
	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

RF EXPOSURE EVALUATION
SPECIFIC ABSORPTION RATE

SAR TEST REPORT

FOR

VTECH TELECOMMUNICATIONS LTD.

PORTABLE 5.8 GHz CORDLESS HANDSET

Model(s): AT&T EP5632 / EP562

FCC ID: EW780-6101-00

IC ID: 1135A-80610100

TEST STANDARD(S) & PROCEDURE(S) APPLIED
FCC OET Bulletin 65, Supplement C (01-01)
Industry Canada RSS-102 Issue 2
IEEE 1528-2003

Test Report Serial No.

111406EW7-T787-S15T

Test Report Revision No.

Revision 1.0 (Initial Release)


Test Lab and Location



Celltech Compliance Testing & Engineering Lab
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Kelowna, BC
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V1Y 9L3



Certificate No. 2470.01

<u>Test Report Prepared By:</u> Cheri Frangiadakis Test Report Writer Celltech Labs Inc.	<u>Test Report Reviewed By:</u> Jonathan Hughes General Manager Celltech Labs Inc.
--	--

Company: VTech Telecommunications Ltd.	FCC ID: EW780-6101-00	IC ID: 1135A-80610100	
Model(s): AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset	5744 - 5825 MHz	
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 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

DECLARATION OF COMPLIANCE SAR RF EXPOSURE EVALUATION

<u>Test Lab and Location</u> CELLTECH LABS INCORPORATED Testing and Engineering Services 1955 Moss Court Kelowna, B.C. Canada V1Y 9L3 Phone: 250-448-7047 e-mail: info@celltechlabs.com Fax: 250-448-7046 web site: www.celltechlabs.com		<u>Company Information</u> VTECH TELECOMMUNICATIONS LTD. 23/F Tai Ping Ind. Center Block 1 57 Ting Kok Rd. Tai Po, Hong Kong
FCC IDENTIFIER: IC IDENTIFIER: Model No.(s):	EW780-6101-00 1135A-80610100 AT&T EP5632 / EP562	
Test Requirement(s): Test Procedure(s):	FCC 47 CFR §2.1093; Health Canada Safety Code 6 FCC OET Bulletin 65, Supplement C (01-01) Industry Canada RSS-102 Issue 2 IEEE 1528-2003	
FCC Device Classification: IC Device Classification:	Part 15 Spread Spectrum Transmitter (DSS) Low Power License-Exempt Radiocommunication Device (RSS-210 Issue 6)	
Device Description: Transmit Frequency Range: Mode(s) of Operation: Modulation Type(s): Max. Duty Cycle Tested: Max. RF Output Power Tested: Max. SBTA Output Power Tested: Power Measurement Method: Battery Type(s) Tested: Antenna Type(s) Tested:	5.8 GHz Cordless Telephone Handset 5744.736 - 5825.952 MHz (ISM Band) FHSS (Frequency Hopping Spread Spectrum) TDMA/TDD (2 time slots) 20 % (Source-Based Time-Averaged) 150 mW (21.8 dBm) - Low Channel (5744.736 MHz) 30 mW (14.8 dBm) - Low Channel (5744.736 MHz) Radiated Free Space Ni-MH 3.6 V Internal	
Body-Worn Accessories Tested: Audio Accessories Tested:	Plastic Belt-Clip Generic Headset-Microphone	
Max. SAR Level(s) Measured:	Head: 0.479 W/kg (1g average) Body: 0.450 W/kg (1g average)	

Celltech Labs Inc. declares under its sole responsibility that this wireless portable device is compliant with the Specific Absorption Rate (SAR) RF exposure requirements specified in FCC 47 CFR §2.1093 and Health Canada's Safety Code 6. The device was tested in accordance with the measurement standards and procedures specified in FCC OET Bulletin 65, Supplement C (Edition 01-01), Industry Canada RSS-102 Issue 2 and IEEE Standard 1528-2003 for the General Population / Uncontrolled Exposure environment. All measurements were performed in accordance with the SAR system manufacturer recommendations.

I attest to the accuracy of data. All measurements were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

This test report shall not be reproduced partially, or in full, without the prior written approval of Celltech Labs Inc. The results and statements contained in this report pertain only to the device(s) evaluated.

Test Report Approved By:

Sean Johnston
SAR Lab Manager
Celltech Labs Inc.






Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	


1.0 INTRODUCTION

This measurement report demonstrates that the VTECH TELECOMMUNICATIONS LTD. Model(s): AT&T EP5632 / EP562 Portable 5.8 GHz Cordless Telephone Handset FCC ID: EW780-6101-00 complies with the SAR (Specific Absorption Rate) RF exposure requirements specified in FCC 47 CFR §2.1093 (see reference [1]) and Health Canada's Safety Code 6 (see reference [2]) for the General Population / Uncontrolled Exposure environment. The test procedures described in FCC OET Bulletin 65, Supplement C, Edition 01-01 (see reference [3]), IC RSS-102 Issue 2 (see reference [4]), and IEEE Standard 1528-2003 (see reference [5]) were employed. A description of the product, operating configuration, detailed summary of the test results, methodology and procedures used in the evaluation, equipment used, and the various provisions of the rules are included within this test report.

2.0 DESCRIPTION of DEVICE UNDER TEST (DUT)

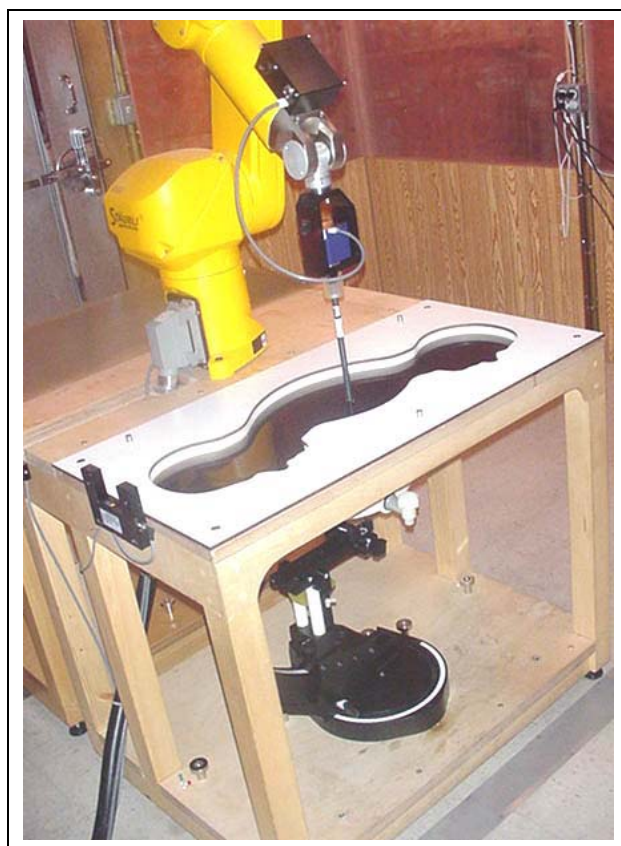
Device Classification(s)	FCC	Part 15 Spread Spectrum Transmitter (DSS)		FCC §15(C)	
	IC	Low Power License-Exempt Radiocommunication Device		RSS-210 Issue 6	
Test Requirement(s)	FCC 47 CFR §2.1093			Health Canada Safety Code 6	
Test Procedure(s)	FCC OET Bulletin 65, Supplement C (01-01)		IC RSS-102 Issue 2	IEEE Standard 1528-2003	
Device Description	Portable 5.8 GHz Cordless Telephone Handset				
RF Exposure Category	General Population / Uncontrolled Environment				
FCC IDENTIFIER	EW780-6101-00				
IC IDENTIFIER	1135A-80610100				
Model No.(s)	AT&T EP5632 / EP562				
Test Sample Serial No.	None		Identical Prototype		
Mode(s) of Operation	FHSS (Frequency Hopping Spread Spectrum)				
Modulation Type(s)	TDMA / TDD				
Transmit Frequency Range(s)	5744.736 - 5825.952 MHz (ISM Band)				
Max Duty Cycle Tested	20%	Crest Factor: 1:5		Source-Based Time-Averaged	2 time slots
Max. RF Radiated Output Power Levels Calculated from Corrected Field Strengths	5744.736 MHz	150 mW	21.8 dBm	Source-Based Time-Averaged:	30.0 mW 14.8 dBm
	5785.344 MHz	137 mW	21.4 dBm	Source-Based Time-Averaged:	27.4 mW 14.4 dBm
	5825.952 MHz	38.6 mW	15.9 dBm	Source-Based Time-Averaged:	7.72 mW 8.88 dBm
Battery Type(s) Tested	Ni-MH, 3.6 V				
Antenna Type(s) Tested	Internal				
Body-Worn Accessories Tested	Plastic Belt-Clip				
Audio Accessories Tested	Generic Headset-Microphone				

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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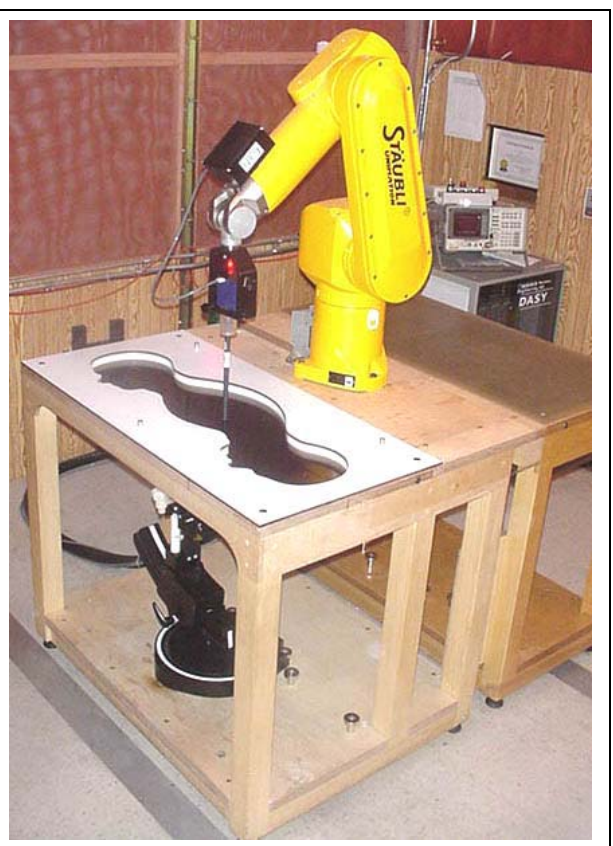
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3.0 SAR MEASUREMENT SYSTEM


Celltech Labs Inc. SAR measurement facility utilizes the Dosimetric Assessment System (DASY™) manufactured by Schmid & Partner Engineering AG (SPEAG™) of Zurich, Switzerland. The DASY4 measurement system is comprised of the measurement server, robot controller, computer, near-field probe, probe alignment sensor, specific anthropomorphic mannequin (SAM) phantom, and alternate planar phantoms for brain and/or body SAR evaluations. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF). A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The Staubli robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the DASY4 measurement server. The DAE4 utilizes a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16-bit AD-converter and a command decoder and control logic unit. Transmission to the DASY4 measurement server is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe-mounting device includes two different sensor systems for frontal and sidewise probe contacts. The sensor systems are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.



DASY4 Measurement System with SAM Phantom and 5GHz Fluid





DASY4 Measurement System with SAM Phantom and 5GHz Fluid

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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4.0 MEASUREMENT SUMMARY

HEAD SAR EVALUATION RESULTS											
Freq. (MHz)	Chan.	Test Mode	Duty Cycle	Battery Type	Antenna Position	Phantom Section	Test Position	DUT SBTA Start Power ⁴ (mW)	SAR Drift During Test (dB)	Measured SAR 1g (W/kg)	
5785.344	Mid	TDMA/TDD	20%	Ni-MH	Internal	Right Ear	Cheek/Touch	27.4	0.106	0.447	
5785.344	Mid	TDMA/TDD	20%	Ni-MH	Internal	Right Ear	Ear/Tilt (15°)	27.4	0.200	0.427	
5785.344	Mid	TDMA/TDD	20%	Ni-MH	Internal	Left Ear	Cheek/Touch	27.4	-0.214	0.479	
5785.344	Mid	TDMA/TDD	20%	Ni-MH	Internal	Left Ear	Ear/Tilt (15°)	27.4	0.134	0.407	
5744.736	Low	TDMA/TDD	20%	Ni-MH	Internal	Left Ear	Cheek/Touch	30.0	0.167	0.293	
ANSI / IEEE C95.1 1999 - SAFETY LIMIT				BRAIN: 1.6 W/kg (averaged over 1 gram)			Spatial Peak Uncontrolled Exposure / General Population				
Test Date(s)		November 20, 2006				Relative Humidity		31	%		
Measured Fluid Type		5800 MHz Brain				Atmospheric Pressure		102.1	kPa		
Dielectric Constant ϵ_r		IEEE Target		Measured	Deviation	Ambient Temperature		23.5	°C		
		35.3	± 5%	35.1	-0.6%	Fluid Temperature		22.0	°C		
Conductivity σ (mho/m)		IEEE Target		Measured	Deviation	Fluid Depth		≥ 15	cm		
		5.27	± 5%	5.16	-2.1%	ρ (Kg/m³)		1000			
Note(s)		1.	The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.								
		2.	The procedures described in FCC document "SAR Measurement Requirements for 3 - 6 GHz" (see reference [7]) were followed.								
		3.	If the SAR levels measured at the mid channel were ≥ 3 dB below the SAR limit; SAR evaluation for the low and high channels was optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]). The radiated free space power level measured at the low channel was 0.4 dB higher than the mid channel; therefore a SAR evaluation was performed at the low channel in the worst-case mid channel configuration in order to show compliance at the higher power level as shown in the above test data table.								
		4.	The reference output power levels were determined prior to the SAR evaluations using the free space power measurement method (calculated from measured corrected field strength levels). The output power levels reported in the above test data table are source-based time-averaged (SBTA).								
		5.	The power drift of the DUT measured by the DASY4 system during the SAR evaluations was < 5%.								
		6.	The DUT battery was fully charged prior to the SAR evaluations.								
		7.	The dielectric parameters of the simulated tissue mixture were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C).								
		8.	The fluid temperature was measured prior to and after each of the SAR evaluations to ensure the temperature remained within +/-2°C of the fluid temperature reported during the dielectric parameter measurements.								
		9.	The SAR evaluations were performed within 24 hours of the system performance check.								

 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
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MEASUREMENT SUMMARY (Cont.)

BODY SAR EVALUATION RESULTS												
Freq. (MHz)	Chan.	Test Mode	Duty Cycle	Battery Type	Antenna Position	DUT Position to Planar Phantom	Accessories		Belt-Clip Spacing to Planar Phantom (cm)	DUT SBTA Start Power ⁴ (mW)	SAR Drift During Test (dB)	Measured SAR 1g (W/kg)
							Body-Worn	Audio				
5785.344	Mid	TDMA/TDD	20%	Ni-MH	Internal	Back Side	Belt-Clip	Headset	0.8	27.4	-0.016	0.450
5744.736	Low	TDMA/TDD	20%	Ni-MH	Internal	Back Side	Belt-Clip	Headset	0.8	30.0	0.193	0.395
ANSI / IEEE C95.1 1999 - SAFETY LIMIT				BODY: 1.6 W/kg (averaged over 1 gram)				Spatial Peak Uncontrolled Exposure / General Population				
Test Date(s)		November 20, 2006				Relative Humidity		30		%		
Measured Fluid Type		5800 MHz Body				Atmospheric Pressure		102.1		kPa		
Dielectric Constant ϵ_r		IEEE Target		Measured	Deviation	Ambient Temperature		23.0		°C		
		48.2	± 5%	46.4	-3.7%	Fluid Temperature		21.5		°C		
Conductivity σ (mho/m)		IEEE Target		Measured	Deviation	Fluid Depth		≥ 15		cm		
		6.00	± 5%	5.94	-1.0%	ρ (Kg/m³)		1000				
Note(s)		1. The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.										
		2. The procedures described in FCC document "SAR Measurement Requirements for 3 - 6 GHz" (see reference [7]) were followed.										
		3. If the SAR levels measured at the mid channel were ≥ 3 dB below the SAR limit; SAR evaluation for the low and high channels was optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]). The radiated free space power level measured at the low channel was 0.4 dB higher than the mid channel; therefore a SAR evaluation was performed at the low channel in the worst-case mid channel configuration in order to show compliance at the higher power level as shown in the above test data table.										
		4. The reference output power levels were determined prior to the SAR evaluations using the free space power measurement method (calculated from measured corrected field strength levels). The output power levels reported in the above test data table are source-based time-averaged (SBTA).										
		5. The power drift of the DUT measured by the DASY4 system during the SAR evaluations was < 5%.										
		6. The DUT battery was fully charged prior to the SAR evaluations.										
		7. The dielectric parameters of the simulated tissue mixture were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C).										
		8. The fluid temperature was measured prior to and after each of the SAR evaluations to ensure the temperature remained within +/-2°C of the fluid temperature reported during the dielectric parameter measurements.										
		9. The SAR evaluations were performed within 24 hours of the system performance check.										

