OPTION WIRELESS GERMANY GMBH
LABORATORY FOR ELECTROMAGNETIC COMPATIBILITY
SÜDSTRASSE 9
D-47475 KAMP-LINTFORT

# SYSTEMVALIDATION

## Appendix to the report:

## Dosimetric Assessment of the Portable Device ICON 505 from Option Wireless Germany

According to the FCC requirements
FCC ID: NCMOGI0505

## Product:

ICON 505
Option Wireless Technology

Date: February 27, 2009

# Table of contents

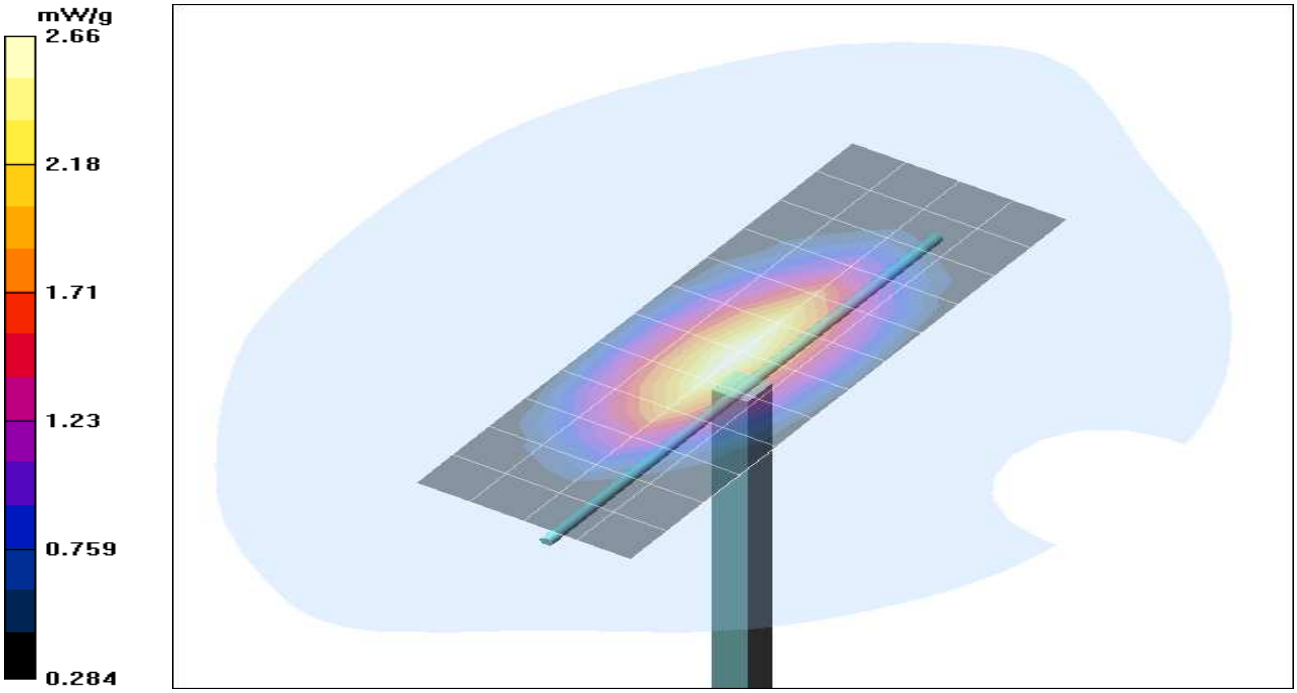
# 1 835 MHz (Date/Time: 2/6/2009 10:14:56 AM)

Test laboratory: Option Wireless Germany GmbH
File Name: validation8351723_body_090206
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:470

