SAR Test Report

Product Name	：	Flip Share TV (USB Dongle)
Model No.	：	CTV1W

Applicant	：	CISCO-LINKSYS LLC
Address	：	121 THEORY DR IRVINE, CA 92617 USA

Date of Receipt	：	2009/08/31
Issued Date	：	2009/11/17
Report No.	：	099081R-HPUSP10V01
Report Version	：	V2.0

Test Report Certification

Issued Date: 2009/11/17
Report No.:099081R-HPUSP09V01

QuieTek

Product Name	:	Flip Share TV (USB Dongle)
Applicant	:	CISCO-LINKSYS LLC
Address	:	121 THEORY DR IRVINE, CA 92617 USA
Manufacturer	:	AmbitMicrosystems(shanghai) LTD.
Model No.	:	CTV1W
Trade Name	:	Cisco
FCC ID.	:	Q87CTV1UB
Applicable Standard	:	FCC Oet65 Supplement C June 2001 IEEE Std. 1528-2003 47CFR § 2.1093
Test Result	:	Max. SAR Measurement (1g) 802.11b(2.4GHz): 1.010 W/kg 802.11a(5.2GHz): 0.489 W/Kg 802.11a(5.8GHz): 0.297 W/Kg

Application Type Certification

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quie Tek Corporation.

Documented By : Nicole Huang
(Adm.Assistant / Nicole Huang)

Tested By : Jung Chang
(Engineer / Jung Chang)

Approved By :
(Manager / Vincent Lin)

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1. General Information

1.1 EUT Description

Product Name	Flip Share TV (USB Dongle)
Trade Name	Cisco
Model No.	CTV1W
FCC ID	Q87CTV1UB
TX Frequency	802.11b/802.11g: 2412MHz~2462MHz 802.11a(5.2GHz): 5150MHz~5350MHz 802.11a(5.8GHz): 5745MHz~5825MHz
Type of Modulation	DSSS/OFDM
Antenna Type	PIFA
Device Category	Portable
RF Exposure Environment	Uncontrolled
Max. Output Power (Conducted)	802.11b: 21.31 dBm 802.11g: 21.55 dBm 802.11a(5.2GHz): 14.90 dBm 802.11a(5.8GHz): 18.24 dBm

1.2 Antenna List

Antanna	Antenna Type	Part No.	Peak Gain
Left Antenna(For 2.4G)	PIFA	02036140-04231	2.2dBi (2.4GHz)
Right Antenna(For 2.4G)	PIFA	02036140-04231	2.8 dBi (2.4GHz)
Left Antenna(For 5.2G)	PIFA	02036140-04231	3.6 dBi (5.2GHz)
Right Antenna(For 5.2G)	PIFA	02036140-04231	4.3 dBi (5.2GHz)
Left Antenna(For 5.8G)	PIFA	02036140-04231	1.4 dBi (5.8GHz)
Right Antenna(For 5.8G)	PIFA	02036140-04231	2.8 dBi (5.8GHz)

1.2 Test Environment

Ambient conditions in the laboratory:(2009/09/24)

Items	Required	Actual
Temperature (°C)	18-25	24.9
Humidity (%RH)	30-70	54

Ambient conditions in the laboratory: (2009/09/21)

Items	Required	Actual
Temperature (°C)	18-25	25.3
Humidity (%RH)	30-70	54

Ambient conditions in the laboratory: (2009/10/28)

Items	Required	Actual
Temperature (°C)	18-25	24.1
Humidity (%RH)	30-70	56

Ambient conditions in the laboratory: (2009/11/13)

Items	Required	Actual
Temperature (°C)	18-25	24.1
Humidity (%RH)	30-70	51

Site Description:

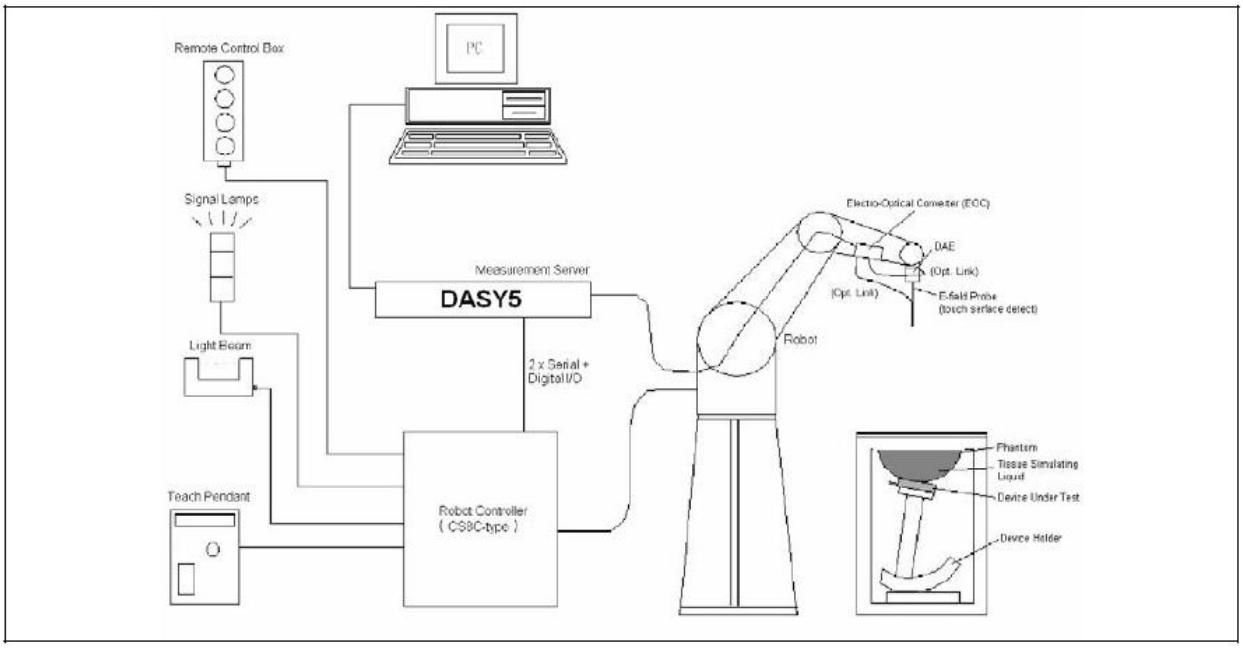
Accredited by TAF
Accredited Number: 0914
Effective through: December 12, 2011

Site Name: Quietek Corporation

Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
Lin-Kou Shiang, Taipei,
Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

2. SAR Measurement System

2.1 DASY5 System Description



The DASY5 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

2.1.1 Applications

Predefined procedures and evaluations for automated compliance testing with all worldwide standards, e.g., IEEE 1528, OET 65, IEC 62209-1, IEC 62209-2, EN 50360, EN 50383 and others.

2.1.2 Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a $10mm^2$ step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments.

When an Area Scan has measured all reachable points, it computes the field maxima found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE 1528-2003, EN 50361 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan).

2.1.3 Zoom Scan (Cube Scan Averaging)

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. A density of 1000 kg/m^3 is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1 g cube is 10mm, with the side length of the 10 g cube 21,5mm.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 5x5x7 (8mmx8mmx5mm) providing a volume of 32mm in the X & Y axis, and 30mm in the Z axis.

2.1.4 Uncertainty of Inter-/Extrapolation and Averaging

In order to evaluate the uncertainty of the interpolation, extrapolation and averaged SAR calculation algorithms of the Postprocessor, DASY5 allows the generation of measurement grids which are artificially predefined by analytically based test functions. Therefore, the grids of area scans and zoom scans can be filled with uncertainty test data, according to the SAR benchmark functions of IEEE 1528.The three analytical functions shown in equations as below are used to describe the possible range of the expected SAR distributions for the tested handsets. The field gradients are covered by the spatially flat

distribution f1, the spatially steep distribution f3 and f2 accounts for H-field cancellation on the phantom/tissue surface.

$$f_1(x,y,z) = Ae^{-\frac{z}{2a}}\cos^2\left(\frac{\pi}{2}\frac{\sqrt{x'^2+y'^2}}{5a}\right)$$

$$f_2(x,y,z) = Ae^{-\frac{z}{a}}\frac{a^2}{a^2+x'^2}\left(3-e^{-\frac{2z}{a}}\right)\cos^2\left(\frac{\pi}{2}\frac{y'}{3a}\right)$$

$$f_3(x,y,z) = A\frac{a^2}{\frac{a^2}{4}+x'^2+y'^2}\left(e^{-\frac{2z}{a}}+\frac{a^2}{2(a+2z)^2}\right)$$

2.2 DASY5 E-Field Probe

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

SPEAG conducts the probe calibration in compliance with international and national standards (e.g. IEEE 1528, EN 62209-1, IEC 62209, etc.) under ISO 17025. The calibration data are in Appendix D.

2.2.1 Isotropic E-Field Probe Specification

Model	Ex3DV4	
Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz to 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 µW/g to 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)	
Dimensions	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	
Application	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%.	

2.3 Boundary Detection Unit and Probe Mounting Device

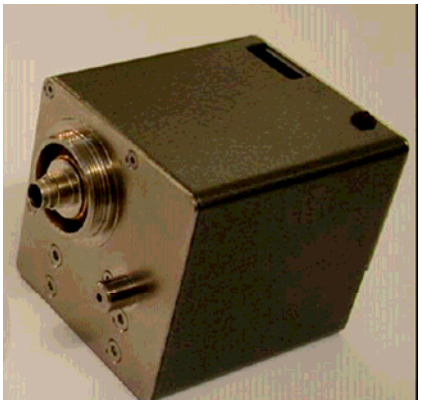
The DASY probes use a precise connector and an additional holder for the probe, consisting of a plastic tube and a flexible silicon ring to center the probe. The connector at the DAE is flexibly mounted and held in the default position with magnets and springs. Two switching systems in the connector mount detect frontal and lateral probe collisions and trigger the necessary software response.

2.4 DATA Acquisition Electronics (DAE) and Measurement Server

The data acquisition electronics (DAE) 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 as well as an optical uplink for commands and the clock.

The input impedance of the DAE4 is 200M Ohm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.



The DASY5 measurement server is based on a PC/104 CPU board with a 400MHz intel ULV Celeron, 128MB chipdisk and 128MB RAM. The necessary circuits for communication with the DAE electronics box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY5 I/O board, which is directly connected to the PC/104 bus of the CPU board.

2.5 Robot

The DASY5 system uses the high precision robots TX90 XL type out of the newer series from Stäubli SA (France). For the 6-axis controller DASY5 system, the CS8C robot controller version from Stäubli is used.
The XL robot series have many features that are important for our application:

- High precision (repeatability 0.02 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)
- 6-axis controller

2.6 Light Beam Unit

The light beam switch allows automatic "tooling" of the probe. During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip.
The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.

2.7 Device Holder

The DASY5 device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (EPR).

Thus the device needs no repositioning when changing the angles.

The DASY5 device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity εr =3 and loss tangent δ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

2.8 SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region where shell thickness increases to 6mm). It has three measurement areas:

- Left head
- Right head
- Flat phantom

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

3. Tissue Simulating Liquid

3.1 The composition of the tissue simulating liquid

INGREDIENT (% Weight)	2450MHz Head	2450MHz Body	5200MHz Body	5800MHz Body
Water	46.7	73.2	76	75.68
Salt	0.00	0.04	0.00	0.43
Sugar	0.00	0.00	0.00	0.00
HEC	0.00	0.00	0.00	0.00
Preventol	0.00	0.00	0.00	0.00
DGBE	53.3	26.7	4.44	4.42
Triton X-100	0.00	0.00	19.56	19.47

3.2 Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using APREL Dielectric Probe Kit and Anritsu MS4623B Vector Network Analyzer.

Head Tissue Simulant Measurement

Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
2450MHz	Reference result ± 5% window	40.1 38.095 to 42.105	1.78 1.691 to 1.869	N/A
	24-Sep-09	40.71	1.76	23.7
	28-Oct-09	39.99	1.73	23.3

Body Tissue Simulant Measurement

Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
2450MHz	Reference result ± 5% window	52.7 50.065 to 55.335	1.95 1.8525 to 2.0475	N/A
	24-Sep-09	51.82	1.93	23.7
2412 MHz	Low channel	52.88	1.87	23.7
2437 MHz	Mid channel	52.24	1.90	23.7
2462 MHz	High channel	51.21	1.95	23.7
2412 MHz	28-Oct-09	52.33	1.88	23.3

Body Tissue Simulant Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
5200MHz	Reference result ± 5% window	49 46.55 to 51.45	5.3 5.035 to 5.565	N/A
	21-Sep-09	49.65	5.34	24.1
	28-Oct-09	49.94	5.14	23.3
5180 MHz	Low channel	50.32	5.28	24.1
5240 MHz	Mid channel	49.21	5.39	24.1
5320 MHz	High channel	46.84	5.53	24.1
5180 MHz	28-Oct-09	50.12	5.02	23.3

Body Tissue Simulant Measurement				
Frequency [MHz]	Description	Dielectric Parameters		Tissue Temp. [°C]
		ε_r	σ [s/m]	
5800MHz	Reference result ± 5% window	48.2 45.79 to 50.61	6 5.7 to 6.3	N/A
	13-Nov-09	49.11	6.14	23.4
5745 MHz	Low channel	48.27	5.83	23.4
5785 MHz	Mid channel	48.61	6.02	23.4
5825 MHz	High channel	49.36	6.21	23.4

3.3 Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

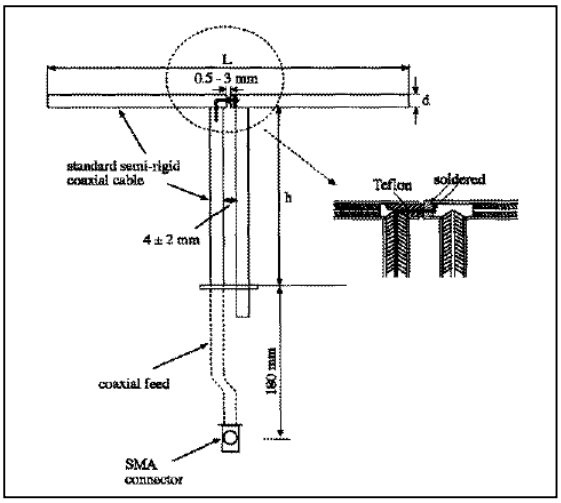
Target Frequency	Head		Body	
(MHz)	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)

4. SAR Measurement Procedure

4.1 SAR System Validation

4.1.1 Validation Dipoles



The dipoles used is based on the IEEE-1528 standard, and is complied with mechanical and electrical specifications in line with the requirements of both IEEE and FCC Supplement C. the table below provides details for the mechanical and electrical specifications for the dipoles.

Frequency	L (mm)	h (mm)	d (mm)
2450MHz	53.5	30.4	3.6
5200MHz	23.1	14.2	3.6
5800MHz	21.2	13.1	3.6

4.1.2 Validation Result

System Performance Check at 2450MHz

Validation Kit: ASL-D-2450-S-2

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
2450 MHz	Reference result ± 10% window	48.07 43.263 to 52.877	25.65 23.085 to 28.215	N/A
	24-Sep-09	48.88	23.36	23.7
	28-Oct-09	46	25.28	23.3

Note: All SAR values are normalized to 1W forward power.

System Performance Check at 5200MHz

Validation Kit: ASL-D-5200-S-2

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
5200 MHz	Reference result ± 10% window	77.2 69.48 to 84.92	21.7 19.53 to 23.87	N/A
	21-Sep-09	73.6	20.88	24.1
	28-Oct-09	76.4	22.12	23.3
Note: All SAR values are normalized to 1W forward power.				

System Performance Check at 5800MHz

Validation Kit: ASL-D-5800-S-2

Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp. [°C]
5800 MHz	Reference result ± 10% window	68.2 61.38 to 75.02	18.7 16.83 to 20.57	N/A
	21-Sep-09	68.4	18.76	24.1
	13-Nov-09	65.2	19.24	23.4
Note: All SAR values are normalized to 1W forward power.				

4.2 Arrangement Assessment Setup

4.2.1 Test Positions of Device Relative to Head

This specifies exactly two test positions for the handset against the head phantom, the “cheek” position and the “tilted” position. The handset should be tested in both positions on the left and right sides of the SAM phantom. If the handset construction is such that it cannot be positioned using the handset positioning procedures described in 4.2.2.1 and 4.2.2.2 to represent normal use conditions (e.g., asymmetric handset), alternative alignment procedures should be considered with details provided in the test report.

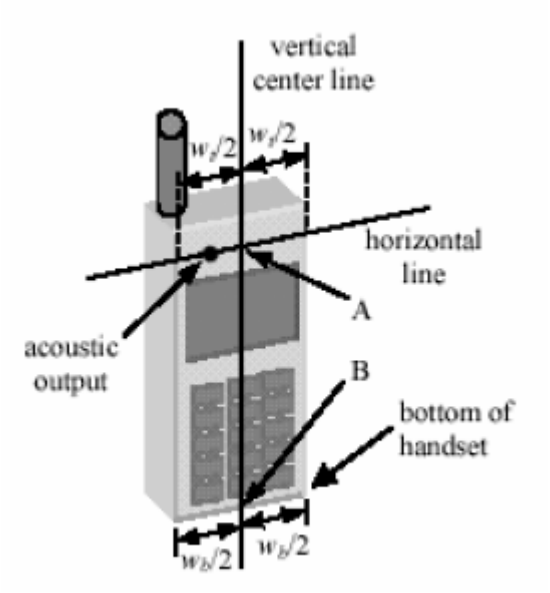


Figure 4.1a Fixed Case

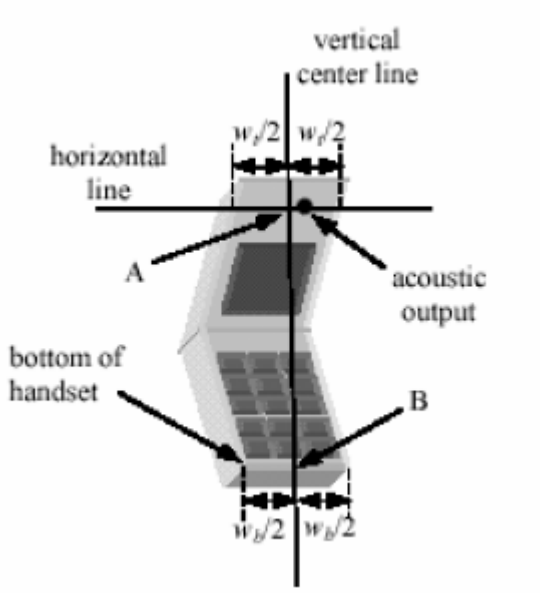


Figure4.1b Clam Shell

4.2.1.1 Definition of the “Cheek” Position

The “cheek” position is defined as follows:

a. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece, open the cover. (If the handset can also be used with the cover closed both configurations must be tested.)

b. Define two imaginary lines on the handset: the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset: the midpoint of the width *wt* of the handset at the level of the acoustic output (point A on Figures 4.1a and 4.1b), and the midpoint of the width *wb* of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 4.1a). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output. However, the acoustic output may be located elsewhere on the horizontal line.

Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 4.1b), especially for clamshell handsets, handsets with flip pieces, and other irregularly-shaped handsets.

c. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 4.2), such that the plane defined by the vertical center line and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.

d. Translate the handset towards the phantom along the line passing through RE and LE until the handset touches the pinna.

e. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to MB-NF including the line MB (called the reference plane).

f. Rotate the handset around the vertical centerline until the handset (horizontal line) is symmetrical with respect to the line NF.

g. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE and maintaining the handset contact with the pinna, rotate the handset about the line NF until any point on the handset is in contact with a phantom point below the pinna (cheek). See Figure 4.2 the physical angles of rotation should be noted.

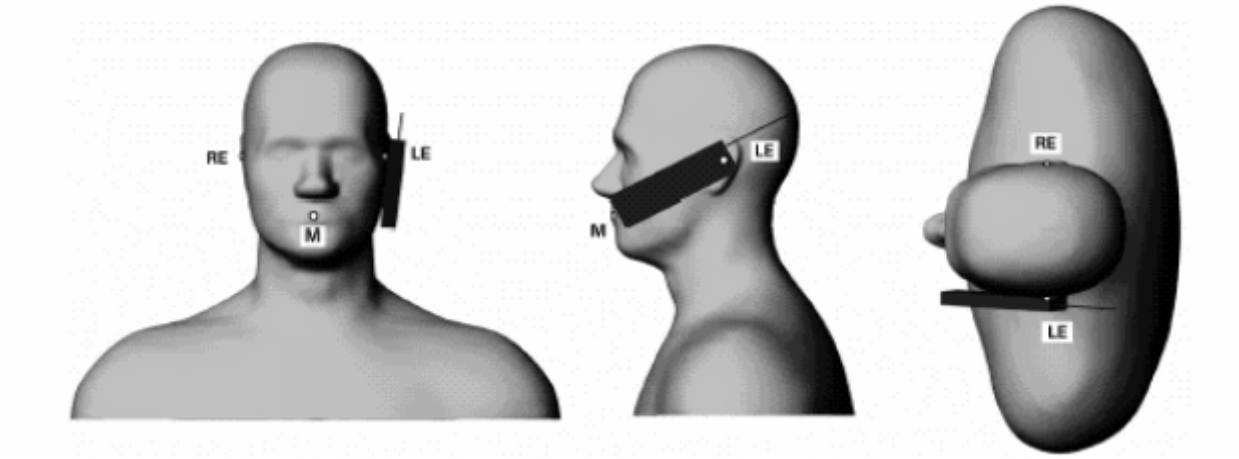


Figure 4.2 – Phone position 1, “cheek” or “touch” position.

4.2.1.2 Definition of the “Tilted” Position

The “tilted” position is defined as follows:

a. Repeat steps (a) – (g) of 4.2.1.1 to place the device in the “cheek position.”

b. While maintaining the orientation of the handset move the handset away from the pinna

along the line passing through RE and LE in order to enable a rotation of the handset by 15 degrees.

c. Rotate the handset around the horizontal line by 15 degrees.

d. While maintaining the orientation of the handset, move the handset towards the phantom on a line passing through RE and LE until any part of the handset touches the ear. The tilted position is obtained when the contact is on the pinna. If the contact is at any location other than the pinna (e.g., the antenna with the back of the phantom head), the angle of the handset should be reduced. In this case, the tilted position is obtained if any part of the handset is in contact with the pinna as well as a second part of the handset is contact with the phantom (e.g., the antenna with the back of the head).

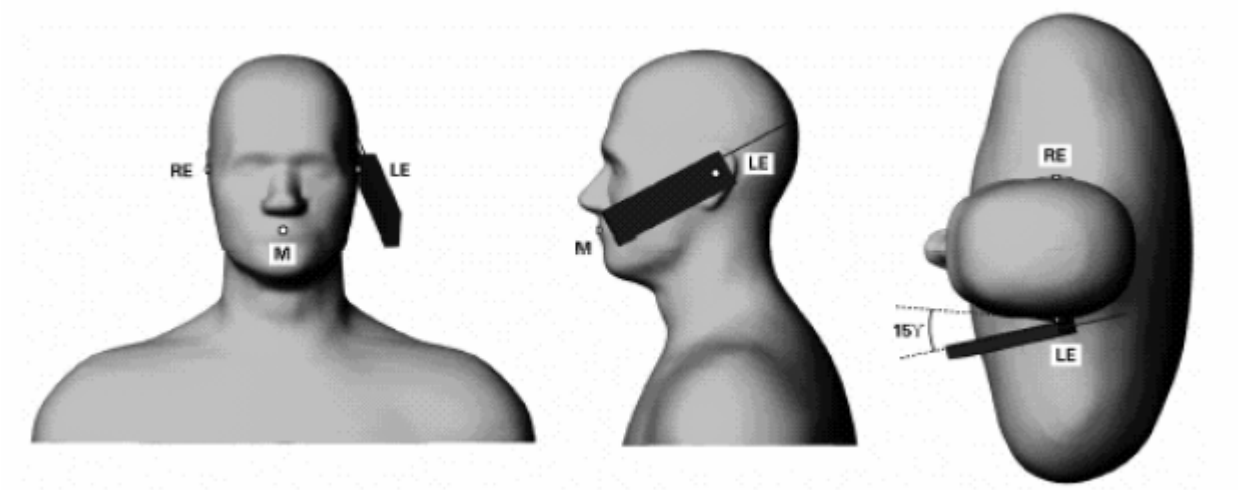


Figure 4.3 – Phone position 2, “tilted” position.

4.2.2 Test Positions for body-worn

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. A separation distance of 1.5 cm between the back of the device and a flat phantom is recommended for testing body-worn SAR compliance under such circumstances. Other separation distance may be use, but not exceed 2.5 cm.

4.3 SAR Measurement Procedure

The Dasy5 calculates SAR using the following equation,

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

σ: represents the simulated tissue conductivity

ρ: represents the tissue density

The EUT is set to transmit at the required power in line with product specification, at each frequency relating to the LOW, MID, and HIGH channel settings.

Pre-scans are made on the device to establish the location for the transmitting antenna, using a large area scan in either air or tissue simulation fluid.

The EUT is placed against the Universal Phantom where the maximum area scan dimensions are larger than the physical size of the resonating antenna. When the scan size is not large enough to cover the peak SAR distribution, it is modified by either extending the area scan size in both the X and Y directions, or the device is shifted within the predefined area.

The area scan is then run to establish the peak SAR location (interpolated resolution set at $1mm^2$)which is then used to orient the center of the zoom scan. The zoom scan is then executed and the 1g and 10g averages are derived from the zoom scan volume (interpolated resolution set at $1mm^3$).

5. SAR Exposure Limits

SAR assessments have been made in line with the requirements of IEEE-1528, FCC Supplement C, and comply with ANSI/IEEE C95.1-1992 “Uncontrolled Environments” limits. These limits apply to a location which is deemed as “Uncontrolled Environment” which can be described as a situation where the general public may be exposed to an RF source with no prior knowledge or control over their exposure.

