

Test Date: 13 September 2004

File Name: [450 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant Low 13-09-04.da4](#)

DUT: Tait SPK-MIC Antenna Low; Type: TPA-AA-204; Serial: Prototype

- * Communication System: CW 450 MHz; Frequency: 400 MHz; Duty Cycle: 1:1
- * Medium parameters used: $\sigma = 0.845405$; mho/m, $\epsilon_r = 44.7914$; $\rho = 1000 \text{ kg/m}^3$
- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(7, 7, 7)
- Phantom: Flat Phantom 9.1; Serial: P 9.1; Phantom section: Flat 2.2 Section

Channel 1 Test/Area Scan (81x161x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 46.7 V/m; Power Drift = -0.1 dB

Maximum value of SAR (interpolated) = 3.83 mW/g

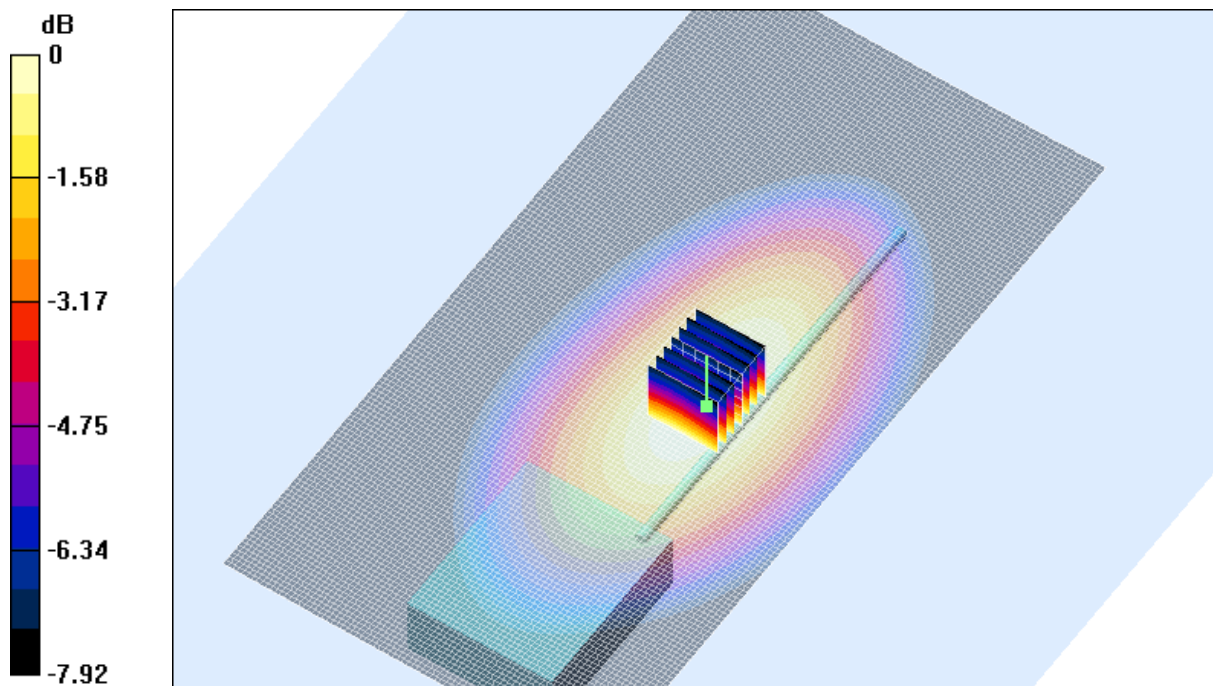
Channel 1 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 46.7 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 3.83 mW/g

Peak SAR (extrapolated) = 5.71 W/kg

SAR(1 g) = 3.68 mW/g; SAR(10 g) = 2.64 mW/g



0 dB = 3.83mW/g

SAR MEASUREMENT PLOT 25

Ambient Temperature
Liquid Temperature
Humidity

22.0 Degrees Celsius
20.0 Degrees Celsius
45.0 %

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Test Date: 11 September 2004

File Name: [450 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant Middle 11-09-04.da4](#)

DUT: Tait SPK-MIC Antenna Middle; Type: TPA-AA-204; Serial: Prototype

* Communication System: CW 450 MHz; Frequency: 435 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 0.851909$; mho/m, $\epsilon_r = 44.2865$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(7, 7, 7)

- Phantom: Flat Phantom 9.1; Serial: P 9.1; Phantom section: Flat 2.2 Section

Channel 2 Test/Area Scan (81x161x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 39 V/m; Power Drift = -0.4 dB

