

SAR Distribution Plots

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

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1 SAR DISTRIBUTION PLOTS, ORIENTATION 1

Orientation 1 - GSM850 - GPRS - ch190

Test laboratory: Option Wireless Germany GmbH
File Name: 090206_Z-Racer_ch190_Imei92141_P1_d5mm
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium parameters used: $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ 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

Z-Racer P1/Area Scan (11x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.271 mW/g

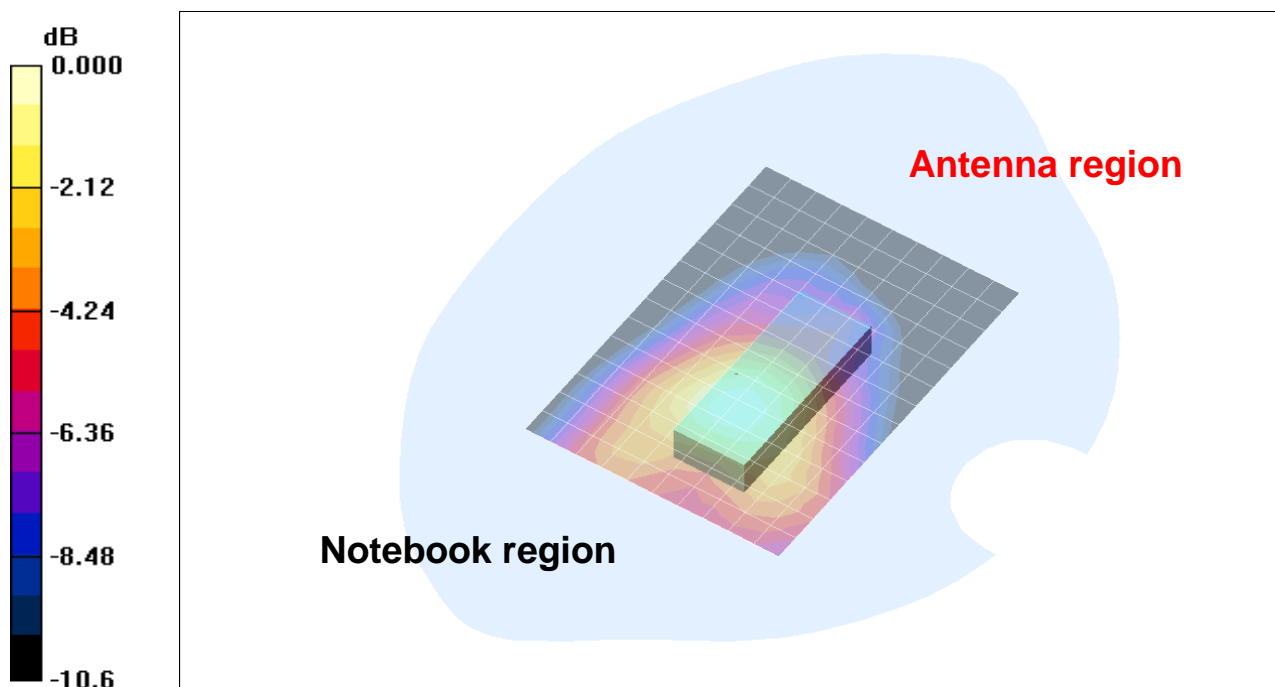
Z-Racer P1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.8 V/m; Power Drift = 0.036 dB

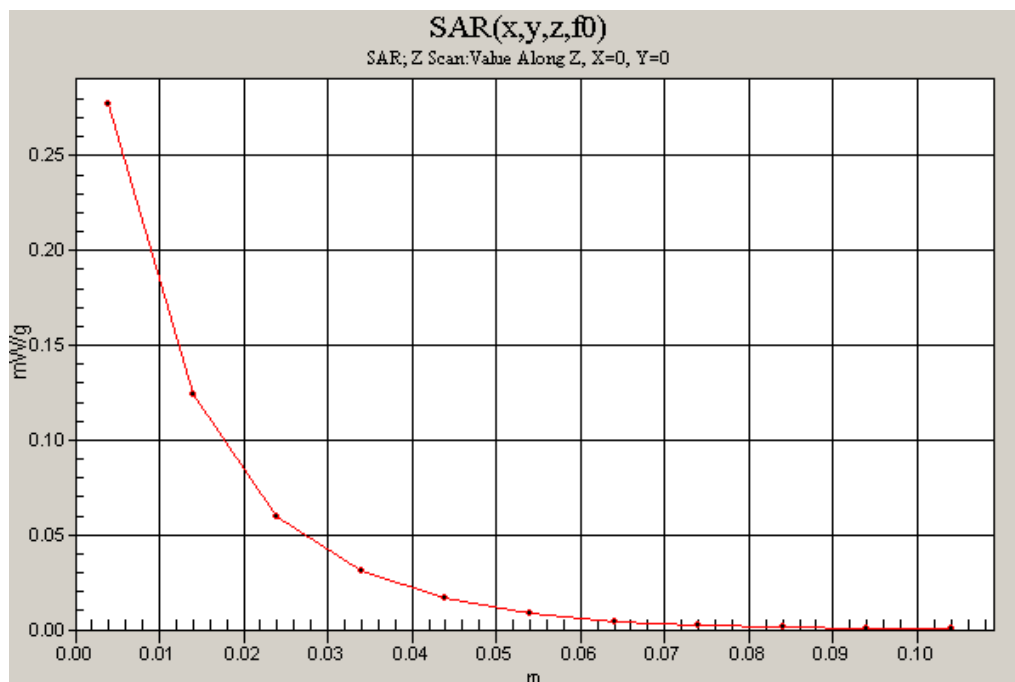
Peak SAR (extrapolated) = 0.370 W/kg

SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.165 mW/g

Maximum value of SAR (measured) = 0.276 mW/g



SAR distribution for GPRS 850 (Class 12), channel 190, Position 1 (Fujitsu Siemens, EMC011, February 06, 2009; Ambient Temperature: 20.0°C; Liquid Temperature: 19.0°C).



Orientation 1 - GSM1900 - GPRS - ch661

Test laboratory: Option Wireless Germany GmbH
File Name: 090211_Z-Racer_ch661_Imei92141_P1_d5mm
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.1
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ 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-LEFT; Type: Twin; Serial: 1237
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Z-Racer P1/Area Scan (9x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.228 mW/g

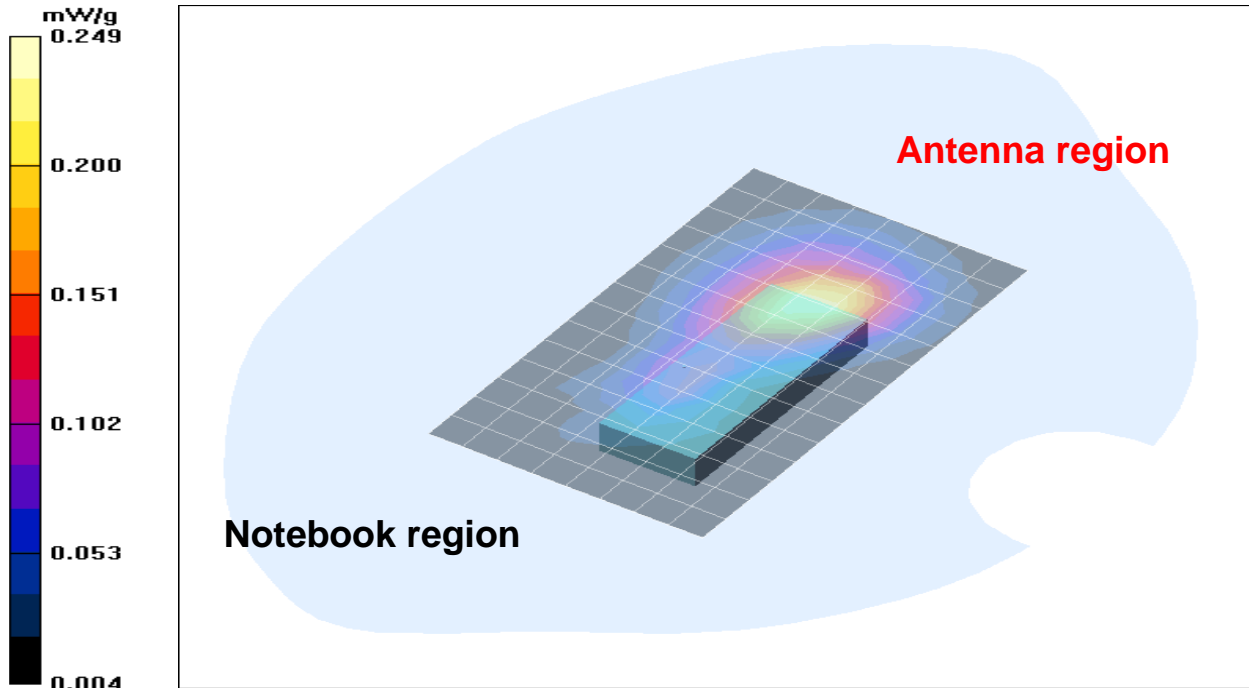
Z-Racer P1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.12 V/m; Power Drift = 0.100 dB

