



FCC SAR Test Report

Report No. : SA130617C07

Applicant : VeriFone, Inc.

Address : 1400 West Stanford Ranch Road Suite 200 Rocklin CA 95765 USA

Product : Point of Sale Terminal

FCC ID : B32E315

Brand : VeriFone

Model No. : e315

Standards : FCC 47 CFR Part 2 (2.1093) / IEEE C95.1:1991 / IEEE 1528:2003
 FCC OET Bulletin 65 Supplement C (Edition 01-01)
 KDB 248227 D01 v01r02 / KDB 447498 D01 v05r01 / KDB 648474 D04 v01r01
 KDB 941225 D01 v02 / KDB 941225 D02 v02r02 / KDB 941225 D03 v01
 KDB 941225 D05 v02r02 / KDB 941225 D06 v01r01

Date of Testing : Jun. 01, 2013 ~ Jun. 27, 2013

The product was attached to iPhone 5 (Brand Name: Apple, Model Name: A1428 and A1429, FCC ID: BCG-E2599A) during SAR test.

CERTIFICATION: The above equipment have been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch - Taiwan HwaYa Lab**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's SAR characteristics under the conditions specified in this report. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product certification, approval, or endorsement by TAF or any government agencies.

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Release Control Record

Issue No.	Reason for Change	Date Issued
R01	Initial release	Jul. 11, 2013

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1. Summary of Maximum SAR Value
<Sleeve Device Standalone>

Equipment Class	Mode	Highest Reported Body SAR _{1g} (0.5 cm Gap) (W/kg)
DXX	NFC	N/A

<Sleeve Device Attached to Apple iPhone 5 A1428>

Equipment Class	Mode	Highest Reported Head SAR _{1g} (W/kg)	Highest Reported Body SAR _{1g} (1.0 cm Gap) (W/kg)
PCE	GSM850	0.68	0.21
	GSM1900	0.42	0.47
	WCDMA II	0.30	0.17
	WCDMA V	0.85	0.03
	LTE 2	N/A	0.28
	LTE 4	1.08	0.12
	LTE 5	N/A	0.22
	LTE 17	N/A	0.05
DTS	2.4G WLAN	0.34	0.04
	5.8G WLAN	0.25	0.03
NII	5.2G WLAN	0.35	0.02
	5.3G WLAN	0.39	0.04
	5.6G WLAN	0.31	0.04
DSS	Bluetooth	N/A	0.04
DXX	NFC	N/A	N/A



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<Sleeve Device Attached to Apple iPhone 5 A1429>

Equipment Class	Mode	Highest Reported Head SAR _{1g} (W/kg)	Highest Reported Body SAR _{1g} (1.0 cm Gap) (W/kg)
PCE	GSM850	0.59	0.14
	GSM1900	0.93	0.48
	WCDMA II	0.41	0.30
	WCDMA V	0.72	0.02
	CDMA BC0	0.89	0.21
	CDMA BC1	0.78	0.24
	CDMA BC10	0.63	0.09
	LTE 5	N/A	0.03
	LTE 13	0.48	0.06
LTE 25	N/A	0.23	
DTS	2.4G WLAN	0.31	0.03
	5.8G WLAN	0.25	0.03
NII	5.2G WLAN	0.34	0.03
	5.3G WLAN	0.41	0.05
	5.6G WLAN	0.28	0.04
DSS	Bluetooth	N/A	0.04
DXX	NFC	N/A	N/A

Note:

1. The SAR limit (**SAR_{1g} 1.6 W/kg**) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1991.



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2. Description of Equipment Under Test

<Sleeve Device>

EUT Type	Point of Sale Terminal
FCC ID	B32E315
Brand Name	VeriFone
Model Name	e315
Tx Frequency Bands (Unit: MHz)	NFC : 13.56
Uplink Modulations	NFC : ASK
Antenna Type	Fixed Internal Antenna
EUT Stage	Identical Prototype

<Host: Apple iPhone 5>

FCC ID	BCG-E2599A
Brand Name	Apple
Model Name	A1428 and A1429
Tx Frequency Bands (Unit: MHz)	<p><Model: A1428> GSM850 : 824.2 ~ 848.8 GSM1900 : 1850.2 ~ 1909.8 WCDMA Band II : 1852.4 ~ 1907.6 WCDMA Band V : 826.4 ~ 846.6 LTE Band 2 : 1850.7 ~ 1909.2 LTE Band 4 : 1710.7 ~ 1754.2 LTE Band 5 : 824.7 ~ 848.2 LTE Band 17 : 706.5 ~ 713.5 WLAN : 2412 ~ 2462, 5180 ~ 5240, 5260 ~ 5320, 5500 ~ 5700, 5745 ~ 5825 Bluetooth : 2402 ~ 2480</p> <p><Model: A1429> GSM850 : 824.2 ~ 848.8 GSM1900 : 1850.2 ~ 1909.8 WCDMA Band II : 1852.4 ~ 1907.6 WCDMA Band V : 826.4 ~ 846.6 CDMA BC0 : 824.7 ~ 848.31 CDMA BC1 : 1851.25 ~ 1908.75 CDMA BC10 : 817.9 ~ 823.1 LTE Band 5 : 824.7 ~ 848.2 LTE Band 13 : 779.5 ~ 784.5 LTE Band 25 : 1850.7 ~ 1914.2 WLAN : 2412 ~ 2462, 5180 ~ 5240, 5260 ~ 5320, 5500 ~ 5700, 5745 ~ 5825 Bluetooth : 2402 ~ 2480</p>
Uplink Modulations	GSM & GPRS : GMSK EDGE : 8PSK WCDMA : QPSK CDMA : QPSK LTE : QPSK, 16QAM 802.11b : DSSS 802.11a/g/n : OFDM Bluetooth : GFSK

Note:

1. The above EUT information is declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or User's Manual.



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A D T

List of Accessory:

Battery	Brand Name	VeriFone
	Model Name	BPK087-300
	Power Rating	3.7Vdc, 1530mAh
	Type	Li-ion

3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$\text{SAR} = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dv} \right)$$

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be related to the electrical field in the tissue by

$$\text{SAR} = \frac{\sigma |E|^2}{\rho}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

3.2 SPEAG DASY System

DASY system consists of high precision robot, probe alignment sensor, phantom, robot controller, controlled measurement server and near-field probe. The robot includes six axes that can move to the precision position of the DASY4/5 software defined. The DASY software can define the area that is detected by the probe. The robot is connected to controlled box. Controlled measurement server is connected to the controlled robot box. The DAE includes amplifier, signal multiplexing, AD converter, offset measurement and surface detection. It is connected to the Electro-optical coupler (ECO). The ECO performs the conversion form the optical into digital electric signal of the DAE and transfers data to the PC.

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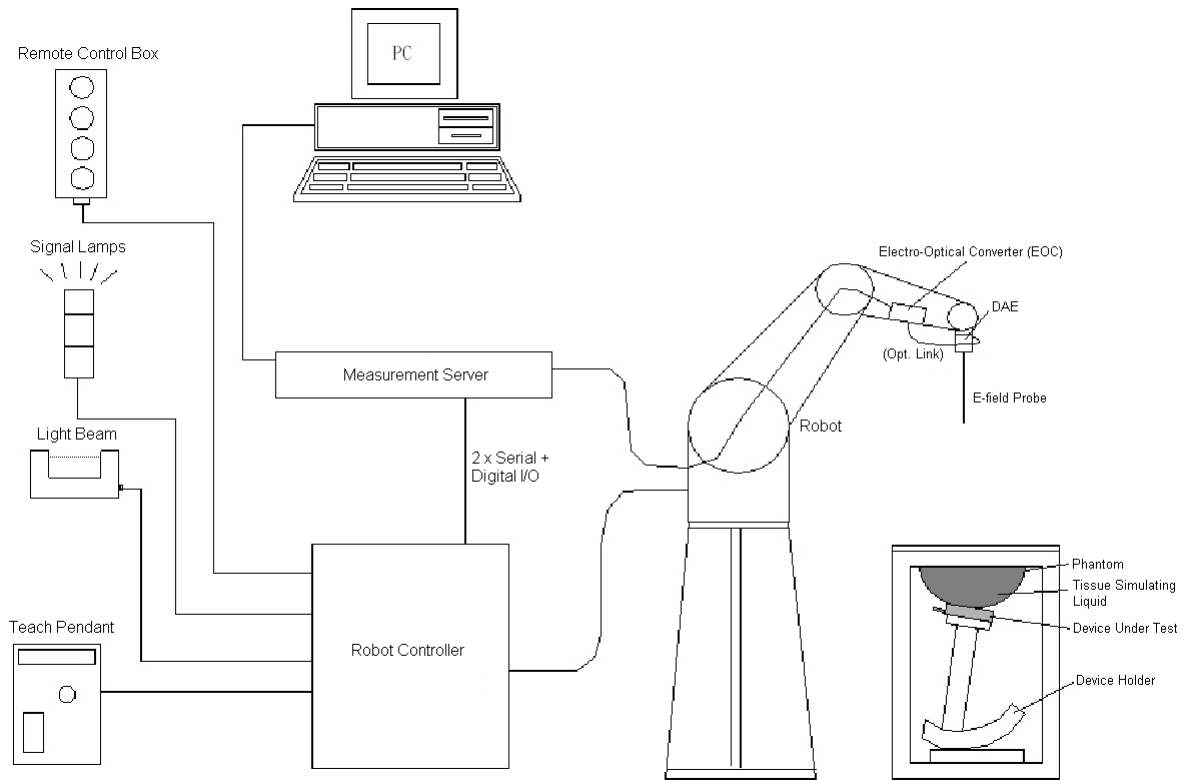


Fig-3.1 DASY System Setup

3.2.1 Robot

The DASY system uses the high precision robots from Stäubli SA (France). For the 6-axis controller system, the robot controller version (DASY4: CS7MB; DASY5: CS8c) from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability ± 0.035 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)



Fig-3.2 DASY4





Fig-3.3 DASY5

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3.2.2 Probes

The SAR measurement is conducted with the dosimetric probe. The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency.

Model	EX3DV4	
Construction	Symmetrical design with triangular core. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE).	
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 dB	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 μ W/g to 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μ W/g)	
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	


Model	ES3DV3	
Construction	Symmetrical design with triangular core. Interleaved sensors. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE).	
Frequency	10 MHz to 4 GHz Linearity: ± 0.2 dB	
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	5 μ W/g to 100 mW/g Linearity: ± 0.2 dB	
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm	

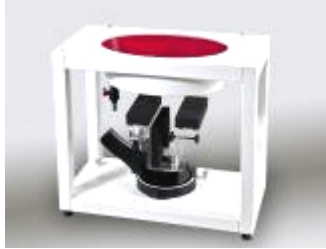
3.2.3 Data Acquisition Electronics (DAE)

Model	DAE3, DAE4	
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY4/5 embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.	
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV, 400mV)	
Input Offset Voltage	< 5 μ V (with auto zero)	
Input Bias Current	< 50 fA	
Dimensions	60 x 60 x 68 mm	

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3.2.4 Phantoms


Model	Twin SAM	
Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.	
Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)	
Dimensions	Length: 1000 mm Width: 500 mm Height: adjustable feet	
Filling Volume	approx. 25 liters	

Model	ELI	
Construction	Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.	
Material	Vinylester, glass fiber reinforced (VE-GF)	
Shell Thickness	2.0 ± 0.2 mm (bottom plate)	
Dimensions	Major axis: 600 mm Minor axis: 400 mm	
Filling Volume	approx. 30 liters	


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3.2.5 Device Holder

Model	Mounting Device	
Construction	In combination with the Twin SAM Phantom or ELI4, the Mounting Device enables the rotation of the mounted transmitter device in spherical coordinates. Rotation point is the ear opening point. Transmitter devices can be easily and accurately positioned according to IEC, IEEE, FCC or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat).	
Material	POM	

Model	Laptop Extensions Kit	
Construction	Simple but effective and easy-to-use extension for Mounting Device that facilitates the testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc.). It is lightweight and fits easily on the upper part of the Mounting Device in place of the phone positioner.	
Material	POM, Acrylic glass, Foam	

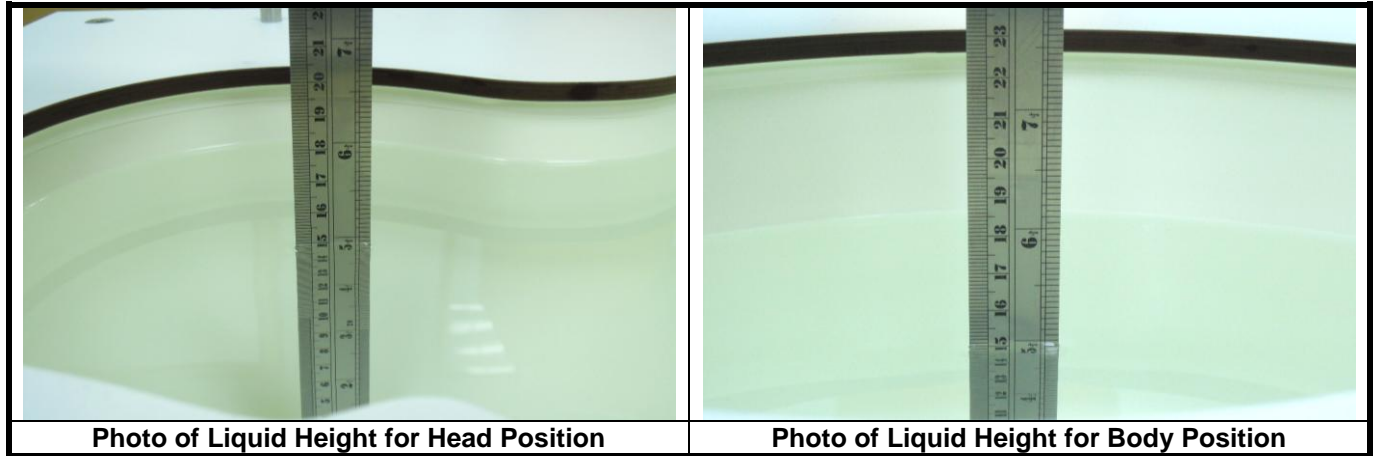
3.2.6 System Validation Dipoles

Model	D-Serial	
Construction	Symmetrical dipole with 1/4 balun. Enables measurement of feed point impedance with NWA. Matched for use near flat phantoms filled with tissue simulating solutions.	
Frequency	750 MHz to 5800 MHz	
Return Loss	> 20 dB	
Power Capability	> 100 W (f < 1GHz), > 40 W (f > 1GHz)	

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3.2.7 Tissue Simulating Liquids

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed in Table-3.1.



The dielectric properties of the head tissue simulating liquids are defined in IEEE 1528 and FCC OET 65 Supplement C Appendix C. For the body tissue simulating liquids, the dielectric properties are defined in FCC OET 65 Supplement C Appendix C. The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using an Agilent 85070D Dielectric Probe Kit and an Agilent Network Analyzer.



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Table-3.1 Targets of Tissue Simulating Liquid

Frequency (MHz)	Target Permittivity	Range of $\pm 5\%$	Target Conductivity	Range of $\pm 5\%$
For Head				
750	41.9	39.8 ~ 44.0	0.89	0.85 ~ 0.93
835	41.5	39.4 ~ 43.6	0.90	0.86 ~ 0.95
900	41.5	39.4 ~ 43.6	0.97	0.92 ~ 1.02
1450	40.5	38.5 ~ 42.5	1.20	1.14 ~ 1.26
1640	40.3	38.3 ~ 42.3	1.29	1.23 ~ 1.35
1750	40.1	38.1 ~ 42.1	1.37	1.30 ~ 1.44
1800	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
1900	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
2000	40.0	38.0 ~ 42.0	1.40	1.33 ~ 1.47
2300	39.5	37.5 ~ 41.5	1.67	1.59 ~ 1.75
2450	39.2	37.2 ~ 41.2	1.80	1.71 ~ 1.89
2600	39.0	37.1 ~ 41.0	1.96	1.86 ~ 2.06
3500	37.9	36.0 ~ 39.8	2.91	2.76 ~ 3.06
5200	36.0	34.2 ~ 37.8	4.66	4.43 ~ 4.89
5300	35.9	34.1 ~ 37.7	4.76	4.52 ~ 5.00
5500	35.6	33.8 ~ 37.4	4.96	4.71 ~ 5.21
5600	35.5	33.7 ~ 37.3	5.07	4.82 ~ 5.32
5800	35.3	33.5 ~ 37.1	5.27	5.01 ~ 5.53
For Body				
750	55.5	52.7 ~ 58.3	0.96	0.91 ~ 1.01
835	55.2	52.4 ~ 58.0	0.97	0.92 ~ 1.02
900	55.0	52.3 ~ 57.8	1.05	1.00 ~ 1.10
1450	54.0	51.3 ~ 56.7	1.30	1.24 ~ 1.37
1640	53.8	51.1 ~ 56.5	1.40	1.33 ~ 1.47
1750	53.4	50.7 ~ 56.1	1.49	1.42 ~ 1.56
1800	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
1900	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
2000	53.3	50.6 ~ 56.0	1.52	1.44 ~ 1.60
2300	52.9	50.3 ~ 55.5	1.81	1.72 ~ 1.90
2450	52.7	50.1 ~ 55.3	1.95	1.85 ~ 2.05
2600	52.5	49.9 ~ 55.1	2.16	2.05 ~ 2.27
3500	51.3	48.7 ~ 53.9	3.31	3.14 ~ 3.48
5200	49.0	46.6 ~ 51.5	5.30	5.04 ~ 5.57
5300	48.9	46.5 ~ 51.3	5.42	5.15 ~ 5.69
5500	48.6	46.2 ~ 51.0	5.65	5.37 ~ 5.93
5600	48.5	46.1 ~ 50.9	5.77	5.48 ~ 6.06
5800	48.2	45.8 ~ 50.6	6.00	5.70 ~ 6.30



The following table gives the recipes for tissue simulating liquids.

Table-3.2 Recipes of Tissue Simulating Liquid

Tissue Type	Bactericide	DGBE	HEC	NaCl	Sucrose	Triton X-100	Water	Diethylene Glycol Mono-hexylether
H750	0.2	-	0.2	1.5	56.0	-	42.1	-
H835	0.2	-	0.2	1.5	57.0	-	41.1	-
H900	0.2	-	0.2	1.4	58.0	-	40.2	-
H1450	-	43.3	-	0.6	-	-	56.1	-
H1640	-	45.8	-	0.5	-	-	53.7	-
H1750	-	47.0	-	0.4	-	-	52.6	-
H1800	-	44.5	-	0.3	-	-	55.2	-
H1900	-	44.5	-	0.2	-	-	55.3	-
H2000	-	44.5	-	0.1	-	-	55.4	-
H2300	-	44.9	-	0.1	-	-	55.0	-
H2450	-	45.0	-	0.1	-	-	54.9	-
H2600	-	45.1	-	0.1	-	-	54.8	-
H3500	-	8.0	-	0.2	-	20.0	71.8	-
H5G	-	-	-	-	-	17.2	65.5	17.3
B750	0.2	-	0.2	0.8	48.8	-	50.0	-
B835	0.2	-	0.2	0.9	48.5	-	50.2	-
B900	0.2	-	0.2	0.9	48.2	-	50.5	-
B1450	-	34.0	-	0.3	-	-	65.7	-
B1640	-	32.5	-	0.3	-	-	67.2	-
B1750	-	31.0	-	0.2	-	-	68.8	-
B1800	-	29.5	-	0.4	-	-	70.1	-
B1900	-	29.5	-	0.3	-	-	70.2	-
B2000	-	30.0	-	0.2	-	-	69.8	-
B2300	-	31.0	-	0.1	-	-	68.9	-
B2450	-	31.4	-	0.1	-	-	68.5	-
B2600	-	31.8	-	0.1	-	-	68.1	-
B3500	-	28.8	-	0.1	-	-	71.1	-
B5G	-	-	-	-	-	10.7	78.6	10.7

3.3 SAR System Verification

The system check verifies that the system operates within its specifications. It is performed daily or before every SAR measurement. The system check uses normal SAR measurements in the flat section of the phantom with a matched dipole at a specified distance. The system verification setup is shown as below.

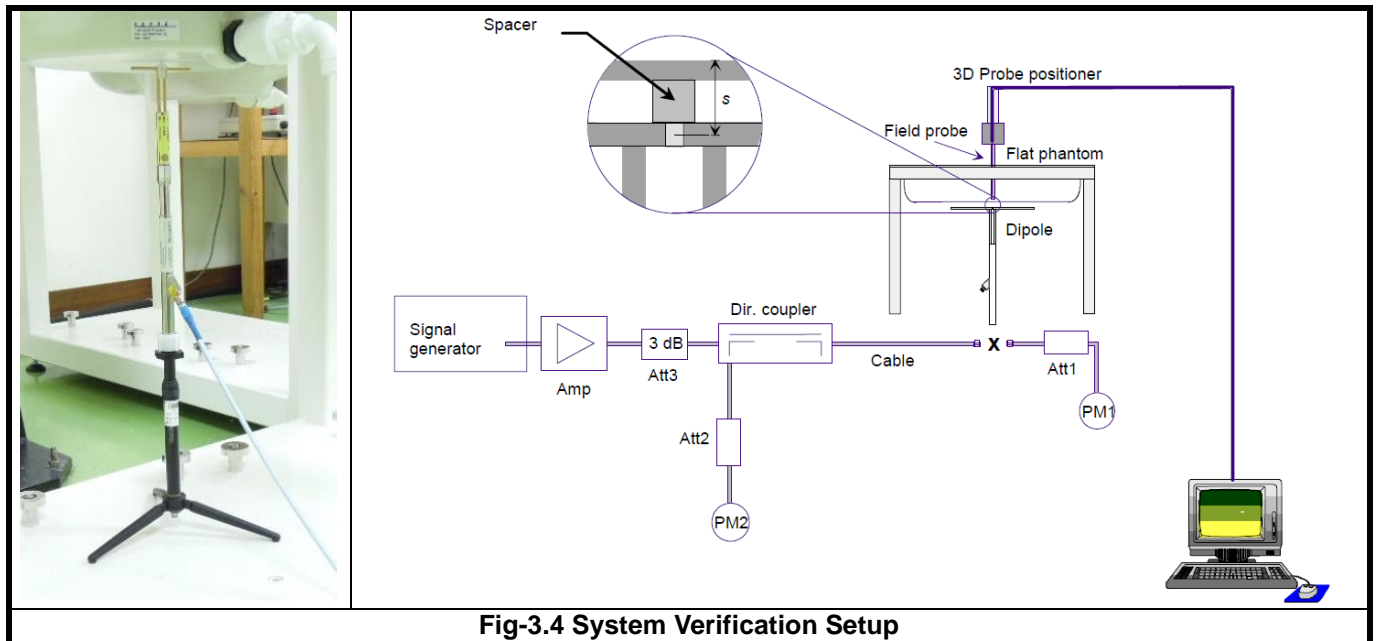


Fig-3.4 System Verification Setup

The validation dipole is placed beneath the flat phantom with the specific spacer in place. The distance spacer is touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The power meter PM1 measures the forward power at the location of the system check dipole connector. The signal generator is adjusted for the desired forward power (250 mW is used for 700 MHz to 3 GHz, 100 mW is used for 3.5 GHz to 6 GHz) at the dipole connector and the power meter PM2 is read at that level. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2.

After system check testing, the SAR result will be normalized to 1W forward input power and compared with the reference SAR value derived from validation dipole certificate report. The deviation of system check should be within 10 %.

3.4 SAR Measurement Procedure

According to the SAR test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

The SAR measurement procedures for each of test conditions are as follows:

- (a) Make EUT to transmit maximum output power
- (b) Measure conducted output power through RF cable
- (c) Place the EUT in the specific position of phantom
- (d) Perform SAR testing steps on the DASY system
- (e) Record the SAR value

3.4.1 Area & Zoom Scan Procedure

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. According to KDB 865664D01v01, the resolution for Area and Zoom scan is specified in the table below.

Items	<= 2 GHz	2-3 GHz	3-4 GHz	4-5 GHz	5-6 GHz
Area Scan ($\Delta x, \Delta y$)	<= 15 mm	<= 12 mm	<= 12 mm	<= 10 mm	<= 10 mm
Zoom Scan ($\Delta x, \Delta y$)	<= 8 mm	<= 5 mm	<= 5 mm	<= 4 mm	<= 4 mm
Zoom Scan (Δz)	<= 5 mm	<= 5 mm	<= 4 mm	<= 3 mm	<= 2 mm
Zoom Scan Volume	>= 30 mm	>= 30 mm	>= 28 mm	>= 25 mm	>= 22 mm

Note:

When zoom scan is required and report SAR is <= 1.4 W/kg, the zoom scan resolution of $\Delta x / \Delta y$ (2-3GHz: <= 8 mm, 3-4GHz: <= 7 mm, 4-6GHz: <= 5 mm) may be applied.

3.4.2 Volume Scan Procedure

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

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3.4.3 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drift more than 5%, the SAR will be retested.

3.4.4 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

3.4.5 SAR Averaged Methods

In DASY, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5 mm.

4. SAR Measurement Evaluation

4.1 EUT Configuration and Setting

For Apple iPhone 5 WWAN SAR testing, the EUT was linked and controlled by base station emulator (Agilent E5515C is used for GSM/WCDMA/CDMA2000, and Anritsu MT8820C is used for LTE). Communication between the EUT and the emulator was established by air link. The distance between the EUT and the communicating antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during SAR testing.

For Apple iPhone 5 WLAN/BT SAR testing, the iPhone 5 test sample has installed engineering testing software which can provide continuous transmitting RF signal. According to KDB 248227 D01, WLAN SAR should be tested at the lowest data rate, and testing at higher data rate is not required when the maximum average output power is less than 1/4 dB higher than those measured at the lowest data rate. Since the WLAN power at lowest data rate has highest output power, WLAN SAR for this device was performed at the lowest data rate as set in 1 Mbps for 802.11b, and 6 Mbps for 802.11a. This RF signal utilized in SAR measurement has almost 100% duty cycle for 802.11b, 802.11a, and Bluetooth. Therefore, the duty factor is set to 1 during SAR testing.

4.2 EUT Testing Position

According to the FCC KDB 447498 and KDB 648474, we have confirmed the maximum output power and SAR value for the testing sample of Apple iPhone 5, then we test the sleeve attached to iPhone 5 on the highest SAR configuration reported in the original Apple report.

In addition, since the thickness of this sleeve device (1.5 cm) is larger than the distance (1.0 cm) tested by Apple report for body SAR, we place the sleeve in direct contact with the phantom for rear face body SAR testing.

4.3 Tissue Verification

The measuring results for tissue simulating liquid are shown as below.

Test Date	Tissue Type	Frequency (MHz)	Liquid Temp. (°C)	Measured Conductivity (σ)	Measured Permittivity (ε _r)	Target Conductivity (σ)	Target Permittivity (ε _r)	Conductivity Deviation (%)	Permittivity Deviation (%)
Jun. 04, 2013	Head	750	20.5	0.906	41.293	0.89	41.9	1.80	-1.45
Jun. 03, 2013	Head	835	20.5	0.881	41.93	0.90	41.5	-2.11	1.04
Jun. 04, 2013	Head	835	20.5	0.886	42.271	0.90	41.5	-1.56	1.86
Jun. 20, 2013	Head	1750	20.5	1.358	39.714	1.37	40.1	-0.88	-0.96
Jun. 01, 2013	Head	1900	20.5	1.415	40.328	1.40	40.0	1.07	0.82
Jun. 05, 2013	Head	1900	20.5	1.406	39.541	1.40	40.0	0.43	-1.15
Jun. 20, 2013	Head	1900	20.5	1.406	39.596	1.40	40.0	0.43	-1.01
Jun. 19, 2013	Head	2450	20.5	1.773	40.426	1.80	39.2	-1.50	3.13
Jun. 12, 2013	Head	5200	20.5	4.783	35.452	4.66	36.0	2.64	-1.52
Jun. 12, 2013	Head	5300	20.5	4.906	35.237	4.76	35.9	3.07	-1.85
Jun. 13, 2013	Head	5600	20.5	5.226	34.677	5.07	35.5	3.08	-2.32
Jun. 13, 2013	Head	5800	20.5	5.439	34.384	5.27	35.3	3.21	-2.59
Jun. 14, 2013	Body	750	20.5	0.966	55.243	0.96	55.5	0.63	-0.46
Jun. 27, 2013	Body	750	20.5	0.976	56.163	0.96	55.5	1.67	1.19
Jun. 25, 2013	Body	835	20.5	0.973	54.214	0.97	55.2	0.31	-1.79
Jun. 27, 2013	Body	835	20.5	0.976	54.657	0.97	55.2	0.62	-0.98
Jun. 27, 2013	Body	1750	20.5	1.486	52.204	1.49	53.4	-0.27	-2.24
Jun. 26, 2013	Body	1900	20.5	1.56	53.444	1.52	53.3	2.63	0.27
Jun. 27, 2013	Body	1900	20.5	1.558	53.518	1.52	53.3	2.50	0.41
Jun. 27, 2013	Body	2450	20.5	1.965	51.642	1.95	52.7	0.77	-2.01
Jun. 08, 2013	Body	5200	20.5	5.279	49.196	5.30	49.0	-0.40	0.40
Jun. 08, 2013	Body	5300	20.5	5.417	49.031	5.42	48.9	-0.06	0.27
Jun. 08, 2013	Body	5600	20.5	5.884	48.452	5.77	48.5	1.98	-0.10
Jun. 08, 2013	Body	5800	20.5	6.141	47.955	6.00	48.2	2.35	-0.51

Note:

The dielectric properties of the tissue simulating liquid must be measured within 24 hours before the SAR testing and within ±5% of the target values. Liquid temperature during the SAR testing must be within ±2 °C.

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4.4 System Validation

The SAR measurement system was validated according to procedures in KDB 865664 D01v01. The validation status in tabulated summary is as below.

Test Date	Probe S/N	Calibration Point		Measured Conductivity (σ)	Measured Permittivity (ϵ_r)	Validation for CW			Validation for Modulation		
						Sensitivity Range	Probe Linearity	Probe Isotropy	Modulation Type	Duty Factor	PAR
Jun. 04, 2013	3801	Head	750	0.906	41.293	Pass	Pass	Pass	N/A	N/A	N/A
Jun. 03, 2013	3864	Head	835	0.881	41.93	Pass	Pass	Pass	GMSK	Pass	N/A
Jun. 04, 2013	3864	Head	835	0.886	42.271	Pass	Pass	Pass	N/A	N/A	N/A
Jun. 20, 2013	3864	Head	1750	1.358	39.714	Pass	Pass	Pass	N/A	N/A	N/A
Jun. 01, 2013	3801	Head	1900	1.415	40.328	Pass	Pass	Pass	GMSK	Pass	N/A
Jun. 05, 2013	3801	Head	1900	1.406	39.541	Pass	Pass	Pass	N/A	N/A	N/A
Jun. 20, 2013	3864	Head	1900	1.406	39.596	Pass	Pass	Pass	N/A	N/A	N/A
Jun. 19, 2013	3864	Head	2450	1.773	40.426	Pass	Pass	Pass	OFDM	N/A	Pass
Jun. 12, 2013	3590	Head	5200	4.783	35.452	Pass	Pass	Pass	OFDM	N/A	Pass
Jun. 12, 2013	3590	Head	5300	4.906	35.237	Pass	Pass	Pass	OFDM	N/A	Pass
Jun. 13, 2013	3590	Head	5600	5.226	34.677	Pass	Pass	Pass	OFDM	N/A	Pass
Jun. 13, 2013	3590	Head	5800	5.439	34.384	Pass	Pass	Pass	OFDM	N/A	Pass
Jun. 14, 2013	3650	Body	750	0.966	55.243	Pass	Pass	Pass	N/A	N/A	N/A
Jun. 27, 2013	3590	Body	750	0.976	56.163	Pass	Pass	Pass	N/A	N/A	N/A
Jun. 25, 2013	3590	Body	835	0.973	54.214	Pass	Pass	Pass	GMSK	Pass	N/A
Jun. 27, 2013	3590	Body	835	0.976	54.657	Pass	Pass	Pass	N/A	N/A	N/A
Jun. 27, 2013	3590	Body	1750	1.486	52.204	Pass	Pass	Pass	N/A	N/A	N/A
Jun. 26, 2013	3590	Body	1900	1.56	53.444	Pass	Pass	Pass	GMSK	Pass	N/A
Jun. 27, 2013	3590	Body	1900	1.558	53.518	Pass	Pass	Pass	GMSK	Pass	N/A
Jun. 27, 2013	3650	Body	2450	1.965	51.642	Pass	Pass	Pass	OFDM	N/A	Pass
Jun. 08, 2013	3650	Body	5200	5.279	49.196	Pass	Pass	Pass	OFDM	N/A	Pass
Jun. 08, 2013	3650	Body	5300	5.417	49.031	Pass	Pass	Pass	OFDM	N/A	Pass
Jun. 08, 2013	3650	Body	5600	5.884	48.452	Pass	Pass	Pass	OFDM	N/A	Pass
Jun. 08, 2013	3650	Body	5800	6.141	47.955	Pass	Pass	Pass	OFDM	N/A	Pass

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4.5 System Verification

The measuring result for system verification is tabulated as below.

Test Date	Mode	Frequency (MHz)	1W Target SAR-1g (W/kg)	Measured SAR-1g (W/kg)	Normalized to 1W SAR-1g (W/kg)	Deviation (%)	Dipole S/N	Probe S/N	DAE S/N
Jun. 04, 2013	Head	750	8.66	2.31	9.24	6.70	1013	3801	861
Jun. 03, 2013	Head	835	9.68	2.40	9.60	-0.83	4d121	3864	579
Jun. 04, 2013	Head	835	9.68	2.41	9.64	-0.41	4d121	3864	579
Jun. 20, 2013	Head	1750	36.00	8.68	34.72	-3.56	1055	3864	579
Jun. 01, 2013	Head	1900	40.60	9.48	37.92	-6.60	5d036	3801	861
Jun. 05, 2013	Head	1900	40.60	9.42	37.68	-7.19	5d036	3801	861
Jun. 20, 2013	Head	1900	40.60	9.54	38.16	-6.01	5d036	3864	579
Jun. 19, 2013	Head	2450	52.50	12.8	51.20	-2.48	737	3864	579
Jun. 12, 2013	Head	5200	79.00	7.59	75.90	-3.92	1019	3590	360
Jun. 12, 2013	Head	5300	82.20	7.94	79.40	-3.41	1019	3590	360
Jun. 13, 2013	Head	5600	83.80	7.72	77.20	-7.88	1019	3590	360
Jun. 13, 2013	Head	5800	78.90	7.92	79.20	0.38	1019	3590	360
Jun. 14, 2013	Body	750	8.81	2.03	8.12	-7.83	1013	3650	1277
Jun. 27, 2013	Body	750	8.81	2.21	8.84	0.34	1013	3590	360
Jun. 25, 2013	Body	835	9.69	2.28	9.12	-5.88	4d121	3590	360
Jun. 27, 2013	Body	835	9.69	2.39	9.56	-1.34	4d121	3590	360
Jun. 27, 2013	Body	1750	37.20	8.78	35.12	-5.59	1055	3590	360
Jun. 26, 2013	Body	1900	41.00	9.45	37.80	-7.80	5d036	3590	360
Jun. 27, 2013	Body	1900	41.00	9.44	37.76	-7.90	5d036	3590	360
Jun. 27, 2013	Body	2450	49.60	11.9	47.60	-4.03	737	3650	1277
Jun. 08, 2013	Body	5200	73.00	7.09	70.90	-2.88	1019	3650	1277
Jun. 08, 2013	Body	5300	74.60	7.36	73.60	-1.34	1019	3650	1277
Jun. 08, 2013	Body	5600	79.90	7.49	74.90	-6.26	1019	3650	1277
Jun. 08, 2013	Body	5800	73.40	6.85	68.50	-6.68	1019	3650	1277

Note:

Comparing to the reference SAR value provided by SPEAG, the validation data should be within its specification of 10 %. The result indicates the system check can meet the variation criterion and the plots can be referred to Appendix A of this report.



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4.6 Maximum Output Power

4.6.1 Measured Conducted Power Result

The measuring conducted average power (Unit: dBm) for Apple iPhone 5 is shown as below.

<For Apple iPhone 5 A1428>

Band	GSM850					
Channel	128	190	251	128	190	251
Frequency (MHz)	824.2	836.6	848.8	824.2	836.6	848.8
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
GSM (GMSK, 1 Uplink)	33.5	33.4	33.5	33.0	33.0	32.9
GPRS 10 (GMSK, 2 Uplink)	31.5	31.4	31.4	32.4	32.4	32.3
iPhone 5 Test Sample						
GSM (GMSK, 1 Uplink)	32.9	32.9	32.9	32.5	32.5	32.5
GPRS 10 (GMSK, 2 Uplink)	31.2	31.2	31.1	31.8	31.8	31.8

Band	GSM1900					
Channel	512	661	810	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8	1850.2	1880.0	1909.8
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
GSM (GMSK, 1 Uplink)	31.0	31.0	31.0	30.4	30.4	30.5
GPRS 10 (GMSK, 2 Uplink)	30.0	30.0	30.0	30.5	30.5	30.5
iPhone 5 Test Sample						
GSM (GMSK, 1 Uplink)	30.5	30.5	30.5	29.8	29.8	29.8
GPRS 10 (GMSK, 2 Uplink)	29.6	29.6	29.6	29.6	29.7	29.7

Band	WCDMA Band II					
Channel	9262	9400	9538	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6	1852.4	1880.0	1907.6
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
RMC 12.2K	22.5	22.5	22.5	21.3	21.5	21.4
iPhone 5 Test Sample						
RMC 12.2K	22.2	22.2	22.1	21.4	21.4	21.4

Band	WCDMA Band V					
Channel	4132	4183	4233	4132	4183	4233
Frequency (MHz)	826.4	836.6	846.6	826.4	836.6	846.6
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
RMC 12.2K	24.5	24.5	24.5	24.0	24.0	23.9
iPhone 5 Test Sample						
RMC 12.2K	24.1	24.2	24.2	23.7	23.7	23.7



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A D T

Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
				18700	18900	19100	18700	18900	19100
				Frequency 1860.0 MHz	Frequency 1880.0 MHz	Frequency 1900.0 MHz	Frequency 1860.0 MHz	Frequency 1880.0 MHz	Frequency 1900.0 MHz
			Primary Antenna			Secondary Antenna			
Apple SAR Report									
2 / 20M	QPSK	1	0	22.5	22.4	22.5	22.9	23.0	22.8
		1	49	22.5	22.5	22.5	23.0	22.8	23.0
		1	99	22.5	22.5	22.5	23.0	22.8	22.8
		50	0	21.6	21.7	21.7	22.2	22.0	22.0
		50	24	21.7	21.7	21.6	22.4	21.9	22.2
		50	49	21.7	21.7	21.7	22.4	21.8	22.1
		100	0	21.6	21.7	21.7	22.3	21.9	22.1
iPhone 5 Test Sample									
2 / 20M	QPSK	1	0	22.3	22.3	22.3	22.5	23.6	22.5
		1	49	22.3	22.3	22.3	22.6	22.6	22.6
		1	99	22.3	22.3	22.3	22.6	22.6	22.6
		50	0	21.5	21.5	21.5	21.8	21.8	21.8
		50	24	21.5	21.5	21.5	21.8	21.8	21.8
		50	49	21.5	21.5	21.5	21.8	21.8	21.8
		100	0	21.4	21.5	21.4	21.7	21.7	21.7

Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
				20050	20175	20300	20050	20175	20300
				Frequency 1720.0 MHz	Frequency 1732.5 MHz	Frequency 1745.0 MHz	Frequency 1720.0 MHz	Frequency 1732.5 MHz	Frequency 1745.0 MHz
			Primary Antenna			Secondary Antenna			
Apple SAR Report									
4 / 20M	QPSK	1	0	23.8	23.9	23.9	22.9	23.0	23.0
		1	49	23.9	23.9	23.9	22.9	23.0	23.0
		1	99	23.9	23.9	23.8	23.0	23.0	23.0
		50	0	23.2	23.0	23.2	21.8	22.3	22.4
		50	24	23.1	23.1	23.3	21.8	22.4	22.5
		50	49	23.2	23.1	23.3	22.0	22.4	22.4
		100	0	23.2	23.1	23.2	22.0	22.3	22.4
iPhone 5 Test Sample									
4 / 20M	QPSK	1	0	23.5	23.5	23.5	22.7	22.7	22.7
		1	49	23.5	23.5	23.5	22.6	22.7	22.7
		1	99	23.5	23.5	23.4	22.6	22.6	22.7
		50	0	22.6	22.6	22.6	21.6	21.7	21.7
		50	24	22.6	22.6	22.6	21.6	21.7	21.7
		50	49	22.5	22.6	22.6	21.7	21.7	21.7
		100	0	22.5	22.5	22.6	21.7	21.7	21.7



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Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
				20450	20525	20600	20450	20525	20600
				Frequency	Frequency	Frequency	Frequency	Frequency	Frequency
				829.0 MHz	836.5 MHz	844.0 MHz	829.0 MHz	836.5 MHz	844.0 MHz
Primary Antenna						Secondary Antenna			
Apple SAR Report									
5 / 10M	QPSK	1	0	24.0	24.0	24.0	23.5	23.4	23.5
		1	24	24.0	24.0	23.9	23.5	23.4	23.4
		1	49	24.0	24.0	23.8	23.4	23.5	23.4
		25	0	23.2	23.1	23.1	22.8	22.7	22.7
		25	12	23.2	23.1	23.1	22.8	22.7	22.7
		25	24	23.2	23.1	23.1	22.7	22.8	22.7
		50	0	23.2	23.1	22.9	22.7	22.7	22.7
iPhone 5 Test Sample									
5 / 10M	QPSK	1	0	23.8	23.8	23.8	23.1	23.1	23.1
		1	24	23.8	23.8	23.8	23.1	23.1	23.1
		1	49	23.8	23.8	23.7	23.0	23.1	23.1
		25	0	22.8	22.9	22.8	22.3	22.4	22.4
		25	12	22.8	22.8	22.8	22.4	22.4	22.4
		25	24	22.8	22.8	22.8	22.3	22.4	22.4
		50	0	22.7	22.8	22.7	22.4	22.4	22.3

Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
				23780	23790	23800	23780	23790	23800
				Frequency	Frequency	Frequency	Frequency	Frequency	Frequency
				709.0 MHz	710.0 MHz	711.0 MHz	709.0 MHz	710.0 MHz	711.0 MHz
Primary Antenna						Secondary Antenna			
Apple SAR Report									
17 / 10M	QPSK	1	0	23.9	24.0	23.8	23.4	23.4	23.4
		1	24	24.0	24.0	23.8	23.4	23.4	23.3
		1	49	24.0	24.0	24.0	23.5	23.5	23.3
		25	0	23.0	23.0	23.0	22.5	22.5	22.5
		25	12	23.1	23.0	23.1	22.6	22.6	22.6
		25	24	23.0	23.0	23.0	22.7	22.7	22.8
		50	0	23.0	23.0	23.0	22.6	22.6	22.7
iPhone 5 Test Sample									
17 / 10M	QPSK	1	0	23.6	23.6	23.6	23.2	23.2	23.2
		1	24	23.6	23.6	23.5	23.3	23.3	23.2
		1	49	23.6	23.6	23.6	23.3	23.3	23.2
		25	0	22.5	22.6	22.6	22.3	22.4	22.4
		25	12	22.6	22.6	22.6	22.4	22.4	22.4
		25	24	22.6	22.6	22.6	22.4	22.4	22.4
		50	0	22.5	22.5	22.5	22.3	22.4	22.4



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WLAN 2.4G

Mode	802.11b		
Channel / Frequency (MHz)	1 (2412)	6 (2437)	11 (2462)
Apple SAR Report	16.0	16.0	16.0
iPhone 5 Test Sample	15.4	15.5	15.5

WLAN 5.2G

Mode	802.11a			
Channel / Frequency (MHz)	36 (5180)	40 (5200)	44 (5220)	48 (5240)
Apple SAR Report	14.0	14.0	14.0	14.0
iPhone 5 Test Sample	13.6	13.7	13.7	13.7

WLAN 5.3G

Mode	802.11a			
Channel / Frequency (MHz)	52 (5260)	56 (5280)	60 (5300)	64 (5320)
Apple SAR Report	13.5	13.5	13.5	13.5
iPhone 5 Test Sample	13.2	13.2	13.2	13.2

WLAN 5.6G

Mode	802.11a										
Channel / Frequency (MHz)	100 (5500)	104 (5520)	108 (5540)	112 (5560)	116 (5580)	120 (5600)	124 (5620)	128 (5640)	132 (5660)	136 (5680)	140 (5700)
Apple SAR Report	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
iPhone 5 Test Sample	11.6	11.7	11.7	11.7	11.6	11.7	11.7	11.7	11.7	11.8	11.7

WLAN 5.8G

Mode	802.11a				
Channel / Frequency (MHz)	149 (5745)	153 (5765)	157 (5785)	161 (5805)	165 (5825)
Apple SAR Report	13.0	13.0	13.0	13.0	13.0
iPhone 5 Test Sample	12.8	12.8	12.7	12.8	12.7

Bluetooth

Mode	Bluetooth		
Channel / Frequency (MHz)	0 (2402)	39 (2441)	78 (2480)
Apple SAR Report	13.2	13.4	13.4
iPhone 5 Test Sample	12.9	13.1	13.0

Note:

1. All the measured maximum power for Apple iPhone 5 testing sample is within 1.5 dB of those reported in the original Apple report.



