

Appendix D: SAR Measurement Data

Data No.	Band	Mode	Test Position	Separation Distance (cm)	Channel	SAR 1g(W/kg)
1	Wifi	802.11b	EUT Bottom	0.5	1	0.001
2	Wifi	802.11b	EUT Top	0.5	1	0.620
3	Wifi	802.11b	EUT Edge of Right	0.5	1	0.011
4	Wifi	802.11b	EUT Edge of up	0.5	1	0.001
5	Wifi	802.11b	EUT Top	0.5	6	0.562
6	Wifi	802.11b	EUT Top	0.5	11	0.448
7	Wifi	802.11g	EUT Top	0.5	11	0.284
8	Wifi	802.11n 20	EUT Top	0.5	1	0.181
9	Wifi	802.11n 40	EUT Top	0.5	3	0.235

Data No. 1:

Report Date : 11-May-2012
By Operator : Dino
Measurement Date : 11-May-2012
Starting Time : 11-May-2012 04:59:45 PM
End Time : 11-May-2012 05:19:53 PM
Scanning Time : 1208 secs

Product Data

Device Name : ULT-HDD
Serial No. : NA
Type : Other
Model : NA
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.25 W
Drift Time : 0 min(s)
Length : 85 mm
Width : 140 mm
Depth : 23 mm
Antenna Type : Internal
Orientation : Touch
Power Drift-Start : 0.001 W/kg
Power Drift-Finish: 0.000 W/kg
Power Drift (%) : 0.000
Picture : C:\alsas\bitmap\Device-4.bmp

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : User Define
Location : Center
Description : Unit phantom

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 21-Mar-2012
Temperature : 22.00 °C
Ambient Temp. : 21.70 °C
Humidity : 60.00 RH%
Epsilon : 53.83 F/m
Sigma : 2.04 S/m
Density : 1000.00 kg/cu. m

Probe Data

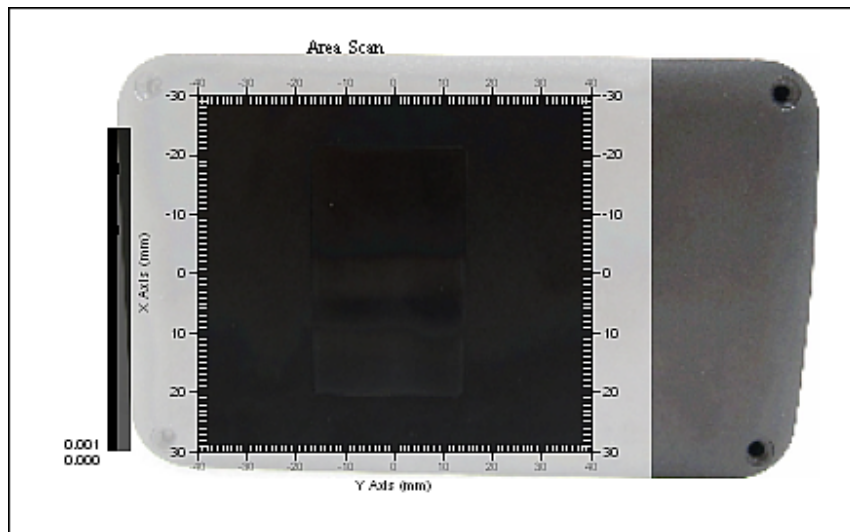
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 08-Aug-2011
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.55
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
Scan Type : Complete
Tissue Temp. : 22.00 °C
Ambient Temp. : 21.70 °C
Set-up Date : 11-May-2012
Set-up Time : 3:29:45 PM
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch
Separation : 5 mm
Channel : Low



1 gram SAR value : 0.001 W/kg
10 gram SAR value : 0.001 W/kg
Area Scan Peak SAR : 0.001 W/kg
Zoom Scan Peak SAR : 0.000 W/kg

Data No. 2:

Report Date : 14-May-2012
By Operator : Dino
Measurement Date : 14-May-2012
Starting Time : 14-May-2012 11:17:27 AM
End Time : 14-May-2012 11:37:20 AM
Scanning Time : 1193 secs