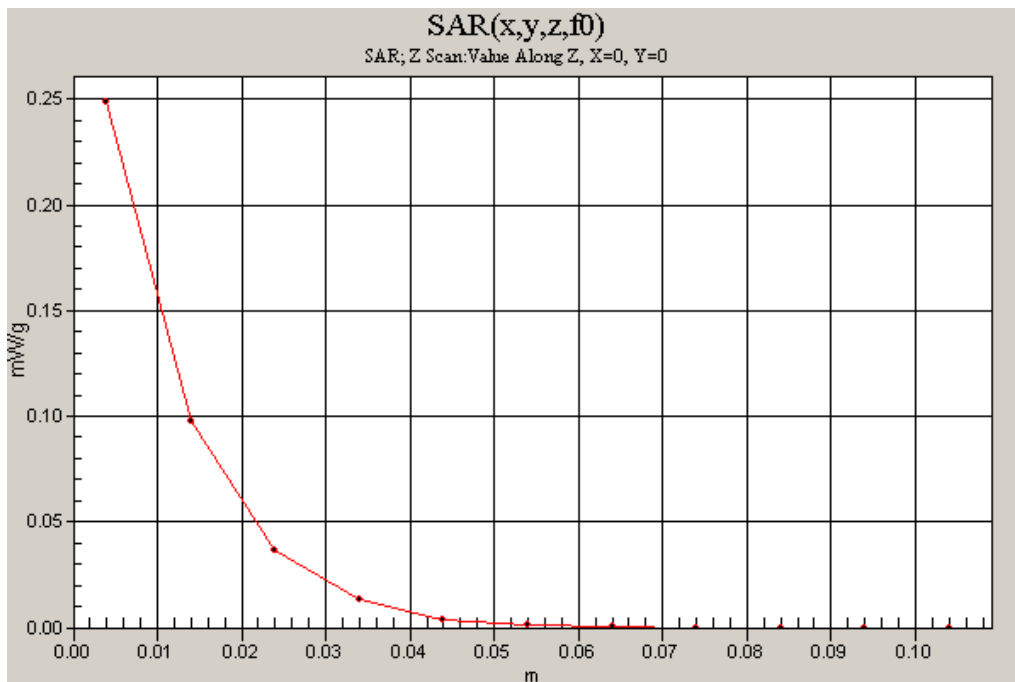
Peak SAR (extrapolated) = 0.386 W/kg

SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.128 mW/g

Maximum value of SAR (measured) = 0.249 mW/g



SAR distribution for GPRS 1900 (Class 12), channel 661, Position 1 (Fujitsu Siemens, EMC011, February 11, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).



2 SAR DISTRIBUTION PLOTS, ORIENTATION 2

Orientation 2 - GSM850 - GPRS - ch190

Test laboratory: Option Wireless Germany GmbH
File Name: 090206_Z-Racer_ch190_Imei92141_P2_d5mm
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium parameters used: $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ 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

Z-Racer P2/Area Scan (11x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.432 mW/g

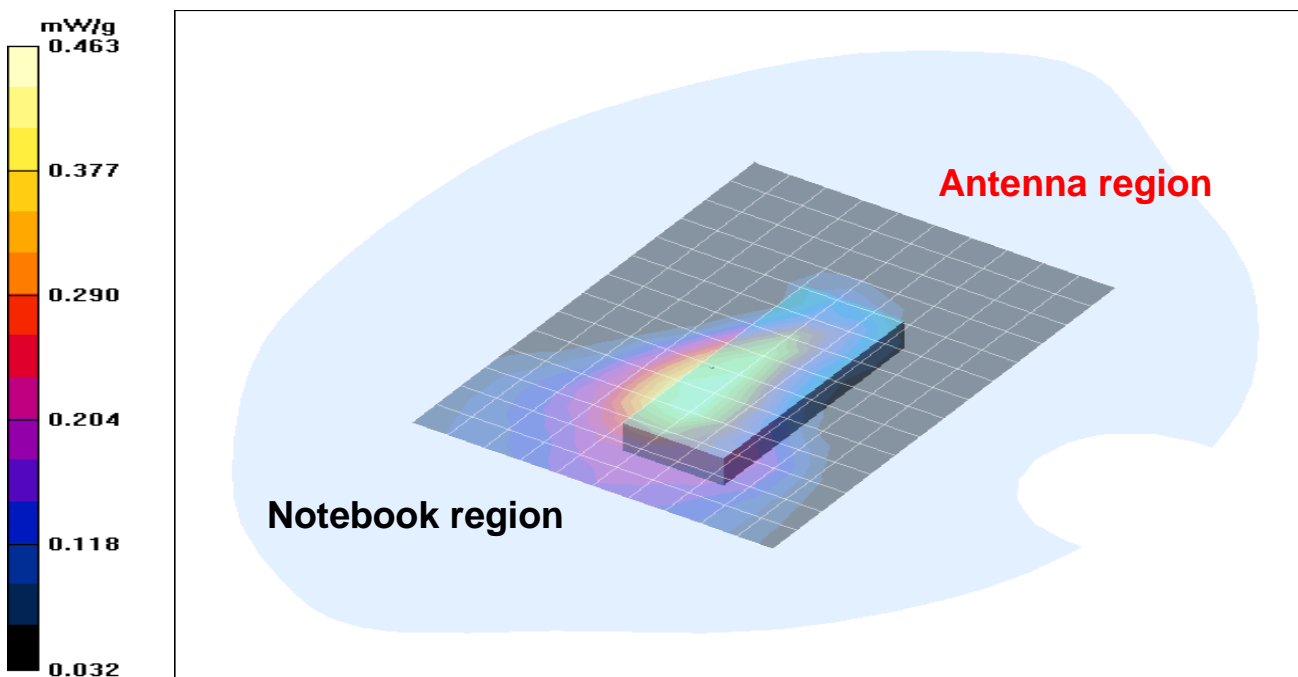
Z-Racer P2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.3 V/m; Power Drift = 0.029 dB

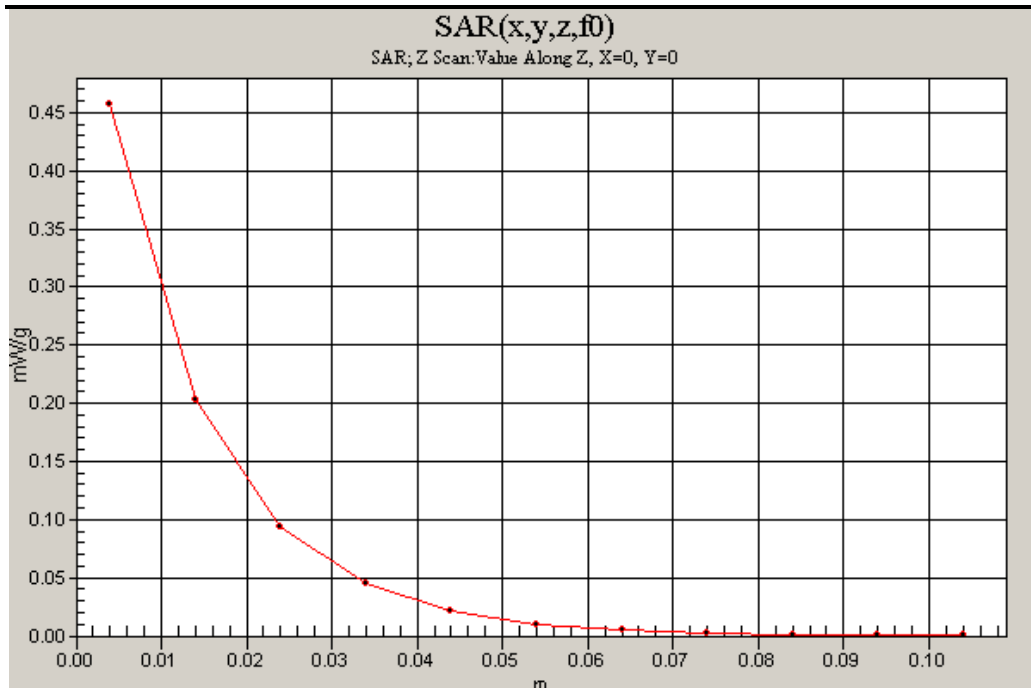
Peak SAR (extrapolated) = 0.618 W/kg

SAR(1 g) = 0.422 mW/g; SAR(10 g) = 0.270 mW/g

Maximum value of SAR (measured) = 0.463 mW/g



SAR distribution for GPRS 850 (Class 12), channel 190, Position 2 (Fujitsu Siemens, EMC011, February 06, 2009; Ambient Temperature: 20.0°C; Liquid Temperature: 19.0°C).