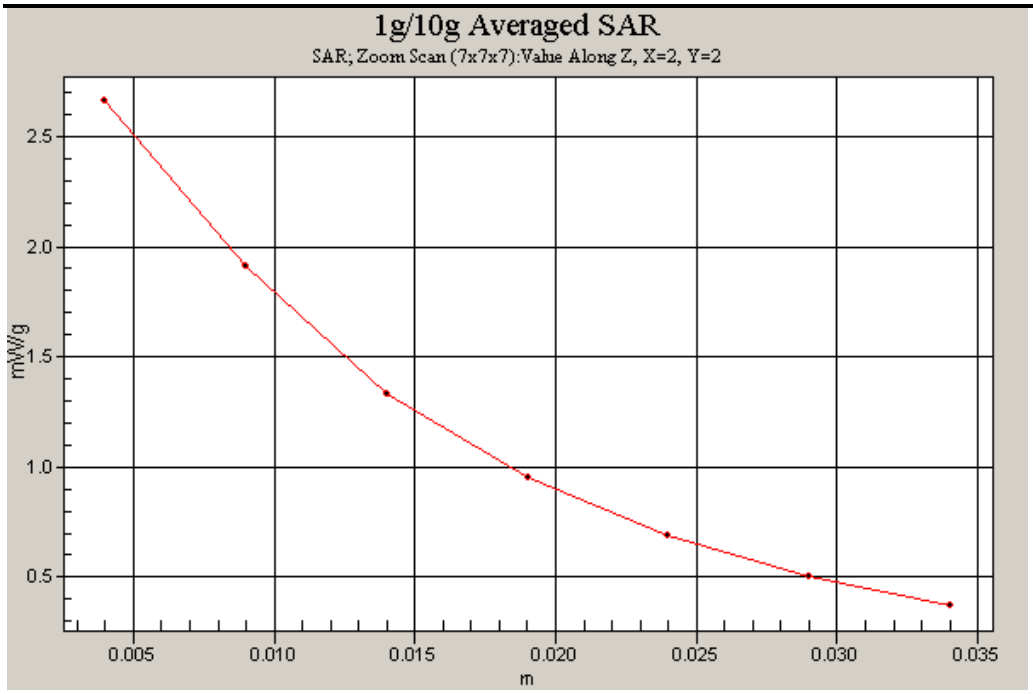
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; $\sigma$ = 0.95 mho/m; $\varepsilon r$ = 54.1; $\rho$ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1723; ConvF(5.91, 5.91, 5.91); Calibrated: 11/10/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn523; Calibrated: 11/6/2008
- Phantom: SAM-RIGHT; Type: SAM 4.0; Serial: 1241
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

**d=15mm, Pin=250mW/Area Scan (5x13x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.69 mW/g
**d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 56.3 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 3.31 W/kg
**SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.66 mW/g**
Maximum value of SAR (measured) = 2.66 mW/g




SAR distribution for system validation 835 MHz, February 06, 2009; Ambient Temperature: 20.0°C; Liquid Temperature: 19.0°C).


1g/10g Averaged SAR
SAR; Zoom Scan (7x7x7):Value Along Z, X=2, Y=2
mW/g
2.5
2.0
1.5
1.0
0.5
0.005
0.010
0.015
0.020
0.025
0.030
0.035
m

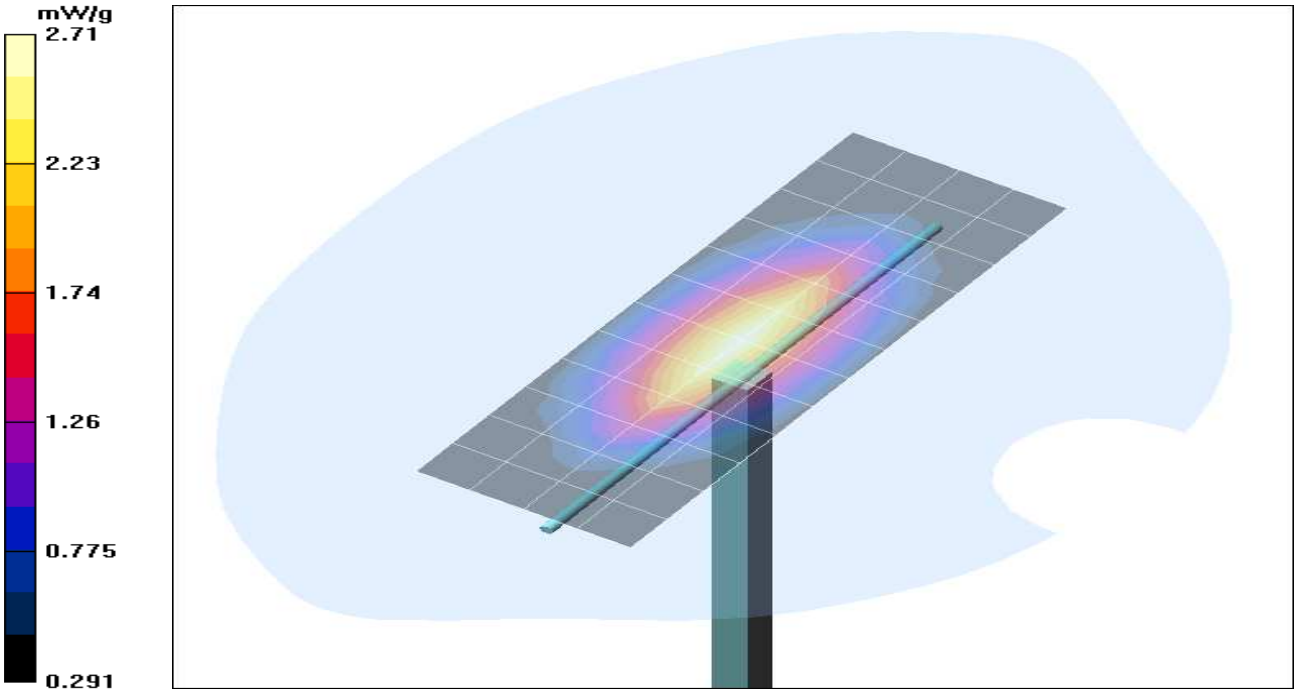
# 2 835 MHz (Date/Time: 2/9/2009 9:15:02 AM)

