Intertek Testing Services
ETL SEMKO

Specific Absorption Rate (SAR) Test Report

For

Telson Electronics USA, Inc.

On the

Dual Band Tri-mode CDMA Handset
Model Number: TDC-8200
FCC ID: MC6TDC8200

Test Report: 30414481
Date of Report: April 28, 2003
Revised: May 14, 2003

Job #: 3041448
Date of Test: April 14 to 23, 2003

A2LA Certificate Number: 1755-01

Tested by:	Suresh Kondapalli
Reviewed by: David Chernomordik	David Chernomordik, Ph.D., EMC Technical Manager

Review Date: 5/15/03

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STATEMENT OF COMPLIANCE

The Dual Band Tri-mode CDMA Handset, FCC ID: MC6TDC8200 was evaluated for SAR in accordance with the requirements for RF Exposure compliance testing defined in FCC OET Bulletin 65, Supplement C (Edition 01-01). Testing was performed at the Intertek Testing Services facility in Menlo Park, California.

For the evaluation, the dosimetric assessment system DASY3 was used. The phantom employed was the "SAM Twin Phantom". The total uncertainty for the evaluation of the spatial peak SAR values averaged over a cube of 1g tissue mass had been assessed for this system to be ±27.8%.

The device was tested at its maximum output power declared by the Telson Electronics USA, Inc.

In summary, the maximum spatial peak SAR value for the sample device averaged over 1g was found to be:

Mode	Position	Frequency	SAR_{1g}, mW/g
AMPS	Right Hand Touch	824.04	1.28
AMPS	1.5 cm from Phantom	824.04	0.639

In conclusion, the tested sample device was found to be in compliance with the requirements defined in OET Bulletin 65, Supplement C (Edition 01-01) for held to ear and body-worn configurations.

1.0 JOB DESCRIPTION

1.1 Client Information

The TDC-8200 has been tested at the request of:

Company: Telson Electronics USA, Inc.
910 Sylvan Avenue, Suite 180
Englewood Cliffs, NJ 07632
USA

Name of contact: Mr. Young Kim
Telephone: 201/541-4005 ext. 120
Fax: 201/541-0057

1.2 Equipment under test (EUT)

Product Descriptions:

Equipment	Dual Band Tri-mode CDMA Handset		
Trade Name	Telson Electronics	P/N.	TDC-8200
FCC ID	MC6TDC8200	S/N No.	Not Labeled
Category	Portable	RF Exposure	Uncontrolled Environment
Frequency Band	824 – 849 MHz 1850 - 1910 MHz	System	AMPS/CDMA

EUT Antenna Description			
Type	Monopole	Configuration	Fixed
Dimensions	22.1 mm	Gain	Max 2.0dBi
Location	Right Side		

Use of Product: **The TDC-8200 is a dual band, tri-mode CDMA handset which operates in 800 MHz and 1900 MHs bands, provides 3 different modes (AMPS cellular, CDMA cellular, CDMA PCS), additionally supports GPS mode.**

Manufacturer: Telson Electronics Co., Ltd..

Production is planned: Yes

EUT receive date: April 14, 2003

EUT received condition: Good working condition prototype, identical to the production units.

Test start date: April 14, 2003

Test end date: April 17, 2003

1.3 Test Plan Reference

FCC Rule: Part 2.1093, FCC's OET Bulletin 65, Supplement C (Edition 01-01)

1.4 System Test Configuration

1.4.1 System Block Diagram & Support equipment

The diagram shown below details test configuration of the EUT.

No Support Equipment was used. The test sample was operated in a test mode that allows control of the transmitter without the need to place actual phone calls. For the purposes of this test the device is commanded to test mode and manually set to the proper channel, transmitter power levels and transmit mode of operation. The device was then placed in the SAR Measurement System with a fully charged battery.

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1.4.2 Test Position for Brain

The TDC-8200 was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in C95.1 (1992) and Supplement C of OET 65 (2001). The TDC-8200 was placed against the head phantom in 2 test positions as detailed in Figures 1 and 2 below.

Test Configuration for SAR

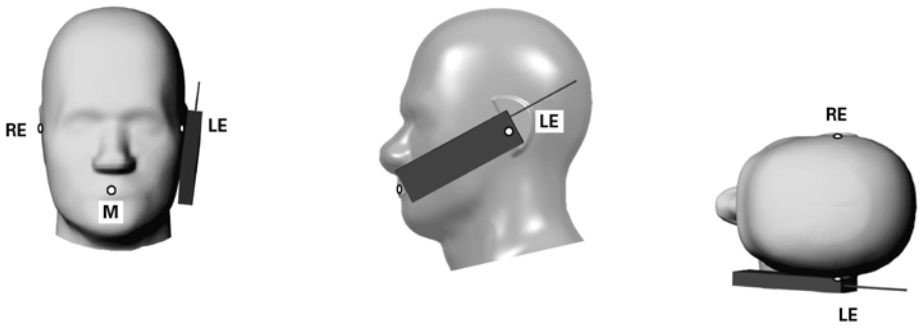

Figure 1 – Phone position 1, "cheek" or "touch" position. The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning, are indicated.

