# 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 MHz; $\sigma$ = 0.92 S/m; $\varepsilon_r$ = 41.35; $\rho$ = 1000 kg/m$^3$
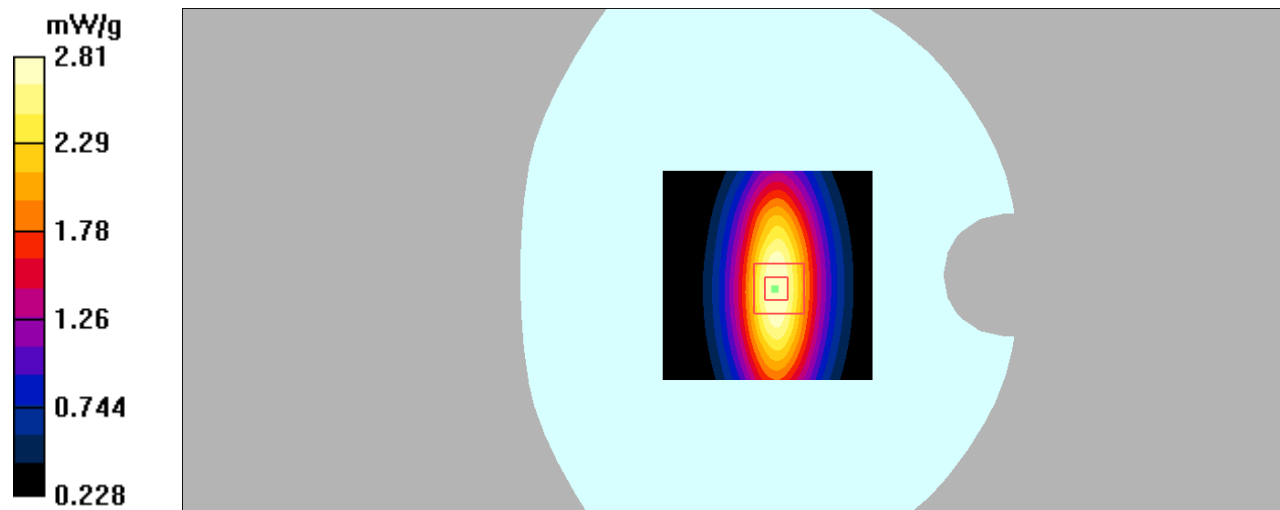
Phantom section: Flat Section

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=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.87 mW/g

**835 Head system check /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
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
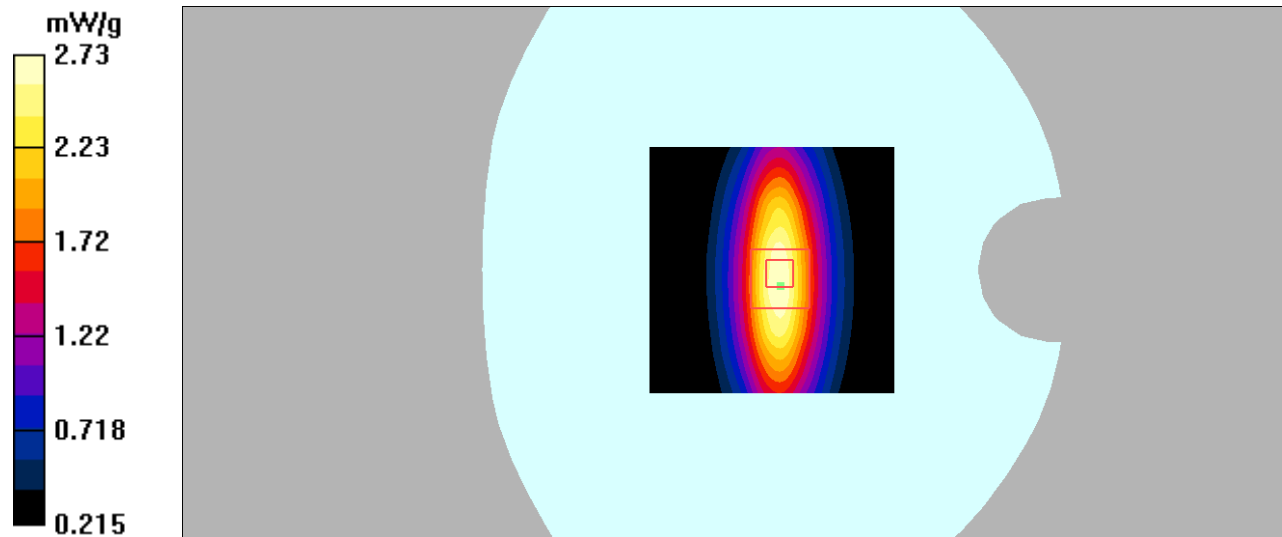Medium parameters used: f = 835 MHz; σ = 0.99 S/m; $\varepsilon_r$ = 54.66; ρ = 1000 kg/m³
Phantom section: Flat Section