Test laboratory: Option Wireless Germany GmbH
File Name: validation8351723_body_090209
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:470

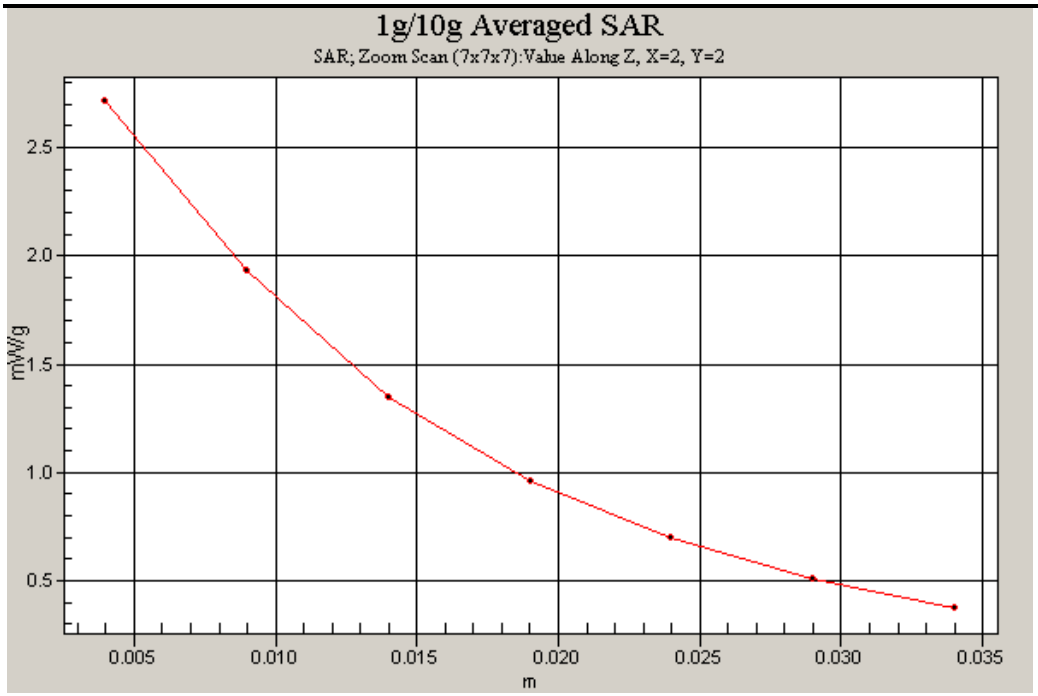
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; $\sigma$ = 0.95 mho/m; $\varepsilon_r$ = 54.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1723; ConvF(5.91, 5.91, 5.91); Calibrated: 11/10/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn523; Calibrated: 11/6/2008
- Phantom: SAM-RIGHT; Type: SAM 4.0; Serial: 1241
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

**d=15mm, Pin=250mW/Area Scan (5x13x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.72 mW/g
**d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 56.7 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 3.36 W/kg
**SAR(1 g) = 2.49 mW/g; SAR(10 g) = 1.67 mW/g**
Maximum value of SAR (measured) = 2.71 mW/g




SAR distribution for system validation 835 MHz, February 09, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).