Limits for General Population/Uncontrolled Exposure (W/kg)

Type Exposure	**Uncontrolled Environment Limit**
Spatial Peak SAR (1g cube tissue for brain or body)	**1.60 W/kg**
Spatial Average SAR (whole body)	**0.08 W/kg**
Spatial Peak SAR (10g for hands, feet, ankles and wrist)	**4.00 W/kg**

6. Test Equipment List

Instrument	Manufacturer	Model No.	Serial No.	Last Calibration	Next Calibration
Stäubli Robot TX60L	Stäubli	TX60L	F09/5BL1A1/A 06	May. 2009	only once
Controller	Speag	CS8c	N/A	May. 2009	only once
Aprel Reference Dipole 2450Mhz	Aprel	ALS-D-2450-S-2	QTK-319	May. 2008	May. 2010
Speag Reference Dipole 5GHz	Speag	D5GHzV2	1041	May. 2009	May. 2011
SAM Twin Phantom	Speag	QD000 P40 CA	Tp 1515	N/A	N/A
Device Holder	Speag	N/A	N/A	N/A	N/A
Data Acquisition Electronic	Speag	DAE4	1204	Apr. 2009	Apr. 2010
E-Field Probe	Speag	EX3DV4	3602	May. 2009	May. 2010
SAR Software	Speag	DASY5	V5.0 Build 125	N/A	N/A
Aprel Dipole Spaccer	Aprel	ALS-DS-U	QTK-295	N/A	N/A
Power Amplifier	Mini-Circuit	ZHL-42	D051404-20	N/A	N/A
Directional Coupler	Agilent	778D-012	50550	N/A	N/A
Universal Radio Communication Tester	R&S	CMU 200	104846	May. 2009	May. 2010
Vector Network	Anritsu	MS4623B	992801	Aug. 2009	Aug. 2010
Signal Generator	Anritsu	MG3692A	042319	Jun. 2009	Jun. 2010
Power Meter	Anritsu	ML2487A	6K00001447	Apr. 2009	Apr. 2010
Wide Bandwidth Sensor	Anritsu	MA2491	030677	Apr. 2009	Apr. 2010

7. Measurement Uncertainty

Uncertainty								
Error Description	Uncertainty value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±5.9%	N	1	1	1	±5.9%	±5.9%	∞
Axial Isotropy	±4.7%	R	$\sqrt{3}$	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical Isotropy	±9.6%	R	$\sqrt{3}$	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effects	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	$\sqrt{3}$	1	1	±2.7%	±2.7%	∞
System Detection Limits	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Readout Electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	R	$\sqrt{3}$	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	R	$\sqrt{3}$	1	1	±1.5%	±1.5%	∞
RF Ambient Noise	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
RF Ambient Reflections	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Probe Positioner	±0.4%	R	$\sqrt{3}$	1	1	±0.2%	±0.2%	∞
Probe Positioning	±2.9%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Max. SAR Eval.	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Test Sample Related								
Device Positioning	±2.9%	N	1	1	1	±2.9%	±2.9%	145
Device Holder	±3.6%	N	1	1	1	±3.6%	±3.6%	5
Power Drift	±5.0%	R	$\sqrt{3}$	1	1	±2.9%	±2.9%	∞
Phantom and Setup								
Phantom Uncertainty	±4.0%	R	$\sqrt{3}$	1	1	±2.3%	±2.3%	∞
Liquid Conductivity (target)	±5.0%	R	$\sqrt{3}$	0.64	0.43	±1.8%	±1.2%	∞
Liquid Conductivity (meas.)	±2.5%	N	1	0.64	0.43	±1.6%	±1.1%	∞
Liquid Permittivity (target)	±5.0%	R	$\sqrt{3}$	0.6	0.49	±1.7%	±1.4%	∞
Liquid Permittivity (meas.)	±2.5%	N	1	0.6	0.49	±1.5%	±1.2%	∞
Combined Std. Uncertainty						±10.9%	±10.7%	387
Expanded STD Uncertainty						**±21.9%**	**±21.4%**	

8. Test Results

8.1 SAR Test Results Summary

SAR MEASUREMENT						
Ambient Temperature (°C) : 24.9 ±2			Relative Humidity (%): 54			
Liquid Temperature (°C) : 23.7 ±2			Depth of Liquid (cm):>15			
Product: Flip Share TV (USB Dongle)						
Test Mode: 802.11g-Tx1(Right) Antenna(Chain 1)						
Test Position Body	Antenna Position	Frequency		Conducted Power (dBm)	**SAR** 1g (W/kg)	Limit (W/kg)
		Channel	MHz			
Front	Fixed	1	2412	21.55	0.460	1.6
Back	Fixed	1	2412	21.55	0.292	1.6
Left-Side	Fixed	1	2412	21.55	0.067	1.6
Right-Side	Fixed	1	2412	21.55	0.071	1.6
Test Mode: 802.11g-Tx2(Left) Antenna(Chain 0)						
Front	Fixed	1	2412	20.45	0.301	1.6
Back	Fixed	1	2412	20.45	0.232	1.6
Left-Side	Fixed	1	2412	20.45	0.097	1.6
Right-Side	Fixed	1	2412	20.45	0.053	1.6
Test Mode: 802.11b-Tx1(Right) Antenna(Chain 1)						
Front	Fixed	1	2412	21.31	**1.010**	1.6
Front	Fixed	6	2437	18.07	0.946	1.6
Front	Fixed	11	2462	18.41	0.905	1.6
Test Mode: 802.11n(20MHz) Chain 0+Chain 1						
Front	Fixed	1	2412	24.39	0.792	1.6
Test Mode: 802.11n(40MHz) Chain 0+Chain 1						
Front	Fixed	3	2422	23.80	0.599	1.6
Test Mode: 802.11b-Tx1(Right) Antenna (with Notebook) (Chain 1) -10/28						
Front	Fixed	1	2412	21.31	0.983	1.6
Note: (1) EUT was tested with SZ900 via USB cable. (2) The separation distance between EUT and flat phantom is 0 cm.						

SAR MEASUREMENT						
Ambient Temperature (°C) : 25.3 ±2				Relative Humidity (%): 54		
Liquid Temperature (°C) : 24.1 ±2				Depth of Liquid (cm):>15		
Product: Flip Share TV (USB Dongle)						
Test Mode: 802.11a -Tx1(Right) Antenna(Chain 1)						
Test Position Body	Antenna Position	Frequency		Conducted Power (dBm)	**SAR** 1g (W/kg)	Limit (W/kg)
		Channel	MHz			
Front	Fixed	36	5180	14.72	0.462	1.6
Back	Fixed	36	5180	14.72	0.146	1.6
Left-Side	Fixed	36	5180	14.72	0.023	1.6
Right-Side	Fixed	36	5180	14.72	0.392	1.6
Test Mode: 802.11a -Tx2(Left) Antenna(Chain 0)						
Front	Fixed	36	5180	14.90	**0.489**	1.6
Back	Fixed	36	5180	14.90	0.161	1.6
Left-Side	Fixed	36	5180	14.90	0.362	1.6
Right-Side	Fixed	36	5180	14.90	0.023	1.6
Front	Fixed	40	5200	13.94	0.447	1.6
Front	Fixed	48	5240	13.74	0.337	1.6
Test Mode: 802.11n(20M) Chain 0+ Chain 1						
Front	Fixed	36	5180	16.54	0.479	1.6
Test Mode: 802.11n(40M) Chain 0+ Chain 1						
Front	Fixed	38	5190	16.25	0.451	1.6
Test Mode: 802.11a -Tx2(Left) Antenna (with Notebook) (Chain 0)						
Front	Fixed	36	5180	14.90	0.473	1.6
Note: (1) EUT was tested with SZ900 via USB cable. (2) The separation distance between EUT and flat phantom is 0 cm.						

SAR MEASUREMENT						
Ambient Temperature (°C) : 25.3 ±2				Relative Humidity (%): 54		
Liquid Temperature (°C) : 24.1 ±2				Depth of Liquid (cm):>15		
Product: Flip Share TV (USB Dongle)						
Test Mode: 802.11a –Tx1(Right) Antenna(Chain 1)						
Test Position Body	Antenna Position	Frequency		Conducted Power (dBm)	**SAR** 1g (W/kg)	Limit (W/kg)
		Channel	MHz			
Front	Fixed	149	5745	18.24	0.271	1.6
Back	Fixed	149	5745	18.24	0.143	1.6
Left-Side	Fixed	149	5745	18.24	0.042	1.6
Right-Side	Fixed	149	5745	18.24	0.192	1.6
Test Mode: 802.11a –Tx2(Left) Antenna(Chain 0)						
Front	Fixed	149	5745	18.24	**0.297**	1.6
Back	Fixed	149	5745	18.24	0.164	1.6
Left-Side	Fixed	149	5745	18.24	0.214	1.6
Right-Side	Fixed	149	5745	18.24	0.052	1.6
Front	Fixed	157	5785	17.50	0.267	1.6
Front	Fixed	165	5825	17.52	0.240	1.6
Test Mode: 802.11n(20M) Chain 0+ Chain 1						
Front	Fixed	149	5745	16.54	0.283	1.6
Test Mode: 802.11n(40M) Chain 0+ Chain 1						
Front	Fixed	151	5755	16.25	0.235	1.6

Appendix

Appendix A. SAR System Validation Data

Appendix B. SAR measurement Data

Appendix C. Test Setup Photographs & EUT Photographs

Appendix D. Probe Calibration Data

Appendix E. Dipole Calibration Data

Appendix A. SAR System Validation Data

Date/Time: 9/24/2009

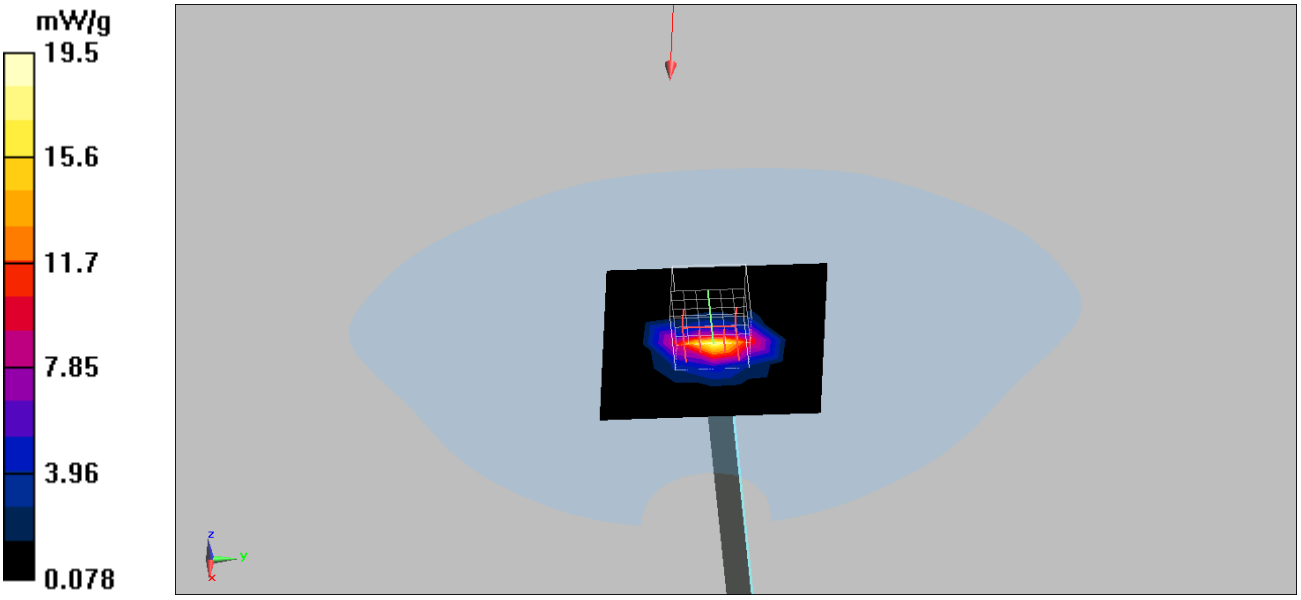
Test Laboratory: Quietek CORP

System Performance Check_2450-Head
DUT: Dipole 2450 MHz; Type: ALS-D-2450-S-2; Serial: QTK-319
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.76 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(7.1, 7.1, 7.1); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

d=10mm, Pin=250mW(24dBm), dist=4.0mm (EX-Probe)/Area Scan (7x7x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 19.4 mW/g

d=10mm, Pin=250mW(24dBm), dist=4.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 103.4 V/m; Power Drift = -0.121 dB
Peak SAR (extrapolated) = 27.2 W/kg
SAR(1 g) = 12.22 mW/g; SAR(10 g) = 5.84 mW/g
Maximum value of SAR (measured) = 19.7 mW/g



Date/Time: 10/28/2009

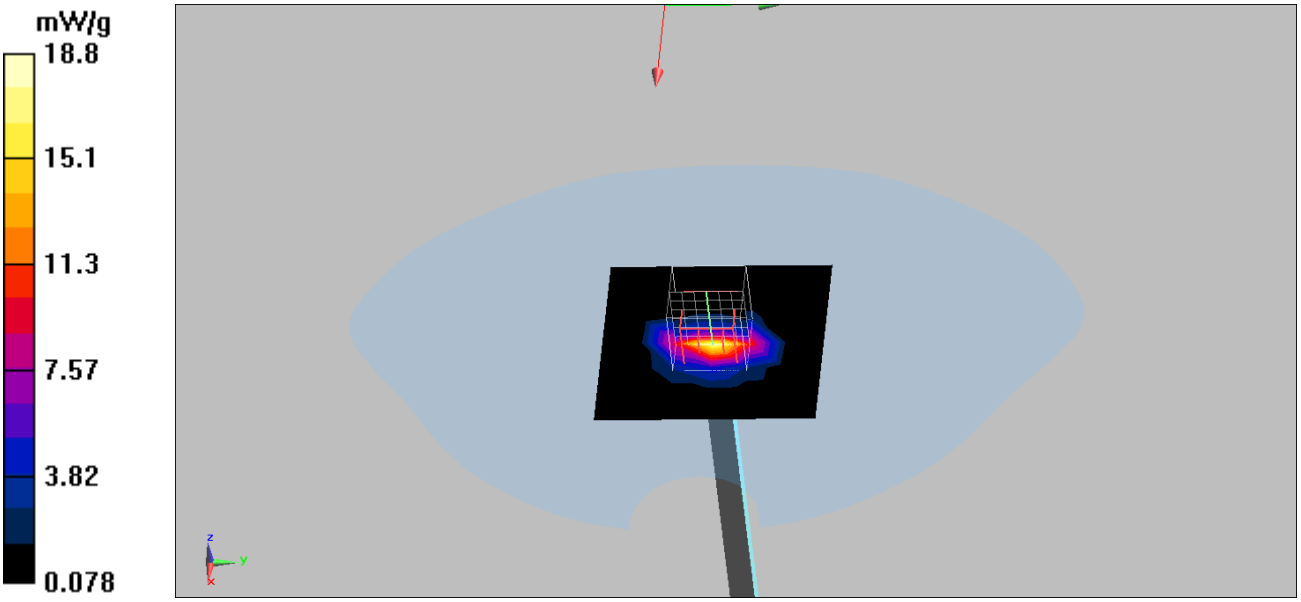
Test Laboratory: Quietek CORP

System Performance Check_2450-Head
DUT: Dipole 2450 MHz; Type: ALS-D-2450-S-2; Serial: QTK-319
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.73 mho/m; εr = 40.0; ρ = 1000 kg/m3
Phantom section: Flat Section
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(7.1, 7.1, 7.1); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

d=10mm, Pin=250mW(24dBm), dist=4.0mm (EX-Probe)/Area Scan (7x7x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 18.2 mW/g

d=10mm, Pin=250mW(24dBm), dist=4.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 101.7 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 26.5 W/kg
SAR(1 g) = 11.5 mW/g; SAR(10 g) = 6.32 mW/g
Maximum value of SAR (measured) = 18.82 mW/g



Date/Time: 9/21/2009

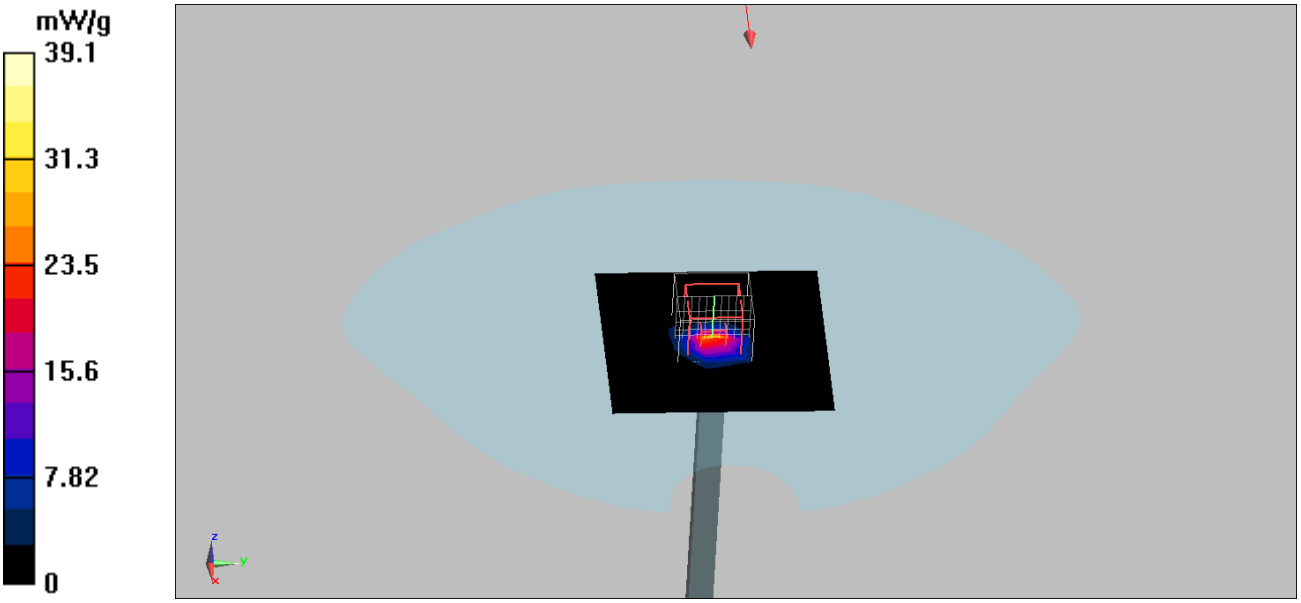
Test Laboratory: Quietek CORP

System Performance Check_5200-Body
DUT: Dipole 5GHz; Type: D5GHzV2
Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.34 mho/m; ε_r = 49.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

d=10mm, Pin=250mW, f=5200 MHz/Area Scan (10x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 39.2 mW/g

d=10mm, Pin=250mW, f=5200 MHz/Zoom Scan (3x3x2mm, graded), dist=2mm (11x11x6)/Cube 0: Measurement grid: dx=3mm, dy=3mm, dz=2mm
Reference Value = 91.1 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 72.8 W/kg
SAR(1 g) = 18.4 mW/g; SAR(10 g) = 5.22 mW/g
Maximum value of SAR (measured) = 39.7 mW/g



Date/Time: 10/28/2009

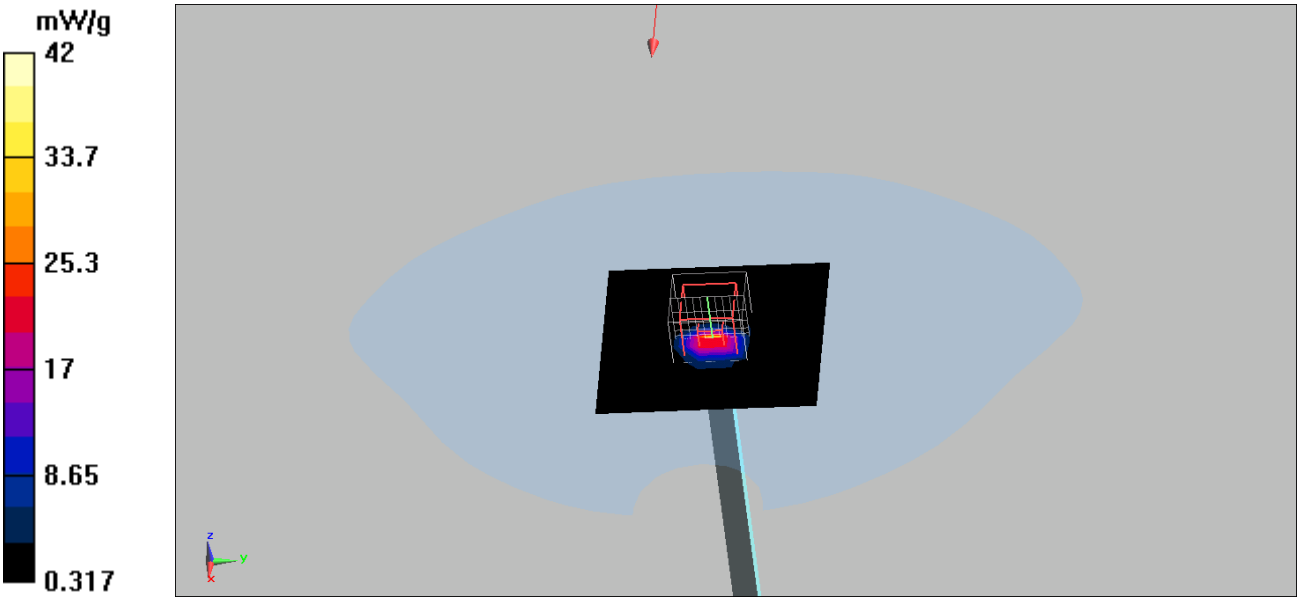
Test Laboratory: Quietek

System Performance Check_5200-Body
DUT: Dipole 5GHz; Type: D5GHzV2
Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.14 mho/m; ε_r = 49.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.3
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

d=10mm, Pin=250mW, f=5200 MHz/Area Scan (10x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 22 mW/g

d=10mm, Pin=250mW, f=5200 MHz/Zoom Scan (3x3x2mm, graded), dist=2mm (11x11x6)/Cube 0: Measurement grid: dx=3mm, dy=3mm, dz=2mm
Reference Value = 97.7 V/m; Power Drift = 0.129 dB
Peak SAR (extrapolated) = 84.9 W/kg
SAR(1 g) = 19.1 mW/g; SAR(10 g) = 5.53 mW/g
Maximum value of SAR (measured) = 42 mW/g



Date/Time: 11/13/2009

Test Laboratory: Quietek

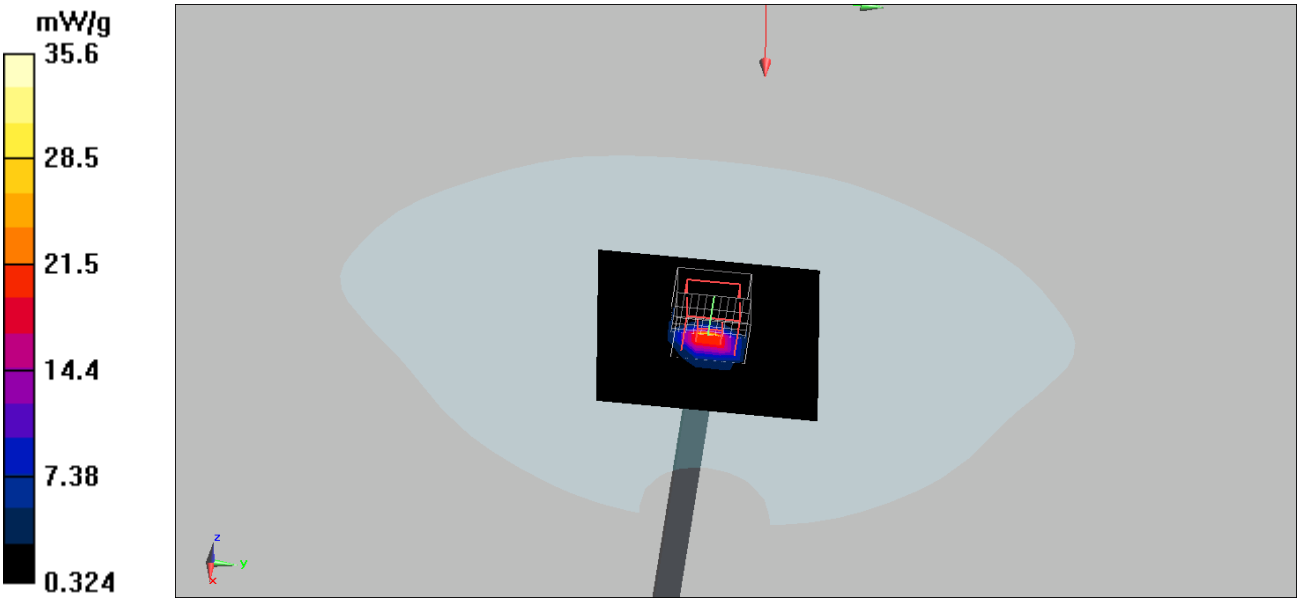
System Performance Check_5800-Body
DUT: Dipole 5GHz; Type: D5GHzV2
Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used : f = 5800 MHz; σ = 5.96 mho/m; ε_r = 49.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.4, 3.4, 3.4); Calibrated: 6/26/2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

5800MHz-Body/Area Scan (10x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 19.9 mW/g

5800MHz-Body/Zoom Scan (3x3x2mm, graded), dist=2mm (11x11x6)/Cube 0: Measurement grid: dx=3mm, dy=3mm, dz=2mm
Reference Value = 87.6 V/m; Power Drift = -0.041 dB
Peak SAR (extrapolated) = 71.3 W/kg
SAR(1 g) = 16.3 mW/g; SAR(10 g) = 4.81 mW/g

Maximum value of SAR (measured) = 35.6 mW/g



Appendix B. SAR measurement Data

Date/Time: 9/24/2009

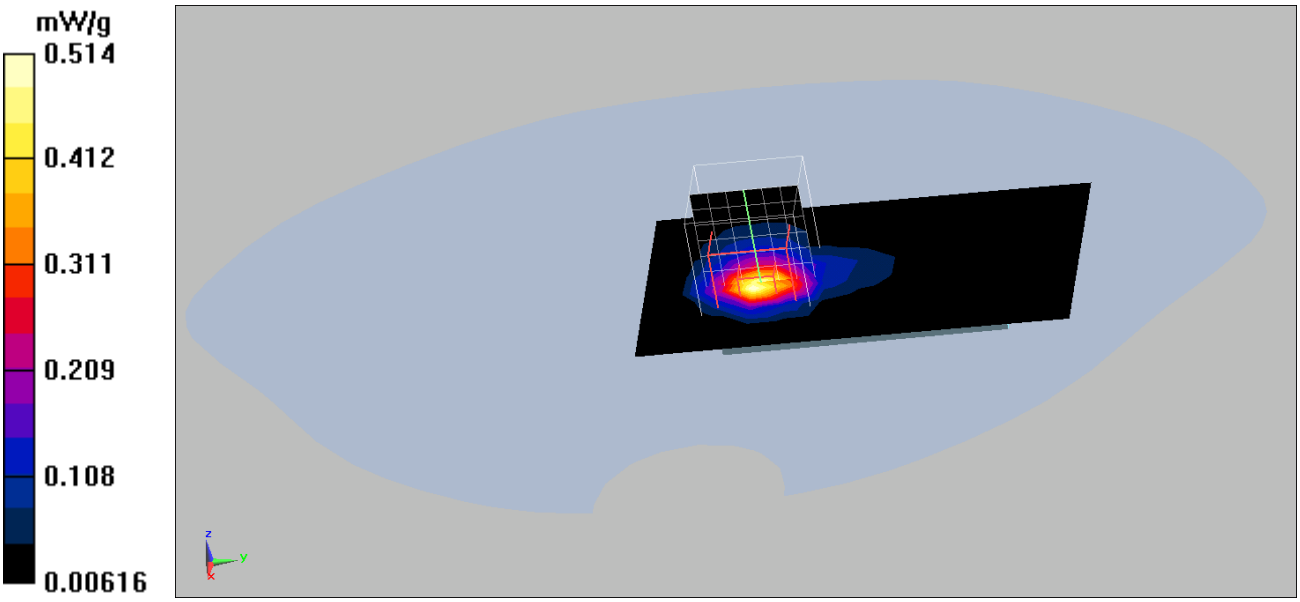
Test Laboratory: Quietek

802.11g_1 Front TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.87 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.515 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = 0.049 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.460 mW/g; SAR(10 g) = 0.189 mW/g
Maximum value of SAR (measured) = 0.514 mW/g



Date/Time: 9/24/2009

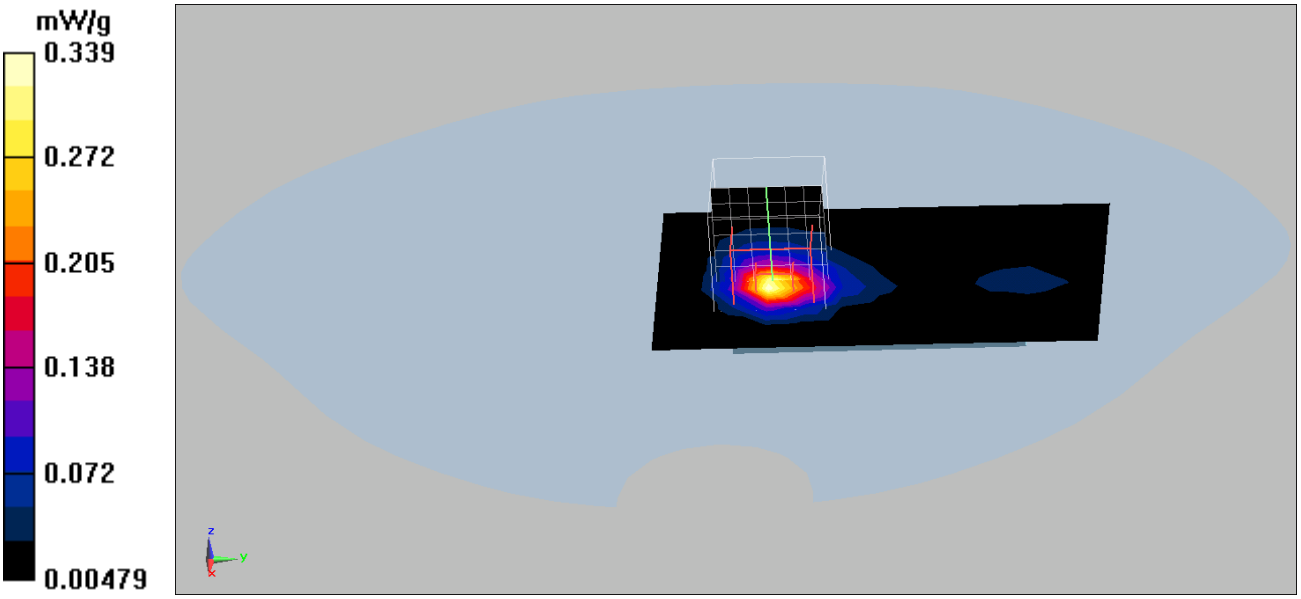
Test Laboratory: Quietek

802.11g_1 Back TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.87 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.334 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.67 V/m; Power Drift = -0.173 dB
Peak SAR (extrapolated) = 0.725 W/kg
SAR(1 g) = 0.292 mW/g; SAR(10 g) = 0.119 mW/g
Maximum value of SAR (measured) = 0.339 mW/g



