

TEST REPORT

Equipment Under Test	: Bluetooth Audio & Data USB Adapter
Model No.	: 99000
FCC ID	: QOB99000
Applicant	: Jasco Products Company
Address of Applicant	: 10 East memorial Road, Oklahoma city, OK 73114
Date of Receipt	: 2006.09.01
Date of Test(s)	: 2006.09.06-2006.09.07
Date of Issue	: 2006.09.18

Standards:

**FCC OET Bulletin 65 supplement C,
ANSI / IEEE C95.1 , C95.3, IEEE 1528**

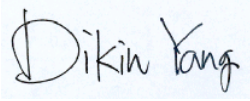
In the configuration tested, the EUT complied with the standards specified above.

Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS Taiwan E&E Services or testing done by SGS Taiwan E&E Services in connection with distribution or use of the product described in this report must be approved by SGS Taiwan E&E Services in writing.

Tested by : Leo Hsu  Date : 2006.09.08

Approved by : Dikin Yang  Date : 2006.09.18

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1. General Information

1.1 Testing Laboratory

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1.2 Details of Applicant

Name : Jasco Products Company
Address : 10 East memorial Road, Oklahoma city, OK 73114
Country : Oklahoma
Telephone : 405-302-2361
Fax : 405-752-9311
Contact Person : Mark Simpkins
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1.3 Description of EUT(s)

EUT Name	Bluetooth Audio & Data USB Adapter
Test Procedure	FCC OET Bulletin 65, Supplement C
TX Frequency range	2402-2480 MHz
FCC ID	QOB99000
Model Number	99000
Modulation	Frequency Hopping, GFSK
Duty Cycle	1
RF Conducted Output Power (Peak)	17.16dbm (2402MHz) 16.52dbm (2441MHz) 15.52dbm (2480MHz)

Channel Number (ARFCN)	0-78
Power Supply	From USB Host slot 5V
Antenna Type	PIFA
Antenna Gain	2 dBi
HW Version	38.JCD11.A01
SW Version	43.JCD11.140
Host Laptop PC(s) Tested	IBM T43 (S/N: PP2130)
Maximum SAR Value (1 g)	0.170 W/kg (at Configuration 2, f=2402Mhz)

1.4 Test Environment

Ambient Temperature: 22.2° C

Tissue Simulating Liquid: 21.7° C

Relative Humidity: 62 %

1.5 Operation description

The EUT is USB Adapter, which is installed inside a Notebook. Since the Notebook is placed on the top of the leg, when it operates, it is to be defined as a portable device. SAR measurement is mandatory. In order to measure SAR value, we used continuous transmission mode. The test set up mode was prepared by manufacturer. Value of Crest Factor = 1 was used for SAR testing according to the nature of the EUT. The test configuration tested at the low, middle and high frequency channels (2402MHz, 2441MHz and 2480 MHz).By using the program subordinated in the computer, and change into the written channel, and then set in highest power. Finally, we will test it by dividing into 3 ways.

The following test configurations have been applied in this test report:

Configuration 1: "Edge-on" placement; edge of the PC at 90° and at a distance of 0.0 cm from the base of the phantom and the antenna is in horizontal direction. (Appendix part, page3, Fig.3 & Fig.4)

Configuration 2: "End-on" placement; Bottom of the PC is paralleled and at a distance of

0.0 cm from the base of the phantom, Spacing between EUT and flat phantom –In contact (0.5 cm), and the antenna tip downward.

(Appendix part, page4, Fig.5 & Fig.6)

Configuration 3: “End-on” placement; Bottom of the PC is paralleled and at a distance of 0.0 cm from the base of the phantom, Spacing between EUT & flat Phantom –In contact (0.5 cm), and the antenna is in horizontal direction. (Appendix part, page5, Fig.7 & Fig.8)

1.6 The SAR Measurement System

A photograph of the SAR measurement System is given in Fig. a. This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (Speag Dasy 4 professional system). A Model EX3DV3 3526-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation $SAR = \sigma (|E|^2) / \rho$ where σ and ρ are the conductivity and mass density of the tissue-simulant.

