

## APPENDIX A: TEST CONFIGURATIONS AND TEST DATA

### A1: TEST CONFIGURATION

#### Mode 1



## Mode 2



## Mode 3



## Mode 4



## Mode 5



## Mode 6



EUT Photo



## Liquid Level Photo

2450MHz D=151mm





## A2: TEST DATA

03/07/03

### 2.4GHz/5GHz Mini - PCI Card Mode 1

Separation distance : 0mm (Laptop PC to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

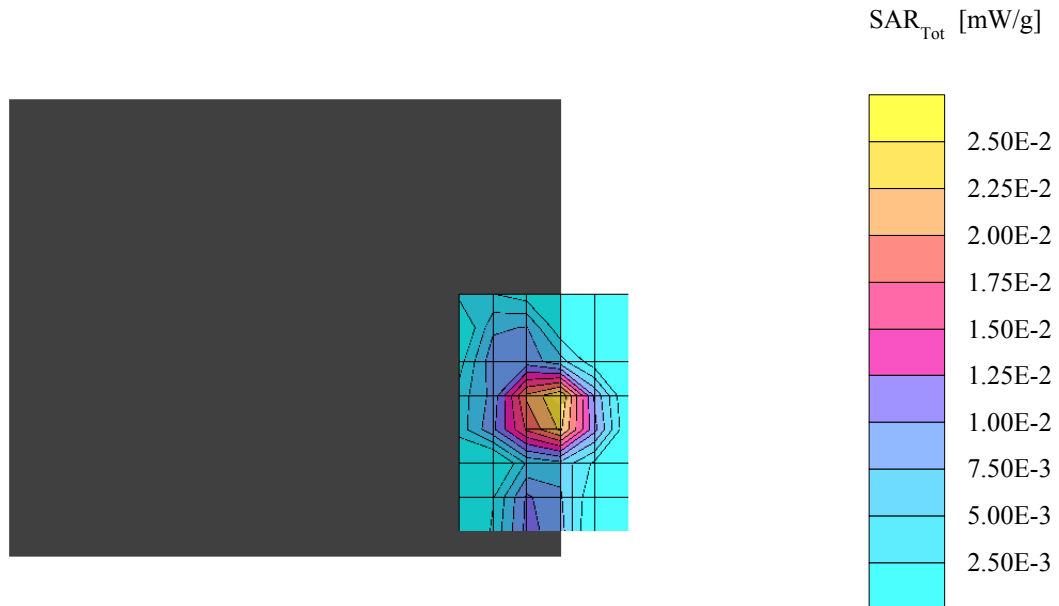
Test Frequency : 2412 MHz

Liquid parameters : Body 2412 MHz  $\sigma = 1.87$  mho/m  $\epsilon_r = 52.4$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 0.0346 mW/g, SAR (10g): 0.0170 mW/g, (Worst-case extrapolation)

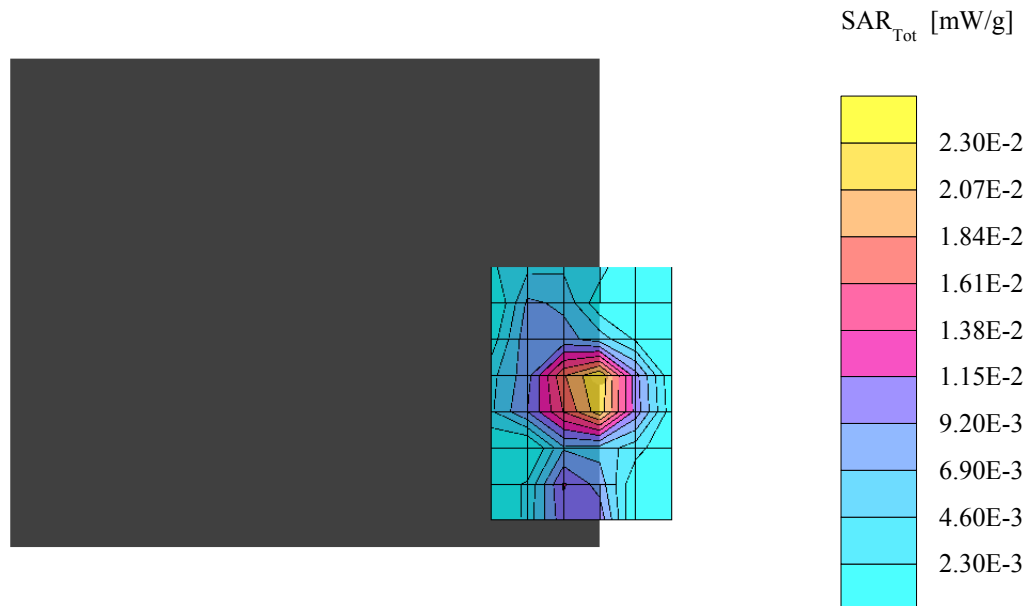
Powerdrift: 0.01 dB



03/07/03

## 2.4GHz/5GHz Mini - PCI Card Mode 1

Separation distance : 0mm (Laptop PC to Phantom)  
Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade  
SAM Phantom; Flat Section; Position: (90°,90°);  
Antenna type : Internal Diversity Antenna  
Modulation type : DSSS  
Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0  
Test Frequency : 2437 MHz  
Liquid parameters : Body 2437 MHz  $\sigma = 1.91$  mho/m  $\epsilon_r = 52.1$   $\rho = 1.00$  g/cm<sup>3</sup>  
Coarse : Dx = 20.0, Dy = 20.0, Dz = 10.0  
Cube 5x5x7: SAR (1g): 0.0264 mW/g, SAR (10g): 0.0128 mW/g, (Worst-case extrapolation)  
Powerdrift: -0.04 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 1

Separation distance : 0mm (Laptop PC to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