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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5.0 DETAILS OF SAR EVALUATION

The VTECH TELECOMMUNICATIONS LTD. Model(s): AT&T EP5632 / EP562 Portable 5.8 GHz Cordless Telephone Handset FCC ID: EW780-6101-00 was compliant for localized Specific Absorption Rate (Uncontrolled Exposure) based on the test provisions and conditions described below. The detailed test setup photographs are shown in Appendix E.

Ear-held Configuration

- 1) The DUT was tested in an ear-held configuration on both the left and right sections of the SAM phantom at the mid channel of the operating band. If the SAR level at the mid channel of the frequency band for each test configuration (left ear, right ear, cheek/touch, ear/tilt) was ≥ 3 dB below the SAR limit, measurements at the low and high channels were optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]).
 - a) The handset was placed in the device holder 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, with the center of the earpiece touching the center of the ear spacer of the SAM phantom.
 - b) With the handset positioned parallel to the cheek, 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 (initial ear position).
 - c) While maintaining the three alignments, the body of the handset was gradually adjusted to each of the following test positions:
 - Cheek/Touch Position: the handset was brought toward the mouth of the head phantom by pivoting against the ear reference point until any point of the mouthpiece or keypad touched the phantom.

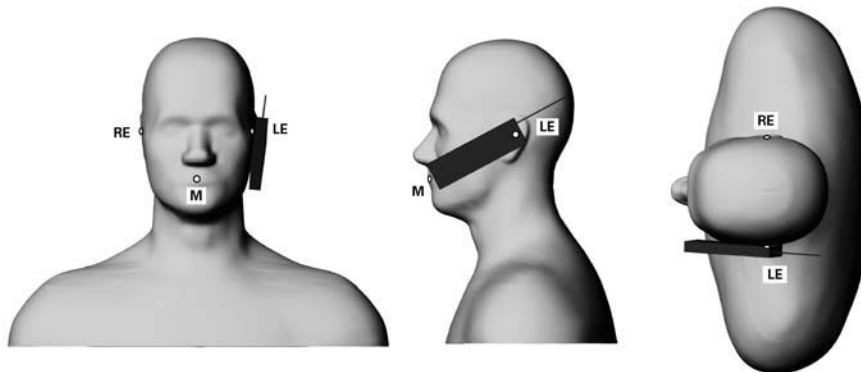


Figure 1. Phone position 1, “cheek” or “touch” position. The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning, are indicated (Shoulders are shown for illustration only).

- Ear/Tilt Position: With the phone aligned in the Cheek/Touch position, the handset was tilted away from the mouth with respect to the test device reference point by 15 degrees.

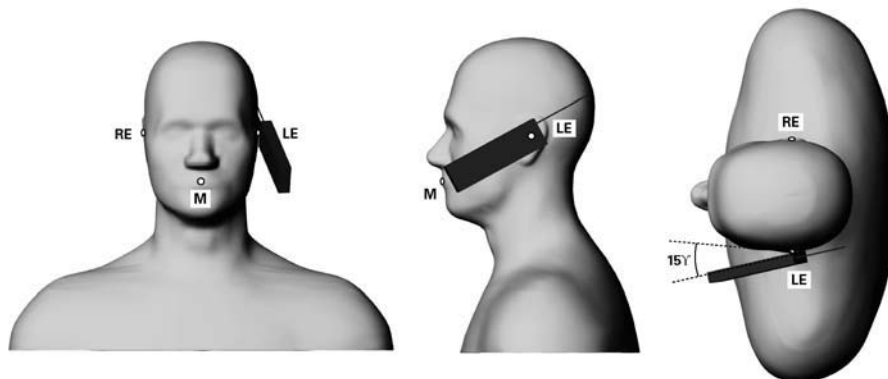





Figure 2. Phone position 2, “tilted position.” The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning, are indicated (Shoulders are shown for illustration only).

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Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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DETAILS OF SAR EVALUATION (Cont.)

Body-worn Configuration

- 2) The DUT was tested in a body-worn configuration with the back of the device placed parallel to the outer surface of the SAM phantom (planar section). The attached plastic belt-clip accessory was touching the outer surface of the SAM phantom (planar section) and provided a 0.8 cm separation distance from the back of the handset to the SAM phantom (planar section).
- 3) A generic headset-microphone audio accessory was connected to the DUT for the duration of the test(s).

Test Modes & Power Settings

- 4) The DUT was programmed in test mode via internal software controlled by the keypad.
- 5) SAR measurements were performed with the DUT transmitting at maximum power on a fixed frequency with a modulated signal in two time slots.
- 6) The 20% source-based time-averaged duty cycle was measured prior to the SAR evaluations (crest factor: 1:5).
- 7) The conducted power level(s) of the DUT could not be measured for the SAR evaluation due to an internal antenna type. The DUT was evaluated for SAR at the maximum conducted power level preset by the manufacturer. The RF output power levels of the DUT were evaluated prior to the SAR evaluations using the free-space power measurement method (output power calculated from measured field strengths) performed by Nemko Canada.

6.0 EVALUATION PROCEDURES


- a. (i) The evaluation was performed in the applicable area of the phantom depending on the type of device being tested. For devices held to the ear during normal operation, both the left and right ear positions were evaluated using the SAM phantom.
(ii) For body-worn and face-held devices a planar phantom was used.
- b. The SAR was determined by a pre-defined procedure within the DASY4 software. Upon completion of a reference and optical surface check, the exposed region of the phantom was scanned near the inner surface with a grid spacing of 15mm x 15mm.

An area scan was determined as follows:

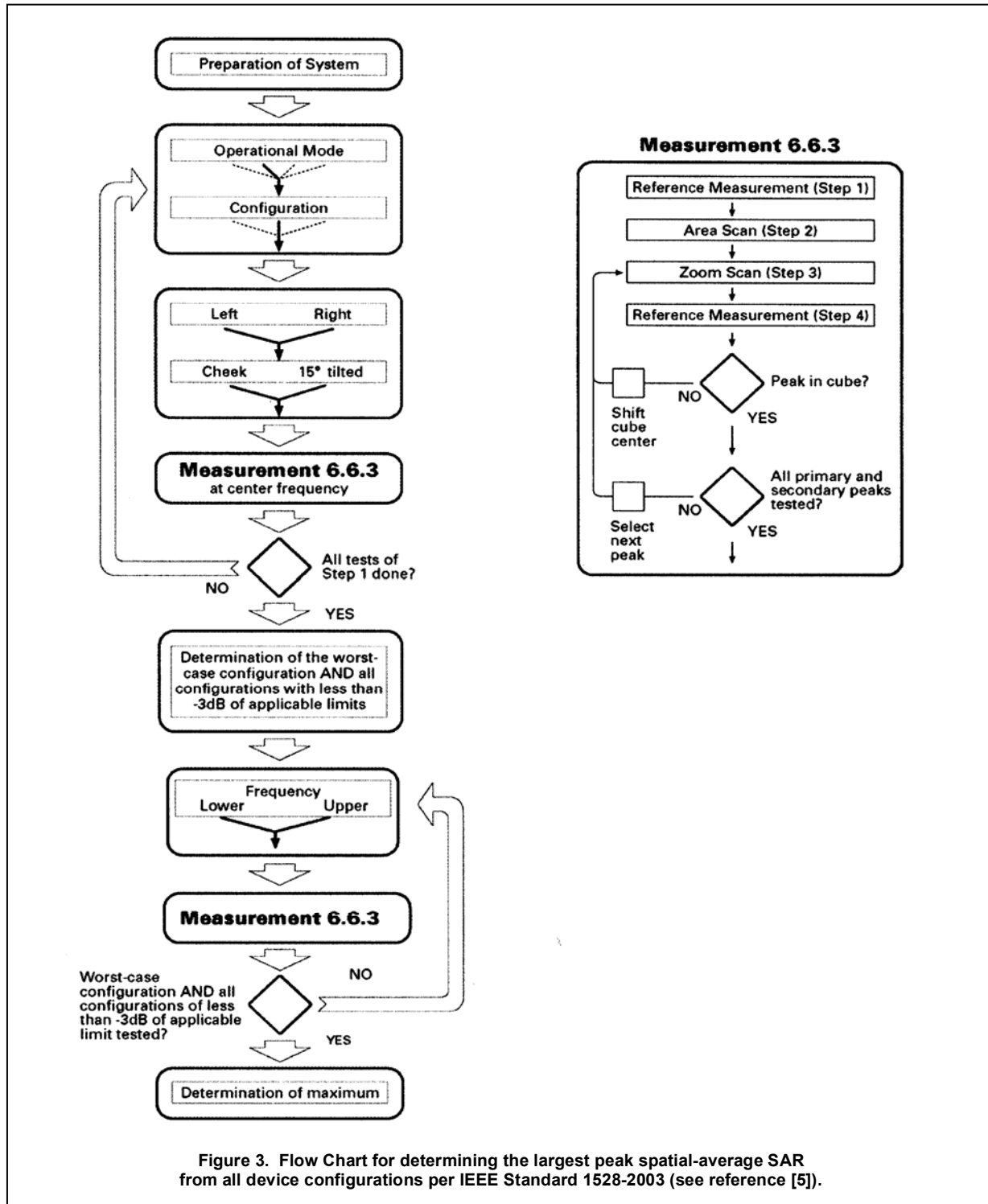
- c. Based on the defined area scan grid, a more detailed grid is created to increase the points by a factor of 10. The interpolation function then evaluates all field values between corresponding measurement points.
- d. A linear search is applied to find all the candidate maxima. Subsequently, all maxima are removed that are >2 dB from the global maximum. The remaining maxima are then used to position the cube scans.

A 1g and 10g spatial peak SAR was determined as follows:

- e. Extrapolation is used to determine the values between the dipole center of the probe and the surface of the phantom. This data cannot be measured because the center of the dipole sensors is 1.0 mm away from the probe tip and the distance between the probe and the boundary must be larger than 25% of the probe diameter. The probe diameter is 2.4 mm. In the DASY4 software, the distance between the sensor center and phantom surface is set to 2.0 mm. This provides a distance of 1.0 mm between the probe tip and the surface. The extrapolation of the values between the dipole center and the surface of the phantom was based on trivariate quadratics computed from the previously calculated 3D interpolated points nearest the phantom surface.
- f. Interpolated data is used to calculate the average SAR over 1g and 10g cubes by spatially discretizing the entire measured cube. The volume used to determine the averaged SAR is a 1mm grid (42875 interpolated points).
- g. A zoom scan volume of 24 mm x 24 mm x 20 mm (7x7x9 points) centered at the peak SAR location determined from the area scan was used and a zoom scan resolution of 4 mm x 4 mm x 2.5 mm was used.
- h. The procedures described in FCC document "SAR Measurement Requirements for 3 - 6 GHz" (see reference [7]) were followed.

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EVALUATION PROCEDURES (Cont.)



7.0 SYSTEM PERFORMANCE CHECK

Prior to the SAR evaluations a system check was performed at the planar section of the SAM phantom with a SPEAG D5GHzV2 validation dipole (see Appendix F for system validation procedures). The dielectric parameters of the simulated tissue mixture were measured prior to the system performance check using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C). A forward power of 250 mW was applied to the dipole and the system was verified to a tolerance of $\pm 10\%$ (see Appendix B for system performance check test plot). See the bottom table below (Figure 5) for system manufacturer's reference SAR values from the DASY4 Manual (see reference [6]).

SYSTEM PERFORMANCE CHECK EVALUATION																
Test Date	5.8GHz Equiv. Tissue	SAR 1g (W/kg)			Dielectric Constant ϵ_r			Conductivity σ (mho/m)			ρ (Kg/m ³)	Amb. Temp. (°C)	Fluid Temp. (°C)	Fluid Depth (cm)	Humid. (%)	Barom. Press. (kPa)
		Target	Meas.	Dev.	IEEE Target	Meas.	Dev.	IEEE Target	Meas.	Dev.						
11/20/06	Body	18.5 \pm 10%	17.9	-3.2%	48.2 \pm 5%	46.4	-3.7%	6.00 \pm 5%	5.94	-1.0%	1000	23.0	21.5	\geq 15	30	102.1
Manufacturer's FDTD Peak SAR Target Dipole Value:						85.2 W/kg (+/-15%)			Measured Peak SAR Level (extrapolated):			88.3 W/kg		+3.6% deviation		
Note(s)		1. The fluid temperature was measured prior to and after the system performance check evaluation to ensure the temperature remained within +/-2°C of the fluid temperature reported during the dielectric parameter measurements.														

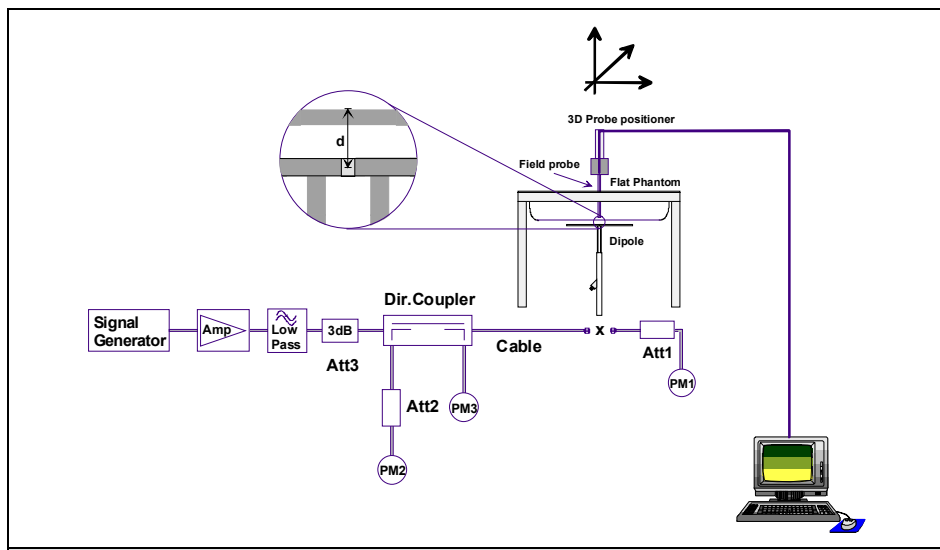


Figure 4. System Performance Check Measurement Setup

D5GHzV2 Dipole Setup

Reference SAR values

The reference SAR values were calculated using finite-difference time-domain FDTD method (feed-point impedance set to 50 Ω) and the mechanical dimensions of the D5GHzV2 dipole (manufactured by SPEAG).

f (GHz)	Head Tissue			Body Tissue		
	SAR _{1g}	SAR _{10g}	SAR _{peak}	SAR _{1g}	SAR _{10g}	SAR _{peak}
5.0	72.9	20.7	285.6	68.1	19.2	260.3
5.1	74.6	21.1	297.5	78.8	19.6	272.3
5.2	76.5	21.6	310.3	71.8	20.1	284.7
5.5	83.3	23.4	349.4	79.1	22.0	326.3
5.8	78.0	21.9	340.9	74.1	20.5	324.7

Table 27.2: Numerical reference SAR values for D5GHzV2 dipole and flat phantom.




Figure 5. System manufacturer's reference body SAR values

D5GHzV2 Dipole

8.0 SIMULATED EQUIVALENT TISSUES

The 5.8 GHz simulated tissue mixtures were provided by the SAR system manufacturer (SPEAG) and are listed below. The dielectric parameters of the tissue mixture (permittivity and conductivity) were measured prior to the SAR evaluations. See Appendix D for manufacturer's fluid data sheet.

SIMULATED TISSUE MIXTURES						
INGREDIENT	SYSTEM PERFORMANCE CHECK & DUT EVALUATION					
	5.8 GHz Brain	5.8 GHz Body	5 GHz Fluid			
Water	64 - 78%	64 - 78%				
Mineral Oil	11 - 18%	11 - 18%				
Emulsifiers	9 - 15%	9 - 15%				
Additives and Salt	2 - 3%	2 - 3%				
TISSUE TEMPERATURE SENSITIVITY						
Date	Tissue Type	Temp. (°C)	Dielectric Constant ϵ_r	Deviation (%)	Conductivity σ (mho/m)	Deviation (%)
Nov. 20	Brain	20	34.2	-2.5	5.13	-0.5
Nov. 20	Brain	22	35.1	0	5.16	0
Nov. 20	Brain	24	34.9	-0.6	5.06	-2.0
Note(s)	1. The fluid temperature during the SAR evaluations remained within +/-2°C from the temperature reported during the dielectric parameter measurements. The fluid temperature sensitivity data is reported to show that the tissue dielectric parameters were within tolerance during the SAR evaluations.					

