



MOTOROLA



Certificate Number: 1449-01

CGISS EME Test Laboratory

8000 West Sunrise Blvd
Fort Lauderdale, FL. 33322

S.A.R. EME Compliance Test Report

Part 2 of 2

Date of Report: October 14, 2004
Report Revision: Rev. O
Manufacturer: Motorola
Product Description: iDEN i605; 1:6, 1:3, 81:120, 1:12 TDMA; 64 QAM, 16 QAM & QPSK Modulation; 0.6 W Pulse average; GPS and Bluetooth capable
FCC ID: AZ489FT5838
Device Model: H58XAN6RR4AN/NUF3853A

Test Period: 9/22/04 – 10/6/04

Technician: Clint Miller (EME Technician Electronics II)

Responsible Eng: Jim Fortier (Elect. Principle Staff Eng.)

Author: Michael Sailsman (Global EME Regulatory Affairs Liaison)

Note: This report shall not be reproduced without written approval from an officially designated representative of the Motorola EME Laboratory. Based on the information and the testing results provided herein, the undersigned certifies that when used as stated in the operating instructions supplied, said product complies with the national and international reference standards and guidelines listed in section 2.0 of this report.

“Signature on file”

Ken Enger
Senior Resource Manager, Laboratory Director, CGISS EME Lab

10/15/04

Date Approved



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APPENDIX A

Power Slump Data/Shortened Scan



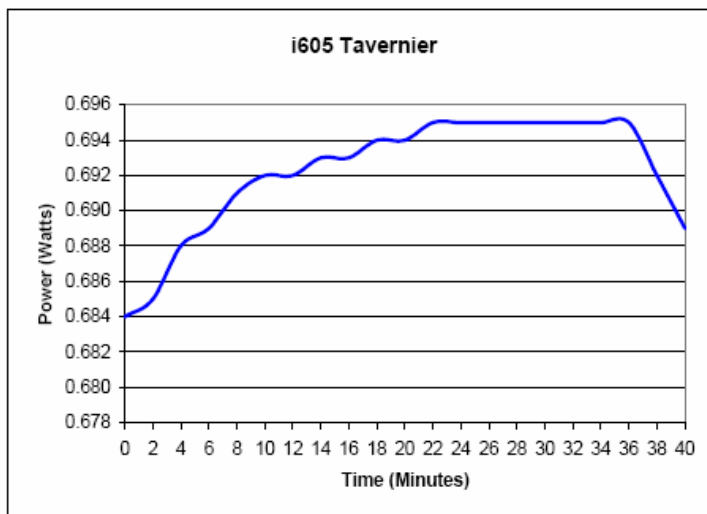
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DUT Power versus time data

		Proto Radio
		364YES0499
		Battery
		SNN5705C
	Time (Minutes)	
0	0.684	
2	0.685	
4	0.688	
6	0.689	
8	0.691	
10	0.692	
12	0.692	
14	0.693	
16	0.693	
18	0.694	
20	0.694	
22	0.695	
24	0.695	
26	0.695	
28	0.695	
30	0.695	
32	0.695	
34	0.695	
36	0.695	
38	0.692	
40	0.689	



Shortened Scan Results

FCC ID: AZ489FT5838; Test Date: 10/6/04

Motorola CGISS EME Laboratory

Run #: REAR-R3-041006-06

Model #: H58XAN6RR4AN/NUF3853A SN: 364AES0499

TX Freq: 896.01875 MHz

Sim Tissue Temp: 21.7 (Celsius)

Start Power: 0.667 W

Antenna: In

Battery Kit: SNN5705C

Carry Accy: NONE

Audio/Data Acc.: NONE

Shortened scan reflect highest S.A.R. producing configuration; Run time 11 minutes.

Representative “normal” scan run time was 20 minutes

“Shortened” scan max calculated S.A.R. using S.A.R. drift: 1-g Avg. = 1.20mW/g; 10-g Avg. = 0.84mW/g

“Normal” scan max calculated S.A.R. using S.A.R. drift: 1-g Avg. = 1.25mW/g; 10-g Avg. = 0.88mW/g

(see section 7.1 run # CM-REAR-R3-041001-05)

DUT at right ear in cheek touch position

SAM - Expanded (new) Phantom; Right Hand Section; Position: (90°,301°);

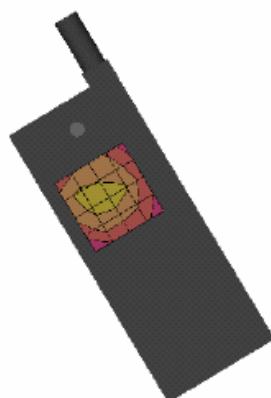
Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04; Crest factor: 3.0; IEEE

Head 899 MHz: $\sigma = 1.00$ mho/m $\epsilon_r = 40.3$ $\rho = 1.00$ g/cm³; DAE3: 401V1 DAE Cal Date: 8/25/2004

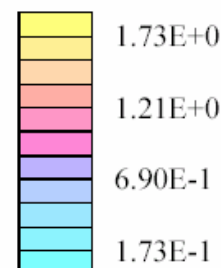
Cube 5x5x7: SAR (1g): 1.20 mW/g, SAR (10g): 0.844 mW/g, (Worst-case extrapolation)

Cube 5x5x7: Dx = 8.0, Dy = 8.0, Dz = 5.0; SAR (1g): 1.20 mW/g, SAR (10g): 0.844 mW/g

Powerdrift: 0.26 dB



SAR_{Tot} [mW/g]





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APPENDIX B

Data Results

FCC ID: AZ489FT5838; Test Date: 9/30/04

Motorola CGISS EME Laboratory

Run #: LEAR-R3-040930-12

Model #: H58XAN6RR4AN/NUF3853A SN: 364AES0499

TX Freq: 813.5125 MHz

Sim Tissue Temp: 20.5 (Celsius)

Start Power: 0.671 W

Antenna: In

Battery Kit: SNN5705C

Carry: NONE

Audio/Data Acc.: NONE

DUT at Left ear in cheek touch position

SAM - Expanded (new) Phantom; Left Hand Section; Position: (90°,59°);

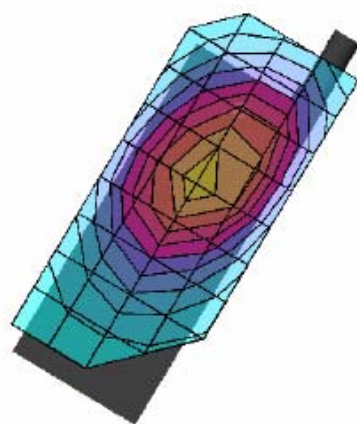
Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04; Crest factor: 3.0; IEEE

Head 813 MHz: $\sigma = 0.93$ mho/m $\epsilon_r = 41.8$ $\rho = 1.00$ g/cm³; DAE3: 401V1 DAE Cal Date: 8/25/2004

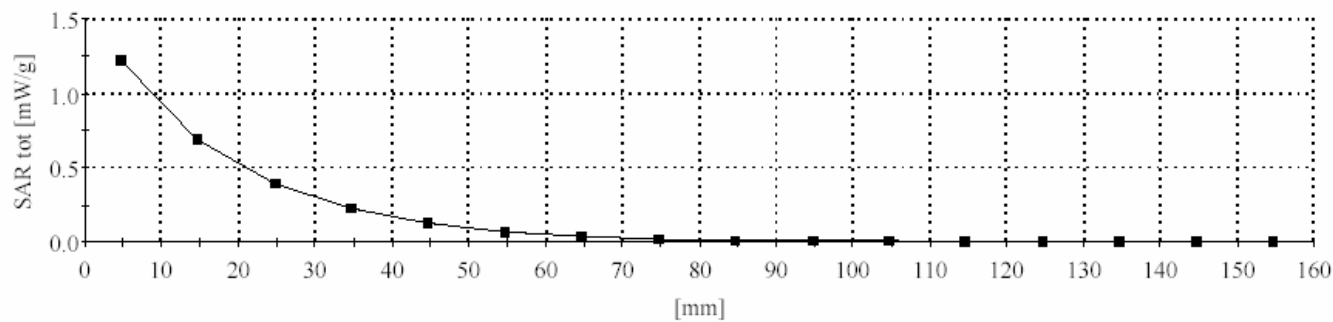
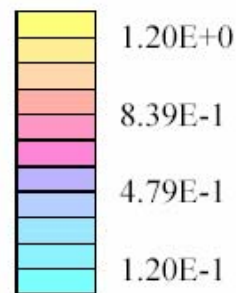
Cube 5x5x7: SAR (1g): 1.18 mW/g, SAR (10g): 0.845 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 76.5, 28.5, 4.7

Powerdrift: -0.00 dB



SAR_{Tot} [mW/g]



FCC ID: AZ489FT5838; Test Date: 10/01/04

Motorola CGISS EME Laboratory

Run #: REAR-R3-041001-05

Model #: H58XAN6RR4AN/NUF3853A SN: 364AES0499

TX Freq: 896.01875 MHz

Sim Tissue Temp: 20.6 (Celsius)

Start Power: 0.670 W

Antenna: In

Battery Kit: SNN5705C

Carry: NONE

Audio/Data Acc.: NONE

DUT at Right ear in cheek touch position

SAM - Expanded (new) Phantom; Right Hand Section; Position: (90°,301°);

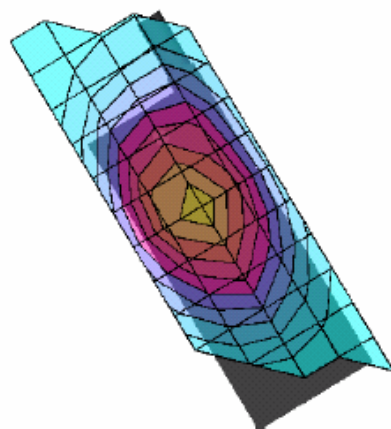
Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04; Crest factor: 3.0; IEEE

Head 899 MHz: $\sigma = 1.01$ mho/m $\epsilon_r = 40.7$ $\rho = 1.00$ g/cm³; DAE3: 401V1 DAE Cal Date: 8/25/2004

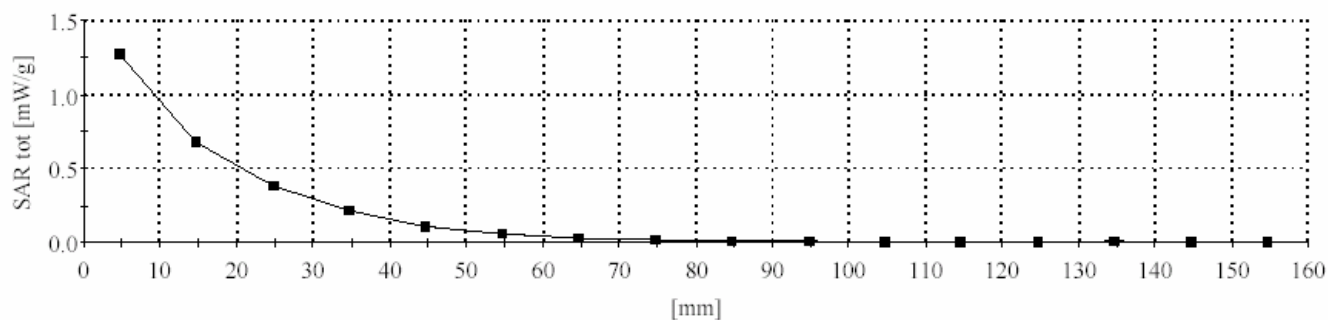
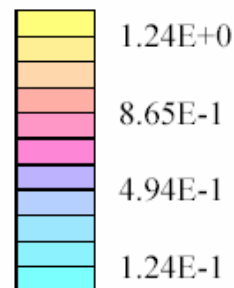
Cube 5x5x7: SAR (1g): 1.24 mW/g, SAR (10g): 0.871 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 105.0, 31.5, 4.7