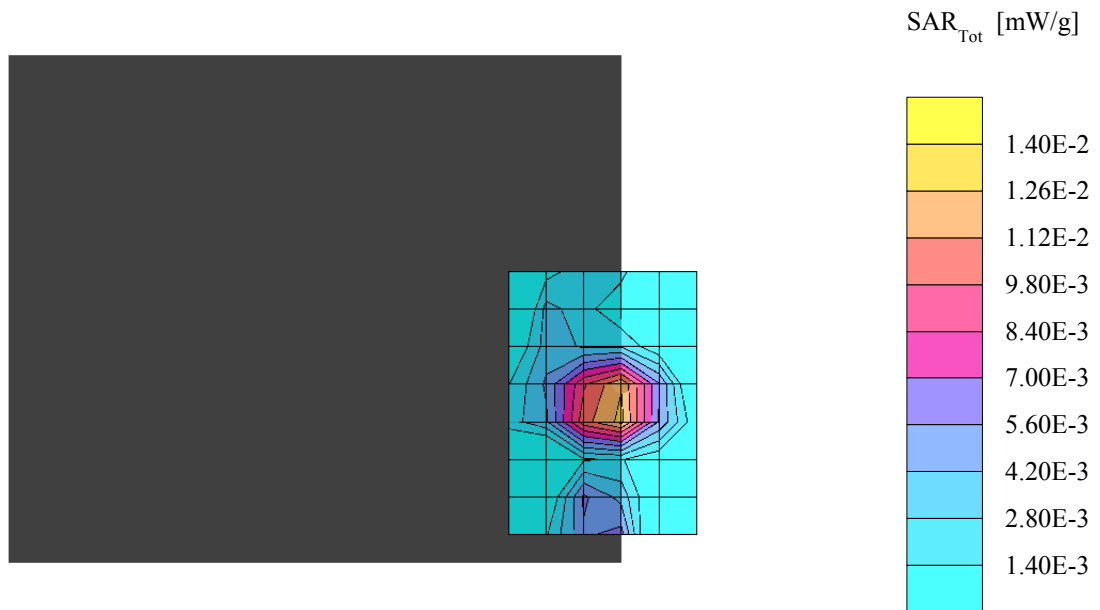
Test Frequency : 2462 MHz

Liquid parameters : Body 2462 MHz  $\sigma = 1.97$  mho/m  $\epsilon_r = 51.9$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 0.0158 mW/g, SAR (10g): 0.0065 mW/g, (Worst-case extrapolation)

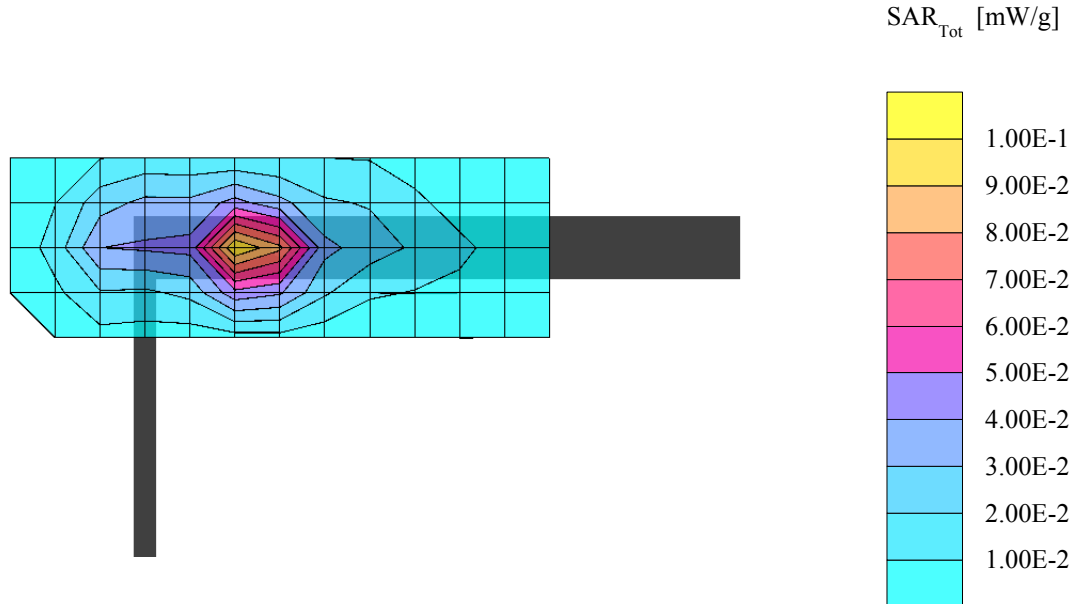
Powerdrift: -0.27 dB



03/07/03

## 2.4GHz/5GHz Mini - PCI Card Mode 2

Separation distance : 15mm (EUT tip to Phantom)  
Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade  
SAM Phantom; Flat Section; Position: (90°,90°);  
Antenna type : Internal Diversity Antenna  
Modulation type : DSSS  
Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0  
Test Frequency : 2412 MHz  
Liquid parameters : Body 2412 MHz  $\sigma = 1.87$  mho/m  $\epsilon_r = 52.4$   $\rho = 1.00$  g/cm<sup>3</sup>  
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0  
Cube 5x5x7: SAR (1g): 0.107 mW/g, SAR (10g): 0.0564 mW/g, (Worst-case extrapolation)  
Powerdrift: -0.02 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 2

Separation distance : 15mm (EUT tip to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

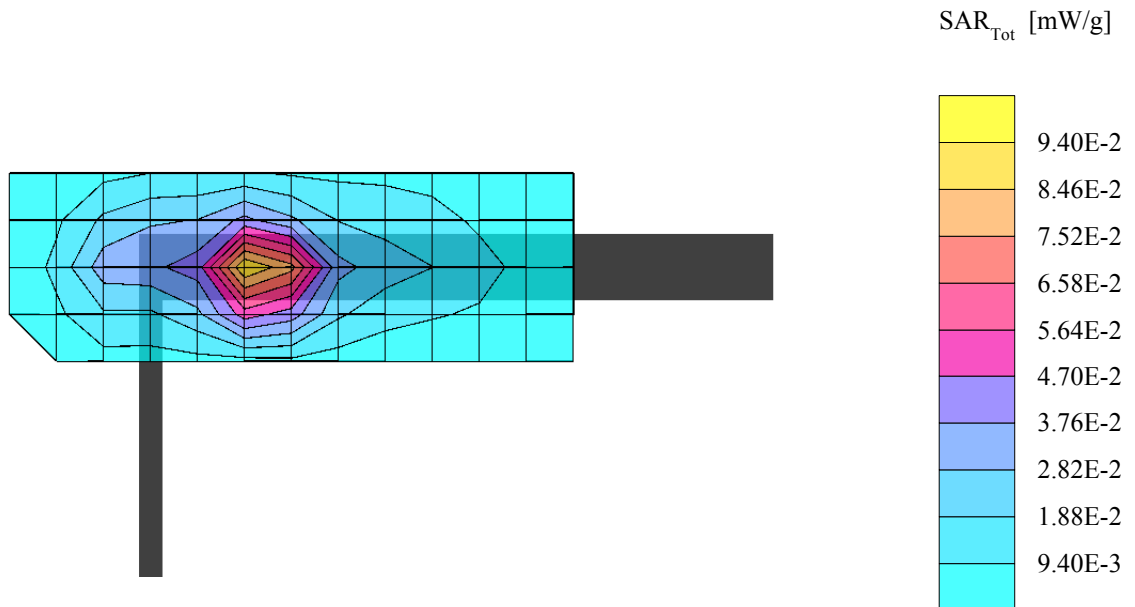
Test Frequency : 2437 MHz

Liquid parameters : Body 2437 MHz  $\sigma = 1.91$  mho/m  $\epsilon_r = 52.1$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 0.0993 mW/g, SAR (10g): 0.0522 mW/g, (Worst-case extrapolation)

