



香港商立德國際商品試驗有限公司桃園分公司

Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

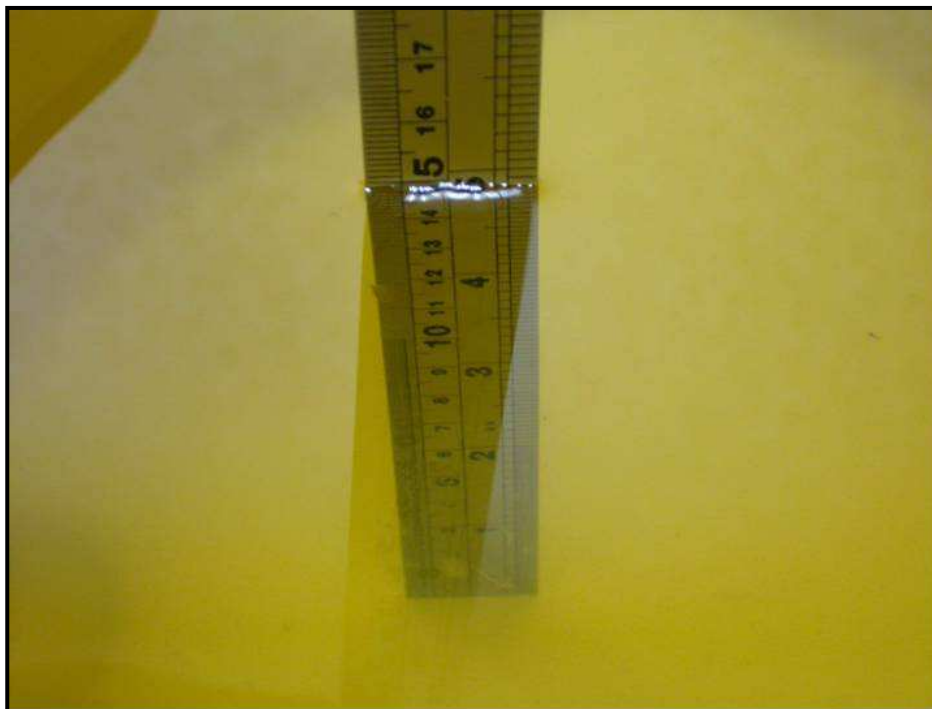
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APPENDIX A: TEST DATA

DUT: Mobile Phone ; Type: F-09C

Liquid Level Photo

Tissue 835MHz D=150mm



Tissue 1900MHz D=150mm



M01-Right Head-Cheek-WCDMA850-Ch4182 (slider off)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: HSL835 Medium parameters used : $f = 836.4$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 42.51$; $\rho = 1000$ kg/m³

Phantom section: Right Section ; DUT test position : Cheek ; Modulation type: BPSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.435 mW/g

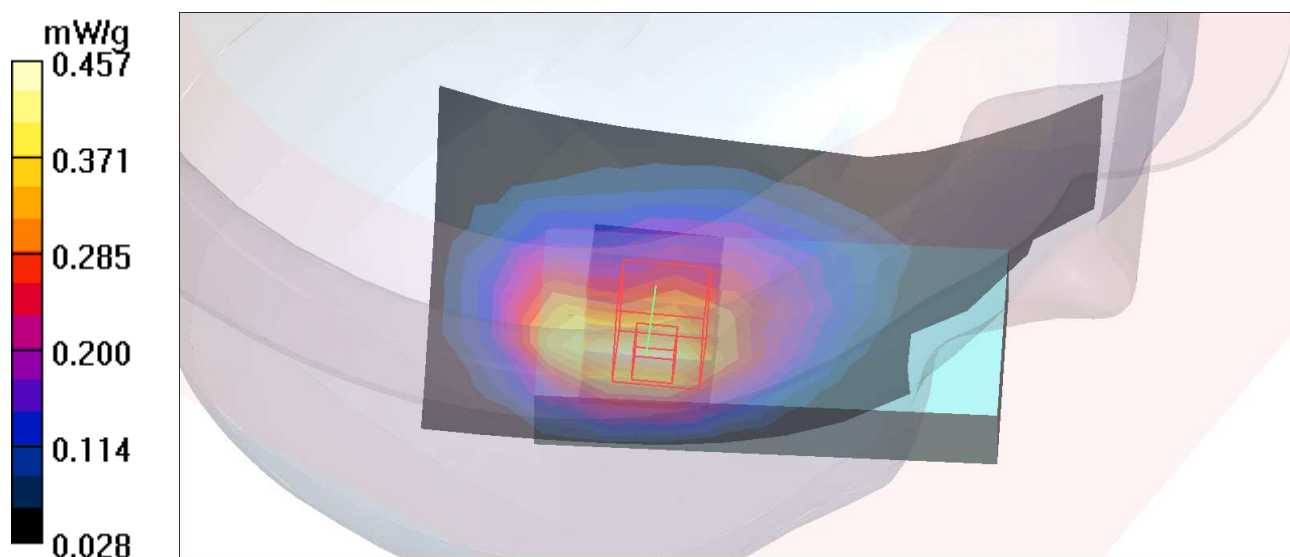
Touch position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.6 V/m; Power Drift = -0.141 dB

Peak SAR (extrapolated) = 0.580 W/kg

SAR(1 g) = 0.381 mW/g; SAR(10 g) = 0.262 mW/g

Maximum value of SAR (measured) = 0.457 mW/g



M02-Right Head-Tilt-WCDMA850-Ch4182 (slider off)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: HSL835 Medium parameters used : $f = 836.4$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 42.51$; $\rho = 1000$ kg/m³

Phantom section: Right Section ; DUT test position : Tilt ; Modulation type: BPSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.323 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.4 V/m; Power Drift = 0.061 dB

Peak SAR (extrapolated) = 0.410 W/kg

SAR(1 g) = 0.259 mW/g; SAR(10 g) = 0.193 mW/g

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

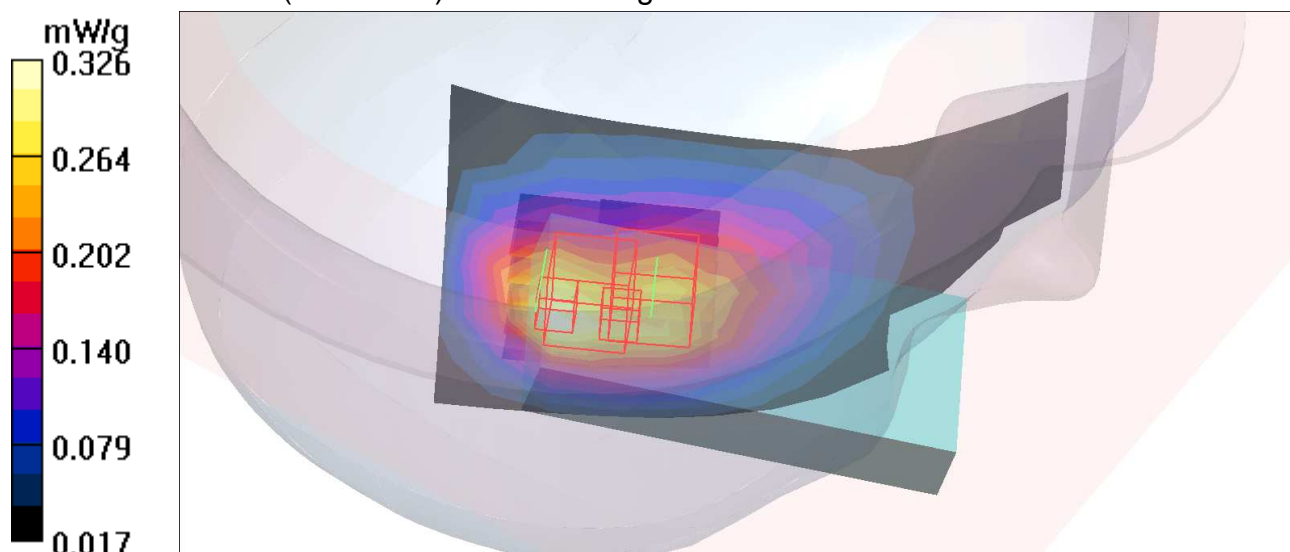
Tilt position - Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.4 V/m; Power Drift = 0.061 dB

Peak SAR (extrapolated) = 0.345 W/kg

SAR(1 g) = 0.257 mW/g; SAR(10 g) = 0.182 mW/g

Maximum value of SAR (measured) = 0.301 mW/g



M03-Left Head-Cheek-WCDMA850-Ch4182 (slider off)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: HSL835 Medium parameters used : $f = 836.4$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 42.51$; $\rho = 1000$ kg/m³

Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: BPSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.368 mW/g

Touch position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.2 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 0.409 W/kg

SAR(1 g) = 0.328 mW/g; SAR(10 g) = 0.251 mW/g

Maximum value of SAR (measured) = 0.371 mW/g

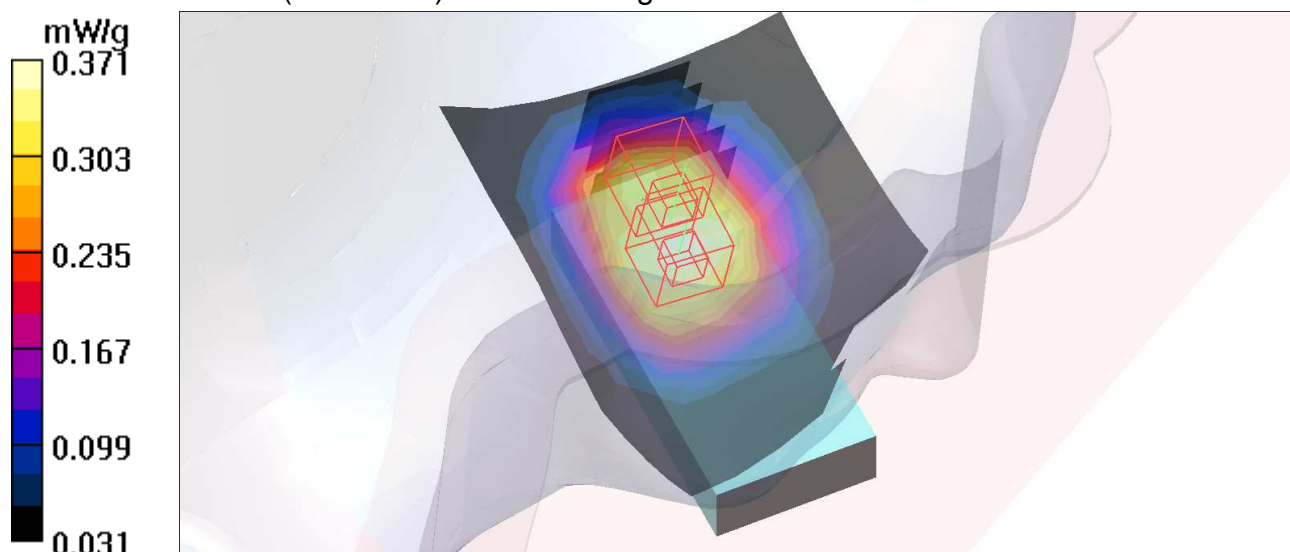
Touch position - Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.2 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 0.391 W/kg

SAR(1 g) = 0.279 mW/g; SAR(10 g) = 0.196 mW/g

Maximum value of SAR (measured) = 0.335 mW/g



M04-Left Head-Tilt-WCDMA850-Ch4182 (slider off)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: HSL835 Medium parameters used : $f = 836.4$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 42.51$; $\rho = 1000$ kg/m³

Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: BPSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm

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

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.1 V/m; Power Drift = 0.166 dB

Peak SAR (extrapolated) = 0.362 W/kg

SAR(1 g) = 0.230 mW/g; SAR(10 g) = 0.159 mW/g

Maximum value of SAR (measured) = 0.296 mW/g

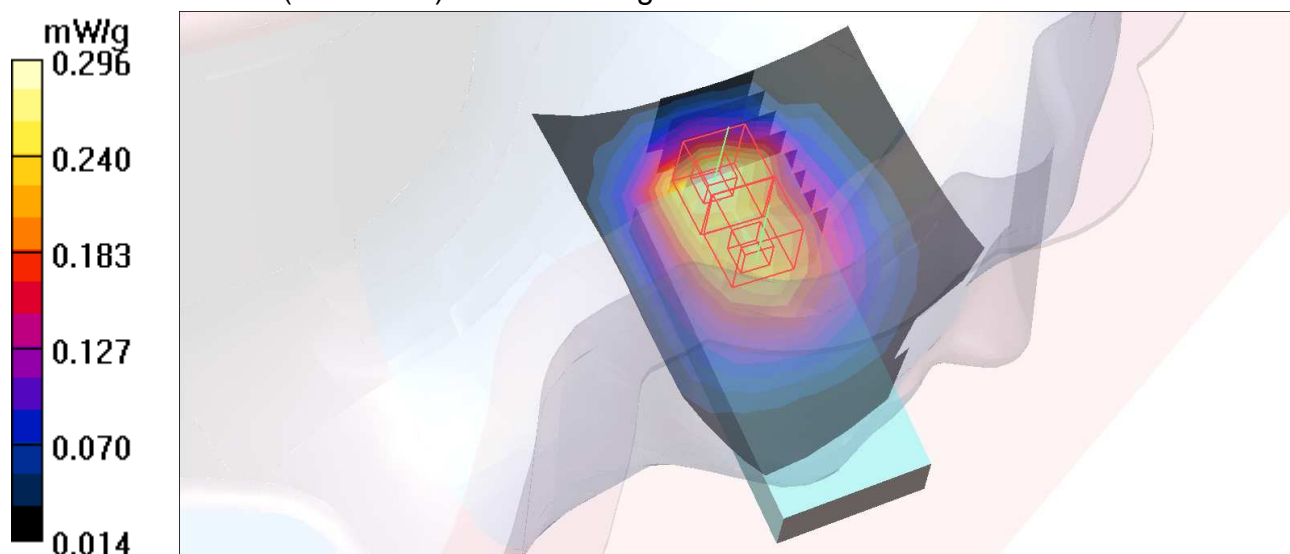
Tilt position - Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.1 V/m; Power Drift = 0.166 dB

Peak SAR (extrapolated) = 0.299 W/kg

SAR(1 g) = 0.233 mW/g; SAR(10 g) = 0.177 mW/g

Maximum value of SAR (measured) = 0.268 mW/g



M05-Right Head-Cheek-WCDMA850-Ch4182 (slider on)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: HSL835 Medium parameters used : $f = 836.4$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 42.51$; $\rho = 1000$ kg/m³

Phantom section: Right Section ; DUT test position : Cheek ; Modulation type: BPSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.255 mW/g

