

Checked by *AA* DATE CHECKED: 29-MARCH-2012

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RFI ASSET A1377

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Accreditation No.: SCS 108

Client **RFI**

Certificate No: **D5GHzV2-1016_Mar12**

CALIBRATION CERTIFICATE

Object: **D5GHzV2 - SN: 1016**

Calibration procedure(s): **QA CAL-22.v1
Calibration procedure for dipole validation kits between 3-6 GHz**

Calibration date: **March 23, 2012**

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 (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12
Reference 20 dB Attenuator	SN: 5086 (20g)	29-Mar-11 (No. 217-01368)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe EX3DV4	SN: 3503	30-Dec-11 (No. EX3-3503_Dec11)	Dec-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

Calibrated by: **Dimce Iliev** (Name), **Laboratory Technician** (Function), *Dimce Iliev* (Signature)

Approved by: **Katja Pokovic** (Name), **Technical Manager** (Function), *Katja Pokovic* (Signature)

Issued: March 26, 2012

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



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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) IEC 62209-2, "Evaluation of Human Exposure to Radio Frequency Fields from Handheld and Body-Mounted Wireless Communication Devices in the Frequency Range of 30 MHz to 6 GHz: Human models, Instrumentation, and Procedures"; Part 2: "Procedure to determine the Specific Absorption Rate (SAR) for including accessories and multiple transmitters", March 2010
- b) 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:

- c) DASY4/5 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.

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%.

Measurement Conditions

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

DASY Version	DASY5	V52.8.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5200 MHz ± 1 MHz 5500 MHz ± 1 MHz 5800 MHz ± 1 MHz	

Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.7 ± 6 %	4.59 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.88 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	78.6 mW / g ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.26 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	22.5 mW / g ± 19.5 % (k=2)

Head TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.6	4.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.2 ± 6 %	4.89 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5500 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.48 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	84.5 mW / g ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.43 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	24.2 mW / g ± 19.5 % (k=2)

Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.8 ± 6 %	5.19 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.84 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	78.1 mW / g ± 19.9 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.24 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	22.3 mW / g ± 19.5 % (k=2)

Appendix

Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	52.9 Ω - 9.6 j Ω
Return Loss	- 20.3 dB

Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	48.7 Ω - 0.2 j Ω
Return Loss	- 37.8 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	57.5 Ω + 7.1 j Ω
Return Loss	- 20.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.199 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. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

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	November 14, 2003

DASY5 Validation Report for Head TSL

Date: 23.03.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1016

Communication System: CW; Frequency: 5200 MHz, Frequency: 5500 MHz, Frequency: 5800 MHz
Medium parameters used: $f = 5200$ MHz; $\sigma = 4.59$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5500$ MHz; $\sigma = 4.89$ mho/m; $\epsilon_r = 35.2$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5800$ MHz; $\sigma = 5.19$ mho/m; $\epsilon_r = 34.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.41, 5.41, 5.41), ConvF(4.91, 4.91, 4.91), ConvF(4.81, 4.81, 4.81); Calibrated: 30.12.2011
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 60.845 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 29.2070

SAR(1 g) = 7.88 mW/g; SAR(10 g) = 2.26 mW/g

Maximum value of SAR (measured) = 18.432 mW/g

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan,

dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 62.039 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 33.1850

SAR(1 g) = 8.48 mW/g; SAR(10 g) = 2.43 mW/g

Maximum value of SAR (measured) = 20.139 mW/g

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan,

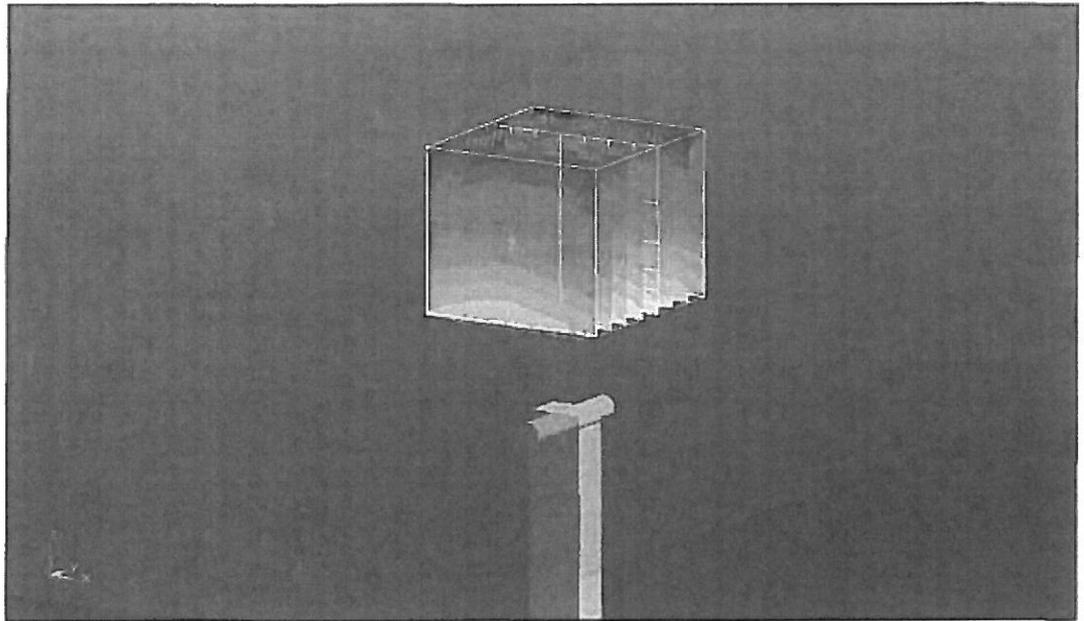
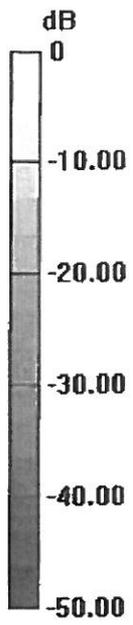
dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 58.534 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 32.5190

