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TEST REPORT ON SAR

Model Tested: SHV-E210S
FCC ID (Requested): A3LSHVE210S
Job No: FJ-104
Report No: FJ-104-S1

- Abstract -

This document reports on SAR Tests carried out in accordance with FCC/OET Bulletin 65, Supplement C(June 2001).

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1. GENERAL INFORMATION

Test Dates : Apr.19, 2012 ~ Apr.26, 2012
Manufacturer : SAMSUNG ELECTRONICS Co., Ltd.
Address : 416 Maetan3-Dong, Suwon City, Korea
Test Standard : §2.1093; FCC/OET Bulletin 65, Supplement C(June 2001)
Licensed Portable Transmitter Held to Ear (PCE)
FCC Classification : Digital Transmitter System (DTS)
Unlicensed National Information Infrastructure Tx (UNII)
Tested for : FCC/TCB Certification

2. DESCRIPTION OF DEVICE

Test Sample : 1900 GSM/GPRS/WCDMA/HSPA Mobile Phone with WLAN and Bluetooth
Model Number : SHV-E210S
Serial Number : Identical prototype (S/N : # FJ-104-A)
Tx Freq. Range: 1850.20 ~ 1909.80 MHz (GSM1900)
1852.4 ~ 1907.6 MHz (WCDMA1900)
2412 ~ 2462 MHz (2.4GHz WLAN)
5180 ~5240 MHz (5.2 GHz WLAN), 5260 ~ 5320 MHz (5.3 GHz WLAN)
5500 ~5700 MHz (5.5 GHz WLAN), 5745 ~5825 MHz (5.8 GHz WLAN)
2402 ~ 2480 MHz (Bluetooth)
13.56 MHz (NFC)
Antenna Manufacturer : PARTRON
Model No.: SHV-E210S
Antenna Dimensions : 63.76 X 15.38 X 5.99 (mm)
Separation distance between
Main and Bluetooth antenna : 32mm

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3. DESCRIPTION OF TEST EQUIPMENT

3.1 SAR Measurement Setup

Robotic System

Measurements are performed using the DASY4 (or DASY5) automated dosimetric assessment system. Which is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland and consists of high precision robotics system (Stäubli), robot controller, measurement server, Samsung computer, near-field probe, probe alignment sensor, and the SAM twin phantom containing the brain equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF) (see Fig. 3.1).

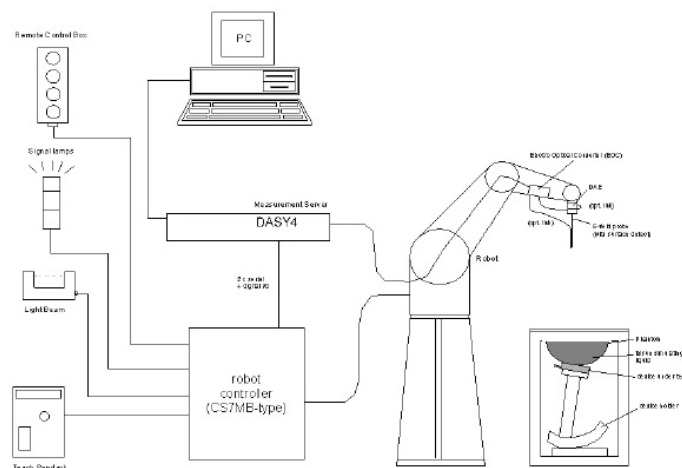


Figure 3.1 SAR Measurement System Setup

System Hardware

A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and a remote control is used to drive the robot motors. The PC consists of the Samsung computer with Windows XP system and SAR Measurement Software DASY4 (or DASY5), LCD monitor, mouse and keyboard. The Stäubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit that performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the measurement server.

System Electronics

The DAE4(or DAE3) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16-bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.

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3.2 E-field Probe



The SAR measurement were conducted with the dosimetric probe ES3DV2, ES3DV3, EX3DV4 and ET3DV6, designed in the classical triangular configuration (see Fig.3.3) and optimized for dosimetric evaluation. The probe is constructed using the thick film technique; with printed resistive lines on ceramic substrates. If the probe is flatly touching the surface, the coupling is zero. The distance of the coupling maximum to the surface is independent of the surface reflectivity and largely independent of the surface to probe angle. The DASY4 software reads the reflection during a software approach and looks for the maximum using a 2nd order fitting (see Fig.3.2). The approach is stopped at reaching the maximum.

Figure 3.2 DAE System Probe Specifications

	Construction	Symmetrical design with triangular
	Interleaved sensors	
	Built-in shielding against static charges	
	PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Calibration	Basic Broad Band Calibration in air: 10-3000 MHz	
	Conversion Factors (CF) for HSL 900 and HSL 1800	
	Additional CF for other liquids and frequencies upon request	
Frequency	10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 MHz to 3 GHz)	
Directivity	[ES3DV3], [ET3DV6]	
	± 0.2 dB in HSL (rotation around probe axis)	
	± 0.3 dB in tissue material (rotation normal to probe axis)	
	[EX3DV4]	
Dynamic Range	± 0.3 dB in HSL (rotation around probe axis)	
	± 0.5 dB in tissue material (rotation normal to probe axis)	
	[ES3DV3], [ET3DV6]	
	5 μ W/g to > 100mW/g; Linearity: ± 0.2 dB	
	[EX3DV4]	
	10 μ W/g to > 100 mW/g; Linearity: ± 0.2 dB	

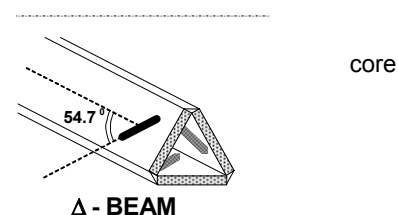


Figure 3.3 Triangular Probe Configuration

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Dimensions

[ES3DV3], [ES3DV2]

Overall length: 330 mm (Tip: 20 mm)

Tip diameter: 3.9 mm (Body: 12 mm)

Distance from probe tip to dipole centers: 2.1 mm

[EX3DV4]

Overall length: 330 mm (Tip: 20 mm)

Tip diameter: 2.5 mm (Body: 12 mm)

Typical distance from probe tip to dipole centers: 1 mm



[ES3DV3] ,[ES3DV2]

[ET3DV6]

Overall length: 330mm

Tip length: 16mm

Body diameter: 12mm

Tip diameter: 6.8mm

Distance from probe tip to dipole centers: 2.7mm



[EX3DV4]

Application

[ES3DV3], [ES3DV2]

General dosimetry up to 5 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones

[EX3DV4]

High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields).Only probe which enables compliance testing for frequencies up to

6 GHz with precision of better 30 %.



[ET3DV6]

[ET3DV6]

General dosimetry up to 3 GHz

Compliance tests of mobile phones

Fast automatic scanning in arbitrary phantoms

Optical

[ET3DV6]

Surface

± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces

Detection

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3.3 Phantom

SAM Twin Phantom

The SAM Twin Phantom V4.0 is constructed of a fiberglass shell integrated in a wooden table. The shape of the shell is based on data from an anatomical study designed to determine the maximum exposure in at least 90% of all users. 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 the evaporation of the liquid.

Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot. (See Figure 3.5)



Figure3.5 SAM Twin Phantom

SAM Twin Phantom Specification

Construction	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-2003, EN 50361:2001 and IEC 62209. 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.
Shell Thickness	2 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Height: 810 mm; Length: 1000 mm; Width: 500 mm

Modular Flat Phantom

The Modular Flat Phantom V5.1 is constructed of a fiberglass shell integrated in a wooden table. Also It consists of three identical flat phantoms (modules) which can be installed and removed separately without emptying the liquid, as well as a wooden support.. It enables the dosimetric evaluation of body mounted usage at the flat phantom region. A cover prevents the evaporation of the liquid.

Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot. (See Figure 3.6)



Figure 3.6 Modular Flat

Modular Flat Phantom Specification

Construction	The shell corresponds to the specifications of IEEE 1528-2003. It enables the dosimetric evaluation of body mounted usage above 800 MHz at the flat phantom region. A cover prevents evaporation of the liquid		
Shell Thickness	2 ± 0.2 mm		
Filling Volume	Approx. 10 liters		
Dimension	Wooden support - Height: 810 mm; Length: 830 mm; Width: 500 mm Each Module - Height:190 mm; Length: 200 mm; width: 300 mm		

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3.4 Brain Simulating Mixture Characterization

The brain mixtures consist of a viscous gel using hydroxethylcellulose (HEC) gelling agent and saline solution (see Table 3.1). Preservation with a bactericide is added and visual inspection is made to make sure air bubbles are not trapped during the mixing process. The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the desired tissue.

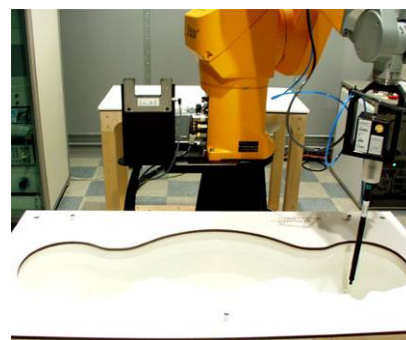


Figure 3.7 Simulated Tissue

Table 3.1 Composition of the Tissue Equivalent Matter

INGREDIENTS	1900MHz Brain	1900MHz Muscle	2450MHz Brain	2450MHz Muscle
WATER	55.24%	70.23%	62.7%	73.2%
SUGAR	-	-	-	-
SALT	0.24%	0.21%	-	0.04%
TWEEN20	44.52%	29.56%	37.3%	26.76%
BACTERIACIDE	-	-	-	-
HEC	-	-	-	-
Dielectric Constant Target	40.00	53.30	39.2	52.7
Conductivity Target (S/m)	1.400	1.520	1.80	1.95

Table 3.2 Simulating Liquids for 5GHz, Manufactured by SPEAG

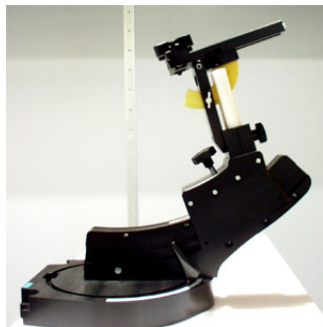
INGREDIENTS	Brain	Muscle
WATER	50 - 65%	60 - 80%
Mineral oil	10 - 30%	-
Emulsifiers	8 - 25%	-
Esters, Emulsifiers, Inhibitors	-	20 - 40 %
Sodium salt	0 - 1.5%	0 - 1.5%

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3.5 Device Holder for Transmitters

In combination with the Twin SAM Phantom V4.0, the Mounting Device (see Fig. 3.7) enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be



easily, accurately and repeatedly be positioned according to the EN 50360:2001 and FCC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

*Note: A simulating human hand is not used due to the complex anatomical and geometrical structure of the hand that may produced infinite number of configuration. To produce worst-case condition (the hand absorbs antenna output power), the hand is omitted during the tests.

Figure 3.8 Device Holder

3.6 Validation Dipole

The reference dipole should have a return loss better than -20 dB (measured in the setup) at the resonant frequency to reduce the uncertainty in the power measurement.

Frequency	835, 1900, 2450, 5000 MHz
Return Loss	< -20 dB at specified validation position
Dimensions	D1900V2: dipole length: 68 mm; overall height: 300 mm D2450V2: dipole length: 51.8 mm; overall height: 300 mm D5000V2: dipole length: 20.6mm; overall height: 300 mm

Note:

Usage of SAR dipoles calibrated less than 2 years ago but more than 1 year ago were confirmed in maintaining return loss (< -20dB, within 20% of prior calibration) and impedance (within 5 ohm from prior calibration) requirements per extended calibration in KDB 450824

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3.7 Equipment Calibration

Table 3.3 Test Equipment Calibration

Type	Calibration Due Date	Serial No.
SPEAG E-Field Probe EX3DV4	May.24, 2012	3537
SPEAG DAE4	Feb.21, 2013	670
SPEAG E-Field Probe EX3DV4	Feb.21, 2013	3520
SPEAG DAE4	Sep.21, 2012	533
SPEAG E-Field Probe EX3DV4	Jan.27, 2013	3752
SPEAG DAE4	Jan.19, 2013	486
SPEAG Validation Dipole D1900V2	Jan.26, 2014	5d023
SPEAG Validation Dipole D2450V2	Feb.23, 2014	807
SPEAG Validation Dipole D5GHzV2	Nov.15, 2013	1107
Stäubli Robot RX90BL	Not Required	F05/51G6A1/A/01
SPEAG SAM Twin Phantom V4.0	Not Required	TP-1364
SPEAG SAM Twin Phantom V4.0	Not Required	TP-1603
SPEAG SAM Twin Phantom V4.0	Not Required	TP-1604
SPEAG SAM Twin Phantom V4.0	Not Required	TP-1425
SPEAG SAM Twin Phantom V4.0	Not Required	TP-1248
Modular Phantom	Not Required	MP-1010
Modular Phantom	Not Required	MP-1007
Modular Phantom	Not Required	MP-1003
E4421B Signal Generator	Oct.12, 2012	MY41000654
BBS3Q7ELU Power Amp	Oct.12, 2012	1007D/C0035
E4419B Power meter	Oct.12, 2012	GB41293847
HP-8753ES Network Analyzer	Apr.16, 2013	US39173712
HP85070C Dielectric Probe Kit	Not Required	US99360087
Digital thermo-hygrometer	Feb.09, 2013	1367
Digital thermo-hygrometer	Feb.09, 2013	SK-L200TH
E4419B Power meter	Feb.25, 2013	MY45103291
E9300B Power sensor	Mar.04, 2013	MY41496209
E9300B Power sensor	Mar.04, 2013	MY41496085
DASY4 S/W (ver 4.7)	Not Required	-
8560E Spectrum Analyzer	Sep.16, 2012	3635A02452
778D Dual Directional Coupler	Dec.02, 2012	50189
777D Dual Directional Coupler	Feb.23, 2013	07523
772D Dual Directional Coupler	Mar.04, 2013	ZA200100954
Pre-Amplifier 84498B	Dec.09, 2012	3008A00691
Base Station Simulator	Dec.19, 2012	GB46490112
Communication tester(E5515C)	Nov.27, 2012	GB42230535
11636B	Jul.05, 2012	51942

NOTE:

The E-field probe was calibrated by SPEAG, by temperature measurement procedure. Dipole Validation measurement is performed by Samsung Lab. before each test. (see § 7.2) The brain simulating material is calibrated by Samsung using the dielectric probe system and network analyzer to determine the conductivity and permittivity (dielectric constant) of the brain-equivalent material. (see § 7.1)

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4. SAR MEASUREMENT PROCEDURE

The evaluation was performed using the following procedure.

STEP 1

The SAR measurement was taken at a selected spatial reference point to monitor power variations during testing. This fixed location point was measured and used as a reference value.

STEP 2

The SAR distribution at the exposed side of the head was measured at a distance of 3.9mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 20mm x 20mm. Based on the area scan data, the area of the maximum absorption was determined by spline interpolation.

STEP 3

Around this point, a volume of 32mm x 32mm x 30mm (fine resolution volume scan, zoom scan) was assessed by measuring 5 x 5 x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

The data at the surface was extrapolated, since the center of the dipoles is 2.7mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions). The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

STEP 4

The SAR value at the same location as in step 1 was again measured.

(If the value changed by more than 5%, the evaluation is repeated.)

STEP 5

For 5GHz testing finer resolution zoom scans were performed as specified by FCC SAR Measurement Requirements for 3 -6 GHz, KDB pub 865664. The 5GHz zoom scan requires a minimum volume of 24mm x 24mm x 20mm and 7 x 7 x 11 points.

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5. DESCRIPTION OF TEST POSITION

5.1 SAM Phantom Shape

Figure 5.1 shows the front, back and side views of SAM. The point “M” is the reference point for the center of mouth, “LE” is the left ear reference point (ERP), and “RE” is the right ERP. The ERPs are 15 mm posterior to the entrance to ear canal (EEC) along the B-M line (Back-Mouth), as shown in Figure 5.2.



Figure 5.1 Front, back and side view of SAM

The plane passing through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck-Front) perpendicular to the reference plane and passing through the RE (or LE) is called the Reference Pivoting Line (see Figure 5.3). Line B-M is perpendicular to the N-F line. Both N-F and B-M lines should be marked on the external phantom shell to facilitate handset positioning. Posterior to the N-F line, the thickness of the phantom shell with the shape of an ear is a flat surface 6 mm thick at the ERPs.

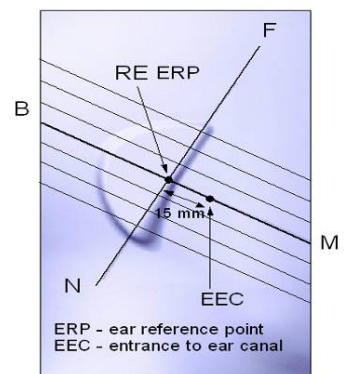


Figure 5.2 Close up side view

5.2 “cheek” Position

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed in a normal operating position with the “test device reference point” located along the “vertical centerline” on the front of the device aligned to the “ear reference point” (see Fig. 5.4). The “test device reference point” was then located at the same level as the center of the ear reference point. The test device was positioned so that the “vertical centerline” was bisecting the front surface of the handset at its tip and bottom edges, positioning the “ear reference point” on the outer surface of the both the left and right head phantoms on the ear reference point

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Step 1

The test device was positioned with the handset close to the surface of the phantom such that point A is on the

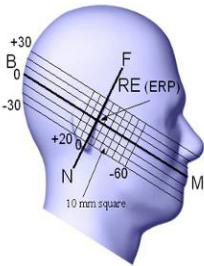
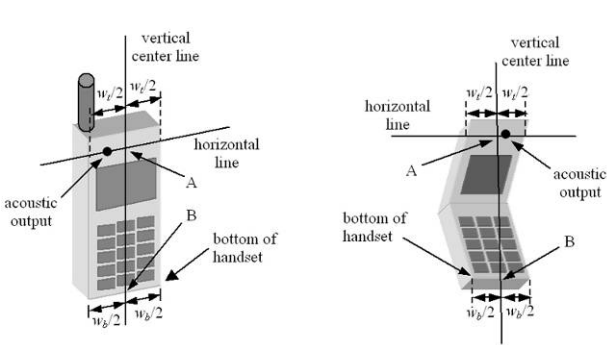


Figure 5.3 Side view of the phantom showing relevant markings

5.4 Handset vertical and horizontal reference lines

(virtual) extension of the line passing through points RE and LE on the phantom (see Figure 5.5), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom

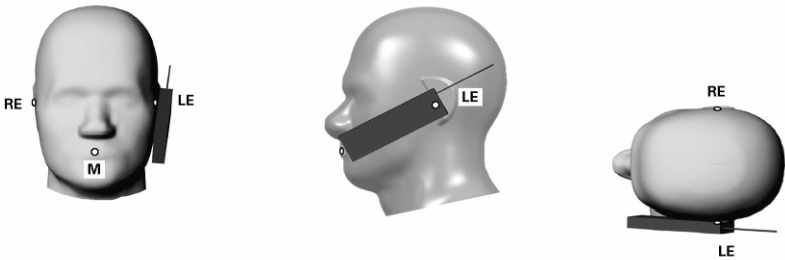


Figure 5.5 Front, Side and Top View of Cheek/Touch Position

Step 2

The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the ear.

Step 3

While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the plane normal to MB-NF including the line MB (reference plane).

Step 4

Rotate the handset around the vertical centerline until the phone (horizontal line) was symmetrical was respect to the line NF.

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Step 5

While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the phone contact with the ear, the handset was rotated about the line NF until any point on the handset made contact with a phantom point below the ear (cheek). See Figure 5.2.

5.3 “tilted” Position

With the test device aligned in the “cheek” position :

Step 1

Repeat steps 1 to 5 of 5.2 to place the device in the “Cheek/Touch Position”

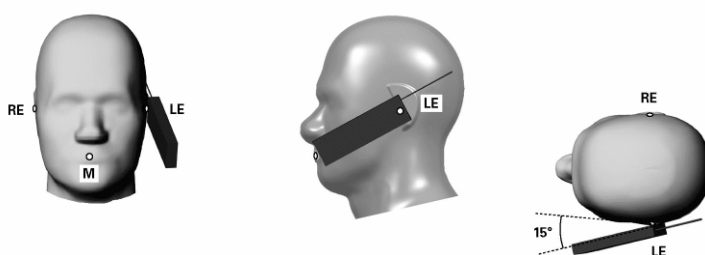


Figure 5.6 Front, side and Top View of Ear/Tilt 15° Position

Step 2

While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15 degree.

Step 3

The phone was then rotated around the horizontal line by 15 degree.

Step 4

While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the phone touches the head. (In this position, point A was located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact was at any location other than the pinna, the angle of the phone would then be reduced. The tilted position was obtained when any part of the phone was in contact of the ear as well as a second part of the phone was in contact with the head.

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5.4 Body Holster/Belt Clip Configurations

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 5.7). A device with a headset output is tested with a headset connected to the device. Body dielectric parameters are used.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are supplied with the device, the device is tested with each accessory that contains unique metallic component. If multiple accessory share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some Devices intended to be authorized for body-worn use. In this case, a test configuration where a separation distance between the back of the device and the flat phantom is used.

Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessory(ies), Including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

In all cases SAR measurements are performed to investigate the worst-case positioning. Worst-case positioning is then documented and used to perform Body SAR testing.

In order for users to be aware of the body-worn operating requirements for meeting RF exposure compliance, operating instructions and cautions statements must be included in the user's manual.

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5.5 FCC Personal Wireless Router Configurations

5.5.1 Personal Wireless Router

Some battery-operated handsets have the capability to transmit and receive internet connectivity through simultaneous transmission of WIFI in conjunction with a separate licensed transmitter. The FCC has provided guidance in KDB Publication 941225 D06 for handsets greater than 9cm x 5cm where SAR test considerations are based on a composite test separation distance of 10mm from the edges, front and back of the device with antennas 2.5cm or closer to the edge of the device, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR test.

5.5.2 SAR test Setup for Personal Wireless Router Features

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. Therefore, SAR must be evaluated for each frequency transmission and mode separately and summed with the WIFI transmitter according to KDB 648474 publication procedures. The “Portable Hotspot: feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

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Table 5-1 Mobile Hotspot Sides for SAR testing

Mode	Back	Front	Top	Bottom	Left	Right
GPRS1900	Yes	Yes	No	Yes	Yes	No
WCDMA1900	Yes	Yes	No	Yes	Yes	No
WIFI	Yes	Yes	No	Yes	No	Yes

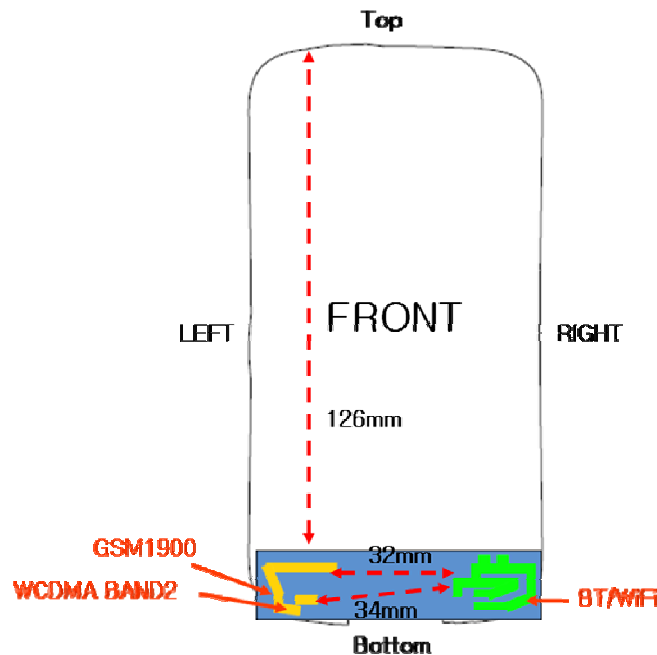


Figure 5.7 Identification of Sides for SAR testing

Note : Particular DUT edges were not necessary to be evaluated for Wireless Router SAR if the edges were greater than 2.5cm from the transmitting antenna according to FCC KDB Publication 941225 D06 guidance, page2. The antenna document shows the distances between the transmit antennas and the edges of the device. When the wireless router mode is enabled, all 5 GHz bands are disabled. Therefore 5GHz WIFI is not considered in this section.

5.6 Near Field Communications (NFC) Antenna

This DUT has NFC operations. The NFC antenna is integrated into the standard battery and will be the only battery available from the manufacturer for this model. Therefore all SAR tests were performed with the standard battery which already integrates the NFC antenna. The device restricts the battery used to battery model: EB-L1H2LLK. Please refer to NFC operational description.

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6. MEASUREMENT UNCERTAINTY

Table 6.1 Uncertainty Budget at 1900MHz

Error Description	Uncertainty Value ($\pm\%$)	Probability Distribution	Divisor	C_i	Standard uncertainty ($\pm\%$)	v_i^2 or v_{eff}
Measurement System						
Probe Calibration	12.00	normal	2.000	1	6.00	∞
Axial Isotropy	4.70	rectangular	1.732	0.7	1.90	∞
Hemispherical Isotropy	9.60	rectangular	1.732	0.7	3.88	∞
Linearity	4.70	rectangular	1.732	1	2.71	∞
System Detection Limits	0.25	rectangular	1.732	1	0.14	∞
Boundary effects	1.00	rectangular	1.732	1	0.58	∞
Readout electronics	0.30	normal	1.000	1	0.30	∞
Response time	0.80	rectangular	1.732	1	0.46	∞
RF ambient conditions	3.00	rectangular	1.732	1	1.73	∞
Integration time	0.00	rectangular	1.732	1	0.00	∞
Mechanical constrains of robot	1.50	rectangular	1.732	1	0.87	∞
Probe positioning	2.90	rectangular	1.732	1	1.67	∞
Extrapolation and integration	1.00	rectangular	1.732	1	0.58	∞
Test Sample Related						
Test Sample positioning	1.50	normal	1.000	1	1.50	14
Device holded uncertainty	3.44	normal	1.000	1	3.44	∞
Power Drift	5.00	rectangular	1.732	1	2.89	∞
Phantom and Setup						
Modular Phantom uncertainty	6.02	normal	1.000	1	6.02	2
Phantom uncertainty	4.00	rectangular	1.732	1	2.31	∞
Liquid conductivity (deviation from target)	5.00	rectangular	1.732	0.64	1.85	∞
Liquid conductivity (measurement error)	1.84	normal	1.000	0.64	1.18	∞
Liquid permittivity (deviation from target)	5.00	rectangular	1.732	0.6	1.73	∞
Liquid permittivity (measurement error)	4.54	normal	1.000	0.6	2.73	∞
Combined Standard Uncertainty		Normal	-	-	12.24	62037
Extended Standard Uncertainty(K=2.00)					24.48	62037

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Table 6.2 Uncertainty Budget at 2450MHz

Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	C _i	Standard uncertainty (±%)	v_i^2 or v_{eff}
Measurement System						
Probe Calibration	12.00	normal	2.000	1	6.00	∞
Axial Isotropy	4.70	rectangular	1.732	0.7	1.90	∞
Hemispherical Isotropy	9.60	rectangular	1.732	0.7	3.88	∞
Linearity	4.70	rectangular	1.732	1	2.71	∞
System Detection Limits	0.25	rectangular	1.732	1	0.14	∞
Boundary effects	1.00	rectangular	1.732	1	0.58	∞
Readout electronics	0.30	normal	1.000	1	0.30	∞
Response time	0.80	rectangular	1.732	1	0.46	∞
RF ambient conditions	3.00	rectangular	1.732	1	1.73	∞
Integration time	0.00	rectangular	1.732	1	0.00	∞
Mechanical constrains of robot	1.50	rectangular	1.732	1	0.87	∞
Probe positioning	2.90	rectangular	1.732	1	1.67	∞
Extrapolation and integration	1.00	rectangular	1.732	1	0.58	∞
Test Sample Related						
Test Sample positioning	4.22	normal	1.000	1	4.22	14
Device holded uncertainty	3.44	normal	1.000	1	3.44	∞
Power Drift	5.00	rectangular	1.732	1	2.89	∞
Phantom and Setup						
Modular Phantom uncertainty	2.32	Normal	1.0001	1	2.32	2
Phantom uncertainty	4.00	rectangular	1.732	1	2.31	∞
Liquid conductivity (deviation from target)	5.00	rectangular	1.732	0.64	1.85	∞
Liquid conductivity (measurement error)	2.04	normal	1.000	0.64	1.30	∞
Liquid permittivity (deviation from target)	5.00	rectangular	1.732	0.6	1.73	∞
Liquid permittivity (measurement error)	4.27	normal	1.000	0.6	2.56	∞
Combined Standard Uncertainty		Normal	-	-	11.57	792
Extended Standard Uncertainty(K=2.00)					23.15	792

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Table 6.3 Uncertainty Budget at 5GHz

Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	C_i	Standard uncertainty (±%)	v_i^2 or v_{eff}
Measurement System						
Probe Calibration	13.1	normal	2.000	1	6.55	∞
Axial Isotropy	4.70	rectangular	1.732	0.7	1.90	∞
Hemispherical Isotropy	9.60	rectangular	1.732	0.7	3.88	∞
Linearity	4.70	rectangular	1.732	1	2.71	∞
System Detection Limits	0.25	rectangular	1.732	1	0.14	∞
Boundary effects	1.00	rectangular	1.732	1	0.58	∞
Readout electronics	0.30	normal	1.000	1	0.30	∞
Response time	0.80	rectangular	1.732	1	0.46	∞
RF ambient conditions	3.00	rectangular	1.732	1	1.73	∞
Integration time	0.00	rectangular	1.732	1	0.00	∞
Mechanical constrains of robot	1.50	rectangular	1.732	1	0.87	∞
Probe positioning	2.90	rectangular	1.732	1	1.67	∞
Extrapolation and integration	1.00	rectangular	1.732	1	0.58	∞
Test Sample Related						
Test Sample positioning	4.22	normal	1.000	1	4.22	14
Device holded uncertainty	3.44	normal	1.000	1	3.44	∞
Power Drift	5.00	rectangular	1.732	1	2.89	∞
Phantom and Setup						
Modular Phantom uncertainty	2.32	Normal	1.0001	1	2.32	2
Phantom uncertainty	4.00	rectangular	1.732	1	2.31	∞
Liquid conductivity (deviation from target)	5.00	rectangular	1.732	0.64	1.85	∞
Liquid conductivity (measurement error)	1.12	normal	1.000	0.64	1.30	∞
Liquid permittivity (deviation from target)	5.00	rectangular	1.732	0.6	1.73	∞
Liquid permittivity (measurement error)	3.06	normal	1.000	0.6	2.56	∞
Combined Standard Uncertainty		Normal	-	-	11.68	822
Extended Standard Uncertainty(K=2.00)					23.36	822

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7. SYSTEM VERIFICATION

7.1 Tissue Verification

Table 7.1 MEASURED TISSUE PARAMETERS

	1900MHz Head		1900MHz Body		2450MHz Head		2450MHz Body	
	Target	Measured	Target	Measured	Target	Measured	Target	Measured
Date	Apr.23, 2012		Apr.24, 2012		Apr.20, 2012		Apr.19, 2012	
Liquid Temperature(°C)	21.8		22.1		22.0		22.1	
Dielectric Constant: $\hat{a}'$	40	38.96	53.3	52.06	39.2	38.96	52.7	52.61
Conductivity:	14	1.42	1.52	1.58	1.8	1.84	1.95	2.00
Tissue Batch Number	1900F4001Q		1900B2002K		2450MF4001G		2450B100W	

	5200MHz Head		5200MHz Body		5500MHz Head		5500MHz Body		5800MHz Head		5800MHz Body	
	Target	Measured	Target	Measured	Target	Measured	Target	Measured	Target	Measured	Target	Measured
Date	Apr.24, 2012		Apr.26, 2012		Apr.24, 2012		Apr.26, 2012		Apr.24, 2012		Apr.26, 2012	
Liquid Temperature(°C)	22.2		22.1		22.2		22.4		22.2		22.0	
Dielectric Constant: $\hat{a}'$	35.99	35.8	49.02	47.6	35.65	35.8	48.61	46.7	35.4	34.4	48.2	46.0
Conductivity:	4.65	4.81	5.29	5.42	4.96	5.12	5.64	5.81	5.27	5.38	6	6.25
Tissue Batch Number	5000MF1001A		5000MF1001A		5000MF1001A		5000B1001A		5000B1001A		5000B1001A	

	1900MHz Body		5200MHz Body		5500MHz Body		5800MHz Body	
	Target	Measured	Target	Measured	Target	Measured	Target	Measured
Date	Jun.04, 2012		Jun.04, 2012		Jun.04, 2012		Jun.04, 2012	
Liquid Temperature(°C)	21.6		22.2		22.3		22.0	
Dielectric Constant: $\hat{a}'$	53.3	52.5	49.02	47.3	48.61	47.4	48.2	46.3
Conductivity:	1.52	1.57	5.29	5.38	5.64	5.92	6	6.28
Tissue Batch Number	1900B3001E		5000MF1001A		5000B1001A		5000B1001A	

The measured value must be within $\pm 5\%$ of the target value.

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7.2 Test System Validation

Prior to assessment, the system is verified to the $\pm 10\%$ of the specification at 1900MHz, 2450MHz and 5GHz by using the system validation kit(s). (see Appendix D, Graphic Plot Attached)

Table 7.2 System Validation Results

System Validation Kit	Tissue	Targeted SAR _{1g} (mW/g)	Normalized SAR _{1g} (mW/g)	Measured SAR _{1g} (mW/g)	Deviation (%)	Date	Liquid Temperature(°C)	Ambient Temperature(°C)	Input Power (mW)
5d023	1900MHz Brain	39.0	41.5	4.15	6.41%	Apr.23, 2012	22.1	22.2	100
5d023	1900MHz Body	38.8	42.2	4.22	8.76%	Apr.24, 2012	22.0	22.3	100
5d023	1900MHz Body	38.8	39.0	3.9	0.52%	Jun.04, 2012	21.6	21.8	100
807	2450MHz Brain	53.5	53.9	5.39	0.75%	Apr.20, 2012	21.8	22.2	100
807	2450MHz Body	50.3	50.6	5.06	0.60%	Apr.19, 2012	21.9	22.1	100
1107	5200MHz Brain	80.3	82.1	8.21	2.24%	Apr.24, 2012	21.9	22.2	100
1107	5200MHz Body	77.2	73	7.3	-5.44%	Apr.26, 2012	22.1	22.3	100
1107	5200MHz Body	77.2	72.5	7.25	-6.10%	Jun.04, 2012	22.3	22.5	100
1107	5500MHz Brain	87.8	81.5	8.15	-7.18%	Apr.24, 2012	21.9	22.2	100
1107	5500MHz Body	81.6	79.8	7.98	-2.21%	Apr.26, 2012	22.1	22.3	100
1107	5500MHz Body	81.6	81.3	8.13	-0.37%	Jun.04, 2012	22.3	22.5	100
1107	5800MHz Brain	78.9	86	8.6	9.00%	Apr.24, 2012	21.9	22.2	100
1107	5800MHz Body	76.9	77.4	7.74	0.65%	Apr.26, 2012	22.1	22.3	100
1107	5800MHz Body	76.9	77.7	7.77	1.04%	Jun.04, 2012	22.3	22.5	100

*Validation was normalized to 1W.

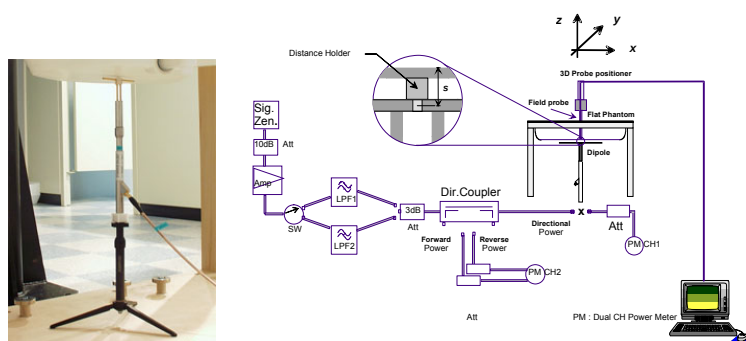


Figure 7.1 Dipole Validation Test Setup

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8. SAR MEASUREMENT RESULTS

Procedures Used To Establish Test Signal

The handset was placed into simulated call mode using base station simulator. Such test signals offer a consistent means for testing SAR and are recommended for evaluating SAR. When test modes are not available or inappropriate for testing a handset, the actual transmission is activated through a base station simulator or similar equipment. See data pages for actual procedure used in measurement.

SAR Measurement Conditions for WCDMA

These procedures were followed according to FCC "SAR Measurement Procedures for 3G Devices"v02, October 2007.

Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all "1s". Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes) should be tabulated in the test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations should be clearly identified.

Head SAR Measurements

SAR for head exposure configurations is measured using the 12.2 kbps RMC with TPC bits configured to all "1s". SAR in AMR configurations is not required when the maximum average output of each RF channel for 12.2 kbps AMR is less than ¼ dB higher than that measured in 12.2kbps RMC. Otherwise, SAR is measured on the maximum output channel in 12.2 AMR with a 3.4kbps SRB (signaling radio bearer) using the exposure configuration that results in the highest SAR for that RF channel in 12.2 RMC.

Body SAR Measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits configured to all "1s". SAR for other spreading codes and multiple DPDCHn, when supported by the DUT, are not required when the maximum average outputs of each RF channel, for each spreading code and DPDCHn configuration, are less than ¼ dB higher than those measured in 12.2 RMC. Otherwise, SAR is measured on the maximum output channel with an applicable RMC configuration

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for the corresponding spreading code or DPDCHn using the exposure configuration that results in the highest SAR with 12.2 RMC. When more than 2 DPDCHn are supported by the DUT, it may be necessary to configure the additional DPDCHn for the DUT using FTM(Factory Test Mode) with parameters similar to those used in 384 kbps and 768 kbps RMC.

Table 8.1 Max. Power Output Table for SHV-E210S

Operating Band	Channel	HSPA Inactive		HSPA Active
		12.2 kbps RMC	12.2 kbps AMR	12.2 kbps RMC
WCDMA 1900 (dBm)	9262	22.47	22.40	22.28
	9400	22.87	22.84	22.66
	9538	22.68	22.63	22.21

Table 8.2 HSPA Max. Power Output Table for SHV-E210S

WCDMA 1900 (dBm)	HSDPA	9262	9400	9538	MPR
	Subtest1	22.28	22.66	22.21	0.0
	Subtest2	22.19	22.35	22.1	0.0
	Subtest3	21.25	21.38	21.32	0.5
	Subtest4	20.31	20.65	20.33	0.5
	HSUPA	9262	9400	9538	MPR
	Subtest1	21.64	21.96	21.85	0
	Subtest2	21.07	21.28	21.14	1
	Subtest3	21.16	21.26	21.19	2
	Subtest4	20.62	20.77	20.28	1
	Subtest5	22.72	22.79	22.74	0

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Device Test Conditions

The handset is battery operated. Each SAR measurement was taken with a fully charged battery. In order to verify that the device was tested at full power, conducted output power measurements were performed before and after each SAR measurement to confirm the output power. If a conducted power deviation of more than 5% occurred, the test was repeated. And all Tx conducted power were also investigated for Body SAR Measurement.

Table 8.3 Conducted Power Table for SHV-E210S

Band	Channel	Voice	GPRS (GMSK)	
		GSM(dBm) CS(1 Tx)	1Tx (dBm)	2Tx (dBm)
1900	512	29.93	30.09	26.72
	661	30.11	30.37	27.1
	810	30.08	30.31	27.22

Table 8.4 Calculated Frame-Averaged Output Power Table for SHV-E210S

Band	Channel	Voice	GPRS (GMSK)	
		GSM(dBm) CS(1 Tx)	1Tx (dBm)	2Tx (dBm)
1900	512	20.90	21.06	20.70
	661	21.08	21.34	21.08
	810	21.05	21.28	21.20

Note:

1. Both burst-averaged and calculated frame-averaged powers are included. Frame-averaged power was calculated from the measured burst-averaged power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
2. CS1 coding scheme was used in GPRS output power measurements and SAR Testing, as a condition where GMSK modulation was ensured. It was investigated that CS1 - CS4 settings do not have any impact on the output levels in the GPRS modes.
3. The conducted powers are reported and measured by base station simulator E5515C when the equipment was calibrated.

