



Certificate Number: 1449-02



MOTOROLA

**ELECTROMAGNETIC EXPOSURE (EME)
TESTING LABORATORY**

8000 West Sunrise Blvd.
Fort-Lauderdale, Florida

**Addendum S.A.R. TEST REPORT
(APPENDIX A & B)
FCC ID: AZ489FT5806
H18UCH9PW7AN**

November 13, 2001 - Rev. O

Tested By:	Andy Gessner, Pat Lomax / Kim Uong, Jim Fortier, Stephen Whalen SAR Test Technicians / Engineers
Prepared By:	Michael Sailsman REPR FCC regulatory Liaison
Reviewed and Approved By:	Ken Enger Sr. Resource Manager Product Safety and EME Lab Director

Appendix A: Data Results

XTS 5000 Test Date: 09/14/01

Product: XTS 5000

Run Number: 010913-10

Model: H18UCH9PW7AN Sn: 02444463

TX FREQ:794MHz ANTENNA Position: FIXED

Accessories: Antenna(NAF5080A), Battery(NTN9862A), Carry Case(NTN8266B) Audio (NMN6193C)

Antenna Distance from Phantom Surface: A(base)20mm B(center):30mm C(tip):40mm

START POWER:3.50W END POWER:3.23W

Room Temp:23.9 Liquid Temp:23.8

PROBE CAL DATE: 010316

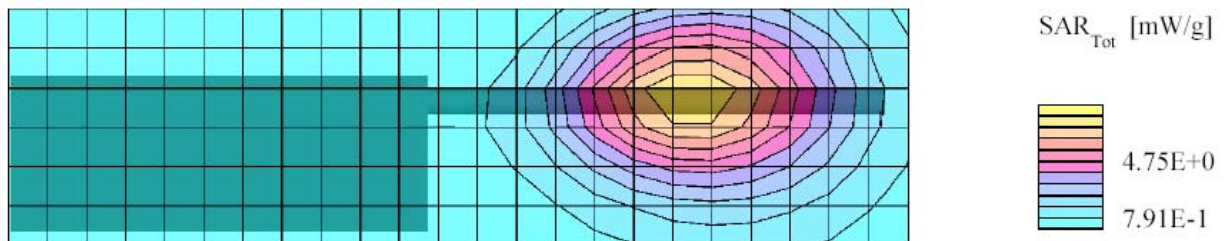
Small Flat Phantom Phantom; Radio Scan Area Section; Position: (90°,0°);

Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Probe cal date: 16/03/01; Crest factor: 1.0; 809 Body: $\sigma = 0.98$

mho/m $\epsilon_r = 53.3$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 7.68 mW/g, SAR (10g): 5.44 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 261.0, 57.0, 4.5



XTS 5000 Test Date: 08/30/01

Product: XTS 5000

Run Number: 010830-02

Model: H18UCH9PW7AN

Sn: 02444463

TX FREQ:794MHz

ANTENNA Position: FIXED

Accessories: Antenna(NAF5080A), Battery(HTN9031A), Carry Case(NTN8266B) Audio (NMN6193C)

Antenna Distance from Phantom Surface: A(base)22mm B(center):30cmm C(tip):35mm

START POWER:3.58W END POWER:3.31W

Room Temp:23 Liquid Temp:24

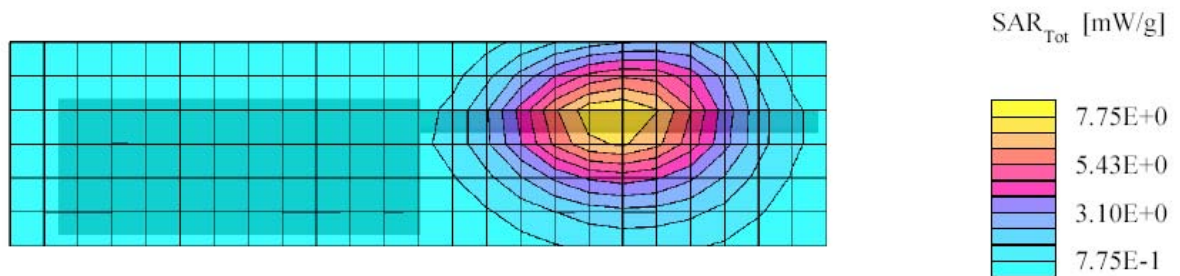
PROBE CAL DATE: 010316

Small Flat Phantom Phantom; Radio Scan Area Section; Position: (90°,0°);

Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Probe cal date: 16/03/01; Crest factor: 1.0; 809 Body: $\sigma = 0.96$ mho/m $\epsilon_r = 52.7$ $\rho = 1.00$ g/cm³

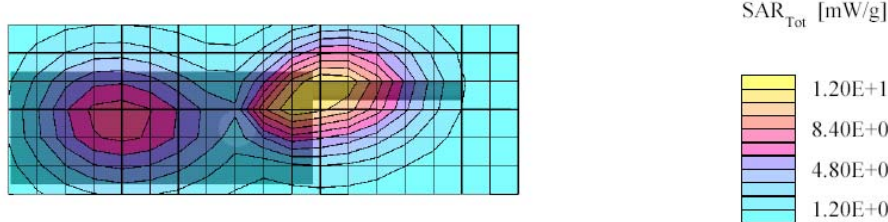
Cube 5x5x7: SAR (1g): 7.20 mW/g, SAR (10g): 5.08 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 267.0, 55.5, 4.5



XTS 5000 Test Date: 09/12/01

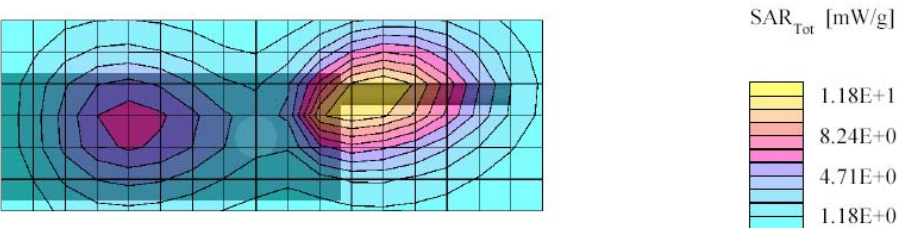
Product: XTS 5000
Run Number: 010912-08
Model: H18UCH9PW7AN Sn: 02444463
TX FREQ:809MHz ANTENNA Position: FIXED
Accessories: Antenna(NAF5042A), Battery(NTN9862A),CarryCase(NTN8266B) Audio (NMN6193C)
Antenna Distance from Phantom Surface: A(base)20mm B(center):25mm C(tip):28mm
START POWER:3.55W END POWER:3.34W
Room Temp:24.0 Liquid Temp:24.2
PROBE CAL DATE: 010316
Small Flat Phantom Phantom; Radio Scan Area Section; Position: (90°,0°);
Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Probe cal date: 16/03/01; Crest factor: 1.0; 809 Body: $\sigma = 0.95$
 $\text{mho/m } \epsilon_r = 53.3 \text{ } \rho = 1.00 \text{ g/cm}^3$
Cube 5x5x7; SAR (1g): 11.9 mW/g, SAR (10g): 8.21 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 168.0, 55.5, 4.5



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XTS 5000 Test Date: 08/28/01

Product: XTS 5000
Run Number: 010827-08
Model: H18UCH9PW7AN Sn: 02444463
TX FREQ:809MHz ANTENNA Position: FIXED
Accessories: Antenna(NAF5042A), Battery(HTN9031A),Carry Case(NTN8266B) Audio (NMN6193C)
Antenna Distance from Phantom Surface: A(base) 22mm B(center):25mm C(tip):30mm
START POWER:3.51W END POWER:3.36W
Room Temp:23.6 Liquid Temp:23.6
PROBE CAL DATE: 010316
Small Flat Phantom Phantom; Radio Scan Area Section; Position: (90°,0°);
Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90); Probe cal date: 16/03/01; Crest factor: 1.0; 809 Body: $\sigma = 0.96$
mho/m $\epsilon_r = 53.4$ $\rho = 1.00$ g/cm³
Cube 5x5x7; SAR (1g): 11.8 mW/g, SAR (10g): 8.14 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 177.0, 55.5, 4.5