FCC SAR Test Report

<For Apple iPhone 5 A1429>

Band	GSM850					
Channel	128	190	251	128	190	251
Frequency (MHz)	824.2	836.6	848.8	824.2	836.6	848.8
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
GSM (GMSK, 1 Uplink)	33.5	33.5	33.5	33.0	33.0	33.0
GPRS 10 (GMSK, 2 Uplink)	31.5	31.5	31.4	32.4	32.5	32.4
iPhone 5 Test Sample						
GSM (GMSK, 1 Uplink)	33.3	33.3	33.2	32.4	32.4	32.4
GPRS 10 (GMSK, 2 Uplink)	31.3	31.3	31.2	31.8	31.8	31.8

Band	GSM1900					
Channel	512	661	810	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8	1850.2	1880.0	1909.8
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
GSM (GMSK, 1 Uplink)	31.0	31.0	31.0	30.5	30.5	30.5
GPRS 10 (GMSK, 2 Uplink)	29.9	29.9	29.8	30.5	30.5	30.5
iPhone 5 Test Sample						
GSM (GMSK, 1 Uplink)	30.6	30.6	30.6	30.1	30.1	30.1
GPRS 10 (GMSK, 2 Uplink)	29.3	29.3	29.2	29.5	29.6	29.5

Band	WCDMA Band II					
Channel	9262	9400	9538	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6	1852.4	1880.0	1907.6
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
RMC 12.2K	22.5	22.5	22.5	21.5	21.5	21.5
iPhone 5 Test Sample						
RMC 12.2K	22.3	22.3	22.2	21.2	21.3	21.2

Band	WCDMA Band V					
Channel	4132	4183	4233	4132	4183	4233
Frequency (MHz)	826.4	836.6	846.6	826.4	836.6	846.6
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
RMC 12.2K	24.5	24.5	24.5	24.0	24.0	23.9
iPhone 5 Test Sample						
RMC 12.2K	24.1	24.1	24.0	23.9	23.9	23.9



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Band	CDMA BC0					
Channel	1013	384	777	1013	384	777
Frequency (MHz)	824.70	836.52	848.31	824.70	836.52	848.31
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
1xRTT RC3+SO55	25.0	24.8	24.8	24.5	24.4	24.5
1xRTT RC3+SO32	25.0	25.0	24.8	24.5	24.4	24.4
iPhone 5 Test Sample						
1xRTT RC3+SO55	24.6	24.6	24.6	24.1	24.1	24.2
1xRTT RC3+SO32	24.6	24.6	24.6	24.1	24.1	24.1

Band	CDMA BC1					
Channel	25	600	1175	25	600	1175
Frequency (MHz)	1851.25	1880.00	1908.75	1851.25	1880.00	1908.75
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
1xRTT RC3+SO55	22.5	22.5	22.5	21.3	21.5	21.5
1xRTT RC3+SO32	22.5	22.5	22.4	21.2	21.2	21.2
iPhone 5 Test Sample						
1xRTT RC3+SO55	22.1	22.1	22.0	21.0	21.0	21.0
1xRTT RC3+SO32	22.3	22.3	22.2	20.9	21.0	21.0

Band	CDMA BC10					
Channel	476	580	684	476	580	684
Frequency (MHz)	817.9	820.5	823.1	817.9	820.5	823.1
TX Antenna	Primary Antenna			Secondary Antenna		
Apple SAR Report						
1xRTT RC3+SO55	24.4	24.5	24.5	23.9	23.9	24.0
1xRTT RC3+SO32	24.4	24.5	24.5	23.9	23.9	24.0
iPhone 5 Test Sample						
1xRTT RC3+SO55	24.0	24.0	24.0	23.9	23.9	23.9
1xRTT RC3+SO32	24.0	24.1	24.1	23.9	23.9	23.9

Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH	Low CH	Mid CH	High CH
				20450	20525	20600	20450	20525	20600
				Frequency	Frequency	Frequency	Frequency	Frequency	Frequency
				829.0 MHz	836.5 MHz	844.0 MHz	829.0 MHz	836.5 MHz	844.0 MHz
				Primary Antenna			Secondary Antenna		
Apple SAR Report									
5 / 10M	QPSK	1	0	24.0	24.0	24.0	23.5	23.5	23.4
		1	24	24.0	24.0	24.0	23.5	23.4	23.4
		1	49	24.0	24.0	23.8	23.3	23.4	23.4
		25	0	23.1	22.8	23.0	22.8	22.6	22.7
		25	12	23.1	22.8	23.0	22.9	22.6	22.7
		25	24	23.0	22.7	23.0	22.7	22.6	22.6
		50	0	23.0	22.8	23.0	22.8	22.5	22.7
iPhone 5 Test Sample									
5 / 10M	QPSK	1	0	23.8	23.8	23.8	23.3	23.3	23.3
		1	24	23.8	23.8	23.8	23.3	23.3	23.2
		1	49	23.8	23.8	23.8	23.3	23.3	23.3
		25	0	22.6	22.6	22.6	22.5	22.4	22.4
		25	12	22.6	22.6	22.6	22.5	22.4	22.4
		25	24	22.6	22.5	22.6	22.4	22.4	22.4
		50	0	22.6	22.5	22.6	22.4	22.4	22.4



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Band / BW	Modulation	RB Size	RB Offset	Mid CH 23230	
				Frequency 782.0 MHz	
				Primary Antenna	Secondary Antenna
Apple SAR Report					
13 / 10M	QPSK	1	0	24.0	23.5
		1	24	24.0	23.4
		1	49	23.8	23.4
		25	0	22.8	22.3
		25	12	22.8	22.3
		25	24	22.7	22.4
		50	0	22.7	22.3
iPhone 5 Test Sample					
13 / 10M	QPSK	1	0	23.5	23.3
		1	24	23.5	23.3
		1	49	23.4	23.3
		25	0	22.5	22.2
		25	12	22.5	22.2
		25	24	22.5	22.2
		50	0	22.4	22.2

Band / BW	Modulation	RB Size	RB Offset	Low CH 26140	Mid CH 26365	High CH 26590	Low CH 26140	Mid CH 26365	High CH 26590
				Frequency 1860.0 MHz	Frequency 1882.5 MHz	Frequency 1905.0 MHz	Frequency 1860.0 MHz	Frequency 1882.5 MHz	Frequency 1905.0 MHz
				Primary Antenna			Secondary Antenna		
Apple SAR Report									
25 / 20M	QPSK	1	0	22.5	22.5	22.5	23.0	23.0	23.0
		1	49	22.5	22.5	22.5	23.0	23.0	22.9
		1	99	22.5	22.5	22.4	23.0	22.9	22.8
		50	0	21.6	21.7	21.7	21.3	22.1	21.8
		50	24	21.6	21.7	21.8	21.3	22.1	22.1
		50	49	21.6	21.8	21.8	21.4	21.8	21.9
		100	0	21.6	21.6	21.7	21.3	22.0	21.9
iPhone 5 Test Sample									
25 / 20M	QPSK	1	0	22.2	22.2	22.2	22.4	22.4	22.4
		1	49	22.2	22.2	22.1	22.4	22.4	22.3
		1	99	22.2	22.2	22.2	22.4	22.3	22.3
		50	0	21.3	21.3	21.4	21.9	22.0	22.0
		50	24	21.3	21.3	21.3	21.8	22.0	22.0
		50	49	21.3	21.3	21.3	21.8	21.9	21.9
		100	0	21.3	21.3	21.3	21.8	21.9	21.9

FCC SAR Test Report

WLAN 2.4G

Mode	802.11b		
Channel / Frequency (MHz)	1 (2412)	6 (2437)	11 (2462)
Apple SAR Report	16.0	16.0	16.0
iPhone 5 Test Sample	15.6	15.7	15.6

WLAN 5.2G

Mode	802.11a			
Channel / Frequency (MHz)	36 (5180)	40 (5200)	44 (5220)	48 (5240)
Apple SAR Report	14.0	14.0	14.0	14.0
iPhone 5 Test Sample	13.5	13.6	13.6	13.6

WLAN 5.3G

Mode	802.11a			
Channel / Frequency (MHz)	52 (5260)	56 (5280)	60 (5300)	64 (5320)
Apple SAR Report	13.5	13.5	13.5	13.5
iPhone 5 Test Sample	13.3	13.3	13.2	13.2

WLAN 5.6G

Mode	802.11a										
Channel / Frequency (MHz)	100 (5500)	104 (5520)	108 (5540)	112 (5560)	116 (5580)	120 (5600)	124 (5620)	128 (5640)	132 (5660)	136 (5680)	140 (5700)
Apple SAR Report	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
iPhone 5 Test Sample	11.6	11.6	11.7	11.6	11.6	11.6	11.6	11.6	11.7	11.7	11.6

WLAN 5.8G

Mode	802.11a				
Channel / Frequency (MHz)	149 (5745)	153 (5765)	157 (5785)	161 (5805)	165 (5825)
Apple SAR Report	13.0	13.0	13.0	13.0	13.0
iPhone 5 Test Sample	12.8	12.9	12.9	12.8	12.8

Bluetooth

Mode	Bluetooth		
Channel / Frequency (MHz)	0 (2402)	39 (2441)	78 (2480)
Apple SAR Report	13.2	13.4	13.4
iPhone 5 Test Sample	12.9	12.9	12.9

Note:

1. All the measured maximum power for Apple iPhone 5 testing sample is within 1.5 dB of those reported in the original Apple report.

4.7 SAR Testing Results

4.7.1 SAR Results for Head

<SAR testing for Apple iPhone 5 A1428 without Sleeve Attached>

Band	Mode	Test Position	Ch.	TX Antenna	Max. Power in Apple Report (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)	Deviation with Apple SAR (%)
GSM850	GSM	Left Cheek	190	Primary	33.4	-	-	0.716*	-	-
GSM850	GSM	Left Cheek	190	Primary	33.4	32.9	1.12	0.644	0.72	0.9
GSM1900	GSM	Right Cheek	512	Primary	31.0	-	-	1.03*	-	-
GSM1900	GSM	Right Cheek	512	Primary	31.0	30.4	1.15	0.902	1.04	0.5
WCDMA II	RMC12.2k	Right Cheek	9262	Primary	22.5	-	-	1.13*	-	-
WCDMA II	RMC12.2k	Right Cheek	9262	Primary	22.5	22.2	1.07	1	1.07	-5.2
WCDMA V	RMC12.2k	Left Cheek	4233	Secondary	23.9	-	-	0.826*	-	-
WCDMA V	RMC12.2k	Left Cheek	4233	Secondary	23.9	23.7	1.05	0.737	0.77	-6.6
LTE 4	BW 20M / QPSK 1RB / OS49	Right Cheek	20300	Secondary	23.0	-	-	1.25*	-	-
LTE 4	BW 20M / QPSK 1RB / OS49	Right Cheek	20300	Secondary	23.0	22.7	1.07	1.12	1.20	-4.0
802.11b	-	Right Cheek	6	-	16.0	-	-	0.572*	-	-
802.11b	-	Right Cheek	6	-	16.0	15.5	1.12	0.518	0.58	1.6
802.11a	-	Right Cheek	48	-	14.0	-	-	0.594*	-	-
802.11a	-	Right Cheek	48	-	14.0	13.7	1.07	0.548	0.59	-1.1
802.11a	-	Right Cheek	52	-	13.5	-	-	0.538*	-	-
802.11a	-	Right Cheek	52	-	13.5	13.2	1.07	0.489	0.52	-2.6
802.11a	-	Right Cheek	136	-	12.0	-	-	0.593*	-	-
802.11a	-	Right Cheek	136	-	12.0	11.8	1.05	0.561	0.59	-0.9
802.11a	-	Right Cheek	157	-	13.0	-	-	0.58*	-	-
802.11a	-	Right Cheek	157	-	13.0	12.7	1.07	0.53	0.57	-2.1

Note:

1. The mark as “*” is the highest SAR value reported in the original Apple iPhone 5 SAR report.
2. All SAR results tested without the sleeve device are within 15% of those reported in the original Apple SAR report.



FCC SAR Test Report

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<SAR testing for Apple iPhone 5 A1429 without Sleeve Attached>

Band	Mode	Test Position	Ch.	TX Antenna	Max. Power in Apple Report (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)	Deviation with Apple SAR (%)
GSM850	GSM	Left Cheek	190	Primary	33.5	-	-	0.737*	-	-
GSM850	GSM	Left Cheek	190	Primary	33.5	33.3	1.05	0.678	0.71	-3.7
GSM1900	GSM	Right Cheek	810	Secondary	30.5	-	-	0.956*	-	-
GSM1900	GSM	Right Cheek	810	Secondary	30.5	30.1	1.10	0.854	0.94	-2.1
WCDMA II	RMC12.2k	Right Cheek	9262	Primary	22.5	-	-	1.13*	-	-
WCDMA II	RMC12.2k	Right Cheek	9262	Primary	22.5	22.3	1.05	1.02	1.07	-5.5
WCDMA V	RMC12.2k	Left Cheek	4132	Secondary	24.0	-	-	0.796*	-	-
WCDMA V	RMC12.2k	Left Cheek	4132	Secondary	24.0	23.9	1.02	0.773	0.79	-0.6
CDMA BC0	RC3+SO55	Left Cheek	777	Secondary	24.5	-	-	0.972*	-	-
CDMA BC0	RC3+SO55	Left Cheek	777	Secondary	24.5	24.2	1.07	0.888	0.95	-2.1
CDMA BC1	RC3+SO55	Right Cheek	600	Primary	22.5	-	-	1.18*	-	-
CDMA BC1	RC3+SO55	Right Cheek	600	Primary	22.5	22.1	1.10	1.04	1.14	-3.4
CDMA BC10	RC3+SO55	Left Cheek	684	Secondary	24.0	-	-	0.925*	-	-
CDMA BC10	RC3+SO55	Left Cheek	684	Secondary	24.0	23.9	1.02	0.851	0.87	-5.9
LTE 13	BW 10M / QPSK 1RB / OS24	Left Cheek	23230	Secondary	23.4	-	-	0.616*	-	-
LTE 13	BW 10M / QPSK 1RB / OS24	Left Cheek	23230	Secondary	23.4	23.3	1.02	0.555	0.57	-7.8
802.11b	-	Right Cheek	6	-	16.0	-	-	0.522*	-	-
802.11b	-	Right Cheek	6	-	16.0	15.7	1.07	0.489	0.52	0.4
802.11a	-	Left Cheek	48	-	14.0	-	-	0.587*	-	-
802.11a	-	Left Cheek	48	-	14.0	13.6	1.10	0.525	0.58	-1.9
802.11a	-	Right Cheek	52	-	13.5	-	-	0.575*	-	-
802.11a	-	Right Cheek	52	-	13.5	13.3	1.05	0.534	0.56	-2.8
802.11a	-	Right Cheek	124	-	12.0	-	-	0.58*	-	-
802.11a	-	Right Cheek	124	-	12.0	11.6	1.10	0.537	0.59	1.5
802.11a	-	Right Cheek	157	-	13.0	-	-	0.593*	-	-
802.11a	-	Right Cheek	157	-	13.0	12.9	1.02	0.551	0.56	-4.9

Note:

1. The mark as "*" is the highest SAR value reported in the original Apple iPhone 5 SAR report.
2. All SAR results tested without the sleeve device are within 15% of those reported in the original Apple SAR report.

<SAR testing for Sleeve Device Attached to Apple iPhone 5 A1428>

Plot No.	Band	Mode	Test Position	Ch.	TX Antenna	Max. Power in Apple Report (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
01	GSM850	GSM	Left Cheek	190	Primary	33.4	32.9	1.12	0.00	0.607	0.68
02	GSM1900	GSM	Right Cheek	512	Primary	31.0	30.4	1.15	0.01	0.368	0.42
03	WCDMA II	RMC12.2k	Right Cheek	9262	Primary	22.5	22.2	1.07	0.18	0.281	0.30
04	WCDMA V	RMC12.2k	Left Cheek	4233	Secondary	23.9	23.7	1.05	-0.07	0.811	0.85
	WCDMA V	RMC12.2k	Left Cheek	4233	Secondary	23.9	23.7	1.05	0.01	0.795	0.83
	LTE 4	BW 20M / QPSK 1RB / OS99	Right Cheek	20050	Primary	23.9	23.5	1.10	0.11	0.862	0.95
	LTE 4	BW 20M / QPSK 1RB / OS99	Right Cheek	20300	Primary	23.8	23.4	1.10	-0.05	0.792	0.87
05	LTE 4	BW 20M / QPSK 1RB / OS0	Right Cheek	20050	Secondary	22.9	22.7	1.05	0.08	1.03	1.08
	LTE 4	BW 20M / QPSK 1RB / OS49	Right Cheek	20300	Secondary	23.0	22.7	1.07	-0.05	0.772	0.83
	LTE 4	BW 20M / QPSK 1RB / OS0	Right Cheek	20050	Secondary	22.9	22.7	1.05	0.03	0.989	1.04
06	802.11b	-	Right Cheek	6	-	16.0	15.5	1.12	-0.05	0.302	0.34
07	802.11a	-	Right Cheek	48	-	14.0	13.7	1.07	0.06	0.328	0.35
08	802.11a	-	Right Cheek	52	-	13.5	13.2	1.07	-0.07	0.362	0.39
09	802.11a	-	Right Cheek	136	-	12.0	11.8	1.05	0.03	0.292	0.31
10	802.11a	-	Right Cheek	157	-	13.0	12.7	1.07	-0.06	0.233	0.25

<SAR testing for Sleeve Device Attached to Apple iPhone 5 A1429>

Plot No.	Band	Mode	Test Position	Ch.	TX Antenna	Max. Power in Apple Report (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
11	GSM850	GSM	Left Cheek	190	Primary	33.5	33.3	1.05	0.04	0.565	0.59
12	GSM1900	GSM	Right Cheek	810	Secondary	30.5	30.1	1.10	-0.04	0.844	0.93
	GSM1900	GSM	Right Cheek	810	Secondary	30.5	30.1	1.10	0.02	0.825	0.91
13	WCDMA II	RMC12.2k	Right Cheek	9262	Primary	22.5	22.3	1.05	0.03	0.388	0.41
14	WCDMA V	RMC12.2k	Left Cheek	4132	Secondary	24.0	23.9	1.02	0.16	0.702	0.72
15	CDMA BC0	RC3+SO55	Left Cheek	777	Secondary	24.5	24.2	1.07	-0.07	0.829	0.89
	CDMA BC0	RC3+SO55	Left Cheek	777	Secondary	24.5	24.2	1.07	-0.03	0.82	0.88
16	CDMA BC1	RC3+SO55	Right Cheek	600	Primary	22.5	22.1	1.10	0.05	0.707	0.78
17	CDMA BC10	RC3+SO55	Left Cheek	684	Secondary	24.0	23.9	1.02	0.11	0.612	0.63
18	LTE 13	BW 10M / QPSK 1RB / OS24	Left Cheek	23230	Secondary	23.4	23.3	1.02	0.16	0.47	0.48
19	802.11b	-	Right Cheek	6	-	16.0	15.7	1.07	-0.11	0.285	0.31
20	802.11a	-	Left Cheek	48	-	14.0	13.6	1.10	-0.12	0.314	0.34
21	802.11a	-	Right Cheek	52	-	13.5	13.3	1.05	-0.07	0.395	0.41
22	802.11a	-	Right Cheek	124	-	12.0	11.6	1.10	0.15	0.255	0.28
23	802.11a	-	Right Cheek	157	-	13.0	12.9	1.02	-0.06	0.242	0.25

Note:

1. According to KDB 648474, the SAR testing is repeated with the sleeve device on the highest SAR configuration among different wireless modes in each frequency band and any SAR configuration in the original Apple report > 1.2 W/kg.



FCC SAR Test Report

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4.7.2 SAR Results for Body-worn and Hotspot (Separation Distance is 1.0 cm Gap)

<SAR testing for Apple iPhone 5 A1428 without Sleeve Attached>

Band	Mode	Test Position	Ch.	TX Antenna	Max. Power in Apple Report (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)	Deviation with Apple SAR (%)
GSM850	GSM	Rear Face	190	Primary	33.4	-	-	0.896*	-	-
GSM850	GSM	Rear Face	190	Primary	33.4	32.9	1.12	0.812	0.91	1.7
GSM850	GPRS10	Rear Face	251	Primary	31.4	-	-	0.831*	-	-
GSM850	GPRS10	Rear Face	251	Primary	31.4	31.1	1.07	0.715	0.77	-7.8
GSM1900	GSM	Rear Face (with Headset)	661	Primary	31.0	-	-	0.821*	-	-
GSM1900	GSM	Rear Face (with Headset)	661	Primary	31.0	30.5	1.12	0.721	0.81	-1.5
GSM1900	GPRS10	Rear Face	810	Primary	30.0	-	-	1.08*	-	-
GSM1900	GPRS10	Rear Face	810	Primary	30.0	29.6	1.10	0.96	1.05	-2.5
WCDMA II	RMC12.2k	Rear Face (with Headset)	9400	Primary	22.5	-	-	1.14*	-	-
WCDMA II	RMC12.2k	Rear Face (with Headset)	9400	Primary	22.5	22.2	1.07	1.01	1.08	-5.1
WCDMA V	RMC12.2k	Rear Face	4233	Primary	24.5	-	-	0.913*	-	-
WCDMA V	RMC12.2k	Rear Face	4233	Primary	24.5	24.2	1.07	0.861	0.92	1.0
LTE 2	BW 20M / QPSK 1RB / OS49	Rear Face	18900	Primary	22.5	-	-	1.17*	-	-
LTE 2	BW 20M / QPSK 1RB / OS49	Rear Face	18900	Primary	22.5	22.3	1.05	1.07	1.12	-4.2
LTE 4	BW 20M / QPSK 1RB / OS49	Rear Face	20175	Primary	23.9	-	-	1.18*	-	-
LTE 4	BW 20M / QPSK 1RB / OS49	Rear Face	20175	Primary	23.9	23.5	1.10	1.02	1.12	-5.2
LTE 5	BW 10M / QPSK 1RB / OS24	Front Face	20525	Primary	24.0	-	-	0.724*	-	-
LTE 5	BW 10M / QPSK 1RB / OS24	Front Face	20525	Primary	24.0	23.8	1.05	0.66	0.69	-4.5
LTE 17	BW 10M / QPSK 1RB / OS24	Front Face	23790	Primary	24.0	-	-	0.547*	-	-
LTE 17	BW 10M / QPSK 1RB / OS24	Front Face	23790	Primary	24.0	23.6	1.10	0.517	0.57	3.6
802.11b	-	Rear Face (with Headset)	6	-	16.0	-	-	0.198*	-	-
802.11b	-	Rear Face (with Headset)	6	-	16.0	15.5	1.12	0.172	0.19	-2.5
802.11a	-	Front Face (with Headset)	48	-	14.0	-	-	0.065*	-	-
802.11a	-	Front Face (with Headset)	48	-	14.0	13.7	1.07	0.059	0.06	-2.7
802.11a	-	Front Face	64	-	13.5	-	-	0.071*	-	-
802.11a	-	Front Face	64	-	13.5	13.2	1.07	0.064	0.07	-3.4
802.11a	-	Front Face	124	-	12.0	-	-	0.085*	-	-
802.11a	-	Front Face	124	-	12.0	11.7	1.07	0.076	0.08	-4.2
802.11a	-	Front Face	149	-	13.0	-	-	0.067*	-	-
802.11a	-	Front Face	149	-	13.0	12.8	1.05	0.064	0.07	0.0
BT	GFSK	Rear Face	39	-	13.4	-	-	0.109*	-	-
BT	GFSK	Rear Face	39	-	13.4	13.1	1.07	0.095	0.10	-6.6

Note:

1. The mark as “*” is the highest SAR value reported in the original Apple iPhone 5 SAR report.
2. All SAR results tested without the sleeve device are within 15% of those reported in the original Apple SAR report.

<SAR testing for Apple iPhone 5 A1429 without Sleeve Attached>

Band	Mode	Test Position	Ch.	TX Antenna	Max. Power in Apple Report (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)	Deviation with Apple SAR (%)
GSM850	GSM	Rear Face	251	Primary	33.5	-	-	0.866*	-	-
GSM850	GSM	Rear Face	251	Primary	33.5	33.2	1.07	0.78	0.84	-3.5
GSM850	GPRS10	Rear Face	251	Primary	31.4	-	-	1.04*	-	-
GSM850	GPRS10	Rear Face	251	Primary	31.4	31.2	1.05	0.953	1.00	-4.0
GSM1900	GSM	Rear Face (with Headset)	810	Primary	31.0	-	-	0.864*	-	-
GSM1900	GSM	Rear Face (with Headset)	810	Primary	31.0	30.6	1.10	0.765	0.84	-2.9
GSM1900	GPRS10	Rear Face	512	Primary	29.9	-	-	1.13*	-	-
GSM1900	GPRS10	Rear Face	512	Primary	29.9	29.3	1.15	1	1.15	1.6
WCDMA II	RMC12.2k	Rear Face (with Headset)	9400	Primary	22.5	-	-	1.18*	-	-
WCDMA II	RMC12.2k	Rear Face (with Headset)	9400	Primary	22.5	22.3	1.05	1.07	1.12	-5.0
WCDMA V	RMC12.2k	Rear Face	4233	Primary	24.5	-	-	0.837*	-	-
WCDMA V	RMC12.2k	Rear Face	4233	Primary	24.5	24.0	1.12	0.717	0.80	-3.9
CDMA BC0	RC3+SO32	Rear Face	777	Primary	24.8	-	-	0.982*	-	-
CDMA BC0	RC3+SO32	Rear Face	777	Primary	24.8	24.6	1.05	0.913	0.96	-2.6
CDMA BC1	RC3+SO32	Rear Face (with Headset)	600	Primary	22.5	-	-	1.18*	-	-
CDMA BC1	RC3+SO32	Rear Face (with Headset)	600	Primary	22.5	22.3	1.05	1.18	1.24	4.7
CDMA BC10	RC3+SO32	Rear Face	684	Primary	24.5	-	-	0.876*	-	-
CDMA BC10	RC3+SO32	Rear Face	684	Primary	24.5	24.1	1.10	0.794	0.87	-0.6
LTE 5	BW 10M / QPSK 1RB / OS49	Rear Face	20525	Primary	24.0	-	-	0.703*	-	-
LTE 5	BW 10M / QPSK 1RB / OS49	Rear Face	20525	Primary	24.0	23.8	1.05	0.655	0.69	-2.4
LTE 13	BW 10M / QPSK 1RB / OS0	Rear Face	23230	Primary	24.0	-	-	0.645*	-	-
LTE 13	BW 10M / QPSK 1RB / OS0	Rear Face	23230	Primary	24.0	23.5	1.12	0.573	0.64	-0.3
LTE 25	BW 20M / QPSK 1RB / OS49	Rear Face (with Headset)	26365	Primary	22.5	-	-	1.18*	-	-
LTE 25	BW 20M / QPSK 1RB / OS49	Rear Face (with Headset)	26365	Primary	22.5	22.2	1.07	1.05	1.13	-4.7
802.11b	-	Rear Face (with Headset)	6	-	16.0	-	-	0.171*	-	-
802.11b	-	Rear Face (with Headset)	6	-	16.0	15.7	1.07	0.158	0.17	-1.0
802.11a	-	Front Face	48	-	14.0	-	-	0.13*	-	-
802.11a	-	Front Face	48	-	14.0	13.6	1.10	0.118	0.13	-0.5
802.11a	-	Front Face	64	-	13.5	-	-	0.114*	-	-
802.11a	-	Front Face	64	-	13.5	13.2	1.07	0.0984	0.11	-7.5
802.11a	-	Front Face	116	-	12.0	-	-	0.089*	-	-
802.11a	-	Front Face	116	-	12.0	11.6	1.10	0.079	0.09	-2.7
802.11a	-	Front Face (with Headset)	149	-	13.0	-	-	0.066*	-	-
802.11a	-	Front Face (with Headset)	149	-	13.0	12.8	1.05	0.06	0.06	-4.8
BT	GFSK	Rear Face	39	-	13.4	-	-	0.105*	-	-
BT	GFSK	Rear Face	39	-	13.4	12.9	1.12	0.091	0.10	-2.8

Note:

- The mark as "*" is the highest SAR value reported in the original Apple iPhone 5 SAR report.
- All SAR results tested without the sleeve device are within 15% of those reported in the original Apple SAR report.

<SAR testing for Sleeve Device Attached to Apple iPhone 5 A1428>

Plot No.	Band	Mode	Test Position	Ch.	TX Antenna	Max. Power in Apple Report (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
24	GSM850	GSM	Rear Face	190	Primary	33.4	32.9	1.12	0.05	0.183	0.21
25	GSM850	GPRS10	Rear Face	251	Primary	31.4	31.1	1.07	-0.11	0.193	0.21
26	GSM1900	GSM	Rear Face (with Headset)	661	Primary	31.0	30.5	1.12	0.19	0.206	0.23
27	GSM1900	GPRS10	Rear Face	810	Primary	30.0	29.6	1.10	0.15	0.429	0.47
28	WCDMA II	RMC12.2k	Rear Face (with Headset)	9400	Primary	22.5	22.2	1.07	0.11	0.157	0.17
29	WCDMA V	RMC12.2k	Rear Face	4233	Primary	24.5	24.2	1.07	0.17	0.028	0.03
30	LTE 2	BW 20M / QPSK 1RB / OS49	Rear Face	18900	Primary	22.5	22.3	1.05	0.10	0.263	0.28
31	LTE 4	BW 20M / QPSK 1RB / OS49	Rear Face	20175	Primary	23.9	23.5	1.10	0.17	0.111	0.12
32	LTE 5	BW 10M / QPSK 1RB / OS24	Front Face	20525	Primary	24.0	23.8	1.05	-0.08	0.211	0.22
33	LTE 17	BW 10M / QPSK 1RB / OS24	Front Face	23790	Primary	24.0	23.6	1.10	0.10	0.044	0.05
34	802.11b	-	Rear Face (with Headset)	6	-	16.0	15.5	1.12	0.00	0.036	0.04
35	802.11a	-	Front Face (with Headset)	48	-	14.0	13.7	1.07	0.00	0.017	0.02
36	802.11a	-	Front Face	64	-	13.5	13.2	1.07	0.00	0.037	0.04
37	802.11a	-	Front Face	124	-	12.0	11.7	1.07	0.00	0.036	0.04
38	802.11a	-	Front Face	149	-	13.0	12.8	1.05	-0.01	0.033	0.03
39	BT	GFSK	Rear Face	39	-	13.4	13.1	1.07	0.00	0.033	0.04

<SAR testing for Sleeve Device Attached to Apple iPhone 5 A1429>

Plot No.	Band	Mode	Test Position	Ch.	TX Antenna	Max. Power in Apple Report (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
40	GSM850	GSM	Rear Face	251	Primary	33.5	33.2	1.07	0.01	0.096	0.10
41	GSM850	GPRS10	Rear Face	251	Primary	31.4	31.2	1.05	0.18	0.133	0.14
42	GSM1900	GSM	Rear Face (with Headset)	810	Primary	31.0	30.6	1.10	0.13	0.313	0.34
43	GSM1900	GPRS10	Rear Face	512	Primary	29.9	29.3	1.15	-0.10	0.42	0.48
44	WCDMA II	RMC12.2k	Rear Face (with Headset)	9400	Primary	22.5	22.3	1.05	0.14	0.285	0.30
45	WCDMA V	RMC12.2k	Rear Face	4233	Primary	24.5	24.0	1.12	0.12	0.022	0.02
46	CDMA BC0	RC3+SO32	Rear Face	777	Primary	24.8	24.6	1.05	0.03	0.199	0.21
47	CDMA BC1	RC3+SO32	Rear Face (with Headset)	600	Primary	22.5	22.3	1.05	-0.01	0.233	0.24
48	CDMA BC10	RC3+SO32	Rear Face	684	Primary	24.5	24.1	1.10	0.07	0.08	0.09
49	LTE 5	BW 10M / QPSK 1RB / OS49	Rear Face	20525	Primary	24.0	23.8	1.05	-0.06	0.027	0.03
50	LTE 13	BW 10M / QPSK 1RB / OS0	Rear Face	23230	Primary	24.0	23.5	1.12	0.02	0.053	0.06
51	LTE 25	BW 20M / QPSK 1RB / OS49	Rear Face (with Headset)	26365	Primary	22.5	22.2	1.07	0.14	0.215	0.23
52	802.11b	-	Rear Face (with Headset)	6	-	16.0	15.7	1.07	0.00	0.029	0.03
53	802.11a	-	Front Face	48	-	14.0	13.6	1.10	0.00	0.026	0.03
54	802.11a	-	Front Face	64	-	13.5	13.2	1.07	0.00	0.05	0.05
55	802.11a	-	Front Face	116	-	12.0	11.6	1.10	0.01	0.038	0.04
56	802.11a	-	Front Face (with Headset)	149	-	13.0	12.8	1.05	-0.01	0.031	0.03
57	BT	GFSK	Rear Face	39	-	13.4	12.9	1.12	0.00	0.033	0.04

Note:

1. According to KDB 648474, the SAR testing is repeated with the sleeve device on the highest SAR configuration among different wireless modes in each frequency band and any SAR configuration in the original Apple report > 1.2 W/kg.

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4.7.3 SAR Measurement Variability

According to KDB 865664 D01v01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10 , the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR repeated measurement procedure:

1. When the highest measured SAR is < 0.80 W/kg, repeated measurement is not required.
2. When the highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3. If the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 , or when the original or repeated measurement is ≥ 1.45 W/kg, perform a second repeated measurement.
4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 , and the original, first or second repeated measurement is ≥ 1.5 W/kg, perform a third repeated measurement.

Band	Mode	Test Position	Ch.	TX Antenna	Original Measured SAR-1g (W/kg)	1st Repeated SAR-1g (W/kg)	L/S Ratio	2nd Repeated SAR-1g (W/kg)	L/S Ratio	3rd Repeated SAR-1g (W/kg)	L/S Ratio
WCDMA V	RMC12.2k	Left Cheek	4233	Secondary	0.811	0.795	1.02	N/A	N/A	N/A	N/A
LTE 4	BW 20M / QPSK 1RB / OS0	Right Cheek	20050	Secondary	1.03	0.989	1.04	N/A	N/A	N/A	N/A
GSM1900	GSM	Right Cheek	810	Secondary	0.844	0.825	1.02	N/A	N/A	N/A	N/A
CDMA BC0	RC3+SO55	Left Cheek	777	Secondary	0.829	0.82	1.01	N/A	N/A	N/A	N/A

Test Engineer : Isaac Liao, and Ulysses Liu



5. Calibration of Test Equipment

Equipment	Manufacturer	Model	SN	Cal. Date	Cal. Interval
System Validation Kit	SPEAG	D750V3	1013	Apr. 25, 2013	Annual
System Validation Kit	SPEAG	D835V2	4d121	Apr. 25, 2013	Annual
System Validation Kit	SPEAG	D1750V2	1055	Aug. 23, 2012	Annual
System Validation Kit	SPEAG	D1900V2	5d036	Jan. 21, 2013	Annual
System Validation Kit	SPEAG	D2450V2	737	Jan. 21, 2013	Annual
System Validation Kit	SPEAG	D5GHzV2	1019	Nov. 16, 2012	Annual
Dosimetric E-Field Probe	SPEAG	EX3DV4	3590	Feb. 20, 2013	Annual
Dosimetric E-Field Probe	SPEAG	EX3DV4	3650	Apr. 30, 2013	Annual
Dosimetric E-Field Probe	SPEAG	EX3DV4	3801	Jun. 22, 2012	Annual
Dosimetric E-Field Probe	SPEAG	EX3DV4	3864	Jul. 19, 2012	Annual
Data Acquisition Electronics	SPEAG	DAE3	360	Jan. 30, 2013	Annual
Data Acquisition Electronics	SPEAG	DAE3	579	Apr. 24, 2013	Annual
Data Acquisition Electronics	SPEAG	DAE4	861	Mar. 19, 2013	Annual
Data Acquisition Electronics	SPEAG	DAE4	1277	Jul. 19, 2012	Annual
SAM Phantom	SPEAG	QD000P40CD	TP-1202	N/A	N/A
SAM Phantom	SPEAG	QD000P40CD	TP-1485	N/A	N/A
SAM Phantom	SPEAG	QD000P40CD	TP-1652	N/A	N/A
SAM Phantom	SPEAG	QD000P40CD	TP-1653	N/A	N/A
SAM Phantom	SPEAG	QD000P40CD	TP-1654	N/A	N/A
ELI Phantom	SPEAG	QDOVA001B	TP-1039	N/A	N/A
Radio Communication Tester	Agilent	E5515C	MY50266628	Nov. 22, 2012	Biennial
ENA Series Network Analyzer	Agilent	E5071C	MY46107999	Mar. 25, 2013	Annual
MXG Analog Signal Generator	Agilent	N5181A	MY49060347	Jul. 24, 2012	Annual
Power Meter	Anritsu	ML2495A	1232002	Aug. 10, 2012	Annual
Power Sensor	Anritsu	MA2411B	1207325	Aug. 15, 2012	Annual
EXA Spectrum Analyzer	Agilent	N9010A	MY52220207	Sep. 12, 2012	Annual
Dielectric Probe Kit	Agilent	85070D	E2-020018	May 13, 2013	Annual
Thermometer	YFE	YF-160A	110600361	Feb. 20, 2013	Annual
Directional Coupler	Woken	0110A05602O-10	11122702	Apr. 18, 2013	Annual
Power Amplifier	AR	5S1G4	0339656	Apr. 18, 2013	Annual
Power Amplifier	Mini-Circuit	ZVE-8G	001000422	Apr. 18, 2013	Annual
Attenuator	Woken	00800A1G01L-03	N/A	Apr. 18, 2013	Annual

6. Measurement Uncertainty

Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	Ci (1g)	Standard Uncertainty (1g)	Vi
Measurement System						
Probe Calibration	6.0	Normal	1	1	± 6.0 %	∞
Axial Isotropy	4.7	Rectangular	√3	0.7	± 1.9 %	∞
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	± 3.9 %	∞
Boundary Effects	1.0	Rectangular	√3	1	± 0.6 %	∞
Linearity	4.7	Rectangular	√3	1	± 2.7 %	∞
System Detection Limits	1.0	Rectangular	√3	1	± 0.6 %	∞
Readout Electronics	0.6	Normal	1	1	± 0.6 %	∞
Response Time	0.0	Rectangular	√3	1	± 0.0 %	∞
Integration Time	1.7	Rectangular	√3	1	± 1.0 %	∞
RF Ambient Noise	3.0	Rectangular	√3	1	± 1.7 %	∞
RF Ambient Reflections	3.0	Rectangular	√3	1	± 1.7 %	∞
Probe Positioner	0.5	Rectangular	√3	1	± 0.3 %	∞
Probe Positioning	2.9	Rectangular	√3	1	± 1.7 %	∞
Max. SAR Eval.	2.3	Rectangular	√3	1	± 1.3 %	∞
Test Sample Related						
Device Positioning	3.9	Normal	1	1	± 3.9 %	31
Device Holder	2.7	Normal	1	1	± 2.7 %	19
Power Drift	5.0	Rectangular	√3	1	± 2.9 %	∞
Phantom and Setup						
Phantom Uncertainty	4.0	Rectangular	√3	1	± 2.3 %	∞
Liquid Conductivity (Target)	5.0	Rectangular	√3	0.64	± 1.8 %	∞
Liquid Conductivity (Meas.)	5.0	Normal	1	0.64	± 3.2 %	29
Liquid Permittivity (Target)	5.0	Rectangular	√3	0.6	± 1.7 %	∞
Liquid Permittivity (Meas.)	5.0	Normal	1	0.6	± 3.0 %	29
Combined Standard Uncertainty					± 11.7 %	
Expanded Uncertainty (K=2)					± 23.4 %	

Uncertainty budget for frequency range 300 MHz to 3 GHz



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Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	Ci (1g)	Standard Uncertainty (1g)	Vi
Measurement System						
Probe Calibration	6.55	Normal	1	1	± 6.55 %	∞
Axial Isotropy	4.7	Rectangular	√3	0.7	± 1.9 %	∞
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	± 3.9 %	∞
Boundary Effects	2.0	Rectangular	√3	1	± 1.2 %	∞
Linearity	4.7	Rectangular	√3	1	± 2.7 %	∞
System Detection Limits	1.0	Rectangular	√3	1	± 0.6 %	∞
Readout Electronics	0.3	Normal	1	1	± 0.3 %	∞
Response Time	0.8	Rectangular	√3	1	± 0.5 %	∞
Integration Time	2.6	Rectangular	√3	1	± 1.5 %	∞
RF Ambient Noise	3.0	Rectangular	√3	1	± 1.7 %	∞
RF Ambient Reflections	3.0	Rectangular	√3	1	± 1.7 %	∞
Probe Positioner	0.8	Rectangular	√3	1	± 0.5 %	∞
Probe Positioning	9.9	Rectangular	√3	1	± 5.7 %	∞
Max. SAR Eval.	4.0	Rectangular	√3	1	± 2.3 %	∞
Test Sample Related						
Device Positioning	3.9	Normal	1	1	± 3.9 %	31
Device Holder	2.7	Normal	1	1	± 2.7 %	19
Power Drift	5.0	Rectangular	√3	1	± 2.9 %	∞
Phantom and Setup						
Phantom Uncertainty	4.0	Rectangular	√3	1	± 2.3 %	∞
Liquid Conductivity (Target)	5.0	Rectangular	√3	0.64	± 1.8 %	∞
Liquid Conductivity (Meas.)	5.0	Normal	1	0.64	± 3.2 %	30
Liquid Permittivity (Target)	5.0	Rectangular	√3	0.6	± 1.7 %	∞
Liquid Permittivity (Meas.)	5.0	Normal	1	0.6	± 3.0 %	30
Combined Standard Uncertainty					± 13.4 %	
Expanded Uncertainty (K=2)					± 26.8 %	

Uncertainty budget for frequency range 3 GHz to 6 GHz



7. Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Taiwan HwaYa EMC/RF/Safety/Telecom Lab:

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The road map of all our labs can be found in our web site also.

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Appendix A. SAR Plots of System Verification

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

System Check_H750_130604

DUT: Dipole 750 MHz; Type: D750V3; SN: 1013

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: H750_0604 Medium parameters used: $f = 750$ MHz; $\sigma = 0.906$ S/m; $\epsilon_r = 41.293$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(9.09, 9.09, 9.09); Calibrated: 2012/06/22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2013/03/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

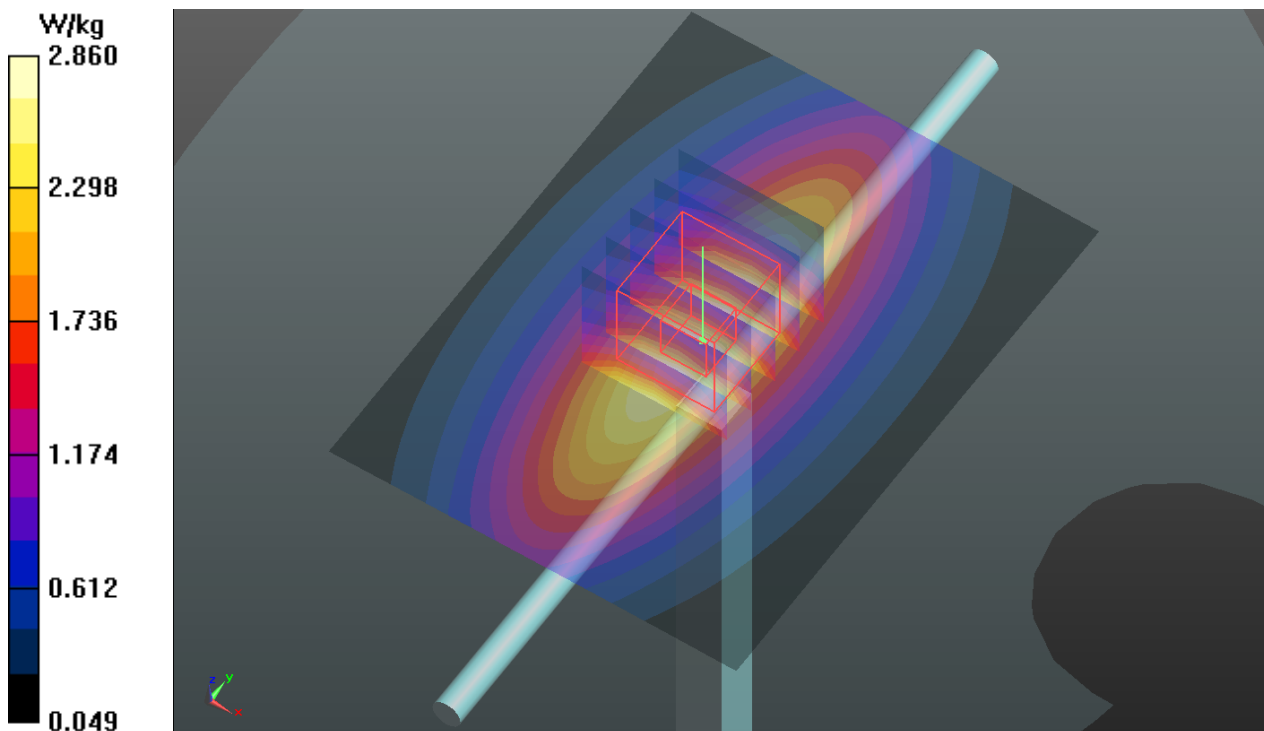
Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.86 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 56.968 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 3.46 W/kg

SAR(1 g) = 2.31 W/kg; SAR(10 g) = 1.54 W/kg

Maximum value of SAR (measured) = 2.93 W/kg



System Check_H835_130603

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: H835_0603 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.881 \text{ S/m}$; $\epsilon_r = 41.93$; $\rho = 1000 \text{ kg/m}^3$

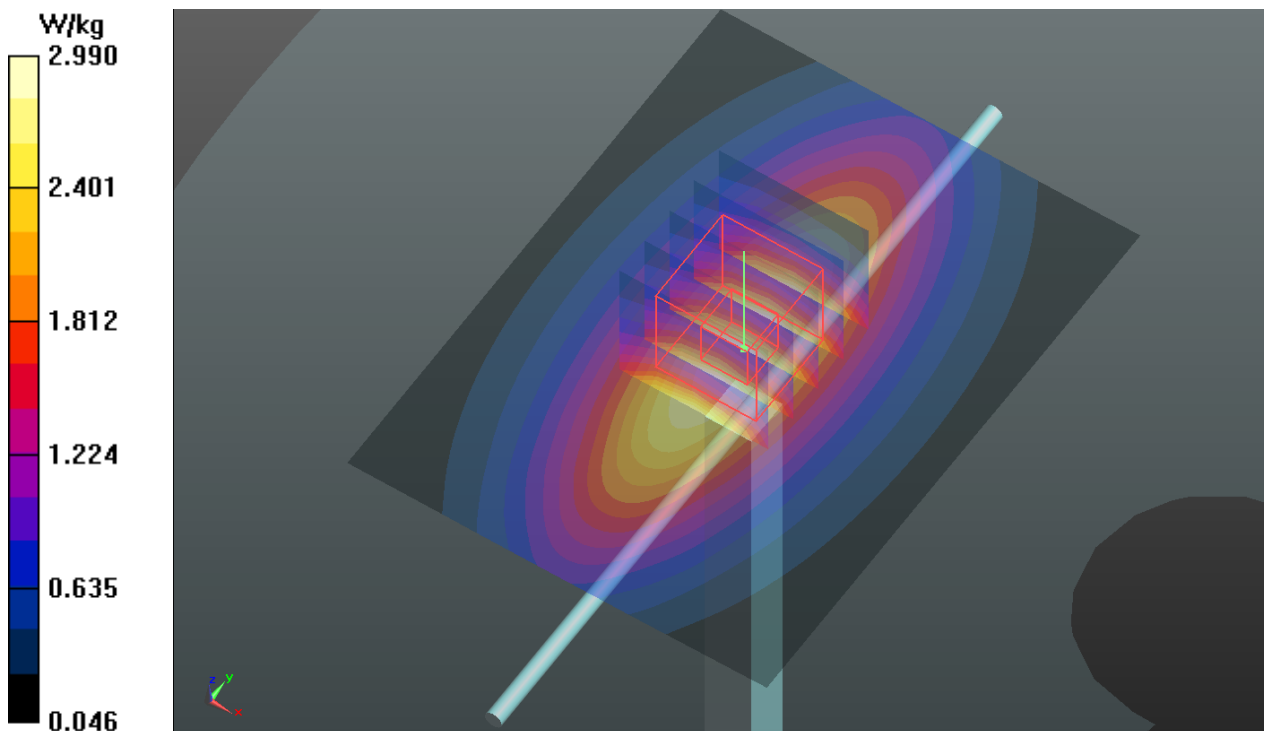
Ambient Temperature : $21.6 \text{ }^\circ\text{C}$; Liquid Temperature : $20.5 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(9.8, 9.8, 9.8); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x81x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$
Maximum value of SAR (interpolated) = 2.99 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 59.043 V/m ; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 3.64 W/kg
SAR(1 g) = 2.4 W/kg ; SAR(10 g) = 1.57 W/kg
Maximum value of SAR (measured) = 3.07 W/kg



System Check_H835_130604

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: H835_0604 Medium parameters used: $f = 835$ MHz; $\sigma = 0.886$ S/m; $\epsilon_r = 42.271$; $\rho = 1000$ kg/m³

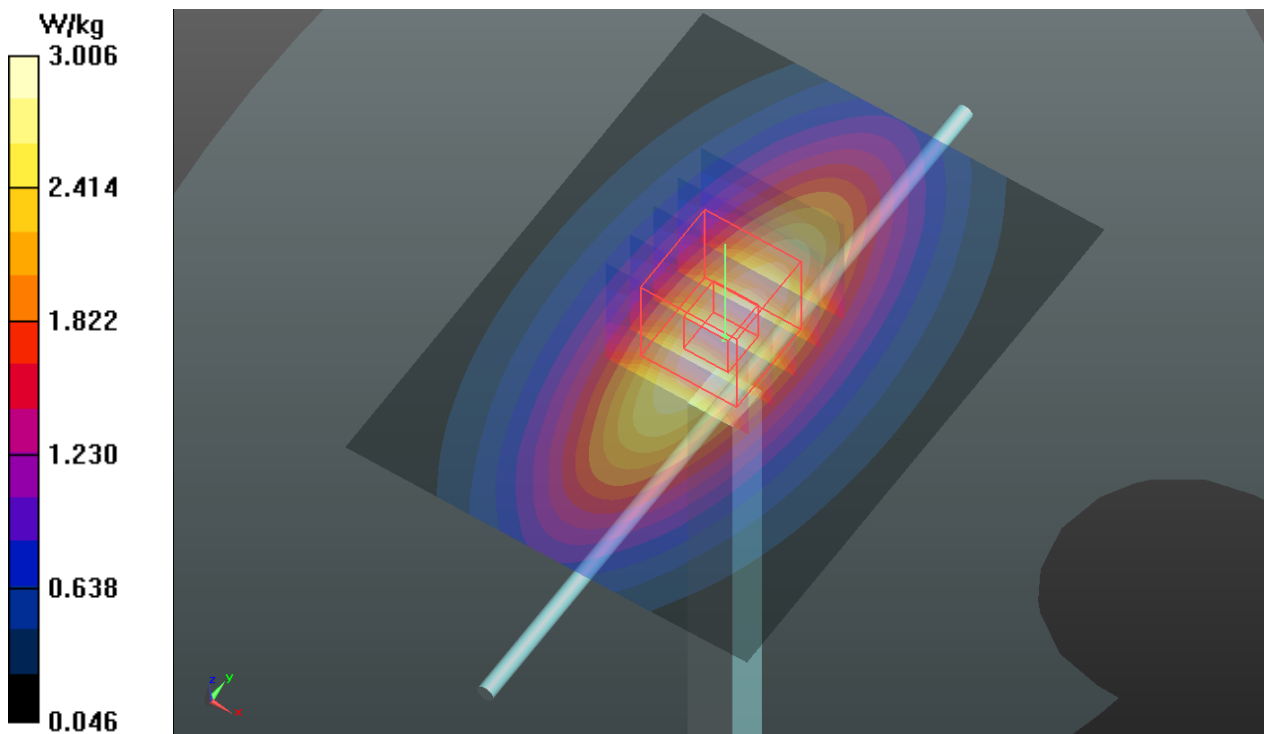
Ambient Temperature : 21.7 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(9.8, 9.8, 9.8); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.01 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 59.043 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 3.66 W/kg
SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.58 W/kg
Maximum value of SAR (measured) = 3.08 W/kg