SAR(1 g) = 7.84 mW/g; SAR(10 g) = 2.24 mW/g

Maximum value of SAR (measured) = 19.191 mW/g



0 dB = 19.190mW/g = 25.66 dB mW/g

Impedance Measurement Plot for Head TSL

20 Mar 2012 10:51:49

CH1 S11 1 U Fs 1: 52.908 Ω -9.6016 Ω 3.1877 pF 5 200.000 000 MHz

*

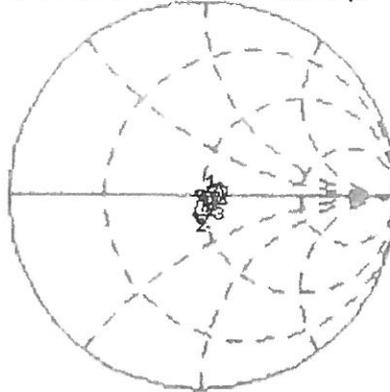
Del

Cor

Avg

16

H1d



CH1 Markers

2: 48.740 Ω
-222.66 m Ω
5.50000 GHz

3: 57.461 Ω
7.1113 Ω
5.80000 GHz

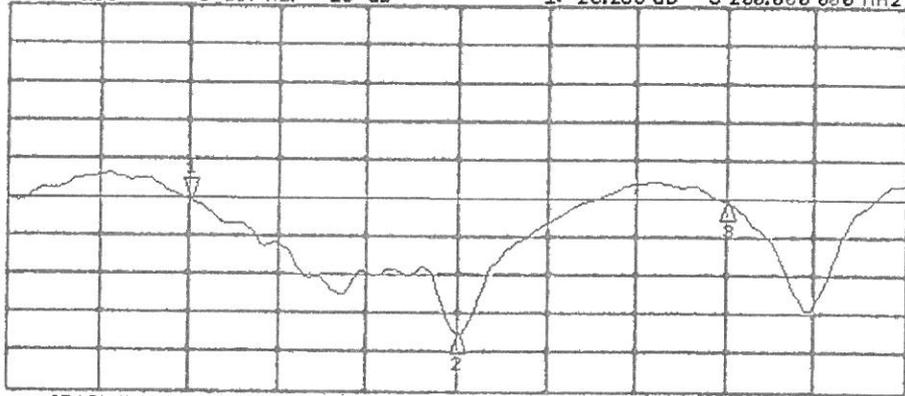
CH2 S11 LOG 5 dB/REF -20 dB 1:-20.260 dB 5 200.000 000 MHz

Cor

Avg

16

H1d



CH2 Markers

2:-37.753 dB
5.50000 GHz

3:-20.379 dB
5.80000 GHz

Appendix 2. Measurement Methods

A.2.1. Evaluation Procedure

The Specific Absorption Rate (SAR) evaluation was performed in the following manner:

- a) (i) The evaluation was performed in an applicable area of the phantom depending on the type of device being tested. For devices worn about the ear during normal operation, both the left and right ear positions were evaluated at the centre frequency of the band at maximum power. The side, which produced the greatest SAR, determined which side of the phantom would be used for the entire evaluation. The positioning of the head worn device relative to the phantom was dictated by the test specification identified in section 3.1 of this report.

