TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

Test Report Serial No:
RFI/SAR1/RP76421JD03A

This Test Report Is Issued Under The Authority Of Scott D'Adamo, Group Service Manager Global Approvals:	**Grant Taylor pp for Scott D'Adamo.**
Checked By:  **Grant Taylor pp for Scott D'Adamo.**	**Report Copy No: PDF01**
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To: OET Bulletin 65 Supplement C: (2001-01)

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1. Customer Information

Company Name:	Panasonic Mobile Comms Dev of Europe Ltd
Address:	Panasonic House Willoughby Road Bracknell Berkshire RG12 8FP United Kingdom

2. Equipment Under Test (EUT)

2.1. Identification of Equipment Under Test (EUT)

Description:	Mobile Handset
Brand Name:	SoftBank
Model Name or Number:	941P (Sample C8)
Project Name:	S92WP1
IMEI Number:	00 4401220894337
Hardware Version Number:	REV C
Software Version Number:	941PVA16
Hardware Revision of GSM Module:	Not Applicable
Software Revision of GSM Module:	Not Applicable
FCC ID Number:	UCE209023A
Country of Manufacture:	None Stated
Date of Receipt:	19 November 2009

2.2. Description of EUT

The Equipment Under test was a dual mode mobile handset operating in the PCS1900 band. The EUT has *Bluetooth*, RFID, WiFi and GPRS class 10 capabilities.

2.3. Modifications Incorporated in the EUT

There were no modifications incorporated in the EUT.

2.4. Accessories

The following accessories were supplied with the EUT during testing:

Description:	Micro-SD Memory Card
Brand Name:	None Stated
Model Name or Number:	P-04A(Sample C17)
Serial Number:	None Stated
Cable Length and Type:	Not applicable
Country of Manufacture:	None Stated
Connected to Port	Dedicated micro-SD card port

Description:	Personal Hands-Free
Brand Name:	SoftBank
Model Name or Number:	ZTCK01 (Sample P8)
Serial Number:	None Stated
Cable Length and Type:	~2.0m
Country of Manufacture:	None Stated
Connected to Port	AV Out Port Unique to Manufacturer

Description:	PHF Converter
Brand Name:	SoftBank
Model Name or Number:	PMLAJ1 (Sample P9)
Serial Number:	None Stated
Cable Length and Type:	~0.1m
Country of Manufacture:	None Stated
Connected to Port	AV Out Port Unique to Manufacturer

Description:	Battery
Brand Name:	None Stated
Model Name or Number:	None Stated
Serial Number:	None Stated
Cable Length and Type:	Not Applicable
Country of Manufacture:	None Stated
Connected to Port	3 Pin Unique to Manufacturer

2.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description:	Wireless Communication Test Set
Brand Name:	Agilent
Model Name or Number:	8960 Series 10
Serial Number:	GB46311280
Cable Length and Type:	1.5m Utiflex Cable
Connected to Port:	RF (Input/Output) Air Link

Description:	GSM Communication Test Set
Brand Name:	Will'tek
Model Name or Number:	4202S
Serial Number:	513018
Cable Length and Type:	~2.0 m Utiflex RF cable
Connected to Port:	RF Input/ Output Port

2.6. Additional Information Related to Testing

Equipment Category	PCS1900 / Bluetooth / RFID		
Type of Unit	Portable Transceiver		
Intended Operating Environment:	Within GSM, RFID and Bluetooth Coverage		
Transmitter Maximum Output Power Characteristics:	PCS1900	Communication Test Set was configured to allow the EUT to transmit at a maximum power of up to 30dBm.	
	WiFi802.11b/g	24 dBm	
	Bluetooth	2 dBm	
Transmitter Frequency Range:	PCS1900	(1850 to 1910) MHz	
Transmitter Frequency Allocation of EUT When Under Test:	**Channel Number**	**Channel Description**	**Frequency (MHz)**
	512	Low	1850.2
	660	Middle	1879.8
	810	High	1909.8
	1	Low	2412.0
	6	Middle	2437.0
	11	High	2462.0
Modulation(s):	GMSK: 217 Hz, DPSK, BPSK: 0Hz		
Modulation Scheme (Crest Factor):	GMSK(GSM): 8.3 GMSK(GPRS):4 DPSK, BPSK (WiFi): 1		
Antenna Type:	Internal		
Antenna Length:	Unknown		
Number of Antenna Positions:	1 fixed		
Power Supply Requirement:	3.7v		
Battery Type(s):	Li-ion		

3. Test Specification, Methods and Procedures

3.1. Test Specification

Reference:	OET Bulletin 65 Supplement C: (2001-01)
Title:	Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
Purpose of Test:	To determine whether the equipment met the basic restrictions as defined in OET Bulletin 65 Supplement C: (2001-01) using the SAR averaging method as described in the test specification above.

3.2. Methods and Procedures Reference Documentation

The methods and procedures used were as detailed in:

Federal Communications Commission, “Evaluating compliance with FCC Guidelines for human exposure to radio frequency electromagnetic fields”, OET Bulletin 65 Supplement C, FCC, Washington, D.C, 20554, 2001.

Thomas Schmid, Oliver Egger and Neils Kuster, “Automated E-field scanning system for dosimetric assessments”, IEEE Transaction on microwave theory and techniques,
Vol. 44, pp. 105-113, January 1996.

Neils Kuster, Ralph Kastle and Thomas Schmid, “Dosimetric evaluation of mobile communications equipment with know precision”, IEICE Transactions of communications, Vol. E80-B, No.5, pp. 645-652, May 1997.

KDB 447498 D01 Mobile Portable RF Exposure v04

KDB 648474 D01 SAR Handsets Multi Xmiter and Ant v01r05

KDB 248227 D01 SAR meas for 802 11 a b g v01r02

3.3. Definition of Measurement Equipment

The measurement equipment used complied with the requirements of the standards referenced in the methods & procedures section above. Appendix 1 contains a list of the test equipment used.

4. Deviations from the Test Specification

Test was performed as per “KDB 447498 D01 Mobile Portable RF Exposure v04”, “KDB 648474 D01 SAR Handsets Multi Xmiter and Ant v01r05”, according to the handset procedures in IEEE Std 1528-2003, OET Bulletin 65 Supplement C 01-01 and the specific FCC test procedures.

SAR test was performed in the middle channel only for WWAN as the measured levels were < 50% of the SAR limit as stated in the FCC Public Notice DA 02-1438 by the SCC-34/SC-2.

SAR test was performed in the highest output channel for WLAN as the measured SAR levels were < 0.4 W/kg, where the transmission band corresponding to all channels were ≤ 200 MHz. Testing for the other channels were not required as stated in KDB 447498 D01.

The Touch Right position was evaluated on the ‘SAM’ phantom flat section as per KDB 648474 D01 SAR Handsets Multi Xmiter and Ant v01r05, for point that that could not be fully evaluated, as the zoom scan was unable to fully enclose the peak SAR location as required by IEEE 1528 and OET Bulletin 65 Supplement C.

The EUT does not support WWAN and WLAN operation simultaneously. Therefore simultaneous transmission for WWAN and WLAN was not considered.

5. Operation and Configuration of the EUT during Testing

5.1. Operating Modes

The EUT was tested in the following operating mode(s) unless otherwise stated:

- PCS1900 Call allocated mode with Communication Test Set configured to allow the EUT to transmit at a maximum power of up to 30 dBm.
- GPRS1900 Data allocated mode with Communication Test Set configured to allow the EUT to transmit at a maximum power of up to 30 dBm.
- 802.11b/g Data allocated test mode using manufacturer customised software. SAR test was performed on the highest output channel.
- Simultaneous transmission for WWAN and WLAN operation is not supported. Therefore simultaneous transmission evaluation for WWAN and WLAN was not considered.

5.2. Configuration and Peripherals

The EUT was tested in the following configuration(s) unless otherwise stated:

- Standalone Battery Powered
- EUT tested in Head and Body-worn configuration. The applied configurations for body-worn orientations where the corresponding edge(s) is closest to the user with the most conservative exposure condition
- Some point in this position could not be fully evaluated in the 'Right Touch' configuration therefore the zoom scan was unable to fully enclose the peak SAR location as required by IEEE 1528 and OET Bulletin 65 Supplement C. This was overcome by the scan being repeated in the Mouth / Jaw configuration on the flat section.
- For the 'Touch Right' configuration the phone was positioned with the hinge against a smooth edge of the flat phantom where the upper half of the phone was unfolded and extended beyond the phantom side wall. The lower half of the phone was secured in the test device holder at a fixed distance below the flat phantom determined by the minimum separation along the lower edge of the phone in the 'Touch Right' position using the SAM head region.

Head Configuration

a) The handset was placed in a normal operating position with the centre of the ear-piece aligned with the ear canal on the phantom.

b) With the ear-piece touching the phantom the centre line of the handset was aligned with an imaginary plane (X and Y axis) consisting of three lines connecting both ears and the mouth.

c) For the cheek position the handset was gradually moved towards the cheek until any point of the mouth-piece or keypad touched the cheek.

d) For the tilted position the EUT was positioned as for the cheek position, and then the horizontal angle was increased by fifteen degrees (the phone keypad was moved away from the cheek by fifteen degrees).

e) SAR measurements were evaluated at maximum power and the unit was operated for an appropriate period prior to the evaluation in order to minimise the drift.

f) The device was keyed to operate continuously in the transmit mode for the duration of the test.

g) The location of the maximum spatial SAR distribution (hot spot) was determined relative to the handset and its antenna.

h) The EUT was transmitting at full power throughout the duration of the test powered by a fully charged battery.

Configuration and Peripherals (continued)

Body Configuration

a) The EUT was placed in a normal operating position where the centre of EUT was aligned with the centre reference point on the flat section of the 'SAM' phantom.

b) With the EUT touching the phantom at an imaginary centre line. The EUT was aligned with a marked plane (X and Y axis) consisting of two lines.

c) For the touch-safe position the handset was gradually moved towards the flat section of the 'SAM' phantom until any point of the EUT touched the phantom.

d) For position(s) greater then 0mm separation the EUT was positioned as per the touch-safe position, and then the vertical height was decreased/adjusted as required.

e) SAR measurements were evaluated at maximum power and the unit was operated for an appropriate period prior to the evaluation in order to minimise the drift.

f) The device was keyed to operate continuously in the transmit mode for the duration of the test.

g) The location of the maximum spatial SAR distribution (hot spot) was determined relative to the handset and its antenna.

h) The EUT was transmitting at full power throughout the duration of the test powered by a fully charged battery.

6. Summary of Test Results

Test Name	Specification Reference	Results
Specific Absorption Rate-PCS1900 Head Configuration 1g	OET Bulletin 65 Supplement C: 2001	Complied
Specific Absorption Rate-PCS1900 Body Configuration 1g	OET Bulletin 65 Supplement C: 2001	Complied
Specific Absorption Rate-GPRS1900 Body Configuration 1g	OET Bulletin 65 Supplement C: 2001	Complied
Specific Absorption Rate-WiFi802.11b/g Body Configuration 1g	OET Bulletin 65 Supplement C: 2001	Complied

SAR Individual Transmitter Evaluation

device, mode	Frequency, (MHz)	P_x (mW)	P_{REF} (mW)	single SAR, W/kg	remarks
WWAN, GSM	1900	741	-	0.728	Routine Evaluation
WLAN , 802.11b/g	2450	11	12	0.038	Maximum Output Channel
BT, *Bluetooth*	2410	2	12	:=0	$\{P_{BT} \le 2P_{REF}\}$ $\{d_{UMTS, BT} >$ 5cm$\}$ $\{d_{gsm,BT} >$ 5cm$\}$

SAR Simultaneous Transmitter Evaluation

(x,y)	D(x,y) cm	L(x,y) cm	$SPLSR_{xy}$	Sim-Tx SAR	remarks
($WWAN_{GSM}$, BT)	8	n/a	n/a	n/a	{no stand-alone SAR for BT}
($WLAN_{802.11b/g}$, BT)	>5	n/a	n/a	n/a	{no stand-alone SAR for BT}

Note(s):

1. Simultaneous transmission evaluation was not required as the output power for *Bluetooth* was < (60/f) and the Sum of all antenna < 1.6w/kg.
2. *Bluetooth* and WiFi transmitter thresholds output power "P_{Ref} = 12 as listed in KDB 648474.
3. Px: power level measured by RFI.
4. Single SAR value was measured by RFI.
5. The "Antenna-to-Antenna distance and Antenna-to-User distance were provided by the customer.
6. Simultaneous transmission for WWAN and WLAN operation is not supported. Therefore simultaneous transmission evaluation for WWAN and WLAN was not considered.

6.1. Location of Tests

All the measurements described in this report were performed at the premises of
RFI Global Services Ltd, Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire, RG23 8BG United Kingdom

7. Measurements, Examinations and Derived Results

7.1. General Comments

This section contains test results only.

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to section 8 for details of measurement uncertainties.

7.2. Test Results

7.2.1.Specific Absorption Rate - PCS1900 Head Configuration 1g

Test Summary:

Tissue Volume:	1g
Maximum Level (W/kg):	0.728

Environmental Conditions:

Temperature Variation in Lab (°C):	24.0 to 24.0
Temperature Variation in Liquid (°C):	22.5 to 22.5

Results:

EUT Position	Phantom Config.	Channel Number	Level (W/kg)	Limit (W/kg)	Margin (W/kg)	Note(s)	Result
Touch	Left	660	0.655	1.600	0.945	1, 3	Complied
Touch	Left	660	0.728	1.600	0.872	2, 3	Complied
Tilt	Left	660	0.133	1.600	1.467	1, 3	Complied
Tilt	Left	660	0.110	1.600	1.490	2, 3	Complied
Mouth / Jaw	Flat (SAM)	660	0.407	1.600	1.193	1, 3, 4	Complied
Mouth / Jaw	Flat (SAM)	660	0.385	1.600	1.215	2, 3, 4	Complied
Tilt	Right	660	0.144	1.600	1.456	1, 3	Complied
Tilt	Right	660	0.142	1.600	1.458	2, 3	Complied

Note(s):

1. ' With Antenna Retracted "
2. ' With Antenna Extended"
3. SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in the FCC Public Notice DA 02-1438 by the SCC-34/SC-2.
4. The phone was positioned with the hinge against a smooth edge of the flat phantom where the upper half of the phone was unfolded and extended beyond the phantom side wall. The lower half of the phone was secured in the test device holder at a fixed distance

* Some points in the ‘Right Touch’ position could not be fully evaluated therefore the zoom scan was unable to fully enclose the peak SAR location as required by IEEE 1528 and OET Bulletin 65 Supplement C. This scan is repeated in the Mouth / Jaw configuration on the flat.

7.2.2.Specific Absorption Rate - PCS1900 Body Configuration 1g

Test Summary:

Tissue Volume:	1g
Maximum Level (W/kg):	0.129

Environmental Conditions:

Temperature Variation in Lab (°C):	24.0 to 24.0
Temperature Variation in Liquid (°C):	23.5 to 23.5

Results:

EUT Position	Phantom Config.	Channel Number	Level (W/kg)	Limit (W/kg)	Margin (W/kg)	Note(s)	Result
Front of EUT Facing Phantom with Antenna Retracted	Flat (SAM)	660	0.128	1.600	1.472	1, 2	Complied
Front of EUT Facing Phantom with Antenna Extended	Flat (SAM)	660	0.129	1.600	1.471	1, 2	Complied

Note(s):

7. SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in the FCC Public Notice DA 02-1438 by the SCC-34/SC-2.
8. SAR measurements were performed with the EUT at a separation distance of 15mm from the 'SAM' phantom flat section

7.2.3.Specific Absorption Rate - GPRS1900 Body Configuration 1g

Test Summary:

Tissue Volume:	1g
Maximum Level (W/kg):	0.157

Environmental Conditions:

Temperature Variation in Lab (°C):	24.0 to 24.0
Temperature Variation in Liquid (°C):	23.5 to 23.5

Results:

EUT Position	Phantom Config.	Channel Number	Level (W/kg)	Limit (W/kg)	Margin (W/kg)	Note(s)	Result
Front of EUT Facing Phantom with Antenna Retracted	Flat (SAM)	660	0.153	1.600	1.447	1, 2	Complied
Front of EUT Facing Phantom with Antenna Extended	Flat (SAM)	660	0.157	1.600	1.443	1, 2	Complied
Rear of EUT Facing Phantom with Antenna Retracted	Flat (SAM)	660	0.138	1.600	1.462	1, 2	Complied
Rear of EUT Facing Phantom with Antenna Extended	Flat (SAM)	660	0.127	1.600	1.473	1, 2	Complied
Front of EUT Facing Phantom Antenna Extended With PHF	Flat (SAM)	660	0.148	1.600	1.452	1, 2	Complied

Note(s):

1. SAR test was performed in the middle channel only as the measured levels were < 50% of the SAR limit as stated in the FCC Public Notice DA 02-1438 by the SCC-34/SC-2.
2. SAR measurements were performed with the EUT at a separation distance of 15mm from the 'SAM' phantom flat section

7.2.4.Specific Absorption Rate – WiFi802.11b/g Body Configuration 1g

Test Summary:

Tissue Volume:	1g
Maximum Level (W/kg):	0.038

Environmental Conditions:

Temperature Variation in Lab (°C):	24.0 to 24.0
Temperature Variation in Liquid (°C):	24.0 to 24.0

Results:

EUT Position	Phantom Config.	Channel Number	Level (W/kg)	Limit (W/kg)	Margin (W/kg)	Note(s)	Result
Front of EUT Facing Phantom with Antenna Retracted	Flat (SAM)	11	0.037	1.600	1.563	1, 2, 3	Complied
Front of EUT Facing Phantom with Antenna Extended	Flat (SAM)	11	0.035	1.600	1.565	1, 2, 3	Complied
Rear of EUT Facing Phantom with Antenna Retracted	Flat (SAM)	11	0.009	1.600	1.591	1, 2, 3	Complied
Rear of EUT Facing Phantom with Antenna Extended	Flat (SAM)	11	0.012	1.600	1.589	1, 2, 3	Complied
Front of EUT Facing Phantom with Antenna Retracted	Flat (SAM)	11	0.029	1.600	1.571	1, 2, 4	Complied
Front of EUT Facing Phantom with Antenna Extended	Flat (SAM)	11	0.031	1.600	1.569	1, 2, 4	Complied
Front of EUT Facing Phantom with Antenna Retracted	Flat (SAM)	11	0.038	1.600	1.562	1, 2, 3, 5	Complied

Specific Absorption Rate – WiFi802.11b/g Body Configuration 1g (continued)

Note(s):

1. SAR test was performed in the highest output channel for WLAN as the measured SAR levels were < 0.4 W/kg, the transmission band corresponding to all channels were ≤ 200 MHz. Testing for the other channels were not required as stated in KDB 447498 D01.
2. SAR measurements were performed with the EUT at a separation distance of 15mm from the 'SAM' phantom flat section
3. 802.11b
4. 802.11g
5. Overall worst-case configuration with PHF

7.2.5. EIRP/ERP Measurement

Channel Number	Frequency (MHz)	GSM – TX Average Power (dBm)	GPRS – TX Average Power (dBm)	Note
512	1850.2	27.0	24.9	EIRP
660	1879.8	27.1	24.6	EIRP
810	1909.8	28.7	27.2	EIRP

EIRP Measurement: WiFi 802.11b/g

Channel Number	Frequency (GHZ)	TX Average Power (dBm)	Note (EIRP)
1	2.412	10.6	**2.4GHz 802.11b** (1Mbps)
6	2.437	8.9	
11	**2.462**	**10.7**	
1	2.412	9.9	**2.4GHz 802.11g** (11Mbps)
6	2.437	8.6	
11	2.462	10.4	
1	2.412	9.3	**2.4GHz 802.11b** (6Mbps)
6	2.437	8.0	
11	**2.462**	**9.9**	
1	2.412	9.8	**2.4GHz 802.11g** (54Mbps)
6	2.437	8.2	
11	2.462	9.3	

8. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Test Name	Confidence Level	Calculated Uncertainty
Specific Absorption Rate-PCS1900 Head Configuration 1g	95%	18.44%
Specific Absorption Rate- PCS1900 Body Configuration 1g	95%	18.30%
Specific Absorption Rate- 2450 MHz Body Configuration 1g	95%	19.33%

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

Measurement Uncertainty (Continued)

8.1. Specific Absorption Rate Uncertainty at 1900 MHz Head 1g, PCS Modulation Scheme calculated in accordance with IEC 62209-1 & IEEE 1528

Type	Source of uncertainty	+ Value	- Value	Probability Distribution	Divisor	$c_{i\ (10g)}$	Standard Uncertainty		υ_i or υ_{eff}
							+ u (%)	- u (%)	
B	Probe calibration	11.000	11.000	normal (k=2)	2.0000	1.0000	5.500	5.500	∞
B	Axial Isotropy	0.500	0.500	normal (k=2)	2.0000	1.0000	0.250	0.250	∞
B	Hemispherical Isotropy	2.600	2.600	normal (k=2)	2.0000	1.0000	1.300	1.300	∞
B	Spatial Resolution	0.500	0.500	Rectangular	1.7321	1.0000	0.289	0.289	∞
B	Boundary Effect	0.769	0.769	Rectangular	1.7321	1.0000	0.444	0.444	∞
B	Linearity	0.600	0.600	Rectangular	1.7321	1.0000	0.346	0.346	∞
B	Detection Limits	0.200	0.200	Rectangular	1.7321	1.0000	0.115	0.115	∞
B	Readout Electronics	0.560	0.560	normal (k=2)	2.0000	1.0000	0.280	0.280	∞
B	Response Time	0.000	0.000	Rectangular	1.7321	1.0000	0.000	0.000	∞
B	Integration Time	1.730	1.730	Rectangular	1.7321	1.0000	0.999	0.999	∞
B	RF Ambient conditions	3.000	3.000	Rectangular	1.7321	1.0000	1.732	1.732	∞
B	Probe Positioner Mechanical Restrictions	4.000	4.000	Rectangular	1.7321	1.0000	2.309	2.309	∞
B	Probe Positioning with regard to Phantom Shell	2.850	2.850	Rectangular	1.7321	1.0000	1.645	1.645	∞
B	Extrapolation and integration/ Maximum SAR evaluation	5.080	5.080	Rectangular	1.7321	1.0000	2.933	2.933	∞
A	Test Sample Positioning	0.584	0.584	normal (k=1)	1.0000	1.0000	0.584	0.584	10
A	Device Holder uncertainty	0.154	0.154	normal (k=1)	1.0000	1.0000	0.154	0.154	10
B	Phantom Uncertainty	4.000	4.000	Rectangular	1.7321	1.0000	2.309	2.309	∞
B	Drift of output power	5.000	5.000	Rectangular	1.7321	1.0000	2.887	2.887	∞
B	Liquid Conductivity (target value)	5.000	5.000	Rectangular	1.7321	0.6400	1.848	1.848	∞
A	Liquid Conductivity (measured value)	4.370	4.370	normal (k=1)	1.0000	0.6400	2.797	2.797	5
B	Liquid Permittivity (target value)	5.000	5.000	Rectangular	1.7321	0.6000	1.732	1.732	∞
A	Liquid Permittivity (measured value)	4.450	4.450	normal (k=1)	1.0000	0.6000	2.670	2.670	5
	Combined standard uncertainty			t-distribution			9.41	9.41	>300
	Expanded uncertainty			k = 1.96			18.44	18.44	>300

Measurement Uncertainty (Continued)

8.2. Specific Absorption Rate Uncertainty at 1900 MHz Body 1g, GPRS Modulation Scheme calculated in accordance with IEC 62209-2 & IEEE 1528

Type	Source of uncertainty	+ Value	- Value	Probability Distribution	Divisor	$c_{i\ (10g)}$	Standard Uncertainty		υ_i or υ_{eff}
							+ u (%)	- u (%)	
B	Probe calibration	11.000	11.000	normal (k=2)	2.0000	1.0000	5.500	5.500	∞
B	Axial Isotropy	0.500	0.500	normal (k=2)	2.0000	1.0000	0.250	0.250	∞
B	Hemispherical Isotropy	2.600	2.600	normal (k=2)	2.0000	1.0000	1.300	1.300	∞
B	Spatial Resolution	0.500	0.500	Rectangular	1.7321	1.0000	0.289	0.289	∞
B	Boundary Effect	0.769	0.769	Rectangular	1.7321	1.0000	0.444	0.444	∞
B	Linearity	0.600	0.600	Rectangular	1.7321	1.0000	0.346	0.346	∞
B	Detection Limits	0.200	0.200	Rectangular	1.7321	1.0000	0.115	0.115	∞
B	Readout Electronics	0.560	0.560	normal (k=2)	2.0000	1.0000	0.280	0.280	∞
B	Response Time	0.000	0.000	Rectangular	1.7321	1.0000	0.000	0.000	∞
B	Integration Time	1.730	1.730	Rectangular	1.7321	1.0000	0.999	0.999	∞
B	RF Ambient conditions	3.000	3.000	Rectangular	1.7321	1.0000	1.732	1.732	∞
B	Probe Positioner Mechanical Restrictions	4.000	4.000	Rectangular	1.7321	1.0000	2.309	2.309	∞
B	Probe Positioning with regard to Phantom Shell	2.850	2.850	Rectangular	1.7321	1.0000	1.645	1.645	∞
B	Extrapolation and integration/ Maximum SAR evaluation	5.080	5.080	Rectangular	1.7321	1.0000	2.933	2.933	∞
A	Test Sample Positioning	0.584	0.584	normal (k=1)	1.0000	1.0000	0.584	0.584	10
A	Device Holder uncertainty	0.154	0.154	normal (k=1)	1.0000	1.0000	0.154	0.154	10
B	Phantom Uncertainty	4.000	4.000	Rectangular	1.7321	1.0000	2.309	2.309	∞
B	Drift of output power	5.000	5.000	Rectangular	1.7321	1.0000	2.887	2.887	∞
B	Liquid Conductivity (target value)	5.000	5.000	Rectangular	1.7321	0.6400	1.848	1.848	∞
A	Liquid Conductivity (measured value)	4.170	4.170	normal (k=1)	1.0000	0.6400	2.669	2.669	5
B	Liquid Permittivity (target value)	5.000	5.000	Rectangular	1.7321	0.6000	1.732	1.732	∞
A	Liquid Permittivity (measured value)	4.230	4.230	normal (k=1)	1.0000	0.6000	2.538	2.538	5
	Combined standard uncertainty			t-distribution			9.34	9.34	>400
	Expanded uncertainty			k = 1.96			18.30	18.30	>400

