

SAR Distribution Plots

Appendix to the report:

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

According to the FCC requirements

FCC ID: NCM0GI1505

Product:

ICON 505M

Option Wireless Technology

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1 SAR DISTRIBUTION PLOTS, ORIENTATION 1

Orientation 1 - GSM850 - GPRS - ch190

Test Laboratory: EMC Department Kamp-Lintfort

File Name: 090415_Z-RacerE_2Slot_GSM850_ch190_lmei0203_P1_d5mm

DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:4.16

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)Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn523; Calibrated: 11/6/2008
- Phantom: SAM-RIGHT; Type: SAM 4.0; Serial: 1241
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Z-RacerE P1/Area Scan (11x17x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.238 mW/g

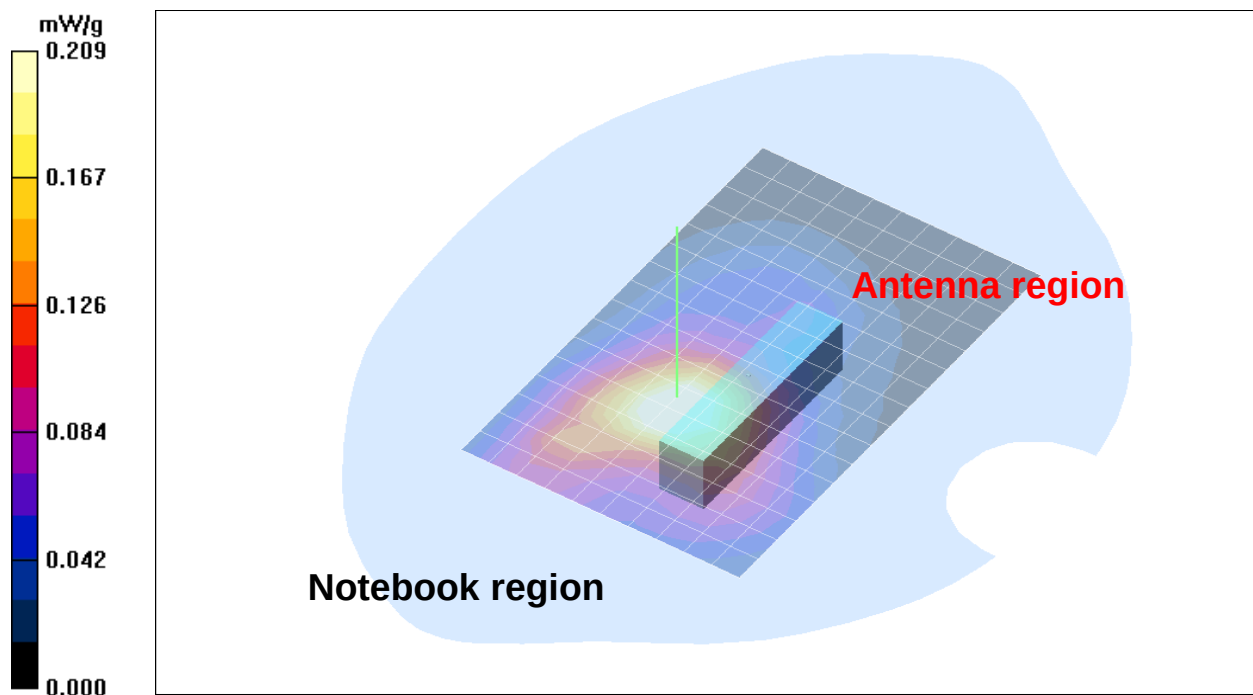
Z-RacerE P1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.87 V/m; Power Drift = -0.101 dB

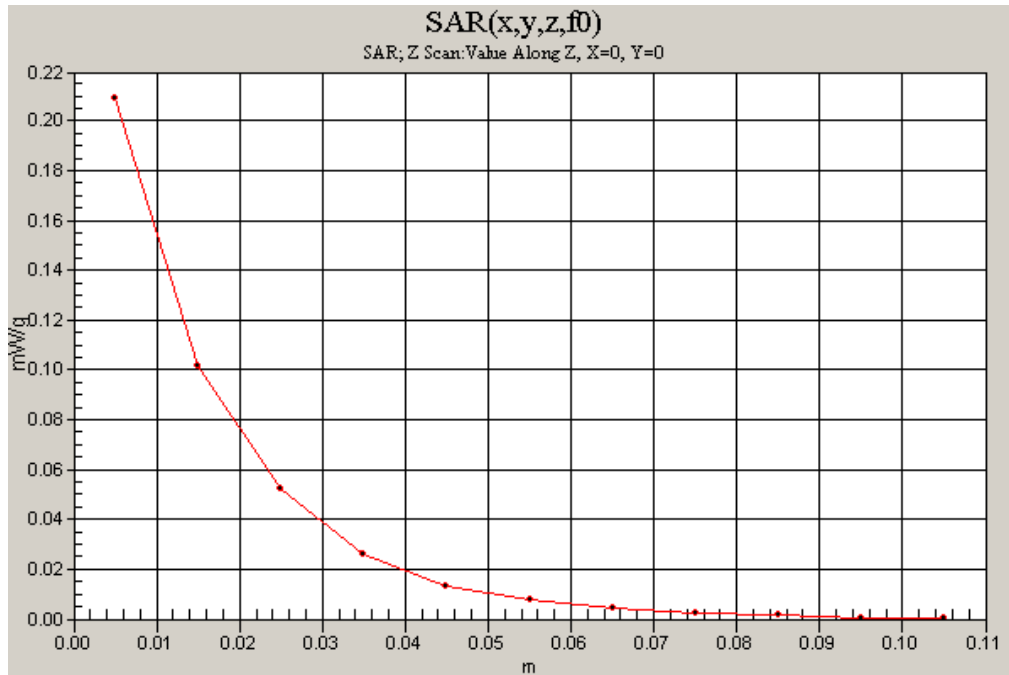
Peak SAR (extrapolated) = 0.320 W/kg

SAR(1 g) = 0.222 mW/g; SAR(10 g) = 0.143 mW/g

Maximum value of SAR (measured) = 0.243 mW/g



SAR distribution for GPRS 850 (Class 10), channel 190, Position 1 (Fujitsu Siemens, EMC011, April 15, 2009; Ambient Temperature: 21.0°C; Liquid Temperature: 19.2°C).



Orientation 1 – GSM1900 – GPRS – ch661

Test Laboratory: EMC Department Kamp-Lintfort
 File Name: 090420_Z-RacerE_3Slot_GSM1900_ch661_lmei0203_P1_d5mm
 DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.77
 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(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 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Z-RacerE P1/Area Scan (11x17x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.167 mW/g

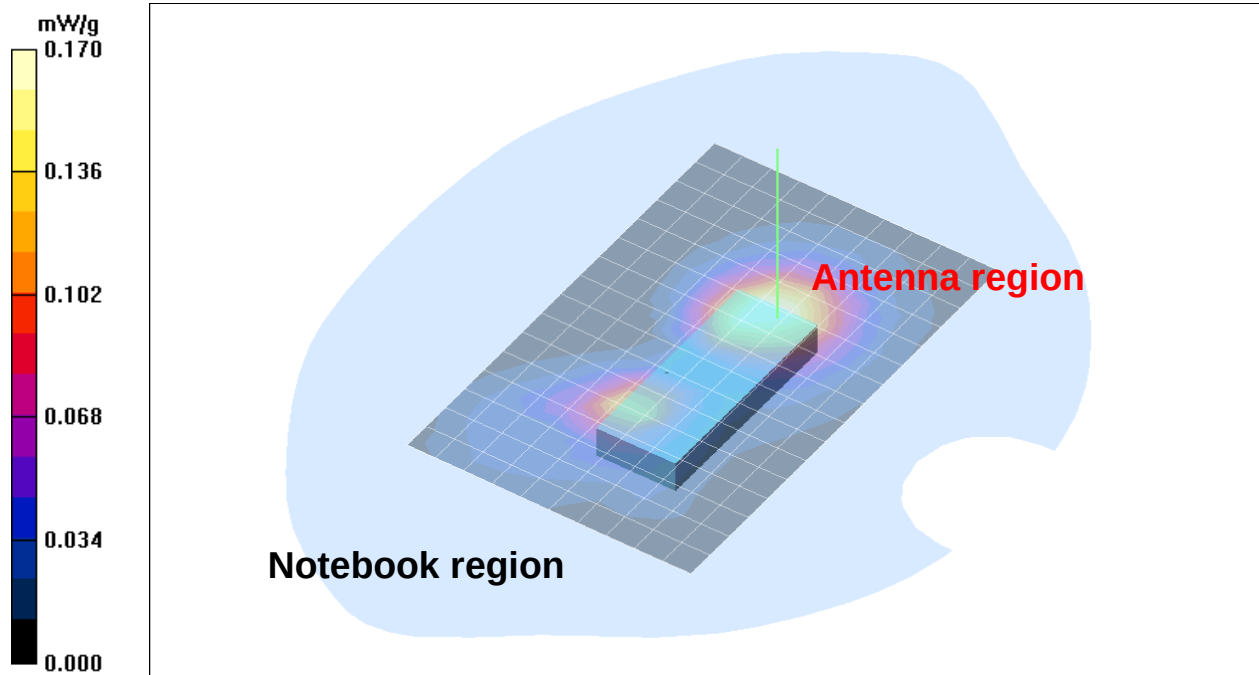
Z-RacerE P1/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.58 V/m; Power Drift = -0.169 dB

