



Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM Ramadan Plicanic

Approved

LD/SEMC/BGGI/NMC Mats Hansson

Checked

050502

Company Internal
REPORT

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File

Report issued by Accredited SAR Laboratory

for

PY7FF051011

Date of test: 20 and 21 April, 2005

Laboratory: Sony Ericsson SAR Test Laboratory
Sony Ericsson Mobile Communications AB
Nya Vattentorget
SE-221 82 LUND, Sweden

Testing Engineer: Ramadan Plicanic
Ramadan.Plicanic@sonyericsson.com
+46 46 19 38 62

Ramadan Plicanic

Testing Approval Mats Hansson
Mats.Hansson@sonyericsson.com
+46 46 19 33 57

Statement of Compliance

Sony Ericsson Mobile Communications AB declares under its sole responsibility that the product

Sony Ericsson Type: FAF-1051011-BV; FCC ID: PY7FF051011; IC:4170B-FF051011

to which this declaration relates, is in conformity with the appropriate RF exposure standards recommendations and guidelines. It also declares that the product was tested in accordance with the appropriate measurement standards, guidelines and recommended practices. Any deviations from these standards, guidelines and recommended practices are noted below:

(None)

This laboratory is accredited to ISO/IEC 17025 (SWEDAC accreditation no. 1847).



Laboratories are accredited by the Swedish Board for Accreditation and Conformity Assessment (SWEDAC) under the terms of Swedish legislation. The accredited laboratory activities meet the requirements in SS-EN ISO/IEC 17025 (2000). This report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

The results and statements contained herein relate only to the items tested. The names of individuals involved may be mentioned only in connection with the statements or results from this report.

Sony Ericsson encourages all feedback, both positive and negative, on this report.

© Sony Ericsson Mobile Communication AB, 2005



Company Internal
REPORT

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File

1 Table of contents

2	INTRODUCTION	3
3	DEVICE UNDER TEST	3
3.1	ANTENNA DESCRIPTION	3
3.2	DEVICE DESCRIPTION	3
4	TEST EQUIPMENT.....	4
4.1	DOSIMETRIC SYSTEM	4
4.2	ADDITIONAL EQUIPMENT	4
5	ELECTRICAL PARAMETERS ON THE TISSUE SIMULATING LIQUID	5
6	SYSTEM ACCURACY VERIFICATION	5
7	SAR MEASUREMENT UNCERTAINTY	6
8	TEST RESULTS	7
9	REFERENCES	8
10	APPENDIX.....	9
10.1	PHOTOGRAPHS OF THE DEVICE UNDER TEST.....	9
10.2	DEVICE POSITION ON SAM TWINS PHANTOM	11
	Attachment	13
	<i>SAR system accuracy verification,</i>	
	<i>SAR distribution plots</i>	
	<i>Probe calibration report</i>	

**Company Internal
REPORT**

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File

2 Introduction

In this test report, compliance of the Sony Ericsson PY7FF051011 (GC89) PC card connected in Laptop DELL LATITUDE CPI dp/n 0009206D-12800-9B9-3162 with RF safety guidelines is demonstrated. The applicable RF safety guidelines and the SAR measurement specifications used for the test are described in the *SAR Measurement Specifications of Wireless Handsets* [1].

3 Device Under Test

3.1 Antenna Description

Internal	Built In
External	85 mm

3.2 Device description

Device model	PY7FF051011	
IMEI number	00460101-6306772-3	
Mode	GSM 835	GSM1900
Multiple Access Scheme	TDMA	TDMA
Maximum Output Power Setting (dBm)	32.5	29.5
Factory Tolerance in Power Setting (dB)	±0.5	±0.5
Maximum Peak Output Power (dBm)	33.0	30.0
Crest Factor	8	8
Transmitting Frequency Range(MHz)	824.2-848.8	1850.2 – 1909.8
Prototype or Production Unit	Preproduction	
Device Category	Portable	
RF exposure environment	General population / uncontrolled	

**Company Internal
REPORT**

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File

4 Test equipment

4.1 Dosimetric system

SAR measurements were made using the DASY4 professional system (software version 4.4/B3) with SAM twin phantom, manufactured by Schmidt & Partner Engineering AG (SPEAG). The list of calibrated equipment is given below.

Description	Serial Number	Due Date
DASY4 DAE V1	640	102005
E-field probe ET3DV6	1815	012006
Dipole Validation Kit, D835V2	484	032007
Dipole Validation Kit, D1900V2	5d002	032007

4.2 Additional equipment

Description	Inventory Number	Due Date
Signal generator ESG-D4000A	INV 462935	092005
Directional coupler HP778D	INV 2903	012006
Power meter R&S NRVD	INV 483920	012006
Power sensor R&S NRV-Z5	INV 2333	012006
Power sensor R&S NRV-Z5	INV 2334	012006
Termination 65N50-0-11	INV 2903	072005
Network analyzer HP8753C	INV421671	092005
S-parameter test set HP85047A	INV 421670	082005
Dielectric probe kit HP8507D	INV 20000053	042006

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

**Company Internal
REPORT**

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File

5 Electrical parameters on the tissue simulating liquid

Prior to conducting SAR measurements, the relative permittivity, ϵ_r , and the conductivity, σ , of the tissue simulating liquids were measured with the dielectric probe kit. These values are shown in the table below. The mass density, ρ , entered into the DASY3 software is also given. Recommended limits for permittivity ϵ_r , conductivity σ and mass density ρ are also shown.