Powerdrift: 0.07 dB



03/07/03

## 2.4GHz/5GHz Mini - PCI Card Mode 2

Separation distance : 15mm (EUT tip to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

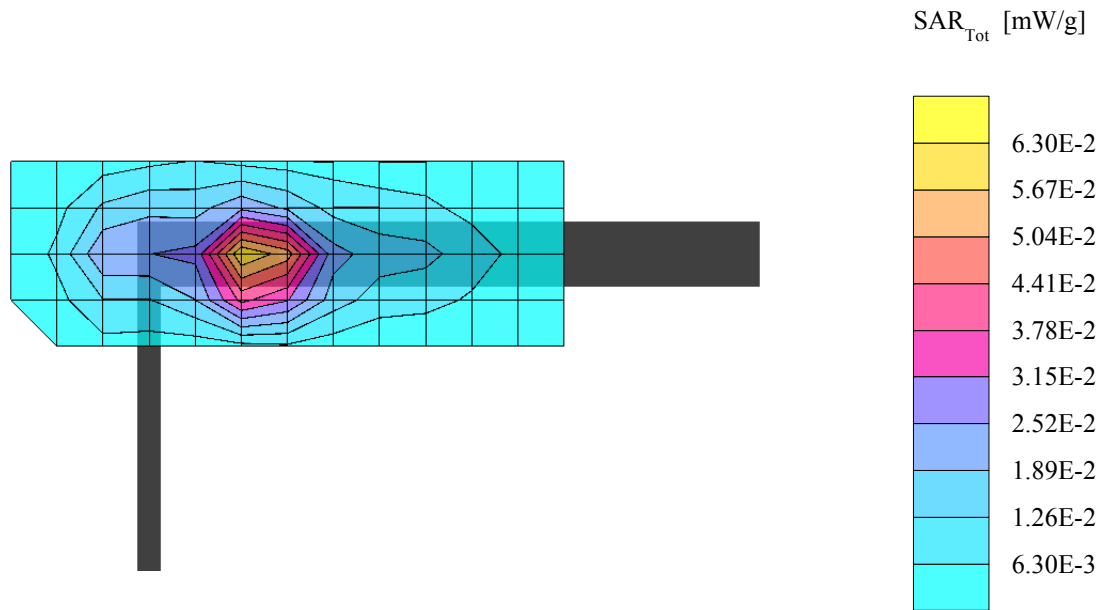
Test Frequency : 2462 MHz

Liquid parameters : Body 2462 MHz  $\sigma = 1.97$  mho/m  $\epsilon_r = 51.9$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 0.0760 mW/g, SAR (10g): 0.0393 mW/g, (Worst-case extrapolation)

Powerdrift: -0.07 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 3

Separation distance : 0mm (EUT Tip to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

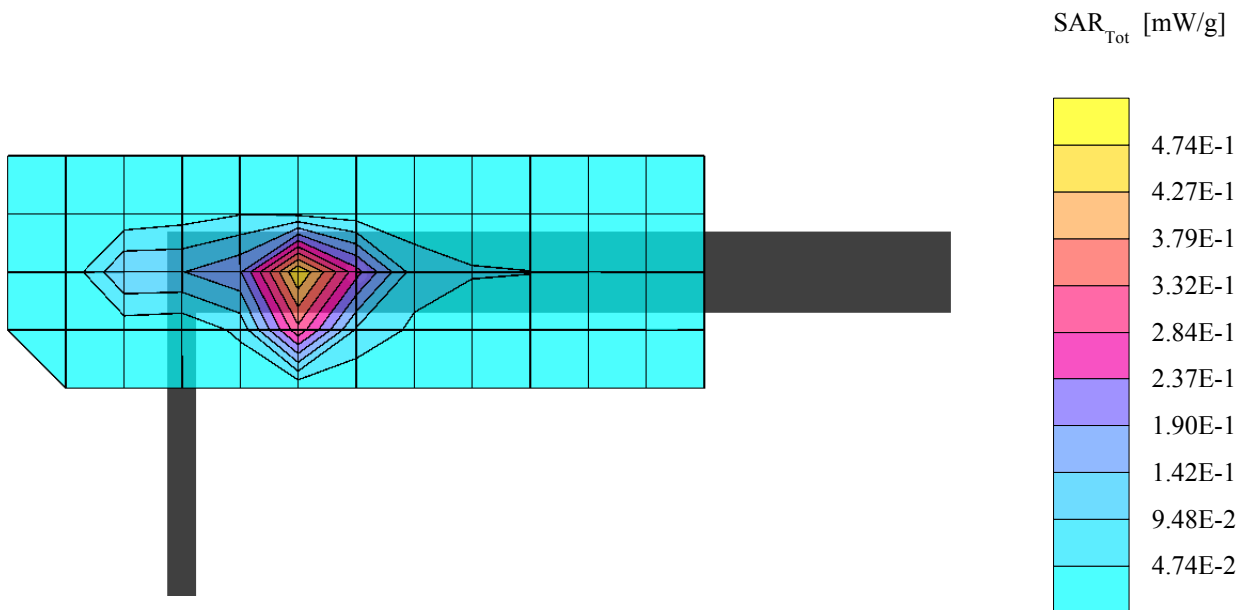
Test Frequency : 2412 MHz

Liquid parameters : Body 2412 MHz  $\sigma = 1.87$  mho/m  $\epsilon_r = 52.4$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 0.964 mW/g, SAR (10g): 0.399 mW/g, (Worst-case extrapolation)

Powerdrift: -0.08 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 3

Separation distance : 0mm (EUT Tip to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

