MOTOROLA

ACCREDITED
Certificate Number: 1449-01

FCC ID: AZ489FT5804
DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 2 of 2

Government & Enterprise Mobility Solutions
EME Test Laboratory
8000 West Sunrise Blvd
Fort Lauderdale, FL. 33322

Date of Report: 3/31/06
Report Revision: Rev. O
Report ID: FCC rpt PCII XTS2500 7/800 PSM 060331_SR3387_3337

Responsible Engineer: Michael Sailsman (Sr. Staff Eng.)
Date/s Tested: 2/6/06-2/10/06, 3/11/06-3/13/06 & 3/20/06
Manufacturer/Location: IL23
Sector/Group/Div.: GEMS/GTDG
Date submitted for test: 1/24/06
DUT Description: Portable; full featured 256 channel
Test TX mode(s): CW
Max. Power output: 3.6W (800MHz band); 3.0W (700MHz band)
Nominal Power: 1-3 watts
Tx Frequency Bands: 764-776MHz, 794-806MHz, 806-825MHz, 851-870MHz
Signaling type: FM
Model(s) Tested: H46UCH9PW7AN
Model(s) Certified: H46UCH9PW7AN
Serial Number(s): 205ABW0130, 205ABW0134
Classification: Occupational/Controlled
Rule Part(s): 90

Applicable approved accessories:
Antenna(s):
NAF5042A (806-870MHz ¼ wave stubby antenna; -5dBi gain), NAF5080A (762-870MHz ½ wave antenna; -0.5dBi gain), NAF5039A (806-870MHz ½ wave dipole; 2dBi gain); NAF5037A (806-870MHz ½ wave antenna; 1dBi)
Battery(ies):
NTN9816B (1525 NiCad high capacity Factory Mutual Intrinsically safe); NTN9857B (1800mAh NiMH Ultra capacity Factory Mutual Intrinsically safe)
Body worn accessory(ies):
NA
Audio/Data cable accessory(ies):
RMN5073A (24 inch PSM); RMN5074A (18 inch PSM)

Max. Calc. 1-g/10-g Avg. SAR: 5.56/3.86 W/kg (Body)

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.

Deanna Zakharia's signature on file for Ken Enger
Ken Enger GEMS EME Lab Senior Resource Manager,
Laboratory Director,

Approval Date: 4/3/06

Certification Date: 4/3/06

Certification No.: 060317AD/ 060318AD/ 060319AD

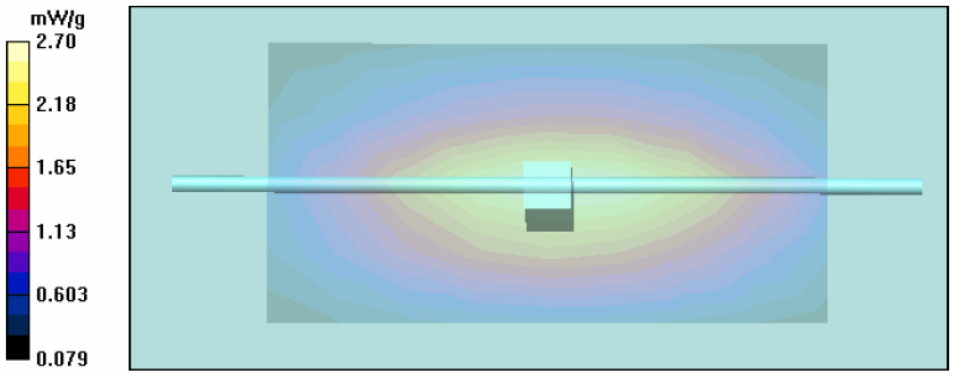
Appendix D
Test System Verification Scans

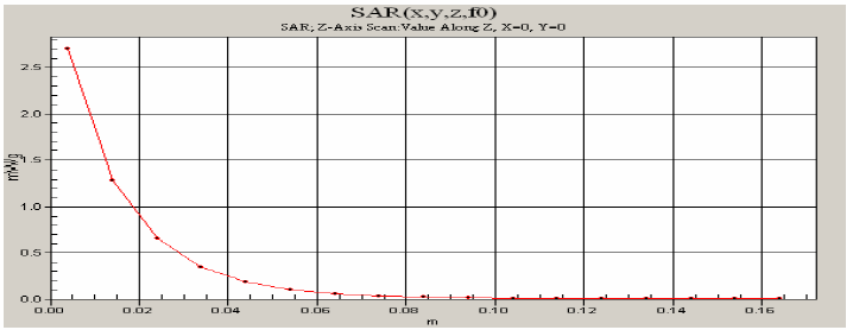
Note: Dipole validation scans at the head from SPEAG are provided in APPENDIX D. The GEMS EME lab validated the dipole to the applicable IEEE system performance targets. Within the same day system validation was performed using FCC body tissue parameters to generate the system performance target values for body at the applicable frequency. The results of the GEMS EME system performance validation are provided herein. To assess the isotropic characteristics of the measurement probe, two system performance zoom scans (0 and 90 degrees) were measured. The results were averaged together and adjusted to account for the power drift in order to obtain the final calculated 1 and 10 gram results.