Product Data

Device Name : ULT-HDD
Serial No. : NA
Type : Other
Model : NA
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.25 W
Drift Time : 0 min(s)
Length : 85 mm
Width : 145 mm
Depth : 23 mm
Antenna Type : Internal
Orientation : Touch
Power Drift-Start : 0.198 W/kg
Power Drift-Finish: 0.177 W/kg
Power Drift (%) : -10.598
Picture : C:\alsas\bitmap\Device-4.bmp

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : User Define
Location : Center
Description : Unit phantom

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 21-Mar-2012
Temperature : 22.00 °C
Ambient Temp. : 21.70 °C
Humidity : 60.00 RH%
Epsilon : 53.83 F/m
Sigma : 2.04 S/m
Density : 1000.00 kg/cu. m

Probe Data

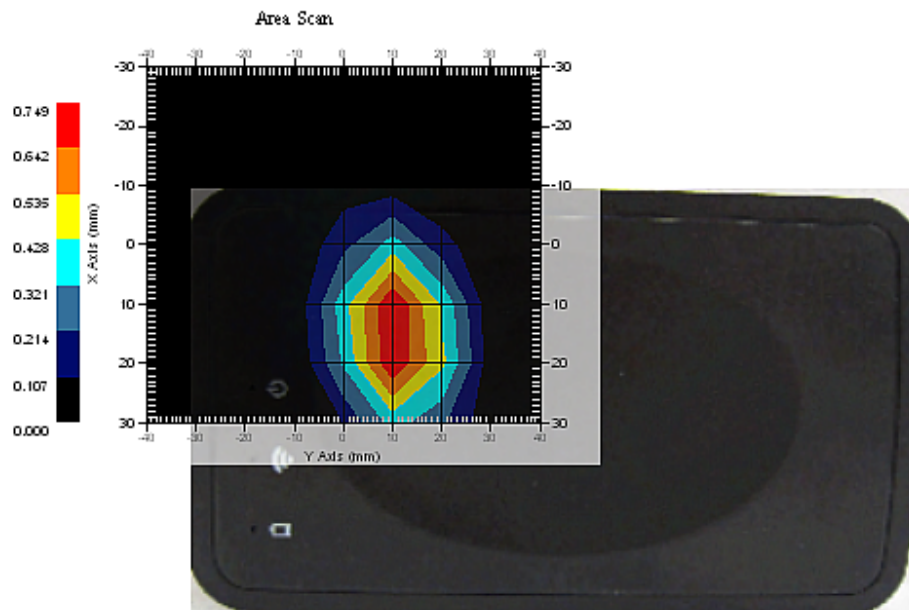
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 08-Aug-2011
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.55
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
Scan Type : Complete
Tissue Temp. : 22.00 °C
Ambient Temp. : 21.70 °C
Set-up Date : 14-May-2012
Set-up Time : 3:29:45 PM
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch
Separation : 5 mm
Channel : Low



1 gram SAR value : 0.620 W/kg
10 gram SAR value : 0.253 W/kg
Area Scan Peak SAR : 0.746 W/kg
Zoom Scan Peak SAR : 1.231 W/kg

Data No. 3:

Report Date : 11-May-2012
By Operator : Dino
Measurement Date : 11-May-2012
Starting Time : 11-May-2012 05:46:56 PM
End Time : 11-May-2012 06:04:46 PM
Scanning Time : 1070 secs

Product Data

Device Name : ULT-HDD
Serial No. : NA
Type : Other
Model : NA
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.25 W
Drift Time : 0 min(s)
Length : 23 mm
Width : 145 mm
Depth : 85 mm
Antenna Type : Internal
Orientation : Touch
Power Drift-Start : 0.001 W/kg
Power Drift-Finish: 0.001 W/kg
Power Drift (%) : 6.656
Picture : C:\alsas\bitmap\Device-4.bmp

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : User Define
Location : Center
Description : Unit phantom

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 21-Mar-2012
Temperature : 22.00 °C
Ambient Temp. : 21.70 °C
Humidity : 60.00 RH%
Epsilon : 53.83 F/m
Sigma : 2.04 S/m
Density : 1000.00 kg/cu. m

