

## SAR Measurement Report

For the compliance of Motorola Communications Devices with the American National Standard Institute, ANSI/IEEE C95.1, 1992. Standard for Safety level with respect to Human Exposure to Radiofrequency Electromagnetic Fields 3KHz to 300GHz.

Radio Type Fixed Wireless Terminal  
Model # ST1054A  
Serial # 163462854V5  
Transmitter Freq. (MHz) 836.52  
Transmitter Power (Watts) .2 continuous peak  
Antenna Type Center fed  
Battery Type AC adapter  
Test Conditions full body; abdomen; muscle  
Volume for Spatial Peak SAR Averaging (cm<sup>3</sup>) 1  
Spatial Peak Measured SAR Average (mW/g) .02  
Transmitter Power Start .2 Transmitter Power End .2  
Transmitter Peak Power 1

Equation for max expected SAR value:

$$\text{(Peak Power/Power End)} \times \text{measured SAR} = \text{max expected SAR mW/g}$$
$$\text{(1/.2)} \times .02 = .1 \text{ mW/g}$$

If push to talk 50% duty cycle:

$$\text{max expected SAR}/2 = \text{time averaged SAR mW/g}$$
$$\text{N/A} / 2 = \text{N/A mW/g}$$

Observations: Unit distance of antenna to abdomen was far enough to practically measure the noise level

Performed By: Nancy Zakhari Date: 3/16/99

Approved By: W. Belson Date: 4/7/99

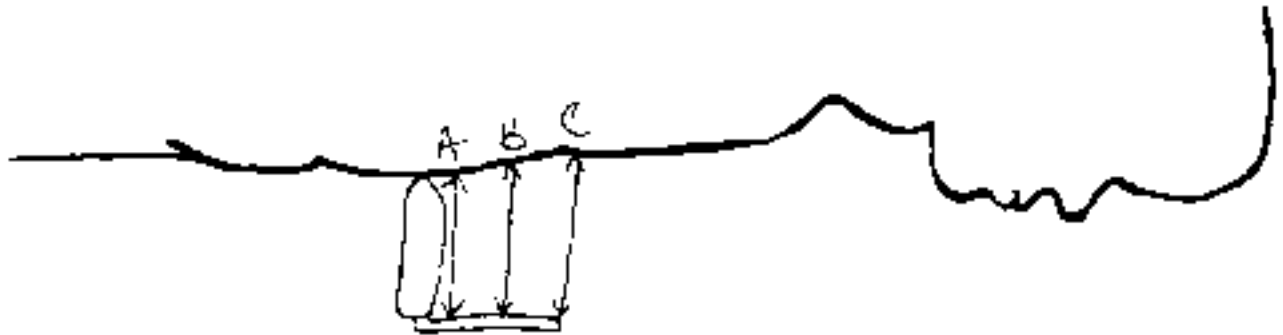
Form Revised: March 1998

8000 West Sunrise Blvd. • Fort Lauderdale, FL 33322 • 954-723-4978

IXED Wireless Terminal

model # ST1056A (mm)

serial # 63462B5415



Unit front edge against abdomen as if sitting down; antenna at 90°

Distance of antenna to abdomen:

$$A = 190\text{mm}$$

$$B = 200\text{mm}$$

$$C = 210\text{mm}$$

Apr-07-00 1:30am From-  
: 3.58

\*-264 P 5/22 F-652

Mod Type : Fixed Wireless Terminal (FWT)  
Tel Number : 971056A  
Serial Number : 634GZB54V5  
Frequency : 836.82 MHz  
Tx Trans. Pow : 0.200 W  
Rxt Trans. POW: 0.200 W  
Antenna Type : Center Fed  
Antenna Posn. : Out  
Antom Type : Body  
Antom Posn. : Abdomen  
Ant Type : ZOOM/SAR  
Ant Name : p041  
Ant Type : E Field  
Ant Orientation : 0 Degrees

Ant Type = Muscle  
Ant Dielectric Constant = 54.600  
Ant Conductivity = 1.070

Ant Orientation :  
Ornt Front side against Abdomen; as if it were sitting on a table  
Antenna at 90 degree angle

