

- **Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- **Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- **SAR measured:** SAR measured at the stated antenna input power.
- **SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- **SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

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



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- DASY4 System Handbook

Methods Applied and Interpretation of Parameters:

- **Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- **Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- **Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- **Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- **SAR measured:** SAR measured at the stated antenna input power.
- **SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- **SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	900 MHz \pm 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.97 mho/m
Measured Head TSL parameters	(22.0 \pm 0.2) °C	39.5 \pm 6 %	0.94 mho/m \pm 6 %
Head TSL temperature during test	(21.3 \pm 0.2) °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.74 mW / g
SAR normalized	normalized to 1W	11.0 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	10.9 mW / g \pm 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.76 mW / g
SAR normalized	normalized to 1W	7.04 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	6.96 mW / g \pm 16.5 % (k=2)

¹ Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix**Antenna Parameters with Head TSL**

Impedance, transformed to feed point	50.4 Ω - 7.0 j Ω
Return Loss	- 23.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.411 ns
----------------------------------	----------

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

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.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	July 04, 2001

DASY4 Validation Report for Head TSL

Date/Time: 07.11.2007 15:30:39

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:122

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

Medium: HSL 900 MHz;

Medium parameters used: $f = 900 \text{ MHz}$; $\sigma = 0.939 \text{ mho/m}$; $\epsilon_r = 39.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(5.93, 5.93, 5.93); Calibrated: 26.10.2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.01.2007
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

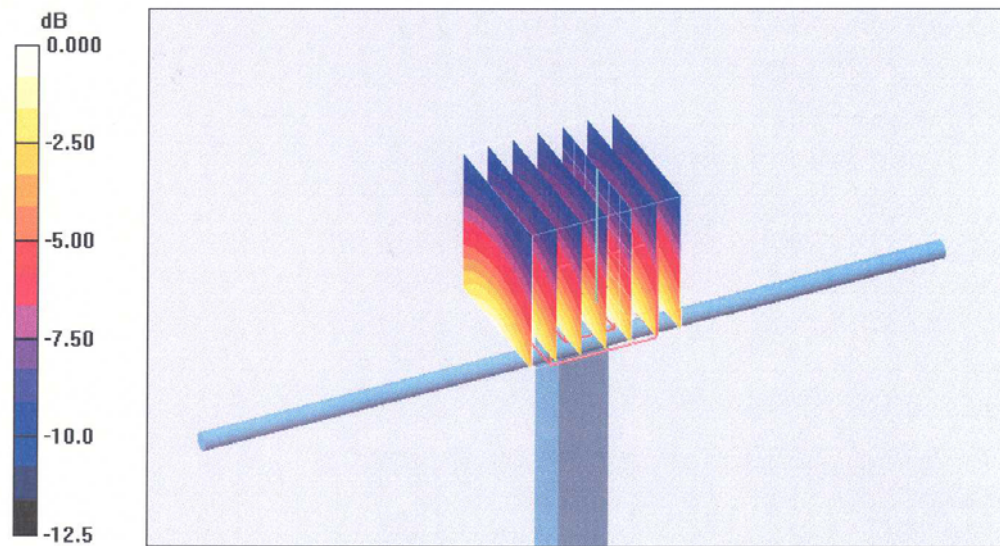
Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 58.1 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 4.08 W/kg

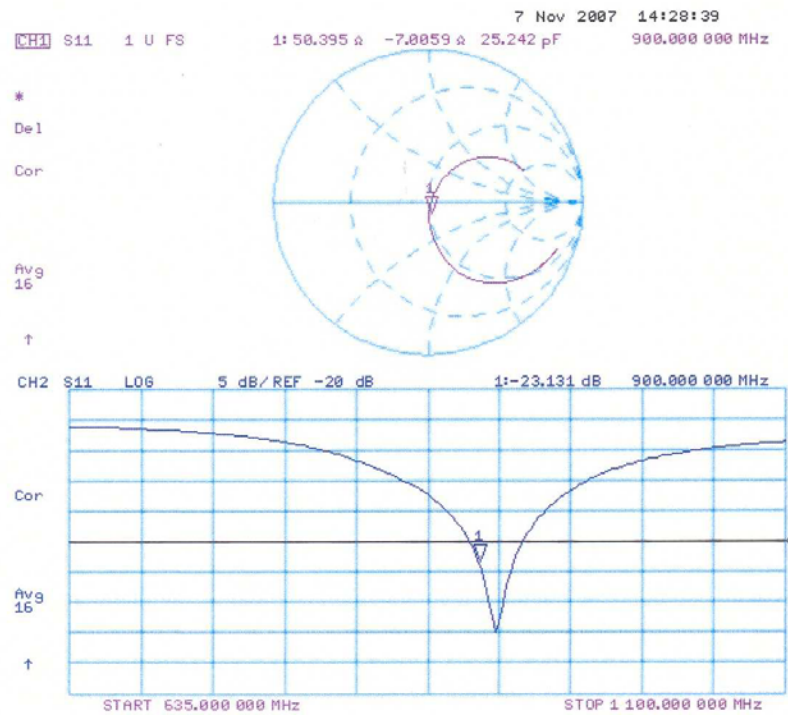
SAR(1 g) = 2.74 mW/g; SAR(10 g) = 1.76 mW/g

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



0 dB = 2.95mW/g

Impedance Measurement Plot for Head TSL



APPENDIX D - TEST SYSTEM VERIFICATIONS SCANS

Liquid Measurement Result

Testing was performed by Victor Zhang on 2008-2-29

Simulant	Freq [MHz]	Parameters	Liquid Temp [°C]	Target Value	Measured Value	Deviation [%]	Limits [%]
Head	835	ϵ_r	22	41.5	41.5	0	± 5
		σ	22	0.90	0.89	- 1.11	± 5
		1g SAR	22	9.5	10.8	1.37	± 10