Motorola GEMS EME Lab
SPEAG 835 MHz Dipole; Model D835V2, SN435; Test Date: 2/6/06
Run #: CM-SYSP-835B-060206- 01 Sim.Tissue Temp: 21.8 (C)
TX Freq: 835 (MHz) Start power: 250 (mW)

Target: 9.65 mW/g for 1g SAR 6.36 mW/g for 10g SAR
10.42 mW/g calculated 1g-SAR; 7.93 % from target (including drift)
6.83 mW/g calculated 10g-SAR; 7.37 % from target (including drift)

Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(5.82, 5.82, 5.82),
Duty Cycle: 1:1, Medium: 835 MHz FCC Body, Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 54.9; ρ = 1000 kg/m3 ; Electronics: DAE3 Sn401, Calibrated: 8/18/2005
System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm Reference Value = 53.8 V/m; Power Drift = -0.0569 dB
Peak SAR (extrapolated) = 3.72 W/kg
SAR(1 g) = 2.56 mW/g; SAR(10 g) = 1.68 mW/g
Maximum value of SAR (measured) = 2.77 mW/g
System Performance Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm Reference Value = 53.8 V/m; Power Drift = -0.0569 dB
Peak SAR (extrapolated) = 3.75 W/kg
SAR(1 g) = 2.58 mW/g; SAR(10 g) = 1.69 mW/g
Maximum value of SAR (measured) = 2.76 mW/g
System Performance Check/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.79 mW/g

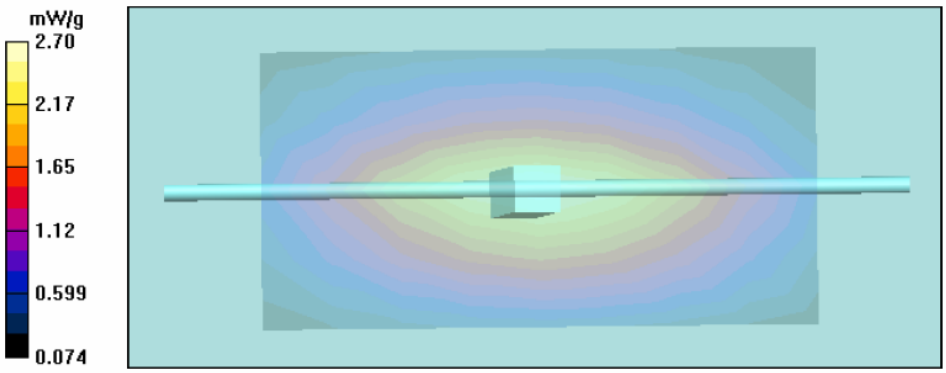


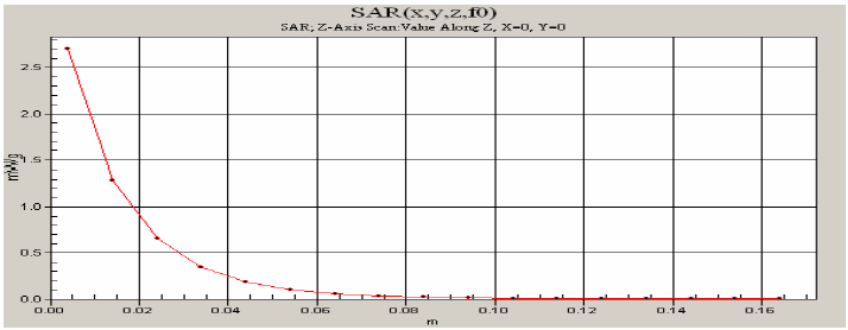


Motorola GEMS EME Lab
SPEAG 835 MHz Dipole; Model D835V2, SN435; Test Date: 2/10/06
Run #: CM-SYSP-835B-060210- 01 Sim.Tissue Temp: 21.3 (C)
TX Freq: 835 (MHz) Start power: 250 (mW)

Target: 9.65 mW/g for 1g SAR 6.36 mW/g for 10g SAR
10.11 mW/g calculated 1g-SAR; 4.81 % from target (including drift)
6.62 mW/g calculated 10g-SAR; 4.13 % from target (including drift)

Probe: ET3DV6 - SN1547, Calibrated: 10/25/2005, ConvF(5.82, 5.82, 5.82),
Duty Cycle: 1:1, Medium: 835 MHz FCC Body, Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 56.9; ρ = 1000 kg/m^3 ; Electronics: DAE3 Sn401, Calibrated: 8/18/2005
System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm Reference Value = 54.0 V/m; Power Drift = -0.0149 dB
Peak SAR (extrapolated) = 3.65 W/kg
SAR(1 g) = 2.51 mW/g; SAR(10 g) = 1.64 mW/g
Maximum value of SAR (measured) = 2.72 mW/g
System Performance Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm, Reference Value = 54.0 V/m; Power Drift = -0.0149 dB
Peak SAR (extrapolated) = 3.69 W/kg
SAR(1 g) = 2.53 mW/g; SAR(10 g) = 1.66 mW/g
Maximum value of SAR (measured) = 2.70 mW/g
System Performance Check/Z-Axis Retraction (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 2.73 mW/g

