



Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
Description of Tests:	RF Exposure SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

RF EXPOSURE EVALUATION

SPECIFIC ABSORPTION RATE

SAR TEST REPORT

FOR

SOCKET COMMUNICATIONS, INC.

802.11b/g WLAN Compact Flash Card for PDAs

Model Name	GoWi-Fi!
Model Number	P500

FCC ID: LUB80211GCF
(OET Bulletin 65, Supplement C)

IC: 2529A-80211GCF
(RSS-102 Issue 2)

Test Report Serial No.

070406LUB-T762-S15W

Test Report Revision No.

Revision 1.1 - 2nd Release
(minor typographical change only)

Test Location

Celltech Compliance Testing & Engineering Lab
(Celltech Labs Inc.)
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Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
Description of Tests:	RF Exposure SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

DECLARATION OF COMPLIANCE SAR RF EXPOSURE EVALUATION

Test Location

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FCC IDENTIFIER: LUB80211GCF
IC IDENTIFIER: 2529A-80211GCF
Model Name: GoWi-Fi!
Model Number: P500

Test Requirement(s): FCC 47 CFR §2.1093; Health Canada Safety Code 6
Test Procedure(s): FCC OET Bulletin 65, Supplement C (Edition 01-01)
Industry Canada RSS-102 Issue 2
Device Classification: Digital Transmission System (DTS)
Device Description: 802.11b/g WLAN Compact Flash Card for PDAs
Modulation Type(s): DSSS (Direct Sequence Spread Spectrum) - 802.11b
OFDM (Orthogonal Frequency Division Multiplexing) - 802.11g

Transmit Frequency Range(s): 2412 - 2462 MHz
Max. RF Conducted Power Tested: 66.1 mW (18.2 dBm) Average (2437 MHz, 802.11b, 1 Mbps)
Data Rate(s) Supported: 802.11b: 1 / 2 / 5.5 / 11 Mbps
802.11g: 6 / 9 / 12 / 18 / 24 / 36 / 48 / 54 Mbps
Antenna Type(s) Tested: Internal (Top End of Compact Flash Card)
Power Source(s) Tested: Host PDA Battery (Li-ion 3.7 V, 900mAh)
Host PDA Tested: HP iPAQ Pocket PC

Body-Worn Accessories Tested: None (1.0 cm air-gap spacing from CF Card)
Audio Accessories Tested: None (not applicable)

Max. SAR Level(s) Measured: Body: 0.587 W/kg (1g average) - 802.11b, 1 Mbps

Celltech Labs Inc. declares under its sole responsibility that this wireless portable device has demonstrated compliance 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) and Industry Canada RSS-102 Issue 2 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.

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Test Report Approved By:

Sean Johnston
Compliance Technologist
Celltech Labs Inc.



Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
Description of Tests:	RF Exposure SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2


1.0 INTRODUCTION

This measurement report demonstrates that the SOCKET COMMUNICATIONS, INC. Model: P500 802.11b/g WLAN Compact Flash Card FCC ID: LUB80211GCF for PDAs complies with the SAR (Specific Absorption Rate) RF exposure requirements specified in FCC 47 CFR §2.1093 (see reference [1]) and Health Canada 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]) and IC RSS-102 Issue 2 (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 DEVICE UNDER TEST (DUT)

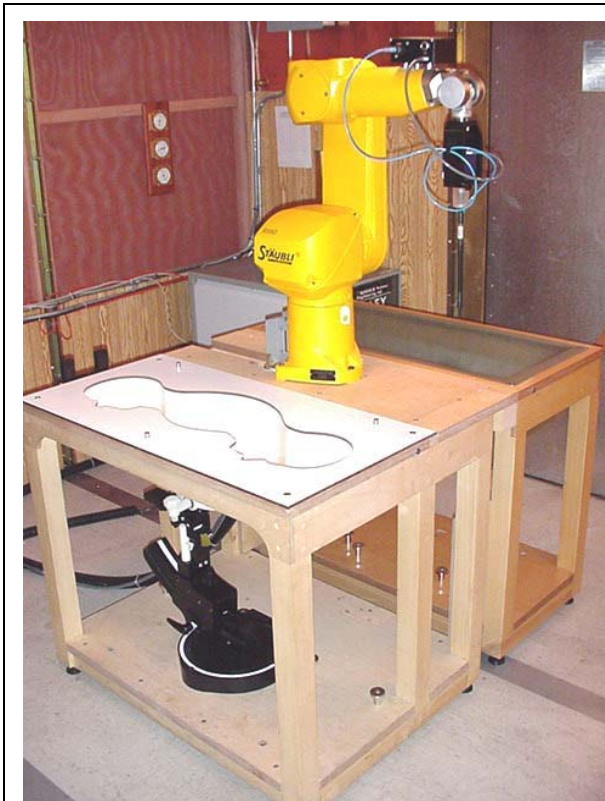
Test Requirement(s)	FCC Rule Part 47 CFR §2.1093			Health Canada Safety Code 6				
Test Procedure(s)	FCC OET Bulletin 65, Supplement C (01-01)			Industry Canada RSS-102 Issue 2				
FCC Device Classification	Digital Transmission System (DTS)					47 CFR §15C		
IC Device Classification	Low Power License-Exempt Radiocommunication Device; Category 1 Equipment					RSS-210 Issue 6		
Device Description	802.11b/g WLAN Compact Flash Card for PDAs							
RF Exposure Category	General Population / Uncontrolled Exposure							
FCC IDENTIFIER	LUB80211GCF		IC IDENTIFIER		2529A-80211GCF			
Model Name	GoWi-Fi!		Model Number		P500			
Test Sample Serial No.	0606001343			Production Unit				
Mode(s) of Operation	802.11b	DSSS	Direct Sequence Spread Spectrum					
	802.11g	OFDM	Orthogonal Frequency Division Multiplexing					
Transmit Frequency Range(s)	2412 - 2462 MHz							
Maximum RF Conducted Output Power Measured	Transmit Mode	Frequency	Channel	Data Rate	Conducted Power			
					Average		Peak	
	802.11b	2412 MHz	1	1 Mbps	66.1 mW	18.2 dBm	63.1 mW	18.0 dBm
		2437 MHz	6	1 Mbps	66.1 mW	18.2 dBm	61.7 mW	17.9 dBm
		2462 MHz	11	1 Mbps	58.9 mW	17.7 dBm	57.5 mW	17.6 dBm
		2437 MHz	6	2 Mbps	63.1 mW	18.0 dBm	-	-
		2437 MHz	6	5.5 Mbps	61.7 mW	17.9 dBm	-	-
		2437 MHz	6	11 Mbps	58.9 mW	17.7 dBm	75.9 mW	18.8 dBm
	802.11g	2412 MHz	1	6 Mbps	25.7 mW	14.1 dBm	-	-
		2437 MHz	6	6 Mbps	24.0 mW	13.8 dBm	-	-
		2462 MHz	11	6 Mbps	20.4 mW	13.1 dBm	-	-
		2412 MHz	1	54 Mbps	7.9 mW	9.0 dBm	-	-
		2437 MHz	6	54 Mbps	7.4 mW	8.7 dBm	-	-
		2462 MHz	11	54 Mbps	6.9 mW	8.4 dBm	-	-
Note: Peak power levels reported above to show comparison between measured peak levels in the EMC report.								
Antenna Type(s) Tested	Internal			Top End of Compact Flash Card				
Power Source(s) Tested	Host PDA Battery		Lithium-ion		3.7 V, 900mAh		P/N: 310798-B21	
Host PDA Tested	Manufacturer / Model		Serial No.	Slot Location		Card Distance to Back of PDA	Card Distance to Front of PDA	
	HP IPAQ Pocket PC		TWC32609HQ	Top End of PDA		2 mm	10 mm	
Body-Worn Accessories	None		Tested with 1.0 cm Air-Gap Spacing from CF Card (Front and Back sides)					
Audio Accessories	None		not applicable					

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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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 various 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 device holder



DASY4 Measurement System with SAM Phantom and validation dipole


Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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4.0 MEASUREMENT SUMMARY

BODY SAR EVALUATION RESULTS												
Freq. (MHz)	Chan.	Test Mode	Transmit Mode	Data Rate (Mbps)	Power Supply	Host PDA	DUT/PDA Position to Planar Phantom	DUT Separation Distance to Planar Phantom	Host PDA Separation Distance to Planar Phantom	Av. Cond. Power Before Test (dBm)	SAR Drift During Test (dB)	Measured SAR 1g (W/kg)
2437	6	DSSS	802.11b	1	Host PDA Li-ion Battery	HP iPAQ	Front Side	10 mm	0.0 mm	18.2	-0.0372	0.474
2437	6	DSSS	802.11b	1	Host PDA Li-ion Battery	HP iPAQ	Back Side	10 mm	0.8 mm	18.2	-0.182	0.587
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)		July 06, 2006					Relative Humidity			35	%	
Measured Fluid Type		2450 MHz Body					Atmospheric Pressure			101.1	kPa	
Dielectric Constant ϵ_r		IEEE Target		Measured	Deviation	Ambient Temperature			24.9	°C		
		52.7	± 5%	50.3	-4.6%	Fluid Temperature			23.7	°C		
Conductivity σ (mho/m)		IEEE Target		Measured	Deviation	Fluid Depth			≥ 15	cm		
		1.95	± 5%	1.95	0.0%	ρ (Kg/m ³)			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.	If the SAR levels measured at the mid channel were ≥ 3 dB below the SAR limit, SAR evaluations for the low and high channels was optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]).									
		3.	802.11g mode was not evaluated for SAR based on the measured average conducted power levels were not 0.25 dB > output power levels measured in 802.11b mode (per October 2005 TCB Council Workshop - see reference [7]).									
		4.	The power drifts were measured by the DASY4 system during the SAR evaluations and were within 5% of the start power.									
		5.	The host PDA battery was fully charged prior to the SAR evaluations.									
		6.	The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the SAR evaluations. The temperatures reported were consistent for all measurement periods.									
		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 SAR evaluations were performed within 24 hours of the system performance check.									

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5.0 DETAILS OF SAR EVALUATION

The SOCKET COMMUNICATIONS, INC. Model: P500 802.11b/g WLAN Compact Flash Card FCC ID: LUB80211GCF for PDAs was compliant for localized Specific Absorption Rate based on the test provisions and conditions described below. Detailed test setup photographs are shown in Appendix D.

Test Configurations


1. The DUT was tested for body-worn SAR with the front side (LCD side) of the host PDA placed parallel to, and touching, the outer surface of the SAM phantom (planar section). The SAR evaluation was performed with the DUT inserted in the Compact Flash card slot of the host PDA and powered from the PDA battery. The separation distance from the front side of the DUT to the outer surface of the SAM phantom (planar section) was 10 mm.
2. The DUT was tested for body-worn SAR with the back side (battery side) of the host PDA placed parallel to the outer surface of the SAM phantom (planar section) with an 8 mm air-gap separation distance from the back of the host PDA to the SAM phantom (planar section). The SAR evaluation was performed with the DUT inserted in the Compact Flash card slot of the host PDA and powered from the PDA battery. The separation distance from the back side of the DUT to the outer surface of the SAM Phantom (planar section) was 10 mm.

Test Modes & Power Settings

3. The average conducted power levels were measured prior to the SAR evaluations using the Gigatronics 8652A universal power meter. The peak conducted power levels were measured prior to the SAR evaluations using the Agilent E4408B spectrum analyzer and a 30 dB attenuator. The power measurements were made according to the procedures described in FCC 47 CFR §2.1046.
4. The DUT was put into test mode using internal test software provided by the manufacturer and controlled via the host PDA. The DUT was tested at maximum power in modulated DSSS continuous transmit mode with 100% duty cycle.

6.0 EVALUATION PROCEDURES

- (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.
- 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:
 - 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.
 - 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:
- Extrapolation is used to find the points between the dipole center of the probe and the surface of the phantom. This data cannot be measured, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.4 mm (see probe calibration document in Appendix F). The extrapolation was based on trivariate quadratics computed from the previously calculated 3D interpolated points nearest the phantom surface.
- 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).
- A zoom scan volume of 32 mm x 32 mm x 30 mm (5 x 5 x 7 points) centered at the peak SAR location determined from the area scan is used for all zoom scans for devices with a transmit frequency < 800 MHz. Zoom scans for frequencies ≥ 800 MHz are determined with a scan volume of 30 mm x 30 mm x 30 mm (7 x 7 x 7) to ensure complete capture of the peak spatial-average SAR.

