

Answer to question 9

9.) Explanation for large change in SAR contours/hotspot for Whip antenna compared to flex gain antenna. Please provide SAR values for all secondary hotspots in accordance with Supplement C. Provide course scan plots of the body of the device for all WHIP antenna configurations.

See attached data

SAR MEASUREMENT SUMMARY

SAR DATA FOR THE TWO WORST-CASE (BATTERY) SECONDARY HOTSPOTS (BODY-WORN, WHIP ANTENNA)													
Freq. (MHz)	Chan.	Test Mode	Measured Conducted Power (Watts)			Antenna Type	Battery Type	Body-worn Accessory	Access. Separ. Dist. (cm)	SAR 1g (W/kg)			
										100% Duty Cycle		50% Duty Cycle	
			Before	After	Drift					Without Scaling	Scaled by Drift	Without Scaling	Scaled by Drift
806.0125	LB Low	CW	3.38	3.21	-0.17	Whip	NiCd	Nylon T-Strap	1.6	2.22	2.34	1.11	1.17
815.5000	LB Mid	CW	3.35	3.18	-0.17	Whip	NiMH	Nylon T-Strap	1.6	1.77	1.86	0.885	0.930
ANSI / IEEE C95.1 1992 - SAFETY LIMIT BODY: 8.0 W/kg (averaged over 1 gram) Spatial Peak - Controlled Exposure / Occupational													
Measured Mixture Type			835MHz Body		Atmospheric Pressure		102.4 kPa						
			Target	Measured	Relative Humidity		41 %						
Dielectric Constant			55.2 (+/- 5%)		52.9	Ambient Temperature		23.2 °C					
Conductivity			0.97 (+/- 5%)		0.92	Fluid Temperature		22.7 °C					
Abbreviation(s)			LB = Low Band			Fluid Depth		≥ 15 cm					

Note(s):

1. The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the SAR evaluation.
2. The temperatures listed in the table above were consistent for all measurement periods.
3. The EUT was tested with no turn-on delay.

SAR VALUE FOR SECONDARY HOTSPOT

M/A-COM PRS INC. FCC ID: OWDTR-0018-E

Small Planar Phantom; Planar Section; Position: (270°,180°)

Probe: ET3DV6 - SN1387; ConvF(6.30,6.30,6.30); Crest factor: 1.0

835 MHz Muscle: $\sigma = 0.92$ mho/m $\epsilon_r = 52.9$ $\rho = 1.00$ g/cm³

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

Cube 5x5x7

SAR (1g): 2.22 mW/g, SAR (10g): 1.61 mW/g

Body-Worn SAR with Nylon T-Strap (KRY1011656/1)

with Speaker-Microphone (KRY1011617/83R1A)

1.6cm T-Strap Separation Distance to Planar Phantom

J7100(PI) Portable FM PTT Radio Transceiver

Whip Antenna (KRE1011223/01)

NiCd Battery (BKB191210/3)

