

SAR SYSTEM VALIDATION DATA

DUT: Dipole 835 MHz; Type: D835V2; S/N: 454

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.92 \text{ S/m}$; $\epsilon_r = 41.35$; $\rho = 1000 \text{ kg/m}^3$

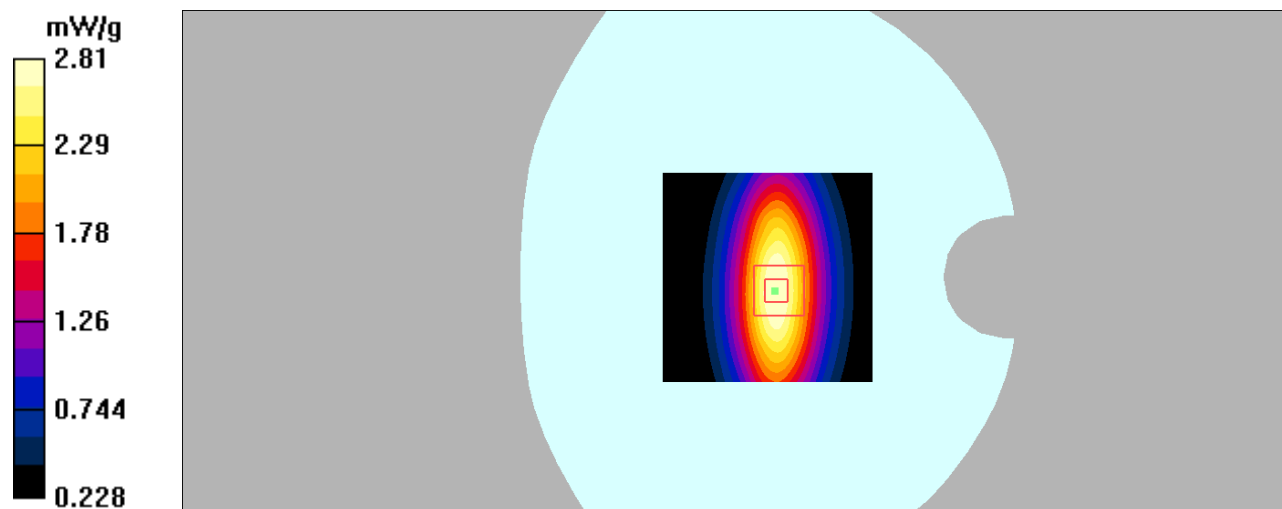
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(6.33, 6.33, 6.33); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 145

835 Head system check /Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 2.87 mW/g

835 Head system check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 57.6 V/m ; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 3.66 W/kg
SAR(1 g) = 2.38 mW/g ; SAR(10 g) = 1.47 mW/g
Maximum value of SAR (measured) = 2.81 mW/g



DUT: Dipole 835 MHz; Type: D835V2; S/N: 454

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835$ MHz; $\sigma = 0.99$ S/m; $\epsilon_r = 54.66$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(6.41, 6.41, 6.41); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 145