Orientation 2 - GSM1900 - GPRS - ch512

Test laboratory: Option Wireless Germany GmbH
File Name: 090211_Z-Racer_ch512s_Imei92141_P2_d5mm_2
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:2.1
Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 54.2$; $\rho = 1000$ 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-LEFT; Type: Twin; Serial: 1237

Z-Racer P2/Area Scan (9x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.935 mW/g

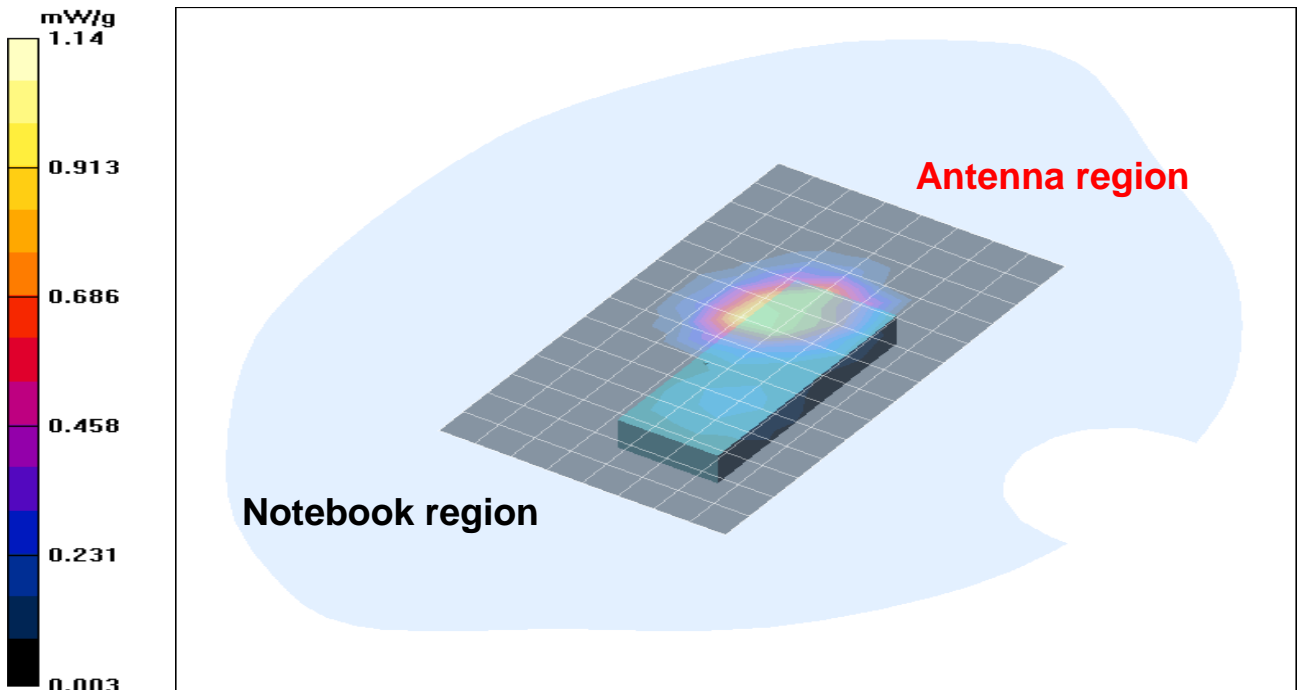
Z-Racer P2/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.7 V/m; Power Drift = 0.053 dB

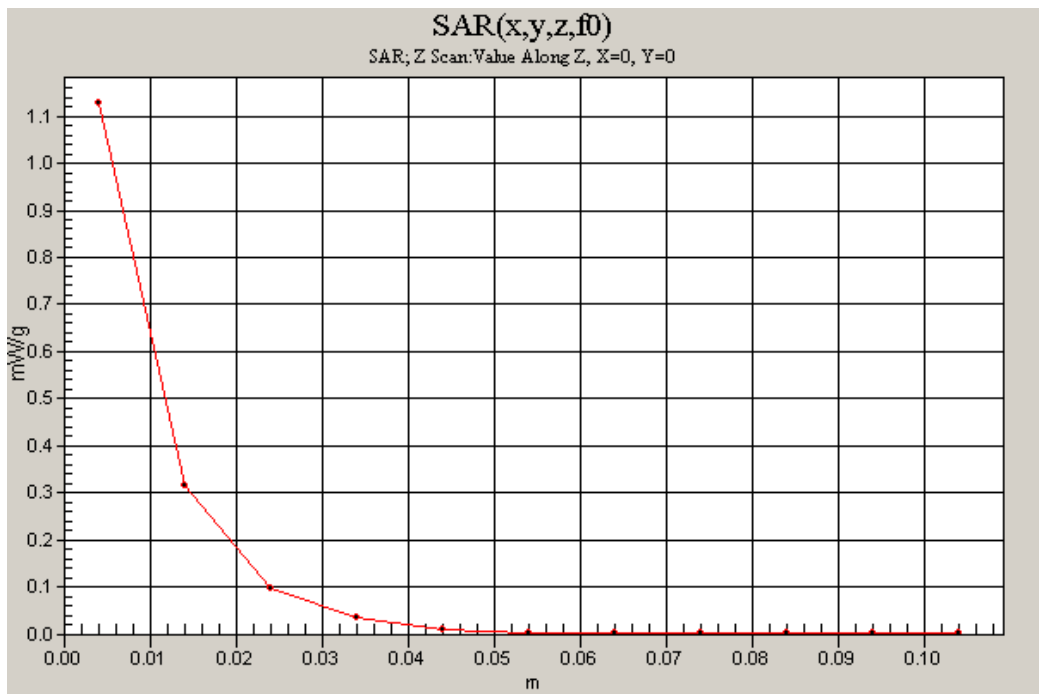
Peak SAR (extrapolated) = 2.28 W/kg

SAR(1 g) = 0.988 mW/g; SAR(10 g) = 0.474 mW/g

Maximum value of SAR (measured) = 1.14 mW/g



SAR distribution for GPRS 1900 (Class 12), channel 512, Position 2 (Fujitsu Siemens, EMC011, February 11, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).



Orientation 2 - GSM1900 - GPRS - ch661

Test laboratory: Option Wireless Germany GmbH
 File Name: 090211_Z-Racer_ch661_Imei92141_P2_d5mm
 DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.1
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ 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-LEFT; Type: Twin; Serial: 1237

Z-Racer P2/Area Scan (9x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.05 mW/g

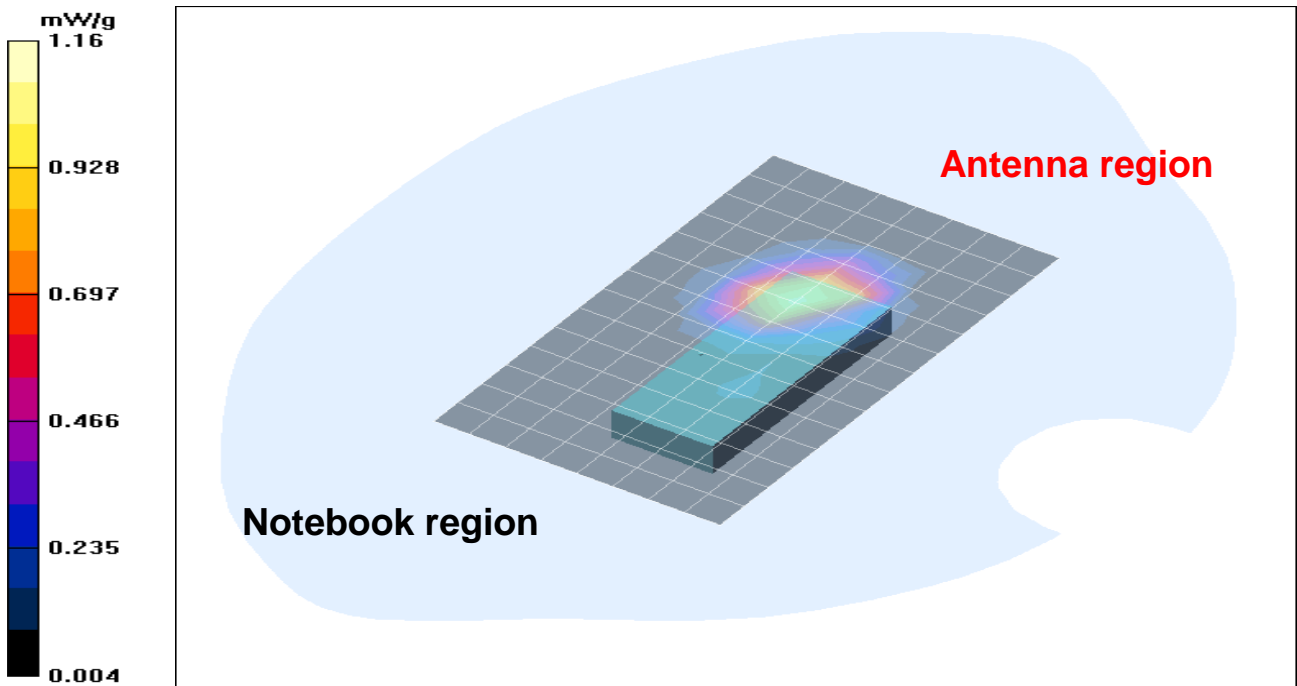
Z-Racer P2/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.3 V/m; Power Drift = 0.028 dB

