SPECIFIC ABSORPTION RATE (SAR) TEST REPORT

Psion Teklogix
2100 Meadowvale Boulevard
Mississauga, Canada, L5N 7J9

Product: WorkAbout Pro
Model Number: 7525C
Product FCCID: GM37525CMEG1AC860

Tested to the SAR Criteria in
FCC OET Bulletin 65, Supplement C (Edition 01-01)

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Project Number: 3116499
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Prepared By: _____ **Date:** 16-Mar-07

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Approved By: _____ **Date:** 16-Mar-07

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1.0 Document History

Revision/ Project Number	Writer Initials	Date	Change
1.0 /3116499	VK	16-Mar-07	Original document

2.0 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.

5] NIS81, NAMAS, "The treatment of uncertainty in EMC measurement", Tech. Rep., NAMAS Executive, National Physical Laboratory, Teddinton, Middlesex, England, 1994.

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.

3.0 Introduction

The Psion Teklogix WorkAbout Pro, Model 7525C, 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 facility in Lexington, Kentucky.

For the evaluation, the dosimetric assessment system DASY4 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 ±21.9%.

The 7525C was tested at the maximum output power measured by Intertek. Maximum output power measurements are tabulated under **Heading 11.0 - Tabular Test Results**.

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

Phantom	Mode	Setup Details	Worst Case Extrapolated SAR_{1g} mW/g
Flat Section (Body Mode)	GSM GPRS	Keypad down with belt clip against flat phantom. f = 836.6 MHz	**0.161**
Flat Section (Body Mode)	WCDMA	Keypad down with belt clip against flat phantom. f = 836.6 MHz	**0.128**
Flat Section (Body Mode)	GSM EDGE	Keypad down with belt clip against flat phantom. f = 836.6 MHz	**0.078**
Flat Section (Body Mode)	Bluetooth Only	Keypad down with belt clip against flat phantom. f = 2441 MHz	**0.002**

Based on the worst-case data presented above, the Psion Teklogix WorkAbout Pro, Model 7525C was found to be **compliant** with the 1.6 mW/g requirement defined in OET Bulletin 65, Supplement C (Edition 01-01).

Modifications made to test sample

Intertek implemented no modifications.

4.0 Test Site Description

The SAR test site located at 731 Enterprise Drive, Lexington KY 40510 is comprised of the SPEAG model DASY 4 automated near-field scanning system, which is a package, optimized for dosimetric evaluation of mobile radios [3]. This system is installed in an ambient-free shielded chamber. The Ambient temperature is controlled to 22.2 $\pm 2^{O}$C. Because the HVAC operates as a closed system, the relative humidity remains constant at 50 $\pm$5%. During the SAR evaluations, the RF ambient conditions are monitored continuously for signals that might interfere with the test results. The tissue simulating liquid is also stored in this area in order to keep it at the same constant ambient temperature as the room.

Figure 1: Intertek SAR Test Site

Measurement Equipment

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

SAR Measurement System			
EQUIPMENT	**SPECIFICATIONS**	**S/N #**	**Cal. Due**
Robot	**Stäubli RX60L**	597412-01	N/A
	Repeatability: ± 0.025mm Accuracy: 0.806×10^{-3} degree Number of Axes: 6		
E-Field Probe	**EX3DV3**	3516	11/23/2007
	Frequency Range: 900MHz to 6GHz Probe Linearity: ± 0.2 dB (30 MHz to 6 GHz) Length: 34.5 cm Distance between the probe tip and the dipole center: 2.7 mm Tip Diameter: 2.4 mm Calibration: 900, 1800, 2450, 5200 and 5800 MHz for head & body tissue simulating liquid		
Data Acquisition	**DAE4**	358	3/2007
	Measurement Range: 1µV to >200mV Input offset Voltage: < 1µV (with auto zero) Input Resistance: 200 M		
Phantom	**SAM Twin V4.0**	TP-1243	N/A
Complies with IEEE P1528-2003	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 DASY4, dielectric constant less than 5.0	N/A	N/A
Network Analyzer	**Agilent 8753ES**	US39173983	8/14/2007
	Frequency Range: 30KHz – 6.0 GHz		
Signal Generator	**HP 83620B**	2065	8/15/2007
	Frequency Range: 10MHz – 20 GHz		
Spectrum Analyzer	**Rohde & Schwarz FSP**	1164.4391.07	8/2/2007
	Frequency Range: 9KHz – 7 GHz		
Wireless Communications Test Set	**CMU-200**	1100.0008.02	11/1/2007

