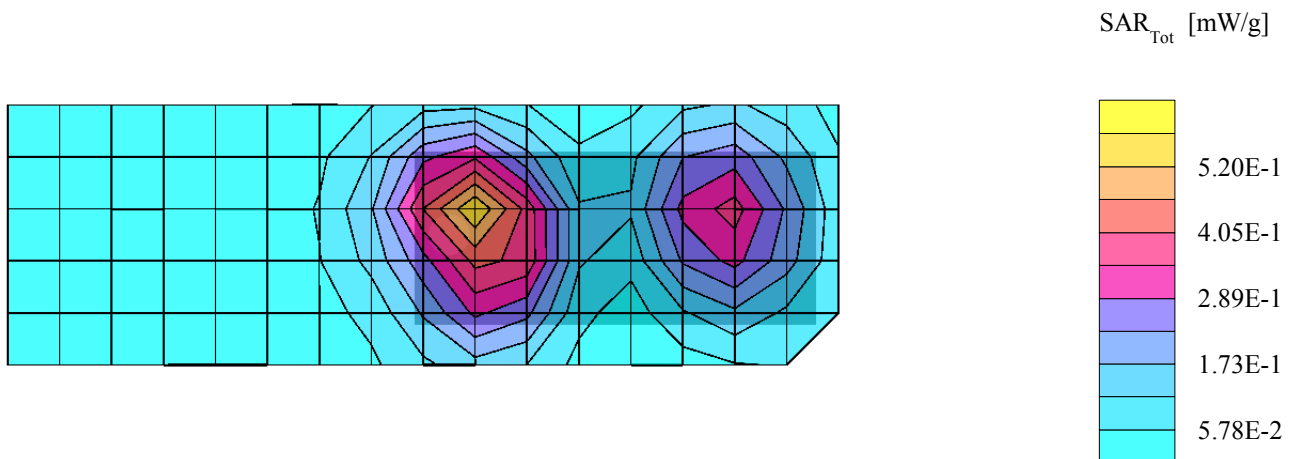Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.728 mW/g, SAR (10g): 0.440 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: -0.05 dB
Liquid Temperature: 20.7°C

SAR$_{Tot}$ [mW/g]

6.85E-1

5.33E-1

3.81E-1

2.28E-1

7.61E-2

07/03/02

GMLNPD-1FW, CDMA 1900, Channel 25, Regular Cover, Antenna Retracted, 15mm
Spacer on Back of Phone + HDC-5 Headset

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: $\sigma = 1.50$ mho/m $\varepsilon_r = 53.7$ $\rho = 1.00$ g/cm^3
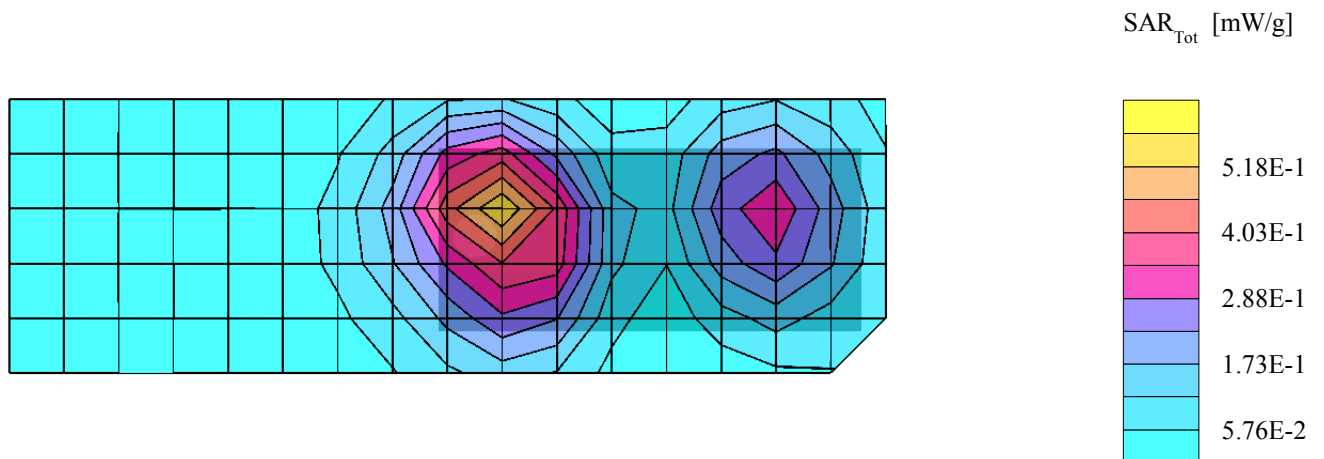Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.537 mW/g, SAR (10g): 0.317 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: 0.13 dB
Liquid Temperature: 20.7°C

SAR$_{Tot}$ [mW/g]

5.20E-1

4.05E-1

2.89E-1

1.73E-1

5.78E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 600, Regular Cover, Antenna Retracted, 15mm Spacer on Back of Phone + HDC-5 Headset

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1880 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: σ = 1.50 mho/m ε_r = 53.7 ρ = 1.00 g/cm^3
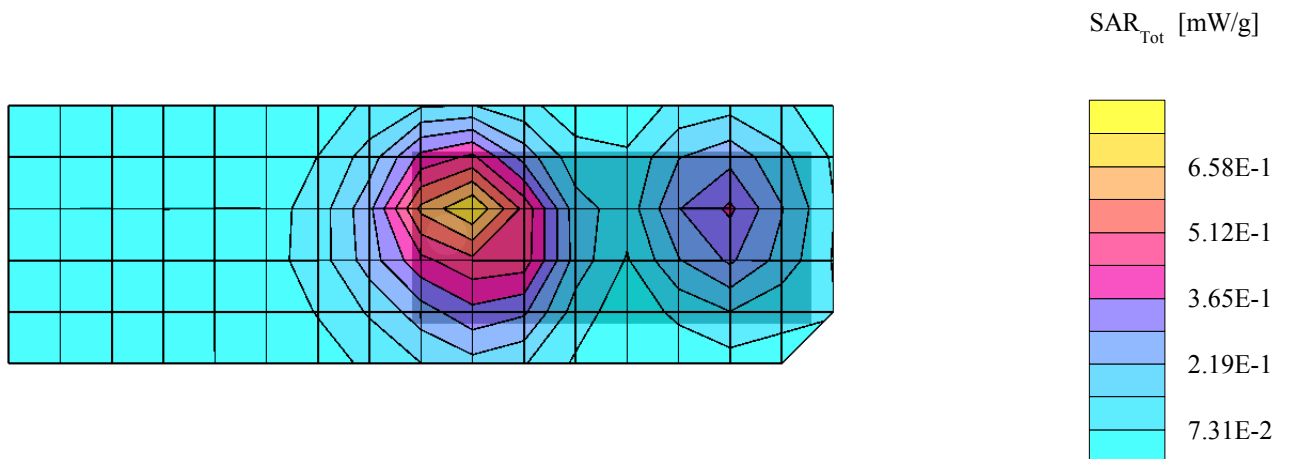Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.541 mW/g, SAR (10g): 0.320 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: 0.03 dB
Liquid Temperature: 20.7°C

