

Test report No. : 26KE0322-HO-E-3  
Page : 123 of 144  
Issued date : August 25, 2006  
Revised data : September 15, 2006  
FCC ID / KX-WPA100(Hand Unit) : ACJ96NKX-WP1050A

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**APPENDIX 4 : Additional test**

### Outline of additional test

The SAR test was performed when the hand unit was operated with a fully charged battery and without USB cable connected.

It was verified whether the USB cable affected the SAR value of EUT.

### Test result

The test results showed that the USB cable did not affect the SAR value of EUT.

Condition	SAR [W/kg] EUT with USB cable	SAR [W/kg] EUT without USB cable
Head SAR at Ant.0	0.169	0.160
Head SAR at Ant.1	0.376	0.368
Body SAR at Ant.0	0.887	0.877
Body SAR at Ant.1	0.512	0.558

### Method of Head / Body SAR Measurement

These head & body tests were performed at the worst conditions of each antenna.  
Refer to the results in Section 8.

Setting of EUT (Worst conditions)

1. Head SAR at the Ant.0

Channel : 11ch(2462MHz)  
Modulation : 11b DSSS (DBPSK/1Mbps)  
Crest factor\* : 1(DBPSK)  
Setup position : Right head / Cheek

2. Head SAR at the Ant.1

Channel : 11ch(2462MHz)  
Modulation : 11b DSSS (DBPSK/1Mbps)  
Crest factor\* : 1(DBPSK)  
Setup position : Right head / Cheek

3. Body SAR at the Ant.0

Channel : 11ch(2462MHz)  
Modulation : 11b DSSS (DBPSK/1Mbps)  
Crest factor\* : 1(DBPSK)  
Setup position : Back

4. Body SAR at the Ant.1

Channel : 11ch(2462MHz)  
Modulation : 11b DSSS (DBPSK/1Mbps)  
Crest factor\* : 1(DBPSK)  
Setup position : Front

Remark\* : Refer to the results in Section 5.3.

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**Measurement results of without USB cable**

**Head SAR 2450MHz**

Liquid Depth (cm) : **15.0** Model : **KX-WPA100(Hand Unit)**  
Parameters :  $\epsilon_r = 37.3, \sigma = 1.85$  Serial No. : **2**  
Ambient temperature (deg.c.) : **25.0** Modulation : **DSSS**  
Relative Humidity (%) : **59** Crest factor : **1**  
Date : **September 13, 2006** Measured By : **Miyo Ikuta**

**Body SAR 2450MHz**

Liquid Depth (cm) : **15.0** Model : **KX-WPA100(Hand Unit)**  
Parameters :  $\epsilon_r = 50.3, \sigma = 2.02$  Serial No. : **2**  
Ambient temperature (deg.c.) : **25.0** Modulation : **DSSS**  
Relative Humidity (%) : **59** Crest factor : **1**  
Date : **September 13, 2006** Measured By : **Miyo Ikuta**

HEAD SAR MEASUREMENT RESULTS (Without USB Cable)									
Frequency			Modulation	Phantom Section	EUT Set-up Conditions		Liquid Temp.[deg.c]		SAR(1g) [W/kg]
Mode	Channel	[MHz]			Antenna	Position	Before	After	Maximum value of multi-peak
11b	11	2462.0	DBPSK(1Mbps)	Right head	Ant.0	Cheek	24.0	24.0	<b>0.160</b>
11b	11	2462.0	DBPSK(1Mbps)	Right head	Ant.1	Cheek	24.0	24.0	<b>0.376</b>

BODY SAR MEASUREMENT RESULTS (Without USB Cable)									
Frequency			Modulation	Phantom Section	EUT Set-up Conditions		Liquid Temp.[deg.c]		SAR(1g) [W/kg]
Mode	Channel	[MHz]			Antenna	Position	Before	After	Maximum value of multi-peak
11b	11	2462.0	DBPSK(1Mbps)	Flat	Ant.0	Back	24.0	24.0	<b>0.877</b>
11b	11	2462.0	DBPSK(1Mbps)	Flat	Ant.1	Front	24.0	24.0	<b>0.551</b>

**SAR measurement data of without USB cable**  
**KX-WPA100(Hand Unit) / Head / Right cheek / Ant.0 / 2462MHz / 11b DBPSK (1Mbps)**

Crest factor: 1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.85$  mho/m;  $\epsilon_r = 37.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

Probe: EX3DV3 - SN3507; ConvF(8.26, 8.26, 8.26); Calibrated: 2006/05/26

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn509; Calibrated: 2006/06/15