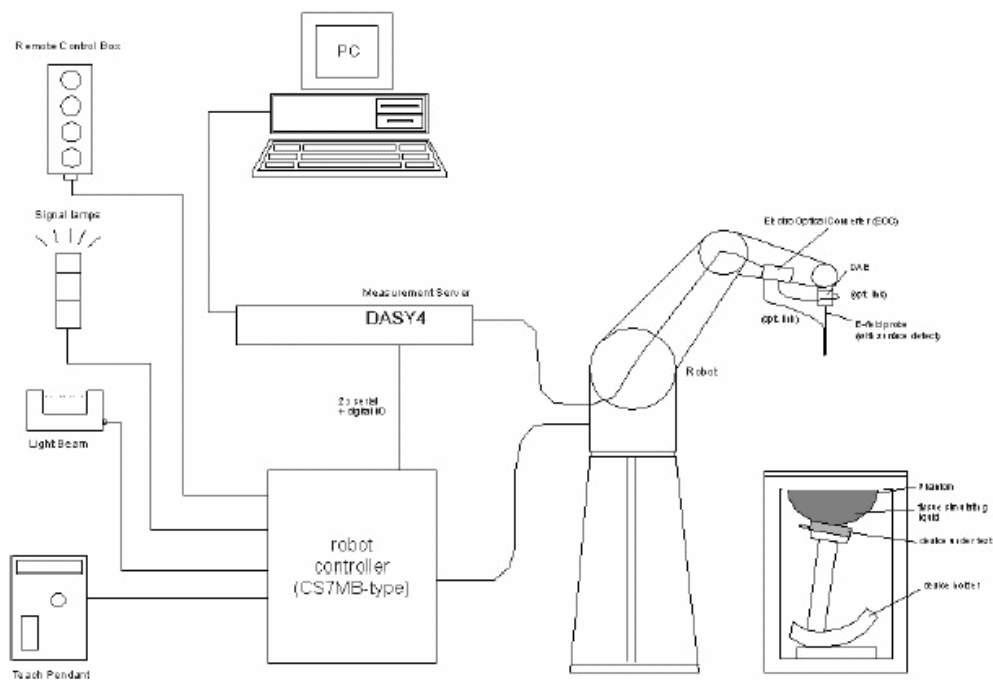


Fig. a The microwave circuit arrangement used for SAR system verification
The DASY4 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software. An arm extension is for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronics (DAE) which performs the signal amplification, signal

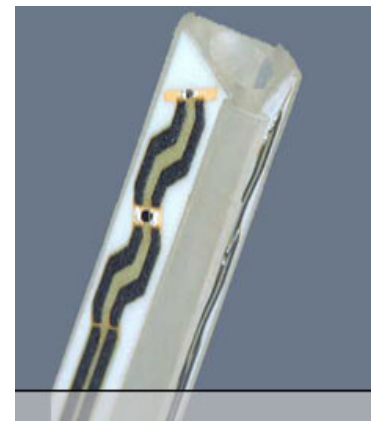
multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

- The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
 - A computer operating Windows 2000 or Windows XP.
 - DASY4 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
 - The SAM twin phantom enabling testing left-hand and right-hand usage.
 - The device holder for handheld mobile phones.
 - Tissue simulating liquid mixed according to the given recipes.
 - Validation dipole kits allowing to validate the proper functioning of the system.

1.7 System Components

EX3DV3 E-Field Probe

Construction:	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration:	Basic Broad Band Calibration in air: 10-3000 MHz Conversion Factors (CF) for HSL 900 and HSL 1800 Additional CF for other liquids and frequencies upon request



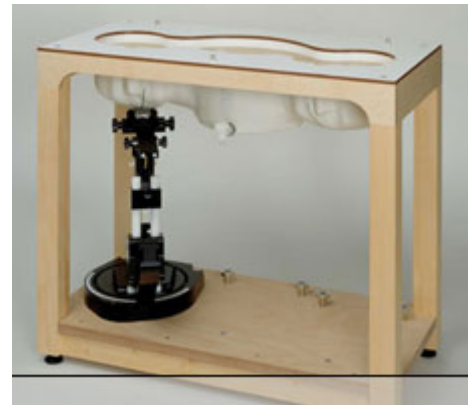
EX3DV3 E-Field Probe

Frequency:	10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 MHz to 3 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 μ W/g to > 100 mW/g;

	Linearity: ± 0.2 dB (noise: typically $< 1 \mu\text{W/g}$)
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%.

SAM PHANTOM V4.0C

Construction:	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-200X, CENELEC 50361 and IEC 62209. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points with the robot.
Shell Thickness:	2 ± 0.2 mm
Filling Volume:	Approx. 25 liters
Dimensions:	Height: 251 mm; Length: 1000 mm; Width: 500 mm



DEVICE HOLDER

Construction	In combination with the Twin SAM Phantom V4.0/V4.0C or Twin SAM, the Mounting Device (made from POM) enables the rotation of the mounted transmitter in spherical coordinates, whereby the rotation point is the ear opening. The devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).
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Device Holder

1.8 SAR System Verification

The microwave circuit arrangement for system verification is sketched in Fig. b. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within $\pm 10\%$ from the target SAR values. These tests were done at 2450 MHz. The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed in the table 1 (SAR values are normalized to 1W forward power delivered to the dipole). During the tests, the ambient temperature of the laboratory was in the range 22.2°C, the relative humidity was in the range 62% and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.

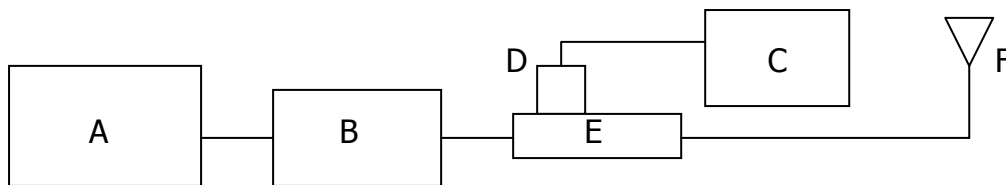
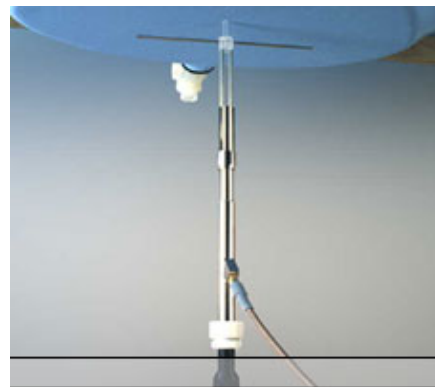


Fig.b The microwave circuit arrangement used for SAR system verification

- A. Agilent Model 8648D Signal Generator
- B. Mini circuits Model ZHL-42 Amplifier
- C. Agilent Model E4416A Power Meter
- D. Agilent Model 8481H Power Sensor
- E. Agilent Model 773D Dual directional coupling
- F. Reference dipole antenna



Photograph of the dipole Antenna

Validation Kit	Frequency	Target SAR 1g (250mW)	Target SAR 10g (250mW)	Measured SAR 1g	Measured SAR 10g	Measured date
DT3DV6 S/N :1759	2450 MHz (Body)	13.3 m W/g	6.17 m W/g	13.5 m W/g	6.2 m W/g	2006/09/06

Table 1. Results system validation

1.9 Tissue Simulant Fluid for the Frequency Band

The dielectric properties for this body-simulant fluid were measured by using the HP

Model 85070D Dielectric Probe (rates frequency band 200 MHz to 20 GHz) in conjunction with HP 8714ET Network Analyzer (30 KHz - 3000 MHz) by using a procedure detailed in Section V.

