

MOTOROLA INTERNAL USE ONLY

PRODUCT RADIO FREQUENCY ENERGY  
EXPOSURE COMPLIANCE TEST  
PRFEECT CERTIFICATE

PRFEECT NO.: N/A DATE SUBMITTED: 5/26/99 REVISION DATE/NUMBER: N/A

PRODUCT MANUFACTURER: Motorola

SECTOR/GROUP/DIVISION: PCD/CIG OTHER: \_\_\_\_\_

LOCATION (ADDRESS): 5555 North Beach Street, Fort Worth, Texas 76137

PRODUCT DESCRIPTION: Fixed Wireless Terminal (FWT)

MODEL: ST1001B SERIAL NUMBER: 634DZG3281

FREQUENCIES OF OPERATION: 1850-1910

MAXIMUM POWER OUTPUT (WATTS): 1

TEST METHOD : SAR to General Population/Uncontrolled Exposure Limits

TESTING LOCATION: Motorola Florida Research Laboratories

PRODUCT CUSTOMERS AND LOCATION (to confirm applicable standards, state whether the customers are consumers or other users and identify generally the geographic areas where product is intended to be sold):

Europe, North America, Latin America, Australia and Middle East

Based on the information provided and the testing results obtained for the above described product, the undersigned certifies that, when used as stated in the operating instructions supplied, said product is within the limits identified in Policy, Section III, for the region in which it is intended to be sold.

PRINT NAME: Q. Balzano

SIGNED : *E.K. Chan for Q. Balzano* DATE APPROVED: 7/28/99

TITLE: Chief EME Scientist, Motorola Florida Research Laboratories

LOCATION : Motorola, 8000 W. Sunrise Blvd., Plantation, Florida, 33322

PHONE: (954) 723-6139 FAX: (954) 723-5611

Forward a signed copy of this form to: Motorola Chief EME Scientist, Motorola Inc.,  
Motorola Florida Research Laboratories, 8000 West Sunrise Boulevard, Plantation,  
Florida 33322, USA.

ALD 10/20/96

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## EME Test Methods Procedure

TITLE: Generic Motorola EME Testing Laboratories  
Procedure For Portable Products

Number : EME2-400  
Issue : 0  
Page : 26 of 29 pages  
Prepared : June 22, 1999

### A.2 RADIO TEST DATA SHEET

RADIO TEST DATA SHEET																														
								Date: <u>7/27/99</u>																						
<b>EQUIPMENT UNDER TEST</b>																														
Portable Type: <u>Fixed Wireless Terminal</u>		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2"><b>SPEC</b></td> </tr> <tr> <td>SAR(mW/g):</td> <td><u>16</u></td> </tr> <tr> <td colspan="2"><b>SIM. TISSUE</b></td> </tr> <tr> <td>Muscle:</td> <td><u>X</u></td> </tr> <tr> <td>Brain:</td> <td></td> </tr> <tr> <td>Dist. Const.:</td> <td><u>49.9</u></td> </tr> <tr> <td>Conductivity:</td> <td><u>1.93</u></td> </tr> <tr> <td>Date Meas.:</td> <td><u>7/27/99</u></td> </tr> <tr> <td colspan="2"><b>PHONE</b></td> </tr> <tr> <td>Name/Ser.#:</td> <td><u>PG</u></td> </tr> <tr> <td>Gain:</td> <td><u>20</u></td> </tr> </table>							<b>SPEC</b>		SAR(mW/g):	<u>16</u>	<b>SIM. TISSUE</b>		Muscle:	<u>X</u>	Brain:		Dist. Const.:	<u>49.9</u>	Conductivity:	<u>1.93</u>	Date Meas.:	<u>7/27/99</u>	<b>PHONE</b>		Name/Ser.#:	<u>PG</u>	Gain:	<u>20</u>
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Name/Ser.#:	<u>PG</u>																													
Gain:	<u>20</u>																													
Description:																														
Model #:	<u>ST1001B</u>																													
Serial #:	<u>6346263281</u>																													
Freq. Band:	<u>1850-1910 MHz</u>																													
Test Freq.:	<u>1881 MHz</u>																													
RF P.O. (meas):	<u>0.2 W</u>																													
RF P.O. (max):	<u>1 W</u>																													
RF P.O. (Stamp):	<u>continuous power</u>																													
SAR (cal.): <u>.06 (mW/g)</u> <small>(1 &lt; 2.5cm, 1 = 2.6cm, 1 &gt; 2.5cm)</small>																														
SAR (max cal.): <u>0.4</u> <small>(mW/g)</small>																														
*Max power as stated on PREECT application																														
<b>COMMENTS</b>																														
Tested by: <u>D. Zakharia</u> Reviewed by: <u>N/A</u>																														
Final SAR's are calculated as follows: PTT (Push-To-Talk): Calculated SAR (mW/g) = Measured SAR (mW/g) / 2 (50% duty cycle) Full Duplex Operation: Calculated SAR (mW/g) = Measured SAR (mW/g) SAR (Max. Calculated) = (Max. RFPO / Measured RFPO) x (Calculated SAR (mW/g))																														
SAR TESTING MATRIX																														
RADIO SERIAL NO./ FREQUENCY	ANTENNA TYPE/ POSITION	BATTERY TYPE	OPTIONS/ MOD. MODE	MEASURED SAR (mW/g)																										
				ABDOMEN	FACE	SHOUL- DER	LEFT EAR	RIGHT EAR																						
<u>6346263281</u> <u>1881 MHz</u>	<u>center fed</u>	<u>continuous</u>	<u>X</u>	<u>.06</u> <u>@ 5cm</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>																						
X																														