Maximum value of SAR (interpolated) = 2.9 mW/g

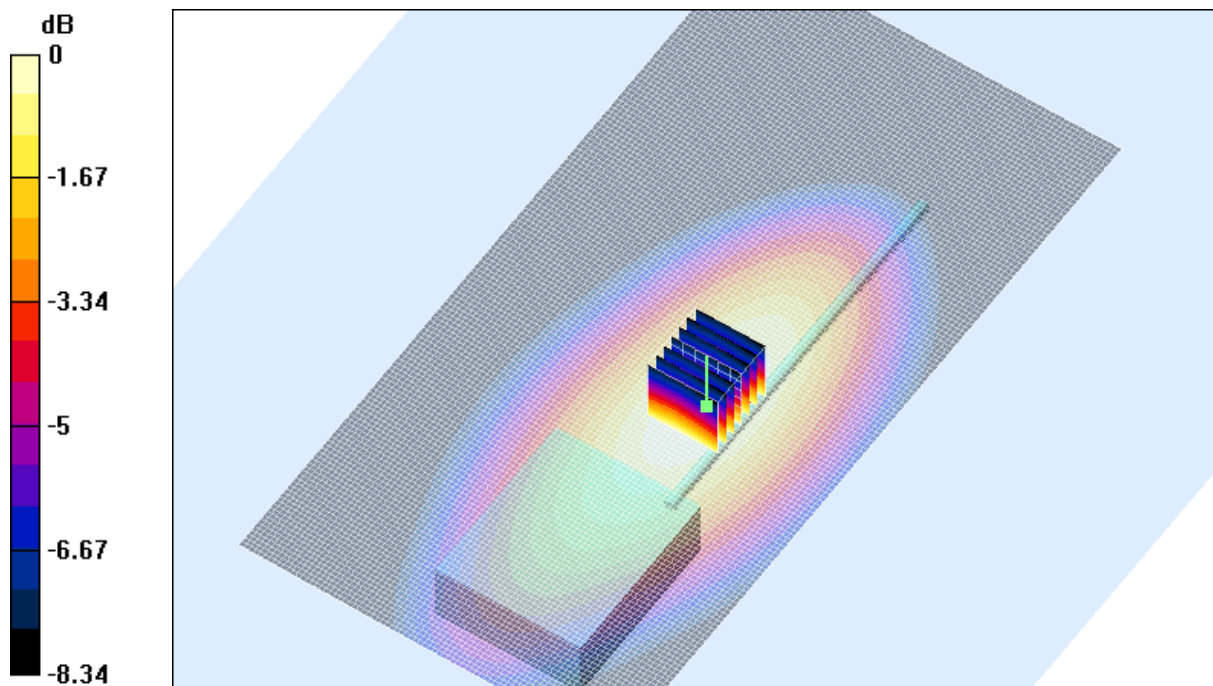
Channel 2 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 39 V/m; Power Drift = -0.4 dB

Maximum value of SAR (measured) = 2.86 mW/g

Peak SAR (extrapolated) = 4.3 W/kg

SAR(1 g) = 2.73 mW/g; SAR(10 g) = 1.94 mW/g



0 dB = 2.86mW/g

SAR MEASUREMENT PLOT 26

Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.7 Degrees Celsius
47.0 %

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Test Date: 11 September 2004

File Name: [450 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant High 11-09-04.da4](#)

DUT: Tait SPK-MIC Antenna High; Type: TPA-AA-204; Serial: Prototype

* Communication System: CW 450 MHz; Frequency: 470 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 0.883895$; mho/m, $\epsilon_r = 43.5949$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(7, 7, 7)

- Phantom: Flat Phantom 9.1; Serial: P 9.1; Phantom section: Flat 2.2 Section

Channel 3 Test/Area Scan (81x151x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 40 V/m; Power Drift = -0.2 dB

Maximum value of SAR (interpolated) = 2.97 mW/g

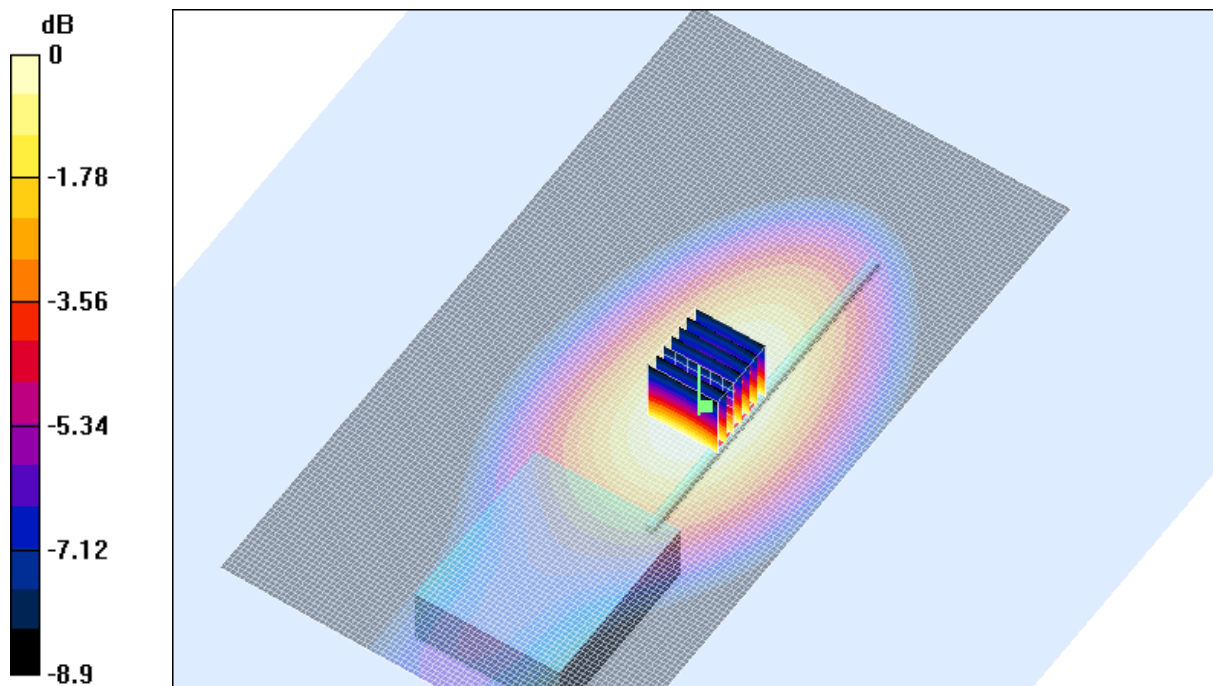
Channel 3 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 40 V/m; Power Drift = -0.2 dB