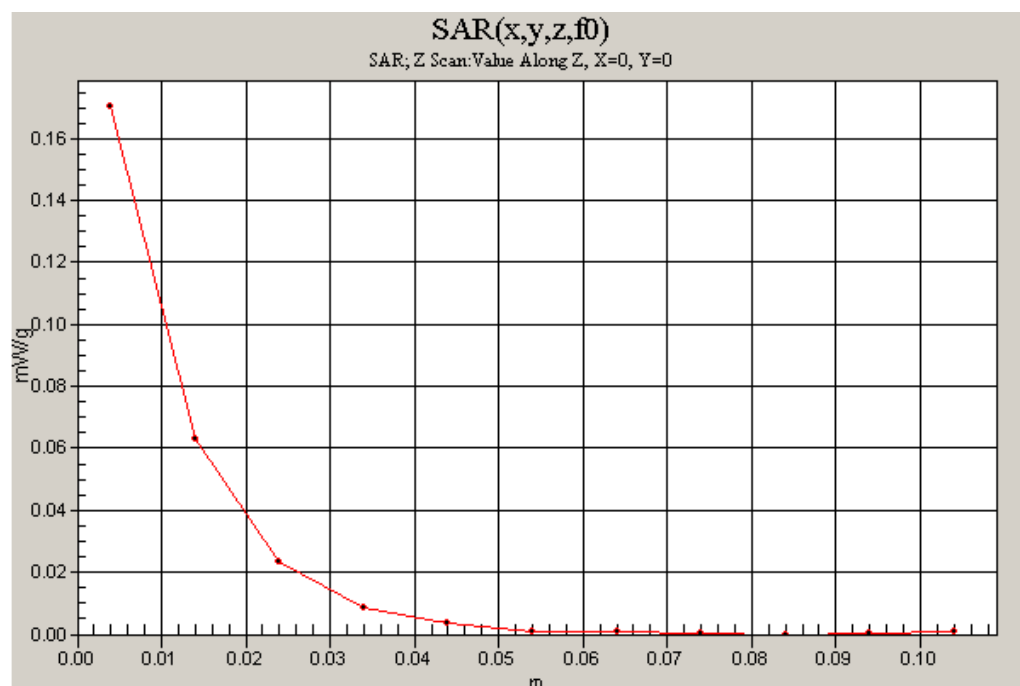
Peak SAR (extrapolated) = 0.283 W/kg

SAR(1 g) = 0.159 mW/g; SAR(10 g) = 0.092 mW/g

Maximum value of SAR (measured) = 0.171 mW/g



SAR distribution for GPRS 1900 (Class 11), channel 661, Position 1 (Fujitsu Siemens, EMC011, April 20, 2009; Ambient Temperature: 20.5°C; Liquid Temperature: 18.8°C).



2 SAR DISTRIBUTION PLOTS, ORIENTATION 2

Orientation 2 - GSM850 - GPRS - ch190

Test Laboratory: EMC Department Kamp-Lintfort

File Name: 090415_Z-RacerE_2Slot_GSM850_ch190_lmei0203_P2_d5mm

DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:4.16

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) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn523; Calibrated: 11/6/2008
- Phantom: SAM-RIGHT; Type: SAM 4.0; Serial: 1241
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Z-RacerE P2/Area Scan (11x17x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.286 mW/g

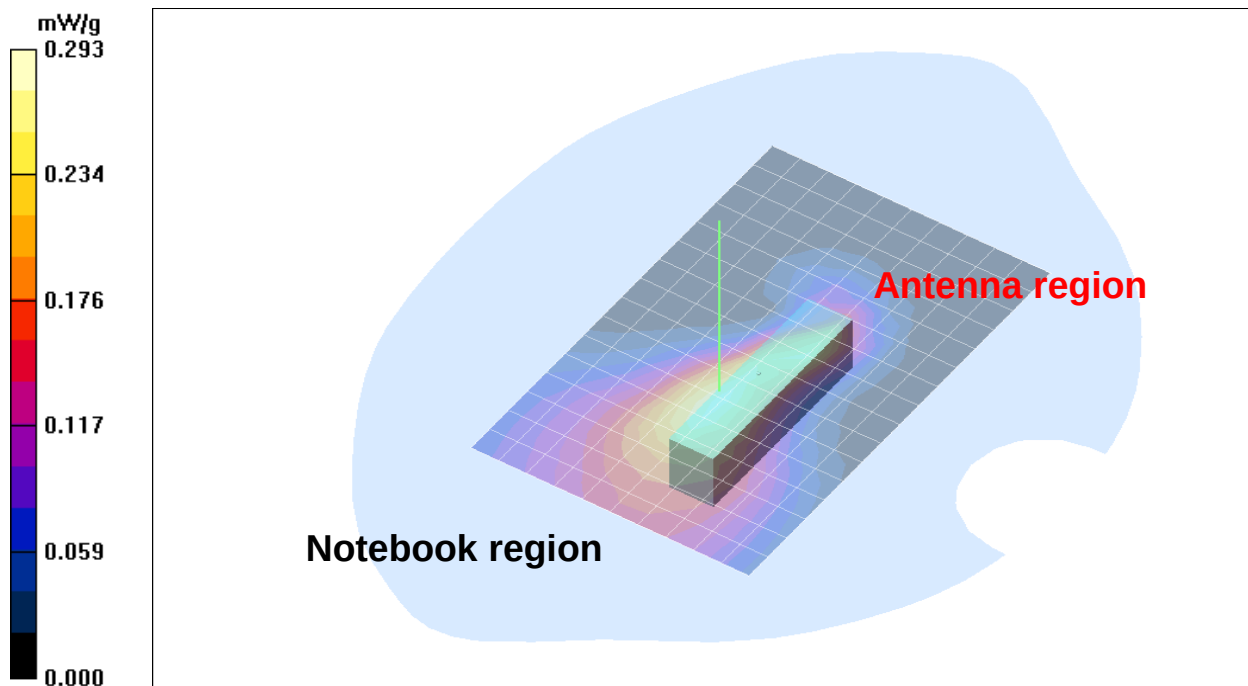
Z-RacerE P2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.0 V/m; Power Drift = -0.040 dB

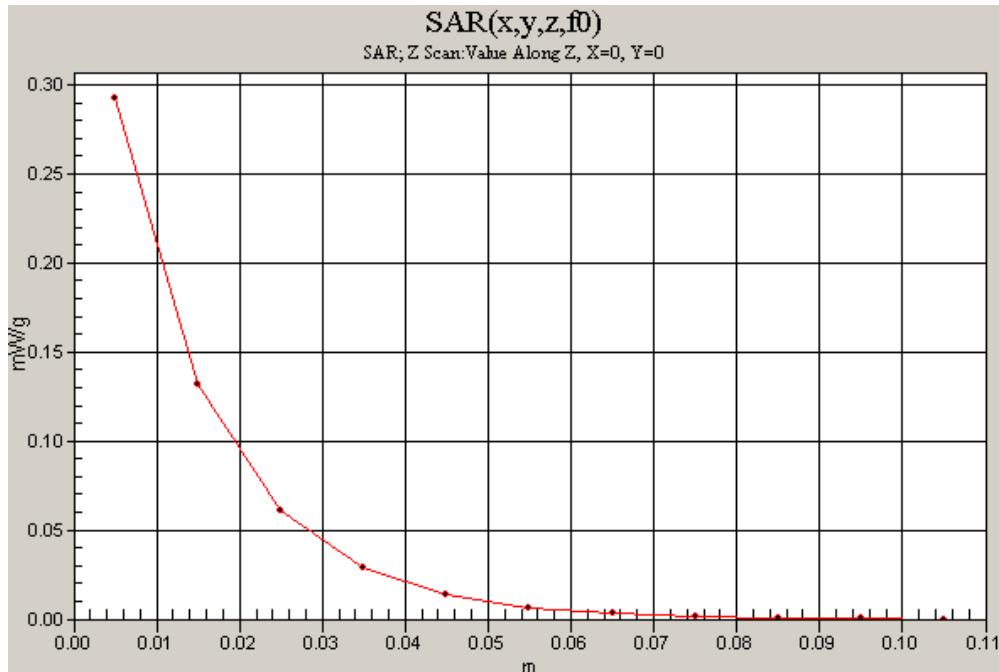
Peak SAR (extrapolated) = 0.371 W/kg

SAR(1 g) = 0.262 mW/g; SAR(10 g) = 0.175 mW/g

Maximum value of SAR (measured) = 0.284 mW/g



SAR distribution for GPRS 850 (Class 10), channel 190, Position 2 (Fujitsu Siemens, EMC011, April 15, 2009; Ambient Temperature: 21.0°C; Liquid Temperature: 19.2°C).