Date/Time: 9/24/2009

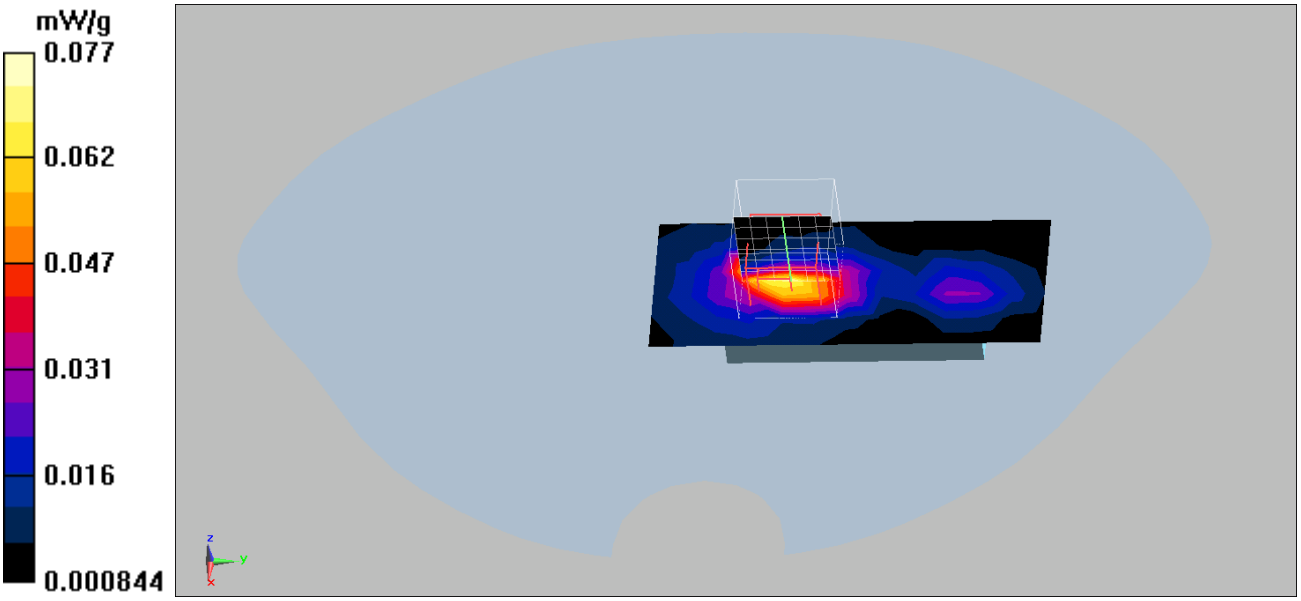
Test Laboratory: Quietek

802.11a_1 L-Side TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.87 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.072 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.14 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 0.201 W/kg
SAR(1 g) = 0.067 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.077 mW/g



Date/Time: 9/24/2009

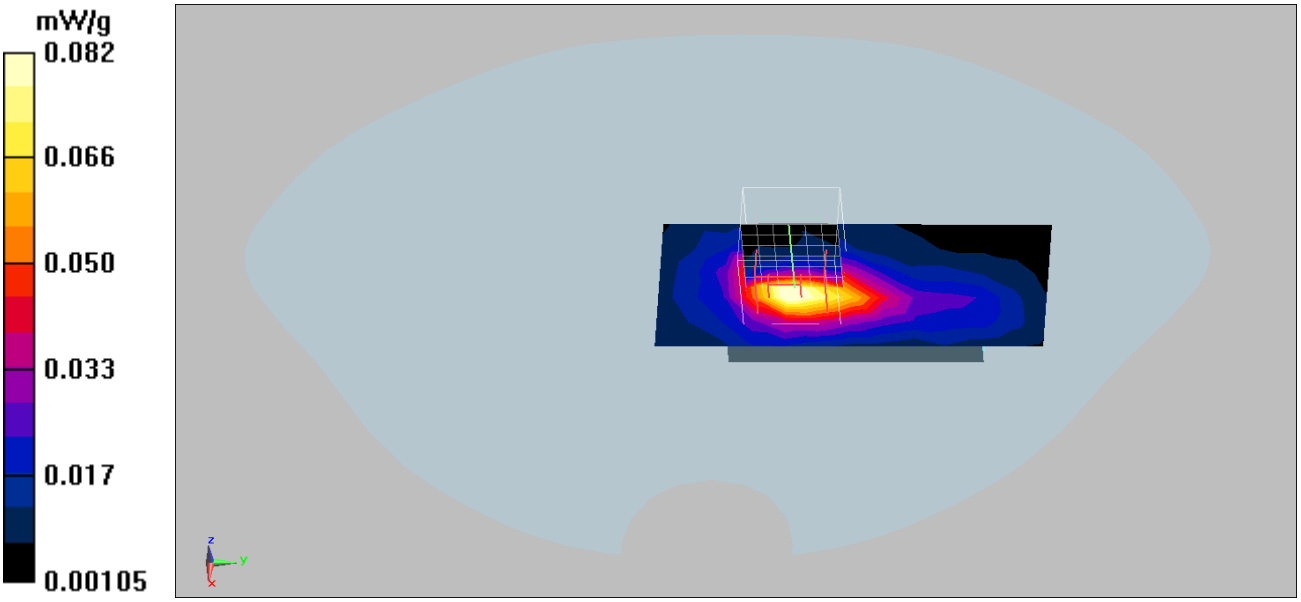
Test Laboratory: Quietek

802.11g_1 R-Side TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.87 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.085 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.24 V/m; Power Drift = -0.171 dB
Peak SAR (extrapolated) = 0.160 W/kg
SAR(1 g) = 0.071 mW/g; SAR(10 g) = 0.035 mW/g
Maximum value of SAR (measured) = 0.082 mW/g



Date/Time: 9/24/2009

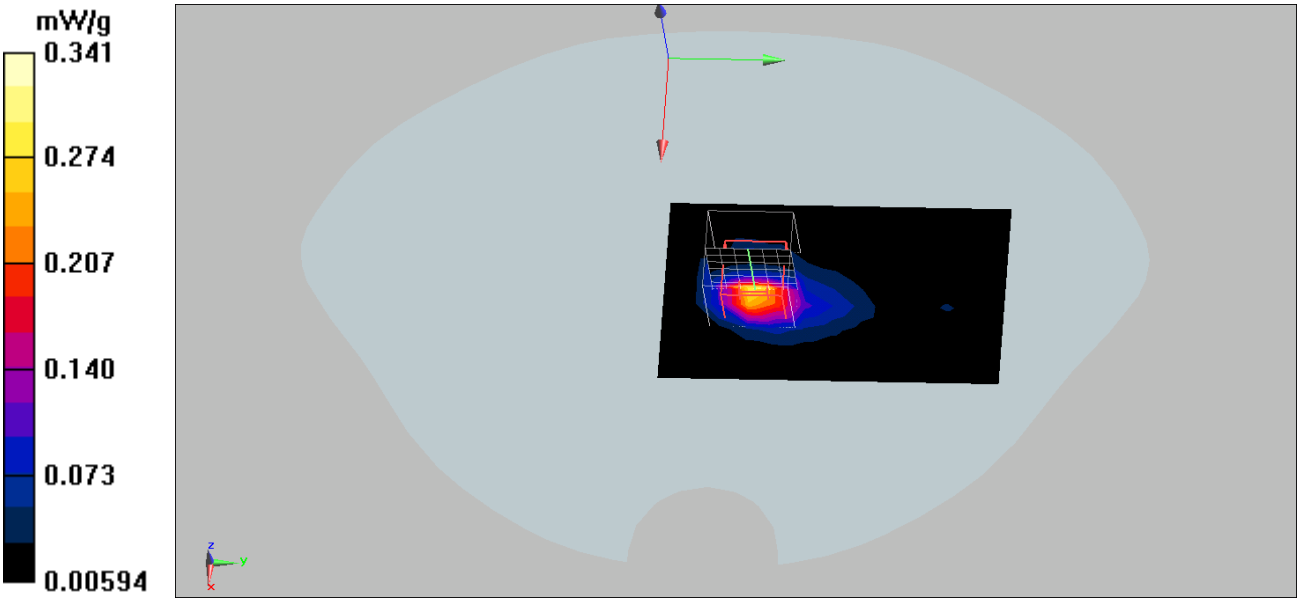
Test Laboratory: Quietek

802.11g_1 Front TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.87 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.313 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.69 V/m; Power Drift = 0.114 dB
Peak SAR (extrapolated) = 0.670 W/kg
SAR(1 g) = 0.301 mW/g; SAR(10 g) = 0.127 mW/g
Maximum value of SAR (measured) = 0.341 mW/g



Date/Time: 9/24/2009

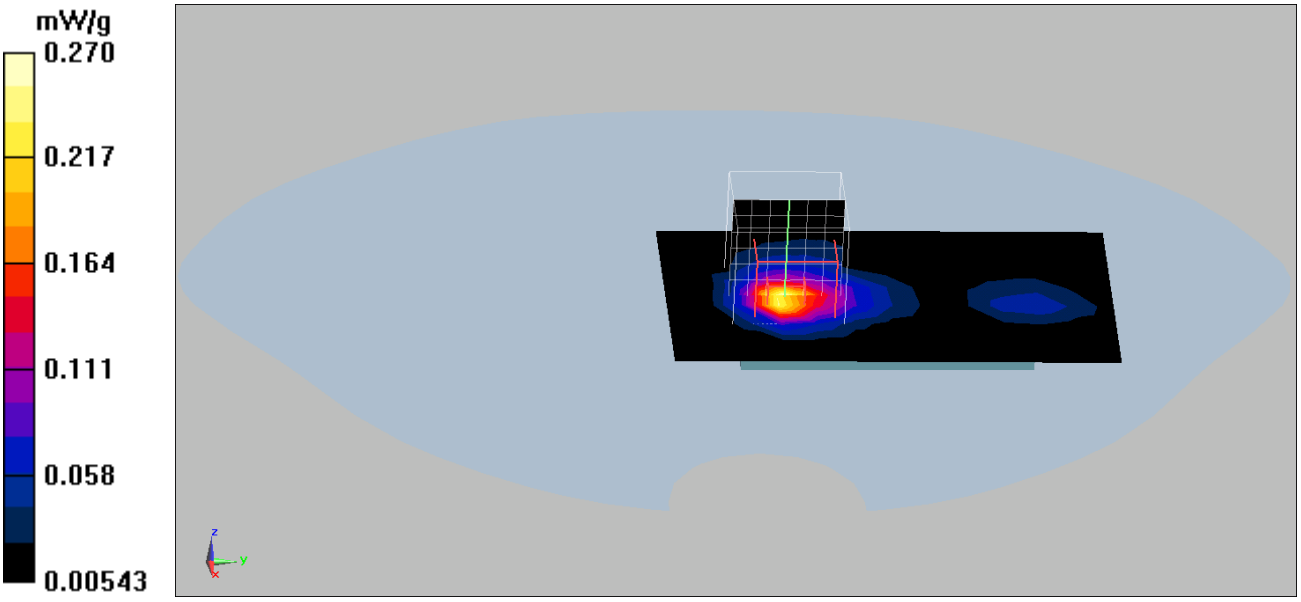
Test Laboratory: Quietek

802.11g_1 Back TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.87 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.239 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.28 V/m; Power Drift = 0.114 dB
Peak SAR (extrapolated) = 0.562 W/kg
SAR(1 g) = 0.232 mW/g; SAR(10 g) = 0.098 mW/g
Maximum value of SAR (measured) = 0.270 mW/g



Date/Time: 9/24/2009

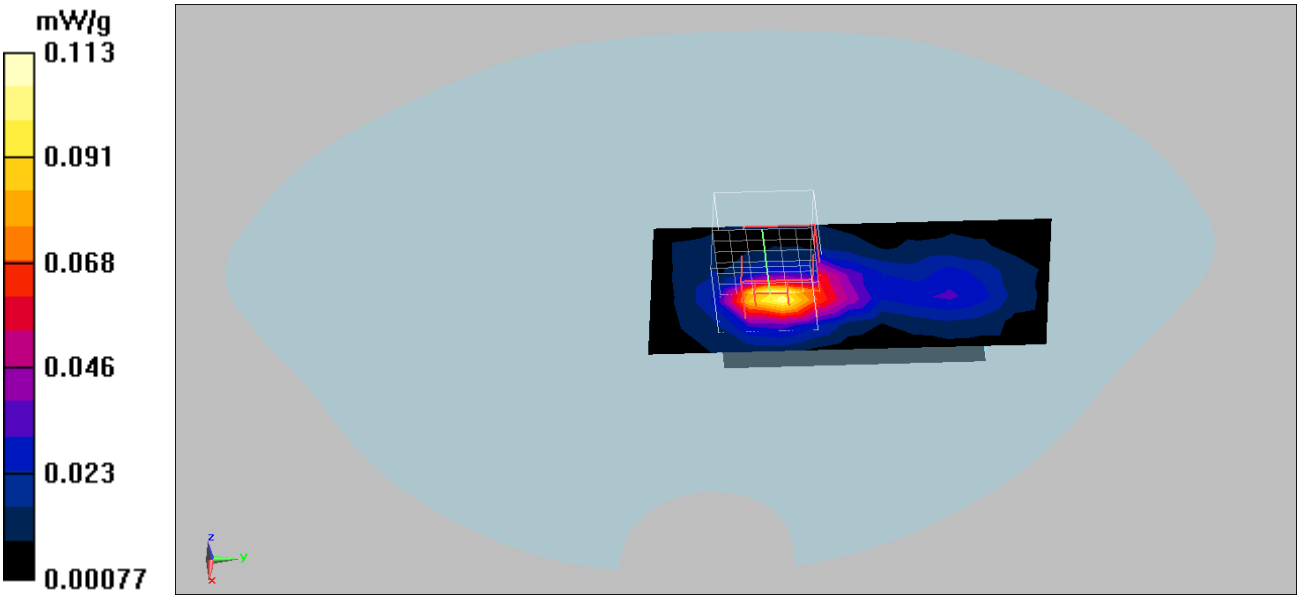
Test Laboratory: Quietek

802.11g_1 L-Side TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.87 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.103 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.82 V/m; Power Drift = 0.094 dB
Peak SAR (extrapolated) = 0.206 W/kg
SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.113 mW/g



Date/Time: 9/24/2009

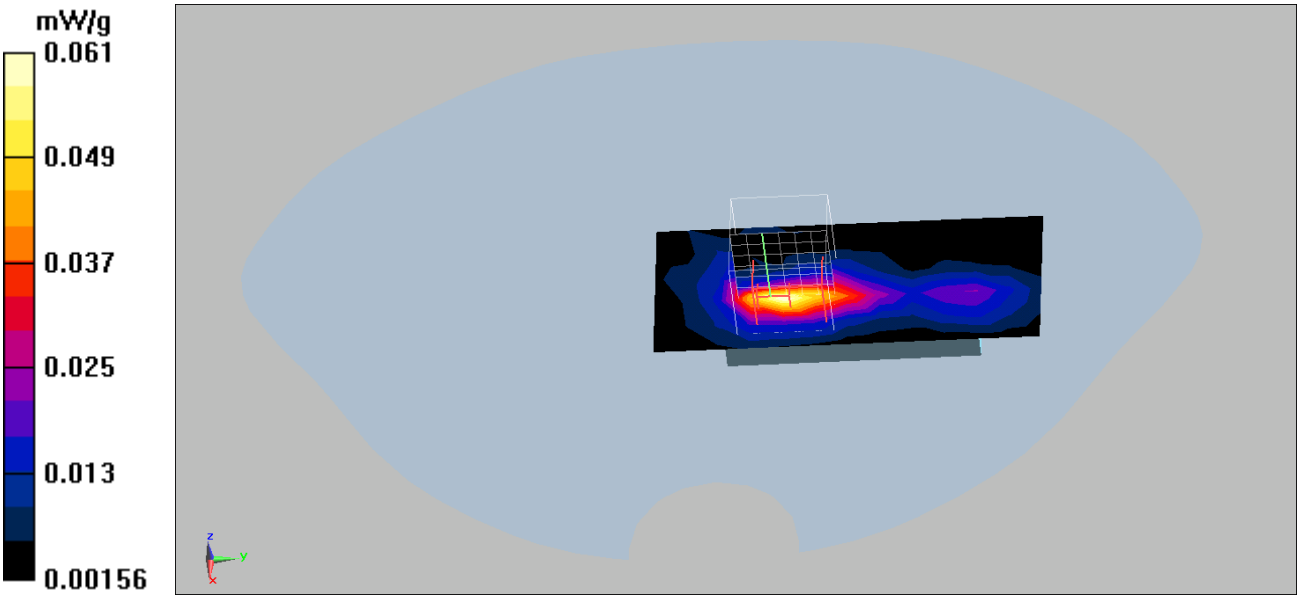
Test Laboratory: Quietek

802.11g_1 R-Side TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.87 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.062 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.03 V/m; Power Drift = 0.134 dB
Peak SAR (extrapolated) = 0.168 W/kg
SAR(1 g) = 0.053 mW/g; SAR(10 g) = 0.024 mW/g
Maximum value of SAR (measured) = 0.061 mW/g



Date/Time: 9/24/2009

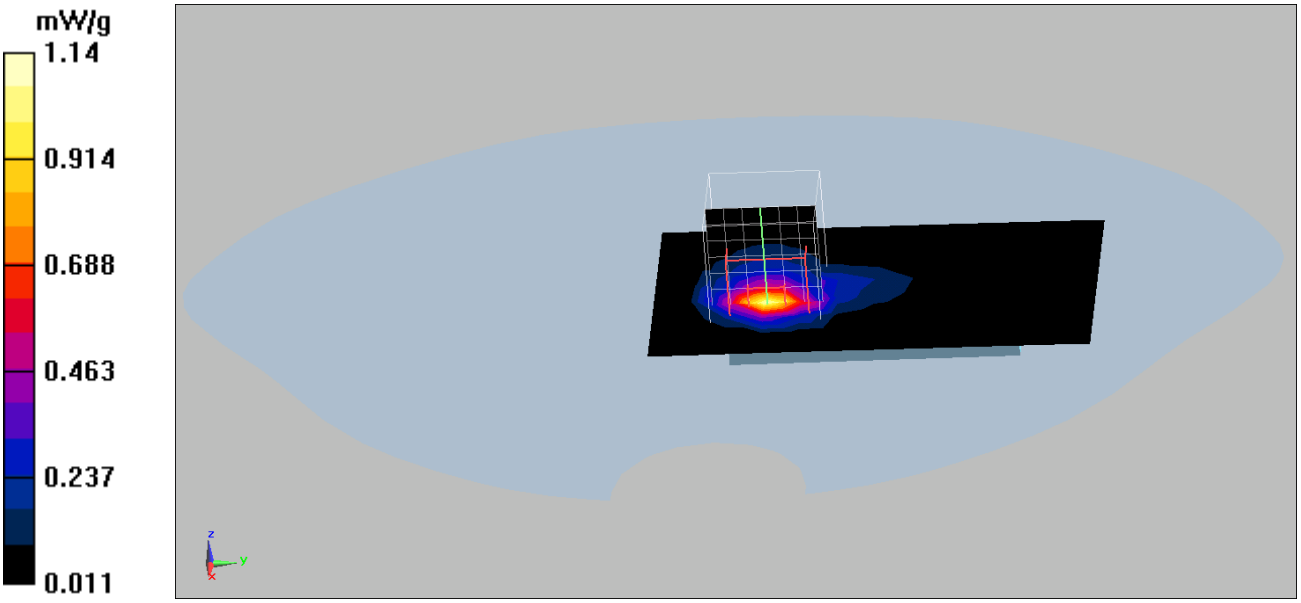
Test Laboratory: Quietek

802.11b_1 Front TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.87 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.19 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.2 V/m; Power Drift = -0.102 dB
Peak SAR (extrapolated) = 2.22 W/kg
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.417 mW/g
Maximum value of SAR (measured) = 1.14 mW/g



Date/Time: 9/24/2009

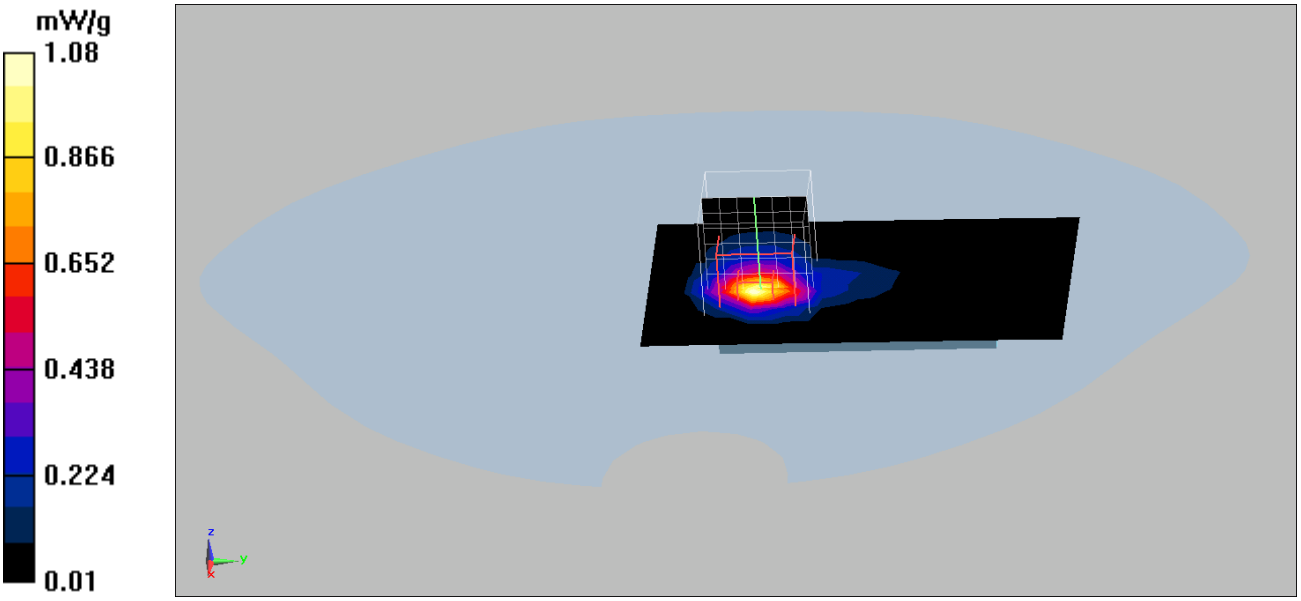
Test Laboratory: Quietek

802.11b_6 Front TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.9 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.1 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.3 V/m; Power Drift = -0.139 dB
Peak SAR (extrapolated) = 2.16 W/kg
SAR(1 g) = 0.946 mW/g; SAR(10 g) = 0.384 mW/g
Maximum value of SAR (measured) = 1.08 mW/g



Date/Time: 9/24/2009

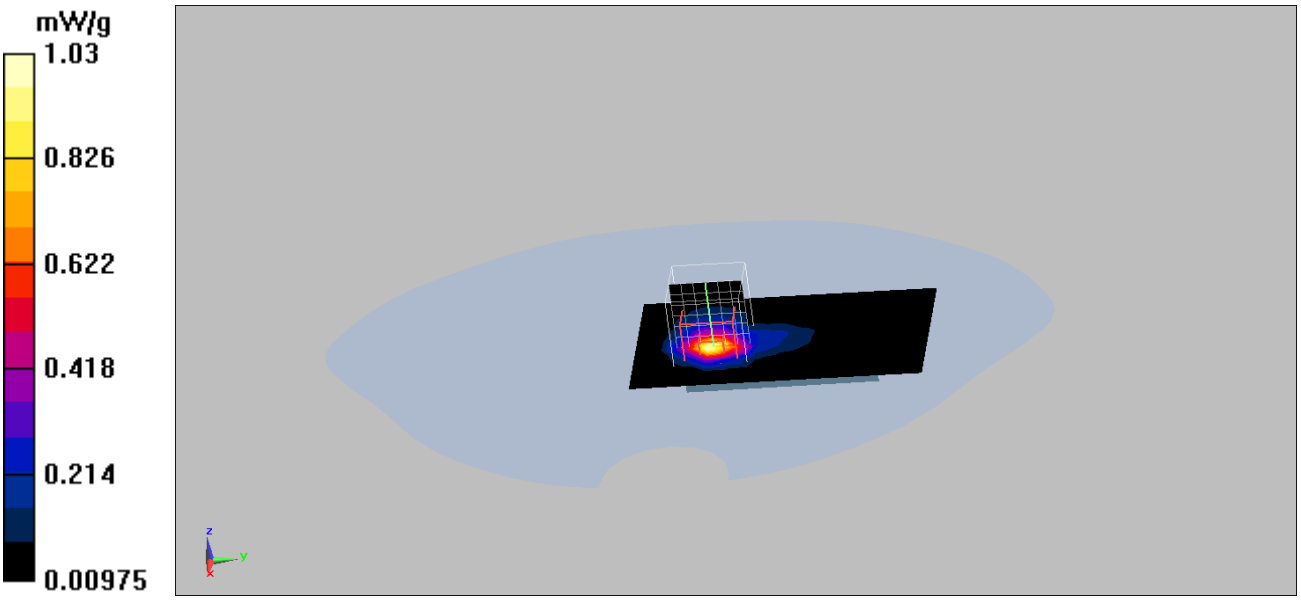
Test Laboratory: Quietek

802.11b_11 Front TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.95 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.03 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = 0.031 dB
Peak SAR (extrapolated) = 2.15 W/kg
SAR(1 g) = 0.905 mW/g; SAR(10 g) = 0.360 mW/g



Date/Time: 9/24/2009

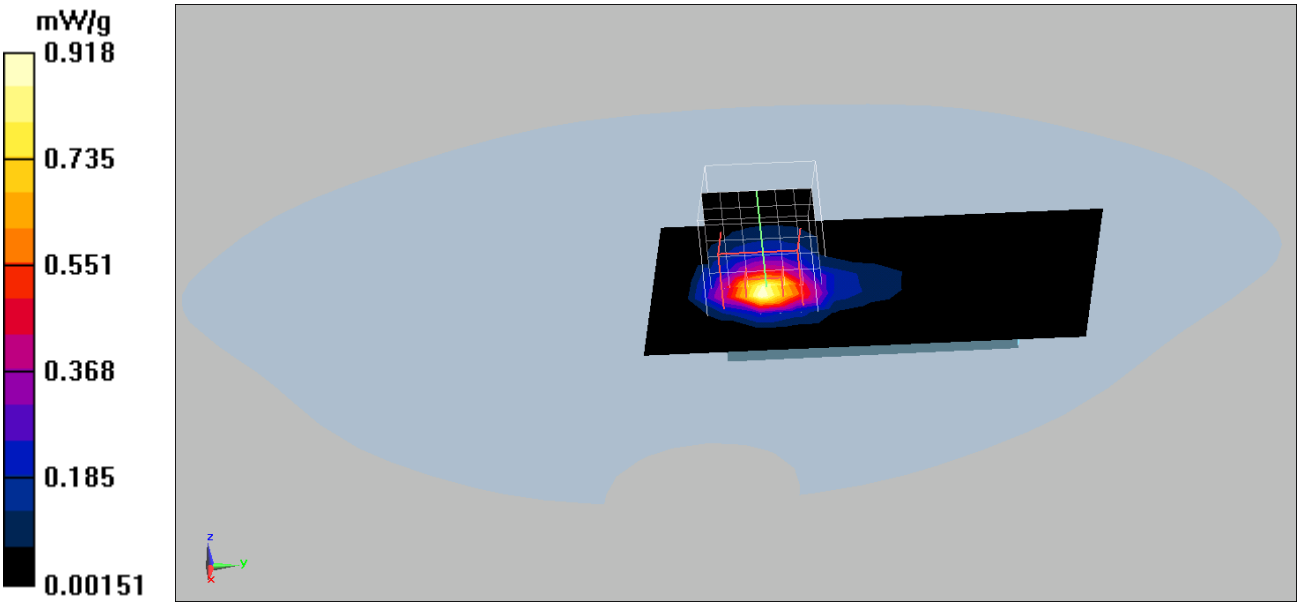
Test Laboratory: Quietek

802.11n_1 20M Front TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.87 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.918 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.2 V/m; Power Drift = -0.155 dB
Peak SAR (extrapolated) = 1.62 W/kg
SAR(1 g) = 0.792 mW/g; SAR(10 g) = 0.331 mW/g
Maximum value of SAR (measured) = 0.898 mW/g