System Check_H1750_130620

DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: H1750_0620 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.358$ S/m; $\epsilon_r = 39.714$; $\rho = 1000$ kg/m³

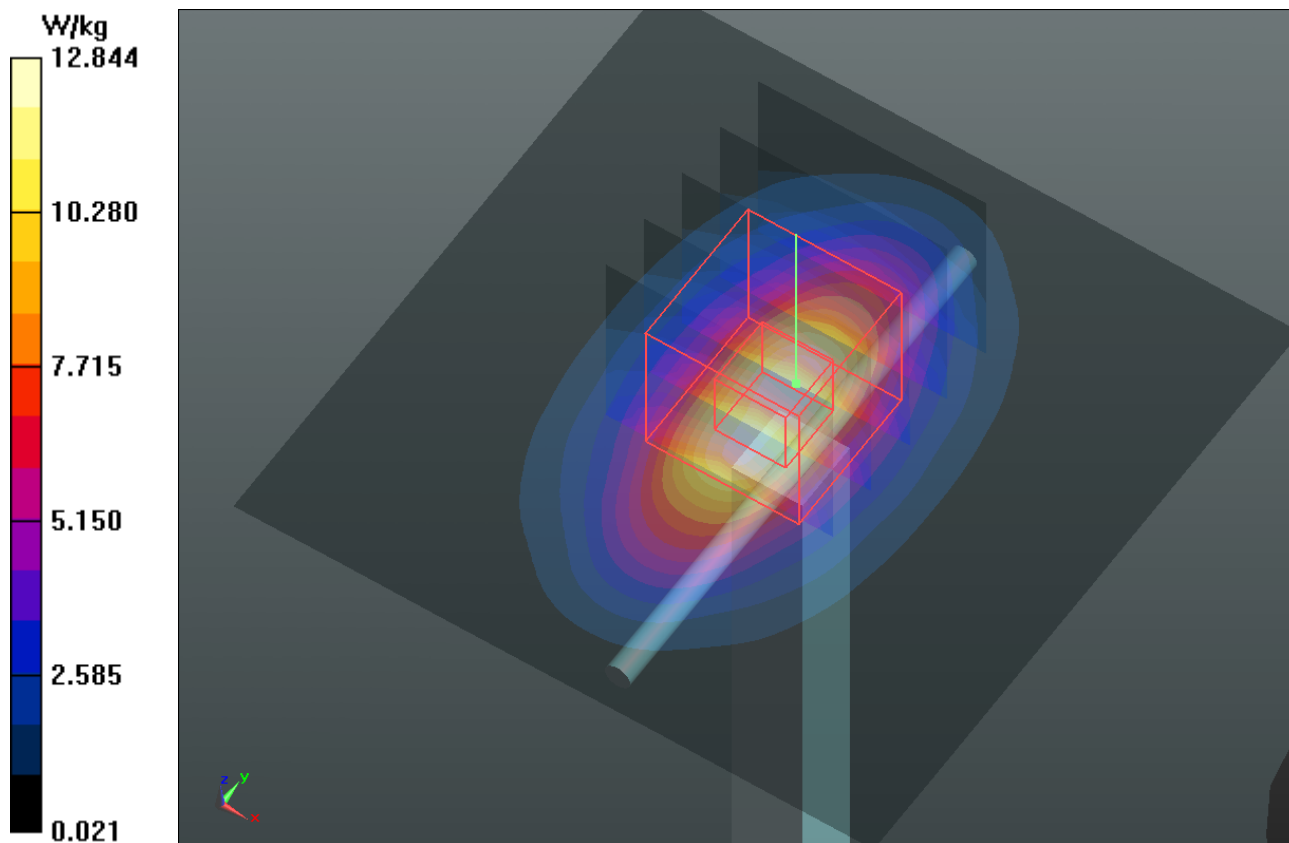
Ambient Temperature : 21.9 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(8.56, 8.56, 8.56); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 12.8 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 96.949 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 15.5 W/kg
SAR(1 g) = 8.68 W/kg; SAR(10 g) = 4.61 W/kg
Maximum value of SAR (measured) = 12.3 W/kg



System Check_H1900_130601

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

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

Medium: H1900_0601 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.415$ S/m; $\epsilon_r = 40.328$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.8 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.42, 7.42, 7.42); Calibrated: 2012/06/22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2013/03/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 13.4 W/kg

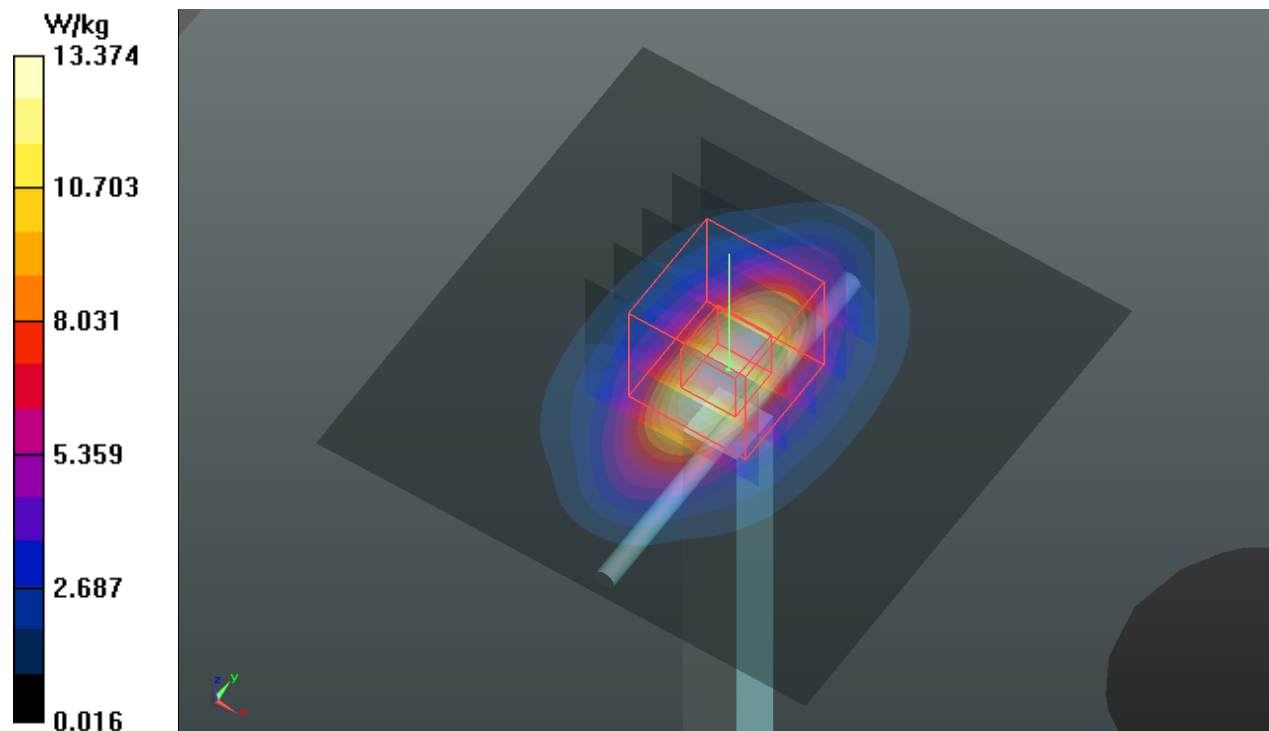
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 99.432 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 18.2 W/kg

SAR(1 g) = 9.48 W/kg; SAR(10 g) = 4.77 W/kg

Maximum value of SAR (measured) = 14.0 W/kg



System Check_H1900_130605

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

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

Medium: H1900_0605 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.406$ S/m; $\epsilon_r = 39.541$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.42, 7.42, 7.42); Calibrated: 2012/06/22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2013/03/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 13.3 W/kg

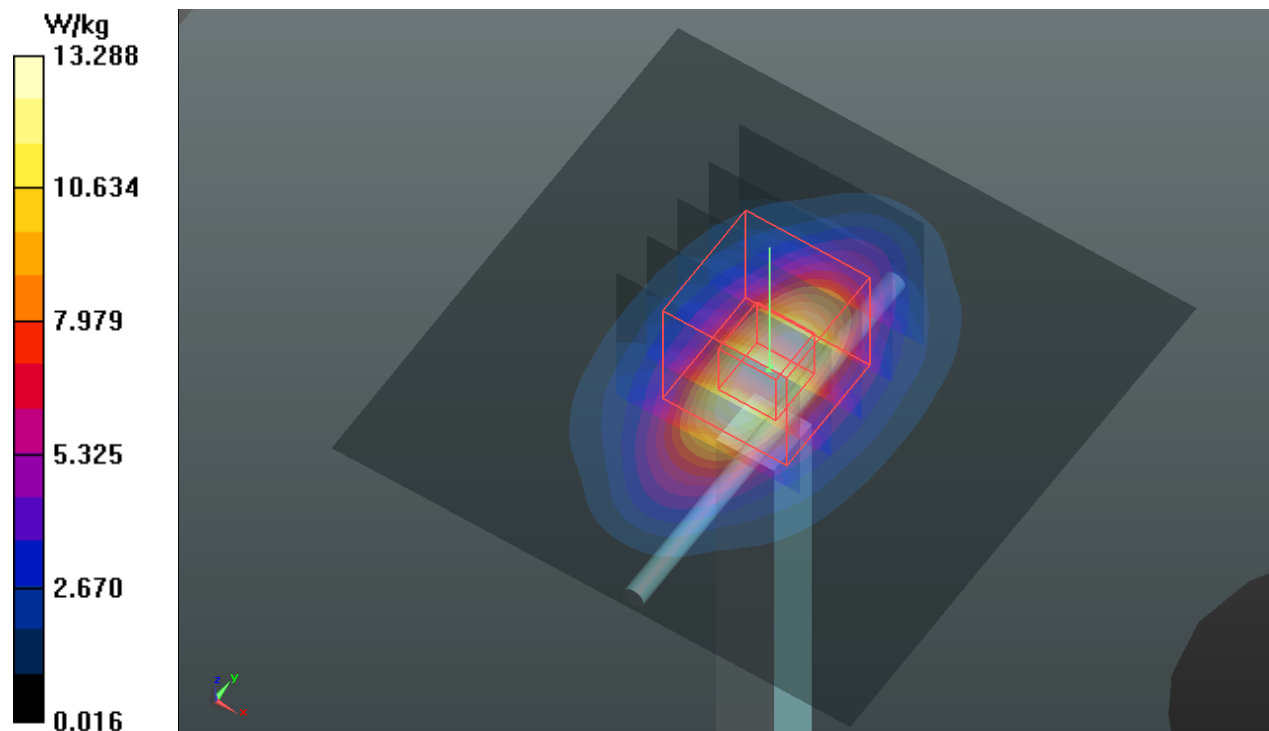
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 99.432 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 18.1 W/kg

SAR(1 g) = 9.42 W/kg; SAR(10 g) = 4.74 W/kg

Maximum value of SAR (measured) = 14.0 W/kg



System Check_H1900_130620

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

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

Medium: H1900_0620 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.406$ S/m; $\epsilon_r = 39.596$; $\rho = 1000$ kg/m³

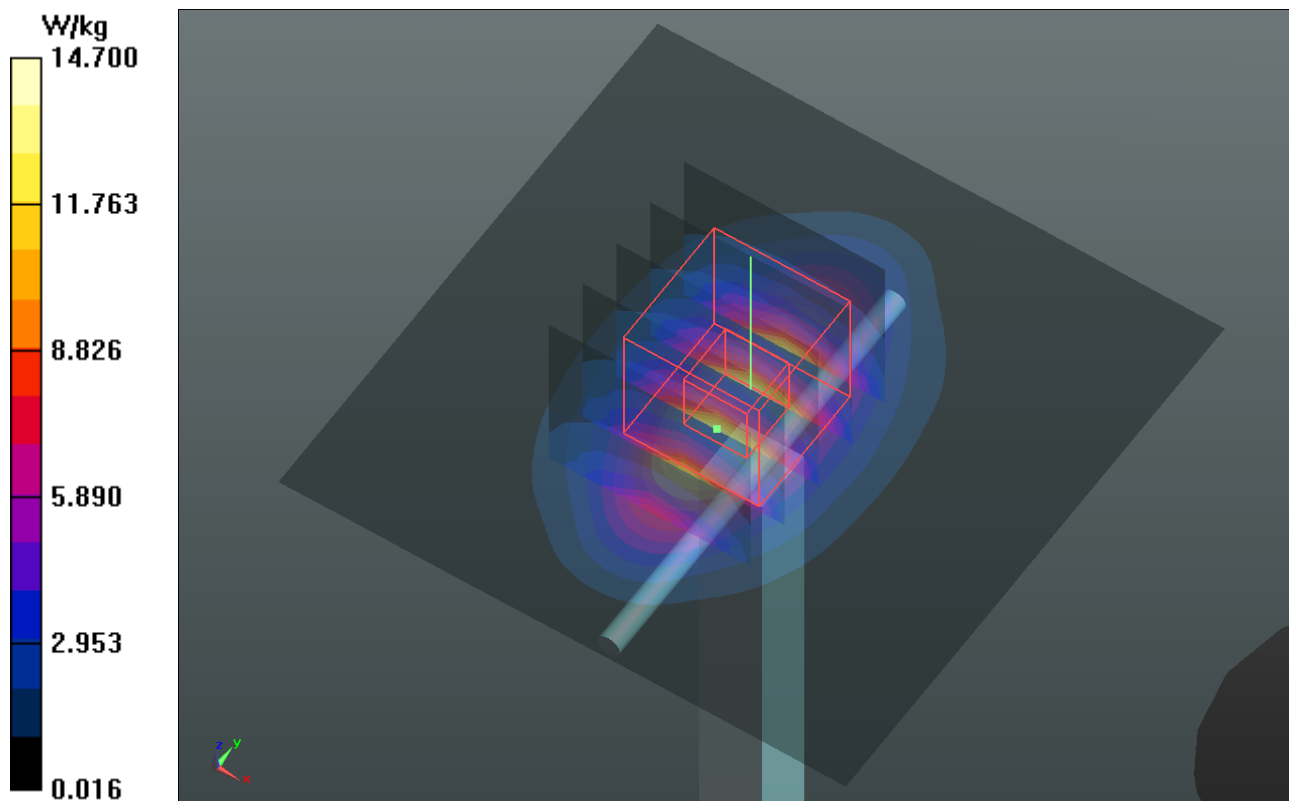
Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(8.13, 8.13, 8.13); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 14.7 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 101.1 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 18.0 W/kg
SAR(1 g) = 9.54 W/kg; SAR(10 g) = 4.88 W/kg
Maximum value of SAR (measured) = 13.7 W/kg



System Check_H2450_130619

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737

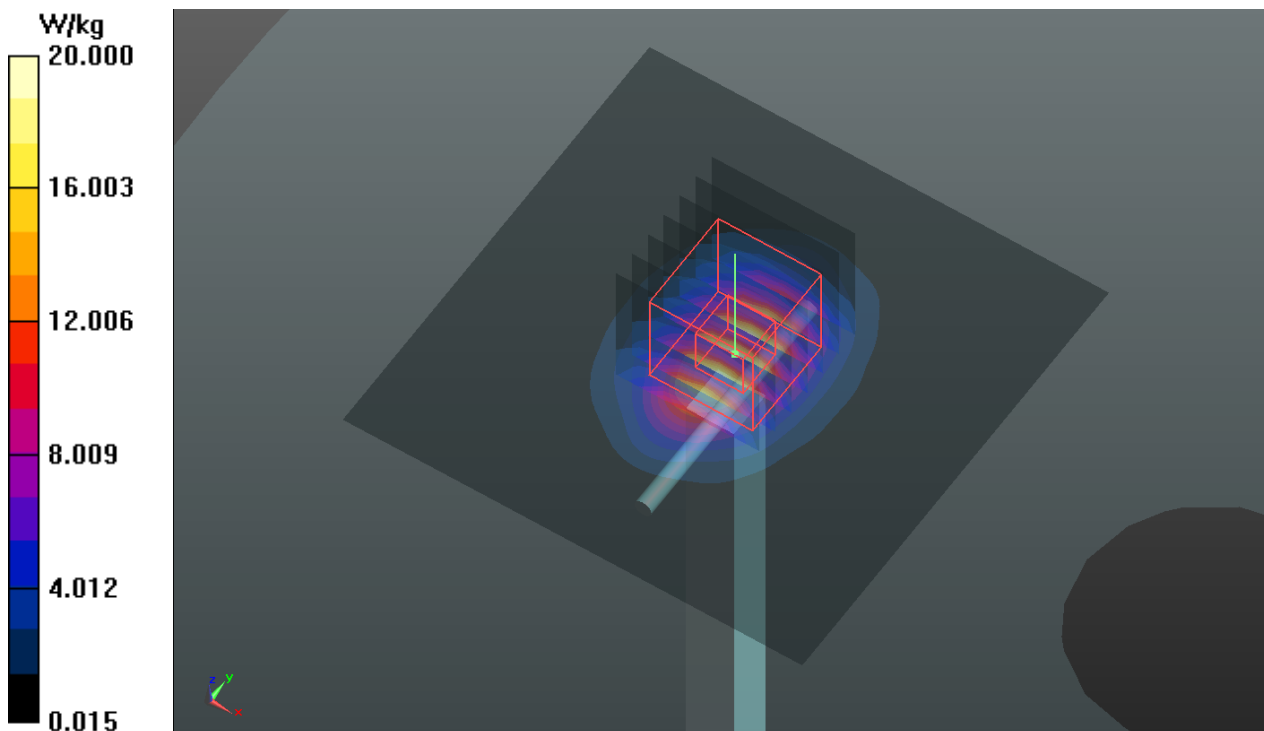
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: H2450_0619 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.773$ S/m; $\epsilon_r = 40.426$; $\rho = 1000$ kg/m³
Ambient Temperature : 21.5 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.28, 7.28, 7.28); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 20.0 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 103.7 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 27.8 W/kg
SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.69 W/kg
Maximum value of SAR (measured) = 19.9 W/kg



System Check_H5200_130612

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: H5G_0612 Medium parameters used: $f = 5200$ MHz; $\sigma = 4.783$ S/m; $\epsilon_r = 35.452$; $\rho = 1000$ kg/m³

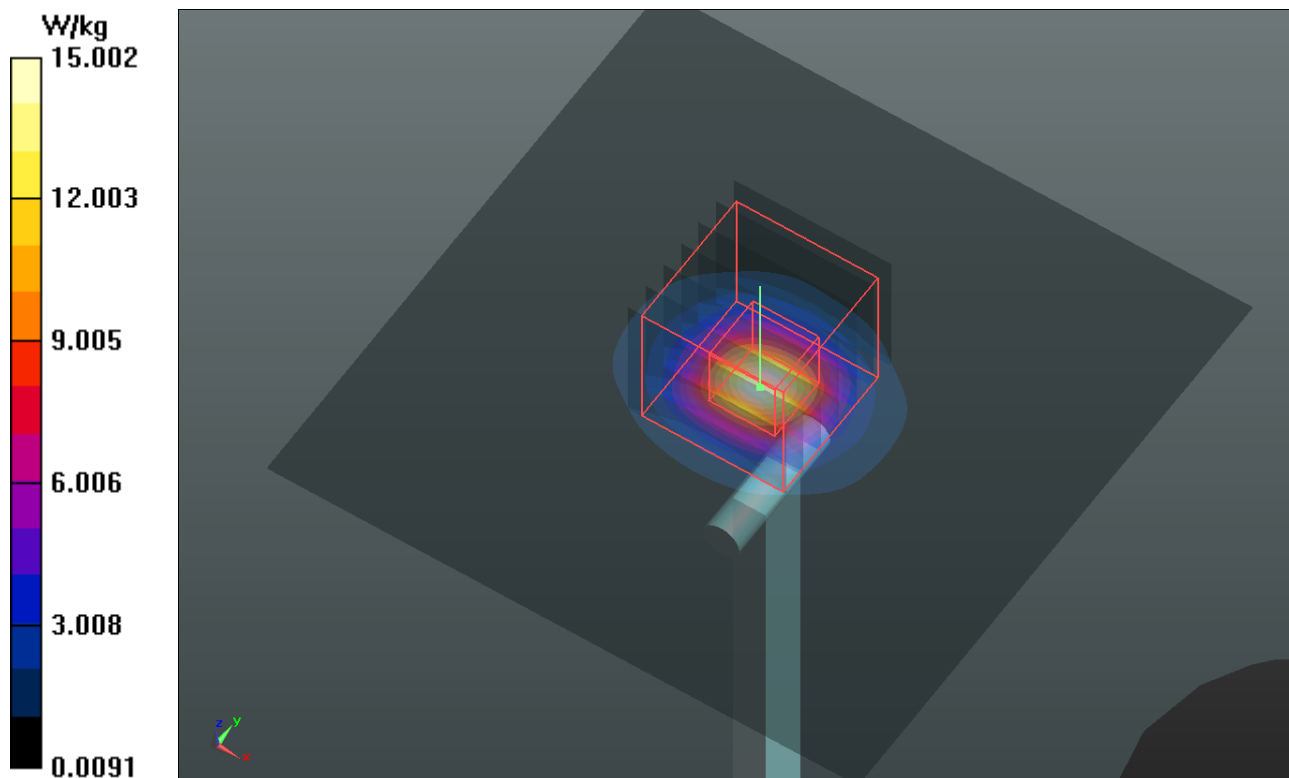
Ambient Temperature : 21.2 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(5.79, 5.79, 5.79); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 15.0 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 61.043 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 31.7 W/kg
SAR(1 g) = 7.59 W/kg; SAR(10 g) = 2.16 W/kg
Maximum value of SAR (measured) = 15.8 W/kg



System Check_H5300_130612

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: CW; Frequency: 5300 MHz; Duty Cycle: 1:1

Medium: H5G_0612 Medium parameters used: $f = 5300$ MHz; $\sigma = 4.906$ S/m; $\epsilon_r = 35.237$; $\rho = 1000$ kg/m³

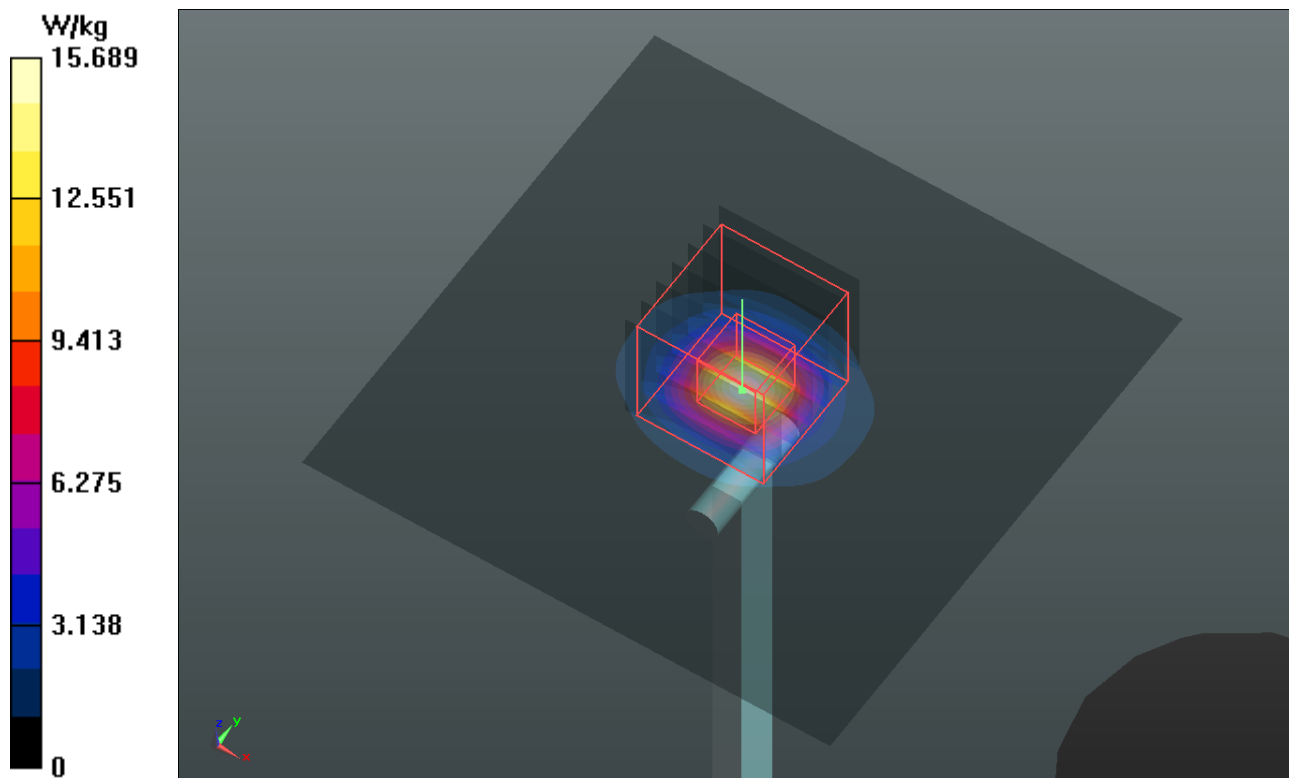
Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(5.61, 5.61, 5.61); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 15.7 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 61.183 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 34.4 W/kg
SAR(1 g) = 7.94 W/kg; SAR(10 g) = 2.25 W/kg
Maximum value of SAR (measured) = 16.6 W/kg



System Check_H5600_130613

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: H5G_0613 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.226$ S/m; $\epsilon_r = 34.677$; $\rho = 1000$ kg/m³

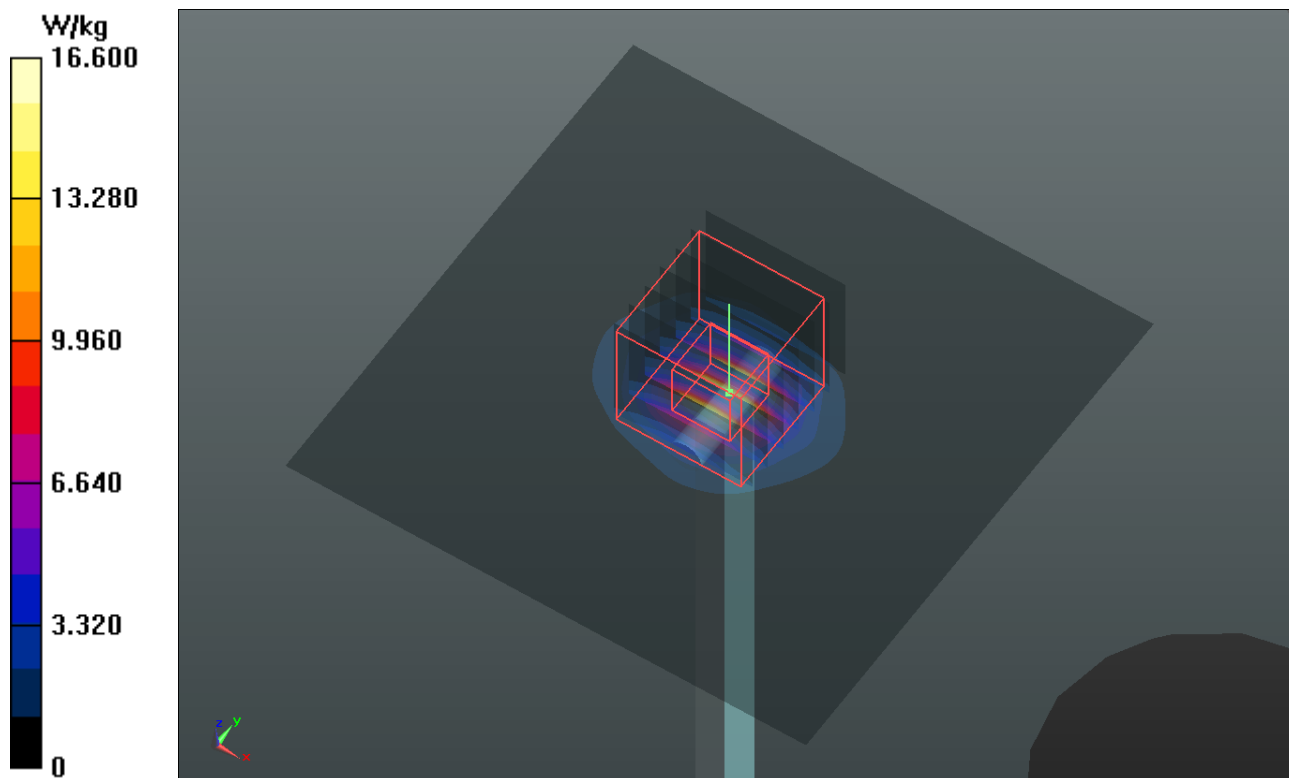
Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(5.05, 5.05, 5.05); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 16.6 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 60.047 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 34.3 W/kg
SAR(1 g) = 7.72 W/kg; SAR(10 g) = 2.18 W/kg
Maximum value of SAR (measured) = 16.1 W/kg



System Check_H5800_130613

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: H5G_0613 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.439$ S/m; $\epsilon_r = 34.384$; $\rho = 1000$ kg/m³

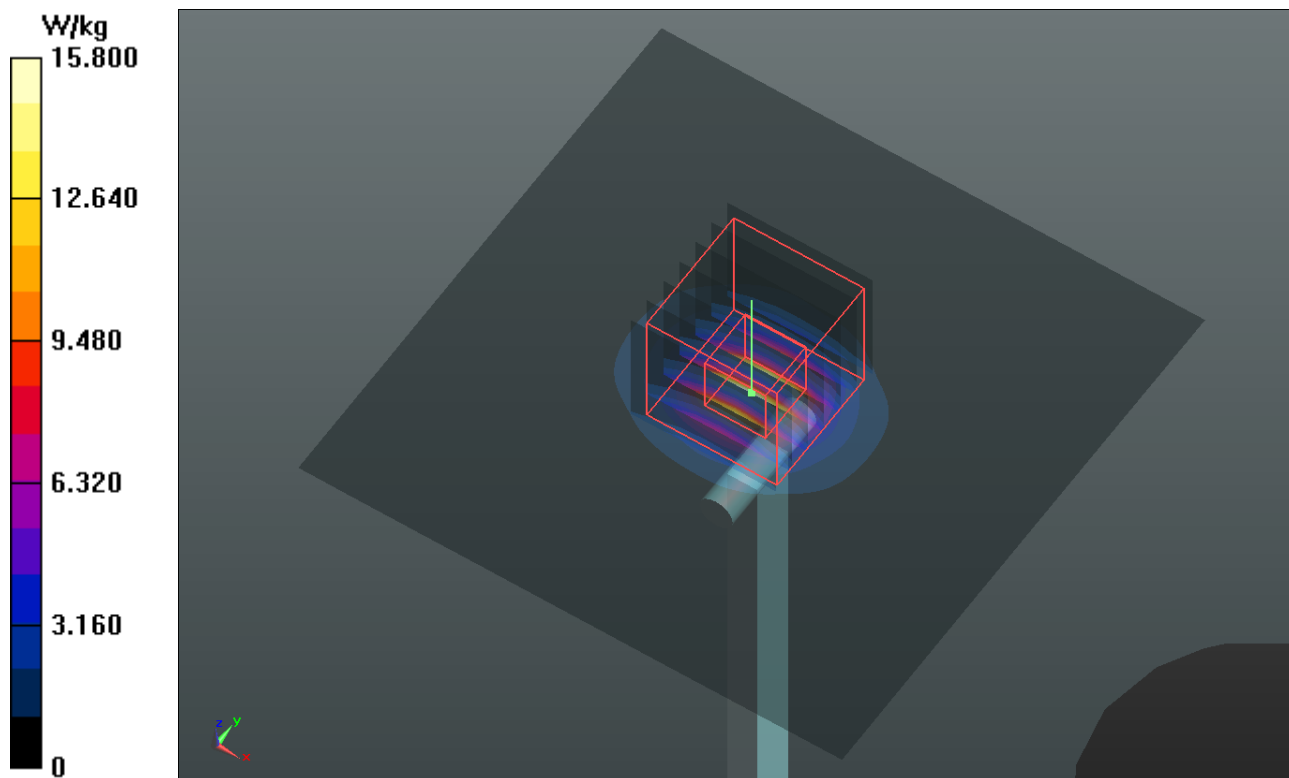
Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(4.92, 4.92, 4.92); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 15.8 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 59.027 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 38.0 W/kg
SAR(1 g) = 7.92 W/kg; SAR(10 g) = 2.22 W/kg
Maximum value of SAR (measured) = 16.9 W/kg



System Check_B750_130614

DUT: Dipole 750 MHz; Type: D750V3; SN: 1013

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: B750_0614 Medium parameters used: $f = 750$ MHz; $\sigma = 0.966$ S/m; $\epsilon_r = 55.243$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.51, 9.51, 9.51); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.55 W/kg

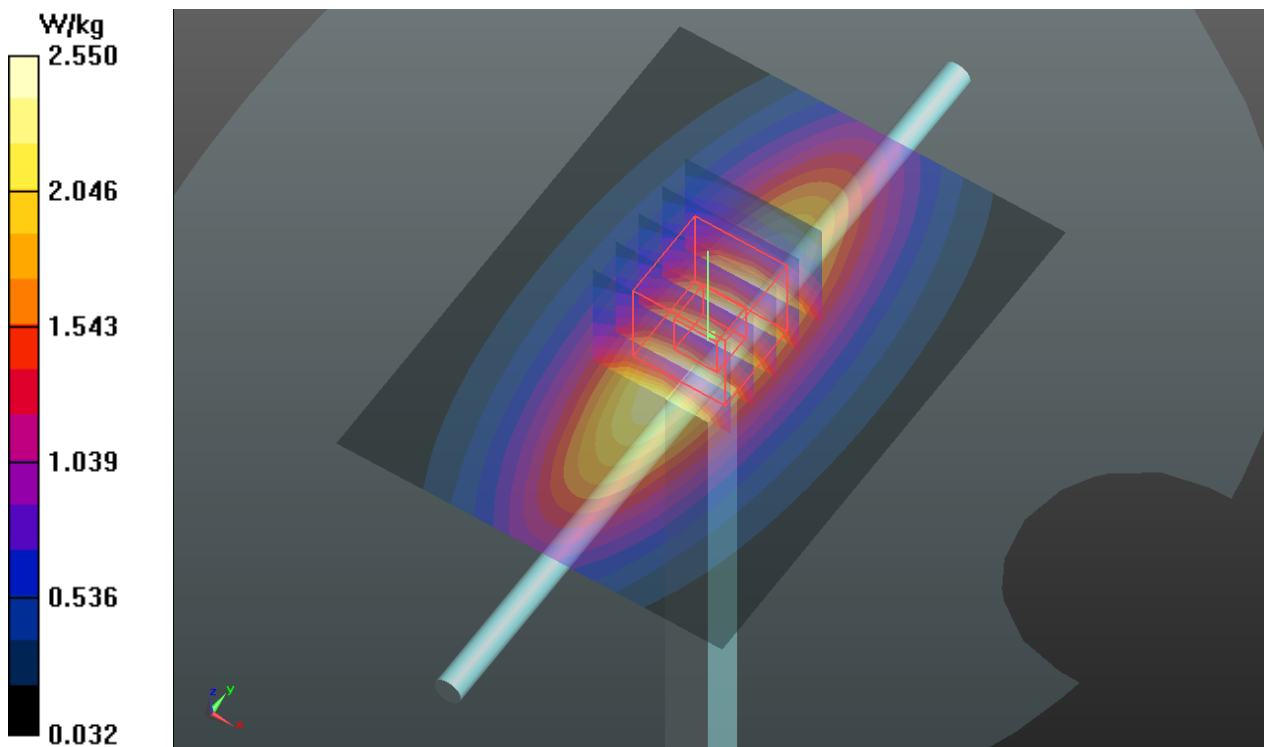
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 52.197 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 2.98 W/kg

SAR(1 g) = 2.03 W/kg; SAR(10 g) = 1.36 W/kg

Maximum value of SAR (measured) = 2.54 W/kg



System Check_B750_130627

DUT: Dipole 750 MHz; Type: D750V3; SN: 1013

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: B750_0627 Medium parameters used: $f = 750$ MHz; $\sigma = 0.976$ S/m; $\epsilon_r = 56.163$; $\rho = 1000$ kg/m³

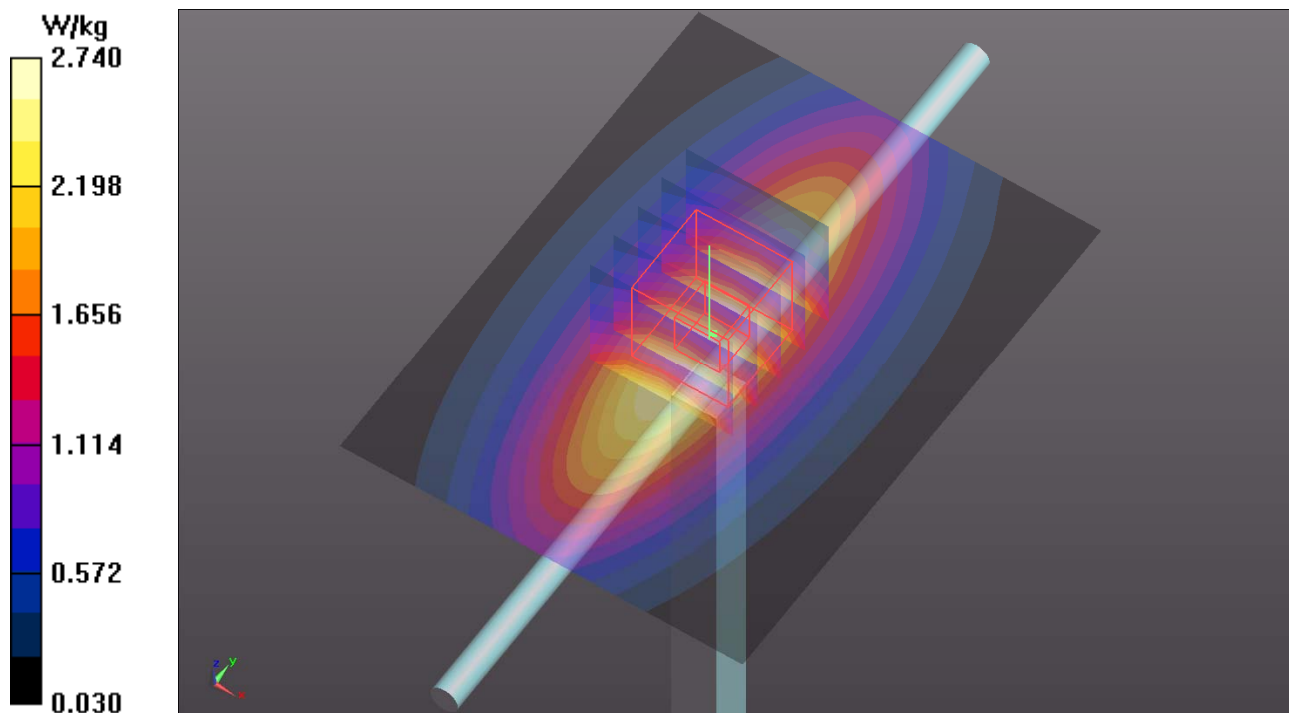
Ambient Temperature : 21.8 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.6, 10.6, 10.6); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
 Maximum value of SAR (interpolated) = 2.74 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
 Reference Value = 53.591 V/m; Power Drift = 0.07 dB
 Peak SAR (extrapolated) = 3.23 W/kg
SAR(1 g) = 2.21 W/kg; SAR(10 g) = 1.48 W/kg
 Maximum value of SAR (measured) = 2.77 W/kg



System Check_B835_130625

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: B835_0625 Medium parameters used: $f = 835$ MHz; $\sigma = 0.973$ S/m; $\epsilon_r = 54.214$; $\rho = 1000$ kg/m³

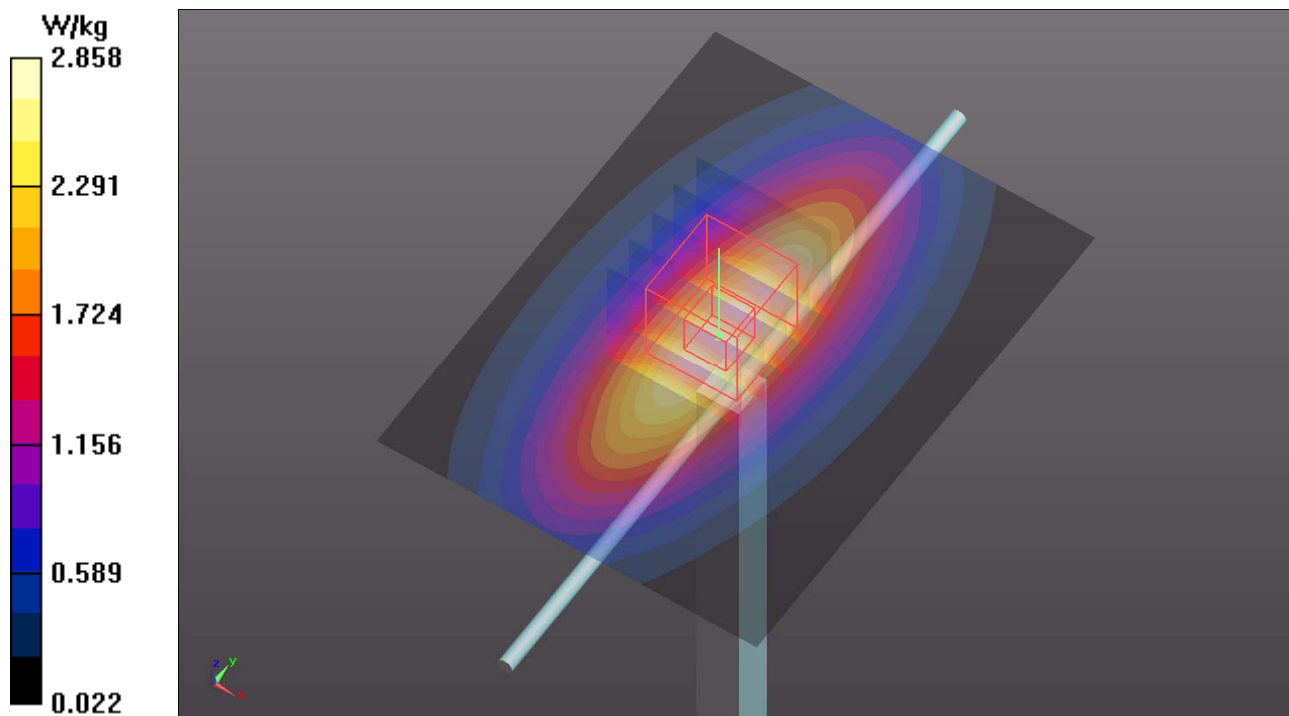
Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.86 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 54.595 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 3.38 W/kg
SAR(1 g) = 2.28 W/kg; SAR(10 g) = 1.5 W/kg
Maximum value of SAR (measured) = 2.88 W/kg



System Check_B835_130627

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: B835_0627 Medium parameters used: $f = 835$ MHz; $\sigma = 0.976$ S/m; $\epsilon_r = 54.657$; $\rho = 1000$ kg/m³

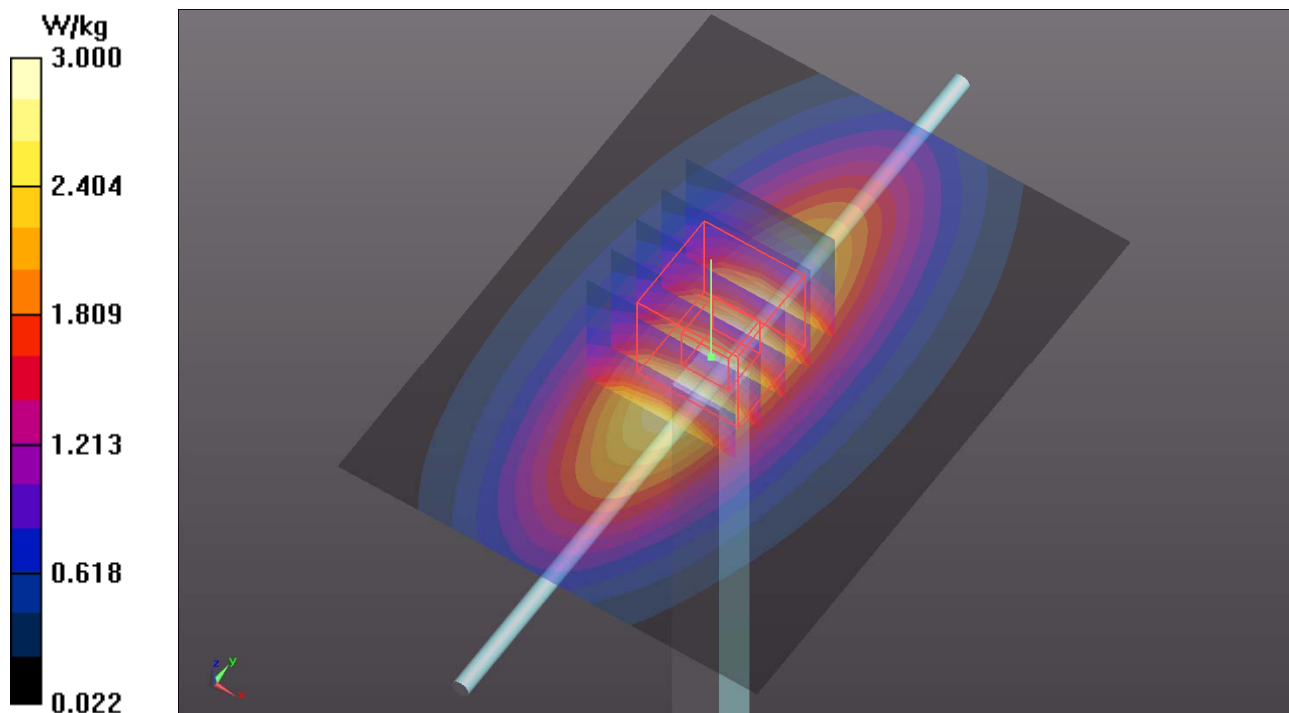
Ambient Temperature : 21.6 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.00 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 56.240 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.53 W/kg
SAR(1 g) = 2.39 W/kg; SAR(10 g) = 1.58 W/kg
Maximum value of SAR (measured) = 3.02 W/kg



System Check_B1750_130627

DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: B1750_0627 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.486$ S/m; $\epsilon_r = 52.204$; $\rho = 1000$ kg/m³

