DECLARATION OF COMPLIANCE
SAR EVALUATION

Test Lab

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Applicant Information

VOCOLLECT INC.
701 Rodi Road, Suite 200
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Rule Part(s):	**FCC §2.1093; IC RSS-102 Issue 1 (Provisional)**
Test Procedure(s):	**FCC OET Bulletin 65 Supplement C (Edition 01-01)**
Device Classification:	**Part 15 Spread Spectrum Transmitter (DSS)**
Device Type:	**Waist-Worn Terminal with 2.4GHz DSSS Wireless LAN Card**
FCC ID:	**MQOTT600-35300**
Model Name / No.:	**Talkman T2 / TT-600**
Modulation:	**Direct Sequence Spread Spectrum (DSSS)**
Tx Frequency Range:	**2412 - 2462 MHz**
Max. RF Conducted Power Tested:	**18.1 dBm (Peak Power - 2462 MHz)**
Antenna Type:	**Integral**
Power Supply:	**7.2VDC Lithium-Ion Battery (1500mAh, 3000mAh)**
Body-Worn Accessories Tested:	**Slim Belt-Clip (P/N: 611037)** **Waist-Strap (P/N: 620024)** **Headset with Microphone (P/N: 400-0029-001)** **Scanner (P/N: 732027)**
Max. SAR Level Measured:	**0.0958 W/kg**

Celltech Research Inc. declares under its sole responsibility that this device was found to be in compliance with the Specific Absorption Rate (SAR) RF exposure requirements specified in FCC §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 and Industry Canada RSS-102 Issue 1 (General Population/Uncontrolled Exposure).

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 Research Inc. The results and statements contained in this report pertain only to the device(s) evaluated.

Russell Pipe
Senior Compliance Technologist
Celltech Research Inc.

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1.0 INTRODUCTION

This measurement report demonstrates that the VOCOLLECT INC. Model: TALKMAN T2 TT-600 Waist-Worn Terminal with 2.4GHz DSSS Wireless LAN Card FCC ID: MQOTT600-35300 complies with FCC 47 CFR §2.1093 (see reference [1]) and Health Canada Safety Code 6 (see reference [2]). The test procedures described in FCC OET Bulletin 65, Supplement C, Edition 01-01 (see reference [3]) and IC RSS-102 Issue 1 (Provisional) (see reference [4]), were employed. A description of the product and 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 EQUIPMENT UNDER TEST (EUT)

Rule Part(s)	FCC §2.1093; IC RSS-102 Issue 1
Test Procedure(s)	FCC OET Bulletin 65, Supplement C (01-01)
Device Classification	Part 15 Spread Spectrum Transmitter (DSS)
Device Type	Waist-Worn Terminal with DSSS Wireless LAN Card
Internal Card Type	Symbol 11Mbps
Modulation	Direct Sequence Spread Spectrum
Tx Frequency Range	2412 - 2462 MHz
Measured RF Conducted Output Power	18.1 dBm (Peak Power - 2462 MHz)
FCC ID	MQOTT600-35300
Model Name	Talkman T2
Model No.	TT-600
Serial No.	Pre-production
Antenna Type	Integral
Power Supply	7.2VDC Lithium-Ion Battery (1500mAh, 3000mAh)
Body-Worn Accessories Tested	Slim Belt-Clip (P/N: 611037) Waist-Strap (P/N: 620024) Headset with Microphone (P/N: 400-0029-001) Scanner (P/N: 732027)

3.0 SAR MEASUREMENT SYSTEM

Celltech Research SAR measurement facility utilizes the Dosimetric Assessment System (DASY™) manufactured by Schmid & Partner Engineering AG (SPEAG™) of Zurich, Switzerland. The SAR measurement system is comprised of the robot controller, computer, near-field probe, probe alignment sensor, specific anthropomorphic mannequin (SAM) phantom, and various planar phantoms for face and body SAR evaluations. The robot is a six-axis industrial robot performing precise movements to position the probe in order to measure the location (points) of 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 PC plug-in card. The DAE3 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 PC-card 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. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.

DASY3 SAR Measurement System with SAM phantom

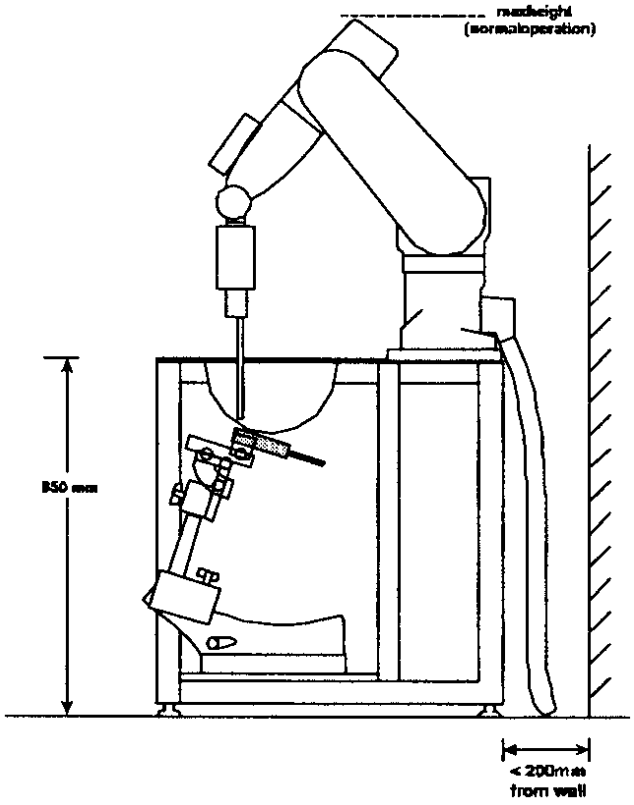


Figure 1. DASY3 Compact Version - Side View

4.0 MEASUREMENT SUMMARY

The measurement results were obtained with the EUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the EUT are reported in Appendix A.

BODY-WORN SAR MEASUREMENT RESULTS

Test Date	Freq. (MHz)	Channel	Mode Tested	Cond. Power Before (dBm)	Cond. Power After (dBm)	EUT Test Position	Battery Type	Phantom Section	Separation Distance (cm)	SAR 1g (w/kg) 100% Duty Cycle
8/8/02	2437	Mid	CW	17.4	17.3	Belt-Clip Side (Right Section)	1500mAh	Planar	0.0	0.0827
8/8/02	2437	Mid	CW	17.4	17.3	Belt-Clip Side (Right Section)	3000mAh	Planar	0.0	0.0537
8/8/02	2437	Mid	CW	17.4	17.3	Belt-Clip Side (Left Section)	1500mAh	Planar	0.0	0.0603
8/8/02	2437	Mid	CW	17.4	17.3	Belt-Clip Side (Left Section)	3000mAh	Planar	0.0	0.0302
8/8/02	2437	Mid	CW	17.4	17.3	Top Side	1500mAh	Planar	0.0	0.0466
8/8/02	2437	Mid	CW	17.4	17.3	Top Side	3000mAh	Planar	0.0	0.0465
8/8/02	2437	Mid	CW	17.4	17.3	Bottom Side	1500mAh	Planar	0.0	0.0672
8/8/02	2437	Mid	CW	17.4	17.3	Bottom Side	3000mAh	Planar	0.0	0.0723
9/11/02	2462	High	CW	18.1	18.0	Belt-Clip Side (Right Section)	1500mAh	Planar	0.0	0.0958
9/11/02	2462	High	CW	18.1	18.0	Belt-Clip Side (Right Section)	3000mAh	Planar	0.0	0.0904
9/11/02	2462	High	CW	18.1	18.0	Belt-Clip Side (Left Section)	1500mAh	Planar	0.0	0.0112
9/11/02	2462	High	CW	18.1	18.0	Belt-Clip Side (Left Section)	3000mAh	Planar	0.0	0.0165
9/11/02	2462	High	CW	18.1	18.0	Top Side	1500mAh	Planar	0.0	0.0579
9/11/02	2462	High	CW	18.1	18.0	Top Side	3000mAh	Planar	0.0	0.0830
9/11/02	2462	High	CW	18.1	18.0	Bottom Side	1500mAh	Planar	0.0	0.0802
9/11/02	2462	High	CW	18.1	18.0	Bottom Side	3000mAh	Planar	0.0	0.0729

16.1ANSI / IEEE C95.1 1992 - SAFETY LIMIT
BODY: 1.6 W/kg (averaged over 1 gram)
Spatial Peak - Uncontrolled Exposure / General Population

Measured Mixture Type	2450MHz Body		Relative Humidity	8/8/02	9/11/02
				50 %	63 %
Dielectric Constant	Target	Measured 8/8/02	Atmospheric Pressure	102.6 kPa	101.8 kPa
	52.7 (+/- 5%)	50.1			
Conductivity	Target	Measured 9/11/02	Fluid Temperature	23.4 °C	23.0 °C
	1.95 (+/- 5%)	1.98			
Ambient Temperature	8/8/02	9/11/02	Fluid Depth	≥ 15 cm	≥ 15 cm
	22.2 °C	22.8 °C			

5.0 DETAILS OF SAR EVALUATION

The VOCOLLECT INC. Model: TALKMAN T2 TT-600 Waist-Worn Terminal with 2.4GHz DSSS Wireless LAN Card FCC ID: MQOTT600-35300 was found to be compliant for localized Specific Absorption Rate based on the test provisions and conditions described below. Detailed test setup photographs are shown in Appendix G.