Maximum value of SAR (measured) = 2.85 mW/g

Peak SAR (extrapolated) = 4.3 W/kg

SAR(1 g) = 2.72 mW/g; SAR(10 g) = 1.9 mW/g



0 dB = 2.85mW/g

SAR MEASUREMENT PLOT 27

Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.7 Degrees Celsius
47.0 %

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Test Date: 13 September 2004

File Name: [450 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant Mini Low 13-09-04.da4](#)

DUT: Tait SPK-MIC Antenna Mini Low; Type: TPA-AA-204; Serial: Prototype

* Communication System: CW 450 MHz; Frequency: 400 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 0.845405$; mho/m, $\epsilon_r = 44.7914$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(7, 7, 7)

- Phantom: Flat Phantom 9.1; Serial: P 9.1; Phantom section: Flat 2.2 Section

Channel 1 Test/Area Scan (81x131x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 64.1 V/m; Power Drift = -0.1 dB

Maximum value of SAR (interpolated) = 5.94 mW/g

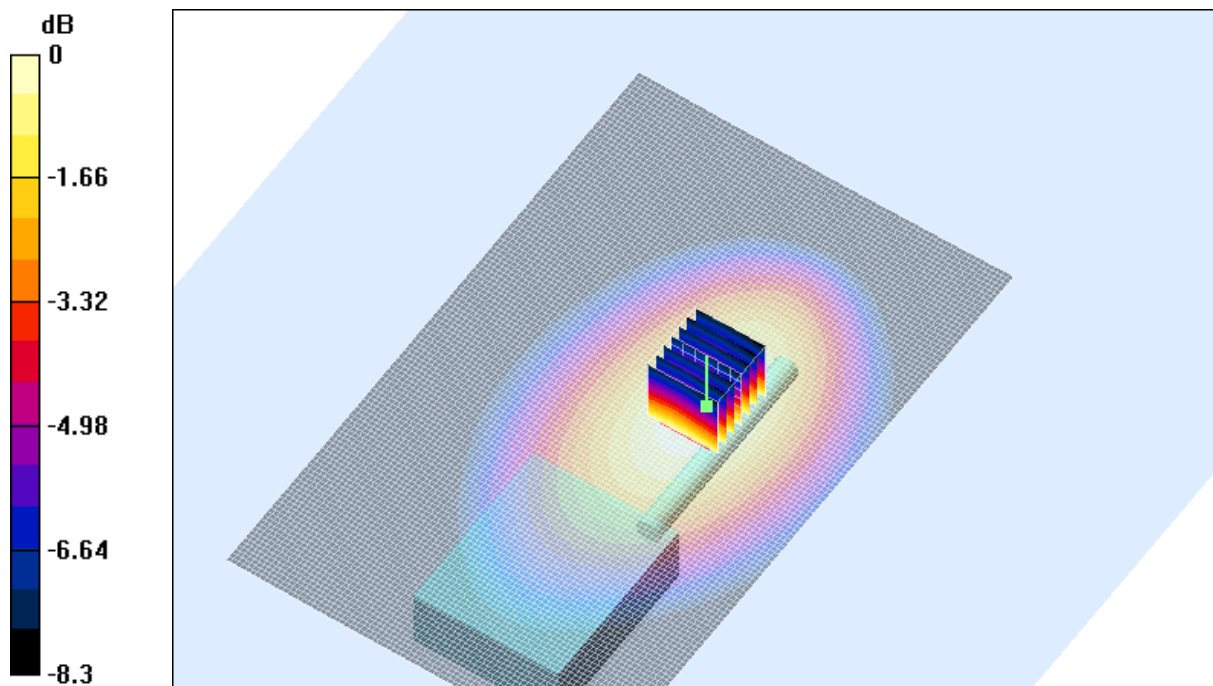
Channel 1 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 64.1 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 6 mW/g

Peak SAR (extrapolated) = 8.94 W/kg

SAR(1 g) = 5.71 mW/g; SAR(10 g) = 4.06 mW/g



0 dB = 6mW/g

SAR MEASUREMENT PLOT 28

Ambient Temperature
Liquid Temperature
Humidity

22.0 Degrees Celsius
20.0 Degrees Celsius
45.0 %

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Test Date: 13 September 2004

File Name: [450 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant Mini Middle 13-09-04.da4](#)

DUT: Tait SPK-MIC Antenna Mini Middle; Type: TPA-AA-204; Serial: Prototype

* Communication System: CW 450 MHz; Frequency: 435 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 0.875526$; mho/m, $\epsilon_r = 43.9883$; $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(7, 7, 7)

- Phantom: Flat Phantom 9.1; Serial: P 9.1; Phantom section: Flat 2.2 Section

Channel 2 Test/Area Scan (81x131x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 43.5 V/m; Power Drift = -0.5 dB