835 Body system check /Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.81 mW/g

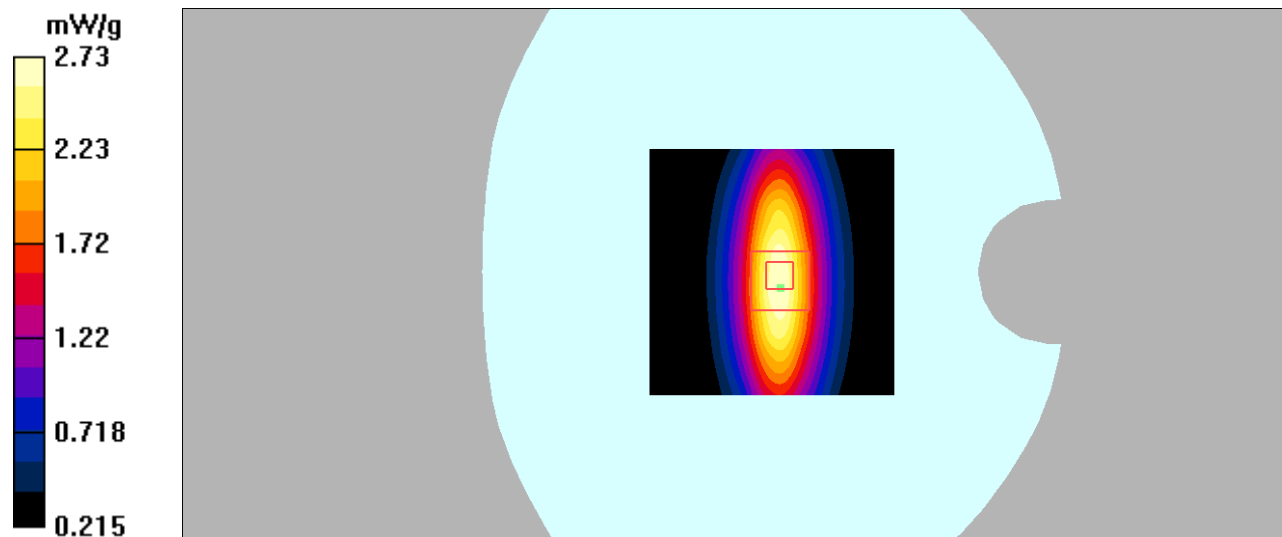
835 Body system check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.2 V/m; Power Drift = -0.085 dB

Peak SAR (extrapolated) = 3.56 W/kg

SAR(1 g) = 2.33 mW/g; SAR(10 g) = 1.45 mW/g

Maximum value of SAR (measured) = 2.73 mW/g



DUT: Dipole 1900 MHz; Type: D1900V2; S/N: 5d207

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.40$ S/m; $\epsilon_r = 40.61$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(4.92, 4.92, 4.92); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 145

1900 head system check/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12.9 mW/g

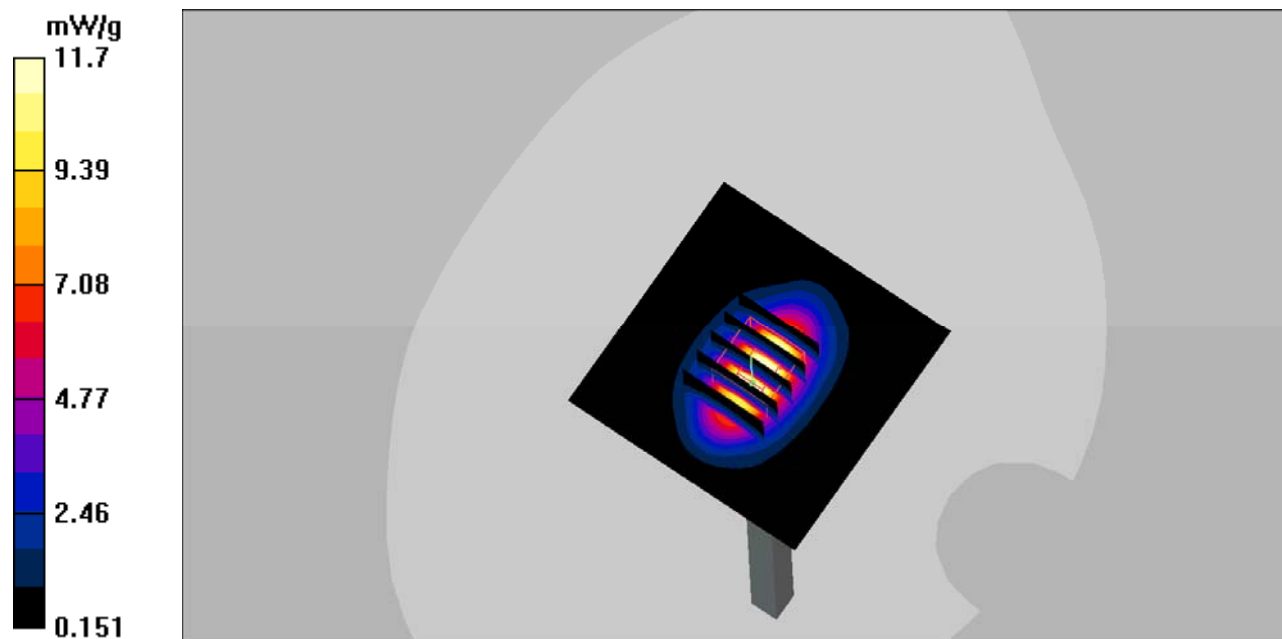
1900 head system check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 96.1 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 18.9 W/kg

SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.48 mW/g

Maximum value of SAR (measured) = 11.7 mW/g



DUT: Dipole 1900 MHz; Type: D1900V2; S/N: 5d207

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.53$ S/m; $\epsilon_r = 52.34$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(4.32, 4.32, 4.32); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 145

1900 Body system check/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 14.5 mW/g

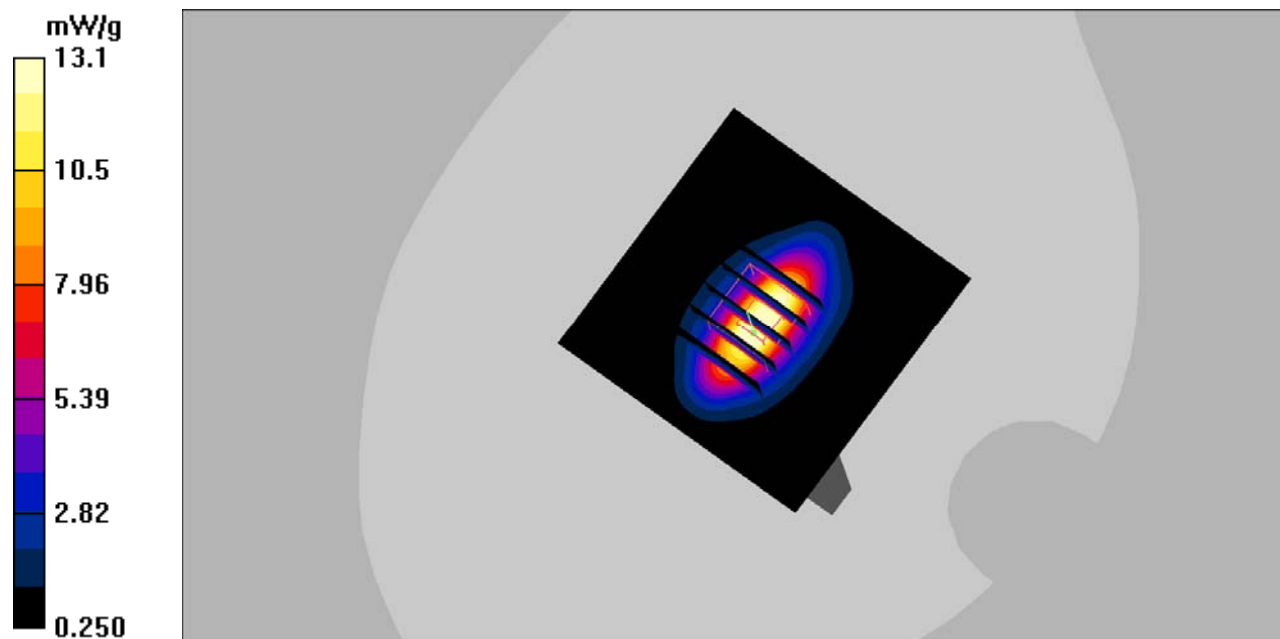
1900 Body system check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 104.7 V/m; Power Drift = -0.066 dB

Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 10.8 mW/g; SAR(10 g) = 5.71 mW/g

Maximum value of SAR (measured) = 13.1 mW/g



SAR plots:

DUT: IP Trunking Radio; Type: TH-388;

Communication System: GPRS bands-2slots; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium parameters used: $f = 836.6 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 41.64$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(6.33, 6.33, 6.33); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Postprocessing SW: SEMCAD, V1.8 Build 145

