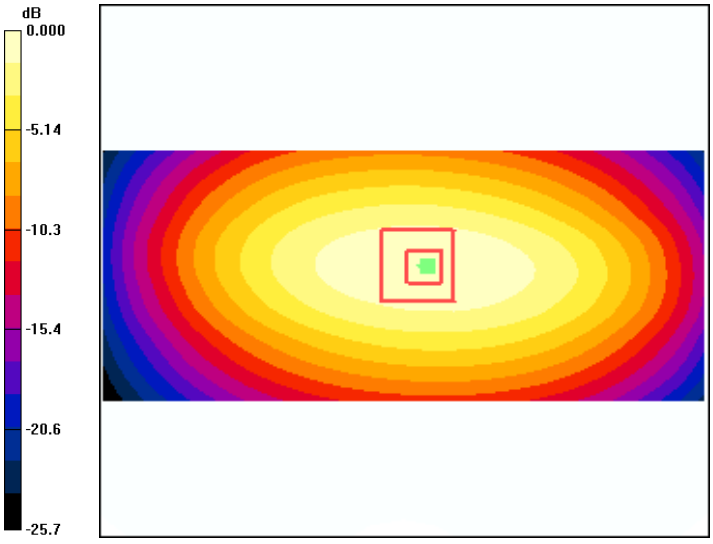
Validation for HEAD

Test Laboratory: Comptest/Kyocera Date: 02/20/2013

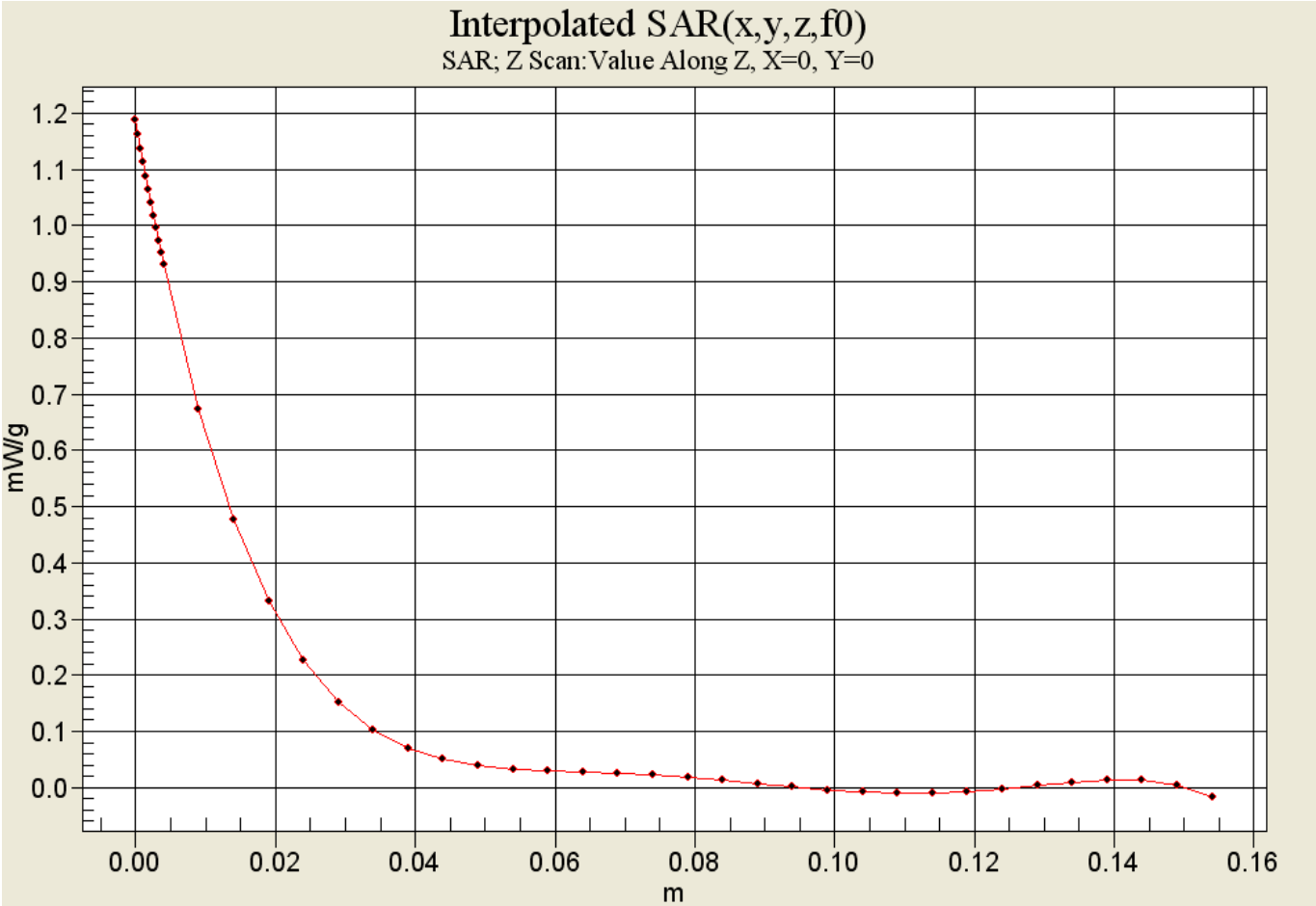
835MHz Validation, Probe #3035, DAE #530, Dipole #467
Communication System: CW, Frequency: 835 MHz, Duty Cycle: 1:1
Medium: Head 835 MHz,Medium parameters used (interpolated): f = 835 MHz; σ = 0.91 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom: SAM 12,Phantom section: Flat Section
DASY4 Configuration:
Probe: ES3DV3 - SN3035, ConvF(6.04, 6.04, 6.04), Calibrated: 2/22/2012
Sensor-Surface: 4mm (Mechanical Surface Detection),
Electronics: DAE4 Sn530,Calibrated: 5/30/2012
Measurement SW: DASY4, V4.7 Build 80
Postprocessing SW: SEMCAD, V1.8 Build 186
Temperature: Room T = 21.8 □□□ 1 deg C, Liquid T = 22.0 □□□ 1 deg C