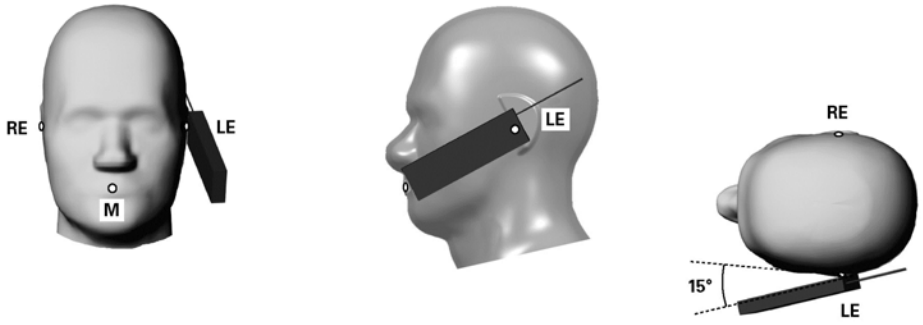

Figure 2 – Phone position 2, "tilted" position. The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning, are indicated.

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The positioning procedure is described below.

The EUT was positioned in a normal operating position with the "test device reference point" located along the "vertical centerline" on the front of the device aligned to the "ear reference point". The "test device reference point" is located at the same level as the center of the earpiece region. The "vertical centerline" is bisecting the front surface of the handset at its top and bottom edges. A "ear reference point" is located on the outer surface of the head phantom on each ear spacer. It is located 1.5 cm above the center of the ear canal entrance in the "phantom reference plane" defined by the three lines joining the center of each "ear reference point" (left and right) and the tip of the mouth.

The EUT is initially positioned with the earpiece region pressed against the ear spacer of a head phantom in "initial ear position". The "test device reference point" was aligned to the "ear reference point" on the head phantom and the "vertical centerline" was aligned to the "phantom reference plane". While maintaining these three alignments, the body of the handset is gradually adjusted to each of the following positions for evaluating SAR:

1. "Cheek/Touch Position" – the device is brought toward the mouth of the head phantom by pivoting against the "ear reference point". This test position is established:

i) When any point on the display, keypad or mouthpiece portions of the handset is in contact with the phantom.

Or

ii) When any portion of a foldout, sliding or similar keypad cover opened to its intended self-adjusting normal use position is in contact with the cheek or mouth of the phantom.

2. "Ear/Tilt Position" – With the handset aligned in the "Cheek/Touch Position":

i) If the earpiece of the handset is not in full contact with the phantom's ear spacer (in the "Cheek/Touch position") and the peak SAR location for the "Cheek/Touch" position is located at the ear spacer region or corresponds to the earpiece region of the handset, the device is returned to the "initial ear position" by rotating it away from the mouth until the earpiece is in full contact with the ear spacer.

Otherwise

ii) The handset is moved (translated) away from the cheek perpendicular to the line passes through both "ear reference points" for approximate 2-3 cm. While it is in this position, the handset is tilted away from the mouth with respect to the "test device reference point" by 15°. After the tilt, it is then moved (translated) back toward the head perpendicular to the line passes through both "ear reference points" until the device touches the phantom or the ear spacer. If the antenna touches the head first, the positioning process is repeated with a tilt angle less than 15° so that the device and its antenna would touch the phantom simultaneously.

1.4.3 Test Position for Muscle

The TDC-8200 was placed against the flat phantom in the test position as detailed in Figure 3 below. As the belt clip and holster were not supplied with the device, the TDC-8200 was positioned 15 mm from phantom.

