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Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes and Rodney Dixon		No. REP 2006 006 Z712a 01
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Appendix 3

SAR distribution plots for Body Worn Configuration



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Distribution of maximum SAR in 800 GSM band. Measured with back of device facing the body using the ICE-26 Carry Case (Standard Battery, BST-37)

Date/Time: 6/7/2006 8:11:32 AM

File Name: [07June06_Z712a_GSM850_0QB1_ICE26_BB01.da4](#)

DUT: Z712 body

Program Notes: Battery - BST37 Humidity - 40.7% Ambient Temp - 21.9 C Simulant Temp - 22 C

Communication System: GSM 850 multi-slot Body; Frequency: 849 MHz; Duty Cycle: 1:4.15

Medium: Head 835/900 MHz Medium parameters used (interpolated): $f = 849 \text{ MHz}$; $s = 1.01 \text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1583; ConvF(6.53, 6.53, 6.53); Calibrated: 11/22/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn416; Calibrated: 11/10/2005
- Phantom: SAM with CRP (Low Band Body); Type: SAM; Serial: TP: 1031
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Unnamed procedure 3/Area Scan (71x121x1):

Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.823 mW/g

Unnamed procedure 3/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.7 V/m; Power Drift = 0.127 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.761 mW/g; SAR(10 g) = 0.532 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.809 mW/g

Unnamed procedure 3/Zoom Scan (31x31x36)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.7 V/m; Power Drift = 0.127 dB

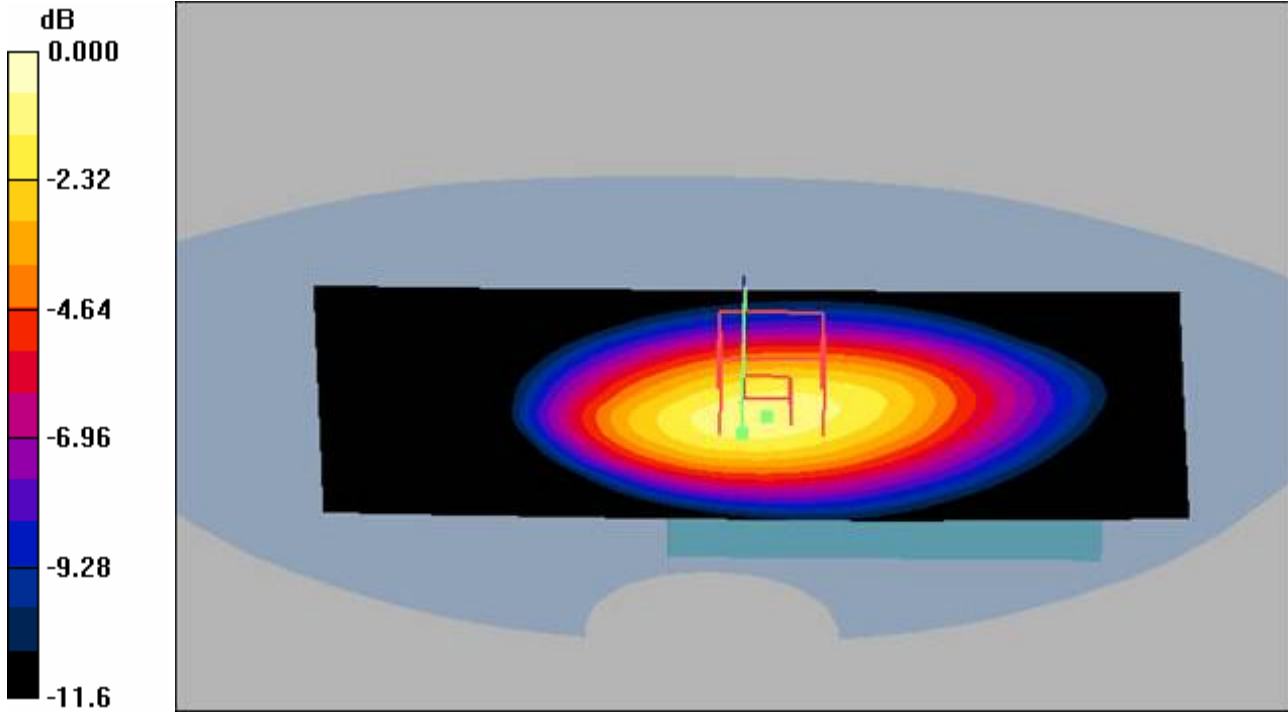
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.03 mW/g



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0 dB = 1.03mW/g

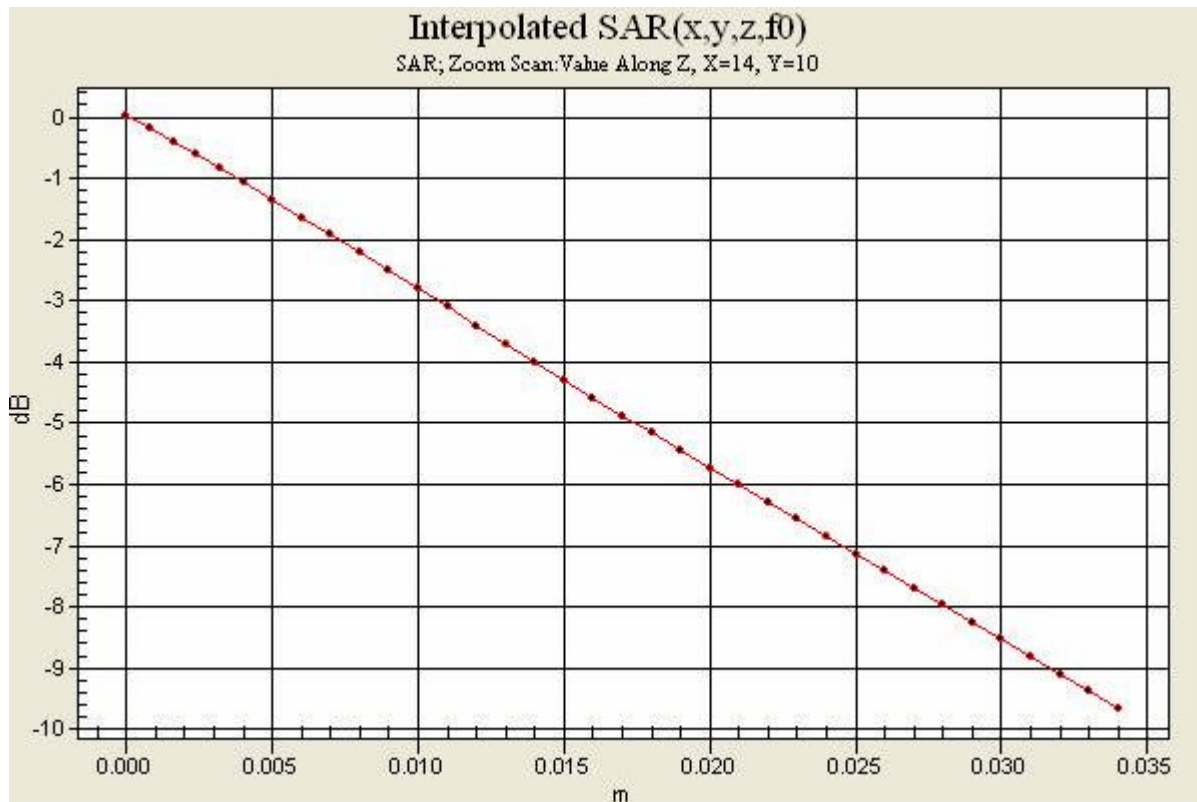


Exhibit 11



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Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes and Rodney Dixon		No. REP 2006 006 Z712a 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	A	X:\SAR Chamber\FCC reports\Z712A\Final Reports\FCCZ712A.doc