Probe Data

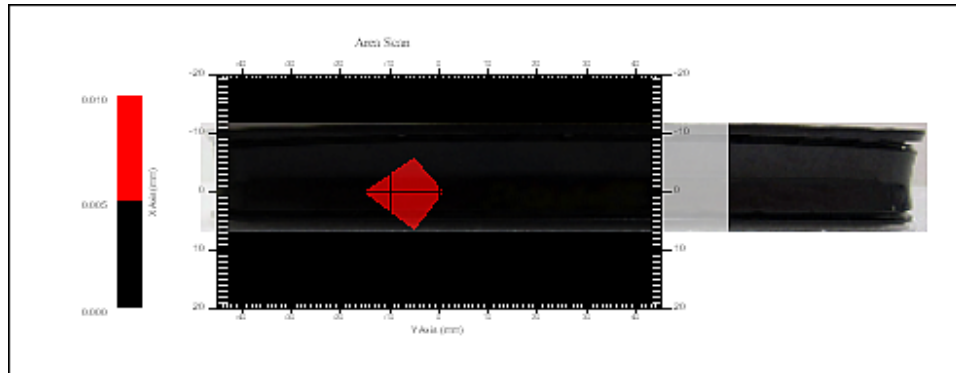
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 08-Aug-2011
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.55
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
Scan Type : Complete
Tissue Temp. : 22.00 °C
Ambient Temp. : 21.70 °C
Set-up Date : 11-May-2012
Set-up Time : 3:29:45 PM
Area Scan : 5x10x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch
Separation : 5 mm
Channel : Low



1 gram SAR value : 0.011 W/kg
10 gram SAR value : 0.004 W/kg
Area Scan Peak SAR : 0.010 W/kg
Zoom Scan Peak SAR : 0.040 W/kg

Data No. 4:

Report Date : 11-May-2012
By Operator : Dino
Measurement Date : 11-May-2012
Starting Time : 11-May-2012 05:26:53 PM
End Time : 11-May-2012 05:40:39 PM
Scanning Time : 826 secs

Product Data

Device Name : ULT-HDD
Serial No. : NA
Type : Other
Model : NA
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.25 W
Drift Time : 0 min(s)
Length : 23 mm
Width : 85 mm
Depth : 145 mm
Antenna Type : Internal
Orientation : Touch
Power Drift-Start : 0.001 W/kg
Power Drift-Finish: 0.000 W/kg
Power Drift (%) : 0.000
Picture : C:\alsas\bitmap\Device-4.bmp

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : User Define
Location : Center
Description : Unit phantom

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 21-Mar-2012
Temperature : 22.00 °C
Ambient Temp. : 21.70 °C
Humidity : 60.00 RH%
Epsilon : 53.83 F/m
Sigma : 2.04 S/m
Density : 1000.00 kg/cu. m

Probe Data

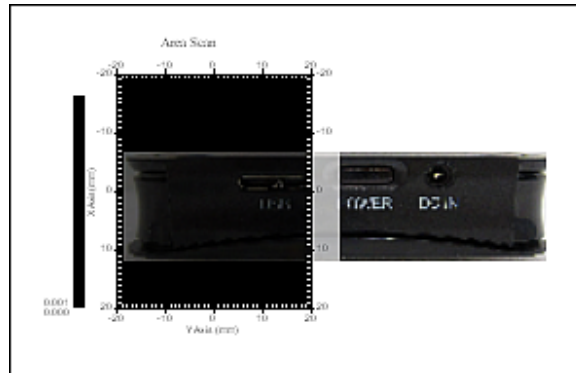
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 08-Aug-2011
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.55
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
Scan Type : Complete
Tissue Temp. : 22.00 °C
Ambient Temp. : 21.70 °C
Set-up Date : 11-May-2012
Set-up Time : 3:29:45 PM
Area Scan : 5x5x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch
Separation : 5 mm
Channel : Low



1 gram SAR value : 0.001 W/kg
10 gram SAR value : 0.001 W/kg
Area Scan Peak SAR : 0.001 W/kg
Zoom Scan Peak SAR : 0.000 W/kg

Data No. 5:

Report Date : 14-May-2012
By Operator : Dino
Measurement Date : 14-May-2012
Starting Time : 14-May-2012 10:50:06 AM
End Time : 14-May-2012 11:10:04 AM
Scanning Time : 1198 secs