Maximum value of SAR (interpolated) = 2.77 mW/g

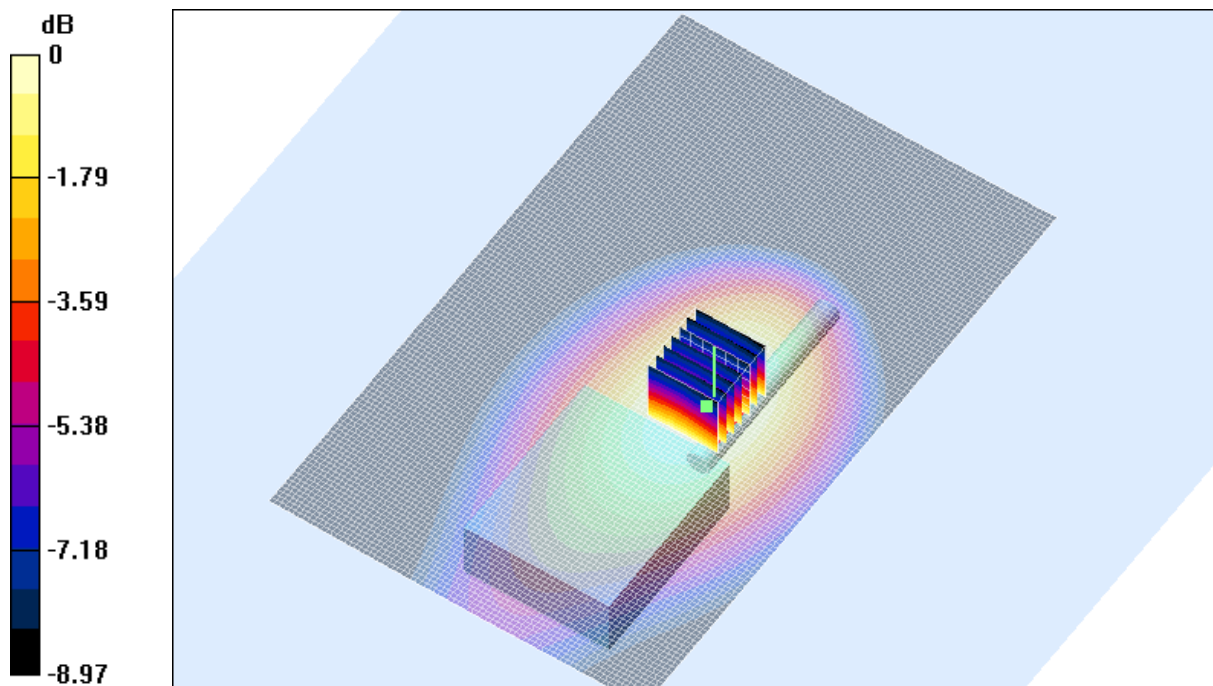
Channel 2 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 43.5 V/m; Power Drift = -0.5 dB

Maximum value of SAR (measured) = 2.59 mW/g

Peak SAR (extrapolated) = 3.93 W/kg

SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.72 mW/g



0 dB = 2.59mW/g

SAR MEASUREMENT PLOT 29

Ambient Temperature
Liquid Temperature
Humidity

22.0 Degrees Celsius
20.0 Degrees Celsius
45.0 %

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Test Date: 11 September 2004

File Name: [450 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant Mini High 11-09-04.da4](#)

DUT: Tait SPK-MIC Antenna Mini High; Type: TPA-AA-204; Serial: Prototype

* Communication System: CW 450 MHz; Frequency: 470 MHz; Duty Cycle: 1:1

* Medium parameters used: $\sigma = 0.883895$; mho/m, $\epsilon_r = 43.5949$; $\rho = 1000$ kg/m³

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(7, 7, 7)

- Phantom: Flat Phantom 9.1; Serial: P 9.1; Phantom section: Flat 2.2 Section

Channel 3 Test/Area Scan (81x121x1): Measurement grid: dx=20mm, dy=20mm

Reference Value = 44.6 V/m; Power Drift = -0.3 dB

Maximum value of SAR (interpolated) = 2.86 mW/g

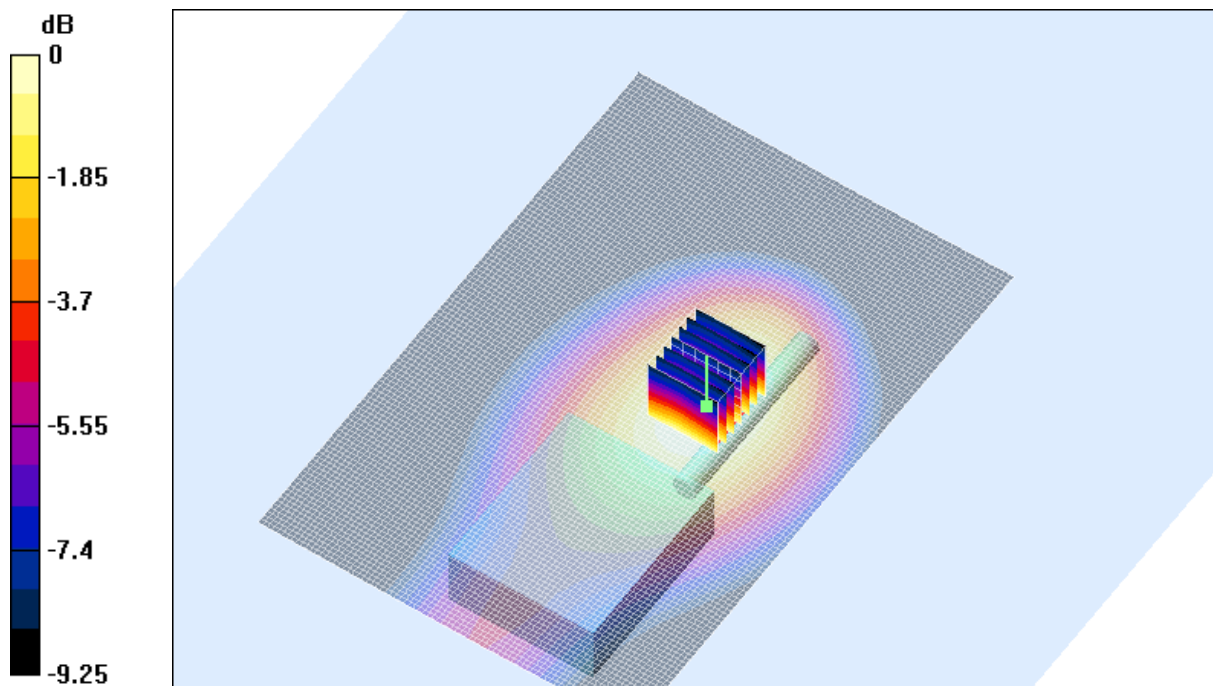
Channel 3 Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 44.6 V/m; Power Drift = -0.3 dB