Ant : MOBILE ROBOT

Ant Offset = 0.29 cm  
Near Factor = 0.0108  
Conversion Factor = 0.315

Ant Amplifier Channel Settings : 0.192 0.154 0.116

Ant Location : X = 0.250, Y = -3.500, Z = 0.000 (cm) Value = 0.359

Ant Measured Values (volts) =  
2.782E-004 2.525E-004 2.413E-004 2.325E-004 1.773E-004 1.749E-004  
1.208E-004 1.180E-004 7.120E-005 7.096E-005 6.534E-005

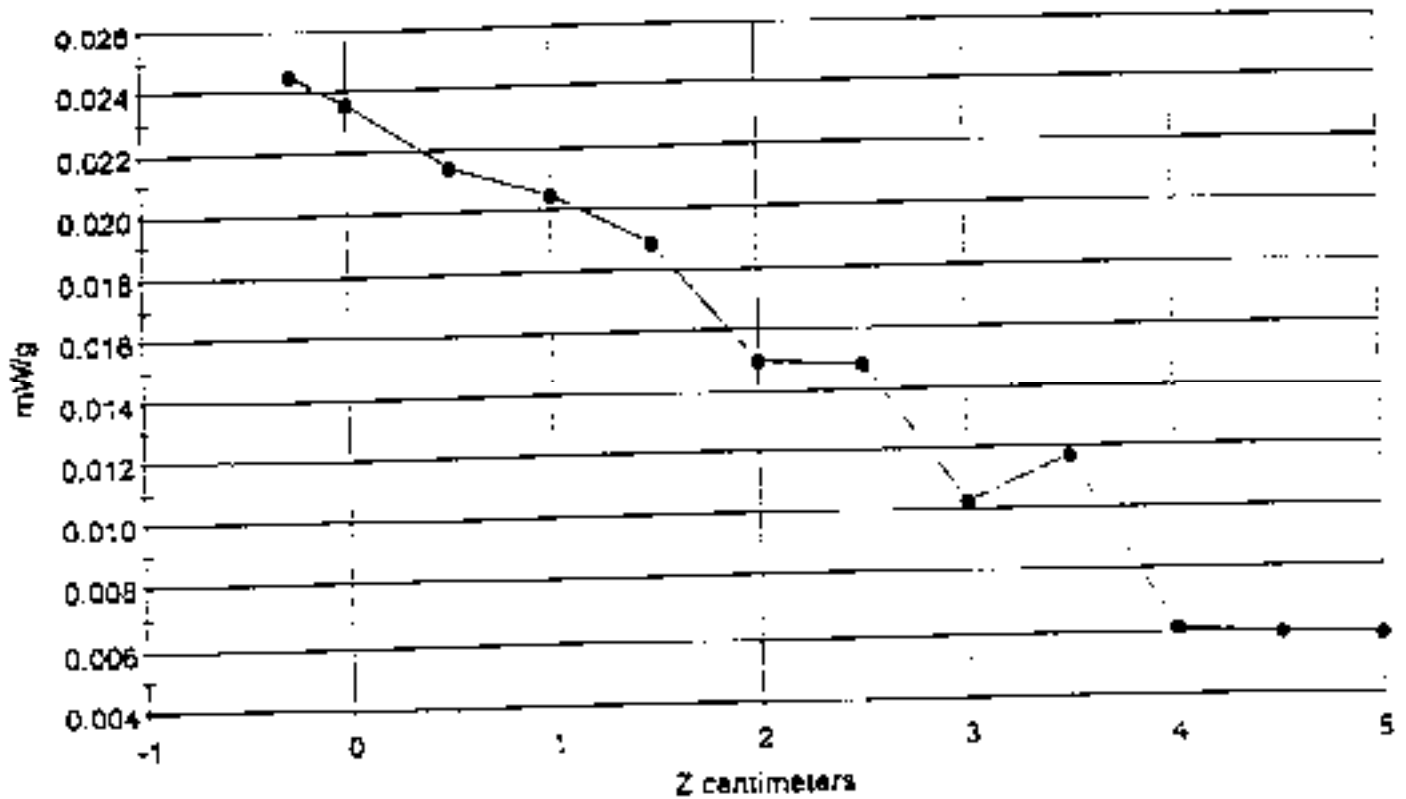
Ant Voltage @ Surface (V) = 0.0003