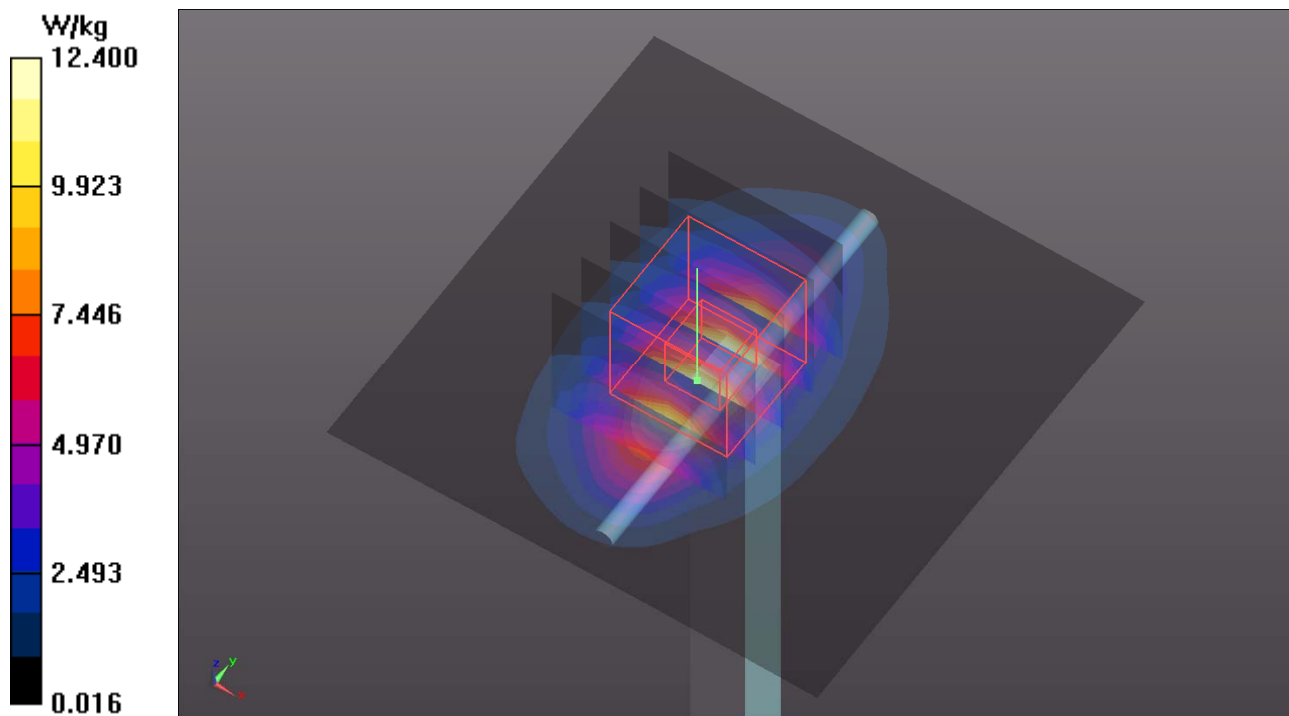
Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.63, 8.63, 8.63); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 12.4 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 88.737 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 15.4 W/kg
SAR(1 g) = 8.78 W/kg; SAR(10 g) = 4.71 W/kg
Maximum value of SAR (measured) = 12.2 W/kg



System Check_B1900_130626

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

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

Medium: B1900_0626 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.56$ S/m; $\epsilon_r = 53.444$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 13.7 W/kg

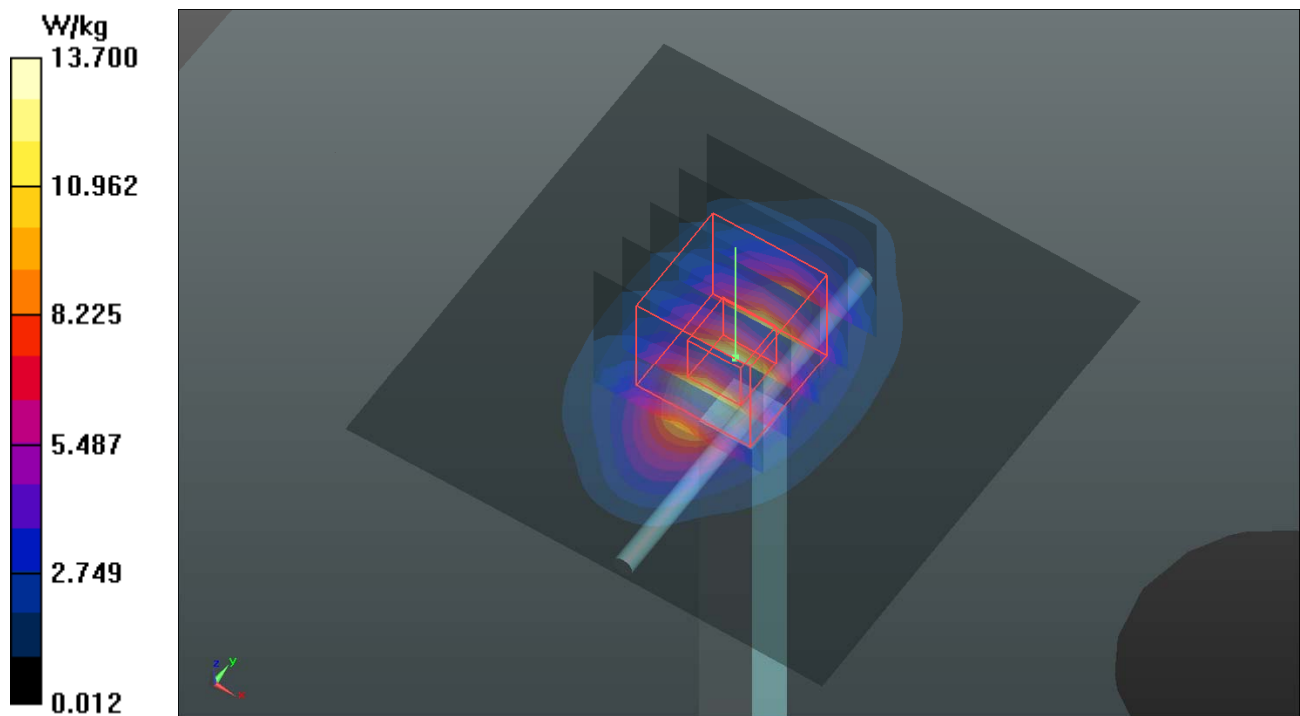
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 94.533 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 17.4 W/kg

SAR(1 g) = 9.45 W/kg; SAR(10 g) = 4.83 W/kg

Maximum value of SAR (measured) = 13.7 W/kg



System Check_B1900_130627

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

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

Medium: B1900_0627 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.558$ S/m; $\epsilon_r = 53.518$; $\rho = 1000$ kg/m³

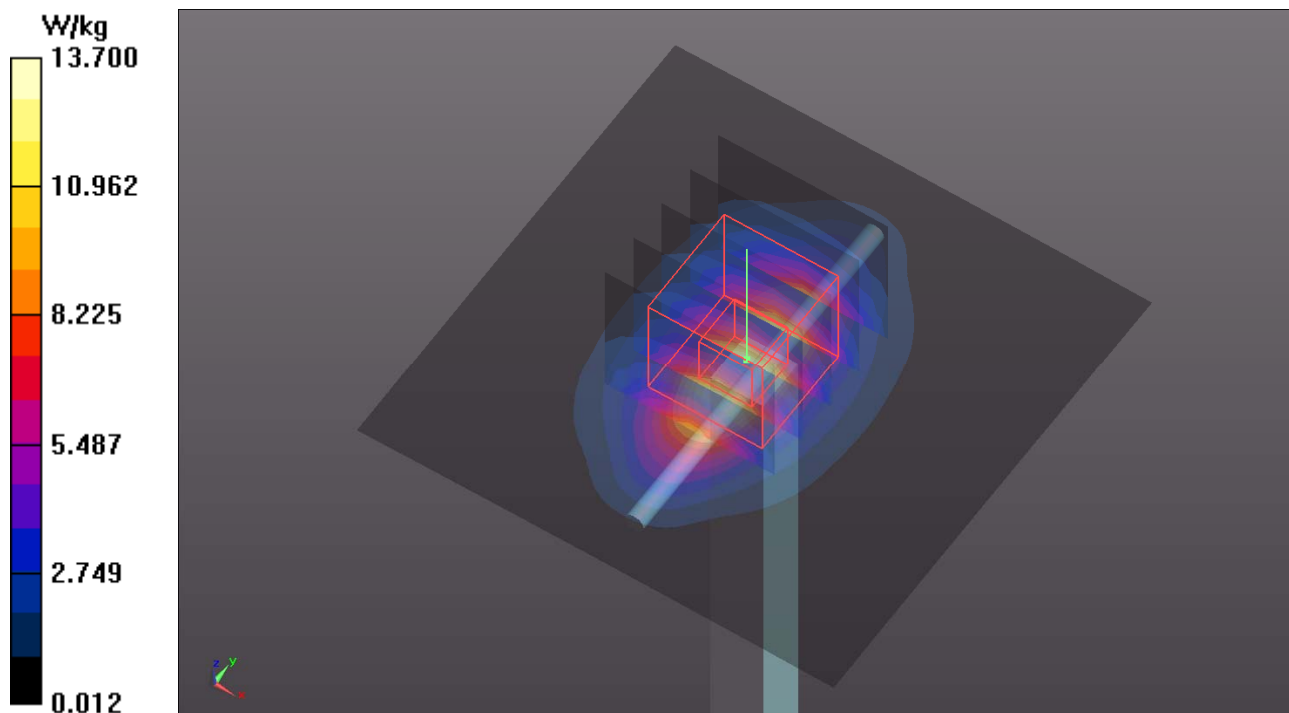
Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 13.7 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 94.533 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 17.4 W/kg
SAR(1 g) = 9.44 W/kg; SAR(10 g) = 4.83 W/kg
Maximum value of SAR (measured) = 13.7 W/kg



System Check_B2450_130627

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737

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

Medium: B2450_0627 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.965$ S/m; $\epsilon_r = 51.642$; $\rho = 1000$ kg/m³

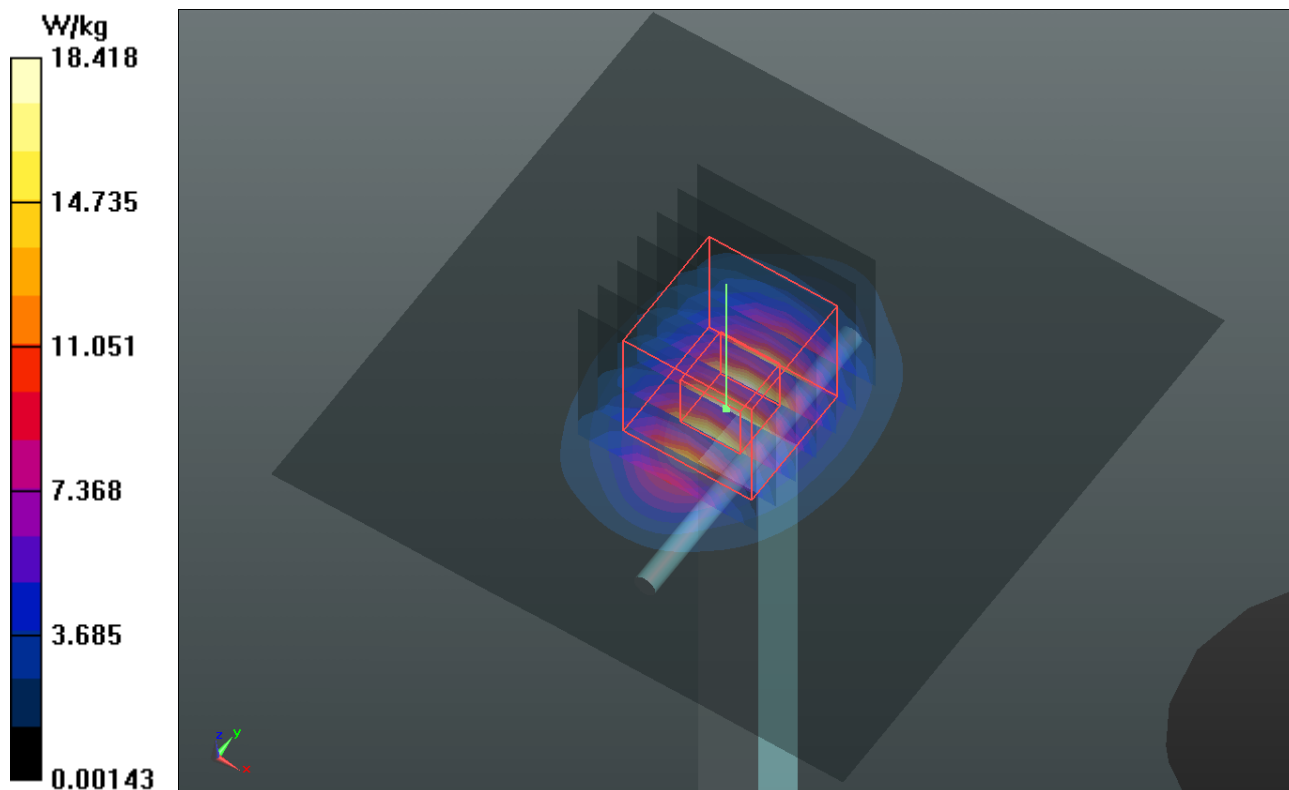
Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.09, 7.09, 7.09); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 18.4 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.143 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 24.8 W/kg
SAR(1 g) = 11.9 W/kg; SAR(10 g) = 5.5 W/kg
Maximum value of SAR (measured) = 18.2 W/kg



System Check_B5200_130608

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5200$ MHz; $\sigma = 5.279$ S/m; $\epsilon_r = 49.196$; $\rho = 1000$ kg/m³

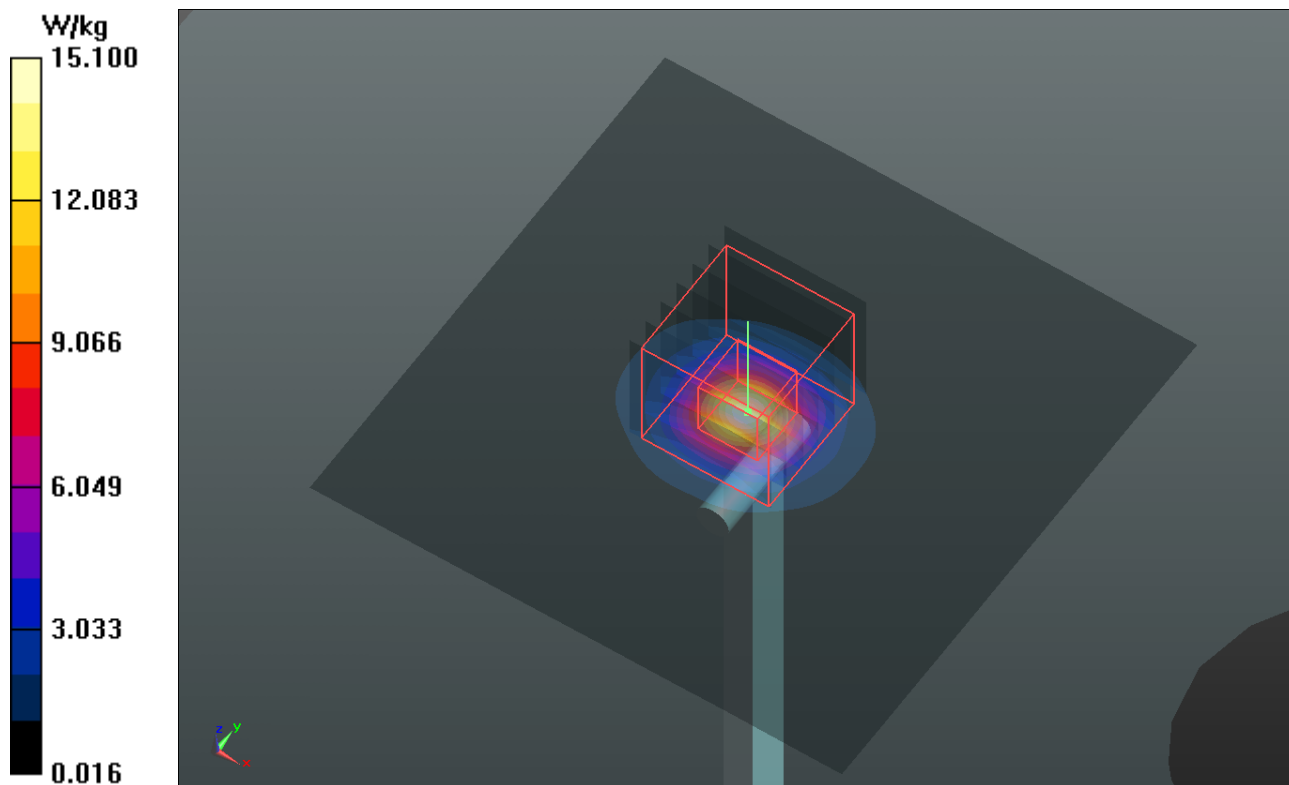
Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.51, 4.51, 4.51); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 15.1 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 57.058 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 28.2 W/kg
SAR(1 g) = 7.09 W/kg; SAR(10 g) = 2.02 W/kg
Maximum value of SAR (measured) = 14.5 W/kg



System Check_B5300_130608

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: CW; Frequency: 5300 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5300$ MHz; $\sigma = 5.417$ S/m; $\epsilon_r = 49.031$; $\rho = 1000$ kg/m³

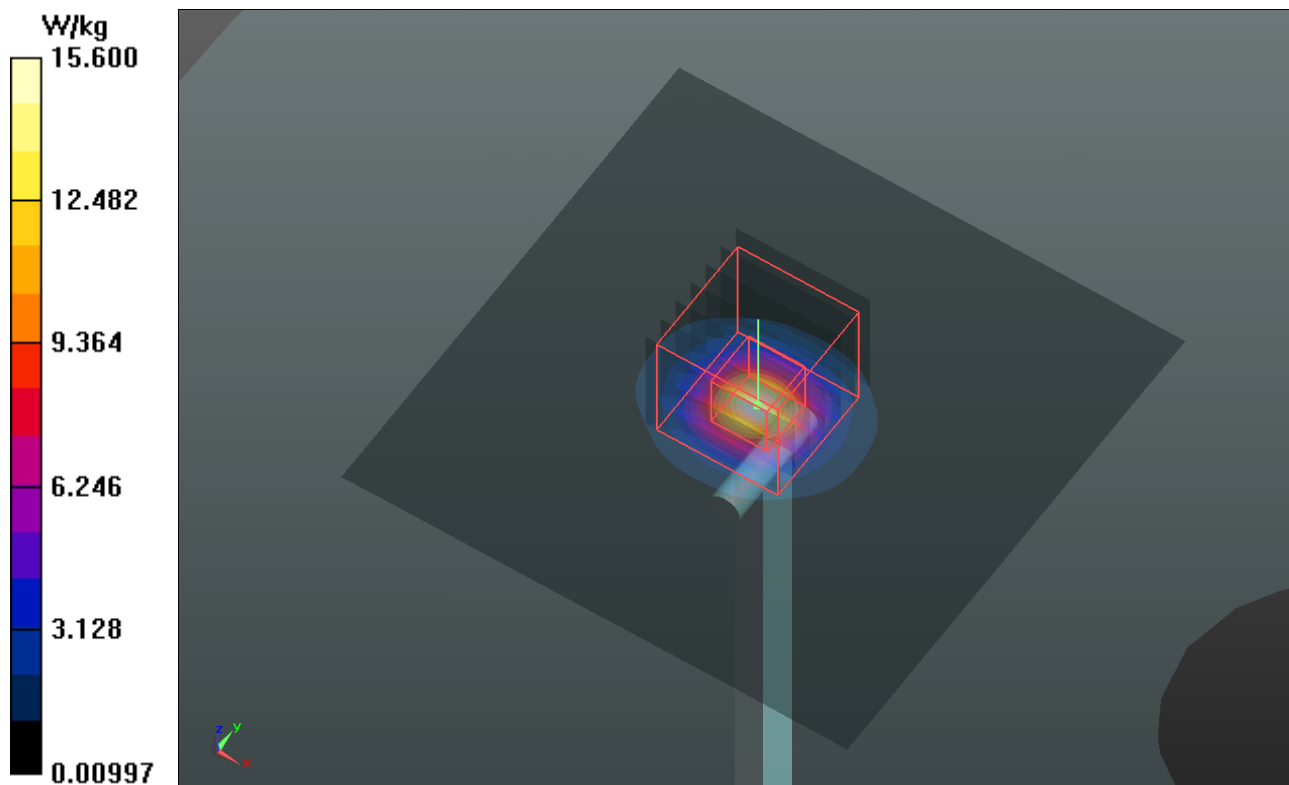
Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.31, 4.31, 4.31); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 15.6 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 57.531 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 30.2 W/kg
SAR(1 g) = 7.36 W/kg; SAR(10 g) = 2.09 W/kg
Maximum value of SAR (measured) = 15.3 W/kg



System Check_B5600_130608

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.884$ S/m; $\epsilon_r = 48.452$; $\rho = 1000$ kg/m³

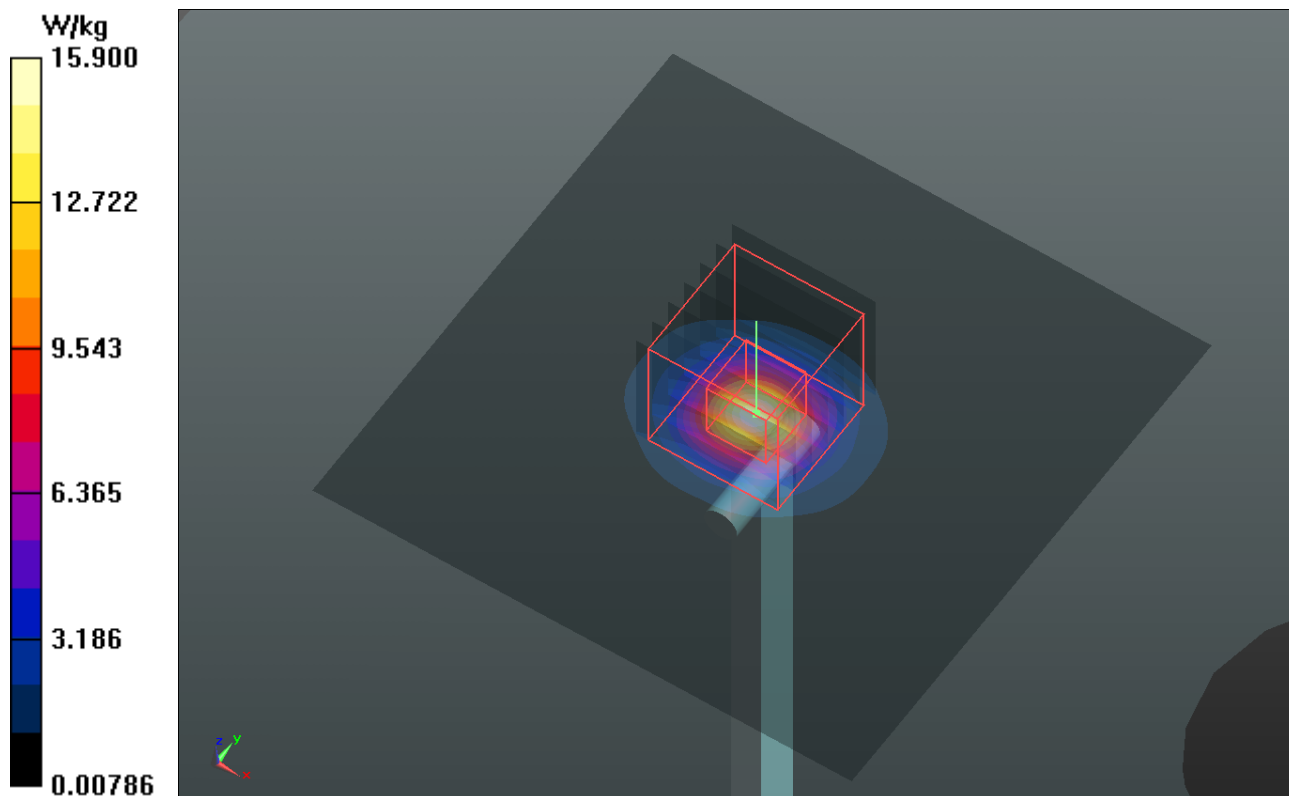
Ambient Temperature : 21.5 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4, 4, 4); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 15.9 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 56.400 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 32.3 W/kg
SAR(1 g) = 7.49 W/kg; SAR(10 g) = 2.13 W/kg
Maximum value of SAR (measured) = 15.8 W/kg



System Check_B5800_130608

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5800$ MHz; $\sigma = 6.141$ S/m; $\epsilon_r = 47.955$; $\rho = 1000$ kg/m³

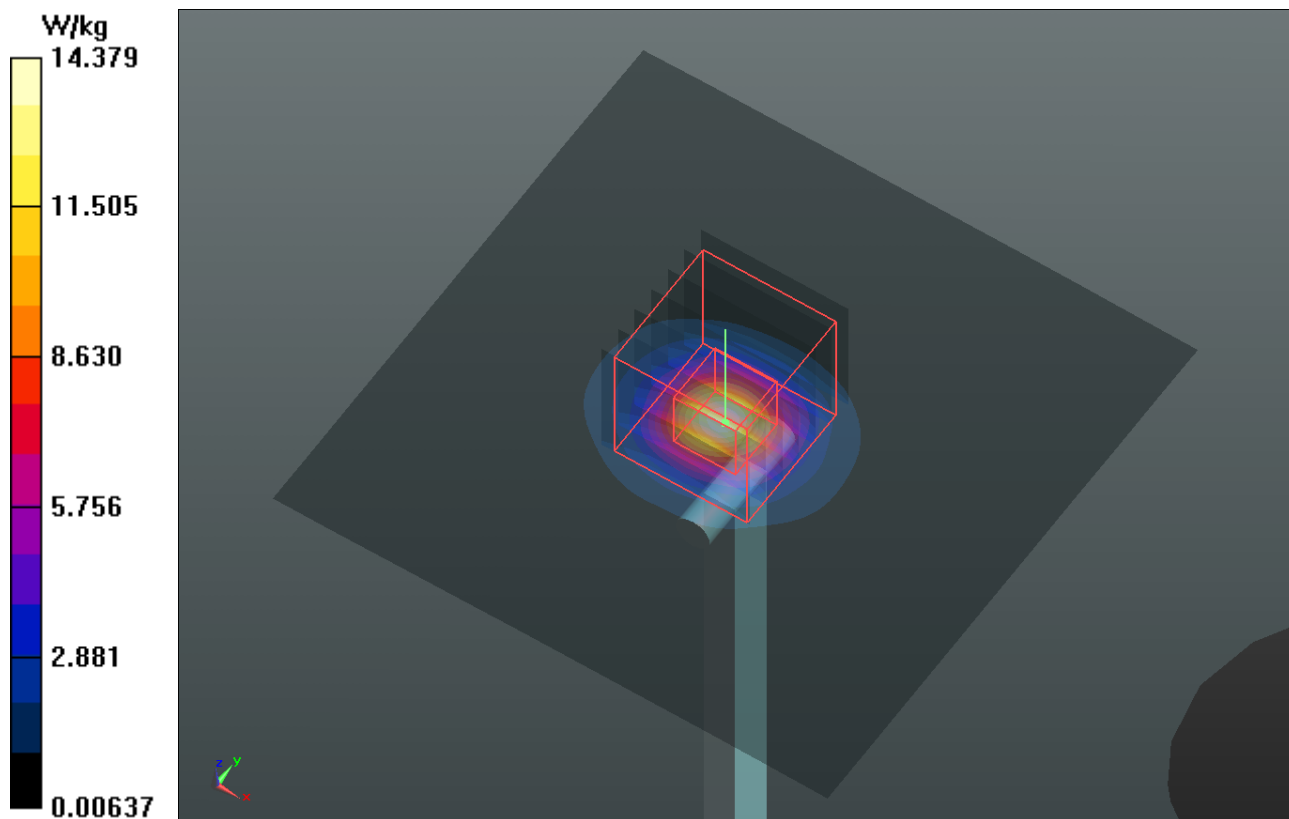
Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.21, 4.21, 4.21); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 14.4 W/kg

Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 53.953 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 29.3 W/kg
SAR(1 g) = 6.85 W/kg; SAR(10 g) = 1.95 W/kg
Maximum value of SAR (measured) = 14.6 W/kg





Appendix B. SAR Plots of SAR Measurement

The SAR plots for highest measured SAR in each exposure configuration, wireless mode and frequency band combination, and measured SAR > 1.5 W/kg are shown as follows.

P01 GSM850_GSM_Left Cheek_Ch190_Ant0_Sleeve+A1428

DUT: 130510C03

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: H835_0603 Medium parameters used: $f = 837$ MHz; $\sigma = 0.883$ S/m; $\epsilon_r = 41.906$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(9.8, 9.8, 9.8); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.836 W/kg

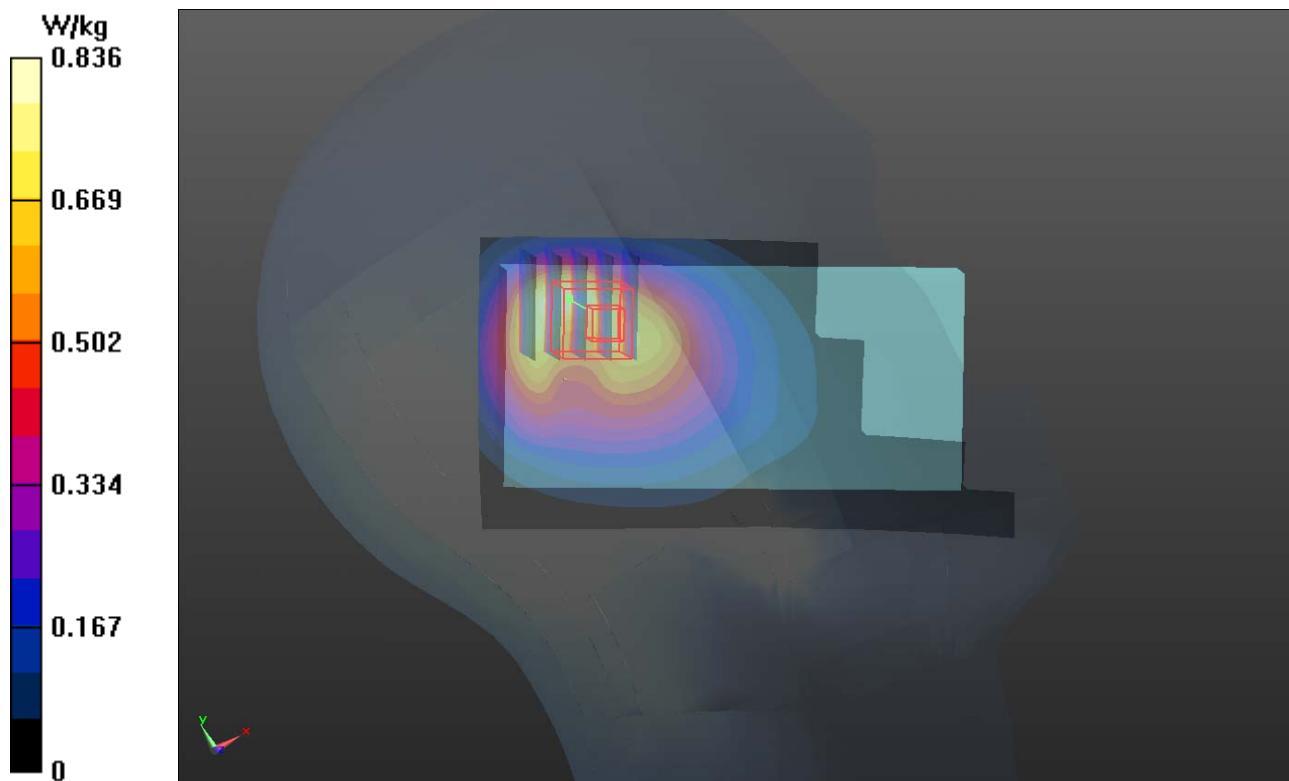
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 21.524 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.07 W/kg

SAR(1 g) = 0.607 W/kg; SAR(10 g) = 0.403 W/kg

Maximum value of SAR (measured) = 0.816 W/kg



P02 GSM1900_GSM_Right Cheek_Ch512_Ant0_Sleeve+A1428

DUT: 130510C03

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: H1900_0601 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.353$ S/m; $\epsilon_r = 40.59$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.8 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.42, 7.42, 7.42); Calibrated: 2012/06/22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2013/03/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (51x91x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.473 W/kg

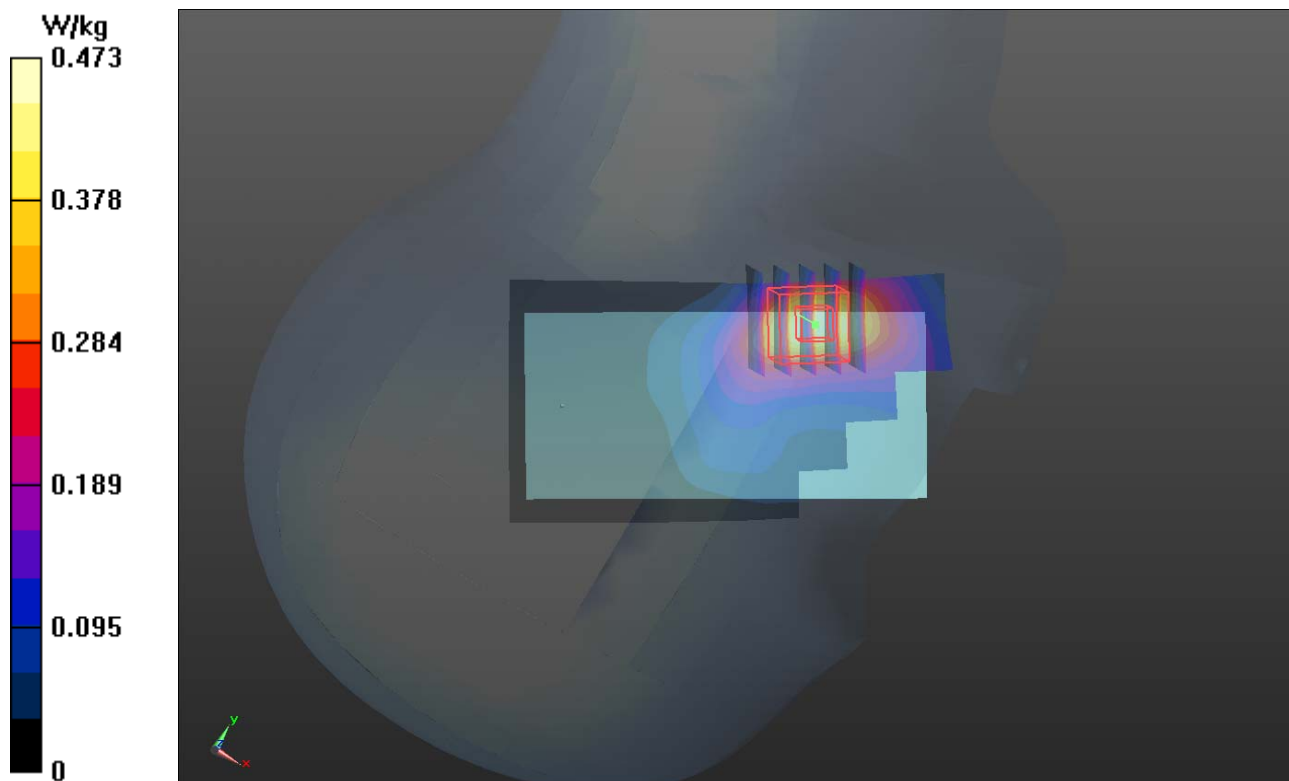
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.650 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.551 W/kg

SAR(1 g) = 0.368 W/kg; SAR(10 g) = 0.221 W/kg

Maximum value of SAR (measured) = 0.470 W/kg



P03 WCDMA II_RMC12.2K_Right Cheek_Ch9262_Ant0_Sleeve+A1428

DUT: 130510C03

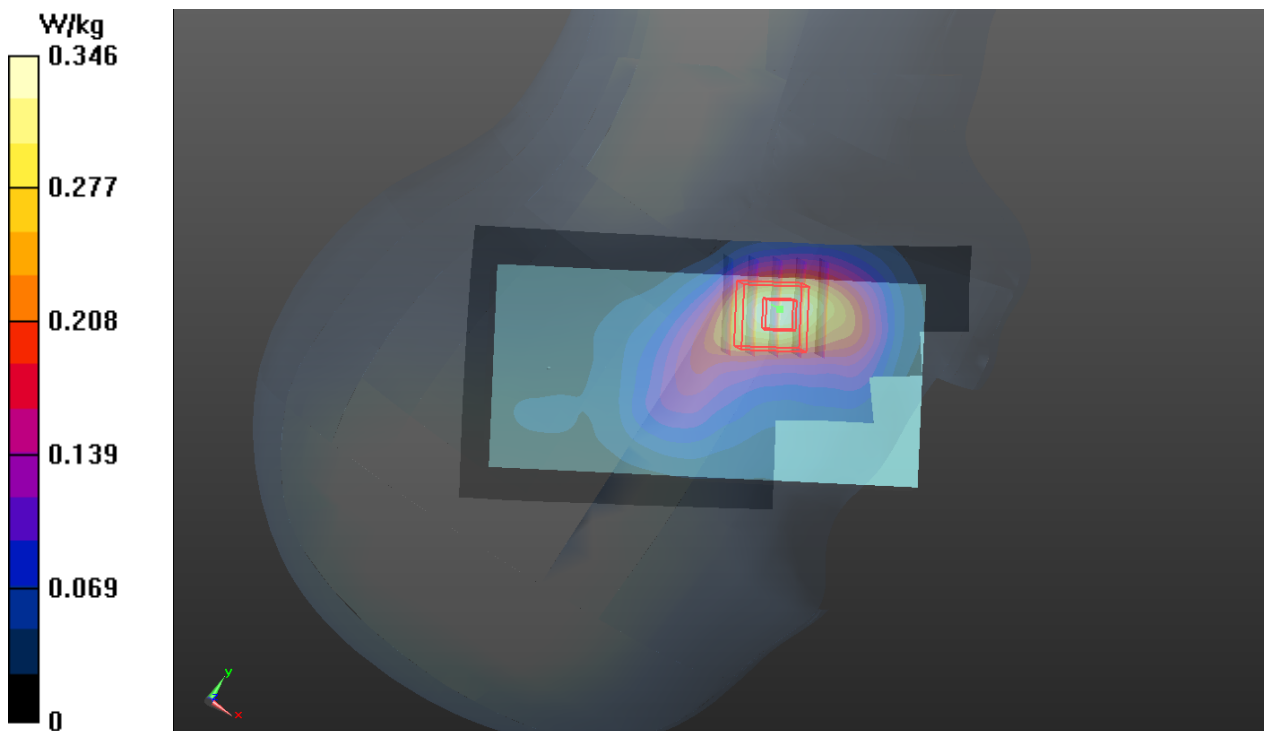
Communication System: WCDMA; Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium: H1900_0605 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.341$ S/m; $\epsilon_r = 39.807$; $\rho = 1000$ kg/m³
Ambient Temperature : 21.7 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.42, 7.42, 7.42); Calibrated: 2012/06/22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2013/03/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.346 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.314 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.411 W/kg
SAR(1 g) = 0.281 W/kg; SAR(10 g) = 0.171 W/kg
Maximum value of SAR (measured) = 0.354 W/kg



P04 WCDMA V_RMC12.2K_Left Cheek_Ch4233_Ant1_Sleeve+A1428

DUT: 130510C03

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: H835_0603 Medium parameters used: $f = 847$ MHz; $\sigma = 0.893$ S/m; $\epsilon_r = 41.78$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(9.8, 9.8, 9.8); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (51x91x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.08 W/kg

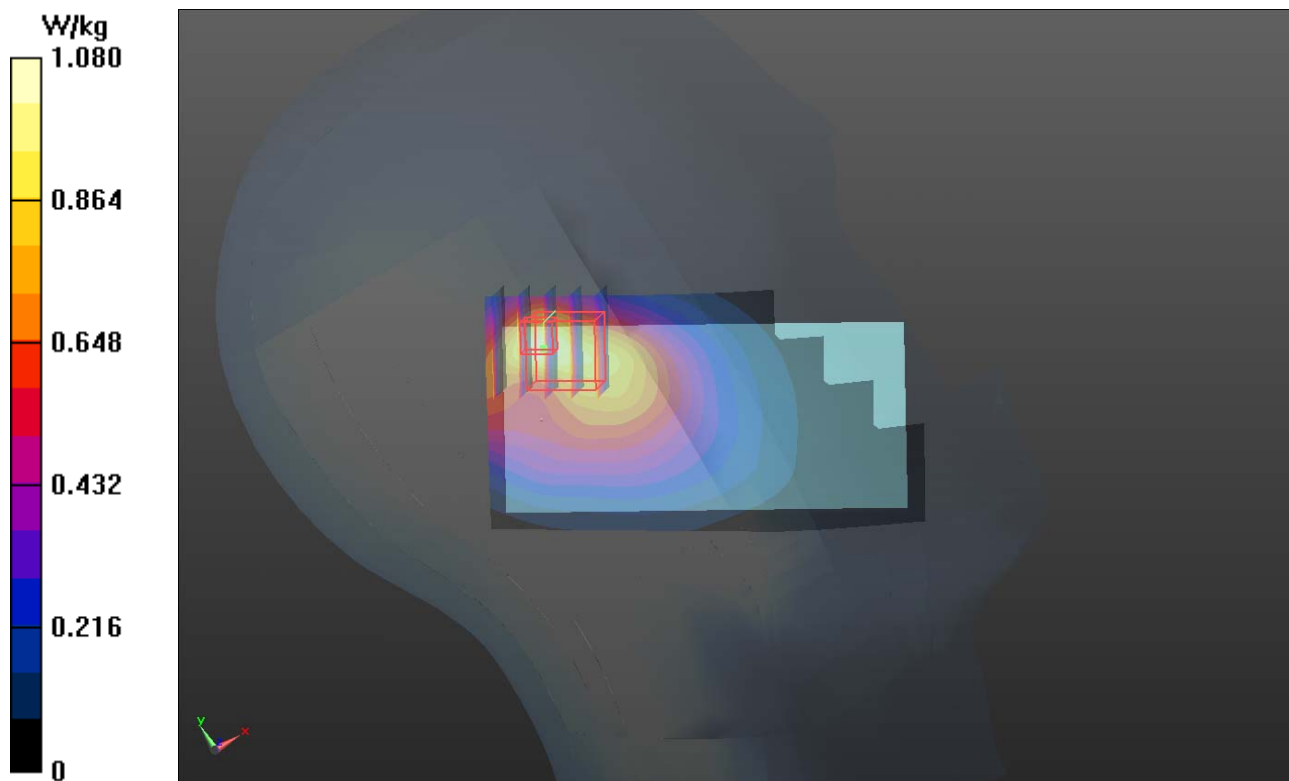
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 23.737 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 0.811 W/kg; SAR(10 g) = 0.518 W/kg

Maximum value of SAR (measured) = 1.06 W/kg



P05 LTE 4_QPSK_20M_Right Cheek_Ch20050_1RB_OS0_Ant1_Sleeve+A1428

DUT: 130510C03

Communication System: LTE 4; Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: H1750_0620 Medium parameters used: $f = 1720$ MHz; $\sigma = 1.328$ S/m; $\epsilon_r = 39.86$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(8.56, 8.56, 8.56); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (51x111x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.54 W/kg

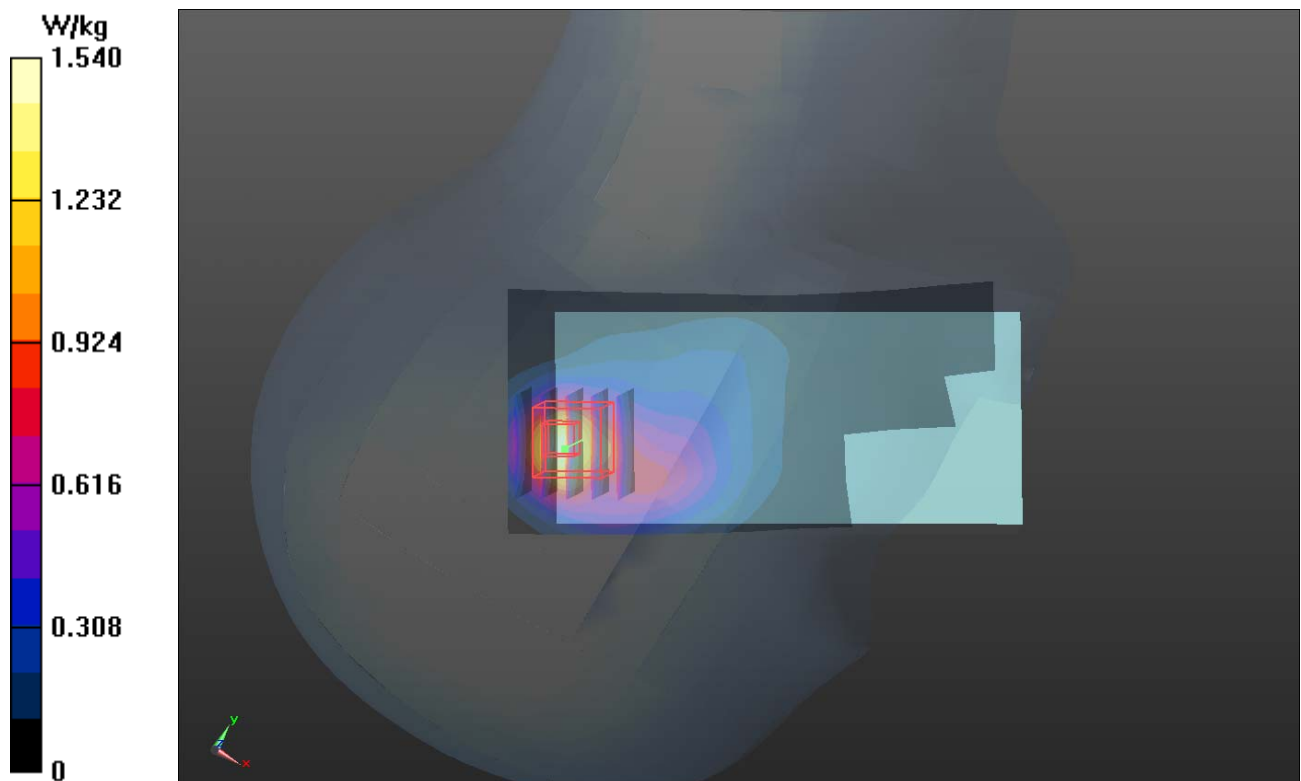
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 21.857 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.559 W/kg

Maximum value of SAR (measured) = 1.36 W/kg



P06 802.11b_Right Cheek_Ch6_Sleeve+A1428

DUT: 130510C03

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: H2450_0619 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.751$ S/m; $\epsilon_r = 40.466$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.28, 7.28, 7.28); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x141x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.581 W/kg

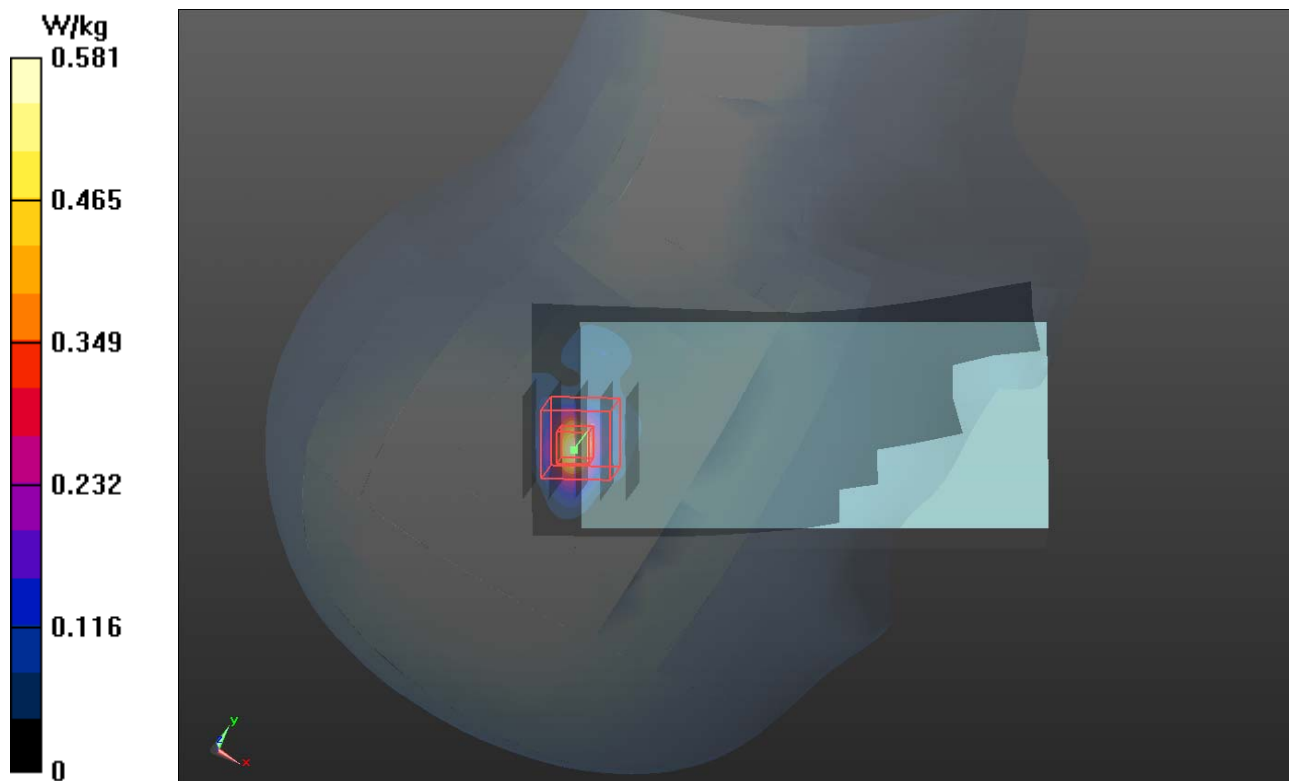
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.550 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 2.08 W/kg