9.0 SAR SAFETY LIMITS

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	1.60	8.0
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0
Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.		
Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.		

10.0 ROBOT SYSTEM SPECIFICATIONS

<u>Specifications</u>	
Positioner	Stäubli Unimation Corp. Robot Model: RX60L
Repeatability	0.02 mm
No. of axis	6
<u>Data Acquisition Electronic (DAE) System</u>	
<u>Cell Controller</u>	
Processor	AMD Athlon XP 2400+
Clock Speed	2.0 GHz
Operating System	Windows XP Professional
<u>Data Converter</u>	
Features	Signal Amplifier, multiplexer, A/D converter, and control logic
Software	Measurement Software: DASYS4, V4.7 Build 44
	Postprocessing Software: SEMCAD, V1.8 Build 171
Connecting Lines	Optical downlink for data and status info.; Optical uplink for commands and clock
<u>DASY4 Measurement Server</u>	
Function	Real-time data evaluation for field measurements and surface detection
Hardware	PC/104 166MHz Pentium CPU; 32 MB chipdisk; 64 MB RAM
Connections	COM1, COM2, DAE, Robot, Ethernet, Service Interface
<u>E-Field Probe</u>	
Model	EX3DV4
Serial No.	3547
Construction	Symmetrical design with triangular core
Frequency	10 MHz to 6 GHz
Linearity	±0.2 dB (30 MHz to 3 GHz)
<u>Phantom(s)</u>	
Type	SAM V4.0C
Shell Material	Fiberglass
Thickness	2.0 ±0.1 mm
Volume	Approx. 25 liters

11.0 PROBE SPECIFICATION (EX3DV4)

Construction: Symmetrical design with triangular core
Built-in shielding against static charges
PEEK enclosure material (resistant to organic solvents, e.g. DGBE)

Calibration: Basic Broadband Calibration in air: 10-3000 MHz
Conversion Factors (CF) for HSL 900 and HSL 1750

Frequency: 10 MHz to >6 GHz; Linearity: ± 0.2 dB (30 MHz to 3 GHz)

Directivity: ± 0.3 dB in HSL (rotation around probe axis)
 ± 0.5 dB in tissue material (rotation normal to probe axis)

Dynamic Range: 10 μ W/g to >100 mW/g; Linearity: ± 0.2 dB
(noise: typically < 1 μ W/g)

Dimensions: Overall length: 330 mm (Tip: 20 mm)
Tip diameter: 2.5 mm (Body: 12 mm)
Typical distance from probe tip to dipole centers: 1.0 mm

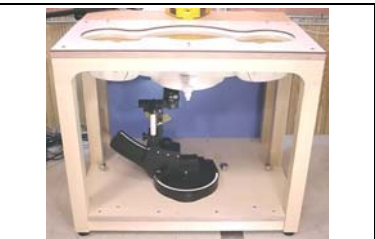
Application: High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better than 30%.



EX3DV4 E-Field Probe

12.0 SAM PHANTOM V4.0C

The SAM phantom V4.0C is a fiberglass shell phantom with a 2.0 mm (+/-0.2 mm) shell thickness for left and right head and flat planar area integrated in a wooden table. The shape of the fiberglass shell corresponds to the phantom defined by SCC34-SC2. The device holder positions are adjusted to the standard measurement positions in the three sections (see Appendix H for specifications of the SAM phantom V4.0C).



SAM Phantom V4.0C

13.0 DEVICE HOLDER

The DASY4 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections.



Device Holder

14.0 TEST EQUIPMENT LIST

TEST EQUIPMENT		ASSET NO.	SERIAL NO.	DATE CALIBRATED		CALIBRATION DUE DATE
USED	DESCRIPTION					
x	Schmid & Partner DASY4 System	-	-	-	-	-
x	-DASY4 Measurement Server	00158	1078	N/A	N/A	N/A
x	-Robot	00046	599396-01	N/A	N/A	N/A
x	-DAE4	00019	353	21Jun06	21Jun07	21Jun07
	-DAE3	00018	370	08Feb06	08Feb07	08Feb07
	-ET3DV6 E-Field Probe	00016	1387	16Mar06	16Mar07	16Mar07
x	-EX3DV4 E-Field Probe	00125	3547	14Feb06	14Feb07	14Feb07
	-835MHz Validation Dipole	00022	411	Brain	28Mar06	28Mar07
				Body	27Mar06	27Mar07
	-900MHz Validation Dipole	00020	054	Brain	06Jun06	06Jun07
				Body	06Jun06	06Jun07
	-1640MHz Validation Dipole	00212	0175	Brain	14Aug06	14Aug07
	-1800MHz Validation Dipole	00021	247	Brain	08Jun06	08Jun07
				Body	09Jun06	09Jun07
	-1900MHz Validation Dipole	00032	151	Brain	09Jun06	09Jun07
				Body	12Jun06	12Jun07
	-2450MHz Validation Dipole	00025	150	Body	24Apr06	24Apr07
	-5800MHz Validation Dipole	00126	1031	Brain	15Mar06	15Mar07
x				Body	18Jul06	18Jul07
x	-SAM Phantom V4.0C	00154	1033	N/A	N/A	N/A
	-Barski Planar Phantom	00155	03-01	N/A	N/A	N/A
	-Plexiglas Side Planar Phantom	00156	161	N/A	N/A	N/A
	-Plexiglas Validation Planar Phantom	00157	137	N/A	N/A	N/A
x	ALS-PR-DIEL Dielectric Probe Kit	00160	260-00953	N/A	N/A	N/A
	Gigatronics 8652A Power Meter	00110	1835801	12Apr06	12Apr07	12Apr07
x	Gigatronics 8652A Power Meter	00007	1835272	03Feb06	03Feb07	03Feb07
x	Gigatronics 80701A Power Sensor	00011	1833542	03Feb06	03Feb07	03Feb07
x	Gigatronics 80701A Power Sensor	00013	1833713	03Feb06	03Feb07	03Feb07
x	HP 8753ET Network Analyzer	00134	US39170292	18Apr06	18Apr07	18Apr07
	HP 8648D Signal Generator	00005	3847A00611	N/A	N/A	N/A
x	Rohde & Schwarz SMR40 Signal Generator	00006	100104	06Apr06	06Apr07	06Apr07
x	Amplifier Research 5S1G4 Power Amplifier	00106	26235	N/A	N/A	N/A

15.0 MEASUREMENT UNCERTAINTIES



UNCERTAINTY BUDGET FOR DEVICE EVALUATION						
Error Description	Uncertainty Value ±%	Probability Distribution	Divisor	ci 1g	Uncertainty Value ±% (1g)	V _i or V _{eff}
Measurement System						
Probe calibration	6.55	Normal	1	1	6.55	∞
Axial isotropy of the probe	4.7	Rectangular	1.732050808	0.7	1.9	∞
Spherical isotropy of the probe	9.6	Rectangular	1.732050808	0.7	3.9	∞
Spatial resolution	0	Rectangular	1.732050808	1	0.0	∞
Boundary effects	2	Rectangular	1.732050808	1	1.2	∞
Probe linearity	4.7	Rectangular	1.732050808	1	2.7	∞
Detection limit	1	Rectangular	1.732050808	1	0.6	∞
Readout electronics	0.3	Normal	1	1	0.3	∞
Response time	0.8	Rectangular	1.732050808	1	0.5	∞
Integration time	2.6	Rectangular	1.732050808	1	1.5	∞
RF ambient conditions	3	Rectangular	1.732050808	1	1.7	∞
Mech. constraints of robot	0.8	Rectangular	1.732050808	1	0.5	∞
Probe positioning	5.7	Rectangular	1.732050808	1	3.3	∞
Extrapolation & integration	4	Rectangular	1.732050808	1	2.3	∞
Test Sample Related						
Device positioning	2.9	Normal	1	1	2.9	12
Device holder uncertainty	3.6	Normal	1	1	3.6	8
Power drift	5	Rectangular	1.732050808	1	2.9	∞
Phantom and Setup						
Phantom uncertainty	4	Rectangular	1.732050808	1	2.3	∞
Liquid conductivity (target)	5	Rectangular	1.732050808	0.64	1.8	∞
Liquid conductivity (measured)	2.5	Normal	1	0.64	1.6	∞
Liquid permittivity (target)	5	Rectangular	1.732050808	0.6	1.7	∞
Liquid permittivity (measured)	2.5	Normal	1	0.6	1.5	∞
Combined Standard Uncertainty					11.78	
Expanded Uncertainty (k=2)					23.56	

Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003 (see reference [5])

MEASUREMENT UNCERTAINTIES (Cont.)


UNCERTAINTY BUDGET FOR SYSTEM VALIDATION						
Error Description	Uncertainty Value ±%	Probability Distribution	Divisor	ci 1g	Uncertainty Value ±% (1g)	V _i or V _{eff}
Measurement System						
Probe calibration	6.55	Normal	1	1	6.55	∞
Axial isotropy of the probe	4.7	Rectangular	1.732050808	1	2.7	∞
Spherical isotropy of the probe	9.6	Rectangular	1.732050808	1	5.5	∞
Spatial resolution	0	Rectangular	1.732050808	1	0.0	∞
Boundary effects	2	Rectangular	1.732050808	1	1.2	∞
Probe linearity	4.7	Rectangular	1.732050808	1	2.7	∞
Detection limit	1	Rectangular	1.732050808	1	0.6	∞
Readout electronics	0.3	Normal	1	1	0.3	∞
Response time	0	Rectangular	1.732050808	1	0.0	∞
Integration time	0	Rectangular	1.732050808	1	0.0	∞
RF ambient conditions	3	Rectangular	1.732050808	1	1.7	∞
Mech. constraints of robot	0.8	Rectangular	1.732050808	1	0.5	∞
Probe positioning	5.7	Rectangular	1.732050808	1	3.3	∞
Extrapolation & integration	4	Rectangular	1.732050808	1	2.3	∞
Dipole						
Dipole positioning	2	Rectangular	1.732050808	1	1.2	∞
Power & Power Drift	4.7	Rectangular	1.732050808	1	2.7	∞
Phantom and Setup						
Phantom uncertainty	4	Rectangular	1.732050808	1	2.3	∞
Liquid conductivity (target)	5	Rectangular	1.732050808	0.64	1.8	∞
Liquid conductivity (measured)	2.5	Normal	1	0.64	1.6	∞
Liquid permittivity (target)	5	Rectangular	1.732050808	0.6	1.7	∞
Liquid permittivity (measured)	2.5	Normal	1	0.6	1.5	∞
Combined Standard Uncertainty					11.61	
Expanded Uncertainty (k=2)					23.22	

Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003 (see reference [5])

	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	


16.0 REFERENCES


- [1] Federal Communications Commission - "Radiofrequency radiation exposure evaluation: portable devices", Rule Part 47 CFR §2.1093:1999.
- [2] Health Canada - "Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz", Safety Code 6:1999.
- [3] Federal Communications Commission - "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields", OET Bulletin 65, Supplement C (Edition 01-01), FCC, Washington, D.C.: June 2001.
- [4] Industry Canada - "Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)", Radio Standards Specification RSS-102 Issue 2: November 2005.
- [5] IEEE Standard 1528-2003 - "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques": December 2003.
- [6] Schmid & Partner Engineering AG - "DASY4 Manual", V4.5: March 2005.
- [7] Federal Communications Commission - "SAR Measurement Requirements for 3 - 6 GHz": October 2006 (Rev. 1.1).

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

APPENDIX A - SAR MEASUREMENT DATA

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

Date Tested: 11/20/2006

Head SAR - Right Ear - Cheek/Touch Position - Mid Channel - 5785.344 MHz

DUT: VTech Telecommunications; Model: EP5632; Type: 5.8GHz Cordless Handset; Serial: None

Ambient Temp: 23.5 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.1 kPa; Humidity: 31%

Power: 3.6V Ni-MH Battery Pack

Communication System: TDMA/TDD

RF Output Power: 27.4 mW (Radiated)

Frequency: 5785.344 MHz; Duty Cycle: 1:5

Medium: HSL5200-5800 Medium parameters used: $\sigma = 5.16$ mho/m; $\epsilon_r = 35.1$; $\rho = 1000$ kg/m³

- Probe: EX3DV4 - SN3547; ConvF(4.79, 4.79, 4.79); Calibrated: 14/02/2006
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: SAM 4.0; Type: Fiberglas; Serial: 1033
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Head SAR - Right Ear - Cheek/Touch Position - Mid Channel

Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.850 mW/g

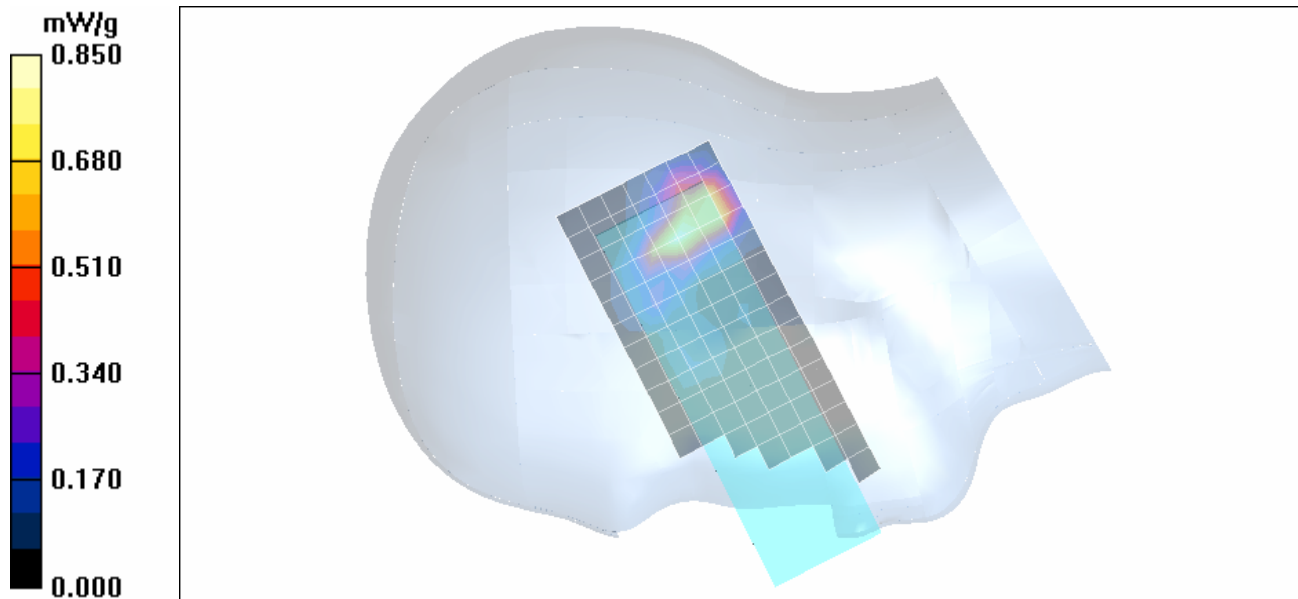
Head SAR - Right Ear - Cheek/Touch Position - Mid Channel


Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 13.7 V/m; Power Drift = 0.106 dB

Peak SAR (extrapolated) = 1.53 W/kg

SAR(1 g) = 0.447 mW/g; SAR(10 g) = 0.170 mW/g



Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

Date Tested: 11/20/2006

Head SAR - Right Ear - Tilt Position (15°) - Mid Channel - 5785.344 MHz

DUT: VTech Telecommunications; Model: EP5632; Type: 5.8GHz Cordless Handset; Serial: None

Ambient Temp: 23.5 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.1 kPa; Humidity: 31%

Power: 3.6V Ni-MH Battery Pack

Communication System: TDMA/TDD

RF Output Power: 27.4 mW (Radiated)

Frequency: 5785.344 MHz; Duty Cycle: 1:5

Medium: HSL5200-5800 Medium parameters used: $\sigma = 5.16 \text{ mho/m}$; $\epsilon_r = 35.1$; $\rho = 1000 \text{ kg/m}^3$

- Probe: EX3DV4 - SN3547; ConvF(4.79, 4.79, 4.79); Calibrated: 14/02/2006
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Head SAR - Right Ear - Tilt Position (15°) - Mid Channel