Distribution of maximum SAR in 800 GSM band. Measured with front of device facing the body using the ICE-26 Carry Case (Standard Battery, BST-37)

Date/Time: 6/7/2006 8:35:50 AM

File Name: [07June06_Z712a_GSM850_0QB1_ICE26_BF01.da4](#)**DUT: Z712 body**

Program Notes: Battery - BST37 Humidity - 41.3% Ambient Temp - 22 C Simulant Temp - 22.1 C

Communication System: GSM 850 multi-slot Body; Frequency: 849 MHz; Duty Cycle: 1:4.15

Medium: Head 835/900 MHz Medium parameters used (interpolated): $f = 849 \text{ MHz}$; $s = 1.01 \text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1583; ConvF(6.53, 6.53, 6.53); Calibrated: 11/22/2005

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn416; Calibrated: 11/10/2005

- Phantom: SAM with CRP (Low Band Body); Type: SAM; Serial: TP: 1031

- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Unnamed procedure 3/Area Scan (71x121x1):Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ [Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.329 mW/g

Unnamed procedure 3/Zoom Scan (7x7x7)/Cube 0:Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.7 V/m; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 0.407 W/kg

SAR(1 g) = 0.309 mW/g; SAR(10 g) = 0.224 mW/g[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.325 mW/g

Unnamed procedure 3/Zoom Scan (31x31x36)/Cube 0:Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.7 V/m; Power Drift = -0.024 dB

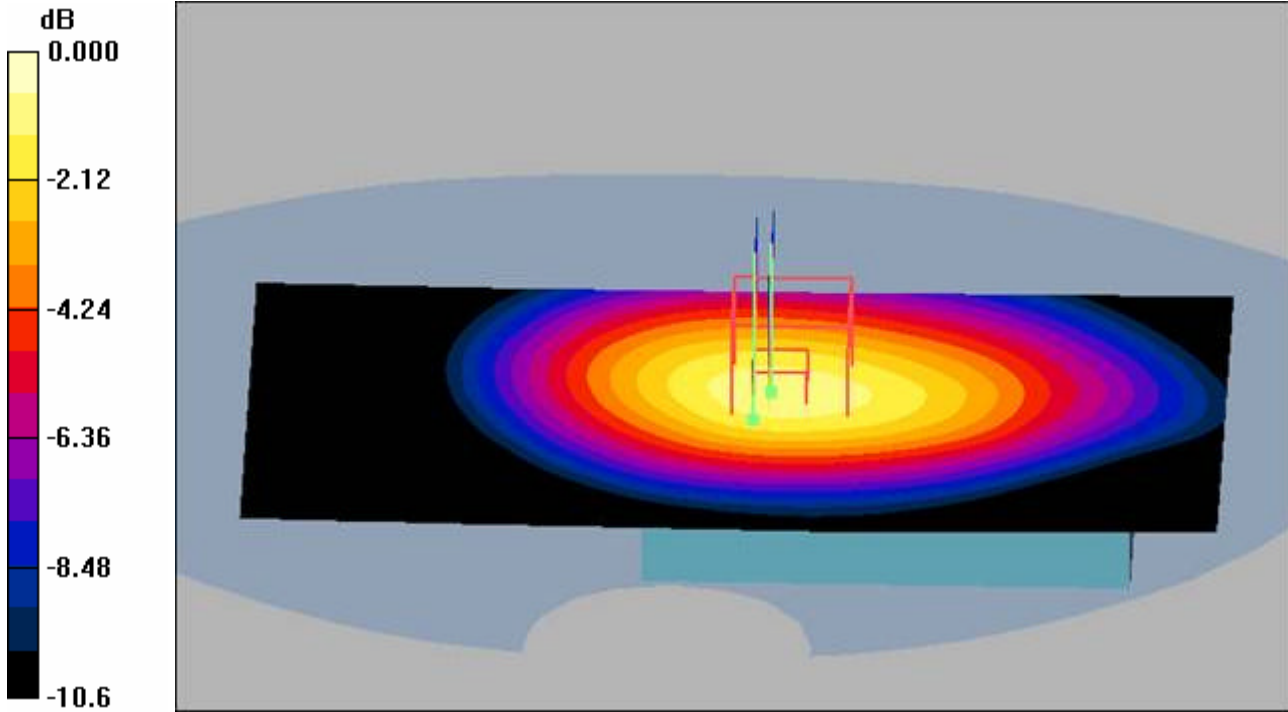
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.407 mW/g



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0 dB = 0.407mW/g

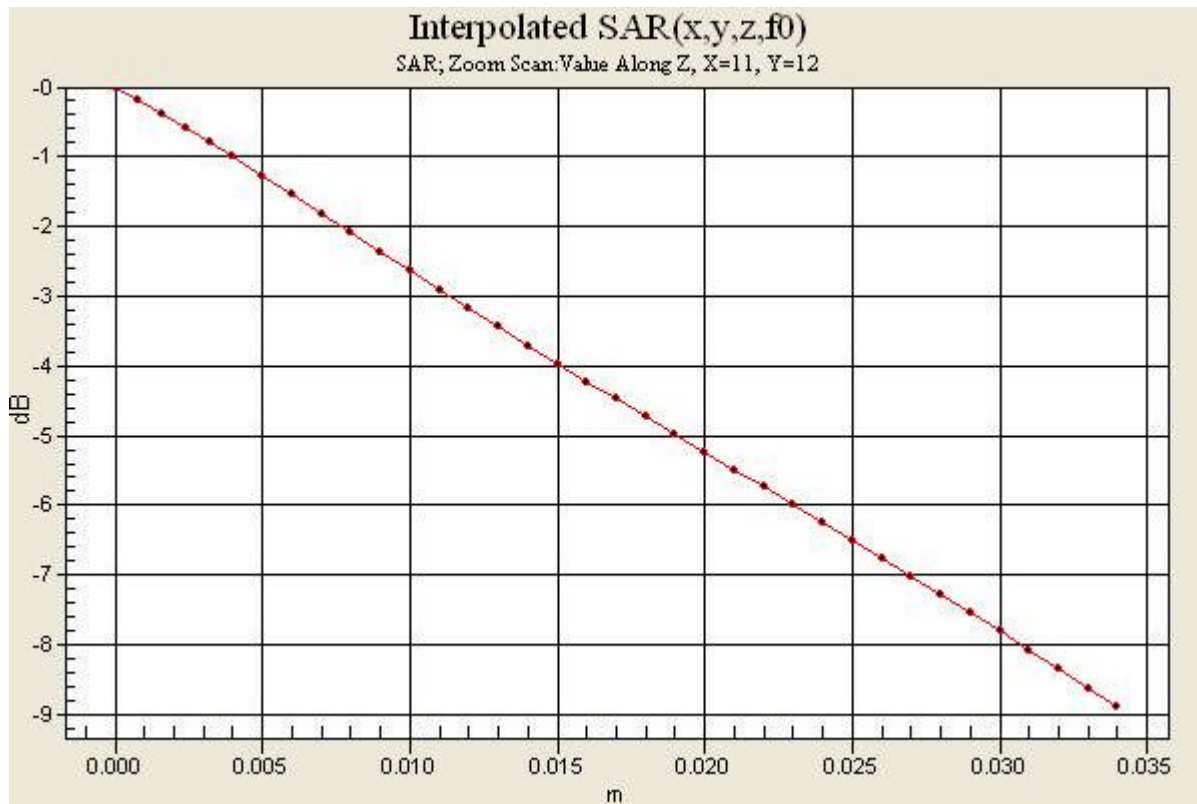


Exhibit 11



Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes and Rodney Dixon		No. REP 2006 006 Z712a 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	A	X:\SAR Chamber\FCC reports\Z712A\Final Reports\FCCZ712A.doc

Distribution of maximum SAR in 800 GSM band. Measured with back of device facing the body using the ICE-26 Carry Case (Standard Battery, BST-37) Bluetooth on.

