

APPENDIX B

PLOTS OF THE SAR MEASUREMENTS

Plots of the measured SAR distributions inside the phantom are given in this Appendix for only the “Lap Arm Held” and “Back of lid” tested configurations only. The spatial peak SAR values were assessed with the procedure described in this report.

NOTE on SAR Plots: The measured SAR levels in the Tablet and Laptop positions were $< 0.01\text{mW/g}$ (less than the required ambient noise level, per p1528-2003) and consequently the hotspot was not always clearly defined. The plots and graphs for these positions are not included because the measurement results are within the noise floor and the measurement sensitivity of the SAR system and do not have any significance for compliance purposes.

NOTE on SAR Graphs: The Z-axis scans listed in this appendix do not always show a consistent decay over distance. It is our opinion that the effects are not due to an incorrect liquid level but caused by a much lower than average SAR level, a metallic laptop case and fields that have very steep gradients. The steep gradients occur because a small high frequency source is placed very close to the tissue. It is also suspected that the metallic case of the laptop causes reflections and inconsistencies close to the phantom surface.

For reference the Validation Z-axis scans show the expected field decay over distance.

Table 16: 2450 MHz DSSS Band SAR Measurement Plot Numbers

Plot 1	Lap Arm Held Position – CH#01	Page 26
Plot 2	Lap Arm Held Position – CH#06	Page 27
Plot 3	Lap Arm Held Position – CH#11	Page 28
Plot 4	Back of Lid Position – CH#01	Page 29
Plot 5	Back of Lid Position – CH#06	Page 30
Plot 6	Back of Lid Position – CH#11	Page 31
Z-Axis Graphs	Z-Axis graphs for Plots 1 to 6	Pages 32-34

Table 17: 2450 MHz OFDM Band SAR Measurement Plot Numbers

Plot 7	Lap Arm Held Position – CH#06	Page 35
Plot 8	Back of Lid Position – CH#06	Page 36
Z-Axis Graphs	Z-Axis graphs for Plots 7 and 8	Page 37

Table 18: 2450MHz Validation Plot

Plot 9	Validation 2450MHz 1 st August 2003	Page 38
Plot 10	Validation 2450MHz 4 th August 2003	Page 39
Page 11	Validation 2450MHz 5 th August 2003	Page 40
Z-Axis Graphs	Z-Axis graphs for Plots 9 to 11	Pages 41-42

Test Date: 05 August 2003

File Name: [Arm Held DSSS Tablet 05-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.61

* Communication System: DSSS 2450 MHz; Frequency: 2412 MHz; Duty Cycle: 1:1

* Medium: Body 2450 MHz; ($\sigma = 1.94733$ mho/m, $\epsilon_r = 53.2763$, $\rho = 1000$ kg/m³)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.5, 4.5, 4.5)

- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 01 Test 3/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 6.5 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.0991 mW/g

Channel 01 Test 3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

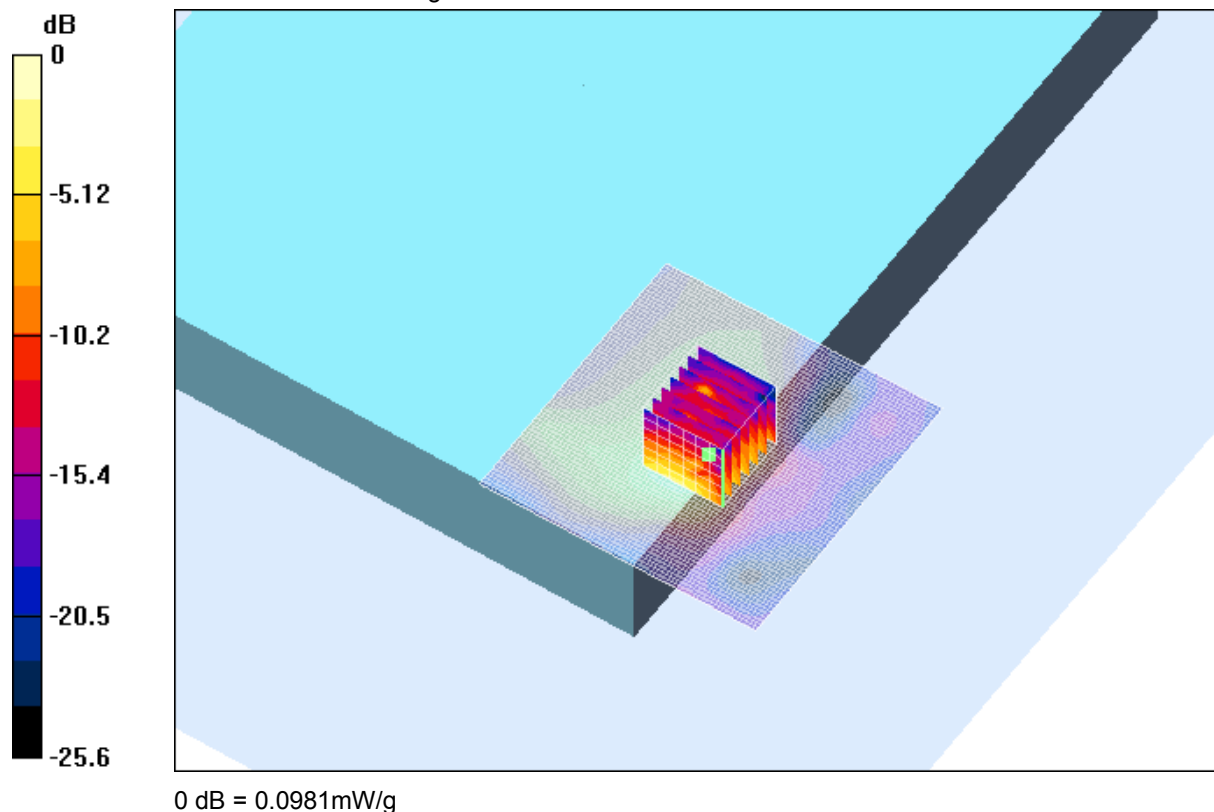
Peak SAR (extrapolated) = 0.412 W/kg

SAR(1 g) = 0.182 mW/g; SAR(10 g) = 0.0784 mW/g

Reference Value = 6.5 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.0981 mW/g



SAR MEASUREMENT PLOT 1

Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.5 Degrees Celsius
32 %

Test Date: 04 August 2003

File Name: [Arm Held DSSS Tablet 04-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.61

* Communication System: DSSS 2450 MHz; Frequency: 2437 MHz; Duty Cycle: 1:1

* Medium: Body 2450 MHz; ($\sigma = 1.98058$ mho/m, $\epsilon_r = 52.7273$, $\rho = 1000$ kg/m³)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.5, 4.5, 4.5)

- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 06 Test/Area Scan (151x181x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 5.88 V/m

Power Drift = 0.05 dB

Maximum value of SAR = 0.0697 mW/g

Channel 06 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

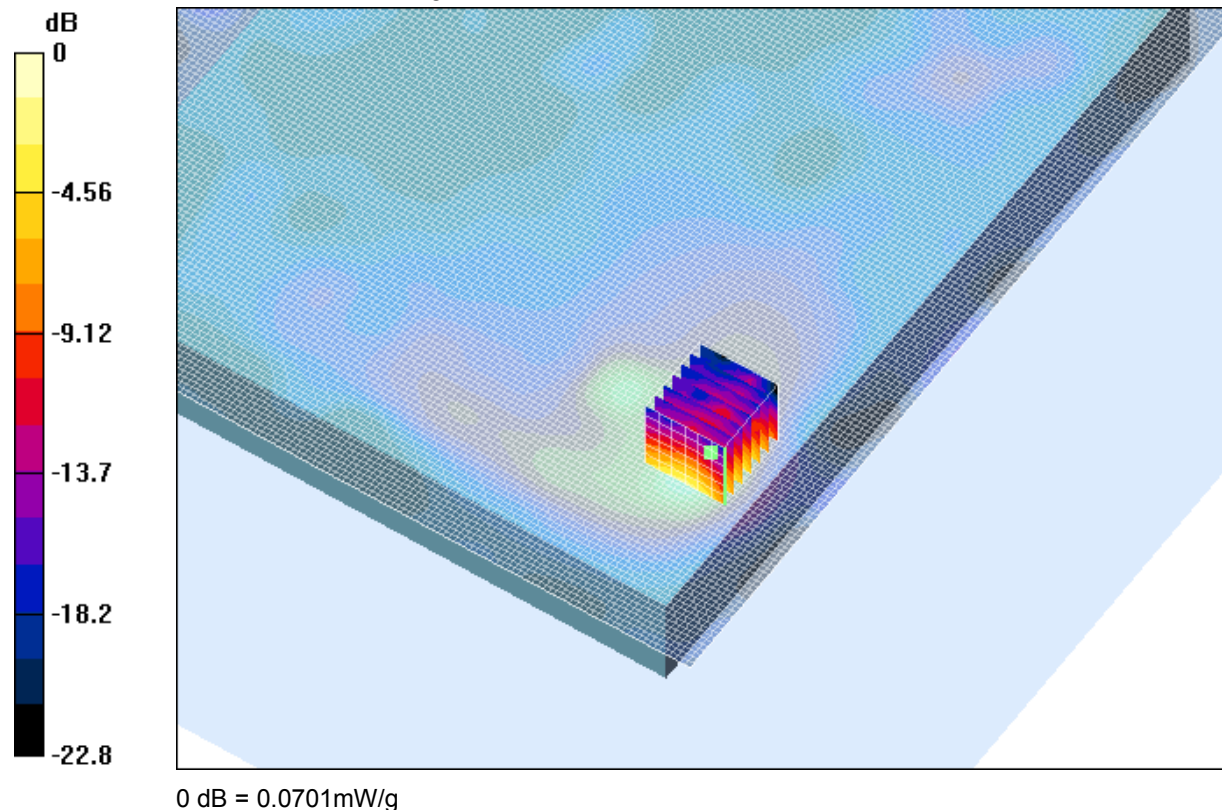
Peak SAR (extrapolated) = 0.274 W/kg

SAR(1 g) = 0.131 mW/g; SAR(10 g) = 0.0566 mW/g

Reference Value = 5.88 V/m

Power Drift = 0.05 dB

Maximum value of SAR = 0.0701 mW/g



SAR MEASUREMENT PLOT 2

Ambient Temperature
Liquid Temperature
Humidity

20.0 Degrees Celsius
19.4 Degrees Celsius
37 %

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Test Date: 05 August 2003

File Name: [Arm Held DSSS Tablet 05-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.61