Area Scan (8x16x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.709 mW/g

Head SAR - Right Ear - Tilt Position (15°) - Mid Channel

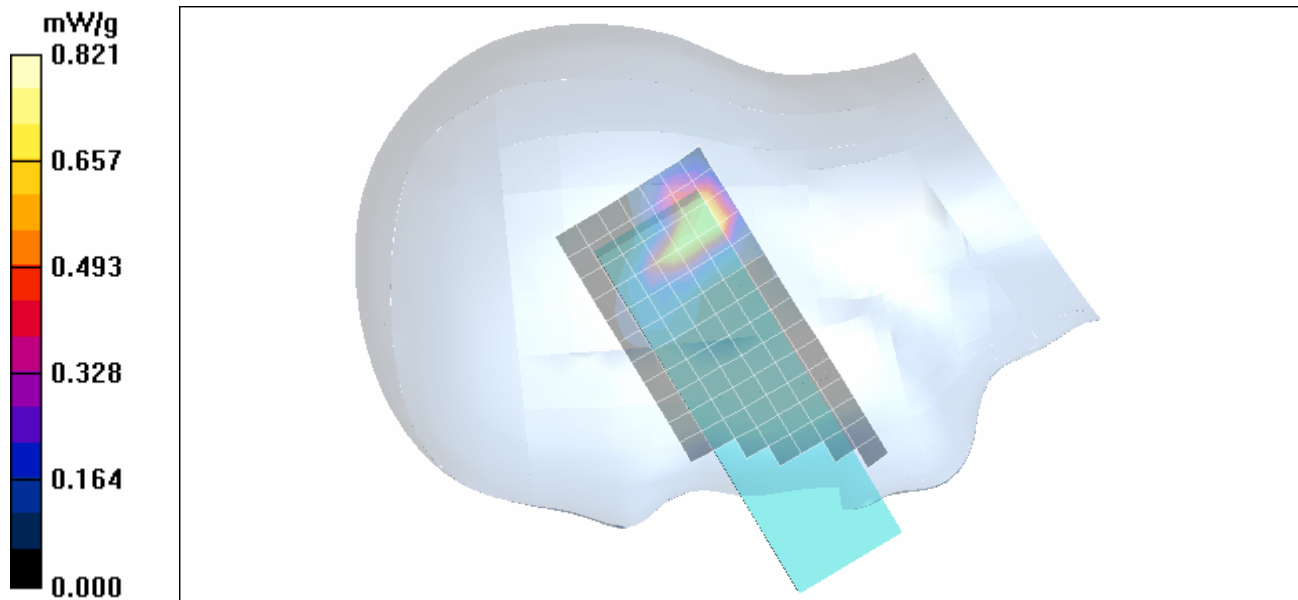
Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm


Reference Value = 8.52 V/m; Power Drift = 0.200 dB

Peak SAR (extrapolated) = 1.45 W/kg

SAR(1 g) = 0.427 mW/g; SAR(10 g) = 0.160 mW/g

Maximum value of SAR (measured) = 0.821 mW/g



Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

Date Tested: 11/20/2006

Head SAR - Left Ear - Cheek/Touch Position - Mid Channel - 5785.344 MHz

DUT: VTech Telecommunications; Model: EP5632; Type: 5.8GHz Cordless Handset; Serial: None

Ambient Temp: 23.5 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.1 kPa; Humidity: 31%

Power: 3.6V Ni-MH Battery Pack
 Communication System: TDMA/TDD
 RF Output Power: 27.4 mW (Radiated)
 Frequency: 5785.344 MHz; Duty Cycle: 1:5
 Medium: HSL5200-5800 Medium parameters used: $\sigma = 5.16 \text{ mho/m}$; $\epsilon_r = 35.1$; $\rho = 1000 \text{ kg/m}^3$

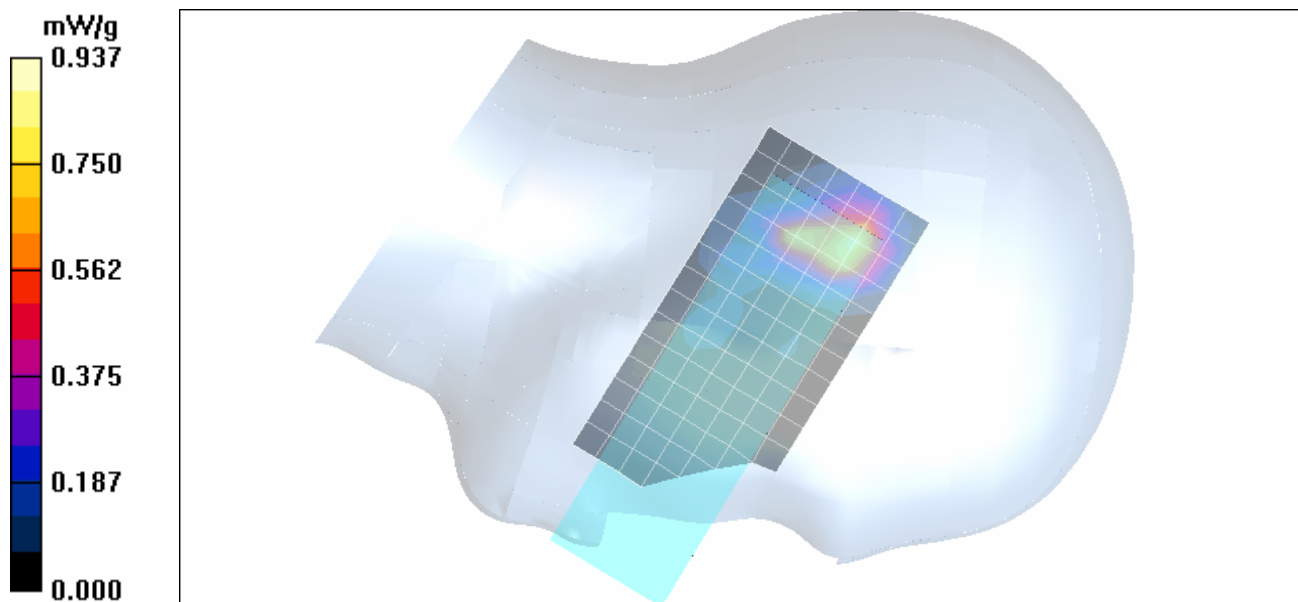
- Probe: EX3DV4 - SN3547; ConvF(4.79, 4.79, 4.79); Calibrated: 14/02/2006
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: SAM 4.0; Type: Fiberglas; Serial: 1033
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171


Head SAR - Left Ear - Cheek/Touch Position - Mid Channel

Area Scan (8x15x1): Measurement grid: dx=10mm, dy=10mm
 Maximum value of SAR (measured) = 0.858 mW/g

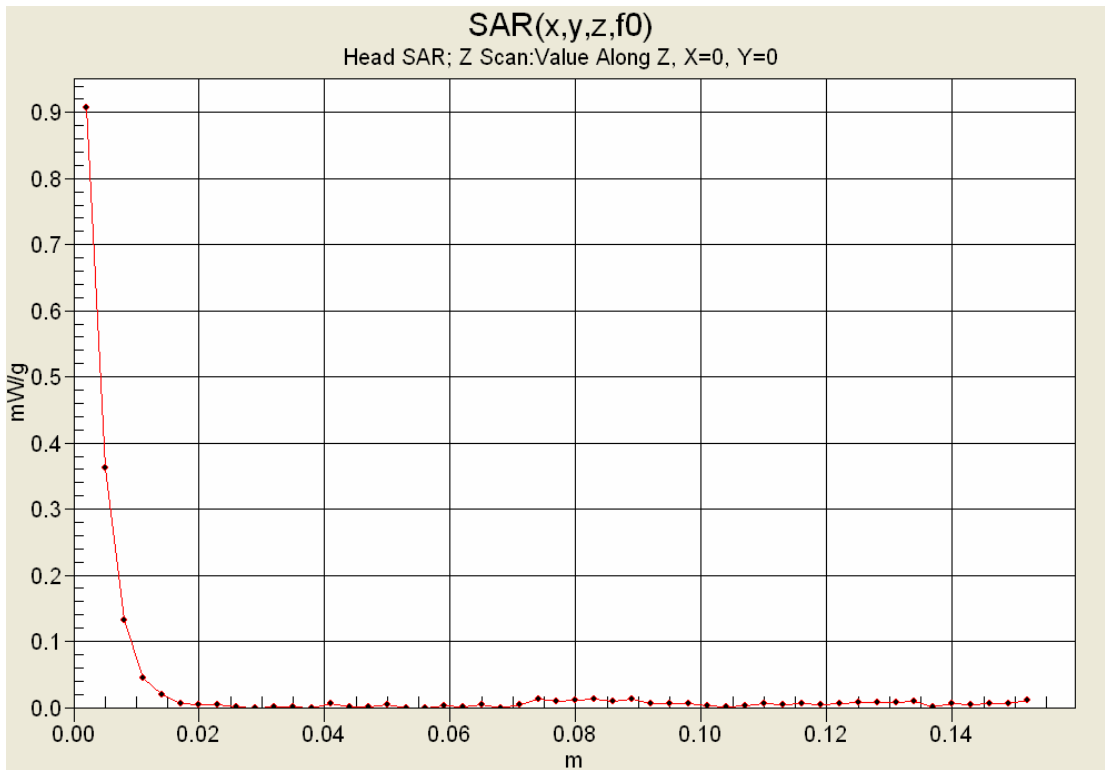
Head SAR - Left Ear - Cheek/Touch Position - Mid Channel

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
 Reference Value = 13.5 V/m; Power Drift = -0.214 dB
 Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 0.479 mW/g; SAR(10 g) = 0.176 mW/g
 Maximum value of SAR (measured) = 0.937 mW/g

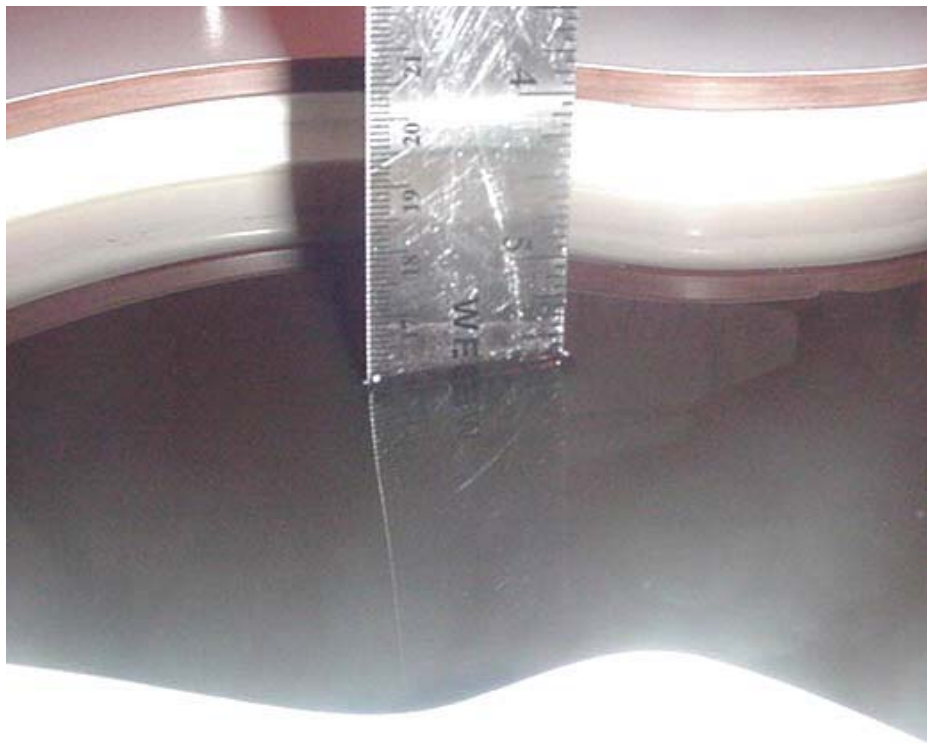



Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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Z-Axis Scan



Fluid Depth (>15cm)



	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	  Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

Date Tested: 11/20/2006

Head SAR - Left Ear - Tilt Position (15°) - Mid Channel - 5785.344 MHz

DUT: VTech Telecommunications; Model: EP5632; Type: 5.8GHz Cordless Handset; Serial: None

Ambient Temp: 23.5 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.1 kPa; Humidity: 31%

Power: 3.6V Ni-MH Battery Pack
Communication System: TDMA/TDD
RF Output Power: 27.4 mW (Radiated)
Frequency: 5785.344 MHz; Duty Cycle: 1:5
Medium: HSL5200-5800 Medium parameters used: $\sigma = 5.16$ mho/m; $\epsilon_r = 35.1$; $\rho = 1000$ kg/m³

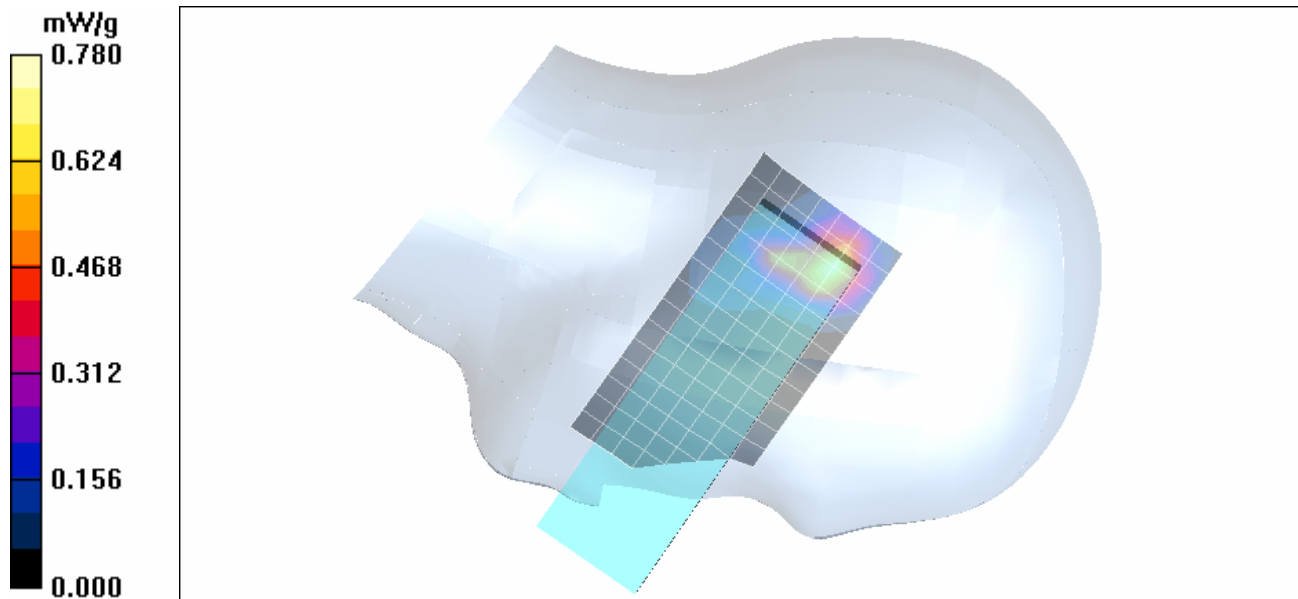
- Probe: EX3DV4 - SN3547; ConvF(4.79, 4.79, 4.79); Calibrated: 14/02/2006
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: SAM 4.0; Type: Fiberglas; Serial: 1033
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171


Head SAR - Left Ear - Tilt Position (15°) - Mid Channel


Area Scan (8x15x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.767 mW/g

Head SAR - Left Ear - Tilt Position (15°) - Mid Channel

Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 7.87 V/m; Power Drift = 0.134 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.407 mW/g; SAR(10 g) = 0.146 mW/g
Maximum value of SAR (measured) = 0.780 mW/g



Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

Date Tested: 11/20/2006

Head SAR - Left Ear - Cheek/Touch Position - Low Channel - 5744.736 MHz

DUT: VTech Telecommunications; Model: EP5632; Type: 5.8GHz Cordless Handset; Serial: None

Ambient Temp: 23.5 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.1 kPa; Humidity: 31%

Power: 3.6V Ni-MH Battery Pack

Communication System: TDMA/TDD

RF Output Power: 30.0 mW (Radiated)

Frequency: 5744.736 MHz; Duty Cycle: 1:5

Medium: HSL5200-5800 Medium parameters used: $\sigma = 5.16$ mho/m; $\epsilon_r = 35.1$; $\rho = 1000$ kg/m³

- Probe: EX3DV4 - SN3547; ConvF(4.79, 4.79, 4.79); Calibrated: 14/02/2006
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Left Head SAR - Left Ear - Cheek/Touch Position - Low Channel