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GSM Class : B

GPRS Multislot Class : 10 (max 2 Tx Uplink slots)

EDGE Multislot Class : 10 (max 2 Tx Uplink slots)

DTM Multislot Class : N/A

Table 8.5 802.11b Average RF Power

802.11b Mode		Rated	Average Power (dBm)
Frequency[MHz]	Channel No.	[Mbps]	(dBm)
2412	1	1	14.12
		2	14.06
		5.5	13.87
		11	13.64
2437	6	1	14.20
		2	14.02
		5.5	13.88
		11	13.75
2462	11	1	14.65
		2	14.48
		5.5	14.36
		11	14.24

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Table 8.6 802.11g Average RF Power

802.11g Mode		Rated	Average Power (dBm)
Frequency[MHz]	Channel No.	[Mbps]	(dBm)
2412	1	6	11.29
		9	11.14
		12	11.05
		18	10.87
		24	10.52
		36	10.37
		48	10.02
		54	9.63
2437	6	6	11.44
		9	11.29
		12	11.07
		18	10.86
		24	10.54
		36	10.29
		48	9.87
		54	9.79
2462	11	6	11.74
		9	11.52
		12	11.28
		18	10.97
		24	10.88
		36	10.64
		48	10.38
		54	10.11

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Table 8.7 802.11n Average RF Power

802.11n_HT20 Mode		Rated	Average Power (dBm)
Frequency[MHz]	Channel No.	[Mbps]	(dBm)
2412	1	MCS0	10.15
		MCS1	10.02
		MCS2	9.88
		MCS3	9.74
		MCS4	9.52
		MCS5	9.17
		MCS6	8.86
		MCS7	8.49
2437	6	MCS0	10.37
		MCS1	10.11
		MCS2	9.85
		MCS3	9.74
		MCS4	9.55
		MCS5	9.17
		MCS6	8.82
		MCS7	8.61
2462	11	MCS0	10.62
		MCS1	10.45
		MCS2	10.13
		MCS3	9.82
		MCS4	9.55
		MCS5	9.27
		MCS6	9.05
		MCS7	8.92

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Table 8.8 802.11a Average RF Power

802.11a Mode	Rated	Average Power (dBm)	802.11a Mode	Rated	Average Power (dBm)	802.11a Mode	Rated	Average Power (dBm)
Frequency[MHz]	[Mbps]	(dBm)	Frequency[MHz]	[Mbps]	(dBm)	Frequency[MHz]	[Mbps]	(dBm)
5180	6	9.88	5520	6	9.92	5700	6	9.98
	9	9.74		9	9.75		9	9.91
	12	9.50		12	9.62		12	9.67
	18	9.24		18	9.46		18	9.43
	24	8.82		24	9.25		24	9.06
	36	8.66		36	9.04		36	8.74
	48	8.47		48	8.77		48	8.61
	54	8.28		54	8.46		54	8.53
5200	6	10.27	5540	6	10.56	5745	6	8.89
	9	10.17		9	10.34		9	8.65
	12	9.74		12	10.16		12	8.42
	18	9.71		18	9.93		18	8.14
	24	9.63		24	9.51		24	8.05
	36	9.52		36	9.36		36	7.89
	48	9.34		48	9.21		48	7.68
	54	9.08		54	9.09		54	7.45
5220	6	10.81	5560	6	10.03	5765	6	9.11
	9	10.64		9	9.77		9	9.02
	12	10.32		12	9.46		12	8.87
	18	10.24		18	9.33		18	8.74
	24	10.05		24	9.14		24	8.38
	36	9.87		36	8.93		36	8.07
	48	9.88		48	8.84		48	7.84
	54	9.74		54	8.61		54	7.60
5240	6	9.95	5580	6	9.95	5785	6	9.07
	9	9.86		9	9.71		9	8.75
	12	9.64		12	9.43		12	8.52
	18	9.52		18	9.30		18	8.28
	24	9.35		24	9.08		24	8.02
	36	9.02		36	8.77		36	7.85
	48	8.89		48	8.64		48	7.76
	54	8.71		54	8.51		54	7.64
5260	6	11.70	5600	6	N/A	5805	6	8.47
	9	11.52		9	N/A		9	8.35
	12	11.34		12	N/A		12	8.10
	18	11.18		18	N/A		18	7.86
	24	10.95		24	N/A		24	7.54
	36	10.73		36	N/A		36	7.24
	48	10.52		48	N/A		48	7.05
	54	10.38		54	N/A		54	6.97
5280	6	10.56	5620	6	N/A	5825	6	8.93
	9	10.43		9	N/A		9	8.86
	12	10.26		12	N/A		12	8.54
	18	10.10		18	N/A		18	8.27
	24	9.65		24	N/A		24	8.04
	36	9.43		36	N/A		36	7.82
	48	9.27		48	N/A		48	7.64
	54	9.10		54	N/A		54	7.50
5300	6	10.48	5640	6	N/A			
	9	10.22		9	N/A			
	12	10.10		12	N/A			
	18	9.79		18	N/A			
	24	9.57		24	N/A			
	36	9.32		36	N/A			
	48	9.13		48	N/A			
	54	9.01		54	N/A			
5320	6	11.09	5660	6	10.31			
	9	10.93		9	10.24			
	12	10.70		12	9.83			
	18	10.42		18	9.51			
	24	10.16		24	9.36			
	36	9.90		36	9.04			
	48	9.77		48	8.88			
	54	9.60		54	8.76			
5500	6	9.83	5680	6	10.18			
	9	9.64		9	9.91			
	12	9.56		12	9.84			
	18	9.33		18	9.51			
	24	9.06		24	9.25			
	36	8.85		36	9.04			
	48	8.69		48	8.86			
	54	8.46		54	8.71			

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Table 8.9 802.11n_HT20 Average RF Power

802.11n_HT20 Mode	Rated	Average Power (dBm)	802.11n_HT20 Mode	Rated	Average Power (dBm)	802.11n_HT20 Mode	Rated	Average Power (dBm)
Frequency[MHz]	[Mbps]	(dBm)	Frequency[MHz]	[Mbps]	(dBm)	Frequency[MHz]	[Mbps]	(dBm)
5180	MCS0	10.74	5520	MCS0	10.91	5700	MCS0	10.93
	MCS1	10.45		MCS1	10.64		MCS1	10.78
	MCS2	10.36		MCS2	10.43		MCS2	10.46
	MCS3	10.17		MCS3	10.18		MCS3	10.24
	MCS4	9.98		MCS4	10.06		MCS4	10.06
	MCS5	9.66		MCS5	9.84		MCS5	9.90
	MCS6	9.43		MCS6	9.56		MCS6	9.61
	MCS7	9.22		MCS7	9.45		MCS7	9.35
5200	MCS0	10.99	5540	MCS0	11.66	5745	MCS0	9.82
	MCS1	10.78		MCS1	11.53		MCS1	9.69
	MCS2	10.53		MCS2	11.37		MCS2	9.43
	MCS3	10.25		MCS3	11.18		MCS3	9.32
	MCS4	9.88		MCS4	10.86		MCS4	9.06
	MCS5	9.66		MCS5	10.64		MCS5	8.74
	MCS6	9.45		MCS6	10.38		MCS6	8.56
	MCS7	9.40		MCS7	10.10		MCS7	8.29
5220	MCS0	11.64	5560	MCS0	11.14	5765	MCS0	10.01
	MCS1	11.37		MCS1	10.96		MCS1	9.82
	MCS2	11.20		MCS2	10.60		MCS2	9.58
	MCS3	10.91		MCS3	10.46		MCS3	9.14
	MCS4	10.47		MCS4	10.37		MCS4	8.84
	MCS5	10.28		MCS5	10.18		MCS5	8.65
	MCS6	10.19		MCS6	9.86		MCS6	8.52
	MCS7	10.07		MCS7	9.63		MCS7	8.42
5240	MCS0	10.71	5580	MCS0	11.05	5785	MCS0	10.03
	MCS1	10.57		MCS1	10.86		MCS1	9.88
	MCS2	10.30		MCS2	10.63		MCS2	9.72
	MCS3	9.88		MCS3	10.38		MCS3	9.58
	MCS4	9.62		MCS4	10.18		MCS4	9.14
	MCS5	9.42		MCS5	9.94		MCS5	8.92
	MCS6	9.28		MCS6	9.77		MCS6	8.73
	MCS7	9.21		MCS7	9.45		MCS7	8.48
5260	MCS0	12.48	5600	MCS0	N/A	5805	MCS0	9.35
	MCS1	12.13		MCS1	N/A		MCS1	9.11
	MCS2	11.96		MCS2	N/A		MCS2	8.85
	MCS3	11.55		MCS3	N/A		MCS3	8.74
	MCS4	11.29		MCS4	N/A		MCS4	8.52
	MCS5	11.17		MCS5	N/A		MCS5	8.14
	MCS6	11.05		MCS6	N/A		MCS6	7.98
	MCS7	11.03		MCS7	N/A		MCS7	7.85
5280	MCS0	12.44	5620	MCS0	N/A	5825	MCS0	9.82
	MCS1	12.33		MCS1	N/A		MCS1	9.74
	MCS2	12.12		MCS2	N/A		MCS2	9.38
	MCS3	11.95		MCS3	N/A		MCS3	9.06
	MCS4	11.55		MCS4	N/A		MCS4	8.87
	MCS5	11.29		MCS5	N/A		MCS5	8.76
	MCS6	11.02		MCS6	N/A		MCS6	8.52
	MCS7	10.85		MCS7	N/A		MCS7	8.38
5300	MCS0	11.37	5640	MCS0	N/A			
	MCS1	11.21		MCS1	N/A			
	MCS2	10.98		MCS2	N/A			
	MCS3	10.84		MCS3	N/A			
	MCS4	10.48		MCS4	N/A			
	MCS5	10.17		MCS5	N/A			
	MCS6	9.88		MCS6	N/A			
	MCS7	9.82		MCS7	N/A			
5320	MCS0	11.90	5660	MCS0	11.29			
	MCS1	11.76		MCS1	11.07			
	MCS2	11.50		MCS2	10.68			
	MCS3	11.23		MCS3	10.44			
	MCS4	11.05		MCS4	10.21			
	MCS5	10.79		MCS5	10.06			
	MCS6	10.60		MCS6	9.88			
	MCS7	10.38		MCS7	9.79			
5500	MCS0	10.96	5680	MCS0	11.14			
	MCS1	10.82		MCS1	10.97			
	MCS2	10.59		MCS2	10.64			
	MCS3	10.42		MCS3	10.38			
	MCS4	10.09		MCS4	10.21			
	MCS5	9.94		MCS5	10.03			
	MCS6	9.66		MCS6	9.90			
	MCS7	9.41		MCS7	9.65			

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Table 8.10 802.11n_HT40 Average RF Power

802.11n_HT40 Mode	Rated	Average Power (dBm)	802.11n_HT40 Mode	Rated	Average Power (dBm)	802.11n_HT40 Mode	Rated	Average Power (dBm)
Frequency[MHz]	[Mbps]	(dBm)	Frequency[MHz]	[Mbps]	(dBm)	Frequency[MHz]	[Mbps]	(dBm)
5190	MCS0	11.47	5510	MCS0	11.32	5670	MCS0	11.52
	MCS1	11.15		MCS1	10.95		MCS1	11.32
	MCS2	10.97		MCS2	10.53		MCS2	11.16
	MCS3	10.64		MCS3	10.17		MCS3	10.83
	MCS4	10.29		MCS4	9.81		MCS4	10.47
	MCS5	9.97		MCS5	9.52		MCS5	10.12
	MCS6	9.65		MCS6	9.25		MCS6	9.93
	MCS7	9.23		MCS7	9.00		MCS7	9.61
5230	MCS0	11.90	5550	MCS0	11.29	5755	MCS0	11.58
	MCS1	11.63		MCS1	10.98		MCS1	11.34
	MCS2	11.35		MCS2	10.57		MCS2	11.27
	MCS3	10.93		MCS3	10.21		MCS3	11.09
	MCS4	10.66		MCS4	9.99		MCS4	10.84
	MCS5	10.50		MCS5	9.65		MCS5	10.63
	MCS6	10.06		MCS6	9.32		MCS6	10.38
	MCS7	9.67		MCS7	9.17		MCS7	10.19
5270	MCS0	11.46	5590	MCS0	N/A	5795	MCS0	11.57
	MCS1	11.12		MCS1	N/A		MCS1	11.46
	MCS2	10.74		MCS2	N/A		MCS2	11.12
	MCS3	10.39		MCS3	N/A		MCS3	10.92
	MCS4	9.96		MCS4	N/A		MCS4	10.85
	MCS5	9.74		MCS5	N/A		MCS5	10.58
	MCS6	9.28		MCS6	N/A		MCS6	10.34
	MCS7	9.15		MCS7	N/A		MCS7	10.05
5310	MCS0	11.73	5630	MCS0	N/A			
	MCS1	11.43		MCS1	N/A			
	MCS2	11.11		MCS2	N/A			
	MCS3	10.75		MCS3	N/A			
	MCS4	10.46		MCS4	N/A			
	MCS5	10.17		MCS5	N/A			
	MCS6	9.73		MCS6	N/A			
	MCS7	9.48		MCS7	N/A			

Per FCC KDB Publication 443999, transmission on channels which overlap the 5600-5650 MHz is prohibited as a client. This device does not transmit any beacons or initiate any transmissions in 5.3 and 5.5 GHz Bands. (*) – indicates default channels per KDB Publication 248227. When the adjacent channels are higher in power than the default channels, these “required channels” are considered instead of the default channels for SAR testing.

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8.1 SAR DATA Summay

Table 8.11 GSM1900 Head SAR Results

Frequency		Mode	Conducted		Side	Test Position	Antenna Type	Battery	Drift (dB)	SAR Level (W/kg)
MHz	Ch		Start	End						
1880	661	GSM1900	30.12	30.14	Right	Cheek/Touch	Intenna	Standard	0.173	0.149
1880	661	GSM1900	30.10	30.09	Right	Ear/Tilt 15°	Intenna	Standard	-0.094	0.076
1880	661	GSM1900	30.12	30.12	Left	Cheek/Touch	Intenna	Standard	0.003	0.189
1880	661	GSM1900	30.15	30.13	Left	Ear/Tilt 15°	Intenna	Standard	0.153	0.081
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram				

Table 8.12 GPRS1900 Body SAR Results

Frequency		Mode	Conducted		Separation Distance	Test Position	Antenna Type	Battery	Tx Slots	Drift (dB)	SAR Level (W/kg)
MHz	Ch		Start	End							
1880	661	GPRS1900	30.31	30.29	1.0 cm	Back	Intenna	Standard	1	-0.131	0.298
1880	661	GPRS1900	30.28	30.29	1.0 cm	Front	Intenna	Standard	1	0.036	0.156
1880	661	GPRS1900	30.31	30.28	1.0 cm	Left	Intenna	Standard	1	0.038	0.090
1880	661	GPRS1900	30.30	30.27	1.0 cm	Bottom	Intenna	Standard	1	0.025	0.072
1880	661	GPRS1900	27.12	27.11	1.0 cm	Back	Intenna	Standard	2	0.023	0.225
1880	661	GPRS1900	27.15	27.12	1.0 cm	Front	Intenna	Standard	2	0.106	0.249
1880	661	GPRS1900	27.10	27.11	1.0 cm	Left	Intenna	Standard	2	-0.078	0.120
1880	661	GPRS1900	27.12	27.13	1.0 cm	Bottom	Intenna	Standard	2	0.021	0.109
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram					

Table 8.13 WCDMA1900 Head SAR Results

Frequency		Mode	Conducted		Side	Test Position	Antenna Type	Battery	Drift (dB)	SAR Level (W/kg)
MHz	Ch		Start	End						
1880	9400	WCDMA1900	22.88	22.86	Right	Cheek/Touch	Intenna	Standard	0.102	0.407
1880	9400	WCDMA1900	22.89	22.86	Right	Ear/Tilt 15°	Intenna	Standard	0.040	0.212
1880	9400	WCDMA1900	22.84	22.89	Left	Cheek/Touch	Intenna	Standard	0.186	0.488
1880	9400	WCDMA1900	22.83	22.85	Left	Ear/Tilt 15°	Intenna	Standard	-0.000	0.218
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram				

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Table 8.14 WCDMA1900 Body SAR Results

Frequency		Mode	Conducted		Separation Distance	Test Position	Antenna Type	Battery	Drift (dB)	SAR Level (W/kg)
MHz	Ch		Start	End						
1880	9400	WCDMA1900	22.81	22.82	1.0 cm	Back	Intenna	Standard	0.154	0.660
1880	9400	WCDMA1900	22.79	22.81	1.0 cm	Front	Intenna	Standard	0.095	0.646
1880	9400	WCDMA1900	22.84	22.85	1.0 cm	Left	Intenna	Standard	-0.106	0.357
1880	9400	WCDMA1900	22.82	22.81	1.0 cm	Bottom	Intenna	Standard	-0.126	0.313
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram				

Table 8.15 2.4GHz 802.11b Head SAR Results

Frequency		Mode	Conducted		Side	Test Position	Antenna Type	Battery	Data Rate (Mbps)	Drift (dB)	SAR Level (W/kg)
MHz	Ch		Start	End							
2462	11	IEEE 802.11b	14.64	14.61	Right	Cheek/Touch	Intenna	Standard	1	-0.063	0.176
2462	11	IEEE 802.11b	14.62	14.61	Right	Ear/Tilt 15°	Intenna	Standard	1	-0.113	0.071
2462	11	IEEE 802.11b	14.62	14.62	Left	Cheek/Touch	Intenna	Standard	1	0.102	0.098
2462	11	IEEE 802.11b	14.64	14.65	Left	Ear/Tilt 15°	Intenna	Standard	1	-0.112	0.071
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram					

Table 8.16 2.4GHz 802.11b Body SAR Results

Frequency		Mode	Conducted		Separation Distance	Test Position	Antenna Type	Battery	Data Rate (Mbps)	Drift (dB)	SAR Level (W/kg)
MHz	Ch		Start	End							
2462	11	IEEE 802.11b	14.61	14.65	1.0 cm	Back	Intenna	Standard	1	-0.066	0.147
2462	11	IEEE 802.11b	14.62	14.65	1.0 cm	Front	Intenna	Standard	1	0.197	0.128
2462	11	IEEE 802.11b	14.64	14.64	1.0 cm	Right	Intenna	Standard	1	0.075	0.174
2462	11	IEEE 802.11b	14.61	14.62	1.0 cm	Bottom	Intenna	Standard	1	0.005	0.091
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram					

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Table 8.17 5GHz Head SAR Results

Frequency		Mode	Conducted		Side	Test Position	Antenna Type	Battery	Data Rate (Mbps)	Drift (dB)	SAR Level (W/kg)
MHz	Ch		Start	End							
5220	44	802.11a	10.82	10.82	Right	Cheek/Touch	Intenna	Standard	6	0.043	0.0041
5220	44	802.11a	10.78	10.79	Right	Ear/Tilt 15°	Intenna	Standard	6	-0.179	0.000501
5220	44	802.11a	10.82	10.83	Left	Cheek/Touch	Intenna	Standard	6	-0.089	0.00878
5220	44	802.11n (HT20)	11.62	11.63	Left	Cheek/Touch	Intenna	Standard	MCS0	-0.118	0.00695
5220	44	802.11a	10.83	10.81	Left	Ear/Tilt 15°	Intenna	Standard	6	-0.178	0.00555
5260	52	802.11a	11.71	11.72	Right	Cheek/Touch	Intenna	Standard	6	-0.103	0.00717
5260	52	802.11a	11.73	11.74	Right	Ear/Tilt 15°	Intenna	Standard	6	0.020	0.00287
5260	52	802.11a	11.71	11.74	Left	Cheek/Touch	Intenna	Standard	6	-0.012	0.028
5260	52	802.11n (HT20)	12.48	12.44	Left	Cheek/Touch	Intenna	Standard	MCS0	-0.098	0.016
5260	52	802.11a	11.68	11.70	Left	Ear/Tilt 15°	Intenna	Standard	6	0.029	0.012
5540	108	802.11a	10.57	10.58	Right	Cheek/Touch	Intenna	Standard	6	-0.119	0.028
5540	108	802.11a	10.52	10.54	Right	Ear/Tilt 15°	Intenna	Standard	6	0.049	0.0153
5540	108	802.11a	10.51	10.53	Left	Cheek/Touch	Intenna	Standard	6	0.178	0.066
5540	108	802.11n (HT20)	11.62	11.65	Left	Cheek/Touch	Intenna	Standard	MCS0	-0.011	0.019
5540	108	802.11a	10.56	10.54	Left	Ear/Tilt 15°	Intenna	Standard	6	0.138	0.035
5765	153	802.11a	9.12	9.14	Right	Cheek/Touch	Intenna	Standard	6	0.013	0.024
5765	153	802.11a	9.13	9.15	Right	Ear/Tilt 15°	Intenna	Standard	6	-0.078	0.015
5765	153	802.11a	9.11	9.10	Left	Cheek/Touch	Intenna	Standard	6	0.135	0.091
5785	157	802.11n (HT20)	10.02	10.01	Left	Cheek/Touch	Intenna	Standard	MCS0	0.092	0.094
5765	153	802.11a	9.09	9.12	Left	Ear/Tilt 15°	Intenna	Standard	6	-0.115	0.047
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram					

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Table 8.18 5GHz Head SAR Results - HT40

Frequency		Mode	Conducted		Side	Test Position	Antenna Type	Battery	Data Rate	Drift (dB)	SAR Level (W/kg)
MHz	Ch		Start	End							
5230	46	802.11n (HT40)	11.91	11.92	Right	Cheek/Touch	Intenna	Standard	MCS0	0.179	0.00848
5230	46	802.11n (HT40)	11.93	11.91	Right	Ear/Tilt 15°	Intenna	Standard	MCS0	0.014	0.00225
5230	46	802.11n (HT40)	11.92	11.90	Left	Cheek/Touch	Intenna	Standard	MCS0	-0.167	0.0153
5230	46	802.11n (HT40)	11.89	11.90	Left	Ear/Tilt 15°	Intenna	Standard	MCS0	0.076	0.00525
5310	62	802.11n (HT40)	11.72	11.73	Right	Cheek/Touch	Intenna	Standard	MCS0	0.006	0.0144
5310	62	802.11n (HT40)	11.72	11.70	Right	Ear/Tilt 15°	Intenna	Standard	MCS0	-0.036	0.00014
5310	62	802.11n (HT40)	11.72	11.74	Left	Cheek/Touch	Intenna	Standard	MCS0	-0.023	0.0089
5310	62	802.11n (HT40)	11.75	11.72	Left	Ear/Tilt 15°	Intenna	Standard	MCS0	0.062	0.0115
5550	110	802.11n (HT40)	11.30	11.27	Right	Cheek/Touch	Intenna	Standard	MCS0	0.147	0.033
5550	110	802.11n (HT40)	11.28	11.29	Right	Ear/Tilt 15°	Intenna	Standard	MCS0	-0.194	0.031
5550	110	802.11n (HT40)	11.27	11.27	Left	Cheek/Touch	Intenna	Standard	MCS0	-0.111	0.011
5550	110	802.11n (HT40)	11.29	11.28	Left	Ear/Tilt 15°	Intenna	Standard	MCS0	0.117	0.015
5755	151	802.11n (HT40)	11.59	11.60	Right	Cheek/Touch	Intenna	Standard	MCS0	-0.057	0.046
5755	151	802.11n (HT40)	11.56	11.58	Right	Ear/Tilt 15°	Intenna	Standard	MCS0	0.087	0.027
5755	151	802.11n (HT40)	11.59	11.60	Left	Cheek/Touch	Intenna	Standard	MCS0	-0.195	0.015
5755	151	802.11n (HT40)	11.61	11.62	Left	Ear/Tilt 15°	Intenna	Standard	MCS0	-0.005	0.00808
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram					

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Table 8.19 5GHz Body SAR Results

Frequency		Mode	Conducted		Separation Distance	Test Position	Antenna Type	Battery	Data Rate (Mbps)	Drift (dB)	SAR Level (W/kg)
MHz	Ch		Start	End							
5220	44	802.11a	10.83	10.82	1.0cm	Back	Intenna	Standard	6	0.147	0.340
5220	44	802.11n (HT20)	11.62	11.61	1.0cm	Back	Intenna	Standard	MCS0	0.022	0.278
5260	52	802.11a	11.72	11.73	1.0cm	Back	Intenna	Standard	6	0.133	0.472
5320	64	802.11a	11.08	11.07	1.0cm	Back	Intenna	Standard	6	-0.096	0.517
5260	52	802.11n (HT20)	12.47	12.44	1.0cm	Back	Intenna	Standard	MCS0	0.082	0.290
5520	104	802.11a	9.93	9.92	1.0cm	Back	Intenna	Standard	6	0.173	0.373
5540	108	802.11a	10.51	10.52	1.0cm	Back	Intenna	Standard	6	-0.163	0.458
5580	116	802.11a	9.94	9.92	1.0cm	Back	Intenna	Standard	6	-0.017	0.338
5680	136	802.11a	10.17	10.19	1.0cm	Back	Intenna	Standard	6	0.088	0.328
5540	108	802.11n (HT20)	11.61	11.64	1.0cm	Back	Intenna	Standard	MCS0	0.022	0.277
5745	149	802.11a	8.90	8.91	1.0cm	Back	Intenna	Standard	6	0.052	0.257
5765	153	802.11a	9.11	9.12	1.0cm	Back	Intenna	Standard	6	0.031	0.483
5785	157	802.11a	9.08	9.09	1.0cm	Back	Intenna	Standard	6	0.013	0.238
5805	161	802.11a	8.47	8.48	1.0cm	Back	Intenna	Standard	6	0.176	0.251
5785	157	802.11n (HT20)	10.02	10.05	1.0cm	Back	Intenna	Standard	MCS0	0.037	0.344
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram					

Table 8.20 5GHz Body SAR Results – HT40

Frequency		Mode	Conducted		Separation Distance	Test Position	Antenna Type	Battery	Data Rate	Drift (dB)	SAR Level (W/kg)
MHz	Ch		Start	End							
5230	46	802.11n (HT40)	11.90	11.93	1.0cm	Back	Intenna	Standard	MCS0	-0.163	0.245
5310	62	802.11n (HT40)	11.71	11.74	1.0cm	Back	Intenna	Standard	MCS0	0.091	0.424
5510	102	802.11n (HT40)	11.34	11.33	1.0cm	Back	Intenna	Standard	MCS0	-0.147	0.378
5550	110	802.11n (HT40)	11.26	11.28	1.0cm	Back	Intenna	Standard	MCS0	-0.057	0.482
5755	151	802.11n (HT40)	11.57	11.60	1.0cm	Back	Intenna	Standard	MCS0	0.108	0.460
ANSI / IEEE C95.1 1992 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						1.6W/kg (mW/g) averaged over 1 gram					

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8.2 SAR Note

General Note :

1. The test data reported are the worst-case SAR value with the position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supp.C [June 2001].
2. Tissue parameters and temperatures are listed on the SAR plot.
3. Liquid tissue depth is $15.2 \pm 0.2\text{cm}$
4. Battery is fully charged for all readings. The Standard battery was used.
5. Test Configuration ☐ With Holster ☒ Without Holster
6. Justification for reduced test configurations: Per FCC/OET Bulletin 65 Supplement C (June, 2001), if the SAR measured at the middle channel for each test configuration (left, right, cheek/touch, tilt/ear, extended and retracted) is least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
7. Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 10mm was tested because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.

GSM Notes

1. Body-Worn Accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR using headphone.
2. Per FCC guidance, GPRS Data Mode is additionally required for body-worn configuration. When the same wireless modes and device transmission configurations are required for body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back and front side configuration additionally shows body-worn compliance at the same distance.
3. Justification for reduced test configurations per KDB Publication 941225 D03: The source-based time-averaged output power was evaluated for all multi-slot operations. In addition to the worst-case reported, all source-based time-averaged powers within 10% of the worst-case were additionally included in the evaluation for data modes.

WCDMA Notes

1. WCDMA mode in Body SAR was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01. HSPA SAR was not required since the average output power of the HSPA subtests was not more than 0.25 dB higher than the RMC level and SAR was less than 1.2W/Kg.
2. Per FCC KDB Publication 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configuration additionally shows body-worn compliance at the same distance.

WLAN Notes

1. Justification for reduced test configurations for WIFI channels per KDB Publication 248227 and April 2010 FCC/TCB Meeting Notes for 2.4GHz WIFI : Highest average RF output power channel for the lowest data rate was selected for SAR evaluation in 802.11b. Other IEEE 802.11 modes (including 802.11g/n) were not investigated since the average output powers over all channels and data rates were not more than 0.25dB higher than the tested channel in the lowest data rate of IEEE 802.11b mode.

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2. Justification for reduced test configurations for WIFI channels per KDB Publication 248227 and April 2010 FCC/TCB Meeting Notes for 5GHz WIFI : Highest average RF output power channel for the lowest data rate was selected for SAR evaluation in 802.11a. Other IEEE 802.11 modes (including 802.11n 20MHz Bandwidth) were not investigated since the average output powers over all channels and data rates were not more than 0.25dB higher than the tested channel in the lowest data rate of IEEE 802.11a mode.
3. When Hotspot is enabled, all 5GHz bands are disabled.
4. WLAN transmission was verified using an uncalibrated spectrum analyzer.
5. When the maximum extrapolated peak SAR of the zoom scan for the maximum output channel is <1.6 W/Kg and the 1g averaged SAR is <0.8 W/Kg, SAR testing on other channels is not required. The other default(or corresponding required) test channels were additionally tested using the lowest data rate since the maximum extrapolated peak SAR of the zoom scan for the maximum output channel is greater than 1.6W/Kg.
6. Per FCC KDB Publication 941225 D06, when the same wireless modes and device transmission configurations are required for body-worn accessories and hotspot mode(2.4GHz WLAN), it is not necessary to additionally test body-worn accessory SAR for the same device orientation. Therefore, the hotspot data for the back side configuration additionally shows body-worn compliance at the same distance.
7. Device was tested using a fixed spacing for 5GHz WLAN body-worn accessory testing. A separation distance of 10mm was tested because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.

Hotspot Notes

1. Top and Right Edge for the licensed transmitter was not tested since the antenna distance from the edge was greater than 2.5cm per FCC KDB Publication 941225 D06 guidance.
2. Top and Left Edges for the WLAN transmitter were not tested since the antenna distance from the edge was greater than 2.5cm per FCC KDB Publication 941225 D06 guidance.
3. During SAR testing for the wireless Router conditions per KDB 941225 D06, the actual Portable Hotspot operation (with actual simultaneous transmission of a transmitter with WIFI) was not activated.

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8.3 Simultaneous Transmission

Refer to the FCC OET document, 'SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas' (Feb 2008)

Table 8.11 Output Power Thresholds for Unlicensed Transmitters

	2.45	5.15 - 5.35	5.47 - 5.85	GHz
P Ref	12	6	5	mW
Device output power should be rounded to the nearest mW to compare with values specified in this table				

Table 8.12 Summary of SAR Evaluation Requirements for Cell phones with Multiple Transmitters

	Individual Transmitter	Simultaneous Transmission
Licensed Transmitters	<u>Routine evaluation required</u>	SAR not required: <u>Unlicensed only</u> - o when stand-alone 1-g SAR is not required and antenna is > 5 cm from other antennas Licensed & Unlicensed - o when the sum of the 1-g SAR is <1.6 W/kg for all simultaneous transmitting antennas - o when SAR to antenna separation ratio of simultaneous transmitting antenna pair is < 0.3
Unlicensed Transmitters	When there is no simultaneous transmission – - o output < 60/f: SAR not required - o output ≥ 60/f: stand-alone SAR required When there is simultaneous transmission – <u>Stand-alone SAR not required when</u> - o output ≤ 2.P_{Ref} and antenna is > 5.0 cm from other antennas - o output ≤ P_{Ref} and antenna is ≥ 2.5 cm from other antennas - o output ≤ P_{Ref} and antenna is < 2.5 cm from other antennas, each with either output power ≤ P_{Ref} or 1-g SAR < 1.2 W/kg <u>Otherwise stand-alone SAR is required</u> When stand-alone SAR is required - o test SAR on highest output channel for each wireless mode and exposure condition - o if SAR for highest output channel is > 50% of SAR limit, evaluate all channels according to normal procedures	SAR required: <u>Licensed & Unlicensed</u> antenna pairs with SAR to antenna separation ratio ≥ 0.3; test is only required for the configuration that results in the highest SAR in standalone configuration for each wireless mode and exposure condition Note: simultaneous transmission exposure conditions for head and body can be different for different style phones; therefore, different test requirements may apply

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Table 8.13 Simultaneous Transmission Summation for Held to Ear Voice Call (2.4GHz WLAN)

Simult Tx	Configuration	GSM1900 SAR(W/Kg)	2.4GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Head SAR	Right Cheek	0.149	0.176	0.325
	Right Tilt	0.076	0.071	0.147
	Left Cheek	0.189	0.098	0.287
	Left Tilt	0.081	0.071	0.152
Simult Tx	Configuration	WCDMA1900 SAR(W/Kg)	2.4GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Head SAR	Right Cheek	0.407	0.176	0.583
	Right Tilt	0.212	0.071	0.283
	Left Cheek	0.488	0.098	0.586
	Left Tilt	0.218	0.071	0.289

The above tables represent a held to ear voice call with 2.4GHz WLAN.

Table 8.14 Simultaneous Transmission Summation for Held to Ear Voice Call (5.2GHz WLAN)

Simult Tx	Configuration	GSM1900 SAR(W/Kg)	5.2GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Head SAR	Right Cheek	0.149	0.008	0.157
	Right Tilt	0.076	0.002	0.078
	Left Cheek	0.189	0.015	0.204
	Left Tilt	0.081	0.006	0.087
Simult Tx	Configuration	WCDMA1900 SAR(W/Kg)	5.2GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Head SAR	Right Cheek	0.407	0.008	0.415
	Right Tilt	0.212	0.002	0.214
	Left Cheek	0.488	0.015	0.503
	Left Tilt	0.218	0.006	0.224

The above tables represent a held to ear voice call with 5.2GHz WLAN.

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Table 8.15 Simultaneous Transmission Summation for Held to Ear Voice Call (5.3GHz WLAN)

Simult Tx	Configuration	GSM1900 SAR(W/Kg)	5.3GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Head SAR	Right Cheek	0.149	0.014	0.163
	Right Tilt	0.076	0.003	0.079
	Left Cheek	0.189	0.028	0.217
	Left Tilt	0.081	0.012	0.093
Simult Tx	Configuration	WCDMA1900 SAR(W/Kg)	5.3GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Head SAR	Right Cheek	0.407	0.014	0.421
	Right Tilt	0.212	0.003	0.215
	Left Cheek	0.488	0.028	0.516
	Left Tilt	0.218	0.012	0.230

The above tables represent a held to ear voice call with 5.3GHz WLAN.

Table 8.15 Simultaneous Transmission Summation for Held to Ear Voice Call (5.5GHz WLAN)

Simult Tx	Configuration	GSM1900 SAR(W/Kg)	5.5GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Head SAR	Right Cheek	0.149	0.033	0.182
	Right Tilt	0.076	0.031	0.107
	Left Cheek	0.189	0.066	0.255
	Left Tilt	0.081	0.034	0.115
Simult Tx	Configuration	WCDMA1900 SAR(W/Kg)	5.5GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Head SAR	Right Cheek	0.407	0.033	0.44
	Right Tilt	0.212	0.031	0.243
	Left Cheek	0.488	0.066	0.554
	Left Tilt	0.218	0.034	0.252

The above tables represent a held to ear voice call with 5.5GHz WLAN.

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Table 8.16 Simultaneous Transmission Summation for Held to Ear Voice Call (5.8GHz WLAN)

Simult Tx	Configuration	GSM1900 SAR(W/Kg)	5.8GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Head SAR	Right Cheek	0.149	0.046	0.195
	Right Tilt	0.076	0.027	0.103
	Left Cheek	0.189	0.094	0.283
	Left Tilt	0.081	0.047	0.128
Simult Tx	Configuration	WCDMA1900 SAR(W/Kg)	5.8GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Head SAR	Right Cheek	0.407	0.046	0.453
	Right Tilt	0.212	0.027	0.239
	Left Cheek	0.488	0.094	0.582
	Left Tilt	0.218	0.047	0.265

The above tables represent a held to ear voice call with 5.8GHz WLAN.

Table 8.17 Simultaneous Transmission Summation for 2G&3G voice and 2.4GHz WLAN(Body-Worn)

Configuration	Mode	2G&3G SAR (W/Kg)	WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Back	GSM1900	0.298	0.147	0.445
Back	WCDMA1900	0.66	0.147	0.807

The above tables represent a body worn voice call with 2.4GHz WLAN.

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Table 8.18 Simultaneous Transmission Summation for 2G&3G voice and 5GHz WLAN(Body-Worn)

Configuration	Mode	2G&3G SAR (W/Kg)	5.2GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)	Configuration	Mode	2G&3G SAR (W/Kg)	5.3GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Back	GSM1900	0.298	0.34	0.638	Back	GSM1900	0.298	0.517	0.815
Back	WCDMA1900	0.66	0.34	1.000	Back	WCDMA1900	0.66	0.517	1.177
Configuration	Mode	2G&3G SAR (W/Kg)	5.5GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)	Configuration	Mode	2G&3G SAR (W/Kg)	5.8GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Back	GSM1900	0.298	0.482	0.78	Back	GSM1900	0.298	0.483	0.781
Back	WCDMA1900	0.66	0.482	1.142	Back	WCDMA1900	0.66	0.483	1.143

The above tables represent a body worn voice call with 5GHz WLAN.

Table 8.19 Simultaneous Transmission Summation for 2G&3G Data and 2.4GHz WLAN(Hotspot)

Simult Tx	Configuration	GPRS1900 SAR(W/Kg)	2.4GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Body SAR	Back	0.298	0.147	0.445
	Front	0.249	0.128	0.377
	Left	0.12	-	0.120
	Right	-	0.174	0.174
	Top	-	-	0
	Bottom	0.109	0.091	0.200
Simult Tx	Configuration	WCDMA1900 SAR(W/Kg)	2.4GHz WIFI SAR (W/Kg)	Σ SAR (W/Kg)
Body SAR	Back	0.66	0.147	0.807
	Front	0.646	0.128	0.774
	Left	0.357	-	0.357
	Right	-	0.174	0.174
	Top	-	-	0
	Bottom	0.313	0.091	0.404

Note :

1. Per FCC KDB Publication941225 D06, the edges with antennas more than 2.5cm are not required to be evaluated for SAR(""-"). The above tables represent a portable hotspot condition.
2. When Hotspot is enabled all 5GHz WLAN bands are disabled.

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Multiple Antenna/Transmission Information for SHV-E210S

The separation between the main antenna and the Bluetooth and WLAN antennas is 32mm.

RF Conducted Power of Bluetooth Tx is 1.82 dBm. RF Conducted Power of 2.4GHz WLAN is 14.65 dBm.

Maximum RF conducted power of 5GHz WLAN is 12.48 Bm

2.4 GHz and 5 GHz WIFI and Bluetooth share the same antenna path and cannot transmit simultaneously.

Per KDB Publication 648474, Bluetooth SAR was not required based on the maximum conducted power, the Bluetooth/WLAN to main antenna separation distance and Body-SAR of the main antenna.

Simultaneous Transmission Conclusion

The above numerical summed SAR was below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit. Therefore, no volumetric SAR summation is required since the numerical sums are below the limit

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9. CONCLUSION

The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of the FCC. These measurements are taken to simulate the RF effects exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The test results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because innumerable factors may interact to determine the specific biological outcome of an exposure to electromagnetic fields, any protection guide shall consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables.

The highest reported SAR values are as follows:

GSM1900: Head: 0.189W/Kg : Body-worn: 0.298W/Kg : Hotspot: 0.298 W/Kg

WCDMA1900: Head: 0.488W/Kg : Body-worn: 0.66W/Kg : Hotspot: 0.66W/Kg

2.4GHz WLAN: Head: 0.176W/Kg : Body-worn: 0.147W/Kg : Hotspot: 0.174W/Kg

5.2GHz WLAN: Head: 0.015W/Kg : Body-worn: 0.340W/Kg

5.3GHz WLAN: Head: 0.028W/Kg : Body-worn: 0.519W/Kg

5.5GHz WLAN: Head: 0.066W/Kg : Body-worn: 0.482W/Kg

5.8GHz WLAN: Head: 0.094W/Kg : Body-worn: 0.483W/Kg

Highest Simulataneous SAR : Head : 0.586 W/Kg : Body : 1.177 W/Kg

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APPENDIX A

SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (p). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Fig.

A.1) .

$$SAR = \frac{d}{dt} \left(\frac{dU}{dm} \right) = \frac{d}{dt} \left(\frac{dU}{p dv} \right)$$

Figure A.1 SAR Mathematical Equation

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

$$SAR = \sigma E^2 / p$$

Where :

- σ = conductivity of the tissue-simulant material (S/m)
- p = mass density of the tissue-simulant material (kg/m³)
- E = Total RMS electric field strength (V/m)

Note: The primary factors that control rate or energy absorption were found to be the wavelength of the incident field in relations to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.

APPENDIX B

Probe Calibration Process

Dosimetric Assessment Procedure

Each probe is calibrated according to a dosimetric assessment procedure described in **K. Pokovic, T.Schmid, N. Kuster, *Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies*, ICECOM97, Oct. 1997, pp. 120-124** with an accuracy better than +/-10%. The spherical isotropy was evaluated with the procedure described in **K. Pokovic, T.Schmid, N. Kuster, *E-field Probe with improved isotropy in brain simulating liquids*, Proceedings of the ELMAR, Zadar, June 23-25, 1996, pp. 172-175** and found to be better than +/-0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe is tested.

Free Space Assessment

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies below 1 GHz (see Fig. B.1), and in a waveguide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

Temperature Assessment

E-field temperature correlation calibration is performed in a flat phantom flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe (see Fig. B.2).

$$SAR = C \frac{\Delta T}{\Delta t}$$

where:

Δt = exposure time (30 seconds)

C = heat capacity of tissue (brain or muscle).

ΔT = temperature increase due to RF exposure.

SAR is proportional to $\Delta T / \Delta t$, the initial rate of tissue heating, before thermal diffusion takes place. Now it's possible to quantify the electric field in the simulated tissue by equating the thermally derived SAR to the E-field;

$$SAR = \frac{|E|^2 \cdot \sigma}{p}$$

where:

σ = simulated tissue conductivity

p = Tissue density (1.25 g/cm³ for brain tissue)

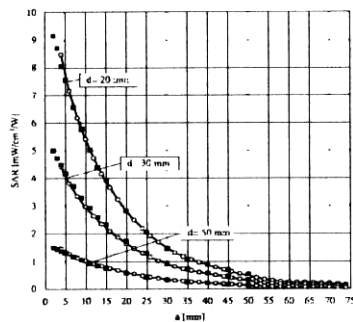


Figure B.1. E-Field and Temperature measurements at 900MHz

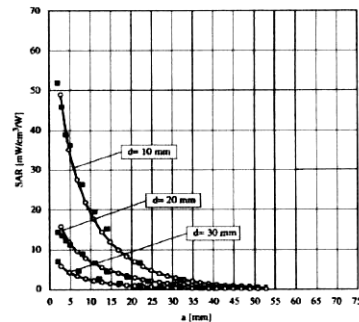


Figure B.2. E-Field and temperature measurements at 1.9GHz

APPENDIX C

ANSI/IEEE C95.1 – 1992 RF EXPOSURE LIMITS

Uncontrolled Environment

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

Controlled Environment

CONTROLLED ENVIRONMENTS are defined as locations where there is the exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Table C.1 Safety Limits for Partial Body Exposure

	UNCONTROLLED ENVIRONMENT General Population (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT General Population (W/kg) or (mW/g)
SPATIAL PEAK SAR ¹ Brain	1.60	8.00
SPATIAL PEAK SAR ² Whole Body	0.08	0.40
SPATIAL PEAK SAR ³ Hands, Feet, Ankles, Wrists	4.00	20.00

¹ The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as tissue volume in the shape of a cube) and over the appropriate averaging time.

² The Spatial Average value of the SAR averaged over the whole body.