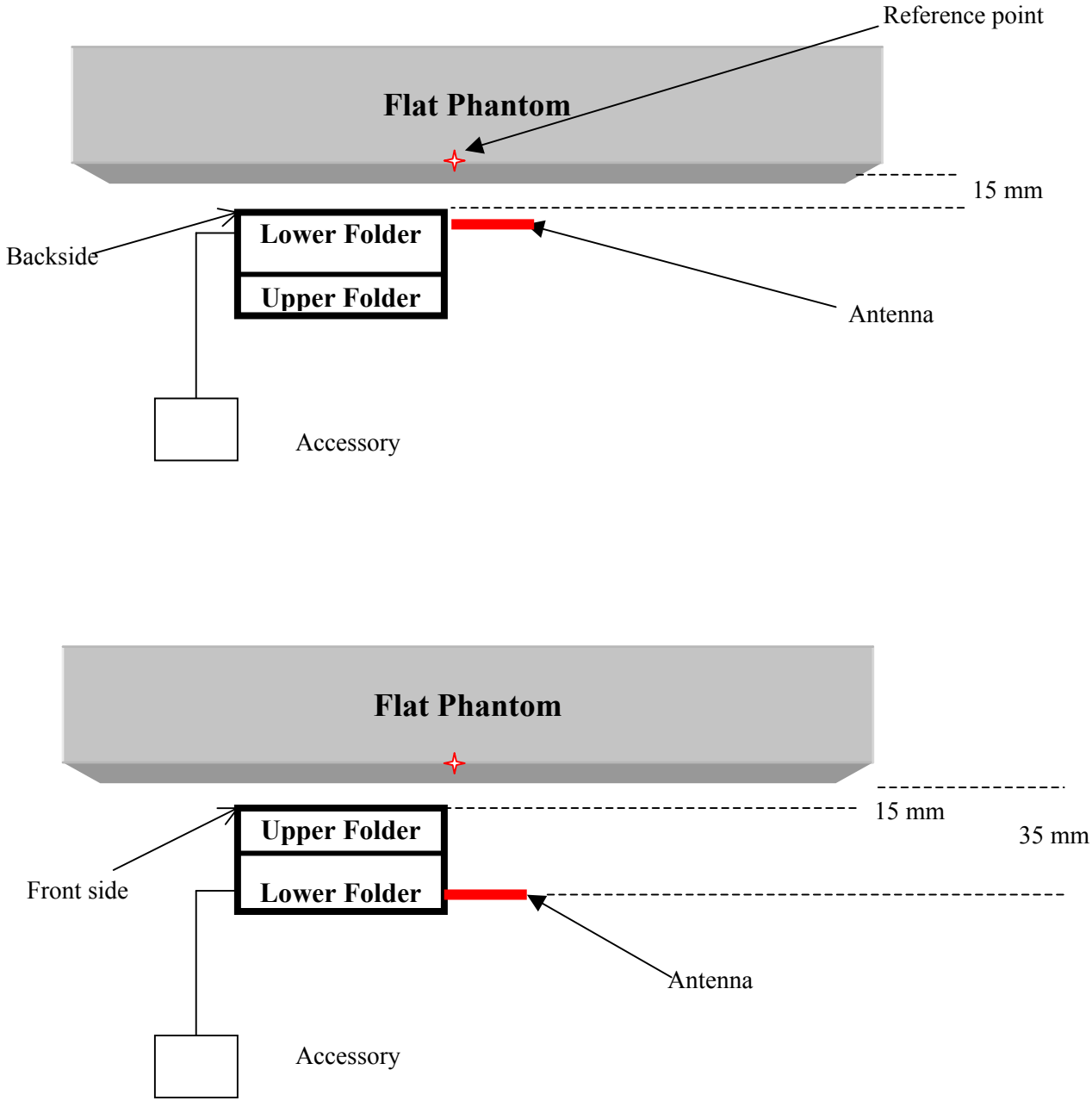


Figure 3 – Intended use position for Muscle SAR (Body-worn)

1.4.4 Test Condition

During tests, the worst case data (max. RF coupling) was determined with following conditions:

EUT Antenna	Fixed length	**Orientation**	On the top
Usage	Right hand, Left hand and body-worn.	**Distance between antenna and the phantom surface:**	Left Side: 36.0 mm, tilt position 25.0 mm, check position
			Right Side: 36.0 mm, tilt position 25.0 mm, check position
			15 mm, body worn position
Simulating human Body/hand	Body	**EUT Battery**	LI-ION battery

Conducted Peak Output Power	**AMPS Mode**		**CDMA Mode**		**PCS (CDMA) Mode**	
	Frequency MHz (AMPS)	**Output Power dBm**	**Frequency MHz**	**Output Power dBm**	**Frequency MHz**	**Output Power dBm**
	824.04	27.1	824.04	25.3	1851.25	24.8
	836.52	27.1	836.52	25.3	1880.00	24.7
	848.97	27.1	848.31	25.4	1908.25	24.7

The spatial peak SAR values were accessed for lowest, middle and highest operating channels defined by the manufacturer.

Antenna port power measurement was performed, with the HP 8900D power meter, before and after the SAR tests to ensure that the TDC-8200 operated at the highest power level.

1.5 Modifications required for compliance

Intertek Testing Services implemented no modifications.

1.6 Additions, deviations and exclusions from standards

No additions, deviations or exclusions have been made from standard.

2.0 SAR EVALUATION

2.1 SAR Limits

The following FCC limits for SAR apply to devices operate in General Population/Uncontrolled Exposure environment:

EXPOSURE (General Population/Uncontrolled Exposure environment)	**SAR (W/kg)**
Average over the whole body	0.08
Spatial Peak (1g)	1.60
Spatial Peak for hands, wrists, feet and ankles (10g)	4.00

