

 <b style="font-size: 24pt; margin-left: 10px;">MOTOROLA</b>	 <b>Certificate Number: 1449-01</b>
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**FCC ID: AZ489FT7019**  
**DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2**

<b>Networks &amp; Enterprise</b> <b>EME Test Laboratory</b> <b>8000 West Sunrise Blvd</b> <b>Fort Lauderdale, FL. 33322</b>	<b>Date of Report:</b> 6/9/06 <b>Report Revision:</b> Rev 0 <b>Report ID:</b> ic502 060609 SR3942
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<p><b>Responsible Engineer:</b> Michael Sailsman (Sr. Staff Engineer)  <b>Date/s Tested:</b> 5/5/06-6/8/06  <b>Manufacturer/Location:</b> Motorola – Plantation  <b>Sector/Group/Div.:</b> iDEN Subscriber  <b>Date submitted for test:</b> 5/3/06  <b>DUT Description:</b> ic502; single band CDMA2000 – 100%; TDMA: 1:6 iDEN-16QAM                  0.6W Pulse Avg. MOTotalk (114:120 8FSK; 0.85W nominal); GPS capable  <b>Test TX mode(s):</b> CDMA2000: 100%; iDEN/MOTotalk: 1:6/114:120  <b>Max. Power output:</b> CDMA2000 – 0.316W, Mototalk - 0.891W, iDEN - 0.640W  <b>Nominal Power:</b> CDMA2000 – 0.2512W, MOTotalk - 0.85W, iDEN- 0.60W  <b>Tx Frequency Bands:</b> CDMA2000 - 1851.250-1909.950MHz, MOTotalk - 902-928MHz,                  iDEN– 806-825MHz  <b>Signaling type:</b> CDMA2000; iDEN TDMA; MOTotalk - (FHSS 8FSK)]  <b>Model(s) Tested:</b> H90XAH9JR7AN/NWF1186A  <b>Model(s) Certified:</b> H90XAH9JR7AN/NWF1186A  <b>Serial Number(s):</b> 364AGG009M, 364AGG0087, 364AGG009T, 364AGG009W  <b>Classification:</b> General Population/Uncontrolled  <b>Rule Part(s):</b> 15, 90 &amp; 24</p> <p><b>Approved Accessories:</b>  <b>Antenna(s):</b> 8575862A01(retractable ¼ wave antenna: 806-870MHz , 1.9dBi; 902-928MHz , 1.9dBi; retractable ½ wave antenna: 1850-1990MHz, 3.1dBi)  <b>Battery(ies):</b> SNN5792A (High capacity Li Ion), NTN2351A(High capacity battery door); SNN5793A (Maximum capacity Li Ion), NTN2352A(max capacity battery door)  <b>Body worn accessory(ies):</b> NNTN6752A (Swivel carry holster)  <b>Audio/Data cable accessory(ies):</b> NNTN5330A (PTT headset, ear bud), NNTN5004A (PTT headset, over-the-ear), NNTN5005A (PTT headset, over-the-head), NNTN5006A (PTT headset, flexible ear wrap), NNTN5751A (Stereo mixing headset w/ PTT), NNTN5752A (Stereo mixing headset), NNTN5211A (2-wire surveillance headset), NNTN6312A (3-wire surveillance headset), SYN0896A (EMU headset), NNTN6531A (USB data cable), SKN6371B (USB data cable)</p> <p style="text-align: center; color: blue; font-weight: bold;">                 Max. Calc. : 1-g Avg. SAR: 1.14 W/kg (Body);    10-g Avg. SAR: 0.82 W/kg (Body)                  Max. Calc. : 1-g Avg. SAR: 0.76 W/kg (Face);    10-g Avg. SAR: 0.54 W/kg (Face)                  Max. Calc. : 1-g Avg. SAR: 1.24 W/kg (Head);    10-g Avg. SAR: 0.71 W/kg (Head)             </p>	
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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. This report shall not be reproduced without written approval from an officially designated representative of the Motorola EME Laboratory.

This reporting format is consistent with the test report guidelines of the TIA TSB-150 December 2004  
 The results and statements contained in this report pertain only to the device(s) evaluated.

Ken Enger Signature on file <b>Ken Enger NE EME Lab Senior Resource Manager,</b> <b>Laboratory Director,</b>  <b>Approval Date:</b> 6/9/06	<b>Certification Date:</b> 6/9/06  <b>Certification No.:</b> L1060604P
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**Appendix E**  
**DUT Scans (Shortened Scans and Highest SAR configurations)**

### Shortened Scan Results

**Motorola NE EME Laboratory**

**Test Date: 5/22/06**

Run #: JsT-Face-060522-04 Sim. Tissue Temp: 20.0 (C)

Model #: H90XAH9JR7AN/NWF1186A SN: 364AGG009M

Antenna: Out TX Freq: 902.525 MHz

Battery: SNN5792A w/NTN2351A Start power: 0.895 W

Carry acc.: None Audio/Data acc.: None

Comments: Shortened Scan; Radio Flip Closed @ 2.5 cm from phantom

Probe: ET3DV6 - SN1383, Calibrated: 2/22/2006, ConvF(6.21, 6.21, 6.21)