Date/Time: 9/24/2009

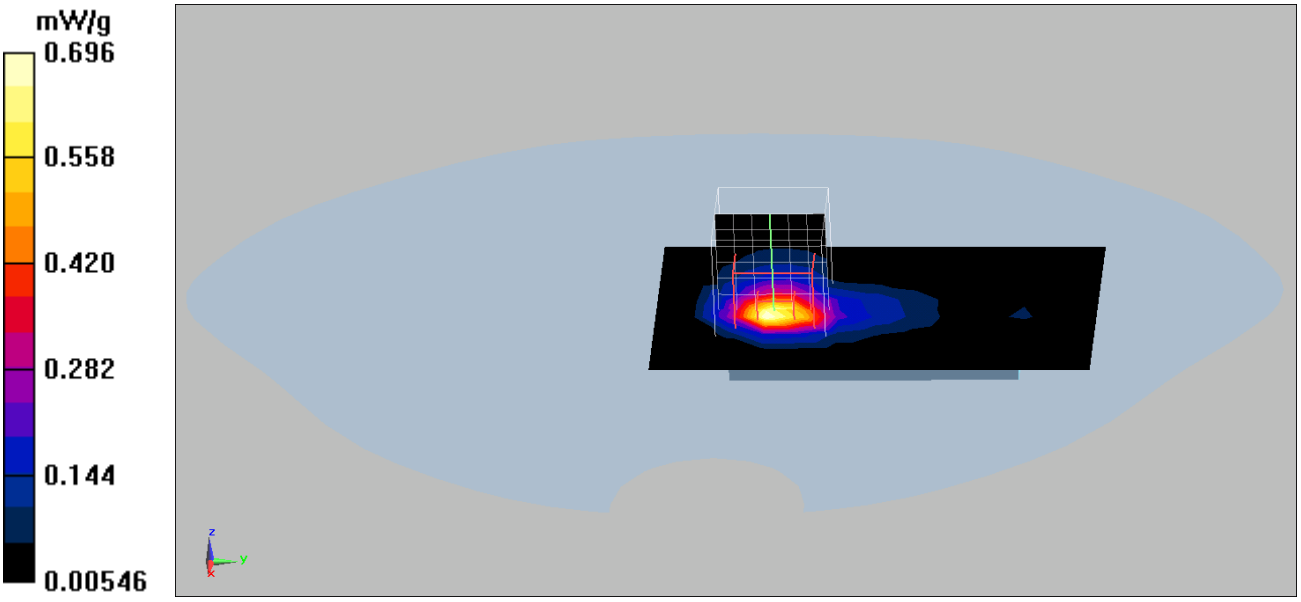
Test Laboratory: Quietek

802.11n_3 40M Front TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2422 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2422 MHz; σ = 1.89 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.9; Liquid Temperature (°C) : 23.7
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.696 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.6 V/m; Power Drift = -0.162 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.599 mW/g; SAR(10 g) = 0.255 mW/g
Maximum value of SAR (measured) = 0.676 mW/g



Date/Time: 10/28/2009

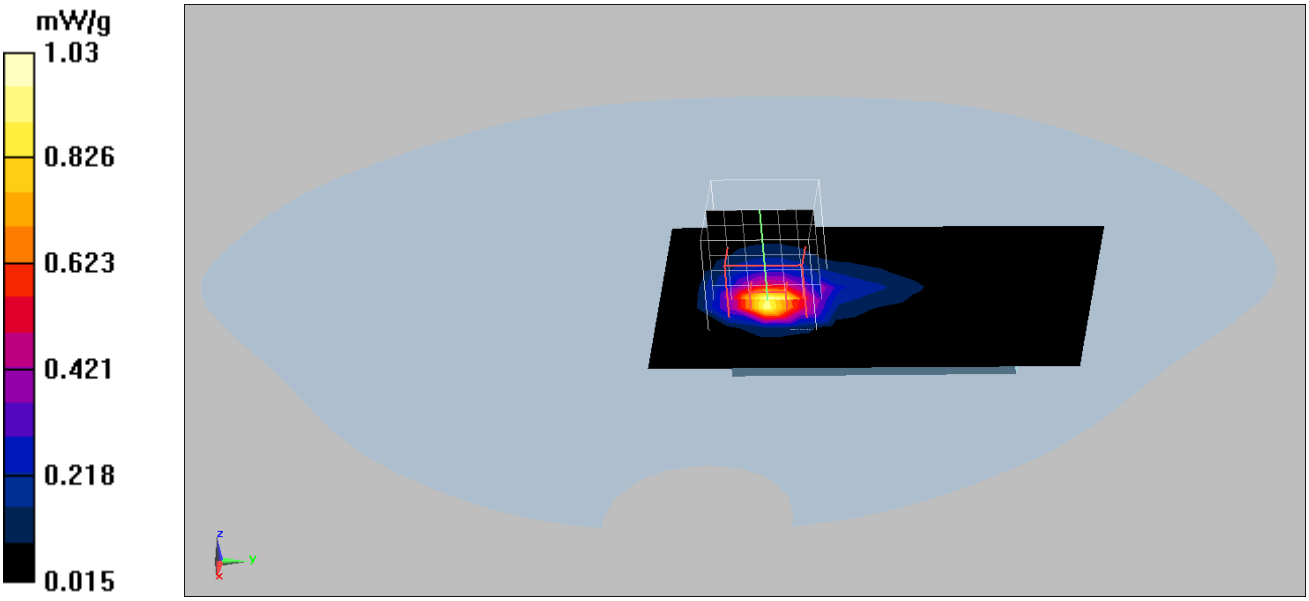
Test Laboratory: Quietek

802.11b_1 Front+NB TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11b,g,n; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.88 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.3
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(6.9, 6.9, 6.9); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

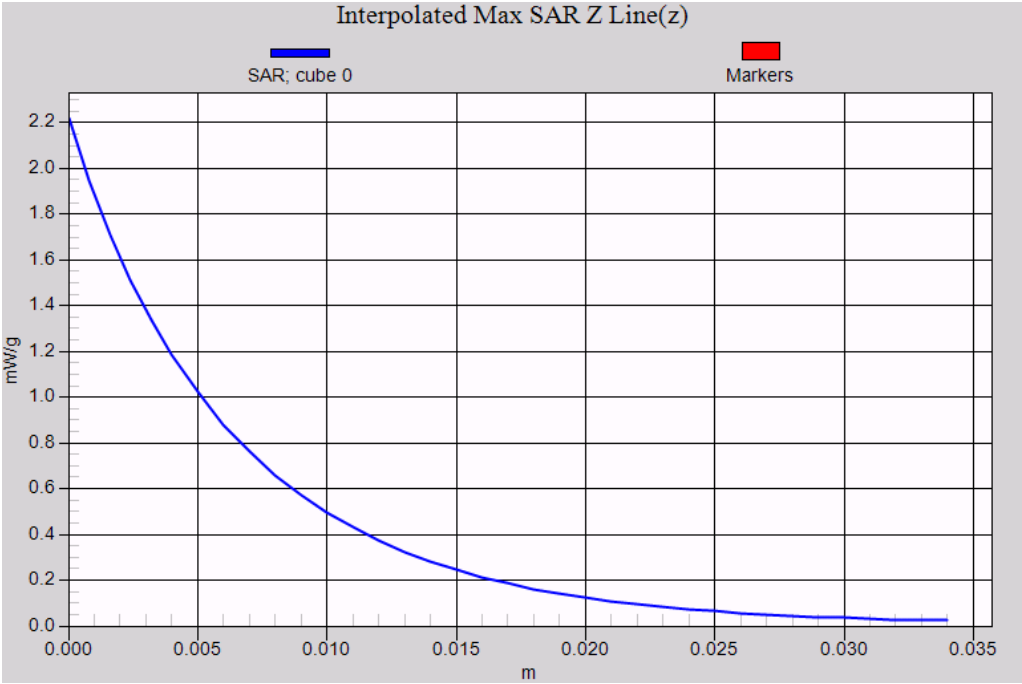
Body/Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.952 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.5 V/m; Power Drift = -0.110 dB
Peak SAR (extrapolated) = 1.99 W/kg
SAR(1 g) = 0.983 mW/g; SAR(10 g) = 0.396 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



802.11b Tx1 Antenna EUT Front Z-Axis plot

Channel: 1



Date/Time: 9/21/2009

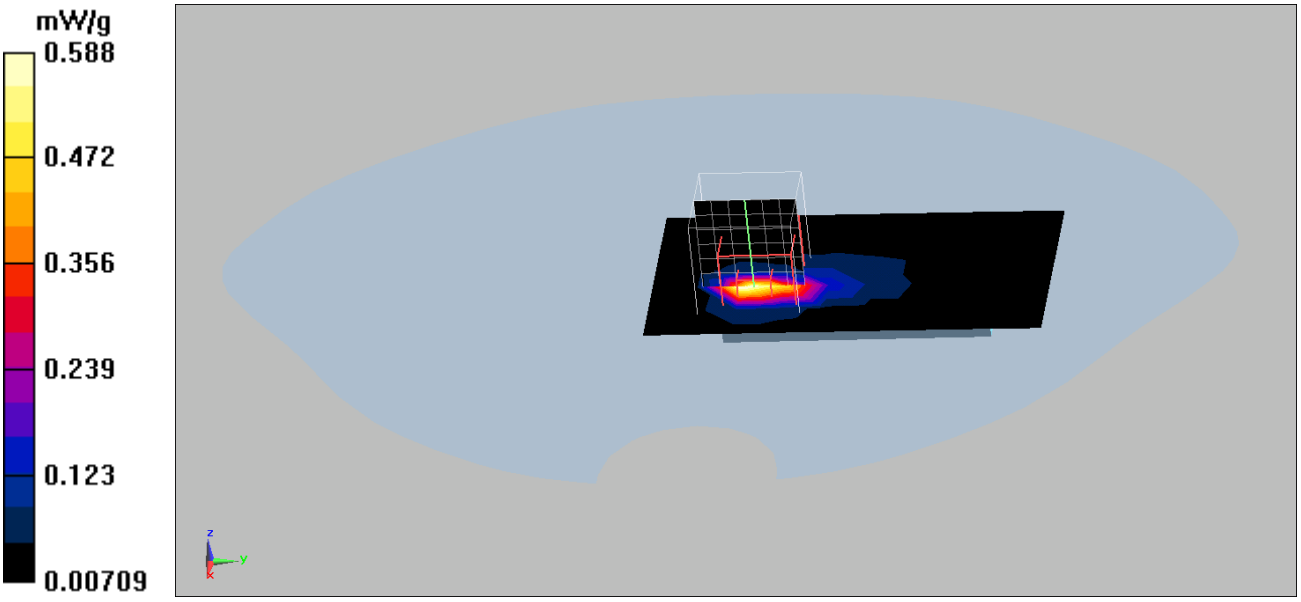
Test Laboratory: Quietek

802.11a_36 Front TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; σ = 5.28 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x10x1): Measurement grid: dx=13mm, dy=13mm
Maximum value of SAR (measured) = 0.609 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.07 V/m; Power Drift = -0.119 dB
Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 0.462 mW/g; SAR(10 g) = 0.142 mW/g
Maximum value of SAR (measured) = 0.588 mW/g



Date/Time: 9/21/2009

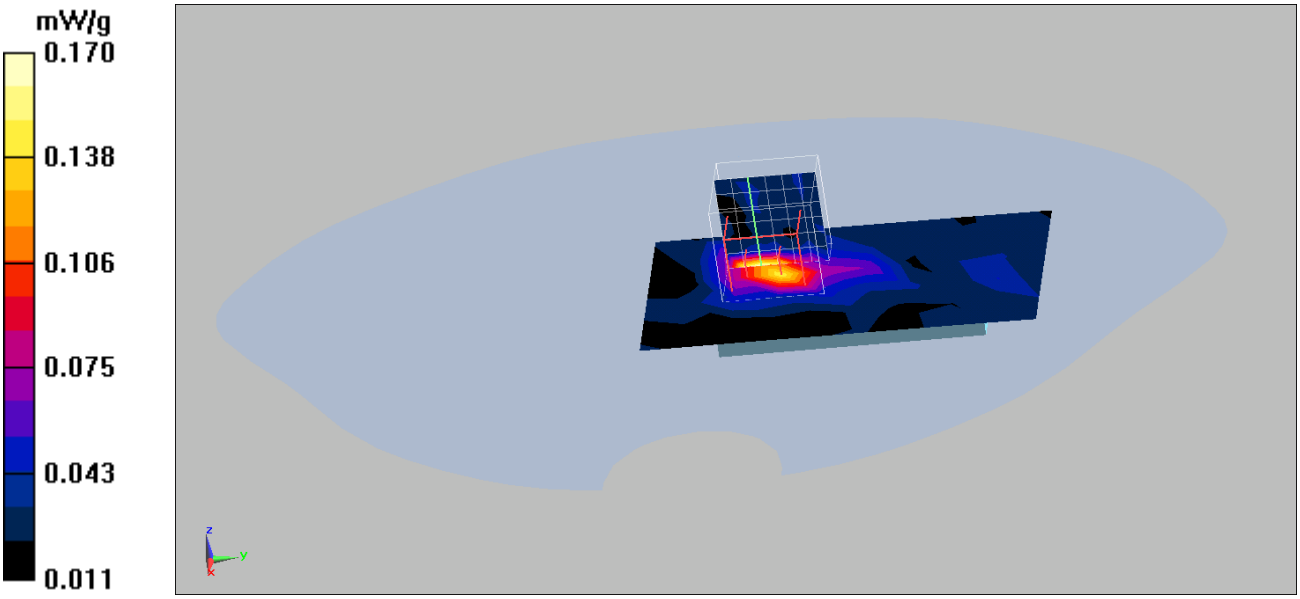
Test Laboratory: Quietek

802.11a_36 Back TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; σ = 5.28 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x10x1): Measurement grid: dx=13mm, dy=13mm
Maximum value of SAR (measured) = 0.149 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.12 V/m; Power Drift = 0.157 dB
Peak SAR (extrapolated) = 0.456 W/kg
SAR(1 g) = 0.146 mW/g; SAR(10 g) = 0.061 mW/g
Maximum value of SAR (measured) = 0.170 mW/g



Date/Time: 9/21/2009

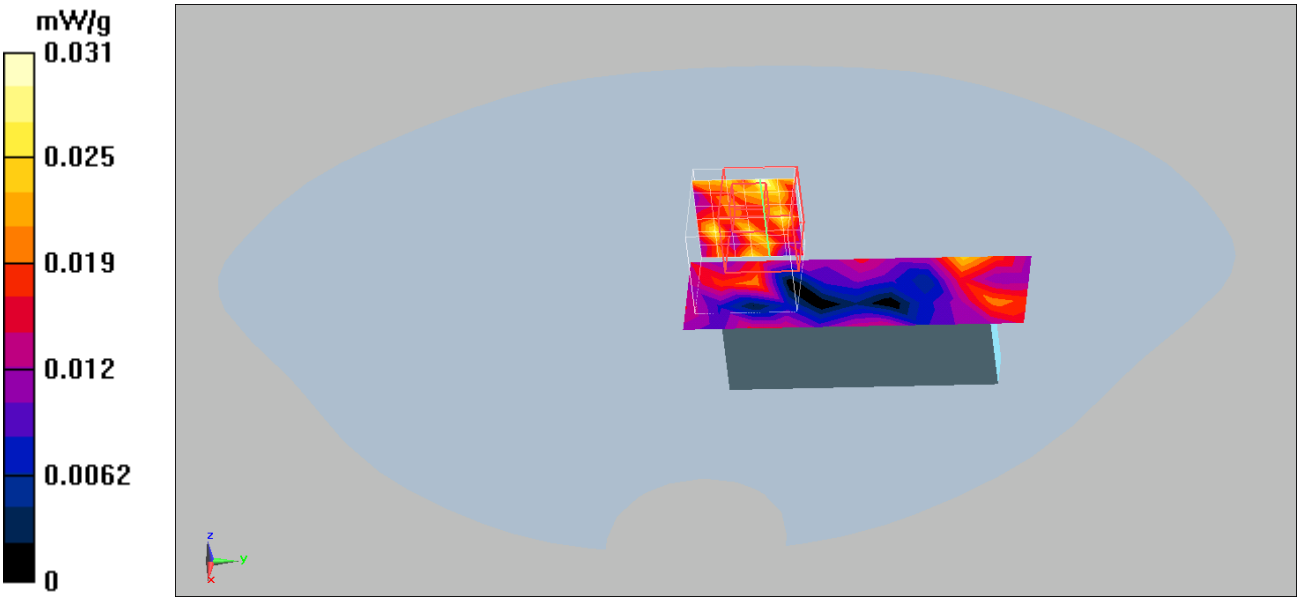
Test Laboratory: Quietek

802.11a_36 L-Side TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; σ = 5.28 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (4x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.024 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.832 V/m; Power Drift = 0.153 dB
Peak SAR (extrapolated) = 0.036 W/kg
SAR(1 g) = 0.023 mW/g; SAR(10 g) = 0.019 mW/g
Maximum value of SAR (measured) = 0.031 mW/g



Date/Time: 9/21/2009

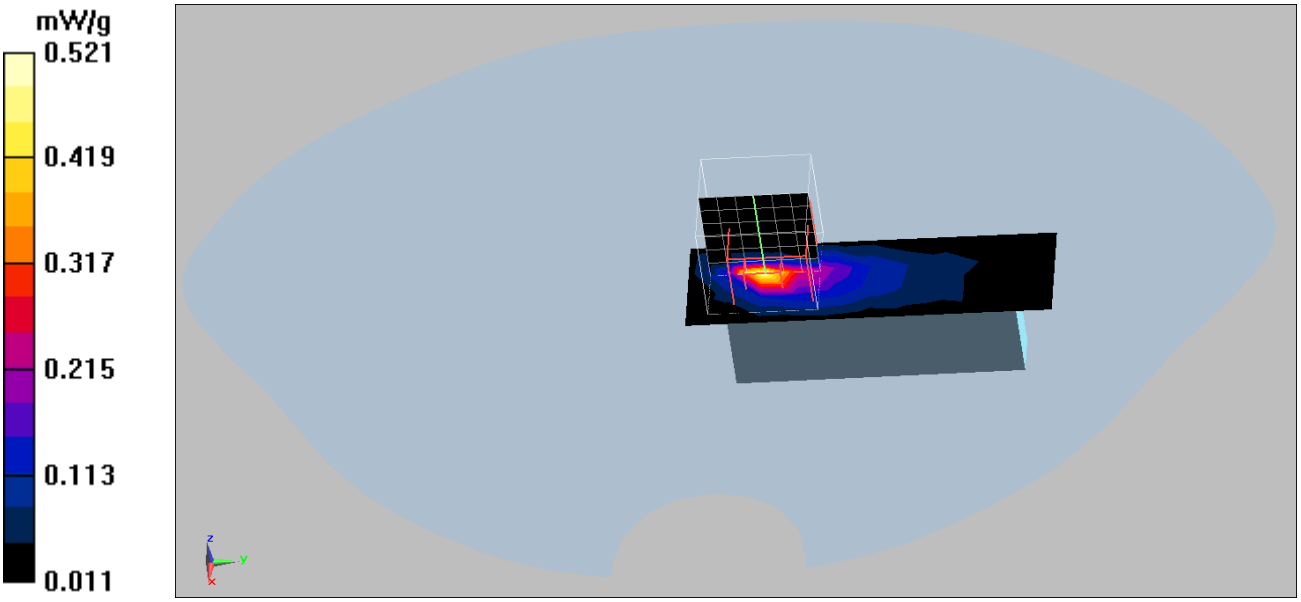
Test Laboratory: Quietek

802.11a_36 R-Side TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; σ = 5.28 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (4x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.521 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.93 V/m; Power Drift = 0.162 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 0.392 mW/g; SAR(10 g) = 0.113 mW/g
Maximum value of SAR (measured) = 0.539 mW/g



Date/Time: 9/21/2009

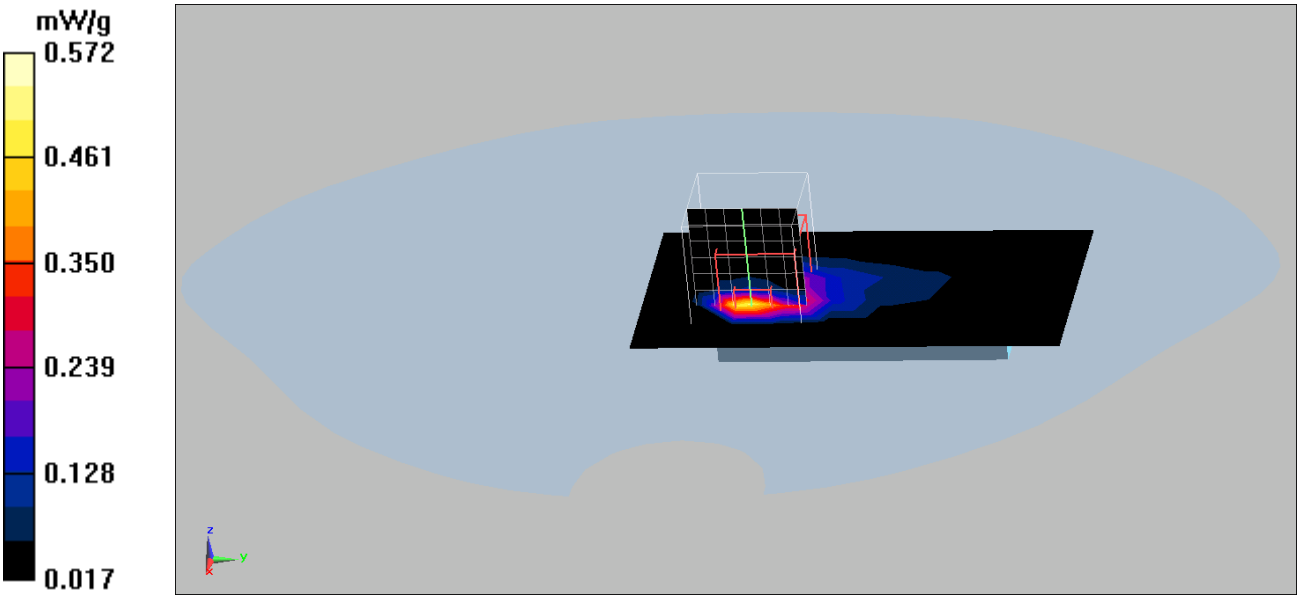
Test Laboratory: Quietek

802.11a_36 Front TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; σ = 5.28 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x10x1): Measurement grid: dx=13mm, dy=13mm
Maximum value of SAR (measured) = 0.572 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.76 V/m; Power Drift = -0.107 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 0.489 mW/g; SAR(10 g) = 0.193 mW/g
Maximum value of SAR (measured) = 0.554 mW/g



Date/Time: 9/21/2009

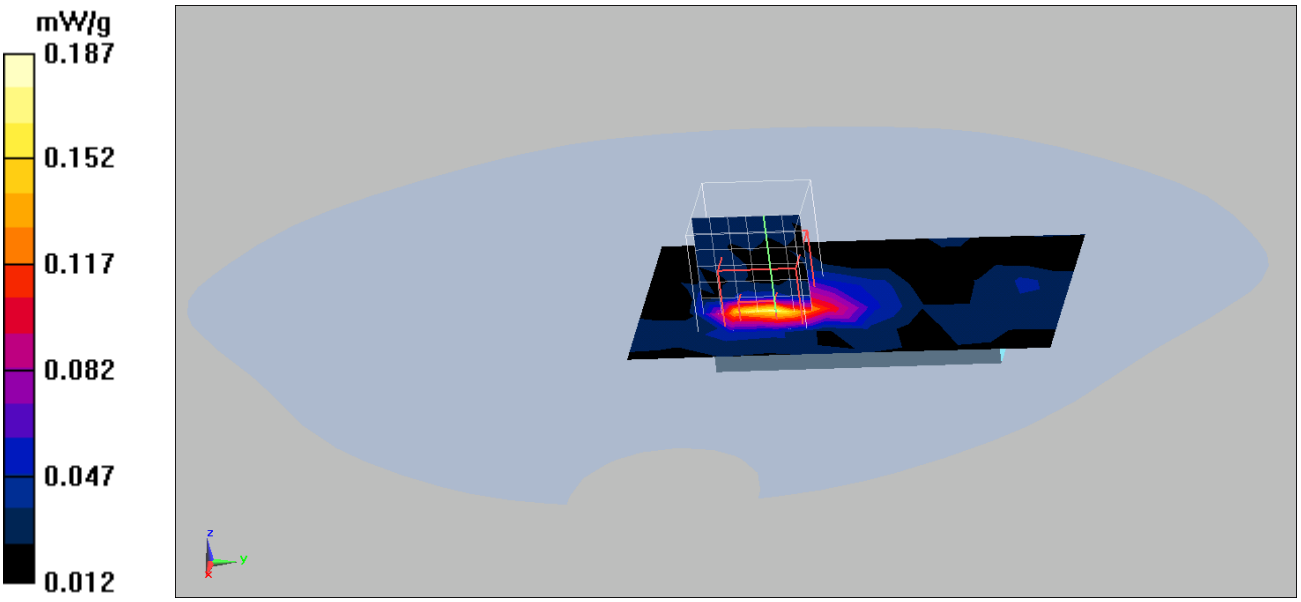
Test Laboratory: Quietek

802.11a_36 Back TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; σ = 5.28 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x10x1): Measurement grid: dx=13mm, dy=13mm
Maximum value of SAR (measured) = 0.167 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.56 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 0.495 W/kg
SAR(1 g) = 0.161 mW/g; SAR(10 g) = 0.071 mW/g
Maximum value of SAR (measured) = 0.187 mW/g