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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 2450MHz dipole (see Appendix E 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). See Table 1 below for the SAR system manufacturer's reference body SAR values from the DASy4 Operation Manual (see reference [6]).

SYSTEM PERFORMANCE CHECK EVALUATION																
Test Date	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)
		IEEE Target	Meas.	Dev.	IEEE Target	Meas.	Dev.	IEEE Target	Meas.	Dev.						
7/6/06	Body 2450	12.8 $\pm 10\%$	13.3	+3.9%	52.7 $\pm 5\%$	50.3	-4.6%	1.95 $\pm 5\%$	1.95	0.0%	1000	24.9	23.7	≥ 15	35	101.1
Note(s):		The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the system performance check. The temperatures listed in the table above were consistent for all measurement periods.														

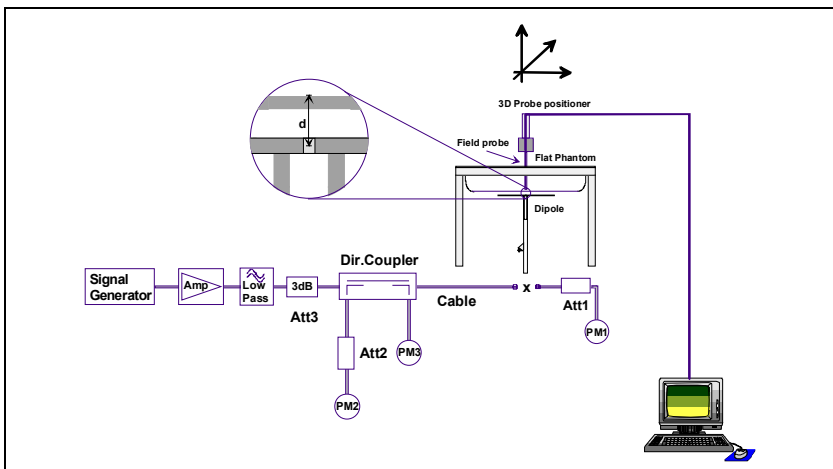


Figure 1. System Performance Check Measurement Setup

Dipole Type	Distance [mm]	Frequency [MHz]	SAR (1g) [W/kg]	SAR (10g) [W/kg]	SAR (peak) [W/kg]
D300V2	15	300	3.02	2.06	4.36
D450V2	15	450	5.01	3.36	7.22
D835V2	15	835	9.71	6.38	14.1
D900V2	15	900	11.1	7.17	16.3
D1450V2	10	1450	29.6	16.6	49.8
D1500V2	10	1500	30.8	17.1	52.1
D1640V2	10	1640	34.4	18.7	59.4
D1800V2	10	1800	38.5	20.3	67.5
D1900V2	10	1900	39.8	20.8	69.6
D2000V2	10	2000	40.9	21.2	71.5
D2450V2	10	2450	51.2	23.7	97.6
D3000V2	10	3000	61.9	24.8	136.7

Table 32.1: Numerical reference SAR values for SPEAG dipoles and flat phantom filled with body-tissue simulating liquid. Note: All SAR values normalized to 1 W forward power.

Table 1. SAR system manufacturer's reference body SAR values



2450MHz Dipole Setup



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8.0 SIMULATED EQUIVALENT TISSUES

The 2450MHz simulated tissue mixture consisted of Glycol-monobutyl, water, and salt. The fluids were prepared according to standardized procedures and measured for dielectric parameters (permittivity and conductivity).

SIMULATED TISSUE MIXTURES		
INGREDIENT	2450 MHz Body	2450 MHz Body
	System Performance Check	DUT Evaluation
Water	69.98 %	69.98 %
Glycol Monobutyl	30.00 %	30.00 %
Salt	0.02 %	0.02 %

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:	DASY4 software
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

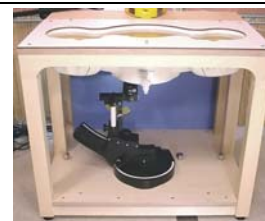
Application: High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better than 30%.



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 G 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. For evaluations of larger devices such as Laptop and Tablet PCs, a Plexiglas platform is attached to the device holder.



Device Holder



Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
Description of Tests:	RF Exposure SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

14.0 TEST EQUIPMENT LIST

USED	TEST EQUIPMENT	ASSET NO.	SERIAL NO.	DATE CALIBRATED		CALIBRATION DUE DATE
	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
	-DAE4	00019	353	21Jun06		21Jun07
x	-DAE3	00018	370	08Feb06		08Feb07
	-ET3DV6 E-Field Probe	00016	1387	16Mar06		16Mar07
x	-EX3DV4 E-Field Probe	00125	3547	14Feb06		14Feb07
	-300MHz Validation Dipole	00023	135	25Oct05		25Oct06
	-450MHz Validation Dipole	00024	136	25Oct05		25Oct06
	-835MHz Validation Dipole	00022	411	Brain	28Mar06	28Mar07
				Body	27Mar06	27Mar07
	-900MHz Validation Dipole	00020	054	Brain	06Jun06	06Jun07
				Body	06Jun06	06Jun07
	-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	Brain	20Sep05	20Sep06
x				Body	24Apr06	24Apr07
	-5800MHz Validation Dipole	00126	1031	Brain	15Mar06	15Mar07
x	-SAM Phantom V4.0C	00154	1033	N/A		N/A
	-Barski Planar Phantom	00155	03-01	N/A		N/A
	-Plexiglas Side Planar Phantom	00156	161	N/A		N/A
	-Plexiglas Validation Planar Phantom	00157	137	N/A		N/A
x	ALS-PR-DIEL Dielectric Probe Kit	00160	260-00953	N/A		N/A
	Gigatronics 8652A Power Meter	00110	1835801	12Apr06		12Apr07
x	Gigatronics 8652A Power Meter	00007	1835272	03Feb06		03Feb07
	Gigatronics 80701A Power Sensor	00011	1833542	03Feb06		03Feb07
	Gigatronics 80701A Power Sensor	00012	1834350	12Sep05		12Sep06
x	Gigatronics 80701A Power Sensor	00013	1833713	03Feb06		03Feb07
x	Gigatronics 80701A Power Sensor	00014	1833699	07Sep05		07Sep06
x	HP 8753ET Network Analyzer	00134	US39170292	18Apr06		18Apr07
x	HP 8648D Signal Generator	00005	3847A00611	N/A		N/A
	Rohde & Schwarz SMR40 Signal Generator	00006	100104	06Apr06		06Apr07
x	Amplifier Research 5S1G4 Power Amplifier	00106	26235	N/A		N/A
x	HP E4408B Spectrum Analyzer	00015	US39240170	02-Feb-06		02-Feb-07

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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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	5.9	Normal	1	1	5.9	∞
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	1	Rectangular	1.732050808	1	0.6	∞
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	0.4	Rectangular	1.732050808	1	0.2	∞
Probe positioning	2.9	Rectangular	1.732050808	1	1.7	∞
Extrapolation & integration	1	Rectangular	1.732050808	1	0.6	∞
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					10.79	
Expanded Uncertainty (k=2)					21.59	

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



Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
Description of Tests:	RF Exposure SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

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	5.9	Normal	1	1	5.9	∞
Axial isotropy of the probe	4.7	Rectangular	1.732050808	1	2.7	∞
Spherical isotropy of the probe	0	Rectangular	1.732050808	1	0.0	∞
Spatial resolution	0	Rectangular	1.732050808	1	0.0	∞
Boundary effects	1	Rectangular	1.732050808	1	0.6	∞
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	0.4	Rectangular	1.732050808	1	0.2	∞
Probe positioning	2.9	Rectangular	1.732050808	1	1.7	∞
Extrapolation & integration	1	Rectangular	1.732050808	1	0.6	∞
Test Sample Related						
Dipole Positioning	2	Normal	1.732050808	1	1.2	∞
Power & Power Drift	4.7	Normal	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					9.04	
Expanded Uncertainty (k=2)					18.08	

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

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
Description of Tests:	RF Exposure SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2


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] FCC TCB Council Workshop, "RF Exposure (RFx) Mobile and Portable Device Review and Approval Procedures, 802.11abg SAR Procedures (Proposed Testing Guidance)": October 2005.

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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	Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006
	Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
	Description of Tests:	RF Exposure SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

APPENDIX A - SAR MEASUREMENT DATA

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
Description of Tests:	RF Exposure	SAR	FCC 47 CFR §2.1093
			IC RSS-102 Issue 2

Date Tested: 07/06/2006

Body SAR - 802.11b - 1 Mbps - Front Side of DUT & PDA - 1.0 cm DUT Spacing - 2437 MHz

DUT: Socket Communications; Model: P500; Type: 802.11b/g Compact Flash Card for PDAs; Serial: 0606001343

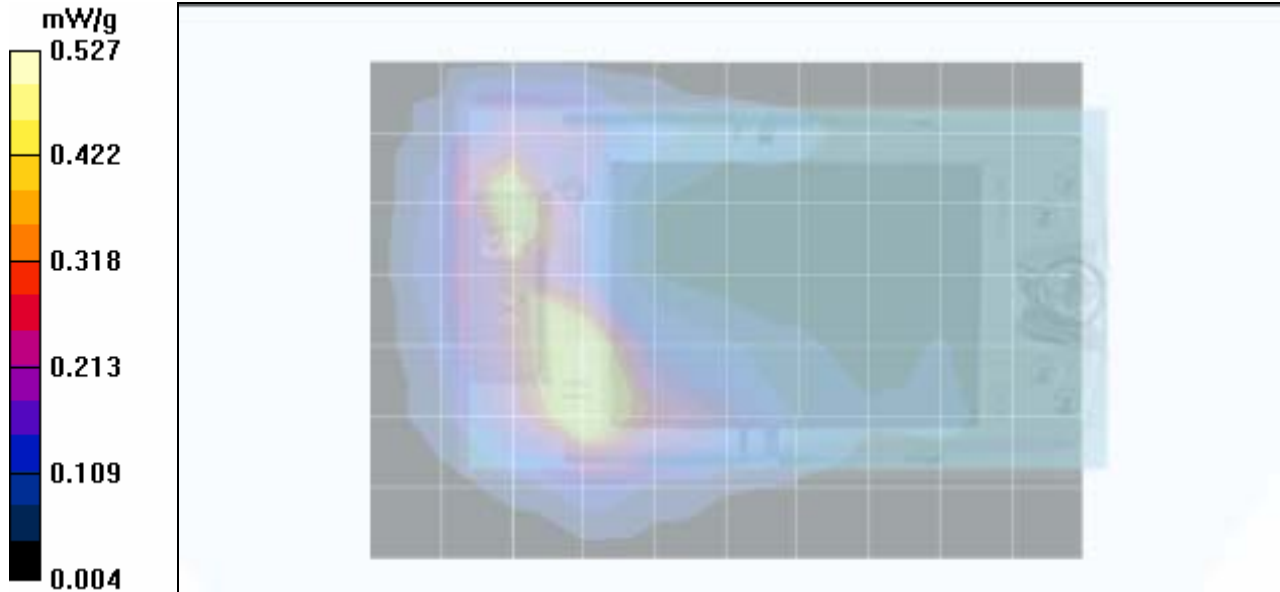
Ambient Temp: 24.9 °C; Fluid Temp: 23.7 °C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: DSSS WLAN
 Power Source: Host PDA Li-ion Battery
 RF Output Power: 18.2 dBm (Average Conducted)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 1.95 \text{ mho/m}$; $\epsilon_r = 50.3$; $\rho = 1000 \text{ kg/m}^3$)

- Probe: EX3DV4 - SN3547; ConvF(7.53, 7.53, 7.53); Calibrated: 14/02/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 08/02/2006
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Body SAR - Front Side (LCD Side) of Host PDA Touching Planar Phantom
 10 mm Separation Distance from Front Side of DUT to Planar Phantom - Channel 6 (2437 MHz)
 Area Scan (8x11x1):** Measurement grid: dx=15mm, dy=15mm

**Body SAR - Front Side (LCD Side) of Host PDA Touching Planar Phantom
 10 mm Separation Distance from Front Side of DUT to Planar Phantom - Channel 6 (2437 MHz)
 Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 5.12 V/m; Power Drift = -0.0372 dB
 Peak SAR (extrapolated) = 0.886 W/kg
SAR(1 g) = 0.474 mW/g; SAR(10 g) = 0.238 mW/g



Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
Description of Tests:	RF Exposure	SAR	FCC 47 CFR §2.1093
			IC RSS-102 Issue 2

