

Test Date: 09 September 2004

File Name: [150 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant Low 09-09-04.da4](#)

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

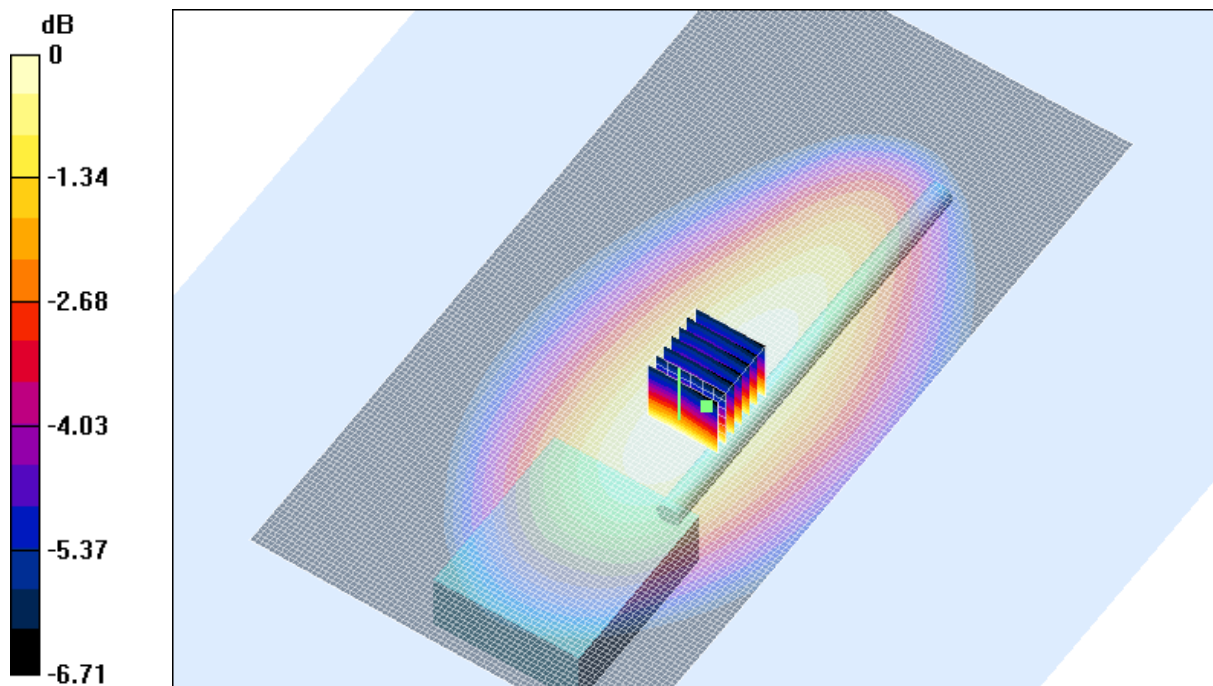
- \* Communication System: CW 150 MHz; Frequency: 136 MHz; Duty Cycle: 1:1
- \* Medium parameters used:  $\sigma = 0.746956$ ; mho/m,  $\epsilon_r = 52.4147$ ;  $\rho = 1000$  kg/m<sup>3</sup>
- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(8.6, 8.6, 8.6)
- Phantom: Flat Phantom 9.1; Serial: P 9.1; Phantom section: Flat 2.2 Section

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

Reference Value = 19.6 V/m; Power Drift = -0.4 dB  
 Maximum value of SAR (interpolated) = 0.516 mW/g

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

Reference Value = 19.6 V/m; Power Drift = -0.4 dB  
 Maximum value of SAR (measured) = 0.512 mW/g  
 Peak SAR (extrapolated) = 0.763 W/kg  
**SAR(1 g) = 0.497 mW/g; SAR(10 g) = 0.372 mW/g**



0 dB = 0.512mW/g

**SAR MEASUREMENT PLOT 25**

Ambient Temperature  
 Liquid Temperature  
 Humidity

20.4 Degrees Celsius  
 19.7 Degrees Celsius  
 44.0 %

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Test Date: 09 September 2004

File Name: [150 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant Middle 09-09-04.da4](#)

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

\* Communication System: CW 150 MHz; Frequency: 155 MHz; Duty Cycle: 1:1

\* Medium parameters used:  $\sigma = 0.765937$ ; mho/m,  $\epsilon_r = 51.2406$ ;  $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(8.6, 8.6, 8.6)

- 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 = 42.9 V/m; Power Drift = -0.3 dB