Date/Time: 6/7/2006 2:04:47 PM

File Name: [07June06_Z712a_GSM850_0QB1_ICE26_BT_BB01.da4](#)

DUT: Z712 body

Program Notes: Battery - BST37 Humidity - 40.7% Ambient Temp - 21.9 C Simulant Temp - 22 C

Communication System: GSM 850 multi-slot Body; Frequency: 849 MHz; Duty Cycle: 1:4.15

Medium: Head 835/900 MHz Medium parameters used (interpolated): $f = 849 \text{ MHz}$; $s = 1.01 \text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1583; ConvF(6.53, 6.53, 6.53); Calibrated: 11/22/2005

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn416; Calibrated: 11/10/2005

- Phantom: SAM with CRP (Low Band Body); Type: SAM; Serial: TP: 1031

- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Unnamed procedure 3/Area Scan (71x121x1):

Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.920 mW/g

Unnamed procedure 3/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 26.1 V/m; Power Drift = 0.007 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.848 mW/g; SAR(10 g) = 0.594 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.903 mW/g

Unnamed procedure 3/Zoom Scan (31x31x36)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 26.1 V/m; Power Drift = 0.007 dB

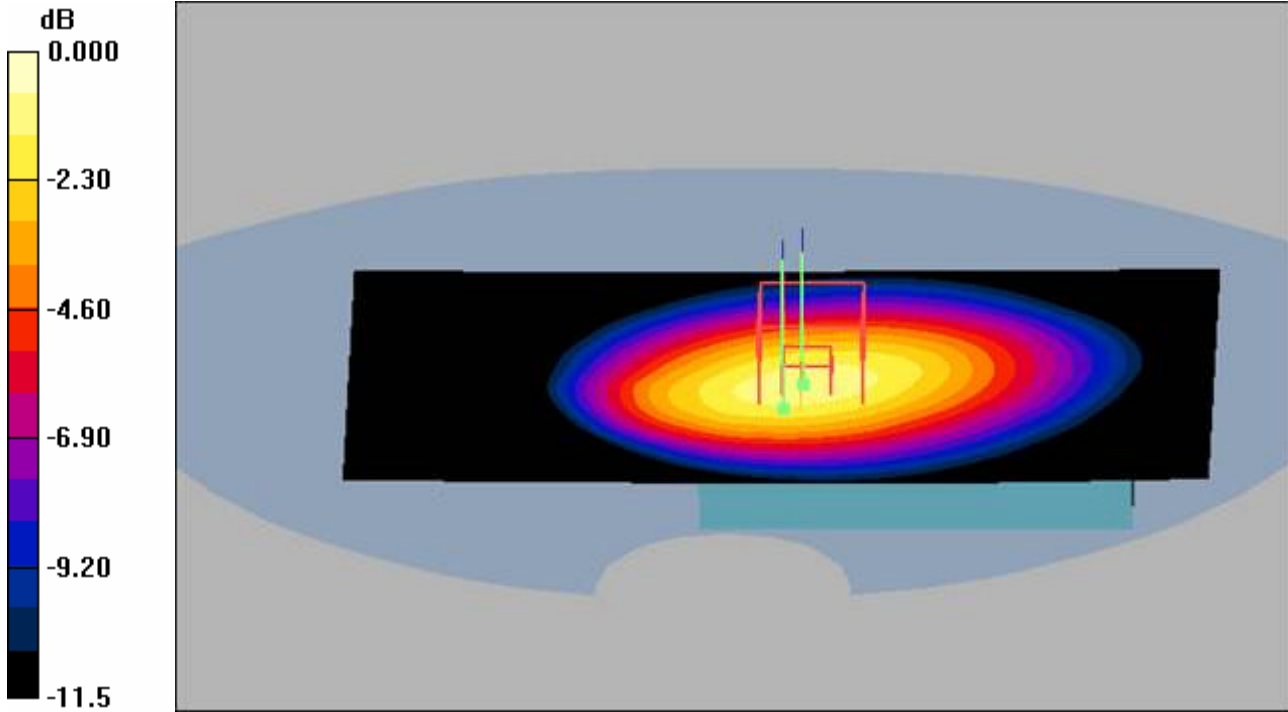
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.16 mW/g



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0 dB = 1.16mW/g

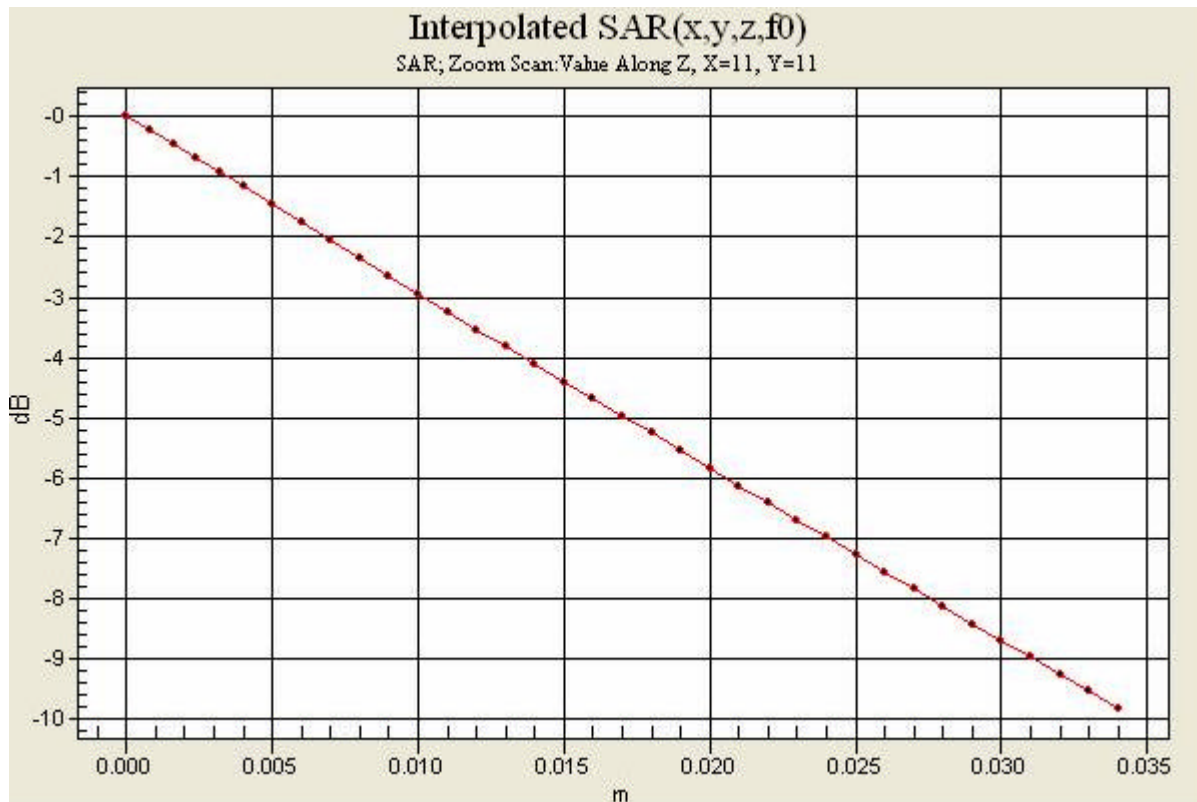


Exhibit 11



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Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes and Rodney Dixon		No. REP 2006 006 Z712a 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	A	X:\SAR Chamber\FCC reports\Z712A\Final Reports\FCCZ712A.doc

