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Exhibit 11: SAR Test Report of Portable Cellular Phone FCC ID: PY7AF031021 Model : S710a

Date of test: August 15- August 27, 2004 and December 2-3, 2004
Date of Report: December 6, 2004

Laboratory: SAR Testing Laboratory Sony Ericsson Mobile Communications, Inc. 7001 Development Drive, P.O. Box 13969, Research Triangle Park, NC, 27709, USA

Tested by: Rodney Dixon
 Technician III, Product Verification Group

Test Responsible: Gerard Hayes
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Accreditation: This laboratory is accredited to ISO/IEC 17025-1999 to perform the following electromagnetic exposure tests:



- Specific Absorption Rate (SAR)
- Dielectric parameters
- RF power measurement

On the following types of products:
 Wireless communications devices. A2LA certificate #1650-01

Statement of Compliance: Sony Ericsson Mobile Communications, Inc declares under its sole responsibility that portable cellular telephone FCC ID PY7AF031021 model S710A to which this declaration relates, is in conformity with the appropriate General Population/Uncontrolled RF exposure standards, recommendations and guidelines (FCC 47 CFR §2.1093). It also declares that the product was tested in accordance with the appropriate measurement standards, guidelines and recommended practices. Any deviations from these standards, guidelines and recommended practices are noted below:

(none)

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This test report shall not be reproduced except in full, without written approval of the laboratory.

The results and statements contained herein relate only to the items tested. The names of individuals involved may be mentioned only in connection with the statements or results from this report.

Sony Ericsson Mobile Communications encourages all feedback, both positive and negative, on this test report.



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1. Introduction

The Sony Ericsson SAR Laboratory has performed measurements of the maximum potential exposure to the user of portable cellular phone FCC ID PY7AF031021 model S710A. The Specific Absorption Rate (SAR) of this product was measured. The applicable RF safety guidelines and the SAR measurement specifications used for the test are described in [1].

2. Description of the Device Under Test

2.1 Antenna description

Type	Internal antenna	
Location	Inside back cover, above the camera	
Dimensions	Width	34mm
	Length	16mm
	Height	6mm
Configuration	Bent Monopole – Type Antenna	

2.2 Device description

FCC ID Number / Device Model	PY7AF031021 / S710A					
Serial number	BF7EP20328		BF7EP20308		BF7EP20308	
Mode(s) of Operation	GSM 800				GSM 1900	
Modulation Mode(s)	TDMA				TDMA	
Target Value and Factory Tolerance Window for Maximum Output Power Setting	f_{low}	32.0 ± 0.8dBm			f_{low}	30.2 ± 0.8dBm
	f_{mid}	32.0 ± 0.5dBm			f_{mid}	30.0 ± 0.5dBm
	f_{high}	32.0 ± 0.8dBm			f_{high}	30.0 ± 0.8dBm
Calibration Frequency (f_{low}, f_{mid}, f_{high})	f_{mid}				f_{mid}	
Duty Cycle	1/8 GSM 2/8 EGPRS (Data)				1/8 GSM 2/8 EGPRS (Data)	
Transmitting Frequency Rang(s)	824-849 MHz				1850-1910 MHz	
Production Unit or Identical Prototype (47 CFR §2.908)	Identical Prototype					
Device Category	Portable					
RF Exposure Limits	General Population / Uncontrolled					



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3. Test Equipment Used

3.1 Dosimetric System

The Sony Ericsson SAR Laboratory utilizes Dosimetric Assessment Systems (Dasy3™ v3.1d for body-worn measurements and Dasy4™ for adjacent to head measurements) manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. The overall RSS uncertainty of the measurement system is ±11.33% (K=1) with an expanded uncertainty of ±22.67% (K=2) for Dasy3™ v3.1d and ±10.14% (K=1) with an expanded uncertainty of ±20.27% (K=2) for Dasy4™. The measurement uncertainty budget is given in Appendix 5 for both systems. The list of calibrated equipment used for the measurements is shown in the following table.

Description	Serial Number	Cal Due Date
DASY3 DAE V1	345	25-Nov-2004
DASY3 DAE V1	392	24-Nov-2005
DASY3 DAE V1	417	10-Dec-2004
DASY3 DAE V1	431	26-Nov-2004
E-Field Probe ETDV6	1583	16-Dec-2004
E-Field Probe ETDV6	1586	27-May-2005
E-Field Probe ETDV6	1587	27-May-2005
Dipole Validation Kit, DV835V2	429	22-Jan-2005
Dipole Validation Kit, DV1900V2	536	21-Jan-2005
S.A.M. Phantom used for 835MHz (Head)	1251	
S.A.M. Phantom used for 835MHz (Body)	1031	
S.A.M. Phantom used for 1900MHz (Head)	1054	
S.A.M. Phantom used for 1900MHz (Body)	1020	

3.2 Additional Equipment

Description	Serial Number	Cal Due Date
Signal Generator HP8648C	3537A01598	9-Sep-04
Power Meter 437B	3125U16190	4-Jun-05
Power Meter 437B	3125U12026	4-Jun-05
Power Sensor - 8482H	MY41090241	4-Jun-05
Power Sensor - 8482H	3318A07097	4-Jun-05
Network Analyzer HP8752A	3310A01528	10-Dec-04
Dielectric Probe Kit HP85070B	US33020390	16-Apr-05
Digital Thermometer 61220-601	350078	10-Nov-04
Digital Hygrometer/ Thermometer	230355187	13-Jan-06
HP RF Amplifier 8347A	3307A1069	30-Jun-05



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4. Electrical parameters of the tissue simulating liquid

Prior to conducting SAR measurements, the relative permittivity, ϵ_r , and the conductivity, σ , of the tissue simulating liquids were measured with the dielectric probe kit. These values, along with the temperature of the simulated tissue are shown in the table below. A mass density of $\rho=1\text{g/cm}^3$ was entered into the system in all the cases. It can be seen that the measured parameters are within tolerance of the recommended limits [1]. During the tests, the ambient temperature of the laboratory was in the range 21.7-22.9°C, the relative humidity was 47.8%- 56.7 %, and the liquid depth above the ear reference points was more than 15.0 cm for all the cases. It is seen that the measured parameters are satisfactory for compliance testing.

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			ϵ_r	σ (S/m)	Simulated Tissue Temp (°C)
835	Head	Measured, 15-Aug-04	41.37	0.893	21.7
		Measured, 19-Aug-04	40.87	0.884	22.2
		Measured, 02-Dec-04	40.45	0.896	23.1
		Recommended Limits	41.50	0.90	20-25
	Body	Measured, 25-Aug-04	54.41	0.971	22.8
		Measured, 26-Aug-04	54.51	0.979	22.5
		Measured, 03-Dec-04	53.80	0.970	22.8
Recommended Limits	55.20	0.97	20-25		
1900	Head	Measured, 23-Aug-04	38.65	1.451	21.8
		Measured, 24-Aug-04	38.43	1.455	22.1
		Measured, 02-Dec-04	38.50	1.45	21.3
		Recommended Limits	40.00	1.40	20-25
	Body	Measured, 27-Aug-04	51.13	1.519	22.9
		Measured, 03-Dec-04	50.96	1.55	21.9
		Recommended Limits	53.30	1.52	20-25

The list of ingredients and the percent composition used for the simulated tissue are indicated in the table below.

Ingredient	800MHz	800MHz	1800/1900MHz	1900MHz
	Head	Body	Head	Body
Sugar	57.99%	56.00%	--	--
DGBE	--	--	44.92%	30.82%
Water	39.72%	41.76%	54.90%	68.89%
Salt	1.18%	0.76%	0.18%	0.29%
HEC	0.92%	1.21%	--	--
Bact.	0.19%	0.27%	--	--



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5. System Accuracy Verification

A system accuracy verification of the DASY3 was performed using the measurement equipment listed in Section 3.1. The daily system accuracy verification occurs within the flat section of the SAM phantom.

A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR indicated on the dipole certification sheet. These tests were done at 835 MHz and/or 1800MHz/1900MHz. These frequencies are within 100MHz of the mid-band frequency of the test device, according to [1]. The test was conducted on the same days as the measurement of the DUT. The results from the system accuracy verification are displayed in the table below (SAR values are normalized to 1W forward power delivered to the dipole). During the tests, the ambient temperature of the laboratory was in the range 21.7-22.9 °C, the relative humidity was in the range 47.8 – 56.7 % and the liquid depth above the ear reference points was above 15.0 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values. The SAR distributions are shown in Appendix 1.

Daily, prior to conducting tests, measurements were made with the RF sources powered off to determine the system noise level. The highest system noise was 0.0085 W/kg, which is below the recommended limit in [1].

f (MHz)	Tissue Type	Description	SAR (W/kg) 1g / 10g		Dielectric Parameters		Tissue Temp (°C)
					ε _r	σ (S/m)	
835	Head	Measured. 15-Aug-04	8.75	5.72	41.37	0.893	21.7
		Measured. 19-Aug-04	8.66	5.68	40.87	0.884	22.2
		Measured. 02-Dec-04	8.74	5.72	40.45	0.896	23.1
		Recommended Limits	9.50	6.20	41.50	0.90	20-25
	Body	Measured. 25-Aug-04	9.23	6.07	54.41	0.971	22.8
		Measured. 26-Aug-04	9.19	6.05	54.51	0.979	22.5
		Measured. 03-Dec-04	9.63	6.32	53.8	0.970	22.8
		Recommended Limits	9.90	6.46	55.20	0.97	20-25
1900	Head	Measured. 23-Aug-04	39.1	20.5	38.65	1.451	21.8
		Measured. 24-Aug-04	38.83	20.4	38.43	1.455	22.1
		Measured. 02-Dec-04	38.8	20.40	38.50	1.450	21.3
		Recommended Limits	39.70	20.50	40.00	1.40	20-25
	Body	Measured. 27-Aug-04	42.7	22.4	51.13	1.519	22.9
		Measured. 03-Dec-04	44.30	23.00	50.96	1.55	21.9
		Recommended Limits	40.50	20.89	53.30	1.52	20-25



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6. Test Results

The test sample was operated using a base station simulator that allows control of the transmitter using the signally software that installed on the phone call. For the purposes of this test the unit is commanded to set to the proper channel, transmitter power level and transmit mode of operation. The phone was tested in the configurations stipulated in [1,2]. The phone was positioned into these configurations using the positioner supplied with the DASY 3.1d SAR measurement system.

The Cellular Phone FCC ID PY7AF031021 has one battery option: CBA-0001001 (BST-27) Standard Lithium Ion Battery. This battery type was used for all SAR testing. The phone was placed in the SAR measurement system with a fully charged battery.

6.1 Head Adjacent Test Results

The SAR results shown in tables 1 through 4 are maximum SAR values averaged over 1 gram and 10 grams of phantom tissue. Also shown are the measured conducted output powers, the temperature of the test facility during the test, the temperature of the simulated tissue, the measured drift, and the extrapolated SAR. The extrapolated SAR corresponds to the measured SAR scaled to the maximum conducted output power.

The humidity and ambient temperature of the test facility were in the ranges 44.0-53.9% and 22.2-23.0°C, respectively. The SAR measurements were performed using the SAM phantoms listed in section 3.1.

The test conditions indicated as bold numbers in the following table are included in Appendix 2. All other test conditions measured lower SAR values than those included.

Summary of Maximum Extrapolated SAR Results : Head Adjacent			
Frequency	Extrapolated SAR (W/kg)		Test Configuration
	1 g	10 g	
800 GSM	0.877	0.665	Right head, cheek/touch position, 849 MHz Open Position, Bluetooth Off
1900 GSM	0.757	0.452	Left head, tilt position, 1880 MHz Closed Position, Bluetooth Off



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f (MHz)	Channel/ frequency	Conducted Output Power (dBm) GSM 1:8 Duty Cycle	FCC ID PY7AF031021 Closed Position with Standard Battery BST-27						
			Left Head (Cheek / Touch Position)						
			Measured (W/kg) 1g / 10g		Drift (dB)	Extrapolated (W/kg) 1g / 10g		Ambi ent Temp (°C)	Simulate Temp (°C)
800 GSM	128 / 824	32.53	0.470	0.352	-0.17	0.475	0.356	22.8	21.8
	189 / 837	32.45	0.417	0.313	-0.07	0.422	0.317	22.8	21.8
	251 / 849	32.48	0.326	0.244	0.02	0.330	0.247	22.8	21.8
800 GSM BT On	128 / 824	32.53	0.470	0.353	-0.07	0.475	0.356	22.5	23.1
1900 GSM	512 / 1850	30.57	0.538	0.344	0.01	0.544	0.348	22.6	21.1
	660/1880	30.45	0.550	0.352	-0.03	0.556	0.356	22.6	21.1
	810/1910	30.09	0.498	0.318	0.03	0.504	0.322	22.6	21.1
f (MHz)	Channel/ frequency	Conducted Output Power (dBm) GSM 1:8 Duty Cycle	FCC ID PY7AF031021 Closed Position with Standard Battery BST-27						
			Left Head (15° Tilt Position)						
			Measured (W/kg) 1g / 10g		Drift (dB)	Extrapolated (W/kg) 1g / 10g		Ambi ent Temp (°C)	Simulate Temp (°C)
800 GSM	128 / 824	32.53	0.427	0.268	0.02	0.432	0.271	23	21.7
	189 / 837	32.45	0.384	0.244	-0.08	0.388	0.247	23	21.7
	251 / 849	32.48	0.334	0.204	-0.01	0.338	0.206	23	21.7
1900 GSM	512 / 1850	30.57	0.699	0.422	0.02	0.707	0.427	22.6	21.2
	660/1880	30.45	0.748	0.447	-0.05	0.757	0.452	22.6	21.2
	810/1910	30.09	0.637	0.382	-0.05	0.644	0.386	22.6	21.2
1900 GSM BT On	660/1880	30.45	0.681	0.409	0.01	0.689	0.414	24.7	21.9

Table 1: SAR measurement results for the portable cellular telephone FCC ID PY7AF031021 model S710A at maximum output power with Standard Battery BST-27. Measured Closed Position against the left head.



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F (MHz)	Channel/ frequency	Conducted Output Power (dBm) GSM 1:8 Duty Cycle	FCC ID PY7AF031021 Closed Position with Standard Battery BST-27						
			Right Head (Cheek / Touch Position)						
			Measured (W/kg) 1g / 10g		Drift (dB)	Extrapolated (W/kg) 1g / 10g		Ambi ent Temp (°C)	Simulate Temp (°C)
800 GSM	128 / 824	32.53	0.453	0.342	-0.03	0.458	0.346	22.6	21.7
	189 / 837	32.45	0.414	0.315	-0.01	0.419	0.319	22.6	21.7
	251 / 849	32.48	0.325	0.248	0.01	0.329	0.251	22.6	21.7
1900 GSM	512 / 1850	30.57	0.643	0.370	-0.15	0.650	0.374	22.6	21.8
	660/1880	30.45	0.643	0.372	0.00	0.650	0.376	22.6	21.8
	810/1910	30.09	0.529	0.306	-0.09	0.535	0.310	22.6	21.8
f (MHz)	Channel/ frequency	Conducted Output Power (dBm) GSM 1:8 Duty Cycle	FCC ID PY7AF031021 Closed Position with Standard Battery BST-27						
			Right Head (15° Tilt Position)						
			Measured (W/kg) 1g / 10g		Drift (dB)	Extrapolated (W/kg) 1g / 10g		Ambi ent Temp (°C)	Simulate Temp (°C)
800 GSM	128 / 824	32.53	0.403	0.271	-0.02	0.408	0.274	22.8	21.7
	189 / 837	32.45	0.372	0.251	-0.14	0.376	0.254	22.8	21.7
	251 / 849	32.48	0.317	0.215	0.04	0.321	0.217	22.8	21.7
1900 GSM	512 / 1850	30.57	0.636	0.373	0.00	0.643	0.377	22.3	21.3
	660/1880	30.45	0.622	0.366	-0.09	0.629	0.370	22.3	21.3
	810/1910	30.09	0.545	0.323	-0.03	0.551	0.327	22.3	21.3

Table 2: SAR measurement results for the portable cellular telephone FCC ID PY7AF031021 model S710A at maximum output power with Standard Battery BST-27. Measured Closed Position against the right head.



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f (MHz)	Channel/ frequency	Conducted Output Power (dBm) GSM 1:8 Duty Cycle	FCC ID PY7AF031021 Open Position with Standard Battery BST-27						
			Left Head (Cheek / Touch Position)						
			Measured (W/kg) 1g / 10g		Drift (dB)	Extrapolated (W/kg) 1g / 10g		Ambi ent Temp (°C)	Simulate Temp (°C)
800 GSM	128 / 824	32.53	0.616	0.468	0.01	0.623	0.473	22.2	21.7
	189 / 837	32.45	0.691	0.526	-0.06	0.699	0.532	22.2	21.7
	251 / 849	32.48	0.864	0.653	-0.05	0.874	0.661	22.2	21.7
1900 GSM	512 / 1850	30.57	0.355	0.211	-0.15	0.359	0.213	22.3	22.1
	660/1880	30.45	0.325	0.192	0.01	0.329	0.194	22.3	22.1
	810/1910	30.09	0.274	0.159	0.00	0.277	0.161	22.3	22.1
1900 GSM BT On	512 / 1850	30.57	0.310	0.185	-0.16	0.313	0.187	22.8	21.3
f (MHz)	Channel/ frequency	Conducted Output Power (dBm) GSM 1:8 Duty Cycle	FCC ID PY7AF031021 Open Position with Standard Battery BST-27						
			Left Head (15° Tilt Position)						
			Measured (W/kg) 1g / 10g		Drift (dB)	Extrapolated (W/kg) 1g / 10g		Ambi ent Temp (°C)	Simulate Temp (°C)
800 GSM	128 / 824	32.53	0.272	0.203	0.02	0.275	0.205	22.3	21.6
	189 / 837	32.45	0.323	0.240	0.01	0.327	0.243	22.3	21.6
	251 / 849	32.48	0.448	0.330	-0.08	0.453	0.334	22.3	21.6
1900 GSM	512 / 1850	30.57	0.159	0.101	0.06	0.161	0.102	22.2	21.5
	660/1880	30.45	0.134	0.083	0.05	0.136	0.084	22.2	21.5
	810/1910	30.09	0.111	0.068	-0.04	0.112	0.069	22.2	21.5

Table 3: SAR measurement results for the portable cellular telephone FCC ID PY7AF031021 model S710A at maximum output power with Optional Battery BST-27. Measured Open Position against the left head.



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F (MHz)	Channel/ frequency	Conducted Output Power (dBm) GSM 1:8 Duty Cycle	FCC ID PY7AF031021 Open Position with Standard Battery BST-27						
			Right Head (Cheek / Touch Position)						
			Measured (W/kg) 1g / 10g		Drift (dB)	Extrapolated (W/kg) 1g / 10g		Ambi ent Temp (°C)	Simulate Temp (°C)
800 GSM	128 / 824	32.53	0.641	0.489	-0.03	0.648	0.495	22.3	21.4
	189 / 837	32.45	0.742	0.563	-0.01	0.751	0.570	22.3	21.4
	251 / 849	32.48	0.867	0.657	-0.04	0.877	0.665	22.3	21.4
800 GSM BT On	251 / 849	32.48	0.701	0.529	-0.09	0.709	0.534	22.5	23.1
1900 GSM	512 / 1850	30.57	0.236	0.152	-0.07	0.239	0.154	22.6	21.2
	660/1880	30.45	0.212	0.134	0.03	0.214	0.136	22.6	21.2
	810/1910	30.09	0.170	0.107	0.03	0.172	0.108	22.6	21.2
f (MHz)	Channel/ frequency	Conducted Output Power (dBm) GSM 1:8 Duty Cycle	FCC ID PY7AF031021 Open Position with Standard Battery BST-27						
			Right Head (15° Tilt Position)						
			Measured (W/kg) 1g / 10g		Drift (dB)	Extrapolated (W/kg) 1g / 10g		Ambi ent Temp (°C)	Simulate Temp (°C)
800 GSM	128 / 824	32.53	0.305	0.226	0.05	0.309	0.229	22.4	21.6
	189 / 837	32.45	0.366	0.270	-0.02	0.370	0.273	22.4	21.6
	251 / 849	32.48	0.437	0.322	-0.06	0.442	0.326	22.4	21.6
1900 GSM	512 / 1850	30.57	0.226	0.134	-0.06	0.229	0.136	22.5	21.2
	660/1880	30.45	0.181	0.106	0.02	0.183	0.107	22.5	21.2
	810/1910	30.09	0.149	0.086	-0.02	0.151	0.087	22.5	21.2

Table 4: SAR measurement results for the portable cellular telephone FCC ID PY7AF031021 model S710A at maximum output power with Optional Battery BST-27. Measured Open Position against the right head.



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6.2 Body-Worn Test Results

The SAR results shown in tables 5 and 6 are the maximum SAR values averaged over 1 gram and 10 grams of phantom tissue. Also shown are the measured conducted output powers, the temperature of the test facility during the test, the temperature of the simulated tissue after the test, the measured drift and the extrapolated SAR. The extrapolated SAR corresponds to the measured SAR scaled to the maximum conducted output power. The humidity and ambient temperature of the test facility were in the ranges 44.4-58.9% and 21.1-22.9°C, respectively.

A “flat” phantom was used for the body-worn tests. This “flat” phantom corresponds to the flat portion of the SAM phantom. The tissue stimulant depth above the ear canal was verified to be above 15.0 cm in all the measurements. The same device holder described in section 6 was used for positioning the phone. The cellular phone was tested with a headset (HBP-20) connected to the device for all body-worn SAR measurements.

The following body-worn accessories were tested for this phone:

- Carry case model IEC-20
- 15 mm spacer

A full data set output of the test conditions with the highest SAR values from the Dasy™ measurement system is included as Appendix 3. These test conditions included are indicated as bold numbers in the following tables. All other test conditions measured lower SAR values than those included.

Summary of Maximum Extrapolated SAR Results: Body-worn			
Frequency	Extrapolated SAR (W/kg)		Test Configuration
	1 g	10 g	
800 GSM	0.578	0.410	IEC-20 Carry Accessory, back of phone facing body, 824MHz BST-27 battery, Bluetooth Off
1900 GSM	0.530	0.322	IEC-20 Carry Accessory, front of phone facing body, 1850MHz BST-27 battery , Bluetooth Off



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f (MHz)	Channel/ frequency	Conducted Output Power (dBm) GSM 2:8 Duty Cycle	FCC ID PY7AF031021 with Standard Battery BST-27						
			Body Worn (PHF: HPB-20)				Carry Accessory: IEC-20		
			Back of phone facing body		Measured (W/kg) 1g / 10g	Drift (dB)	Extrapolated (W/kg) 1g / 10g		Ambi ent Temp (°C)
800 GSM	128 / 824	32.53	0.571	0.405	-0.16	0.578	0.410	22.7	22
	189 / 837	32.45	0.543	0.384	-0.10	0.549	0.388	21.5	22.1
	251 / 849	32.48	0.478	0.337	-0.01	0.484	0.341	21.7	21.4
800 GSM BT On	128 / 824	32.53	0.554	0.399	-0.01	0.561	0.403	22.8	22.8
1900 GSM	512 / 1850	30.57	0.349	0.209	-0.09	0.353	0.211	21.6	22.6
	660/1880	30.45	0.318	0.193	-0.03	0.322	0.195	21.1	21.7
	810/1910	30.09	0.318	0.186	0.00	0.322	0.188	21.3	21.7
f (MHz)	Channel/ frequency	Conducted Output Power (dBm) EGPRS 2:8 Duty Cycle	FCC ID PY7AF031021 with Standard Battery BST-27						
			Body Worn (PHF: HPB-20)				Carry Accessory: IEC-20		
			Front of phone facing body		Measured (W/kg) 1g / 10g	Drift (dB)	Extrapolated (W/kg) 1g / 10g		Ambi ent Temp (°C)
800 GSM	128 / 824	32.53	0.529	0.394	-0.08	0.535	0.399	22.7	22
	189 / 837	32.45	0.446	0.324	-0.17	0.451	0.328	21.3	21.5
	251 / 849	32.48	0.330	0.244	-0.02	0.334	0.247	21.7	21.4
1900 GSM	512 / 1850	30.57	0.524	0.318	-0.01	0.530	0.322	21.6	22.6
	660/1880	30.45	0.503	0.302	-0.18	0.509	0.305	21.1	21.7
	810/1910	30.09	0.396	0.235	-0.11	0.401	0.238	21.3	21.7
1900 GSM BT On	512 / 1850	30.57	0.519	0.322	-0.09	0.525	0.326	24.7	21.9

Table 5: SAR measurement results for the portable cellular telephone FCC ID PY7AF031021 model S710A at maximum output power with Standard Battery BST-27. Measured against the body with carry accessory IEC-20.



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f (MHz)	Channel/ frequency	Conducted Output Power (dBm) GSM 2:8 Duty Cycle	FCC ID PY7AF031021 with Standard Battery BST-27						
			Body Worn (PHF: HPB-20)			Carry Accessory: 15mm Spacer			
			Back of phone facing body						
			Measured (W/kg) 1g / 10g	Drift (dB)	Extrapolated (W/kg) 1g / 10g	Ambi ent Temp (°C)	Simulate Temp (°C)		
800 GSM	128 / 824	32.53	0.546	0.387	-0.16	0.552	0.391	22.9	22.8
	189 / 837	32.45	0.493	0.351	-0.03	0.499	0.355	21.8	21.7
	251 / 849	32.48	0.491	0.346	0.01	0.497	0.350	21.6	21.3
800 GSM BT On	128 / 824	32.53	0.536	0.383	-0.10	0.542	0.387	22.8	22.8
1900 GSM	512 / 1850	30.57	0.409	0.250	-0.03	0.414	0.253	21.9	22.9
	660/1880	30.45	0.331	0.200	0.03	0.335	0.202	21.3	22.0
	810/1910	30.09	0.300	0.182	0.00	0.303	0.184	21.2	21.9
1900 GSM BT On	512 / 1850	30.57	0.321	0.205	-0.04	0.325	0.208	24.7	21.9
f (MHz)	Channel/ frequency	Conducted Output Power (dBm) EGPRS 2:8 Duty Cycle	FCC ID PYAF031011 with Standard Battery BST-27						
			Body Worn (PHF: HPB-20)			Carry Accessory: 15mm Spacer			
			Front of phone facing body						
			Measured (W/kg) 1g / 10g	Drift (dB)	Extrapolated (W/kg) 1g / 10g	Ambi ent Temp (°C)	Simulate Temp (°C)		
800 GSM	128 / 824	32.53	0.322	0.240	-0.02	0.326	0.243	22.9	22.8
	189 / 837	32.45	0.270	0.200	-0.18	0.273	0.202	21.8	21.7
	251 / 849	32.48	0.207	0.152	0.02	0.209	0.154	21.6	21.3
1900 GSM	512 / 1850	30.57	0.290	0.185	-0.18	0.293	0.187	21.9	22.9
	660/1880	30.45	0.269	0.168	-0.07	0.272	0.170	21.3	22.0
	810/1910	30.09	0.174	0.110	-0.08	0.176	0.111	21.2	21.9

Table 6: SAR measurement results for the portable cellular telephone FCC ID PY7AF031021 model S710A at maximum output power with Standard Battery BST-27. Measured against the body with 15mm spacer.

References

- [1] FCC, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields: Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions," Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01).
- [2] IEEE, "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques," Std 1528-200X, Draft 6.5 – August 20, 2001.

APPLICANT: Sony Ericsson Mobile Communications Inc.

FCC ID: **PY7AF031021**



Sony Ericsson

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Appendix 1

SAR distribution comparison for the system accuracy verification



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**835 MHz SAR Distribution of Validation Dipole Antenna
System Performance Check on August 15, 2004 (Using head tissue).**

Validation_835Head_429_1251_15Aug04_T01

File Name: [Validation_835Head_429_1251_15Aug04_T01.da4](#)

Phantom: SAM with CRP (Low Band Head) Phantom section: Flat Section

Probe: ET3DV6 - SN1586 ConvF(6.62, 6.62, 6.62) Duty Cycle: 1:1 Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.894 \text{ mho/m}$; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DASY4 (High Precision Assessment)

Dipole at 10 mm/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 33.1 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 0.926 mW/g

Dipole at 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 33.1 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 0.942 mW/g

Peak SAR (extrapolated) = 1.29 W/kg

SAR(1 g) = 0.871 mW/g; SAR(10 g) = 0.571 mW/g

Dipole at 10 mm/Zoom Scan 2 (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

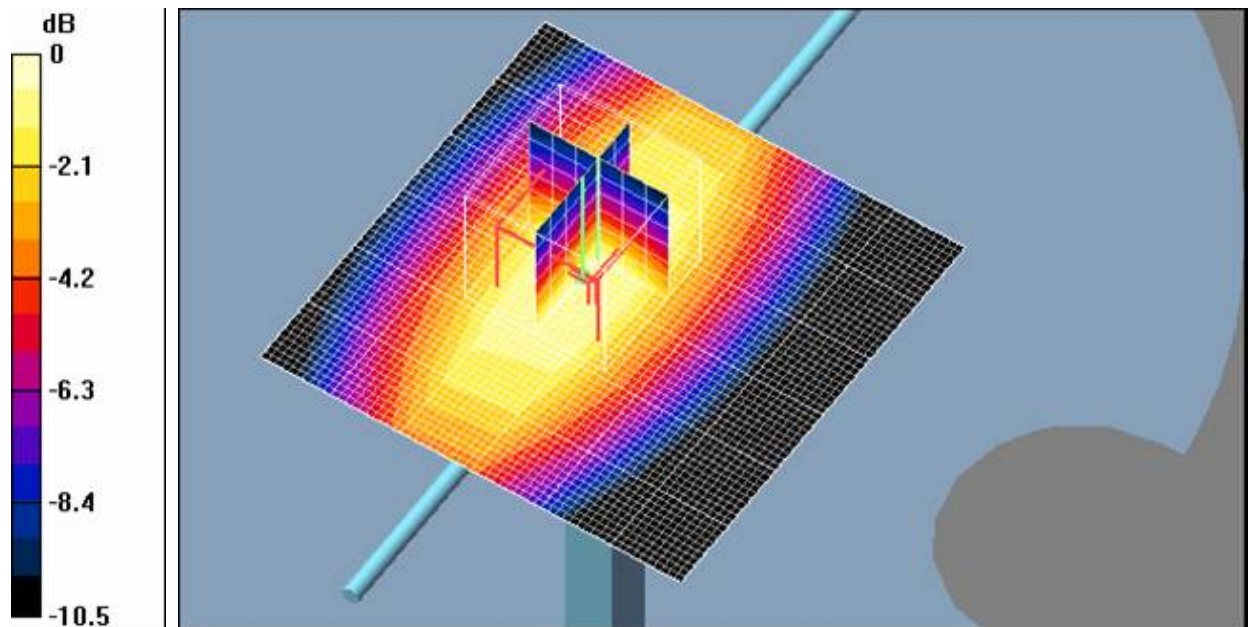
Reference Value = 33.1 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 0.949 mW/g

Peak SAR (extrapolated) = 1.3 W/kg

SAR(1 g) = 0.876 mW/g; SAR(10 g) = 0.572 mW/g

Procedure Notes: Pin: before 100.3 mW / after 99.4 mW Humidity: 49.8 % Ambient Temp: 22.6 C Simulant Temp: 21.7 C



0 dB = 0.949mW/g



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835 MHz SAR Distribution of Validation Dipole Antenna System Performance Check on August 19, 2004 (Using head tissue).

