

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 < 0.01mW/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 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 this is 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 15: 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 16: 2450MHz Validation Plot

Plot 7	Validation 2450MHz 6 th August 2003	Page 35
Plot 8	Validation 2450MHz 7 th August 2003	Page 36
Z-Axis Graphs	Z-Axis graphs for Plots 7 to 8	Pages 37-38

Test Date: 06 August 2003

File Name: [Arm Held DSSS Tablet 06-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.59

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

* Medium: Body 2450 MHz; ($\sigma = 1.95938$ mho/m, $\epsilon_r = 52.1071$, $\rho = 1000$ 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 2/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 5.96 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.0769 mW/g

Channel 01 Test 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

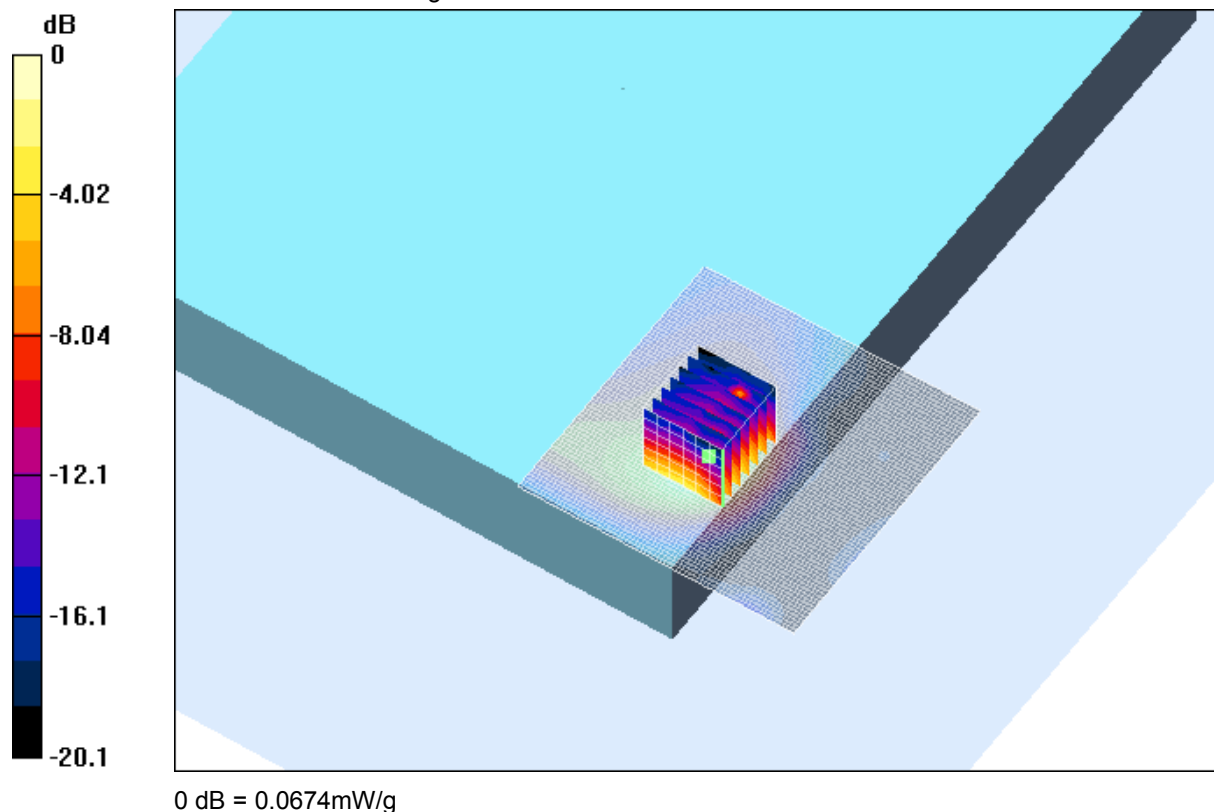
Peak SAR (extrapolated) = 0.236 W/kg

SAR(1 g) = 0.12 mW/g; SAR(10 g) = 0.0544 mW/g

Reference Value = 5.96 V/m

Power Drift = -0.2 dB

Maximum value of SAR = 0.0674 mW/g



SAR MEASUREMENT PLOT 1

Ambient Temperature
Liquid Temperature
Humidity

20.3 Degrees Celsius
19.7 Degrees Celsius
38 %

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Test Date: 06 August 2003

File Name: [Arm Held DSSS Tablet 06-08-03 b.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.59

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

* Medium: Body 2450 MHz; ($\sigma = 1.99489$ mho/m, $\epsilon_r = 52.0164$, $\rho = 1000$ 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 2/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 0.503 V/m