* Communication System: DSSS 2450 MHz; Frequency: 2462 MHz; Duty Cycle: 1:1

* Medium: Body 2450 MHz; ($\sigma = 2.019$ mho/m, $\epsilon_r = 53.078$, $\rho = 1000$ kg/m³)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.5, 4.5, 4.5)

- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 11 Test/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 7.05 V/m

Power Drift = -0.5 dB

Maximum value of SAR = 0.105 mW/g

Channel 11 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

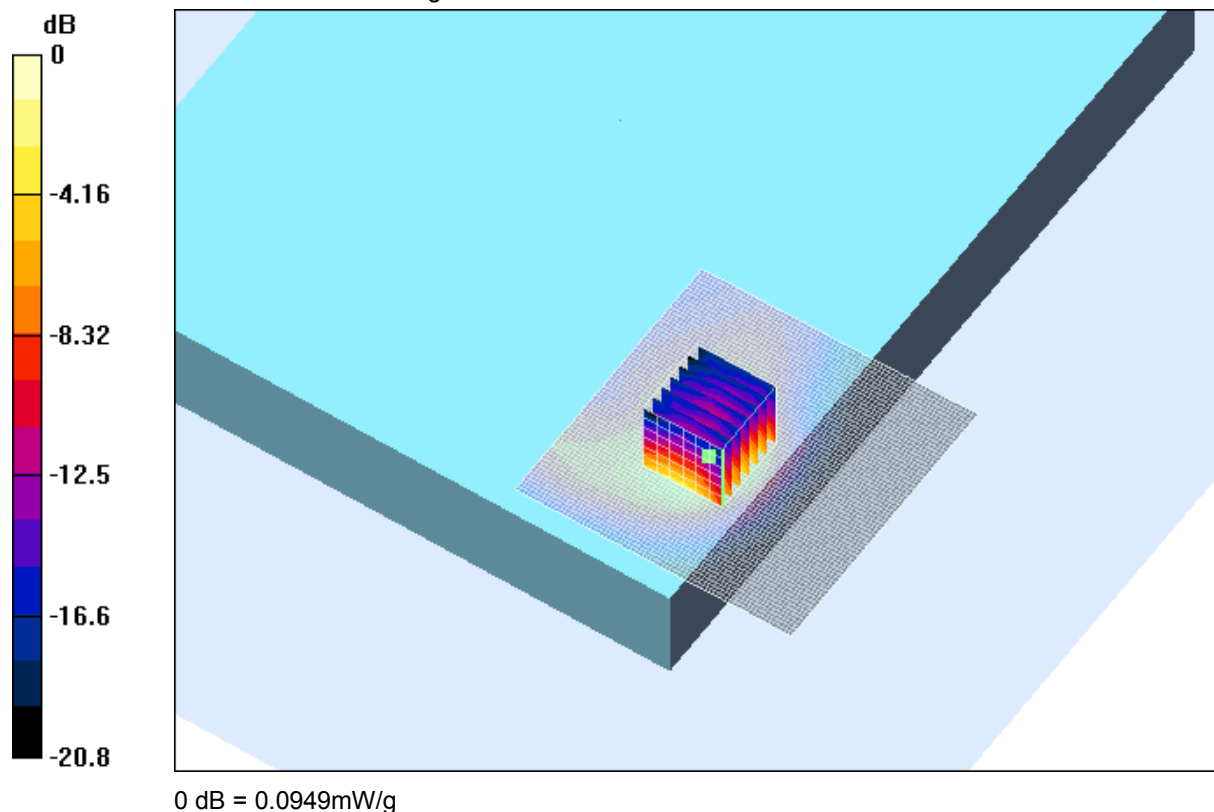
Peak SAR (extrapolated) = 0.362 W/kg

SAR(1 g) = 0.18 mW/g; SAR(10 g) = 0.0767 mW/g

Reference Value = 7.05 V/m

Power Drift = -0.5 dB

Maximum value of SAR = 0.0949 mW/g



SAR MEASUREMENT PLOT 3

Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.5 Degrees Celsius
32 %

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Test Date: 05 August 2003

File Name: [Back of Lid DSSS Notebook 05-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.61

* Communication System: DSSS 2450 MHz; Frequency: 2412 MHz; Duty Cycle: 1:1

* Medium: Body 2450 MHz; ($\sigma = 1.94733$ mho/m, $\epsilon_r = 53.2763$, $\rho = 1000$ kg/m³)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.5, 4.5, 4.5)

- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 01 Test/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 0.603 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.152 mW/g

Channel 01 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

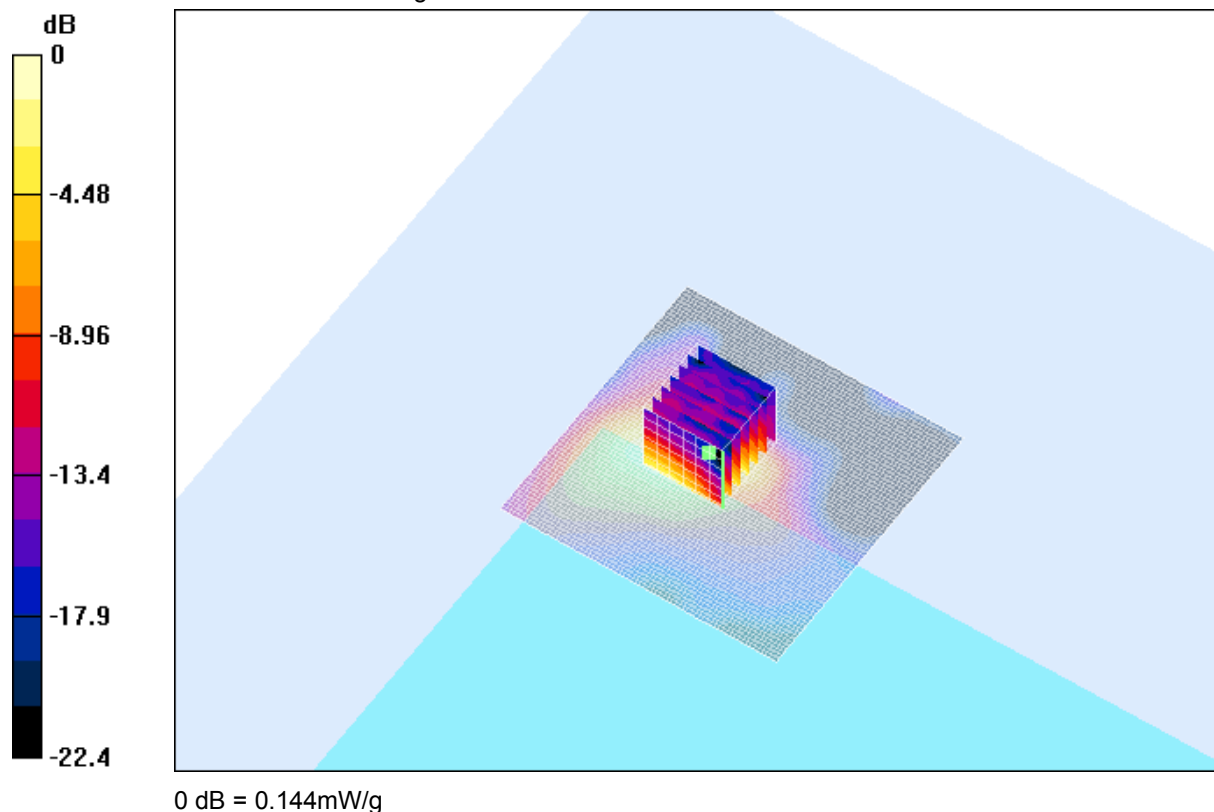
Peak SAR (extrapolated) = 6.78 W/kg

SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.149 mW/g

Reference Value = 0.603 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.144 mW/g



SAR MEASUREMENT PLOT 4

Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.5 Degrees Celsius
32 %

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Test Date: 05 August 2003

File Name: [Back of Lid DSSS Notebook 05-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.61

* Communication System: DSSS 2450 MHz; Frequency: 2437 MHz; Duty Cycle: 1:1

* Medium: Body 2450 MHz; ($\sigma = 1.98215 \text{ mho/m}$, $\epsilon_r = 53.1831$, $\rho = 1000 \text{ kg/m}^3$)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.5, 4.5, 4.5)

- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 06 Test/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 6.17 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.133 mW/g