Area Scan (8x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.507 mW/g

Left Head SAR - Left Ear - Cheek/Touch Position - Low Channel

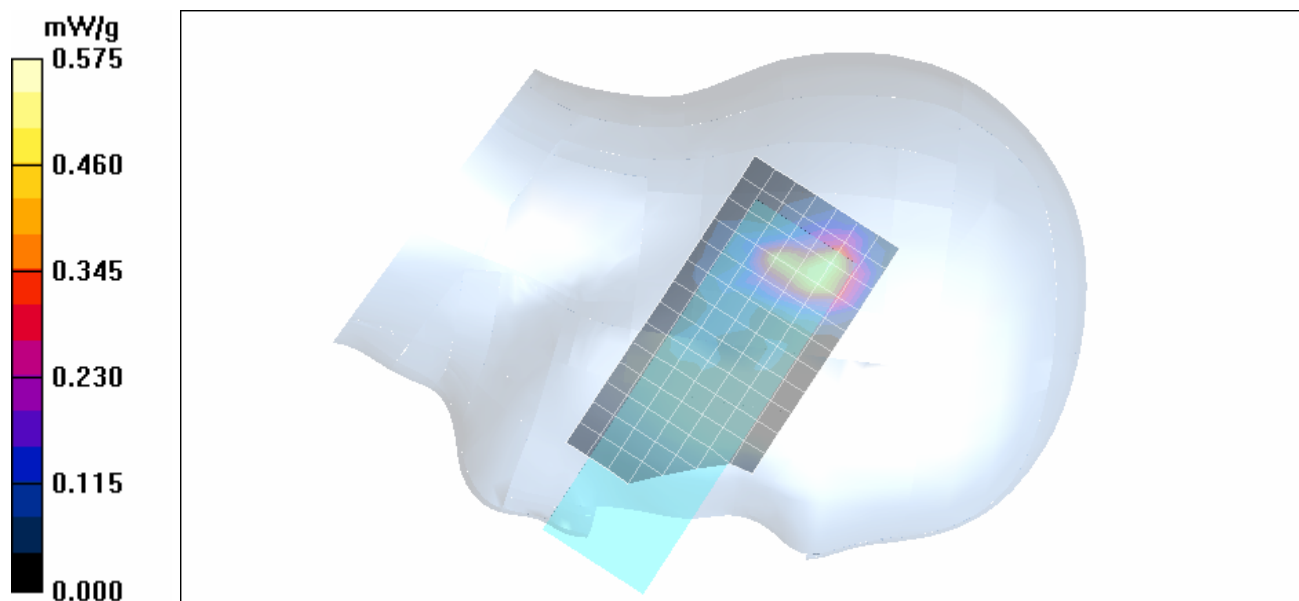
Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm


Reference Value = 10.4 V/m; Power Drift = 0.167 dB


Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.293 mW/g; SAR(10 g) = 0.109 mW/g

Maximum value of SAR (measured) = 0.575 mW/g



Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

Date Tested: 11/20/2006

Body SAR - Back Side of DUT with Belt-Clip (0.8 cm Spacing) - Mid Channel - 5785.344 MHz

DUT: VTech Telecommunications; Model: EP5632; Type: 5.8GHz Cordless Handset; Serial: None

Body-Worn Accessory: Plastic Belt-Clip; Audio Accessory: Generic Headset-Microphone

Ambient Temp: 23.0 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 102.1 kPa; Humidity: 30%

Power: 3.6V Ni-MH Battery Pack

Communication System: TDMA/TDD

RF Output Power: 27.4 mW (Radiated)

Frequency: 5785.344 MHz; Duty Cycle: 1:5

Medium: M5200-5800 Medium parameters used: $\sigma = 5.94$ mho/m; $\epsilon_r = 46.4$; $\rho = 1000$ kg/m³

- Probe: EX3DV4 - SN3547; ConvF(4.69, 4.69, 4.69); Calibrated: 14/02/2006
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASy4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn SAR - 0.8 cm Belt-Clip Spacing Between Back of DUT & Planar Phantom - Mid Channel

Area Scan (8x19x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.797 mW/g

Body-Worn SAR - 0.8 cm Belt-Clip Spacing Between Back of DUT & Planar Phantom - Mid Channel

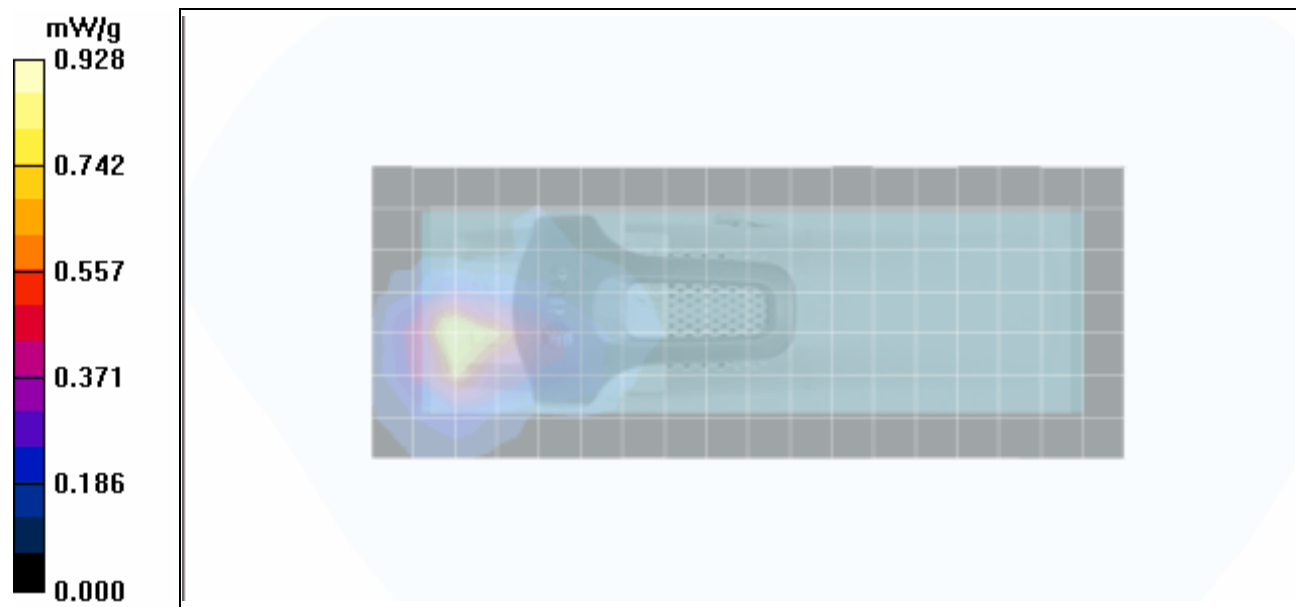
Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm


Reference Value = 8.24 V/m; Power Drift = -0.016 dB

Peak SAR (extrapolated) = 2.06 W/kg

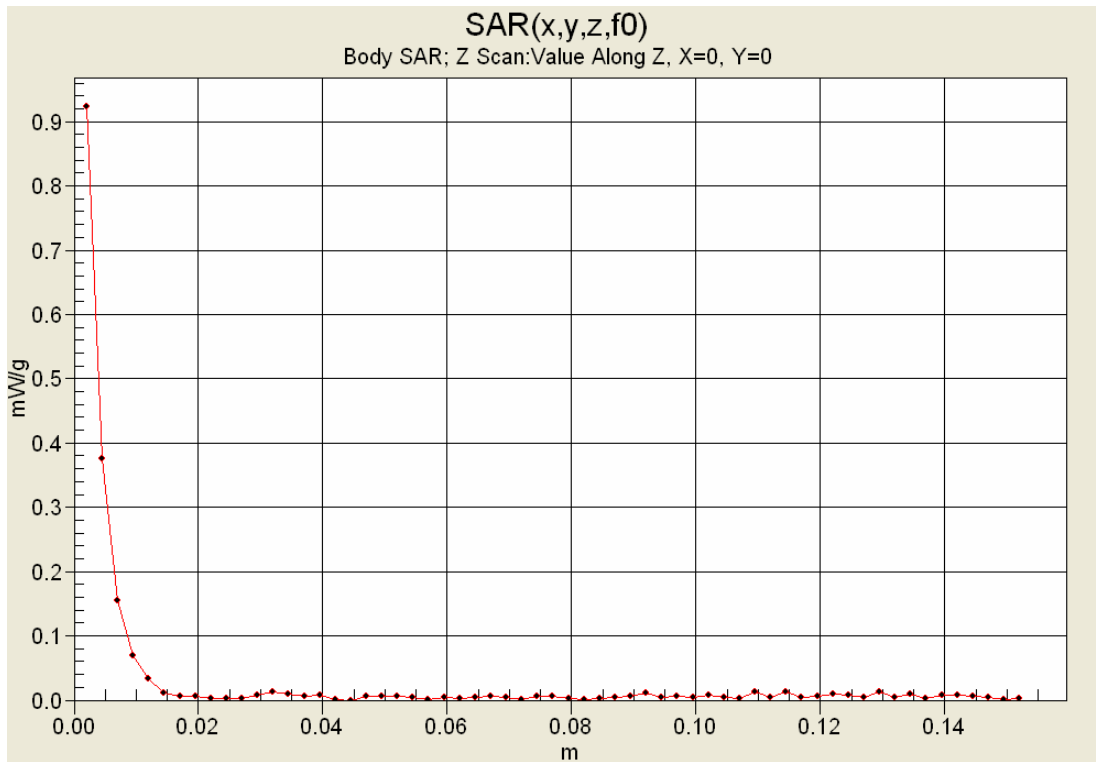
SAR(1 g) = 0.450 mW/g; SAR(10 g) = 0.148 mW/g

Maximum value of SAR (measured) = 0.928 mW/g

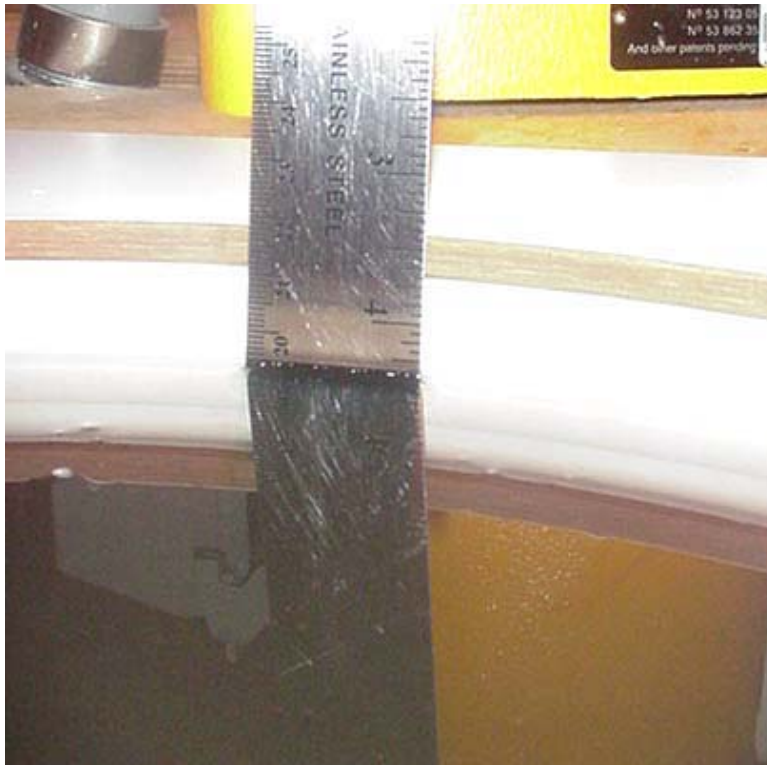



Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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Z-Axis Scan



Fluid Depth (>15cm)



	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

Date Tested: 11/20/2006

Body SAR - Back Side of DUT with Belt-Clip (0.8 cm Spacing) - Low Channel - 5744.736 MHz

DUT: VTech Telecommunications; Model: EP5632; Type: 5.8GHz Cordless Handset; Serial: None

Body-Worn Accessory: Plastic Belt-Clip; Audio Accessory: Generic Headset-Microphone

Ambient Temp: 23.0 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 102.1 kPa; Humidity: 30%

Power: 3.6V Ni-MH Battery Pack

Communication System: TDMA/TDD

RF Output Power: 30.0 mW (Radiated)

Frequency: 5744.736 MHz; Duty Cycle: 1:5

Medium: M5200-5800 Medium parameters used: $\sigma = 5.94$ mho/m; $\epsilon_r = 46.4$; $\rho = 1000$ kg/m³

- Probe: EX3DV4 - SN3547; ConvF(4.69, 4.69, 4.69); Calibrated: 14/02/2006
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body-Worn SAR - 0.8 cm Belt-Clip Spacing Between Back of DUT & Planar Phantom - Low Channel

Area Scan (8x19x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.642 mW/g

Body-Worn SAR - 0.8 cm Belt-Clip Spacing Between Back of DUT & Planar Phantom - Low Channel

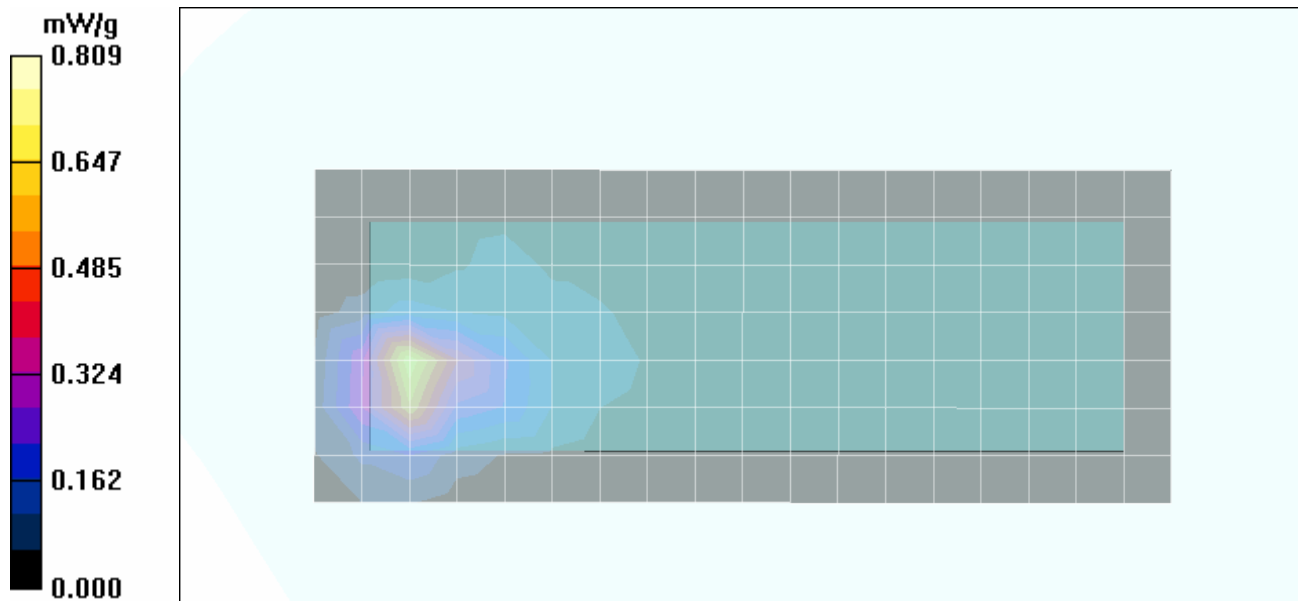
Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm


Reference Value = 7.65 V/m; Power Drift = 0.193 dB


Peak SAR (extrapolated) = 1.80 W/kg

SAR(1 g) = 0.395 mW/g; SAR(10 g) = 0.126 mW/g


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






Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

APPENDIX B - SYSTEM PERFORMANCE CHECK DATA

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

Date Tested: 11/20/2006

System Performance Check (Body) - 5800 MHz Dipole

DUT: Dipole 5GHz; Model: D5GHzV2; Serial: 1031; Validation: 07/18/2006

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 102.1kPa; Humidity: 30%

Communication System: CW

Forward Conducted Power: 250 mW

Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: M5200-5800 Medium parameters used: $\sigma = 5.94$ mho/m; $\epsilon_r = 46.4$; $\rho = 1000$ kg/m³

- Probe: EX3DV4 - SN3547; ConvF(4.69, 4.69, 4.69); Calibrated: 14/02/2006
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