8.3. Specific Absorption Rate Uncertainty at 2400 MHz Body 1g, calculated in accordance with IEC 62209-1 & IEEE 1528

Type	Source of uncertainty	+ Value	- Value	Probability Distribution	Divisor	$c_{i\ (10g)}$	Standard Uncertainty		υ_i or υ_{eff}
							+ u (%)	- u (%)	
B	Probe calibration	11.800	11.800	normal (k=2)	2.0000	1.0000	5.900	5.900	∞
B	Axial Isotropy	0.500	0.500	normal (k=2)	2.0000	1.0000	0.250	0.250	∞
B	Hemispherical Isotropy	2.600	2.600	normal (k=2)	2.0000	1.0000	1.300	1.300	∞
B	Spatial Resolution	0.500	0.500	Rectangular	1.7321	1.0000	0.289	0.289	∞
B	Boundary Effect	0.769	0.769	Rectangular	1.7321	1.0000	0.444	0.444	∞
B	Linearity	0.600	0.600	Rectangular	1.7321	1.0000	0.346	0.346	∞
B	Detection Limits	0.200	0.200	Rectangular	1.7321	1.0000	0.115	0.115	∞
B	Readout Electronics	0.560	0.560	normal (k=2)	2.0000	1.0000	0.280	0.280	∞
B	Response Time	0.000	0.000	Rectangular	1.7321	1.0000	0.000	0.000	∞
B	Integration Time	0.000	0.000	Rectangular	1.7321	1.0000	0.000	0.000	∞
B	RF Ambient conditions	3.000	3.000	Rectangular	1.7321	1.0000	1.732	1.732	∞
B	Probe Positioner Mechanical Restrictions	4.000	4.000	Rectangular	1.7321	1.0000	2.309	2.309	∞
B	Probe Positioning with regard to Phantom Shell	2.850	2.850	Rectangular	1.7321	1.0000	1.645	1.645	∞
B	Extrapolation and integration/ Maximum SAR evaluation	5.080	5.080	Rectangular	1.7321	1.0000	2.933	2.933	∞
A	Test Sample Positioning	2.920	2.920	normal (k=1)	1.0000	1.0000	2.920	2.920	10
A	Device Holder uncertainty	0.154	0.154	normal (k=1)	1.0000	1.0000	0.154	0.154	10
B	Phantom Uncertainty	4.000	4.000	Rectangular	1.7321	1.0000	2.309	2.309	∞
B	Drift of output power	5.000	5.000	Rectangular	1.7321	1.0000	2.887	2.887	∞
B	Liquid Conductivity (target value)	5.000	5.000	Rectangular	1.7321	0.6400	1.848	1.848	∞
A	Liquid Conductivity (measured value)	3.930	3.930	normal (k=1)	1.0000	0.6400	2.515	2.515	5
B	Liquid Permittivity (target value)	5.000	5.000	Rectangular	1.7321	0.6000	1.732	1.732	∞
A	Liquid Permittivity (measured value)	3.940	3.940	normal (k=1)	1.0000	0.6000	2.364	2.364	5
	Combined standard uncertainty			t-distribution			9.86	9.86	>400
	Expanded uncertainty			k = 1.96			19.33	19.33	>400

Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval (Months)
A034	Narda 20W Termination	Narda	374BNM	8706	Calibrated as part of system	-
A1094	Digital Camera	Sony	MVC – FD81	125805	-	-
A1097	SMA Directional Coupler	MiDISCO	MDC6223-30	None	Calibrated as part of system	-
A1137	3dB Attenuator	Narda	779	04690	Calibrated as part of system	-
A1174	Dielectric Probe Kit	Agilent Technologies	85070C	Us99360072	Calibrated before use	-
A1328	Handset Positioner	Schmid & Partner Engineering AG	Modification	SD 000 H01 DA	-	-
A1182	Handset Positioner	Schmid & Partner Engineering AG	V3.0	None	-	-
A1234	Data Acquisition Electronics	Schmid & Partner Engineering AG	DAE3	450	30 April 2009	12
A1378	Probe	Schmid & Partner Engineering AG	EX3 DV3	3508	26 June 2009	12
A1566	SAM Phantom	Schmid & Partner Engineering AG	SAM a	002	Calibrated before use	-
A1329	900 MHz Dipole Kit	Schmid & Partner Engineering AG	D900V2	185	18 Aug 2009	24
A1237	1900 MHz Dipole Kit	Schmid & Partner Engineering AG	D1900V2	540	26 August 2009	24
A1322	2450 MHz Dipole Kit	Schmid & Partner Engineering AG	D2450V2	725	08 Jan 2009	24
A1497	Amplifier	Mini-Circuits	zhl-42w (sma)	e020105	Calibrated as part of system	-
A215	20 dB Attenuator	Narda	766-20	9402	Calibrated as part of system	-
A1531	Antenna	AARONIA AG	7025	02458	-	-
C1144	Cable	Rosenberger MICRO-COAX	FA147AF00 1503030	41842-1	Calibrated as part of system	-
C1145	Cable	Rosenberger MICRO-COAX	FA147AF00 3003030	41843-1	Calibrated as part of system	-
C1146	Cable	Rosenberger MICRO-COAX	FA147AF03 0003030	41752-1	Calibrated as part of system	-

Test of: **SoftBank 941P**

To: **OET Bulletin 65 Supplement C: (2001-01)**

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval (Months)
C1092	Cable	RS Components	293-334	1087200-3 3402	Internal Calibration	-
G0528	Robot Power Supply	Schmid & Partner Engineering AG	DASY	None	Calibrated before use	-
G087	PSU	Thurlby Thandar	CPX200	100701	Calibrated before use	-
M1015	Network Analyser	Agilent Technologies	8753ES	US39172406	15 Sept 2009	12
M1047	Robot Arm	Staubli	RX908 L	F00/SD89A1/ A/01	Calibrated before use	-
M1159	Signal Generator	Agilent Technologies	E8241A	US42110332	Internal Checked 05 August 2009	4
M1071	Spectrum Analyzer	Agilent	HP8590E	3647U00514	(Monitoring use only)	-
M1044	Diode Power Sensor	Rohde & Schwarz	NRV-Z1	893350/019	19 May 2009	12
M265	Diode Power Sensor	Rohde & Schwarz	NRV-Z1	893350/017	19 May 2009	12
M263	Dual Channel Power Meter	Rohde & Schwarz	NRVD	826558/004	20 May 2009	12
S256	SAR Lab	RFI	Site 56	N/A	Calibrated before use	-

A.1.1. Calibration Certificates

This section contains the calibration certificates and data for the Probe(s) and Dipole(s) used, which are not included in the total number of pages for this report.

A1378
Checked on 01/07/2009

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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

by KK

Accredited by the Swiss Accreditation Service (SAS)
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 RFI

Certificate No: EX3-3508_Jun09

CALIBRATION CERTIFICATE

Object: EX3DV3 - SN:3508

Calibration procedure(s): QA CAL-01.v6, QA CAL-12.v5 and QA CAL-23.v3
Calibration procedure for dosimetric E-field probes

Calibration date: June 26, 2009

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 (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	2-Jan-09 (No. ES3-3013_Jan09)	Jan-10
DAE4	SN: 660	9-Sep-08 (No. DAE4-660_Sep08)	Sep-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: June 26, 2009

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,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:

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) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,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*.
- *DCPx,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 *NORMx,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 EX3DV3

SN:3508

Manufactured:	December 19, 2003
Last calibrated:	June 24, 2008
Recalibrated:	June 26, 2009

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: EX3DV3 SN:3508

Sensitivity in Free Space[A] Diode Compression[B]

NormX	**0.76** ± 10.1%	$\mu V/(V/m)^2$	DCP X	**95** mV
NormY	**0.63** ± 10.1%	$\mu V/(V/m)^2$	DCP Y	**97** mV
NormZ	**0.66** ± 10.1%	$\mu V/(V/m)^2$	DCP Z	**94** mV

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	7.8	4.6
SAR_{be} [%]	With Correction Algorithm	0.5	0.3

TSL **1750 MHz** **Typical SAR gradient: 10 % per mm**

Sensor Center to Phantom Surface Distance		**2.0 mm**	**3.0 mm**
SAR_{be} [%]	Without Correction Algorithm	5.8	2.7
SAR_{be} [%]	With Correction Algorithm	0.7	0.5

Sensor Offset

Probe Tip to Sensor Center	**1.0** mm

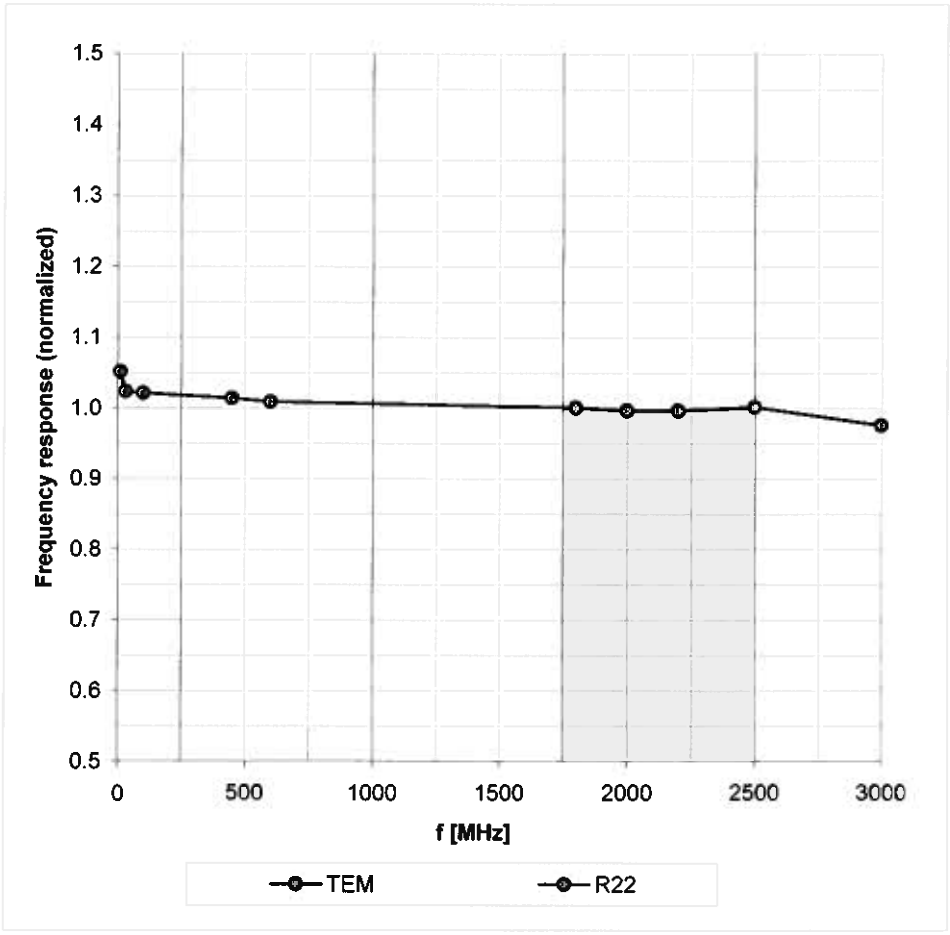
The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Page 8).

[B] Numerical linearization parameter: uncertainty not required.

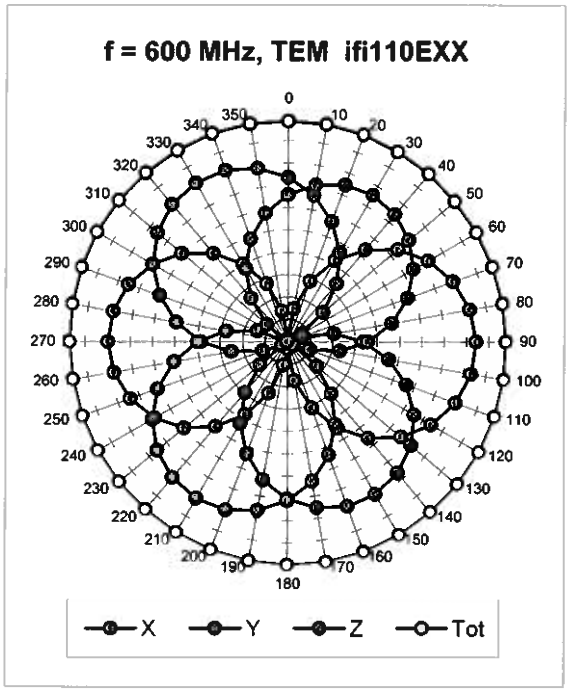
Frequency Response of E-Field

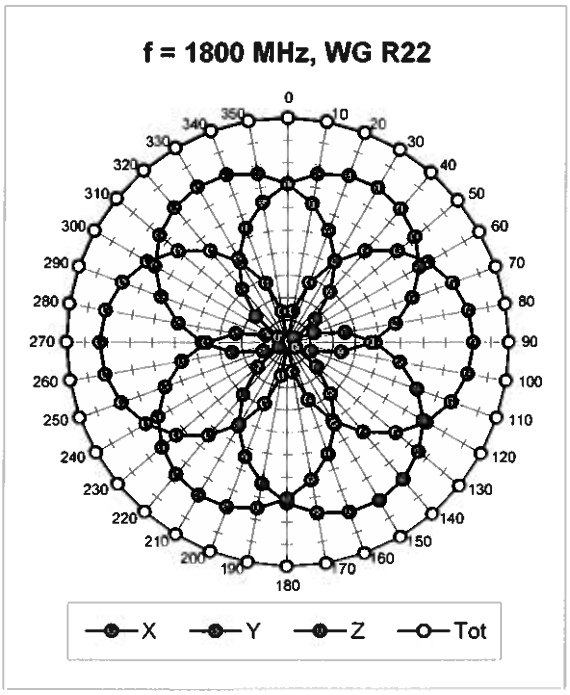
(TEM-Cell:ifi110 EXX, Waveguide: R22)

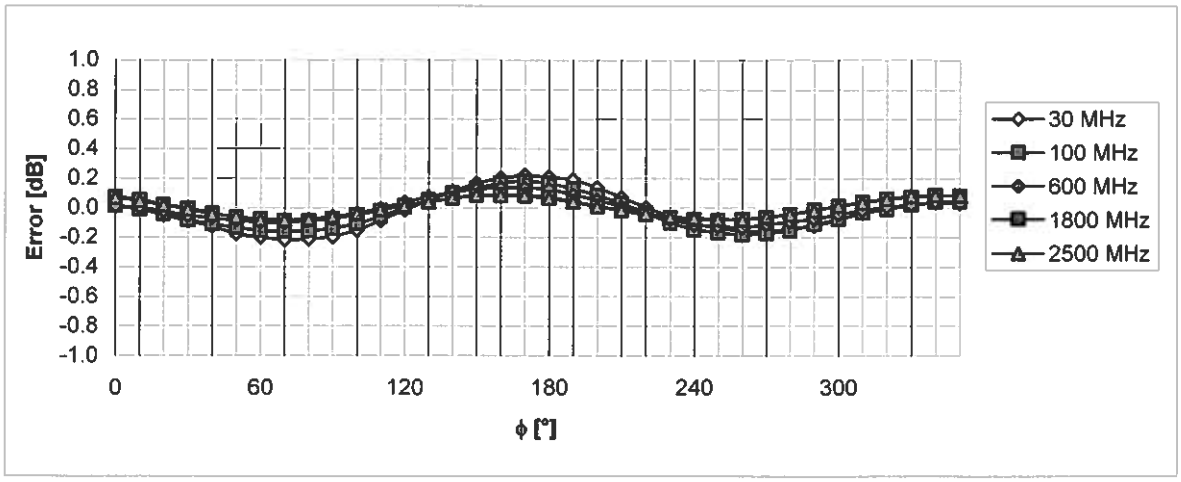


Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Receiving Pattern (ϕ), ϑ = 0°



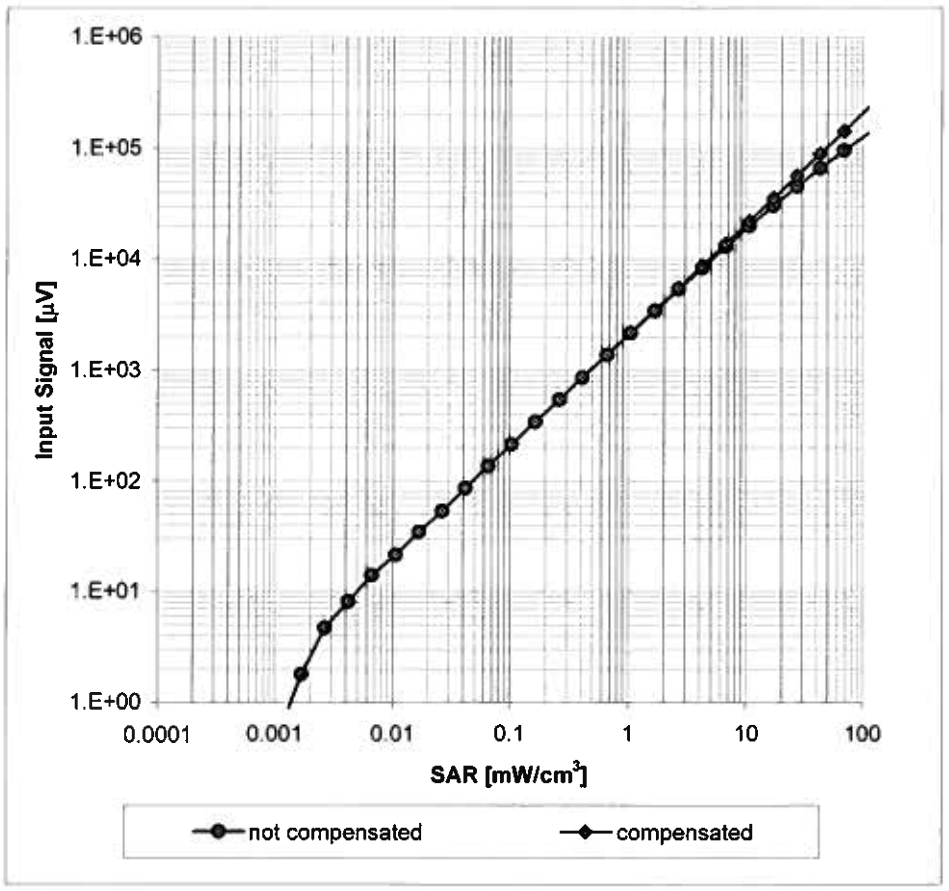


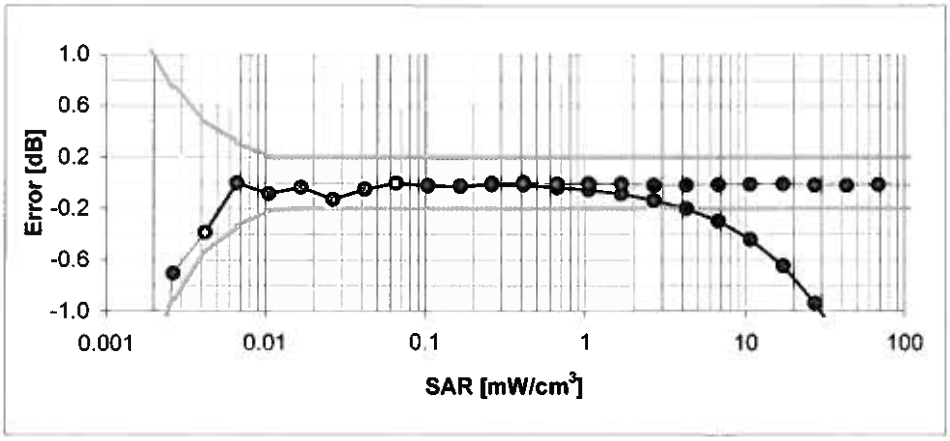


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

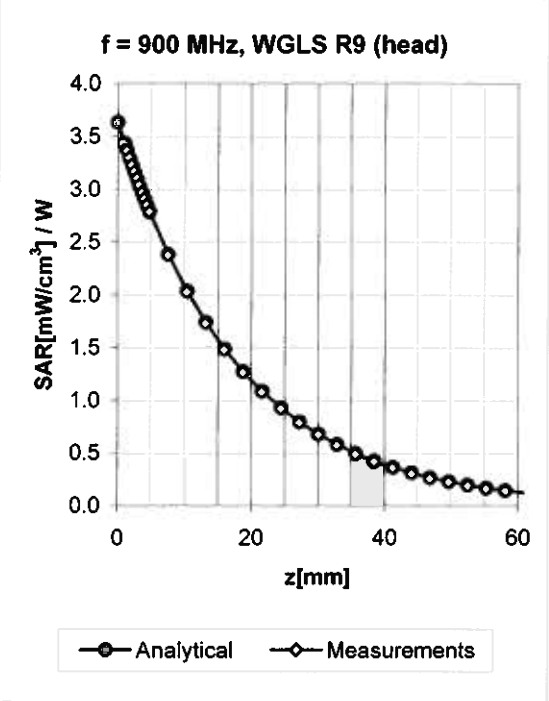
(Waveguide R22, f = 1800 MHz)

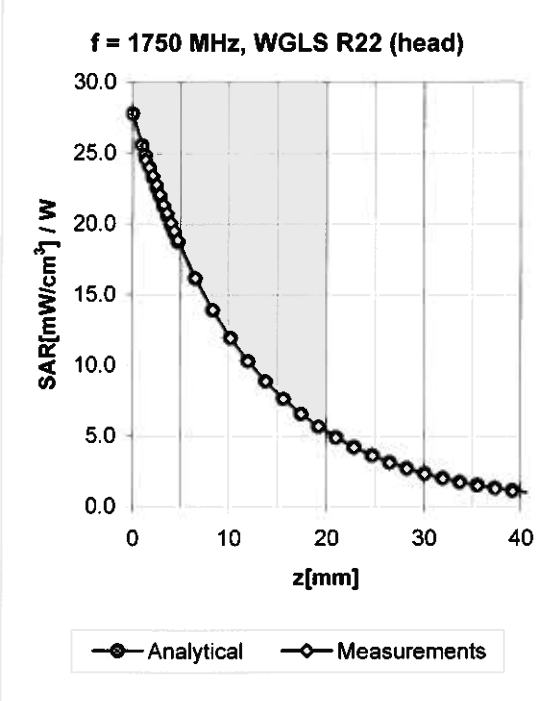




Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment



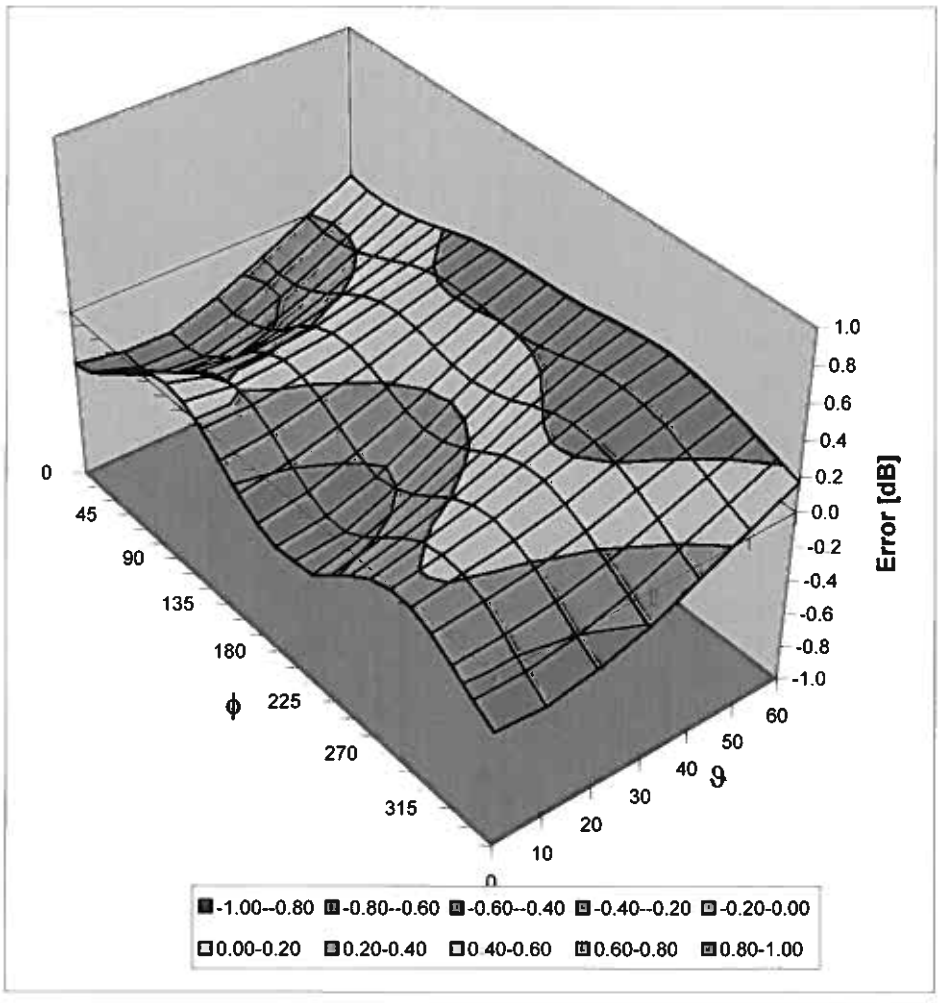


f [MHz]	Validity [MHz][C]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
450	± 50 / ± 100	Head	43.5 ± 5%	0.87 ± 5%	0.23	1.00	10.49 ± 13.3% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.48	0.72	9.76 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.57	0.63	8.82 ± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.53	0.65	8.58 ± 11.0% (k=2)
2150	± 50 / ± 101	Head	39.7 ± 5%	1.53 ± 5%	0.36	0.69	8.33 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.36	0.75	7.77 ± 11.0% (k=2)
450	± 50 / ± 100	Body	56.7 ± 5%	0.94 ± 5%	0.30	0.51	11.32 ± 13.3% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.45	0.75	9.99 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.55	0.63	8.59 ± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.48	0.68	8.23 ± 11.0% (k=2)
2150	± 50 / ± 100	Body	53.0 ± 5%	1.75 ± 5%	0.30	0.92	8.27 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.25	1.02	8.06 ± 11.0% (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: ± 2.6% (k=2)

Calibration Laboratory of
Schmid & Partner
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 Accreditation Service (SAS)
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 RFI

Certificate No: D900V2-185_Aug09

CALIBRATION CERTIFICATE

Object	D900V2 - SN: 185
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	August 18, 2009
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 (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 18, 2009

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) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
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) DASY4/5 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.