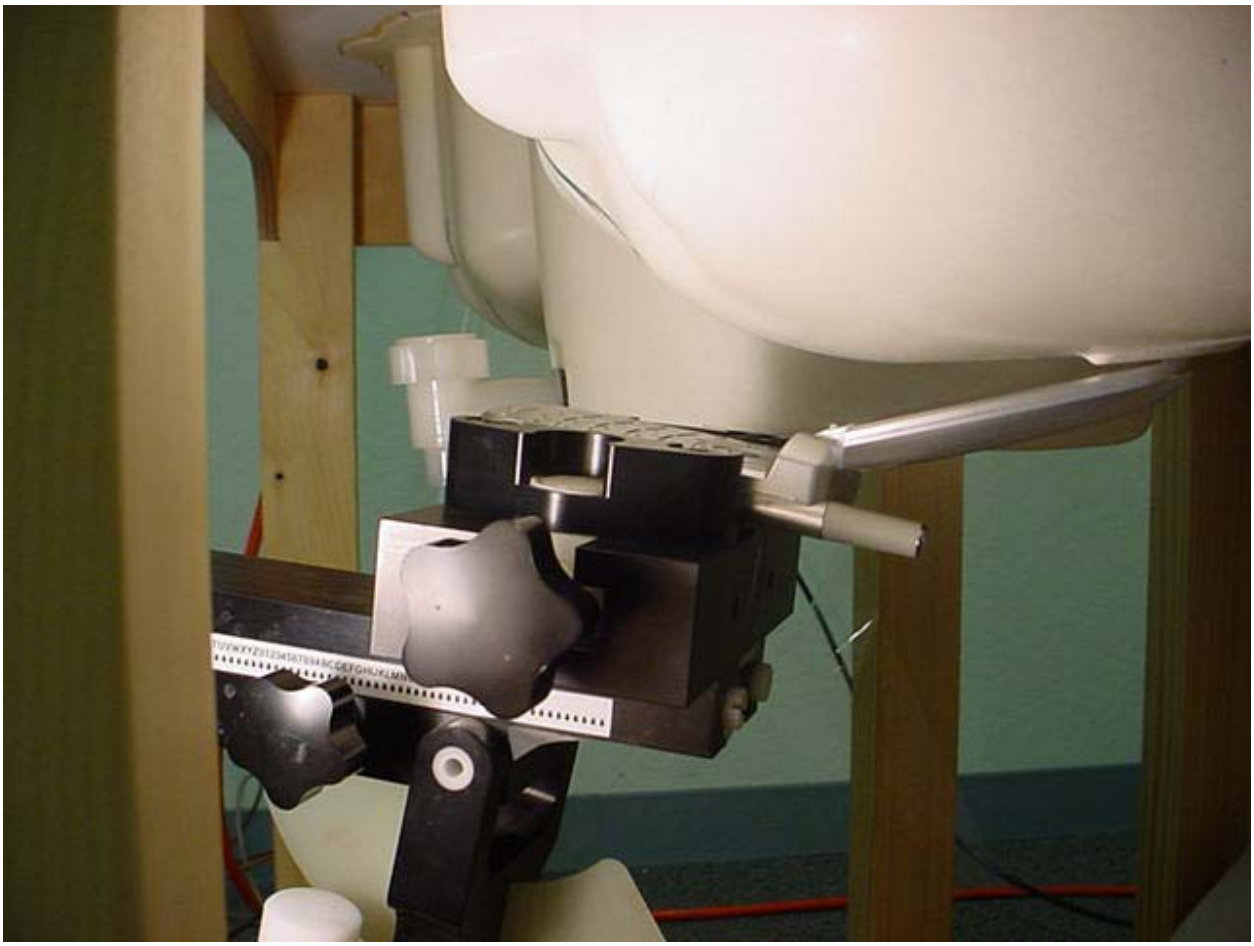
2.2 Configuration Photographs

SAR Measurement Test Setup

Left Touch

SAR Measurement Test Setup

Left Tilt



2.2 Configuration Photographs (Continued)

SAR Measurement Test Setup

Right Touch

2.2 Configuration Photographs (Continued)

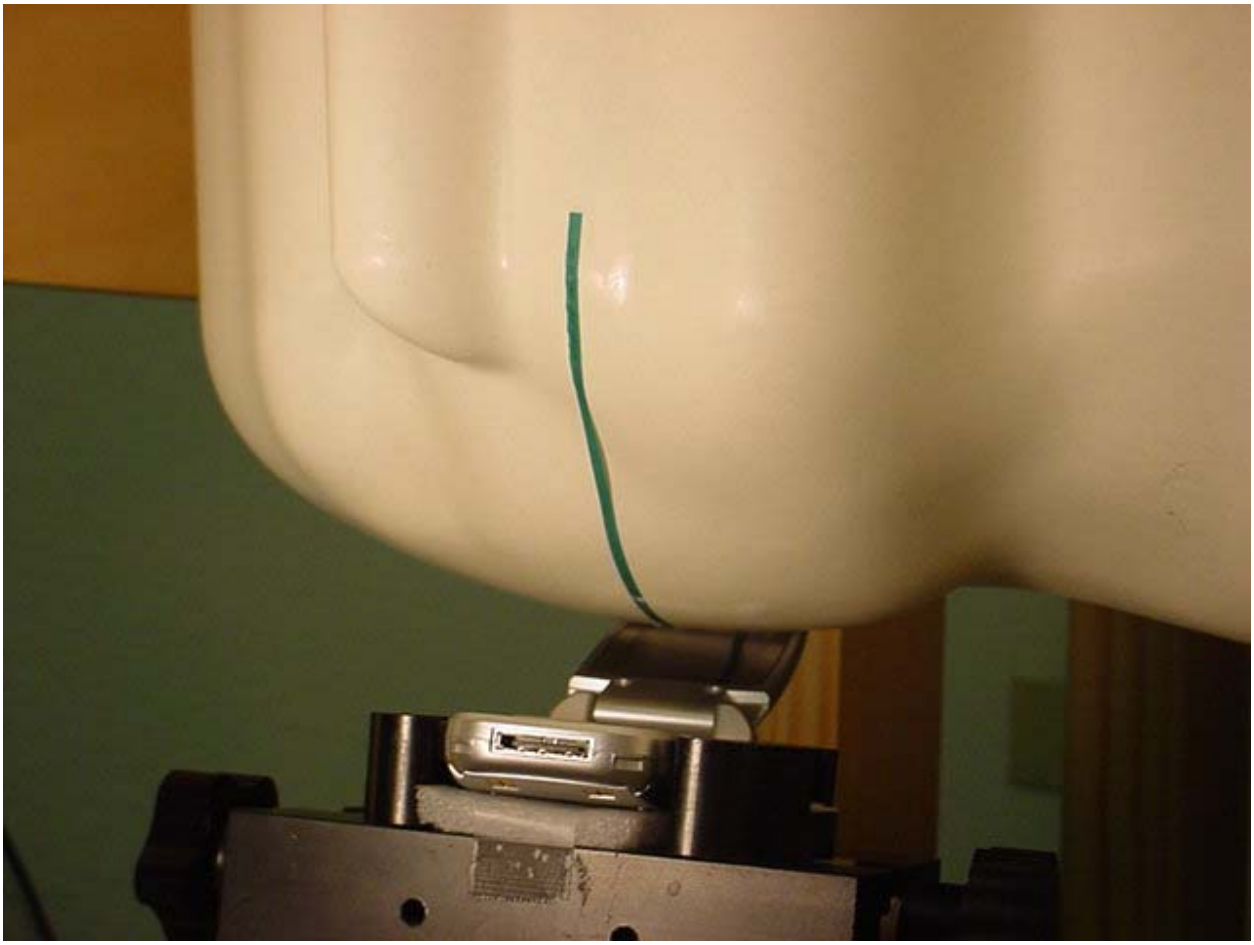
SAR Measurement Test Setup

Right Tilt

2.2 Configuration Photographs (Continued)

SAR Measurement Test Setup

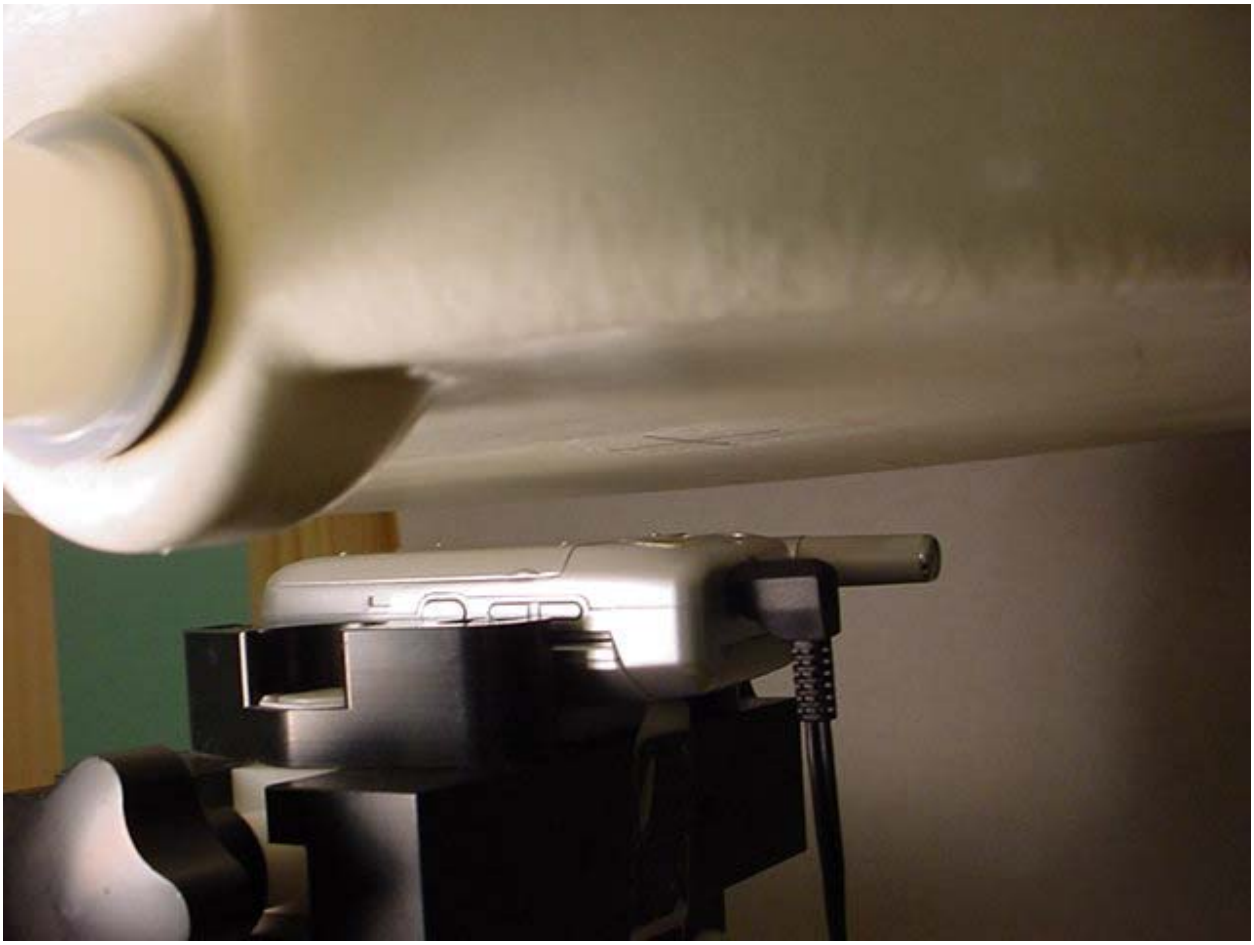
Right Tilt



2.2 Configuration Photographs (Continued)

SAR Measurement Test Setup

Body SAR – Backside 15 mm from Phantom



2.2 Configuration Photographs (Continued)

EUT Photo

2.2 Configuration Photographs (Continued)

EUT Photo

2.2 Configuration Photographs (Continued)

EUT Photo

2.2 Configuration Photographs (Continued)

EUT Photo

2.2 Configuration Photographs (Continued)

EUT Photo

2.2 Configuration Photographs (Continued)

EUT Photo

EUT with Accessory

For the body-worn configuration test, the headset accessory was connected to the EUT. The headset has a metallic headband.

2.3 System Verification

Prior to the assessment, the system was verified to the ±10% of the specifications by using the system validation kit. The validation was performed at 900 and 1800 MHz.