Maximum value of SAR (interpolated) = 2.2 mW/g

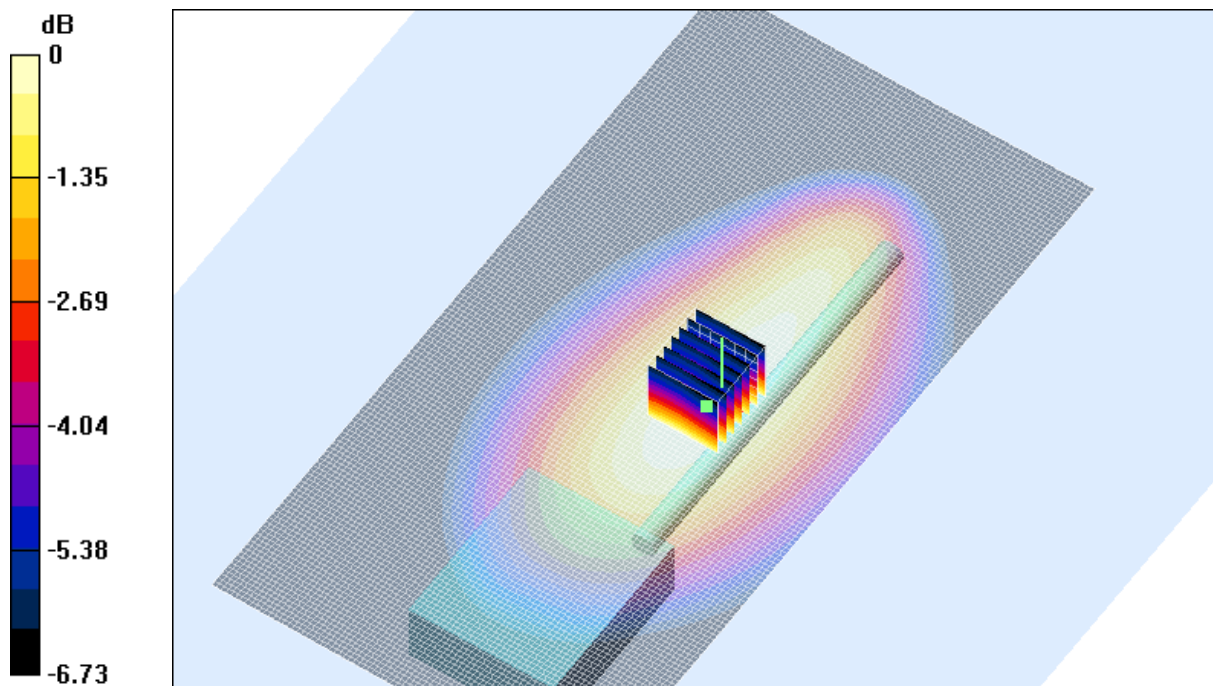
**Channel 2 Test/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 42.9 V/m; Power Drift = -0.3 dB

Maximum value of SAR (measured) = 2.22 mW/g

Peak SAR (extrapolated) = 3.3 W/kg

**SAR(1 g) = 2.14 mW/g; SAR(10 g) = 1.59 mW/g**



0 dB = 2.22mW/g

**SAR MEASUREMENT PLOT 26**

Ambient Temperature  
Liquid Temperature  
Humidity

20.4 Degrees Celsius  
19.7 Degrees Celsius  
44.0 %

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Test Date: 09 September 2004

File Name: [150 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant High 09-09-04.da4](#)

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

- \* Communication System: CW 150 MHz; Frequency: 174 MHz; Duty Cycle: 1:1
- \* Medium parameters used:  $\sigma = 0.780784$ ; mho/m,  $\epsilon_r = 50.4498$ ;  $\rho = 1000 \text{ kg/m}^3$
- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(8.6, 8.6, 8.6)
- 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 = 46.4 V/m; Power Drift = -0.4 dB

Maximum value of SAR (interpolated) = 2.74 mW/g

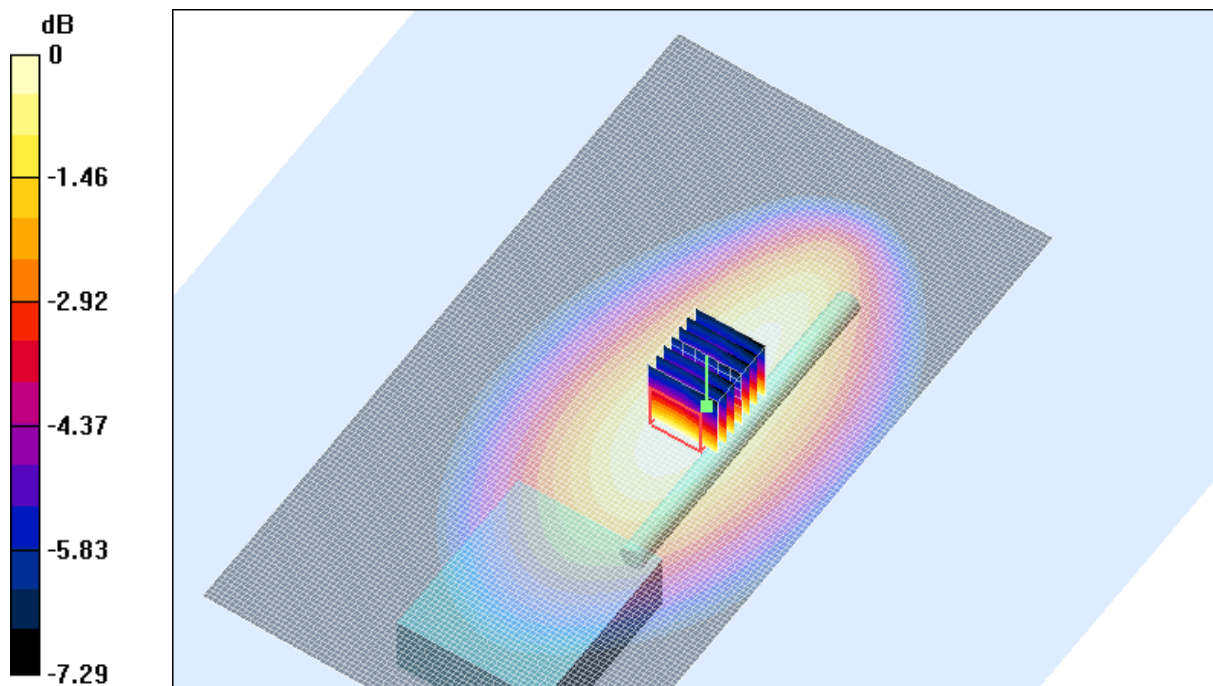
**Channel 3 Test/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 46.4 V/m; Power Drift = -0.4 dB