1g/10g Averaged SAR
SAR; Zoom Scan (7x7x7):Value Along Z, X=2, Y=2
mW/g
2.5
2.0
1.5
1.0
0.5
0.005
0.010
0.015
0.020
0.025
0.030
0.035
m

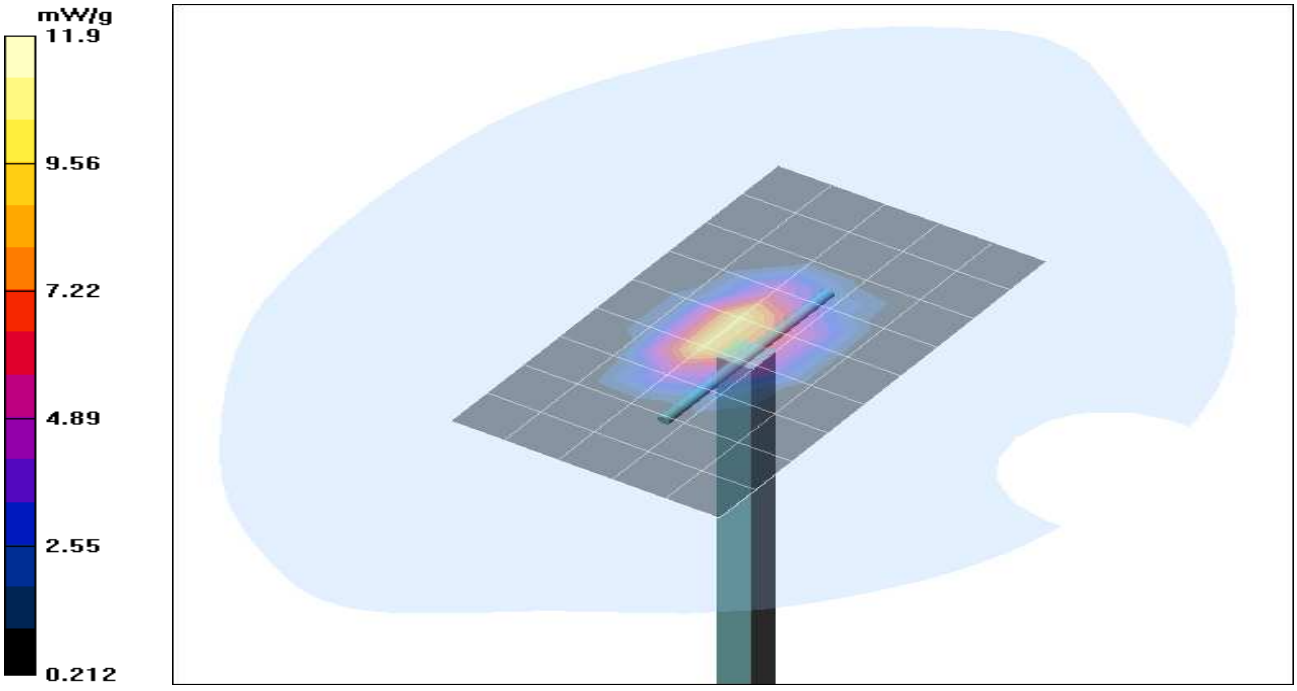
# 3 1900 MHz (Date/Time: 2/11/2009 9:10:51 AM)

Test laboratory: Option Wireless Germany GmbH
File Name: validation19001723_body_090211
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d021