(ii) For body worn devices or devices which can be operated within 20 cm of the body, the flat section of the SAM phantom was used were the size of the device(s) is normal. for bigger devices and base station the 2mm Oval phantom is used for evaluation. The type of device being evaluated dictated the distance of the EUT to the outer surface of the phantom flat section.
- b) The SAR was determined by a pre-defined procedure within the DASY4 software. The exposed region of the phantom was scanned near the inner surface with a grid spacing of 20mm x 20mm or appropriate resolution.
- c) A 5x5x7 matrix for measurement < 4.5 GHz and 7x7x9 for > 4.5 GHz was performed around the greatest spatial SAR distribution found during the area scan of the applicable exposed region. SAR values were then calculated using a 3-D spline interpolation algorithm and averaged over spatial volumes of 1 and 10 grams.
- d) If the EUT had any appreciable drift over the course of the evaluation, then the EUT was re-evaluated. Any unusual anomalies over the course of the test also warranted a re-evaluation.

A.2.2. Specific Absorption Rate (SAR) Measurements to OET Bulletin 65 Supplement C: (2001-01)

Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields

SAR measurements were performed in accordance with Appendix D of the standard FCC OET Bulletin 65 Supplement C: 2001, IEEE 1528 and FCC KDB procedures, against appropriate limits for each measurement position in accordance with the standard. In some cases the FCC was contacted using a PBA or KDB process to ensure test is performed correctly.

The test was performed in a shielded enclosure with the temperature controlled to remain between +18.0°C and +25.0°C. The tissue equivalent material fluid temperature was controlled to give a maximum variation of $\pm 2.0^\circ\text{C}$

Prior to any SAR measurements on the EUT, system Check and material dielectric property measurements were conducted. In the absence of a detailed procedure within the specification, system Check and material dielectric property measurements were performed in accordance with Appendix C and Appendix D of FCC OET Bulletin 65 Supplement C: 2001 and FCC KDB publication 450824.

Following the successful system Check and material dielectric property measurements, a SAR versus time sweep shall be performed within 10 mm of the phantom inner surface. If the EUT power output is stable after three minutes then the measurement probe will perform a coarse surface level scan at each test position in order to ascertain the location of the maximum local SAR level. Once this area had been established, a 5x5x7 cube of 175 points below 4.5 GHz and above 4.5GHz 7x7x9 cube of 441 points (5 mm spacing in each axis $\approx 27\text{g}$) will be centred at the area of concern. Extrapolation and interpolation will then be carried out on the 27g of tissue and the highest averaged SAR over a 1g cube determined.

Once the maximum interpolated SAR measurement is complete; the coarse scan is visually assessed to check for secondary peaks within 50% of the maximum SAR level. If there are any further SAR measurements required, extra 5x5x7 or 7x7x9 cubes shall be centred on each of these extra local SAR maxima.

At the end of each position test case a second time sweep shall be performed to check whether the EUT has remained stable throughout the test.

Appendix 3. SAR Distribution Scans

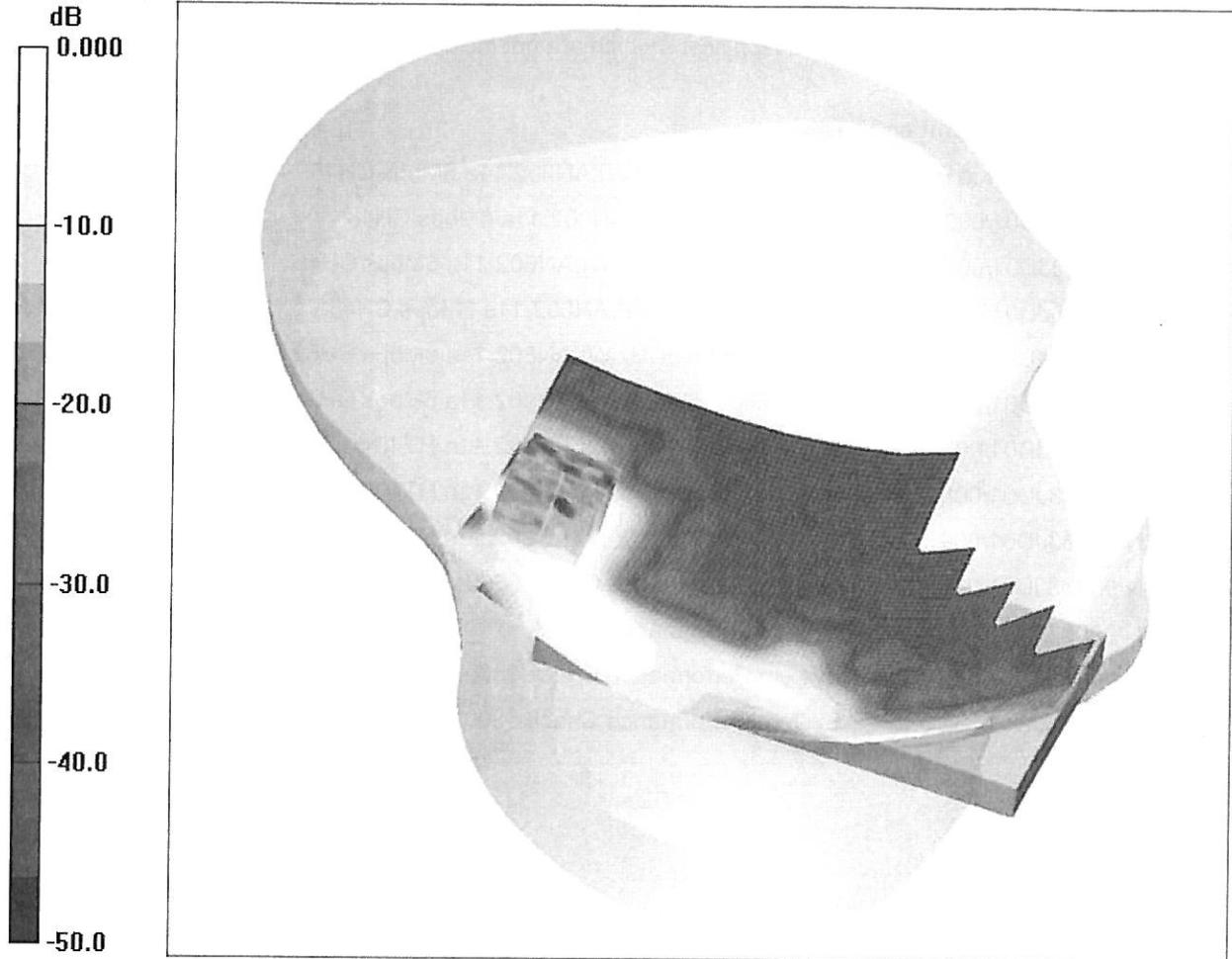
This appendix contains SAR distribution scans which are not included in the total number of pages for this report.