File : c:/idx3/SYSTEM/SARMEAS3/data/Normal/99072703\_ZOOM.VLT  
Start : 27-Jul-99 04:58:26 pm End : 27-Jul-99 04:59:04 pm  
Ver : 3.5E

Radio Type : Fixed Wireless Terminal  
Model Number : ST1001a  
Serial Number : 634D2G3281  
Frequency : 1881 MHz  
Peak Trans. Pwr : 1.000 W  
Start Trans. Pwr: 0.200 W  
Antenna Type : Center Fed  
Antenna Posn. : Out  
Phantom Type : Body  
Phantom Posn. : Abdomen  
Scan Type : SAR  
Probe Name : pG  
Field Type : E Field  
Orientation : 0 Degrees

Mixture Type = Muscle  
Mixture Dielectric Constant = 49.900  
Mixture Conductivity = 1.930

Comment :  
Unit tested at 5 cm away from the phantom  
Prototype test

Robot : Robot

Probe Offset = 0.26 cm  
Sensor Factor = 0.0108  
Conversion Factor = 1.672

pG Amplifier Channel Settings : 0.279 0.273 0.177

Max Location : X = -5.750, Y = -0.250, Z = 0.000 (cm) Value = 0.585

Measured Values (volts) =  
5.467E-004 3.701E-004 2.195E-004 1.349E-004 7.746E-005 5.190E-005  
2.294E-005 3.516E-006 0.000E+000 0.000E+000 0.000E+000