Duty Cycle: 1:1.05, Medium: 915 IEEE Head, Medium parameters used: f = 915 MHz;  $\sigma = 1.02$  mho/m;  $\epsilon_r = 42.1$ ;  $\rho = 1000$  kg/m<sup>3</sup> Electronics: DAE3 Sn406, Calibrated: 11/21/2005

**Face Template/5x5x7 Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 34.2 V/m; Power Drift = -0.0417 dB

Peak SAR (extrapolated) = 2.03 W/kg

**SAR(1 g) = 1.5 mW/g; SAR(10 g) = 1.07 mW/g**

Maximum value of SAR (measured) = 1.58 mW/g

**Comments: Short Scan at the body w/ body worn accessory against phantom**

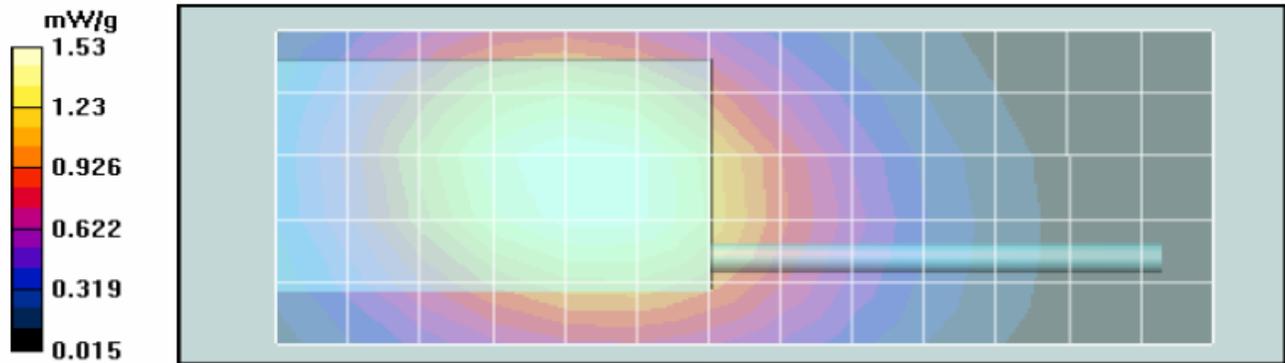
**Shortened scan reflect highest S.A.R. producing configuration; Run time 8 minutes.**

**Representative “normal” scan run time was 23 minutes**

**“Shortened” scan max calculated S.A.R. using S.A.R. drift: 1-g Avg. = 0.757mW/g; 10-g Avg. = 0.540mW/g**

**“Normal” scan max calculated S.A.R. using S.A.R. drift: 1-g Avg. = 0.755mW/g; 10-g Avg. = 0.54mW/g**

**(see part 1 of 2 section 9.0 run # JsT-Face-060522-03)**



**Motorola NE EME Laboratory**

**Test Date: 6/6/06**

Run #: JsT-Rear-060606-20 Sim. Tissue Temp: 20.3 (C)

Model #: H90XAH9JR7AN/NWF1186A SN: 364AGG009W

Antenna: In TX Freq: 1880.6000 MHz

Battery: SNN5792A w/NTN2351A Start power: 0.329 W

Carry acc.: None Audio/Data acc.: None

Comments: Shortened Scan; Touch

Probe: ET3DV6 - SN1383, Calibrated: 2/22/2006, ConvF(5.13, 5.13, 5.13)

Duty Cycle: 1:1, Medium: 1880.6 IEEE Head, Medium parameters used:  $f = 1880.6$  MHz;  $\sigma = 1.43$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup> Electronics: DAE3 Sn406, Calibrated: 11/21/2005

**Right Ear - Touch position/5x5x7 Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm; Reference Value = 27.4 V/m; Power Drift = -0.327 dB

Peak SAR (extrapolated) = 1.99 W/kg

**SAR(1 g) = 1.15 mW/g; SAR(10 g) = 0.662 mW/g**

Maximum value of SAR (measured) = 1.28 mW/g

**Comments: Short Scan at the body w/ body worn accessory against phantom**

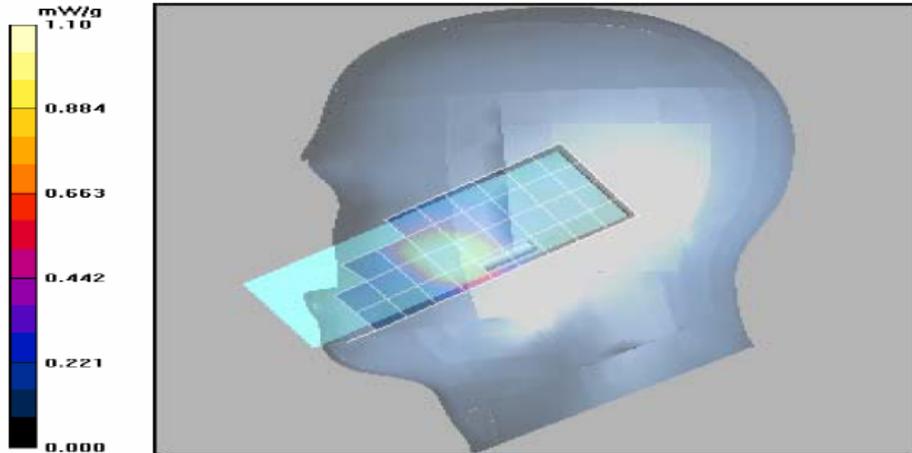
**Shortened scan reflect highest S.A.R. producing configuration; Run time 7 minutes.**