Date/Time: 9/21/2009

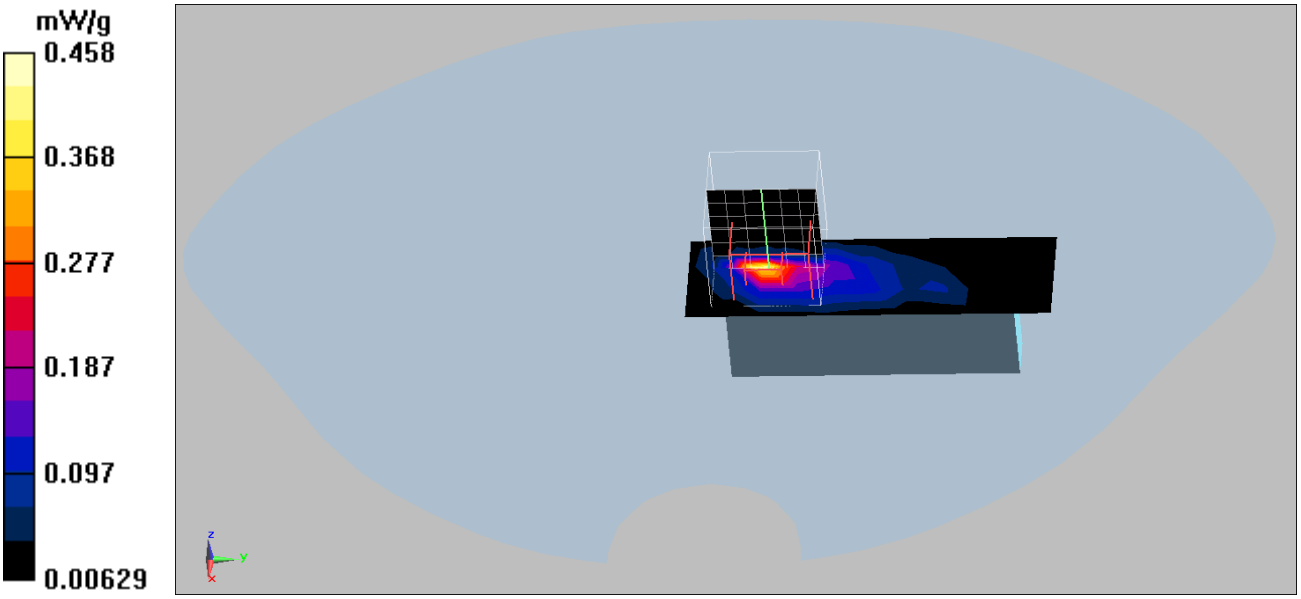
Test Laboratory: Quietek

802.11a_36 L-Side TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; σ = 5.28 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (4x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.403 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.44 V/m; Power Drift = 0.155 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.362 mW/g; SAR(10 g) = 0.100 mW/g
Maximum value of SAR (measured) = 0.458 mW/g



Date/Time: 9/21/2009

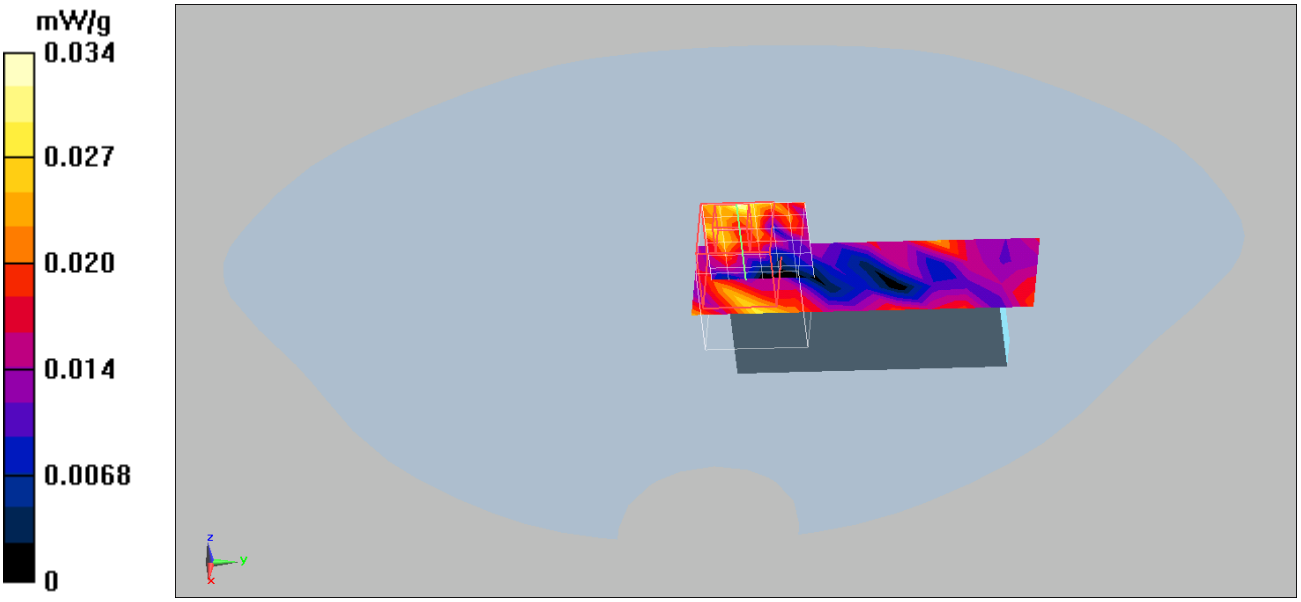
Test Laboratory: Quietek

802.11a_36 R-Side TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; σ = 5.28 mho/m; ε_r = 50.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (4x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.029 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.24 V/m; Power Drift = -0.180 dB
Peak SAR (extrapolated) = 0.042 W/kg
SAR(1 g) = 0.023 mW/g; SAR(10 g) = 0.016 mW/g
Maximum value of SAR (measured) = 0.034 mW/g



Date/Time: 9/21/2009

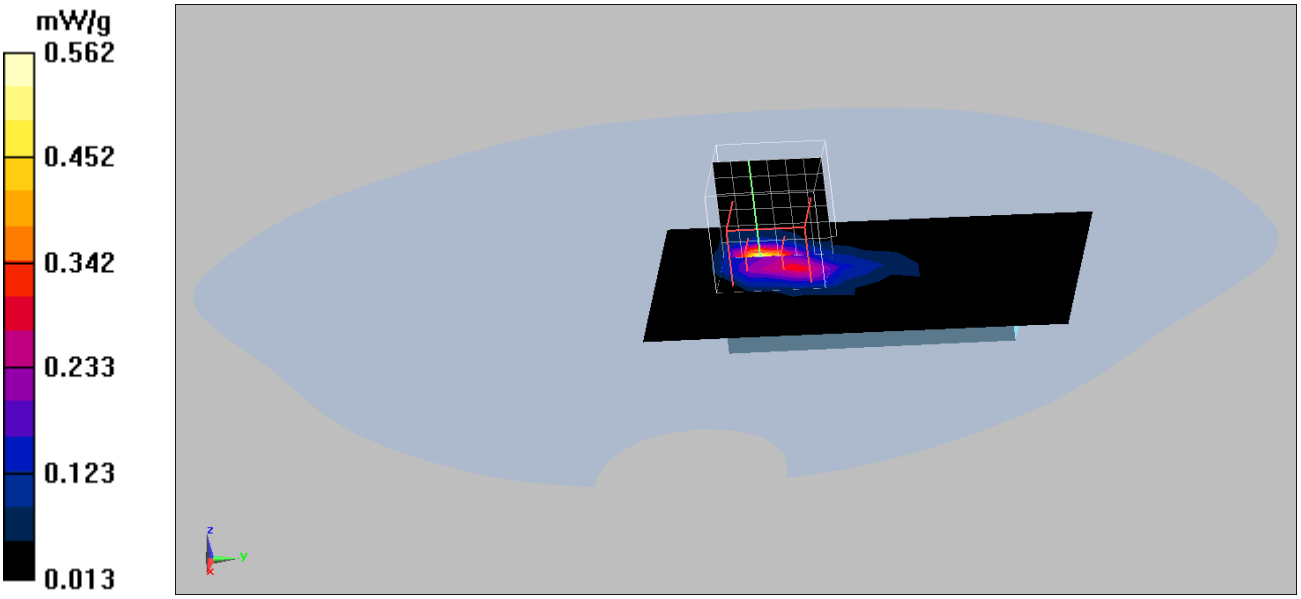
Test Laboratory: Quietek

802.11a_40 Front TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.34 mho/m; ε_r = 49.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x10x1): Measurement grid: dx=13mm, dy=13mm
Maximum value of SAR (measured) = 0.307 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4 V/m; Power Drift = 0.124 dB
Peak SAR (extrapolated) = 1.6 W/kg
SAR(1 g) = 0.447 mW/g; SAR(10 g) = 0.146 mW/g
Maximum value of SAR (measured) = 0.562 mW/g



Date/Time: 9/21/2009

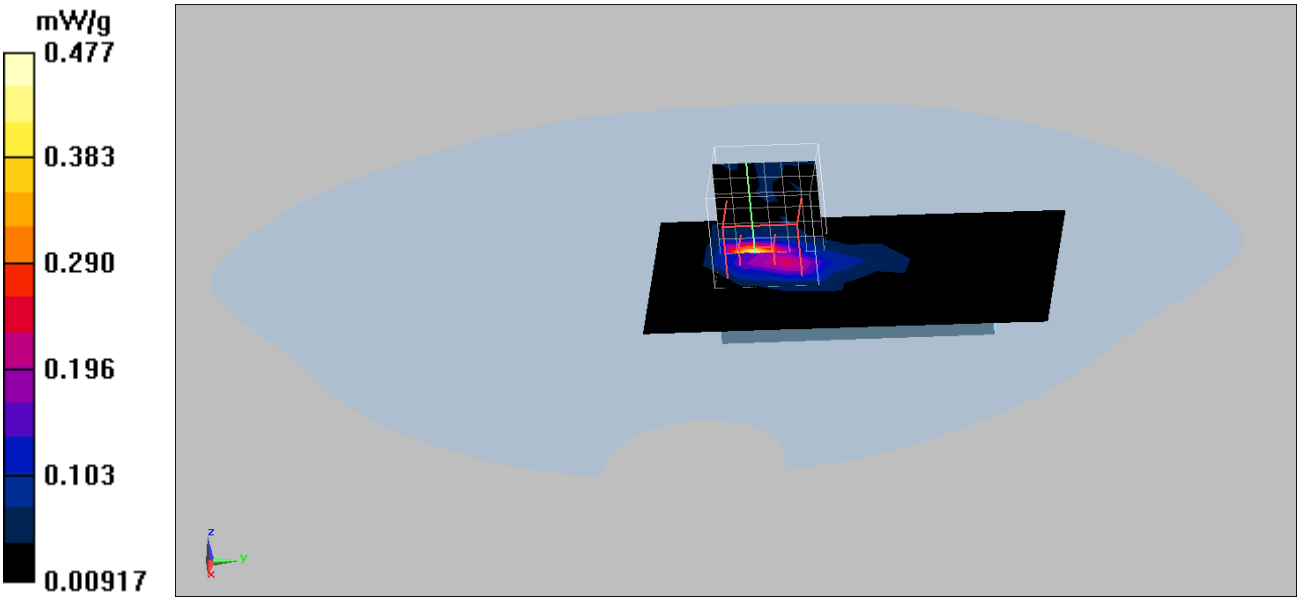
Test Laboratory: Quietek

802.11a_48 Front TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5240 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5240 MHz; σ = 5.39 mho/m; ε_r = 49.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x10x1): Measurement grid: dx=13mm, dy=13mm
Maximum value of SAR (measured) = 0.242 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.69 V/m; Power Drift = 0.101 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.337 mW/g; SAR(10 g) = 0.113 mW/g
Maximum value of SAR (measured) = 0.477 mW/g



Date/Time: 9/21/2009

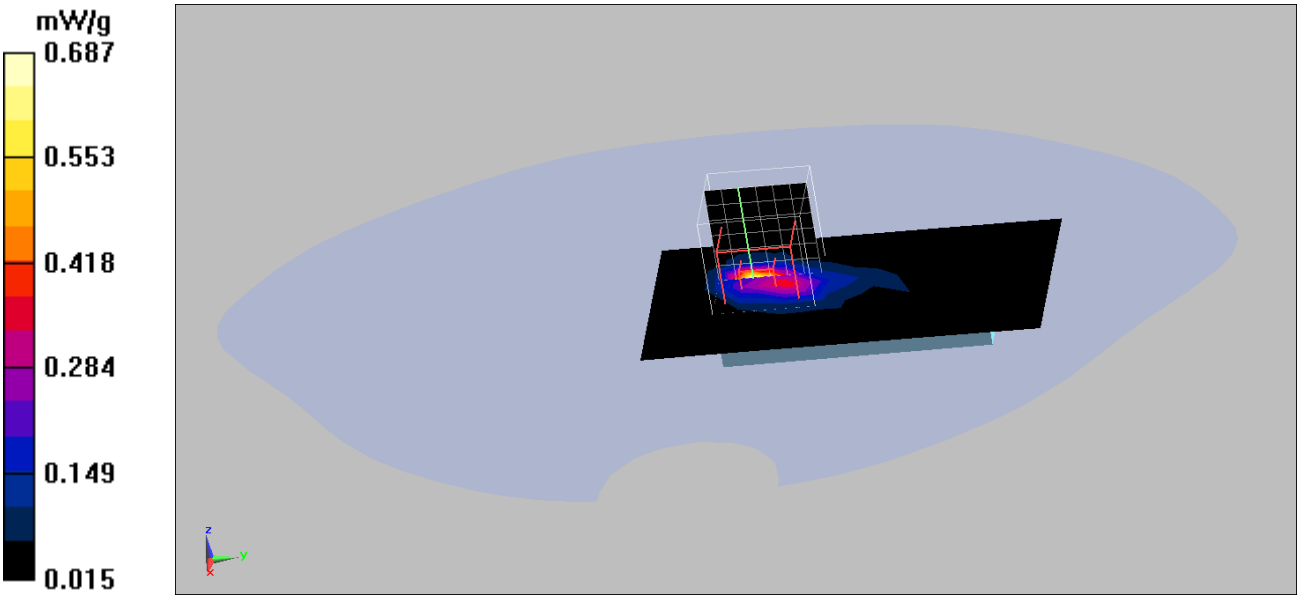
Test Laboratory: Quietek

802.11a_36 20M Front TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; σ = 5.28 mho/m; εr = 50.3; ρ = 1000 kg/m3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x10x1): Measurement grid: dx=13mm, dy=13mm
Maximum value of SAR (measured) = 0.377 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.41 V/m; Power Drift = 0.170 dB
Peak SAR (extrapolated) = 1.73 W/kg
SAR(1 g) = 0.479 mW/g; SAR(10 g) = 0.160 mW/g
Maximum value of SAR (measured) = 0.687 mW/g



Date/Time: 9/21/2009

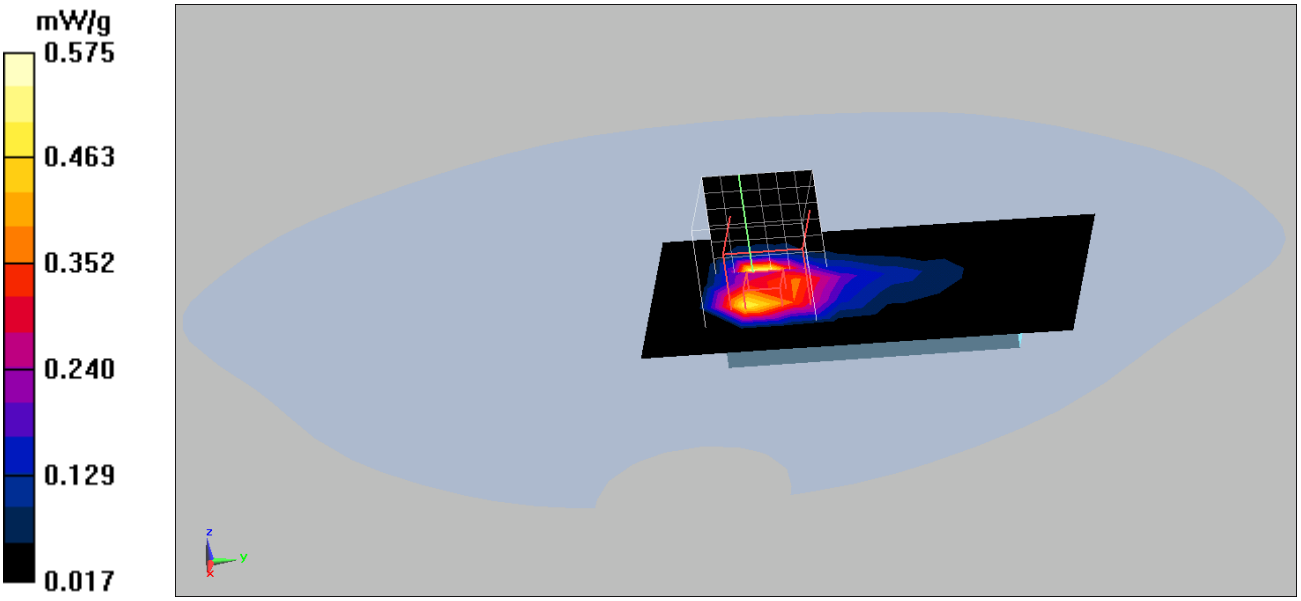
Test Laboratory: Quietek

802.11n_38 40M Front TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5190 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5190 MHz; σ = 5.31 mho/m; ε_r = 49.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 25.3; Liquid Temperature (°C) : 24.1
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x10x1): Measurement grid: dx=13mm, dy=13mm
Maximum value of SAR (measured) = 0.508 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.54 V/m; Power Drift = -0.103 dB
Peak SAR (extrapolated) = 1.73 W/kg
SAR(1 g) = 0.451 mW/g; SAR(10 g) = 0.186 mW/g
Maximum value of SAR (measured) = 0.575 mW/g



Date/Time: 10/28/2009

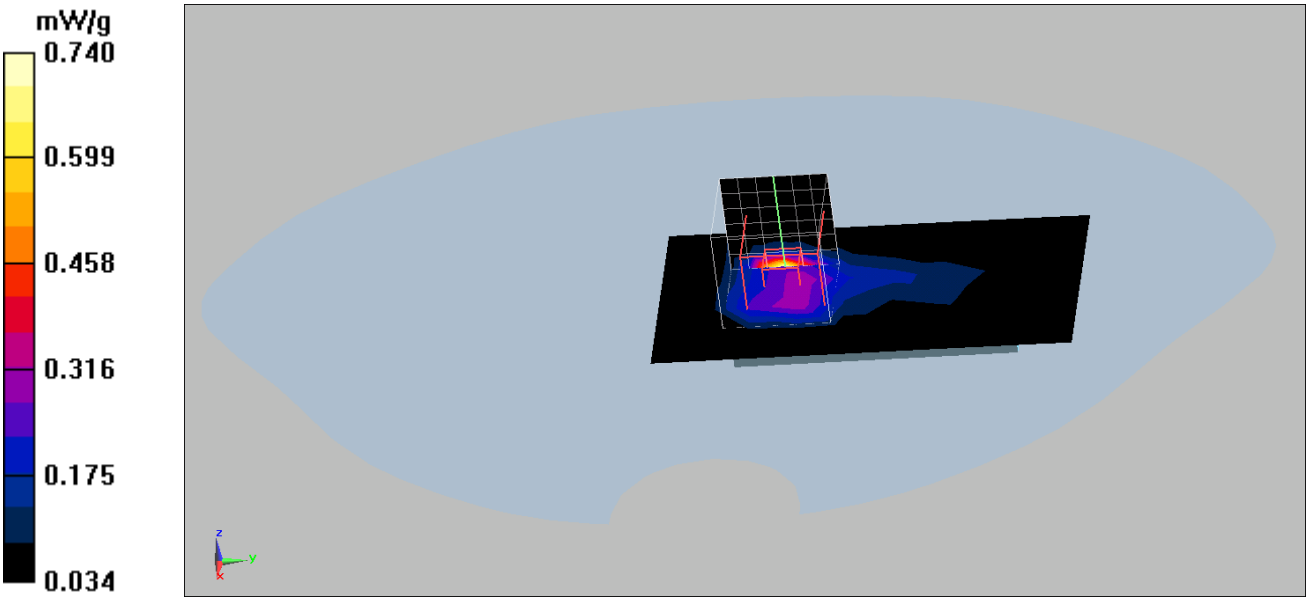
Test Laboratory: Quietek

802.11a_36 Front+NB TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; σ = 5.02 mho/m; ε_r = 50.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.3
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4.43, 4.43, 4.43); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

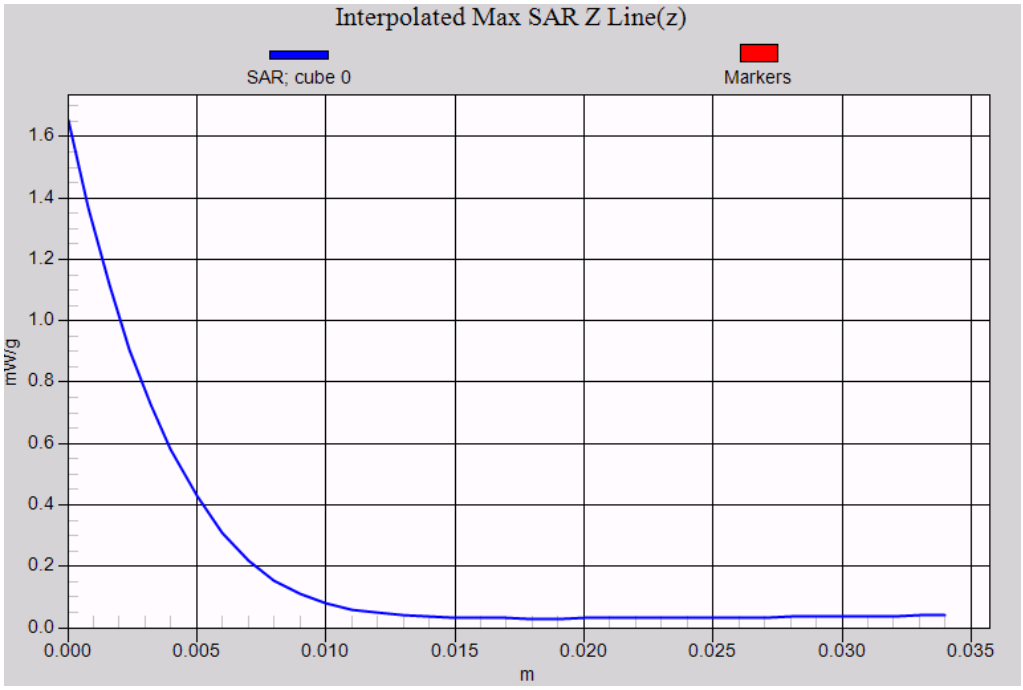
Body/Area Scan (6x10x1): Measurement grid: dx=13mm, dy=13mm
Maximum value of SAR (measured) = 0.314 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.45 V/m; Power Drift = 0.118 dB
Peak SAR (extrapolated) = 2 W/kg
SAR(1 g) = 0.473 mW/g; SAR(10 g) = 0.181 mW/g
Maximum value of SAR (measured) = 0.746 mW/g



802.11a Tx2 Antenna EUT Front Z-Axis plot

Channel: 36



Date/Time: 11/13/2009

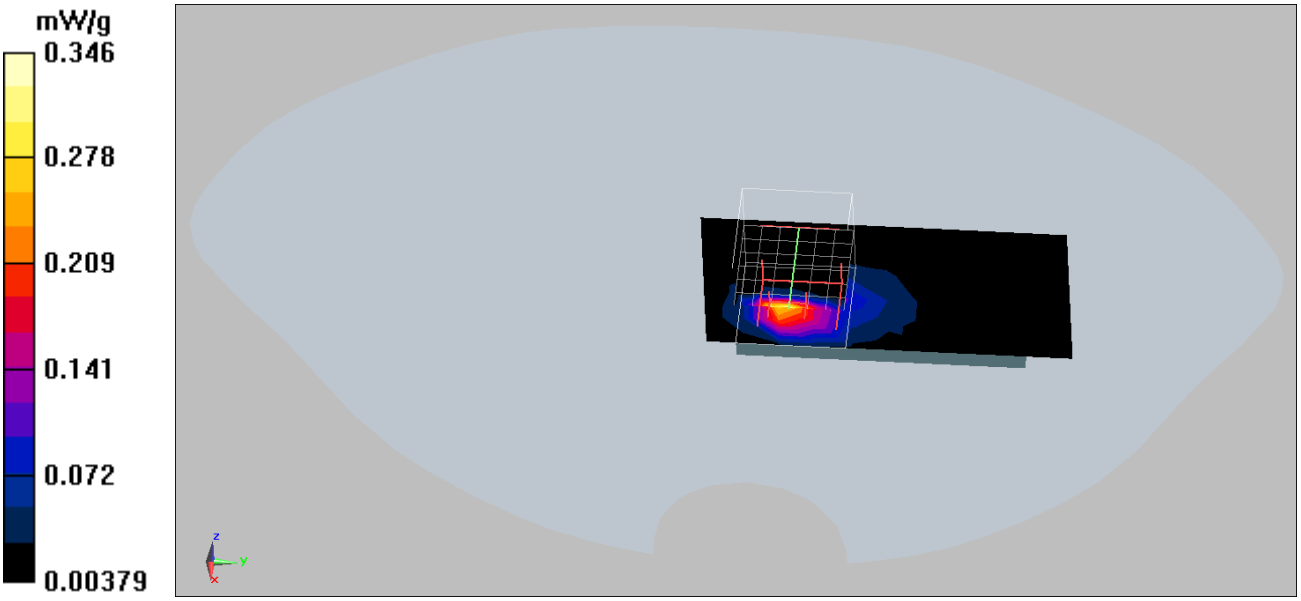
Test Laboratory: Quietek

802.11a_149 Front TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5745 MHz; σ = 5.83 mho/m; ε_r = 48.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.311 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.28 V/m; Power Drift = 0.079 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.271 mW/g; SAR(10 g) = 0.080 mW/g
Maximum value of SAR (measured) = 0.346 mW/g



Date/Time: 11/13/2009

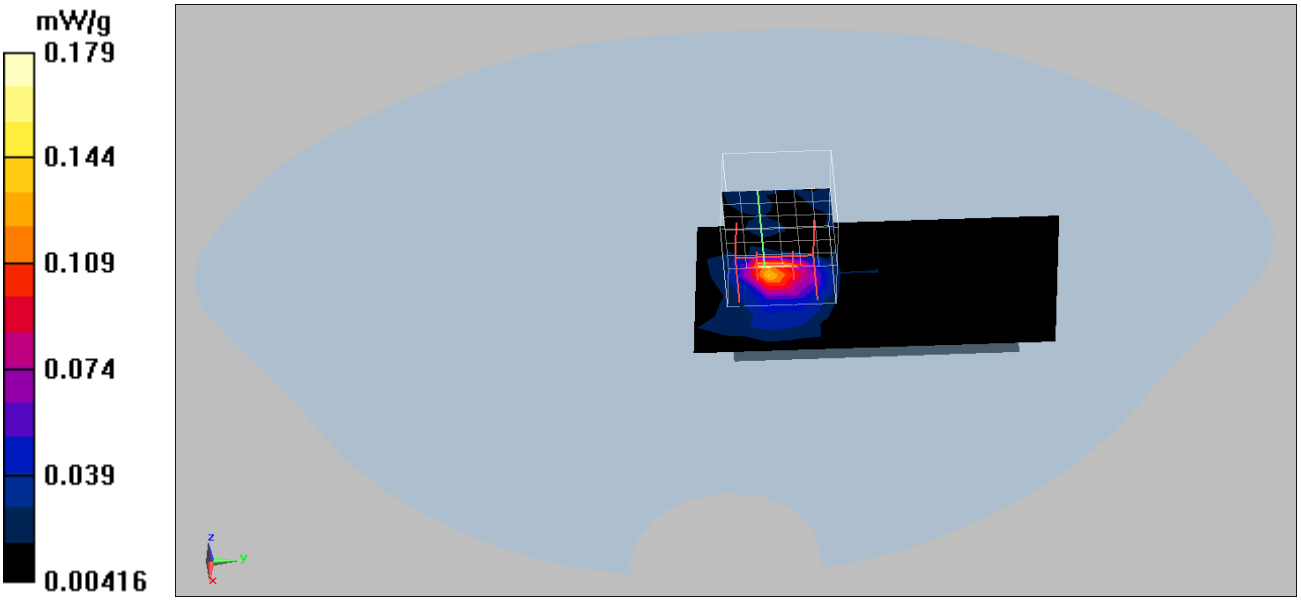
Test Laboratory: Quietek

802.11a_149 Back TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5745 MHz; σ = 5.83 mho/m; ε_r = 48.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.135 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.22 V/m; Power Drift = 0.118 dB
Peak SAR (extrapolated) = 0.565 W/kg
SAR(1 g) = 0.143 mW/g; SAR(10 g) = 0.042 mW/g
Maximum value of SAR (measured) = 0.179 mW/g