Validation kit	Dipole dimensions	Targeted SAR_{1g} (mW/g)	Measured SAR_{1g} (mW/g)	Plot #
D900V2, S/N #: 013	L=150.2 mm, D=3.6 mm	2.66	2.89	19
D1800V2, S/N #: 224	L=72.7 mm, D=3.6 mm	9.93	9.98	36

The following information, regarding the impedance of the dipoles, is supplied by SPEAG:
900 MHz dipole (S/N 013):
Feedpoint impedance at 900 MHz: Re{Z} = 50.3 Ohm; Im{Z} = 0.7 Ohm
Return Loss at 900 MHz -41.9 Db

1800 MHz dipole (S/N 224):
Feedpoint impedance at 1800 MHz: Re{Z} = 50.4 Ohm; Im{Z} = -3.1 Ohm
Return Loss at 1800 MHz -30.2 dB

2.4 Evaluation Procedures

The SAR evaluation was performed with the following procedures:

a. SAR was measured at a fixed location above the reference point and used as a reference value for the assessing the power drop.

b. The SAR distribution at the exposed side of the flat Phantom was measured at a distance of 30 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 20 mm x 20 mm. Based on this data, the area of the maximum absorption was determined by spline interpolation.

c. Around this point, a volume of 32 mm x 32 mm x 34 mm was assessed by measuring 5 x 5 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

   i) The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measurement point is 1.6 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in Z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

   ii) The maximum interpolated value was searched with a straightforward algorithm. Around this maximum, the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3-D spline interpolation algorithm. The 3-D spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y and z directions). The volume was integrated with the trapezoidal algorithm. 1000 points (10 x 10 x 10) were interpolated to calculate the average.

iii) All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

d. Re-measurements of the SAR value at the same location as in step a. above. If the value changed by more than 5 %, the evaluation was repeated.

e. A receiving antenna connected to a spectrum analyzer was placed 2 meters away from the phantom to monitor possible interference from ambient signals. If an ambient signal was observed during the scan, the scan was repeated.

2.5 Test Results

The results on the following page(s) were obtained when the device was tested in the condition described in this report. Detail measurement data and plots, which reveal information about the location of the maximum SAR with respect to the device, are reported in Appendix A.

Telson Electronics USA, Inc.., Model No: TDC-8200 Date of Test: April 14 to 23, 2003
FCC ID: MC6TDC8200

Measurement Results

Trade Name:	Telson Electronics	**Model No.:**	TDC-8200
Serial No.:	Not Labeled	**Test Engineer:**	Suresh Kondapalli

Brain EUT: TDC-8200 900 MHz Band			
Ambient Temperature	23.5 °C	**Relative Humidity**	55 %
Liquid Temperature	22°C ± 0.5 °C	**Liquid depth**	14.8 cm
Test Signal Source	Test Mode	**Signal Modulation**	AMPS
Output Power Before SAR Test	See Page 6	**Output Power After SAR Test**	Changes within +0.15 to - 0.46 dB
Test Duration	23 Min. each test	**Number of Battery Change**	New battery for every scan

Plot No	Frequency MHz	Operating Mode	Crest Factor	Position	Measured SAR_{1g} (mW/g)
1	824	AMPS	1	Left Hand, Touch Position	0.962
2	824	AMPS	1	Left Hand, Tilt Position	0.285
3	836	AMPS	1	Left Hand, Touch Position	0.651
4	836	AMPS	1	Left Hand, Tilt Position	0.268
5	849	AMPS	1	Left Hand, Touch Position	1.03
6	849	AMPS	1	Left Hand, Tilt Position	0.349
7	824	AMPS	1	Right Hand, Touch Position	1.03
8	824	AMPS	1	Right Hand, Tilt Position	0.339
9	836	AMPS	1	Right Hand, Touch Position	0.797
10	836	AMPS	1	Right Hand, Tilt Position	0.262
11	849	AMPS	1	Right Hand, Touch Position	1.28
12	849	AMPS	1	Right Hand, Tilt Position	0.444

Brain EUT: TDC-8200 900 MHz Band					
Plot No	**Frequency MHz**	**Operating Mode**	**Crest Factor**	**Position**	**Measured SAR_{1g} (mW/g)**
13	836	CDMA	1	Left Hand, Touch Position	0.327
14	836	CDMA	1	Left Hand, Tilt Position	0.0983
15	836	CDMA	1	Right Hand, Touch Position	0.284
16	836	CDMA	1	Right Hand, Tilt Position	0.0676
17	824	CDMA	1	Left Hand, Touch Position	0.507
18	849	CDMA	1	Left Hand, Touch Position	0.479

Brain EUT: TDC-8200 1800 MHz Band					
Plot No	**Frequency MHz**	**Operating Mode**	**Crest Factor**	**Position**	**Measured SAR_{1g} (mW/g)**
21	1880	CDMA	1	Left Hand, Touch Position	0.626
22	1880	CDMA	1	Left Hand, Tilt Position	0.172
23	1880	CDMA	1	Right Hand, Touch Position	0.677
24	1880	CDMA	1	Right Hand, Tilt Position	0.108
25	1851	CDMA	1	Right Hand, Touch Position	0.664
26	1908	CDMA	1	Right Hand, Touch Position	0.844

Muscle EUT: TDC-8200 900 MHz Band					
Plot No	**Frequency MHz**	**Operating Mode**	**Crest Factor**	**Position**	**Measured SAR_{1g} (mW/g)**
27	824	AMPS	1	Backside 15 mm from Phantom	0.639
28	836	AMPS	1	Backside 15 mm from Phantom	0.527
29	849	AMPS	1	Backside 15 mm from Phantom	0.457
30	824	AMPS	1	Display Side 15 mm from Phantom	0.149
31	849	CDMA	1	Backside 15 mm from Phantom	0.290

Muscle EUT: TDC-8200 1800 MHz Band					
Plot No	**Frequency MHz**	**Operating Mode**	**Crest Factor**	**Position**	**Measured SAR_{1g} (mW/g)**
32	1851	CDMA	1	Backside 15 mm from Phantom	0.296
33	1880	CDMA	1	Backside 15 mm from Phantom	0.258
34	1908	CDMA	1	Backside 15 mm from Phantom	0.250
35	1851	CDMA	1	Display Side 15 mm from Phantom	0.131