Motorola MFRL EME Lab

XTS5000 Test Date: 11/02/01

Run: 01110201 Tissue Temp: 21.3C
Model#: H18UCH9PW7AN SN: C0290826
Start power: 3.58W End Power: 3.35W
Ant: NAF5037A Tx Freq: 809 MHz
Battery: HTN6846AR

Belt clip: NTN8266B, RSM: NMN6193C

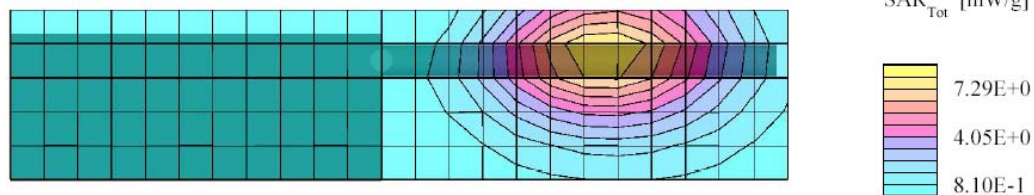
Flat Phantom: Flat_abdomen Section; Position: (90°,90°);

Probe: ET3DV6 - SN1545; ConvF(6.20,6.20,6.20); Probe cal date: 9/24/01; Crest factor: 1.0; FCC Body 809: $\sigma = 0.97$

mho/m $\epsilon_r = 54.5$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 7.79 mW/g, SAR (10g): 5.56 mW/g, (Worst-case extrapolation)

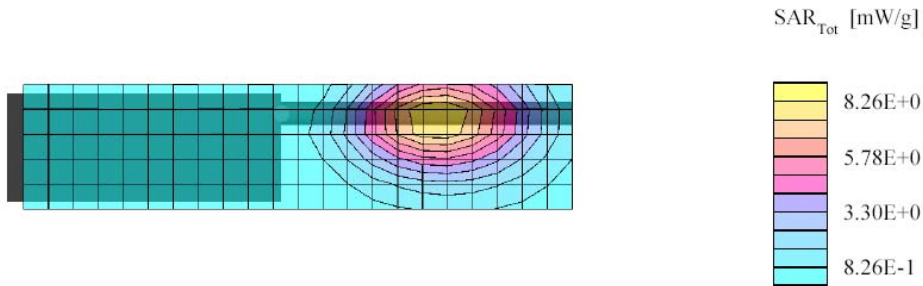
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 19.5, 264.0, 3.9



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XTS 5000 Test Date: 11/06/01

Run: 011106-05
Tissue Temp: 20.0C
Model # H18UCH9PW7AN; SN C0290826
TX Freq. 809MHz; Start Power: 3.49W End power: 3.30W
Antenna NAF5037A 1/2 wave Battery: NTN9533A
Belt clip: NTN8266B RSM: NMN6193C
Flat Phantom; Flat_abdomen Section; Position: (90°,90°);
Probe: ET3DV6 - SN1545; ConvF(6.20,6.20,6.20); Probe cal date: 9/24/01; Crest factor: 1.0; FCC Body 809: $\sigma = 0.96$
mho/m $\epsilon_r = 53.9$ $\rho = 1.00$ g/cm³
Cube 5x5x7; SAR (1g): 8.02 mW/g, SAR (10g): 5.70 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 21.0, 249.0, 3.9



Motorola CGISS EME Lab

XTS 5000 Test Date: 10/01/01

Run: 01100114

Tissue Temp: 20.0 C

Model # H18UCH9PW7AN; SN C0290826

TX Freq. 794MHz; Start Power: 3.52 W End power: 3.16 W

Antenna NAF5080A 1/2 wave Battery: NTN9862A

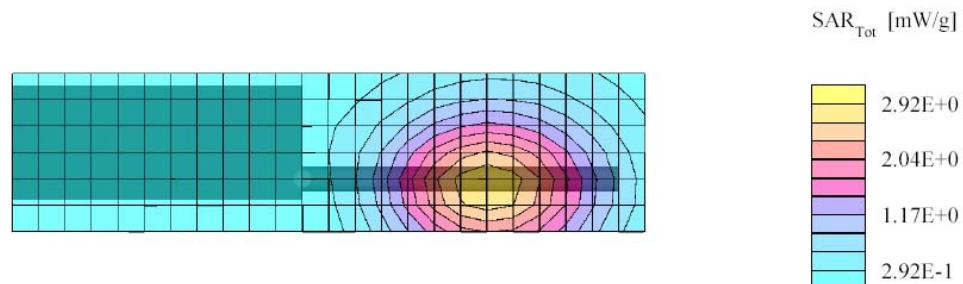
Flat Phantom; Face Section; Position: (90°,90°);