Channel 06 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

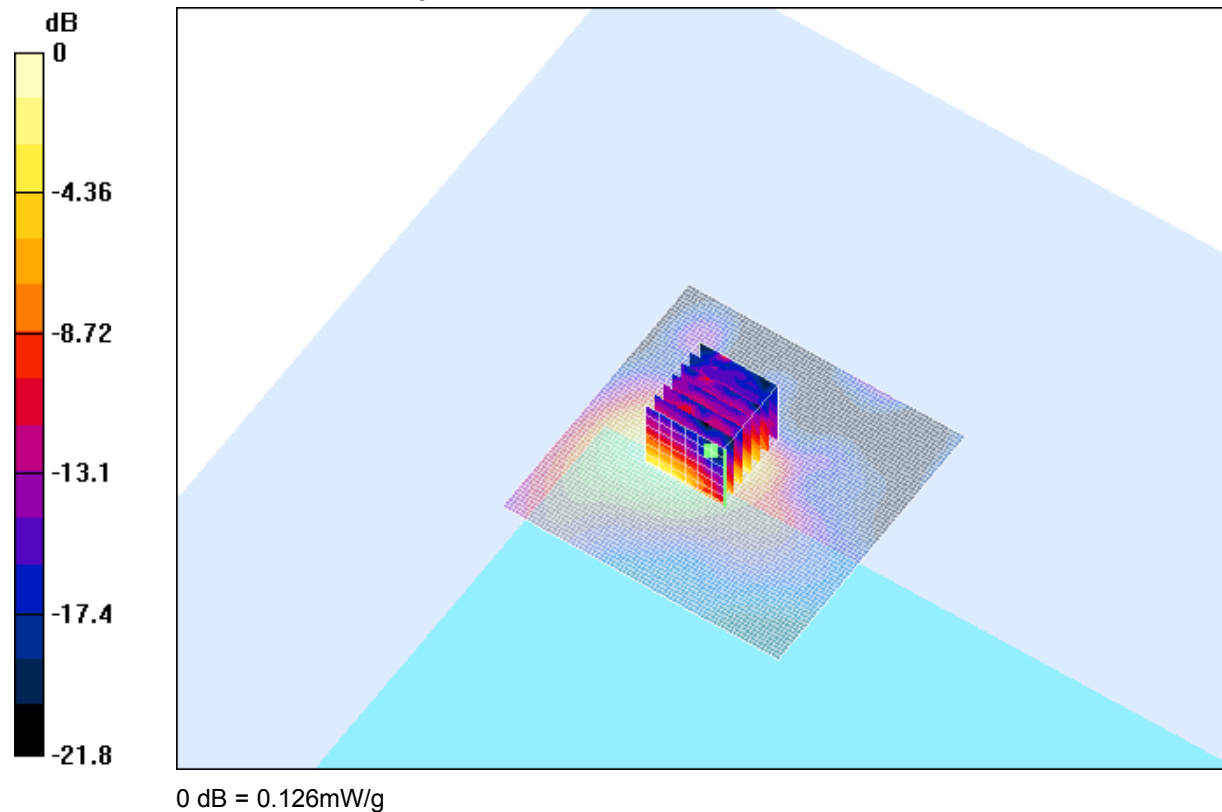
Peak SAR (extrapolated) = 0.352 W/kg

SAR(1 g) = 0.201 mW/g; SAR(10 g) = 0.0903 mW/g

Reference Value = 6.17 V/m

Power Drift = -0.1 dB

Maximum value of SAR = 0.126 mW/g



SAR MEASUREMENT PLOT 5

Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.5 Degrees Celsius
32 %

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Test Date: 05 August 2003

File Name: [Back of Lid DSSS Notebook 05-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.61

* Communication System: DSSS 2450 MHz; Frequency: 2462 MHz; Duty Cycle: 1:1

* Medium: Body 2450 MHz; ($\sigma = 2.019$ mho/m, $\epsilon_r = 53.078$, $\rho = 1000$ kg/m³)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.5, 4.5, 4.5)

- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 11 Test/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 5.95 V/m