Scan Reference Number	Title
SCN/90033JD01/001	Touch Left 5.0GHz WLAN802.11a 6Mbps CH48
SCN/90033JD01/002	Tilt Left 5.0GHz WLAN802.11a 6Mbps CH48
SCN/90033JD01/003	Touch Right 5.0GHz WLAN802.11a 6Mbps CH48
SCN/90033JD01/004	Tilt Right 5.0GHz WLAN802.11a 6Mbps CH48
SCN/90033JD01/005	Touch Right 5.0GHz WLAN802.11a 6Mbps CH52
SCN/90033JD01/006	Touch Right 5.0GHz WLAN802.11a 6Mbps CH116
SCN/90033JD01/007	Touch Right 5.0GHz WLAN802.11n HT40 13.5Mbps CH46
SCN/90033JD01/008	Touch Right 5.0GHz WLAN802.11n HT40 13.5Mbps CH62
SCN/90033JD01/009	Touch Right 5.0GHz WLAN802.11n HT40 13.5Mbps CH126
SCN/90033JD01/010	System Performance Check 5200MHz Head 29 08 12
SCN/90033JD01/011	System Performance Check 5200MHz Head 30 08 12
SCN/90033JD01/012	System Performance Check 5500MHz Head 30 08 12
SCN/90033JD01/013	System Performance Check 5800MHz Head 30 08 12

SCN/90033JD01/001: Touch Left 5.0GHz WLAN802.11a 6Mbps CH48

Date: 29/08/2012

DUT: Sharp SHL21; Type: SHL21MLA; Serial: 004401114094796



0 dB = 0.099mW/g

Communication System: WLAN 802.11a UNII; Frequency: 5240 MHz; Duty Cycle: 1:1

Medium: 5800 MHz HSL Medium parameters used (interpolated): $f = 5240$ MHz; $\sigma = 4.79$ mho/m; $\epsilon_r = 36.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3814 (add ConvF); ConvF(5.1, 5.1, 5.1); Calibrated: 12/03/2012

- Sensor-Surface: 2.5mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn432; Calibrated: 02/05/2012

- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207

- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Touch Left - Middle/Area Scan (81x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.109 mW/g