Probe: ET3DV6 - SN1384; ConvF(6.57,6.57,6.57); Probe cal date: 05/23/01; Crest factor: 1.0; IEEE HEAD

809MHz: $\sigma = 0.89$ mho/m $\epsilon_r = 43.2$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 2.86 mW/g, SAR (10g): 2.10 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 64.5, 270.0, 4.7



Motorola CGISS EME Lab

XTS 5000 Test Date: 09/29/01

Run: 01092904

Tissue Temp: 20.7 C

Model # H18UCH9PW7AN; SN C0290826

TX Freq. 809MHz; Start Power: 3.58 W End power: 3.32 W

Antenna NAF5042A 1/4 wave Battery: NTN9862A

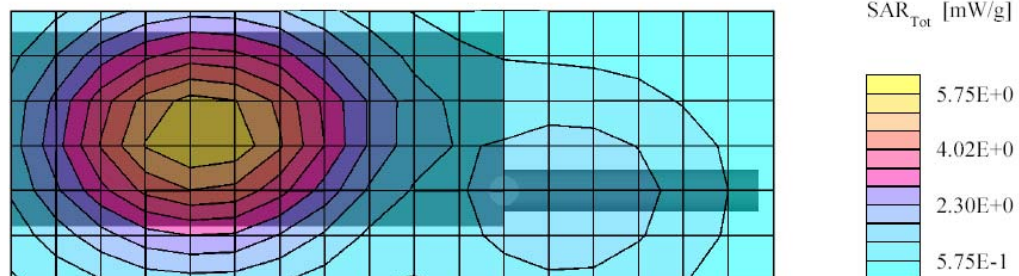
Flat Phantom; Face Section; Position: (90°,90°);

Probe: ET3DV6 - SN1384; ConvF(6.57,6.57,6.57); Probe cal date: 05/23/01; Crest factor: 1.0; IEEE HEAD

809MHz: $\sigma = 0.89$ mho/m $\epsilon_r = 43.3$ $\rho = 1.00$ g/cm³

Cube 5x5x7; SAR (1g): 5.46 mW/g, SAR (10g): 4.03 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 40.5, 64.5, 4.7



Motorola CGISS EME Lab

XTS 5000 Test Date: 10/01/01

Run: 01100101

Tissue Temp: 20.8 C

Model # H18UCH9PW7AN; SN C0290826

TX Freq. 809MHz; Start Power: 3.59 W End power: 3.33 W

Antenna NAF5037A 1/2 wave Battery: NTN9862A

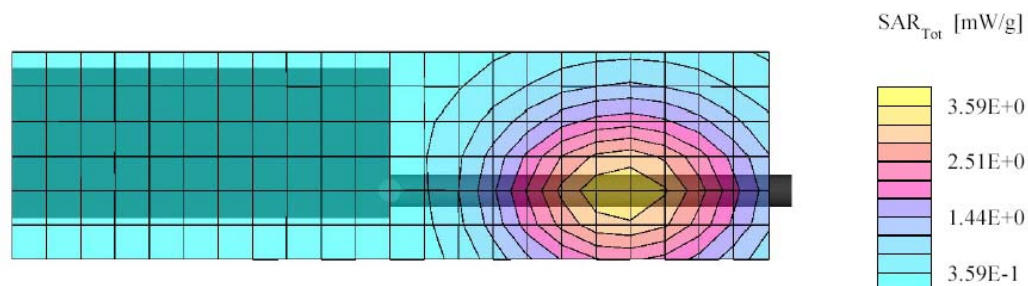
Flat Phantom; Face Section; Position: (90°,90°);