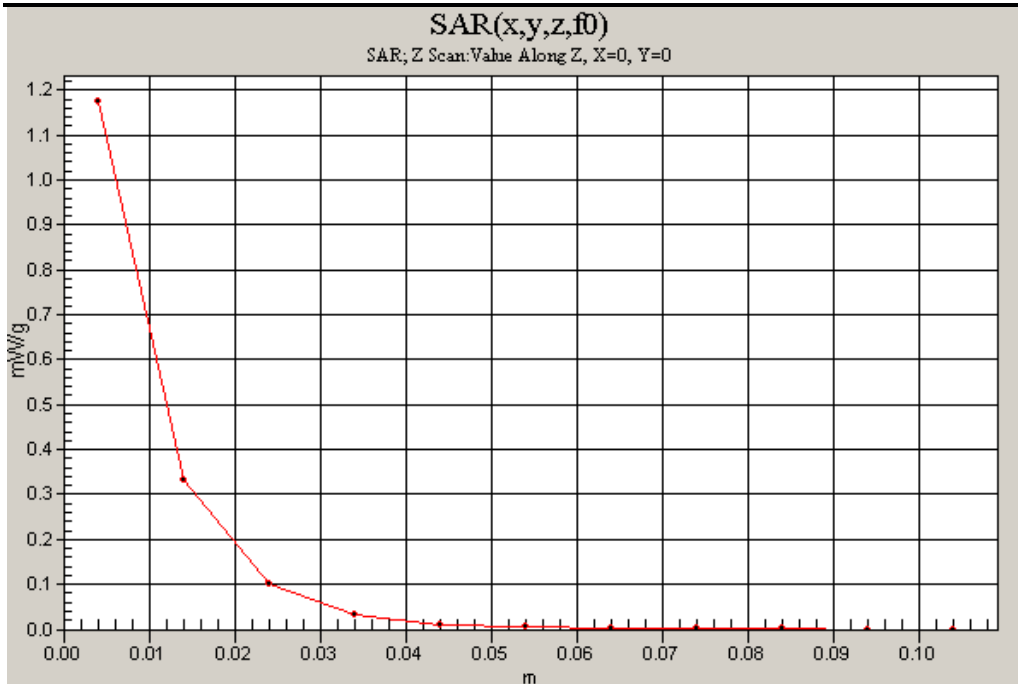
Peak SAR (extrapolated) = 2.36 W/kg

SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.483 mW/g

Maximum value of SAR (measured) = 1.16 mW/g



SAR distribution for GPRS 1900 (Class 12), channel 661, Position 2 (Fujitsu Siemens, EMC011, February 11, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).



Orientation 2 - GSM1900 - GPRS - ch810

Test laboratory: Option Wireless Germany GmbH
File Name: 090211_Z-Racer_ch810_Imei92141_P2_d5mm
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:2.1
Medium parameters used: $f = 1909.8$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 54$; $\rho = 1000$ 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-LEFT; Type: Twin; Serial: 1237

Z-Racer P2/Area Scan (9x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.977 mW/g

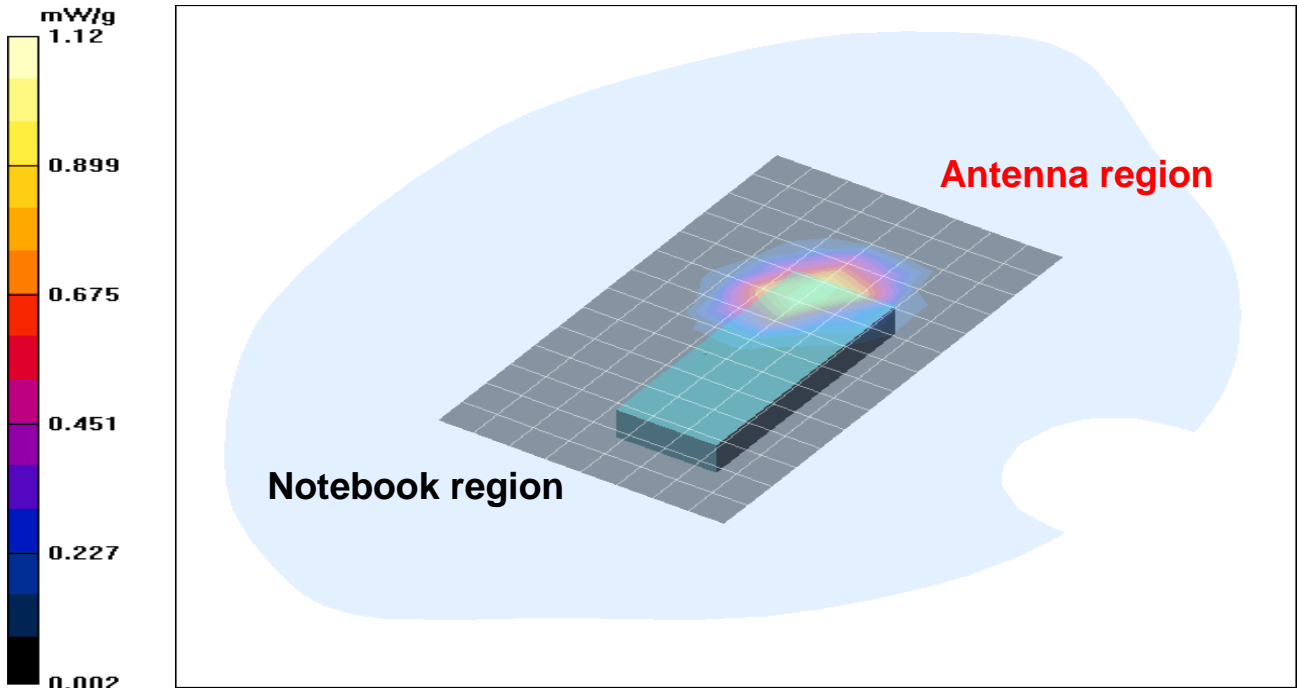
Z-Racer P2/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.94 V/m; Power Drift = -0.073 dB

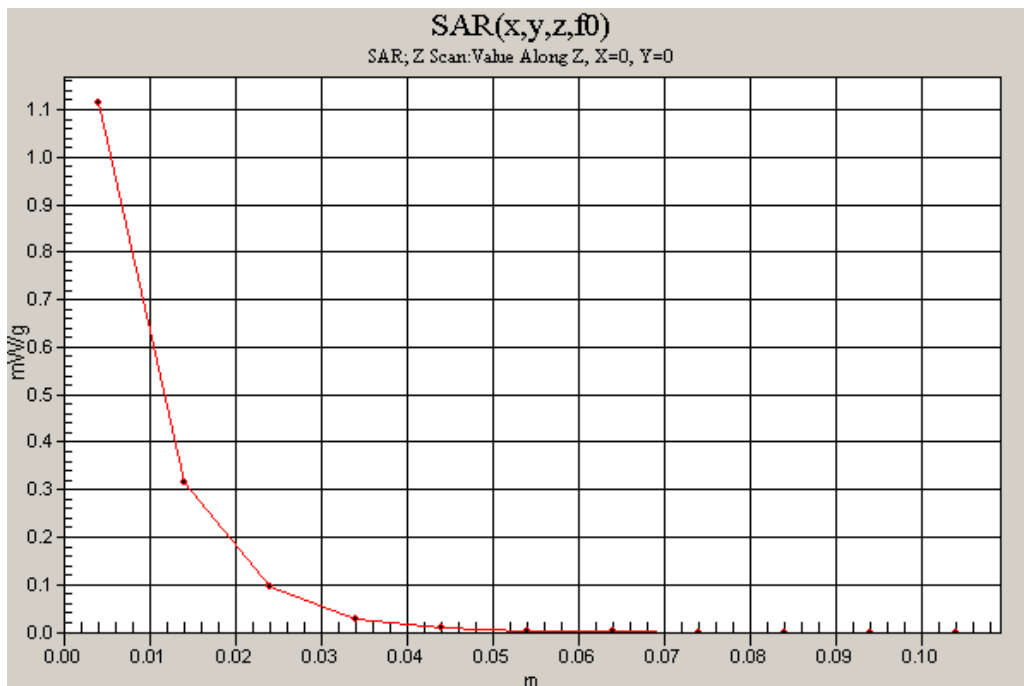
Peak SAR (extrapolated) = 2.27 W/kg

SAR(1 g) = 0.968 mW/g; SAR(10 g) = 0.464 mW/g

Maximum value of SAR (measured) = 1.12 mW/g



SAR distribution for GPRS 1900 (Class 12), channel 810, Position 2 (Fujitsu Siemens, EMC011, February 11, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).