Powerdrift: -0.04 dB



SAR_{Tot} [mW/g]



FCC ID: AZ489FT5838; Test Date: 9/30/04

Motorola CGISS EME Laboratory

Run #: Face-R3-040930-11

Model #: H58XAN6RR4AN/NUF3853A SN: 364AES0499

TX Freq: 806.0125 MHz

Sim Tissue Temp: 20.5 (Celsius)

Start Power: 0.670 W

Antenna: In

Battery Kit: SNN5705C

Carry: NONE

Audio/Data Acc.: NONE

DUT front separated 2.5cm from phantom; flip closed:

SAM - Expanded (new) Phantom; Flat Section; Position: (90°,90°);

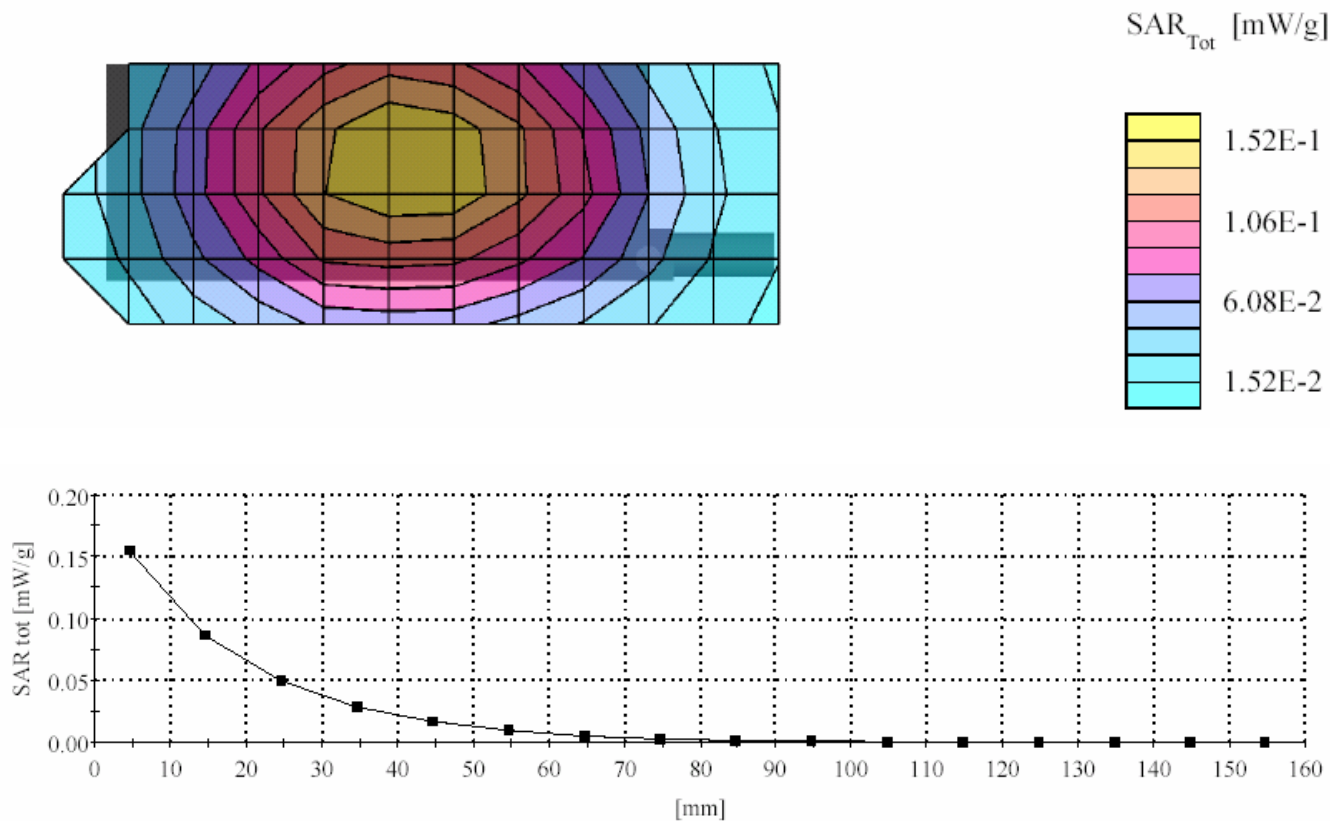
Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04; Crest factor: 6.0; IEEE

Head 813 MHz: $\sigma = 0.93$ mho/m $\epsilon_r = 41.8$ $\rho = 1.00$ g/cm³; DAE3: 401V1 DAE Cal Date: 8/25/2004

Cube 5x5x7: SAR (1g): 0.156 mW/g, SAR (10g): 0.113 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 22.5, 79.5, 4.7

Powerdrift: -0.09 dB



FCC ID: AZ489FT5838; Test Date: 9/30/04
Motorola CGISS EME Laboratory

Run #: Face-R3-040930-10

Model #: H58XAN6RR4AN/NUF3853A SN: 364AES0499

TX Freq: 901.98125 MHz Sim Tissue Temp: 20.5 (Celsius)

Start Power: 0.665 W

Antenna: In

Battery Kit: SNN5705C

Carry: NONE

Audio/Data Acc.: NONE

DUT front separated 2.5cm from phantom; flip closed:

SAM - Expanded (new) Phantom; Flat Section; Position: (90°,90°);

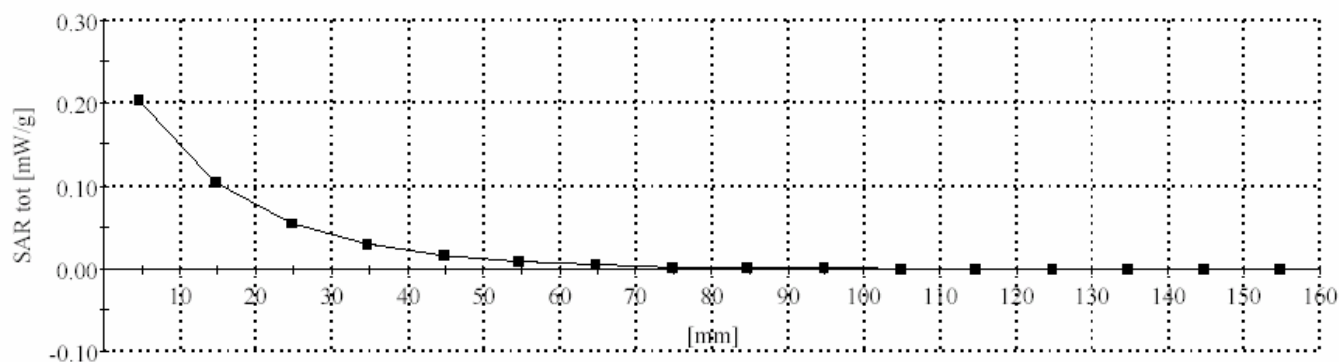
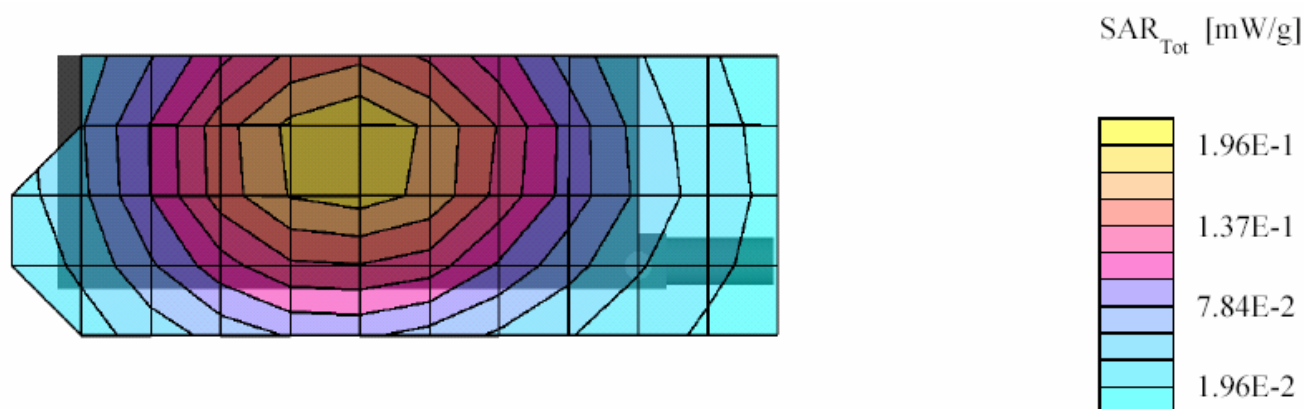
Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04; Crest factor: 6.0; IEEE

Head 899 MHz: $\sigma = 1.00$ mho/m $\epsilon_r = 40.6$ $\rho = 1.00$ g/cm³; DAE3: 401V1 DAE Cal Date: 8/25/2004

Cube 5x5x7: SAR (1g): 0.196 mW/g, SAR (10g): 0.139 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 19.5, 73.5, 4.7

Powerdrift: -0.16 dB



FCC ID: AZ489FT5838; Test Date: 10/5/04

Motorola CGISS EME Laboratory

Run #: Ab-R3-041005-18

Model #: H58XAN6RR4AN/NUF3853A SN: 364AES0499

TX Freq: 824.9875 MHz

Sim Tissue Temp: 19.7 (Celsius)

Start Power: 0.656 W

Antenna: In

Battery Kit: NNTN4655B

Carry: NNTN5913A

Audio/Data Acc.: None

DUT w/ body worn accessory against the phantom

Flat Phantom; Flat_abdomen Section; Position: (90°,90°);

Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(5.82,5.82,5.82); Probe cal date: 25/2/04; Crest factor: 1.5; FCC

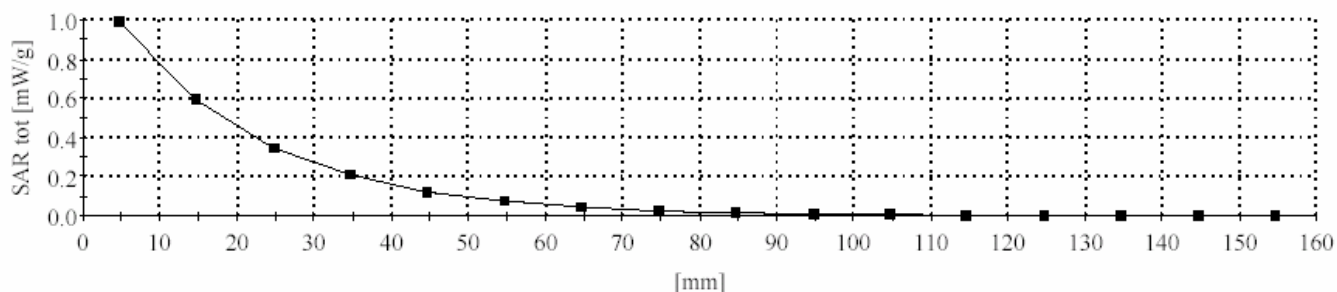
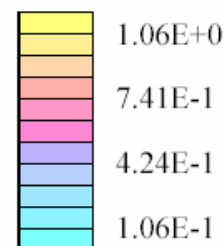
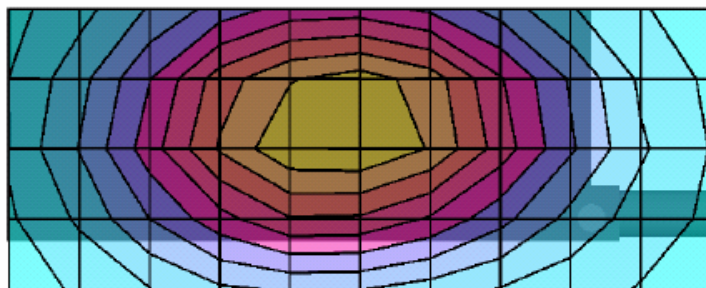
Body 813: $\sigma = 0.95$ mho/m $\epsilon_r = 53.4$ $\rho = 1.00$ g/cm³; DAE3: 401V1 DAE Cal Date: 8/25/2004