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

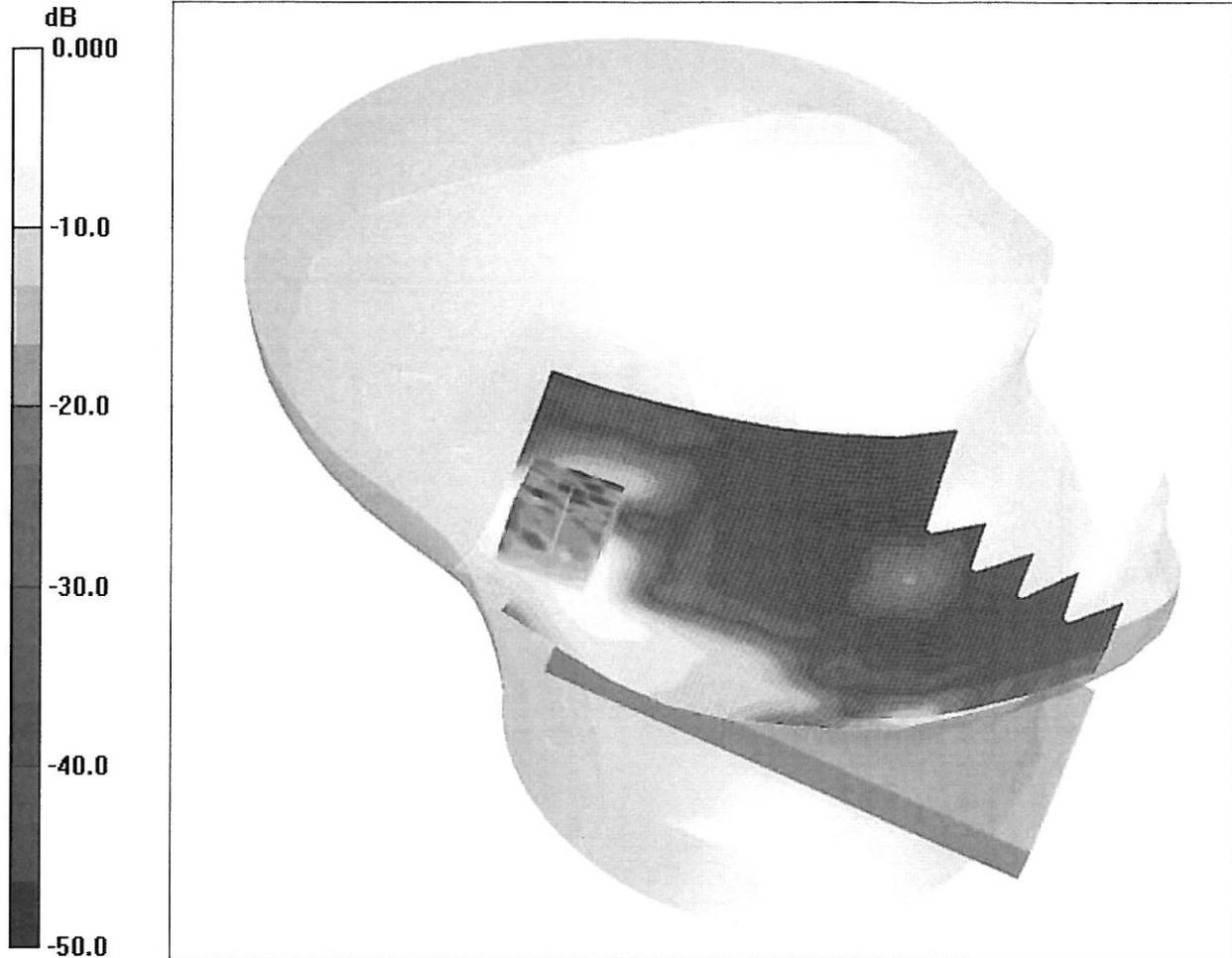
Reference Value = 3.95 V/m; Power Drift = 0.162 dB

Peak SAR (extrapolated) = 0.150 W/kg

SAR(1 g) = 0.054 mW/g; SAR(10 g) = 0.018 mW/g

Maximum value of SAR (measured) = 0.099 mW/g

SCN/90033JD01/002: Tilt Left 5.0GHz WLAN802.11a 6Mbps CH48
Date: 29/08/2012
DUT: Sharp SHL21; Type: SHL21MLA; Serial: 004401114094796



0 dB = 0.140mW/g

Communication System: WLAN 802.11a UNII; Frequency: 5240 MHz; Duty Cycle: 1:1
Medium: 5800 MHz HSL Medium parameters used (interpolated): $f = 5240$ MHz; $\sigma = 4.79$ mho/m; $\epsilon_r = 36.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3814 (add ConvF); ConvF(5.1, 5.1, 5.1); Calibrated: 12/03/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn432; Calibrated: 02/05/2012
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt Left - Middle/Area Scan (81x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.147 mW/g

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

Reference Value = 4.62 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.227 W/kg