Ant Voltage @ 1.00 cm (V) = 0.0002

Ant Voltage (V<sub>s</sub>-V<sub>t</sub>)/2 = 0.0003

Ant SAR over 1 g (mW/g) = 0.0227

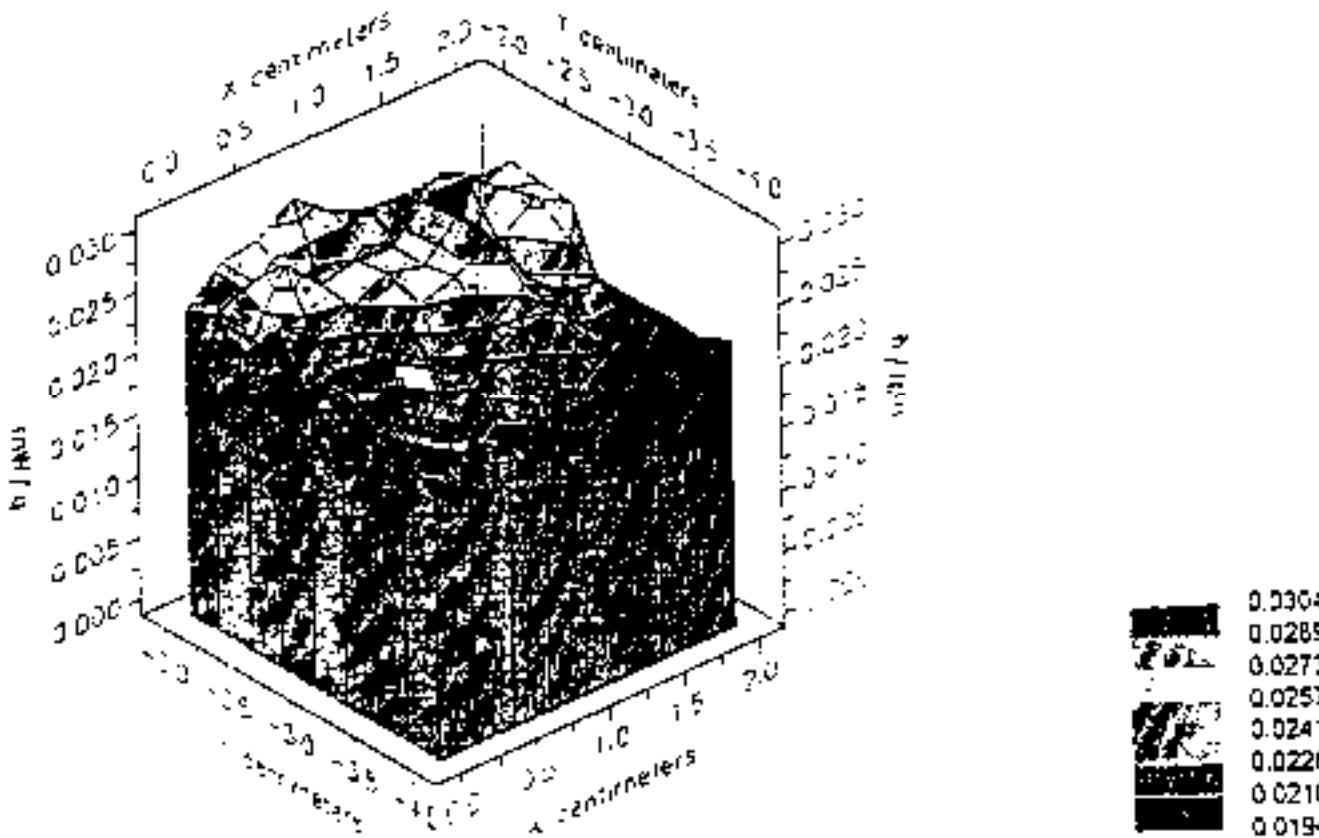
SAR Scan  
File 99031603\_ZOOM.VLT  
Start : 16-Mar-99 10:21.36 am End : 16-Mar-99 10:33.28 am  
Fixed Wireless Terminal (FWT)/ST1056A/ 634GZB54V5; 836.52MHz;W Center Fed/Out;  
Body/Abdomen;ZOOM/SAR;p041/E Field/0 DegreesMuscle/54 600/r.070  
3.58