Z-Plot			
Frequency MHz	**Operating Mode**	**Crest Factor**	**Plot Number**
849	AMPS	1	20
1908	AMPS	1	37

Dipole, System Verification					
Frequency MHz	**Operating Mode**	**Crest Factor**	**Measured SAR_{1g} (mW/g)**	**Measured SAR_{10g} (mW/g)**	**Plot Number**
900	CW	1	2.89	1.84	19
1800	CW	1	9.98	5.27	36

Note: a) Worst case data were reported
b) Duty cycle factor included in the measured SAR data
c) Uncertainty of the system is not included

3.0 TEST EQUIPMENT

3.1 Equipment List

The Specific Absorption Rate (SAR) tests were performed with the SPEAG model DASY 3 automated near-field scanning system, which is a package, optimized for dosimetric evaluation of mobile radios [3].

The following major equipment/components were used for the SAR evaluations:

SAR Measurement System			
EQUIPMENT	**SPECIFICATIONS**	**S/N #**	**Last Cal. Data**
Robot	**Stäubli RX60L**	597412-01	N/A
	Repeatability: ± 0.025mm Accuracy: $0.806x10^{-3}$ degree Number of Axes: 6		
E-Field Probe	**ER3DV6**	1576	02/27/02 *
	Dynamic Range: 5 µW/g to >100 mW/g Tip diameter: 6.8 mm Probe Linearity: ± 0.2 dB (30 MHz to 3 GHz) Axial isotropy: ± 0.2 dB Spherical isotropy: ± 0.2 dB Length: 34.5 cm Distance between the probe tip and the dipole center: 2.7 mm Calibration: 835/900 MHz and 1800/1900 MHz for head & body simulating liquid		
Data Acquisition	**DAE3**	317	N/A
	Measurement Range: 1µV to >200mV Input offset Voltage: < 1µV (with auto zero) Input Resistance: 200 M		
Phantom	**SAM Twin V4.0**	TP-1243	QD000P40CA
Complies with IEEE P1528-200x, draft 6.5 (See certificate in App. C)	Type SAM Twin, Homogenous Shell Material: Fiberglass Thickness: 2 ± 0.2 mm Capacity: 20 liter Size of the flat section: approx. 320 x 230 mm		
Device holder	Non-conductive holder supplied with DASY3, dielectric constant less than 5.0	N/A	N/A
Simulated Tissue	**Mixture**	N/A	4/14/03
	Please see section 3.2 for details		
Power Meter	**HP 8900D** w/ 84811A sensor	3607U00673	08/27/02
	Frequency Range: 100kHz to 18 GHz Power Range: 300µW to 3W		

* See Note on the next page.

Note:
At the time of the test, the calibration interval of the probe was longer than one year. To verify that its calibration remained within acceptable limits, the test results with the Probe Serial #1576 were compared with test results with the Probe Serial # 1577 on April 25, 2003, having last calibration date of February 5, 2003.

Another device was tested on April 22, 2003 at ITS using Probe #1576 and at another test Laboratory (CCS, Compliance Certification Services) using Probe #1577 on April 25,2003. The comparison of the results indicates that SAR readings are with the overall measurement uncertainty requirements of IEEE Std 1528-200X. The comparison of the results obtained with two probes is below:

SAR mW/g Measured with Probe # 1576 (ITS)	SAR mW/g Measured with Probe # 1577 (CCS)	Variance
0.326	0.280	+16.4%
0.183	0.197	-7.1%
0.245	0.239	+2.5%

Additionally, the system validation, performed with the Dipoles at the time of TDC-8200 testing was within 10% of the target values (in particular: +8.6% for 900 MHz, and +0.5% for 1800 MHz).

Based on this information, we can conclude that the conversion factors for Probe # 1576 are still within the tolerance (± 8.9%) and the test results for TDC-8200 are valid.

3.2 Tissue Simulating Liquid

Simulation Liquid Frequency: 900 MHz		
Ingredient	**Brain**	**Muscle**
Water	41.05 %	52.4 %
Sugar	56.5 %	45.0 %
Salt	1.35 %	1.4 %
Bactericide	0.1 %	0.1 %
HEC	1.0 %	1.0 %

Simulation Liquid Frequency: 1800 MHz		
Ingredient	**Brain**	**Muscle**
DGBE Diethylene Glycol	44.92 %	44.92 %
Toniton X-100 (Polyethylene Glycol Mono) Ether	0.1 %	0.1 %
Salt	0.18 %	0.181 %
Water	54.8 %	52.90 %

The dielectric parameters were verified prior to assessment using the HP 85070A dielectric probe kit and the HP 8753C network Analyzer. The dielectric parameters were:

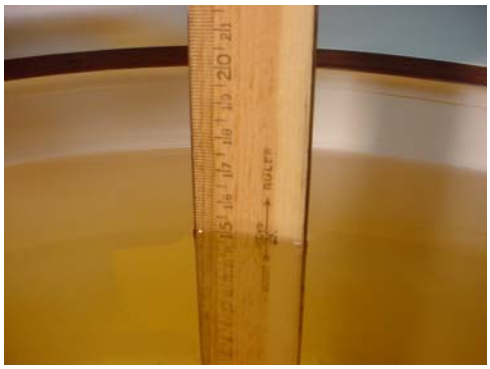
Frequency (MHz)	Simulating Liquid	ε_r*	σ *(mho/m)
836	Brain	41.6	0.88
836	Muscle	55.2	0.98
1880	Brain	40.4	1.44
1880	Muscle	55.8	1.49

* *Worst case uncertainty of the HP 85070A dielectric probe kit*
Note: Worst-case assumption is ρ= 1000 (kg/m^3)

The maximum deviation from the recommended values is 4.1%.