All dielectric parameters of tissue simulates were measured within 24 hours of SAR measurement. The depth of the tissue simulant in the ear reference point of the phantom was $15\text{cm} \pm 5\text{mm}$ during all tests. (Appendix part, page2, Fig.2)

F (Mhz)	Tissue type	Limits/ Measured	Dielectric Parameters		
			Permittivity	Conductivity	Simulated Tissue Temp(° C)
2450	Body	Measured,2006.09.06	50.8	2.09	21.7
		Recommended Limits	50.0-55.4	1.79-2.19	20-24

Table2. Dielectric Parameters of Tissue Simulant Fluid

The composition of the brain tissue simulating liquid for 2450 MHz is:

Ingredient	2450Mhz (Head)	2450Mhz (Body)
DGMBE	550.0 g	301.7 ml
Water	450.0 g	698.3 ml
Total amount	1 L (1.0kg)	1 L (1.0kg)

Table 3. Recipes for 2450 MHz tissue simulating liquid

1.10 Test Standards and Limits

According to FCC 47CFR §2.1093(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate ("SAR") in Section 4.2 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1-1992, Copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields," NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter. Measurements and calculations to demonstrate

compliance with MPE field strength or power density limits for devices operating above 6 GHz should be made at a minimum distance of 5 cm from the radiating source.

(1) Limits for Occupational/Controlled exposure: 0.4 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 8 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 20 W/kg, as averaged over an 10 grams of tissue (defined as a tissue volume in the shape of a cube). Occupational/Controlled limits apply when persons are exposed as a consequence of their employment provided these persons are fully aware of and exercise control over their exposure. Awareness of exposure can be accomplished by use of warning labels or by specific training or education through appropriate means, such as an RF safety program in a work environment.

(2) Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure. Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.(Table .4)

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR (Brain)	1.60 m W/g	8.00 m W/g
Spatial Average SAR (Whole Body)	0.08 m W/g	0.40 m W/g
Spatial Peak SAR (Hands/Feet/Ankle/Wrist)	4.00 m W/g	20.00 m W/g

Table .4 RF exposure limits

Notes:

1. Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.
2. Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.

2.Summary of Results

SAR MEASUREMENT						
Crest factor: 1 (Duty cycle: 100%)						
Laptop PC: IBM ThinkPad T43 , S/N: PP2130				Depth of Liquid : 15.0 cm		
EUT Configuration 1						
Band	Channel	MHz	Conducted Output Power(Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
BT	0	2402	17.16	0.101	22	21.6
	39	2441	16.52	0.083	22	21.6
	78	2480	15.52	0.065	22	21.6
EUT Configuration 2						
Band	Channel	MHz	Conducted Output Power(Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
BT	0	2402	17.16	0.170	22	21.6
	39	2441	16.52	0.151	22	21.6
	78	2480	15.52	0.117	22	21.6
EUT Configuration 3						
Band	Channel	MHz	Conducted Output Power(Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
BT	0	2402	17.16	0.00581	22	21.6
	39	2441	16.52	0.00468	22	21.6
	78	2480	15.52	0.00438	22	21.6

Note:

SAR measurement results for the Mobile Phone at maximum output power.

3. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration
Schmid & Partner Engineering AG	Dosimetric E-Field Probe	EX3DV3	3526	Aug.25.2006
Schmid & Partner Engineering AG	2450 MHz System Validation Dipole	D2450V2	727	Feb.07.2006
Schmid & Partner Engineering AG	Data acquisition Electronics	DAE3	547	Apr.28.2006
Schmid & Partner Engineering AG	Software	DASY 4 V4.6 Build 23	N/A	Calibration isn't necessary
Schmid & Partner Engineering AG	Phantom	SAM	N/A	Calibration isn't necessary
Agilent	Network Analyzer	8714ET	0917593435	Oct.31.2005
Agilent	Dielectric Probe Kit	85070D	US01440168	Calibration isn't necessary
Agilent	Dual-directional coupler	773D	MY28390396	Aug.16.2006
Agilent	RF Signal Generator	8648D	3847M00432	May.04.2006
Agilent	Power Sensor	8481H	MY41091361	May.29.2006
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	102189	Oct.24.2005

4. Measurements

Edge-on position, lowest channel

Date/Time: 2006/9/7 02:48:04

DUT: Bluetooth Audio & Data USB Adapter; Type: D2450V2;

Communication System: Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used: $f = 2402$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 – SN3526; ConvF(8.3, 8.3, 8.3); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn547; Calibrated: 2006/4/28
- Phantom: SAM 12; Type: SAM 4.0; Serial: TP:1150
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Vertical/Area Scan (61x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.119 mW/g