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			ϵ_r	σ (S/m)	ρ (g/cm ³)
835	Body	Measured, 20/04/2005	55.6	1.02	1.00
		Recommended	55.2	0.97	1.00
1900	Body	Measured, 21/04/2005	50.8	1.52	1.00
		Recommended	53.3	1.52	1.00

6 System accuracy verification

A system accuracy verification of the DASY3 was performed using the dipole validation kit listed in section 3.1. The system verification test was conducted on the same day as the measurement of the DUT. Measurement made in ambient temperature 21.5-22.0 °C and humidity 29-32%. The obtained results are displayed in the table below.

RF noise had been measured in liquid when all RF equipment in lab was set off. Measured value was 0.0015 mW/g in 1g mass.

f (MHz)	Tissue type	Measured / Reference	SAR (W/kg) 1g/10g	Dielectric Parameters			Liquid t(°C)
				ϵ_r	σ (S/m)	ρ (g/cm ³)	
835	Body	Measured, 20/04/2005	9.58/6.2	55.6	1.02	1.00	21
		Reference	9.28/6.24	54.9	1.01	1.00	21.4
1900	Body	Measured, 21/04/2005	39.3/20.8	50.8	1.52	1.00	21
		Reference	39.6/20.9	51.6	1.58	1.00	22



Company Internal
REPORT

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File

7 SAR measurement uncertainty

SAR measurement uncertainty evaluation for Sony Ericsson PY7FF051011 PC card

Uncertainty Component	Uncer. (%)	Prob Dist.	Div.	C _i	GSM 835 Body	GSM 1900 Body
Measurement System						
Probe Calibration	±4.4	N	1	1	±4.4	±4.4
Axial Isotropy	±4.7	R	√3	0.5	±1.4	±1.4
Spherical Isotropy	±9.6	R	√3	0.5	±2.8	±2.8
Spatial resolution	±0.0	R	√3	1	±0.0	±0.0
Boundary effect	±5.5	R	√3	1	±3.2	±3.2
Probe linearity	±4.7	R	√3	1	±2.7	±2.7
Detection limit	±1.0	R	√3	1	±0.6	±0.6
Readout electronics	±1.0	N	1	1	±1.0	±1.0
Response time	±0.8	R	√3	1	±0.5	±0.5
Integration time	±1.4	R	√3	1	±0.8	±0.8
RF Ambient Conditions	±3.0	R	√3	1	±1.7	±1.7
Mech. Constraints of robot	±0.4	R	√3	1	±0.2	±0.2
Probe positioning	±2.9	R	√3	1	±1.7	±1.7
Extrap, interpolation and integration	±3.9	R	√3	1	±2.3	±2.3
Measurement System Uncertainty					±7.7	±7.7
Test Sample Related						
Device positioning	±6.0	N	0.89	1	±6.7	±6.7
Device holder uncertainty	±5.0	N	0.84	1	±5.9	±5.9
Power drift	±1.6/±2.3	R	√3	1	±0.9	±1.3
Test Sample Related Uncertainty					±8.7	±9.0
Phantom and Tissue Parameters						
Phantom uncertainty	±4.0	R	√3	1	±2.3	±2.3
Liquid conductivity (meas)	±5.0	R	√3	0.6	±1.7	±1.7
Liquid conductivity (target)	±5.0/±0	R	√3	0.6	±1.7	±0.0
Liquid Permittivity (meas)	±5.0	R	√3	0.6	±1.7	±1.7
Liquid Permittivity (target)	±0.7/±4.7	R	√3	0.6	±0.2	±1.6
Phantom and Tissue Parameters Uncertainty					±3.7	±3.7
Combined standard uncertainty					±12.2	±12.4
Extended standard uncertainty (k=2)					±24.4	±24.8



Company Internal
REPORT

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File

8 Test results

The measured 1-gram averaged SAR values of the device against the body are provided in Tables 1. The ambient humidity and temperature of test facility were 29% - 32% and 21.5 °C – 22.5 °C respectively. The depth of the body tissue simulating liquid for 850MHz and 1900MHz were 17.6cm and 16.8 respectively. A base station simulator was used to control the device during the SAR measurement.