3 SAR DISTRIBUTION PLOTS, ORIENTATION 3

Orientation 3 - GSM850 - GPRS - ch190

Test laboratory: Option Wireless Germany GmbH
File Name: 090209_Z-Racer_ch190_Imei92141_P3_d5mm
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium parameters used: $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ 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

Z-Racer P3/Area Scan (11x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.559 mW/g

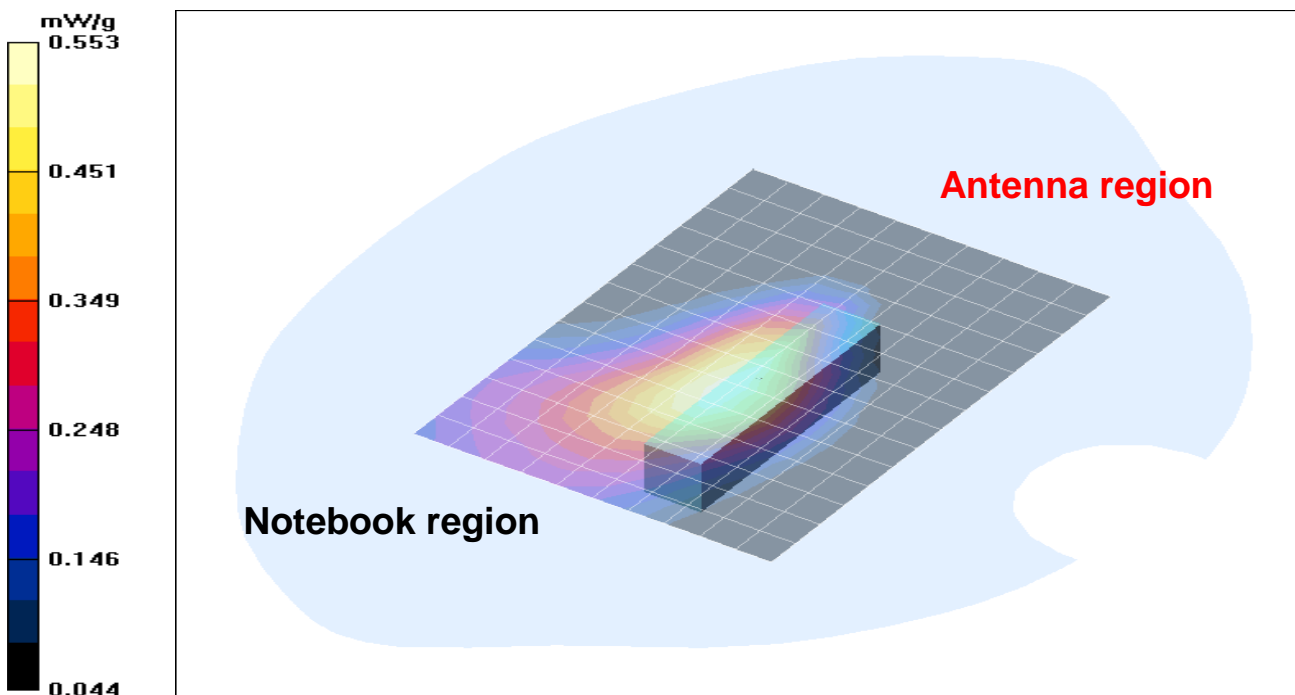
Z-Racer P3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 24.6 V/m; Power Drift = 0.068 dB

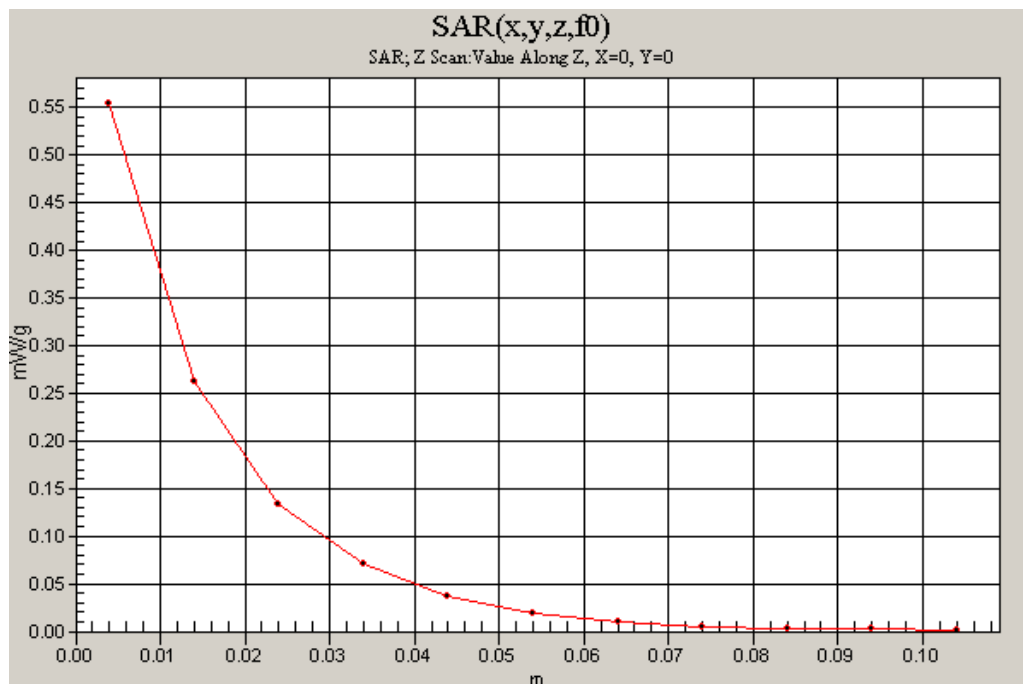
Peak SAR (extrapolated) = 0.719 W/kg

SAR(1 g) = 0.513 mW/g; SAR(10 g) = 0.348 mW/g

Maximum value of SAR (measured) = 0.553 mW/g



SAR distribution for GPRS 850 (Class 12), channel 190, Position 3 (Fujitsu Siemens, EMC011, February 09, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).



Orientation 3 - GSM1900 - GPRS - ch661

Test laboratory: Option Wireless Germany GmbH
File Name: 090211_Z-Racer_ch661_Imei92141_P3_d5mm
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.1
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ 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-LEFT; Type: Twin; Serial: 1237

Z-Racer P3/Area Scan (9x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.304 mW/g