SAR$_{Tot}$ [mW/g]

5.18E-1

4.03E-1

2.88E-1

1.73E-1

5.76E-2

GMLNPD-1FW, CDMA 1900, Channel 600, Regular Cover, Antenna Retracted, 15mm Spacer on Back of Phone + HDC-5 Headset

GMLNPD-1FW, CDMA 1900, Channel 1175, Regular Cover, Antenna Retracted, 15mm Spacer on Back of Phone + HDC-5 Headset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: σ = 1.50 mho/m ε_r = 53.7 ρ = 1.00 g/cm³
Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.696 mW/g, SAR (10g): 0.407 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: -0.06 dB
Liquid Temperature: 20.7°C

SAR_{Tot} [mW/g]

6.58E-1

5.12E-1

3.65E-1

2.19E-1

7.31E-2

TCC Dallas

07/01/02

GMLNPD-1FW, CDMA 1900, Channel 25, Erica Cover, Antenna Extended, Left Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: σ = 1.45 mho/m ε_r = 39.7 ρ = 1.00 g/cm^3
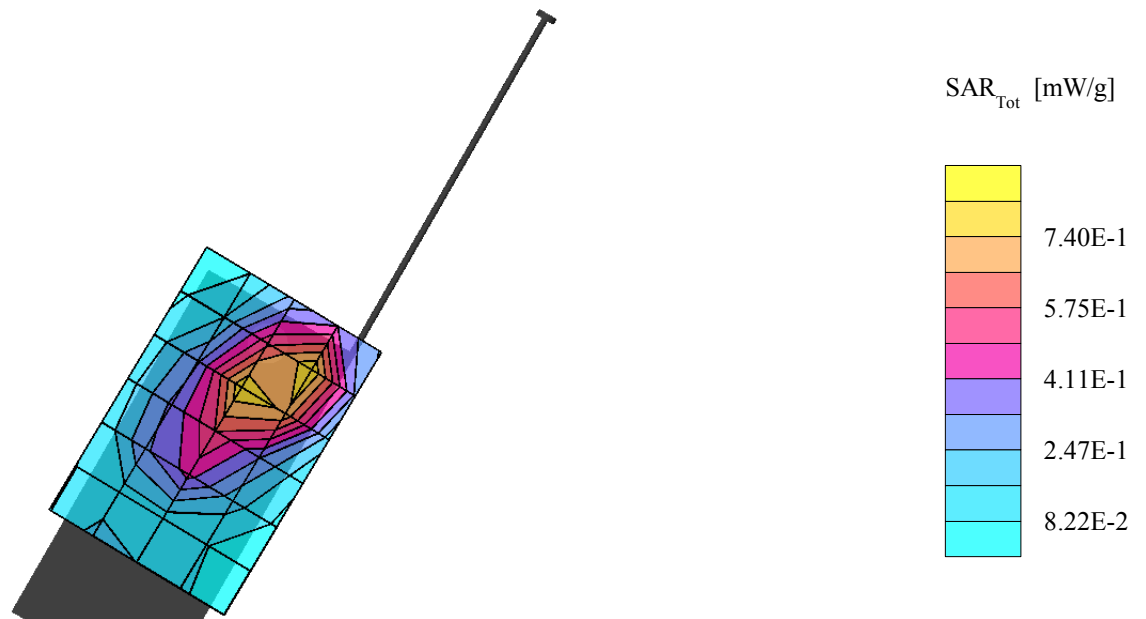Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cubes (2): SAR (1g): 0.891 mW/g ± 0.10 dB, SAR (10g): 0.482 mW/g ± 0.12 dB, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.04 dB
Liquid Temperature: 20.8°C

SAR$_{Tot}$ [mW/g]

7.40E-1

5.75E-1

4.11E-1

2.47E-1

8.22E-2

TCC Dallas

07/01/02

GMLNPD-1FW, CDMA 1900, Channel 600, Erica Cover, Antenna Extended, Left Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1880 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.7$ $\rho = 1.00$ g/cm^3
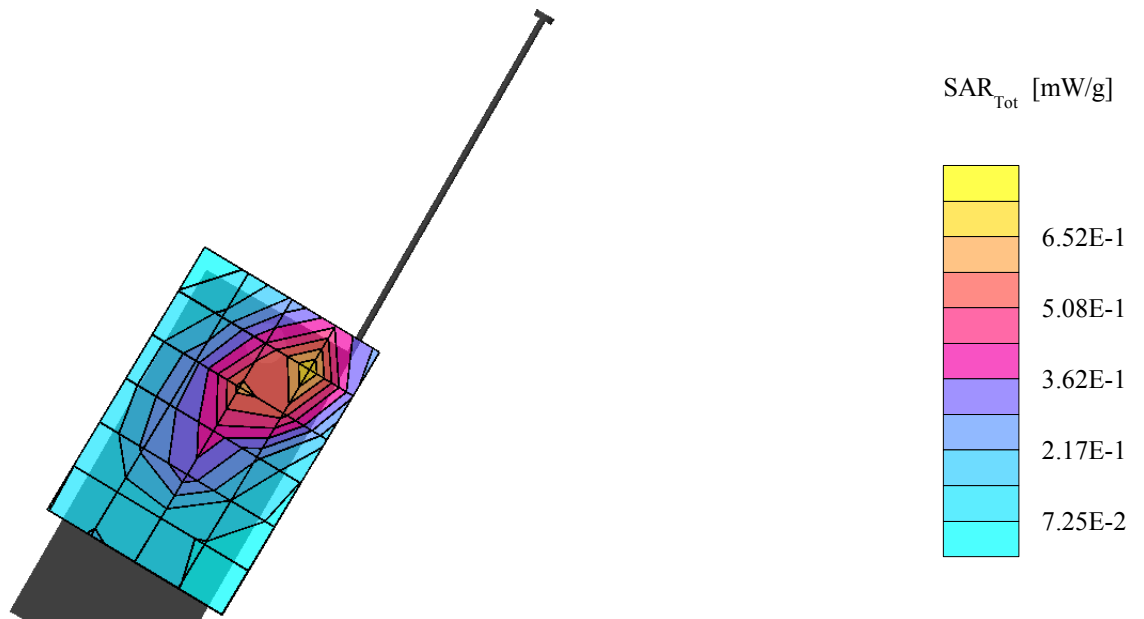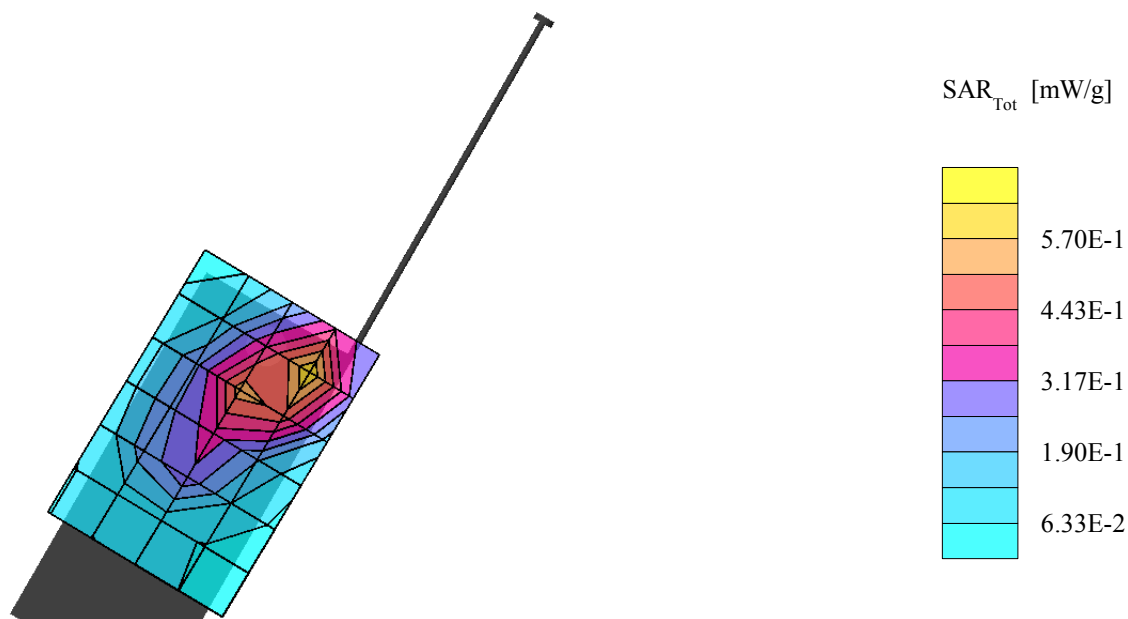Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.732 mW/g, SAR (10g): 0.395 mW/g * Max outside, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.06 dB
Liquid Temperature: 20.8°C