Measurement Conditions

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

DASY Version	DASY5	V5.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	41.5	0.97 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.4 ± 6 %	0.96 mho/m ± 6 %
Head TSL temperature during test	(22.4 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.75 mW / g
SAR normalized	normalized to 1W	11.0 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**11.0 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.76 mW / g
SAR normalized	normalized to 1W	7.04 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**7.06 mW /g ± 16.5 % (k=2)**

[1] 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	55.0	1.05 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.7 ± 6 %	1.06 mho/m ± 6 %
Body TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.80 mW / g
SAR normalized	normalized to 1W	11.2 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**11.0 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.81 mW / g
SAR normalized	normalized to 1W	7.24 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**7.16 mW / g ± 16.5 % (k=2)**

[2] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.5 Ω - 10.3 jΩ
Return Loss	- 19.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	45.5 Ω - 11.2 jΩ
Return Loss	- 18.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.403 ns

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	May 27, 2003

DASY5 Validation Report for Head TSL

Date/Time: 18.08.2009 08:57:04

Test Laboratory: SPEAG, Zurich, Switzerland

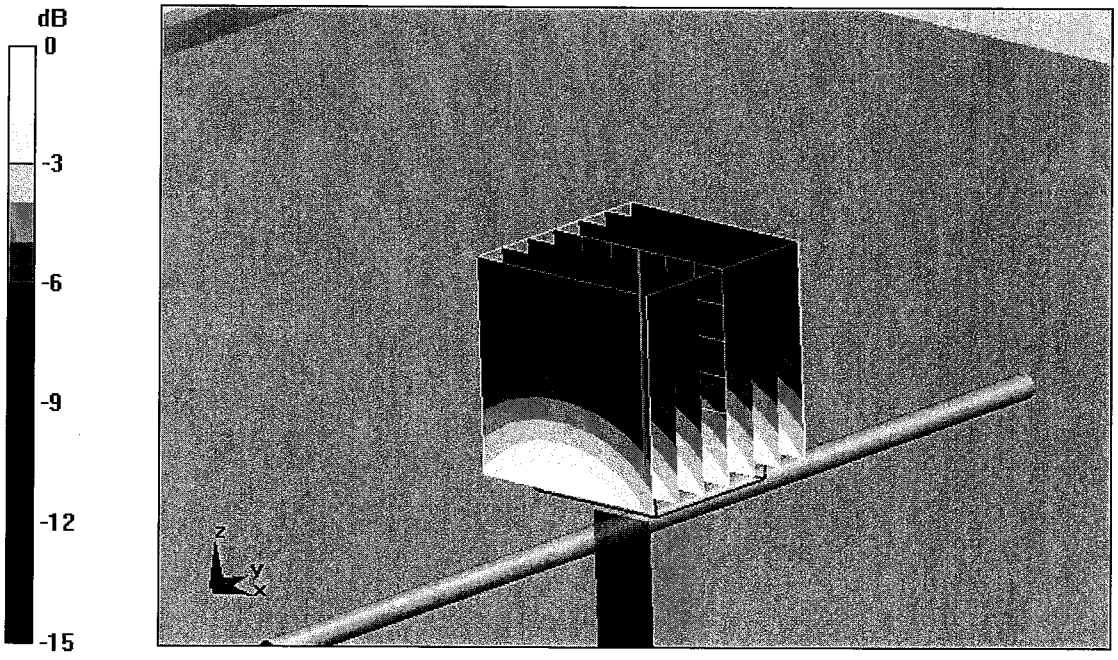
DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:185

Communication System: CW-900; Frequency: 900 MHz; Duty Cycle: 1:1
Medium: HSL 900 MHz
Medium parameters used: f = 900 MHz; σ = 0.96 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

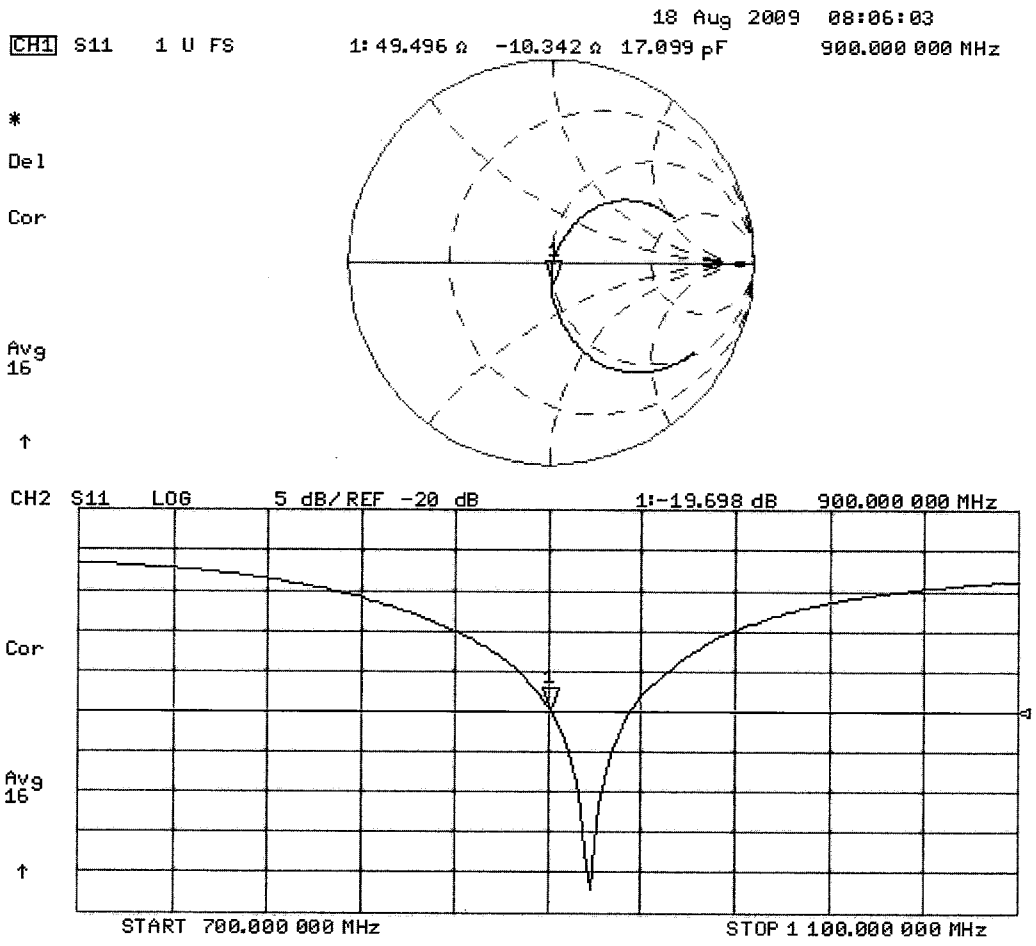
- Probe: ES3DV3 - SN3205; ConvF(5.88, 5.88, 5.88); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Pin=250mW; dip=15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 59.7 V/m; Power Drift = 0.015 dB
Peak SAR (extrapolated) = 4.17 W/kg
SAR(1 g) = 2.75 mW/g; SAR(10 g) = 1.76 mW/g
Maximum value of SAR (measured) = 3.23 mW/g



0 dB = 3.23mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body

Date/Time: 17.08.2009 11:23:13

Test Laboratory: SPEAG, Zurich, Switzerland

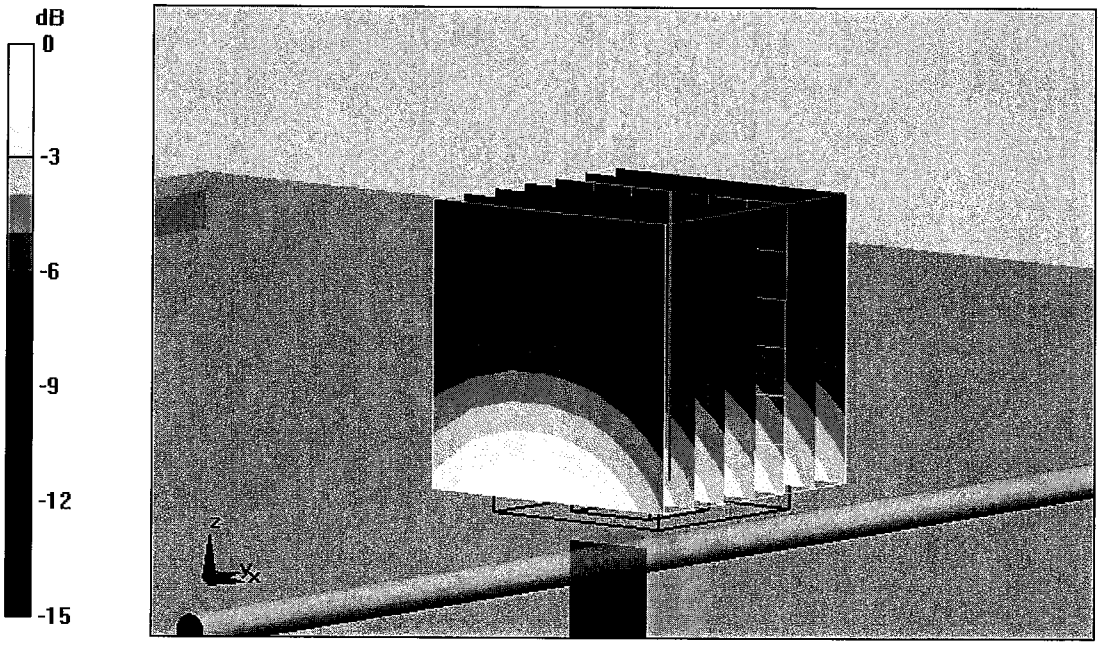
DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:185

Communication System: CW-900; Frequency: 900 MHz; Duty Cycle: 1:1
Medium: MSL900
Medium parameters used: f = 900 MHz; σ = 1.06 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

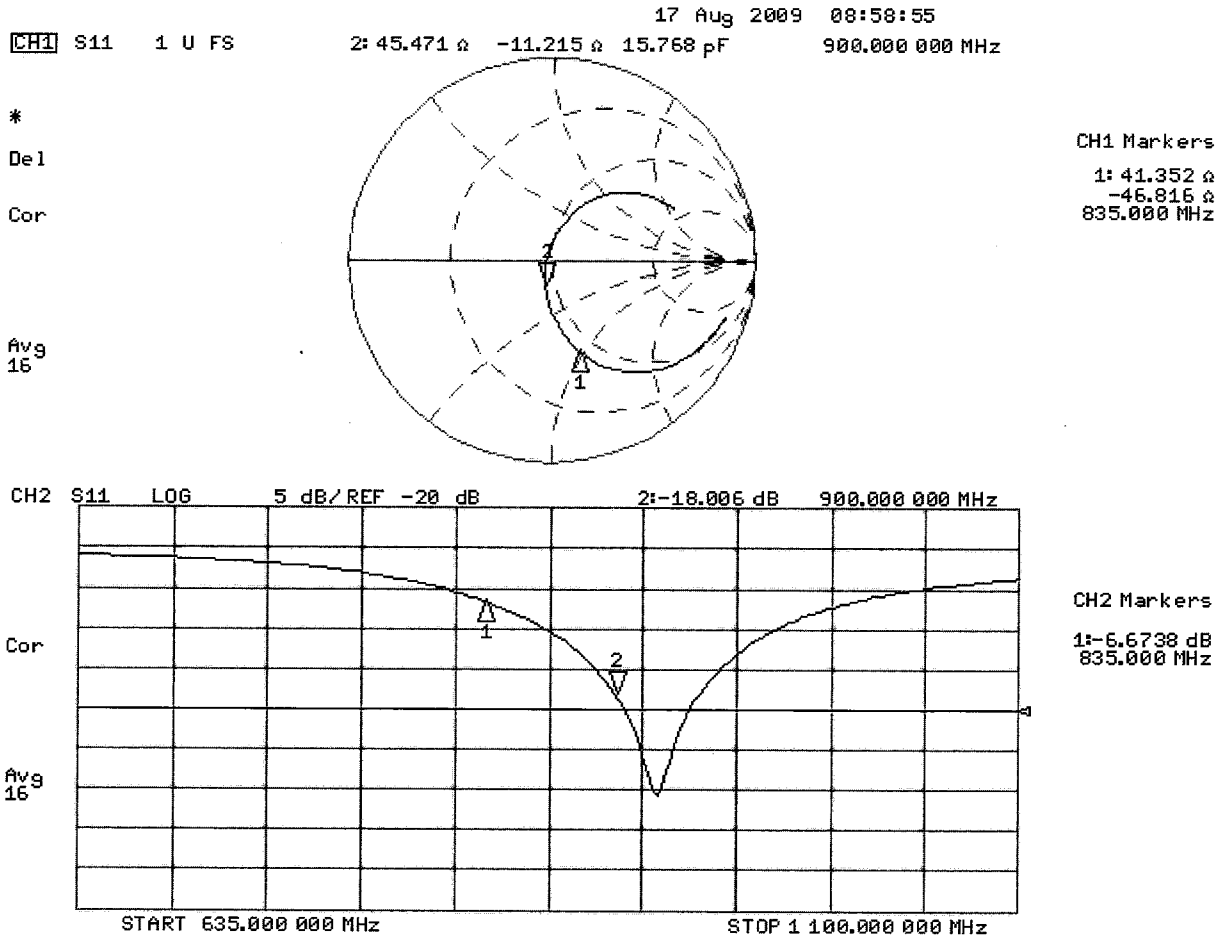
- Probe: ES3DV3 - SN3205; ConvF(5.81, 5.81, 5.81); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Pin=250mW; dip=15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.2 V/m; Power Drift = 0.00569 dB
Peak SAR (extrapolated) = 4.19 W/kg
SAR(1 g) = 2.8 mW/g; SAR(10 g) = 1.81 mW/g
Maximum value of SAR (measured) = 3.24 mW/g



0 dB = 3.24mW/g

Impedance Measurement Plot for Body TSL



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checked on 01/07/2009

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Accreditation No.: SCS 108

Client RFI

Certificate No: D1900V2-540-Jun09

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 540
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	June 26, 2009
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 EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV2	SN: 3025	30-Apr-09 (No. ES3-3025_Apr09)	Apr-10
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: June 29, 2009

Calibration Laboratory of
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Accreditation No.: SCS 108
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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) DASY4/5 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.

Measurement Conditions

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

DASY Version	DASY5	V5.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.0 ± 6 %	1.42 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	condition	
SAR measured	250 mW input power	10.1 mW / g
SAR normalized	normalized to 1W	40.4 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**40.3 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	5.29 mW / g
SAR normalized	normalized to 1W	21.2 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**21.1 mW / g ± 16.5 % (k=2)**

[1] 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	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	53.9 ± 6 %	1.55 mho/m ± 6 %
Body TSL temperature during test	(21.2 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.3 mW / g
SAR normalized	normalized to 1W	41.2 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**40.9 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.40 mW / g
SAR normalized	normalized to 1W	21.6 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**21.5 mW / g ± 16.5 % (k=2)**

[2] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	48.5 Ω + 2.7 jΩ
Return Loss	- 30.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	44.9 Ω + 2.8 jΩ
Return Loss	- 24.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.198 ns

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	July 26, 2001

DASY5 Validation Report for Head TSL

Date/Time: 26.06.2009 12:43:03

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:540

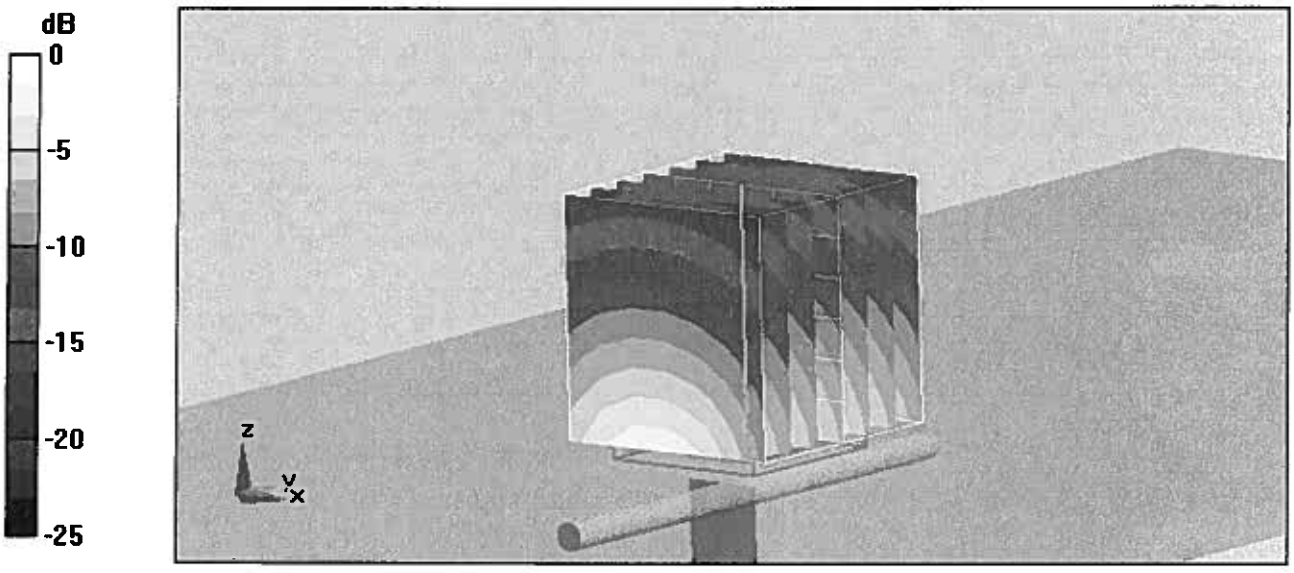
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL U11 BB
Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.88, 4.88, 4.88); Calibrated: 30.04.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

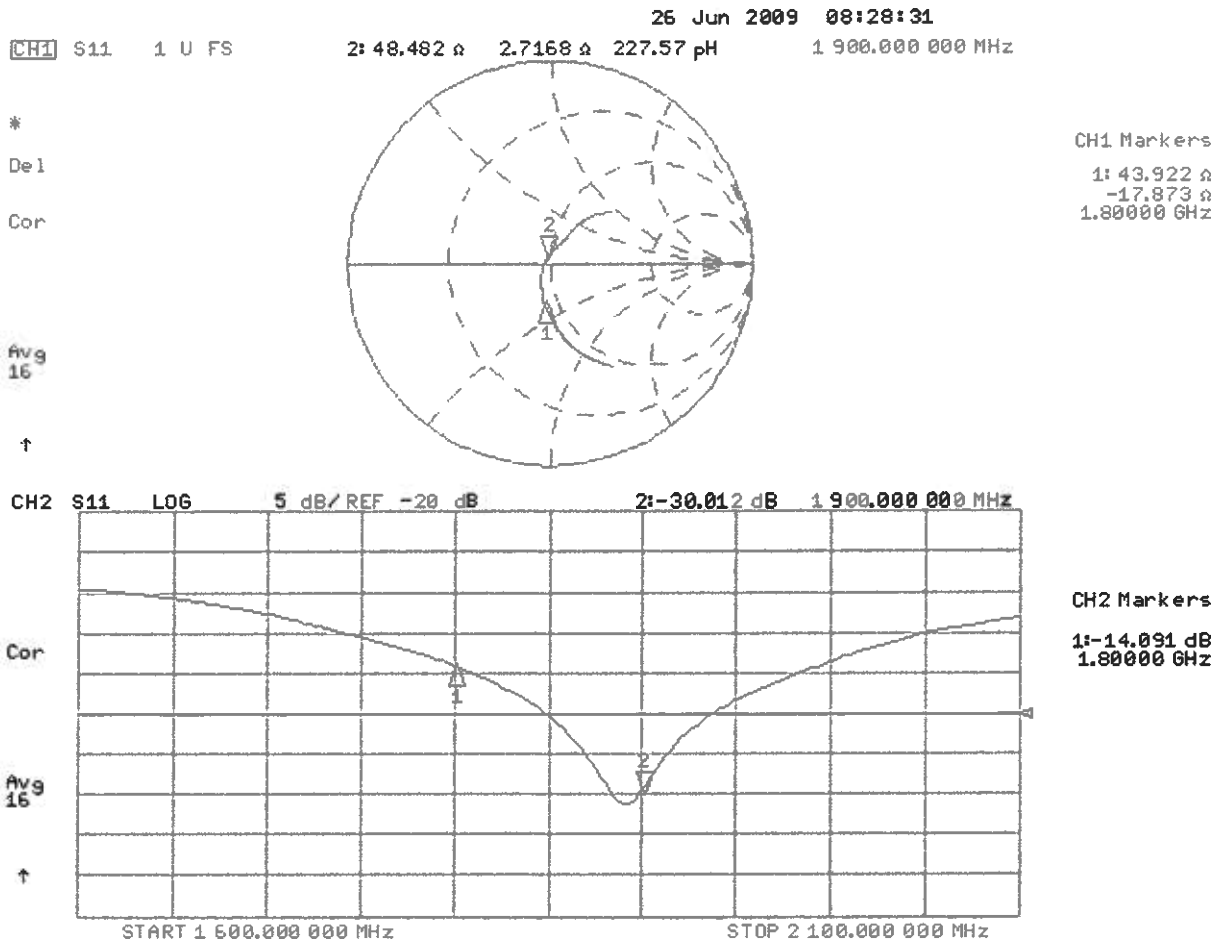
Pin = 250 mW; dip = 10 mm/Zoom Scan (dist=3.0 mm, probe 0deg) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.9 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 18.4 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.29 mW/g
Maximum value of SAR (measured) = 12.5 mW/g



0 dB = 12.5mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date/Time: 26.06.2009 14:10:45

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:540

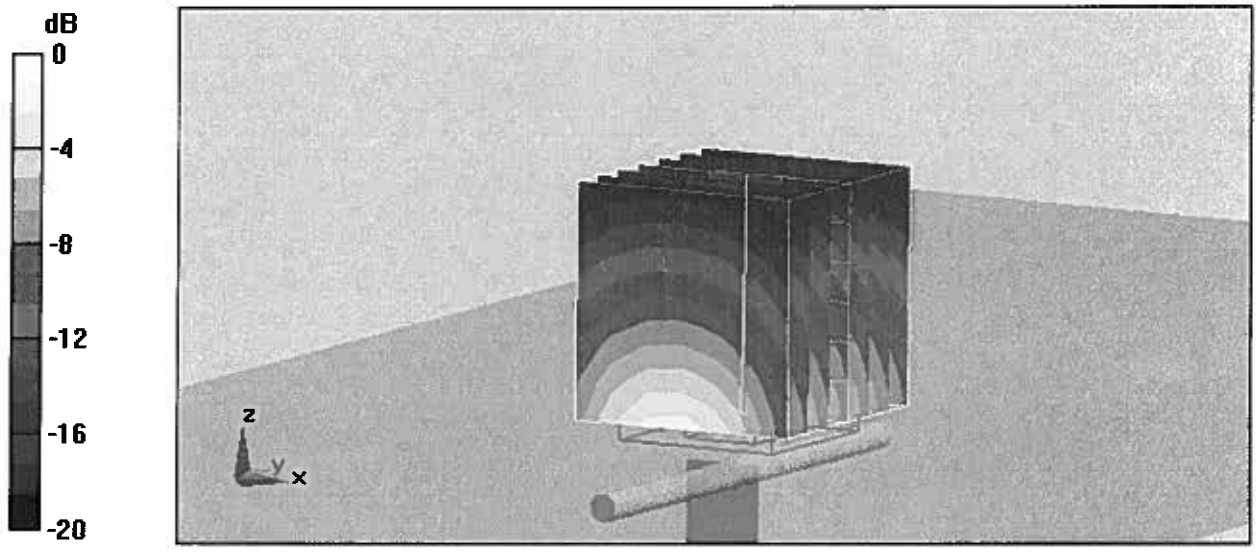
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: MSL U10 BB
Medium parameters used: f = 1900 MHz; σ = 1.55 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.46, 4.46, 4.46); Calibrated: 30.04.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