Orientation 2 – GSM1900 – GPRS – ch512

Test Laboratory: EMC Department Kamp-Lintfort

File Name: 090409_Z-RacerE_4Slot_GSM1900_ch512_lmei0203_P2_d5mm_1

DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.08

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(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 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Z-RacerE P2/Area Scan (11x17x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.06 mW/g

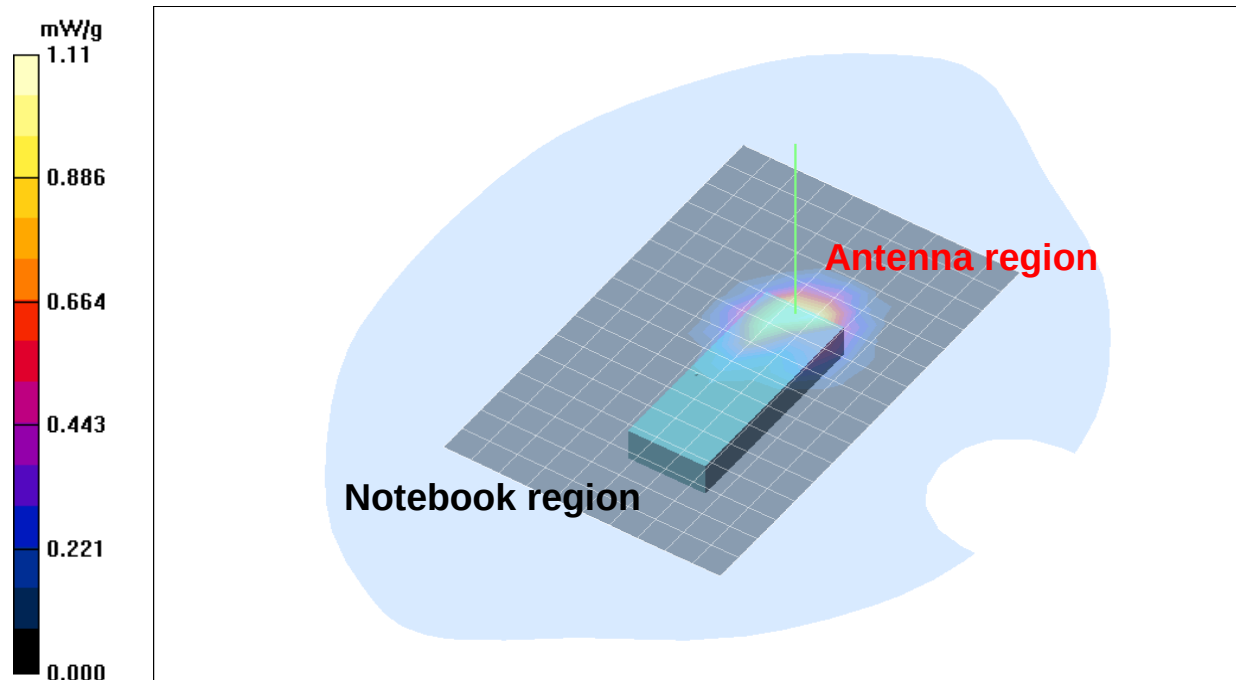
Z-RacerE P2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.2 V/m; Power Drift = -0.107 dB

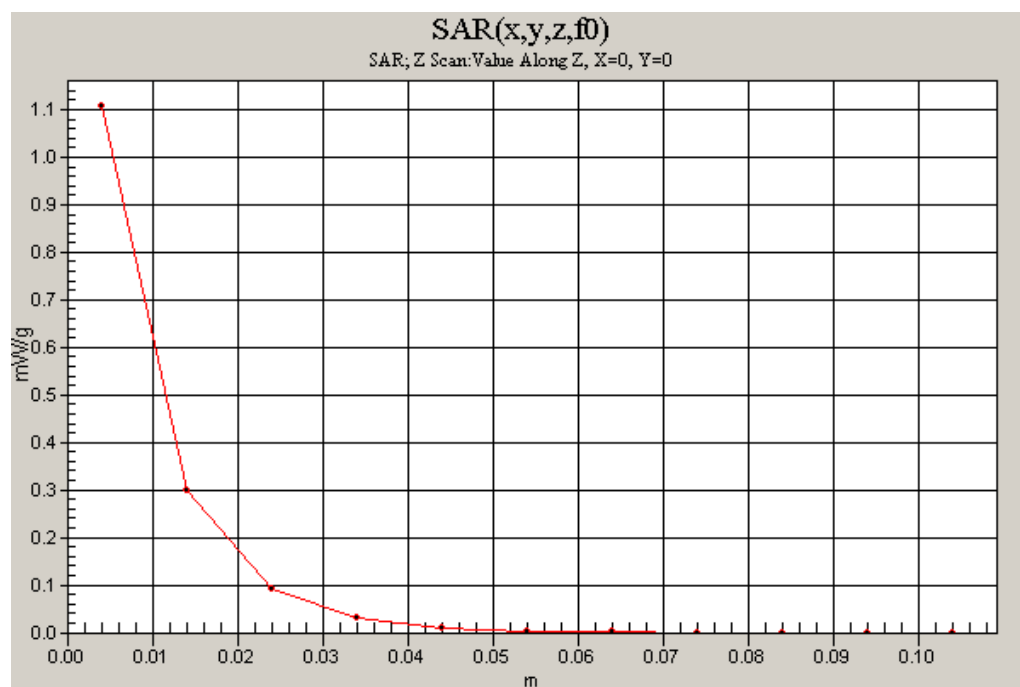
Peak SAR (extrapolated) = 2.20 W/kg

SAR(1 g) = 0.982 mW/g; SAR(10 g) = 0.469 mW/g

Maximum value of SAR (measured) = 1.10 mW/g



SAR distribution for GPRS 1900 (Class 12), channel 512, Position 2 (Fujitsu Siemens, EMC011, April 09, 2009; Ambient Temperature: 20.5°C; Liquid Temperature: 18.6°C).



Orientation 2 – GSM1900 – GPRS – ch661

Test Laboratory: EMC Department Kamp-Lintfort

File Name: 090420_Z-RacerE_3Slot_GSM1900_ch661_Imei0203_P2_d5mm_1

DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.77

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(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 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Z-RacerE P2/Area Scan (11x17x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.975 mW/g

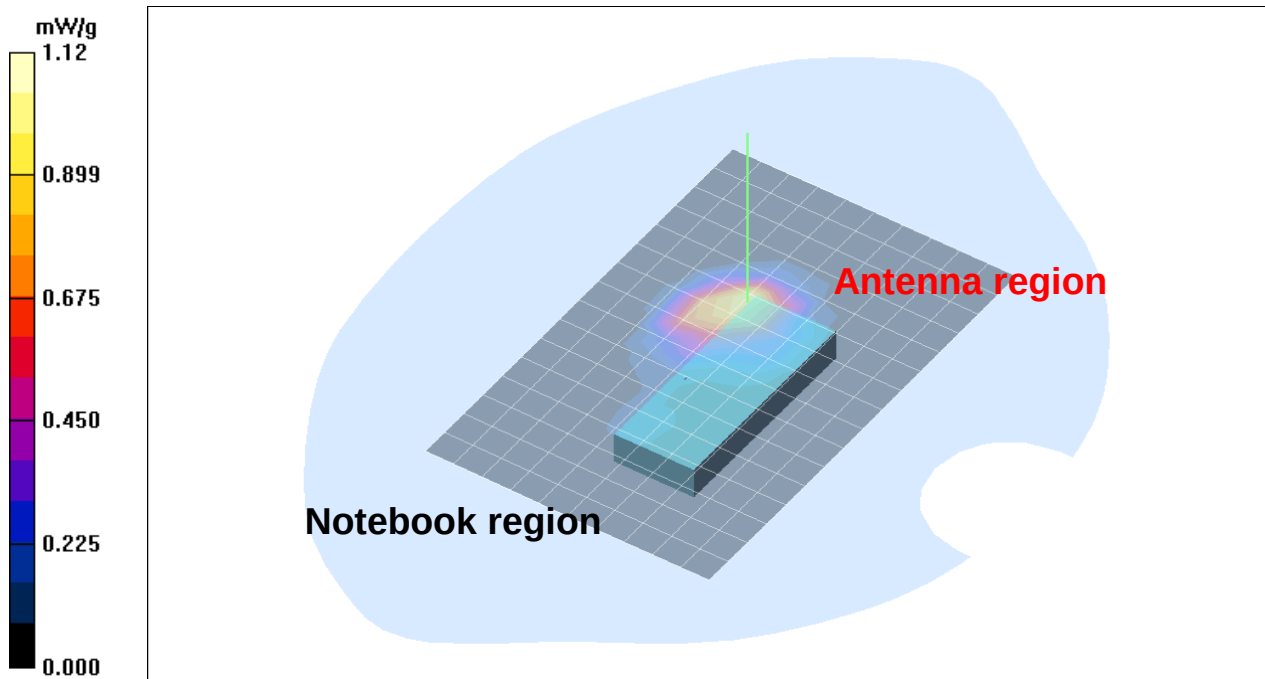
Z-RacerE P2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.0 V/m; Power Drift = -0.047 dB