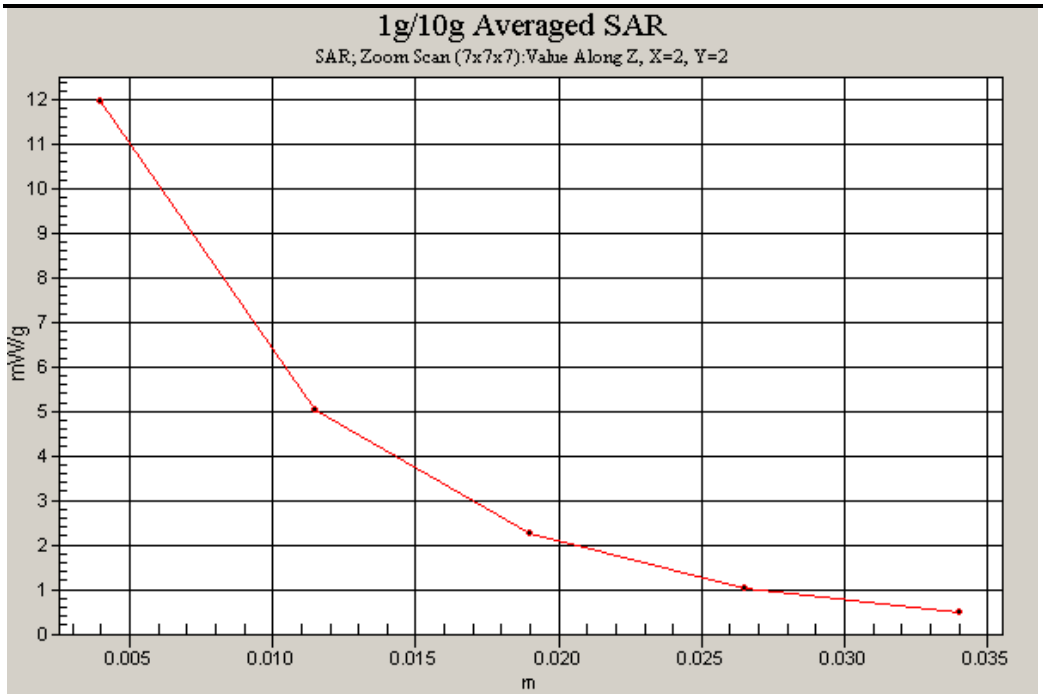
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.59 mho/m; $\varepsilon r$ = 54.1; $\rho$ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1723; ConvF(4.4, 4.4, 4.4); Calibrated: 11/10/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn523; Calibrated: 11/6/2008
- Phantom: SAM-LEFT; Type: Twin; Serial: 1237
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

**d=10mm, Pin=250mW/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 9.93 mW/g
**d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 91.8 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 19.8 W/kg
**SAR(1 g) = 10.7 mW/g; SAR(10 g) = 5.49 mW/g**
Maximum value of SAR (measured) = 11.9 mW/g




SAR distribution for system validation 1900 MHz, February 11, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).


1g/10g Averaged SAR
SAR; Zoom Scan (7x7x7):Value Along Z, X=2, Y=2
mW/g
m
0
1
2
3
4
5
6
7
8
9
10
11
12
0.005
0.010
0.015
0.020
0.025
0.030
0.035

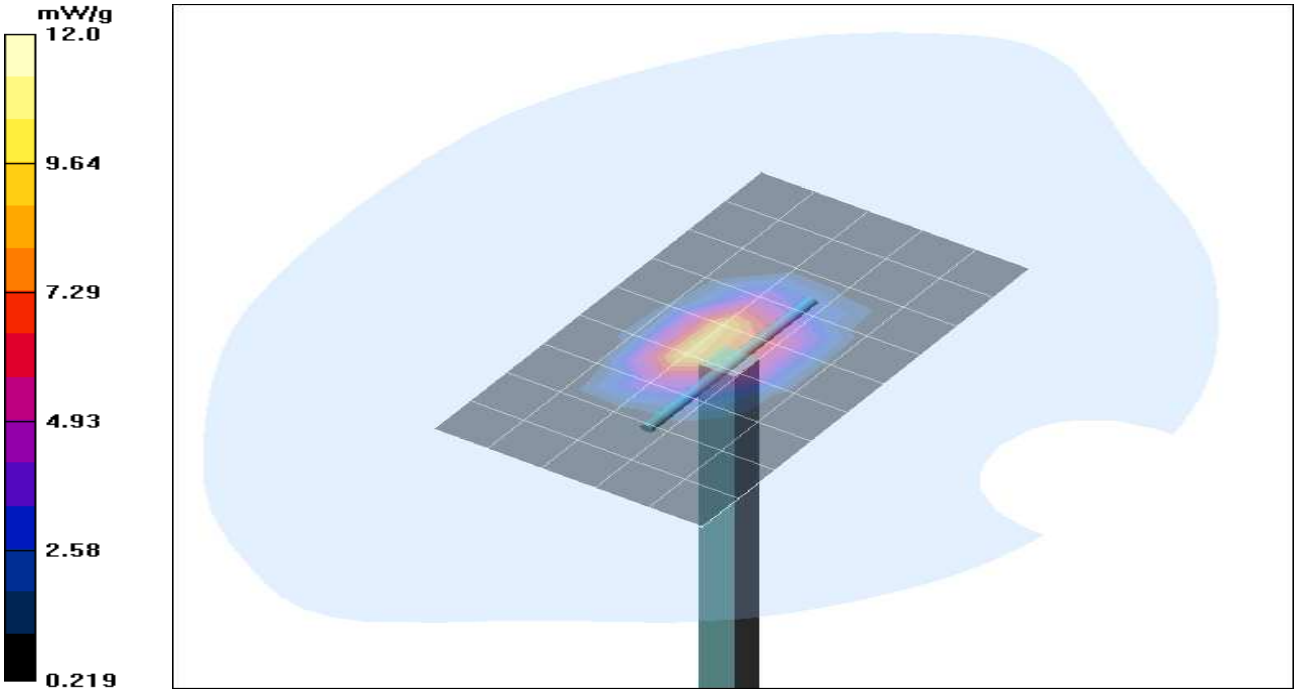
# 4 1900 MHz (Date/Time: 2/12/2009 9:46:48 AM)

