

This document was generated in response to a request for additional technical information by Stan Lyles in regards to the type approval of the KWC-3245. The information included in related to the 4 specific topics discussed in the following email received by Lin Lu on August 2, 2002:

From: oetech@fccsun34w.fcc.gov
Date: Fri, 2 Aug 2002 09:33:22 -0400 (EDT)
To: LLu@kyocera-wireless.com
Subject: SAR
X-BigFish: cs-1v

To: Lin Lu, Kyocera Wireless Corp
From: Stan Lyles
syles@fcc.gov
FCC Application Processing Branch
Re: FCC ID OVFKWC-3245
Applicant: Kyocera Wireless Corp
Correspondence Reference Number: 23552
731 Confirmation Number: EA341710

- 1.) New user manual with revised RF safety body-worn statement. The statement "use the Kyocera.....supplied or approved carrying case" could easily be misunderstood by a user. Please be more specific.
- 2.) Strong justification for the body worn measurement data provided. No body liquid probe calibration certification could be located. Provide certificate or new SAR data with fully calibrated probe.
- 3.) To confirm liquid depth of 15 cm as stated please provide appropriate photographs and/or Z-axis scan SAR data for the highest SAR test points.
- 4.) New set of SAR plots showing ambient air and liquid temperatures.

1) Revised User's Guide

Per the request, the RF safety body-worn statement has been revised from

"Body-Worn Operation

To maintain compliance with FCC RF exposure guidelines, if you wear a handset on your body, use the Kyocera Wireless Corp. (KWC) supplied or approved carrying case, holster or other body-worn accessory. If you do not use a body-worn accessory,"

To

"Body-Worn Operation

To maintain compliance with FCC RF exposure guidelines, if you wear a handset on your body, use the Kyocera Wireless Corp. (KWC) supplied and approved carrying case (CA90-61068) and holster (CE90-B1700). If you do not use a body-worn accessory,"

The related pages of new User's Guide are attached in the following pages.

Disposal of Lithium Ion (LiIon) Batteries

For safe disposal options of your LiIon batteries, contact your nearest Sprint PCS-authorized service center.

Special Note: Be sure to dispose of your battery properly. In some areas, the disposal of batteries in household or business trash may be prohibited.

Note: For safety, do not handle a damaged or leaking LiIon battery.

Acknowledging Special Precautions and the FCC Notice

FCC Notice

The phone may cause TV or radio interference if used in close proximity to receiving equipment. The FCC can require you to stop using the phone if such interference cannot be eliminated.

Vehicles using liquefied petroleum gas (such as propane or butane) must comply with the National Fire Protection Standard (NFPA-58). For a copy of this standard, contact the National Fire Protection Association, One Batterymarch Park, Quincy, MA 02269, Attn: Publication Sales Division.

Cautions

Any changes or modifications to your phone not expressly approved in this document could void your warranty for this equipment, and void your authority to operate this equipment. Only use approved batteries, antennas and chargers. The use of any unauthorized accessories may be dangerous and void the phone warranty if said accessories cause damage or a defect to the phone.

Although your phone is quite sturdy, it is a complex piece of equipment and can be broken. Avoid dropping, hitting, bending or sitting on it.

Body-Worn Operation

To maintain compliance with FCC RF exposure guidelines, if you wear a handset on your body, use the Kyocera Wireless Corp. (KWC) supplied and approved carrying case (CA90-61068) and holster (CE90-B1700). If you do not use a body-worn accessory, ensure that the separation from

the closest point of the handset to the body (include antenna) is at least 22.5 mm when transmitting. Use of non-KWC approved accessories may violate FCC RF exposure guidelines.

For more information about RF exposure, please visit the FCC Web site at www.fcc.gov.

Specific Absorption Rates (SAR) for Wireless Phones

The SAR is a value that corresponds to the relative amount of RF energy absorbed in the head of a user of a wireless handset.

The SAR value of a phone is the result of an extensive testing, measuring and calculation process. It does not represent how much RF the phone emits. All phone models are tested at their highest value in strict laboratory settings. But when in operation, the SAR of a phone can be substantially less than the level reported to the FCC. This is because of a variety of factors including its proximity to a base station antenna, phone design and other factors. What is important to remember is that each phone meets strict federal guidelines. Variations in SARs do not represent a variation in safety.

All phones must meet the federal standard, which incorporates a substantial margin of safety. As stated above, variations in SAR values between different model phones do not mean variations in safety. SAR values at or below the federal standard of 1.6 W/kg are considered safe for use by the public.

The highest reported SAR values of the 3245 are:

AMPS mode (Part 22)

Head: 1.27 W/kg; Body-worn (with KWC accessory): 0.441 W/kg

PCS mode (Part 24)

Head: 1.19 W/kg; Body-worn (with KWC accessory): 0.222 W/kg

FCC Radio Frequency Emission

This phone meets the FCC Radio Frequency Emission Guidelines.

FCC ID number: OVFKWC-3245. More information on the phone's SAR can be found from the following FCC Web site:

<http://www.fcc.gov/oet/fccid>.



2) Probe Factor for Muscle Tissues

Based on DASY3-user manual Page 49 and the email from Schmid & Partner Engineering AG, the probe conversion factor in muscle tissue was set to 3% lower than for brain tissue in 835MHz frequency, and 10% lower than for brain tissue in 1800MHz. The related pages of DASY3-user manual, SPEAG email are attached in the proceeding pages.

Note, currently, we do not have a probe calibrated for muscle tissues. We are in the progress in buying another new DASY 4 system with two fully calibrated probes. The new system will arrive in the time frame of November or December of this year. We plan to send the existing probe to Schmid & Partner Engineering AG for the calibration in brain tissue as well as in muscle tissue once the new probes arrive.

4.5.3 Connection between device, liquid, and probe parameters

The electric parameters of the simulation liquid are frequency dependent. Unluckily, this frequency dependency in the homogeneous simulation liquid is different than in the complex cellstructure of the simulated tissue. Since each solution can simulate the tissue only within a limited frequency range, several mixtures are necessary to cover the total MTE frequency range. Within a frequency bandwidth of at least 20%, the same solution can be used with small errors in the SAR. However, the measured parameters at the actual frequency should be used in the software (see [RG: 2.3 Medium](#)).

The DASY3 software checks the selected solution against the device frequency to prevent incorrect combinations which could lead to undetected measurement errors. To that purpose, each dataset for the media includes frequency range settings. If the frequency of the selected device is not within the range of the selected media, the system will issue an error message. It is highly recommended to use different media datasets for different frequencies, even for the same liquid. If one liquid is used for 835MHz and 900MHz two datasets with the corresponding parameters should be used (e.g., with frequency ranges 800 - 850 MHz and 870 - 920 MHz). The liquid parameters should be remeasured and adjusted in the software regularly (see [RG: 2.3 Medium](#)).

The probe conversion factor (and boundary effect) depends on the frequency and the liquid parameters. For each dosimetric probe, many different sets of conversion factors and boundary correction data can be defined ([RG: 2.6.1 E-Field Probe](#)). Each set includes range settings for permittivity, conductivity and frequency. The probe conversion factors can be selected manually or automatically ([RG: 2.6.1 E-Field Probe](#)). In the (recommended) automatic selection mode, the software searches for the first conversion factor in the list, whose permittivity and conductivity and frequency range covers the selected device frequency and liquid parameters. If no valid conversion factor can be found, the system will issue an error message when trying to measure SAR. The same error message appears if the manually selected conversion factors do not correspond with the device or the media.

Note: The system automatically selects the first valid conversion factor. If you define conversion factors with a reduced frequency and parameter range, make sure that this range is not already covered by an other set further up in the list.

The conversion factors are determined during probe calibration. SPEAG probes are by default calibrated at 900MHz and 1800MHz in brain simulating tissue. The range settings in the probe configuration file are selected to guarantee the specified probe uncertainties. If you want to perform SAR measurements in other liquids (e.g., 835MHz muscle tissue), the DASY3 system will complain. There are several ways to overcome the problem:

- Increase the range settings in the probe document, leaving the conversion factors as they are. This will permit the measurement, although with increased uncertainty. For small changes in the parameters or frequency the error is small (see box below).
- Add a new conversion factor set for the new liquid or frequency. The conversion factor can be estimated from the existing conversion factors (see box below).
- Order special calibrations for the probe.

The following sensitivities of the conversion factor can be used to estimate the conversion factor for other frequencies or media. They are assessed from special calibrations with the ET3DVx probe series. (They cannot be applied for other probe types!)

For frequency changes within the same media (not the same media parameters, they change also with the frequency and must be adjusted in the media settings!):

- In brain and muscle tissue between 750MHz and 1GHz, the conversion factor decreases approximately 1.3% per 100MHz frequency increase.
- In brain and muscle tissue between 1.6GHz and 2GHz, the conversion factor decreases approximately 1% per 100MHz frequency increase.

For muscle tissue around 900MHz (permittivity about 30% higher and conductivity about 15% higher than brain tissue):

- The conversion factor in muscle tissue is approximately 3% lower than for brain tissue for the same frequency.

For example:

An ET3DVx probe with a conversion factor 6.0 for 900MHz brain gives a conversion factor of 5.87 for 835MHz muscle tissue.

SPEAG's email

X-Sender: pokovic.speagcom@mail.speag.com
Message-Id: <v04210106b5530a3b8cba@[192.168.0.106]>
Date: Thu, 25 May 2000 18:53:22 +0200
To: llu@qualcomm.com
From: Katja Pokovic <pokovic@speag.com>
Subject: probe 1348 - estimate for muscle tissue
Cc: egger@speag.com
Content-Type: text/plain; charset="us-ascii" ; format="flowed"
X-UIDL: f094fb92ae0ff3f05efa23d23d38e279

hi,

i hope this time it will work out!

so the very quick estimate is that the conversion factor will be
about 10% lower for muscle tissue at 1800 MHz (eps=54.3, sig=1.45)
compared to the brain tissue at the same frequency (i.e., at 1800 MHz
with eps=40.5, sig=1.69).
the document will be fax to you soon.
best, katja

Katja Pokovic
Schmid & Partner
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9707, Fax +41 1 245 9779
WWW <http://www.speag.com>

3) To Confirm the Liquid Depth of 15cm and the Z- Axis Scan SAR Data for the Highest SAR Test Points

The following photos show both 835MHz and 1900MHz liquid depth of at least 15cm. The Z-axis scanned SAR data for the highest SAR test points in 835MHz band and in 1900MHz band are provided in the following pages.

835MHz liquid depth = 156mm



1900MHz liquid depth = 154mm



KWC-3245, 835MHz Head, Left Tilt, FM Ch991, Antenna Extended, Z-Axis

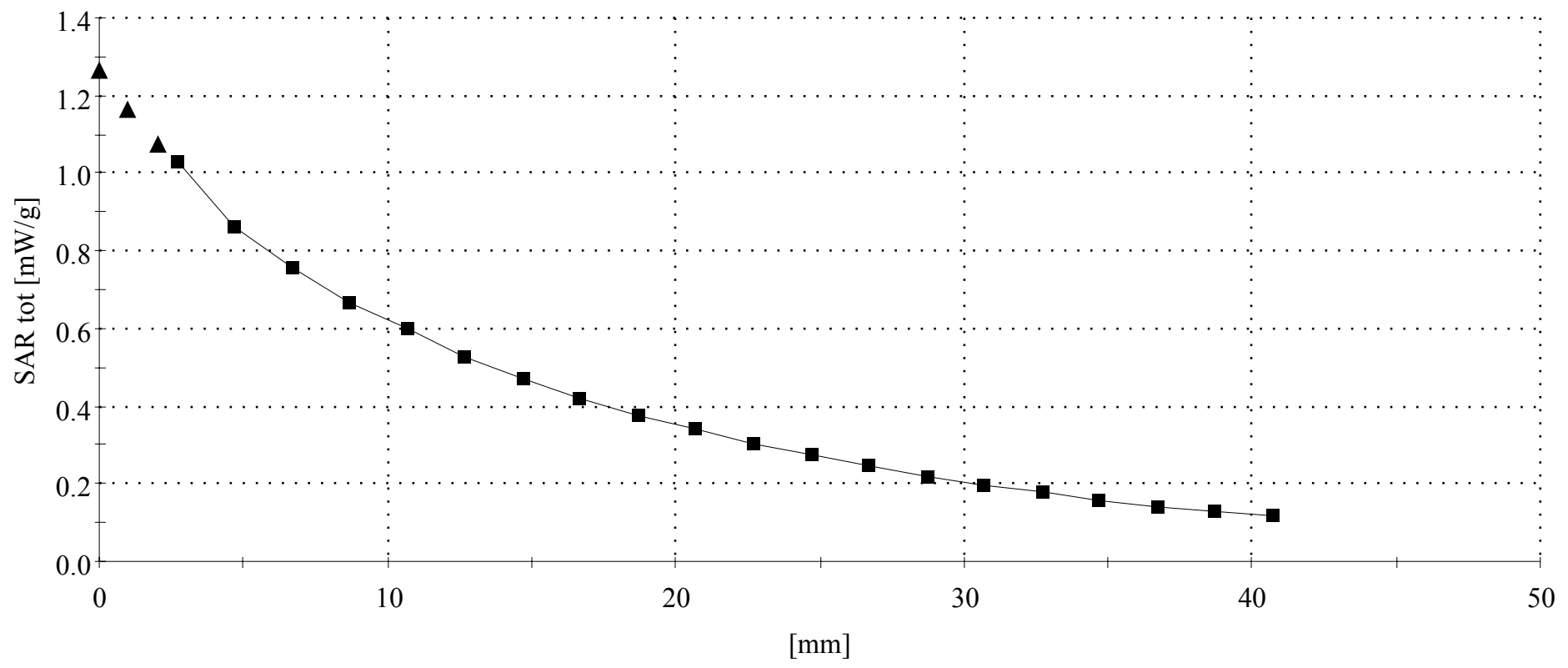
S3

SAM Phantom; Left Hand Section; Position: (95°,60°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.27 mW/g, SAR (10g): 0.859 mW/g, (Worst-case extrapolation)

Z-Axis: Dx = 0.0, Dy = 0.0, Dz = 2.0



KWC-3245, 1900MHz Head, Right Cheek, PCS Ch600, Antenna Retracted, Z-Axis

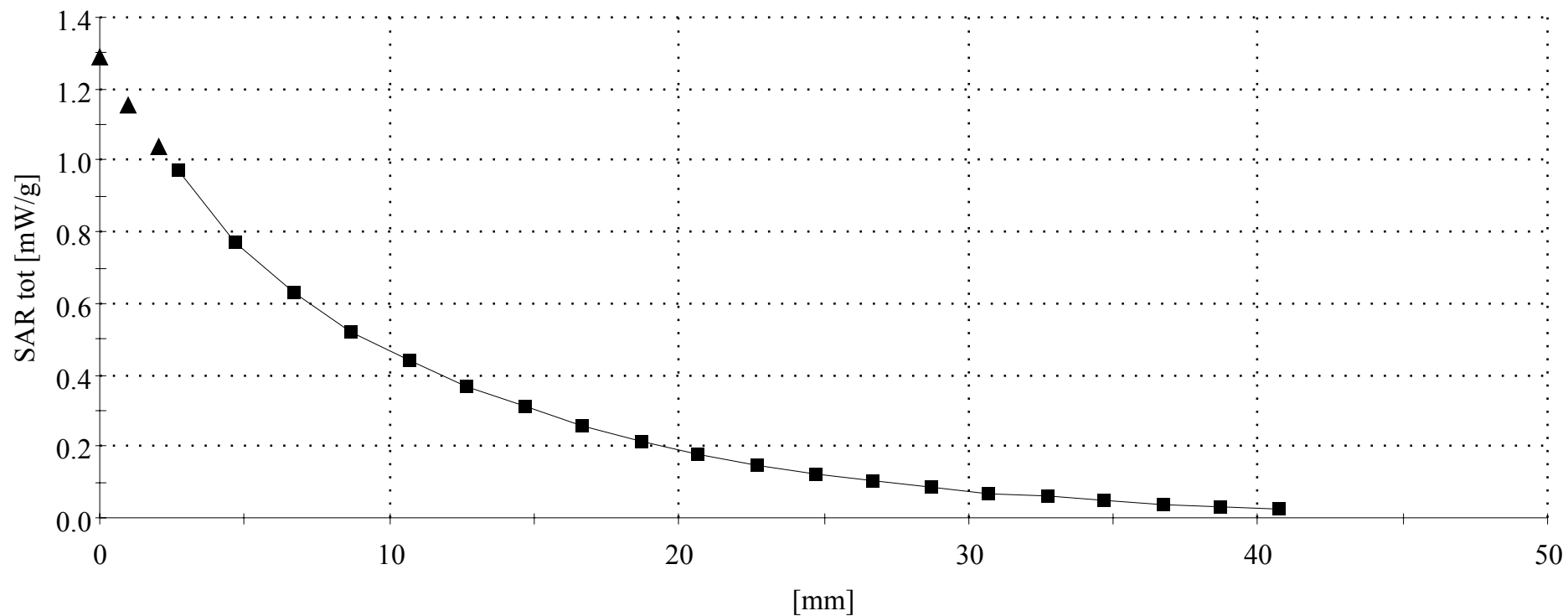
S3

SAM Phantom; Righ Hand Section; Position: (80°,300°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(5.30,5.30,5.30); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.43 \text{ mho/m}$ $\epsilon_r = 40.3$ $\rho = 1.00 \text{ g/cm}^3$

Cube 7x7x7: SAR (1g): 1.19 mW/g, SAR (10g): 0.708 mW/g, (Worst-case extrapolation)

Z-Axis: $D_x = 0.0$, $D_y = 0.0$, $D_z = 2.0$



4) New Set of the SAR Plots Showing the Ambient Temperature and Liquid Temperature

The ambient and liquid temperatures have been inserted into each SAR plots. The updated SAR plots are attached in the following pages.