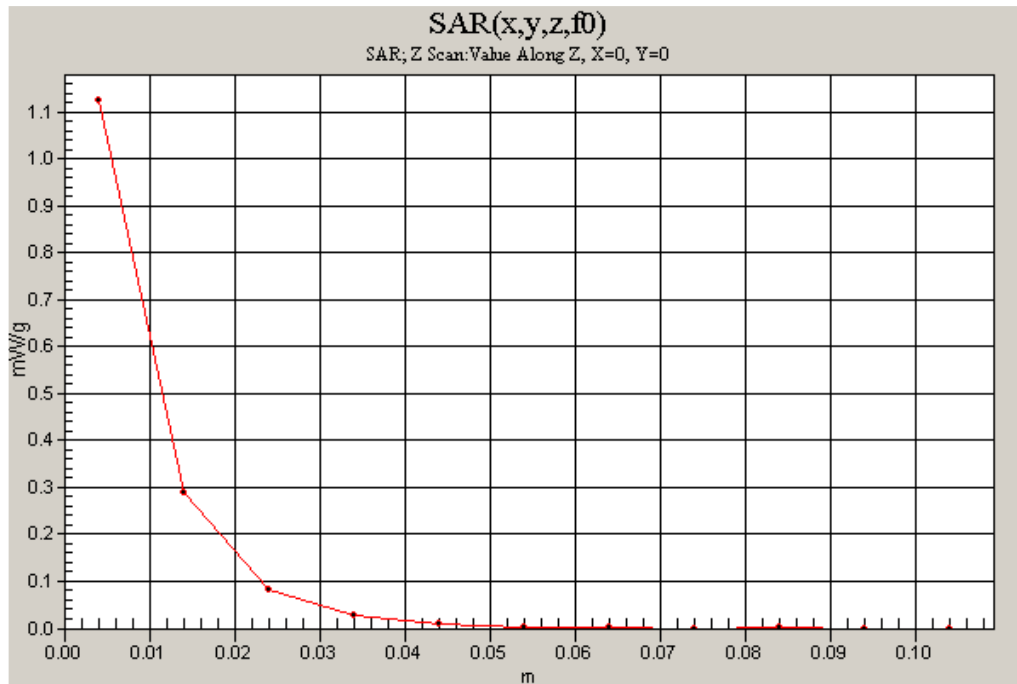
Peak SAR (extrapolated) = 2.13 W/kg

SAR(1 g) = 0.969 mW/g; SAR(10 g) = 0.474 mW/g

Maximum value of SAR (measured) = 1.11 mW/g



SAR distribution for GPRS 1900 (Class 11), channel 661, Position 2 (Fujitsu Siemens, EMC011, April 20, 2009; Ambient Temperature: 20.5°C; Liquid Temperature: 18.6°C).



Orientation 2 – GSM1900 – GPRS – ch810

Test Laboratory: EMC Department Kamp-Lintfort
 File Name: 090420_Z-RacerE_2Slot_GSM1900_ch810_lmei0203_P2_d5mm
 DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4.16
 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(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 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Z-RacerE P2/Area Scan (11x17x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.04 mW/g

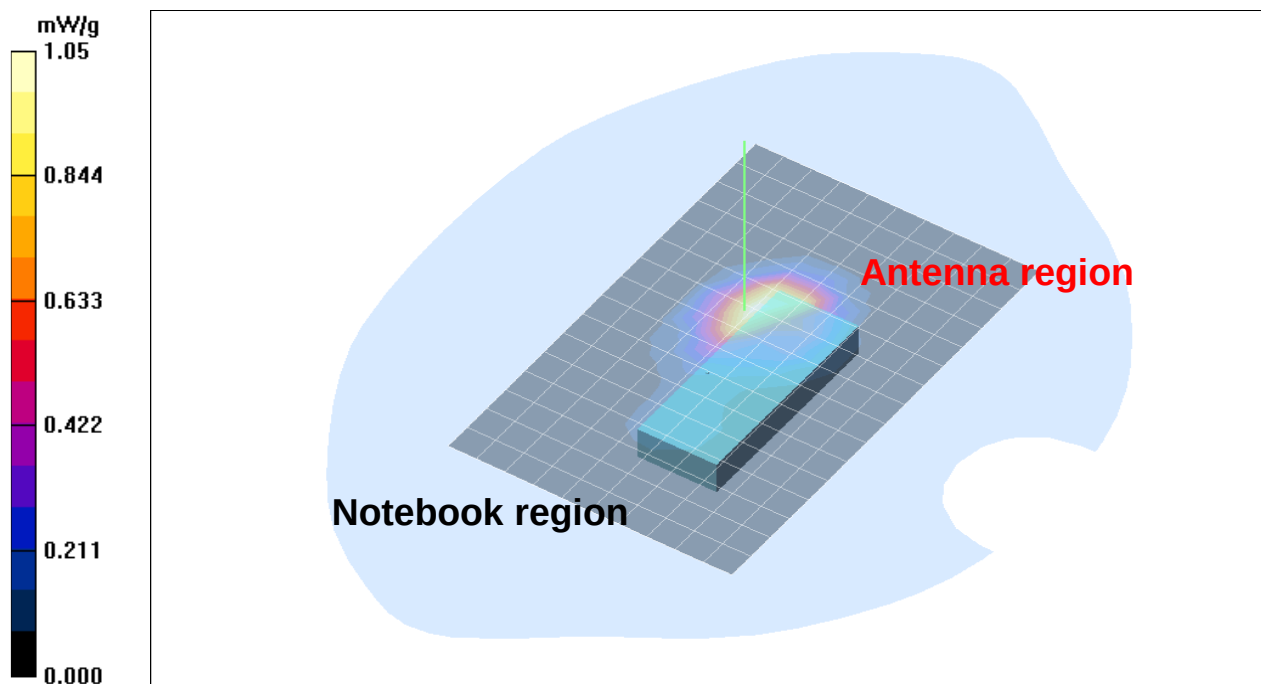
Z-RacerE P2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.6 V/m; Power Drift = 0.063 dB

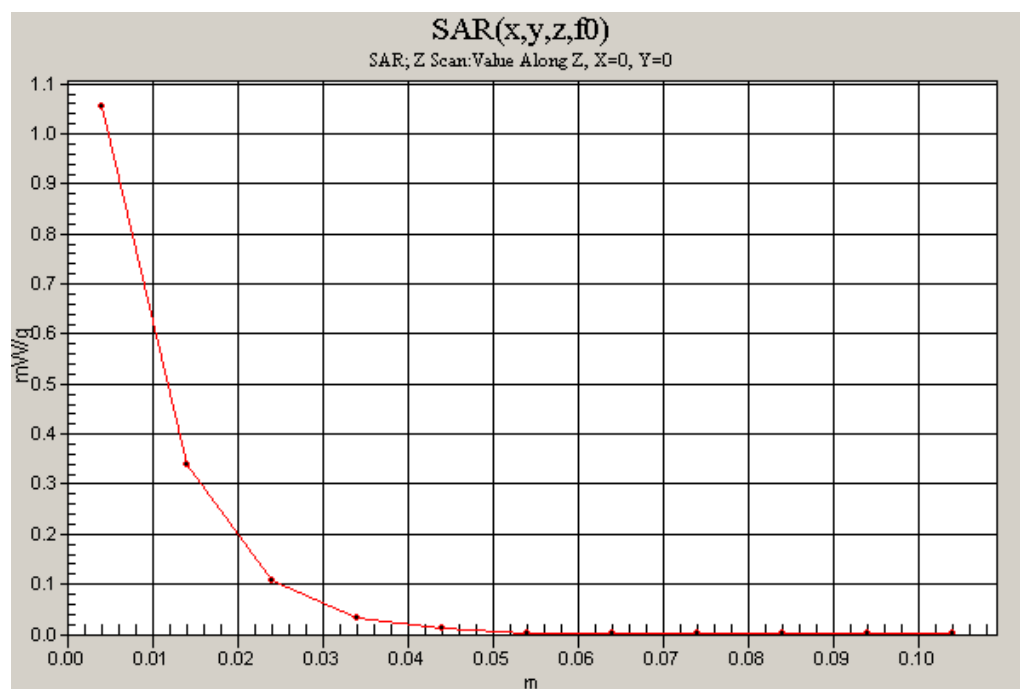
Peak SAR (extrapolated) = 2.17 W/kg

SAR(1 g) = 0.948 mW/g; SAR(10 g) = 0.467 mW/g

Maximum value of SAR (measured) = 1.06 mW/g



SAR distribution for GPRS 1900 (Class 10), channel 810, Position 2 (Fujitsu Siemens, EMC011, April 20, 2009; Ambient Temperature: 20.5°C; Liquid Temperature: 18.8°C).