5800 MHz System Performance Check/Area Scan (9x13x1): Measurement grid: dx=5mm, dy=5mm

Maximum value of SAR (measured) = 39.0 mW/g

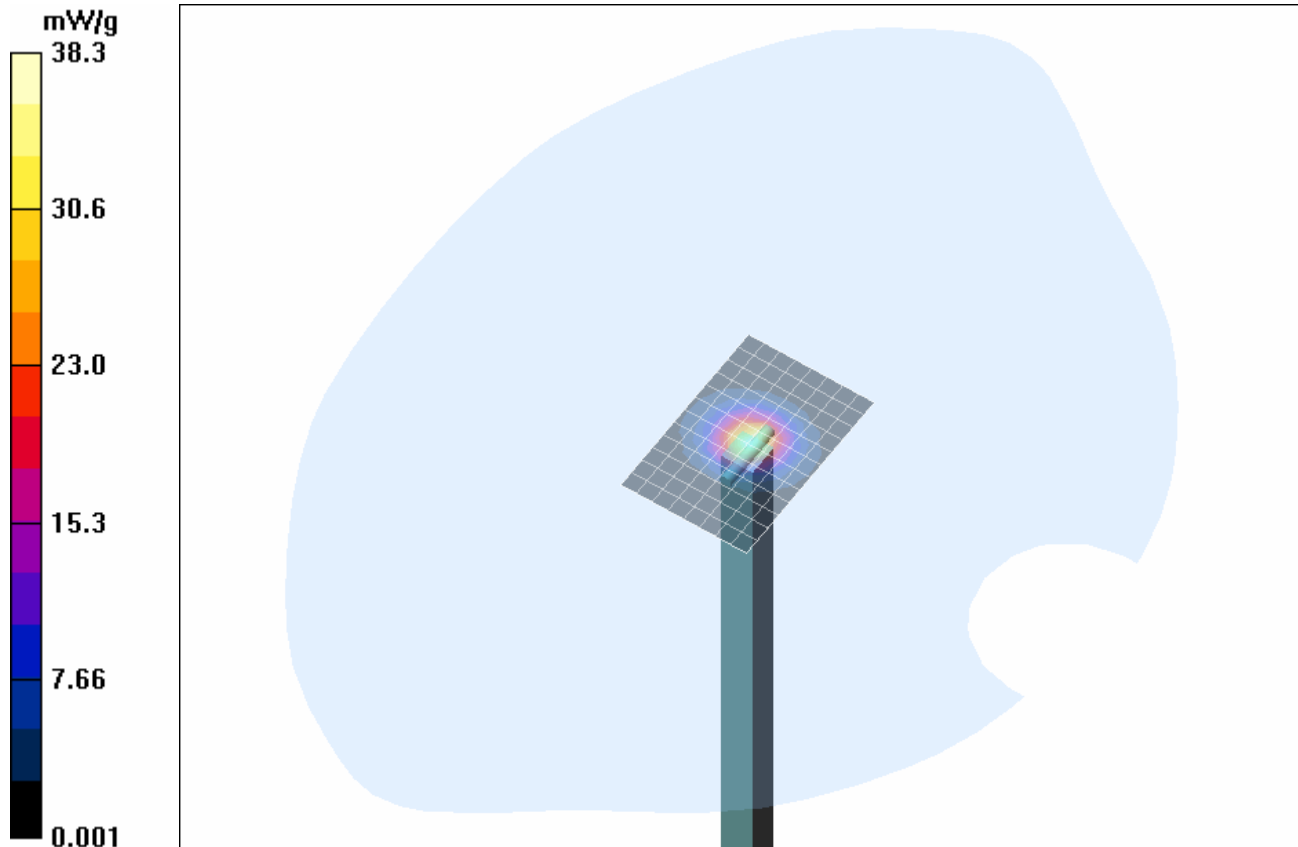
5800 MHz System Performance Check/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm


Reference Value = 82.9 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 88.3 W/kg

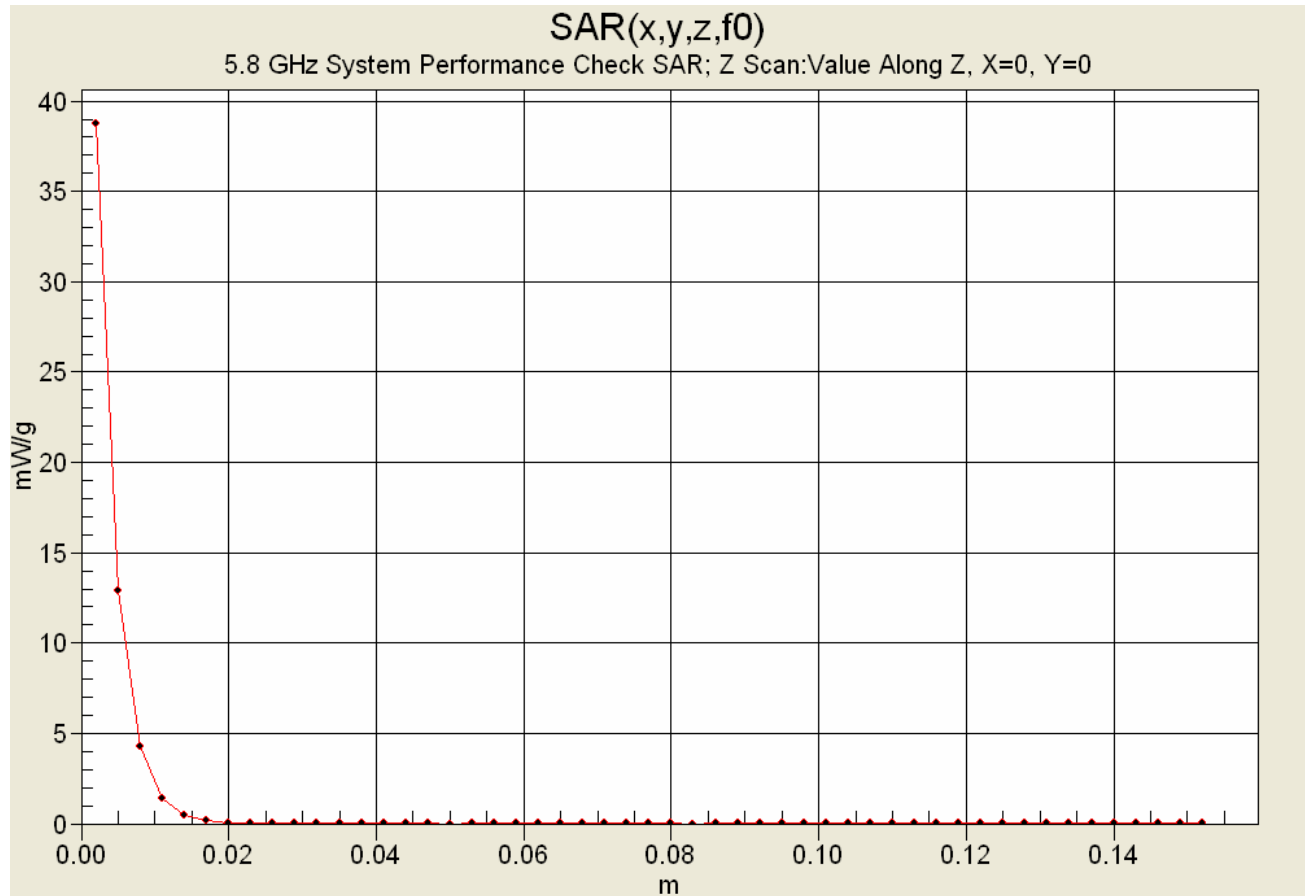
SAR(1 g) = 17.9 mW/g; SAR(10 g) = 4.91 mW/g

Maximum value of SAR (measured) = 38.3 mW/g




Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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Z-Axis Scan



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	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

APPENDIX C - MEASURED FLUID DIELECTRIC PARAMETERS


Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

5800 MHz System Performance Check & DUT Evaluation (Body)

Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Mon. 20/Nov/2006
Frequency (GHz)
FCC_eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma
FCC_eB FCC Limits for Body Epsilon
FCC_sB FCC Limits for Body Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM

5.7000	48.34	5.88	46.40	5.72
5.7100	48.32	5.89	46.74	5.81
5.7200	48.31	5.91	46.51	5.88
5.7300	48.30	5.92	46.88	5.94
5.7400	48.28	5.93	46.78	5.82
5.7500	48.27	5.94	46.55	5.78
5.7600	48.25	5.95	46.81	5.79
5.7700	48.24	5.96	46.35	5.79
5.7800	48.23	5.98	46.45	5.95
5.7900	48.21	5.99	46.17	5.82
5.8000	48.20	6.00	46.44	5.94
5.8100	48.19	6.01	46.28	6.01
5.8200	48.17	6.02	46.68	6.02
5.8300	48.16	6.04	46.64	5.96
5.8400	48.15	6.05	46.75	6.00
5.8500	48.13	6.06	46.67	6.02
5.8600	48.12	6.07	46.38	5.93
5.8700	48.10	6.08	46.27	6.00
5.8800	48.09	6.09	46.17	6.05
5.8900	48.08	6.11	46.25	6.09
5.9000	48.06	6.12	46.10	6.04


Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

5800 MHz DUT Evaluation (Head)


Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Mon 20/Nov/2006
Frequency (GHz)
FCC_eHFCC OET 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sHFCC OET 65 Supplement C (June 2001) Limits for Head Sigma
Test_e Epsilon of UIM
Test_s Sigma of UIM


Freq	FCC_eHF	FCC_sH	Test_e	Test_s
5.7000	35.41	5.17	35.16	5.11
5.7100	35.40	5.18	35.25	5.15
5.7200	35.39	5.19	35.14	5.15
5.7300	35.38	5.20	35.35	5.21
5.7400	35.37	5.21	35.46	5.13
5.7500	35.36	5.22	35.25	5.09
5.7600	35.35	5.23	35.30	5.12
5.7700	35.33	5.24	35.37	5.20
5.7800	35.32	5.25	35.22	5.23
5.7900	35.31	5.26	34.92	5.13
5.8000	35.30	5.27	35.11	5.16
5.8100	35.29	5.28	34.91	5.18
5.8200	35.28	5.29	35.27	5.24
5.8300	35.27	5.30	35.13	5.24
5.8400	35.25	5.31	35.27	5.26
5.8500	35.24	5.32	35.14	5.27
5.8600	35.23	5.33	35.08	5.20
5.8700	35.22	5.34	35.07	5.22
5.8800	35.21	5.35	34.94	5.25
5.8900	35.20	5.36	35.03	5.30
5.9000	35.19	5.37	34.94	5.26

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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APPENDIX D - MANUFACTURER'S TISSUE SIMULANT DATA SHEET

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

Schmid & Partner Engineering AG

s p e a g

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, http://www.speag.com

Material Safety Data Sheet

1 Identification of the substance and of the manufacturer / origin

Item	Head Tissue Simulation Liquid HSL5800 Muscle Tissue Simulation Liquid MSL 5800
Type No	SL AAH 580, SL AAM 580
Series No	N/A
Manufacturer / Origin	Schmid & Partner Engineering AG Zeughausstrasse 43 8004 Zürich Switzerland Phone +41 1 245 9700, Fax +41 1 245 9779, support@speag.com

Use of the substance:

Liquid simulating physical parameters of Head or Muscle Tissue in the RF range to 6GHz.

2 Composition / Information on ingredients

The Item is composed of the following ingredients:

Water	64 - 78%
Mineral Oil	11 - 18%
Emulsifiers	9 - 15%
Additives and Salt	2 - 3%

Safety relevant ingredients according to EU directives:

CAS-No 107-41-5	< 4%	2-Methyl-2,4-pentandiol (Hexylene Glycol): Xi irritant, R36/38 irritant for eyes and skin
CAS-No 770-35-4	< 2%	1-Phenoxy-2-propanol (Propylene Glycol Phenyl Ether): Xi irritant, R36 irritant for eyes
CAS-No 93-83-4	< 2%	N,N-bis(2-Hydroxyethyl)oleamide: Xi irritant, R36/38 irritant for eyes and skin
CAS-No 9004-95-9	< 0.5%	Polyethylene glycol cetyl ether: Xi irritant, R22 harmful if swallowed, R36/38 irritant for eyes and skin R50 Very toxic to aquatic organisms

According to EU guidelines and Swiss rules, the product is not a dangerous mixture and therefore not required to be marked by symbols.

3 Hazards identification

Identification not required.

4 First aid measures


The product reacts slightly alkaline.


After skin contact:	Wash with fresh water and mild sope
After eye contact:	Rinse out with plenty of water for several minutes with the eyelid held open. Consult an ophthalmologist if necessary.
After ingestion:	Do not induce vomiting. Get medical attention.

5 Fire-fighting measures

Firefighting media	CO2, foam, dry chemical
Combustion products	Carbon oxides, nitrogen and traces of oxides of chlorine and sulfur, HCl

Due to the high water content, the liquid is self-extinguishing.

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

6 Accidental release measures

Person-related precaution measures: wash with water and mild soap.
Environmental-protection measures: do not allow to enter sewerage system.
Procedures for cleaning / absorption: Use oil-binding agents., forward for disposal. Spills may cause slippery conditions.

7 Handling and storage

Handling: Keep in open container only for minimum required time in order to avoid water evaporation.
Storage: tightly closed, between >0 to 40°C. Avoid direct solar irradiation of the storage containers.

8 Exposure controls / personal protection

Protection measures are not generally required. For eye protection, industrial safety glasses are recommended.
Personal hygiene and clean working practices are sufficient.

9 Physical and chemical properties

Form: liquid
Colour: medium to dark brown, transparent to opaque
Odour: almost odourless / slightly oily
pH-Value: slightly alcalic
Boiling point: 100°C
Density: 1g/cm³

10 Stability and reactivity

Conditions to be avoided: heating above 40°C
The product contains water and is not compatible with strong oxidizers or magnesium.

11 Toxicological information

LD50 > 40 g/kg
Further data: the product should be handled with the care usual when dealing with chemicals

12 Ecological information

Contains mineral oil. Do not allow to enter waters, waste water, or soil!

13 Disposal considerations

Disposal is possible by splitting the mineral oil from the emulsion with absorbing agents, with salt or ultra-filtration. Dispose as other mineral oil containing products according to local regulations.
Product packing must be disposed of in compliance with respect national regulations.

14 Transport information


Not subject to transport regulations.

15 Regulatory information

No special labelling required.


16 Other information




Release date: 6.1.2005
Responsible: FB

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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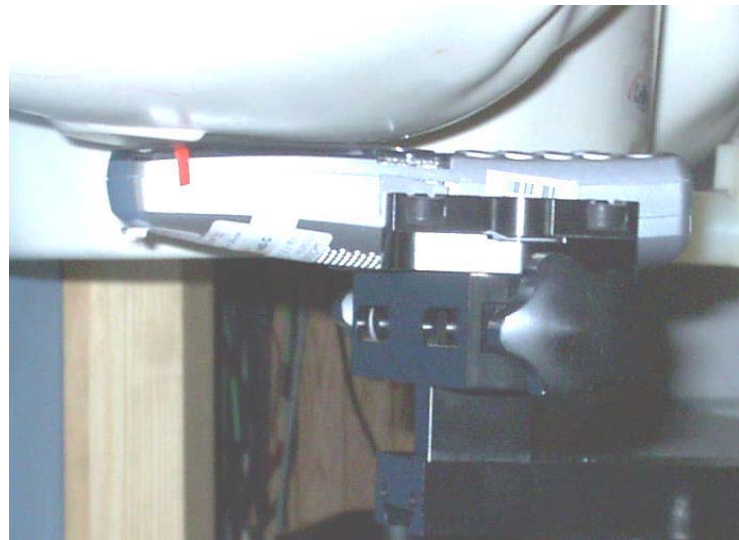
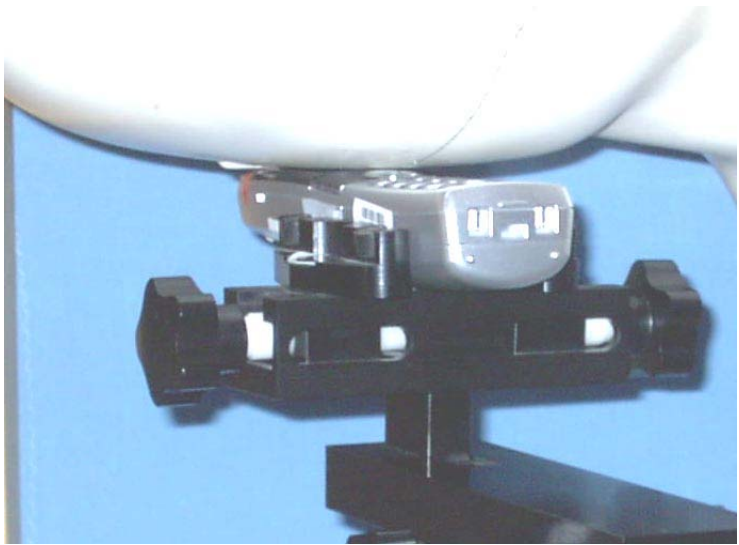
	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	