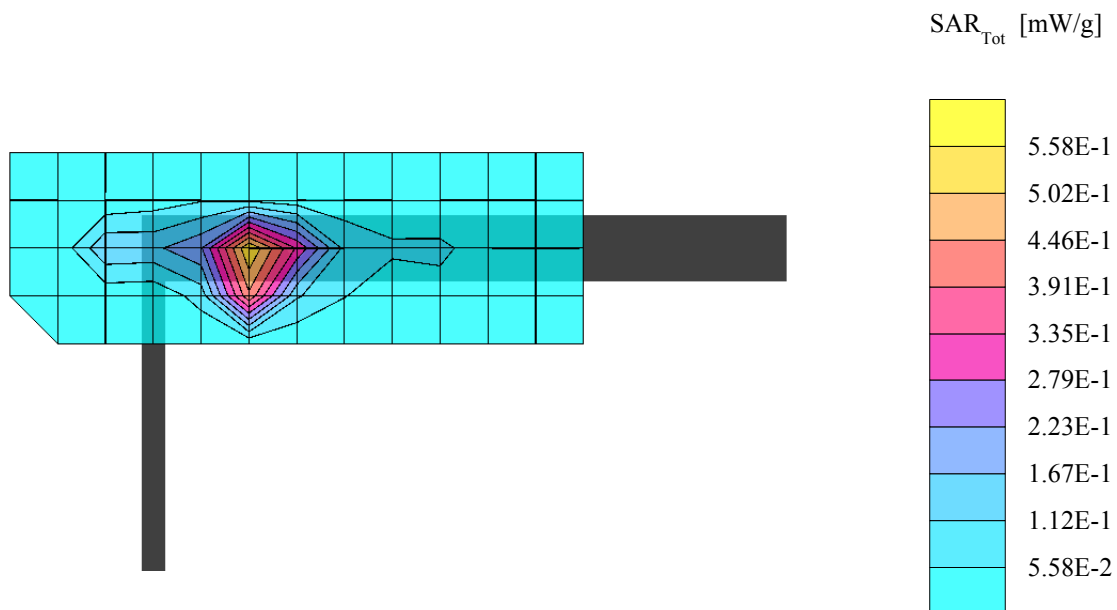
Test Frequency : 2437 MHz

Liquid parameters : Body 2437 MHz  $\sigma = 1.91$  mho/m  $\epsilon_r = 52.1$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 1.21 mW/g, SAR (10g): 0.517 mW/g, (Worst-case extrapolation)

Powerdrift: 0.00 dB

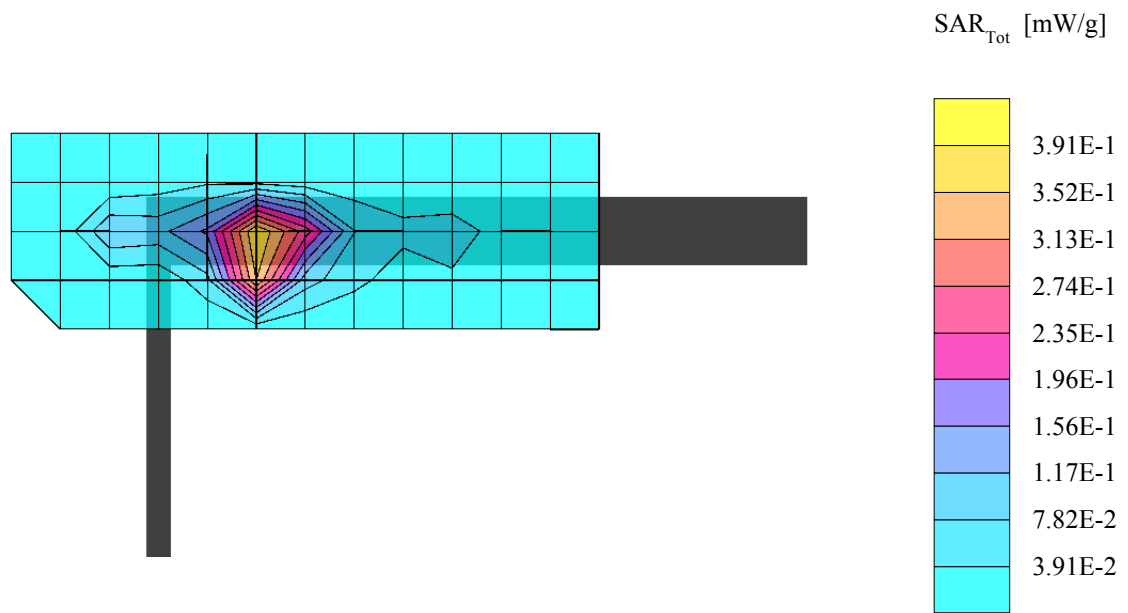




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## 2.4GHz/5GHz Mini - PCI Card Mode 3

Separation distance : 0mm (EUT Tip to Phantom)  
Air temperature : 22 degrees centigrade ; Liquid temperature : 21 degrees centigrade  
SAM Phantom; Flat Section; Position: (90°,90°);  
Antenna type : Internal Diversity Antenna  
Modulation type : DSSS  
Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0  
Test Frequency : 2462 MHz  
Liquid parameters : Body 2462 MHz  $\sigma = 1.97$  mho/m  $\epsilon_r = 51.9$   $\rho = 1.00$  g/cm<sup>3</sup>  
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0  
Cube 5x5x7: SAR (1g): 0.971 mW/g, SAR (10g): 0.399 mW/g, (Worst-case extrapolation)  
Powerdrift: 0.06 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 4

Separation distance : 0mm (Laptop PC to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

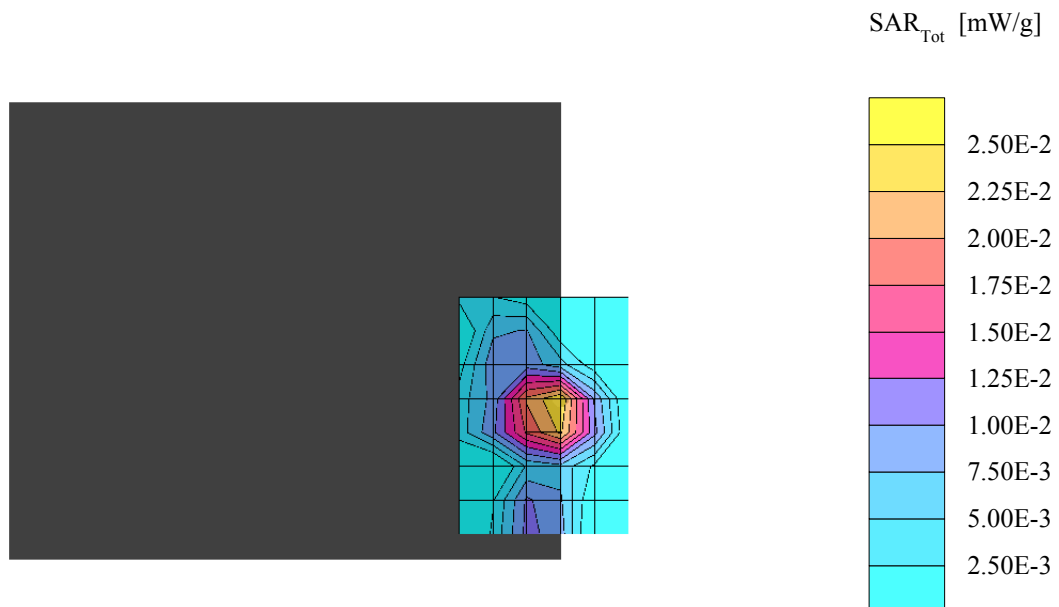
Test Frequency : 2412 MHz

Liquid parameters : Body 2412 MHz  $\sigma = 1.87$  mho/m  $\epsilon_r = 52.4$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 0.0325 mW/g, SAR (10g): 0.0164 mW/g, (Worst-case extrapolation)