Company Kyocera Wireless Corp.	Document No.	
KWC-3245 SAR REPORT	Issue No:	Date Aug. 2002
FCC ID OVFKWC-3245	Page Number 22	

UPDATED APPENDIX B: SAR DISTRIBUTION PRINTOUT

KWC-3245, 835MHz Head, Left Cheek, FM Ch799, Antenna Retracted, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

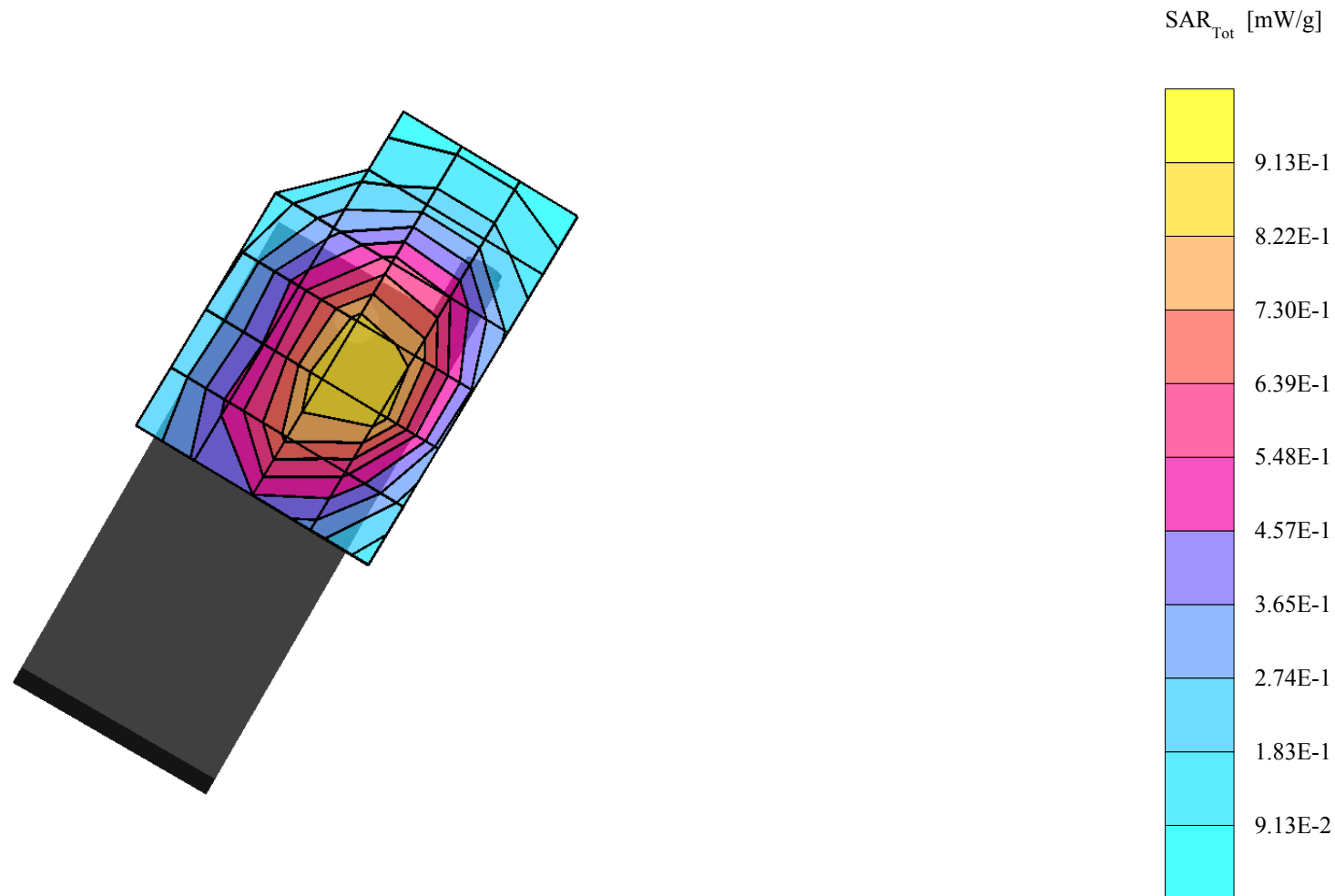
SAM Phantom; Left Hand Section; Position: (80°,60°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.992 mW/g, SAR (10g): 0.617 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.04 dB



KWC-3245, 835MHz Head, Left Cheek, FM Ch991, Antenna Extended, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

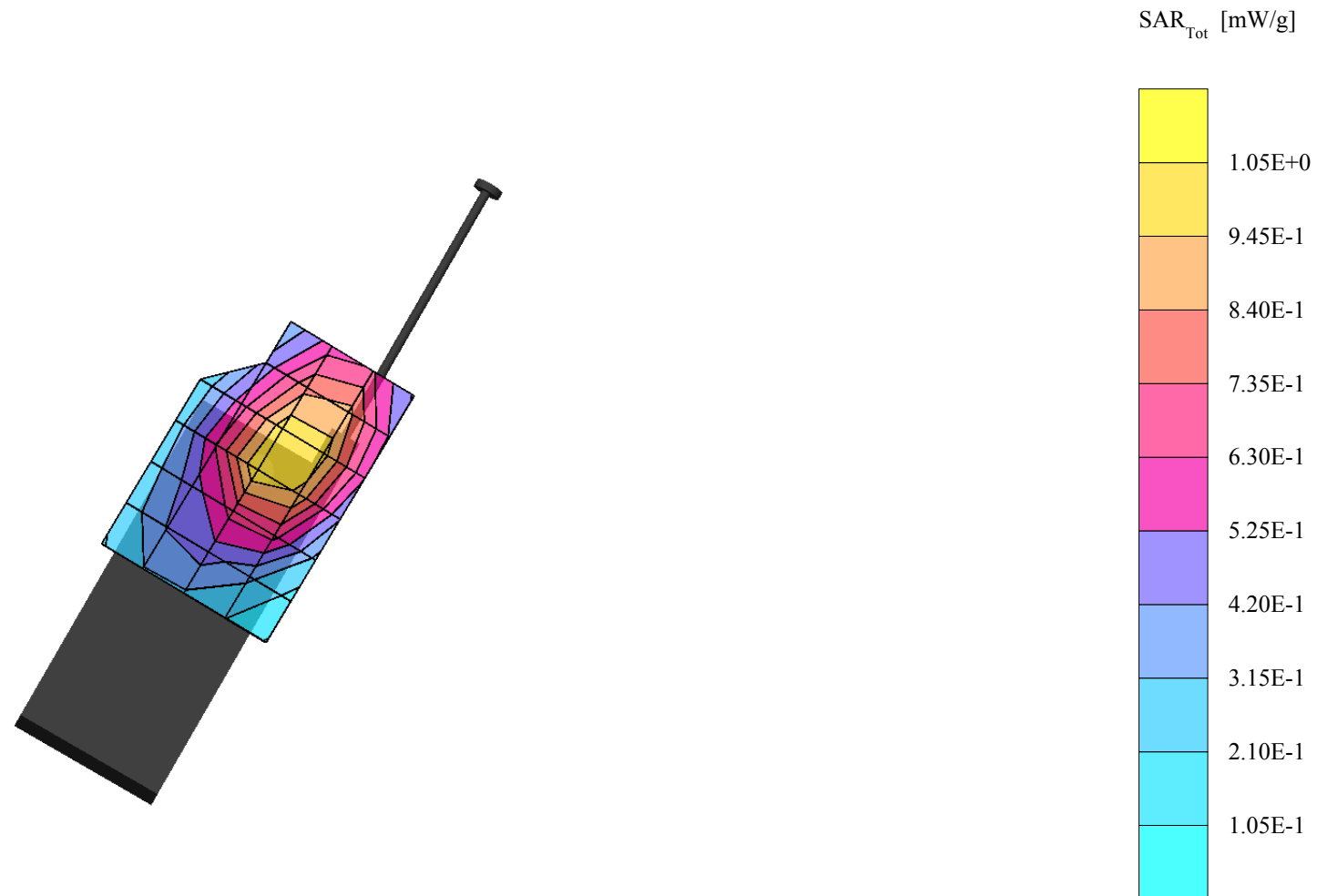
SAM Phantom; Left Hand Section; Position: (80°,60°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.02 mW/g, SAR (10g): 0.690 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.06 dB



KWC-3245, 835MHz Head, Left Tilt, FM Ch383, Antenna Retracted, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

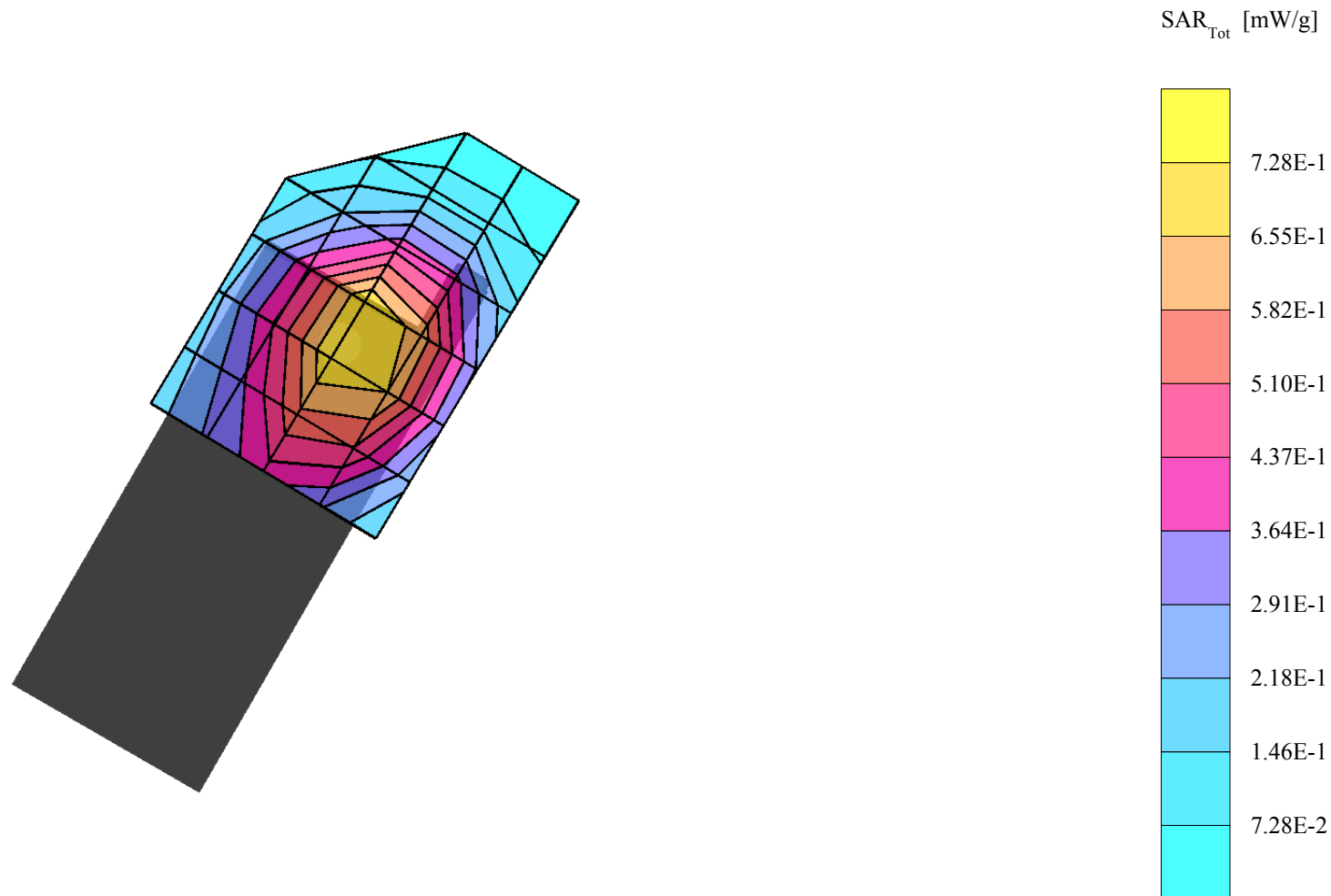
SAM Phantom; Left Hand Section; Position: (95°,60°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.804 mW/g, SAR (10g): 0.539 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.03 dB



KWC-3245, 835MHz Head, Left Tilt, FM Ch991, Antenna Extended, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

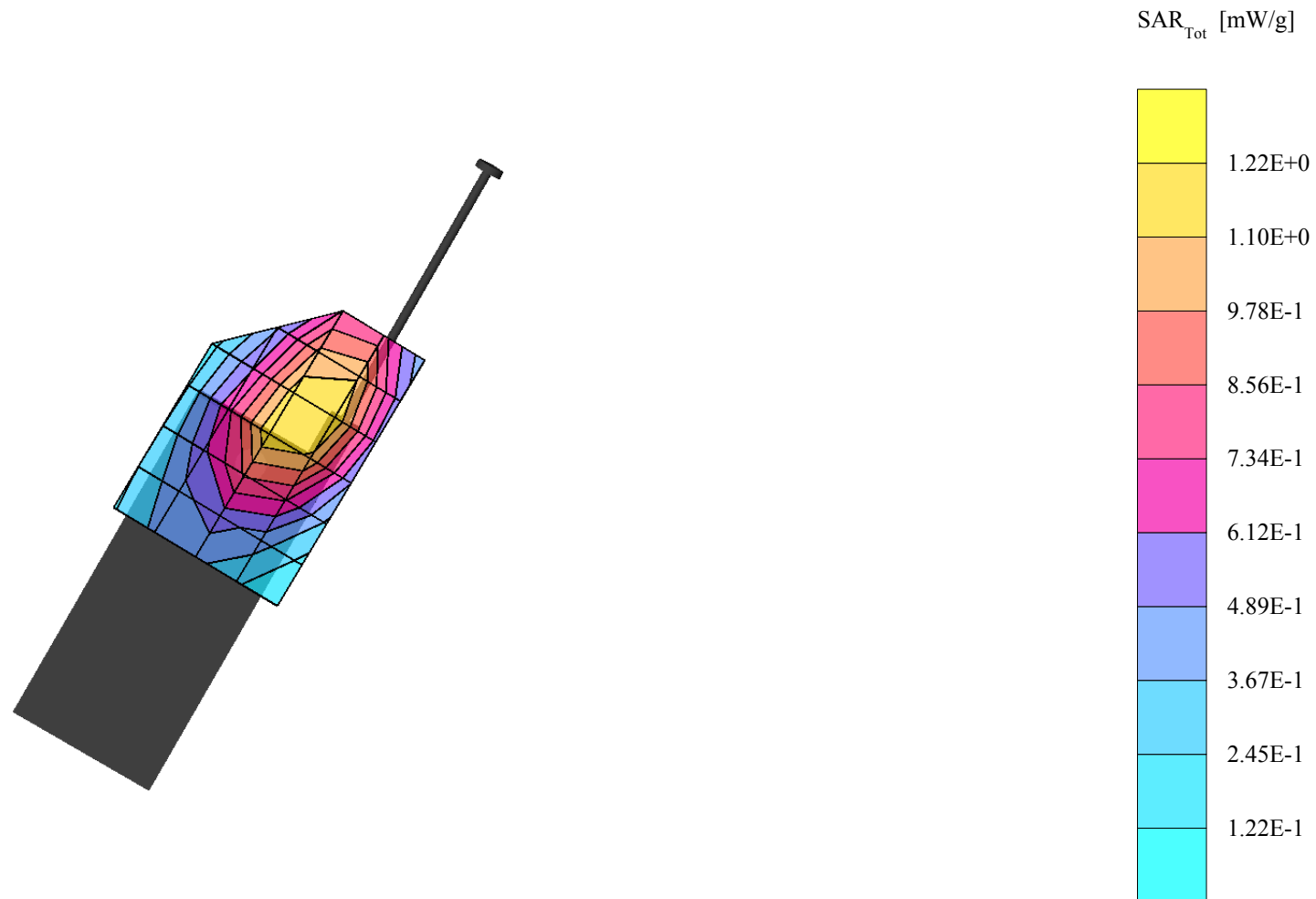
SAM Phantom; Left Hand Section; Position: (95°,60°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.27 mW/g, SAR (10g): 0.859 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.20 dB



KWC-3245, 835MHz Head, Left Cheek, CDMA Ch383, Antenna Retracted, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

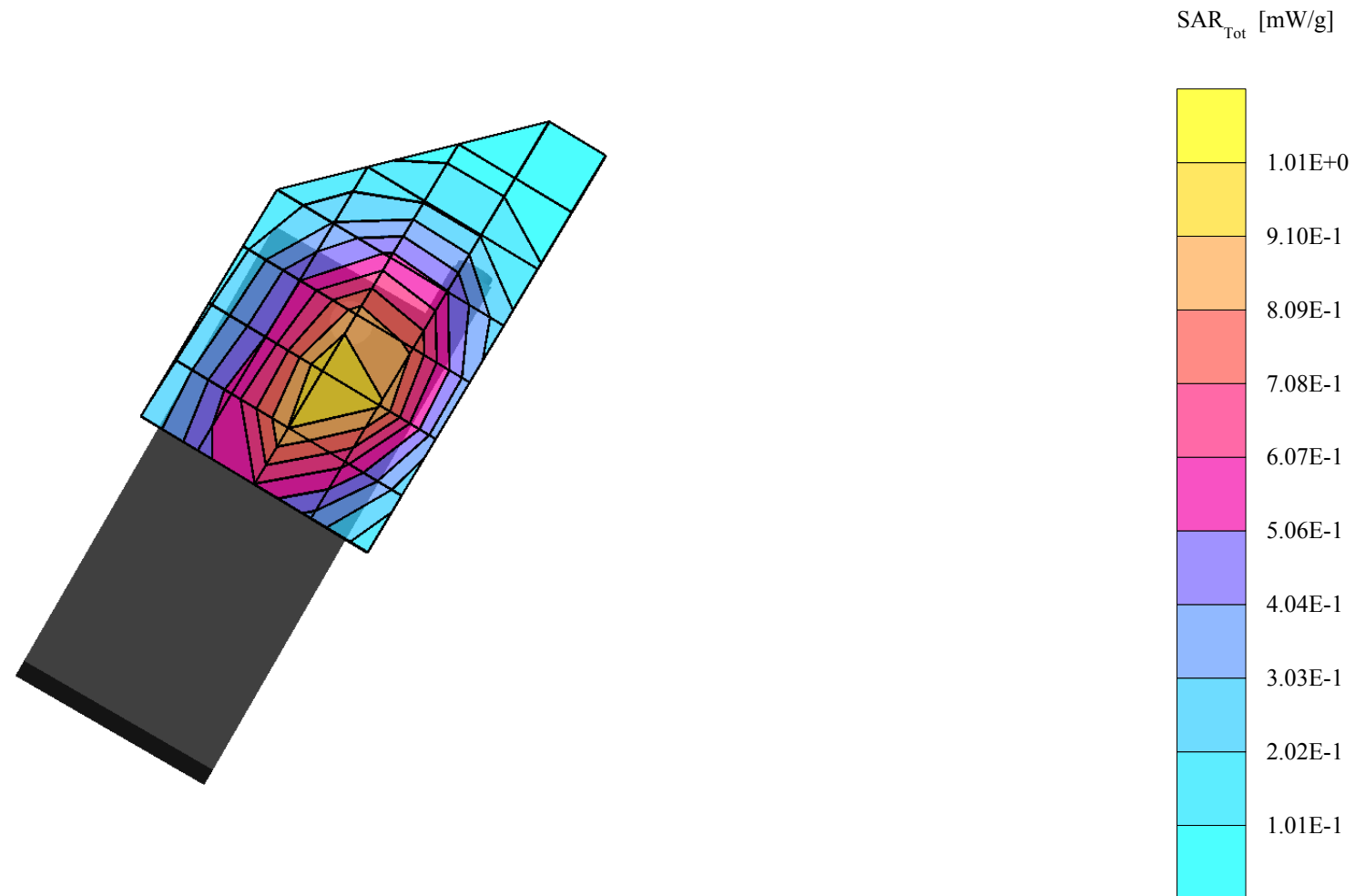
SAM Phantom; Left Hand Section; Position: (80°,60°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.02 mW/g, SAR (10g): 0.627 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: -0.16 dB



KWC-3245, 835MHz Head, Left Cheek, CDMA Ch1013, Antenna Extended, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

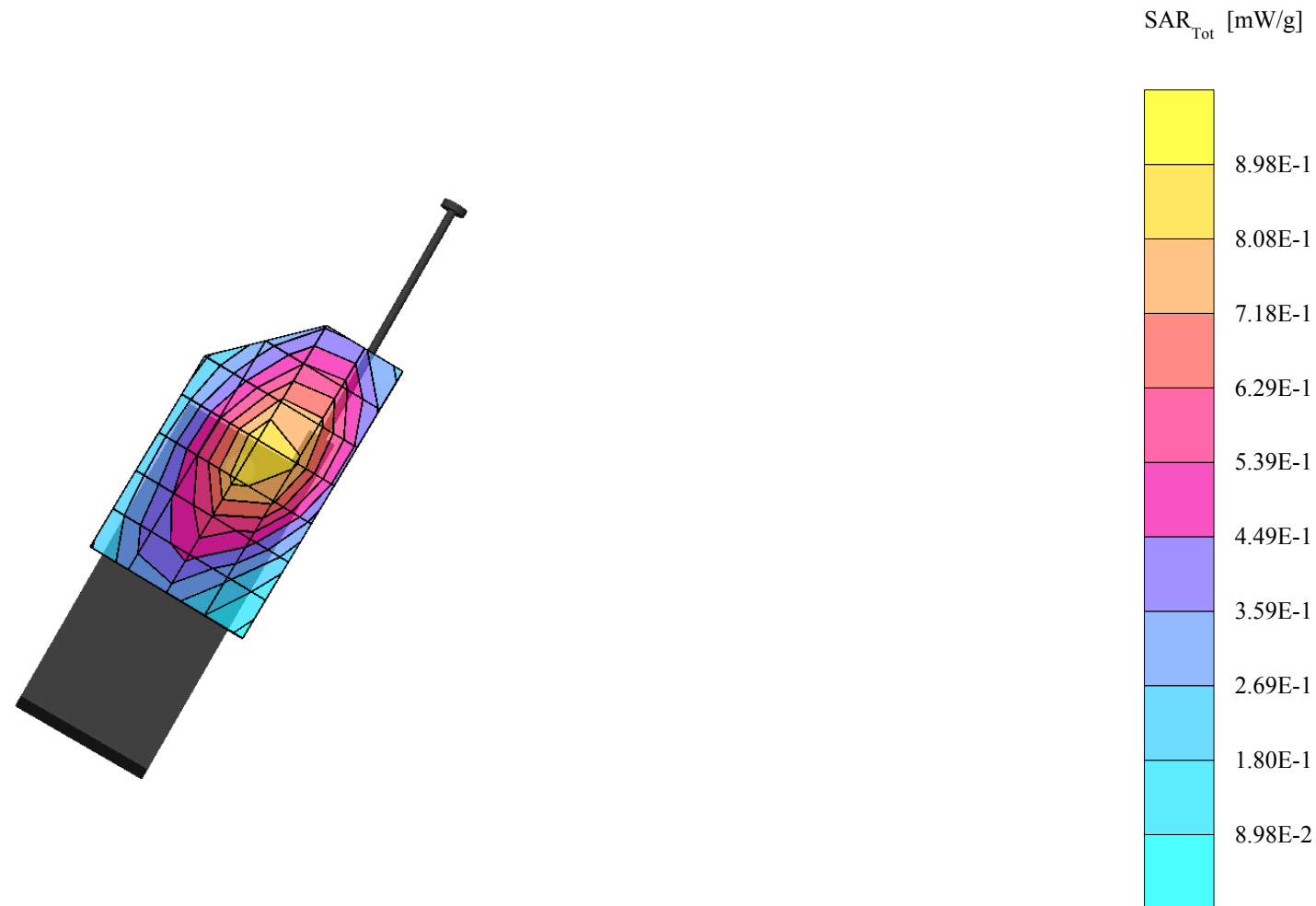
SAM Phantom; Left Hand Section; Position: (80°,60°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.891 mW/g, SAR (10g): 0.600 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.07 dB