Product Data

Device Name : ULT-HDD
Serial No. : NA
Type : Other
Model : NA
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.25 W
Drift Time : 0 min(s)
Length : 85 mm
Width : 145 mm
Depth : 23 mm
Antenna Type : Internal
Orientation : Touch
Power Drift-Start : 0.250 W/kg
Power Drift-Finish: 0.211 W/kg
Power Drift (%) : -15.622
Picture : C:\alsas\bitmap\Device-4.bmp

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : User Define
Location : Center
Description : Unit phantom

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 21-Mar-2012
Temperature : 22.00 °C
Ambient Temp. : 21.70 °C
Humidity : 60.00 RH%
Epsilon : 53.83 F/m
Sigma : 2.04 S/m
Density : 1000.00 kg/cu. m

Probe Data

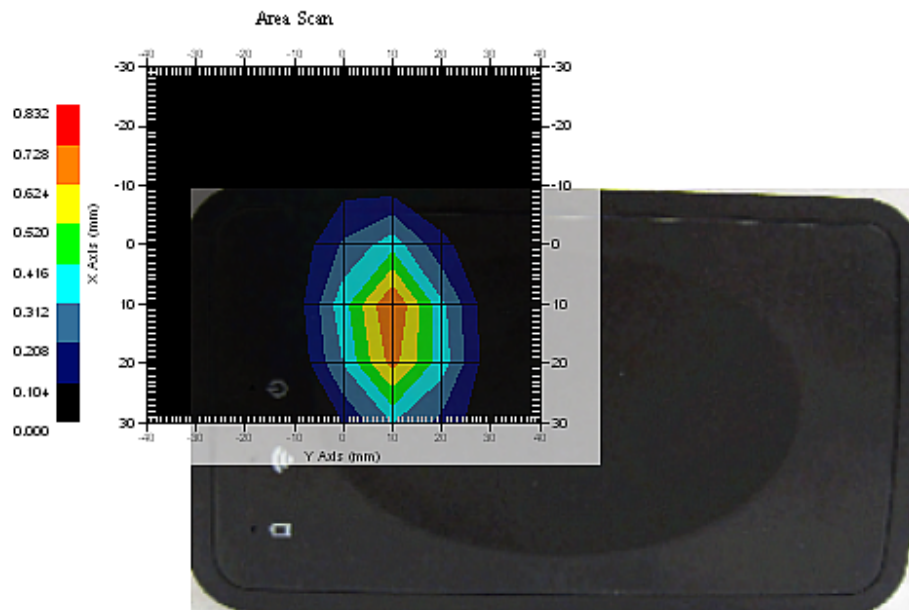
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 08-Aug-2011
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.55
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
Scan Type : Complete
Tissue Temp. : 22.00 °C
Ambient Temp. : 21.70 °C
Set-up Date : 14-May-2012
Set-up Time : 3:29:45 PM
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch
Separation : 5 mm
Channel : Mid



1 gram SAR value : 0.562 W/kg
10 gram SAR value : 0.241 W/kg
Area Scan Peak SAR : 0.730 W/kg
Zoom Scan Peak SAR : 1.110 W/kg

Data No. 6:

Report Date : 11-May-2012
By Operator : Dino
Measurement Date : 11-May-2012
Starting Time : 11-May-2012 04:19:40 PM
End Time : 11-May-2012 04:41:00 PM
Scanning Time : 1280 secs

Product Data

Device Name : ULT-HDD
Serial No. : NA
Type : Other
Model : NA
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.25 W
Drift Time : 0 min(s)
Length : 85 mm
Width : 140 mm
Depth : 23 mm
Antenna Type : Internal
Orientation : Touch
Power Drift-Start : 0.040 W/kg
Power Drift-Finish: 0.035 W/kg
Power Drift (%) : -10.694
Picture : C:\alsas\bitmap\Device-3.bmp

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : User Define
Location : Center
Description : Unit phantom

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 21-Mar-2012
Temperature : 22.00 °C
Ambient Temp. : 21.70 °C
Humidity : 60.00 RH%
Epsilon : 53.83 F/m
Sigma : 2.04 S/m
Density : 1000.00 kg/cu. m