835MHz/Area Scan (51x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.03 mW/g

835MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 34.3 V/m; Power Drift = -0.103 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.962 mW/g; SAR(10 g) = 0.628 mW/g
Maximum value of SAR (measured) = 1.04 mW/g



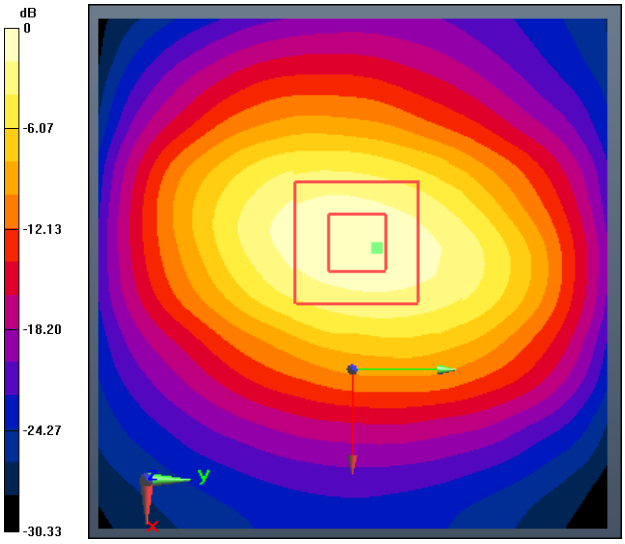
0 dB = 1.03mW/g



1900Mhz Validation @ 20dBm Probe 1618, DAE 675 and Dipole 5d016
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1900 MHz; σ = 1.45 S/m; ε_r = 38.45; ρ = 1000 kg/m^3
Phantom section: Flat Section
Meas. Ambient Temp(celsius) = 22.10 ; Tissue Temp(celsius) = 21.40
DASY Configuration:
Probe: ET3DV6 - SN1618; ConvF(5.17, 5.17, 5.17); Calibrated: 9/13/2012;
Modulation Compensation:
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
Electronics: DAE4 Sn675; Calibrated: 5/23/2012
Phantom: SAM; Type: SAM; Serial: TP-1152
DASY52 52.8.5(1059); SEMCAD X 14.6.8(7028)