KWC-3245, 835MHz Head, Left Tilt, CDMA Ch383, Antenna Retracted, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

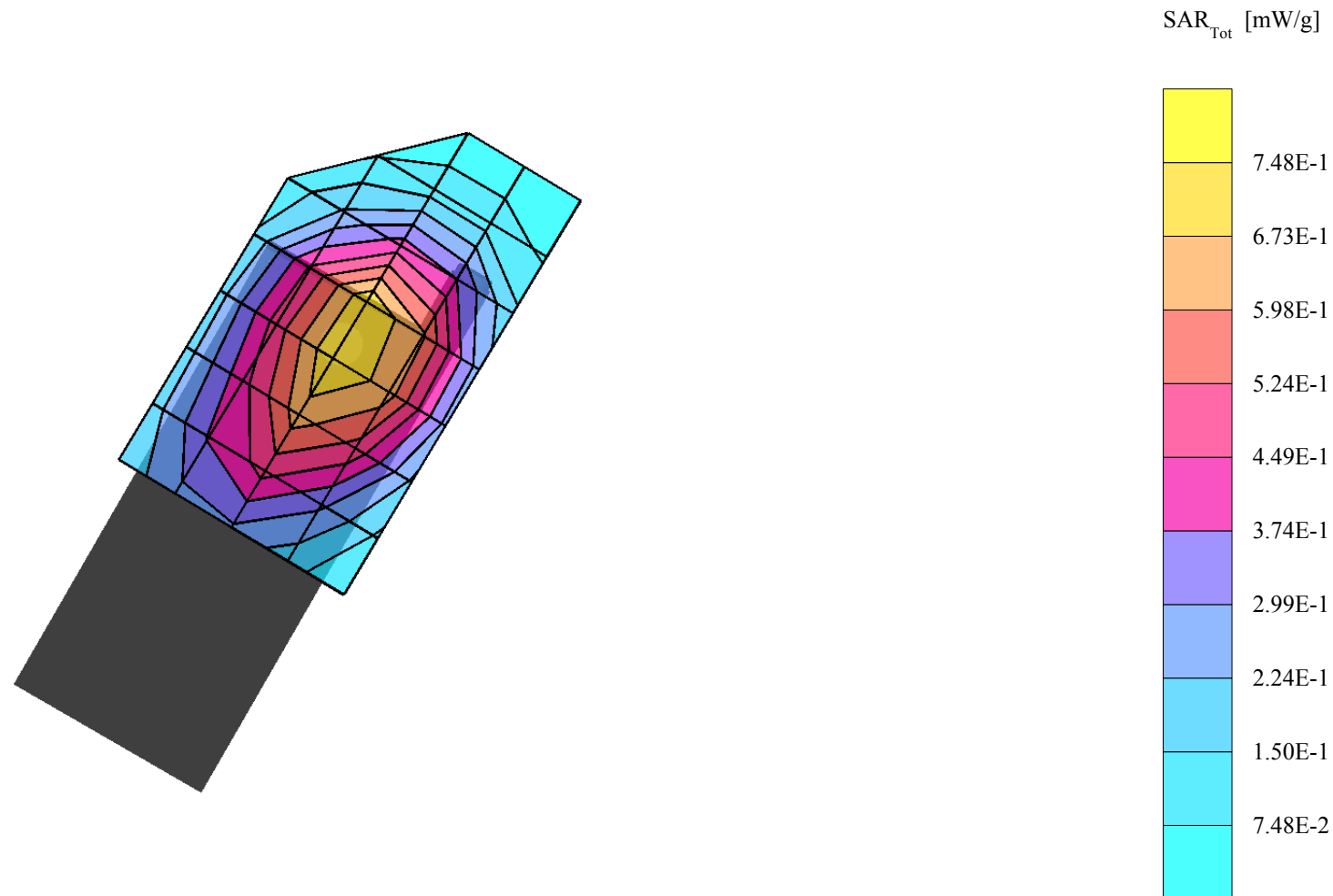
SAM Phantom; Left Hand Section; Position: (95°,60°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.729 mW/g, SAR (10g): 0.489 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.11 dB



KWC-3245, 835MHz Head, Left Tilt, CDMA Ch1013, Antenna Extended, 07-05-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

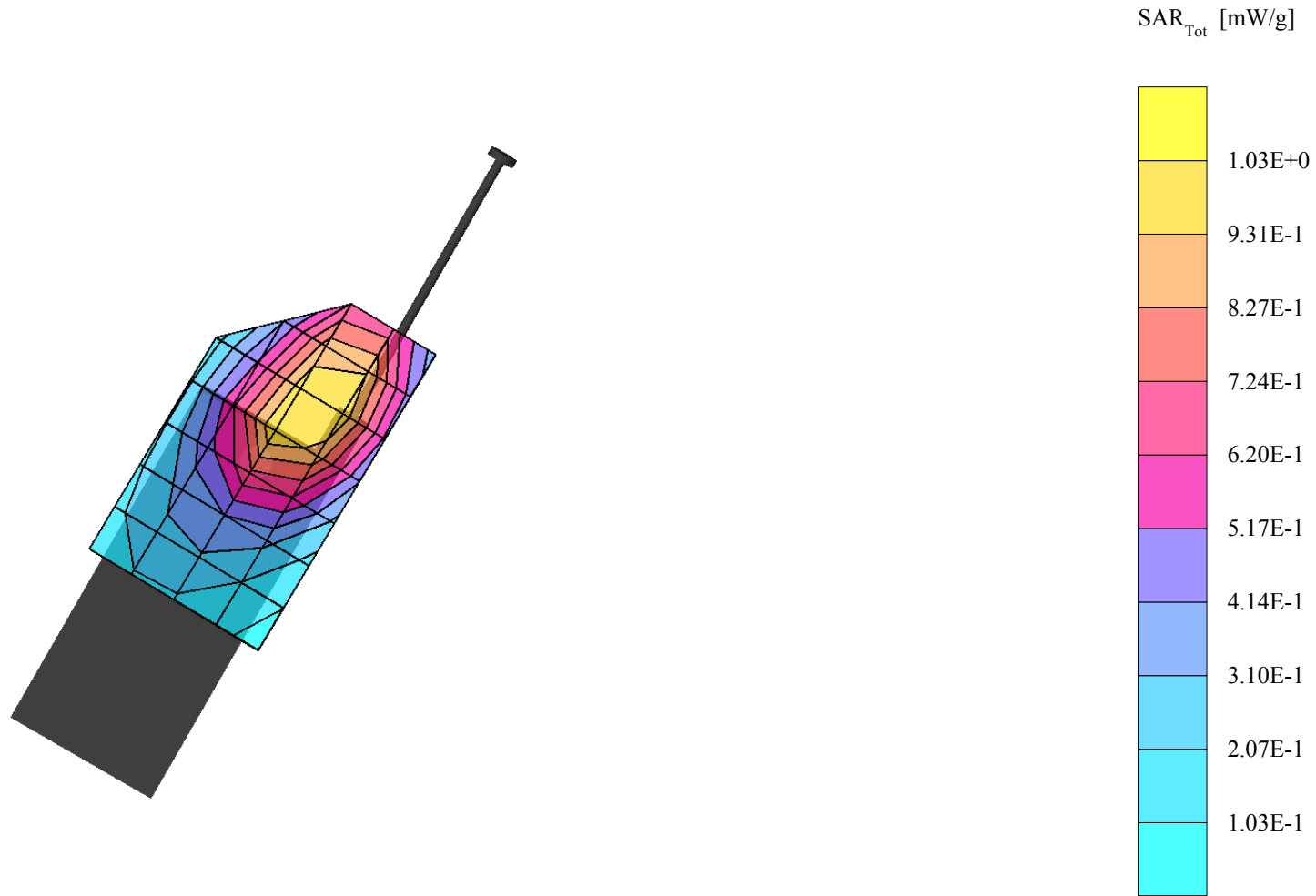
SAM Phantom; Left Hand Section; Position: (95°,60°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.4$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.04 mW/g, SAR (10g): 0.702 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.06 dB



KWC-3245, 1900MHz Head, Left Cheek, PCS Ch600, Antenna Retracted, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

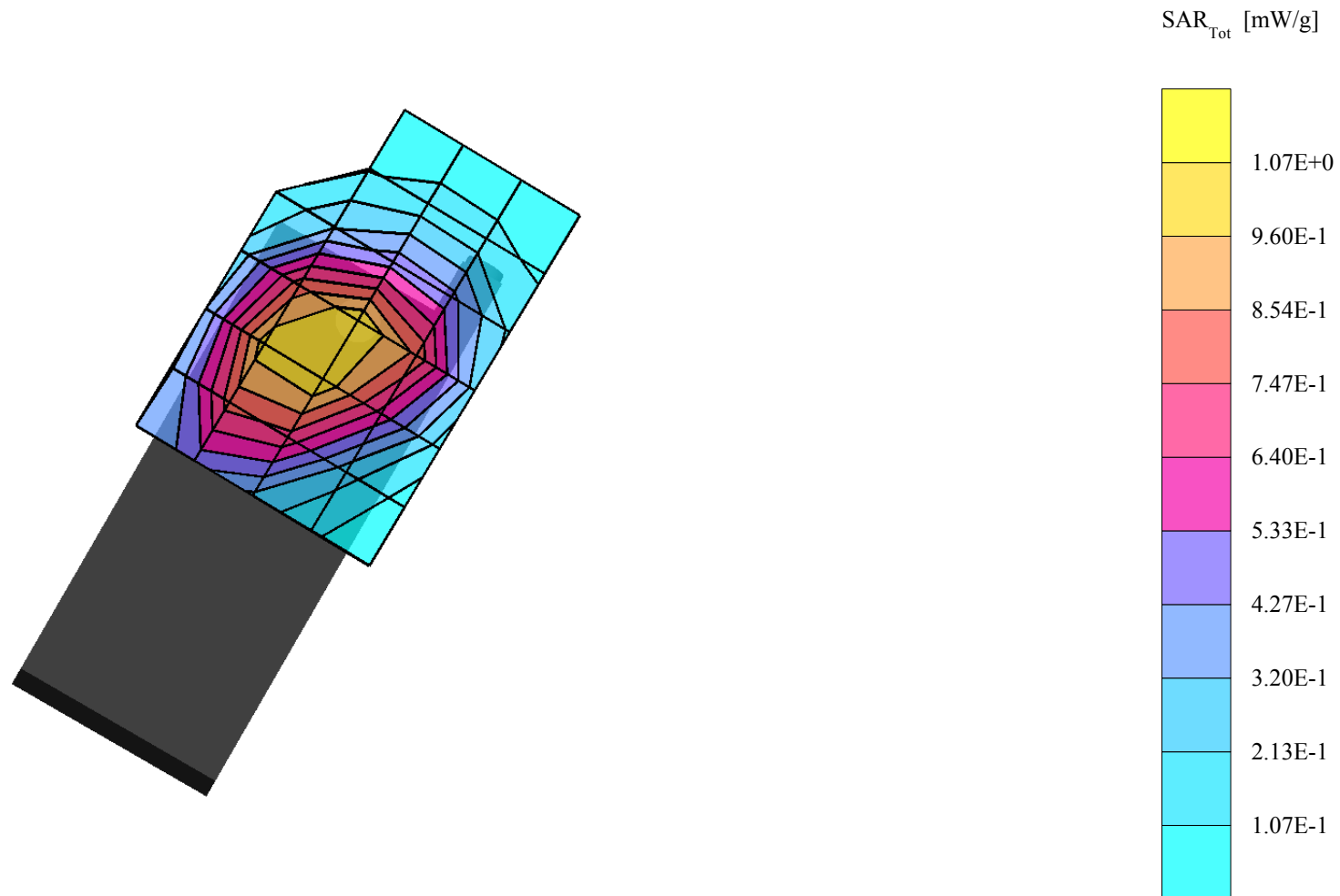
SAM Phantom; Left Hand Section; Position: (80°,60°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(5.30,5.30,5.30); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.43$ mho/m $\epsilon_r = 40.3$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.11 mW/g, SAR (10g): 0.667 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.02 dB



KWC-3245, 1900MHz Head, Left Cheek, PCS Ch600, Antenna Extended, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

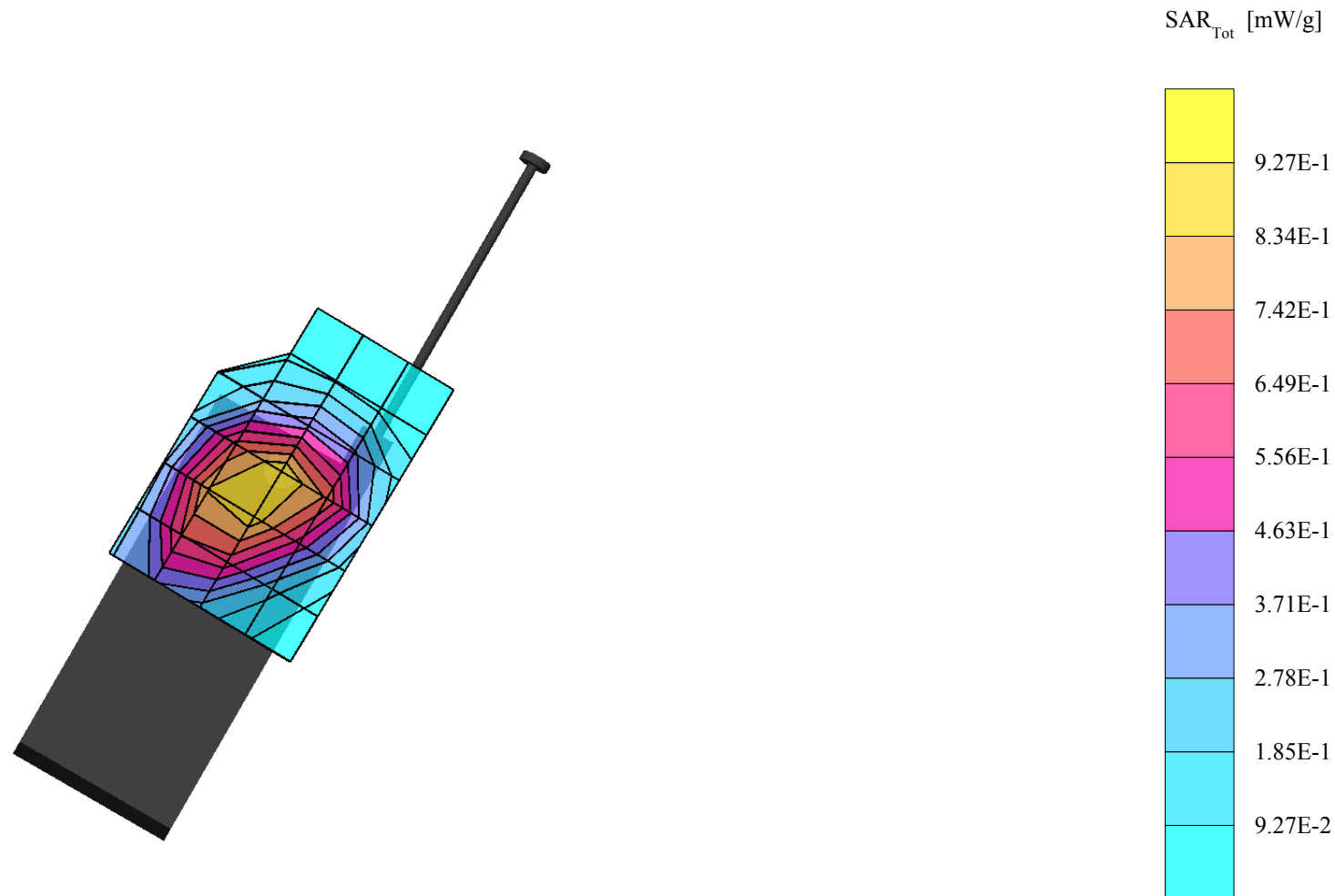
SAM Phantom; Left Hand Section; Position: (80°,60°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(5.30,5.30,5.30); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.43$ mho/m $\epsilon_r = 40.3$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.933 mW/g, SAR (10g): 0.562 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.03 dB



KWC-3245, 1900MHz Head, Left Tilt, PCS Ch600, Antenna Retracted, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

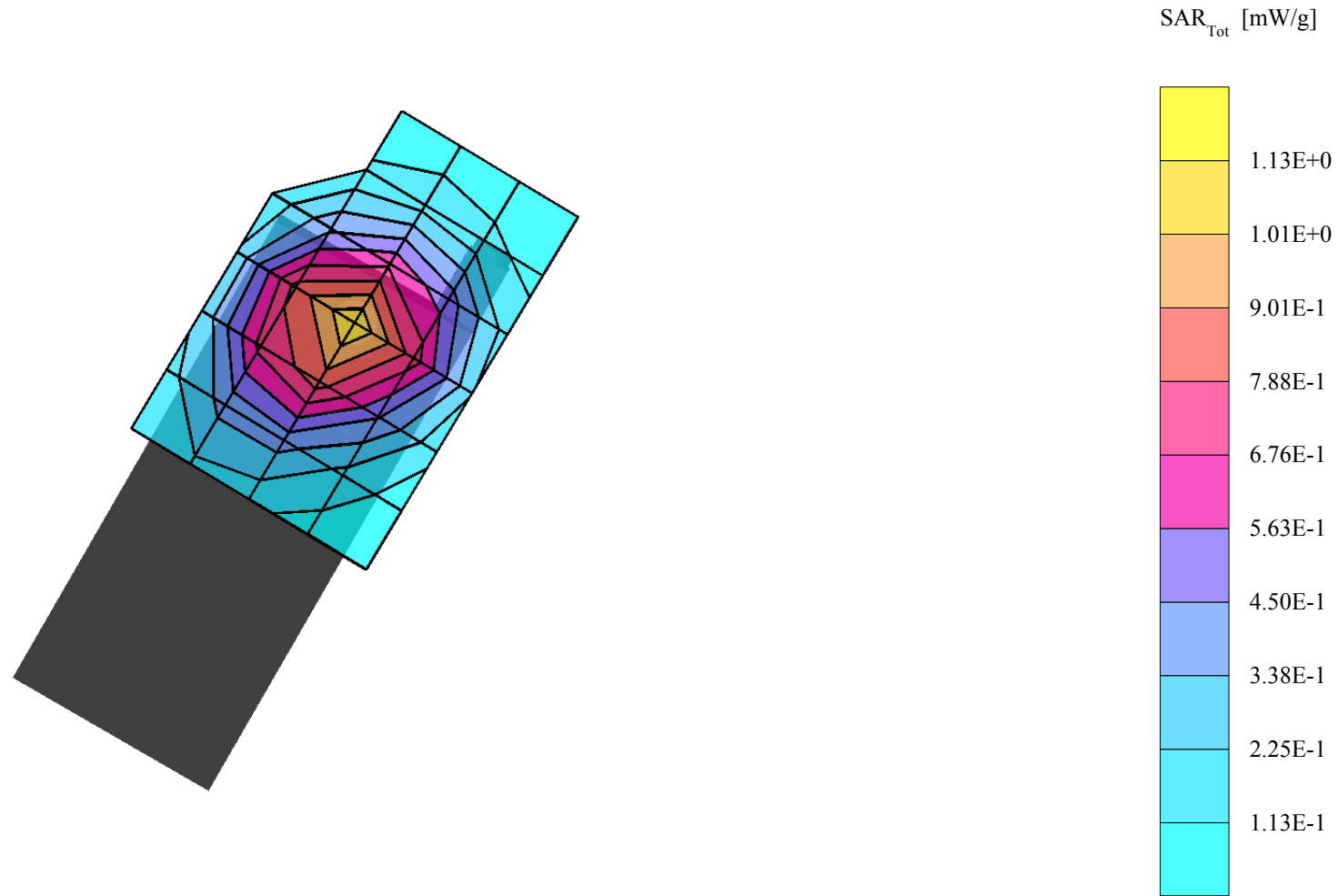
SAM Phantom; Left Hand Section; Position: (95°,60°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(5.30,5.30,5.30); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.43 \text{ mho/m}$ $\epsilon_r = 40.3$ $\rho = 1.00 \text{ g/cm}^3$