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; σ = 1.40 S/m; $\varepsilon_r$ = 40.61; ρ = 1000 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
- 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
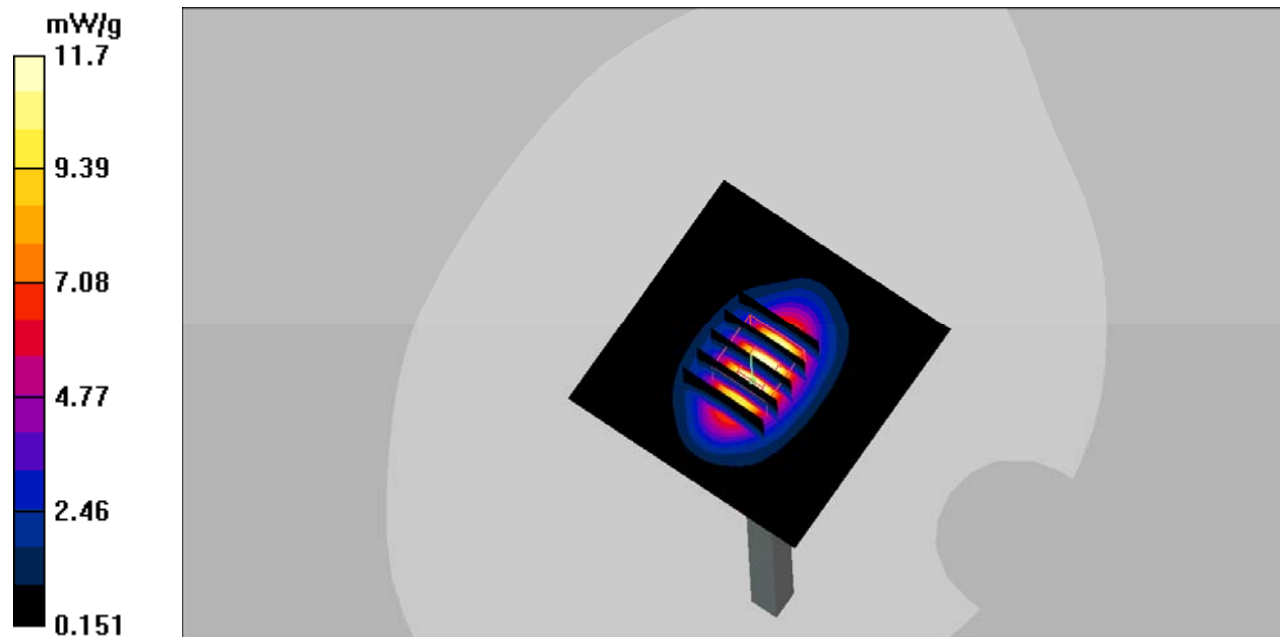Maximum value of SAR (interpolated) = 12.9 mW/g