1900 MHz Head Validation, 021813/1900MHz Validation @20dBm/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 4.47 W/kg

1900 MHz Head Validation, 021813/1900MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.697 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 6.28 W/kg
SAR(1 g) = 3.74 W/kg; SAR(10 g) = 1.98 W/kg
Maximum value of SAR (measured) = 4.24 W/kg



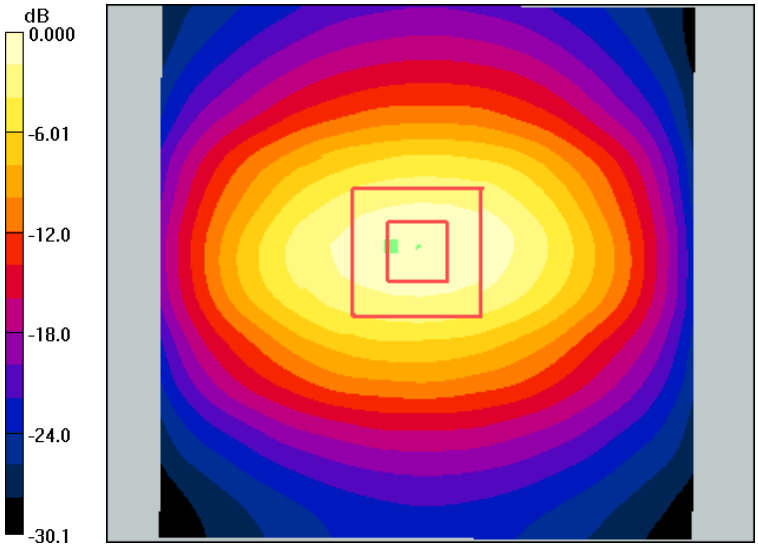
0 dB = 4.47 W/kg = 6.50 dBW/kg

Test Laboratory: Comptest/Kyocera

1900Mhz Validation @ 20dBm Probe 1618, DAE 530 and Dipole 5d016, 041513
Communication System: CW, Frequency: 1900 MHz, Duty Cycle: 1:1
Medium: HSL1900,Medium parameters used (interpolated): f = 1900 MHz; σ = 1.43 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom: SAM_4,Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1618, ConvF(5.17, 5.17, 5.17), Calibrated: 9/13/2012
Sensor-Surface: 4mm (Mechanical Surface Detection),
Electronics: DAE4 Sn530,Calibrated: 5/30/2012
Measurement SW: DASY4, V4.7 Build 80
Postprocessing SW: SEMCAD, V1.8 Build 186
Temperature: Room T = 21.8 +/- 1 deg C, Liquid T = 22.0 +/- 1 deg C

1900MHz Validation @20dBm/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 4.77 mW/g

1900MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.7 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 6.33 W/kg
SAR(1 g) = 3.88 mW/g; SAR(10 g) = 2.09 mW/g
Maximum value of SAR (measured) = 4.42 mW/g