Probe: ET3DV6 - SN1384; ConvF(6.57,6.57,6.57); Probe cal date: 05/23/01; Crest factor: 1.0; IEEE HEAD

809MHz: $\sigma = 0.88$ mho/m $\epsilon_r = 42.8$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 3.55 mW/g, SAR (10g): 2.60 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 61.5, 267.0, 4.7

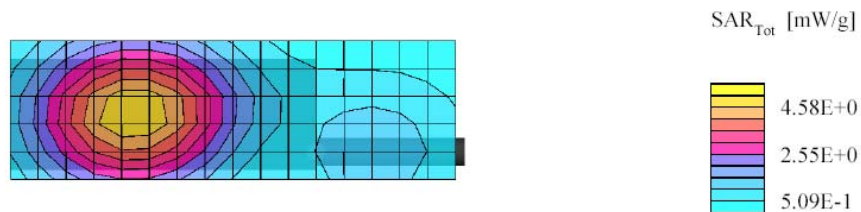


Motorola CGISS EME Lab

XTS 5000 Test Date: 10/23/01

Sim Temp: 20.3C	Run time:
Run # 01102304	End Power: 3.39W
Start Power: 3.61W	SN:C0290826
Model #: H18UCH9PW7AN	Antenna Kit: NAF5042A
TX Freq: 809MHz	Carry Acc: None, Mic @ 2.5cm
Acc. : Batt NTN9533AR	
Audio: None	

Flat Phantom Phantom; Radio Section; Position: (90°,90°);
Probe: ET3DV6 - SN1383; ConvF(6.53,6.53,6.53); Probe cal date: 05/23/01; Crest factor: 1.0; IEEE Head_809
MHz: $\sigma = 0.89$ mho/m $\epsilon_r = 42.8$ $\rho = 1.00$ g/cm³
Cube 5x5x7: SAR (1g): 4.80 mW/g, SAR (10g): 3.52 mW/g, (Worst-case extrapolation)
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 39.0, 66.0, 4.7



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Appendix B: Dipole System Performance Check Results

Dipole 835MHz; SN835-001; Test date:09/13/01

Run: 010913-01

835 Mhz @ 500mW

Target = 9.4mW/g

Room Temp = 23.8 Simulant temp = 23.8

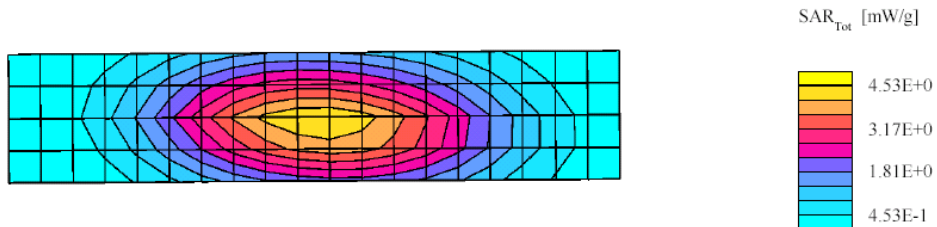
Small Flat Phantom; Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90);

Crest factor: 1.0; 835 Body: $\rho = 0.98$ mho/m $\rho_r = 53.0$ $\rho = 1.00$ g/cm³

Cube 5x5x7: Peak: 7.15 mW/g, SAR (1g): 4.47 mW/g, SAR (10g): 2.81 mW/g, (Worst-case extrapolation)

Penetration depth: 11.6 (10.6, 13.1) [mm]