Maximum value of SAR (measured) = 2.76 mW/g

Peak SAR (extrapolated) = 4.2 W/kg

**SAR(1 g) = 2.64 mW/g; SAR(10 g) = 1.94 mW/g**



0 dB = 2.76mW/g

**SAR MEASUREMENT PLOT 27**

Ambient Temperature  
Liquid Temperature  
Humidity

20.4 Degrees Celsius  
19.7 Degrees Celsius  
44.0 %

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Test Date: 09 September 2004

File Name: [150 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant Mini Low 09-09-04.da4](#)

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

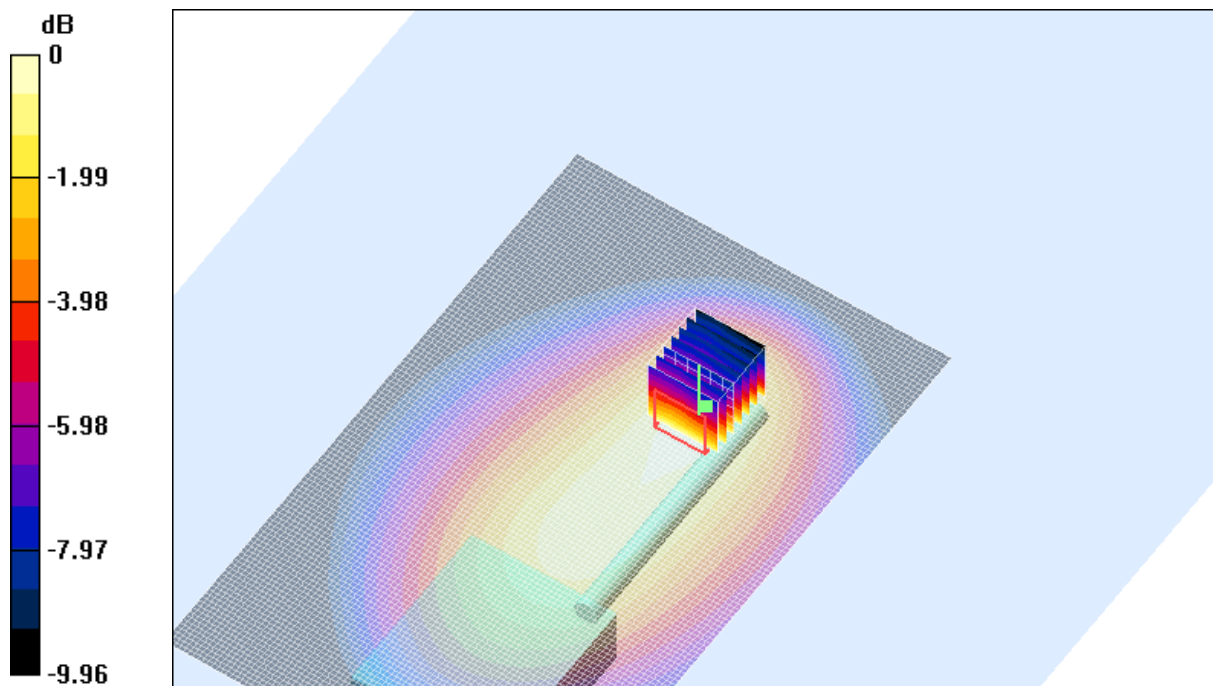
- \* Communication System: CW 150 MHz; Frequency: 136 MHz; Duty Cycle: 1:1
- \* Medium parameters used:  $\sigma = 0.746956$ ; mho/m,  $\epsilon_r = 52.4147$ ;  $\rho = 1000$  kg/m<sup>3</sup>
- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(8.6, 8.6, 8.6)
- Phantom: Flat Phantom 9.1; Serial: P 9.1; Phantom section: Flat 2.2 Section

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

Reference Value = 18.3 V/m; Power Drift = -0.1 dB  
Maximum value of SAR (interpolated) = 0.418 mW/g

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

Reference Value = 18.3 V/m; Power Drift = -0.1 dB  
Maximum value of SAR (measured) = 0.442 mW/g  
Peak SAR (extrapolated) = 0.982 W/kg  
**SAR(1 g) = 0.429 mW/g; SAR(10 g) = 0.282 mW/g**



0 dB = 0.442mW/g

**SAR MEASUREMENT PLOT 28**

Ambient Temperature  
Liquid Temperature  
Humidity

20.4 Degrees Celsius  
19.7 Degrees Celsius  
44.0 %

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Test Date: 09 September 2004

File Name: [150 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant Mini Middle 09-09-04.da4](#)

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

\* Communication System: CW 150 MHz; Frequency: 155 MHz; Duty Cycle: 1:1

\* Medium parameters used:  $\sigma = 0.765937$ ; mho/m,  $\epsilon_r = 51.2406$ ;  $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(8.6, 8.6, 8.6)

- 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 = 37.6 V/m; Power Drift = -0.5 dB