Distribution of maximum SAR in 1900 GSM band. Measured with back of device facing the body using the ICE-26 Carry Case (Standard Battery, BST-37)

Date/Time: 6/10/2006 7:50:44 AM

File Name: [08June06_Z712a_GSM1900_0QB3_ICE26_BB02.da4](#)**DUT: Z712 body**

Program Notes: Battery - BST37 Humidity - 39.5 % Ambient Temp - 22.2 C Simulant Temp - 22.7 C

Communication System: DCS 1900 Body; Frequency: 1909.8 MHz; Duty Cycle: 1:4.15

Medium: Head 1800/1900 MHz Medium parameters used: $f = 1910 \text{ MHz}$; $s = 1.57 \text{ mho/m}$; $\epsilon_r = 50.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1583; ConvF(4.46, 4.46, 4.46); Calibrated: 11/22/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn416; Calibrated: 11/10/2005
- Phantom: SAM with CRP (High Band Body); Type: SAM; Serial: TP: 1020
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Unnamed procedure 3/Area Scan (71x141x1):Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.583 mW/g

Unnamed procedure 3/Zoom Scan (7x7x7)/Cube 0:Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.3 V/m; Power Drift = -0.030 dB

Peak SAR (extrapolated) = 0.803 W/kg

SAR(1 g) = 0.497 mW/g; SAR(10 g) = 0.288 mW/g

Maximum value of SAR (measured) = 0.546 mW/g

Unnamed procedure 3/Zoom Scan (31x31x36)/Cube 0:Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

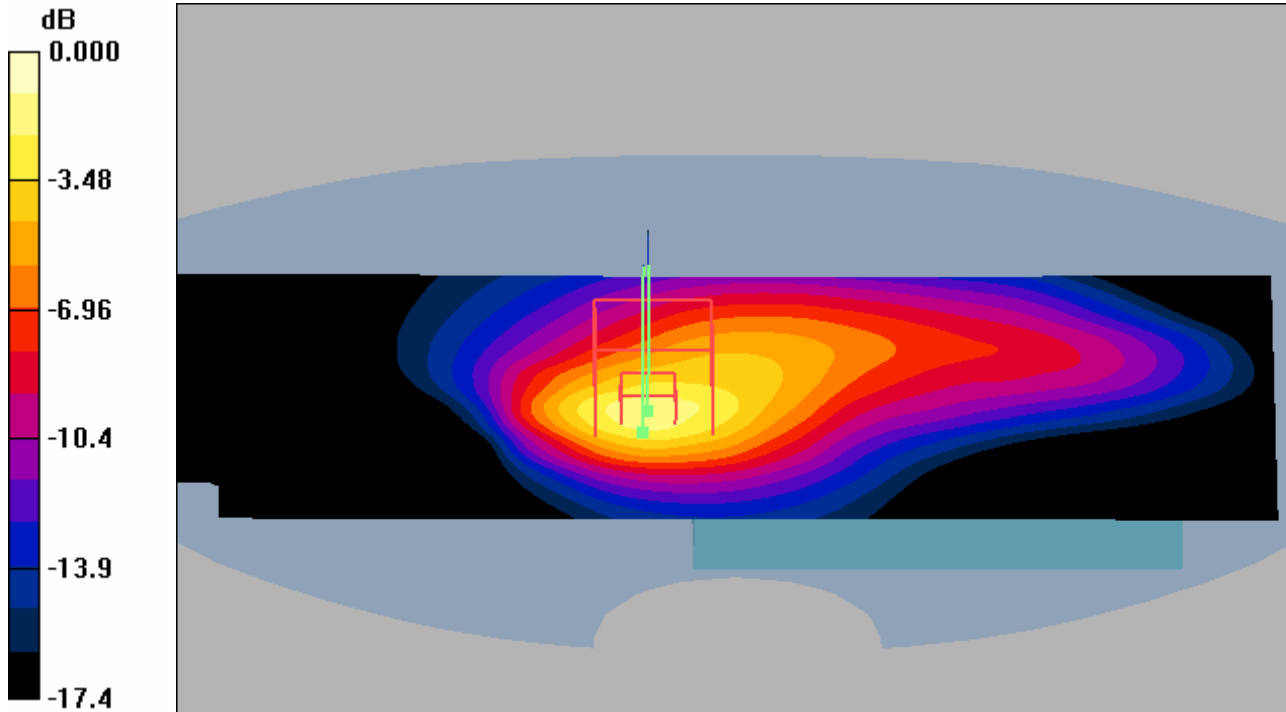
Reference Value = 15.3 V/m; Power Drift = -0.030 dB

Maximum value of SAR (interpolated) = 0.803 mW/g



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Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes and Rodney Dixon		No. REP 2006 006 Z712a 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	A	X:\SAR Chamber\FCC reports\Z712A\Final Reports\FCCZ712A.doc



0 dB = 0.803mW/g

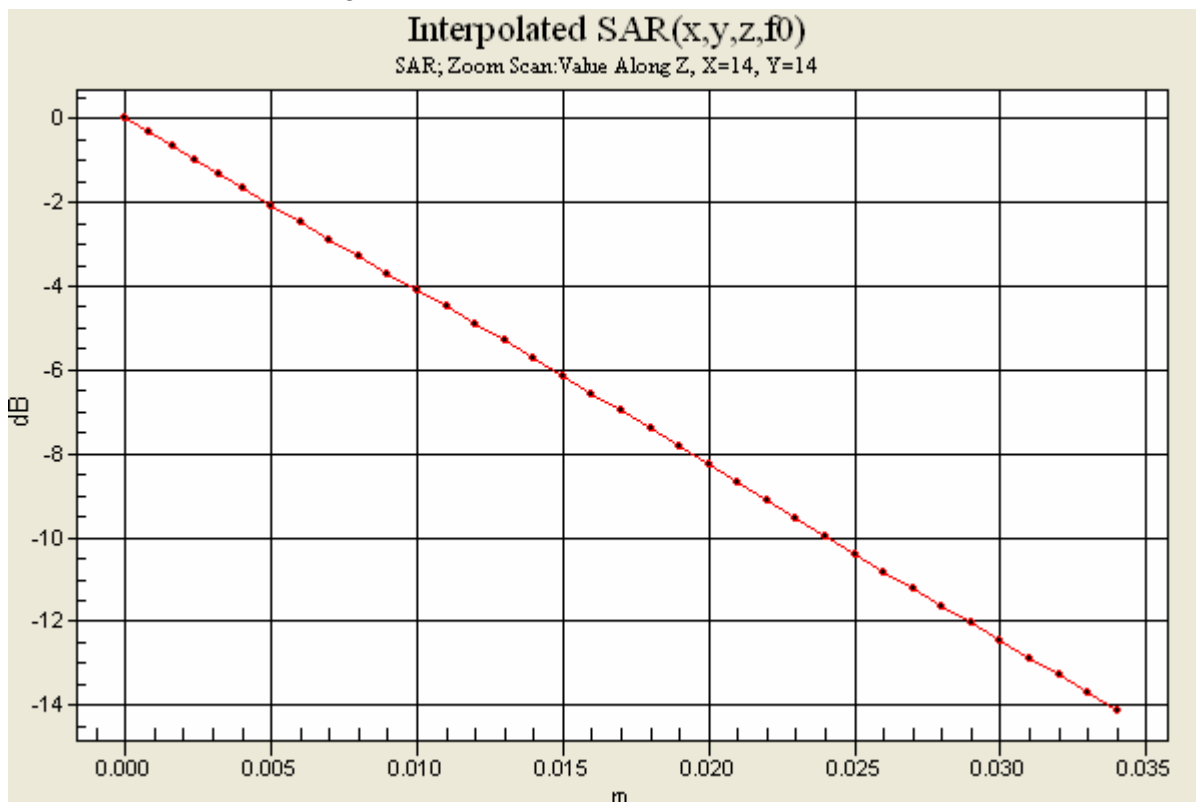


Exhibit 11



Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes and Rodney Dixon		No. REP 2006 006 Z712a 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	A	X:\SAR Chamber\FCC reports\Z712A\Final Reports\FCCZ712A.doc