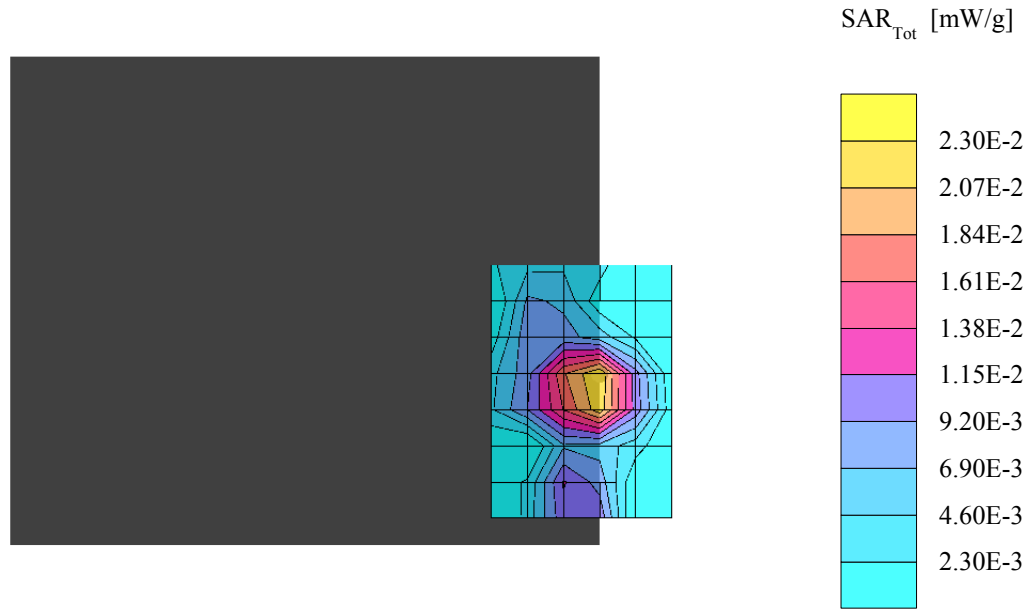
Powerdrift: 0.1 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 4

Separation distance : 0mm (Laptop PC to Phantom)  
Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade  
SAM Phantom; Flat Section; Position: (90°,90°);  
Antenna type : Internal Diversity Antenna  
Modulation type : DSSS  
Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0  
Test Frequency : 2437 MHz  
Liquid parameters : Body 2437 MHz  $\sigma = 1.91$  mho/m  $\epsilon_r = 52.1$   $\rho = 1.00$  g/cm<sup>3</sup>  
Coarse : Dx = 20.0, Dy = 20.0, Dz = 10.0  
Cube 5x5x7: SAR (1g): 0.0241 mW/g, SAR (10g): 0.0108 mW/g, (Worst-case extrapolation)  
Powerdrift: -0.14 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 4

Separation distance : 0mm (Laptop PC to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

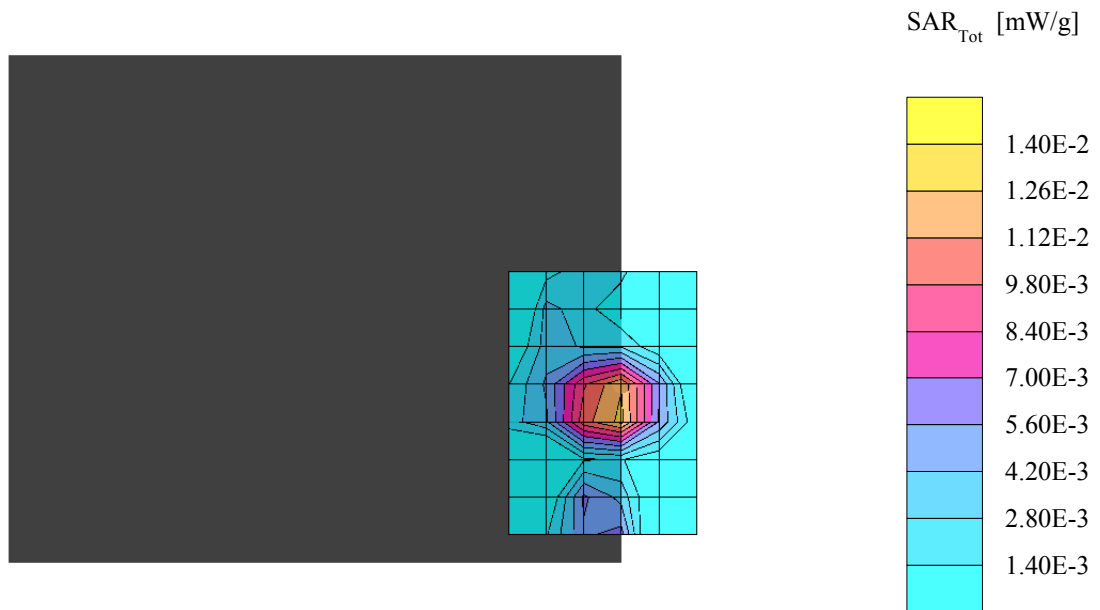
Test Frequency : 2462 MHz

Liquid parameters : Body 2462 MHz  $\sigma = 1.97$  mho/m  $\epsilon_r = 51.9$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 0.0140 mW/g, SAR (10g): 0.0061 mW/g, (Worst-case extrapolation)

