

Appendix A SAR Plots

Project number: ITLB-HP-5044
FCC ID: ID: CNTWM3B2915ABG

Page 33 of 97

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SAR Test Report

Operator : Chen
 Validation Date : 01-Sep-2004
 Measurement Date : 01-Sep-2004
 Starting Time : 01-Sep-2004 10:56:28 AM
 End Time : 01-Sep-2004 11:11:05 AM
 Scanning Time : 877 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 2450.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 150
 Width : 220
 Depth : 0
 Power Drift-Start : 0.47
 Power Drift-Finish : 0.48
 Power Drift : 0.01

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
 Description : Uni

Tissue Data
 Type : Body
 Serial No. : 2450
 Frequency : 2450 MHz
 Calibration Date : 01-Sep-2004
 Temperature : 22 °C
 Ambient Temp. : 22 °C
 Humidity : 80 RH%
 Epsilon : 47.9 F/m
 Sigma : 1.9 S/m
 Density : 1000 kg/cu. m

Probe Data
 Name : APREL Probe 212
 Model : E020
 Type : E-Field Triangle
 Serial No. : 212
 Calibration Date : 04-Jun-2004
 Frequency : 2450 MHz
 Duty Cycle Factor : 1
 Conversion Factor : 3.3
 Probe Sensitivity : 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{sq. m})$
 Compression Point : 95
 Offset : 1.56

Measurement Data
 Crest Factor : 1
 Scan Type : Complete
 Set-up Date : 01-Sep-2004
 Set-up Time : 9:49:04 AM

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

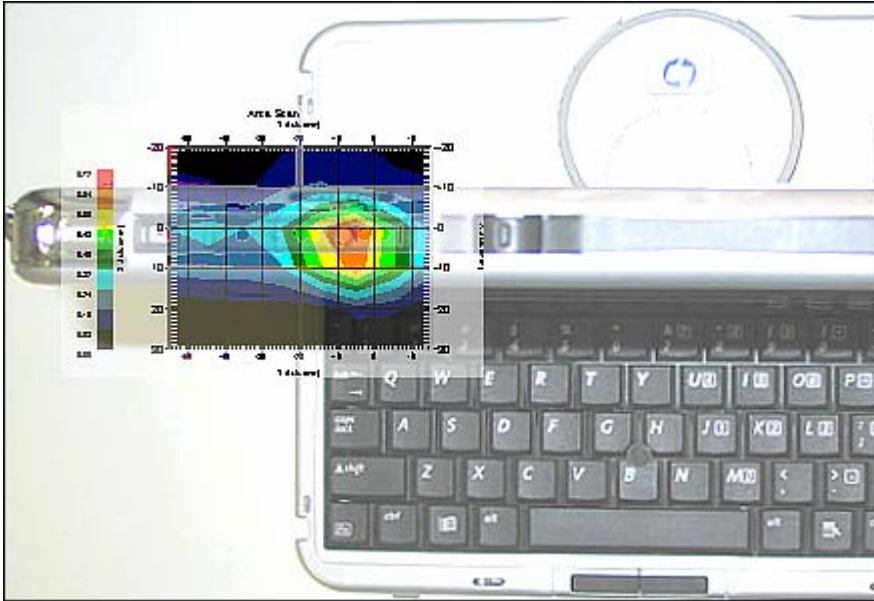
Page 34 of 97

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Other Data
DUT Position : Touch
Separation : 0
Channel : Mid - 2437



1 gram SAR value : 0.62 W/kg
Zoom Scan Peak SAR : 1.59

Project number: ITLB-HP-5044
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Page 35 of 97

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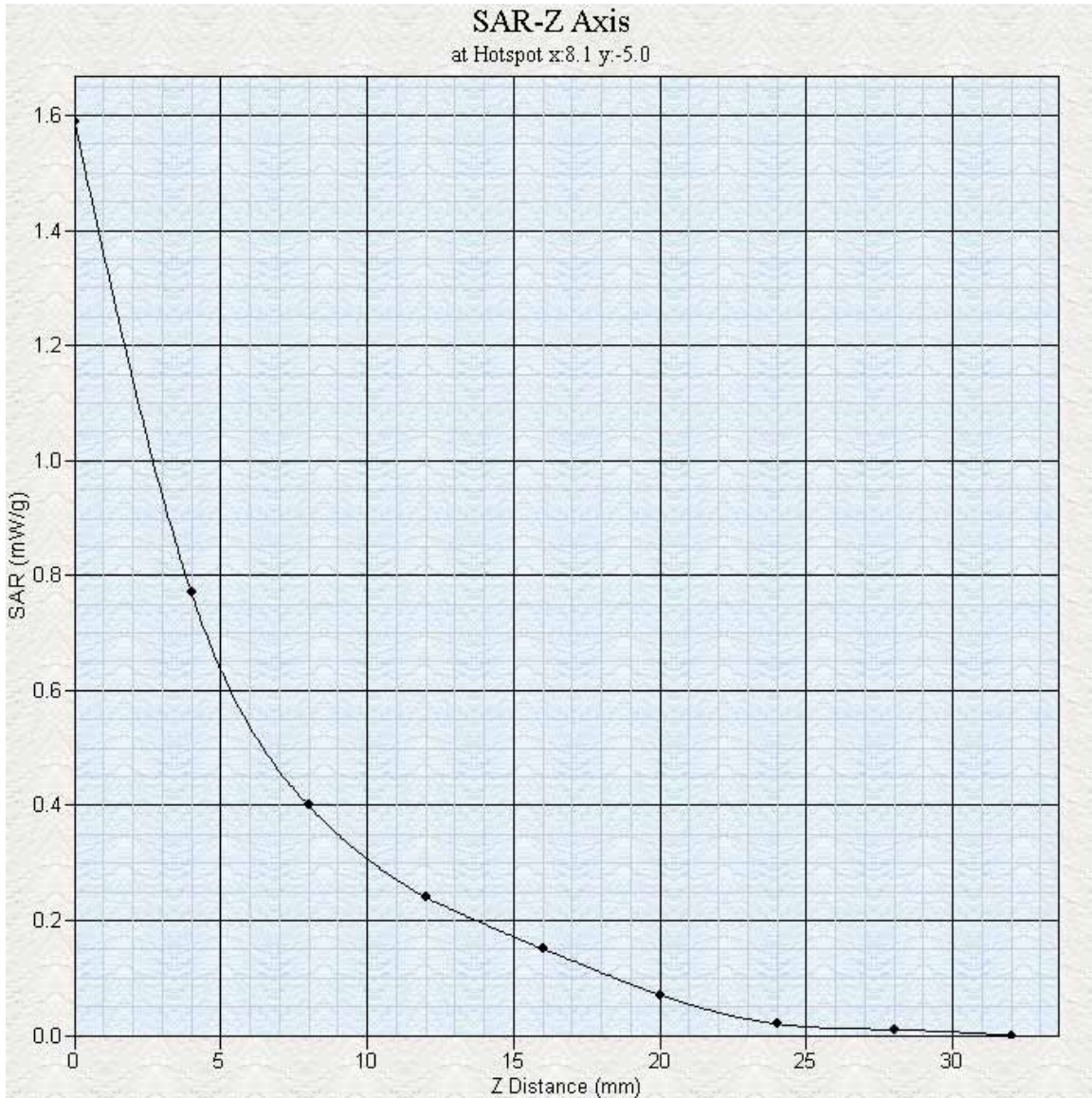
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Exposure Assessment Measurement Uncertainty

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_1^1 (1-g)	c_1^1 (10-g)	Standard Uncertainty (1-g)	Standard Uncertainty (10-g)
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	•3	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	•3	•cp	•cp	4.4	4.4
Boundary Effect	1.0	rectangular	•3	1	1	0.6	0.6
Linearity	4.7	rectangular	•3	1	1	2.7	2.7
Detection Limit	1.0	rectangular	•3	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	•3	1	1	0.5	0.5
Integration Time	1.7	rectangular	•3	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	•3	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	•3	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	•3	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	•3	1	1	2.1	2.1
Test Sample Positioning	4.0	normal	1	1	1	4.0	4.0
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.1	rectangular	•3	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty (shape & thickness tolerance)	3.4	rectangular	•3	1	1	2.0	2.0
Liquid Conductivity (target)	5.0	rectangular	•3	0.7	0.5	2.0	1.4
Liquid Conductivity (meas.)	0.2	rectangular	•3	0.7	0.5	0.1	0.1
Liquid Permittivity (target)	2.0	rectangular	•3	0.6	0.5	0.7	0.6
Liquid Permittivity (meas.)	4.8	rectangular	•3	0.6	0.5	1.7	1.4
Combined Uncertainty		RSS				9.3	9.1
Combined Uncertainty (coverage factor=2)		Normal (k=2)				18.5	18.2



Project number: ITLB-HP-5044
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Page 37 of 97

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SAR Test Report

Operator : Chen
 Validation Date : 01-Sep-2004
 Measurement Date : 01-Sep-2004
 Starting Time : 01-Sep-2004 12:10:25 PM
 End Time : 01-Sep-2004 12:24:53 PM
 Scanning Time : 868 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 2450.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 150
 Width : 220
 Depth : 0
 Power Drift-Start : 0.60
 Power Drift-Finish : 0.60
 Power Drift : 0.00

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
 Description : Uni

Tissue Data
 Type : Body
 Serial No. : 2450
 Frequency : 2450 MHz
 Calibration Date : 01-Sep-2004
 Temperature : 22 °C
 Ambient Temp. : 22 °C
 Humidity : 80 RH%
 Epsilon : 47.9 F/m
 Sigma : 1.9 S/m
 Density : 1000 kg/cu. m

Probe Data
 Name : APREL Probe 212
 Model : E020
 Type : E-Field Triangle
 Serial No. : 212
 Calibration Date : 04-Jun-2004
 Frequency : 2450 MHz
 Duty Cycle Factor: 1
 Conversion Factor: 3.3
 Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{sq. m})$
 Compression Point: 95
 Offset : 1.56

Measurement Data
 Crest Factor : 1
 Scan Type : Complete
 Set-up Date : 01-Sep-2004
 Set-up Time : 9:49:04 AM