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Measurement Uncertainty

The Table below includes the uncertainty budget suggested by the IEEE Std 1528-200X and determined by SPEAG for the DASY4 measurement System

Error Description	Uncertainty Value	Prob. Dist.	Div.	c_i (1g)	c_i (10g)	Std.Unc. (1g)	Std.Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±5.9%	N	1	1	1	±5.9%	±5.9%	∞
Axial Isotropy	±4.7%	R	√3	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical Isotropy	±9.6%	R	√3	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effect	±1.0%	R	√3	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	√3	1	1	±2.7%	±2.7%	∞
System Detection Limits	±1.0%	R	√3	1	1	±0.6%	±0.6%	∞
Readout Electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	R	√3	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	R	√3	1	1	±1.5%	±1.5%	∞
RF Ambient Conditions	±3.0%	R	√3	1	1	±1.7%	±1.7%	∞
Probe Positioner	±0.4%	R	√3	1	1	±0.2%	±0.2%	∞
Probe Positioning	±2.9%	R	√3	1	1	±1.7%	±1.7%	∞
Max. SAR Eval.	±1.0%	R	√3	1	1	±0.6%	±0.6%	∞
Test sample Related								
Device Positioning	±2.9%	N	1	1	1	±2.9%	±2.9%	145
Device Holder	±3.6%	N	1	1	1	±3.6%	±3.6%	5
Power Drift	±5.0%	R	√3	1	1	±2.9%	±2.9%	∞
Phantom and Tissue Parameters								
Phantom Uncertainty	±4.0%	R	√3	1	1	±2.3%	±2.3%	∞
Liquid Conductivity (target)	±5.0%	R	√3	0.64	0.43	±1.8%	±1.2%	∞
Liquid Conductivity (meas.)	±2.5%	N	1	0.64	0.43	±1.6%	±1.1%	∞
Liquid Permittivity (target)	±5.0%	R	√3	0.6	0.49	±1.7%	±1.4%	∞
Liquid Permittivity (meas.)	±2.5%	N	1	0.6	0.49	±1.5%	±1.2%	∞
Combined Standard Uncertainty						±10.9%	±10.7%	387
Expanded STD Uncertainty						**±21.9%**	**±21.4%**	

Notes.

1. Worst Case uncertainty budget for DASY4 assessed according to IEEE 1528. The budget is valid for the frequency range 300 MHz – 3 GHz and represents a worst-case analysis. For specific tests and configurations, the uncertainty could be considerably smaller.

Measurement Traceability

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

5.0 Job Description

The Psion Teklogix WorkAbout Pro, Model 7525C has been tested to the requirements defined in OET Bulletin 65, Supplement C (Edition 01-01) at the request of:

Manufacturer of the device:	Psion Teklogix 2100 Meadowvale Boulevard Mississauga, Canada, L5N 7J9
Model number of the device:	7525C
Name of contact:	Sada Dharwarkar
Telephone:	905-812-6200
Fax:	905-812-6301
E-mail:	sada.dharwarkar@psionteklogix.com
Manufacturer of the radio:	Sierra Wireless Inc.
Model Number of the radio:	AC860
Serial Number of the radio:	X172506132912
EUT receive date:	22-Feb-07
EUT received condition:	Good condition production unit
Test start date:	22-Feb-07
Test end date:	1-Mar-07

Test Sample Description

The Psion Teklogix WorkAbout Pro, Model 7525C is a handheld computer which is utilized as a portable data collection terminal.