Test Laboratory: Bay Area Compliance Laboratories Corp. (BACL)

System Performance Check D835 Head

Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN: 122

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 41.5$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.82, 6.82, 6.82); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

d=15mm, Pin=0.5W/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 5.72 mW/g

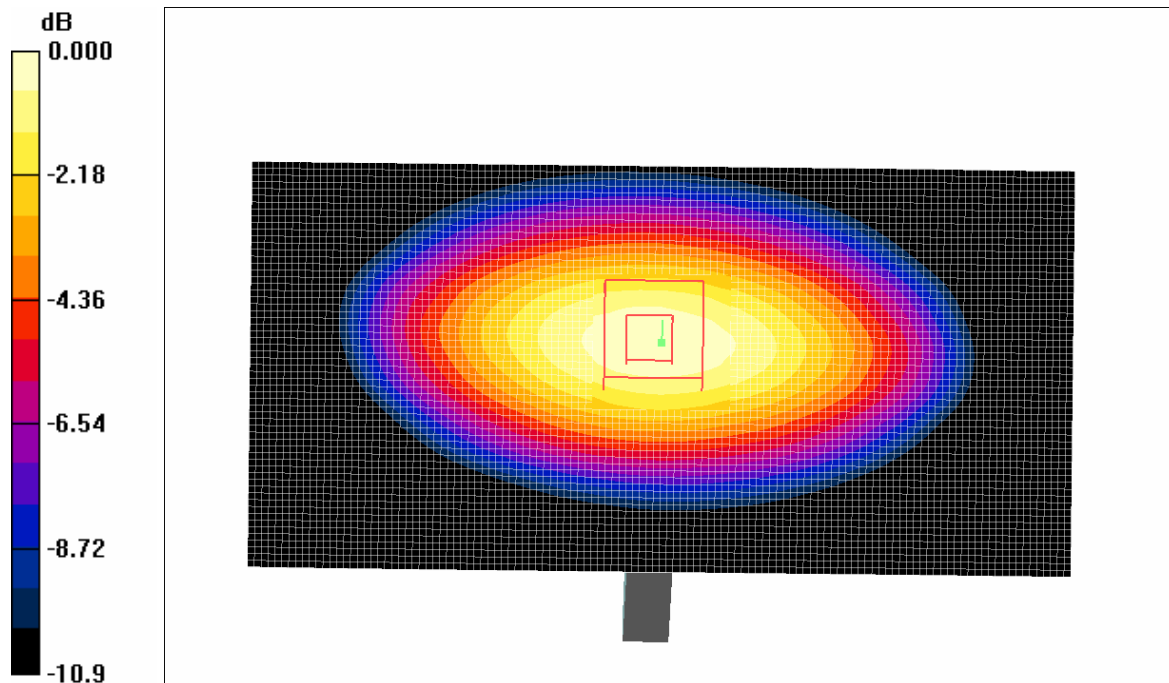
d=15mm, Pin=0.5W/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.5 V/m; Power Drift = -0.0259 dB

Peak SAR (extrapolated) = 8.03 W/kg

SAR(1 g) = 5.4 mW/g; SAR(10 g) = 3.5 mW/g

Maximum value of SAR (measured) = 5.87 mW/g



0 dB = 5.87 mW/g

APPENDIX E - EUT SCANS

Test Laboratory: Bay Area Compliance Lab Corp. (BACL)

1.5 cm Separation to the Flat Phantom with Headset (Middle Channel)

Hangzhou Newsky Technology; Type: CDMA Mobile Phone; Serial: 00000007

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 55.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.47, 6.47, 6.47); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

1.5 cm separation to the flat phantom with headset 2/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.680 mW/g

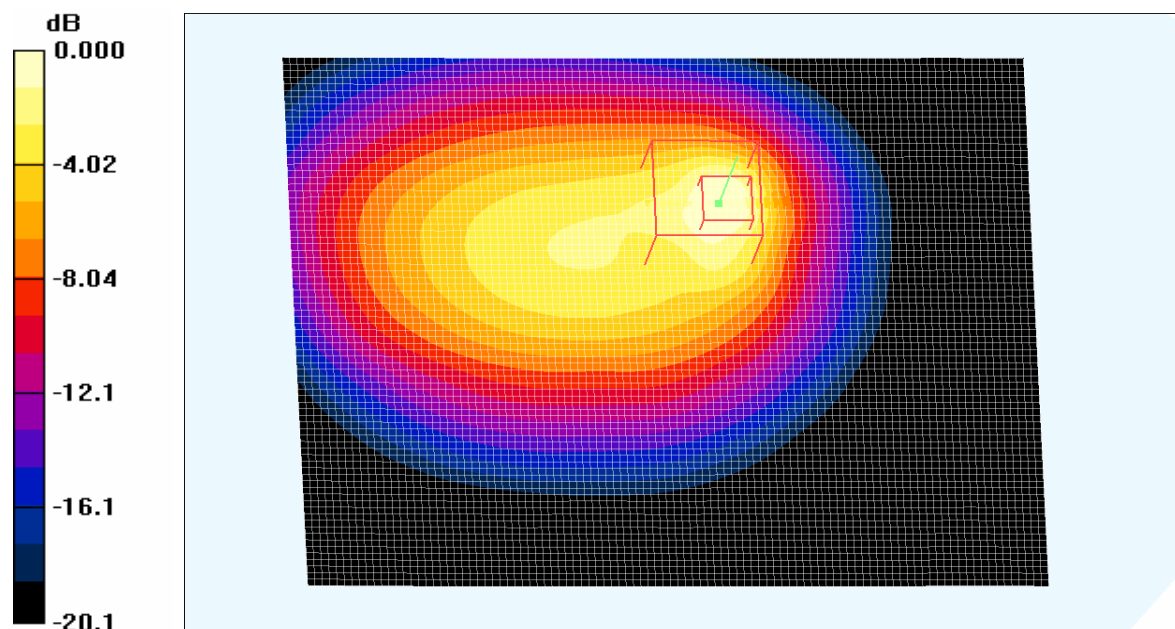
1.5 cm separation to the flat phantom with headset 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.2 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 0.658 W/kg