Probe Data

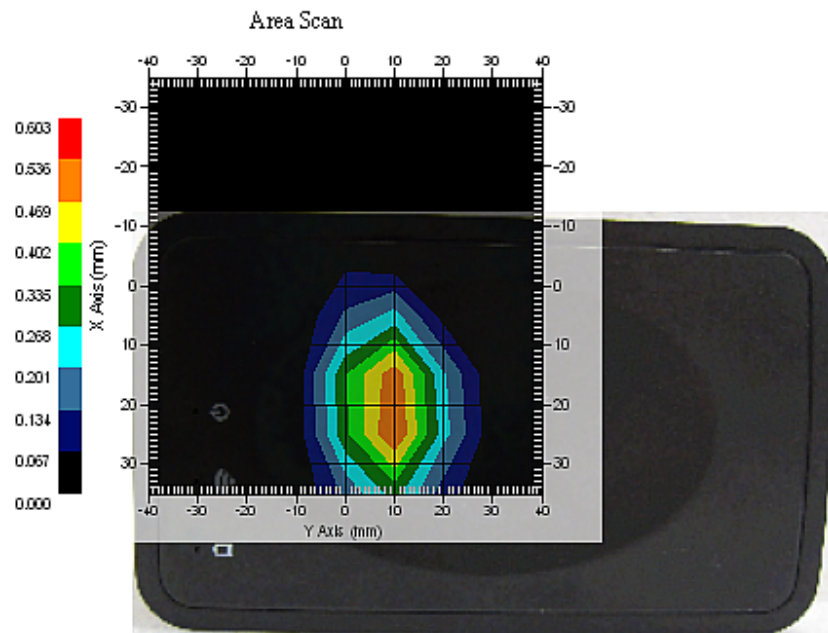
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 08-Aug-2011
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.55
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
Scan Type : Complete
Tissue Temp. : 22.00 °C
Ambient Temp. : 21.70 °C
Set-up Date : 11-May-2012
Set-up Time : 3:29:45 PM
Area Scan : 8x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch
Separation : 5 mm
Channel : High



1 gram SAR value : 0.448 W/kg
10 gram SAR value : 0.187 W/kg
Area Scan Peak SAR : 0.539 W/kg
Zoom Scan Peak SAR : 0.870 W/kg

Data No. 7:

Report Date : 14-May-2012
By Operator : Dino
Measurement Date : 14-May-2012
Starting Time : 14-May-2012 09:47:50 AM
End Time : 14-May-2012 10:07:46 AM
Scanning Time : 1196 secs

Product Data

Device Name : ULT-HDD
Serial No. : NA
Type : Other
Model : NA
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.25 W
Drift Time : 0 min(s)
Length : 85 mm
Width : 145 mm
Depth : 23 mm
Antenna Type : Internal
Orientation : Touch
Power Drift-Start : 0.099 W/kg
Power Drift-Finish: 0.070 W/kg
Power Drift (%) : -29.182
Picture : C:\alsas\bitmap\Device-4.bmp

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : User Define
Location : Center
Description : Unit phantom

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 21-Mar-2012
Temperature : 22.00 °C
Ambient Temp. : 21.70 °C
Humidity : 60.00 RH%
Epsilon : 53.83 F/m
Sigma : 2.04 S/m
Density : 1000.00 kg/cu. m

Probe Data

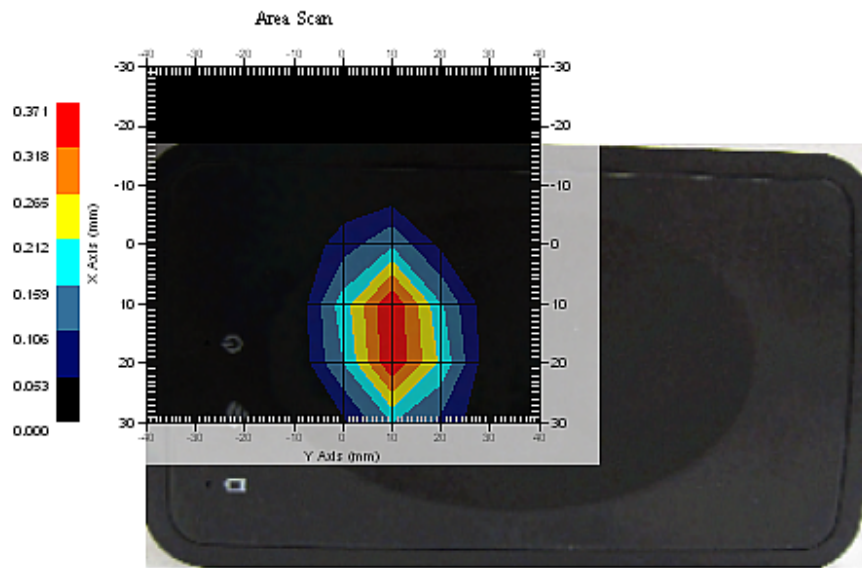
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 08-Aug-2011
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.55
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
Scan Type : Complete
Tissue Temp. : 22.00 °C
Ambient Temp. : 21.70 °C
Set-up Date : 14-May-2012
Set-up Time : 3:29:45 PM
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch
Separation : 5 mm
Channel : Mid