**Representative “normal” scan run time was 20 minutes**

**“Shortened” scan max calculated S.A.R. using S.A.R. drift: 1-g Avg. = 1.24mW/g; 10-g Avg. = 0.71mW/g**

**“Normal” scan max calculated S.A.R. using S.A.R. drift: 1-g Avg. = 1.23mW/g; 10-g Avg. = 0.71mW/g**

**(see part 1 of 2 section 9.0 run # JsT-Face-060606-18)**



### Highest SAR configurations

**Motorola NE EME Laboratory**

**Test Date: 5/22/06**

Run #: JsT-Rear-060522-02 Sim. Tissue Temp: 20.0 (C)

Model #: H90XAH9JR7AN/NWF1186A SN: 364AGG0087

Antenna: Out TX Freq: 806.0125 MHz

Battery: SNN5792A w/ NTN2351A Start power: 0.638 W

Carry acc.: None Audio/Data acc.: None

Comments: Full Scan; Touch

Probe: ET3DV6 - SN1383, Calibrated: 2/22/2006, ConvF(6.21, 6.21, 6.21)

Duty Cycle: 1:6, Medium: 815.5 IEEE Head, Medium parameters used:  $f = 815.5$  MHz;  $\sigma = 0.93$  mho/m;  $\epsilon_r = 43.2$ ;  $\rho = 1000$  kg/m<sup>3</sup> Electronics: DAE3 Sn406, Calibrated: 11/21/2005

**Right Ear - Touch position/7x7x7 Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm; Reference Value = 24.1 V/m; Power Drift = 0.00834 dB  
Peak SAR (extrapolated) = 0.946 W/kg

**SAR(1 g) = 0.681 mW/g; SAR(10 g) = 0.467 mW/g**

Maximum value of SAR (measured) = 0.736 mW/g

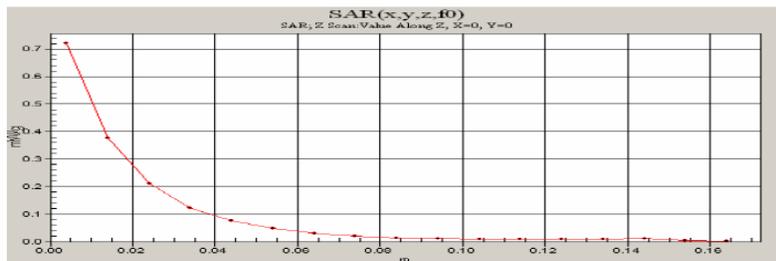
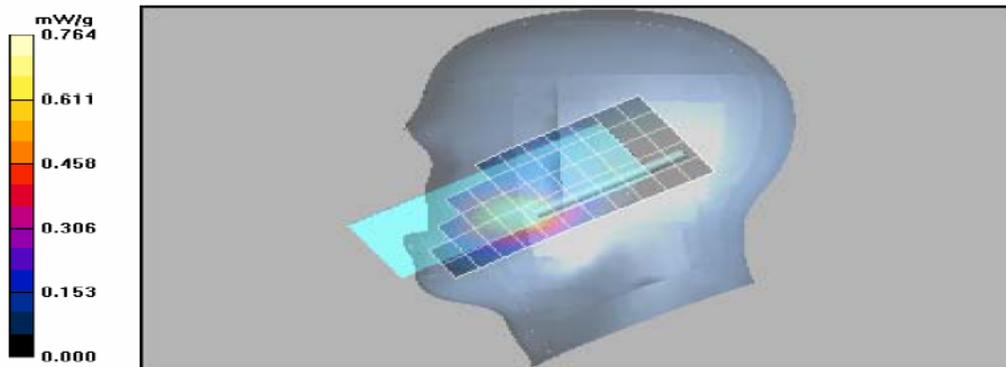
**Right Ear - Touch position/Area Scan (51x131x1):** Measurement grid: dx=15mm, dy=15mm  
Reference Value = 24.1 V/m; Power Drift = 0.00834 dB

**Motorola Fast SAR: SAR(1 g) = 0.718 mW/g; SAR(10 g) = 0.471 mW/g**

Maximum value of SAR (interpolated) = 0.791 mW/g

**Right Ear - Touch position/Z Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 0.722 mW/g



**Motorola NE EME Laboratory**

**Test Date: 5/22/06**

Run #: JsT-Face-060522-03 Sim. Tissue Temp: 19.9 (C)