SAR(1 g) = 0.302 W/kg; SAR(10 g) = 0.079 W/kg

Maximum value of SAR (measured) = 0.649 W/kg



P07 802.11a_Right Cheek_Ch48_Sleeve+A1428

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5240 MHz; Duty Cycle: 1:1

Medium: H5G_0612 Medium parameters used: $f = 5240$ MHz; $\sigma = 4.823$ S/m; $\epsilon_r = 35.35$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.4 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(5.79, 5.79, 5.79); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (71x141x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.599 W/kg

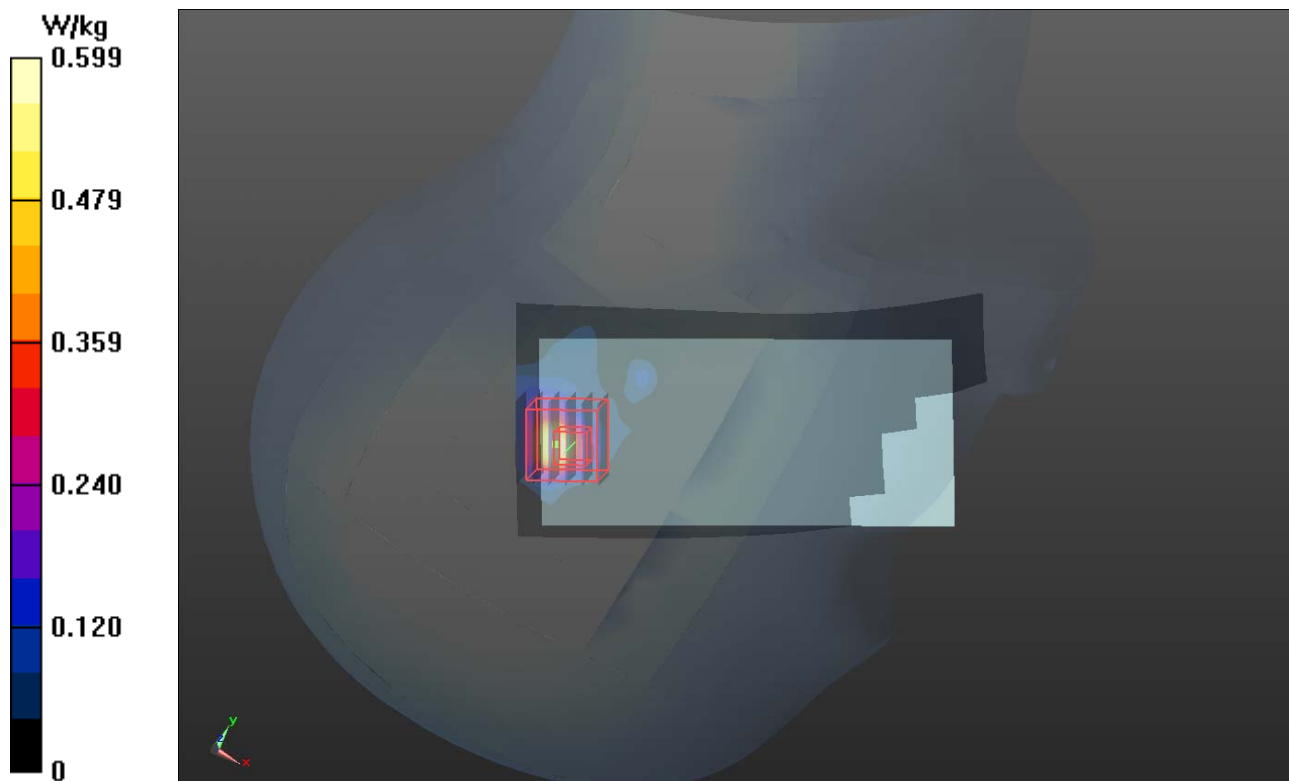
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 7.930 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.328 W/kg; SAR(10 g) = 0.085 W/kg

Maximum value of SAR (measured) = 0.628 W/kg



P08 802.11a_Right Cheek_Ch52_Sleeve+A1428

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5260 MHz; Duty Cycle: 1:1

Medium: H5G_0612 Medium parameters used: $f = 5260$ MHz; $\sigma = 4.852$ S/m; $\epsilon_r = 35.282$; $\rho = 1000$

kg/m³

Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(5.61, 5.61, 5.61); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (81x161x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.808 W/kg

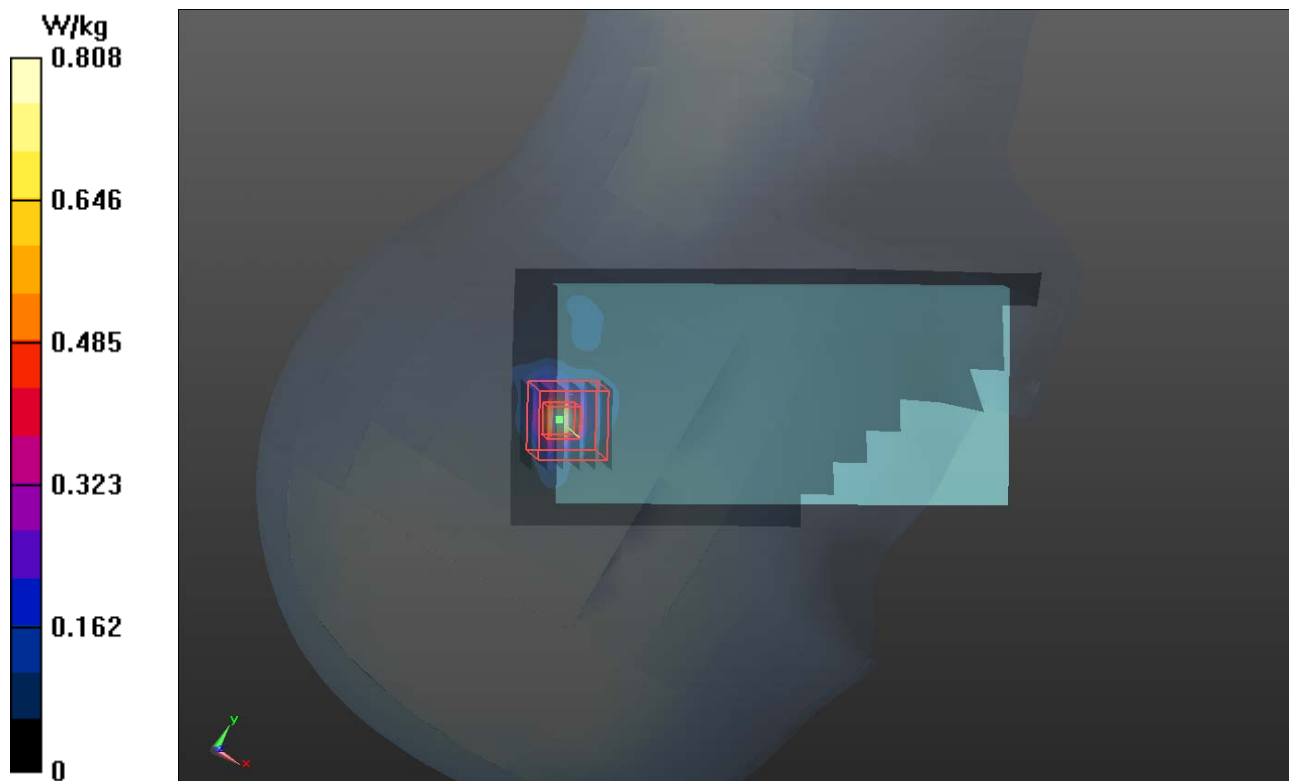
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 8.858 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 0.362 W/kg; SAR(10 g) = 0.093 W/kg

Maximum value of SAR (measured) = 0.696 W/kg



P09 802.11a_Right Cheek_Ch136_Sleeve+A1428

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5680 MHz; Duty Cycle: 1:1

Medium: H5G_0613 Medium parameters used: $f = 5680$ MHz; $\sigma = 5.305$ S/m; $\epsilon_r = 34.587$; $\rho = 1000$

kg/m³

Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(5.05, 5.05, 5.05); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (71x141x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.718 W/kg

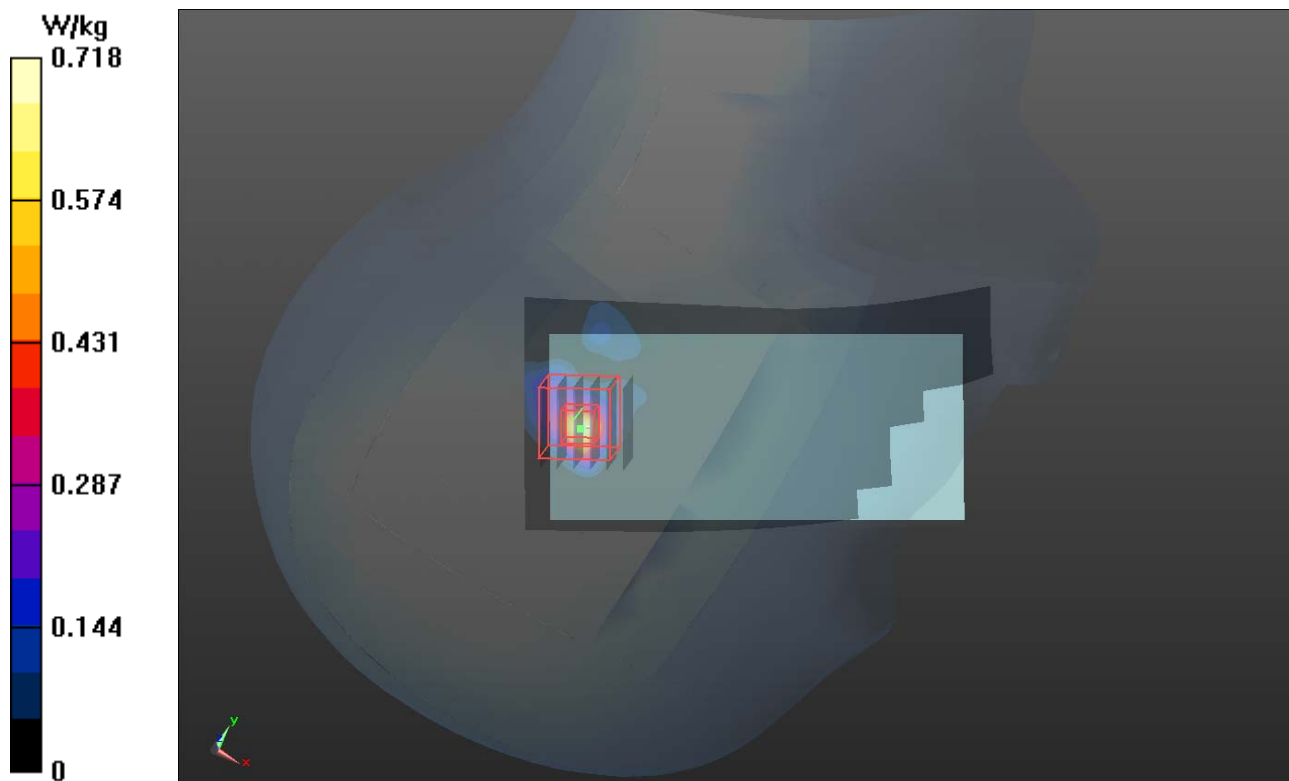
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 13.777 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.292 W/kg; SAR(10 g) = 0.071 W/kg

Maximum value of SAR (measured) = 0.642 W/kg



P10 802.11a_Right Cheek_Ch157_Sleeve+A1428

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium: H5G_0613 Medium parameters used: $f = 5785$ MHz; $\sigma = 5.429$ S/m; $\epsilon_r = 34.435$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(4.92, 4.92, 4.92); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- Area Scan (81x161x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.666 W/kg

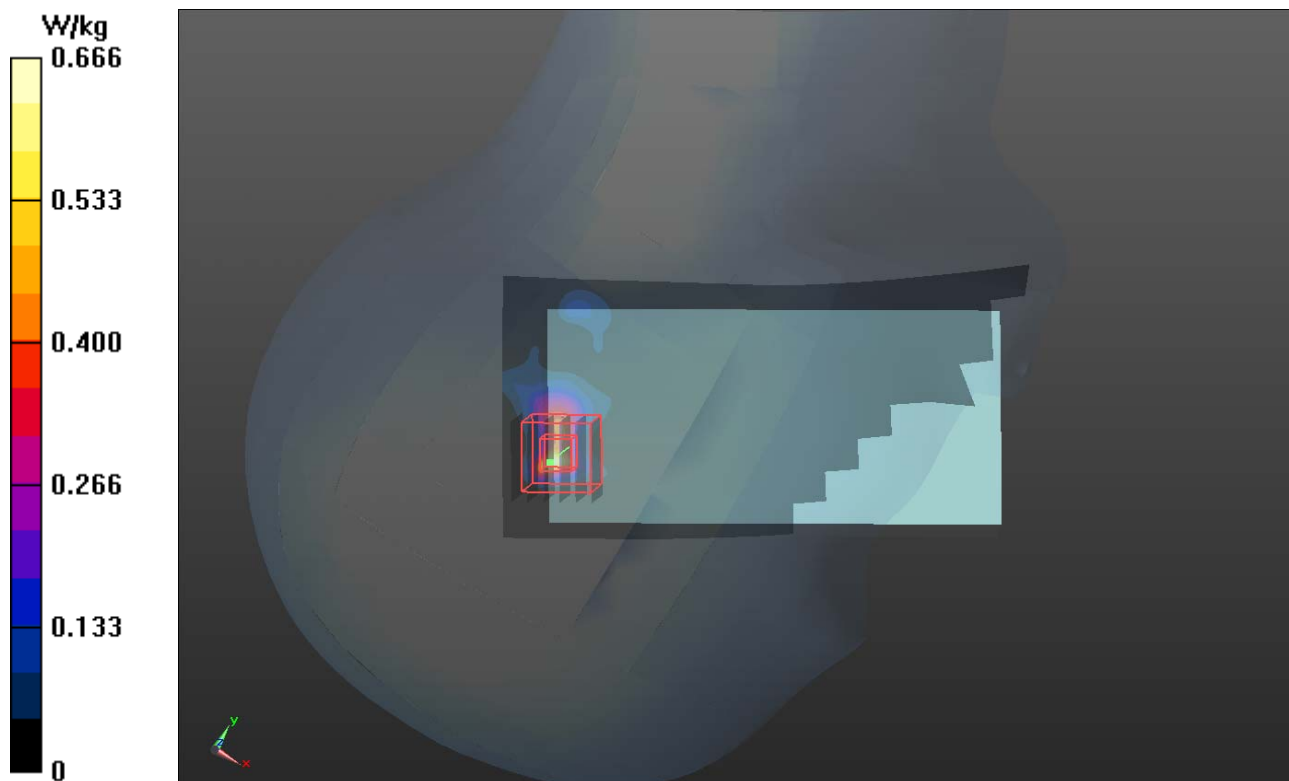
- Zoom Scan (6x6x12)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=2$ mm

Reference Value = 7.838 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 2.12 W/kg

SAR(1 g) = 0.233 W/kg; SAR(10 g) = 0.057 W/kg

Maximum value of SAR (measured) = 0.538 W/kg



P11 GSM850_GSM_Left Cheek_Ch190_Ant0_Sleeve+A1429

DUT: 130510C03

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: H835_0603 Medium parameters used: $f = 837$ MHz; $\sigma = 0.883$ S/m; $\epsilon_r = 41.906$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.6 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(9.8, 9.8, 9.8); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.57 W/kg

- **Zoom Scan (5x5x7)/Cube 1:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 0.819 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.743 W/kg

SAR(1 g) = 0.565 W/kg; SAR(10 g) = 0.363 W/kg

Maximum value of SAR (measured) = 0.660 W/kg

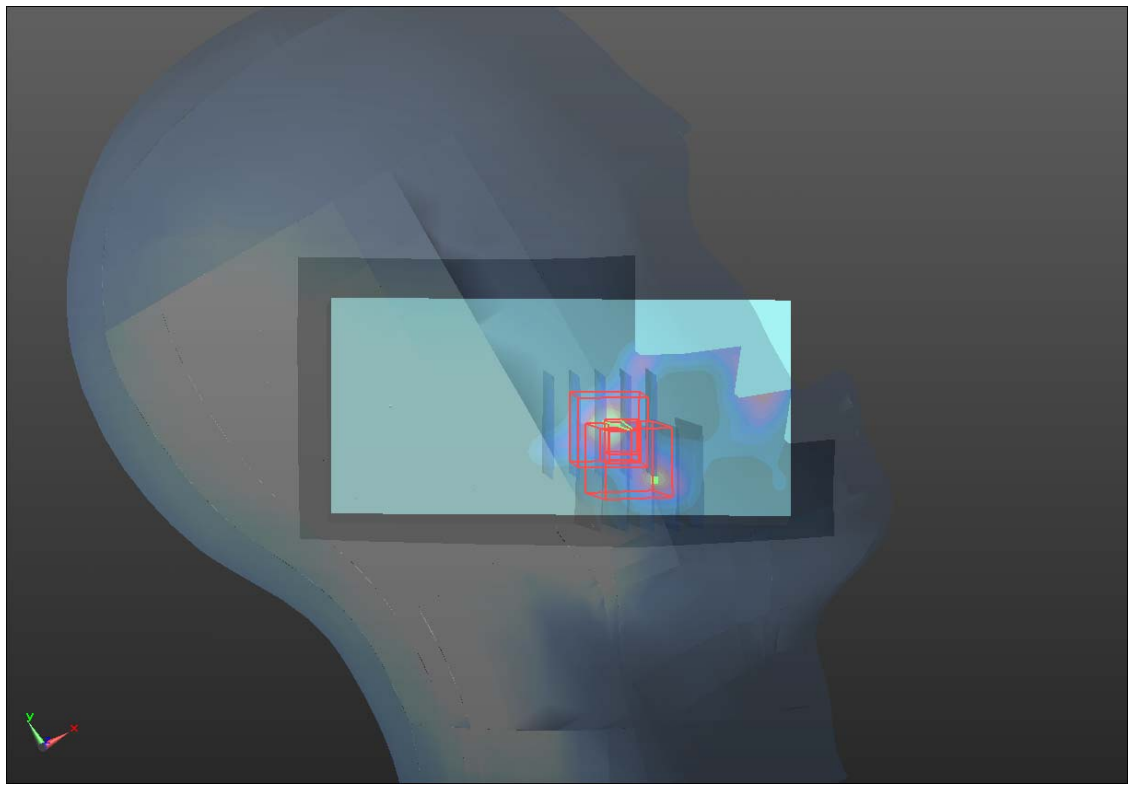
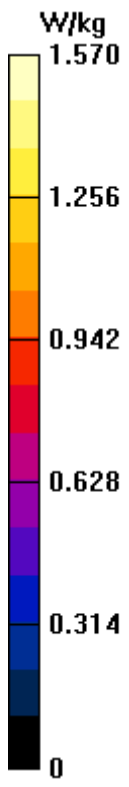
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 0.819 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.700 W/kg

SAR(1 g) = 0.535 W/kg; SAR(10 g) = 0.390 W/kg

Maximum value of SAR (measured) = 0.628 W/kg



P12 GSM1900_GSM_Right_Cheek_Ch810_Ant1_Sleeve+A1429

DUT: 130510C03

Communication System: GSM; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: H1900_0601 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.428$ S/m; $\epsilon_r = 40.294$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.4 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.42, 7.42, 7.42); Calibrated: 2012/06/22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2013/03/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (51x91x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.31 W/kg

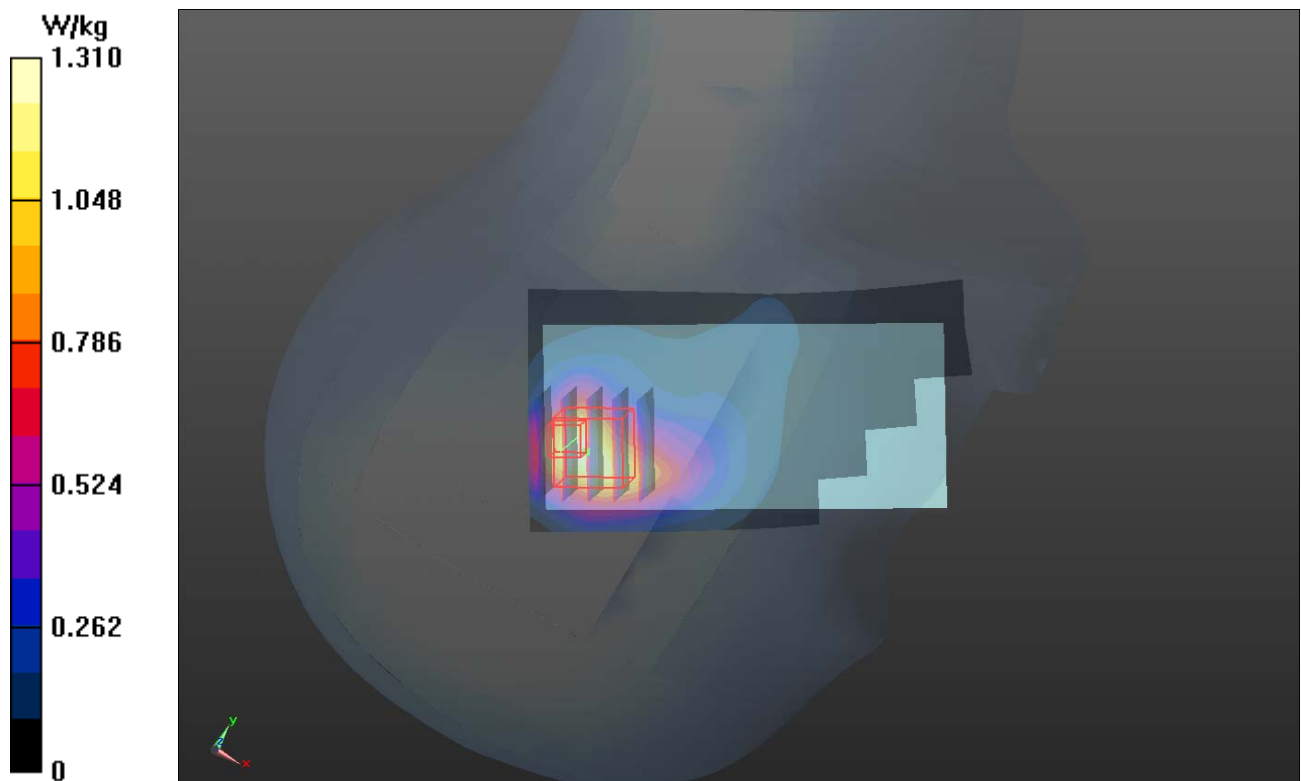
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.936 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 0.844 W/kg; SAR(10 g) = 0.463 W/kg

Maximum value of SAR (measured) = 1.25 W/kg



P13 WCDMA II_RMC12.2K_Right Cheek_Ch9262_Ant0_Sleeve+A1429

DUT: 130510C03

Communication System: WCDMA; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: H1900_0605 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.341$ S/m; $\epsilon_r = 39.807$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.4 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.42, 7.42, 7.42); Calibrated: 2012/06/22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2013/03/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.473 W/kg

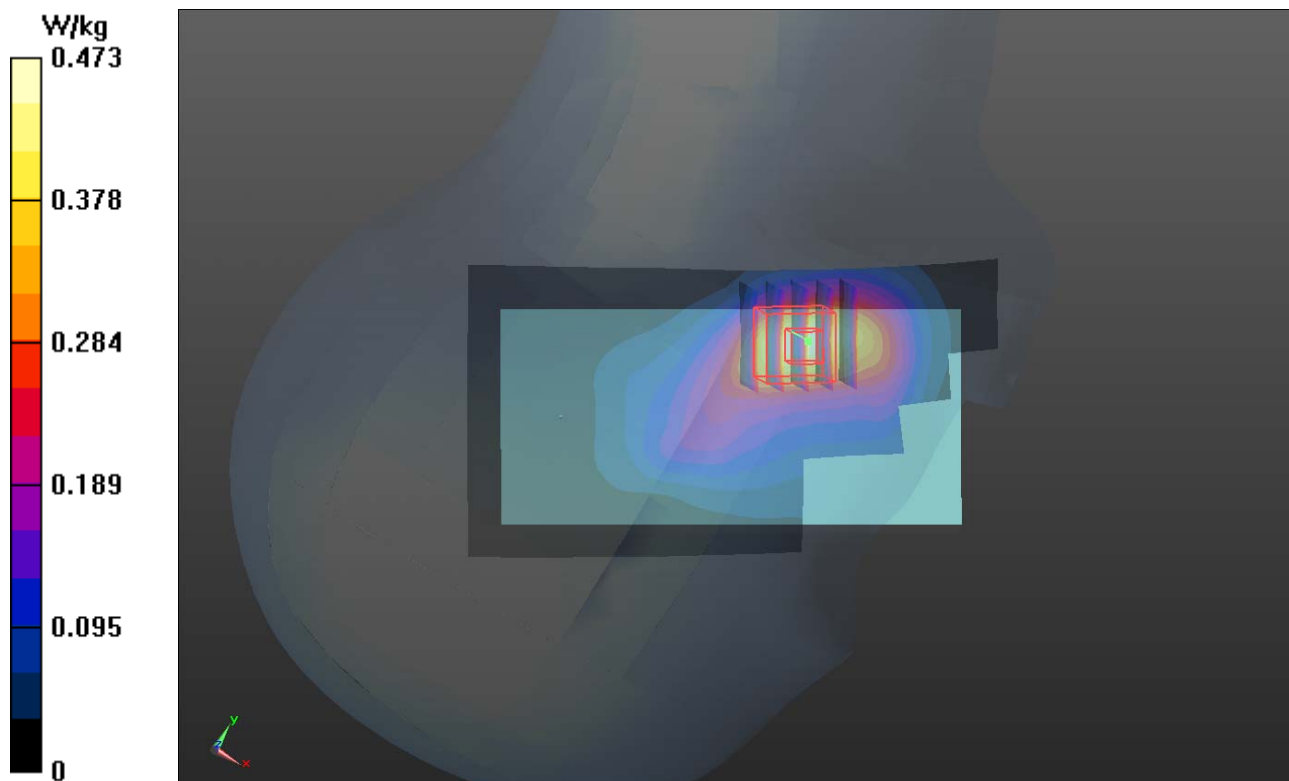
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.583 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.568 W/kg

SAR(1 g) = 0.388 W/kg; SAR(10 g) = 0.234 W/kg

Maximum value of SAR (measured) = 0.493 W/kg



P14 WCDMA V_RMC12.2K_Left Cheek_Ch4132_Ant1_Sleeve+A1429**DUT: 130510C03**

Communication System: WCDMA; Frequency: 826.4 MHz; Duty Cycle: 1:1
Medium: H835_0604 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.878$ S/m; $\epsilon_r = 42.367$; $\rho = 1000$ kg/m³
Ambient Temperature : 21.7 °C; Liquid Temperature : 20.5 °C

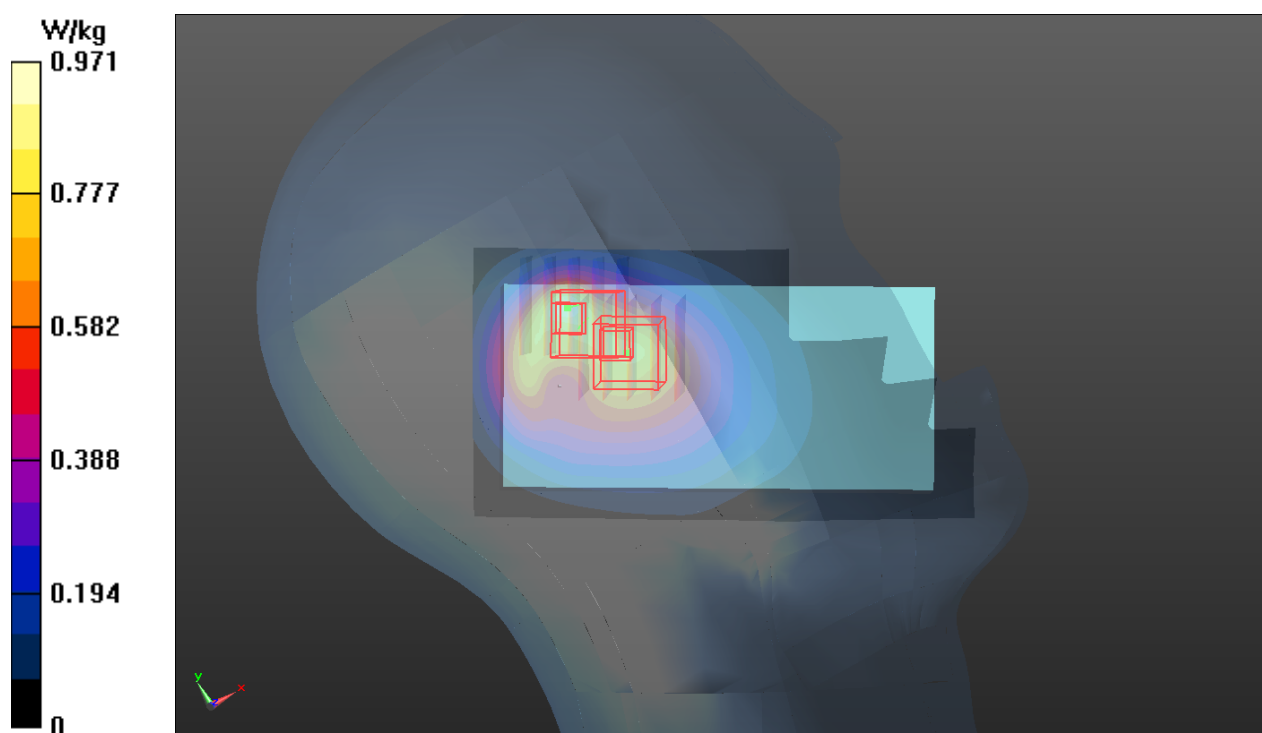
DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(9.8, 9.8, 9.8); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1)**: Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.971 W/kg

- **Zoom Scan (5x5x7)/Cube 1**: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.916 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.702 W/kg; SAR(10 g) = 0.502 W/kg
Maximum value of SAR (measured) = 0.845 W/kg

- **Zoom Scan (5x5x7)/Cube 0**: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.916 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.700 W/kg; SAR(10 g) = 0.453 W/kg
Maximum value of SAR (measured) = 0.965 W/kg



P15 CDMA BC0_RC3+SO55_Left Cheek_Ch777_Ant1_Sleeve+A1429

DUT: 130510C03

Communication System: CDMA2000; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium: H835_0604 Medium parameters used: $f = 848.31 \text{ MHz}$; $\sigma = 0.897 \text{ S/m}$; $\epsilon_r = 42.119$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(9.8, 9.8, 9.8); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (51x101x1):** Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 1.14 W/kg

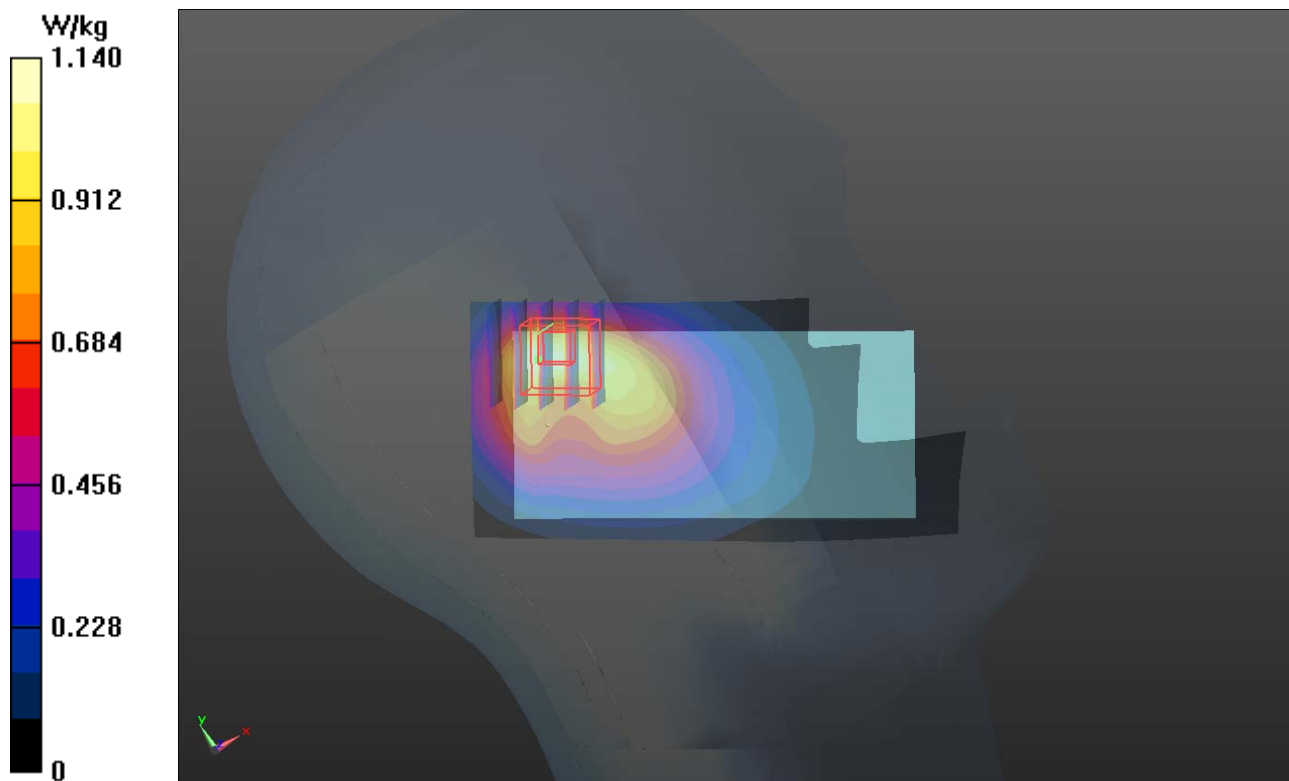
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.291 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.55 W/kg

SAR(1 g) = 0.829 W/kg; SAR(10 g) = 0.513 W/kg

Maximum value of SAR (measured) = 1.10 W/kg



P16 CDMA BC1_RC3+SO55_Right Cheek_Ch600_Ant0_Sleeve+A1429

DUT: 130510C03

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: H1900_0620 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.377$ S/m; $\epsilon_r = 39.708$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(8.13, 8.13, 8.13); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (51x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.922 W/kg

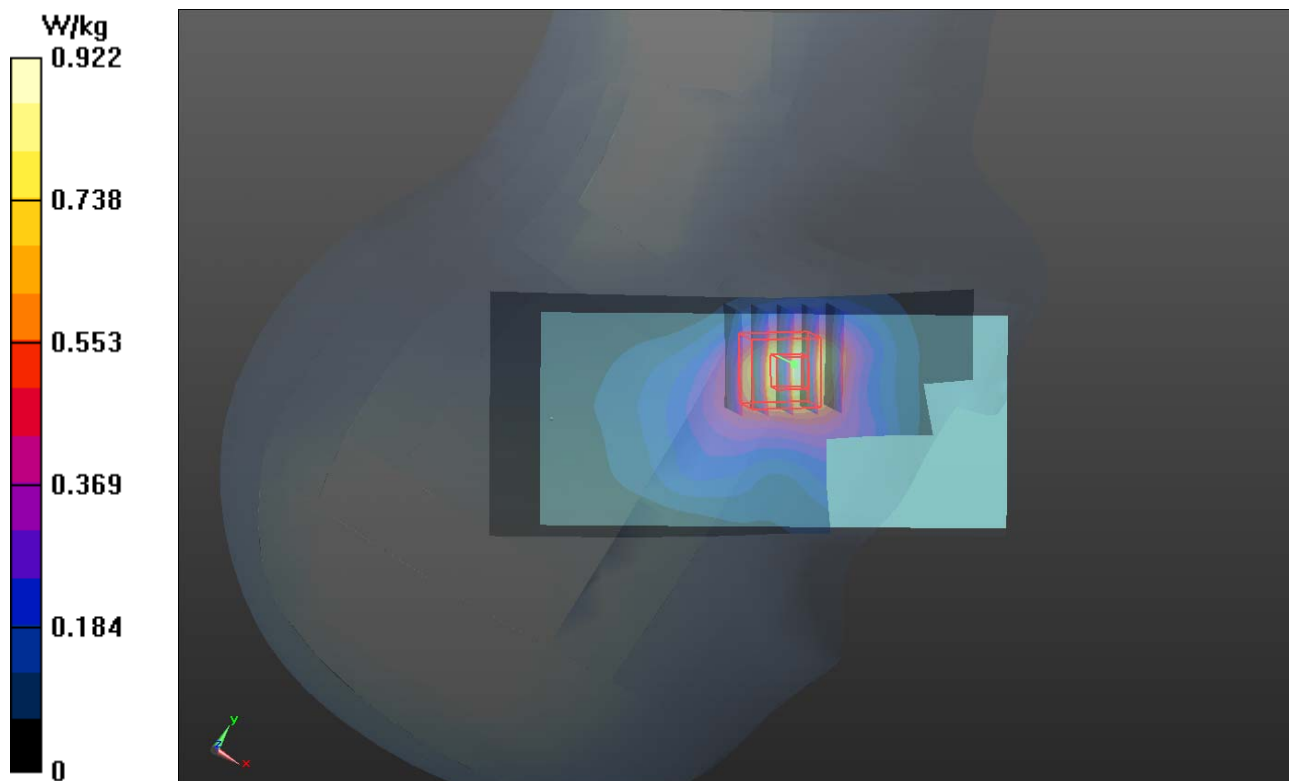
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.365 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.707 W/kg; SAR(10 g) = 0.404 W/kg

Maximum value of SAR (measured) = 0.907 W/kg



P17 CDMA BC10_RC3+SO55_Left Cheek_Ch684_Ant1_Sleeve+A1429

DUT: 130510C03

Communication System: CDMA2000; Frequency: 823.1 MHz; Duty Cycle: 1:1

Medium: H835_0604 Medium parameters used: $f = 823.1$ MHz; $\sigma = 0.875$ S/m; $\epsilon_r = 42.405$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(9.8, 9.8, 9.8); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (51x101x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.09 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 15.488 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.612 W/kg; SAR(10 g) = 0.306 W/kg

Maximum value of SAR (measured) = 0.961 W/kg

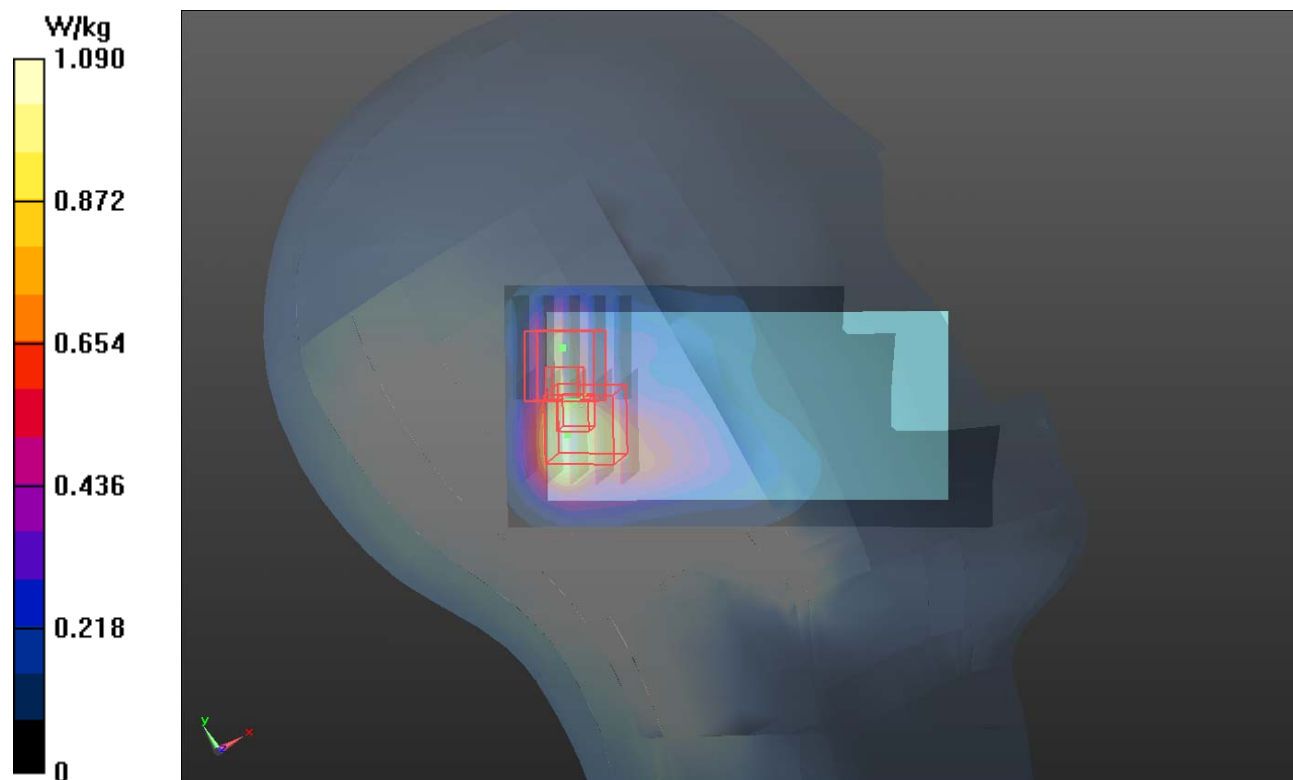
- **Zoom Scan (5x5x7)/Cube 1:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 15.488 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.432 W/kg; SAR(10 g) = 0.195 W/kg

Maximum value of SAR (measured) = 0.910 W/kg



P18 LTE 13_QPSK_10M_Left Cheek_Ch23230_1RB_OS24_Ant1_Sleeve+A1429

DUT: 130510C03

Communication System: LTE; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: H750_0604 Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.919 \text{ S/m}$; $\epsilon_r = 41.285$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 21.6 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(9.09, 9.09, 9.09); Calibrated: 2012/06/22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2013/03/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.660 W/kg

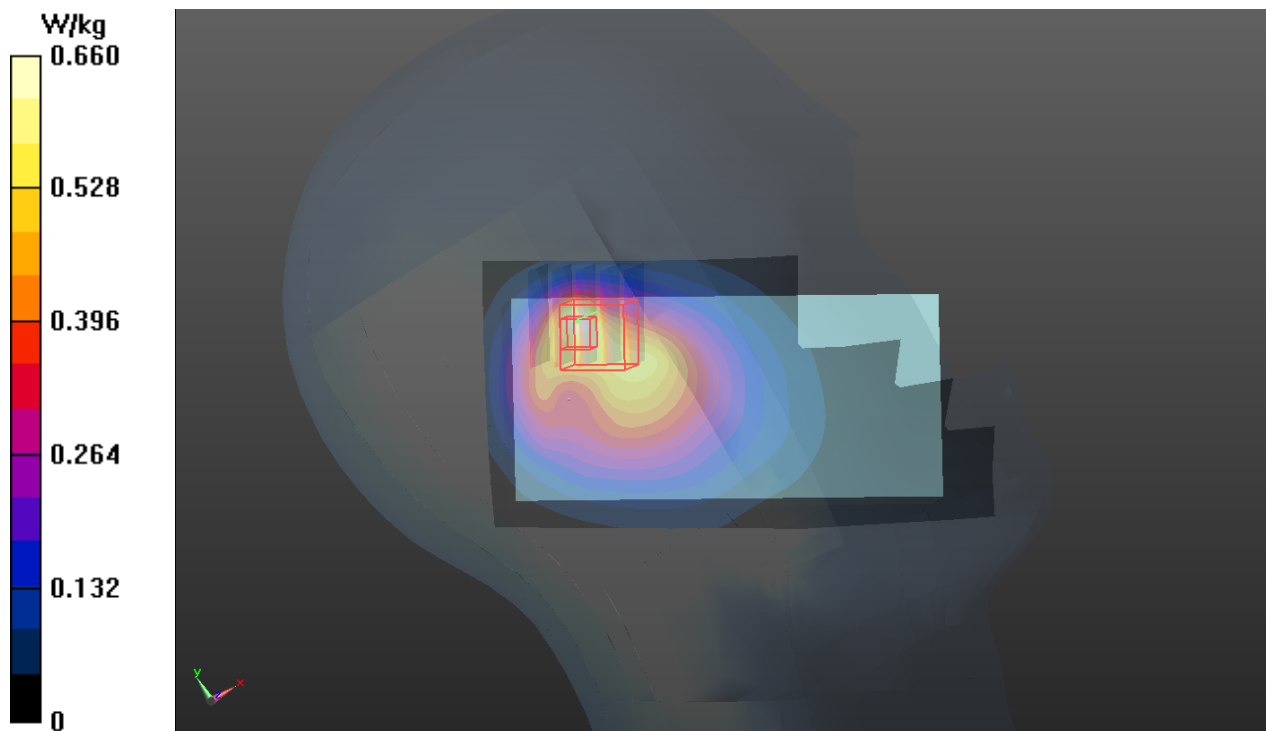
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 19.290 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.933 W/kg

SAR(1 g) = 0.470 W/kg; SAR(10 g) = 0.305 W/kg

Maximum value of SAR (measured) = 0.666 W/kg



P19 802.11b_Right Cheek_Ch6_Sleeve+A1429

DUT: 130510C03

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: H2450_0619 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.751$ S/m; $\epsilon_r = 40.466$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.28, 7.28, 7.28); Calibrated: 2012/07/19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2013/04/24
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x141x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.550 W/kg

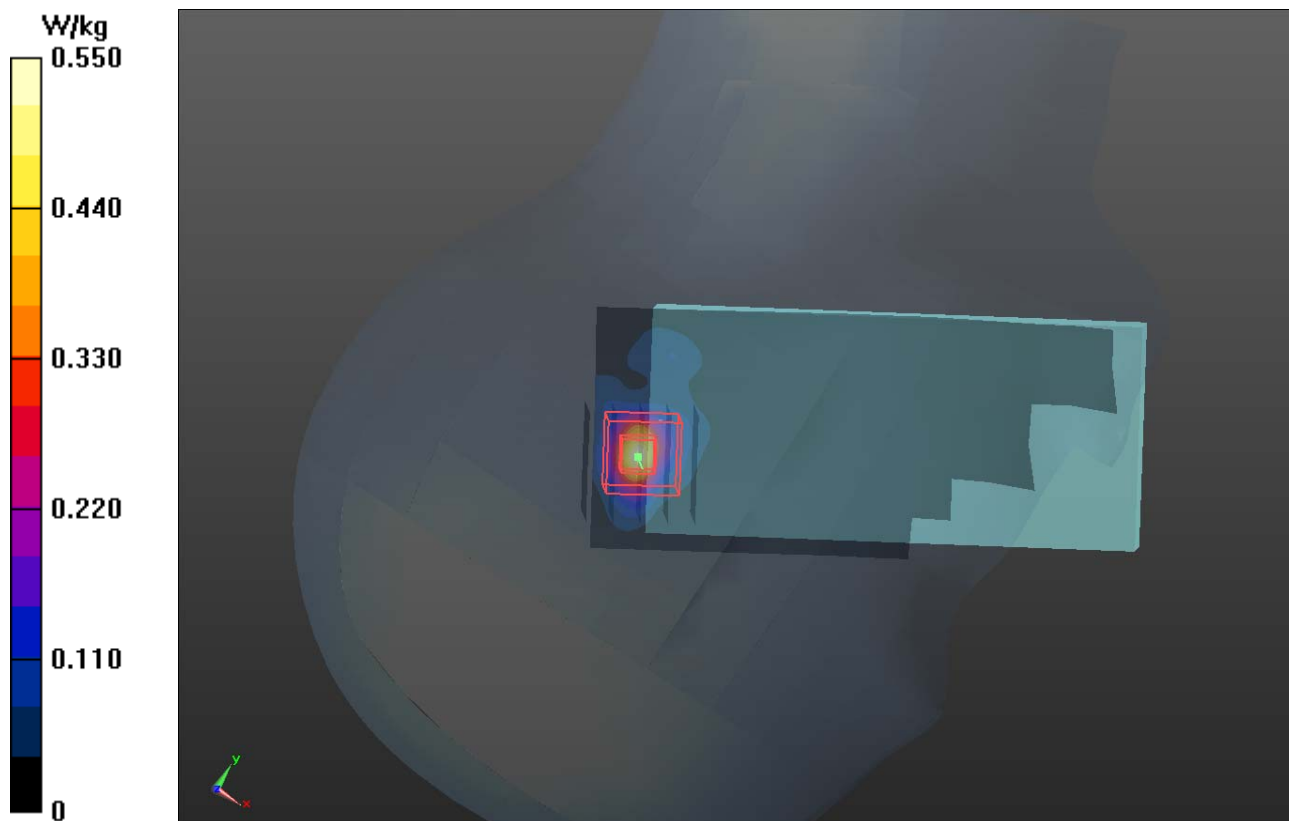
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.550 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.97 W/kg