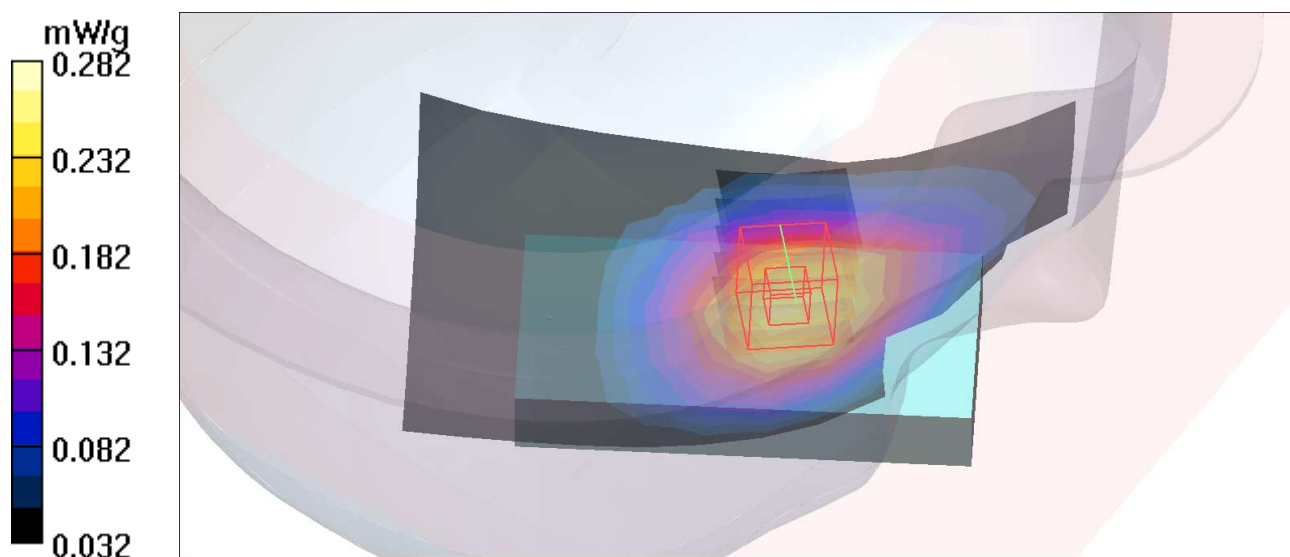
Touch position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.85 V/m; Power Drift = 0.144 dB

Peak SAR (extrapolated) = 0.311 W/kg

SAR(1 g) = 0.242 mW/g; SAR(10 g) = 0.180 mW/g

Maximum value of SAR (measured) = 0.282 mW/g



M06-Right Head-Tilt-WCDMA850-Ch4182 (slider on)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: HSL835 Medium parameters used : $f = 836.4$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 42.51$; $\rho = 1000$ kg/m³

Phantom section: Right Section ; DUT test position : Tilt ; Modulation type: BPSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm

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

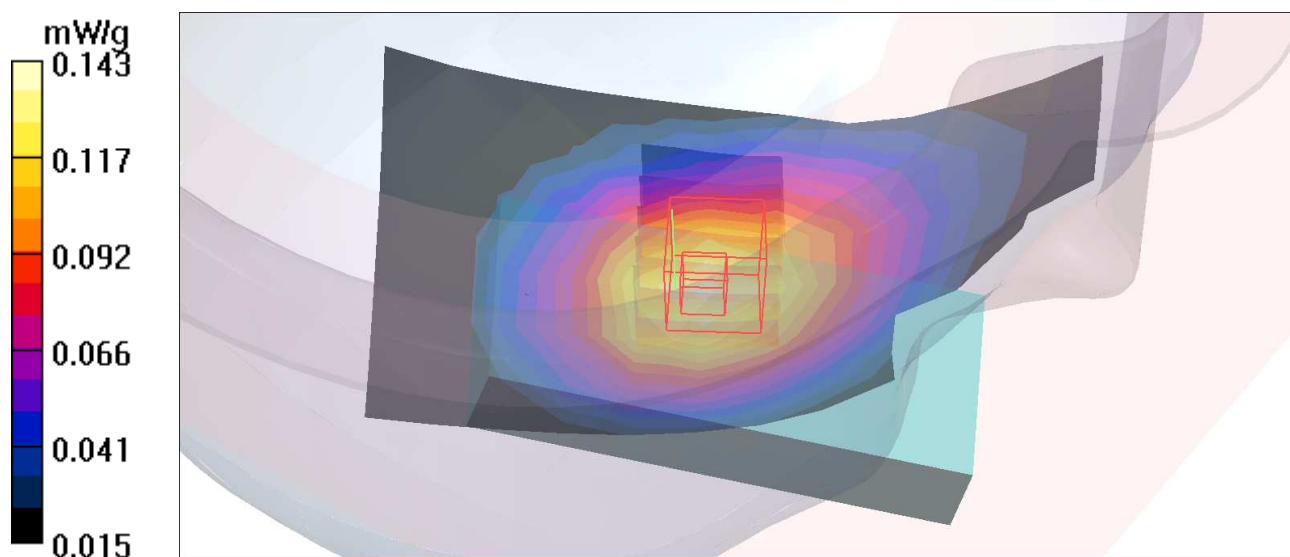
Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.72 V/m; Power Drift = 0.179 dB

Peak SAR (extrapolated) = 0.159 W/kg

SAR(1 g) = 0.124 mW/g; SAR(10 g) = 0.094 mW/g

Maximum value of SAR (measured) = 0.143 mW/g



M07-Left Head-Cheek-WCDMA850-Ch4182 (slider on)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: HSL835 Medium parameters used : $f = 836.4$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 42.51$; $\rho = 1000$ kg/m³

Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: BPSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.234 mW/g

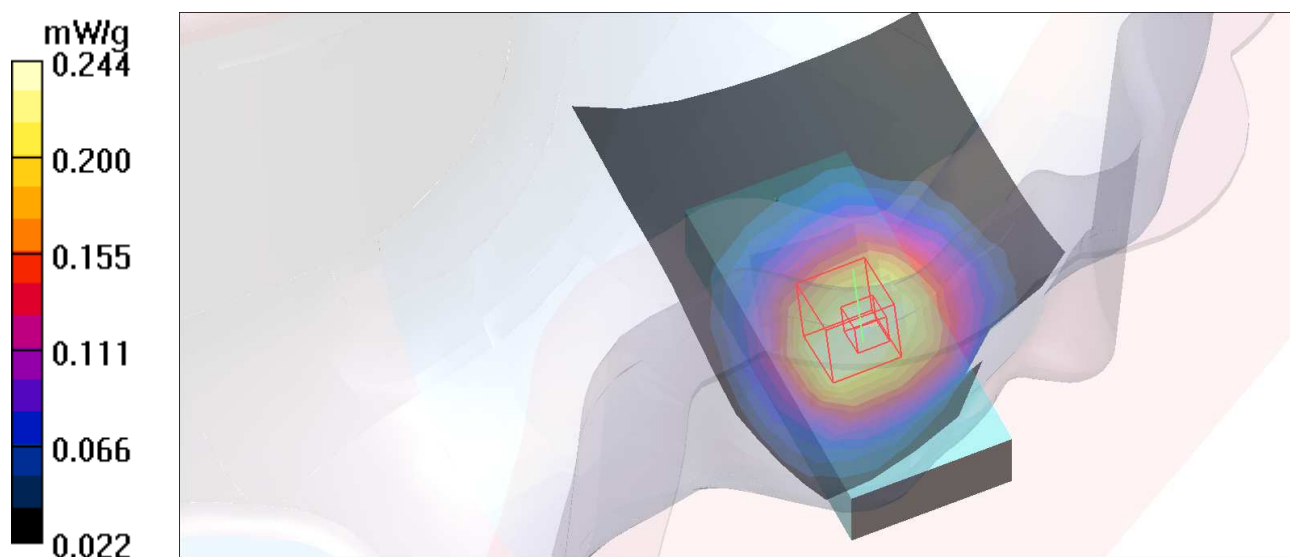
Touch position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.60 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 0.271 W/kg

SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.160 mW/g

Maximum value of SAR (measured) = 0.244 mW/g



M08-Left Head-Tilt-WCDMA850-Ch4182 (slider on)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: HSL835 Medium parameters used : $f = 836.4$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 42.51$; $\rho = 1000$ kg/m³

Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: BPSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm

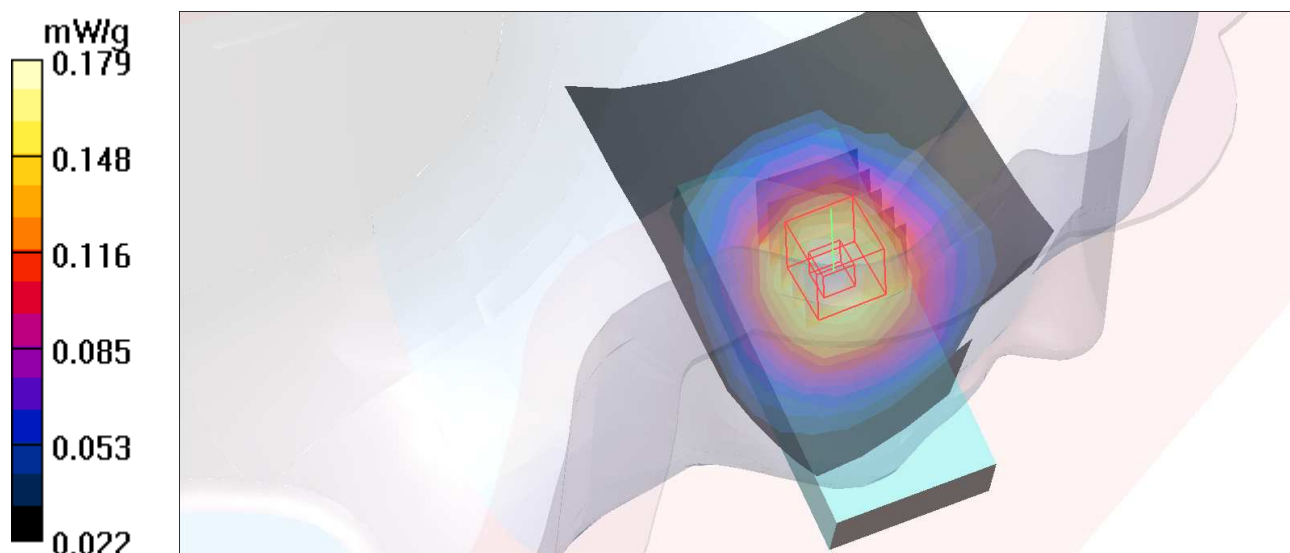
Maximum value of SAR (measured) = 0.179 mW/g

Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.38 V/m; Power Drift = 0.114 dB

Peak SAR (extrapolated) = 0.199 W/kg

SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.122 mW/g



M09-WCDMA850-Ch4182 (slider off)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: MSL835 Medium parameters used: $f = 836.4$ MHz; $\sigma = 0.99$ mho/m; $\epsilon_r = 56.13$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; DUT test position : Body ; Modulation type: BPSK

Separation Distance : 15 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch4182/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.483 mW/g

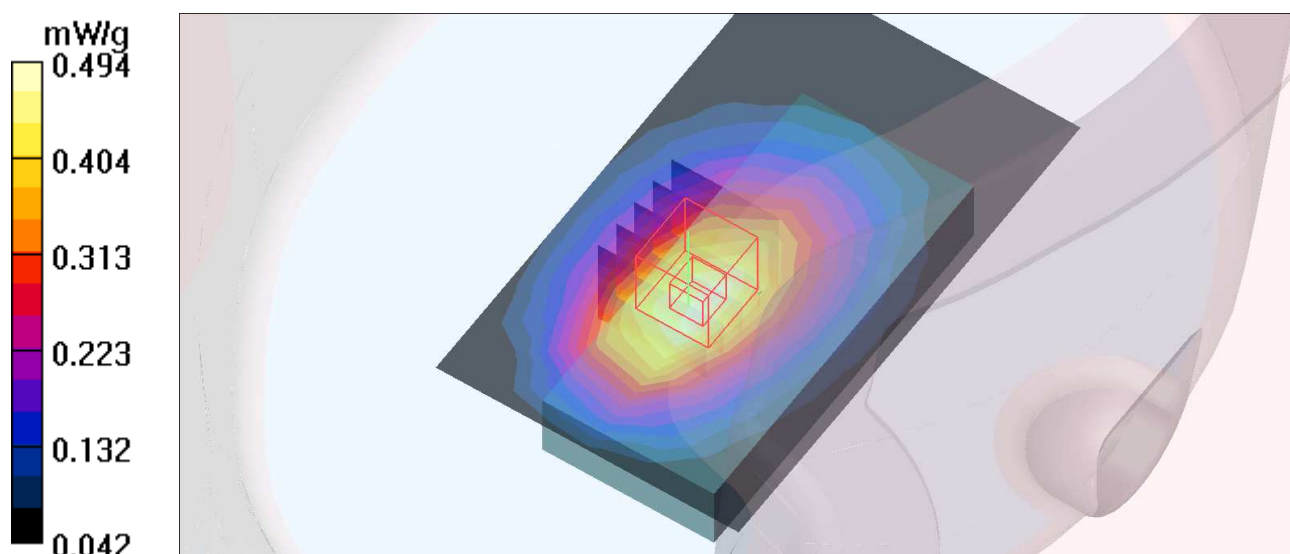
Body Position - Mid Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.9 V/m; Power Drift = 0.089 dB

Peak SAR (extrapolated) = 0.565 W/kg

SAR(1 g) = 0.406 mW/g; SAR(10 g) = 0.285 mW/g

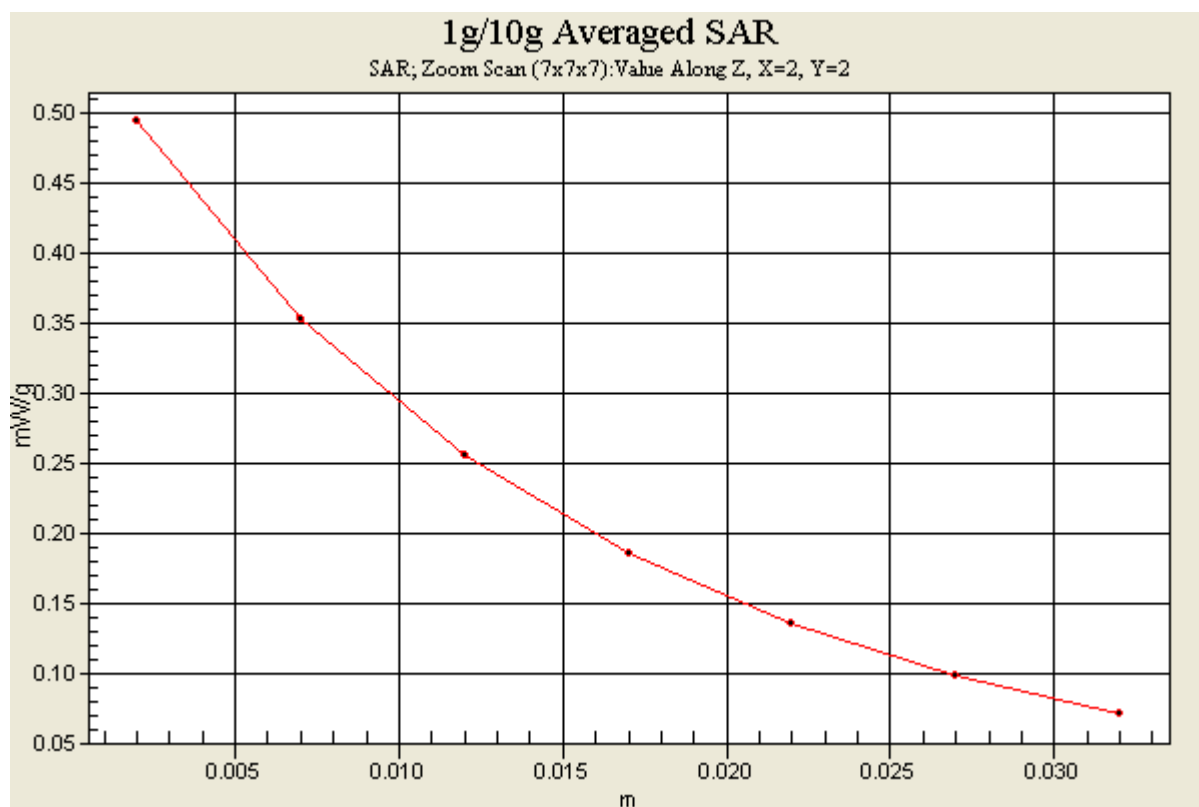
Maximum value of SAR (measured) = 0.494 mW/g