³ The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

APPENDIX D

The Validation Measurements

DUT: Dipole 1900 MHz; Serial: 5d023

Program Name: 1900MHz Dipole Validation 2012.04.23

Procedure Name: 1900MHz @ 100mW

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

1900MHz @ 100mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 4.97 mW/g

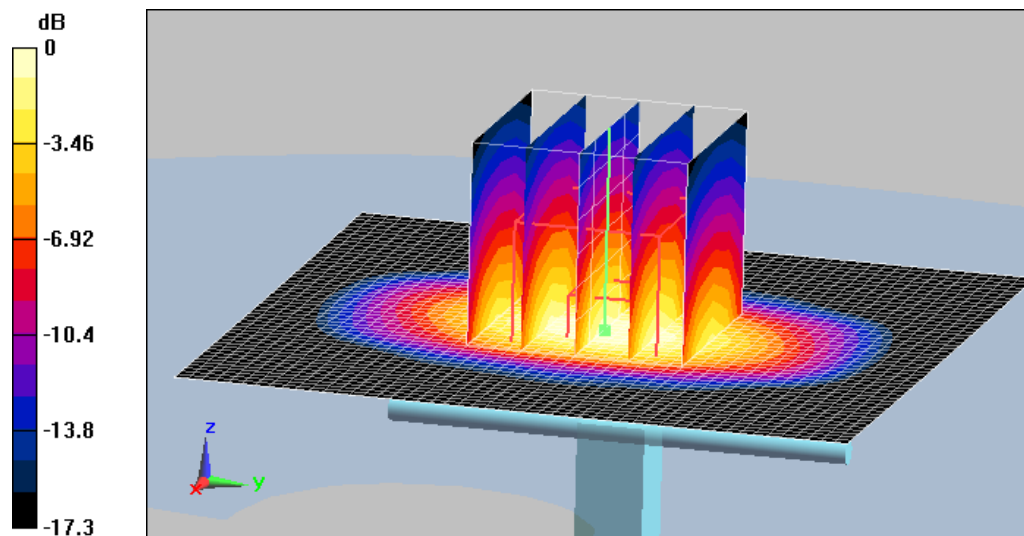
1900MHz @ 100mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 57.2 V/m; Power Drift = 0.00901 dB

Peak SAR (extrapolated) = 7.7 W/kg

SAR(1 g) = 4.15 mW/g; SAR(10 g) = 2.18 mW/g

Maximum value of SAR (measured) = 4.64 mW/g



0 dB = 4.64mW/g

DUT: Dipole 1900 MHz; Serial: 5d023

Program Name: 1900MHz Dipole Validation 2012.04.24

Procedure Name: 1900MHz @ 100mW

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.58$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

1900MHz @ 100mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 5.32 mW/g

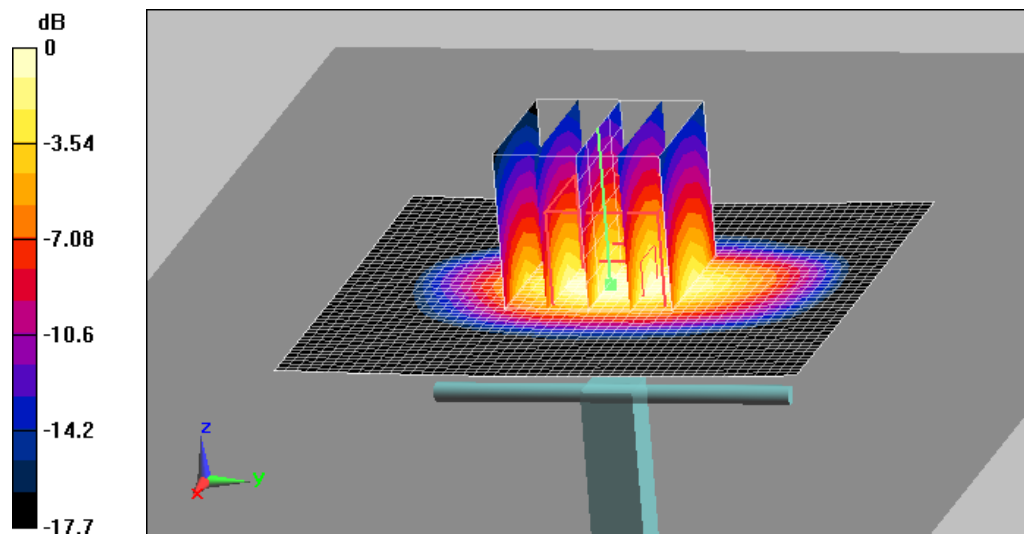
1900MHz @ 100mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 52.7 V/m; Power Drift = -0.189 dB

Peak SAR (extrapolated) = 7.58 W/kg

SAR(1 g) = 4.22 mW/g; SAR(10 g) = 2.22 mW/g

Maximum value of SAR (measured) = 4.67 mW/g



0 dB = 4.67mW/g

DUT: Dipole 1900 MHz; Serial: 5d023

Program Name: 1900MHz Dipole Validation 2012.06.04

Procedure Name: 1900MHz @ 100mW

Meas. Ambient Temp(celsius)-21.8,Tissue Temp(celsius)-21.6;Test Date-04/Jun/2012

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3752; ConvF(7.38, 7.38, 7.38); Calibrated: 2012-01-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn486; Calibrated: 2012-01-19
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1010
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

1900MHz @ 100mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 5.12 mW/g

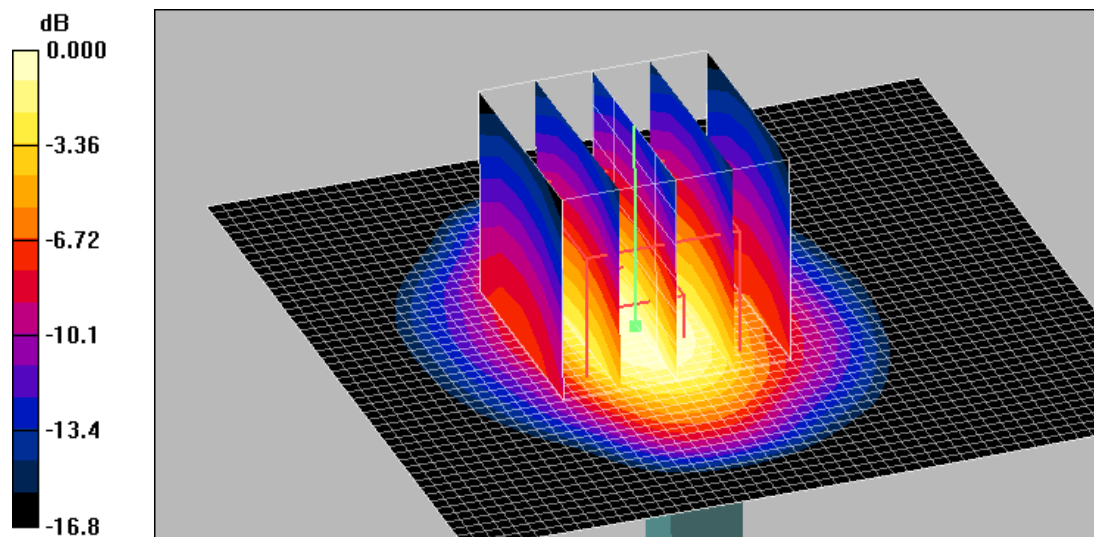
1900MHz @ 100mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 43.7 V/m; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 6.96 W/kg

SAR(1 g) = 3.9 mW/g; SAR(10 g) = 2.05 mW/g

Maximum value of SAR (measured) = 4.38 mW/g



0 dB = 4.38mW/g

DUT: Dipole 2450 MHz; Serial: D2450V2 - SN:807

Program Name: 2450MHz Dipole Validation 2012.04.20

Procedure Name: 2450MHz @ 100mW

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.8;Test Date-20/Apr/2012

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 39$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.36, 6.36, 6.36); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: SAM PHANTOM #2; Type: SAM; Serial: TP-1425
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

2450MHz @ 100mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 5.61 mW/g

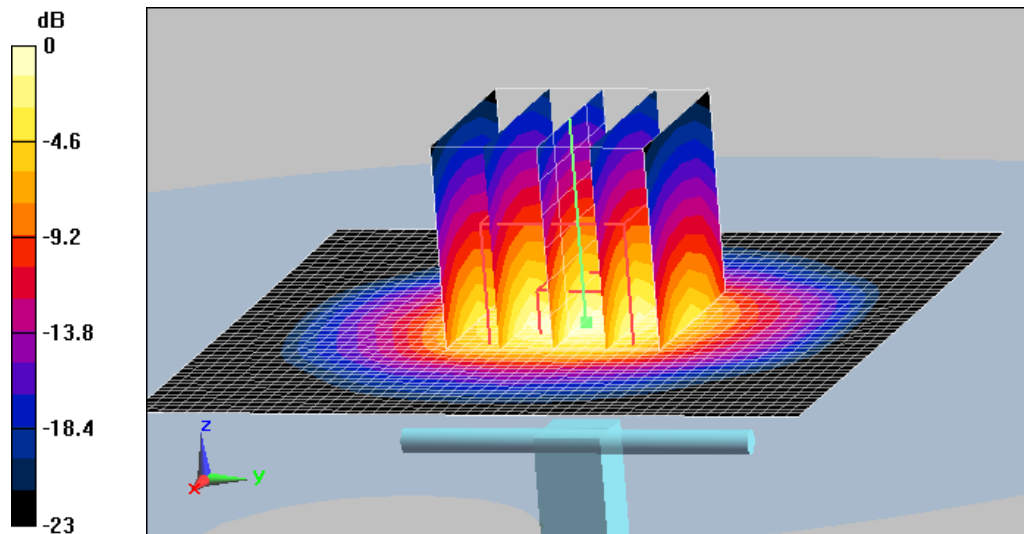
2450MHz @ 100mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 57 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 11.6 W/kg

SAR(1 g) = 5.39 mW/g; SAR(10 g) = 2.49 mW/g

Maximum value of SAR (measured) = 6.03 mW/g



0 dB = 6.03mW/g

DUT: Dipole 2450 MHz; Serial: D2450V2 - SN:807

Program Name: 2450MHz Dipole Validation 2012.04.19

Procedure Name: 2450MHz @ 100mW

Meas. Ambient Temp(celsius)-22.1,Tissue Temp(celsius)-21.9;Test Date-19/Apr/2012

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.58, 6.58, 6.58); Calibrated: 2011-05-24

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

2450MHz @ 100mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 6.29 mW/g

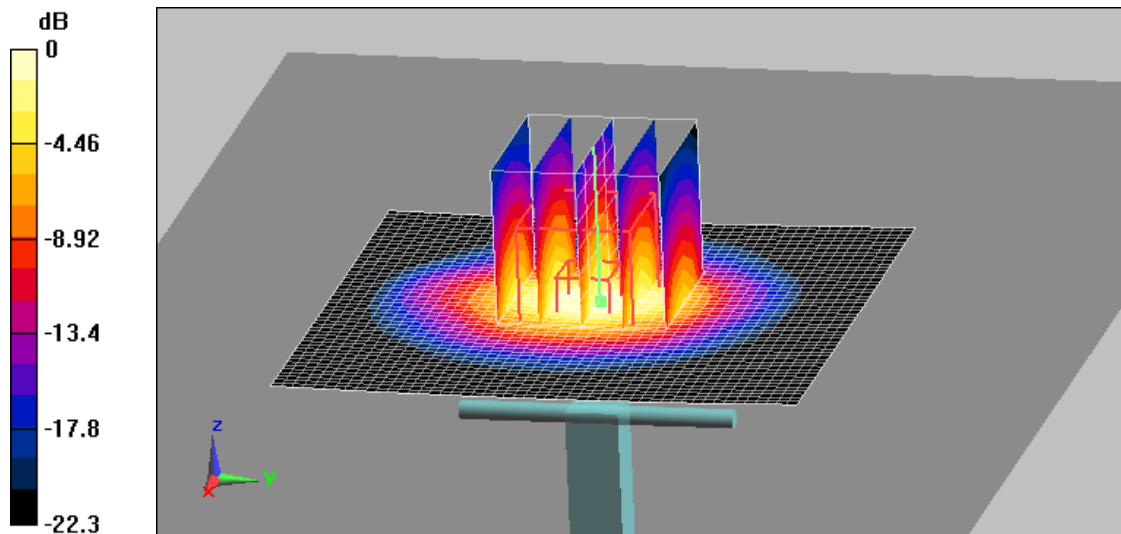
2450MHz @ 100mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 48.8 V/m; Power Drift = -0.127 dB

Peak SAR (extrapolated) = 10.1 W/kg

SAR(1 g) = 5.06 mW/g; SAR(10 g) = 2.38 mW/g

Maximum value of SAR (measured) = 5.71 mW/g



0 dB = 5.71mW/g

DUT: Dipole 5000 MHz; Serial: D5GHzV2 - SN:1107

Program Name: 5200MHz Dipole Validation 2012.04.24

Procedure Name: 5200MHz @ 100mW

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

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

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.81$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.91, 4.91, 4.91); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

5200MHz @ 100mW/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 16.5 mW/g

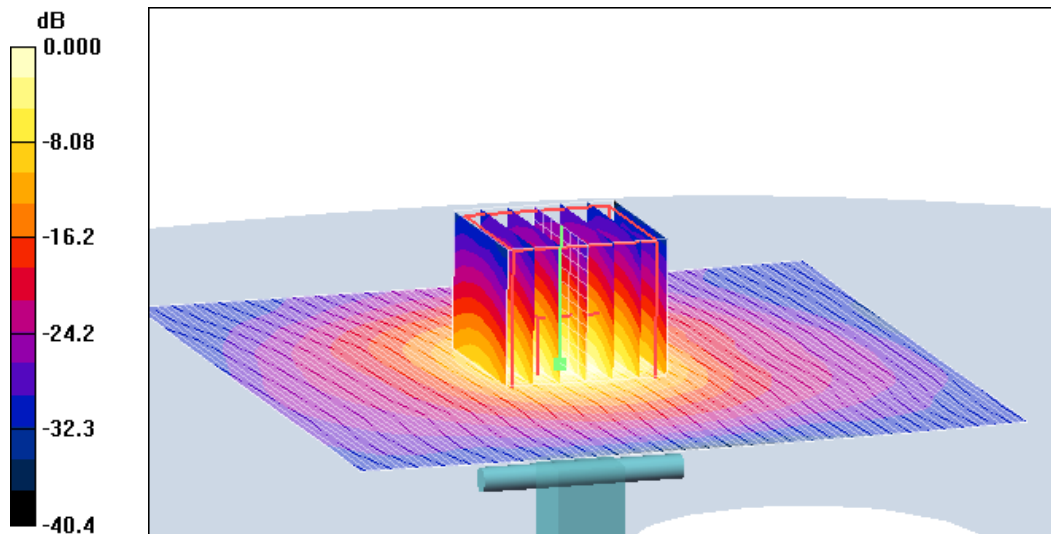
5200MHz @ 100mW/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 56.5 V/m; Power Drift = 0.170 dB

Peak SAR (extrapolated) = 34.9 W/kg

SAR(1 g) = 8.21 mW/g; SAR(10 g) = 2.31 mW/g

Maximum value of SAR (measured) = 17.3 mW/g



0 dB = 17.3mW/g

DUT: Dipole 5000 MHz; Serial: D5GHzV2 - SN:1107

Program Name: 5200MHz Dipole Validation 2012.04.26

Procedure Name: 5200MHz @ 100mW

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

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

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.42$ mho/m; $\epsilon_r = 47.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.9, 3.9, 3.9); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

5200MHz @ 100mW/Area Scan (81x81x1): Measurement grid: dx=10mm, dy=10mm

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

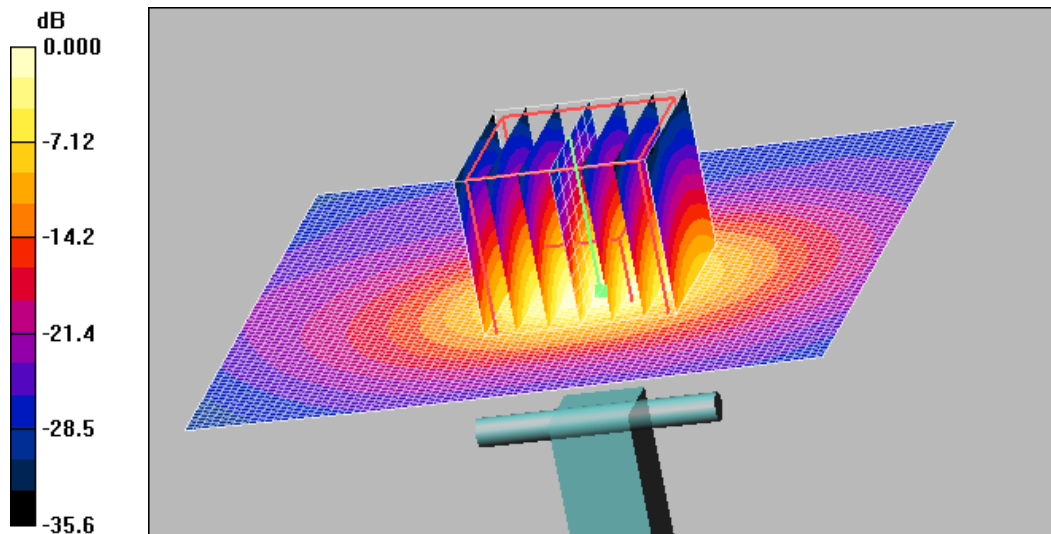
5200MHz @ 100mW/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 41.5 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 29.0 W/kg

SAR(1 g) = 7.3 mW/g; SAR(10 g) = 2.06 mW/g

Maximum value of SAR (measured) = 15.4 mW/g



0 dB = 15.4mW/g

DUT: Dipole 5000 MHz; Serial: D5GHzV2 - SN:1107

Program Name: 5500MHz Dipole Validation 2012.04.24

Procedure Name: 5500MHz @ 100mW

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.12$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.52, 4.52, 4.52); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

5500MHz @ 100mW/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 16.9 mW/g

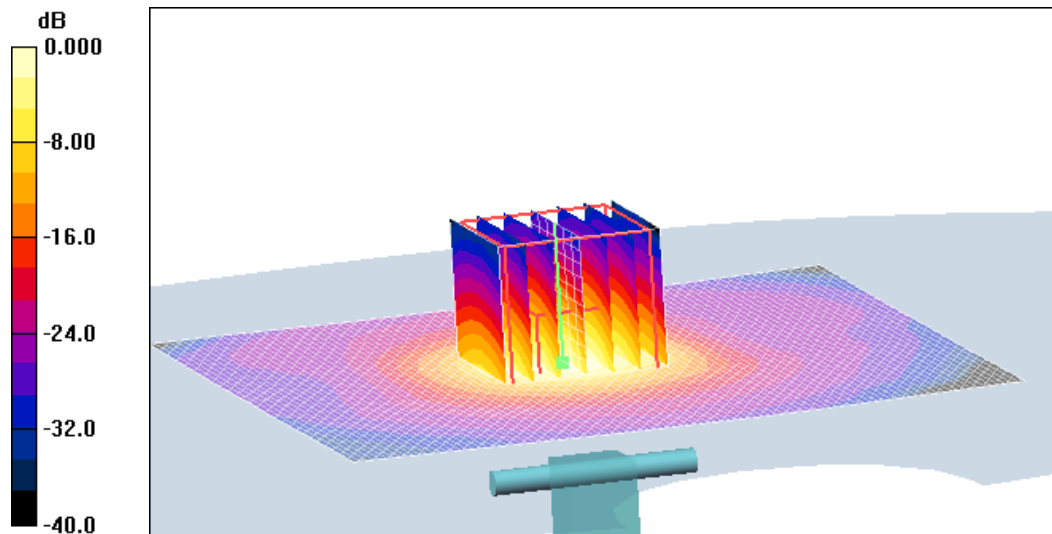
5500MHz @ 100mW/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 53.9 V/m; Power Drift = -0.119 dB

Peak SAR (extrapolated) = 35.5 W/kg

SAR(1 g) = 8.15 mW/g; SAR(10 g) = 2.31 mW/g

Maximum value of SAR (measured) = 17.2 mW/g



0 dB = 17.2mW/g

DUT: Dipole 5000 MHz; Serial: D5GHzV2 - SN:1107

Program Name: 5500MHz Dipole Validation 2012.04.26

Procedure Name: 5500MHz @ 100mW

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.81$ mho/m; $\epsilon_r = 46.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.38, 3.38, 3.38); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

5500MHz @ 100mW/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 18.7 mW/g

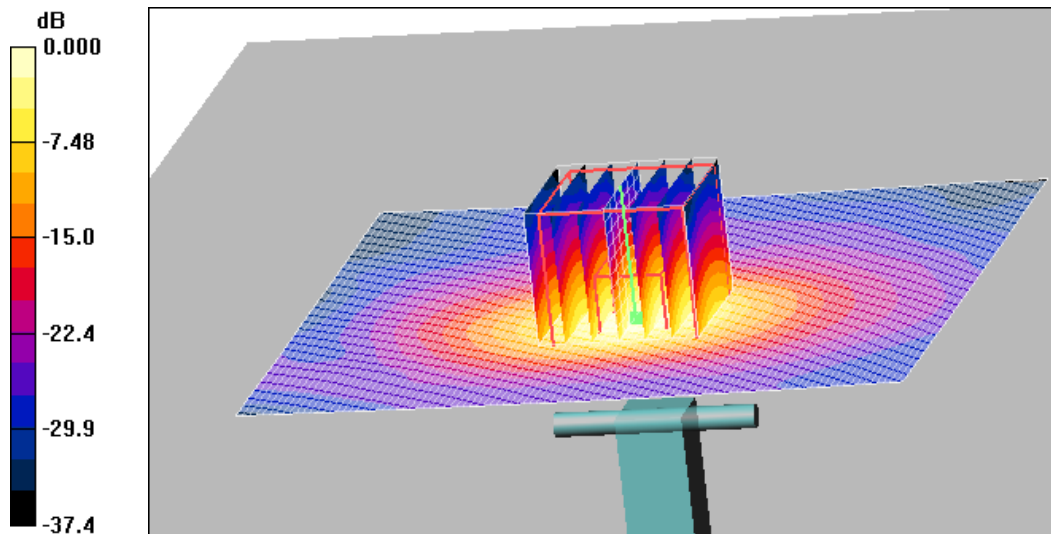
5500MHz @ 100mW/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 38.9 V/m; Power Drift = -0.078 dB

Peak SAR (extrapolated) = 33.0 W/kg

SAR(1 g) = 7.98 mW/g; SAR(10 g) = 2.24 mW/g

Maximum value of SAR (measured) = 16.7 mW/g



0 dB = 16.7mW/g

DUT: Dipole 5000 MHz; Serial: D5GHzV2 - SN:1107

Program Name: 5800MHz Dipole Validation 2012.04.24

Procedure Name: 5800MHz @ 100mW

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

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

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.38$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.28, 4.28, 4.28); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

5800MHz @ 100mW/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 17.8 mW/g

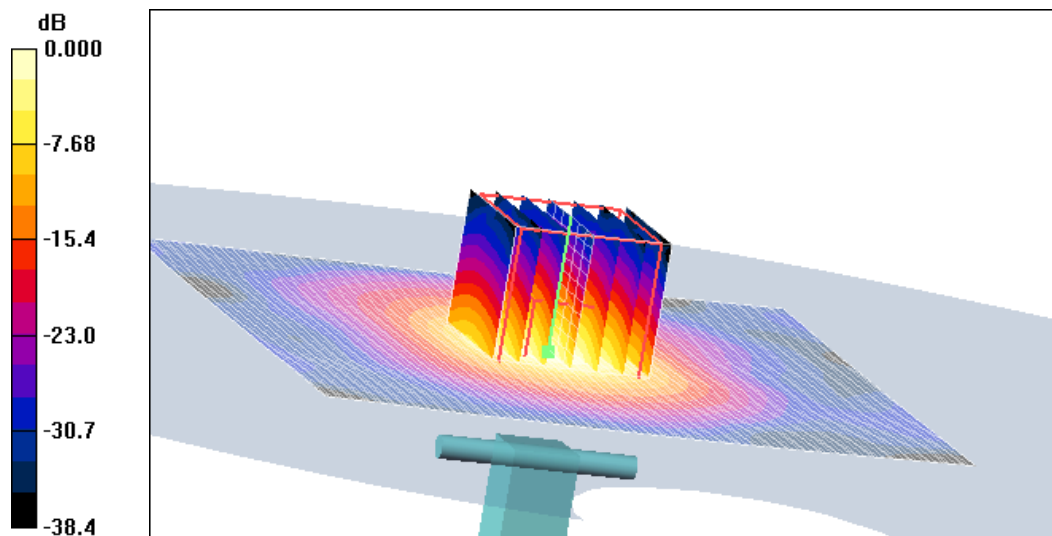
5800MHz @ 100mW/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 58.5 V/m; Power Drift = 0.124 dB

Peak SAR (extrapolated) = 39.7 W/kg

SAR(1 g) = 8.6 mW/g; SAR(10 g) = 2.45 mW/g

Maximum value of SAR (measured) = 17.9 mW/g



0 dB = 17.9mW/g

DUT: Dipole 5000 MHz; Serial: D5GHzV2 - SN:1107

Program Name: 5800MHz Dipole Validation 2012.04.26

Procedure Name: 5800MHz @ 100mW

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

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

Medium parameters used: $f = 5800$ MHz; $\sigma = 6.25$ mho/m; $\epsilon_r = 46$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.5, 3.5, 3.5); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

5800MHz @ 100mW/Area Scan (81x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 16.8 mW/g

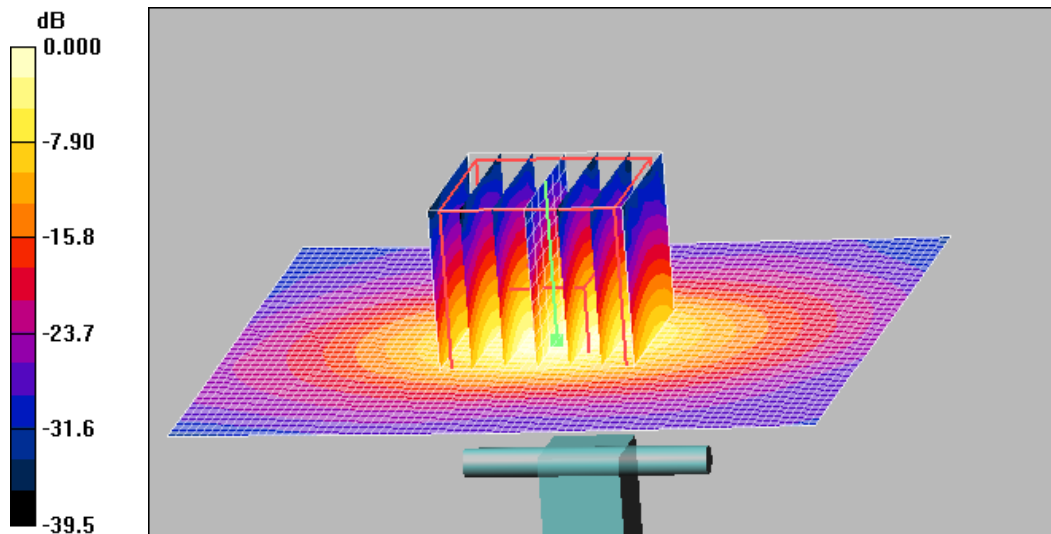
5800MHz @ 100mW/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 30.3 V/m; Power Drift = 0.190 dB

Peak SAR (extrapolated) = 32.9 W/kg

SAR(1 g) = 7.74 mW/g; SAR(10 g) = 2.16 mW/g

Maximum value of SAR (measured) = 16.8 mW/g



0 dB = 16.8mW/g

DUT: Dipole 5000 MHz; Serial: D5GHzV2 - SN:1107
Program Name: 5200MHz Dipole Validation 2012.06.04
Procedure Name: 5200MHz @ 100mW
Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: $f = 5200$ MHz; $\sigma = 5.38$ mho/m; $\epsilon_r = 47.3$; $\rho = 1000$ kg/m³
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.9, 3.9, 3.9); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

5200MHz @ 100mW/Area Scan (81x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 15.1 mW/g

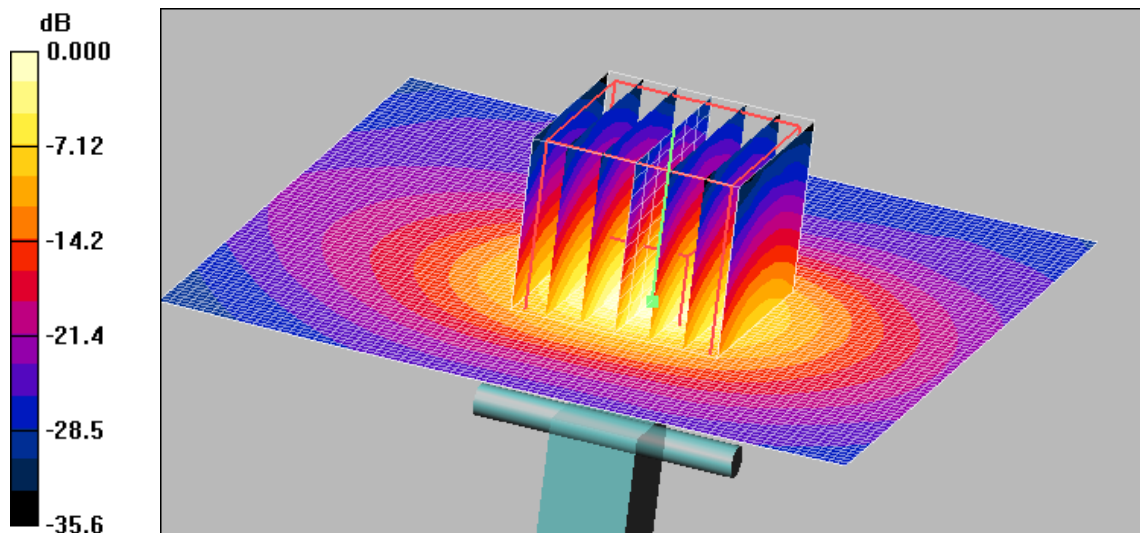
5200MHz @ 100mW/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 41.5 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 28.8 W/kg

SAR(1 g) = 7.25 mW/g; SAR(10 g) = 2.05 mW/g

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



0 dB = 15.3mW/g

DUT: Dipole 5000 MHz; Serial: D5GHzV2 - SN:1107
Program Name: 5500MHz Dipole Validation 2012.06.04
Procedure Name: 5500MHz @ 100mW
Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium parameters used: $f = 5500$ MHz; $\sigma = 5.92$ mho/m; $\epsilon_r = 47.4$; $\rho = 1000$ kg/m³
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.38, 3.38, 3.38); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

5500MHz @ 100mW/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 19.1 mW/g

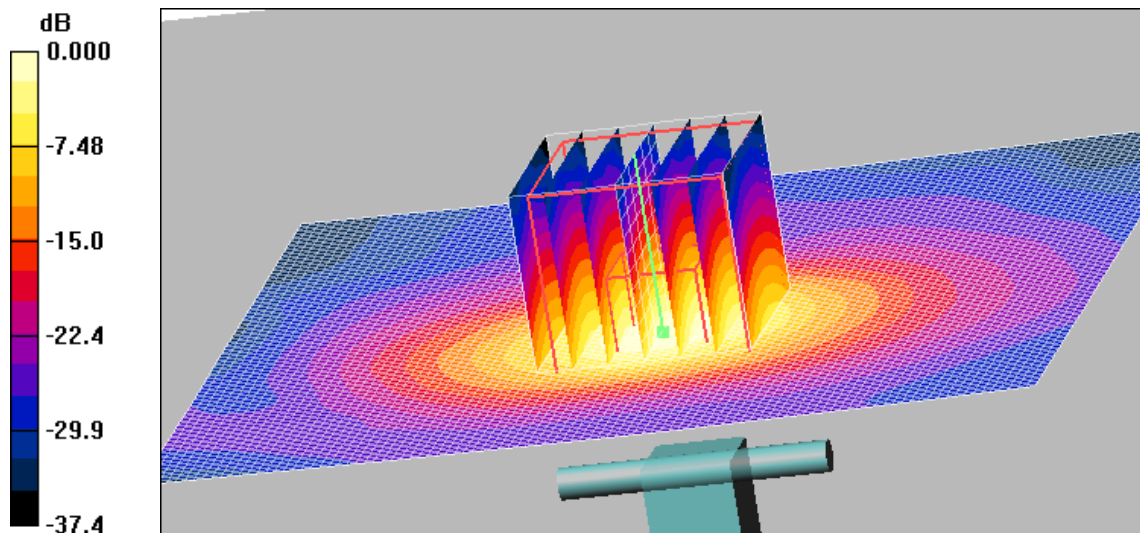
5500MHz @ 100mW/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 38.9 V/m; Power Drift = -0.078 dB

Peak SAR (extrapolated) = 33.6 W/kg

SAR(1 g) = 8.13 mW/g; SAR(10 g) = 2.28 mW/g

Maximum value of SAR (measured) = 17.0 mW/g



0 dB = 17.0mW/g

DUT: Dipole 5000 MHz; Serial: D5GHzV2 - SN:1107
Program Name: 5800MHz Dipole Validation 2012.06.04
Procedure Name: 5800MHz @ 100mW
Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: $f = 5800$ MHz; $\sigma = 6.28$ mho/m; $\epsilon_r = 46.3$; $\rho = 1000$ kg/m³
Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.5, 3.5, 3.5); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

5800MHz @ 100mW/Area Scan (81x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 16.8 mW/g

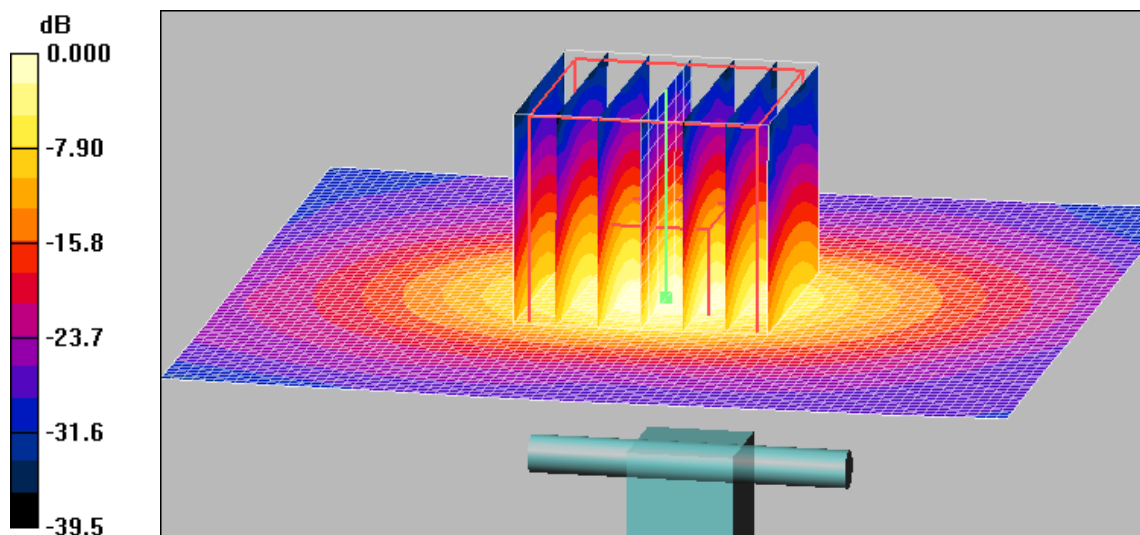
5800MHz @ 100mW/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 30.3 V/m; Power Drift = 0.190 dB

Peak SAR (extrapolated) = 33.1 W/kg

SAR(1 g) = 7.77 mW/g; SAR(10 g) = 2.17 mW/g

Maximum value of SAR (measured) = 16.9 mW/g



0 dB = 16.9mW/g

APPENDIX E

Plots of The SAR Measurements

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GSM1900 Right (Job No. : FJ-104)

Procedure Name: Cheek, Ch.661, Ant.Intenna, Bat.Standard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.661, Ant.Intenna, Bat.Standard/Area Scan (51x81x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.175 mW/g

Cheek, Ch.661, Ant.Intenna, Bat.Standard/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

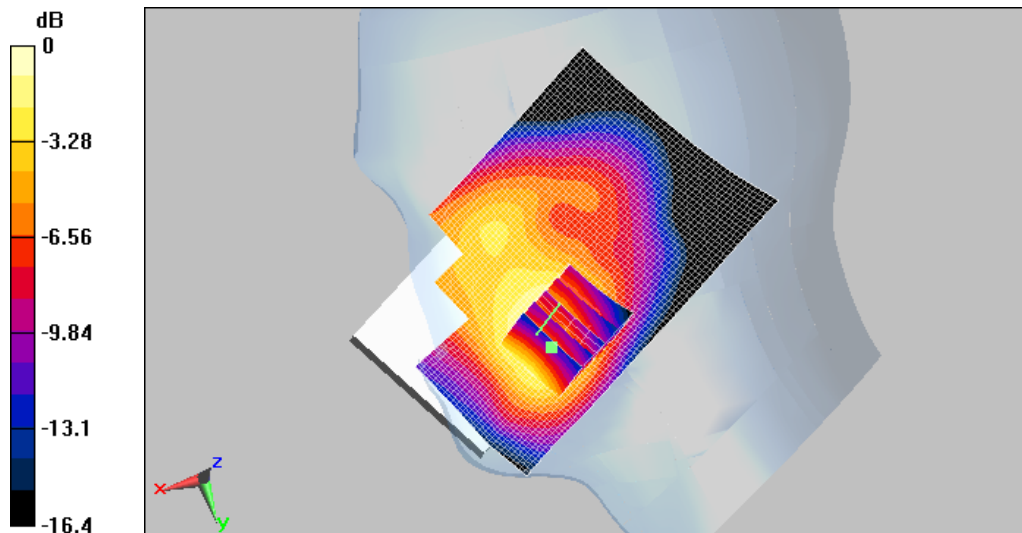
dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.26 V/m; Power Drift = 0.173 dB

Peak SAR (extrapolated) = 0.231 W/kg

SAR(1 g) = 0.149 mW/g; SAR(10 g) = 0.094 mW/g

Maximum value of SAR (measured) = 0.183 mW/g



0 dB = 0.183mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GSM1900 Right (Job No. : FJ-104)

Procedure Name: Tilt, Ch.661, Ant.Intenna, Bat.Standard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.661, Ant.Intenna, Bat.Standard/Area Scan (51x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.108 mW/g

Tilt, Ch.661, Ant.Intenna, Bat.Standard/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

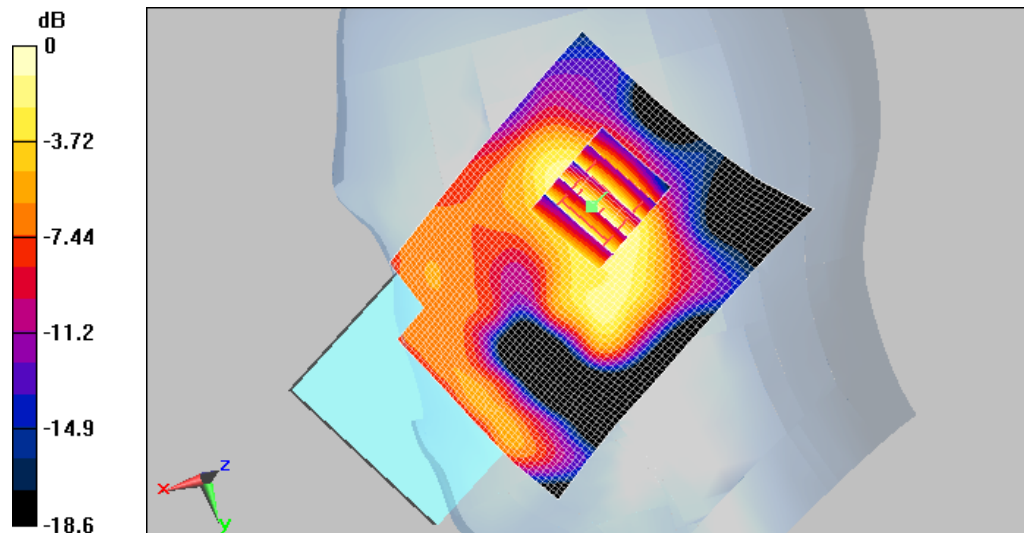
dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.52 V/m; Power Drift = -0.094 dB

Peak SAR (extrapolated) = 0.121 W/kg

SAR(1 g) = 0.076 mW/g; SAR(10 g) = 0.045 mW/g

Maximum value of SAR (measured) = 0.098 mW/g



0 dB = 0.098mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GSM1900 Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.661, Ant.Intenna, Bat.Standard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.661, Ant.Intenna, Bat.Standard/Area Scan (51x81x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.246 mW/g

Cheek, Ch.661, Ant.Intenna, Bat.Standard/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

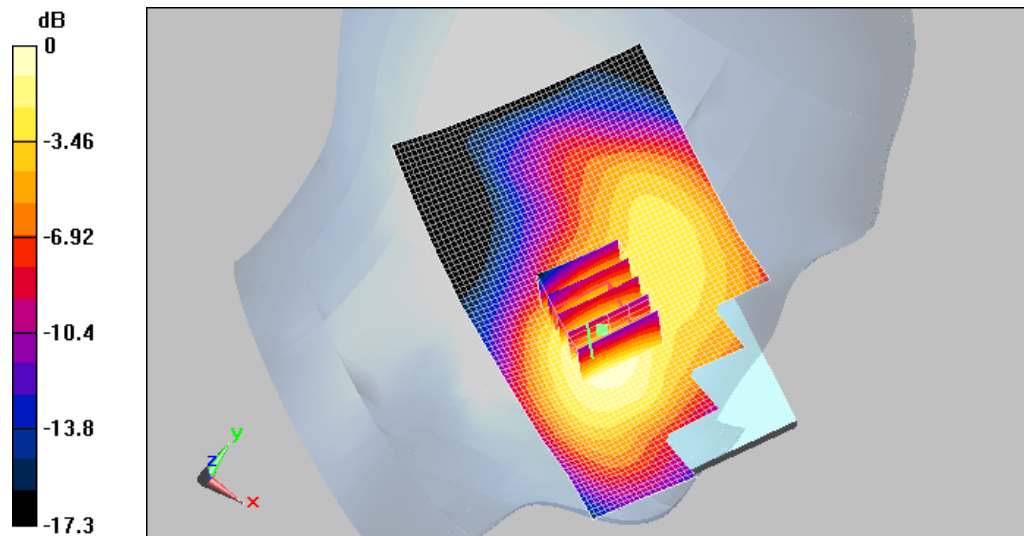
dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.4 V/m; Power Drift = 0.00273 dB

Peak SAR (extrapolated) = 0.288 W/kg

SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.122 mW/g

Maximum value of SAR (measured) = 0.239 mW/g



0 dB = 0.239mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GSM1900 Left (Job No. : FJ-104)