SAR(1 g) = 0.285 W/kg; SAR(10 g) = 0.074 W/kg

Maximum value of SAR (measured) = 0.614 W/kg



P20 802.11a_Left Cheek_Ch48_Sleeve+A1429

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5240 MHz; Duty Cycle: 1:1

Medium: H5G_0612 Medium parameters used: $f = 5240$ MHz; $\sigma = 4.823$ S/m; $\epsilon_r = 35.347$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.2 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(5.79, 5.79, 5.79); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (81x161x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.812 W/kg

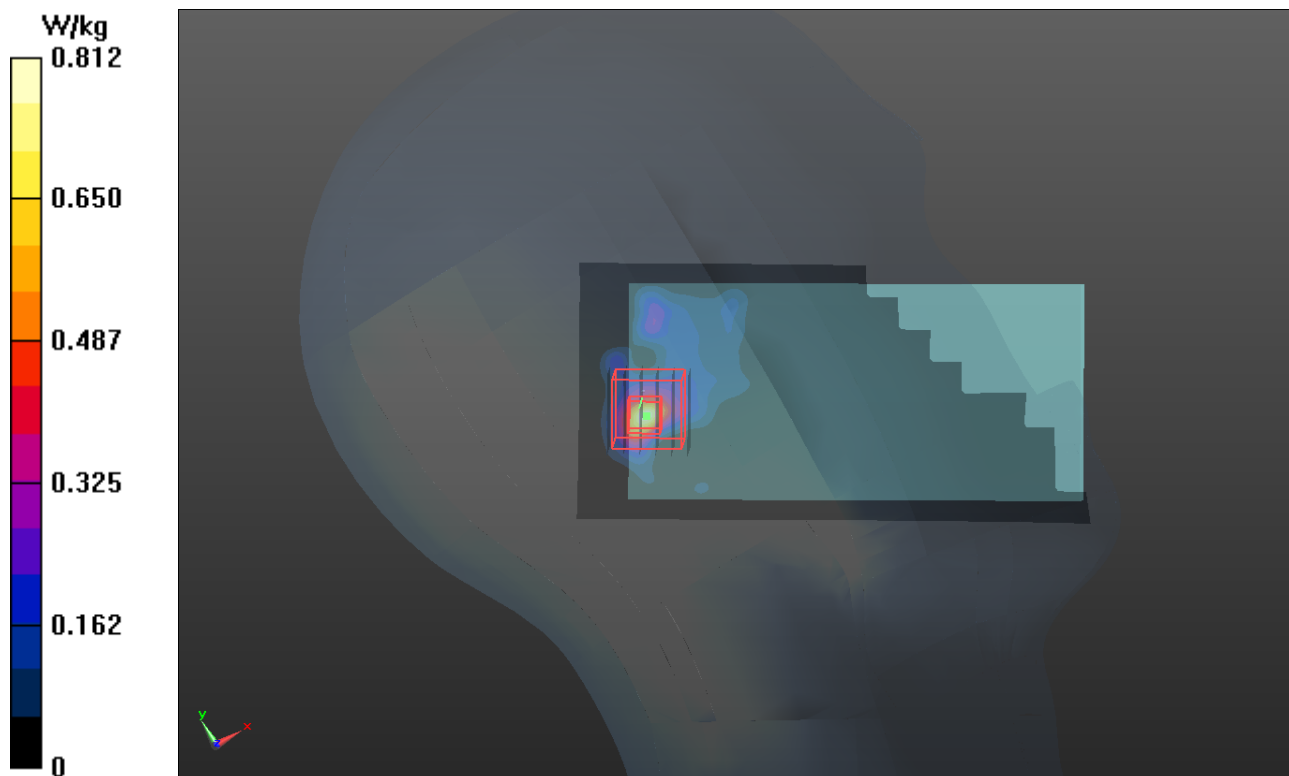
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 9.142 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.15 W/kg

SAR(1 g) = 0.314 W/kg; SAR(10 g) = 0.077 W/kg

Maximum value of SAR (measured) = 0.706 W/kg



P21 802.11a_Right Cheek_Ch52_Sleeve+A1429

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5260 MHz; Duty Cycle: 1:1

Medium: H5G_0612 Medium parameters used: $f = 5260$ MHz; $\sigma = 4.852$ S/m; $\epsilon_r = 35.282$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(5.61, 5.61, 5.61); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (81x161x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.881 W/kg

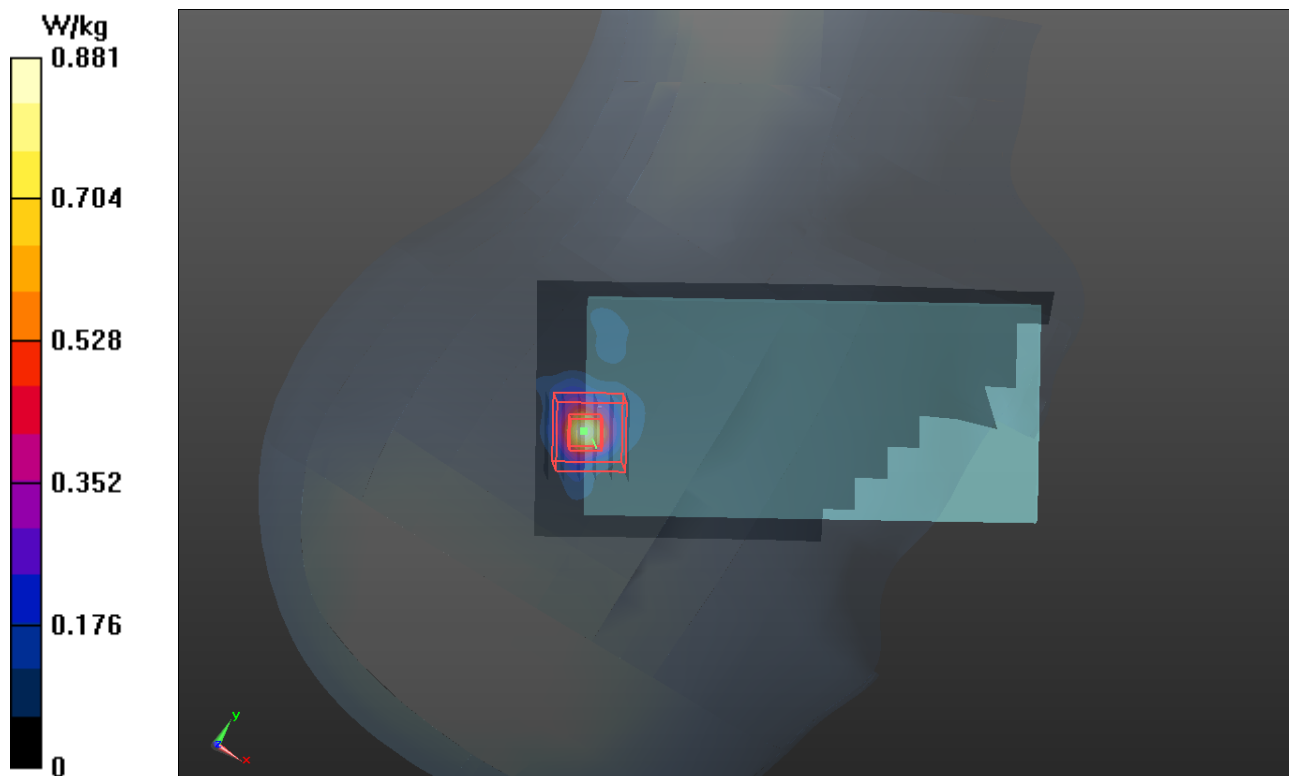
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 8.858 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 0.395 W/kg; SAR(10 g) = 0.101 W/kg

Maximum value of SAR (measured) = 0.758 W/kg



P22 802.11a_Right Cheek_Ch124_Sleeve+A1429

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5620 MHz; Duty Cycle: 1:1

Medium: H5G_0613 Medium parameters used: $f = 5620$ MHz; $\sigma = 5.262$ S/m; $\epsilon_r = 34.663$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.3 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(5.05, 5.05, 5.05); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (71x141x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.617 W/kg

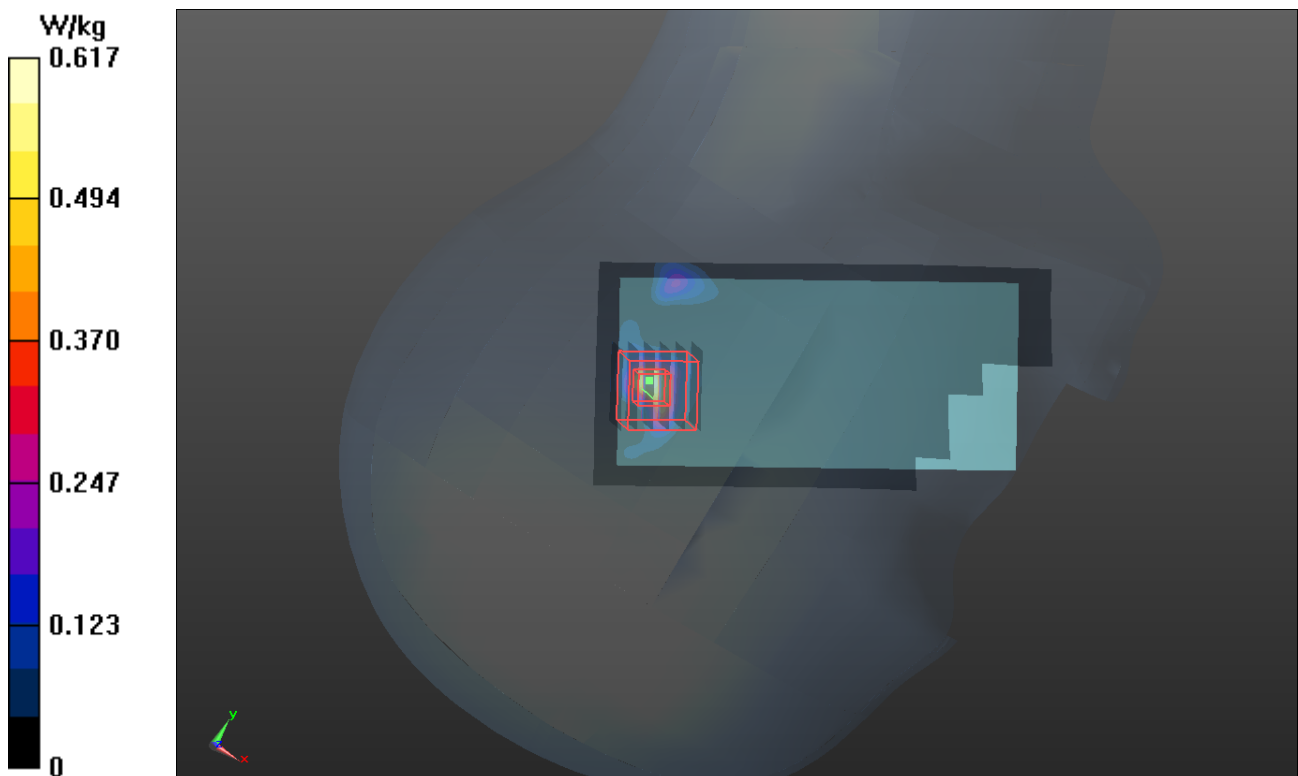
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 8.847 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.063 W/kg

Maximum value of SAR (measured) = 0.554 W/kg



P23 802.11a_Right Cheek_Ch157_Sleeve+A1429

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium: H5G_0613 Medium parameters used: $f = 5785$ MHz; $\sigma = 5.429$ S/m; $\epsilon_r = 34.435$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(4.92, 4.92, 4.92); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (81x161x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.691 W/kg

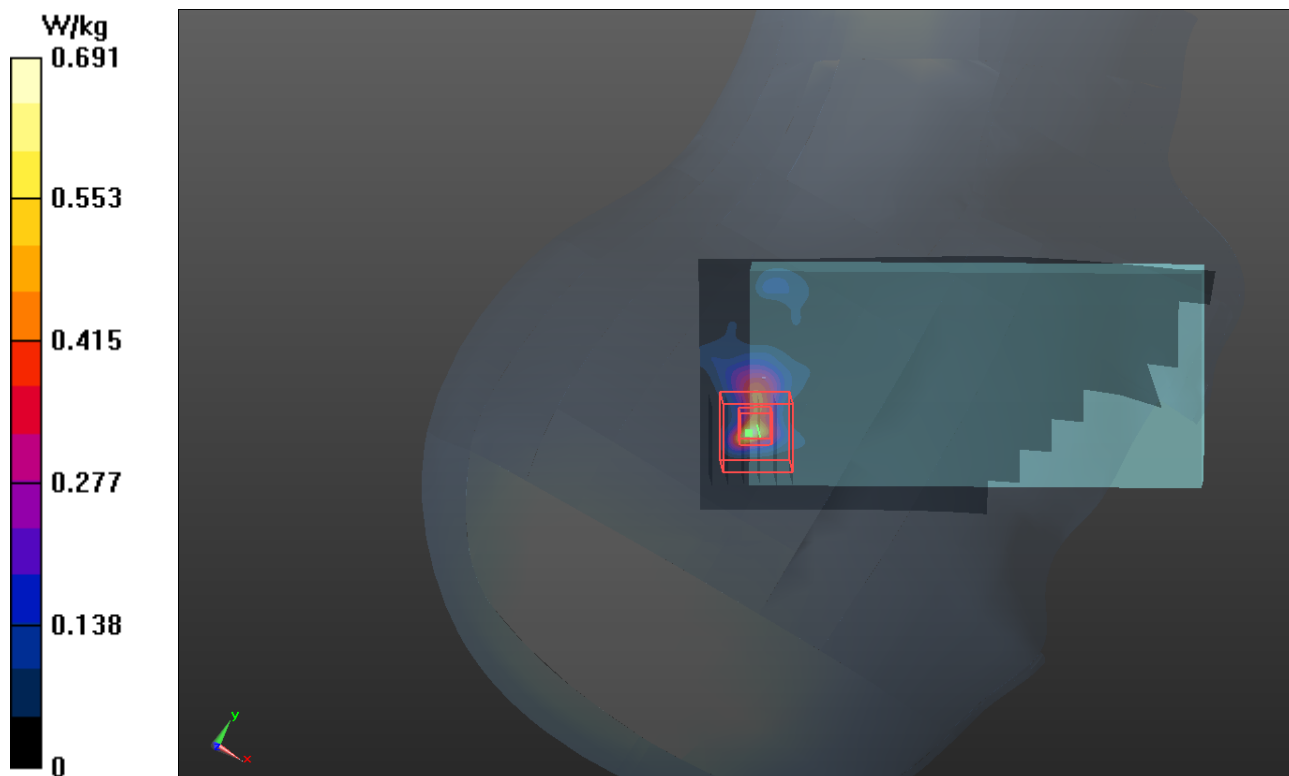
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 7.838 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 2.20 W/kg

SAR(1 g) = 0.242 W/kg; SAR(10 g) = 0.059 W/kg

Maximum value of SAR (measured) = 0.559 W/kg



P24 GSM850_GSM_Rear Face_0cm_Ch190_Ant0_Sleeve+A1428

DUT: 130510C03

Communication System: GSM; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: B835_0625 Medium parameters used: $f = 837$ MHz; $\sigma = 0.975$ S/m; $\epsilon_r = 54.195$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (71x121x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.234 W/kg

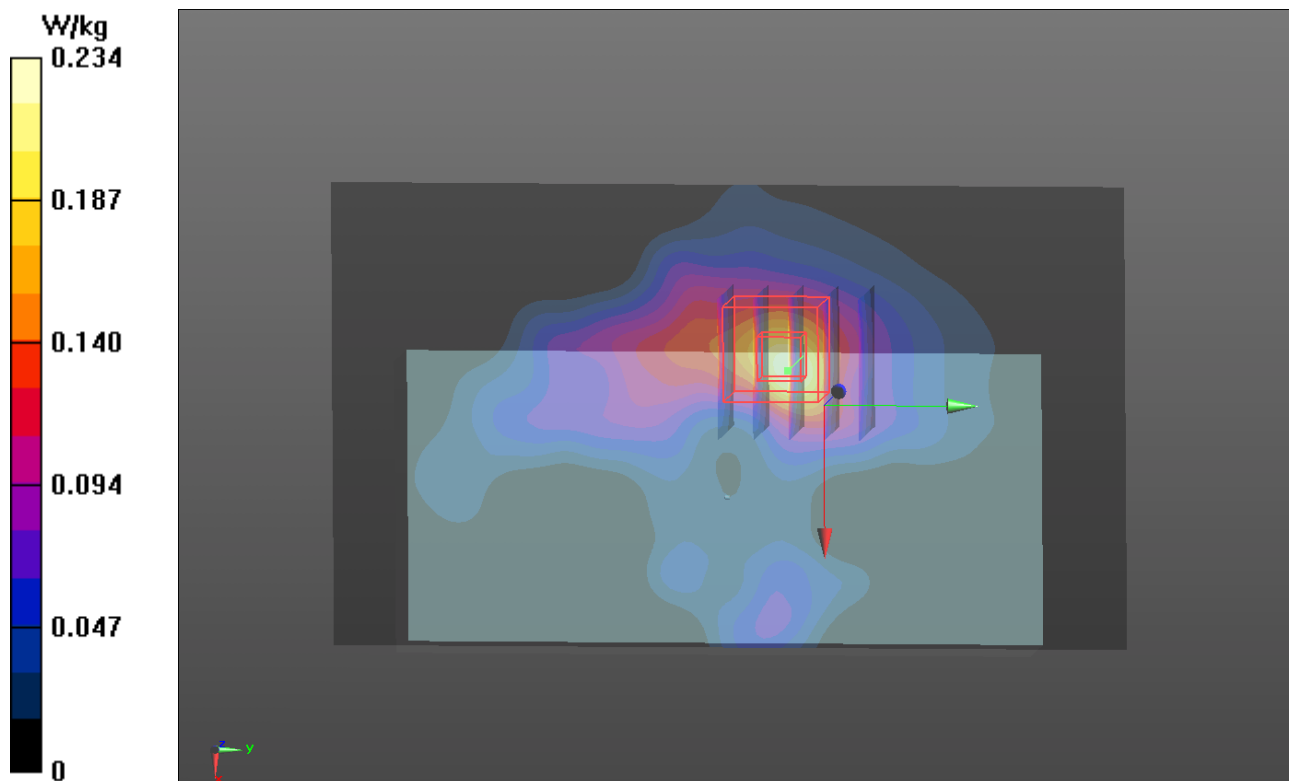
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 3.477 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.380 W/kg

SAR(1 g) = 0.183 W/kg; SAR(10 g) = 0.096 W/kg

Maximum value of SAR (measured) = 0.282 W/kg



P25 GSM850_GPRS10_Rear Face_0cm_Ch251_Ant0_Sleeve+A1428

DUT: 130510C03

Communication System: GPRS10; Frequency: 848.8 MHz; Duty Cycle: 1:4

Medium: B835_0625 Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 0.989 \text{ S/m}$; $\epsilon_r = 54.073$; $\rho = 1000 \text{ kg/m}^3$

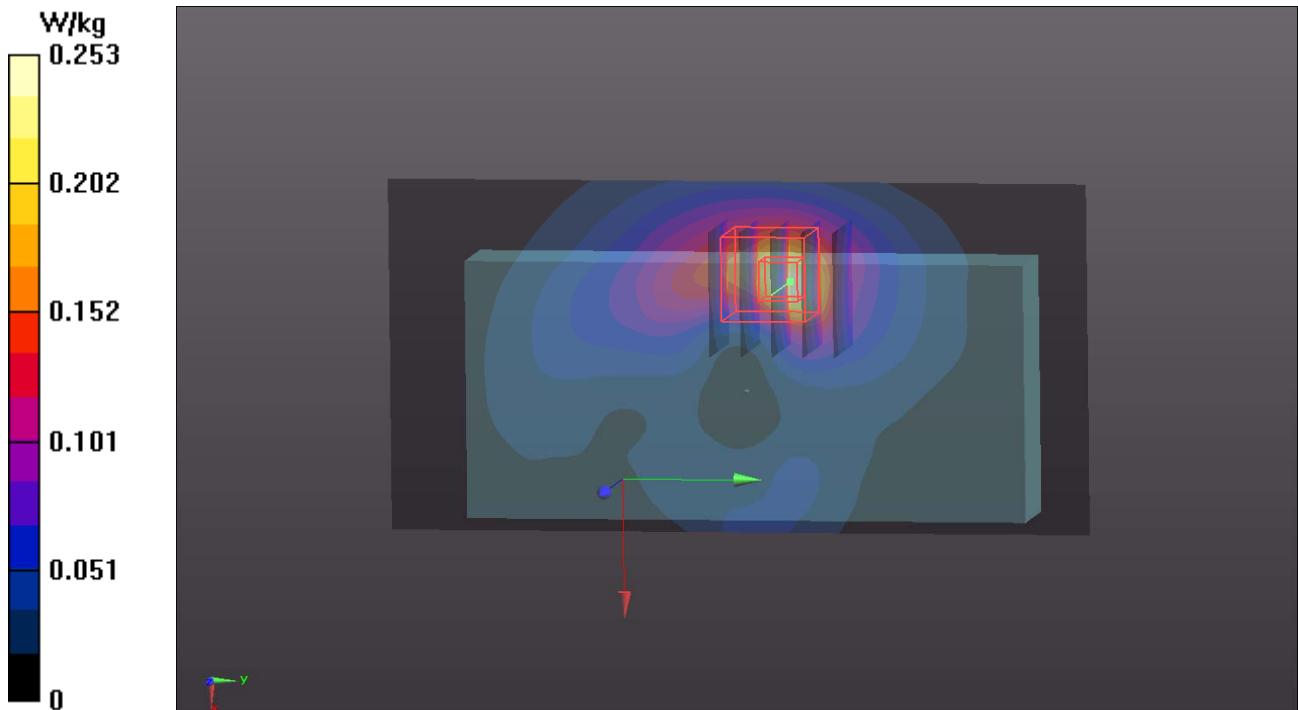
Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x121x1):** Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$
 Maximum value of SAR (interpolated) = 0.253 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
 Reference Value = 3.501 V/m; Power Drift = -0.11 dB
 Peak SAR (extrapolated) = 0.396 W/kg
SAR(1 g) = 0.193 W/kg; SAR(10 g) = 0.101 W/kg
 Maximum value of SAR (measured) = 0.310 W/kg



P26 GSM1900_GSM_Rear Face_0cm_Ch661_Ant0_w/ HS_Sleeve+A1428

DUT: 130617C07

Communication System: GSM; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: B1900_0627 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.532$ S/m; $\epsilon_r = 53.569$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.380 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.158 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.387 W/kg

SAR(1 g) = 0.206 W/kg; SAR(10 g) = 0.112 W/kg

Maximum value of SAR (measured) = 0.277 W/kg

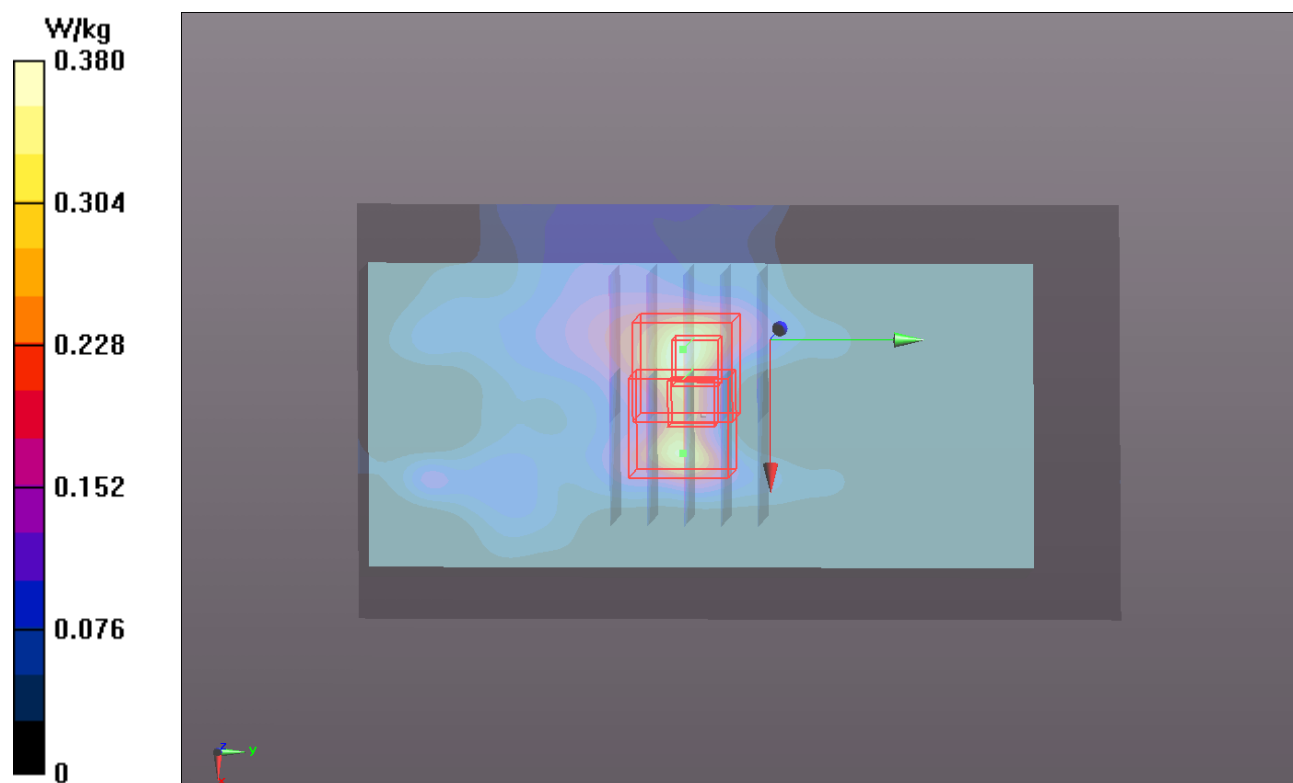
- **Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.158 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.347 W/kg

SAR(1 g) = 0.186 W/kg; SAR(10 g) = 0.097 W/kg

Maximum value of SAR (measured) = 0.261 W/kg



P27 GSM1900_GPRS10_Rear Face_0cm_Ch810_Ant0_Sleeve+A1428

DUT: 130617C07

Communication System: GPRS10; Frequency: 1909.8 MHz; Duty Cycle: 1:4

Medium: B1900_0627 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.571$ S/m; $\epsilon_r = 53.508$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.634 W/kg

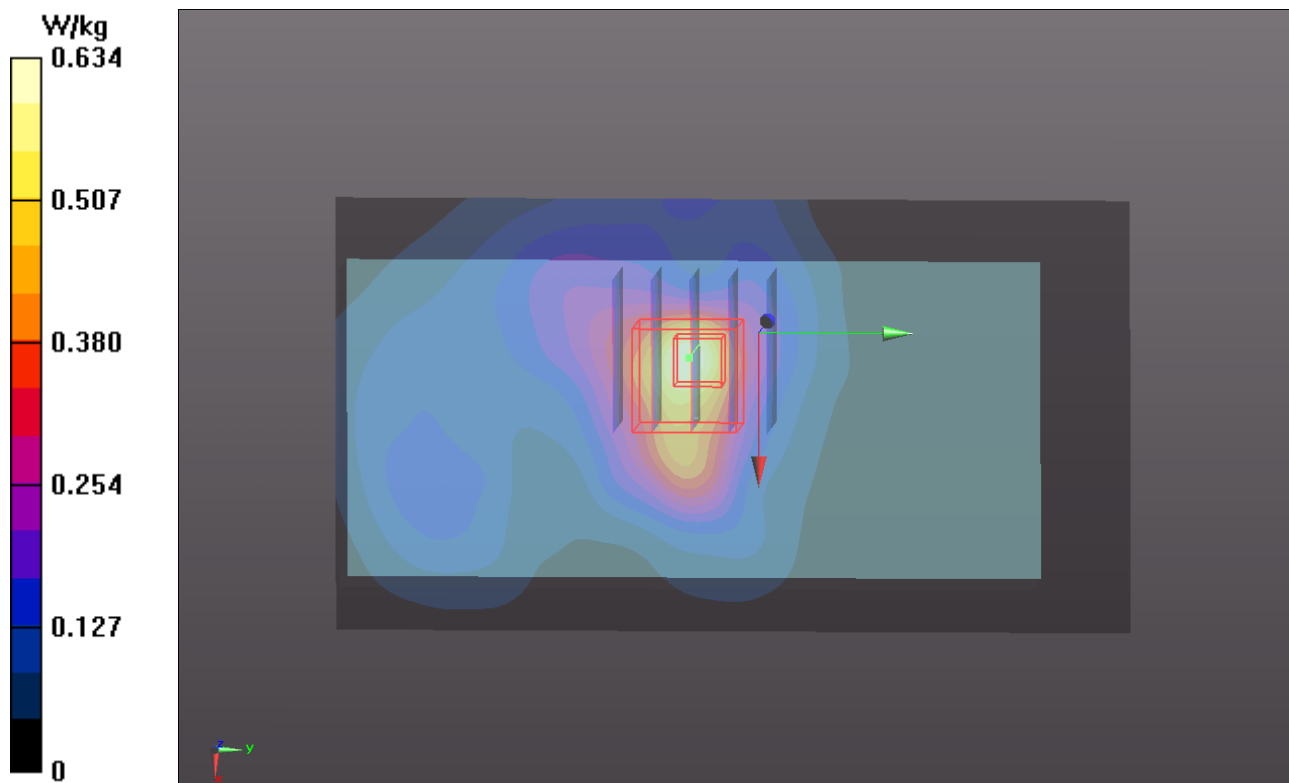
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.188 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.770 W/kg

SAR(1 g) = 0.429 W/kg; SAR(10 g) = 0.234 W/kg

Maximum value of SAR (measured) = 0.572 W/kg



P28 WCDMA II_RMC12.2K_Rear Face_0cm_Ch9400_Ant0_w/ HS_Sleeve+A1428

DUT: 130617C07

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_0627 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.532$ S/m; $\epsilon_r = 53.569$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.214 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.181 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.299 W/kg

SAR(1 g) = 0.157 W/kg; SAR(10 g) = 0.078 W/kg

Maximum value of SAR (measured) = 0.226 W/kg

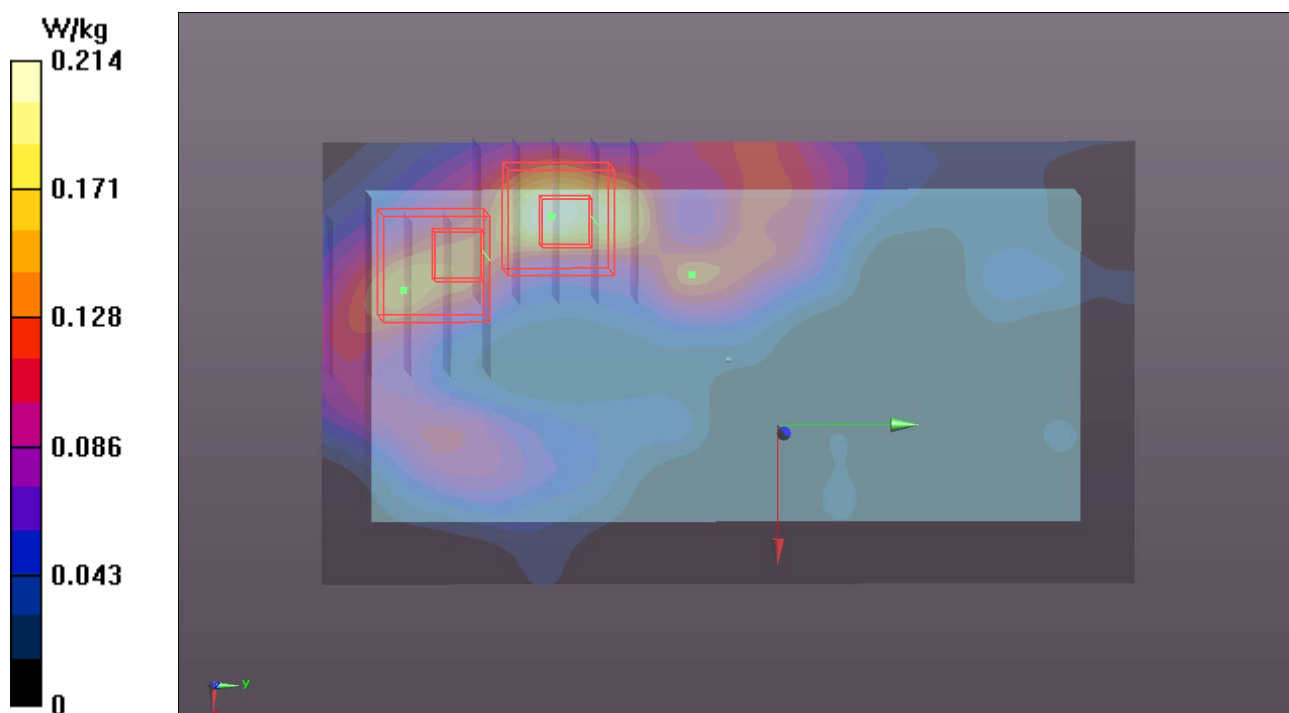
- **Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.181 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.215 W/kg

SAR(1 g) = 0.121 W/kg; SAR(10 g) = 0.065 W/kg

Maximum value of SAR (measured) = 0.170 W/kg



P29 WCDMA V_RMC12.2K_Rear Face_0cm_Ch4233_Ant0_Sleeve+A1428

DUT: 130510C03

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: B835_0625 Medium parameters used: $f = 847$ MHz; $\sigma = 0.986$ S/m; $\epsilon_r = 54.1$; $\rho = 1000$

kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0416 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.151 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.0630 W/kg

SAR(1 g) = 0.028 W/kg; SAR(10 g) = 0.013 W/kg

Maximum value of SAR (measured) = 0.0497 W/kg

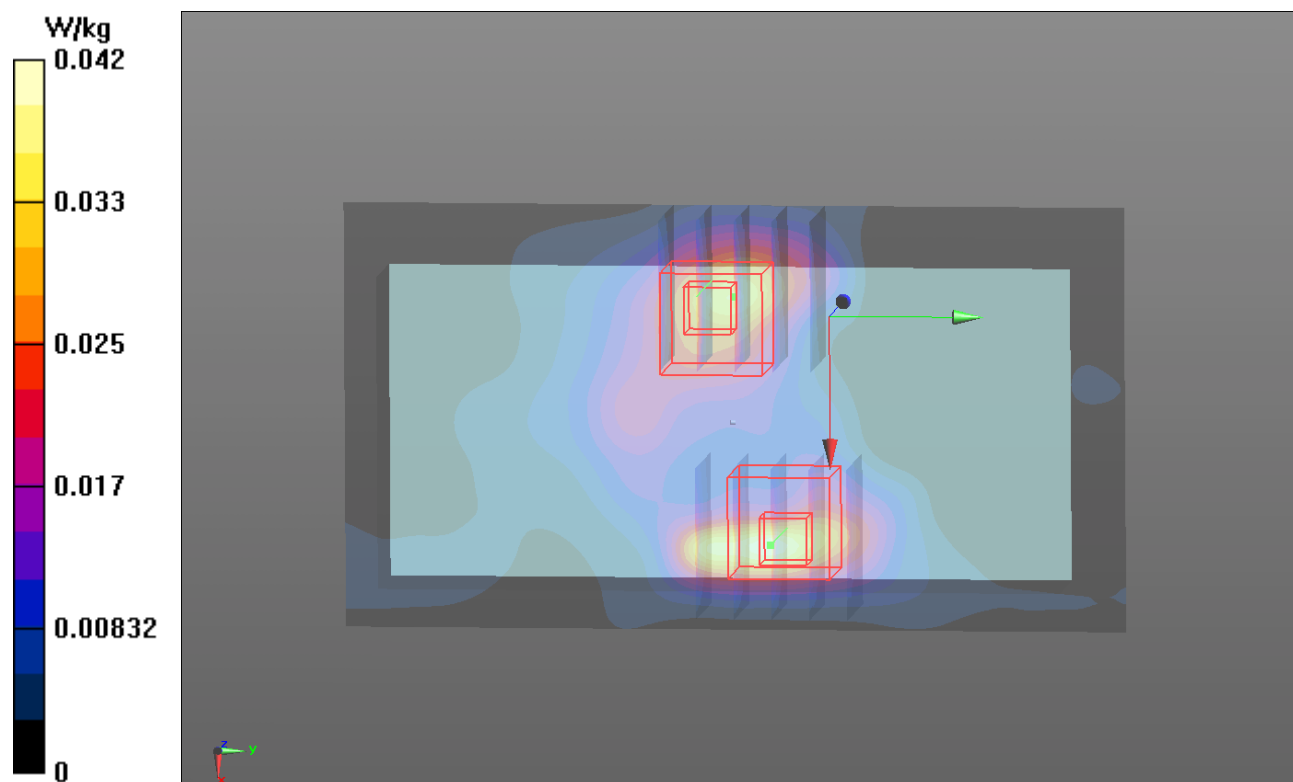
- **Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.151 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.0440 W/kg

SAR(1 g) = 0.026 W/kg; SAR(10 g) = 0.014 W/kg

Maximum value of SAR (measured) = 0.0350 W/kg



P30 LTE 2_QPSK_20M_Rear Face_0cm_Ch18900_1RB_OS49_Ant0_Sleeve+A1428

DUT: 130617C07

Communication System: LTE; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_0627 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.532$ S/m; $\epsilon_r = 53.569$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.6 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.354 W/kg

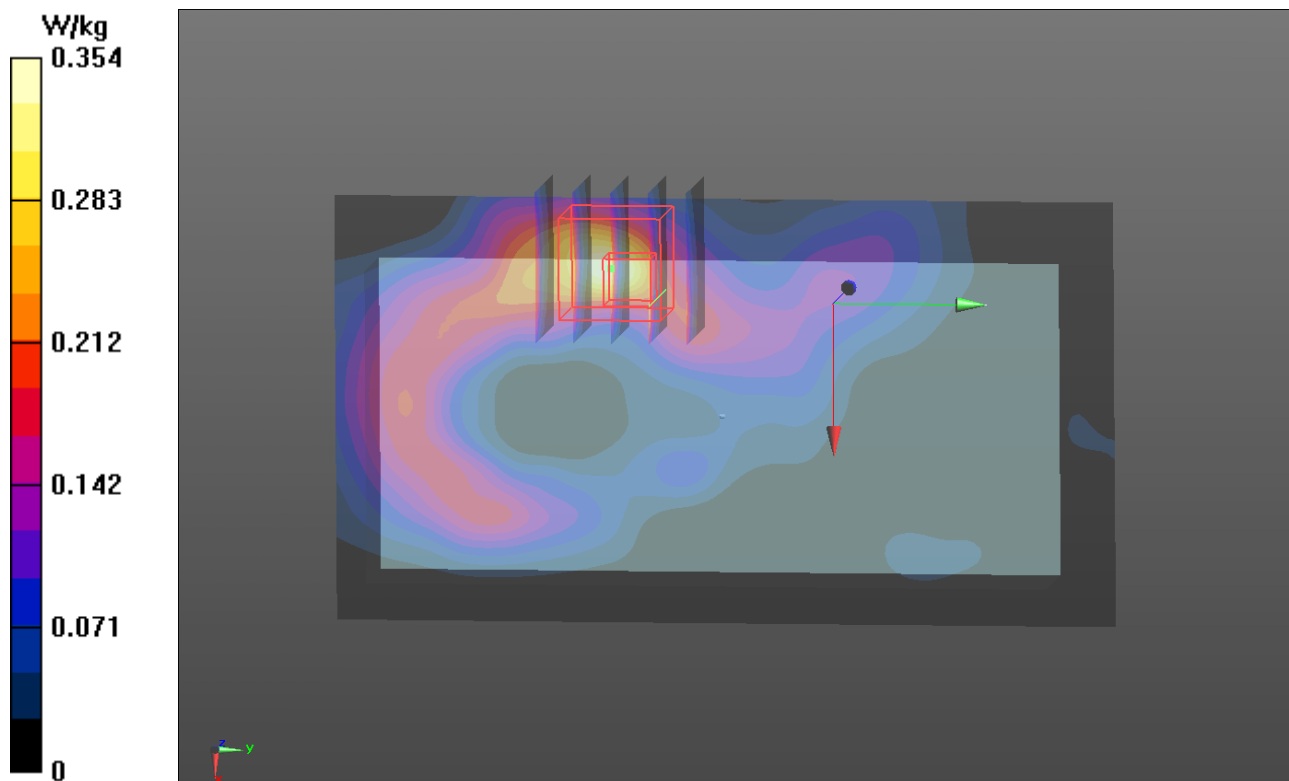
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.918 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.521 W/kg

SAR(1 g) = 0.263 W/kg; SAR(10 g) = 0.134 W/kg

Maximum value of SAR (measured) = 0.361 W/kg



P31 LTE 4_QPSK_20M_Rear Face_0cm_Ch20175_1RB_OS49_Ant0_Sleeve+A1428

DUT: 130617C07

Communication System: LTE; Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium: B1750_0627 Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.466$ S/m; $\epsilon_r =$

52.272 ; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.63, 8.63, 8.63); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.111 W/kg

- **Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.980 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.172 W/kg

SAR(1 g) = 0.111 W/kg; SAR(10 g) = 0.071 W/kg

Maximum value of SAR (measured) = 0.151 W/kg

- **Zoom Scan (5x5x7)/Cube 2:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.980 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.178 W/kg

SAR(1 g) = 0.111 W/kg; SAR(10 g) = 0.065 W/kg

Maximum value of SAR (measured) = 0.140 W/kg

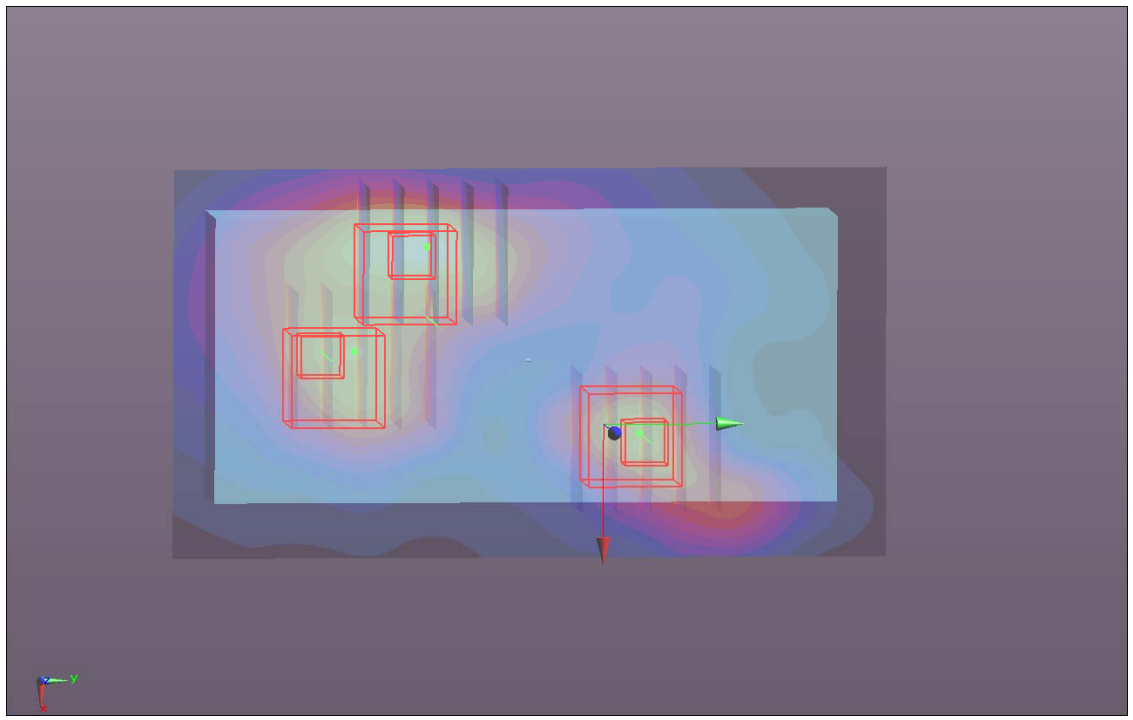
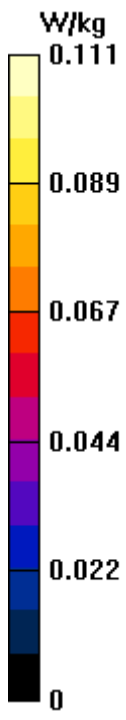
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.980 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.174 W/kg

SAR(1 g) = 0.075 W/kg; SAR(10 g) = 0.033 W/kg

Maximum value of SAR (measured) = 0.117 W/kg



P32 LTE 5_QPSK_10M_Front Face_1cm_Ch20525_1RB_OS24_Ant0_Sleeve+A1428

DUT: 130510C03

Communication System: LTE 5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: B835_0625 Medium parameters used: $f = 836.5$ MHz; $\sigma = 0.975$ S/m; $\epsilon_r = 54.2$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x101x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.247 W/kg

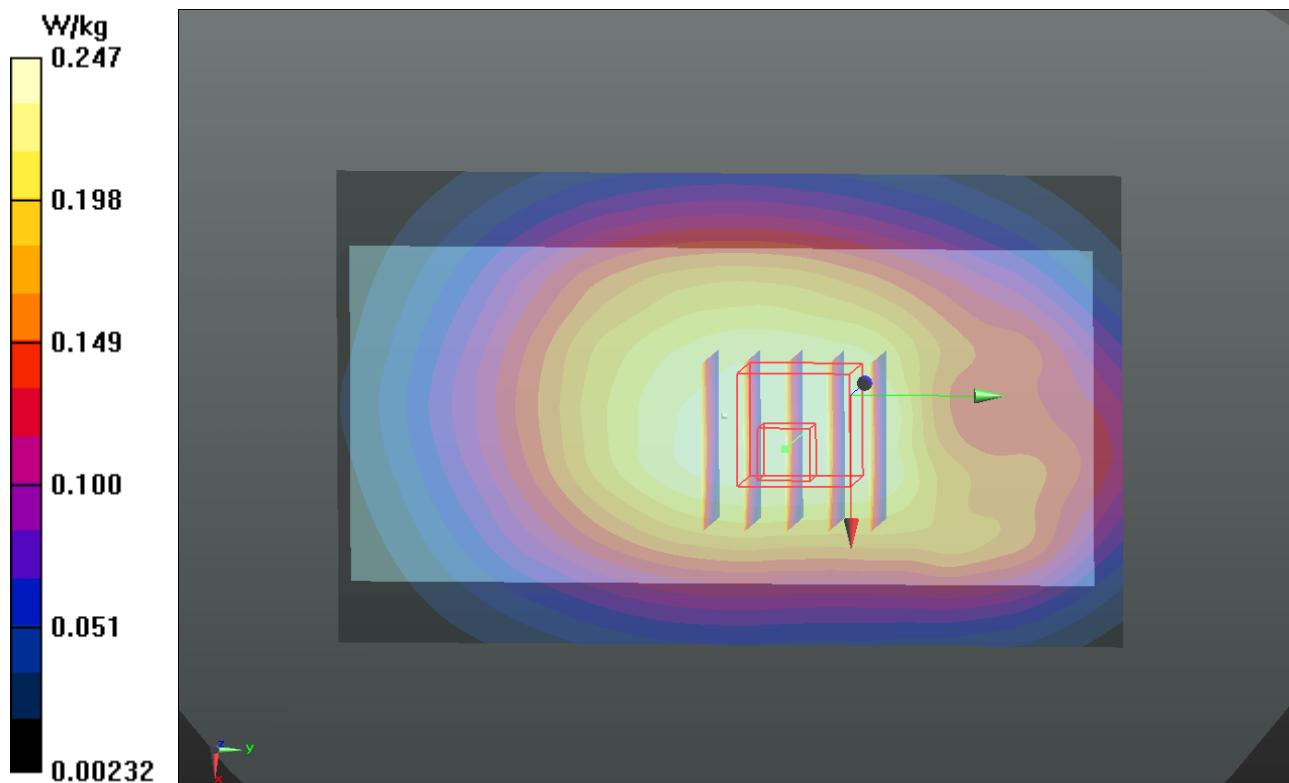
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 13.383 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.270 W/kg