Power Drift = -0.07 dB

Maximum value of SAR = 0.125 mW/g

Channel 11 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

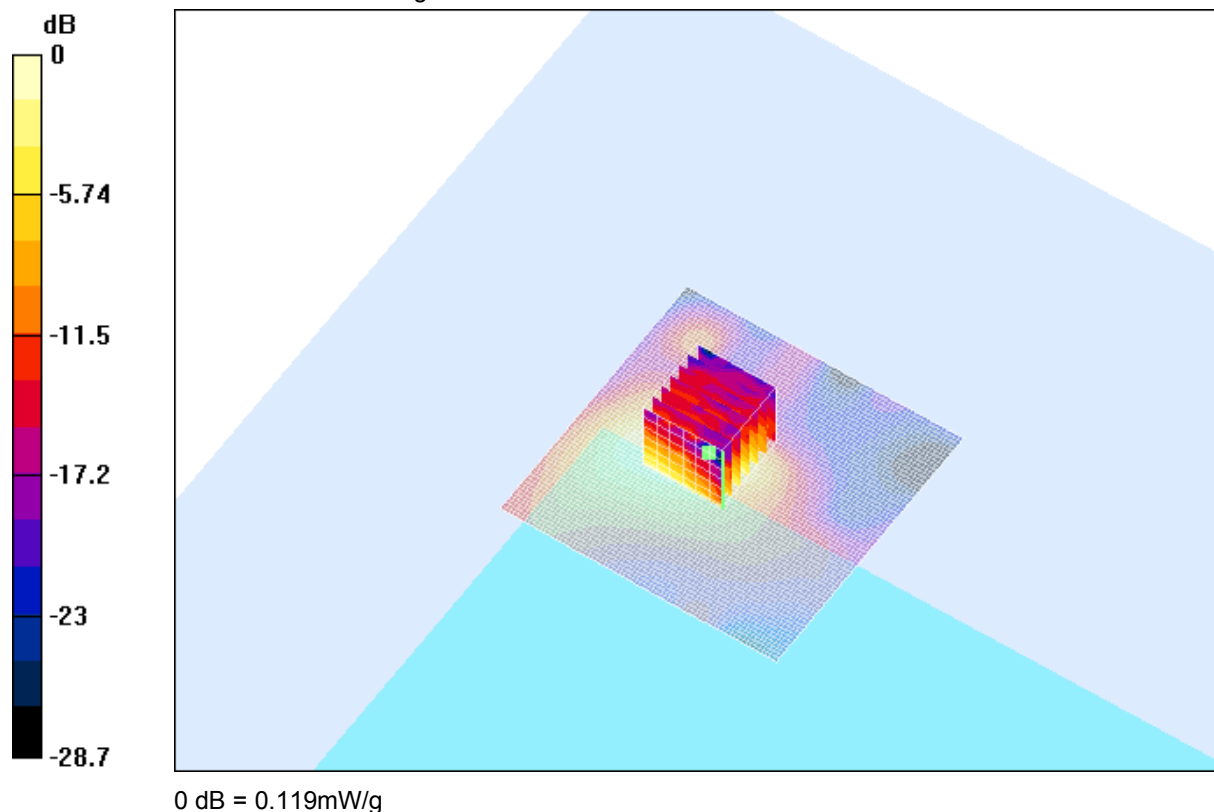
Peak SAR (extrapolated) = 0.438 W/kg

SAR(1 g) = 0.217 mW/g; SAR(10 g) = 0.0963 mW/g

Reference Value = 5.95 V/m

Power Drift = -0.07 dB

Maximum value of SAR = 0.119 mW/g

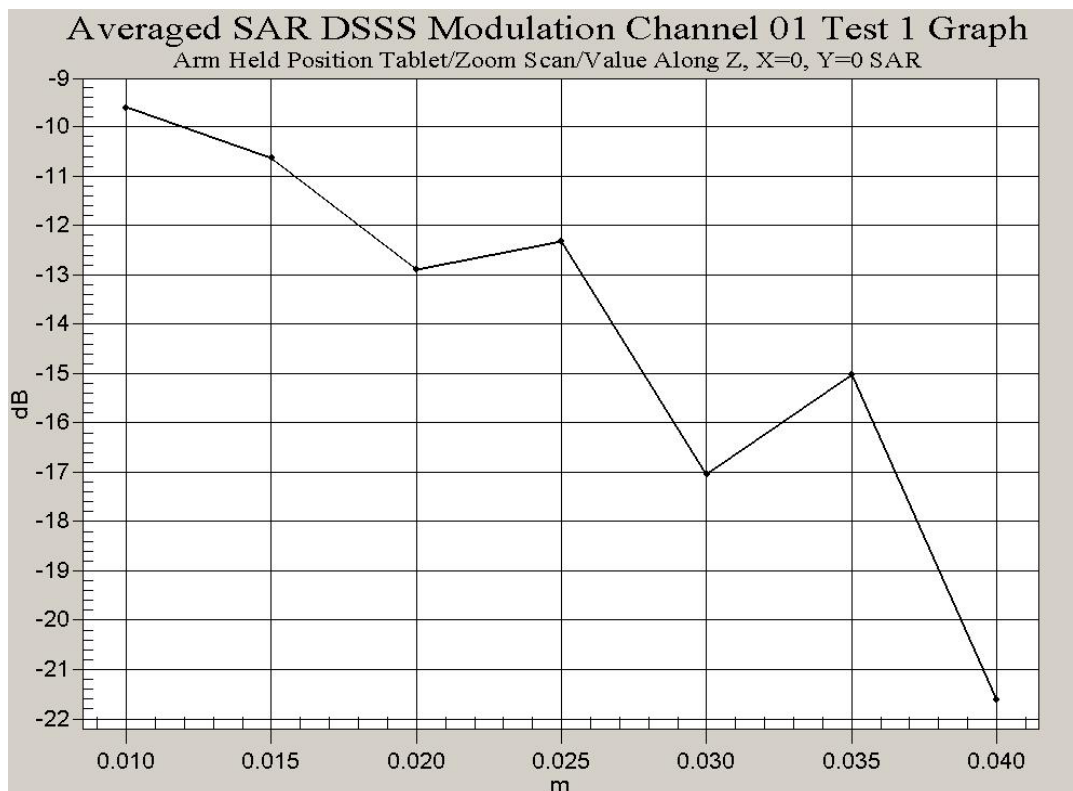


SAR MEASUREMENT PLOT 6

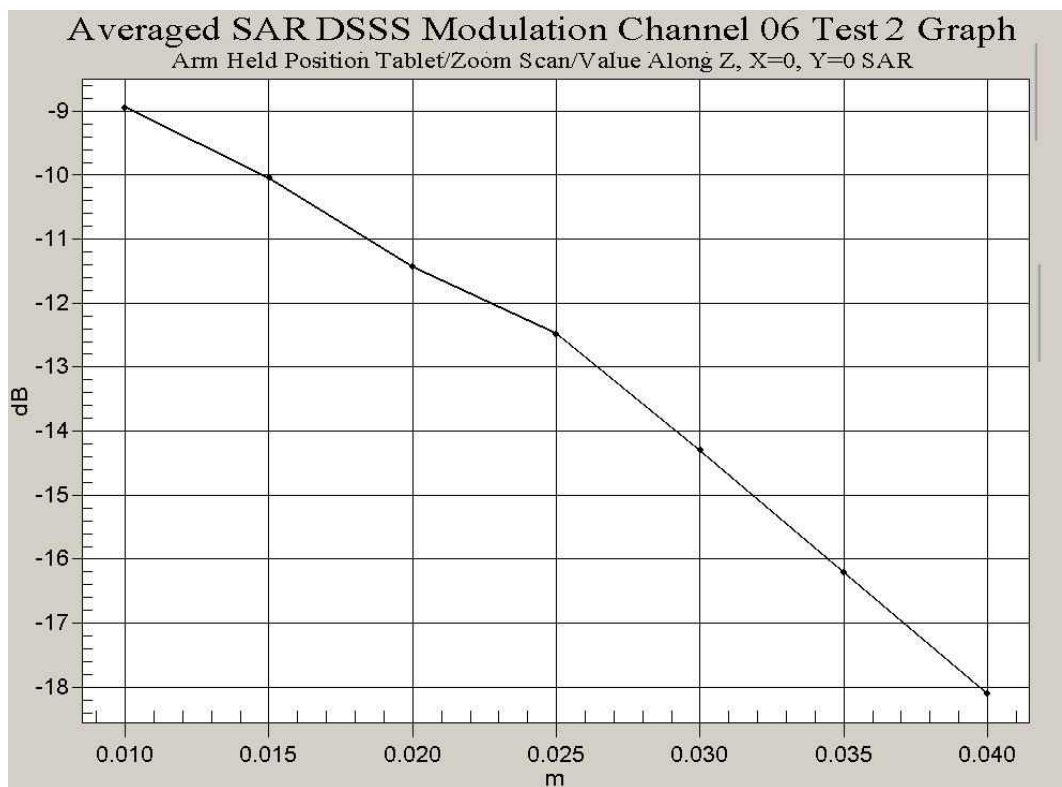
Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.5 Degrees Celsius
32 %

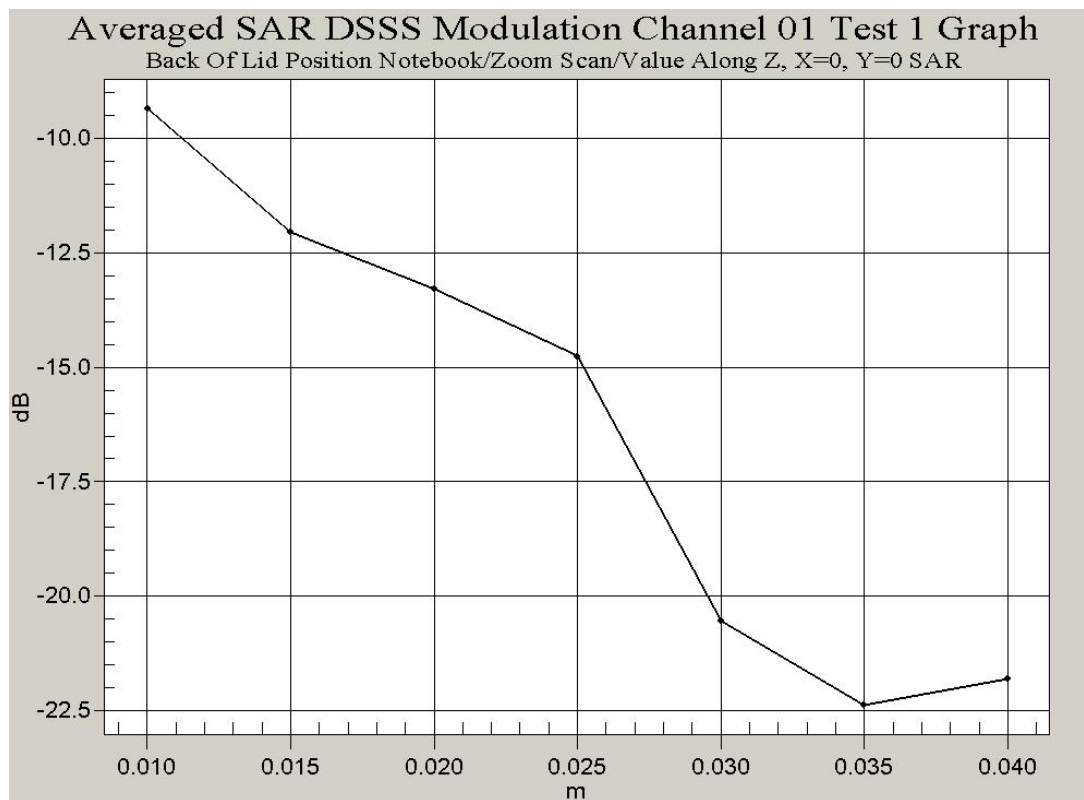
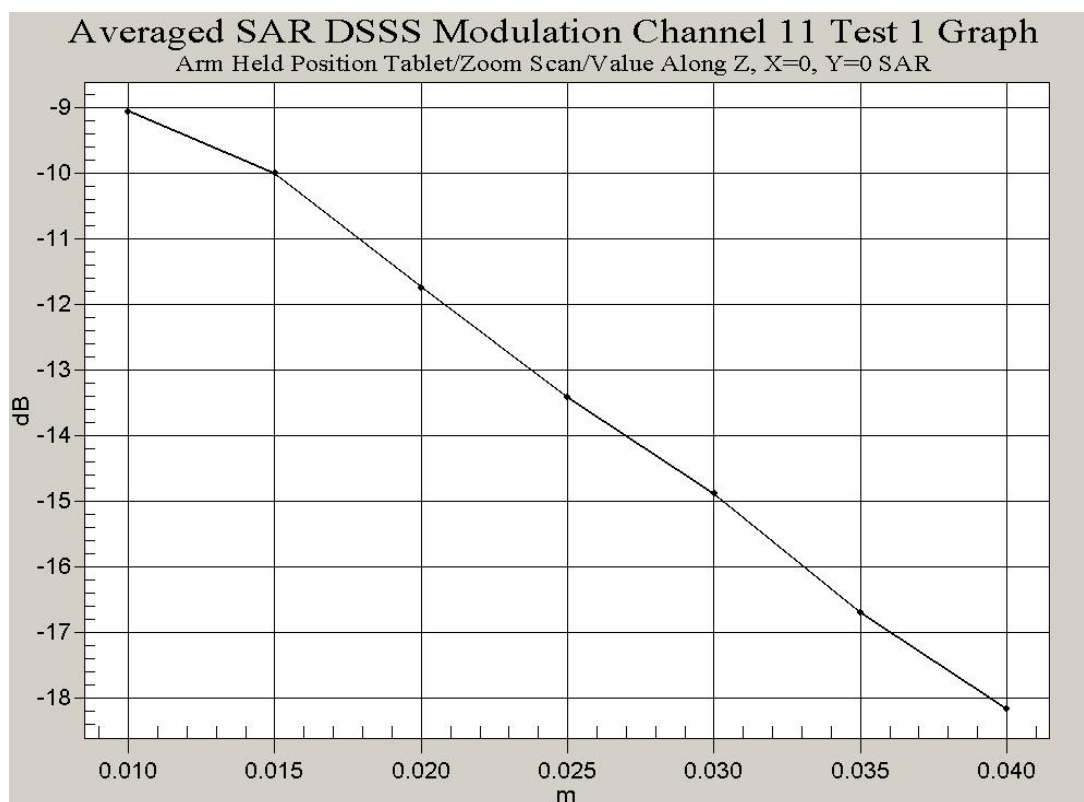
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NOTE: Refer to Appendix B, page 25.