SAR (1 g) = 0.541 mW/g; SAR (10 g) = 0.230 mW/g

Maximum value of SAR (measured) = 0.589 mW/g



Plot # 1

Test Laboratory: Bay Area Compliance Laboratories Corp. (BACL)

Left Head Cheek (Middle Channel)

Hangzhou Newsky Technology; Type: CDMA Mobile Phone; Serial: 00000007

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 41.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.82, 6.82, 6.82); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

Left Head Cheek/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.120 mW/g

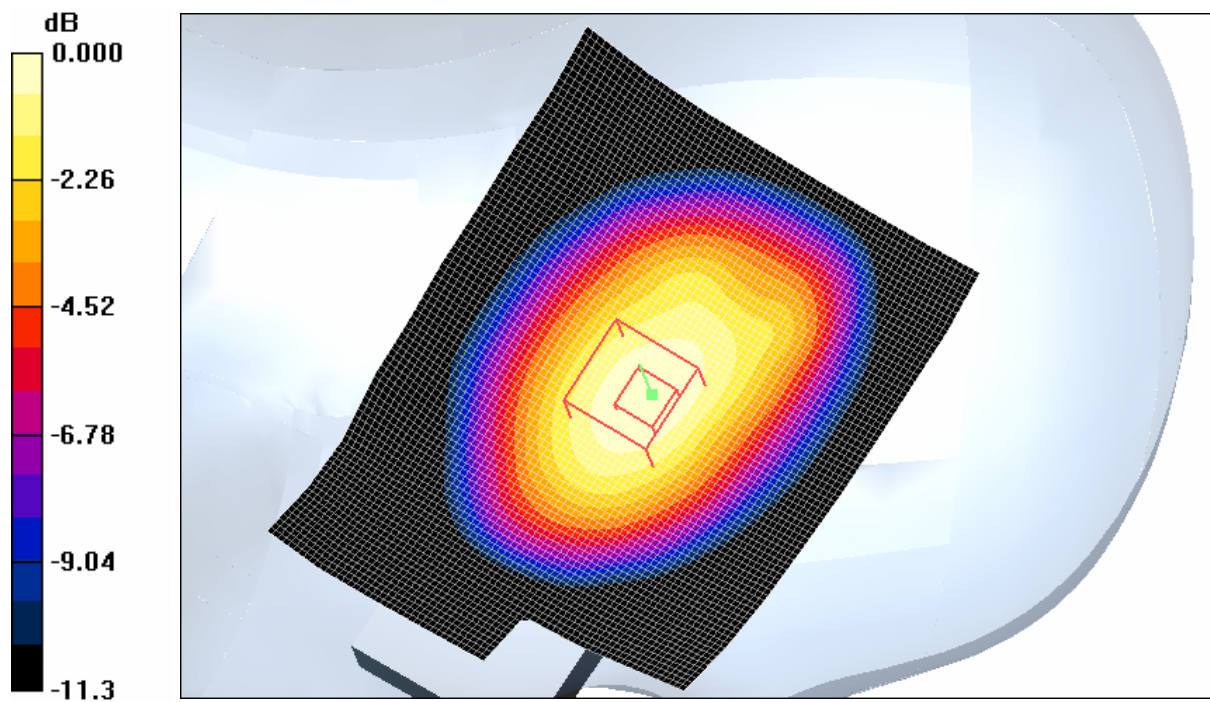
Left Head Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.86 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 0.153 W/kg

SAR (1 g) = 0.111 mW/g; SAR (10 g) = 0.076 mW/g

Maximum value of SAR (measured) = 0.120 mW/g

**Plot #2**

Test Laboratory: Bay Area Compliance Laboratories Corp. (BACL)

Left Head Tilt (Middle Channel)

Hangzhou Newsky Technology; Type: CDMA Mobile Phone; Serial: 00000007

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 41.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.82, 6.82, 6.82); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

Left Head Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.049 mW/g

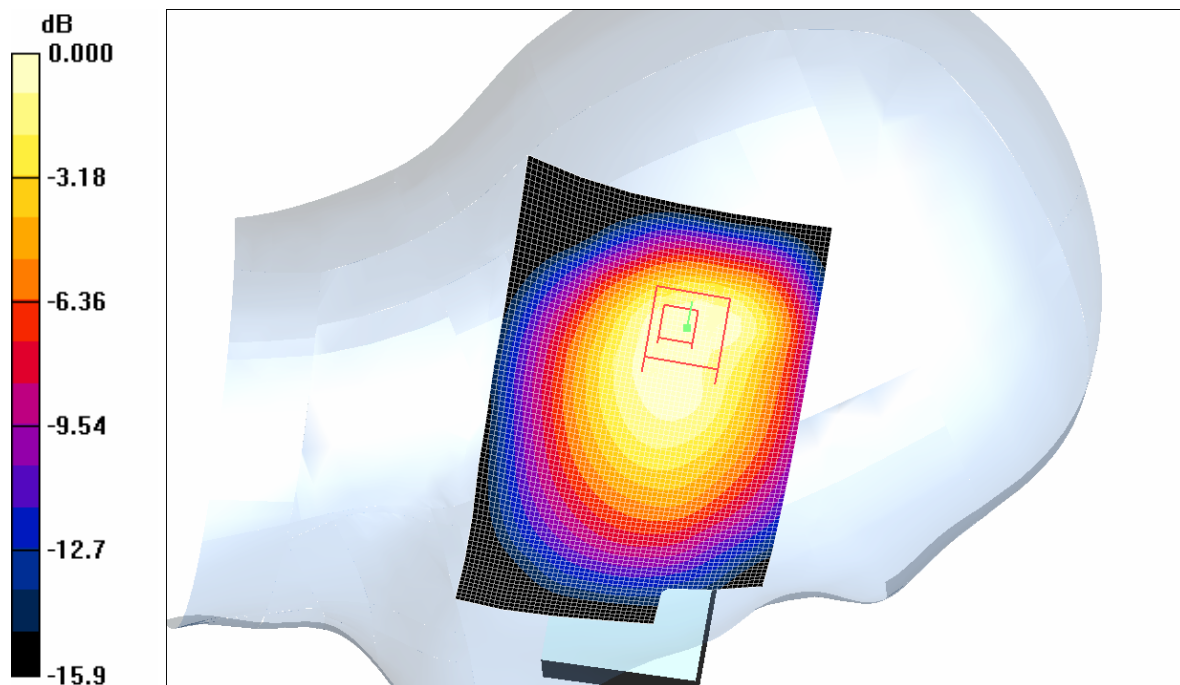
Left Head Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.32 V/m; Power Drift = -0.0137 dB