Phantom: SAM 1196

Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

**Area Scan (91x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.196 mW/g

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.39 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 0.316 W/kg

**SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.077 mW/g**

Maximum value of SAR (measured) = 0.235 mW/g

**Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.39 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 0.205 W/kg

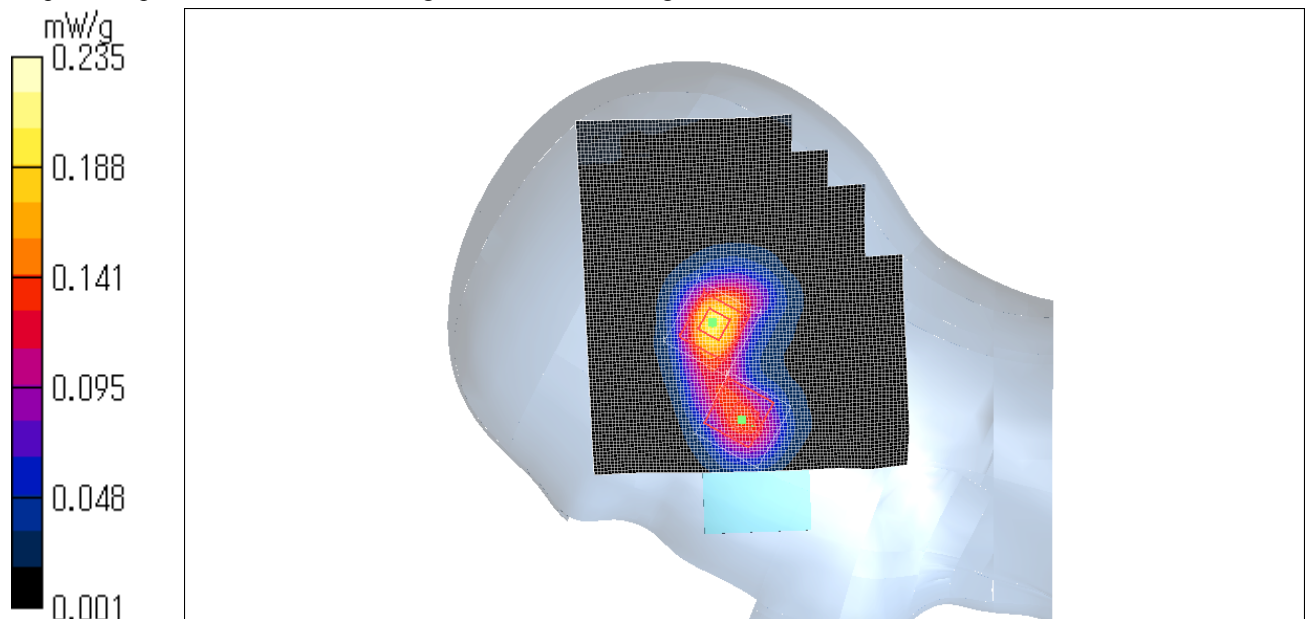
**SAR(1 g) = 0.112 mW/g; SAR(10 g) = 0.059 mW/g**

Maximum value of SAR (measured) = 0.158 mW/g

Test Date = 09/13/06

Ambient Temperature = 25.0 degree C.

Liquid Temperature = Before 24.0 degree C. , After 24.0 degree C.



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**KX-WPA100(Hand Unit) / Head / Right cheek / Ant.1 / 2462MHz / 11b DBPSK (1Mbps)**

Crest factor: 1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.85$  mho/m;  $\epsilon_r = 37.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

Probe: EX3DV3 - SN3507; ConvF(8.26, 8.26, 8.26); Calibrated: 2006/05/26

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn509; Calibrated: 2006/06/15

Phantom: SAM 1196

Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

**Area Scan (91x101x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (interpolated) = 0.541 mW/g

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 8.79 V/m; Power Drift = -0.177 dB