Model #: H90XAH9JR7AN/NWF1186A SN: 364AGG009M

Antenna: Out TX Freq: 902.525 MHz

Battery: SNN5792A w/NTN2351A Start power: 0.896 W

Carry acc.: None Audio/Data acc.: None

Comments: Full Scan; Radio Flip Closed @ 2.5 cm from phantom

Probe: ET3DV6 - SN1383, Calibrated: 2/22/2006, ConvF(6.21, 6.21, 6.21)

Duty Cycle: 1:1.05, Medium: 915 IEEE Head, Medium parameters used:  $f = 915$  MHz;  $\sigma = 1.02$  mho/m;  $\epsilon_r = 42.1$ ;  $\rho = 1000$  kg/m<sup>3</sup> Electronics: DAE3 Sn406, Calibrated: 11/21/2005

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

Reference Value = 34.0 V/m; Power Drift = 0.0541 dB

Peak SAR (extrapolated) = 2.08 W/kg

**SAR(1 g) = 1.51 mW/g; SAR(10 g) = 1.07 mW/g**

Maximum value of SAR (measured) = 1.60 mW/g

**Face Template/Area Scan (51x131x1):** Measurement grid: dx=15mm, dy=15mm

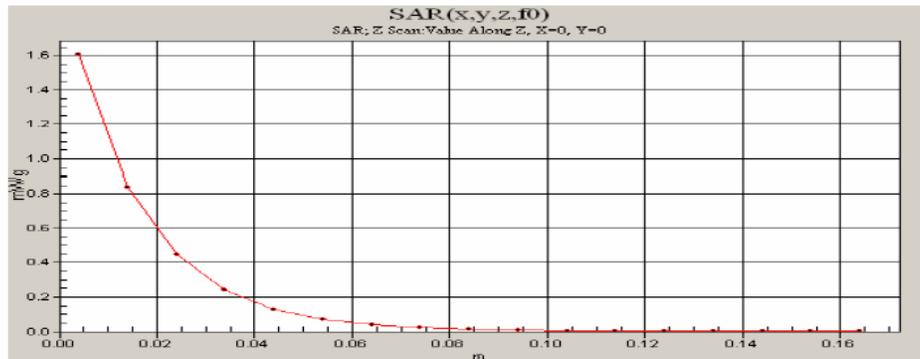
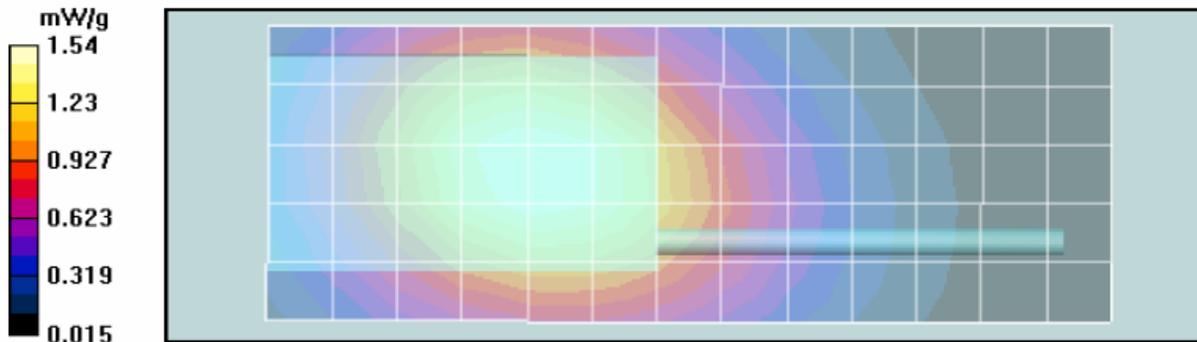
Reference Value = 34.0 V/m; Power Drift = 0.0541 dB

**Motorola Fast SAR: SAR(1 g) = 1.5 mW/g; SAR(10 g) = 1.06 mW/g**

Maximum value of SAR (interpolated) = 1.58 mW/g

**Face Template/Z Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 1.61 mW/g



**Motorola NE EME Laboratory**

**Test Date: 6/8/06**

Run #: JsT-Ab-060608-07 Sim. Tissue Temp: 21.0 (C)

Model #: H90XAH9JR7AN/NWF1186A SN: 364AGG0087

Antenna: Out TX Freq: 915.525 MHz

Battery: SNN5792A w/NTN2351A Start power: 0.897 W

Carry acc.: NNTN6752A Audio/Data acc.: NNTN5006A

Comments: Full Scan

Probe: ET3DV6 - SN1383, Calibrated: 2/22/2006, ConvF(5.89, 5.89, 5.89)

Duty Cycle: 1:1.05, Medium: 915 MHz FCC Body, Medium parameters used:  $f = 915 \text{ MHz}$ ;  $\sigma = 1.06 \text{ mho/m}$ ;  $\epsilon_r = 53.7$ ;  $\rho = 1000 \text{ kg/m}^3$  Electronics: DAE3 Sn406, Calibrated: 11/21/2005