Powerdrift: -0.00 dB



Motorola MFRL EME Lab

Dipole 835MHz ; Test date:08/30/01

Run: 010830-01

835 Mhz @ 500mW

9.4 mW/g = target

Room Temp = 23.7 Simulant temp = 23.6

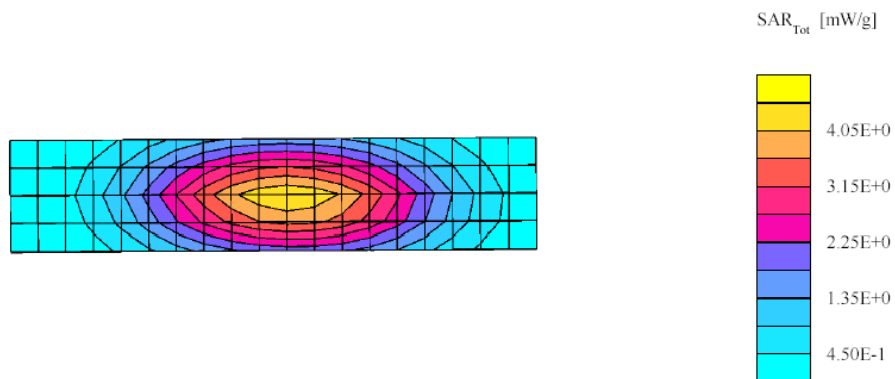
Small Flat Phantom; Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90)

Crest factor: 1.0; 835 Body: $\sigma = 0.98$ mho/m $\rho_r = 52.5$ $\rho = 1.00$ g/cm³

Cube 5x5x7: Peak: 6.84 mW/g, SAR (1g): 4.37 mW/g, SAR (10g): 2.80 mW/g, (Worst-case extrapolation)

Penetration depth: 12.3 (11.2, 13.7) [mm]

Powerdrift: -0.01 dB



Motorola MFRL EME Lab

Dipole 835MHz; SN835-001; Test date:09/12/01

Run: 010912-01

835 Mhz @ 500mW

Target = 9.4 mW/g

Room Temp = 24 Simulant temp = 24.2

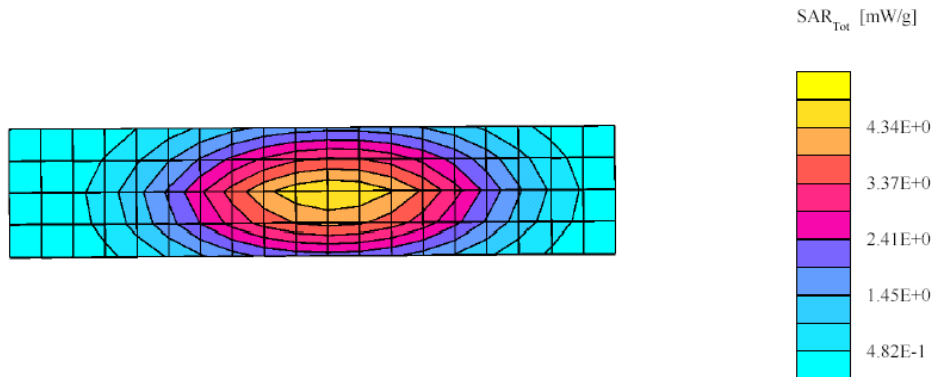
Small Flat Phantom; Probe: ET3DV6R - SN1417; ConvF (5.90,5.90,5.90);

Crest factor: 1.0; 835 Body: $\rho = 0.98$ mho/m $\rho_r = 53.0$ $\rho = 1.00$ g/cm³

Cube 5x5x7: Peak: 7.32 mW/g, SAR (1g): 4.70 mW/g, SAR (10g): 3.02 mW/g, (Worst-case extrapolation)

Penetration depth: 12.2 (11.2, 13.6) [mm]

Powerdrift: -0.03 dB



Motorola MFRL EME Lab

Dipole 835MHz; SN 835-001; Test Date: 08/27/01

Run: 010827-01

835 Mhz @ 500mW

Target = 9.4 mW/g

Room Temp = 23.6 Simulant temp = 23.6

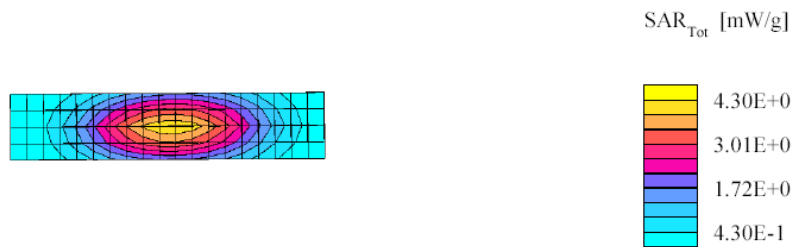
Small Flat Phantom; Probe: ET3DV6R - SN1417; ConvF(5.90,5.90,5.90)