Peak SAR (extrapolated) = 0.738 W/kg

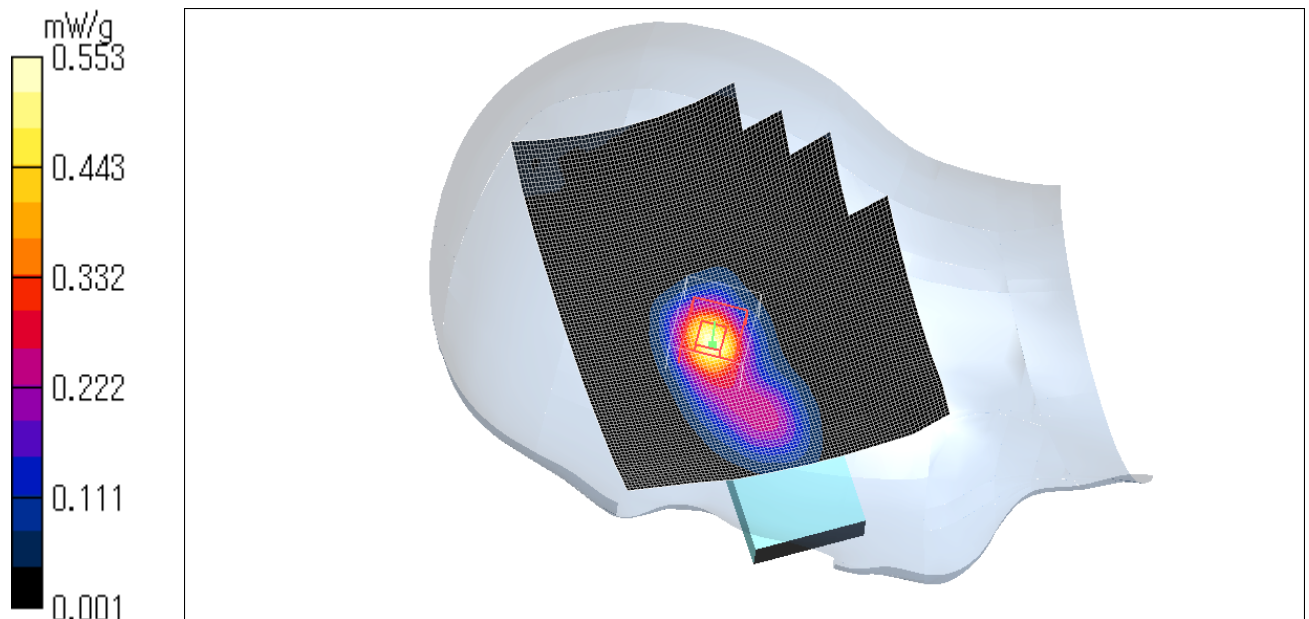
**SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.171 mW/g**

Maximum value of SAR (measured) = 0.553 mW/g

Test Date = 09/13/06

Ambient Temperature = 25.0 degree C.

Liquid Temperature = Before 24.0 degree C. , After 24.0 degree C.



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**KX-WPA100(Hand Unit) / Body / Back / Ant.0 / 2462MHz / 11b DBPSK (1Mbps)**

Crest factor: 1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 2.02$  mho/m;  $\epsilon_r = 50.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

Probe: EX3DV3 - SN3507; ConvF(8.24, 8.24, 8.24); Calibrated: 2006/05/26

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn509; Calibrated: 2006/06/15

Phantom: SAM 1196

Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.36 mW/g

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.4 V/m; Power Drift = -0.123 dB

Peak SAR (extrapolated) = 2.68 W/kg

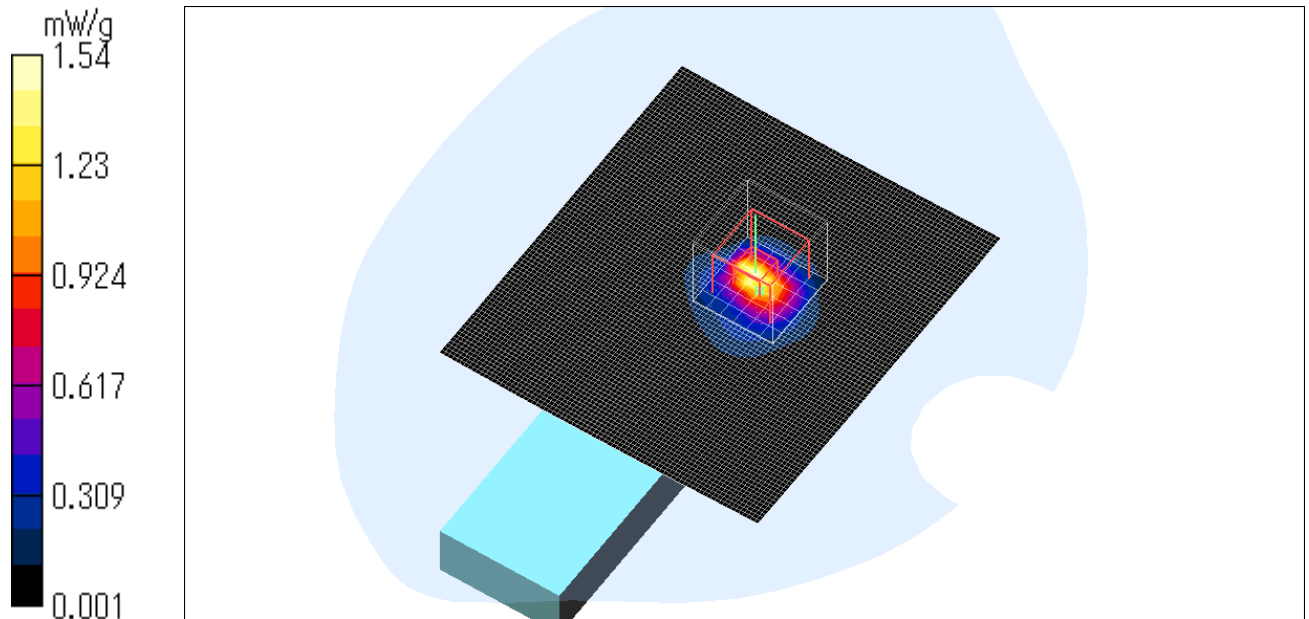
**SAR(1 g) = 0.877 mW/g; SAR(10 g) = 0.351 mW/g**