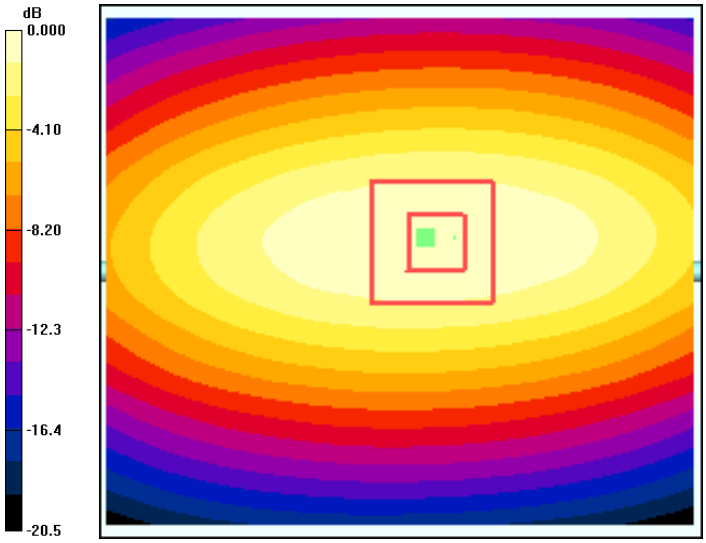
0 dB = 4.77mW/g

Validation for BODY

835MHz Validation (Muscle), Probe #3036, DAE #603, Dipole #5d016
Communication System: CW, Frequency: 835 MHz, Duty Cycle: 1:1
Medium: M800,Medium parameters used: f = 835 MHz; σ = 0.95 mho/m; ε_r = 54.1; ρ = 1000 kg/m^3
Phantom: SAM 12,Phantom section: Flat Section
DASY4 Configuration:
Probe: ES3DV3 - SN3036, ConvF(5.83, 5.83, 5.83), Calibrated: 5/29/2012
Sensor-Surface: 4mm (Mechanical Surface Detection),
Electronics: DAE4 Sn603,Calibrated: 9/12/2012
Measurement SW: DASY4, V4.7 Build 80
Postprocessing SW: SEMCAD, V1.8 Build 186
Temperature: Room T = 21.8 □□□ 1 deg C, Liquid T = 22.0 □□□ 1 deg C

835MHz Validation @20dBm/Area Scan (61x71x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.04 mW/g

835MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 32.0 V/m; Power Drift = 0.132 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.969 mW/g; SAR(10 g) = 0.642 mW/g
Maximum value of SAR (measured) = 1.05 mW/g