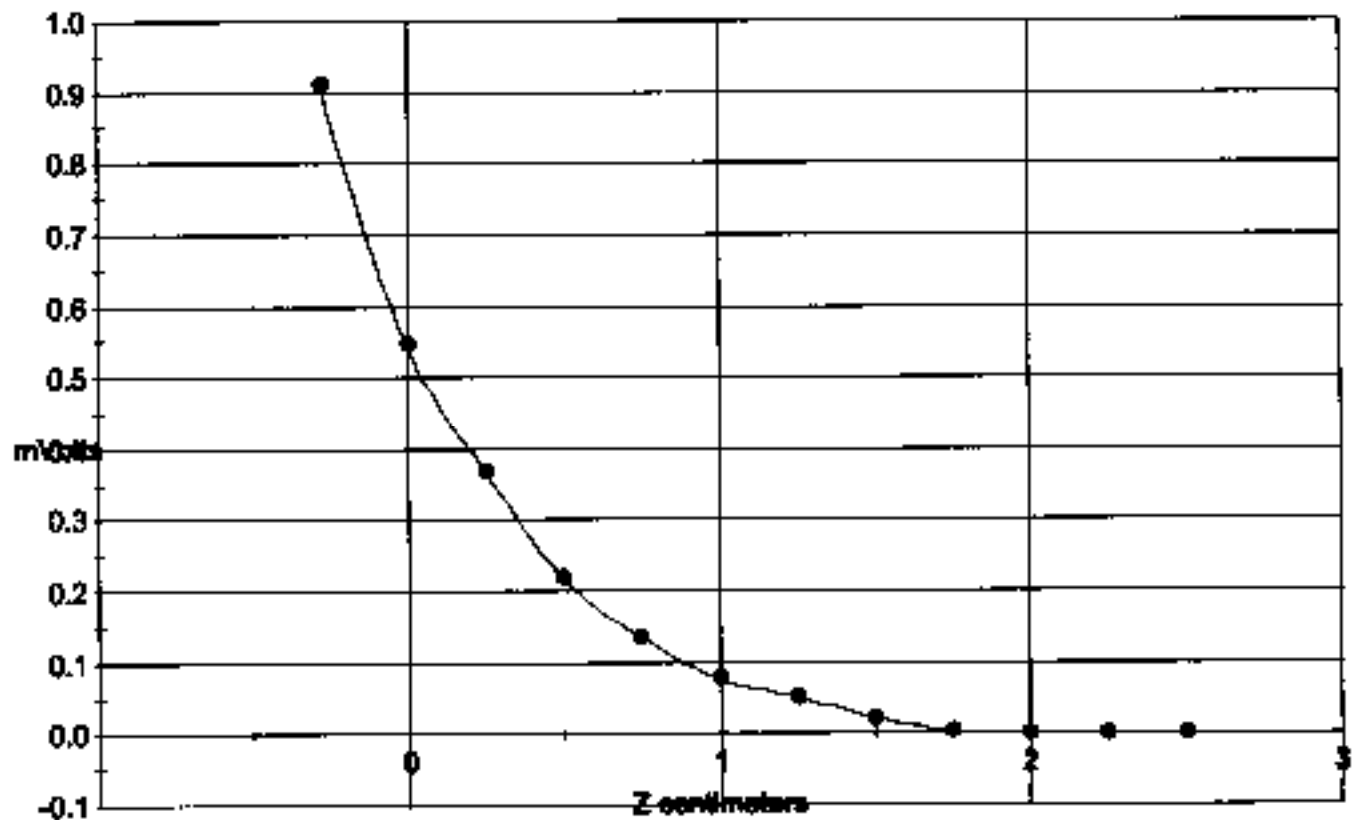
Calc. Voltage @ Surface (V@) = 0.0009

Voltage @ 1.00 cm (Vt) = 0.0001

Ave. Voltage (Va+Vt)/2 = 0.0005

Ave. SAR over 1 g (mW/g) = 0.0819

SAR Scan  
File : 99072703\_ZOOM.VLT  
Start : 27-Jul-99 04:58:28 pm End : 27-Jul-99 04:59:04 pm  
Fixed Wireless Terminal/ST1001B/6340ZG3281;1881MHz;W;Center Fed/Out;  
Body/Abdomen;SAR;pG/E Field/0 Degree/Muscle/49.900/1.930  
3.58



Start : 27-Jul-99 04:46:55 pm End : 27-Jul-99 04:57:01 pm  
Ver : 3.58

Radio Type : Fixed Wireless Terminal  
Model Number : ST1001B  
Serial Number : 634DEG3281  
Frequency : 1881 MHz  
Peak Trans. Pwr : 1.000 W  
Start Trans. Pwr: 0.200 W  
Antenna Type : Center Fed  
Antenna Posn. : Out  
Phantom Type : Body  
Phantom Posn. : Abdomen  
Scan Type : ECOM/SAR  
Probe Name : pG  
Field Type : E Field  
Orientation : 0 Degrees

Mixture Type = Muscle  
Mixture Dielectric Constant = 49.900  
Mixture Conductivity = 1.930