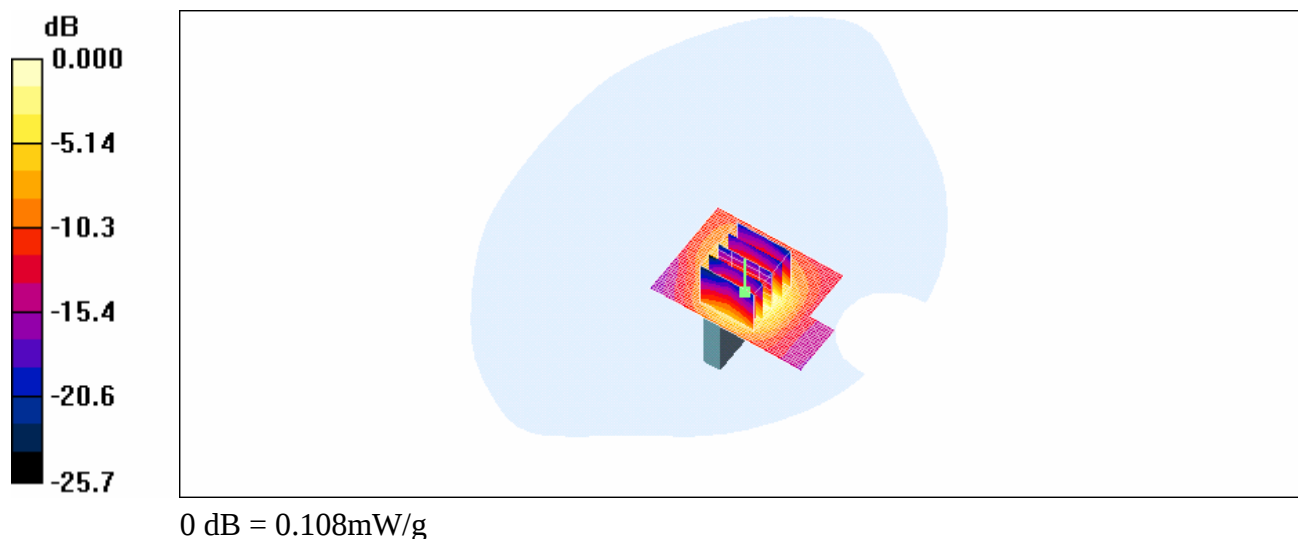
Vertical/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.76 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 0.235 W/kg

SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.047 mW/g

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



Edge-on position, middle channel

DUT: Bluetooth Audio & Data USB Adapter; Type: D2450V2;

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

Medium: M2450 Medium parameters used (interpolated): $f = 2441$ MHz; $\sigma = 2.09$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 – SN3526; ConvF(8.3, 8.3, 8.3); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn547; Calibrated: 2006/4/28
- Phantom: SAM 12; Type: SAM 4.0; Serial: TP:1150
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Vertical/Area Scan (61x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.100 mW/g

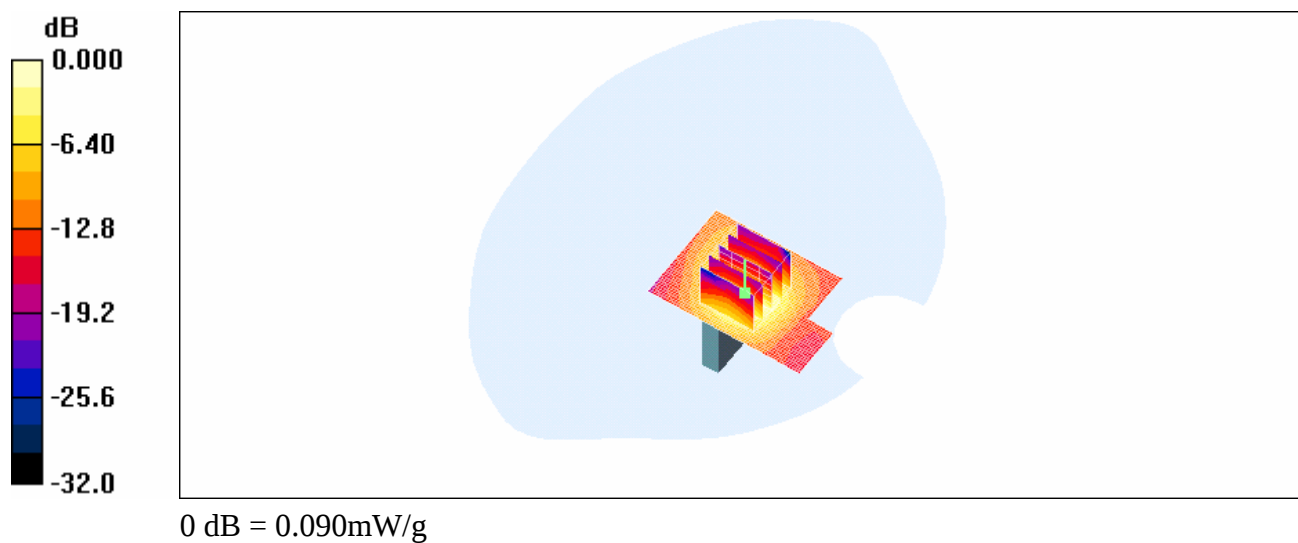
Vertical/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.38 V/m; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 0.195 W/kg

SAR(1 g) = 0.083 mW/g; SAR(10 g) = 0.039 mW/g

Maximum value of SAR (measured) = 0.090 mW/g



Edge-on position, highest channel

DUT: Bluetooth Audio & Data USB Adapter; Type: D2450V2;