**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; $\varepsilon_r$ = 52.34; $\rho$ = 1000 kg/m$^3$
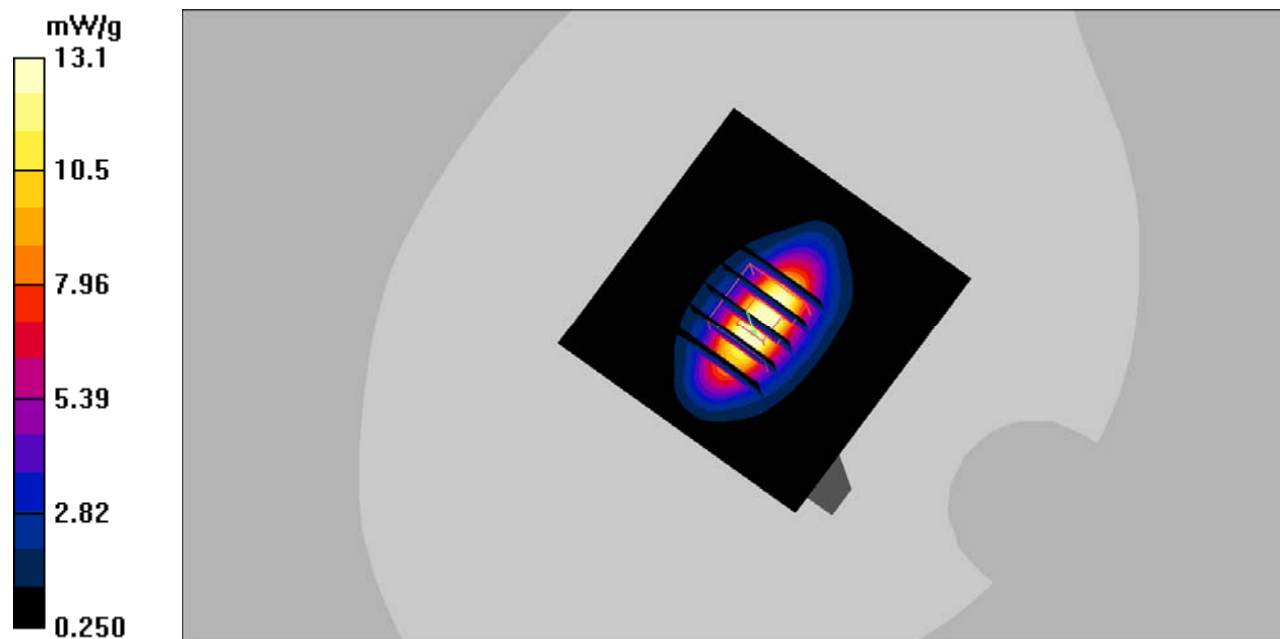
Phantom section: Flat Section

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

- 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 MHz; σ = 0.89 mho/m; εr = 41.64; ρ = 1000 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=15mm, dy=15mm
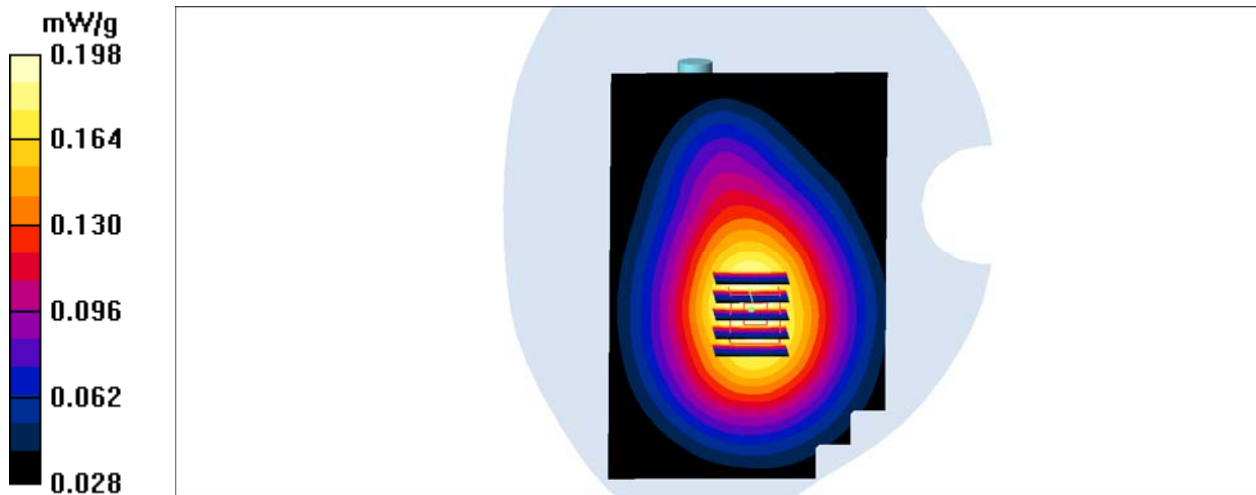Maximum value of SAR (interpolated) = 0.201 mW/g

**GSM835-face up-mid /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
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 MHz; σ = 0.99 mho/m; εr = 54.32; ρ = 1000 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=15mm, dy=15mm