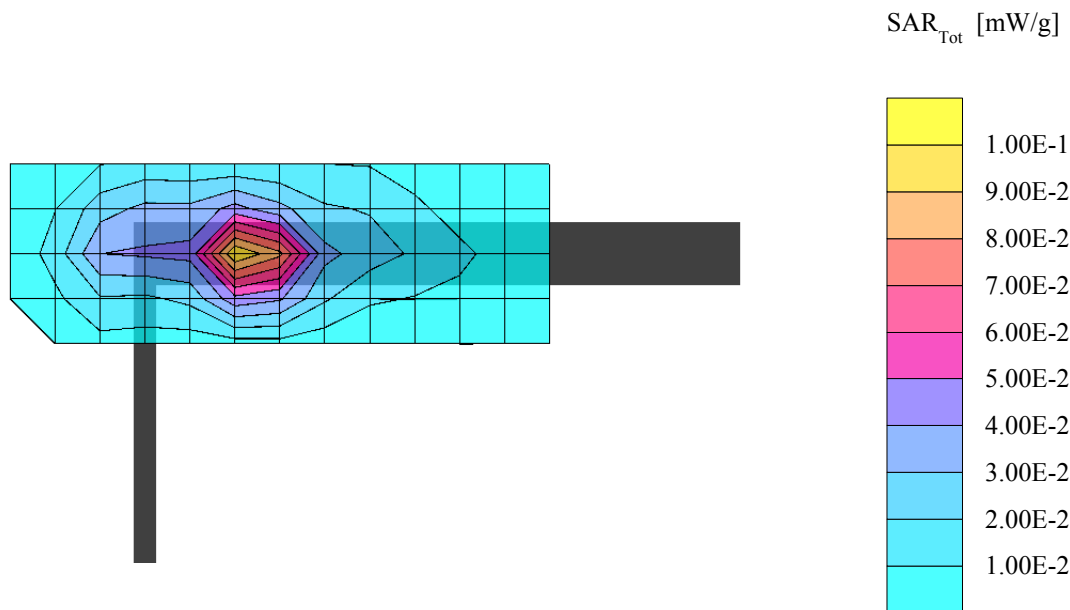
Powerdrift: -0.2 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 5

Separation distance : 15mm (EUT tip to Phantom)  
Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade  
SAM Phantom; Flat Section; Position: (90°,90°);  
Antenna type : Internal Diversity Antenna  
Modulation type : DSSS  
Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0  
Test Frequency : 2412 MHz  
Liquid parameters : Body 2412 MHz  $\sigma = 1.87$  mho/m  $\epsilon_r = 52.4$   $\rho = 1.00$  g/cm<sup>3</sup>  
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0  
Cube 5x5x7: SAR (1g): 0.094 mW/g, SAR (10g): 0.0421mW/g, (Worst-case extrapolation)  
Powerdrift: -0.2 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 5

Separation distance : 15mm (EUT tip to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

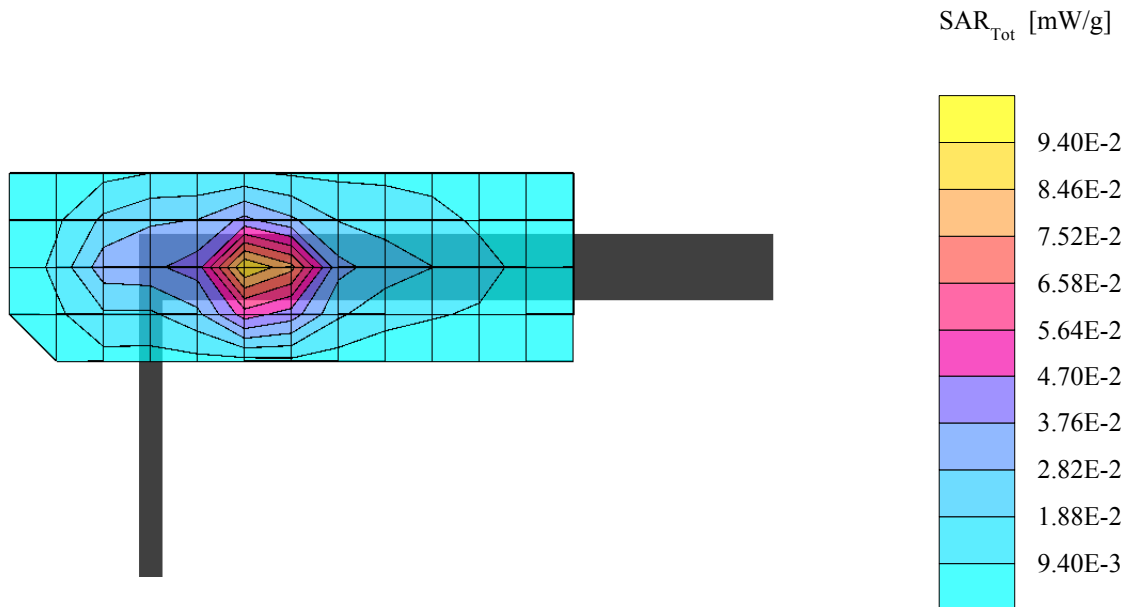
Test Frequency : 2437 MHz

Liquid parameters : Body 2437 MHz  $\sigma = 1.91$  mho/m  $\epsilon_r = 52.1$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 0.0921 mW/g, SAR (10g): 0.0487 mW/g, (Worst-case extrapolation)

Powerdrift: 0.1 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 5

Separation distance : 15mm (EUT tip to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