Crest factor: 1.0; 835 Body: $\rho = 0.99$ mho/m $\rho_r = 53.2$ $\rho = 1.00$ g/cm³

Cube 5x5x7: SAR (1g): 4.48 mW/g, SAR (10g): 2.82 mW/g, (Worst-case extrapolation)

Coarse: Dx = 10.0, Dy = 10.0, Dz = 10.0; Max at 98.0, 19.0, 4.5

Power drift: 0.02dB



Motorola MFRL EME Lab

Dipole 835MHz; SN835-002; Test date:11/02/01

Run: 011102

Target = 9.5mW/g @ 1Watt input

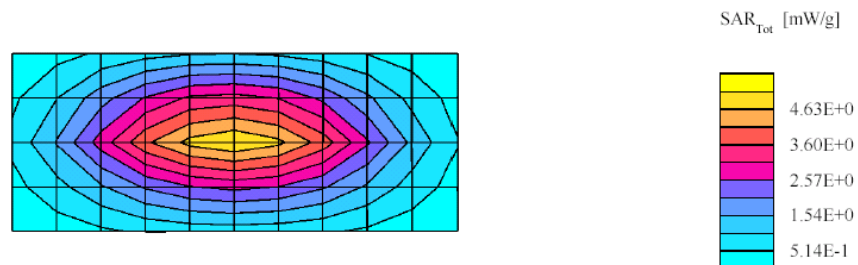
Flat; Probe: ET3DV6 - SN1545; ConvF(6.20,6.20,6.20); Crest factor: 1.0;

FCC Body 835: $\rho = 1.00$ mho/m $\rho_r = 54.2$ $\rho = 1.00$ g/cm³

Cube 5x5x7: Peak: 7.40 mW/g, SAR (1g): 4.75 mW/g, SAR (10g): 3.10 mW/g, (Worst-case extrapolation)

Penetration depth: 12.9 (11.4, 14.8) [mm]

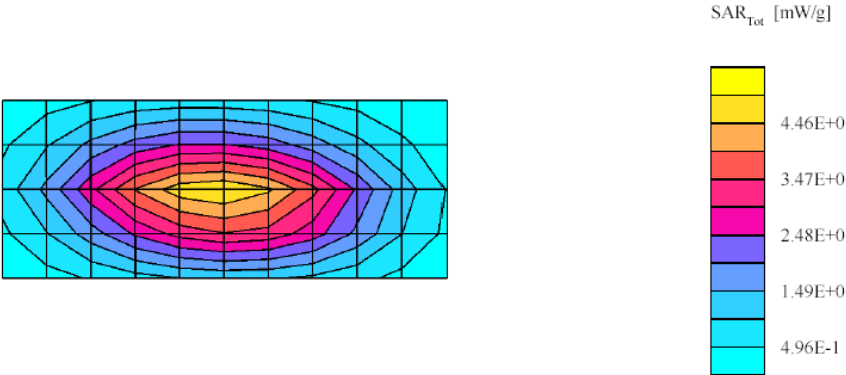
Powerdrift: -0.02 dB



Motorola CGISS EME Lab

Dipole 835 MHz; SN:835-002; Test date:11/06/01

Run: 011106-05
835 MHz Body Validation
Target 9.5 mW/g (without power drift) @ 1 Watt
Power input was 500 mW, Tissue Temp: 20.3C
Flat; Probe: ET3DV6 - SN1545; ConvF(6.20,6.20,6.20)
Crest factor: 1.0; FCC Body 835: $\sigma = 0.99$ mho/m $\rho_r = 53.6$ $\rho = 1.00$ g/cm3
Cube 5x5x7: Peak: 7.18 mW/g, SAR (1g): 4.62 mW/g, SAR (10g): 3.03 mW/g, (Worst-case extrapolation)
Penetration depth: 13.0 (11.4, 15.0) [mm]
Powerdrift: -0.04 dB



Motorola CGISS EME Lab

Dipole 835 MHz SN 835-002; Test date:10/01/01;