Distribution of maximum SAR in 1900 GSM band. Measured with front of device facing the body using the ICE-26 Carry Case (Standard Battery, BST-37)

Date/Time: 6/6/2006 2:17:54 PM

File Name: [06June06_Z712a_GSM1900_0QB3_ICE26_BF01.da4](#)

DUT: Z712 body

Program Notes: Battery - BST37 Humidity - 39.9 % Ambient Temp - 22.1 C Simulant Temp - 22.7 C

Communication System: DCS 1900 Body; Frequency: 1850.2 MHz; Duty Cycle: 1:4.15

Medium: Head 1800/1900 MHz Medium parameters used (interpolated): $f = 1850.2 \text{ MHz}$; $s = 1.47 \text{ mho/m}$; $\epsilon_r = 50.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1583; ConvF(4.46, 4.46, 4.46); Calibrated: 11/22/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn416; Calibrated: 11/10/2005
- Phantom: SAM with CRP (High Band Body); Type: SAM; Serial: TP: 1020
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Unnamed procedure/Area Scan (71x141x1):

Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.270 mW/g

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.4 V/m; Power Drift = -0.028 dB

Peak SAR (extrapolated) = 0.347 W/kg

SAR(1 g) = 0.248 mW/g; SAR(10 g) = 0.165 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.268 mW/g

Unnamed procedure/Zoom Scan (31x31x36)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.4 V/m; Power Drift = -0.028 dB

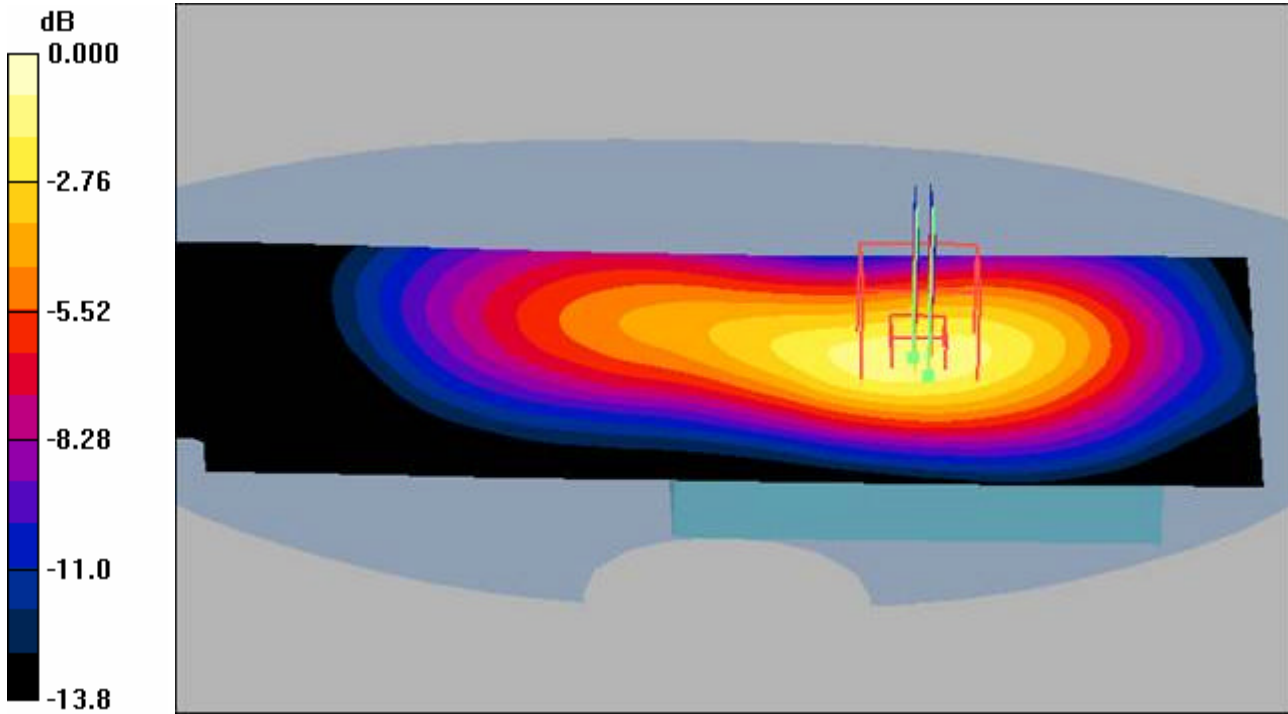
[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.347 mW/g



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0 dB = 0.347mW/g

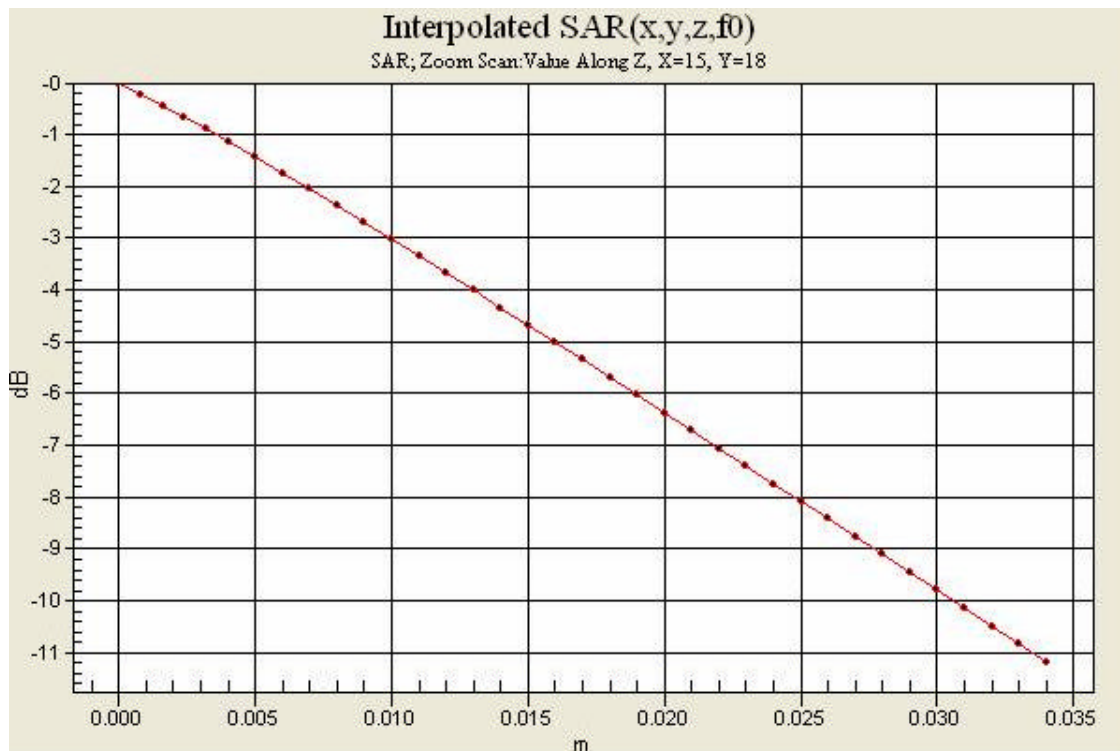


Exhibit 11



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Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes and Rodney Dixon		No. REP 2006 006 Z712a 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	A	X:\SAR Chamber\FCC reports\Z712A\Final Reports\FCCZ712A.doc

Distribution of maximum SAR in 1900 GSM band. Measured with back of device facing the body using the ICE-26 Carry Case (Standard Battery, BST-37) Bluetooth on.