Date Tested: 07/06/2006

Body SAR - 802.11b - 1 Mbps - Back Side of DUT & PDA - 1.0 cm DUT Spacing - 2437 MHz

DUT: Socket Communications; Model: P500; Type: 802.11b/g Compact Flash Card for PDAs; Serial: 0606001343

Ambient Temp: 24.9 °C; Fluid Temp: 23.7 °C; Barometric Pressure: 101.1 kPa; Humidity: 35%

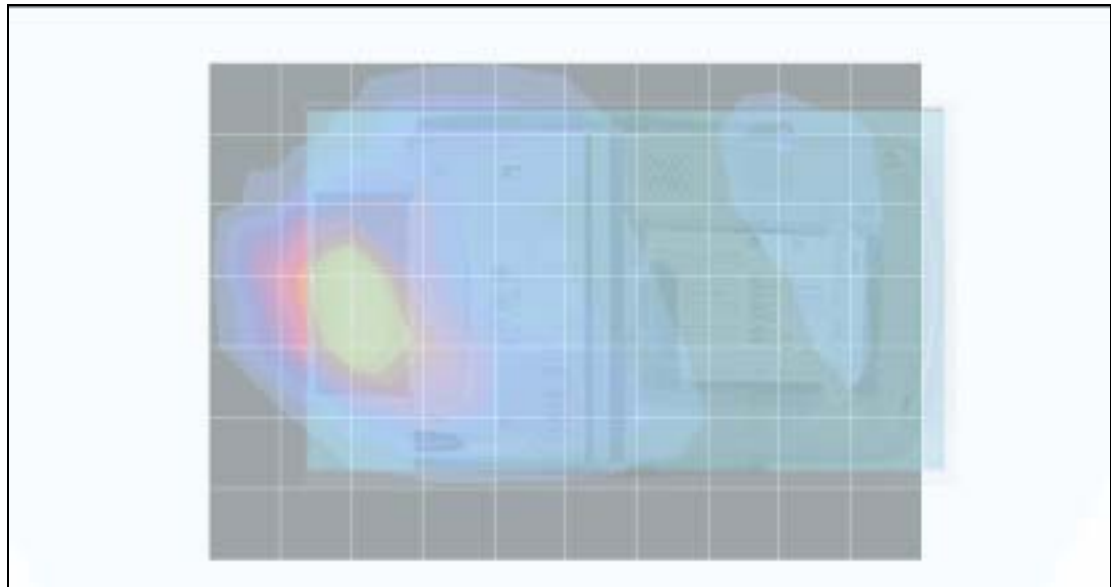
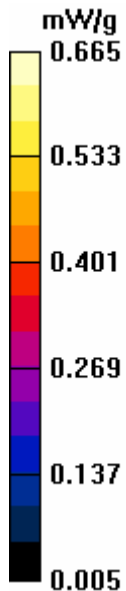
Communication System: DSSS WLAN
 Power Source: Host PDA Li-ion Battery
 RF Output Power: 18.2 dBm (Average Conducted)
 Frequency: 2437 MHz; Channel 6; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 1.95 \text{ mho/m}$; $\epsilon_r = 50.3$; $\rho = 1000 \text{ kg/m}^3$)

- Probe: EX3DV4 - SN3547; ConvF(7.53, 7.53, 7.53); Calibrated: 14/02/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 08/02/2006
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

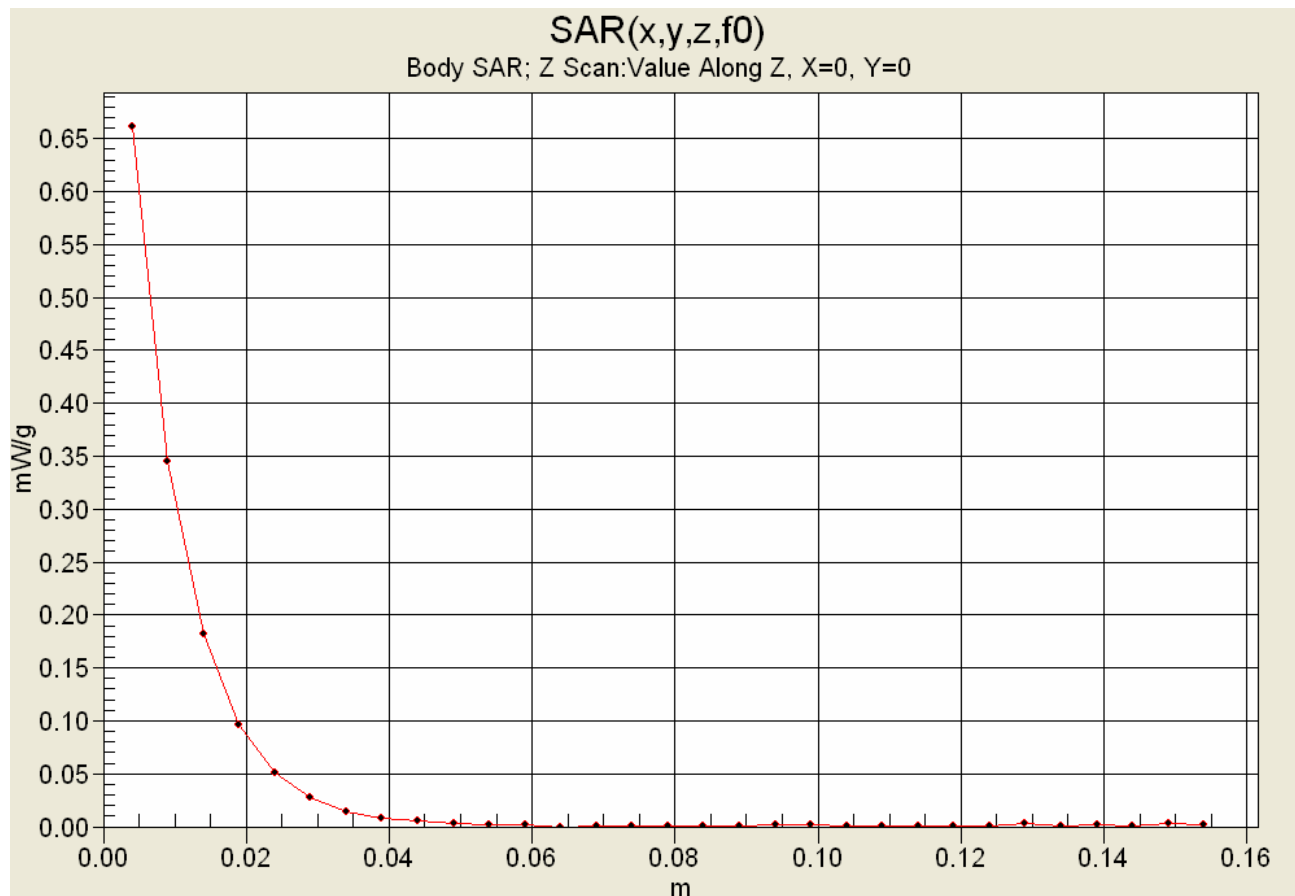
**Body SAR - 8 mm Separation Distance from Back Side (Battery Side) of Host PDA to Planar Phantom
 10 mm Separation Distance from Back Side of DUT to Planar Phantom - Channel 6 (2437 MHz)
 Area Scan (8x11x1): Measurement grid: dx=15mm, dy=15mm**

**Body SAR - 8 mm Separation Distance from Back Side (Battery Side) of Host PDA to Planar Phantom
 10 mm Separation Distance from Back Side of DUT to Planar Phantom - Channel 6 (2437 MHz)
 Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 8.05 V/m; Power Drift = -0.182 dB
 Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.587 mW/g; SAR(10 g) = 0.290 mW/g



Z-Axis Scan





Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006	
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1	
Description of Tests:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

APPENDIX B - SYSTEM PERFORMANCE CHECK DATA

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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Date Tested: 07/06/2006

System Performance Check (Body) - 2450 MHz Dipole

DUT: Dipole 2450 MHz; Model: D2450V2; Type: System Performance Check; Serial: 150; Validation: 04/24/2006

Ambient Temp: 24.9 °C; Fluid Temp: 23.7 °C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW
 Forward Conducted Power: 250 mW
 Frequency: 2450 MHz; Duty Cycle: 1:1
 Medium: M2450 ($\sigma = 1.95 \text{ mho/m}$; $\epsilon_r = 50.3$; $\rho = 1000 \text{ kg/m}^3$)

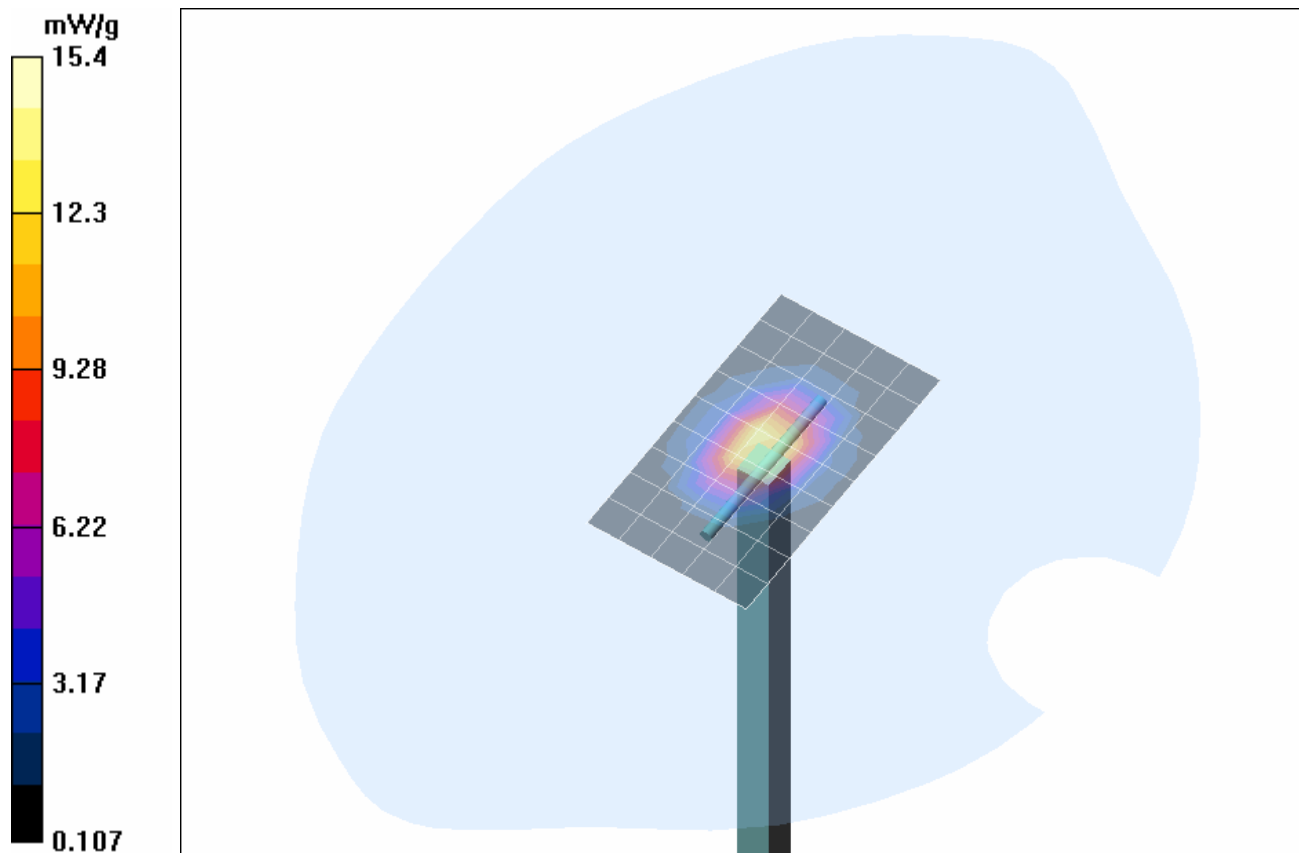
- Probe: EX3DV4 - SN3547; ConvF(7.53, 7.53, 7.53); Calibrated: 14/02/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn370; Calibrated: 08/02/2006
- Phantom: SAM 4.0; Type: Fiberglass; Serial: 1033
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