APPENDIX E - SAR TEST SETUP & DUT PHOTOGRAPHS

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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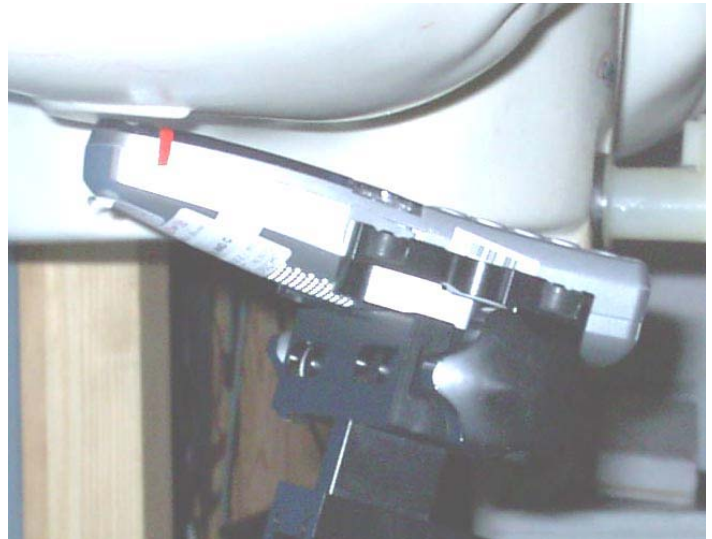
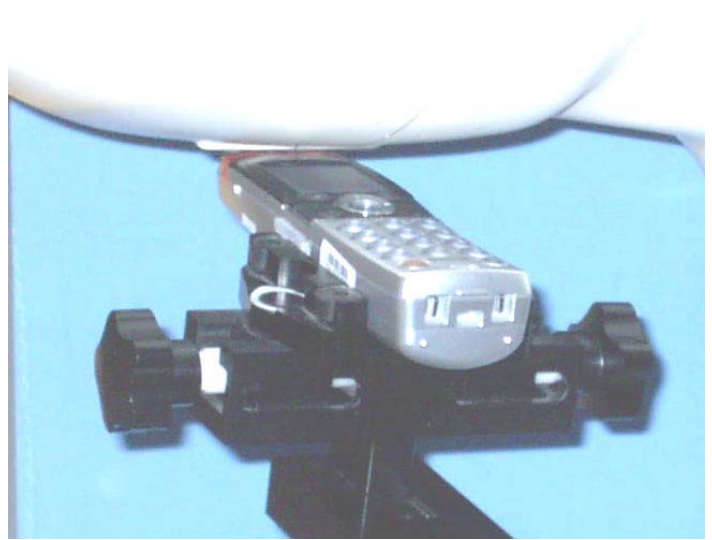
	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	  Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

HEAD SAR TEST SETUP PHOTOGRAPHS
Right Head Section / Cheek-Touch Position



Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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HEAD SAR TEST SETUP PHOTOGRAPHS
Right Head Section / Ear-Tilt Position (15°)



	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	  Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

HEAD SAR TEST SETUP PHOTOGRAPHS
Left Head Section / Cheek-Touch Position

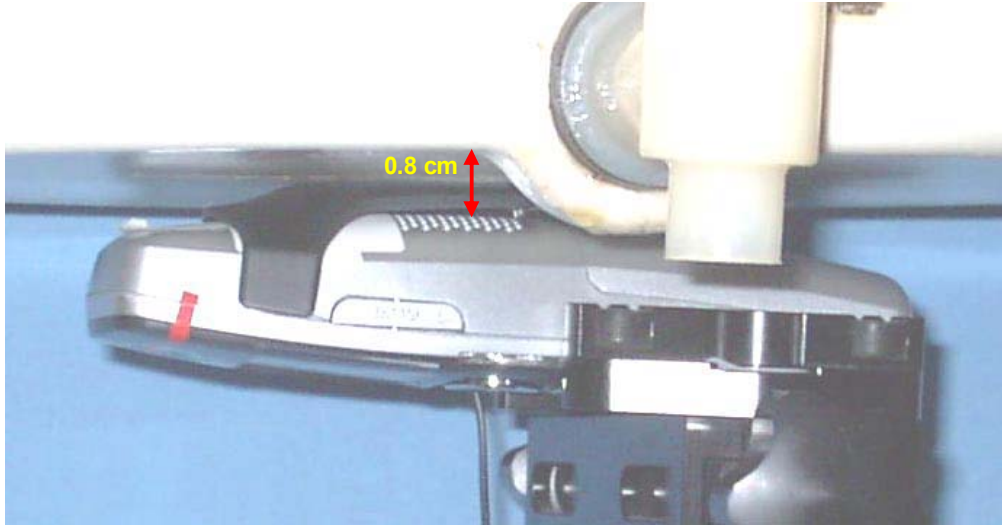


Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset	5744 - 5825 MHz			
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HEAD SAR TEST SETUP PHOTOGRAPHS
Left Head Section / Ear-Tilt Position (15°)



BODY-WORN SAR TEST SETUP PHOTOGRAPHS
0.8 cm Belt-Clip Spacing Between Back of DUT and Planar Phantom
With Headset-Microphone Audio Accessory



DUT PHOTOGRAPHS



Front of DUT



Back of DUT



Back of DUT with Plastic Belt-Clip



Top end of DUT



Bottom end of DUT

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

DUT PHOTOGRAPHS



Left Side of DUT with Plastic Belt-Clip




Right Side of DUT with Plastic Belt-Clip




DUT Battery Compartment



Ni-MH Battery


Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

DUT PHOTOGRAPHS





DUT with Generic Headset-Microphone Audio Accessory

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

APPENDIX F - SYSTEM VALIDATION

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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	Date of Evaluation:	July 18, 2006	Document Issue No.:	SV5800M-071806-R1.0
	Evaluation Type:	System Validation	Validation Dipole:	5800 MHz Fluid Type Body

5800 MHz SYSTEM VALIDATION

Type: **5800 MHz System Validation**

Asset Number: **00126**

Serial Number: **1031**

Place of Validation: **Celltech Labs Inc.**

Date of Validation: **July 18, 2006**

Celltech Labs Inc. hereby certifies that the 5800 MHz System Validation was performed on the date indicated above.

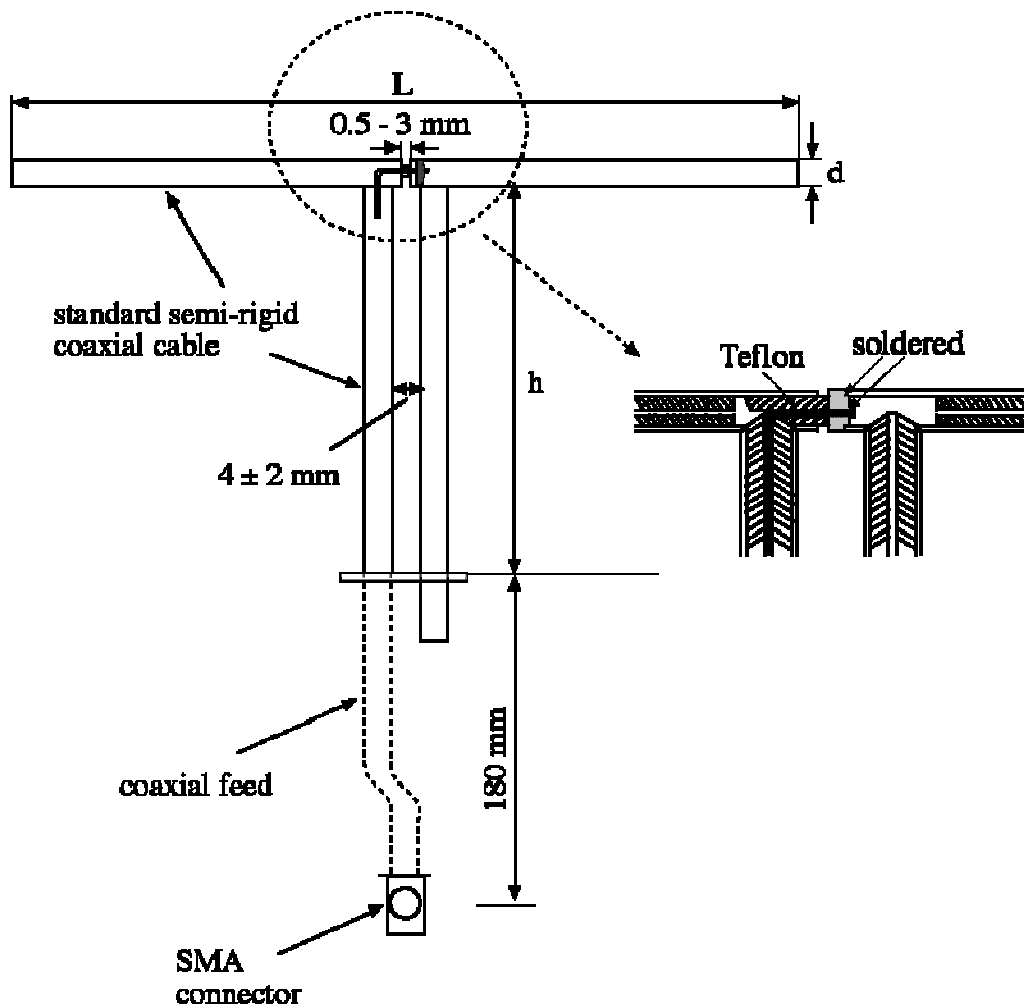
Performed by: **Sean Johnston**

Approved by: **Spencer Watson**

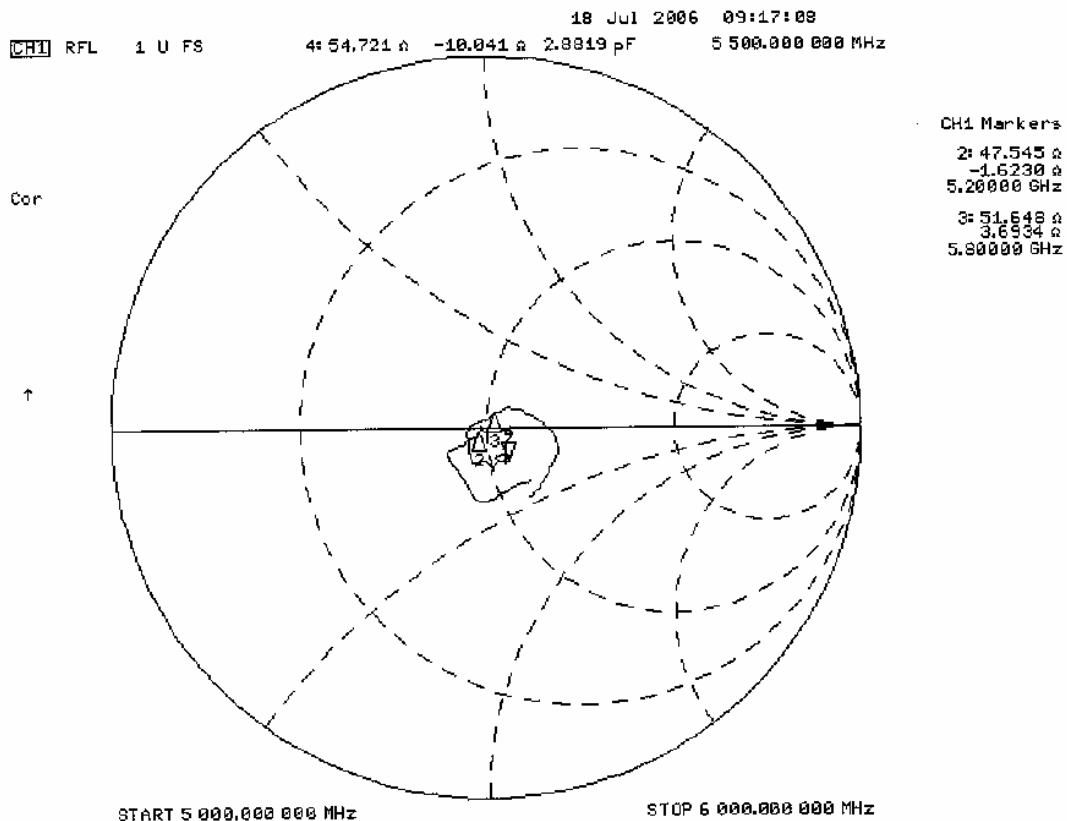
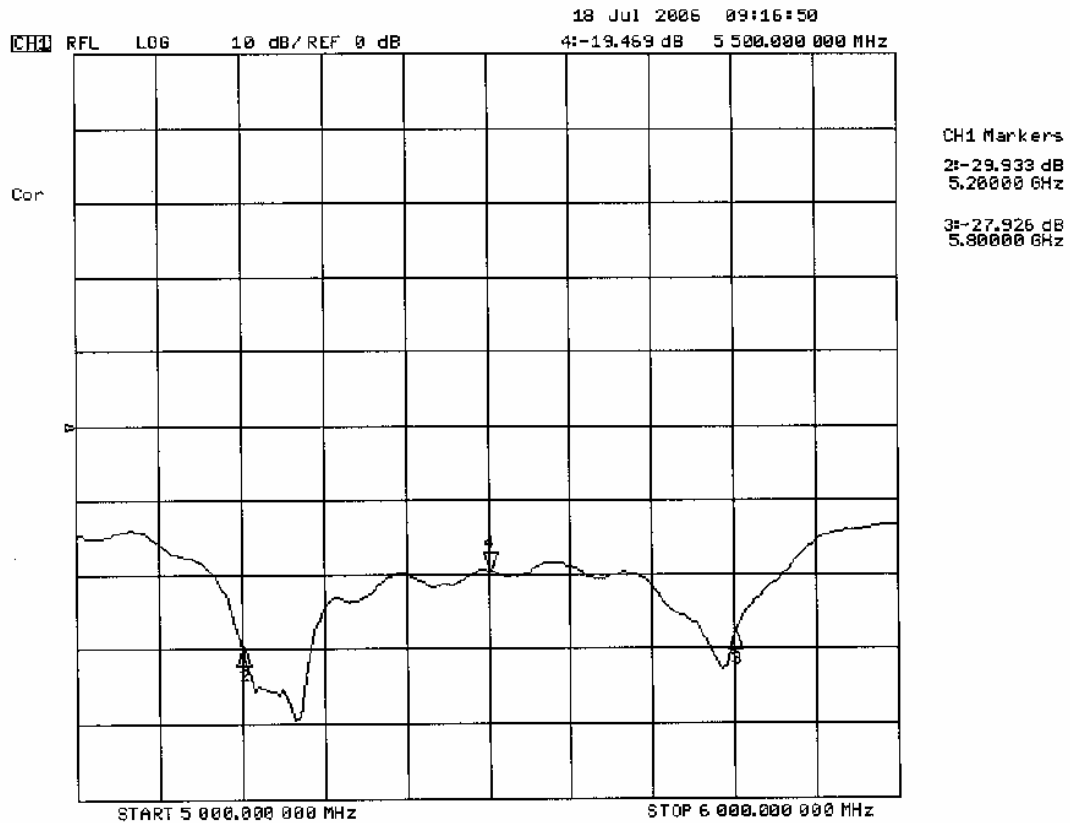
1. Dipole Construction & Electrical Characteristics

The validation dipole was constructed in accordance with the IEEE Std “Recommended Practice for Determining the Spatial-Peak Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques”. The electrical properties were measured using an HP 8753E Network Analyzer. The network analyzer was calibrated to the validation dipole N-type connector feed point using an HP85032ET Type N calibration kit. The dipole was placed parallel to a planar phantom at a separation distance of 10.0mm from the simulating fluid using a loss-less dielectric spacer. The measured input impedance is:

Feed point impedance at 5800 MHz	$Re\{Z\} = 54.721\Omega$
	$Im\{Z\} = -10.041\Omega$
Return Loss at 5800 MHz	-19.469 dB



2. Validation Dipole VSWR Data



3. Validation Dipole Dimensions

Frequency (MHz)	L (mm)	H (mm)	D (mm)
300	420.0	250.0	6.2
450	288.0	167.0	6.2
835	161.0	89.8	3.6
900	149.0	83.3	3.6
1450	89.1	51.7	3.6
1800	72.0	41.7	3.6
1900	68.0	39.5	3.6
2000	64.5	37.5	3.6
2450	51.8	30.6	3.6
3000	41.5	25.0	3.6
5200 - 5800	20.6	40.65	3.6

4. Validation Phantom

The validation phantom is a Fiberglass shell planar phantom manufactured by Barski Industries Ltd. The phantom is in conformance with the requirements defined by IEEE SCC34-SC2 for the dosimetric evaluations of body-worn and lap-held operating configurations. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids.