Cube 7x7x7: SAR (1g): 1.03 mW/g, SAR (10g): 0.756 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 25.5, 70.5, 4.7

Powerdrift: -0.51 dB

SAR_{Tot} [mW/g]



FCC ID: AZ489FT5838; Test Date: 10/5/04

Motorola CGISS EME Laboratory

Run #: Ab-R3-041005-19

Model #: H58XAN6RR4AN/NUF3853A SN: 364AES0499

TX Freq: 901.98125 MHz

Sim Tissue Temp: 19.7 (Celsius)

Start Power: 0.672 W

Antenna: In

Battery Kit: NNTN4655B

Carry: NNTN5913A

Audio/Data Acc.: None

DUT w/ body worn accessory against the phantom with Bluetooth turned ON

Flat Phantom; Flat_abdomen Section; Position: (90°,90°);

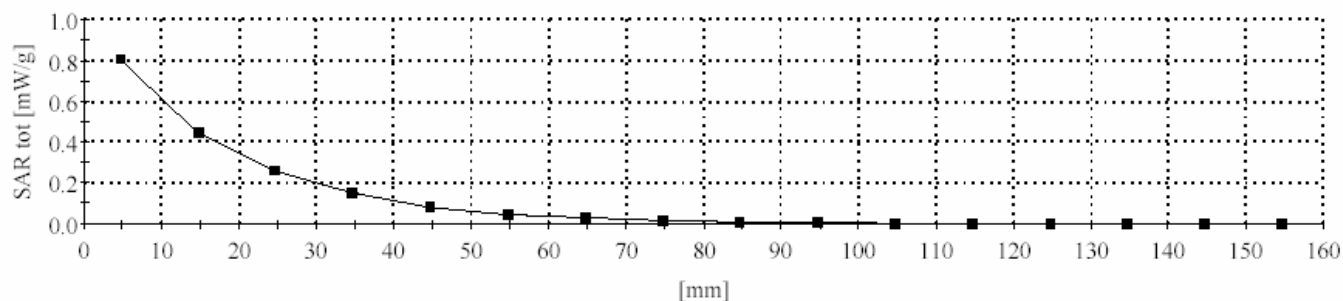
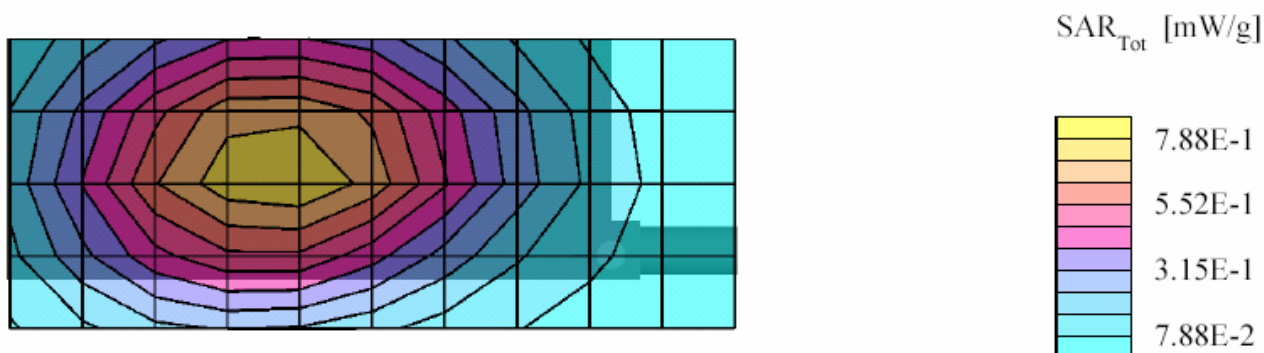
Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(5.82,5.82,5.82); Probe cal date: 25/2/04; Crest factor: 3.0; FCC

Body 899: $\sigma = 1.05$ mho/m $\epsilon_r = 52.4$ $\rho = 1.00$ g/cm³; DAE3: 401V1 DAE Cal Date: 8/25/2004

Cube 7x7x7: SAR (1g): 0.808 mW/g, SAR (10g): 0.574 mW/g, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 27.0, 55.5, 4.7

Powerdrift: 0.02 dB



APPENDIX C

Dipole System Performance Check Results

Dipole validation scans at the head from SPEAG are provided in APPENDIX D. The CGISS EME lab validated the dipole to the applicable IEEE system performance targets. Within the same day system validation was performed using FCC body tissue parameters to generate the system performance target values for body at the applicable frequency. The results of the CGISS EME system performance validation are provided in this appendix.

SPEAG 900 MHz Dipole; Model D900V2, SN 084; Test Date: 9/22/04
Motorola CGISS EME Lab

Run #: Sys Perf-R3-040922-01

TX Freq: 900 MHz

Sim Tissue Temp: 19.7 (Celsius)

Start Power; 250mW

SAR target at 1W is 11.75 mW/g (1g avg, including drift)

SAR target at 1W is 7.47 mW/g (10g avg, including drift)

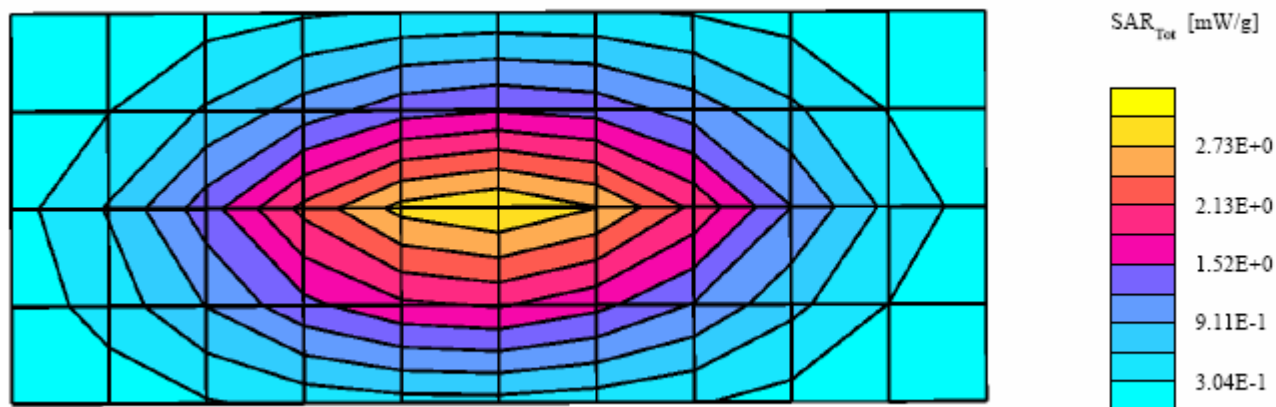
SAR calculated at 1W is 12.00 mW/g (1g avg). Percent from target (including drift) is + 5.62 %

SAR calculated at 1W is 7.60 mW/g (10g avg). Percent from target (including drift) is + 4.78 %

Flat Phantom; Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004);Probe Cal Date: 25/2/04ConvF(5.82,5.82,5.82); Crest factor: 1.0; FCC Body 900MHz: $\sigma = 1.05$ mho/m $\epsilon_r = 52.6$ $\rho = 1.00$ g/cm³; DAE3: 406 DAE Cal Date: 11/20/2003

Cubes (2): Peak: 4.73 mW/g $\pm$ 0.00 dB, SAR (1g): 3.00 mW/g $\pm$ 0.01 dB, SAR (10g): 1.90 mW/g $\pm$ 0.00 dB, (Worst-case extrapolation) Penetration depth: 12.0 (11.0, 13.3) [mm]

Power drift: 0.00 dB



SPEAG 900 MHz Dipole; Model D900V2, SN 084; Test Date: 9/23/04
Motorola CGISS EME Lab

Run #: Sys Perf-R3-040923-01

TX Freq: 900 MHz

Sim Tissue Temp: 20.3 (Celsius)

Start Power; 250mW

SAR target at 1W is 11.15 mW/g (1g avg, including drift)

SAR target at 1W is 6.98 mW/g (10g avg, including drift)

SAR calculated at 1W is 12.11 mW/g (1g avg). Percent from target (including drift) is 8.62 %

SAR calculated at 1W is 7.59 mW/g (10g avg). Percent from target (including drift) is 8.73 %

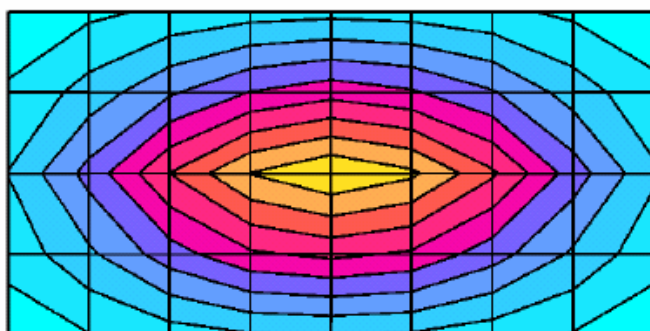
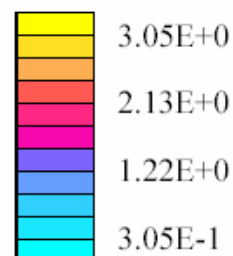
SAM - Expanded (new); Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04;

Crest factor: 1.0; IEEE Head 900 MHz: $\sigma = 1.01$ mho/m $\epsilon_r = 41.7$ $\rho = 1.00$ g/cm³; DAE3: 406 DAE Cal Date: 11/20/2003

Cubes (2): SAR (1g): 3.00 mW/g ± 0.00 dB, SAR (10g): 1.88 mW/g ± 0.01 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 30.0, 61.5, 4.7

Powerdrift: -0.04 dB


SAR_{Tot} [mW/g]


SPEAG 900 MHz Dipole; Model D900V2, SN 084; Test Date: 9/24/04
Motorola CGISS EME Lab

Run #: Sys Perf-R3-040924-01

TX Freq: 900 MHz Sim Tissue Temp: 20.5 (Celsius)

Start Power; 250mW

SAR target at 1W is 11.15 mW/g (1g avg, including drift)

SAR target at 1W is 6.98 mW/g (10g avg, including drift)

SAR calculated at 1W is 12.04 mW/g (1g avg). Percent from target (including drift) is 7.98 %

SAR calculated at 1W is 7.52 mW/g (10g avg). Percent from target (including drift) is 7.74 %