1. The EUT was tested for body-worn SAR on the belt-clip side of the device. Both the left and right sections of the belt-clip side were evaluated separately (due to the shape of the EUT), facing parallel to the planar phantom, with a 0.0 cm separation distance (EUT touching the planar phantom at two points on each end of the belt-clip side).
2. The EUT was tested for body-worn SAR on both the top and bottom sides of the device, facing parallel to the planar phantom, with a 0.0 cm separation distance.
3. The EUT was tested with the waist-strap accessory removed in a worst-case separation distance configuration. The waist-strap contains no metallic components.
4. The EUT was tested with the headset/microphone and scanner accessories connected.
5. The EUT was placed into test mode using HyperTerminal software program controlled from a PC connected to the EUT via serial cable. The EUT was operated at maximum power in unmodulated continuous transmit mode for the duration of the tests.
6. The EUT was evaluated for body SAR at maximum power and the unit was operated for an appropriate period prior to the evaluation in order to minimize drift. The conducted power levels were checked before and after each test. If the conducted power level varied more than 5% of the initial power level the EUT was retested. Any unusual anomalies over the course of the test also warranted a re-evaluation. The conducted power was measured according to the procedures described in FCC Part 2.1046.
7. The conducted power level measured for the low channel (2412MHz) was 17.2 dBm, which was less than the conducted power levels measured for mid and high channels. Due to the mid channel SAR values measuring lower than 3 dB from the SAR limit of 1.6 w/kg, the low channel was not evaluated for SAR. The high channel was evaluated for SAR due to the fact that the conducted power level measured was greater than 5% of the mid channel conducted power.
8. The location of the maximum spatial SAR distribution (Hot Spot) was determined relative to the EUT and its antenna.
9. The EUT was tested with a fully charged Lithium-Ion battery (1500mAh and 300mAh).

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 in accordance with FCC OET Bulletin 65, Supplement C (Edition 01-01) 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 DASY3 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 20mm x 20mm.

c. A 5x5x7 matrix was performed around the greatest spatial SAR distribution found during the area scan of the applicable exposed region. SAR values were then calculated using a 3-D spline interpolation algorithm and averaged over spatial volumes of 1 and 10 grams.

d. Due to the shape of the EUT a stack of low-density, low-loss dielectric foamed polystyrene was used in place of the device holder for this evaluation.

7.0 SYSTEM VALIDATION

Prior to the evaluation the system was verified using the planar section of the SAM phantom with a 2450MHz dipole (see Appendix C for dipole calibration procedure). The simulated tissue fluids were verified prior to the validation using an 85070C Dielectric Probe Kit and an 8753E Network Analyzer (see Appendix E for printout of measured fluid dielectric parameters). A forward power of 250mW was applied to the dipole and the system was verified to a tolerance of ±10% (see Appendix B for system validation test plots).

SYSTEM VALIDATION											
Test Date(s)	Equiv. Tissue	Target SAR 1g (w/kg)	Measured SAR 1g (w/kg)	Dielectric Constant ε_r		Conductivity σ (mho/m)		ρ (Kg/m^3)	Ambient Temp.	Fluid Temp.	Fluid Depth
				Target	Measured	Target	Measured				
08/08/02	2450MHz (Brain)	14.2	15.4	39.2 ±5%	37.8	1.80 ±5%	1.87	1000	22.2 °C	23.4 °C	≥ 15 cm
09/11/02			15.0		39.5		1.84		22.8 °C	23.0 °C	

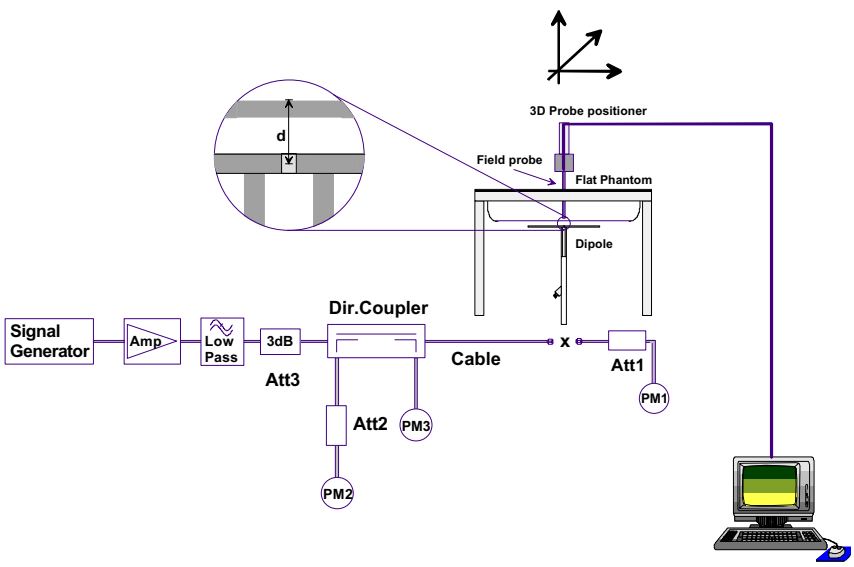


Figure 2. Dipole Validation Measurement Setup

2450MHz Dipole Validation Setup

8.0 EQUIVALENT TISSUES

The 2450MHz brain and body mixtures consist of consist of Glycol-monobutyl, water, and salt (body only). The fluid was prepared according to standardized procedures and measured for dielectric parameters (permitivity and conductivity).

TISSUE MIXTURES		
INGREDIENT	**2450MHz Brain Mixture (System Validation)**	**2450MHz Body Mixture (EUT Evaluation)**
Water	55.20 %	69.95 %
Glycol Monobutyl	44.80 %	30.00 %
Salt	-	0.05 %

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

Notes:

1. Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.
2. 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

Specifications

POSITIONER:	Stäubli Unimation Corp. Robot Model: RX60L
Repeatability:	0.02 mm
No. of axis:	6

Data Acquisition Electronic (DAE) System

Cell Controller

Processor:	Pentium III
Clock Speed:	450 MHz
Operating System:	Windows NT
Data Card:	DASY3 PC-Board

Data Converter

Features:	Signal Amplifier, multiplexer, A/D converter, and control logic
Software:	DASY3 software
Connecting Lines:	Optical downlink for data and status info. Optical uplink for commands and clock

PC Interface Card

Function:	24 bit (64 MHz) DSP for real time processing Link to DAE3 16-bit A/D converter for surface detection system serial link to robot direct emergency stop output for robot

E-Field Probe

Model:	ET3DV6
Serial No.:	1387
Construction:	Triangular core fiber optic detection system
Frequency:	10 MHz to 6 GHz
Linearity:	±0.2 dB (30 MHz to 3 GHz)

Phantom

Type:	SAM V4.0C
Shell Material:	Fiberglass
Thickness:	2.0 ±0.1 mm
Volume:	Approx. 20 liters

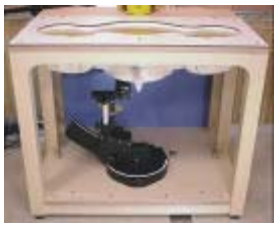
11.0 PROBE SPECIFICATION (ET3DV6)

Construction:	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g. glycol)
Calibration:	In air from 10 MHz to 2.5 GHz In brain simulating tissue at frequencies of 900 MHz and 1.8 GHz (accuracy ± 8%)
Frequency:	10 MHz to >6 GHz; Linearity: ±0.2 dB (30 MHz to 3 GHz)
Directivity:	±0.2 dB in brain tissue (rotation around probe axis) ±0.4 dB in brain tissue (rotation normal to probe axis)
Dynam. Rnge:	5 ?W/g to >100 mW/g; Linearity: ±0.2 dB
Srfce. Detect.	±0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Dimensions:	Overall length: 330 mm Tip length: 16 mm Body diameter: 12 mm Tip diameter: 6.8 mm Distance from probe tip to dipole centers: 2.7 mm
Application:	General dosimetry up to 3 GHz Compliance tests of mobile phone


ET3DV6 E-Field Probe

12.0 SAM PHANTOM V4.0C

The SAM phantom V4.0C is a fiberglass shell phantom with a 2.0 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.


SAM Phantom

13.0 DEVICE HOLDER

The DASY3 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

SAR MEASUREMENT SYSTEM		
EQUIPMENT	**SERIAL NO.**	**CALIBRATION DATE**
DASY3 System -Robot -ET3DV6 E-Field Probe -300MHz Validation Dipole -450MHz Validation Dipole -900MHz Validation Dipole -1800MHz Validation Dipole -2450MHz Validation Dipole -SAM Phantom V4.0C -Small Planar Phantom -Large Planar Phantom	 599396-01 1387 135 136 054 247 150 N/A N/A N/A	 N/A Feb 2002 Oct 2001 Oct 2001 June 2001 June 2001 Oct 2001 N/A N/A N/A
85070C Dielectric Probe Kit	N/A	N/A
Gigatronics 8652A Power Meter -Power Sensor 80701A -Power Sensor 80701A	1835272 1833535 1833542	Feb 2002 Feb 2002 Mar 2002
E4408B Spectrum Analyzer	US39240170	Nov 2001
8594E Spectrum Analyzer	3543A02721	Feb 2002
8753E Network Analyzer	US38433013	Feb 2002
8648D Signal Generator	3847A00611	Feb 2002
5S1G4 Amplifier Research Power Amplifier	26235	N/A