For body measurement, the device was tested on the flat phantom for two position of DELL Laptop, parallel to phantom (0 deg) and orthogonal to phantom (90 deg) for three difference case (Internal antenna, External antenna in 0deg position and External antenna in 90 deg position). For all different position of Laptop and antenna device were tested on middle channel of band and on low and high channel for worst case in the middle channel. Under all SAR measurement WLAN have had continuously transmitted.

Distance between DELL Laptop or PC card (external antenna) to phantom was 15mm for all measurement cases.

Mode	Channel	Output Power(dBm)	Laptop Position	Antenna	Liquid temp(°C)	SAR (W/kg) 1g mass
835 GSM	189	32.8	0 deg	Internal	21	0.25
			0 deg	Ext. 0 deg	21	0.32
			0 deg	Ext. 90 deg	21	0.2
			90 deg	Internal	21	0.21
			90 deg	Ext. 0 deg	21	0.26
			90 deg	Ext. 90 deg	21	0.29
	128	32.7	0 deg	Ext. 0 deg	21	0.3
1900 GSM	251	32.2	0 deg	Ext. 0 deg	21	0.31
	661	29.9	0 deg	Internal	21	0.2
			0 deg	Ext. 0 deg	21	0.25
			0 deg	Ext. 90 deg	21	0.16
			90 deg	Internal	21	0.11
			90 deg	Ext. 0 deg	21	0.44
			90 deg	Ext. 90 deg	21	0.32
	512	29.8	90 deg	Ext. 0 deg	21	0.44
	810	28.7	90 deg	Ext. 0 deg	21	0.32

Table1: SAR measurement result for Sony Ericsson PY7FF051011 PC card at highest possible output power.
Measured against the body.



Company Internal
REPORT

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File

9 References

[1] R.Plicanic, "SAR Measurement Specification of Wireless Handsets", Sony Ericsson SAR Test Laboratory internal document GUG/N 03:141

[2] Basic standard for the Measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300MHz-3GHz), European Standard EN 50361, July 2001

[3] FCC, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields: Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radio Frequency Emissions," Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01).

[4] IEEE, "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques," Std 1528-2003, June, 2003.



Company Internal REPORT

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File

10 Appendix

10.1 Photo of the device under test



GC89 Front Side



GC89 Back Side



DELL Laptop, place for PC card



GC89 connected in DELL Laptop

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

**Company Internal
REPORT**

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File



GC89 with extended antenna connected in DELL Laptop



External Antenna



850MHz Liquid depth



1900MHz Liquid depth

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

Company Internal REPORT

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File

10.2 Device position on SAM Phantom



DELL Laptop 0 deg, Internal antenna



DELL Laptop 0 deg, Ext antenna 0 deg



DELL Laptop 0 deg, Ext antenna 90 deg

Prepared (also subject responsible if other)

LD/SEMC/BGGI/NM *Ramadan Plicanic*

Approved

LD/SEMC/BGGI/NMC *Mats Hansson*

Checked

050502

**Company Internal
REPORT**

No.

BGGIN05:108

Date

050501

Rev

A

Reference

File



DELL Laptop in 90 deg, Internal antenna



DELL Laptop in 90 deg, Ext antenna 0 deg



DELL Laptop in 90 deg, Ext antenna 90 deg

Date/Time: 04/29/05 14:54:43

Test Laboratory: Sony Ericsson Mobile Communications

File Name: [835MHz_Body_050420_RP.da4](#)**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:484****Program Name: VerificationMeasurement**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1.02 \text{ mho/m}$; $\epsilon_r = 55.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1815; ConvF(6.43, 6.43, 6.43); Calibrated: 2005-01-20
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn640; Calibrated: 2004-10-12
- Phantom: SAM 5; Type: SAM; Serial: 1352
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

P=100mW, Distance 15mm

Body TSL,Flat, 10mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 33.2 V/m; Power Drift = -0.0 dB