2450 MHz Dipole - System Performance Check/Area Scan (6x10x1):

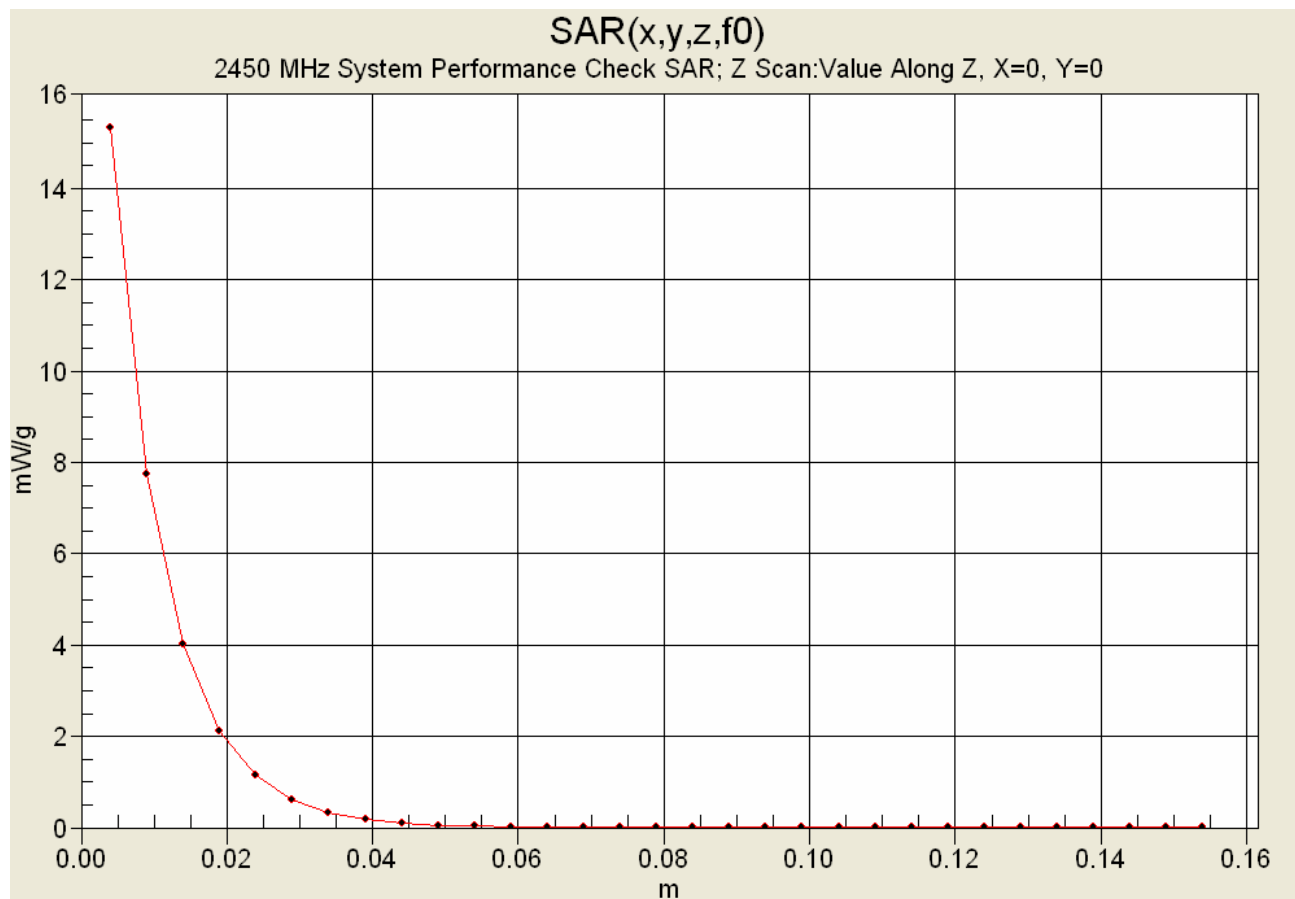
Measurement grid: dx=10mm, dy=10mm

2450 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
 Reference Value = 89.4 V/m; Power Drift = -0.049 dB
 Peak SAR (extrapolated) = 27.6 W/kg
SAR(1 g) = 13.3 mW/g; SAR(10 g) = 6.11 mW/g



Z-Axis Scan





Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006	
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1	
Description of Tests:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

APPENDIX C - MEASURED FLUID DIELECTRIC PARAMETERS



Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
Description of Tests:	RF Exposure SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

2450 MHz System Performance Check & DUT Evaluation (Body)

Celltech Labs Inc.
 Test Result for UIM Dielectric Parameter
 Thu 06/Jul/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

Freq	FCC_eB	FCC_sB	Test_e	Test_s
2.3500	52.83	1.85	50.39	1.80
2.3600	52.82	1.86	50.35	1.81
2.3700	52.81	1.87	50.34	1.82
2.3800	52.79	1.88	50.39	1.85
2.3900	52.78	1.89	50.33	1.87
2.4000	52.77	1.90	50.32	1.87
2.4100	52.75	1.91	50.31	1.88
2.4200	52.74	1.92	50.33	1.90
2.4300	52.73	1.93	50.37	1.90
2.4400	52.71	1.94	50.36	1.94
2.4500	52.70	1.95	50.34	1.95
2.4600	52.69	1.96	50.36	1.95
2.4700	52.67	1.98	50.26	1.97
2.4800	52.66	1.99	50.28	1.98
2.4900	52.65	2.01	50.19	2.01
2.5000	52.64	2.02	50.33	2.02
2.5100	52.62	2.04	50.25	2.03
2.5200	52.61	2.05	50.30	2.04
2.5300	52.60	2.06	50.18	2.05
2.5400	52.59	2.08	50.26	2.06
2.5500	52.57	2.09	50.35	2.09

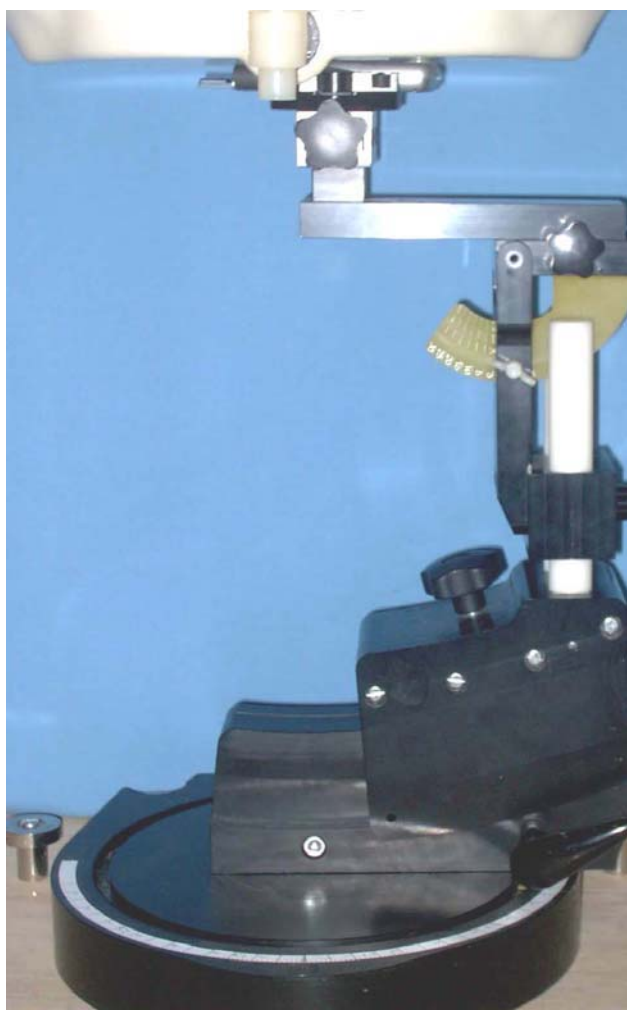
Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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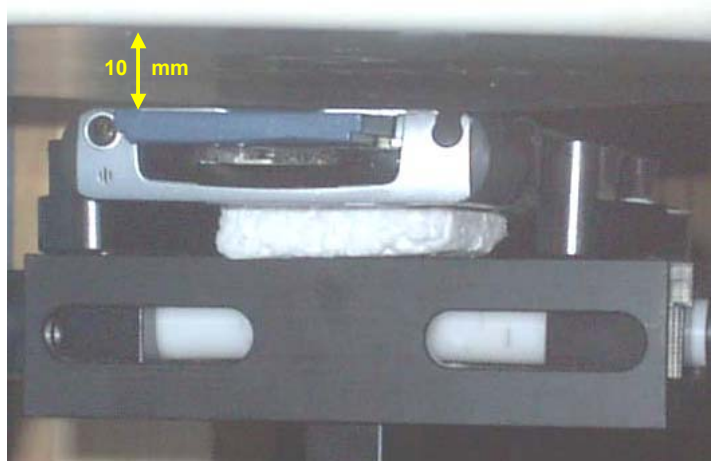
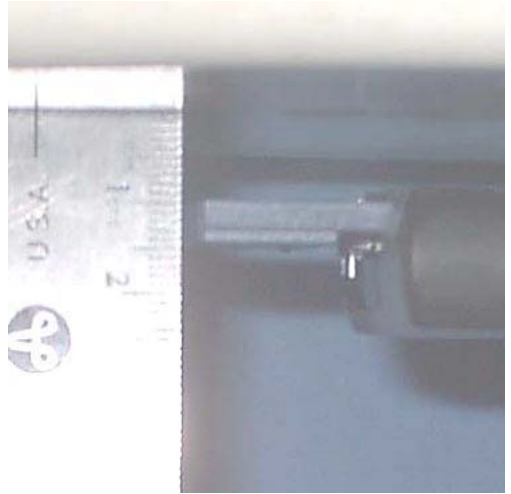
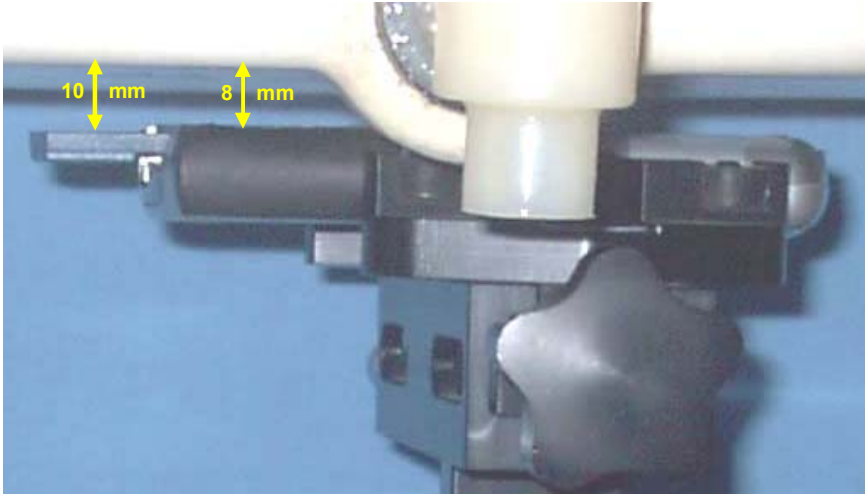
Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006	
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1	
Description of Tests:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

APPENDIX D - SAR TEST SETUP PHOTOGRAPHS

BODY SAR TEST SETUP PHOTOGRAPHS
Front Side of PDA Touching Planar Phantom
10 mm Separation Distance from Front Side of DUT to Planar Phantom



BODY SAR TEST SETUP PHOTOGRAPHS
8 mm Air-Gap Distance from Back Side of PDA to Planar Phantom
10 mm Separation Distance from Back Side of DUT to Planar Phantom