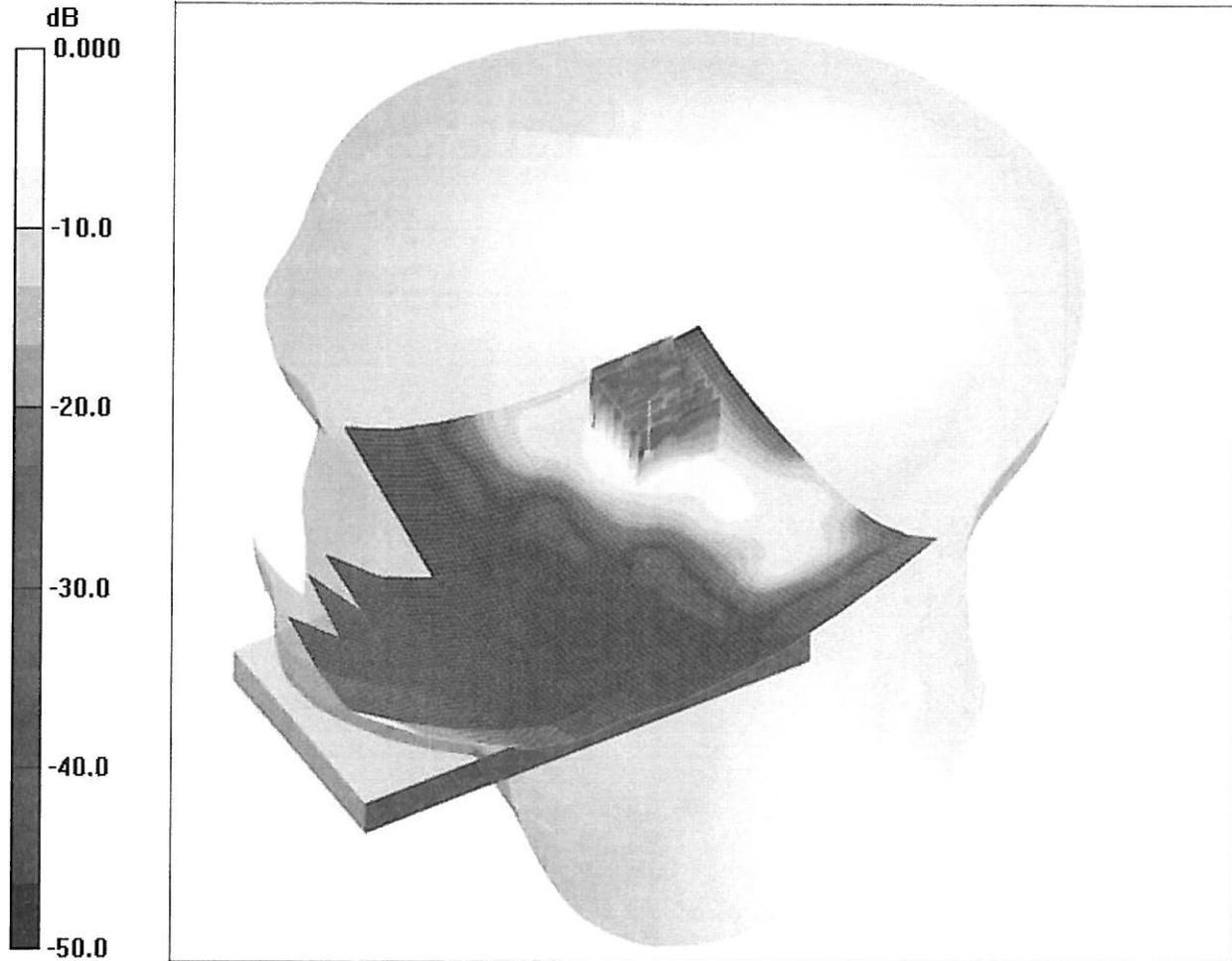
SAR(1 g) = 0.080 mW/g; SAR(10 g) = 0.025 mW/g

Maximum value of SAR (measured) = 0.140 mW/g

SCN/90033JD01/003: Touch Right 5.0GHz WLAN802.11a 6Mbps CH48

Date: 29/08/2012

DUT: Sharp SHL21; Type: SHL21MLA; Serial: 004401114094796



0 dB = 0.298mW/g

Communication System: WLAN 802.11a UNII; Frequency: 5240 MHz; Duty Cycle: 1:1

Medium: 5800 MHz HSL Medium parameters used (interpolated): $f = 5240$ MHz; $\sigma = 4.79$ mho/m; $\epsilon_r = 36.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3814 (add ConvF); ConvF(5.1, 5.1, 5.1); Calibrated: 12/03/2012

- Sensor-Surface: 2.5mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn432; Calibrated: 02/05/2012

- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207

- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Touch Right- Middle/Area Scan (81x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.289 mW/g