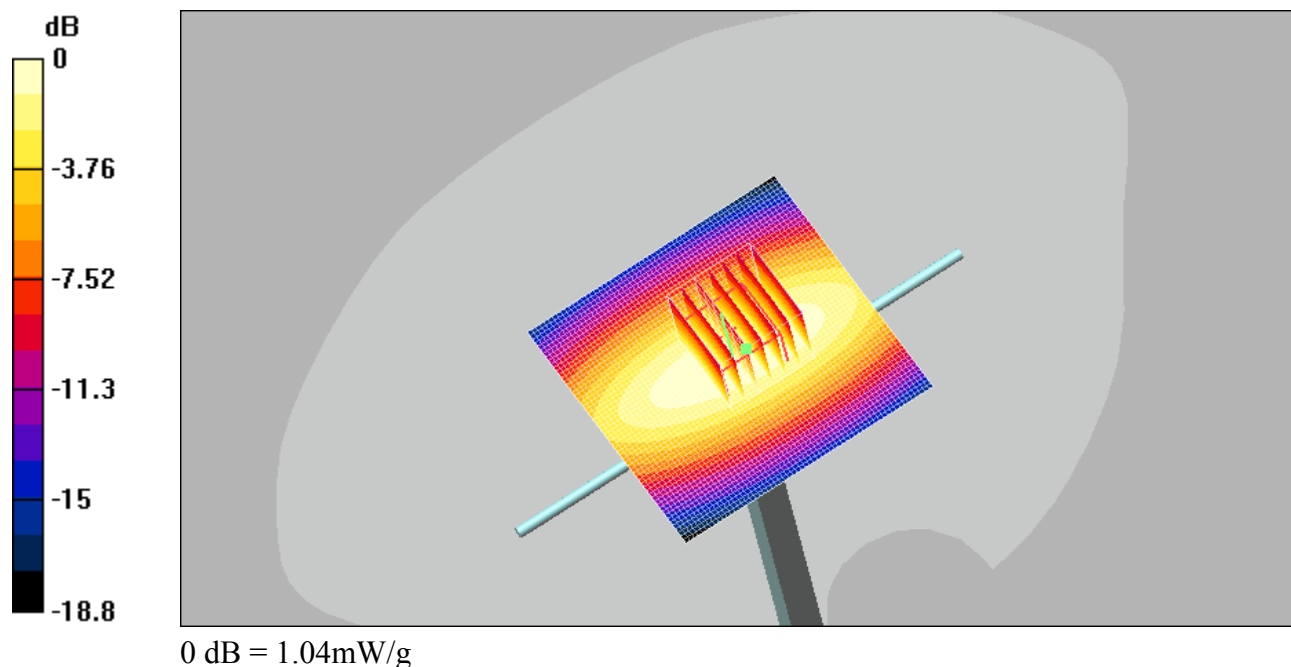
Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.958 mW/g; SAR(10 g) = 0.620 mW/g

Maximum value of SAR (measured) = 1.04 mW/g

Body TSL,Flat, 10mm/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 1.04 mW/g



DASY4 Validation Report for Body TSL

Date/Time: 14.03.2005 10:51:59

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN484

Communication System: CW-835; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: M900;

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 54.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(5.98, 5.98, 5.98); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.01.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

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

Maximum value of SAR (interpolated) = 2.57 mW/g

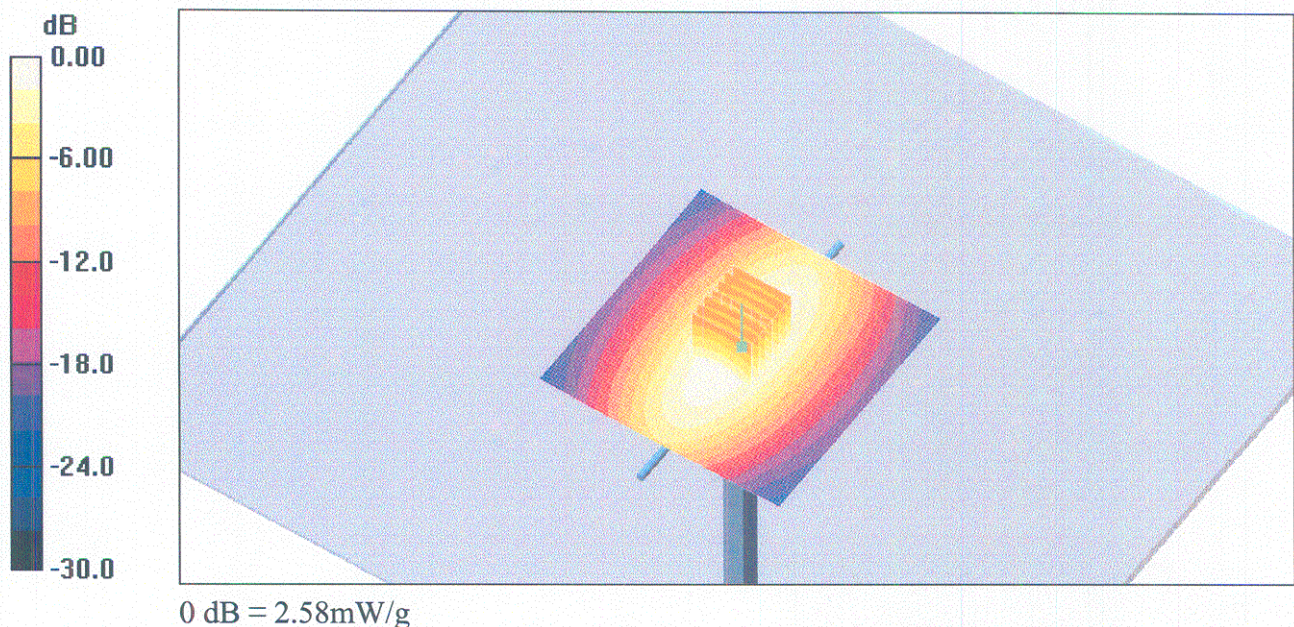
Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.6 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 3.36 W/kg