Maximum value of SAR (measured) = 1.54 mW/g

Test Date = 09/13/06

Ambient Temperature = 25.0 degree C.

Liquid Temperature = Before 24.0 degree C. , After 24.0 degree C.



**KX-WPA100(Hand Unit) / Body / Front / Ant.1 / 2462MHz / 11b DBPSK (1Mbps)**

Crest factor: 1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 2.02$  mho/m;  $\epsilon_r = 50.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

Probe: EX3DV3 - SN3507; ConvF(8.24, 8.24, 8.24); Calibrated: 2006/05/26

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn509; Calibrated: 2006/06/15

Phantom: SAM 1196

Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

**Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.765 mW/g

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.0 V/m; Power Drift = -0.070 dB

Peak SAR (extrapolated) = 1.11 W/kg

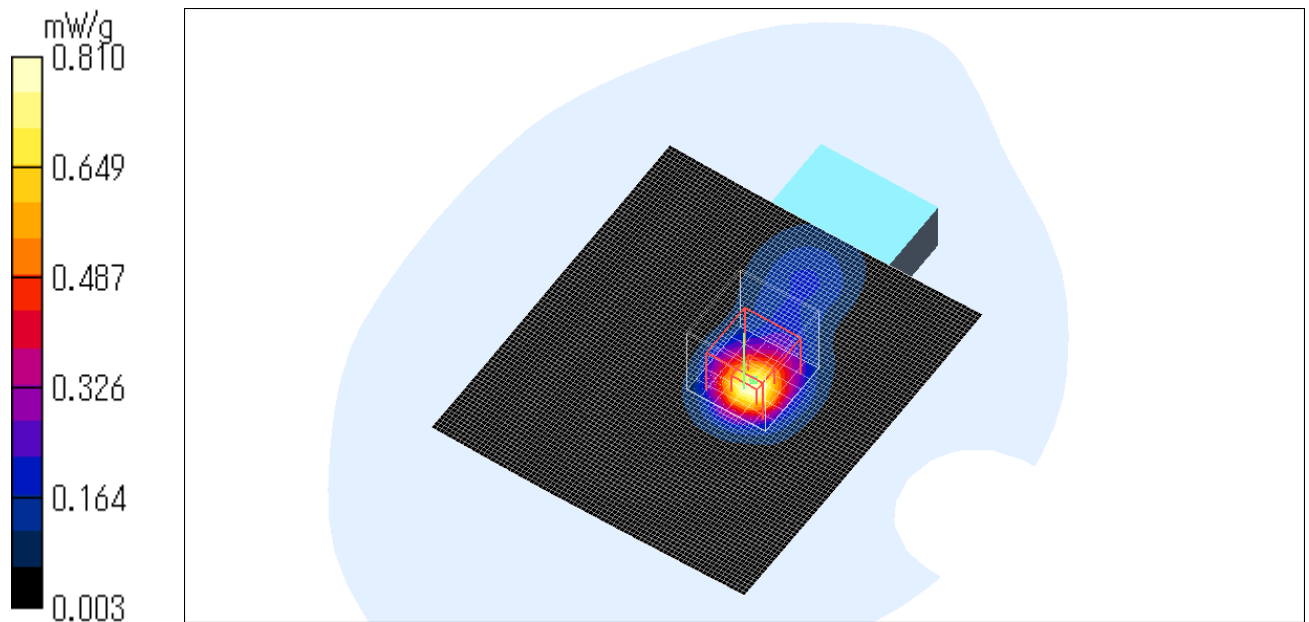
**SAR(1 g) = 0.558 mW/g; SAR(10 g) = 0.255 mW/g**

Maximum value of SAR (measured) = 0.810 mW/g

Test Date = 09/13/06

Ambient Temperature = 25.0 degree C.