Test laboratory: Option Wireless Germany GmbH
File Name: validation19001723_body_090212
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d021

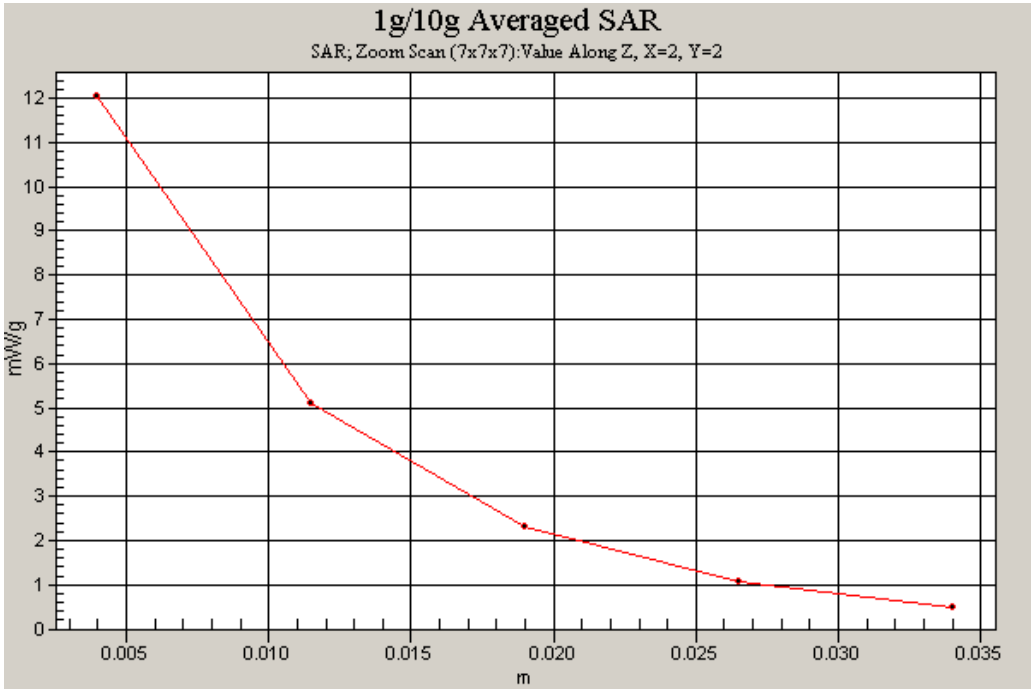
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.59 mho/m; $\varepsilon r$ = 54.1; $\rho$ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1723; ConvF(4.4, 4.4, 4.4); Calibrated: 11/10/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn523; Calibrated: 11/6/2008
- Phantom: SAM-LEFT; Type: Twin; Serial: 1237
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

**d=10mm, Pin=250mW/Area Scan (6x10x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 9.50 mW/g
**d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 91.4 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 19.9 W/kg
**SAR(1 g) = 10.8 mW/g; SAR(10 g) = 5.53 mW/g**
Maximum value of SAR (measured) = 12.0 mW/g




SAR distribution for system validation 1900 MHz, February 12, 2009; Ambient Temperature: 20.0°C; Liquid Temperature: 19.0°C).


1g/10g Averaged SAR
SAR; Zoom Scan (7x7x7):Value Along Z, X=2, Y=2
mW/g
m
0
1
2
3
4
5
6
7
8
9
10
11
12
0.005
0.010
0.015
0.020
0.025
0.030
0.035