Maximum value of SAR (interpolated) = 1.77 mW/g

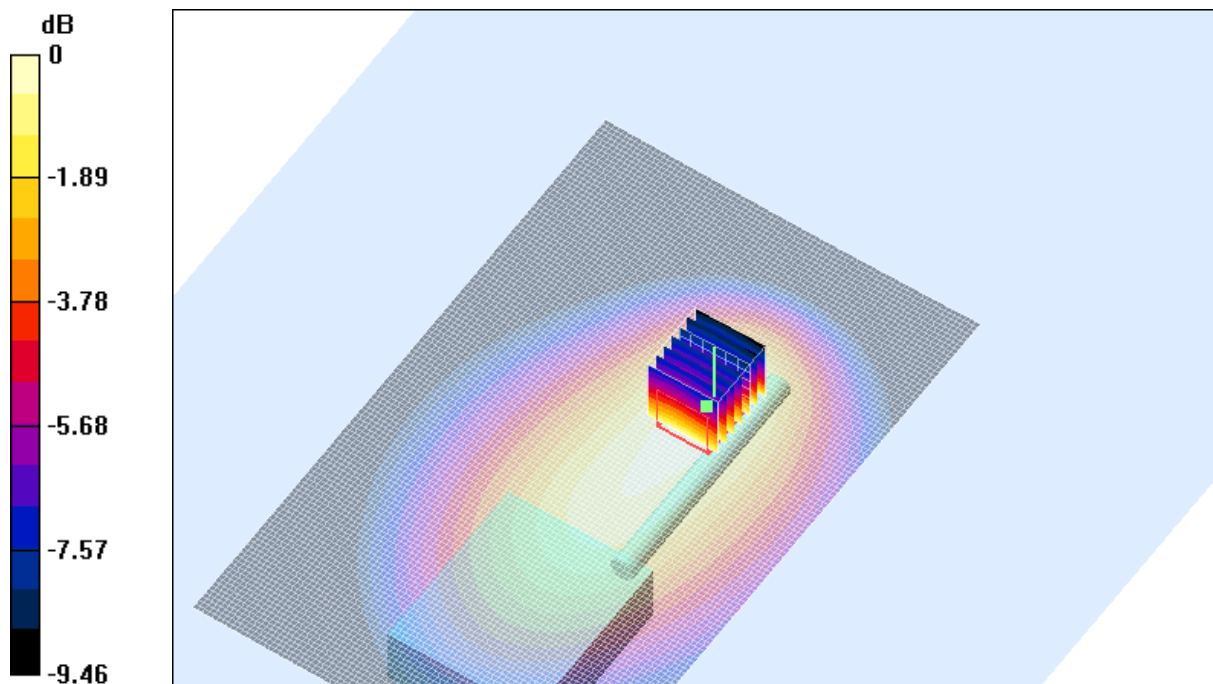
**Channel 2 Test/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 37.6 V/m; Power Drift = -0.5 dB

Maximum value of SAR (measured) = 1.71 mW/g

Peak SAR (extrapolated) = 4.21 W/kg

**SAR(1 g) = 1.73 mW/g; SAR(10 g) = 1.13 mW/g**



0 dB = 1.71mW/g

**SAR MEASUREMENT PLOT 29**

Ambient Temperature  
Liquid Temperature  
Humidity

20.4 Degrees Celsius  
19.7 Degrees Celsius  
44.0 %

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Test Date: 09 September 2004

File Name: [150 MHz Face SPK-MIC \(DAE442 Probe1377\) Ant Mini High 09-09-04.da4](#)

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

\* Communication System: CW 150 MHz; Frequency: 174 MHz; Duty Cycle: 1:1

\* Medium parameters used:  $\sigma = 0.780784$ ; mho/m,  $\epsilon_r = 50.4498$ ;  $\rho = 1000 \text{ kg/m}^3$

- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(8.6, 8.6, 8.6)

- 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 = 34.6 V/m; Power Drift = 0.1 dB

Maximum value of SAR (interpolated) = 1.84 mW/g

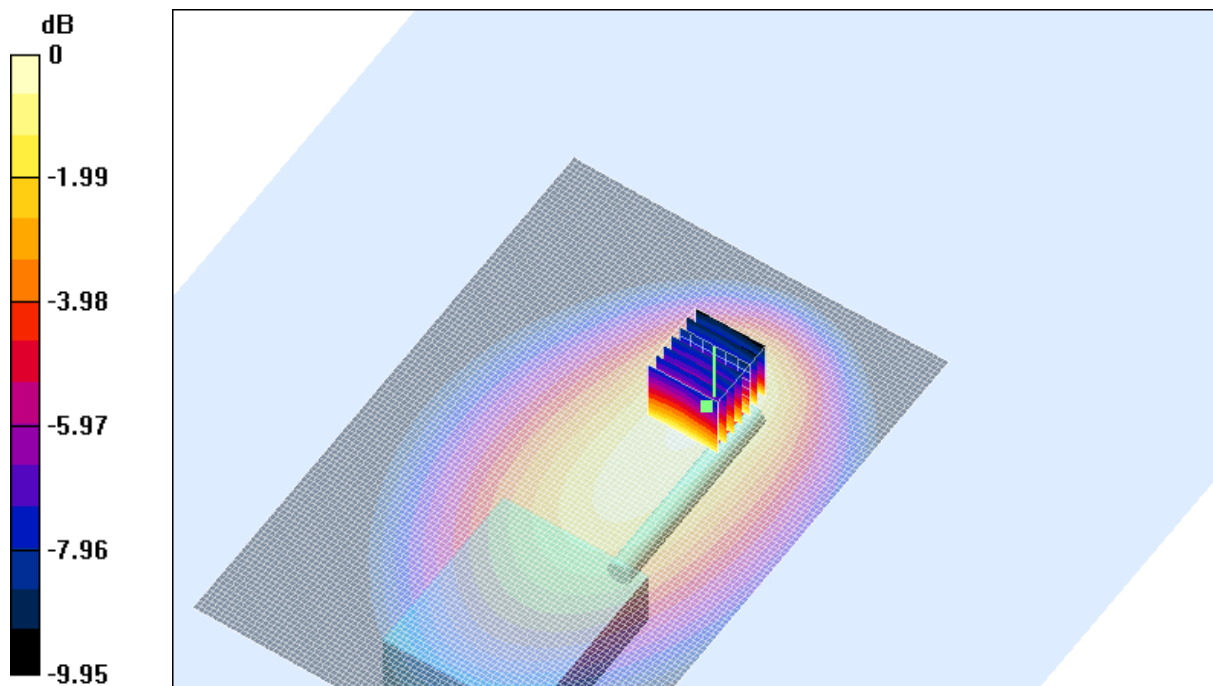
**Channel 3 Test/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 34.6 V/m; Power Drift = 0.1 dB