Peak SAR (extrapolated) = 0.115 W/kg

SAR (1 g) = 0.091 mW/g; SAR (10 g) = 0.055 mW/g

Maximum value of SAR (measured) = 0.105 mW/g

**Plot #3**

Test Laboratory: Bay Area Compliance Laboratories Corp. (BACL)

Right Head Cheek (Middle Channel)

Hangzhou Newsky Technology; Type: CDMA Mobile Phone; Serial: 00000007

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 41.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.82, 6.82, 6.82); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

Right Head Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.060 mW/g

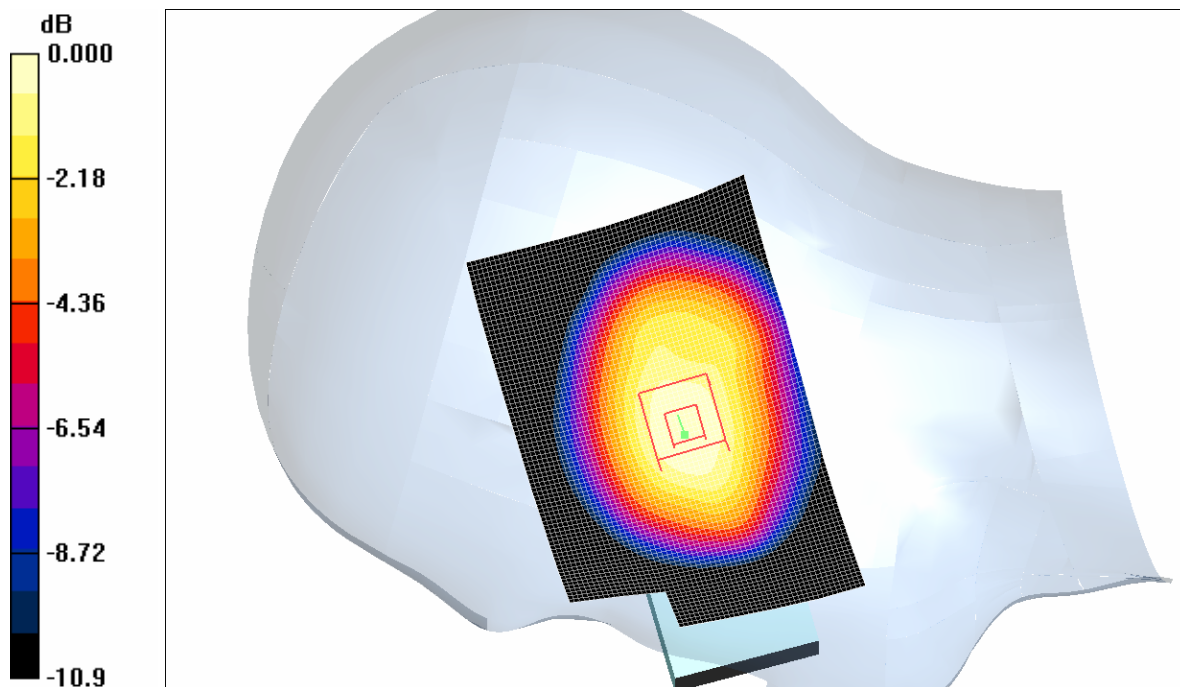
Right Head Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.96 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 0.118 W/kg

SAR (1 g) = 0.095 mW/g; SAR (10 g) = 0.067 mW/g

Maximum value of SAR (measured) = 0.108 mW/g

**Plot #4**

Test Laboratory: Bay Area Compliance Laboratories Corp. (BACL)

Right Head Tilt (Middle Channel)

Hangzhou Newsky Technology; Type: CDMA Mobile Phone; Serial: 00000007

Communication System: CDMA 835; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.52$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 41.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1604; ConvF(6.82, 6.82, 6.82); Calibrated: 8/28/2007
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn456; Calibrated: 11/8/2007
- Phantom: SAM with CRP; Type: Twin SAM; Serial: TP-1032
- Measurement SW: DASY4, V4.6 Build 23; Post processing SW: SEMCAD, V1.8 Build 161