Comment :  
Unit tested at 5 cm away from the phantom  
Prototype test

Robot : Robot

Probe Offset = 0.28 cm  
Sensor Factor = 0.0108  
Conversion Factor = 1.672

pG Amplifier Channel Settings : 0.279 0.273 0.177

Max Location : X = -5.750, Y = -0.250, Z = 0.000 (cm) Value = 0.585

Measured Values (volts) =  
5.638E-004 2.292E-004 9.629E-005 4.353E-005 1.241E-006 0.000E+000  
0.000E+000 0.000E+000 0.000E+000 0.000E+000 0.000E+000

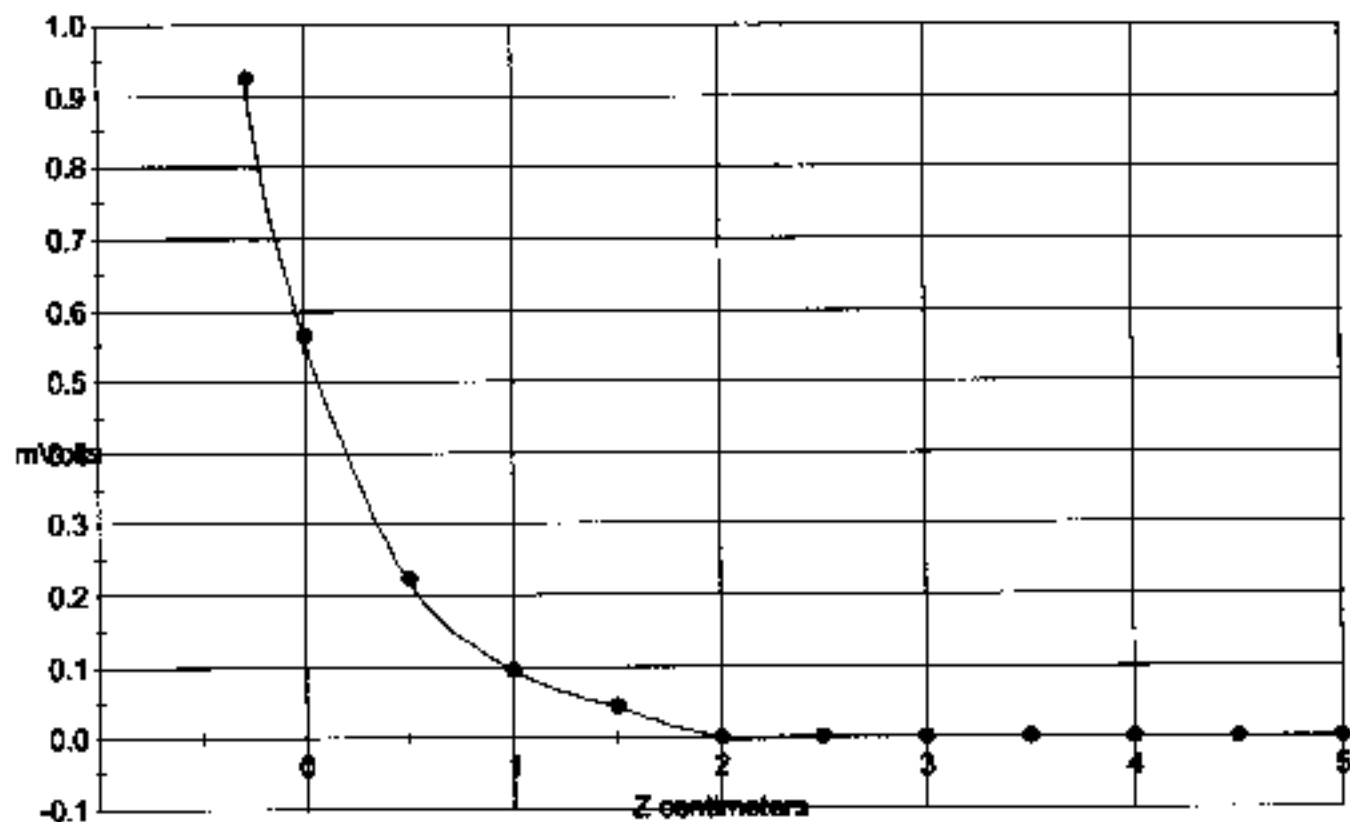
Calc. Voltage @ Surface (Vs) = 0.0009

Voltage @ 1.00 cm (Vt) = 0.0002

Ave. Voltage (Vs+Vt)/2 = 0.0005

Ave. SAR over 1 g (mW/g) = 0.0846

SAR Scan  
File : 99072702\_ZOOM.VLT  
Start : 27-Jul-99 04:46:55 pm End : 27-Jul-99 04:57:01 pm  
Fixed Wireless Terminal/ST1001B/634DZG3281;1881MHz;W;Center Fed/Out;  
Body/Abdomen;ZOOM/SAR;pGrE Field/0 Degree/Muscle/49.900/1.930  
3.58