Maximum value of SAR (measured) = 1.89 mW/g

Peak SAR (extrapolated) = 4.68 W/kg

**SAR(1 g) = 1.89 mW/g; SAR(10 g) = 1.2 mW/g**



0 dB = 1.89mW/g

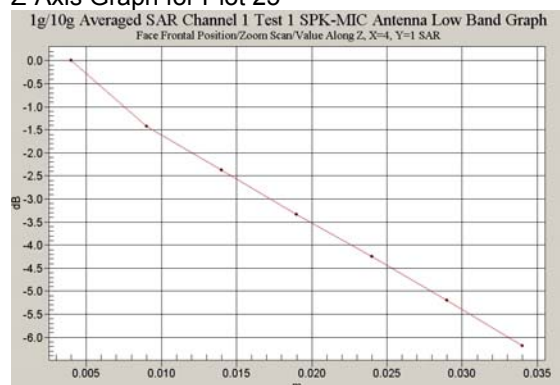
**SAR MEASUREMENT PLOT 30**

Ambient Temperature  
Liquid Temperature  
Humidity

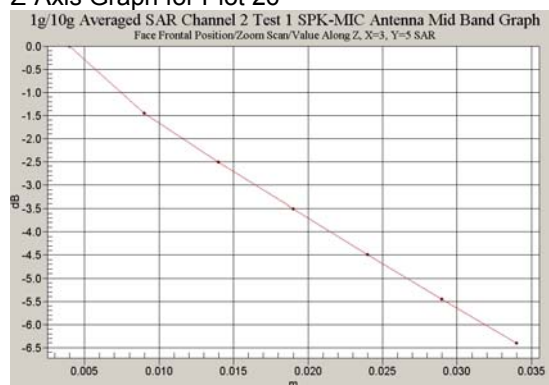
20.4 Degrees Celsius  
19.7 Degrees Celsius  
44.0 %

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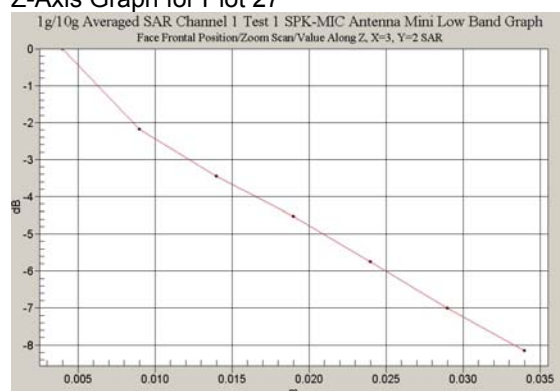
Z-Axis Graph for Plot 25