Right Head Tilt/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.038 mW/g

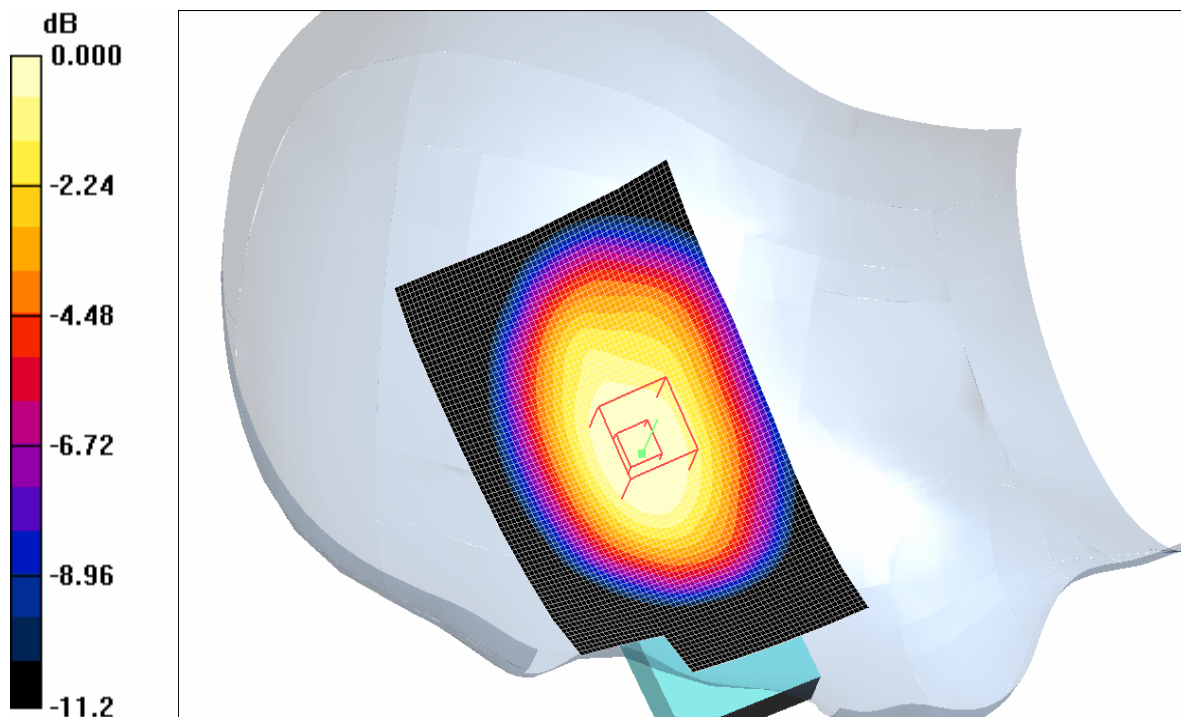
Right Head Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.52 V/m; Power Drift = -0.0256 dB

Peak SAR (extrapolated) = 0.106 W/kg

SAR (1 g) = 0.077 mW/g; SAR (10 g) = 0.053 mW/g

Maximum value of SAR (measured) = 0.083 mW/g



0 dB = 0.083mW/g

Plot #5

APPENDIX F – CONDUCTED OUTPUT POWER MEASUREMENT

Provision Applicable

The measured peak output power should be greater and within 5% than EMI measurement.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

Test equipment

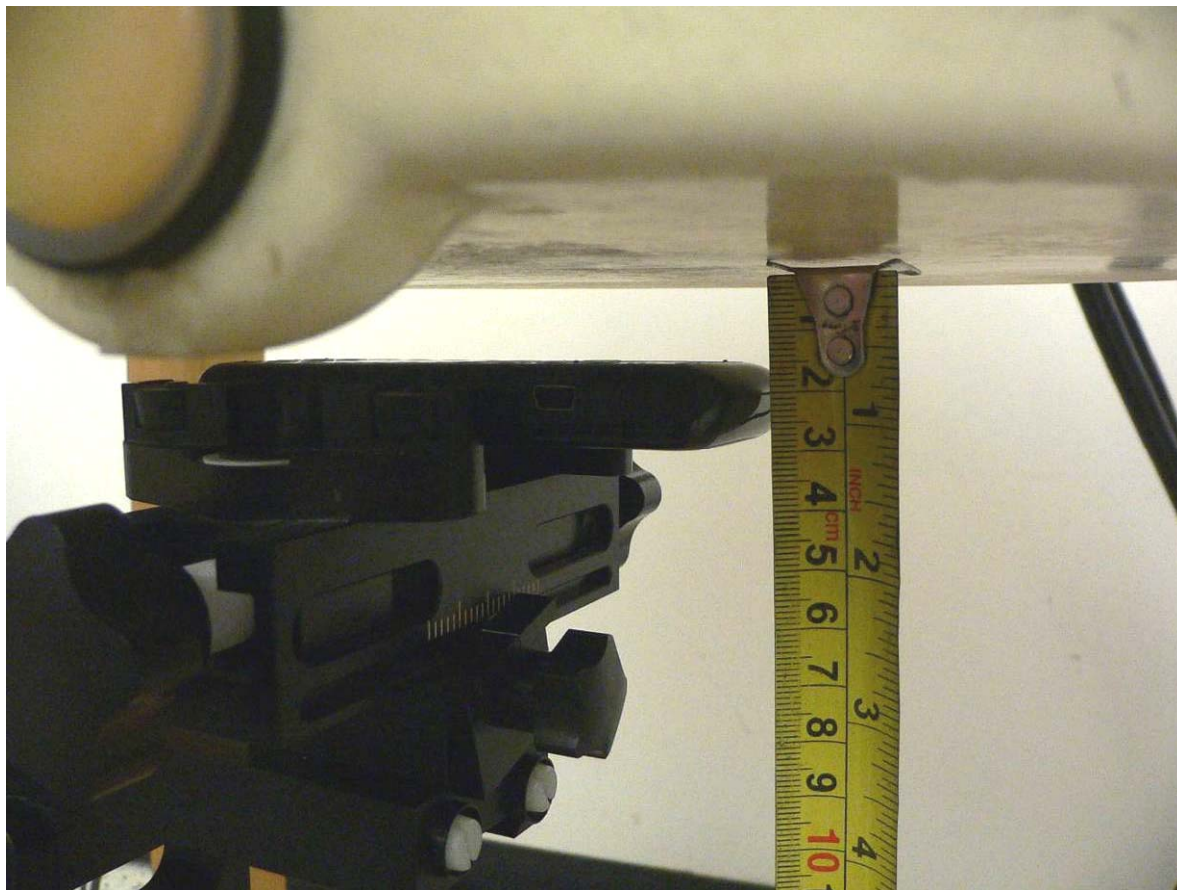
Manufacturer	Description	Model No.	Serial No.	Calibration Date
Agilent	Analyzer, Spectrum	E4446A	US44300386	2007-04-26