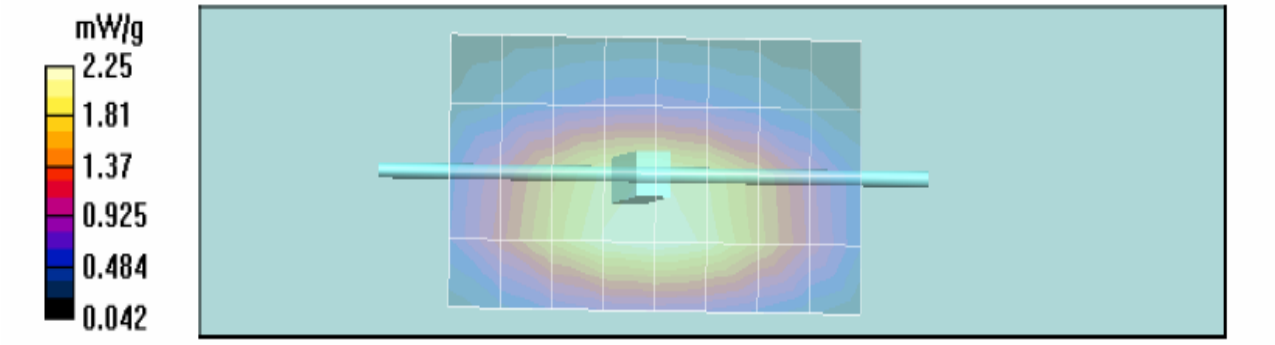


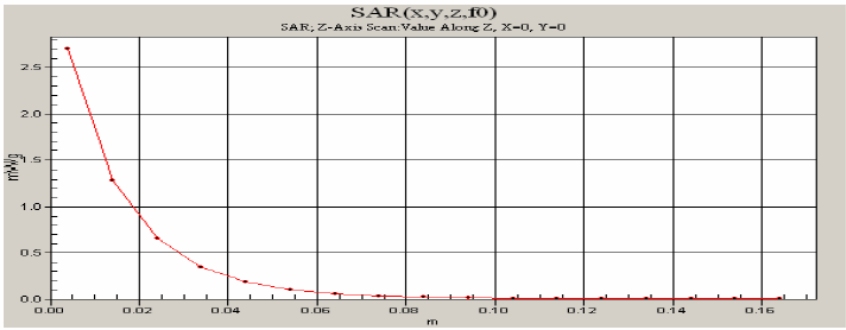


Motorola GEMS EME Lab
SPEAG 835 MHz Dipole; Model D835V2, SN435; Test Date: 3/11/06
Run #: ErC-SYSP-835B-060311-20 Sim.Tissue Temp: 20.8 (C)
TX Freq: 835 (MHz) Start power: 250 (mW)

Target: 9.65 mW/g for 1g SAR 6.36 mW/g for 10g SAR
9.70 mW/g calculated 1g-SAR; 0.52 % from target (including drift)
6.39 mW/g calculated 10g-SAR; 0.41 % from target (including drift)

Probe: ET3DV6 - SN1384, Calibrated: 5/26/2005, ConvF(6.19, 6.19, 6.19)
Duty Cycle: 1:1, Medium: FCC Body 835 MHz, Medium parameters used: f = 835 MHz; σ = 1 mho/m; ε_r = 53.9; ρ = 1000 kg/m3; Electronics: DAE3 Sn406, Calibrated: 11/21/2005
System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:
dx=7.5mm, dy=7.5mm, dz=5mm; Reference Value = 48.5 V/m; Power Drift = -0.0453 dB
Peak SAR (extrapolated) = 3.39 W/kg
SAR(1 g) = 2.39 mW/g; SAR(10 g) = 1.57 mW/g
Maximum value of SAR (measured) = 2.58 mW/g
System Performance Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid:
dx=7.5mm, dy=7.5mm, dz=5mm; Reference Value = 48.5 V/m; Power Drift = -0.0453 dB
Peak SAR (extrapolated) = 3.41 W/kg
SAR(1 g) = 2.41 mW/g; SAR(10 g) = 1.59 mW/g
Maximum value of SAR (measured) = 2.51 mW/g
System Performance Check/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm; Maximum value of SAR (measured) = 2.62 mW/g