Cube 7x7x7: SAR (1g): 1.03 mW/g, SAR (10g): 0.612 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.01 dB



KWC-3245, 1900MHz Head, Left Tilt, PCS Ch600, Antenna Extended, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

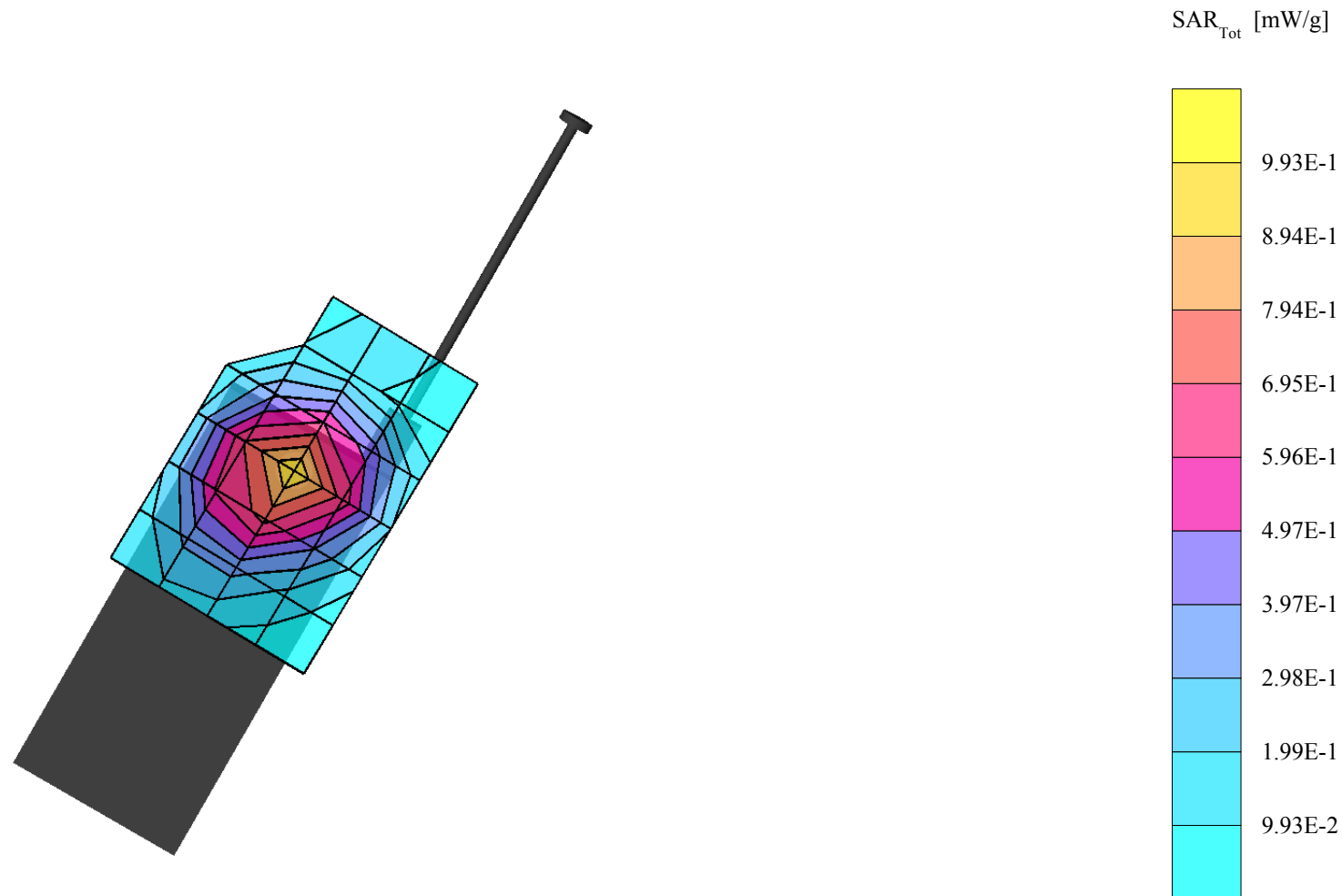
SAM Phantom; Left Hand Section; Position: (95°,60°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(5.30,5.30,5.30); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.43$ mho/m $\epsilon_r = 40.3$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.927 mW/g, SAR (10g): 0.545 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.05 dB



KWC-3245, 835MHz Head, Right Cheek, FM Ch383, Antenna Retracted, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

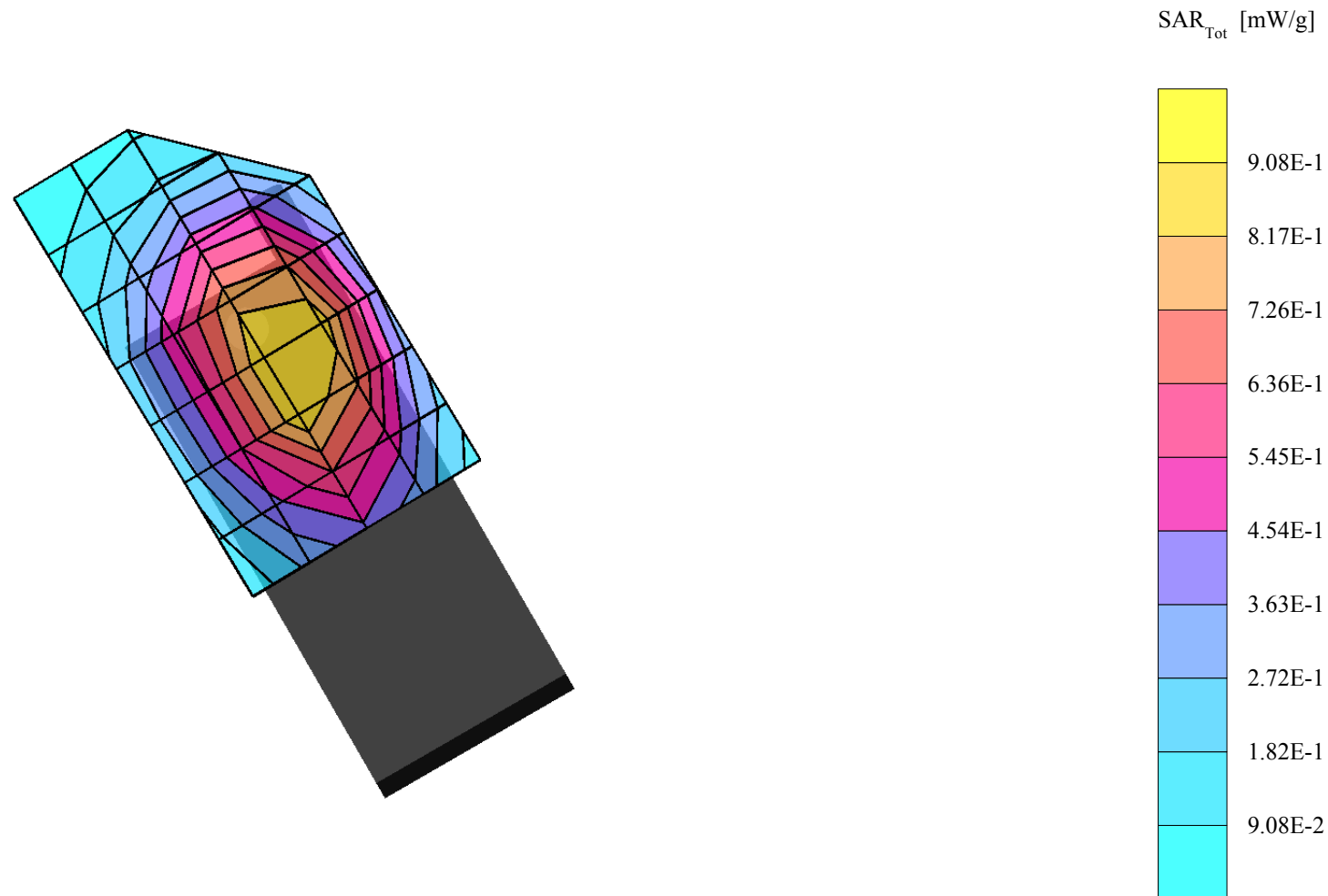
SAM Phantom; Righ Hand Section; Position: (80°,300°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.972 mW/g, SAR (10g): 0.650 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.17 dB



KWC-3245, 835MHz Head, Right Cheek, FM Ch991, Antenna Extended, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

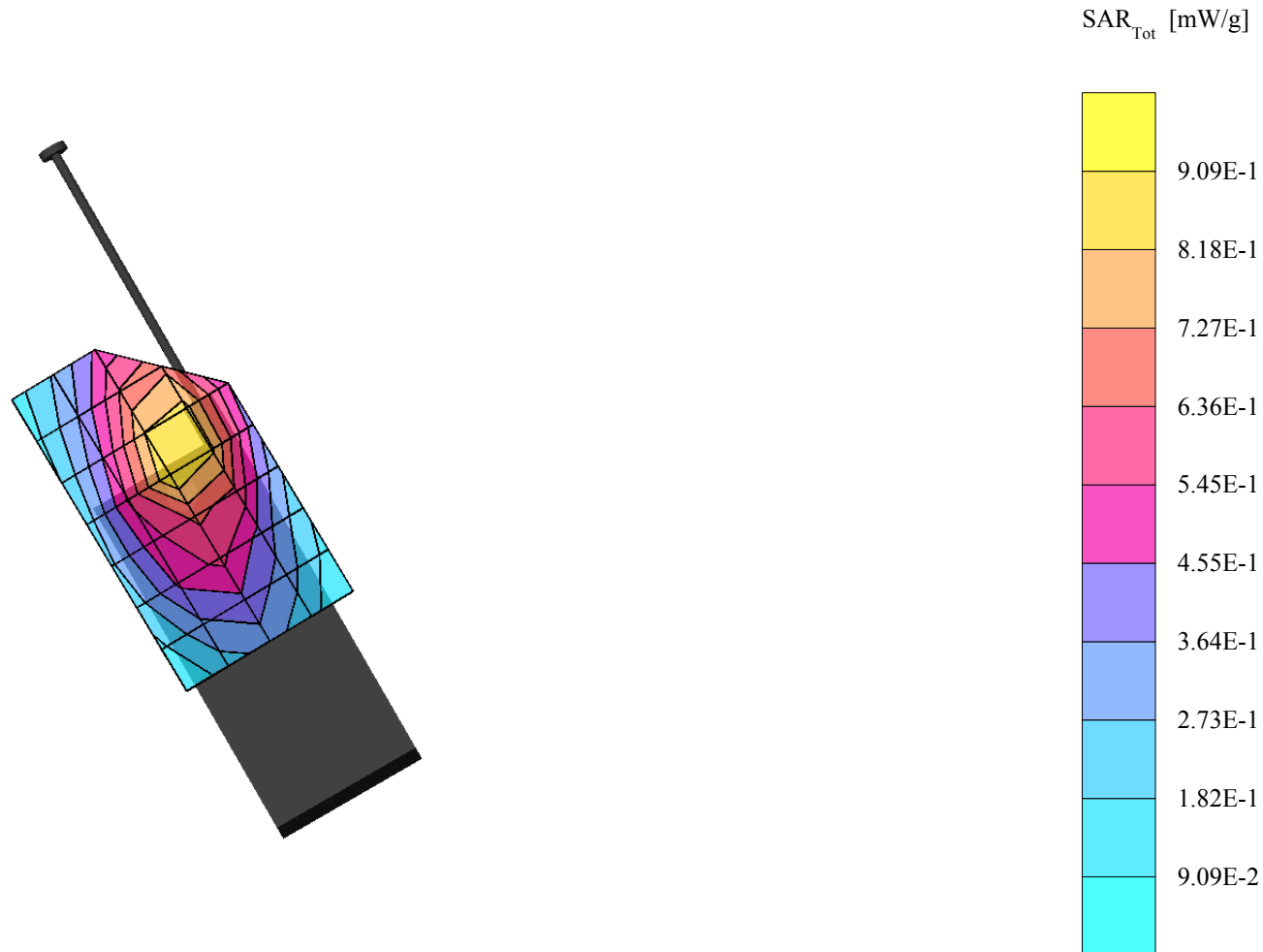
SAM Phantom; Righ Hand Section; Position: (80°,300°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.893 mW/g, SAR (10g): 0.612 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: -0.13 dB



KWC-3245, 835MHz Head, Right Tilt, FM Ch383, Antenna Retracted, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

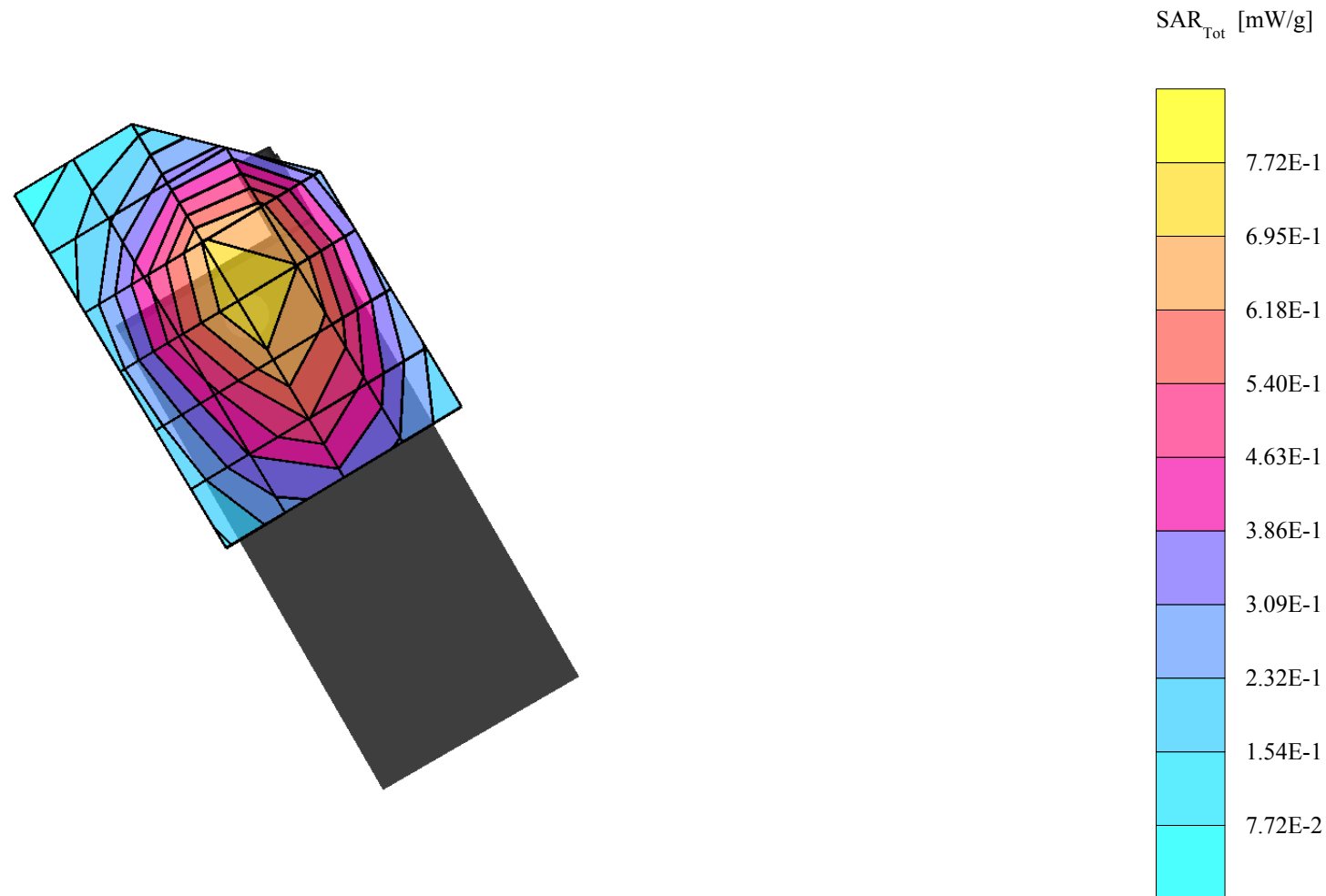
SAM Phantom; Righ Hand Section; Position: (95°,300°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.775 mW/g, SAR (10g): 0.531 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: -0.11 dB



KWC-3245, 835MHz Head, Right Tilt, FM Ch991, Antenna Extended, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

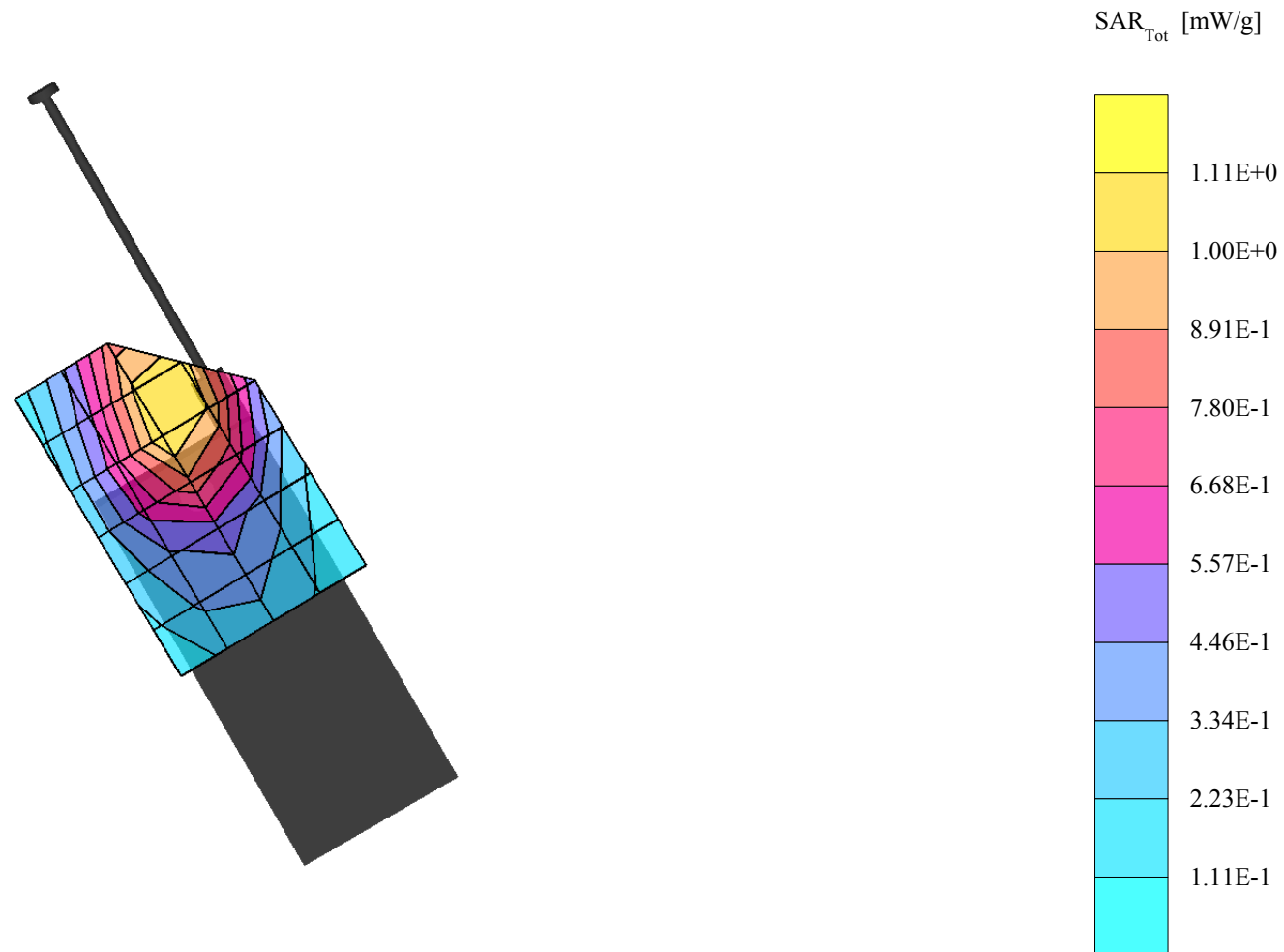
SAM Phantom; Righ Hand Section; Position: (95°,300°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.14 mW/g, SAR (10g): 0.783 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.04 dB