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M10-WCDMA850-Ch4182 (slider off)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: MSL835 Medium parameters used: $f = 836.4$ MHz; $\sigma = 0.99$ mho/m; $\epsilon_r = 56.13$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; DUT test position : Body ; Modulation type: BPSK

Separation Distance : 15 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch4182/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.222 mW/g

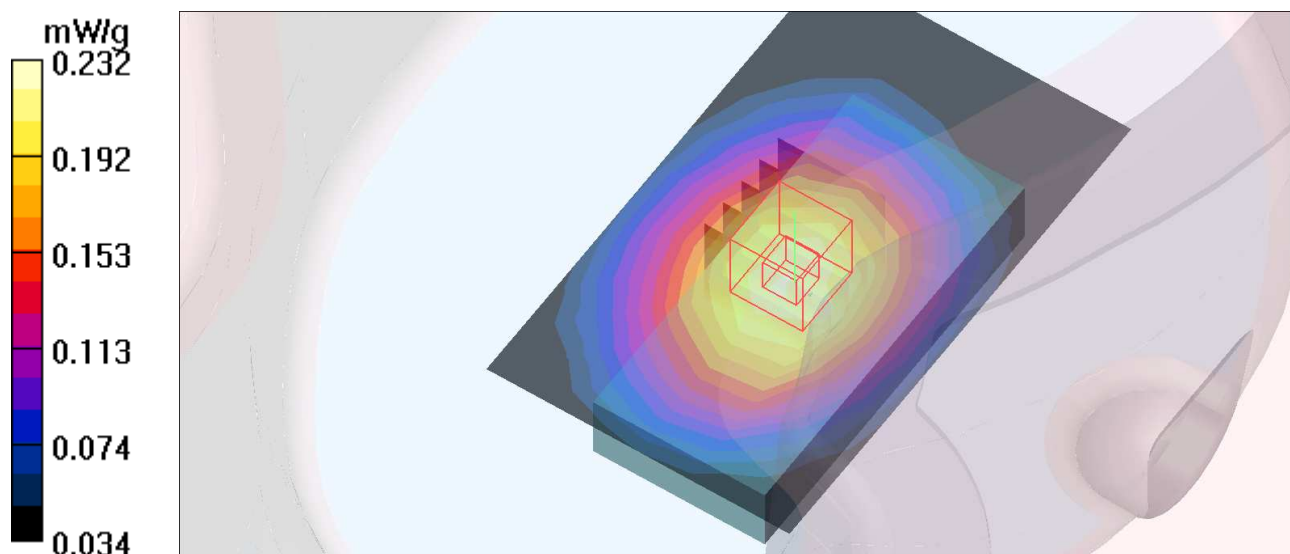
Body Position - Mid Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.5 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 0.258 W/kg

SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.149 mW/g

Maximum value of SAR (measured) = 0.232 mW/g



M11-WCDMA850-Ch4182 (slider on)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: MSL835 Medium parameters used: $f = 836.4$ MHz; $\sigma = 0.99$ mho/m; $\epsilon_r = 56.13$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; DUT test position : Body ; Modulation type: BPSK

Separation Distance : 15 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch4182/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.335 mW/g

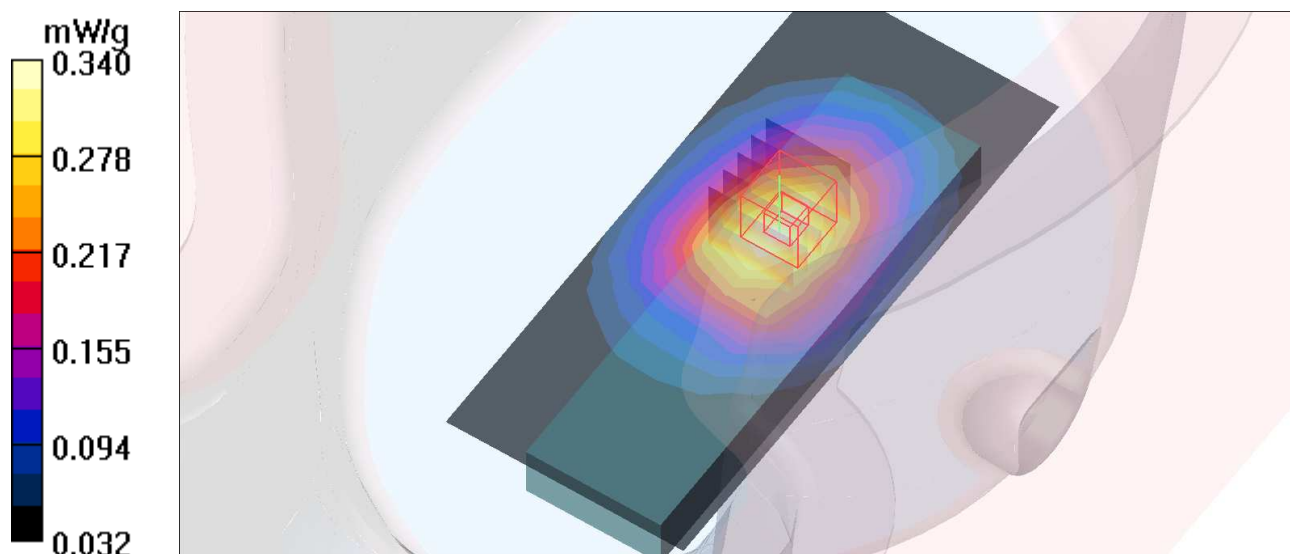
Body Position - Mid Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.4 V/m; Power Drift = 0.094 dB

Peak SAR (extrapolated) = 0.389 W/kg

SAR(1 g) = 0.282 mW/g; SAR(10 g) = 0.199 mW/g

Maximum value of SAR (measured) = 0.340 mW/g



M12-WCDMA850-Ch4182 (slider on)

Communication System: WCDMA850 ; Frequency: 836.4 MHz ; Duty Cycle: 1:1

Medium: MSL835 Medium parameters used: $f = 836.4$ MHz; $\sigma = 0.99$ mho/m; $\epsilon_r = 56.13$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; DUT test position : Body ; Modulation type: BPSK

Separation Distance : 15 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

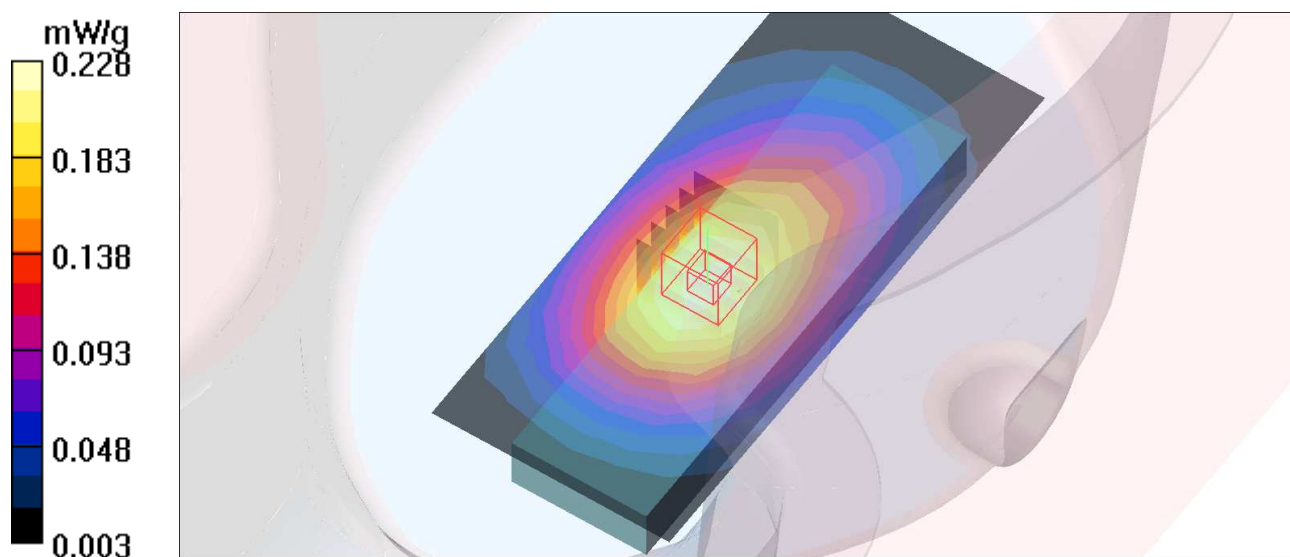
Body Position - Mid Ch4182/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.228 mW/g

Body Position - Mid Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.0 V/m; Power Drift = 0.015 dB

Peak SAR (extrapolated) = 0.255 W/kg

SAR(1 g) = 0.193 mW/g; SAR(10 g) = 0.143 mW/g



M13-Right Head-Cheek-PCS1900-Ch661 (slider off)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.97$; $\rho = 1000$ kg/m³

Phantom section: Right Section ; DUT test position : Cheek ; Modulation type: GMSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.294 mW/g

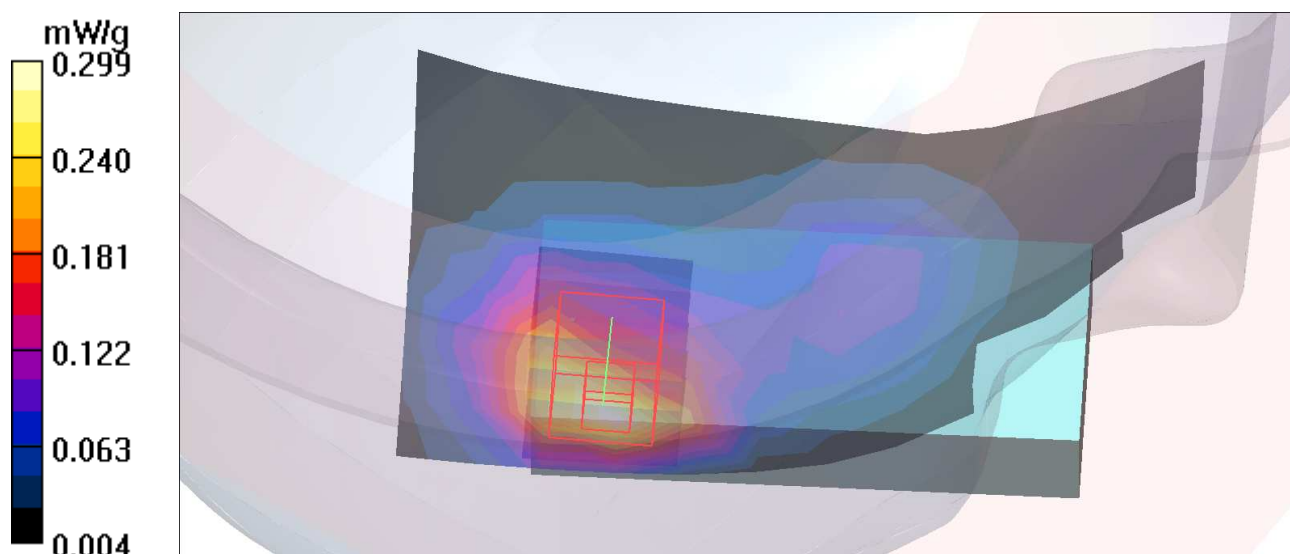
Touch position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.5 V/m; Power Drift = -0.006 dB

Peak SAR (extrapolated) = 0.372 W/kg

SAR(1 g) = 0.211 mW/g; SAR(10 g) = 0.120 mW/g

Maximum value of SAR (measured) = 0.299 mW/g



M14-Right Head-Tilt-PCS1900-Ch661 (slider off)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.97$; $\rho = 1000$ kg/m³

Phantom section: Right Section ; DUT test position : Tilt ; Modulation type: GMSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.305 mW/g

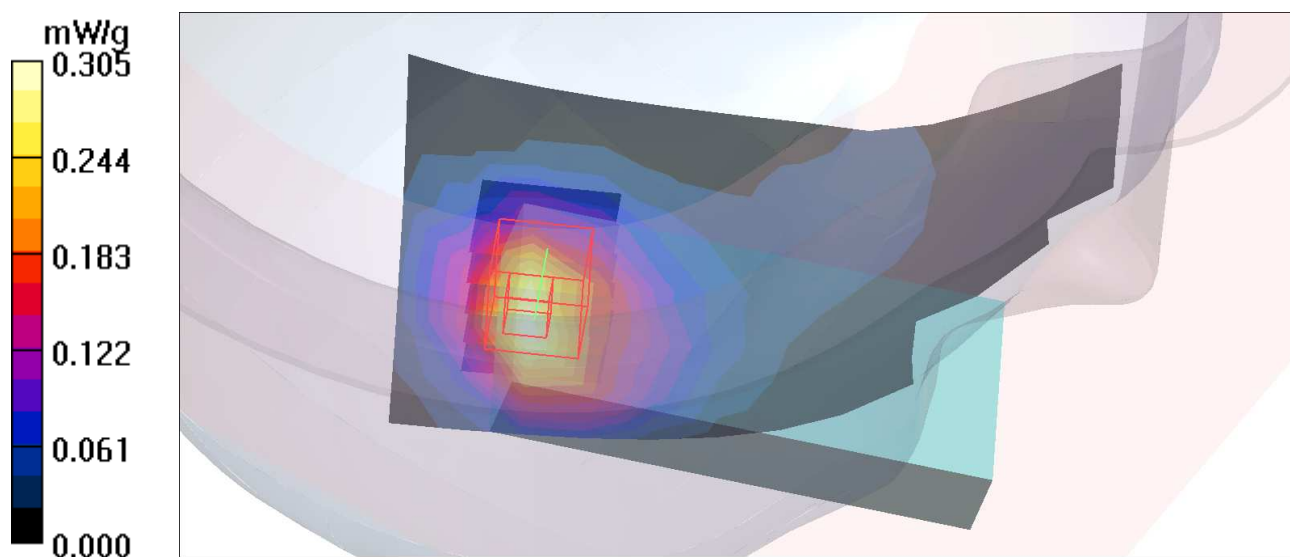
Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.6 V/m; Power Drift = 0.084 dB

Peak SAR (extrapolated) = 0.379 W/kg

SAR(1 g) = 0.226 mW/g; SAR(10 g) = 0.131 mW/g

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



M15-Left Head-Cheek-PCS1900-Ch661 (slider off)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.97$; $\rho = 1000$ kg/m³

Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: GMSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.216 mW/g