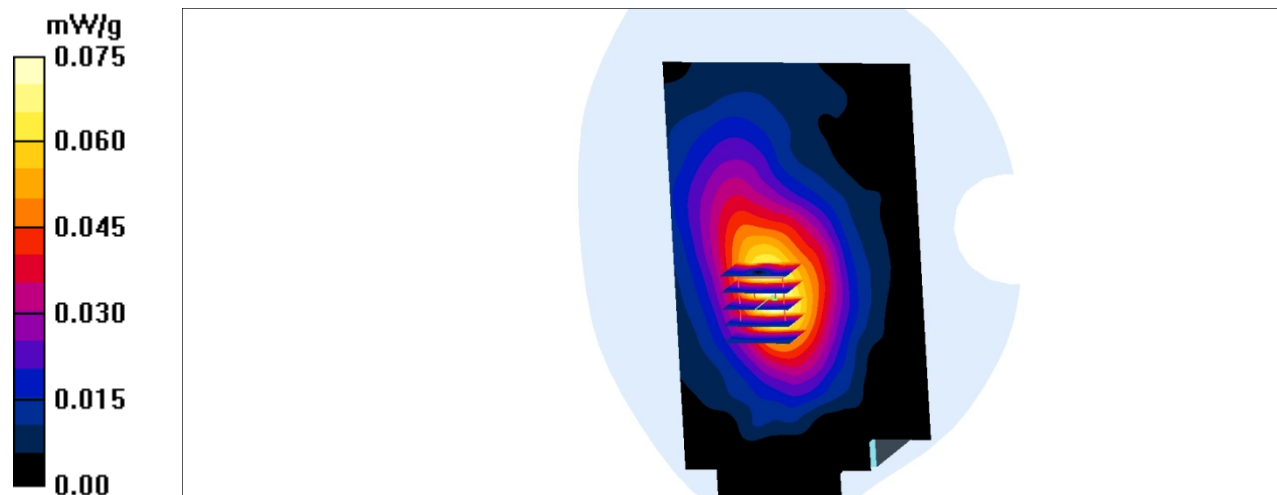Maximum value of SAR (interpolated) = 0.075 mW/g

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

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 MHz; σ = 1.43 mho/m; εr = 40.24; ρ = 1000 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=15mm, dy=15mm
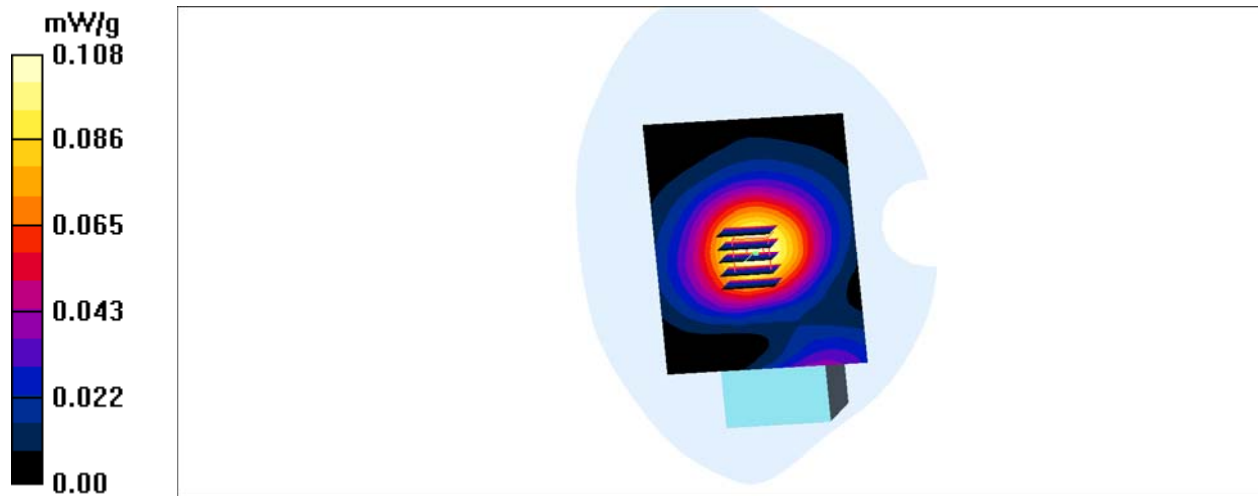
Maximum value of SAR (interpolated) = 0.108 mW/g

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

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 MHz; σ = 1.54 mho/m; εr = 51.36; ρ = 1000 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=15mm, dy=15mm