Validation_835Head_428_1251_19Aug04_T01

File Name: [Validation_835Head_428_1251_19Aug04_T01.da4](#)

Phantom: SAM with CRP (Low Band Head) Phantom section: Flat Section

Probe: ET3DV6 - SN1587ConvF(6.79, 6.79, 6.79) Duty Cycle: 1:1 Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.885 \text{ mho/m}$; $\epsilon_r = 40.9$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DASY4 (High Precision Assessment)

Dipole at 10 mm/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 33.3 V/m; Power Drift = -0.1 dB

Maximum value of SAR (interpolated) = 0.935 mW/g

Dipole at 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 33.3 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 0.944 mW/g

Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 0.870 mW/g; SAR(10 g) = 0.568 mW/g

Dipole at 10 mm/Zoom Scan 2 (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

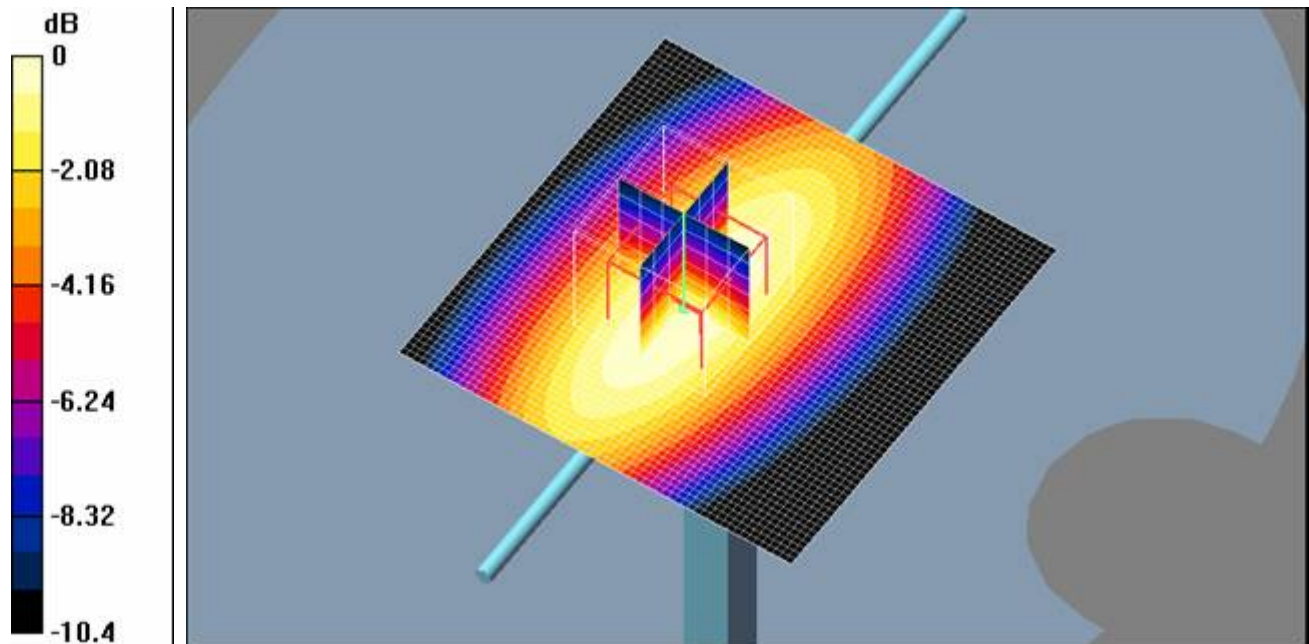
Reference Value = 33.3 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 0.932 mW/g

Peak SAR (extrapolated) = 1.29 W/kg

SAR(1 g) = 0.865 mW/g; SAR(10 g) = 0.567 mW/g

Procedure Notes: Pin: before 99.9 mW / after 100 mW Humidity: 50.3 % Ambient Temp: 22.4 C Simulant Temp: 22.5 C



0 dB = 0.932mW/g



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835 MHz SAR Distribution of Validation Dipole Antenna System Performance Check on December 2, 2004 (Using head tissue).

Validation_835Head_429_1023_02Dec04_T01

Phantom: SAM with CRP (Low Band Head) Phantom section: Flat Section
 Probe: ET3DV6 - SN1586 ConvF(6.62, 6.62, 6.62) Duty Cycle: 1:1 Frequency: 835 MHz
 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.889 \text{ mho/m}$; $\epsilon_r = 40.5$; $\rho = 1000 \text{ kg/m}^3$
 Measurement Standard: DASY4 (High Precision Assessment)

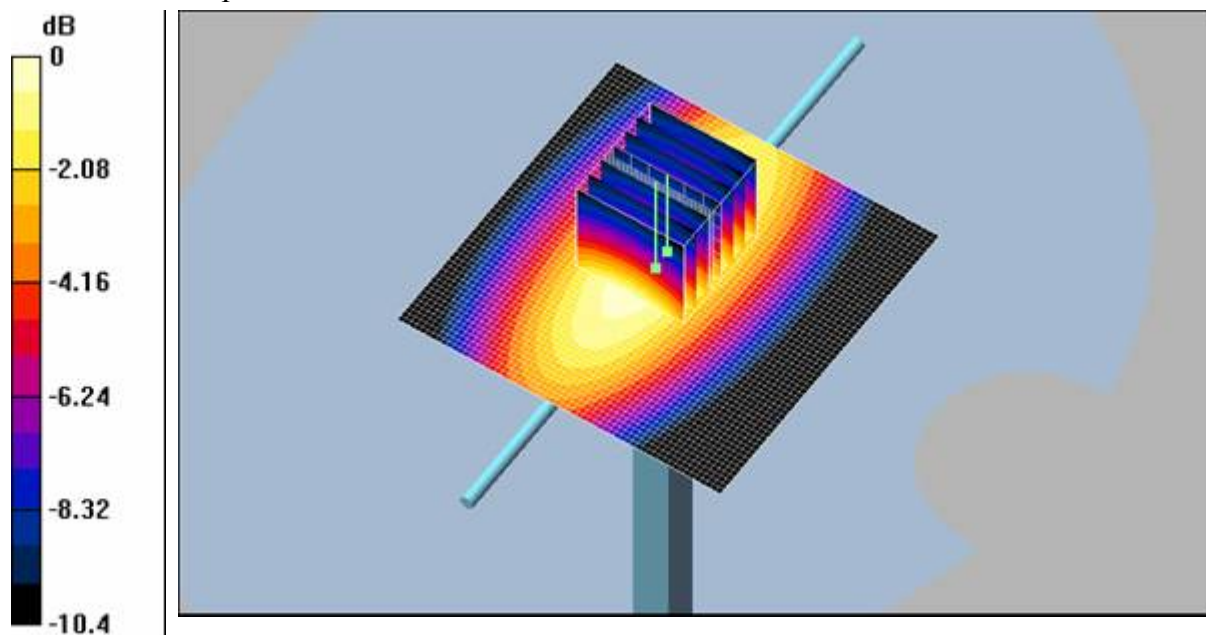
Dipole at 10 mm/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
 Reference Value = 33.7 V/m; Power Drift = -0.0 dB
 Maximum value of SAR (interpolated) = 0.937 mW/g

Dipole at 10 mm/Zoom Scan (31x31x36)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
 Reference Value = 33.7 V/m; Power Drift = -0.0 dB
 Maximum value of SAR (interpolated) = 1.28 mW/g

Dipole at 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
 Reference Value = 33.7 V/m; Power Drift = -0.0 dB
 Maximum value of SAR (measured) = 0.940 mW/g
 Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.870 mW/g; SAR(10 g) = 0.571 mW/g

Procedure Notes: Pin: before 100.2mW / after 99.5 mW Humidity: 26.5 % Ambient Temp: 22.5 C Simulant Temp: 23.1 C

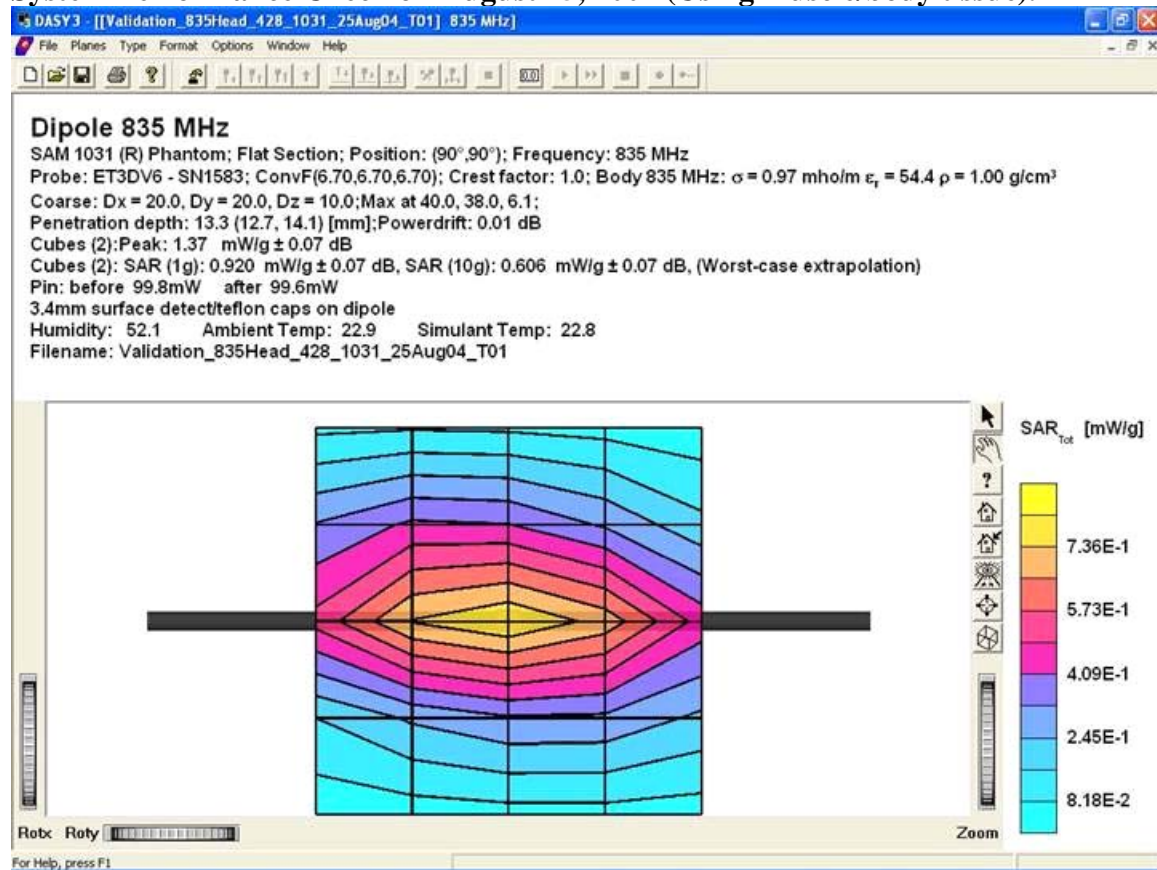


0 dB = 0.940mW/g



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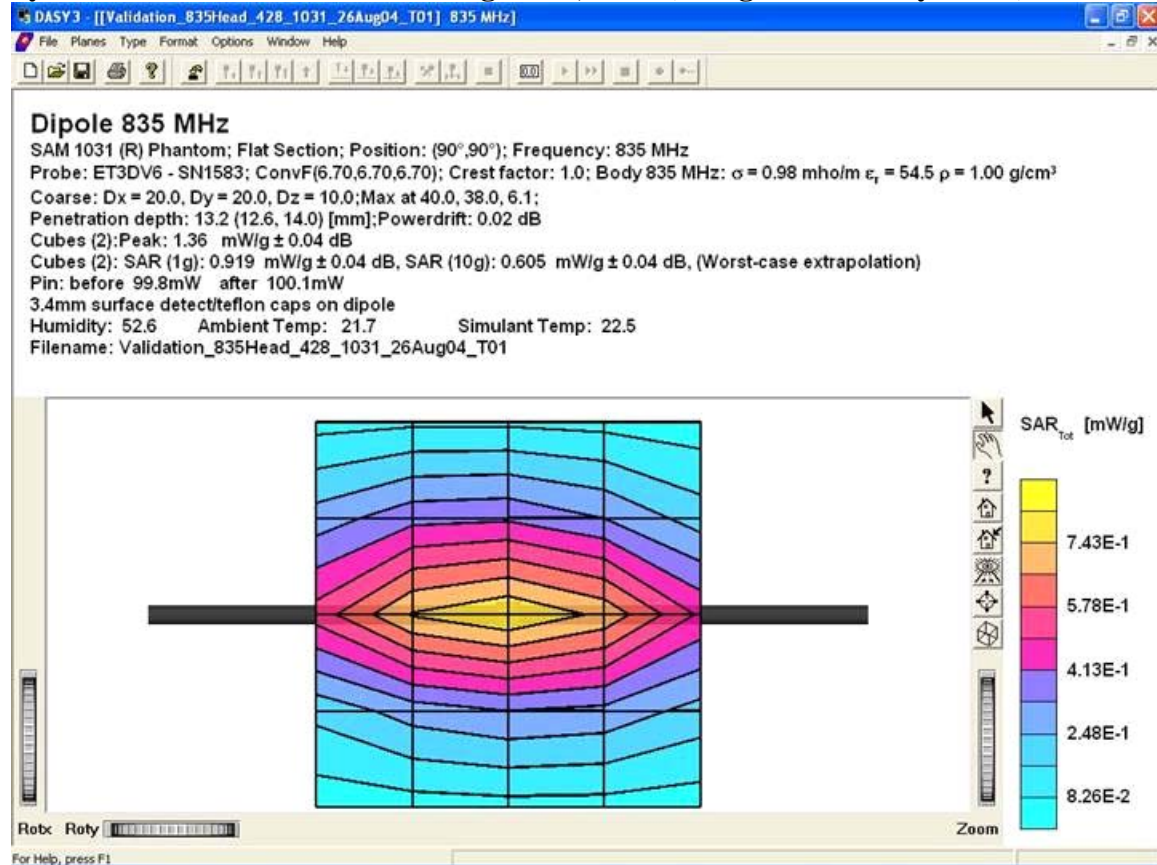
**835 MHz SAR Distribution of Validation Dipole Antenna
System Performance Check on August 25, 2004 (Using muscle/body tissue).**





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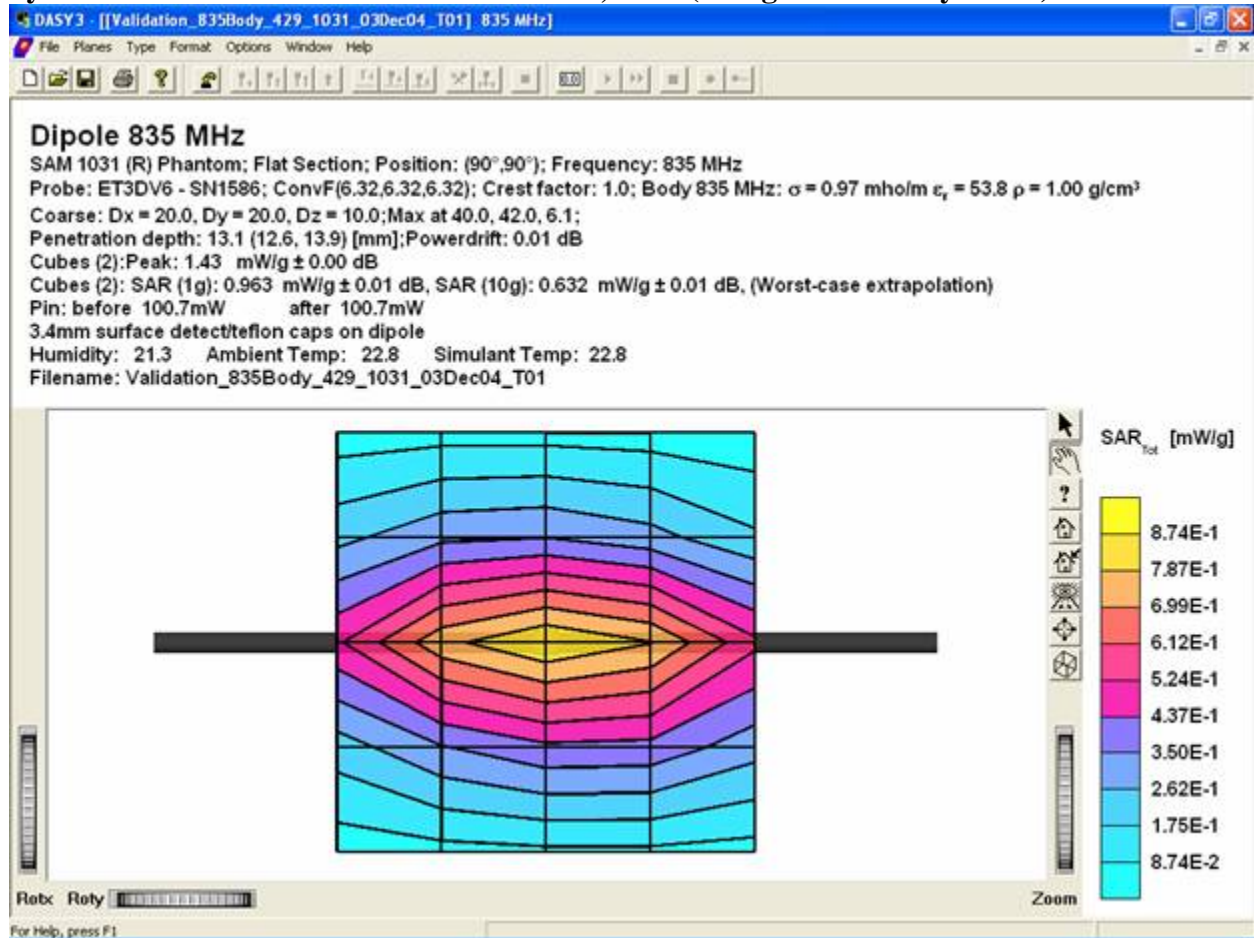
835 MHz SAR Distribution of Validation Dipole Antenna System Performance Check on August 26, 2004 (Using muscle/body tissue).





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835 MHz SAR Distribution of Validation Dipole Antenna System Performance Check on December 3, 2004 (Using muscle/body tissue).





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1900 MHz SAR Distribution of Validation Dipole Antenna System Performance Check on August 23, 2004 (Using head tissue).

Validation_1900Head_536_1054_23Aug04_T01

File Name: [Validation_1900Head_536_1054_23Aug04_T01.da4](#)

Phantom: SAM with CRP (High Band Head) Phantom section: Flat Section

Probe: ET3DV6 - SN1587ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:1 Frequency: 1900 MHz

Medium parameters used: f = 1900 MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.6$; $\rho = 1000$ kg/m³

Measurement Standard: DASY4 (High Precision Assessment)

Dipole at 10 mm/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 58.5 V/m; Power Drift = 0.0 dB

Maximum value of SAR (interpolated) = 4.96 mW/g

Dipole at 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.5 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 4.42 mW/g

Peak SAR (extrapolated) = 6.92 W/kg

SAR(1 g) = 3.94 mW/g; SAR(10 g) = 2.06 mW/g

Dipole at 10 mm/Zoom Scan 2 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

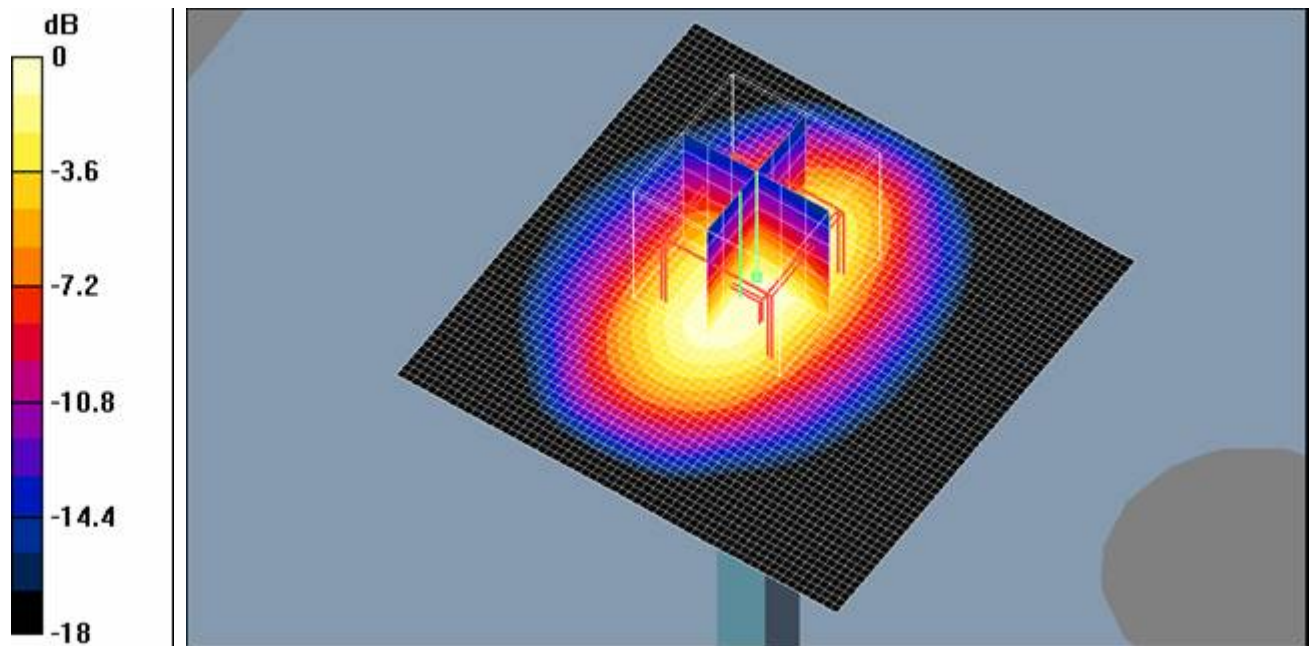
Reference Value = 58.5 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 4.42 mW/g

Peak SAR (extrapolated) = 6.88 W/kg

SAR(1 g) = 3.93 mW/g; SAR(10 g) = 2.06 mW/g

Procedure Notes: Pin: before 100.4 mW / after 101mW Humidity: 50.6% Ambient Temp: 22.6 C Simulant Temp: 21.8 C



0 dB = 4.42mW/g



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1900 MHz SAR Distribution of Validation Dipole Antenna System Performance Check on August 24, 2004 (Using head tissue).

Validation_1900Head_536_1054_24Aug04_T01

File Name: [Validation_1900Head_536_1054_24Aug04_T01.da4](#)

Phantom: SAM with CRP (High Band Head) Phantom section: Flat Section

Probe: ET3DV6 - SN1587ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:1 Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 38.4$; $\rho = 1000$ kg/m³

Measurement Standard: DASY4 (High Precision Assessment)

Dipole at 10 mm/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 58.2 V/m; Power Drift = 0.0 dB

Maximum value of SAR (interpolated) = 4.88 mW/g

Dipole at 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.2 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 4.38 mW/g

Peak SAR (extrapolated) = 6.83 W/kg

SAR(1 g) = 3.91 mW/g; SAR(10 g) = 2.05 mW/g

Dipole at 10 mm/Zoom Scan 2 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm,

dz=5mm

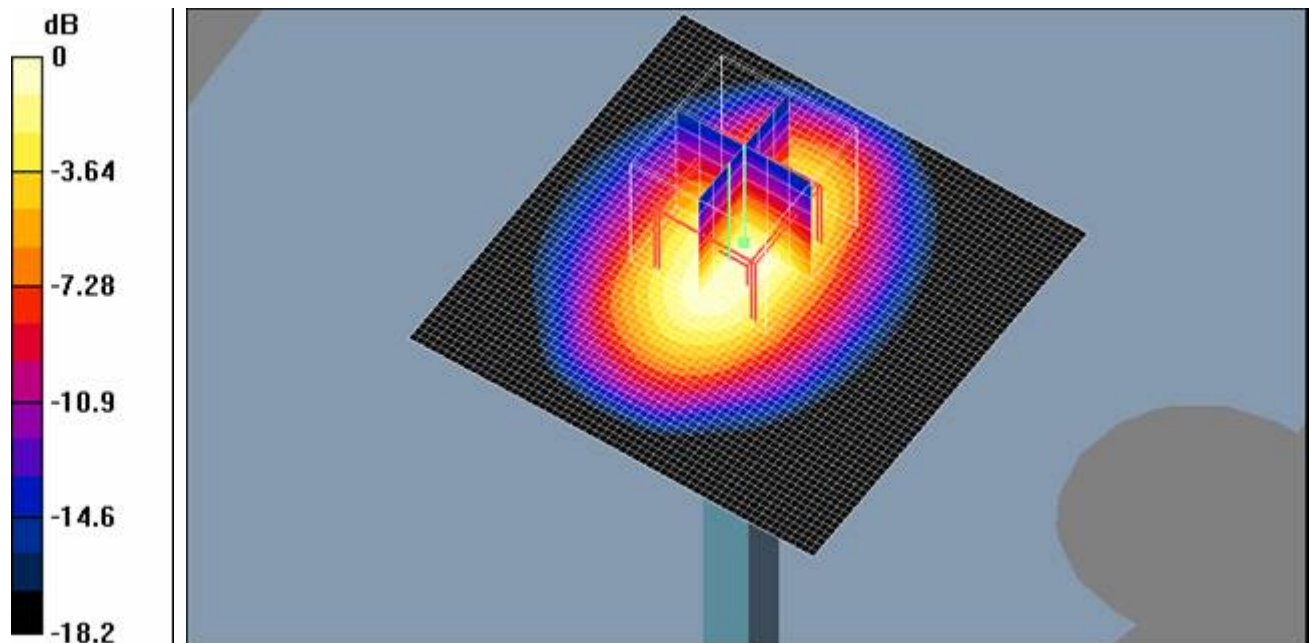
Reference Value = 58.2 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 4.37 mW/g

Peak SAR (extrapolated) = 6.8 W/kg

SAR(1 g) = 3.9 mW/g; SAR(10 g) = 2.05 mW/g

Procedure Notes: Pin: before 100.4 mW / after 101mW Humidity: 50.6% Ambient Temp: 22.6 C Simulant Temp: 21.8 C



0 dB = 4.37mW/g



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1900 MHz SAR Distribution of Validation Dipole Antenna System Performance Check on December 2, 2004 (Using head tissue).

Validation_1900Head_536_1054_02Dec04_T01

Phantom: SAM with CRP (High Band Head) Phantom section: Flat Section
 Probe: ET3DV6 - SN1587 ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:1 Frequency: 1900 MHz
 Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.45 \text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000 \text{ kg/m}^3$
 Measurement Standard: DASY4 (High Precision Assessment)

Dipole at 10 mm/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

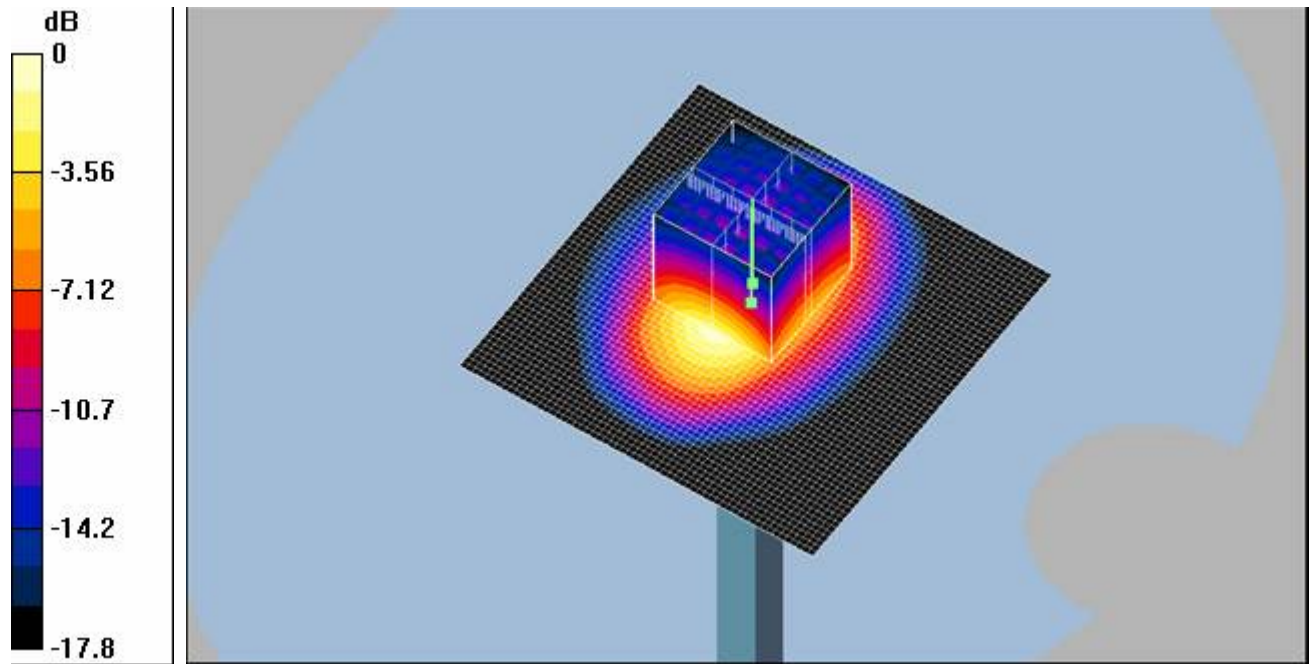
Reference Value = 58.5 V/m; Power Drift = -0.0 dB
 Maximum value of SAR (interpolated) = 4.95 mW/g

Dipole at 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 58.5 V/m; Power Drift = -0.0 dB
 Maximum value of SAR (measured) = 4.37 mW/g
 Peak SAR (extrapolated) = 6.77 W/kg

SAR(1 g) = 3.88 mW/g; SAR(10 g) = 2.04 mW/g

Procedure Notes: Pin: before 100.0 mW / after 99.6 mW Humidity: 30% Ambient Temp: 21.8 C
 Simulant Temp: 22.1 C



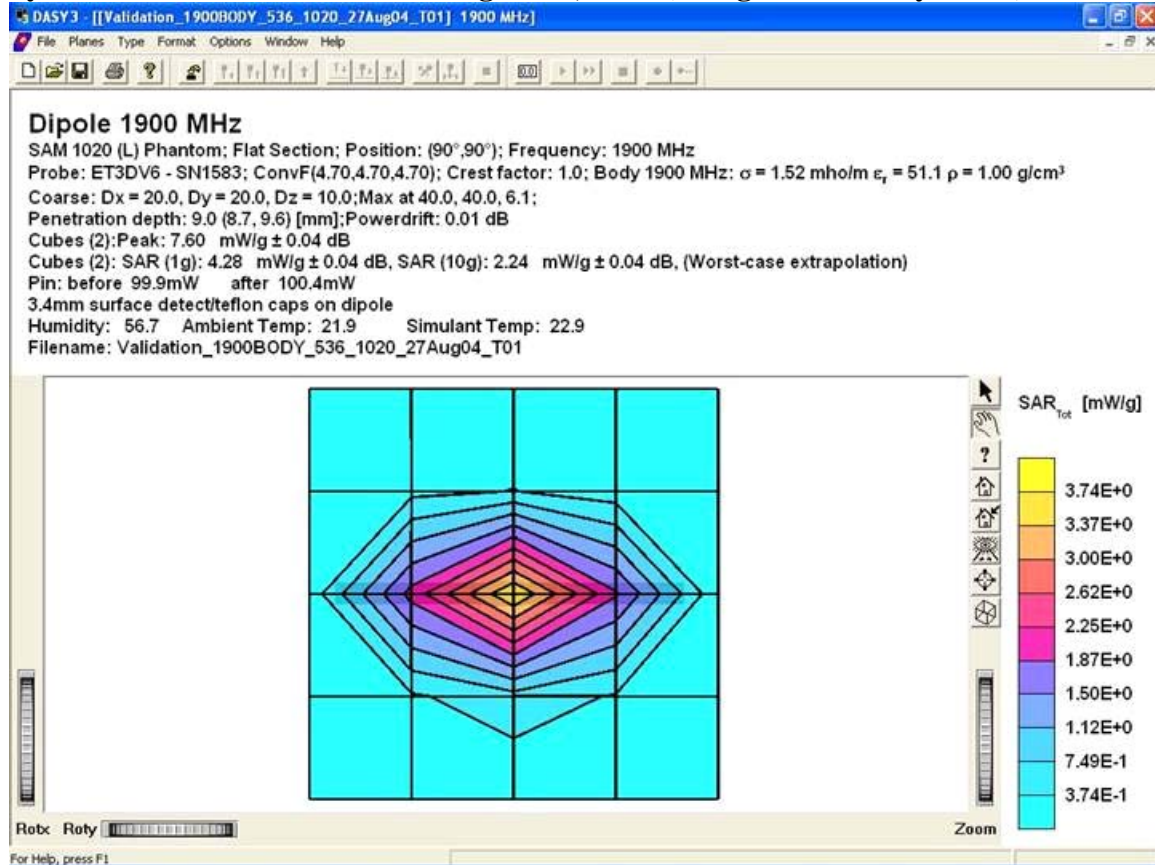
0 dB = 4.37mW/g



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1900 MHz SAR Distribution of Validation Dipole Antenna System Performance Check on August 25, 2004 (Using muscle/body tissue).