Test sample						
Model	7525C					
FCC ID	GM37525CMEG1AC860					
Device Category	Portable					
RF Exposure Category	General Population/Uncontrolled Environment					
System	GSM EDGE 850/1900; GSM GPRS 850/1900; WCDMA Band II and V					
Frequency Band	824.2 MHz – 848.8 MHz (GSM 850) 1850.20 MHz – 1909.8 MHz (GSM 1900) 826.4 MHz – 846.6 MHz (WCDMA Band V) 1852.4 MHz – 1907.6 MHz (WCDMA Band II)					
Mode(s) of Operation	GSM EDGE 850	GSM EDGE 1900	GSM GPRS 850	GSM GPRS 1900	WCDMA Band V	WCDMA Band II
Duty Cycle	1:4	1:4	1:4	1:4	1:1	1:1
Maximum output power	26.75 dBm	25.3 dBm	31.6 dBm	28.2 dBm	26.66 dBm	27.06 dBm

Radio Modules[1]			
Module Description	GSM / WCDMA	Bluetooth	RLAN
Module Manufacturer	Sierra Wireless	Psion Teklogix	Psion Teklogix
Module Model Number	AC860	7525BTB	RA80211G
Module FCCID	N7NAC860	GM37525BTB	GM3RA80211G

Test sample Accessories	
Battery type	Psion Teklogix WA3006 Li-Ion Rechargeable 3000mAh battery (3.7V)
Belt clip	Yes, for use with supplied case (Model: WA6094-G1)

Test Signal Mode	
Test Commands	
Base Station Simulator	X

[1] SAR testing was not performed on the RLAN module. The 7525C integrates three radio modules listed in this table. The Bluetooth and RLAN modules are both manufactured by Psion Teklogix for specific use in the 7525C. The GSM/WCDMA module is manufactured by Sierra Wireless. These modules have all been certified with limited modular approval and are un-modified from the original granted devices according to Psion Teklogix. While the RLAN module was physically installed in the 7525C during the testing, it was not actually powered or evaluated. According to Psion Teklogix, software on the 7525C does not allow simultaneous operation of the RLAN module and GSM/WCDMA module so they are not considered to be co-located. Considering the modules are un-modified from the original granted devices, and the RLAN and Bluetooth modules were certified specifically for the 7525C, the only tests that were required (and performed) are described in the Engineering Judgments section of this report.

Test Sample Pictures:

Internal and external test sample pictures can by found in the following accompanying documents:

Psion Teklogix 7525C Internal Photographs.pdf
Psion Teklogix 7525C External Photographs.pdf

6.0 System Verification

Dipole System Validation

Prior to the assessment, the system was verified to be within ±10% of the specifications by using the system validation kit. The validation was performed at 900 MHz and 1800MHz using head tissue, and at 2450 MHz using muscle tissue.

Figure 2: Photograph of System Verification (900MHz Dipole Positioned at Flat Phantom)[2]

[2] A similar positioning of an 1800 MHz and 2450 MHz dipole was used.

Reference Dipole Validation – GSM GPRS 850, EDGE 850 and WCDMA Band V Tests								
Frequency Measure (MHz)	**Dipole Type**	**Dipole Serial Number**	**Fluid Type**	**Dipole Power Input**	**Cal. Lab SAR (1g)**	**Measured SAR (1g)**	**% Error SAR (1g)**	**Date**
900	D900V2	13	900 MHz Head	1W	10.6	11.20	5.66	2/22/2007
900	D900V2	13	900 MHz Head	1W	10.6	10.80	1.89	2/23/2007
900	D900V2	13	900 MHz Head	1W	10.6	11.12	4.91	2/24/2007

Dipole dimensions: L=150.2 mm, D=3.6 mm
The following information, regarding the impedance of the D900V2, S/N #: 013 dipole was supplied by SPEAG:

Feed-point impedance at 900 MHz: Re{Z} = 50.3 Ohm; Im{Z} = 0.7 Ohm
Return Loss at 900 MHz: -41.9 dB

Reference Dipole Validation – GSM GPRS 1900, EDGE 1900 and WCDMA Band II Tests								
Frequency Measure (MHz)	**Dipole Type**	**Dipole Serial Number**	**Fluid Type**	**Dipole Power Input**	**Cal. Lab SAR (1g)**	**Measured SAR (1g)**	**% Error SAR (1g)**	**Date**
1800	D1800V2	224	1800 MHz Head	1W	39.7	40.80	2.77	2/27/2007

Dipole dimensions: L=72.7 mm, D=3.6 mm
The following information, regarding the impedance of the D1800V2, S/N #: 224 dipole was supplied by SPEAG:

Feed-point impedance at 1800 MHz: Re{Z} = 50.4 Ohm; Im{Z} = -3.1 Ohm
Return Loss at 1800 MHz: -30.2 dB