Procedure Name: Tilt, Ch.661, Ant.Intenna, Bat.Standard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.661, Ant.Intenna, Bat.Standard/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Tilt, Ch.661, Ant.Intenna, Bat.Standard/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid:

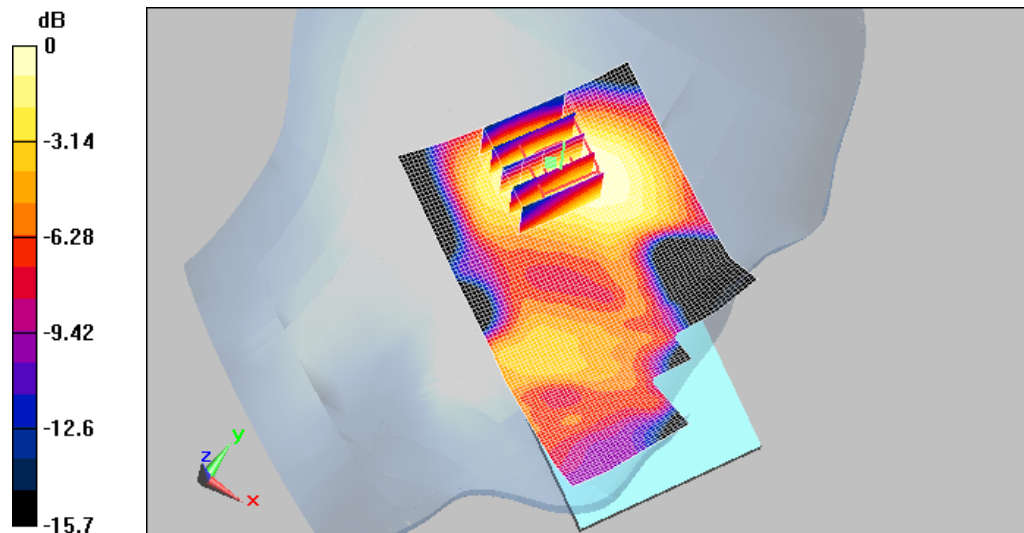
dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.83 V/m; Power Drift = 0.153 dB

Peak SAR (extrapolated) = 0.122 W/kg

SAR(1 g) = 0.081 mW/g; SAR(10 g) = 0.052 mW/g

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



0 dB = 0.099mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GSM1900 Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.661, Ant.Intenna, Bat.Standard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.661, Ant.Intenna, Bat.Standard/Area Scan (51x81x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.246 mW/g

Cheek, Ch.661, Ant.Intenna, Bat.Standard/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

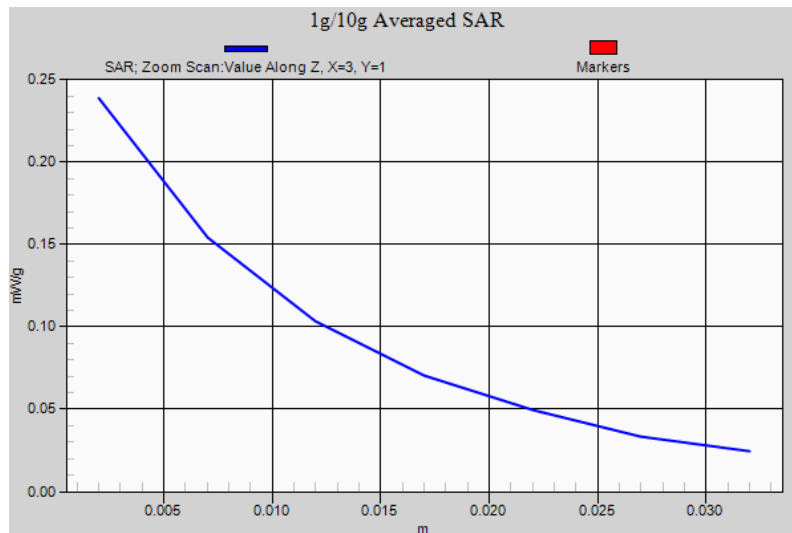
dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.4 V/m; Power Drift = 0.00273 dB

Peak SAR (extrapolated) = 0.288 W/kg

SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.122 mW/g

Maximum value of SAR (measured) = 0.239 mW/g



DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GSM1900 Body (Job No. : FJ-104)

Procedure Name: Ch.661, Ant.Intenna, Bat.Standard, 1Tx, Back, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: Body GPRS ; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.56 \text{ mho/m}$; $\epsilon_r = 52.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Ch.661, Ant.Intenna, Bat.Standard, 1Tx, Back, 10mm/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.415 mW/g

Ch.661, Ant.Intenna, Bat.Standard, 1Tx, Back, 10mm/Zoom Scan 2 2 (5x5x7)/Cube 0:

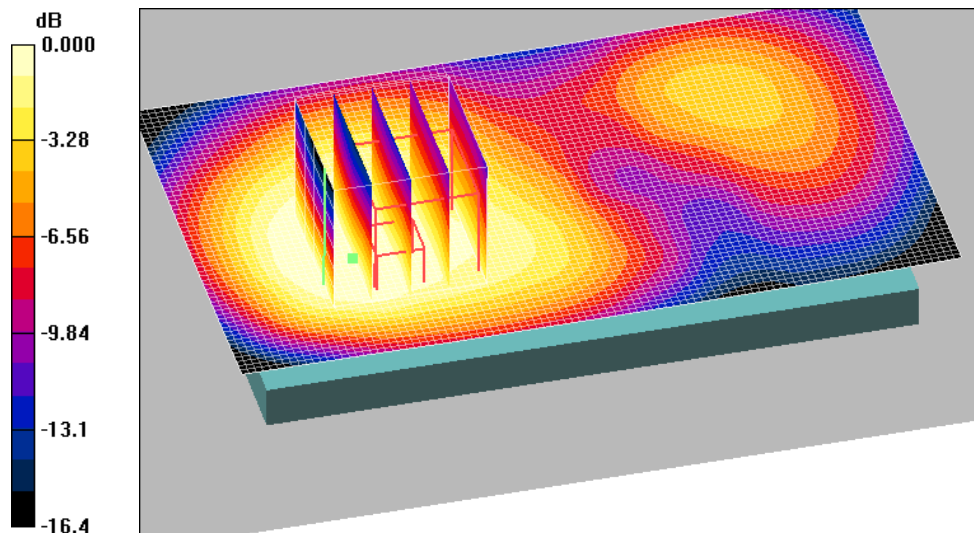
Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.03 V/m; Power Drift = -0.131 dB

Peak SAR (extrapolated) = 0.572 W/kg

SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.195 mW/g

Maximum value of SAR (measured) = 0.412 mW/g



0 dB = 0.412mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GPRS1900 Body (Job No. : FJ-104)

Procedure Name: Ch. 661, Ant. Intenna, Bat. Standard, Front, 1Tx, 10mm

Meas. Ambient Temp(celsius)-21.8,Tissue Temp(celsius)-21.6;Test Date-04/Jun/2012

Communication System: GSM1900 GPRS; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3752; ConvF(7.38, 7.38, 7.38); Calibrated: 2012-01-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn486; Calibrated: 2012-01-19
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1010
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch. 661, Ant. Intenna, Bat. Standard, Front, 1Tx, 10mm/Area Scan (51x71x1): Measurement

grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.197 mW/g

Ch. 661, Ant. Intenna, Bat. Standard, Front, 1Tx, 10mm/Zoom Scan (5x5x7)/Cube 0:

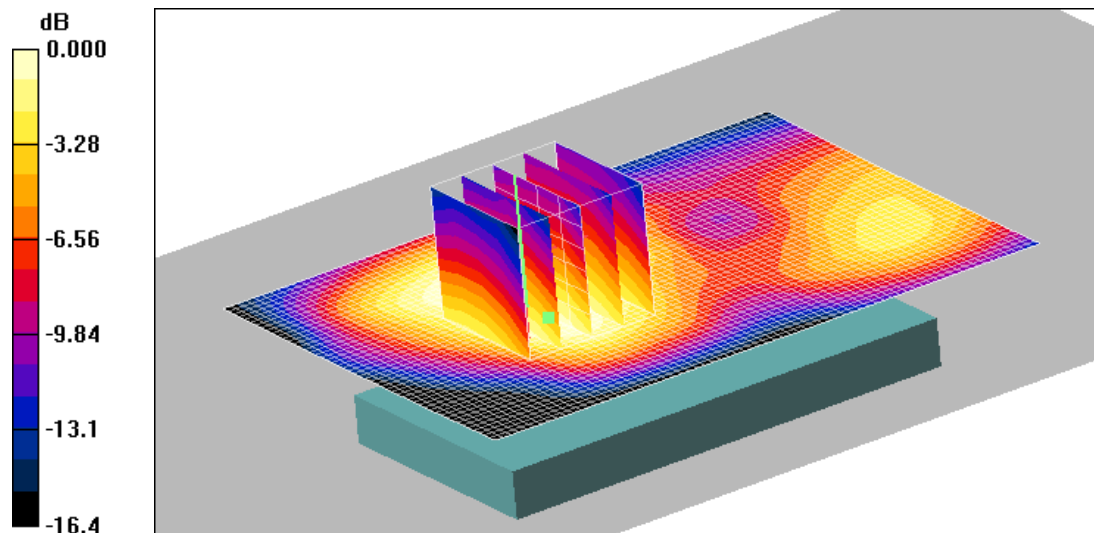
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.77 V/m; Power Drift = 0.036 dB

Peak SAR (extrapolated) = 0.234 W/kg

SAR(1 g) = 0.156 mW/g; SAR(10 g) = 0.102 mW/g

Maximum value of SAR (measured) = 0.166 mW/g



0 dB = 0.166mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GPRS1900 Body (Job No. : FJ-104)

Procedure Name: Ch. 661, Ant. Intenna, Bat. Standard, Left , 1Tx, 10mm

Meas. Ambient Temp(celsius)-21.8,Tissue Temp(celsius)-21.6;Test Date-04/Jun/2012

Communication System: GSM1900 GPRS; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3752; ConvF(7.38, 7.38, 7.38); Calibrated: 2012-01-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn486; Calibrated: 2012-01-19
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1010
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch. 661, Ant. Intenna, Bat. Standard, Left , 1Tx, 10mm/Area Scan (51x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.102 mW/g

Ch. 661, Ant. Intenna, Bat. Standard, Left , 1Tx, 10mm/Zoom Scan (5x5x7)/Cube 0:

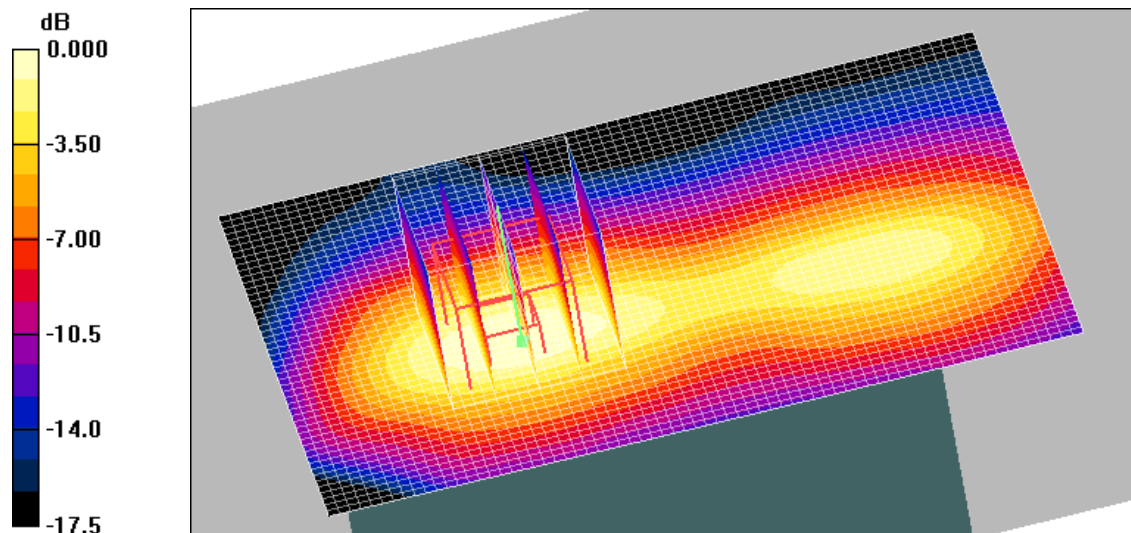
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.97 V/m; Power Drift = 0.038 dB

Peak SAR (extrapolated) = 0.143 W/kg

SAR(1 g) = 0.090 mW/g; SAR(10 g) = 0.054 mW/g

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



0 dB = 0.099mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GPRS1900 Body (Job No. : FJ-104)

Procedure Name: Body, Ch. 661, Ant. Intenna, Bat. Standard, Bottom, 1Tx, 10mm

Meas. Ambient Temp(celsius)-21.8,Tissue Temp(celsius)-21.6;Test Date-04/Jun/2012

Communication System: GSM1900 GPRS; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3752; ConvF(7.38, 7.38, 7.38); Calibrated: 2012-01-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn486; Calibrated: 2012-01-19
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1010
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch. 661, Ant. Intenna, Bat. Standard, Bottom, 1Tx, 10mm/Area Scan (51x71x1):

Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.085 mW/g

Ch. 661, Ant. Intenna, Bat. Standard, Bottom, 1Tx, 10mm/Zoom Scan (5x5x7)/Cube 0:

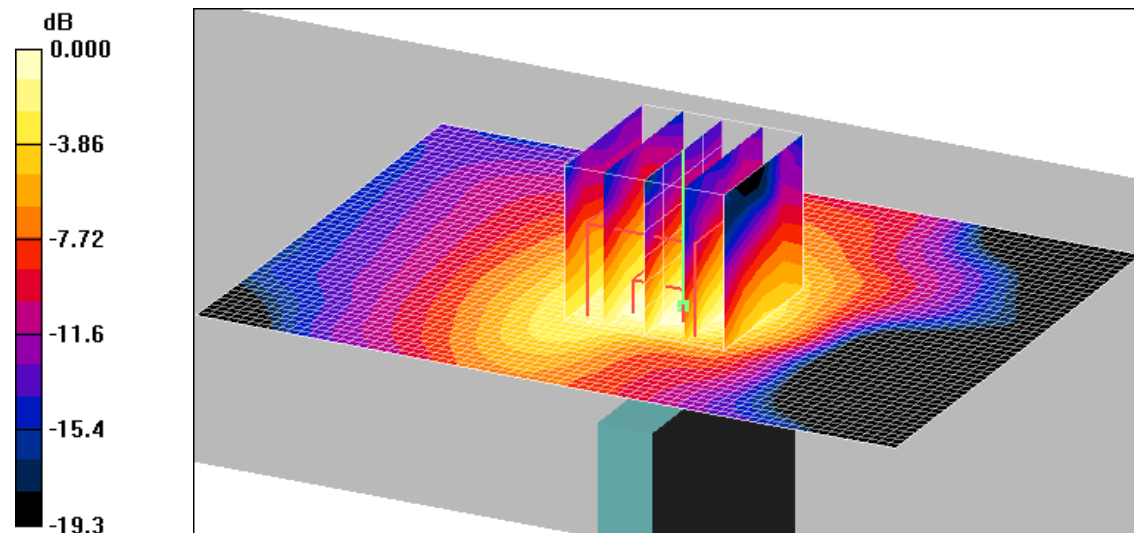
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.42 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 0.124 W/kg

SAR(1 g) = 0.072 mW/g; SAR(10 g) = 0.041 mW/g

Maximum value of SAR (measured) = 0.079 mW/g



0 dB = 0.079mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GPRS1900 Body (Job No. : FJ-104)

Procedure Name: Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Back, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: Body GPRS ; Frequency: 1880 MHz;Duty Cycle: 1:4.15

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Back, 10mm/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.358 mW/g

Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Back, 10mm/Zoom Scan (5x5x7)/Cube 0:

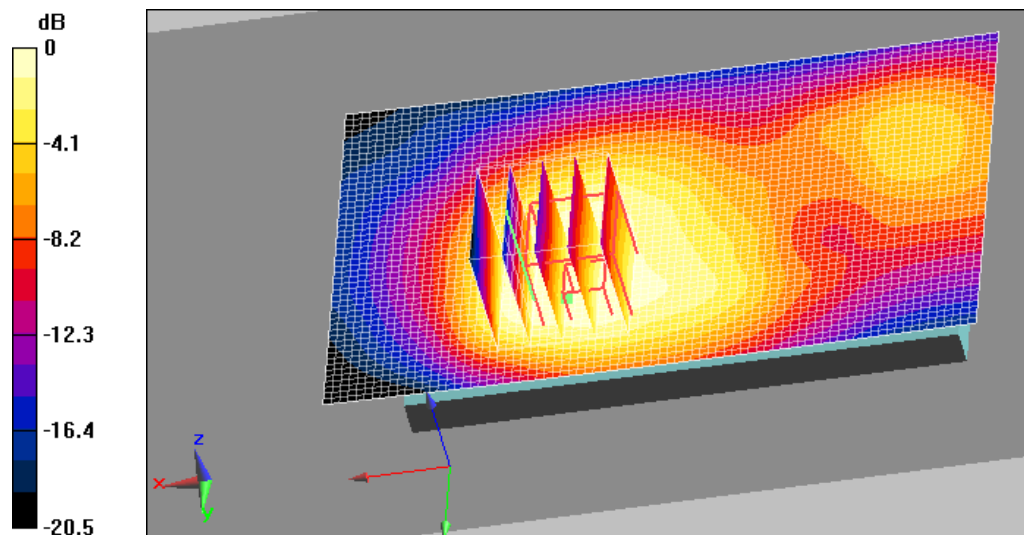
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.6 V/m; Power Drift = 0.023 dB

Peak SAR (extrapolated) = 0.416 W/kg

SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.144 mW/g

Maximum value of SAR (measured) = 0.318 mW/g



0 dB = 0.318mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GPRS1900 Body (Job No. : FJ-104)

Procedure Name: Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Front, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: Body GPRS ; Frequency: 1880 MHz;Duty Cycle: 1:4.15

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Front, 10mm/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.356 mW/g

Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Front, 10mm/Zoom Scan (5x5x7)/Cube 0:

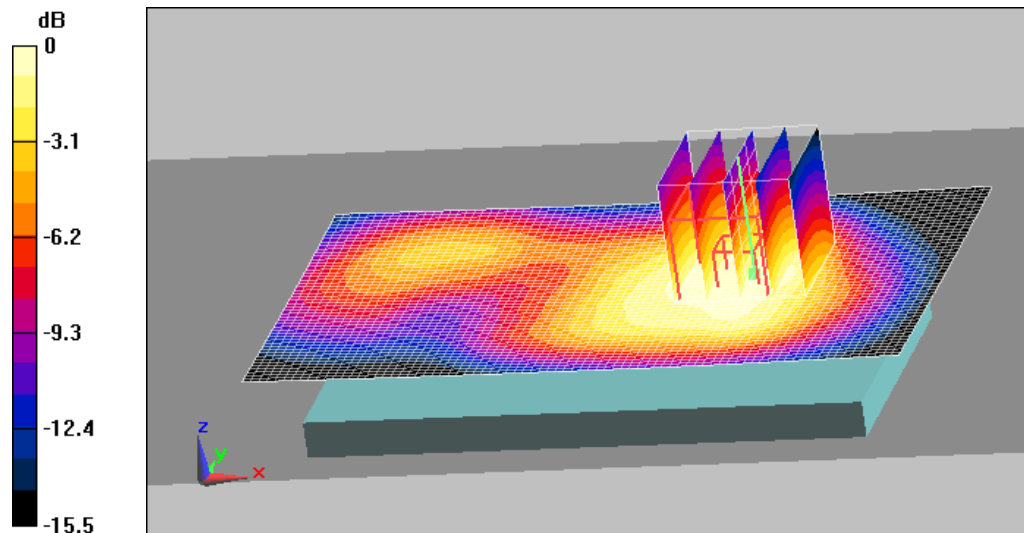
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.7 V/m; Power Drift = 0.106 dB

Peak SAR (extrapolated) = 0.370 W/kg

SAR(1 g) = 0.249 mW/g; SAR(10 g) = 0.163 mW/g

Maximum value of SAR (measured) = 0.312 mW/g



0 dB = 0.312mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GPRS1900 Body (Job No. : FJ-104)

Procedure Name: Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Left, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: Body GPRS ; Frequency: 1880 MHz;Duty Cycle: 1:4.15

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Left, 10mm/Area Scan (41x81x1): Measurement

grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.161 mW/g

Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Left, 10mm/Zoom Scan (5x5x7)/Cube 0:

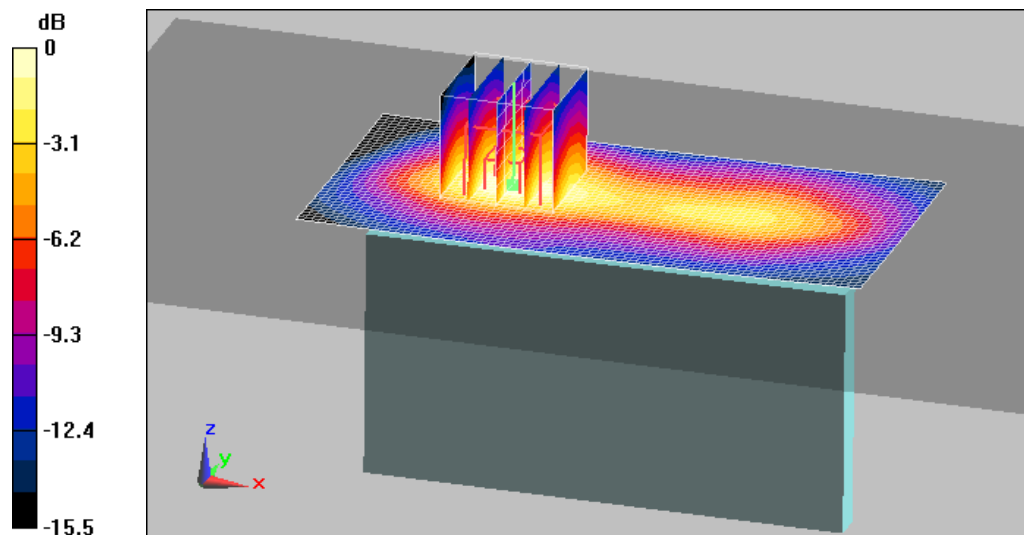
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.41 V/m; Power Drift = -0.078 dB

Peak SAR (extrapolated) = 0.192 W/kg

SAR(1 g) = 0.120 mW/g; SAR(10 g) = 0.070 mW/g

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



0 dB = 0.158mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GPRS1900 Body (Job No. : FJ-104)

Procedure Name: Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Bottom, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: Body GPRS ; Frequency: 1880 MHz;Duty Cycle: 1:4.15

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Bottom, 10mm/Area Scan (61x41x1):

Measurement grid: dx=20mm, dy=20mm

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

Ch.661, Ant.Intenna, Bat.Standard, 2Tx, Bottom, 10mm/Zoom Scan (5x5x7)/Cube 0:

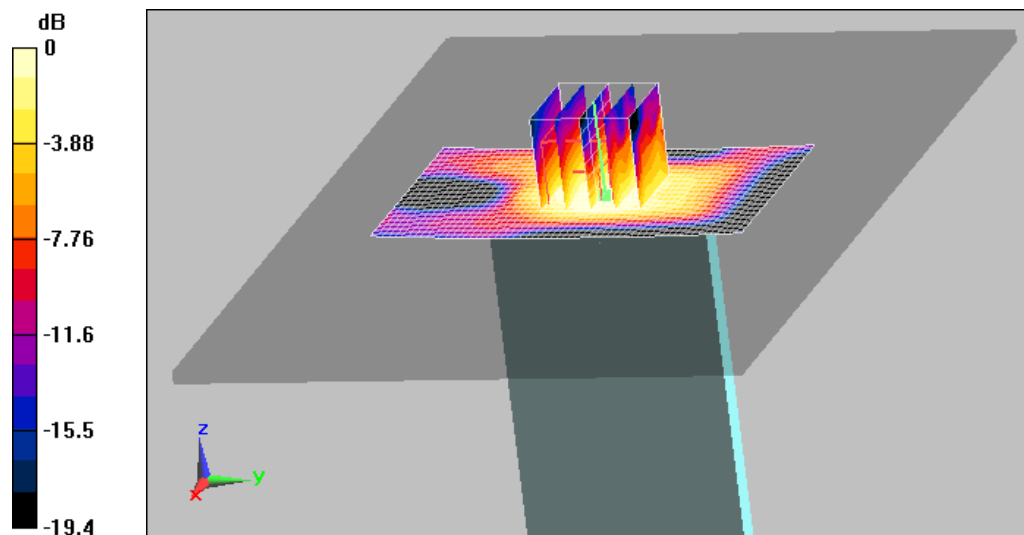
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.5 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.214 W/kg

SAR(1 g) = 0.109 mW/g; SAR(10 g) = 0.050 mW/g

Maximum value of SAR (measured) = 0.154 mW/g



0 dB = 0.154mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S GSM1900 Body (Job No. : FJ-104)

Procedure Name: Ch.661, Ant.Intenna, Bat.Standard, 1Tx, Back, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: Body GPRS ; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Ch.661, Ant.Intenna, Bat.Standard, 1Tx, Back, 10mm/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.415 mW/g

Ch.661, Ant.Intenna, Bat.Standard, 1Tx, Back, 10mm/Zoom Scan 2 2 (5x5x7)/Cube 0:

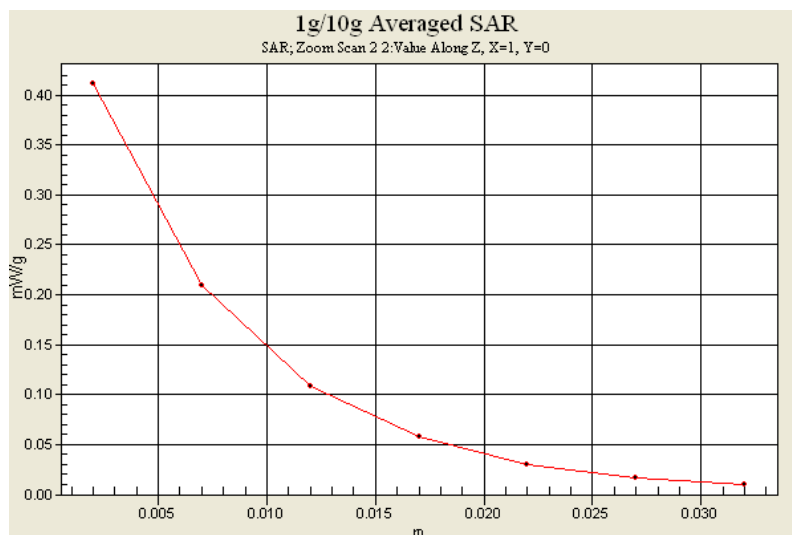
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.03 V/m; Power Drift = -0.131 dB

Peak SAR (extrapolated) = 0.572 W/kg

SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.195 mW/g

Maximum value of SAR (measured) = 0.412 mW/g



DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WCDMA1900 Right (Job No.: FJ-104)

Procedure Name: Cheek/Touch, Ch9400, Ant.Intenna, Bat.Satandard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek/Touch, Ch9400, Ant.Intenna, Bat.Satandard/Area Scan (51x71x1): Measurement

grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.400 mW/g

Cheek/Touch, Ch9400, Ant.Intenna, Bat.Satandard/Zoom Scan (5x5x7)/Cube 0:

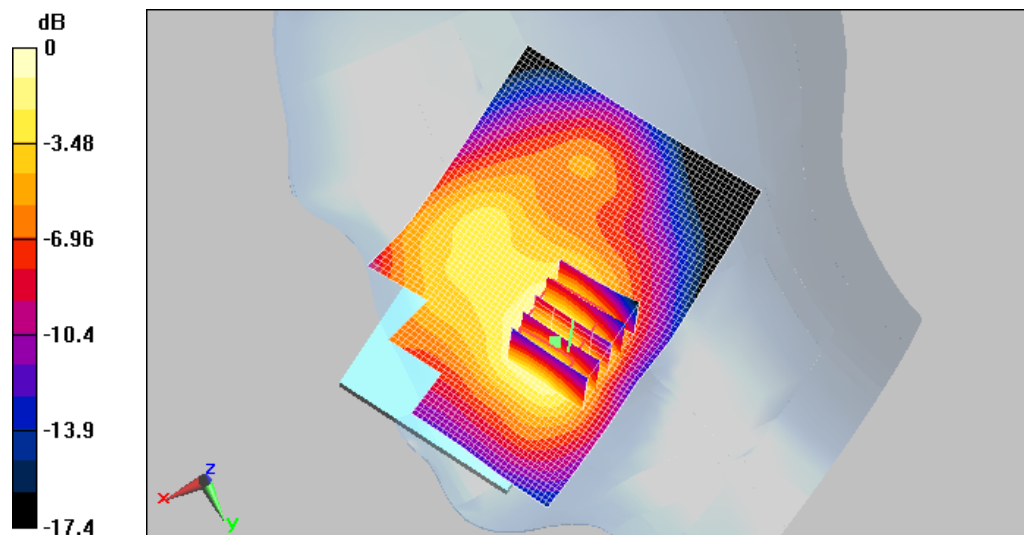
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13 V/m; Power Drift = 0.102 dB

Peak SAR (extrapolated) = 0.600 W/kg

SAR(1 g) = 0.407 mW/g; SAR(10 g) = 0.259 mW/g

Maximum value of SAR (measured) = 0.419 mW/g



0 dB = 0.419mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WCDMA1900 Right (Job No.: FJ-104)

Procedure Name: Ear/Tilt, Ch.9400, Ant.Intenna, Bat.Standard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ear/Tilt, Ch.9400, Ant.Intenna, Bat.Standard/Area Scan (51x71x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.245 mW/g

Ear/Tilt, Ch.9400, Ant.Intenna, Bat.Standard/Zoom Scan (5x5x7)/Cube 0: Measurement

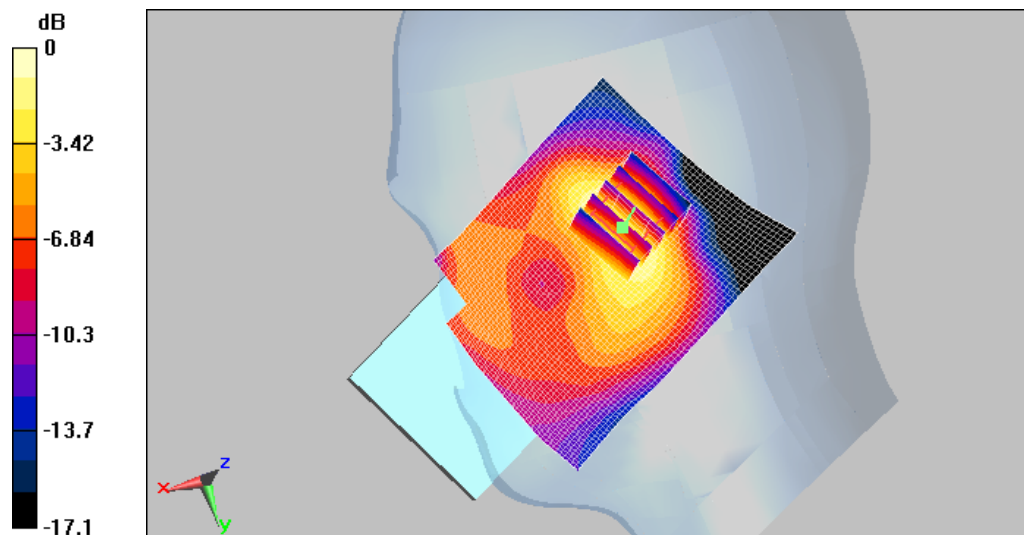
grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.3 V/m; Power Drift = 0.040 dB

Peak SAR (extrapolated) = 0.340 W/kg

SAR(1 g) = 0.212 mW/g; SAR(10 g) = 0.125 mW/g

Maximum value of SAR (measured) = 0.226 mW/g



0 dB = 0.226mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WCDMA1900 Left (Job No.:FJ-104)

Procedure Name: Cheek/Touch, Ch.9400, Ant.Intenna, Bat.Satandard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek/Touch, Ch.9400, Ant.Intenna, Bat.Satandard/Area Scan (51x71x1): Measurement

grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.586 mW/g

Cheek/Touch, Ch.9400, Ant.Intenna, Bat.Satandard/Zoom Scan (5x5x7)/Cube 0:

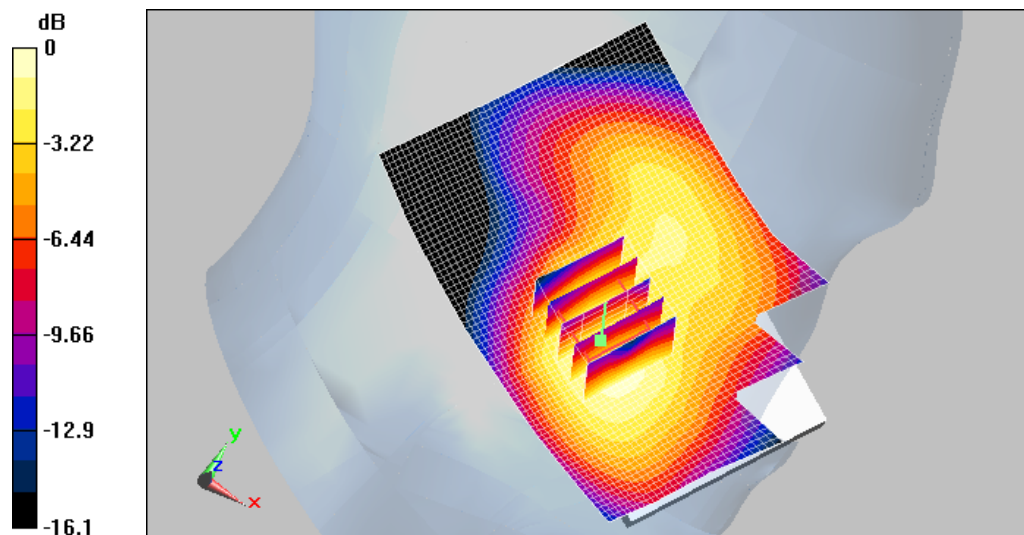
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.4 V/m; Power Drift = 0.186 dB

Peak SAR (extrapolated) = 0.739 W/kg

SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.315 mW/g

Maximum value of SAR (measured) = 0.596 mW/g



0 dB = 0.596mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WCDMA1900 Left (Job No.:FJ-104)

Procedure Name: Ear/Tilt, Ch.9400, Ant.Intenna, Bat.Standard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ear/Tilt, Ch.9400, Ant.Intenna, Bat.Standard/Area Scan (51x71x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.366 mW/g

Ear/Tilt, Ch.9400, Ant.Intenna, Bat.Standard/Zoom Scan (5x5x7)/Cube 0: Measurement

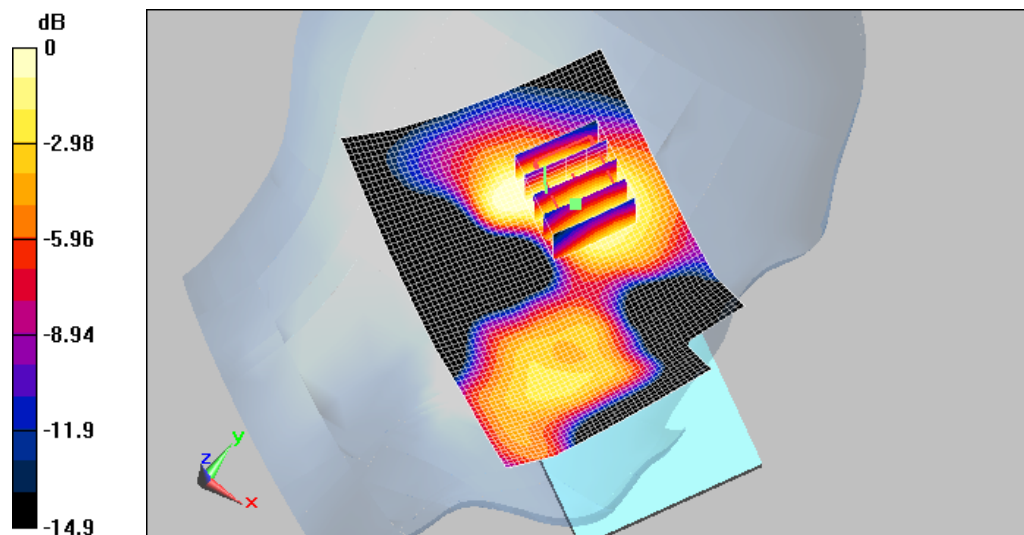
grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13 V/m; Power Drift = -0.000291 dB

Peak SAR (extrapolated) = 0.324 W/kg

SAR(1 g) = 0.218 mW/g; SAR(10 g) = 0.144 mW/g

Maximum value of SAR (measured) = 0.269 mW/g



0 dB = 0.269mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WCDMA1900 Left (Job No.:FJ-104)

Procedure Name: Cheek/Touch, Ch.9400, Ant.Intenna, Bat.Satandard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-22.1;Test Date-23/Apr/2012

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7, 7, 7); Calibrated: 2011-05-24

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1603

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek/Touch, Ch.9400, Ant.Intenna, Bat.Satandard/Area Scan (51x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.586 mW/g

Cheek/Touch, Ch.9400, Ant.Intenna, Bat.Satandard/Zoom Scan (5x5x7)/Cube 0:

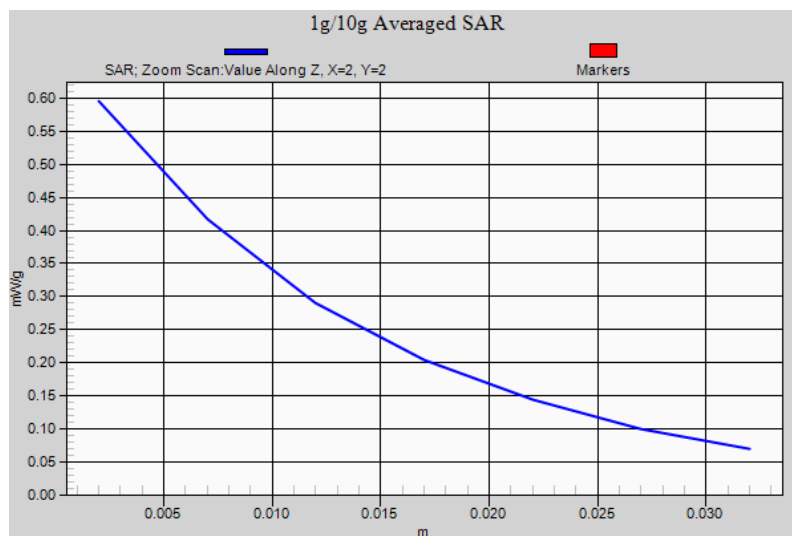
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.4 V/m; Power Drift = 0.186 dB

Peak SAR (extrapolated) = 0.739 W/kg

SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.315 mW/g

Maximum value of SAR (measured) = 0.596 mW/g



DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WCDMA1900 Body (Job No. : FJ-104)

Procedure Name: Ch.9400, Ant.Intenna, Bat.Standard, Back, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.9400, Ant.Intenna, Bat.Standard, Back, 10mm/Area Scan (51x71x1): Measurement grid:

$dx=20$ mm, $dy=20$ mm

Maximum value of SAR (interpolated) = 1.19 mW/g

Ch.9400, Ant.Intenna, Bat.Standard, Back, 10mm/Zoom Scan (5x5x7)/Cube 0:

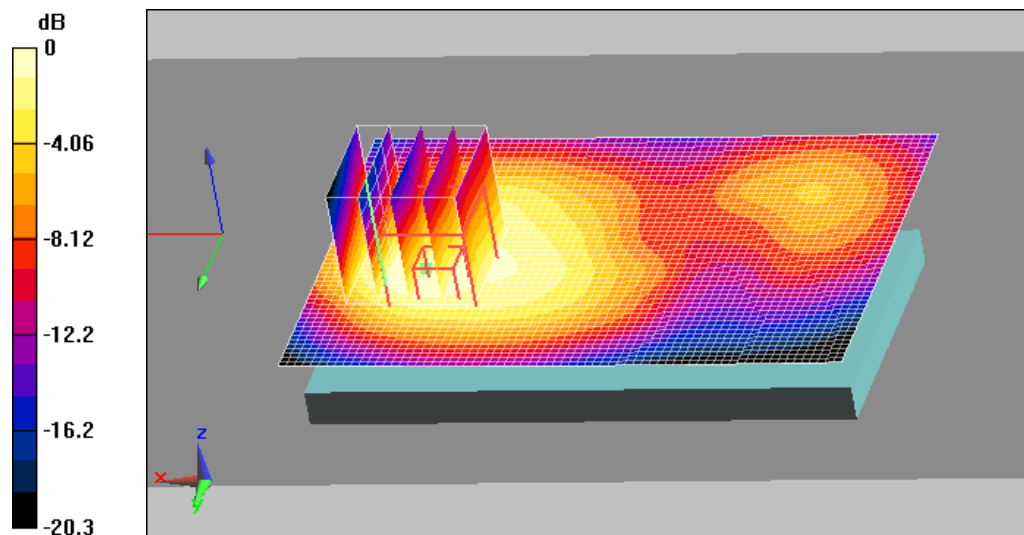
Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 14.5 V/m; Power Drift = 0.154 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.660 mW/g; SAR(10 g) = 0.407 mW/g

Maximum value of SAR (measured) = 0.968 mW/g



0 dB = 0.968mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WCDMA1900 Body (Job No. : FJ-104)

Procedure Name: Ch.9400, Ant.Intenna, Bat.Standard, Front, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.9400, Ant.Intenna, Bat.Standard, Front, 10mm/Area Scan (51x71x1): Measurement grid:

$dx=20$ mm, $dy=20$ mm

Maximum value of SAR (interpolated) = 0.894 mW/g

Ch.9400, Ant.Intenna, Bat.Standard, Front, 10mm/Zoom Scan (5x5x7)/Cube 0:

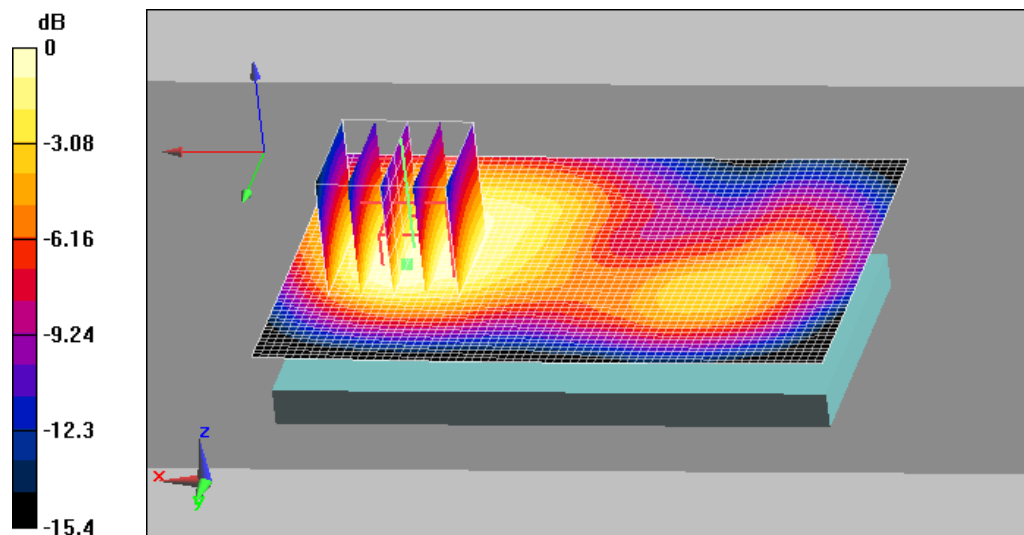
Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 12 V/m; Power Drift = 0.095 dB

Peak SAR (extrapolated) = 0.951 W/kg

SAR(1 g) = 0.646 mW/g; SAR(10 g) = 0.423 mW/g

Maximum value of SAR (measured) = 0.793 mW/g



0 dB = 0.793mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WCDMA1900 Body (Job No. : FJ-104)

Procedure Name: Ch.9400, Ant.Intenna, Bat.Standard, Left, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.9400, Ant.Intenna, Bat.Standard, Left, 10mm/Area Scan (41x71x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.465 mW/g

Ch.9400, Ant.Intenna, Bat.Standard, Left, 10mm/Zoom Scan (5x5x7)/Cube 0: Measurement

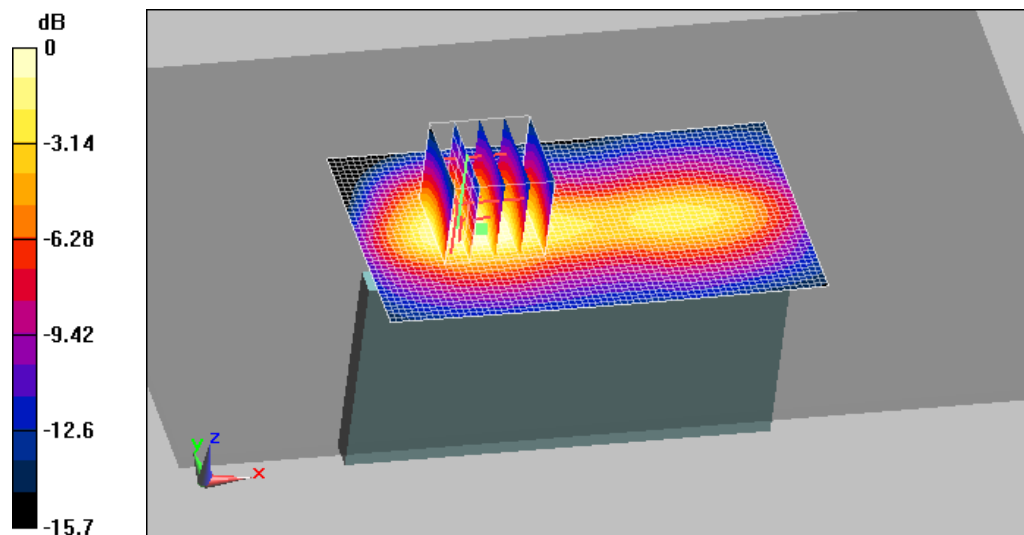
grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.7 V/m; Power Drift = -0.106 dB

Peak SAR (extrapolated) = 0.576 W/kg

SAR(1 g) = 0.357 mW/g; SAR(10 g) = 0.208 mW/g

Maximum value of SAR (measured) = 0.468 mW/g



0 dB = 0.468mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WCDMA1900 Body (Job No. : FJ-104)

Procedure Name: Ch.9400, Ant.Intenna, Bat.Standard, Bottom, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.9400, Ant.Intenna, Bat.Standard, Bottom, 10mm/Area Scan (61x41x1): Measurement

grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.442 mW/g

Ch.9400, Ant.Intenna, Bat.Standard, Bottom, 10mm/Zoom Scan (5x5x7)/Cube 0:

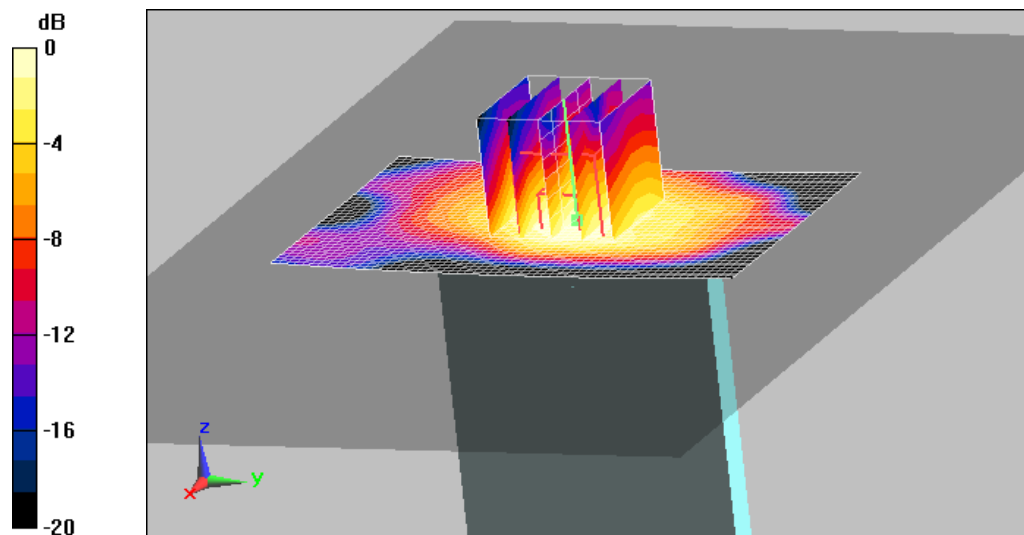
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.1 V/m; Power Drift = -0.126 dB

Peak SAR (extrapolated) = 0.505 W/kg

SAR(1 g) = 0.313 mW/g; SAR(10 g) = 0.176 mW/g

Maximum value of SAR (measured) = 0.418 mW/g



0 dB = 0.418mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WCDMA1900 Body (Job No. : FJ-104)

Procedure Name: Ch.9400, Ant.Intenna, Bat.Standard, Back, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.0;Test Date-24/Apr/2012

Communication System: WCDMA1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(7.04, 7.04, 7.04); Calibrated: 2011-05-24

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.9400, Ant.Intenna, Bat.Standard, Back, 10mm/Area Scan (51x71x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.19 mW/g

Ch.9400, Ant.Intenna, Bat.Standard, Back, 10mm/Zoom Scan (5x5x7)/Cube 0:

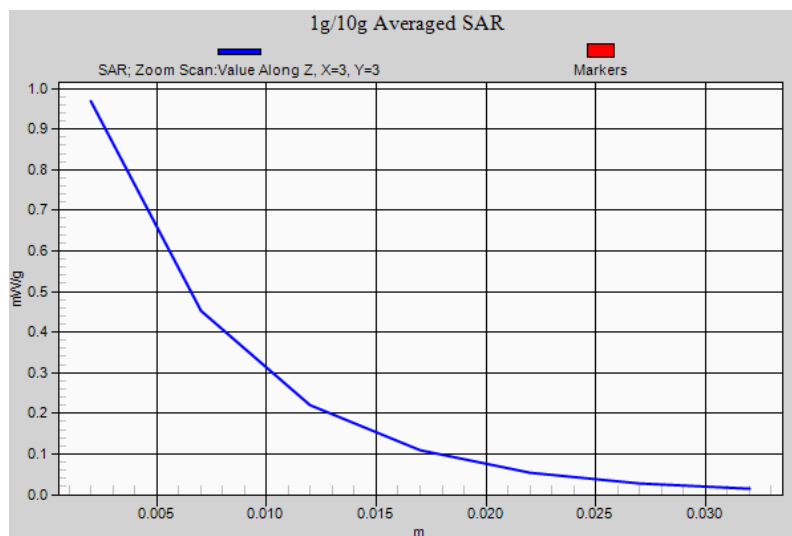
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.5 V/m; Power Drift = 0.154 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.660 mW/g; SAR(10 g) = 0.407 mW/g

Maximum value of SAR (measured) = 0.968 mW/g



DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN Right(Job No. : FJ-104)

Procedure Name: Cheek, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.8;Test Date-20/Apr/2012

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.36, 6.36, 6.36); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: SAM PHANTOM #2; Type: SAM; Serial: TP-1425
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps/Area Scan (51x71x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.183 mW/g

Cheek, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps/Zoom Scan (5x5x7)/Cube 0:

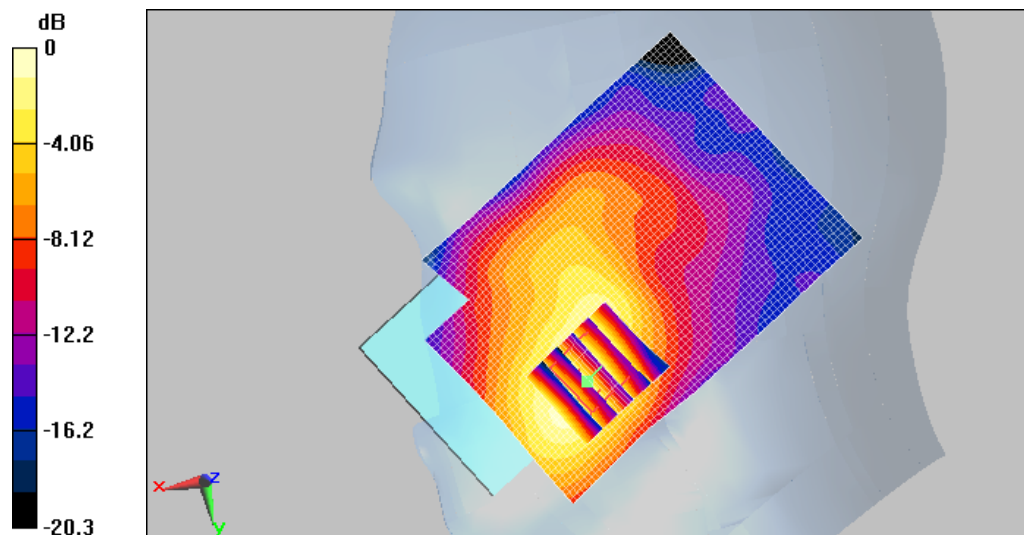
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.48 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 0.305 W/kg

SAR(1 g) = 0.176 mW/g; SAR(10 g) = 0.100 mW/g

Maximum value of SAR (measured) = 0.193 mW/g



0 dB = 0.193mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN Right(Job No. : FJ-104)

Procedure Name: Tilted, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.8;Test Date-20/Apr/2012

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.36, 6.36, 6.36); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: SAM PHANTOM #2; Type: SAM; Serial: TP-1425
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilted, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps/Area Scan (51x71x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.083 mW/g

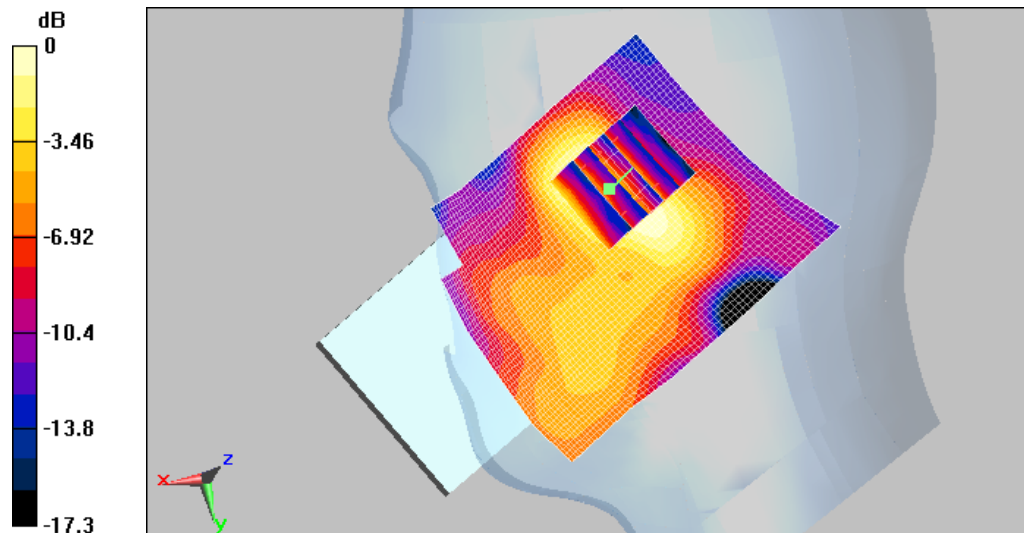
Tilted, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.59 V/m; Power Drift = -0.113 dB

Peak SAR (extrapolated) = 0.124 W/kg

SAR(1 g) = 0.071 mW/g; SAR(10 g) = 0.041 mW/g

Maximum value of SAR (measured) = 0.074 mW/g



0 dB = 0.074mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN Left(Job No. : FJ-104)

Procedure Name: Cheek, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.8;Test Date-20/Apr/2012

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.36, 6.36, 6.36); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: SAM PHANTOM #2; Type: SAM; Serial: TP-1425
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps/Area Scan (51x71x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.104 mW/g

Cheek, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps/Zoom Scan (5x5x7)/Cube 0:

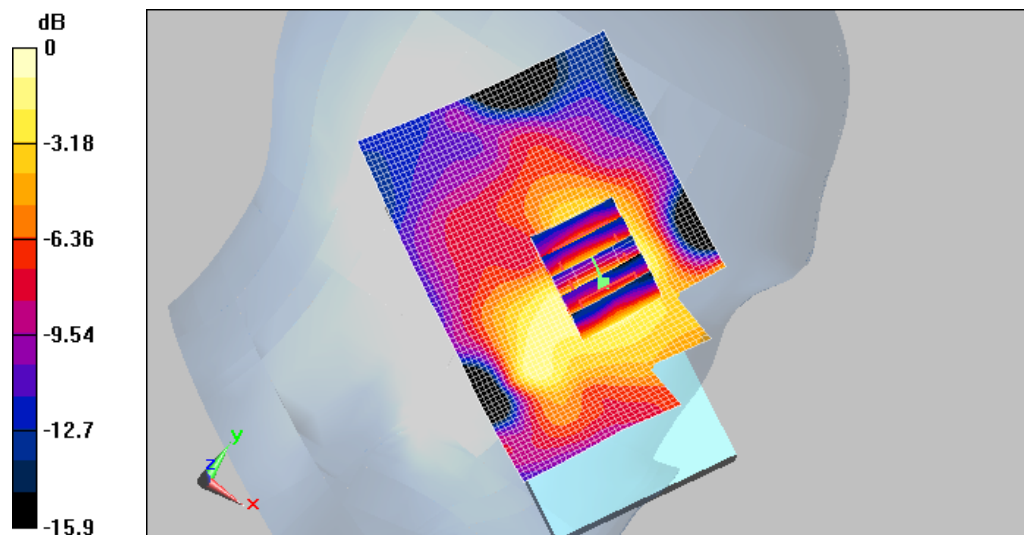
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.82 V/m; Power Drift = 0.102 dB

Peak SAR (extrapolated) = 0.168 W/kg

SAR(1 g) = 0.098 mW/g; SAR(10 g) = 0.058 mW/g

Maximum value of SAR (measured) = 0.102 mW/g



0 dB = 0.102mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN Left(Job No. : FJ-104)

Procedure Name: Tilted, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.8;Test Date-20/Apr/2012

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.36, 6.36, 6.36); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: SAM PHANTOM #2; Type: SAM; Serial: TP-1425
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilted, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps/Area Scan (51x71x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.072 mW/g

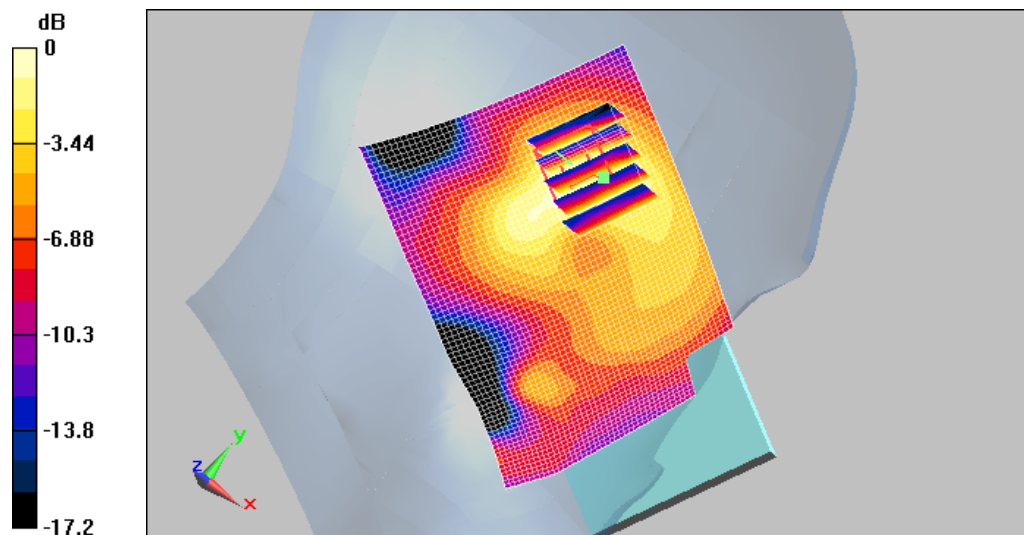
Tilted, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.83 V/m; Power Drift = -0.112 dB

Peak SAR (extrapolated) = 0.135 W/kg

SAR(1 g) = 0.071 mW/g; SAR(10 g) = 0.038 mW/g

Maximum value of SAR (measured) = 0.076 mW/g



0 dB = 0.076mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN Right(Job No. : FJ-104)

Procedure Name: Cheek, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.8;Test Date-20/Apr/2012

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.36, 6.36, 6.36); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: SAM PHANTOM #2; Type: SAM; Serial: TP-1425
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps/Area Scan (51x71x1): Measurement grid:

dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.183 mW/g

Cheek, Ch.11, Ant.Intenna, Bat.Standard, 1Mbps/Zoom Scan (5x5x7)/Cube 0:

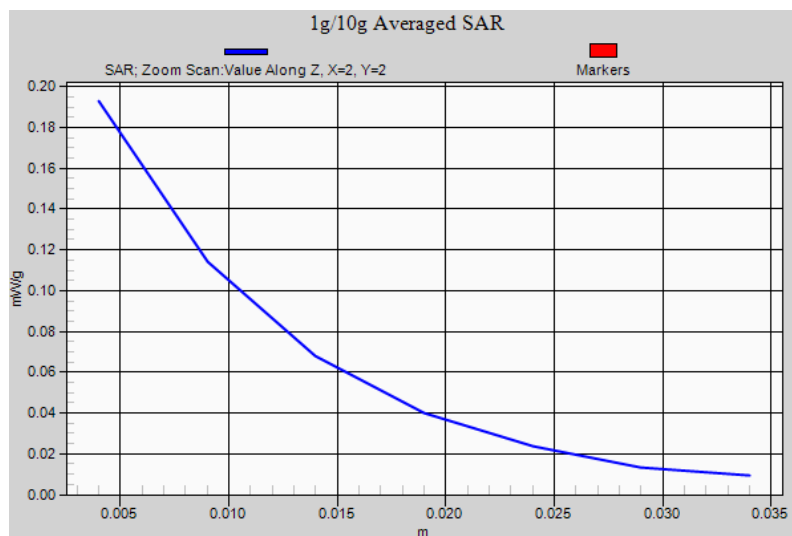
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.48 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 0.305 W/kg

SAR(1 g) = 0.176 mW/g; SAR(10 g) = 0.100 mW/g

Maximum value of SAR (measured) = 0.193 mW/g



DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN Body (Job No. : FJ-104)

Procedure Name: Ch.11, Ant.Intenna, Bat.Standard, Back, 1Mbps, 10mm

Meas. Ambient Temp(celsius)-22.1,Tissue Temp(celsius)-21.9;Test Date-19/Apr/2012

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2462$ MHz; $\sigma = 2.02$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.58, 6.58, 6.58); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.11, Ant.Intenna, Bat.Standard, Back, 1Mbps, 10mm/Area Scan (51x71x1): Measurement

grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.163 mW/g

Ch.11, Ant.Intenna, Bat.Standard, Back, 1Mbps, 10mm/Zoom Scan (5x5x7)/Cube 0:

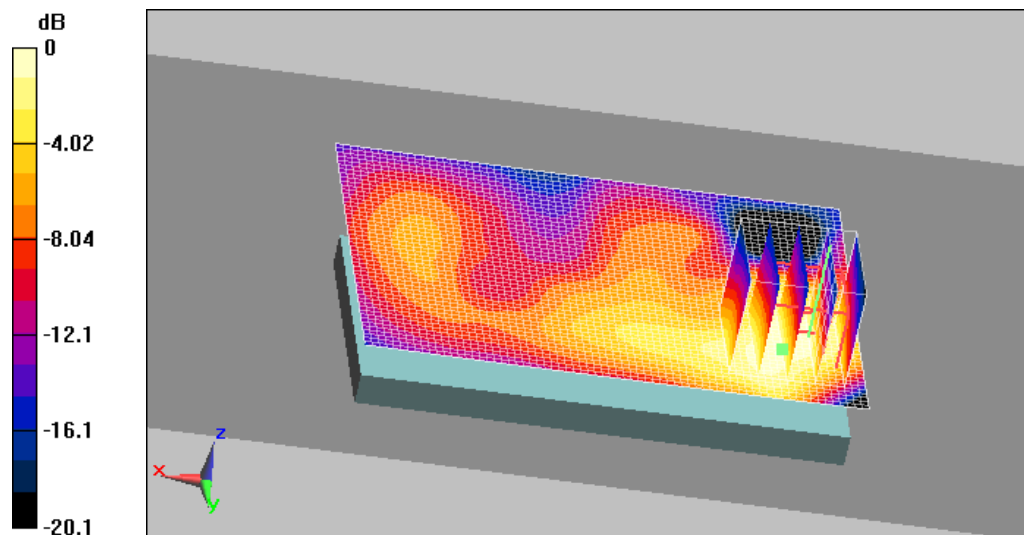
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.95 V/m; Power Drift = -0.066 dB

Peak SAR (extrapolated) = 0.287 W/kg

SAR(1 g) = 0.147 mW/g; SAR(10 g) = 0.078 mW/g

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



0 dB = 0.164mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN Body (Job No. : FJ-104)

Procedure Name: Ch.11, Ant.Intenna, Bat.Standard, Front, 1Mbps, 10mm

Meas. Ambient Temp(celsius)-22.1,Tissue Temp(celsius)-21.9;Test Date-19/Apr/2012

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2462$ MHz; $\sigma = 2.02$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.58, 6.58, 6.58); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.11, Ant.Intenna, Bat.Standard, Front, 1Mbps, 10mm/Area Scan (51x71x1):

Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.117 mW/g

Ch.11, Ant.Intenna, Bat.Standard, Front, 1Mbps, 10mm/Zoom Scan (5x5x7)/Cube 0:

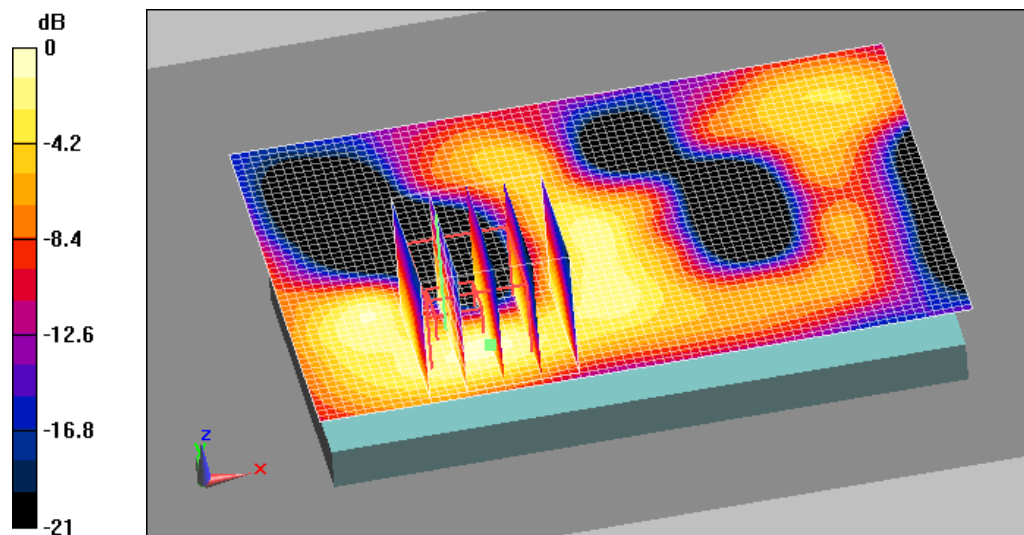
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.39 V/m; Power Drift = 0.197 dB

Peak SAR (extrapolated) = 0.218 W/kg

SAR(1 g) = 0.128 mW/g; SAR(10 g) = 0.067 mW/g

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



0 dB = 0.138mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN Body (Job No. : FJ-104)

Procedure Name: Ch.11, Ant.Intenna, Bat.Standard, Right, 1Mbps, 10mm

Meas. Ambient Temp(celsius)-22.1,Tissue Temp(celsius)-21.9;Test Date-19/Apr/2012

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2462$ MHz; $\sigma = 2.02$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.58, 6.58, 6.58); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.11, Ant.Intenna, Bat.Standard, Right, 1Mbps, 10mm/Area Scan (41x71x1):

Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.199 mW/g

Ch.11, Ant.Intenna, Bat.Standard, Right, 1Mbps, 10mm/Zoom Scan (5x5x7)/Cube 0:

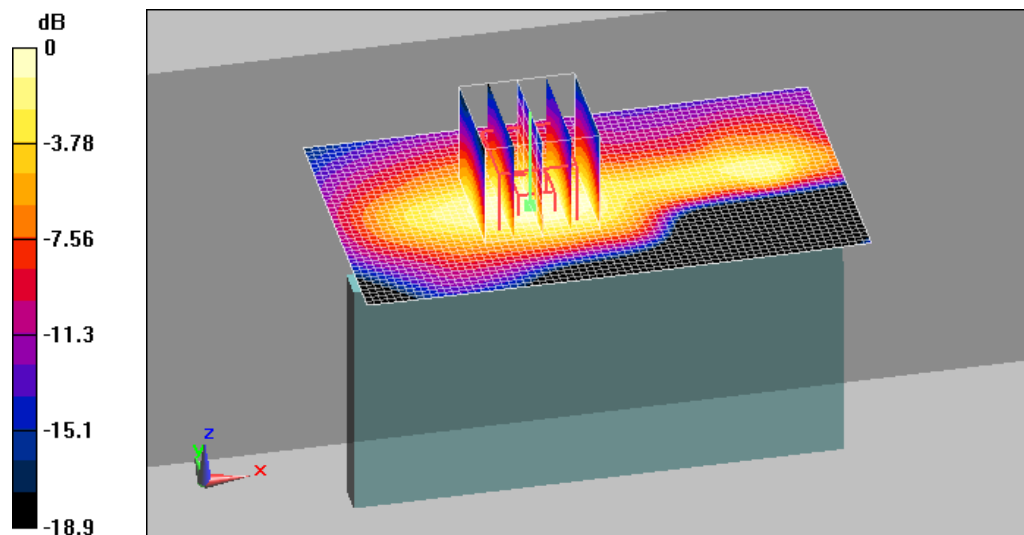
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.19 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 0.310 W/kg

SAR(1 g) = 0.174 mW/g; SAR(10 g) = 0.095 mW/g

Maximum value of SAR (measured) = 0.194 mW/g



0 dB = 0.194mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN Body (Job No. : FJ-104)

Procedure Name: Ch.11, Ant.Intenna, Bat.Standard, Bottom, 1Mbps, 10mm

Meas. Ambient Temp(celsius)-22.1,Tissue Temp(celsius)-21.9;Test Date-19/Apr/2012

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2462$ MHz; $\sigma = 2.02$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.58, 6.58, 6.58); Calibrated: 2011-05-24

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn670; Calibrated: 2012-02-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.11, Ant.Intenna, Bat.Standard, Bottom, 1Mbps, 10mm/Area Scan (51x71x1):

Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.095 mW/g

Ch.11, Ant.Intenna, Bat.Standard, Bottom, 1Mbps, 10mm/Zoom Scan (5x5x7)/Cube 0:

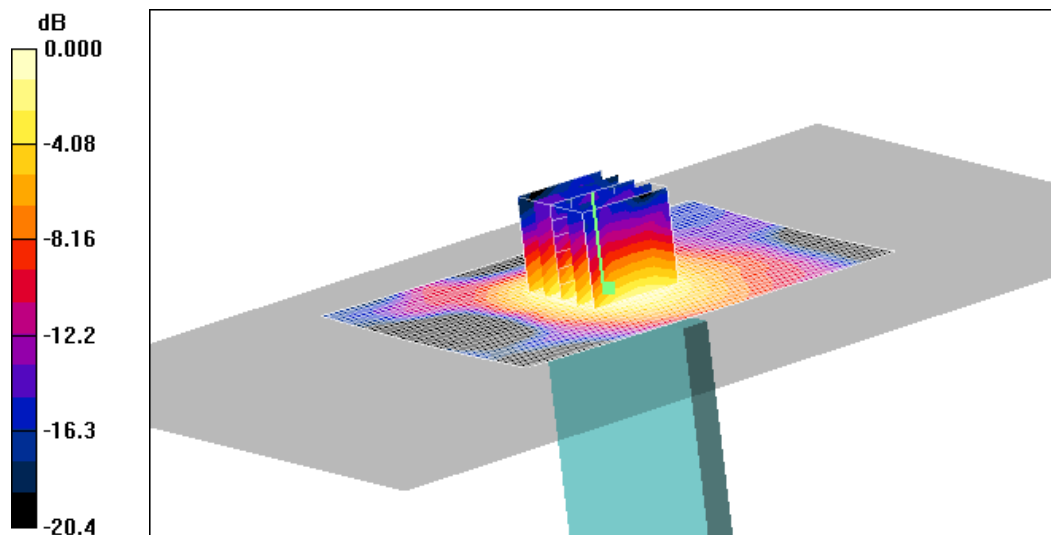
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.98 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 0.167 W/kg

SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.051 mW/g

Maximum value of SAR (measured) = 0.098 mW/g



0 dB = 0.098mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN Body (Job No. : FJ-104)

Procedure Name: Ch.11, Ant.Intenna, Bat.Standard, Right, 1Mbps, 10mm

Meas. Ambient Temp(celsius)-22.1,Tissue Temp(celsius)-21.9;Test Date-19/Apr/2012

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2462$ MHz; $\sigma = 2.02$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3537; ConvF(6.58, 6.58, 6.58); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn670; Calibrated: 2012-02-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: MP-1007
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.11, Ant.Intenna, Bat.Standard, Right, 1Mbps, 10mm/Area Scan (41x71x1):

Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.199 mW/g

Ch.11, Ant.Intenna, Bat.Standard, Right, 1Mbps, 10mm/Zoom Scan (5x5x7)/Cube 0:

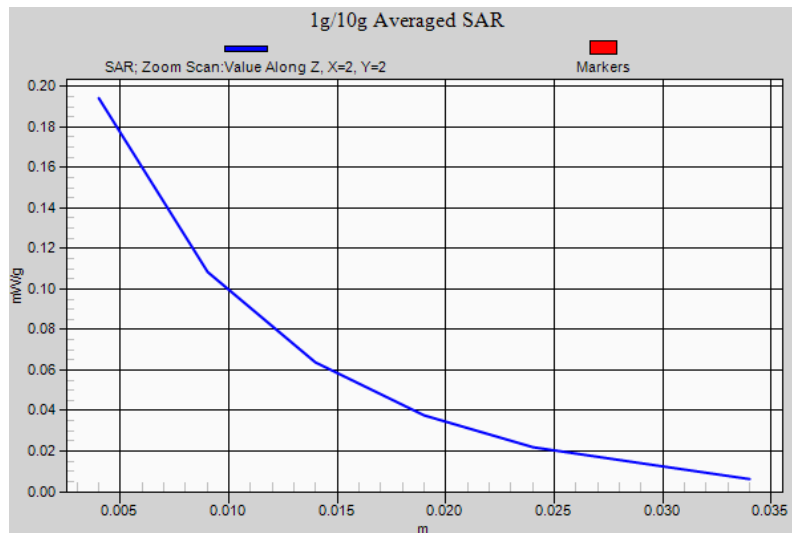
Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.19 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 0.310 W/kg

SAR(1 g) = 0.174 mW/g; SAR(10 g) = 0.095 mW/g

Maximum value of SAR (measured) = 0.194 mW/g



DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Right (Job No. : FJ-104)

Procedure Name: Cheek, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5220 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5220$ MHz; $\sigma = 4.83$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.91, 4.91, 4.91); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement

grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.009 mW/g

Cheek, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0:

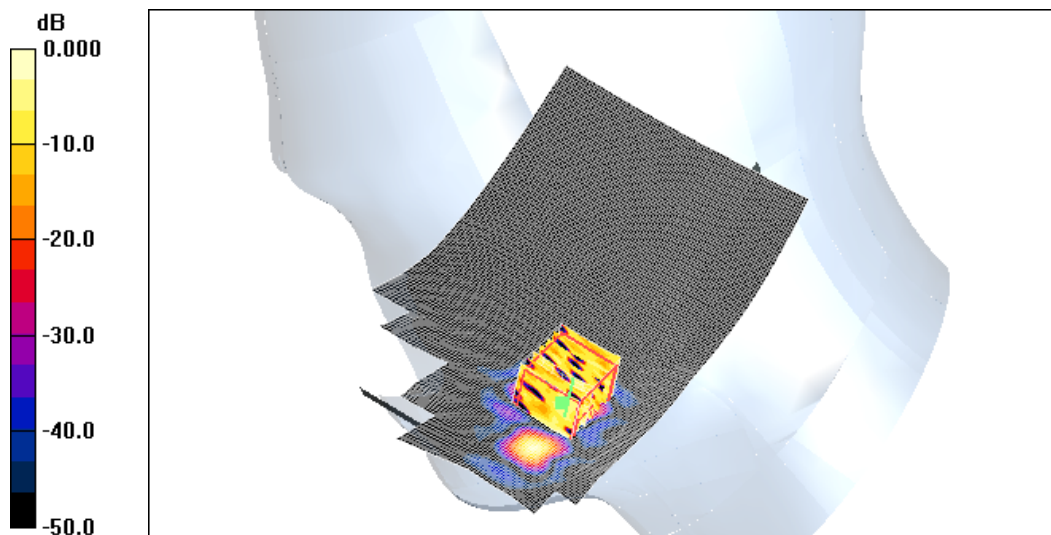
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.72 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.061 W/kg

SAR(1 g) = 0.0041 mW/g; SAR(10 g) = 0.000781 mW/g

Maximum value of SAR (measured) = 0.009 mW/g



0 dB = 0.009mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Right (Job No. : FJ-104)

Procedure Name: Tilt, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5220 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5220$ MHz; $\sigma = 4.83$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.91, 4.91, 4.91); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement grid:

$dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.002 mW/g

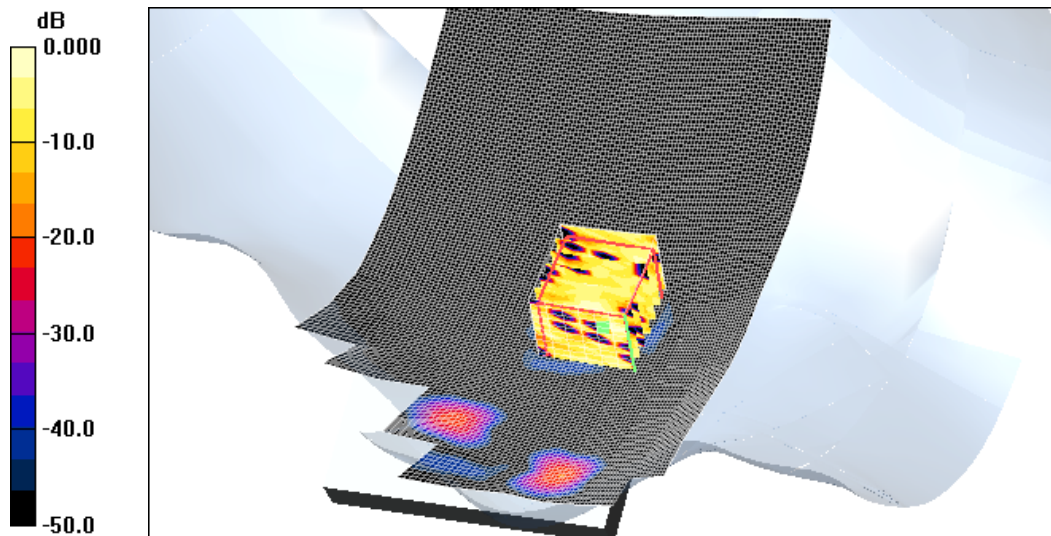
Tilt, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 2.76 V/m; Power Drift = -0.179 dB

Peak SAR (extrapolated) = 0.015 W/kg

SAR(1 g) = 0.000501 mW/g; SAR(10 g) = 6.74e-005 mW/g

Maximum value of SAR (measured) = 0.005 mW/g



0 dB = 0.005mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5220 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5220$ MHz; $\sigma = 4.83$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.91, 4.91, 4.91); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.029 mW/g

Cheek, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0:

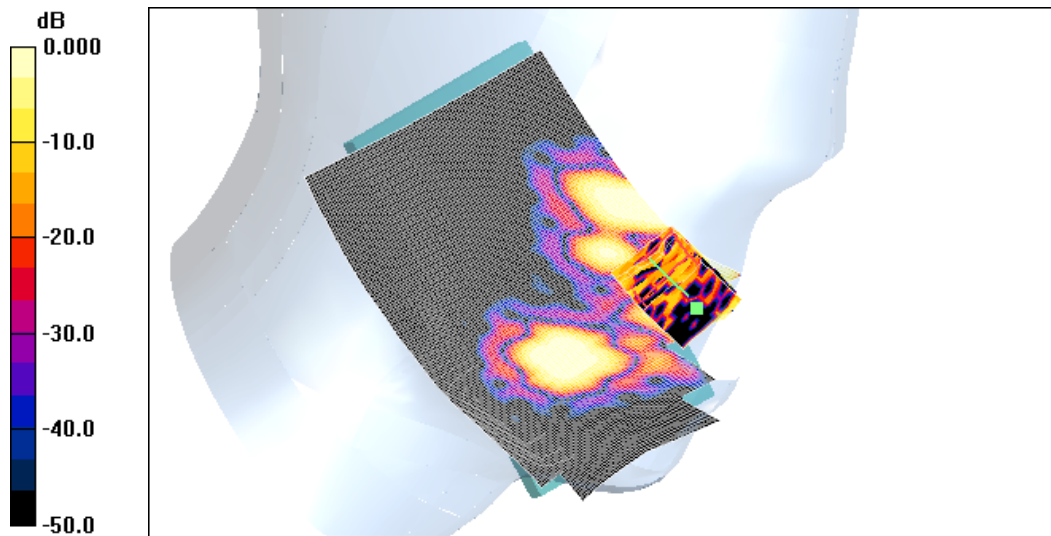
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.83 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 0.083 W/kg

SAR(1 g) = 0.00878 mW/g; SAR(10 g) = 0.00314 mW/g

Maximum value of SAR (measured) = 0.021 mW/g



0 dB = 0.021mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n 5GHz HT20 Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.44, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5220 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5220$ MHz; $\sigma = 4.83$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.91, 4.91, 4.91); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.44, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.020 mW/g

Cheek, Ch.44, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0:

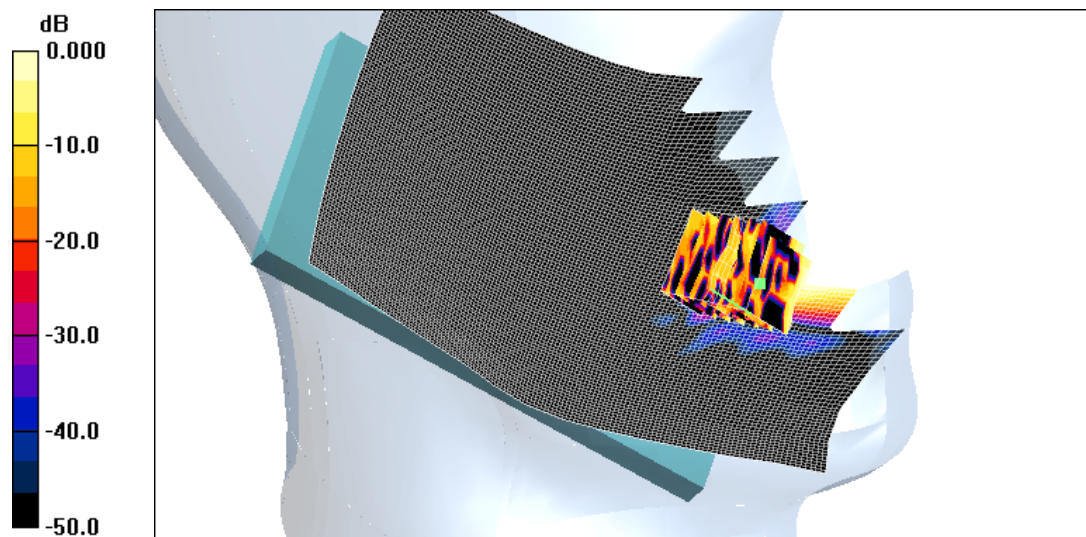
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.87 V/m; Power Drift = -0.118 dB

Peak SAR (extrapolated) = 0.073 W/kg

SAR(1 g) = 0.00695 mW/g; SAR(10 g) = n.a.