GSM835-face up-mid /Area Scan (81x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.201 mW/g

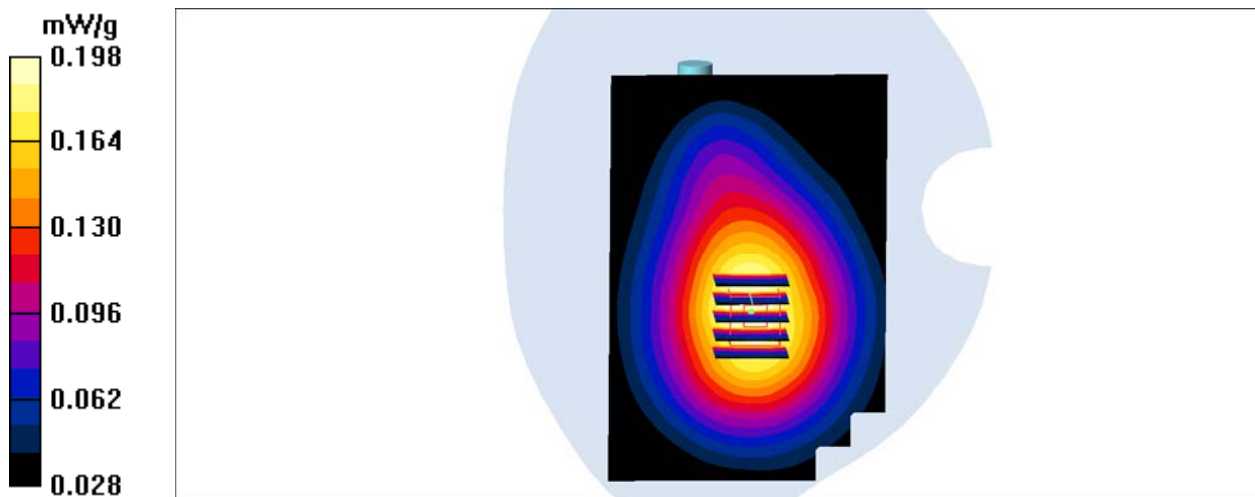
GSM835-face up-mid /Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.8 V/m ; Power Drift = -0.039 dB

Peak SAR (extrapolated) = 0.235 W/kg

SAR(1 g) = 0.186 mW/g ; SAR(10 g) = 0.139 mW/g

Maximum value of SAR (measured) = 0.198 mW/g



DUT: IP Trunking Radio; Type: TH-388;

Communication System: GPRS bands-2slots; Frequency: 836.6 MHz; Duty Cycle: 1:4

Medium parameters used: $f = 836.6 \text{ MHz}$; $\sigma = 0.99 \text{ mho/m}$; $\epsilon_r = 54.32$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(6.41, 6.41, 6.41); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Postprocessing SW: SEMCAD, V1.8 Build 145

GSM850-body-worn-back-mid/Area Scan (81x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.075 mW/g