Test Results

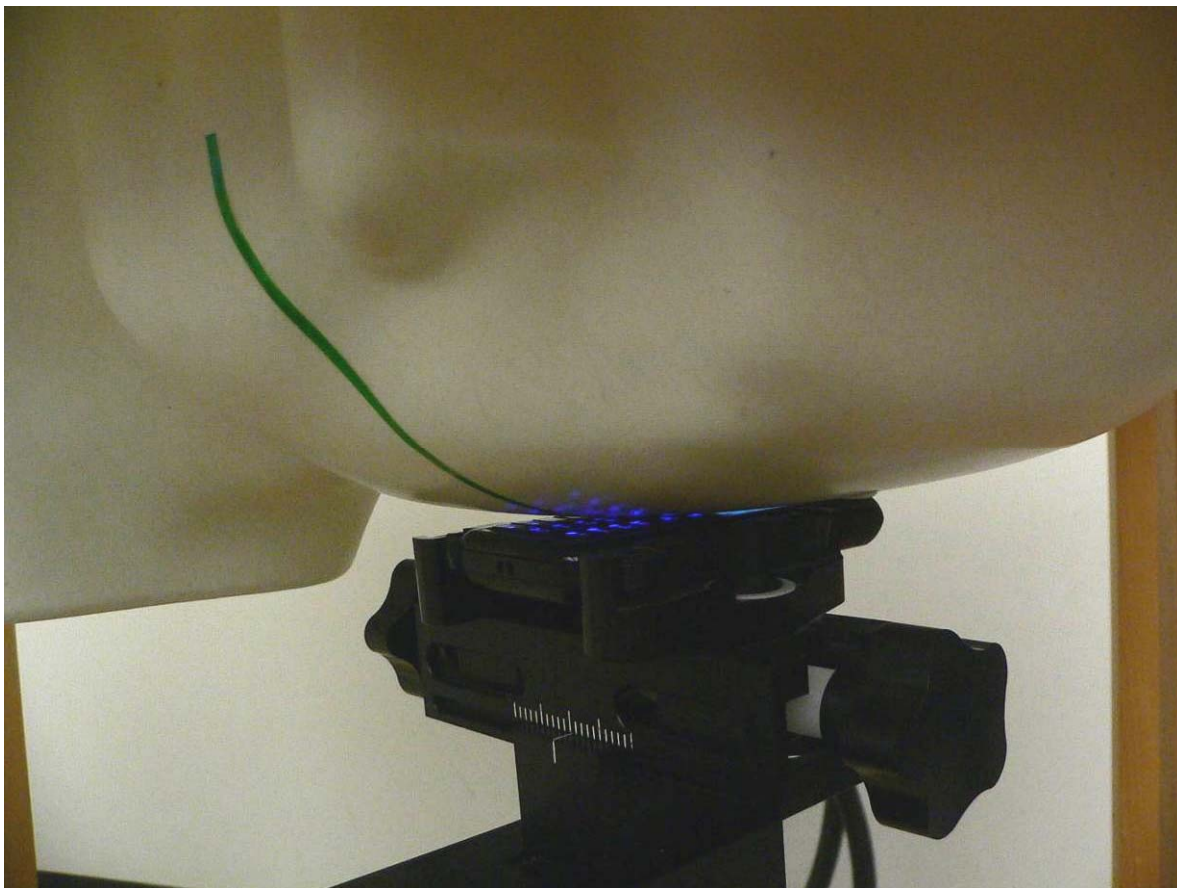
Channel No.	Frequency (MHz)	Measured Output Power	
		(dBm)	(mW)
1013	824.70	23.60	229.1
384	836.52	23.54	225.9
777	848.30	23.39	218.2