Shell Thickness: 2.0 ± 0.1 mm
Filling Volume: Approx. 55 liters
Dimensions: 44 cm (W) x 94 cm (L) x 22 cm (H)

5. 5800 MHz System Validation Setup

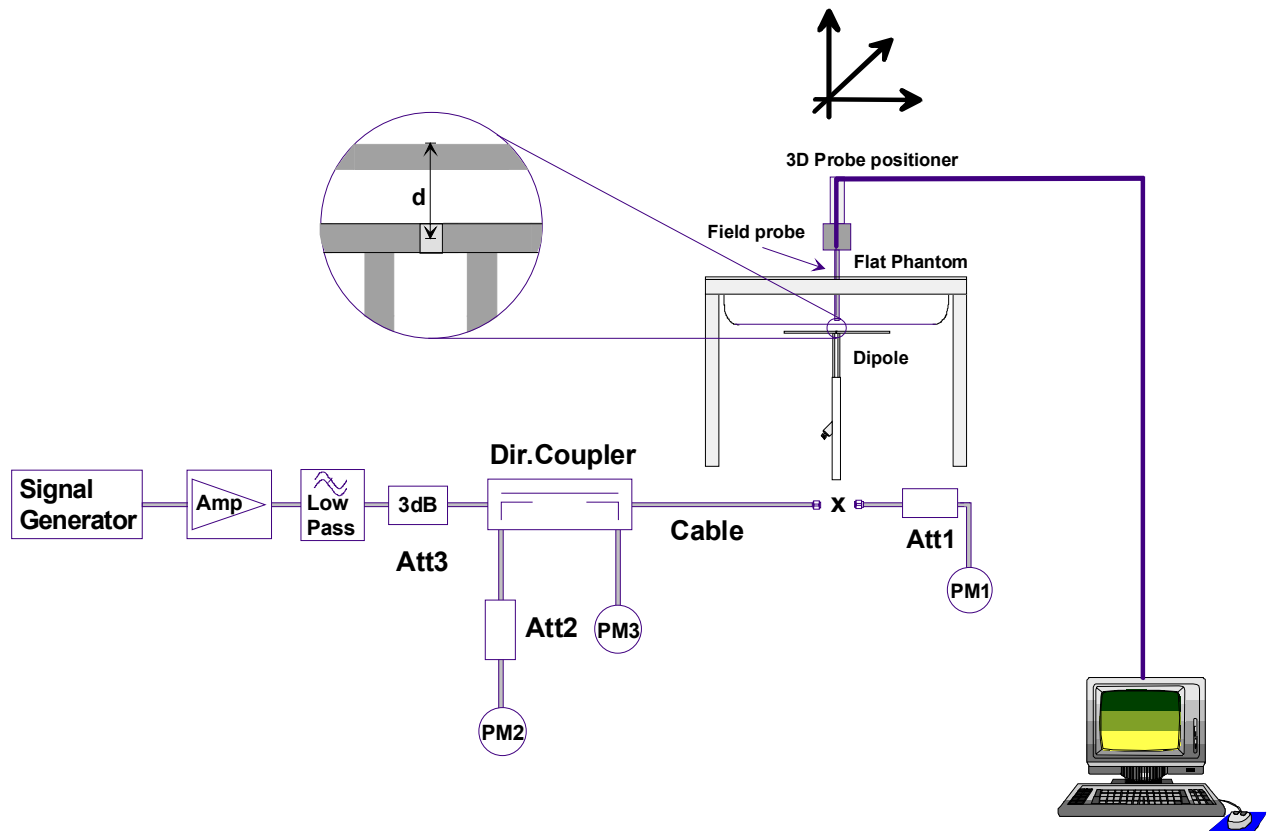


6. 5800 MHz Dipole Setup



7. SAR Measurement

The SAR measurement was performed with the E-field probe in mechanical detection mode only. The setup and determination of the forward power into the dipole was performed using the following procedures.



First the power meter PM1 (including attenuator Att1) is connected to the cable to measure the forward power at the location of the dipole connector (X). The signal generator is adjusted for the desired forward power at the dipole connector (taking into account the attenuation of Att1) as read by power meter PM2. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2. If the signal generator does not allow adjustment in 0.01dB steps, the remaining difference at PM2 must be taken into consideration. PM3 records the reflected power from the dipole to ensure that the value is not changed from the previous value. The reflected power should be 20dB below the forward power.

8. Measurement Conditions

The planar phantom was filled with 5800 MHz body tissue simulant.

Relative Permittivity: 46.4 (-3.7% deviation from target)
 Conductivity: 6.25 mho/m (+4.2% deviation from target)
 Fluid Temperature: 22.3 °C
 Fluid Depth: ≥ 15.0 cm

Environmental Conditions:
 Ambient Temperature: 21.8°C
 Humidity: 32%
 Barometric Pressure: 101.8kPa

The 5800 MHz body tissue simulant consisted of the following ingredients:

Ingredient	Percentage by weight
Water	64 - 78%
Mineral Oil	11 - 18%
Emulsifiers	9 - 15%
Additives and Salt	2 - 3%
Target Dielectric Parameters at 22°C	$\epsilon_r = 48.2 (+/-5\%)$ $\sigma = 6.00 \text{ S/m } (+/-5\%)$

9. 5800 MHz Validation Dipole SAR Results

SAR @ 0.25W Input averaged over 1g				SAR @ 1W Input averaged over 1g			
Manufacturer's Target	Measured	Deviation		Manufacturer's Target	Measured	Deviation	
18.5	+/- 10%	17.0	-8.1%	74.1	+/- 10%	68.0	-8.2%
SAR @ 0.25W Input averaged over 10g				SAR @ 1W Input averaged over 10g			
Manufacturer's Target	Measured	Deviation		Manufacturer's Target	Measured	Deviation	
5.13	+/- 10%	4.65	-9.4%	20.5	+/- 10%	18.6	-9.3%

The results have been normalized to 1W (forward power) into the dipole.

System Validation - 5800 MHz Dipole - Body Fluid - July 18, 2006

DUT: Dipole 5GHz; Model: D5GHZV2; Serial: 1031; Asset: 00126; Manufacturer: SPEAG

Ambient Temp: 21.8°C; Fluid Temp: 22.3°C; Barometric Pressure: 101.8 kPa; Humidity: 32%

Communication System: CW

Forward Conducted Power: 250 mW

Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: M5200-5800 Medium parameters used: $f = 5800$ MHz; $\sigma = 6.25$ mho/m; $\epsilon_r = 46.4$; $\rho = 1000$ kg/m³

- Probe: EX3DV4 - SN3547; ConvF(4.69, 4.69, 4.69); Calibrated: 14/02/2006
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 21/06/2006
- Phantom: Barski Industries; Type: Fiberglass Planar; Serial: 03-01
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

5800 MHz Dipole - System Validation/Area Scan (9x13x1):

Measurement grid: dx=5mm, dy=5mm

Maximum value of SAR (measured) = 35.2 mW/g

5800 MHz Dipole - System Validation/Zoom Scan (8x8x8)/Cube 0:

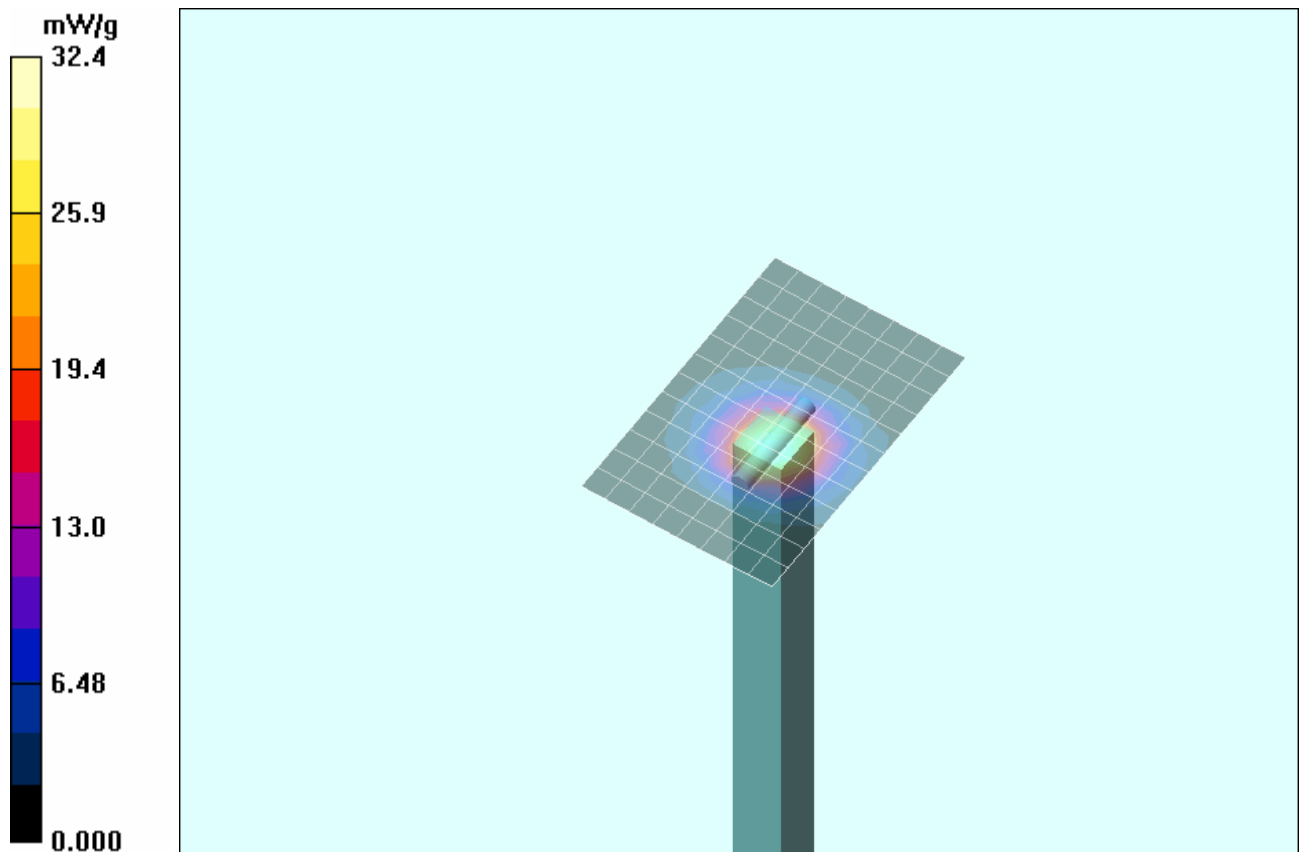
Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm

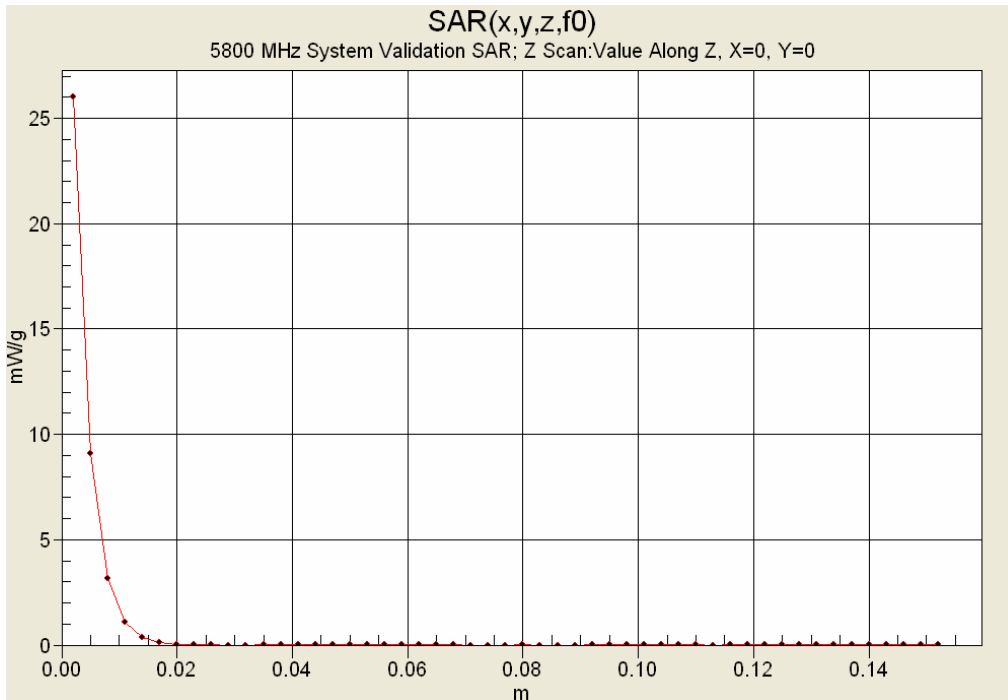
Reference Value = 66.8 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 82.4 W/kg

SAR(1 g) = 17.0 mW/g; SAR(10 g) = 4.65 mW/g

Maximum value of SAR (measured) = 32.4 mW/g





10. Measured Fluid Dielectric Parameters

System Validation (Body) - 5800 MHz Dipole

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Tue 18/Jul/2006

Frequency (GHz)

FCC_eH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon

FCC_sH FCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma


FCC_eB FCC Limits for Body Epsilon

FCC_sB FCC Limits for Body Sigma


Test_e Epsilon of UIM

Test_s Sigma of UIM

Freq	FCC_eB	FCC_sB	Test_e	Test_s
5.7000	48.34	5.88	46.39	6.00
5.7100	48.32	5.89	46.90	6.10
5.7200	48.31	5.91	46.87	6.09
5.7300	48.30	5.92	46.53	6.07
5.7400	48.28	5.93	46.63	6.11
5.7500	48.27	5.94	46.66	6.14
5.7600	48.25	5.95	46.47	6.20
5.7700	48.24	5.96	46.44	6.14
5.7800	48.23	5.98	46.15	6.13
5.7900	48.21	5.99	46.27	6.24
5.8000	48.20	6.00	46.35	6.25
5.8100	48.19	6.01	46.33	6.19
5.8200	48.17	6.02	46.13	6.27
5.8300	48.16	6.04	46.28	6.23
5.8400	48.15	6.05	46.02	6.23
5.8500	48.13	6.06	46.29	6.32
5.8600	48.12	6.07	46.02	6.31
5.8700	48.10	6.08	46.14	6.28
5.8800	48.09	6.09	46.42	6.30
5.8900	48.08	6.11	46.10	6.48
5.9000	48.06	6.12	46.32	6.39

	<u>Date(s) of Evaluation</u> November 20, 2006	<u>Test Report Serial No.</u> 111406EW7-T787-S15T	<u>Report Revision No.</u> Revision 1.0	 Certificate No. 2470.01
	<u>Report Issue Date</u> November 27, 2006	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> General Population	

APPENDIX H - SAM PHANTOM CERTIFICATE OF CONFORMITY

Company:	VTech Telecommunications Ltd.	FCC ID:	EW780-6101-00	IC ID:	1135A-80610100	
Model(s):	AT&T EP5632 / EP562	Portable 5.8 GHz Cordless Telephone Handset		5744 - 5825 MHz		
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Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

Certificate of conformity / First Article Inspection

Item	SAM Twin Phantom V4.0
Type No	QD 000 P40 BA
Series No	TP-1002 and higher
Manufacturer / Origin	Untersee Composites Hauptstr. 69 CH-8559 Fruthwilen Switzerland

Tests

The series production process used allows the limitation to test of first articles. Complete tests were made on the pre-series Type No. QD 000 P40 AA, Serial No. TP-1001 and on the series first article Type No. QD 000 P40 BA, Serial No. TP-1006. Certain parameters have been retested using further series units (called samples).

Test	Requirement	Details	Units tested
Shape	Compliance with the geometry according to the CAD model.	IT'IS CAD File (*)	First article, Samples
Material thickness	Compliant with the requirements according to the standards	2mm +/- 0.2mm in specific areas	First article, Samples
Material parameters	Dielectric parameters for required frequencies	200 MHz – 3 GHz Relative permittivity < 5 Loss tangent < 0.05.	Material sample TP 104-5
Material resistivity	The material has been tested to be compatible with the liquids defined in the standards	Liquid type HSL 1800 and others according to the standard.	Pre-series, First article

Standards

- [1] CENELEC EN 50361
- [2] IEEE P1528-200x draft 6.5
- [3] IEC PT 62209 draft 0.9

(*) The IT'IS CAD file is derived from [2] and is also within the tolerance requirements of the shapes of [1] and [3].

Conformity

Based on the sample tests above, we certify that this item is in compliance with the uncertainty requirements of SAR measurements specified in standard [1] and draft standards [2] and [3].

Date 18.11.2001

Signature / Stamp

**Schmid & Partner
Engineering AG**

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Tel. +41 1 245 97 00, Fax +41 1 245 97 79