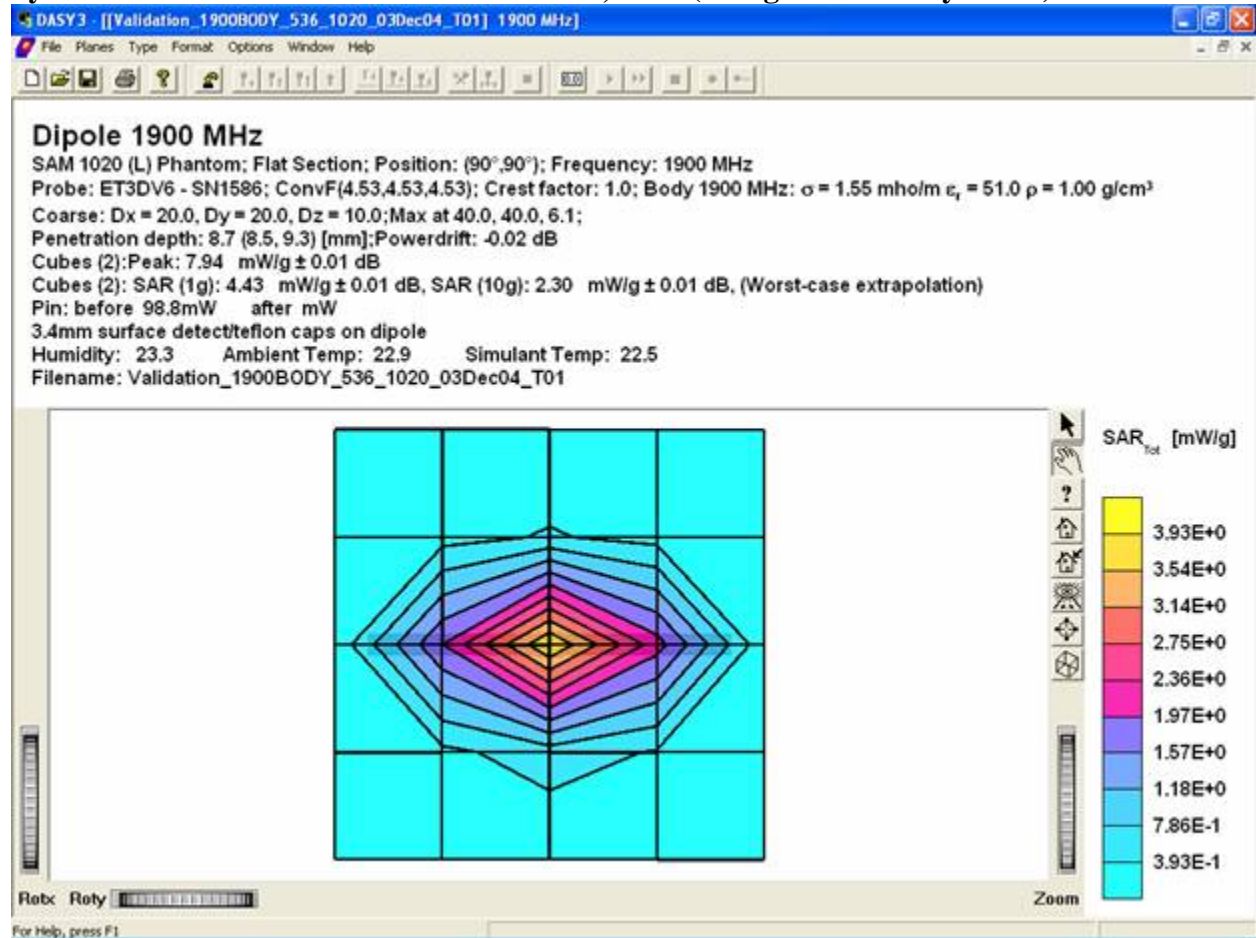




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1900 MHz SAR Distribution of Validation Dipole Antenna System Performance Check on December 3, 2004 (Using muscle/body tissue).





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Appendix 2

SAR distribution plots for Phantom Head Adjacent Use



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800 GSM Band: SAR Distribution and Extrapolation of Maximum SAR
Model: S710a SN: BF7EP20328 with Standard Battery: BST-27
Closed Position, Left Side, Cheek/Touch Position.
15Aug04_S710a_GSM850_0328_LC01

File Name: [15Aug04_S710a_GSM850_0328_LC01.da4](#)

Phantom: SAM with CRP (Low Band Head) Phantom section: Left Section
 Probe: ET3DV6 - SN1586ConvF(6.62, 6.62, 6.62) Duty Cycle: 1:8.3 Frequency: 824 MHz
 Medium parameters used (interpolated): $f = 824 \text{ MHz}$; $\sigma = 0.882 \text{ mho/m}$; $\epsilon_r = 41.5$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
 Reference Value = 23.1 V/m; Power Drift = -0.2 dB
 Maximum value of SAR (interpolated) = 0.515 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 23.1 V/m; Power Drift = -0.2 dB
 Maximum value of SAR (measured) = 0.495 mW/g
 Peak SAR (extrapolated) = 0.595 W/kg

SAR(1 g) = 0.470 mW/g; SAR(10 g) = 0.352 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

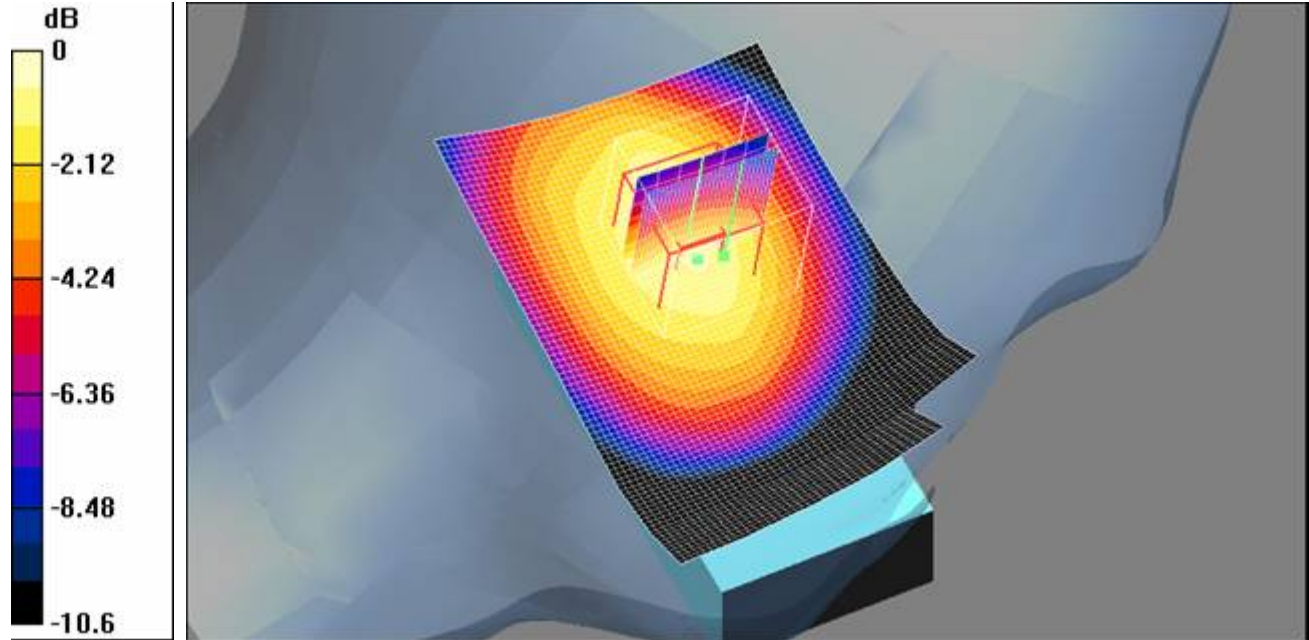
Unnamed procedure/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 23.1 V/m; Power Drift = -0.2 dB
 Maximum value of SAR (interpolated) = 0.595 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

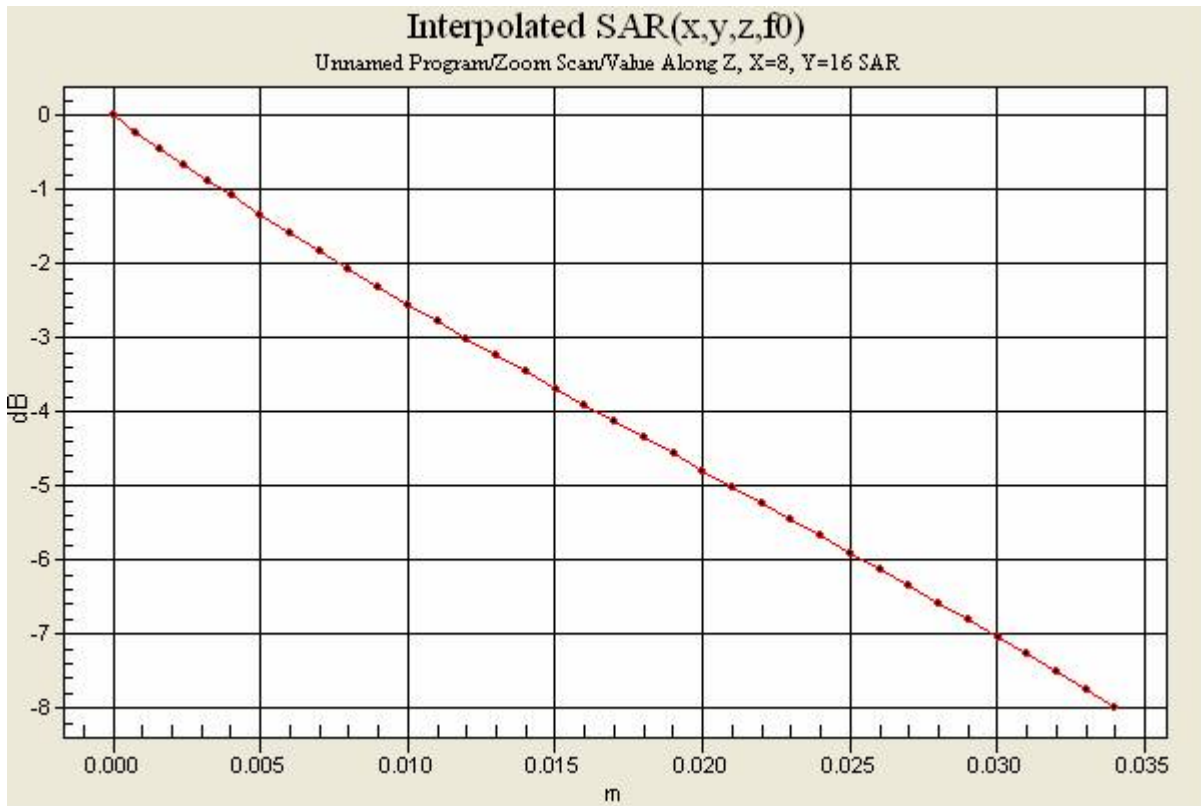
Procedure Notes:



Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
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0 dB = 0.595mW/g





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800 GSM Band: Distribution and Extrapolation of Maximum SAR

Model: S710A SN: BF7EP20328 with Standard Battery: BST-27

Closed Position, Left Side, Tilt Position.

15Aug04_S710a_GSM850_0328_LT01

File Name: [15Aug04_S710a_GSM850_0328_LT01.da4](#)

Phantom: SAM with CRP (Low Band Head) Phantom section: Left Section

Probe: ET3DV6 - SN1586ConvF(6.62, 6.62, 6.62) Duty Cycle: 1:8.3 Frequency: 824 MHz

Medium parameters used (interpolated): $f = 824 \text{ MHz}$; $\sigma = 0.882 \text{ mho/m}$; $\epsilon_r = 41.5$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DAS4 (High Precision Assessment)

Unnamed procedure/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 21.8 V/m; Power Drift = 0.0 dB

Maximum value of SAR (interpolated) = 0.464 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.8 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 0.455 mW/g

Peak SAR (extrapolated) = 0.869 W/kg

SAR(1 g) = 0.427 mW/g; SAR(10 g) = 0.268 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.8 V/m; Power Drift = 0.0 dB

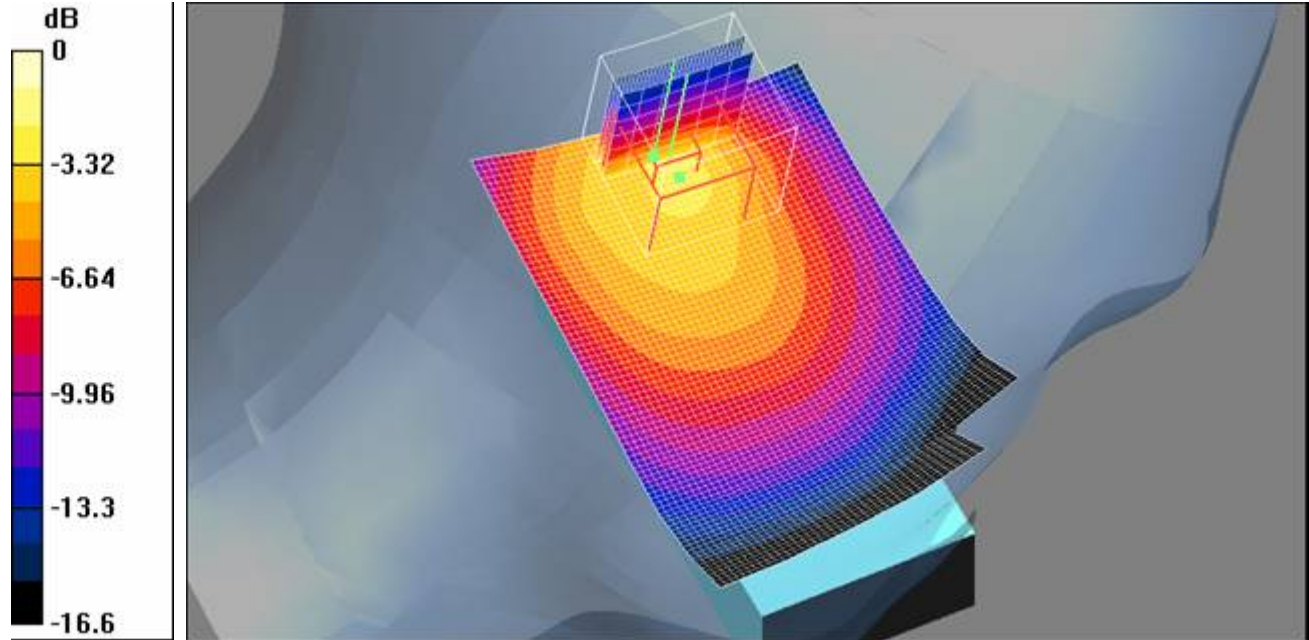
Maximum value of SAR (interpolated) = 0.869 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

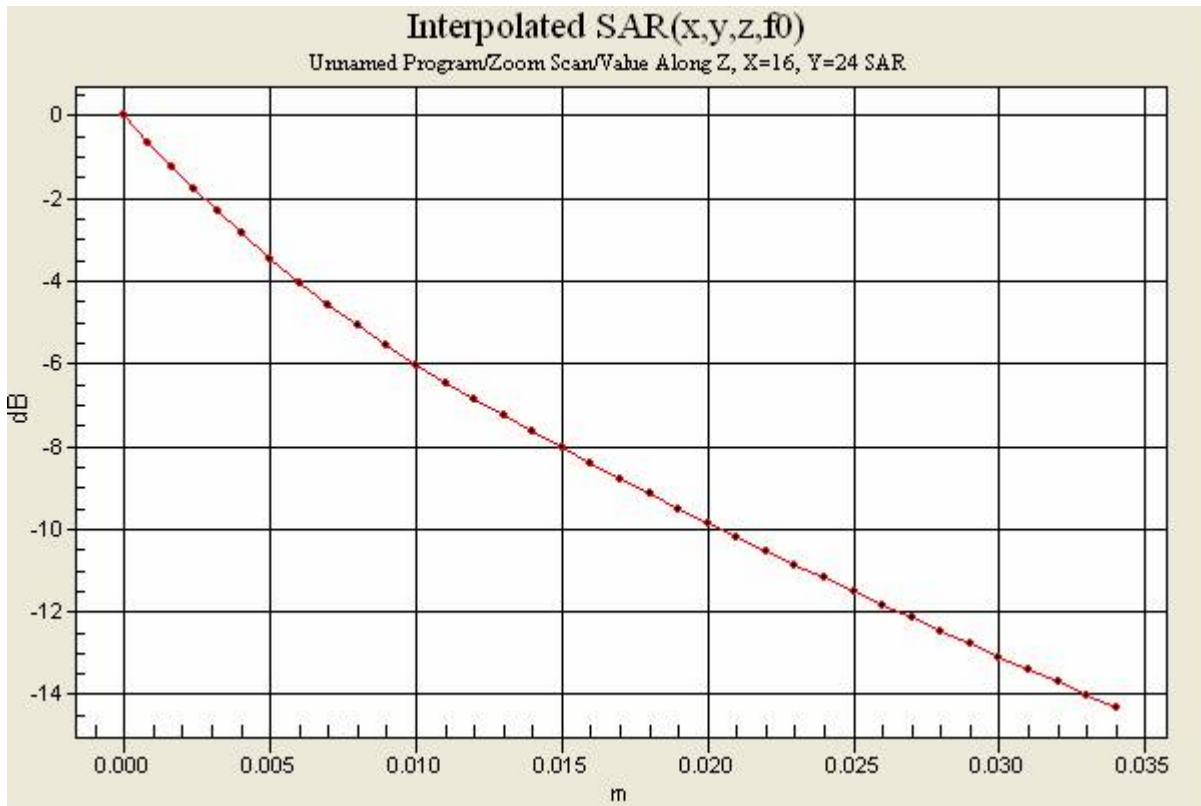
Procedure Notes:



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0 dB = 0.869mW/g





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**800 GSM Band: SAR Distribution and Extrapolation of Maximum SAR
Model: S710a SN: BF7EP20328 with Standard Battery: BST-27
Closed Position, Right Side, Cheek/Touch Position.**

15Aug04_S710a_GSM850_0328_RC01

File Name: [15Aug04_S710a_GSM850_0328_RC01.da4](#)

Phantom: SAM with CRP (Low Band Head) Phantom section: Right Section

Probe: ET3DV6 - SN1586ConvF(6.62, 6.62, 6.62) Duty Cycle: 1:8.3 Frequency: 824 MHz

Medium parameters used (interpolated): $f = 824 \text{ MHz}$; $\sigma = 0.882 \text{ mho/m}$; $\epsilon_r = 41.5$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 21.9 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 0.476 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.9 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 0.474 mW/g

Peak SAR (extrapolated) = 0.588 W/kg

SAR(1 g) = 0.453 mW/g; SAR(10 g) = 0.342 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.9 V/m; Power Drift = -0.0 dB

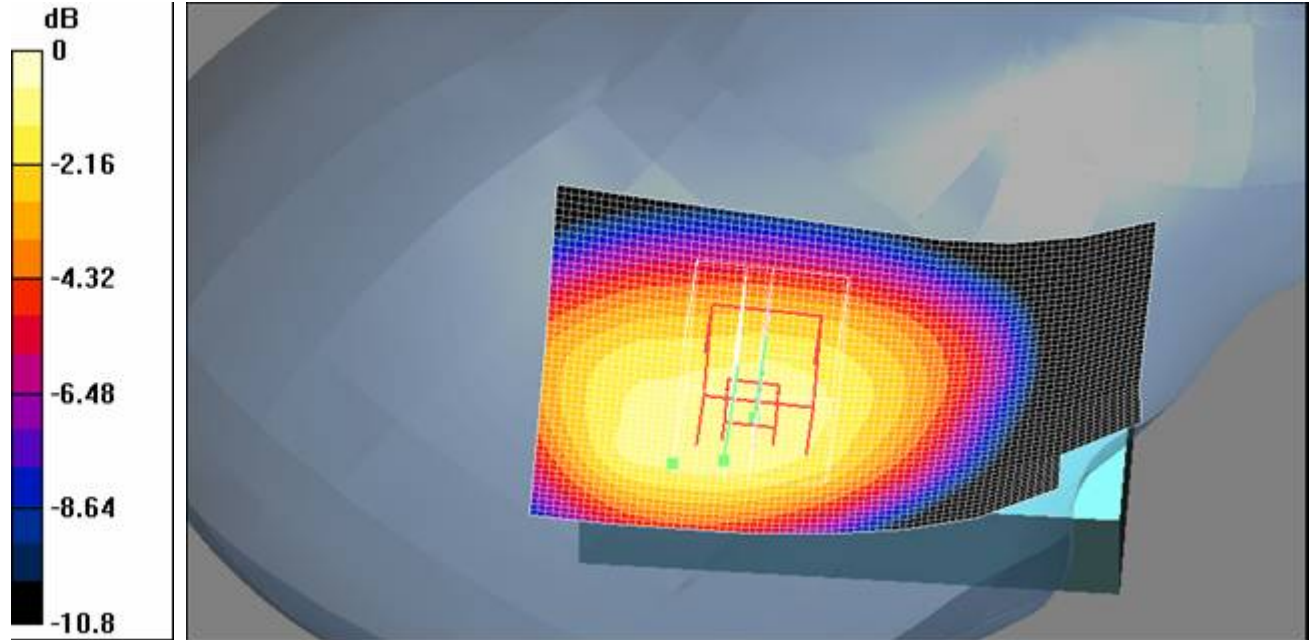
Maximum value of SAR (interpolated) = 0.588 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

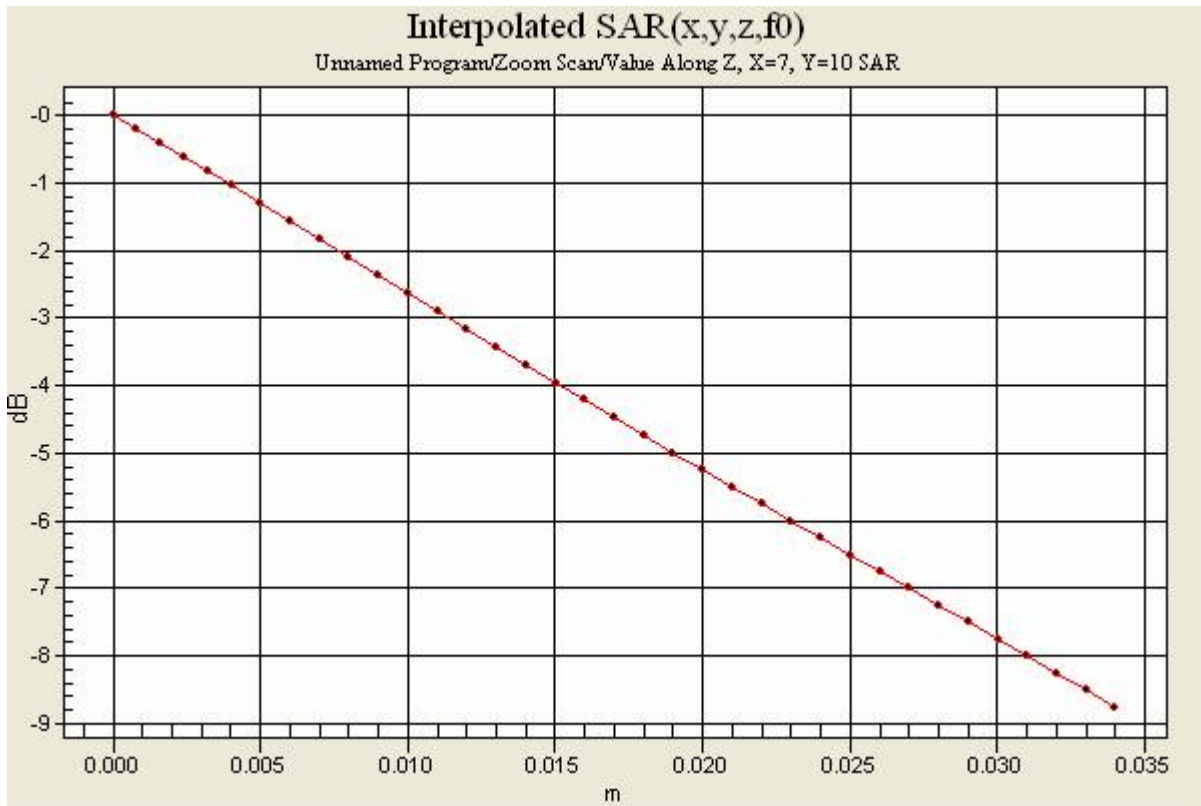
Procedure Notes:



Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
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0 dB = 0.588mW/g





Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes	No. REP 2004 004 S710A 01
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800 GSM Band: Distribution and Extrapolation of Maximum SAR

Model: S710A SN: BF7EP20328 with Standard Battery: BST-27

Closed Position, Right Side, Tilt Position.

15Aug04_S710a_GSM850_0328_RT01

File Name: [15Aug04_S710a_GSM850_0328_RT01.da4](#)

Phantom: SAM with CRP (Low Band Head) Phantom section: Right Section

Probe: ET3DV6 - SN1586ConvF(6.62, 6.62, 6.62) Duty Cycle: 1:8.3 Frequency: 824 MHz

Medium parameters used (interpolated): $f = 824 \text{ MHz}$; $\sigma = 0.882 \text{ mho/m}$; $\epsilon_r = 41.5$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DAS4 (High Precision Assessment)

Unnamed procedure/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 21.6 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 0.438 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.6 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 0.436 mW/g

Peak SAR (extrapolated) = 0.690 W/kg

SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.271 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.6 V/m; Power Drift = -0.0 dB

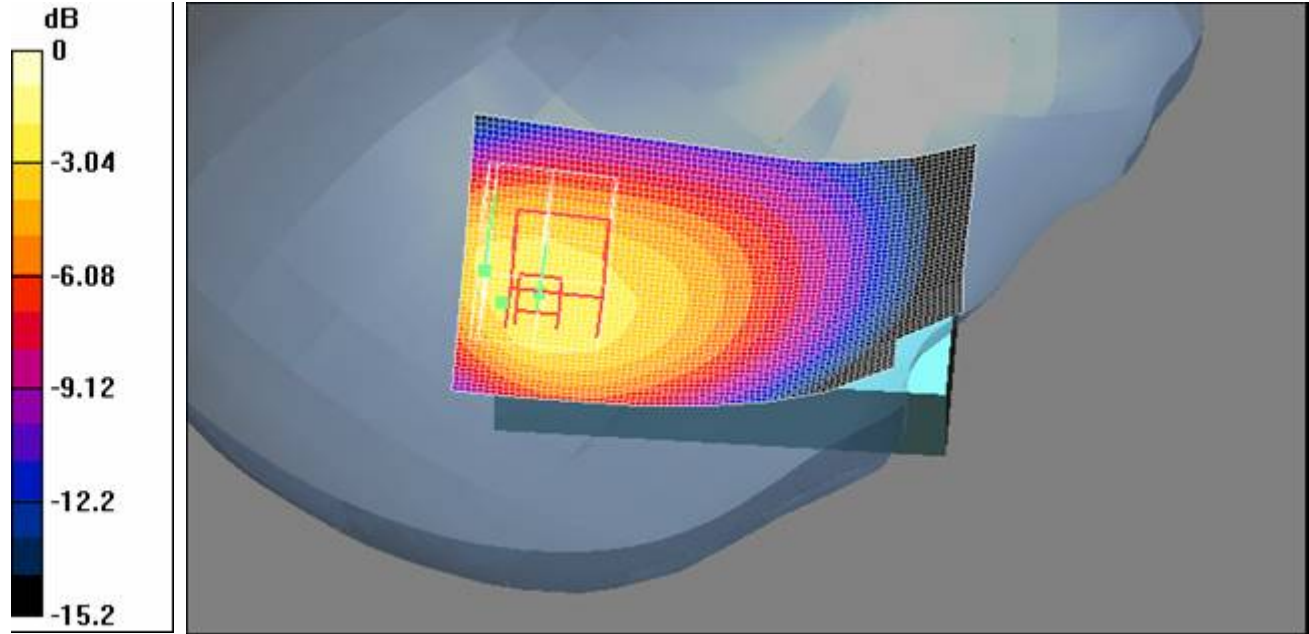
Maximum value of SAR (interpolated) = 0.690 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

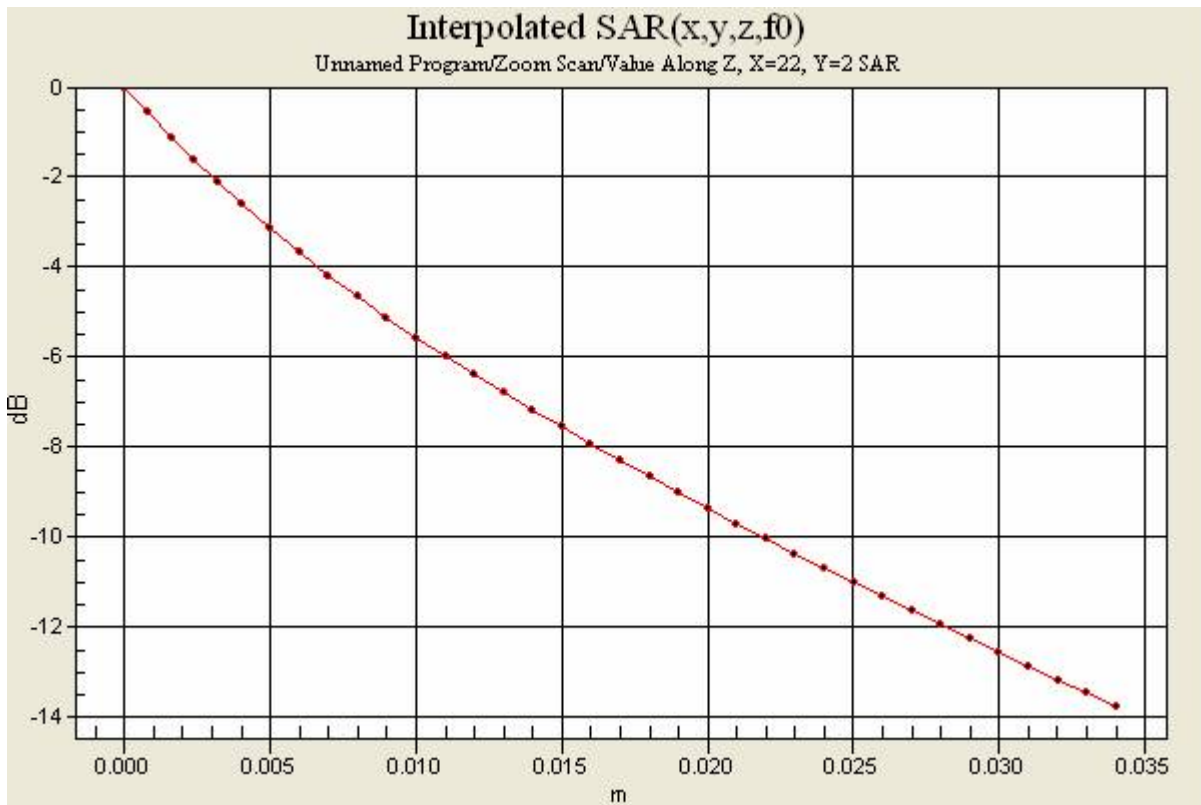
Procedure Notes:



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0 dB = 0.690mW/g





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**800 GSM Band: SAR Distribution and Extrapolation of Maximum SAR
Model: S710a SN: BF7EP20328 with Standard Battery: BST-27
Open Position, Left Side, Cheek/Touch Position.**

19Aug04_S710a_GSM850_0328_open_LC01

File Name: [19Aug04_S710a_GSM850_0328_open_LC01.da4](#)

Phantom: SAM with CRP (Low Band Head) Phantom section: Left Section

Probe: ET3DV6 - SN1587ConvF(6.79, 6.79, 6.79) Duty Cycle: 1:8.3 Frequency: 849 MHz

Medium parameters used (interpolated): $f = 849$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 40.7$; $\rho = 1000$ kg/m³

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure 3/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 12.7 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 0.938 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.7 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 0.916 mW/g

Peak SAR (extrapolated) = 1.2 W/kg

SAR(1 g) = 0.864 mW/g; SAR(10 g) = 0.653 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure 3/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.7 V/m; Power Drift = -0.0 dB

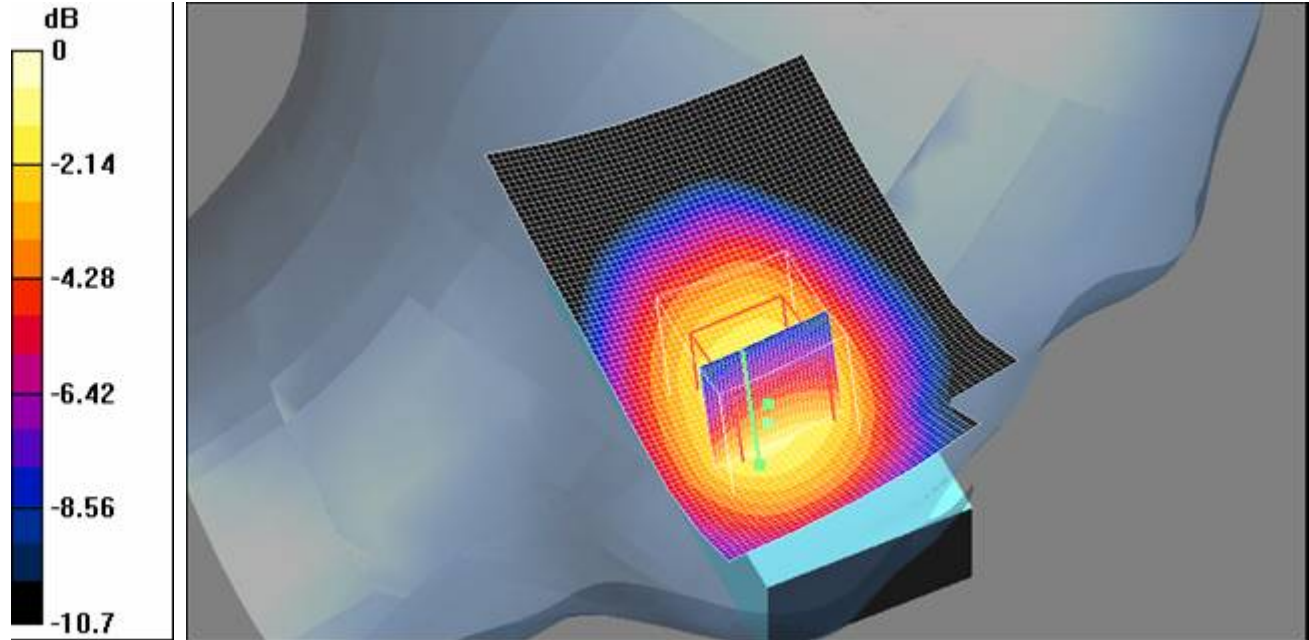
Maximum value of SAR (interpolated) = 1.2 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

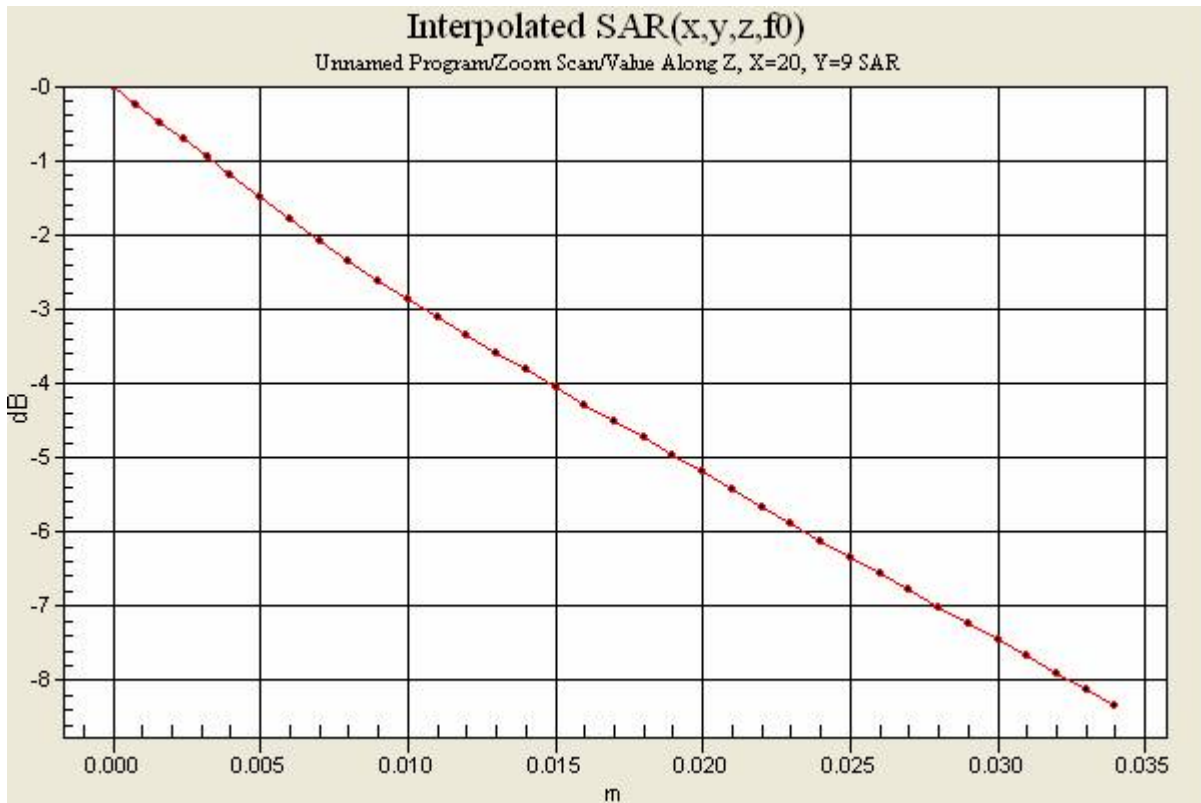
Procedure Notes:



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0 dB = 1.2mW/g





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800 GSM Band: Distribution and Extrapolation of Maximum SAR
Model: S710A SN: BF7EP20328 with Standard Battery: BST-27
Open Position, Left Side, Tilt Position.