15.0 MEASUREMENT UNCERTAINTIES

Error Description	Uncertainty Value ±%	Probability Distribution	Divisor	c_i 1g	Standard Uncertainty ±% (1g)	v_i or v_{eff}
Measurement System						
Probe calibration	± 4.8	Normal	1	1	± 4.8	∞
Axial isotropy of the probe	± 4.7	Rectangular	√3	$(1-c_p)$	± 1.9	∞
Spherical isotropy of the probe	± 9.6	Rectangular	√3	(c_p)	± 3.9	∞
Spatial resolution	± 0.0	Rectangular	√3	1	± 0.0	∞
Boundary effects	± 5.5	Rectangular	√3	1	± 3.2	∞
Probe linearity	± 4.7	Rectangular	√3	1	± 2.7	∞
Detection limit	± 1.0	Rectangular	√3	1	± 0.6	∞
Readout electronics	± 1.0	Normal	1	1	± 1.0	∞
Response time	± 0.8	Rectangular	√3	1	± 0.5	∞
Integration time	± 1.4	Rectangular	√3	1	± 0.8	∞
RF ambient conditions	± 3.0	Rectangular	√3	1	± 1.7	∞
Mech. constraints of robot	± 0.4	Rectangular	√3	1	± 0.2	∞
Probe positioning	± 2.9	Rectangular	√3	1	± 1.7	∞
Extrapolation & integration	± 3.9	Rectangular	√3	1	± 2.3	∞
Test Sample Related						
Device positioning	± 6.0	Normal	√3	1	± 6.7	12
Device holder uncertainty	± 5.0	Normal	√3	1	± 5.9	8
Power drift	± 5.0	Rectangular	√3		± 2.9	∞
Phantom and Setup						
Phantom uncertainty	± 4.0	Rectangular	√3	1	± 2.3	∞
Liquid conductivity (target)	± 5.0	Rectangular	√3	0.6	± 1.7	∞
Liquid conductivity (measured)	± 10.0	Rectangular	√3	0.6	± 3.5	∞
Liquid permitivity (target)	± 5.0	Rectangular	√3	0.6	± 1.7	∞
Liquid permitivity (measured)	± 5.0	Rectangular	√3	0.6	± 1.7	∞
Combined Standard Uncertainty					**± 13.7**	
Expanded Uncertainty (k=2)					**± 27.5**	

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

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.

[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, “Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada’s Safety Code 6 for Exposure of Humans to Radio Frequency Fields”, Radio Standards Specification RSS-102 Issue 1 (Provisional): September 1999.

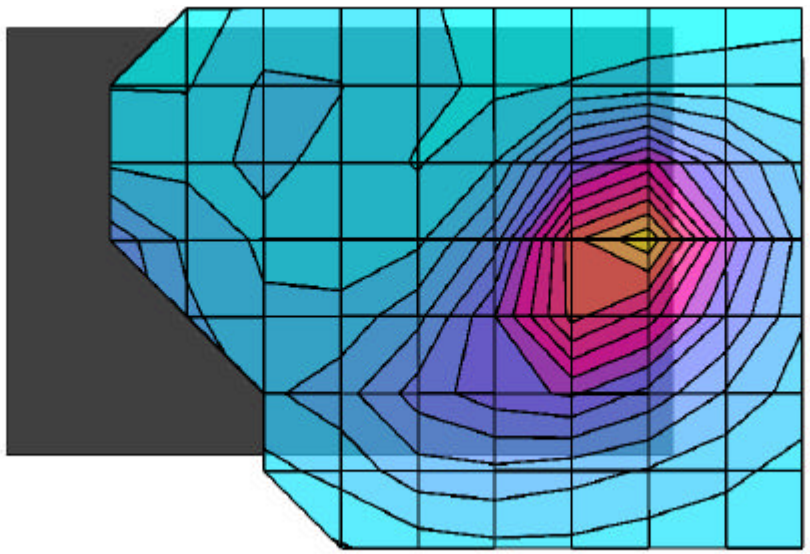
[5] IEEE Standards Coordinating Committee 34, Std 1528-200X, “DRAFT Recommended Practice for Determining the Spatial-Peak Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques”: Draft CBD 1.0, April 2002.

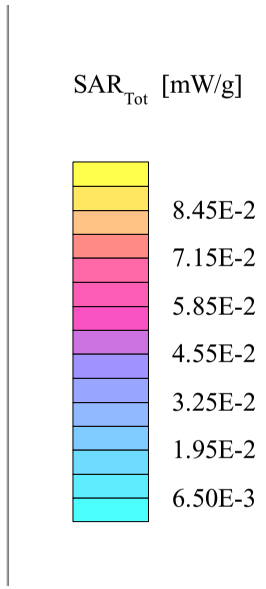
APPENDIX A - SAR MEASUREMENT DATA

Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 1.98 mho/m ε_r = 50.1 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.13 dB
SAR (1g): 0.0827 mW/g, SAR (10g): 0.0362 mW/g

Body-Worn SAR - 0.0cm Separation Distance
Belt-Clip Side of EUT - Right Section (Antenna Side)
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Standard Battery (1500 mAh)
CW Mode
Mid Channel [2437 MHz]
Conducted Power: 17.4 dBm
Ambient Temp. 22.2°C; Fluid Temp. 23.4°C
Date Tested: August 8, 2002



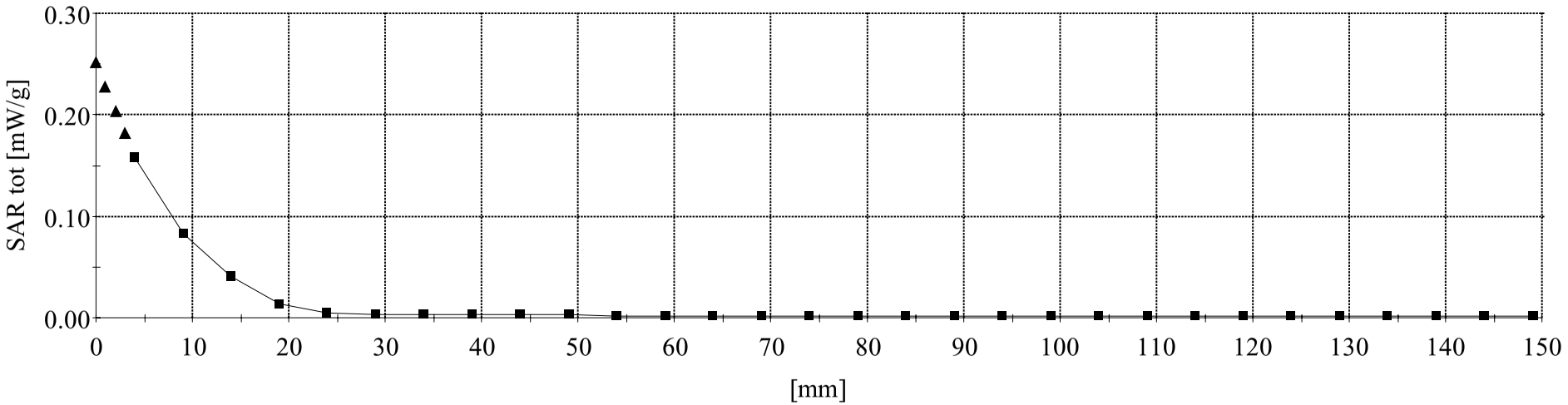


Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 1.98 mho/m ε_r = 50.1 ρ = 1.00 g/cm^3

Z-Axis Extrapolation at Peak SAR Location

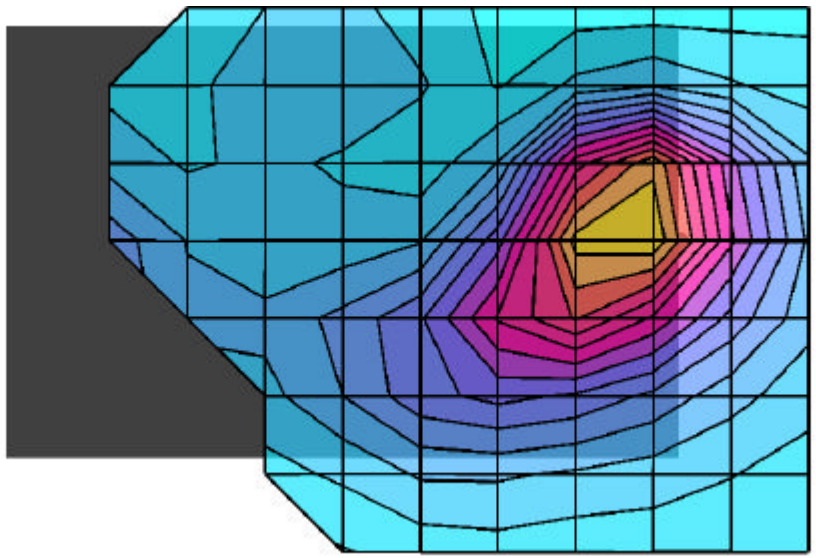
Body-Worn SAR - 0.0cm Separation Distance
Belt-Clip Side of EUT - Right Section (Antenna Side)
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Standard Battery (1500 mAh)
CW Mode
Mid Channel [2437 MHz]
Conducted Power: 17.4 dBm
Ambient Temp. 22.2°C; Fluid Temp. 23.4°C
Date Tested: August 8, 2002

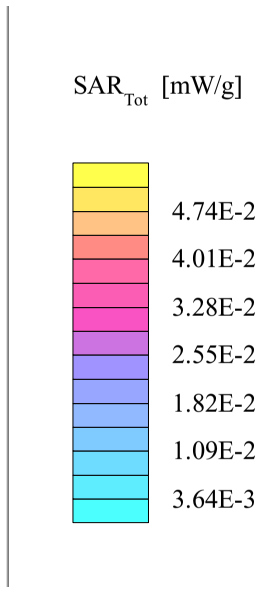


Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 1.98 mho/m ε_r = 50.1 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.14 dB
SAR (1g): 0.0537 mW/g, SAR (10g): 0.0298 mW/g

Body-Worn SAR - 0.0cm Separation Distance
Belt-Clip Side of EUT - Right Section (Antenna Side)
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Extended Battery (3000 mAh)
CW Mode
Mid Channel [2437 MHz]
Conducted Power: 17.4 dBm
Ambient Temp. 22.2°C; Fluid Temp. 23.4°C
Date Tested: August 8, 2002