Power Drift = -0.4 dB

Maximum value of SAR = 0.0733 mW/g

Channel 06 Test 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

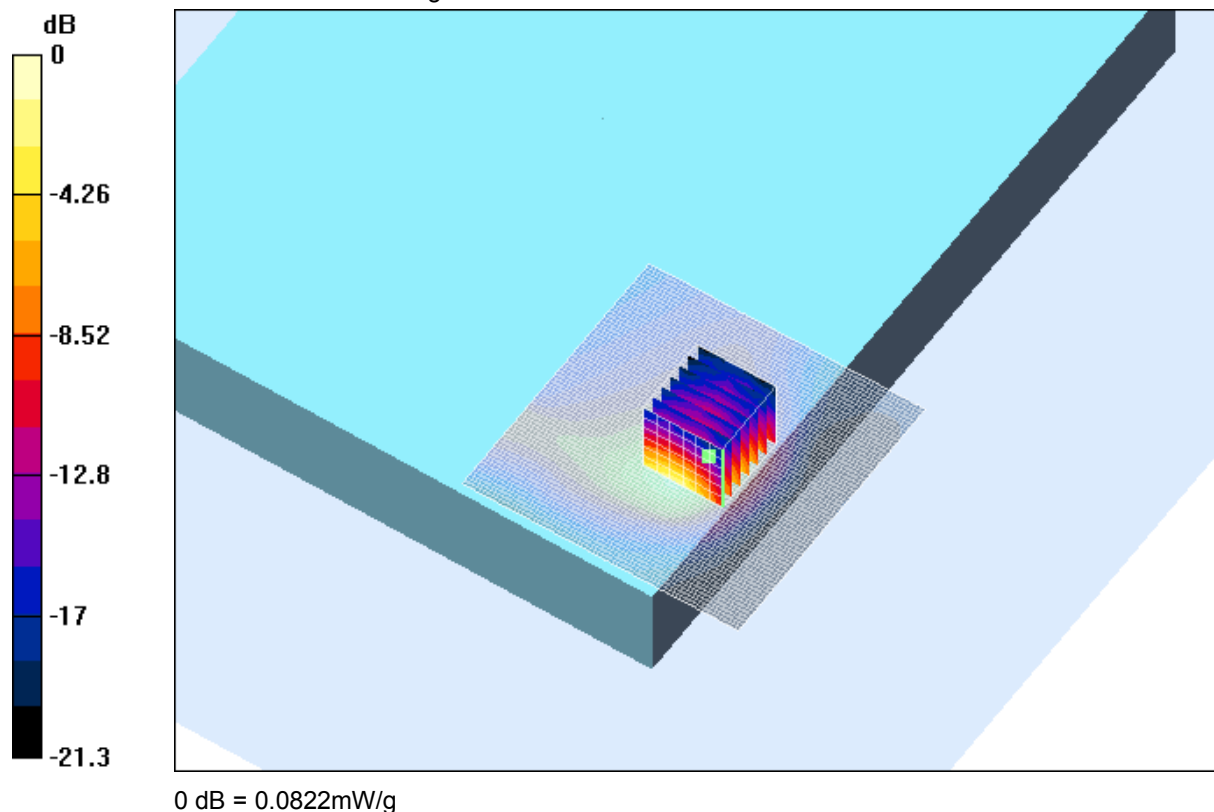
Peak SAR (extrapolated) = 0.26 W/kg

SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.0645 mW/g

Reference Value = 0.503 V/m

Power Drift = -0.4 dB

Maximum value of SAR = 0.0822 mW/g



SAR MEASUREMENT PLOT 2

Ambient Temperature
Liquid Temperature
Humidity

20.3 Degrees Celsius
19.7 Degrees Celsius
38 %

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Test Date: 06 August 2003

File Name: [Arm Held DSSS Tablet 06-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.59

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

* Medium: Body 2450 MHz; ($\sigma = 2.03206$ mho/m, $\epsilon_r = 51.8722$, $\rho = 1000$ 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 = 5.46 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.0603 mW/g

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

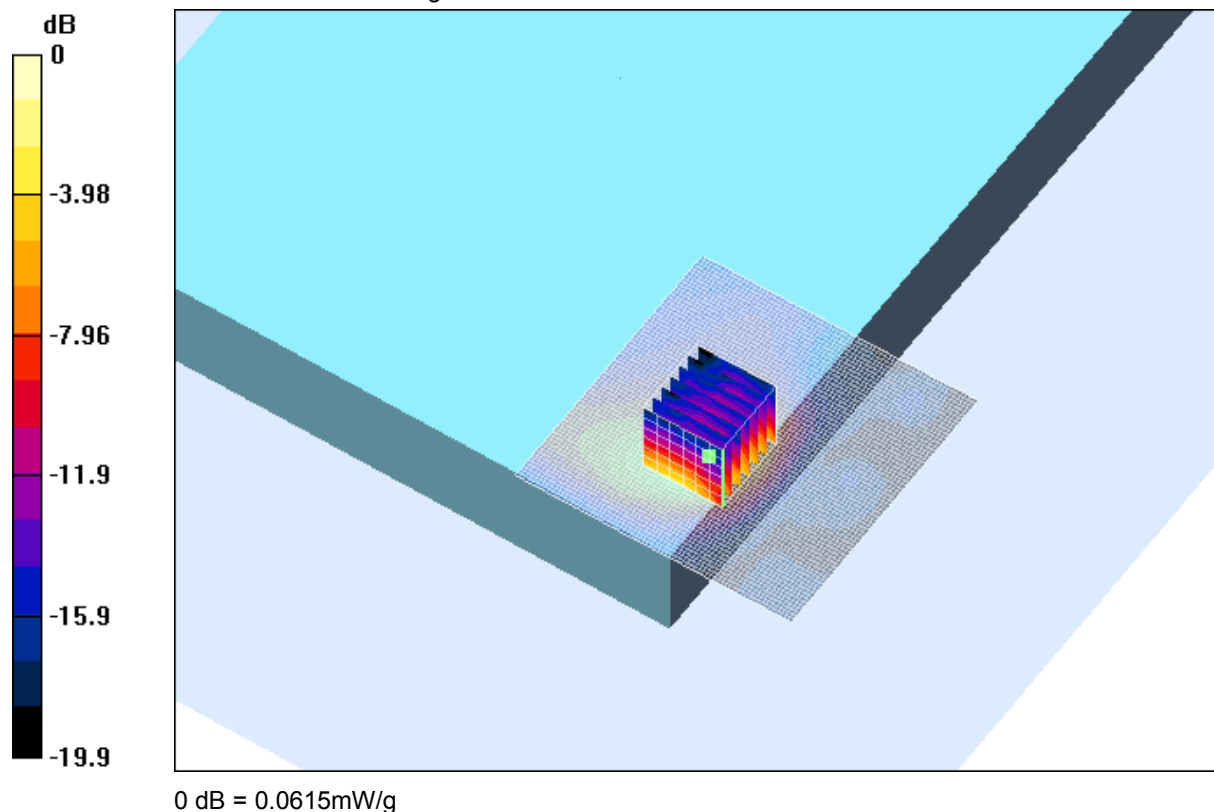
Peak SAR (extrapolated) = 0.203 W/kg

SAR(1 g) = 0.109 mW/g; SAR(10 g) = 0.0493 mW/g

Reference Value = 5.46 V/m

Power Drift = -0.09 dB

Maximum value of SAR = 0.0615 mW/g



SAR MEASUREMENT PLOT 3

Ambient Temperature
Liquid Temperature
Humidity

20.3 Degrees Celsius
19.7 Degrees Celsius
38 %

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Test Date: 06 August 2003

File Name: [Back of Lid DSSS Notebook 06-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.59

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

* Medium: Body 2450 MHz; ($\sigma = 1.95938$ mho/m, $\epsilon_r = 52.1071$, $\rho = 1000$ 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 = 7.71 V/m