Maximum value of SAR (measured) = 2.82 mW/g

Peak SAR (extrapolated) = 4.26 W/kg

SAR(1 g) = 2.7 mW/g; SAR(10 g) = 1.88 mW/g



0 dB = 2.82mW/g

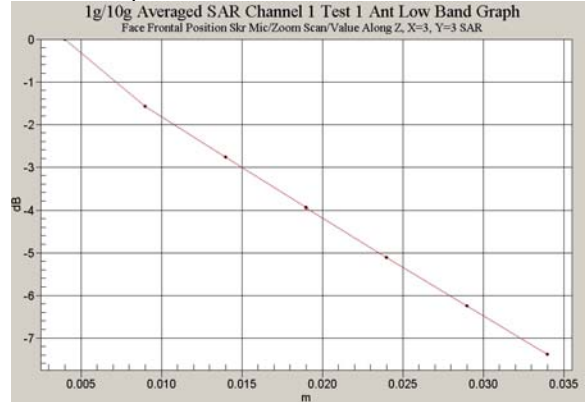
SAR MEASUREMENT PLOT 30

Ambient Temperature
Liquid Temperature
Humidity

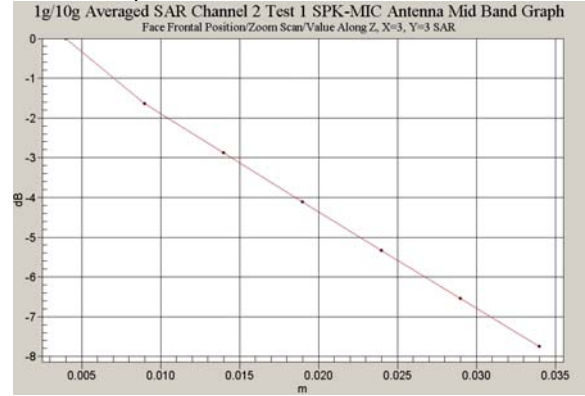
20.4 Degrees Celsius
19.7 Degrees Celsius
47.0 %

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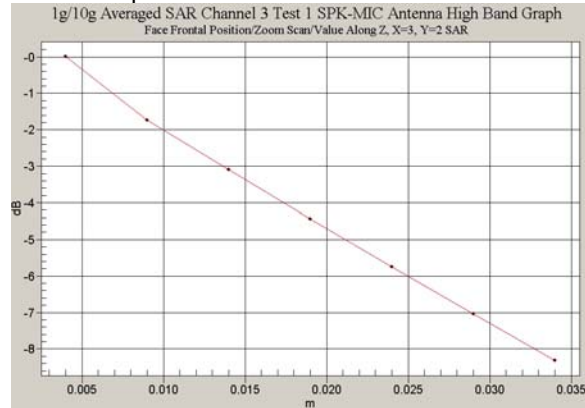
Z-Axis Graph for Plot 25