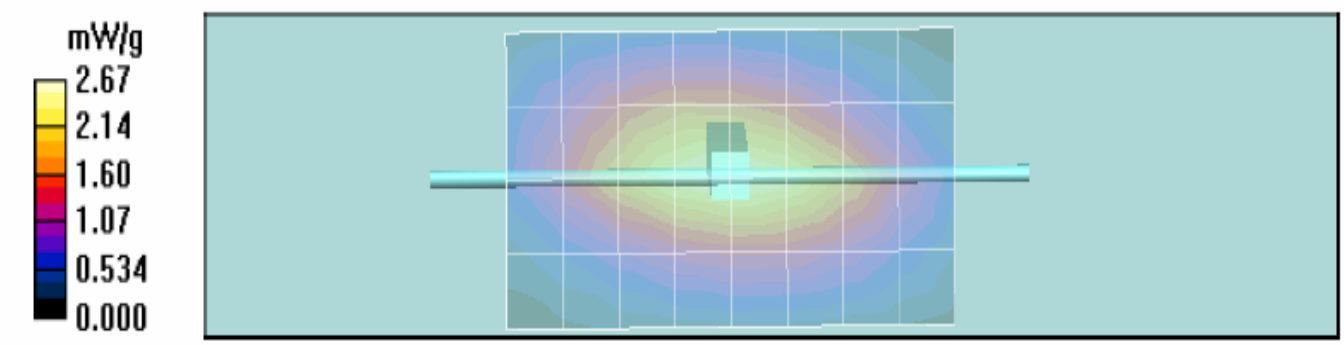


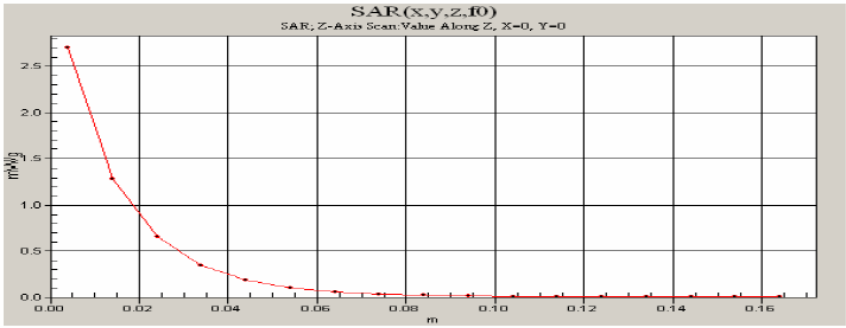


Motorola GEMS EME Lab
SPEAG 835 MHz Dipole; Model D835V2, SN435; Test Date: 3/12/06
Run #: ErC-SYSP-835B-060312-02 Sim.Tissue Temp: 21.2 (C)
TX Freq: 835 (MHz) Start power: 250 (mW)

Target: 9.65 mW/g for 1g SAR 6.36 mW/g for 10g SAR
9.97 mW/g calculated 1g-SAR; 3.34 % from target (including drift)
6.56 mW/g calculated 10g-SAR; 3.07 % from target (including drift)

Probe: ET3DV6 - SN1384, Calibrated: 5/26/2005, ConvF(6.19, 6.19, 6.19),
Duty Cycle: 1:1, Medium: FCC Body 835 MHz, Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 53.8; ρ = 1000 kg/m3; Electronics: DAE3 Sn406, Calibrated: 11/21/2005
System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm; Reference Value = 53.7 V/m; Power Drift = 0.00328 dB
Peak SAR (extrapolated) = 3.54 W/kg
SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.62 mW/g
Maximum value of SAR (measured) = 2.66 mW/g
System Performance Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm; Reference Value = 53.7 V/m; Power Drift = 0.00328 dB
Peak SAR (extrapolated) = 3.65 W/kg
SAR(1 g) = 2.53 mW/g; SAR(10 g) = 1.66 mW/g
Maximum value of SAR (measured) = 2.72 mW/g
System Performance Check/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm; Maximum value of SAR (measured) = 2.67 mW/g

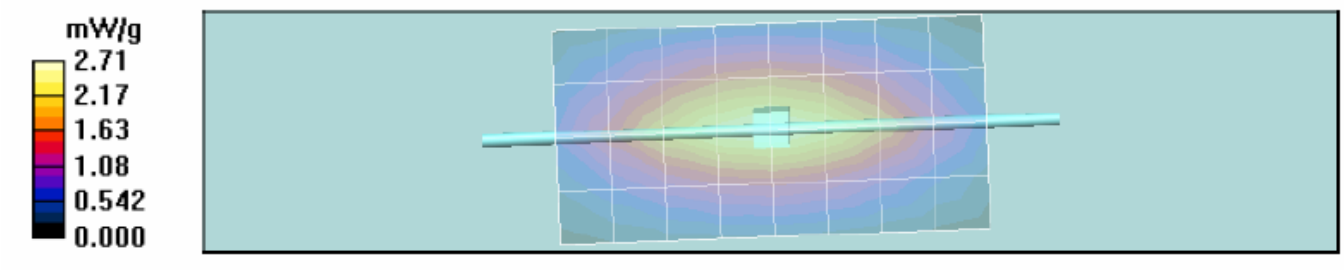


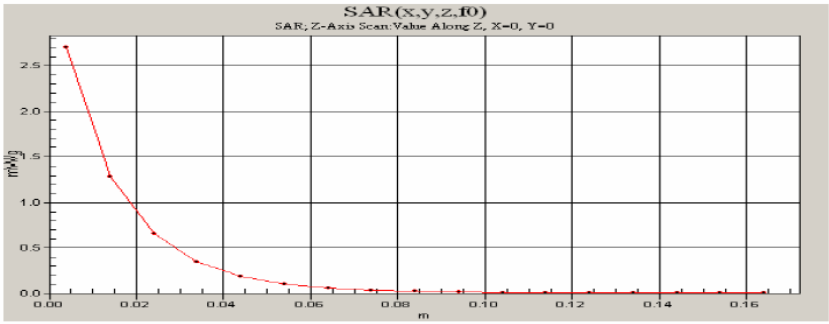


Motorola GEMS EME Lab
SPEAG 835 MHz Dipole; Model D835V2, SN435; Test Date: 3/13/06
Run #: ErC-SYSP-835B-060313-01 Sim.Tissue Temp: 21.8 (C)
TX Freq: 835 (MHz) Start power: 250 (mW)

Target: 9.65 mW/g for 1g SAR 6.36 mW/g for 10g SAR
10.07 mW/g calculated 1g-SAR; 4.39 % from target (including drift)
6.60 mW/g calculated 10g-SAR; 3.81 % from target (including drift)