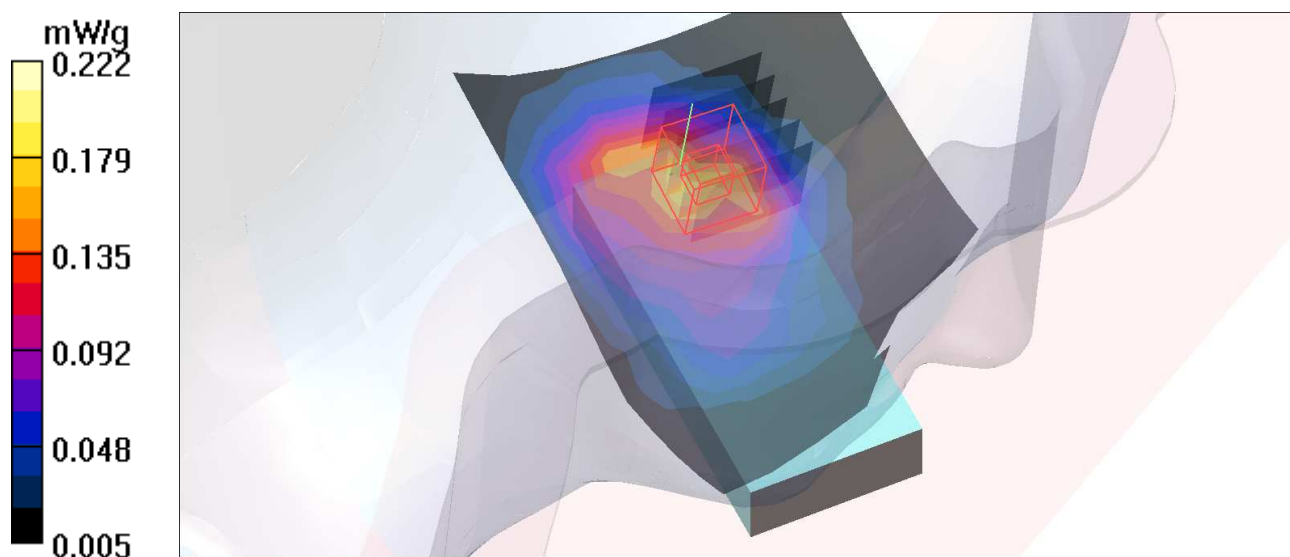
Touch position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.6 V/m; Power Drift = -0.056 dB

Peak SAR (extrapolated) = 0.281 W/kg

SAR(1 g) = 0.175 mW/g; SAR(10 g) = 0.107 mW/g

Maximum value of SAR (measured) = 0.222 mW/g



M16-Left Head-Tilt-PCS1900-Ch661 (slider off)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.39 \text{ mho/m}$; $\epsilon_r = 40.97$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: GMSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (8x12x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.261 mW/g

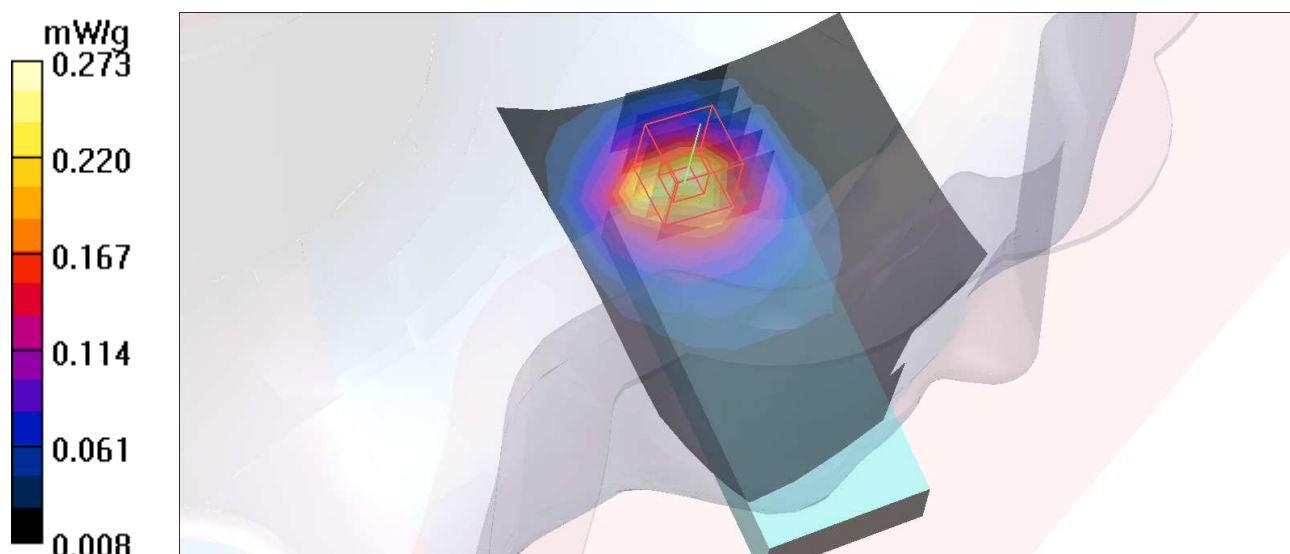
Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.9 V/m; Power Drift = -0.087 dB

Peak SAR (extrapolated) = 0.334 W/kg

SAR(1 g) = 0.202 mW/g; SAR(10 g) = 0.119 mW/g

Maximum value of SAR (measured) = 0.273 mW/g



M17-Right Head-Cheek-PCS1900-Ch661 (slider on)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.97$; $\rho = 1000$ kg/m³

Phantom section: Right Section ; DUT test position : Cheek ; Modulation type: GMSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.038 mW/g

Touch position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.64 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 0.050 W/kg

SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.020 mW/g

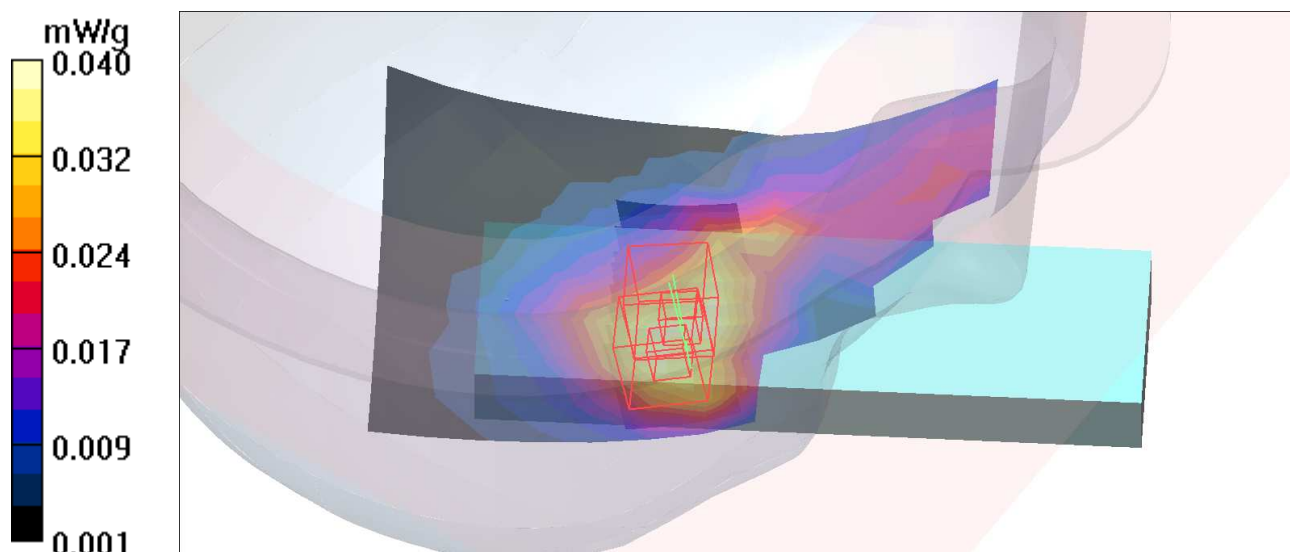
Maximum value of SAR (measured) = 0.040 mW/g

Touch position - Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.64 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 0.050 W/kg

SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.017 mW/g



M18-Right Head-Tilt-PCS1900-Ch661 (slider on)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.97$; $\rho = 1000$ kg/m³

Phantom section: Right Section ; DUT test position : Tilt ; Modulation type: GMSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.036 mW/g

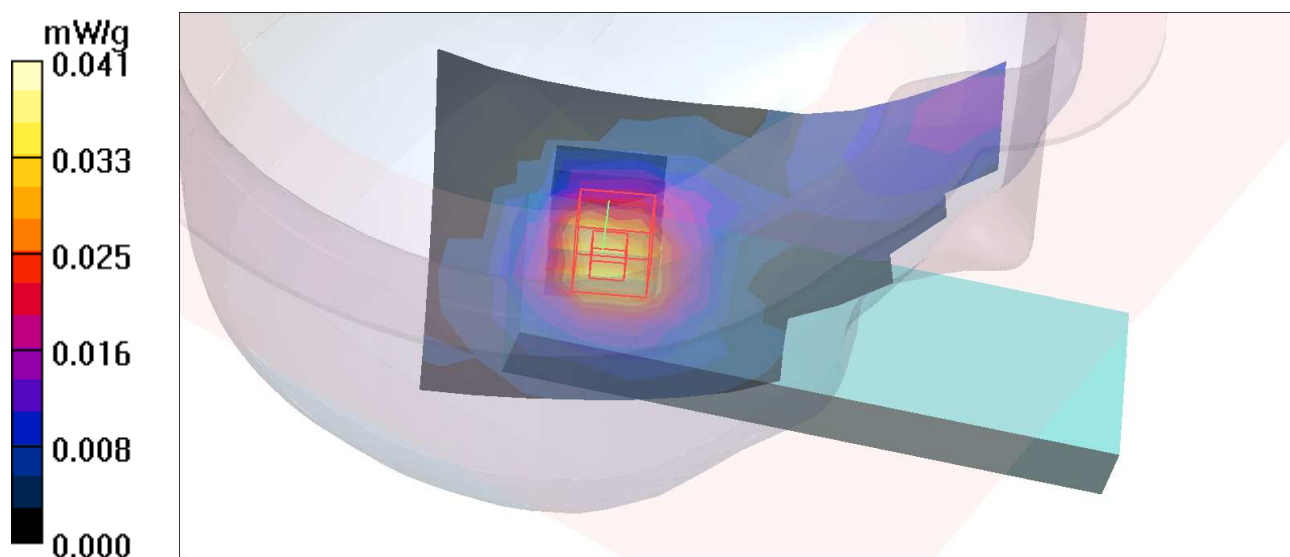
Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.05 V/m; Power Drift = 0.150 dB

Peak SAR (extrapolated) = 0.050 W/kg

SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.020 mW/g

Maximum value of SAR (measured) = 0.041 mW/g



M19-Left Head-Cheek-PCS1900-Ch661 (slider on)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.97$; $\rho = 1000$ kg/m³

Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: GMSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.034 mW/g

Touch position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.54 V/m; Power Drift = 0.102 dB

Peak SAR (extrapolated) = 0.050 W/kg

SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.019 mW/g

Maximum value of SAR (measured) = 0.040 mW/g

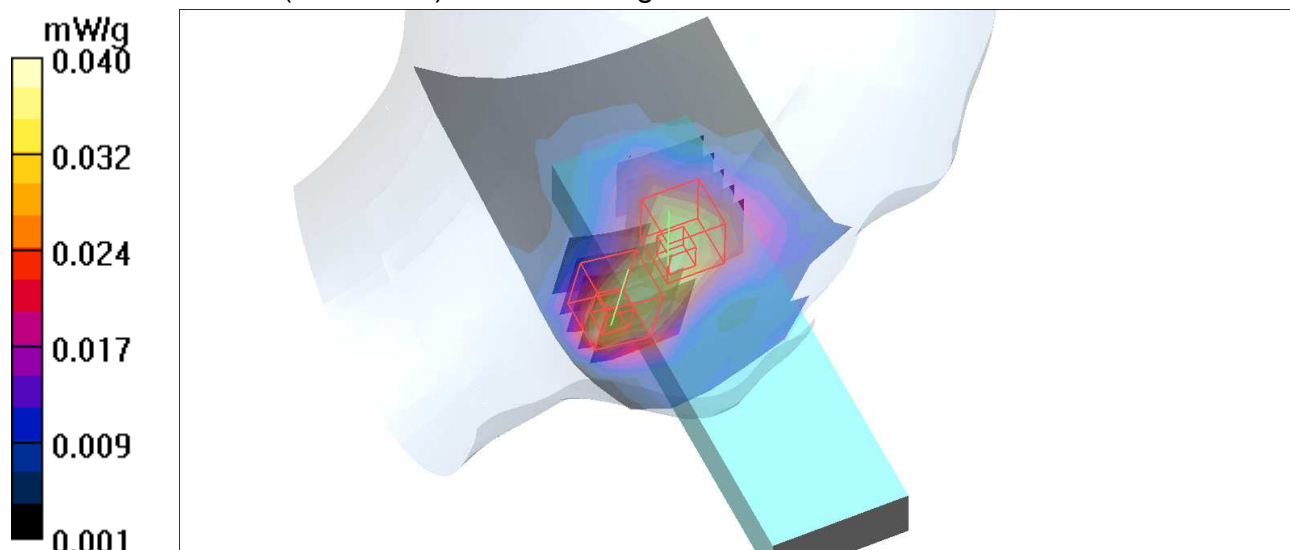
Touch position - Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.54 V/m; Power Drift = 0.102 dB

Peak SAR (extrapolated) = 0.043 W/kg

SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.019 mW/g

Maximum value of SAR (measured) = 0.035 mW/g



M20-Left Head-Tilt-PCS1900-Ch661 (slider on)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3

Medium: HSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.97$; $\rho = 1000$ kg/m³

Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: GMSK

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.038 mW/g

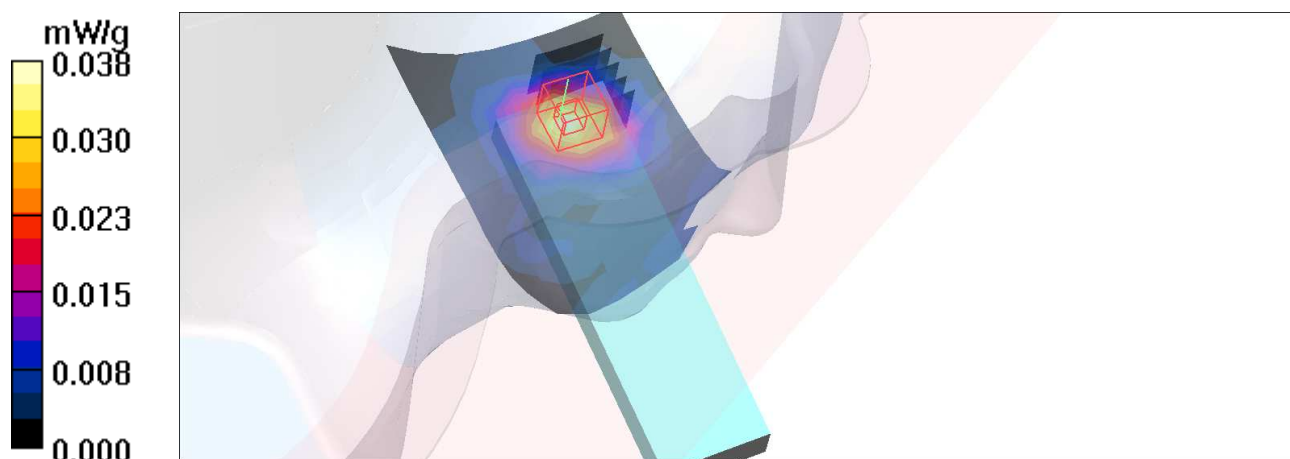
Tilt position - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.95 V/m; Power Drift = -0.186 dB