Maximum value of SAR (measured) = 0.017 mW/g



0 dB = 0.017mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Left (Job No. : FJ-104)

Procedure Name: Tilt, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5220 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5220$ MHz; $\sigma = 4.83$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.91, 4.91, 4.91); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement grid:

$dx=10\text{mm}$, $dy=10\text{mm}$

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

Tilt, Ch.44, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0: Measurement

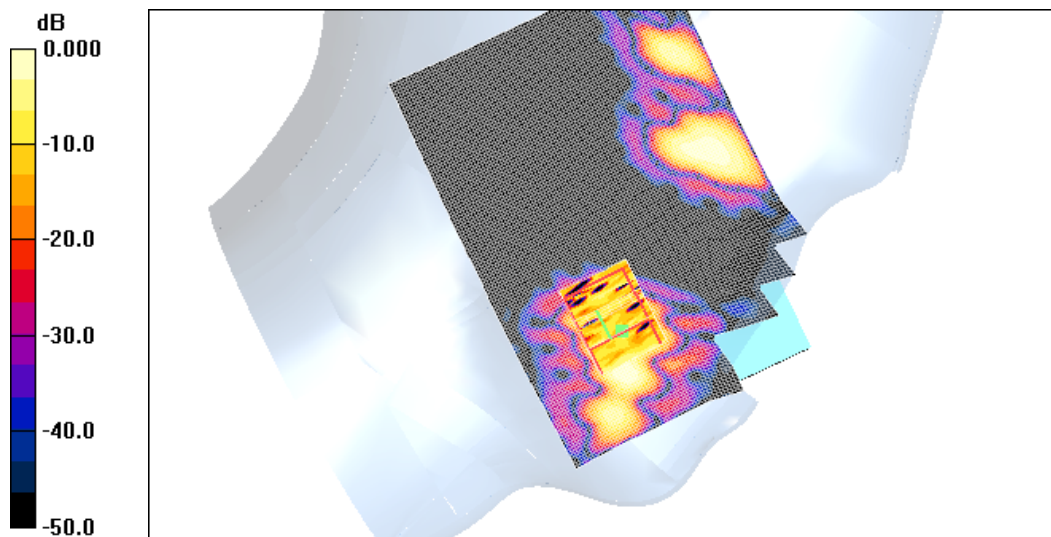
grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 2.88 V/m; Power Drift = -0.178 dB

Peak SAR (extrapolated) = 0.029 W/kg

SAR(1 g) = 0.00555 mW/g; SAR(10 g) = 0.00199 mW/g

Maximum value of SAR (measured) = 0.011 mW/g



0 dB = 0.011mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Right (Job No. : FJ-104)

Procedure Name: Cheek, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5260 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 4.87$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.72, 4.72, 4.72); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement

grid: dx=10mm, dy=10mm

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

Cheek, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0:

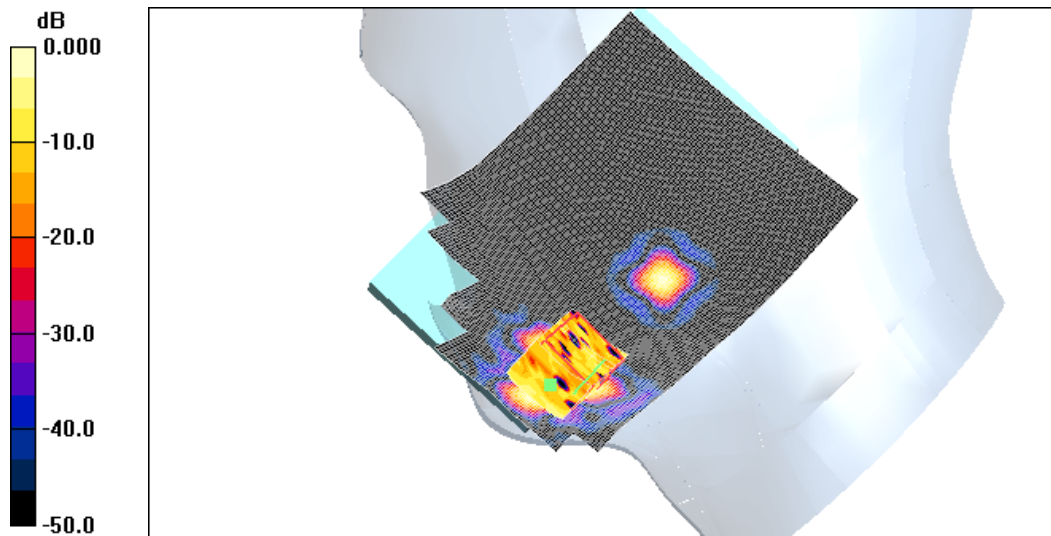
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.87 V/m; Power Drift = -0.103 dB

Peak SAR (extrapolated) = 0.031 W/kg

SAR(1 g) = 0.00717 mW/g; SAR(10 g) = 0.00266 mW/g

Maximum value of SAR (measured) = 0.015 mW/g



0 dB = 0.015mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Right (Job No. : FJ-104)

Procedure Name: Tilt, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5260 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 4.87$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.72, 4.72, 4.72); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement grid:

$dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.007 mW/g

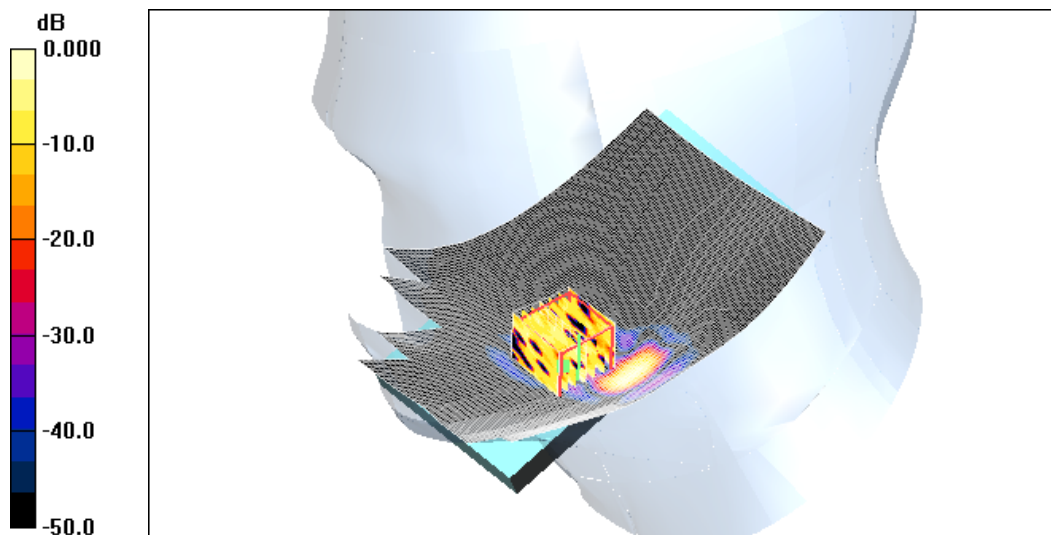
Tilt, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 2.77 V/m; Power Drift = 0.020 dB

Peak SAR (extrapolated) = 0.037 W/kg

SAR(1 g) = 0.00287 mW/g; SAR(10 g) = 0.000904 mW/g

Maximum value of SAR (measured) = 0.007 mW/g



DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5260 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 4.87$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.72, 4.72, 4.72); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement

grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.179 mW/g

Cheek, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0:

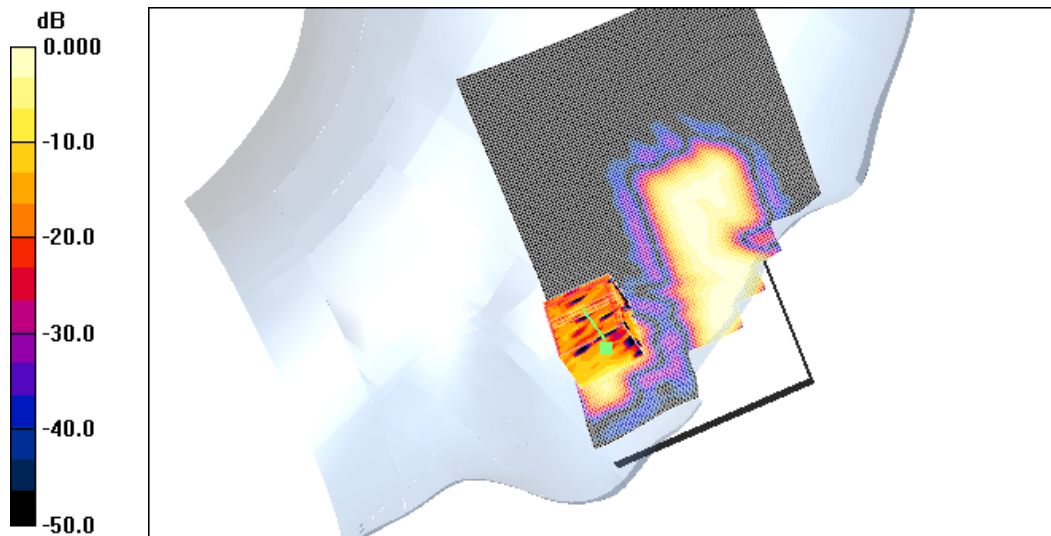
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.75 V/m; Power Drift = -0.012 dB

Peak SAR (extrapolated) = 0.107 W/kg

SAR(1 g) = 0.028 mW/g; SAR(10 g) = 0.00855 mW/g

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



0 dB = 0.054mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n 5GHz HT20 Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.52, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5260 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 4.87$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.72, 4.72, 4.72); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.52, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.051 mW/g

Cheek, Ch.52, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0:

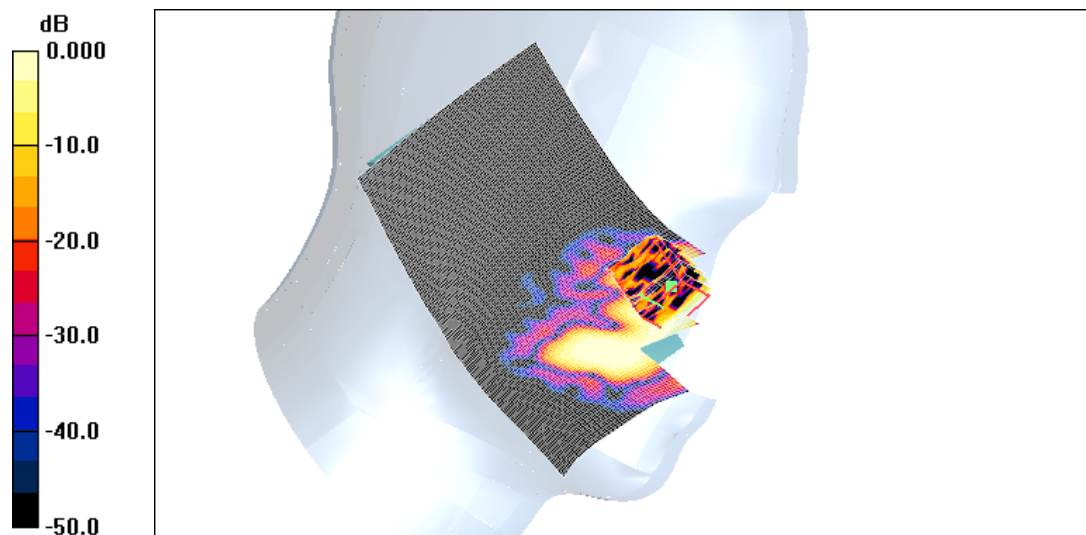
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.38 V/m; Power Drift = -0.098 dB

Peak SAR (extrapolated) = 0.090 W/kg

SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00531 mW/g

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



0 dB = 0.033mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Left (Job No. : FJ-104)

Procedure Name: Tilt, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5260 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 4.87$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.72, 4.72, 4.72); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.056 mW/g

Tilt, Ch.52, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0: Measurement

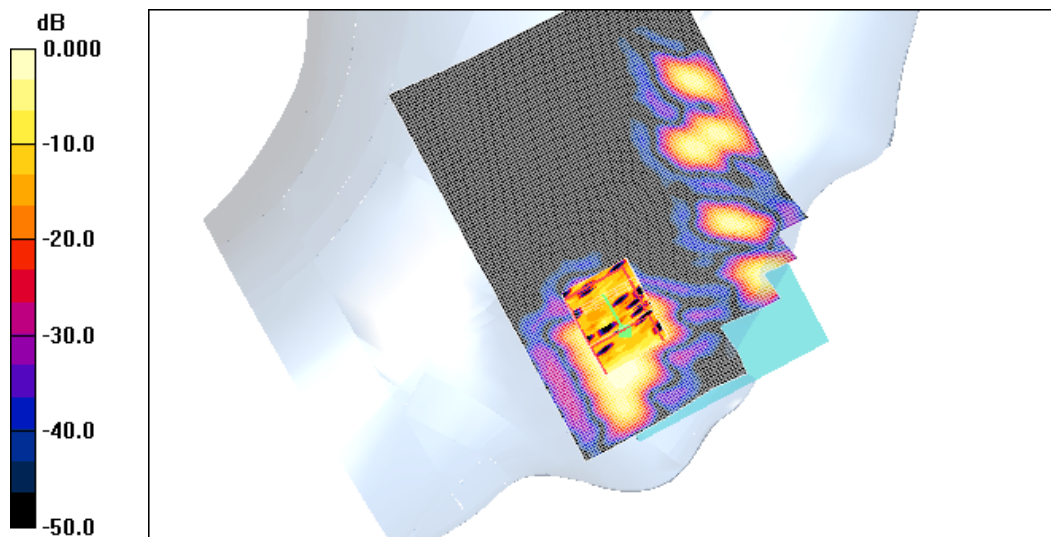
grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.84 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 0.037 W/kg

SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00455 mW/g

Maximum value of SAR (measured) = 0.022 mW/g



0 dB = 0.022mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Right (Job No. : FJ-104)

Procedure Name: Cheek, Ch.108, Ant.Intenna, Bat.Standard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5540 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5540$ MHz; $\sigma = 5.2$ mho/m; $\epsilon_r = 34.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.46, 4.46, 4.46); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.108, Ant.Intenna, Bat.Standard/Area Scan (91x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.083 mW/g

Cheek, Ch.108, Ant.Intenna, Bat.Standard/Zoom Scan (7x7x11)/Cube 0: Measurement grid:

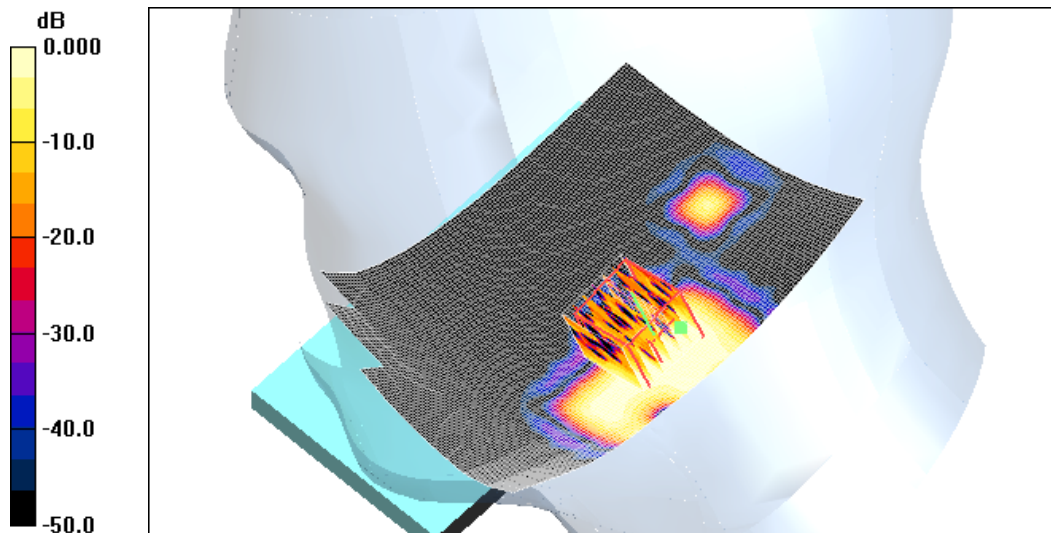
dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.63 V/m; Power Drift = -0.119 dB

Peak SAR (extrapolated) = 0.111 W/kg

SAR(1 g) = 0.028 mW/g; SAR(10 g) = 0.00963 mW/g

Maximum value of SAR (measured) = 0.062 mW/g



0 dB = 0.062mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Right (Job No. : FJ-104)

Procedure Name: Tilt, Ch.108, Ant.Intenna, Bat.Standard

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5540 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5540$ MHz; $\sigma = 5.2$ mho/m; $\epsilon_r = 34.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.46, 4.46, 4.46); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.108, Ant.Intenna, Bat.Standard/Area Scan (91x141x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.082 mW/g

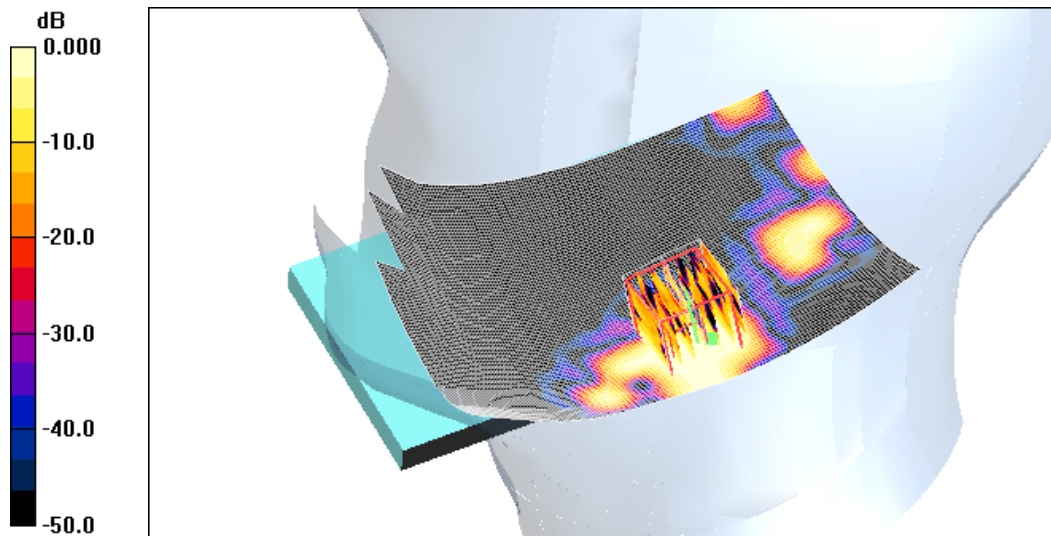
Tilt, Ch.108, Ant.Intenna, Bat.Standard/Zoom Scan 3 (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.97 V/m; Power Drift = 0.049 dB

Peak SAR (extrapolated) = 0.115 W/kg

SAR(1 g) = 0.0153 mW/g; SAR(10 g) = 0.00592 mW/g

Maximum value of SAR (measured) = 0.039 mW/g



0 dB = 0.039mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.108, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5540 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5540$ MHz; $\sigma = 5.2$ mho/m; $\epsilon_r = 34.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.46, 4.46, 4.46); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.108, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement

grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.242 mW/g

Cheek, Ch.108, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0:

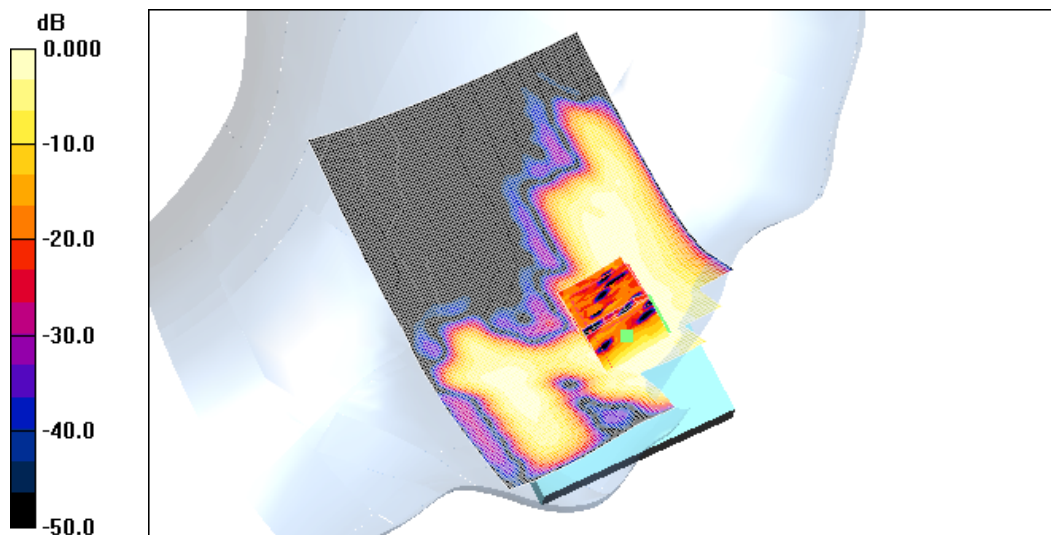
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.84 V/m; Power Drift = 0.178 dB

Peak SAR (extrapolated) = 0.259 W/kg

SAR(1 g) = 0.066 mW/g; SAR(10 g) = 0.026 mW/g

Maximum value of SAR (measured) = 0.114 mW/g



0 dB = 0.114mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n 5GHz HT20 Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.108, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5540 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5540$ MHz; $\sigma = 5.2$ mho/m; $\epsilon_r = 34.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.46, 4.46, 4.46); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.108, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.080 mW/g

Cheek, Ch.108, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0:

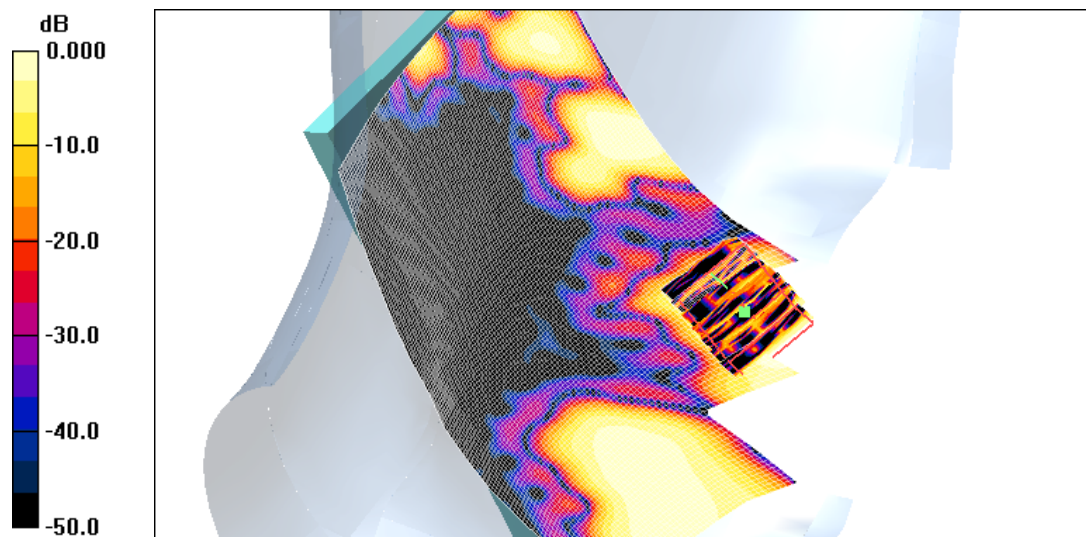
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.84 V/m; Power Drift = -0.011 dB

Peak SAR (extrapolated) = 0.113 W/kg

SAR(1 g) = 0.019 mW/g; SAR(10 g) = 0.0077 mW/g

Maximum value of SAR (measured) = 0.047 mW/g



0 dB = 0.047mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Left (Job No. : FJ-104)

Procedure Name: Tilt, Ch.108, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5540 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5540$ MHz; $\sigma = 5.2$ mho/m; $\epsilon_r = 34.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.46, 4.46, 4.46); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.108, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x161x1): Measurement grid:

$dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 0.108 mW/g

Tilt, Ch.108, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0: Measurement

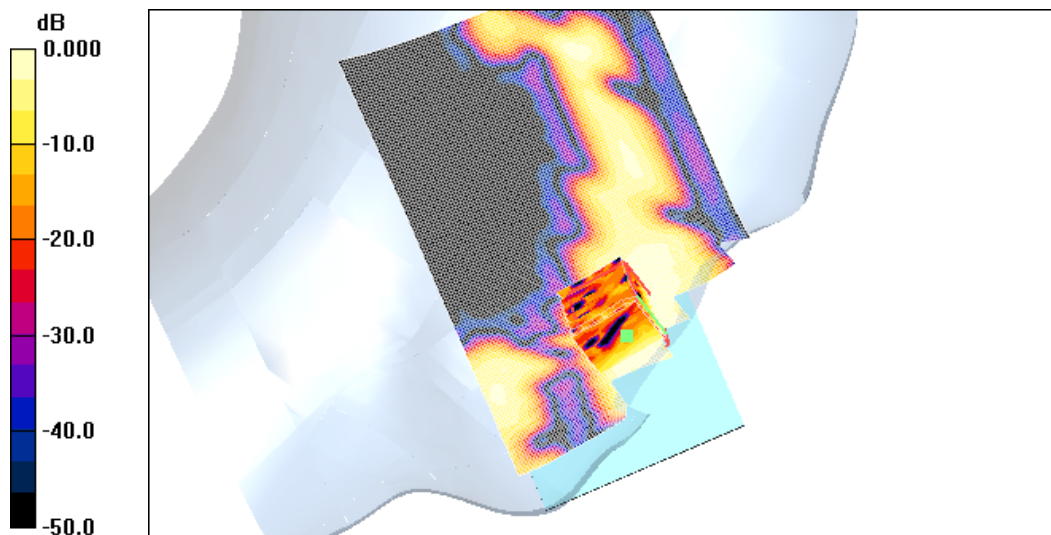
grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 2.85 V/m; Power Drift = 0.138 dB

Peak SAR (extrapolated) = 0.141 W/kg

SAR(1 g) = 0.035 mW/g; SAR(10 g) = 0.013 mW/g

Maximum value of SAR (measured) = 0.070 mW/g



0 dB = 0.070mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Right (Job No. : FJ-104)

Procedure Name: Cheek, Ch.153, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5765 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5765$ MHz; $\sigma = 5.33$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.28, 4.28, 4.28); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.153, Ant.Intenna, Bat.Standard/Area Scan (91x141x1): Measurement grid:

$dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 0.073 mW/g

Cheek, Ch.153, Ant.Intenna, Bat.Standard/Zoom Scan (7x7x11)/Cube 0: Measurement grid:

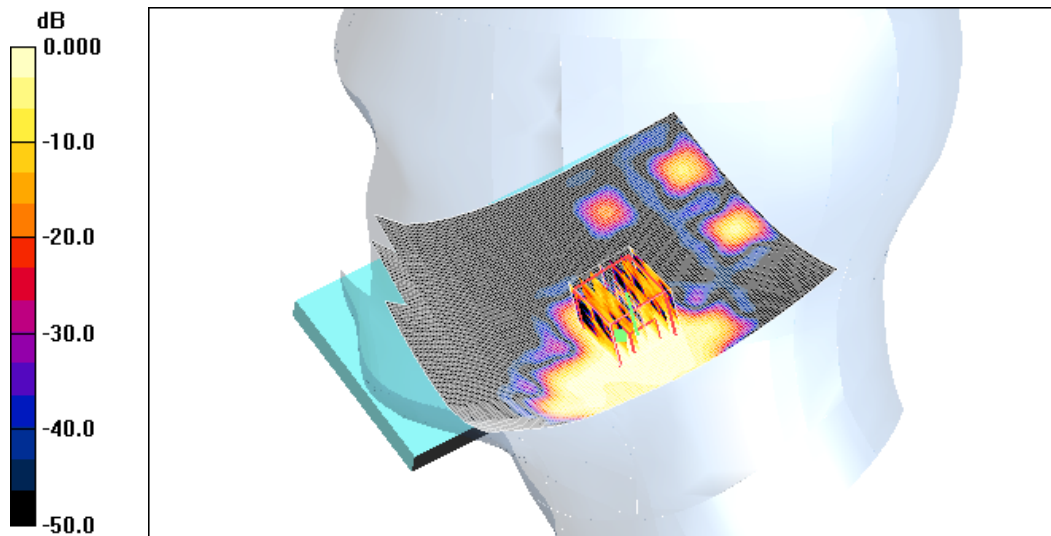
$dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 2.20 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 0.236 W/kg

SAR(1 g) = 0.024 mW/g; SAR(10 g) = 0.00714 mW/g

Maximum value of SAR (measured) = 0.049 mW/g



0 dB = 0.049mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Right (Job No. : FJ-104)

Procedure Name: Tilt, Ch.153, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5765 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5765$ MHz; $\sigma = 5.33$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.28, 4.28, 4.28); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.153, Ant.Intenna, Bat.Standard/Area Scan (91x141x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.057 mW/g

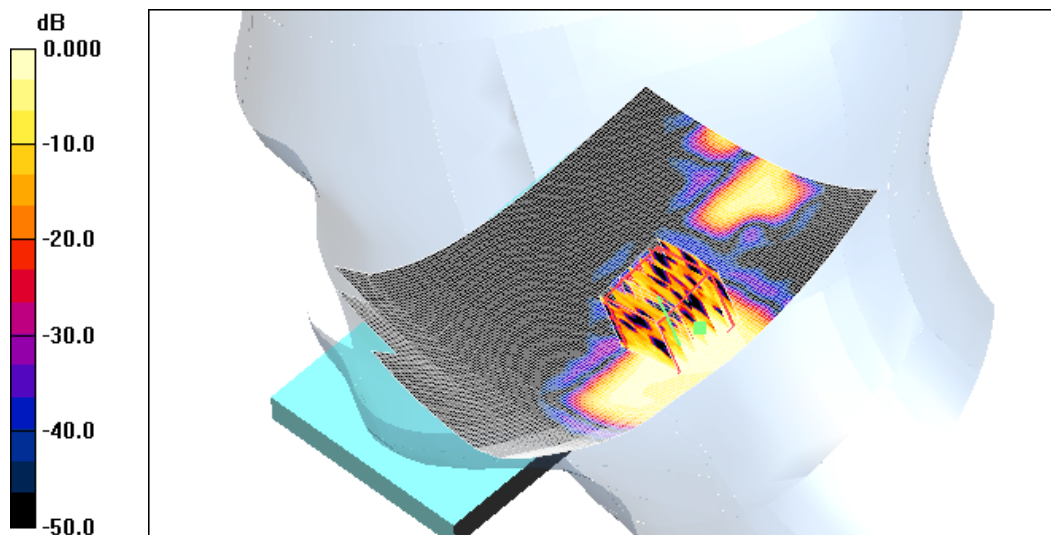
Tilt, Ch.153, Ant.Intenna, Bat.Standard/Zoom Scan 2 (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.61 V/m; Power Drift = -0.078 dB

Peak SAR (extrapolated) = 0.098 W/kg

SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.00555 mW/g

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



0 dB = 0.038mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN 5GHz Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.153, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5765 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5765$ MHz; $\sigma = 5.33$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.28, 4.28, 4.28); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.153, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement

grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.213 mW/g

Cheek, Ch.153, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0:

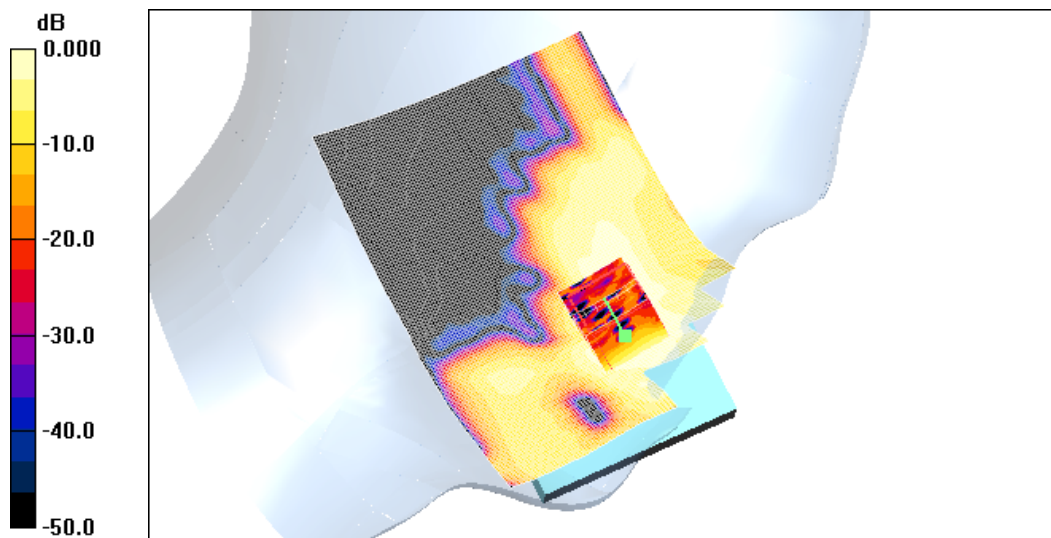
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.89 V/m; Power Drift = 0.135 dB

Peak SAR (extrapolated) = 0.333 W/kg

SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.035 mW/g

Maximum value of SAR (measured) = 0.171 mW/g



0 dB = 0.171mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n 5GHz HT20 Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.157, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5785 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5785$ MHz; $\sigma = 5.36$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.28, 4.28, 4.28); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.157, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid: dx=10mm, dy=10mm

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

Cheek, Ch.157, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0:

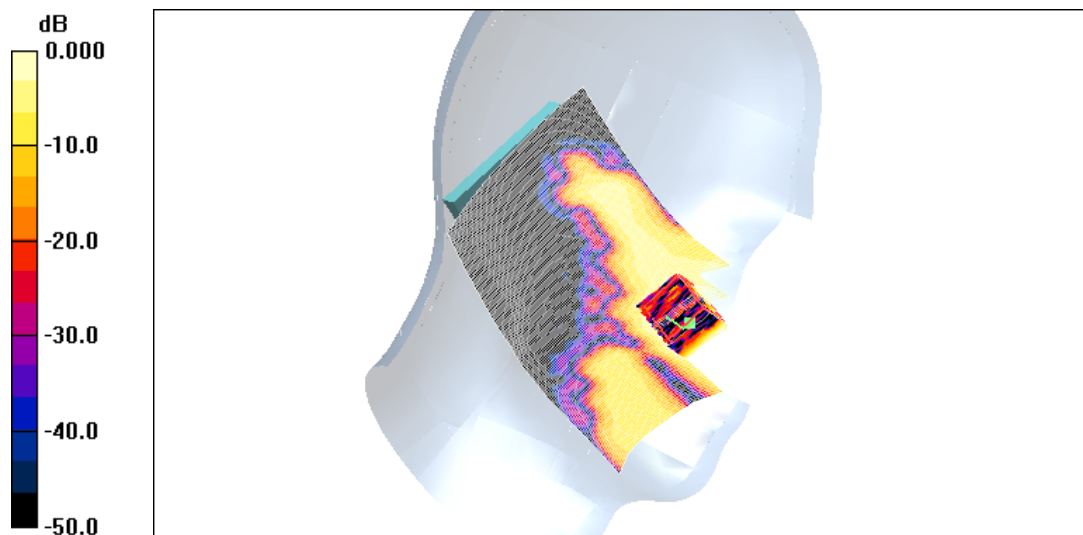
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.57 V/m; Power Drift = 0.092 dB

Peak SAR (extrapolated) = 0.464 W/kg

SAR(1 g) = 0.094 mW/g; SAR(10 g) = 0.037 mW/g

Maximum value of SAR (measured) = 0.198 mW/g



0 dB = 0.198mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S WLAN 5GHz Left (Job No. : FJ-104)

Procedure Name: Tilt, Ch.153, Ant.Intenna, Bat.Standard, 6Mbps

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5765 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5765$ MHz; $\sigma = 5.33$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.28, 4.28, 4.28); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.153, Ant.Intenna, Bat.Standard, 6Mbps/Area Scan (101x141x1): Measurement grid:

$dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.119 mW/g

Tilt, Ch.153, Ant.Intenna, Bat.Standard, 6Mbps/Zoom Scan (7x7x11)/Cube 0: Measurement

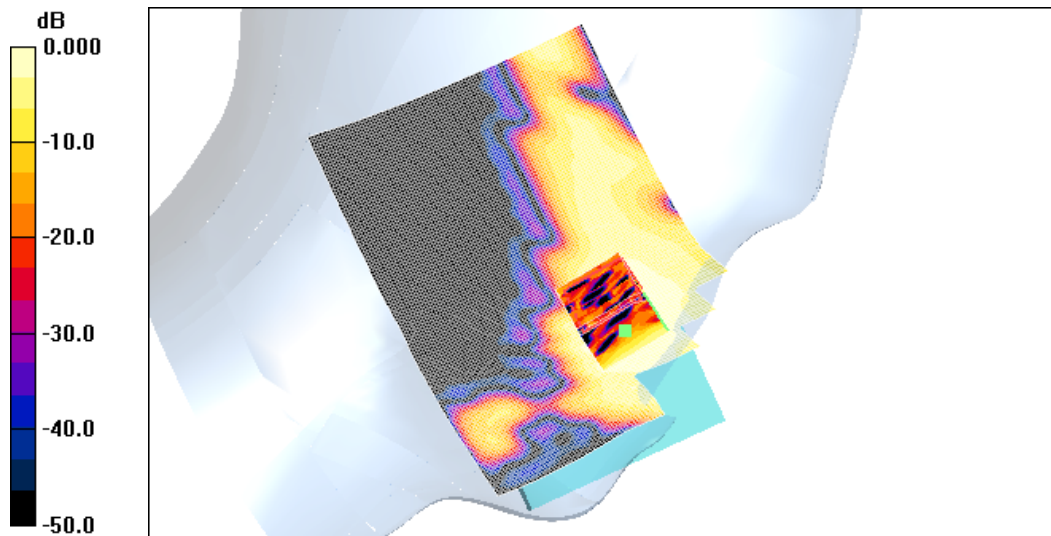
grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 2.96 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 0.181 W/kg

SAR(1 g) = 0.047 mW/g; SAR(10 g) = 0.019 mW/g

Maximum value of SAR (measured) = 0.091 mW/g



0 dB = 0.091mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Right (Job No. : FJ-104)

Procedure Name: Cheek, Ch.46, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5230 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5230$ MHz; $\sigma = 4.79$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.91, 4.91, 4.91); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.46, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.043 mW/g

Cheek, Ch.46, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan 3 (7x7x11)/Cube 0:

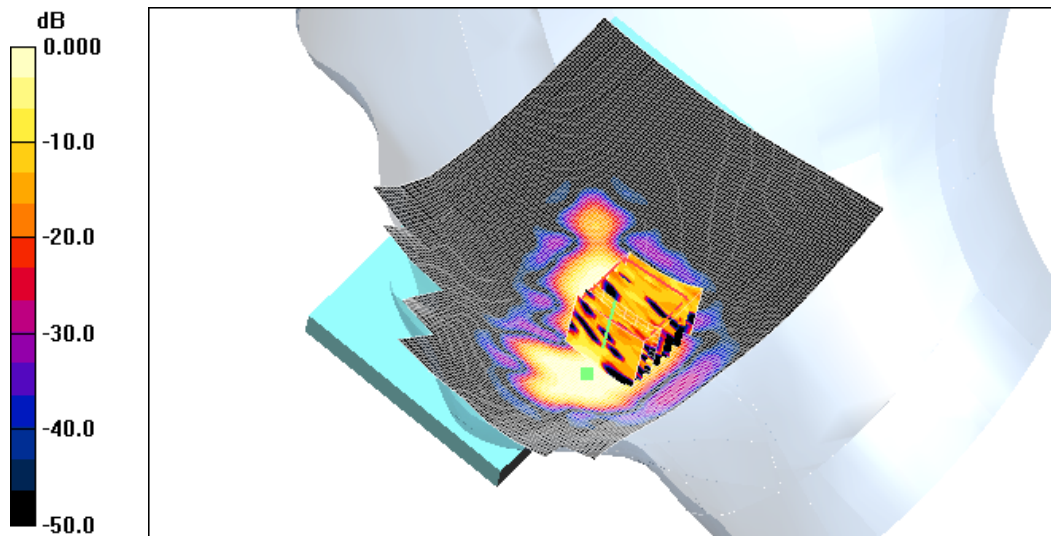
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.66 V/m; Power Drift = 0.179 dB

Peak SAR (extrapolated) = 0.052 W/kg

SAR(1 g) = 0.00848 mW/g; SAR(10 g) = 0.00205 mW/g

Maximum value of SAR (measured) = 0.019 mW/g



0 dB = 0.019mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Right (Job No. : FJ-104)

Procedure Name: Tilt, Ch.46, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5230 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5230$ MHz; $\sigma = 4.79$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.91, 4.91, 4.91); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.46, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid:

dx=10mm, dy=10mm

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

Tilt, Ch.46, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0: Measurement

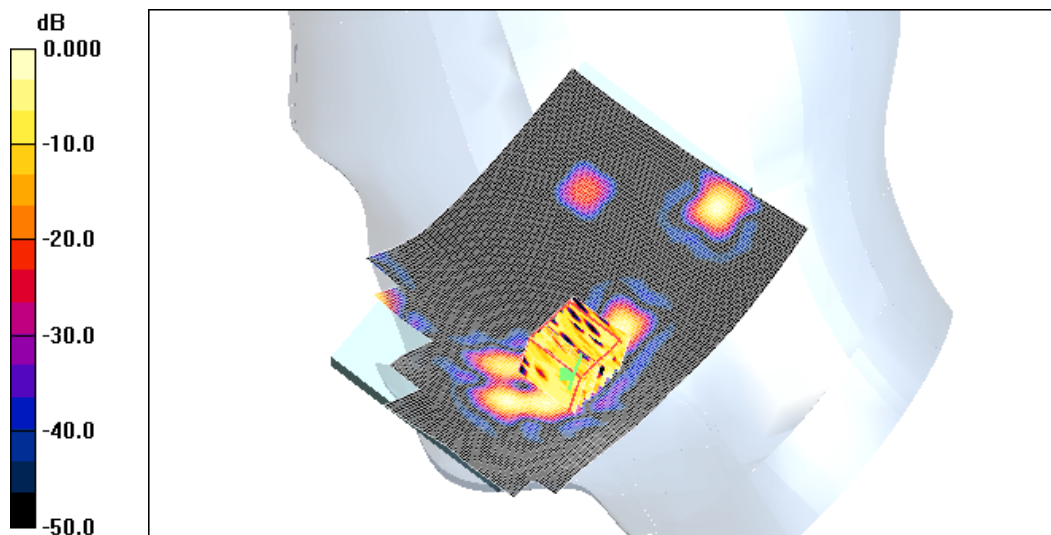
grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.80 V/m; Power Drift = 0.014 dB