SAR(1 g) = 2.37 mW/g; SAR(10 g) = 1.56 mW/g

Maximum value of SAR (measured) = 2.58 mW/g



Test Laboratory: Sony Ericsson Mobile Communications

File Name: [1900MHz_Body_050421_RP.da4](#)

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d002

Program Name: VerificationMeasurement

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 50.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1815; ConvF(4.69, 4.69, 4.69); Calibrated: 2005-01-20
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn640; Calibrated: 2004-10-12
- Phantom: SAM 5; Type: SAM; Serial: 1352
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

P=100mW, distance 10mm

Body TSL, Flat, 10mm/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 4.65 mW/g

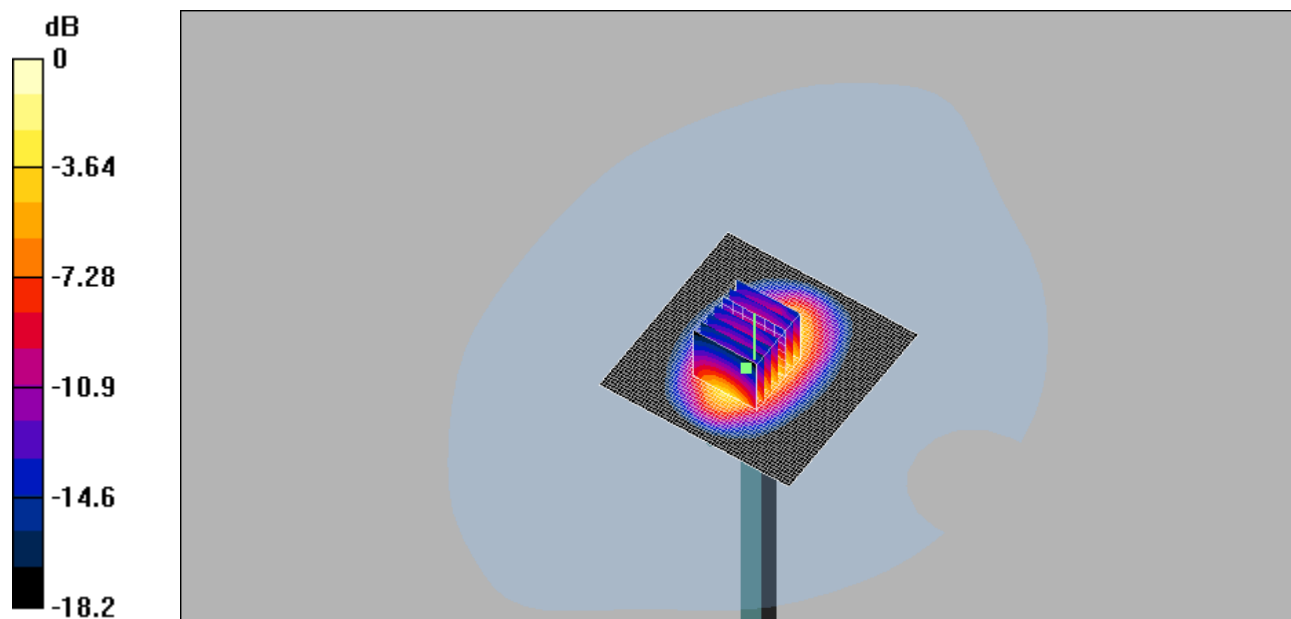
Body TSL, Flat, 10mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.5 V/m; Power Drift = -0.0 dB

Peak SAR (extrapolated) = 6.57 W/kg

SAR(1 g) = 3.93 mW/g; SAR(10 g) = 2.08 mW/g

Maximum value of SAR (measured) = 4.49 mW/g



0 dB = 4.49mW/g

DASY4 Validation Report for Body TSL

Date/Time: 15.03.2005 15:20:32

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d002

Communication System: CW-1900; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL 1900 MHz;

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(4.43, 4.43, 4.43); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.01.2005
- Phantom: Flat Phantom 5.0; Type: QD000P50AA; Serial: 1001;
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Pin = 250 mW; d = 10 mm/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.4 mW/g