SAR$_{Tot}$ [mW/g]

6.52E-1

5.08E-1

3.62E-1

2.17E-1

7.25E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 1175, Erica Cover, Antenna Extended, Left Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.7$ $\rho = 1.00$ g/cm^3
Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.648 mW/g, SAR (10g): 0.350 mW/g * Max outside, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.04 dB
Liquid Temperature: 20.8°C

SAR_{Tot} [mW/g]

5.70E-1

4.43E-1

3.17E-1

1.90E-1

6.33E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 25, Erica Cover, Antenna Retracted, Left Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.7$ $\rho = 1.00$ g/cm^3
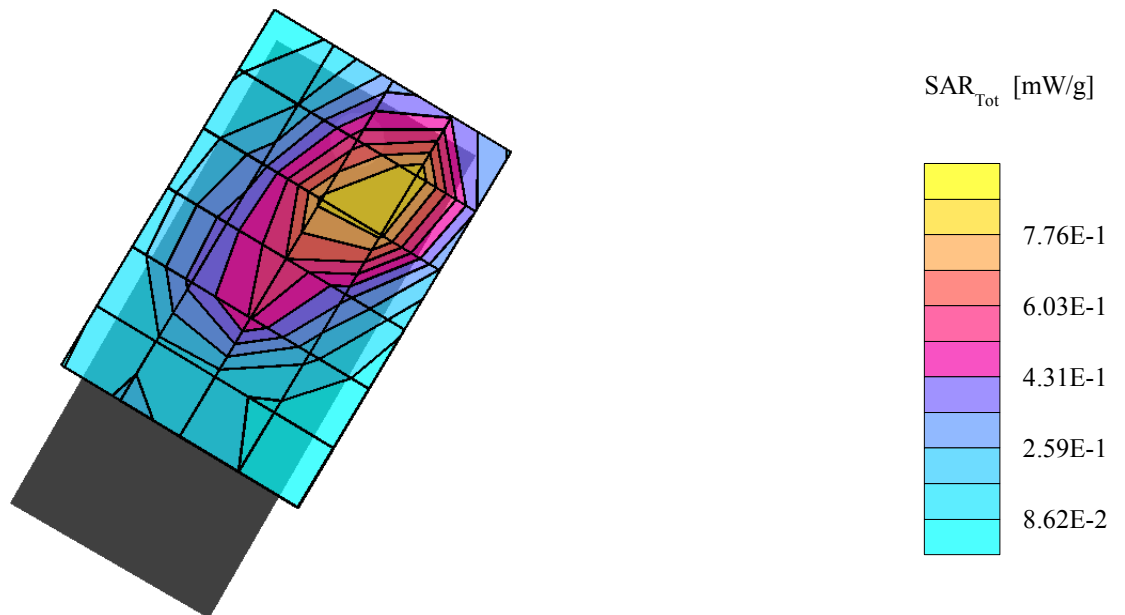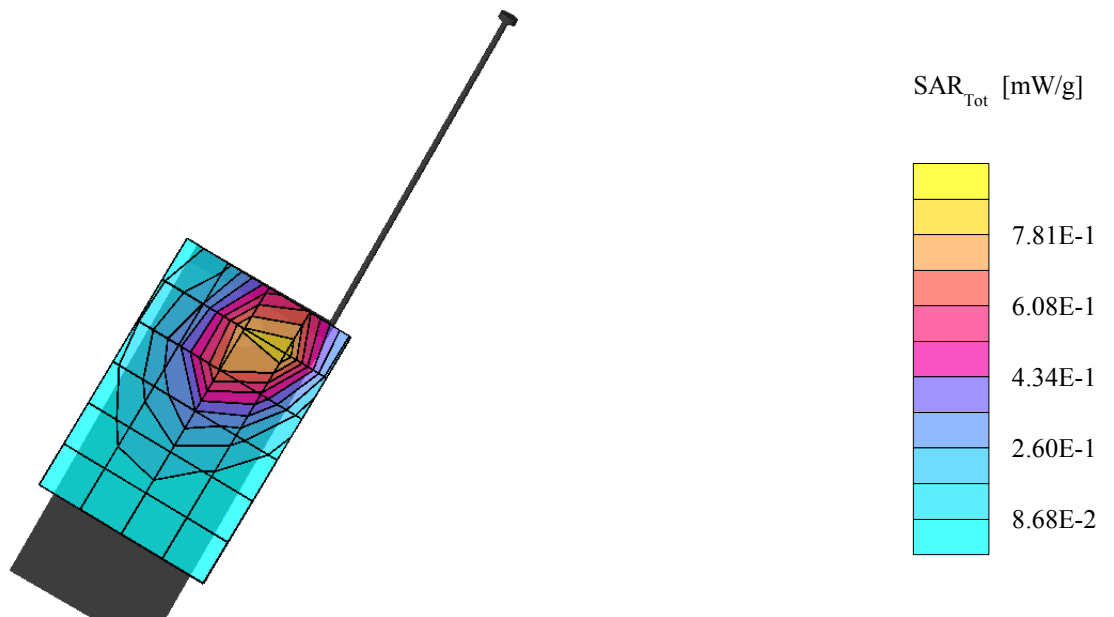Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.954 mW/g, SAR (10g): 0.530 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: 0.06 dB
Liquid Temperature: 20.8°C