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

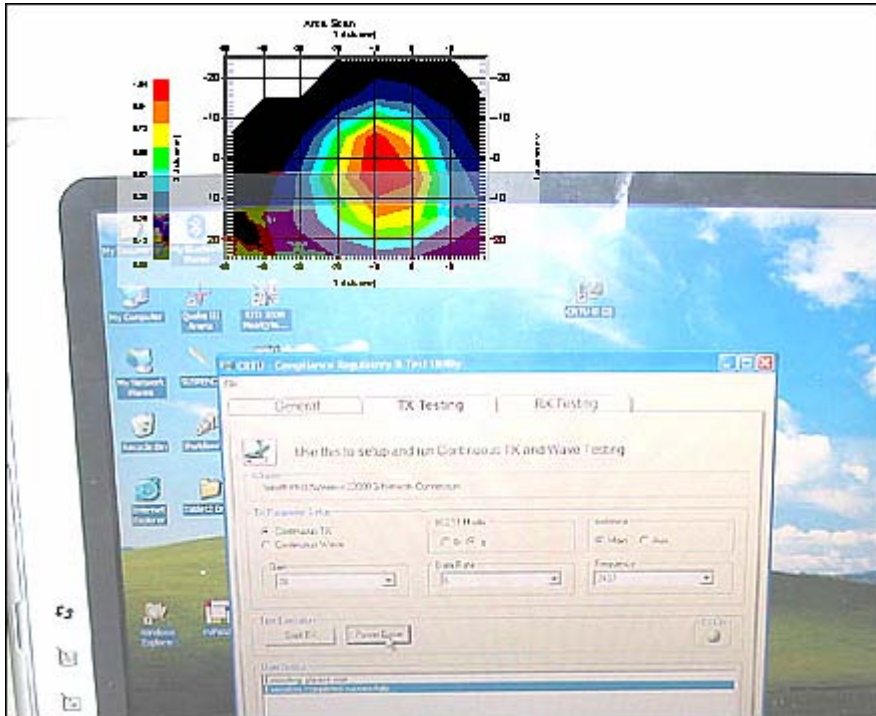
Page 38 of 97

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Other Data
DUT Position : Touch
Separation : 0
Channel : Mid - 2437



1 gram SAR value : 0.91 W/kg
Zoom Scan Peak SAR : 2.22

Project number: ITLB-HP-5044
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Page 39 of 97

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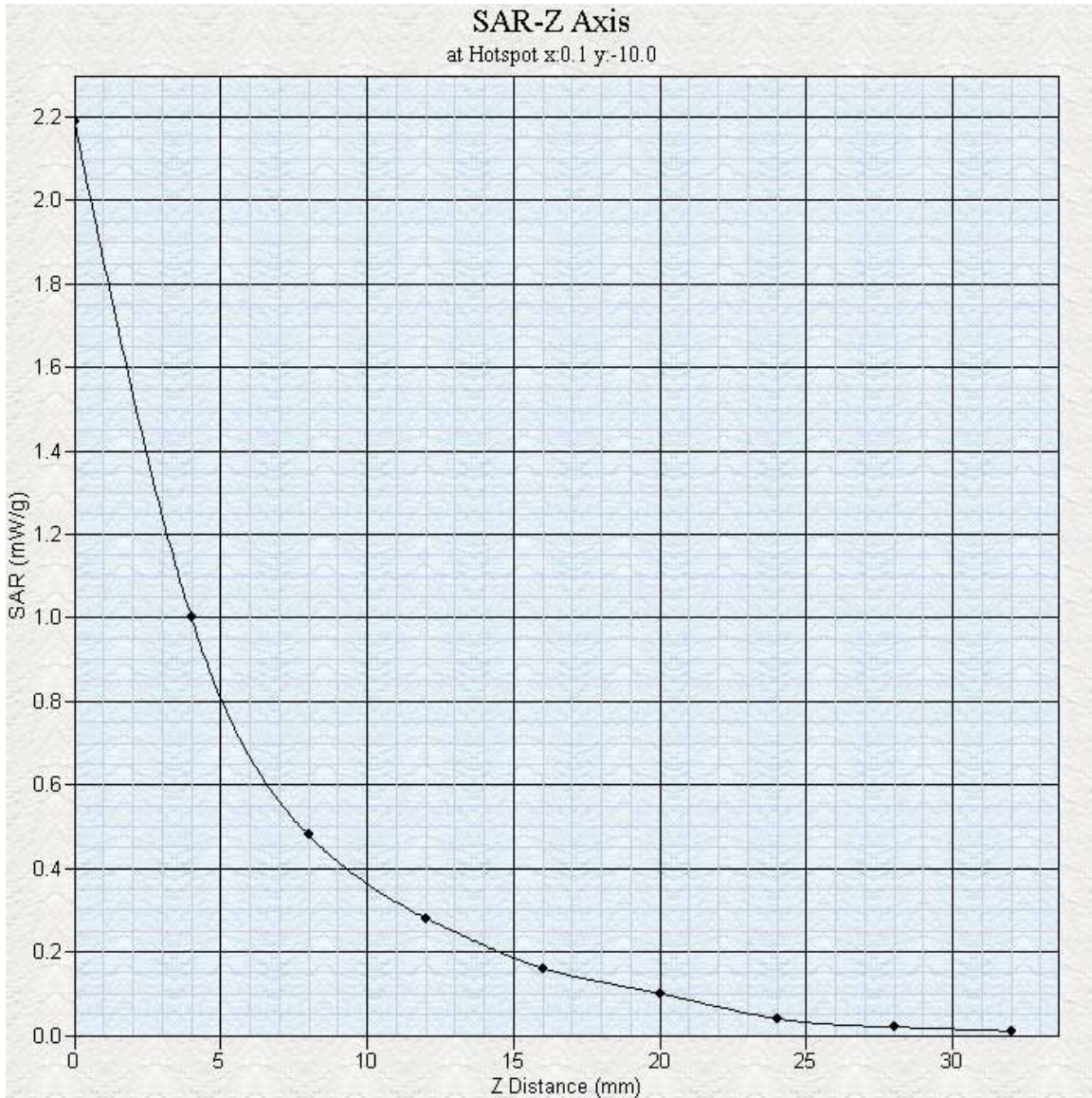


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Exposure Assessment Measurement Uncertainty

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_1^1 (1-g)	c_1^1 (10-g)	Standard Uncertainty (1-g)	Standard Uncertainty (10-g)
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	•3	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	•3	•cp	•cp	4.4	4.4
Boundary Effect	1.0	rectangular	•3	1	1	0.6	0.6
Linearity	4.7	rectangular	•3	1	1	2.7	2.7
Detection Limit	1.0	rectangular	•3	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	•3	1	1	0.5	0.5
Integration Time	1.7	rectangular	•3	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	•3	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	•3	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	•3	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	•3	1	1	2.1	2.1
Test Sample Positioning	4.0	normal	1	1	1	4.0	4.0
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.4	rectangular	•3	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty (shape & thickness tolerance)	3.4	rectangular	•3	1	1	2.0	2.0
Liquid Conductivity (target)	5.0	rectangular	•3	0.7	0.5	2.0	1.4
Liquid Conductivity (meas.)	0.2	rectangular	•3	0.7	0.5	0.1	0.1
Liquid Permittivity (target)	2.0	rectangular	•3	0.6	0.5	0.7	0.6
Liquid Permittivity (meas.)	4.8	rectangular	•3	0.6	0.5	1.7	1.4
Combined Uncertainty		RSS				9.3	9.1
Combined Uncertainty (coverage factor=2)		Normal (k=2)				18.5	18.2





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Page 41 of 97

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SAR Test Report

Operator : Chen
 Validation Date : 01-Sep-2004
 Measurement Date : 01-Sep-2004
 Starting Time : 01-Sep-2004 02:48:36 PM
 End Time : 01-Sep-2004 03:03:14 PM
 Scanning Time : 878 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 2450.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 150
 Width : 220
 Depth : 0
 Power Drift-Start : 0.87
 Power Drift-Finish : 0.86
 Power Drift : 0.01

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
 Description : Uni

Tissue Data
 Type : Body
 Serial No. : 2450
 Frequency : 2450 MHz
 Calibration Date : 01-Sep-2004
 Temperature : 22 °C
 Ambient Temp. : 22 °C
 Humidity : 80 RH%
 Epsilon : 47.9 F/m
 Sigma : 1.9 S/m
 Density : 1000 kg/cu. m

Probe Data
 Name : APREL Probe 212
 Model : E020
 Type : E-Field Triangle
 Serial No. : 212
 Calibration Date : 04-Jun-2004
 Frequency : 2450 MHz
 Duty Cycle Factor : 1
 Conversion Factor : 3.3
 Probe Sensitivity : 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{sq. m})$
 Compression Point : 95
 Offset : 1.56

Measurement Data
 Crest Factor : 1
 Scan Type : Complete
 Set-up Date : 01-Sep-2004
 Set-up Time : 9:49:04 AM

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

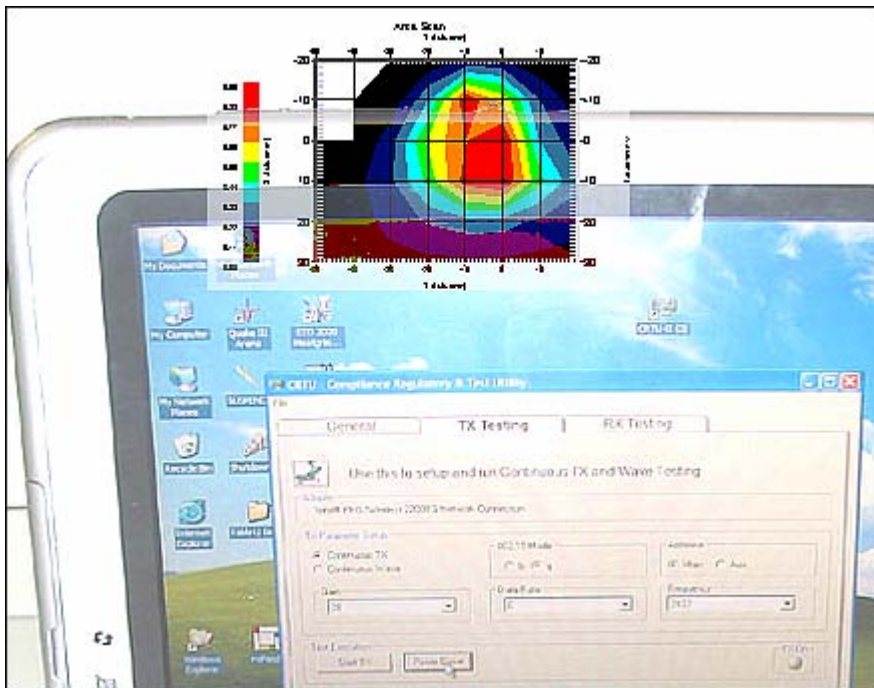
Page 42 of 97

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Other Data
DUT Position : Touch
Separation : 0
Channel : Mid - 2437



