

APPENDIX B PLOTS OF THE SAR MEASUREMENTS

Plots of the measured SAR distributions inside the phantom are given in this Appendix for the “Lap Arm Held” and “Tablet” tested configurations. 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 position were $< 0.1\text{mW/g}$ and consequently the “hotspot” was not always clearly defined. The measurement results are only just above the noise floor and the measurement sensitivity of the SAR system. The plots and graphs for these positions were included for information.

NOTE on SAR Graphs: The Z-axis scans listed in this appendix do not always show a consistent decay over distance. This is not due to an incorrect liquid level but is due to the very steep field gradients in the 5-6 GHz band. At distances of greater than 20mm, the SAR levels are in the noise floor, and the calculated levels should be ignored. This is an artefact caused by the DASY4 SEMCAD software algorithms. According to the DASY4 manufacturer the artifact is “...due to the very rapid decay of the fields within the liquid at this frequency, the values far away from the phantom's surface are so low, that SEMCAD currently identifies them as noise.” SPEAG has advised that this problem will be rectified in the next build of the software.

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

Table 21: 5800 MHz Band SAR Measurement Plot Numbers

Plot 1	Lap Arm Held Position – Ant Main - Prescan	CH#157
Plot 2	Lap Arm Held Position – Ant Aux	CH#149
Plot 3	Lap Arm Held Position – Ant Aux	CH#157
Plot 4	Lap Arm Held Position – Ant Aux	CH#161
Z-Axis graphs	Z-Axis graphs for Plots 2 to 4	
Plot 5	Tablet Position – Ant Aux - Prescan	CH#157
Plot 6	Lap Arm Held Position – Ant Aux - Prescan	CH#157
Plot 7	Tablet Position – Ant Main	CH#149
Plot 8	Tablet Position – Ant Main	CH#157
Plot 9	Tablet Position – Ant Main	CH#165
Z-axis graphs	Z-Axis graphs for Plots 7 to 9	

Table 22: 5800 MHz Band SAR Measurement Plot Numbers

Plot 10	Tablet Position – Ant Main	CH#36
Plot 11	Tablet Position – Ant Main	CH#48
Plot 12	Tablet Position – Ant Main	CH#64
Z-axis graphs	Z-Axis graphs for Plots 10 to 12	
Plot 13	Lap Arm Held Position – Ant Aux	CH#36
Plot 14	Lap Arm Held Position – Ant Aux	CH#48
Plot 15	Lap Arm Held Position – Ant Aux	CH#64
Z-axis graphs	Z-Axis graphs for Plots 13 to 15	

Table 23: 2450MHz Validation Plot

Plot 16	Validation 5800 MHz 15 th Sept 2004
Plot 17	Validation 5200 MHz 16 th Sept 2004
Plot 18	Validation 5800 MHz 17 th Sept 2004
Plot 19	Validation 5200 MHz 16 th Sept 2004
Plot 20	Validation 5800 MHz 16 th Sept 2004
Z-Axis Graphs	Z-Axis graphs for Plots 16 & 17

Test Date: 15 September 2004

File Name: [Arm Held OFDM 5.6 GHz Antenna Main Bluetooth OFF Prescan 15-09-04.da4](#)

DUT: Fujitsu Tablet Soriel with Calexico 11abg and Bluetooth; Type: 2915ABG; Serial: 344EE5244ABC51962012

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 6.36825$; mho/m, $\epsilon_r = 43.9277$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: ES3DV3- SN3029; ConvF(1.8, 1.8, 1.8)

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

Channel 157 Test/Area Scan (151x181x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 1.42 V/m; Power Drift = 0.4 dB

Maximum value of SAR (interpolated) = 0.037 mW/g

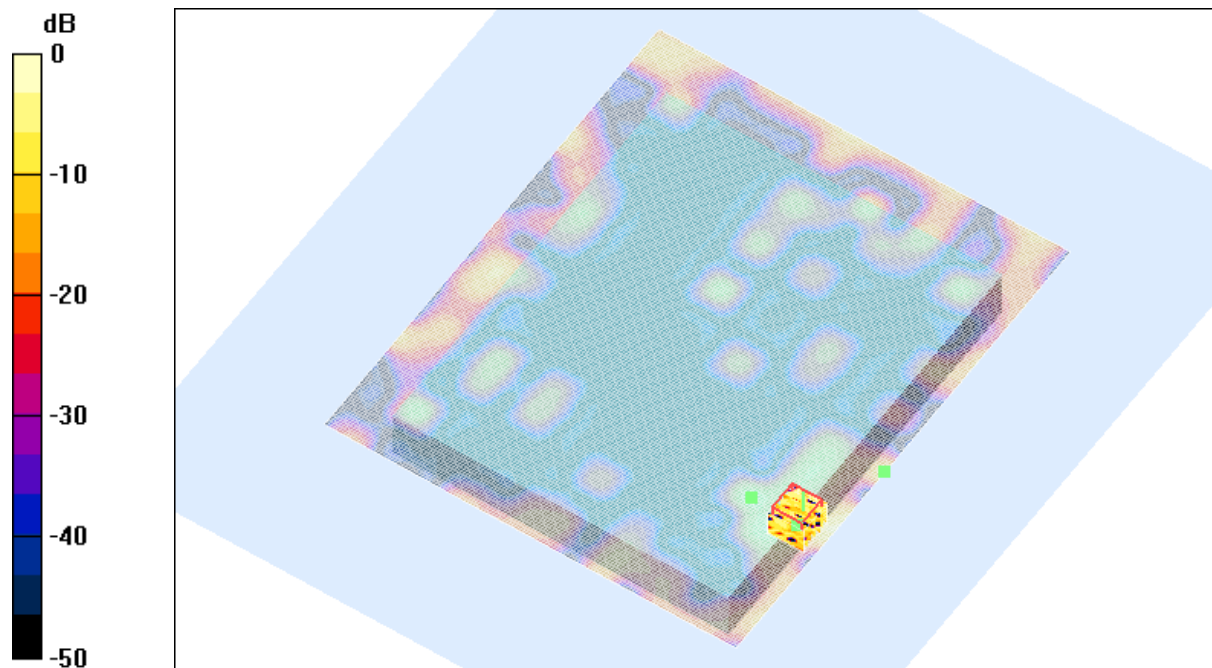
Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 1.42 V/m; Power Drift = 0.4 dB