Reference Dipole Validation – Bluetooth Mid Channel Tests								
Frequency Measure (MHz)	**Dipole Type**	**Dipole Serial Number**	**Fluid Type**	**Dipole Power Input**	**Cal. Lab SAR (1g)**	**Measured SAR (1g)**	**% Error SAR (1g)**	**Date**
2450	D2450V2	718	2450 MHz Body	1W	51.6	47.30	8.33	3/1/2007

Dipole dimensions: L=52.1 mm, D=3.6 mm
The following information, regarding the impedance of the D2450V2, S/N #: 718 dipole was supplied by SPEAG:

Feed-point impedance at 2450 MHz: Re{Z} = 58.7 Ohm; Im{Z} = 5.6 Ohm
Return Loss at 2450 MHz: -24.7 dB

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Tissue Simulating Liquid Description and Validation

Ingredient (% by weight)	f (MHz)					
	900		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body
Water	41.45	52.40	54.90	70.45	Not Used	73.2
Salt (NaCl)	1.45	1.40	0.18	0.36		0.04
Sugar	56.00	45.00	-	-		-
HEC	1.00	1.00	-	-		-
Bactericide	0.10	0.10	-	-		-
Triton X-100	-	-	-	-		-
DGBE	-	-	44.92	29.18		26.7
DGHE	-	-	-	-		-

Note: The amounts of each ingredient specified in the tables are not the exact amounts of the final test solution. The final test solution was adjusted by adding small amounts of the appropriate ingredient to calibrate the solution to meet the proper dielectric parameters.

The ambient temperature of the test site, as well as the temperature of the tissue simulating fluid, were recorded on each day of testing, as shown in the table below:

Date	Ambient Temperature(°F)	Muscle Simulating Liquid Temperature (°F) f=900MHz	Head Simulating Liquid Temperature (°F) f=900MHz	Muscle Simulating Liquid Temperature (°F) f=1800MHz	Head Simulating Liquid Temperature (°F) f=1800MHz	Muscle Simulating Liquid Temperature (°F) f=2450MHz
2/22/2007	74.3	72.4	72	Not Used	Not Used	Not Used
2/23/2007	72.6	70.9	71.2	Not Used	Not Used	Not Used
2/24/2007	73.5	73	72.8	Not Used	Not Used	Not Used
2/27/2007	74	73.1	73.1	72.4	73.2	Not Used
3/1/2007	75.1	Not Used	Not Used	Not Used	Not Used	73.7

The dielectric parameters were verified prior to assessment using the HP 8753A Network Analyzer. The dielectric parameters (ε_r, σ) on each day of testing were as follows:

Head Tissue Parameters - GSM and WDCMA Tests								
Frequency Measure (MHz)	**Dielectric Constant Target**	**Dielectric Constant Measure**	**Dielectric % Deviation**	**Imaginary Part**	**Conductivity Target**	**Conductivity Measure**	**Conductivity % Deviation**	**Date**
900	41.5	43	3.61	20.2	0.97	1.0107	4.20	2/22/2007
900	41.5	42.4	2.17	20.14	0.97	1.0077	3.89	2/23/2007
900	41.5	39.8	4.10	18.75	0.97	0.9382	3.28	2/24/2007
1800	40	42	5.00	13.4	1.4	1.34	4.22	2/27/2007
Body Tissue Parameters - GSM and WCDMA Tests								
Frequency Measure (MHz)	**Dielectric Constant Target**	**Dielectric Constant Measure**	**Dielectric % Deviation**	**Imaginary Part**	**Conductivity Target**	**Conductivity Measure**	**Conductivity % Deviation**	**Date**
900	55	55.47	0.85	20.2	1.05	1.01	3.74	2/22/2007
900	55	56.8	3.27	21.9	1.05	1.10	4.36	2/23/2007
900	55	56.4	2.55	21.7	1.05	1.09	3.41	2/24/2007
1800	53.3	52.6	1.31	14.6	1.52	1.46	3.88	2/27/2007
Body Tissue Parameters - Bluetooth Tests								
Frequency Measure (MHz)	**Dielectric Constant Target**	**Dielectric Constant Measure**	**Dielectric % Deviation**	**Imaginary Part**	**Conductivity Target**	**Conductivity Measure**	**Conductivity % Deviation**	**Date**
2450	52.5	54.1	3.05	12.6	1.78	1.72	3.58	3/1/2007

Maximum mass density $\rho = 1$ g/cm^3
Maximum deviation of the dielectric parameters from the recommended values was 4.36 %.
During the measurements, the liquid level was maintained to a level of 15 cm with a tolerance of ±0.2 cm.