Liquid Temperature = Before 24.0 degree C. , After 24.0 degree C.



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**Head 2450 MHz**

Type of liquid : **Head 2450 MHz**  
 Ambient temperature (deg.c.) : **25.0(13-Sep)**  
 Relative Humidity (%) : **59(13-Sep)**  
 Liquid depth (cm) : **15.0**

DIELECTRIC PARAMETERS MEASUREMENT RESULTS								
Date	Frequency	Liquid Temp [deg.c]		Parameters	Target Value	Measured	Deviation [%]	Limit [%]
		Before	After					
13-Sep	2450	24.3	24.3	Relative Permittivity $\epsilon_r$	39.2	37.3	-4.8	+/-5
				Conductivity $\sigma$ [mho/m]	1.80	1.85	2.8	+/-5

**Muscle 2450 MHz**

Type of liquid : **Muscle 2450 MHz**  
 Ambient temperature (deg.c.) : **25.0(13-Sep)**  
 Relative Humidity (%) : **59(13-Sep)**  
 Liquid depth (cm) : **15.0**

DIELECTRIC PARAMETERS MEASUREMENT RESULTS								
Date	Frequency	Liquid Temp [deg.c]		Parameters	Target Value	Measured	Deviation [%]	Limit [%]
		Before	After					
13-Sep	2450	24.3	24.3	Relative Permittivity $\epsilon_r$	52.7	50.3	-4.6	+/-5
				Conductivity $\sigma$ [mho/m]	1.95	2.02	3.6	+/-5

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**System validation data**

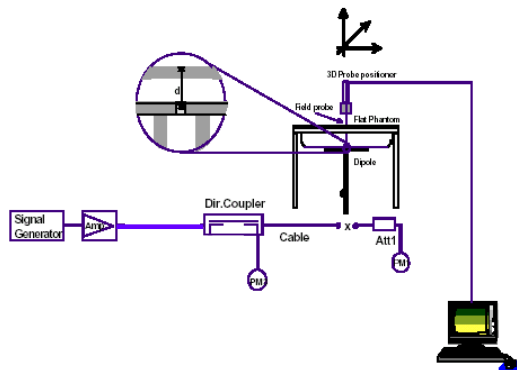
Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of +/-10%. The validation results are in the table below. Please refer to APPENDIX3.

**System validation of 2450MHz**

Type of liquid : **HEAD 2450MHz**  
Frequency : **2450MHz**  
Ambient temperature (deg.c.) : **25.0(13-Sep)**  
Relative Humidity (%) : **59(13-Sep)**  
Dipole : **D2450V2 SN:765**  
Power : **250mW**

SYSTEM PERFORMANCE CHECK										
Date	Liquid (HEAD 2450MHz)						System dipole validation target & measured			
	Liquid Temp [deg.c.]		Relative Permittivity $\epsilon_r$		Conductivity $\sigma$ [mho/m]		SAR 1g [W/kg]		Deviation [%]	Limit [%]
	Before	After	Target	Measured	Target	Measured	Target	Measured		
13-Sep	24.0	24.0	39.2	37.3	1.80	1.85	13.1	14.1	7.6	+/-10

Note: Please refer to Attachment for the result representation in plot format



2450MHz System performance check setup

**Test system for the system performance check setup diagram**

**Validation Measurement data**

**System Validation / Dipole 2450 MHz / Forward Conducted Power : 250mW**

**Dipole 2450 MHz;**

**Type: D2450V2; SN:765**

Communication System: CW; Frequency: 2450 MHz; Cresr factor:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.85$  mho/m;  $\epsilon_r = 37.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS4 (High Precision Assessment)

**DASY4 Configuration:**

Probe: EX3DV3 - SN3507; ConvF(8.26, 8.26, 8.26); Calibrated: 2006/05/26

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE3 Sn509; Calibrated: 2006/06/15

Phantom: SAM 1196

Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

**Area Scan (61x61x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 24.6 mW/g

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 93.1 V/m; Power Drift = 0.040 dB