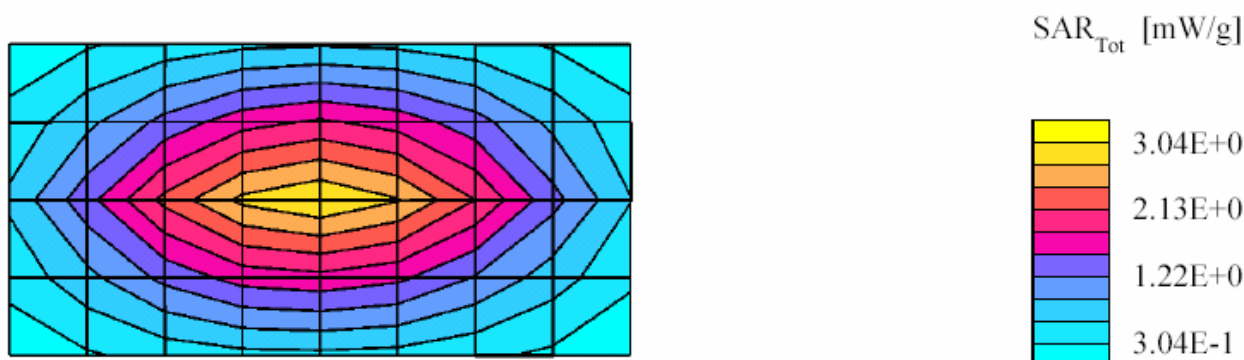
SAM - Expanded (new); Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04;

Crest factor: 1.0; IEEE Head 900 MHz: $\sigma = 1.01 \text{ mho/m}$ $\epsilon_r = 41.7$ $\rho = 1.00 \text{ g/cm}^3$; DAE3: 406 DAE Cal Date: 11/20/2003

Cubes (2): SAR (1g): $3.01 \text{ mW/g} \pm 0.00 \text{ dB}$, SAR (10g): $1.88 \text{ mW/g} \pm 0.00 \text{ dB}$, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 30.0, 58.5, 4.7

Powerdrift: 0.00 dB



SPEAG 900 MHz Dipole; Model D900V2, SN 084; Test Date: 9/27/04
Motorola CGISS EME Lab

Run #: Sys Perf-R3-040927-01

TX Freq: 900 MHz

Sim Tissue Temp: 20.5 (Celsius)

Start Power; 250mW

SAR target at 1W is 11.15 mW/g (1g avg, including drift)

SAR target at 1W is 6.98 mW/g (10g avg, including drift)

SAR calculated at 1W is 10.87 mW/g (1g avg). Percent from target (including drift) is -2.51 %

SAR calculated at 1W is 6.77 mW/g (10g avg). Percent from target (including drift) is -3.03 %

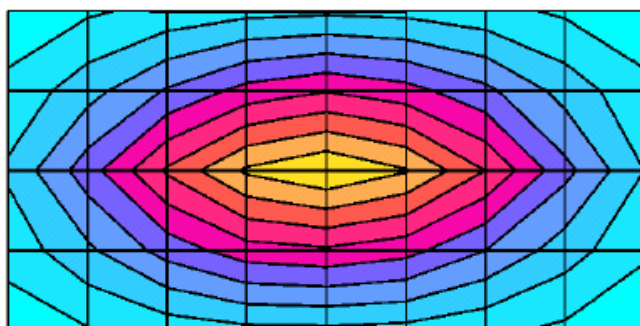
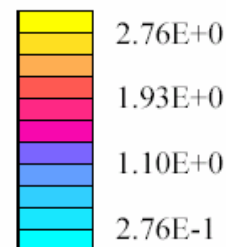
SAM - Expanded (new); Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04;

Crest factor: 1.0; IEEE Head 900 MHz: $\sigma = 1.01$ mho/m $\epsilon_r = 41.8$ $\rho = 1.00$ g/cm³; DAE3: 406 DAE Cal Date: 11/20/2003

Cubes (2): SAR (1g): 2.73 mW/g ± 0.01 dB, SAR (10g): 1.70 mW/g ± 0.01 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 30.0, 60.0, 4.7

Powerdrift: 0.02 dB


SAR_{Tot} [mW/g]


SPEAG 900 MHz Dipole; Model D900V2, SN 084; Test Date: 9/28/04
Motorola CGISS EME Lab

Run #: Sys Perf-R3-040928-05

TX Freq: 900 MHz

Sim Tissue Temp: 20.1 (Celsius)

Start Power; 250mW

SAR target at 1W is 11.15 mW/g (1g avg, including drift)

SAR target at 1W is 6.98 mW/g (10g avg, including drift)

SAR calculated at 1W is 11.92 mW/g (1g avg). Percent from target (including drift) is 6.91 %

SAR calculated at 1W is 7.48 mW/g (10g avg). Percent from target (including drift) is 7.16 %

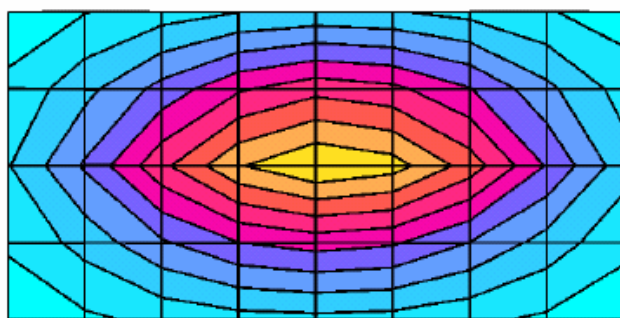
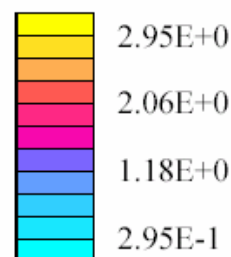
SAM - Expanded (new); Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04;

Crest factor: 1.0; IEEE Head 900 MHz: $\sigma = 1.01$ mho/m $\epsilon_r = 40.6$ $\rho = 1.00$ g/cm³; DAE3: 401 DAE Cal Date: 8/25/2004

Cubes (2): SAR (1g): 2.98 mW/g ± 0.05 dB, SAR (10g): 1.87 mW/g ± 0.04 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 28.5, 63.0, 4.7

Powerdrift: 0.00 dB


SAR_{Tot} [mW/g]


SPEAG 900 MHz Dipole; Model D900V2, SN 084; Test Date: 9/30/04
Motorola CGISS EME Lab

Run #: Sys Perf-R3-040930-01

TX Freq: 900 MHz

Sim Tissue Temp: 20.0 (Celsius)

Start Power; 250mW

SAR target at 1W is 11.15 mW/g (1g avg, including drift)

SAR target at 1W is 6.98 mW/g (10g avg, including drift)

SAR calculated at 1W is 11.77 mW/g (1g avg). Percent from target (including drift) is 5.60 %

SAR calculated at 1W is 7.39 mW/g (10g avg). Percent from target (including drift) is 5.93 %

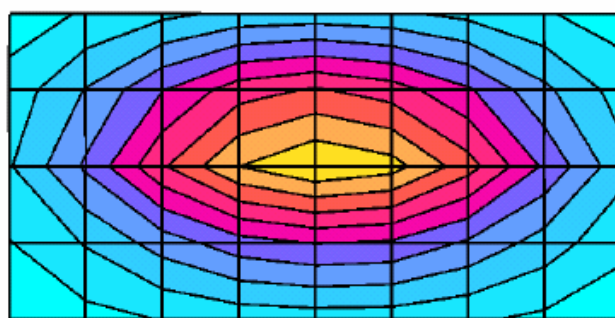
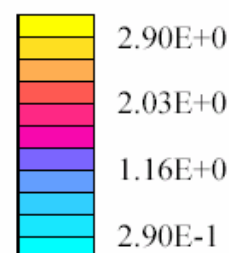
SAM - Expanded (new); Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04;

Crest factor: 1.0; IEEE Head 900 MHz: $\sigma = 1.00$ mho/m $\epsilon_r = 40.6$ $\rho = 1.00$ g/cm³; DAE3: 401 DAE Cal Date: 8/25/2004

Cubes (2): SAR (1g): 2.93 mW/g ± 0.02 dB, SAR (10g): 1.84 mW/g ± 0.02 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 28.5, 61.5, 4.7

Powerdrift: -0.02 dB


SAR_{Tot} [mW/g]


SPEAG 900 MHz Dipole; Model D900V2, SN 084; Test Date: 10/1/04
Motorola CGISS EME Lab

Run #: Sys Perf-R3-041001-01

TX Freq: 900 MHz

Sim Tissue Temp: 20.7 (Celsius)

Start Power; 250mW

SAR target at 1W is 11.15 mW/g (1g avg, including drift)

SAR target at 1W is 6.98 mW/g (10g avg, including drift)

SAR calculated at 1W is 11.79 mW/g (1g avg). Percent from target (including drift) is 5.71 %

SAR calculated at 1W is 7.42 mW/g (10g avg). Percent from target (including drift) is 6.26 %

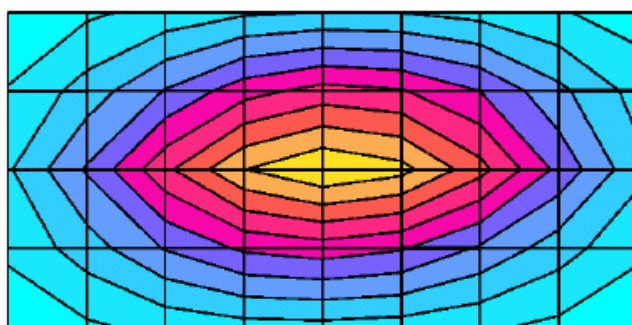
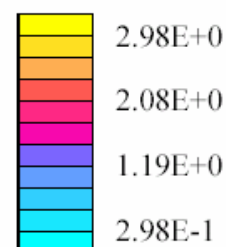
SAM - Expanded (new); Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Probe cal date: 25/2/04;

Crest factor: 1.0; IEEE Head 900 MHz: $\sigma = 1.01$ mho/m $\epsilon_r = 40.7$ $\rho = 1.00$ g/cm³; DAE3: 401 DAE Cal Date: 8/25/2004

Cubes (2): SAR (1g): 2.94 mW/g $\pm$ 0.00 dB, SAR (10g): 1.85 mW/g $\pm$ 0.00 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 30.0, 61.5, 4.7

Powerdrift: -0.01 dB


SAR_{Tot} [mW/g]


SPEAG 900 MHz Dipole; Model D900V2, SN 084; Test Date: 10/4/04
Motorola CGISS EME Lab

Run #: Sys Perf-R3-041004-01

TX Freq: 900 MHz

Sim Tissue Temp: 20.6 (Celsius)

Start Power; 250mW

SAR target at 1W is 11.75 mW/g (1g avg, including drift)

SAR target at 1W is 7.47 mW/g (10g avg, including drift)

SAR calculated at 1W is 12.03 mW/g (1g avg). Percent from target (including drift) is 2.36 %

SAR calculated at 1W is 7.62 mW/g (10g avg). Percent from target (including drift) is 1.97 %

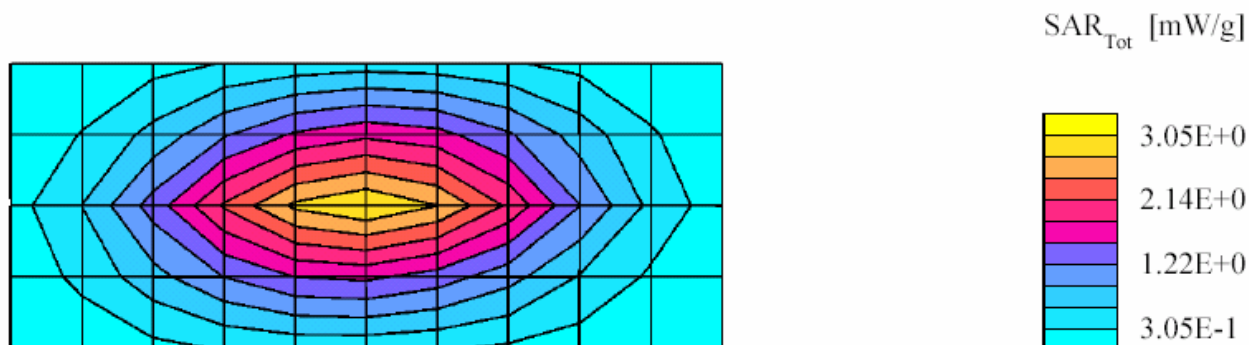
Flat Phantom; Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(5.82,5.82,5.82); Probe cal date: 25/2/04; Crest factor:

1.0; FCC Body 900MHz: $\sigma = 1.05$ mho/m $\epsilon_r = 52.6$ $\rho = 1.00$ g/cm³; DAE3: 401 DAE Cal Date: 8/25/2004

Cubes (2): SAR (1g): 3.00 mW/g ± 0.02 dB, SAR (10g): 1.90 mW/g ± 0.02 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 30.0, 73.5, 4.7

Powerdrift: -0.01 dB



SPEAG 900 MHz Dipole; Model D900V2, SN 084; Test Date: 10/5/04
Motorola CGISS EME Lab

Run #: Sys Perf-R3-041005-01

TX Freq: 900 MHz

Sim Tissue Temp: 20.6 (Celsius)

Start Power; 250mW

SAR target at 1W is 11.75 mW/g (1g avg, including drift)

SAR target at 1W is 7.47 mW/g (10g avg, including drift)

SAR calculated at 1W is 12.01 mW/g (1g avg). Percent from target (including drift) is 2.23 %

SAR calculated at 1W is 7.62 mW/g (10g avg). Percent from target (including drift) is 2.04 %

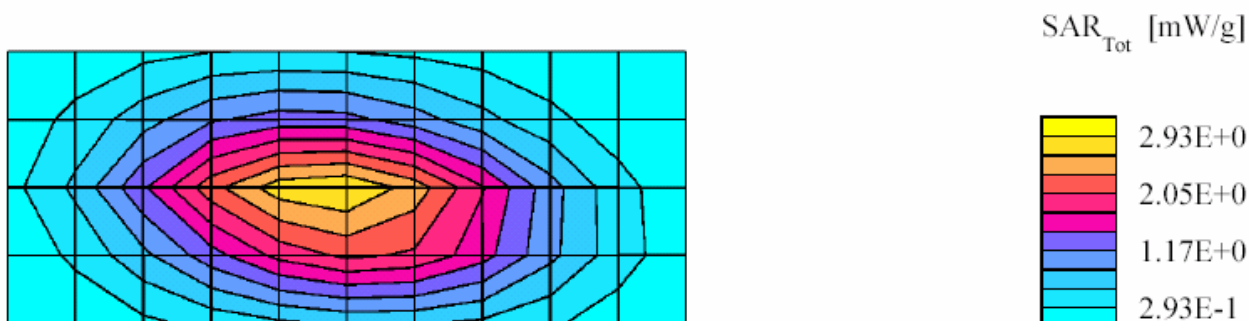
Flat Phantom; Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(5.82,5.82,5.82); Probe cal date: 25/2/04; Crest factor:

1.0; FCC Body 900MHz: $\sigma = 1.05$ mho/m $\epsilon_r = 52.4$ $\rho = 1.00$ g/cm³; DAE3: 401 DAE Cal Date: 8/25/2004

Cubes (2): SAR (1g): 3.01 mW/g ± 0.04 dB, SAR (10g): 1.91 mW/g ± 0.04 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 31.5, 72.0, 4.7

Powerdrift: 0.01 dB



SPEAG 900 MHz Dipole; Model D900V2, SN 084; Test Date: 10/6/04
Motorola CGISS EME Lab

Run #: Sys Perf-R3-041006-01

TX Freq: 900 MHz

Sim Tissue Temp: 19.7 (Celsius)

Start Power; 250mW

SAR target at 1W is 11.75 mW/g (1g avg, including drift)

SAR target at 1W is 7.47 mW/g (10g avg, including drift)

SAR calculated at 1W is 12.38 mW/g (1g avg). Percent from target (including drift) is 5.34 %

SAR calculated at 1W is 7.84 mW/g (10g avg). Percent from target (including drift) is 4.90 %

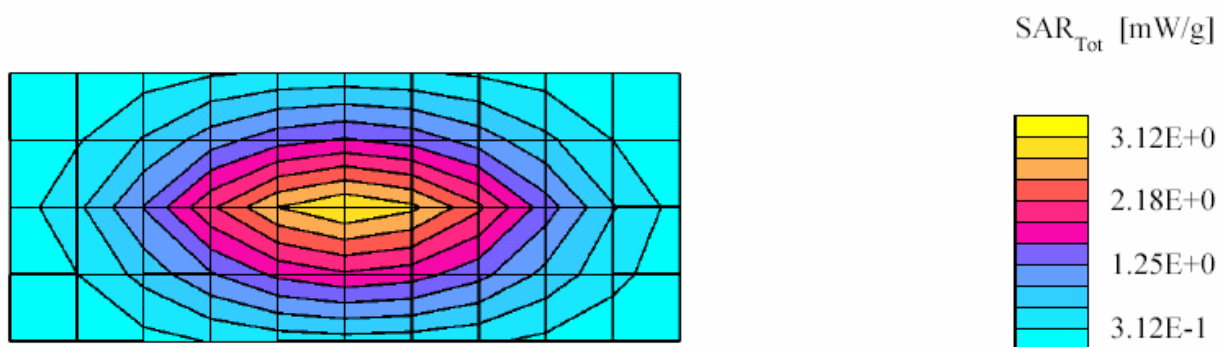
Flat Phantom; Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(5.82,5.82,5.82); Probe cal date: 25/2/04; Crest factor:

1.0; FCC Body 900MHz: $\sigma = 1.05$ mho/m $\epsilon_r = 52.4$ $\rho = 1.00$ g/cm³; DAE3: 401 DAE Cal Date: 8/25/2004

Cubes (2): SAR (1g): 3.08 mW/g ± 0.03 dB, SAR (10g): 1.95 mW/g ± 0.03 dB, (Worst-case extrapolation)

Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0; Max at 30.0, 76.5, 4.7

Powerdrift: -0.02 dB



**MOTOROLA**

Certificate Number: 1449-01

SYSTEM VALIDATION

Date:	<u>4/14/2004</u>	Frequency (MHz):	<u>900</u>
Lab Location:	<u>CGISS</u>	Mixture Type:	<u>IEEE-Head</u>
Robot System:	<u>3</u>	Ambient Temp.(°C):	<u>23</u>
Probe Serial #:	<u>1383</u>	Tissue Temp.(°C):	<u>21</u>
DAE Serial #:	<u>406</u>		

Tissue Characteristics

Permittivity:	<u>41.2</u>	Phantom Type/SN:	<u>SAMTP1022</u>
Conductivity:	<u>1.00</u>	Distance (mm):	<u>15 (tissue/dipole cnt)</u>

Reference Source:	<u>D900V2</u>	(Dipole)
Reference SN:	<u>84</u>	

Power to Dipole:	<u>250</u>	mW
Power Output (radio):	<u>n/a</u>	mW

Target SAR Value:	<u>10.8</u>	mW/g,	<u>6.9</u>	mW/g (10g avg.)
(normalized to 1.0 W)				

Measured SAR Value:	<u>2.78</u>	mW/g,	<u>1.74</u>	mW/g (10g avg.)
Power Drift:	<u>-0.01</u>	dB		

Measured SAR Value:	<u>11.15</u>	mW/g,	<u>6.98</u>	mW/g (10g avg.)
(normalized to 1.0 W, including drift)				

Percent Difference From Target (MUST be within System Uncertainty):	<u>3.20</u>	% (1g ave)
	<u>1.10</u>	% (10g ave)

Test performed by:	<u>C. Miller</u>	Initial:
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MOTOROLA



Certificate Number: 1449-01

SYSTEM PERFORMANCE CHECK TARGET SAR

Date:	<u>4/14/2004</u>	Frequency (MHz):	<u>900</u>
Lab Location:	<u>CGISS</u>	Mixture Type:	<u>IEEE - Head</u>
Robot System:	<u>3</u>	Ambient Temp.(°C):	<u>23</u>
Probe Serial #:	<u>1383</u>	Tissue Temp.(°C):	<u>21</u>
DAE Serial #:	<u>401</u>		

Tissue Characteristics

Permittivity:	<u>41.2</u>	Phantom Type/SN:	<u>SAMTP1022</u>
Conductivity:	<u>1.00</u>	Distance (mm):	<u>15 (tissue/dipole cnt)</u>

Reference Source:	<u>D900V2</u>	(Dipole)
Reference SN:	<u>84</u>	

Power to Dipole: 250 mW

Measured SAR Value:	<u>2.78</u> mW/g,	<u>1.74</u> mW/g (10g avg.)
Power Drift:	<u>-0.01</u> dB	

New Target/Measured

SAR Value:	<u>11.15</u> mW/g,	<u>6.98</u> mW/g (10g avg.)
(normalized to 1.0 W, including drift)		

Test performed by: C. Miller Initial: 



MOTOROLA



Certificate Number: 1449-01

SPEAG DIPOLE D900V2; Test date:04/14/04

Run #: Sys Perf-040414-08

Phantom #: SAMTP1022

Model #: D900 V2

SN: 084

Robot: CGISS-3

Tester: C. Miller

TX Freq: 900 MHz

900 MHz Sim Tissue Temp: 21.0 (Celsius)

Start Power: 250 mW

DAE3: 401

DAE Cal Date: 08/21/2003

- Comments-

SAR calculated at 1W is 11.15 mW/g (1g avg).

SAR calculated at 1W is 6.98 mW/g (10g avg).

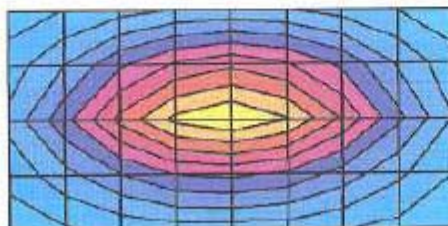
SAM; Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(6.30,6.30,6.30); Crest factor: 1.0; IEEE

Head 900: $\sigma = 1.00$ mho/m $\epsilon_r = 41.2$ $\rho = 1.00$ g/cm³

Cubes (2): Peak: 4.44 mW/g ± 0.01 dB, SAR (1g): 2.78 mW/g ± 0.02 dB, SAR (10g): 1.74 mW/g ± 0.03 dB, (Worst-case extrapolation)

Penetration depth: 11.2 (10.4, 12.4) [mm]

Powerdrift: -0.01 dB



SAR_{1g} [mW/g]





MOTOROLA



Certificate Number: 1449-01

SYSTEM PERFORMANCE CHECK TARGET SAR

Date:	<u>4/14/2004</u>	Frequency (MHz):	<u>900</u>
Lab Location:	<u>CGISS</u>	Mixture Type:	<u>FCC Body</u>
Robot System:	<u>3</u>	Ambient Temp.(°C):	<u>23</u>
Probe Serial #:	<u>1545</u>	Tissue Temp.(°C):	<u>20.5</u>
DAE Serial #:	<u>406</u>		

Tissue Characteristics

Permittivity:	<u>53.3</u>	Phantom Type/SN:	<u>80302002A/S8</u>
Conductivity:	<u>1.05</u>	Distance (mm):	<u>15 (tissue/dipole cnt)</u>

Reference Source:	<u>D900V2</u>	(Dipole)
Reference SN:	<u>84</u>	

Power to Dipole: 250 mW

Measured SAR Value:	<u>2.91</u> mW/g,	<u>1.85</u> mW/g (10g avg.)
Power Drift:	<u>-0.04</u> dB	

New Target/Measured

SAR Value:	<u>11.75</u> mW/g,	<u>7.47</u> mW/g (10g avg.)
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(normalized to 1.0 W, including drift)

Test performed by: C. Miller Initial: 



MOTOROLA



Certificate Number: 1449-01

SPEAG DIPOLE D900V2; Test date:04/14/04

Run #: Sys Perf-040414-09

Model #: D900 V2

Robot: CGISS-3

TX Freq: 900 MHz

Start Power: 250 mW

DAE3: 401

- Comments-

Phantom #: 80302002A/S8

SN: 084

Tester: C. Miller

900 MHz Sim Tissue Temp: 20.5 (Celsius)

DAE Cal Date: 08/21/2003

SAR calculated at 1W is 11.75 mW/g (1g avg).