Probe: ET3DV6 - SN1384, Calibrated: 5/26/2005, ConvF(6.19, 6.19, 6.19),
Duty Cycle: 1:1, Medium: FCC Body 835 MHz, Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3 ; Electronics: DAE3 Sn406, Calibrated: 11/21/2005
System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm; Reference Value = 53.9 V/m; Power Drift = -0.0147 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 2.49 mW/g; SAR(10 g) = 1.63 mW/g
Maximum value of SAR (measured) = 2.71 mW/g
System Performance Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm; Reference Value = 53.9 V/m; Power Drift = -0.0147 dB
Peak SAR (extrapolated) = 3.64 W/kg
SAR(1 g) = 2.53 mW/g; SAR(10 g) = 1.66 mW/g
Maximum value of SAR (measured) = 2.75 mW/g
System Performance Check/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm

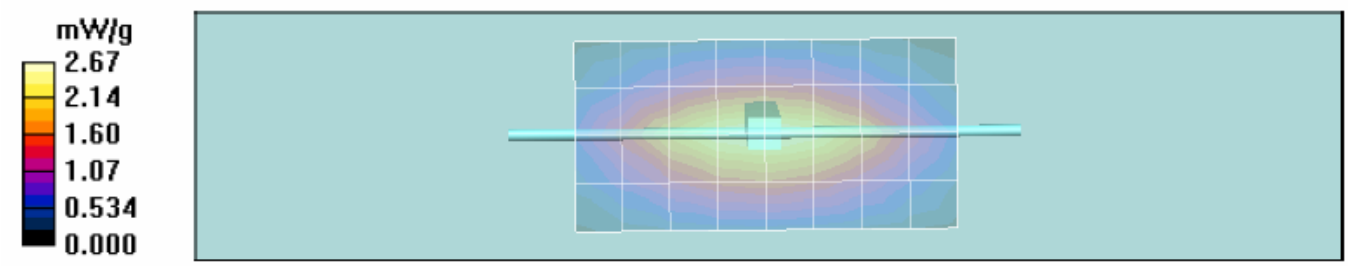


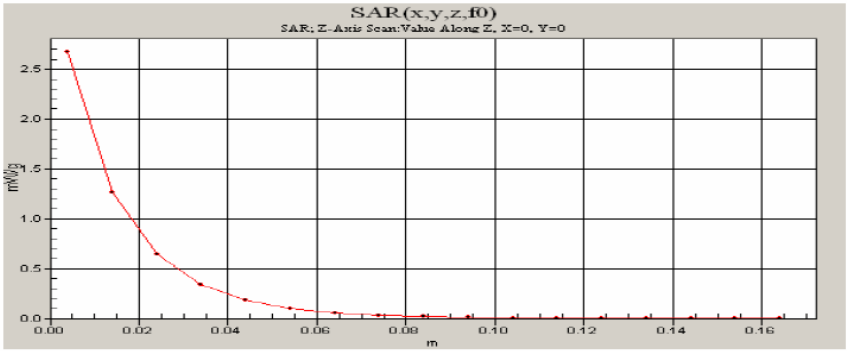


Motorola GEMS EME Lab
SPEAG 835 MHz Dipole; Model D835V2, SN435; Test Date: 3/20/06
Run #: ErC-SYSP-835B-060320-02 Sim.Tissue Temp: 21.7 (C)
TX Freq: 835 (MHz) Start power: 250 (mW)

Target: 9.65 mW/g for 1g SAR 6.36 mW/g for 10g SAR
9.95 mW/g calculated 1g-SAR; 2.21 % from target (including drift)
6.53 mW/g calculated 10g-SAR; 2.03 % from target (including drift)

Probe: ET3DV6 - SN1384, Calibrated: 5/26/2005, ConvF(6.19, 6.19, 6.19),
Duty Cycle: 1:1, Medium: FCC Body 835 MHz, Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 53.9; ρ = 1000 kg/m3 ; Electronics: DAE3 Sn406, Calibrated: 11/21/2005
System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm; Reference Value = 54.2 V/m; Power Drift = -0.0198 dB
Peak SAR (extrapolated) = 3.56 W/kg
SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.67 mW/g
System Performance Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm; Reference Value = 54.2 V/m; Power Drift = -0.0198 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 2.49 mW/g; SAR(10 g) = 1.64 mW/g
Maximum value of SAR (measured) = 2.70 mW/g
System Performance Check/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm





SYSTEM PERFORMANCE CHECK TARGET SAR

Date:	**03/16/06**	Frequency (MHz):	**835**
Lab Location:	GEMS EME	Mixture Type:	**FCC Body**
Robot System:	GEMS-1	Ambient Temp.(°C):	22.5
Probe Serial #:	1384	Tissue Temp.(°C):	20.2
DAE Serial #:	406		

Tissue Characteristics

Permitivity:	53.4	Phantom Type/SN:	80302002A-S7
Conductivity:	0.98	Distance (mm):	15

Reference Source: Dipole (Dipole)

Reference SN: **435**

Power to Dipole: 250 mW

Measured SAR Value: 2.415 mW/g, 1.59 mW/g (10g avg.)

Power Drift: -0.03 dB

New Target/Measured SAR Value: **9.73** mW/g, **6.40** mW/g (10g avg.)