Peak SAR (extrapolated) = 0.047 W/kg

SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.018 mW/g

Maximum value of SAR (measured) = 0.037 mW/g



M21-GPRS1900 TS1-Ch661 (slider off)

Communication System: GPRS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3 ; Modulation type: GMSK / UL 1 time slot

Medium: MSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 54.02$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; Separation distance : 15 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch661/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.303 mW/g

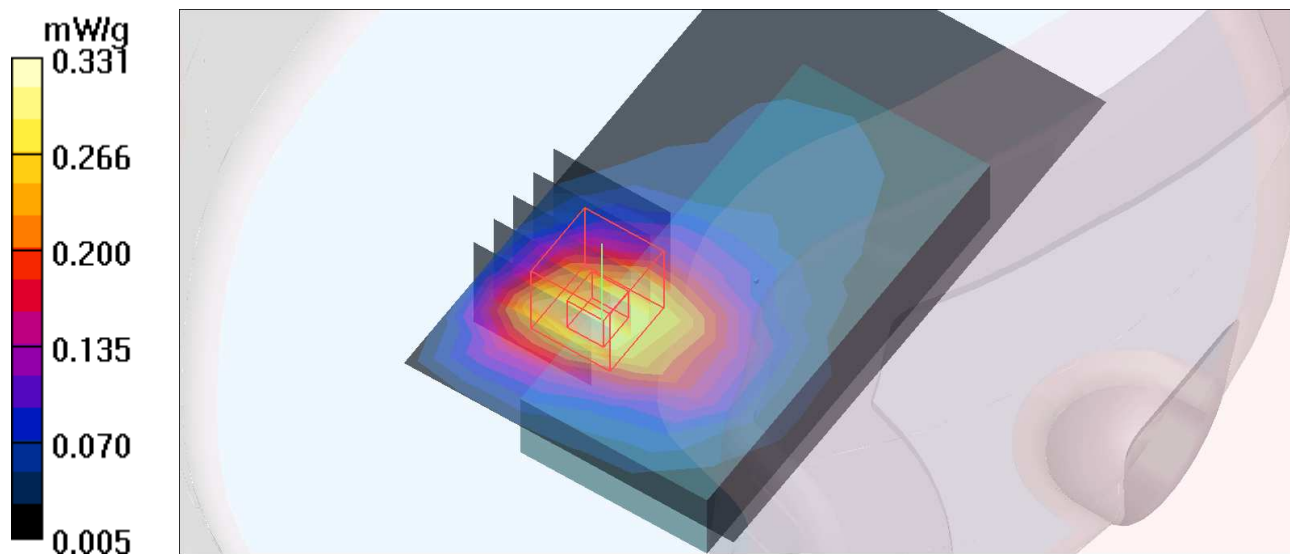
Body Position - Mid Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.07 V/m; Power Drift = 0.136 dB

Peak SAR (extrapolated) = 0.419 W/kg

SAR(1 g) = 0.250 mW/g; SAR(10 g) = 0.148 mW/g

Maximum value of SAR (measured) = 0.331 mW/g



M22-GPRS1900 TS1-Ch661 (slider off)

Communication System: GPRS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3 ; Modulation type: GMSK / UL 1 time slot

Medium: MSL1900 Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.52 \text{ mho/m}$; $\epsilon_r = 54.02$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section ; Separation distance : 15 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch661/Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.084 mW/g

Body Position - Mid Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.43 V/m; Power Drift = -0.162 dB

Peak SAR (extrapolated) = 0.104 W/kg

SAR(1 g) = 0.067 mW/g; SAR(10 g) = 0.042 mW/g

Maximum value of SAR (measured) = 0.085 mW/g

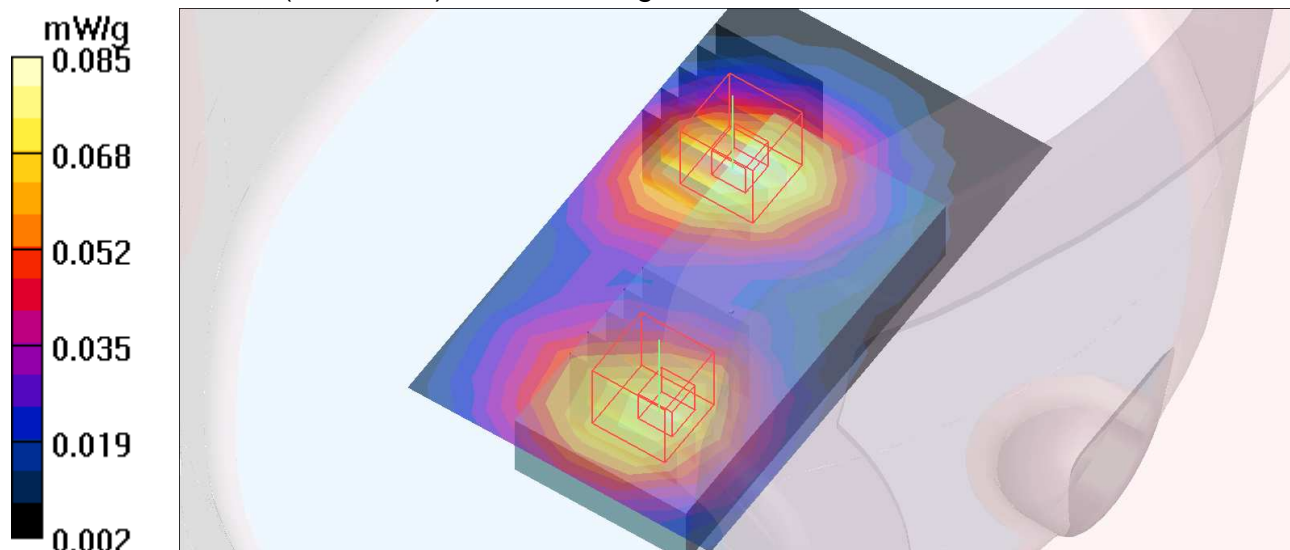
Body Position - Mid Ch661/Zoom Scan (5x5x7)/Cube 1: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.43 V/m; Power Drift = -0.162 dB

Peak SAR (extrapolated) = 0.094 W/kg

SAR(1 g) = 0.058 mW/g; SAR(10 g) = 0.036 mW/g

Maximum value of SAR (measured) = 0.076 mW/g



M23-GPRS1900 TS1-Ch661 (slider on)

Communication System: GPRS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3 ; Modulation type: GMSK / UL 1 time slot

Medium: MSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 54.02$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; Separation distance : 15 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch661/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.259 mW/g

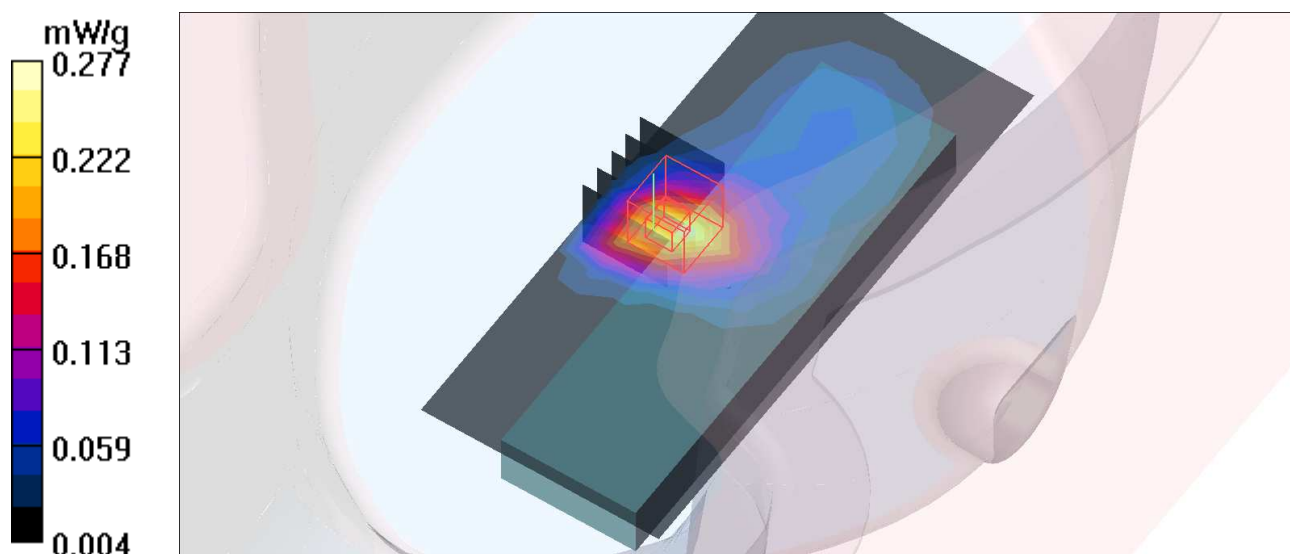
Body Position - Mid Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.8 V/m; Power Drift = -0.004 dB

Peak SAR (extrapolated) = 0.361 W/kg

SAR(1 g) = 0.206 mW/g; SAR(10 g) = 0.118 mW/g

Maximum value of SAR (measured) = 0.277 mW/g



M24-GPRS1900 TS1-Ch661 (slider on)

Communication System: GPRS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3 ; Modulation type: GMSK / UL 1 time slot

Medium: MSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 54.02$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; Separation distance : 15 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch661/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.049 mW/g

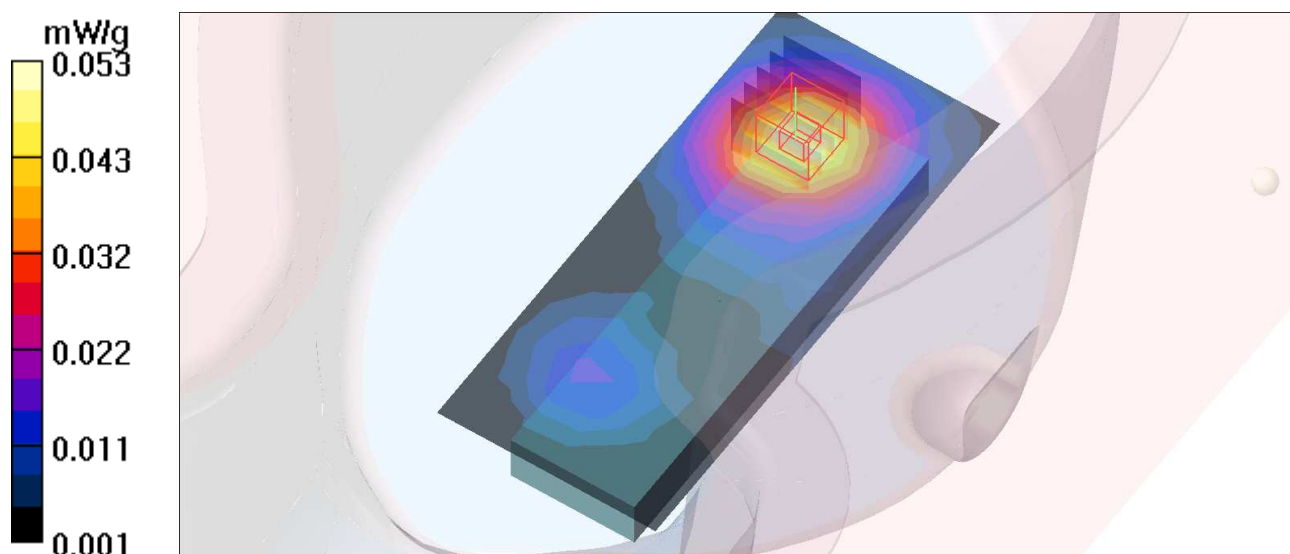
Body Position - Mid Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.99 V/m; Power Drift = 0.190 dB

Peak SAR (extrapolated) = 0.066 W/kg

SAR(1 g) = 0.041 mW/g; SAR(10 g) = 0.026 mW/g

Maximum value of SAR (measured) = 0.053 mW/g



M25-PCS1900-Ch661 (slider off)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3 ; Modulation type: GMSK

Medium: MSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 54.02$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; Separation distance : 15 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch661/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.279 mW/g

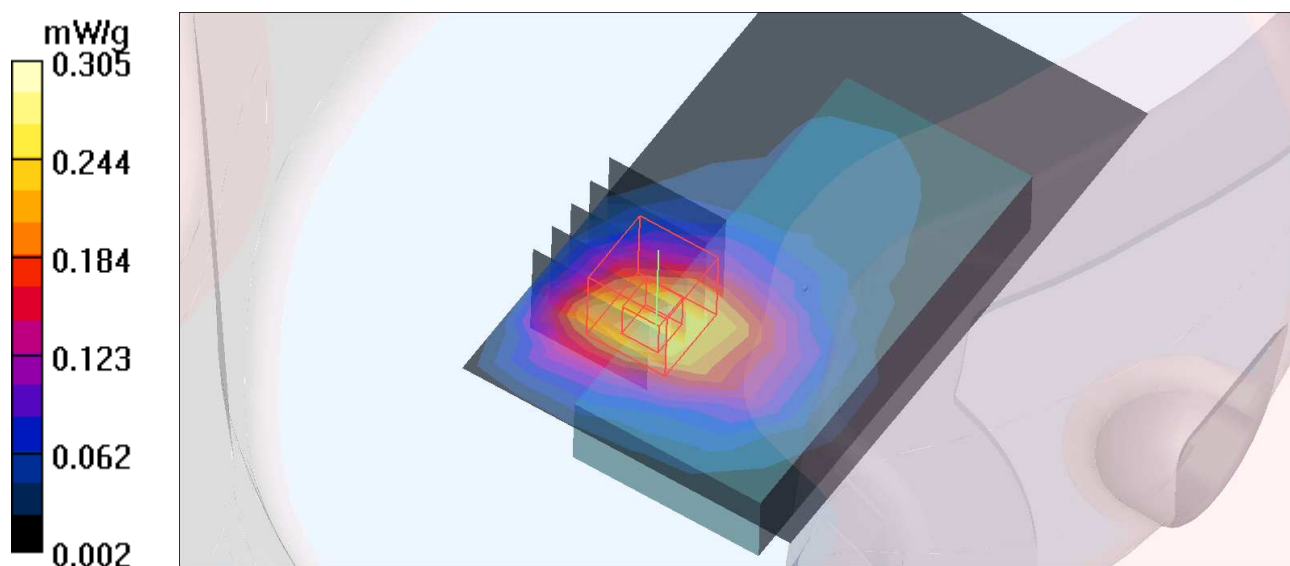
Body Position - Mid Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.72 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 0.386 W/kg

SAR(1 g) = 0.232 mW/g; SAR(10 g) = 0.136 mW/g

Maximum value of SAR (measured) = 0.305 mW/g



M26-PCS1900-Ch661 (slider off)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3 ; Modulation type: GMSK

Medium: MSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 54.02$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; Separation distance : 15 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch661/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.073 mW/g