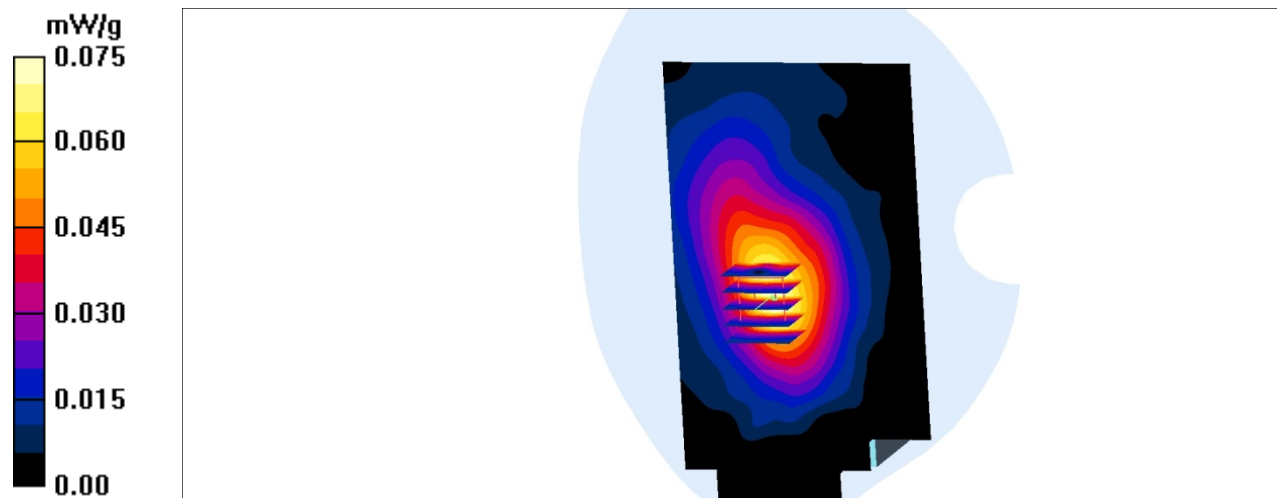
GSM850-body-worn-back-mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.14 V/m ; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 0.095 W/kg

SAR(1 g) = 0.070 mW/g ; SAR(10 g) = 0.050 mW/g

Maximum value of SAR (measured) = 0.075 mW/g



DUT: IP Trunking Radio; Type: TH-388;

Communication System: GPRS bands-2slots; Frequency: 1909.8 MHz; Duty Cycle: 1:4
Medium parameters used: $f = 1909.8 \text{ MHz}$; $\sigma = 1.43 \text{ mho/m}$; $\epsilon_r = 40.24$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(4.92, 4.92, 4.92); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Postprocessing SW: SEMCAD, V1.8 Build 145

PCS1900-face up-high/Area Scan (81x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

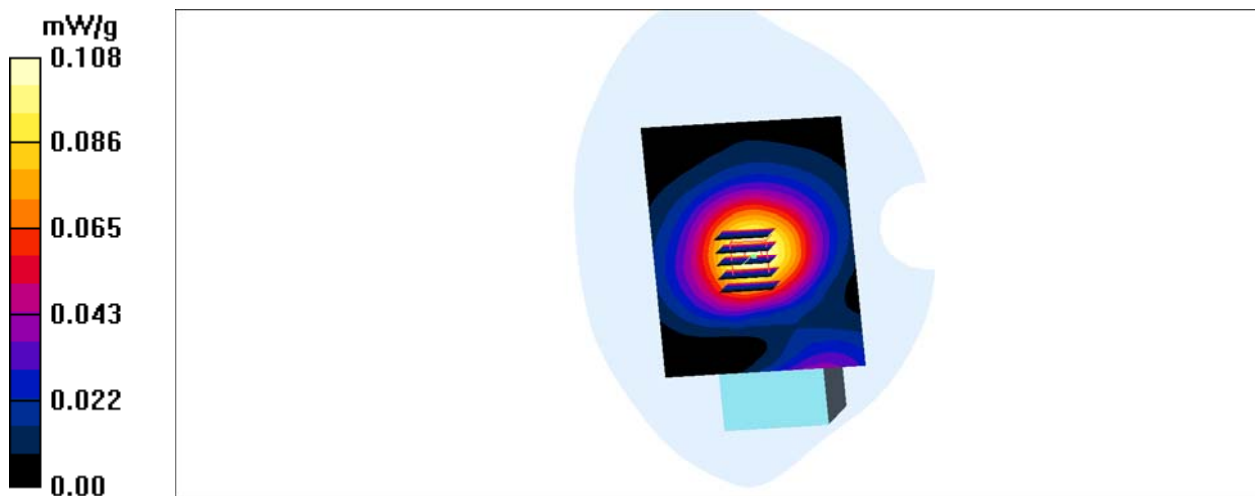
PCS1900-face up-high/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.97 V/m ; Power Drift = -0.069 dB