File : 99031603\_ZOOM.VLT

Start : 16-Mar-99 10:21:36 am End : 16-Mar-99 10:33 28 am

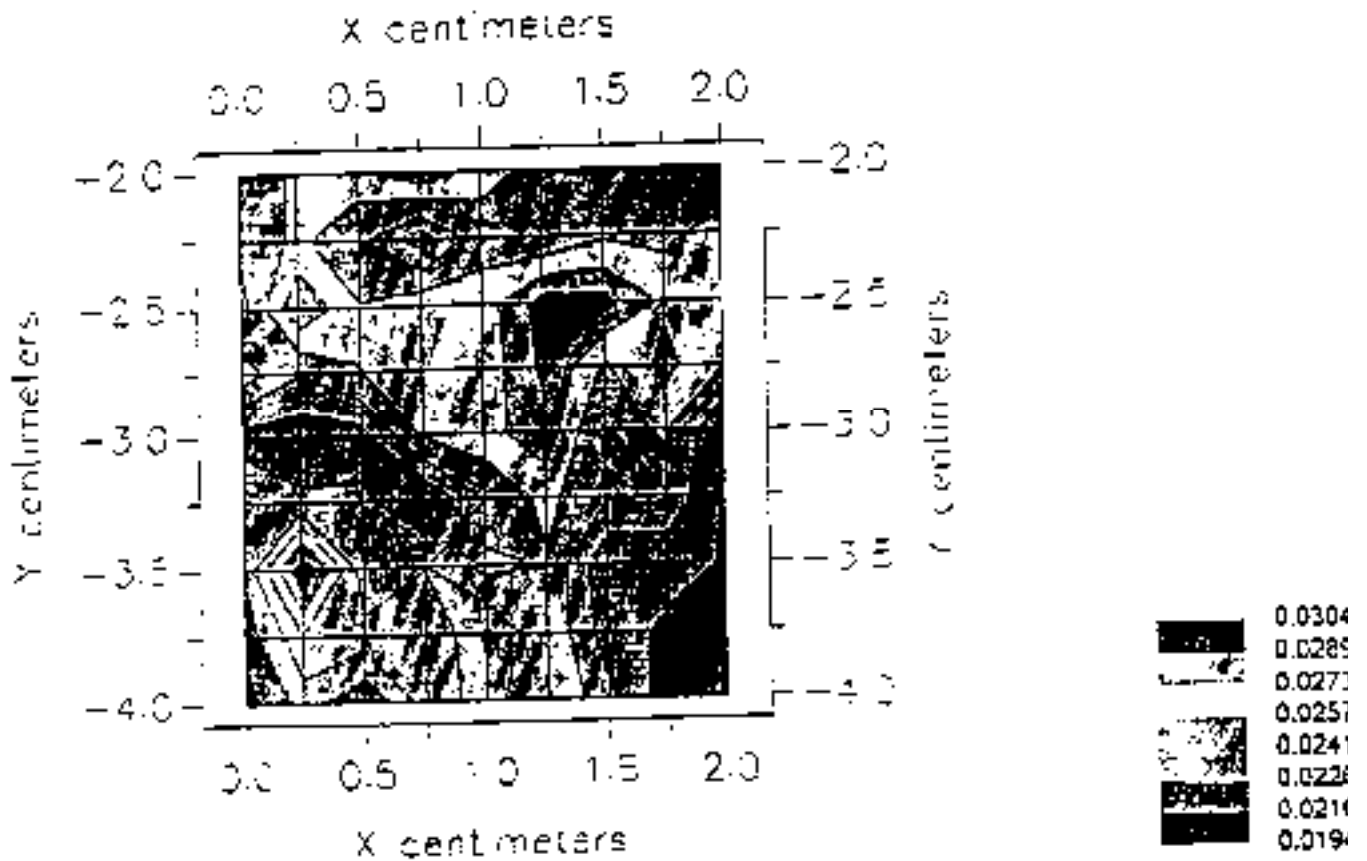
Fixed Wireless Terminal (FWT)/ST1056A/ 634GZB54V5; 836.52MHz; W.Center Fed/Out;  
Body/Abdomen; ZOOM/SAR, p041/E Field/0 Degrees Muscle/54.600/1 070  
3.58