Date/Time: 11/13/2009

Test Laboratory: Quietek

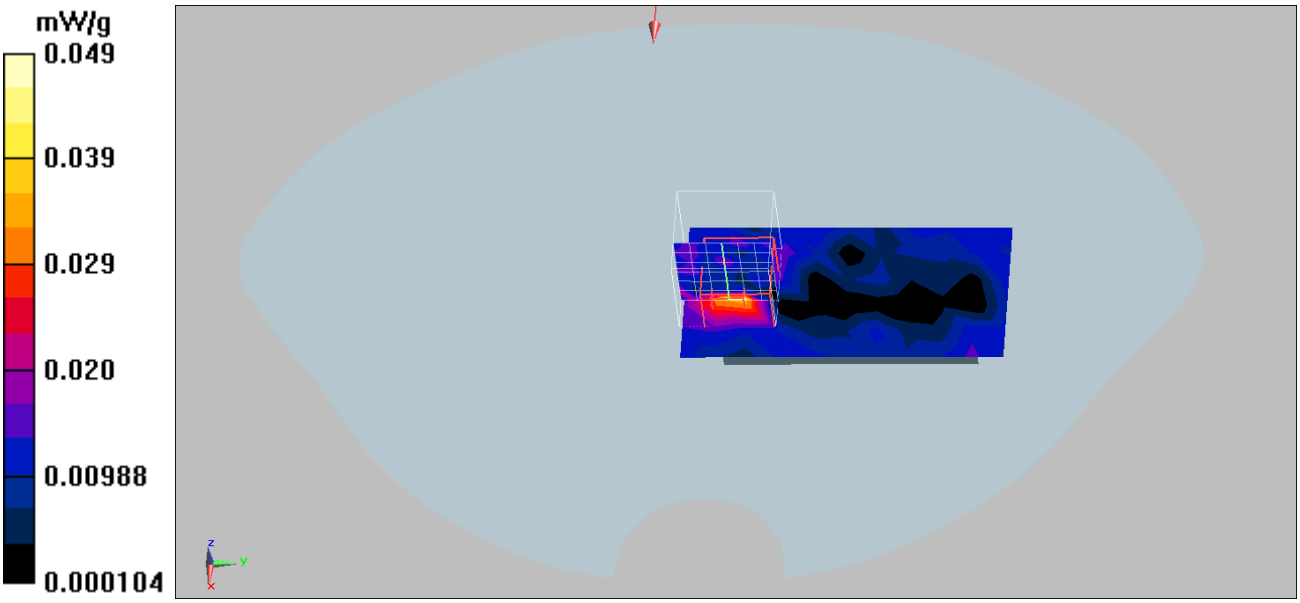
802.11a_149 L-Side TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5745 MHz; σ = 5.83 mho/m; ε_r = 48.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.042 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3 V/m; Power Drift = 0.166 dB
Peak SAR (extrapolated) = 0.206 W/kg
SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.014 mW/g

Maximum value of SAR (measured) = 0.049 mW/g



Date/Time: 11/13/2009

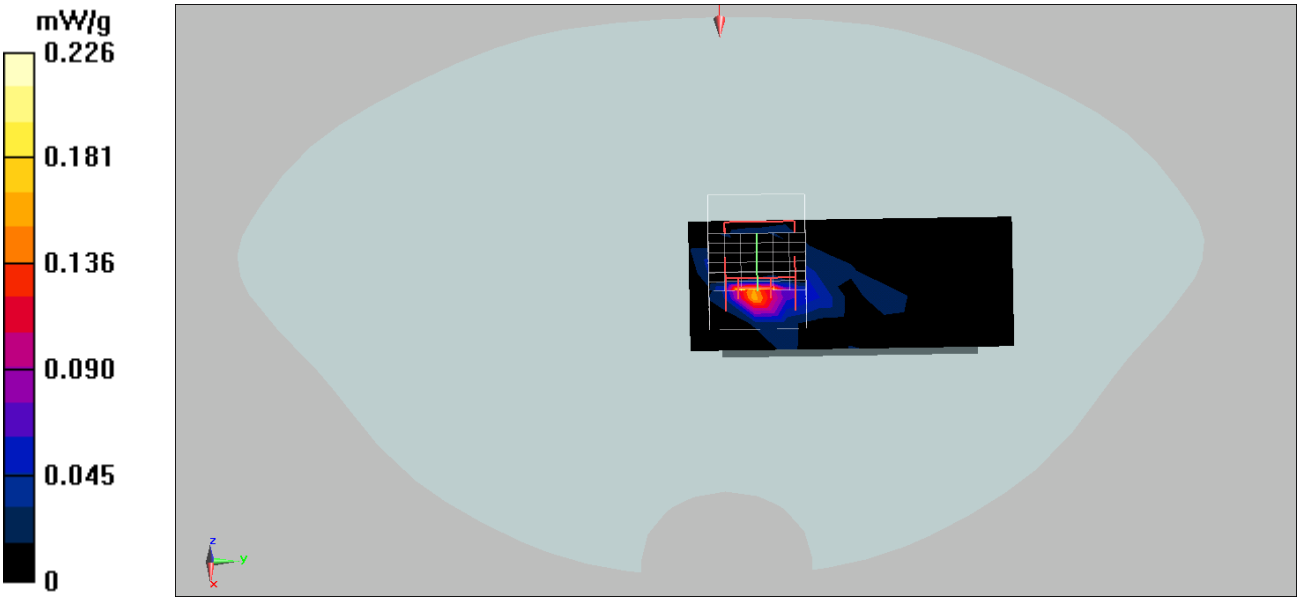
Test Laboratory: Quietek

802.11a_149 R-Side TX1
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5745 MHz; σ = 5.83 mho/m; ε_r = 48.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.162 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.32 V/m; Power Drift = 0.115 dB
Peak SAR (extrapolated) = 0.795 W/kg
SAR(1 g) = 0.192 mW/g; SAR(10 g) = 0.053 mW/g
Maximum value of SAR (measured) = 0.226 mW/g



Date/Time: 11/13/2009

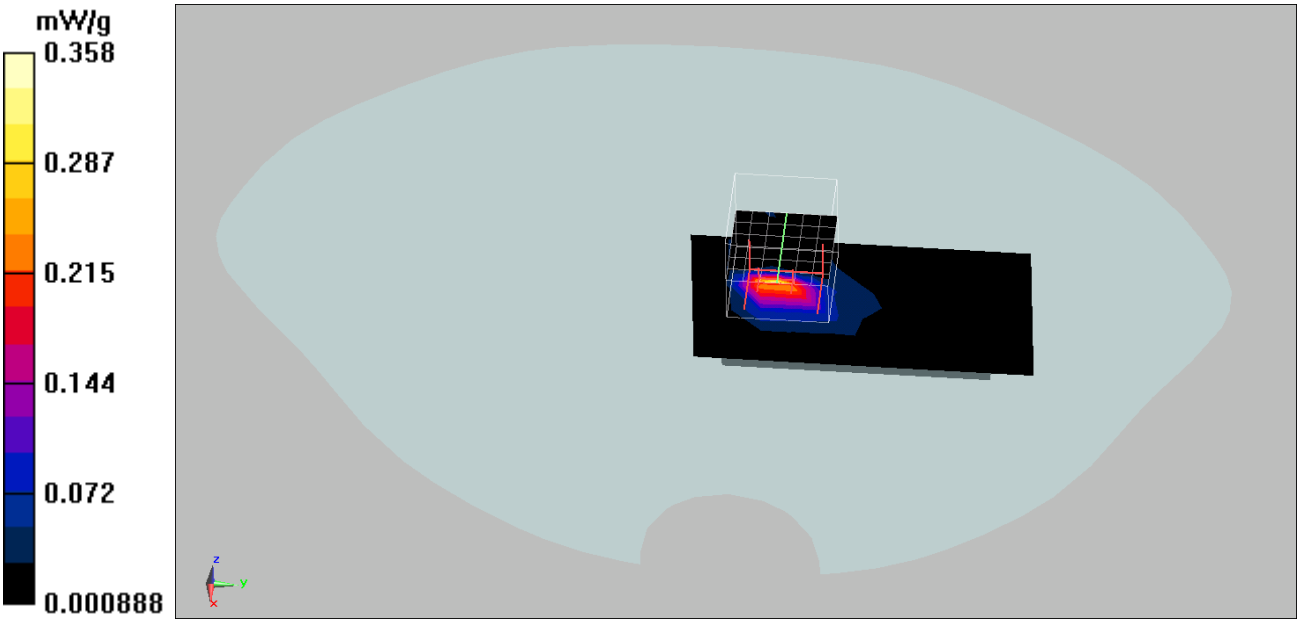
Test Laboratory: Quietek

802.11a_149 Front TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5745 MHz; σ = 5.83 mho/m; ε_r = 48.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.231 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.54 V/m; Power Drift = 0.178 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.297 mW/g; SAR(10 g) = 0.085 mW/g
Maximum value of SAR (measured) = 0.358 mW/g



Date/Time: 11/13/2009

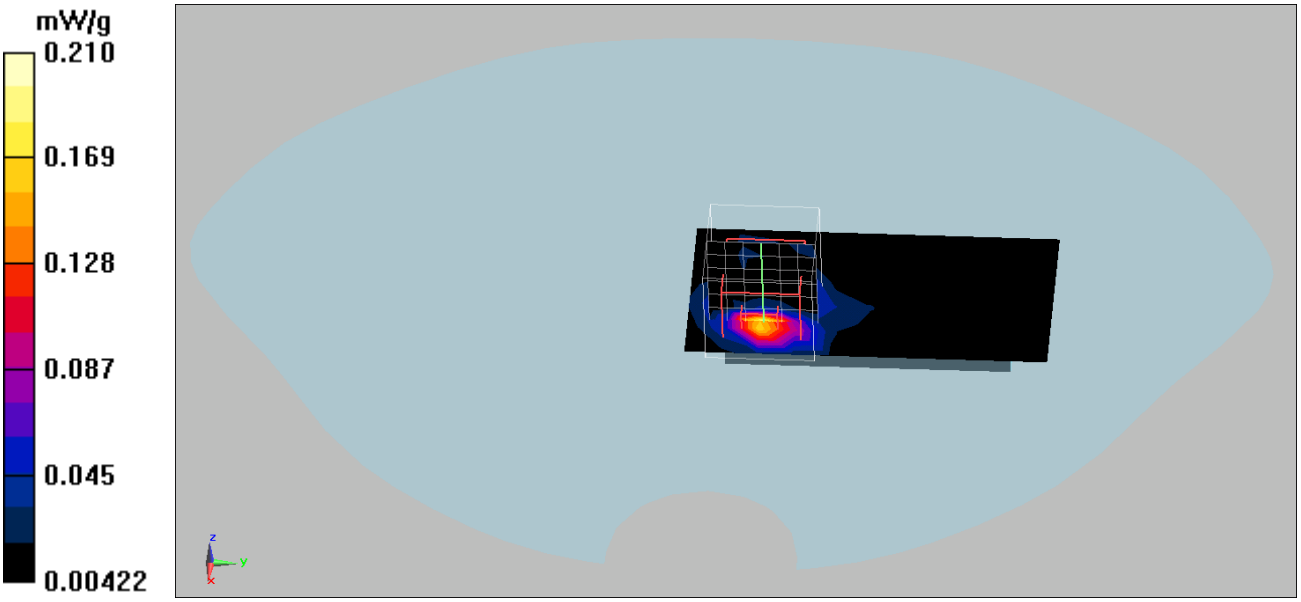
Test Laboratory: Quietek

802.11a_149 Back TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5745 MHz; σ = 5.83 mho/m; ε_r = 48.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.166 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.7 V/m; Power Drift = 0.169 dB
Peak SAR (extrapolated) = 0.611 W/kg
SAR(1 g) = 0.164 mW/g; SAR(10 g) = 0.050 mW/g
Maximum value of SAR (measured) = 0.210 mW/g



Date/Time: 11/13/2009

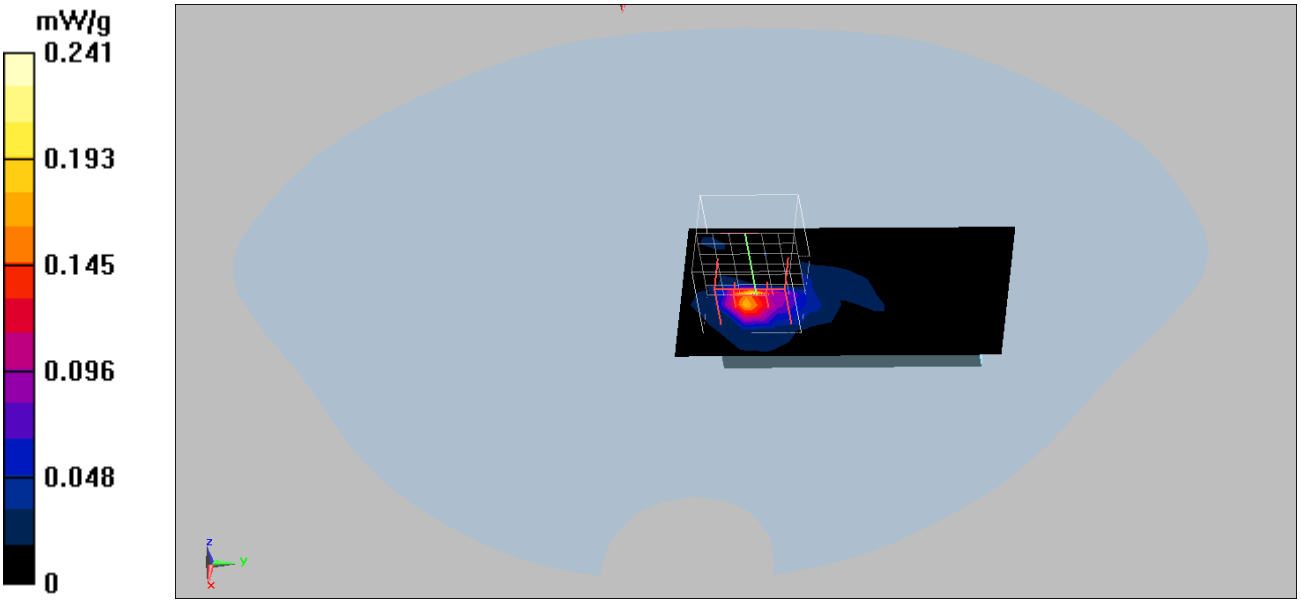
Test Laboratory: Quietek

802.11a_149 L-Side TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5745 MHz; σ = 5.83 mho/m; ε_r = 48.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.178 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.37 V/m; Power Drift = 0.126 dB
Peak SAR (extrapolated) = 1.19 W/kg
SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.055 mW/g
Maximum value of SAR (measured) = 0.241 mW/g



Date/Time: 11/13/2009

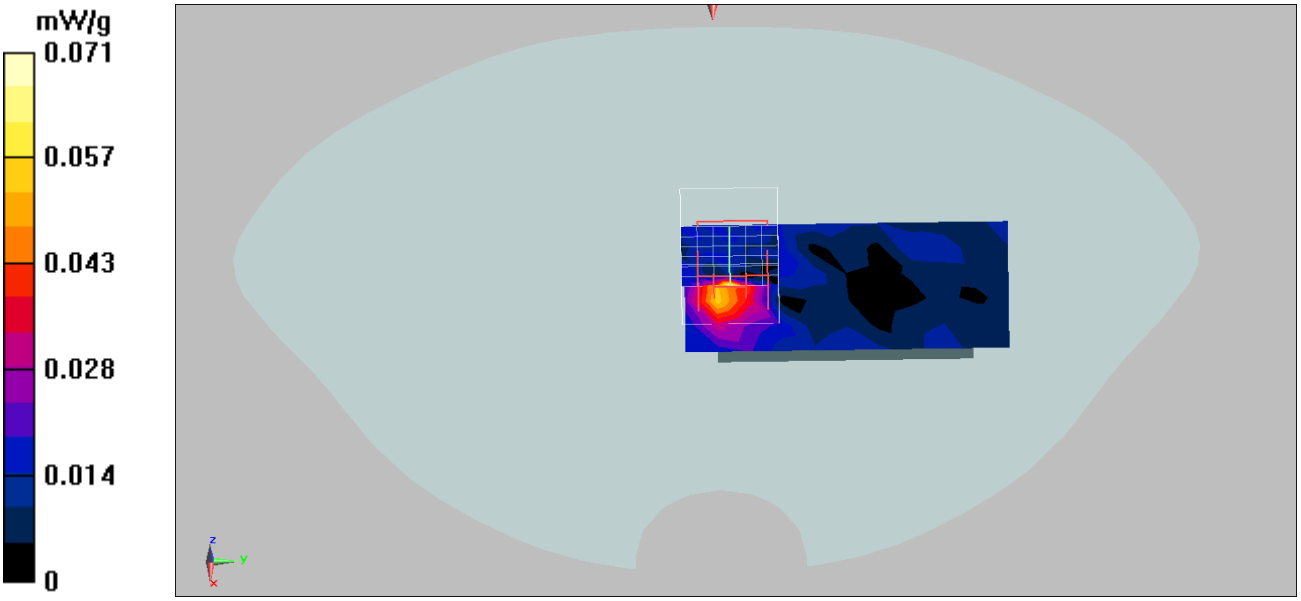
Test Laboratory: Quietek

802.11a_149 R-Side TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5745 MHz; σ = 5.83 mho/m; ε_r = 48.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.055 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.74 V/m; Power Drift = -0.116 dB
Peak SAR (extrapolated) = 0.219 W/kg
SAR(1 g) = 0.052 mW/g; SAR(10 g) = 0.018 mW/g
Maximum value of SAR (measured) = 0.071 mW/g



Date/Time: 11/13/2009

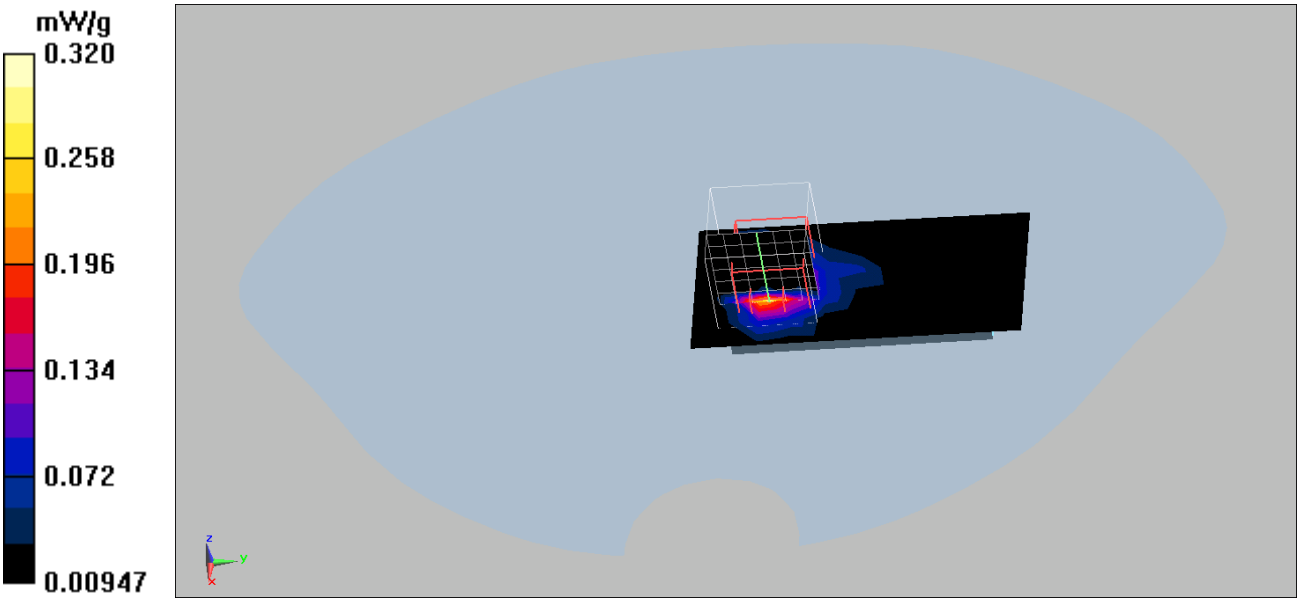
Test Laboratory: Quietek

802.11a_157 Front TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 6.02 mho/m; ε_r = 48.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.249 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.3 V/m; Power Drift = 0.114 dB
Peak SAR (extrapolated) = 0.972 W/kg
SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.095 mW/g
Maximum value of SAR (measured) = 0.320 mW/g



Date/Time: 11/13/2009

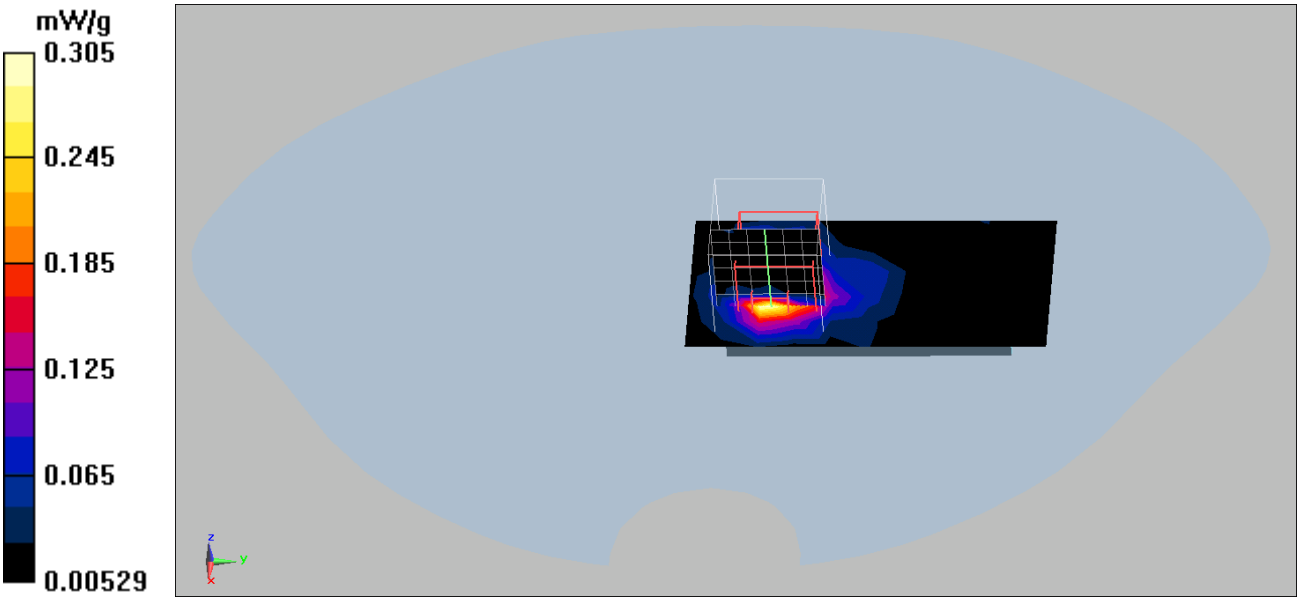
Test Laboratory: Quietek

802.11a_165 Front TX2
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5825 MHz; σ = 6.21 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.390 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.68 V/m; Power Drift = -0.107 dB
Peak SAR (extrapolated) = 0.943 W/kg
SAR(1 g) = 0.240 mW/g; SAR(10 g) = 0.089 mW/g
Maximum value of SAR (measured) = 0.305 mW/g



Date/Time: 11/13/2009

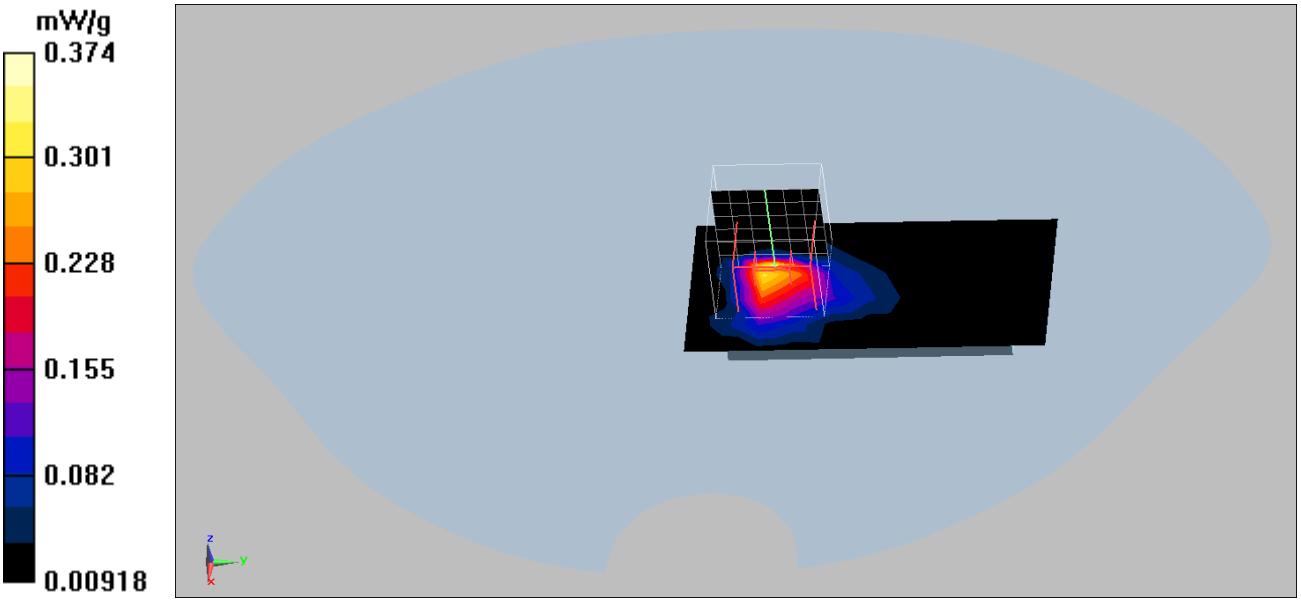
Test Laboratory: Quietek

802.11n_149 Front 20M
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5745 MHz; σ = 5.83 mho/m; ε_r = 48.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.310 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.51 V/m; Power Drift = 0.131 dB
Peak SAR (extrapolated) = 1.2 W/kg
SAR(1 g) = 0.283 mW/g; SAR(10 g) = 0.114 mW/g
Maximum value of SAR (measured) = 0.374 mW/g



Date/Time: 11/13/2009

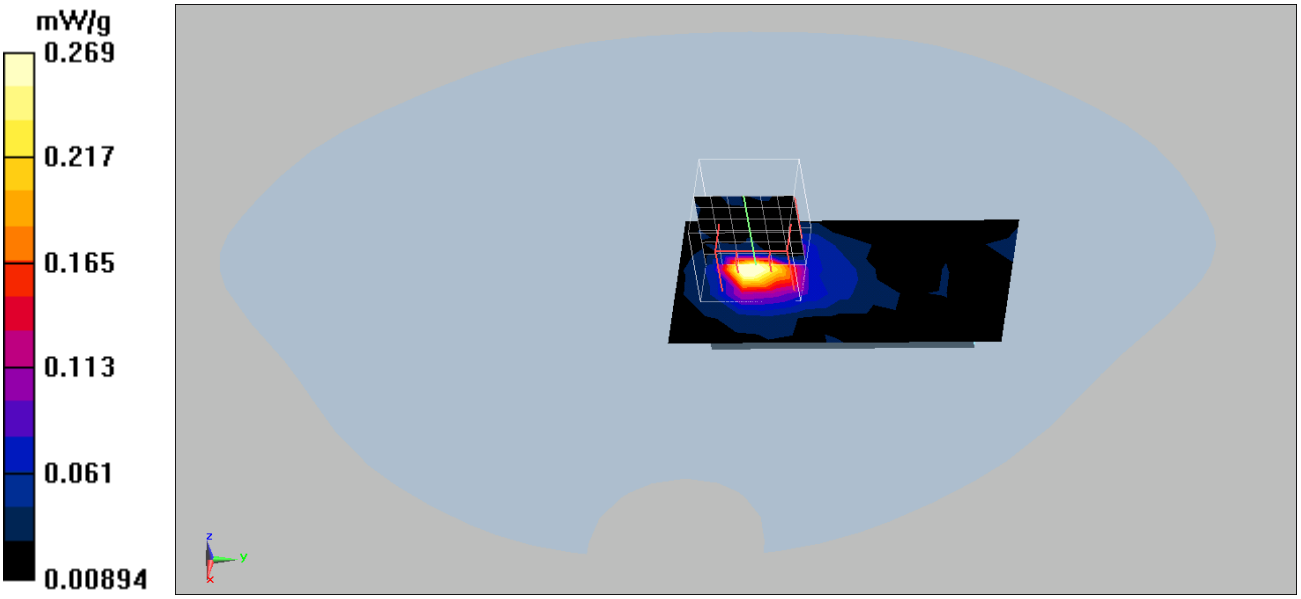
Test Laboratory: Quietek

802.11n_151 Front 40M
DUT: Flip Share TV (USB Dongle); Type: CTV1W
Communication System: 802.11a,n; Frequency: 5755 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5755 MHz; σ = 5.94 mho/m; ε_r = 48.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Ambient Temperature (°C) : 24.1; Liquid Temperature (°C) : 23.4
DASY4 Configuration:

- Probe: EX3DV4 - SN3602; ConvF(4, 4, 4); Calibrated: 5/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1207; Calibrated: 4/7/2009
- Phantom: SAM Right Table; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 125; SEMCAD X Version 13.4 Build 125

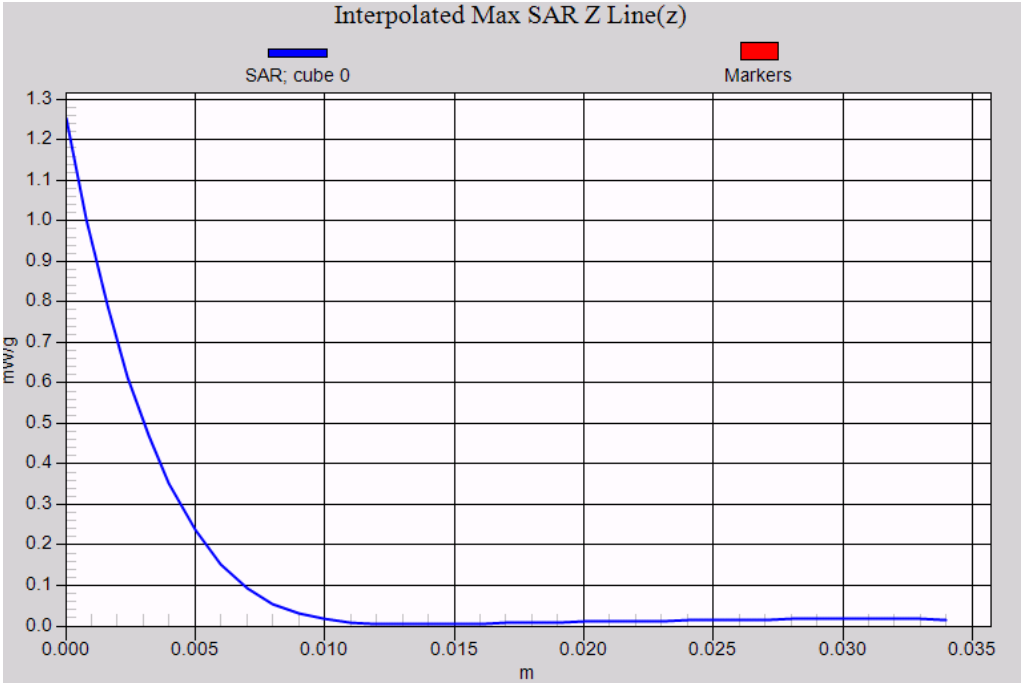
Body/Area Scan (6x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.309 mW/g

Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.14 V/m; Power Drift = -0.104 dB
Peak SAR (extrapolated) = 0.868 W/kg
SAR(1 g) = 0.235 mW/g; SAR(10 g) = 0.074 mW/g
Maximum value of SAR (measured) = 0.269 mW/g



802.11a Tx2 Antenna EUT Front Z-Axis plot

Channel: 149



Appendix D. Probe Calibration Data

Miniature Isotropic RF Probe
S/N: 3602

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

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

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Quietek (Auden)**

Certificate No: **EX3-3602_May09**

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:3602
Calibration procedure(s)	QA CAL-01.v6, QA CAL-14.v3 and QA CAL-23.v3 Calibration procedure for dosimetric E-field probes
Calibration date:	May 20, 2009
Condition of the calibrated item	In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

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

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

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Niels Kuster	Quality Manager	

Issued: May 20, 2009

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003

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

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV4

SN:3602

Manufactured: March 23, 2009
Calibrated: May 20, 2009

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: EX3DV4 SN:3602

Sensitivity in Free Space[A]

Diode Compression[B]

NormX	**0.41** ± 10.1%	$\mu V/(V/m)^2$	DCP X	**87** mV
NormY	**0.40** ± 10.1%	$\mu V/(V/m)^2$	DCP Y	**89** mV
NormZ	**0.52** ± 10.1%	$\mu V/(V/m)^2$	DCP Z	**89** mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL **900 MHz** **Typical SAR gradient: 5 % per mm**

Sensor Center to Phantom Surface Distance		**2.0 mm**	**3.0 mm**
SAR_{be} [%]	Without Correction Algorithm	10.2	6.1
SAR_{be} [%]	With Correction Algorithm	0.9	0.6

TSL **1810 MHz** **Typical SAR gradient: 10 % per mm**

Sensor Center to Phantom Surface Distance		**2.0 mm**	**3.0 mm**
SAR_{be} [%]	Without Correction Algorithm	6.7	2.9
SAR_{be} [%]	With Correction Algorithm	0.5	0.3

Sensor Offset

Probe Tip to Sensor Center	**1.0** mm

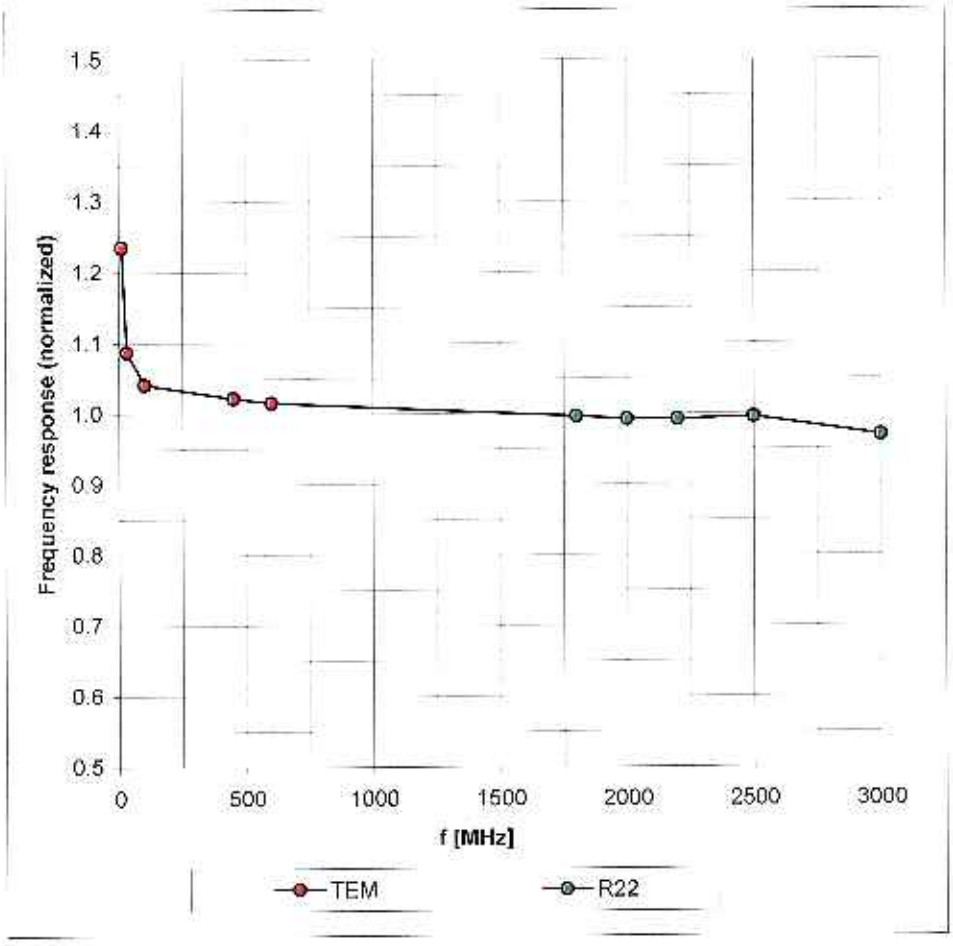
The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

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

[B] Numerical linearization parameter: uncertainty not required.

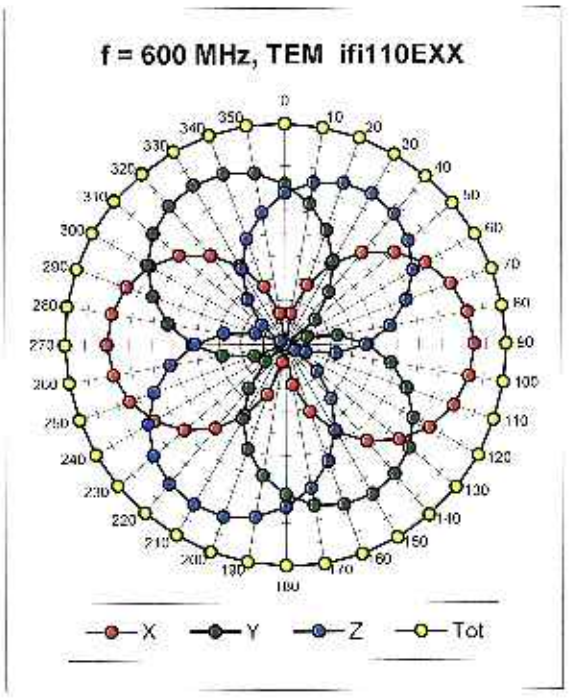
Frequency Response of E-Field

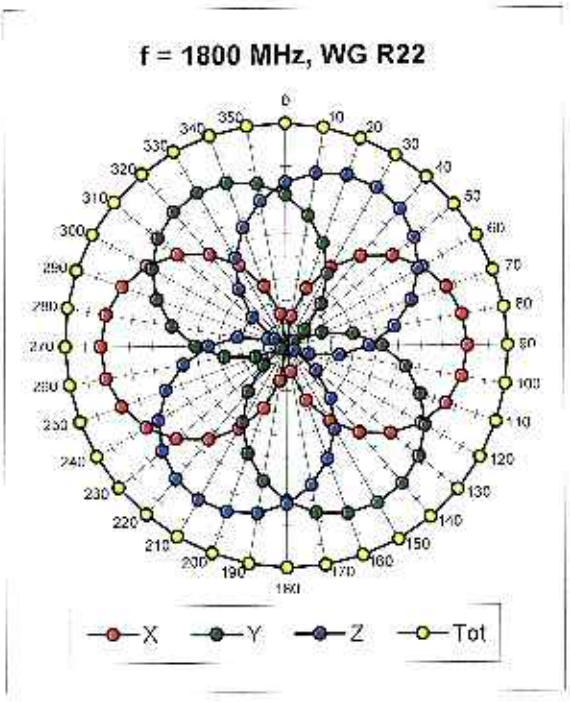
(TEM-Cell:ifi110 EXX, Waveguide: R22)

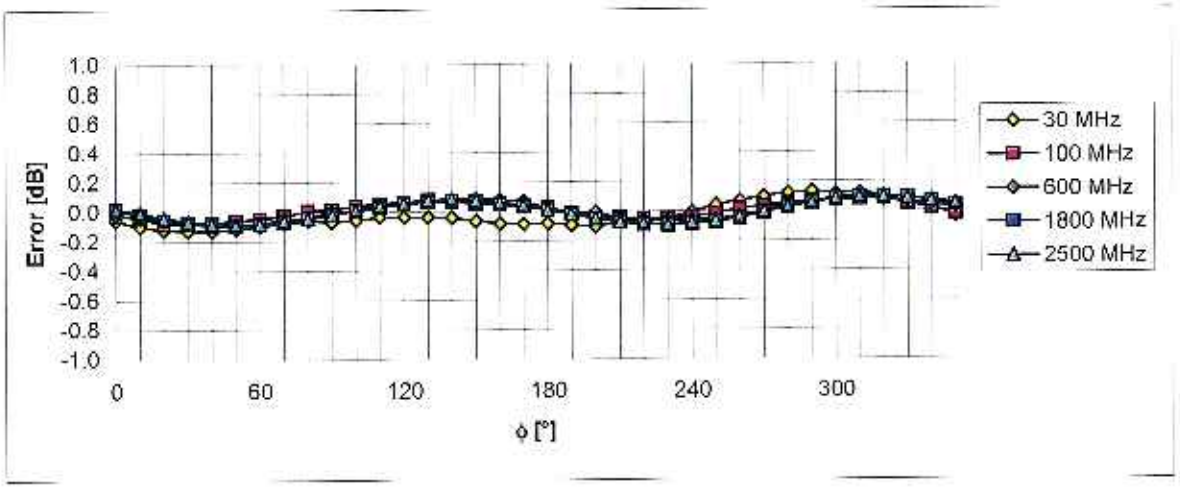


Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Receiving Pattern (ϕ), ϑ = 0°



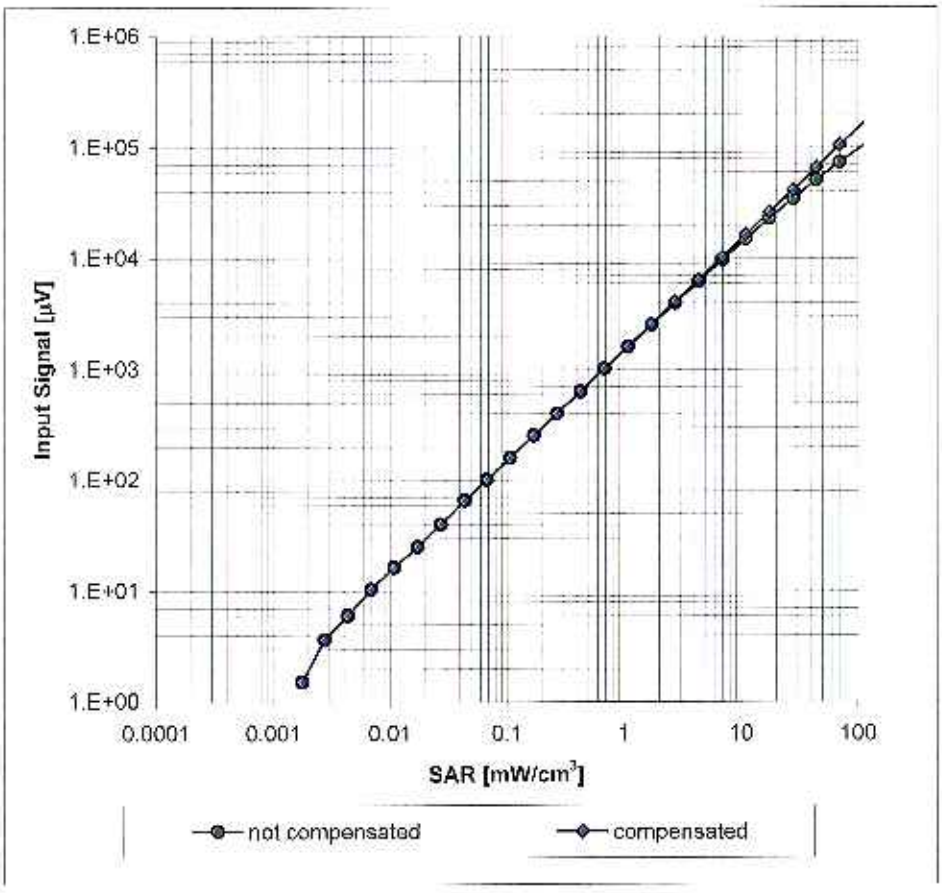


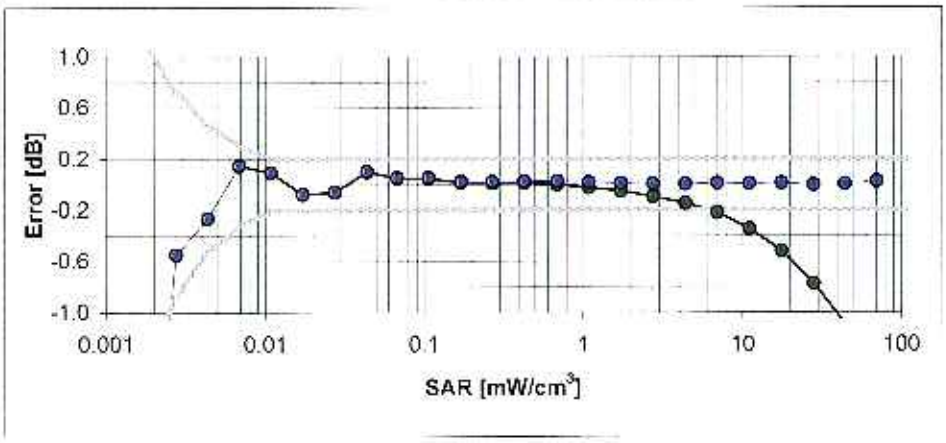


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

(Waveguide R22, f = 1800 MHz)





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

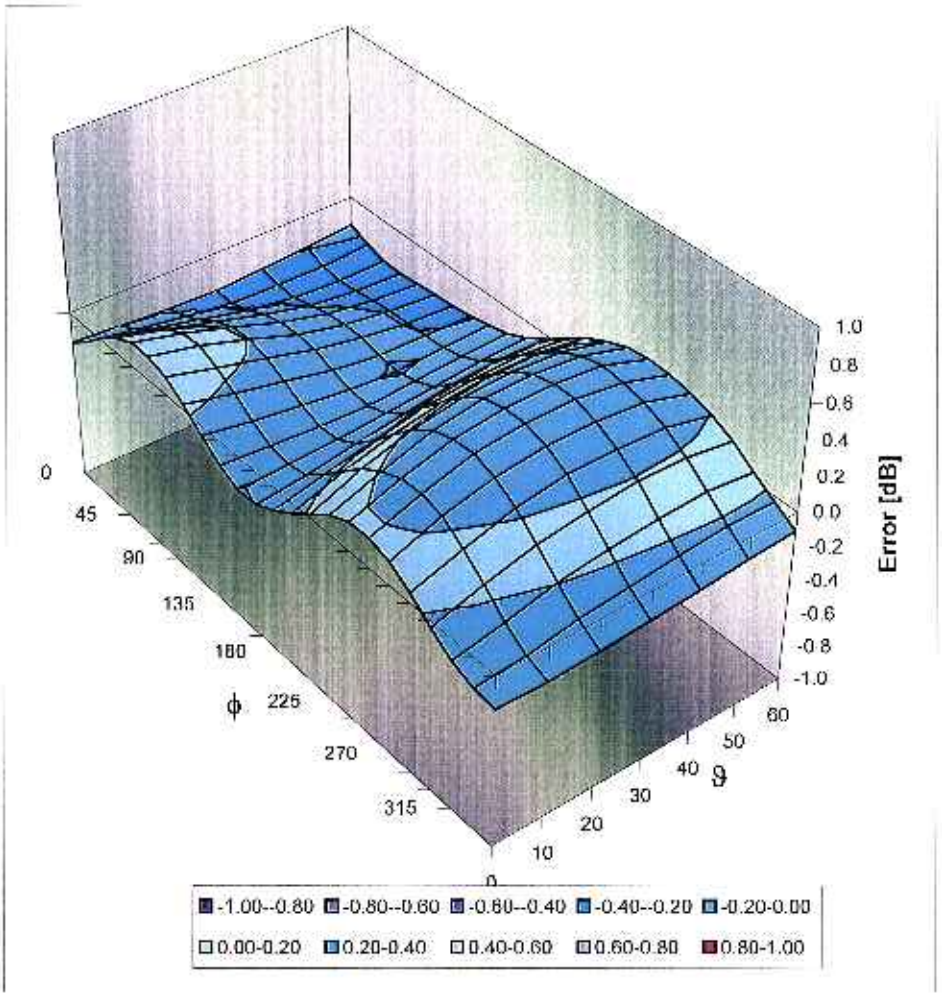
Conversion Factor Assessment

f [MHz]	Validity [MHz][C]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.56	0.71	9.14 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.65	0.65	8.86 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.84	0.56	7.81 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.84	0.56	7.55 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.46	0.70	7.10 ± 11.0% (k=2)
2600	± 50 / ± 100	Head	39.0 ± 5%	1.96 ± 5%	0.41	0.77	7.10 ± 11.0% (k=2)
3500	± 50 / ± 100	Head	37.9 ± 5%	2.91 ± 5%	0.42	1.00	6.26 ± 13.1% (k=2)
5200	± 50 / ± 100	Head	36.0 ± 5%	4.66 ± 5%	0.43	1.75	4.79 ± 13.1% (k=2)
5300	± 50 / ± 100	Head	35.9 ± 5%	4.76 ± 5%	0.43	1.75	4.43 ± 13.1% (k=2)
5500	± 50 / ± 100	Head	35.6 ± 5%	4.96 ± 5%	0.50	1.75	4.44 ± 13.1% (k=2)
5600	± 50 / ± 100	Head	35.5 ± 5%	5.07 ± 5%	0.50	1.75	4.42 ± 13.1% (k=2)
5800	± 50 / ± 100	Head	35.3 ± 5%	5.27 ± 5%	0.52	1.75	4.21 ± 13.1% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.72	0.65	9.32 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.55	0.74	8.97 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.70	0.65	7.97 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.48	0.78	7.68 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.42	0.79	6.90 ± 11.0% (k=2)
2600	± 50 / ± 100	Body	52.5 ± 5%	2.16 ± 5%	0.28	1.23	6.81 ± 11.0% (k=2)
3500	± 50 / ± 100	Body	51.3 ± 5%	3.31 ± 5%	0.35	1.22	5.75 ± 13.1% (k=2)
5200	± 50 / ± 100	Body	49.0 ± 5%	5.30 ± 5%	0.50	1.80	4.43 ± 13.1% (k=2)
5300	± 50 / ± 100	Body	48.5 ± 5%	5.42 ± 5%	0.52	1.80	4.23 ± 13.1% (k=2)
5500	± 50 / ± 100	Body	48.6 ± 5%	5.65 ± 5%	0.55	1.80	4.08 ± 13.1% (k=2)
5600	± 50 / ± 100	Body	48.5 ± 5%	5.77 ± 5%	0.55	1.80	3.95 ± 13.1% (k=2)
5800	± 50 / ± 100	Body	48.2 ± 5%	6.00 ± 5%	0.61	1.80	4.00 ± 13.1% (k=2)

[C] The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Deviation from Isotropy in HSL

Error (ϕ, ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

Appendix E. Dipole Calibration

Validation Dipole 2450 MHz
M/N: ALS-D-2450-S-2
S/N: QTK-319

NCL CALIBRATION LABORATORIES

Calibration File No: DC-891

C E R T I F I C A T E OF C A L I B R A T I O N

It is certified that the equipment identified below has been calibrated in the **NCL CALIBRATION LABORATORIES** by qualified personnel following recognized procedures and using transfer standards traceable to NRC/NIST.

Quietek Validation Dipole

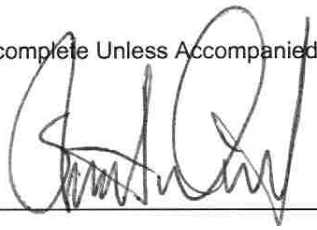
Manufacturer: APREL Laboratories
Part number: ALS-D-2450-S-2
Frequency: 2.45 GHz
Serial No: QTK-319

Customer: Quietek

Project Number: QTKB-Dipole-CAL-5336

Calibrated: 9th May 2008
Released on: 9th May 2008

This Calibration Certificate is Incomplete Unless Accompanied with the Calibration Results Summary

Released By: 

NCL CALIBRATION LABORATORIES

51 SPECTRUM WAY
NEPEAN, ONTARIO
CANADA K2R 1E6

Division of APREL Lab.
TEL: (613) 820-4988
FAX: (613) 820-4161

Calibration Results Summary

The following results relate the Calibrated Dipole and should be used as a quick reference for the user.

Mechanical Dimensions

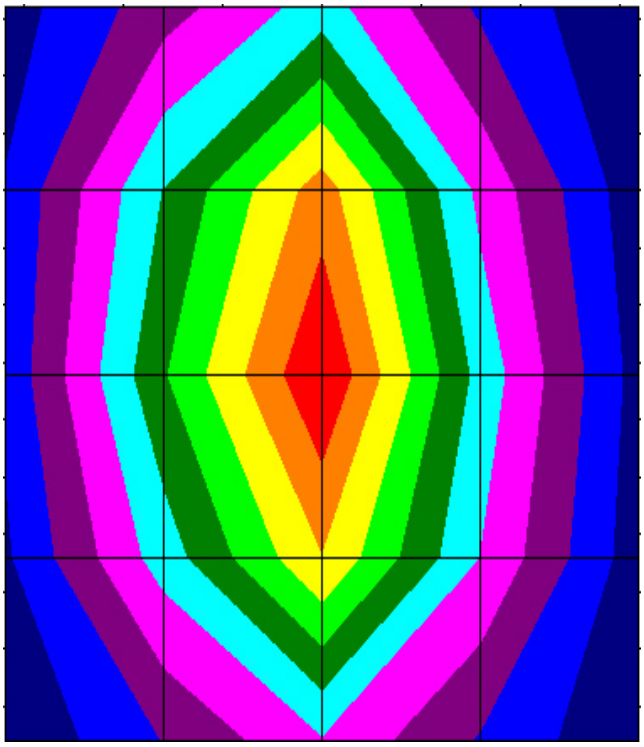
Length: 53.5 mm
Height: 30.4 mm

Electrical Specification

SWR: 1.19 U
Return Loss: -20.8 dB
Impedance: 49.4 Ω

System Validation Results

Frequency	1 Gram	10 Gram	Peak
2.45 GHz	48.07	25.65	95.6



Conditions

Dipole 319 is a recalibration.

Ambient Temperature of the Laboratory:	22 °C +/- 0.5°C
Temperature of the Tissue:	21 °C +/- 0.5°C

References

SSI-TP-018-ALSAS Dipole Calibration Procedure
SSI-TP-016 Tissue Calibration Procedure
IEEE 1528 “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques”

IEC 62209 “Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 1 & Part 2: Procedure to determine the specific absorption rate (SAR) for mobile wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)

We the undersigned attest that to the best of our knowledge the calibration of this device has been accurately conducted and that all information contained within this report has been reviewed for accuracy.