3 SAR DISTRIBUTION PLOTS, ORIENTATION 3

Orientation 3 - GSM850 - GPRS - ch190

Test Laboratory: EMC Department Kamp-Lintfort

File Name: 090415_Z-RacerE_2Slot_GSM850_ch190_lmei0203_P3_d5mm

DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:4.16

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) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn523; Calibrated: 11/6/2008
- Phantom: SAM-RIGHT; Type: SAM 4.0; Serial: 1241
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 0.447 mW/g

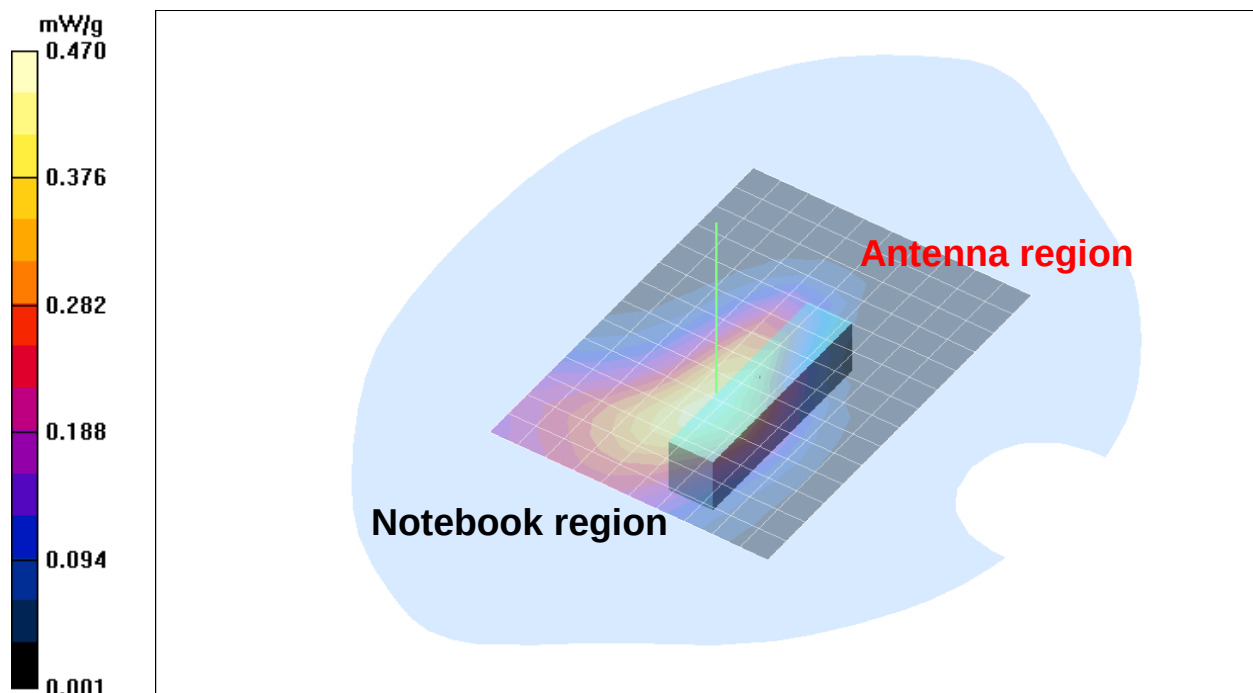
Z-RacerE P3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.8 V/m; Power Drift = -0.038 dB

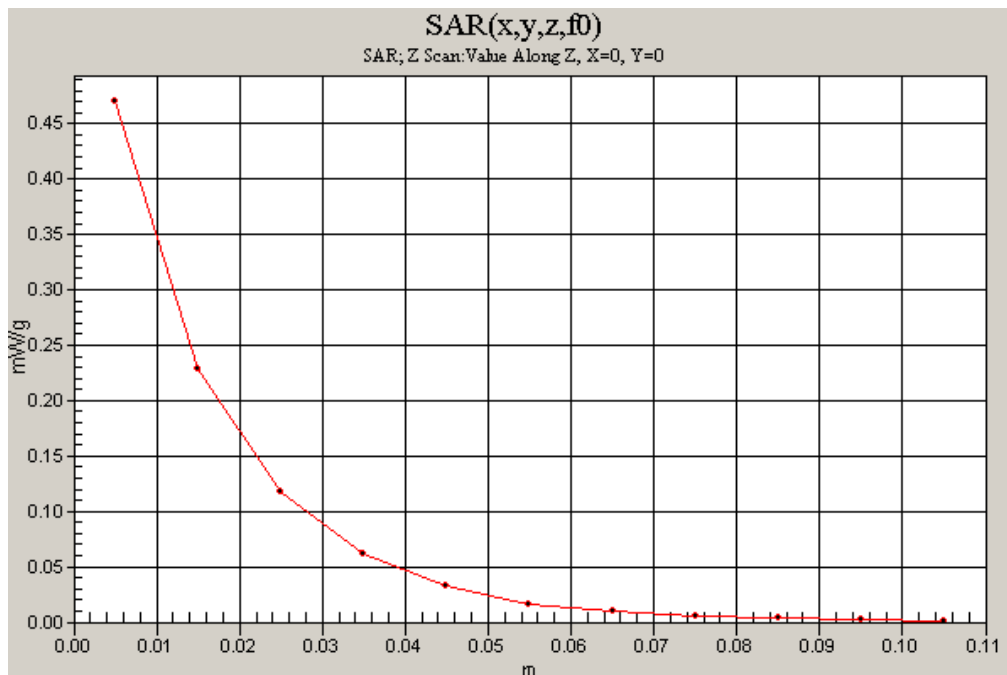
Peak SAR (extrapolated) = 0.584 W/kg

SAR(1 g) = 0.413 mW/g; SAR(10 g) = 0.284 mW/g

Maximum value of SAR (measured) = 0.448 mW/g



SAR distribution for GPRS 850 (Class 10), channel 190, Position 3 (Fujitsu Siemens, EMC011, April 15, 2009; Ambient Temperature: 21.0°C; Liquid Temperature: 19.2°C).



Orientation 3 – GSM1900 – GPRS – ch661

Test Laboratory: EMC Department Kamp-Lintfort
 File Name: 090420_Z-RacerE_3Slot_GSM1900_ch661_lmei0203_P3_d5mm
 DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.77
 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(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 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Z-RacerE P3/Area Scan (11x17x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.213 mW/g