File : 99031603\_ZOOM.VLT

Start : 16-Mar-99 10:21:36 am End : 16-Mar-99 10:33:28 am

Fixed Wireless Terminal (FWT)/ST1056A/ 634GZB54V5; 836.52MHz; W; Center Fed/Out;  
Body/Abdomen; ZOOM/SAR; p041/E Field/0 Degrees Muscle/54.600/1.070  
3.58





# MOTOROLA

## Motorola Florida Research Laboratories

### SAR Measurement Report

For the compliance of Motorola Communications Devices with the American National Standard Institute, ANSI/IEEE C95.1, 1992. Standard for Safety level with respect to Human Exposure to Radiofrequency Electromagnetic Fields 3KHz to 300GHz.

Radio Type Fixed Wireless Terminal  
 Model # ST1056A  
 Serial # 163467.B54V5  
 Transmitter Freq. (MHz) 836.52  
 Transmitter Power (Watts) .2 continuous power  
 Antenna Type center fed  
 Battery Type AC adapter  
 Test Conditions full body, abdomen, muscle  
 Volume for Spatial Peak SAR Averaging (cm<sup>3</sup>) 1  
 Spatial Peak Measured SAR Average (mW/g) 1.1  
 Transmitter Power Start .2 Transmitter Power End .2  
 Transmitter Peak Power 1

Equation for max expected SAR value:

$$(\text{Peak Power/Power End}) \times \text{measured SAR} = \text{max expected SAR mW/g}$$

$$(1 / .2) \times 1.1 = 5.5 \text{ mW/g}$$

If push to talk 50% duty cycle:

$$\text{max expected SAR}/2 = \text{time averaged SAR mW/g}$$

$$\text{N/A} / 2 = \text{N/A} \text{ mW/g}$$

Observations: Antenna is 2.5cm from  
body

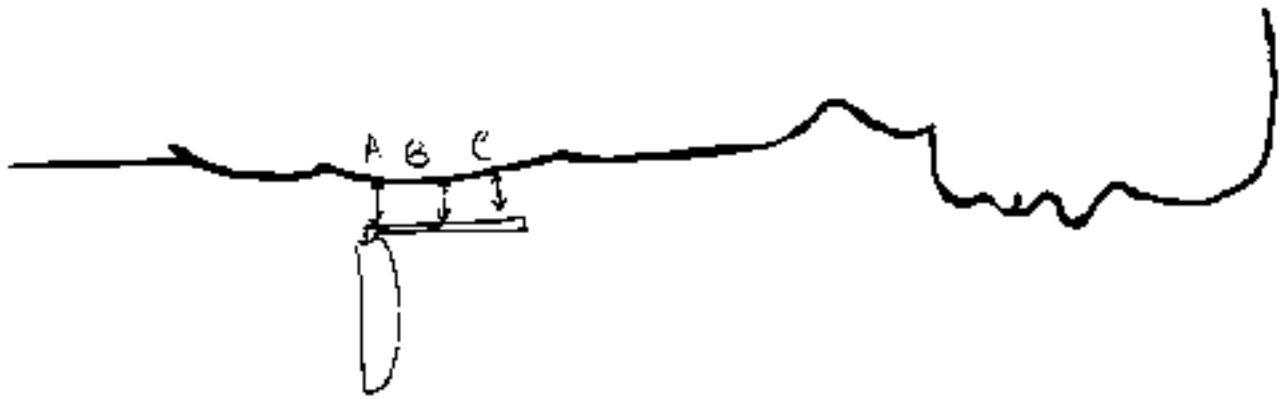
Performed By: Narman Zuhairi Date: 3/23/99

Approved By: Q. Rahman Date: 4/7/99

Ked Williams

Model # ST1056A (mm)