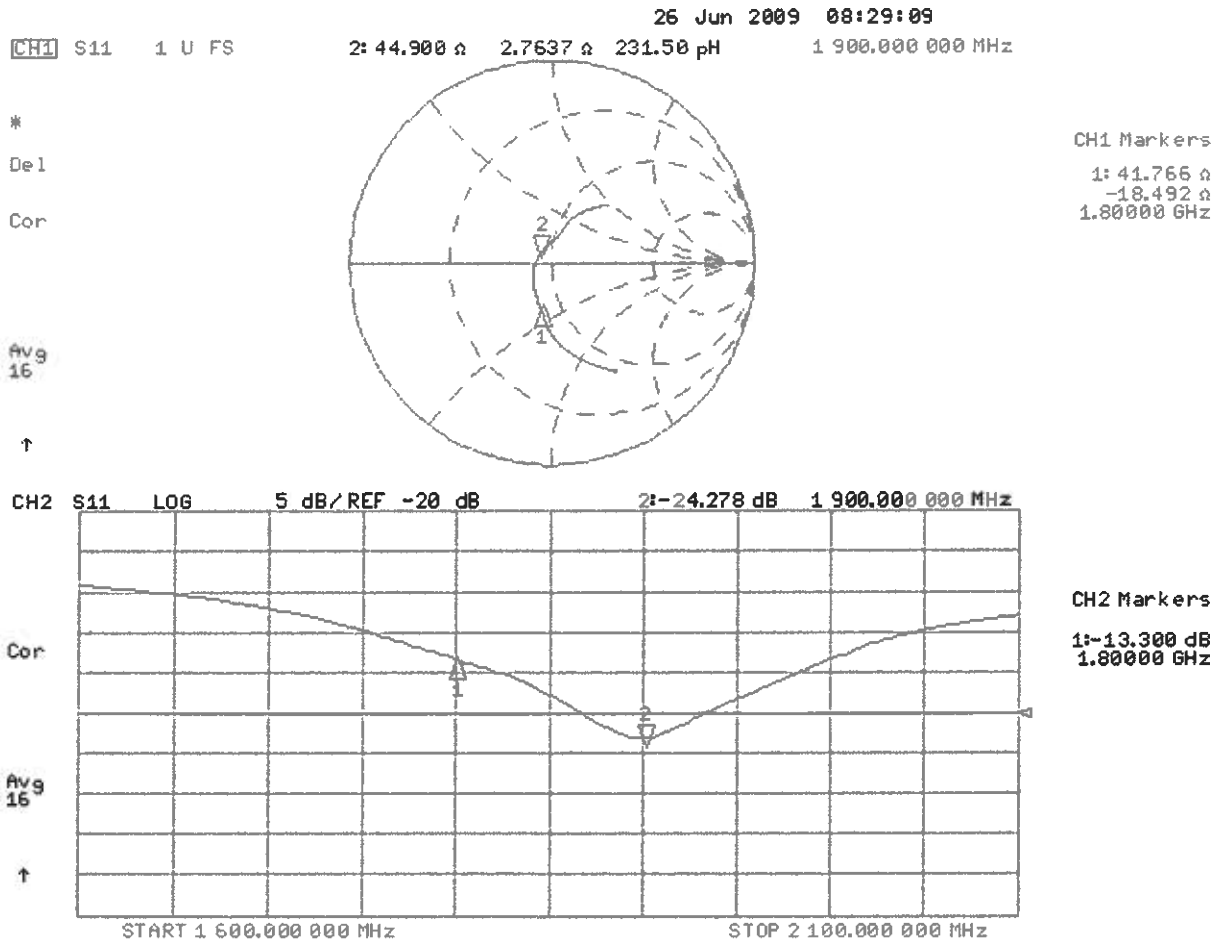
Pin = 250 mW; dip = 10 mm/Zoom Scan (dist=3.0mm, probe 0deg) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.1 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 18.1 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.4 mW/g
Maximum value of SAR (measured) = 12.9 mW/g



0 dB = 12.9mW/g

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 108

Client RFI

Certificate No: D2450V2-725_Jan09

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 725
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	January 08, 2009
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 (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: S5086 (20g)	01-Jul-08 (No. 217-00864)	Jul-09
Type-N mismatch combination	SN: 5047.2 / 06327	01-Jul-08 (No. 217-00867)	Jul-09
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	14-Mar-08 (No. DAE4-601_Mar08)	Mar-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 12, 2009

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) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
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) DASY4/5 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.

Measurement Conditions

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

DASY Version	DASY5	V5.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
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	(22.0 ± 0.2) °C	38.3 ± 6 %	1.83 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.2 mW / g
SAR normalized	normalized to 1W	52.8 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**52.1 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.12 mW / g
SAR normalized	normalized to 1W	24.5 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**24.3 mW /g ± 16.5 % (k=2)**

[1] 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	53.8 ± 6 %	2.01 mho/m ± 6 %
Body TSL temperature during test	(21.0 ± 0.2) °C	—	—

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.2 mW / g
SAR normalized	normalized to 1W	52.8 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**52.2 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.19 mW / g
SAR normalized	normalized to 1W	24.8 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**24.7 mW /g ± 16.5 % (k=2)**

[2] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	54.4 Ω + 5.3 jΩ
Return Loss	- 23.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.0 Ω + 6.7 jΩ
Return Loss	- 23.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.153 ns

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	October 16, 2002

DASY5 Validation Report for Head TSL

Date/Time: 08.01.2009 10:04:18

Test Laboratory: SPEAG, Zurich, Switzerland

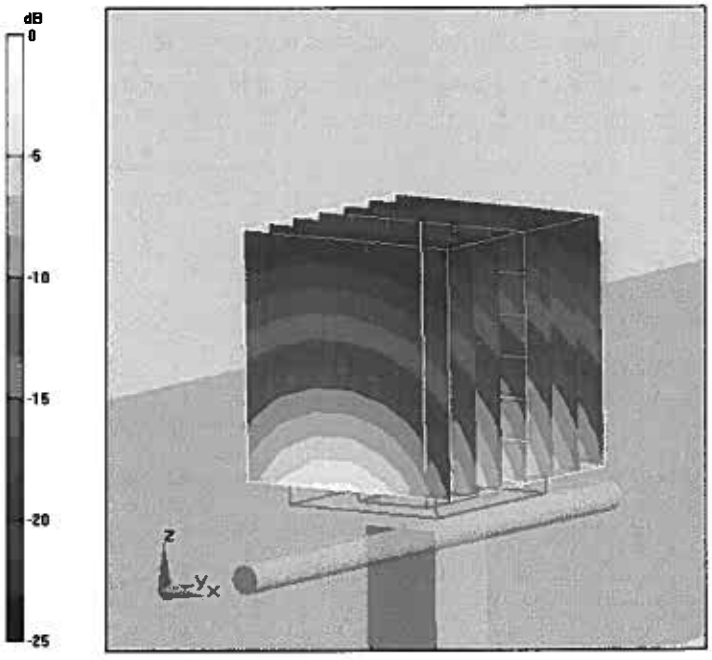
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN725

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL U10 BB
Medium parameters used: f = 2450 MHz; σ = 1.83 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

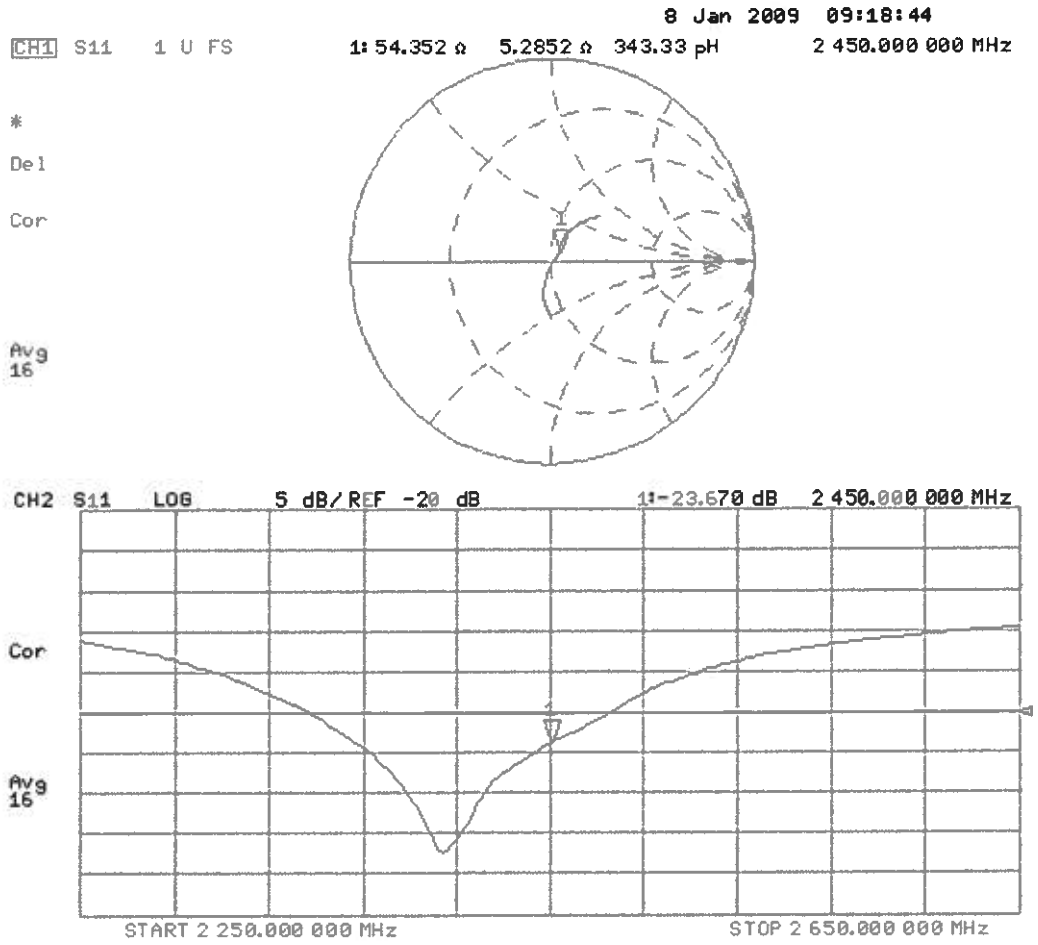
- Probe: ES3DV2 - SN3025; ConvF(4.4, 4.4, 4.4); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.8 V/m; Power Drift = 0.035 dB
Peak SAR (extrapolated) = 27.7 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.12 mW/g
Maximum value of SAR (measured) = 15.9 mW/g



0 dB = 15.9mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date/Time: 08.01.2009 12:28:21

Test Laboratory: SPEAG, Zurich, Switzerland

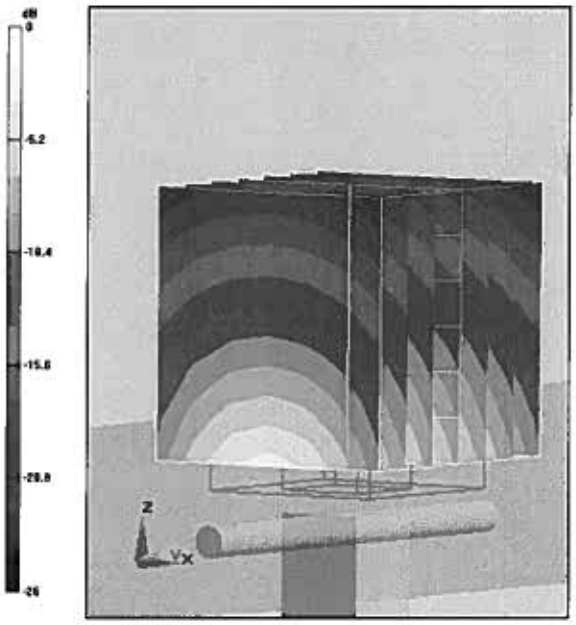
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:725

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: MSL U10 BB
Medium parameters used: f = 2450 MHz; σ = 2.02 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

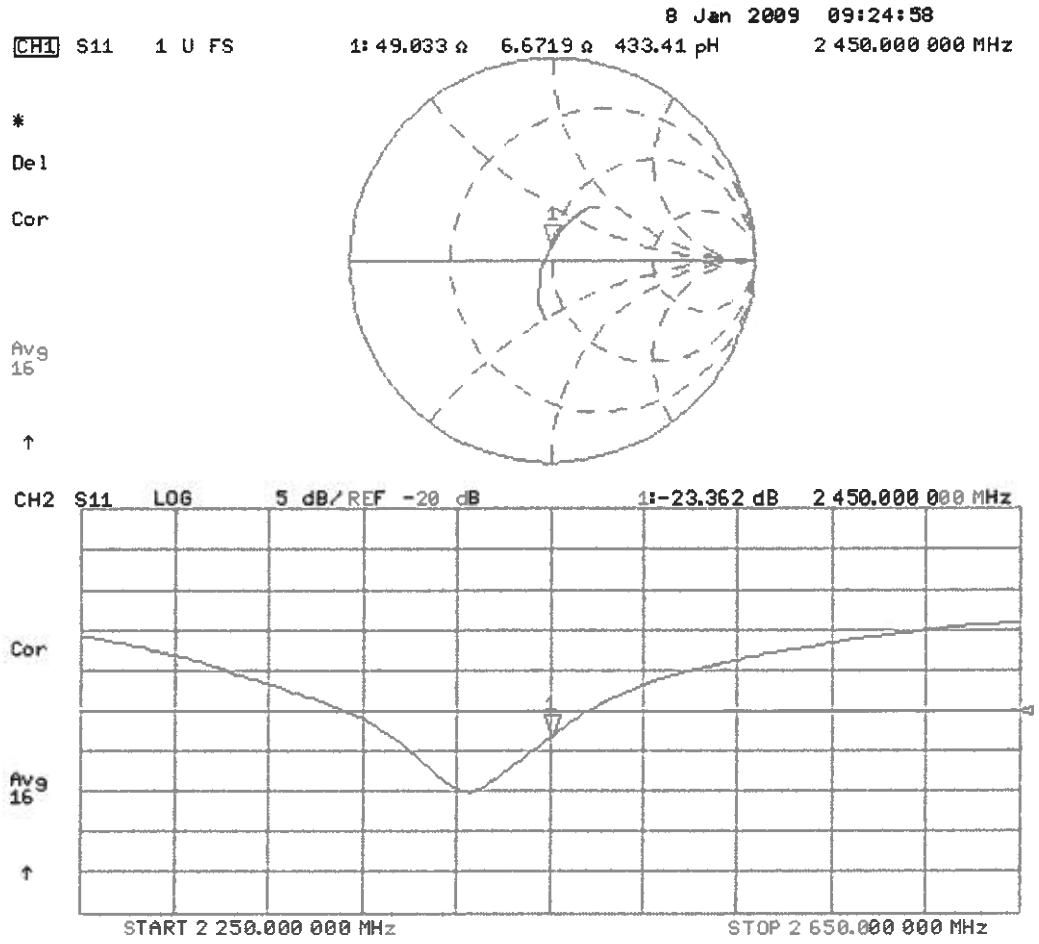
- Probe: ES3DV2 - SN3025; ConvF(4.07, 4.07, 4.07); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.1 V/m; Power Drift = 0.00372 dB
Peak SAR (extrapolated) = 26.6 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.19 mW/g
Maximum value of SAR (measured) = 16.5 mW/g



0 dB = 16.5mW/g

Impedance Measurement Plot for Body TSL



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 3mm 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 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, against appropriate limits for each measurement position in accordance with the standard.

The test was performed in a shielded enclosure with the temperature controlled to remain between +18.0ºC and +25.0ºC. The tissue equivalent material fluid temperature was controlled to give a maximum variation of ± 2.0ºC

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

Following the successful system validation 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 (5 mm spacing in each axis ≈ 27g) 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 10g 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 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

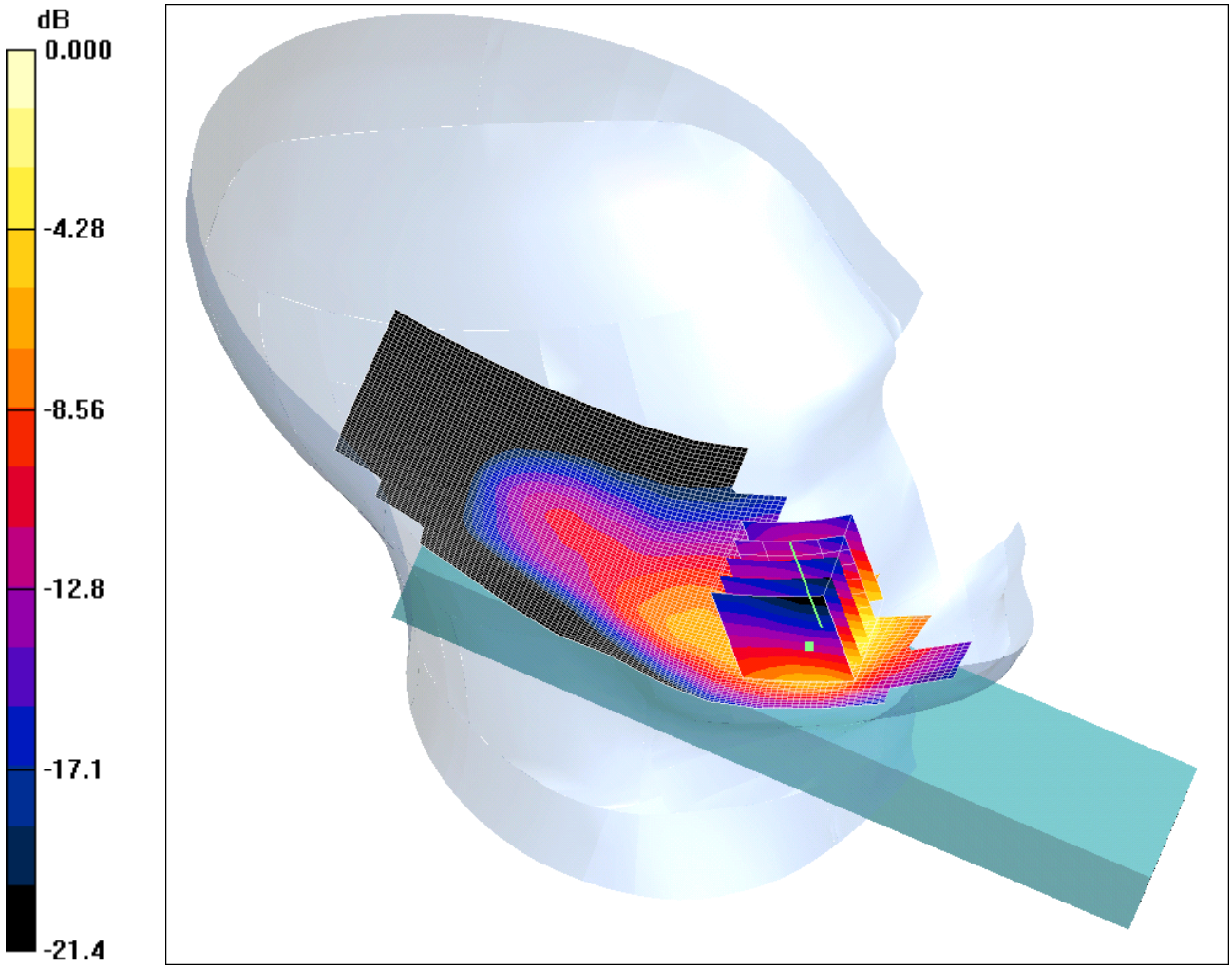
This appendix contains SAR distribution scans which are not included in the total number of pages for this report.

Scan Reference Number	Title
SCN/76421JD03/001	Touch Left With Antenna Retracted PCS CH660
SCN/76421JD03/002	Touch Left With Antenna Extended PCS CH660
SCN/76421JD03/003	Tilt Left With Antenna Retracted PCS CH660
SCN/76421JD03/004	Tilt Left With Antenna Extended PCS CH660
SCN/76421JD03/005	Touch Right Using Flat Section With Antenna Retracted PCS CH660
SCN/76421JD03/006	Touch Right Using Flat Section With Antenna Extended PCS CH660
SCN/76421JD03/007	Tilt Right With Antenna Retracted PCS CH660
SCN/76421JD03/008	Tilt Right With Antenna Extended PCS CH660
SCN/76421JD03/009	Front of EUT Facing Phantom With Antenna Retracted GPRS CH660
SCN/76421JD03/010	Front of EUT Facing Phantom With Antenna Extended GPRS CH660
SCN/76421JD03/011	Rear of EUT Facing Phantom With Antenna Retracted GPRS CH660
SCN/76421JD03/012	Rear of EUT Facing Phantom With Antenna Extended GPRS CH660
SCN/76421JD03/013	Front of EUT Facing Phantom With Antenna Retracted PCS CH660
SCN/76421JD03/014	Front of EUT Facing Phantom With Antenna Extended PCS CH660
SCN/76421JD03/015	Front of EUT Facing Phantom With PHF Antenna Extended GPRS CH660
SCN/76421JD03/016	Front of EUT Facing Phantom With Antenna Retracted WiFi 802_11b CH11 1Mbps
SCN/76421JD03/017	Front of EUT Facing Phantom With Antenna Extended WiFi 802_11b CH11 1Mbps
SCN/76421JD03/018	Rear of EUT Facing Phantom With Antenna Retracted WiFi 802_11b CH11 1Mbps
SCN/76421JD03/019	Rear of EUT Facing Phantom With Antenna Extended WiFi 802_11b CH11 1Mbps
SCN/76421JD03/020	Front of EUT Facing Phantom With Antenna Retracted WiFi 802_11g CH11 6Mbps
SCN/76421JD03/021	Front of EUT Facing Phantom With Antenna Extended WiFi 802_11g CH11 6Mbps
SCN/76421JD03/022	Front of EUT Facing Phantom With PHF Antenna Retracted WiFi 802_11b CH11 1Mbps
SCN/76421JD03/023	System Performance Check 1900MHz Head 19 11 09
SCN/76421JD03/024	System Performance Check 1900MHz Head 20 11 09
SCN/76421JD03/025	System Performance Check 1900MHz Body 23 11 09
SCN/76421JD03/026	System Performance Check 2450MHz Body 25 11 09

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/001: Touch Left With Antenna Retracted PCS CH660
Date 19/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.748mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.39 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.58, 8.58, 8.58); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
Touch Left - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.594 mW/g

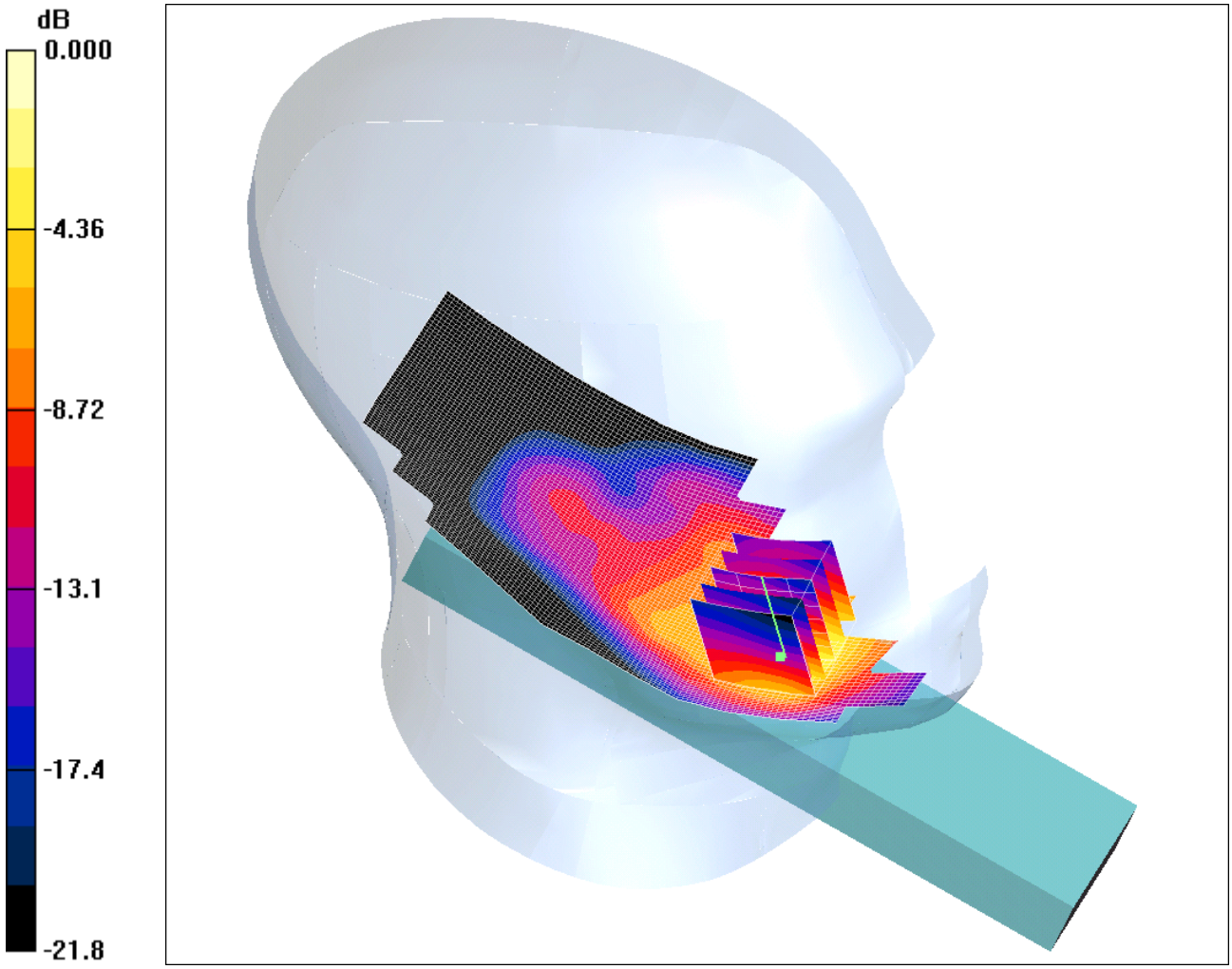
Touch Left - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.81 V/m; Power Drift = -0.311 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 0.655 mW/g; SAR(10 g) = 0.311 mW/g