Peak SAR (extrapolated) = 0.162 W/kg

SAR(1 g) = 0.101 mW/g ; SAR(10 g) = 0.063 mW/g

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



DUT: IP Trunking Radio; Type: TH-388;

Communication System: GPRS bands-2slots; Frequency: 1909.8 MHz; Duty Cycle: 1:4

Medium parameters used: $f = 1909.8 \text{ MHz}$; $\sigma = 1.54 \text{ mho/m}$; $\epsilon_r = 51.36$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(4.32, 4.32, 4.32); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Postprocessing SW: SEMCAD, V1.8 Build 145

PCS1900-Body-worn-back-high/Area Scan (81x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.344 mW/g

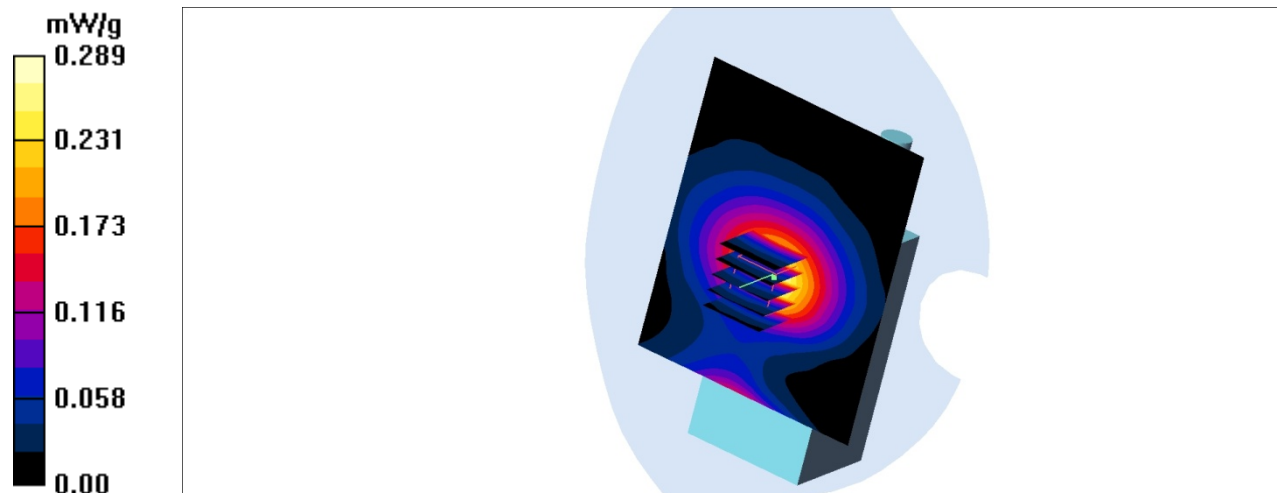
PCS1900-Body-worn-back-high/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.6 V/m ; Power Drift = -0.109 dB

Peak SAR (extrapolated) = 0.954 W/kg

SAR(1 g) = 0.246 mW/g ; SAR(10 g) = 0.106 mW/g

Maximum value of SAR (measured) = 0.289 mW/g



DUT: IP Trunking Radio; Type: TH-388;

Communication System: 3G Bands; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 836.6 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 41.64$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(6.33, 6.33, 6.33); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Postprocessing SW: SEMCAD, V1.8 Build 145

WCDMA835-face up-Middle/Area Scan (81x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