3.3 Liquid depth

During the measurements, the liquid level was maintained to a level of at least 15 cm with a tolerance of ±0.2 cm.



3.4 Probe Calibration

The Probe calibration performed by manufacturer in the TEM cell, with ifi 110 calibrated probes. To ensure consistency, a strict protocol was followed. The conversion factor (ConF) between this calibration and the measurement in the tissue simulation solution was performed by comparison with temperature measurement and computer simulations. Probe calibration factors are included in Appendix C.

3.5 Measurement Uncertainty

The Table below includes the uncertainty budget suggested by the IEEE Std 1528-200X and determined by SPEAG for the DASY3 measurement System.
The extended uncertainty (K=2) was assessed to be 27.8 %

Uncertainty Component	**Tolerance (± %)**	**Probability Distribution**	**Divisor**	c_i	**Standard Uncertainty, (± %)**	v_i^2 **or** v_{eff}
Measurement System						
Probe Calibration	4.7	Normal	1	1	4.7	Inf.
Axial Isotropy	4.7	Rectangular	√3	$(1\text{-cp})^{1/2}$	1.9	Inf.
Spherical Isotropy	9.6	Rectangular	√3	$\sqrt{c_p}$	3.9	Inf.
Boundary Effect	5.5	Rectangular	√3	1	3.2	Inf.
Linearity	4.7	Rectangular	√3	1	2.7	Inf.
System Detection Limits	1.0	Rectangular	√3	1	0.6	Inf.
Readout Electronics	1.0	Normal	1	1	1.0	Inf.
Response Time	0.8	Rectangular	√3	1	0.5	Inf.
Integration Time	1.4	Rectangular	√3	1	0.8	Inf.
RF Ambient Conditions	3.0	Rectangular	√3	1	1.7	Inf.
Probe Positioner Mechanical Tolerance	0.4	Rectangular	√3	1	0.2	Inf.
Probe Positioning with respect to Phantom Shell	2.9	Rectangular	√3	1	1.7	Inf.
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	3.9	Rectangular	√3	1	2.3	Inf.
Test sample Related						
Test Sample Positioning	6.0	Normal	0.89	1	6.7	12
Device Holder Uncertainty	5.0	Normal	0.84	1	5.9	8
Output Power Variation - SAR drift measurement	7.0	Rectangular	√3	1	4.0	Inf.
Phantom and Tissue Parameters						
Phantom Uncertainty (shape and thickness tolerances)	4.0	Rectangular	√3	1	2.3	Inf.
Liquid Conductivity Target tolerance	5.0	Rectangular	√3	0.6	1.7	Inf.
Liquid Conductivity - measurement uncertainty	10.0	Rectangular	√3	0.6	3.5	Inf.
Liquid Permittivity Target tolerance	5.0	Rectangular	√3	0.6	1.7	Inf.
Liquid Permittivity - measurement uncertainty	5.0	Rectangular	√3	0.6	1.7	Inf.
Combined Standard Uncertainty					13.9	
Expanded Uncertainty (95% CONFIDENCE INTERVAL)					27.8	

Notes.

1. The Divisor is a function of the probability distribution and degrees of freedom (ν_i and ν_{eff}). See NIST Technical Note TN1297, NIS 81 and NIS 3003.
2. c_i is the sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.

3.6 Measurement Tractability

All measurements described in this report are traceable to National Institute of Standards and Technology (NIST) standards or appropriate national standards.

4.0 WARNING LABEL INFORMATION - USA

See Users Manual.

5.0 REFERENCES

1] ANSI, *ANSI/IEEE C95.1-1991: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300 GHz*, The Institute of electrical and Electronics Engineers, Inc., New York, NY 10017, 1992

[2] Federal Communications Commission, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", OET Bulletin 65, FCC, Washington, D.C. 20554, 1997

[3] Thomas Schmid, Oliver Egger, and Niels Kuster, "Automated E-field scanning system for dosimetric assessments", *IEEE Transaction on Microwave Theory and Techniques*, vol. 44, pp. 105-113, Jan. 1996.

[4] Niels Kuster, Ralph Kastle, and Thomas Schmid, "Dosimetic evaluation of mobile communications equipment with know precision", IEICE Transactions on Communications, vol. E80-B, no. 5, pp.645-652, May 1997.

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[6] Barry N. Tayor and Chris E. Kuyatt, "Guidelines for evaluating and expressing the uncertainty of NIST measurement results", Tech. Rep., National Institute of Standards and Technology, 1994.

6.0 DOCUMENT HISTORY

Revision/ Job Number	Writer Initials	Date	Change
1.0 /3024181	SS	April 28, 2003	Original document
2.0 /3024181	DC	May 14, 2003	

APPENDIX A - SAR Evaluation Data

Please note that the graphical visualization of the phone position onto the SAR distribution gives only limited information on the current distribution of the device, since the curvature of the head results in graphical distortion. Full information can only be obtained either by H-field scans in free space or SAR evaluation with a flat phantom.

Power drift is the measurement of power drift of the device over one complete SAR scan.

See attached file 30414481 SAR – APPENDIX A.

APPENDIX B - E-Field Probe Calibration Data

See attached file 30414481 SAR – APPENDIX B & C.

APPENDIX C – Phantom Certificate

See attached file 30414481 SAR – APPENDIX B & C.