19Aug04_S710a_GSM850_0328_open_LT01

File Name: [19Aug04_S710a_GSM850_0328_open_LT01.da4](#)

Phantom: SAM with CRP (Low Band Head) Phantom section: Left Section

Probe: ET3DV6 - SN1587ConvF(6.79, 6.79, 6.79) Duty Cycle: 1:8.3 Frequency: 849 MHz

Medium parameters used (interpolated): $f = 849$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 40.7$; $\rho = 1000$ kg/m³

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure 3/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 17.4 V/m; Power Drift = -0.1 dB

Maximum value of SAR (interpolated) = 0.463 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.4 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 0.470 mW/g

Peak SAR (extrapolated) = 0.569 W/kg

SAR(1 g) = 0.448 mW/g; SAR(10 g) = 0.330 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure 3/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.4 V/m; Power Drift = -0.1 dB

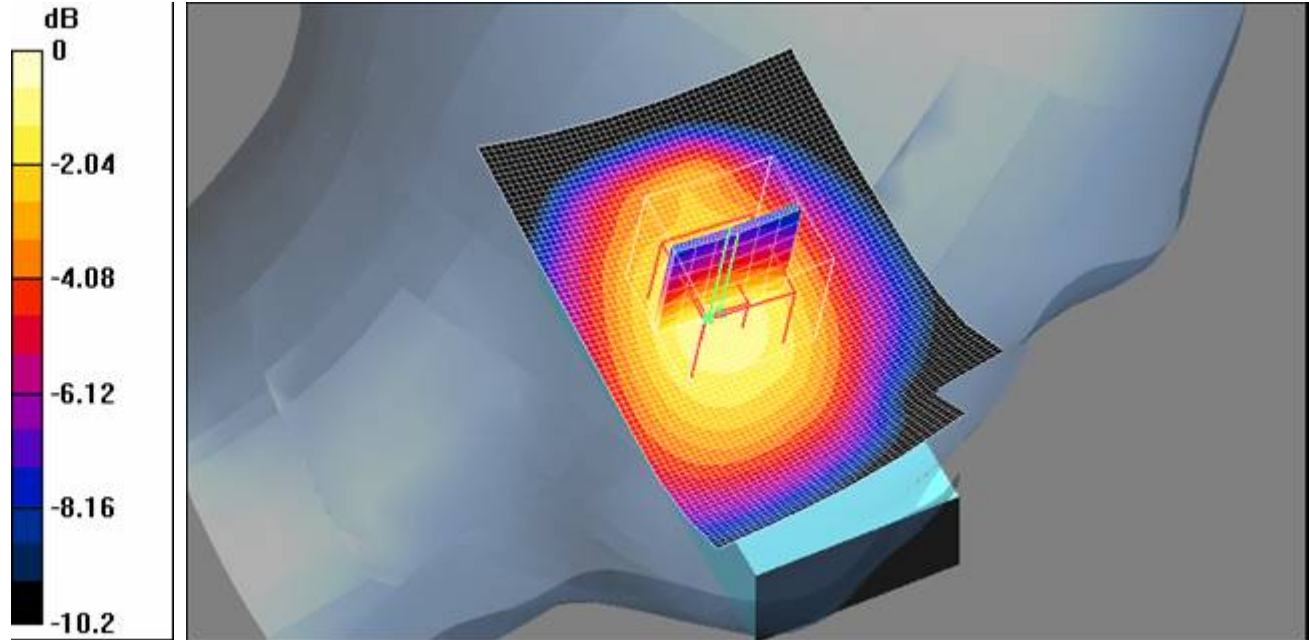
Maximum value of SAR (interpolated) = 0.569 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

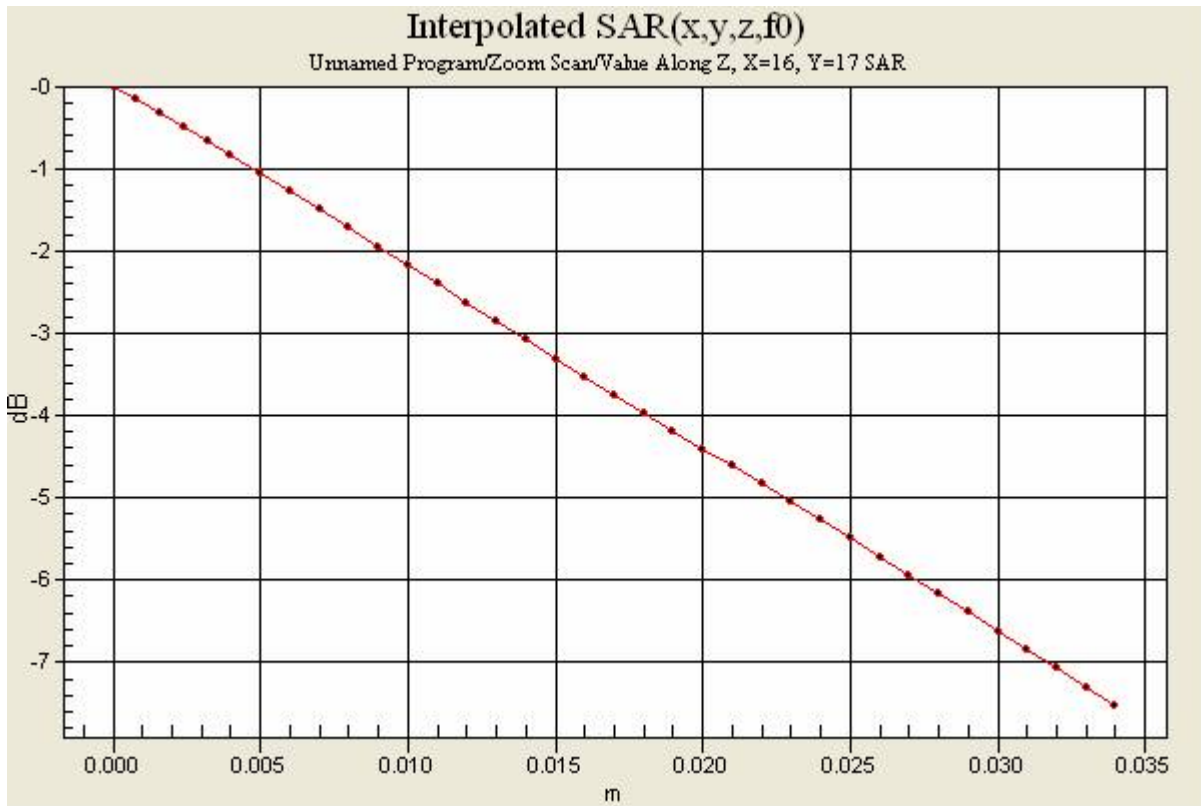
Procedure Notes:



Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
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0 dB = 0.569mW/g





Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	B	X:\SAR Chamber\FCC reports\S710A\Final Reports\FCCS710A.doc

**800 GSM Band: SAR Distribution and Extrapolation of Maximum SAR
Model: S710a SN: BF7EP20328 with Standard Battery: BST-27
Open Position, Right Side, Cheek/Touch Position.**

19Aug04_S710a_GSM850_0328_open_RC01

File Name: [19Aug04_S710a_GSM850_0328_open_RC01.da4](#)

Phantom: SAM with CRP (Low Band Head) Phantom section: Right Section

Probe: ET3DV6 - SN1587ConvF(6.79, 6.79, 6.79) Duty Cycle: 1:8.3 Frequency: 849 MHz

Medium parameters used (interpolated): $f = 849$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 40.7$; $\rho = 1000$ kg/m³

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure 3/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 12.2 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 0.930 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.2 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 0.913 mW/g

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.867 mW/g; SAR(10 g) = 0.657 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure 3/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.2 V/m; Power Drift = -0.0 dB

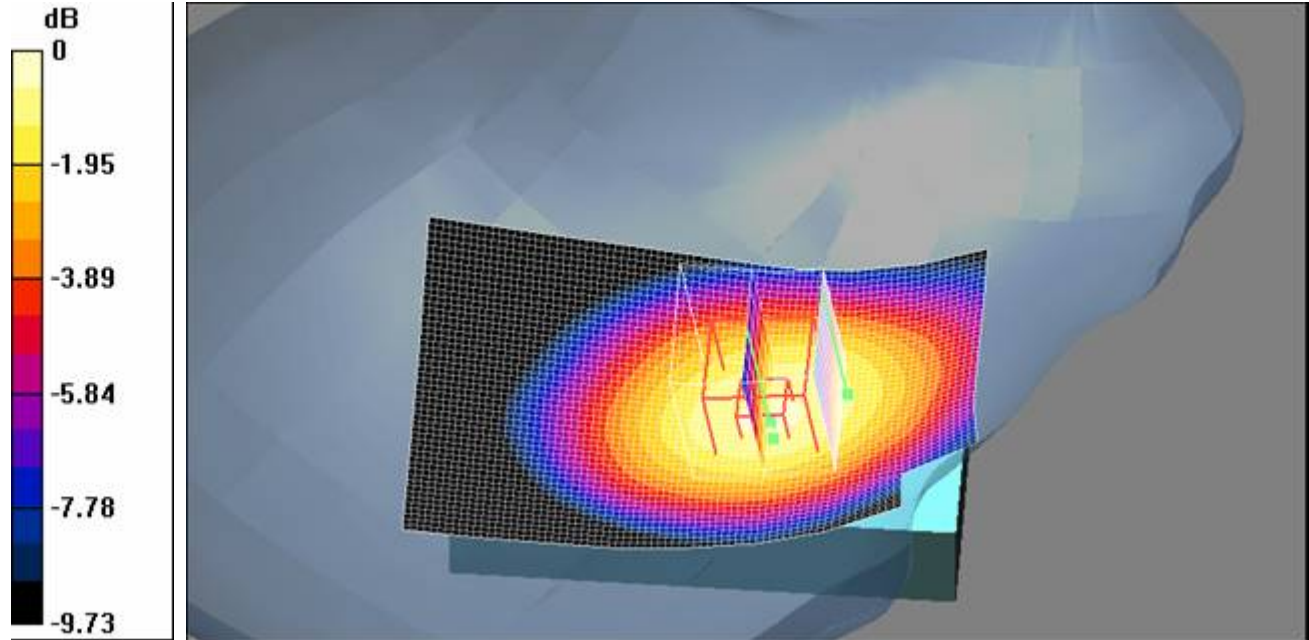
Maximum value of SAR (interpolated) = 1.05 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

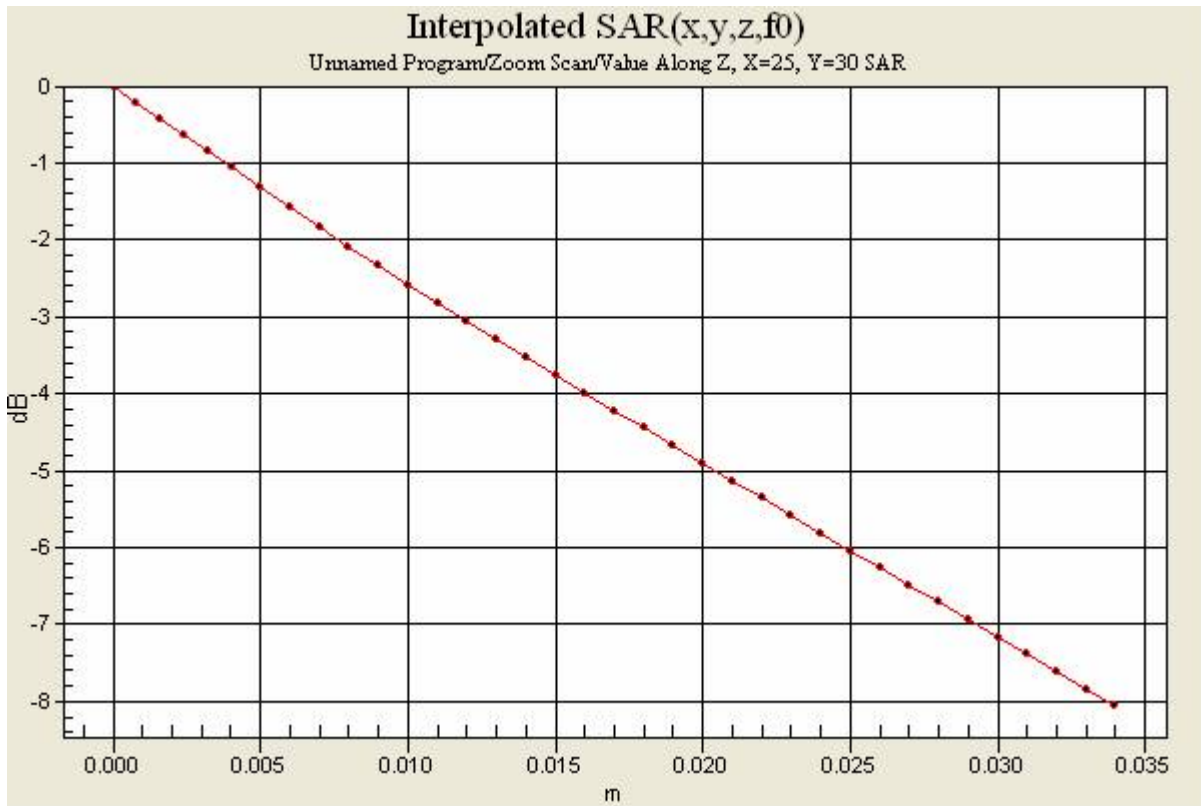
Procedure Notes:



Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
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0 dB = 1.05mW/g





Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
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800 GSM Band: Distribution and Extrapolation of Maximum SAR
Model: S710A SN: BF7EP20328 with Standard Battery: BST-27
Open Position, Right Side, Tilt Position.

19Aug04_S710a_GSM850_0328_open_RT01

File Name: [19Aug04_S710a_GSM850_0328_open_RT01.da4](#)

Phantom: SAM with CRP (Low Band Head) Phantom section: Right Section

Probe: ET3DV6 - SN1587ConvF(6.79, 6.79, 6.79) Duty Cycle: 1:8.3 Frequency: 849 MHz

Medium parameters used (interpolated): $f = 849$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 40.7$; $\rho = 1000$ kg/m³

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure 3/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 15.6 V/m; Power Drift = -0.1 dB

Maximum value of SAR (interpolated) = 0.463 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.6 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 0.461 mW/g

Peak SAR (extrapolated) = 0.553 W/kg

SAR(1 g) = 0.437 mW/g; SAR(10 g) = 0.322 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure 3/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.6 V/m; Power Drift = -0.1 dB

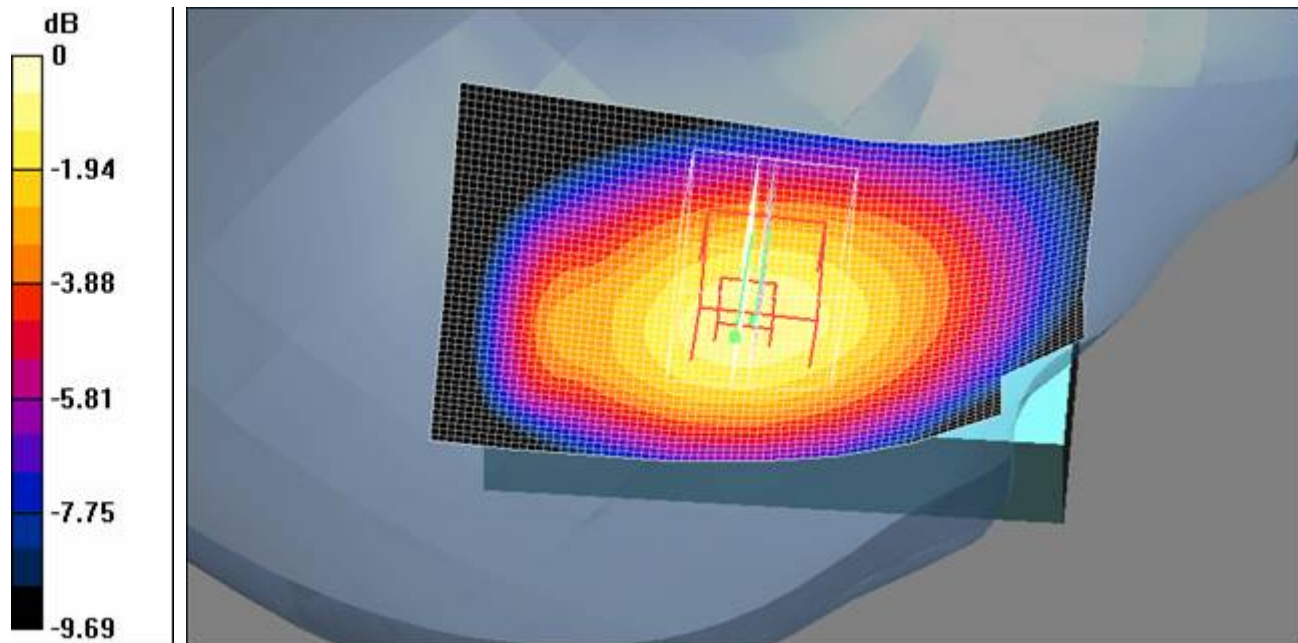
Maximum value of SAR (interpolated) = 0.553 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

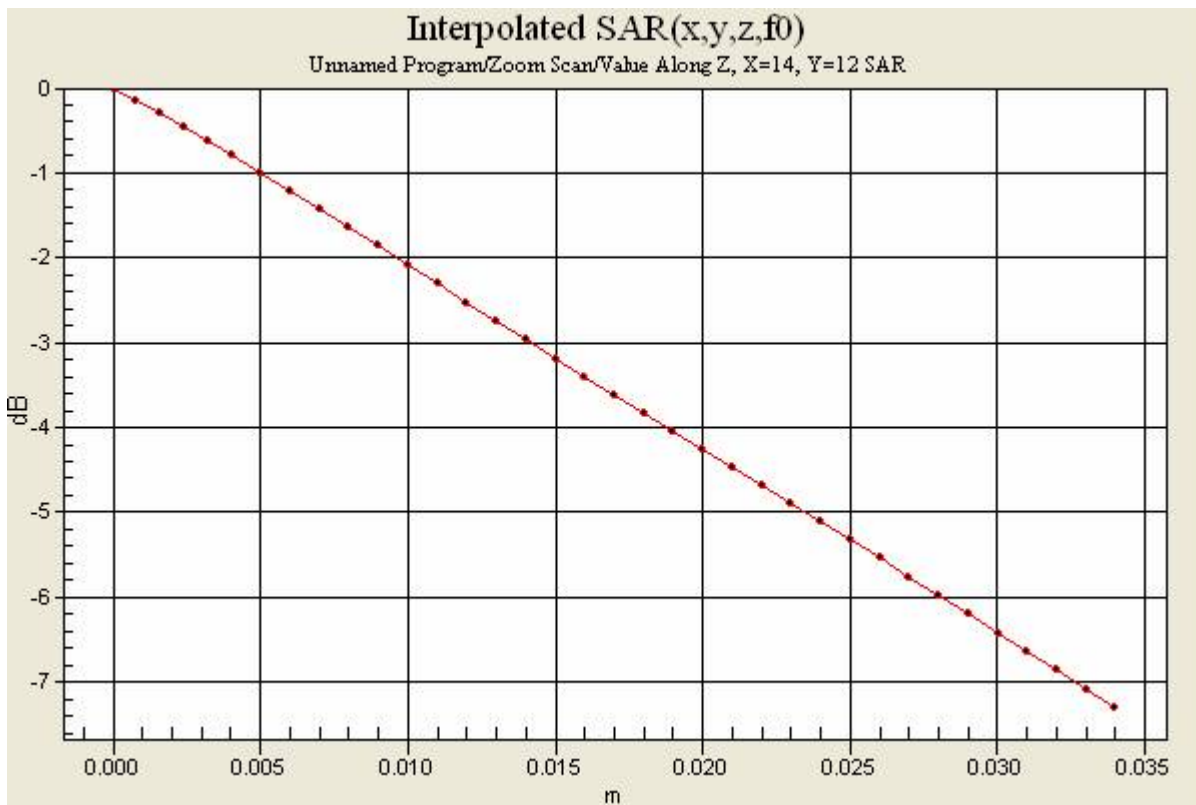
Procedure Notes:



Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
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0 dB = 0.553mW/g





Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
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**1900 GSM Band: SAR Distribution and Extrapolation of Maximum SAR
Model: S710a SN: BF7EP20308 with Standard Battery: BST-27
Closed Position, Left Side, Cheek/Touch Position.**

23Aug04_S710a_GSM1900_0308_LC01

File Name: [23Aug04_S710a_GSM1900_0308_LC01.da4](#)

Phantom: SAM with CRP (High Band Head) Phantom section: Left Section

Probe: ET3DV6 - SN1587ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:8.3 Frequency: 1880 MHz

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.44 \text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure 2/Area Scan (51x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 18.6 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 0.663 mW/g

Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 18.6 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 0.588 mW/g

Peak SAR (extrapolated) = 0.814 W/kg

SAR(1 g) = 0.550 mW/g; SAR(10 g) = 0.352 mW/g

Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 1: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 18.6 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 0.526 mW/g

Peak SAR (extrapolated) = 0.671 W/kg

SAR(1 g) = 0.479 mW/g; SAR(10 g) = 0.294 mW/g

Unnamed procedure 2/Zoom Scan (31x31x36)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 18.6 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 0.814 mW/g

Unnamed procedure 2/Zoom Scan (31x31x36)/Cube 1: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

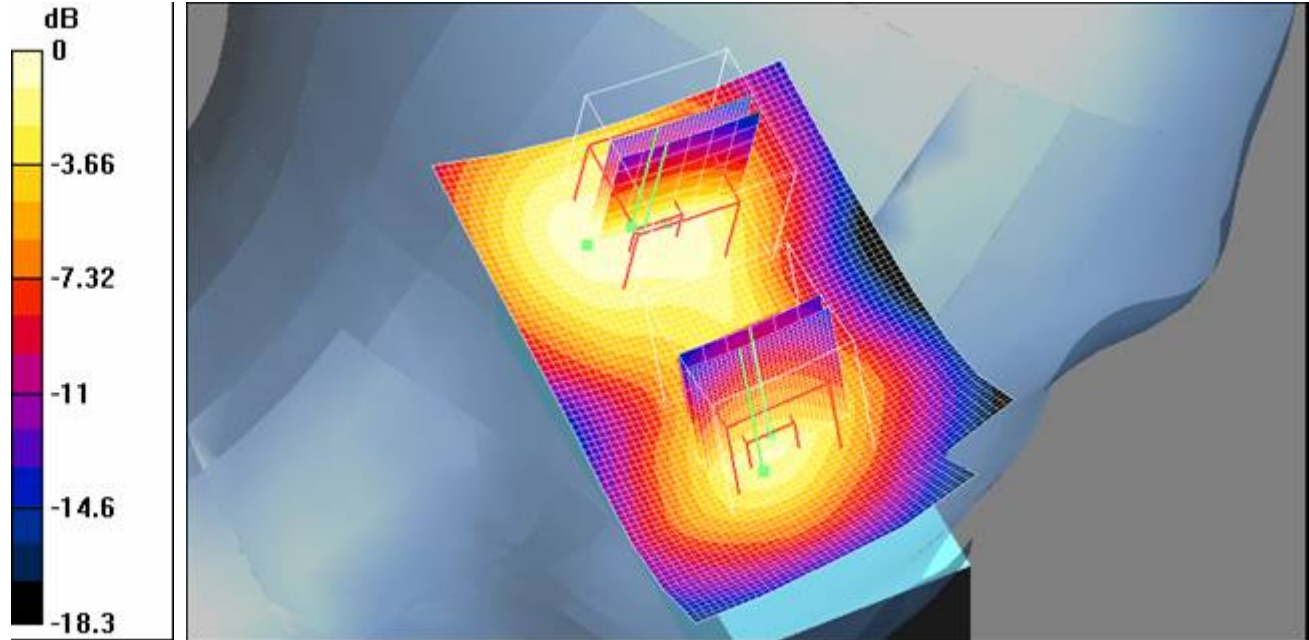
Reference Value = 18.6 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 0.671 mW/g

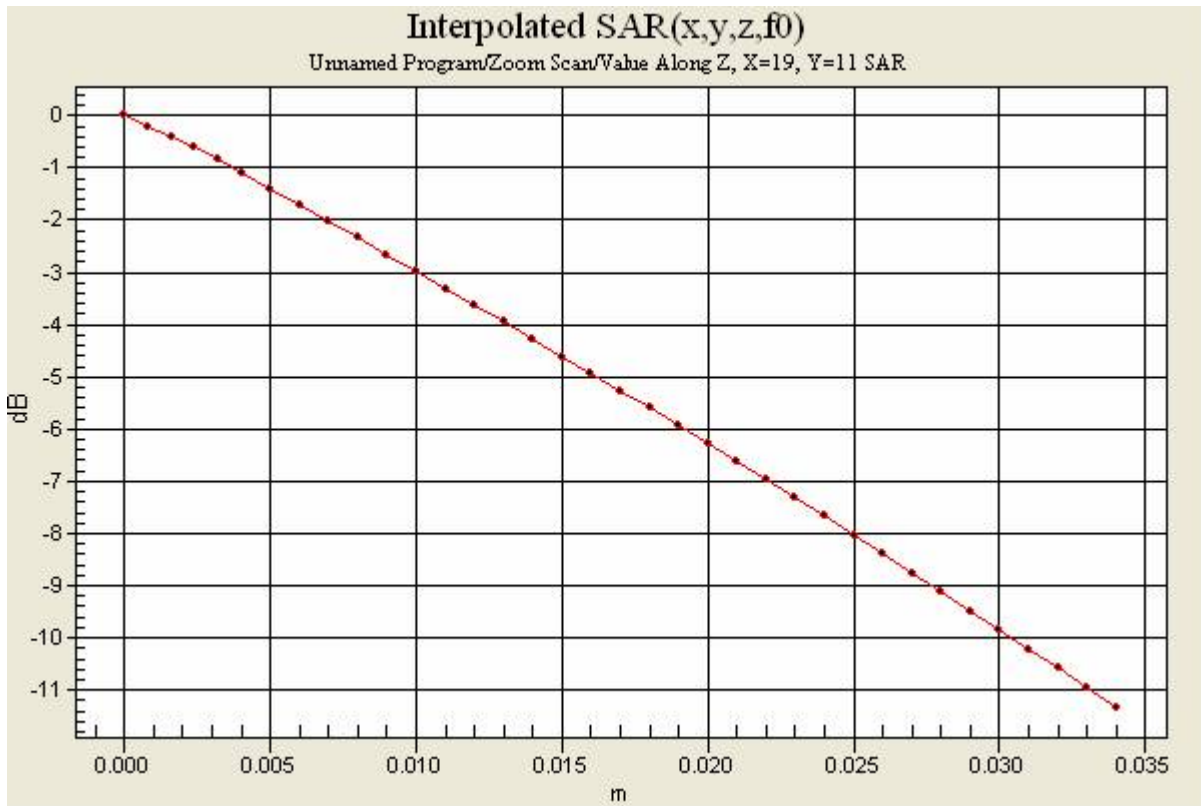
Procedure Notes:



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0 dB = 0.671mW/g





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1900 GSM Band: Distribution and Extrapolation of Maximum SAR
Model: S710A SN: BF7EP20308 with Standard Battery: BST-27
Closed Position, Left Side, Tilt Position.