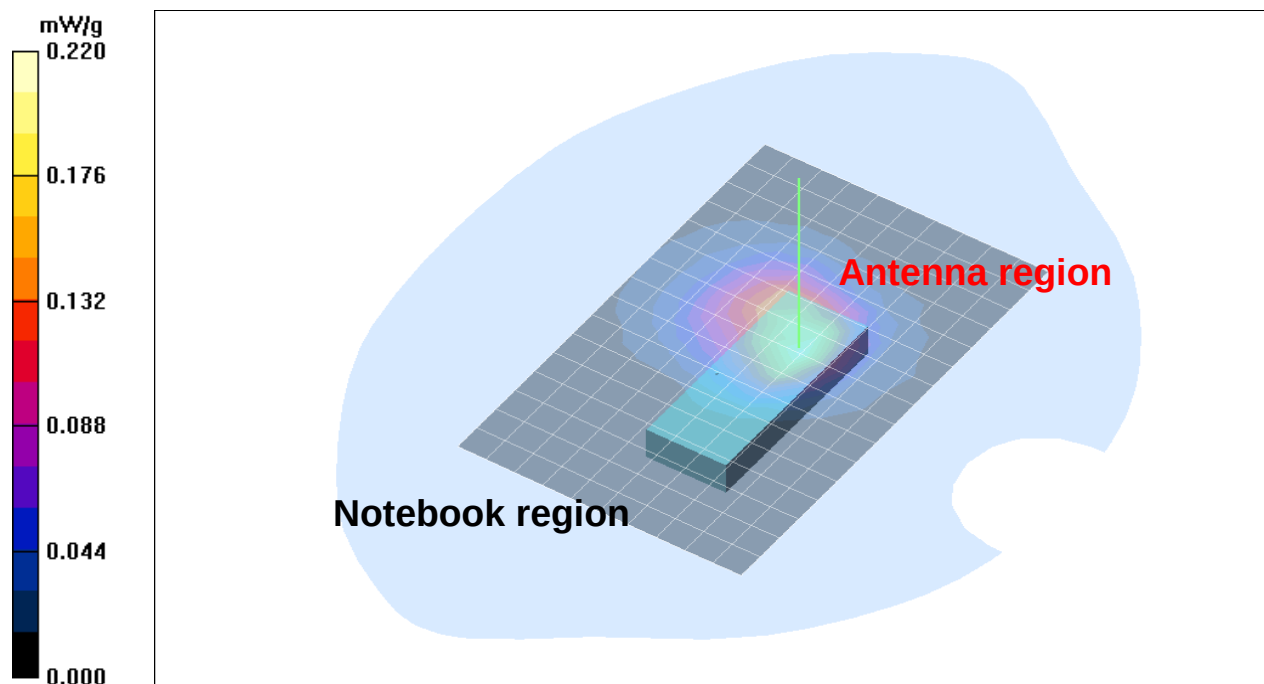
Z-RacerE P3/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.11 V/m; Power Drift = -0.012 dB

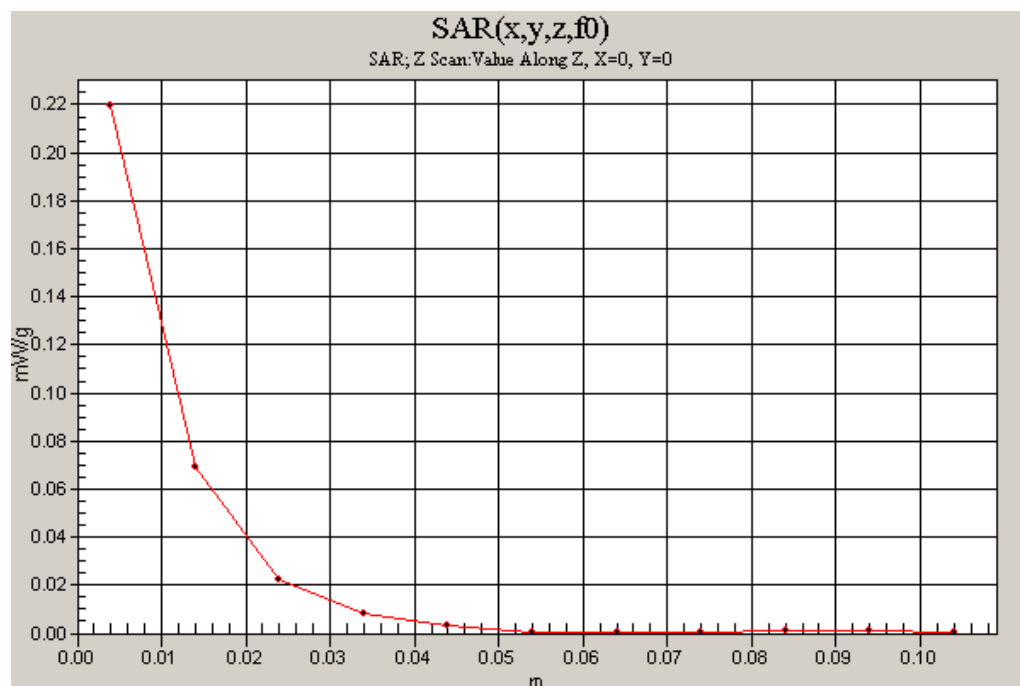
Peak SAR (extrapolated) = 0.378 W/kg

SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.106 mW/g

Maximum value of SAR (measured) = 0.220 mW/g



SAR distribution for GPRS 1900 (Class 11), channel 661, Position 3 (Fujitsu Siemens, EMC011, April 20, 2009; Ambient Temperature: 20.5°C; Liquid Temperature: 18.8°C).



4 SAR DISTRIBUTION PLOTS, ORIENTATION 4

Orientation 4 - GSM850 - GPRS - ch190

Test Laboratory: EMC Department Kamp-Lintfort

File Name: 090415_Z-RacerE_2Slot_GSM850_ch190_lmei0203_P4_d5mm

DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:4.16

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)Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn523; Calibrated: 11/6/2008
- Phantom: SAM-RIGHT; Type: SAM 4.0; Serial: 1241
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 0.292 mW/g

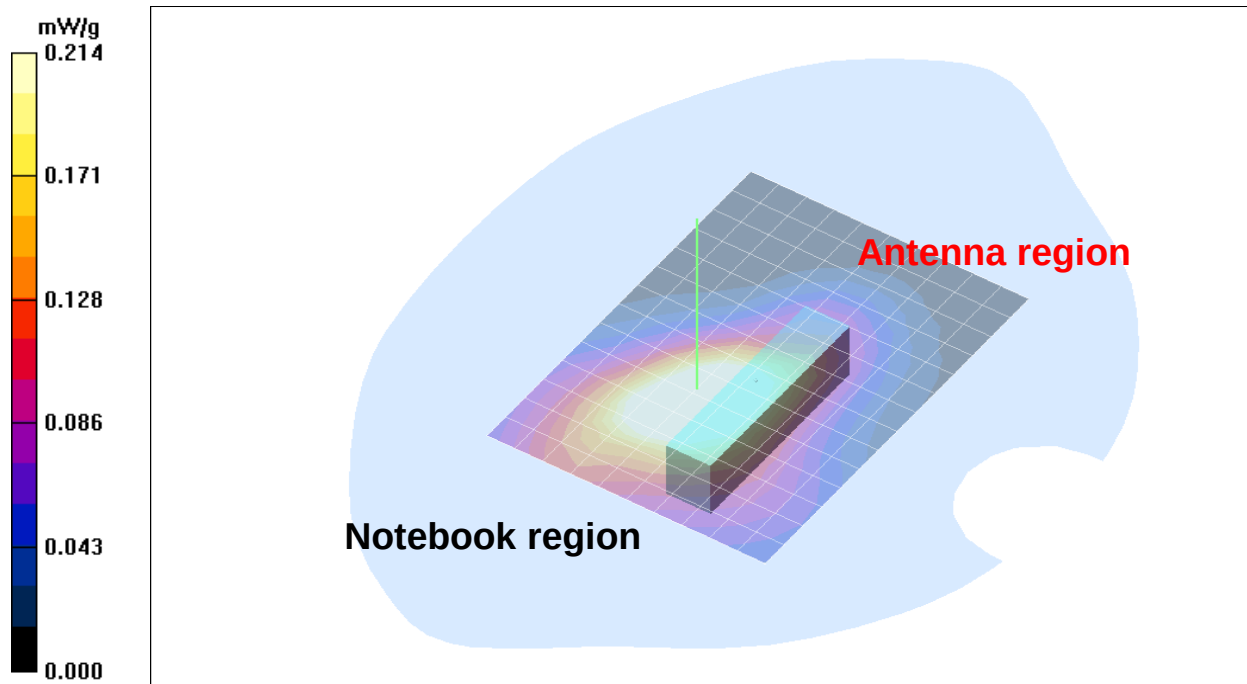
Z-RacerE P4/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.3 V/m; Power Drift = -0.017 dB