**Ab Template/7x7x7 Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 45.6 V/m; Power Drift = 0.255 dB

Peak SAR (extrapolated) = 2.93 W/kg

**SAR(1 g) = 2.27 mW/g; SAR(10 g) = 1.63 mW/g**

Maximum value of SAR (measured) = 2.39 mW/g

**Ab Template/Area Scan (51x131x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

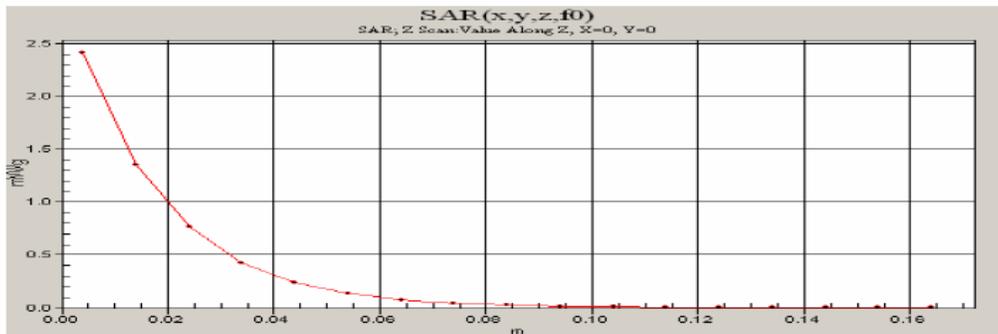
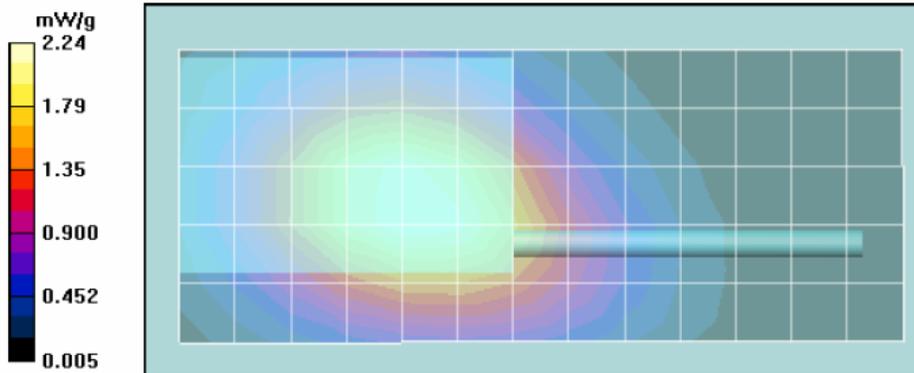
Reference Value = 45.6 V/m; Power Drift = 0.255 dB

**Motorola Fast SAR: SAR(1 g) = 2.22 mW/g; SAR(10 g) = 1.55 mW/g**

Maximum value of SAR (interpolated) = 2.36 mW/g

**Ab Template/Z Scan (1x1x17):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$ ,  $dz=10\text{mm}$

Maximum value of SAR (measured) = 2.42 mW/g



**Motorola NE EME Laboratory**

**Test Date: 6/6/06**

Run #: JsT-Rear-060606-18 Sim. Tissue Temp: 20.3 (C)

Model #: H90XAH9JR7AN/NWF1186A SN: 364AGG009W

Antenna: In TX Freq: 1880.6000 MHz

Battery: SNN5792A w/NTN2351A Start power: 0.324 W

Carry acc.: None Audio/Data acc.: None

Comments: Full Scan; Touch

Probe: ET3DV6 - SN1383, Calibrated: 2/22/2006, ConvF(5.13, 5.13, 5.13)

Duty Cycle: 1:1, Medium: 1880.6 IEEE Head, Medium parameters used:  $f = 1880.6$  MHz;  $\sigma = 1.43$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup> Electronics: DAE3 Sn406, Calibrated: 11/21/2005

**Right Ear - Touch position/7x7x7 Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm; Reference Value = 26.9 V/m; Power Drift = -0.239 dB