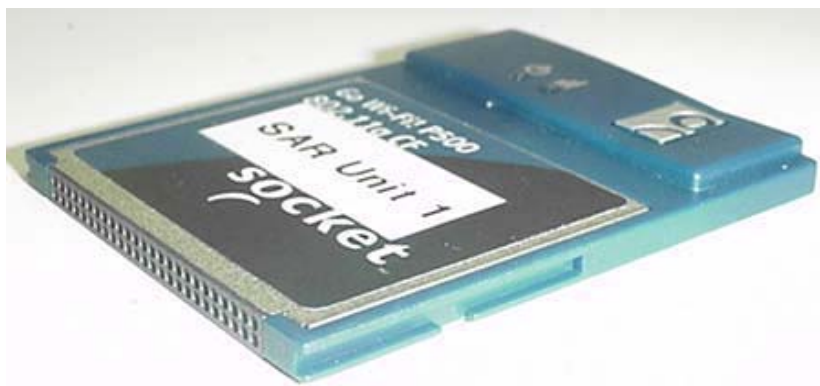
DUT PHOTOGRAPHS



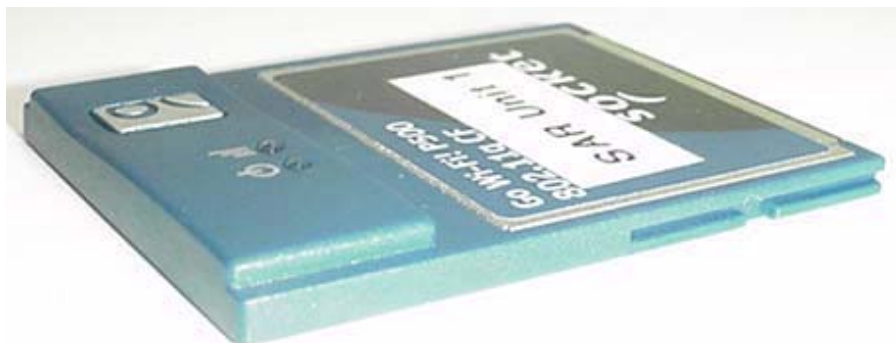
Front of DUT



Back of DUT




Bottom End - Right Side of DUT



Top End - Left Side of DUT

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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	Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006
	Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1
	Description of Tests:	RF Exposure SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2


DUT PHOTOGRAPHS
DUT in HP iPAQ Host PDA



Front Side of DUT in Host PDA



**Back Side of DUT in Host PDA
(with Lithium-ion Battery)**

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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DUT PHOTOGRAPHS
DUT in HP iPAQ Host PDA



Right Side of DUT and Host PDA



Left Side of DUT and Host PDA




CF Card Slot - Top End of PDA
(Compact Flash Card Removed)



Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006	
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1	
Description of Tests:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

APPENDIX E - SYSTEM VALIDATION

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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	Date of Evaluation:	April 24, 2006	Document Serial No.:	SV2450B-042406-R0	
	Evaluation Type:	System Validation	Validation Dipole:	2450 MHz	Body

2450 MHz SYSTEM VALIDATION DIPOLE

Type:

2450 MHz Validation Dipole

Asset Number:

00025

Serial Number:

150

Place of Validation:

Celltech Labs Inc.

Date of Validation:

April 24, 2006

Celltech Labs Inc. hereby certifies that the 2450 MHz System Validation (Body) was performed on the date indicated above.

Performed by:

Sean Johnston

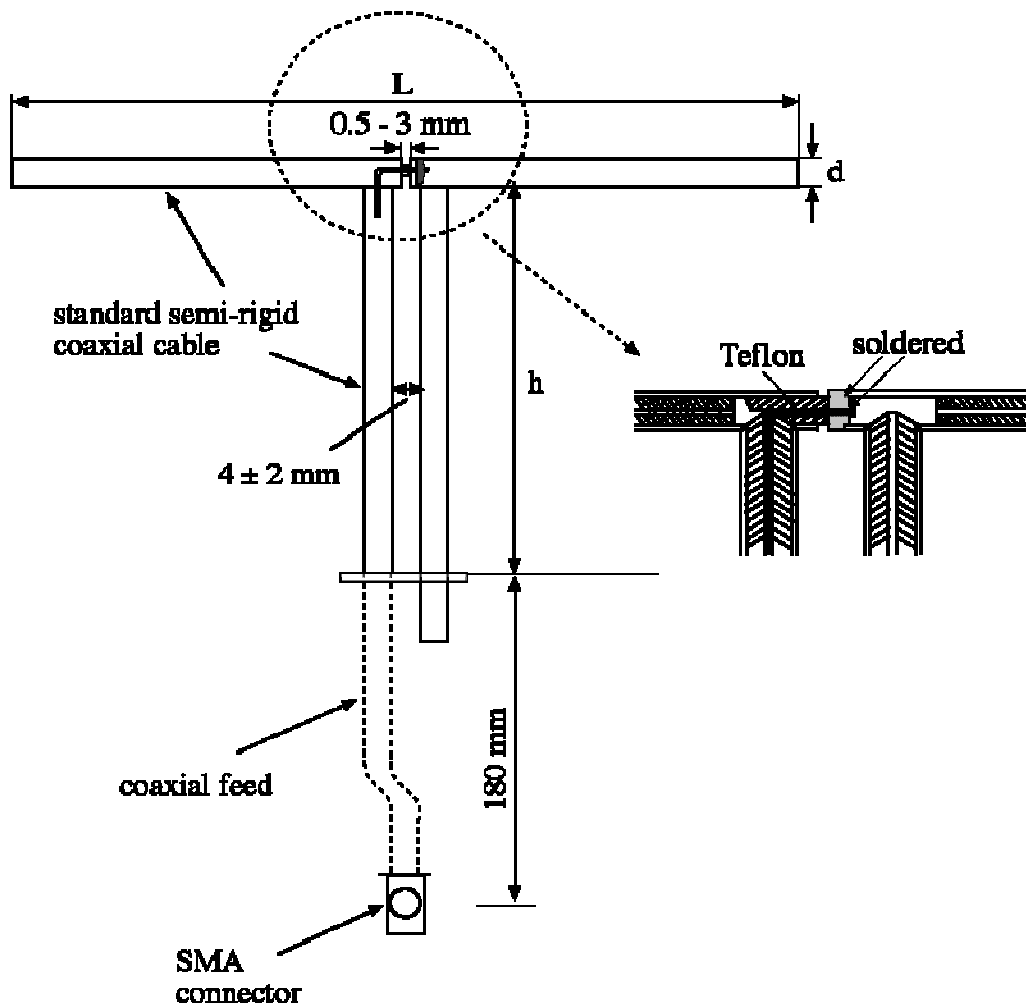
Approved by:

Spencer Watson

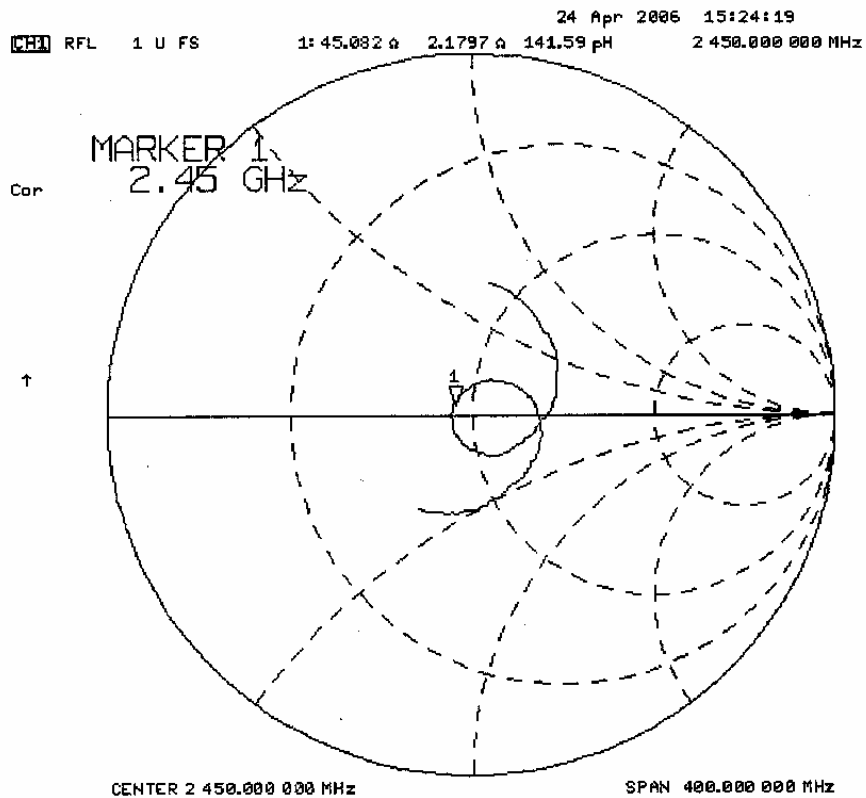
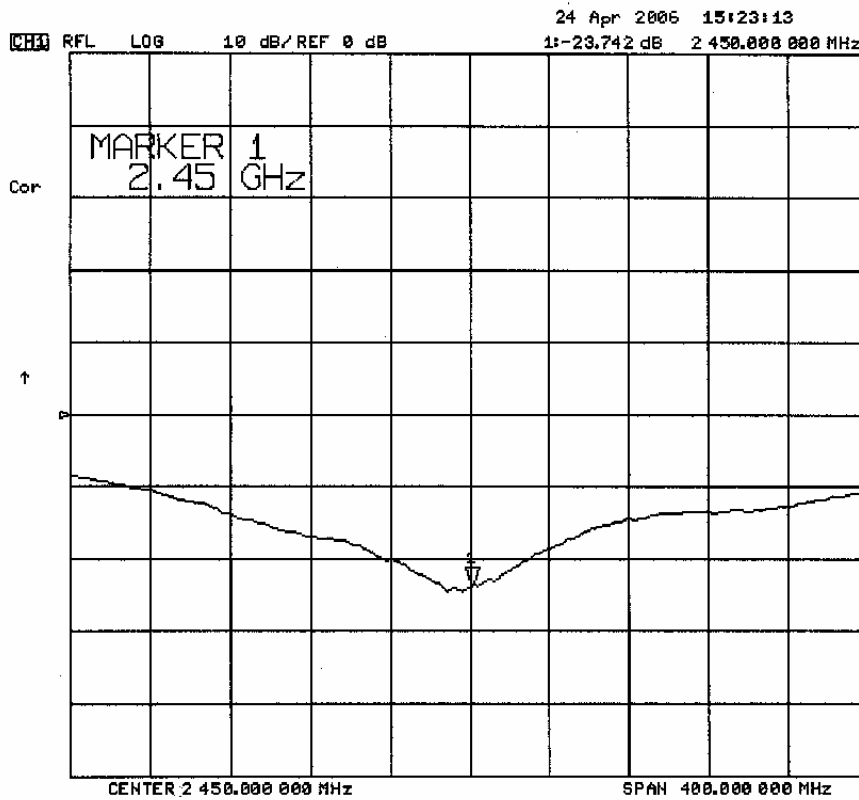
1. Dipole Construction & Electrical Characteristics

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 HP85032E 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 2450 MHz	$Re\{Z\} = 45.082\Omega$
	$Im\{Z\} = 2.1797\Omega$
Return Loss at 2450 MHz	-23.742dB



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

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 ± 0.2 mm
Filling Volume: Approx. 55 liters
Dimensions: 44 cm (W) x 94 cm (L)

5. 2450 MHz System Validation Setup



	Date of Evaluation:	April 24, 2006	Document Serial No.:	SV2450B-042406-R0	
	Evaluation Type:	System Validation	Validation Dipole:	2450 MHz	Body

6. 2450 MHz Dipole Setup



7. Measurement Conditions

The planar phantom was filled with 2450 MHz Body tissue simulant:

Relative Permittivity: 51.2
 Conductivity: 1.89 mho/m
 Fluid Temperature: 23.9 °C
 Fluid Depth: ≥ 15.0 cm

Environmental Conditions:
 Ambient Temperature: 24.9 °C
 Humidity: 30 %
 Barometric Pressure: 101.1 kPa