1 gram SAR value : 0.284 W/kg
10 gram SAR value : 0.112 W/kg
Area Scan Peak SAR : 0.368 W/kg
Zoom Scan Peak SAR : 0.580 W/kg

Data No. 8:

Report Date : 14-May-2012
By Operator : Dino
Measurement Date : 14-May-2012
Starting Time : 14-May-2012 10:14:41 AM
End Time : 14-May-2012 10:34:36 AM
Scanning Time : 1195 secs

Product Data

Device Name : ULT-HDD
Serial No. : NA
Type : Other
Model : NA
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.25 W
Drift Time : 0 min(s)
Length : 85 mm
Width : 145 mm
Depth : 23 mm
Antenna Type : Internal
Orientation : Touch
Power Drift-Start : 0.066 W/kg
Power Drift-Finish: 0.042 W/kg
Power Drift (%) : -36.375
Picture : C:\alsas\bitmap\Device-4.bmp

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : User Define
Location : Center
Description : Unit phantom

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 21-Mar-2012
Temperature : 22.00 °C
Ambient Temp. : 21.70 °C
Humidity : 60.00 RH%
Epsilon : 53.83 F/m
Sigma : 2.04 S/m
Density : 1000.00 kg/cu. m

Probe Data

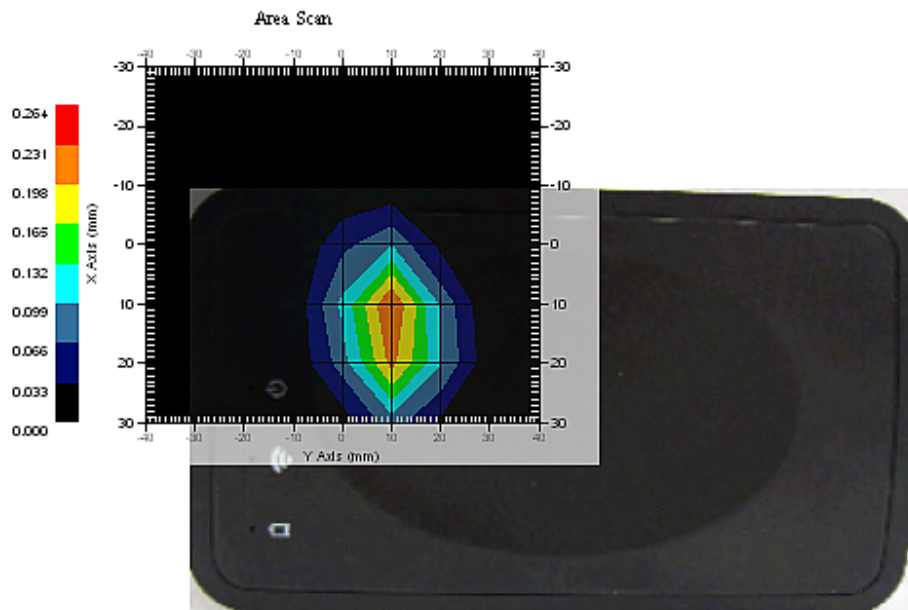
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 08-Aug-2011
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.55
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
Scan Type : Complete
Tissue Temp. : 22.00 °C
Ambient Temp. : 21.70 °C
Set-up Date : 14-May-2012
Set-up Time : 3:29:45 PM
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch
Separation : 5 mm
Channel : Low