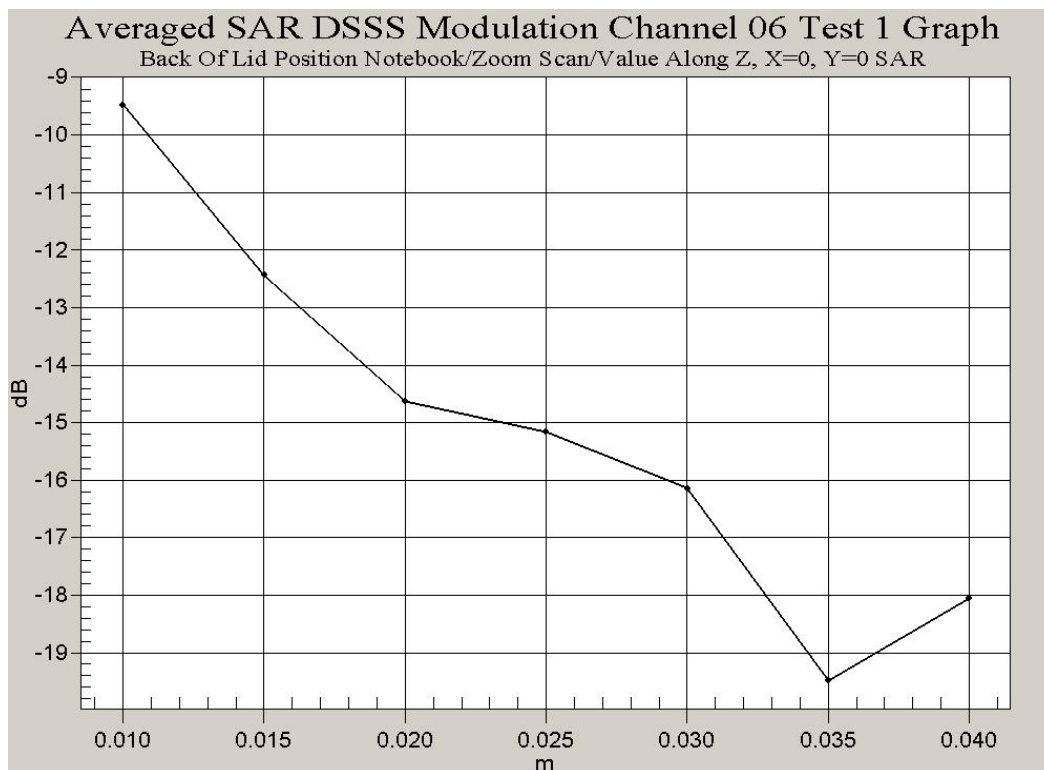


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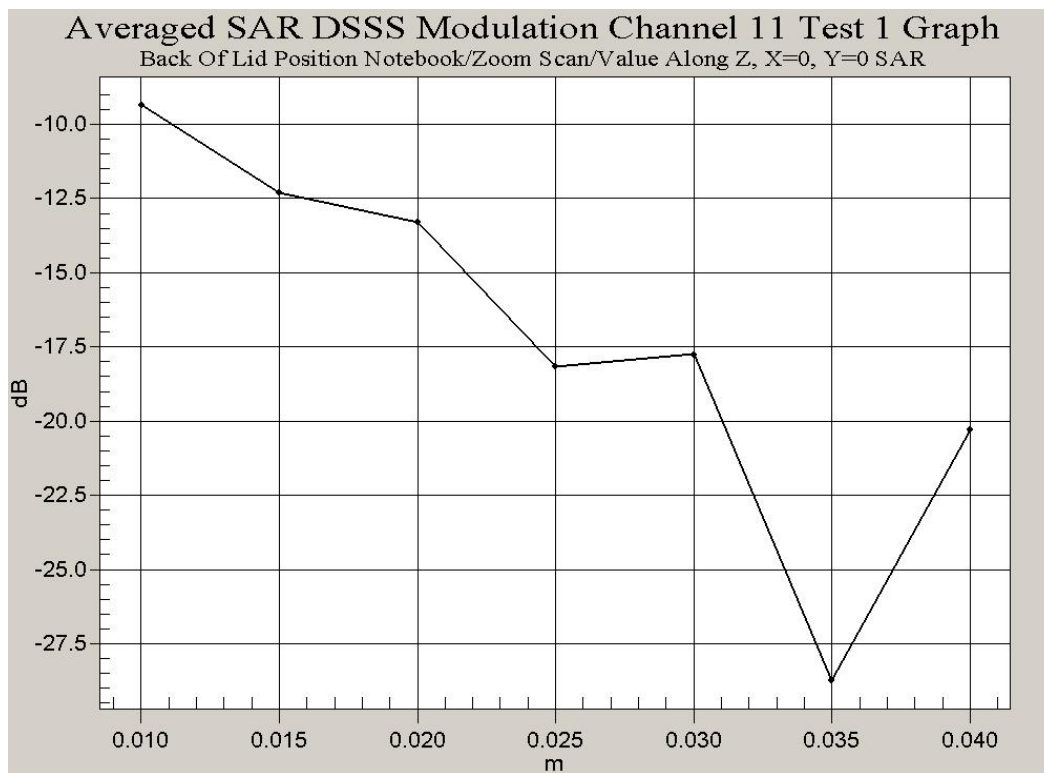


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NOTE: Refer to Appendix B, page 25.



NOTE: Refer to Appendix B, page 25.

Test Date: 04 August 2003

File Name: [Arm Held OFDM Tablet 04-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.61

* Communication System: OFDM 2450 MHz; Frequency: 2437 MHz; Duty Cycle: 1:1

* Medium: Body 2450 MHz; ($\sigma = 1.98058$ mho/m, $\epsilon_r = 52.7273$, $\rho = 1000$ kg/m³)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.5, 4.5, 4.5)

- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 06 Test/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 3.21 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.0181 mW/g

Channel 06 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

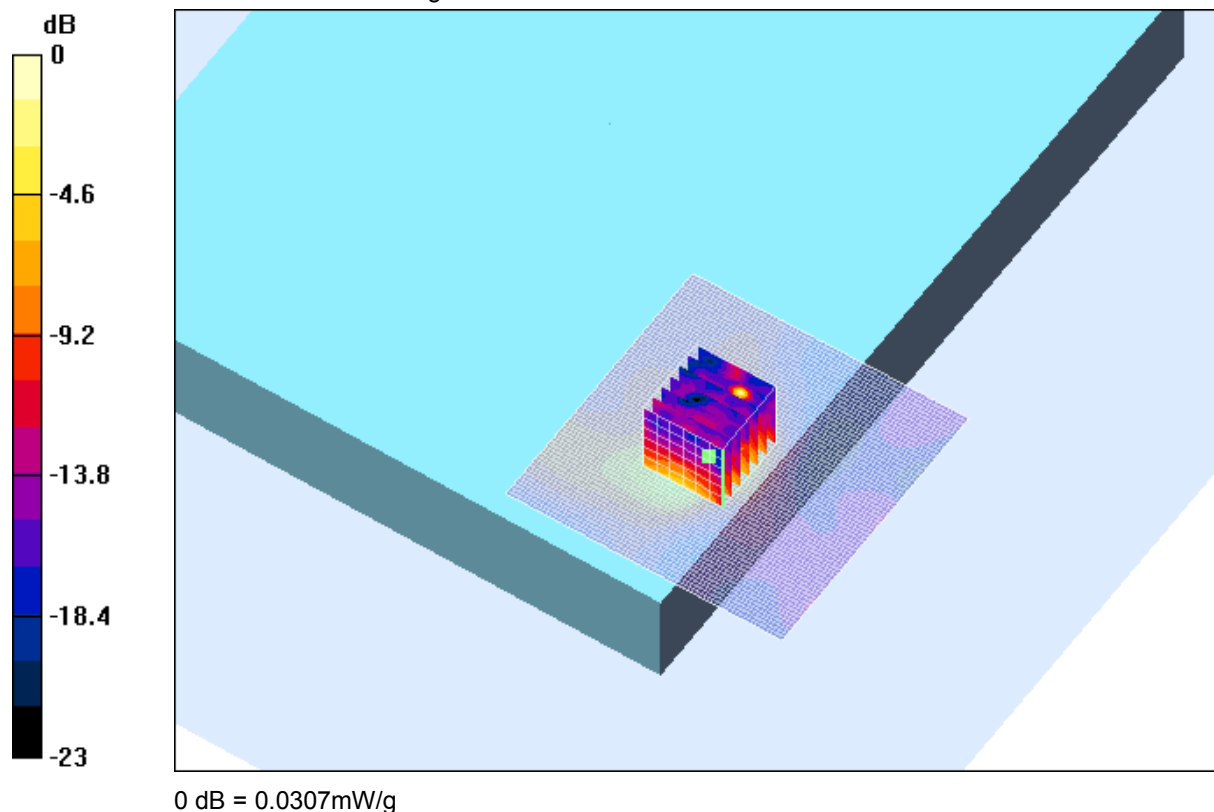
Peak SAR (extrapolated) = 0.0977 W/kg

SAR(1 g) = 0.0336 mW/g; SAR(10 g) = 0.0146 mW/g

Reference Value = 3.21 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.0307 mW/g



SAR MEASUREMENT PLOT 7

Ambient Temperature
Liquid Temperature
Humidity

20.0 Degrees Celsius
19.4 Degrees Celsius
37 %

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Test Date: 05 August 2003

File Name: [Back of Lid OFDM Notebook 05-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.61

* Communication System: OFDM 2450 MHz; Frequency: 2437 MHz; Duty Cycle: 1:1

* Medium: Body 2450 MHz; ($\sigma = 1.98215$ mho/m, $\epsilon_r = 53.1831$, $\rho = 1000$ kg/m³)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.5, 4.5, 4.5)

- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 06 Test/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 3.09 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.0346 mW/g