Body Position - Mid Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.21 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 0.091 W/kg

SAR(1 g) = 0.058 mW/g; SAR(10 g) = 0.037 mW/g

Maximum value of SAR (measured) = 0.074 mW/g

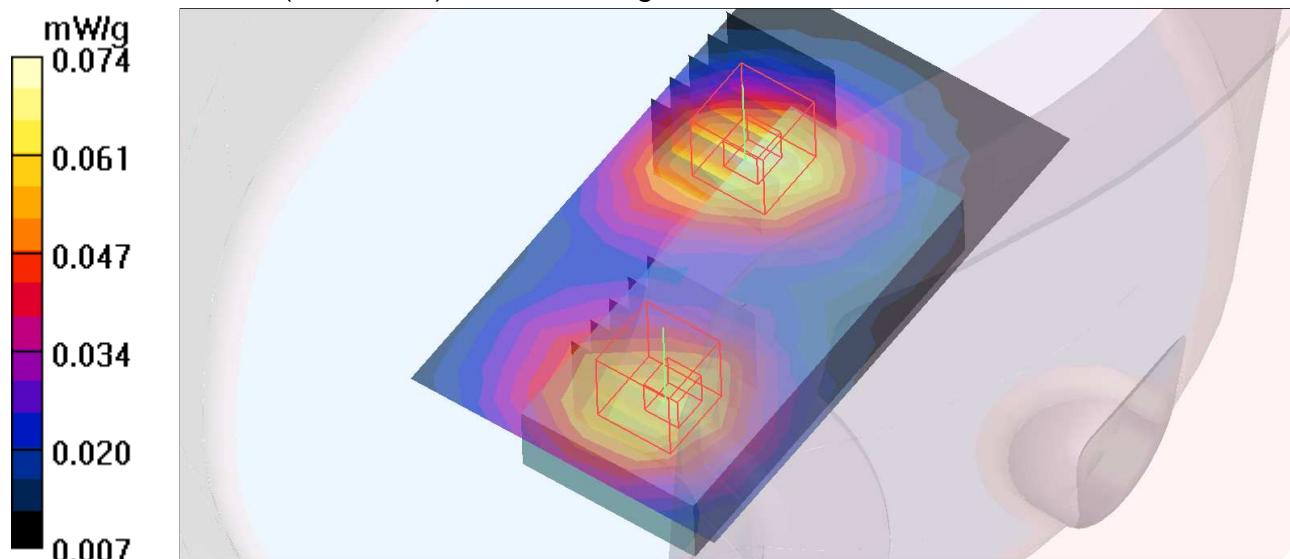
Body Position - Mid Ch661/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.21 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 0.082 W/kg

SAR(1 g) = 0.051 mW/g; SAR(10 g) = 0.031 mW/g

Maximum value of SAR (measured) = 0.066 mW/g



M27-PCS1900-Ch661 (slider on)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3 ; Modulation type: GMSK

Medium: MSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 54.02$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; Separation distance : 15 mm (The bottom side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch661/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.246 mW/g

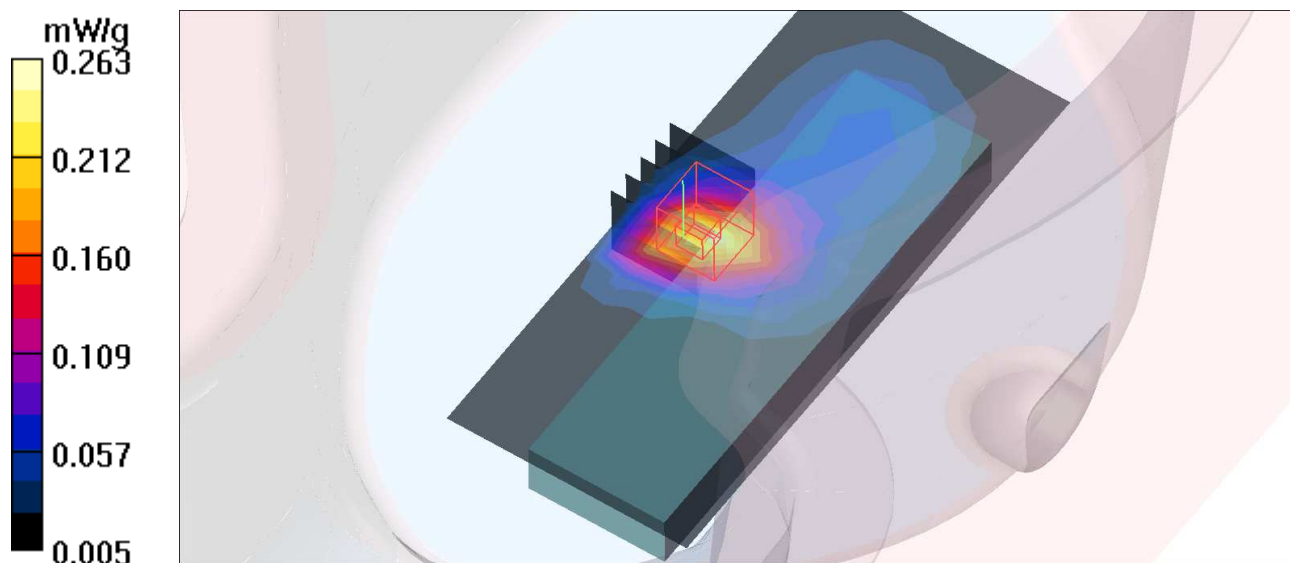
Body Position - Mid Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.37 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 0.342 W/kg

SAR(1 g) = 0.195 mW/g; SAR(10 g) = 0.107 mW/g

Maximum value of SAR (measured) = 0.263 mW/g



M28-PCS1900-Ch661 (slider on)

Communication System: PCS1900 ; Frequency: 1880 MHz ; Duty Cycle: 1:8.3 ; Modulation type: GMSK

Medium: MSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 54.02$; $\rho = 1000$ kg/m³

Phantom section: Flat Section ; Separation distance : 15 mm (The front side of the EUT to the Phantom)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body Position - Mid Ch661/Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.041 mW/g

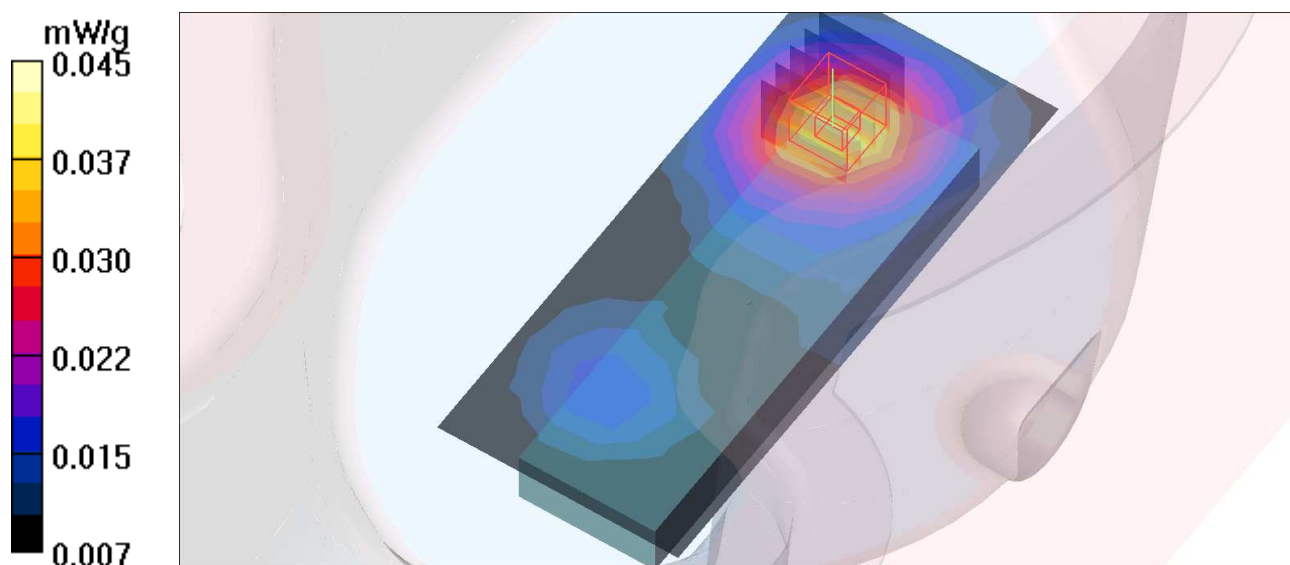
Body Position - Mid Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.82 V/m; Power Drift = 0.076 dB

Peak SAR (extrapolated) = 0.056 W/kg

SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.022 mW/g

Maximum value of SAR (measured) = 0.045 mW/g



SystemPerformanceCheck-D835V2-HSL835 MHz

DUT: Dipole 835 MHz ; Type: D835V2 ; Serial: D835V2 - SN:4d021 ; Test Frequency: 835 MHz

Communication System: CW ; Frequency: 835 MHz; Duty Cycle: 1:1; Modulation type: CW
 Medium: HSL835; Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.91 \text{ mho/m}$; $\epsilon_r = 42.54$; $\rho = 1000 \text{ kg/m}^3$;
 Liquid level : 150 mm
 Phantom section: Flat Section ; Separation distance : 15 mm (The feet point of the dipole to the Phantom)
 Air temp. : 22.1 degrees ; Liquid temp. : 21.2 degrees

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 2.80 mW/g

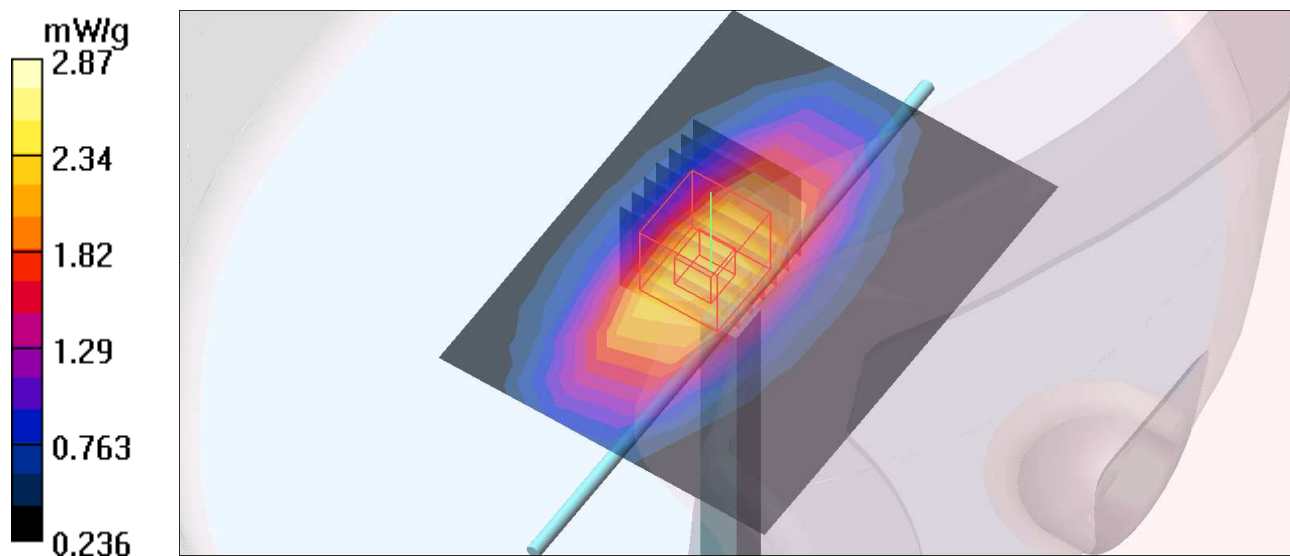
d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.9 V/m; Power Drift = -0.070 dB

Peak SAR (extrapolated) = 3.39 W/kg

SAR(1 g) = 2.24 mW/g; SAR(10 g) = 1.46 mW/g

Maximum value of SAR (measured) = 2.87 mW/g



SystemPerformanceCheck-D835V2-MSL835 MHz

DUT: Dipole 835 MHz ; Type: D835V2 ; Serial: D835V2 - SN:4d021 ; Test Frequency: 835 MHz

Communication System: CW ; Frequency: 835 MHz; Duty Cycle: 1:1; Modulation type: CW
 Medium: MSL835;Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.99 \text{ mho/m}$; $\epsilon_r = 56.17$; $\rho = 1000 \text{ kg/m}^3$; Liquid level : 150 mm
 Phantom section: Flat Section ; Separation distance : 15 mm (The feet point of the dipole to the Phantom)Air temp. : 22.6 degrees ; Liquid temp. : 21.5 degrees

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 3.14 mW/g

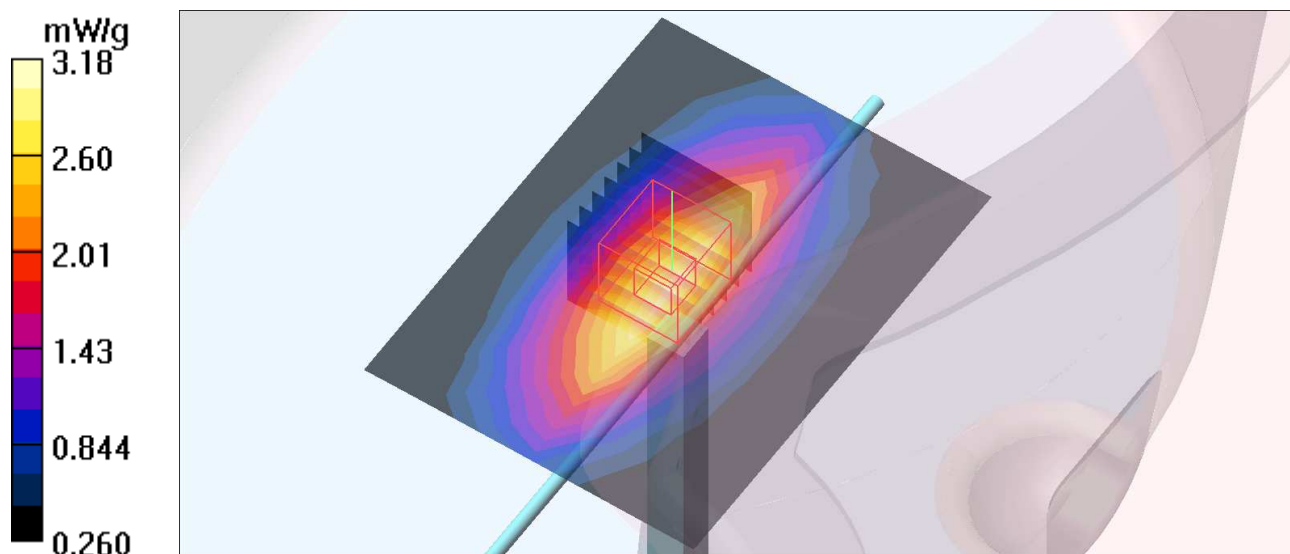
d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.5 V/m; Power Drift = 0.050 dB

Peak SAR (extrapolated) = 3.78 W/kg

SAR(1 g) = 2.49 mW/g; SAR(10 g) = 1.61 mW/g

Maximum value of SAR (measured) = 3.18 mW/g



SystemPerformanceCheck-D1900V2-HSL1900 MHz

DUT: Dipole 1900 MHz ; Type: D1900V2 ; Serial: D1900V2 - SN:5d036 ; Test Frequency: 1900 MHz