Maximum value of SAR (measured) = 0.121 mW/g

Peak SAR (extrapolated) = 0.204 W/kg

SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.017 mW/g



0 dB = 0.121mW/g

SAR MEASUREMENT PLOT 1

Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.1 Degrees Celsius
43.0 %

Test Date: 21 September 2004

File Name: [Arm Held OFDM 5.6 GHz Antenna Aux Bluetooth Off 21-09-04.da4](#)

DUT: Fujitsu Tablet Soriel with Calexico 11abg and Bluetooth; Type: 2915ABG; Serial: 344EE5244ABC51962012

* Communication System: OFDM 5770 MHz; Frequency: 5745 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 5.98811$; mho/m, $\epsilon_r = 44.5324$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: ES3DV3- SN3029; ConvF(1.8, 1.8, 1.8)

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

Channel 149 Test/Area Scan (81x61x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 12 V/m; Power Drift = 0.0 dB

Maximum value of SAR (interpolated) = 0.664 mW/g

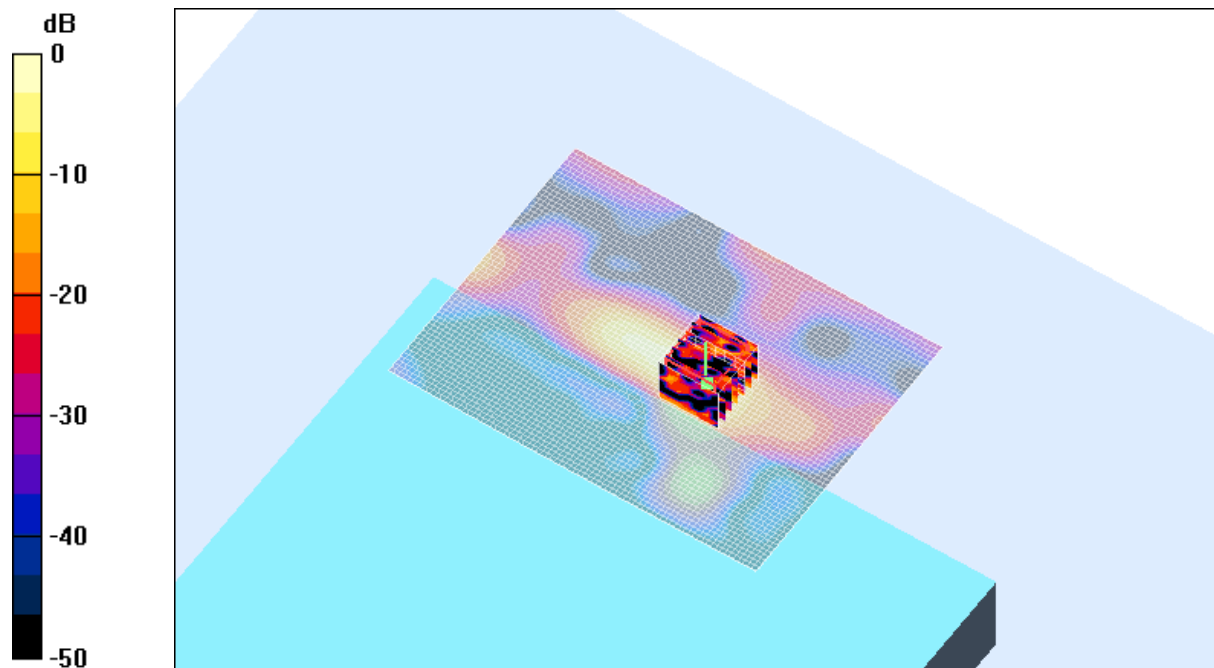
Channel 149 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 12 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 0.706 mW/g

Peak SAR (extrapolated) = 2.08 W/kg

SAR(1 g) = 0.394 mW/g; SAR(10 g) = 0.084 mW/g



0 dB = 0.706mW/g

SAR MEASUREMENT PLOT 2

Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.1 Degrees Celsius
48.0 %

Test Date: 21 September 2004

File Name: [Arm Held OFDM 5.6 GHz Antenna Aux Bluetooth Off 21-09-04.da4](#)

DUT: Fujitsu Tablet Soriel with Calexico 11abg and Bluetooth; Type: 2915ABG; Serial: 344EE5244ABC51962012

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 6.06052$; mho/m, $\epsilon_r = 44.4113$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: ES3DV3- SN3029; ConvF(1.8, 1.8, 1.8)

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

Channel 157 Test/Area Scan (81x61x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 11.1 V/m; Power Drift = -0.2 dB