Channel 06 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

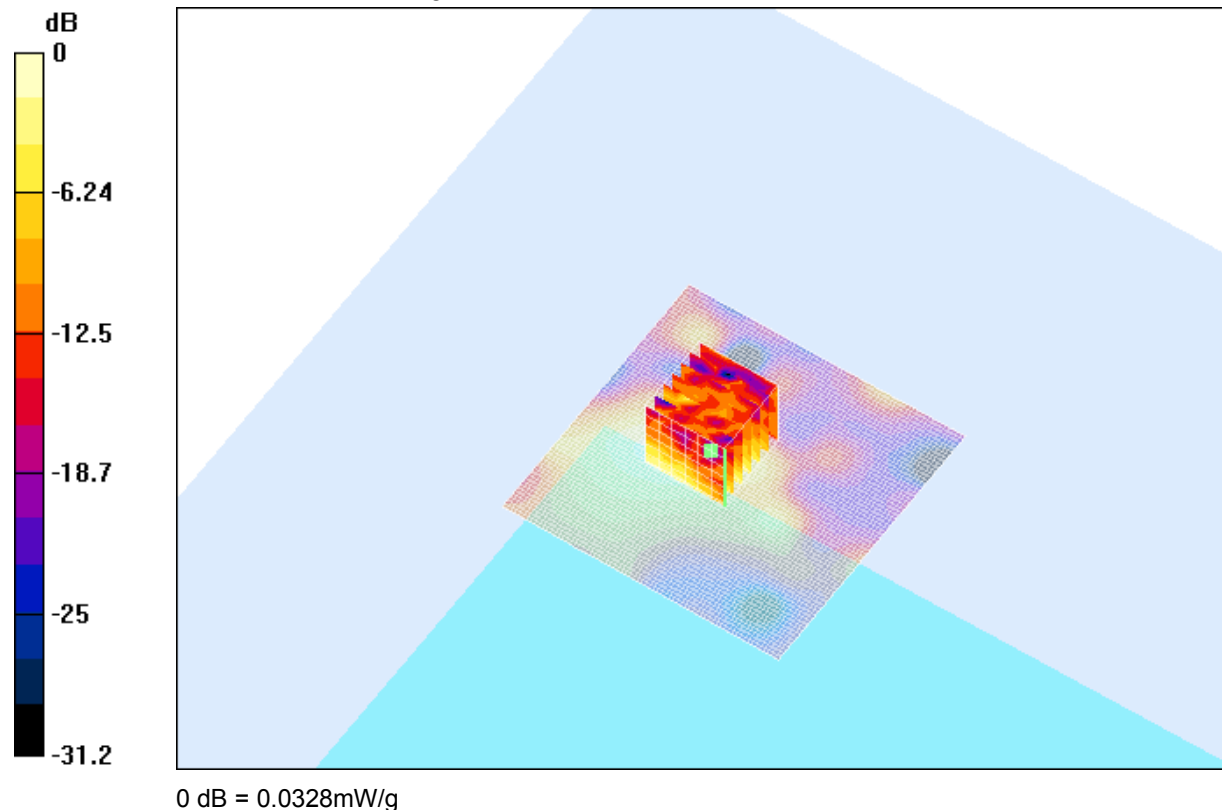
Peak SAR (extrapolated) = 0.272 W/kg

SAR(1 g) = 0.0787 mW/g; SAR(10 g) = 0.0312 mW/g

Reference Value = 3.09 V/m

Power Drift = 0.1 dB

Maximum value of SAR = 0.0328 mW/g

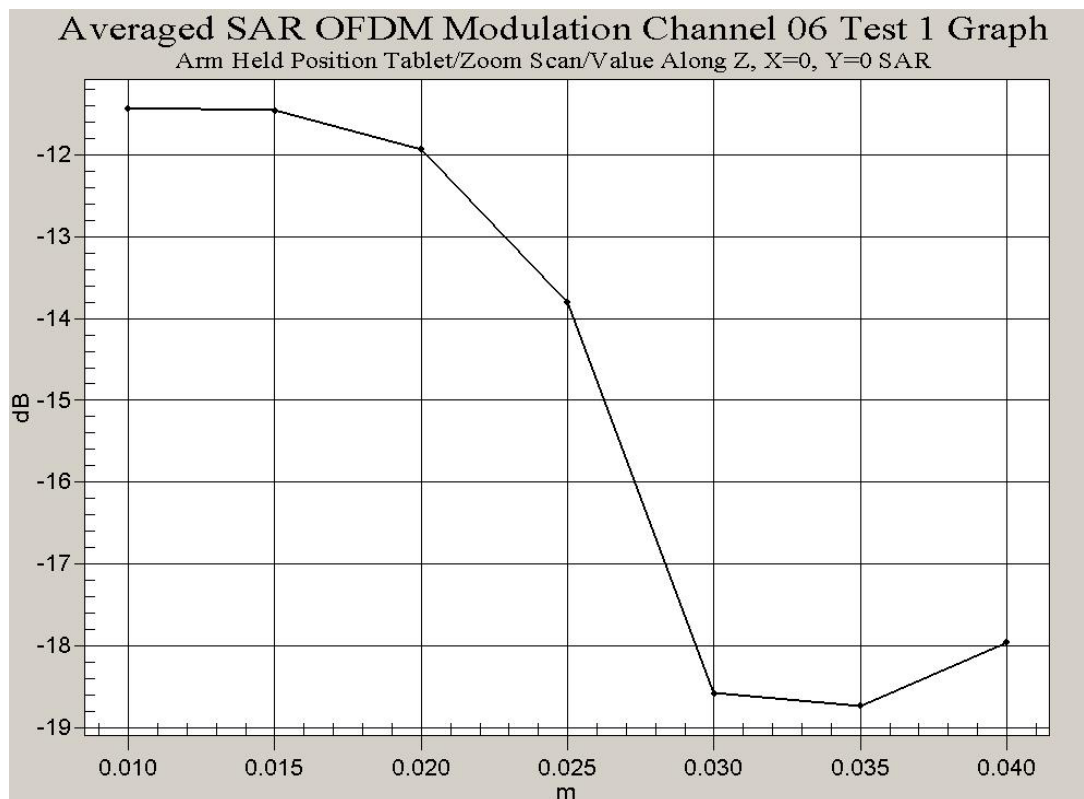


SAR MEASUREMENT PLOT 8

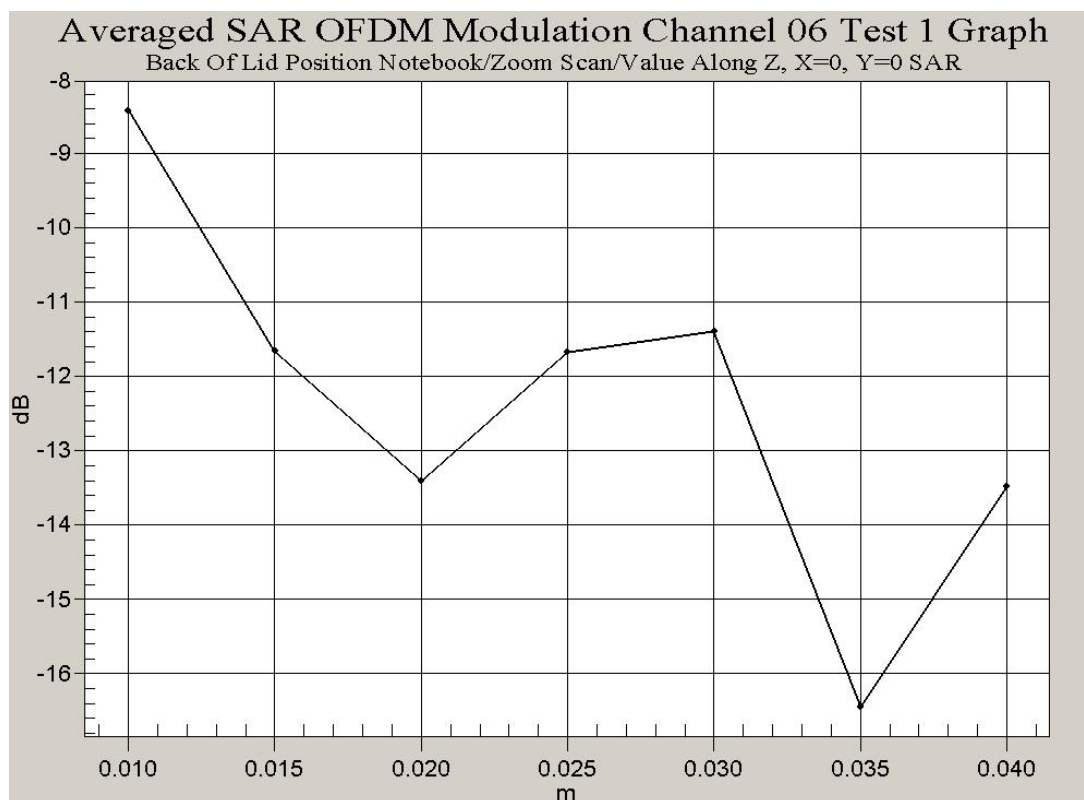
Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.5 Degrees Celsius
32 %

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NOTE: Refer to Appendix B, page 25.



NOTE: Refer to Appendix B, page 25.

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Test Date: 01 August 2003

File Name: [Validation 2450 MHz \(DAE442 Probe1380\) 01-08-03.da4](#)

DUT: Dipole 2450 MHz; Type: DV2450V2; Serial: 724

* Communication System: CW 2450 MHz; Frequency: 2450 MHz; Duty Cycle: 1:1

* Medium: Head 2450 MHz; ($\sigma = 1.88205$ mho/m, $\epsilon_r = 40.1137$, $\rho = 1000$ kg/m³)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.8, 4.8, 4.8)