Continuous Wave Mode

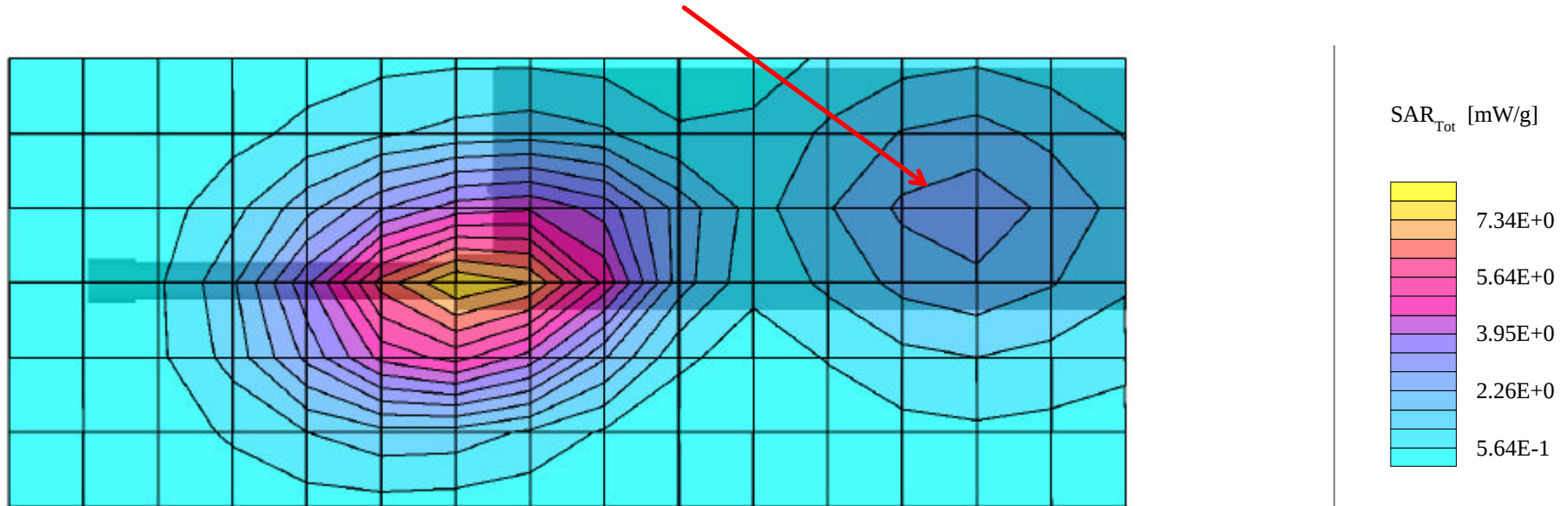
Low Band Low Channel [806.0125 MHz]

Conducted Power: 3.38 Watts

Ambient Temp: 23.2°C; Fluid Temp: 22.7°C

Date Tested: January 20, 2003

Secondary Hotspot Location



SAR VALUE FOR SECONDARY HOTSPOT

M/A-COM PRS INC. FCC ID: OWDTR-0018-E

Small Planar Phantom; Planar Section; Position: (270°,180°)

Probe: ET3DV6 - SN1387; ConvF(6.30,6.30,6.30); Crest factor: 1.0

835 MHz Muscle: $\sigma = 0.92$ mho/m $\epsilon_r = 52.9$ $\rho = 1.00$ g/cm³

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

Cube 5x5x7

SAR (1g): 1.77 mW/g, SAR (10g): 1.29 mW/g

Body-Worn SAR with Nylon T-Strap (KRY1011656/1)

with Speaker-Microphone (KRY1011617/83R1A)

1.6cm T-Strap Separation Distance to Planar Phantom

J7100(PI) Portable FM PTT Radio Transceiver

Whip Antenna (KRE1011223/01)

NiMH Battery (BKB191210/4)

Continuous Wave Mode

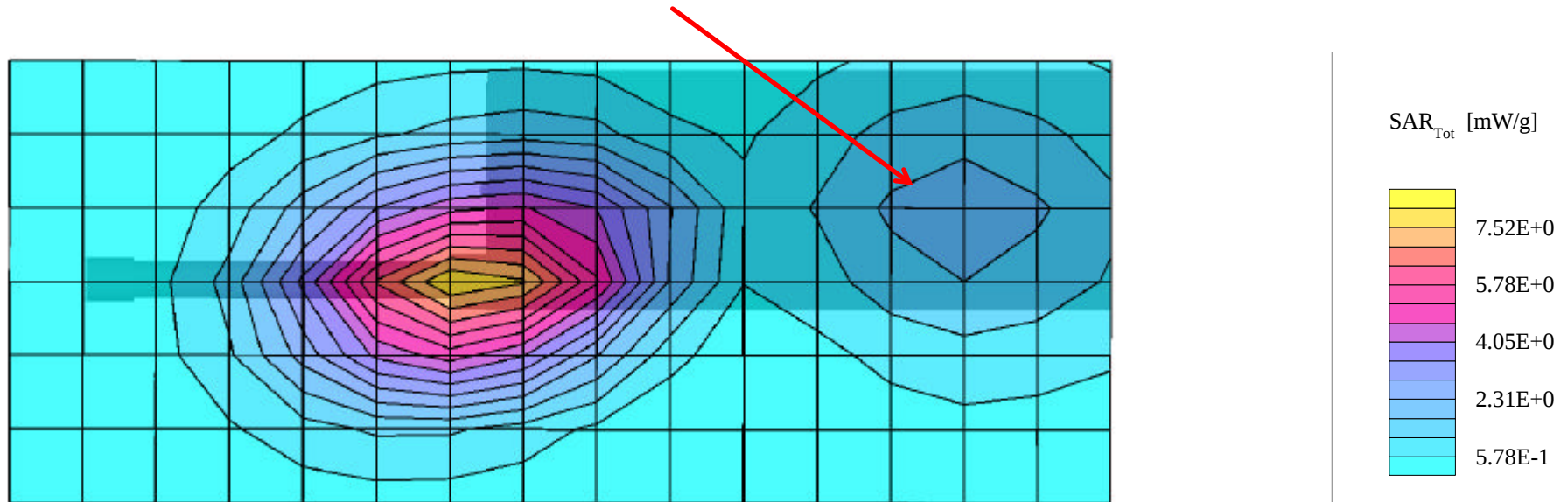
Low Band Mid Channel [815.5000 MHz]

Conducted Power: 3.35 Watts

Ambient Temp: 23.2°C; Fluid Temp: 22.7°C

Date Tested: January 20, 2003

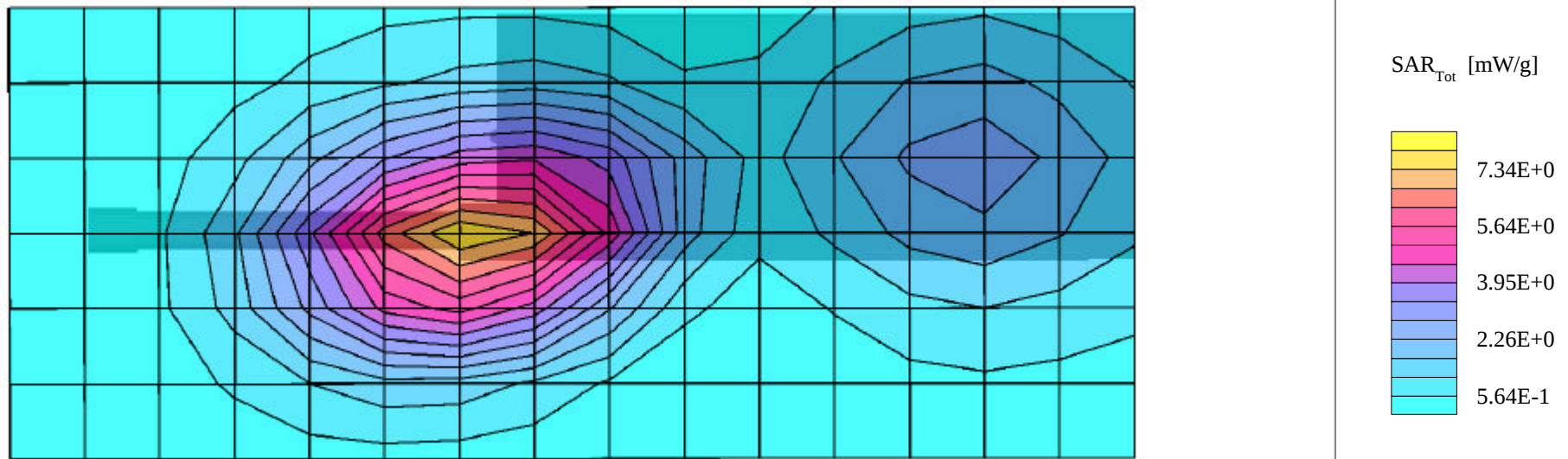
Secondary Hotspot Location



M/A-COM PRS INC. FCC ID: OWDTR-0018-E

Small Planar Phantom; Planar Section; Position: (270°,180°)
Probe: ET3DV6 - SN1387; ConvF(6.30,6.30,6.30); Crest factor: 1.0
835 MHz Muscle: $\sigma = 0.92$ mho/m $\epsilon_r = 52.9$ $\rho = 1.00$ g/cm³
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Cube 5x5x7

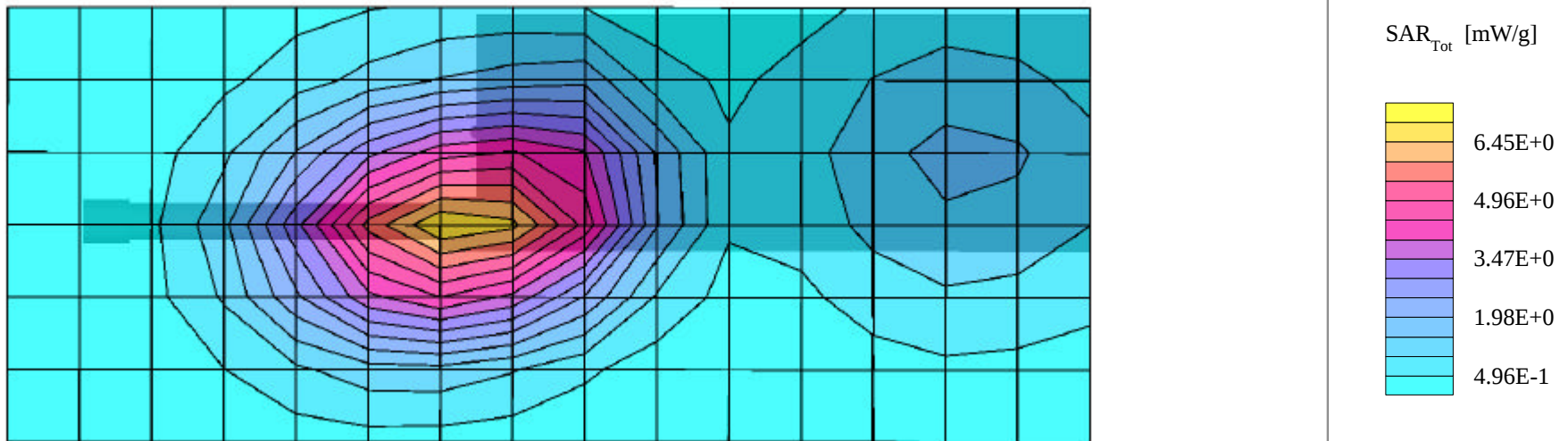
Body-Worn SAR with Nylon T-Strap (KRY1011656/1)
with Speaker-Microphone (KRY1011617/83R1A)
1.6cm T-Strap Separation Distance to Planar Phantom
J7100(PI) Portable FM PTT Radio Transceiver
Whip Antenna (KRE1011223/01)
NiCd Battery (BKB191210/3)
Continuous Wave Mode
Low Band Low Channel [806.0125 MHz]
Conducted Power: 3.38 Watts
Ambient Temp: 23.2°C; Fluid Temp: 22.7°C
Date Tested: January 20, 2003

Coarse scan showing peak SAR and secondary hotspot locations

M/A-COM PRS INC. FCC ID: OWDTR-0018-E

Small Planar Phantom; Planar Section; Position: (270°,180°)
Probe: ET3DV6 - SN1387; ConvF(6.30,6.30,6.30); Crest factor: 1.0
835 MHz Muscle: $\sigma = 0.92$ mho/m $\epsilon_r = 52.9$ $\rho = 1.00$ g/cm³
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Cube 5x5x7

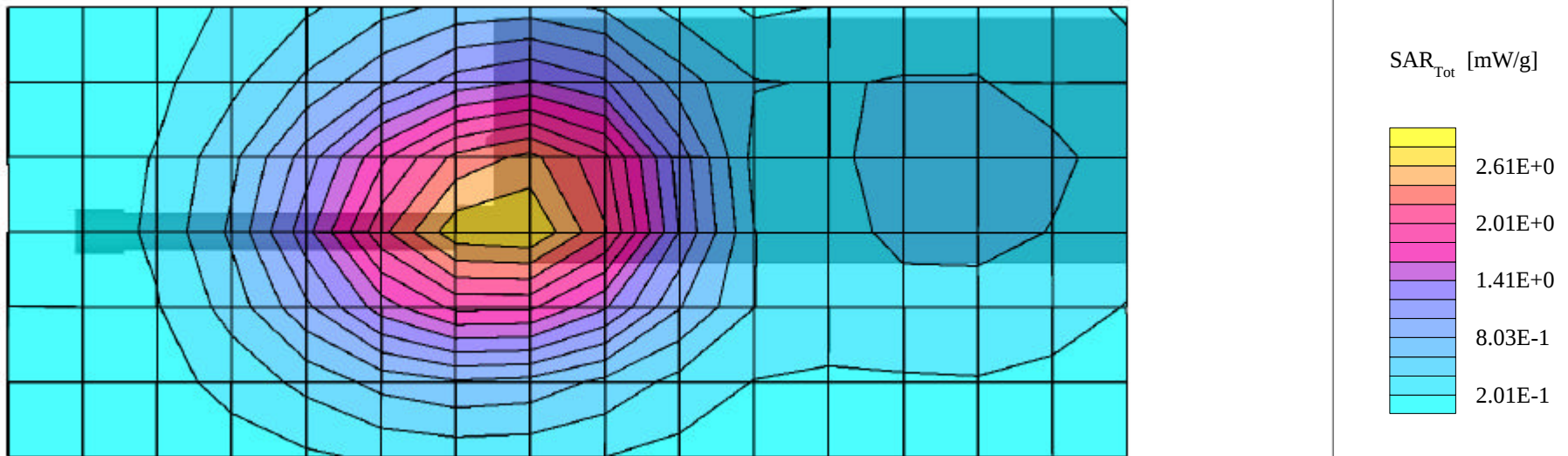
Body-Worn SAR with Leather Case/Belt-Loop (KRY1011638/1)
with Speaker-Microphone (KRY1011617/83R1A)
1.7cm Leather Case/Belt-Loop Separation Distance to Planar Phantom
J7100(PI) Portable FM PTT Radio Transceiver
Whip Antenna (KRE1011223/01)
NiCd Battery (BKB191210/3)
Continuous Wave Mode
Low Band Low Channel [806.0125 MHz]
Conducted Power: 3.38 Watts
Ambient Temp: 23.2°C; Fluid Temp: 22.7°C
Date Tested: January 20, 2003

Coarse scan showing peak SAR and secondary hotspot locations

M/A-COM PRS INC. FCC ID: OWDTR-0018-E

Small Planar Phantom; Planar Section; Position: (270°,180°)
Probe: ET3DV6 - SN1387; ConvF(6.30,6.30,6.30); Crest factor: 1.0
835 MHz Muscle: $\sigma = 0.92$ mho/m $\epsilon_r = 52.9$ $\rho = 1.00$ g/cm³
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Cube 5x5x7

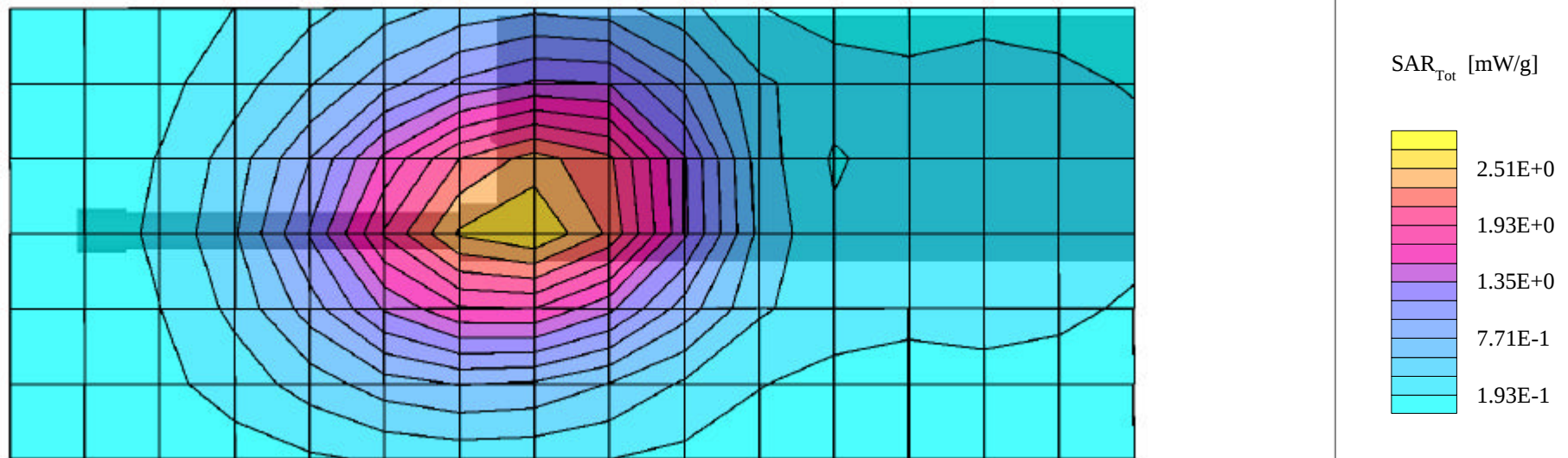
Body-Worn SAR with Leather Belt-Loop (19B226627G2) & Swivel (19B233243G3)
with Speaker-Microphone (KRY1011617/83R1A)
3.3cm Belt-Loop Separation Distance to Planar Phantom
J7100(PI) Portable FM PTT Radio Transceiver
Whip Antenna (KRE1011223/01)
NiCd Battery (BKB191210/3)
Continuous Wave Mode
Low Band High Channel [823.9875 MHz]
Conducted Power: 3.33 Watts
Ambient Temp: 23.2°C; Fluid Temp: 22.7°C
Date Tested: January 20, 2003

Coarse scan showing peak SAR and secondary hotspot locations

M/A-COM PRS INC. FCC ID: OWDTR-0018-E

Small Planar Phantom; Planar Section; Position: (270°,180°)
Probe: ET3DV6 - SN1387; ConvF(6.30,6.30,6.30); Crest factor: 1.0
835 MHz Muscle: $\sigma = 0.92$ mho/m $\epsilon_r = 52.9$ $\rho = 1.00$ g/cm³
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Cube 5x5x7

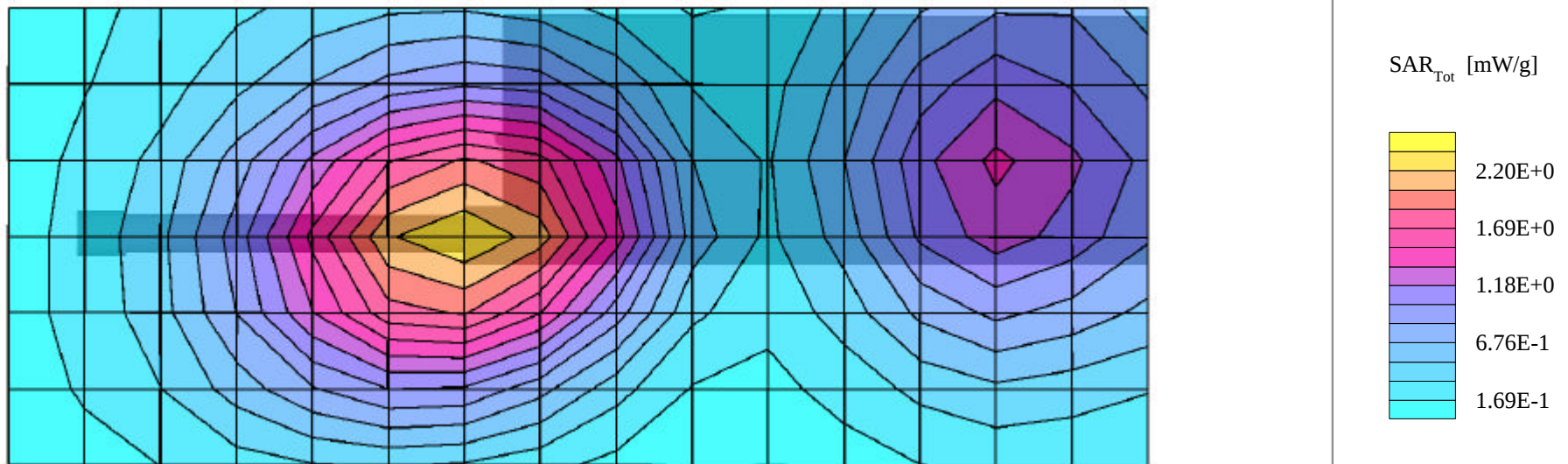
Body-Worn SAR with Leather Belt-Loop (19B226627G2) & Swivel (19B233243G3)
with Speaker-Microphone (KRY1011617/83R1A)
3.3cm Belt-Loop Separation Distance to Planar Phantom
J7100(PI) Portable FM PTT Radio Transceiver
Whip Antenna (KRE1011223/01)
NiMH Battery (BKB191210/4)
Continuous Wave Mode
High Band High Channel [868.9875 MHz]
Conducted Power: 3.18 Watts
Ambient Temp: 23.2°C; Fluid Temp: 22.7°C
Date Tested: January 20, 2003

Coarse scan showing peak SAR and secondary hotspot locations

M/A-COM PRS INC. FCC ID: OWDTR-0018-E

Small Planar Phantom; Planar Section; Position: (270°,180°)
Probe: ET3DV6 - SN1387; ConvF(6.30,6.30,6.30); Crest factor: 1.0
835 MHz Muscle: $\sigma = 0.92$ mho/m $\epsilon_r = 52.9$ $\rho = 1.00$ g/cm³
Coarse: Dx = 20.0, Dy = 20.0, Dz = 10.0
Cube 5x5x7

Nylon Case with Swivel (KRY1011648/1) & Leather Belt-Loop (19B226627G2)
with Speaker-Microphone (KRY1011617/83R1A)
4.0cm Nylon Case & Belt-Loop Separation Distance to Planar Phantom
J7100(PI) Portable FM PTT Radio Transceiver
Whip Antenna (KRE1011223/01)
NiCd Battery (BKB191210/3)
Continuous Wave Mode
Low Band Low Channel [806.0125 MHz]
Conducted Power: 3.38 Watts
Ambient Temp: 23.2°C; Fluid Temp: 22.7°C
Date Tested: January 20, 2003

Coarse scan showing peak SAR and secondary hotspot locations

835MHz EUT Evaluation (Body)

Measured Fluid Dielectric Parameters (Muscle)

January 20, 2003

Frequency	e'	e''
735.000000 MHz	53.8720	20.4364
745.000000 MHz	53.7294	20.3771
755.000000 MHz	53.6559	20.2968
765.000000 MHz	53.5300	20.2235
775.000000 MHz	53.4469	20.1608
785.000000 MHz	53.3711	20.1081
795.000000 MHz	53.2895	20.1262
805.000000 MHz	53.2211	20.0718
815.000000 MHz	53.1260	20.0109
825.000000 MHz	53.0072	19.9652
835.000000 MHz	52.9028	19.9319
845.000000 MHz	52.8162	19.8768
855.000000 MHz	52.6860	19.8388
865.000000 MHz	52.5881	19.7901
875.000000 MHz	52.5019	19.7908
885.000000 MHz	52.4056	19.7537
895.000000 MHz	52.3572	19.6422
905.000000 MHz	52.2975	19.6033
915.000000 MHz	52.1885	19.5739
925.000000 MHz	52.1356	19.5487
935.000000 MHz	52.0499	19.5216