KWC-3245, 835MHz Head, Right Cheek, CDMA Ch383, Antenna Retracted, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

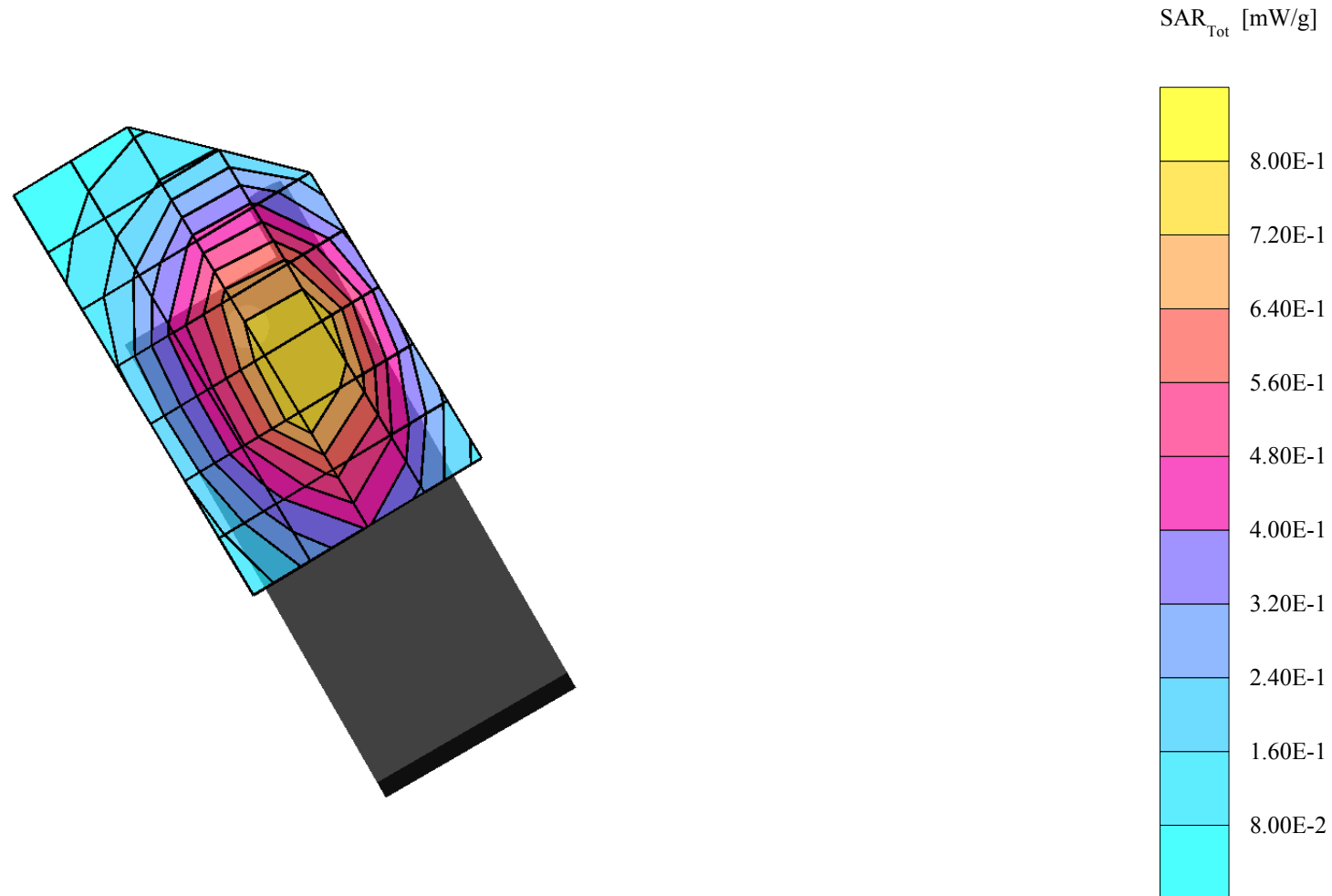
SAM Phantom; Righ Hand Section; Position: (80°,300°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.776 mW/g, SAR (10g): 0.527 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: -0.06 dB



KWC-3245, 835MHz Head, Right Cheek, CDMA Ch1013, Antenna Extended, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

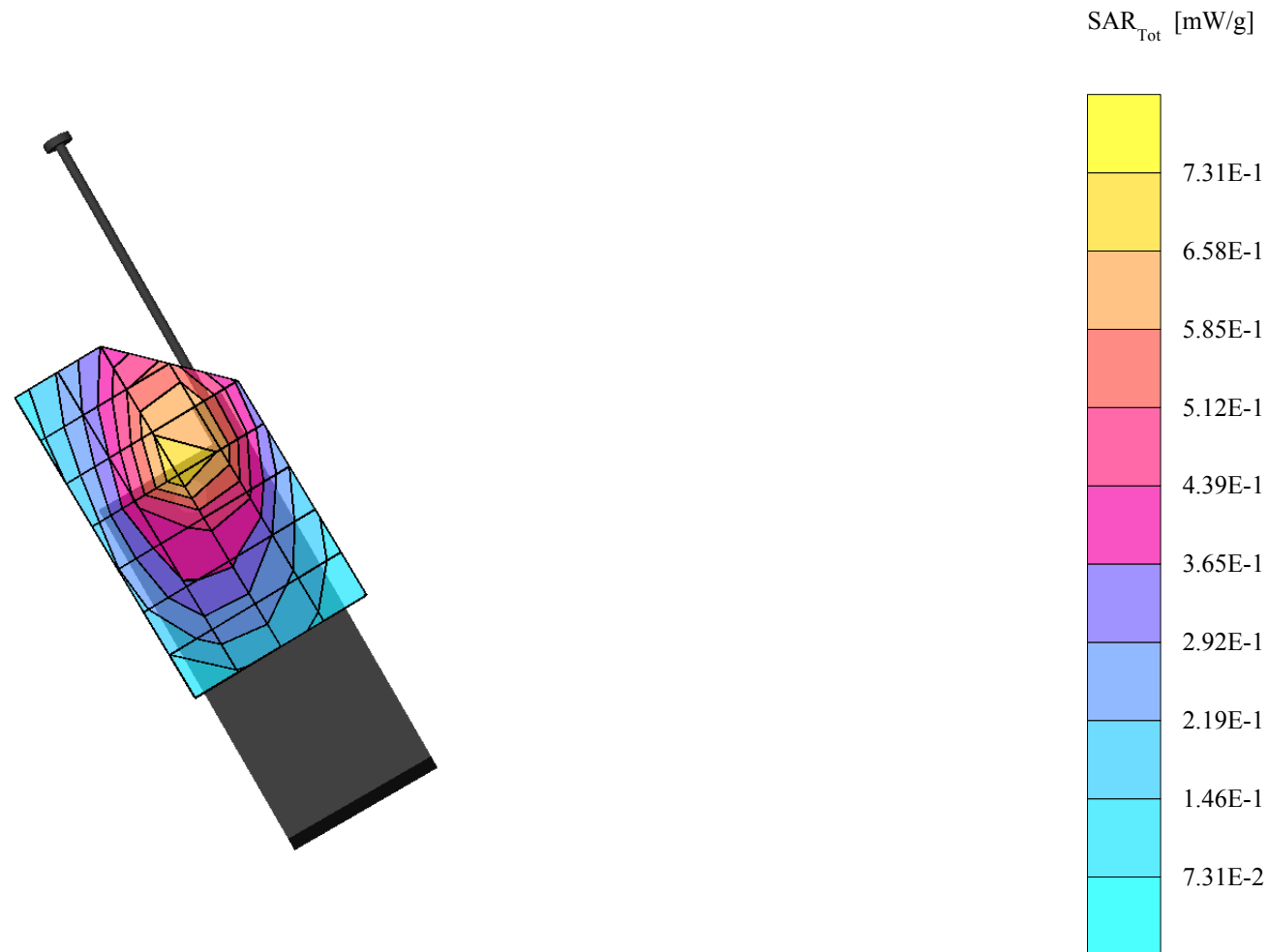
SAM Phantom; Righ Hand Section; Position: (80°,300°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.705 mW/g, SAR (10g): 0.480 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.07 dB



KWC-3245, 835MHz Head, Right Tilt, CDMA Ch383, Antenna Retracted, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

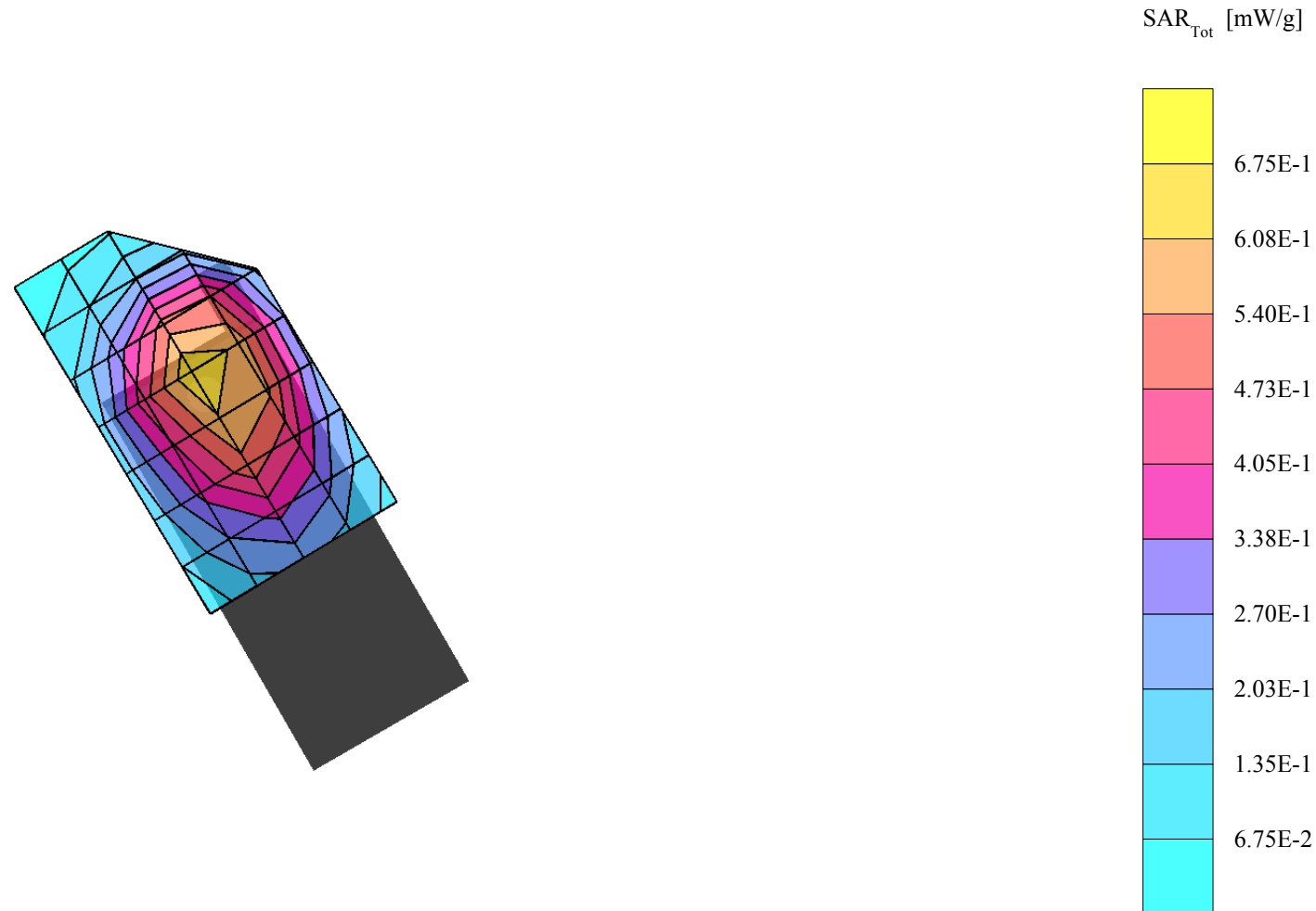
SAM Phantom; Righ Hand Section; Position: (95°,300°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.634 mW/g, SAR (10g): 0.436 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: -0.04 dB



KWC-3245, 835MHz Head, Right Tilt, CDMA Ch1013, Antenna Extended, 07-03-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

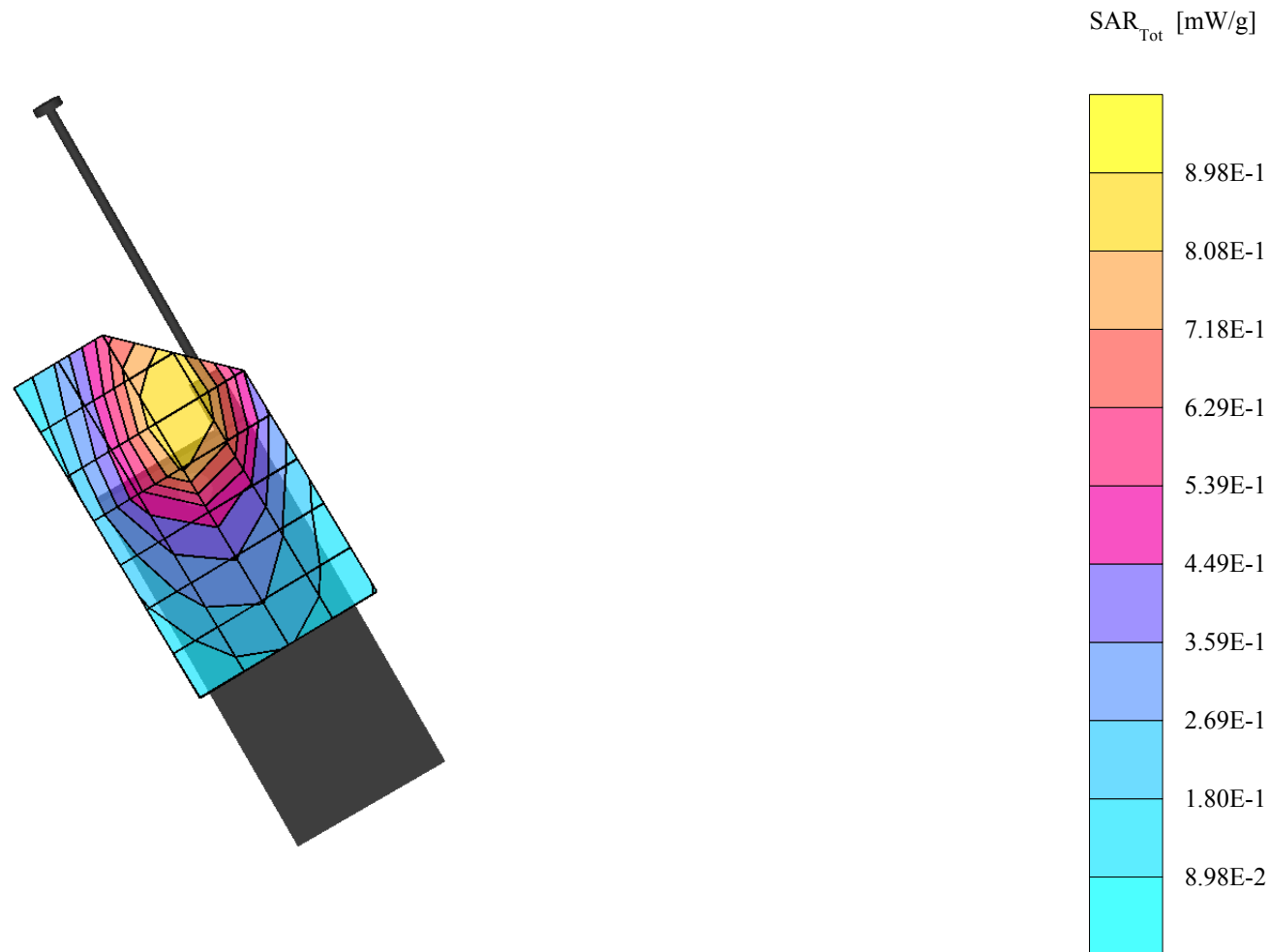
SAM Phantom; Righ Hand Section; Position: (95°,300°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.70,6.70,6.70); Crest factor: 1.0; Head 835 MHz: $\sigma = 0.90$ mho/m $\epsilon_r = 41.5$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.941 mW/g, SAR (10g): 0.643 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.01 dB



KWC-3245, 1900MHz Head, Right Cheek, PCS Ch600, Antenna Retracted, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

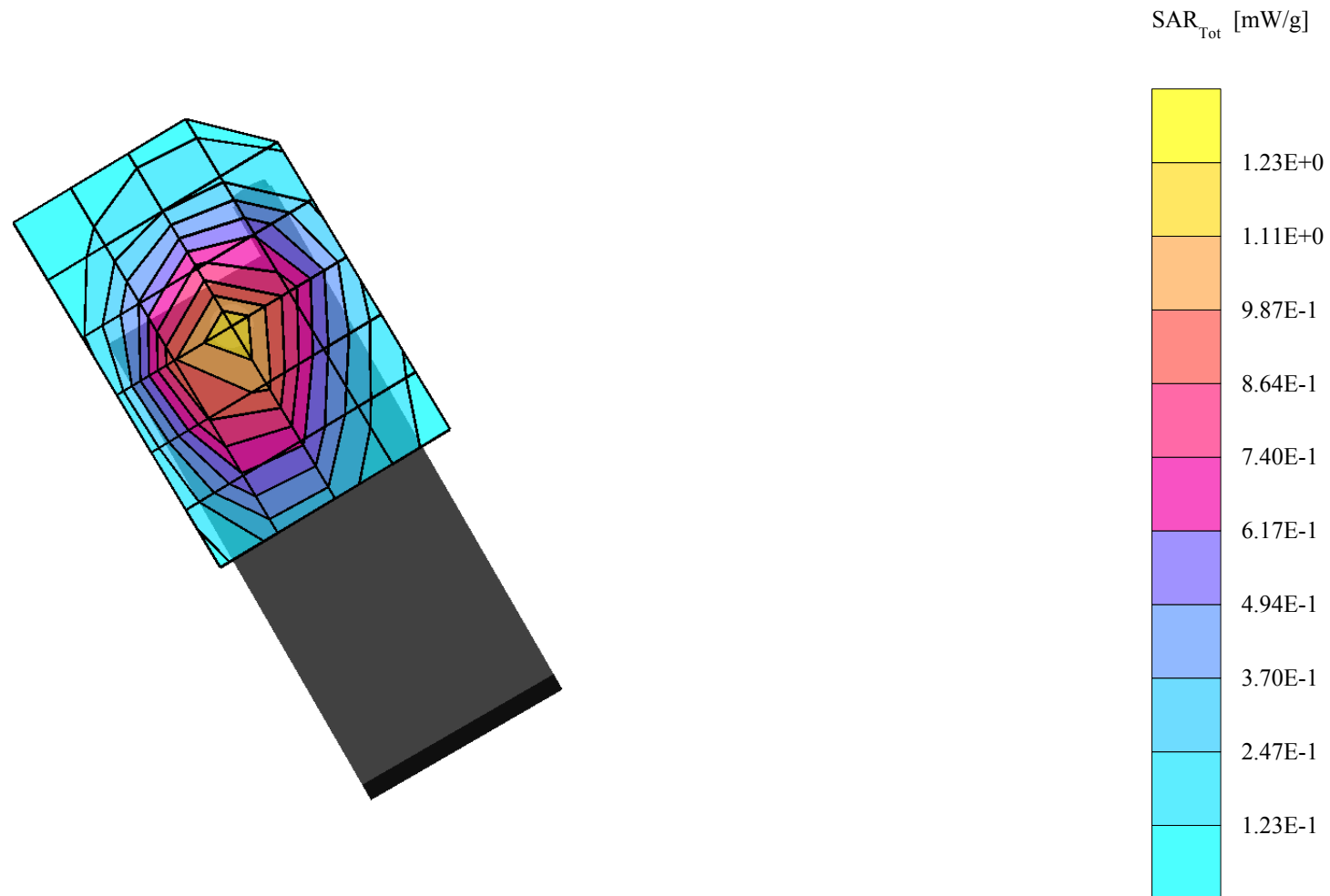
SAM Phantom; Righ Hand Section; Position: (80°,300°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(5.30,5.30,5.30); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.43$ mho/m $\epsilon_r = 40.3$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.19 mW/g, SAR (10g): 0.708 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: -0.07 dB