Run: 01100101

835 Head Validation, 2.0 mm bottom section; 500mW input;

Target 9.0mW/g @ 1W input

Tissue Temp: 20.8 C

Flat; Probe: ET3DV6 - SN1384; ConvF(6.57,6.57,6.57); Crest factor: 1.0; IEEE HEAD 835MHz: $\epsilon = 0.90$
 $\rho = 42.5$ $\sigma = 1.00$

g/cm3

Cube 5x5x7: Peak: 6.46 mW/g, SAR (1g): 4.21 mW/g, SAR (10g): 2.75 mW/g, (Worst-case extrapolation)

Penetration depth: 12.7 (11.7, 14.0) [mm]

Powerdrift: -0.04 dB



Motorola CGISS EME Lab

Dipole 835 MHz; Test date:09/29/01

Run: 01092902

835 Head Validation, 2.0 mm bottom section

500mW input; Target 9.0 mW/g @ 1 W input

Tissue Temp: 20.9 C

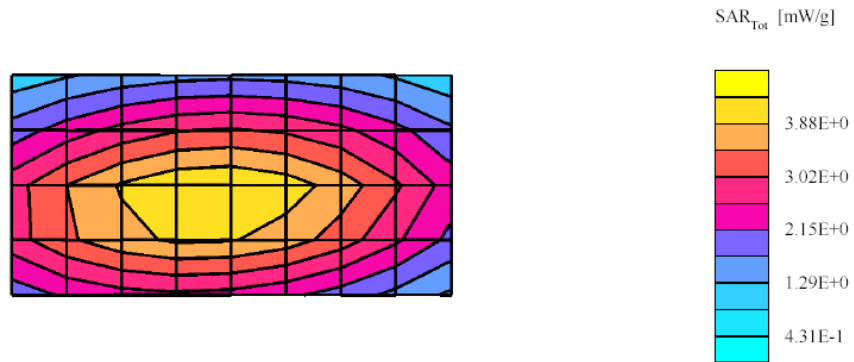
Flat; Probe: ET3DV6 - SN1384; ConvF(6.57,6.57,6.57)

Crest factor: 1.0; IEEE HEAD 835MHz: $\rho = 0.91$ mho/m $\rho_r = 43.0$ $\rho = 1.00$ g/cm³

Cube 5x5x7: Peak: 6.62 mW/g, SAR (1g): 4.33 mW/g, SAR (10g): 2.83 mW/g, (Worst-case extrapolation)

Penetration depth: 12.8 (11.8, 14.1) [mm]

Powerdrift: -0.02 dB



Motorola CGISS EME Lab

Dipole 835MHz SN 835-002; Test Date:10/23/01

Run: 01102301

Tagret value = 9.0 @ 1W

Measured value normalized to 1W is 8.92

Flat Phantom; Flat_H

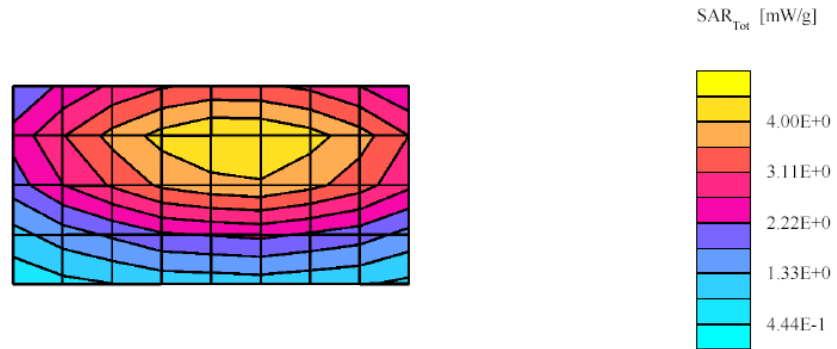
Probe: ET3DV6 - SN1383; ConvF(6.53,6.53,6.53); Crest factor: 1.0; IEEE Head_835 MHz: _ = 0.91

mho/m _r = 42.6 _ = 1.00 g/cm3

Cube 5x5x7: Peak: 6.85 mW/g, SAR (1g): 4.44 mW/g, SAR (10g): 2.88 mW/g, (Worst-case extrapolation)

Penetration depth: 12.5 (11.5, 13.8) [mm]

Powerdrift: -0.02 dB



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