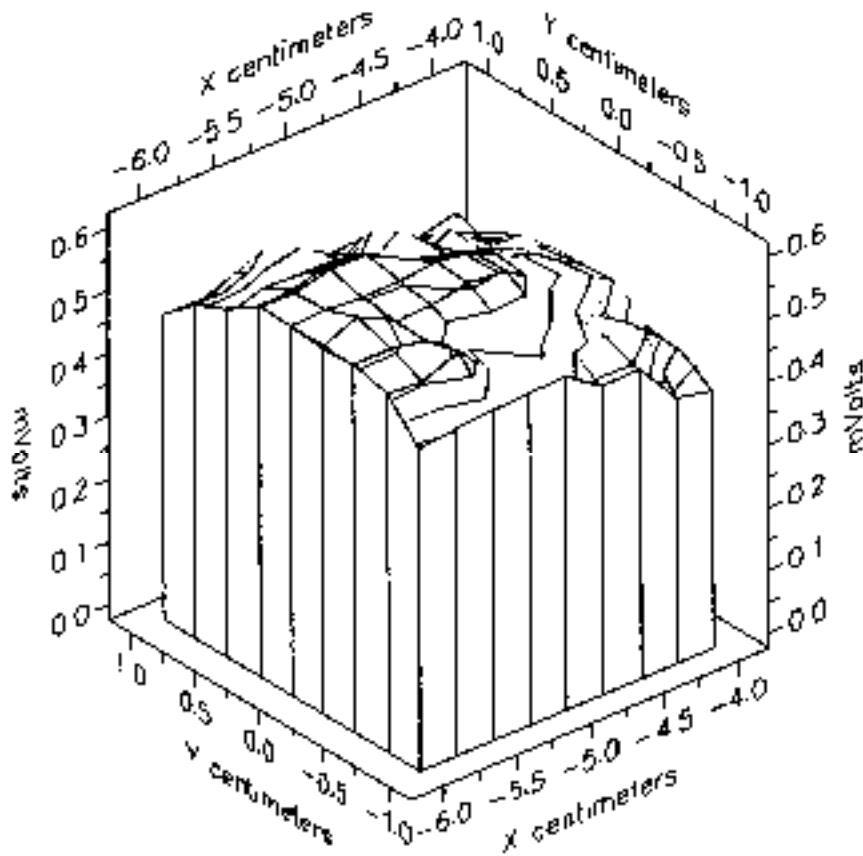


File : 89072702 ZOOM.VLT

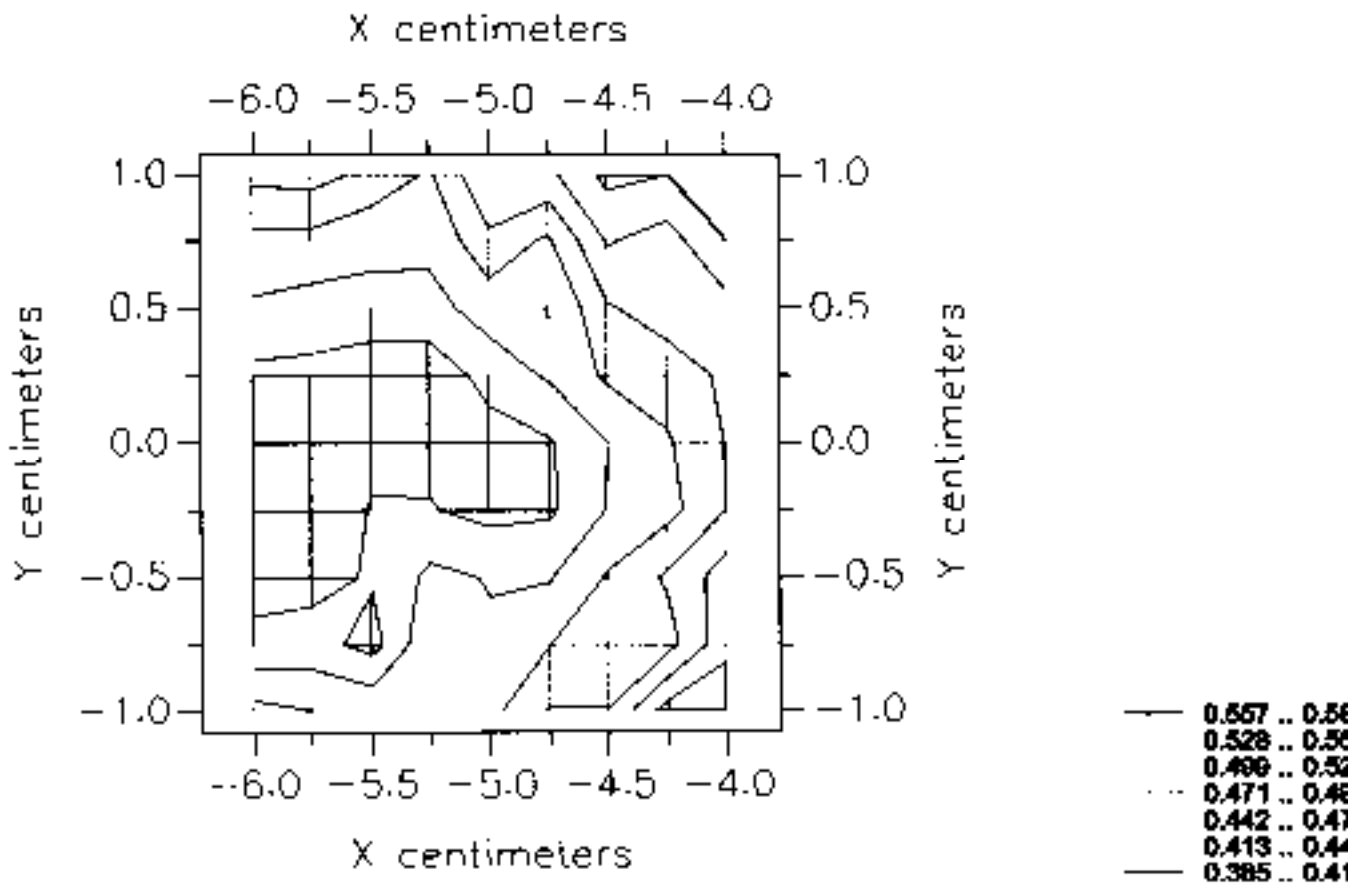
Start : 27-Jul-99 04:46:55 pm End : 27-Jul-99 04:57:01 pm

Fixed Wireless Terminal/ST1001B/634DZG3281;1861MHz;W;Center Fed/Out;  
Body/Abdomen;ZDOM/SAR;pG/E Field/0 DegreesMuscle/49.900/t.930

3.58



File : 99072702\_ZOOM.VLT  
Start : 27-Jul-99 04:46:55 pm End : 27-Jul-99 04:57:01 pm  
Fixed Wireless Terminal/ST1001B/634DZG3281;1881MHz;W;Center Fed/Out;  
Body/Abdomen;ZOOM/SAR;pG/E Field/0 Degrees/Angle/49.900/1.930  
3.58