SAR calculated at 1W is 7.47 mW/g (10g avg).

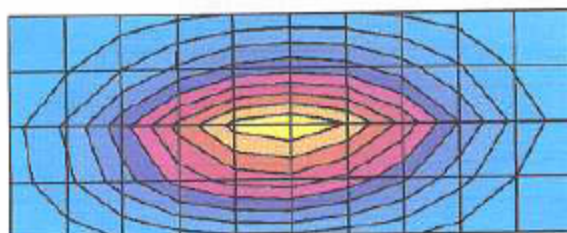
Flat; Probe: ET3DV6 - SN1383(Cal Date 25 Feb 2004); ConvF(5.82,5.82,5.82); Crest factor: 1.0; FCC Body

900MHz: $\sigma = 1.05 \text{ mho/m}$, $\epsilon_r = 53.3$, $\rho = 1.00 \text{ g/cm}^3$

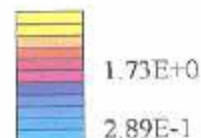
Cubes (2): Peak: 4.56 mW/g $\pm 0.03 \text{ dB}$, SAR (1g): 2.91 mW/g $\pm 0.03 \text{ dB}$, SAR (10g): 1.85 mW/g $\pm 0.03 \text{ dB}$, (Worst-case extrapolation)

Penetration depth: 12.0 (11.1, 13.3) [mm]

Powerdrift: -0.04 dB



SAR_{Tot} [mW/g]





Certificate Number: 1449-01

APPENDIX D

Probe/Dipole Calibration Certificates



MOTOROLA



Certificate Number: 1449-01

**Calibration Laboratory of
Schmid & Partner
Engineering AG**
Zeughausstrasse 43, 8004 Zurich, Switzerland

Client **Motorola CGISS**

CALIBRATION CERTIFICATE																																			
Object(s)	ET3DV6 - SN:1383																																		
Calibration procedure(s)	QA CAL-01.v2 Calibration procedure for dosimetric E-field probes																																		
Calibration date:	February 25, 2004																																		
Condition of the calibrated item	In Tolerance (according to the specific calibration document)																																		
This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%. Calibration Equipment used (M&TE critical for calibration) <table border="1"><thead><tr><th>Model Type</th><th>ID #</th><th>Cal Date (Calibrated by, Certificate No.)</th><th>Scheduled Calibration</th></tr></thead><tbody><tr><td>Power meter EPM E4419B</td><td>GB41293874</td><td>2-Apr-03 (METAS, No 252-0250)</td><td>Apr-04</td></tr><tr><td>Power sensor E4412A</td><td>MY41495277</td><td>2-Apr-03 (METAS, No 252-0250)</td><td>Apr-04</td></tr><tr><td>Reference 20 dB Attenuator</td><td>SN: 5086 (20b)</td><td>3-Apr-03 (METAS, No. 251-0340)</td><td>Apr-04</td></tr><tr><td>Fluke Process Calibrator Type 702</td><td>SN: 6295803</td><td>8-Sep-03 (Sintrel SCS No. E-030020)</td><td>Sep-04</td></tr><tr><td>Power sensor HP 8481A</td><td>MY41092180</td><td>18-Sep-02 (SPEAG, in house check Oct-03)</td><td>In house check: Oct 05</td></tr><tr><td>RF generator HP 8684C</td><td>US3642U01700</td><td>4-Aug-99 (SPEAG, in house check Aug-02)</td><td>In house check: Aug-05</td></tr><tr><td>Network Analyzer HP 8753E</td><td>US37390585</td><td>18-Oct-01 (SPEAG, in house check Oct-03)</td><td>In house check: Oct 05</td></tr></tbody></table>				Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration	Power meter EPM E4419B	GB41293874	2-Apr-03 (METAS, No 252-0250)	Apr-04	Power sensor E4412A	MY41495277	2-Apr-03 (METAS, No 252-0250)	Apr-04	Reference 20 dB Attenuator	SN: 5086 (20b)	3-Apr-03 (METAS, No. 251-0340)	Apr-04	Fluke Process Calibrator Type 702	SN: 6295803	8-Sep-03 (Sintrel SCS No. E-030020)	Sep-04	Power sensor HP 8481A	MY41092180	18-Sep-02 (SPEAG, in house check Oct-03)	In house check: Oct 05	RF generator HP 8684C	US3642U01700	4-Aug-99 (SPEAG, in house check Aug-02)	In house check: Aug-05	Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct-03)	In house check: Oct 05
Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration																																
Power meter EPM E4419B	GB41293874	2-Apr-03 (METAS, No 252-0250)	Apr-04																																
Power sensor E4412A	MY41495277	2-Apr-03 (METAS, No 252-0250)	Apr-04																																
Reference 20 dB Attenuator	SN: 5086 (20b)	3-Apr-03 (METAS, No. 251-0340)	Apr-04																																
Fluke Process Calibrator Type 702	SN: 6295803	8-Sep-03 (Sintrel SCS No. E-030020)	Sep-04																																
Power sensor HP 8481A	MY41092180	18-Sep-02 (SPEAG, in house check Oct-03)	In house check: Oct 05																																
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Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct-03)	In house check: Oct 05																																
Calibrated by:	Name Nico Vetter	Function Technician	Signature 																																
Approved by:	Name Katja Pokovic	Function Laboratory Director	Signature 																																
Date issued: February 25, 2004																																			
This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.																																			



ET3DV6 SN:1383

February 25, 2004

DASY - Parameters of Probe: ET3DV6 SN:1383

Sensitivity in Free Space

NormX	1.88 $\mu\text{V}/(\text{V}/\text{m})^2$
NormY	1.63 $\mu\text{V}/(\text{V}/\text{m})^2$
NormZ	1.71 $\mu\text{V}/(\text{V}/\text{m})^2$

Diode Compression^A

DCP X	92	mV
DCP Y	92	mV
DCP Z	92	mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 7.

Boundary Effect

Head 900 MHz Typical SAR gradient: 5 % per mm

Sensor Center to Phantom Surface Distance		3.7 mm	4.7 mm
SAR _{pe} [%]	Without Correction Algorithm	9.9	5.0
SAR _{pe} [%]	With Correction Algorithm	0.1	0.3

Head 1800 MHz Typical SAR gradient: 10 % per mm

Sensor to Surface Distance		3.7 mm	4.7 mm
SAR _{pe} [%]	Without Correction Algorithm	13.6	8.6
SAR _{pe} [%]	With Correction Algorithm	0.1	0.2

Sensor Offset

Probe Tip to Sensor Center	2.7 mm
Optical Surface Detection	very low, but repeatable

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

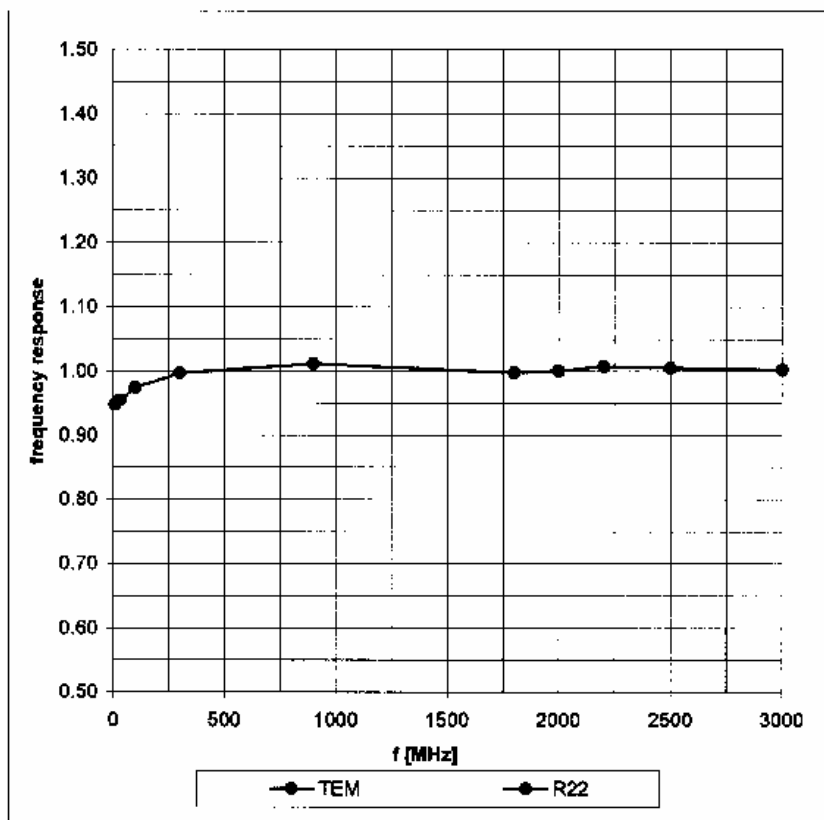
^A numerical linearization parameter: uncertainty not required

ET3DV6 SN:1383

February 25, 2004

Frequency Response of E-Field

(TEM-Cell:ifi110, Waveguide R22)