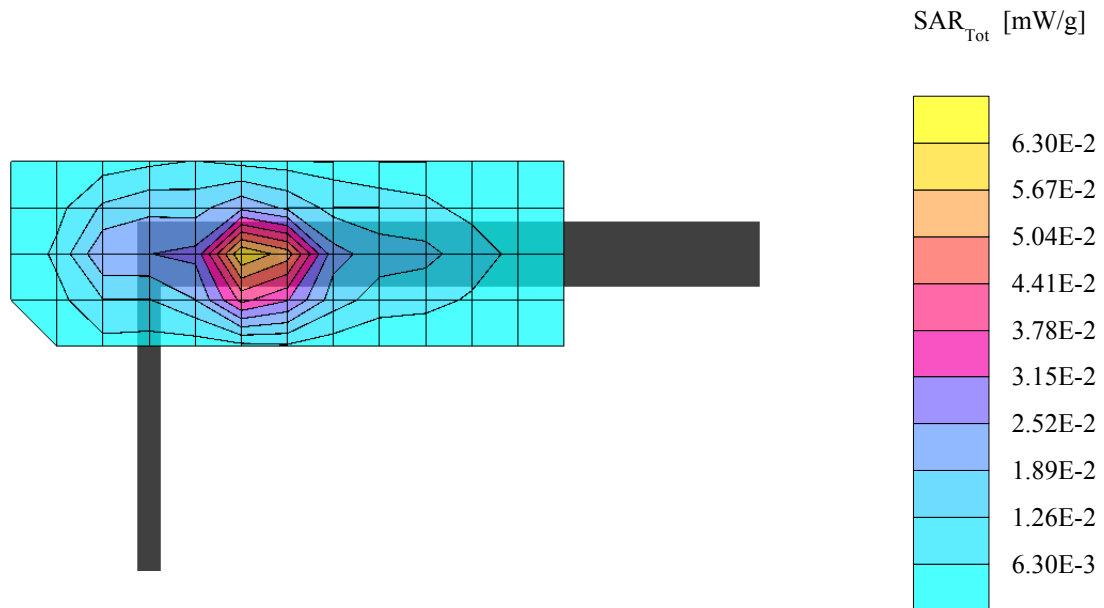
Test Frequency : 2462 MHz

Liquid parameters : Body 2462 MHz  $\sigma = 1.97$  mho/m  $\epsilon_r = 51.9$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 0.0721 mW/g, SAR (10g): 0.0354 mW/g, (Worst-case extrapolation)

Powerdrift: -0.2 dB



03/07/03

## 2.4GHz/5GHz Mini - PCI Card Mode 6

Separation distance : 0mm (EUT Tip to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

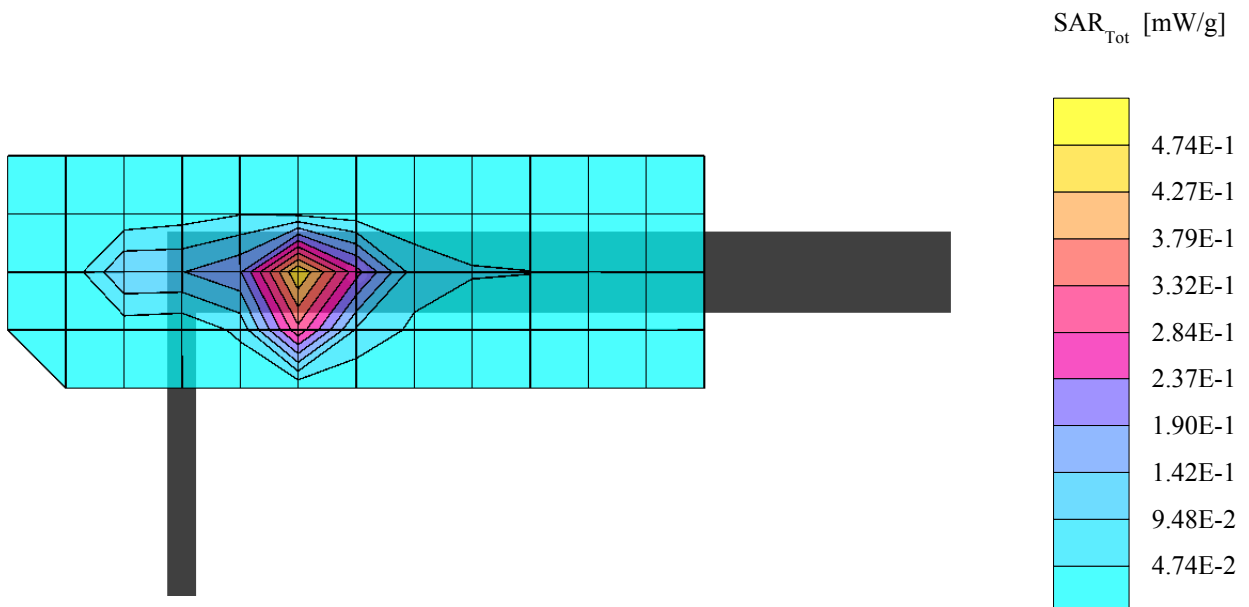
Test Frequency : 2412 MHz

Liquid parameters : Body 2412 MHz  $\sigma = 1.87$  mho/m  $\epsilon_r = 52.4$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 0.921 mW/g, SAR (10g): 0.384 mW/g, (Worst-case extrapolation)

Powerdrift: -0.12 dB





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## 2.4GHz/5GHz Mini - PCI Card Mode 6

Separation distance : 0mm (EUT Tip to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21 degrees centigrade

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

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

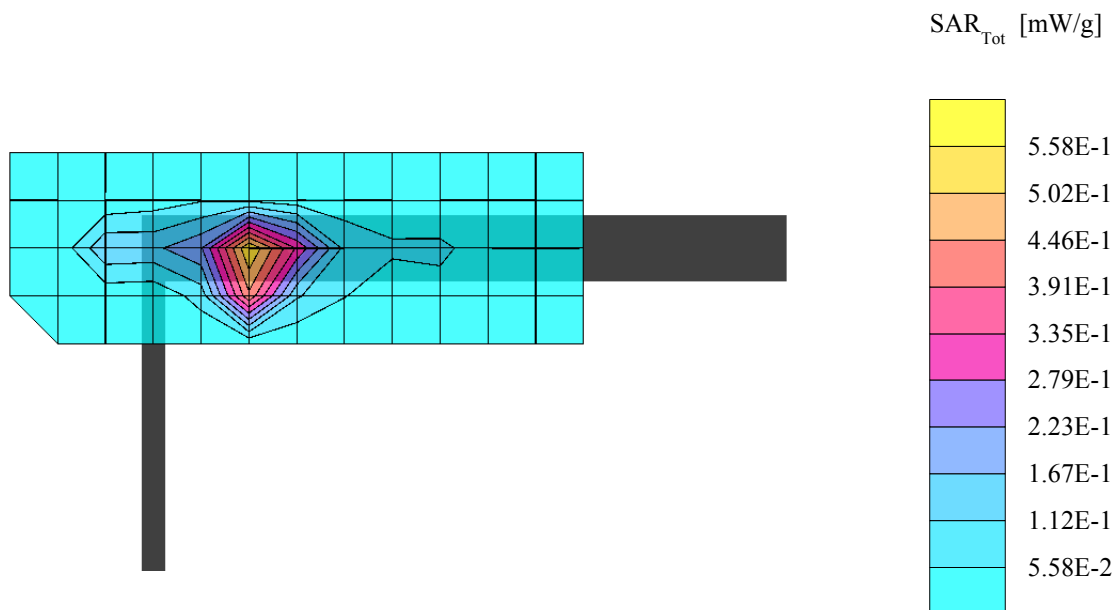
Test Frequency : 2437 MHz

Liquid parameters : Body 2437 MHz  $\sigma = 1.91$  mho/m  $\epsilon_r = 52.1$   $\rho = 1.00$  g/cm<sup>3</sup>