Communication System: Bluetooth; Frequency: 2480 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used (interpolated): $f = 2480$ MHz; $\sigma = 2.11$ mho/m; $\epsilon_r = 50.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 – SN3526; ConvF(8.3, 8.3, 8.3); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn547; Calibrated: 2006/4/28
- Phantom: SAM 12; Type: SAM 4.0; Serial: TP:1150
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Vertical/Area Scan (61x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.078 mW/g

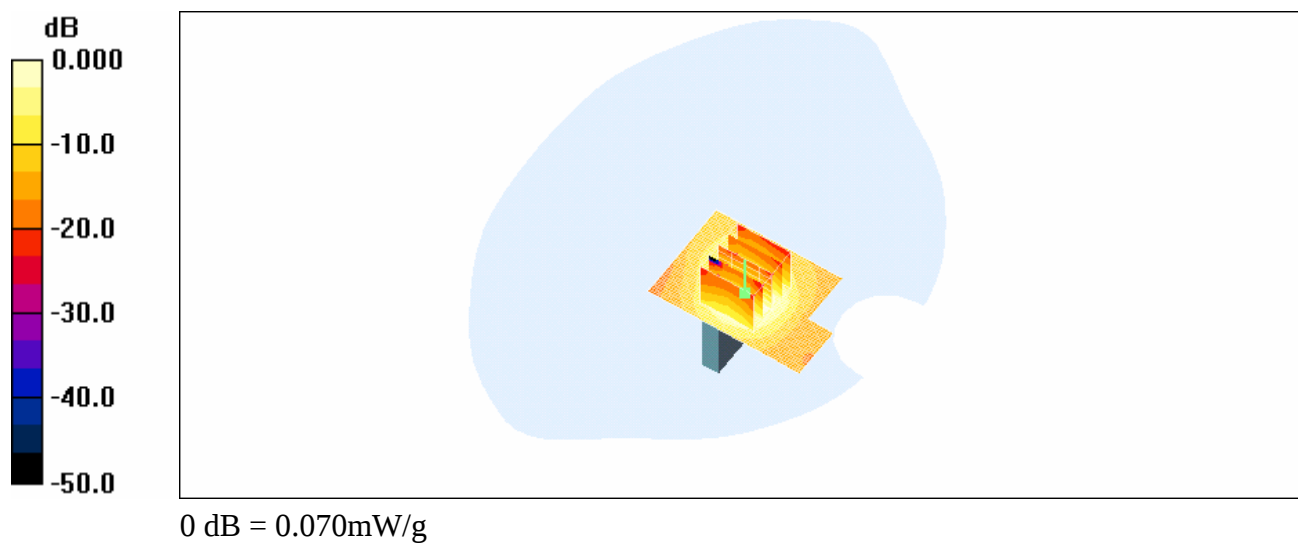
Vertical/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.98 V/m; Power Drift = -0.125 dB

Peak SAR (extrapolated) = 0.156 W/kg

SAR(1 g) = 0.065 mW/g; SAR(10 g) = 0.030 mW/g

Maximum value of SAR (measured) = 0.070 mW/g



End-on position, lowest channel

DUT: Bluetooth Audio & Data USB Adapter; Type: D2450V2;

Communication System: Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used: $f = 2402$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 – SN3526; ConvF(8.3, 8.3, 8.3); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn547; Calibrated: 2006/4/28
- Phantom: SAM 12; Type: SAM 4.0; Serial: TP:1150
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Horizontal/Area Scan (41x51x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.199 mW/g

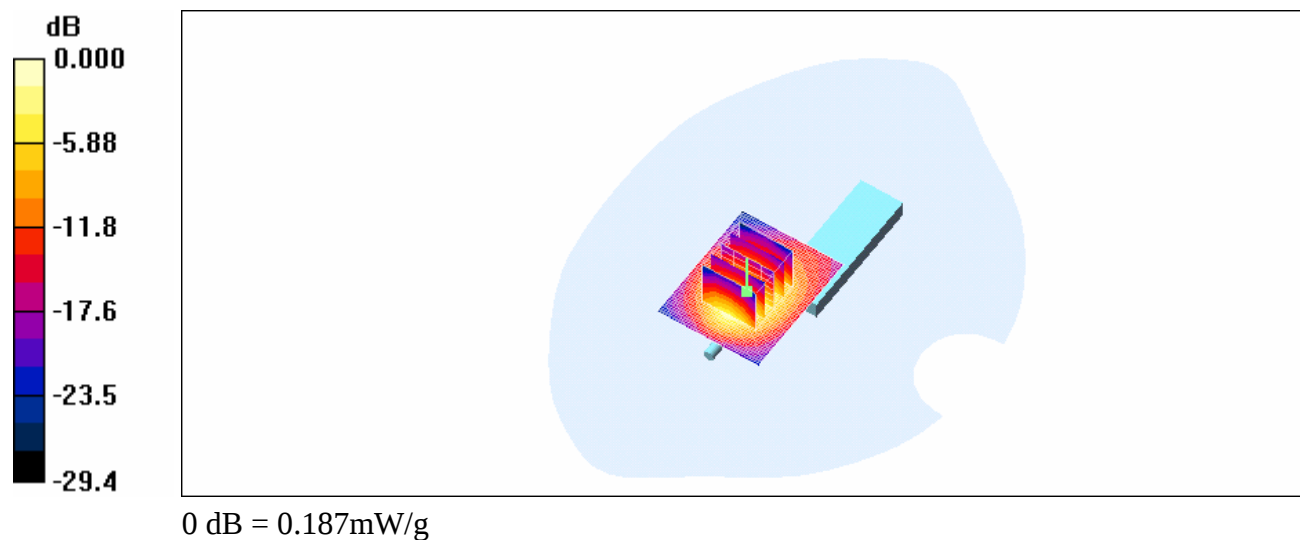
Horizontal/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.32 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 0.387 W/kg