Maximum value of SAR (measured) = 0.748 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/002: Touch Left With Antenna Extended PCS CH660
Date 19/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.804mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.39 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.58, 8.58, 8.58); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Touch Left - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.652 mW/g

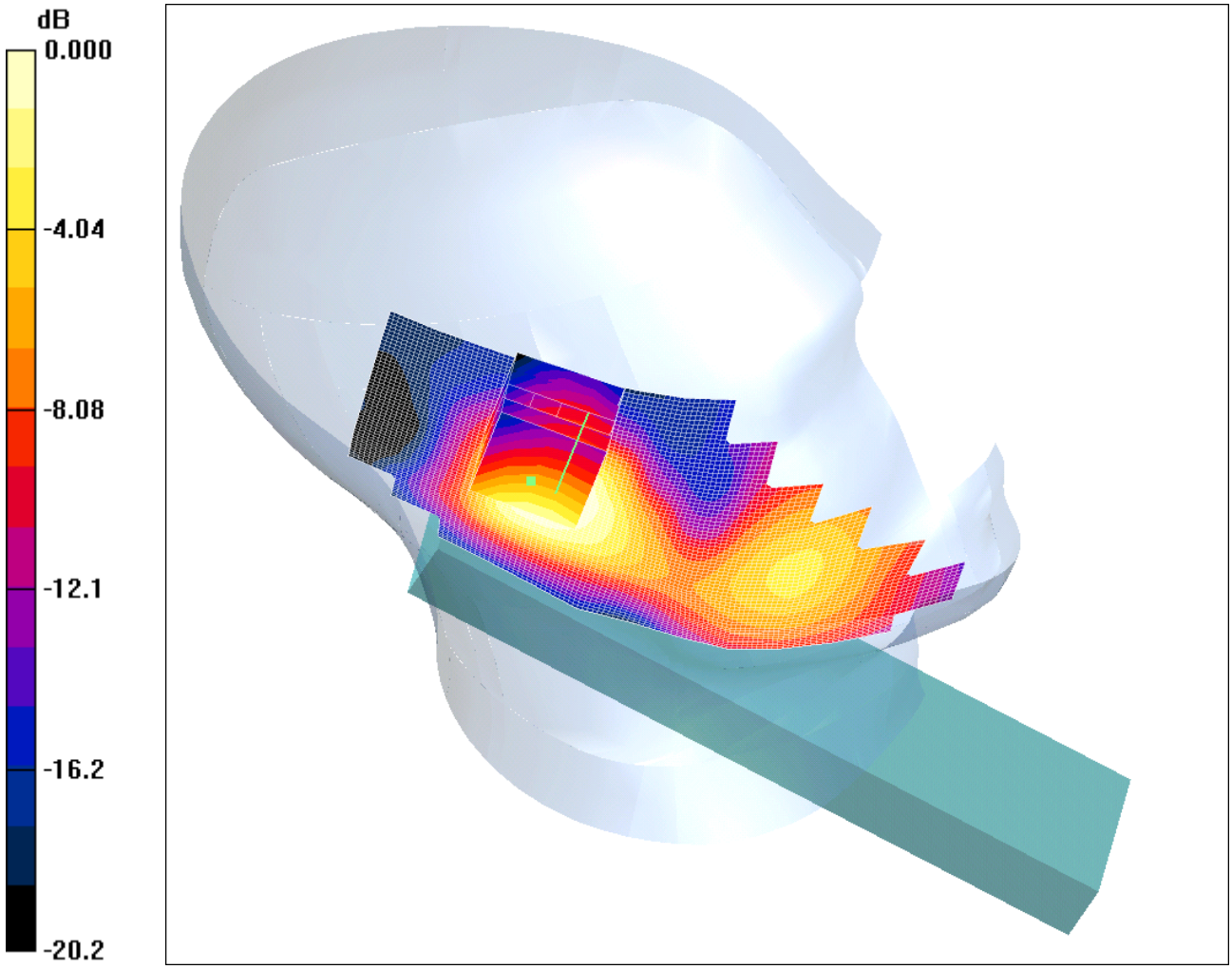
Touch Left - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.91 V/m; Power Drift = -0.188 dB
Peak SAR (extrapolated) = 1.51 W/kg
SAR(1 g) = 0.728 mW/g; SAR(10 g) = 0.342 mW/g

Maximum value of SAR (measured) = 0.804 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/003: Tilt Left With Antenna Retracted PCS CH660
Date 19/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.142mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.39 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.58, 8.58, 8.58); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt Left - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.157 mW/g

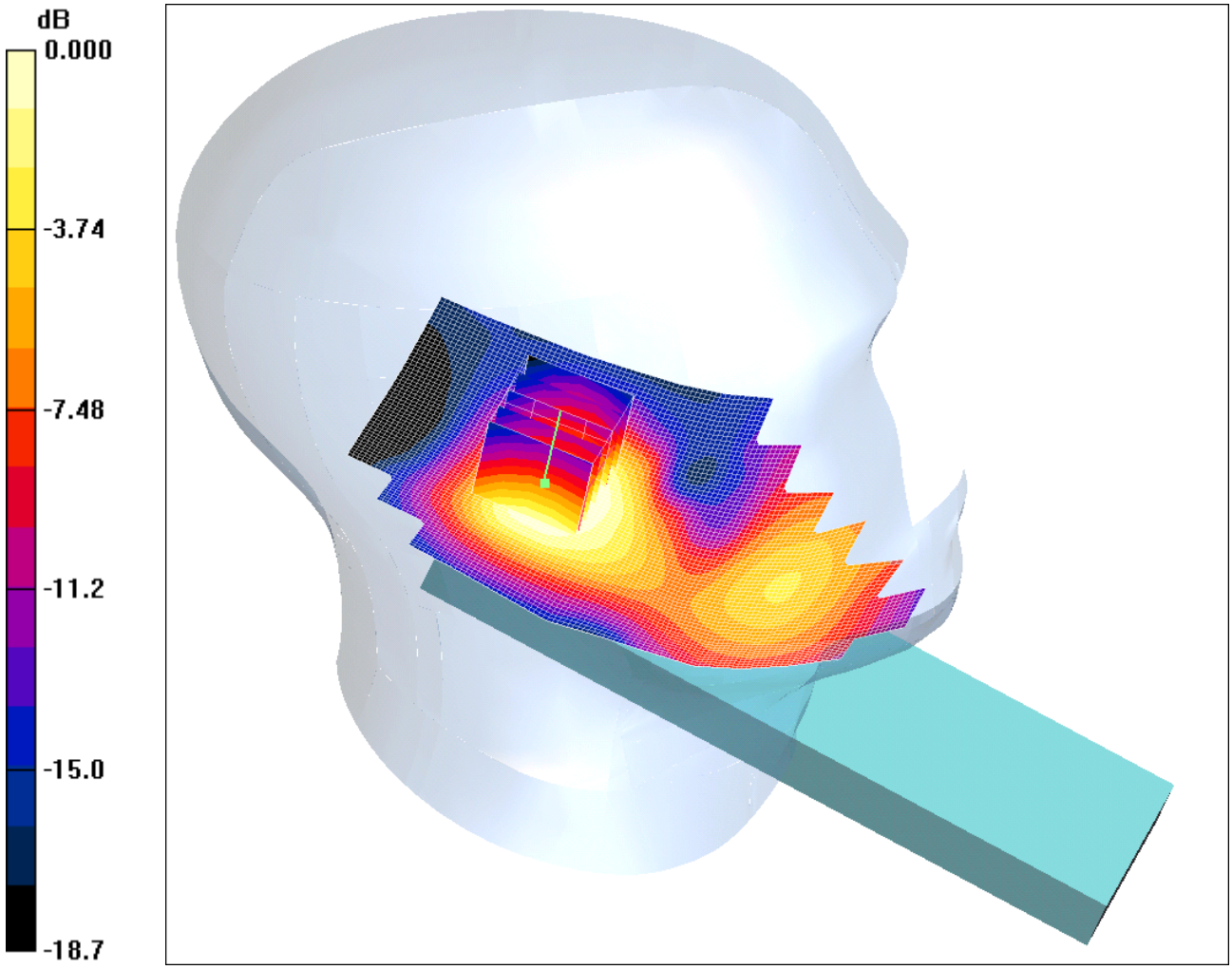
Tilt Left - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.74 V/m; Power Drift = 0.007 dB
Peak SAR (extrapolated) = 0.200 W/kg
SAR(1 g) = 0.133 mW/g; SAR(10 g) = 0.083 mW/g

Maximum value of SAR (measured) = 0.142 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/004: Tilt Left With Antenna Extended PCS CH660
Date 19/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.115mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.39 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.58, 8.58, 8.58); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt Left - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.131 mW/g

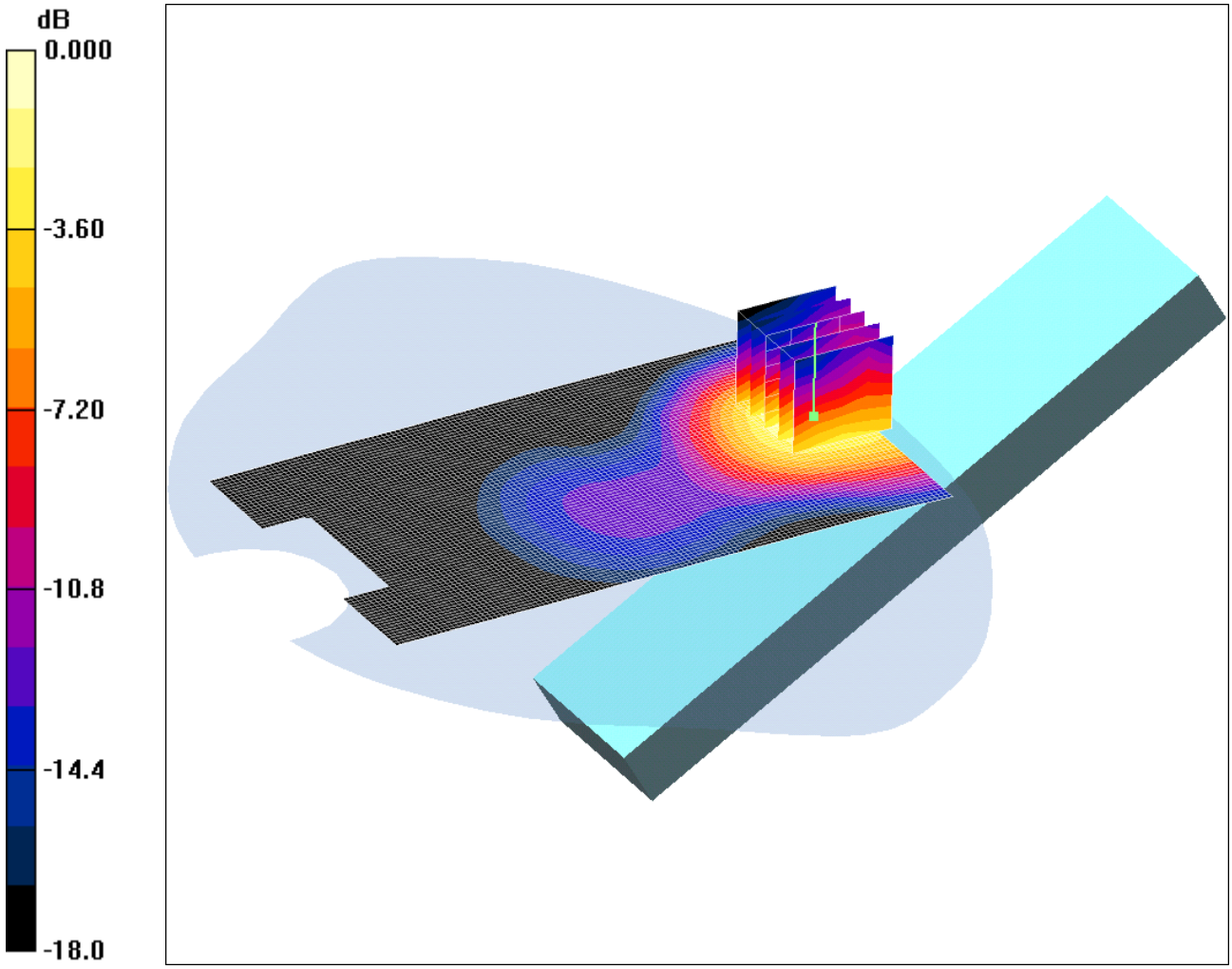
Tilt Left - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.47 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 0.164 W/kg
SAR(1 g) = 0.110 mW/g; SAR(10 g) = 0.069 mW/g

Maximum value of SAR (measured) = 0.115 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/005: Touch Right Using Flat Section With Antenna Retracted PCS CH660
Date 20/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.453mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.39 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.58, 8.58, 8.58); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Touch Right - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.410 mW/g

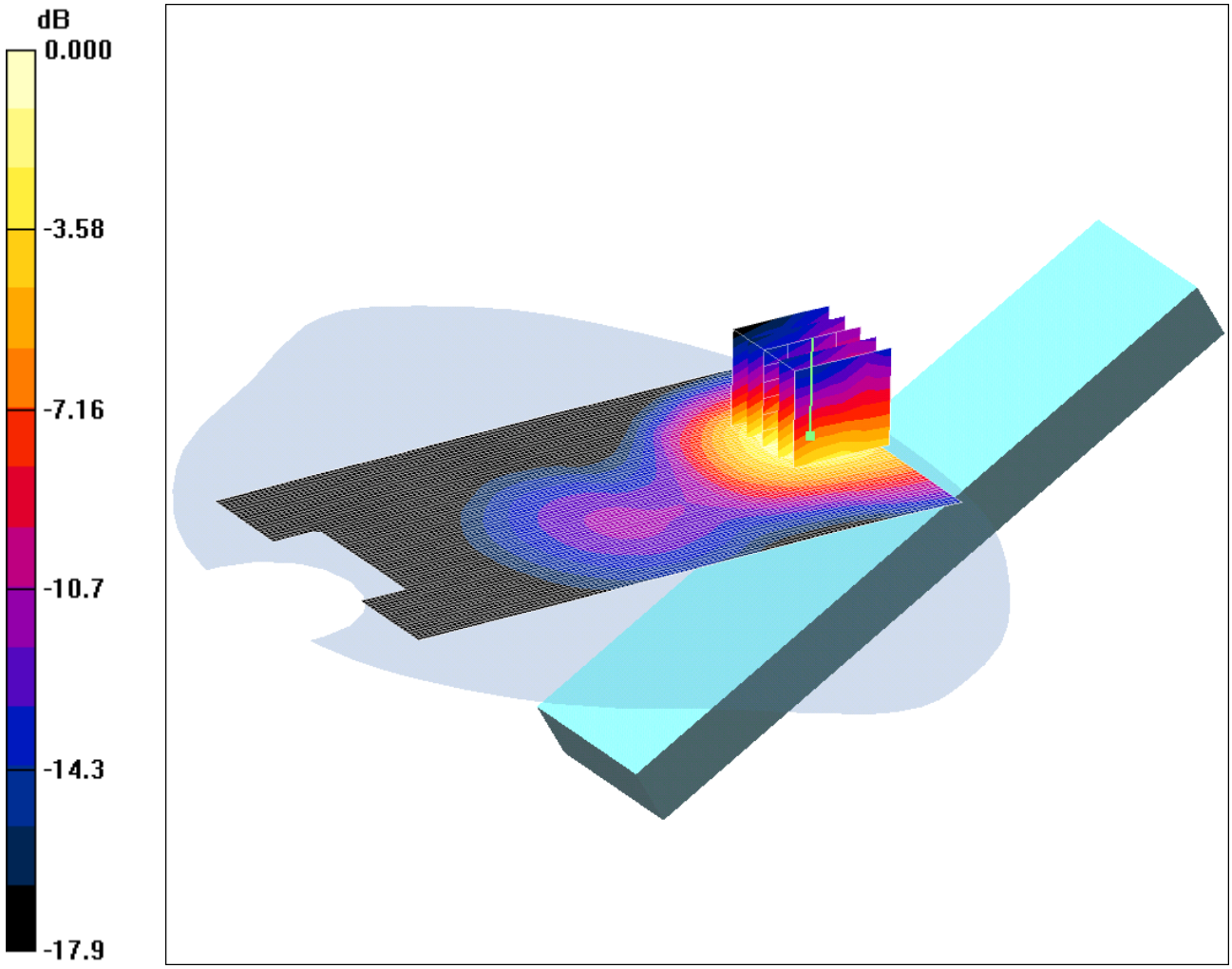
Touch Right - Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.00 V/m; Power Drift = 0.063 dB
Peak SAR (extrapolated) = 0.705 W/kg
SAR(1 g) = 0.407 mW/g; SAR(10 g) = 0.223 mW/g
Maximum value of SAR (measured) = 0.453 mW/g

Note: For this scan the entire 1g and 10g volume were capture. This configuration was in accordance with FCC KDB 648474 D01 SAR Handsets Multi Xmiter and Ant v01r05 for Jaw/Mouth configuration

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/006: Touch Right Using Flat Section With Antenna Extended PCS CH660
Date 20/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.437mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.39 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.58, 8.58, 8.58); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Touch Right - Middle /Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.425 mW/g

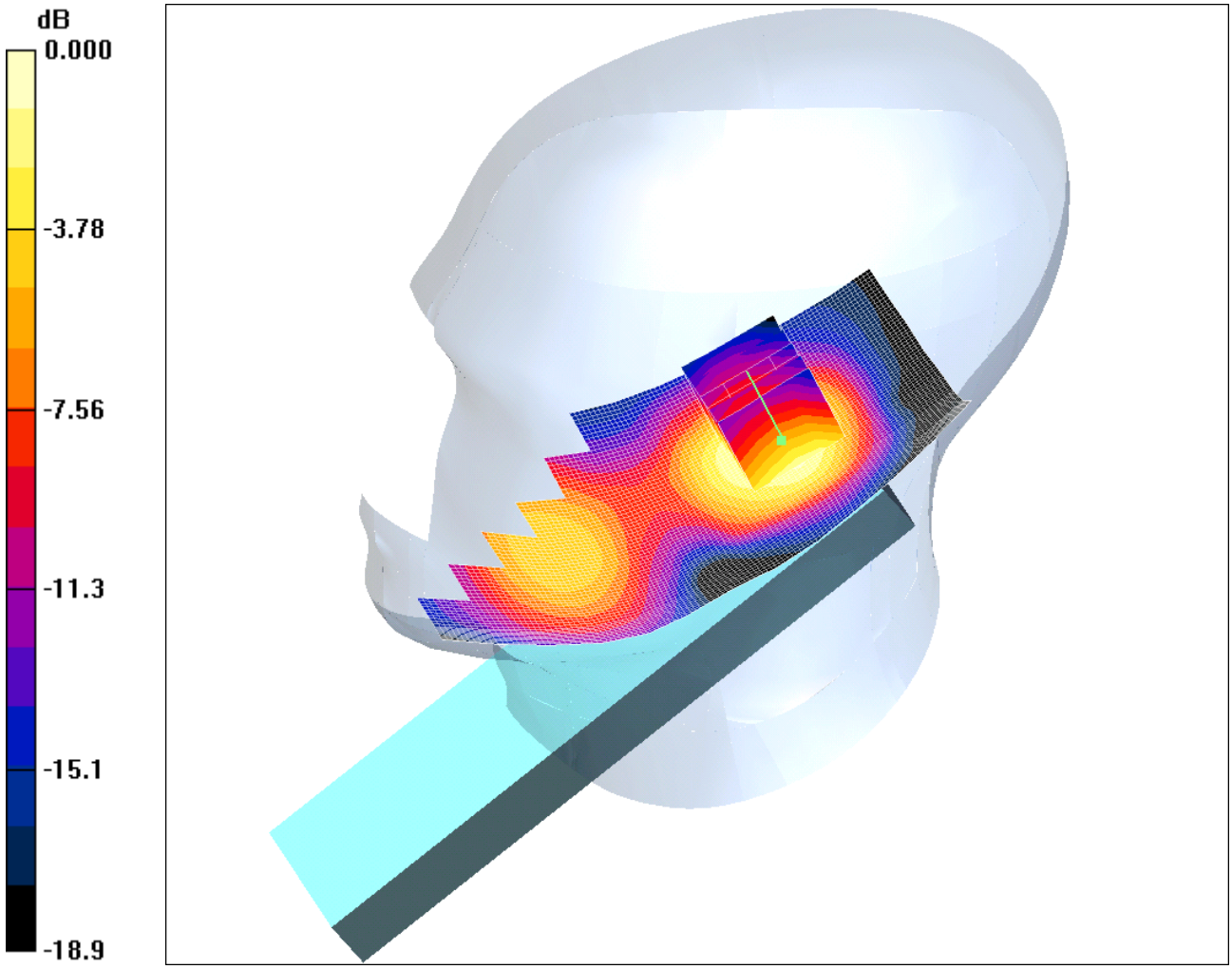
Touch Right - Middle /Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.36 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 0.653 W/kg
SAR(1 g) = 0.385 mW/g; SAR(10 g) = 0.215 mW/g
Maximum value of SAR (measured) = 0.437 mW/g

Note: For this scan the entire 1g and 10g volume were capture. This configuration was in accordance with FCC KDB 648474 D01 SAR Handsets Multi Xmiter and Ant v01r05 for Jaw/Mouth configuration

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/007: Tilt Right With Antenna Retracted PCS CH660
Date 20/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.156mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.39 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Right Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.58, 8.58, 8.58); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt Right- Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.169 mW/g

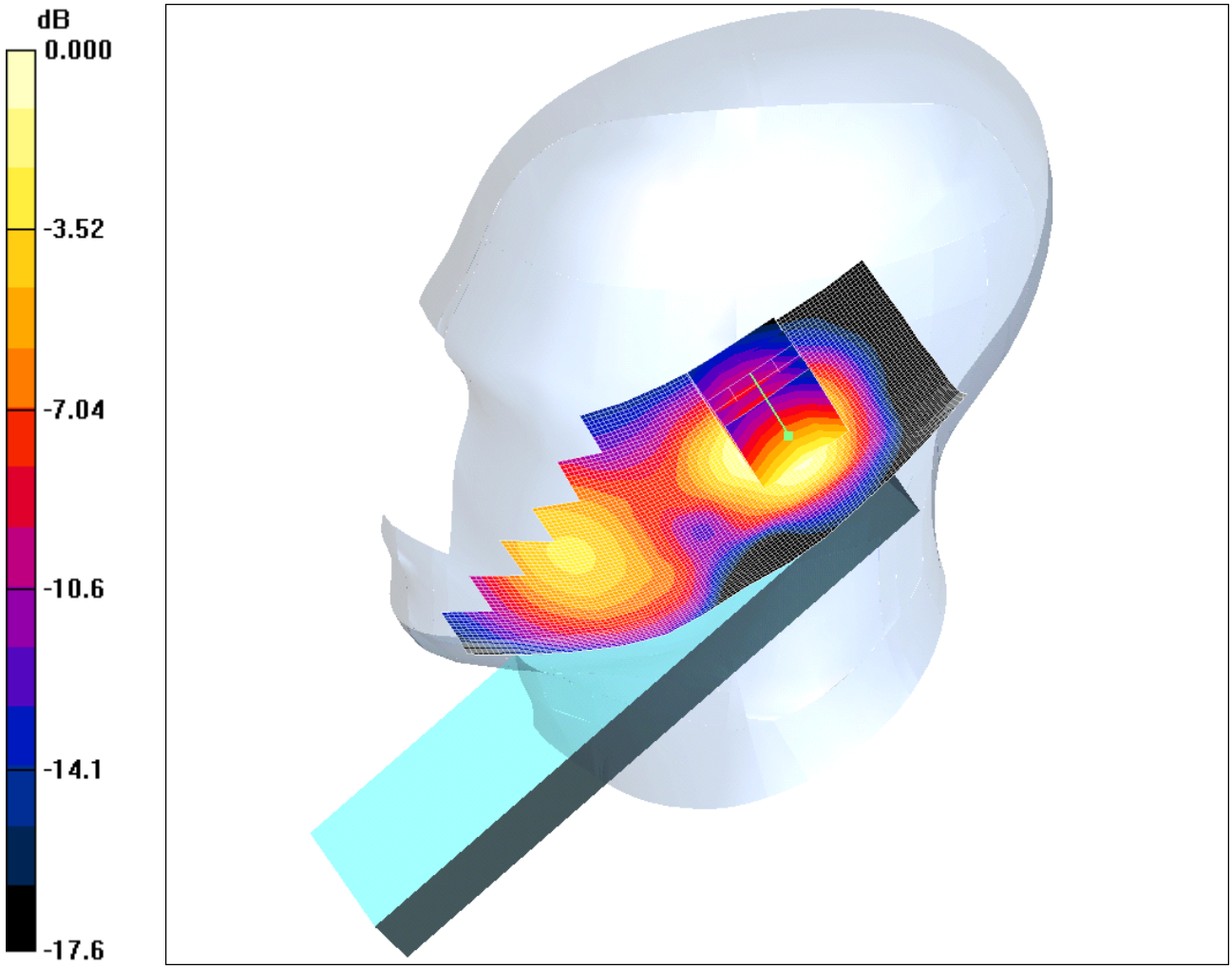
Tilt Right- Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.62 V/m; Power Drift = 0.210 dB
Peak SAR (extrapolated) = 0.220 W/kg
SAR(1 g) = 0.144 mW/g; SAR(10 g) = 0.089 mW/g

Maximum value of SAR (measured) = 0.156 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/008: Tilt Right With Antenna Extended PCS CH660
Date 20/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.151mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz HSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.39 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Right Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.58, 8.58, 8.58); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