SAR_{Tot} [mW/g]

7.76E-1
6.03E-1
4.31E-1
2.59E-1
8.62E-2

GMLNPD-1FW, CDMA 1900, Channel 25, Erica Cover, Antenna Extended, Left Tilt Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: σ = 1.45 mho/m ε_r = 39.7 ρ = 1.00 g/cm^3
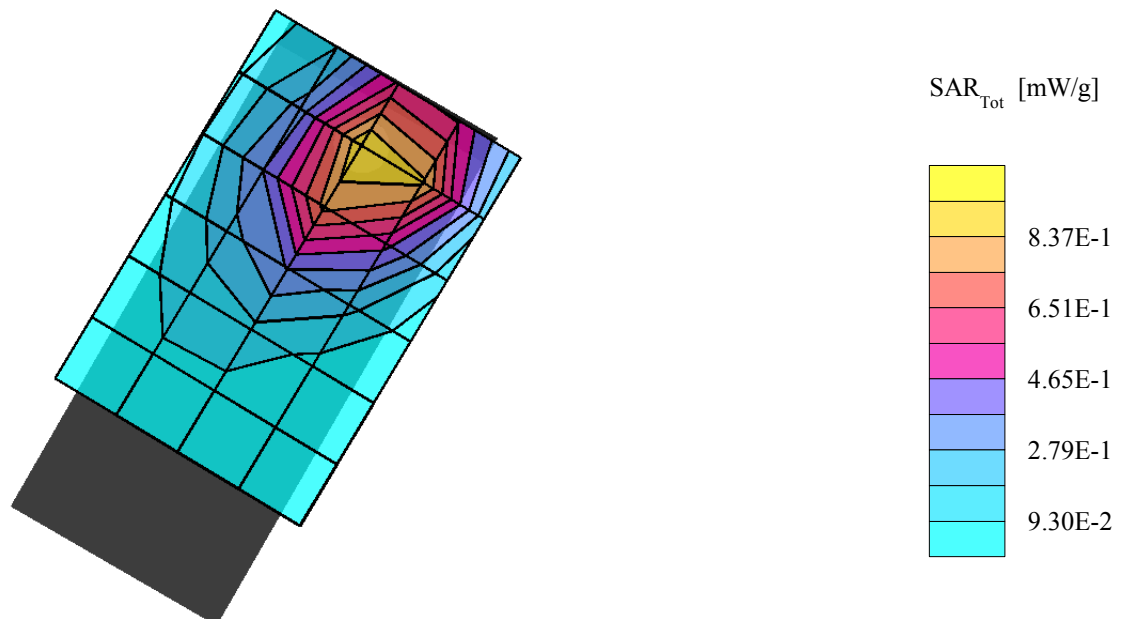Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.960 mW/g, SAR (10g): 0.518 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.00 dB
Liquid Temperature: 20.8°C

SAR_{Tot} [mW/g]

7.81E-1

6.08E-1

4.34E-1

2.60E-1

8.68E-2

GMLNPD-1FW, CDMA 1900, Channel 25, Erica Cover, Antenna Retracted, Left Tilt Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
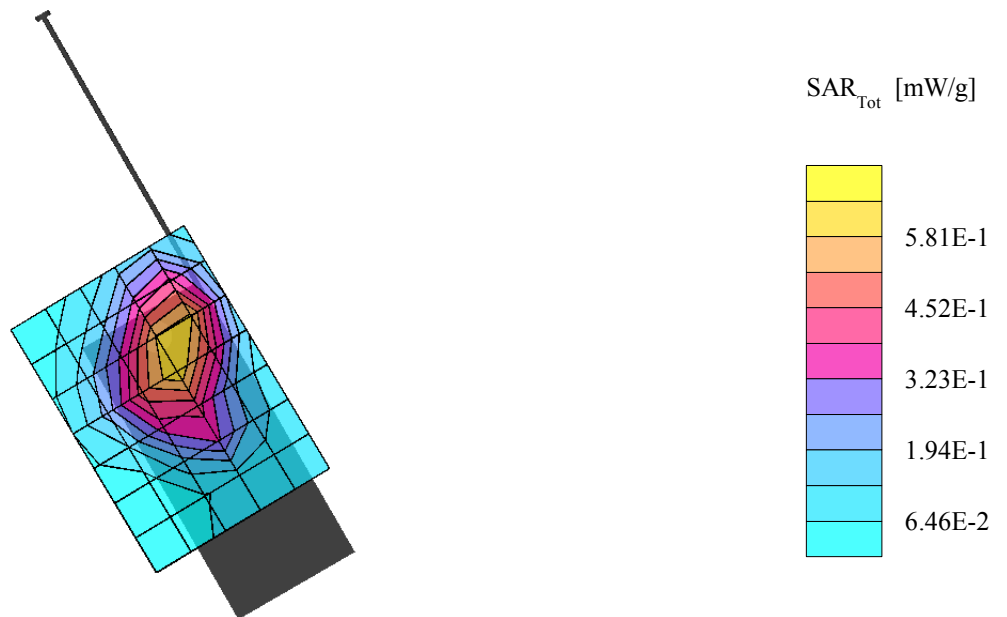PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.7$ $\rho = 1.00$ g/cm^3
Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 1.02 mW/g, SAR (10g): 0.563 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: 0.04 dB
Liquid Temperature: 20.8°C

SAR$_{Tot}$ [mW/g]