MOTOROLA

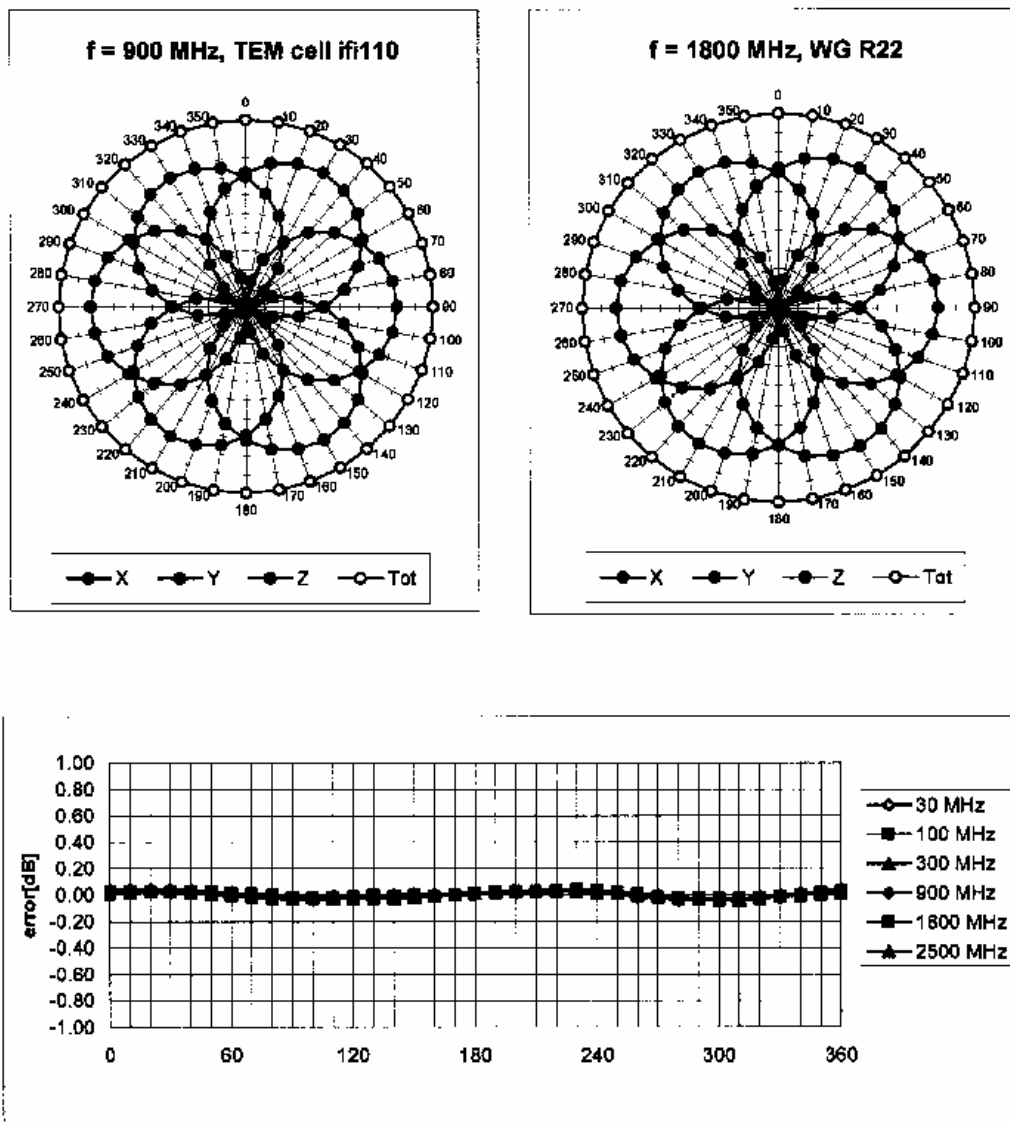


Certificate Number: 1449-01

ET3DV6 SN:1383

February 25, 2004

Receiving Pattern (ϕ) , $\theta = 0^\circ$



Axial Isotropy Error < ± 0.2 dB



MOTOROLA

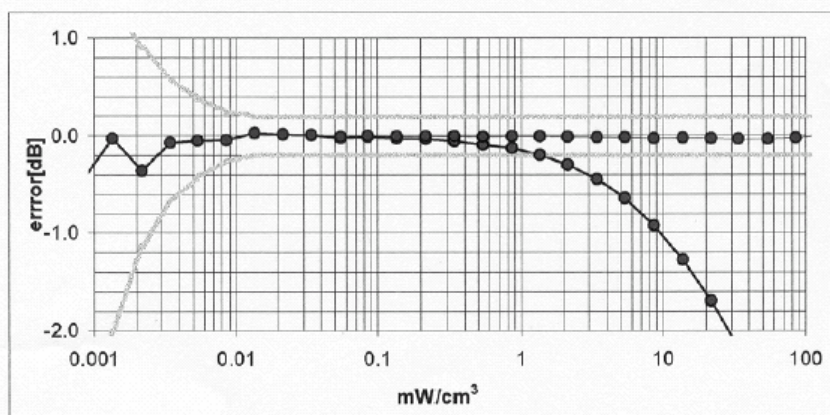
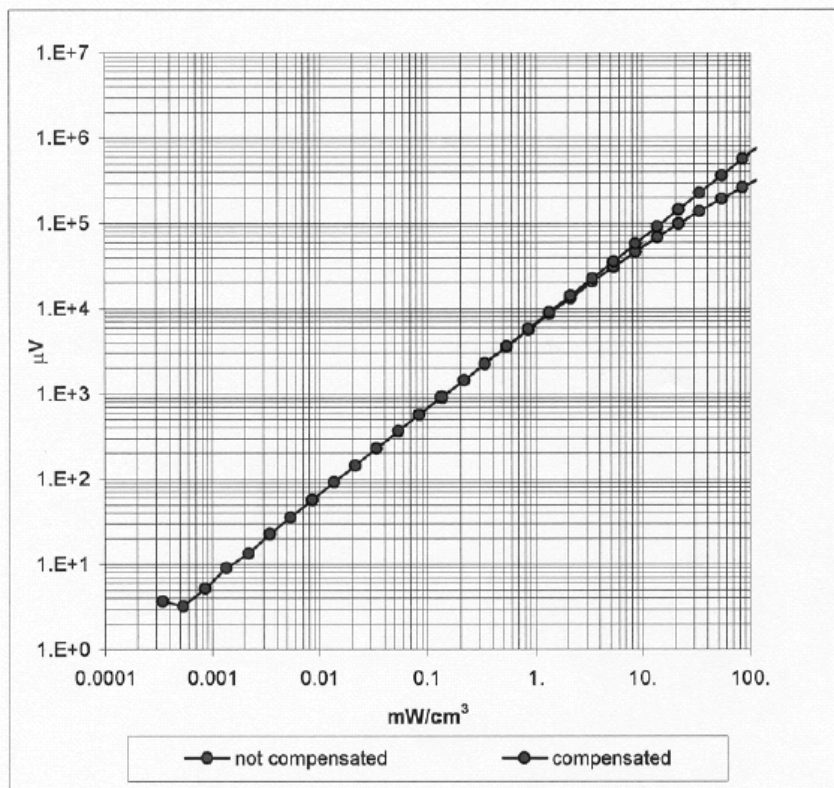


Certificate Number: 1449-01

ET3DV6 SN:1383

February 25, 2004

Dynamic Range $f(\text{SAR}_{\text{head}})$ (Waveguide R22)



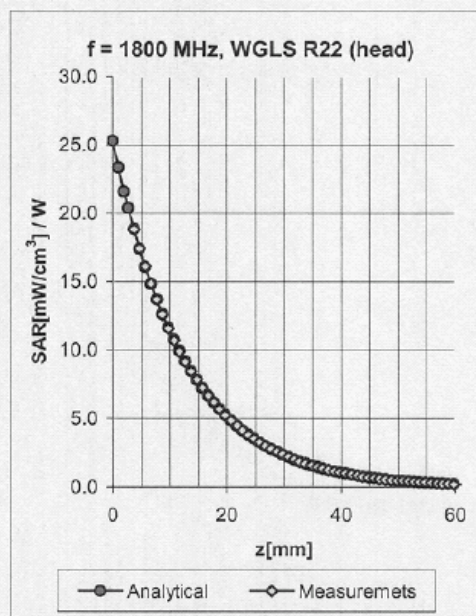
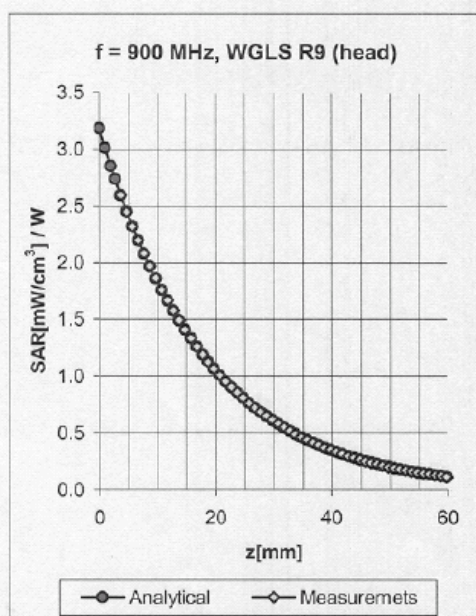
Probe Linearity $< \pm 0.2 \text{ dB}$



ET3DV6 SN:1383

February 25, 2004

Conversion Factor Assessment



f [MHz]	Validity [MHz] ^B	Tissue	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
900	800-1000	Head	41.5 ± 5%	0.97 ± 5%	0.72	1.77	6.30	± 9.5% (k=2)
1450	1400-1500	Head	40.5 ± 5%	1.20 ± 5%	0.55	2.40	5.72	± 9.5% (k=2)
1800	1710-1910	Head	40.0 ± 5%	1.40 ± 5%	0.57	2.38	5.14	± 9.5% (k=2)
2450	2400-2500	Head	39.2 ± 5%	1.80 ± 5%	1.18	1.72	4.76	± 9.5% (k=2)
900	800-1000	Body	55.0 ± 5%	1.05 ± 5%	0.51	2.27	5.82	± 9.5% (k=2)
1450	1400-1500	Body	54.0 ± 5%	1.30 ± 5%	0.53	2.58	5.27	± 9.5% (k=2)
1800	1710-1910	Body	53.3 ± 5%	1.52 ± 5%	0.62	2.67	4.55	± 9.5% (k=2)
2450	2400-2500	Body	52.7 ± 5%	1.95 ± 5%	1.91	1.23	4.41	± 9.5% (k=2)

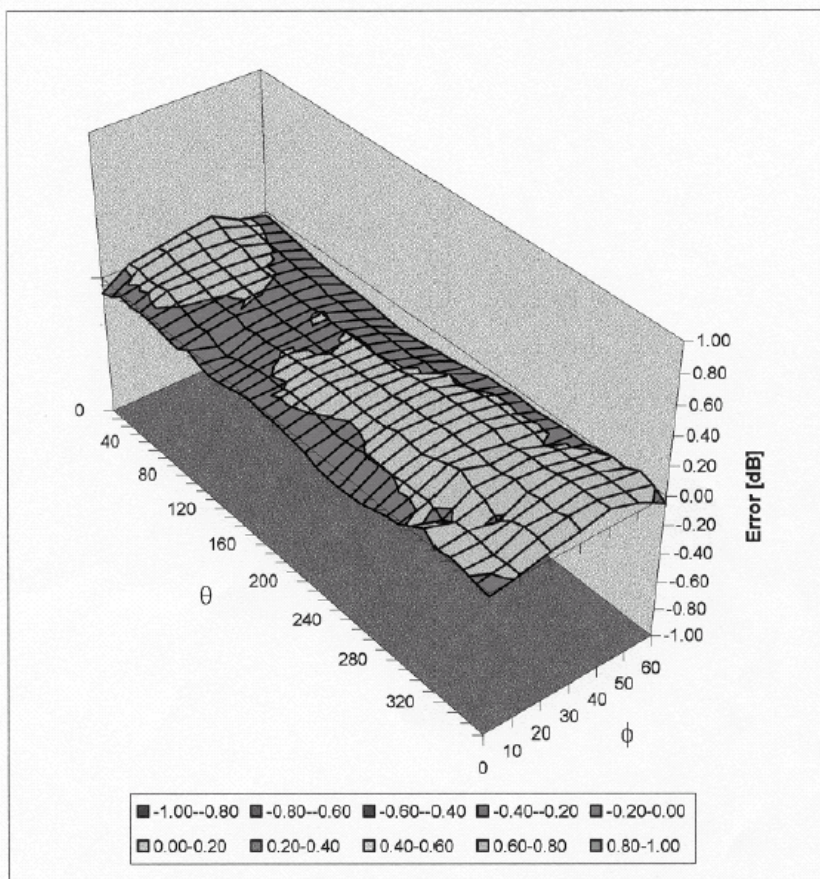
^B The stated uncertainty of calibration was assessed according to P1528.

ET3DV6 SN:1383

February 25, 2004

Deviation from Isotropy in HSL

Error (θ, ϕ), $f = 900$ MHz



Spherical Isotropy Error $< \pm 0.4$ dB

**MOTOROLA**

Certificate Number: 1449-01

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

Client **Motorola CGISS****CALIBRATION CERTIFICATE**Object(s) **D900V2 - SN:084**Calibration procedure(s) **QA CAL-05.v2
Calibration procedure for dipole validation kits**Calibration date: **March 22, 2004**Condition of the calibrated item **In Tolerance (according to the specific calibration document)**

This calibration statement documents traceability of M&TE used in the calibration procedures and conformity of the procedures with the ISO/IEC 17025 international standard.