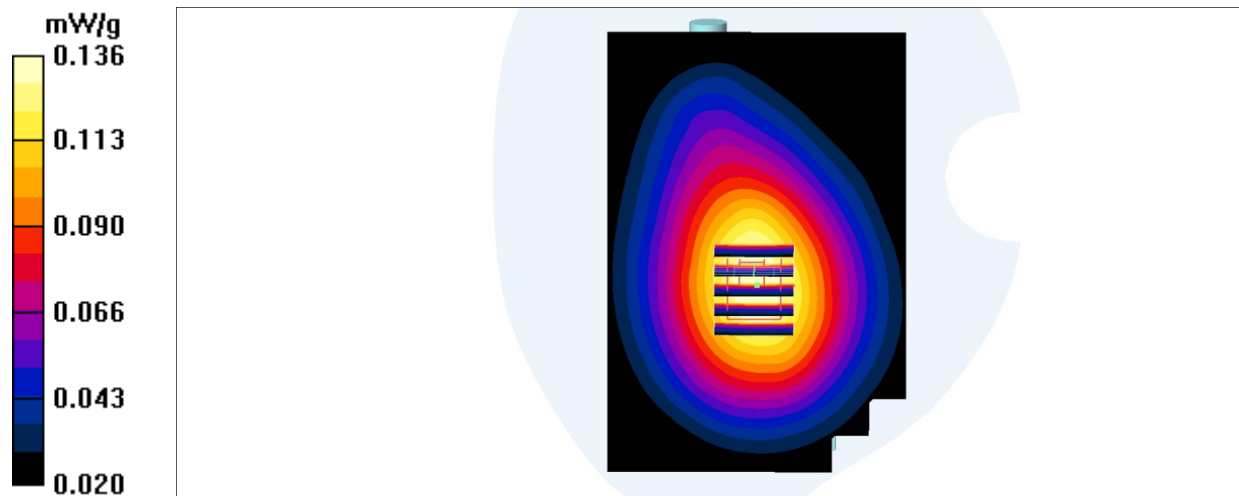
WCDMA835-face up-Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.58 V/m ; Power Drift = 0.054 dB

Peak SAR (extrapolated) = 0.170 W/kg

SAR(1 g) = 0.127 mW/g ; SAR(10 g) = 0.094 mW/g

Maximum value of SAR (measured) = 0.136 mW/g



DUT: IP Trunking Radio; Type: TH-388;

Communication System: 3G Bands; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 836.6 \text{ MHz}$; $\sigma = 0.99 \text{ mho/m}$; $\epsilon_r = 54.32$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(6.41, 6.41, 6.41); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Postprocessing SW: SEMCAD, V1.8 Build 145

WCDMA835-body-worn-back-Middle/Area Scan (81x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.042 mW/g

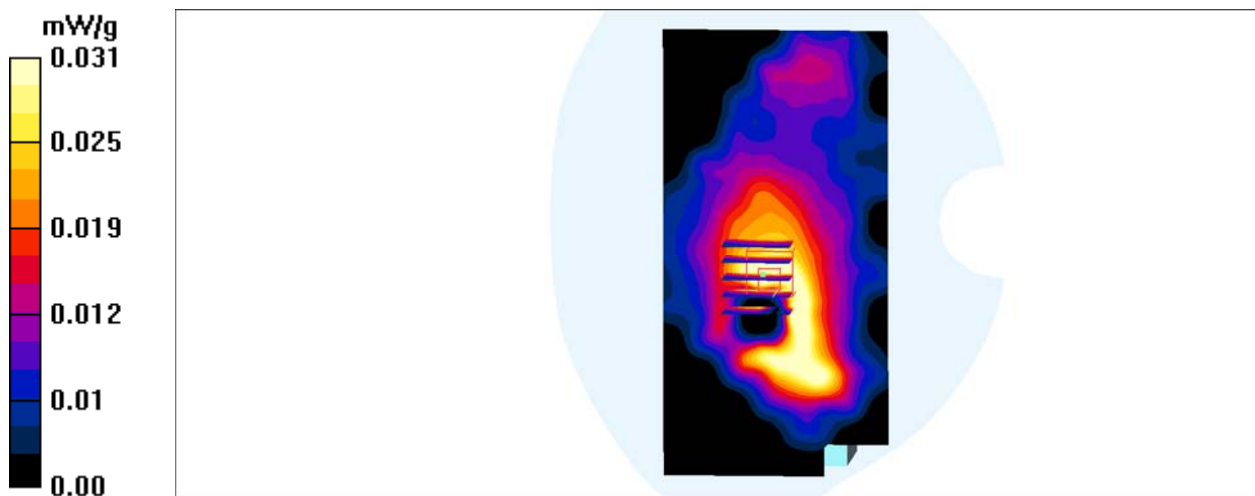
WCDMA835-body-worn-back-Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.81 V/m ; Power Drift = -0.127 dB