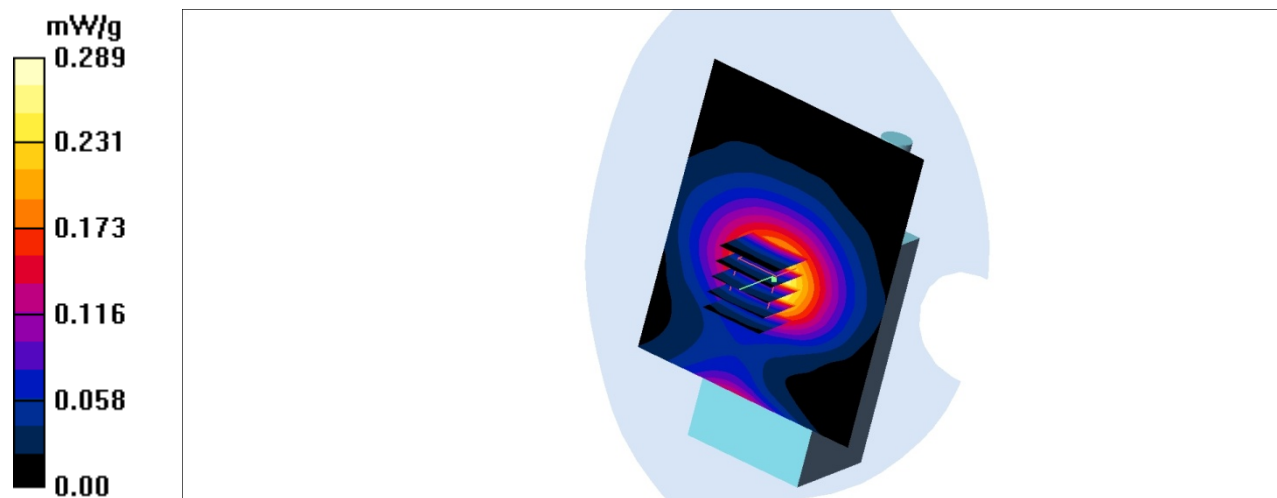Maximum value of SAR (interpolated) = 0.344 mW/g

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

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 MHz; σ = 0.89 mho/m; εr = 41.64; ρ = 1000 kg/m³
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=15mm, dy=15mm
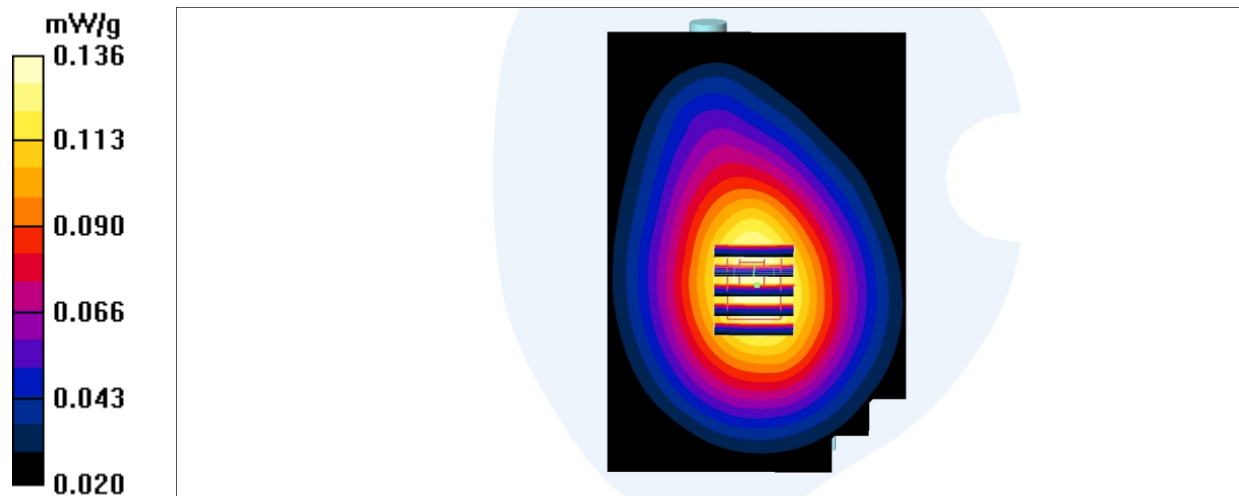Maximum value of SAR (interpolated) = 0.138 mW/g