Peak SAR (extrapolated) = 1.98 W/kg

**SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.673 mW/g**

Maximum value of SAR (measured) = 1.27 mW/g

**Right Ear - Touch position/Area Scan (41x11x1):** Measurement grid: dx=15mm, dy=15mm

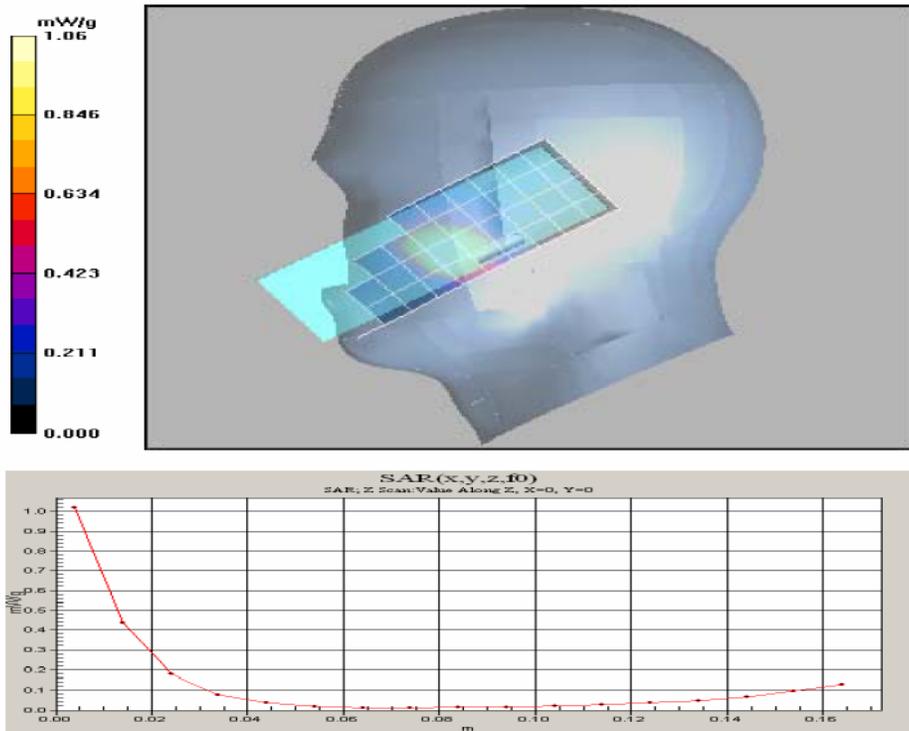
Reference Value = 26.9 V/m; Power Drift = -0.239 dB

**Motorola Fast SAR: SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.637 mW/g**

Maximum value of SAR (interpolated) = 1.32 mW/g

**Right Ear - Touch position/Z Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm

Maximum value of SAR (measured) = 1.02 mW/g



**Motorola NE EME Laboratory**

**Test Date: 6/6/06**

Run #: JsT-Ab-060606-16 Sim. Tissue Temp: 20.9 (C)

Model #: H90XAH9JR7AN/NWF1186A SN: 364AGG009T

Antenna: In TX Freq: 1880.6000 MHz

Battery: SNN5792A w/NTN2351A Start power: 0.322 W

Carry acc.: NNTN6752A Audio/Data acc.: None

Comments: Full Scan

Probe: ET3DV6 - SN1383, Calibrated: 2/22/2006, ConvF(4.66, 4.66, 4.66)

Duty Cycle: 1:1, Medium: 1880.6 MHz FCC Body, Medium parameters used:  $f = 1880.6$  MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup> Electronics: DAE3 Sn406, Calibrated: 11/21/2005

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

Reference Value = 19.1 V/m; Power Drift = -0.181 dB

Peak SAR (extrapolated) = 0.879 W/kg

**SAR(1 g) = 0.516 mW/g; SAR(10 g) = 0.324 mW/g**

Maximum value of SAR (measured) = 0.542 mW/g

**Ab Template/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

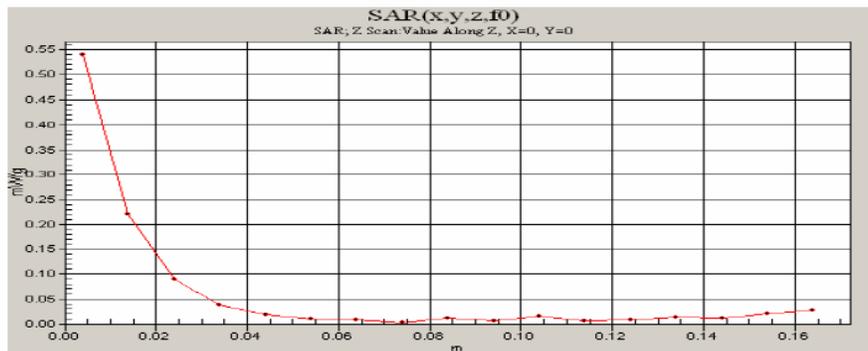
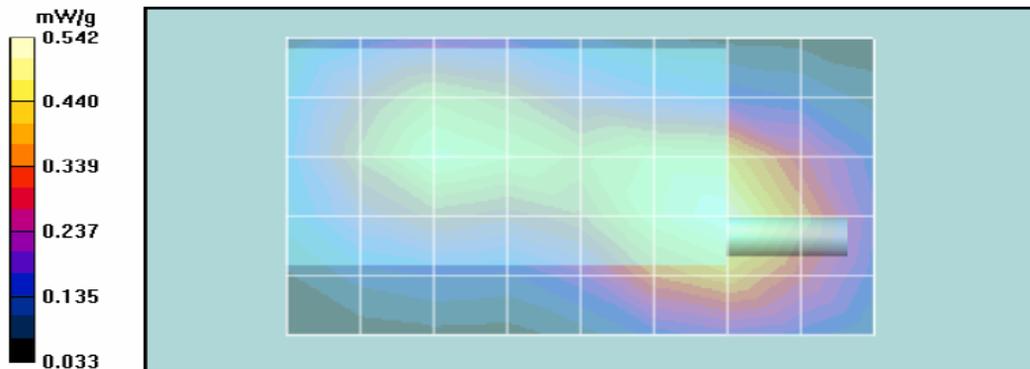
Reference Value = 19.1 V/m; Power Drift = -0.181 dB