Peak SAR (extrapolated) = 0.022 W/kg

SAR(1 g) = 0.00225 mW/g; SAR(10 g) = 0.000675 mW/g

Maximum value of SAR (measured) = 0.006 mW/g



0 dB = 0.006mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.46, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5230 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5230$ MHz; $\sigma = 4.79$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.91, 4.91, 4.91); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.46, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.030 mW/g

Cheek, Ch.46, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0:

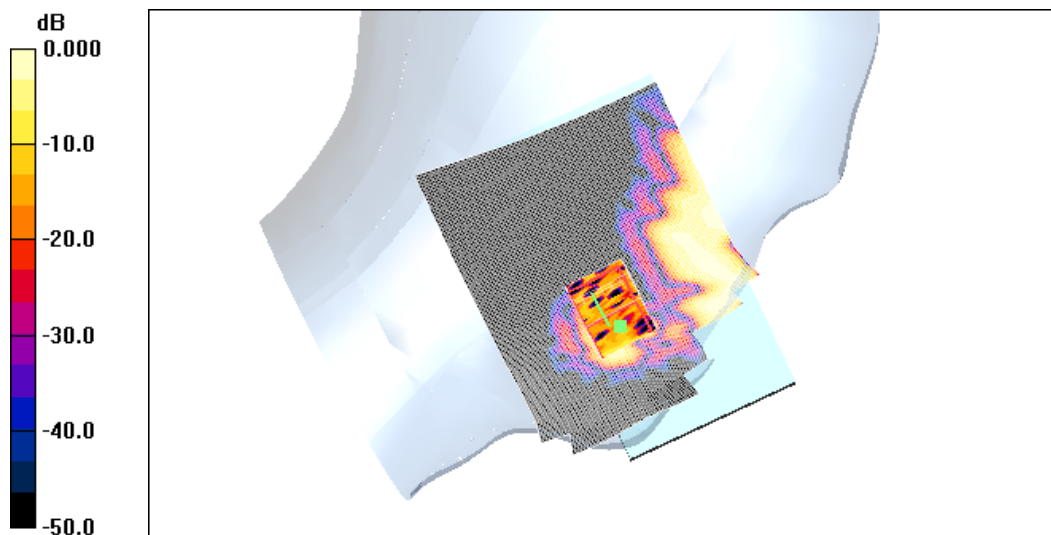
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.71 V/m; Power Drift = -0.167 dB

Peak SAR (extrapolated) = 0.095 W/kg

SAR(1 g) = 0.0153 mW/g; SAR(10 g) = 0.00359 mW/g

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



0 dB = 0.032mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Left (Job No. : FJ-104)

Procedure Name: Tilt, Ch.46, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5230 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5230$ MHz; $\sigma = 4.79$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.91, 4.91, 4.91); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.46, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid:

dx=10mm, dy=10mm

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

Tilt, Ch.46, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0: Measurement

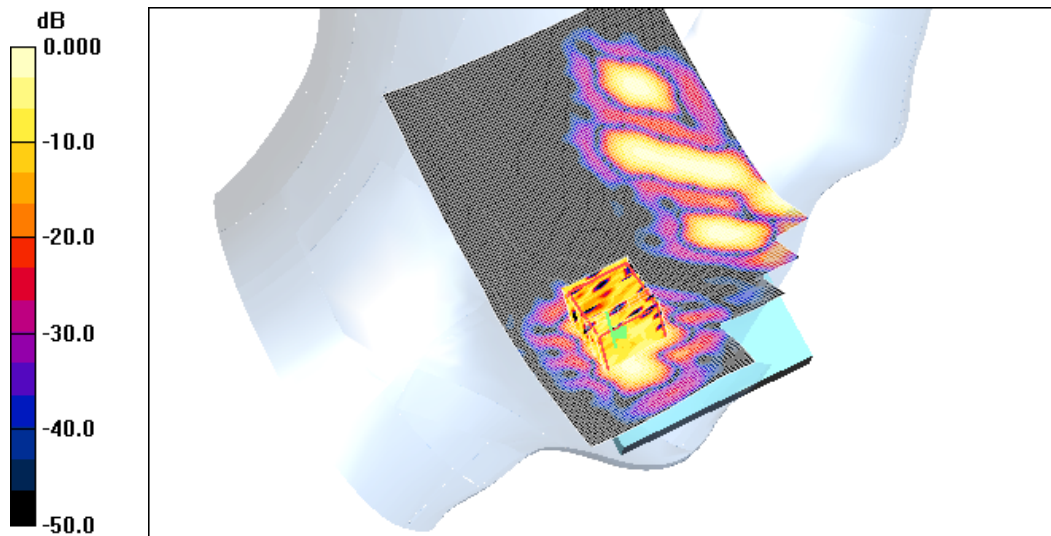
grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.57 V/m; Power Drift = 0.076 dB

Peak SAR (extrapolated) = 0.029 W/kg

SAR(1 g) = 0.00525 mW/g; SAR(10 g) = 0.00182 mW/g

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



0 dB = 0.010mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Right (Job No. : FJ-104)

Procedure Name: Cheek, Ch.62, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5310 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5310$ MHz; $\sigma = 4.88$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.72, 4.72, 4.72); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.62, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid:

$dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.072 mW/g

Cheek, Ch.62, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan 2 (7x7x11)/Cube 0:

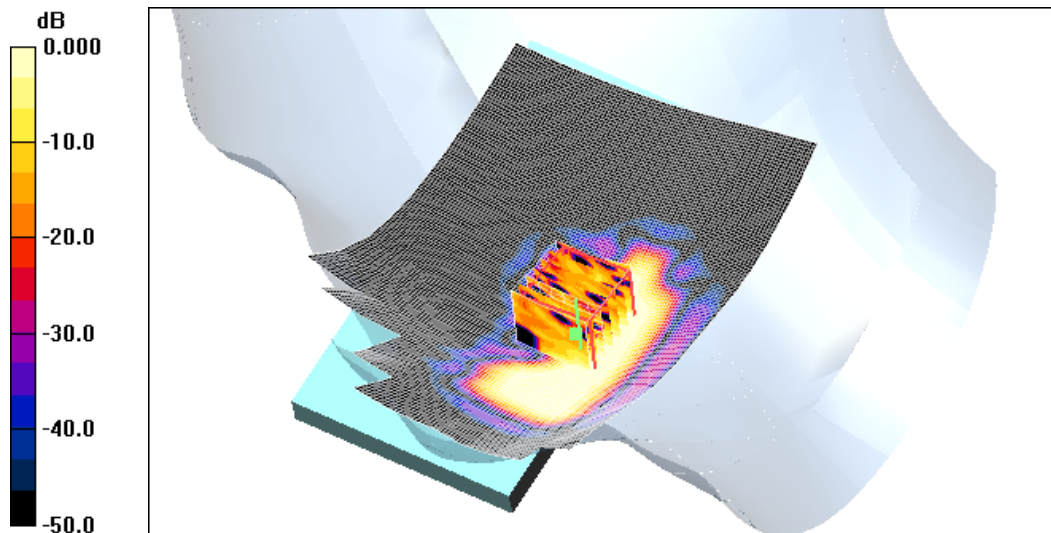
Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 2.76 V/m; Power Drift = 0.006 dB

Peak SAR (extrapolated) = 0.055 W/kg

SAR(1 g) = 0.0144 mW/g; SAR(10 g) = 0.00457 mW/g

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



0 dB = 0.032mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Right (Job No. : FJ-104)

Procedure Name: Tilt, Ch.62, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5310 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5310$ MHz; $\sigma = 4.88$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.72, 4.72, 4.72); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.62, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid:

$dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.027 mW/g

Tilt, Ch.62, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan 3 2 2 2 (9x9x11)/Cube 0:

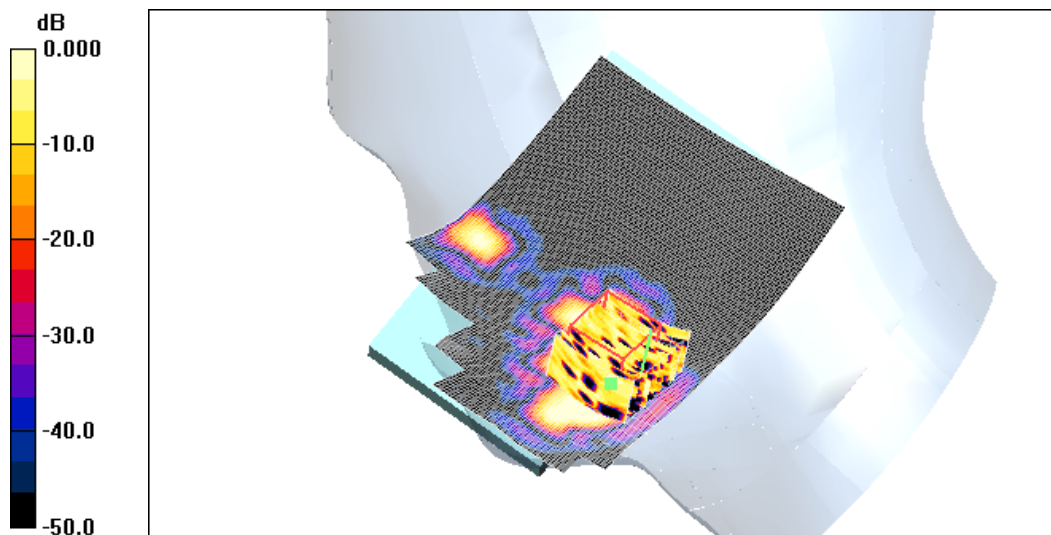
Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 2.82 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 0.005 W/kg

SAR(1 g) = 0.00014 mW/g; SAR(10 g) = 2.55e-005 mW/g

Maximum value of SAR (measured) = 0.005 mW/g



0 dB = 0.005mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.62, Ant.Intenna, Bat.Standard MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5310 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5310$ MHz; $\sigma = 4.88$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.72, 4.72, 4.72); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.62, Ant.Intenna, Bat.Standard MCS0/Area Scan (101x141x1): Measurement grid:

$dx=10$ mm, $dy=10$ mm

Maximum value of SAR (interpolated) = 0.016 mW/g

Cheek, Ch.62, Ant.Intenna, Bat.Standard MCS0/Zoom Scan (7x7x11)/Cube 0: Measurement

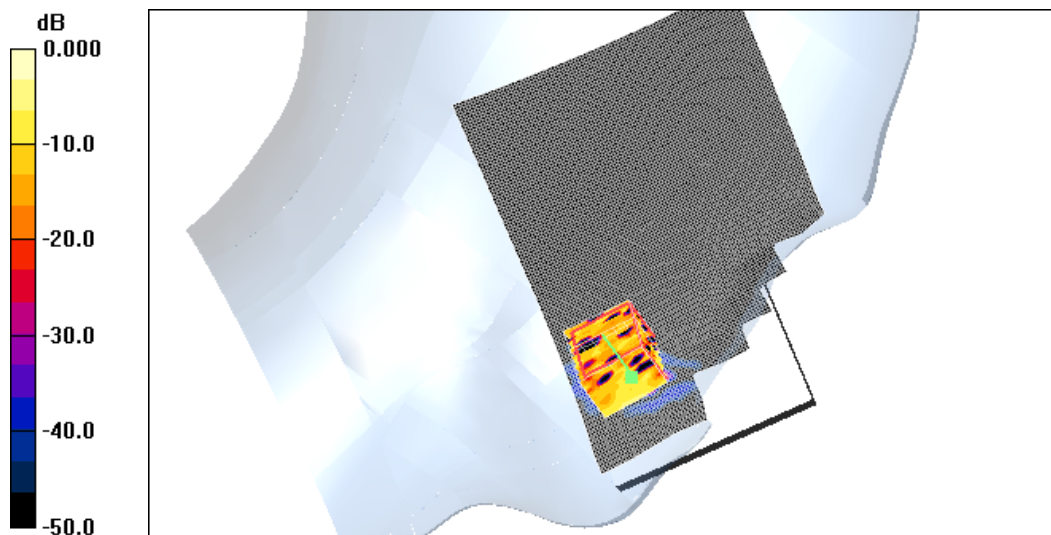
grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 2.79 V/m; Power Drift = -0.023 dB

Peak SAR (extrapolated) = 0.034 W/kg

SAR(1 g) = 0.0089 mW/g; SAR(10 g) = 0.00267 mW/g

Maximum value of SAR (measured) = 0.017 mW/g



0 dB = 0.017mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Left (Job No. : FJ-104)

Procedure Name: Tilt, Ch.62, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5310 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5310$ MHz; $\sigma = 4.88$ mho/m; $\epsilon_r = 35.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.72, 4.72, 4.72); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.62, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid:

dx=10mm, dy=10mm

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

Tilt, Ch.62, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0: Measurement

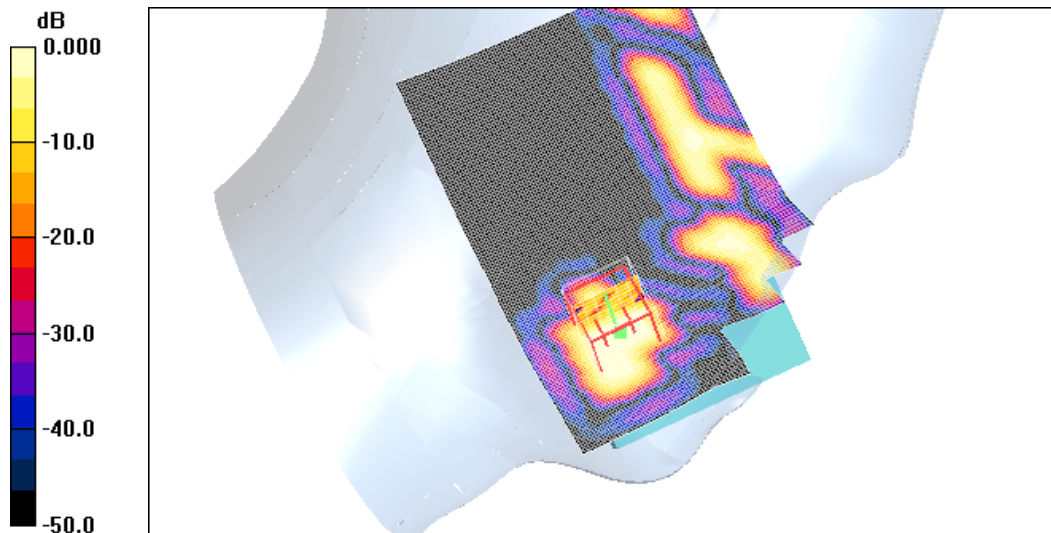
grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.62 V/m; Power Drift = 0.062 dB

Peak SAR (extrapolated) = 0.039 W/kg

SAR(1 g) = 0.0115 mW/g; SAR(10 g) = 0.00429 mW/g

Maximum value of SAR (measured) = 0.022 mW/g



0 dB = 0.022mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Right (Job No. : FJ-104)

Procedure Name: Cheek, Ch.110, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5550 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5550$ MHz; $\sigma = 5.16$ mho/m; $\epsilon_r = 35.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.52, 4.52, 4.52); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.110, Ant.Intenna, Bat.Standard, MCS0/Area Scan (91x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.079 mW/g

Cheek, Ch.110, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan 4 (7x7x11)/Cube 0:

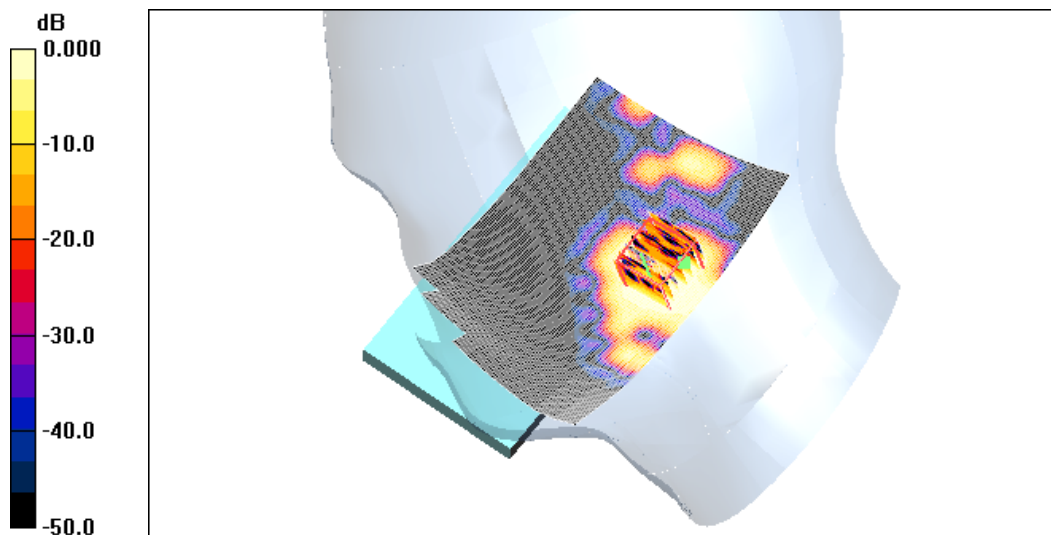
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.57 V/m; Power Drift = 0.147 dB

Peak SAR (extrapolated) = 0.155 W/kg

SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.011 mW/g

Maximum value of SAR (measured) = 0.067 mW/g



0 dB = 0.067mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Right (Job No. : FJ-104)

Procedure Name: Tilt, Ch.110, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5550 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5550$ MHz; $\sigma = 5.16$ mho/m; $\epsilon_r = 35.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.52, 4.52, 4.52); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.110, Ant.Intenna, Bat.Standard, MCS0/Area Scan (91x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.066 mW/g

Tilt, Ch.110, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan 3 (7x7x11)/Cube 0:

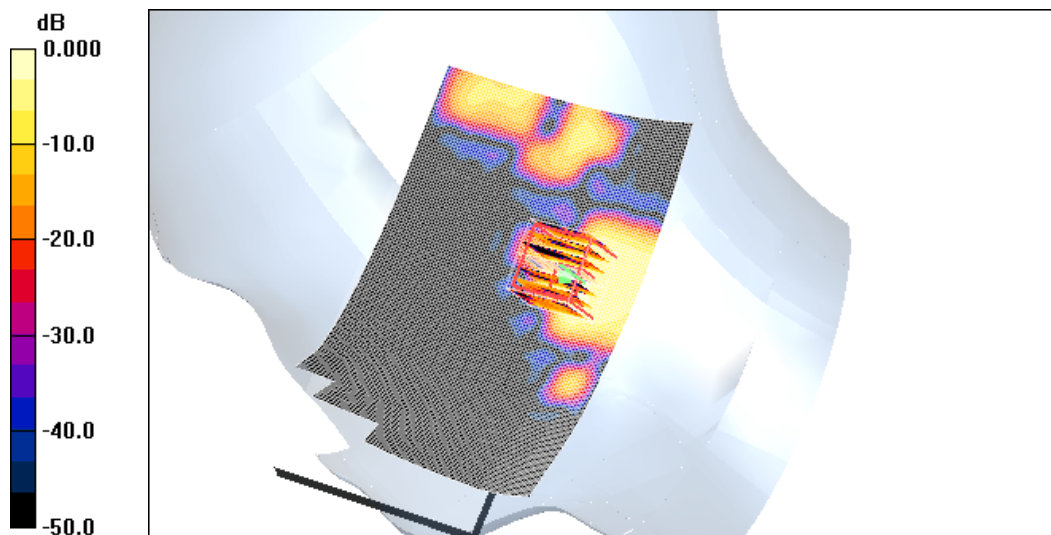
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.94 V/m; Power Drift = -0.194 dB

Peak SAR (extrapolated) = 0.372 W/kg

SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.00942 mW/g

Maximum value of SAR (measured) = 0.103 mW/g



0 dB = 0.103mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.110, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5550 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5550$ MHz; $\sigma = 5.16$ mho/m; $\epsilon_r = 35.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.52, 4.52, 4.52); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.110, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement

grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.036 mW/g

Cheek, Ch.110, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0:

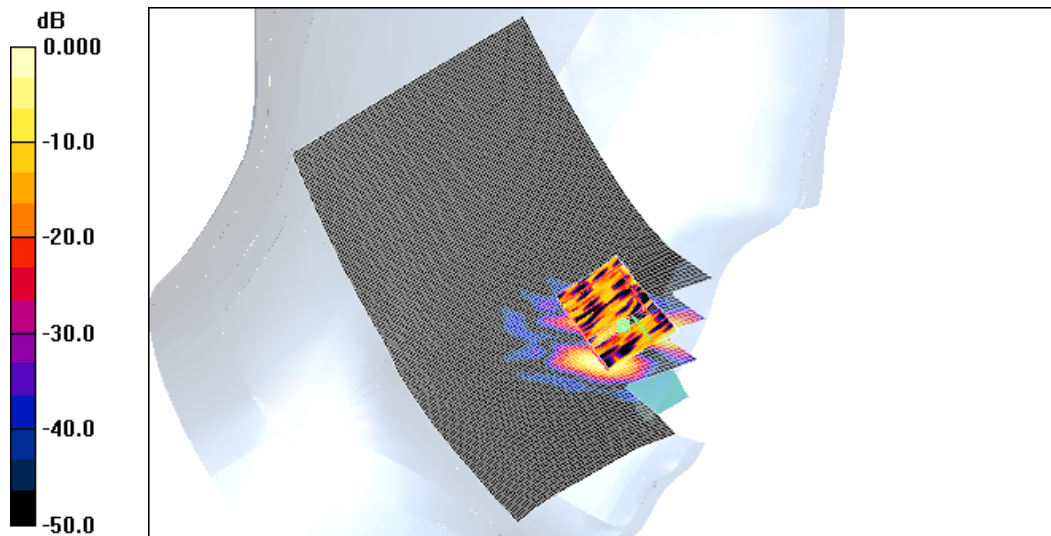
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.93 V/m; Power Drift = -0.111 dB

Peak SAR (extrapolated) = 0.118 W/kg

SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.00408 mW/g

Maximum value of SAR (measured) = 0.021 mW/g



0 dB = 0.021mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Left (Job No. : FJ-104)

Procedure Name: Tilt, Ch.110, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5550 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5550$ MHz; $\sigma = 5.16$ mho/m; $\epsilon_r = 35.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.52, 4.52, 4.52); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.110, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x161x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.086 mW/g

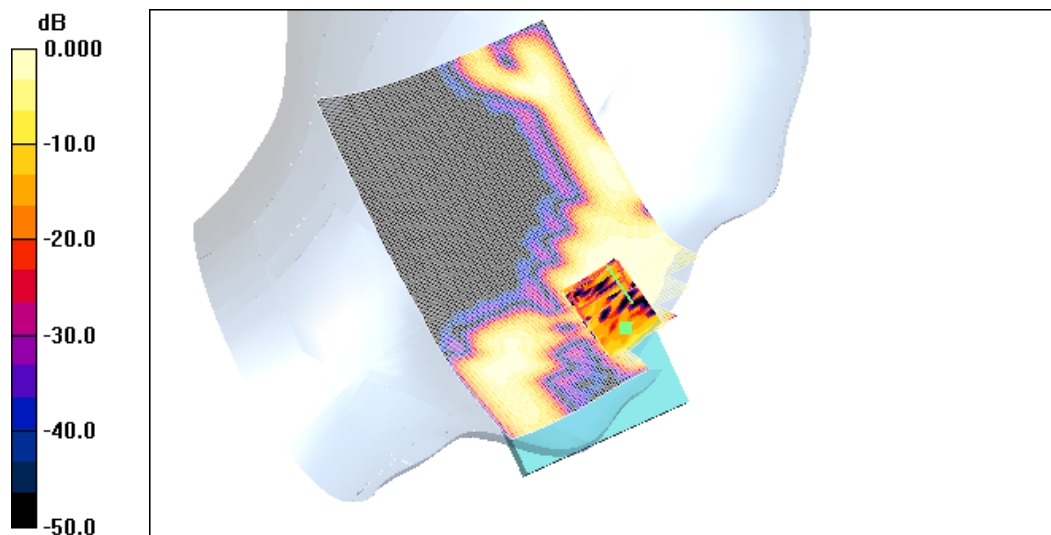
Tilt, Ch.110, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.83 V/m; Power Drift = 0.117 dB

Peak SAR (extrapolated) = 0.068 W/kg

SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.0043 mW/g

Maximum value of SAR (measured) = 0.039 mW/g



0 dB = 0.039mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Right (Job No. : FJ-104)

Procedure Name: Cheek, Ch.151, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5755 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5755$ MHz; $\sigma = 5.32$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.28, 4.28, 4.28); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.151, Ant.Intenna, Bat.Standard, MCS0/Area Scan (91x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.092 mW/g

Cheek, Ch.151, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0:

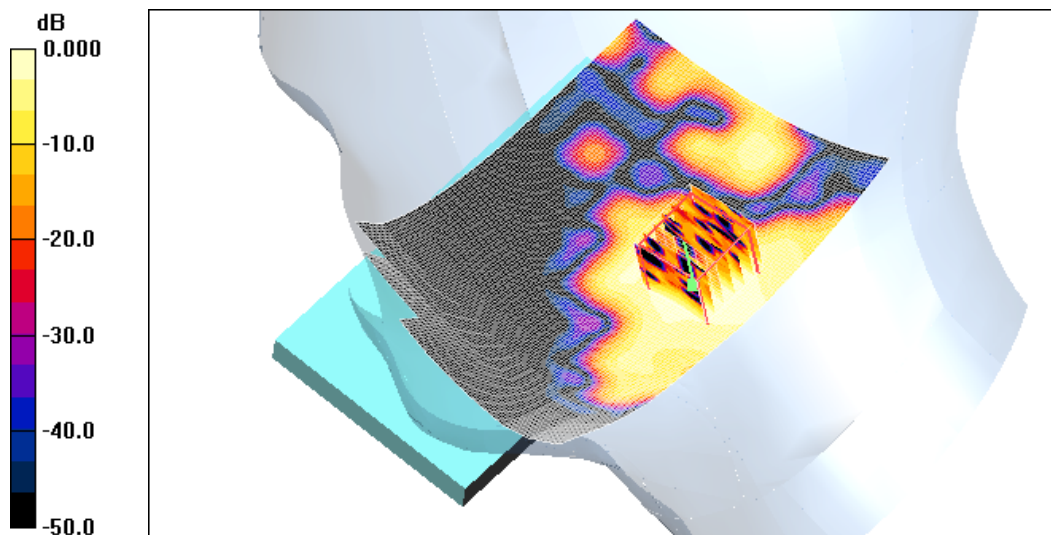
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.04 V/m; Power Drift = -0.057 dB

Peak SAR (extrapolated) = 0.445 W/kg

SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.014 mW/g

Maximum value of SAR (measured) = 0.087 mW/g



0 dB = 0.087mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Right (Job No. : FJ-104)

Procedure Name: Tilt, Ch.151, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5755 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5755$ MHz; $\sigma = 5.32$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.28, 4.28, 4.28); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.151, Ant.Intenna, Bat.Standard, MCS0/Area Scan (91x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.067 mW/g

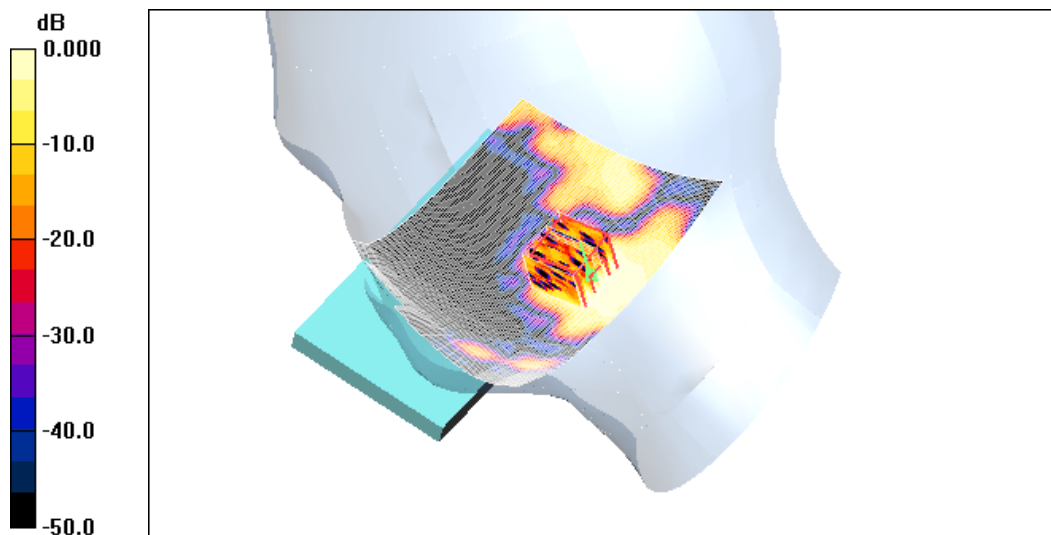
Tilt, Ch.151, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.51 V/m; Power Drift = 0.087 dB

Peak SAR (extrapolated) = 0.129 W/kg

SAR(1 g) = 0.027 mW/g; SAR(10 g) = 0.00917 mW/g

Maximum value of SAR (measured) = 0.062 mW/g



0 dB = 0.062mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Left (Job No. : FJ-104)

Procedure Name: Cheek, Ch.151, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5755 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5755$ MHz; $\sigma = 5.32$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.28, 4.28, 4.28); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Cheek, Ch.151, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement

grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.049 mW/g

Cheek, Ch.151, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0:

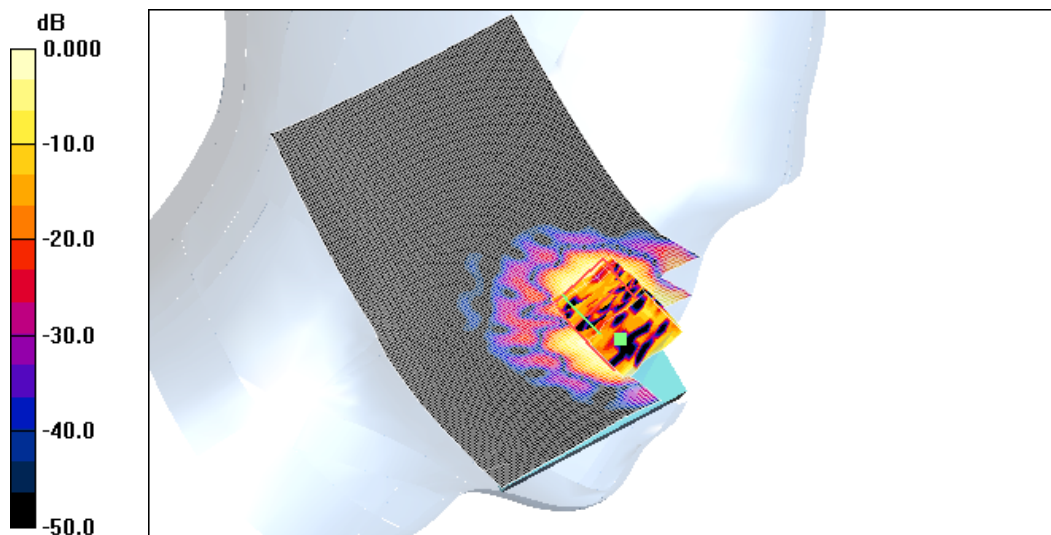
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.87 V/m; Power Drift = -0.195 dB

Peak SAR (extrapolated) = 0.181 W/kg

SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.00512 mW/g

Maximum value of SAR (measured) = 0.035 mW/g



0 dB = 0.035mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Left (Job No. : FJ-104)

Procedure Name: Tilt, Ch.151, Ant.Intenna, Bat.Standard, MCS0

Meas. Ambient Temp(celsius)-22.2,Tissue Temp(celsius)-21.9;Test Date-24/Apr/2012

Communication System: 5GHz; Frequency: 5755 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5755$ MHz; $\sigma = 5.32$ mho/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(4.28, 4.28, 4.28); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: SAM PHANTOM #1; Type: SAM; Serial: TP-1248
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Tilt, Ch.151, Ant.Intenna, Bat.Standard, MCS0/Area Scan (101x141x1): Measurement grid:

dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.022 mW/g

Tilt, Ch.151, Ant.Intenna, Bat.Standard, MCS0/Zoom Scan (7x7x11)/Cube 0: Measurement

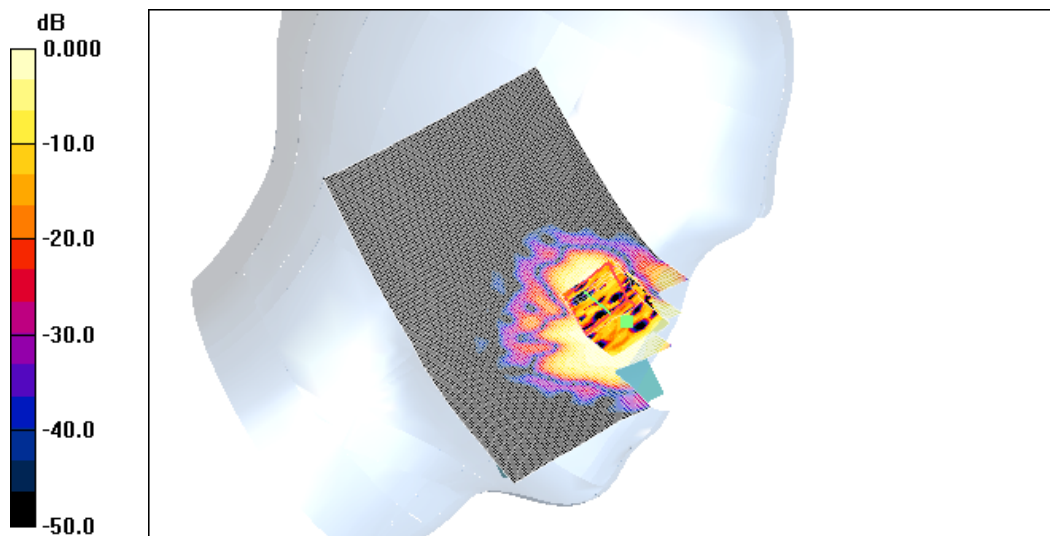
grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.90 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 0.101 W/kg

SAR(1 g) = 0.00808 mW/g; SAR(10 g) = 0.00312 mW/g

Maximum value of SAR (measured) = 0.019 mW/g



0 dB = 0.019mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.44, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5220 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5220$ MHz; $\sigma = 5.42$ mho/m; $\epsilon_r = 47.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.9, 3.9, 3.9); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.44, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.688 mW/g

Ch.44, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

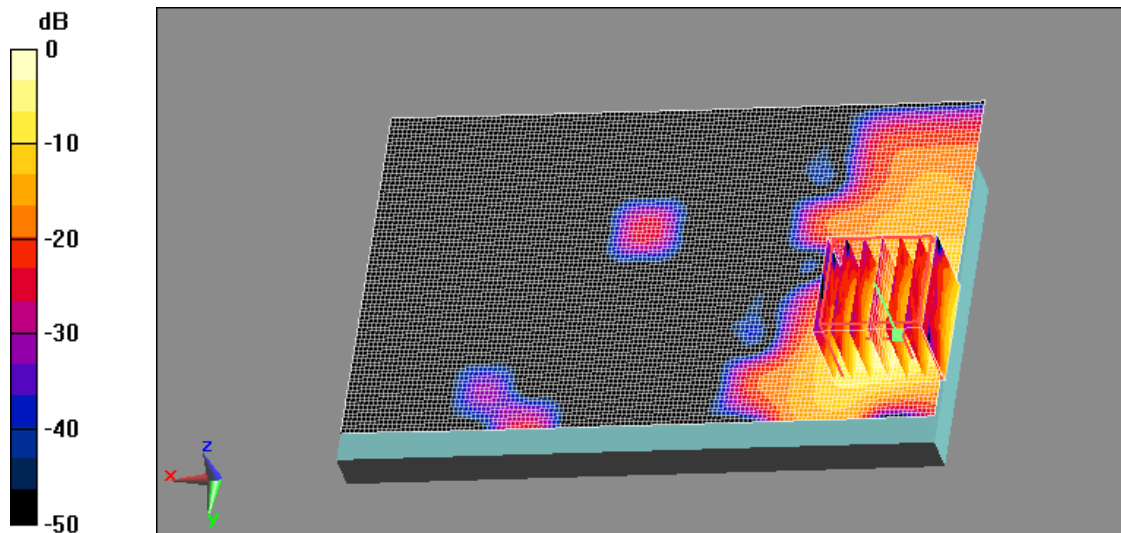
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.17 V/m; Power Drift = 0.147 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.340 mW/g; SAR(10 g) = 0.088 mW/g

Maximum value of SAR (measured) = 0.715 mW/g



0 dB = 0.715mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n 5GHz HT20 Body (Job No. : FJ-104)

Procedure Name: Ch.44, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5220 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5220$ MHz; $\sigma = 5.42$ mho/m; $\epsilon_r = 47.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.9, 3.9, 3.9); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.44, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0/Area Scan (91x141x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.556 mW/g

Ch.44, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0/Zoom Scan (7x7x11)/Cube 0:

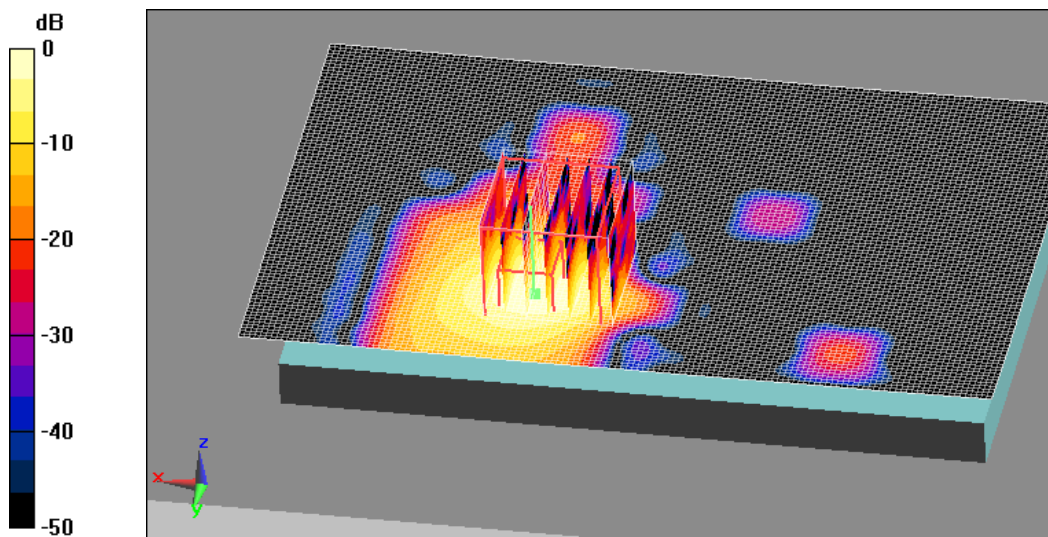
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 9 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.278 mW/g; SAR(10 g) = 0.065 mW/g

Maximum value of SAR (measured) = 0.578 mW/g



0 dB = 0.578mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.52, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5260 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 5.47$ mho/m; $\epsilon_r = 47.2$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.64, 3.64, 3.64); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.52, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.923 mW/g

Ch.52, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

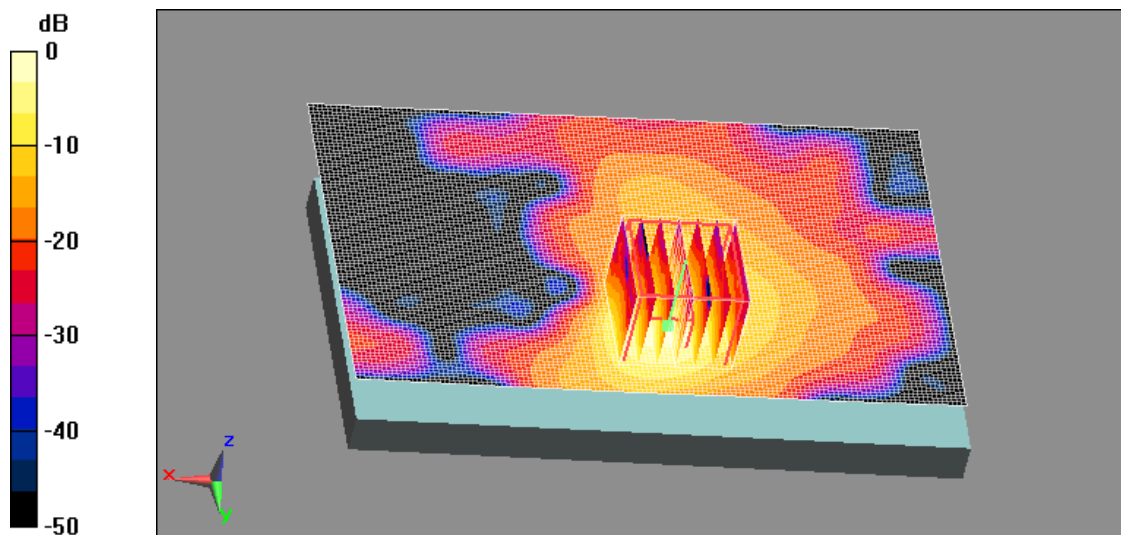
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.33 V/m; Power Drift = 0.133 dB

Peak SAR (extrapolated) = 1.88 W/kg

SAR(1 g) = 0.472 mW/g; SAR(10 g) = 0.128 mW/g

Maximum value of SAR (measured) = 0.971 mW/g



0 dB = 0.971mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.64, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: 5GHz; Frequency: 5320 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5320$ MHz; $\sigma = 5.53$ mho/m; $\epsilon_r = 46.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.64, 3.64, 3.64); Calibrated: 2012-02-21

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn533; Calibrated: 2011-09-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.64, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.13 mW/g