SAR(1 g) = 0.211 W/kg; SAR(10 g) = 0.162 W/kg

Maximum value of SAR (measured) = 0.244 W/kg



P33 LTE 17_QPSK_10M_Front Face_1cm_Ch23790_1RB_OS24_Ant0_Sleeve+A1428

DUT: 130510C03

Communication System: LTE; Frequency: 710 MHz; Duty Cycle: 1:1

Medium: B750_0614 Medium parameters used: $f = 710$ MHz; $\sigma = 0.932$ S/m; $\epsilon_r = 55.572$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.51, 9.51, 9.51); Calibrated: 2013/04/30;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x101x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.0470 W/kg

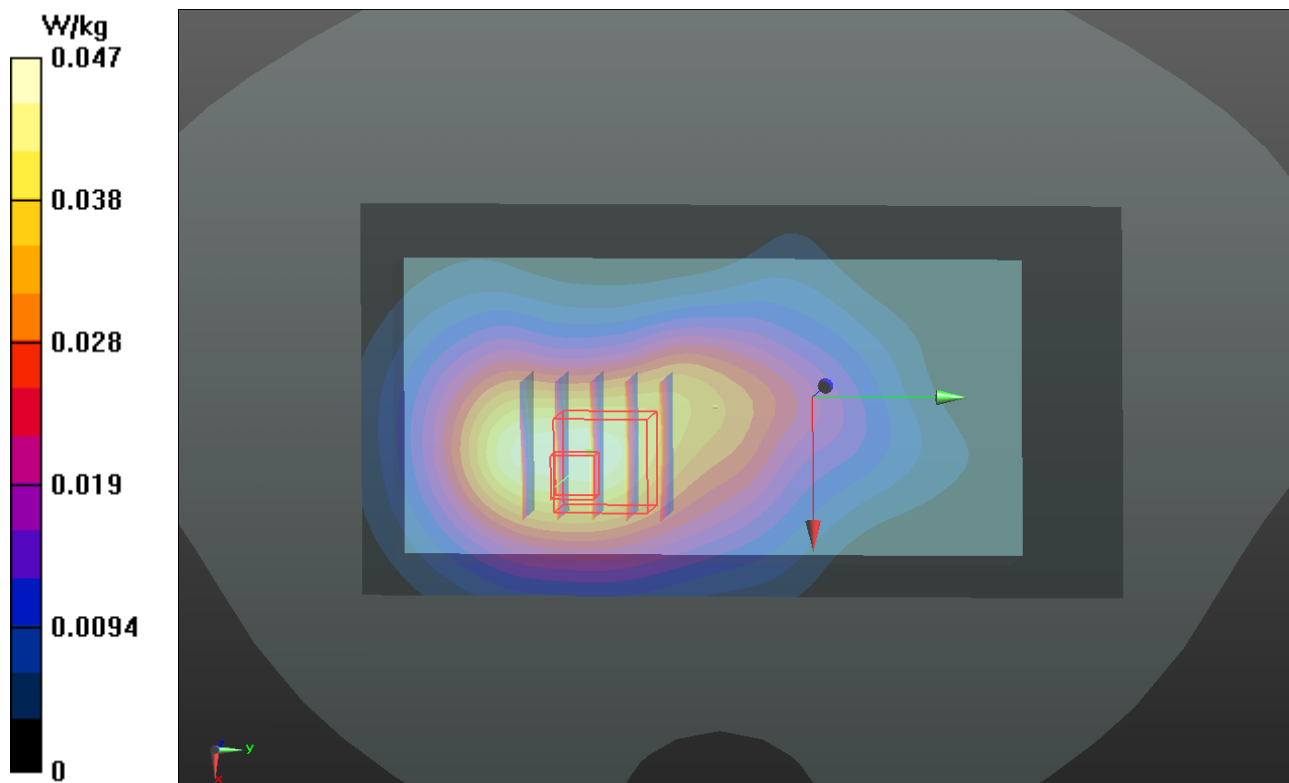
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 4.472 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.0610 W/kg

SAR(1 g) = 0.044 W/kg; SAR(10 g) = 0.030 W/kg

Maximum value of SAR (measured) = 0.0466 W/kg



P34 802.11b_Rear Face_0cm_Ch6_w/ HS_Sleeve+A1428

DUT: 130617C07

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: B2450_0627 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.948$ S/m; $\epsilon_r = 51.68$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.09, 7.09, 7.09); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x121x1):** Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.0476 W/kg

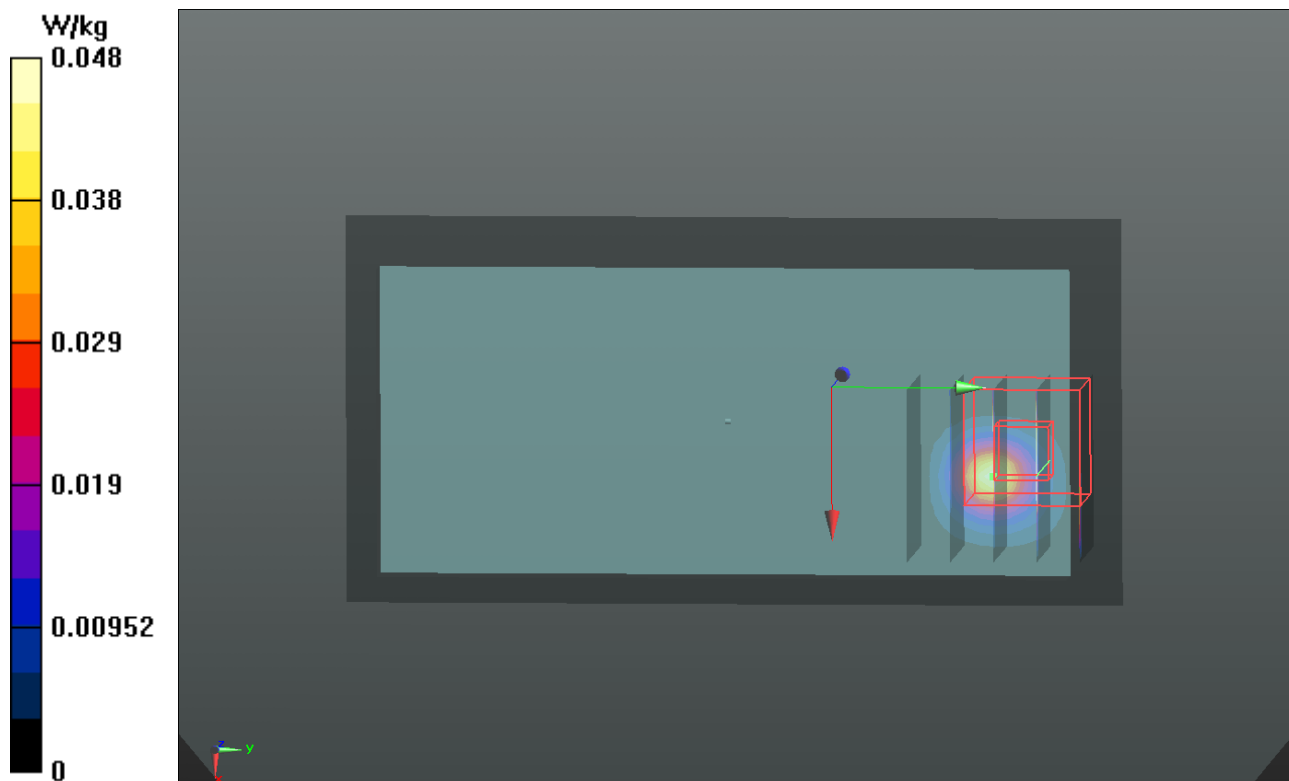
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.214 W/kg

SAR(1 g) = 0.036 W/kg; SAR(10 g) = 0.00906 W/kg

Maximum value of SAR (measured) = 0.0934 W/kg



P35 802.11a_Front Face_1cm_Ch48_w/ HS_Sleeve+A1428

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5240 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5240$ MHz; $\sigma = 5.36$ S/m; $\epsilon_r = 49.117$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.51, 4.51, 4.51); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (81x161x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0152 W/kg

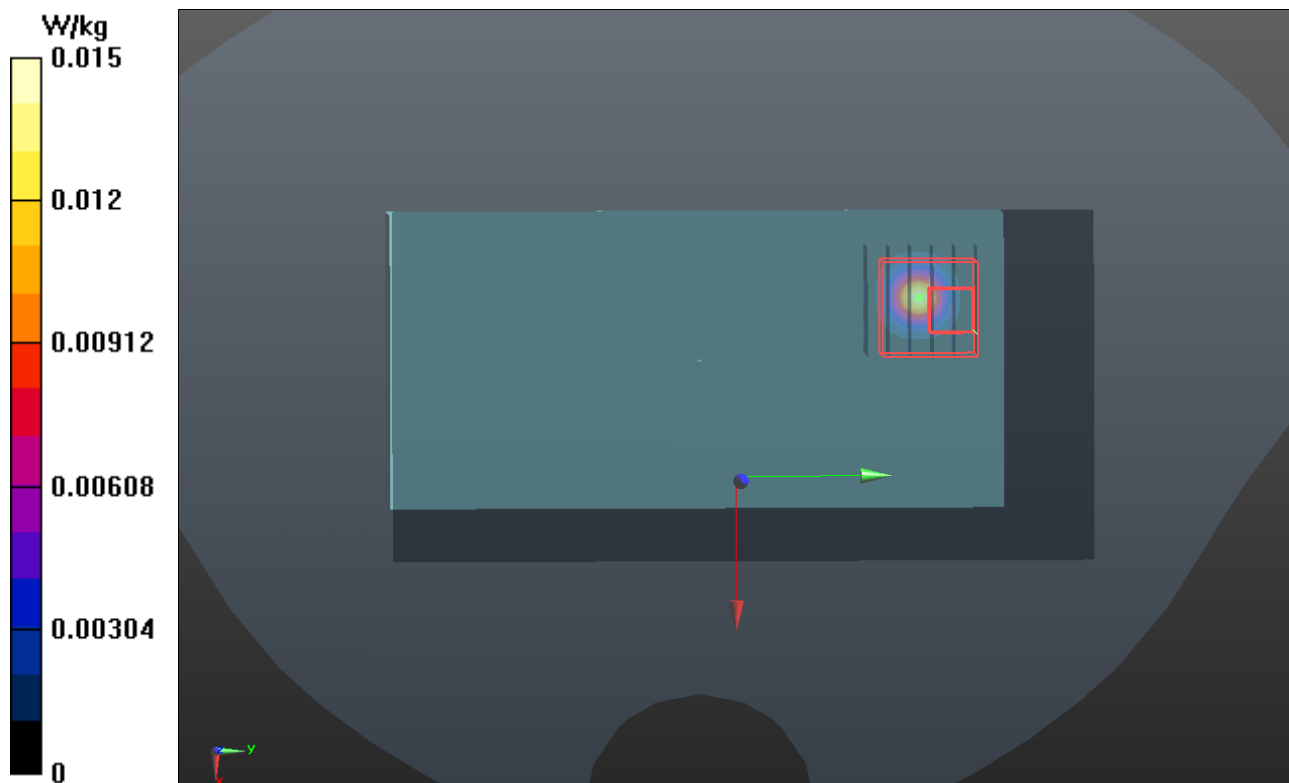
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.255 W/kg

SAR(1 g) = 0.017 W/kg; SAR(10 g) = 0.00237 W/kg

Maximum value of SAR (measured) = 0.0322 W/kg



P36 802.11a_Front Face_1cm_Ch64_Sleeve+A1428

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5320$ MHz; $\sigma = 5.442$ S/m; $\epsilon_r = 48.919$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.31, 4.31, 4.31); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (81x161x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0435 W/kg

- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.280 W/kg

SAR(1 g) = 0.037 W/kg; SAR(10 g) = 0.012 W/kg

Maximum value of SAR (measured) = 0.0863 W/kg

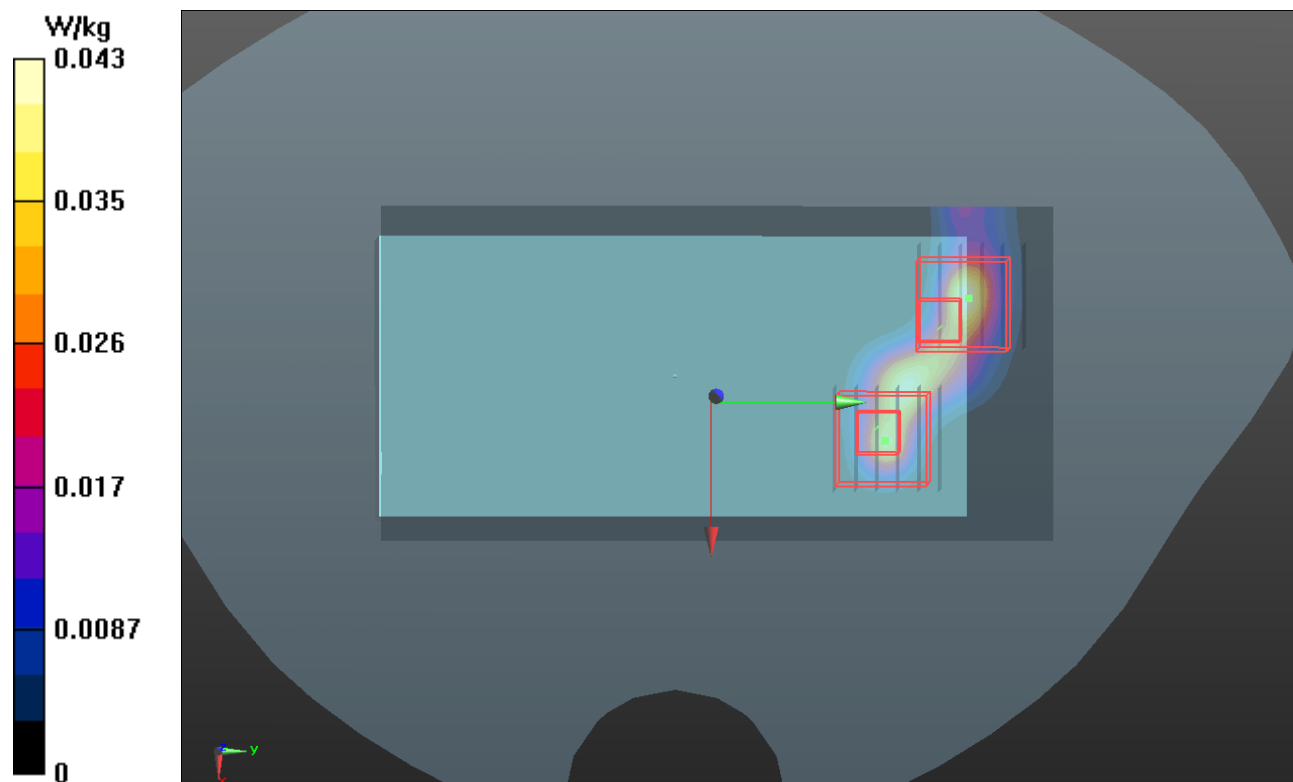
- **Zoom Scan (6x6x12)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.258 W/kg

SAR(1 g) = 0.021 W/kg; SAR(10 g) = 0.00616 W/kg

Maximum value of SAR (measured) = 0.0389 W/kg



P37 802.11a_Front Face_1cm_Ch124_Sleeve+A1428

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5620 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5620$ MHz; $\sigma = 5.884$ S/m; $\epsilon_r = 48.506$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4, 4, 4); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (81x161x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0573 W/kg

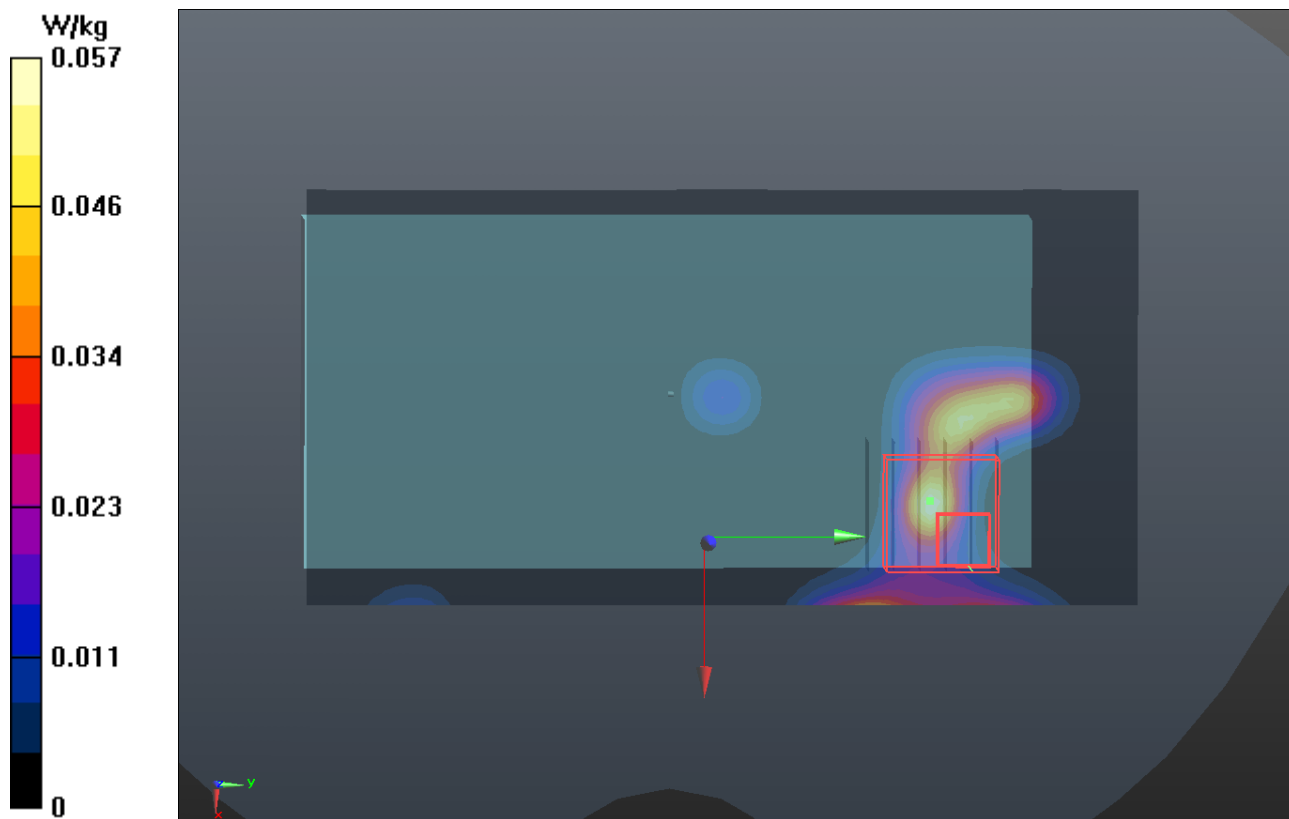
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.358 W/kg

SAR(1 g) = 0.036 W/kg; SAR(10 g) = 0.012 W/kg

Maximum value of SAR (measured) = 0.0620 W/kg



P38 802.11a_Front Face_1cm_Ch149_Sleeve+A1428

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5745$ MHz; $\sigma = 6.042$ S/m; $\epsilon_r = 48.318$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.21, 4.21, 4.21); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (101x161x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0443 W/kg

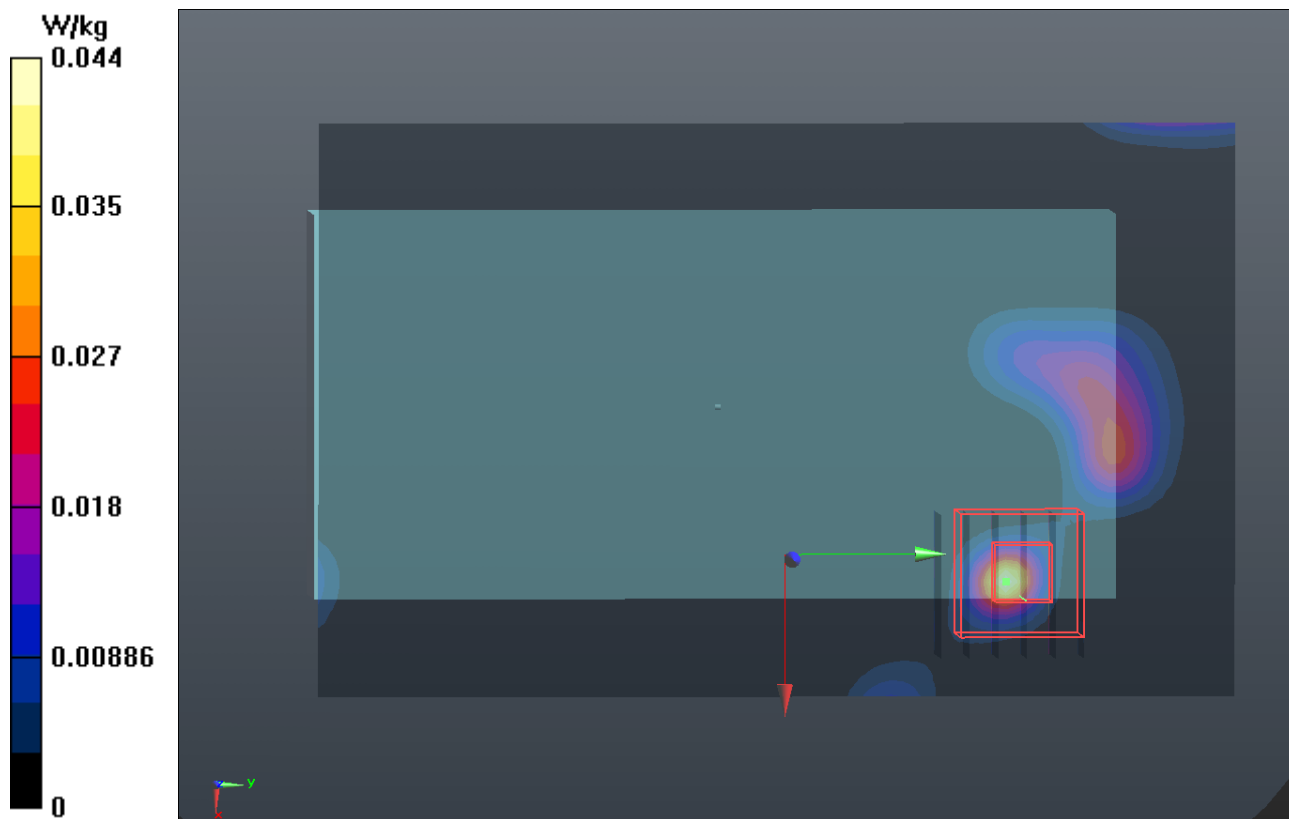
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 1.125 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.398 W/kg

SAR(1 g) = 0.033 W/kg; SAR(10 g) = 0.00782 W/kg

Maximum value of SAR (measured) = 0.0486 W/kg



P39 BT_Rear Face_0cm_Ch39_Sleeve+A1428

DUT: 130617C07

Communication System: Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1

Medium: B2450_0627 Medium parameters used: $f = 2441$ MHz; $\sigma = 1.953$ S/m; $\epsilon_r = 51.67$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.09, 7.09, 7.09); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (31x61x1):** Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.0395 W/kg

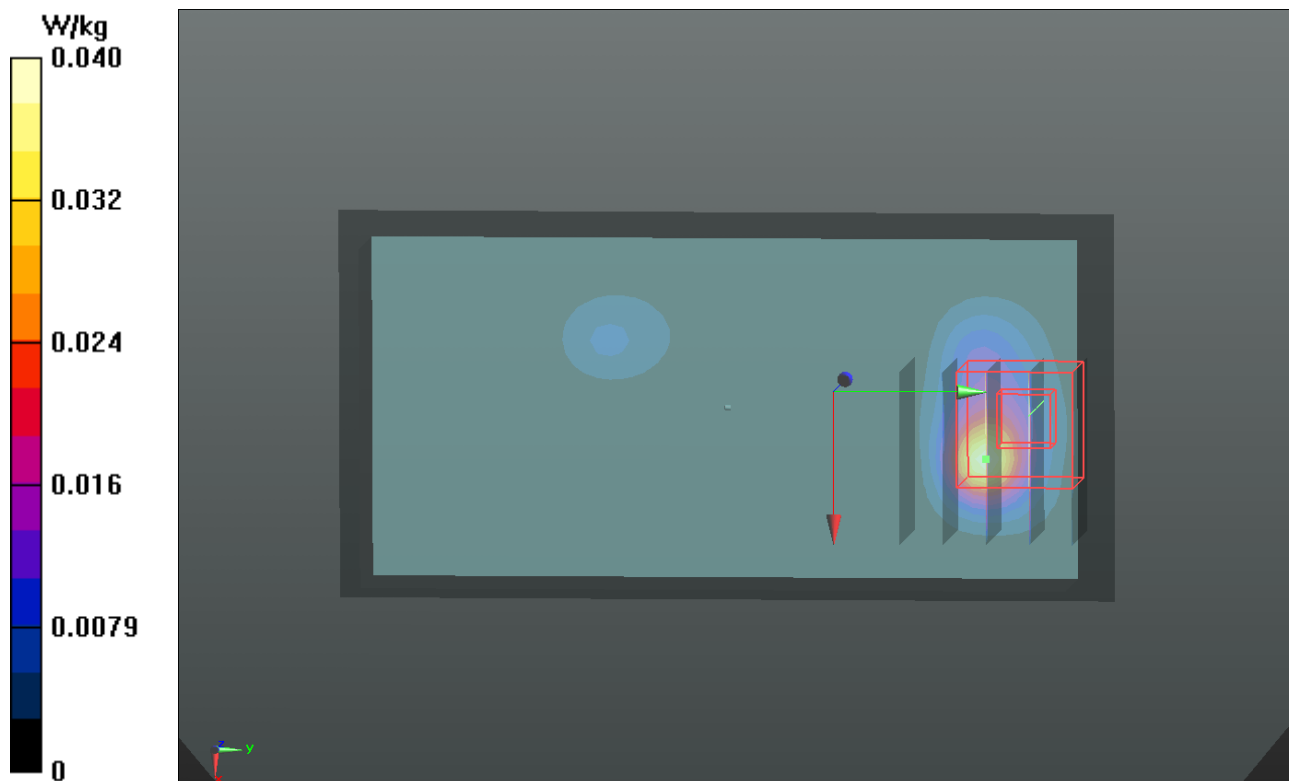
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.173 W/kg

SAR(1 g) = 0.033 W/kg; SAR(10 g) = 0.00916 W/kg

Maximum value of SAR (measured) = 0.0858 W/kg



P40 GSM850_GSM_Rear Face_0cm_Ch251_Ant0_Sleeve+A1429

DUT: 130510C03

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: B835_0625 Medium parameters used: $f = 849$ MHz; $\sigma = 0.989$ S/m; $\epsilon_r = 54.073$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x121x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.115 W/kg

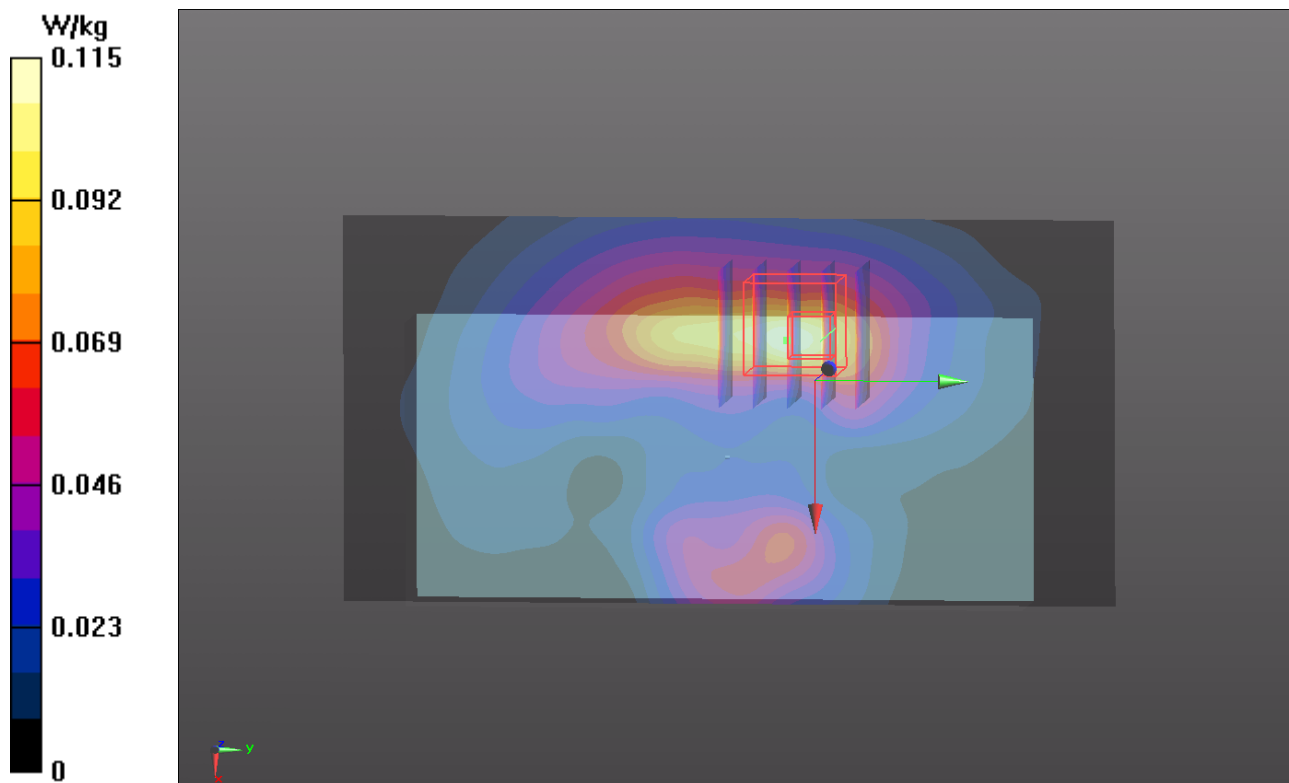
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 4.488 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.174 W/kg

SAR(1 g) = 0.096 W/kg; SAR(10 g) = 0.055 W/kg

Maximum value of SAR (measured) = 0.144 W/kg



P41 GSM850_GPRS10_Rear Face_0cm_Ch251_Ant0_Sleeve+A1429

DUT: 130510C03

Communication System: GPRS10; Frequency: 848.8 MHz; Duty Cycle: 1:4

Medium: B835_0625 Medium parameters used: $f = 849$ MHz; $\sigma = 0.989$ S/m; $\epsilon_r = 54.073$; $\rho = 1000$

kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.161 W/kg

- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.519 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.240 W/kg

SAR(1 g) = 0.133 W/kg; SAR(10 g) = 0.078 W/kg

Maximum value of SAR (measured) = 0.199 W/kg

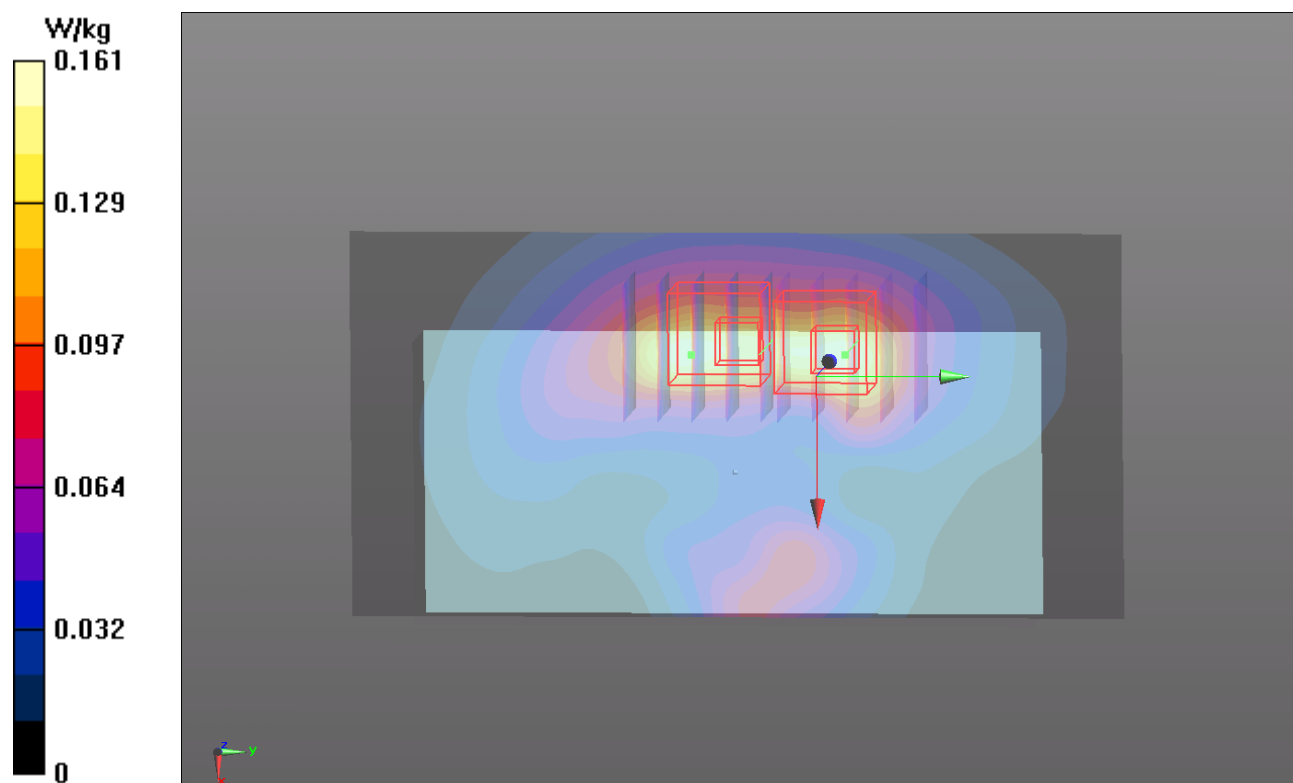
- Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.519 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.188 W/kg

SAR(1 g) = 0.114 W/kg; SAR(10 g) = 0.070 W/kg

Maximum value of SAR (measured) = 0.155 W/kg



P42 GSM1900_GSM_Rear Face_0cm_Ch810_Ant0_w/ HS_Sleeve+A1429

DUT: 130617C07

Communication System: GSM; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: B1900_0626 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.572$ S/m; $\epsilon_r = 53.433$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.6 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.538 W/kg

- Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.960 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.554 W/kg

SAR(1 g) = 0.313 W/kg; SAR(10 g) = 0.131 W/kg

Maximum value of SAR (measured) = 0.467 W/kg

- Zoom Scan (5x5x7)/Cube 2: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.960 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.470 W/kg

SAR(1 g) = 0.276 W/kg; SAR(10 g) = 0.128 W/kg

Maximum value of SAR (measured) = 0.386 W/kg

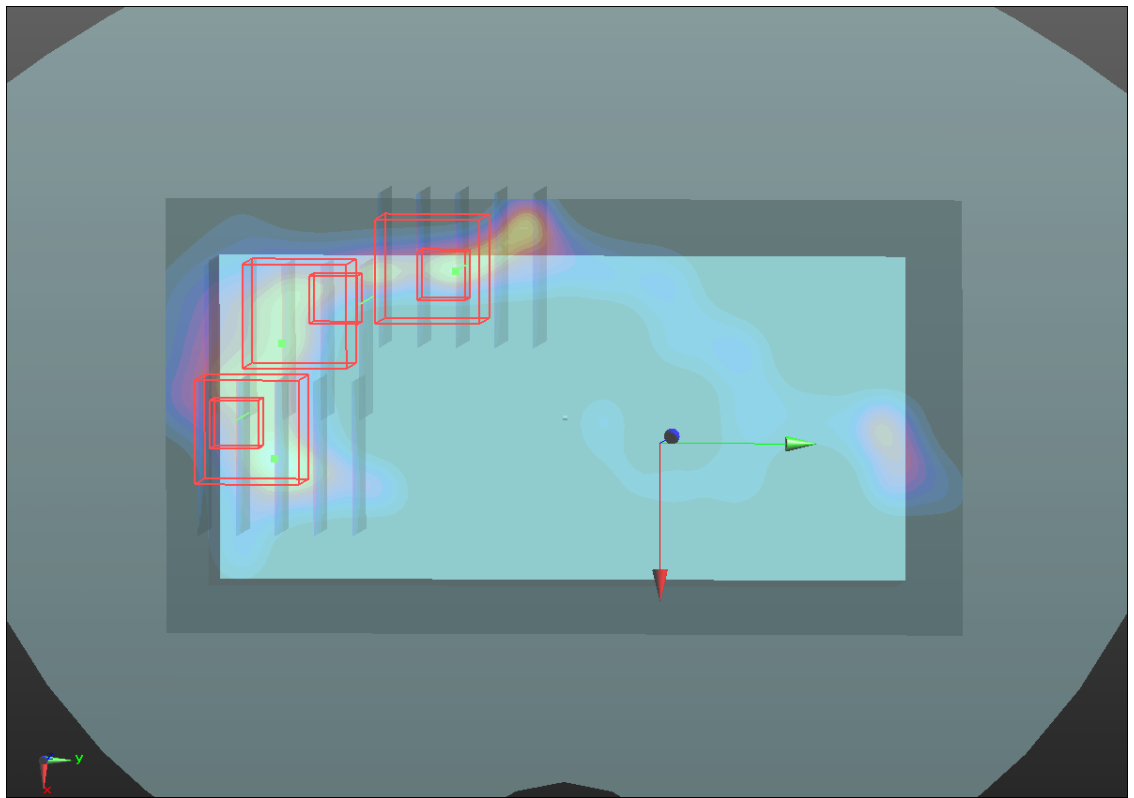
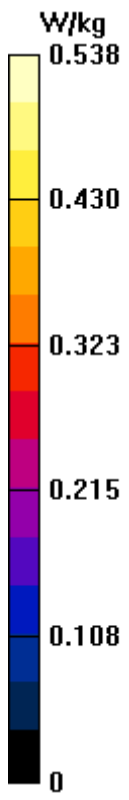
- Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.960 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.445 W/kg

SAR(1 g) = 0.237 W/kg; SAR(10 g) = 0.107 W/kg

Maximum value of SAR (measured) = 0.363 W/kg



P43 GSM1900_GPRS10_Rear Face_0cm_Ch512_Ant0_Sleeve+A1429

DUT: 130617C07

Communication System: GPRS10; Frequency: 1850.2 MHz; Duty Cycle: 1:4

Medium: B1900_0626 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.496$ S/m; $\epsilon_r = 53.602$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.6 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.654 W/kg

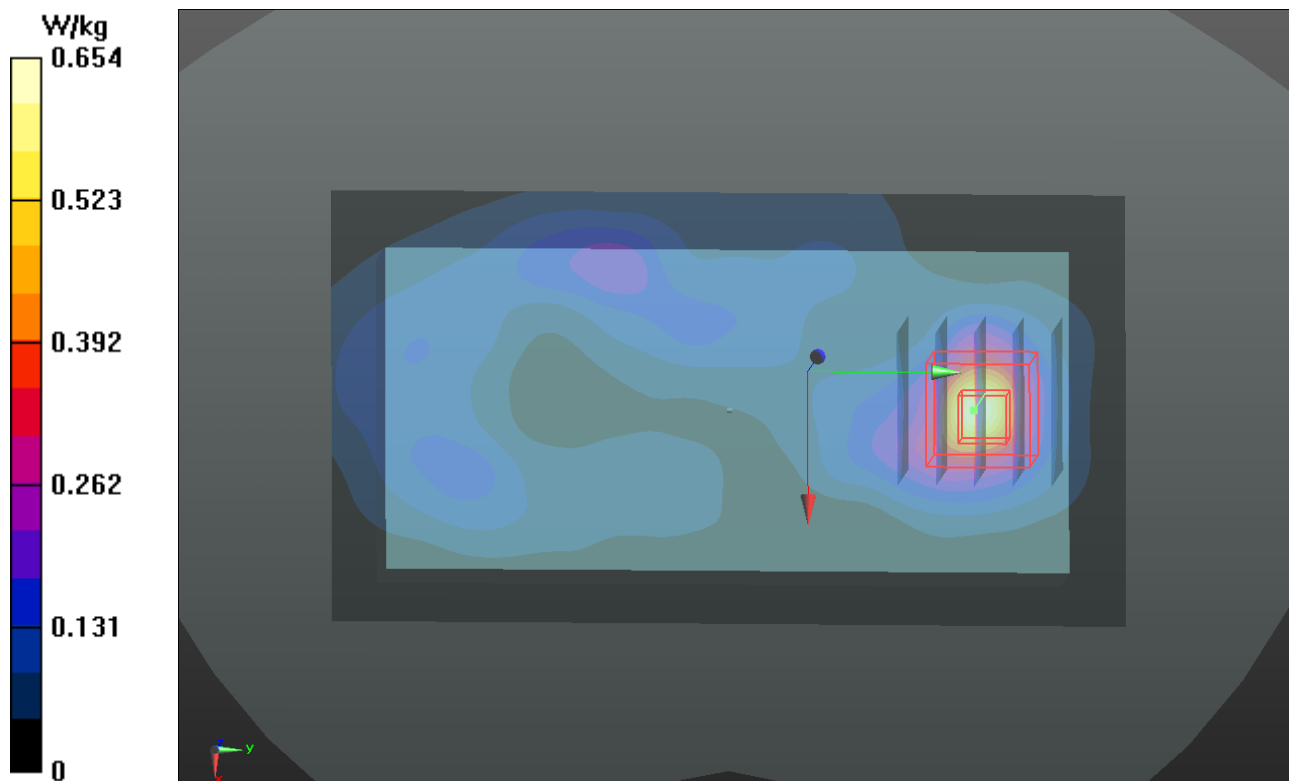
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 4.693 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.790 W/kg

SAR(1 g) = 0.420 W/kg; SAR(10 g) = 0.203 W/kg

Maximum value of SAR (measured) = 0.604 W/kg



P44 WCDMA II_RMC12.2K_Reat Face_0cm_Ch9400_Ant0_w/ HS_Sleeve+A1429

DUT: 130617C07

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_0626 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.533$ S/m; $\epsilon_r = 53.495$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.780 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 4.661 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.285 W/kg; SAR(10 g) = 0.124 W/kg

Maximum value of SAR (measured) = 0.407 W/kg

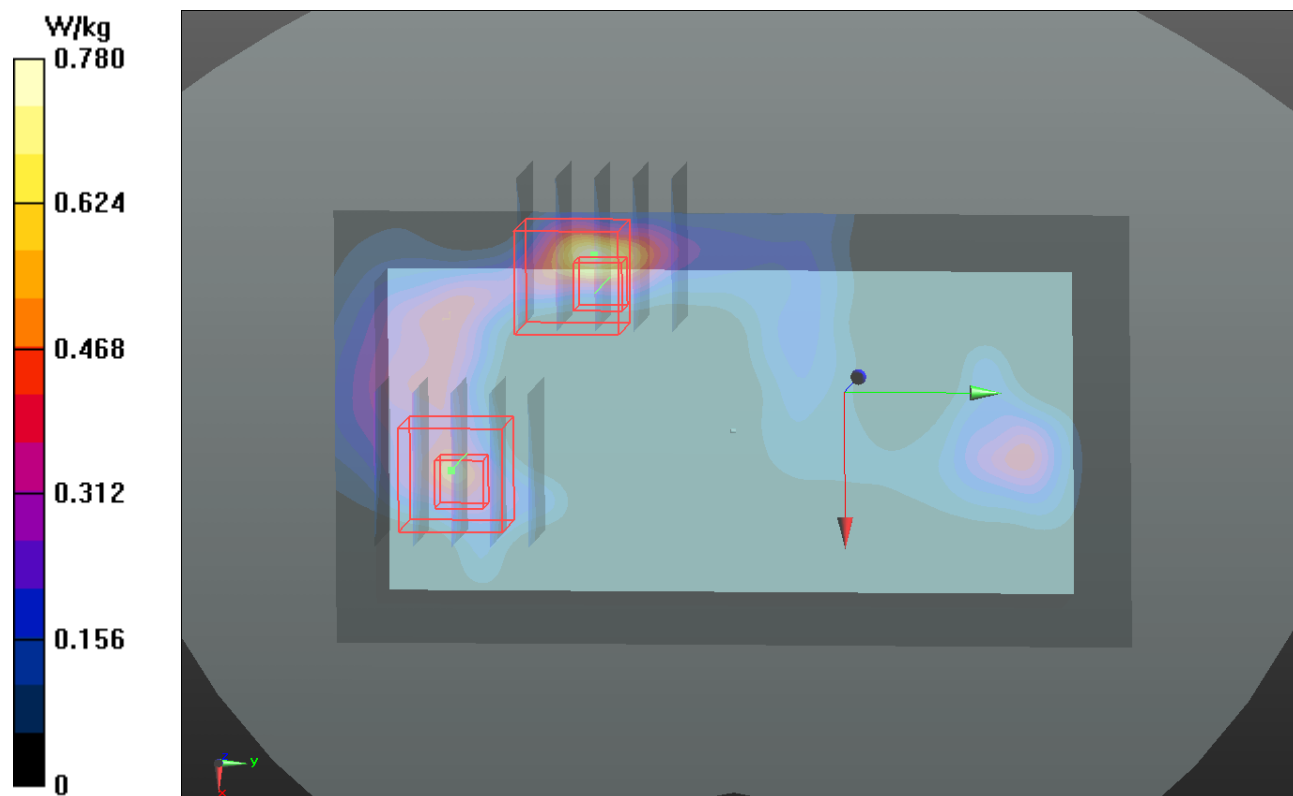
- **Zoom Scan (5x5x7)/Cube 1:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 4.661 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.673 W/kg

SAR(1 g) = 0.276 W/kg; SAR(10 g) = 0.145 W/kg

Maximum value of SAR (measured) = 0.336 W/kg



P45 WCDMA V_RMC12.2K_Rear Face_0cm_Ch4233_Ant0_Sleeve+A1429

DUT: 130510C03

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: B835_0625 Medium parameters used: $f = 847$ MHz; $\sigma = 0.987$ S/m; $\epsilon_r = 54.095$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0345 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.333 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.0510 W/kg

SAR(1 g) = 0.022 W/kg; SAR(10 g) = 0.010 W/kg

Maximum value of SAR (measured) = 0.0392 W/kg

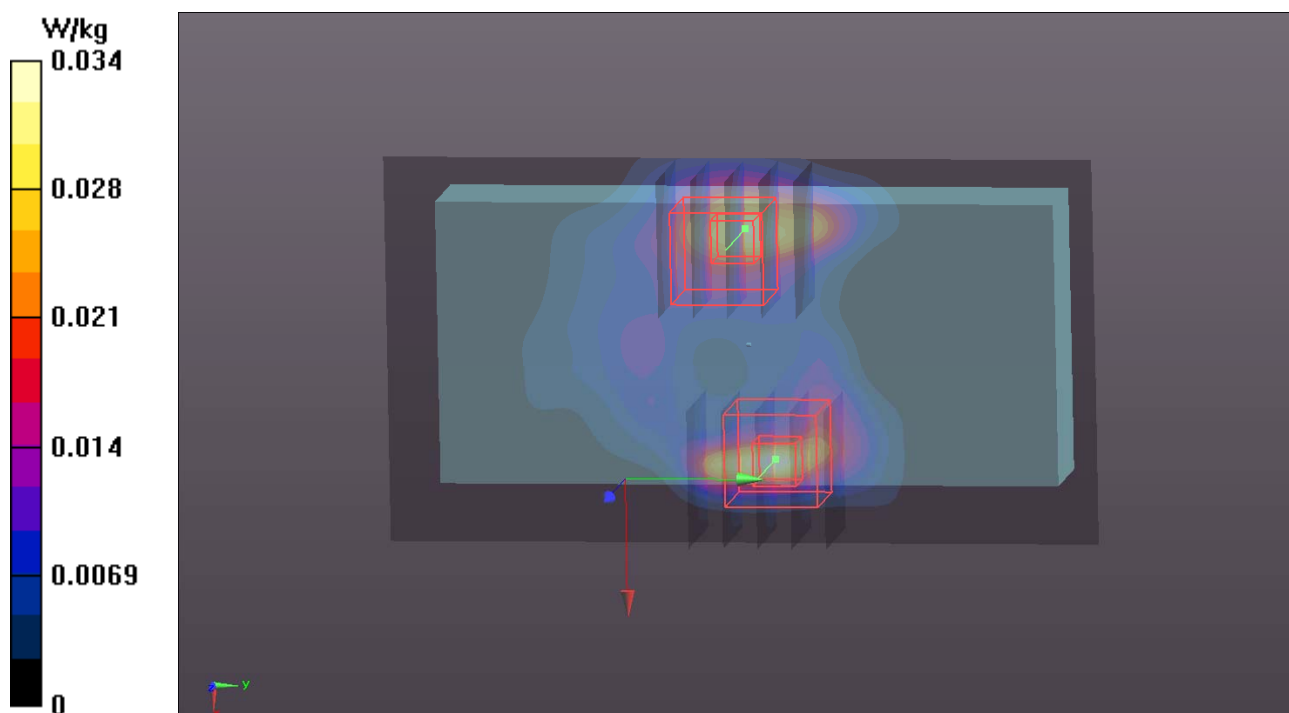
- **Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.333 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.0370 W/kg