**Motorola Fast SAR: SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.315 mW/g**

Maximum value of SAR (interpolated) = 0.559 mW/g

**Ab Template/Z Scan (1x1x17):** Measurement grid: dx=20mm, dy=20mm, dz=10mm

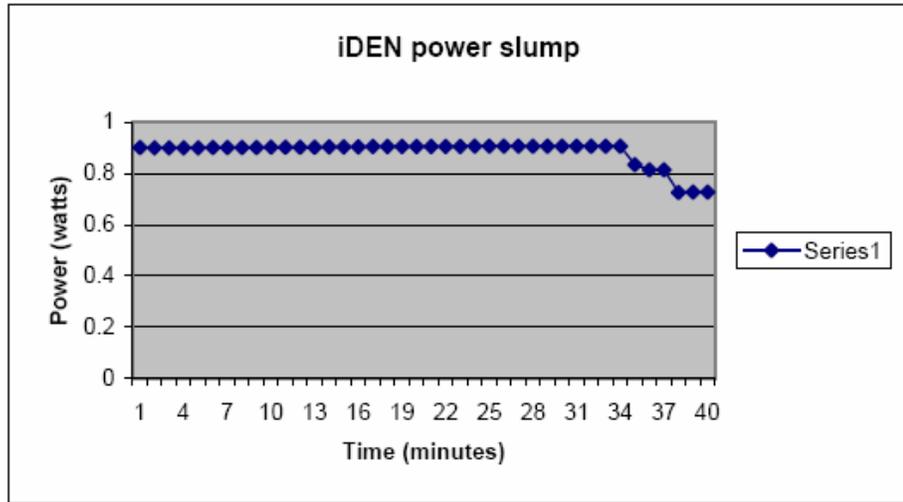
Maximum value of SAR (measured) = 0.540 mW/g



**APPENDIX F**  
**DUT Supplementary Data (Power slump)**

Power Slump Data for ic-502 Racer H90XAH9JR7AN/NWF1186A  
 Serial # 364AGG0087, Battery SNN5792A,  
 MotoTalk Frequency 927.475 MHz.,Antenna Out  
 MINUTES POWER (WATTS)

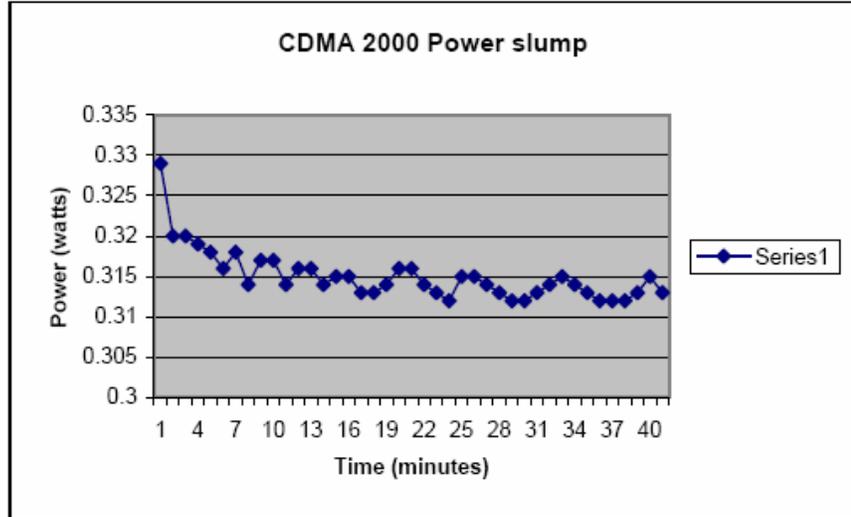
MINUTES	POWER (WATTS)
Start (0)	0.907
1	0.902
2	0.900
3	0.900
4	0.900
5	0.900
6	0.901
7	0.901
8	0.902
9	0.902
10	0.903
11	0.903
12	0.903
13	0.903
14	0.904
15	0.904
16	0.904
17	0.905
18	0.905
19	0.905
20	0.905
21	0.905
22	0.905
23	0.905
24	0.906
25	0.906
26	0.906
27	0.906
28	0.906
29	0.906
30	0.906
31	0.906
32	0.906
33	0.906
34	0.907
35	0.834
36	0.814
37	0.814
38	0.726
39	0.727
40	0.727



Power Slump Data for ic-502 Racer H90XAH9JR7AN/NWF1186A  
 Serial # 364AGG009W, Battery SNN5792A,  
 CDMA2000 Frequency 1880.6000 MHz.,Antenna In