Stuart Nicol

C. Teodorian

Dipole Calibration Results

Mechanical Verification

IEEE Length	IEEE Height	Measured Length	Measured Height
51.5 mm	30.4 mm	53.5 mm	30.4 mm

Tissue Validation

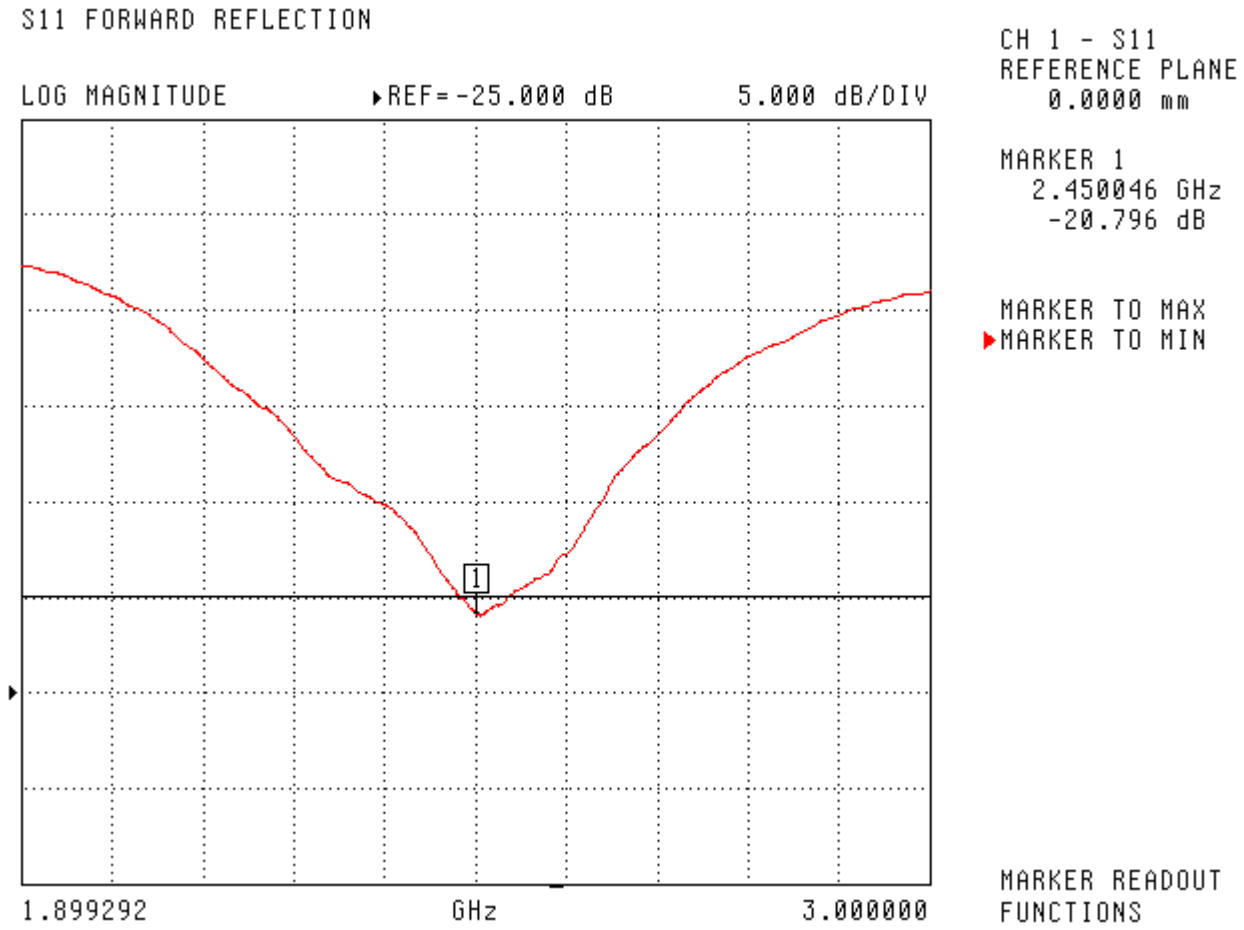
Head Tissue 2450 MHz	Measured
Dielectric constant, ε_r	40.1
Conductivity, σ [S/m]	1.78

Electrical Calibration

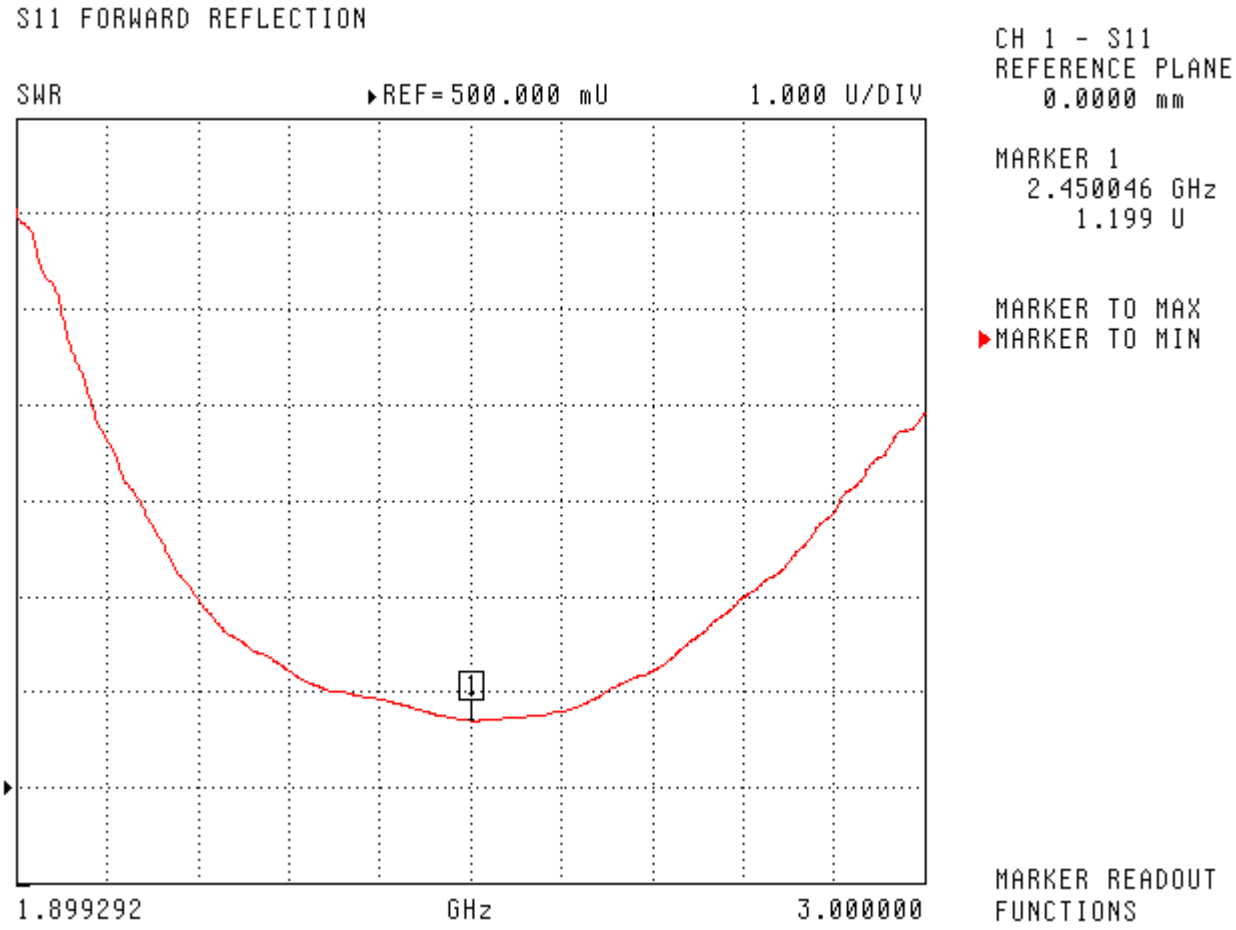
Test	Result
S11 R/L	-20.8 dB
SWR	1.2 U
Impedance	49.4 Ω

The Following Graphs are the results as displayed on the Vector Network Analyzer.

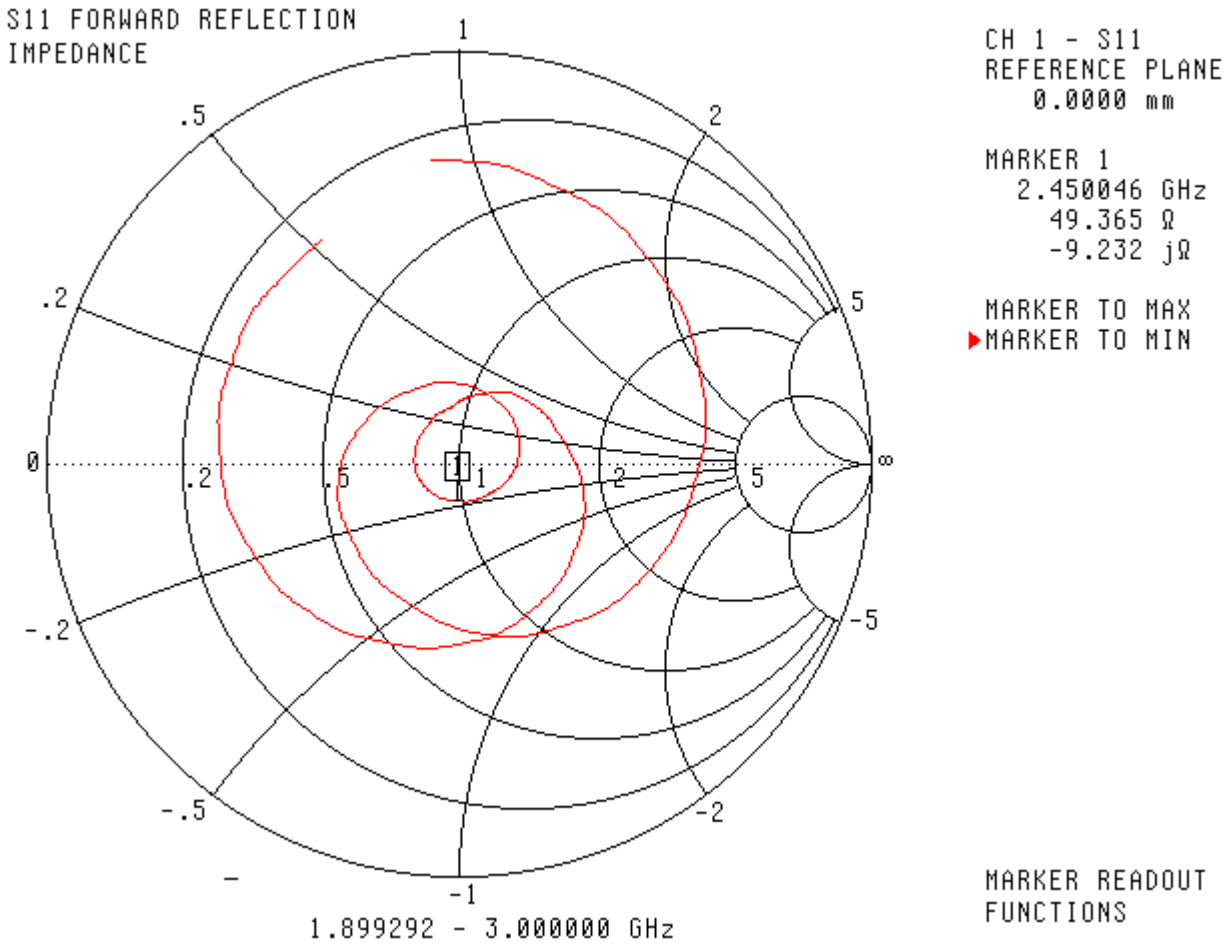
S11 Parameter Return Loss



SWR

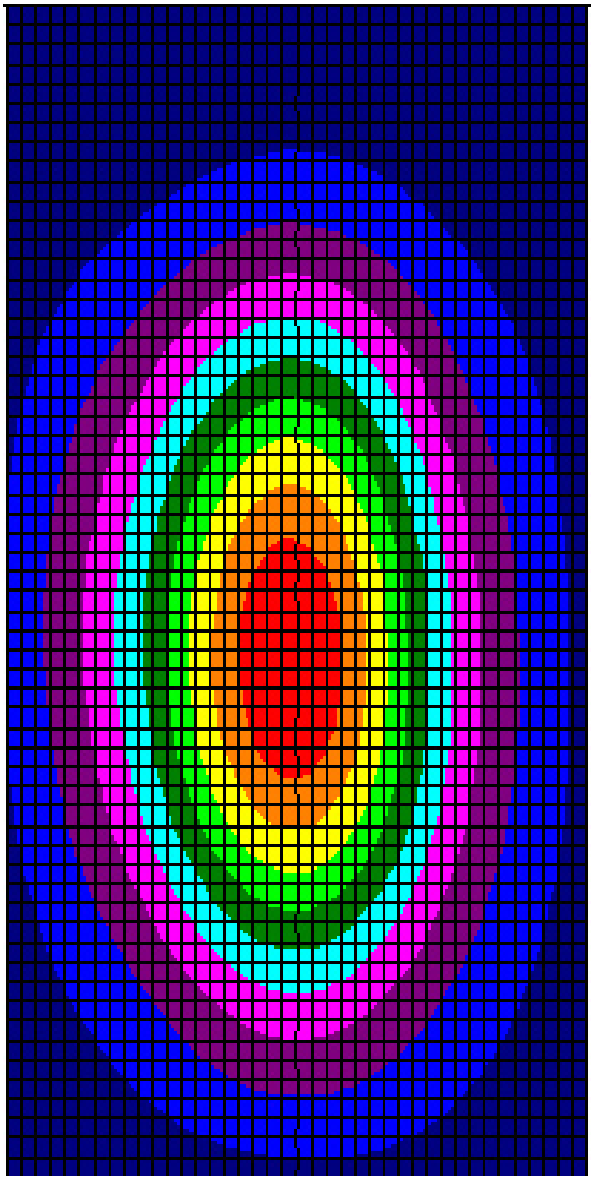


Smith Chart Dipole Impedance



System Validation Results Using the Electrically Calibrated Dipole

Frequency	1 Gram	10 Gram	Peak Above Feed Point
2.45 GHz	48.07	25.65	95.6



Test Equipment

The test equipment used during Probe Calibration, manufacturer, model number and, current calibration status are listed and located on the main APREL server R:\NCL\Calibration Equipment\Instrument List May 2008.

Appendix E. Dipole Calibration

Validation Dipole 3-6 GHz
M/N: D5GHzV2
S/N: 1041

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

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

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client Quietek (Auden)

Certificate No: D5GHzV2-1041_May09

CALIBRATION CERTIFICATE

Object	D5GHzV2 - SN: 1041
Calibration procedure(s)	QA CAL-22.v1 Calibration procedure for dipole validation kits between 3-6 GHz
Calibration date:	May 15, 2009
Condition of the calibrated item	In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe EX3DV4	SN: 3503	11-Mar-09 (No. EX3-3503_Mar09)	Mar-10
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10

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

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: May 26, 2009

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

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

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEC Std 62209 Part 2, "Evaluation of Human Exposure to Radio Frequency Fields from Handheld and Body-Mounted Wireless Communication Devices in the Frequency Range of 30 MHz to 6 GHz: Human models, Instrumentation, and Procedures"; Part 2: "Procedure to determine the Specific Absorption Rate (SAR) for including accessories and multiple transmitters", Draft Version 0.9, December 2004

b) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

c) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

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

DASY Version	DASY5	V5.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Area Scan resolution	dx, dy = 10 mm	
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 2.5 mm	
Frequency	5200 MHz ± 1 MHz 5500 MHz ± 1 MHz 5800 MHz ± 1 MHz	

Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.9 ± 6 %	4.45 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	condition	
SAR measured	100 mW input power	7.72 mW / g
SAR normalized	normalized to 1W	77.2 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**76.7 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.17 mW / g
SAR normalized	normalized to 1W	21.7 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**21.5 mW / g ± 19.5 % (k=2)**

[1] Correction to nominal TSL parameters according to c), chapter "SAR Sensitivities

Head TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.6	4.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.3 ± 6 %	4.75 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Head TSL at 5500 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	condition	
SAR measured	100 mW input power	8.23 mW / g
SAR normalized	normalized to 1W	82.3 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**81.6 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.30 mW / g
SAR normalized	normalized to 1W	23.0 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**22.8 mW / g ± 19.5 % (k=2)**

Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	33.7 ± 6 %	5.03 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm³ (1 g) of Head TSL	condition	
SAR measured	100 mW input power	7.59 mW / g
SAR normalized	normalized to 1W	75.9 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**75.1 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.11 mW / g
SAR normalized	normalized to 1W	21.1 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**20.8 mW / g ± 19.5 % (k=2)**

[1] Correction to nominal TSL parameters according to c), chapter "SAR Sensitivities"

Body TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	49.0	5.30 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.4 ± 6 %	5.30 mho/m ± 6 %
Body TSL temperature during test	(22.2 ± 0.2) °C	----	----

SAR result with Body TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	condition	
SAR measured	100 mW input power	7.00 mW / g
SAR normalized	normalized to 1W	70.0 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**69.5 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	1.94 mW / g
SAR normalized	normalized to 1W	19.4 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**19.3 mW / g ± 19.5 % (k=2)**

Body TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.6	5.65 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.7 ± 6 %	5.69 mho/m ± 6 %
Body TSL temperature during test	(22.2 ± 0.2) °C	----	----

SAR result with Body TSL at 5500 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	condition	
SAR measured	100 mW input power	7.66 mW / g
SAR normalized	normalized to 1W	76.6 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**76.0 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.11 mW / g
SAR normalized	normalized to 1W	21.1 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**20.9 mW / g ± 19.5 % (k=2)**

[1] Correction to nominal TSL parameters according to c), chapter "SAR Sensitivities

Body TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.2	6.00 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.0 ± 6 %	6.07 mho/m ± 6 %
Body TSL temperature during test	(22.2 ± 0.2) °C	----	----

SAR result with Body TSL at 5800 MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	condition	
SAR measured	100 mW input power	6.82 mW / g
SAR normalized	normalized to 1W	68.2 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**67.6 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	100 mW input power	1.87 mW / g
SAR normalized	normalized to 1W	18.7 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**18.5 mW / g ± 19.5 % (k=2)**

[1] Correction to nominal TSL parameters according to c), chapter "SAR Sensitivities

Appendix

Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	49.7 Ω - 4.0 jΩ
Return Loss	-28.0 dB

Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	52.2 Ω - 2.5 jΩ
Return Loss	-29.8 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	55.0 Ω - 2.0 jΩ
Return Loss	-25.9 dB

Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	49.5 Ω - 4.0 jΩ
Return Loss	-27.9 dB

Antenna Parameters with Body TSL at 5500 MHz

Impedance, transformed to feed point	52.8 Ω - 2.2 jΩ
Return Loss	-29.2 dB

Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	55.3 Ω - 0.4 jΩ
Return Loss	-26.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.199 ns

After long term use with 40 W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 30, 2005

DASY5 Validation Report for Head TSL

14.05.2009 16:50:31

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHz; Serial: D5GHzV2 - SN:1041

Communication System: CW-5GHz; Frequency: 5200 MHzFrequency: 5500 MHzFrequency: 5800 MHz; Duty Cycle: 1:1
Medium: HSL 5800 MHz
Medium parameters used: f = 5200 MHz; σ = 4.45 mho/m; ε_r = 34.9; ρ = 1000 kg/m^3 Medium parameters used: f = 5500 MHz; σ = 4.75 mho/m; ε_r = 34.3; ρ = 1000 kg/m^3 Medium parameters used: f = 5800 MHz; σ = 5.03 mho/m; ε_r = 33.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

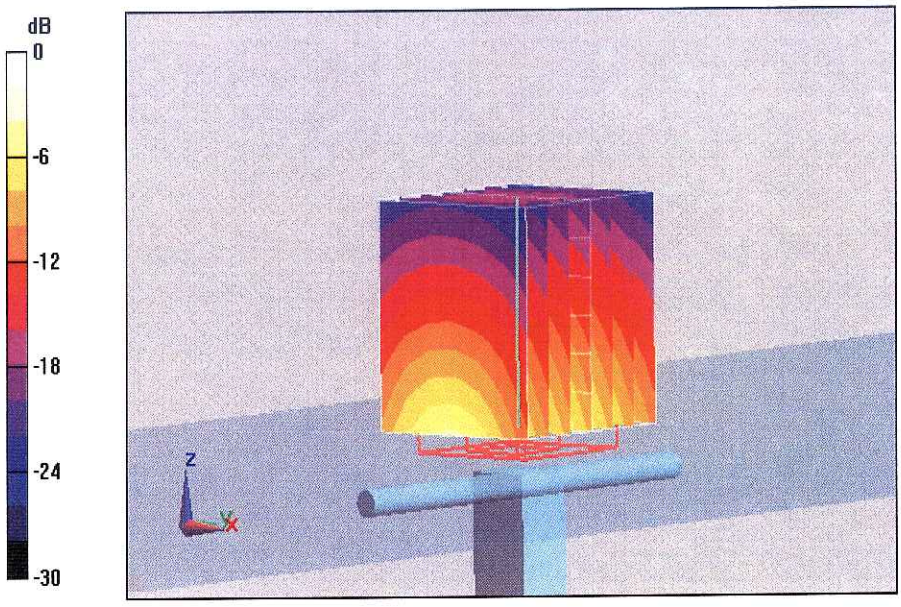
DASY5 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.36, 5.36, 5.36)ConvF(4.85, 4.85, 4.85)ConvF(4.74, 4.74, 4.74); Calibrated: 11.03.2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

d=10mm, Pin=100mW, f=5200 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 61.5 V/m; Power Drift = 0.087 dB
Peak SAR (extrapolated) = 29.7 W/kg
SAR(1 g) = 7.72 mW/g; SAR(10 g) = 2.17 mW/g
Maximum value of SAR (measured) = 15.8 mW/g

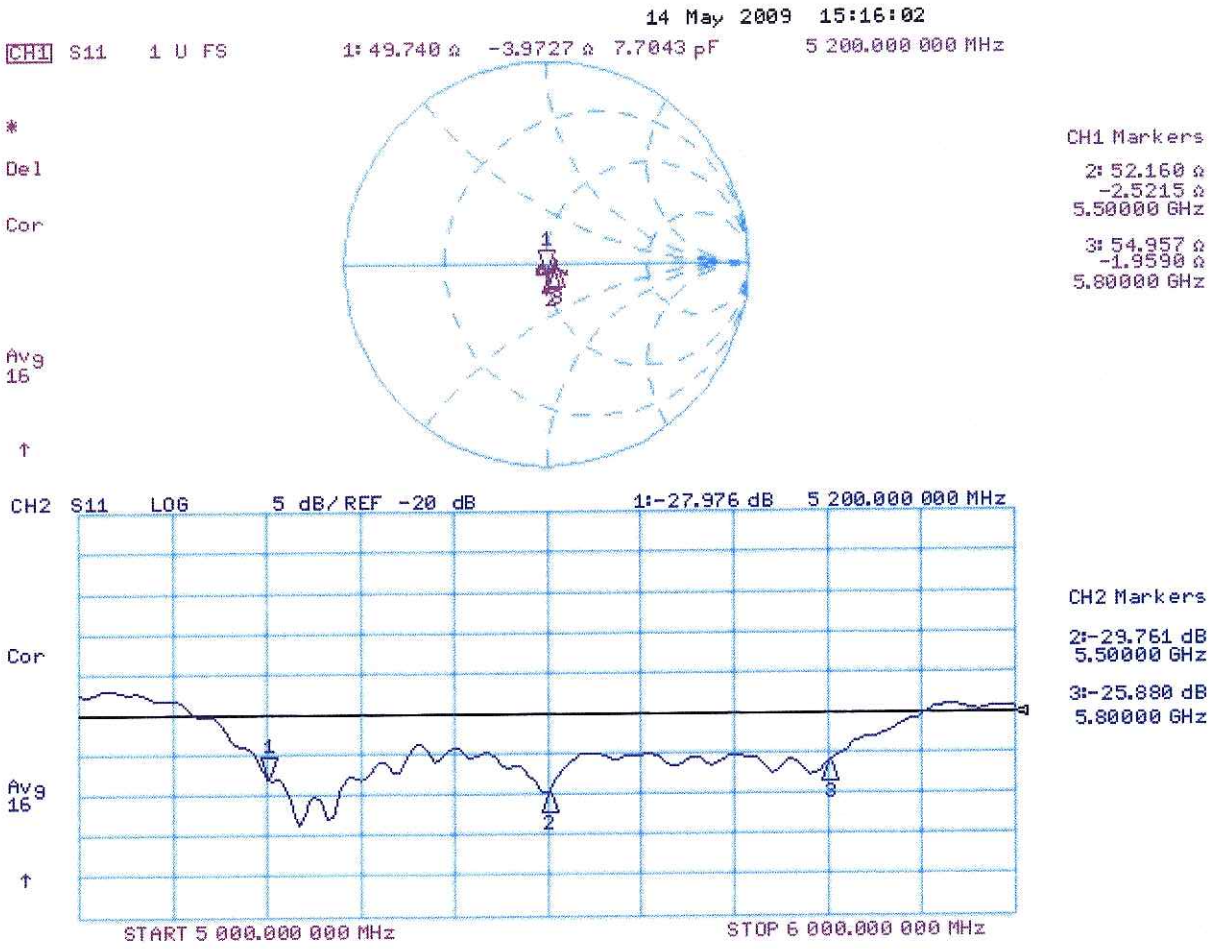
d=10mm, Pin=100mW, f=5500 MHz 2/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 62.1 V/m; Power Drift = 0.092 dB
Peak SAR (extrapolated) = 33.5 W/kg
SAR(1 g) = 8.23 mW/g; SAR(10 g) = 2.3 mW/g
Maximum value of SAR (measured) = 17 mW/g

d=10mm, Pin=100mW, f=5800 MHz 2/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 58.5 V/m; Power Drift = 0.096 dB
Peak SAR (extrapolated) = 32.3 W/kg
SAR(1 g) = 7.59 mW/g; SAR(10 g) = 2.11 mW/g
Maximum value of SAR (measured) = 16 mW/g



0 dB = 16mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

15.05.2009 11:08:30

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHz; Serial: D5GHzV2 - SN:1041

Communication System: CW-5GHz; Frequency: 5200 MHzFrequency: 5500 MHzFrequency: 5800 MHz; Duty Cycle: 1:1
Medium: MSL 5800 MHz
Medium parameters used: f = 5200 MHz; σ = 5.29 mho/m; ε_r = 47.4; ρ = 1000 kg/m^3 Medium parameters used: f = 5500 MHz; σ = 5.68 mho/m; ε_r = 46.7; ρ = 1000 kg/m^3 Medium parameters used: f = 5800 MHz; σ = 6.06 mho/m; ε_r = 46.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

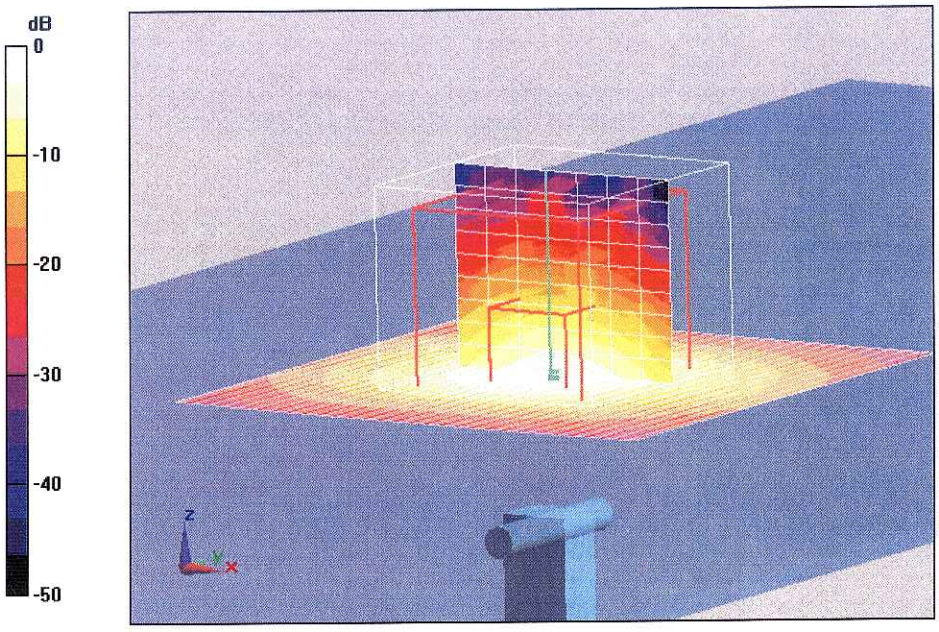
- Probe: EX3DV4 - SN3503; ConvF(4.88, 4.88, 4.88)ConvF(4.37, 4.37, 4.37)ConvF(4.57, 4.57, 4.57); Calibrated: 11.03.2009
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

d=10mm, Pin=100mW, f=5200 MHz/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 14.5 mW/g

d=10mm, Pin=100mW, f=5200 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 57.2 V/m; Power Drift = 0.089 dB
Peak SAR (extrapolated) = 26.6 W/kg
SAR(1 g) = 7 mW/g; SAR(10 g) = 1.94 mW/g
Maximum value of SAR (measured) = 14.2 mW/g

d=10mm, Pin=100mW, f=5500 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 58.7 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 31 W/kg
SAR(1 g) = 7.66 mW/g; SAR(10 g) = 2.11 mW/g
Maximum value of SAR (measured) = 15.8 mW/g

d=10mm, Pin=100mW, f=5800 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 53.9 V/m; Power Drift = -0.00954 dB
Peak SAR (extrapolated) = 29.3 W/kg
SAR(1 g) = 6.82 mW/g; SAR(10 g) = 1.87 mW/g
Maximum value of SAR (measured) = 14.3 mW/g



0 dB = 14.3mW/g

Impedance Measurement Plot for Body TSL