Peak SAR (extrapolated) = 29.2 W/kg

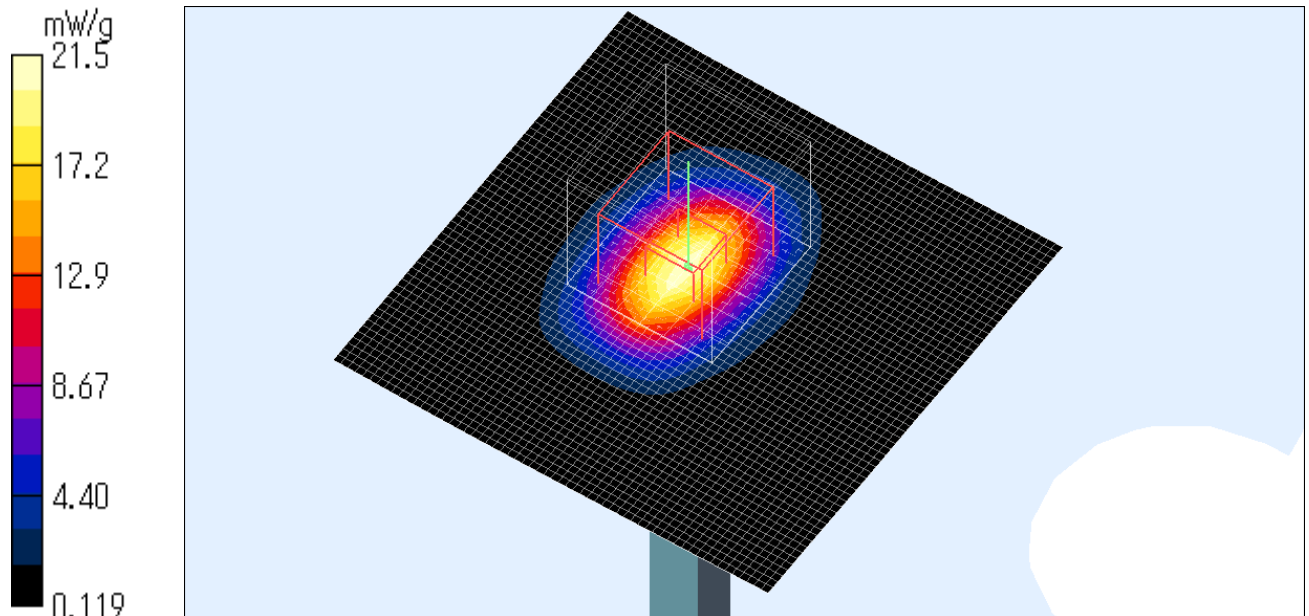
**SAR(1 g) = 14.1 mW/g; SAR(10 g) = 6.51 mW/g**

Maximum value of SAR (measured) = 21.5 mW/g

Test Date = 09/13/06

Ambient Temperature = 25.0 degree.C.

Liquid Temperature = Before 24.0 degree C. , After 24.0 degree C.



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System Validation Dipole (D2450V2,S/N: 765)

**Calibration Laboratory of  
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Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

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 **MTT**

Certificate No: **D2450V2-765\_Nov04**

CALIBRATION CERTIFICATE			
Object	D2450V2 - SN: 765		
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits		
Calibration date:	November 15, 2004		
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)			
<b>Primary Standards</b>	<b>ID #</b>	<b>Cal Date (Calibrated by, Certificate No.)</b>	<b>Scheduled Calibration</b>
Power meter EPM E442	GB37480704	12-Oct-04 (METAS, No. 251-00412)	Oct-05
Power sensor HP 8481A	US37292783	12-Oct-04 (METAS, No. 251-00412)	Oct-05
Reference 20 dB Attenuator	SN: 5086 (20g)	10-Aug-04 (METAS, No 251-00402)	Aug-05
Reference 10 dB Attenuator	SN: 5047.2 (10r)	10-Aug-04 (METAS, No 251-00402)	Aug-05
Reference Probe ES3DV2	SN 3025	29-Oct-04 (SPEAG, No. ES3-3025_Oct04)	Oct-05
DAE4	SN 601	6-Nov-03 (SPEAG, No. DAE4-601_Jul04)	Jul-05
<b>Secondary Standards</b>	<b>ID #</b>	<b>Check Date (in house)</b>	<b>Scheduled Check</b>
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-03)	In house check: Oct-05
RF generator R&S SML-03	100698	27-Mar-02 (SPEAG, in house check Dec-03)	In house check: Dec-05
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Nov-03)	In house check: Nov 04
Calibrated by:	Name Mike Meili	Function Laboratory Technician	Signature 
Approved by:	Katja Pokovic	Technical Manager	
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			Issued: November 17, 2004

Certificate No: D2450V2-765\_Nov04

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Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

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  
ConvF sensitivity in TSL / NORM x,y,z  
N/A not applicable or not measured

#### Calibration is Performed According to the Following Standards:

- a) 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
- b) 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
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

#### Additional Documentation:

- d) DASY4 System Handbook

#### Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

**Measurement Conditions**

DASY system configuration, as far as not given on page 1.