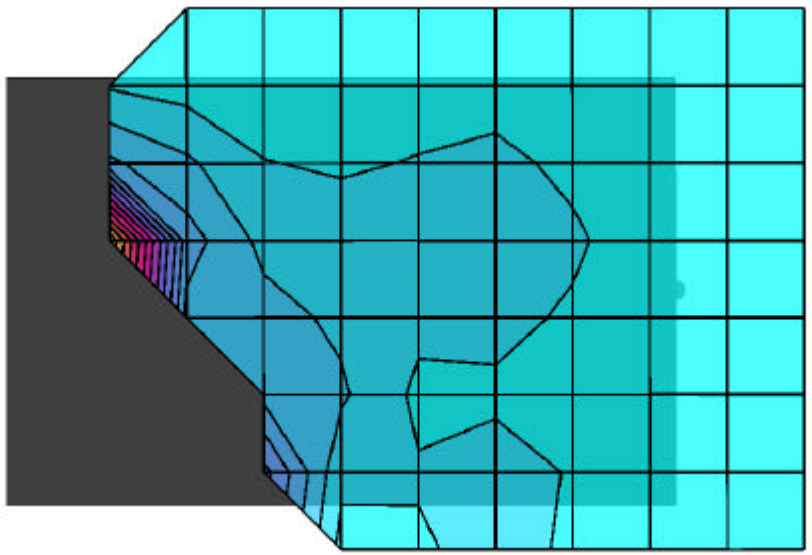


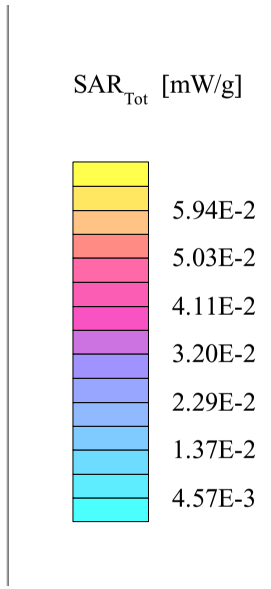


Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 1.98 mho/m ε_r = 50.1 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.18 dB
SAR (1g): 0.0603 mW/g, SAR (10g): 0.0328 mW/g

Body-Worn SAR - 0.0cm Separation Distance
Belt-Clip Side of EUT - Left Section
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Standard Battery (1500 mAh)
CW Mode
Mid Channel [2437 MHz]
Conducted Power: 17.4 dBm
Ambient Temp. 22.2°C; Fluid Temp. 23.4°C
Date Tested: August 8, 2002

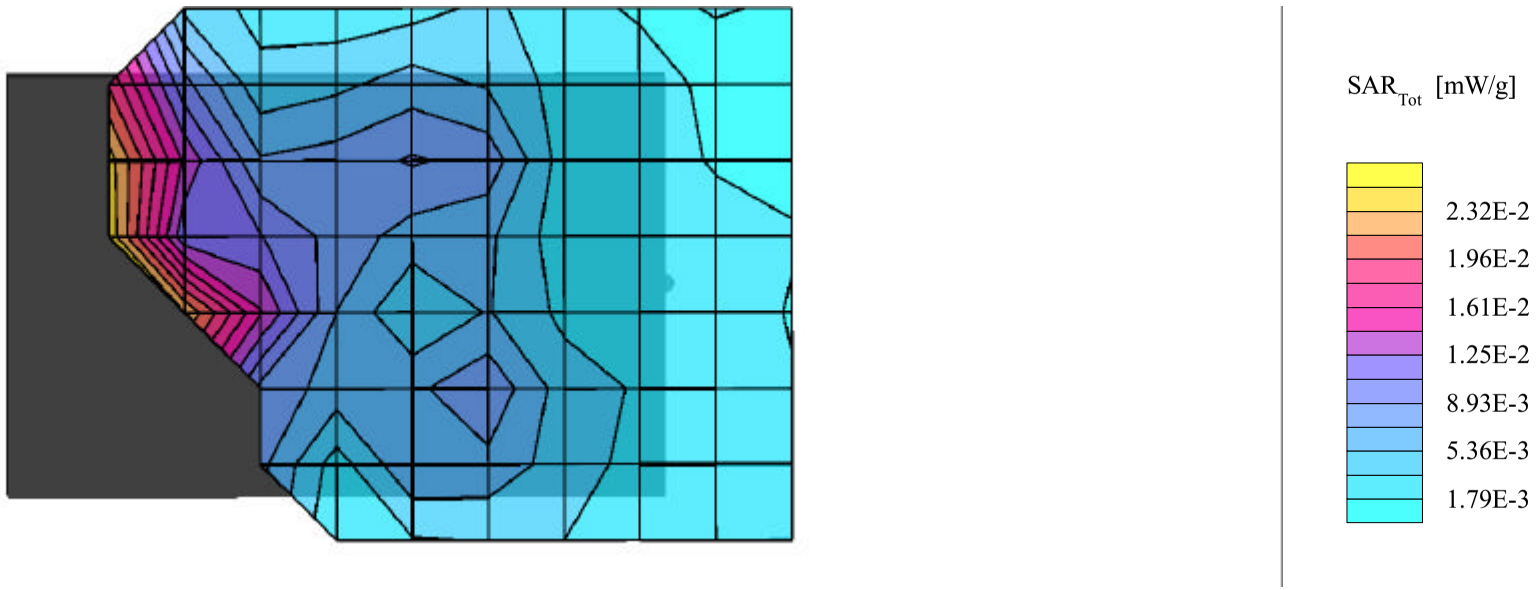




Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 1.98 mho/m ε_r = 50.1 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.15 dB
SAR (1g): 0.0302 mW/g, SAR (10g): 0.0141 mW/g

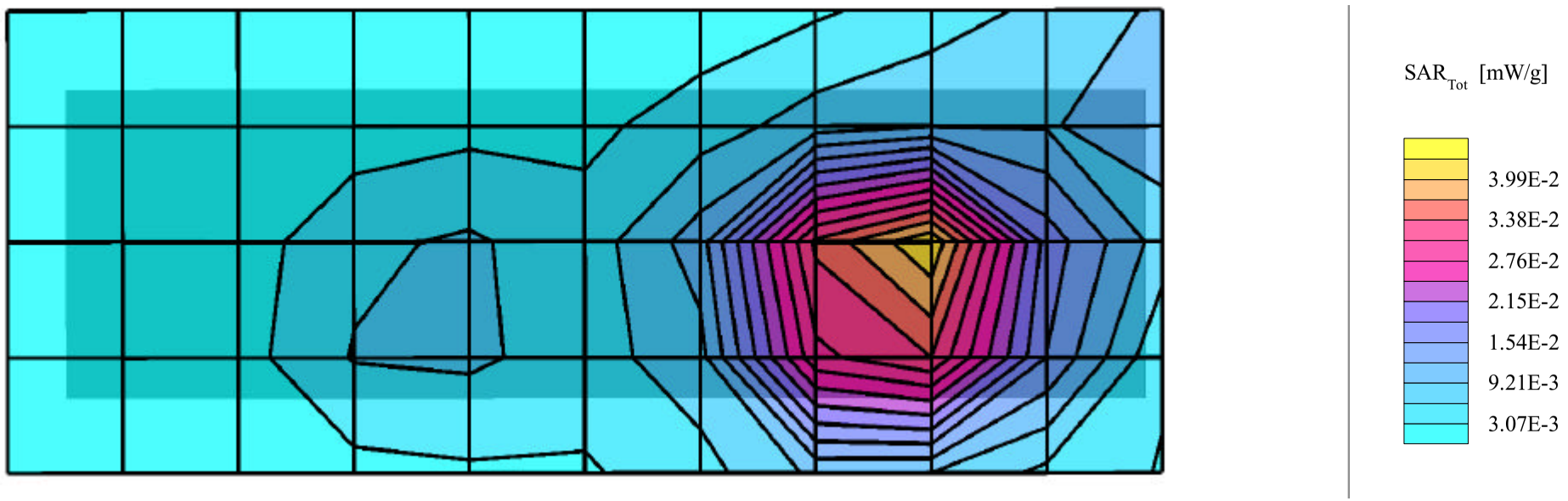
Body-Worn SAR - 0.0cm Separation Distance
Belt-Clip Side of EUT - Left Section
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Extended Battery (3000 mAh)
CW Mode
Mid Channel [2437 MHz]
Conducted Power: 17.4 dBm
Ambient Temp. 22.2°C; Fluid Temp. 23.4°C
Date Tested: August 8, 2002



Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 1.98 mho/m ε_r = 50.1 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.11 dB
SAR (1g): 0.0466 mW/g, SAR (10g): 0.0234 mW/g