1 gram SAR value : 0.95 W/kg
Zoom Scan Peak SAR : 1.97

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Page 43 of 97

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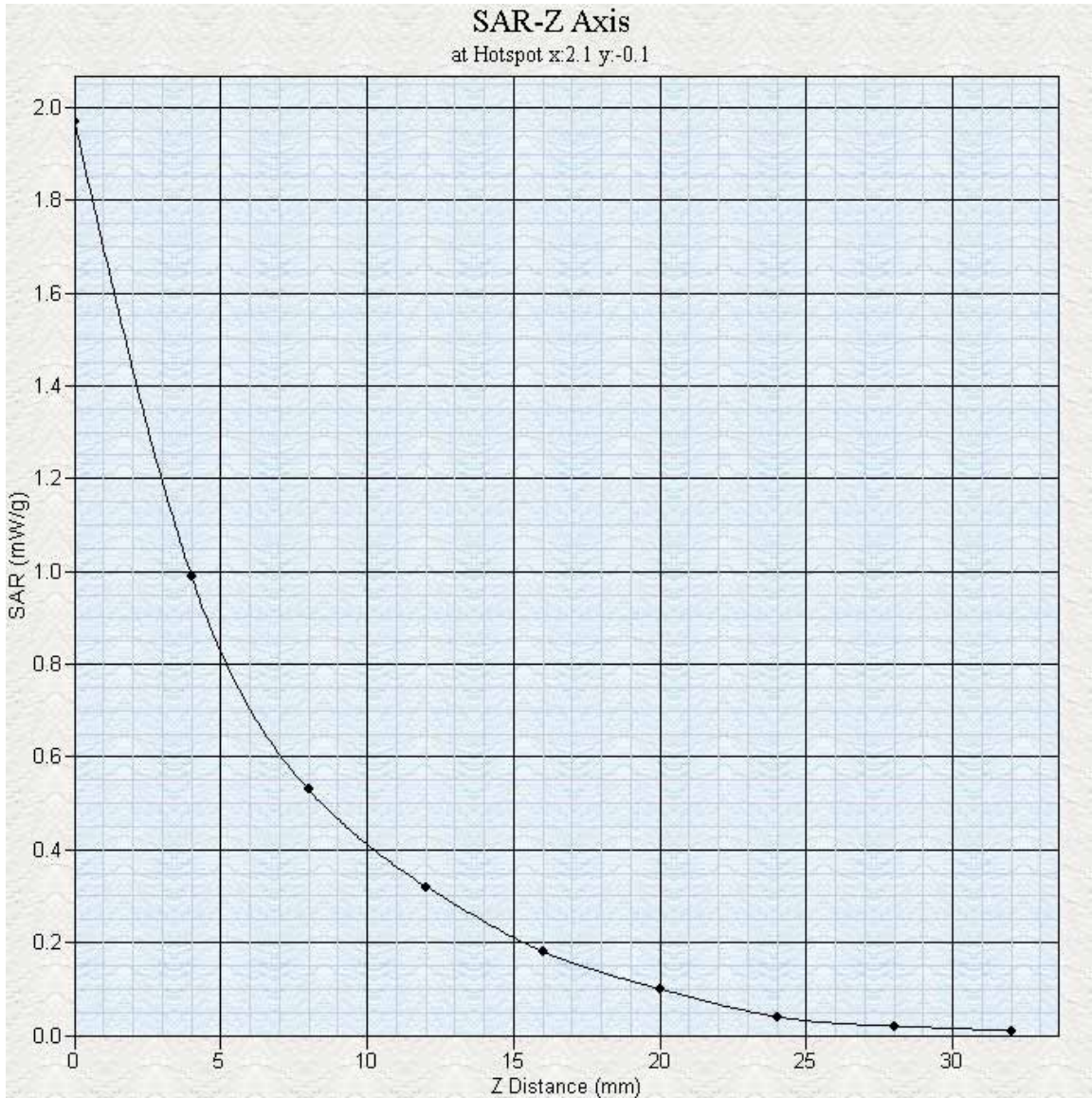


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Exposure Assessment Measurement Uncertainty

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_1^1 (1-g)	c_1^1 (10-g)	Standard Uncertainty (1-g)	Standard Uncertainty (10-g)
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	•3	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	•3	•cp	•cp	4.4	4.4
Boundary Effect	1.0	rectangular	•3	1	1	0.6	0.6
Linearity	4.7	rectangular	•3	1	1	2.7	2.7
Detection Limit	1.0	rectangular	•3	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	•3	1	1	0.5	0.5
Integration Time	1.7	rectangular	•3	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	•3	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	•3	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	•3	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	•3	1	1	2.1	2.1
Test Sample Positioning	4.0	normal	1	1	1	4.0	4.0
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.1	rectangular	•3	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty (shape & thickness tolerance)	3.4	rectangular	•3	1	1	2.0	2.0
Liquid Conductivity (target)	5.0	rectangular	•3	0.7	0.5	2.0	1.4
Liquid Conductivity (meas.)	0.2	rectangular	•3	0.7	0.5	0.1	0.1
Liquid Permittivity (target)	2.0	rectangular	•3	0.6	0.5	0.7	0.6
Liquid Permittivity (meas.)	4.8	rectangular	•3	0.6	0.5	1.7	1.4
Combined Uncertainty		RSS				9.3	9.1
Combined Uncertainty (coverage factor=2)		Normal (k=2)				18.5	18.2





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SAR Test Report

Operator : Chen
 Validation Date : 01-Sep-2004
 Measurement Date : 01-Sep-2004
 Starting Time : 01-Sep-2004 02:30:23 PM
 End Time : 01-Sep-2004 02:44:47 PM
 Scanning Time : 864 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 2450.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 160
 Width : 220
 Depth : 0
 Power Drift-Start : 0.00
 Power Drift-Finish : 0.00
 Power Drift : 0.00

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
 Description : Uni

Tissue Data
 Type : Body
 Serial No. : 2450
 Frequency : 2450 MHz
 Calibration Date : 01-Sep-2004
 Temperature : 22 °C
 Ambient Temp. : 22 °C
 Humidity : 80 RH%
 Epsilon : 47.9 F/m
 Sigma : 1.9 S/m
 Density : 1000 kg/cu. m

Probe Data
 Name : APREL Probe 212
 Model : E020
 Type : E-Field Triangle
 Serial No. : 212
 Calibration Date : 04-Jun-2004
 Frequency : 2450 MHz
 Duty Cycle Factor : 1
 Conversion Factor : 3.3
 Probe Sensitivity : 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{sq. m})$
 Compression Point : 95
 Offset : 1.56

Measurement Data
 Crest Factor : 1
 Scan Type : Complete
 Set-up Date : 01-Sep-2004
 Set-up Time : 9:49:04 AM

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

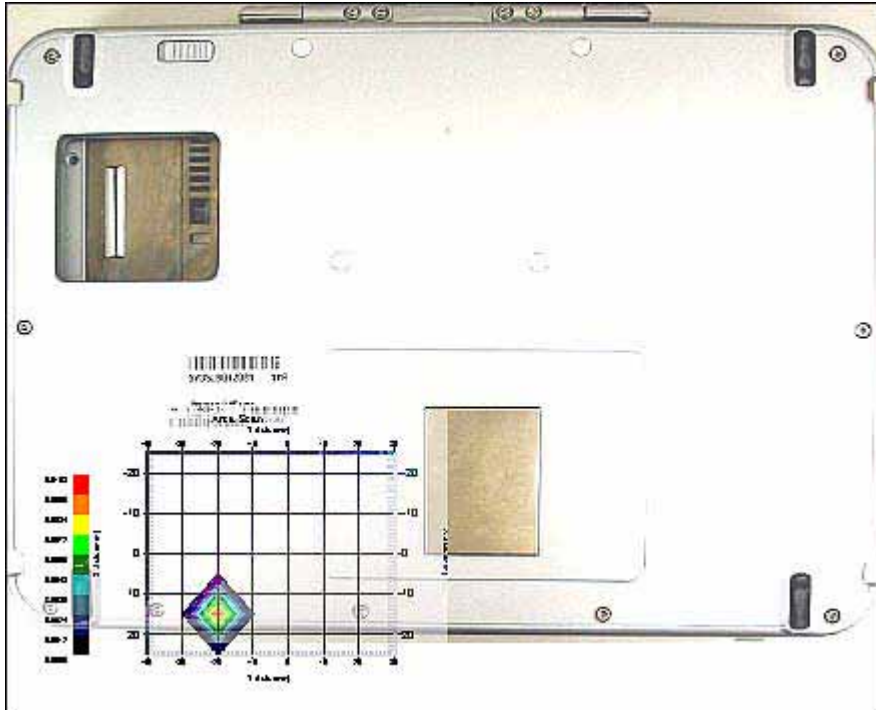
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Other Data
 DUT Position : Touch
 Separation : 0
 Channel : Mid - 2437