Maximum value of SAR (interpolated) = 0.606 mW/g

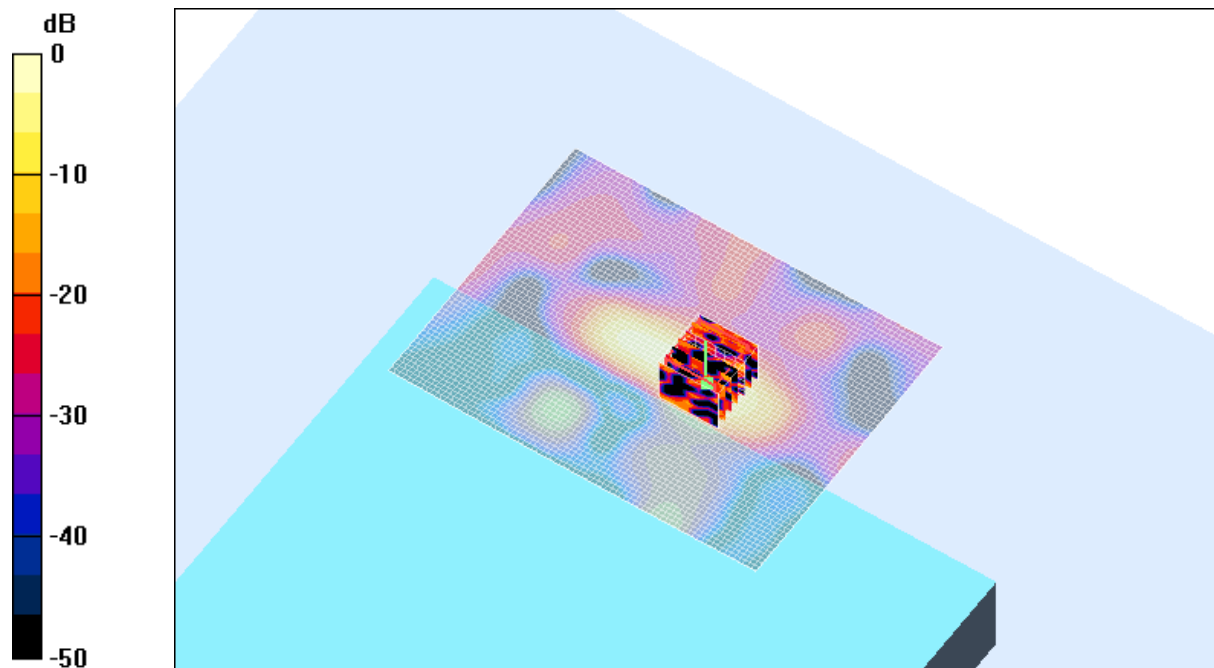
Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 11.1 V/m; Power Drift = -0.2 dB

Maximum value of SAR (measured) = 0.593 mW/g

Peak SAR (extrapolated) = 2.48 W/kg

SAR(1 g) = 0.351 mW/g; SAR(10 g) = 0.071 mW/g



0 dB = 0.593mW/g

SAR MEASUREMENT PLOT 3

Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.1 Degrees Celsius
48.0 %

Test Date: 21 September 2004

File Name: [Arm Held OFDM 5.6 GHz Antenna Aux Bluetooth Off 21-09-04.da4](#)

DUT: Fujitsu Tablet Soriel with Calexico 11abg and Bluetooth; Type: 2915ABG; Serial: 344EE5244ABC51962012

* Communication System: OFDM 5770 MHz; Frequency: 5825 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 6.10745$; mho/m, $\epsilon_r = 44.3095$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: ES3DV3- SN3029; ConvF(1.8, 1.8, 1.8)

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

Channel 165 Test/Area Scan (81x61x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 8.94 V/m; Power Drift = 0.0 dB

Maximum value of SAR (interpolated) = 0.426 mW/g

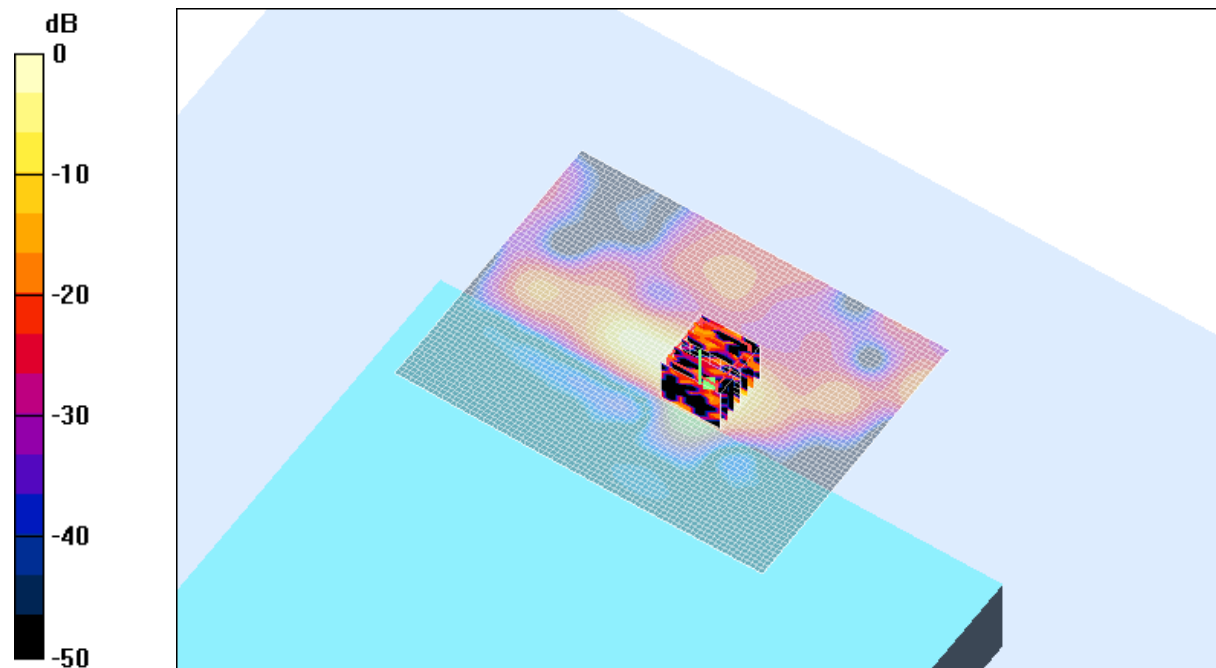
Channel 165 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 8.94 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 0.417 mW/g