Serial # 634GZB54V5



Backside of unit w/antenna facing abdomen

Distances of antenna

A = 25 mm

B = 25 mm

C = 30 mm



Y : 23-may-99 04:49:04 pm  
: 3.58

o Type : Fixed Wireless Terminal (FWT)  
l Number : 9T10018  
al Number : 6340xw1045  
uency : 936.52 MHz  
Trans. Pwr : 0.200 W  
c Trans. Pwr: 0.200 W  
nna Type : Center Fed  
nna Posn. : Out  
com Type : Body  
com Posn. : Abdomen  
Type : SAR  
e Name : p041  
d type : E Field  
ntation : 0 Degrees

ure Type = Muscle  
ure Dielectric Constant = 54.800  
ure Conductivity = 1.070

ment :  
Unit back edge w/antenna facing abdomen  
Antenna is 2.5 cm away

ot : MOBILE ROBOT

se Offset = 0.38 cm  
por Factor = 0.0108  
ersion factor = 0.915

l Amplifier Channel Settings : 0.182 0.154 0.116

Location : X = -11.500, Y = -0.500, Z = 0.000 (cm) Value = 14.629

sure Values (volts) =  
.423E-002 1.028E-002 9.568E-003 8.112E-003 6.277E-003 5.875E-003  
.103E-003 4.372E-003 3.990E-003 3.163E-003 2.747E-003 2.343E-003  
.019E-005