8.37E-1

6.51E-1

4.65E-1

2.79E-1

9.30E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 25, Erica Cover, Antenna Extended, Right Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: σ = 1.45 mho/m ε_r = 39.7 ρ = 1.00 g/cm^3
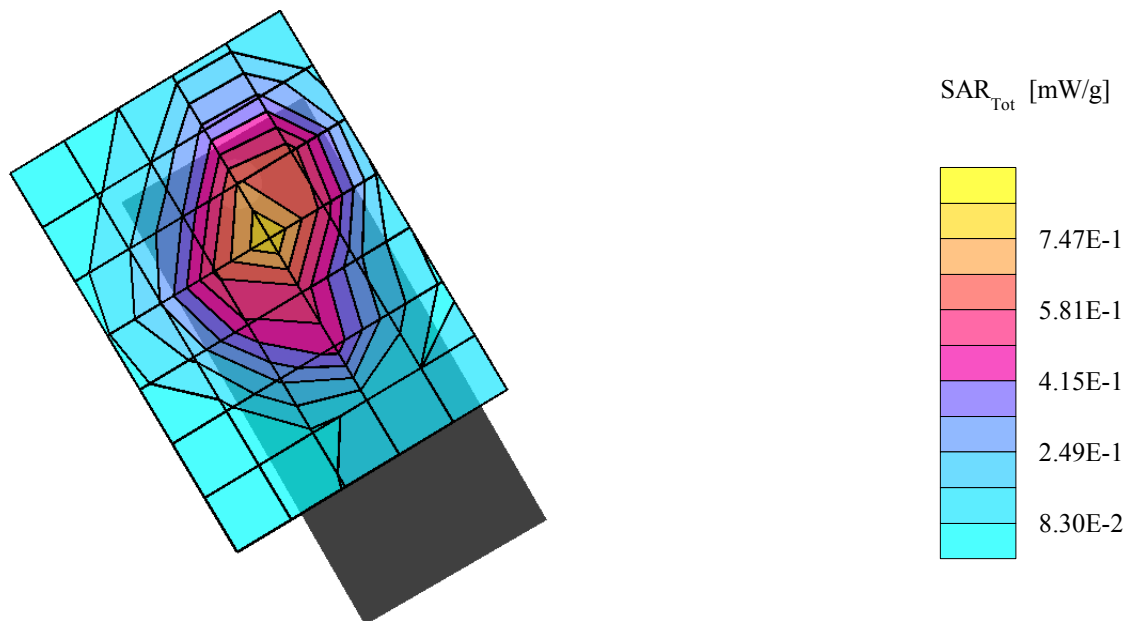Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.687 mW/g, SAR (10g): 0.392 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.10 dB
Liquid Temperature: 20.8°C

SAR_{Tot} [mW/g]

5.81E-1

4.52E-1

3.23E-1

1.94E-1

6.46E-2

06/28/02

GMLNPD-1FW, CDMA 1900, Channel 25, Erica Cover, Antenna Retracted, Right
Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.4$ $\rho = 1.00$ g/cm^3
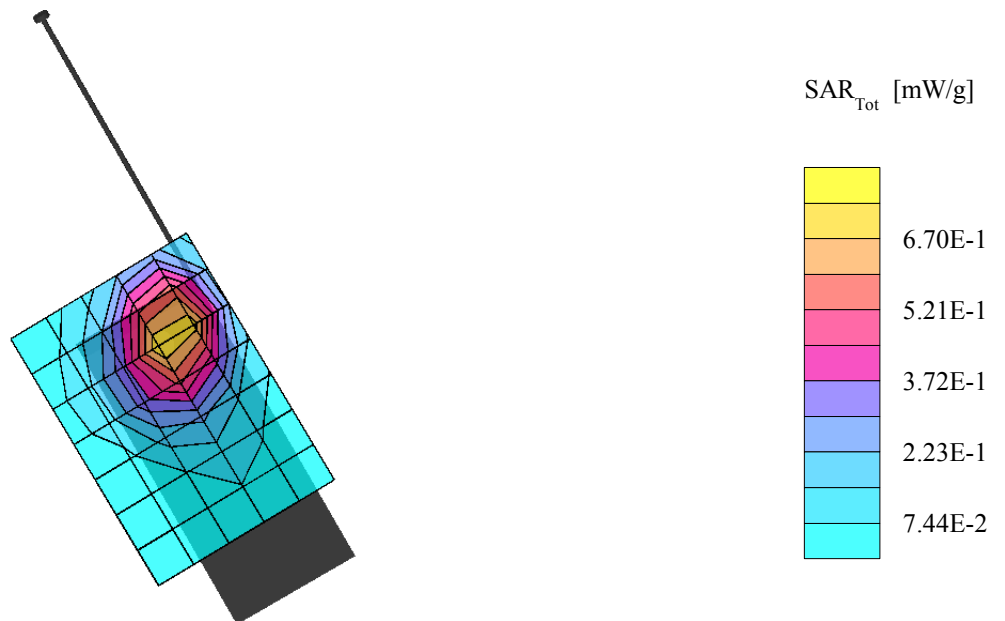Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.838 mW/g, SAR (10g): 0.470 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.15 dB
Liquid Temperature: 20.6°C

SAR$_{Tot}$ [mW/g]

7.47E-1

5.81E-1

4.15E-1

2.49E-1

8.30E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 25, Erica Cover, Antenna Extended, Right Tilt Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: σ = 1.45 mho/m ε_r = 39.4 ρ = 1.00 g/cm^3
Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.791 mW/g, SAR (10g): 0.448 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.04 dB
Liquid Temperature: 20.6°C

SAR_{Tot} [mW/g]

6.70E-1

5.21E-1

3.72E-1

2.23E-1

7.44E-2

GMLNPD-1FW, CDMA 1900, Channel 1175, Erica Cover, Antenna Retracted, Right Tilt Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.4$ $\rho = 1.00$ g/cm^3
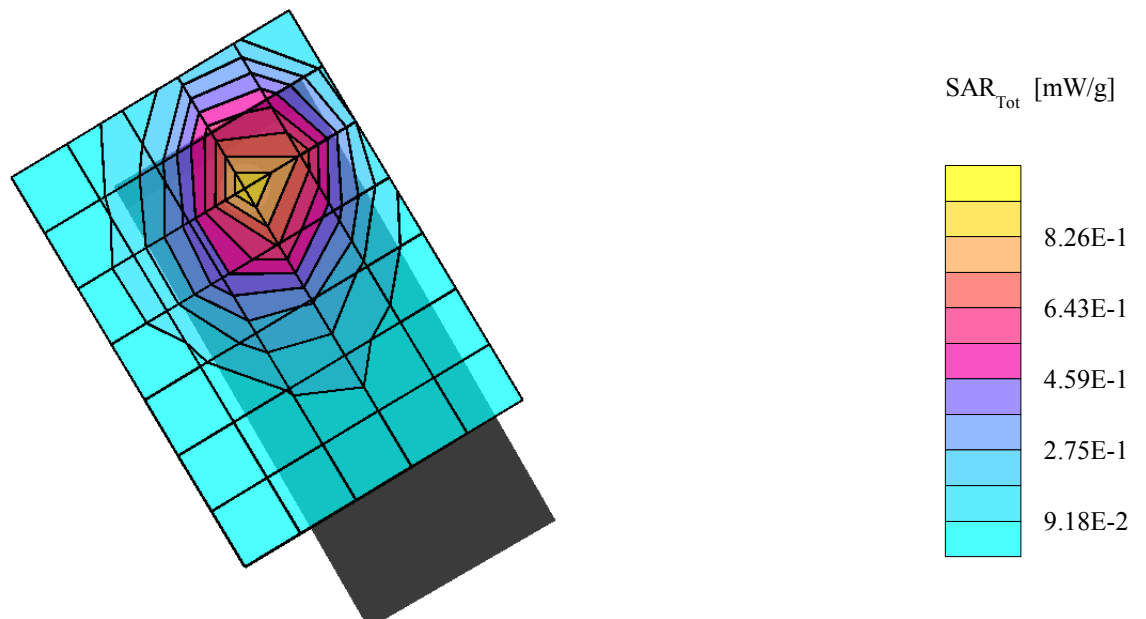Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 0.909 mW/g, SAR (10g): 0.504 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Powerdrift: -0.09 dB
Liquid Temperature: 20.6°C