7.0 Evaluation Procedures

Prior to any testing, the appropriate fluid was used to fill the phantom to a depth of 15 cm ±0.2cm. The fluid parameters were verified and the dipole validation was performed as described in the previous sections.

Test Positions:

The Device was positioned against the SAM and flat phantom using the exact procedure described in Supplement C Edition 01 – 01 of Federal Communications Commission, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", OET Bulletin 65, FCC, Washington, D.C. 20554, 1997.

Reference Power Measurement:

The measurement probe was positioned at a fixed location above the reference point. A power measurement was made with the probe above this reference position so it could used for the assessing the power drift later in the test procedure.

Coarse Scan:

A coarse area scan with a horizontal grid spacing of 15 x 15 mm was performed in order to find the approximate location of the peak SAR value. This scan was performed with the measurement probe at a constant height in the simulating fluid. A two dimensional spline interpolation algorithm was then used to determine the peaks and gradients within the scanned area.

Zoom Scan:

A zoom scan was performed around the approximate location of the peak SAR as determined from the coarse scan. The zoom scan was comprised of a measurement volume of 30 x 30 x 30 mm based on 7 x 7 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

Data Extrapolation:

Since the center of the dipoles in the measurement probe are 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 data at the surface was extrapolated. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in the Z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

The maximum interpolated value was searched with a straightforward sorting algorithm. Around this maximum, the SAR values averaged over the spatial volumes (1g or 10g) were computed using a 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 a trapezoidal algorithm. 1000 points (10 x 10 x 10) were interpolated to calculate the average.

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

Reference Power Measurement:

The probe was positioned at precisely the same reference point and the reference power measurement was repeated. The difference between the initial reference power and the final one is referred to as the power drift. If the power drift exceeded 5% of the final peak SAR value, the measurement was repeated.

RF Ambient Activity:

During the entire SAR evaluation, the RF ambient activity was monitored using a spectrum analyzer with an antenna connected to it. The spectrum analyzer was tuned to the frequency of measurement and with one trace set to max hold mode. In this way, it was possible to determine if at any point during the SAR measurement there was an interfering ambient signal. If an ambient signal was detected, then the SAR measurement was repeated.

8.0 Test Configuration / Test Photographs

For the purpose of this evaluation, the 7525C was considered to be a data collection terminal which operates under the GSM EDGE 850/1900, GSM GPRS 850/1900 and WCDMA Band II and V protocols. It is supplied with a soft case which attaches to a plastic belt clip on the user's body.

The 7525C was configured for testing in WCDMA mode according to the FCC document, "SAR Measurement Procedures for 3G Devices, June 2006". In each WCDMA call, the data rate was set to RMC with TPC set to "All Up". The 7525C was configured for testing in GSM EDGE and GPRS modes according to the CTIA Test Plan for Mobile Stations Over the Air: Method of Measurement for Radiated RF Power and Receiver Performance, Revision 2.2, November 2006. As with the FCC 3G document, the CTIA test plan references the 3GPP standards for transmitter configuration settings. In each GSM EDGE call, the coding scheme was set to MCS5 with 4 downlink and 2 uplink slots activated. The uplink slots were set to transmit at the highest permissible gamma (power level) permitted by the device. The GSM GPRS calls were set up in the same manner, using the CS1 coding scheme.

The Bluetooth transmitter was activated by the use of the "BlueTest" application on the device itself.

Photographs of the 7525C, as configured for testing, are shown below:

Figure 3: Setup for area scans on the "UPPER" half of the 7525C

Figure 4: Setup for area scans on the "LOWER" half of the 7525C

9.0 Criteria

The following FCC limits for SAR apply to devices operating 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

10.0 Engineering Judgments

Being a data-only device, the 7525C does not have any head-use applications. All tests were therefore performed in Body mode, with the device installed in its case and the belt-clip placed against the flat phantom.