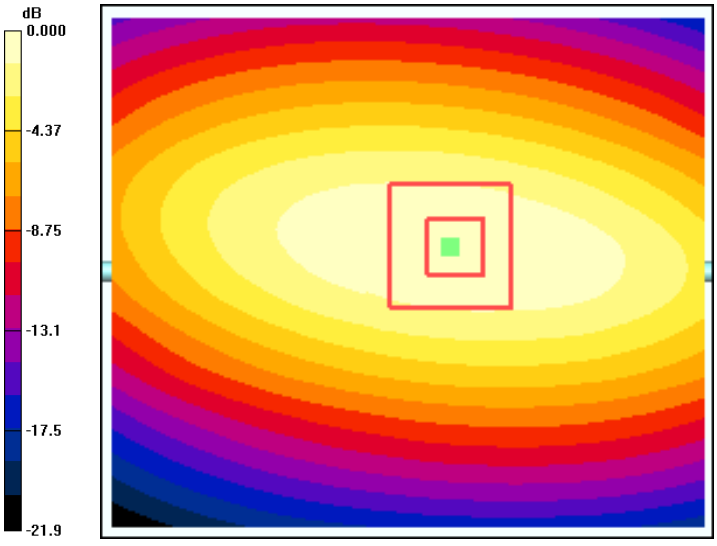


0 dB = 1.04mW/g

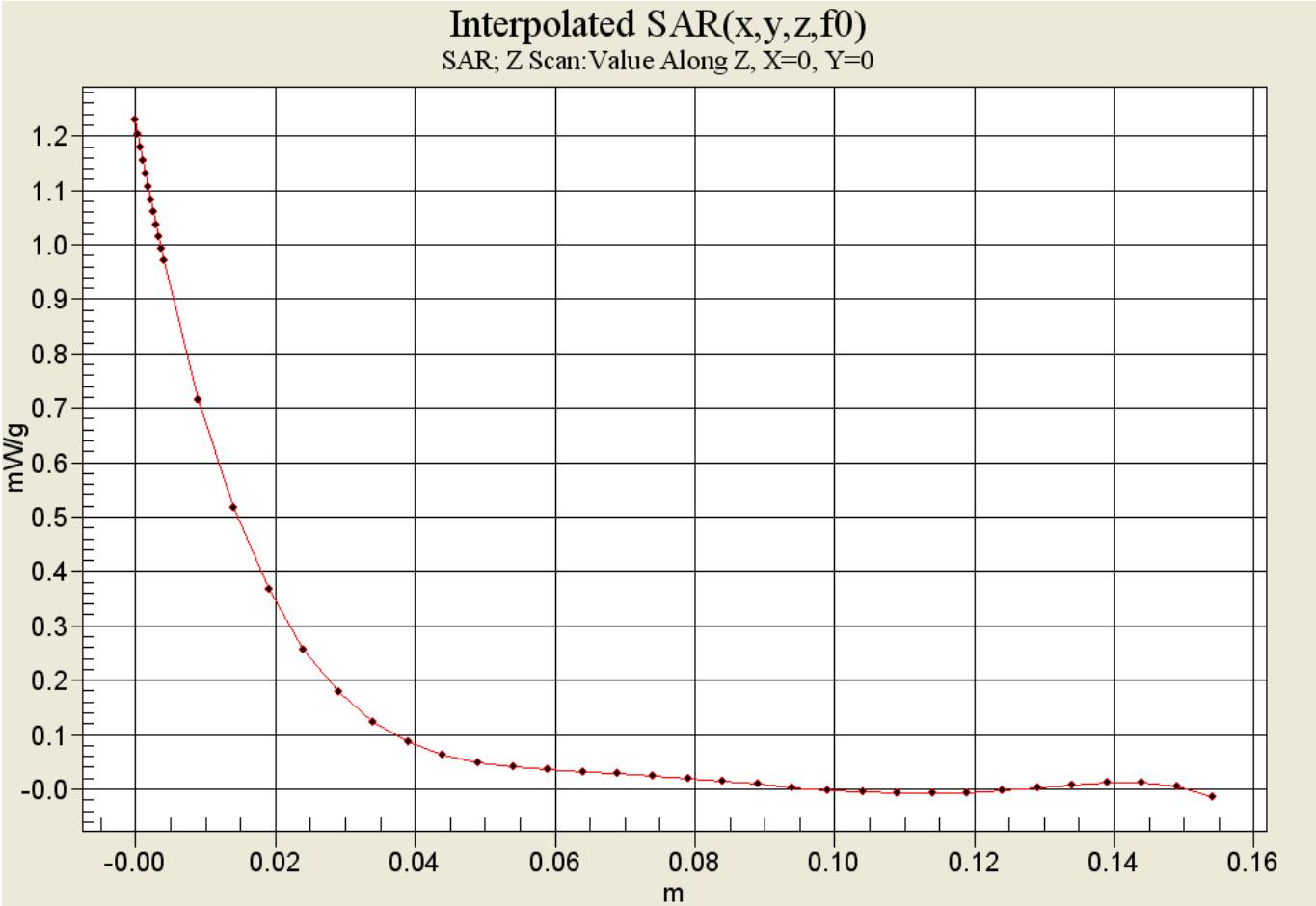
835MHz Validation(Muscle), Probe #3036, DAE #603, Dipole #5d016
Communication System: CW, Frequency: 835 MHz, Duty Cycle: 1:1
Medium: M800,Medium parameters used: f = 835 MHz; σ = 0.95 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom: SAM 12,Phantom section: Flat Section
DASY4 Configuration:
Probe: ES3DV3 - SN3036, ConvF(5.83, 5.83, 5.83), Calibrated: 5/29/2012
Sensor-Surface: 4mm (Mechanical Surface Detection),
Electronics: DAE4 Sn603,Calibrated: 9/12/2012
Measurement SW: DASY4, V4.7 Build 80
Postprocessing SW: SEMCAD, V1.8 Build 186
Temperature: Room T = 21.8 □□□ 1 deg C, Liquid T = 22.0 □□□ 1 deg C

835MHz Validation @20dBm/Area Scan (61x71x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.05 mW/g

835MHz Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 32.1 V/m; Power Drift = 0.099 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.972 mW/g; SAR(10 g) = 0.643 mW/g
Maximum value of SAR (measured) = 1.05 mW/g