**MINUTES      POWER (WATTS)**

Start (0)	0.329
1	0.32
2	0.320
3	0.319
4	0.318
5	0.316
6	0.318
7	0.314
8	0.317
9	0.317
10	0.314
11	0.316
12	0.316
13	0.314
14	0.315
15	0.315
16	0.313
17	0.313
18	0.314
19	0.316
20	0.316
21	0.314
22	0.313
23	0.312
24	0.315
25	0.315
26	0.314
27	0.313
28	0.312
29	0.312
30	0.313
31	0.314
32	0.315
33	0.314
34	0.313
35	0.312
36	0.312
37	0.312
38	0.313
39	0.315
40	0.313



## Appendix G DUT Test Position Photos

**Figure 1: Highest S.A.R. Test Position (Body)**  
DUT w/ holster against the phantom; worst case audio accessory attached, and antenna extended  
(same position used for all other audio/data accessories and for ant retracted)



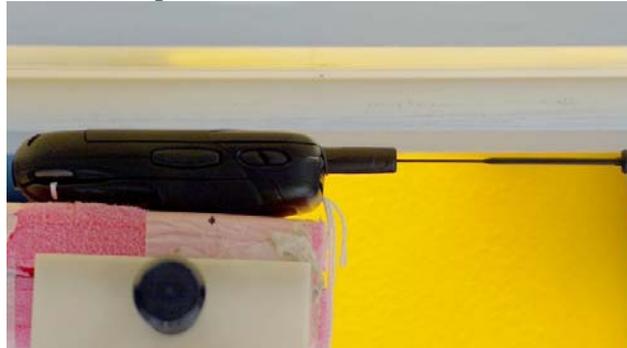
**Figure 2: Highest S.A.R. Test Position (face)**  
DUT flip closed w/ front side separated 2.5cm from the phantom  
(same position used for antenna retracted)



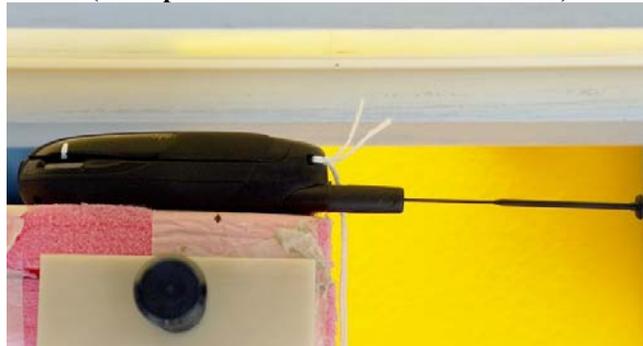
**Figure 3: Highest S.A.R. Test Position (Head)**  
DUT at the right ear in cheek touch position.  
(same position used for antenna extended)



**Figure 4: Body Assessment**  
DUT w/ back side separated 2.5cm from the phantom.  
(same position used for antenna retracted)



**Figure 5: Body Assessment**  
DUT w/ front side separated 2.5cm from the phantom.  
(same position used for antenna retracted)



**Figure 6: Face Assessment**  
DUT Flip opened w/ front side separated 2.5cm from the phantom.  
(same position used for antenna retracted)



**Figure 7: Assessment at the Head  
DUT at the right ear in tilt position.  
(same position used for antenna retracted)**



**Figure 8: Assessment at the Head  
DUT at the left ear in cheek touch position.  
(same position used for antenna retracted)**



**Figure 9: Assessment at the Head  
DUT at the left ear in tilt position.  
(same position used for antenna retracted)**



## Appendix H DUT and Body worn Accessory Photos

The purpose of this appendix is to illustrate the offered body-worn carry accessory(ies). The sample that was used in the following photos represents the product used to obtain the results presented herein.



**Photo 1.**  
Model NNTN6752A  
Front View



**Photo 2.**  
Model NNTN6752A  
Back View



**Photo 3.**  
Model NNTN6752A  
Side View

### Appendix I

#### DUT Body-worn Separation Distances and Offered Accessory Test Status

The following table(s) summarizes the separation distances and test status for each of the applicable body-worn accessory(ies) and attachments:

Carry Case Models	Tested ?	Min. Separation distances between DUT antenna and phantom surface. (mm)	Comments
NNTN6752A	Yes	31-39	NA

Audio Acc. Models	Tested ?	Separation distances between DUT antenna and phantom surface. (mm)	Comments
NNTN5330A	Yes	NA	NA
NNTN5004A	Yes	NA	NA
NNTN5005A	Yes	NA	NA
NNTN5006A	Yes	NA	NA
NNTN5751A	Yes	NA	NA
NNTN5752A	Yes	NA	NA
NNTN5211A	Yes	NA	NA
NNTN6312A	Yes	NA	NA
SYN0896A	Yes	NA	NA

Data cable Models	Tested ?	Separation distances between DUT antenna and phantom surface. (mm)	Comments
NNTN6531A	Yes	NA	NA
SKN6371A	Yes	NA	NA

Other attachment models	Tested ?	Separation distances between DUT antenna and phantom surface. (mm)	Comments
NTN2351A	Yes	NA	Tested with high capacity battery
NTN2352A	Yes	NA	Tested with maximum capacity battery