Date/Time: 6/10/2006 8:55:32 AM

File Name: [08June06_Z712a_GSM1900_0QB3_ICE26_BT_BB02.da4](#)**DUT: Z712 body**

Program Notes: Battery - BST37 Humidity - 39.5 % Ambient Temp - 22.2 C Simulant Temp - 22.7 C

Communication System: DCS 1900 Body; Frequency: 1909.8 MHz; Duty Cycle: 1:4.15

Medium: Head 1800/1900 MHz Medium parameters used: $f = 1910 \text{ MHz}$; $s = 1.57 \text{ mho/m}$; $\epsilon_r = 50.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1583; ConvF(4.46, 4.46, 4.46); Calibrated: 11/22/2005

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn416; Calibrated: 11/10/2005

- Phantom: SAM with CRP (High Band Body); Type: SAM; Serial: TP: 1020

- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Unnamed procedure 3/Area Scan (71x141x1):Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.681 mW/g

Unnamed procedure 3/Zoom Scan (7x7x7)/Cube 0:Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 16.9 V/m; Power Drift = -0.087 dB

Peak SAR (extrapolated) = 0.963 W/kg

SAR(1 g) = 0.598 mW/g; SAR(10 g) = 0.349 mW/g

Maximum value of SAR (measured) = 0.659 mW/g

Unnamed procedure 3/Zoom Scan (31x31x36)/Cube 0:Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

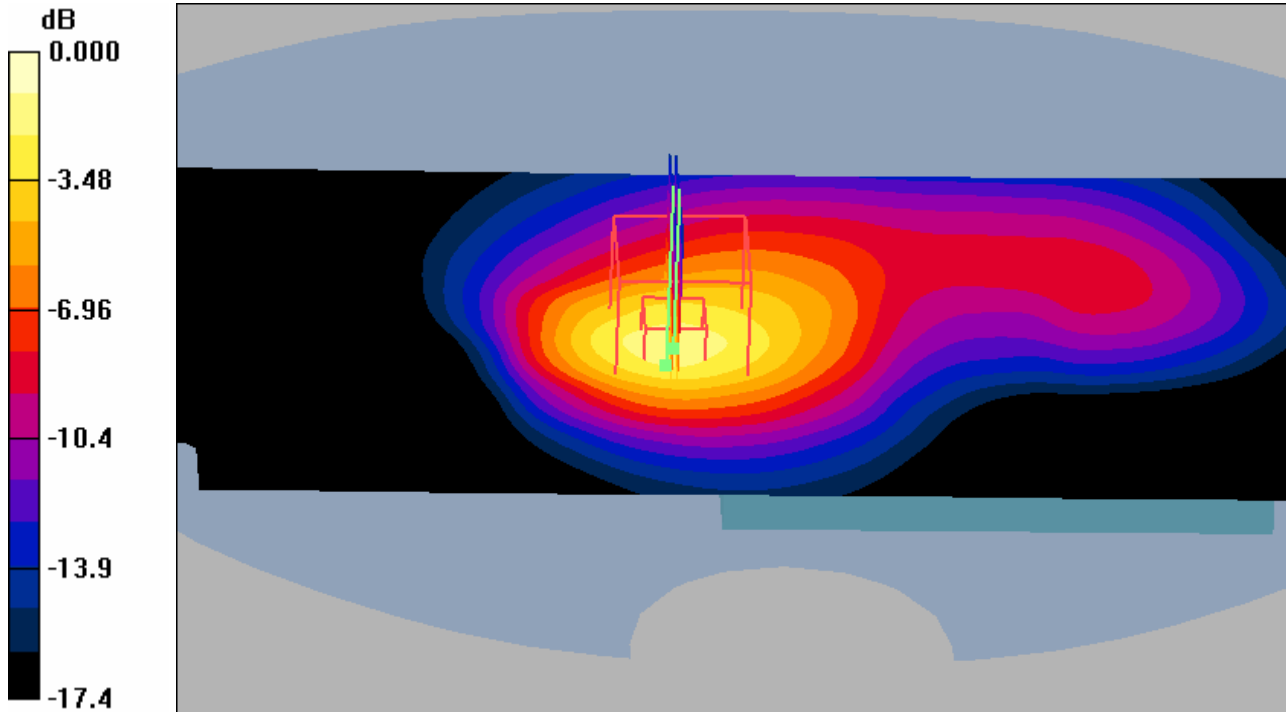
Reference Value = 16.9 V/m; Power Drift = -0.087 dB