1 gram SAR value : 0.00 W/kg
 Zoom Scan Peak SAR : 0.01

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

Page 47 of 97

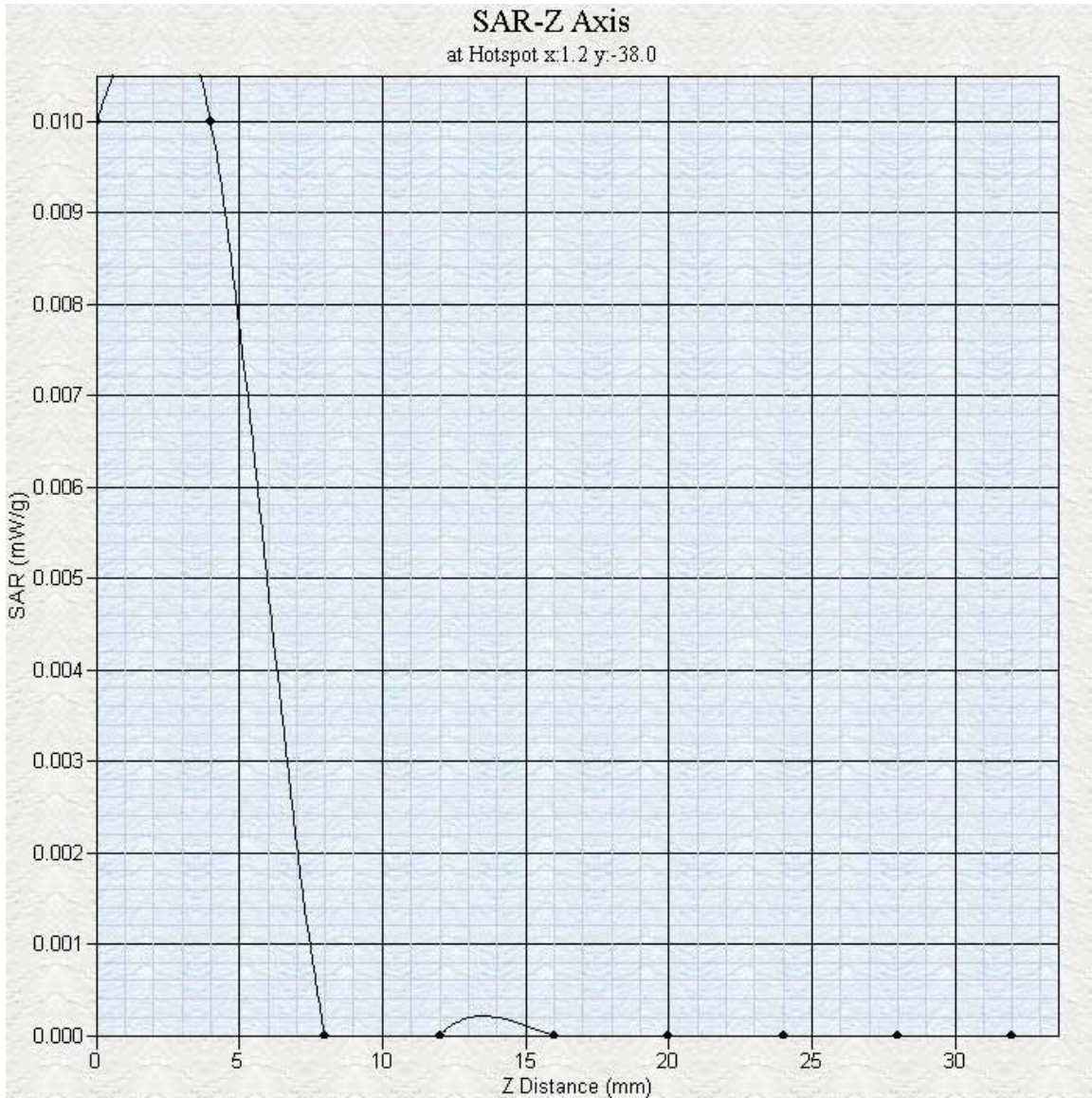
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Exposure Assessment Measurement Uncertainty

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_1^1 (1-g)	c_1^1 (10-g)	Standard Uncertainty (1-g)	Standard Uncertainty (10-g)
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	•3	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	•3	•cp	•cp	4.4	4.4
Boundary Effect	1.0	rectangular	•3	1	1	0.6	0.6
Linearity	4.7	rectangular	•3	1	1	2.7	2.7
Detection Limit	1.0	rectangular	•3	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	•3	1	1	0.5	0.5
Integration Time	1.7	rectangular	•3	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	•3	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	•3	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	•3	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	•3	1	1	2.1	2.1
Test Sample Positioning	4.0	normal	1	1	1	4.0	4.0
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.0	rectangular	•3	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty (shape & thickness tolerance)	3.4	rectangular	•3	1	1	2.0	2.0
Liquid Conductivity (target)	5.0	rectangular	•3	0.7	0.5	2.0	1.4
Liquid Conductivity (meas.)	0.2	rectangular	•3	0.7	0.5	0.1	0.1
Liquid Permittivity (target)	2.0	rectangular	•3	0.6	0.5	0.7	0.6
Liquid Permittivity (meas.)	4.8	rectangular	•3	0.6	0.5	1.7	1.4
Combined Uncertainty		RSS				9.3	9.1
Combined Uncertainty (coverage factor=2)		Normal (k=2)				18.5	18.2



Project number: ITLB-HP-5044
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SAR Test Report

Operator : Chen
 Validation Date : 02-Sep-2004
 Measurement Date : 02-Sep-2004
 Starting Time : 02-Sep-2004 01:10:46 PM
 End Time : 02-Sep-2004 01:25:26 PM
 Scanning Time : 880 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 2450.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 150
 Width : 220
 Depth : 0
 Power Drift-Start : 0.17
 Power Drift-Finish : 0.16
 Power Drift : 0.01

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
 Description : Uni

Tissue Data
 Type : Body
 Serial No. : 2450
 Frequency : 2450 MHz
 Calibration Date : 02-Sep-2004
 Temperature : 22 °C
 Ambient Temp. : 22 °C
 Humidity : 80 RH%
 Epsilon : 47.9 F/m
 Sigma : 1.9 S/m
 Density : 1000 kg/cu. m

Probe Data
 Name : APREL Probe 212
 Model : E020
 Type : E-Field Triangle
 Serial No. : 212
 Calibration Date : 04-Jun-2004
 Frequency : 2450 MHz
 Duty Cycle Factor: 1
 Conversion Factor: 3.3
 Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{sq. m})$
 Compression Point: 95
 Offset : 1.56

Measurement Data
 Crest Factor : 1
 Scan Type : Complete
 Set-up Date : 02-Sep-2004
 Set-up Time : 9:49:04 AM

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

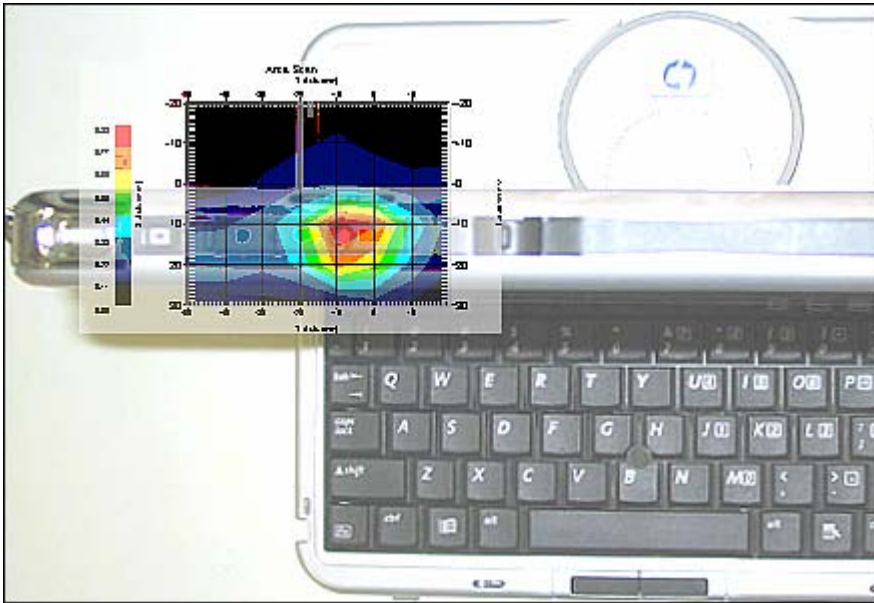
Page 50 of 97

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Other Data
DUT Position : Touch
Separation : 0
Channel : High - 2462