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

Cube 5x5x7: SAR (1g): 1.01 mW/g, SAR (10g): 0.489 mW/g, (Worst-case extrapolation)

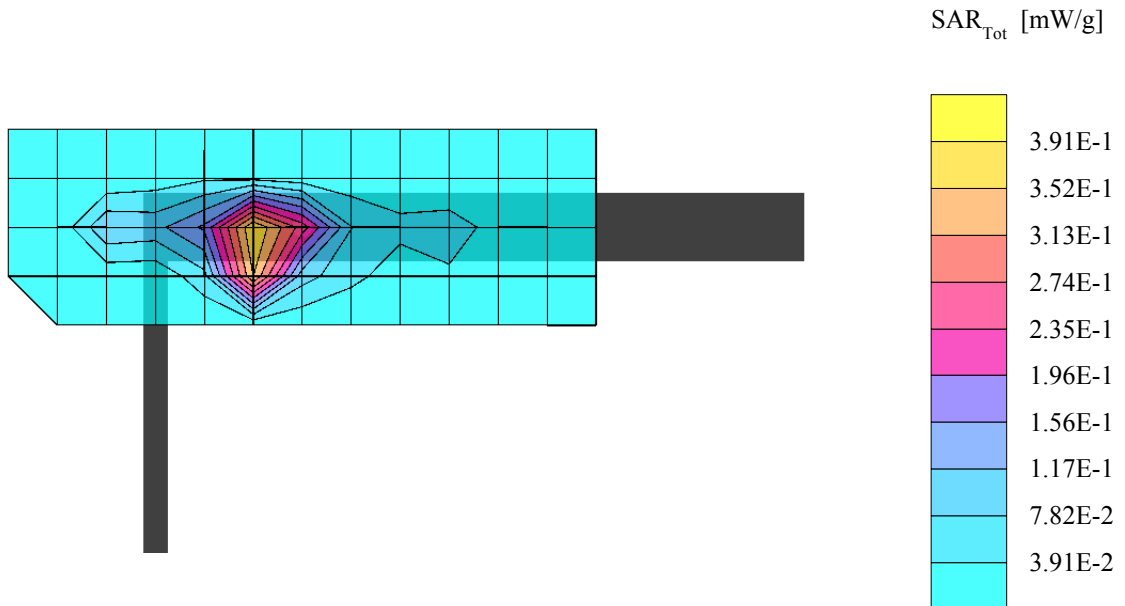
Powerdrift: 0.01 dB



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## 2.4GHz/5GHz Mini - PCI Card Mode 6

Separation distance : 0mm (EUT Tip to Phantom)  
Air temperature : 22 degrees centigrade ; Liquid temperature : 21 degrees centigrade  
SAM Phantom; Flat Section; Position: (90°,90°);  
Antenna type : Internal Diversity Antenna  
Modulation type : DSSS  
Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0  
Test Frequency : 2462 MHz  
Liquid parameters : Body 2462 MHz  $\sigma = 1.97$  mho/m  $\epsilon_r = 51.9$   $\rho = 1.00$  g/cm<sup>3</sup>  
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0  
Cube 5x5x7: SAR (1g): 0.935 mW/g, SAR (10g): 0.342 mW/g, (Worst-case extrapolation)  
Powerdrift: 0.16 dB



### A3: VALIDATION TEST DATA

03/07/03

#### Validation Dipole D2450V2 SN:716,d=10mm

SAM; Flat

Air temperature : 22 degrees centigrade ; Liquid temperature : 21.0 degrees centigrade

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

Liquid parameters : Body 2450 MHz  $\sigma = 1.95$  mho/m  $\epsilon_r = 52.0$   $\rho = 1.00$  g/cm<sup>3</sup>

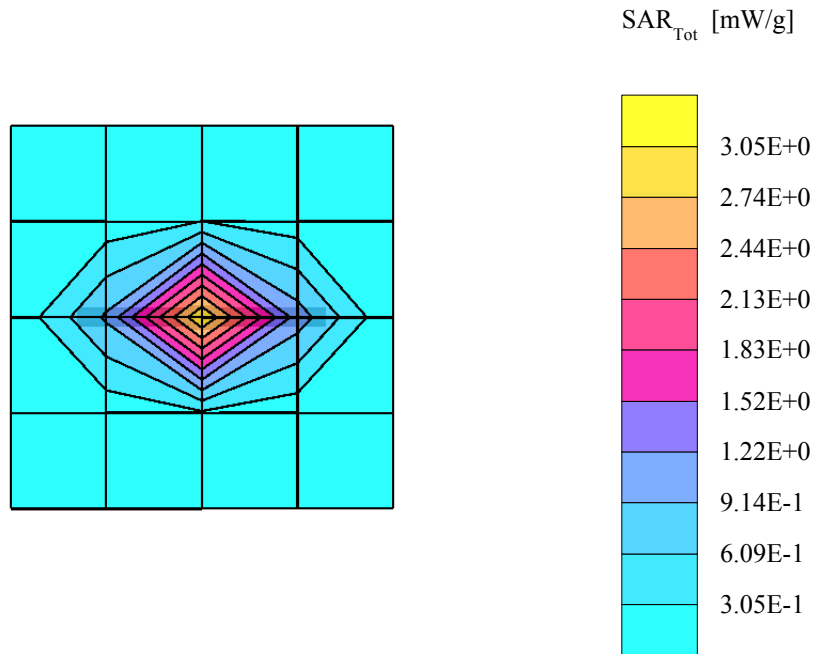
Modulation type : CW

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

Cubes (2): Peak: 5.47 mW/g  $\pm$  0.00 dB, SAR (1g): 2.74 mW/g  $\pm$  0.02 dB, SAR (10g): 1.28 mW/g  $\pm$  0.05 dB, (Worst-case extrapolation)

Penetration depth: 7.4 (7.0, 8.3) [mm]

Powerdrift: -0.06 dB



03/07/03

## 2.4GHz/5GHz Mini - PCI Card Mode 3

Separation distance : 0mm (EUT Tip to Phantom)

Air temperature : 22 degrees centigrade ; Liquid temperature : 21 degrees centigrade

SAM Phantom; Section; Position: ;

Antenna type : Internal Diversity Antenna

Modulation type : DSSS

Probe: ET3DV6 - SN1687; ConvF(4.40,4.40,4.40); Crest factor: 1.0

Test Frequency : 2437 MHz

Liquid parameters : Body 2437 MHz  $\sigma = 1.91$  mho/m  $\epsilon_r = 52.1$   $\rho = 1.00$  g/cm<sup>3</sup>

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

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