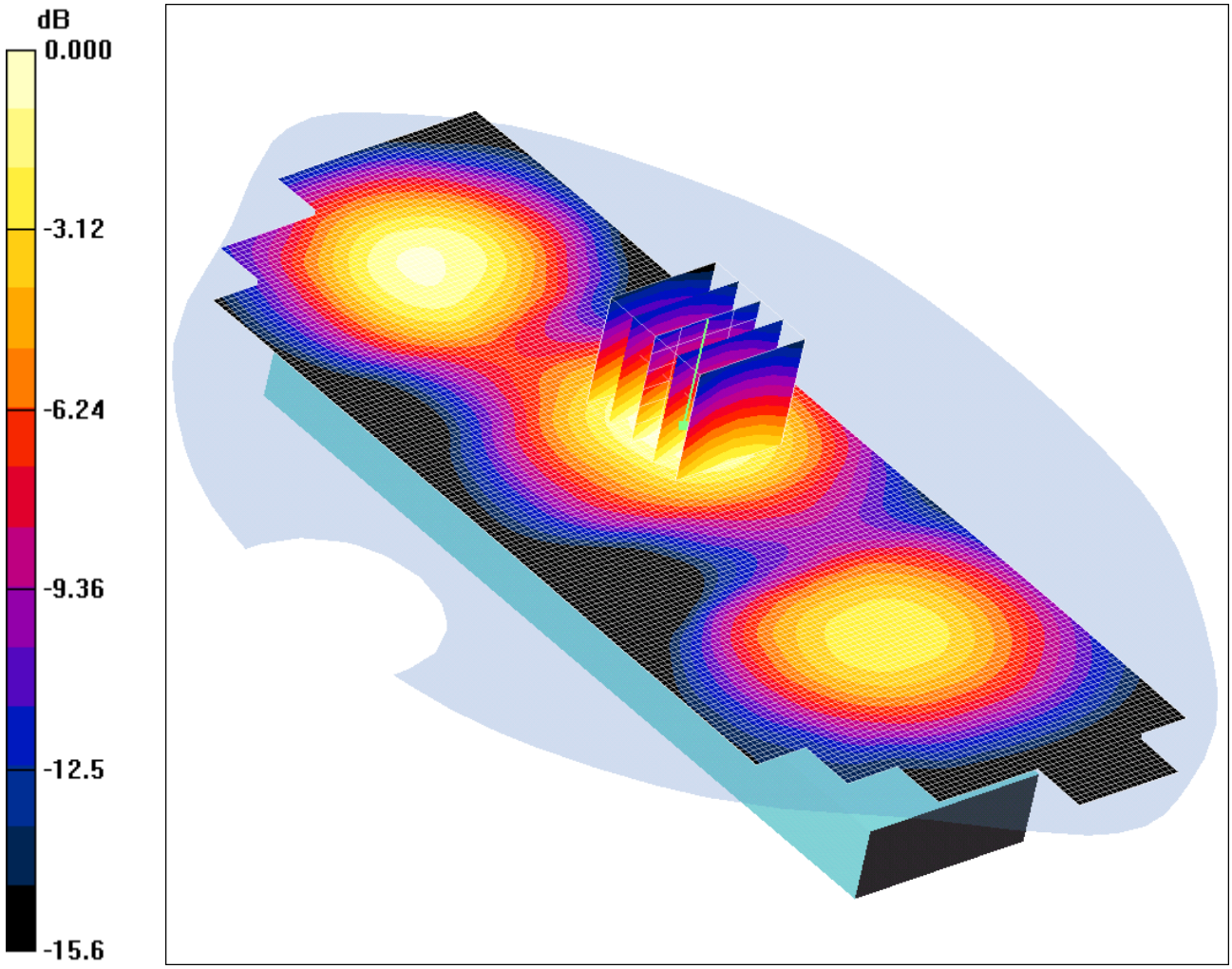
Tilt Right- Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.170 mW/g

Tilt Right- Middle/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.34 V/m; Power Drift = 0.298 dB
Peak SAR (extrapolated) = 0.215 W/kg
SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.089 mW/g

Maximum value of SAR (measured) = 0.151 mW/g

SCN/76421JD03/009: Front of EUT Facing Phantom With Antenna Retracted GPRS CH660
Date 20/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.165mW/g

Communication System: GPRS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:4
Medium: 1900 MHz MSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.51 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.23, 8.23, 8.23); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

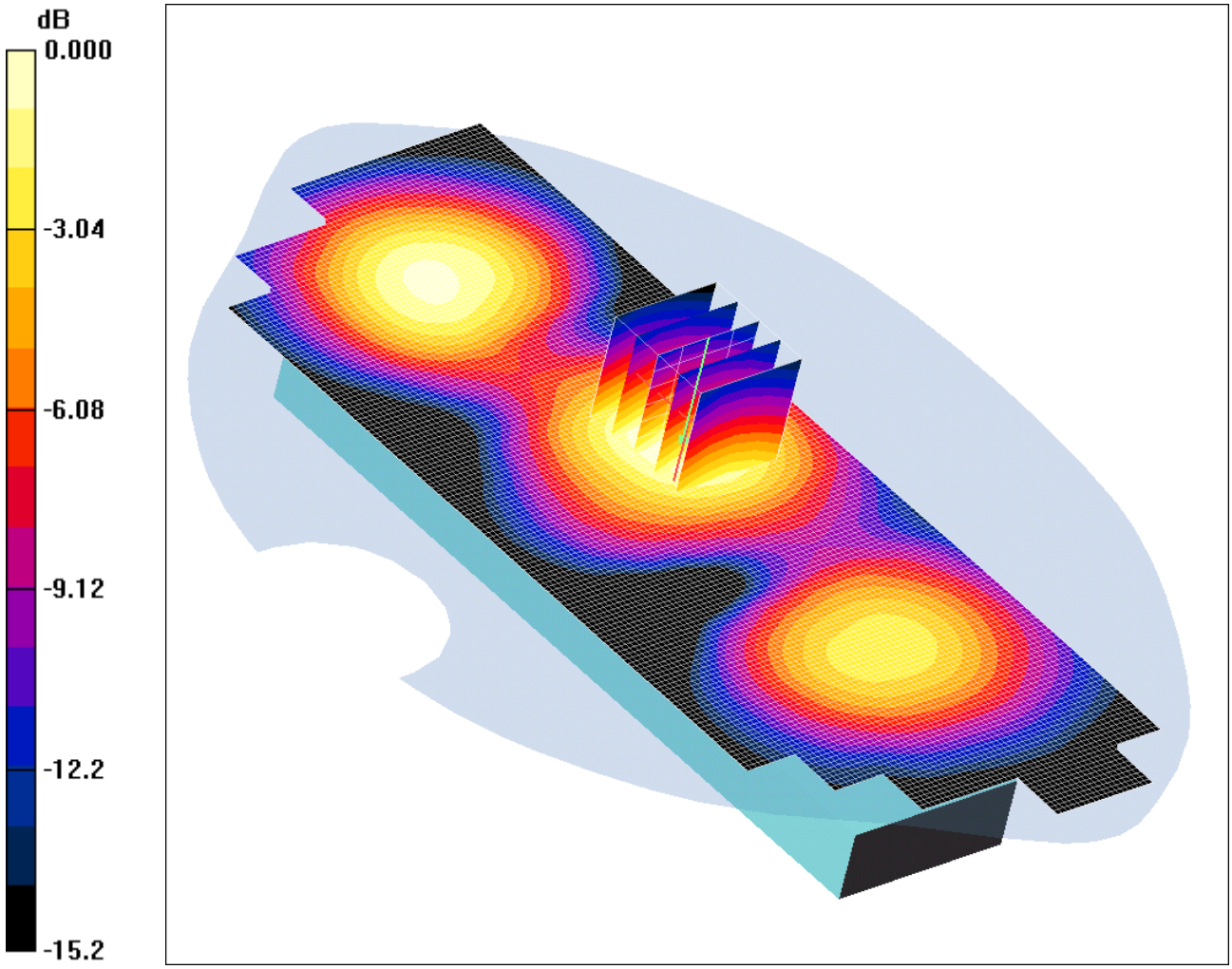
Front of EUT Facing Phantom - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.172 mW/g

Front of EUT Facing Phantom - Middle/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.29 V/m; Power Drift = 0.232 dB
Peak SAR (extrapolated) = 0.240 W/kg
SAR(1 g) = 0.153 mW/g; SAR(10 g) = 0.094 mW/g

Maximum value of SAR (measured) = 0.165 mW/g

SCN/76421JD03/010: Front of EUT Facing Phantom With Antenna Extended GPRS CH660
Date 23/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.168mW/g

Communication System: GPRS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:4
Medium: 1900 MHz MSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.52 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.23, 8.23, 8.23); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Front of EUT Facing Phantom - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.174 mW/g

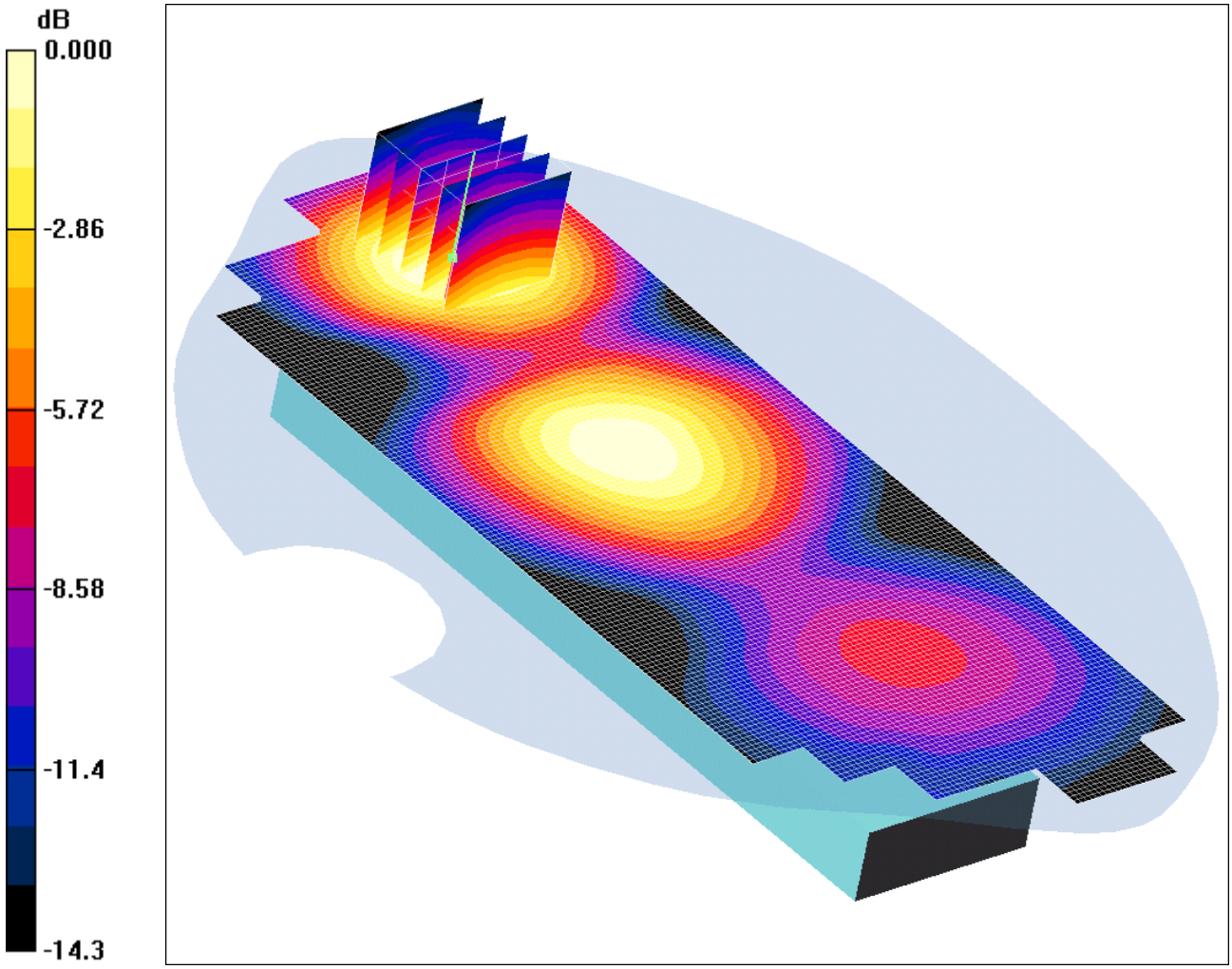
Front of EUT Facing Phantom - Middle/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.01 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 0.244 W/kg
SAR(1 g) = 0.157 mW/g; SAR(10 g) = 0.097 mW/g

Maximum value of SAR (measured) = 0.168 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/011: Rear of EUT Facing Phantom With Antenna Retracted GPRS CH660
Date 23/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.149mW/g

Communication System: GPRS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:4
Medium: 1900 MHz MSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.52 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.23, 8.23, 8.23); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Rear of EUT Facing Phantom - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.153 mW/g

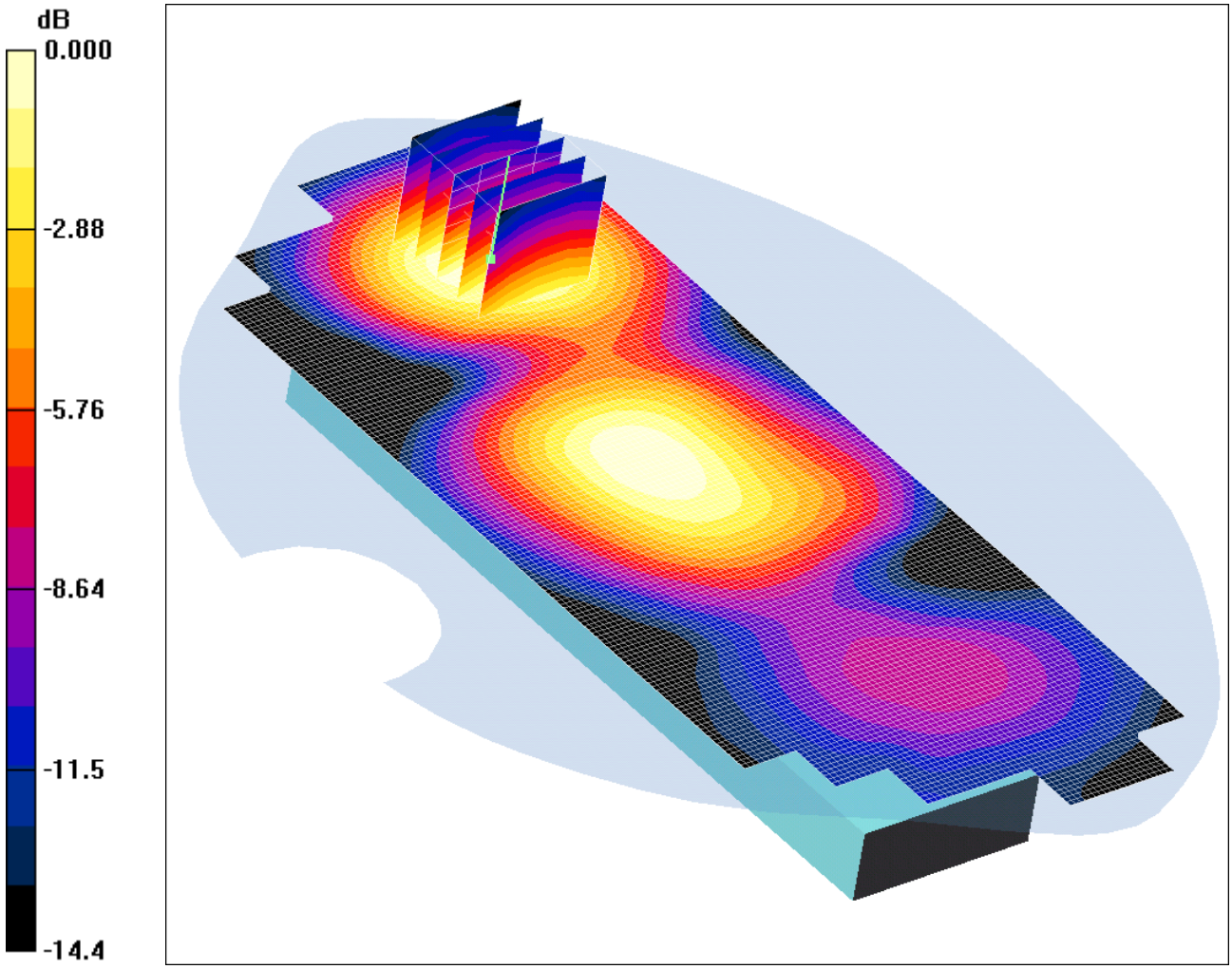
Rear of EUT Facing Phantom - Middle/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.34 V/m; Power Drift = -0.043 dB
Peak SAR (extrapolated) = 0.211 W/kg
SAR(1 g) = 0.138 mW/g; SAR(10 g) = 0.087 mW/g

Maximum value of SAR (measured) = 0.149 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/012: Rear of EUT Facing Phantom With Antenna Extended GPRS CH660
Date 23/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.138mW/g

Communication System: GPRS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:4
Medium: 1900 MHz MSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.52 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.23, 8.23, 8.23); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Rear of EUT Facing Phantom - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

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

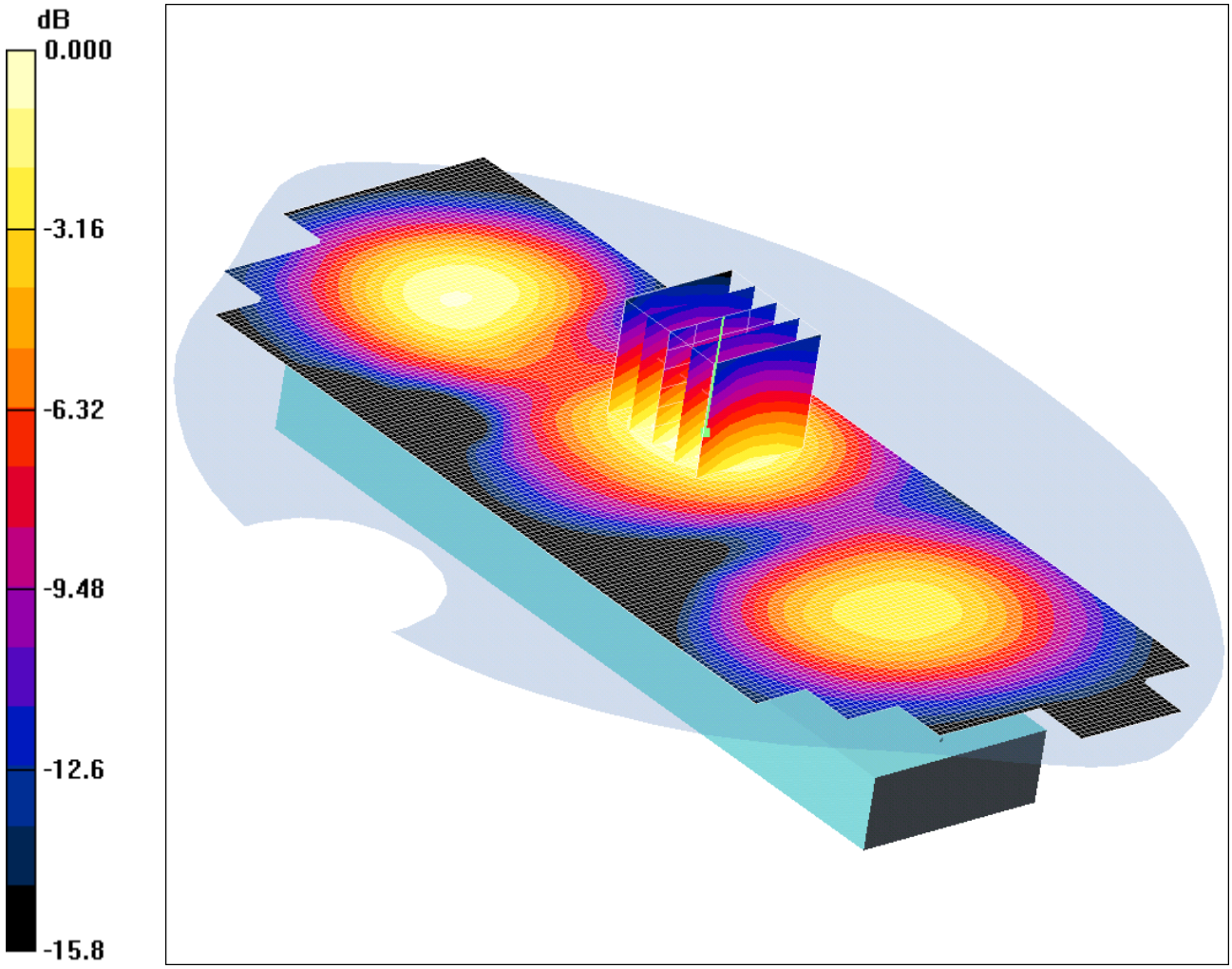
Rear of EUT Facing Phantom - Middle/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.07 V/m; Power Drift = 0.006 dB
Peak SAR (extrapolated) = 0.194 W/kg
SAR(1 g) = 0.127 mW/g; SAR(10 g) = 0.081 mW/g

Maximum value of SAR (measured) = 0.138 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/013: Front of EUT Facing Phantom With Antenna Retracted PCS CH660
Date 23/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.137mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz MSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.52 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.23, 8.23, 8.23); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Front of EUT Facing Phantom - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.139 mW/g

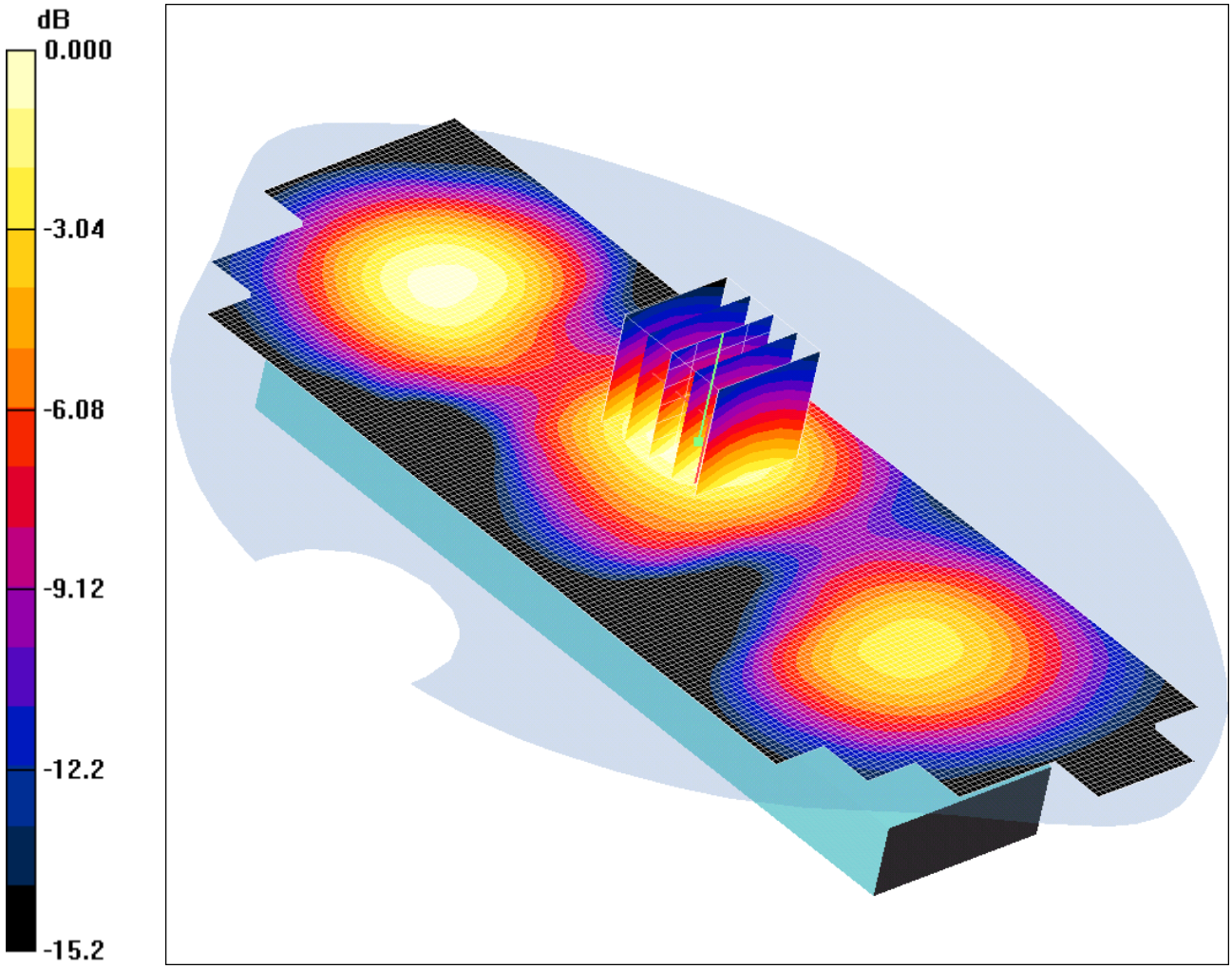
Front of EUT Facing Phantom - Middle/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.39 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.202 W/kg
SAR(1 g) = 0.128 mW/g; SAR(10 g) = 0.078 mW/g

Maximum value of SAR (measured) = 0.137 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/014: Front of EUT Facing Phantom With Antenna Extended PCS CH660
Date 23/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.139mW/g

Communication System: PCS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:8.3
Medium: 1900 MHz MSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.52 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.23, 8.23, 8.23); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Front of EUT Facing Phantom - Middle/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.141 mW/g