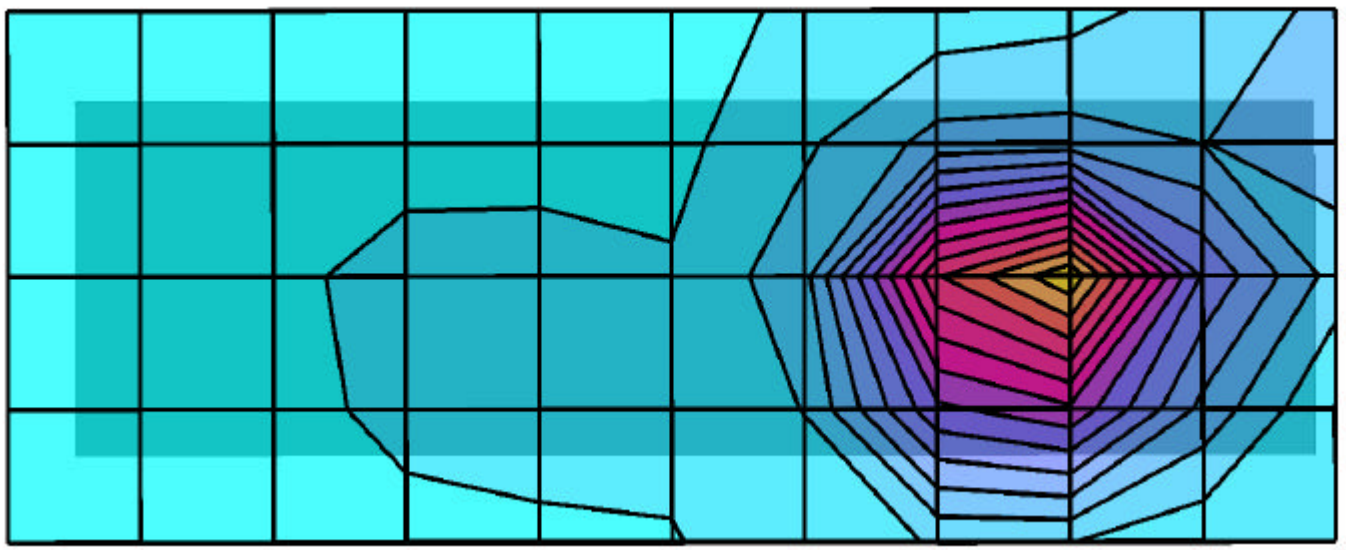
Body-Worn SAR - 0.0cm Separation Distance
Top Side of EUT
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Standard Battery (1500 mAh)
CW Mode
Mid Channel [2437 MHz]
Conducted Power: 17.4 dBm
Ambient Temp. 22.2°C; Fluid Temp. 23.4°C
Date Tested: August 8, 2002



Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 1.98 mho/m ε_r = 50.1 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.03 dB
SAR (1g): 0.0465 mW/g, SAR (10g): 0.0235 mW/g

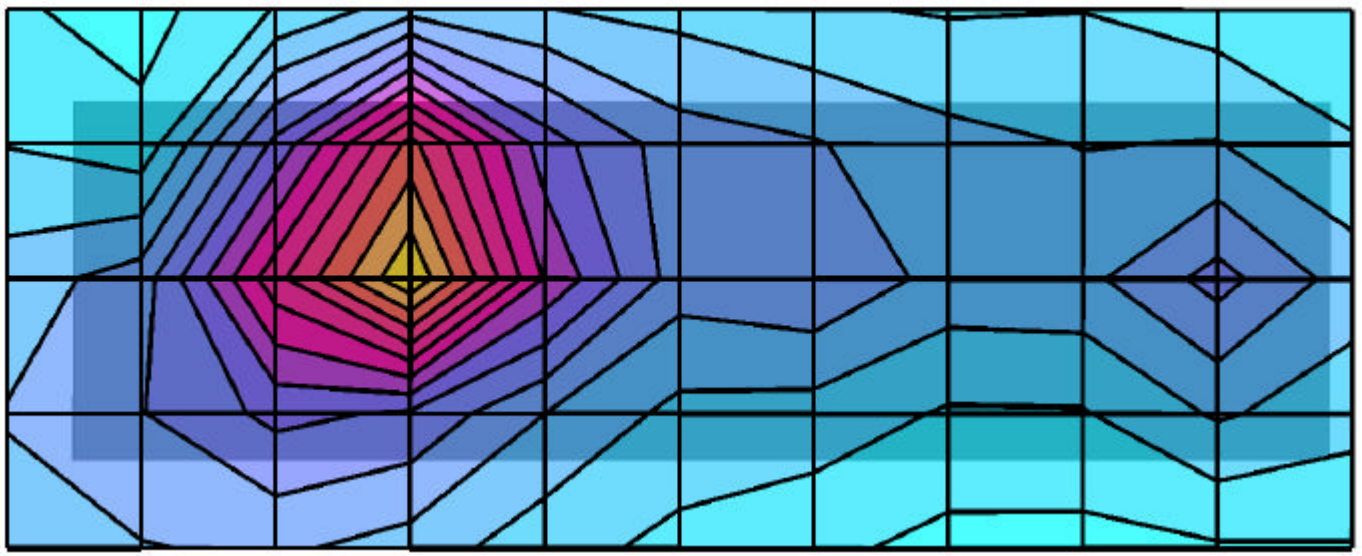
Body-Worn SAR - 0.0cm Separation Distance
Top Side of EUT
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Extended Battery (3000 mAh)
CW Mode
Mid Channel [2437 MHz]
Conducted Power: 17.4 dBm
Ambient Temp. 22.2°C; Fluid Temp. 23.4°C
Date Tested: August 8, 2002



Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 1.98 mho/m ε_r = 50.1 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.06 dB
SAR (1g): 0.0672 mW/g, SAR (10g): 0.0341 mW/g

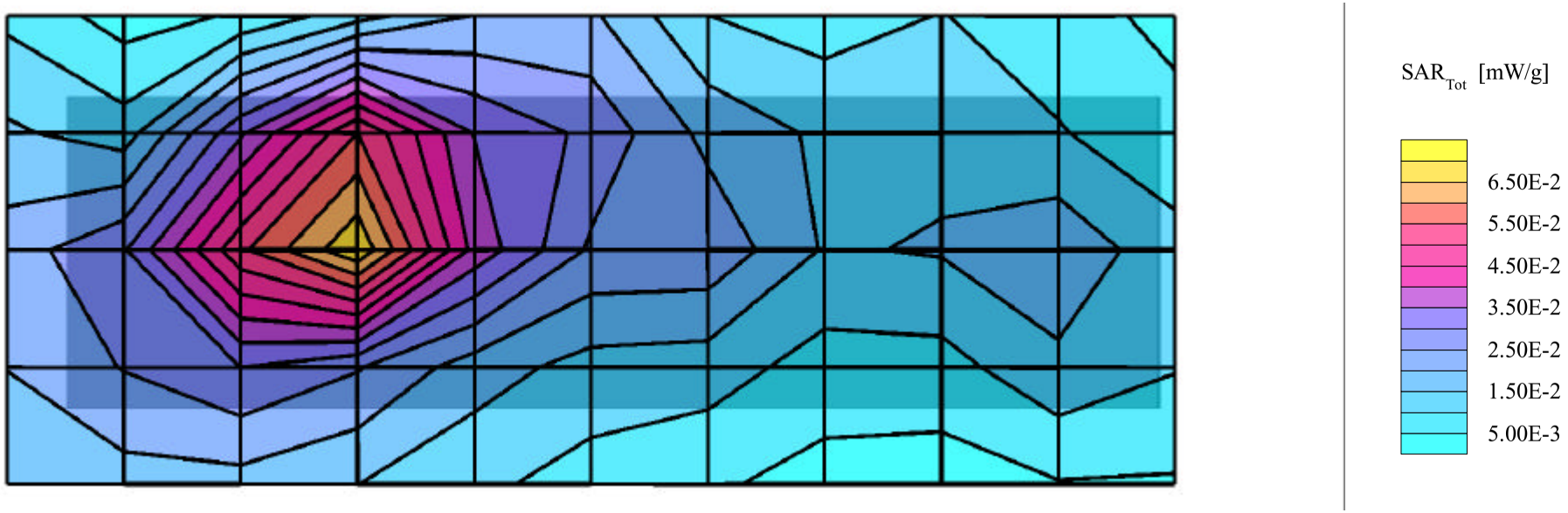
Body-Worn SAR - 0.0cm Separation Distance
Bottom Side of EUT
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Standard Battery (1500 mAh)
CW Mode
Mid Channel [2437 MHz]
Conducted Power: 17.4 dBm
Ambient Temp. 22.2°C; Fluid Temp. 23.4°C
Date Tested: August 8, 2002



Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 1.98 mho/m ε_r = 50.1 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.12 dB
SAR (1g): 0.0723 mW/g, SAR (10g): 0.0361 mW/g

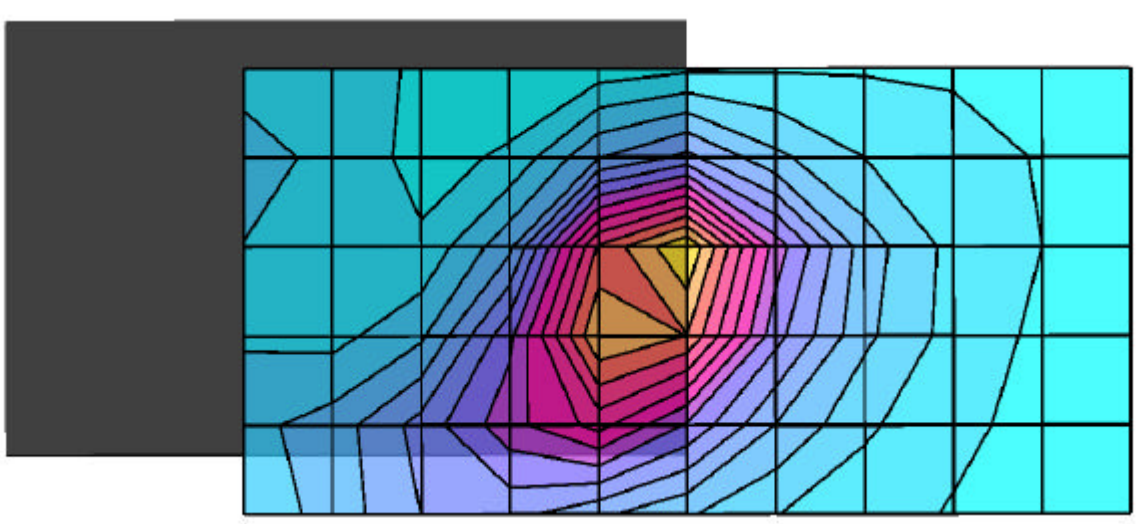
Body-Worn SAR - 0.0cm Separation Distance
Bottom Side of EUT
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Extended Battery (3000 mAh)
CW Mode
Mid Channel [2437 MHz]
Conducted Power: 17.4 dBm
Ambient Temp. 22.2°C; Fluid Temp. 23.4°C
Date Tested: August 8, 2002



Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: $\sigma = 2.01$ mho/m $\varepsilon_r = 51.5$ $\rho = 1.00$ g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.16 dB
SAR (1g): 0.0958 mW/g, SAR (10g): 0.0517 mW/g

Body-Worn SAR - 0.0cm Separation Distance
Belt-Clip Side of EUT - Right Section (Antenna Side)
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Standard Battery (1500 mAh)
CW Mode
High Channel [2462 MHz]
Conducted Power: 18.1 dBm
Ambient Temp. 22.8°C; Fluid Temp. 23.0°C
Date Tested: September 11, 2002

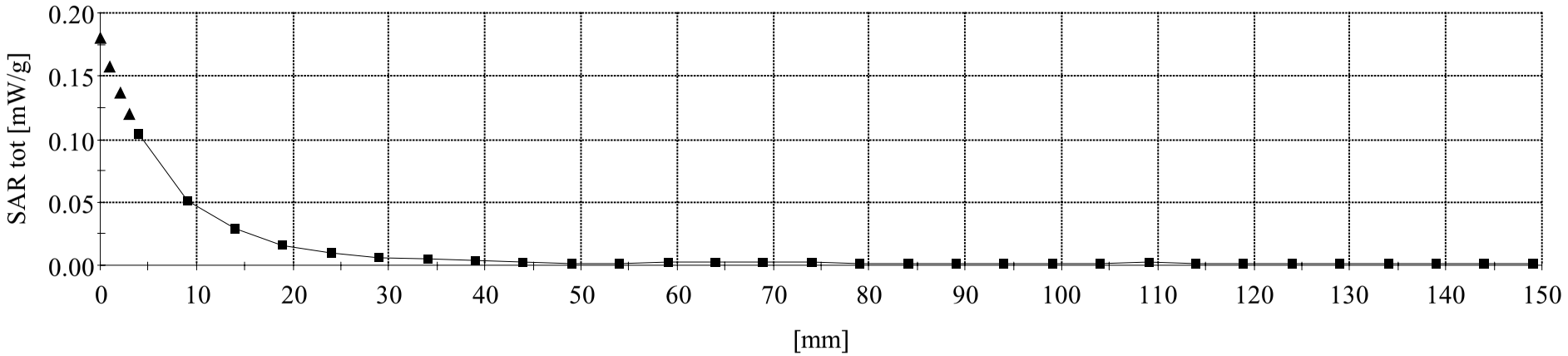


Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 2.01 mho/m ε_r = 51.5 ρ = 1.00 g/cm^3

Z-Axis Extrapolation at Peak SAR Location

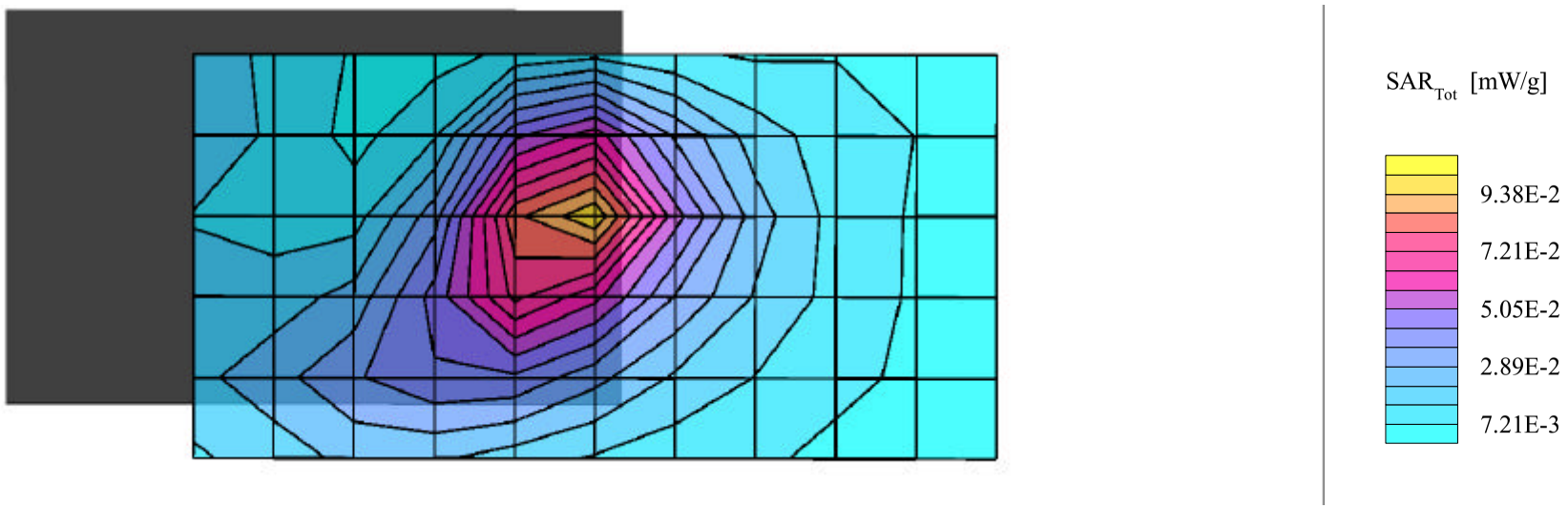
Body-Worn SAR - 0.0cm Separation Distance
Belt-Clip Side of EUT - Right Section (Antenna Side)
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Standard Battery (1500 mAh)
CW Mode
High Channel [2462 MHz]
Conducted Power: 18.1 dBm
Ambient Temp. 22.8°C; Fluid Temp. 23.0°C
Date Tested: September 11, 2002



Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: $\sigma = 2.01$ mho/m $\varepsilon_r = 51.5$ $\rho = 1.00$ g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.07 dB
SAR (1g): 0.0904 mW/g, SAR (10g): 0.0485 mW/g

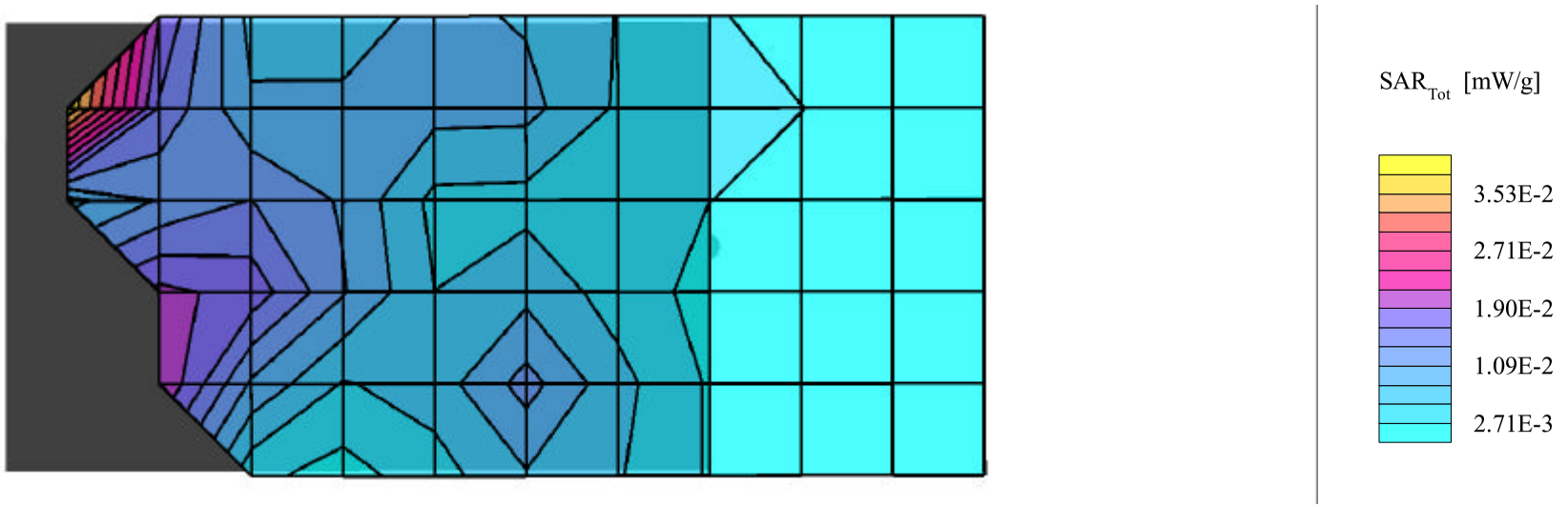
Body-Worn SAR - 0.0cm Separation Distance
Belt-Clip Side of EUT - Right Section (Antenna Side)
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Extended Battery (3000 mAh)
CW Mode
High Channel [2462 MHz]
Conducted Power: 18.1 dBm
Ambient Temp. 22.8°C; Fluid Temp. 23.0°C
Date Tested: September 11, 2002



Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: $\sigma = 2.01$ mho/m $\varepsilon_r = 51.5$ $\rho = 1.00$ g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.12 dB
SAR (1g): 0.0112 mW/g, SAR (10g): 0.0063 mW/g