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

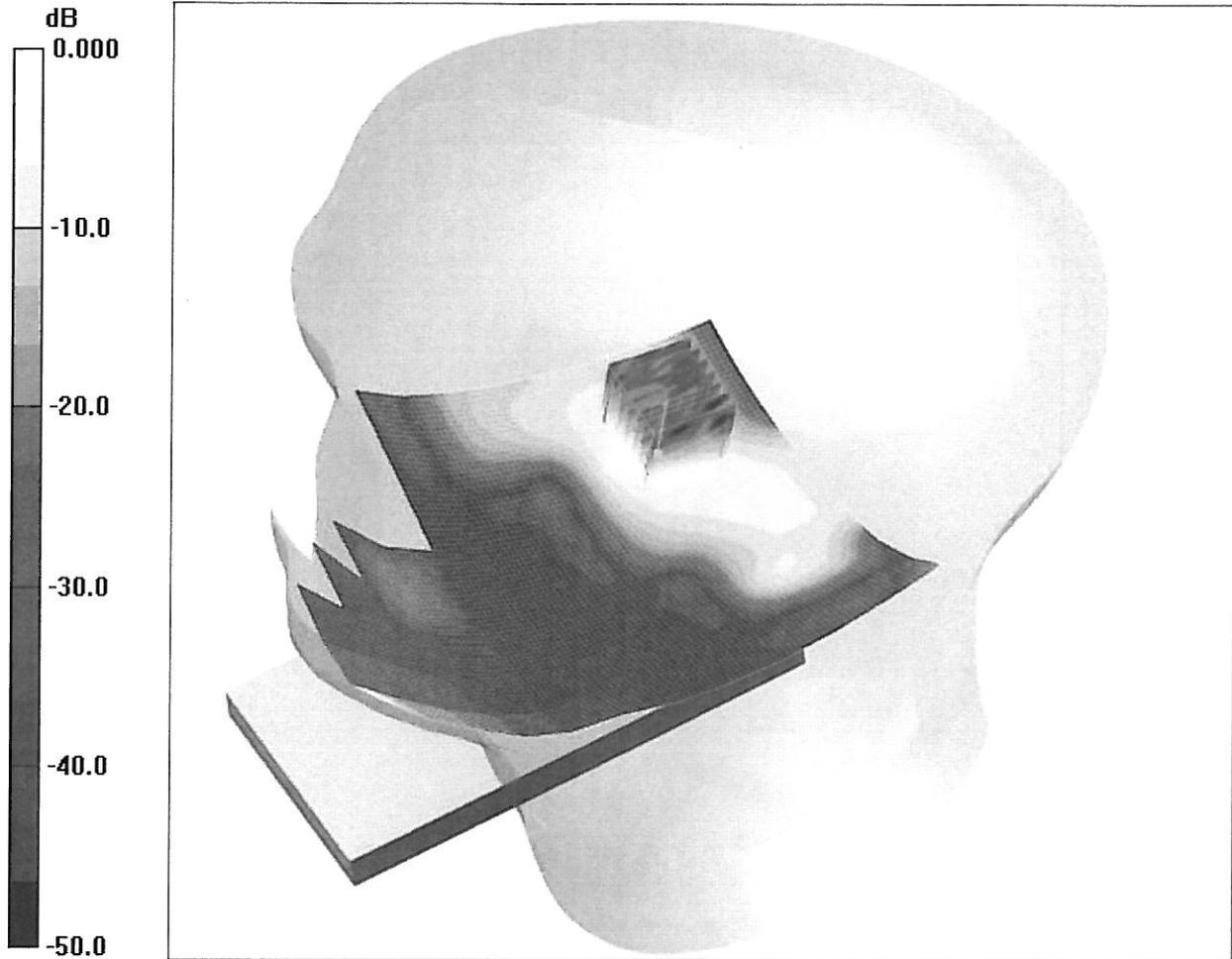
Reference Value = 7.47 V/m; Power Drift = 0.050 dB

Peak SAR (extrapolated) = 0.573 W/kg

SAR(1 g) = 0.163 mW/g; SAR(10 g) = 0.047 mW/g

Maximum value of SAR (measured) = 0.298 mW/g

SCN/90033JD01/004: Tilt Right 5.0GHz WLAN802.11a 6Mbps CH48
Date: 29/08/2012
DUT: Sharp SHL21; Type: SHL21MLA; Serial: 004401114094788



0 dB = 0.227mW/g

Communication System: WLAN 802.11a UNII; Frequency: 5240 MHz; Duty Cycle: 1:1
Medium: 5800 MHz HSL Medium parameters used (interpolated): $f = 5240$ MHz; $\sigma = 4.79$ mho/m; $\epsilon_r = 36.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3814 (add ConvF); ConvF(5.1, 5.1, 5.1); Calibrated: 12/03/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn432; Calibrated: 02/05/2012
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt Right- Middle 2/Area Scan (81x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.211 mW/g

Tilt Right- Middle 2/Zoom Scan (7x7x9) (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