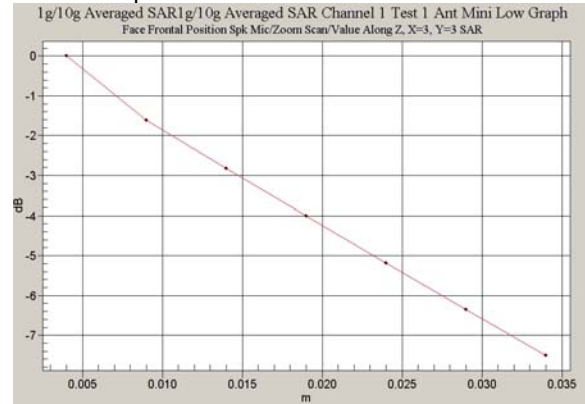
Z-Axis Graph for Plot 26



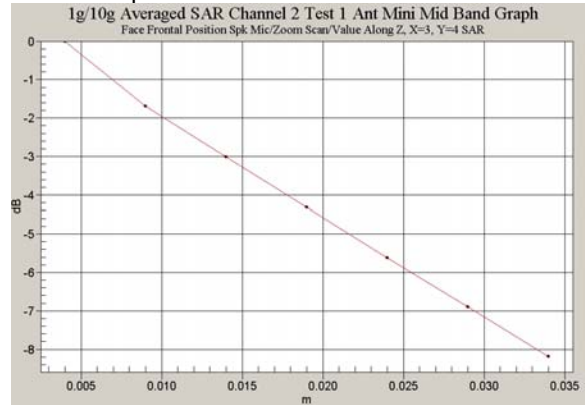
Z-Axis Graph for Plot 27



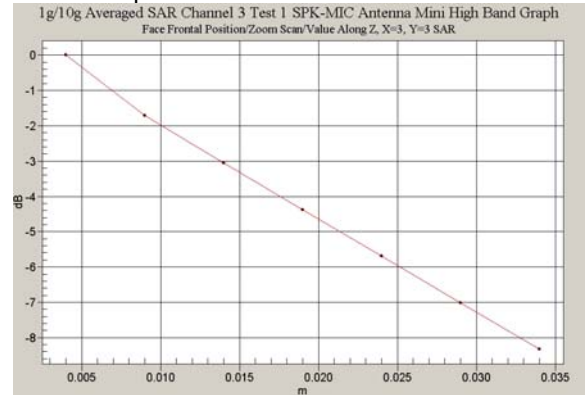
Z-Axis Graph for Plot 28



Z-Axis Graph for Plot 29



Z-Axis Graph for Plot 30



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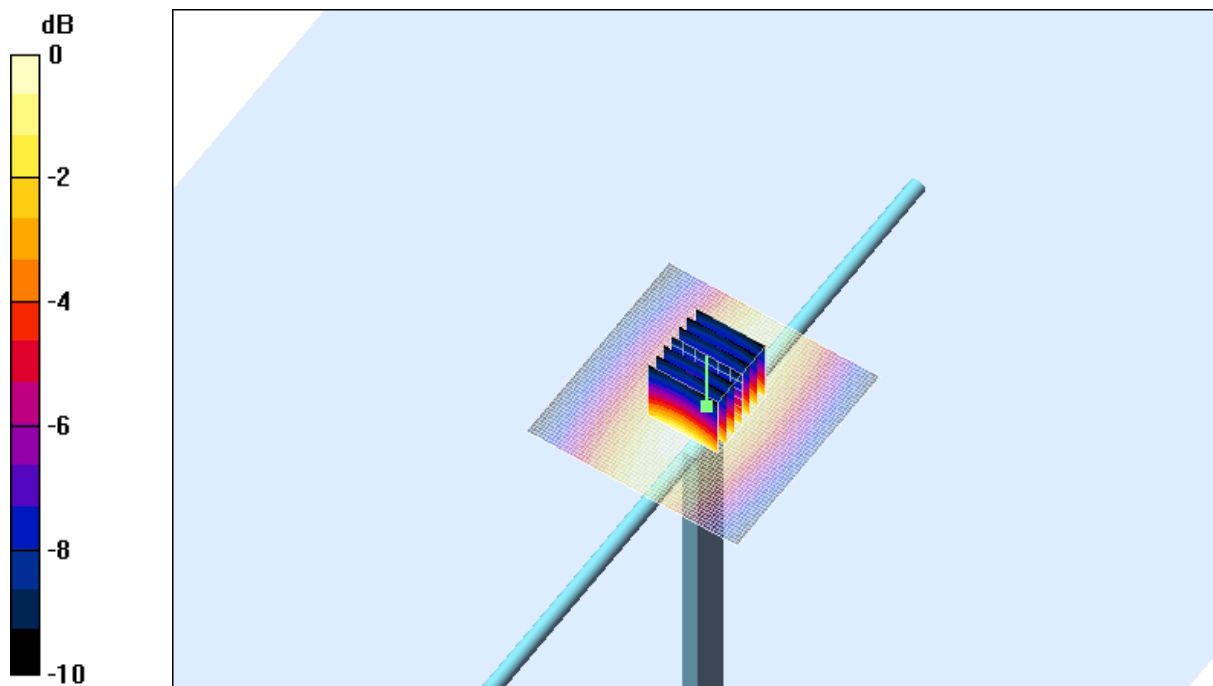
Test Date: 10 September 2004

File Name: [Validation 450 MHz Head \(DAE442 Probe1377\) 10-09-04.da4](#)

DUT: Dipole 450 MHz; Type: D450V2; Serial: 1009

* Communication System: CW 450 MHz; Frequency: 450 MHz; Duty Cycle: 1:1
* Medium parameters used: $\sigma = 0.866673$; mho/m, $\epsilon_r = 43.8526$; $\rho = 1000$ kg/m³
- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(7, 7, 7)
- Phantom: Flat Phantom 4.4; Serial: P 4.4; Phantom section: Flat Section
Channel 1 Test 2/ Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Reference Value = 40.3 V/m; Power Drift = -0.0 dB
Maximum value of SAR (interpolated) = 1.39 mW/g

Channel 1 Test 2/ Zoom Scan (7x7x7)/ Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 40.3 V/m; Power Drift = -0.0 dB
Maximum value of SAR (measured) = 1.4 mW/g
Peak SAR (extrapolated) = 2.29 W/kg
SAR(1 g) = 1.32 mW/g; SAR(10 g) = 0.852 mW/g



0 dB = 1.4mW/g

SAR MEASUREMENT PLOT 31

Ambient Temperature
Liquid Temperature
Humidity

20.8 Degrees Celsius
20.3 Degrees Celsius
47.0 %

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Test Date: 11 September 2004

File Name: [Validation 450 MHz Head \(DAE442 Probe1377\) 11-09-04.da4](#)

DUT: Dipole 450 MHz; Type: D450V2; Serial: 1009

- * Communication System: CW 450 MHz; Frequency: 450 MHz; Duty Cycle: 1:1
- * Medium parameters used: $\sigma = 0.865324$; mho/m, $\epsilon_r = 43.9567$; $\rho = 1000 \text{ kg/m}^3$
- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(7, 7, 7)
- Phantom: Flat Phantom 4.4; Serial: P 4.4; Phantom section: Flat Section