DASY Version	DASY4	V4.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Area Scan resolution	dx, dy = 15 mm	
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

**Head TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(23.0 ± 0.2) °C	38.3 ± 6 %	1.86 mho/m ± 6 %
Head TSL temperature during test	(23.0 ± 0.2) °C	---	---

**SAR result with Head TSL**

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	condition	
SAR measured	250 mW input power	13.5 mW / g
SAR normalized	normalized to 1W	54.0 mW / g
SAR for nominal Head TSL parameters <sup>1</sup>	normalized to 1W	<b>52.7 mW / g ± 17.0 % (k=2)</b>

SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.15 mW / g
SAR normalized	normalized to 1W	24.6 mW / g
SAR for nominal Head TSL parameters <sup>1</sup>	normalized to 1W	<b>24.0 mW / g ± 16.5 % (k=2)</b>

<sup>1</sup> Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

**Body TSL parameters**

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.7 ± 6 %	1.96 mho/m ± 6 %
Body TSL temperature during test	(22.0 ± 0.2) °C	----	----

**SAR result with Body TSL**

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	condition	
SAR measured	250 mW input power	13.3 mW / g
SAR normalized	normalized to 1W	53.2 mW / g
SAR for nominal Body TSL parameters <sup>2</sup>	normalized to 1W	52.5 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.12 mW / g
SAR normalized	normalized to 1W	24.5 mW / g
SAR for nominal Body TSL parameters <sup>1</sup>	normalized to 1W	24.1 mW / g ± 16.5 % (k=2)

<sup>2</sup> Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

## Appendix

### Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.7 $\Omega$ + j4.6 $\Omega$
Return Loss	- 25.8 dB

### Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.9 $\Omega$ + j6.3 $\Omega$
Return Loss	- 23.8 dB

### General Antenna Parameters and Design

Electrical Delay (one direction)	1.175 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

Manufactured by	SPEAG
Manufactured on	August 10, 2004

## DASY4 Validation Report for Head TSL

Date/Time: 11/17/04 10:57:18

Test Laboratory: SPEAG, Zürich, Switzerland

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN765**

Communication System: CW-2450; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL 2450 MHz;

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.86$  mho/m;  $\epsilon_r = 38.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

### DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.4, 4.4, 4.4); Calibrated: 29.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 22.07.2004
- Phantom: Flat Phantom quarter size -SN:1001; Type: QD000P50AA; Serial: SN:1001
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

**Pin = 250 mW; d = 10 mm/Area Scan (81x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 15.6 mW/g

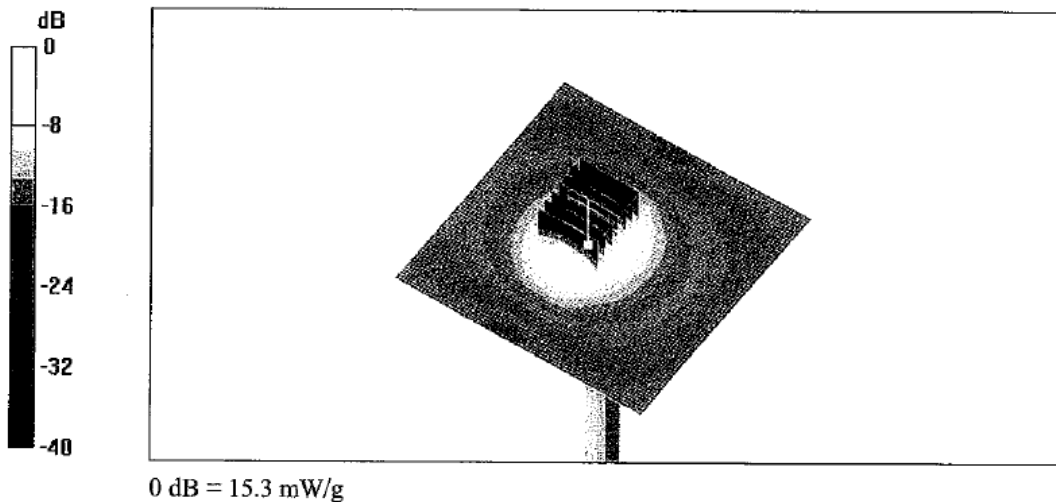
**Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 79.7 V/m; Power Drift = 0.2 dB