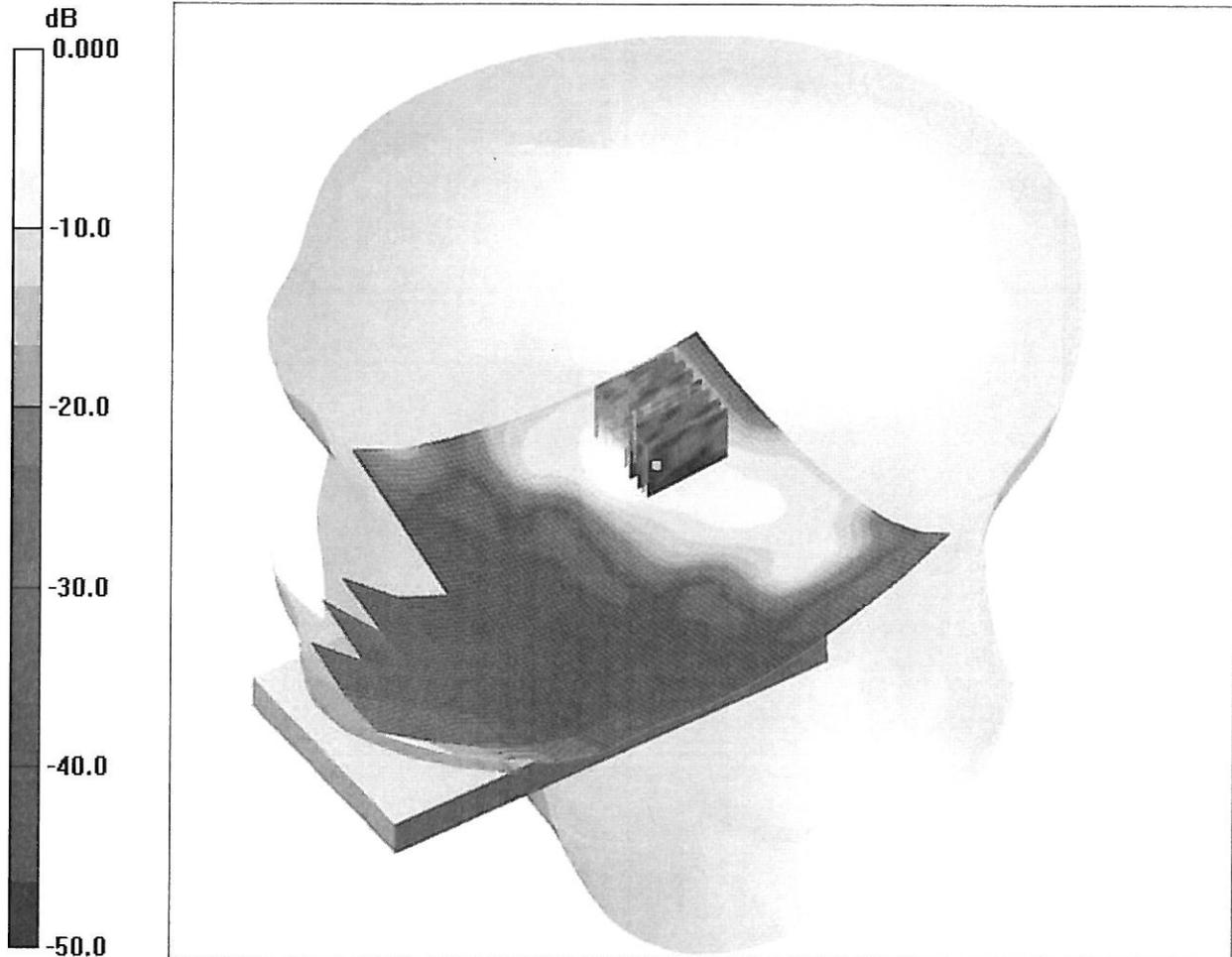
Reference Value = 2.71 V/m; Power Drift = 0.169 dB

Peak SAR (extrapolated) = 0.466 W/kg

SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.042 mW/g

Maximum value of SAR (measured) = 0.227 mW/g

SCN/90033JD01/005: Touch Right 5.0GHz WLAN802.11a 6Mbps CH52
Date: 30/08/2012
DUT: Sharp SHL21; Type: SHL21MLA; Serial: 004401114094796



0 dB = 0.270mW/g

Communication System: WLAN 802.11a UNII; Frequency: 5260 MHz; Duty Cycle: 1:1
Medium: 5800 MHz HSL Medium parameters used (interpolated): $f = 5260$ MHz; $\sigma = 4.8$ mho/m; $\epsilon_r = 36$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3814 (add ConvF); ConvF(4.8, 4.8, 4.8); Calibrated: 12/03/2012
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn432; Calibrated: 02/05/2012
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Touch Right- Middle/Area Scan (81x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.286 mW/g

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

Reference Value = 7.29 V/m; Power Drift = -0.075 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.027 mW/g

Maximum value of SAR (measured) = 0.270 mW/g