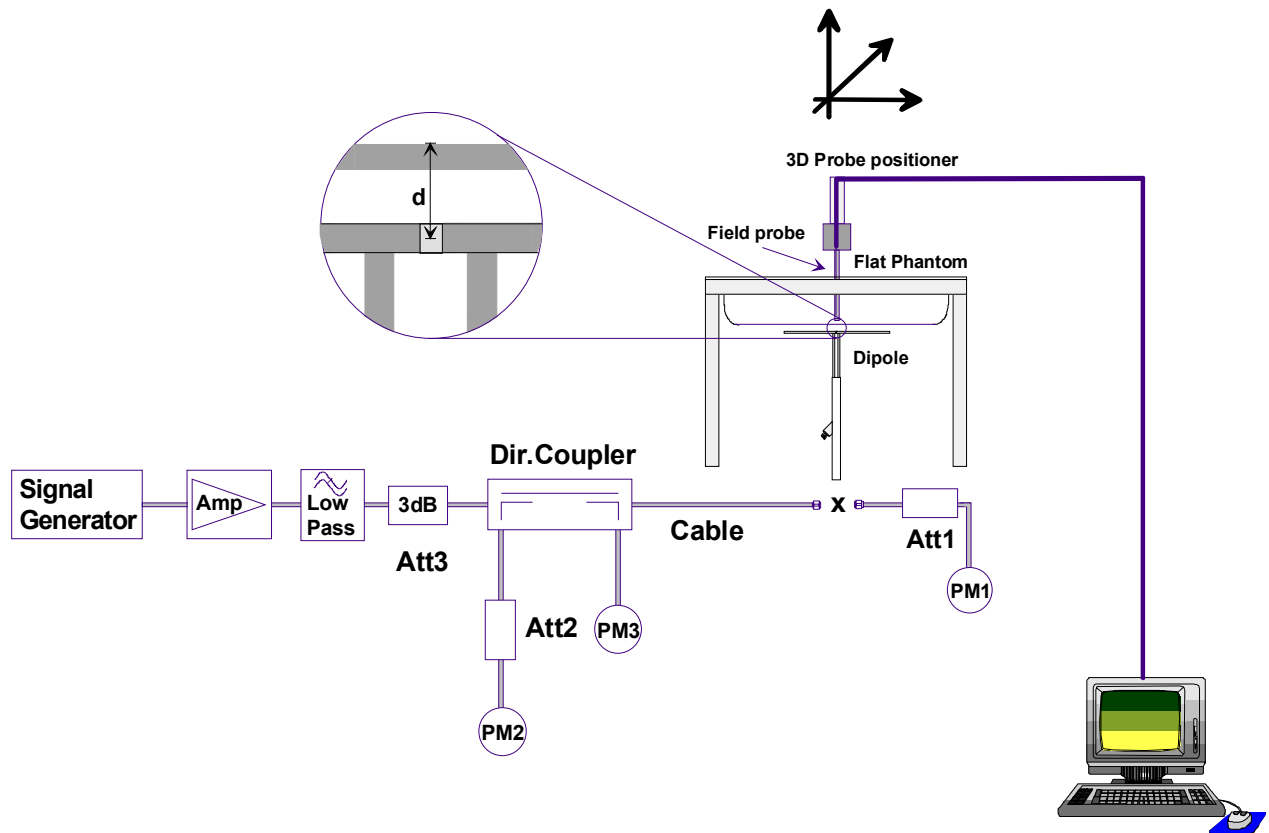
Measurements were made at the planar section of the SAM phantom using a dosimetric E-field probe ET3DV5 (S/N: 1590, conversion factor 4.22).

The 2450 MHz Body tissue simulant consisted of the following ingredients:

Ingredient	Percentage by weight
Water	69.98%
Glycol Monobutyl	30.00%
Salt	0.02%
Target Dielectric Parameters at 22°C	$\epsilon_r = 52.7 (+/-5\%)$ $\sigma = 1.95 \text{ S/m } (+/-5\%)$

8. 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 PM1. 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.

9. Validation Dipole SAR Test Results

Ten SAR measurements were performed in order to achieve repeatability and to establish an average target value.


Validation Measurement	SAR @ 0.25W Input averaged over 1g	SAR @ 1W Input averaged over 1g	SAR @ 0.25W Input averaged over 10g	SAR @ 1W Input averaged over 10g	Peak SAR @ 0.25W Input
Test 1	12.7	50.80	5.87	23.48	14.40
Test 2	12.8	51.20	5.88	23.52	14.40
Test 3	12.6	50.40	5.81	23.24	14.10
Test 4	13.1	52.40	6.05	24.20	14.70
Test 5	12.7	50.80	5.84	23.36	14.20
Test 6	12.6	50.40	5.79	23.16	14.10
Test 7	12.9	51.60	6.00	24.00	14.50
Test 8	12.9	51.60	5.99	23.96	14.50
Test 9	13.1	52.40	6.09	24.36	14.80
Test10	13.2	52.80	6.09	24.36	14.90
Average Value	12.86	51.44	5.94	23.76	14.46

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

Target SAR @ 1 Watt Input averaged over 1 gram (W/kg)		Measured SAR @ 1 Watt Input averaged over 1 gram (W/kg)	Deviation from Target (%)	Target SAR @ 1 Watt Input averaged over 10 grams (W/kg)		Measured SAR @ 1 Watt Input averaged over 10 grams (W/kg)	Deviation from Target (%)
51.2	+/- 10%	51.44	+0.47%	23.7	+/- 10%	23.76	+0.27%

Dipole Type	Distance [mm]	Frequency [MHz]	SAR (1g) [W/kg]	SAR (10g) [W/kg]	SAR (peak) [W/kg]
D300V2	15	300	3.02	2.06	4.36
D450V2	15	450	5.01	3.36	7.22
D835V2	15	835	9.71	6.38	14.1
D900V2	15	900	11.1	7.17	16.3
D1450V2	10	1450	29.6	16.6	49.8
D1500V2	10	1500	30.8	17.1	52.1
D1640V2	10	1640	34.4	18.7	59.4
D1800V2	10	1800	38.5	20.3	67.5
D1900V2	10	1900	39.8	20.8	69.6
D2000V2	10	2000	40.9	21.2	71.5
D2450V2	10	2450	51.2	23.7	97.6
D3000V2	10	3000	61.9	24.8	136.7

Table 32.1: Numerical reference SAR values for SPEAG dipoles and flat phantom filled with body-tissue simulating liquid. Note: All SAR values normalized to 1 W forward power.

	Date of Evaluation:	April 24, 2006	Document Serial No.:	SV2450B-042406-R0	
	Evaluation Type:	System Validation	Validation Dipole:	2450 MHz	Body

2450 MHz Dipole - System Validation (Body) - April 24, 2006

DUT: Dipole 2450 MHz; Model: D2450V2; Serial: 150; Validated: 04/24/2006
Ambient Temp: 24.9 °C; Fluid Temp: 23.9 °C; Barometric Pressure: 101.1 kPa; Humidity: 30%
Communication System: CW
Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: M2450 ($\sigma = 1.89$ mho/m; $\epsilon_r = 51.2$; $\rho = 1000$ kg/m³)
- Probe: ET3DV6 - SN1590; ConvF(4.22, 4.22, 4.22); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglass Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

2450 MHz System Validation/Area Scan (6x10x1): Measurement grid: dx=10mm, dy=10mm

2450 MHz System Validation/Zoom Scan 1 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.0 V/m; Power Drift = -0.104 dB

SAR(1 g) = 12.7 mW/g; SAR(10 g) = 5.87 mW/g

Maximum value of SAR (measured) = 14.4 mW/g

2450 MHz System Validation/Zoom Scan 2 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 83.9 V/m; Power Drift = -0.070 dB

SAR(1 g) = 12.8 mW/g; SAR(10 g) = 5.88 mW/g

Maximum value of SAR (measured) = 14.4 mW/g

2450 MHz System Validation/Zoom Scan 3 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.1 V/m; Power Drift = -0.039 dB

SAR(1 g) = 12.6 mW/g; SAR(10 g) = 5.81 mW/g

Maximum value of SAR (measured) = 14.1 mW/g

2450 MHz System Validation/Zoom Scan 4 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.2 V/m; Power Drift = -0.026 dB

SAR(1 g) = 13.1 mW/g; SAR(10 g) = 6.05 mW/g

Maximum value of SAR (measured) = 14.7 mW/g

2450 MHz System Validation/Zoom Scan 5 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 83.3 V/m; Power Drift = 0.014 dB

SAR(1 g) = 12.7 mW/g; SAR(10 g) = 5.84 mW/g

Maximum value of SAR (measured) = 14.2 mW/g

2450 MHz System Validation/Zoom Scan 6 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.5 V/m; Power Drift = -0.037 dB

SAR(1 g) = 12.6 mW/g; SAR(10 g) = 5.79 mW/g

Maximum value of SAR (measured) = 14.1 mW/g

2450 MHz System Validation/Zoom Scan 7 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.0 V/m; Power Drift = -0.078 dB

SAR(1 g) = 12.9 mW/g; SAR(10 g) = 6 mW/g

Maximum value of SAR (measured) = 14.5 mW/g

2450 MHz System Validation/Zoom Scan 8 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.1 V/m; Power Drift = -0.069 dB

SAR(1 g) = 12.9 mW/g; SAR(10 g) = 5.99 mW/g

Maximum value of SAR (measured) = 14.5 mW/g

2450 MHz System Validation/Zoom Scan 9 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.8 V/m; Power Drift = -0.076 dB

SAR(1 g) = 13.1 mW/g; SAR(10 g) = 6.09 mW/g

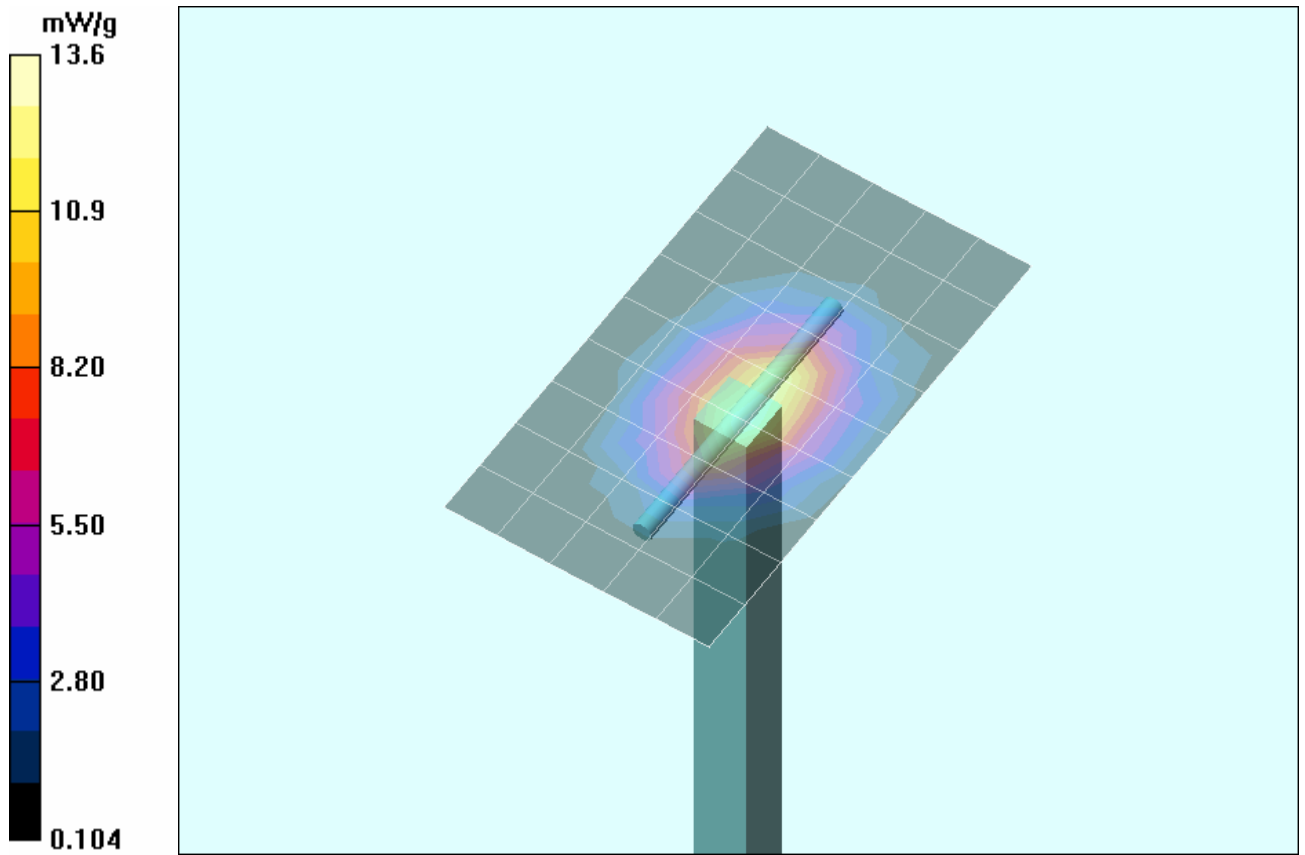
Maximum value of SAR (measured) = 14.8 mW/g