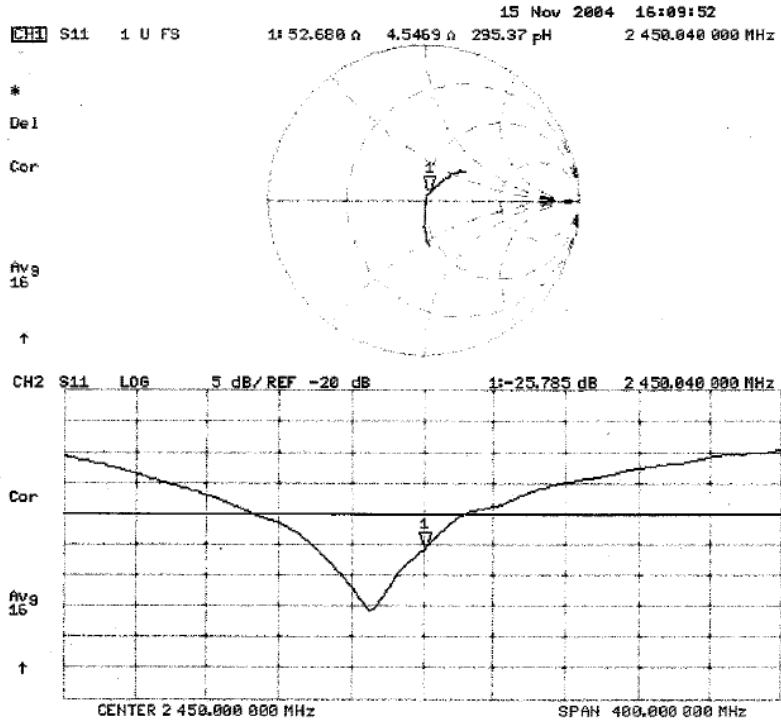
Peak SAR (extrapolated) = 29 W/kg

**SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.15 mW/g**

Maximum value of SAR (measured) = 15.3 mW/g



**Impedance Measurement Plot for Head TSL**



## DASY4 Validation Report for Body TSL

Date/Time: 11/17/04 10:57:37

Test Laboratory: SPEAG, Zürich, Switzerland

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN765**

Communication System: CW-2450; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL 2450 MHz;

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.96$  mho/m;  $\epsilon_r = 51.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

### DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.13, 4.13, 4.13); Calibrated: 29.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 22.07.2004
- Phantom: SAM with CRP - TP1006; Type: SAM 4.0; Serial: TP:1006
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

**Pin = 250 mW; d = 10 mm/Area Scan (81x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 15.3 mW/g

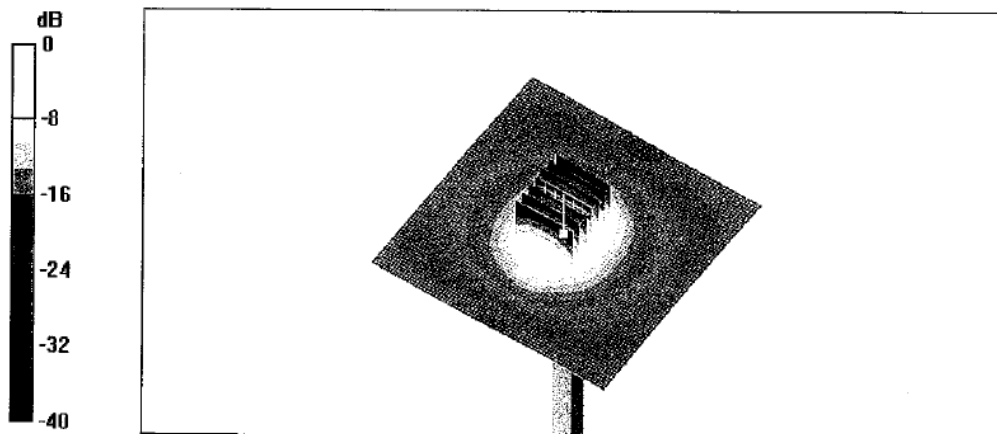
**Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.6 V/m; Power Drift = 0.1 dB

Peak SAR (extrapolated) = 27.4 W/kg

**SAR(1 g) = 13.3 mW/g; SAR(10 g) = 6.12 mW/g**

Maximum value of SAR (measured) = 15.2 mW/g



0 dB = 15.2mW/g

### Impedance Measurement Plot for Body TSL