23Aug04_S710a_GSM1900_0308_LT01

File Name: [23Aug04_S710a_GSM1900_0308_LT01.da4](#)

Phantom: SAM with CRP (High Band Head) Phantom section: Left Section

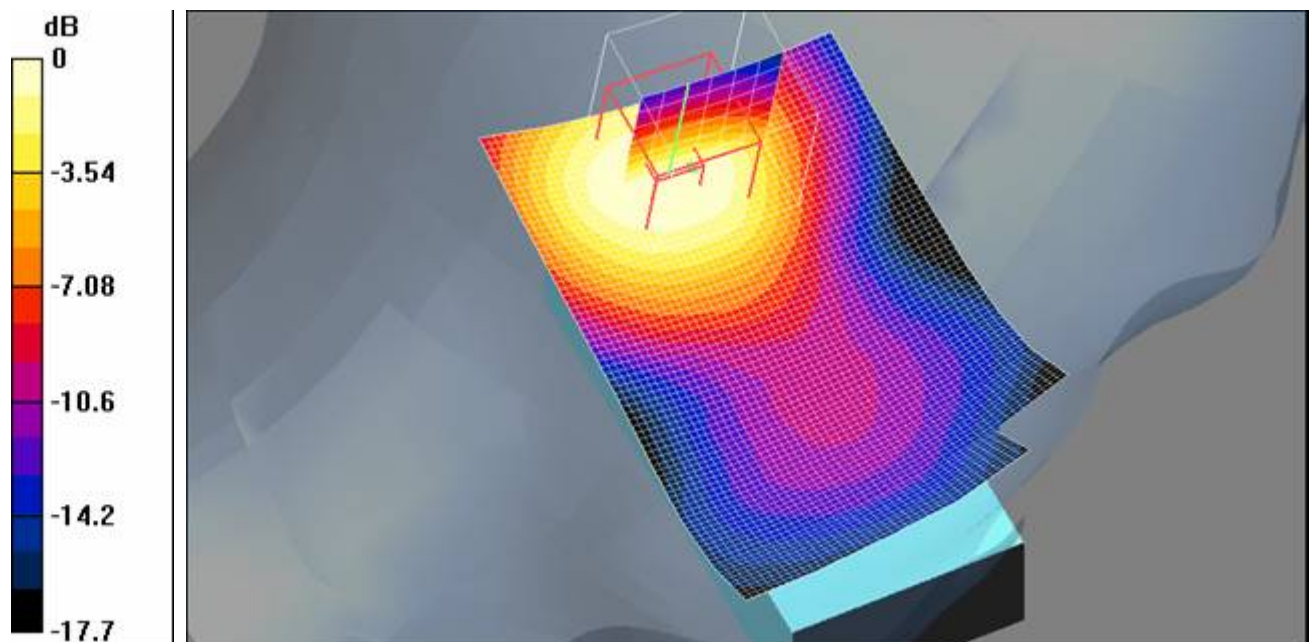
Probe: ET3DV6 - SN1587ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:8.3 Frequency: 1880 MHz

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.44 \text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure 2/Area Scan (51x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
 Reference Value = 7.43 V/m; Power Drift = -0.1 dB
 Maximum value of SAR (interpolated) = 0.849 mW/g

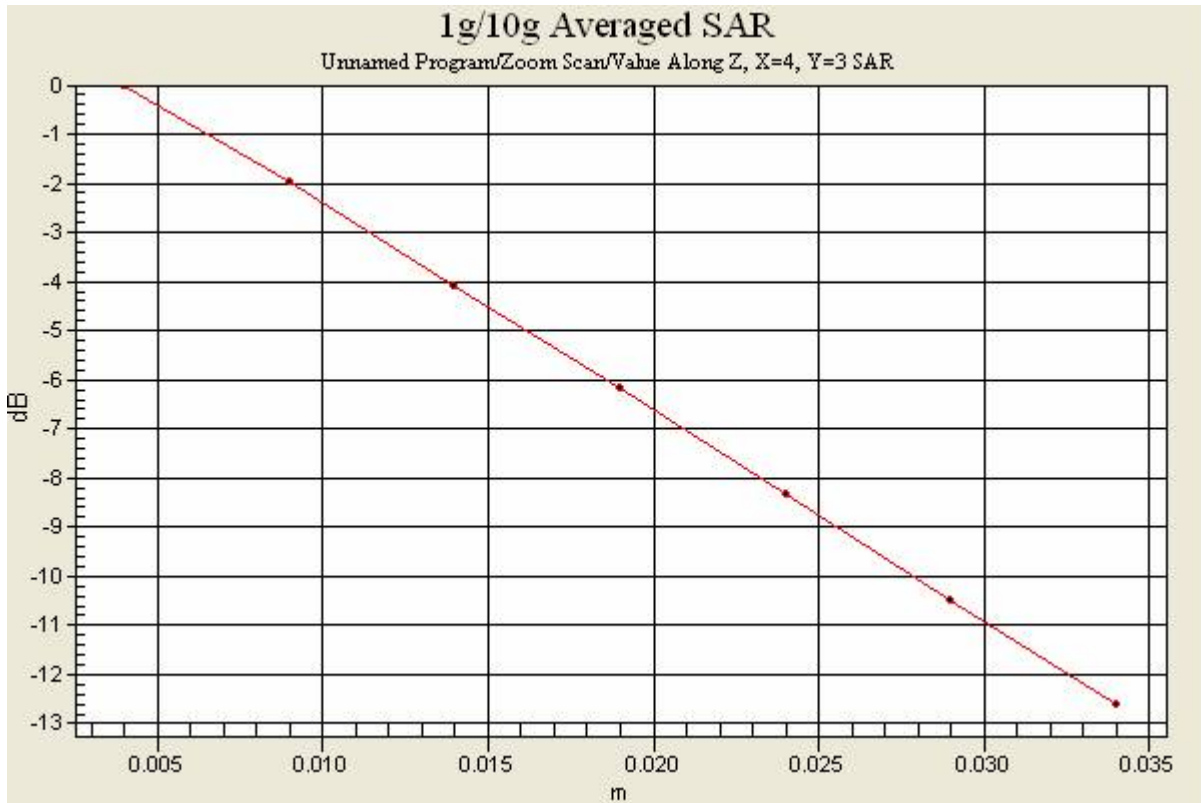
Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$,
 $dy=5\text{mm}$, $dz=5\text{mm}$
 Reference Value = 7.43 V/m; Power Drift = -0.1 dB
 Maximum value of SAR (measured) = 0.808 mW/g
 Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.748 mW/g; SAR(10 g) = 0.447 mW/g
 Procedure Notes:





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0 dB = 0.808mW/g





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**1900 GSM Band: SAR Distribution and Extrapolation of Maximum SAR
Model: S710a SN: BF7EP20308 with Standard Battery: BST-27
Closed Position, Right Side, Cheek/Touch Position.**

23Aug04_S710a_GSM1900_0308_RC01

File Name: [23Aug04_S710a_GSM1900_0308_RC01.da4](#)

Phantom: SAM with CRP (High Band Head) Phantom section: Right Section

Probe: ET3DV6 - SN1587ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:8.3 Frequency: 1880 MHz

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.44 \text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure 2/Area Scan (51x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 19 V/m; Power Drift = 0.004 dB

Maximum value of SAR (interpolated) = 0.696 mW/g

Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 19 V/m; Power Drift = 0.004 dB

Maximum value of SAR (measured) = 0.707 mW/g

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.643 mW/g; SAR(10 g) = 0.372 mW/g

Unnamed procedure 2/Zoom Scan (7x7x7)/Cube 1: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 19 V/m; Power Drift = 0.004 dB

Maximum value of SAR (measured) = 0.541 mW/g

Peak SAR (extrapolated) = 0.673 W/kg

SAR(1 g) = 0.492 mW/g; SAR(10 g) = 0.297 mW/g

Unnamed procedure 2/Zoom Scan (31x31x36)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 19 V/m; Power Drift = 0.004 dB

Maximum value of SAR (interpolated) = 1.03 mW/g

Unnamed procedure 2/Zoom Scan (31x31x36)/Cube 1: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

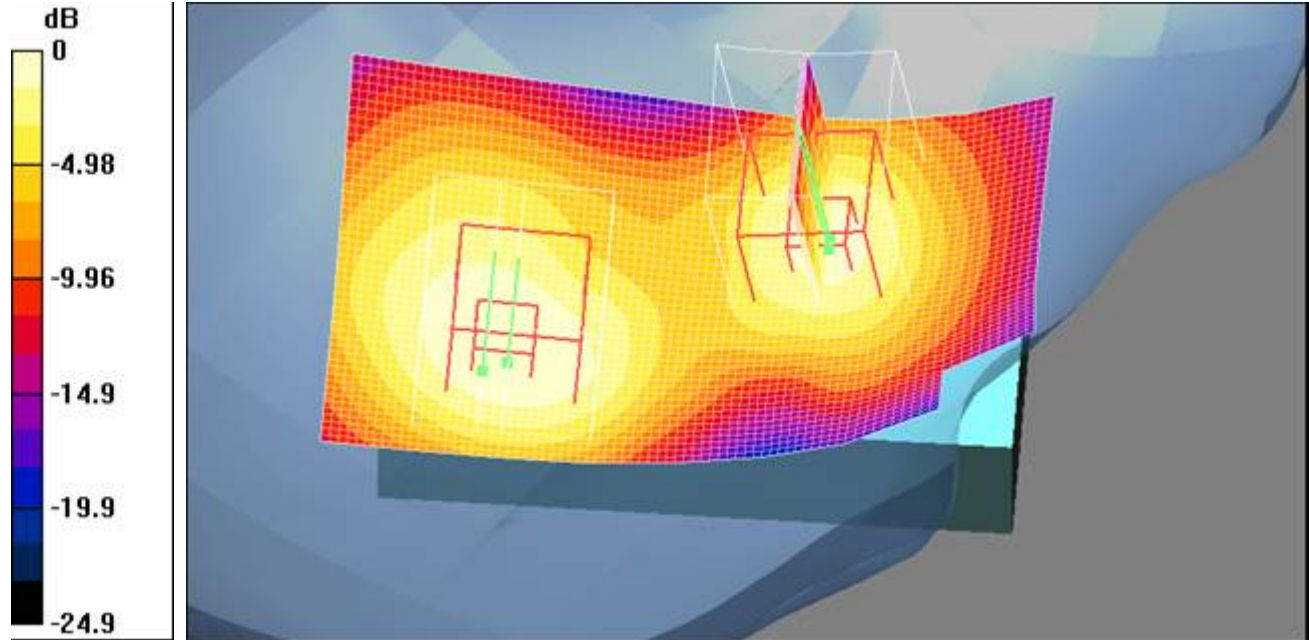
Reference Value = 19 V/m; Power Drift = 0.004 dB

Maximum value of SAR (interpolated) = 0.673 mW/g

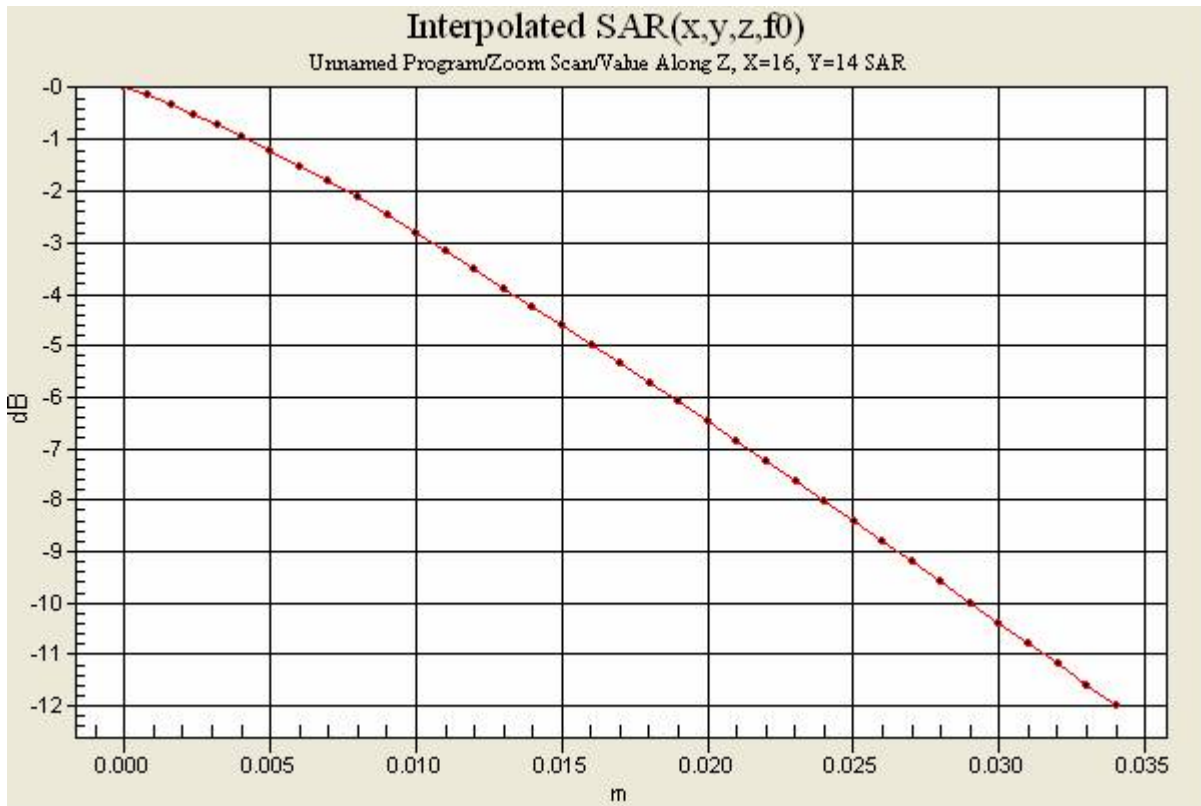
Procedure Notes:



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0 dB = 0.673mW/g





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**1900 GSM Band: Distribution and Extrapolation of Maximum SAR
Model: S710A SN: BF7EP20308 with Standard Battery: BST-27
Closed Position, Right Side, Tilt Position.**

23Aug04_S710a_GSM1900_0308_RT01

File Name: [23Aug04_S710a_GSM1900_0308_RT01.da4](#)

Phantom: SAM with CRP (High Band Head) Phantom section: Right Section

Probe: ET3DV6 - SN1587ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:8.3 Frequency: 1850.2 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 7 V/m; Power Drift = 0.005 dB

Maximum value of SAR (interpolated) = 0.716 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7 V/m; Power Drift = 0.005 dB

Maximum value of SAR (measured) = 0.697 mW/g

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.636 mW/g; SAR(10 g) = 0.373 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7 V/m; Power Drift = 0.005 dB

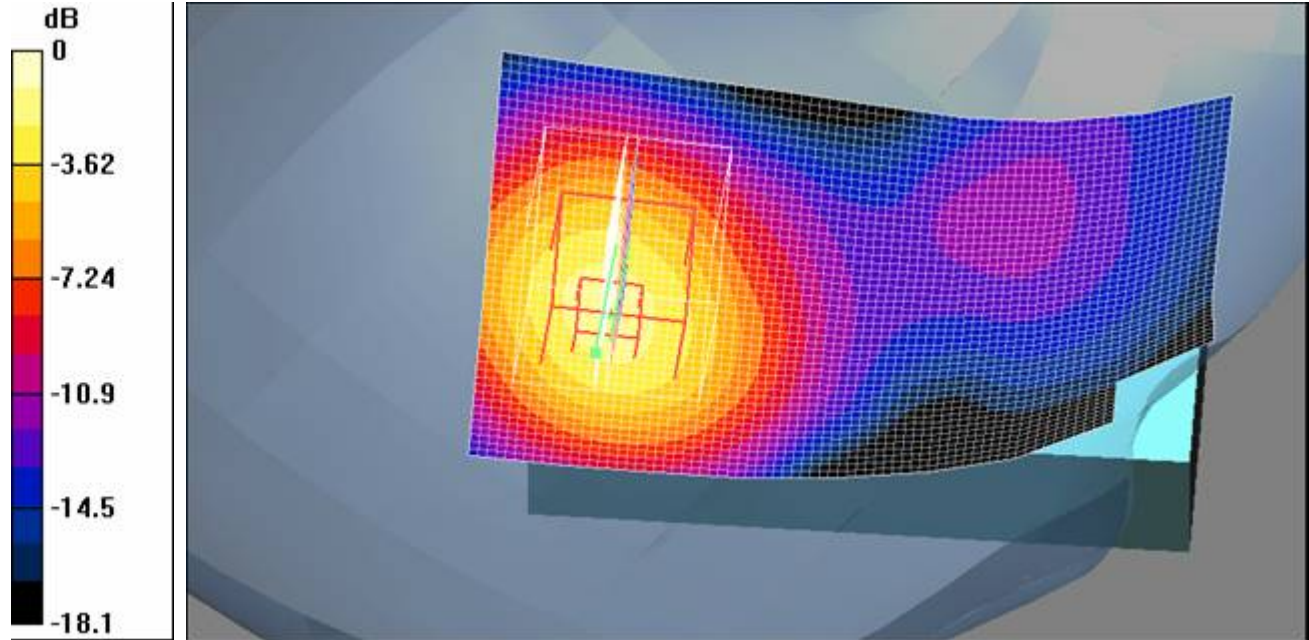
Maximum value of SAR (interpolated) = 1.06 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

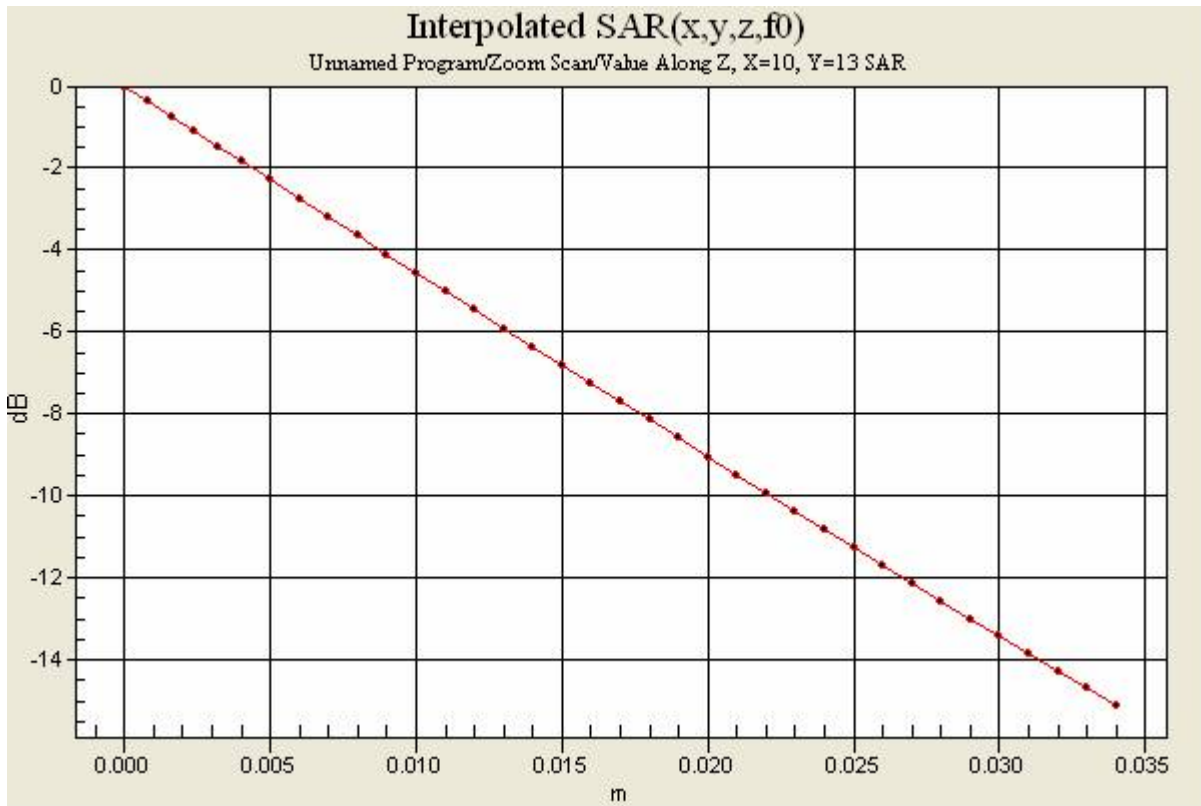
Procedure Notes:



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0 dB = 1.06mW/g





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**1900 GSM Band: SAR Distribution and Extrapolation of Maximum SAR
Model: S710a SN: BF7EP20308 with Standard Battery: BST-27
Open Position, Left Side, Cheek/Touch Position.**

24Aug04_S710a_GSM1900_0308_open_LC01

File Name: [24Aug04_S710a_GSM1900_0308_open_LC01.da4](#)

Phantom: SAM with CRP (High Band Head) Phantom section: Left Section

Probe: ET3DV6 - SN1587ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:8.3 Frequency: 1850.2 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 11.9 V/m; Power Drift = -0.2 dB

Maximum value of SAR (interpolated) = 0.389 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.9 V/m; Power Drift = -0.2 dB

Maximum value of SAR (measured) = 0.383 mW/g

Peak SAR (extrapolated) = 0.528 W/kg

SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.211 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (41x41x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.9 V/m; Power Drift = -0.2 dB

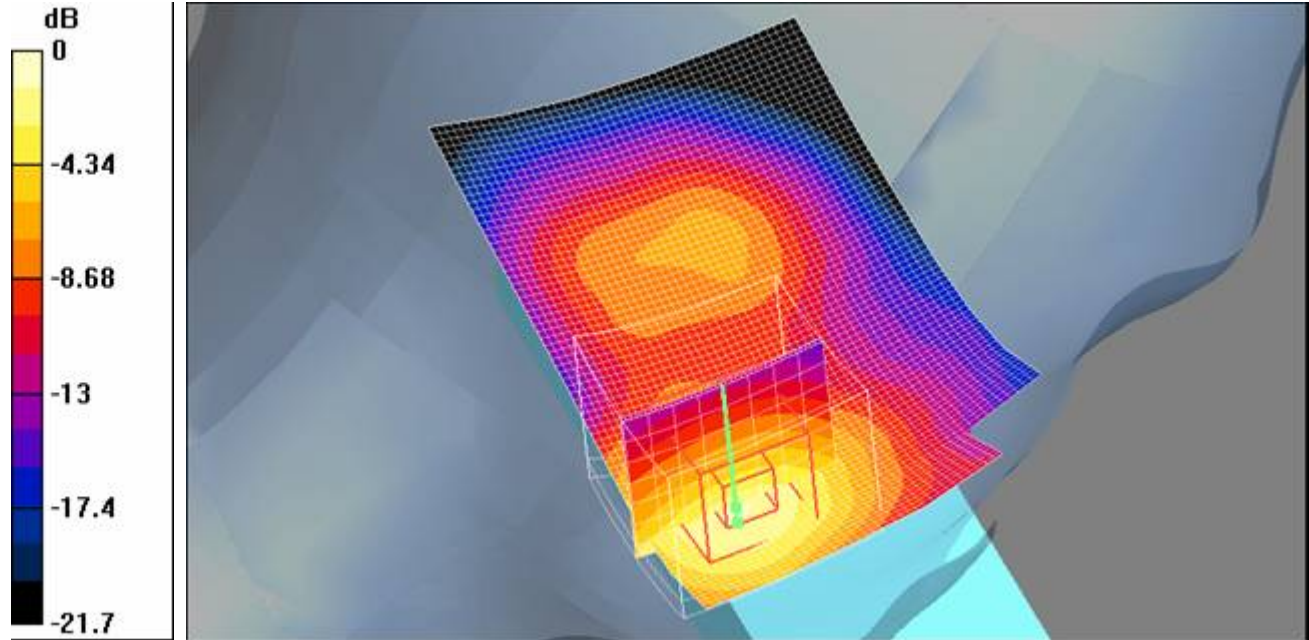
Maximum value of SAR (interpolated) = 0.528 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

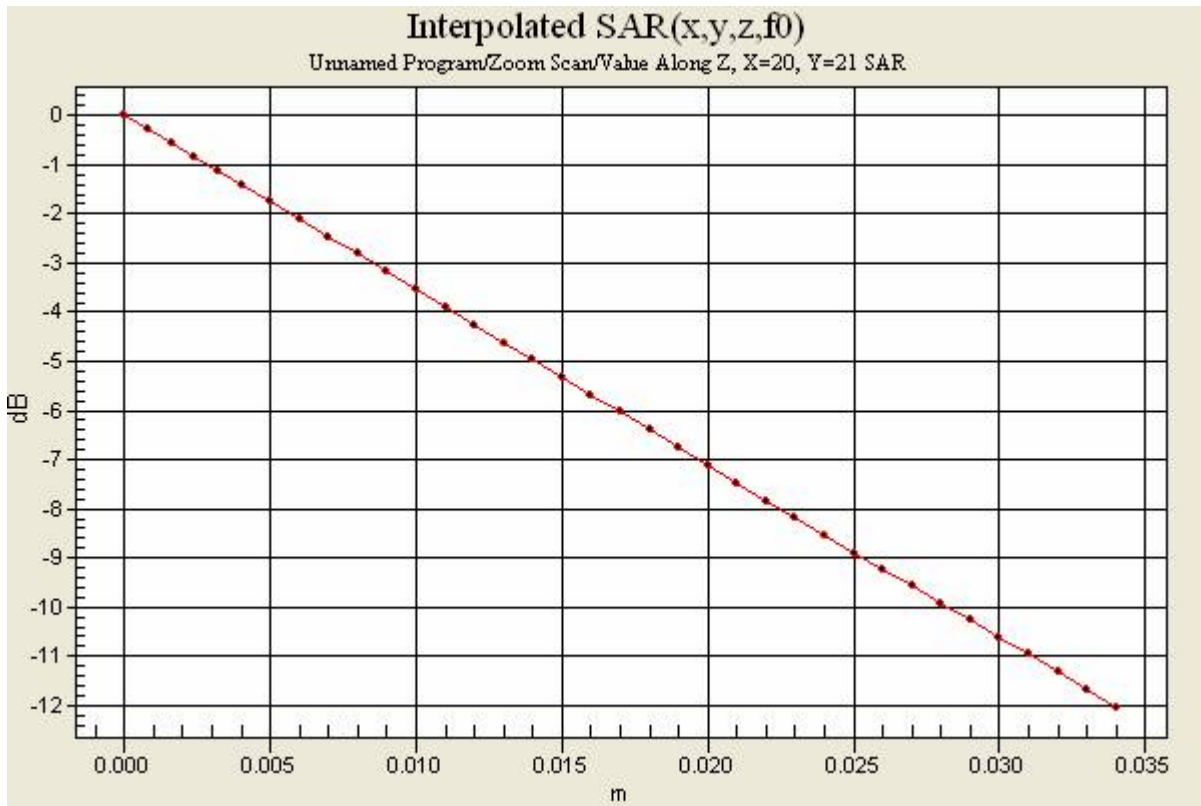
Procedure Notes:



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0 dB = 0.528mW/g





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**1900 GSM Band: Distribution and Extrapolation of Maximum SAR
Model: S710A SN: BF7EP20308 with Standard Battery: BST-27
Open Position, Left Side, Tilt Position.**

24Aug04_S710a_GSM1900_0308_open_LT01

File Name: [24Aug04_S710a_GSM1900_0308_open_LT01.da4](#)

Phantom: SAM with CRP (High Band Head) Phantom section: Left Section

Probe: ET3DV6 - SN1587ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:8.3 Frequency: 1850.2 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 4.8 V/m; Power Drift = 0.1 dB

Maximum value of SAR (interpolated) = 0.176 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.8 V/m; Power Drift = 0.1 dB

Maximum value of SAR (measured) = 0.170 mW/g

Peak SAR (extrapolated) = 0.229 W/kg

SAR(1 g) = 0.159 mW/g; SAR(10 g) = 0.101 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.8 V/m; Power Drift = 0.1 dB

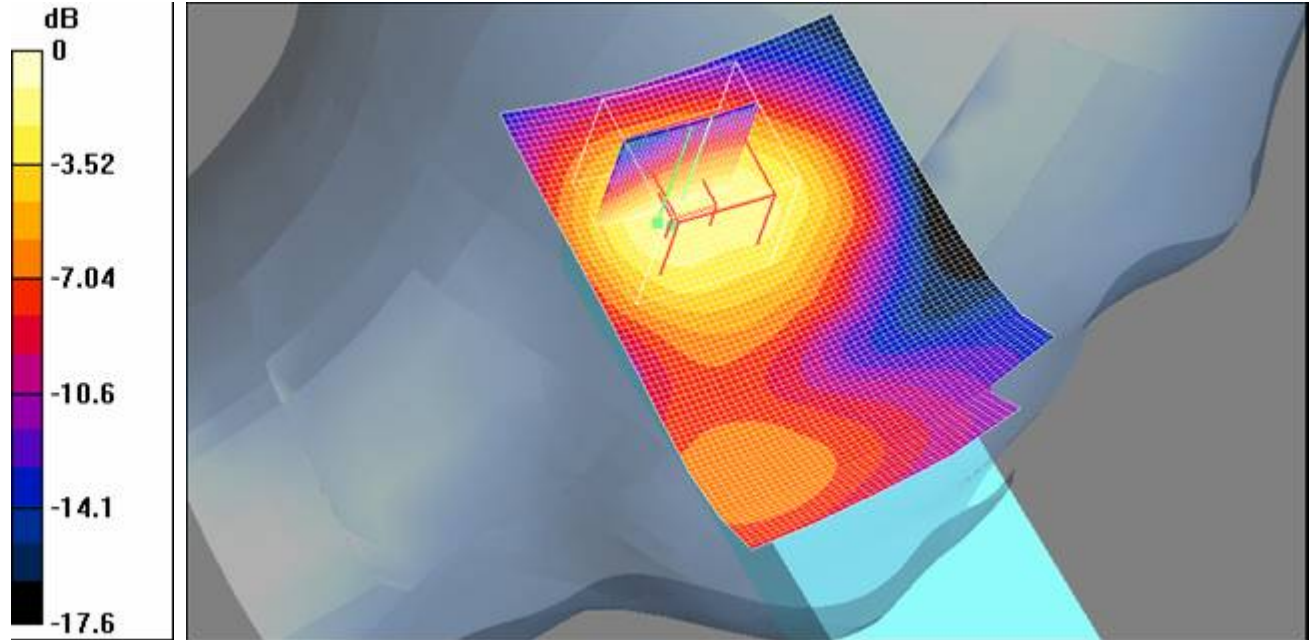
Maximum value of SAR (interpolated) = 0.229 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

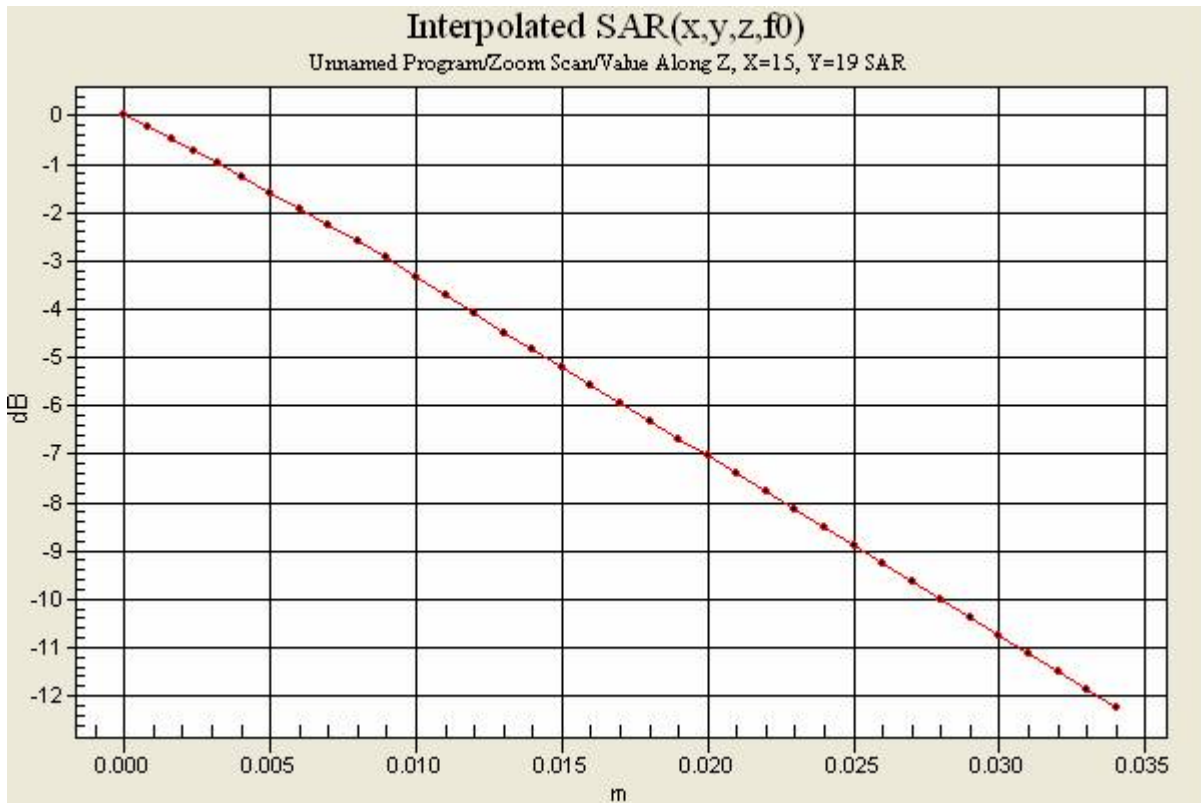
Procedure Notes:



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0 dB = 0.229mW/g





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**1900 GSM Band: SAR Distribution and Extrapolation of Maximum SAR
Model: S710a SN: BF7EP20308 with Standard Battery: BST-27
Open Position, Right Side, Cheek/Touch Position.**

24Aug04_S710a_GSM1900_0308_open_RC01

File Name: [24Aug04_S710a_GSM1900_0308_open_RC01.da4](#)

Phantom: SAM with CRP (High Band Head) Phantom section: Right Section

Probe: ET3DV6 - SN1587ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:8.3 Frequency: 1850.2 MHz

Medium parameters used (interpolated): $f = 1850.2 \text{ MHz}$; $\sigma = 1.41 \text{ mho/m}$; $\epsilon_r = 38.7$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DAS4 (High Precision Assessment)

Unnamed procedure/Area Scan (51x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 11.8 V/m; Power Drift = -0.1 dB

Maximum value of SAR (interpolated) = 0.261 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.8 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 0.256 mW/g

Peak SAR (extrapolated) = 0.328 W/kg

SAR(1 g) = 0.236 mW/g; SAR(10 g) = 0.152 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (31x31x36)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.8 V/m; Power Drift = -0.1 dB