- Phantom: SAM 12; Serial: 1060; Phantom section: Flat Section

Channel 1 Test/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 97.8 V/m

Power Drift = -0.02 dB

Maximum value of SAR = 15.5 mW/g

Channel 1 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

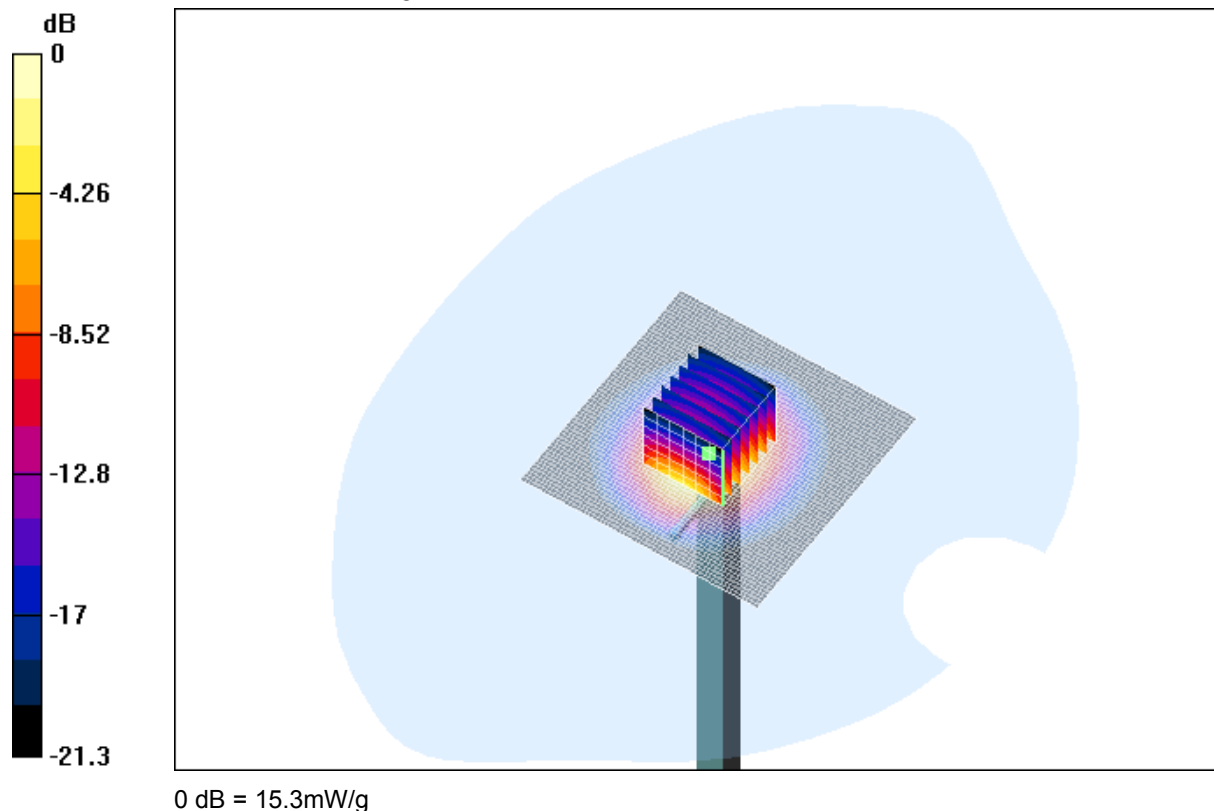
Peak SAR (extrapolated) = 27 W/kg

SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.47 mW/g

Reference Value = 97.8 V/m

Power Drift = -0.02 dB

Maximum value of SAR = 15.3 mW/g



SAR MEASUREMENT PLOT 9

Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.9 Degrees Celsius
36 %

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Test Date: 04 August 2003

File Name: [Validation 2450 MHz \(DAE442 Probe1380\) 04-08-03.da4](#)

DUT: Dipole 2450 MHz; Type: DV2450V2; Serial: 724

* Communication System: CW 2450 MHz; Frequency: 2450 MHz; Duty Cycle: 1:1

* Medium: Head 2450 MHz; ($\sigma = 1.90566$ mho/m, $\epsilon_r = 39.1328$, $\rho = 1000$ kg/m³)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.8, 4.8, 4.8)

- Phantom: SAM 12; Serial: 1060; Phantom section: Flat Section

Channel 1 Test/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 99.3 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 15.6 mW/g

Channel 1 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

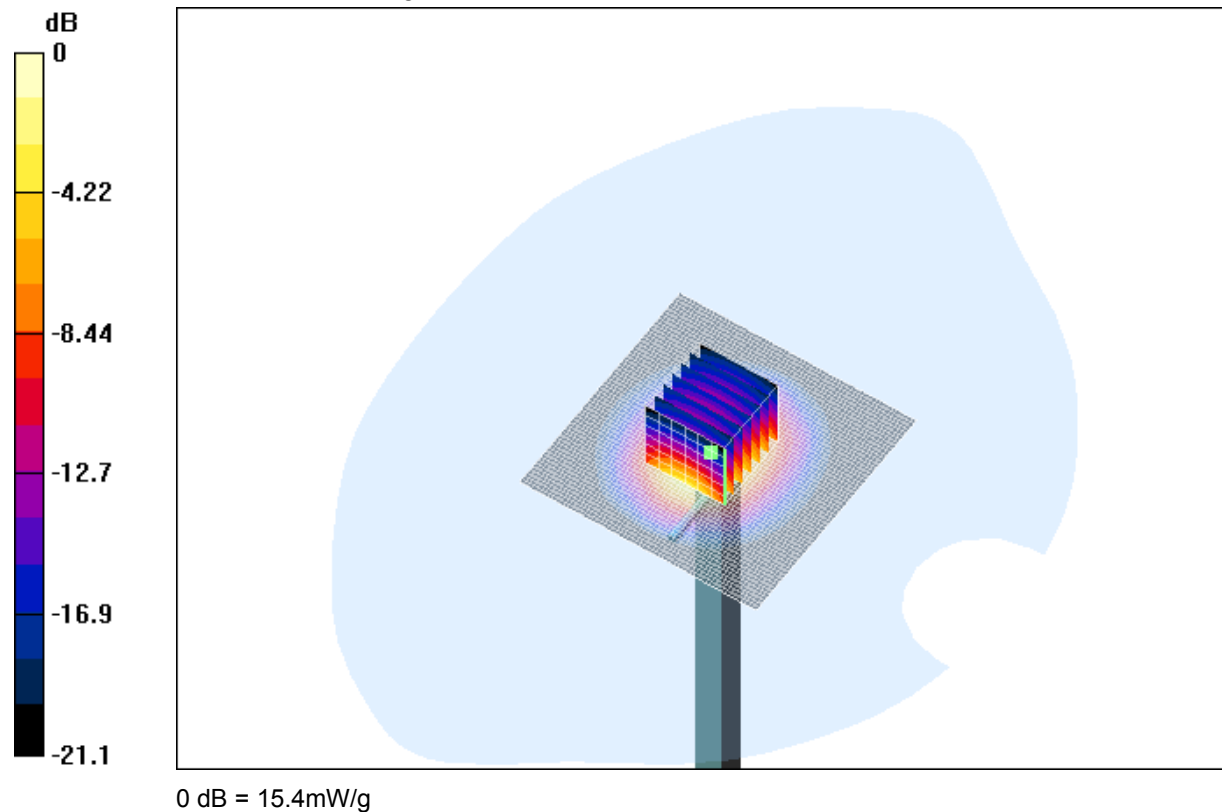
Peak SAR (extrapolated) = 26.9 W/kg

SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.42 mW/g

Reference Value = 99.3 V/m

Power Drift = -0.03 dB

Maximum value of SAR = 15.4 mW/g



SAR MEASUREMENT PLOT 10

Ambient Temperature
Liquid Temperature
Humidity

20.0 Degrees Celsius
19.4 Degrees Celsius
37 %

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Test Date: 05 August 2003

File Name: [Validation 2450 MHz \(DAE442 Probe1380\) 05-08-03.da4](#)

DUT: Dipole 2450 MHz; Type: DV2450V2; Serial: 724

* Communication System: CW 2450 MHz; Frequency: 2450 MHz; Duty Cycle: 1:1

* Medium: Head 2450 MHz; ($\sigma = 1.89234$ mho/m, $\epsilon_r = 39.0558$, $\rho = 1000$ kg/m³)

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1380; ConvF(4.8, 4.8, 4.8)