Power Drift = -0.4 dB

Maximum value of SAR = 0.177 mW/g

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

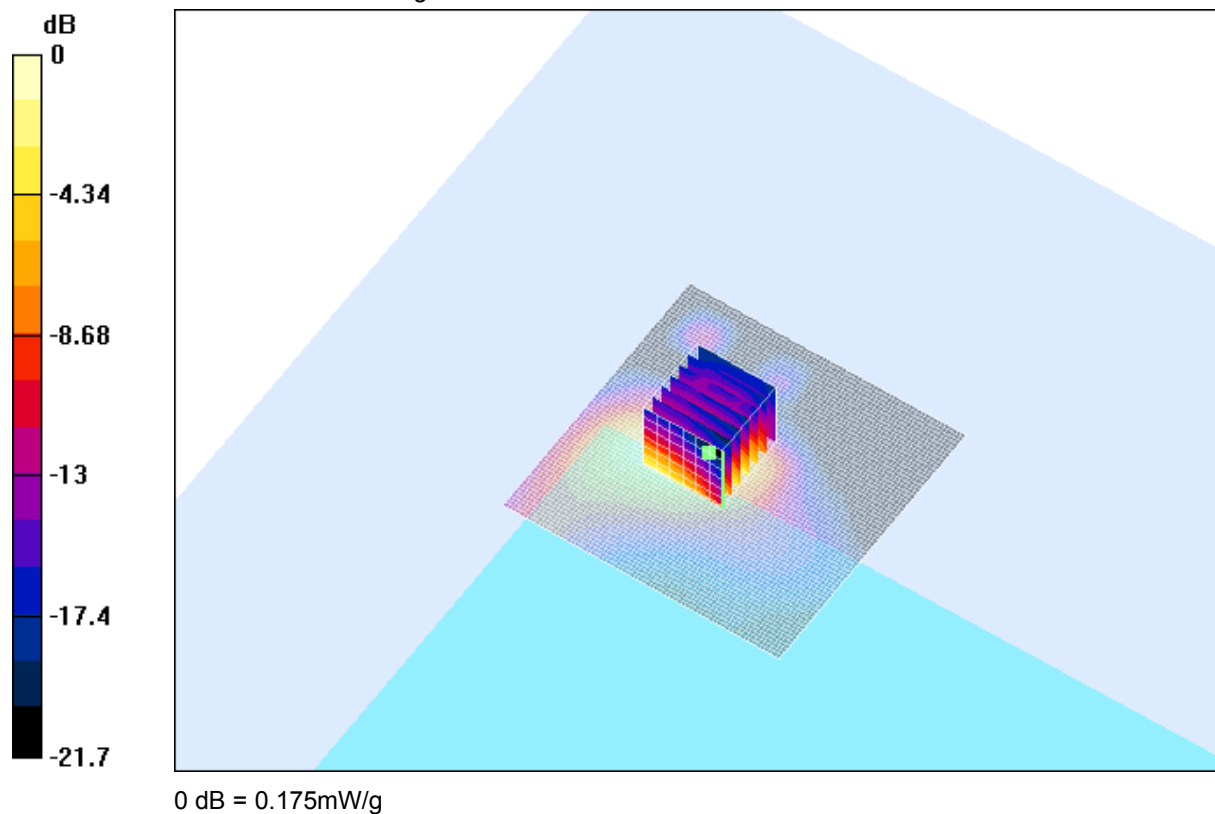
Peak SAR (extrapolated) = 0.712 W/kg

SAR(1 g) = 0.329 mW/g; SAR(10 g) = 0.14 mW/g

Reference Value = 7.71 V/m

Power Drift = -0.4 dB

Maximum value of SAR = 0.175 mW/g



SAR MEASUREMENT PLOT 4

Ambient Temperature
Liquid Temperature
Humidity

20.3 Degrees Celsius
19.7 Degrees Celsius
38 %

Test Date: 06 August 2003

File Name: [Back of Lid DSSS Notebook 06-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.59

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

* Medium: Body 2450 MHz; ($\sigma = 1.99489$ mho/m, $\epsilon_r = 52.0164$, $\rho = 1000$ 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 = 7.83 V/m

Power Drift = -0.4 dB

Maximum value of SAR = 0.17 mW/g

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

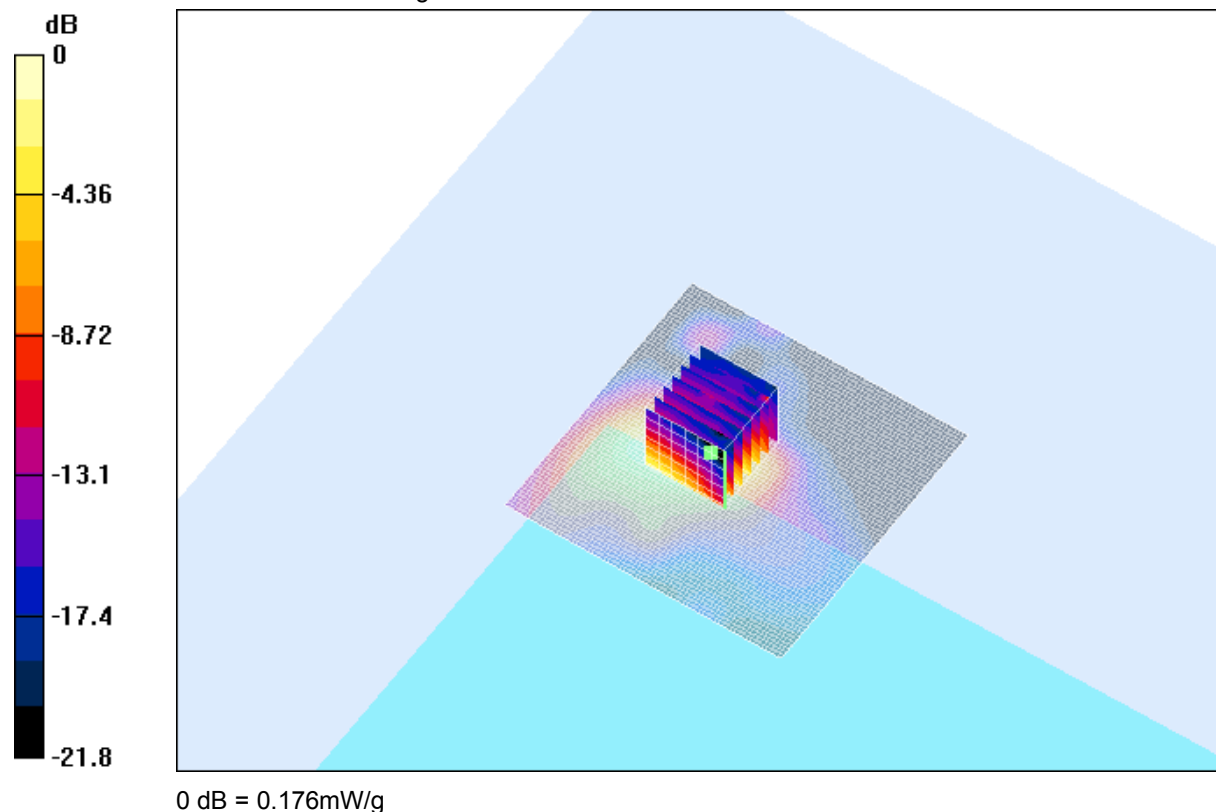
Peak SAR (extrapolated) = 0.783 W/kg

SAR(1 g) = 0.345 mW/g; SAR(10 g) = 0.144 mW/g

Reference Value = 7.83 V/m

Power Drift = -0.4 dB

Maximum value of SAR = 0.176 mW/g



SAR MEASUREMENT PLOT 5

Ambient Temperature
Liquid Temperature
Humidity

20.3 Degrees Celsius
19.7 Degrees Celsius
38 %

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Test Date: 06 August 2003

File Name: [Back of Lid DSSS Notebook 06-08-03.da4](#)

DUT: Fujitsu Notebook with WLAN; Type: Mace B1; Serial: No.59

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

* Medium: Body 2450 MHz; ($\sigma = 2.03206$ mho/m, $\epsilon_r = 51.8722$, $\rho = 1000$ 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 = 6.66 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.11 mW/g