1 gram SAR value : 0.77 W/kg
Zoom Scan Peak SAR : 2.38

Project number: ITLB-HP-5044
FCC ID: ID: CNTWM3B2915ABG

Page 51 of 97

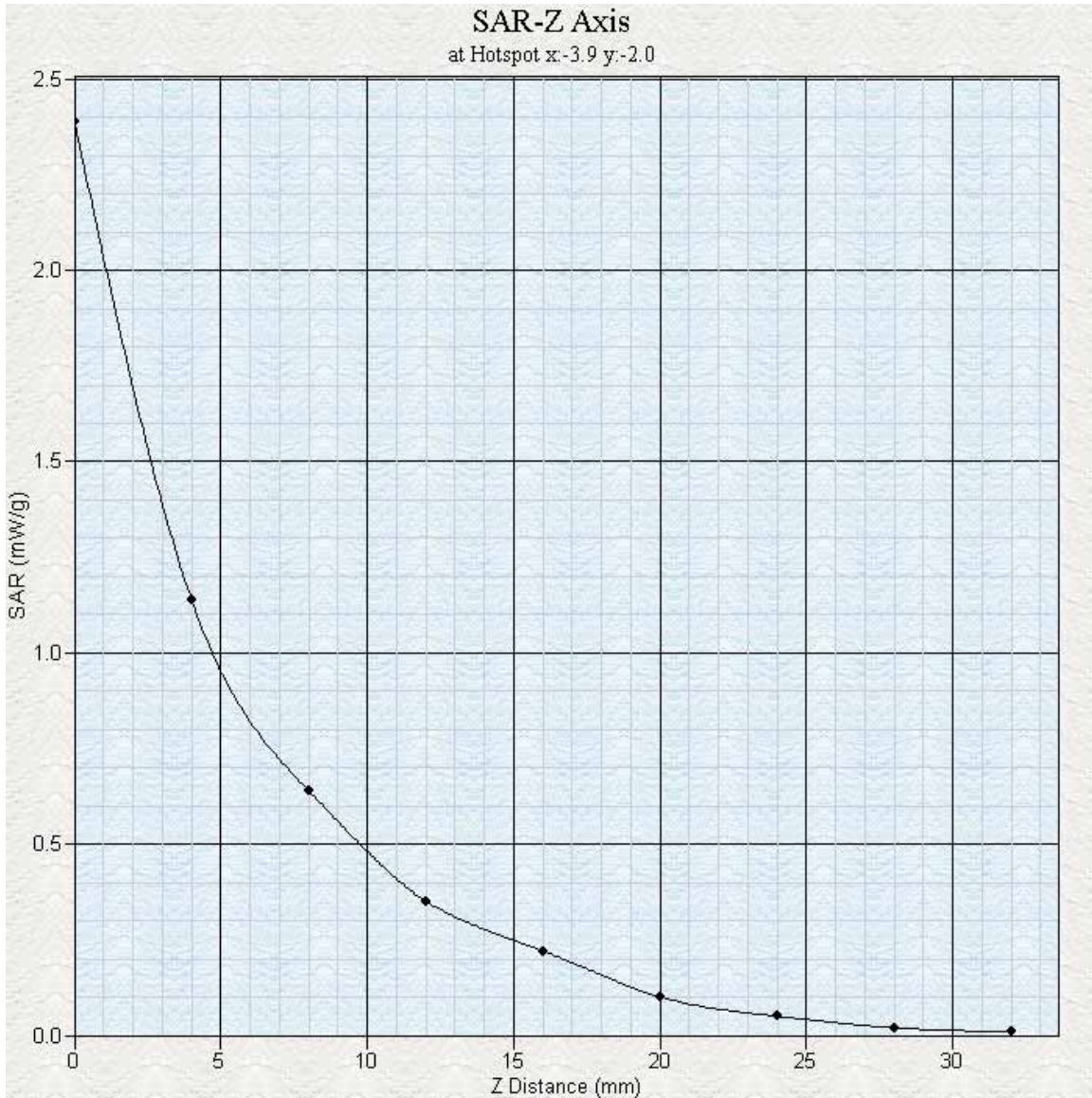
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Exposure Assessment Measurement Uncertainty

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_1^1 (1-g)	c_1^1 (10-g)	Standard Uncertainty (1-g)	Standard Uncertainty (10-g)
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	•3	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	•3	•cp	•cp	4.4	4.4
Boundary Effect	1.0	rectangular	•3	1	1	0.6	0.6
Linearity	4.7	rectangular	•3	1	1	2.7	2.7
Detection Limit	1.0	rectangular	•3	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	•3	1	1	0.5	0.5
Integration Time	1.7	rectangular	•3	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	•3	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	•3	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	•3	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	•3	1	1	2.1	2.1
Test Sample Positioning	4.0	normal	1	1	1	4.0	4.0
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.0	rectangular	•3	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty (shape & thickness tolerance)	3.4	rectangular	•3	1	1	2.0	2.0
Liquid Conductivity (target)	5.0	rectangular	•3	0.7	0.5	2.0	1.4
Liquid Conductivity (meas.)	0.2	rectangular	•3	0.7	0.5	0.1	0.1
Liquid Permittivity (target)	2.0	rectangular	•3	0.6	0.5	0.7	0.6
Liquid Permittivity (meas.)	4.8	rectangular	•3	0.6	0.5	1.7	1.4
Combined Uncertainty		RSS				9.3	9.1
Combined Uncertainty (coverage factor=2)		Normal (k=2)				18.5	18.2



Project number: ITLB-HP-5044
FCC ID: ID: CNTWM3B2915ABG

Page 53 of 97

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AL-065

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SAR Test Report

Operator : Chen
 Validation Date : 02-Sep-2004
 Measurement Date : 02-Sep-2004
 Starting Time : 02-Sep-2004 02:29:29 PM
 End Time : 02-Sep-2004 02:44:01 PM
 Scanning Time : 872 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 2450.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 150
 Width : 220
 Depth : 0
 Power Drift-Start : 1.04
 Power Drift-Finish : 0.50
 Power Drift : 0.54

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
 Description : Uni

Tissue Data
 Type : Body
 Serial No. : 2450
 Frequency : 2450 MHz
 Calibration Date : 02-Sep-2004
 Temperature : 22 °C
 Ambient Temp. : 22 °C
 Humidity : 80 RH%
 Epsilon : 47.9 F/m
 Sigma : 1.9 S/m
 Density : 1000 kg/cu. m

Probe Data
 Name : APREL Probe 212
 Model : E020
 Type : E-Field Triangle
 Serial No. : 212
 Calibration Date : 04-Jun-2004
 Frequency : 2450 MHz
 Duty Cycle Factor: 1
 Conversion Factor: 3.3
 Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{sq. m})$
 Compression Point: 95
 Offset : 1.56

Measurement Data
 Crest Factor : 1
 Scan Type : Complete
 Set-up Date : 02-Sep-2004
 Set-up Time : 9:49:04 AM

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

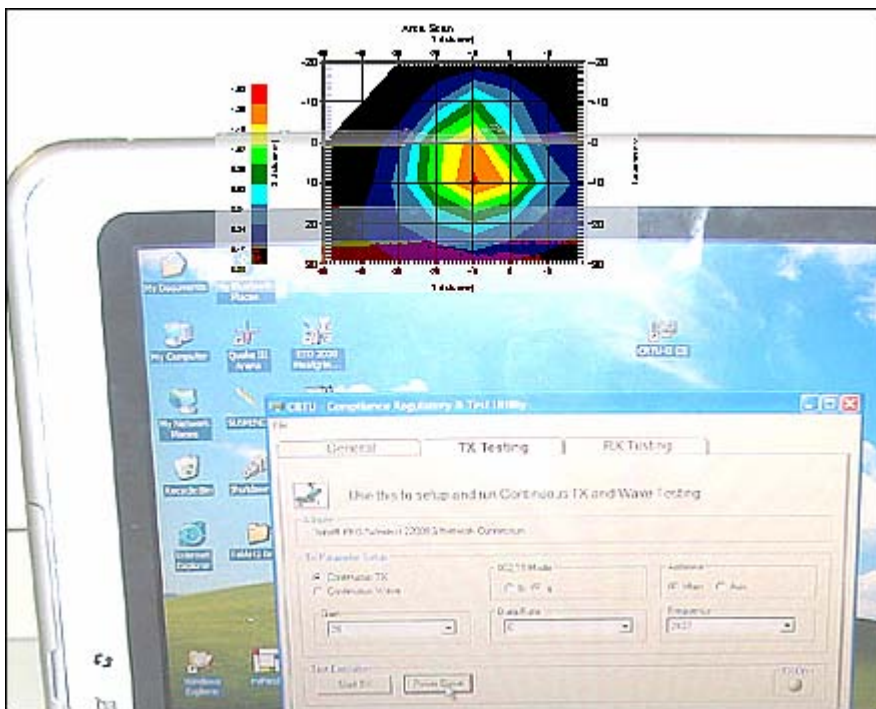
Page 54 of 97

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Other Data
DUT Position : Touch
Separation : 0
Channel : High - 2462