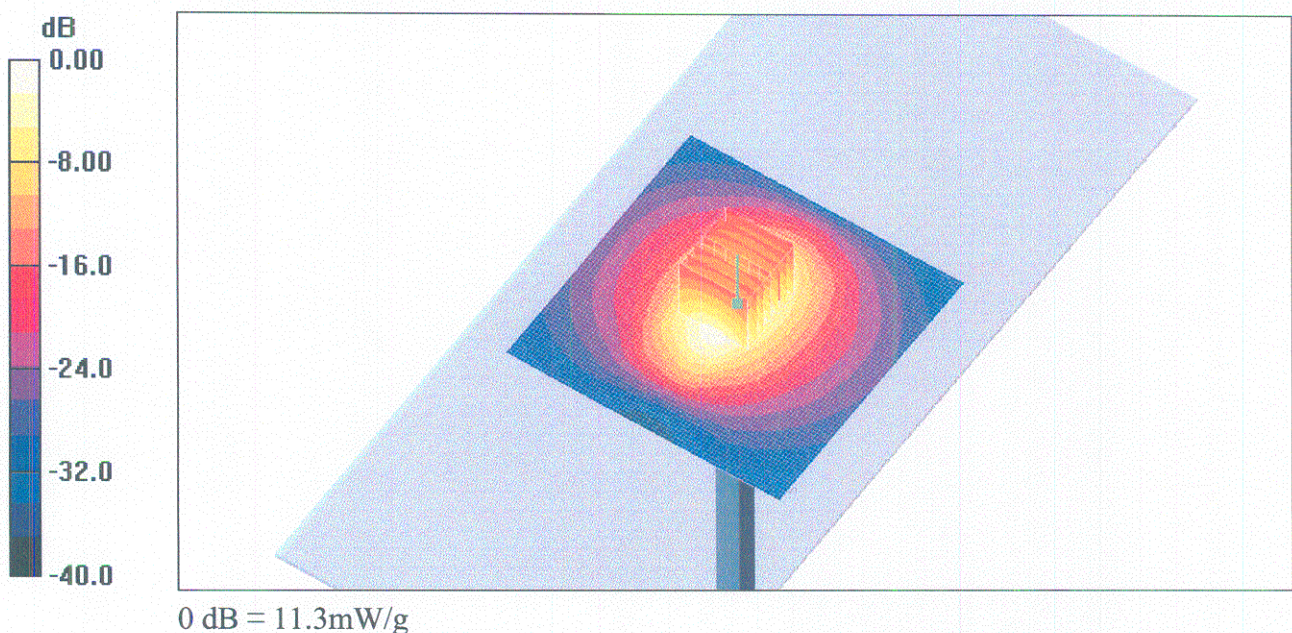
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.3 V/m; Power Drift = 0.061 dB

Peak SAR (extrapolated) = 16.8 W/kg

SAR(1 g) = 9.91 mW/g; SAR(10 g) = 5.23 mW/g

Maximum value of SAR (measured) = 11.3 mW/g



Test Laboratory: Sony Ericsson Mobile Communications
 File Name: [189_LT90deg_Flat_15mm_IntAnt_050420_RP.da4](#)

DUT: PY7FF051011; Type: Quad GSM;

Program Name: GC89, GSM835 (ch 189, DELL 90 deg, Internal antenna)

Communication System: GSM835MHz; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 836.4$ MHz; $\sigma = 1.02$ mho/m; $\epsilon_r = 55.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1815; ConvF(6.43, 6.43, 6.43); Calibrated: 2005-01-20
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn640; Calibrated: 2004-10-12
- Phantom: SAM 5; Type: SAM; Serial: 1352
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Flat, 15mm, GPRS 1 Slot/Area Scan (41x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.243 mW/g

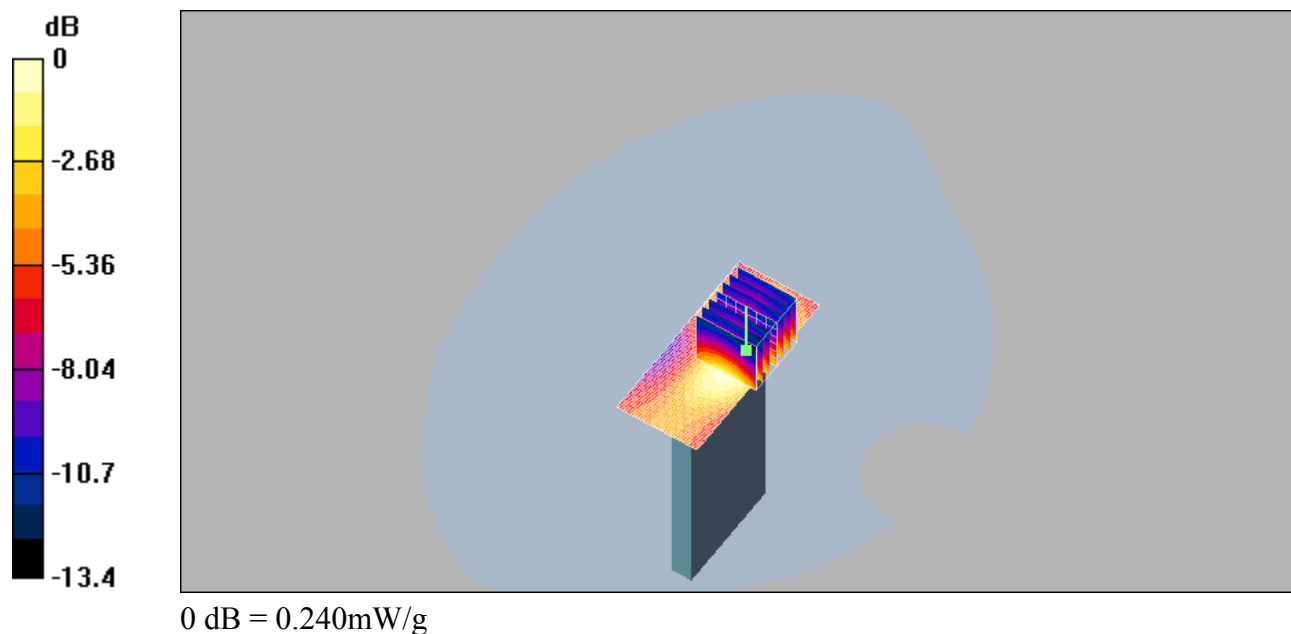
Flat, 15mm, GPRS 1 Slot/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13 V/m; Power Drift = -0.1 dB