Maximum value of SAR (interpolated) = 0.963 mW/g



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0 dB = 0.963mW/g

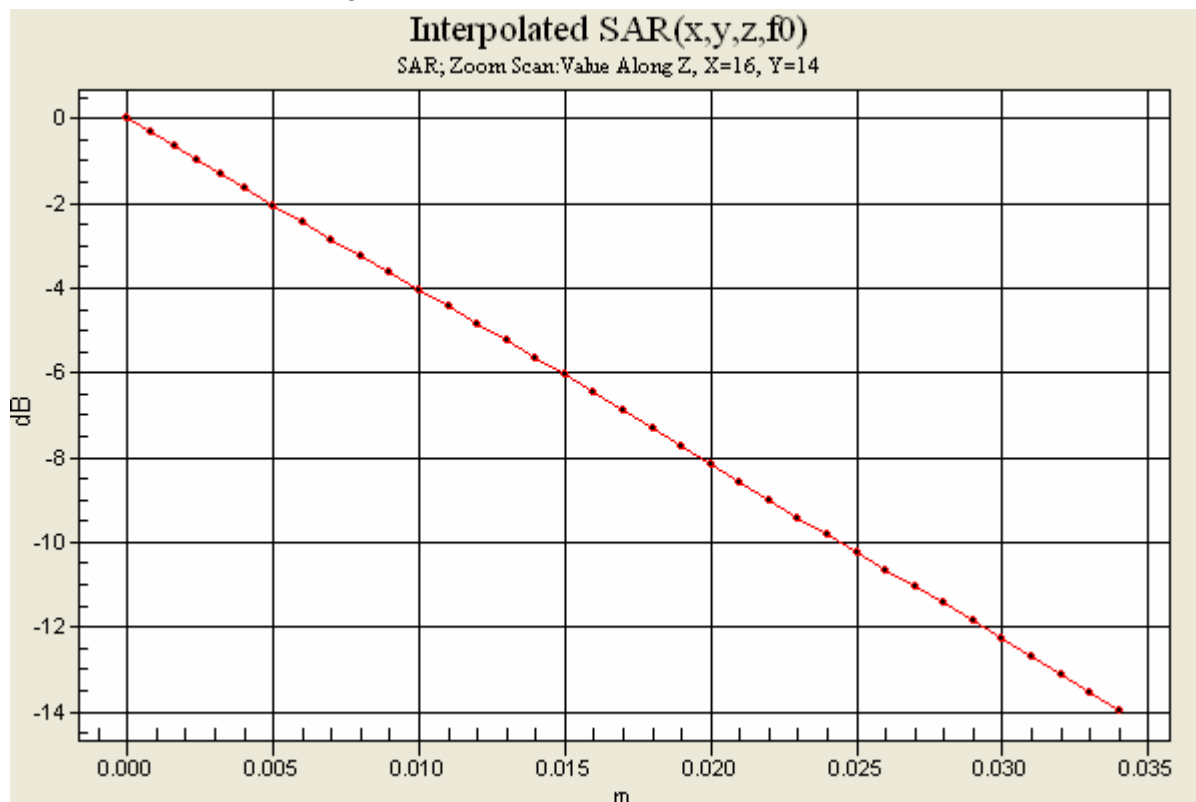


Exhibit 11



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Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes and Rodney Dixon		No. REP 2006 006 Z712a 01
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Appendix 4

Probe Calibration Certificates



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Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes and Rodney Dixon		No. REP 2006 006 Z712a 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	A	X:\SAR Chamber\FCC reports\Z712A\Final Reports\FCCZ712A.doc

ET3DV6 SN:1539

November 22, 2005

DASY - Parameters of Probe: ET3DV6 SN:1539

Sensitivity in Free Space^A

Diode Compression^B

NormX	1.36 ± 10.1%	$\mu V/(V/m)^2$	DCP X	89 mV
NormY	1.27 ± 10.1%	$\mu V/(V/m)^2$	DCP Y	89 mV
NormZ	1.39 ± 10.1%	$\mu V/(V/m)^2$	DCP Z	89 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL 900 MHz Typical SAR gradient: 5 % per mm

Sensor Center to Phantom Surface Distance	3.7 mm	4.7 mm
SAR _{ts} [%] Without Correction Algorithm	8.8	4.7
SAR _{ts} [%] With Correction Algorithm	0.1	0.3

TSL 1750 MHz Typical SAR gradient: 10 % per mm

Sensor Center to Phantom Surface Distance	3.7 mm	4.7 mm
SAR _{ts} [%] Without Correction Algorithm	13.0	8.4
SAR _{ts} [%] With Correction Algorithm	0.8	0.0

Sensor Offset

Probe Tip to Sensor Center **2.7 mm**

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 The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).

^B Numerical linearization parameter; uncertainty not required.



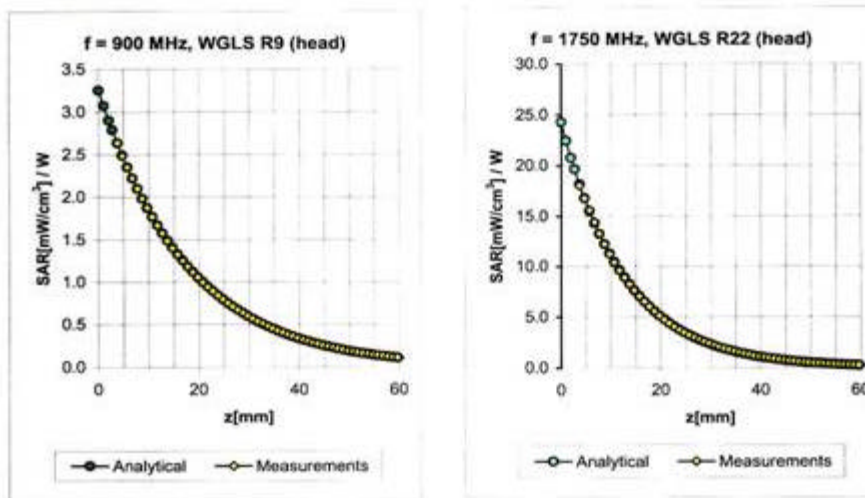
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Prepared (also subject responsible if other) SEM/CV/PF/P Gerard Hayes and Rodney Dixon		No. REP 2006 006 Z712a 01	
Approved SEM/CV/PF/P Gerard Hayes	Checked	A	X:\SAR Chamber\FCC reports\Z712A\Final Reports\FCCZ712A.doc

ET3DV6 SN:1539

November 22, 2005

Conversion Factor Assessment



f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.63	1.80	5.99 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.54	1.93	5.86 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.66	2.19	4.76 ± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.64	2.43	4.55 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.81	2.04	4.06 ± 11.8% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.56	1.99	5.88 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.53	2.08	5.63 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.65	2.48	4.21 ± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.66	2.48	4.12 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	1.18	1.35	4.06 ± 11.8% (k=2)

^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.



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ET3DV6 SN:1583

November 22, 2005

DASY - Parameters of Probe: ET3DV6 SN:1583

Sensitivity in Free Space^A

Diode Compression^B

NormX	1.81 ± 10.1%	$\mu V/(V/m)^2$	DCP X	93 mV
NormY	2.03 ± 10.1%	$\mu V/(V/m)^2$	DCP Y	93 mV
NormZ	1.98 ± 10.1%	$\mu V/(V/m)^2$	DCP Z	93 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL 900 MHz Typical SAR gradient: 5 % per mm

Sensor Center to Phantom Surface Distance	3.7 mm	4.7 mm
SAR _{be} [%] Without Correction Algorithm	7.7	4.3
SAR _{be} [%] With Correction Algorithm	0.0	0.2

TSL 1750 MHz Typical SAR gradient: 10 % per mm

Sensor Center to Phantom Surface Distance	3.7 mm	4.7 mm
SAR _{be} [%] Without Correction Algorithm	12.1	8.3
SAR _{be} [%] With Correction Algorithm	0.7	0.2

Sensor Offset

Probe Tip to Sensor Center 2.7 mm

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 The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).

^B Numerical linearization parameter: uncertainty not required.



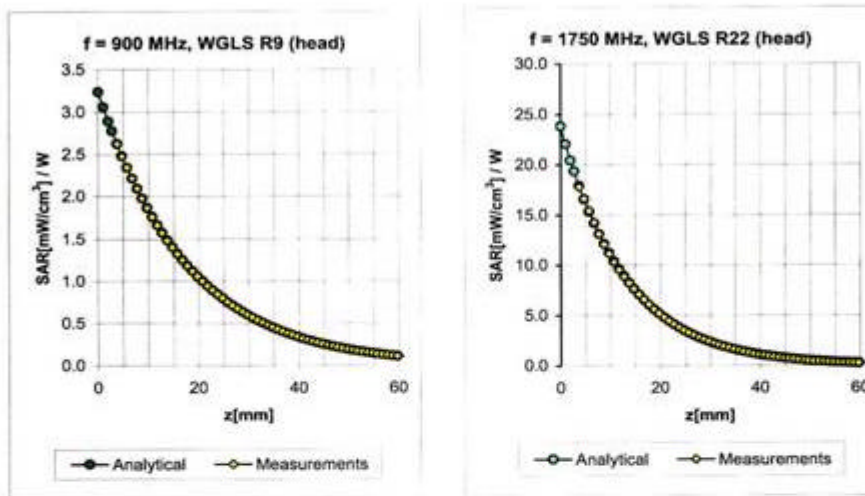
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ET3DV6 SN:1583