APPENDIX G – EUT TEST POSITION PHOTOS

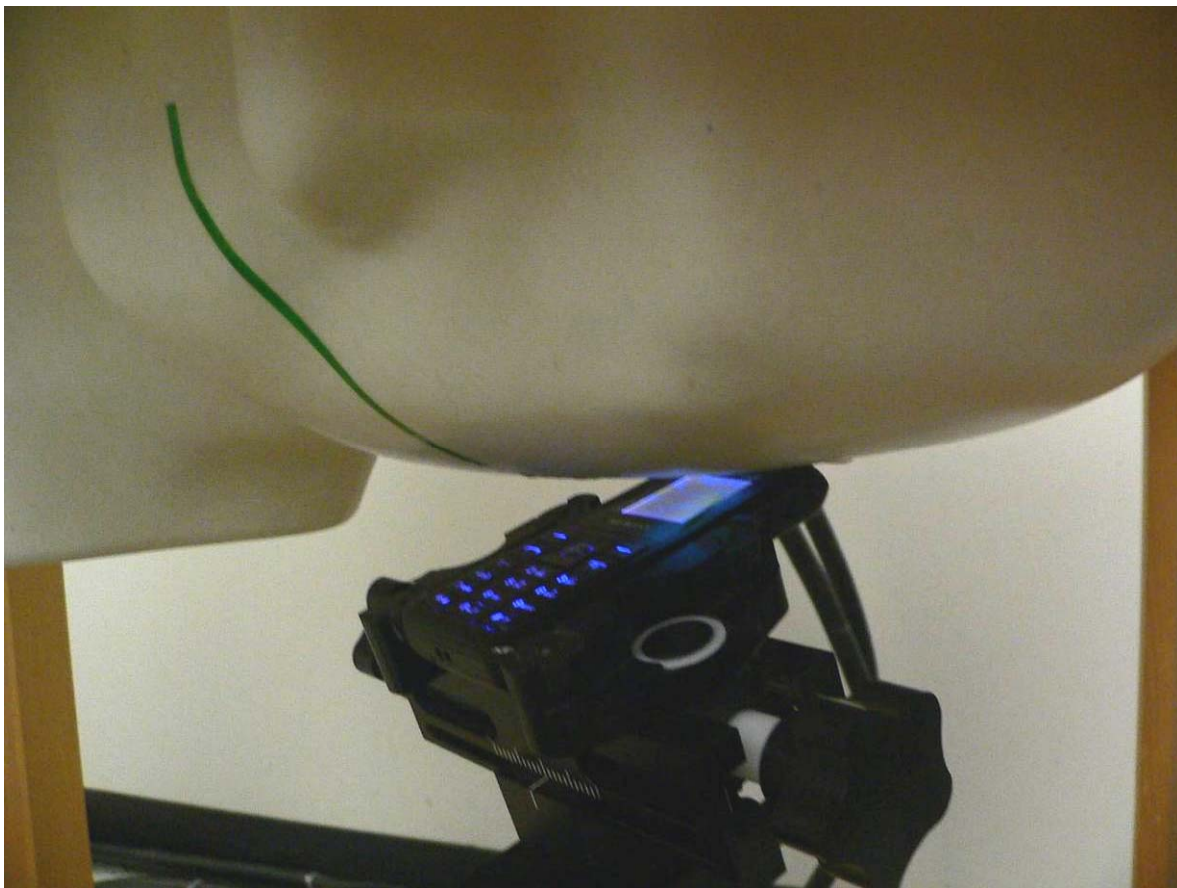
EUT 1.5 cm separation to the flat phantom with