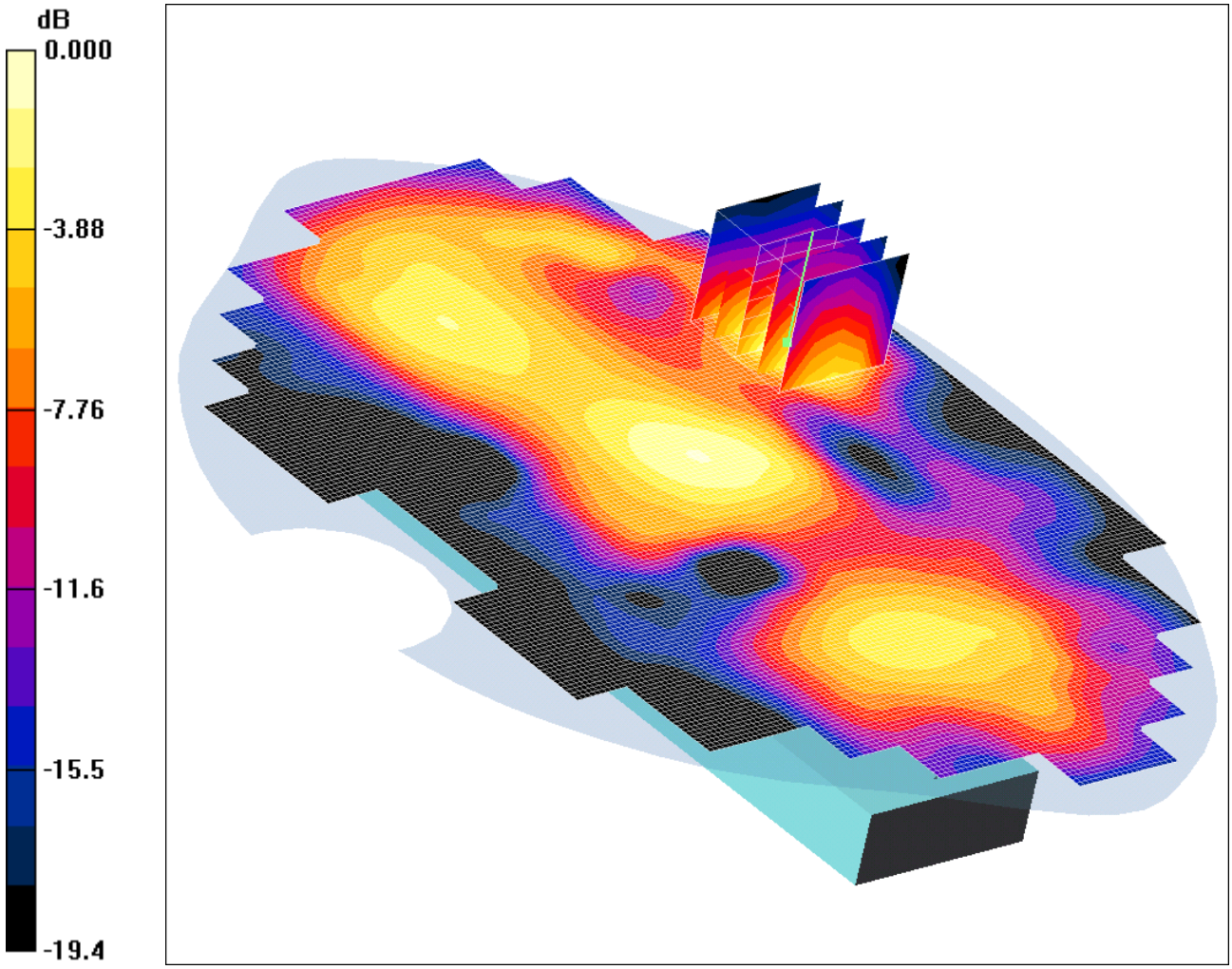
Front of EUT Facing Phantom - Middle/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.65 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.202 W/kg
SAR(1 g) = 0.129 mW/g; SAR(10 g) = 0.079 mW/g

Maximum value of SAR (measured) = 0.139 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/015: Front of EUT Facing Phantom With PHF Antenna Extended GPRS CH660
Date 23/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.164mW/g

Communication System: GPRS 1900; Frequency: 1879.8 MHz;Duty Cycle: 1:4
Medium: 1900 MHz MSL Medium parameters used (interpolated): f = 1879.8 MHz; σ = 1.52 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.23, 8.23, 8.23); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Front of EUT Facing Phantom - Middle/Area Scan (121x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.155 mW/g

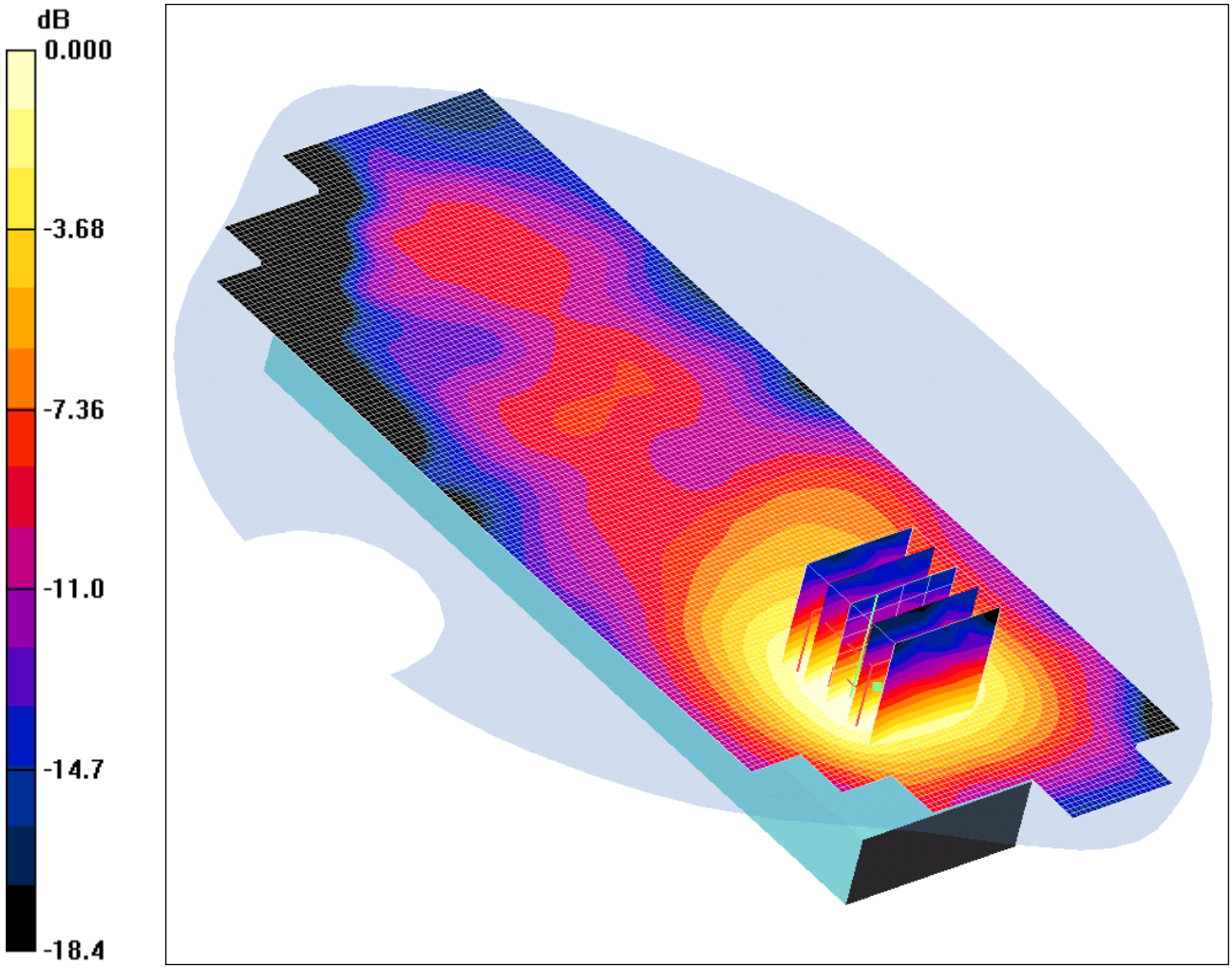
Front of EUT Facing Phantom - Middle/Zoom Scan (5x5x7) 2 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.40 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 0.284 W/kg
SAR(1 g) = 0.148 mW/g; SAR(10 g) = 0.074 mW/g

Maximum value of SAR (measured) = 0.164 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/016: Front of EUT Facing Phantom With Antenna Retracted WiFi 802_11b CH11 1Mbps
Date 25/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.040mW/g

Communication Sys1m: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2462 MHz; σ = 1.92 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.06, 8.06, 8.06); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Front of EUT Facing Phantom - High/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.040 mW/g

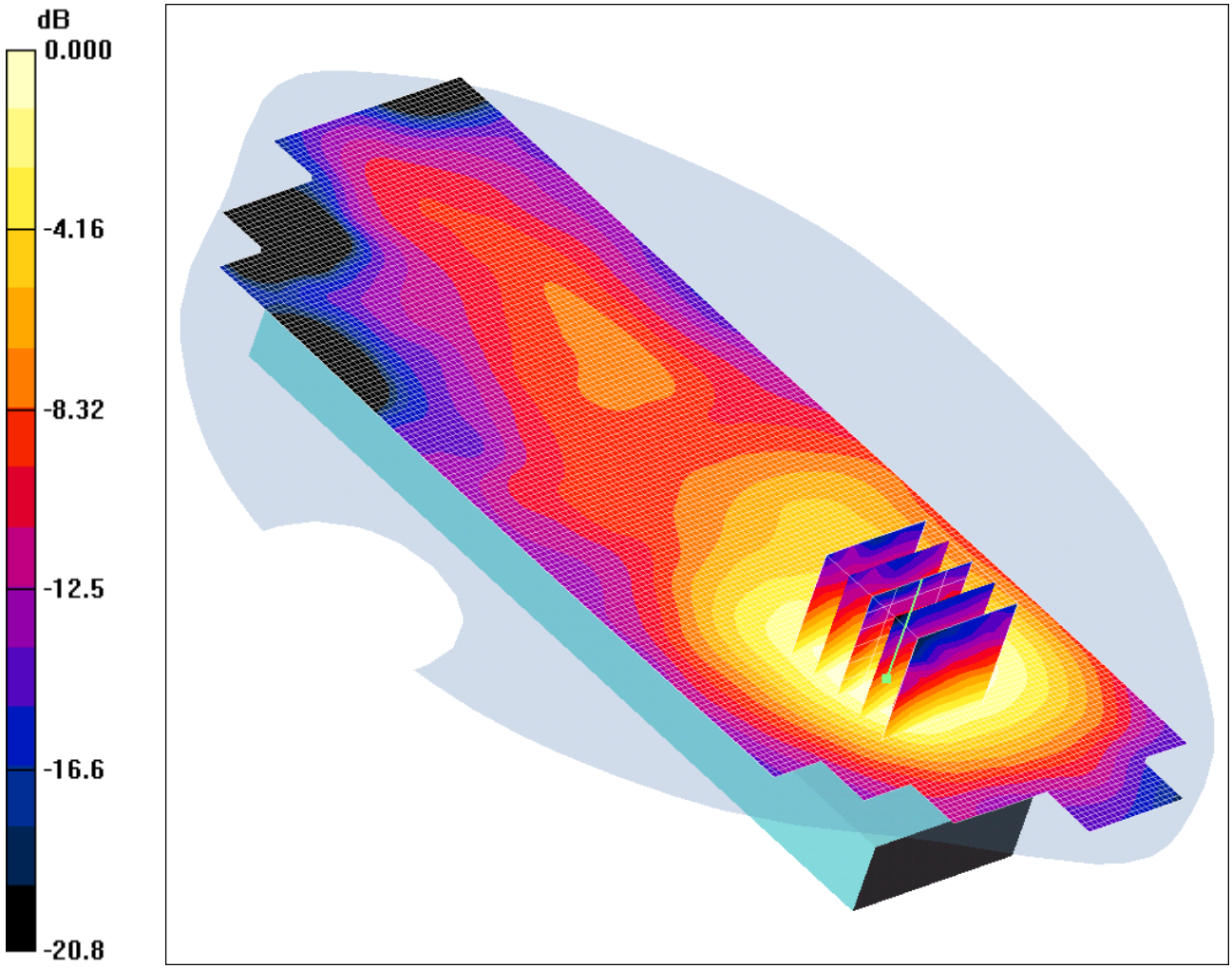
Front of EUT Facing Phantom - High/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.54 V/m; Power Drift = 0.174 dB
Peak SAR (extrapolated) = 0.069 W/kg
SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.021 mW/g

Maximum value of SAR (measured) = 0.040 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/017: Front of EUT Facing Phantom With Antenna Extended WiFi 802_11b CH11 1Mbps
Date 25/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.038mW/g

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2462 MHz; σ = 1.92 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.06, 8.06, 8.06); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Front of EUT Facing Phantom - High/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.041 mW/g

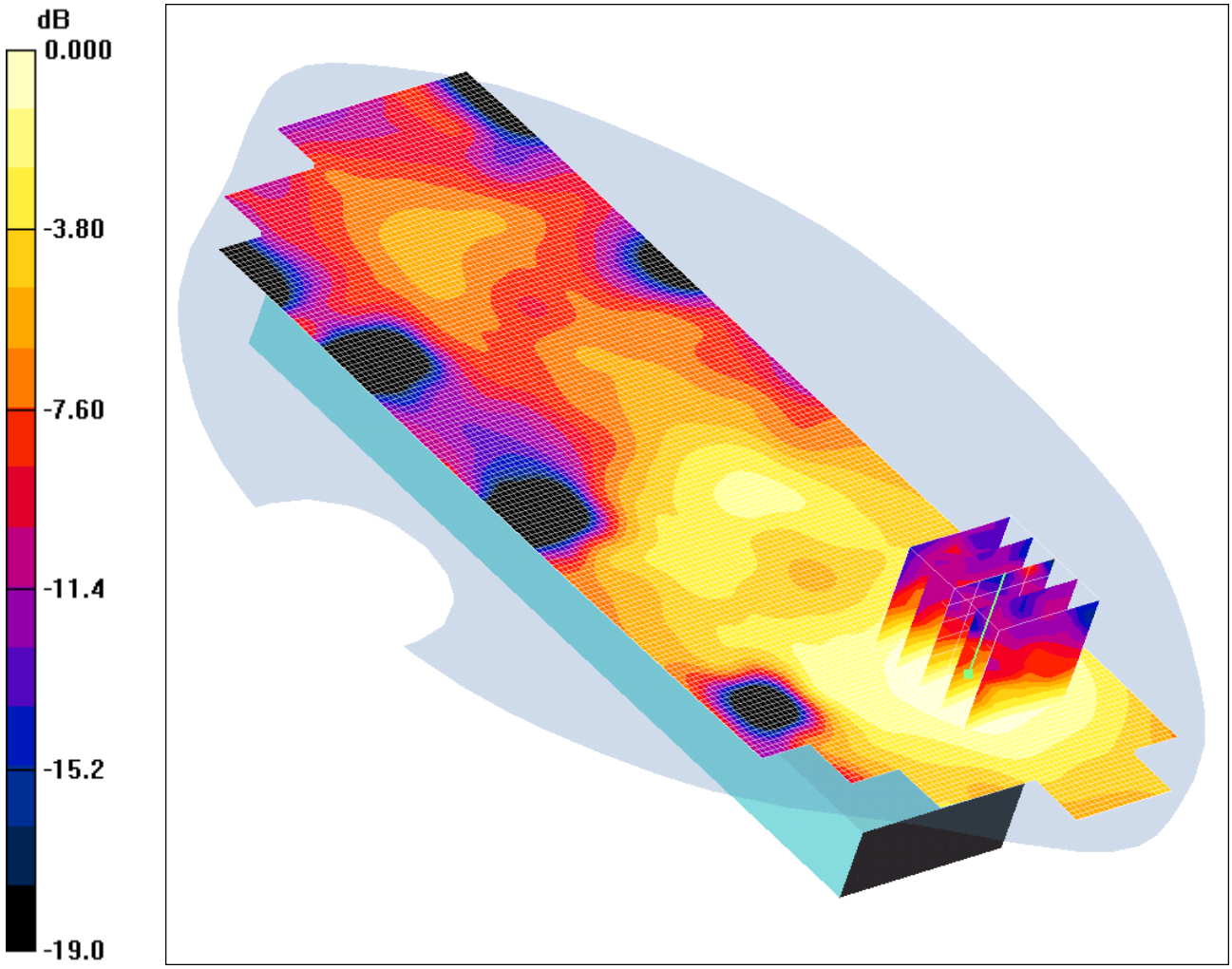
Front of EUT Facing Phantom - High/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.68 V/m; Power Drift = -0.136 dB
Peak SAR (extrapolated) = 0.063 W/kg
SAR(1 g) = 0.035 mW/g; SAR(10 g) = 0.021 mW/g

Maximum value of SAR (measured) = 0.038 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/018: Rear of EUT Facing Phantom With Antenna Retracted WiFi 802_11b CH11 1Mbps
Date 25/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.010mW/g

Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2437 MHz; σ = 1.89 mho/m; ε_r = 50.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.06, 8.06, 8.06); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Rear of EUT Facing Phantom - High/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.010 mW/g

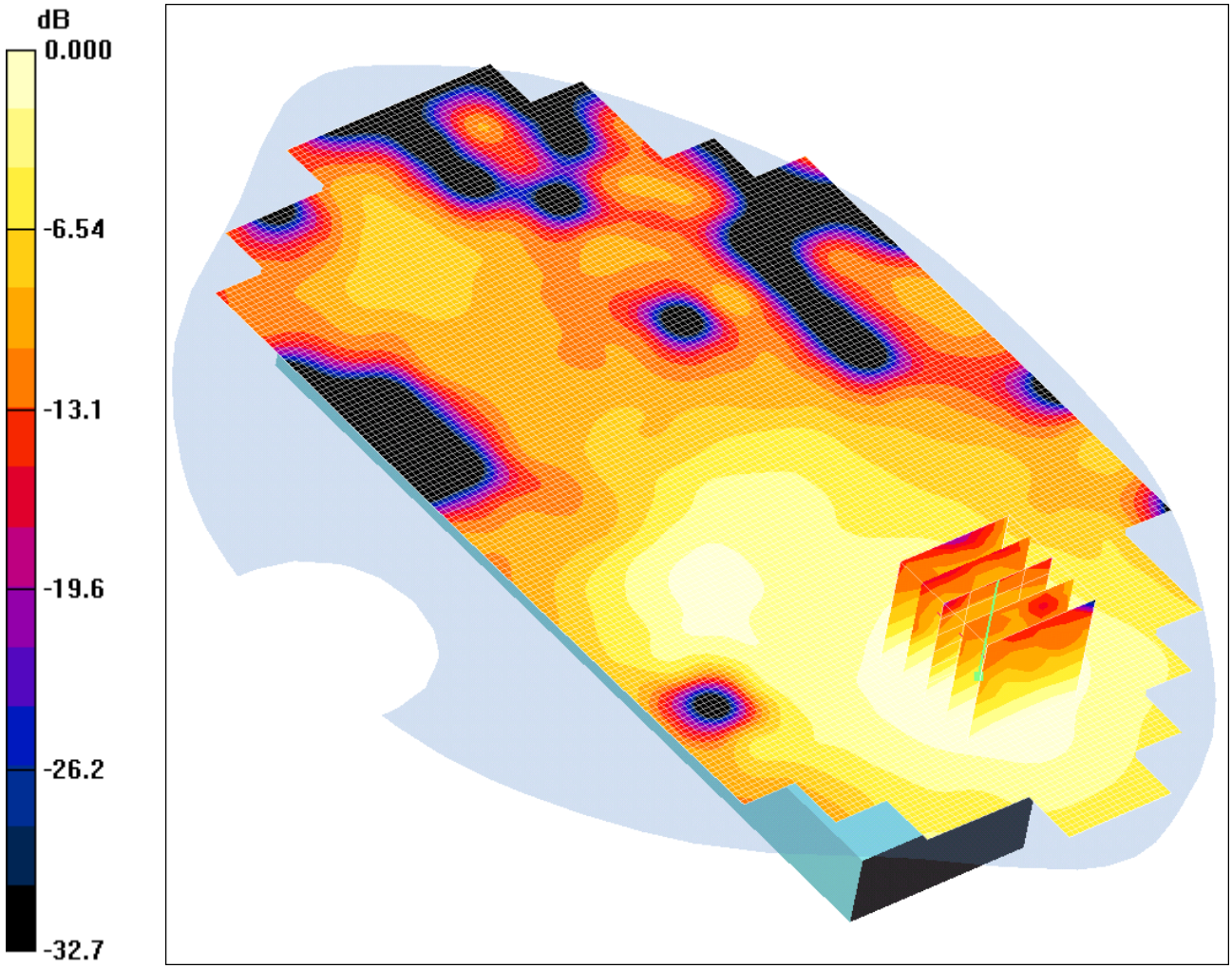
Rear of EUT Facing Phantom - High/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.46 V/m; Power Drift = -0.057 dB
Peak SAR (extrapolated) = 0.016 W/kg
SAR(1 g) = 0.00924 mW/g; SAR(10 g) = 0.00537 mW/g

Maximum value of SAR (measured) = 0.010 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/019: Rear of EUT Facing Phantom With Antenna Extended WiFi 802_11b CH11 1Mbps
Date 25/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.012mW/g

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2462 MHz; σ = 1.92 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.06, 8.06, 8.06); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Rear of EUT Facing Phantom - High/Area Scan (101x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.012 mW/g

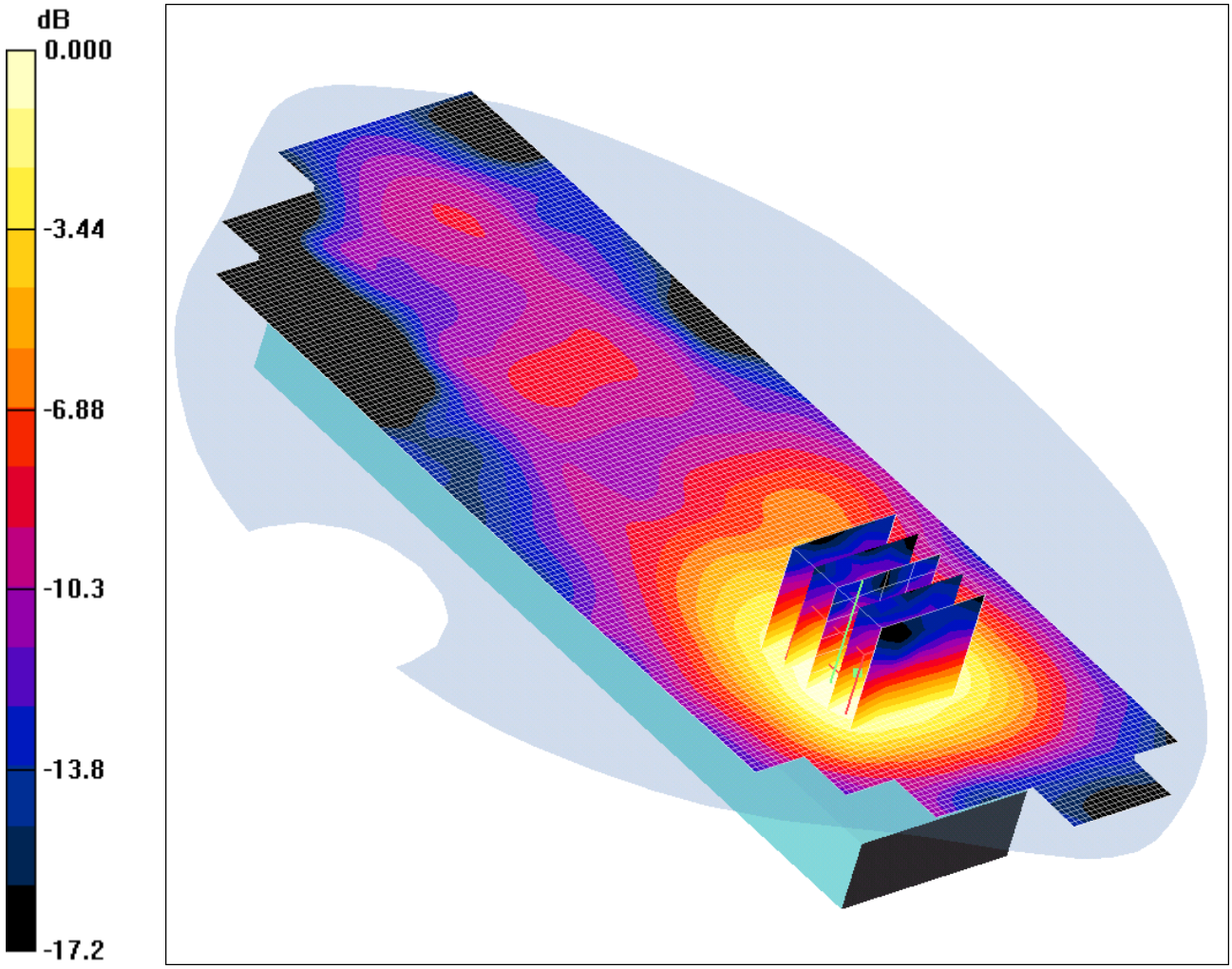
Rear of EUT Facing Phantom - High/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.27 V/m; Power Drift = -0.319 dB
Peak SAR (extrapolated) = 0.020 W/kg
SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.00689 mW/g

Maximum value of SAR (measured) = 0.012 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/020: Front of EUT Facing Phantom With Antenna Retracted WiFi 802_11g CH11 6Mbps
Date 25/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.032mW/g

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2462 MHz; σ = 1.92 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.06, 8.06, 8.06); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Front of EUT Facing Phantom - High/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.032 mW/g