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

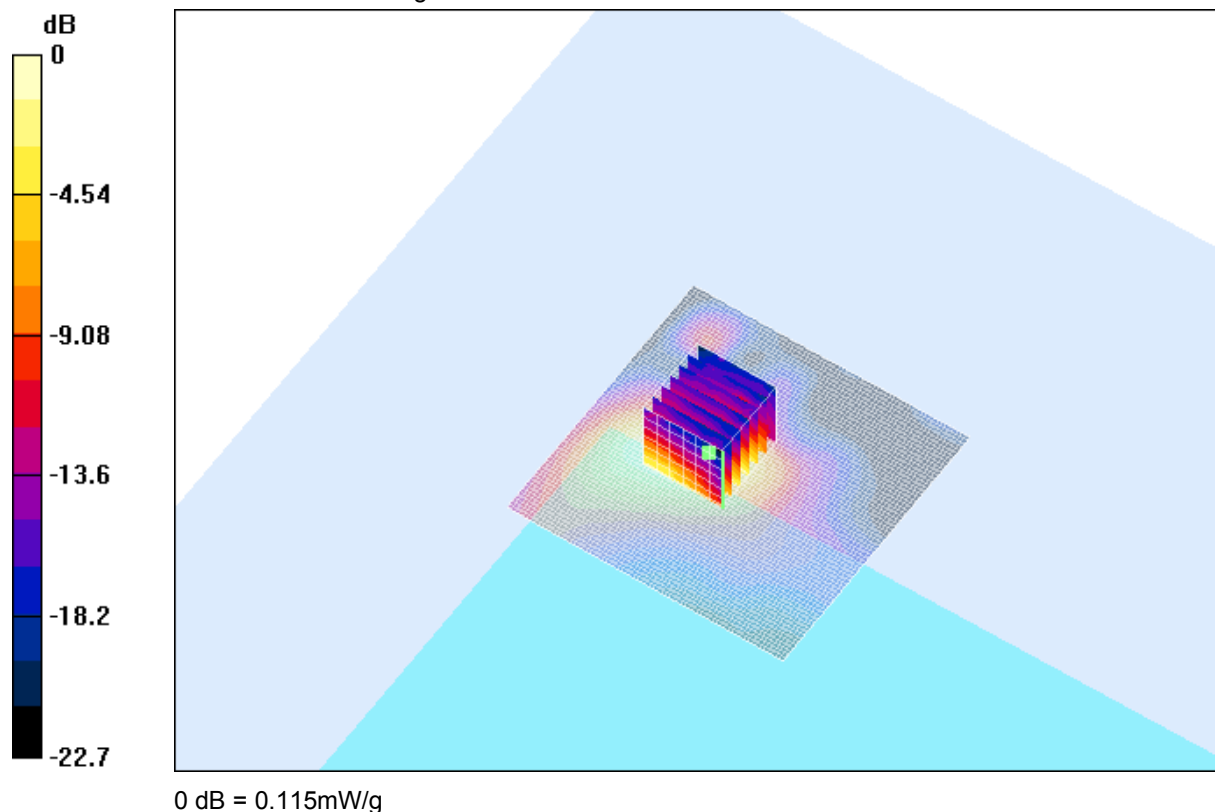
Peak SAR (extrapolated) = 0.556 W/kg

SAR(1 g) = 0.23 mW/g; SAR(10 g) = 0.092 mW/g

Reference Value = 6.66 V/m

Power Drift = -0.3 dB

Maximum value of SAR = 0.115 mW/g

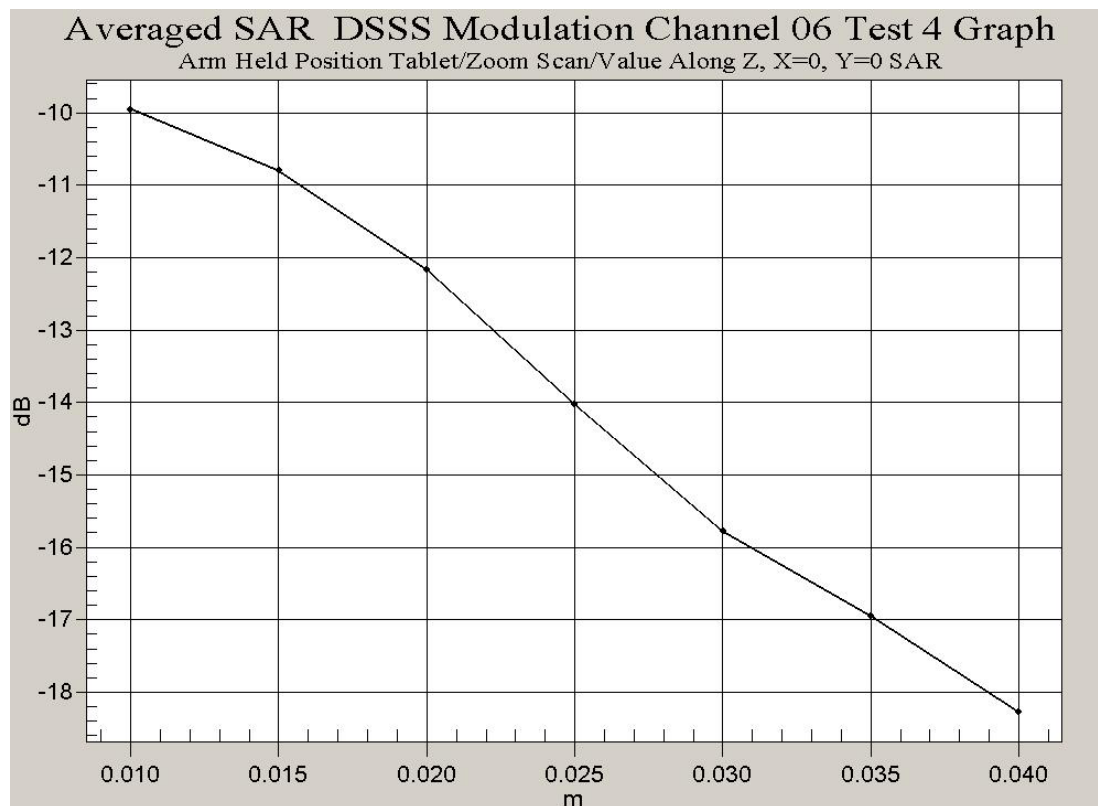
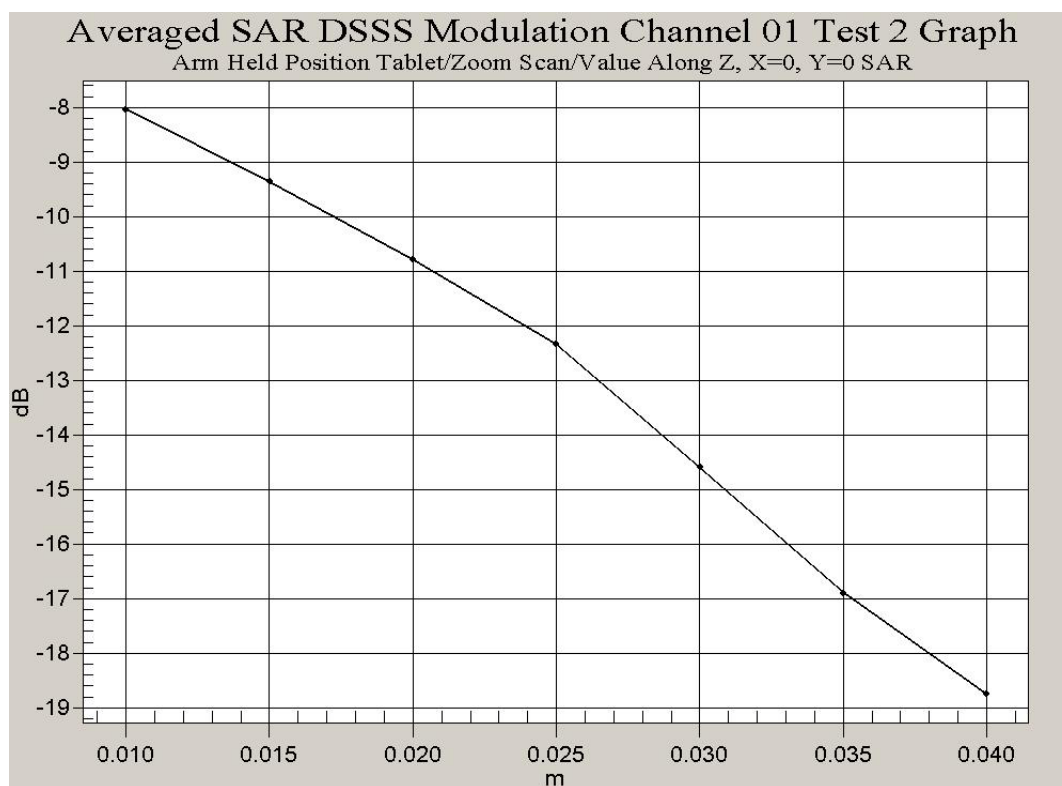