November 22, 2005

Conversion Factor Assessment



f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.50	1.81	6.82 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.48	1.93	6.51 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.54	2.38	5.07 ± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.52	2.62	4.93 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.62	2.26	4.31 ± 11.8% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.44	2.07	6.53 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.44	2.14	6.35 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.52	2.78	4.60 ± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.53	2.81	4.46 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.69	1.93	4.22 ± 11.8% (k=2)

^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

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Appendix 5**Measurement Uncertainty Budget**



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Table 1: Uncertainty Budget for System Performance Check (Dipole & flat phantom) DASY4 System

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e = f(d,k)</i>	<i>f</i>	<i>g</i>	<i>h = c x f / e</i>	<i>i = c x g / e</i>	<i>k</i>
Uncertainty Component	Sec.	Tol. (± %)	Prob. Dist.	Div.	<i>c_i</i> (1-g)	<i>c_i</i> (10-g)	1-g <i>u_i</i> (±%)	10-g <i>u_i</i> (±%)	<i>v_i</i>
Measurement System									
Probe Calibration (<i>k</i> =1)	E2.1	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Axial Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Hemispherical Isotropy	E.2.2	1.0	R	1.73	1	1	0.6	0.6	∞
Boundary Effect	E.2.3	4.7	R	1.73	1	1	2.7	2.7	∞
Linearity	E.2.4	1.0	R	1.73	1	1	0.6	0.6	∞
System Detection Limits	E.2.5	1.0	N	1	1	1	1.0	1.0	∞
Readout Electronics	E.2.6	0.8	R	1.73	1	1	0.5	0.5	∞
Response Time	E.2.7	2.6	R	1.73	1	1	1.5	1.5	∞
Integration Time	E.2.8	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance (corresponds to the mechanical constraints of the robot)	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning with respect to Phantom Shell	E.6.3	2.9	R	1.73	1	1	1.7	1.7	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	1.0	R	1.73	1	1	0.6	0.6	∞
Dipole									
Dipole Axis to Liquid Distance	8, E.4.2	1.0	R	1.73	1	1	0.6	0.6	∞
Input Power and SAR Drift Measurement	8, 6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty - shell thickness tolerance	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity - deviation from target values (5)	E.3.2	4.3	R	1.73	0.64	0.43	1.59	1.07	∞
Liquid Conductivity -	E.3.3	6.20	R	1.73	0.64	0.43	2.29	1.54	∞



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measurement uncertainty (6)									
Liquid Permittivity - deviation from target values (5)	E.3.2	3.7	R	1.73	0.6	0.49	1.28	1.05	∞
Liquid Permittivity - measurement uncertainty (6)	E.3.3	6.08	R	1.73	0.6	0.49	2.11	1.72	∞
Combined Standard Uncertainty			RSS				9.37	9.03	
Expanded Uncertainty (95% C.L.)							18.74	18.05	



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Table 2: Uncertainty Budget for the Device Under Test with DASY4 System

a	b	c	d	$e = f(d,k)$	f	g	$h = c \times f / e$	$i = c \times g / e$	k
Uncertainty Component	Sec.	Tol. ($\pm$ %)	Prob. Dist.	Div.	c_i (1-g)	c_i (10-g)	1-g u_i ($\pm$ %)	10-g u_i ($\pm$ %)	v_i
Measurement System									
Probe Calibration ($k=1$)	E2.1	4.8	N	1	1	1	4.8	4.8	∞
Axial Isotropy	E.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Hemispherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	1.0	N	1	1	1	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance (corresponds to the mechanical constraints of the robot)	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning with respect to Phantom Shell	E.6.3	2.9	R	1.73	1	1	1.7	1.7	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	1.0	R	1.73	1	1	0.6	0.6	∞
Test sample Related									
Test Sample Positioning	E.4.2	2.5	N	1	1	1	2.5	2.5	4
Device Holder Uncertainty	E.4.1	2.4	R	1.73	1	1	1.4	1.4	4
Output Power Variation - SAR drift measurement (4)	6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									



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Phantom Uncertainty (shape and thickness tolerances)	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity - deviation from target values (5)	E.3.2	4.3	R	1.73	0.64	0.43	1.6	1.1	∞
Liquid Conductivity - measurement uncertainty (6)	E.3.3	6.20	R	1.73	0.64	0.43	2.3	1.5	∞
Liquid Permittivity - deviation from target values (5)	E.3.2	3.7	R	1.73	0.6	0.49	1.3	1.0	∞
Liquid Permittivity - measurement uncertainty (6)	E.3.3	6.08	R	1.73	0.6	0.49	2.1	1.7	∞
Combined Standard Uncertainty			RSS				9.77	9.42	
Expanded Uncertainty (95% CONFIDENCE LEVEL)			K=2				19.53	18.84	



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Table 3a. Values for e'

Uncertainty Component	Tolerance ($\pm\%$)	Probability Distribution	Divisor	c_i	Standard Uncertainty ($\pm\%$)	v_i or v_{eff}
Repeatability (n repeats)	0.97	N	1	1	0.97	4
Network analyzer uncertainty sources	8.38	R	1.73	1	4.83	∞
Dielectric Error Sources	5.93	R	1.73	1	3.42	∞
Combined standard uncertainty					6.08	

Table 3b. Values for s

Uncertainty Component	Tolerance ($\pm\%$)	Probability Distribution	Divisor	c_i	Standard Uncertainty ($\pm\%$)	v_i or v_{eff}
Repeatability (n repeats)	1.85	N	1	1	1.85	4
Network analyzer uncertainty sources	8.38	R	1.73	1	4.83	∞
Dielectric Error Sources	5.93	R	1.73	1	3.42	∞
Combined standard uncertainty					6.20	

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Appendix 6

Photographs of the Device Under Test



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a. Front open



b. Back open



c. Side open

View of Device (Open)



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a. Front



b. Back

View of Device (Closed)



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View of Hands-free Accessory

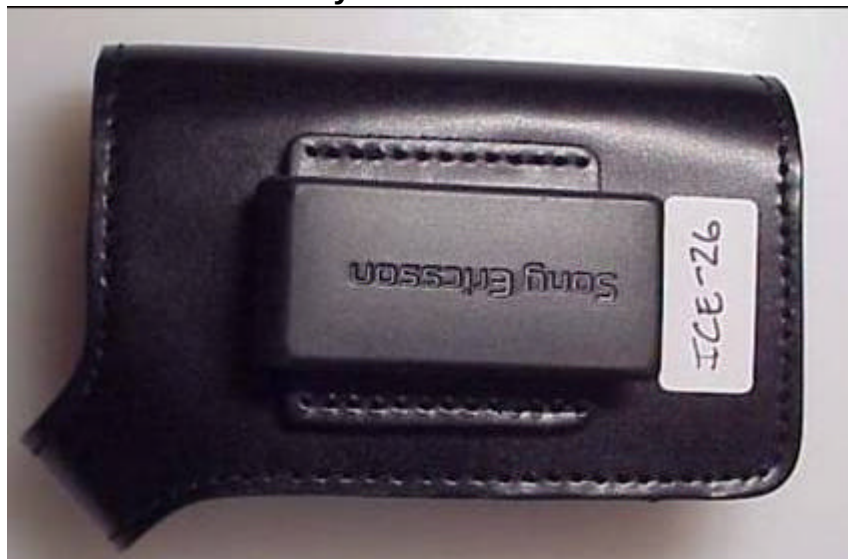


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ICE-26 Carry Case Front View



ICE-26 Carry Case Back View



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Position of device against head phantom using the “cheek” position



Position of device against head phantom using the “tilt” position



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Position of device against body phantom with ICE26 in front position.



Position of device against body phantom with ICE26 in back position.