(normalized to 1.0 W, including drift)

Test performed by: [signature] Initial: [signature]

Sys. Per. Chk. Form: 021024

DUT: Dipole 835 MHz; Date/Time: 3/16/2006 6:33:59 AM

Run #: ErC-VAL-835B-060316-01 Sim.Tissue Temp: 20.2 (C)
Robot GEMS-1 Phantom #: 80302002A-S7
Model #: D835V2 S/N: 435
TX Freq: 450 (MHz) Start power: 250 (mW)
New Targets:
9.73 mW/g for 1g SAR 6.40 mW/g for 10g SAR
9.73 mW/g calculated 1g-SAR; 0 % from target (including drift)
6.40 mW/g calculated 10g-SAR; 0 % from target (including drift)

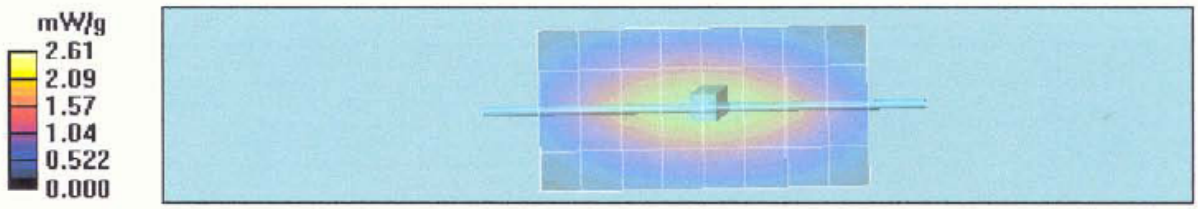
Probe: ET3DV6 - SN1384, Calibrated: 5/26/2005, ConvF(6.19, 6.19, 6.19),
Duty Cycle: 1:1, Medium: FCC Body 835 MHz, Medium parameters used: f = 835 MHz; σ = 0.98 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3 ;
Electronics: DAE3 Sn406, Calibrated: 11/21/2005

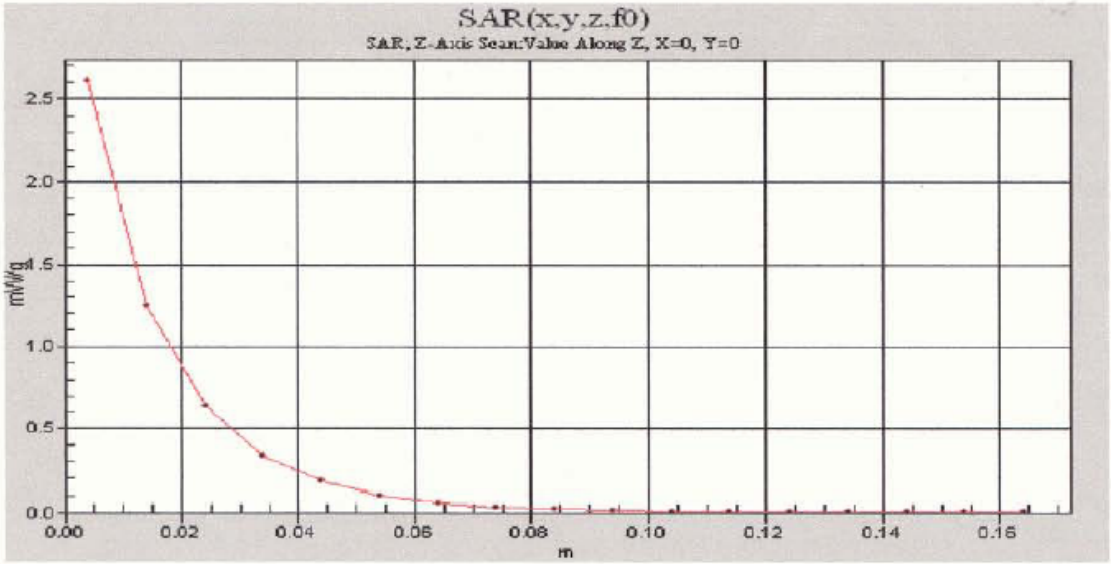
System Performance Check/0-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 54.1 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 3.47 W/kg
SAR(1 g) = 2.4 mW/g; SAR(10 g) = 1.58 mW/g
Maximum value of SAR (measured) = 2.61 mW/g

System Performance Check/90-Degree 5x5x7 Cube (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 54.1 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 3.50 W/kg
SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.6 mW/g
Maximum value of SAR (measured) = 2.63 mW/g

System Performance Check/Dipole Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

System Performance Check/Z-Axis Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm





Appendix E
DUT Scans (Shortened scans & Highest SAR configurations)