1 gram SAR value : 0.181 W/kg
10 gram SAR value : 0.068 W/kg
Area Scan Peak SAR : 0.232 W/kg
Zoom Scan Peak SAR : 0.370 W/kg

Data No. 9:

Report Date : 14-May-2012
By Operator : Dino
Measurement Date : 14-May-2012
Starting Time : 14-May-2012 11:43:12 AM
End Time : 14-May-2012 12:03:06 PM
Scanning Time : 1194 secs

Product Data

Device Name : ULT-HDD
Serial No. : NA
Type : Other
Model : NA
Frequency : 2450.00 MHz
Max. Transmit Pwr : 0.25 W
Drift Time : 0 min(s)
Length : 85 mm
Width : 145 mm
Depth : 23 mm
Antenna Type : Internal
Orientation : Touch
Power Drift-Start : 0.080 W/kg
Power Drift-Finish: 0.068 W/kg
Power Drift (%) : -14.835
Picture : C:\alsas\bitmap\Device-4.bmp

Phantom Data

Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : User Define
Location : Center
Description : Unit phantom

Tissue Data

Type : BODY
Serial No. : 2450_Body
Frequency : 2450.00 MHz
Last Calib. Date : 21-Mar-2012
Temperature : 22.00 °C
Ambient Temp. : 21.70 °C
Humidity : 60.00 RH%
Epsilon : 53.83 F/m
Sigma : 2.04 S/m
Density : 1000.00 kg/cu. m

Probe Data

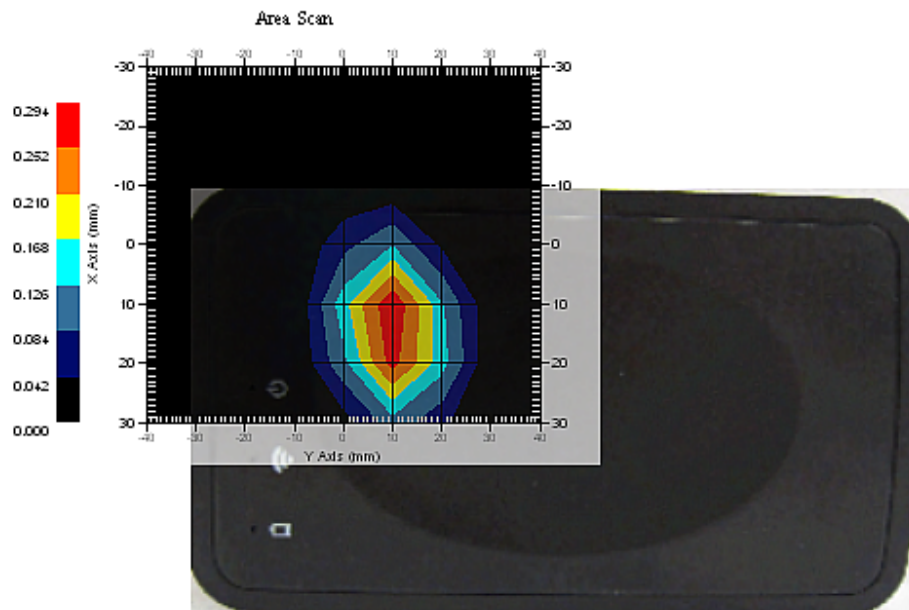
Name : E-field Probe
Model : ALS-E-020
Type : E-Field Triangle
Serial No. : 266
Last Calib. Date : 08-Aug-2011
Frequency : 2450.00 MHz
Duty Cycle Factor: 1
Conversion Factor: 4.55
Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Compression Point: 95.00 mV
Offset : 1.56 mm

Measurement Data

Crest Factor : 1
Scan Type : Complete
Tissue Temp. : 22.00 °C
Ambient Temp. : 21.70 °C
Set-up Date : 14-May-2012
Set-up Time : 3:29:45 PM
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 5x5x8 : Measurement x=8mm, y=8mm, z=4mm

Other Data

DUT Position : Touch
Separation : 5 mm
Channel : Mid



1 gram SAR value : 0.235 W/kg
10 gram SAR value : 0.091 W/kg
Area Scan Peak SAR : 0.293 W/kg
Zoom Scan Peak SAR : 0.480 W/kg

Data no.2 802.11b Worst data

SAR-Z Axis

at Hotspot x:18.12 y:9.90