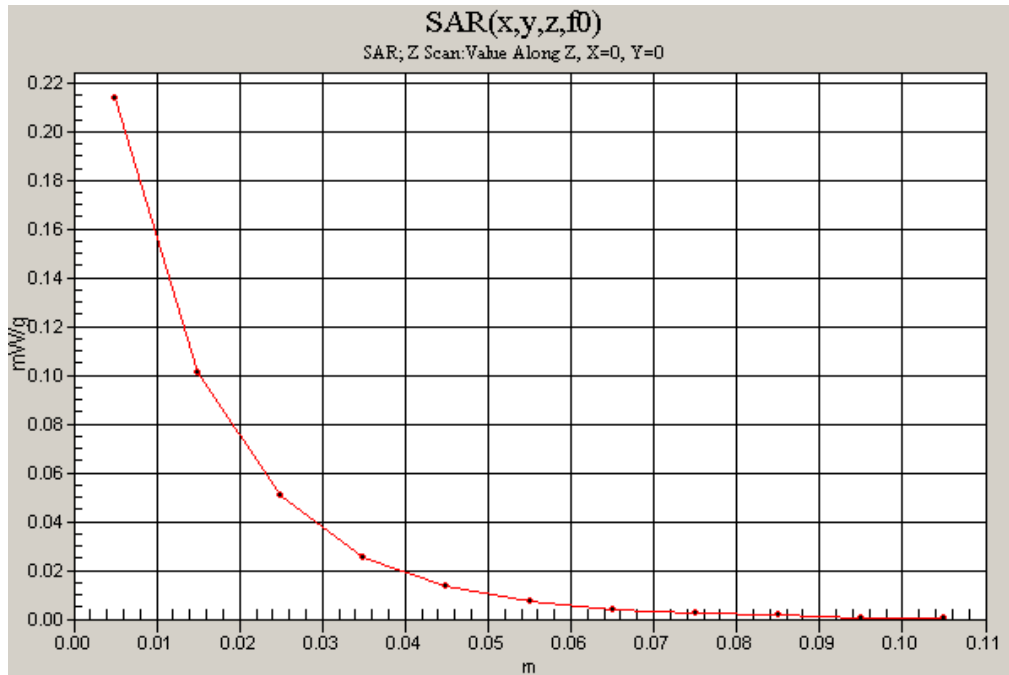
Peak SAR (extrapolated) = 0.390 W/kg

SAR(1 g) = 0.282 mW/g; SAR(10 g) = 0.188 mW/g

Maximum value of SAR (measured) = 0.303 mW/g



SAR distribution for GPRS 850 (Class 10), channel 190, Position 4 (Fujitsu Siemens, EMC011, April 15, 2009; Ambient Temperature: 21.0°C; Liquid Temperature: 19.2°C).



Orientation 4 – GSM1900 – GPRS – ch661

Test Laboratory: EMC Department Kamp-Lintfort
 File Name: 090420_Z-RacerE_3Slot_GSM1900_ch661_lmei0203_P4_d5mm
 DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.77
 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(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 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Z-RacerE P4/Area Scan (11x17x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.598 mW/g

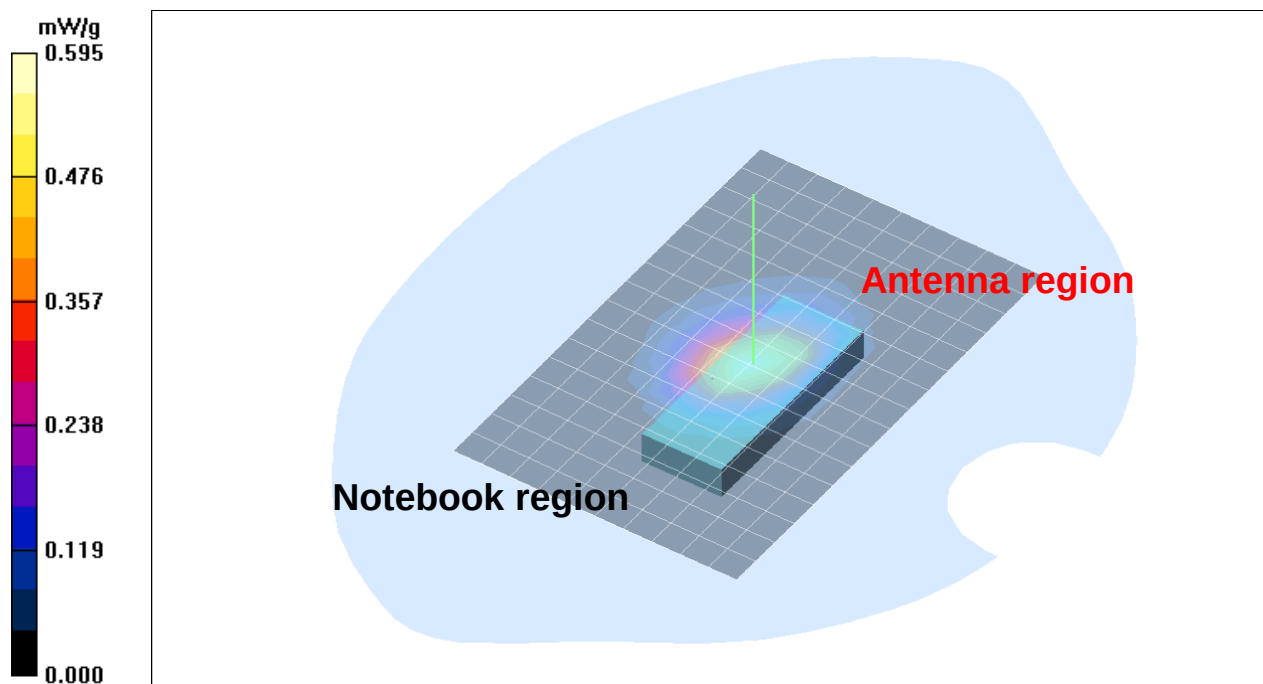
Z-RacerE P4/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.5 V/m; Power Drift = -0.014 dB

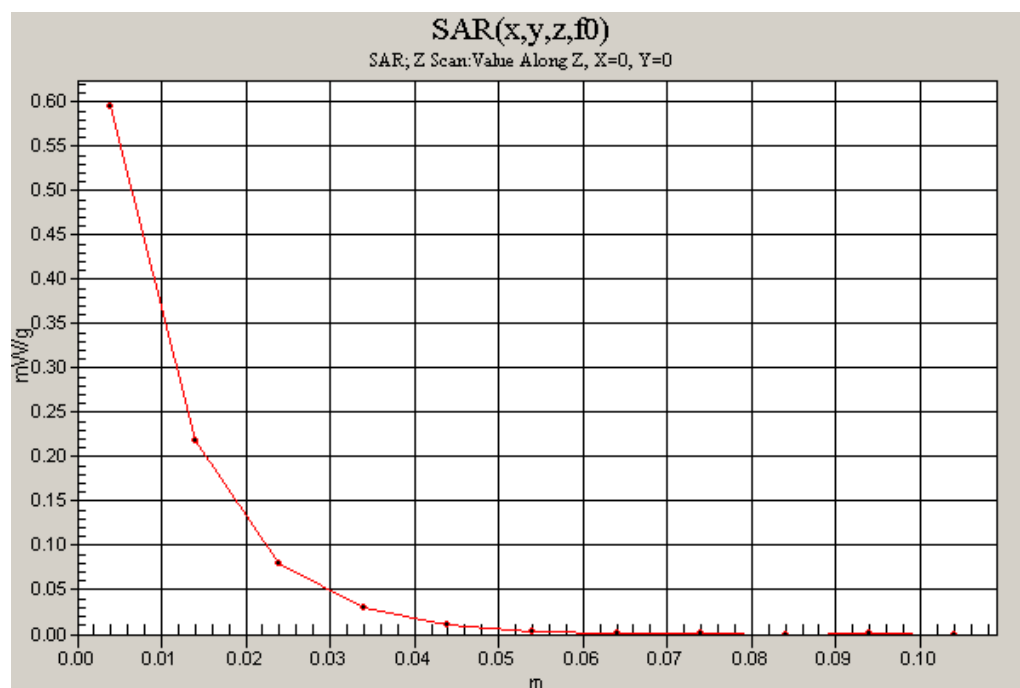
Peak SAR (extrapolated) = 0.975 W/kg

SAR(1 g) = 0.548 mW/g; SAR(10 g) = 0.303 mW/g

Maximum value of SAR (measured) = 0.595 mW/g



SAR distribution for GPRS 1900 (Class 11), channel 661, Position 4 (Fujitsu Siemens, EMC011, April 20, 2009; Ambient Temperature: 20.5°C; Liquid Temperature: 18.8°C).