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

Reference Value = 40.1 V/m; Power Drift = -0.0 dB

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

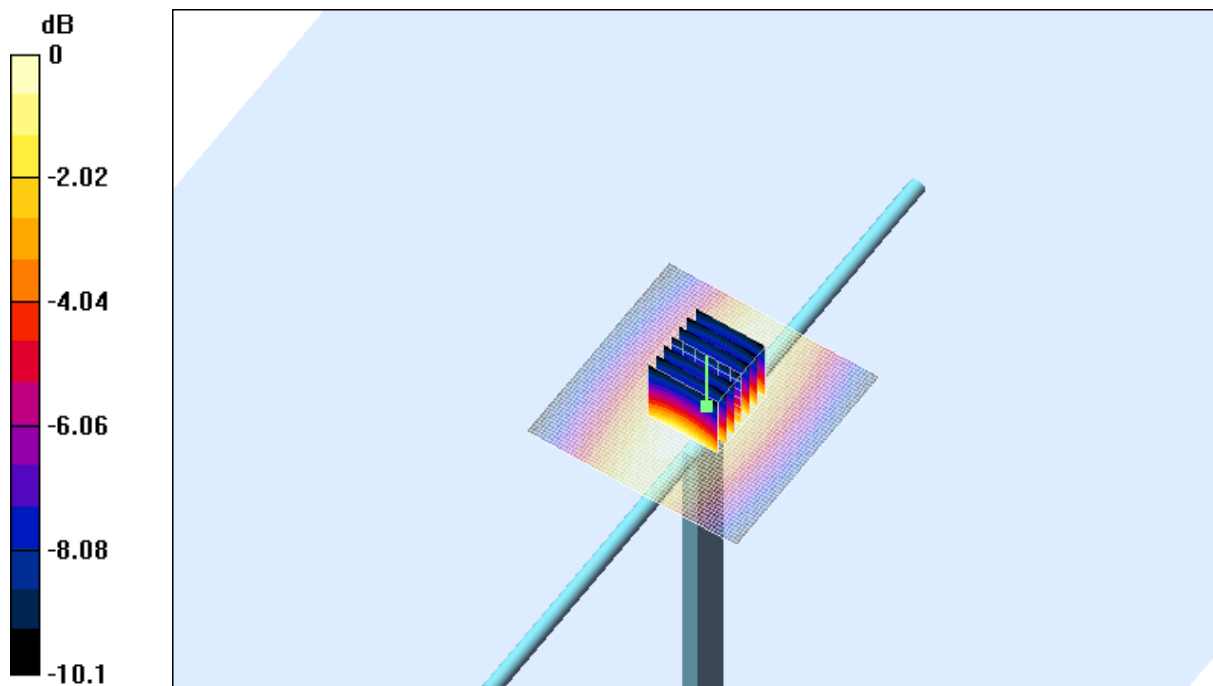
Channel 1Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 40.1 V/m; Power Drift = -0.0 dB

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

Peak SAR (extrapolated) = 2.32 W/kg

SAR(1 g) = 1.32 mW/g; SAR(10 g) = 0.849 mW/g



0 dB = 1.4mW/g

SAR MEASUREMENT PLOT 32

Ambient Temperature
Liquid Temperature
Humidity

20.4 Degrees Celsius
19.7 Degrees Celsius
47.0 %

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Test Date: 13 September 2004

File Name: [Validation 450 MHz Head \(DAE442 Probe1377\) 13-09-04.da4](#)

DUT: Dipole 450 MHz; Type: D450V2; Serial: 1009

- * Communication System: CW 450 MHz; Frequency: 450 MHz; Duty Cycle: 1:1
- * Medium parameters used: $\sigma = 0.890833$; mho/m, $\epsilon_r = 43.5709$; $\rho = 1000$ kg/m³
- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(7, 7, 7)
- Phantom: Flat Phantom 4.4; Serial: P 4.4; Phantom section: Flat Section

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

Reference Value = 40.2 V/m; Power Drift = 0.005 dB

Maximum value of SAR (interpolated) = 1.42 mW/g

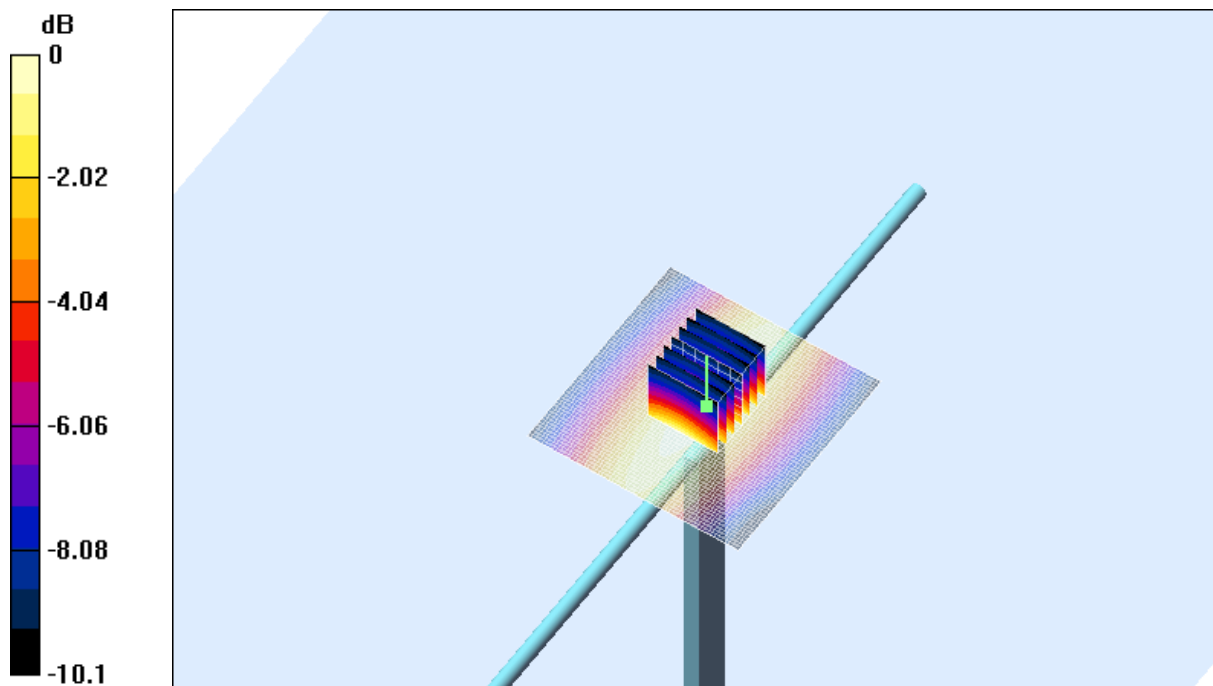
Channel 1Test/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 40.2 V/m; Power Drift = 0.005 dB