2450 MHz System Validation/Zoom Scan 10 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

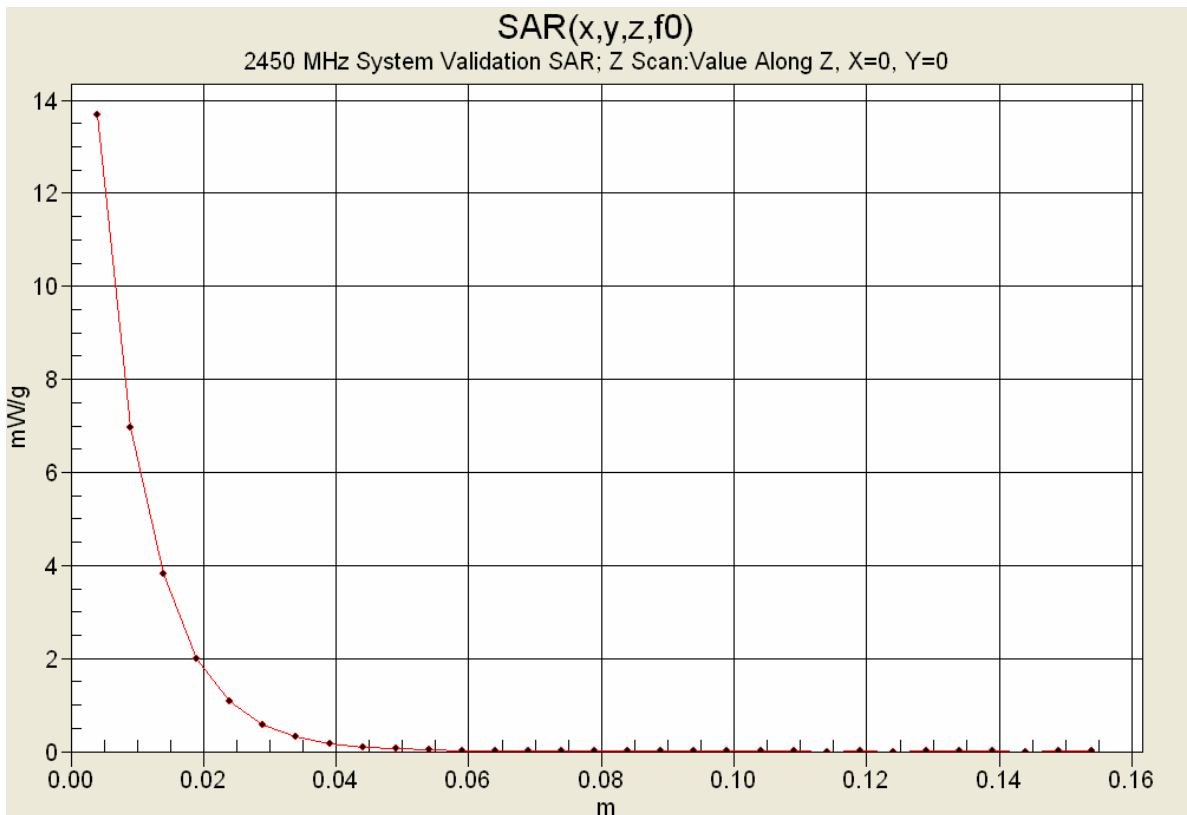
Reference Value = 89.8 V/m; Power Drift = -0.013 dB


SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.09 mW/g

Maximum value of SAR (measured) = 14.9 mW/g



1 g average of 10 measurements: 12.86 mW/g
 10 g average of 10 measurements: 5.94 mW/g



	Date of Evaluation:	April 24, 2006	Document Serial No.:	SV2450B-042406-R0	
	Evaluation Type:	System Validation	Validation Dipole:	2450 MHz	Body

10. Measured Fluid Dielectric Parameters

2450 MHz System Validation (Body)

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Mon 24/Apr/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
2.3500	52.83	1.85	51.24	1.76
2.3600	52.82	1.86	51.30	1.78
2.3700	52.81	1.87	51.30	1.79
2.3800	52.79	1.88	51.28	1.81
2.3900	52.78	1.89	51.28	1.82
2.4000	52.77	1.90	51.22	1.81
2.4100	52.75	1.91	51.26	1.85
2.4200	52.74	1.92	51.13	1.85
2.4300	52.73	1.93	51.03	1.86
2.4400	52.71	1.94	51.10	1.86
2.4500	52.70	1.95	51.17	1.89
2.4600	52.69	1.96	51.07	1.92
2.4700	52.67	1.98	51.03	1.92
2.4800	52.66	1.99	51.04	1.92
2.4900	52.65	2.01	51.04	1.93
2.5000	52.64	2.02	51.04	1.93
2.5100	52.62	2.04	50.96	1.95
2.5200	52.61	2.05	50.94	1.97
2.5300	52.60	2.06	51.02	1.97
2.5400	52.59	2.08	50.97	1.99
2.5500	52.57	2.09	50.85	1.98



Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006	
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1	
Description of Tests:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

APPENDIX F - PROBE CALIBRATION

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Celltech Labs**

Certificate No: **EX3-3547_Feb06**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3547**

Calibration procedure(s) **QA CAL-01.v5 and QA CAL-14.v3
Calibration procedure for dosimetric E-field probes**

Calibration date: **February 14, 2006**

Condition of the calibrated item **In Tolerance**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	3-May-05 (METAS, No. 251-00466)	May-06
Power sensor E4412A	MY41495277	3-May-05 (METAS, No. 251-00466)	May-06
Power sensor E4412A	MY41498087	3-May-05 (METAS, No. 251-00466)	May-06
Reference 3 dB Attenuator	SN: S5054 (3c)	11-Aug-05 (METAS, No. 251-00499)	Aug-06
Reference 20 dB Attenuator	SN: S5086 (20b)	3-May-05 (METAS, No. 251-00467)	May-06
Reference 30 dB Attenuator	SN: S5129 (30b)	11-Aug-05 (METAS, No. 251-00500)	Aug-06
Reference Probe ES3DV2	SN: 3013	2-Jan-06 (SPEAG, No. ES3-3013_Jan06)	Jan-07
DAE4	SN: 654	2-Feb-06 (SPEAG, No. DAE4-654_Feb06)	Feb-07

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov 06

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Niels Kuster	Quality Manager	

Issued: February 14, 2006

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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

Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E^2 -field uncertainty inside TSL (see below *ConvF*).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * *frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV4

SN:3547

Manufactured:	July 5, 2004
Last calibrated:	January 21, 2005
Recalibrated:	February 14, 2006

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: EX3DV4 SN:3547

Sensitivity in Free Space^A

NormX	0.399 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP X	92 mV
NormY	0.423 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Y	92 mV
NormZ	0.475 ± 10.1%	$\mu\text{V}/(\text{V}/\text{m})^2$	DCP Z	92 mV

Diode Compression^B

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL **900 MHz** **Typical SAR gradient: 5 % per mm**

Sensor Center to Phantom Surface Distance		2.0 mm	3.0 mm
SAR _{be} [%]	Without Correction Algorithm	3.5	1.1
SAR _{be} [%]	With Correction Algorithm	0.1	0.4

TSL **1810 MHz** **Typical SAR gradient: 10 % per mm**

Sensor Center to Phantom Surface Distance		2.0 mm	3.0 mm
SAR _{be} [%]	Without Correction Algorithm	2.5	1.1
SAR _{be} [%]	With Correction Algorithm	0.2	0.4

Sensor Offset

Probe Tip to Sensor Center **1.0 mm**

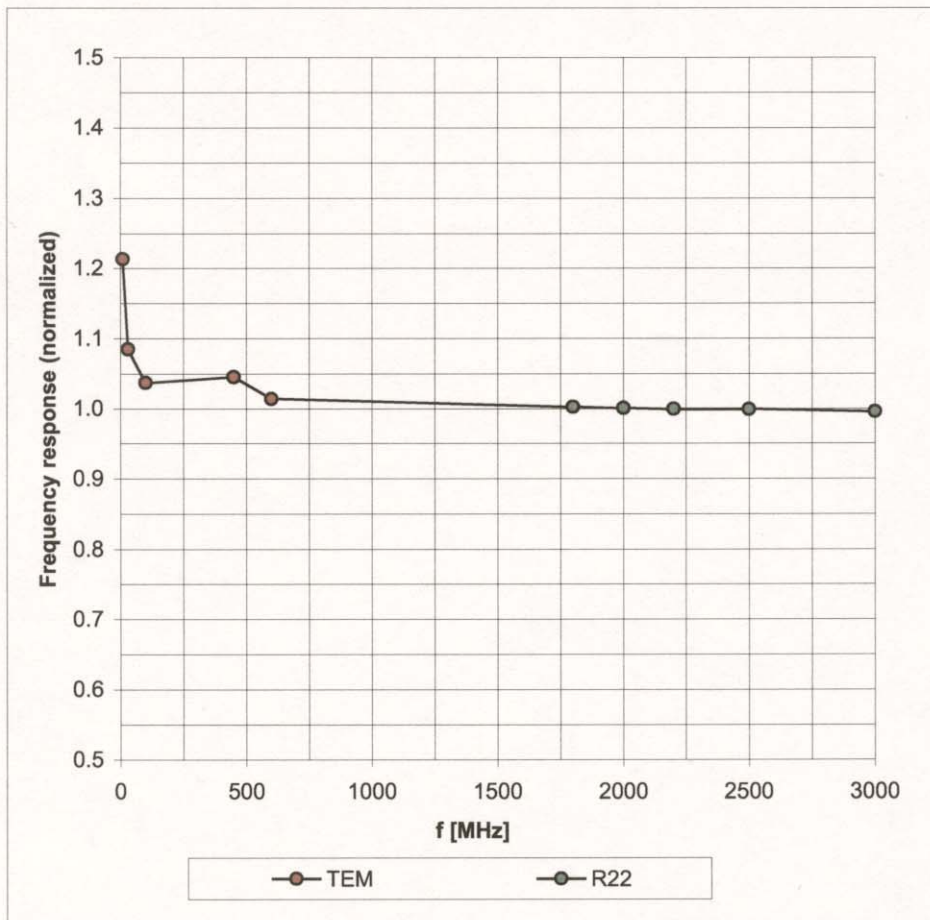
The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).

^B Numerical linearization parameter: uncertainty not required.

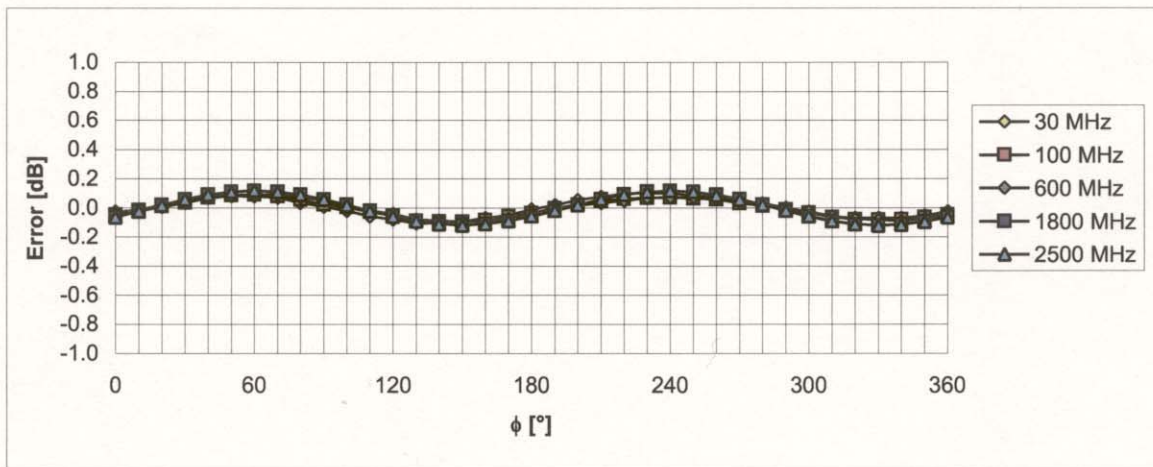
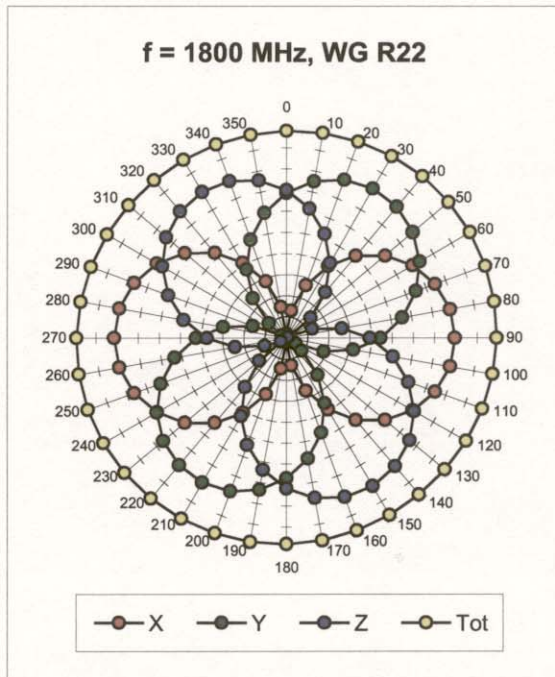
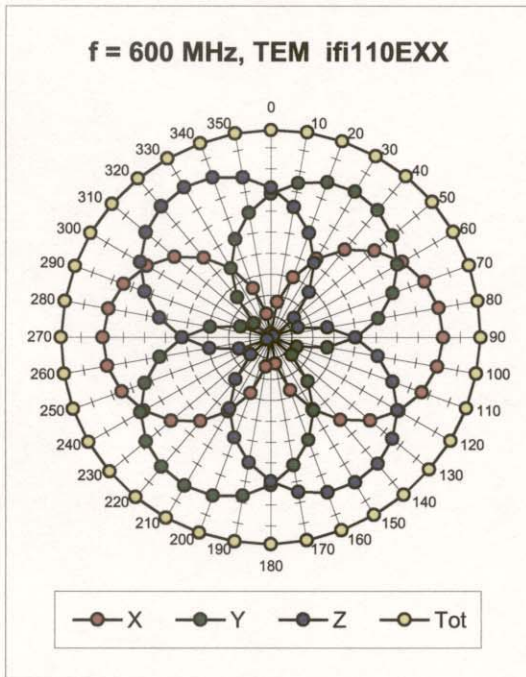
Frequency Response of E-Field