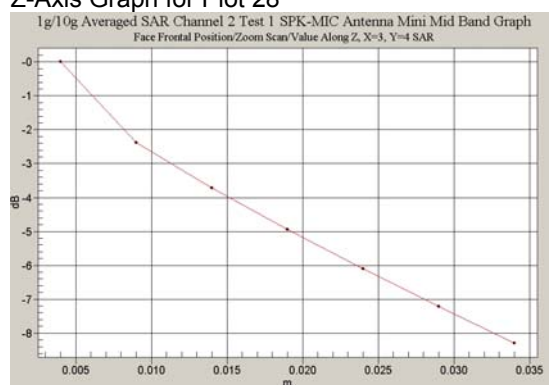
Z-Axis Graph for Plot 26



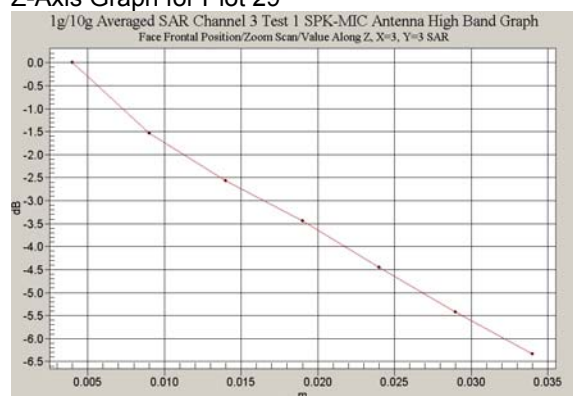
Z-Axis Graph for Plot 27



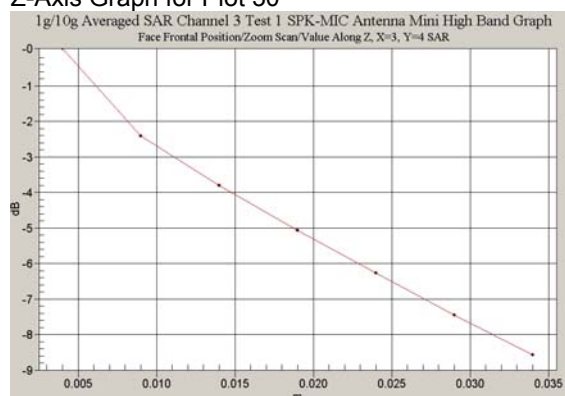
Z-Axis Graph for Plot 28



Z-Axis Graph for Plot 29



Z-Axis Graph for Plot 30



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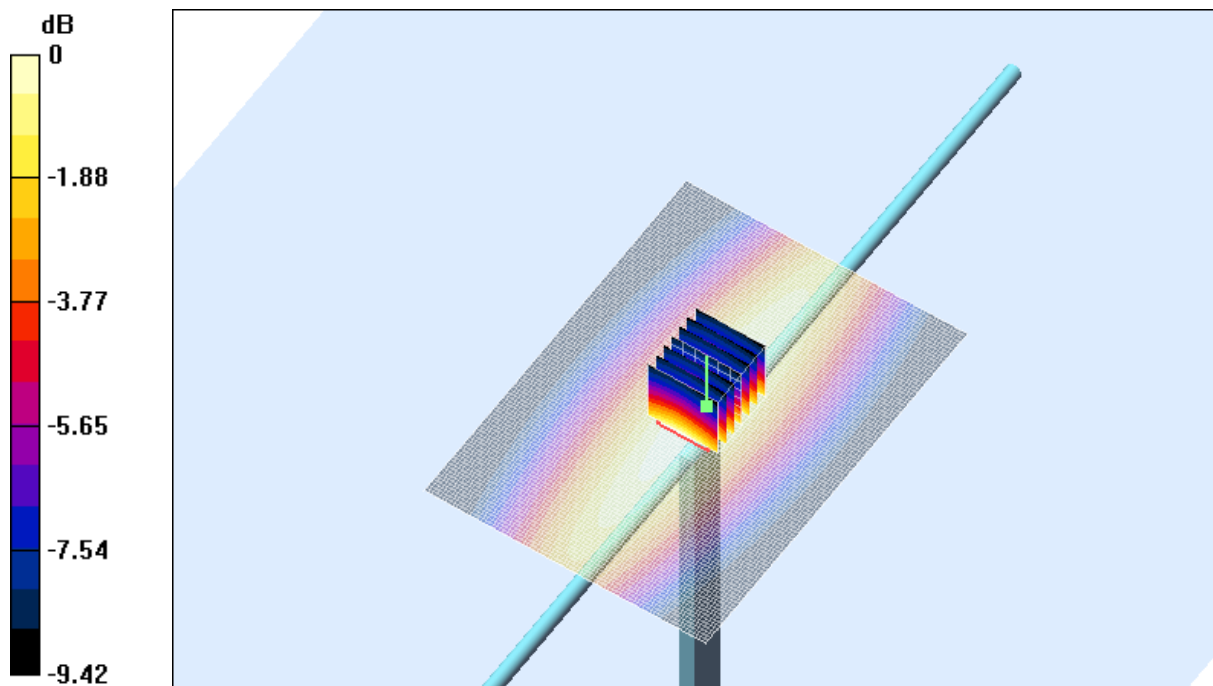
Test Date: 07 September 2004

File Name: [Validation 300 MHz Head \(DAE442 Probe1377\) 07-09-04.da4](#)

DUT: Dipole 300 MHz; Type: D300V2; Serial: 1005

\* Communication System: CW 300 MHz; Frequency: 300 MHz; Duty Cycle: 1:1  
 \* Medium parameters used:  $\sigma = 0.867346$ ; mho/m,  $\epsilon_r = 45.2831$ ;  $\rho = 1000 \text{ kg/m}^3$   
 - Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(8, 8, 8)  
 - Phantom: Flat Phantom 4.4; Serial: P 4.4; Phantom section: Flat Section  
**Channel 1Test 4/Area Scan (81x111x1)**: Measurement grid: dx=15mm, dy=15mm  
 Reference Value = 31 V/m; Power Drift = -0.003 dB  
 Maximum value of SAR (interpolated) = 0.813 mW/g

**Channel 1Test 4/Zoom Scan (7x7x7)/Cube 0**: Measurement grid: dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 31 V/m; Power Drift = -0.003 dB  
 Maximum value of SAR (measured) = 0.820 mW/g  
 Peak SAR (extrapolated) = 1.34 W/kg  
**SAR(1 g) = 0.779 mW/g; SAR(10 g) = 0.514 mW/g**