Peak SAR (extrapolated) = 0.351 W/kg

SAR(1 g) = 0.209 mW/g; SAR(10 g) = 0.125 mW/g

Maximum value of SAR (measured) = 0.240 mW/g



Test Laboratory: Sony Ericsson Mobile Communications

File Name: [189_LT90deg_Flat_15mm_ExtAnt_90deg_050420_RP.da4](#)

DUT: PY7FF051011; Type: Quad GSM;

Program Name: GC89, GSM835 (ch189, DELL 90 deg, External antenna 90 deg)

Communication System: GSM835MHz; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 836.4 \text{ MHz}$; $\sigma = 1.02 \text{ mho/m}$; $\epsilon_r = 55.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1815; ConvF(6.43, 6.43, 6.43); Calibrated: 2005-01-20
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn640; Calibrated: 2004-10-12
- Phantom: SAM 5; Type: SAM; Serial: 1352
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Flat, 15mm, GPRS 1 Slot/Area Scan (91x91x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 0.320 mW/g

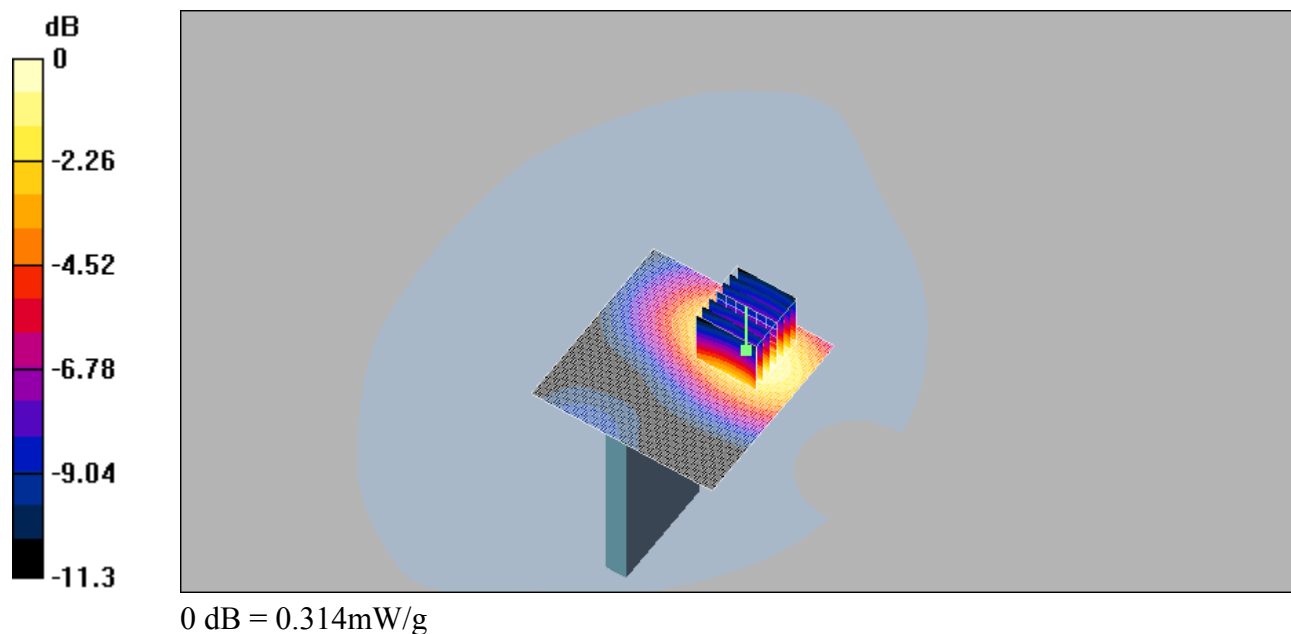
Flat, 15mm, GPRS 1 Slot/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.24 V/m ; Power Drift = 0.1 dB