- Phantom: SAM 12; Serial: 1060; Phantom section: Flat Section

Channel 1 Test/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 101.5 V/m

Power Drift = -0.01 dB

Maximum value of SAR = 16 mW/g

Channel 1 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

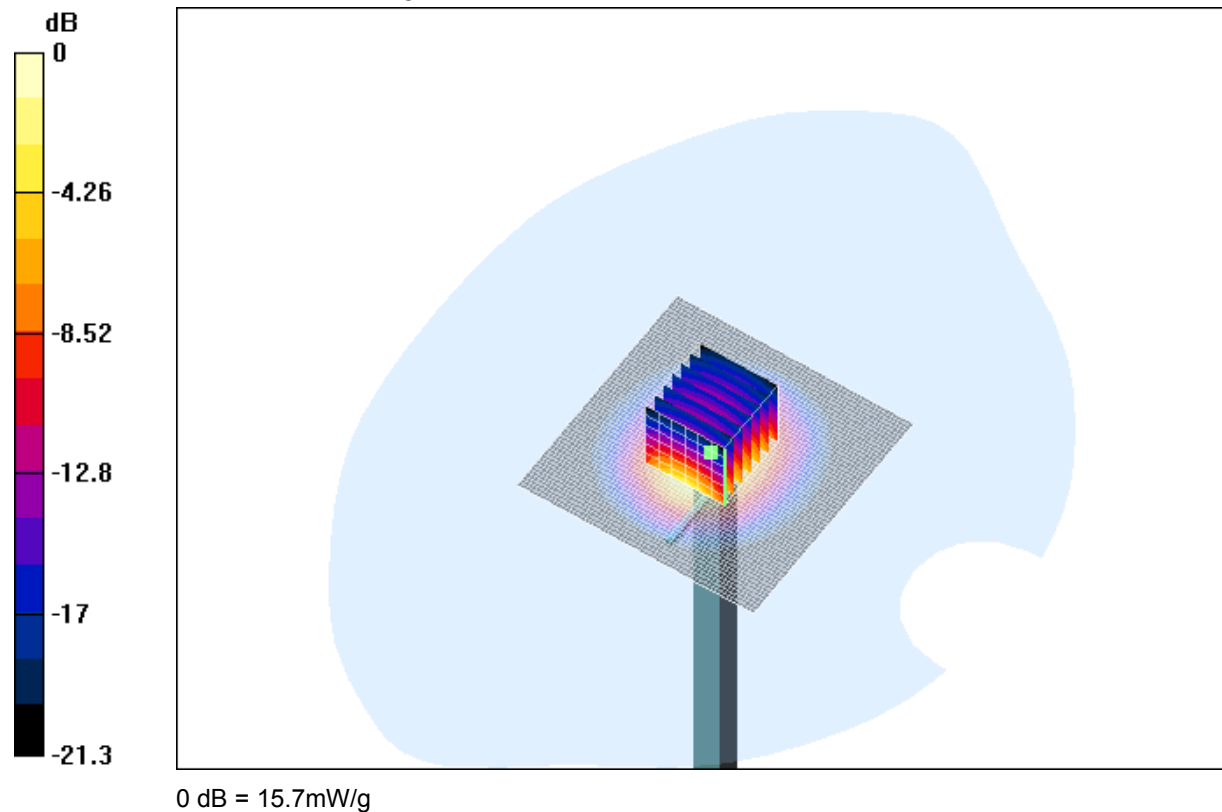
Peak SAR (extrapolated) = 28 W/kg

SAR(1 g) = 14 mW/g; SAR(10 g) = 6.55 mW/g

Reference Value = 101.5 V/m

Power Drift = -0.01 dB

Maximum value of SAR = 15.7 mW/g

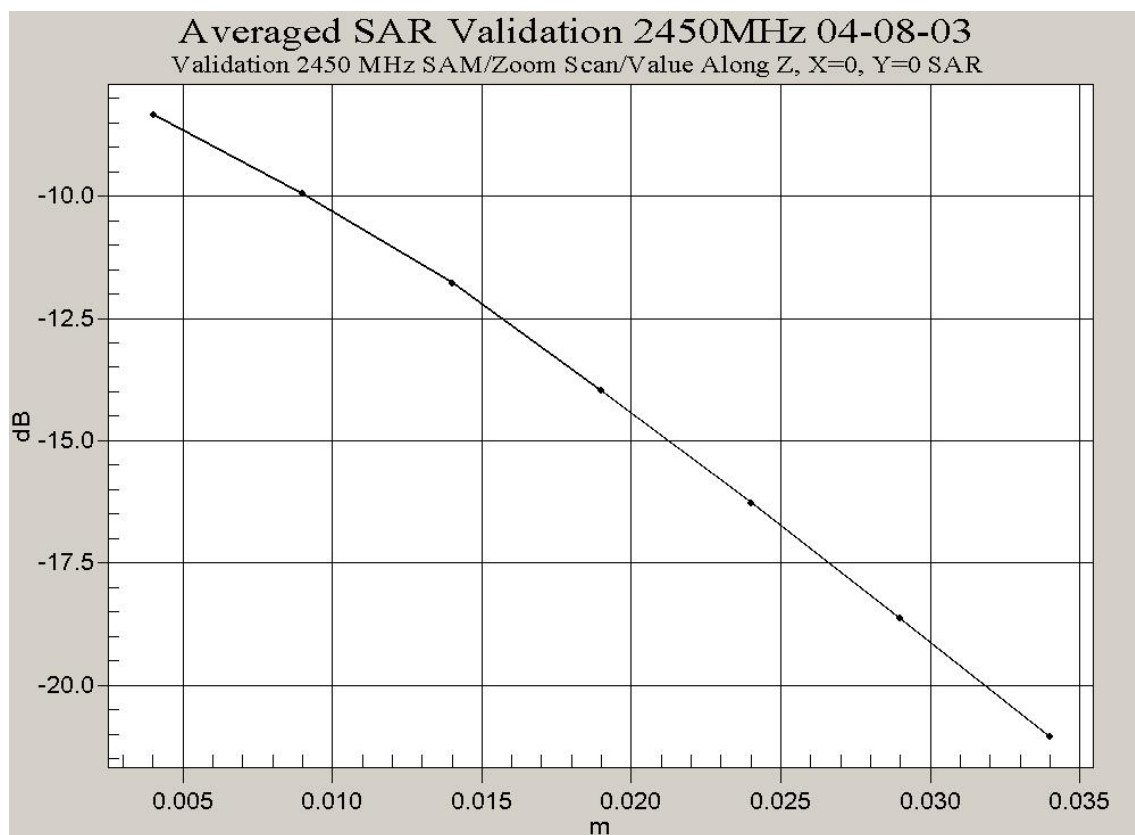
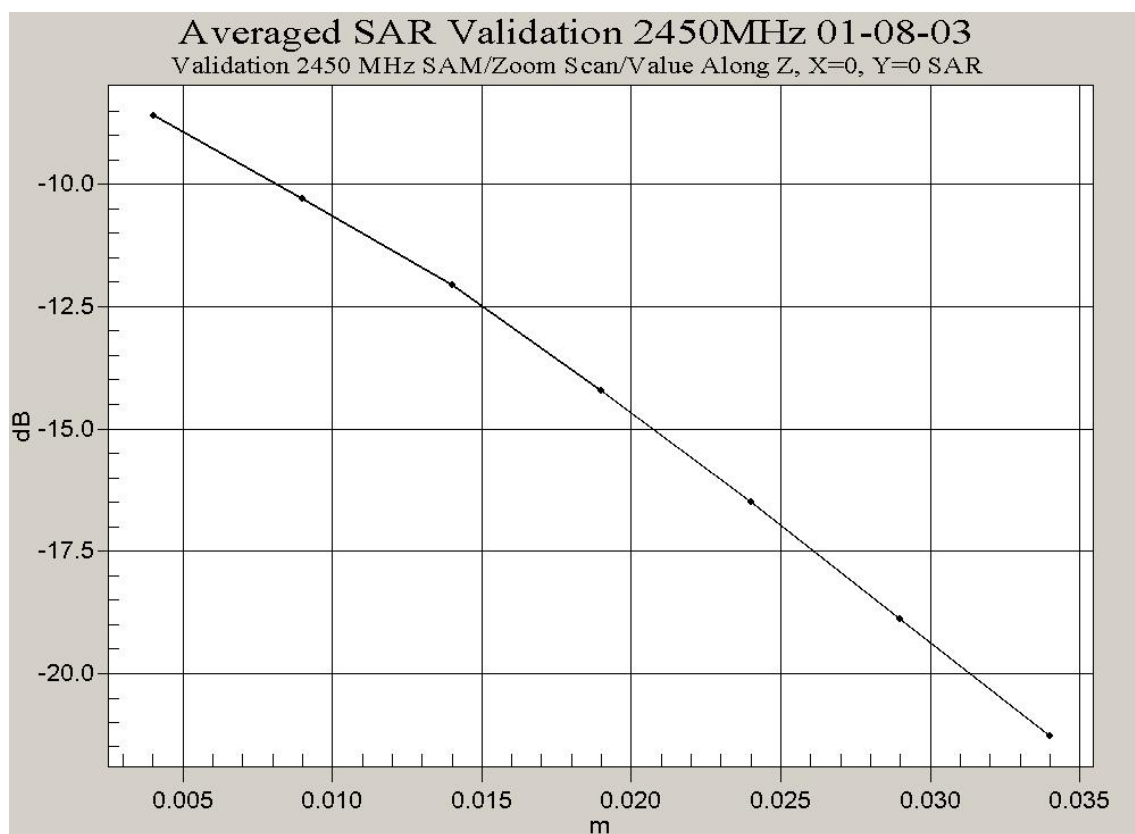


SAR MEASUREMENT PLOT 11

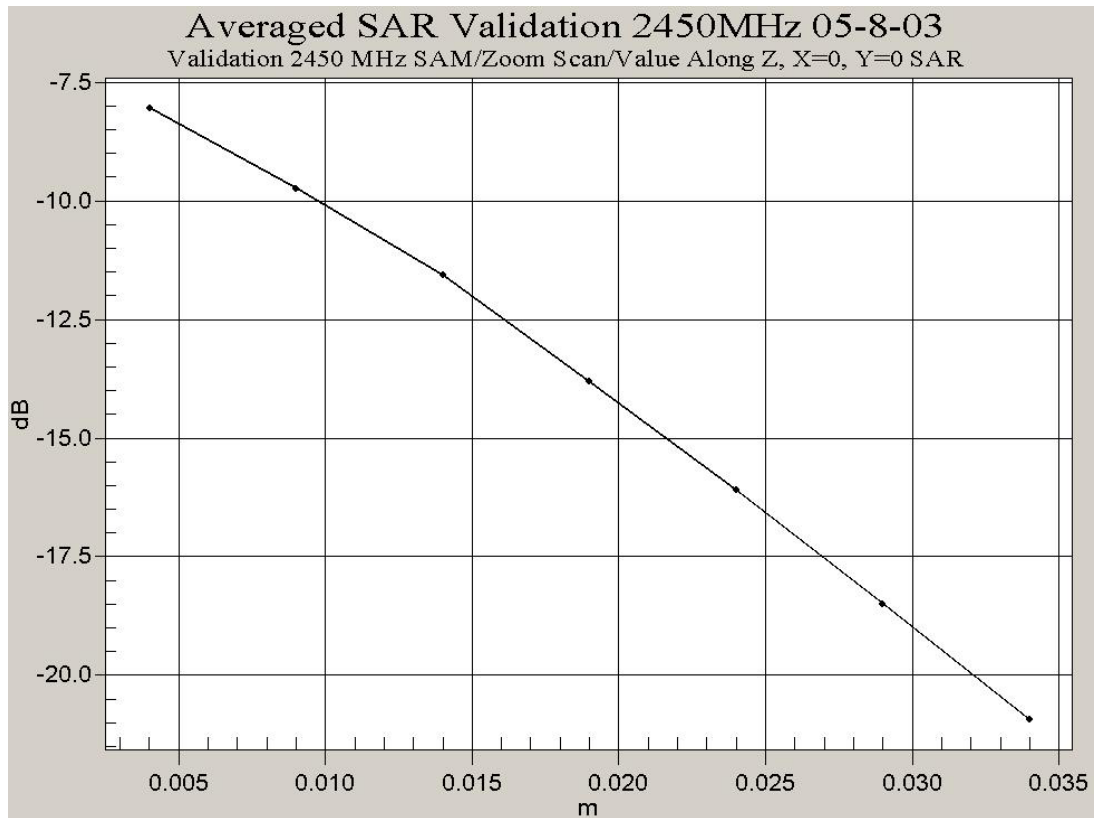
Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.5 Degrees Celsius
32 %

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APPENDIX C

SAR TESTING EQUIPMENT CALIBRATION CERTIFICATE ATTACHMENTS

Calibration Certificate Attachments

- | | |
|--|---------|
| 1. 2450 MHz Dipole Calibration Sheet | 6 Pages |
| 2. E-Field Probe Calibration Sheet | 4 Pages |
| 3. Dielectric Properties of Flat phantom PL550 Phantom | 1 Page |