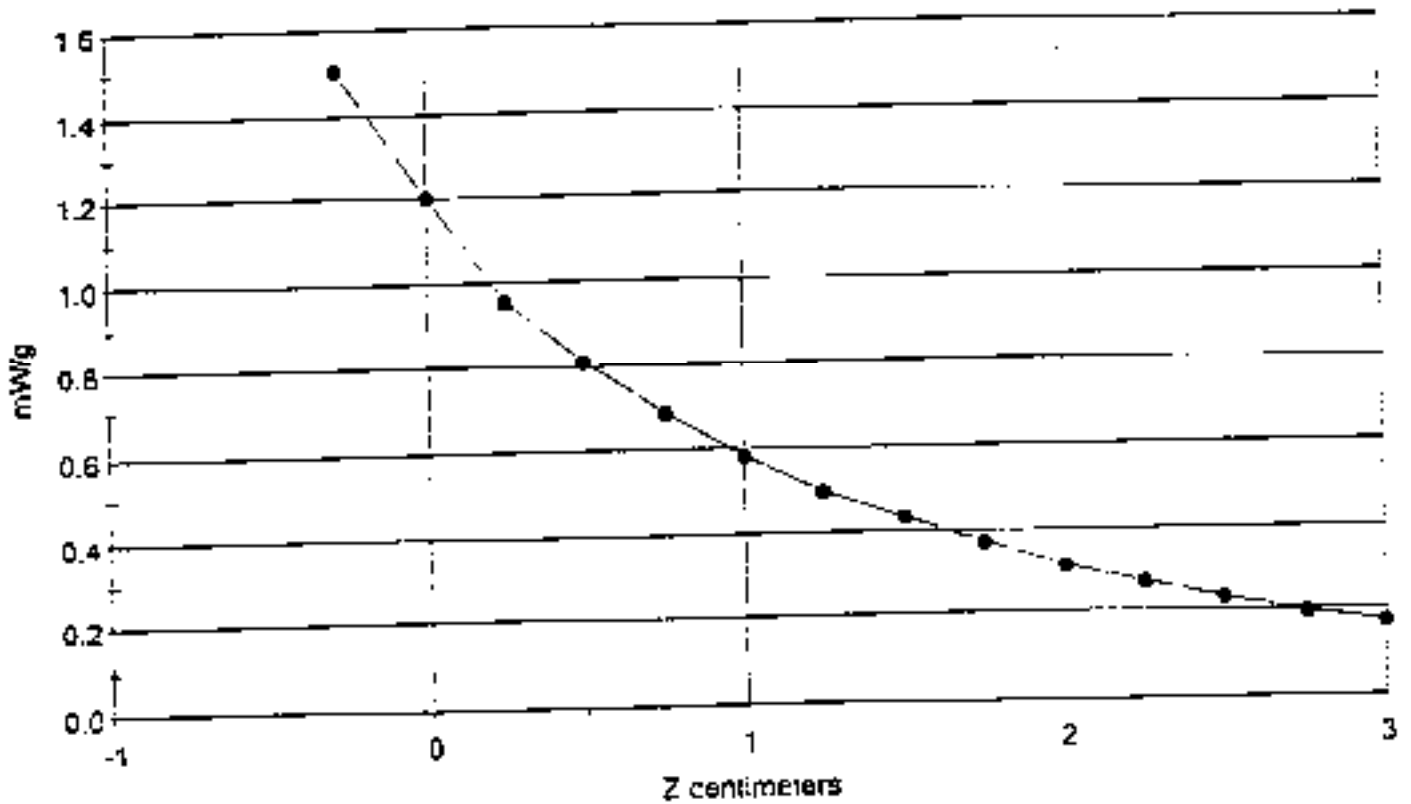
u. Voltage @ Surface (Vs) = 0.0178

age @ 1.00 cm (Vc) = 0.0083

l. Voltage (Va+Vc)/2 = 0.0130

l. SAR over 1 g (mW/g) = 1.1040

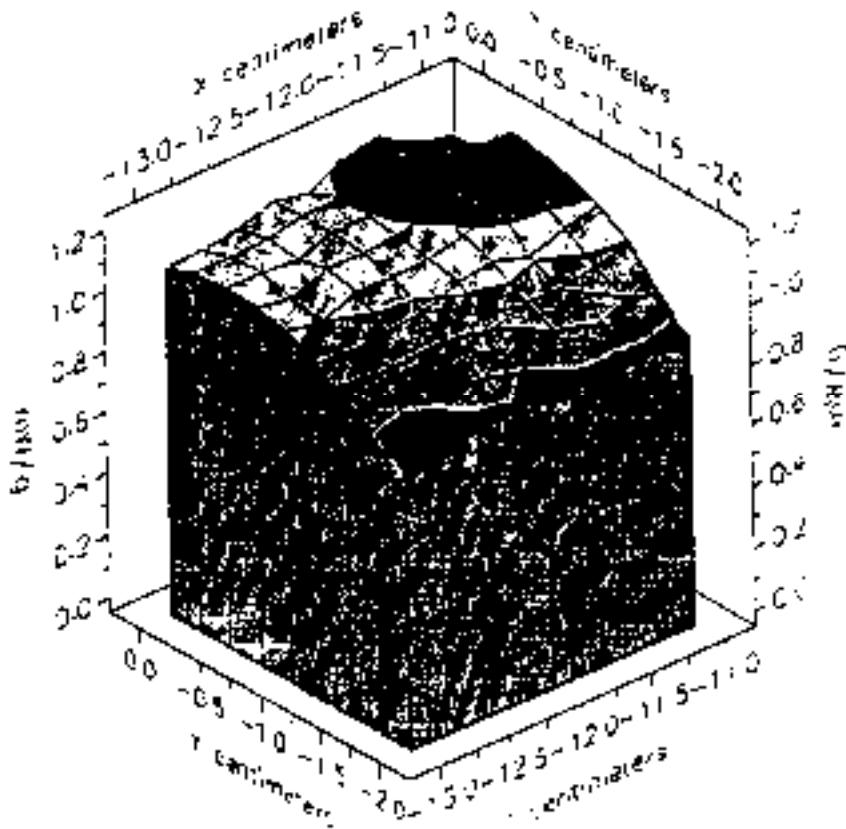
SAR Scan  
File: 99032306\_ZOOM.VLT  
Start: 23-Mar-99 02:14:02 pm End: 23-Mar-99 02:14:34 pm  
Fixed Wireless Terminal (FWT)/ST1001B/634DXW1045;836.52MHz W:Center Fed/Out;  
Body/Abdomen; SAR;p041/E Field/0 DegreesMuscle/54 600/r 070  
3.58



File : 99032305\_ZOOM.VLT

Start : 23-Mar-99 01:57:35 pm End : 23-Mar-99 02:06:12 pm

Fixed Wireless Terminal (FWT)/ST1056A/834GZB54V5;836.52MHz;W:Center Fed/Out;  
Body/Abdomen;ZOOM/SAR;p041/E Field/0 DegreesMuscle/54.600/1.070  
3.58



File : 99032305\_ZOOM.VLT

Start : 23-Mar-99 01:57:35 pm End : 23-Mar-99 02:06:12 pm

Fixed Wireless Terminal (FWT)/ST1056A/634GZB54V5/836.52MHz/W/Center Fed/Out;  
Body/Abdomen;ZOOM/SAR.p041/E Field/0 DegreesMuscle/54.600/1.070  
3.58