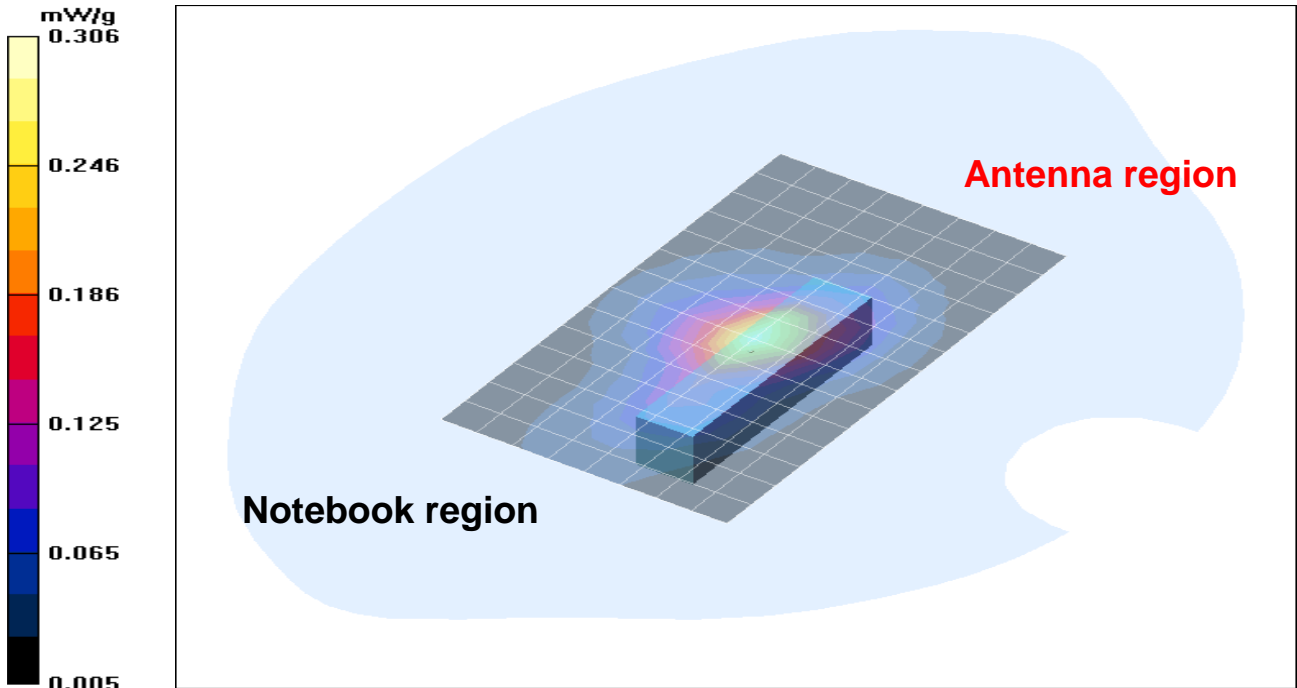
Z-Racer P3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.7 V/m; Power Drift = 0.019 dB

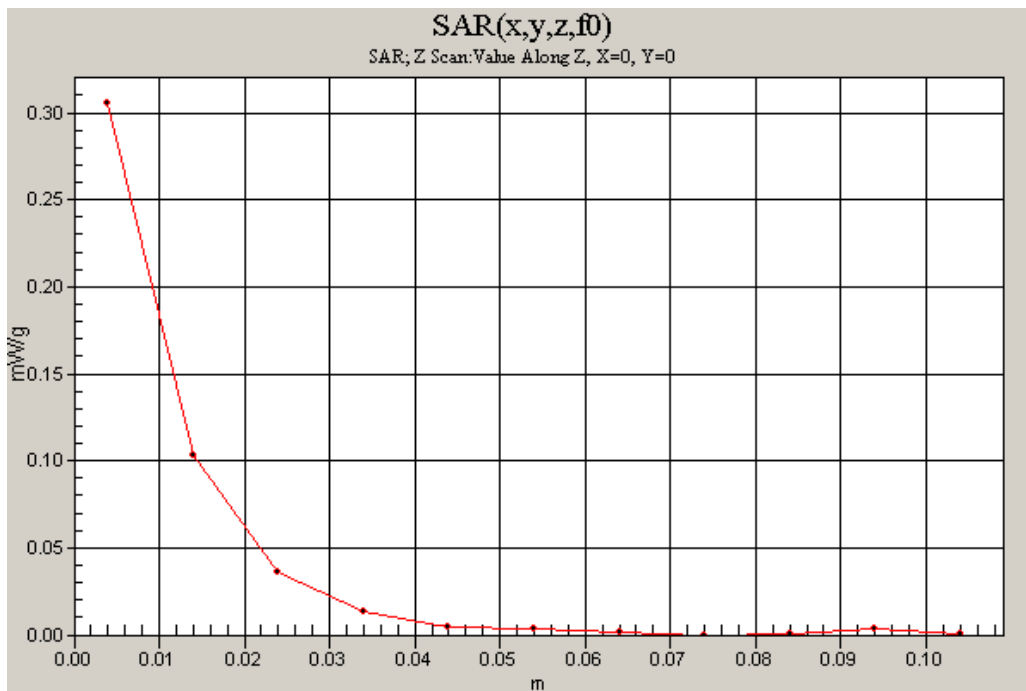
Peak SAR (extrapolated) = 0.532 W/kg

SAR(1 g) = 0.272 mW/g; SAR(10 g) = 0.140 mW/g

Maximum value of SAR (measured) = 0.306 mW/g



SAR distribution for GPRS 1900 (Class 12), channel 661, Position 3 (Fujitsu Siemens, EMC011, February 11, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).



4 SAR DISTRIBUTION PLOTS, ORIENTATION 4

Orientation 4 - GSM850 - GPRS - ch190

Test laboratory: Option Wireless Germany GmbH
File Name: 090209_Z-Racer_ch190_Imei92141_P4_d5mm
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium parameters used: $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ 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

Z-Racer P4/Area Scan (11x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.336 mW/g

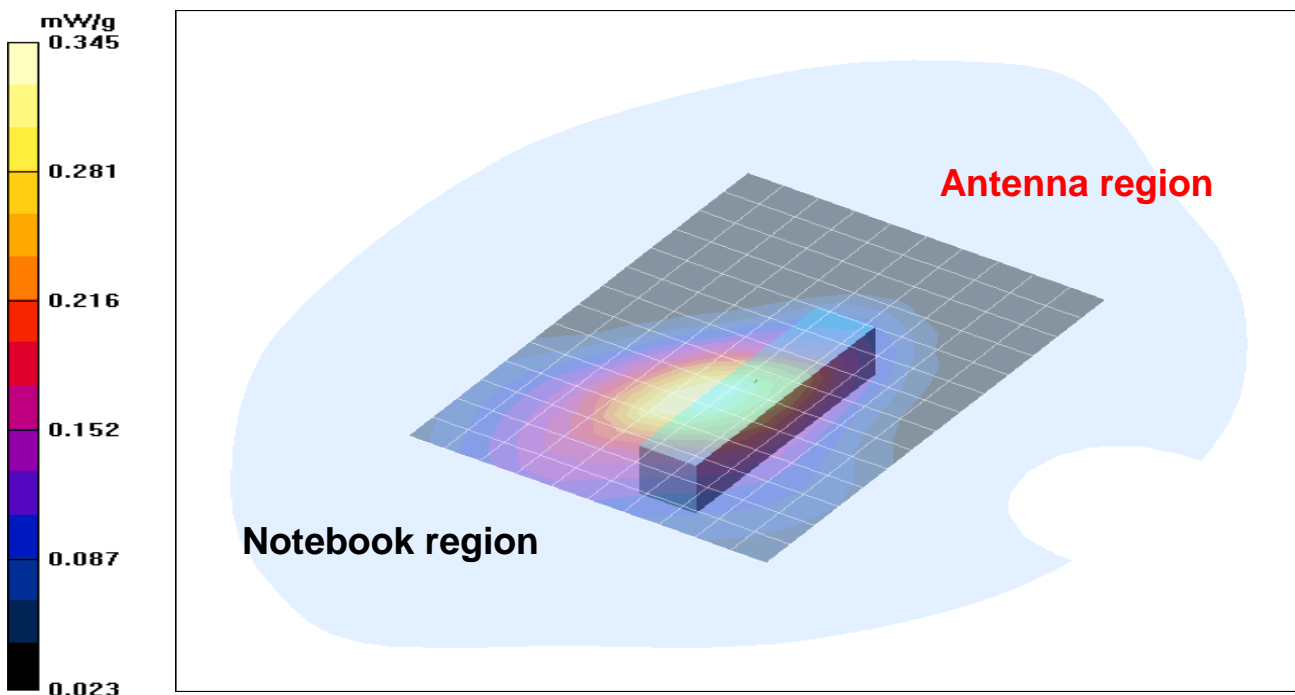
Z-Racer P4/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.8 V/m; Power Drift = -0.197 dB