Peak SAR (extrapolated) = 0.041 W/kg

SAR(1 g) = 0.031 mW/g ; SAR(10 g) = 0.021 mW/g

Maximum value of SAR (measured) = 0.031 mW/g



DUT: IP Trunking Radio; Type: TH-388;

Communication System: 3G Bands; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.43 \text{ mho/m}$; $\epsilon_r = 39.54$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(4.92, 4.92, 4.92); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Postprocessing SW: SEMCAD, V1.8 Build 145

WCDMA1900-face up-mid /Area Scan (81x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.163 mW/g

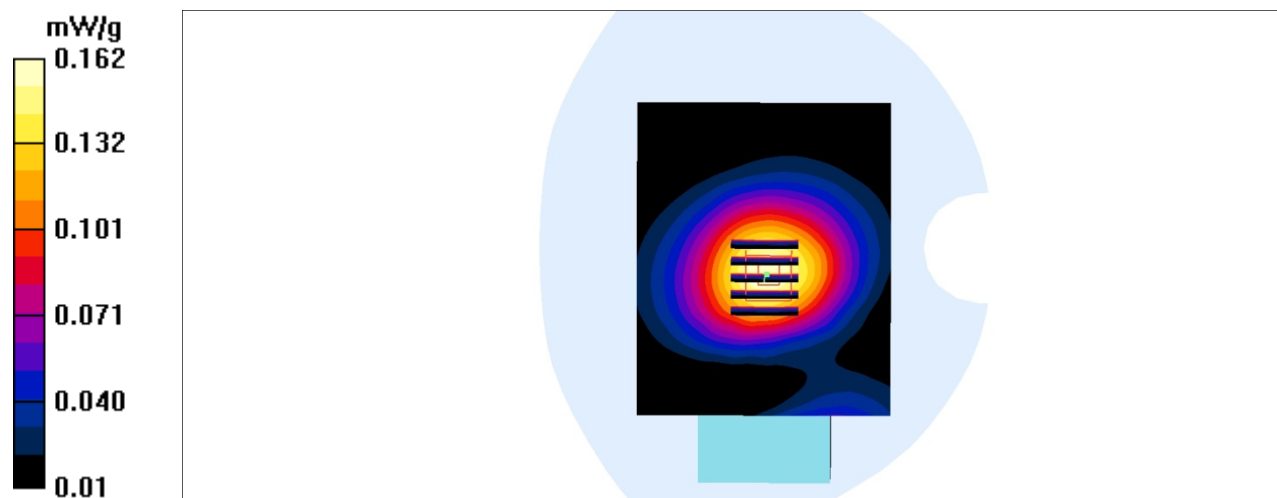
WCDMA1900-face up-mid /Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.8 V/m ; Power Drift = -0.051 dB

Peak SAR (extrapolated) = 0.238 W/kg

SAR(1 g) = 0.151 mW/g ; SAR(10 g) = 0.095 mW/g

Maximum value of SAR (measured) = 0.162 mW/g



DUT: IP Trunking Radio; Type: TH-388;

Communication System: 3G Bands; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.53 \text{ mho/m}$; $\epsilon_r = 51.48$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1664; ConvF(4.32, 4.32, 4.32); Calibrated: 11/17/2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 10/19/2016
- Phantom: TWIN SAM; Type: QD000P40CC; Serial: TP:1368
- Postprocessing SW: SEMCAD, V1.8 Build 145

WCDMA1900-body-worn-back-mid/Area Scan (81x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.509 mW/g

WCDMA1900-body-worn-back-mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 17.5 V/m ; Power Drift = -0.025 dB

Peak SAR (extrapolated) = 0.640 W/kg

SAR(1 g) = 0.436 mW/g ; SAR(10 g) = 0.258 mW/g

Maximum value of SAR (measured) = 0.484 mW/g