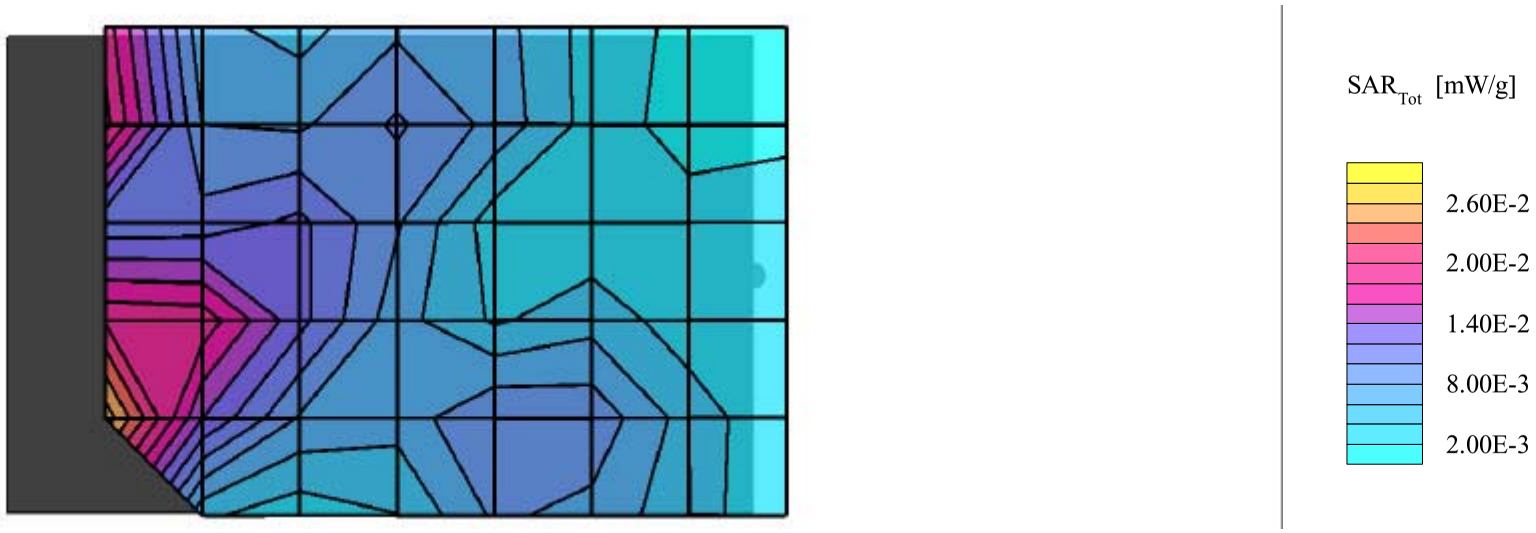
Body-Worn SAR - 0.0cm Separation Distance
Belt-Clip Side of EUT - Left Section
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Standard Battery (1500 mAh)
CW Mode
High Channel [2462 MHz]
Conducted Power: 18.1 dBm
Ambient Temp. 22.8°C; Fluid Temp. 23.0°C
Date Tested: September 11, 2002



Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: $\sigma = 2.01$ mho/m $\varepsilon_r = 51.5$ $\rho = 1.00$ g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.15 dB
SAR (1g): 0.0165 mW/g, SAR (10g): 0.0092 mW/g

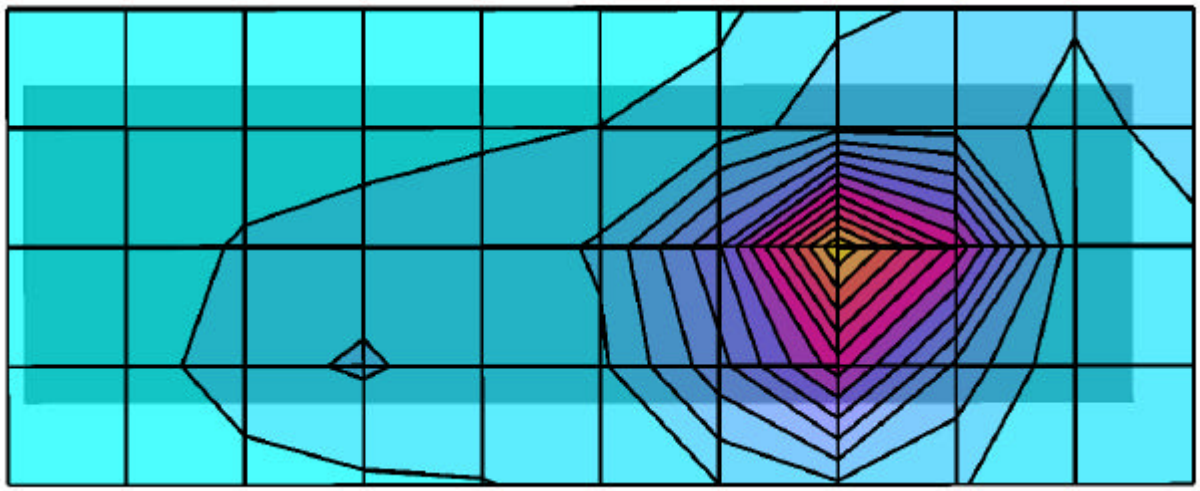
Body-Worn SAR - 0.0cm Separation Distance
Belt-Clip Side of EUT - Left Section
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Extended Battery (3000 mAh)
CW Mode
High Channel [2462 MHz]
Conducted Power: 18.1 dBm
Ambient Temp. 22.8°C; Fluid Temp. 23.0°C
Date Tested: September 11, 2002

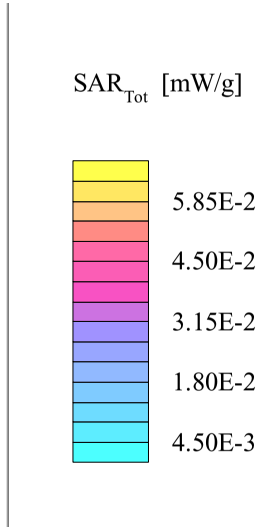


Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 2.01 mho/m ε_r = 51.5 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.06 dB
SAR (1g): 0.0579 mW/g, SAR (10g): 0.0283 mW/g

Body-Worn SAR - 0.0cm Separation Distance
Top Side of EUT
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Standard Battery (1500 mAh)
CW Mode
High Channel [2462 MHz]
Conducted Power: 18.1 dBm
Ambient Temp. 22.8°C; Fluid Temp. 23.0°C
Date Tested: September 11, 2002

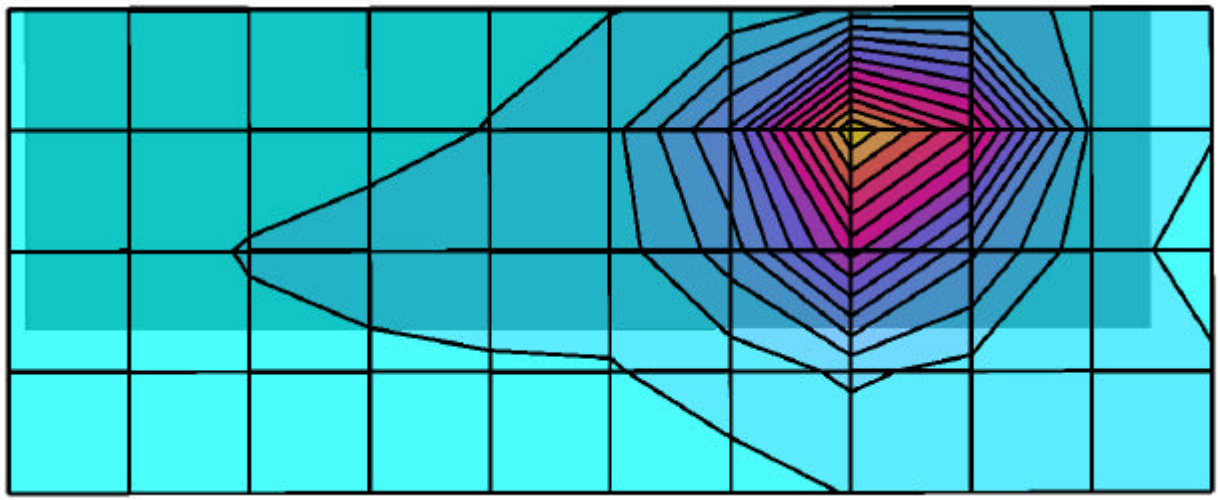




Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 2.01 mho/m ε_r = 51.5 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.11 dB
SAR (1g): 0.0830 mW/g, SAR (10g): 0.0397 mW/g

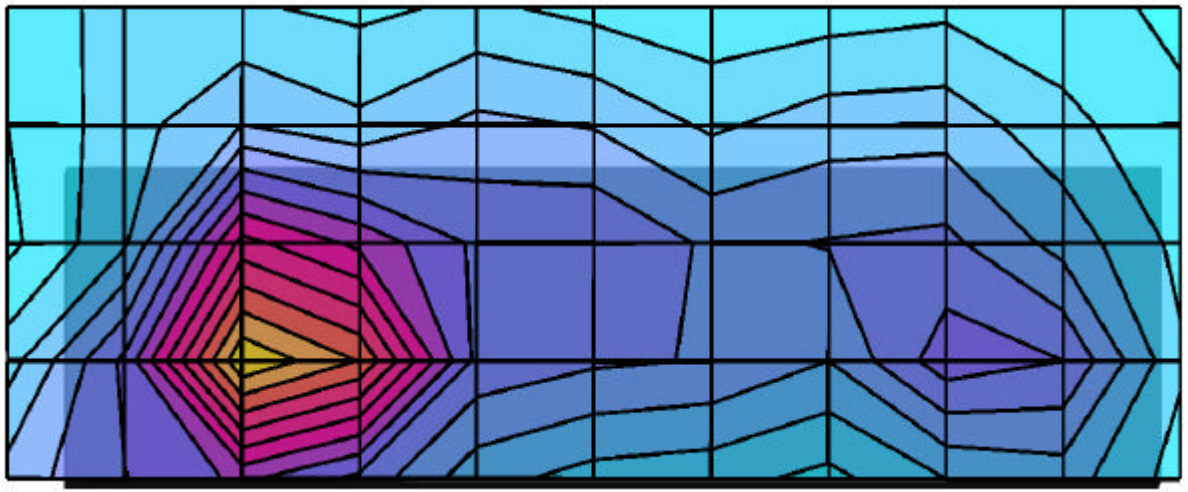
Body-Worn SAR - 0.0cm Separation Distance
Top Side of EUT
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Extended Battery (3000 mAh)
CW Mode
High Channel [2462 MHz]
Conducted Power: 18.1 dBm
Ambient Temp. 22.8°C; Fluid Temp. 23.0°C
Date Tested: September 11, 2002