SAR(1 g) = 0.170 mW/g; SAR(10 g) = 0.079 mW/g

Maximum value of SAR (measured) = 0.187 mW/g



End-on position, middle channel

DUT: Bluetooth Audio & Data USB Adapter; Type: D2450V2;

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

Medium: M2450 Medium parameters used (interpolated): $f = 2441$ MHz; $\sigma = 2.09$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 – SN3526; ConvF(8.3, 8.3, 8.3); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn547; Calibrated: 2006/4/28
- Phantom: SAM 12; Type: SAM 4.0; Serial: TP:1150
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Horizontal/Area Scan (41x51x1): Measurement grid: dx=15mm, dy=15mm

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

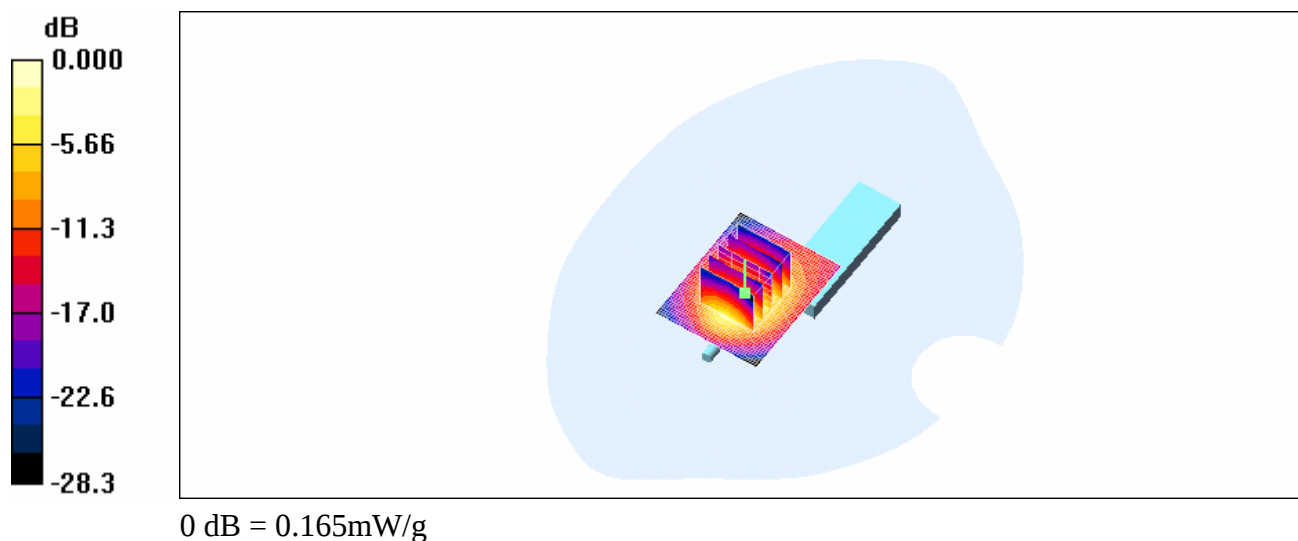
Horizontal/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.20 V/m; Power Drift = 0.116 dB

Peak SAR (extrapolated) = 0.349 W/kg

SAR(1 g) = 0.151 mW/g; SAR(10 g) = 0.070 mW/g

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



End-on position, highest channel

DUT: Bluetooth Audio & Data USB Adapter; Type: D2450V2;

Communication System: Bluetooth; Frequency: 2480 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used (interpolated): $f = 2480$ MHz; $\sigma = 2.11$ mho/m; $\epsilon_r = 50.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 – SN3526; ConvF(8.3, 8.3, 8.3); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn547; Calibrated: 2006/4/28
- Phantom: SAM 12; Type: SAM 4.0; Serial: TP:1150
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Horizontal/Area Scan (41x51x1): Measurement grid: dx=15mm, dy=15mm

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

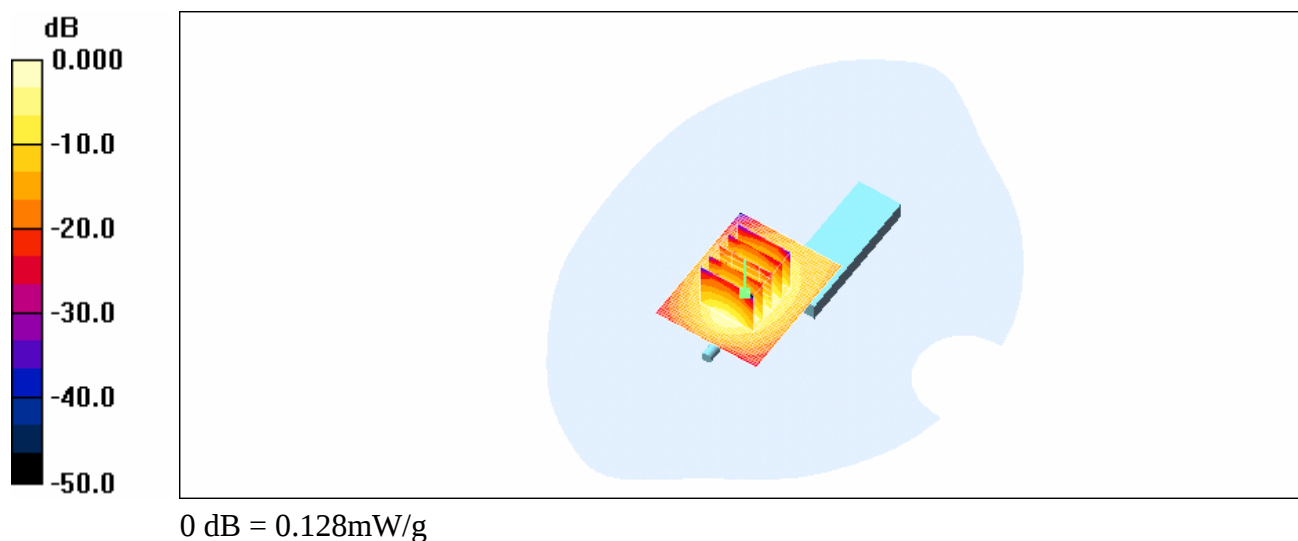
Horizontal/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.99 V/m; Power Drift = -0.099 dB