5 SAR DISTRIBUTION PLOTS, ORIENTATION 5

Orientation 5 - GSM850 - GPRS - ch190

Test Laboratory: EMC Department Kamp-Lintfort

File Name: 090415_Z-RacerE_2Slot_GSM850_ch190_lmei0203_P5_d5mm

DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:4.16

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)Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn523; Calibrated: 11/6/2008
- Phantom: SAM-RIGHT; Type: SAM 4.0; Serial: 1241
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 0.126 mW/g

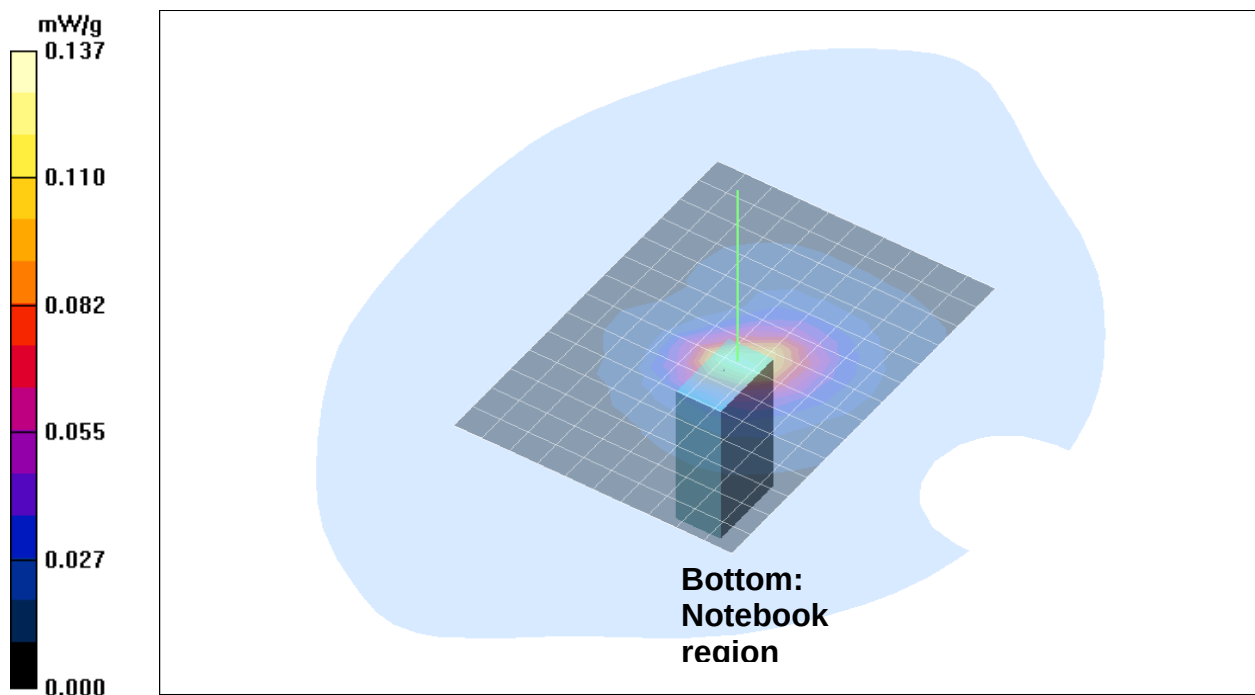
Z-RacerE P5/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.2 V/m; Power Drift = -0.111 dB

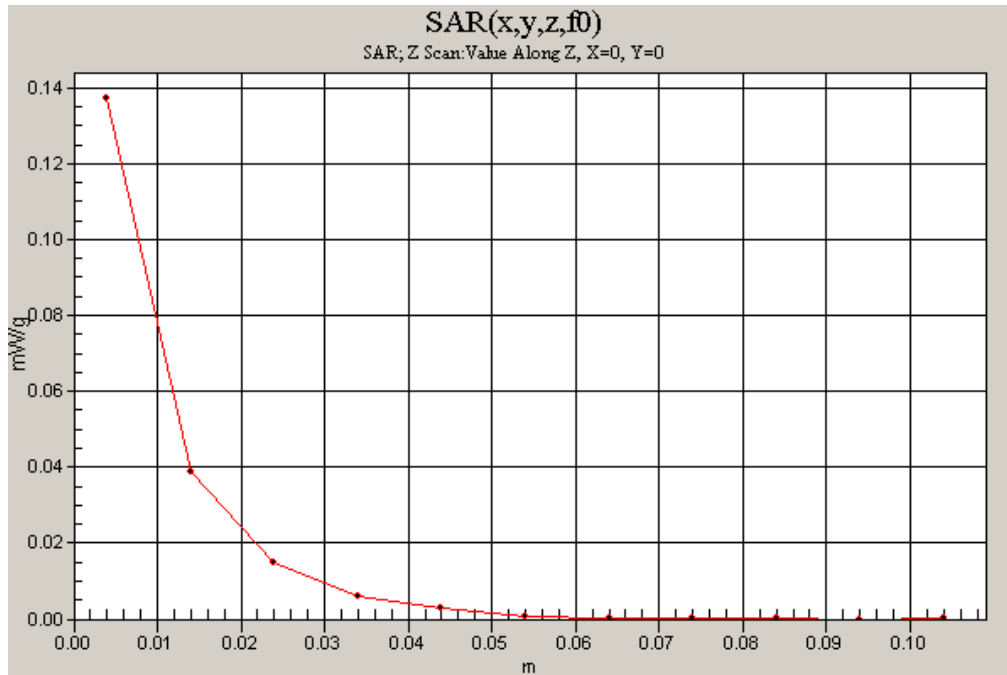
Peak SAR (extrapolated) = 0.256 W/kg

SAR(1 g) = 0.121 mW/g; SAR(10 g) = 0.062 mW/g

Maximum value of SAR (measured) = 0.137 mW/g



SAR distribution for GPRS 850 (Class 10), channel 190, Position 5 (Fujitsu Siemens, EMC011, April 15, 2009; Ambient Temperature: 21.0°C; Liquid Temperature: 19.2°C).



Orientation 5 – GSM1900 – GPRS – ch661

Test Laboratory: EMC Department Kamp-Lintfort
 File Name: 090420_Z-RacerE_3Slot_GSM1900_ch661_lmei0203_P5_d5mm
 DUT: Z-Racer; Type: USB Data Card; Serial: IMEI: ..0203

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2.77
 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(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 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 0.341 mW/g

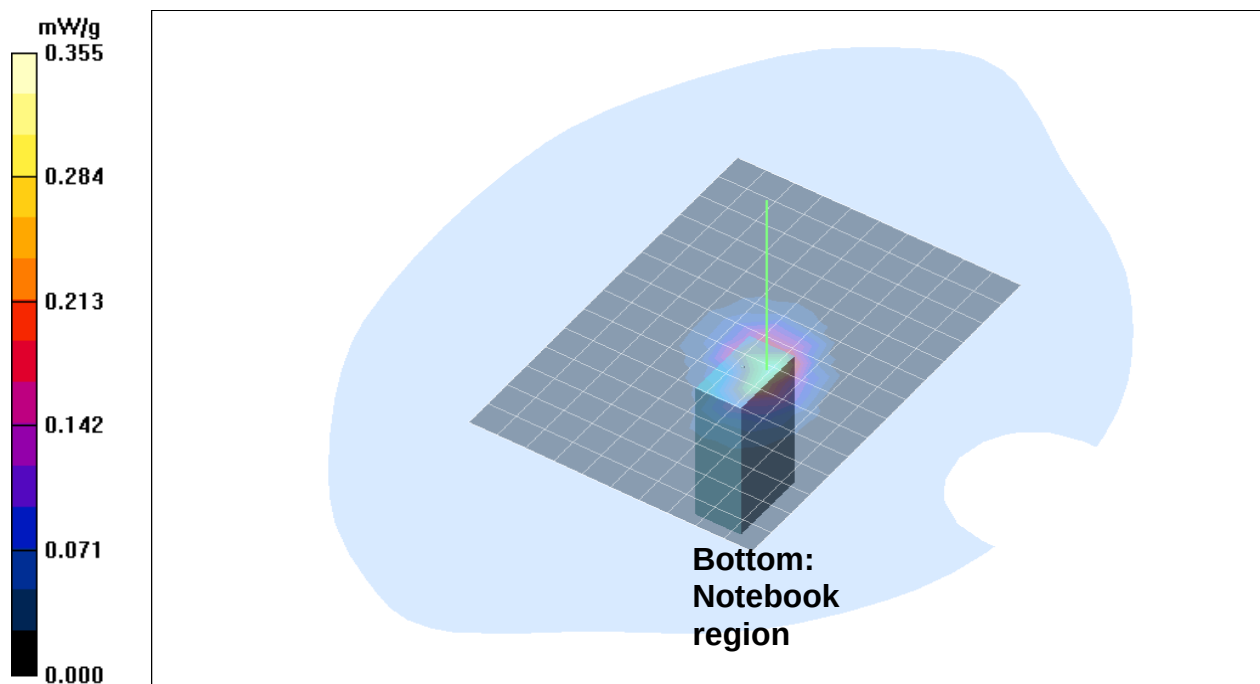
Z-RacerE P5/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.3 V/m; Power Drift = -0.044 dB

Peak SAR (extrapolated) = 0.698 W/kg

SAR(1 g) = 0.305 mW/g; SAR(10 g) = 0.134 mW/g

Maximum value of SAR (measured) = 0.359 mW/g



SAR distribution for GPRS 1900 (Class 11), channel 661, Position 5 (Fujitsu Siemens, EMC011, April 20, 2009; Ambient Temperature: 20.5°C; Liquid Temperature: 18.8°C).