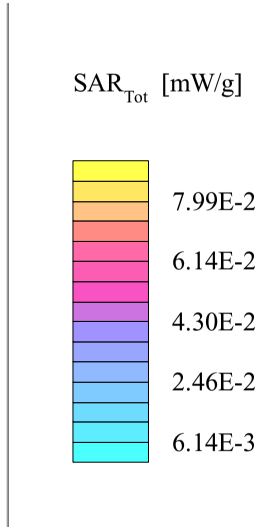


Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 2.01 mho/m ε_r = 51.5 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.13 dB
SAR (1g): 0.0802 mW/g, SAR (10g): 0.0419 mW/g

Body-Worn SAR - 0.0cm Separation Distance
Bottom Side of EUT
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Standard Battery (1500 mAh)
CW Mode
High Channel [2462 MHz]
Conducted Power: 18.1 dBm
Ambient Temp. 22.8°C; Fluid Temp. 23.0°C
Date Tested: September 11, 2002

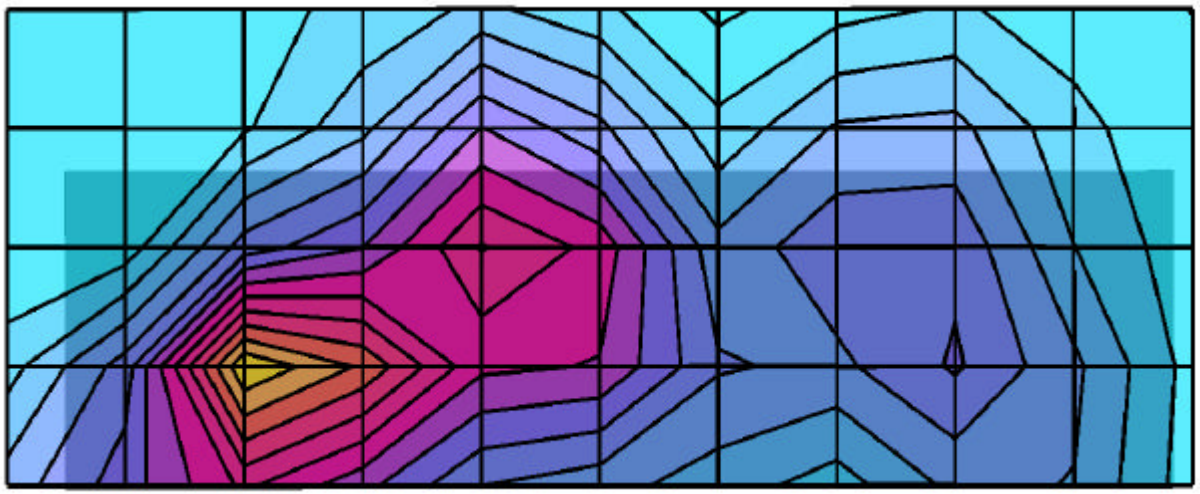




Vocollect Inc. FCC ID: MQOTT600-35300

SAM Phantom; Flat Section; Position: (270°,270°)
Probe: ET3DV6 - SN1387; ConvF(4.30,4.30,4.30); Crest factor: 1.0
2450 MHz Muscle: σ = 2.01 mho/m ε_r = 51.5 ρ = 1.00 g/cm^3
Coarse: Dx = 15.0, Dy = 15.0, Dz = 10.0
Cube 5x5x7; Powerdrift: -0.10 dB
SAR (1g): 0.0729 mW/g, SAR (10g): 0.0372 mW/g

Body-Worn SAR - 0.0cm Separation Distance
Bottom Side of EUT
Waist-Worn Terminal with Internal DSSS WLAN Card
Model: Talkman T2 / TT-600
Extended Battery (3000 mAh)
CW Mode
High Channel [2462 MHz]
Conducted Power: 18.1 dBm
Ambient Temp. 22.8°C; Fluid Temp. 23.0°C
Date Tested: September 11, 2002



APPENDIX B - SYSTEM VALIDATION

Dipole 2450MHz

SAM Phantom; Flat Section

Probe: ET3DV6 - SN1387; ConvF(4.70,4.70,4.70); Crest factor: 1.0; 2450 MHz Brain: σ = 1.87 mho/m ε_r = 37.8 ρ = 1.00 g/cm^3

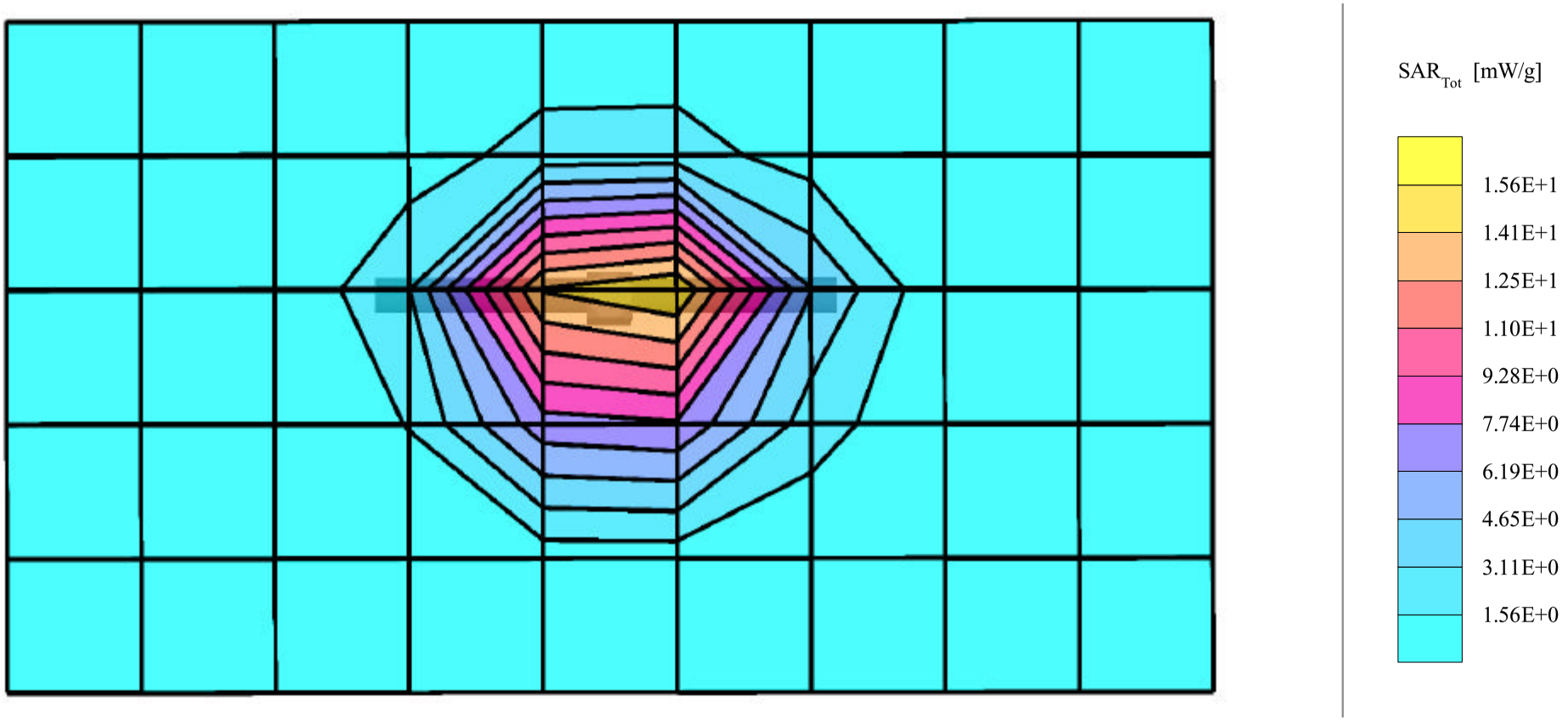
Cube 5x5x7: Peak: 33.0 mW/g, SAR (1g): 15.4 mW/g, SAR (10g): 6.92 mW/g, (Worst-case extrapolation)

Penetration depth: 6.0 (5.8, 6.7) [mm]; Ambient Temp: 22.2°C; Fluid Temp: 23.4°C

Powerdrift: 0.04 dB

Conducted Power: 250mW

Validation Date: August 8, 2002



Dipole 2450MHz

SAM Phantom; Flat Section

Probe: ET3DV6 - SN1387; ConvF(4.70,4.70,4.70); Crest factor: 1.0; 2450 MHz Brain: σ = 1.84 mho/m ε_r = 39.5 ρ = 1.00 g/cm^3

Cube 5x5x7: Peak: 32.2 mW/g, SAR (1g): 15.0 mW/g, SAR (10g): 6.74 mW/g, (Worst-case extrapolation)

Penetration depth: 6.1 (5.7, 6.8) [mm]; Ambient Temp: 22.8°C; Fluid Temp: 23.0°C

Powerdrift: -0.01 dB

Conducted Power: 250mW

Validation Date: September 11, 2002