KWC-3245, 1900MHz Head, Right Cheek, PCS Ch600, Antenna Extended, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

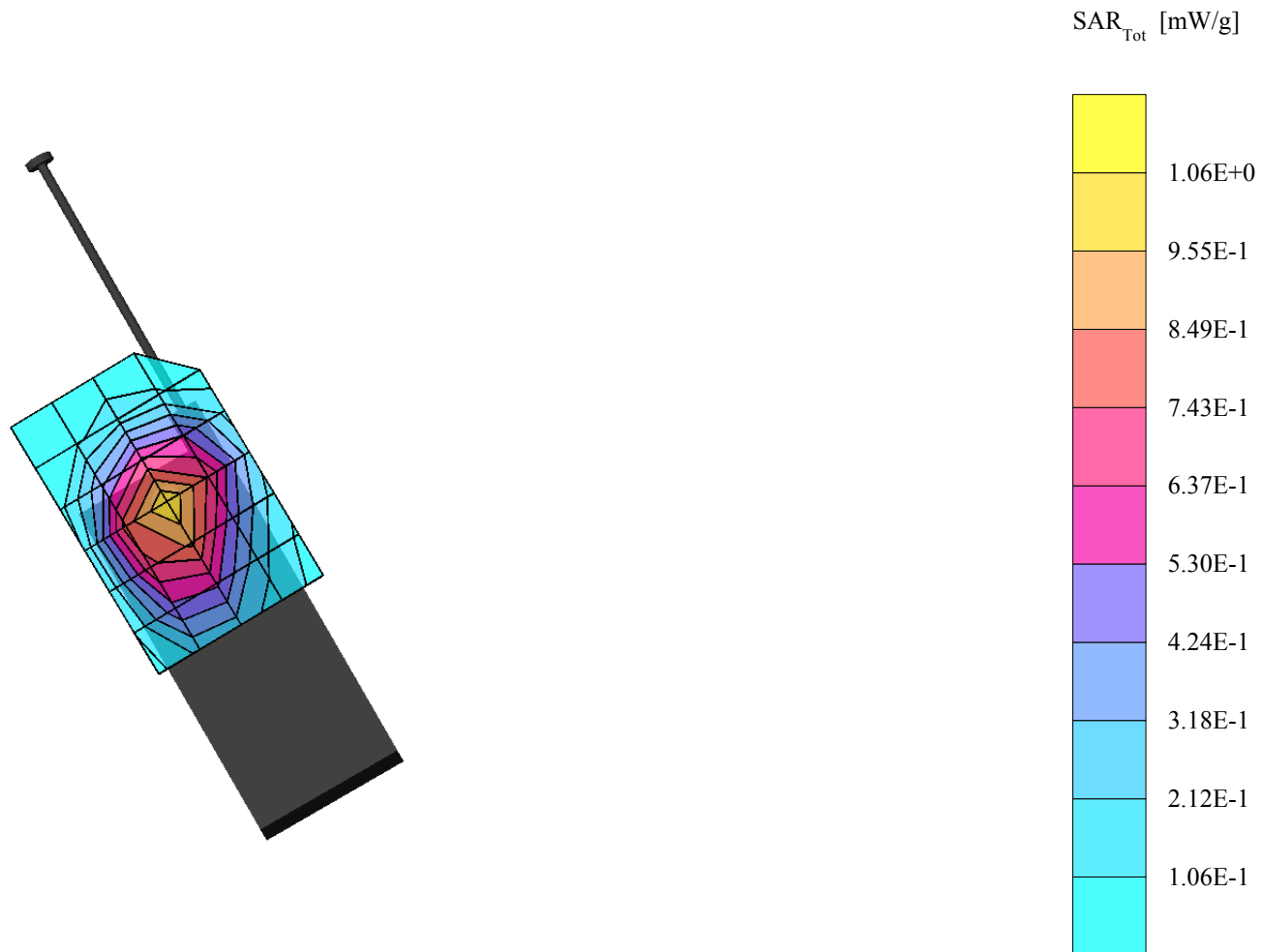
SAM Phantom; Righ Hand Section; Position: (80°,300°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(5.30,5.30,5.30); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.43 \text{ mho/m}$ $\epsilon_r = 40.3$ $\rho = 1.00 \text{ g/cm}^3$

Cube 7x7x7: SAR (1g): 1.02 mW/g, SAR (10g): 0.609 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: -0.06 dB



KWC-3245, 1900MHz Head, Right Tilt, PCS Ch600, Antenna Retracted, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

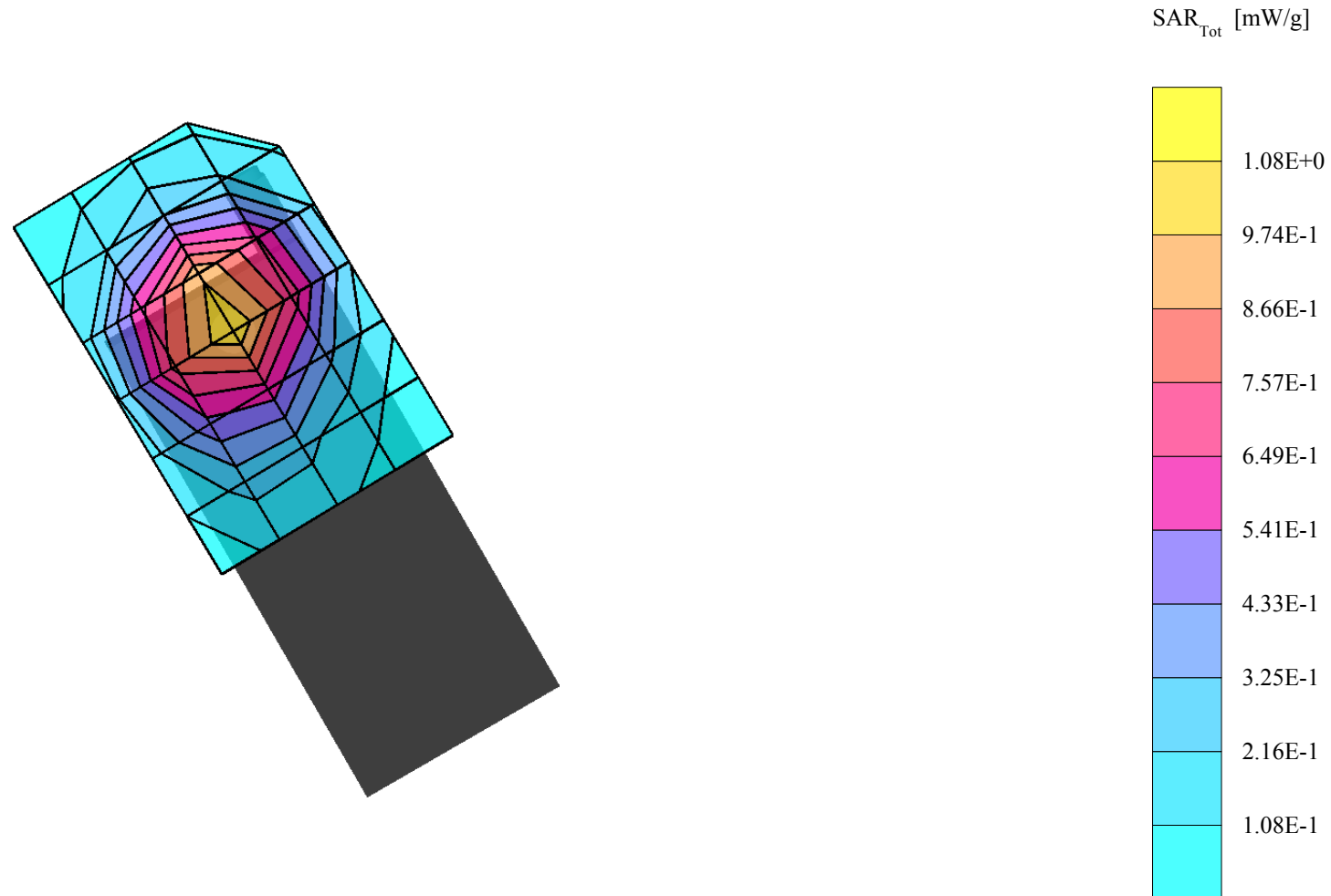
SAM Phantom; Righ Hand Section; Position: (95°,300°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(5.30,5.30,5.30); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.43$ mho/m $\epsilon_r = 40.3$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 1.04 mW/g, SAR (10g): 0.613 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: -0.03 dB



KWC-3245, 1900MHz Head, Right Tilt, PCS Ch600, Antenna Extended, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

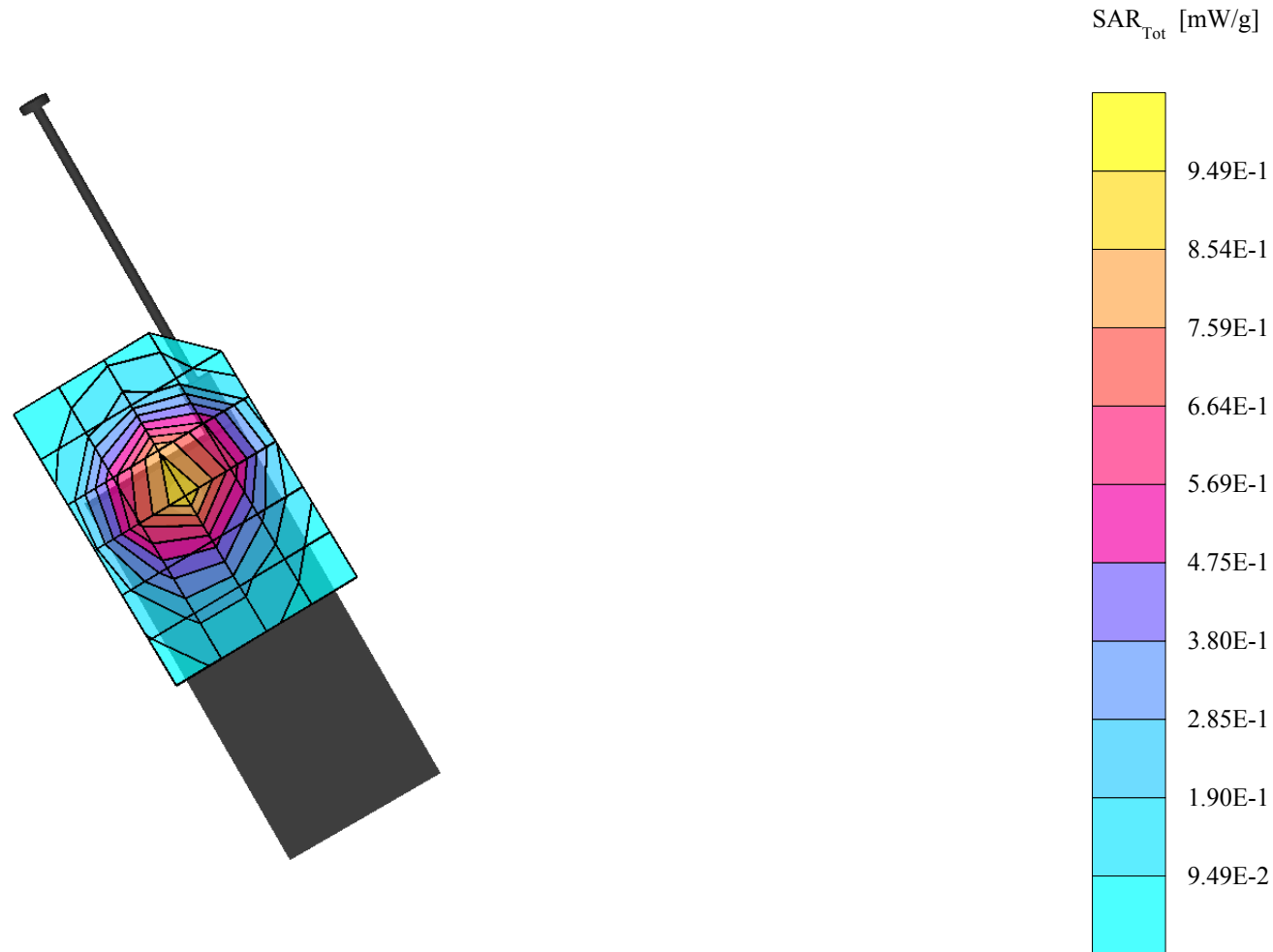
SAM Phantom; Righ Hand Section; Position: (95°,300°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(5.30,5.30,5.30); Crest factor: 1.0; Head 1900 MHz: $\sigma = 1.43$ mho/m $\epsilon_r = 40.3$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.925 mW/g, SAR (10g): 0.542 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0

Powerdrift: 0.06 dB



KWC-3245, 835MHz Muscle, Waist Level, With KWC Accessory, FM Ch383, Antenna Retracted, 07-08-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

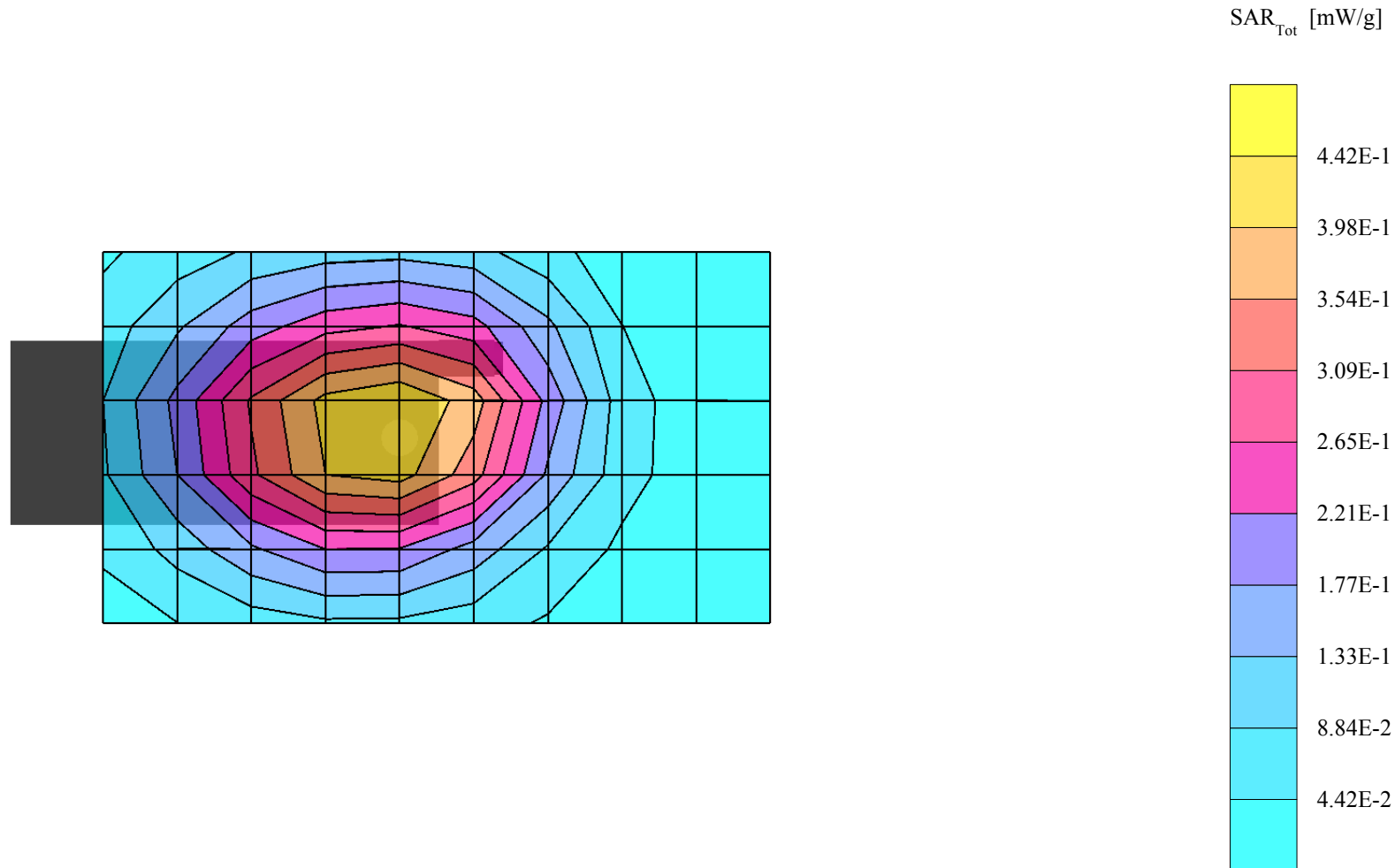
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.50,6.50,6.50); Crest factor: 1.0; Muscle 835 MHz: $\sigma = 0.94$ mho/m $\epsilon_r = 56.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.441 mW/g, SAR (10g): 0.320 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: -0.10 dB



KWC-3245, 835MHz Muscle, Waist Level, With KWC Accessory, FM Ch991, Antenna Extended, 07-08-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