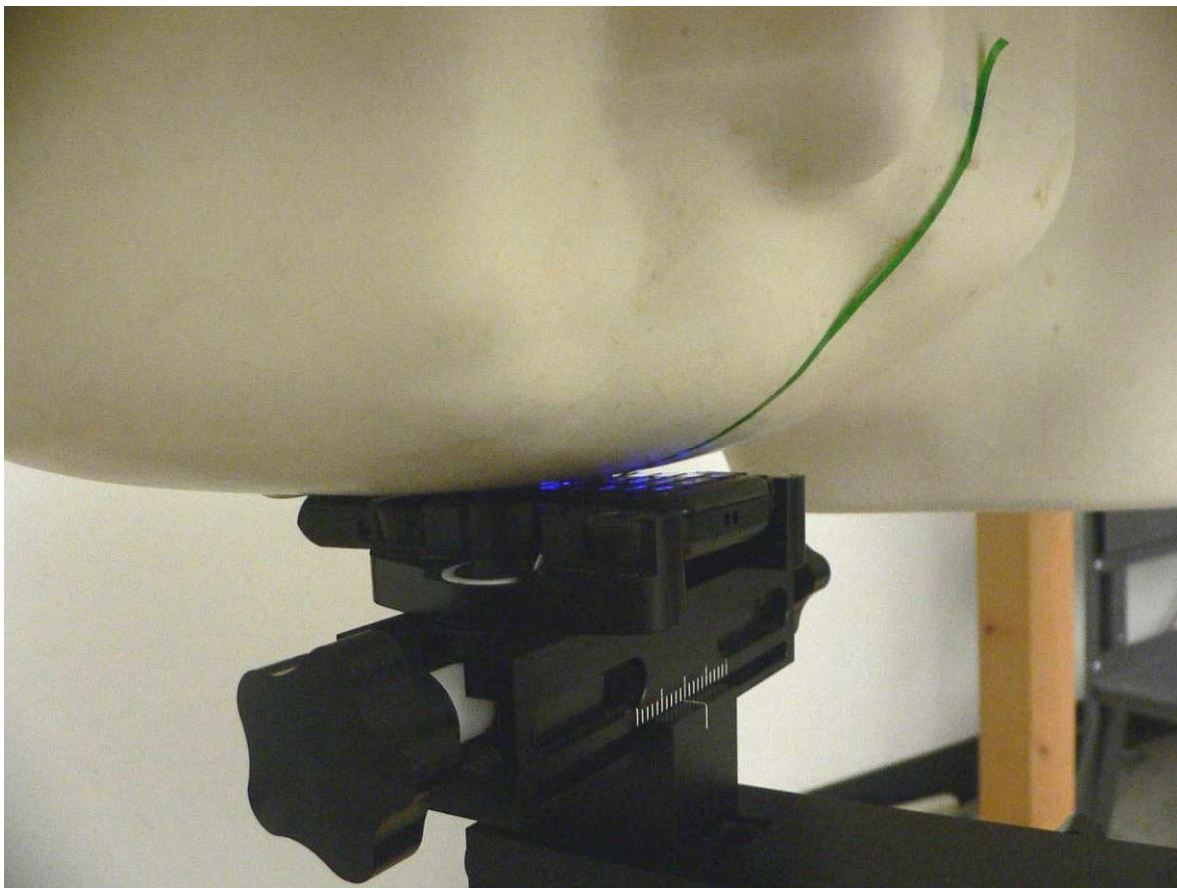
EUT Left Head Cheek



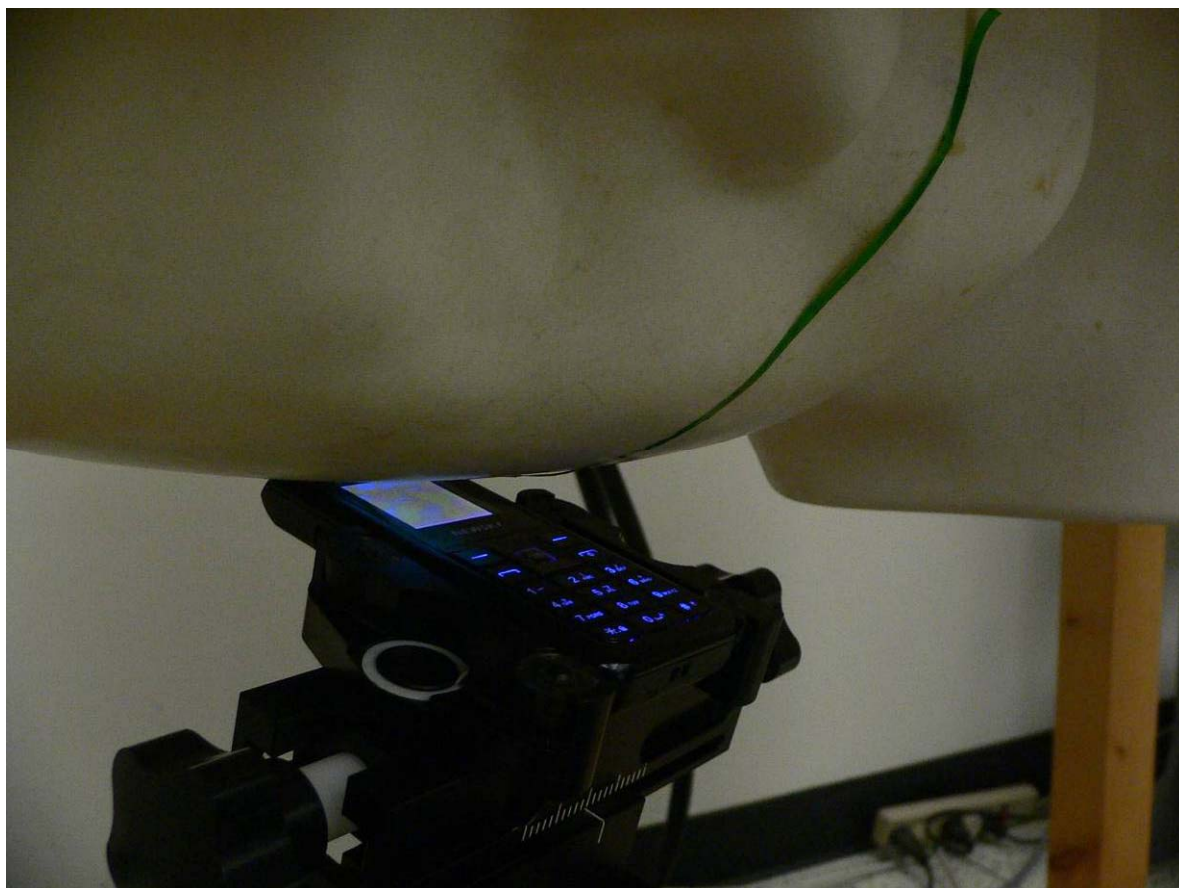
EUT Left Head Tilt



EUT Right Head Cheek

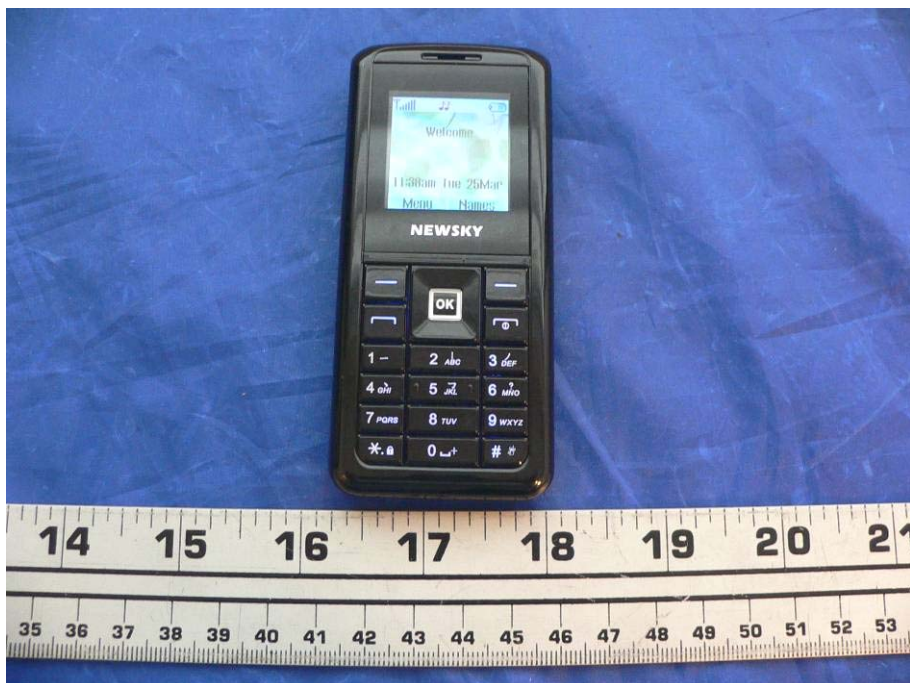


EUT Right Head Tilt



APPENDIX H- EUT PHOTO

EUT – Front View



EUT – Back View**EUT – Battery View**

APPENDIX I - INFORMATIVE REFERENCES

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***** END OF REPORT *****