**WCDMA835-face up-Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
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 MHz; σ = 0.99 mho/m; εr = 54.32; ρ = 1000 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=15mm, dy=15mm
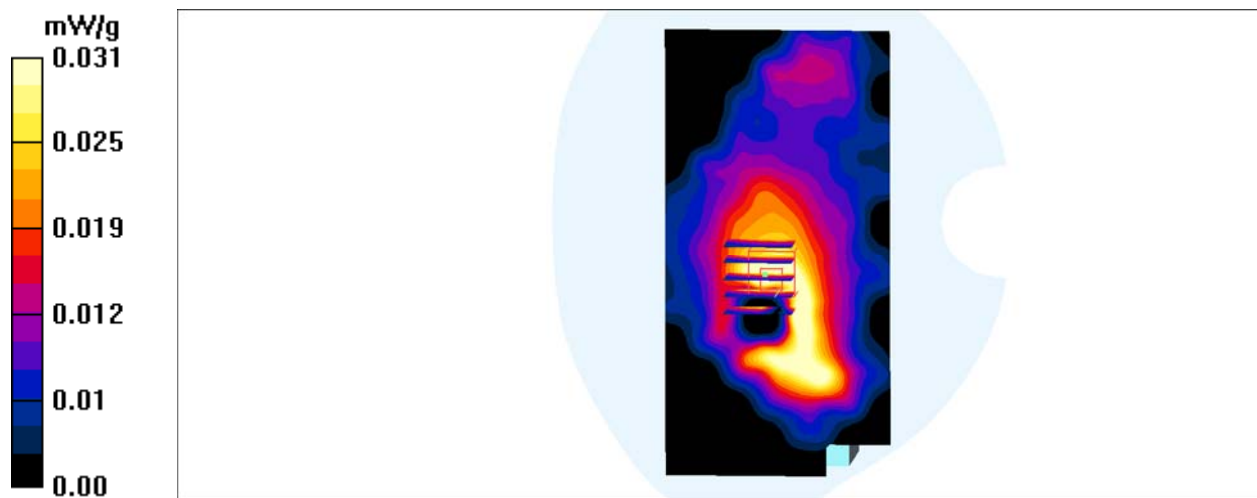
Maximum value of SAR (interpolated) = 0.042 mW/g

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

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 MHz; σ = 1.43 mho/m; εr = 39.54; ρ = 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

- Postprocessing SW: SEMCAD, V1.8 Build 145

**WCDMA1900-face up-mid /Area Scan (81x91x1):** Measurement grid: dx=15mm, dy=15mm

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

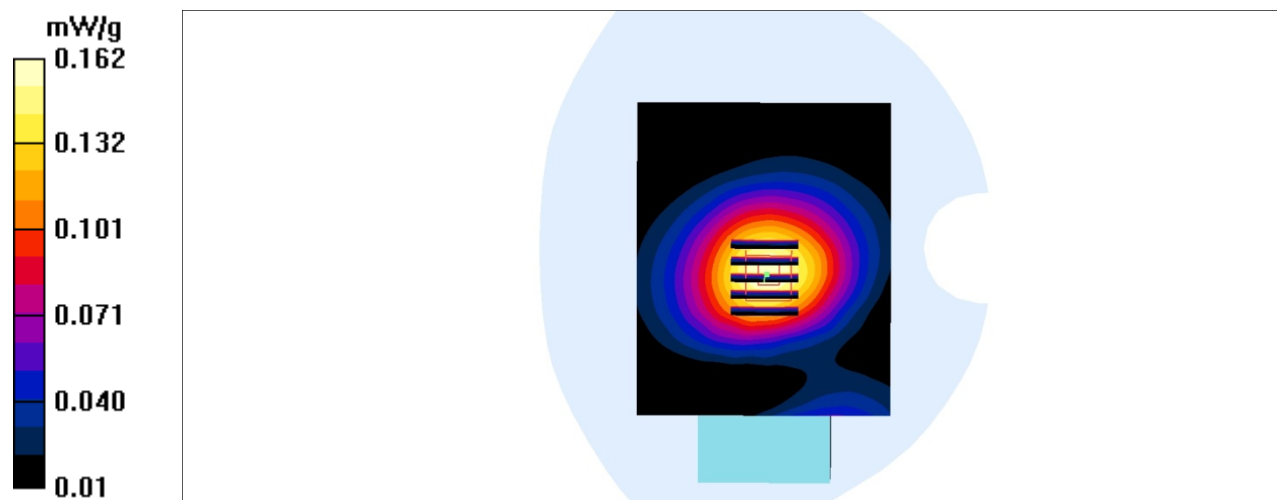**WCDMA1900-face up-mid /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

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 MHz; σ = 1.53 mho/m; εr = 51.48; ρ = 1000 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=15mm, dy=15mm

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

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

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