Start : 27-Jul-99 04:31:19 pm End : 27-Jul-99 04:46:55 pm  
Error : 3.58

Radio Type : Fixed Wireless Terminal  
Model Number : ST1001B  
Serial Number : 634DEG3201  
Frequency : 1881 MHz  
Peak Trans. Pwr : 1.000 W  
Start Trans. Pwr : 0.200 W  
Antenna Type : Center Fed  
Antenna Posn. : Out  
Antenna Type : Body  
Antenna Posn. : Abdomen  
Scan Type : AREA  
Probe Name : pG  
Field Type : E Field  
Orientation : 0 Degrees

Mixture Type = Muscle  
Mixture Dielectric Constant = 49.900  
Mixture Conductivity = 1.930

Comment :  
Unit tested at 5 cm away from the phantom  
Prototype test

Robot : Robot

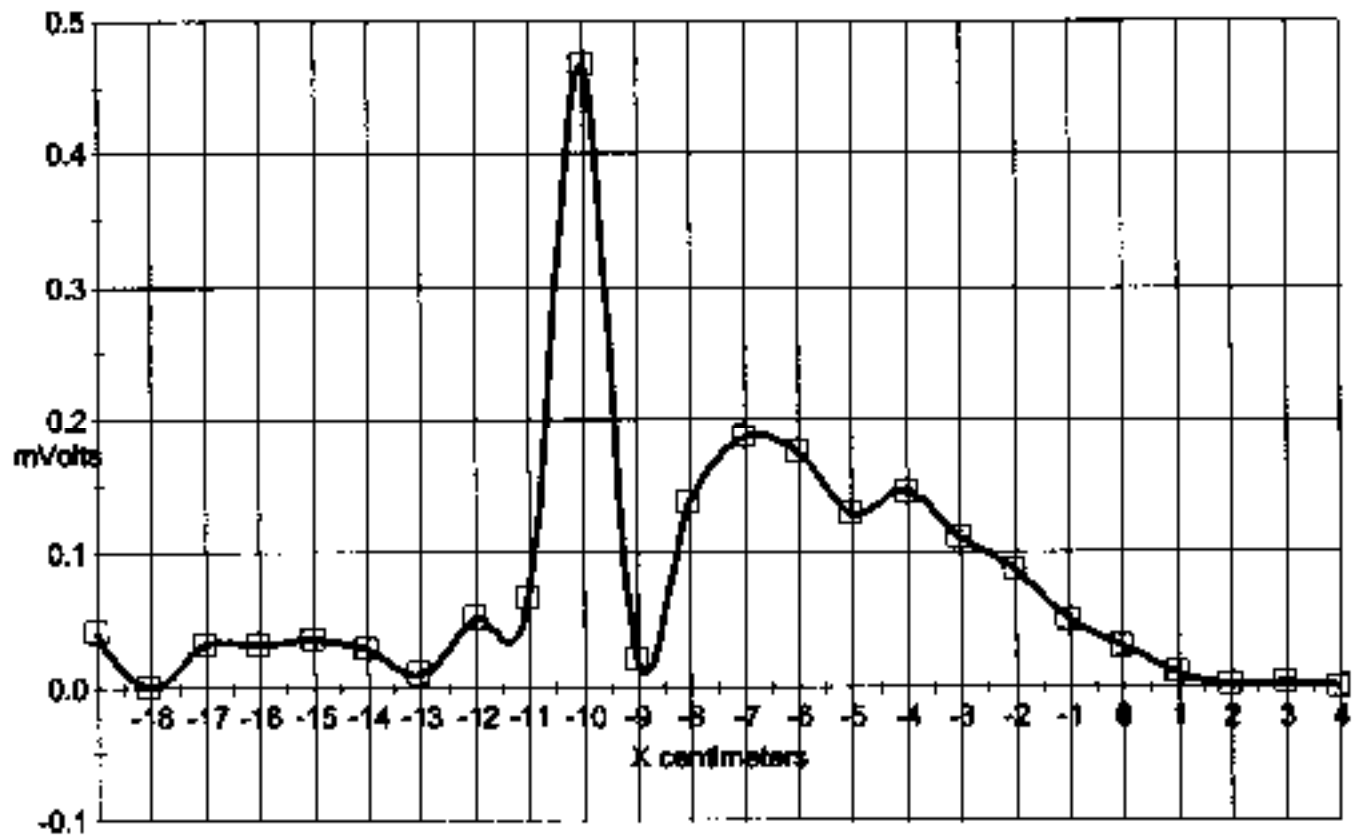
Probe Offset = 0.28 cm  
Sensor Factor = 0.0100  
Conversion Factor = 1.672