Ch.64, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

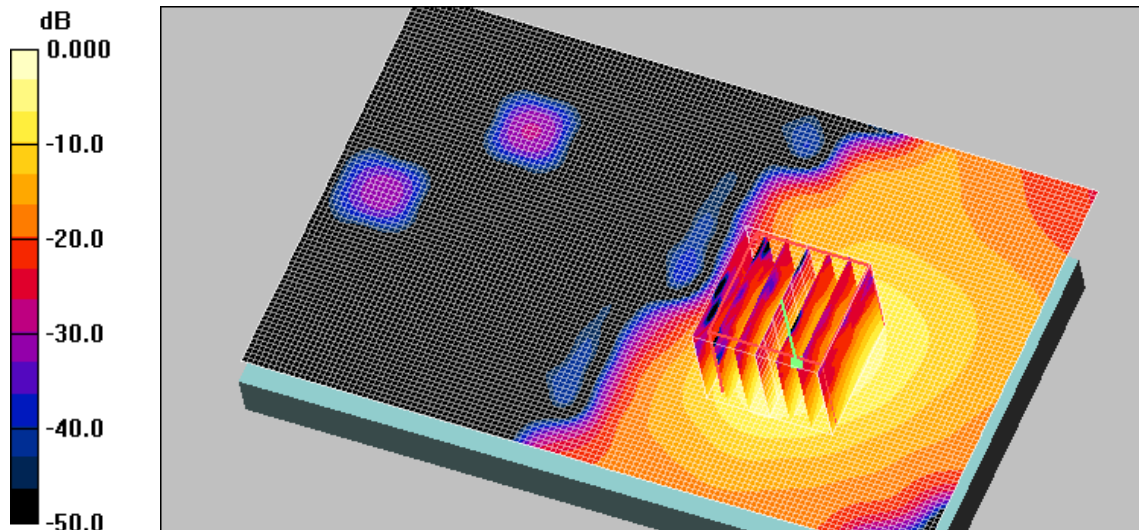
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.48 V/m; Power Drift = -0.096 dB

Peak SAR (extrapolated) = 2.03 W/kg

SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.150 mW/g

Maximum value of SAR (measured) = 1.09 mW/g



0 dB = 1.09mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n 5GHz HT20 Body (Job No. : FJ-104)

Procedure Name: Ch.52, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5260 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5260$ MHz; $\sigma = 5.47$ mho/m; $\epsilon_r = 47.2$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.64, 3.64, 3.64); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.52, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0/Area Scan (81x131x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.641 mW/g

Ch.52, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0/Zoom Scan (7x7x11)/Cube 0:

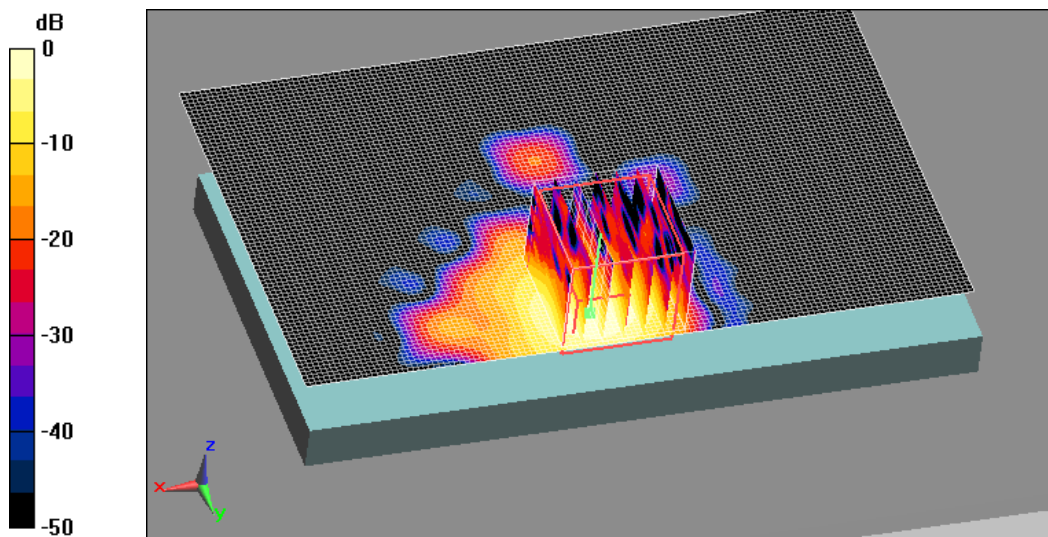
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 7.28 V/m; Power Drift = 0.082 dB

Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.290 mW/g; SAR(10 g) = 0.067 mW/g

Maximum value of SAR (measured) = 0.616 mW/g



0 dB = 0.616mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.104, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: 5GHz; Frequency: 5520 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5520$ MHz; $\sigma = 5.92$ mho/m; $\epsilon_r = 46.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.38, 3.38, 3.38); Calibrated: 2012-02-21

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn533; Calibrated: 2011-09-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.104, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.776 mW/g

Ch.104, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

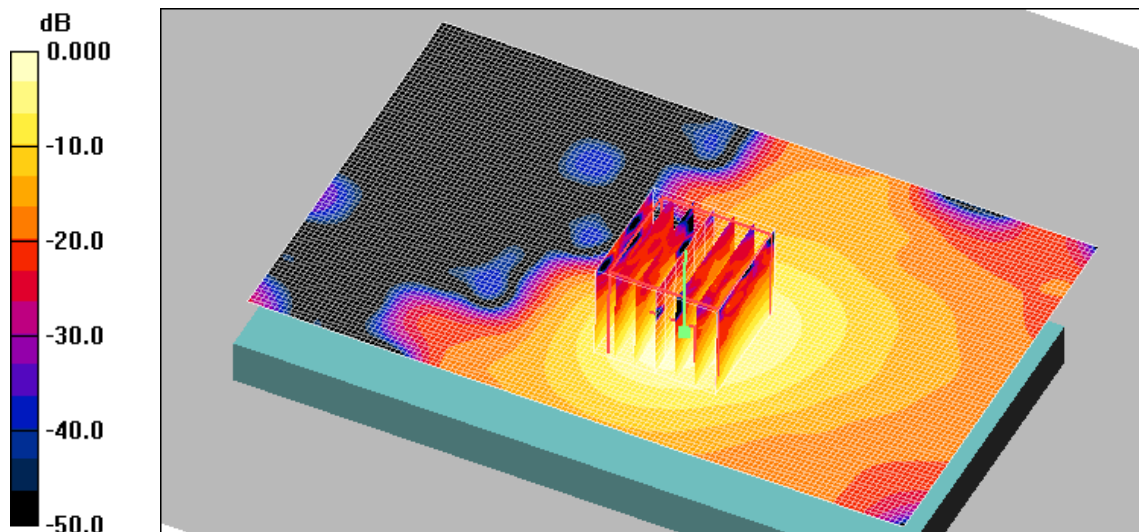
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.69 V/m; Power Drift = 0.173 dB

Peak SAR (extrapolated) = 1.40 W/kg

SAR(1 g) = 0.373 mW/g; SAR(10 g) = 0.119 mW/g

Maximum value of SAR (measured) = 0.730 mW/g



0 dB = 0.730mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.108, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5540 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5540$ MHz; $\sigma = 5.98$ mho/m; $\epsilon_r = 46.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.38, 3.38, 3.38); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.108, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.05 mW/g

Ch.108, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

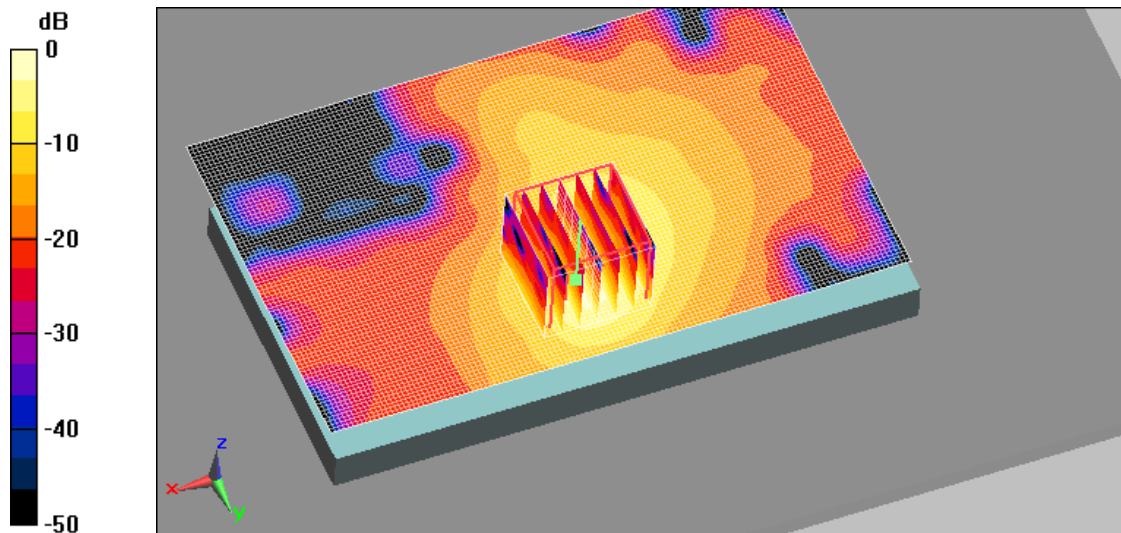
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.37 V/m; Power Drift = -0.163 dB

Peak SAR (extrapolated) = 1.89 W/kg

SAR(1 g) = 0.458 mW/g; SAR(10 g) = 0.142 mW/g

Maximum value of SAR (measured) = 0.981 mW/g



0 dB = 0.981mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.116, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: 5GHz; Frequency: 5580 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5580$ MHz; $\sigma = 6.01$ mho/m; $\epsilon_r = 46.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.27, 3.27, 3.27); Calibrated: 2012-02-21

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn533; Calibrated: 2011-09-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.116, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.685 mW/g

Ch.116, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

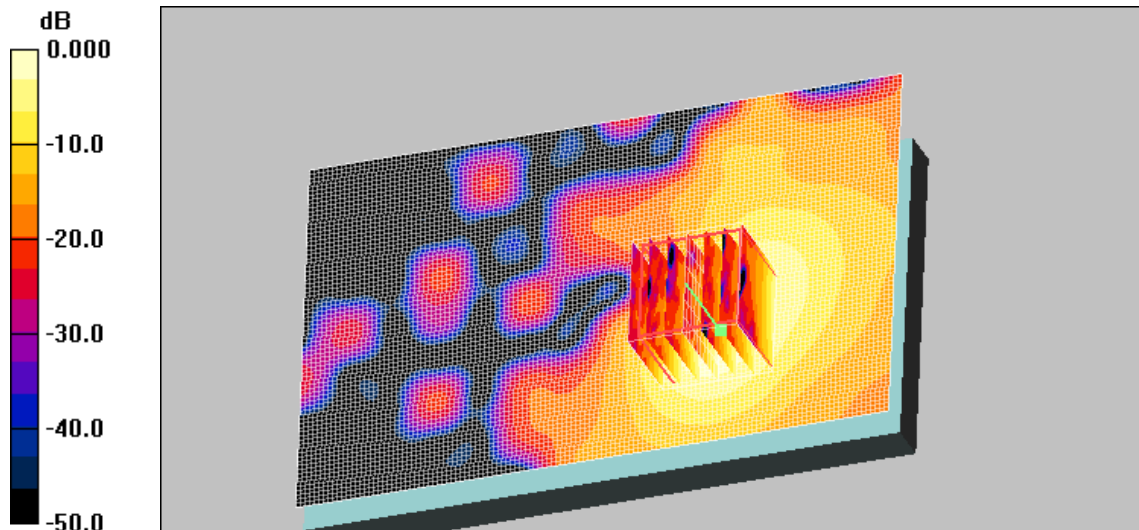
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.61 V/m; Power Drift = -0.017 dB

Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.338 mW/g; SAR(10 g) = 0.111 mW/g

Maximum value of SAR (measured) = 0.662 mW/g



0 dB = 0.662mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.136, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: 5GHz; Frequency: 5680 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5680$ MHz; $\sigma = 6.05$ mho/m; $\epsilon_r = 46.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.27, 3.27, 3.27); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.136, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.692 mW/g

Ch.136, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

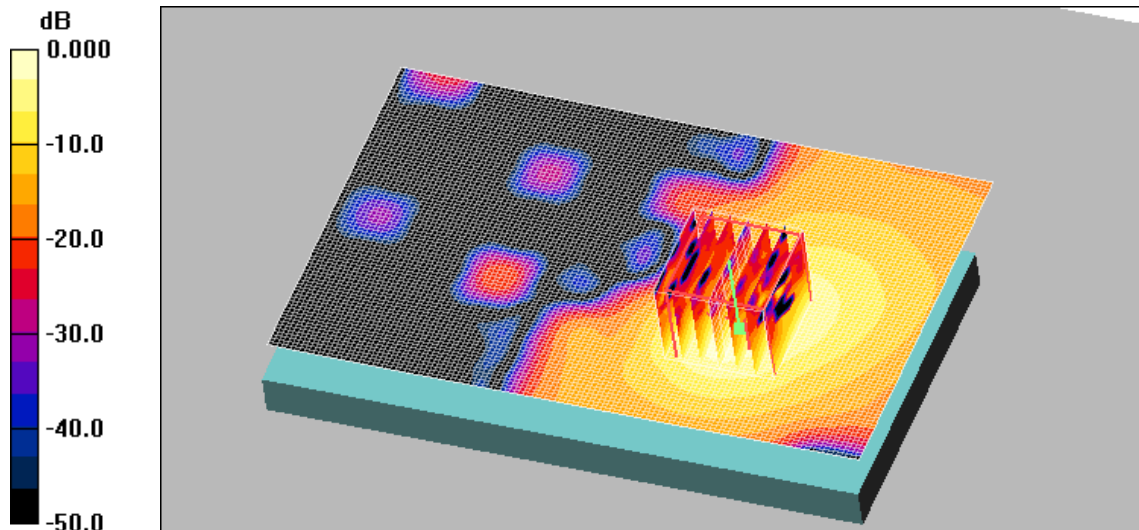
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.71 V/m; Power Drift = 0.088 dB

Peak SAR (extrapolated) = 1.27 W/kg

SAR(1 g) = 0.328 mW/g; SAR(10 g) = 0.099 mW/g

Maximum value of SAR (measured) = 0.647 mW/g



0 dB = 0.647mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n 5GHz HT20 Body (Job No. : FI-104)

Procedure Name: Ch.108, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5540 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5540$ MHz; $\sigma = 5.92$ mho/m; $\epsilon_r = 46.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.38, 3.38, 3.38); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.108, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.623 mW/g

Ch.108, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0/Zoom Scan (7x7x11)/Cube 0:

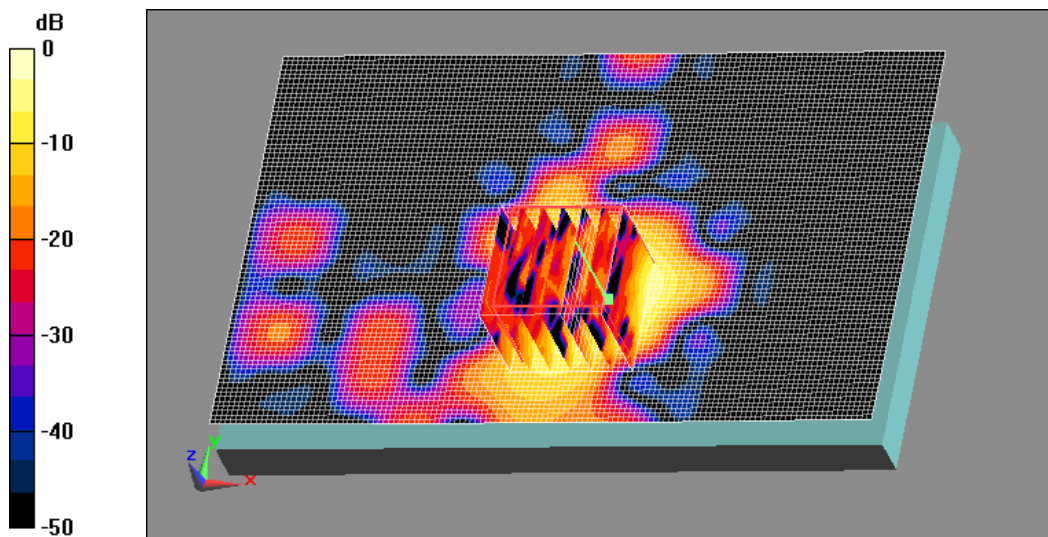
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.48 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.927 W/kg

SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.071 mW/g

Maximum value of SAR (measured) = 0.533 mW/g



0 dB = 0.533mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.149, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: 5GHz; Frequency: 5745 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5745$ MHz; $\sigma = 6.17$ mho/m; $\epsilon_r = 46.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.5, 3.5, 3.5); Calibrated: 2012-02-21

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn533; Calibrated: 2011-09-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.149, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.497 mW/g

Ch.149, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

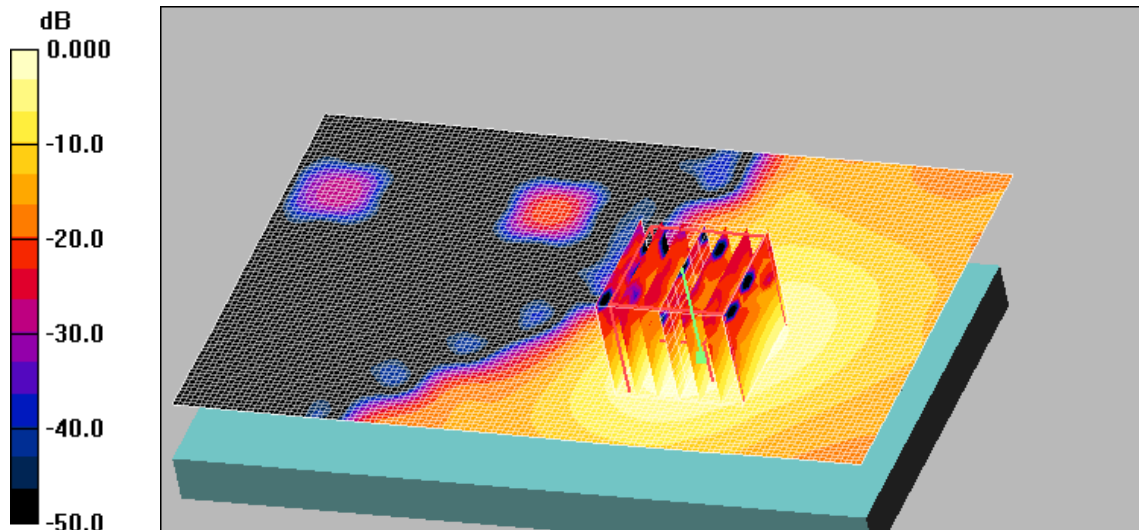
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.60 V/m; Power Drift = 0.052 dB

Peak SAR (extrapolated) = 0.959 W/kg

SAR(1 g) = 0.257 mW/g; SAR(10 g) = 0.089 mW/g

Maximum value of SAR (measured) = 0.493 mW/g



0 dB = 0.493mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.153, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5765 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5765$ MHz; $\sigma = 6.22$ mho/m; $\epsilon_r = 46.2$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.5, 3.5, 3.5); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.153, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.1 mW/g

Ch.153, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

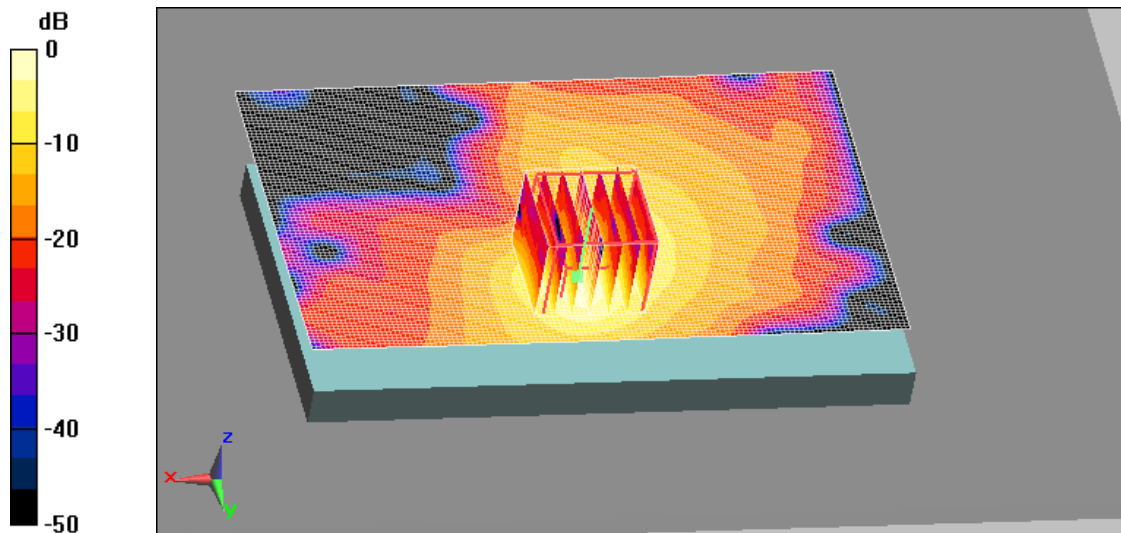
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.52 V/m; Power Drift = 0.031 dB

Peak SAR (extrapolated) = 2.05 W/kg

SAR(1 g) = 0.483 mW/g; SAR(10 g) = 0.143 mW/g

Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.157, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: 5GHz; Frequency: 5785 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5785$ MHz; $\sigma = 6.22$ mho/m; $\epsilon_r = 46.2$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.5, 3.5, 3.5); Calibrated: 2012-02-21

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn533; Calibrated: 2011-09-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.157, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.493 mW/g

Ch.157, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

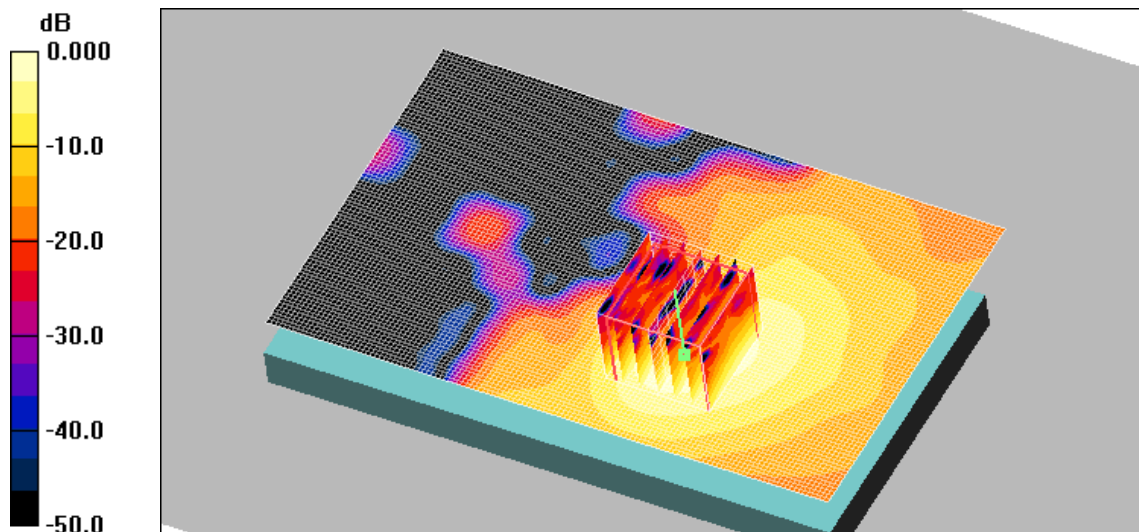
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.56 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 0.955 W/kg

SAR(1 g) = 0.238 mW/g; SAR(10 g) = 0.081 mW/g

Maximum value of SAR (measured) = 0.480 mW/g



0 dB = 0.480mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.161, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: 5GHz; Frequency: 5805 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5805$ MHz; $\sigma = 6.24$ mho/m; $\epsilon_r = 46.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.5, 3.5, 3.5); Calibrated: 2012-02-21

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn533; Calibrated: 2011-09-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.161, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.514 mW/g

Ch.161, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

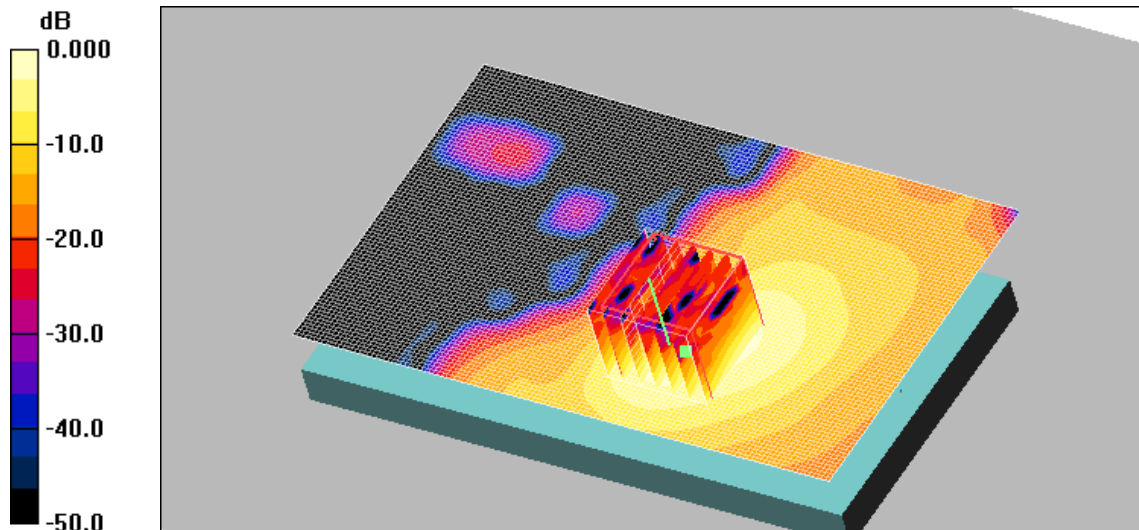
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.34 V/m; Power Drift = 0.176 dB

Peak SAR (extrapolated) = 1.01 W/kg

SAR(1 g) = 0.251 mW/g; SAR(10 g) = 0.086 mW/g

Maximum value of SAR (measured) = 0.487 mW/g



0 dB = 0.487mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n 5GHz HT20 Body (Job No. : FI-104)

Procedure Name: Ch.157, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5785 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5785$ MHz; $\sigma = 6.24$ mho/m; $\epsilon_r = 46.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.5, 3.5, 3.5); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.157, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.756 mW/g

Ch.157, Ant.Intenna, Bat.Standard, Back, 10mm, MCS0/Zoom Scan (7x7x11)/Cube 0:

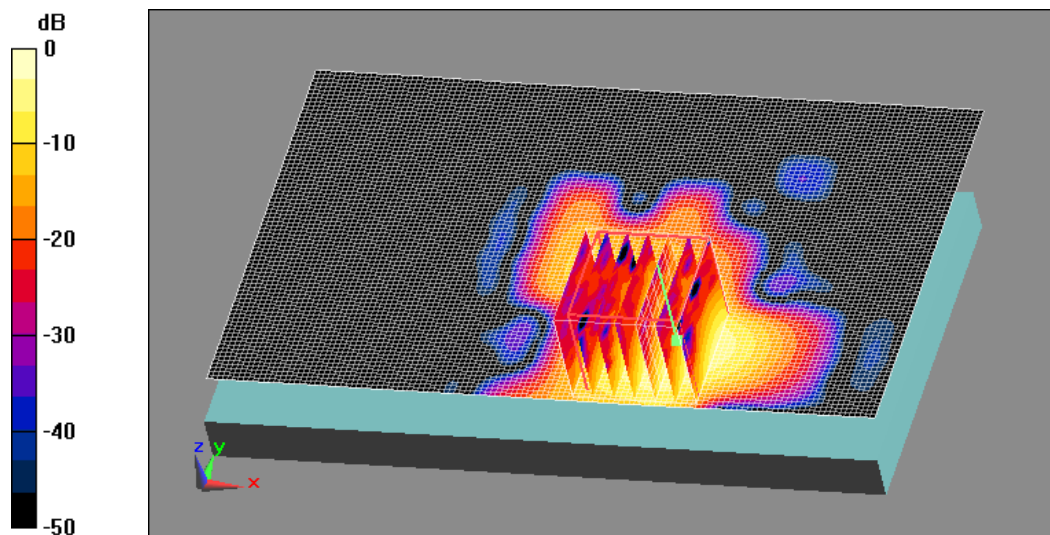
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.26 V/m; Power Drift = 0.037 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.344 mW/g; SAR(10 g) = 0.090 mW/g

Maximum value of SAR (measured) = 0.710 mW/g



0 dB = 0.710mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Body (Job No. : FJ-104)

Procedure Name: Ch.46, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5230 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5230$ MHz; $\sigma = 5.41$ mho/m; $\epsilon_r = 47.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.9, 3.9, 3.9); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.46, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm/Area Scan (91x141x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.485 mW/g

Ch.46, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm/Zoom Scan (7x7x11)/Cube 0:

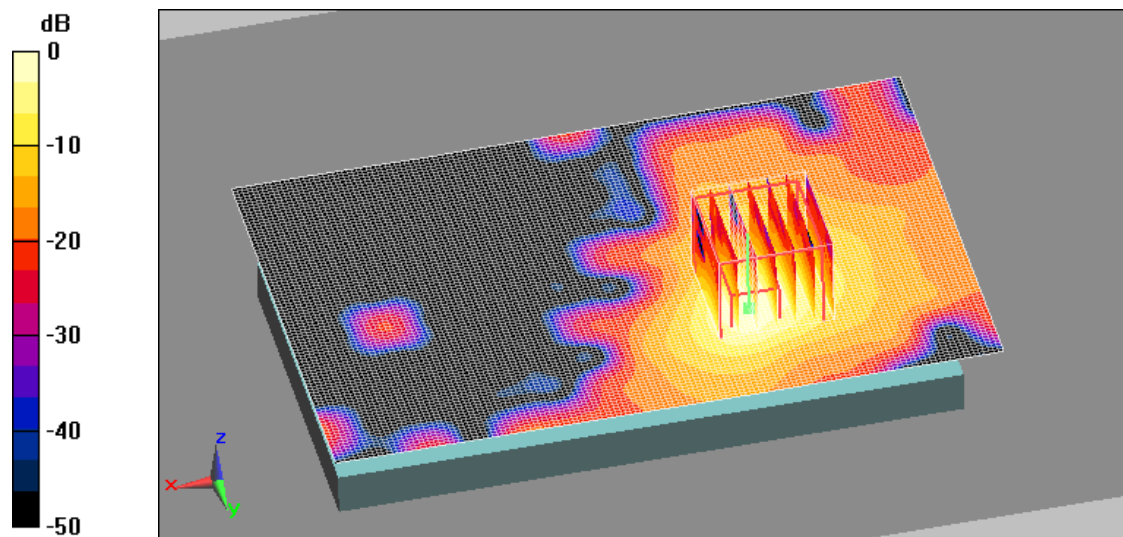
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.13 V/m; Power Drift = -0.163 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.245 mW/g; SAR(10 g) = 0.066 mW/g

Maximum value of SAR (measured) = 0.522 mW/g



0 dB = 0.522mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Body (Job No. : FJ-104)

Procedure Name: Ch.62, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5310 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5310$ MHz; $\sigma = 5.48$ mho/m; $\epsilon_r = 47.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.64, 3.64, 3.64); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.62, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm/Area Scan (91x141x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.946 mW/g

Ch.62, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm/Zoom Scan (7x7x11)/Cube 0:

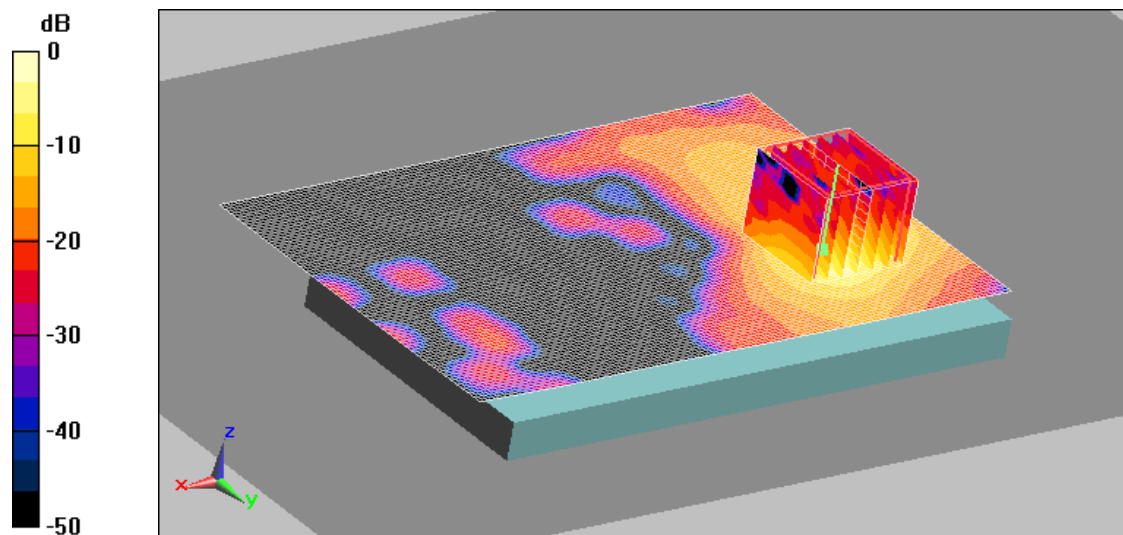
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.62 V/m; Power Drift = 0.091 dB

Peak SAR (extrapolated) = 1.7 W/kg

SAR(1 g) = 0.424 mW/g; SAR(10 g) = 0.115 mW/g

Maximum value of SAR (measured) = 0.913 mW/g



0 dB = 0.913mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.102, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: 5GHz; Frequency: 5510 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5510$ MHz; $\sigma = 5.91$ mho/m; $\epsilon_r = 46.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.38, 3.38, 3.38); Calibrated: 2012-02-21

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn533; Calibrated: 2011-09-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.102, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.775 mW/g

Ch.102, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

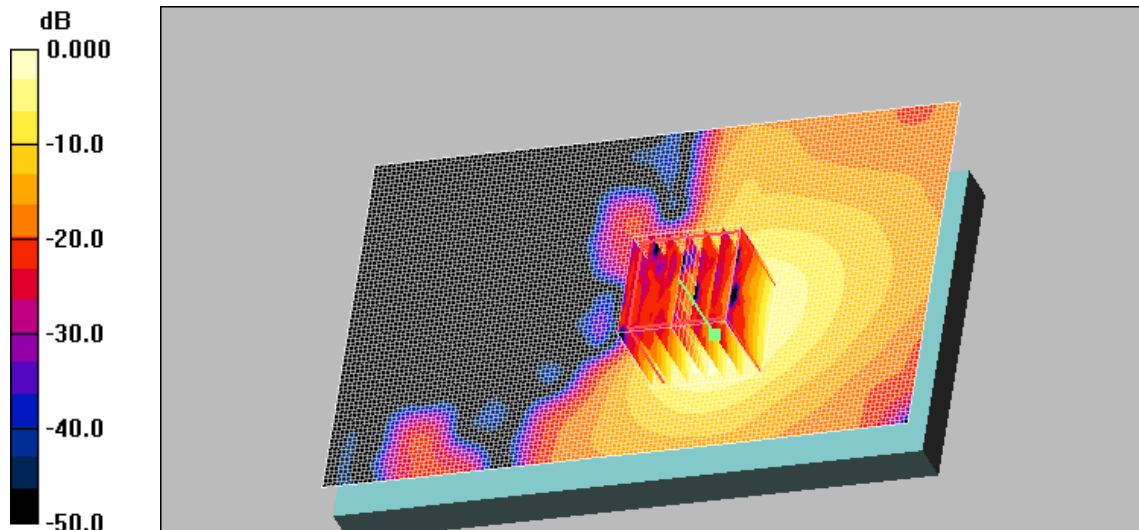
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.61 V/m; Power Drift = -0.147 dB

Peak SAR (extrapolated) = 1.44 W/kg

SAR(1 g) = 0.378 mW/g; SAR(10 g) = 0.120 mW/g

Maximum value of SAR (measured) = 0.759 mW/g



0 dB = 0.759mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Body (Job No. : FJ-104)

Procedure Name: Ch.110, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5550 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5550$ MHz; $\sigma = 5.92$ mho/m; $\epsilon_r = 46.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.38, 3.38, 3.38); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.110, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.976 mW/g

Ch.110, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm/Zoom Scan (7x7x11)/Cube 0:

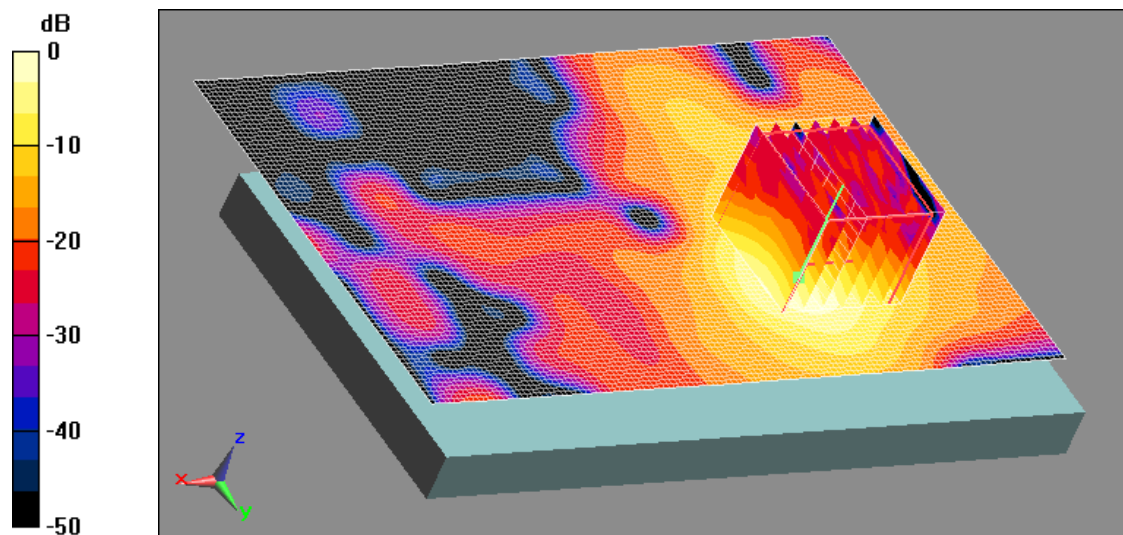
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.47 V/m; Power Drift = -0.057 dB

Peak SAR (extrapolated) = 1.94 W/kg

SAR(1 g) = 0.482 mW/g; SAR(10 g) = 0.141 mW/g

Maximum value of SAR (measured) = 0.955 mW/g



0 dB = 0.955mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11n HT40 5GHz Body (Job No. : FJ-104)

Procedure Name: Ch.151, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm

Meas. Ambient Temp(celsius)-22.3,Tissue Temp(celsius)-22.1;Test Date-26/Apr/2012

Communication System: 5GHz; Frequency: 5755 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5755$ MHz; $\sigma = 6.21$ mho/m; $\epsilon_r = 46.2$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.5, 3.5, 3.5); Calibrated: 2012-02-21
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn533; Calibrated: 2011-09-21
- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003
- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.151, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.987 mW/g

Ch.151, Ant.Intenna, Bat.Standard, Back, MCS0, 10mm/Zoom Scan (7x7x11)/Cube 0:

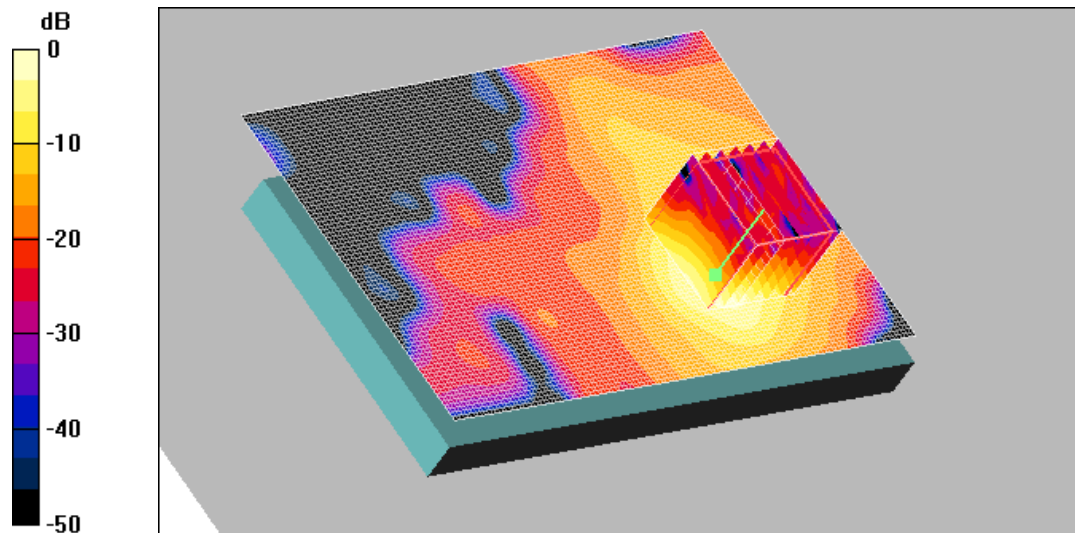
Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.62 V/m; Power Drift = 0.108 dB

Peak SAR (extrapolated) = 1.89 W/kg

SAR(1 g) = 0.460 mW/g; SAR(10 g) = 0.131 mW/g

Maximum value of SAR (measured) = 0.909 mW/g



0 dB = 0.909mW/g

DUT: SHV-E210S; Serial: FJ-104-A

Program Name: SHV-E210S 802.11a 5GHz Body (Job No. : FI-104)

Procedure Name: Ch.64, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm

Meas. Ambient Temp(celsius)-22.5,Tissue Temp(celsius)-22.3;Test Date-04/Jun/2012

Communication System: 5GHz; Frequency: 5320 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5320$ MHz; $\sigma = 5.53$ mho/m; $\epsilon_r = 46.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3520; ConvF(3.64, 3.64, 3.64); Calibrated: 2012-02-21

- Sensor-Surface: 2mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn533; Calibrated: 2011-09-21

- Phantom: Triple Flat Phantom 5.1; Type: Triple Flat Phantom 5.1; Serial: 1003

- Measurement SW: DASY5, V5.0 Build 125; Postprocessing SW: SEMCAD, V13.4 Build 125

Ch.64, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Area Scan (81x131x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.13 mW/g

Ch.64, Ant.Intenna, Bat.Standard, Back, 6Mbps, 10mm/Zoom Scan (7x7x11)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.48 V/m; Power Drift = -0.096 dB

Peak SAR (extrapolated) = 2.03 W/kg

SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.150 mW/g

Maximum value of SAR (measured) = 1.09 mW/g