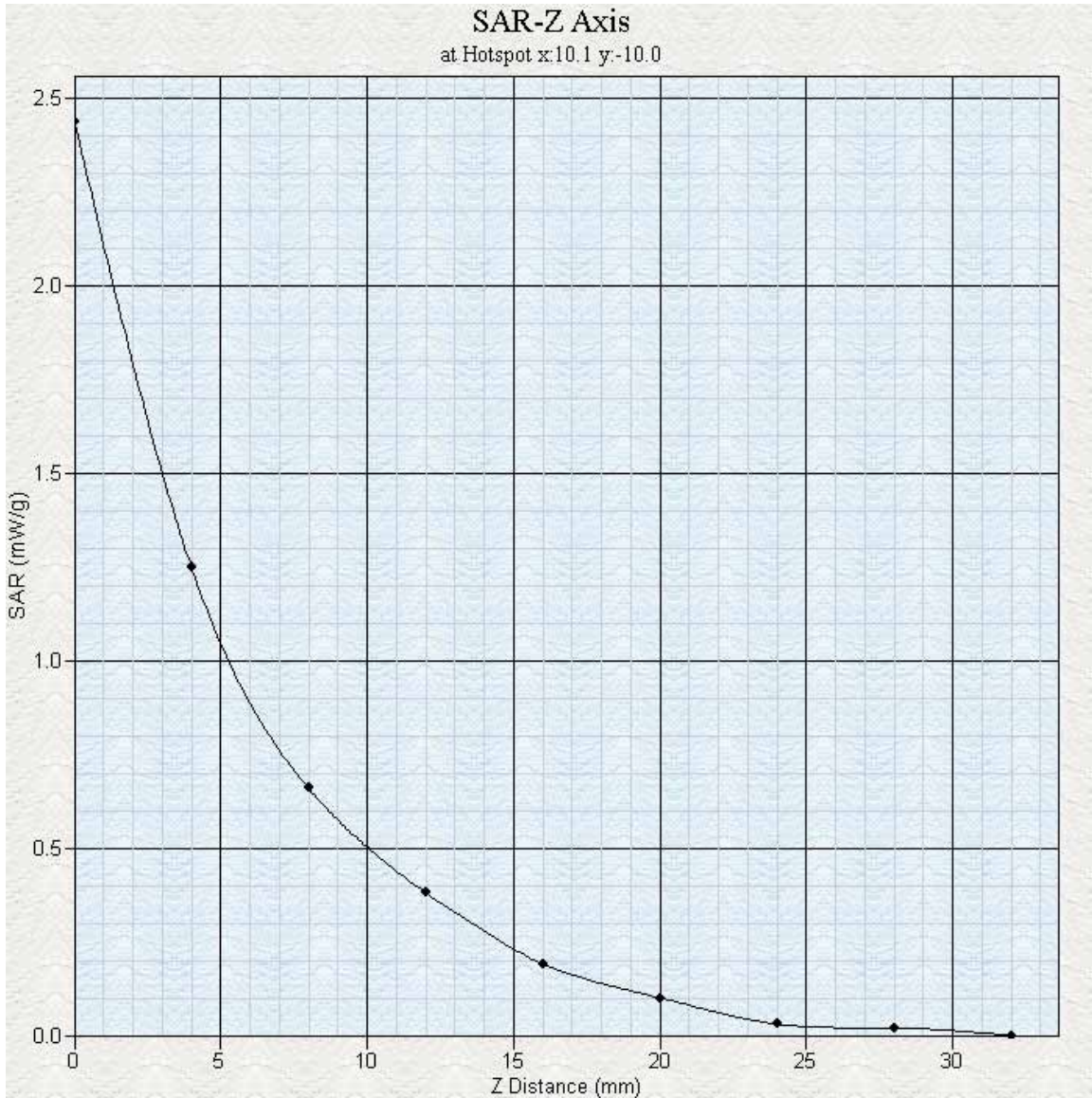


1 gram SAR value : 1.07 W/kg
Zoom Scan Peak SAR : 2.44

Exposure Assessment Measurement Uncertainty

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_1^1 (1-g)	c_1^1 (10-g)	Standard Uncertainty (1-g)	Standard Uncertainty (10-g)
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	•3	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	•3	•cp	•cp	4.4	4.4
Boundary Effect	1.0	rectangular	•3	1	1	0.6	0.6
Linearity	4.7	rectangular	•3	1	1	2.7	2.7
Detection Limit	1.0	rectangular	•3	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	•3	1	1	0.5	0.5
Integration Time	1.7	rectangular	•3	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	•3	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	•3	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	•3	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	•3	1	1	2.1	2.1
Test Sample Positioning	4.0	normal	1	1	1	4.0	4.0
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.5	rectangular	•3	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty (shape & thickness tolerance)	3.4	rectangular	•3	1	1	2.0	2.0
Liquid Conductivity (target)	5.0	rectangular	•3	0.7	0.5	2.0	1.4
Liquid Conductivity (meas.)	0.2	rectangular	•3	0.7	0.5	0.1	0.1
Liquid Permittivity (target)	2.0	rectangular	•3	0.6	0.5	0.7	0.6
Liquid Permittivity (meas.)	4.8	rectangular	•3	0.6	0.5	1.7	1.4
Combined Uncertainty		RSS				9.3	9.1
Combined Uncertainty (coverage factor=2)		Normal (k=2)				18.5	18.2





Project number: ITLB-HP-5044
FCC ID: ID: CNTWM3B2915ABG

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SAR Test Report

Operator : Chen
 Validation Date : 02-Sep-2004
 Measurement Date : 02-Sep-2004
 Starting Time : 02-Sep-2004 12:30:12 PM
 End Time : 02-Sep-2004 12:44:36 PM
 Scanning Time : 864 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 2450.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 150
 Width : 220
 Depth : 0
 Power Drift-Start : 1.20
 Power Drift-Finish : 0.95
 Power Drift : 0.25

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
 Description : Uni

Tissue Data
 Type : Body
 Serial No. : 2450
 Frequency : 2450 MHz
 Calibration Date : 02-Sep-2004
 Temperature : 22 °C
 Ambient Temp. : 22 °C
 Humidity : 80 RH%
 Epsilon : 47.9 F/m
 Sigma : 1.9 S/m
 Density : 1000 kg/cu. m

Probe Data
 Name : APREL Probe 212
 Model : E020
 Type : E-Field Triangle
 Serial No. : 212
 Calibration Date : 04-Jun-2004
 Frequency : 2450 MHz
 Duty Cycle Factor: 1
 Conversion Factor: 3.3
 Probe Sensitivity: 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{sq. m})$
 Compression Point: 95
 Offset : 1.56

Measurement Data
 Crest Factor : 1
 Scan Type : Complete
 Set-up Date : 02-Sep-2004
 Set-up Time : 9:49:04 AM

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

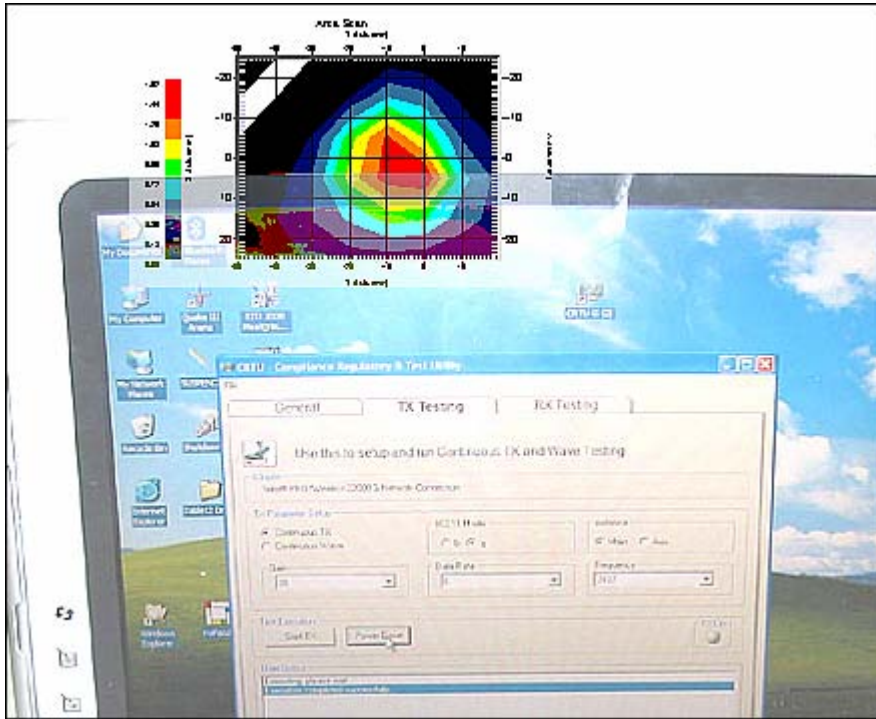
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Other Data
DUT Position : Touch
Separation : 0
Channel : High - 2462



1 gram SAR value : 1.30 W/kg
Zoom Scan Peak SAR : 3.04

Project number: ITLB-HP-5044
FCC ID: ID: CNTWM3B2915ABG

Page 59 of 97

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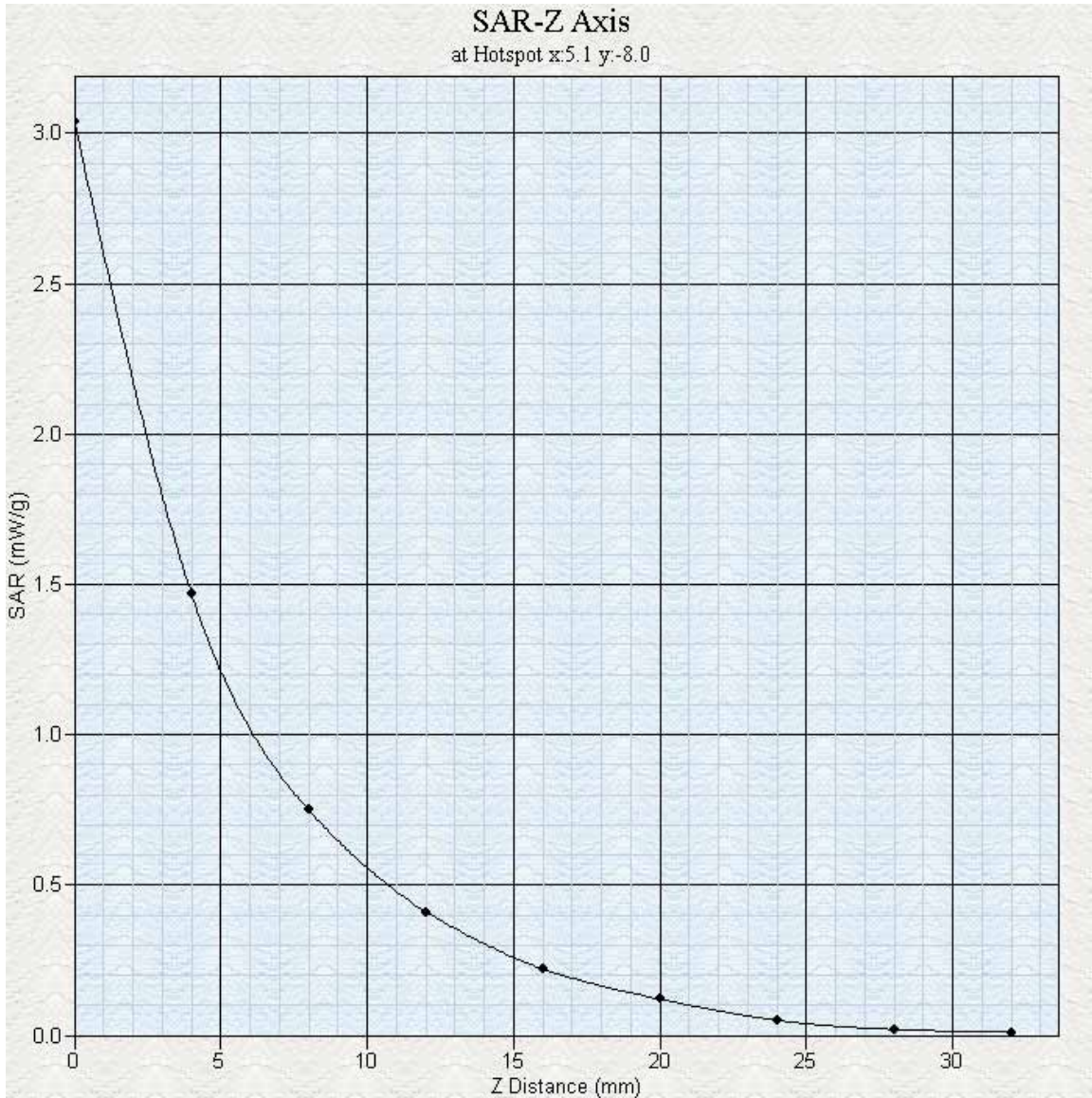


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Exposure Assessment Measurement Uncertainty