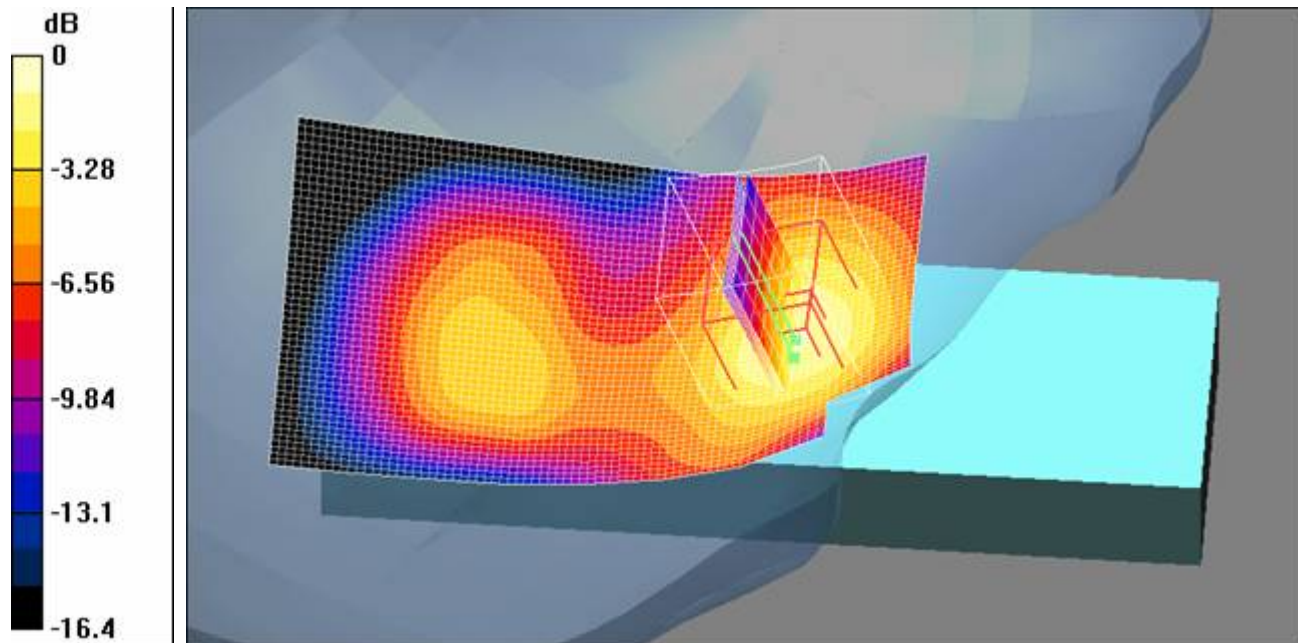
Maximum value of SAR (interpolated) = 0.328 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

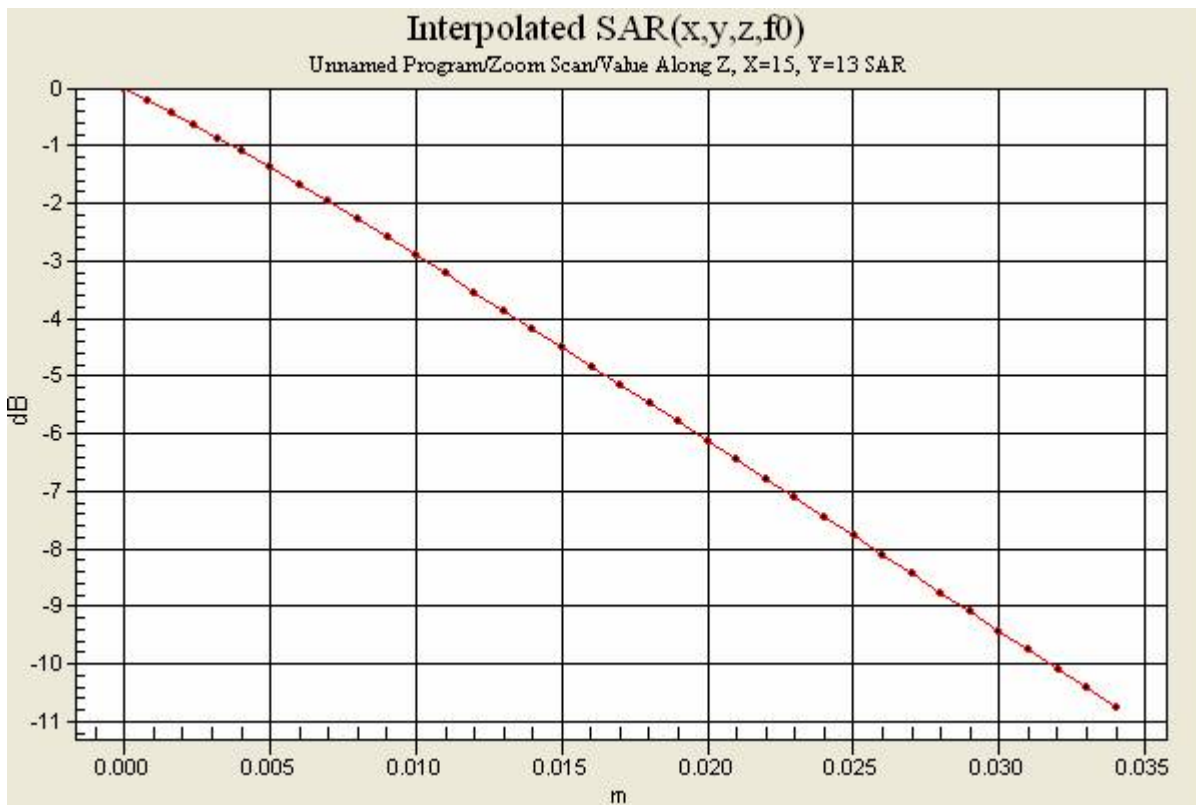
Procedure Notes:



Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
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0 dB = 0.328mW/g





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**1900 GSM Band: Distribution and Extrapolation of Maximum SAR
Model: S710A SN: BF7EP20308 with Standard Battery: BST-27
Open Position, Right Side, Tilt Position.**

24Aug04_S710a_GSM1900_0308_open_RT01

File Name: [24Aug04_S710a_GSM1900_0308_open_RT01.da4](#)

Phantom: SAM with CRP (High Band Head) Phantom section: Right Section

Probe: ET3DV6 - SN1587ConvF(5.11, 5.11, 5.11) Duty Cycle: 1:8.3 Frequency: 1850.2 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³

Measurement Standard: DASY4 (High Precision Assessment)

Unnamed procedure/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 6.59 V/m; Power Drift = -0.1 dB

Maximum value of SAR (interpolated) = 0.255 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.59 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 0.244 mW/g

Peak SAR (extrapolated) = 0.355 W/kg

SAR(1 g) = 0.226 mW/g; SAR(10 g) = 0.134 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

Unnamed procedure/Zoom Scan (31x31x36)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.59 V/m; Power Drift = -0.1 dB

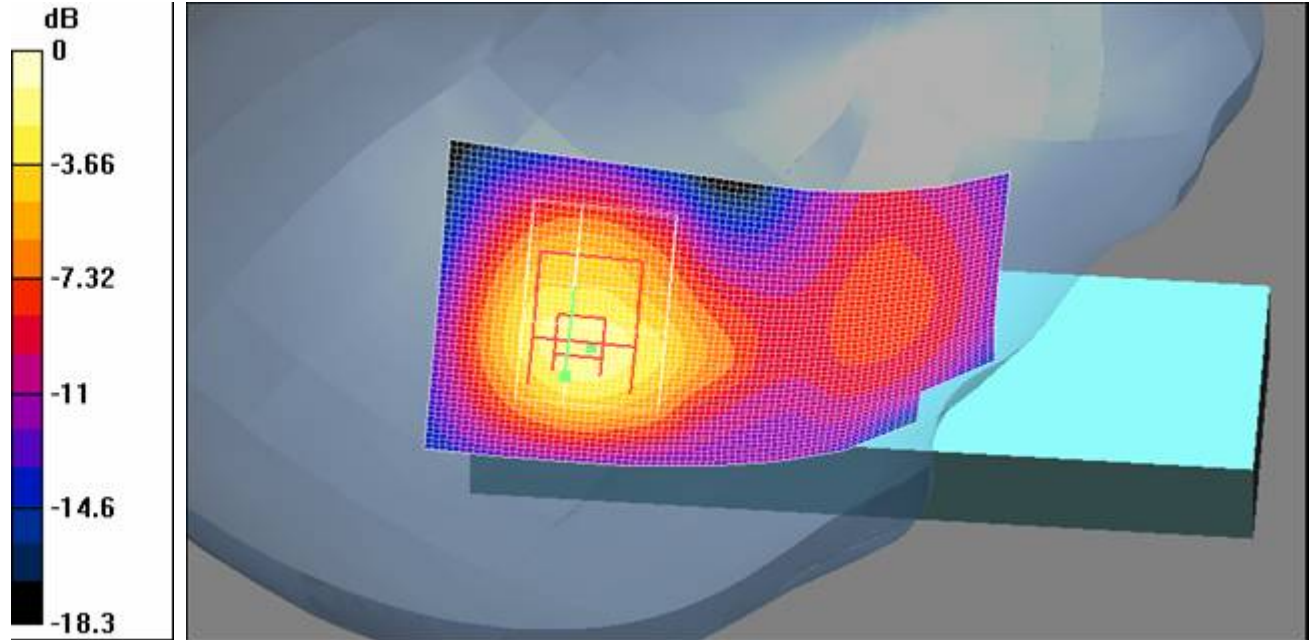
Maximum value of SAR (interpolated) = 0.355 mW/g

[Info: Interpolated medium parameters used for SAR evaluation!](#)

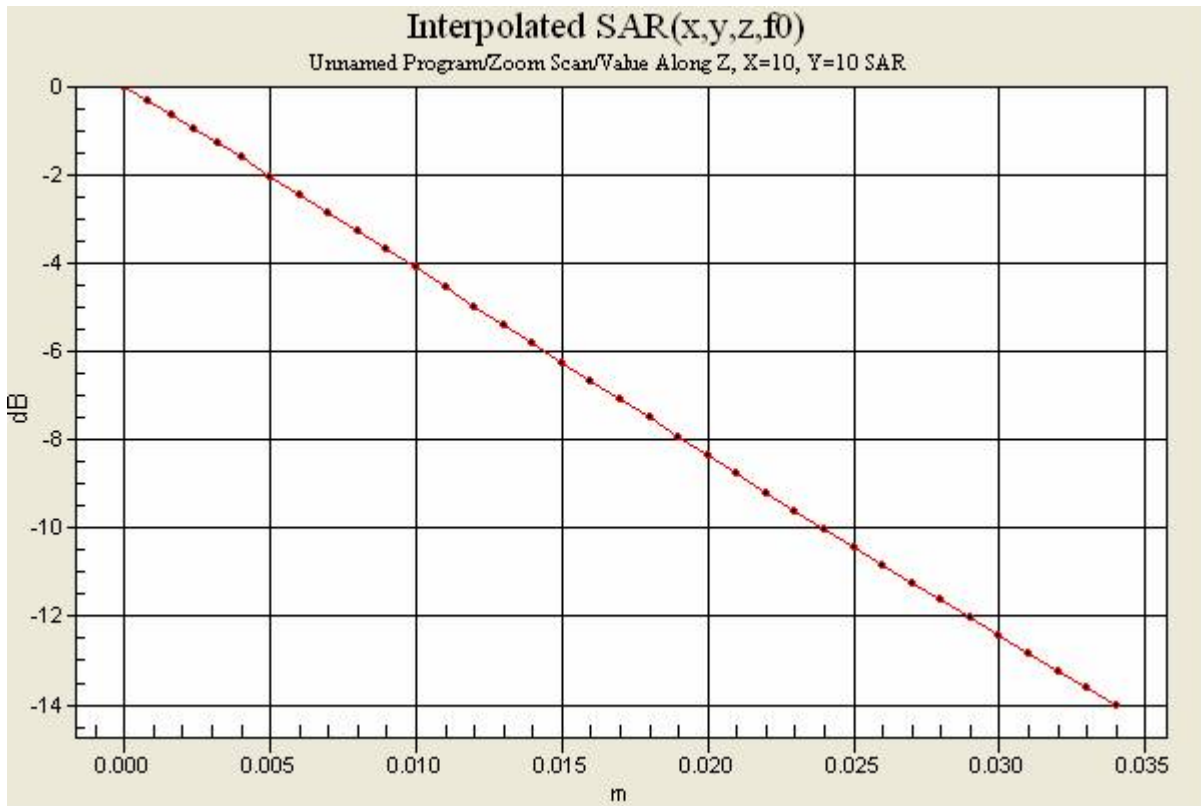
Procedure Notes:



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0 dB = 0.355mW/g





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Appendix 3

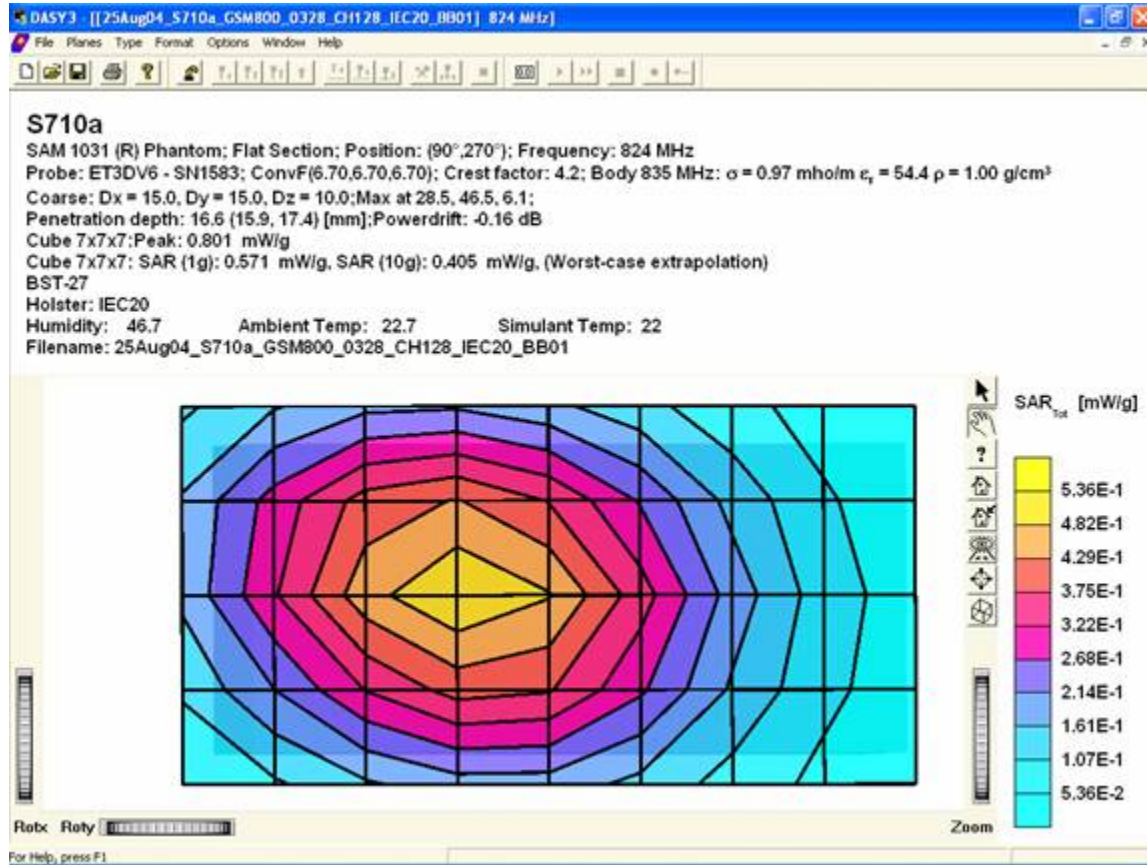
SAR distribution plots for Body Worn Configuration



REPORT

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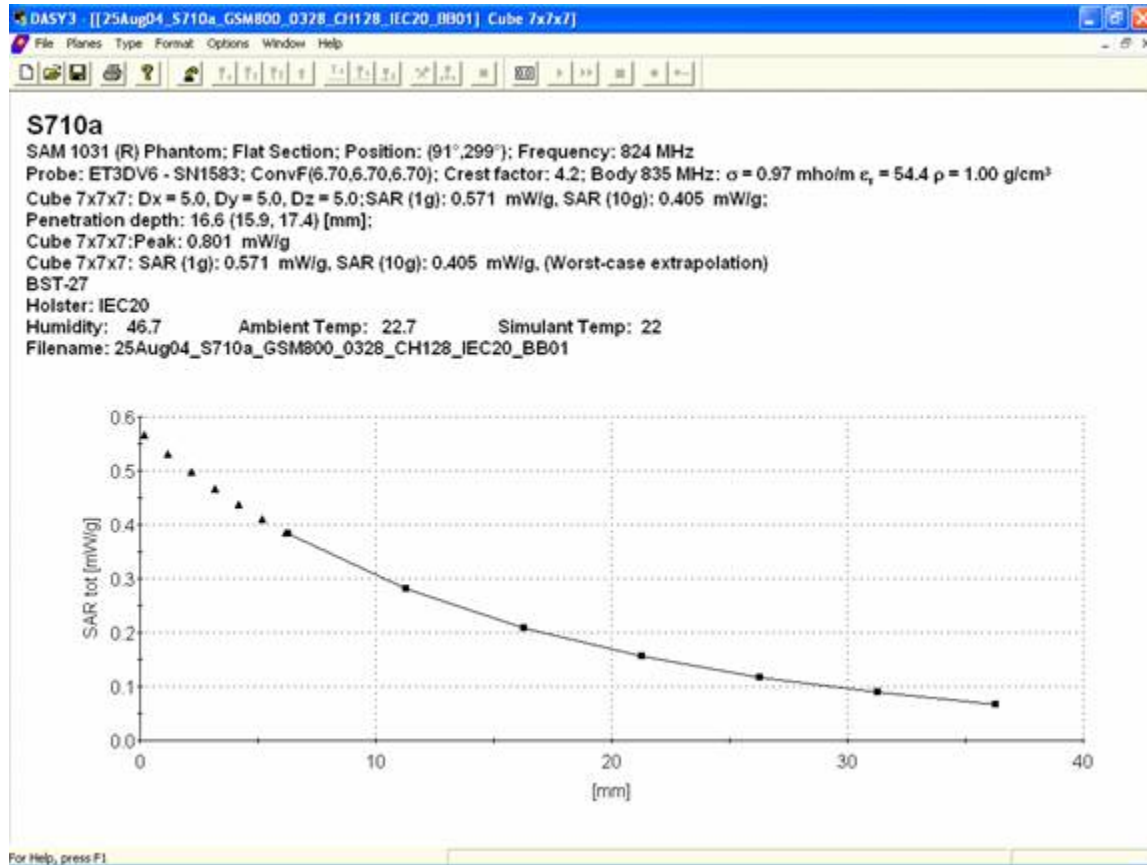
Distribution of maximum SAR in 800 GSM band. Measured with back of device facing the body using carry accessory IEC-20 and hands free accessory HPB-20. (Standard Battery, BST-27)





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SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while back of the phone is against the body using carry accessory IEC-20 and hands free accessory HPB-20. (Standard Battery, BST-27)

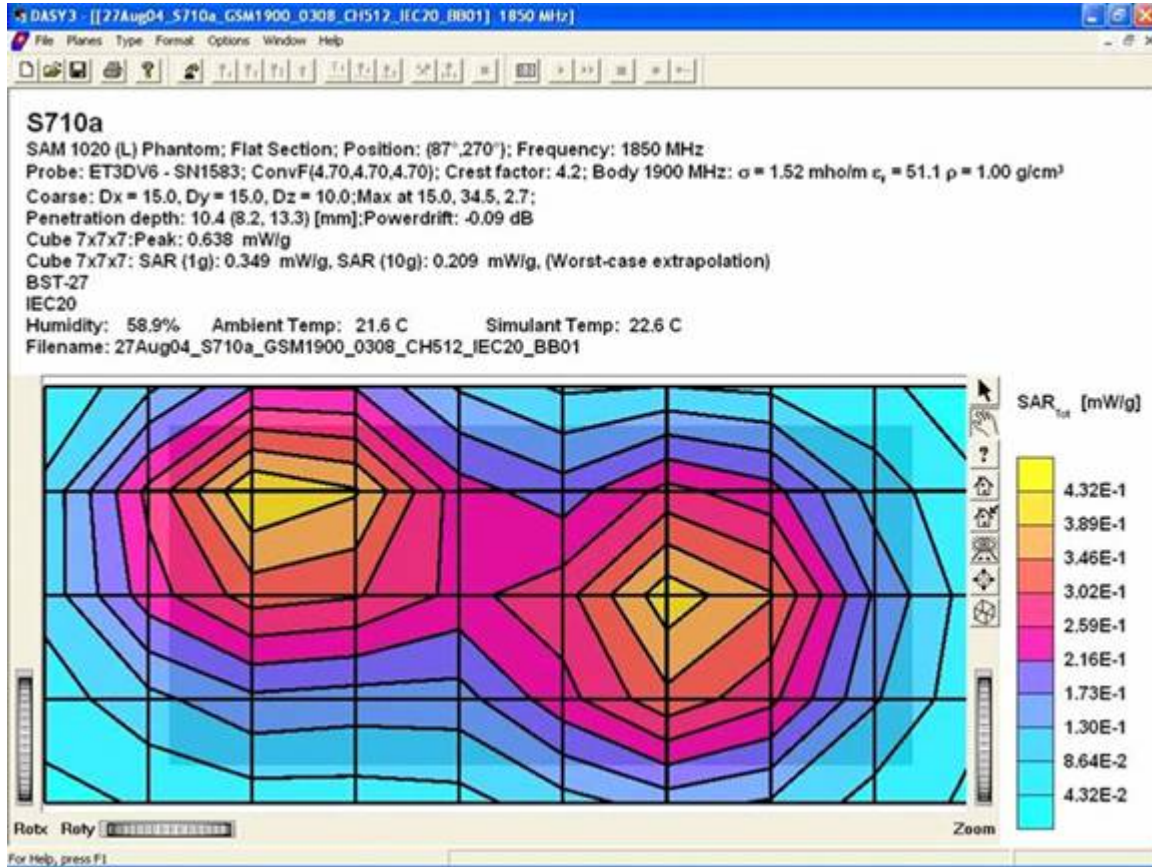




REPORT

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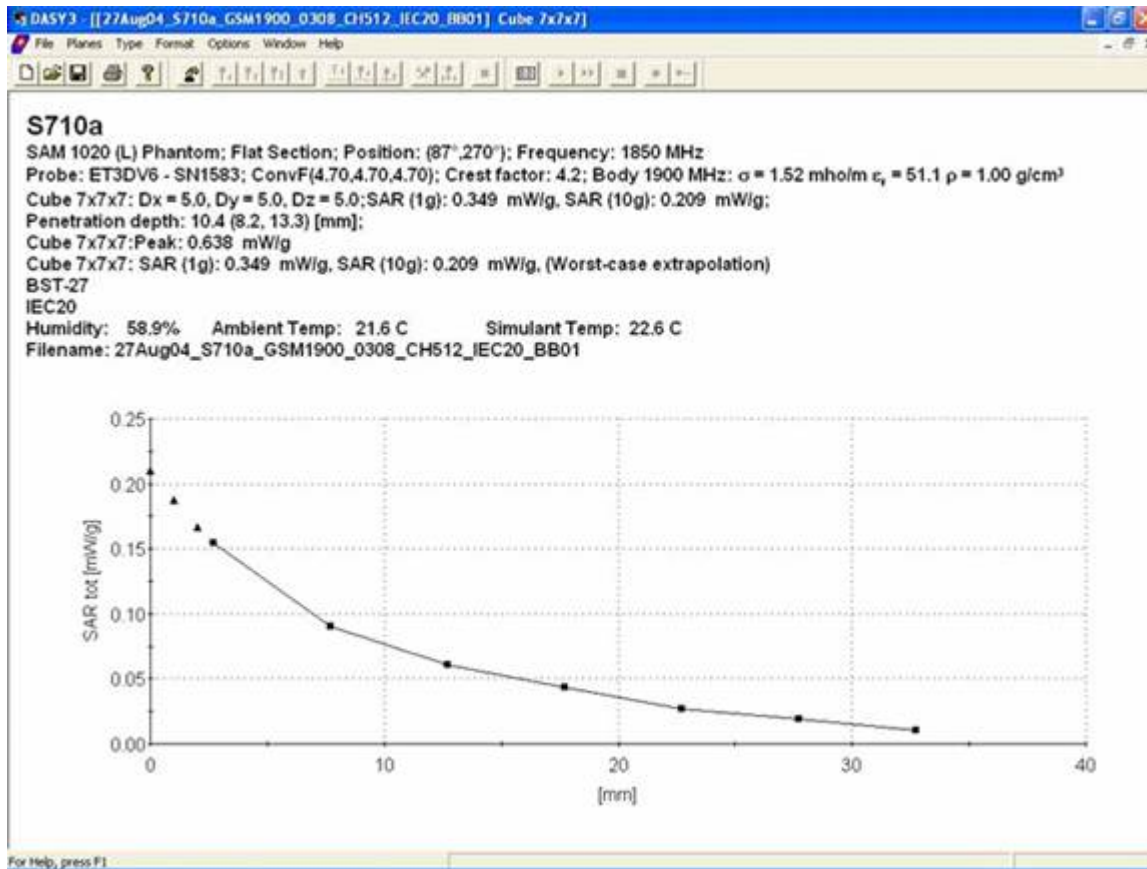
Distribution of maximum SAR in 1900 GSM band. Measured with back of device facing the body using carry accessory IEC-20 and hands free accessory HPB-20. (Standard Battery, BST-27)





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SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 1900 GSM band, while back of the phone is against the body using carry accessory IEC-20 and hands free accessory HPB-20. (Standard Battery, BST-27)

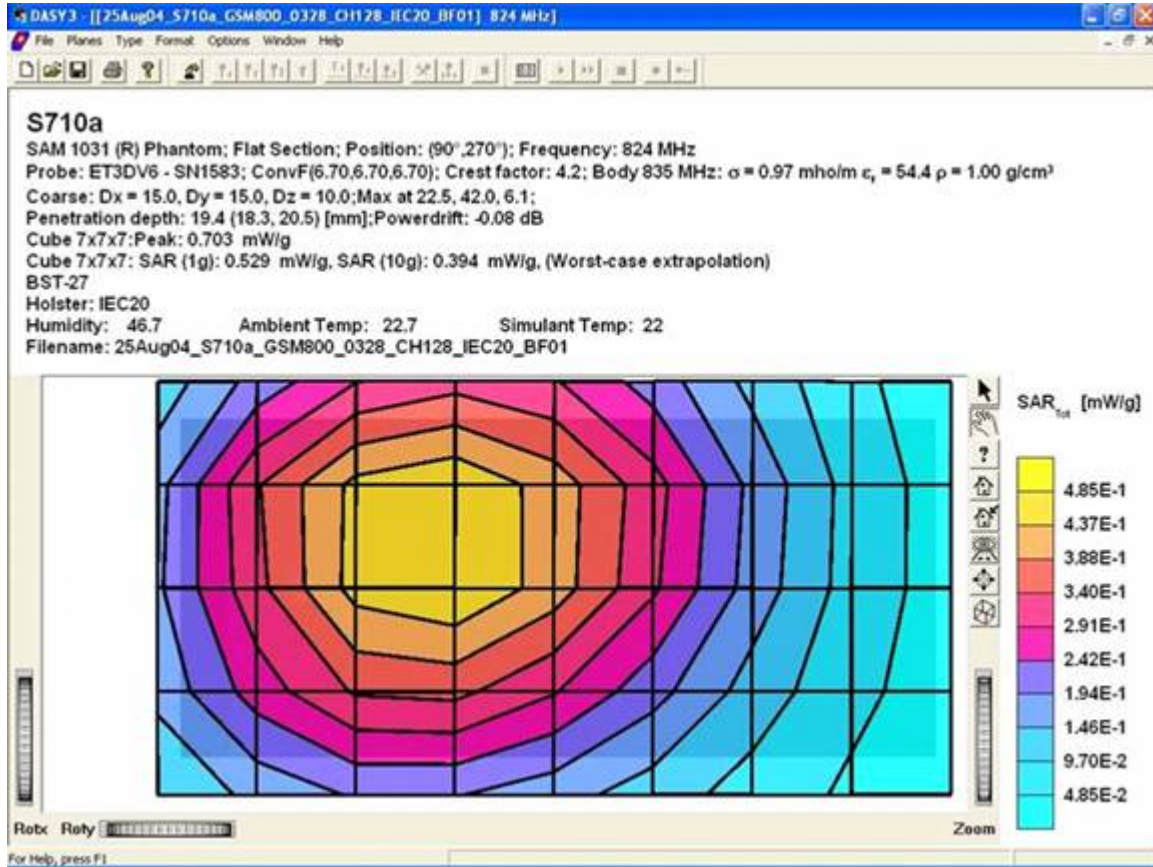




REPORT

Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	B	X:\SAR Chamber\FCC reports\S710A\Final Reports\FCCS710A.doc

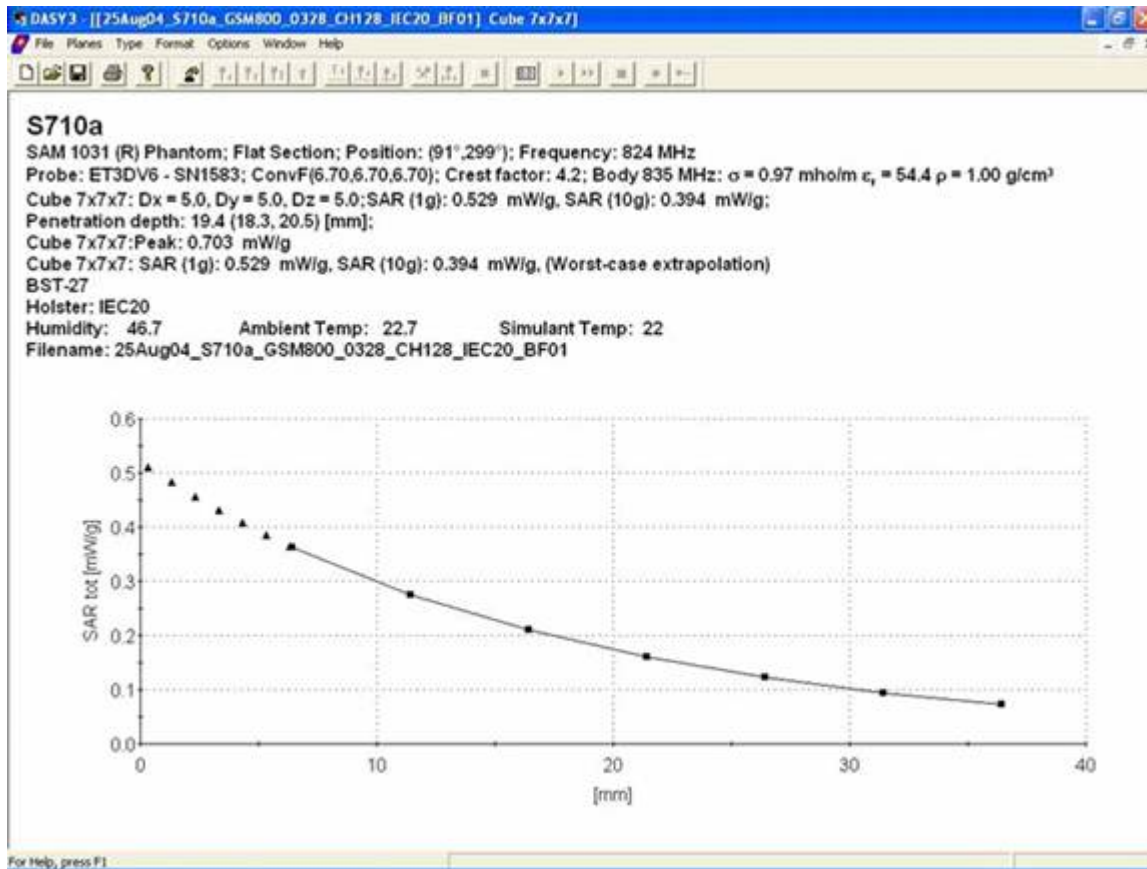
Distribution of maximum SAR in 800 GSM band. Measured with front of device facing the body using carry accessory IEC-20 and hands free accessory HPB-20. (Standard Battery, BST-27)





Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
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SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while front of the phone is against the body using carry accessory IEC-20 and hands free accessory HPB-20. (Standard Battery, BST-27)