SAR MEASUREMENT PLOT 6

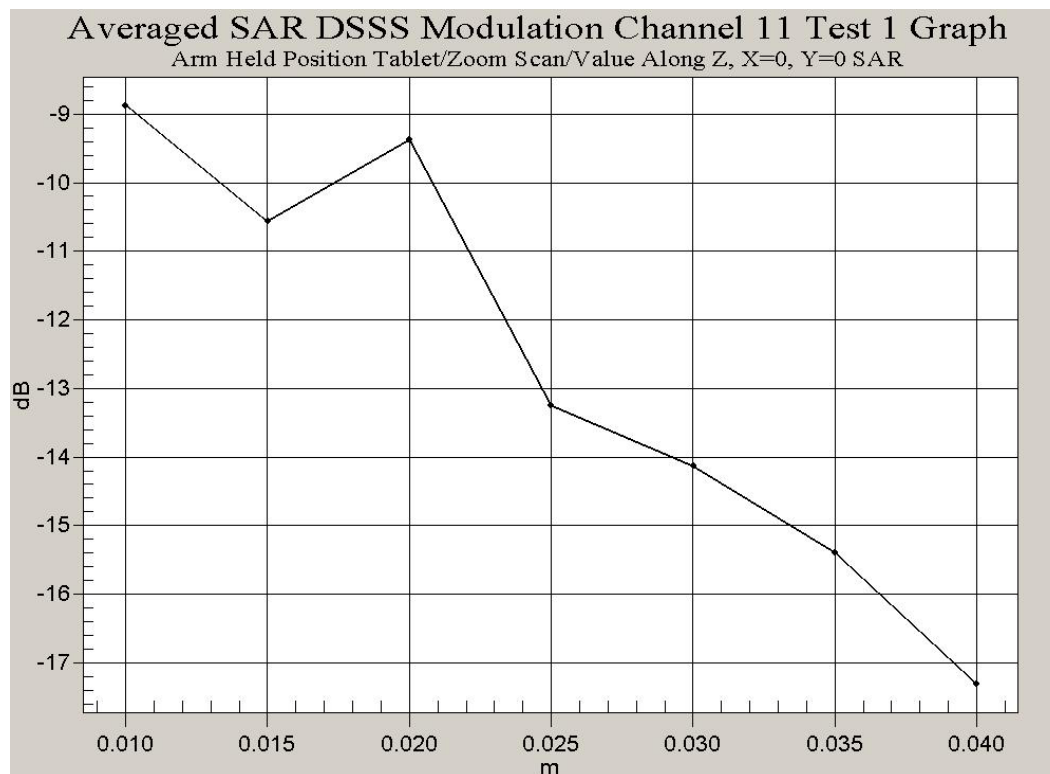
Ambient Temperature
Liquid Temperature
Humidity

20.3 Degrees Celsius
19.7 Degrees Celsius
38 %

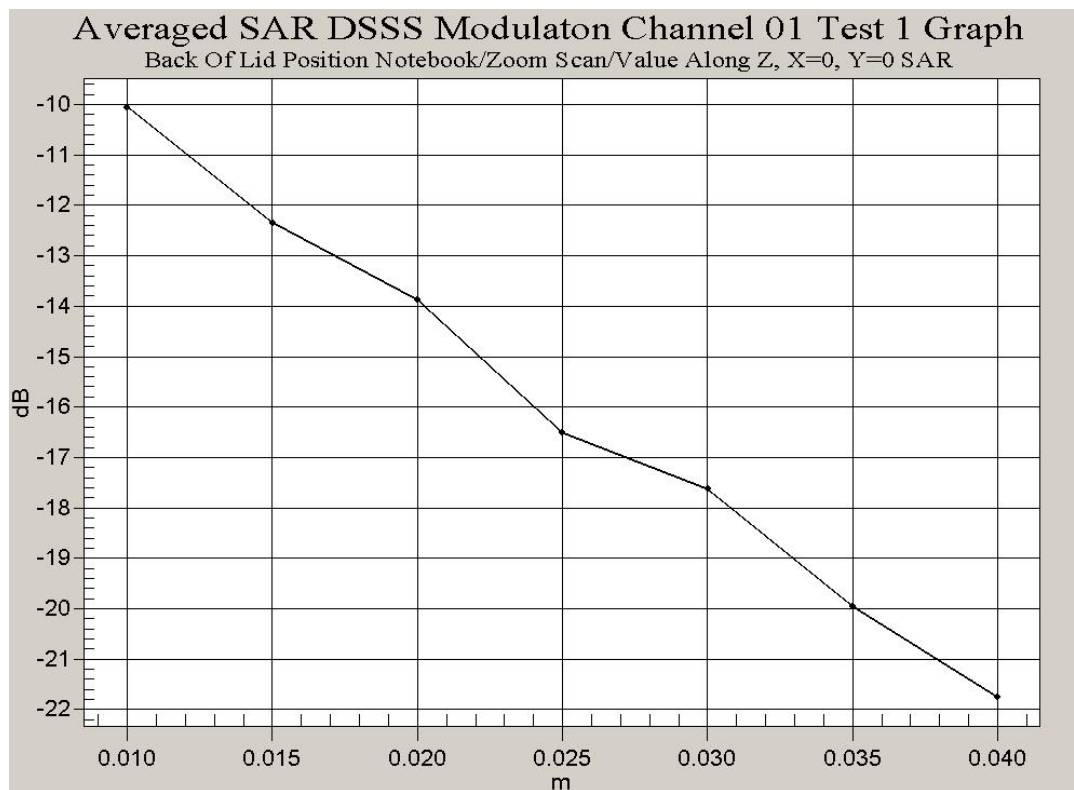
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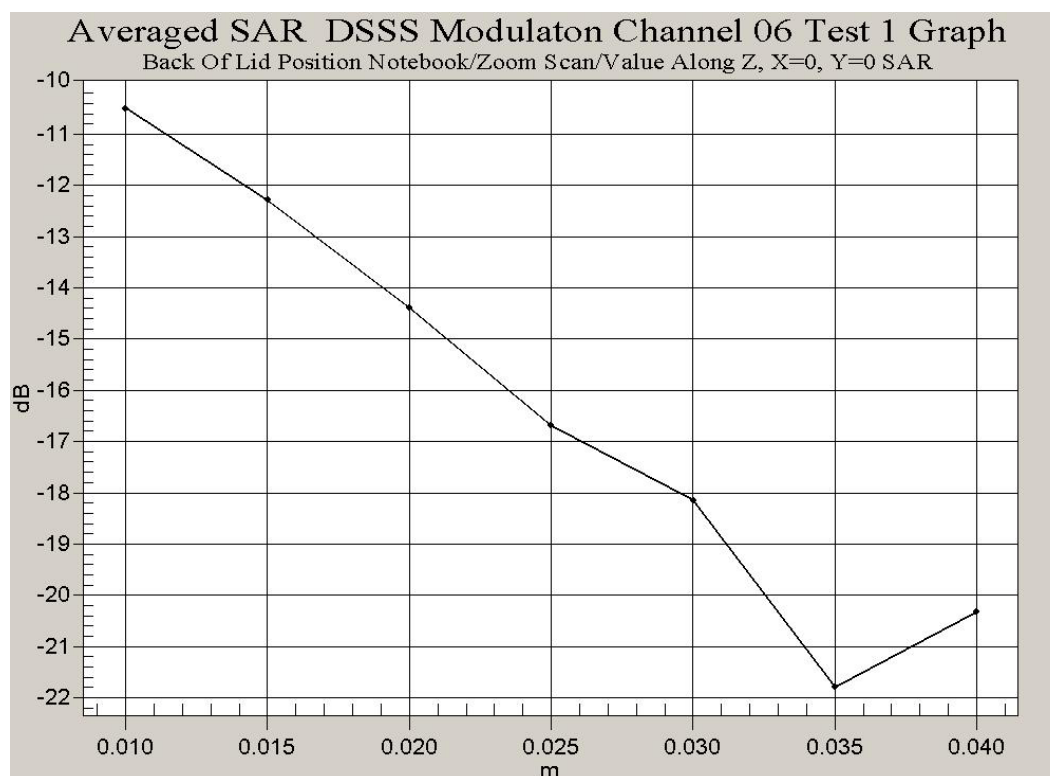
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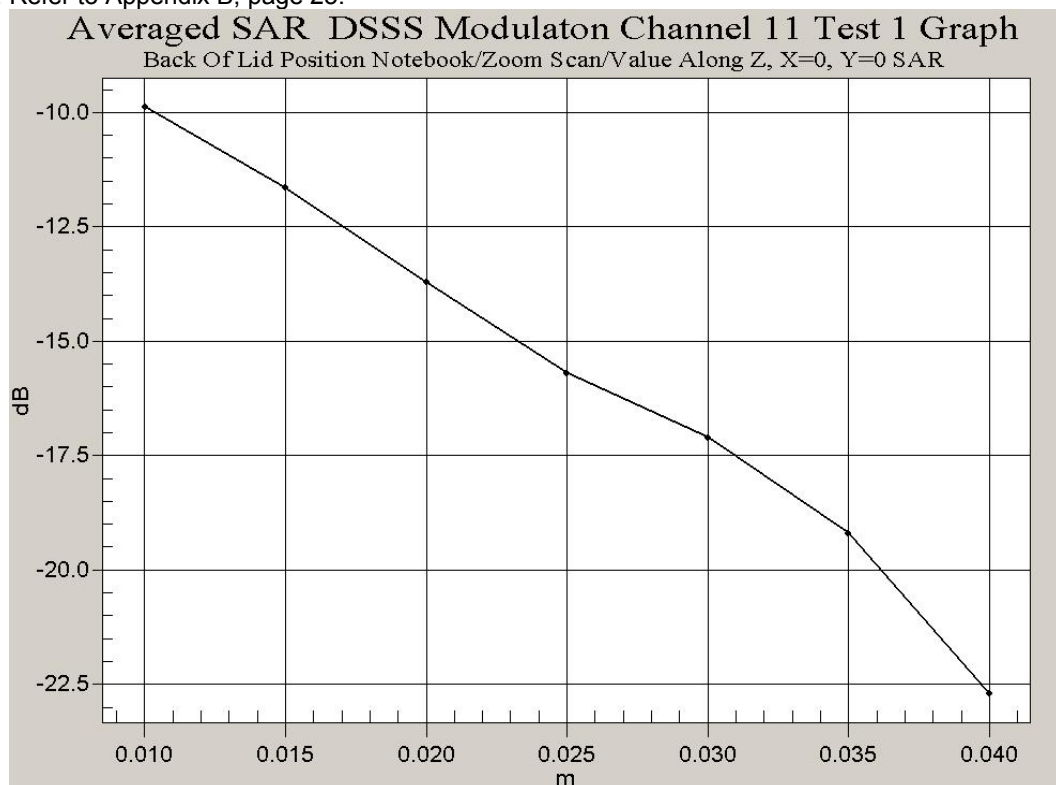
NOTE: Refer to Appendix B, page 25.



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NOTE: Refer to Appendix B, page 25.



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Test Date: 06 August 2003

File Name: [Validation 2450 MHz \(DAE442 Probe1380\) 06-08-03.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; ($\sigma = 1.87056$ mho/m, $\epsilon_r = 38.9042$, $\rho = 1000$ 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 = 100.5 V/m

Power Drift = -0.007 dB

Maximum value of SAR = 15.7 mW/g

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

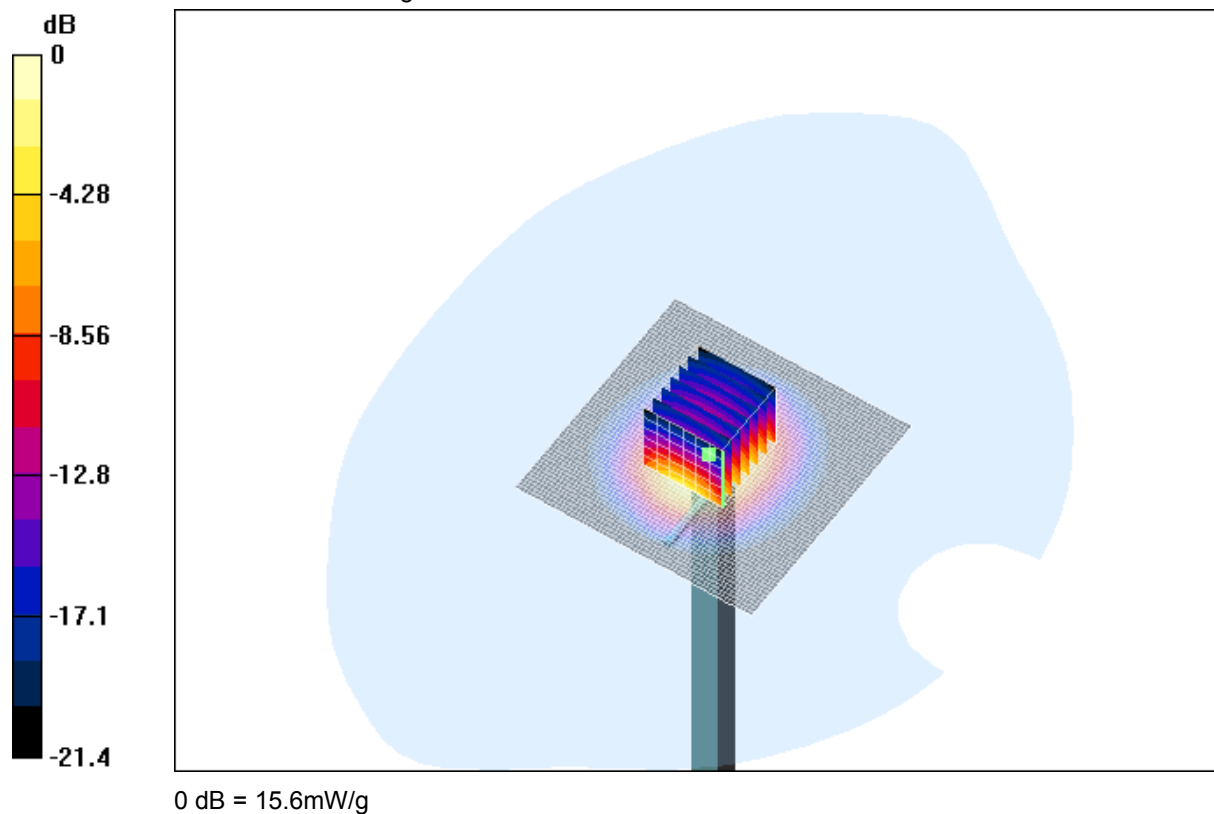
Peak SAR (extrapolated) = 27.5 W/kg

SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.48 mW/g

Reference Value = 100.5 V/m

Power Drift = -0.007 dB

Maximum value of SAR = 15.6 mW/g



SAR MEASUREMENT PLOT 7

Ambient Temperature
Liquid Temperature
Humidity

20.3 Degrees Celsius
19.7 Degrees Celsius
38 %

Test Date: 07 August 2003

File Name: [Validation 2450 MHz \(DAE442 Probe1380\) 07-08-03.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; ($\sigma = 1.8579$ mho/m, $\epsilon_r = 38.9652$, $\rho = 1000$ 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 = 101.1 V/m

Power Drift = 0.001 dB

Maximum value of SAR = 15.7 mW/g

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

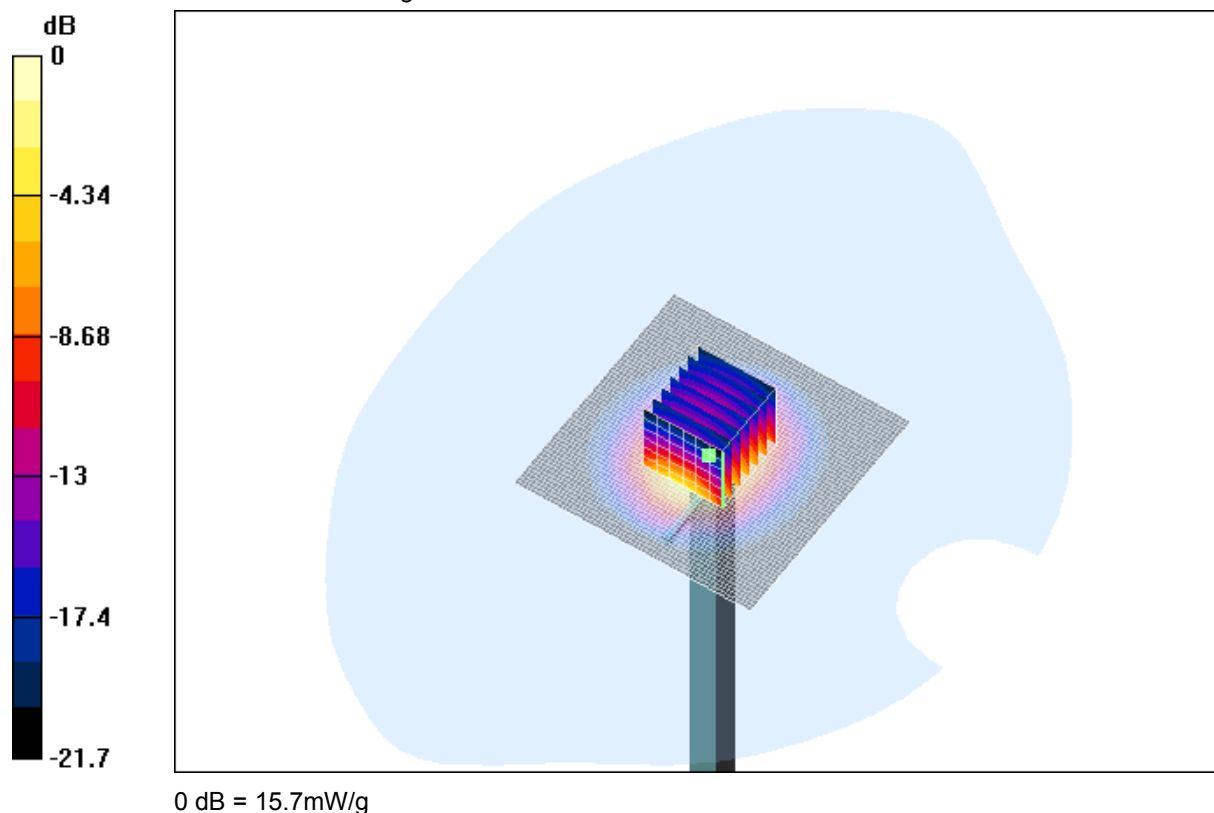
Peak SAR (extrapolated) = 28.3 W/kg

SAR(1 g) = 14.2 mW/g; SAR(10 g) = 6.56 mW/g

Reference Value = 101.1 V/m

Power Drift = 0.001 dB

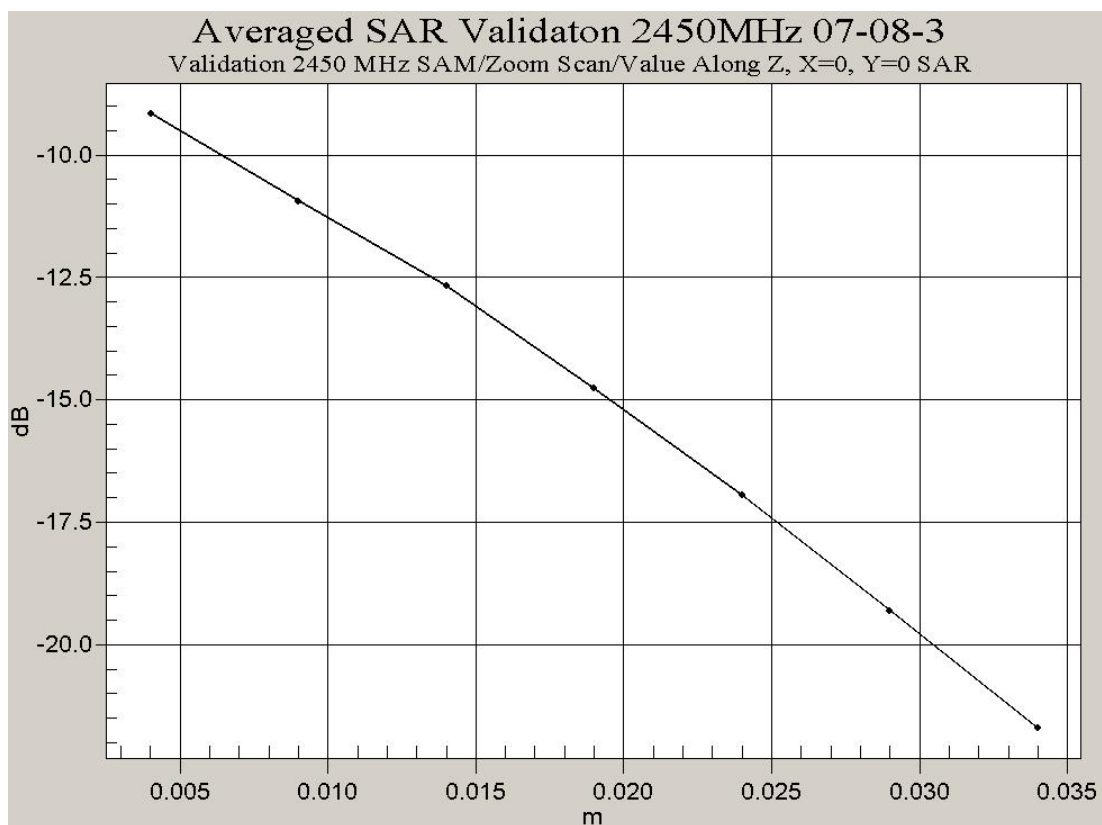
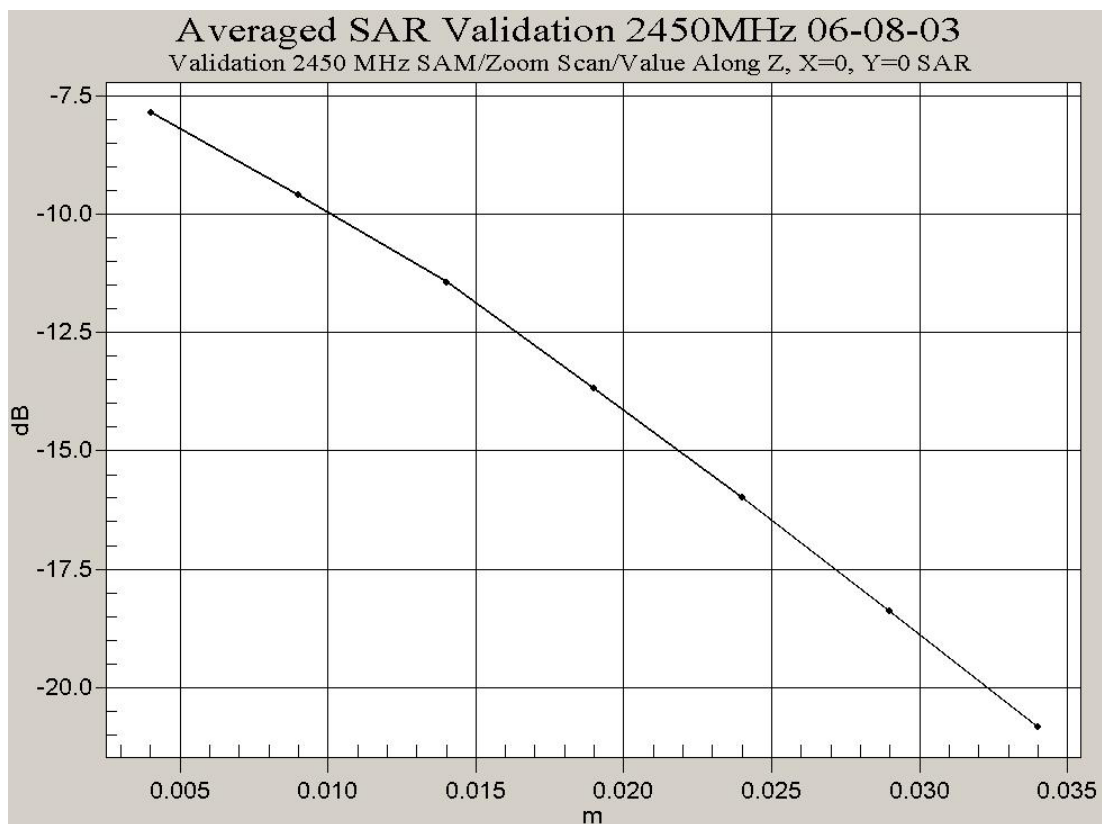
Maximum value of SAR = 15.7 mW/g



SAR MEASUREMENT PLOT 8

Ambient Temperature
Liquid Temperature
Humidity

20.5 Degrees Celsius
19.8 Degrees Celsius
41 %



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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. Thickness Details of Flat phantom PL550 Flat Phantom | 1 Page |
| 4. Dielectric Properties of Flat phantom PL550 Phantom | 1 Page |