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_1^1 (1-g)	c_1^1 (10-g)	Standard Uncertainty (1-g)	Standard Uncertainty (10-g)
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	•3	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	•3	•cp	•cp	4.4	4.4
Boundary Effect	1.0	rectangular	•3	1	1	0.6	0.6
Linearity	4.7	rectangular	•3	1	1	2.7	2.7
Detection Limit	1.0	rectangular	•3	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	•3	1	1	0.5	0.5
Integration Time	1.7	rectangular	•3	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	•3	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	•3	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	•3	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	•3	1	1	2.1	2.1
Test Sample Positioning	4.0	normal	1	1	1	4.0	4.0
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.3	rectangular	•3	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty (shape & thickness tolerance)	3.4	rectangular	•3	1	1	2.0	2.0
Liquid Conductivity (target)	5.0	rectangular	•3	0.7	0.5	2.0	1.4
Liquid Conductivity (meas.)	0.2	rectangular	•3	0.7	0.5	0.1	0.1
Liquid Permittivity (target)	2.0	rectangular	•3	0.6	0.5	0.7	0.6
Liquid Permittivity (meas.)	4.8	rectangular	•3	0.6	0.5	1.7	1.4
Combined Uncertainty		RSS				9.3	9.1
Combined Uncertainty (coverage factor=2)		Normal (k=2)				18.5	18.2





Project number: ITLB-HP-5044
FCC ID: ID: CNTWM3B2915ABG

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SAR Test Report

Operator : Chen
 Validation Date : 02-Sep-2004
 Measurement Date : 02-Sep-2004
 Starting Time : 02-Sep-2004 02:09:52 PM
 End Time : 02-Sep-2004 02:24:38 PM
 Scanning Time : 886 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 2450.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 160
 Width : 220
 Depth : 0
 Power Drift-Start : 0.00
 Power Drift-Finish : 0.00
 Power Drift : 0.00

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
 Description : Uni

Tissue Data
 Type : Body
 Serial No. : 2450
 Frequency : 2450 MHz
 Calibration Date : 02-Sep-2004
 Temperature : 22 °C
 Ambient Temp. : 22 °C
 Humidity : 80 RH%
 Epsilon : 47.9 F/m
 Sigma : 1.9 S/m
 Density : 1000 kg/cu. m

Probe Data
 Name : APREL Probe 212
 Model : E020
 Type : E-Field Triangle
 Serial No. : 212
 Calibration Date : 04-Jun-2004
 Frequency : 2450 MHz
 Duty Cycle Factor : 1
 Conversion Factor : 3.3
 Probe Sensitivity : 1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{sq. m})$
 Compression Point : 95
 Offset : 1.56

Measurement Data
 Crest Factor : 1
 Scan Type : Complete
 Set-up Date : 02-Sep-2004
 Set-up Time : 9:49:04 AM

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

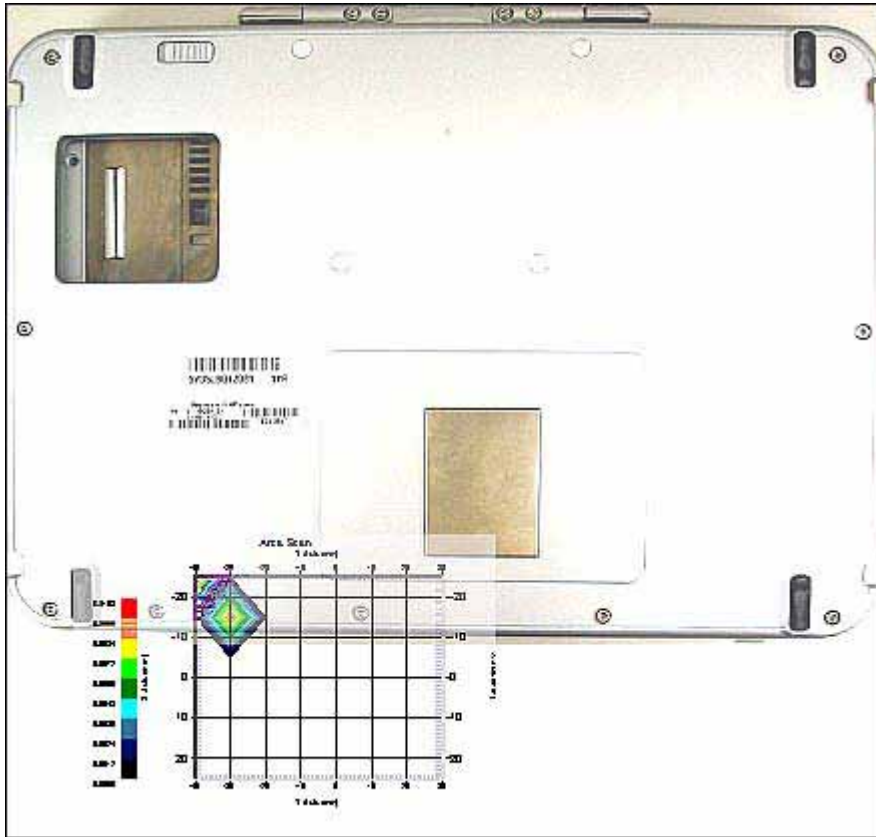
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Other Data
 DUT Position : Touch
 Separation : 0
 Channel : High - 2462



1 gram SAR value : 0.01 W/kg
 Zoom Scan Peak SAR : 0.01

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

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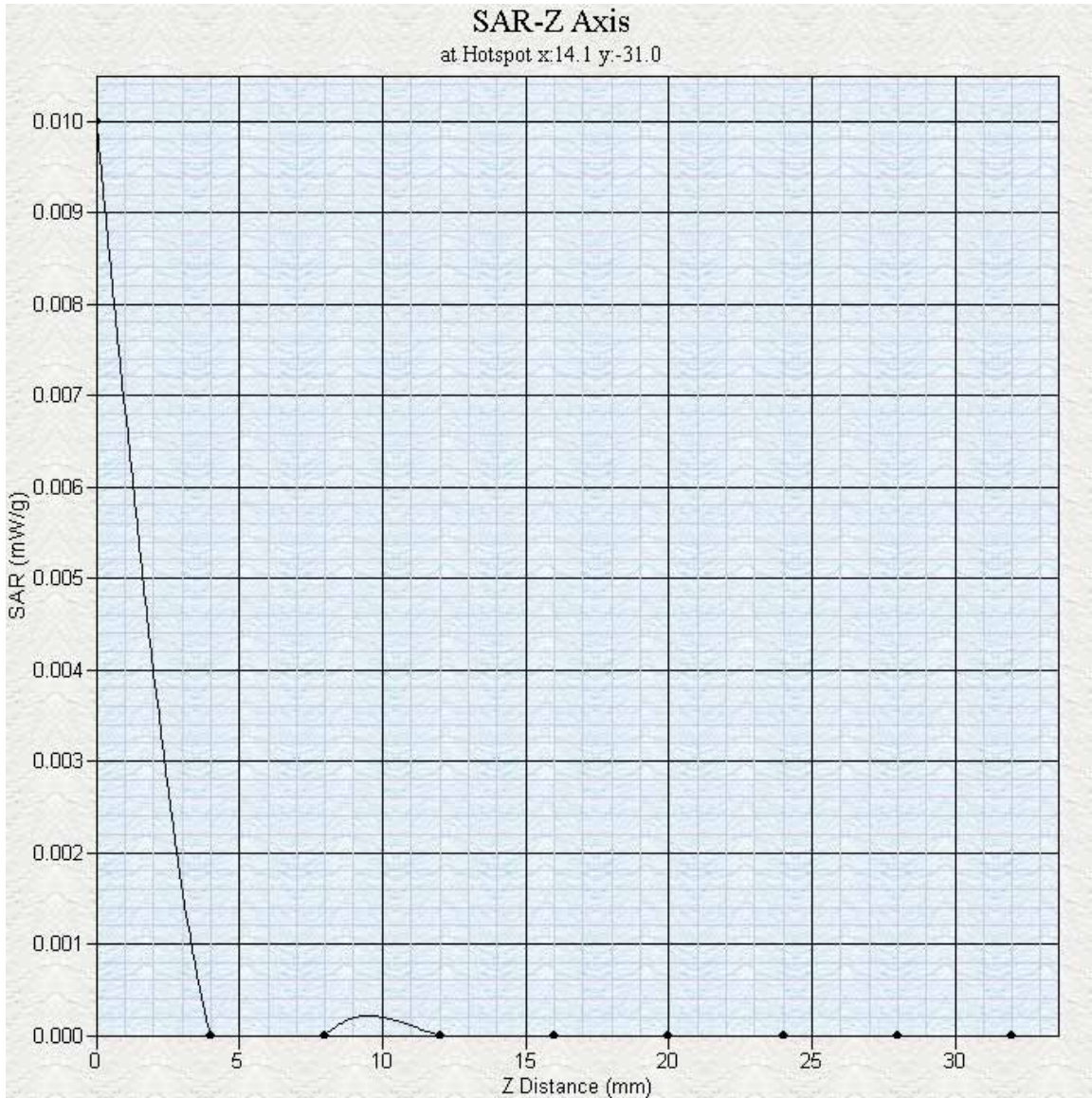
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Exposure Assessment Measurement Uncertainty

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_1^1 (1-g)	c_1^1 (10-g)	Standard Uncertainty (1-g)	Standard Uncertainty (10-g)
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	•3	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	•3	•cp	•cp	4.4	4.4
Boundary Effect	1.0	rectangular	•3	1	1	0.6	0.6
Linearity	4.7	rectangular	•3	1	1	2.7	2.7
Detection Limit	1.0	rectangular	•3	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	•3	1	1	0.5	0.5
Integration Time	1.7	rectangular	•3	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	•3	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	•3	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	•3	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	•3	1	1	2.1	2.1
Test Sample Positioning	4.0	normal	1	1	1	4.0	4.0
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.0	rectangular	•3	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty (shape & thickness tolerance)	3.4	rectangular	•3	1	1	2.0	2.0
Liquid Conductivity (target)	5.0	rectangular	•3	0.7	0.5	2.0	1.4
Liquid Conductivity (meas.)	0.2	rectangular	•3	0.7	0.5	0.1	0.1
Liquid Permittivity (target)	2.0	rectangular	•3	0.6	0.5	0.7	0.6
Liquid Permittivity (meas.)	4.8	rectangular	•3	0.6	0.5	1.7	1.4
Combined Uncertainty		RSS				9.3	9.1
Combined Uncertainty (coverage factor=2)		Normal (k=2)				18.5	18.2