Communication System: CW ; Frequency: 1900 MHz; Duty Cycle: 1:1; Modulation type: CW
 Medium: HSL1900;Medium parameters used: $f = 1900$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 40.78$; $\rho = 1000$ kg/m³ ; Liquid level : 150 mm
 Phantom section: Flat Section ; Separation distance : 10 mm (The feet point of the dipole to the Phantom)Air temp. : 22.2 degrees ; Liquid temp. : 21.3 degrees

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
 Maximum value of SAR (measured) = 11.6 mW/g

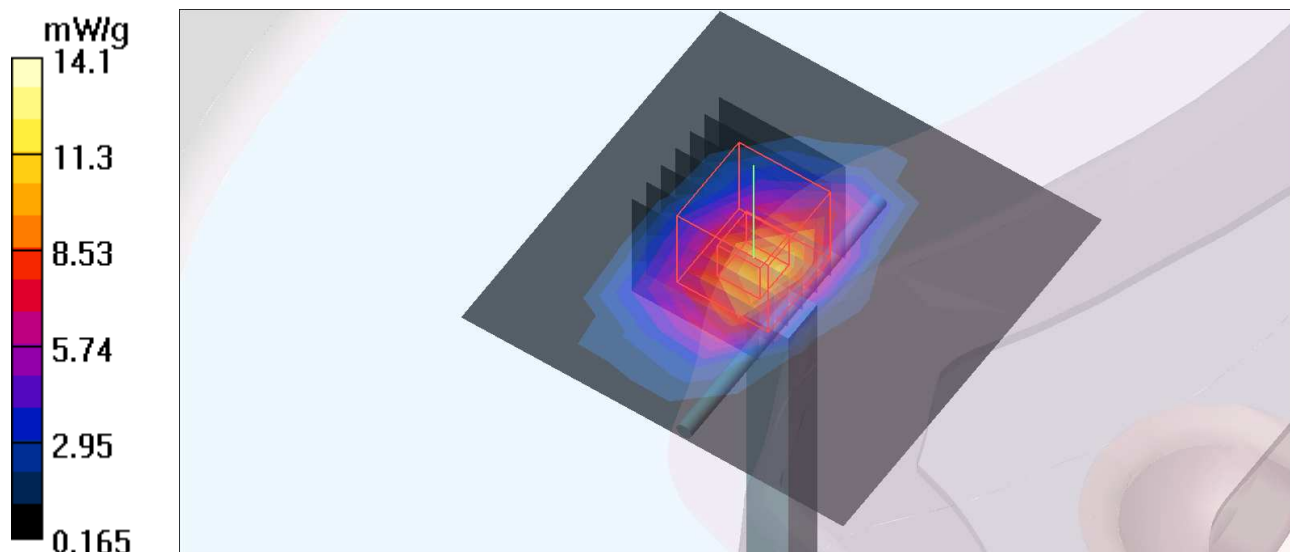
d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.5 V/m; Power Drift = 0.130 dB

Peak SAR (extrapolated) = 18.7 W/kg

SAR(1 g) = 9.65 mW/g; SAR(10 g) = 4.98 mW/g

Maximum value of SAR (measured) = 14.1 mW/g



System Performance Check-D1900V2-MSL1900 MHz

DUT: Dipole 1900 MHz ; Type: D1900V2 ; Serial: D1900V2 - SN:5d036 ; Test Frequency: 1900 MHz

Communication System: CW ; Frequency: 1900 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: MSL1900; Medium parameters used: $f = 1900$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.82$; $\rho = 1000$ kg/m³ ; Liquid level : 150 mm

Phantom section: Flat Section ; Separation distance : 10 mm (The feet point of the dipole to the Phantom) Air temp. : 22.3 degrees ; Liquid temp. : 21.2 degrees

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2010/9/20
- Phantom: SAM Twin Phantom V4.0; Type: QD 000 P40 CA; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 11.9 mW/g

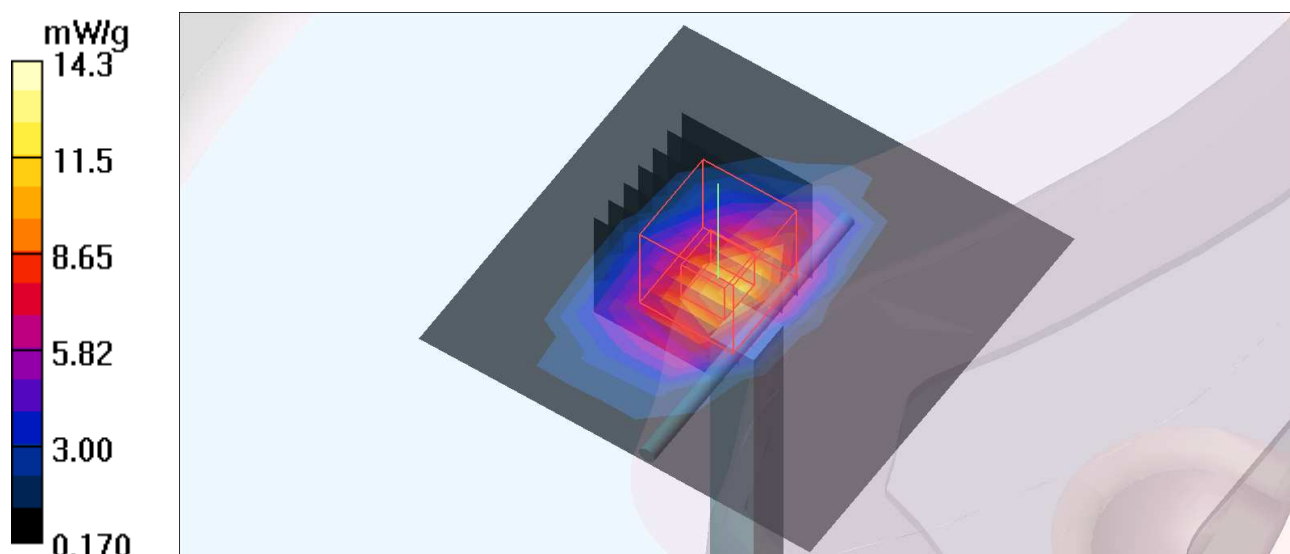
d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.8 V/m; Power Drift = -0.154 dB

Peak SAR (extrapolated) = 18.9 W/kg

SAR(1 g) = 9.85 mW/g; SAR(10 g) = 5.05 mW/g

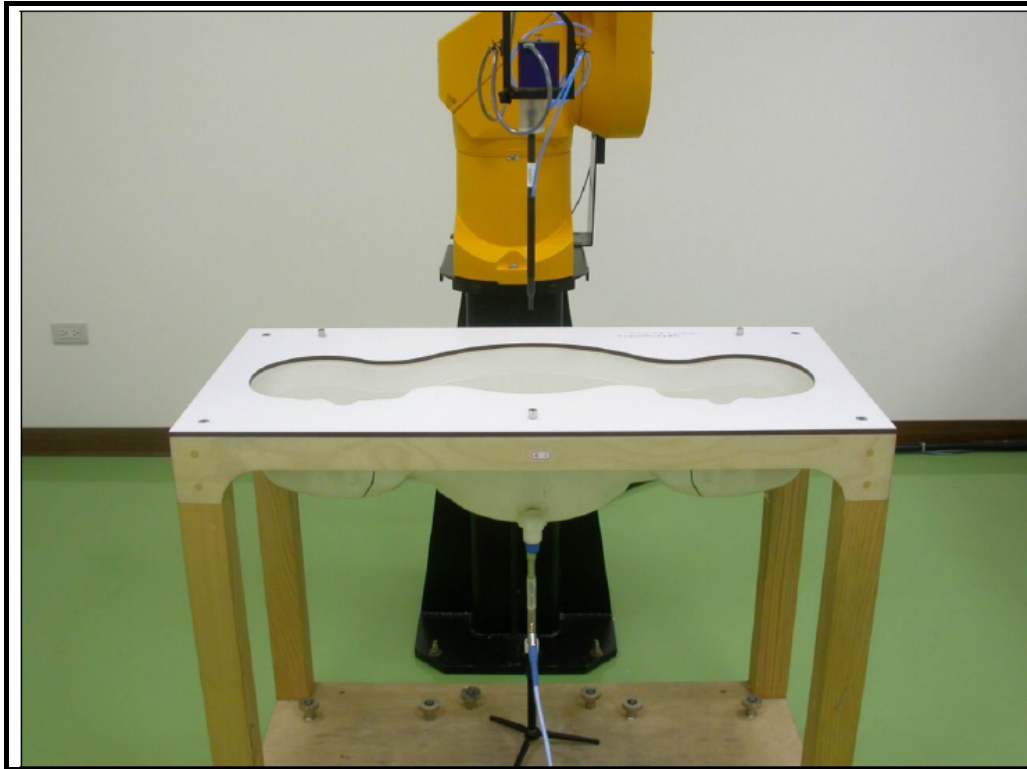
Maximum value of SAR (measured) = 14.3 mW/g



APPENDIX B: BV ADT SAR MEASUREMENT SYSTEM



APPENDIX C: PHOTOGRAPHS OF SYSTEM VALIDATION





APPENDIX D: SYSTEM CERTIFICATE & CALIBRATION

D1: SAM PHANTOM

Schmid & Partner Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

Certificate of conformity / First Article Inspection

Item	SAM Twin Phantom V4.0
Type No	QD 000 P40 CA
Series No	TP-1150 and higher
Manufacturer / Origin	Untersee Composites Hauptstr. 69 CH-8559 Fruthwilen Switzerland

Tests

The series production process used allows the limitation to test of first articles. Complete tests were made on the pre-series Type No. QD 000 P40 AA, Serial No. TP-1001 and on the series first article Type No. QD 000 P40 BA, Serial No. TP-1006. Certain parameters have been retested using further series units (called samples).

Test	Requirement	Details	Units tested
Shape	Compliance with the geometry according to the CAD model.	IT'IS CAD File (*)	First article, Samples
Material thickness	Compliant with the requirements according to the standards	2mm +/- 0.2mm in specific areas	First article, Samples
Material parameters	Dielectric parameters for required frequencies	200 MHz - 3 GHz Relative permittivity < 5 Loss tangent < 0.05.	Material sample TP 104-5
Material resistivity	The material has been tested to be compatible with the liquids defined in the standards	Liquid type HSL 1800 and others according to the standard.	Pre-series, First article

Standards

- [1] CENELEC EN 50361
- [2] IEEE P1528-200x draft 6.5
- [3] IEC PT 62209 draft 0.9

(*) The IT'IS CAD file is derived from [2] and is also within the tolerance requirements of the shapes of [1] and [3].

Conformity

Based on the sample tests above, we certify that this item is in compliance with the uncertainty requirements of SAR measurements specified in standard [1] and draft standards [2] and [3].

Date

28.02.2002

Signature / Stamp

F. Bumbult

**Schmid & Partner
Engineering AG**

Zeughausstrasse 43, CH-8004 Zurich
Tel. +41 1 245 97 00, Fax +41 1 245 97 79

Volker Kappeler

D2: DOSIMETRIC E-FIELD PROBE



Accredited by the Swiss Accreditation Service (SAS)
 The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Auden**

Certificate No: **EX3-3578_Jun10**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3578**

Calibration procedure(s) **QA CAL-01.v6, QA CAL-14.v3, QA CAL-23.v3 and QA CAL-25.v2**
Calibration procedure for dosimetric E-field probes

Calibration date: **June 22, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41495277	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41498087	1-Apr-10 (No. 217-01136)	Apr-11
Reference 3 dB Attenuator	SN: S5054 (3c)	30-Mar-10 (No. 217-01159)	Mar-11
Reference 20 dB Attenuator	SN: S5086 (20b)	30-Mar-10 (No. 217-01161)	Mar-11
Reference 30 dB Attenuator	SN: S5129 (30b)	30-Mar-10 (No. 217-01160)	Mar-11
Reference Probe ES3DV2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10
DAE4	SN: 660	20-Apr-10 (No. DAE4-660_Apr10)	Apr-11
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct10

Calibrated by: **Katja Pokovic** **Technical Manager**

Approved by: **Fin Bomholt** **R&D Director**

Signature

Issued: June 23, 2010

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)
 The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E²-field uncertainty inside TSL (see below *ConvF*).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * *frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; VR_{x,y,z}**: A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV4

SN:3578

Manufactured:	November 4, 2005
Last calibrated:	June 26, 2009
Recalibrated:	June 22, 2010

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 SN:3578**Basic Calibration Parameters**

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.55	0.50	0.56	± 10.1%
DCP (mV) ^B	92.3	88.3	86.1	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc ^E (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	300	± 1.5%
			Y	0.00	0.00	1.00	300	
			Z	0.00	0.00	1.00	300	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the maximum deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 SN:3578

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz] ^c	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	8.44	8.44	8.44	0.84	0.61 ± 11.0%
900	± 50 / ± 100	41.5 ± 5%	0.97 ± 5%	8.25	8.25	8.25	0.70	0.65 ± 11.0%
1810	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	7.11	7.11	7.11	0.85	0.58 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	7.05	7.05	7.05	0.79	0.60 ± 11.0%
2300	± 50 / ± 100	39.5 ± 5%	1.67 ± 5%	6.78	6.78	6.78	0.74	0.59 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	6.38	6.38	6.38	0.46	0.75 ± 11.0%
2600	± 50 / ± 100	39.0 ± 5%	1.96 ± 5%	6.41	6.41	6.41	0.40	0.85 ± 11.0%
3500	± 50 / ± 100	37.9 ± 5%	2.91 ± 5%	6.31	6.31	6.31	0.40	1.02 ± 13.1%
5200	± 50 / ± 100	36.0 ± 5%	4.66 ± 5%	4.18	4.18	4.18	0.45	1.80 ± 13.1%
5300	± 50 / ± 100	35.9 ± 5%	4.76 ± 5%	4.01	4.01	4.01	0.45	1.80 ± 13.1%
5500	± 50 / ± 100	35.6 ± 5%	4.96 ± 5%	3.90	3.90	3.90	0.50	1.80 ± 13.1%
5600	± 50 / ± 100	35.5 ± 5%	5.07 ± 5%	3.83	3.83	3.83	0.55	1.80 ± 13.1%
5800	± 50 / ± 100	35.3 ± 5%	5.27 ± 5%	3.72	3.72	3.72	0.50	1.80 ± 13.1%