Due to the size of the 7525C relative to the SAM Phantom's flat section, SAR was performed in such a manner as to cover the entire surface of the sample in portions. The 7525C was therefore divided into an "UPPER" and "LOWER" half and positioned under the flat phantom accordingly. An area scan was defined for each half in such a way that they covered overlapping sections. This ensured a complete area scan of the device under test.

In addition to the SAR measurements in GSM EDGE, GSM GPRS and WCDMA modes, the effect of the co-located Bluetooth transmitter on Body-mode SAR was investigated as follows:
SAR scans were performed with the Bluetooth transmitter turned on, while the device was disconnected from the communications test set. Additionally, the conducted measurements show that the highest output power in all cases was obtained while the 7525C was transmitting in the GSM GPRS 850/1900 modes. Therefore, the GPRS-mode scans were repeated with the Bluetooth transmitter turned on at its 'Mid' operating channel.

11.0 Tabular Test Results

The results on the following page(s) were obtained when the device was tested in the operating conditions described in this report. Detailed measurement data and plots, which reveal information about the location of the maximum SAR with respect to the device, are referenced under **Heading 12.0 - Graphical SAR Scan Results**. The extrapolated SAR results account for the drift measurements using the following formula:

Extrapolated SAR = Measured SAR*10^-(Drift/10)

For positive drift values, no extrapolation was performed. A dashed line will appear in the table for the extrapolation values in this case.

Conducted Power Measurements

These conducted power measurements for the 7525C were made using a CMU-200 base station simulator. Cable loss was accounted for within the test set by offsetting the readings by the appropriate amounts. Readings were taken at the RF port that was present under the 7525C's internal radio.

The 7525C was configured for testing in WCDMA mode according to the FCC document, "SAR Measurement Procedures for 3G Devices, June 2006". In each WCDMA call, the data rate was set to RMC with TPC set to "All Up". The 7525C was configured for testing in GSM EDGE and GPRS modes according to the CTIA Test Plan for Mobile Stations Over the Air: Method of Measurement for Radiated RF Power and Receiver Performance, Revision 2.2, November 2006. As with the FCC 3G document, the CTIA test plan references the 3GPP standards for transmitter configuration settings. In each GSM EDGE call, the coding scheme was set to MCS5 with 4 downlink and 2 uplink slots activated. The uplink slots were set to transmit at the highest permissible gamma (power level) permitted by the device. The GSM GPRS calls were set up in the same manner, using the CS1 coding scheme.

Transmit Mode		**Max Power (dBm)**	
Tx Band	**Tx Channel**	**GSM-GPRS**	**GSM-EDGE**
GSM 850 Band	**128**	31.55	26.61
	190	31.6	26.7
	251	31.6	26.75
GSM 1900 Band	**512**	28.2	25.3
	661	28.2	25.3
	810	28.1	25.2
Tx Band	**Tx Channel**	**WCDMA Max Power (dBm)**	
WCDMA Band V	**4132**	26.58	
	4183	26.65	
	4233	26.66	
WCDMA Band II	**9262**	26.84	
	9400	27.06	
	9538	26.25	

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Body Mode Tabular Test Results

During the test, the RF output power of the test sample varied by a small amount due to heat and battery output power variations in the device. To take this power drift into account, a reference measurement was performed at a predefined position in the fluid just before and just after each SAR scan. The difference in these values is recorded in the table below as the SAR drift. The 1-g SAR was extrapolated for drift and is shown in the table below.

Flat Phantom; Body / Data Mode; 1:4 Mode; GSM EDGE Bands									
Band	**Channel**	**Freq. (MHz)**	**Position Information**	**Attachments or Accessories**	**SAR Drift (dB)**	**Measured 1-g SAR (mW/g)**	**Meas. 10g-SAR (mw/g)**	**Extrapolated Worst Case 1-g SAR (mW/g)**	**Extrapolated Worst Case 10-g SAR (mW/g)**
GSM EDGE 850	Low/128	824.20	-	-	-	-	-	-	-
GSM EDGE 850	Mid/190	836.60	UPPER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.132	0.076	0.047	**0.078**	0.048
GSM EDGE 850	Mid/190	836.60	LOWER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.154	0.009	0.007	0.009	0.007
GSM EDGE 850	High/251	848.80	-	-	-	-	-	-	-
GSM EDGE 1900	Low/512	1850.20	-	-	-	-	-	-	-
GSM EDGE 1900	Mid/661	1880.00	UPPER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.126	0.049	0.032	**0.050**	0.033
GSM EDGE 1900	Mid/661	1880.00	LOWER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.020	0.007	0.004	0.007	0.004
GSM EDGE 1900	High/810	1909.80	-	-	-	-	-	-	-