(TEM-Cell: ifi1110 EXX, Waveguide: R22)



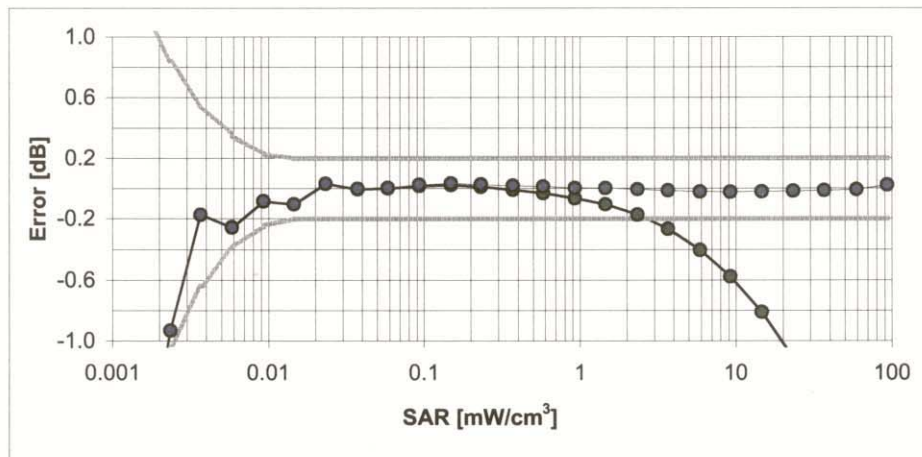
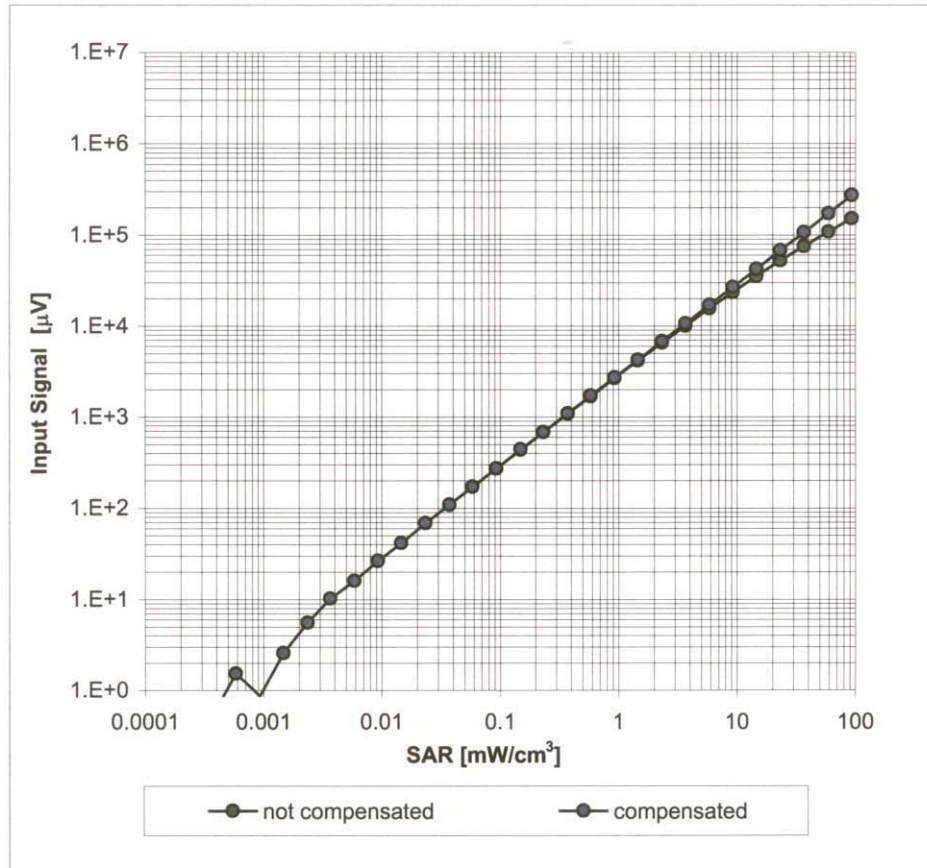
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\theta = 0^\circ$



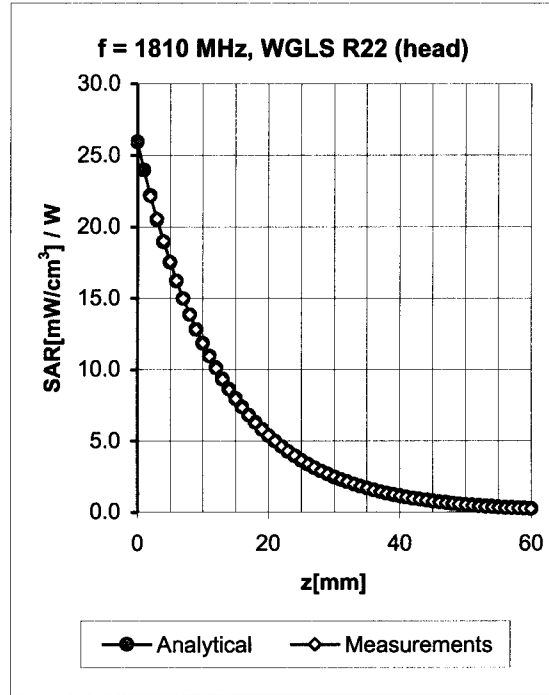
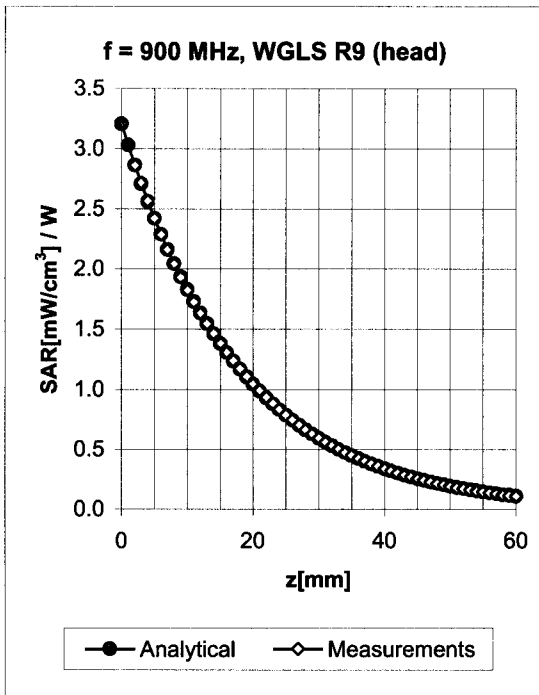
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (Waveguide R22, $f = 1800 \text{ MHz}$)



Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment

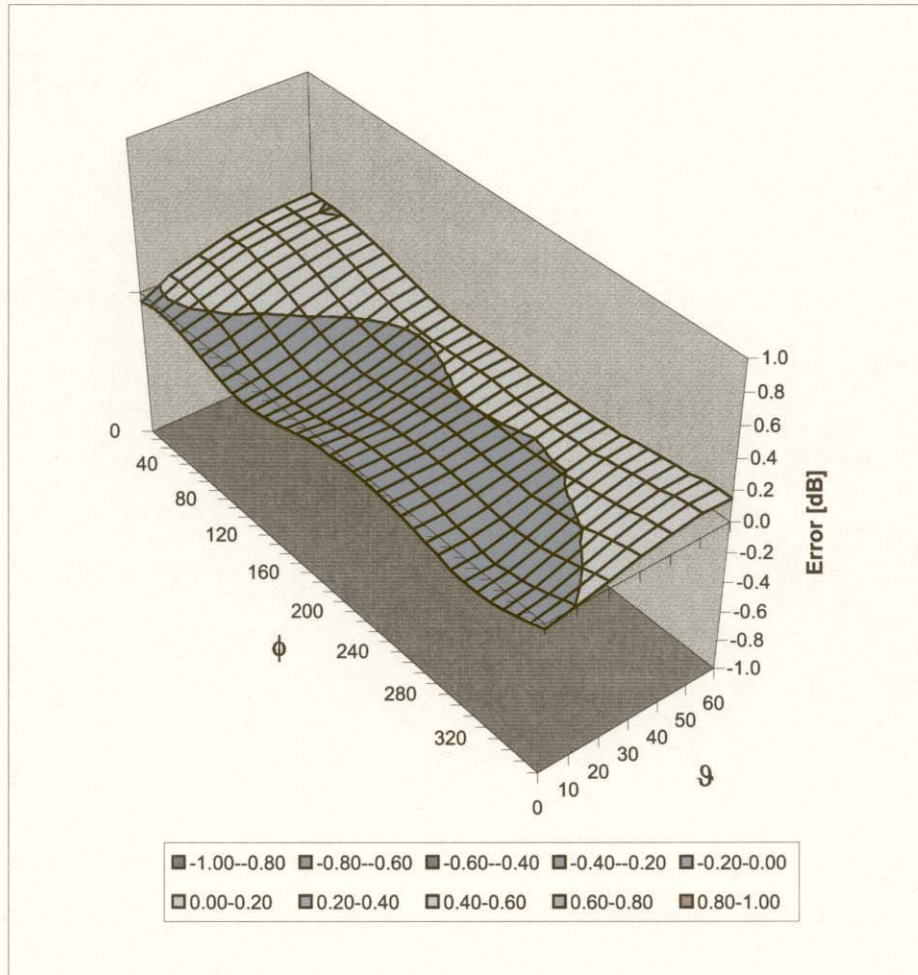


f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.71	0.66	9.20 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.42	0.73	8.20 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.55	0.56	7.41 ± 11.8% (k=2)
5800	± 50 / ± 100	Head	35.3 ± 5%	5.27 ± 5%	0.58	0.93	4.79 ± 13.1% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.79	0.65	9.09 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.10	4.00	7.84 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.58	0.54	7.53 ± 11.8% (k=2)
5200	± 50 / ± 100	Body	49.0 ± 5%	5.30 ± 5%	0.54	1.09	4.87 ± 13.1% (k=2)
5500	± 50 / ± 100	Body	48.6 ± 5%	5.65 ± 5%	0.57	0.96	4.57 ± 13.1% (k=2)
5800	± 50 / ± 100	Body	48.2 ± 5%	6.00 ± 5%	0.79	0.70	4.69 ± 13.1% (k=2)

^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Deviation from Isotropy in HSL

Error (ϕ , ϑ), $f = 900$ MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)



Test Report Serial No.:	070406LUB-T762-S15W	Test Report Issue Date:	July 17, 2006	
Date(s) of Evaluation:	July 06, 2006	Test Report Revision No.:	Revision 1.1	
Description of Tests:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

APPENDIX G - SAM PHANTOM CERTIFICATE OF CONFORMITY

Company:	Socket Communications, Inc.	FCC ID:	LUB80211GCF	IC ID:	2529A-80211GCF	
Model(s):	P500	Name:	GoWi-Fi!	DUT Type:	802.11b/g WLAN Compact Flash Card for PDAs	
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Schmid & Partner Engineering AG

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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

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