^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

DASY/EASY - Parameters of Probe: EX3DV4 SN:3578

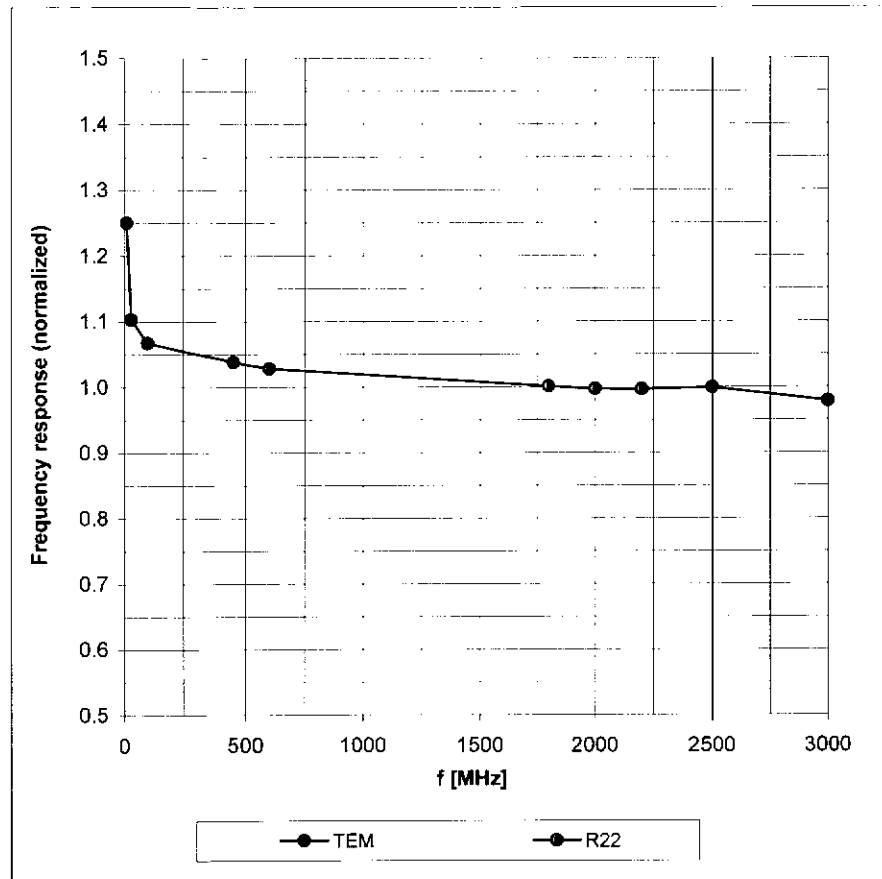
Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz] ^c	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	8.55	8.55	8.55	0.89	0.64 ± 11.0%
900	± 50 / ± 100	55.0 ± 5%	1.05 ± 5%	8.39	8.39	8.39	0.85	0.65 ± 11.0%
1810	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	6.81	6.81	6.81	0.81	0.64 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	6.70	6.70	6.70	0.76	0.63 ± 11.0%
2300	± 50 / ± 100	52.8 ± 5%	1.85 ± 5%	6.67	6.67	6.67	0.34	0.92 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	6.51	6.51	6.51	0.62	0.67 ± 11.0%
2600	± 50 / ± 100	52.5 ± 5%	2.16 ± 5%	6.53	6.53	6.53	0.43	0.82 ± 11.0%
3500	± 50 / ± 100	51.3 ± 5%	3.31 ± 5%	5.59	5.59	5.59	0.37	1.26 ± 13.1%
5200	± 50 / ± 100	49.0 ± 5%	5.30 ± 5%	3.59	3.59	3.59	0.63	1.95 ± 13.1%
5300	± 50 / ± 100	48.5 ± 5%	5.42 ± 5%	3.39	3.39	3.39	0.63	1.95 ± 13.1%
5500	± 50 / ± 100	48.6 ± 5%	5.65 ± 5%	3.32	3.32	3.32	0.63	1.95 ± 13.1%
5600	± 50 / ± 100	48.5 ± 5%	5.77 ± 5%	3.09	3.09	3.09	0.65	1.95 ± 13.1%
5800	± 50 / ± 100	48.2 ± 5%	6.00 ± 5%	3.29	3.29	3.29	0.65	1.95 ± 13.1%

^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

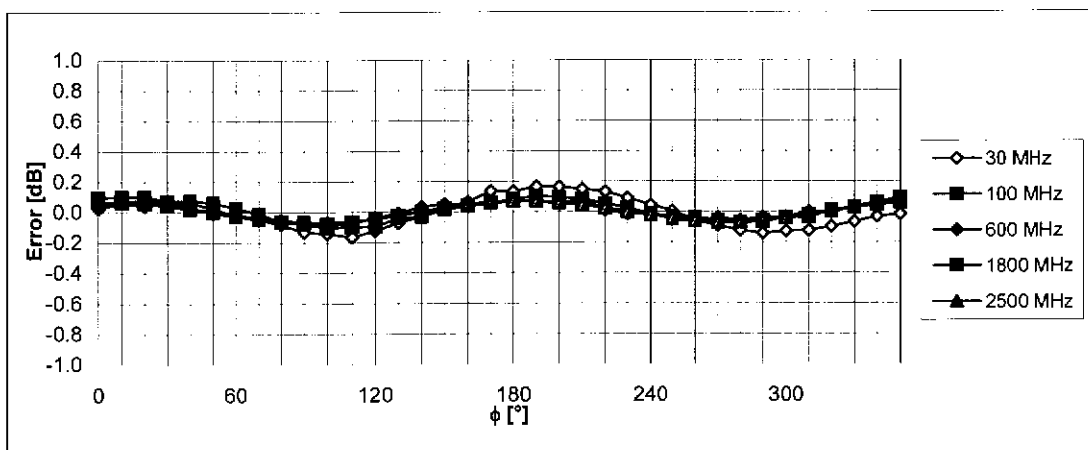
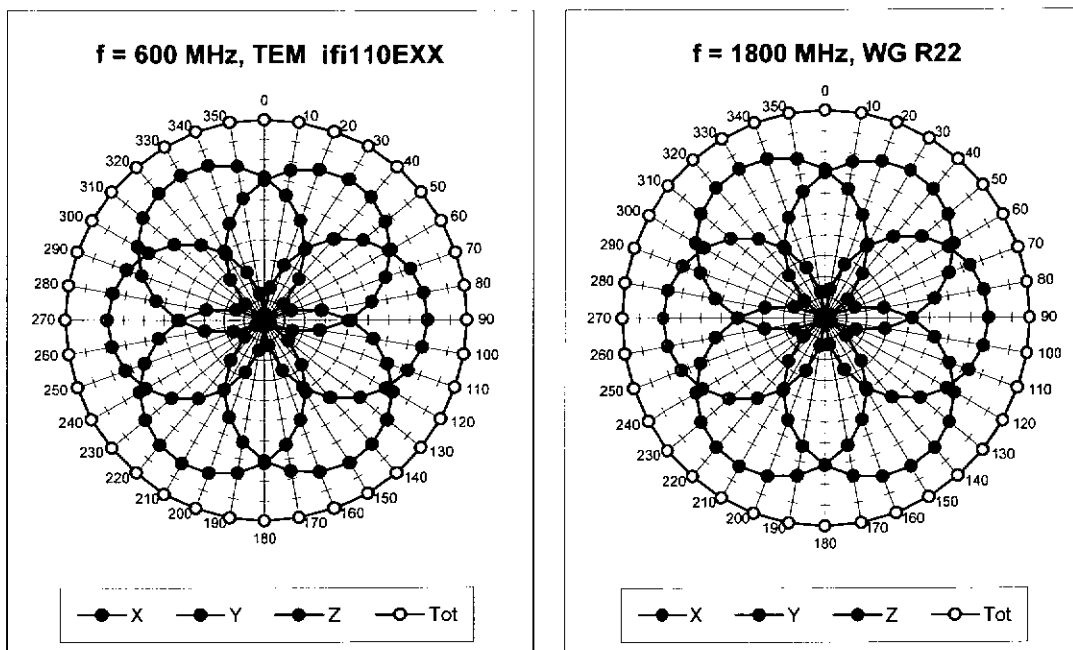
Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)



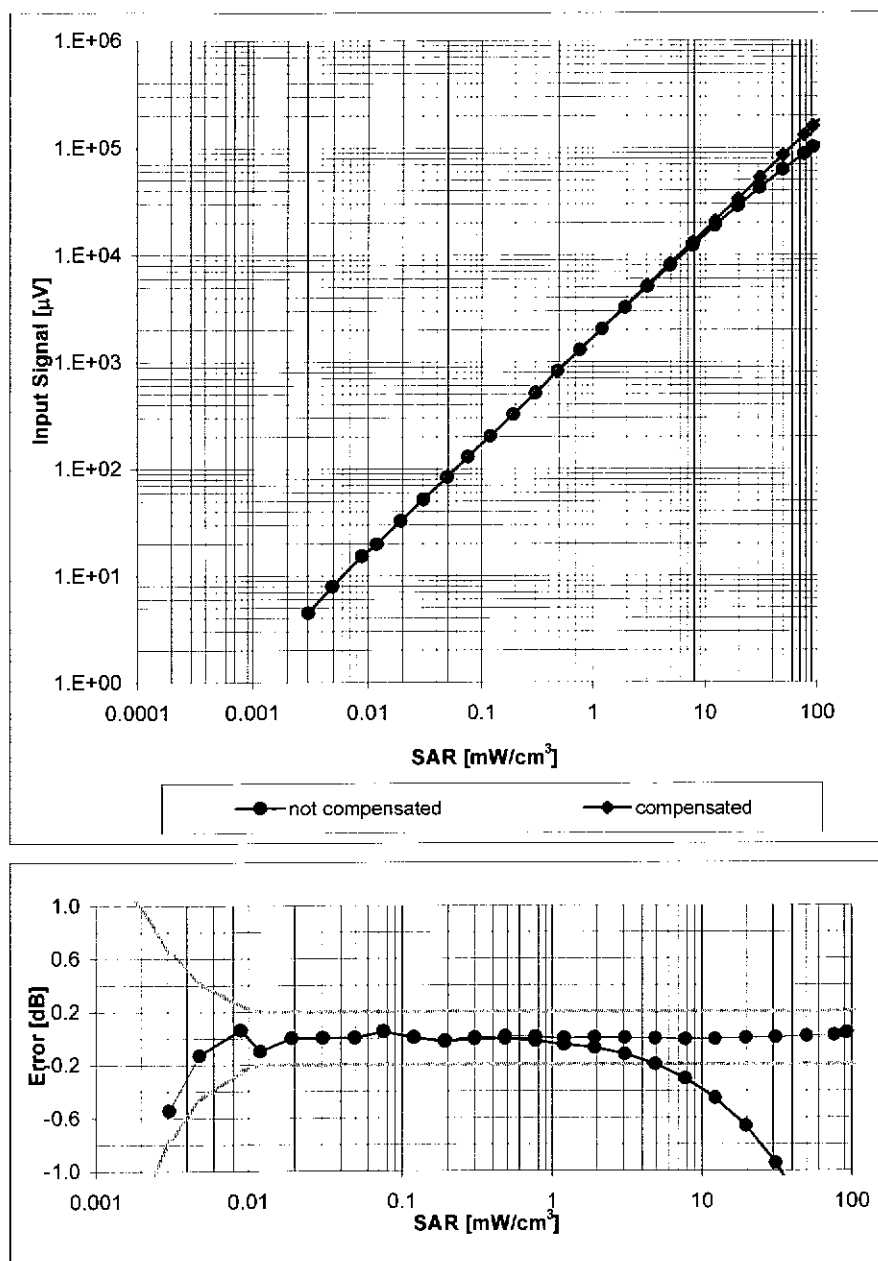
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\vartheta = 0^\circ$



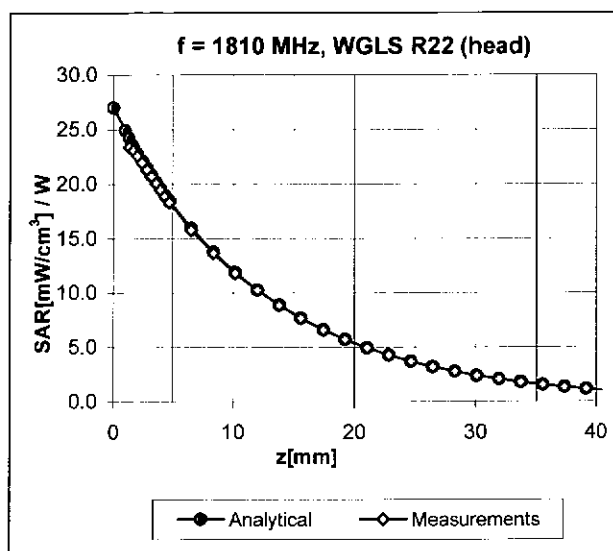
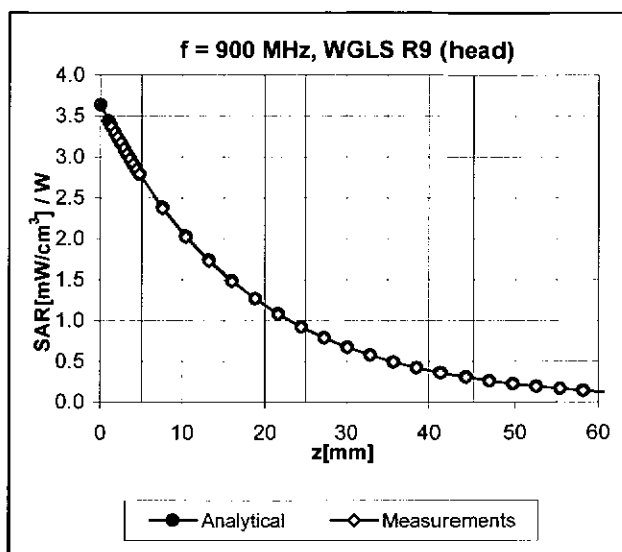
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (Waveguide R22, $f = 1800$ MHz)



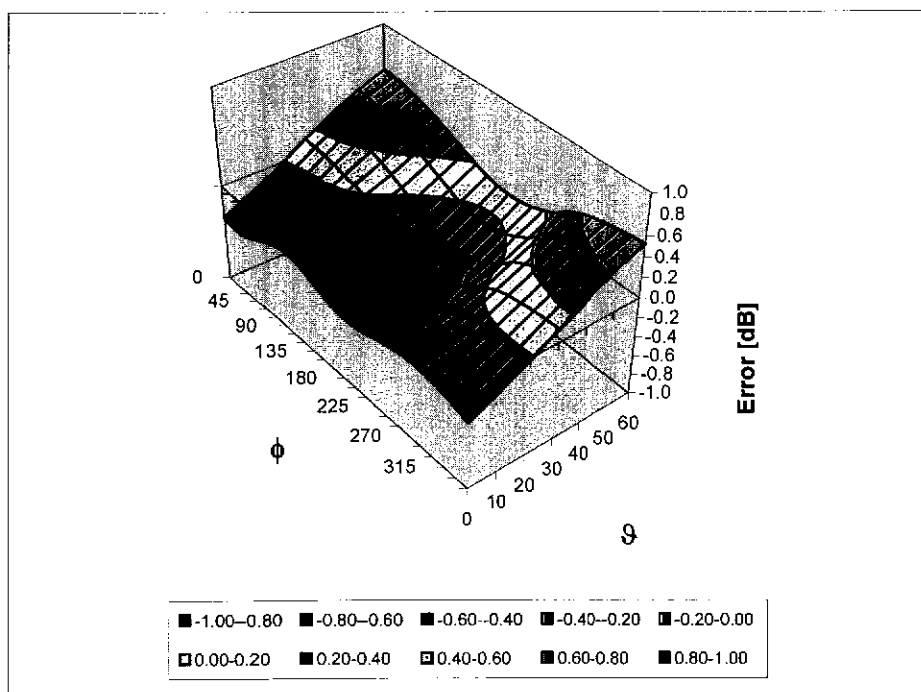
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in HSL

Error (ϕ , θ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm