MEASUREMENT SUMMARY

BODY SAR MEASUREMENT RESULTS (2450MHz) Band									
Freq (MHz)	Chan	Test Mode	EIRP (dBm)	Power Supply	Antenna Type	EUT Test Position	Phantom Section	Antenna housing Sep. Dist. (cm)	Measured SAR 1g (W/kg)
2437.0	Mid	DTS	0.1	AC	Internal	Back	Planar	0.0	0.037
2437.0	Mid	DTS	0.1	AC	Internal	Top	Planar	0.0	0.061

ANSI/IEEE C95.1 1992 – SAFETY LIMIT BODY: 1.6 W/kg (averaged over 1 gram) Spatial Peak – Uncontrolled Exposure/General Population				
Measured Mixture Type	2450 MHz Body		Date Tested	July 21, 2005
Dielectric Constant εr	IEEE Target	Measured	Duty Cycle	100%
	52.7	54.2	Ambient Temperature (C)	22.1
Conductivity σ (mho/m)	IEEE Target	Measured	Fluid Temperature (C)	21.8
	1.95	2.04	Fluid Depth	≥15cm

Mid ch Top side

Date: 07/21/2005

DUT: Pepper Computers; Type: Pepper Wireless PAD

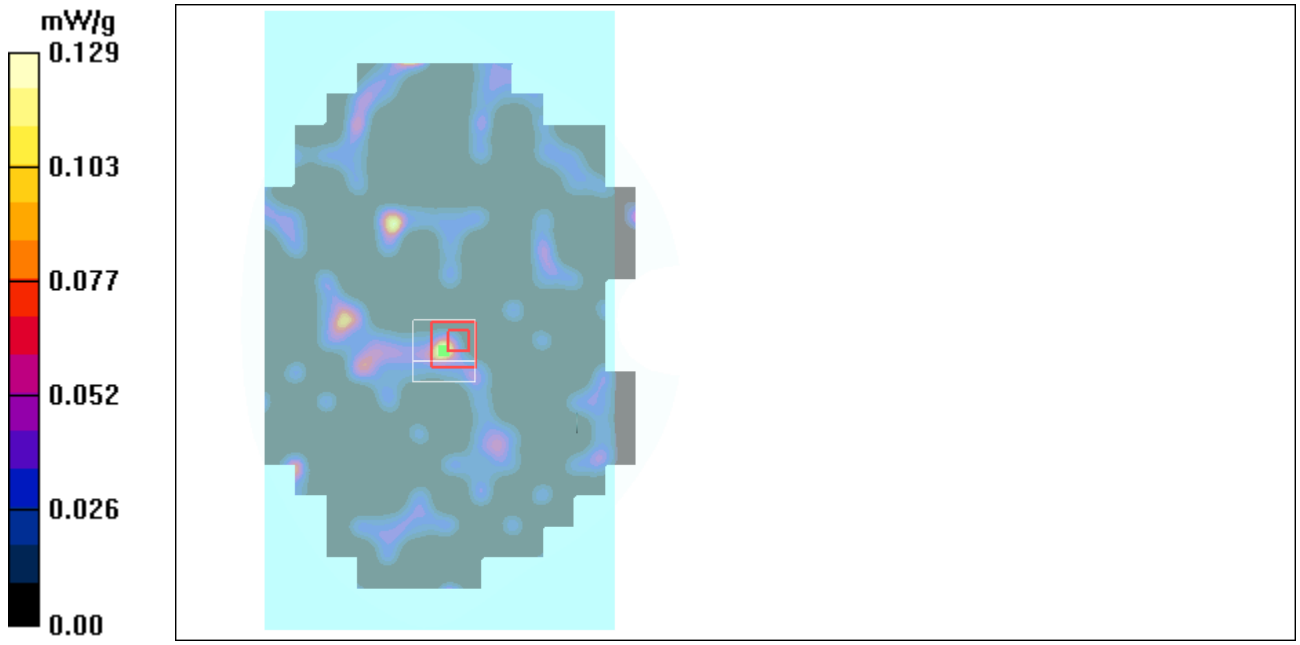
Communication System: DTS ; ; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: M2450 Medium parameters used: f = 2437 MHz; σ = 2.04 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

- Probe: EX3DV3 - SN3511; ConvF(7.66, 7.66, 7.66); Calibrated: 1/23/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn584; Calibrated: 9/16/2003
- Phantom: SAM with CRP; Type: SAM; Serial: TP 1310
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Area Scan (131x171x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.129 mW/g

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.82 V/m; Power Drift = -0.2dB

Peak SAR (extrapolated) = 0.132 W/kg
SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.020 mW/g
Maximum value of SAR (measured) = 0.131 mW/g



Mid ch Back side

Date: 07/21/2005

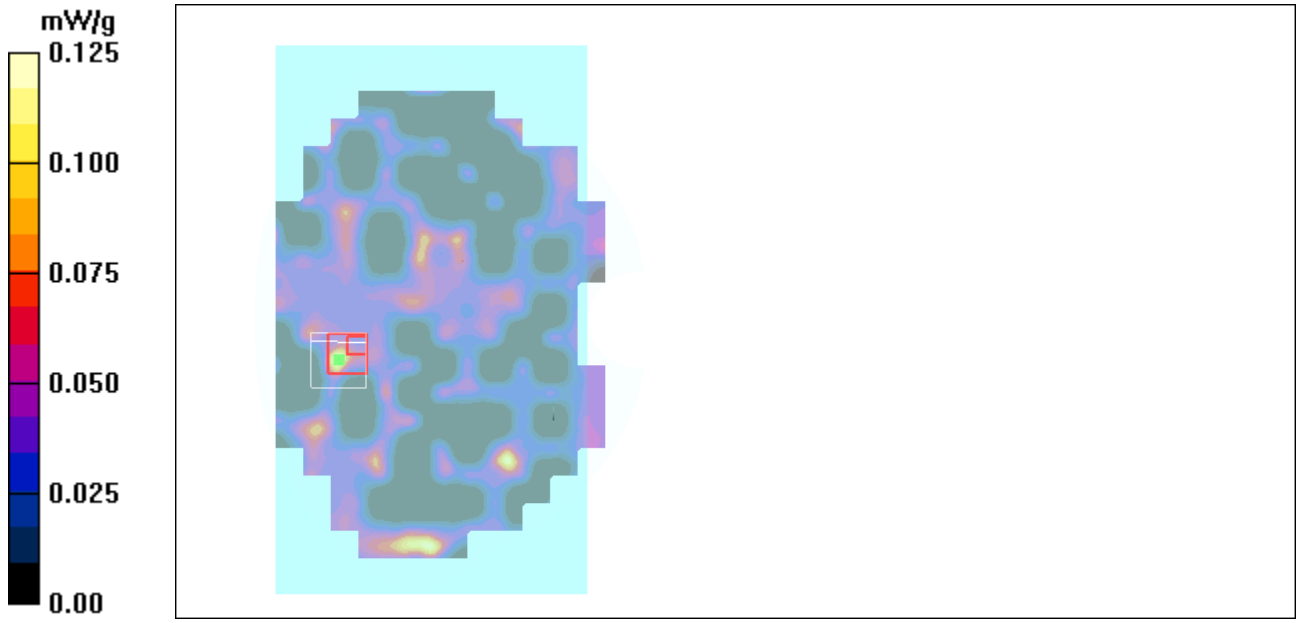
DUT: Pepper Computers; Type: Pepper Wireless PAD

Communication System: DTS ; ; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: M2450 Medium parameters used: f = 2437 MHz; σ = 2.04 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

- Probe: EX3DV3 - SN3511; ConvF(7.66, 7.66, 7.66); Calibrated: 1/23/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn584; Calibrated: 9/16/2003
- Phantom: SAM with CRP; Type: SAM; Serial: TP 1310
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Area Scan (131x171x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.125 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.19 V/m; Power Drift = -0.23dB
Peak SAR (extrapolated) = 0.199 W/kg
SAR(1 g) = 0.061 mW/g; SAR(10 g) = 0.038 mW/g
Maximum value of SAR (measured) = 0.141 mW/g



DUT: Dipole 2450 MHz; Type: D2450V2; Serial: SN:002

Date: 07/21/2005

2450MHz System Validation

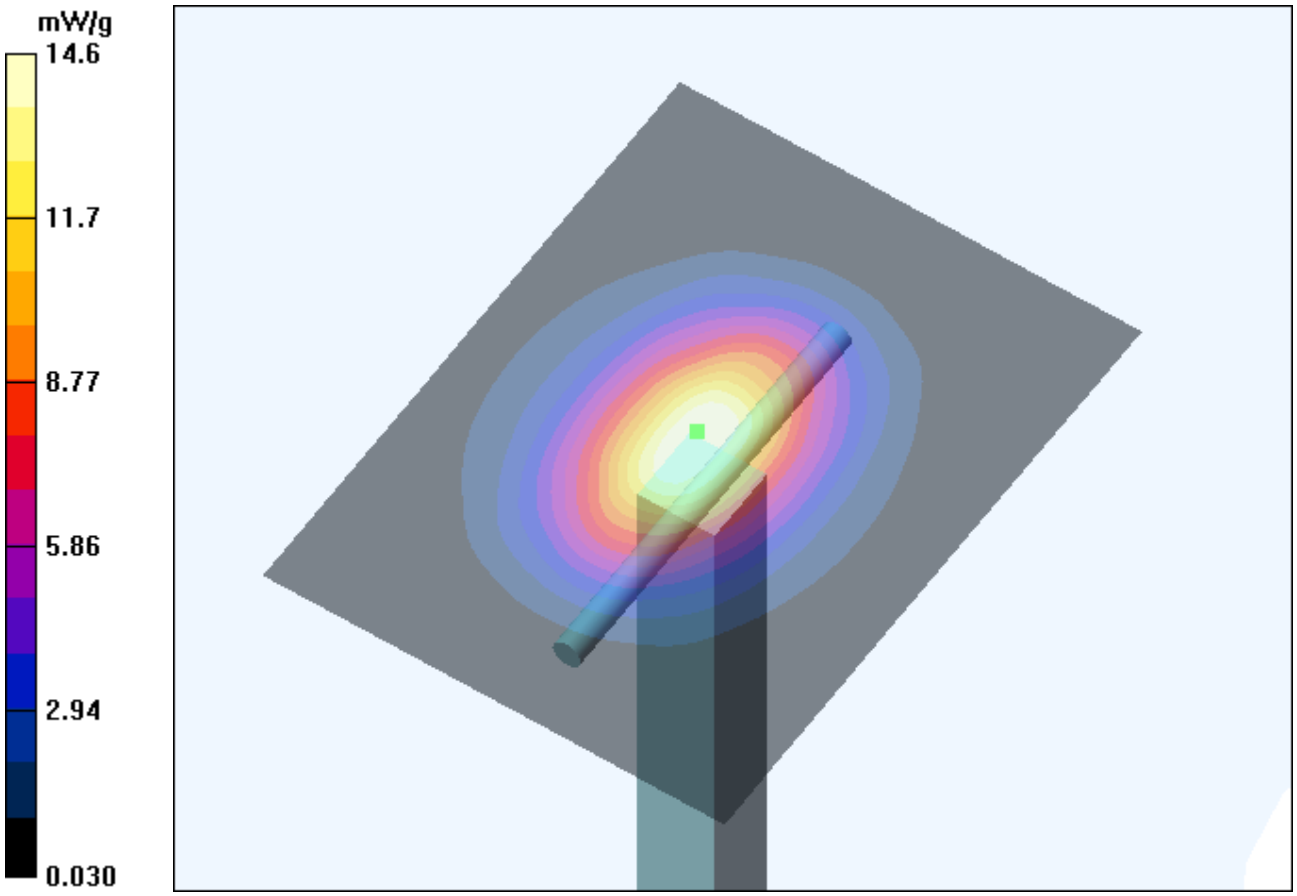
Communication System: CW; ; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL2450 Medium parameters used: f = 2450 MHz; σ = 1.79 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

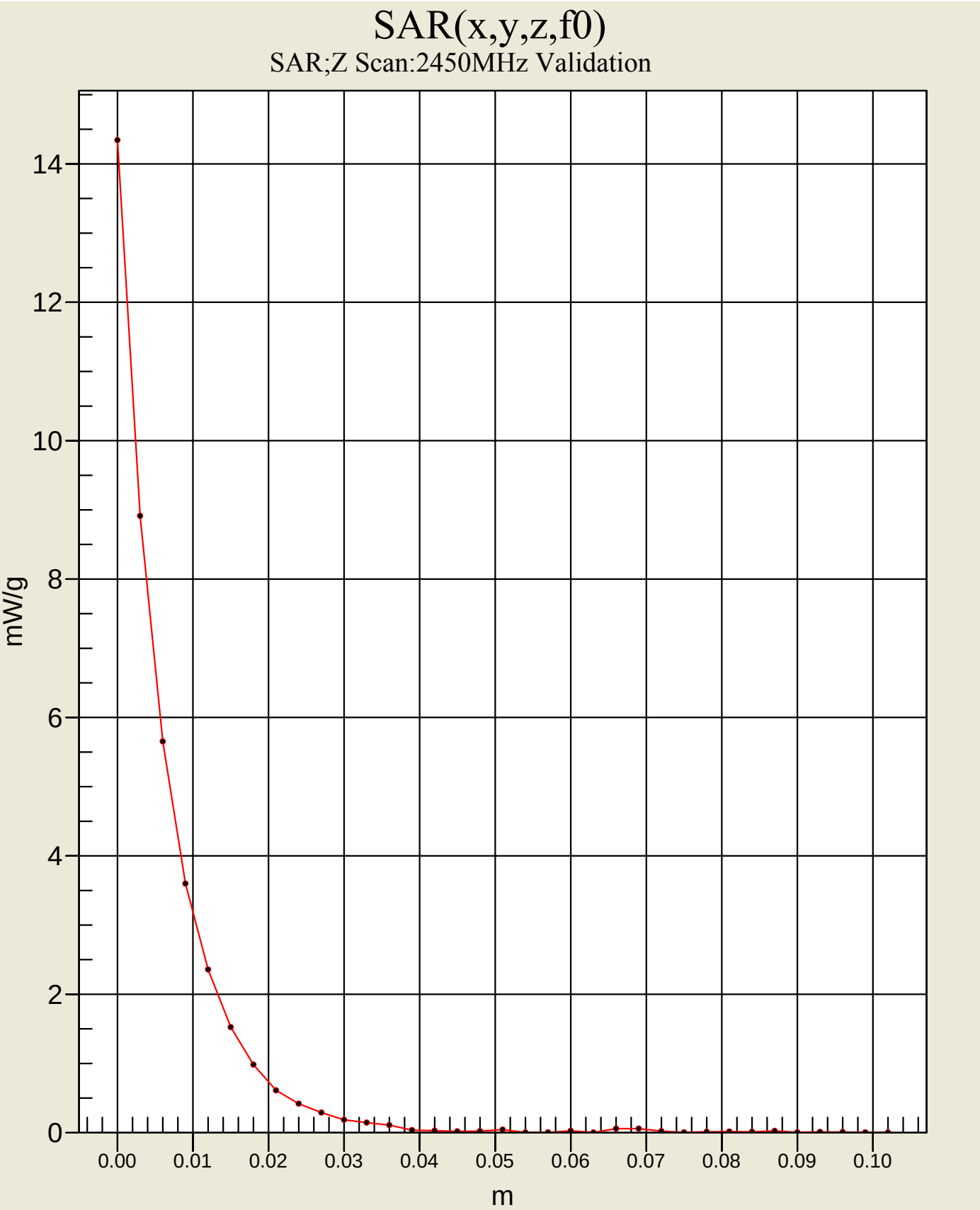
Medium Notes: Ambient Temp: 22.6 deg C, Fluid Temp: 21.9 deg C

- Probe: EX3DV3 - SN3511; ConvF(7.5, 7.5, 7.5); Calibrated: 1/23/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn584; Calibrated: 9/16/2003
- Phantom: SAM with CRP; Type: SAM; Serial: TP 1310
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 14.5 mW/g

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.2 V/m; Power Drift = 0.0 dB
Peak SAR (extrapolated) = 26.5 W/kg
SAR(1 g) = 12.2 mW/g; SAR(10 g) = 5.54 mW/g
Maximum value of SAR (measured) = 14.0 mW/g



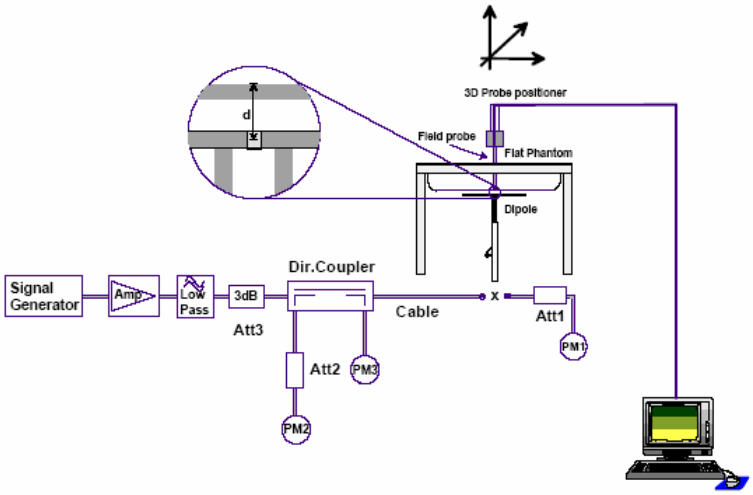

SAR(x,y,z,f0)
SAR;Z Scan:2450MHz Validation
mW/g
0
2
4
6
8
10
12
14
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
0.09
0.10
m

SYSTEM PERFORMANCE CHECK

Prior to the SAR evaluation a system check was performed in the planar section of the SAM phantom with a 2450 MHz dipole. The dielectric parameters of the simulated brain fluid were measured prior to the system performance check using an 85070D Dielectric Probe Kit and an 8722D Network Analyzer. A forward power of 250mW was applied to the dipole and the system was verified to a tolerance of +10%.

Test Date	2450MHz Equivalent Tissue	SAR 1g (W/kg)		Permittivity Constant εr		Conductivity σ (mho/m)		Ambient Temp. (C)	Fluid Temp. (C)	Fluid Depth (cm)
		Calibrated Target	Measured	IEEE Target	Measured	IEEE Target	Measured			
07/21/05	Head	50.4±5%	48.8	39.2 ±5%	38.8	1.80±10%	1.79	22.6	21.9	≥15

Note: The ambient and fluid temperatures were measured prior to the fluid parameter check and the system performance check. The temperatures listed in the table above were consistent for all measurement periods.



SIMULATED EQUIVALENT TISSUES

Simulated Tissue Mixture		
Ingredient	**2450MHz Head Validation**	**2450MHz Body EUT**
Water	46.7%	73.3%
DGMBE	53.3%	26.7%

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2450MHz Head

July 21, 2005

Frequency	e'	e''
2.400000000 GHz	39.0605	13.4191
2.402000000 GHz	39.0629	13.4285
2.404000000 GHz	39.0715	13.4384
2.406000000 GHz	39.0677	13.4471
2.408000000 GHz	39.0674	13.4529
2.410000000 GHz	39.0522	13.4511
2.412000000 GHz	39.0338	13.4348
2.414000000 GHz	39.0000	13.4171
2.416000000 GHz	39.0001	13.4198
2.418000000 GHz	38.9951	13.4267
2.420000000 GHz	38.9582	13.4258
2.422000000 GHz	38.9494	13.4245
2.424000000 GHz	38.9335	13.4319
2.426000000 GHz	38.9511	13.4316
2.428000000 GHz	38.9499	13.4327
2.430000000 GHz	38.9490	13.4476
2.432000000 GHz	38.9388	13.4617
2.434000000 GHz	38.9137	13.4542
2.436000000 GHz	38.9165	13.4632
2.438000000 GHz	38.8986	13.4611
2.440000000 GHz	38.9021	13.4640
2.442000000 GHz	38.9150	13.4646
2.444000000 GHz	38.9039	13.4909
2.446000000 GHz	38.9057	13.4782
2.448000000 GHz	38.8958	13.4921
2.450000000 GHz	38.8879	13.4846
2.452000000 GHz	38.8859	13.4807
2.454000000 GHz	38.8758	13.4977
2.456000000 GHz	38.8763	13.5002
2.458000000 GHz	38.8682	13.5128
2.460000000 GHz	38.8591	13.5205
2.462000000 GHz	38.8491	13.5205
2.464000000 GHz	38.8539	13.5279
2.466000000 GHz	38.8401	13.5368
2.468000000 GHz	38.8441	13.5534
2.470000000 GHz	38.8318	13.5639
2.472000000 GHz	38.8189	13.5635
2.474000000 GHz	38.8226	13.5662
2.476000000 GHz	38.8115	13.5644
2.478000000 GHz	38.7993	13.5749
2.480000000 GHz	38.8048	13.5930
2.482000000 GHz	38.8137	13.6083
2.484000000 GHz	38.7967	13.6398
2.486000000 GHz	38.7806	13.6253
2.488000000 GHz	38.7787	13.6243

2450MHz Body

July 21, 2005

Frequency	e'	e''
2.400000000 GHz	54.4041	14.7667
2.402000000 GHz	54.3991	14.8025
2.404000000 GHz	54.3894	14.8047
2.406000000 GHz	54.3846	14.8165
2.408000000 GHz	54.3242	14.8225
2.410000000 GHz	54.2989	14.8217
2.412000000 GHz	54.2942	14.8094
2.414000000 GHz	54.2949	14.8460
2.416000000 GHz	54.2764	14.8683
2.418000000 GHz	54.3097	14.8693
2.420000000 GHz	54.2971	14.8959
2.422000000 GHz	54.2792	14.9095
2.424000000 GHz	54.2685	14.8894
2.426000000 GHz	54.2374	14.9049
2.428000000 GHz	54.2259	14.9021
2.430000000 GHz	54.2680	14.9033
2.432000000 GHz	54.2620	14.9374
2.434000000 GHz	54.2539	14.9460
2.436000000 GHz	54.2248	14.9390
2.438000000 GHz	54.1931	14.9715
2.440000000 GHz	54.2146	14.9483
2.442000000 GHz	54.2118	14.9903
2.444000000 GHz	54.2183	15.0035
2.446000000 GHz	54.2192	15.0243
2.448000000 GHz	54.2107	15.0500
2.450000000 GHz	54.1808	15.0362
2.452000000 GHz	54.1609	15.0533
2.454000000 GHz	54.1592	15.0778
2.456000000 GHz	54.1517	15.0982
2.458000000 GHz	54.1351	15.1028
2.460000000 GHz	54.1579	15.1303
2.462000000 GHz	54.1151	15.1305
2.464000000 GHz	54.1190	15.1233
2.466000000 GHz	54.1108	15.1369
2.468000000 GHz	54.0953	15.1686
2.470000000 GHz	54.1076	15.1823
2.472000000 GHz	54.1286	15.1963
2.474000000 GHz	54.1340	15.2196
2.476000000 GHz	54.1181	15.2155
2.478000000 GHz	54.1044	15.2247
2.480000000 GHz	54.0848	15.2177
2.482000000 GHz	54.0855	15.2314
2.484000000 GHz	54.0779	15.2566
2.486000000 GHz	54.0832	15.2559
2.488000000 GHz	54.0628	15.2747