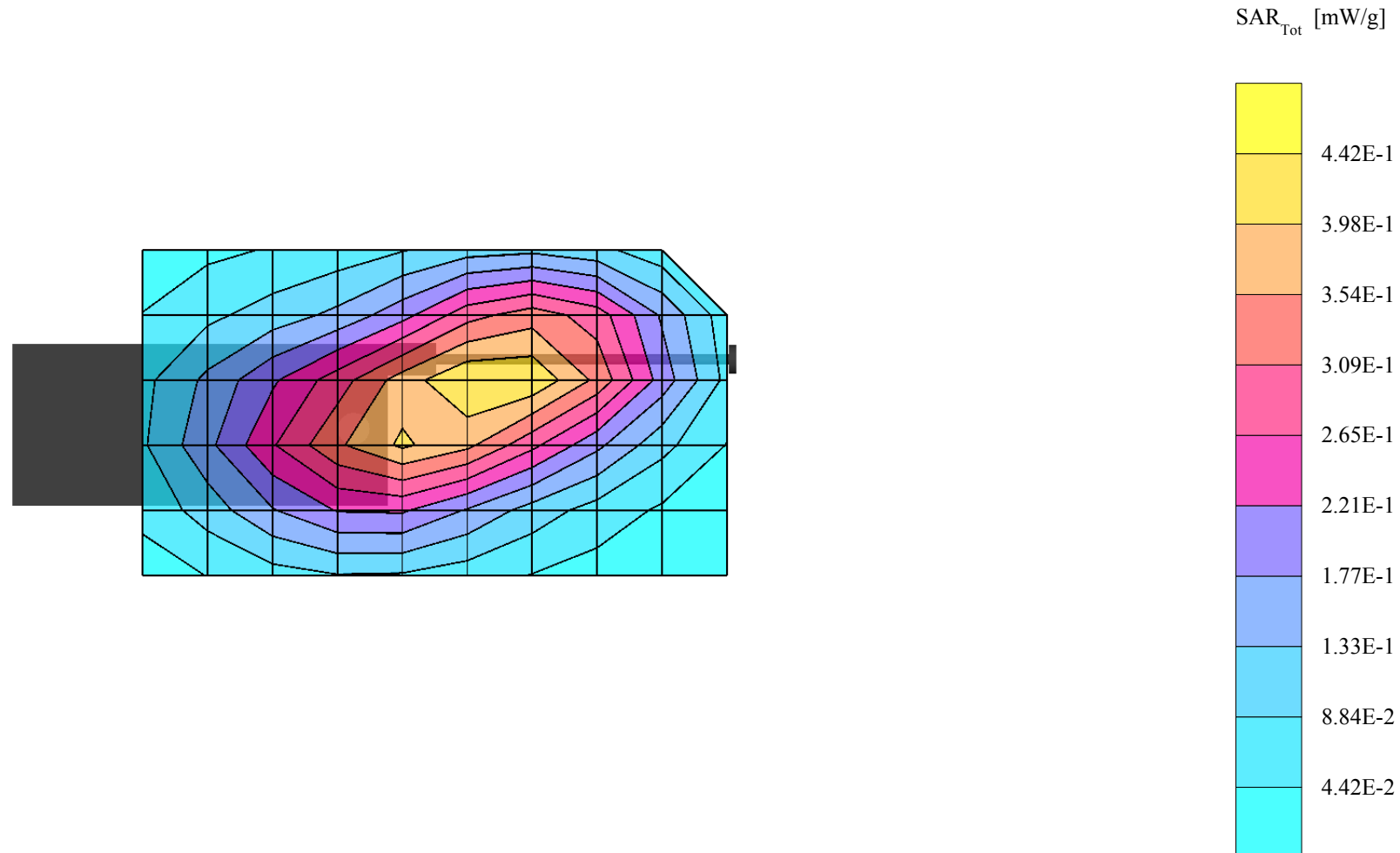
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.50,6.50,6.50); Crest factor: 1.0; Muscle 835 MHz: $\sigma = 0.94$ mho/m $\epsilon_r = 56.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.417 mW/g, SAR (10g): 0.302 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: 0.01 dB



KWC-3245, 835MHz Muscle, Waist Level, With KWC Accessory, CDMA Ch383, Antenna Retracted, 07-08-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

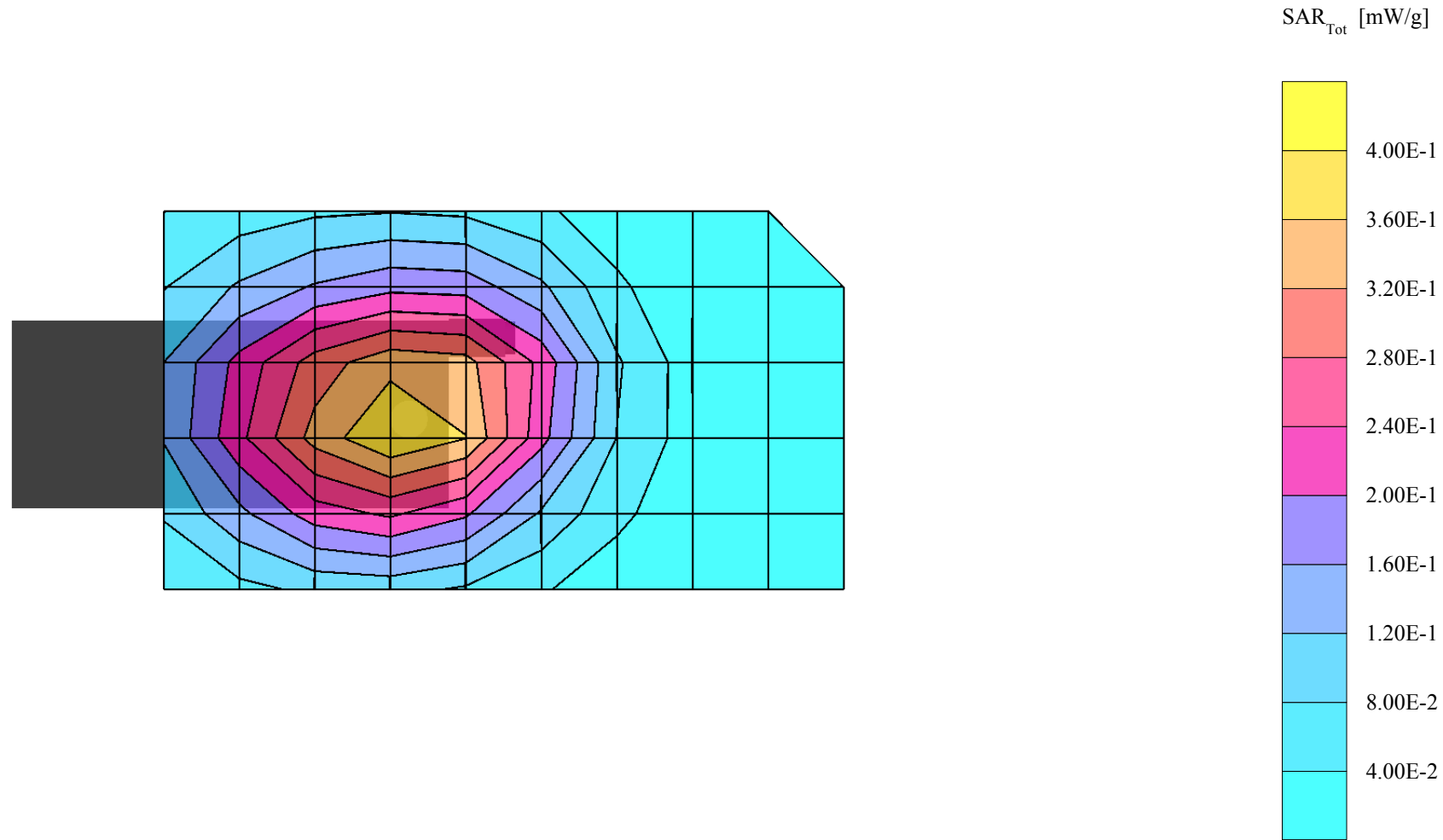
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.50,6.50,6.50); Crest factor: 1.0; Muscle 835 MHz: $\sigma = 0.94$ mho/m $\epsilon_r = 56.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.385 mW/g, SAR (10g): 0.278 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: 0.12 dB



KWC-3245, 835MHz Muscle, Waist Level, With KWC Accessory, CDMA Ch1013, Antenna Extended, 07-08-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

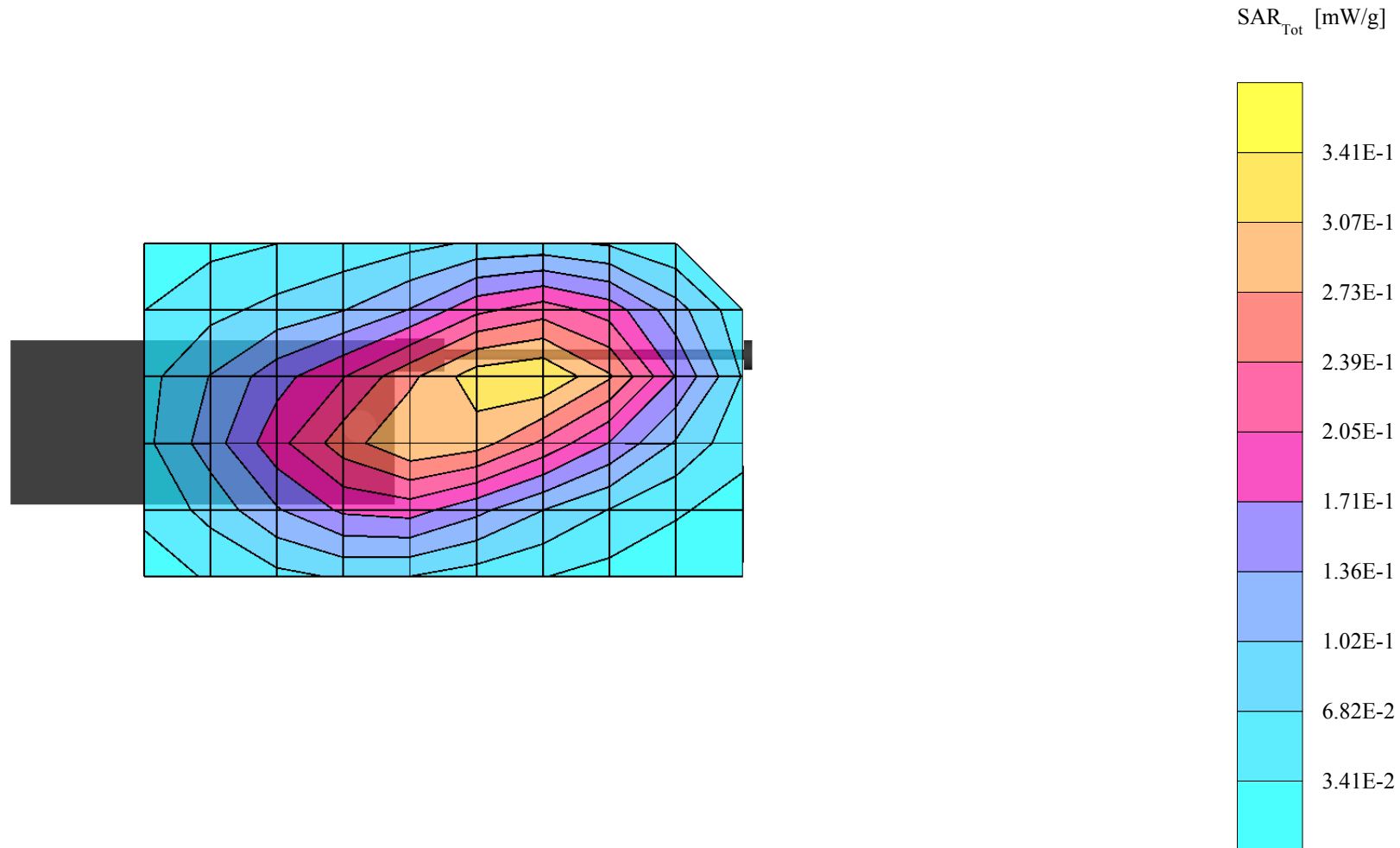
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.50,6.50,6.50); Crest factor: 1.0; Muscle 835 MHz: $\sigma = 0.94$ mho/m $\epsilon_r = 56.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.325 mW/g, SAR (10g): 0.229 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: 0.12 dB



KWC-3245, 1900MHz Muscle, Waist Level, With KWC Accessory, PCS Ch25, Antenna Retracted, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

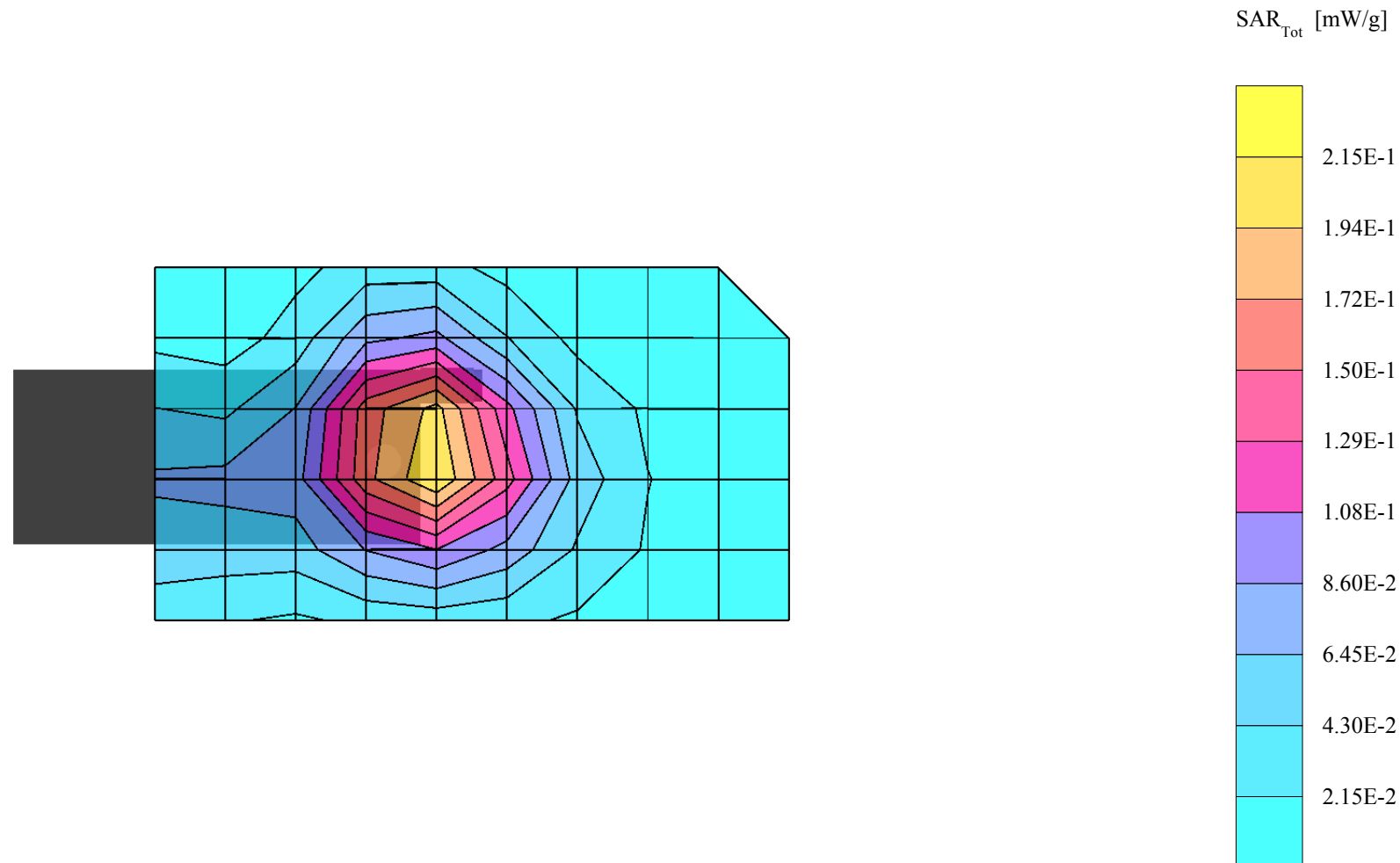
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(4.77,4.77,4.77); Crest factor: 1.0; Muscle 1900 MHz: $\sigma = 1.47$ mho/m $\epsilon_r = 54.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.222 mW/g, SAR (10g): 0.137 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: 0.08 dB



KWC-3245, 1900MHz Muscle, Waist Level, With KWC Accessory, PCS Ch25, Antenna Extended, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

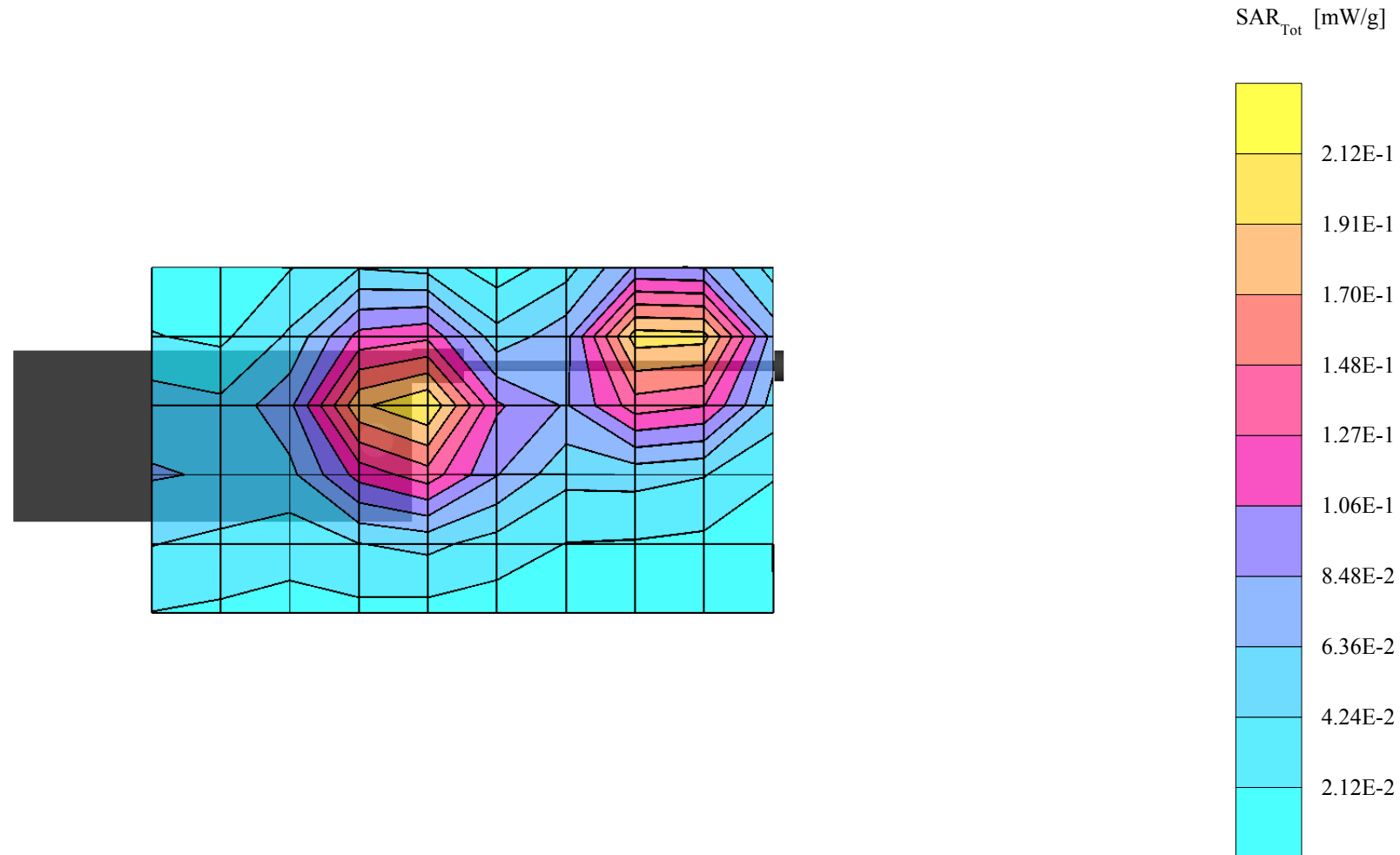
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(4.77,4.77,4.77); Crest factor: 1.0; Muscle 1900 MHz: $\sigma = 1.47$ mho/m $\epsilon_r = 54.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.204 mW/g, SAR (10g): 0.124 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: 0.01 dB



KWC-3245, 835MHz Muscle, Waist Level, 22.5mm Air Gap, FM Ch383, Antenna Retracted, 07-08-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