Peak SAR (extrapolated) = 0.426 W/kg

SAR(1 g) = 0.286 mW/g ; SAR(10 g) = 0.183 mW/g

Maximum value of SAR (measured) = 0.314 mW/g



Test Laboratory: Sony Ericsson Mobile Communications

File Name: [189_LT90deg_Flat_15mm_ExtAnt_0deg_050420_RP.da4](#)

DUT: PY7FF051011; Type: Quad GSM;

Program Name: GC89, GSM835 (ch189, DELL 90 deg, External antenna 0 deg)

Communication System: GSM835MHz; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 836.4$ MHz; $\sigma = 1.02$ mho/m; $\epsilon_r = 55.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1815; ConvF(6.43, 6.43, 6.43); Calibrated: 2005-01-20
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn640; Calibrated: 2004-10-12
- Phantom: SAM 5; Type: SAM; Serial: 1352
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Flat, 15mm, GPRS 1 Slot/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.272 mW/g

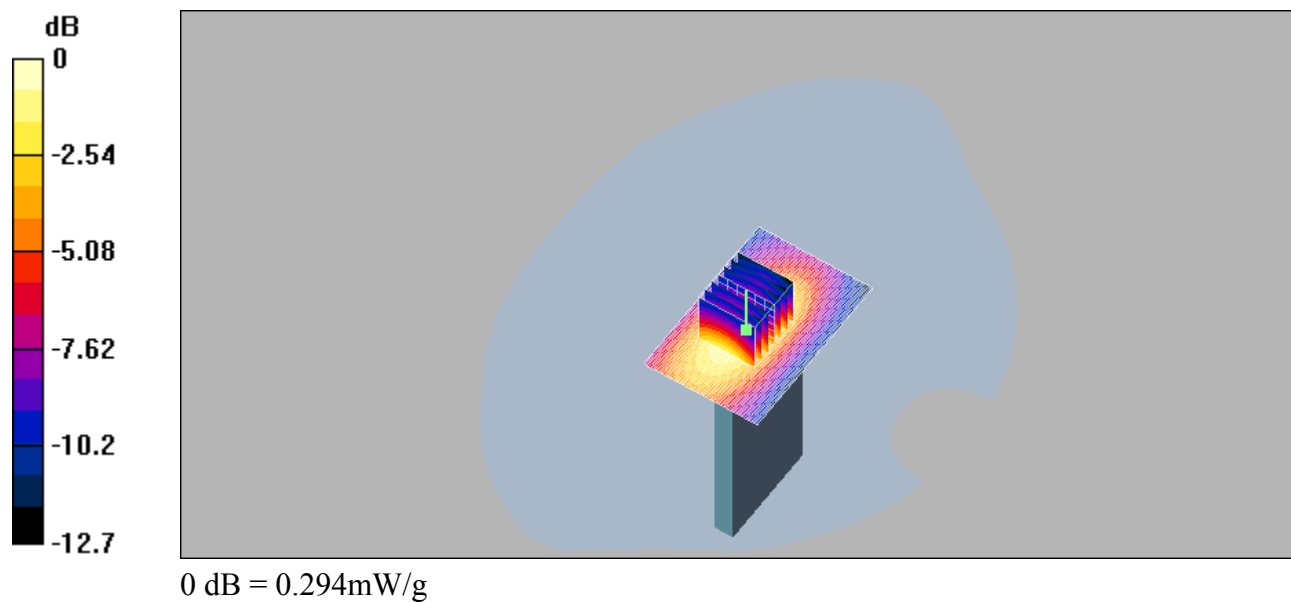
Flat, 15mm, GPRS 1 Slot/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.5 V/m; Power Drift = -0.1 dB

Peak SAR (extrapolated) = 0.426 W/kg

SAR(1 g) = 0.261 mW/g; SAR(10 g) = 0.157 mW/g

Maximum value of SAR (measured) = 0.294 mW/g



Test Laboratory: Sony Ericsson Mobile Communications
 File Name: [189_LT0deg_Flat_15mm_IntAnt_050420_RP.da4](#)

DUT: PY7FF051011; Type: Quad GSM;

Program Name: GC89, GSM835 (ch189, DELL 0 deg, Internal antenna)

Communication System: GSM835MHz; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 836.4$ MHz; $\sigma = 1.02$ mho/m; $\epsilon_r = 55.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1815; ConvF(6.43, 6.43, 6.43); Calibrated: 2005-01-20
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn640; Calibrated: 2004-10-12
- Phantom: SAM 5; Type: SAM; Serial: 1352
- Measurement SW: DASY4, V4.4 Build 3; Postprocessing SW: SEMCAD, V1.8 Build 130

Flat, 15mm, GPRS 1 Slot/Area Scan (71x111x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.271 mW/g

Flat, 15mm, GPRS 1 Slot/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.8 V/m; Power Drift = -0.1 dB

Peak SAR (extrapolated) = 0.382 W/kg

SAR(1 g) = 0.252 mW/g; SAR(10 g) = 0.164 mW/g

Maximum value of SAR (measured) = 0.272 mW/g