0 dB = 0.820mW/g

**SAR MEASUREMENT PLOT 31**

Ambient Temperature  
 Liquid Temperature  
 Humidity

21.0 Degrees Celsius  
 20.5 Degrees Celsius  
 42.0 %

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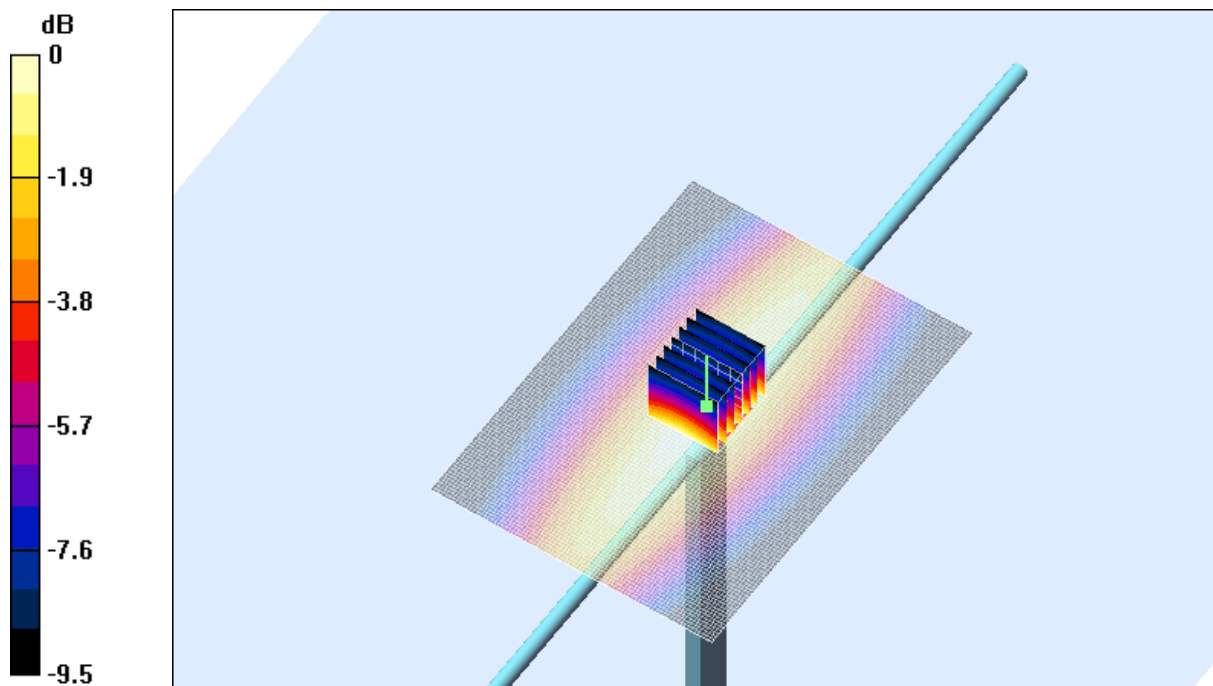
Test Date: 08 September 2004

File Name: [Validation 300 MHz Head \(DAE442 Probe1377\) 08-09-04.da4](#)

DUT: Dipole 300 MHz; Type: D300V2; Serial: 1005

\* Communication System: CW 300 MHz; Frequency: 300 MHz; Duty Cycle: 1:1  
\* Medium parameters used:  $\sigma = 0.846181$ ; mho/m,  $\epsilon_r = 44.8965$ ;  $\rho = 1000 \text{ kg/m}^3$   
- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(7.8, 7.8, 7.8)  
- Phantom: Flat Phantom 4.4; Serial: P 4.4; Phantom section: Flat Section  
**Channel 1Test 2/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm  
Reference Value = 29.7 V/m; Power Drift = -0.0 dB  
Maximum value of SAR (interpolated) = 0.734 mW/g

**Channel 1Test 2/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 29.7 V/m; Power Drift = -0.0 dB  
Maximum value of SAR (measured) = 0.742 mW/g  
Peak SAR (extrapolated) = 1.23 W/kg  
**SAR(1 g) = 0.702 mW/g; SAR(10 g) = 0.458 mW/g**



0 dB = 0.742mW/g

**SAR MEASUREMENT PLOT 32**

Ambient Temperature  
Liquid Temperature  
Humidity

20.4 Degrees Celsius  
19.8 Degrees Celsius  
44.0 %

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Test Date: 09 September 2004

File Name: [Validation 300 MHz Head \(DAE442 Probe1377\) 09-09-04.da4](#)

DUT: Dipole 300 MHz; Type: D300V2; Serial: 1005

- \* Communication System: CW 300 MHz; Frequency: 300 MHz; Duty Cycle: 1:1
- \* Medium parameters used:  $\sigma = 0.852775$ ; mho/m,  $\epsilon_r = 45.1057$ ;  $\rho = 1000 \text{ kg/m}^3$
- Electronics: DAE3 Sn442; Probe: ET3DV6 - SN1377; ConvF(8, 8, 8)
- Phantom: Flat Phantom 4.4; Serial: P 4.4; Phantom section: Flat Section