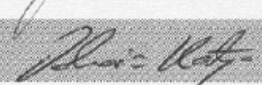
All calibrations have been conducted in the closed laboratory facility: environment temperature 22 +/- 2 degrees Celsius and humidity < 75%.

Calibration Equipment used (M&TE critical for calibration)

Model Type	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM E442	GB37480704	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	US37292783	6-Nov-03 (METAS, No. 252-0254)	Nov-04
Power sensor HP 8481A	MY41092317	18-Oct-02 (Agilent, No. 20021018)	Oct-04
RF generator R&S SML-03	100698	27-Mar-2002 (R&S, No. 20-92389)	In house check: Mar-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-03)	In house check: Oct 05

	Name	Function	Signature
Calibrated by:	Judith Mueller	Technician	

Approved by:	Katja Pokovic	Laboratory Director
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Date issued: March 23, 2004

This calibration certificate is issued as an intermediate solution until the accreditation process (based on ISO/IEC 17025 International Standard) for Calibration Laboratory of Schmid & Partner Engineering AG is completed.



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Certificate Number: 1449-01

Schmid & Partner Engineering AG

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Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, <http://www.speag.com>

DASY

Dipole Validation Kit

Type: D900V2

Serial: 084

Manufactured: September 20, 2000
Calibrated: March 22, 2004

**1. Measurement Conditions**

The measurements were performed in the flat section of the SAM twin phantom filled with **head simulating solution** of the following electrical parameters at 900 MHz:

Relative Dielectricity	41.4	$\pm 5\%$
Conductivity	0.95 mho/m	$\pm 5\%$

The DASY4 System with a dosimetric E-field probe ET3DV6 (SN:1507, Conversion factor 6.18 at 900 MHz) was used for the measurements.

The dipole was mounted on the small tripod so that the dipole feedpoint was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 15mm from dipole center to the solution surface. The included distance spacer was used during measurements for accurate distance positioning.

The coarse grid with a grid spacing of 15mm was aligned with the dipole. The 7x7x7 fine cube was chosen for cube integration.

The dipole input power (forward power) was $250 \text{ mW} \pm 3\%$. The results are normalized to 1W input power.

2. SAR Measurement with DASY4 System

Standard SAR-measurements were performed according to the measurement conditions described in section 1. The results (see figure supplied) have been normalized to a dipole input power of 1W (forward power). The resulting averaged SAR-values measured with the dosimetric probe ET3DV6 SN:1507 and applying the advanced extrapolation are:

averaged over 1 cm^3 (1 g) of tissue: **$10.9 \text{ mW/g} \pm 16.8\% (k=2)^1$**

averaged over 10 cm^3 (10 g) of tissue: **$7.04 \text{ mW/g} \pm 16.2\% (k=2)^1$**



3. Dipole Impedance and Return Loss

The impedance was measured at the SMA-connector with a network analyzer and numerically transformed to the dipole feedpoint. The transformation parameters from the SMA-connector to the dipole feedpoint are:

Electrical delay:	1.388 ns	(one direction)
Transmission factor:	0.989	(voltage transmission, one direction)

The dipole was positioned at the flat phantom sections according to section 1 and the distance spacer was in place during impedance measurements.

Feedpoint impedance at 900 MHz:	$\text{Re}\{Z\} = 52.6 \, \Omega$
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$\text{Im}\{Z\} = -3.4 \, \Omega$

Return Loss at 900 MHz	-27.7 dB
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4. Handling

Do not apply excessive force to the dipole arms, because they might bend. Bending of the dipole arms stresses the soldered connections near the feedpoint leading to a damage of the dipole.

5. Design

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

6. Power Test

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.



Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN084

Communication System: CW-900; Frequency: 900 MHz; Duty Cycle: 1:1

Medium: HSL 900 MHz;

Medium parameters used: $f = 900 \text{ MHz}$; $\sigma = 0.95 \text{ mho/m}$; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(6.18, 6.18, 6.18); Calibrated: 1/23/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn411; Calibrated: 11/6/2003
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006;
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

Pin = 250 mW; d = 15 mm/Area Scan (81x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Reference Value = 57 V/m; Power Drift = 0.0 dB

Maximum value of SAR (interpolated) = 2.92 mW/g

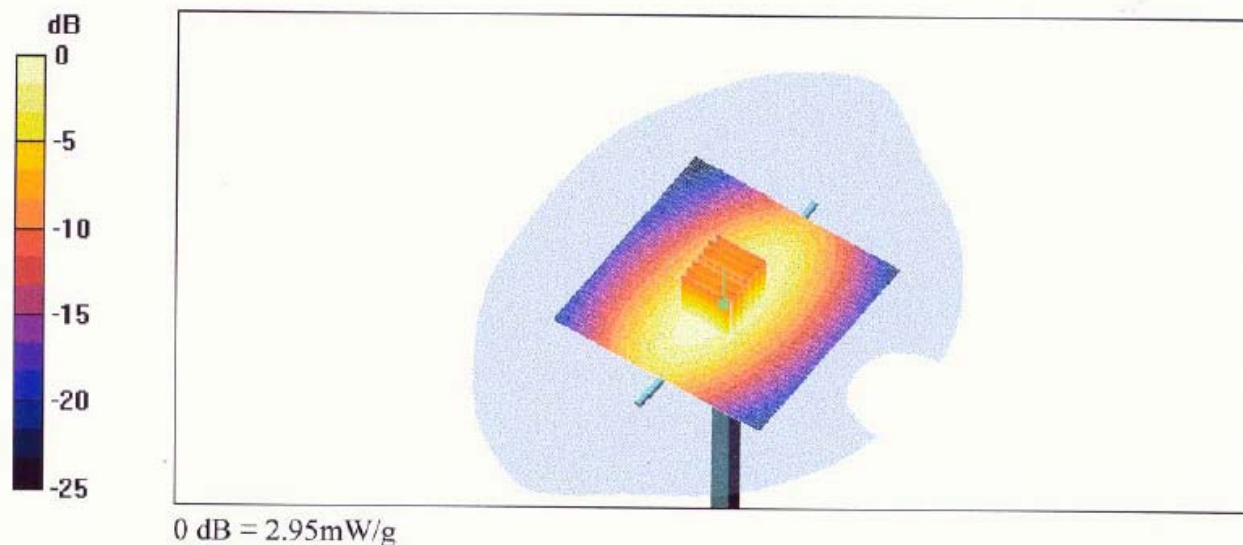
Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 57 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 2.95 mW/g

Peak SAR (extrapolated) = 4.11 W/kg

SAR(1 g) = 2.73 mW/g; SAR(10 g) = 1.76 mW/g





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22 Mar 2004 11:21:41

[CH1] S11 1 U FS

1: 52.600 Ω -3.3652 Ω 52.549 pF

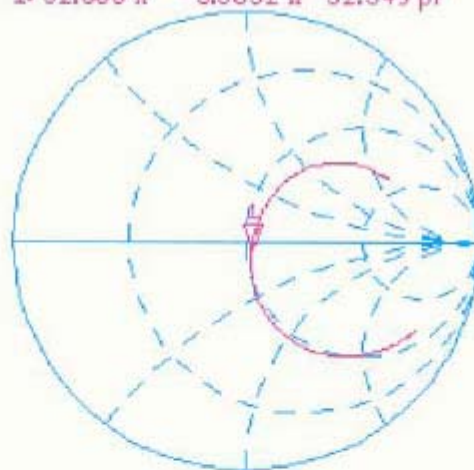
900.000 000 MHz

Del

Cor

Avg
16

↑



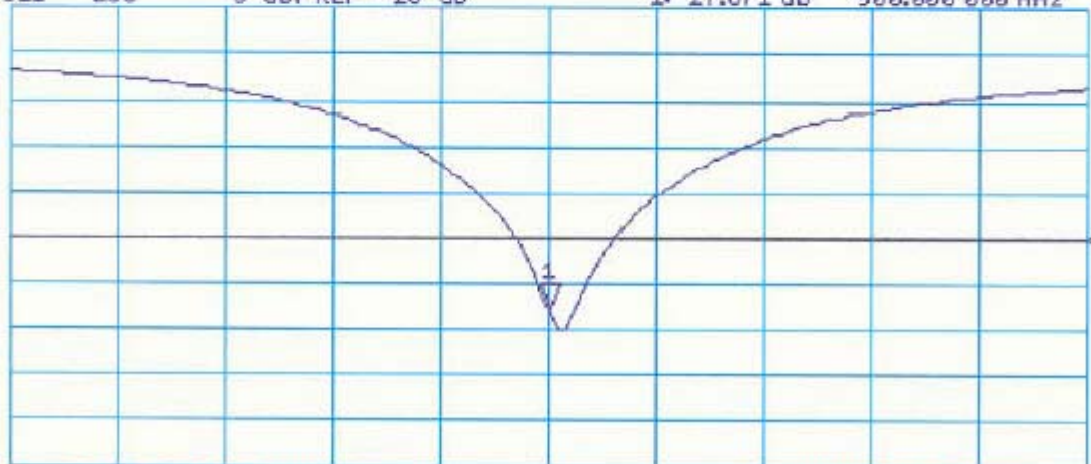
CH2 S11 LOG

5 dB/REF -20 dB

1: -27.671 dB 900.000 000 MHz

Cor

↑



CENTER 900.000 000 MHz

SPAN 400.000 000 MHz



Certificate Number: 1449-01

APPENDIX E

Illustration of Body-Worn Accessories

The purpose of this appendix is to illustrate the body-worn carry accessories for FCC ID: AZ489FT5838. The sample that was used in the following photos represents the product used to obtain the results presented herein and was used in this section to demonstrate the different body-worn accessories.



Photo 1.
Model NNTN5913A
Back View



Photo 2.
Model NNTN5913A
Side View



Photo 3.
Model NNTN4747A
Back View



Photo 4.
Model NNTN4747A
Side View



Appendix F

Accessories and options test status and separation distances

The following table summarizes the test status and separation distance provided by each of the body-worn accessories:

Carry Case Models	Tested ?	Min. Separation distances between DUT antenna and phantom surface. (mm)	Comments
NNTN5913A	Yes	31	NA
NNTN4747A	Yes	25	NA

Audio Acc. Models	Tested ?	Separation distances between DUT antenna and phantom surface. (mm)	Comments
NNTN4620A	Yes	NA	NA
SYN8146C	Yes	NA	NA
SYN7875C	Yes	NA	NA
NTN8496A	Yes	NA	NA
NTN8513B	Yes	NA	NA
SYN8390B	Yes	NA	NA
NNTN4033A	Yes	NA	NA
NSN6066A	Yes	NA	NA
NNTN5004A	Yes	NA	NA
NNTN5005A	Yes	NA	NA
NNTN5006A	Yes	NA	NA
NNTN5330A	Yes	NA	NA
NNTN5211A	Yes	NA	NA
NNTN5751A	Yes	NA	NA
NNTN5752A	Yes	NA	NA

Data cable Models	Tested ?	Separation distances between DUT antenna and phantom surface. (mm)	Comments
NKN6560A	Yes	NA	NA
NKN6559A	Yes	NA	NA
NNTN5405A	Yes	NA	Similar to NKN6559A
NNTN5406A	Yes	NA	Similar to NKN6560A

Other attachment models	Tested ?	Separation distances between DUT antenna and phantom surface. (mm)	Comments
NNTN5593A	Yes	NA	Battery cover tested with applicable battery model