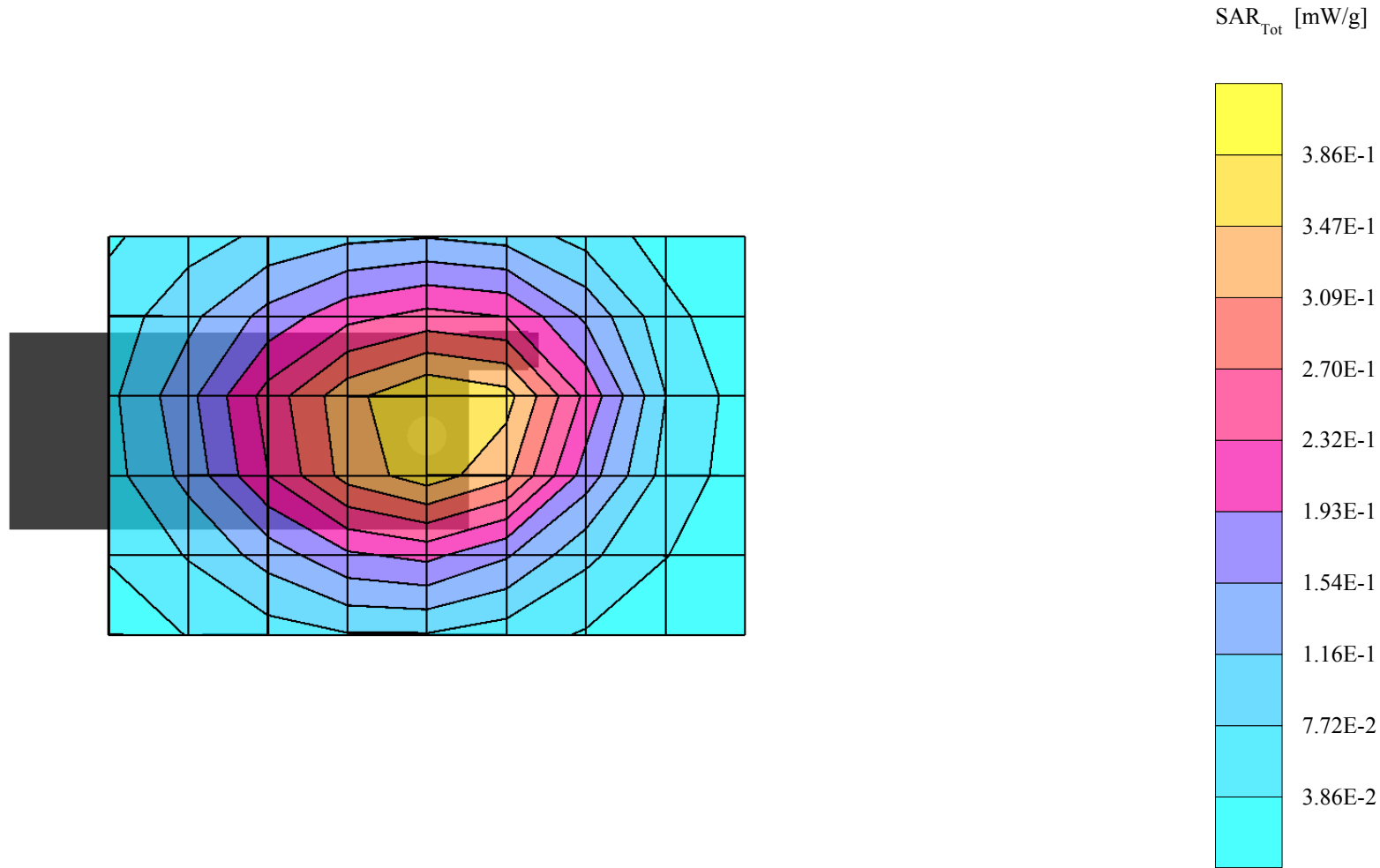
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.50,6.50,6.50); Crest factor: 1.0; Muscle 835 MHz: $\sigma = 0.94$ mho/m $\epsilon_r = 56.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.380 mW/g, SAR (10g): 0.277 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: -0.10 dB



KWC-3245, 835MHz Muscle, Waist Level, 22.5mm Air Gap, FM Ch991, Antenna Extended, 07-08-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

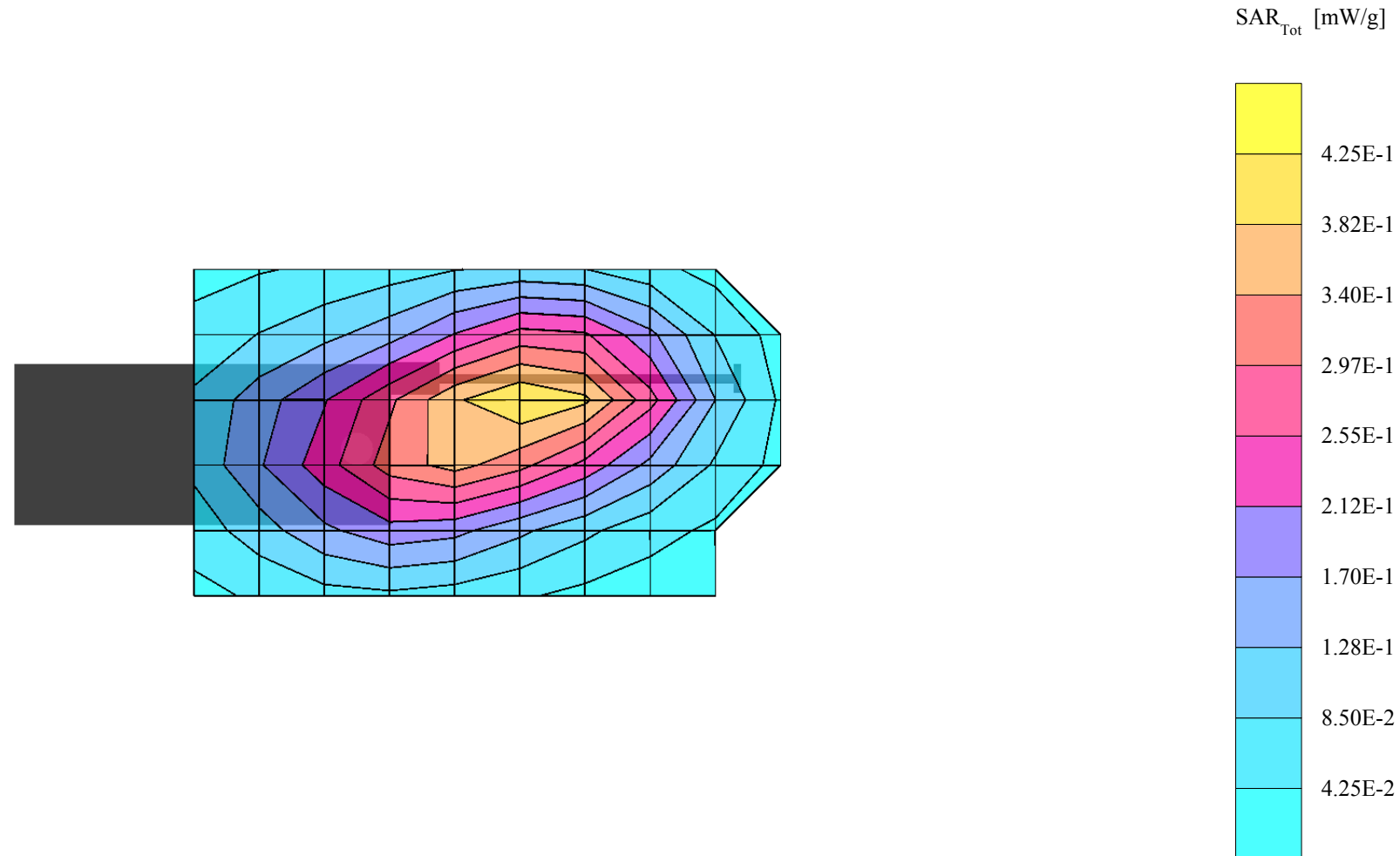
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.50,6.50,6.50); Crest factor: 1.0; Muscle 835 MHz: $\sigma = 0.94$ mho/m $\epsilon_r = 56.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.394 mW/g, SAR (10g): 0.280 mW/g * Max outside, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: 0.05 dB



KWC-3245, 835MHz Muscle, Waist Level, 22.5mm Air Gap, CDMA Ch383, Antenna Retracted, 07-08-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

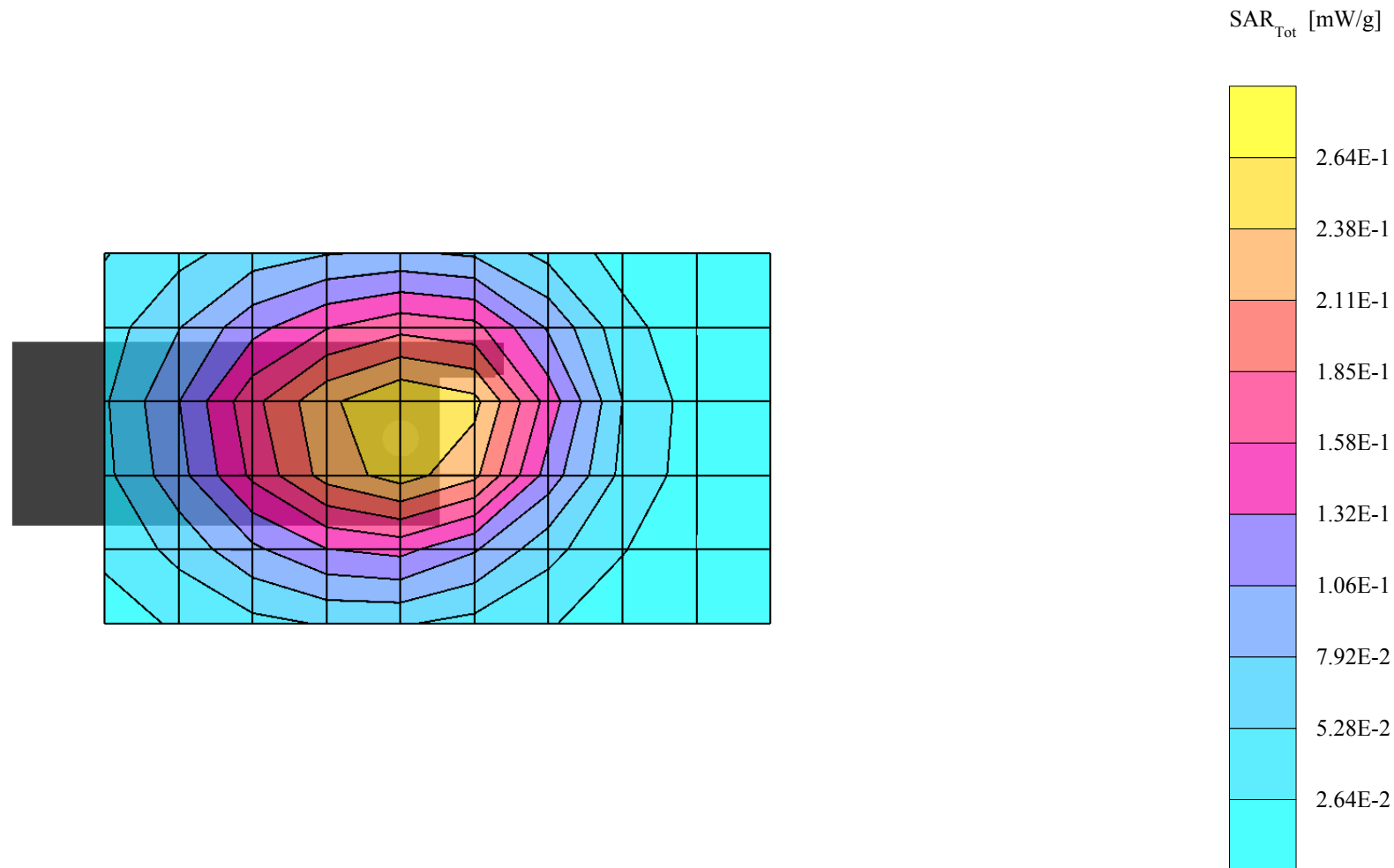
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.50,6.50,6.50); Crest factor: 1.0; Muscle 835 MHz: $\sigma = 0.94$ mho/m $\epsilon_r = 56.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.265 mW/g, SAR (10g): 0.193 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: 0.22 dB



KWC-3245, 835MHz Muscle, Waist Level, 22.5mm Air Gap, CDMA Ch1013, Antenna Extended, 07-08-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

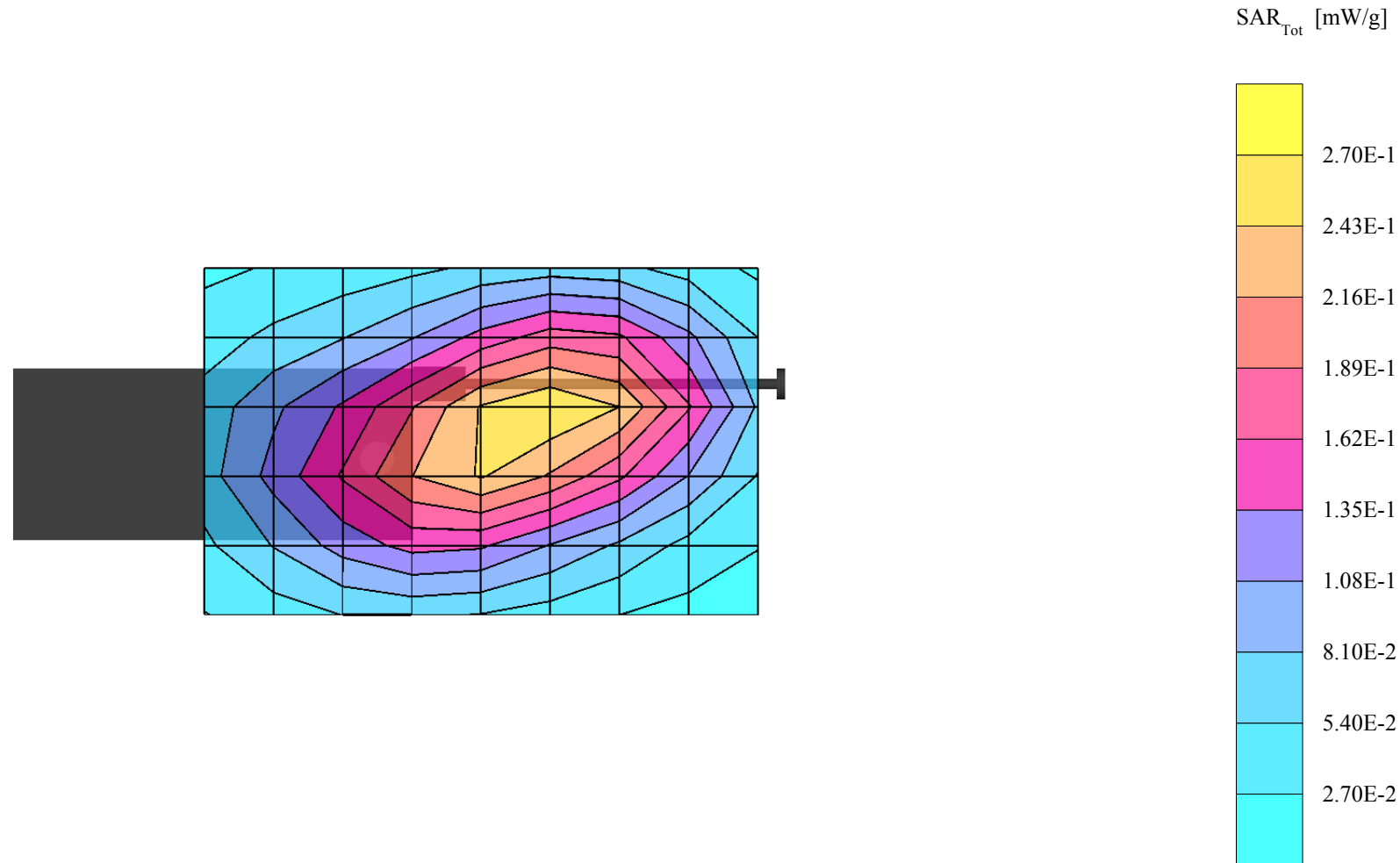
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 835 MHz

Probe: ET3DV6 - SN1663; ConvF(6.50,6.50,6.50); Crest factor: 1.0; Muscle 835 MHz: $\sigma = 0.94$ mho/m $\epsilon_r = 56.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.257 mW/g, SAR (10g): 0.184 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: 0.06 dB



KWC-3245, 1900MHz Muscle, Waist Level, 22.5mm Air Gap, PCS Ch1175, Antenna Retracted, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

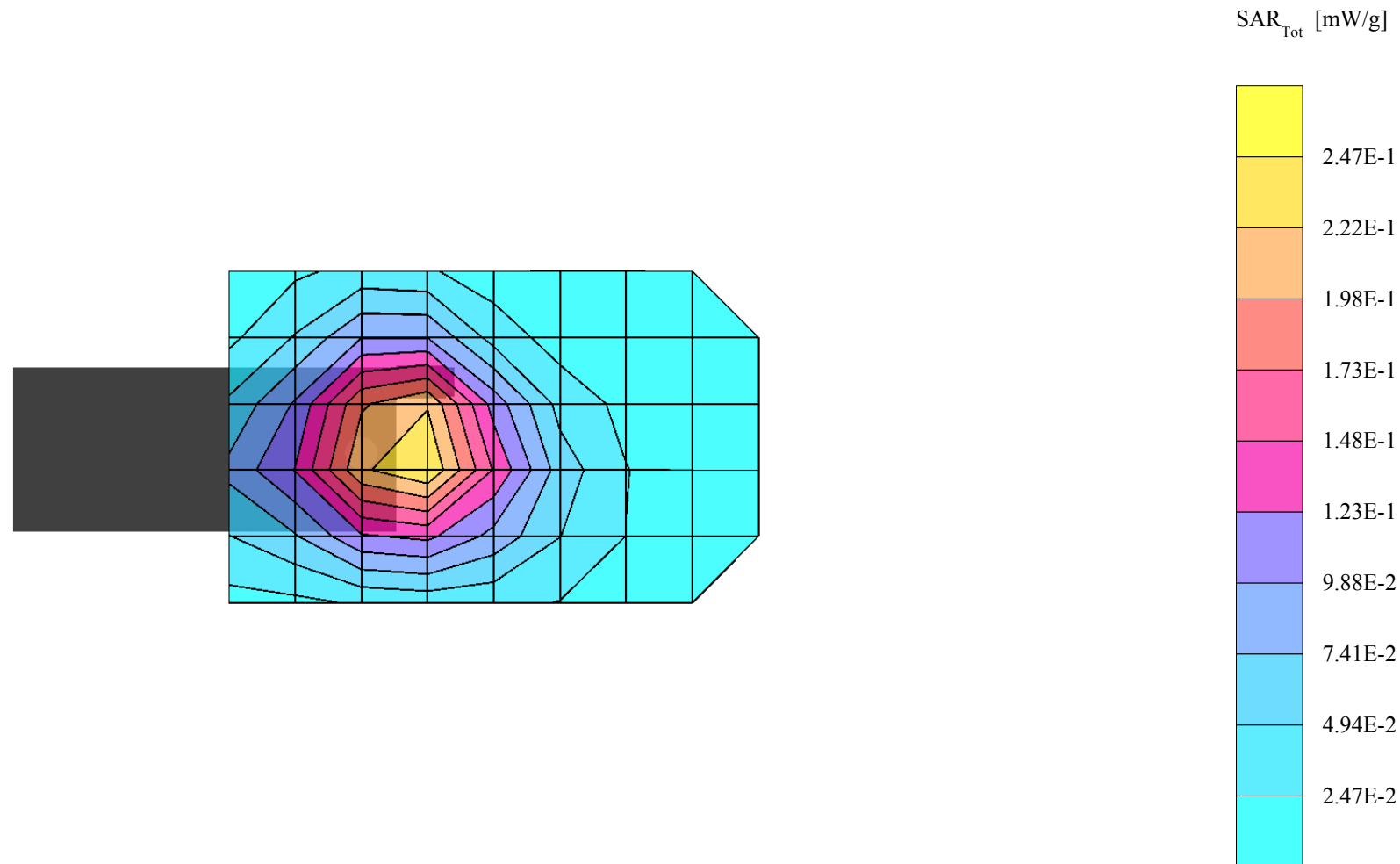
SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(4.77,4.77,4.77); Crest factor: 1.0; Muscle 1900 MHz: $\sigma = 1.47$ mho/m $\epsilon_r = 54.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.240 mW/g, SAR (10g): 0.151 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: -0.10 dB



KWC-3245, 1900MHz Muscle, Waist Level, 22.5mm Air Gap, PCS Ch1175, Antenna Extended, 07-02-02

t (room) = 22C +/- 1C, t (liquid) = 22C +/- 1C

SAM Phantom; Flat Section; Position: (90°,90°); Frequency: 1900 MHz

Probe: ET3DV6 - SN1663; ConvF(4.77,4.77,4.77); Crest factor: 1.0; Muscle 1900 MHz: $\sigma = 1.47$ mho/m $\epsilon_r = 54.0$ $\rho = 1.00$ g/cm³

Cube 7x7x7: SAR (1g): 0.186 mW/g, SAR (10g): 0.117 mW/g, (Worst-case extrapolation)

Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0

Powerdrift: 0.20 dB