Peak SAR (extrapolated) = 0.275 W/kg

SAR(1 g) = 0.117 mW/g; SAR(10 g) = 0.053 mW/g

Maximum value of SAR (measured) = 0.128 mW/g



End-on position, lowest channel

DUT: Bluetooth Audio & Data USB Adapter; Type: D2450V2;

Communication System: Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used: $f = 2402$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 – SN3526; ConvF(8.3, 8.3, 8.3); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn547; Calibrated: 2006/4/28
- Phantom: SAM 12; Type: SAM 4.0; Serial: TP:1150
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Horizontal/Area Scan (41x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.007 mW/g

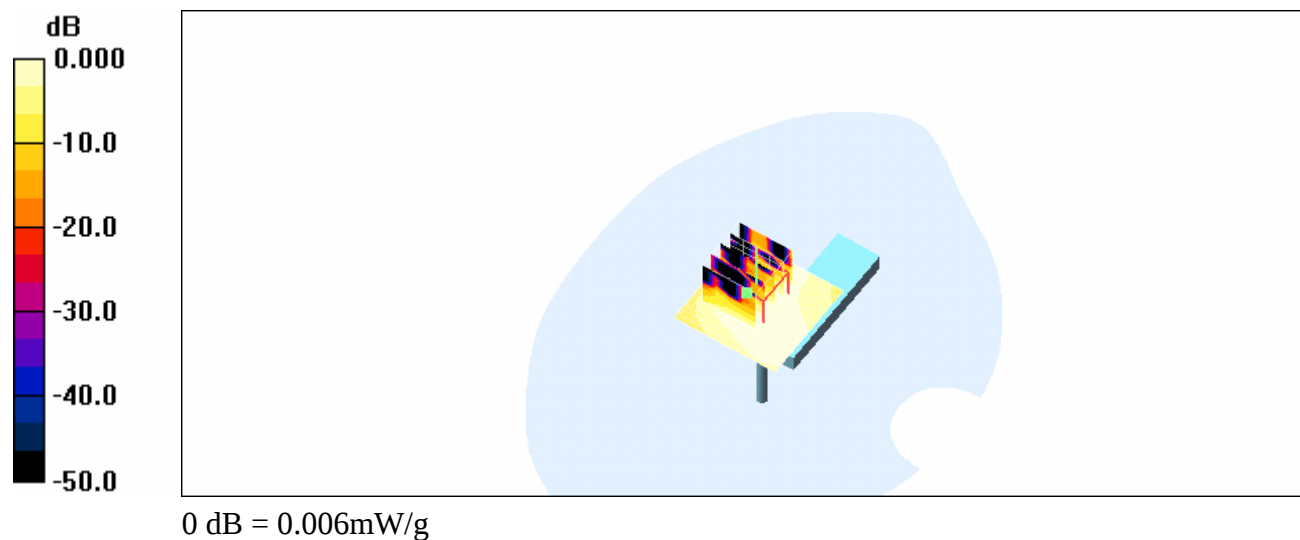
Horizontal/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.46 V/m; Power Drift = -0.150 dB

Peak SAR (extrapolated) = 0.012 W/kg

SAR(1 g) = 0.00581 mW/g; SAR(10 g) = 0.00297 mW/g

Maximum value of SAR (measured) = 0.006 mW/g



End-on position, middle channel

DUT: Bluetooth Audio & Data USB Adapter; Type: D2450V2;

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

Medium: M2450 Medium parameters used (interpolated): $f = 2441$ MHz; $\sigma = 2.09$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 – SN3526; ConvF(8.3, 8.3, 8.3); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn547; Calibrated: 2006/4/28
- Phantom: SAM 12; Type: SAM 4.0; Serial: TP:1150
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Horizontal/Area Scan (41x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.008 mW/g