SAR$_{Tot}$ [mW/g]

8.26E-1

6.43E-1

4.59E-1

2.75E-1

9.18E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 1175, Erica Cover, Antenna Extended, 15mm Spacer on Back of Phone + LPS-4 Loopset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
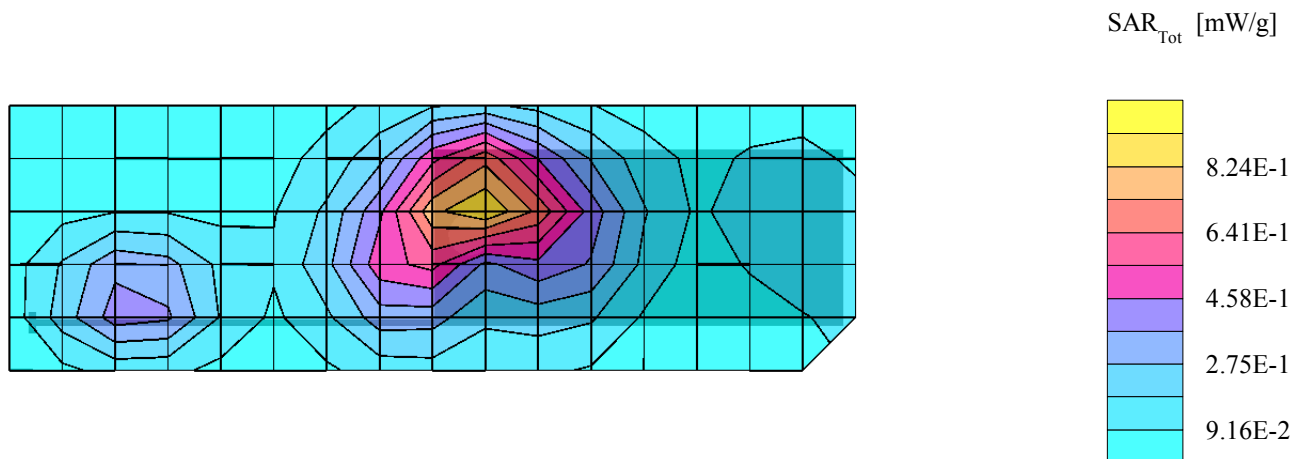PCS Band - Muscle Tissue: $\sigma = 1.50$ mho/m $\varepsilon_r = 53.7$ $\rho = 1.00$ g/cm^3
Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.930 mW/g, SAR (10g): 0.527 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: -0.03 dB
Liquid Temperature: 20.7°C

SAR_{Tot} [mW/g]

8.24E-1

6.41E-1

4.58E-1

2.75E-1

9.16E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 1175, Erica Cover, Antenna Retracted, 15mm Spacer on Back of Phone + LPS-4 Loopset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
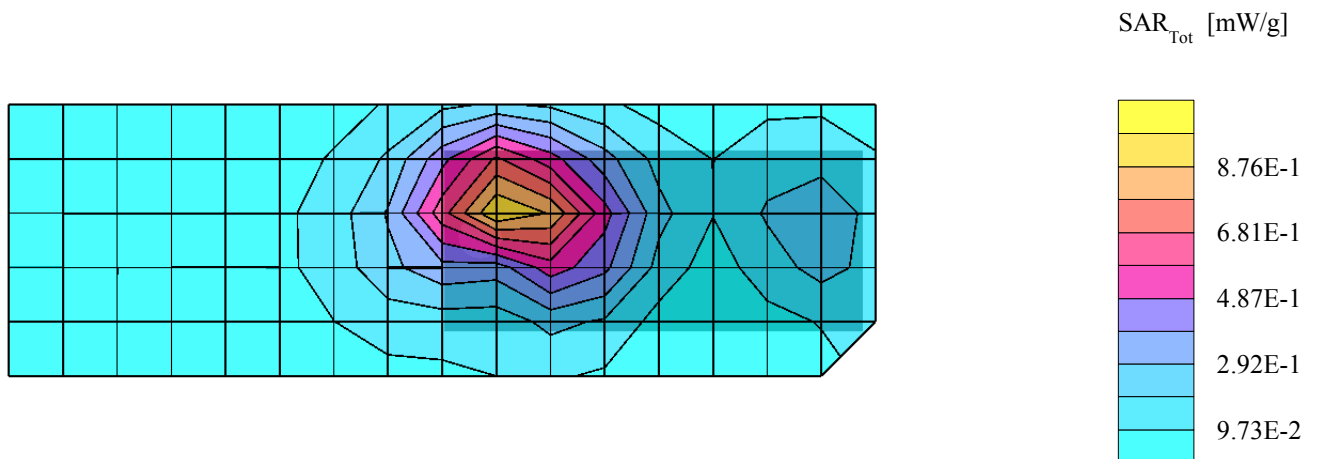PCS Band - Muscle Tissue: $\sigma = 1.50$ mho/m $\varepsilon_r = 53.7$ $\rho = 1.00$ g/cm^3
Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.959 mW/g, SAR (10g): 0.541 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: -0.03 dB
Liquid Temperature: 20.7°C

SAR$_{Tot}$ [mW/g]