Maximum value of SAR (measured) = 1.43 mW/g

Peak SAR (extrapolated) = 2.37 W/kg

SAR(1 g) = 1.34 mW/g; SAR(10 g) = 0.863 mW/g



0 dB = 1.43mW/g

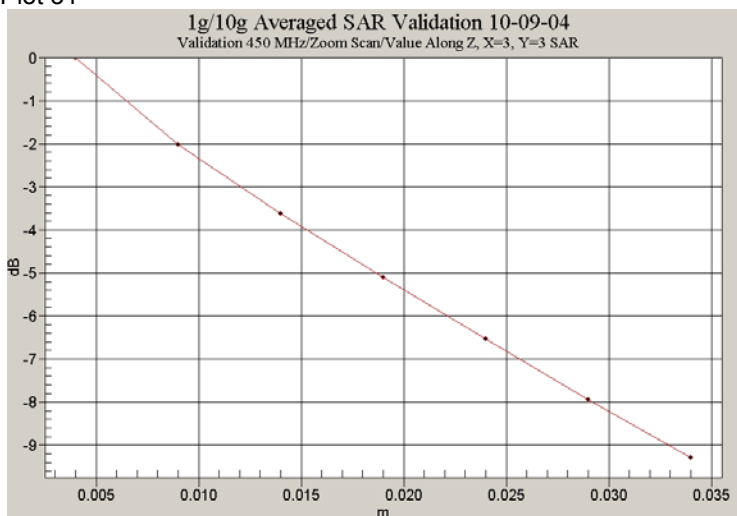
SAR MEASUREMENT PLOT 33

Ambient Temperature
 Liquid Temperature
 Humidity

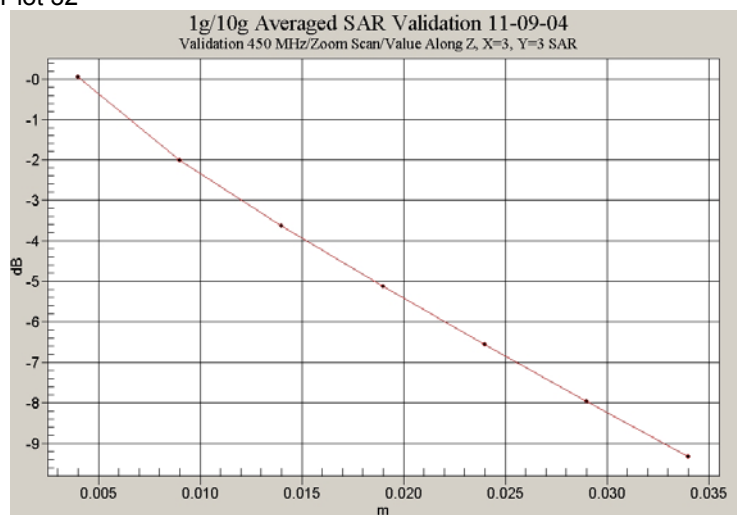
22.0 Degrees Celsius
 20.0 Degrees Celsius
 45.0 %

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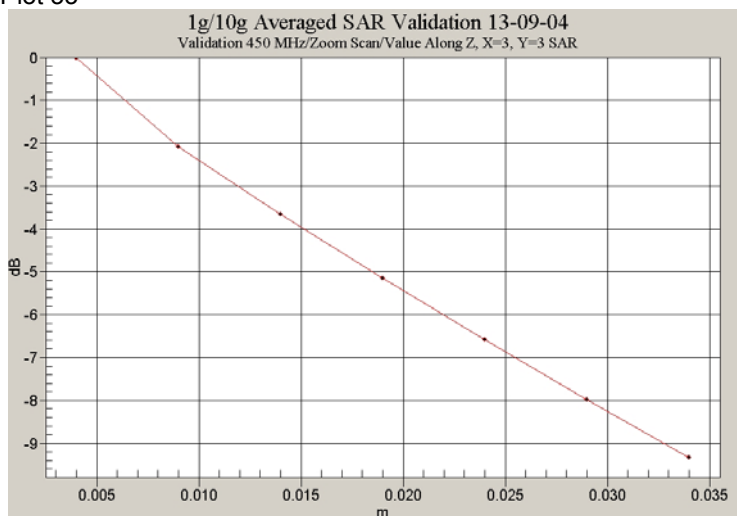
Z-Axis Graph for Plot 31



Z-Axis Graph for Plot 32



Z-Axis Graph for Plot 33



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APPENDIX C

SAR TESTING EQUIPMENT CALIBRATION CERTIFICATE ATTACHMENTS

Calibration Certificate Attachments

- | | |
|---|----------|
| 1. 450 MHz Dipole Calibration Sheet | 6 pages |
| 2. E-Field Probe Calibration Sheet | 11 Pages |
| 3. 450MHz Conversion Factor Calibration Sheet | 3 Pages |