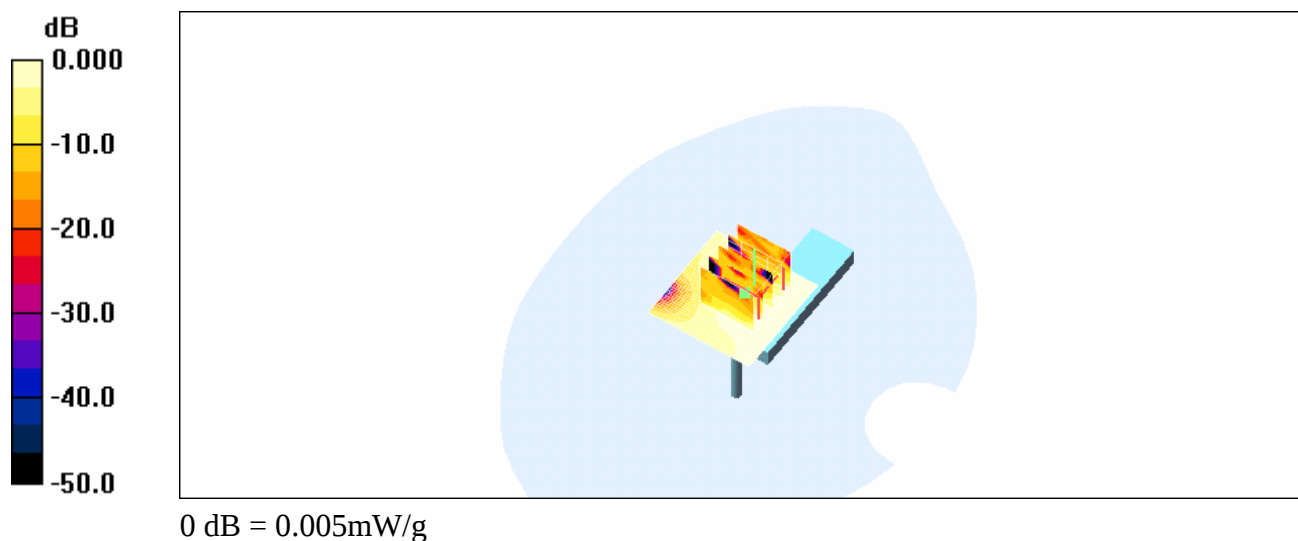
Horizontal/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.36 V/m; Power Drift = -0.134 dB

Peak SAR (extrapolated) = 0.011 W/kg

SAR(1 g) = 0.00468 mW/g; SAR(10 g) = 0.00223 mW/g

Maximum value of SAR (measured) = 0.005 mW/g



End-on position, highest channel

DUT: Bluetooth Audio & Data USB Adapter; Type: D2450V2;

Communication System: Bluetooth; Frequency: 2480 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used (interpolated): $f = 2480$ MHz; $\sigma = 2.11$ mho/m; $\epsilon_r = 50.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 – SN3526; ConvF(8.3, 8.3, 8.3); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn547; Calibrated: 2006/4/28
- Phantom: SAM 12; Type: SAM 4.0; Serial: TP:1150
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Horizontal/Area Scan (41x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.006 mW/g

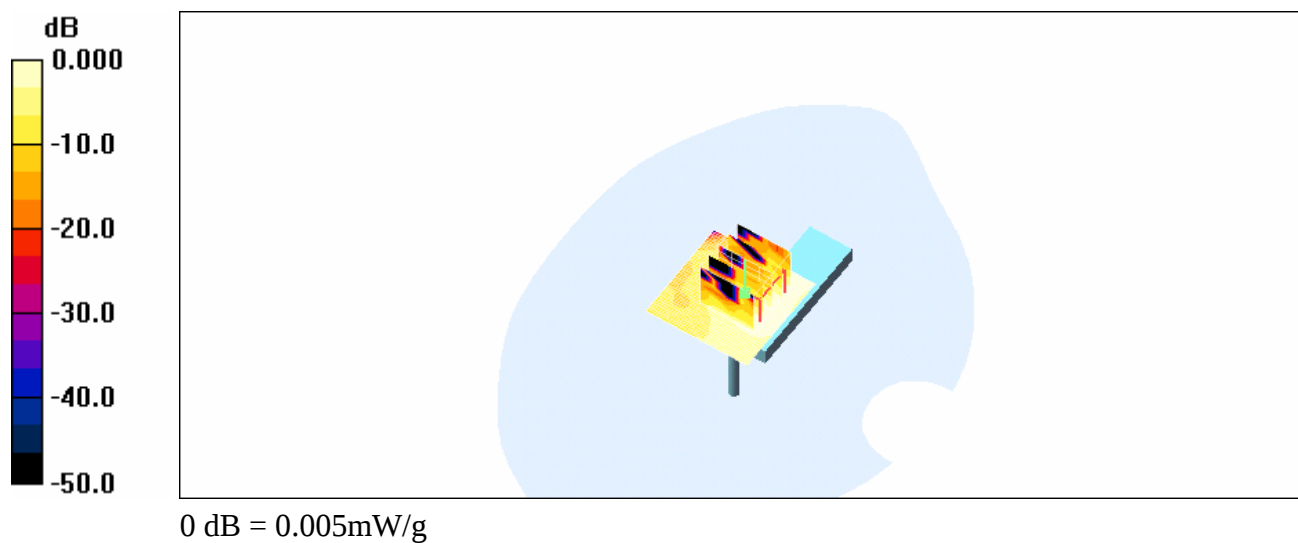
Horizontal/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.20 V/m; Power Drift = 0.132 dB

Peak SAR (extrapolated) = 0.009 W/kg

SAR(1 g) = 0.00438 mW/g; SAR(10 g) = 0.0024 mW/g

Maximum value of SAR (measured) = 0.005 mW/g



SAR System Performance Verification

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: SN:727

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

Medium: M2450 Medium parameters used: $f = 2450$ MHz; $\sigma = 2.09$ mho/m; $\epsilon_r = 50.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 – SN3526; ConvF(8.3, 8.3, 8.3); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn547; Calibrated: 2006/4/28
- Phantom: SAM 12; Type: SAM 4.0; Serial: TP:1150
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 15.7 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.4 V/m; Power Drift = -0.026 dB

Peak SAR (extrapolated) = 29.8 W/kg

SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.2 mW/g

Maximum value of SAR (measured) = 15.0 mW/g