8.76E-1

6.81E-1

4.87E-1

2.92E-1

9.73E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 25, Erica Cover, Antenna Extended, 15mm Spacer on Back of Phone + HDC-5 Headset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1851 MHz; Crest factor: 1.0
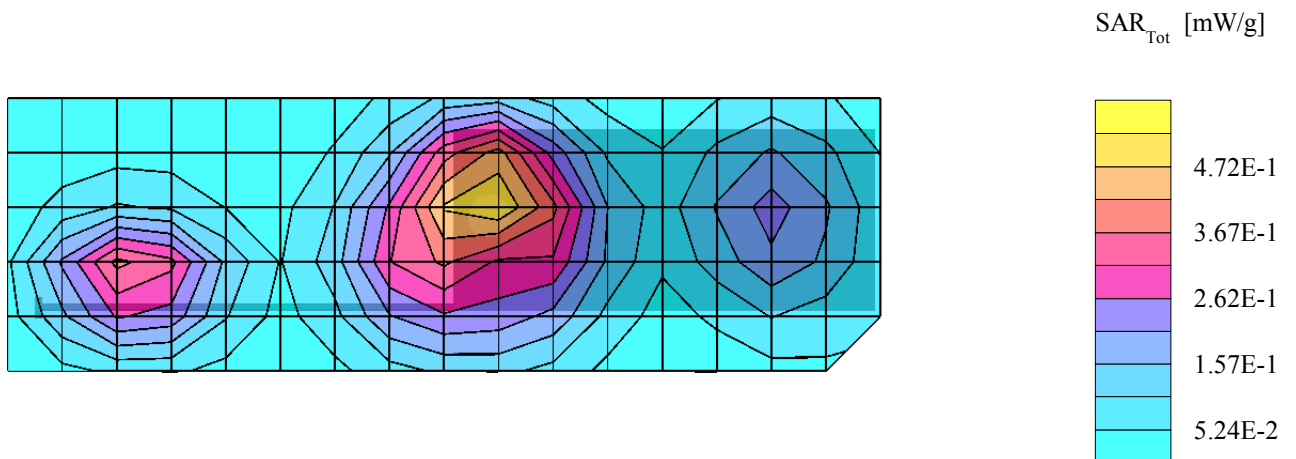PCS Band - Muscle Tissue: σ = 1.50 mho/m ε_r = 54.0 ρ = 1.00 g/cm³
Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.543 mW/g, SAR (10g): 0.321 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: 0.03 dB
Liquid Temperature: 20.9°C

SAR_{Tot} [mW/g]

4.72E-1

3.67E-1

2.62E-1

1.57E-1

5.24E-2

GMLNPD-1FW, CDMA 1900, Channel 600, Erica Cover, Antenna Extended, 15mm Spacer on Back of Phone + HDC-5 Headset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1880 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: $\sigma = 1.50$ mho/m $\varepsilon_r = 54.0$ $\rho = 1.00$ g/cm^3
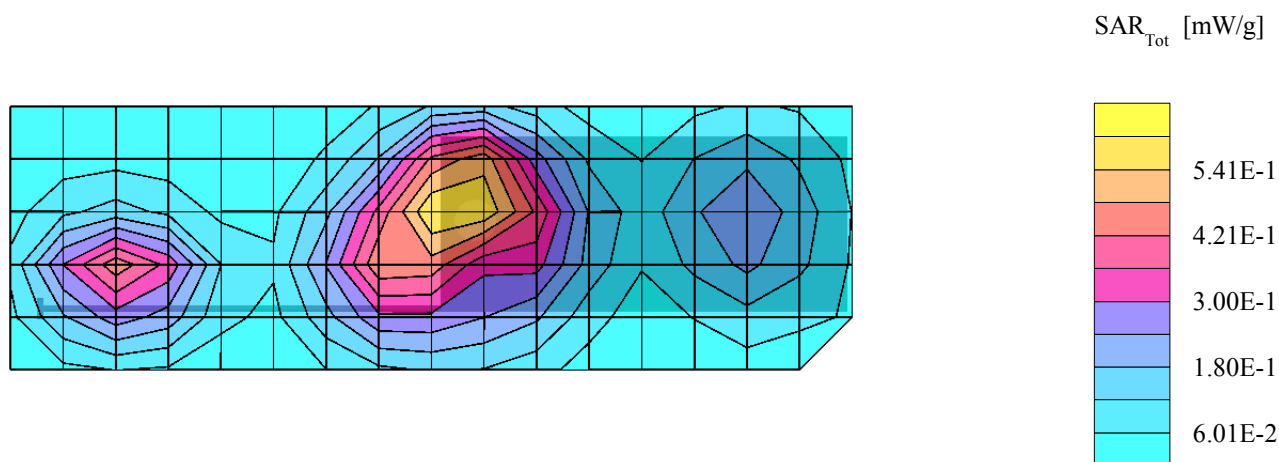Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.643 mW/g, SAR (10g): 0.375 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: 0.05 dB
Liquid Temperature: 20.9°C

SAR$_{Tot}$ [mW/g]

5.41E-1

4.21E-1

3.00E-1

1.80E-1

6.01E-2

TCC Dallas

GMLNPD-1FW, CDMA 1900, Channel 1175, Erica Cover, Antenna Extended, 15mm Spacer on Back of Phone + HDC-5 Headset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: σ = 1.50 mho/m ε_r = 54.0 ρ = 1.00 g/cm^3
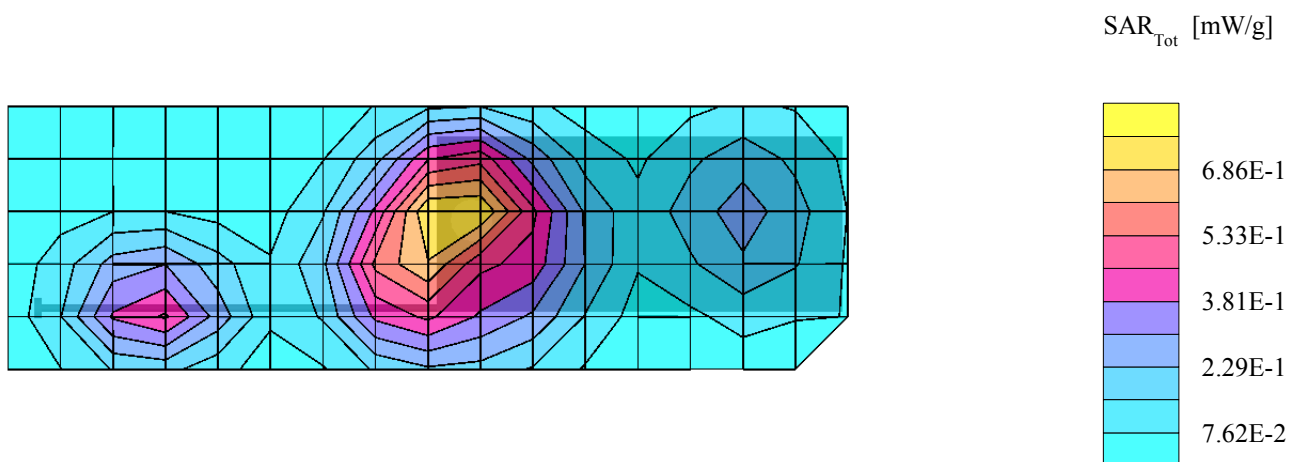Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.773 mW/g, SAR (10g): 0.458 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: -0.06 dB
Liquid Temperature: 20.9°C

SAR_{Tot} [mW/g]