SAR(1 g) = 0.019 W/kg; SAR(10 g) = 0.011 W/kg

Maximum value of SAR (measured) = 0.0291 W/kg



P46 CDMA BC0_RC3+SO32_Rear Face_0cm_Ch777_Ant0_Sleeve+A1429

DUT: 130510C03

Communication System: CDMA2000; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium: B835_0627 Medium parameters used: $f = 848.31 \text{ MHz}$; $\sigma = 0.991 \text{ S/m}$; $\epsilon_r = 54.523$; $\rho =$

1000 kg/m^3

Ambient Temperature : $21.6 \text{ }^\circ\text{C}$; Liquid Temperature : $20.5 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.302 W/kg

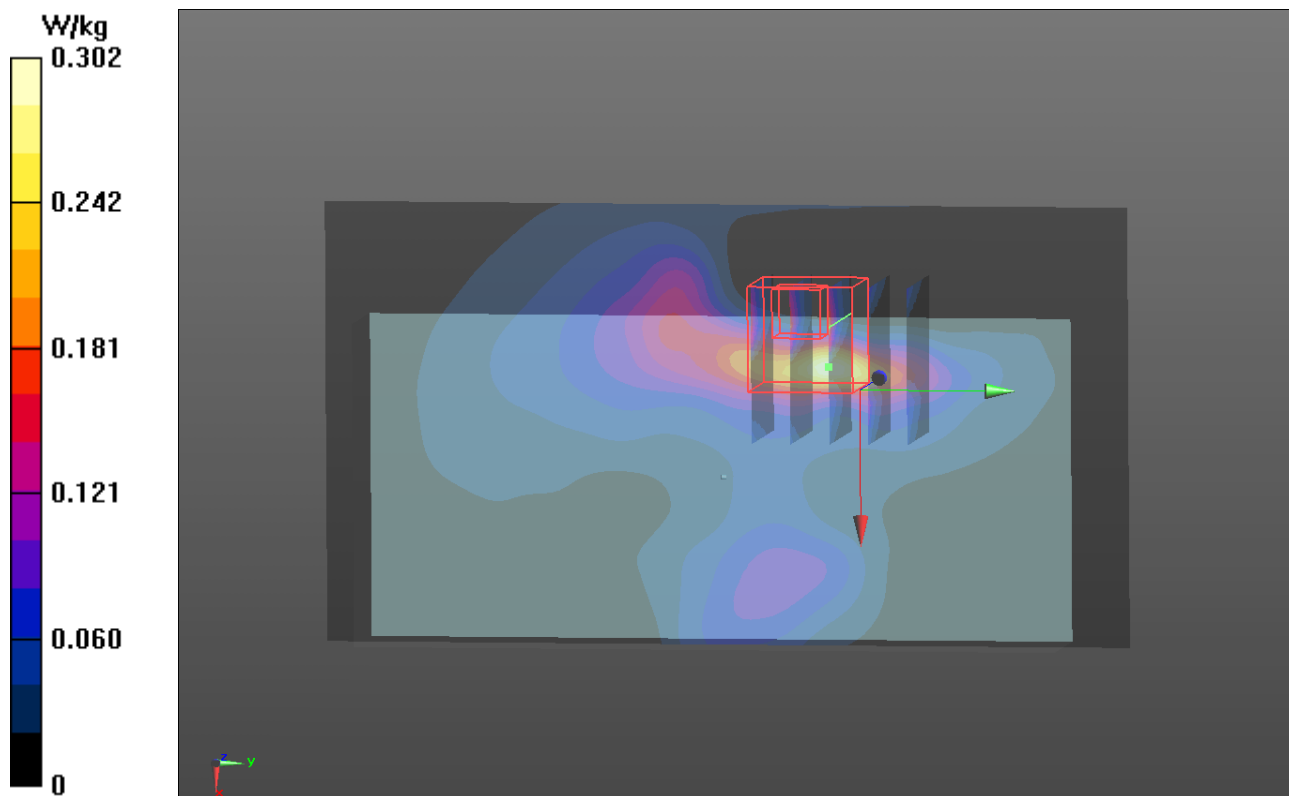
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.464 V/m ; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.492 W/kg

SAR(1 g) = 0.199 W/kg ; SAR(10 g) = 0.056 W/kg

Maximum value of SAR (measured) = 0.222 W/kg



P47 CDMA BC1_RC3+SO32_Rear Face_0cm_Ch600_Ant0_w/ HS_Sleeve+A1429

DUT: 130617C07

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_0626 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.533$ S/m; $\epsilon_r = 53.495$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.346 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.395 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.463 W/kg

SAR(1 g) = 0.233 W/kg; SAR(10 g) = 0.110 W/kg

Maximum value of SAR (measured) = 0.331 W/kg

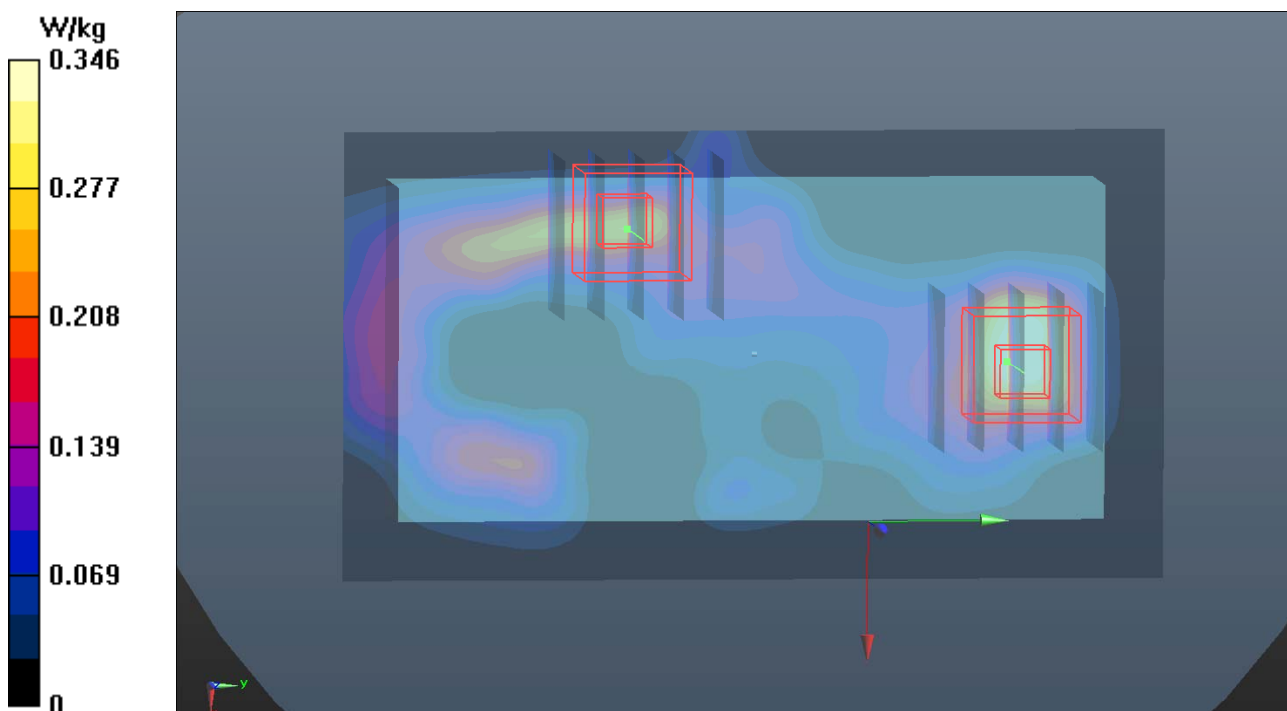
- **Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.395 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.259 W/kg

SAR(1 g) = 0.164 W/kg; SAR(10 g) = 0.068 W/kg

Maximum value of SAR (measured) = 0.249 W/kg



P48 CDMA BC10_RC3+SO32_Rear Face_0cm_Ch684_Ant0_Sleeve+A1429

DUT: 130510C03

Communication System: CDMA2000; Frequency: 823.1 MHz; Duty Cycle: 1:1
Medium: B835_0627 Medium parameters used: $f = 823.1 \text{ MHz}$; $\sigma = 0.962 \text{ S/m}$; $\epsilon_r =$

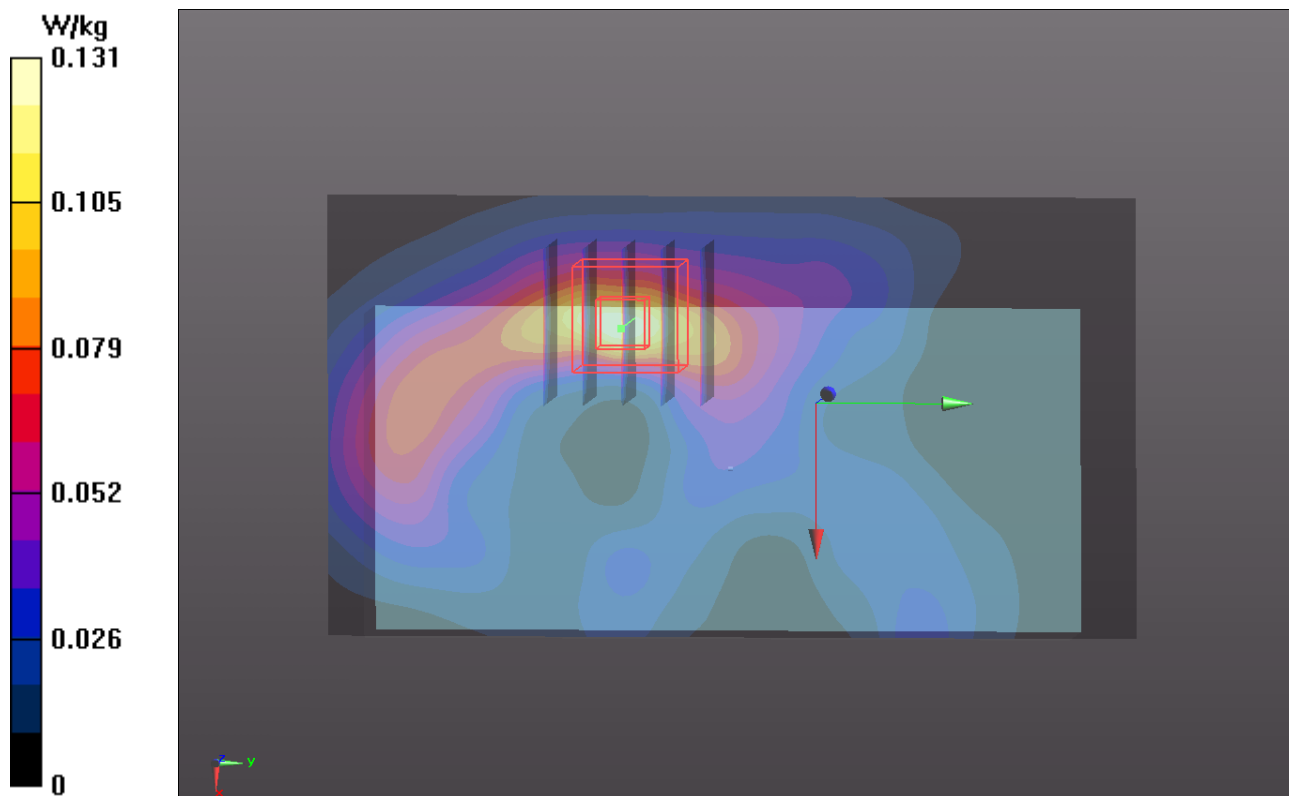
54.755 ; $\rho = 1000 \text{ kg/m}^3$
Ambient Temperature : $21.6 \text{ }^\circ\text{C}$; Liquid Temperature : $20.5 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1)**: Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$
Maximum value of SAR (interpolated) = 0.131 W/kg

- **Zoom Scan (5x5x7)/Cube 0**: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 5.468 V/m ; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.178 W/kg
SAR(1 g) = 0.080 W/kg ; SAR(10 g) = 0.037 W/kg
Maximum value of SAR (measured) = 0.125 W/kg



P49 LTE 5_QPSK_10M_Rear Face_0cm_Ch20525_1RB_OS49_Ant0_Sleeve+A1429

DUT: 130510C03

Communication System: LTE; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: B835_0627 Medium parameters used: $f = 836.5$ MHz; $\sigma = 0.977$ S/m; $\epsilon_r = 54.643$; $\rho = 1000$

kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.43, 10.43, 10.43); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0304 W/kg

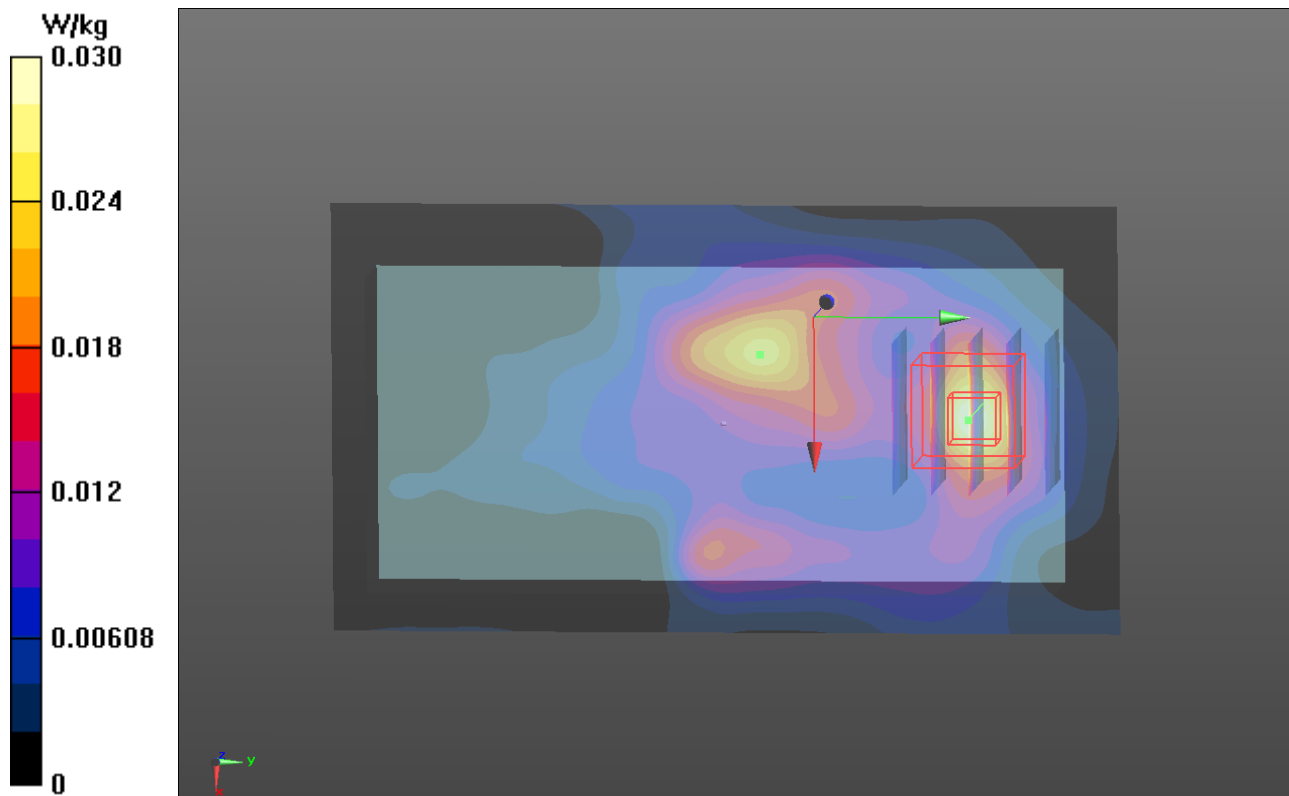
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.420 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.0580 W/kg

SAR(1 g) = 0.027 W/kg; SAR(10 g) = 0.014 W/kg

Maximum value of SAR (measured) = 0.0434 W/kg



P50 LTE 13_QPSK_10M_Rear Face_0cm_Ch23230_1RB_OS0_Ant0_Sleeve+A1429

DUT: 130510C03

Communication System: LTE; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: B750_0627 Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 1.001 \text{ S/m}$; $\epsilon_r = 55.86$; $\rho = 1000$

kg/m^3

Ambient Temperature : $21.8 \text{ }^\circ\text{C}$; Liquid Temperature : $20.5 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(10.6, 10.6, 10.6); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:1039
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.0778 W/kg

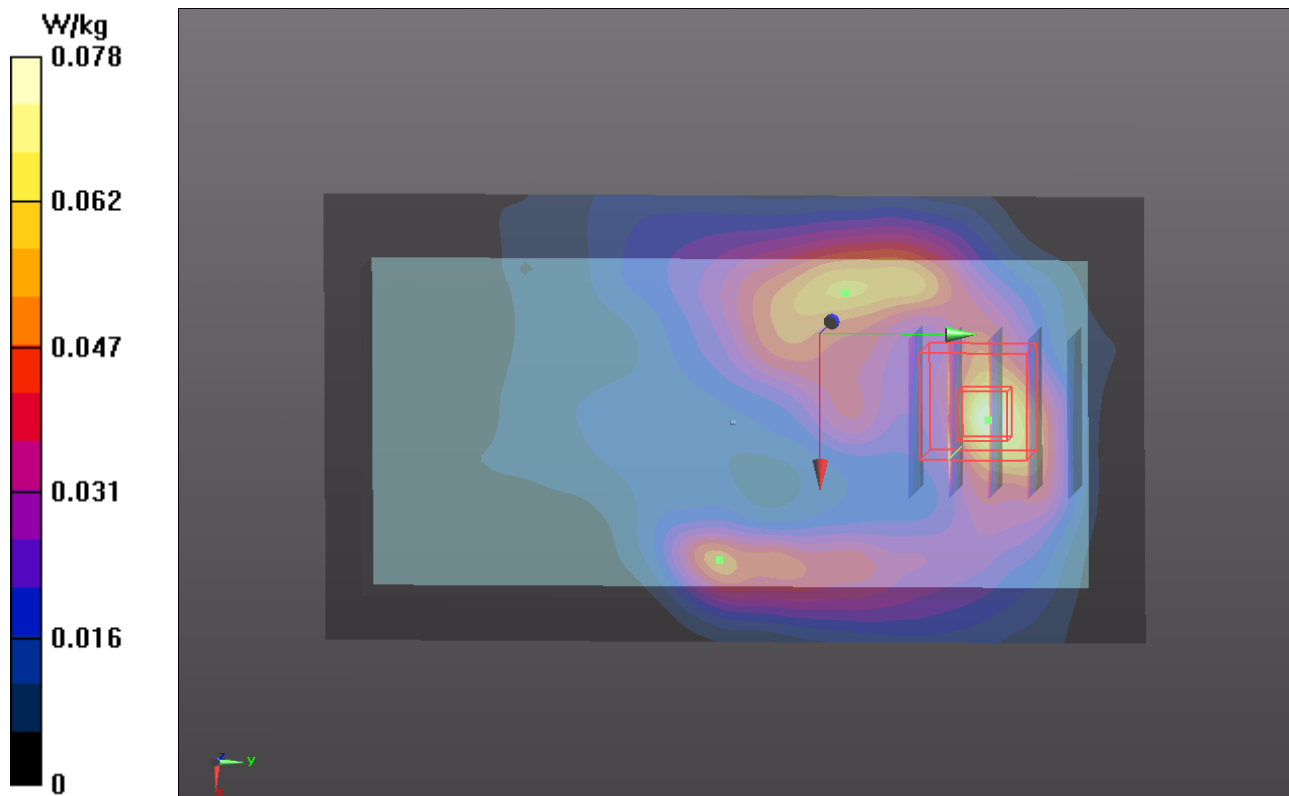
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 2.650 V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.115 W/kg

SAR(1 g) = 0.053 W/kg ; SAR(10 g) = 0.030 W/kg

Maximum value of SAR (measured) = 0.0904 W/kg



P51 LTE 25_QPSK_10M_Rear Face_0cm_Ch26365_1RB_OS49_Ant0_w/ HS_Sleeve+A1429

DUT: 130617C07

Communication System: LTE; Frequency: 1882.5 MHz; Duty Cycle: 1:1

Medium: B1900_0626 Medium parameters used: $f = 1882.5$ MHz; $\sigma = 1.537$ S/m; $\epsilon_r = 53.488$; $\rho =$

1000 kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3590; ConvF(8.39, 8.39, 8.39); Calibrated: 2013/02/20;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn360; Calibrated: 2013/01/30
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1653
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x111x1):** Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.385 W/kg

- **Zoom Scan (5x5x7)/Cube 1:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 3.857 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.500 W/kg

SAR(1 g) = 0.215 W/kg; SAR(10 g) = 0.082 W/kg

Maximum value of SAR (measured) = 0.334 W/kg

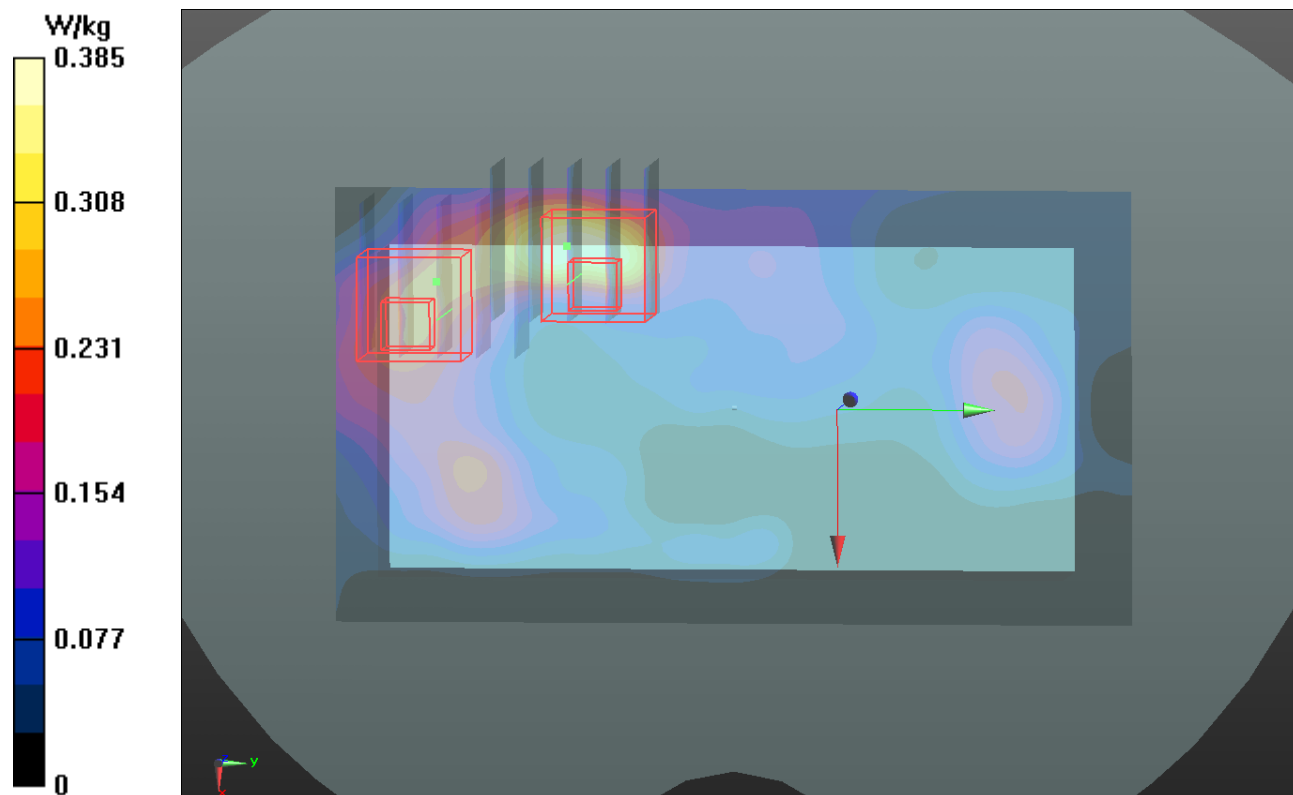
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 3.857 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.457 W/kg

SAR(1 g) = 0.168 W/kg; SAR(10 g) = 0.053 W/kg

Maximum value of SAR (measured) = 0.297 W/kg



P52 802.11b_Rear Face_0cm_Ch6_w/ HS_Sleeve+A1429

DUT: 130617C07

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: B2450_0627 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.948$ S/m; $\epsilon_r = 51.68$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.09, 7.09, 7.09); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x121x1):** Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.0355 W/kg

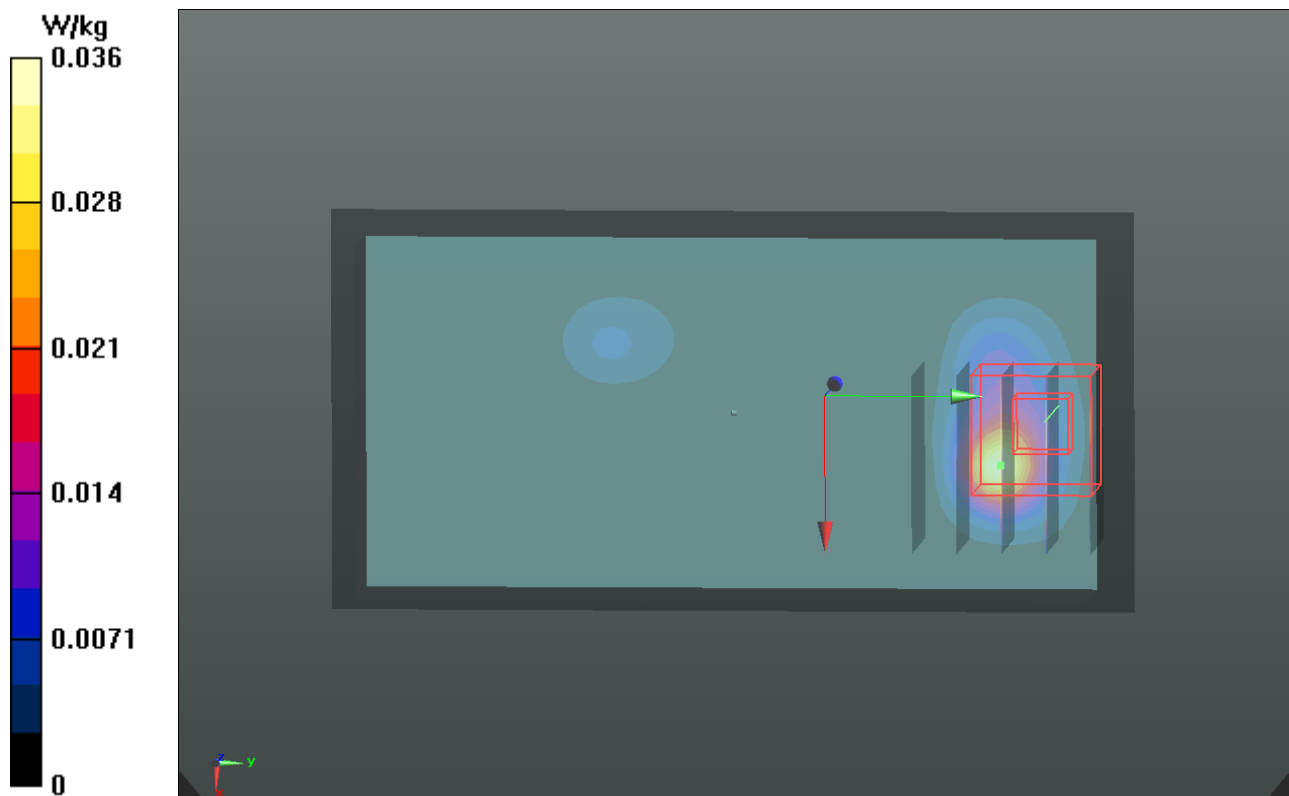
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.155 W/kg

SAR(1 g) = 0.029 W/kg; SAR(10 g) = 0.00822 W/kg

Maximum value of SAR (measured) = 0.0771 W/kg



P53 802.11a_Front Face_1cm_Ch48_Sleeve+A1429

DUT: 130617C07

Communication System: WLAN_5G; Frequency: 5240 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5240$ MHz; $\sigma = 5.36$ S/m; $\epsilon_r = 49.12$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.5 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.51, 4.51, 4.51); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (81x141x1):** Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.00911 W/kg

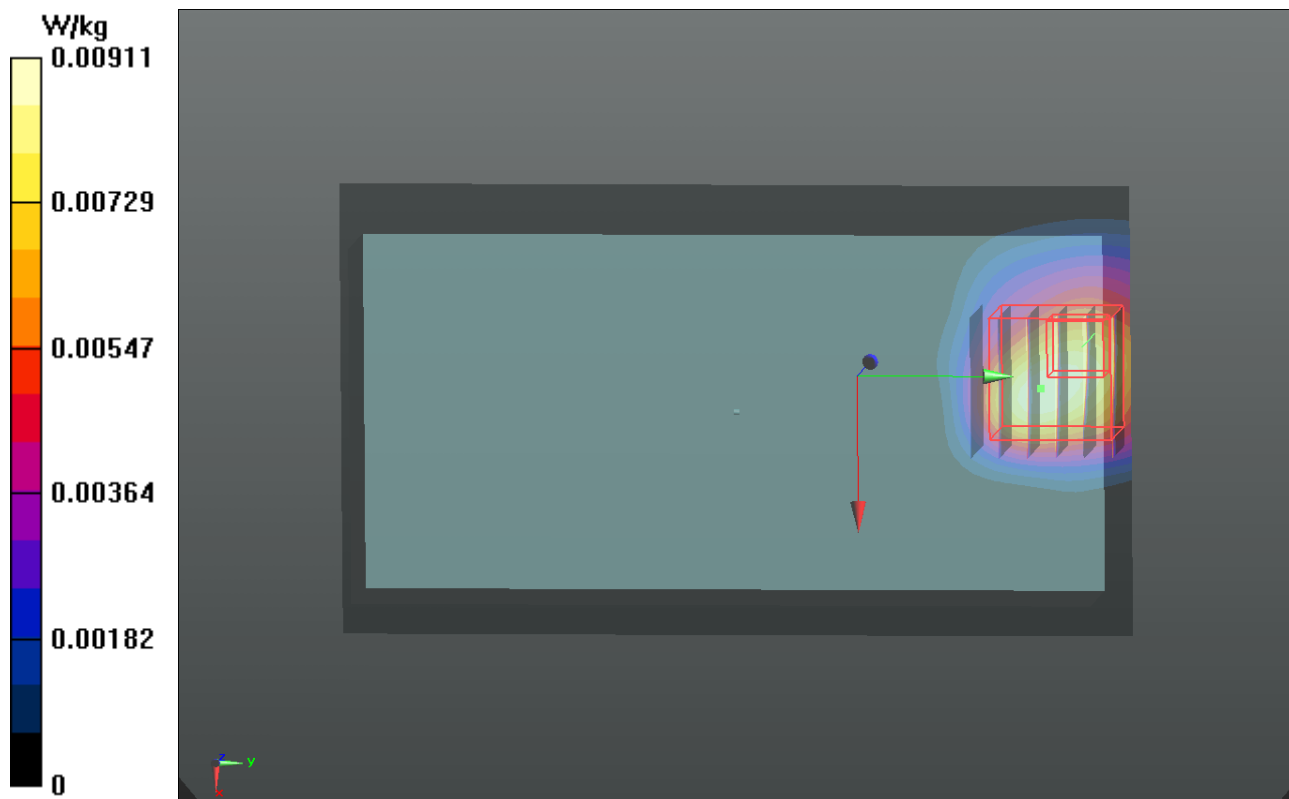
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=2$ mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.112 W/kg

SAR(1 g) = 0.026 W/kg; SAR(10 g) = 0.0052 W/kg

Maximum value of SAR (measured) = 0.0578 W/kg



P54 802.11a_Front Face_1cm_Ch64_Sleeve+A1429

DUT: 130617C07

Communication System: WLAN_5G; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5320$ MHz; $\sigma = 5.442$ S/m; $\epsilon_r = 48.92$; $\rho = 1000$

kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.31, 4.31, 4.31); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (81x161x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0236 W/kg

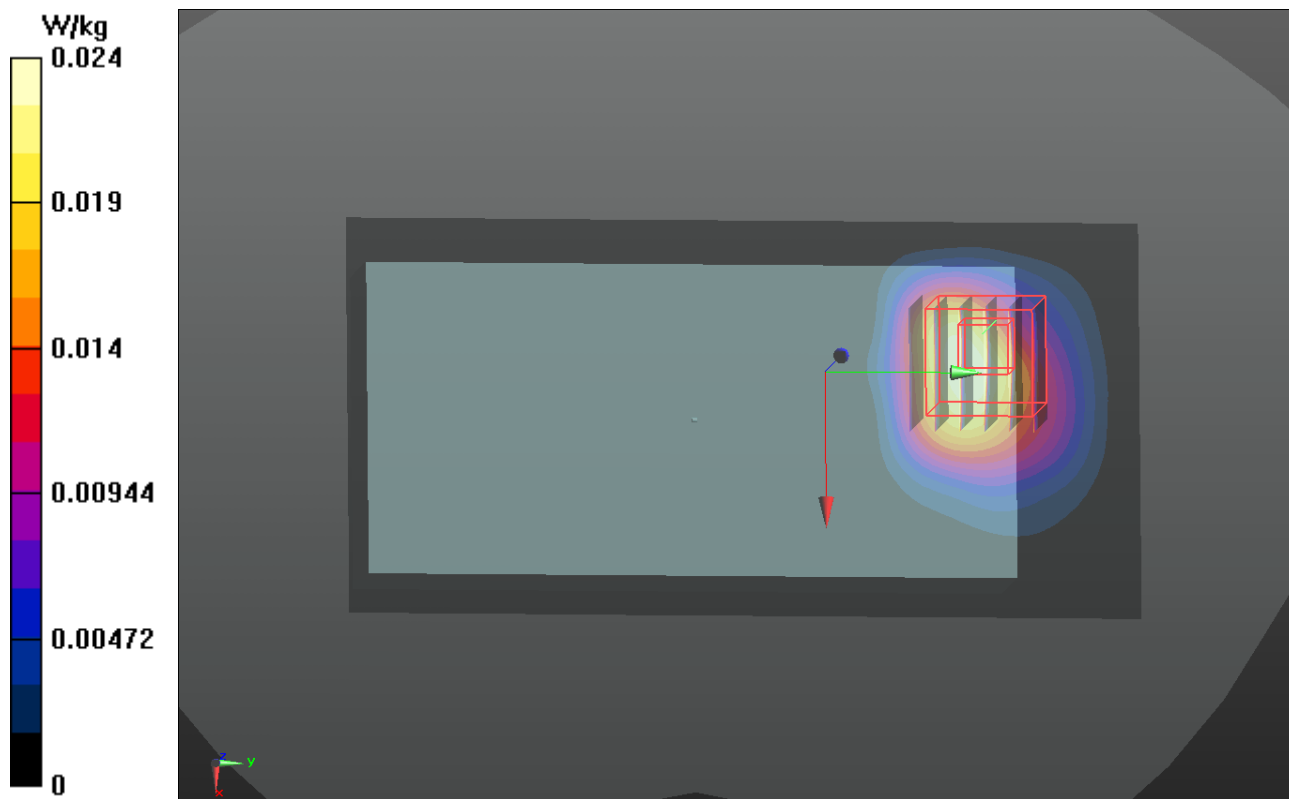
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.240 W/kg

SAR(1 g) = 0.050 W/kg; SAR(10 g) = 0.012 W/kg

Maximum value of SAR (measured) = 0.111 W/kg



P55 802.11a_Front Face_1cm_Ch116_Sleeve+A1429

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5580 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5580$ MHz; $\sigma = 5.838$ S/m; $\epsilon_r = 48.39$; $\rho = 1000$

kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4, 4, 4); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (: 1x381x1):** Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.0598 W/kg

- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 1.303 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.154 W/kg

SAR(1 g) = 0.038 W/kg; SAR(10 g) = 0.010 W/kg

Maximum value of SAR (measured) = 0.0770 W/kg

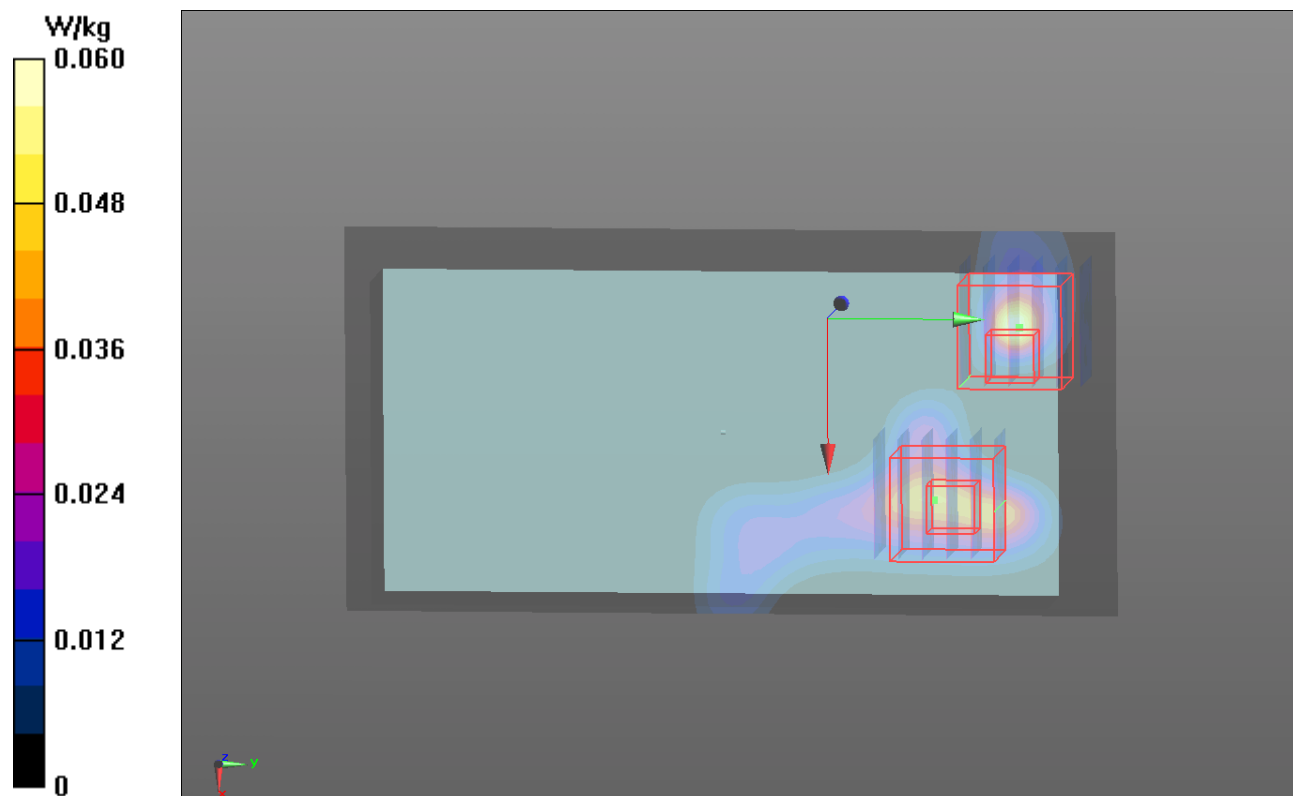
- **Zoom Scan (6x6x12)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=2mm

Reference Value = 1.303 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.317 W/kg

SAR(1 g) = 0.028 W/kg; SAR(10 g) = 0.00868 W/kg

Maximum value of SAR (measured) = 0.0559 W/kg



P56 802.11a_Front Face_1cm_Ch149_w/ HS_Sleeve+A1429

DUT: 130510C03

Communication System: WLAN_5G; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium: B5G_0608 Medium parameters used: $f = 5745$ MHz; $\sigma = 6.042$ S/m; $\epsilon_r = 48.318$; $\rho = 1000$

kg/m^3

Ambient Temperature : 21.5 °C; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(4.21, 4.21, 4.21); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (101x161x1):** Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.0421 W/kg

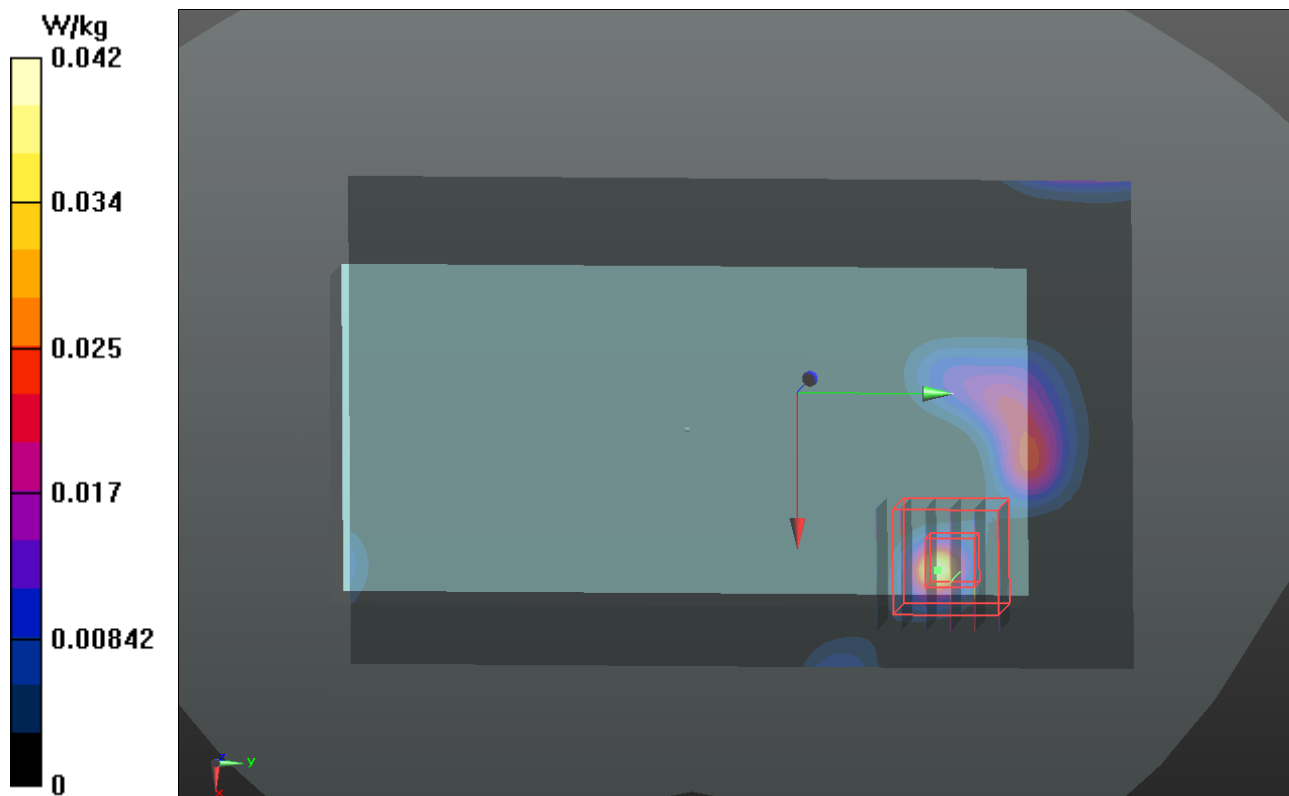
- **Zoom Scan (6x6x12)/Cube 0:** Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=2$ mm

Reference Value = 1.125 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.378 W/kg

SAR(1 g) = 0.031 W/kg; SAR(10 g) = 0.00743 W/kg

Maximum value of SAR (measured) = 0.0462 W/kg



P57 BT_Rear Face_0cm_Ch39_Sleeve+A1429

DUT: 130617C07

Communication System: Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1

Medium: B2450_0627 Medium parameters used: $f = 2441$ MHz; $\sigma = 1.953$ S/m; $\epsilon_r = 51.67$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.3 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.09, 7.09, 7.09); Calibrated: 2013/04/30;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1654
- Measurement SW: DASY52, Version 52.8 (4); SEMCAD X Version 14.6.8 (7028)

- **Area Scan (61x121x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0395 W/kg

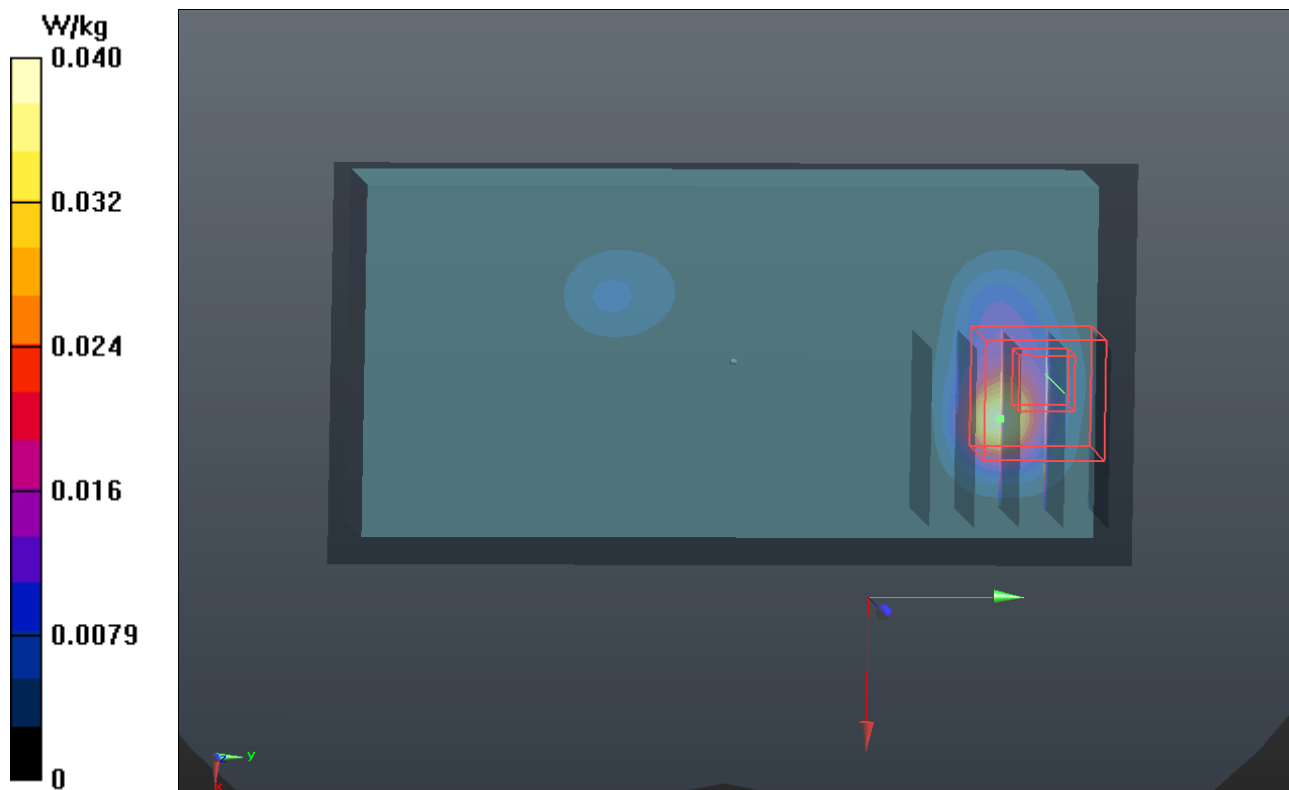
- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.173 W/kg

SAR(1 g) = 0.033 W/kg; SAR(10 g) = 0.00916 W/kg

Maximum value of SAR (measured) = 0.0858 W/kg





Appendix C. Calibration Certificate for Probe and Dipole

The SPEAG calibration certificates are shown as follows.



Appendix D. Photographs of EUT and Setup