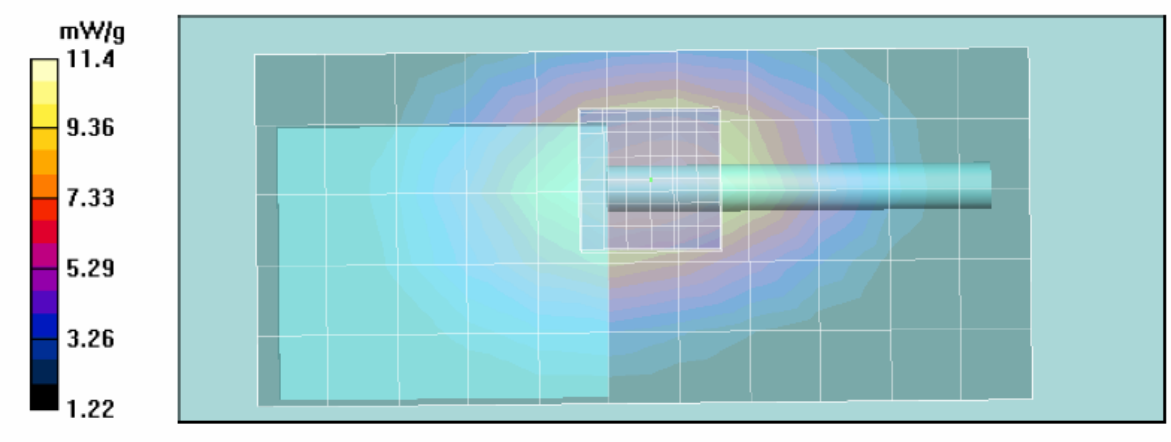
Shortened Scan Results

Motorola GEMS EME Laboratory
Test Date: 3/13/06
Run #: AG Ab 060313-20 Sim. Tissue Temp: 20.4 (C)
Model #: H46UCH9PW7AN SN: 205ABW0134

Antenna: NAF5042A TX Freq: 868.9875 MHz
Battery: NTN9816B Start power: 3.55 W
Carry acc.: PSM Belt Clip Audio/Data acc.: PSM RMN5074A

Comments: Shortened scan PSM against the phantom
Probe: ET3DV6 - SN1384, Calibrated: 5/26/2005, ConvF(6.19, 6.19, 6.19)
Duty Cycle: 1:1, Medium: 860.5 MHz FCC Body, Medium parameters used: f = 860.5 MHz; σ = 1.03 mho/m; ε_r = 53.4; ρ = 1000 kg/m3; Electronics: DAE3 Sn406, Calibrated: 11/21/2005
AB Scan/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 108.6 V/m; Power Drift = -0.0564 dB
Peak SAR (extrapolated) = 14.4 W/kg
SAR(1 g) = 10.6 mW/g; SAR(10 g) = 7.39 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 11 minutes.
Representative "normal" scan run time was 18 minutes
"Shortened" scan max calculated S.A.R. using S.A.R. drift: 1-g Avg. = 5.44mW/g; 10-g Avg. = 3.80mW/g
"Normal" scan max calculated S.A.R. using S.A.R. drift: 1-g Avg. = 5.56mW/g; 10-g Avg. = 3.86mW/g
(see part 1 of 2 section 9.0 run # AG-Ab-060313-19)

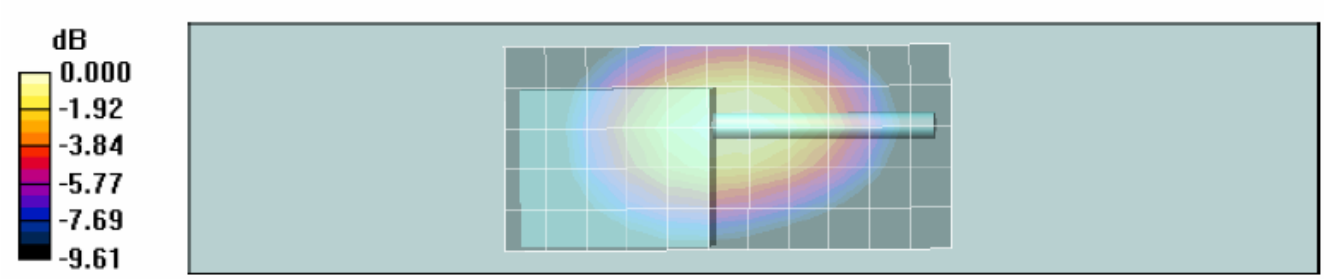


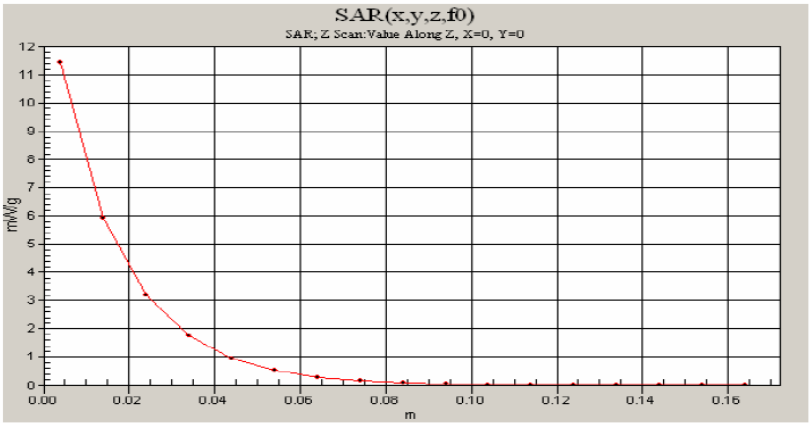
Highest SAR Configurations Results

Motorola GEMS EME Laboratory
Test Date: 3/13/06
Run #: AG Ab 060313-19 Sim. Tissue Temp: 20.4 (C)
Model #: H46UCH9PW7AN SN: 205ABW0134

Antenna: NAF5042A TX Freq: 868.9875 MHz
Battery: NTN9816B Start power: 3.55 W
Carry acc.: PSM Belt Clip Audio/Data acc.: PSM RMN5074A