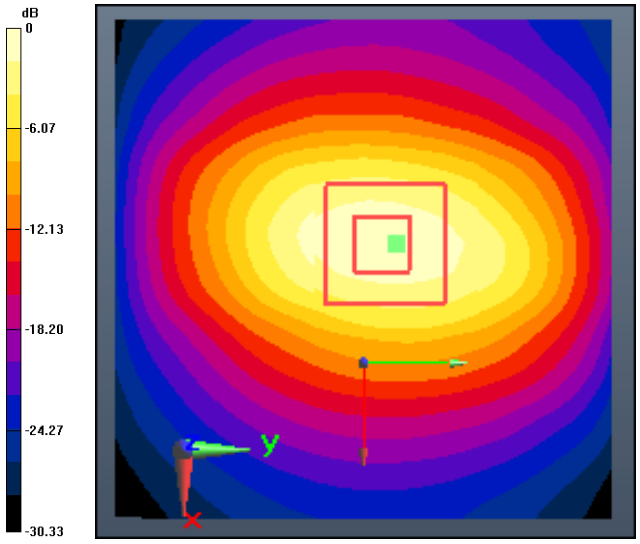
0 dB = 1.05mW/g



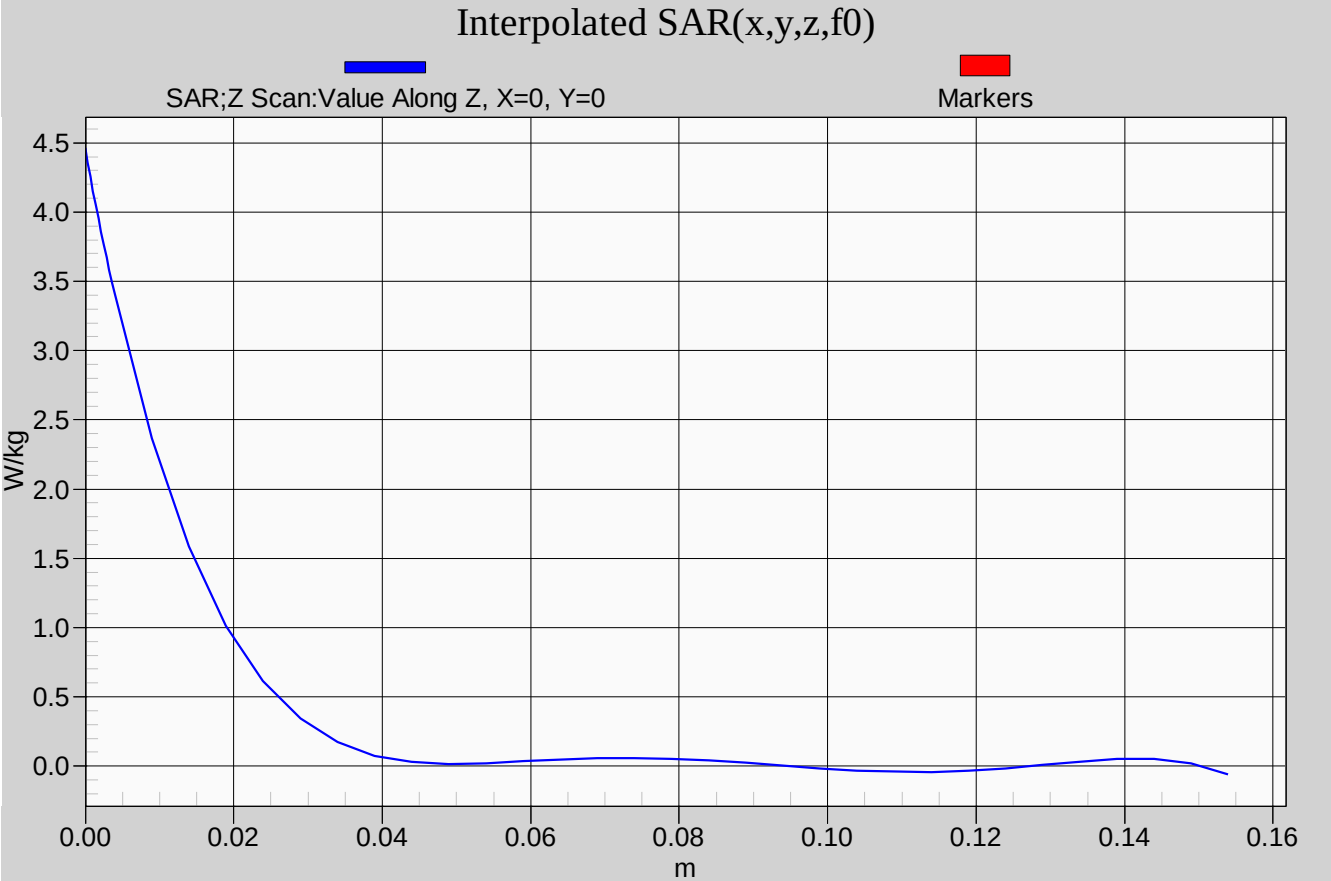
1900MHz Validation (Muscle) @ 20dBm Probe 1618, DAE 675 and Dipole 5d016
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1900 MHz; σ = 1.53 S/m; ε_r = 51.26; ρ = 1000 kg/m^3
Phantom section: Flat Section
Meas. Ambient Temp (celsius) = 22.10 ; Tissue Temp(celsius) = 21.40
DASY Configuration:
Probe: ET3DV6 - SN1618; ConvF(4.42, 4.42, 4.42); Calibrated: 9/13/2012;
Modulation Compensation:
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
Electronics: DAE4 Sn675; Calibrated: 5/23/2012
Phantom: SAM 12; Type: SAM; Serial: TP-1148
DASY52 52.8.5(1059); SEMCAD X 14.6.8(7028)