6.86E-1

5.33E-1

3.81E-1

2.29E-1

7.62E-2

GMLNPD-1FW, CDMA 1900, Channel 1175, Erica Cover, Antenna Retracted, 15mm Spacer on Back of Phone + HDC-5 Headset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: $\sigma = 1.50$ mho/m $\varepsilon_r = 54.0$ $\rho = 1.00$ g/cm^3
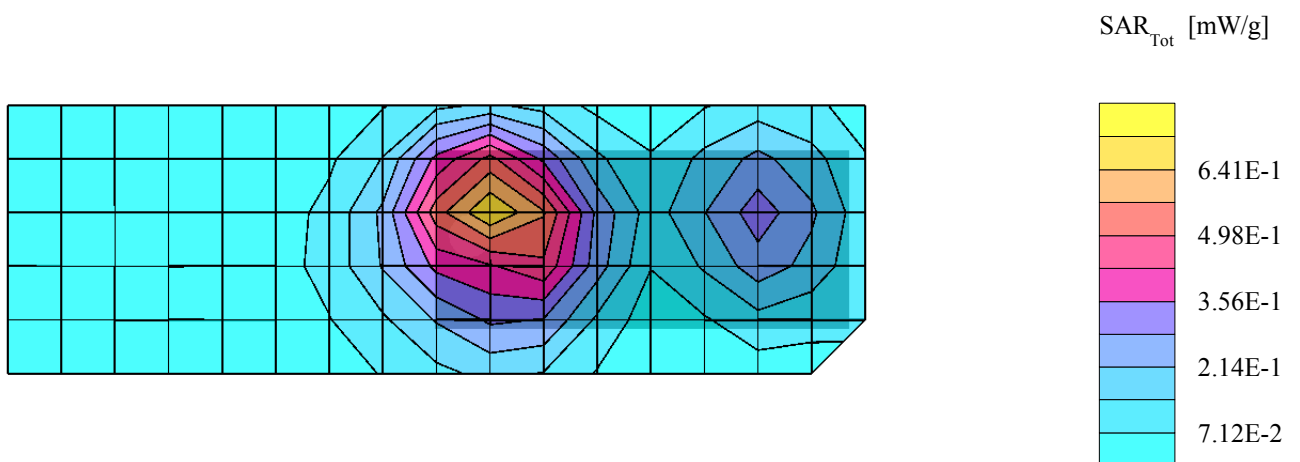Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.688 mW/g, SAR (10g): 0.403 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 12.0
Powerdrift: -0.06 dB
Liquid Temperature: 20.9°C

SAR_{Tot} [mW/g]

6.41E-1

4.98E-1

3.56E-1

2.14E-1

7.12E-2

GMLNPD-1FW, CDMA 1900, Channel 25, Regular Cover, Antenna Retracted, Left Touch Position.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
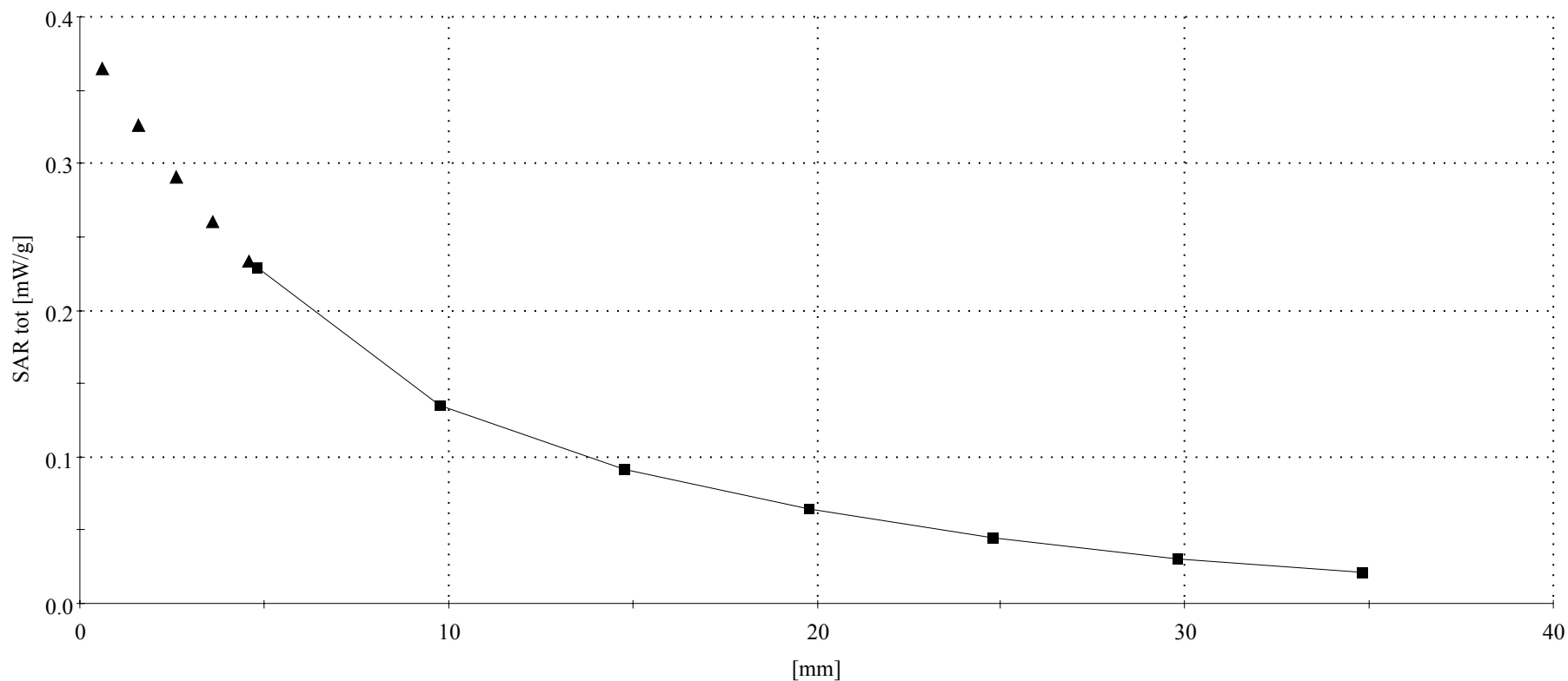Frequency: 1851 MHz; Crest factor: 1.0
PCS Band - Brain Tissue: $\sigma = 1.45$ mho/m $\varepsilon_r = 39.8$ $\rho = 1.00$ g/cm^3
Probe: ET3DV6 - SN1505; ConvF(5.70,5.70,5.70)
Cube 5x5x7: SAR (1g): 1.14 mW/g, SAR (10g): 0.627 mW/g, (Worst-case extrapolation)
Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

Liquid Temperature: 20.6°C

GMLNPD-1FW, CDMA 1900, Channel 1175, Erica Cover, Antenna Retracted, 15mm Spacer on Back of Phone + LPS-4 Loopset.

SAM 3 (PCS - Brain / Muscle Tissue) Phantom
Frequency: 1909 MHz; Crest factor: 1.0
PCS Band - Muscle Tissue: $\sigma = 1.50$ mho/m $\varepsilon_r = 53.7$ $\rho = 1.00$ g/cm^3
Probe: ET3DV6 - SN1505; ConvF(5.20,5.20,5.20)
Cube 5x5x7: SAR (1g): 0.959 mW/g, SAR (10g): 0.541 mW/g, (Worst-case extrapolation)
Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0

Liquid Temperature: 20.7°C