Comments: Full scan PSM against the phantom
Probe: ET3DV6 - SN1384, Calibrated: 5/26/2005, ConvF(6.19, 6.19, 6.19)
Duty Cycle: 1:1, Medium: 860.5 MHz FCC Body, Medium parameters used: f = 860.5 MHz; σ = 1.03 mho/m; ε_r = 53.4; ρ = 1000 kg/m3; Electronics: DAE3 Sn406, Calibrated: 11/21/2005
AB Scan/Area Scan (6x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 11.4 mW/g
AB Scan/Z Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
AB Scan/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 109.5 V/m; Power Drift = -0.065 dB
Peak SAR (extrapolated) = 14.6 W/kg
SAR(1 g) = 10.8 mW/g; SAR(10 g) = 7.49 mW/g
Maximum value of SAR (measured) = 11.5 mW/g

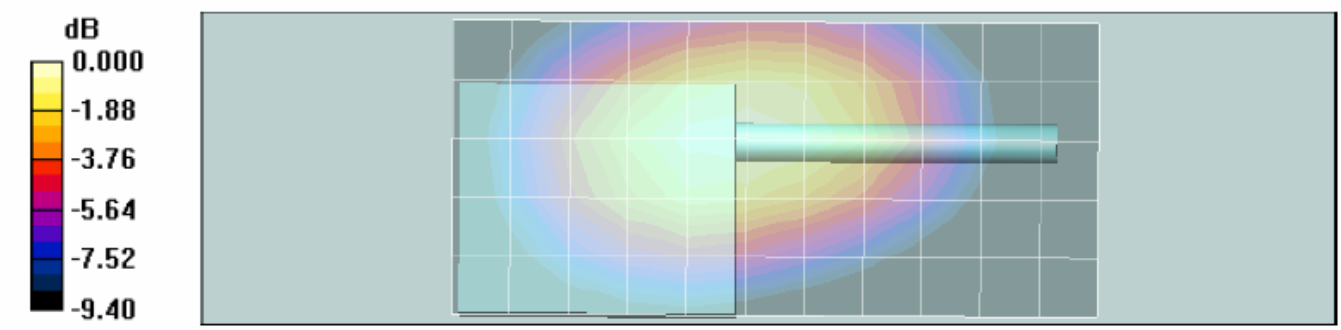


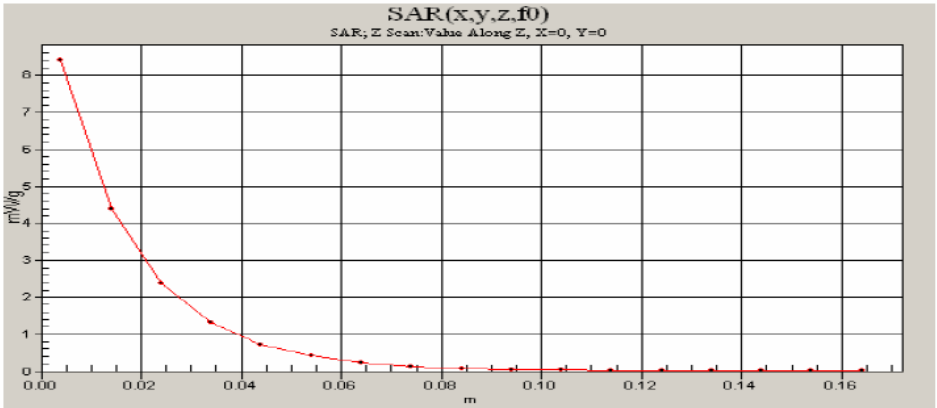


Motorola GEMS EME Laboratory
Test Date: 3/20/06
Run #: ErC Ab 060320-03 Sim. Tissue Temp: 21.7 (C)
Model #: H46UCH9PW7AN SN: 205ABW0130

Antenna: NAF5042A TX Freq: 823.9875 MHz
Battery: NTN9816B Start power: 3.61 W
Carry acc.: PSM Belt Clip Audio/Data acc.: PSM RMN5073A

Comments: Full scan PSM against the phantom
Probe: ET3DV6 - SN1384, Calibrated: 5/26/2005, ConvF(6.19, 6.19, 6.19)
Duty Cycle: 1:1, Medium: 815.5 MHz FCC Body, Medium parameters used: f = 815.5 MHz; σ = 0.96 mho/m; ε_r = 54; ρ = 1000 kg/m^3; Electronics: DAE3 Sn406, Calibrated: 11/21/2005
AB Scan/Area Scan (6x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 8.45 mW/g
AB Scan/Z Scan (1x1x17): Measurement grid: dx=20mm, dy=20mm, dz=10mm
Maximum value of SAR (measured) = 8.42 mW/g
AB Scan/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.8 V/m; Power Drift = -0.108 dB
Peak SAR (extrapolated) = 10.6 W/kg
SAR(1 g) = 7.88 mW/g; SAR(10 g) = 5.52 mW/g
Maximum value of SAR (measured) = 8.40 mW/g





APPENDIX F
DUT Supplementary Data (Power slump)

Not applicable for this report.

Appendix G
DUT Test Position Photos

Figure 1: Highest S.A.R. Test Position (Body)
Same position used for each PSM and offered antenna

Appendix H
DUT and Accessory Photos

New offered PSM RMN5074A: front and side view.
RMN5073A looks the same only longer cable

Appendix I
DUT Body-worn Separation Distances

Carry Case Models	Tested ?	Min. Separation distances between DUT antenna(s) and phantom surface. (mm)	Comments
RMN5073A	Yes	18-40	PSM w/ clip
RMN5074A	Yes	18-40	PSM w/ clip