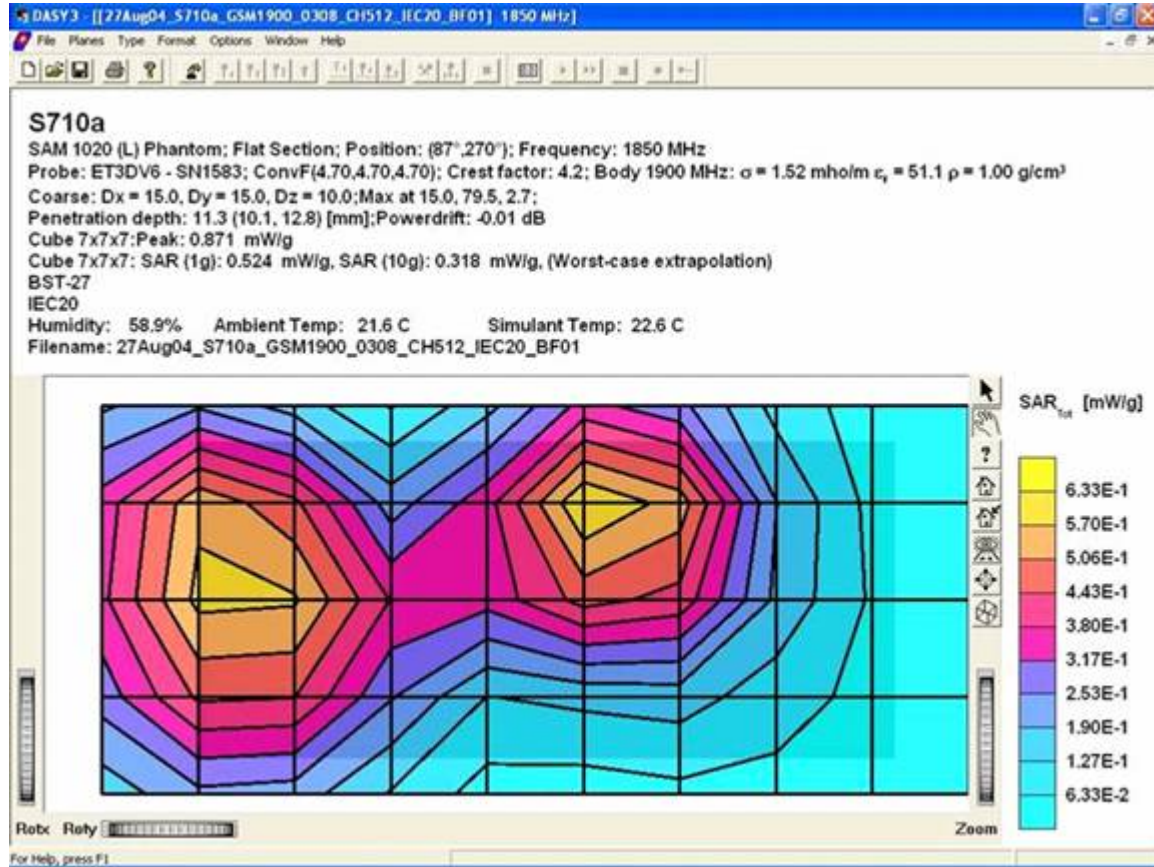




REPORT

Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	B	X:\SAR Chamber\FCC reports\S710A\Final Reports\FCCS710A.doc

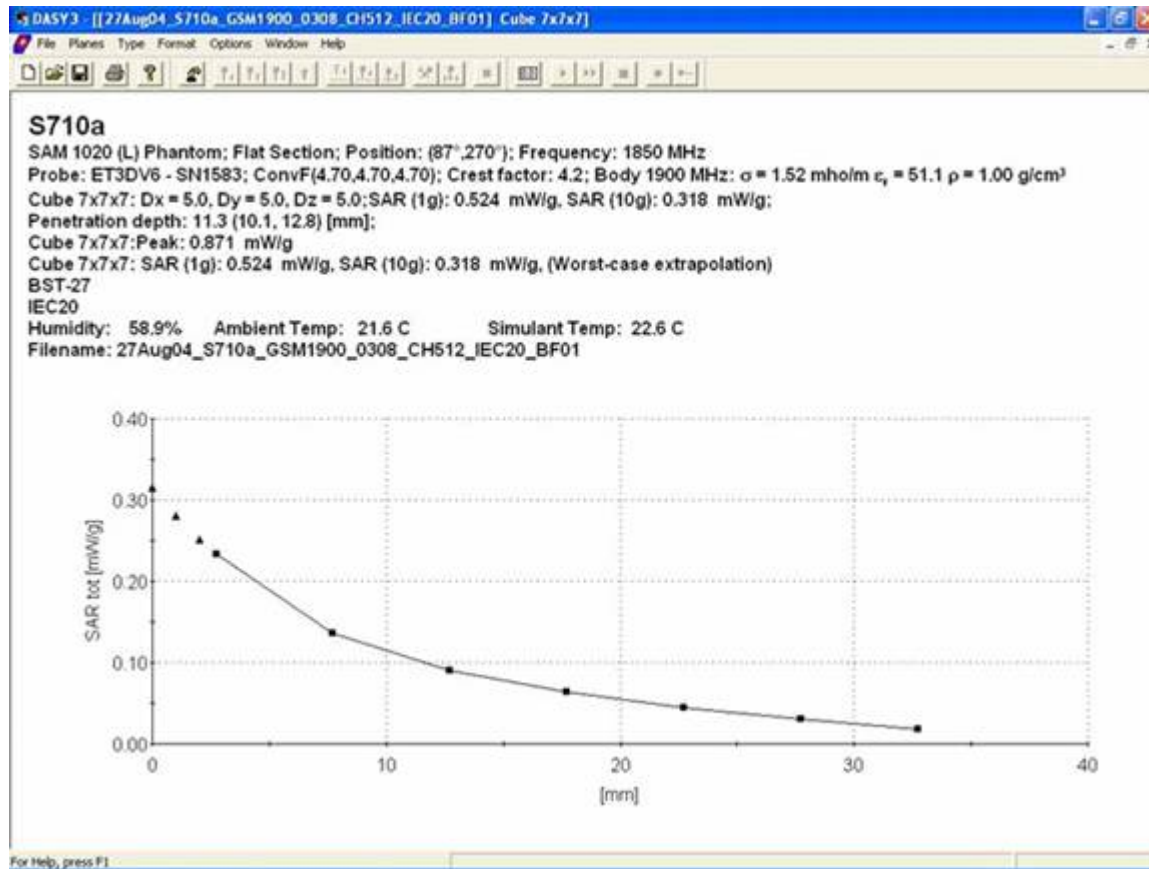
Distribution of maximum SAR in 1900 GSM band. Measured with front of device facing the body using carry accessory IEC-20 and hands free accessory HPB-20. (Standard Battery, BST-27)





Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes		No. REP 2004 004 S710A 01	
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SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 1900 GSM band, while front of the phone is against the body using carry accessory IEC-20 and hands free accessory HPB-20. (Standard Battery, BST-27)

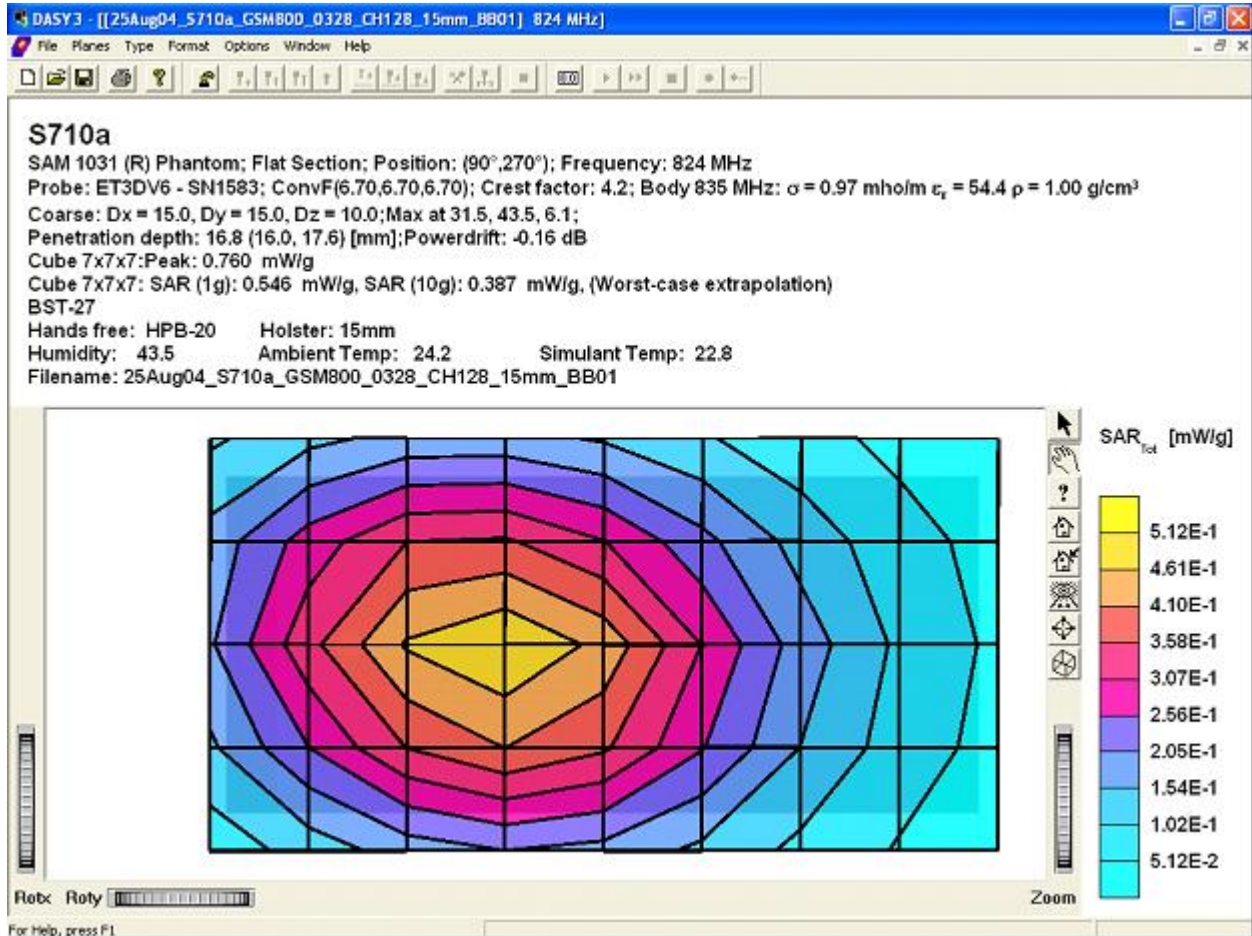




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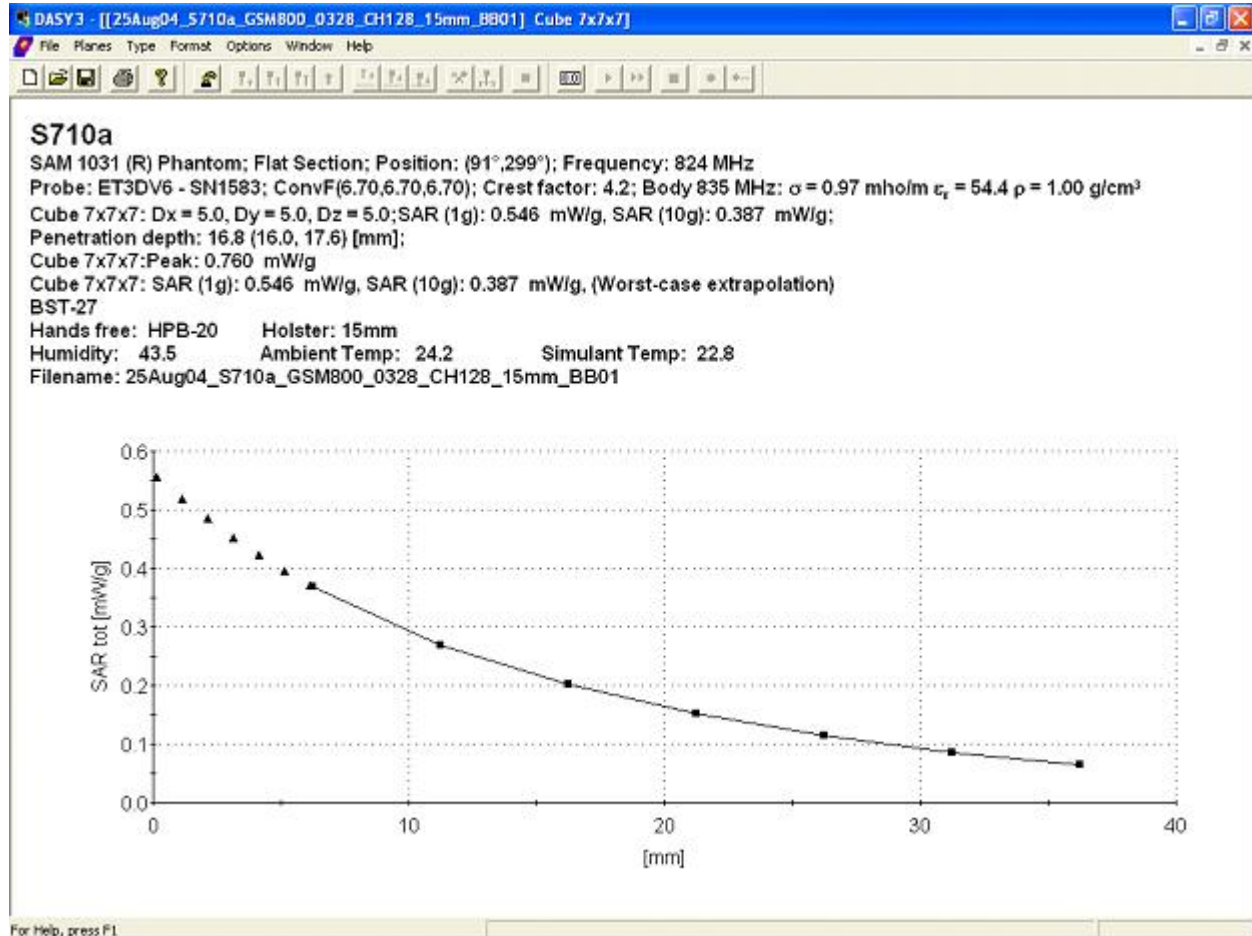
Distribution of maximum SAR in 800 GSM band. Measured with back of device facing the body using a 15 mm spacer and hands free accessory HPB-20. (Standard Battery, BST-27)





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SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while back of the phone is against the body using a 15 mm spacer and hands free accessory HPB-20. (Standard Battery, BST-27)

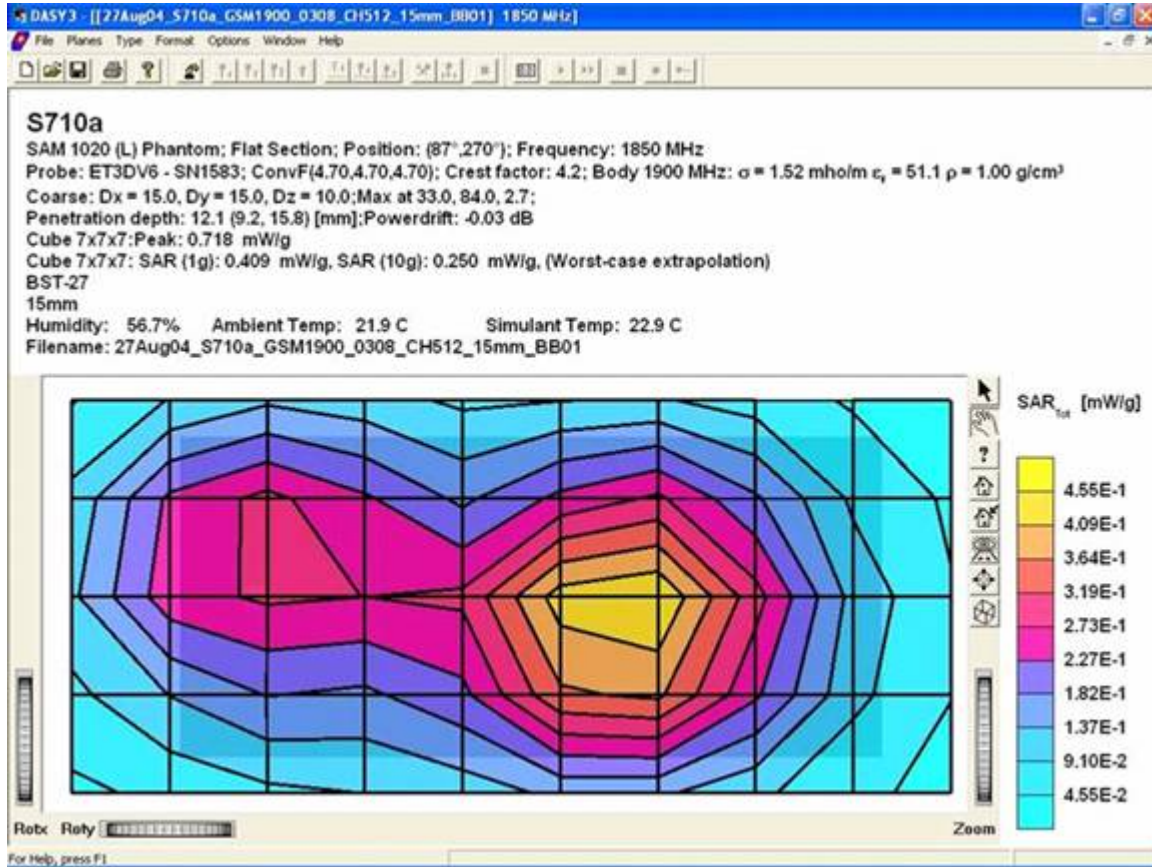




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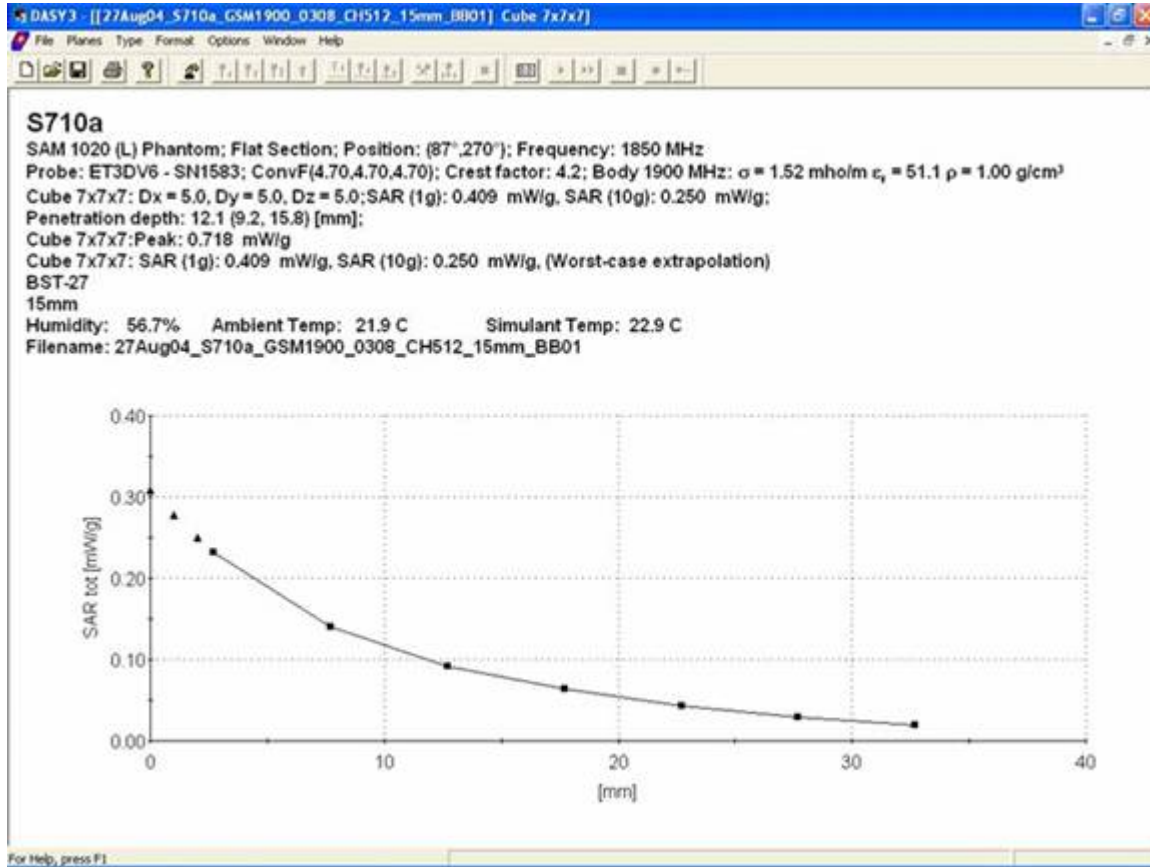
Distribution of maximum SAR in 1900 GSM band. Measured with back of device facing the body using a 15 mm spacer and hands free accessory HPB-20. (Standard Battery, BST-27)





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SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 1900 GSM band, while back of the phone is against the body using a 15 mm spacer and hands free accessory HPB-20. (Standard Battery, BST-27)

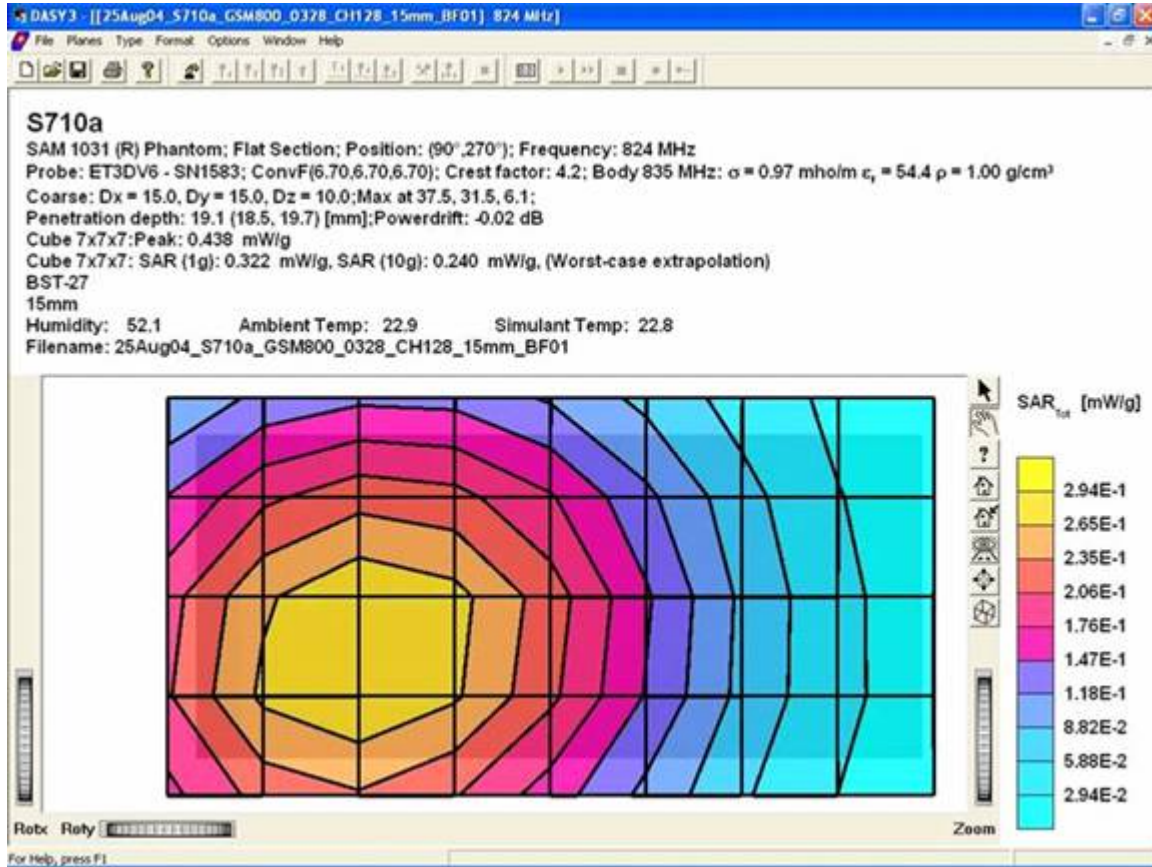




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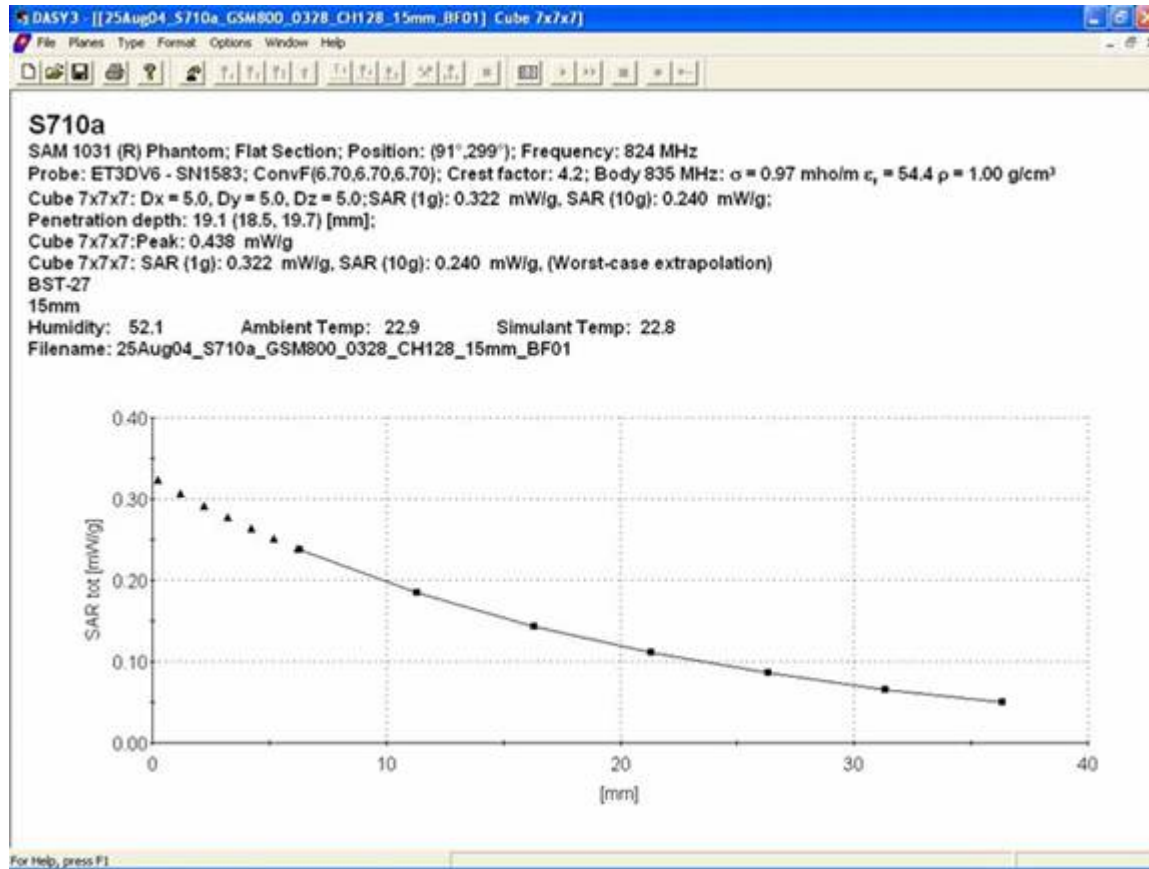
Distribution of maximum SAR in 800 GSM band. Measured with front of device facing the body using a 15 mm spacer and hands free accessory HPB-20. (Standard Battery, BST-27)





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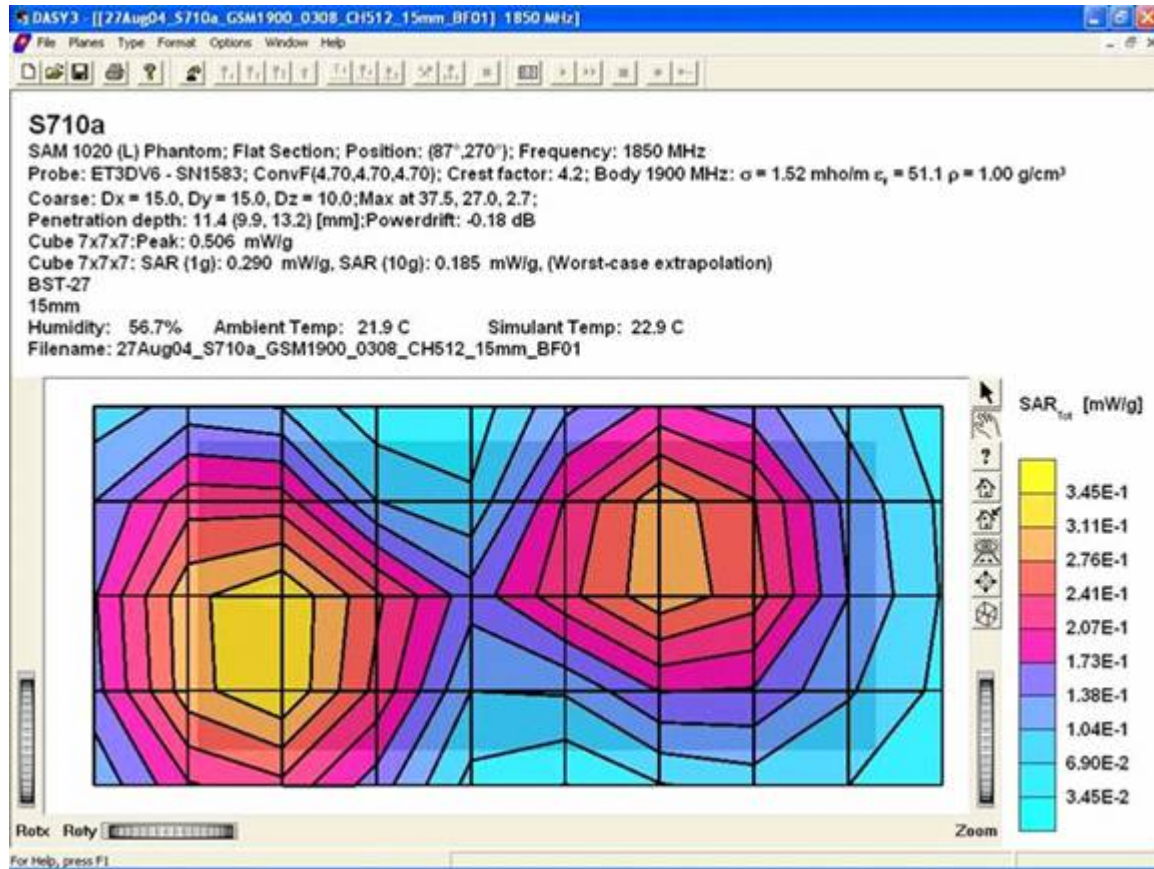
SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 800 GSM band, while front of the phone is against the body using a 15 mm spacer and hands free accessory HPB-20. (Standard Battery, BST-27)





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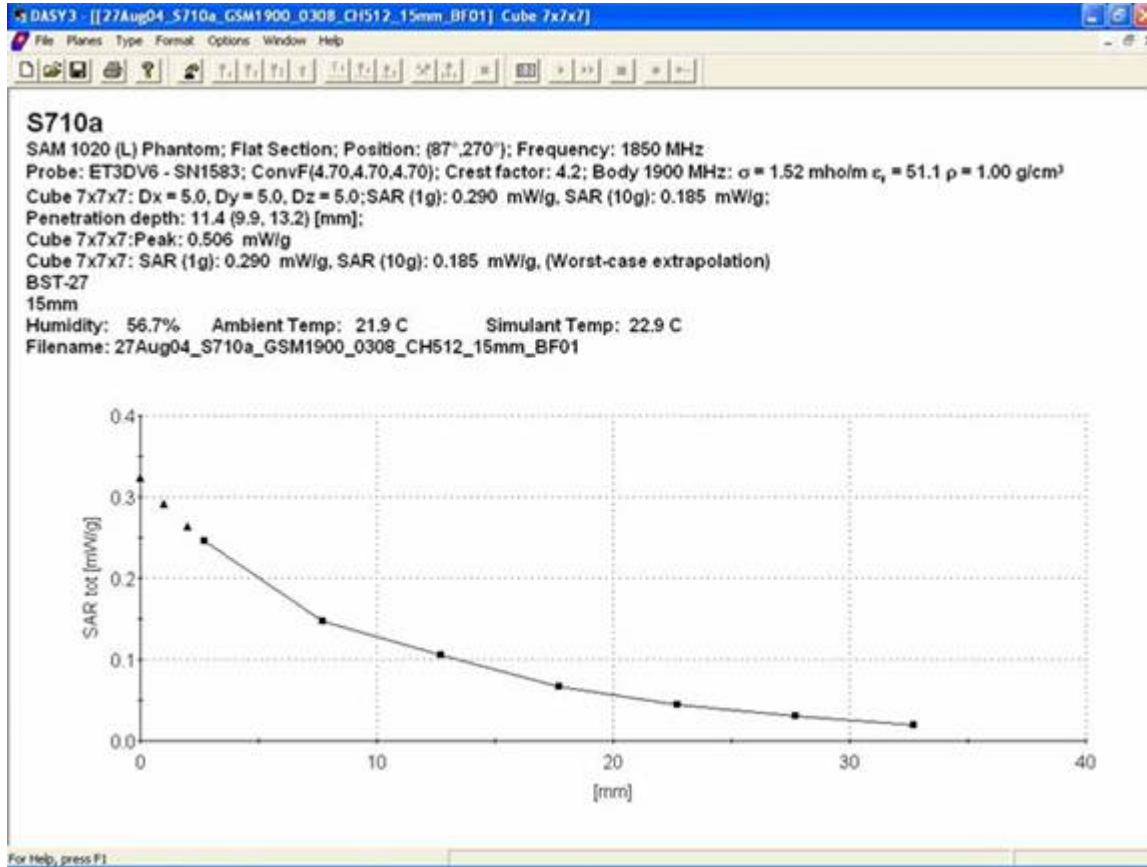
Distribution of maximum SAR in 1900 GSM band. Measured with front of device facing the body using a 15 mm spacer and hands free accessory HPB-20. (Standard Battery, BST-27)