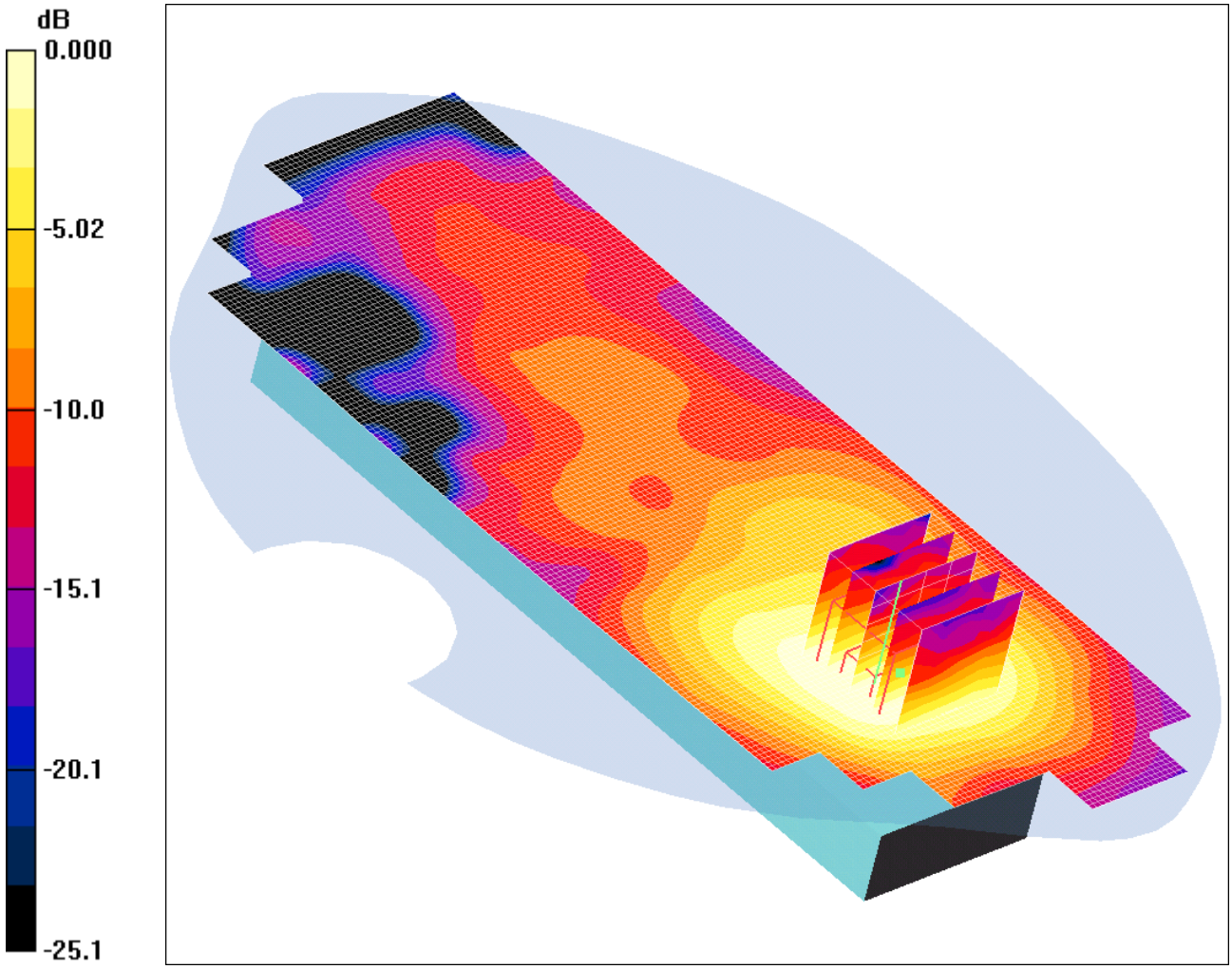
Front of EUT Facing Phantom - High/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.44 V/m; Power Drift = -0.299 dB
Peak SAR (extrapolated) = 0.052 W/kg
SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.017 mW/g

Maximum value of SAR (measured) = 0.032 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/021: Front of EUT Facing Phantom With Antenna Extended WiFi 802_11g CH11 6Mbps
Date 25/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.033mW/g

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2462 MHz; σ = 1.92 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.06, 8.06, 8.06); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Front of EUT Facing Phantom - High/Area Scan (71x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.034 mW/g

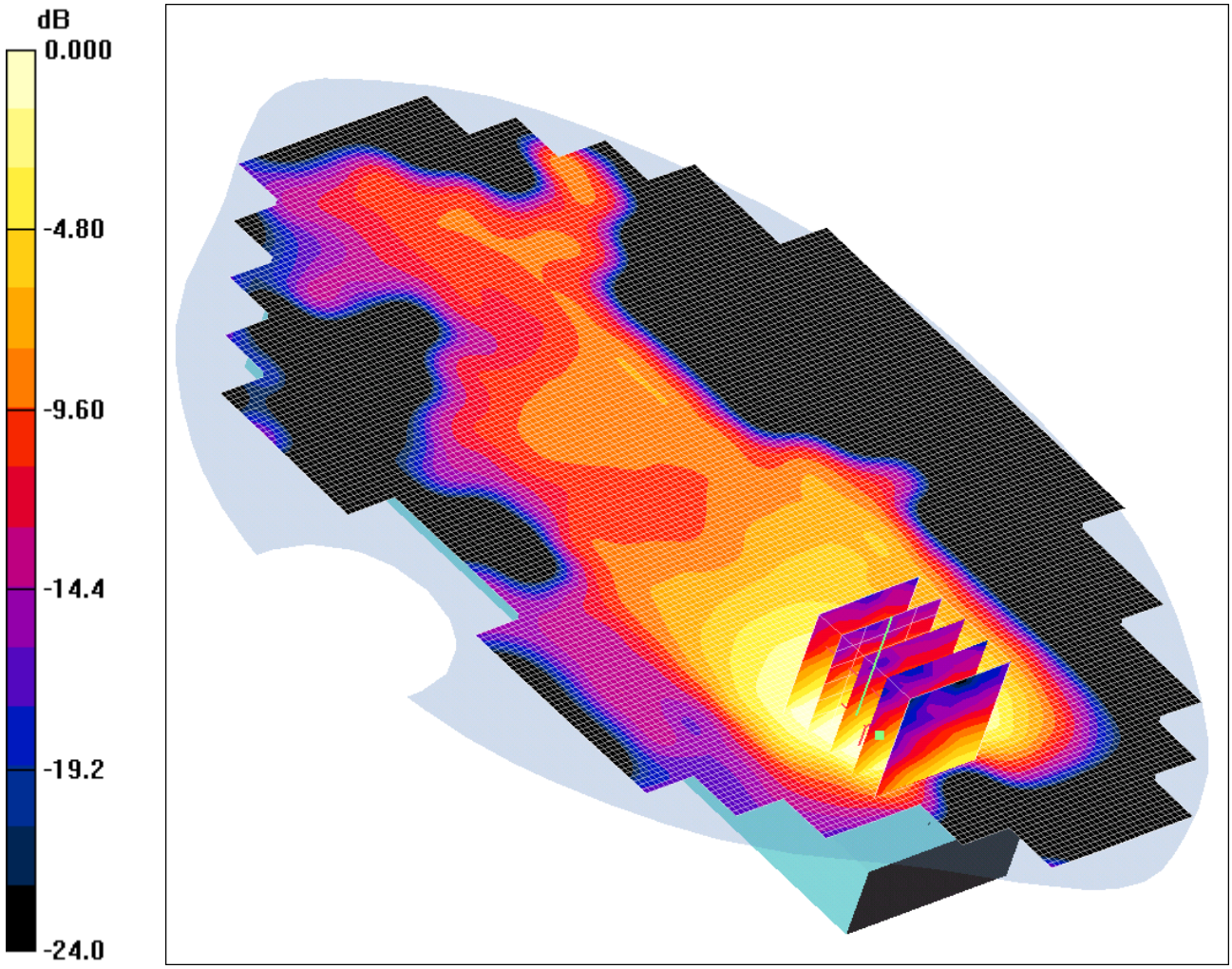
Front of EUT Facing Phantom - High/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.37 V/m; Power Drift = 0.069 dB
Peak SAR (extrapolated) = 0.056 W/kg
SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.018 mW/g

Maximum value of SAR (measured) = 0.033 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/022: Front of EUT Facing Phantom With PHF Antenna Retracted WiFi 802_11b CH11 1Mbps
Date 25/11/2009
DUT: Panasonic S92WP1; Type: S92WP1 (Sample C8); Serial: 004401220894337



0 dB = 0.040mW/g

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2462 MHz; σ = 1.92 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.06, 8.06, 8.06); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

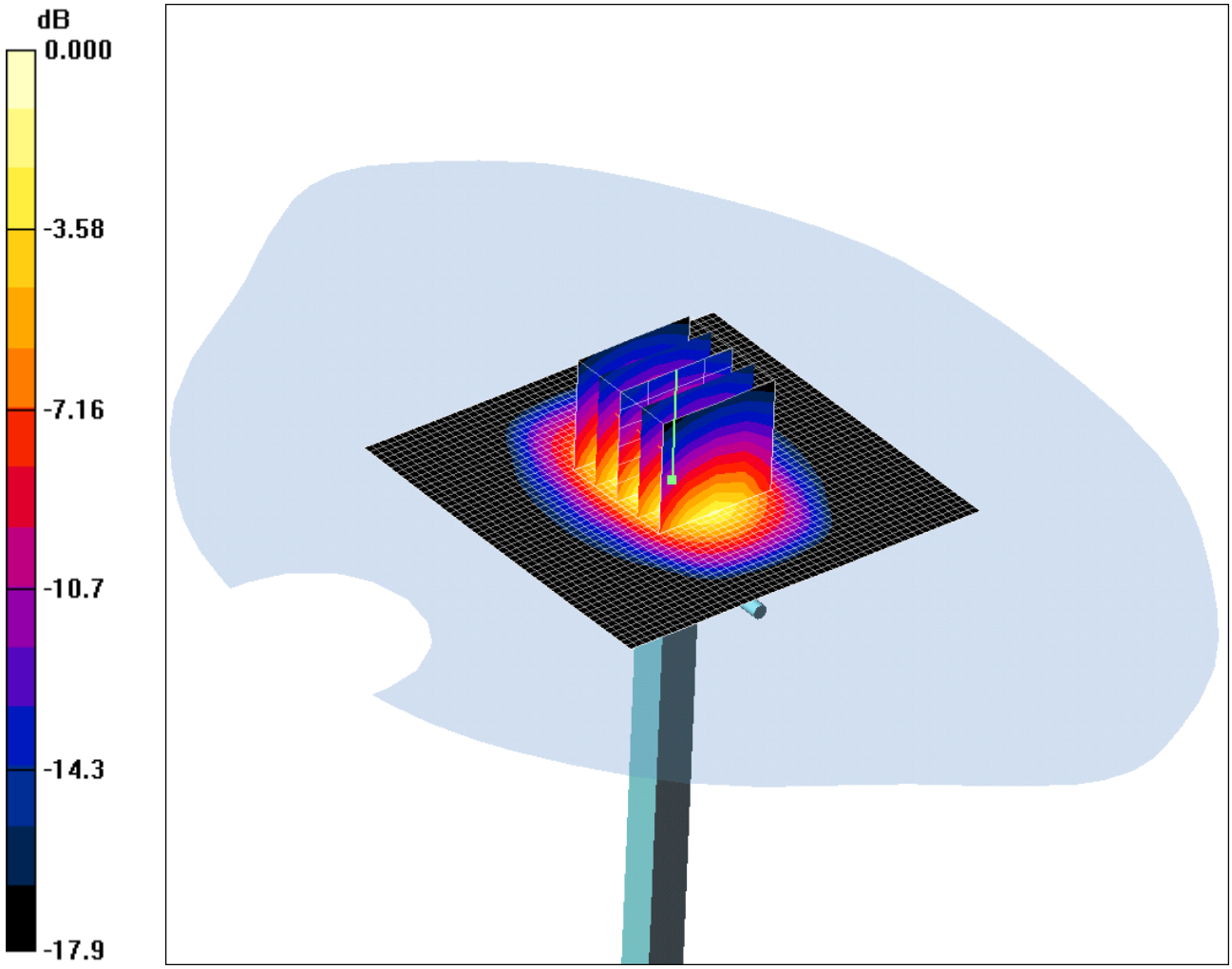
Front of EUT Facing Phantom - High/Area Scan (121x181x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.054 mW/g

Front of EUT Facing Phantom - High/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.52 V/m; Power Drift = 0.270 dB
Peak SAR (extrapolated) = 0.068 W/kg
SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.021 mW/g

Maximum value of SAR (measured) = 0.040 mW/g

SCN/76421JD03/023: System Performance Check 1900MHz Head 19 11 09
Date 19/11/2009
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: SN540



0 dB = 11.9mW/g

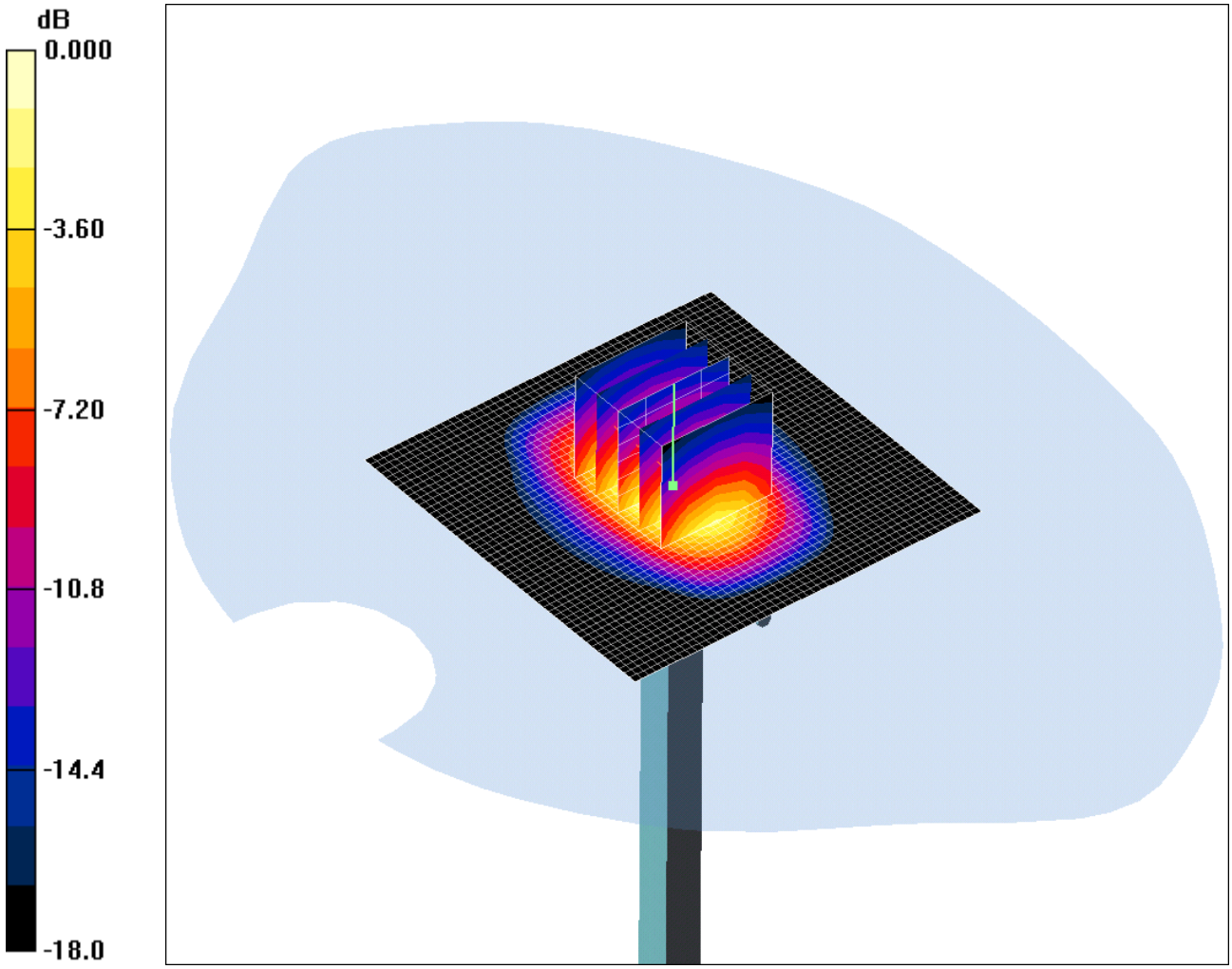
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 MHz HSL Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.58, 8.58, 8.58); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 17.1 mW/g

d=10mm, Pin=250mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 91.8 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 19.8 W/kg
SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.45 mW/g
Maximum value of SAR (measured) = 11.9 mW/g

Test of: SoftBank 941P

To: OET Bulletin 65 Supplement C: (2001-01)

SCN/76421JD03/024: System Performance Check 1900MHz Head 20 11 09
Date 20/11/2009
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: SN540



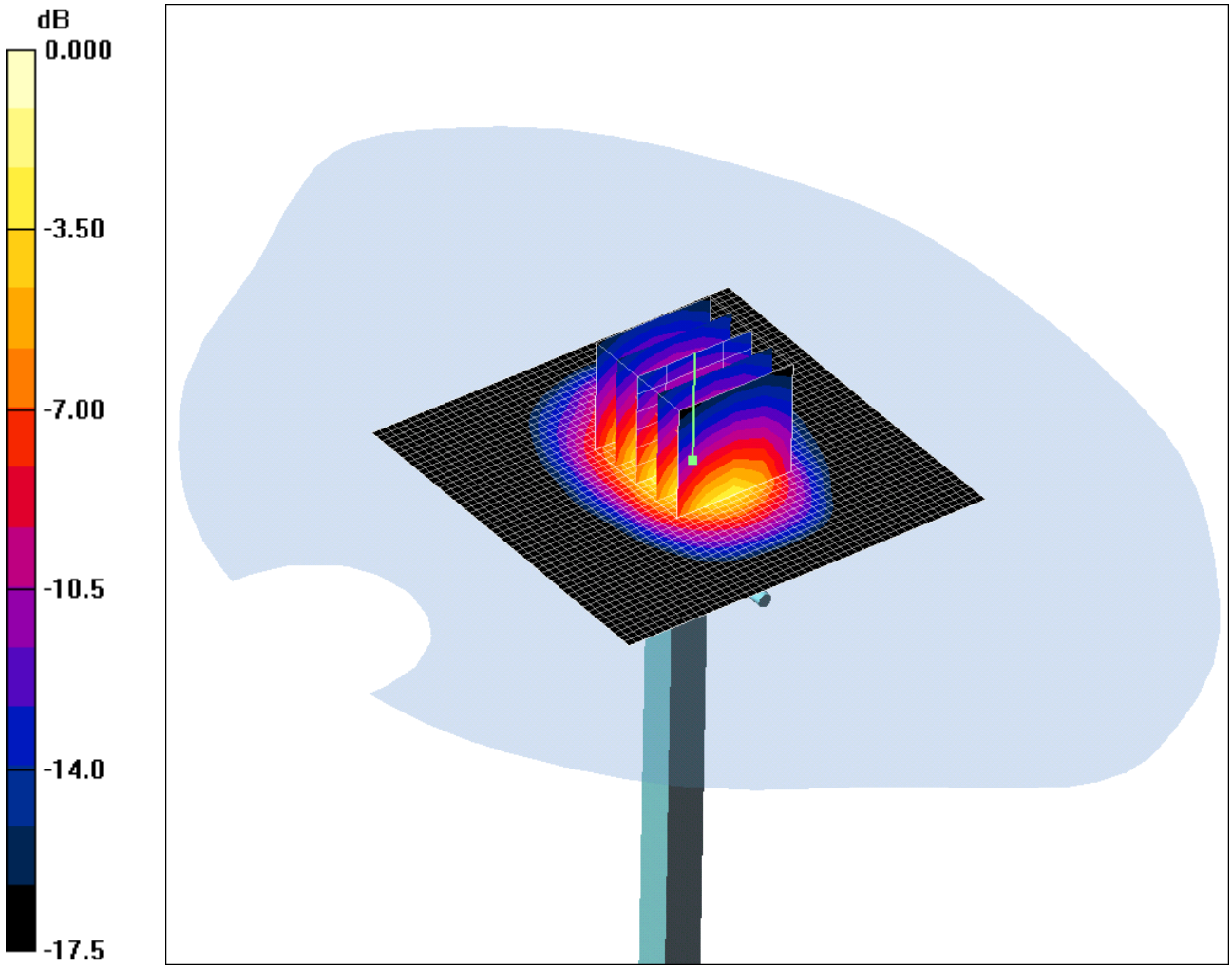
0 dB = 11.4mW/g

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 MHz HSL Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.58, 8.58, 8.58); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 16.3 mW/g

d=10mm, Pin=250mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 90.1 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 19.1 W/kg
SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.25 mW/g
Maximum value of SAR (measured) = 11.4 mW/g

SCN/76421JD03/025: System Performance Check 1900MHz Body 23 11 09
Date 23/11/2009
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: SN540



0 dB = 11.6mW/g

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: 1900 MHz MSL Medium parameters used: f = 1900 MHz; σ = 1.54 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.23, 8.23, 8.23); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

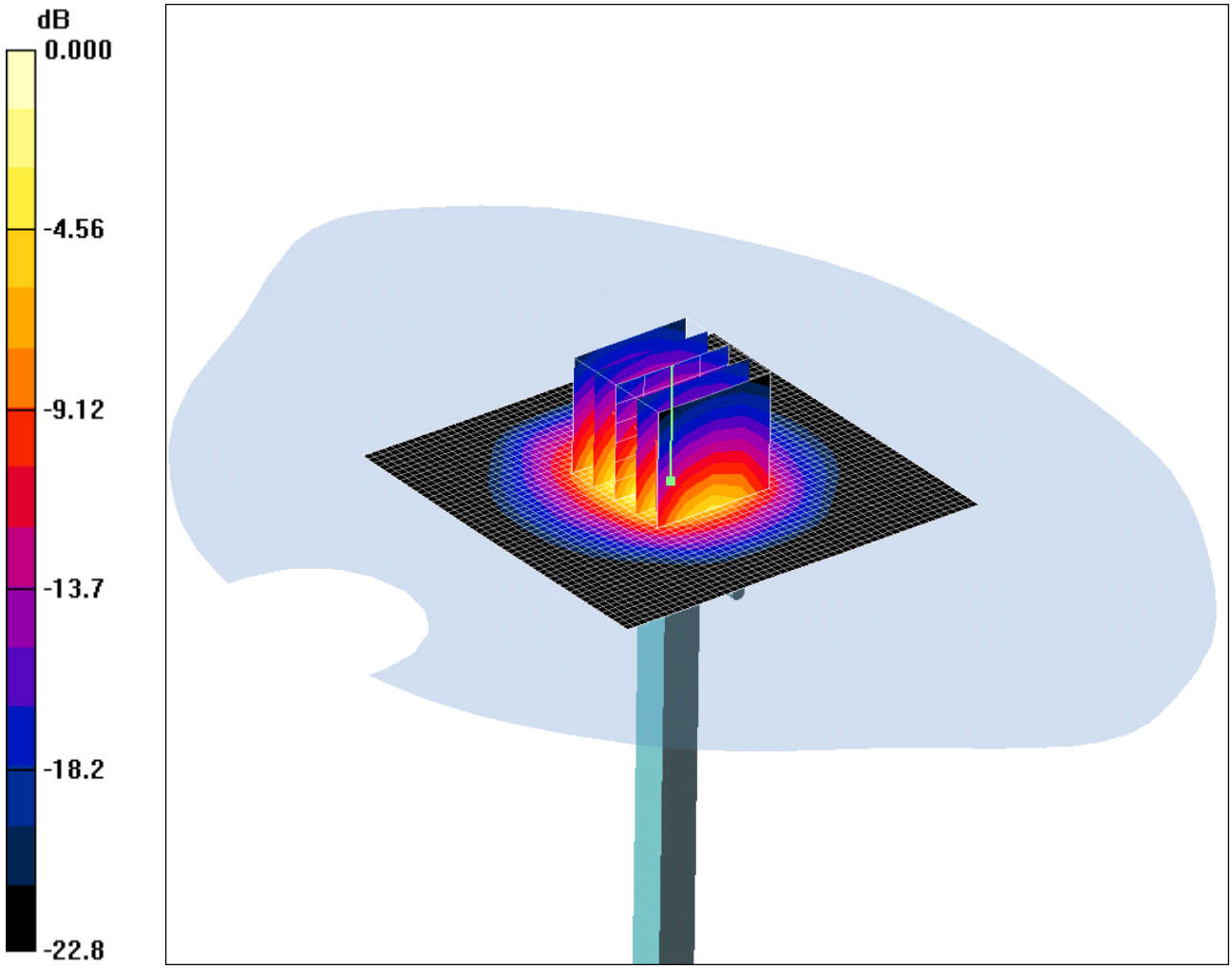
d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 14.1 mW/g

d=10mm, Pin=250mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 84.2 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 19.0 W/kg
SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.4 mW/g
Maximum value of SAR (measured) = 11.6 mW/g

Test of: **SoftBank 941P**

To: **OET Bulletin 65 Supplement C: (2001-01)**

SCN/76421JD03/026: System Performance Check 2450MHz Body 25 11 09
Date 25/11/2009
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:725



0 dB = 15.4mW/g

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used: f = 2450 MHz; σ = 1.91 mho/m; ε_r = 50.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508; ConvF(8.06, 8.06, 8.06); Calibrated: 26/06/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn450; Calibrated: 30/04/2009
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 20.1 mW/g

d=10mm, Pin=250mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 89.8 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 28.1 W/kg
SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.22 mW/g
Maximum value of SAR (measured) = 15.4 mW/g