G Amplifier Channel Settings : 0.279 0.273 0.177

Max Location : X = -5.000, Y = 0.000, Z = 0.000 (cm) Value = 0.605

Area too wide. SAR value not calculated

X-Z Plane Slice Y=-3.000  
File : 99072702 AREA.VLT  
Start : 27-Jul-99 04:31:19 pm End : 27-Jul-99 04:46:55 pm  
Fixed Wireless Terminal/ST1001B/634DZG3281;1881MHz;W:Center Fed/Out;  
Body/Abdomen;AREA;pG/E Field/0 DegreesMuscle/49.900/1.930  
3.58



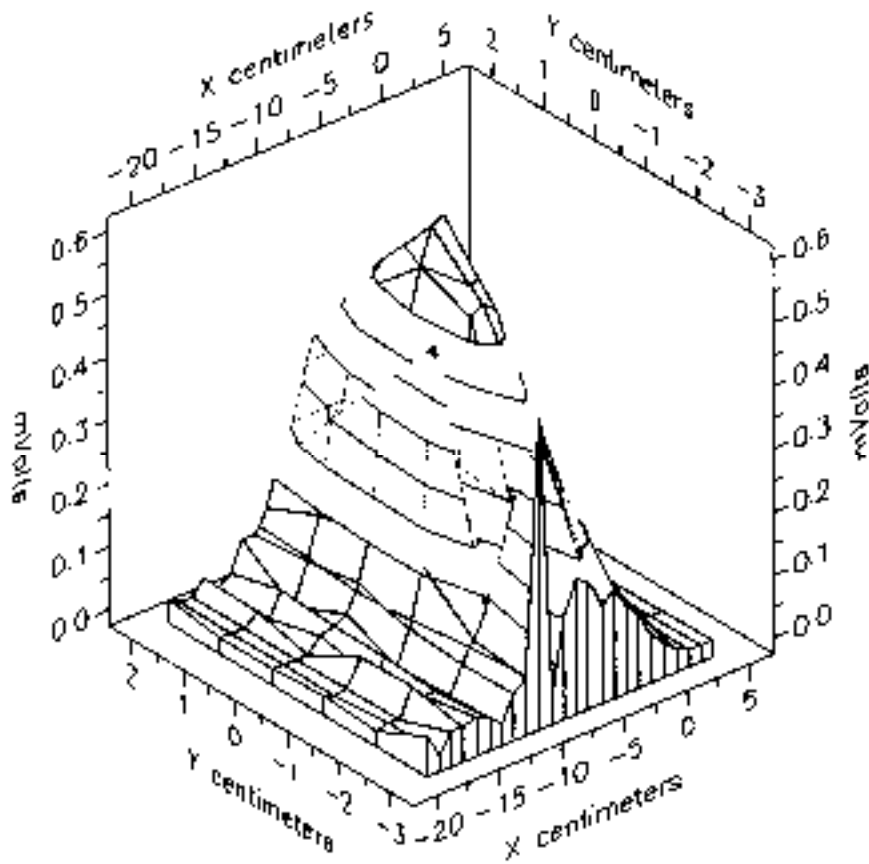
File : 99072702 AREA.VLT

Start : 27-Jul-99 04:31:19 pm End : 27-Jul-99 04:46:55 pm

Fixed Wireless Terminal/ST1001B/634DZG3281;1881MHz;W;Center Fed/Out;

Body/Abdomen;AREA;pG/E Field/0 DegreesMuscle/49.900/1.930

3.56



File : 99072702 AREA.VLT

Start : 27-Jul-99 04:31:19 pm End : 27-Jul-99 04:48:55 pm

Fixed Wireless Terminal/ST1001B/634DZG3281;1881MHz;W;Center Fed/Out;

Body/Abdomen;AREA;pG/E Field/0 Degree/Muscle/49.900/1.930

3.58