Peak SAR (extrapolated) = 5.44 W/kg

SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.064 mW/g



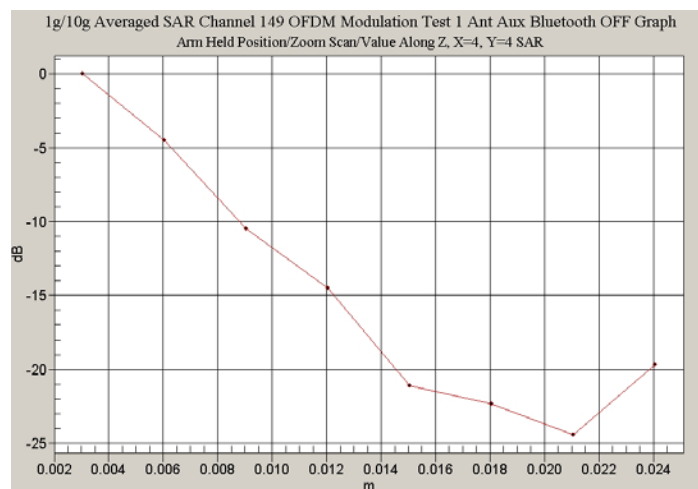
0 dB = 0.417mW/g

SAR MEASUREMENT PLOT 4

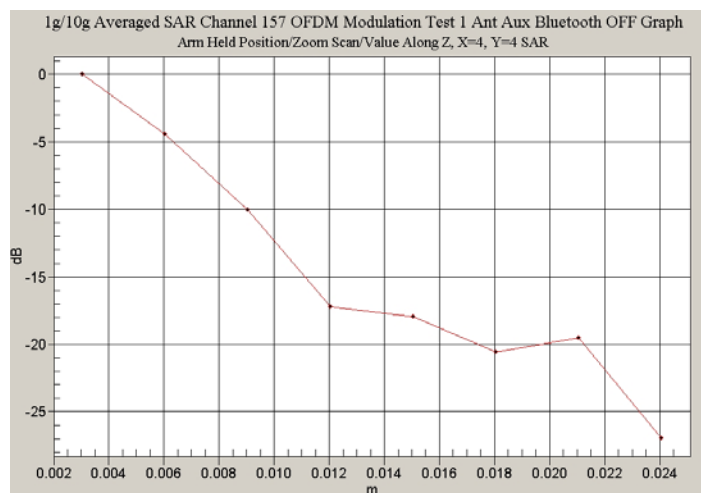
Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.1 Degrees Celsius
48.0 %

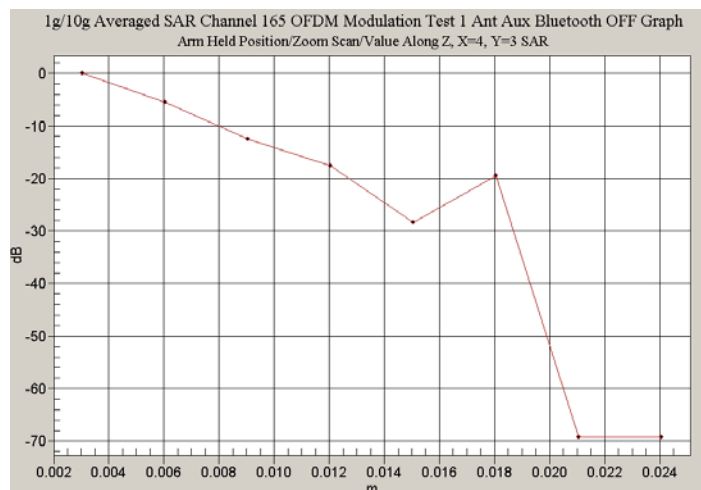
Z-Axis Graph for Plot 2



Z-Axis Graph for Plot 3



Z-Axis Graph for Plot 4



Test Date: 21 September 2004

File Name: [Tablet OFDM 5.6 GHz Antenna Aux Bluetooth Off Prescan 21-09-04.da4](#)

DUT: Fujitsu Tablet Soriel with Calexico 11abg and Bluetooth; Type: 2915ABG; Serial: 344EE5244ABC51962012

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 6.06052$; mho/m, $\epsilon_r = 44.4113$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: ES3DV3- SN3029; ConvF(1.8, 1.8, 1.8)

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

Channel 157 Test/Area Scan (151x181x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 0.720 V/m; Power Drift = -2 dB

Maximum value of SAR (interpolated) = 0.027 mW/g

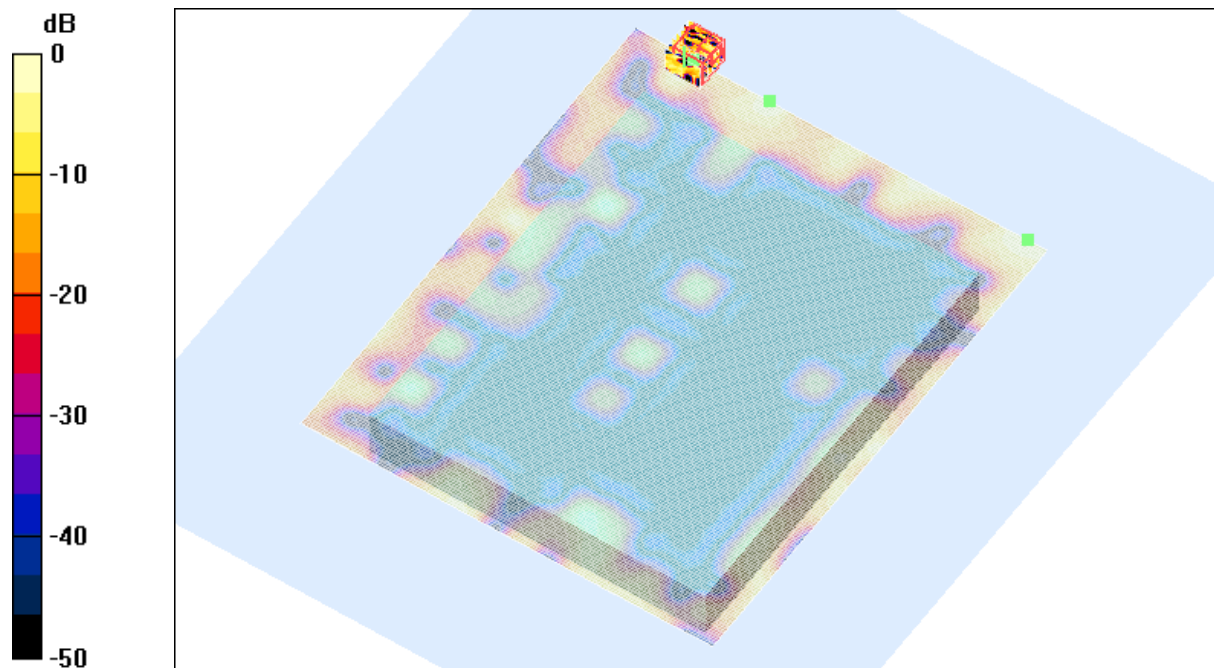
Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 0.720 V/m; Power Drift = -2 dB

Maximum value of SAR (measured) = 0.040 mW/g

Peak SAR (extrapolated) = 0.054 W/kg

SAR(1 g) = 0.00745 mW/g; SAR(10 g) = 0.00309 mW/g



0 dB = 0.040mW/g

SAR MEASUREMENT PLOT 5

Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.1 Degrees Celsius
48.0 %

Test Date: 15 September 2004

File Name: [Tablet OFDM 5.6 GHz Antenna Main Bluetooth OFF Prescan 15-09-04.da4](#)

DUT: Fujitsu Tablet Soriel with Calexico 11abg and Bluetooth; Type: 2915ABG; Serial: 344EE5244ABC51962012

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 6.36825$; mho/m, $\epsilon_r = 43.9277$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: ES3DV3- SN3029; ConvF(1.8, 1.8, 1.8)

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

Channel 157 Test/Area Scan (151x181x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 14.2 V/m; Power Drift = -0.9 dB

Maximum value of SAR (interpolated) = 0.813 mW/g

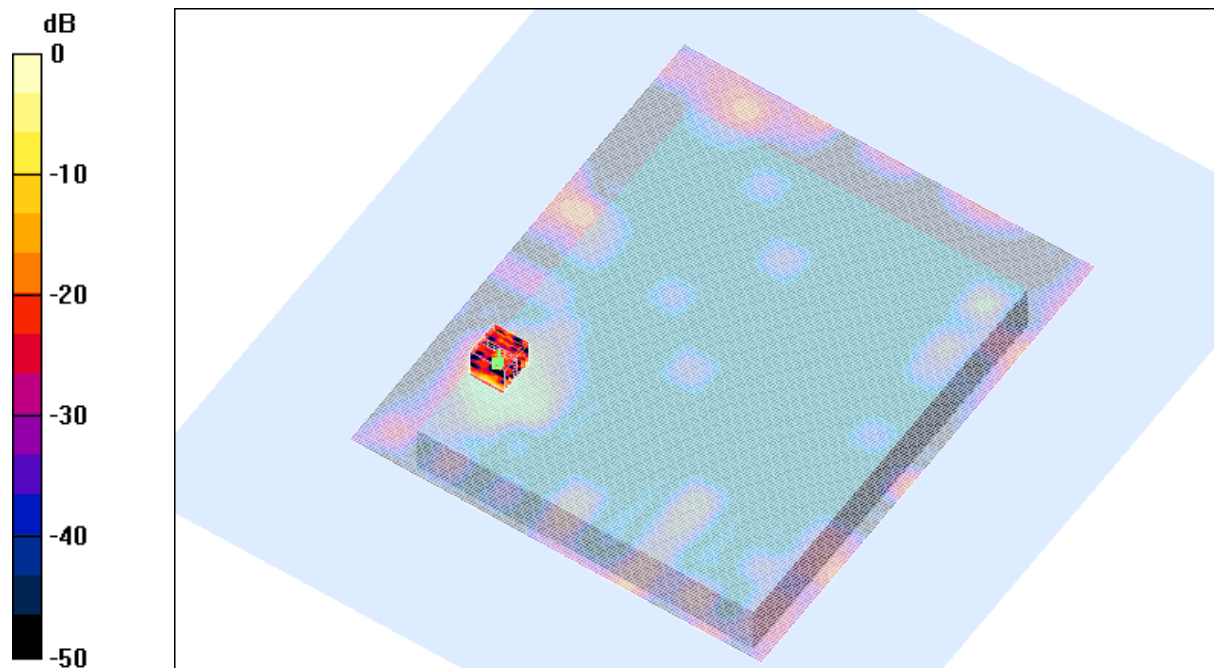
Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 14.2 V/m; Power Drift = -0.9 dB

Maximum value of SAR (measured) = 1.37 mW/g

Peak SAR (extrapolated) = 4.17 W/kg

SAR(1 g) = 0.768 mW/g; SAR(10 g) = 0.175 mW/g



0 dB = 1.37mW/g

SAR MEASUREMENT PLOT 6

Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.1 Degrees Celsius
43.0 %

Test Date: 15 September 2004

File Name: [Tablet OFDM 5.6 GHz Ant Main Bluetooth Off 15-09-04.da4](#)

DUT: Fujitsu Tablet Soriel with Calexico 11abg and Bluetooth; Type: 2915ABG; Serial: 344EE5244ABC51962012

* Communication System: OFDM 5770 MHz; Frequency: 5745 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 6.28306$; mho/m, $\epsilon_r = 44.0566$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: ES3DV3- SN3029; ConvF(1.8, 1.8, 1.8)

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

Channel 149 Test/Area Scan (101x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 12.9 V/m; Power Drift = -0.5 dB

Maximum value of SAR (interpolated) = 0.336 mW/g

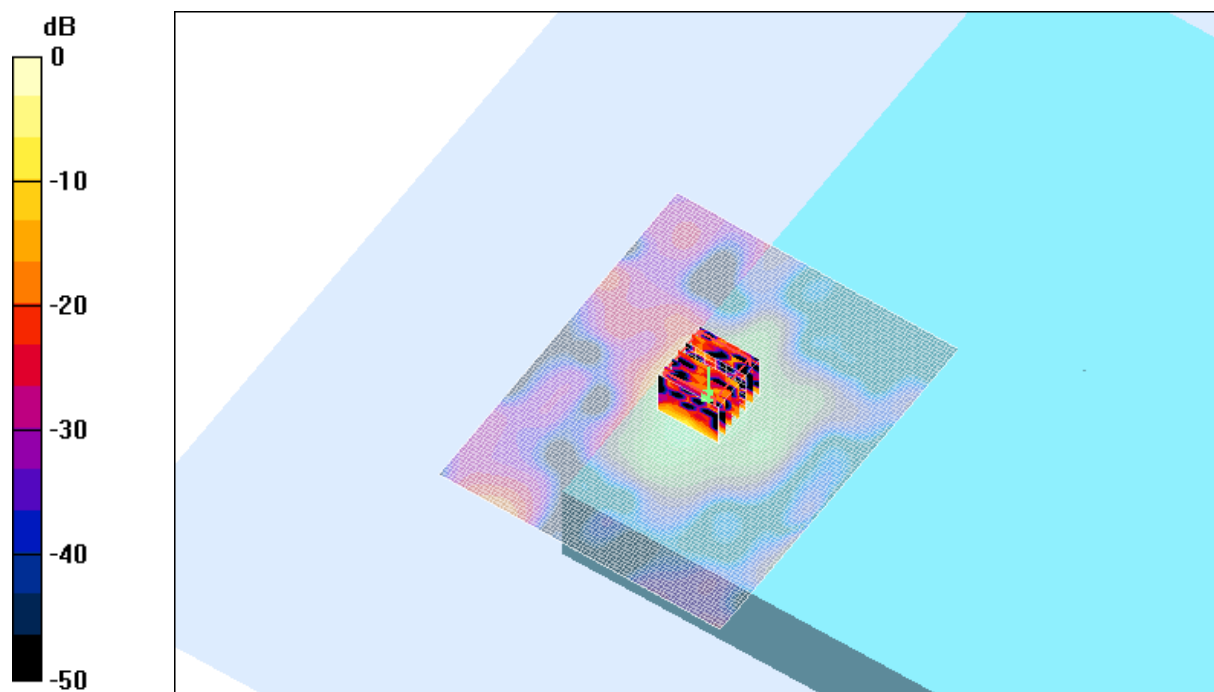
Channel 149 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 12.9 V/m; Power Drift = -0.5 dB

Maximum value of SAR (measured) = 0.922 mW/g

Peak SAR (extrapolated) = 2.78 W/kg

SAR(1 g) = 0.539 mW/g; SAR(10 g) = 0.122 mW/g



0 dB = 0.922mW/g

SAR MEASUREMENT PLOT 7

Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.1 Degrees Celsius
43.0 %

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Test Date: 15 September 2004

File Name: [Tablet OFDM 5.6 GHz Ant Main Bluetooth Off 15-09-04.da4](#)

DUT: Fujitsu Tablet Soriel with Calexico 11abg and Bluetooth; Type: 2915ABG; Serial: 344EE5244ABC51962012

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 6.36825$; mho/m, $\epsilon_r = 43.9277$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: ES3DV3- SN3029; ConvF(1.8, 1.8, 1.8)

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

Channel 157 Test/Area Scan (101x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 12.5 V/m; Power Drift = -0.3 dB

Maximum value of SAR (interpolated) = 0.301 mW/g

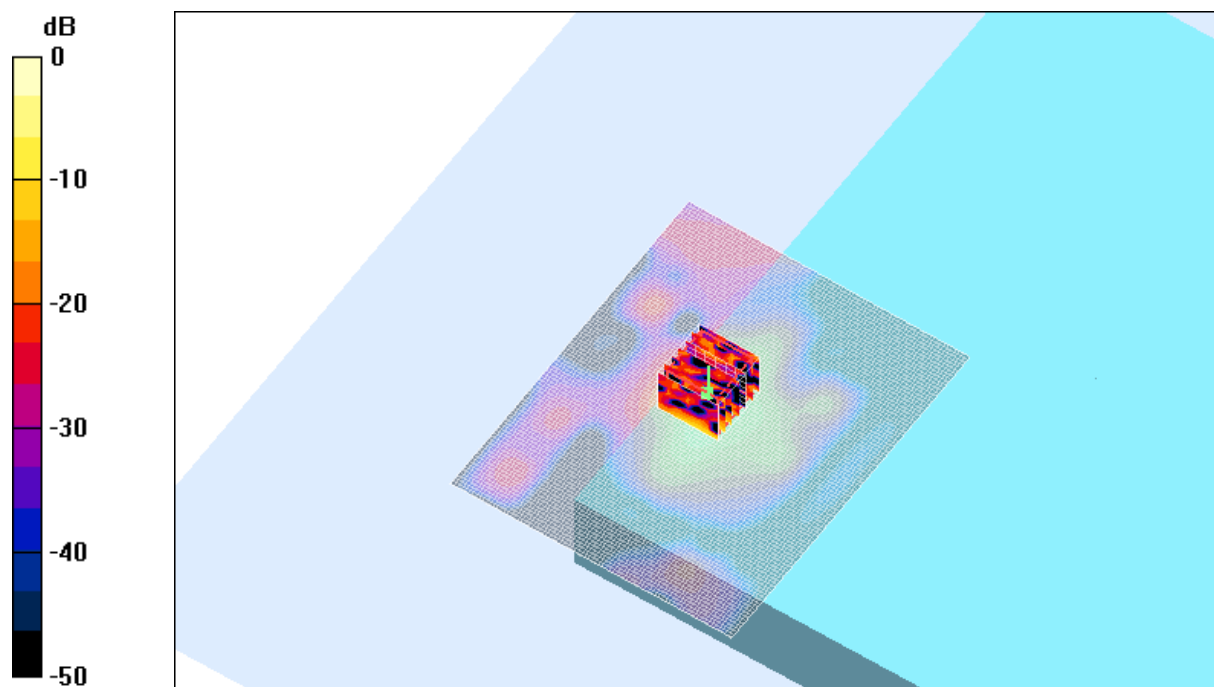
Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 12.5 V/m; Power Drift = -0.3 dB

Maximum value of SAR (measured) = 1.24 mW/g

Peak SAR (extrapolated) = 4.04 W/kg

SAR(1 g) = 0.710 mW/g; SAR(10 g) = 0.161 mW/g



0 dB = 1.24mW/g

SAR MEASUREMENT PLOT 8

Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.1 Degrees Celsius
43.0 %

Test Date: 15 September 2004

File Name: [Tablet OFDM 5.6 GHz Ant Main Bluetooth Off 15-09-04.da4](#)

DUT: Fujitsu Tablet Soriel with Calexico 11abg and Bluetooth; Type: 2915ABG; Serial: 344EE5244ABC51962012

* Communication System: OFDM 5770 MHz; Frequency: 5825 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 6.42948$; mho/m, $\epsilon_r = 43.8328$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: ES3DV3- SN3029; ConvF(1.8, 1.8, 1.8)

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

Channel 165 Test 3/Area Scan (101x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 11.2 V/m; Power Drift = 0.3 dB

Maximum value of SAR (interpolated) = 0.288 mW/g

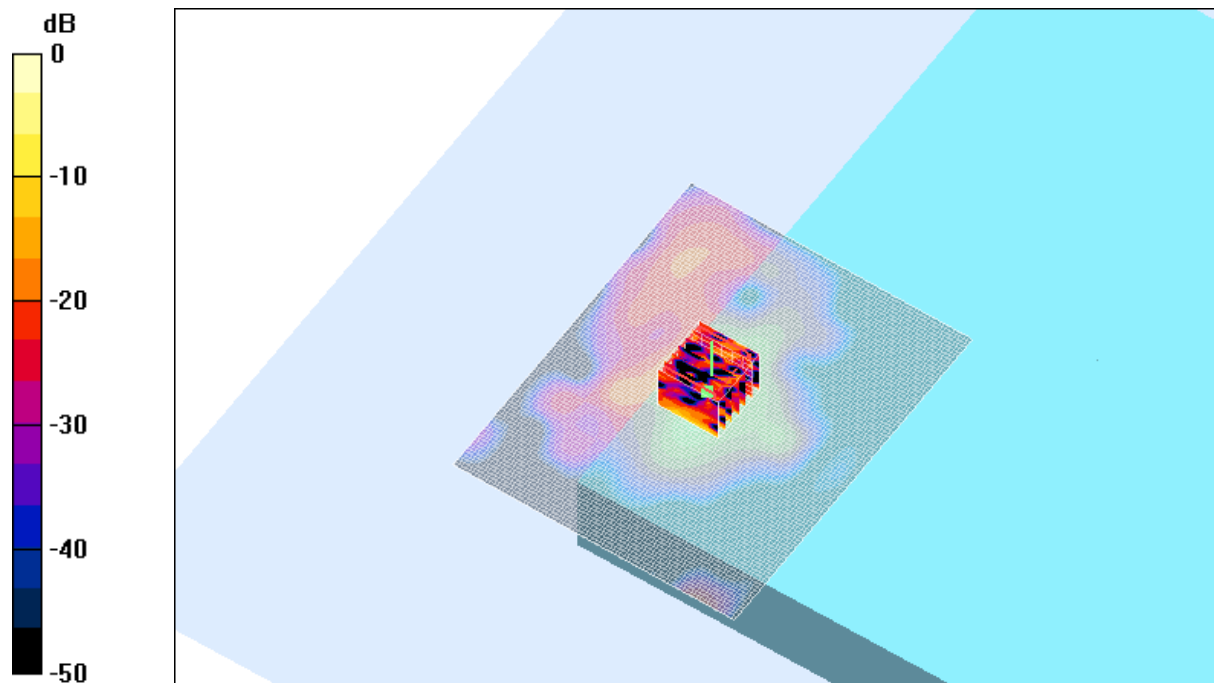
Channel 165 Test 3/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 11.2 V/m; Power Drift = 0.3 dB

Maximum value of SAR (measured) = 1.17 mW/g

Peak SAR (extrapolated) = 3.52 W/kg

SAR(1 g) = 0.654 mW/g; SAR(10 g) = 0.138 mW/g



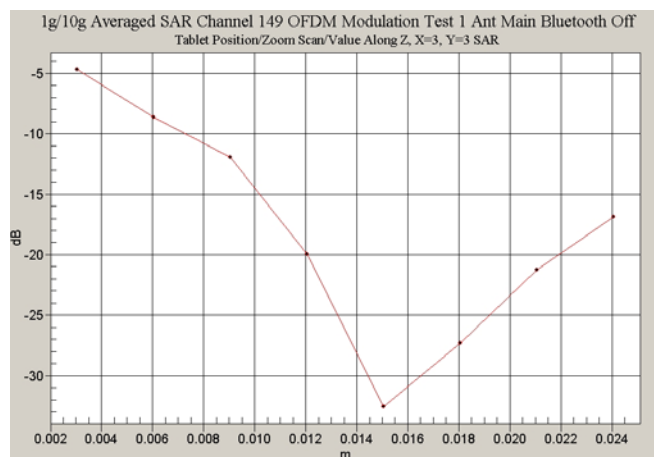
0 dB = 1.17mW/g

SAR MEASUREMENT PLOT 9

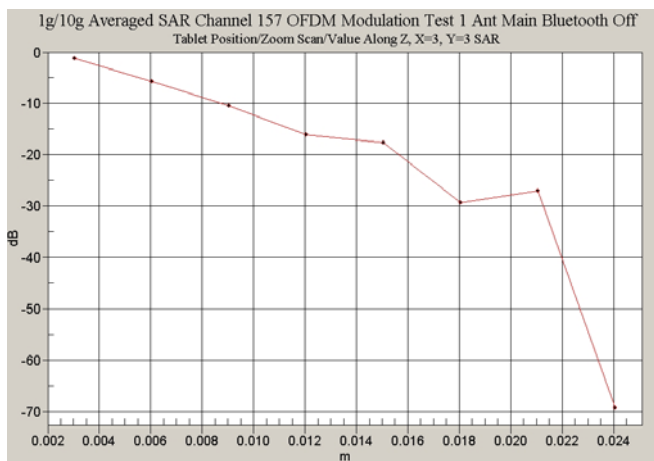
Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.1 Degrees Celsius
43.0 %

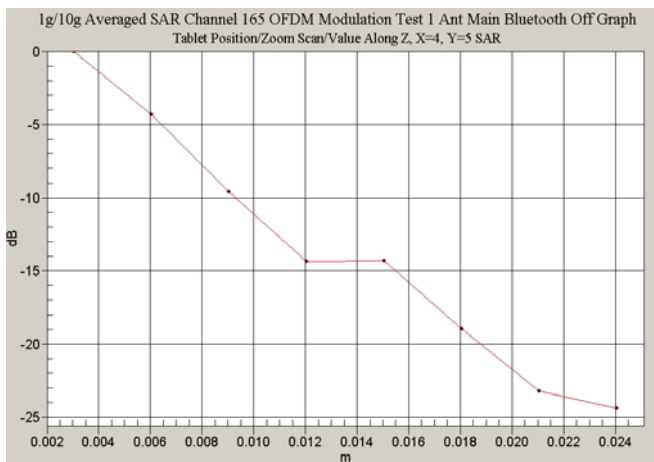
Z-Axis Graph for Plot 7



Z-Axis Graph for Plot 8



Z-Axis Graph for Plot 9



Test Date: 16 September 2004

File Name: [Tablet OFDM 5.2 GHz Ant Main Bluetooth Off 16-09-04.da4](#)

DUT: Fujitsu Tablet Soriel with Calexico 11abg and Bluetooth; Type: 2915ABG; Serial: 344EE5244ABC51962012

* Communication System: OFDM 5250 MHz; Frequency: 5180 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 5.1316$; mho/m, $\epsilon_r = 45.6149$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn359; Probe: ES3DV3- SN3029; ConvF(2.05, 2.05, 2.05)

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

Channel 036 Test/Area Scan (81x61x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 7.37 V/m; Power Drift = -0.2 dB

Maximum value of SAR (interpolated) = 1.39 mW/g

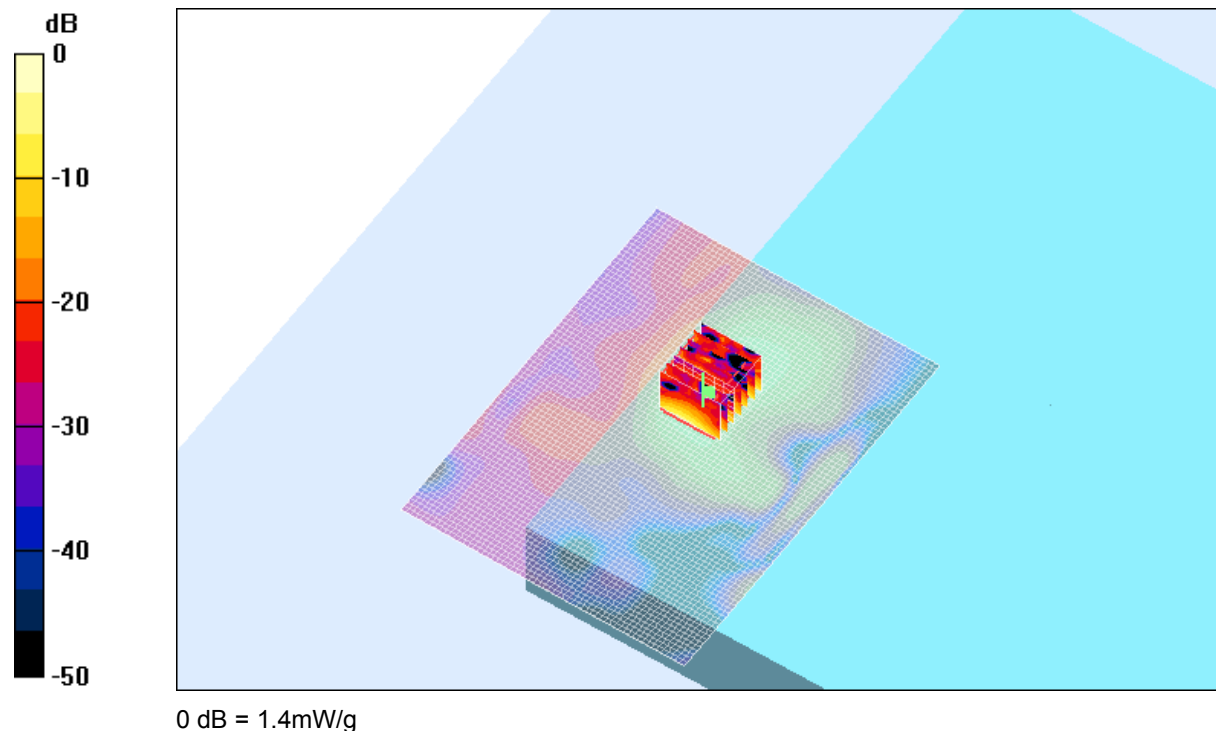
Channel 036 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

Reference Value = 7.37 V/m; Power Drift = -0.2 dB

Maximum value of SAR (measured) = 1.4 mW/g

Peak SAR (extrapolated) = 3.72 W/kg

SAR(1 g) = 0.921 mW/g; SAR(10 g) = 0.271 mW/g



SAR MEASUREMENT PLOT 10

Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.3 Degrees Celsius
42.0 %