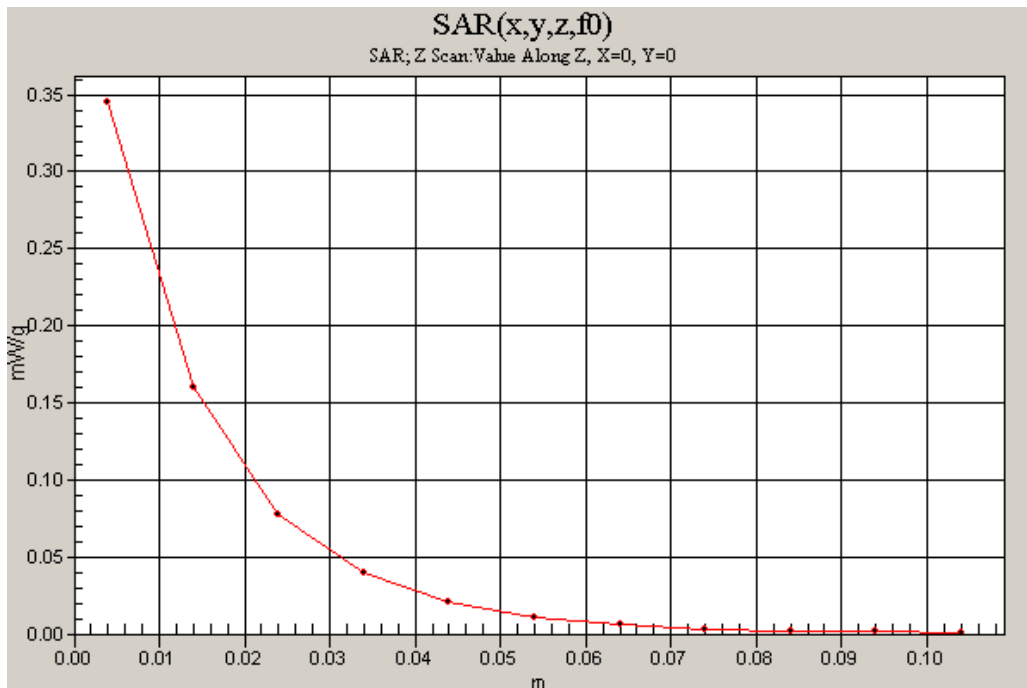
Peak SAR (extrapolated) = 0.456 W/kg

SAR(1 g) = 0.319 mW/g; SAR(10 g) = 0.212 mW/g

Maximum value of SAR (measured) = 0.345 mW/g



SAR distribution for GPRS 850 (Class 12), channel 190, Position 4 (Fujitsu Siemens, EMC011, February 09, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).



Orientation 4 - GSM1900 - GPRS - ch661

Test laboratory: Option Wireless Germany GmbH
File Name: 090211_Z-Racer_ch661_Imei92141_P4_d5mm
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.1
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ 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-LEFT; Type: Twin; Serial: 1237

Z-Racer P4/Area Scan (9x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.320 mW/g

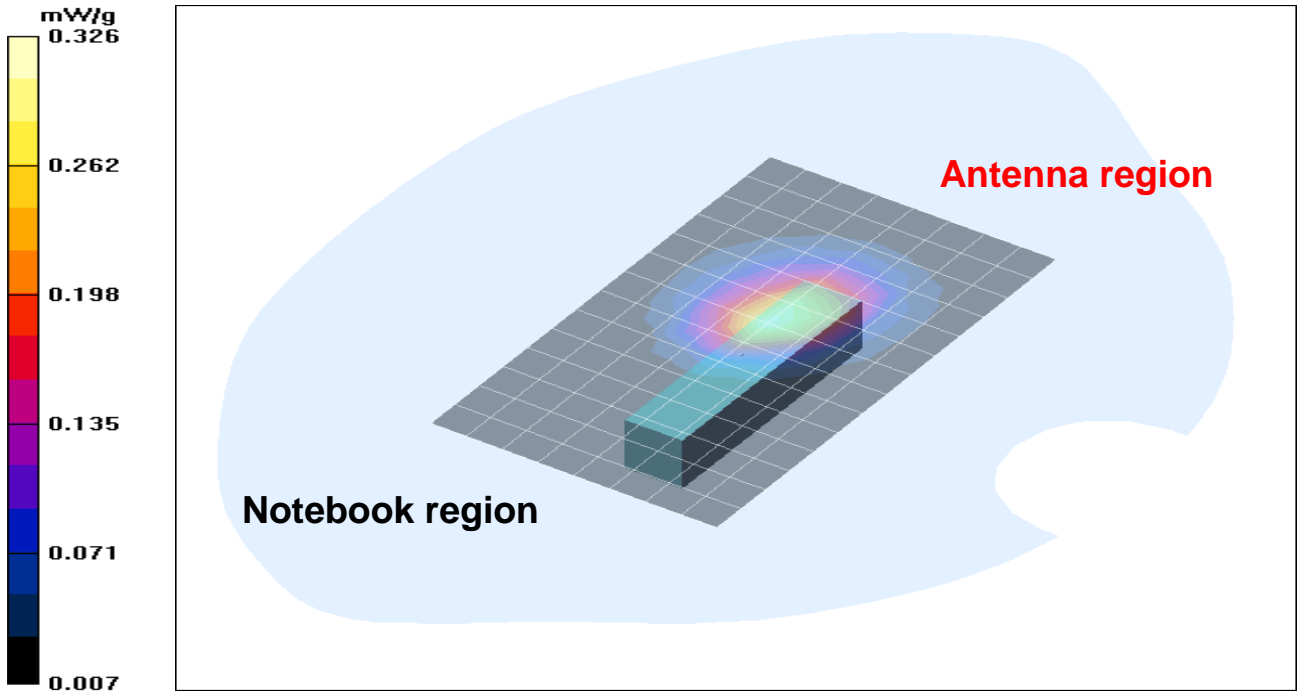
Z-Racer P4/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.2 V/m; Power Drift = -0.127 dB

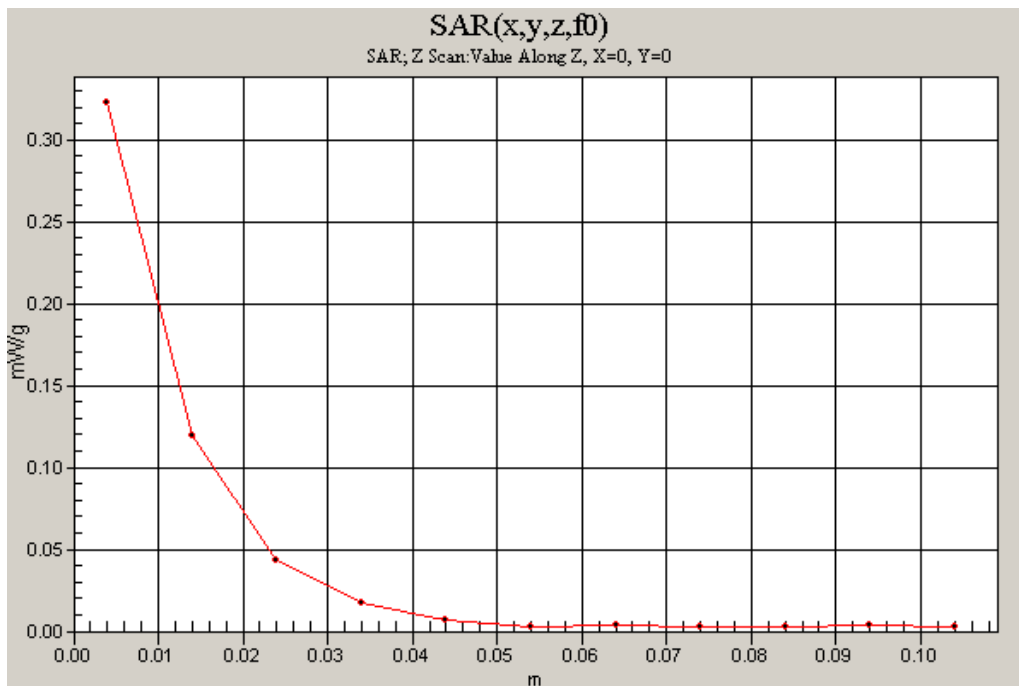
Peak SAR (extrapolated) = 0.540 W/kg

SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.159 mW/g

Maximum value of SAR (measured) = 0.326 mW/g



SAR distribution for GPRS 1900 (Class 12), channel 661, Position 4 (Fujitsu Siemens, EMC011, February 11, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).