Configuration/1900MHz(Muscle) Validation @20dBm/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 4.76 W/kg

Configuration/1900MHz(Muscle) Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.390 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 5.58 W/kg
SAR(1 g) = 3.74 W/kg; SAR(10 g) = 2.06 W/kg
Maximum value of SAR (measured) = 4.26 W/kg



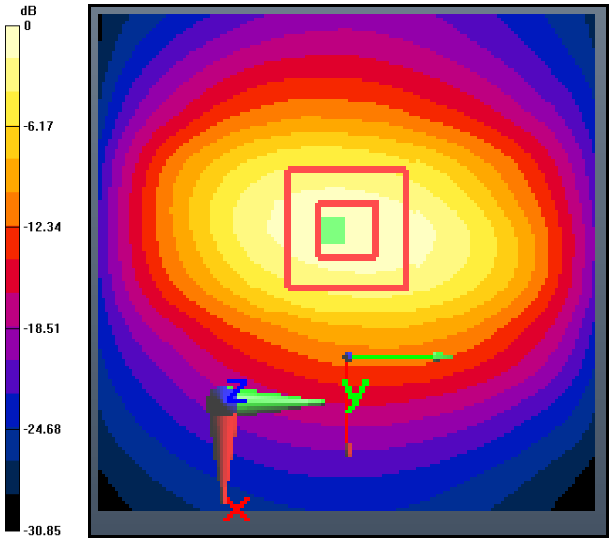
0 dB = 4.76 W/kg = 6.78 dBW/kg



1900MHz Validation (Muscle) @ 20dBm Probe 1618, DAE 675 and Dipole 5d016
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1900 MHz; σ = 1.55 S/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Meas. Ambient Temp(celsius) = 22.10 ; Tissue Temp(celsius) = 21.40
DASY Configuration:
Probe: ET3DV6 - SN1618; ConvF(4.42, 4.42, 4.42); Calibrated: 9/13/2012;
Modulation Compensation:
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 2.7, 32.7
Electronics: DAE4 Sn675; Calibrated: 5/23/2012
Phantom: SAM 12; Type: SAM; Serial: TP-1148
DASY52 52.8.5(1059); SEMCAD X 14.6.8(7028)

Configuration/1900MHz(Muscle) Validation @20dBm/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 4.73 W/kg

Configuration/1900MHz(Muscle) Validation @20dBm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.470 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 5.77 W/kg
SAR(1 g) = 3.86 W/kg; SAR(10 g) = 2.13 W/kg
Maximum value of SAR (measured) = 4.39 W/kg



0 dB = 4.73 W/kg = 6.75 dBW/kg