Flat Phantom; Body / Data Mode; 1:4 Mode; GSM GPRS Bands									
Band	**Channel**	**Freq. (MHz)**	**Position Information**	**Attachments or Accessories**	**SAR Drift (dB)**	**Measured 1-g SAR (mW/g)**	**Meas. 10g-SAR (mw/g)**	**Extrapolated Worst Case 1-g SAR (mW/g)**	**Extrapolated Worst Case 10-g SAR (mW/g)**
GSM GPRS 850	Low/128	824.20	-	-	-	-	-	-	-
GSM GPRS 850	Mid/190	836.60	UPPER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.049	0.159	0.118	**0.161**	0.119
GSM GPRS 850	Mid/190	836.60	LOWER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.137	0.033	0.018	0.034	0.019
GSM GPRS 850 Bluetooth On	Mid/190	836.60	UPPER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.034	0.157	0.118	0.158	0.119
GSM GPRS 850 Bluetooth On	Mid/190	836.60	LOWER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	0.225	0.028	0.021	-	-
GSM GPRS 850	High/251	848.80	-	-	-	-	-	-	-
GSM GPRS 1900	Low/512	1850.20	-	-	-	-	-	-	-
GSM GPRS 1900	Mid/661	1880.00	UPPER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.081	0.047	0.031	0.048	0.031
GSM GPRS 1900	Mid/661	1880.00	LOWER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	0.256	0.006	0.004	-	-
GSM GPRS 1900 Bluetooth On	Mid/661	1880.00	UPPER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	0.199	**0.049**	0.032	-	-
GSM GPRS 1900 Bluetooth On	Mid/661	1880.00	LOWER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	0.063	0.006	0.004	-	-
GSM GPRS 1900	High/810	1909.80	-	-	-	-	-	-	-

Flat Phantom; Body / Data Mode; 1:1 Mode; WCDMA Bands									
Band	**Channel**	**Freq. (MHz)**	**Position Information**	**Attachments or Accessories**	**SAR Drift (dB)**	**Measured 1-g SAR (mW/g)**	**Meas. 10g-SAR (mw/g)**	**Extrapolated Worst Case 1-g SAR (mW/g)**	**Extrapolated Worst Case 10-g SAR (mW/g)**
WCDMA Band V	Low/4132	826.40	-	-	-	-	-	-	-
WCDMA Band V	Mid/4183	836.60	UPPER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.043	0.127	0.095	**0.128**	0.096
WCDMA Band V	Mid/4183	836.60	LOWER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.290	0.019	0.014	0.020	0.015
WCDMA Band V	High/4233	846.60	-	-	-	-	-	-	-
WCDMA Band II	Low/9262	1852.40	-	-	-	-	-	-	-
WCDMA Band II	Mid/9400	1880.00	UPPER half of device was scanned with Belt clip against flat phantom	None	-0.023	0.076	0.050	**0.076**	0.050
WCDMA Band II	Mid/9400	1880.00	LOWER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	0.027	0.009	0.006	-	-
WCDMA Band II	High/9538	1907.60	-	-	-	-	-	-	-

Flat Phantom; Body / Data Mode; 1:1 Mode; Bluetooth Only									
Band	**Channel**	**Freq. (MHz)**	**Position Information**	**Attachments or Accessories**	**SAR Drift (dB)**	**Measured 1-g SAR (mW/g)**	**Meas. 10g-SAR (mw/g)**	**Extrapolated Worst Case 1-g SAR (mW/g)**	**Extrapolated Worst Case 10-g SAR (mW/g)**
Bluetooth	Mid	2441.00	UPPER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.150	0.002	0.001	**0.002**	0.001
Bluetooth	Mid	2441.00	LOWER half of device was scanned with Belt clip against flat phantom	WA6094-G1 case with belt clip	-0.230	0.002	0.001	**0.002**	0.001

12.0 Graphical SAR Scan Results

Graphical SAR scan results can by found in the following accompanying document:

Psion Teklogix 7525C Graphical SAR Scan Results.pdf