5 SAR DISTRIBUTION PLOTS, ORIENTATION 5

Orientation 5 - GSM850 - GPRS - ch190

Test laboratory: Option Wireless Germany GmbH
File Name: 090209_Z-Racer_ch190_Imei92141_P5_d5mm
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium parameters used: $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ 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

Z-Racer P5/Area Scan (11x15x1): Measurement grid: dx=10mm, dy=10mm

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

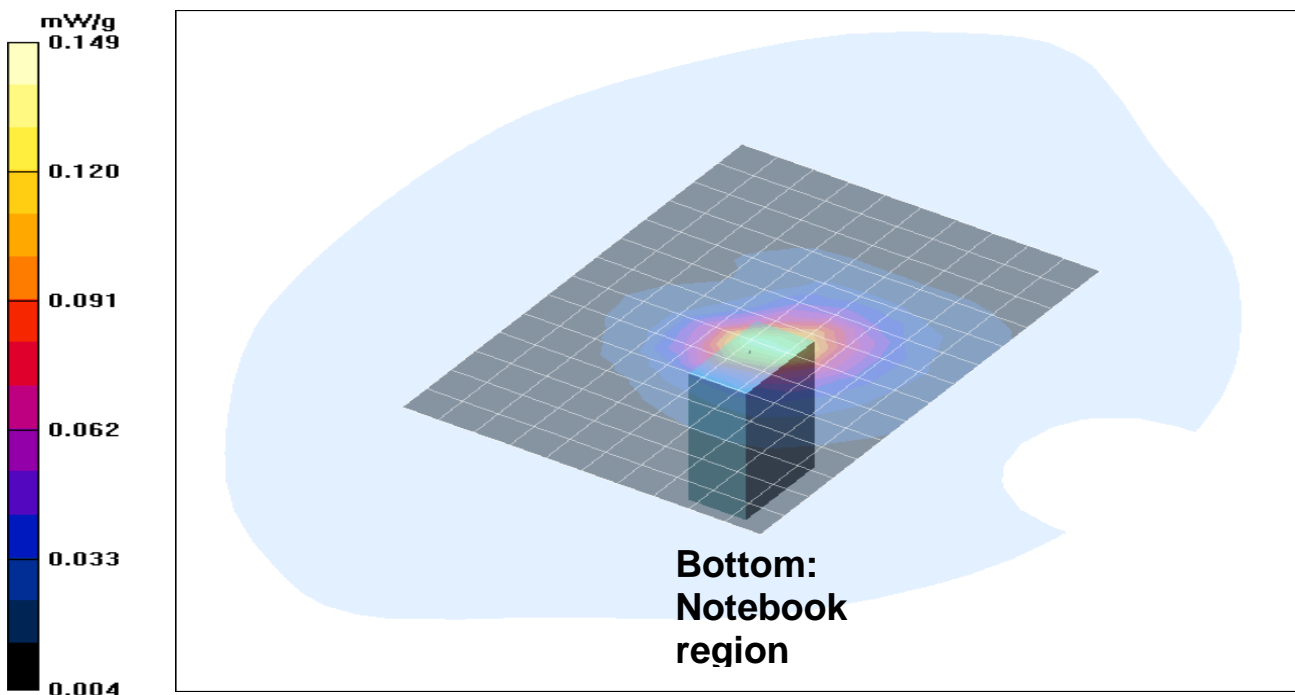
Z-Racer P5/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.8 V/m; Power Drift = -0.069 dB

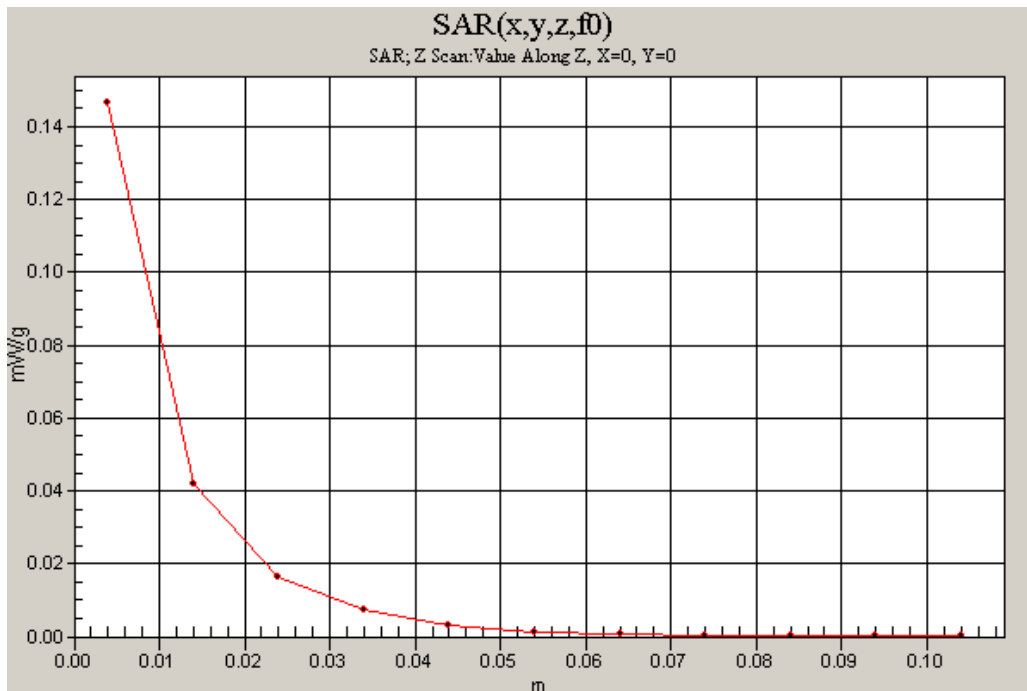
Peak SAR (extrapolated) = 0.284 W/kg

SAR(1 g) = 0.132 mW/g; SAR(10 g) = 0.067 mW/g

Maximum value of SAR (measured) = 0.149 mW/g



SAR distribution for GPRS 850 (Class 12), channel 190, Position 5 (Fujitsu Siemens, EMC011, February 09, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).



Orientation 5 - GSM1900 - GPRS - ch661

Test laboratory: Option Wireless Germany GmbH
File Name: 090211_Z-Racer_ch661_Imei92141_P5_d5mm
DUT: ICON 505 (Z-Racer); Type: USB Data Card

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.1
Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ 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-LEFT; Type: Twin; Serial: 1237

Z-Racer P5/Area Scan (9x15x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.364 mW/g

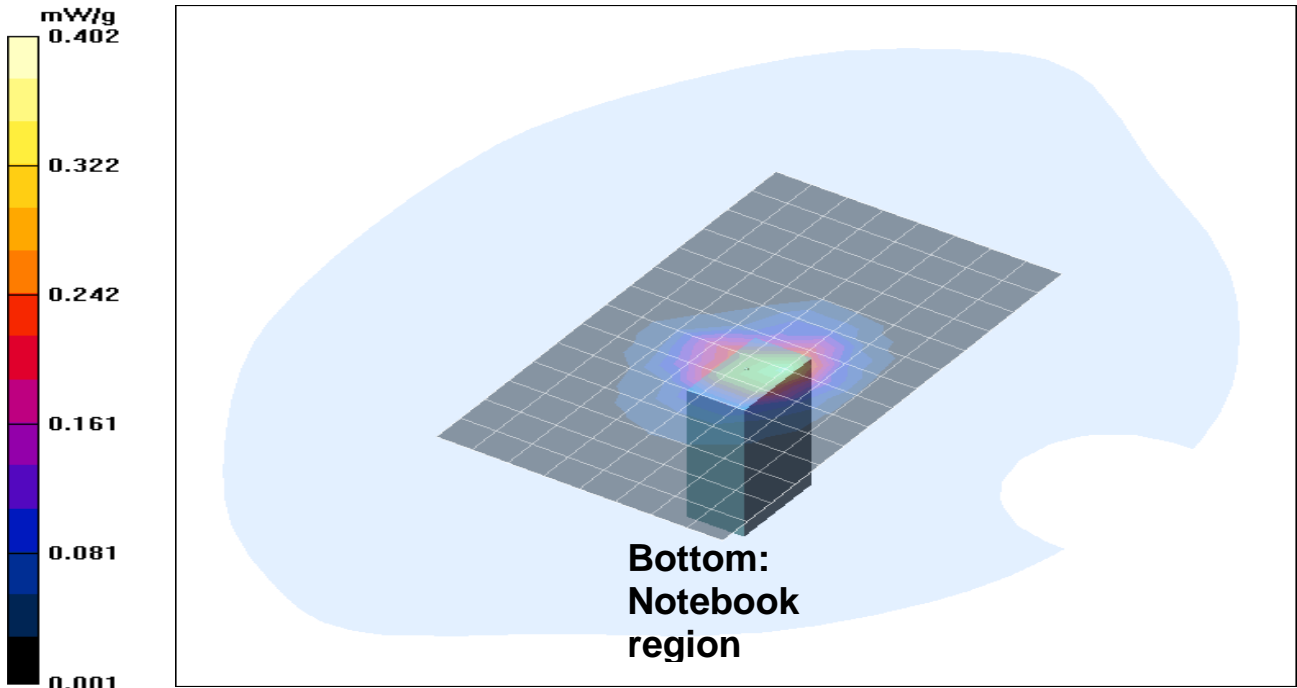
Z-Racer P5/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.6 V/m; Power Drift = -0.043 dB

Peak SAR (extrapolated) = 0.779 W/kg

SAR(1 g) = 0.347 mW/g; SAR(10 g) = 0.160 mW/g

Maximum value of SAR (measured) = 0.402 mW/g



SAR distribution for GPRS 1900 (Class 12), channel 661, Position 5 (Fujitsu Siemens, EMC011, February 11, 2009; Ambient Temperature: 19.0°C; Liquid Temperature: 18.0°C).