SAR Test Report

Operator : Chen
 Validation Date : 26-Aug-2004
 Measurement Date : 26-Aug-2004
 Starting Time : 26-Aug-2004 03:06:14 PM
 End Time : 26-Aug-2004 03:20:38 PM
 Scanning Time : 864 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 5200.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 120
 Width : 200
 Depth : 0
 Power Drift-Start : 0.26
 Power Drift-Finish : 0.19
 Power Drift : 0.07

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
 Description : Uni

Tissue Data
 Type : Body
 Serial No. : 5245
 Frequency : 5245 MHz
 Calibration Date : 26-Aug-2004
 Temperature : 23 °C
 Ambient Temp. : 23 °C
 Humidity : 50 RH%
 Epsilon : 35.9 F/m
 Sigma : 5.4 S/m
 Density : 1000 kg/cu. m

Probe Data
 Name : APREL Probe 212
 Model : E020
 Type : E-Field Triangle
 Serial No. : 212
 Calibration Date : 04-Jun-2004
 Frequency : 5245 MHz
 Duty Cycle Factor : 1
 Conversion Factor : 7.8
 Probe Sensitivity : 0.61 0.61 0.61 $\mu\text{V}/(\text{V}/\text{sq. m})$
 Compression Point : 95
 Offset : 1.56

Measurement Data
 Crest Factor : 1
 Scan Type : Complete
 Set-up Date : 26-Aug-2004
 Set-up Time : 2:33:15 PM

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

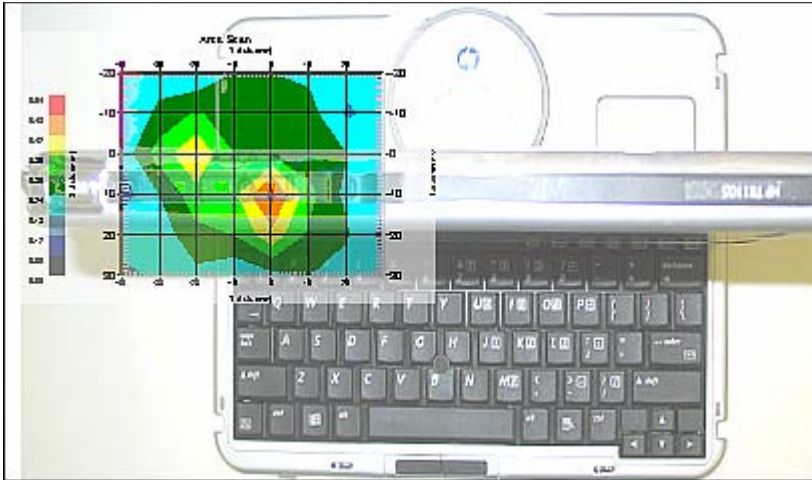
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Other Data
DUT Position : Touch
Separation : 0
Channel : Low - 5180



1 gram SAR value : 0.50 W/kg
Zoom Scan Peak SAR : 1.40

Project number: ITLB-HP-5044
FCC ID: ID: CNTWM3B2915ABG

Page 67 of 97

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Exposure Assessment Measurement Uncertainty

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_1^1 (1-g)	c_1^1 (10-g)	Standard Uncertainty (1-g)	Standard Uncertainty (10-g)
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	•3	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	•3	•cp	•cp	4.4	4.4
Boundary Effect	1.0	rectangular	•3	1	1	0.6	0.6
Linearity	4.7	rectangular	•3	1	1	2.7	2.7
Detection Limit	1.0	rectangular	•3	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	•3	1	1	0.5	0.5
Integration Time	1.7	rectangular	•3	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	•3	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	•3	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	•3	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	•3	1	1	2.1	2.1
Test Sample Positioning	4.0	normal	1	1	1	4.0	4.0
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.1	rectangular	•3	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty (shape & thickness tolerance)	3.4	rectangular	•3	1	1	2.0	2.0
Liquid Conductivity (target)	5.0	rectangular	•3	0.7	0.5	2.0	1.4
Liquid Conductivity (meas.)	0.5	rectangular	•3	0.7	0.5	0.2	0.2
Liquid Permittivity (target)	2.0	rectangular	•3	0.6	0.5	0.7	0.6
Liquid Permittivity (meas.)	2.7	rectangular	•3	0.6	0.5	0.9	0.8
Combined Uncertainty		RSS				9.1	9.0
Combined Uncertainty (coverage factor=2)		Normal (k=2)				18.3	18.0

SAR Test Report

Operator : Chen
 Validation Date : 26-Aug-2004
 Measurement Date : 26-Aug-2004
 Starting Time : 26-Aug-2004 11:47:08 AM
 End Time : 26-Aug-2004 12:01:36 PM
 Scanning Time : 868 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 5200.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 120
 Width : 200
 Depth : 0
 Power Drift-Start : 1.12
 Power Drift-Finish : 1.12
 Power Drift : 0.00

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
 Description : Uni

Tissue Data
 Type : Body
 Serial No. : 5245
 Frequency : 5245 MHz
 Calibration Date : 26-Aug-2004
 Temperature : 23 °C
 Ambient Temp. : 23 °C
 Humidity : 50 RH%
 Epsilon : 35.9 F/m
 Sigma : 5.4 S/m
 Density : 1000 kg/cu. m

Probe Data
 Name : APREL Probe 212
 Model : E020
 Type : E-Field Triangle
 Serial No. : 212
 Calibration Date : 04-Jun-2004
 Frequency : 5245 MHz
 Duty Cycle Factor : 1
 Conversion Factor : 7.8
 Probe Sensitivity : 0.61 0.61 0.61 $\mu\text{V}/(\text{V}/\text{sq. m})$
 Compression Point : 95
 Offset : 1.56

Measurement Data
 Crest Factor : 1
 Scan Type : Complete
 Set-up Date : 26-Aug-2004
 Set-up Time : 2:33:15 PM

Project number: ITLB-HP-5044
 FCC ID: ID: CNTWM3B2915ABG

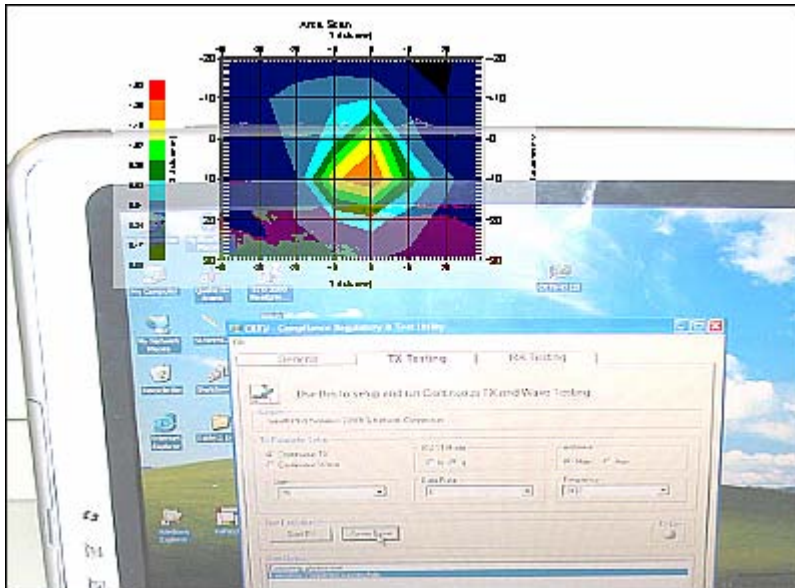
Page 69 of 97

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 Canada K2R 1E6
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 www.aprel.com

Other Data
DUT Position : Touch
Separation : 0
Channel : Mid - 5260



1 gram SAR value : 1.29 W/kg
Zoom Scan Peak SAR : 3.99

Project number: ITLB-HP-5044
FCC ID: ID: CNTWM3B2915ABG

Page 70 of 97

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Exposure Assessment Measurement Uncertainty

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_1^1 (1-g)	c_1^1 (10-g)	Standard Uncertainty (1-g)	Standard Uncertainty (10-g)
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	•3	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	•3	•cp	•cp	4.4	4.4
Boundary Effect	1.0	rectangular	•3	1	1	0.6	0.6
Linearity	4.7	rectangular	•3	1	1	2.7	2.7
Detection Limit	1.0	rectangular	•3	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	•3	1	1	0.5	0.5
Integration Time	1.7	rectangular	•3	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	•3	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	•3	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	•3	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	•3	1	1	2.1	2.1
Test Sample Positioning	4.0	normal	1	1	1	4.0	4.0
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.3	rectangular	•3	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty (shape & thickness tolerance)	3.4	rectangular	•3	1	1	2.0	2.0
Liquid Conductivity (target)	5.0	rectangular	•3	0.7	0.5	2.0	1.4
Liquid Conductivity (meas.)	0.5	rectangular	•3	0.7	0.5	0.2	0.2
Liquid Permittivity (target)	2.0	rectangular	•3	0.6	0.5	0.7	0.6
Liquid Permittivity (meas.)	2.7	rectangular	•3	0.6	0.5	0.9	0.8
Combined Uncertainty		RSS				9.1	9.0
Combined Uncertainty (coverage factor=2)		Normal (k=2)				18.3	18.0



SAR Test Report

Operator : Chen
 Validation Date : 26-Aug-2004
 Measurement Date : 26-Aug-2004
 Starting Time : 26-Aug-2004 01:17:17 PM
 End Time : 26-Aug-2004 01:31:55 PM
 Scanning Time : 878 secs

Product Data
 Device Name : HP-Raptor
 Serial No. : Raptor
 Type : Other
 Model : Raptor
 Frequency : 5200.00 MHz
 Max. Transmit Pwr : 0.1 W
 Drift Time : 0 min(s)
 Length : 140
 Width : 200
 Depth : 0
 Power Drift-Start : 1.34
 Power Drift-Finish : 1.33
 Power Drift : 0.01

Phantom Data
 Name : APREL-Uni
 Type : Uni-Phantom
 Size : 280 x 280 x 200
 Serial No. : User Define
 Location : Center
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Page 72 of 97

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