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SAR Extrapolation to the phantom inner surface. Measured for maximum SAR in 1900 GSM band, while front of the phone is against the body using a 15 mm spacer and hands free accessory HPB-20. (Standard Battery, BST-27)





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Appendix 4

Probe Calibration Certificates

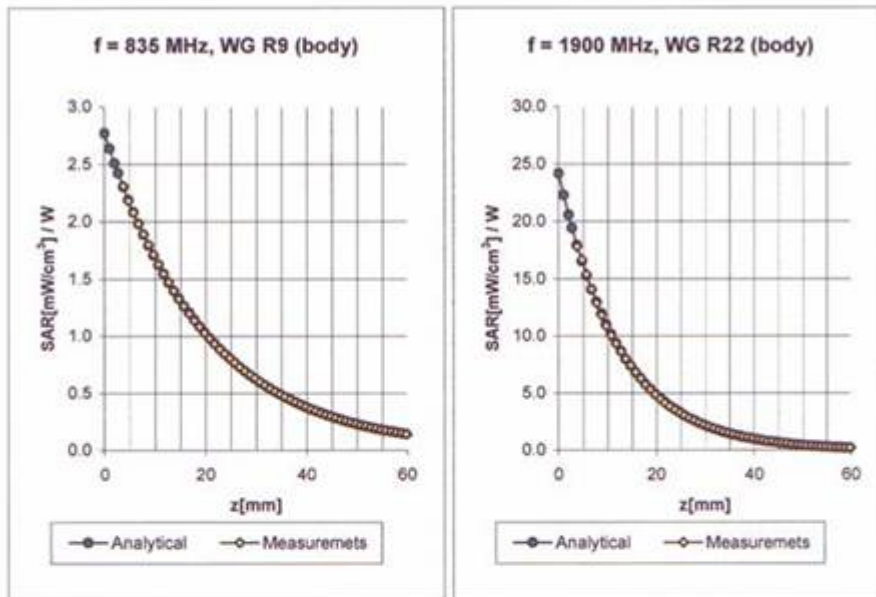


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ET3DV6 SN:1583

December 16, 2003

Conversion Factor Assessment



Body	835 MHz	$\epsilon_r = 55.2 \pm 5\%$	$\sigma = 0.97 \pm 5\% \text{ mho/m}$
Valid for f=750-950 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C			
ConvF X	6.7 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	6.7 $\pm 9.5\%$ (k=2)	Alpha	0.32
ConvF Z	6.7 $\pm 9.5\%$ (k=2)	Depth	2.70

Body	1900 MHz	$\epsilon_r = 53.3 \pm 5\%$	$\sigma = 1.52 \pm 5\% \text{ mho/m}$
Valid for f=1800-2000 MHz with Body Tissue Simulating Liquid according to OET 65 Suppl. C			
ConvF X	4.7 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	4.7 $\pm 9.5\%$ (k=2)	Alpha	0.60
ConvF Z	4.7 $\pm 9.5\%$ (k=2)	Depth	2.58

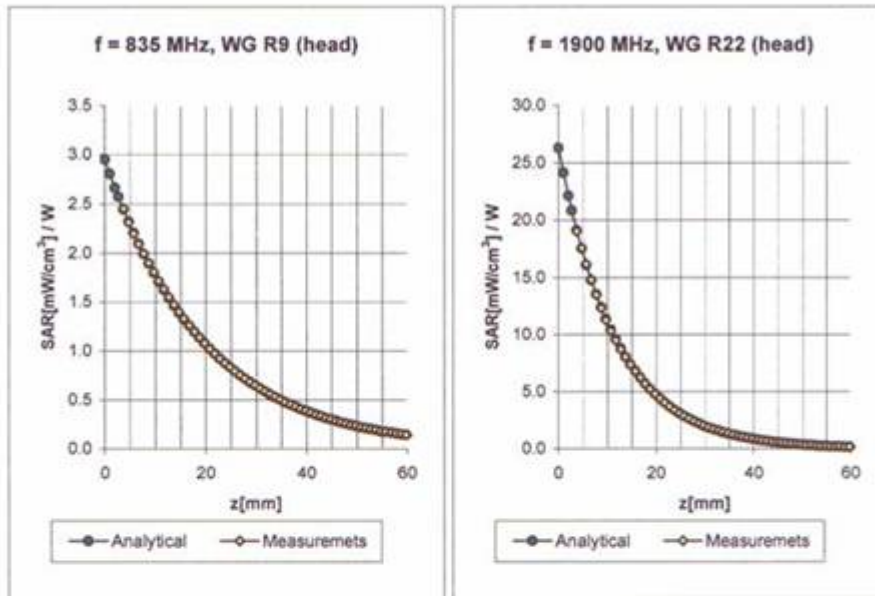


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December 16, 2003

Conversion Factor Assessment



Head	835 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.90 \pm 5\% \text{ mho/m}$
Valid for f=750-950 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X			
ConvF X	7.1	$\pm 9.5\% (k=2)$	Boundary effect:
ConvF Y	7.1	$\pm 9.5\% (k=2)$	Alpha 0.29
ConvF Z	7.1	$\pm 9.5\% (k=2)$	Depth 2.76

Head	1900 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\% \text{ mho/m}$
Valid for f=1800-2000 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X			
ConvF X	5.2	$\pm 9.5\% (k=2)$	Boundary effect:
ConvF Y	5.2	$\pm 9.5\% (k=2)$	Alpha 0.47
ConvF Z	5.2	$\pm 9.5\% (k=2)$	Depth 2.82



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ET3DV6 SN:1583

December 16, 2003

DASY - Parameters of Probe: ET3DV6 SN:1583

Sensitivity in Free Space

NormX	1.76 $\mu\text{V}/(\text{V}/\text{m})^2$
NormY	1.95 $\mu\text{V}/(\text{V}/\text{m})^2$
NormZ	1.92 $\mu\text{V}/(\text{V}/\text{m})^2$

Diode Compression

DCP X	95	mV
DCP Y	95	mV
DCP Z	95	mV

Sensitivity in Tissue Simulating Liquid

Head	835 MHz	$\epsilon_r = 41.5 \pm 5\%$	$\sigma = 0.90 \pm 5\%$ mho/m
Valid for f=750-950 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X			
ConvF X	7.1 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	7.1 $\pm 9.5\%$ (k=2)	Alpha	0.29
ConvF Z	7.1 $\pm 9.5\%$ (k=2)	Depth	2.76

Head	1900 MHz	$\epsilon_r = 40.0 \pm 5\%$	$\sigma = 1.40 \pm 5\%$ mho/m
Valid for f=1800-2000 MHz with Head Tissue Simulating Liquid according to EN 50361, P1528-200X			
ConvF X	5.2 $\pm 9.5\%$ (k=2)	Boundary effect:	
ConvF Y	5.2 $\pm 9.5\%$ (k=2)	Alpha	0.47
ConvF Z	5.2 $\pm 9.5\%$ (k=2)	Depth	2.82

Boundary Effect

Head	835 MHz	Typical SAR gradient: 5 % per mm	
Probe Tip to Boundary			
SAR _{be} [%]	Without Correction Algorithm	1 mm	2 mm
SAR _{be} [%]	With Correction Algorithm	8.8	5.1
		0.4	0.5

Head	1900 MHz	Typical SAR gradient: 10 % per mm	
Probe Tip to Boundary			
SAR _{be} [%]	Without Correction Algorithm	1 mm	2 mm
SAR _{be} [%]	With Correction Algorithm	14.1	10.1
		0.3	0.3

Sensor Offset

Probe Tip to Sensor Center	2.7	mm
Optical Surface Detection	1.8 \pm 0.2	mm



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ET3DV6 SN:1586

May 27, 2004

DASY - Parameters of Probe: ET3DV6 SN:1586

Sensitivity in Free Space

Diode Compression^A

NormX	1.91 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	95	mV
NormY	1.86 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	95	mV
NormZ	1.88 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	95	mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 7.

Boundary Effect

Head 900 MHz Typical SAR gradient: 5 % per mm

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{iso} [%]	Without Correction Algorithm	9.3	4.9
SAR _{iso} [%]	With Correction Algorithm	0.1	0.3

Head 1800 MHz Typical SAR gradient: 10 % per mm

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{iso} [%]	Without Correction Algorithm	11.6	7.7
SAR _{iso} [%]	With Correction Algorithm	0.2	0.1

Sensor Offset

Probe Tip to Sensor Center	2.7	mm
Optical Surface Detection	in tolerance	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A numerical linearization parameter: uncertainty not required

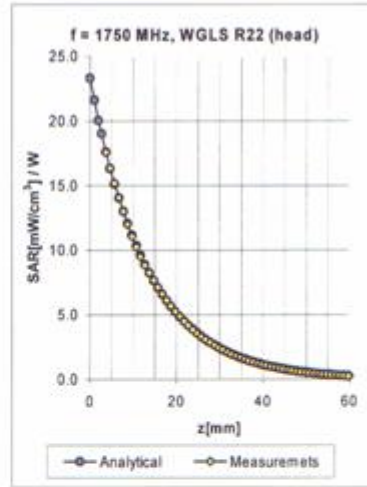
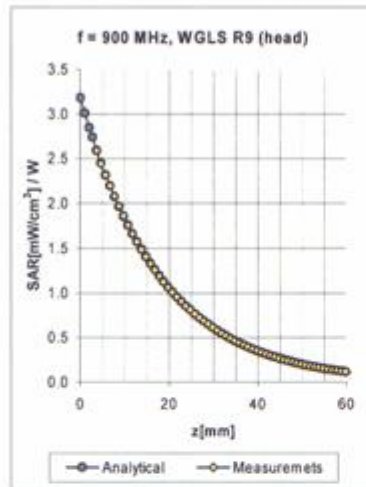


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ET3DV6 SN:1586

May 27, 2004

Conversion Factor Assessment



f [MHz]	Validity [MHz] ^a	Tissue	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
835	785-885	Head	41.5 ± 5%	0.90 ± 5%	0.77	1.63	6.62 ± 9.7%	(k=2)
900	850-950	Head	41.5 ± 5%	0.97 ± 5%	0.58	1.92	6.49 ± 9.7%	(k=2)
1750	1700-1800	Head	40.0 ± 5%	1.40 ± 5%	0.48	2.48	5.32 ± 9.7%	(k=2)
1900	1850-1950	Head	40.0 ± 5%	1.40 ± 5%	0.50	2.64	5.14 ± 9.7%	(k=2)
2450	2400-2500	Head	39.2 ± 5%	1.80 ± 5%	0.94	1.89	4.56 ± 9.7%	(k=2)
835	785-885	Body	55.2 ± 5%	0.97 ± 5%	0.52	2.05	6.32 ± 9.7%	(k=2)
900	850-950	Body	55.0 ± 5%	1.05 ± 5%	0.51	2.20	6.16 ± 9.7%	(k=2)
1750	1700-1800	Body	53.3 ± 5%	1.52 ± 5%	0.54	2.82	4.60 ± 9.7%	(k=2)
1900	1850-1950	Body	53.3 ± 5%	1.52 ± 5%	0.57	2.76	4.53 ± 9.7%	(k=2)
2450	2400-2500	Body	52.7 ± 5%	1.95 ± 5%	1.21	1.56	4.36 ± 9.7%	(k=2)

^a The total standard uncertainty is calculated as root-sum-square of standard uncertainty of the Conversion Factor at calibration frequency and the standard uncertainty for the indicated frequency band.



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ET3DV6 SN:1587

May 27, 2004

DASY - Parameters of Probe: ET3DV6 SN:1587

Sensitivity in Free Space

Diode Compression^A

NormX	2.06 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	96 mV
NormY	1.92 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	96 mV
NormZ	1.79 $\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	96 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 7.

Boundary Effect

Head 900 MHz Typical SAR gradient: 5 % per mm

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{bo} [%]	Without Correction Algorithm	7.3	3.5
SAR _{bo} [%]	With Correction Algorithm	0.0	0.0

Head 1800 MHz Typical SAR gradient: 10 % per mm

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{bo} [%]	Without Correction Algorithm	14.2	10.2
SAR _{bo} [%]	With Correction Algorithm	0.3	0.2

Sensor Offset

Probe Tip to Sensor Center	2.7 mm
Optical Surface Detection	in tolerance

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A numerical linearization parameter: uncertainty not required

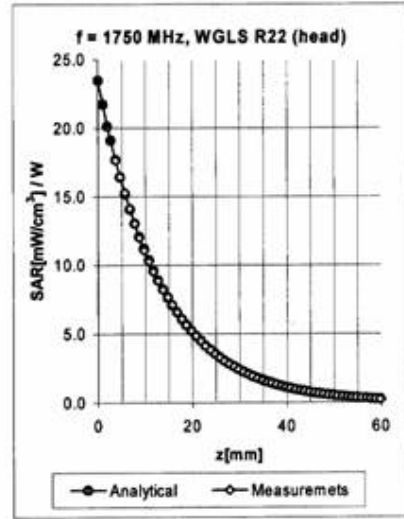
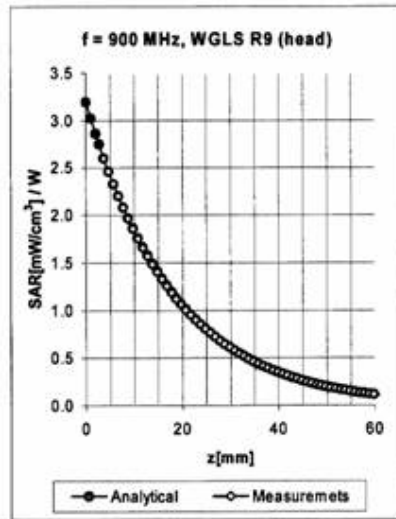


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ET3DV6 SN:1587

May 27, 2004

Conversion Factor Assessment



f [MHz]	Validity [MHz] [®]	Tissue	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
835	785-885	Head	41.5 ± 5%	0.90 ± 5%	0.81	1.52	6.79 ± 9.7% (k=2)	
900	850-950	Head	41.5 ± 5%	0.97 ± 5%	0.87	1.46	6.58 ± 9.7% (k=2)	
1750	1700-1800	Head	40.0 ± 5%	1.40 ± 5%	0.47	2.52	5.35 ± 9.7% (k=2)	
1900	1850-1950	Head	40.0 ± 5%	1.40 ± 5%	0.50	2.62	5.11 ± 9.7% (k=2)	
2450	2400-2500	Head	39.2 ± 5%	1.80 ± 5%	0.82	2.04	4.70 ± 9.7% (k=2)	
835	785-885	Body	55.2 ± 5%	0.97 ± 5%	0.45	2.15	6.49 ± 9.7% (k=2)	
900	850-950	Body	55.0 ± 5%	1.05 ± 5%	0.45	2.22	6.27 ± 9.7% (k=2)	
1750	1700-1800	Body	53.3 ± 5%	1.52 ± 5%	0.54	2.72	4.76 ± 9.7% (k=2)	
1900	1850-1950	Body	53.3 ± 5%	1.52 ± 5%	0.59	2.61	4.61 ± 9.7% (k=2)	
2450	2400-2500	Body	52.7 ± 5%	1.95 ± 5%	1.21	1.52	4.27 ± 9.7% (k=2)	

[®] The total standard uncertainty is calculated as root-sum-square of standard uncertainty of the Conversion Factor at calibration frequency and the standard uncertainty for the indicated frequency band.



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Appendix 5

Measurement Uncertainty Budget



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Table 1a. Uncertainty Budget for System Performance Check (Dipole & flat phantom) DASy3 System

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	$e = f(d,k)$	<i>f</i>	<i>g</i>	$h = c \times f / e$	$i = c \times g / e$	<i>k</i>
Uncertainty Component	Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i (1-g)	c_i (10-g)	1-g u_i (±%)	10-g u_i (±%)	v_i
Measurement System									
Probe Calibration ($k=1$)	E.2.1	4.8	N	1	1	1	4.8	4.8	∞
Axial Isotropy	E.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Hemispherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	8.3	R	1.73	1	1	4.8	4.8	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	1.0	N	1	1	1	1.0	1.0	∞
Response Time	E.2.7	0.0	R	1.73	1	1	0.0	0.0	∞
Integration Time	E.2.8	0.0	R	1.73	1	1	0.0	0.0	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance (corresponds to the mechanical constrains of the robot)	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning with respect to Phantom Shell	E.6.3	2.9	R	1.73	1	1	1.7	1.7	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	3.9	R	1.73	1	1	2.3	2.3	∞
Dipole									
Dipole Axis to Liquid Distance	8, E.4.2	1.0	R	1.73	1	1	0.6	0.6	∞
Input Power and SAR Drift Measurement	8, 6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty - shell thickness tolerance	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity - deviation from target values (5)	E.3.2	4.3	R	1.73	0.64	0.43	1.59	1.07	∞



Sony Ericsson

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Liquid Conductivity - measurement uncertainty (6)	E.3.3	6.20	R	1.73	0.64	0.43	2.29	1.54	∞
Liquid Permittivity - deviation from target values (5)	E.3.2	3.7	R	1.73	0.6	0.49	1.28	1.05	∞
Liquid Permittivity - measurement uncertainty (6)	E.3.3	6.08	R	1.73	0.6	0.49	2.11	1.72	∞
Combined Standard Uncertainty			RSS				10.61	10.31	
Expanded Uncertainty (95% C.L.)							21.22	20.62	



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Table 1b. Uncertainty Budget for System Performance Check (Dipole & flat phantom) DASy4 System

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	$e = f(d,k)$	<i>f</i>	<i>g</i>	$h = c \times f / e$	$i = c \times g / e$	<i>k</i>
Uncertainty Component	Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i (1-g)	c_i (10-g)	1-g u_i (±%)	10-g u_i (±%)	v_i
Measurement System									
Probe Calibration ($k=1$)	E.2.1	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Axial Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Hemispherical Isotropy	E.2.2	1.0	R	1.73	1	1	0.6	0.6	∞
Boundary Effect	E.2.3	4.7	R	1.73	1	1	2.7	2.7	∞
Linearity	E.2.4	1.0	R	1.73	1	1	0.6	0.6	∞
System Detection Limits	E.2.5	1.0	N	1	1	1	1.0	1.0	∞
Readout Electronics	E.2.6	0.8	R	1.73	1	1	0.5	0.5	∞
Response Time	E.2.7	2.6	R	1.73	1	1	1.5	1.5	∞
Integration Time	E.2.8	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance (corresponds to the mechanical constrains of the robot)	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning with respect to Phantom Shell	E.6.3	2.9	R	1.73	1	1	1.7	1.7	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	1.0	R	1.73	1	1	0.6	0.6	∞
Dipole									
Dipole Axis to Liquid Distance	8, E.4.2	1.0	R	1.73	1	1	0.6	0.6	∞
Input Power and SAR Drift Measurement	8, 6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty - shell thickness tolerance	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity - deviation from target values (5)	E.3.2	4.3	R	1.73	0.64	0.43	1.59	1.07	∞
Liquid Conductivity -	E.3.3	6.20	R	1.73	0.64	0.43	2.29	1.54	∞



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measurement uncertainty (6)									
Liquid Permittivity - deviation from target values (5)	E.3.2	3.7	R	1.73	0.6	0.49	1.28	1.05	∞
Liquid Permittivity - measurement uncertainty (6)	E.3.3	6.08	R	1.73	0.6	0.49	2.11	1.72	∞
Combined Standard Uncertainty			RSS				9.37	9.03	
Expanded Uncertainty (95% C.L.)							18.74	18.05	



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Table 2a: Uncertainty Budget for the Device Under Test with DASY3 System

a	b	c	d	$e = f(d,k)$	f	g	$h = c \times f / e$	$i = c \times g / e$	k
Uncertainty Component	Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i (1-g)	c_i (10-g)	1-g u_i (±%)	10-g u_i (±%)	v_i
Measurement System									
Probe Calibration ($k=1$)	E2.1	4.8	N	1	1	1	4.8	4.8	∞
Axial Isotropy	E.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Hemispherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	8.3	R	1.73	1	1	4.8	4.8	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	1.0	N	1	1	1	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	1.4	R	1.73	1	1	0.8	0.8	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance (corresponds to the mechanical constrains of the robot)	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning with respect to Phantom Shell	E.6.3	2.9	R	1.73	1	1	1.7	1.7	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	3.9	R	1.73	1	1	2.3	2.3	∞
Test sample Related									
Test Sample Positioning	E.4.2	1.0	N	1	1	1	1.0	1.0	4
Device Holder Uncertainty	E.4.1	2.0	R	1.73	1	1	1.2	1.2	4
Output Power Variation - SAR drift measurement (4)	6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (shape and thickness tolerances)	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞



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Liquid Conductivity - deviation from target values (5)	E.3.2	4.3	R	1.73	0.64	0.43	1.6	1.1	∞
Liquid Conductivity - measurement uncertainty (6)	E.3.3	6.20	R	1.73	0.64	0.43	2.3	1.5	∞
Liquid Permittivity - deviation from target values (5)	E.3.2	3.7	R	1.73	0.6	0.49	1.3	1.0	∞
Liquid Permittivity - measurement uncertainty (6)	E.3.3	6.08	R	1.73	0.6	0.49	2.1	1.7	∞
Combined Standard Uncertainty			RSS				10.75	10.44	
Expanded Uncertainty (95% CONFIDENCE LEVEL)			K=2				21.49	20.87	



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Table 2b: Uncertainty Budget for the Device Under Test with DASY4 System

a	b	c	d	$e = f(d,k)$	f	g	$h = c \times f / e$	$i = c \times g / e$	k
Uncertainty Component	Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i (1-g)	c_i (10-g)	1-g u_i (±%)	10-g u_i (±%)	v_i
Measurement System									
Probe Calibration (k=1)	E2.1	4.8	N	1	1	1	4.8	4.8	∞
Axial Isotropy	E.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Hemispherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	1.0	N	1	1	1	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance (corresponds to the mechanical constrains of the robot)	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning with respect to Phantom Shell	E.6.3	2.9	R	1.73	1	1	1.7	1.7	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	1.0	R	1.73	1	1	0.6	0.6	∞
Test sample Related									
Test Sample Positioning	E.4.2	1.0	N	1	1	1	1.0	1.0	4
Device Holder Uncertainty	E.4.1	2.0	R	1.73	1	1	1.2	1.2	4
Output Power Variation - SAR drift measurement (4)	6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (shape and thickness tolerances)	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞



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Liquid Conductivity - deviation from target values (5)	E.3.2	4.3	R	1.73	0.64	0.43	1.6	1.1	∞
Liquid Conductivity - measurement uncertainty (6)	E.3.3	6.20	R	1.73	0.64	0.43	2.3	1.5	∞
Liquid Permittivity - deviation from target values (5)	E.3.2	3.7	R	1.73	0.6	0.49	1.3	1.0	∞
Liquid Permittivity - measurement uncertainty (6)	E.3.3	6.08	R	1.73	0.6	0.49	2.1	1.7	∞
Combined Standard Uncertainty			RSS				9.48	9.14	
Expanded Uncertainty (95% CONFIDENCE LEVEL)			K=2				18.96	18.28	



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Table 3a. Values for ϵ'

Uncertainty Component	Tolerance (±%)	Probability Distribution	Divisor	c_i	Standard Uncertainty (±%)	v_i or v_{eff}
Repeatability (n repeats)	0.97	N	1	1	0.97	4
Network analyzer uncertainty sources	8.38	R	1.73	1	4.83	∞
Dielectric Error Sources	5.93	R	1.73	1	3.42	∞
Combined standard uncertainty					6.08	

Table 3b. Values for σ

Uncertainty Component	Tolerance (±%)	Probability Distribution	Divisor	c_i	Standard Uncertainty (±%)	v_i or v_{eff}
Repeatability (n repeats)	1.85	N	1	1	1.85	4
Network analyzer uncertainty sources	8.38	R	1.73	1	4.83	∞
Dielectric Error Sources	5.93	R	1.73	1	3.42	∞
Combined standard uncertainty					6.20	



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Appendix 6

Photographs of the Device Under Test



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a. Front



b. Back



c. Side

View of Device (Open)



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a. Front



b. Back



c. Side

View of Device (Closed)



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Front View



Back View

Front and Back views of carry accessory model IEC-20.



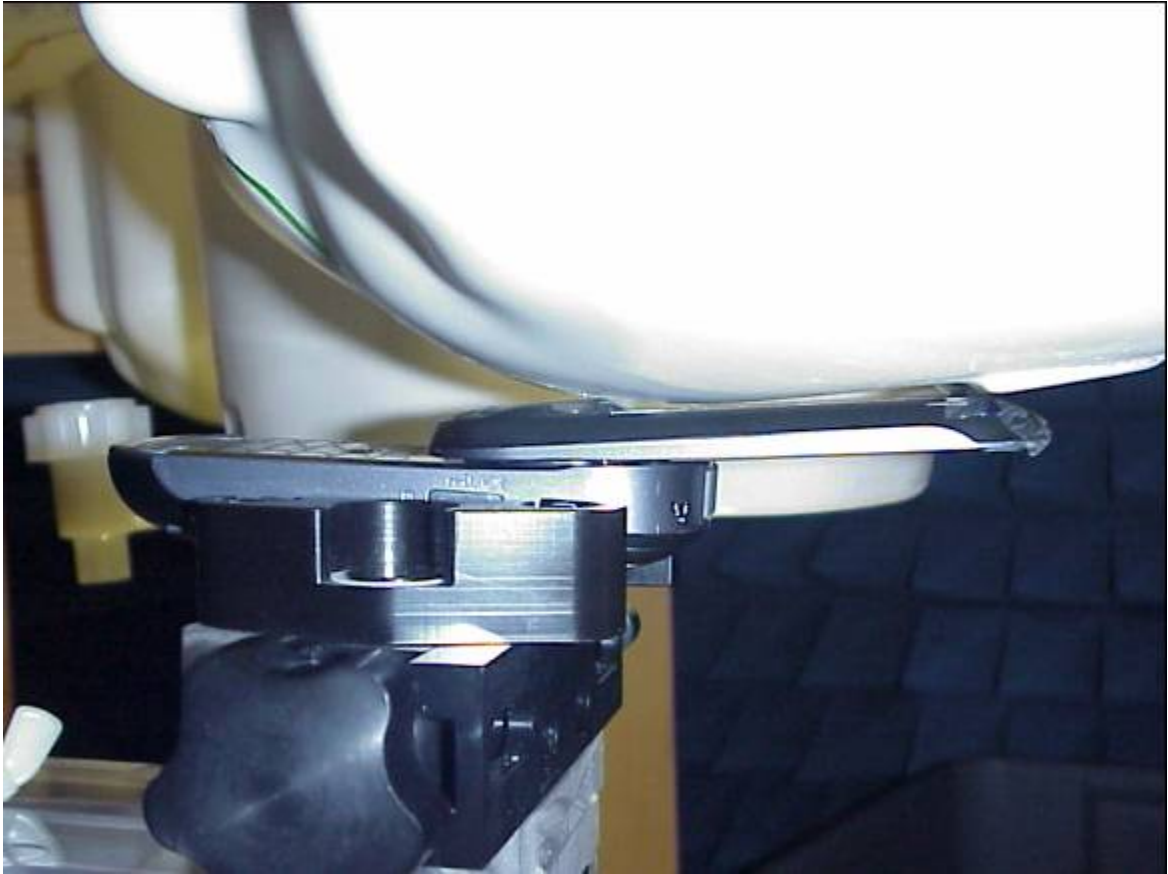
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View of Hands-free Accessory HPB-20



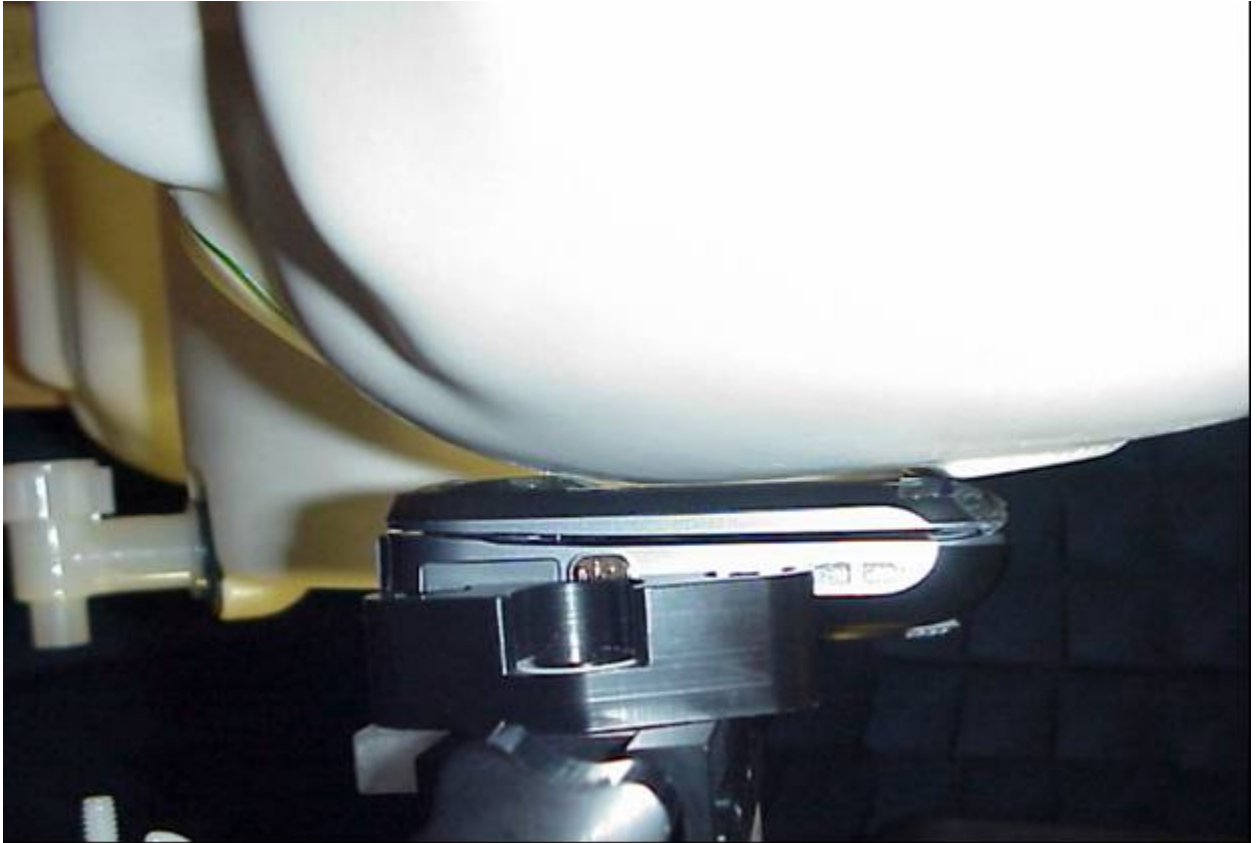
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Position of device against head phantom in open position



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Position of device against head phantom using the closed position



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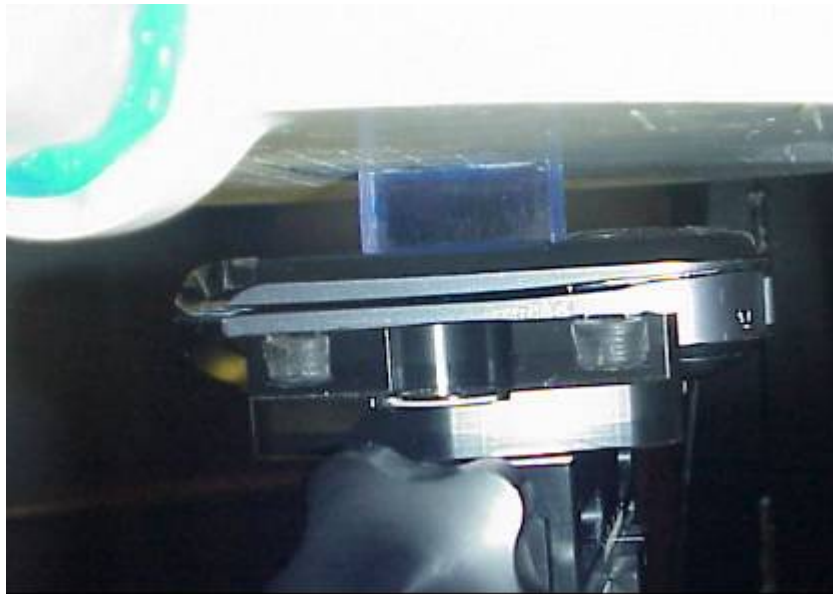
Position of device against flat phantom using carry accessory ICE-20 with hands free accessory (HPB-20).



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Back of Device Facing Body



Front of Device Facing Body

Position of device against flat phantom using 15mm spacer with hands free accessory (HPB-20).