**Channel 1Test/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

Reference Value = 30.8 V/m; Power Drift = 0.0 dB

Maximum value of SAR (interpolated) = 0.806 mW/g

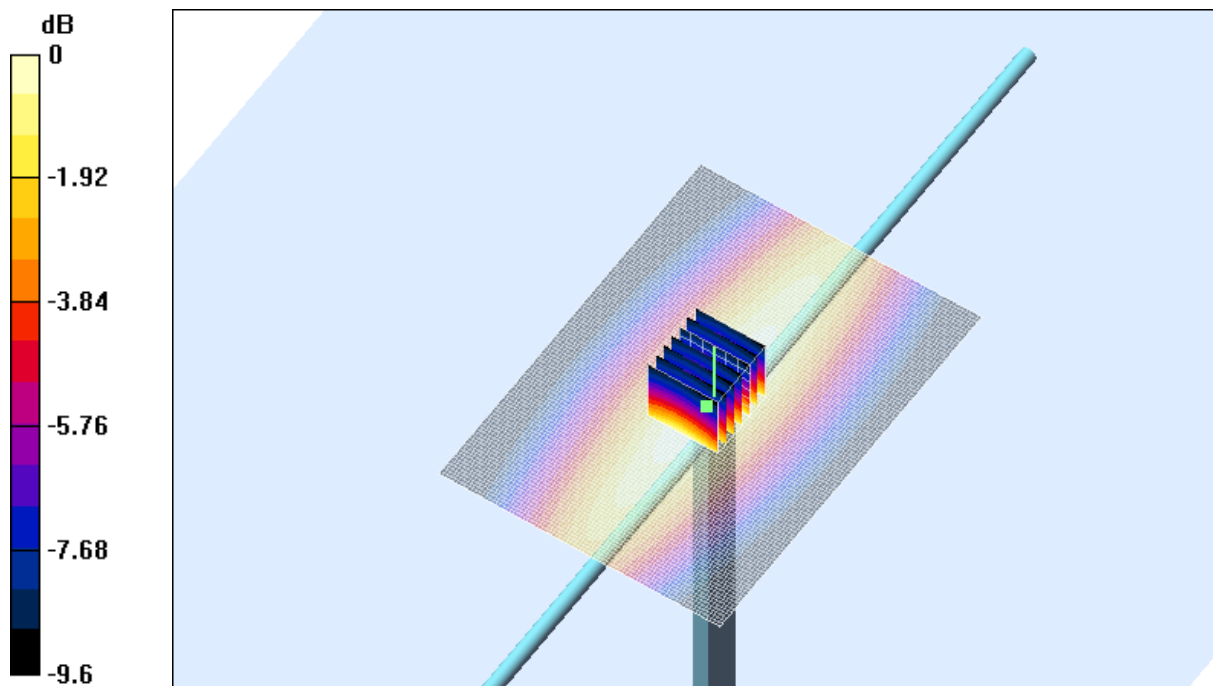
**Channel 1Test/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 30.8 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 0.807 mW/g

Peak SAR (extrapolated) = 1.35 W/kg

**SAR(1 g) = 0.764 mW/g; SAR(10 g) = 0.499 mW/g**



0 dB = 0.807mW/g

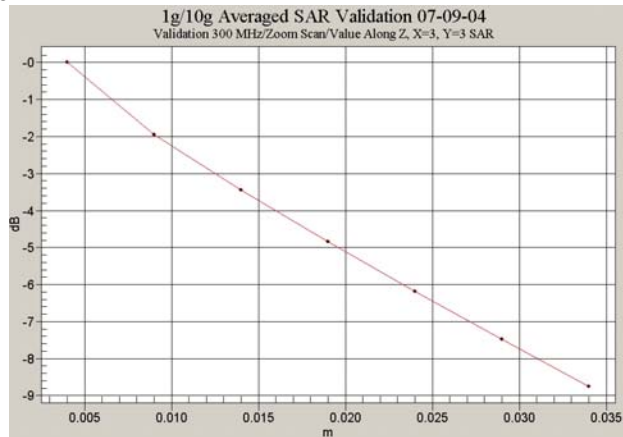
**SAR MEASUREMENT PLOT 33**

Ambient Temperature  
Liquid Temperature  
Humidity

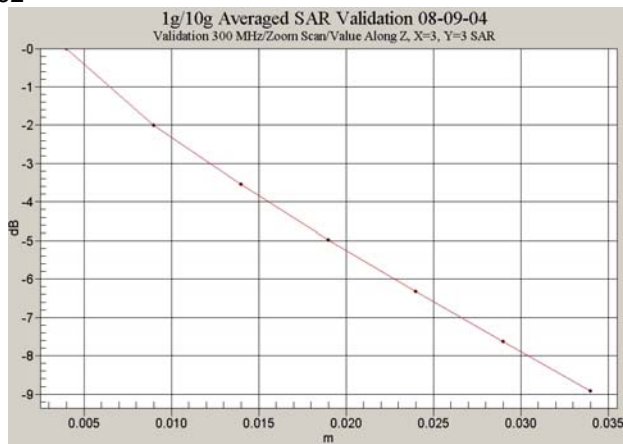
20.4 Degrees Celsius  
19.7 Degrees Celsius  
44.0 %

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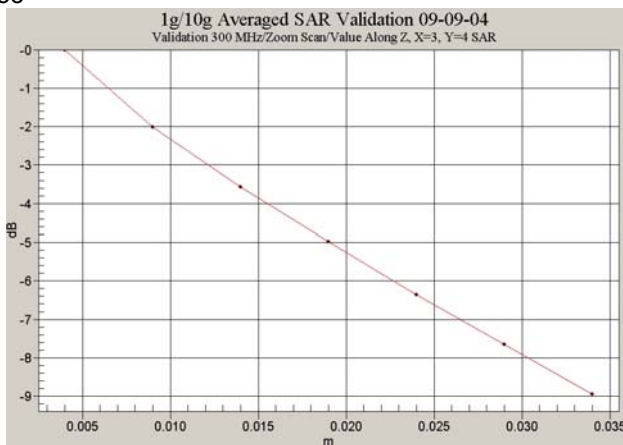
Z-Axis Graph for Plot 31



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. 300 MHz Dipole Calibration Sheet           | 6 pages  |
| 2. E-Field Probe Calibration Sheet            | 11 Pages |
| 3. 300MHz Conversion Factor Calibration Sheet | 3 Pages  |